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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*NEIC **01** 00:11:25.2±0.7,46.31N×13.55E,h5^{km},ML2.9(VIE), ML2.9(CLL),ML2.7(SZGRF),ML2.7(FUR),Error ellipse: s-maj=8.0km s-min=5.3km az=193.0*
*ROM **01** 00:11:25.7±0.3,46.34N×13.50E,h5^{km},MD3.2/6,ML2.2/6, Error ellipse: s-maj=2.3km s-min=2.1km az=90.0*
*LJU **01** 00:11:25.0,46.33N×13.59E,h7^{km},ML2.6*
ISC 01 00:11:24.8±0.2,**46.35N**±0.01×**13.58E**±0.02,**h3**^{km}±3^{km}, **n52,σ1^{s}05**/97,**13C-9D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROBS	Robic	0.12	205	⇑iPg	Pg	00 11 27.2	-0.1
ROBS				iSg	Sg	00 11 28.7	-0.2
	comp=Z,1µm,0.1s						
LSR	Lussari	0.13	343	⇓ePg	Pg	00 11 28.4	+1.0
LSR				eSg	Sg	00 11 32.1	+3.0
CADS	Cadrg	0.16	139	⇓iPg	Pg	00 11 28.4	+0.2
CADS				iSg	Sg	00 11 30.9	+0.6
	comp=Z,848nm,0.1s						
PTCC	Patocco-Chiusa	0.17	288	⇓iPG	Pg	00 11 28.5	+0.3
PTCC				SG	Sg	00 11 31.5	+1.0
DRE	Drenchia	0.18	167	⇓ePg	Pg	00 11 28.4	-0.2
DRE				eSg	Sg	00 11 30.8	-0.2
GMNA	Gemona	0.25	252	⇑iPG	Pg	00 11 31.0	+1.1
GMNA				SG	Sg	00 11 35.7	+2.4
COLI	Coloredo	0.26	213	ePg	Pg	00 11 29.8	-0.3
COLI				eSg	Sg	00 11 33.6	0.0
BAD	Bernadia	0.26	244	⇑ePg	Pg	00 11 29.9	-0.2
BAD				eSg	Sg	00 11 33.9	+0.3
BOO	Bordano	0.34	265	ePg	Pg	00 11 31.1	-0.4
BUA	Buia	0.35	247	ePg	Pg	00 11 31.5	-0.3
PLRO	Paularo	0.36	303	⇓iPg	Pg	00 11 32.4	+0.3
PLRO				eSg	Sg	00 11 38.6	+1.8
VOY	Vojsko	0.39	146	⇓iPg	Pg	00 11 32.2	-0.4
VOY				eSg	Sg	00 11 37.8	+0.1
MPRI	Monte Prat	0.43	255	⇑iPg	Pg	00 11 33.0	-0.3
MPRI				eSg	Sg	00 11 39.6	+0.5
ZOU	Zoufplan	0.47	296	⇓ePg	Pg	00 11 34.5	+0.3
ZOU				eSg	Sg	00 11 41.9	+1.4
JAVS	Javornik	0.57	144	⇓iPg	Pg	00 11 35.2	-1.0
FVI	Forni Avoltri	0.61	294	ePG	Pg	00 11 36.3	-0.6
FVI				SG	Sg	00 11 46.7	+1.7
	comp=Z,89nm,0.4s						
TRI	Trieste	0.66	169	ePG	Pg	00 11 38.9	+1.0
OBKA	Obir	0.69	76	⇑iPG	Pg	00 11 38.9	+0.4
OBKA				iSG	Sg	00 11 48.5	+0.8
	comp=Z,50nm,0.1s						
MLNI	Malnisio	0.70	254	ePg	Pg	00 11 38.0	-0.9
MLNI				eSg	Sg	00 11 49.2	+0.9
LJU	Ljubljana	0.72	115	⇑iPg	Pg	00 11 39.3	-0.1
LJU				iSg	Sg	00 11 50.5	+1.5
	comp=Z,62nm,0.1s						
KBA	Koelnbreinsper	0.74	347	⇑iPG	Pg	00 11 40.1	+0.4
KBA				iSG	Sg	00 11 50.3	+0.7
	comp=Z,35nm,0.3s						
CEY	Cerknica	0.85	136	iSg	Sg	00 11 54.0	+0.9
CSO	Casso	0.88	265	ePg	Pg	00 11 41.4	-0.9
CSO				eSg	Sg	00 11 55.5	+1.4
BISS	Bistriski jare	1.11	74	iPg	Pg	00 11 46.1	-0.8
BISS				iSg	Sg	00 12 02.0	+0.4
	comp=Z,39nm,0.1s						
CGRP	Cima Grappa	1.33	250	ePg	Pg	00 11 50.8	-0.6
CGRP				eSg	Sg	00 12 09.5	+0.5
CTI	Castel Tesino	1.38	258	ePN	Pn	00 11 51.5	+0.5
CTI				SN	Sn	00 12 09.7	-0.3
	comp=Z,68nm,0.5s						
VBY	Vinica-Bojanci	1.44	125	ePn	Pn	00 11 51.9	-0.1
VBY				eSn	Sn	00 12 13.0	+1.3
SCE	Schlegeis	1.46	299	⇑iPg	Pg	00 11 53.1	-0.9
SCE				iSg	Sg	00 12 12.7	-0.7
MOA	Molln	1.57	17	⇑iPG	Pg	00 11 55.8	-0.3
MOA				iSG	Sg	00 12 17.8	+0.8
	comp=Z,21nm,0.4s						
ARSA	Arzberg	1.61	55	⇑iPG	Pg	00 11 55.7	-1.2
ARSA				iSG	Sg	00 12 17.1	-1.2
	comp=Z,16nm,0.4s						
WTTA	Wattenberg	1.62	305	⇑iPG	Pg	00 11 55.7	-1.4
WTTA				iSG	Sg	00 12 18.0	-0.7
	comp=Z,42nm,0.5s						
WATA	Walderalm	1.69	306	⇑iPG	Pg	00 11 57.4	-1.2
WATA				iSG	Sg	00 12 20.9	-0.3
	comp=Z,32nm,0.5s						
SQTA	Sankt Quirin	1.85	299	⇑iPG	Pg	00 11 59.8	-1.9
SQTA				iSG	Sg	00 12 25.3	-1.1
	comp=Z,39nm,0.7s						
MOTA	Moosalm	1.97	301	⇓iPG	Pg	00 12 01.9	-2.3
MOTA				iSG	Sg	00 12 29.6	-0.8
	comp=Z,26nm,0.5s						
NVLJ	Novalja	2.01	153	iPn	Pn	00 12 00.6	+0.6
NVLJ				iSn	Sn	00 12 25.7	-0.3
NVLJ				iSg	Sg	00 12 28.7	-2.9
MABI	Malga Bissina	2.15	263	ePN	Pn	00 12 01.1	-1.0
BRMO	Bormio	2.22	274	ePN	Pn	00 12 02.5	-0.7
	comp=Z,8.0nm,0.4s						
GEC2	GERESS Array S	2.50	2	ePn	Pn	00 12 08.6	+1.6
GEC2				eSn	Sn	00 12 40.9	+2.5
FSSB	Fossombrone	2.72	192	ePN	Pn	00 12 09.2	-1.1
	comp=Z,12nm,0.6s						
SFI	Santa Sofia	2.74	207	ePN	Pn	00 12 10.3	-0.2
KHC	Kasperske Hory	2.78	360	ePN	Pn	00 12 12.5	+1.4
KHC				ePG	Pg	00 12 20.8	+0.5
KHC				eSN	Sn	00 12 46.8	+1.2
KHC				eSG	Sg	00 12 56.6	-0.8
WET	Wettzell	2.83	351	ePn	Pn	00 12 12.9	+1.0
ARV	Arcevia	2.89	189	ePN	Pn	00 12 11.6	-1.1
	comp=Z,10.0nm,0.7s						
PRU	Pruhonice	3.69	10	ePG	Pg	00 12 34.5	-4.1
PRU				eSG	Sg	00 13 24.3	-3.5
	comp=Z,9.9nm,0.6s						
MNS	Montasola	4.02	190	ePN	Pn	00 12 28.2	-0.5
	comp=Z,2.0nm,0.5s						
VYHS	Vyhne	4.16	57	eSB	Sb	00 13 34.0	+4.4
DPC	Dobruska-Polom	4.40	24	eSG	Sg	00 13 47.3	-3.9
MOX	Moxa	4.49	344	iP	Pn	00 12 35.6	+0.2
MOX				S	Sn	00 13 26.0	-2.9
MOX				Sg	Sg	00 13 51.0	-3.3
MOX	Moxa	4.49	344	Pn	Pn	00 12 35.6	+0.2
MOX				Sn	Sn	00 13 26.6	-2.3
MOX				Sg	Sg	00 13 50.6	-3.7
BRG	Berggiesshubel	4.53	3	ePg	Pg	00 12 51.1	-4.2
BRG				e		00 13 43.1	
BRG				eSg	Sg	00 13 49.4	-6.2
CLL	Collm	4.97	356	ePN	Pn	00 12 43.0	+0.7
CLL				eSN	Sn	00 13 38.0	-3.2
CLL				e		00 13 49.0	
CLL				iSG	Sg	00 14 05.9	-4.5
CLL	Collm	4.97	356	ePn	Pn	00 12 43.0	+0.7
CLL				eSn	Sn	00 13 38.0	-3.2
CLL				iSg	Sg	00 14 05.9	-4.5

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*TAP **01** 00:17:00.5,24.01N×121.99E,h29^{km}±1^{km},ML2.9*
JMA 01 00:16:56.8±0.6,**24.11N×121.87E,h23**^{km}**,M2.4,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.10	71	P	Pn	00 17 16.5	-0.4
YOJ				eS	Sb	00 17 31.5	+0.6
IRIF	Iriomote-Funau	1.71	82	P	Pn	00 17 26.6	+0.9
IRIF				S	Sn	00 17 46.2	-0.9
HATJ	Hateruma jima	1.77	91	P	Pn	00 17 27.2	+0.7
HATJ				eS	Sn	00 17 47.1	-1.4
JKRS	Kuro-shima	1.96	86	P	Pn	00 17 29.0	-0.2
JKRS				S	Sn	00 17 53.3	0.0
JIJ	Ishigaki jima	2.09	83	P	Pn	00 17 31.6	+0.5
JIJ				S	Sn	00 17 54.3	-2.4
JTJ	Tarama	2.64	78	P	Pn	00 17 39.8	+0.9
JTJ				eS	Sn	00 18 08.8	-1.7

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*NIED **01** 00:47:00,20.70N×122.60E,h8^{km},Mw3.6 Best double couple: M$_0$3.35×10^{14} NP1:ϕ_s255°,δ54°,λ-70°. NP2:ϕ_s44°, δ40°,λ-115°.*
*JMA **01** 00:47:41.8±0.5,20.66N×122.59E,M4.3*
MAN 01 00:47:40.5,20.32N×122.07E,h42^{km},mb3.5,ML2.2, MS1.9,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	4.05	23	P	P	00 48 39.9	-1.7
HATJ				S	S	00 49 22.8	-5.6
YOJ	Yonaguni jima	4.21	12	P	P	00 48 43.5	-0.4
YOJ				S	S	00 49 30.5	-1.9
IRIF	Iriomote-Funau	4.28	21	P	P	00 48 43.3	-1.6
IRIF				S	S	00 49 29.0	-5.2
JKRS	Kuro-shima	4.29	24	P	P	00 48 43.3	-1.7
JKRS				S	S	00 49 28.4	-6.0
JIJ	Ishigaki jima	4.45	25	P	P	00 48 45.4	-2.0
JIJ				S	S	00 49 31.9	-6.7
JTJ	Tarama	4.94	29	P	P	00 48 52.9	-1.3
JTJ				S	S	00 49 43.6	-7.2
JMJ	Miyako jima 2	5.37	33	eS	S	00 49 56.2	-5.4
JOGS	Gusukube	5.38	34	eS	S	00 49 56.9	-5.1
JKE	Kume jima 2	7.38	35	P	P	00 49 24.5	-3.8
JKE				eS	S	00 50 40.6	-11

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*ISK **01** 00:51:55.0,37.95N×27.66E,h12^{km},MD3.3*
*NEIC **01** 00:51:55.5,37.86N×27.67E,h12^{km},MD3.4(ATH),After ATH.*
*ATH **01** 00:51:55.5,37.86N×27.67E,h12^{km},MD3.4/4*
ISC 01 00:51:54.7±0.5,**37.93N**±0.02×**27.63E**±0.04,**h8**^{km}±4^{km}, **n38,σ0^{s}58**/46,**2C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.33	143	⇑iP	Pg	00 52 01.7	+0.2
AYDN				iS	Sg	00 52 05.9	-0.1
IZM	Izmir	0.55	329	iPG	Pg	00 52 06.5	+0.7
IZM				SG	Sg	00 52 14.1	+0.8
KDAG	Bornova	0.56	329	⇑iP	Pg	00 52 05.7	-0.2
KDAG				iS	Sg	00 52 13.0	-0.4
MLSB	Milas	0.64	169	ePG	Pg	00 52 08.2	+0.6
SMG	Samos	0.66	251	ePB	Pb	00 52 08.5	+0.5
BDRM	Kayabasi	0.87	190	iP	Pb	00 52 11.0	-0.5
BDRM				iS	Sb	00 52 22.6	-0.6
MANT	Manisa	0.93	52	iP	Pb	00 52 12.1	-0.4
MANT				iS	Sb	00 52 24.0	-0.7
YER	Yerkesik	0.94	146	PG	Pg	00 52 13.5	-0.1
AKS	Akhisar	0.96	9	PG	Pg	00 52 13.6	-0.4
DENT	Denizli	1.12	98	PN	Pn	00 52 16.7	+0.1
DENT				SN	Sn	00 52 32.2	-0.2
DNZL	Cakiroluk	1.15	101	iP	Pb	00 52 16.3	0.0
DNZL				iS	Sb	00 52 31.9	+0.7
KHL	Karahalli	1.55	75	ePN	Pn	00 52 23.2	+0.5
PRK	Paraskevi	1.69	322	ePN	Pn	00 52 25.5	+0.7
PRK				eSB	Sb	00 52 52.0	+5.0
BALB	Balikesir	1.72	6	ePN	Pn	00 52 25.6	+0.4
ARG	Arkhangelos	1.75	167	ePB	Pb	00 52 27.0	+0.3
APE	Apeiranthos	1.87	244	ePG	Pg	00 52 30.1	-2.0
EZN	Ezine	2.15	332	ePN	Pn	00 52 31.3	-0.1
ELL	Elmali	2.16	122	ePN	Pn	00 52 32.3	+0.8
ALT	Altintas	2.25	59	ePN	Pn	00 52 32.3	-0.5
ISP	Isparta	2.28	91	ePN	Pn	00 52 33.4	+0.2
ORLT	Orhaneli	2.34	25	ePN	Pn	00 52 33.9	-0.1
KCT	Karacabey	2.41	13	ePN	Pn	00 52 34.4	-0.6
EDC	Edincik	2.42	4	PN	Pn	00 52 35.1	-0.1
BNT	Bandirma	2.44	5	PN	Pn	00 52 35.1	-0.3
LPK	Lapseki	2.54	345	PN	Pn	00 52 37.5	+0.7
MRMT	Marmara Adasi	2.67	359	ePN	Pn	00 52 38.6	-0.2
YLV	Yalova	2.96	27	ePN	Pn	00 52 43.3	+0.3
ESKT	Eskisehir	2.98	57	ePN	Pn	00 52 43.7	+0.5
BADT	Buyukada	3.14	21	ePN	Pn	00 52 45.3	-0.2
CTT	Catalca	3.28	11	ePN	Pn	00 52 46.5	-0.9
ISK	Istanbul-Kandi	3.33	19	ePN	Pn	00 52 47.2	-0.9
EDRB	Edirne	3.98	350	ePN	Pn	00 52 57.0	-0.3
KDZ	Kurdzhali	4.09	336	iP	Pn	00 52 59.0	+0.1
RZN	Rozhen	4.38	330	iP	Pn	00 53 03.0	0.0
DIM	Dimitrovgrad	4.42	339	iP	Pn	00 53 03.0	-0.7
MMB	Musomiste	4.74	322	iP	Pn	00 53 08.0	-0.1
KKB	Krupnik	5.26	320	eP	Pn	00 53 17.0	+1.4
VTS	Vitosha	5.76	325	eP	Pn	00 53 23.0	+0.5

DJA 01 01:13:07.0±1.0,**9.49S**×**113.54E,h2**^{km}**,ML4.1**/3,**6D, Error ellipse: s-maj=23.4km s-min=20.6km az=30.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	1.57	37	⇓ePn	Pn	01 13 33.1	-3.0
	158nm,0.2s						
KELI				⇓eSn	Sn	01 13 51.9	-5.4
RATI	Rata	2.11	69	⇓ePn	Pn	01 13 40.8	-2.9
	289nm,0.2s						
RATI				⇓eSn	Sn	01 14 04.4	-6.5
KEDI	Kedomdong	2.73	69	⇓ePn	Pn	01 13 49.0	-3.6
	32nm,0.2s						
KEDI				⇓eSn	Sn	01 14 21.1	-5.6

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*NIED **01** 01:26:00,20.70N×122.60E,h8^{km},Mw3.4 Best double couple: M$_0$1.35×10^{14} NP1:ϕ_s1°,δ79°,λ145°. NP2:ϕ_s98°, δ56°,λ13°.*
JMA 01 01:26:36.2±0.3,**20.68N×122.63E,M3.9,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.53	18	P	Pn	01 27 33.8	+0.3
HATJ				S	Sn	01 28 16.7	+0.1
JKRS	Kuro-shima	3.76	20	P	Pn	01 27 37.5	+0.8
JKRS				S	Sn	01 28 22.3	-0.1
IRIF	Iriomote-Funau	3.78	15	P	Pn	01 27 37.3	+0.4
IRIF				S	Sn	01 28 22.7	-0.1
YOJ	Yonaguni jima	3.78	5	P	Pn	01 27 37.3	+0.3
YOJ				S	Sn	01 28 23.8	+1.0
JIJ	Ishigaki jima	3.92	21	P	Pn	01 27 39.3	+0.3
JIJ				S	Sn	01 28 26.0	-0.5
JTJ	Tarama	4.38	26	P	Pn	01 27 46.0	+0.5
JTJ				S	Sn	01 28 37.9	-0.2

DJA 01 02:24:49.4±1.0,**8.23S×116.11E,h140**^{km}±10^{km}**,MD4.9**/2, **ML4.0**/2,**3C-4D,Error ellipse: s-maj=38.4km s-min=15.7km az=4.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.25	180	⇓ePn	P	02 25 08.5	-0.6
RATI	Rata	0.75	230	⇓ePn	P	02 25 11.0	-0.7
	265nm,0.2s						
RATI				⇑eSn	S	02 25 27.1	-1.6
INGI	Ingas	1.12	239	⇓ePn	P	02 25 14.0	-0.6
	406nm,0.2s						
INGI				⇑eSn	S	02 25 33.4	-0.6
KELI	Kelakatan	1.60	270	⇓ePn	P	02 25 19.8	0.0
	58nm,0.2s						
KELI				⇑eSn	S	02 25 40.6	-2.4

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*ISK **01** 02:25:47.7,39.00N×26.60E,h11^{km},MD3.2*
*ATH **01** 02:25:47.8,38.99N×26.70E,h10^{km},MD3.3/3*
*THE **01** 02:25:51.4,38.94N×26.58E,h20^{km},ML3.3*
ISC 01 02:25:47.8±0.9,**38.99N**±0.03×**26.61E**±0.04,**h7**^{km}±7^{km}, **n30,σ0^{s}75**/38,**1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.36	315	⇑iPB	Pb	02 25 56.0	-0.2
IZM	Izmir	0.78	139	PG	Pg	02 26 03.4	-0.1
EZN	Ezine	0.86	346	ePG	Pg	02 26 04.2	-0.9
AKS	Akhisar	0.95	96	PG	Pg	02 26 06.6	-0.2
BOZC	Bozcaada	0.95	333	iP	Pb	02 26 07.8	+1.5
BOZC				iS	Sb	02 26 21.0	+2.1
BALB	Balikesir	1.18	56	ePN	Pn	02 26 10.5	-0.3
BALB				SN	Sn	02 26 27.4	+0.1
SMG	Samos	1.29	172	ePB	Pb	02 26 12.0	-0.1
LPK	Lapseki	1.39	5	PN	Pn	02 26 13.9	+0.2
LOS	Limnos	1.51	309	ePb	Pb	02 26 16.0	+0.2
	comp=Z,3.8nm,0.2s						
LOS				eSb	Sb	02 26 34.4	-0.7
AYDN	Tasoluk	1.66	143	iP	Pn	02 26 17.1	-0.6
AYDN				iS	Sn	02 26 39.5	0.0
EDC	Edincik	1.67	35	PN	Pn	02 26 17.4	-0.3
BNT	Bandirma	1.70	36	PN	Pn	02 26 17.9	-0.3
MRMT	Marmara Adasi	1.78	25	PN	Pn	02 26 18.8	-0.6
KCT	Karacabey	1.86	46	PN	Pn	02 26 20.4	0.0
ALN	Alexandroupoli	1.95	347	ePn	Pn	02 26 22.4	+0.6
ALN				eSn	Sn	02 26 45.8	-1.0
BDRM	Kayabasi	2.03	161	iP	Pn	02 26 27.0	+4.1
BDRM				iS	Sn	02 26 54.2	+5.4
ORLT	Orhaneli	2.06	59	ePN	Pn	02 26 23.9	+0.6
YER	Yerkesik	2.28	144	ePN	Pn	02 26 26.3	-0.1
RDO	Rodhopi	2.31	340	ePN	Pn	02 26 28.5	+1.7
DNZL	Cakiroluk	2.32	123	iP	Pn	02 26 28.3	+1.3
DNZL				iS	Sn	02 27 03.5	+7.4
OUR	Ouranopolis	2.43	304	ePn	Pn	02 26 28.4	-0.3
	comp=Z,2.3nm,0.5s						
PAIG	Paliouri	2.45	293	ePn	Pn	02 26 29.4	+0.4
CTT	Catalca	2.57	32	ePN	Pn	02 26 29.8	-0.8
YLV	Yalova	2.65	53	ePN	Pn	02 26 32.0	+0.2
BADT	Buyukada	2.68	45	ePN	Pn	02 26 31.7	-0.5
EDRB	Edirne	2.86	2	ePN	Pn	02 26 34.3	-0.4
SOH	Sokhos	3.10	307	ePn	Pn	02 26 38.0	-0.1
KNT	Kendrikon	3.58	309	ePn	Pn	02 26 45.0	+0.1
GRG	Griva	3.78	303	ePn	Pn	02 26 47.7	-0.1
GRG				eSn	Sn	02 27 30.0	-3.2
FNA	Florina	4.40	296	ePn	Pn	02 26 56.5	-0.2

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*IDC **01** 02:30:39.6±1.2,40.31N×145.93E,mb3.4/6,mb1 3.6/7, mb1mx3.4/21,ML3.6/1,Error ellipse: s-maj=41.0km s-min=24.8km az=65.0*
*NEIC **01** 02:30:40.9±1.1,40.06N×145.63E,h10^{km},Error ellipse: s-maj=27.3km s-min=17.3km az=130.0*
*JMA **01** 02:30:44.0±0.3,40.11N×145.24E,h45^{km},M4.0*
ISC 01 02:30:43.2±0.7,**40.15N**±0.03×**145.29E**±0.06,**h33**^{km}**,n27, σ1^{s}19**/45,**mb3.4**/6,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	2.47	320	P	P	02 31 23.2	+1.4
JEM				eS	S	02 31 52.0	+0.9
JTH	Tanohata	2.64	267	P	P	02 31 24.6	+0.3
JTH				eS	S	02 31 55.1	-0.4
MIYJ	Miyako 2	2.73	259	P	P	02 31 26.2	+0.6
MIYJ				eS	S	02 31 57.4	-0.4
JCH	Churui	2.86	330	P	P	02 31 28.2	+0.7
JCH				eS	S	02 32 01.2	+0.1
JNBK	Urakawa-nobuka	2.86	319	P	P	02 31 29.4	+1.9
JNBK				eS	S	02 32 03.7	+2.5
JAK	Akkeshi	2.88	351	P	P	02 31 26.8	-1.0
JAK				eS	S	02 32 00.2	-1.4
JANG	Nango	2.90	276	P	P	02 31 28.5	+0.5
JANG				eS	S	02 32 01.0	-1.1
JOM	Ohasama	3.15	259	P	P	02 31 32.6	+1.0
JOM				eS	S	02 32 08.3	-0.3
NEM2	Nemuro 2	3.23	6	P	P	02 31 30.6	-2.2
NEM2				eS	S	02 32 06.0	-4.6
JAR	Ashorobuto	3.35	341	P	P	02 31 34.0	-0.4
JAR				eS	S	02 32 11.7	-1.8
JMK	Ichinoseki	3.37	251	P	P	02 31 34.9	+0.2
JMK				eS	S	02 32 13.0	-1.0
JOT	Ohata	3.45	292	P	P	02 31 37.1	+1.2
JOT				eS	S	02 32 15.8	-0.3
JFR	Furan	3.63	327	eS	S	02 32 19.3	-1.3
JKB	Kayabe	3.66	300	P	P	02 31 40.2	+1.4
JKB				eS	S	02 32 21.5	0.0
JTKR	Abashiri--Toko	3.96	345	P	P	02 31 43.7	+0.7
JTKR				eS	S	02 32 27.3	-1.7
ASAJ	Asahikawa	4.44	334	Pn	Pn	02 31 48.5	-1.6
	2.2nm,0.3s,baz=301,slow=4.4,SNR=4.5						
ASAJ				Sn	Sn	02 32 42.4	+1.0
	1.7nm,0.3s,baz=49,slow=30,SNR=4.5						
JRY	Ryogami san	6.51	233	P	P	02 32 17.2	-1.9
JRY				eS	S	02 33 27.7	-5.4
MAJO	Matsushiro	6.63	239	eP	P	02 32 19.9	-0.9
	9.6nm,0.6s						
MAT	Matsushiro	6.63	239	P	P	02 32 19.9	-0.9
MAT				eS	S	02 33 35.1	-0.9
MAT	Matsushiro	6.63	239	eP	P	02 32 20.0	-0.8
	10nm,0.7s						
MAT				S	S	02 33 35.0	-1.0
SONM	Songino Array	28.77	298	P	P	02 36 42.4	+2.6
	0.3nm,0.6s,mb3.2,baz=90,slow=13,SNR=2.2						
MKAR	Makanchi Array	45.11	300	P	P	02 38 59.5	+1.6
	0.3nm,0.7s,mb3.2,baz=90,slow=7.2,SNR=3.5						
KURK	Kurchatov	46.47	306	eP	P	02 39 09.7	+1.2
WRA	Warramunga Arr	60.64	192	P	P	02 40 54.1	+0.7
	0.5nm,0.8s,mb3.7,baz=13,slow=7.1,SNR=6.0						
FINES	FINESS Array B	67.45	333	P	P	02 41 38.0	+0.9
	0.3nm,0.5s,mb3.6,baz=45,slow=3.9,SNR=5.4						
NOA	NORSAR Array B	72.45	338	P	P	02 42 08.2	+0.7
	0.3nm,0.7s,mb3.4,baz=38,slow=5.4,SNR=3.0						
TXAR	Lajitas Array	85.83	55	P	P	02 43 18.2	-2.3
	0.2nm,0.8s,mb3.4,baz=286,slow=6.6,SNR=3.6						

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*MDD **01** 02:31:50.1±0.7,35.77N×4.97W,h70^{km}±9^{km},mb3.9/33, Error ellipse: s-maj=7.5km s-min=4.3km az=7.0,PRXIMO*
*NEIC **01** 02:31:50.3±0.9,35.84N×4.98W,h72^{km}±6^{km},Error ellipse: s-maj=11.6km s-min=3.5km az=178.0*
*LDG **01** 02:31:50.6±0.5,36.00N×5.04W,h2^{km},Ml3.4/6,Error ellipse: s-maj=10.1km s-min=3.9km az=175.0*
*IGIL **01** 02:31:51.8,36.00N×5.10W,h0^{km},ML3.5*
*INMG **01** 02:31:51.8±1.1,35.83N×5.02W,h30^{km}±10^{km},ML3.2, Error ellipse: s-maj=6.0km s-min=2.7km az=177.0*
*IDC **01** 02:31:54.3±8.5,36.17N×4.96W,h82^{km}±53^{km},mb3.3/2, mb1 3.2/4,mb1mx2.9/25,ML3.8/2,Error ellipse: s-maj=86.6km s-min=60.8km az=94.0*
ISC 01 02:31:52.5±0.5,**36.19N**±0.03×**5.00W**±0.02,**h87**^{km}±3^{km}, **n107,σ1^{s}04**/187,**mb3.5**/2,**9C-7D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REAL	Reales	0.34	330	Pn	P	02 32 05.2	-0.7
REAL				Sn	S	02 32 16.4	+0.4
EMIJ	Mijas	0.42	26	⇓Pn	P	02 32 04.6	-1.8
	71nm,0.1s,SNR=18						
EMIJ				Sn	S	02 32 15.3	-1.6
	105nm,0.1s,SNR=7.9						
EJIF	Jimena Fronter	0.46	305	Pn	P	02 32 06.8	0.0
	1.0nm,0.1s,SNR=7.9						
EJIF				Sn	S	02 32 12.8	-4.7
	SNR=7.9						
EMAL	Malaga-Limoner	0.73	38	Pn	P	02 32 08.0	-1.4
	4.4nm,0.1s,SNR=7.9						
EMAL				Sn	S	02 32 21.6	-0.2
	31nm,0.2s,SNR=7.9						
LIJA	Lijar	0.79	336	Pn	P	02 32 11.7	+1.7
LIJA				Sn	S	02 32 27.5	+4.7
CNIL	Conil	0.87	282	Pn	P	02 32 10.1	-0.7
CNIL				Sn	S	02 32 26.8	+2.3
ESPR	Espera	0.97	315	⇑Pn	P	02 32 12.4	+0.5
	15nm,0.2s,SNR=18						
ESPR				Sn	S	02 32 28.1	+1.6
	110nm,0.2s,SNR=7.9						
SFS	San Fernando	1.01	286	Pn	P	02 32 12.0	-0.5
ELOJ	Sierra Loja	1.18	35	Pn	P	02 32 14.7	+0.2
	12nm,0.3s,SNR=33						
ELOJ				Sn	S	02 32 34.7	+3.8
	7.6nm,0.2s,SNR=5.0						
ERON	Agron	1.27	49	Pn	P	02 32 14.2	-1.4
	11nm,0.2s,SNR=7.9						
ERON				Sn	S	02 32 33.5	+0.6
	21nm,0.2s,SNR=7.9						
ERON	Agron	1.27	49	P	P	02 32 14.2	-1.4
ERON				S	S	02 32 33.5	+0.5
ELUQ	Luque	1.49	23	⇓Pn	P	02 32 20.3	+1.8
	7.4nm,0.2s,SNR=18						
ELUQ				Sn	S	02 32 42.2	+4.5
	17nm,0.2s,SNR=7.9						
EHOR	Hornachuelos	1.65	353	Pn	P	02 32 21.9	+1.4
	7.4nm,0.1s,SNR=7.9						
EHOR				Sn	S	02 32 44.6	+3.5
	47nm,0.1s,SNR=7.9						
EMEL	Melilla	1.88	117	Pn	P	02 32 16.7	-6.9
	29nm,0.1s,SNR=13						
EMEL				Sn	S	02 32 36.4	-10
	141nm,0.1s,SNR=7.9						
EADA	Adamuz	2.00	10	⇓Pn	P	02 32 26.9	+1.7
	10nm,0.1s,SNR=18						
EADA				Sn	S	02 32 53.6	+4.3
	78nm,0.1s,SNR=5.0						
EMIN	Mina Concepcio	2.07	320	⇑Pn	P	02 32 26.3	+0.2
	7.3nm,0.0s,SNR=18						
EMIN				Sn	S	02 32 52.6	+1.6
	33nm,0.1s,SNR=5.0						
ERIP	Rio Piedras	2.17	304	⇑Pn	P	02 32 26.6	-0.9
	25nm,0.1s,SNR=18						
ERIP				Sn	S	02 32 53.4	+0.1
	150nm,0.1s,SNR=7.9						
EQES	Quesada	2.23	43	⇓Pn	P	02 32 29.4	+1.0
	6.0nm,0.2s,SNR=18						

EQES				Sn	**S**	**02 32 57.1**	**+2.0**
	8.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.23**	**43**	⇓P	**P**	**02 32 29.4**	**+1.0**
EQES				S	**S**	**02 32 59.2**	**+4.2**
PALC	**Alcoutim**	**2.36**	**303**	*i* Pn	**P**	**02 32 29.3**	**-0.9**
PALC				*e*Sn	**S**	**02 32 58.0**	**-0.2**
	98nm,0.2s						
PALC	**Alcoutim**	**2.36**	**303**	⇑Pn	**P**	**02 32 29.3**	**-0.9**
PALC				Sn	**S**	**02 32 58.0**	**-0.2**
	49nm,0.2s						
PALC	**Alcoutim**	**2.36**	**303**	⇑P	**P**	**02 32 29.3**	**-1.0**
PALC				S	**S**	**02 32 55.9**	**-2.4**
EGRO	**El Granado**	**2.40**	**305**	⇑Pn	**P**	**02 32 30.0**	**-0.8**
	7.0nm,0.1s,SNR=18						
EGRO				Sn	**S**	**02 32 59.0**	**-0.3**
	72nm,0.1s						
PBEJ	**Beja**	**2.94**	**310**	*e*Pn	**P**	**02 32 37.3**	**-0.9**
PBEJ				*e*Sn	**S**	**02 33 12.3**	**-0.2**
	54nm,0.1s						
PBEJ	**Beja**	**2.94**	**310**	Pn	**P**	**02 32 37.3**	**-0.9**
PBEJ				Sn	**S**	**02 33 12.3**	**-0.2**
	27nm,0.1s						
PBEJ	**Beja**	**2.94**	**310**	P	**P**	**02 32 37.3**	**-1.0**
PBEJ				S	**S**	**02 33 11.9**	**-0.7**
EBAD	**Badajoz**	**3.02**	**329**	Pn	**P**	**02 32 40.0**	**+0.6**
	2.8nm,0.0s,SNR=56						
EBAD				Sn	**S**	**02 33 16.3**	**+1.6**
	59nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.02**	**329**	P	**P**	**02 32 39.9**	**+0.4**
EBAD				S	**S**	**02 33 16.3**	**+1.6**
EVIA	**Vianos**	**3.15**	**38**	Pn	**P**	**02 32 41.5**	**+0.3**
	6.7nm,0.1s,SNR=18						
EVIA				Sn	**S**	**02 33 18.2**	**+0.3**
	10nm,0.4s						
EVIA	**Vianos**	**3.15**	**38**	P	**P**	**02 32 41.0**	**-0.2**
EVIA				S	**S**	**02 33 18.2**	**+0.3**
PTEO	**Sao Teotonio**	**3.28**	**296**	*e*Pn	**P**	**02 32 41.1**	**-1.9**
PTEO				*e*Sn	**S**	**02 33 18.9**	**-2.2**
	27nm,0.2s						
PTEO	**Sao Teotonio**	**3.28**	**296**	Pn	**P**	**02 32 41.1**	**-1.9**
PTEO				Sn	**S**	**02 33 18.9**	**-2.2**
	14nm,0.2s						
PTEO	**Sao Teotonio**	**3.28**	**296**	⇑P	**P**	**02 32 41.1**	**-1.9**
PTEO				Sn	**S**	**02 33 18.7**	**-2.3**
EVO	**Evora**	**3.35**	**315**	*e*Pn	**P**	**02 32 44.4**	**+0.4**
EVO				*e*Sn	**S**	**02 33 23.5**	**+0.6**
	102nm,0.2s						
EMUR	**La Murta**	**3.43**	**60**	⇑Pn	**P**	**02 32 44.0**	**-1.0**
	5.4nm,0.4s,SNR=18						
EMUR				Sn	**S**	**02 33 23.5**	**-1.3**
	18nm,0.4s						
CART	**Cartagena**	**3.50**	**65**	Pn	**P**	**02 32 43.3**	**-2.7**
MOE	**Montemor**	**3.55**	**312**	*e*Pn	**P**	**02 32 46.3**	**-0.3**
MOE				*e*Sn	**S**	**02 33 27.4**	**-0.2**
MOE	**Montemor**	**3.55**	**312**	P	**P**	**02 32 46.3**	**-0.3**
MOE				S	**S**	**02 33 25.9**	**-1.7**
ESDC	**Sonseca Array**	**3.58**	**13**	P	**P**	**02 32 47.8**	**+0.8**
	6.2nm,0.3s,baz=195,slow=12,SNR=83						
ESDC				S	**S**	**02 33 29.6**	**+1.3**
	8.2nm,0.3s,baz=193,slow=23,SNR=12						
ESDC	**Sonseca Array**	**3.58**	**13**	Pn	**P**	**02 32 47.8**	**+0.7**
	17nm,0.1s,baz=196,slow=13,SNR=93						
ESDC				Sn	**S**	**02 33 30.1**	**+1.8**
	9.0nm,0.1s,baz=196,slow=23,SNR=12						
ETOB	**Tobarra**	**3.68**	**47**	⇓Pn	**P**	**02 32 48.4**	**-0.1**
	4.4nm,0.1s,SNR=18						
ETOB				Sn	**S**	**02 33 31.2**	**+0.2**
	2.3nm,0.2s						
ETOB	**Tobarra**	**3.68**	**47**	⇓P	**P**	**02 32 48.4**	**-0.1**
ETOB				S	**S**	**02 33 33.1**	**+2.1**
ALMR	**Almeirim**	**4.10**	**317**	*e*P	**P**	**02 32 54.2**	**-0.1**
ALMR				*e*S	**S**	**02 33 41.4**	**0.0**
ALMR				*e*S	**S**	**02 33 41.4**	**0.0**
ALMR				AML	AML	02 33 55.1	
	comp=E,89nm,0.8s						
PCBR	**Castelo Branco**	**4.14**	**333**	*e*Pn	**P**	**02 32 55.5**	**+0.7**
PCBR				*e*Sn	**S**	**02 33 42.7**	**+0.4**
	comp=E,39nm,0.2s						
PCBR	**Castelo Branco**	**4.14**	**333**	Pn	**P**	**02 32 55.5**	**+0.7**
PCBR				Sn	**S**	**02 33 42.7**	**+0.4**
	comp=E,20nm,0.2s						
PCBR	**Castelo Branco**	**4.14**	**333**	P	**P**	**02 32 55.5**	**+0.7**
PCBR				S	**S**	**02 33 41.6**	**-0.8**
LIS	**Lisbon**	**4.16**	**309**	*e*P	**P**	**02 32 54.5**	**-0.6**
LIS				*e*S	**S**	**02 33 42.8**	**+0.1**
LIS				*e*S	**S**	**02 33 42.8**	**+0.1**
PLOU	**Loures**	**4.26**	**310**	*e*Pn	**P**	**02 32 56.0**	**-0.5**
PLOU				*e*Sn	**S**	**02 33 44.0**	**-1.3**
	comp=E,31nm,0.2s						
PLOU	**Loures**	**4.26**	**310**	Pn	**P**	**02 32 56.0**	**-0.5**
PLOU				Sn	**S**	**02 33 44.0**	**-1.3**
	comp=E,16nm,0.2s						
PLOU	**Loures**	**4.26**	**310**	⇑P	**P**	**02 32 56.0**	**-0.5**
PLOU				S	**S**	**02 33 43.3**	**-2.0**
PTOM	**Tomar**	**4.36**	**323**	*e*Pn	**P**	**02 32 58.1**	**+0.2**
PTOM				*e*Sn	**S**	**02 33 47.3**	**-0.5**
	comp=E,26nm,0.1s						
PTOM	**Tomar**	**4.36**	**323**	Pn	**P**	**02 32 58.1**	**+0.2**
PTOM				Sn	**S**	**02 33 47.3**	**-0.5**
	comp=E,13nm,0.1s						
PTOM	**Tomar**	**4.36**	**323**	P	**P**	**02 32 58.2**	**+0.3**
PTOM				S	**S**	**02 33 46.3**	**-1.5**
GUD	**Guadarrama**	**4.50**	**8**	Pn	**P**	**02 33 00.9**	**+1.1**
	comp=E,2.8nm,0.1s,SNR=18						
GUD				Sn	**S**	**02 33 52.3**	**+1.1**
	comp=E,1.9nm,0.1s						
EBEN	**Beniarda**	**4.55**	**55**	Pn	**P**	**02 32 59.1**	**-1.5**
	comp=E,1.7nm,0.3s,SNR=9.5						
EBEN				Sn	**S**	**02 33 50.1**	**-2.5**
	comp=E,0.8nm,0.3s						
EBEN	**Beniarda**	**4.55**	**55**	P	**P**	**02 33 00.5**	**0.0**
EBEN				S	**S**	**02 33 50.1**	**-2.5**
MTE	**Manteigas**	**4.66**	**335**	*e*Pn	**P**	**02 33 03.0**	**+1.0**
PCOI	**Coimbra**	**4.81**	**326**	Sn	**S**	**02 33 59.1**	**-0.1**
PVIS	**Viseu**	**5.06**	**334**	*e*Pn	**P**	**02 33 08.0**	**+0.5**
PVIS				*e*Sn	**S**	**02 34 04.7**	**-0.5**
	comp=E,26nm,0.1s						
PVIS	**Viseu**	**5.06**	**334**	Pn	**P**	**02 33 08.0**	**+0.5**
PVIS				Sn	**S**	**02 34 04.7**	**-0.5**
	comp=E,13nm,0.1s						
ETOR	**Torete**	**5.17**	**26**	Sn	**S**	**02 34 08.0**	**+0.1**
	comp=E,1.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.48**	**39**	Pn	**P**	**02 33 13.9**	**+0.6**
	comp=E,0.7nm,0.1s,SNR=14						
EMOS				Sn	**S**	**02 34 15.0**	**-0.6**
	comp=E,0.6nm,0.2s						
PVRL	**Vila Real**	**5.51**	**338**	*e*Pn	**P**	**02 33 14.4**	**+0.8**
PVRL				*e*Sn	**S**	**02 34 15.5**	**-0.7**
	comp=E,128nm,0.1s						
PVRL	**Vila Real**	**5.51**	**338**	Pn	**P**	**02 33 14.4**	**+0.8**
PVRL				Sn	**S**	**02 34 15.5**	**-0.7**
	comp=E,64nm,0.1s						
PVRL	**Vila Real**	**5.51**	**338**	P	**P**	**02 33 14.4**	**+0.8**
PVRL				Sn	**S**	**02 34 15.2**	**-1.0**
PBRG	**Braganca**	**5.77**	**347**	*e*Pn	**P**	**02 33 18.0**	**+0.8**
PBRG				*e*Sn	**S**	**02 34 22.3**	**-0.5**
	comp=E,17nm,0.2s						
PBRG	**Braganca**	**5.77**	**347**	Pn	**P**	**02 33 18.0**	**+0.8**
PBRG				Sn	**S**	**02 34 22.3**	**-0.5**
	comp=E,8.6nm,0.2s						
EIBI	**Ibiza**	**5.78**	**59**	Pn	**P**	**02 33 16.2**	**-1.0**
	comp=E,1.5nm,0.2s,SNR=7.9						
EIBI				Sn	**S**	**02 34 18.7**	**-4.2**
	comp=E,0.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.78**	**59**	P	**P**	**02 33 16.2**	**-1.0**
EIBI				S	**S**	**02 34 19.4**	**-3.4**
ECAL	**Calabor**	**5.90**	**347**	Pn	**P**	**02 33 20.4**	**+1.4**
	comp=E,1.3nm,0.1s,SNR=17						
ECAL				Sn	**S**	**02 34 25.5**	**-0.5**
	comp=E,12nm,0.3s						
ELOB	**Lobios**	**6.15**	**338**	Pn	**P**	**02 33 23.5**	**+1.0**
	comp=E,1.1nm,0.0s,SNR=6.0						
ELOB				Sn	**S**	**02 34 31.4**	**-0.8**
	comp=E,25nm,0.3s						
ERUA	**La Rua**	**6.42**	**346**	Pn	**P**	**02 33 27.2**	**+1.0**
	comp=E,1.6nm,0.1s,SNR=7.9						
ERUA				Sn	**S**	**02 34 38.5**	**-0.1**
	comp=E,8.1nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**6.56**	**31**	Pn	**P**	**02 33 28.9**	**+0.8**
	comp=E,6.3nm,0.3s,SNR=4.7						
ESAC	**San Caprasio**	**6.56**	**31**	P	**P**	**02 33 29.6**	**+1.5**
EZAM	**Zamans**	**6.61**	**335**	Sn	**S**	**02 34 42.2**	**-1.1**
	comp=E,4.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**6.70**	**16**	Pn	**P**	**02 33 31.0**	**+0.9**
	comp=E,1.8nm,0.2s,SNR=7.9						
ECRI				Sn	**S**	**02 34 45.0**	**-0.5**
	comp=E,2.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**6.70**	**16**	P	**P**	**02 33 32.1**	**+2.0**
ECRI				S	**S**	**02 34 45.0**	**-0.4**
EPOB	**Poblet**	**7.01**	**41**	Pn	**P**	**02 33 34.1**	**-0.3**
	comp=E,1.3nm,0.2s,SNR=6.4						
EPOB	**Poblet**	**7.01**	**41**	P	**P**	**02 33 34.7**	**+0.3**
ELAN	**Lanestosa**	**7.14**	**9**	Pn	**P**	**02 33 36.8**	**+0.6**
	comp=E,1.1nm,0.1s,SNR=7.9						
ELAN				Sn	**S**	**02 34 54.6**	**-1.8**
	comp=E,1.6nm,0.2s,SNR=7.9						
STS	**Santiago**	**7.23**	**339**	Sn	**S**	**02 34 57.3**	**-1.3**
	comp=E,1.1nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.32**	**348**	Pn	**P**	**02 33 39.4**	**+0.7**
	comp=E,1.0nm,0.3s,SNR=5.6						
EPON				Sn	**S**	**02 34 59.1**	**-1.7**
	comp=E,2.3nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**7.50**	**22**	*e*Pn	**P**	**02 33 41.7**	**+0.5**
SJPF				*e*Sn	**S**	**02 35 04.6**	**-0.7**
	comp=E,1.8nm,0.3s						
EALK	**Alkurruntz**	**7.52**	**20**	Pn	**P**	**02 33 42.5**	**+1.1**
	comp=E,4.3nm,0.3s,SNR=18						
EALK				Sn	**S**	**02 35 03.8**	**-2.0**
	comp=E,5.0nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.52**	**20**	P	**P**	**02 33 42.5**	**+1.1**
EALK				S	**S**	**02 35 05.2**	**-0.5**
ETSF	**Etsaut**	**7.53**	**26**	*e*Pn	**P**	**02 33 41.8**	**+0.3**
ETSF				*e*Sn	**S**	**02 35 04.5**	**-1.4**
	comp=E,1.4nm,0.3s						
EMIR	**Miracle**	**7.64**	**40**	Pn	**P**	**02 33 43.1**	**0.0**
	comp=E,2.2nm,0.2s,SNR=13						
EPF	**Esparros**	**7.98**	**29**	*e*Pn	**P**	**02 33 47.6**	**0.0**
EPF				*e*Sn	**S**	**02 35 13.6**	**-3.4**
	comp=E,1.1nm,0.3s						
MTLF	**Montolieu**	**9.05**	**36**	*e*Pn	**P**	**02 34 02.7**	**+0.6**
LFF	**La Frestale**	**9.77**	**25**	*e*Pn	**P**	**02 34 12.0**	**+0.1**
CAF	**Calviac**	**10.25**	**29**	*e*Pn	**P**	**02 34 17.6**	**-0.7**
RJF	**Les Rejaudoux**	**10.36**	**26**	*e*Pn	**P**	**02 34 19.2**	**-0.6**
MFF	**Saint Martin d**	**11.02**	**18**	*e*Pn	**P**	**02 34 29.1**	**+0.4**
TCF	**Toulx Ste Croi**	**11.45**	**26**	*e*Pn	**P**	**02 34 34.3**	**-0.2**
QUIF	**Quistinic**	**11.80**	**6**	*e*Pn	**P**	**02 34 40.3**	**+1.2**
QUIF				*e*Sn	**S**	**02 36 45.0**	**-4.4**
	comp=E,1.0nm,0.3s						
BGF	**Bois d'Agland**	**11.91**	**27**	*e*Pn	**P**	**02 34 39.7**	**-0.9**
SGMF	**Saint Gilles**	**12.19**	**8**	*e*Pn	**P**	**02 34 45.3**	**+0.9**
ROSF	**Rostrenen**	**12.21**	**5**	*e*Pn	**P**	**02 34 45.7**	**+1.1**
ROSF				*e*Sn	**S**	**02 36 52.9**	**-6.2**
	comp=E,0.9nm,0.3s						
AVF	**Avril sur Loir**	**12.30**	**28**	*e*Pn	**P**	**02 34 44.9**	**-0.8**
SMF	**Signal de Mont**	**12.37**	**30**	*e*Pn	**P**	**02 34 46.2**	**-0.5**
GRR	**Gorron**	**12.57**	**13**	*e*Pn	**P**	**02 34 50.7**	**+1.4**
SSF	**Saint Saulge**	**12.58**	**28**	*e*Pn	**P**	**02 34 49.5**	**0.0**
LDF	**La Druitiere**	**12.91**	**15**	*e*Pn	**P**	**02 34 55.3**	**+1.5**
FLN	**La Foliniere**	**13.00**	**13**	*e*Pn	**P**	**02 34 55.6**	**+0.6**
GERES	**GERESS Array B**	**18.65**	**41**	P	**P**	**02 36 05.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=236,slow=9.6,SNR=4.4						
HFS	**Hagfors**	**26.82**	**21**	P	**P**	**02 37 26.6**	**+0.4**
	comp=E,0.5nm,0.7s,mb3.2,baz=219,slow=9.2,SNR=3.8						
ARCES	**ARCESS Array B**	**37.30**	**17**	P	**P**	**02 38 58.3**	**+0.8**
	comp=E,1.4nm,1.1s,mb3.8,baz=236,slow=9.8,SNR=2.9						

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*NEIC **01** 02:38:15.3±2.5, 6.17S×146.80E, h88^{km}±22^{km}, mb4.2/2, Error ellipse: s-maj=21.5km s-min=19.9km az=95.0*
*IDC **01** 02:38:15.1±2.7, 6.32S×146.75E, h86^{km}±26^{km}, mb3.8/7, mb1 4.0/10, mb1mx4.0/14, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=24.1km s-min=15.4km az=120.0*
ISC 01 02:38:12.7±2.0, **6.21S**±0.10×**146.9E**±0.1, **h80**^{km}±19^{km}, **n18**, σ**0**^{s}.**76**/21, **mb3.9**/7, **1D**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.18**	**175**	P	**P**	**02 39 02.4**	**+0.8**
	24nm,0.3s,baz=356,slow=5.5,SNR=57						
PMG				S	**S**	**02 39 38.3**	**-0.3**
	37nm,0.3s,baz=221,slow=21,SNR=14						
PMG	**Port Moresby**	**3.18**	**175**	⇓*e*Pn	**P**	**02 39 02.3**	**+0.6**
PMG				*e*Sn	**S**	**02 39 38.0**	**-0.6**
CTA	**Charters Tower**	**13.81**	**183**	*e*P	**P**	**02 41 30.5**	**+4.3**
	2.3nm,0.3s						
CTA	**Charters Tower**	**13.81**	**183**	P	**P**	**02 41 29.1**	**+3.0**
	1.3nm,0.3s,baz=352,slow=13,SNR=9.7						
CTA				LR	LR	02 46 15.5	
	comp=Z,46nm,20.9s,baz=38,slow=35						
CTAO	**Charters Tower**	**13.81**	**183**	*e*P	**P**	**02 41 29.0**	**+2.8**
	3.4nm,0.3s						
KAKA	**Kakadu**	**15.68**	**245**	*e*P	**P**	**02 41 49.6**	**-0.7**
	10nm,0.5s						
WB2	**Warramunga Arr**	**18.30**	**221**	*e*P	**P**	**02 42 21.8**	**-0.9**
WRA	**Warramunga Arr**	**18.31**	**221**	P	**P**	**02 42 22.1**	**-0.7**
	1.1nm,0.3s,baz=48,slow=12,SNR=59						
WRA				S	**S**	**02 45 41.9**	**+1.0**
	0.1nm,0.3s,baz=35,slow=24,SNR=3.0						
ASPA	**Alice Springs**	**21.39**	**214**	*e*P	**P**	**02 42 55.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.88**	**238**	*e*P	**P**	**02 43 20.4**	**+0.6**
	6.6nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.88**	**238**	P	**P**	**02 43 20.3**	**+0.5**
	8.1nm,0.7s,mb4.2,baz=59,slow=5.0,SNR=16						
STKA	**Stephens Creek**	**26.01**	**190**	P	**P**	**02 43 39.1**	**-0.9**
	1.8nm,0.7s,mb3.6,baz=336,slow=12,SNR=5.0						
FX1	**Attu Island--F**	**62.95**	**18**	P	**P**	**02 48 33.8**	**+0.8**
	10nm,0.5s,mb5.0,baz=218,slow=2.7,SNR=18						
SONM	**Songino Array**	**64.54**	**331**	P	**P**	**02 48 43.7**	**+0.2**
	0.2nm,0.4s,mb3.3,baz=128,slow=6.7,SNR=3.7						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**02 49 26.9**	**-0.6**
	1.0nm,0.7s,mb3.8,baz=239,slow=6.8,SNR=2.1						
MKAR	**Makanchi Array**	**77.60**	**321**	P	**P**	**02 50 01.7**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=99,slow=8.3,SNR=8.5						
MAW	**Mawson**	**82.02**	**203**	P	**P**	**02 50 25.2**	**+0.1**
	baz=92,slow=17						
ILAR	**Eielson Array**	**85.71**	**23**	P	**P**	**02 50 43.2**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=255,slow=4.8,SNR=14						

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*STR **01** 03:16:28.8±0.2, 43.04N×0.05W, h10^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **01** 03:16:29.6±0.2, 43.04N×0.05W, h11^{km}, mbLg1.9/3, Error ellipse: s-maj=3.1km s-min=1.5km az=5.0, PRXIMO*
*LDG **01** 03:16:29.3±0.1, 43.07N×0.06W, h2^{km}, Md1.9/2, Ml2.0/8, Error ellipse: s-maj=1.4km s-min=1.2km az=151.0*
ISC 01 03:16:27.5±0.3, **43.14N**±0.02×**0.03W**±0.03, **h10**^{km}, **n28**, σ**1**^{s}.**19**/43, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.12**	**142**	Pg	**Pg**	**03 16 32.1**	**+1.5**
LABF				Sg	**Sg**	**03 16 33.9**	**+1.3**
LABF	**Labassere**	**0.12**	**142**	Pg	**Pg**	**03 16 32.0**	**+1.5**
LABF				Lg		03 16 34.0	
VIEF	**Viey**	**0.26**	**172**	Pg	**Pg**	**03 16 33.1**	**0.0**
VIEF				Sg	**Sg**	**03 16 35.8**	**-1.0**
VIEF	**Viey**	**0.26**	**172**	Pg	**Pg**	**03 16 33.2**	**+0.1**
VIEF				Lg		03 16 35.8	
REYF	**Montagne du Re**	**0.28**	**254**	Pg	**Pg**	**03 16 34.3**	**+1.0**
REYF				Sg	**Sg**	**03 16 38.5**	**+1.3**
REYF	**Montagne du Re**	**0.28**	**254**	Pg	**Pg**	**03 16 34.4**	**+1.1**
REYF				Lg		03 16 38.2	
EPF	**Esparros**	**0.29**	**113**	*e*Pg	**Pg**	**03 16 35.0**	**+1.3**
EPF				*e*Sg	**Sg**	**03 16 39.4**	**+1.7**
	12nm,0.2s						
RESF	**Ens**	**0.43**	**141**	Pg	**Pg**	**03 16 36.5**	**+0.2**
RESF				Sg	**Sg**	**03 16 41.9**	**-0.3**
RESF	**Ens**	**0.43**	**141**	Pg	**Pg**	**03 16 36.6**	**+0.2**
RESF				Lg		03 16 41.9	
ETSF	**Etsaut**	**0.46**	**238**	*e*Pg	**Pg**	**03 16 37.2**	**+0.3**
ETSF				*e*Sg	**Sg**	**03 16 42.5**	**-0.6**
	19nm,0.2s						
ATE	**Arette**	**0.49**	**263**	Pg	**Pg**	**03 16 38.9**	**+1.3**
ATE				Lg		03 16 45.5	
FDAF	**Les Forges d'A**	**0.51**	**231**	Pg	**Pg**	**03 16 37.9**	**0.0**
FDAF				Sg	**Sg**	**03 16 44.1**	**-0.7**
FDAF	**Les Forges d'A**	**0.51**	**231**	Pg	**Pg**	**03 16 38.0**	**+0.1**
FDAF				Lg		03 16 44.1	
MELF	**Melles**	**0.64**	**115**	Pg	**Pg**	**03 16 40.8**	**+0.4**
MELF				Lg		03 16 49.3	
SJPF	**Ste Jean**	**0.88**	**268**	*e*Pg	**Pg**	**03 16 44.7**	**-0.4**
SJPF				*e*Sg	**Sg**	**03 16 57.1**	**+0.2**
	2.6nm,0.4s						
SALF	**Salau**	**0.97**	**113**	Pg	**Pg**	**03 16 47.7**	**+0.6**
SALF	**Salau**	**0.97**	**113**	Pg	**Pg**	**03 16 47.9**	**+0.8**
SALF				Lg		03 16 59.6	
ESAC	**San Caprasio**	**1.46**	**193**	Pg	**Pg**	**03 16 53.1**	**-3.6**
	5.4nm,0.2s,SNR=4.6						
ESAC				Lg		03 17 12.4	
	22nm,0.3s,SNR=6.9						
MTLF	**Montolieu**	**1.65**	**82**	*e*Pg	**Pg**	**03 17 00.9**	**+0.3**
MTLF				*e*Sg	**Sg**	**03 17 22.7**	**0.0**
	0.9nm,0.2s						
EMIR	**Miracle**	**1.68**	**136**	Pg	**Pg**	**03 17 00.5**	**-0.6**
	0.5nm,0.1s,SNR=5.9						
EMIR				Lg		03 17 21.0	
	9.4nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**1.88**	**17**	*e*Pg	**Pg**	**03 17 06.4**	**+1.3**
LFF				*e*Sg	**Sg**	**03 17 31.5**	**+1.3**
	3.5nm,0.3s						
EPOB	**Poblet**	**1.97**	**155**	Pg	**Pg**	**03 17 04.4**	**-2.5**
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		03 17 28.8	
	1.0nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.33**	**40**	*e*Pg	**Pg**	**03 17 14.0**	**-0.2**
CAF				*e*Sg	**Sg**	**03 17 45.1**	**-0.2**
	1.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.43**	**27**	*e*Pg	**Pg**	**03 17 15.4**	**-0.7**
RJF				*e*Sg	**Sg**	**03 17 48.9**	**+0.5**
	2.4nm,0.3s						
EMOS	**Mosqueruela**	**2.80**	**187**	Pn	**Pn**	**03 17 11.2**	**-2.0**
	1.1nm,0.4s,SNR=7.9						
EMOS				Sn	**Sn**	**03 17 43.8**	**-3.6**
	SNR=7.9						
LASF	**Ste Croix**	**2.97**	**70**	*e*Sg	**Sg**	**03 18 03.8**	**-2.7**
	0.8nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**359**	*e*Pn	**Pn**	**03 17 23.1**	**+0.5**
MFF				*e*Pg	**Pg**	**03 17 34.3**	**-2.3**
MFF				*e*Sg	**Sg**	**03 18 19.3**	**-3.4**
	0.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.52**	**26**	*e*Sg	**Sg**	**03 18 22.4**	**-2.5**
	0.5nm,0.2s						

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*HEL **01** 03:32:51.4±0.3, 67.70N×33.77E, ML2.5, ML2.3(NAO), Explosion*
*IDC **01** 03:32:53.5±2.3, 67.75N×33.58E, mb1 3.0/4, mb1mx2.9/20, ML2.9/4, Error ellipse: s-maj=23.2km s-min=9.2km az=76.0*
*NAO **01** 03:32:55.7±1.4, 67.57N×32.61E, ML2.3*
ISC 01 03:32:53.8±0.5, **67.51N**±0.02×**32.56E**±0.09, **n23**, σ**1**^{s}.**43**/52, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.19**	**60**	*i* P	**Pg**	**03 32 57.1**	**-0.6**
APA0				*i* S	**Sg**	**03 33 00.5**	**+0.3**
APA0				*e*RG		03 33 01.8	
MSF	**Maaselka**	**2.13**	**223**	*e*P	**Pn**	**03 33 35.0**	**+3.9**
MSF				*e*S	**Sn**	**03 34 07.3**	**+8.6**
SGF	**Sodankyl**	**2.32**	**271**	*e*P	**Pn**	**03 33 36.2**	**+2.4**
SGF				*e*S	**Sn**	**03 34 11.1**	**+7.5**
KEV	**Kevo**	**3.03**	**320**	*e*P	**Pn**	**03 33 43.6**	**-0.4**
KEV				*e*S	**Sn**	**03 34 21.7**	**+0.1**
KEV				*e*SG	**Sg**	**03 34 29.8**	**-5.1**
KEV				MSG		03 34 30.2	
	comp=Z,15nm,0.3s						
ARA0	**ARCESS Array S**	**3.29**	**311**	*e*P	**Pn**	**03 33 47.7**	**0.0**
ARA0				*e*PG	**Pg**	**03 33 56.3**	**-3.3**
ARA0				*e*S	**Sn**	**03 34 28.0**	**-0.2**
ARA0				*e*SB	**Sb**	**03 34 37.1**	**+3.2**
ARA0	**ARCESS Array S**	**3.29**	**311**	Pn	**Pn**	**03 33 47.7**	**0.0**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**03 33 56.3**	**-3.3**
	baz=117,slow=16						
ARA0				Sn	**Sn**	**03 34 28.0**	**-0.2**
	baz=118,slow=28						
ARA0				Lg		03 34 37.1	
	baz=129,slow=28						
ARCES	**ARCESS Array B**	**3.29**	**311**	Pn	**Pn**	**03 33 47.7**	**0.0**
	comp=Z,1.6nm,0.3s,baz=121,slow=14,SNR=129						
ARCES				Pg	**Pg**	**03 33 55.8**	**-3.8**
	comp=Z,2.4nm,0.3s,baz=122,slow=15,SNR=28						
ARCES				Sn	**Sn**	**03 34 28.4**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=117,slow=22,SNR=18						
ARCES				Lg		03 34 40.6	
	comp=Z,5.0nm,0.3s,baz=111,slow=28,SNR=17						
OUL	**Oulu**	**3.63**	**231**	*e*P	**Pn**	**03 33 55.7**	**+3.2**
OUL				*e*S	**Sn**	**03 34 44.3**	**+7.6**
OUL				*e*SG	**Sg**	**03 35 00.9**	**+6.3**
KTK1	**Kautokeino**	**3.78**	**298**	*e*P	**Pn**	**03 33 57.0**	**+2.4**
KTK1				*e*Sg	**Sg**	**03 34 56.1**	**-3.6**
KTK1				AML	AML	03 34 58.4	
	comp=Z,20nm,1.0s						
KJN	**Kajaani**	**3.98**	**212**	*e*P	**Pn**	**03 33 59.3**	**+1.9**
KJN				*e*S	**Sn**	**03 34 49.5**	**+4.0**
KJN				*e*SG	**Sg**	**03 35 06.7**	**+0.5**
KJN				MSG		03 35 10.0	
	comp=Z,7.2nm,0.3s						
KIF	**Kilpisjarvi**	**4.62**	**294**	*e*P	**Pn**	**03 34 06.4**	**-0.2**
KIF				*e*S	**Sn**	**03 35 02.5**	**+0.7**
JOF	**Joensuu**	**4.64**	**187**	*e*P	**Pn**	**03 34 05.3**	**-1.6**
JOF				*e*S	**Sn**	**03 35 00.7**	**-1.7**
JOF				*e*SG	**Sg**	**03 35 21.2**	**-7.3**
TRO	**Tromso**	**5.43**	**299**	*e*P	**Pn**	**03 34 18.2**	**+0.2**
TRO				*e*S	**Sn**	**03 35 20.3**	**-1.8**
TRO				AML	AML	03 36 01.4	
	comp=Z,5.5nm,0.7s						
SUF	**Sumiainen**	**5.52**	**212**	*e*P	**Pn**	**03 34 20.9**	**+1.7**
SUF				*e*S	**Sn**	**03 35 26.4**	**+2.0**
SUF				*e*SG	**Sg**	**03 35 56.2**	**-1.3**
SUF				MSG		03 35 58.8	
	comp=Z,3.1nm,0.3s						
KEF	**Keuruu**	**6.28**	**215**	*e*P	**Pn**	**03 34 30.3**	**+0.2**
KEF				*e*S	**Sn**	**03 35 44.5**	**+1.0**
FIA0	**FINESS Array S**	**6.70**	**208**	Pn	**Pn**	**03 34 33.6**	**-2.4**
	baz=26,slow=14						
FIA0				Sn	**Sn**	**03 35 54.2**	**+0.2**
	baz=27,slow=28						
FIA0				Lg		03 36 29.1	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**6.70**	**208**	*e*S	**Sn**	**03 35 53.8**	**-0.2**
FIA0				*e*SG	**Sg**	**03 36 30.8**	**-6.2**
FIA0				MSG		03 36 34.6	
	comp=Z,4.3nm,0.5s						
FINES	**FINESS Array B**	**6.70**	**208**	Pn	**Pn**	**03 34 35.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=8.7						
FINES				Sn	**Sn**	**03 35 55.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=33,slow=24,SNR=5.2						
FINES				Lg		03 36 28.5	
	comp=Z,0.6nm,0.3s,baz=20,slow=28,SNR=10						
MOR8	**Moi Rana**	**7.26**	**268**	*e*	**Sn**	**03 36 04.2**	**-3.9**
HFS	**Hagfors**	**11.10**	**237**	Pn	**P**	**03 35 34.4**	**-2.2**
	baz=15,slow=12						
HFS				Lg		03 38 41.7	
	baz=24,slow=28						
HFS	**Hagfors**	**11.10**	**237**	*e*P	**P**	**03 35 34.4**	**-2.2**
HFS				*e*		03 38 41.7	
HFS	**Hagfors**	**11.10**	**237**	Pn	**P**	**03 35 35.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=45,slow=10,SNR=4.1						
HFS				Sn	**S**	**03 37 38.5**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=45,slow=22,SNR=3.8						
HFS				Lg		03 38 46.9	
	comp=Z,0.0nm,0.3s,baz=45,slow=19,SNR=2.4						
NOA	**NORSAR Array B**	**11.27**	**245**	Pn	**P**	**03 35 37.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=2.5						
NOA				Sn	**S**	**03 37 44.5**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=53,slow=19,SNR=2.9						
NOA				Lg		03 38 55.4	
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=5.8						

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*ISK **01** 04:13:19.9, 37.93N×27.64E, h14^{km}, MD3.5*
*NEIC **01** 04:13:21.4±0.4, 37.91N×27.57E, h10^{km}, MD3.6(ATH), Error ellipse: s-maj=6.6km s-min=5.9km az=78.0*
*ATH **01** 04:13:21.9, 37.88N×27.47E, h38^{km}±6^{km}, MD3.6/6*
*IDC **01** 04:13:23.0±2.4, 38.01N×27.48E, h14^{km}±19^{km}, mb3.2/5, mb1 3.5/11, mb1mx3.5/25, ML3.5/6, Error ellipse: s-maj=18.7km s-min=13.5km az=137.0*
*THE **01** 04:13:26.2, 38.13N×27.63E, h20^{km}, ML3.7*
ISC 01 04:13:19.3±0.5, **37.96N**±0.02×**27.67E**±0.03, **h0**^{km}±4^{km}, **n71**, σ**1**^{s}.**04**/85, **mb3.2**/5, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.34**	**151**	*i* P	**Pg**	**04 13 26.9**	**+0.8**
AYDN				*i* S	**Sg**	**04 13 31.1**	**+0.4**
IZM	**Izmir**	**0.54**	**324**	*i* PG	**Pg**	**04 13 31.6**	**+1.4**
IZM				SG	**Sg**	**04 13 38.9**	**+1.5**
KDAG	**Bornova**	**0.54**	**324**	*i* P	**Pg**	**04 13 31.7**	**+1.5**

KDAG				*i*S	Sg	04 13 37.0	-0.4
MLSB	Milas	0.67	173	*i*PG	Pg	04 13 32.7	0.0
SMG	Samos	0.71	249	*e*PN	Pn	04 13 33.5	-2.7
MANT	Manisa	0.88	53	*i*P	Pg	04 13 37.6	+0.8
MANT				*i*S	Sg	04 13 49.4	+0.9
BDRM	Kayabasi	0.91	192	*i*P	Pg	04 13 36.6	-1.0
BDRM				*i*S	Sg	04 13 48.6	-1.1
AKS	Akhisar	0.92	7	*i*PG	Pg	04 13 39.0	+1.2
YER	Yerkesik	0.96	149	*i*PG	Pg	04 13 38.4	-0.1
DENT	Denizli	1.10	100	PN	Pn	04 13 41.4	-0.4
DENT				SN	Sn	04 13 57.8	0.0
DNZL	Cakiroluk	1.12	104	*i*P	Pb	04 13 41.6	+0.3
DNZL				*i*S	Sb	04 13 58.4	+2.2
KHL	Karahalli	1.50	76	PN	Pn	04 13 48.4	+0.8
BALB	Balikesir	1.68	5	*e*PN	Pn	04 13 50.6	+0.4
PRK	Paraskevi	1.69	320	*e*PB	Pb	04 13 50.5	-0.4
ARG	Arkhangelos	1.78	168	*e*PN	Pn	04 13 51.0	-0.5
ELL	Elmali	2.15	124	*e*PN	Pn	04 13 56.7	-0.2
ALT	Altintas	2.20	60	*e*PN	Pn	04 13 56.9	-0.7
ISP	Isparta	2.25	92	*e*PN	Pn	04 13 58.0	-0.2
ORLT	Orhaneli	2.29	24	*e*PN	Pn	04 13 59.1	+0.3
THR4	Thira Island,	2.35	231	*e*Pn	Pn	04 14 03.5	+3.7
THR4				*e*Sn	Sn	04 14 31.6	+1.8
KSL	Kastellorizon	2.37	139	*e*PN	Pn	04 14 01.1	+1.1
SANT	Santorini	2.38	229	*e*Pn	Pn	04 13 59.2	-0.9
THR1	Thera Island	2.38	229	*e*Pn	Pn	04 14 04.1	+4.0
THR1				*e*Sn	Sn	04 14 33.5	+3.2
EDC	Edincik	2.39	4	PN	Pn	04 14 00.0	-0.2
THR3	Thira Island,	2.39	230	*e*Pn	Pn	04 14 04.7	+4.5
BNT	Bandirma	2.40	5	PN	Pn	04 14 00.3	-0.1
THR5	Thira Island,	2.41	231	*e*Pn	Pn	04 14 04.2	+3.6
THR5				*e*Sn	Sn	04 14 33.2	+1.9
THR6	Thira Island,	2.42	229	*e*Pn	Pn	04 14 05.0	+4.3
KARP	Karpathos	2.44	190	*e*PN	Pn	04 14 00.0	-1.1
ULDT	Uludag	2.46	27	*i*P	Pn	04 14 00.9	-0.3
LPK	Lapseki	2.51	344	PN	Pn	04 14 02.4	+0.4
MRMT	Marmara Adasi	2.64	359	*e*PN	Pn	04 14 04.0	+0.2
SART	Tekirdag	2.75	352	*i*P	Pn	04 14 05.3	-0.1
LOS	Limnos	2.82	315	*e*Pn	Pn	04 14 06.9	+0.5
	comp=Z,2.8nm,0.2s						
YLV	Yalova	2.92	26	*e*PN	Pn	04 14 07.3	-0.5
ESKT	Eskisehir	2.93	57	*e*PN	Pn	04 14 08.9	+0.9
ESKT	Eskisehir	2.93	57	*i*P	Pn	04 14 08.8	+0.8
BADT	Buyukada	3.10	21	PN	Pn	04 14 10.5	+0.1
ALN	Alexandroupoli	3.19	337	*e*Pn	Pn	04 14 11.6	-0.1
	comp=Z,3.3nm,0.3s						
CTT	Catalca	3.23	10	*e*PN	Pn	04 14 11.6	-0.7
HRT	Hereke	3.25	28	*e*PN	Pn	04 14 11.8	-0.7
ISK	Istanbul-Kandi	3.28	19	*e*PN	Pn	04 14 12.3	-0.7
IDI	Anoyia	3.48	221	Pn	Pn	04 14 15.5	-0.4
	1.0nm,0.3s,baz=22,slow=12,SNR=7.1						
IDI				Pg	Pg	04 14 25.4	-3.5
	2.0nm,0.3s,baz=23,slow=15,SNR=9.1						
IDI				Sn	Sn	04 14 53.9	-4.5
	1.3nm,0.3s,baz=265,slow=22,SNR=2.9						
IDI				Lg		04 15 11.7	
	1.6nm,0.3s,baz=309,slow=15,SNR=4.1						
RDO	Rodhopi	3.58	333	*e*PN	Pn	04 14 17.0	-0.3
HENT	Hendek	3.80	40	*i*P	Pg	04 14 33.3	-1.8
EDRB	Edirne	3.95	350	*e*PN	Pn	04 14 22.3	-0.1
KDZ	Kurdzhali	4.07	335	*i*P	Pn	04 14 24.0	-0.2
SGKT	Sivrigoynuk	4.29	51	*i*P	Pn	04 14 28.2	+1.0
RZN	Rozhen	4.36	329	*i*P	Pn	04 14 28.0	-0.3
SOH	Sokhos	4.40	312	*e*Pn	Pn	04 14 29.1	+0.2
DIM	Dimitrovgrad	4.40	339	*i*P	Pn	04 14 28.0	-0.9
JMB	Yambol	4.58	350	*i*P	Pn	04 14 30.0	-1.4
MMB	Musomiste	4.73	321	*i*P	Pn	04 14 32.5	-1.0
KNT	Kendrikon	4.88	312	*e*Pn	Pn	04 14 36.1	+0.4
BRTR	Keskin Array B	4.98	67	Pn	Pn	04 14 37.9	+0.7
	1.0nm,0.3s,baz=243,slow=15,SNR=18						
BRTR				Pg	Pg	04 14 56.1	-2.7
	0.5nm,0.3s,baz=254,slow=18,SNR=11						
BRTR				Sn	Sn	04 15 33.6	-2.6
	0.4nm,0.3s,baz=242,slow=25,SNR=3.3						
BRTR				Lg		04 16 04.7	
	baz=284,slow=18,SNR=1.6						
GRG	Griva	5.06	308	*e*Pn	Pn	04 14 38.7	+0.5
ELDT	Eldivan	5.13	59	*i*P	Pn	04 14 40.0	+0.8
CSS	Prodhromos	5.45	122	*e*Pn	Pn	04 14 42.0	-1.8
BALT	Daday	5.67	49	*i*P	Pg	04 15 08.3	-4.2
VTS	Vitosha	5.75	325	*i*P	Pn	04 14 48.0	+0.1
BOYT	Boyabat	6.56	56	*i*P	Pg	04 15 26.3	-4.0
MLR	Muntele Rosu	7.63	351	Pn	Pn	04 15 13.5	-0.9
	0.3nm,0.3s,baz=223,slow=3.2,SNR=5.9						
MLR				Lg		04 17 26.2	
	0.2nm,0.3s,baz=91,slow=12,SNR=2.5						
ASF	Jabal al Asfar	9.51	125	Pn	P	04 15 43.2	+2.7
	0.8nm,0.3s,baz=97,slow=5.7,SNR=2.5						
VAE	Valguarnera	10.52	271	Pn	P	04 15 51.4	-3.0
	1.1nm,0.3s,baz=84,slow=6.0,SNR=2.1						
GERES	GERESS Array B	14.85	322	Pn	P	04 16 57.9	+5.7
	0.1nm,0.3s,baz=135,slow=15,SNR=6.6						
FINES	FINESS Array B	23.53	358	P	P	04 18 31.2	-0.3
	0.7nm,0.8s,mb3.3,baz=170,slow=12,SNR=3.3						
FINES	FINESS Array B	23.53	358	P	P	04 18 31.2	-0.3
HFS	Hagfors	23.91	343	P	P	04 18 35.2	0.0
	2.0nm,1.1s,mb3.6,baz=171,slow=20,SNR=3.0						
NOA	NORSAR Array B	25.30	341	P	P	04 18 48.9	+0.2
	0.2nm,0.8s,mb2.9,baz=136,slow=7.9,SNR=2.7						
MKAR	Makanchi Array	40.58	59	P	P	04 21 02.9	+1.0
	0.1nm,0.4s,mb2.9,baz=270,slow=7.2,SNR=2.6						
SONM	Songino Array	56.17	53	P	P	04 23 03.0	+0.1
	0.2nm,0.4s,mb3.5,baz=289,slow=11,SNR=3.6						

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*NEIC **01** 04:18:48.7,36.81S×177.12E,h267^{km},After WEL.*

WEL 01 04:18:48.3±0.3**,36.81S×177.12E,h272**^{km}±3^{km}**,ML3.9**/4**, Error ellipse: s-maj=5.7km s-min=5.0km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.21	129	PN	P	04 19 26.6	-0.4
MXZ				SN	S	04 19 56.9	-0.5
MXZ	Matakaoa Point	1.21	129	*e*P	P	04 19 26.6	-0.5
MXZ				S	S	04 19 55.9	-1.5
URZ	Urewera	1.45	180	PN	P	04 19 28.5	-0.1
URZ				SN	S	04 19 59.2	-0.9
URZ	Urewera	1.45	180	P	P	04 19 28.5	-0.1
PUZ	Puketiti	1.55	145	PN	P	04 19 29.3	-0.1
PUZ				SN	S	04 20 00.0	-1.3
PUZ	Puketiti	1.55	145	*e*P	P	04 19 29.3	-0.1
PUZ				S	S	04 20 00.0	-1.4
MWZ	Matawai	1.56	168	PN	P	04 19 29.6	+0.2
MWZ				SN	S	04 20 01.7	+0.3
MWZ	Matawai	1.56	168	P	P	04 19 29.6	+0.2
KNZ	Kokohu	2.25	169	PN	P	04 19 34.9	-0.2
KNZ	Kokohu	2.25	169	*e*P	P	04 19 34.9	-0.2
BKZ	Black Stump Fm	2.40	192	PN	P	04 19 36.1	-0.4
BKZ				SN	S	04 20 13.9	-0.2
BKZ	Black Stump Fm	2.40	192	P	P	04 19 36.1	-0.5
BKZ				S	S	04 20 14.3	+0.1
NGZ	Ngauruhoe	2.65	206	PN	P	04 19 39.4	+0.4
CNZ	Chateau	2.69	207	PN	P	04 19 39.5	+0.1
CNZ	Chateau	2.69	207	P	P	04 19 39.5	+0.2
TUVZ	Tukino	2.71	205	PN	P	04 19 39.7	+0.1
TUVZ	Tukino	2.71	205	P	P	04 19 39.7	+0.1
FWVZ	Far West T-bar	2.73	206	PN	P	04 19 40.4	+0.6
FWVZ	Far West T-bar	2.73	206	*e*P	P	04 19 40.5	+0.7
WNVZ	Wahianoa	2.78	205	PN	P	04 19 40.3	0.0
MOVZ	Moawhango	2.81	202	PN	P	04 19 39.9	-0.7
PWZ	Pawanui	3.22	183	PN	P	04 19 44.3	-0.5
PWZ				SN	S	04 20 28.7	-0.3
PWZ	Pawanui	3.22	183	*e*P	P	04 19 44.3	-0.6
PWZ				S	S	04 20 28.7	-0.3
TSZ	Takapari Road	3.37	195	PN	P	04 19 45.2	-1.3
TSZ	Takapari Road	3.37	195	P	P	04 19 45.2	-1.3
WAZ	Wanganui	3.38	209	PN	P	04 19 46.1	-0.6
WAZ	Wanganui	3.38	209	*e*P	P	04 19 46.1	-0.6
BFZ	Birch Farm	3.92	190	PN	P	04 19 51.5	-1.2
BFZ	Birch Farm	3.92	190	*e*P	P	04 19 51.5	-1.2
MRZ	Mangatainoka R	4.03	197	PN	P	04 19 52.3	-1.6
MRZ				SN	S	04 20 43.3	-1.8
KIW	Kapiti Island	4.40	202	PN	P	04 19 55.9	-2.3
KIW	Kapiti Island	4.40	202	P	P	04 19 55.9	-2.3
MTW	Mount Morrison	4.52	196	PN	P	04 19 58.0	-1.6
MTW	Mount Morrison	4.52	196	P	P	04 19 58.0	-1.6
CAW	Cannon Point	4.58	200	PN	P	04 19 57.8	-2.5
CAW	Cannon Point	4.58	200	P	P	04 19 57.8	-2.5
MRW	Makara Radio	4.80	202	PN	P	04 20 00.6	-2.3
MRW	Makara Radio	4.80	202	P	P	04 20 00.6	-2.2
SNZO	South Karori	4.87	202	PN	P	04 20 00.9	-2.8
SNZO	South Karori	4.87	202	P	P	04 20 00.9	-2.8
TUWZ	Tuamarina	5.23	207	PN	P	04 20 05.6	-2.5
NNZ	Nelson	5.28	212	PN	P	04 20 05.7	-2.9
NNZ	Nelson	5.28	212	*e*P	P	04 20 05.7	-2.9
QRZ	Quartz Range	5.38	220	PN	P	04 20 06.3	-3.5
QRZ	Quartz Range	5.38	220	*e*P	P	04 20 06.3	-3.5
THZ	Tophouse	5.93	212	PN	P	04 20 13.8	-2.7
THZ	Tophouse	5.93	212	*e*P	P	04 20 13.8	-2.7
THZ				S	S	04 21 23.0	-2.7
KHZ	Kahutara	6.24	205	PN	P	04 20 17.7	-2.7
KHZ	Kahutara	6.24	205	*e*P	P	04 20 18.0	-2.4
DSZ	Denniston Nort	6.42	218	PN	P	04 20 19.9	-2.7
DSZ	Denniston Nort	6.42	218	P	P	04 20 19.9	-2.8
LTZ	Lake Taylor	7.03	211	PN	P	04 20 26.9	-3.4
LTZ	Lake Taylor	7.03	211	*e*P	P	04 20 26.9	-3.4
MQZ	McQueen's Vall	7.69	205	PN	P	04 20 34.2	-4.2

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*LDG **01** 04:24:20.0±0.1,43.15N×1.01W,h25^{km},Md1.9/2,Ml1.9/6, Error ellipse: s-maj=2.0km s-min=1.9km az=16.0*

*MDD **01** 04:24:21.1±0.3,43.18N×0.99W,h19^{km}±3^{km},mbLg1.6/12, Error ellipse: s-maj=3.5km s-min=1.2km az=16.0,PRXIMO*

*STR **01** 04:24:22.4±0.2,43.13N×0.91W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 04:24:21.3±0.6**,43.14N**±0.05×**0.99W**±0.04**,h16**^{km}±5^{km}**, n33,**σ**0**^{s}**91**/43**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.09	29	Pg	Pb	04 24 24.5	-0.1
ORDF				Sg	Sb	04 24 26.9	0.0
ORDF	Ordiarp	0.09	29	Pg	Pb	04 24 24.4	-0.2
ORDF				Lg		04 24 26.8	
LARF	Larrau	0.10	178	Pg	Pb	04 24 24.9	+0.1
LARF				Sg	Sb	04 24 27.7	+0.5
LARF	Larrau	0.10	178	Pg	Pb	04 24 25.0	+0.2
LARF				Lg		04 24 27.7	
SJPF	Ste Jean	0.17	262	*e*Pg	Pb	04 24 25.6	-0.2
SJPF				*e*Sg	Sb	04 24 29.1	+0.4
	20nm,0.2s						
ATE	Arette	0.22	104	Pg	Pb	04 24 25.9	-0.6
ATE				Lg		04 24 30.1	
OSSF	Osses	0.23	301	Pg	Pb	04 24 26.0	-0.7
OSSF				Lg		04 24 29.3	
EALK	Alkurruntz	0.39	282	Pg	Pb	04 24 28.6	-0.7
	2.4nm,0.1s,SNR=13						
EALK				Lg		04 24 34.0	
	26nm,0.2s,SNR=27						
ETSF	Etsaut	0.40	127	*e*Pg	Pb	04 24 29.0	-0.5
ETSF				*e*Sg	Sb	04 24 34.7	-0.3
	102nm,0.2s						
REYF	Montagne du Re	0.44	99	Pg	Pb	04 24 29.2	-1.1
REYF				Sg	Sb	04 24 36.4	0.0
REYF	Montagne du Re	0.44	99	Pg	Pb	04 24 29.6	-0.7
REYF				Lg		04 24 36.6	
FDAF	Les Forges d'A	0.45	136	Pg	Pb	04 24 29.9	-0.4
FDAF				Sg	Sb	04 24 36.5	+0.1
FDAF	Les Forges d'A	0.45	136	Pg	Pb	04 24 30.0	-0.2
FDAF				Lg		04 24 36.6	
LABF	Labassere	0.79	96	Pg	Pb	04 24 36.1	0.0
LABF				Sg	Sb	04 24 47.2	+0.9
LABF	Labassere	0.79	96	Pg	Pb	04 24 36.1	+0.1
LABF				Lg		04 24 46.6	
VIEF	Viey	0.79	109	Pg	Pb	04 24 35.3	-0.8
VIEF				Sg	Sb	04 24 45.7	-0.6
VIEF	Viey	0.79	109	Pg	Pb	04 24 35.7	-0.4
VIEF				Lg		04 24 46.4	
EPF	Esparros	0.98	96	*e*Pg	Pb	04 24 38.9	-0.5
EPF				*e*Sg	Sb	04 24 53.0	+1.1
	3.6nm,0.2s						
RESF	Ens	1.03	108	Lg		04 24 53.1	
ECRI	Cripan	1.23	245	Pg	Pb	04 24 44.9	+1.2
	4.4nm,0.1s,SNR=7.9						
ECRI				Lg		04 25 01.2	
	6.7nm,0.2s,SNR=7.9						
MELF	Melles	1.31	101	Lg		04 25 02.8	
ESAC	San Caprasio	1.47	165	Pg	Pn	04 24 48.9	+1.7
	4.8nm,0.2s,SNR=7.9						
ESAC				Lg		04 25 06.7	
	20nm,0.3s,SNR=6.9						
SALF	Salau	1.65	103	Lg		04 25 13.1	
LFF	La Frestale	2.19	34	*e*Pn	Pn	04 24 52.8	-4.8
LFF				*e*Sg	Sn	04 25 28.9	+4.3
	3.9nm,0.3s						
EMIR	Miracle	2.23	122	Pg	Pn	04 25 00.7	+2.6
	0.4nm,0.0s,SNR=4.0						
EMIR				Lg		04 25 31.1	
	SNR=5.0						
MTLF	Montolieu	2.35	84	*e*Pn	Pn	04 24 55.7	-4.2
MTLF				*e*Sn	Sn	04 25 21.5	-7.2
MTLF				*e*Sg	Sn	04 25 34.6	+5.9
	0.4nm,0.2s						
EPOB	Poblet	2.35	139	Pg	Pn	04 25 03.5	+3.5
	0.1nm,0.1s,SNR=5.0						
EPOB				Lg		04 25 34.9	
	0.8nm,0.1s,SNR=5.0						
ETOR	Torete	2.45	199	Lg		04 25 39.2	
	1.1nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	2.80	172	Sn	Sn	04 25 37.8	-2.2
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		04 25 49.7	
	0.5nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	2.82	39	*e*Pg	Pn	04 25 12.7	+6.1
RJF				*e*Sg	Sn	04 25 46.5	+6.0
	1.5nm,0.3s						
CAF	Calviac	2.84	50	*e*Sn	Sn	04 25 33.0	-8.0
CAF				*e*Sg	Sn	04 25 49.2	+8.2
	0.8nm,0.2s						
MFF	Saint Martin d	3.52	10	*e*Sg	Sn	04 26 09.3	+11
LASF	Ste Croix	3.64	73	*e*Sn	Sn	04 25 52.5	-8.9
	0.7nm,0.3s						

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*IDC **01** 04:24:46.3±1.5,7.79N×82.91W,mb3.7/10,mb1 4.0/13, mb1mx3.9/21,ML4.6/1,MS3.0/4,Ms1 3.0/4,ms1mx2.8/24, Error ellipse: s-maj=47.6km s-min=20.7km az=27.0*

*NEIC **01** 04:24:48.8±4.8,7.89N×82.94W,h13^{km}±31^{km},mb4.1/1, Error ellipse: s-maj=21.0km s-min=10.8km az=46.0*

*CASC **01** 04:24:50.7±2.2,8.09N×82.88W,h10^{km}±9^{km},MD4.4, MW4.4,mb4.1(NEIC)*

ISC 01 04:24:48.0±1.3**,7.93N**±0.05×**82.88W**±0.04**,h14**^{km}±9^{km}**, n46,**σ**1**^{s}**00**/56**,mb3.6**/11**,MS3.0**/2**,7C-9D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	Petroterminal	0.52	59	⇓*i*P	Pb	04 24 56.7	-1.8
DVD	David	0.66	40	⇓*i*P	Pb	04 25 01.9	+1.2
ACR	Cerro Adams	0.77	338	⇑*i*P	Pb	04 25 01.9	-0.8
ACR				*e*S	Sb	04 25 12.6	-0.2
BRU2	Volcan	0.88	12	⇓*i*P	Pb	04 25 04.6	+0.1
BRU2				*e*S	Sb	04 25 13.7	-2.1
CNI	Changuinola	1.52	14	⇓*i*P	Pn	04 25 15.0	+0.1
BUS	Buena Vista	1.83	332	*e*P	Pn	04 25 19.0	-0.4
LIO	Limon	2.07	356	⇑*e*P	Pn	04 25 22.9	+0.1
LIO				*e*S	Sn	04 25 49.2	+0.8
URSC	Urasca	2.09	335	⇑*i*P	Pn	04 25 22.9	-0.3
LCR2	La Lucha 2	2.12	328	⇑*e*P	Pn	04 25 23.3	-0.2
LAJ	Bijagual	2.28	328	⇓*e*P	Pn	04 25 27.0	+1.2
LAJ				*e*S	Sn	04 25 58.7	+4.8
SJS	Escuela Geolog	2.31	330	⇓*e*P	Pn	04 25 26.3	+0.1
SJS				*e*S	Sn	04 25 54.1	-0.5
PRS1	Puriscal	2.48	325	⇑*e*P	Pn	04 25 27.6	-1.1
AZU	Azuero	2.58	93	⇓*i*P	Pn	04 25 33.5	+3.3
CGA2	Cerro Gallo 2	2.60	323	*e*P	Pn	04 25 30.0	-0.4
CGA2				*e*S	Sn	04 26 02.9	+1.0
VPS2	Volcan Poas 2	2.61	329	*e*P	Pn	04 25 31.6	+0.9
TRTC	Tortuguero	2.75	343	⇑*e*P	Pn	04 25 32.8	+0.2
JCR	Jicaral	2.92	311	⇑*e*P	Pn	04 25 34.8	-0.1
JCR				*e*S	Sn	04 26 10.4	+0.4
FORC	Fortuna	3.08	325	⇓*e*P	Pn	04 25 38.6	+1.3
FORC				*e*S	Sn	04 26 14.3	+0.1
JTS	JuntasAbangare	3.11	319	Pn	Pn	04 25 36.5	-1.2
	69nm,0.3s,baz=225,slow=16,SNR=242						
JTS				Sn	Sn	04 26 17.8	+2.7
	133nm,0.3s,baz=311,slow=22,SNR=8.2						
JTS				LR	LR	04 26 42.2	
	comp=Z,201nm,20.9s,baz=218,slow=36						
JTS	JuntasAbangare	3.11	319	*e*Pn	Pn	04 25 36.5	-1.3
JTS				*e*Sn	Sn	04 26 13.7	-1.3
JTS				LR	LR	04 26 42.2	
UPA	Univ. de Panam	3.47	72	*e*P	Pn	04 25 43.9	+1.1
UPA				*e*S	Sn	04 26 24.0	0.0
JEF	Cerro Jefe	3.69	69	*e*P	Pn	04 25 48.0	+2.0
CRZC	La Cruz	4.03	318	⇓*e*P	Pn	04 25 50.8	+0.1
LCBS	La Ceiba	8.26	314	*e*P	P	04 26 50.5	+0.2
LCBS				*e*S	Sn	04 28 19.8	-4.5
LFRS	El Faro	8.30	313	*e*P	P	04 26 50.2	-0.6
OTAV	Otavalo	8.82	150	P	P	04 26 56.9	-1.3
	8.0nm,0.8s						
SBLS	San Blas	8.85	312	*e*P	P	04 26 59.5	+1.1
ROSC	El Rosal	9.03	109	Pn	P	04 27 05.4	+4.5
	1.4nm,0.3s,baz=185,slow=14,SNR=5.9						
ROSC				Sn	Sn	04 28 48.5	+5.2
	0.8nm,0.3s,baz=59,slow=21,SNR=2.3						
SJG	San Juan	19.17	56	P	P	04 29 13.2	-0.7
	0.8nm,0.3s,baz=216,slow=2.0,SNR=4.3						
SJG				LR	LR	04 35 54.2	
	comp=Z,59nm,21.0s,baz=272,slow=35						
LRAL	Lakeview Retre	25.27	352	*e*P	P	04 30 15.3	-0.2
	2.5nm,0.6s,mb3.9						
TXAR	Lajitas Array	28.90	320	P	P	04 30 46.9	-1.9
	0.1nm,0.7s,mb2.6,baz=159,slow=7.7,SNR=2.3						
TXAR				LR	LR	04 44 49.3	
	comp=Z,22nm,20.8s,MS2.7,baz=195,slow=42						
PDAR	Pinedale Array	41.88	330	P	P	04 32 40.0	+0.5
	0.3nm,0.6s,mb3.1,baz=113,slow=11,SNR=3.7						
ULM	Lac du Bonnet	43.55	348	P	P	04 32 56.2	+3.1
	5.3nm,1.1s,mb4.2,baz=149,slow=12,SNR=3.5						
ULM	Lac du Bonnet	43.55	348	P	P	04 32 56.2	+3.1
NVAR	Mina Array Bea	44.04	319	P	P	04 32 58.5	+1.2
	0.5nm,0.6s,mb3.4,baz=122,slow=8.5,SNR=3.4						
SCHQ	Schefferville	48.50	12	LR	LR	04 54 13.0	
	comp=Z,33nm,19.2s,MS3.3,baz=106,slow=36						
YKA	Yellowknife Ar	59.16	343	P	P	04 34 50.0	-0.6
	0.6nm,0.8s,mb3.7,baz=142,slow=6.8,SNR=3.6						
YKA	Yellowknife Ar	59.16	343	P	P	04 34 50.0	-0.6
ILAR	Eielson Array	71.95	336	P	P	04 36 12.5	-0.2
	0.6nm,0.6s,mb3.7,baz=113,slow=4.0,SNR=5.4						
ESDC	Sonseca Array	76.46	51	P	P	04 36 38.6	-0.7
	0.5nm,0.7s,mb3.6,baz=273,slow=5.1,SNR=4.9						
DBIC	Dimbokro	77.29	85	P	P	04 36 44.4	0.0
	3.1nm,0.8s,mb4.3,baz=278,slow=7.1,SNR=2.9						
NOA	NORSAR Array B	85.11	29	P	P	04 37 24.8	+0.3
	0.2nm,0.8s,mb3.3,baz=284,slow=4.4,SNR=2.4						
NOA	NORSAR Array B	85.11	29	P	P	04 37 24.8	+0.3
GERES	GERESS Array B	88.40	41	P	P	04 37 39.6	-1.3
	0.1nm,0.4s,mb3.4,baz=270,slow=4.0,SNR=3.8						
WRA	Warramunga Arr	142.05	248	PKhKP		04 44 17.4	
	0.7nm,0.9s,baz=94,slow=3.1,SNR=8.5						
FITZ	Fitzroy Crossi	150.48	247	PKPbc	PKPdf	04 44 39.9	+1.5
	1.2nm,0.7s,baz=204,slow=10.0,SNR=3.4						

IDC 01 04:28:25.2±19.0**,4.37N×124.38E,h103**^{km}±180^{km}**, mb3.3**/4**,mb1 3.4**/4**,mb1mx3.2**/15**,Error ellipse: s-maj=198.0km s-min=34.7km az=61.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.06	158	P	P	04 33 49.0	-2.1
	0.6nm,0.8s,baz=337,slow=10,SNR=12						
STKA	Stephens Creek	39.59	157	P	P	04 35 47.0	-1.2
	1.4nm,0.9s,baz=336,slow=10.0,SNR=3.1						
MKAR	Makanchi Array	55.71	326	P	P	04 37 51.2	-2.2
	0.3nm,0.5s,baz=126,slow=8.2,SNR=3.9						
MKAR				PcP	PcP	04 38 49.2	-2.0
	0.3nm,0.6s,baz=114,slow=1.8,SNR=4.0						
FINES	FINESS Array B	90.17	332	P	P	04 41 13.4	-1.5
	0.5nm,0.7s,baz=45,slow=5.9,SNR=5.4						

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*JMA **01** 04:37:41.6±0.1,37.36N×141.94E,h65^{km}±3^{km},M3.9*

ISC 01 04:37:41.8±1.5**,37.39N**±0.05×**142.0E**±0.1**,h47**^{km}±24^{km}**, n11,**σ**0**^{s}**44**/22**,1C-7D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.88	269	⇓P	P	04 37 58.1	+0.2
JFK				S	S	04 38 09.7	0.0
ONAJ	Iwakimizuishiy	0.98	253	⇑P	P	04 37 59.3	0.0
ONAJ				S	S	04 38 11.8	-0.5
JMM	Marumori	1.05	297	⇓P	P	04 38 00.7	+0.4
JMM				S	S	04 38 14.5	+0.4
JIO	Ouri	1.17	335	⇓P	P	04 38 02.4	+0.4
JIO				S	S	04 38 17.3	+0.2
JFT	Otama	1.31	276	⇓P	P	04 38 04.5	+0.4
JFT				S	S	04 38 20.5	-0.2
JOU	Okura	1.42	314	⇓P	P	04 38 05.5	-0.2
JOU				*e*S	S	04 38 23.3	-0.1
JMK	Ichinoseki	1.67	339	⇓P	P	04 38 09.3	+0.2
JMK				*e*S	S	04 38 29.1	-0.4
JYS	Shirataka	1.73	299	P	P	04 38 09.8	-0.1
JYS				*e*S	S	04 38 31.3	+0.5
JFY	Yanaizu	1.81	271	P	P	04 38 10.8	-0.3
JFY				*e*S	S	04 38 32.0	-0.8
JYK	Kaneyama	1.99	321	⇓P	P	04 38 13.4	-0.2
JYK				*e*S	S	04 38 37.0	-0.3
MAT	Matsushiro	3.13	256	P	P	04 38 29.3	-0.6
MAT				S	S	04 39 07.6	+1.2

IDC 01 04:38:56.7±3.9**,20.74S×175.65W,mb3.8**/3**,mb1 4.3**/3**, mb1mx3.9**/13**,MS3.7**/6**,Ms1 3.6**/6**,ms1mx3.4**/21**,Error ellipse: s-maj=275.0km s-min=34.7km az=159.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	24.41	101	*e*L		04 49 16.8	
TBI				*e*R		04 50 20.0	
	62nm,25.5s						
PPT	Papeete	24.82	87	*e*L		04 49 25.6	
PPT				*e*R		04 50 23.8	
	265nm,26.0s,baz=257						
STKA	Stephens Creek	39.67	245	LR	LR	04 59 48.2	
	comp=Z,103nm,21.3s,baz=196,slow=32						
ASAR	Alice Springs	46.60	257	LR	LR	05 03 46.5	
	comp=Z,61nm,19.8s,baz=18,slow=32						
WRA	Warramunga Arr	46.74	262	P	P	04 47 28.1	-1.7
	0.8nm,0.9s,baz=98,slow=5.9,SNR=5.4						
WRA				LR	LR	05 06 10.3	
	comp=Z,101nm,18.5s,baz=85,slow=35						
NVAR	Mina Array Bea	79.70	42	P	P	04 51 07.0	-1.0
	0.7nm,0.8s,baz=214,slow=8.5,SNR=4.4						
NVAR				LR	LR	05 17 42.2	
	comp=Z,36nm,19.9s,baz=20,slow=29						
TXAR	Lajitas Array	85.34	56	P	P	04 51 36.1	-1.2
	1.7nm,1.1s,baz=207,slow=5.6,SNR=4.6						
TXAR				LR	LR	05 24 30.4	
	comp=Z,24nm,19.5s,baz=140,slow=32						
ULM	Lac du Bonnet	99.39	40	LR	LR	05 30 08.5	
	comp=Z,36nm,19.8s,baz=345,slow=31						
GERES	GERESS Array B	150.97	347	PKPbc	PKPdf	04 58 51.0	+3.7
	0.8nm,0.8s,baz=27,slow=3.0,SNR=9.0						

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*JMA **01** 04:40:43.7±0.5,32.48N×142.08E,h50^{km},M3.3*

*IDC **01** 04:40:49.7±5.6,32.33N×141.64E,h40^{km}±36^{km},mb3.6/5, mb1 3.8/6,mb1mx3.4/22,ML4.2/1,MS2.5/1,Ms1 2.5/1, ms1mx2.1/24,Error ellipse: s-maj=85.9km s-min=17.4km az=65.0*

ISC 01 04:40:44.1±2.7**,32.52N**±0.06×**142.0E**±0.1**,h25**^{km}±22^{km}**, n15,**σ**1**^{s}**04**/18**,mb3.9**/5**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.94	288	P	Pn	04 41 16.7	+0.7
JHJ	Hachijo jima 2	1.97	288	Pn	Pn	04 41 16.4	0.0
	22nm,0.3s,baz=74,slow=20,SNR=6.4						
JHJ				Sn	Sn	04 41 40.1	-0.4
	34nm,0.3s,baz=249,slow=23,SNR=3.7						
BSO1	Boso 1	2.30	338	P	Pn	04 41 20.7	-0.5
BSO1				*e*S	Sn	04 41 49.5	+0.6
BSO2	Boso 2	2.46	335	*e*S	Sn	04 41 54.0	+0.9
JOD2	Odawara 2	3.66	319	*e*S	Sn	04 42 20.0	-3.4
JYN	Shimob	4.14	317	*e*S	Sn	04 42 37.8	+2.3
JAG	Ashikaga	4.43	332	P	Pn	04 41 51.5	0.0
JAG				*e*S	Sn	04 42 40.5	-2.5
MAT	Matsushiro	5.10	323	P	Pn	04 42 00.7	-0.2
MAT				*e*S	Sn	04 42 58.0	-1.7
CBIJ	Chichi jima	5.41	178	Pn	Pn	04 42 05.2	-0.1
	17nm,0.3s,baz=296,slow=18,SNR=5.7						
ASAJ	Asahikawa	11.59	2	LR	LR	04 48 37.8	
	comp=Z,22nm,19.9s,baz=340,slow=40						

SONM	**Songino Array**	**30.90**	**310**	P	**P**	**04 47 01.8**	**+1.1**
	0.7nm,0.8s,mb3.5,baz=115,slow=8.4,SNR=6.3						
MKAR	**Makanchi Array**	**47.05**	**306**	P	**P**	**04 49 15.8**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=87,slow=9.6,SNR=13						
WRA	**Warramunga Arr**	**52.67**	**189**	P	**P**	**04 49 58.1**	**-0.6**
	1.1nm,0.3s,mb4.2,baz=5.7,slow=7.7,SNR=77						
FITZ	**Fitzroy Crossi**	**52.72**	**200**	P	**P**	**04 49 58.4**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=33,slow=11,SNR=4.7						
BVAR	**Borovoye Array**	**54.04**	**315**	P	**P**	**04 50 09.1**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=74,slow=10,SNR=3.1						

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*NAO **01** 05:03:06.3±2.2,70.68N×6.59W,ML2.1*
*NEIC **01** 05:03:08.9,71.01N×6.51W,ML3.3(BER),After BER.*
*BER **01** 05:03:08.9±1.1,70.97N×6.52W,MD3.4,ML3.3, ML2.1(NAO)*

ISC 01 05:03:04.8±0.5,70.86N±0.09×6.3W±0.1,h10^{km},n15, σ0^{s}88/19,4C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.69**	**282**	⇑*i*P	**Pb**	**05 03 19.2**	**+0.9**
JNW	**Jan Mayen West**	**0.73**	**285**	⇑*i*P	**Pb**	**05 03 19.8**	**+0.6**
JNW				*e*S	**Sb**	**05 03 28.2**	**-0.9**
JNW				AML	AML	05 03 29.2	
	comp=Z,1μm,0.3s						
JMIC	**Jan Mayen**	**0.76**	**281**	Pg	**Pg**	**05 03 20.0**	**0.0**
JMIC				Lg		05 03 29.0	
JMIC	**Jan Mayen**	**0.76**	**281**	⇑*i*P	**Pb**	**05 03 20.0**	**+0.4**
JMIC				*e*S	**Sb**	**05 03 28.4**	**-1.2**
JMI	**Jan Mayen**	**0.82**	**276**	⇑*i*P	**Pb**	**05 03 21.5**	**+0.8**
LOF	**Lofoten**	**7.45**	**102**	*e*P	**Pn**	**05 04 56.8**	**+0.5**
TRO	**Tromso**	**8.59**	**86**	*e*P	**P**	**05 05 08.6**	**-3.5**
TRO				*e*S	**Sn**	**05 06 39.7**	**-10**
MOR8	**Moi Rana**	**8.89**	**112**	*e*P	**P**	**05 05 16.0**	**-0.3**
KBS	**Kingsbay**	**9.32**	**22**	Pn	**P**	**05 05 21.8**	**-0.4**
NSS	**Namsos**	**9.36**	**124**	*e*P	**P**	**05 05 21.3**	**-1.5**
SPA0	**Spitsbergen Ar**	**9.42**	**29**	Pn	**P**	**05 05 24.5**	**+0.9**
	baz=226,slow=14						
KTK1	**Kautokeino**	**10.24**	**86**	*e*P	**P**	**05 05 35.1**	**+0.4**
ARA0	**ARCESS Array S**	**10.78**	**82**	Pn	**P**	**05 05 41.1**	**-0.9**
	baz=282,slow=14						
ARA0				Sn	**S**	**05 07 35.8**	**-8.0**
	baz=302,slow=22						
HFS	**Hagfors**	**13.47**	**133**	P	**P**	**05 06 19.3**	**+1.0**
	baz=345,slow=14						
FIA0	**FINESS Array S**	**15.88**	**110**	P	**P**	**05 06 50.0**	**+0.4**
	baz=321,slow=8.6						

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*IDC **01** 05:13:41.3±0.9,7.69S×125.95E,mb4.2/7,mb1 4.4/9, mb1mx4.3/13,ML4.2/2,MS3.2/2,Ms1 3.2/2,ms1mx2.7/17, Error ellipse: s-maj=34.6km s-min=17.5km az=68.0*
*NEIC **01** 05:13:44.7±0.6,7.85S×125.86E,h25^{km},Error ellipse: s-maj=21.9km s-min=9.7km az=59.0*

ISC 01 05:13:49.4±1.9,8.22S±0.07×125.82E±0.09,h103^{km}±20^{km}, n27,σ0^{s}95/32,mb4.6/12,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.85**	**125**	*e*P	**P**	**05 15 42.7**	**+0.2**
	12nm,0.5s						
KAKA				*e*S	**S**	**05 17 11.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**9.83**	**181**	*e*P	**P**	**05 16 08.9**	**-0.3**
	5.3nm,0.3s						
FITZ				*e*S	**S**	**05 17 57.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.83**	**181**	Pn	**P**	**05 16 09.5**	**+0.2**
	2.4nm,0.3s,baz=11,slow=8.6,SNR=43						
FITZ				Sn	**S**	**05 17 58.7**	**+0.4**
	7.5nm,0.3s,baz=166,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**14.28**	**146**	Pn	**P**	**05 17 07.4**	**-0.5**
	1.0nm,0.3s,baz=316,slow=14,SNR=63						
WRA				Sn	**S**	**05 19 43.3**	**-0.7**
	1.8nm,0.3s,baz=320,slow=26,SNR=11						
WRA	**Warramunga Arr**	**14.28**	**146**	Pn	**P**	**05 17 07.4**	**-0.5**
WRA				Sn	**S**	**05 19 43.3**	**-0.7**
WB2	**Warramunga Arr**	**14.29**	**146**	*e*P	**P**	**05 17 06.9**	**-1.1**
WB2				*e*S	**S**	**05 19 42.0**	**-2.2**
ASPA	**Alice Springs**	**17.20**	**154**	*e*P	**P**	**05 17 48.0**	**+3.3**
ASPA				*e*S	**S**	**05 20 52.7**	**+1.9**
PMG	**Port Moresby**	**21.12**	**95**	P	**P**	**05 18 26.9**	**-0.6**
	16nm,0.8s,mb4.4,baz=239,slow=23,SNR=1.9						
CTA	**Charters Tower**	**23.02**	**123**	LR	LR	05 28 19.3	
	comp=Z,40nm,18.3s,baz=47,slow=38						
NWAO	**Narrogin (SRO)**	**25.85**	**197**	P	**P**	**05 19 19.6**	**+6.5**
	28nm,1.1s,mb4.6,baz=314,slow=14,SNR=3.3						
NWAO	**Narrogin (SRO)**	**25.85**	**197**	*e*P	**P**	**05 19 17.7**	**+4.6**
STKA	**Stephens Creek**	**27.74**	**150**	P	**P**	**05 19 35.7**	**+5.3**
	1.5nm,0.4s,mb3.8,baz=323,slow=9.1,SNR=6.1						
STKA				LR	LR	05 31 36.6	
	comp=Z,66nm,18.8s,baz=24,slow=38						
STKA	**Stephens Creek**	**27.74**	**150**	P	**P**	**05 19 35.7**	**+5.3**
STKA				LR	LR	05 31 36.6	
CMAR	**Chiang Mai Arr**	**37.50**	**315**	P	**P**	**05 20 55.1**	**+0.2**
	2.2nm,0.6s,mb4.3,baz=153,slow=9.6,SNR=6.0						
GUN	**Gumba**	**52.73**	**314**	*e*P	**P**	**05 22 55.8**	**-0.2**
	30nm,0.6s,mb5.5						
PKI	**Pulchoki**	**52.87**	**314**	*e*P	**P**	**05 22 57.2**	**+0.2**
	15nm,0.5s,mb5.3						
KKN	**Kakani**	**53.09**	**314**	*e*P	**P**	**05 22 58.5**	**-0.2**
	8.1nm,0.5s,mb5.0						
GKN	**Gorkha**	**53.67**	**314**	*e*P	**P**	**05 23 03.0**	**0.0**
	17nm,0.6s,mb5.3						
KOLN	**Koldanda**	**54.28**	**313**	*e*P	**P**	**05 23 07.5**	**+0.1**
	17nm,0.6s,mb5.2						
SONM	**Songino Array**	**58.40**	**345**	P	**P**	**05 23 34.7**	**-1.7**
	0.7nm,0.7s,mb3.8,baz=149,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**67.05**	**329**	P	**P**	**05 24 33.9**	**+0.2**
	1.3nm,0.5s,mb4.0,baz=117,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**67.05**	**329**	P	**P**	**05 24 33.9**	**+0.2**
KURK	**Kurchatov**	**71.46**	**331**	*e*P	**P**	**05 25 00.8**	**+0.2**
VNDA	**Vanda**	**71.78**	**172**	P	**P**	**05 25 08.2**	**+6.2**
	1.0nm,0.7s,mb3.8,baz=327,slow=6.0,SNR=2.3						
BRVK	**Borovoye**	**77.00**	**329**	*e*P	**P**	**05 25 33.5**	**+1.0**
CHKZ	**Chkalovo**	**77.18**	**330**	*e*P	**P**	**05 25 33.8**	**+0.5**
CPUP	**Villa Florida**	**145.53**	**175**	PKPbc	PKPbc	05 33 23.7	+6.9
	1.2nm,0.7s,baz=172,slow=4.4,SNR=3.6						

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*IDC **01** 06:08:27.2±3.0,41.21N×145.04E,mb3.5/4,mb1 3.5/5, mb1mx3.4/21,ML3.2/1,MS3.1/1,Ms1 3.3/1,ms1mx2.5/30, Error ellipse: s-maj=68.1km s-min=53.8km az=54.0*
*JMA **01** 06:08:35.9±0.2,41.72N×144.37E,h26^{km}±3^{km},M3.4*

ISC 01 06:08:35.9±4.6,41.7N±0.3×144.5E±0.4,h43^{km}±21^{km},n11, σ0^{s}71/12,mb3.4/4,MS3.1/1,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.07**	**286**	P	**P**	**06 08 54.3**	**-0.3**
JCH	**Churui**	**1.24**	**316**	P	**P**	**06 08 56.3**	**-0.8**
JAK	**Akkeshi**	**1.27**	**5**	P	**P**	**06 08 57.7**	**+0.2**
JAK				*e*S	**S**	**06 09 13.1**	**-0.5**
JOB	**Onbets**	**1.28**	**336**	P	**P**	**06 08 57.7**	**0.0**
JNBK	**Urakawa-nobuka**	**1.44**	**293**	P	**P**	**06 08 59.7**	**-0.3**
ASAJ	**Asahikawa**	**2.77**	**330**	Pn	**P**	**06 09 21.0**	**+2.0**
	1.6nm,0.3s,baz=82,slow=24,SNR=3.8						
ASAJ				Sn	**S**	**06 10 04.5**	**+13**
	4.0nm,0.3s,baz=100,slow=32,SNR=4.2						
SONM	**Songino Array**	**27.54**	**296**	P	**P**	**06 14 21.1**	**+0.6**
	0.9nm,1.0s,mb3.4,baz=100,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**43.84**	**299**	P	**P**	**06 16 39.0**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=83,slow=8.1,SNR=3.4						
CMAR	**Chiang Mai Arr**	**45.10**	**253**	LR	LR	06 36 47.5	
	comp=Z,22nm,18.8s,MS3.1,baz=205,slow=38						
FINES	**FINESS Array B**	**65.78**	**332**	P	**P**	**06 19 18.4**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=45,slow=5.9,SNR=3.1						
NOA	**NORSAR Array B**	**70.77**	**338**	P	**P**	**06 19 48.4**	**-0.7**
	0.3nm,0.8s,mb3.2,baz=45,slow=5.5,SNR=2.6						

TIF 01 06:09:00.9,42.52N×44.20E,h26^{km},Mpv4.4,1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTA	**Mtatsminda**	**0.94**	**152**	*i* P	Pb	06 09 20.4	+2.0
MTA				*i* S	Sb	06 09 34.9	+4.5
AKH	**Akhalkalaki**	**1.23**	**206**	⇓*i*P	Pn	06 09 24.8	+2.2
AKH				*i* S	Sn	06 09 44.6	+6.2
STE	**Stepanavan**	**1.53**	**174**	*e*S	Sn	06 09 48.0	+2.0

TIF 01 06:32:06.2,42.67N×43.95E,h24^{km},Mpv4.4,1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTA	**Mtatsminda**	**1.16**	**147**	⇓*i*P	Pn	06 32 30.8	+3.7
MTA				*i* S	Sb	06 32 48.6	+6.5
AKH	**Akhalkalaki**	**1.30**	**195**	⇑*i*P	Pn	06 32 31.8	+2.6
AKH				*i* S	Sn	06 32 51.2	+5.2
STE	**Stepanavan**	**1.70**	**168**	*i* S	Sn	06 32 56.0	-0.1

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*NEIC **01** 06:40:34.0±3.3,17.77S×178.55W,h491^{km}±38^{km},mb3.9/7, Error ellipse: s-maj=20.2km s-min=15.4km az=136.0*
*IDC **01** 06:40:39.2±5.0,17.63S×178.75W,h545^{km}±57^{km}, mb3.4/14,mb1 3.6/14,mb1mx3.5/20,Error ellipse: s-maj=27.0km s-min=18.6km az=127.0*

ISC 01 06:40:34.1±0.4,17.8S±0.1×178.6W±0.1,h500^{km},n56, σ0^{s}93/33,mb3.8/19,2C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.77**	**189**	P	**P**	**06 44 37.3**	**-3.2**
	4.2nm,0.8s,baz=12,slow=19,SNR=2.4						
RPZ	**Rata Peaks**	**27.32**	**196**	P	**P**	**06 45 36.7**	**-2.7**
	3.1nm,0.5s,mb4.0,baz=270,slow=2.0,SNR=3.4						
ARMA	**Armidale**	**29.84**	**239**	⇑*i*P	**P**	**06 46 02.6**	**+1.1**
CTA	**Charters Tower**	**33.26**	**260**	*e*P	**P**	**06 46 31.4**	**+0.8**
	7.9nm,1.6s,mb3.9						
CTA	**Charters Tower**	**33.26**	**260**	P	**P**	**06 46 31.0**	**+0.4**
	2.5nm,0.6s,mb3.9,baz=99,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**33.26**	**260**	*e*P	**P**	**06 46 31.1**	**+0.5**
	4.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**38.52**	**241**	⇑*i*P	**P**	**06 47 15.2**	**+1.2**
	4.4nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**06 47 15.5**	**+1.5**
	7.7nm,0.7s,mb4.2,baz=91,slow=8.9,SNR=20						
WB2	**Warramunga Arr**	**44.44**	**259**	*e*P	**P**	**06 48 00.9**	**-0.6**
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**06 48 01.1**	**-0.5**
	1.1nm,0.6s,mb3.5,baz=95,slow=7.1,SNR=33						
ASPA	**Alice Springs**	**44.63**	**254**	*e*P	**P**	**06 48 03.3**	**+0.3**
KAKA	**Kakadu**	**47.41**	**269**	*e*P	**P**	**06 48 24.1**	**-0.3**
	3.6nm,0.6s,mb4.0						
SBA	**Scott Base**	**60.57**	**184**	P	**P**	**06 49 57.5**	**+0.7**
	5.2nm,1.0s,mb3.9						
VNDA	**Vanda**	**60.59**	**185**	P	**P**	**06 49 57.2**	**+0.2**
	1.0nm,0.6s,mb3.4,baz=7.0,slow=9.4,SNR=4.2						
VNDA	**Vanda**	**60.59**	**185**	P	**P**	**06 49 57.2**	**+0.2**
YBH	**Yreka Blue Hor**	**78.54**	**39**	P	**P**	**06 51 44.7**	**+0.4**
	1.8nm,0.7s,mb3.7,baz=145,slow=2.2,SNR=5.9						
MTUM	**Tungsten Hills**	**78.70**	**45**	*e*P	**P**	**06 51 45.8**	**+0.5**
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**06 51 50.0**	**+0.8**
	2.5nm,0.7s,mb3.9,baz=230,slow=9.8,SNR=24						
MNV	**Mina**	**79.56**	**44**	*e*P	**P**	**06 51 49.4**	**-0.3**
	3.4nm,0.9s,mb3.9						
TUC	**Tucson**	**81.77**	**52**	*e*P	**P**	**06 52 02.6**	**+1.3**
	2.4nm,0.9s,mb3.7						
RMW	**Rattlesnake Mo**	**82.45**	**35**	*e*P	**P**	**06 52 04.0**	**-0.4**
MAW	**Mawson**	**83.94**	**200**	P	**P**	**06 52 11.0**	**-0.3**
	1.6nm,0.6s,mb3.7						
HLID	**Hailey**	**84.65**	**41**	*e*P	**P**	**06 52 15.6**	**+0.2**
	2.4nm,0.8s,mb3.9						
NEW	**Newport**	**85.51**	**36**	P	**P**	**06 52 18.4**	**-1.0**
	1.2nm,0.6s,mb3.7,baz=244,slow=5.1,SNR=4.7						
DLBC	**Dease Lake**	**85.77**	**23**	P	**P**	**06 52 20.1**	**-0.3**
	0.5nm,0.5s,mb3.5,baz=239,slow=6.3,SNR=3.3						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**06 52 19.1**	**-1.2**
	0.8nm,0.5s,mb3.6,baz=223,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**06 52 23.9**	**+1.2**
	2.4nm,0.7s,mb4.0,baz=218,slow=6.1,SNR=50						
MCMT	**McKenzie Canyo**	**86.26**	**41**	*e*P	**P**	**06 52 23.9**	**+0.9**
BOZ	**Bozeman (W)**	**87.41**	**40**	*e*P	**P**	**06 52 28.4**	**0.0**
INK	**Inuvik**	**91.79**	**15**	P	**P**	**06 52 47.3**	**-1.0**
	1.5nm,0.9s,mb3.9,baz=186,slow=18,SNR=3.1						
INK	**Inuvik**	**91.79**	**15**	*e*P	**P**	**06 52 47.3**	**-1.0**
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**06 52 58.4**	**-1.4**
	1.5nm,1.1s,mb3.9,baz=238,slow=4.6,SNR=4.9						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**06 52 58.4**	**-1.4**
MKAR	**Makanchi Array**	**108.87**	**314**	PKiKP		06 58 05.6	
	0.2nm,0.5s,baz=147,slow=0.7,SNR=4.3						
MKAR	**Makanchi Array**	**108.87**	**314**	PKPdf		06 58 05.6	
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	PKPdf	06 58 38.7	+0.3
	1.3nm,0.8s,baz=315,slow=3.4,SNR=4.9						
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	PKPdf	06 58 38.7	+0.3
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	PKPdf	06 59 14.2	+1.2
	1.4nm,0.6s,baz=135,slow=1.7,SNR=8.4						
CLL	**Collm**	**145.26**	**347**	⇓*i*PKP1	PKPbc	06 59 15.6	+0.8
BRG	**Berggiesshubel**	**145.46**	**346**	*e*P	PKPdf	06 59 16.8	+2.6
PRU	**Pruhonice**	**146.13**	**345**	*e*PKP	PKPdf	06 59 18.6	+3.2
GRA1	**Grafenberg Arr**	**147.15**	**348**	*e*PKP	PKPdf	06 59 21.5	+4.5
KHC	**Kasperske Hory**	**147.16**	**345**	*e*PKP	PKPdf	06 59 21.0	+4.0
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc	PKPdf	06 59 21.9	+4.4
	1.3nm,0.5s,baz=24,slow=2.9,SNR=18						
BAIF	**Baives**	**147.68**	**357**	*e*PKP1	PKPdf	06 59 22.3	+4.5
	7.8nm,0.9s						
FLN	**La Foliniere**	**149.03**	**2**	*e*PKP1	PKPdf	06 59 25.3	+5.3
CDF	**Champ du Feu**	**149.03**	**352**	*e*PKP1	PKPdf	06 59 25.7	+5.6
	2.9nm,0.5s						
LDF	**La Druitiere**	**149.21**	**2**	*e*PKP1	PKPdf	06 59 25.5	+5.2
GRR	**Gorron**	**149.38**	**3**	*e*PKP1	PKPdf	06 59 26.1	+5.5
LOR	**Lormes**	**150.49**	**357**	*e*PKP1	PKPdf	06 59 29.1	+6.7
	7.4nm,0.6s						
SSF	**Saint Saulge**	**150.71**	**357**	*e*PKP1	PKPdf	06 59 29.7	+7.0
	3.9nm,0.6s						
CABF	**La Chapelle**	**150.95**	**353**	*e*PKP1	PKPdf	06 59 30.6	+7.5
	10nm,1.0s						
LPL	**La Plagne**	**151.95**	**352**	*e*PKP1	PKPdf	06 59 33.2	+8.7
LPG	**La Plagne**	**151.97**	**352**	*e*PKP1	PKPdf	06 59 33.3	+8.7
ORIF	**Oris-en-Rattie**	**152.65**	**353**	*e*PKP1	PKPdf	06 59 34.6	+9.1
EVO	**Evora**	**157.73**	**20**	*e*PKIKP	PKPdf	06 59 36.3	+3.8

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*TAP **01** 06:44:02.1,24.42N×122.24E,h57^{km}±1^{km},ML4.0*
*JMA **01** 06:44:02.7±0.2,24.61N×122.29E,h70^{km}±2^{km},M3.3*

ISC 01 06:44:02.6±2.3,24.6N±0.3×122.3E±0.1,h67^{km}±19^{km},n6, σ0^{s}39/12,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.68**	**97**	P	**P**	**06 44 17.4**	**+0.2**
YOJ				S	**S**	**06 44 28.1**	**0.0**
IRIF	**Iriomote-Funau**	**1.35**	**99**	P	**P**	**06 44 25.6**	**-0.4**
IRIF				S	**S**	**06 44 42.9**	**-0.4**
HATJ	**Hateruma jima**	**1.48**	**109**	P	**P**	**06 44 27.9**	**+0.1**
HATJ				S	**S**	**06 44 46.7**	**+0.3**
JKRS	**Kuro-shima**	**1.61**	**101**	P	**P**	**06 44 29.7**	**+0.1**
JKRS				S	**S**	**06 44 50.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.72**	**96**	P	**P**	**06 44 30.5**	**-0.5**
JIJ				S	**S**	**06 44 51.1**	**-0.8**
JTJ	**Tarama**	**2.21**	**87**	P	**P**	**06 44 38.4**	**+0.5**
JTJ				S	**S**	**06 45 04.4**	**+0.3**

KRSC 01 06:45:56.2,55.51N×161.35E,h149^{km},ML3.7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMNR	**Kamenistaya**	**0.68**	**292**	*i* P	P	06 46 19.9	+1.1
KMNR				*e*S	S	06 46 36.9	+0.7
LGNR	**Loginova**	**0.69**	**327**	*i* P	P	06 46 19.9	+1.0
LGNR				*i* S	S	06 46 36.7	+0.4
CIRR	**Tsirk**	**0.69**	**331**	*i* P	P	06 46 19.8	+0.9
CIRR				*i* S	S	06 46 37.1	+0.7
TUMR	**Tumrok**	**0.72**	**252**	*i* P	P	06 46 20.3	+1.2
TUMR				*i* S	S	06 46 38.0	+1.3
KRSR	**Krestovskiy**	**0.83**	**328**	*e*P	P	06 46 20.2	+0.4
KRSR				*e*S	S	06 46 37.4	-0.6
KLY	**Klyuchi**	**0.90**	**334**	*e*P	P	06 46 20.2	0.0
KLY				*e*S	S	06 46 37.8	-0.9
MKZ	**Mys Kozlova**	**0.98**	**167**	*i* P	P	06 46 22.2	+1.3
MKZ				*e*S	S	06 46 41.2	+1.4
KOZ	**Kozyrevsk**	**1.00**	**304**	*e*S	S	06 46 40.7	+0.6
SVLR	**Shiveluch**	**1.07**	**356**	*e*P	P	06 46 22.0	+0.3
SVLR				*e*S	S	06 46 41.2	-0.1
KBTR	**Krutoberegovo**	**1.08**	**49**	*i* P	P	06 46 22.4	+0.6
KBTR				*i* S	S	06 46 41.5	0.0
SRDR	**Sredinnyy**	**1.23**	**312**	*i* P	P	06 46 23.2	0.0
SRDR				*e*S	S	06 46 42.9	-1.1
ESO	**Esso**	**1.56**	**287**	*i* P	P	06 46 27.2	+0.6
ESO				*e*S	S	06 46 49.2	-0.9
ESO				Smax			
	50nm,0.9s						
KII	**Karymskiy**	**1.84**	**217**	*e*P	P	06 46 31.7	+1.9
KII				*e*S	S	06 46 56.1	+0.5
SPN	**Mys Shipunski**	**2.54**	**198**	*e*P	P	06 46 38.3	0.0
SPN				*e*S	S	06 47 08.8	-1.8
NLC	**Nalytchevo**	**2.62**	**207**	*e*P	P	06 46 39.9	+0.5
NLC				*e*S	S	06 47 12.0	-0.4
BKI	**Bering**	**2.66**	**95**	*i* P	P	06 46 41.5	+1.7
BKI				*i* S	S	06 47 13.9	+0.7
BKI				Smax			
	310nm,0.6s						
SDLR	**Sedlovina**	**2.66**	**214**	*e*P	P	06 46 41.1	+1.2
SDLR				*e*S	S	06 47 14.1	+0.8
GNL	**Ganaly**	**2.69**	**229**	*i* P	P	06 46 41.6	+1.3
GNL				*e*S	S	06 47 15.4	+1.4
SMAR	**Somma**	**2.70**	**215**	*e*P	P	06 46 39.8	-0.6
KOK	**Koryaka**	**2.73**	**217**	*e*P	P	06 46 42.6	+1.8
KOK				*e*S	S	06 47 14.9	0.0
UGLR	**Uglovaya**	**2.74**	**214**	*i* P	P	06 46 42.4	+1.5
PET	**Petropavlovsk**	**2.95**	**214**	*e*S	S	06 47 20.5	+0.7
RUS	**Russkaya**	**3.51**	**210**	*e*P	P	06 46 50.4	-0.4
RUS				*e*S	S	06 47 30.2	-2.5

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*BJI **01** 06:50:44.0,36.90N×105.10W,h5^{km},mB4.3,mb4.6,Ms4.6, Msz4.3*
*IDC **01** 06:50:46.8±0.6,36.97N×104.97W,mb4.1/16,mb1 4.2/22, mb1mx4.1/29,ML3.8/5,MS3.5/11,Ms1 3.5/11, ms1mx3.2/33,Error ellipse: s-maj=16.9km s-min=8.3km az=70.0*
*NEIC **01** 06:50:47.6±0.4,36.87N×105.10W,h5^{km},mb4.4/7, MW4.3(SLM),Error ellipse: s-maj=9.3km s-min=5.6km az=83.0*

ISC 01 06:50:44.5±0.2,36.89N±0.02×104.83W±0.03,h5^{km},n109, σ1^{s}40/128,mb4.1/19,MS3.7/8,2C-1D,New Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDCO	**Great Sand Dun**	**1.01**	**328**	⇓*i*Pg	**Pg**	**06 51 04.1**	**-0.7**
SDCO				*e*Sg	**Sg**	**06 51 16.4**	**-1.8**
ANMO	**Albuquerque**	**2.34**	**215**	⇑*i*Pn	**Pn**	**06 51 24.6**	**+0.3**
ANMO				*e*Sn	**Sn**	**06 51 54.6**	**+0.8**
RW3	**Ridgway**	**2.65**	**302**	*e*Pn	**Pn**	**06 51 30.0**	**+1.3**
LPM	**Los Pinos Moun**	**2.96**	**210**	*e*Pn	**Pn**	**06 51 33.1**	**0.0**
ISCO	**Idaho Springs**	**2.97**	**348**	*e*Pn	**Pn**	**06 51 36.5**	**+3.2**
ISCO				*e*Pg	**Pg**	**06 51 40.9**	**-3.0**
ISCO				*e*Sn	**Sn**	**06 52 12.6**	**+2.9**
BNM	**Barren Site**	**3.10**	**209**	*e*Pn	**Pn**	**06 51 36.7**	**+1.6**
LAZ	**Ladron**	**3.11**	**218**	*e*Pn	**Pn**	**06 51 35.0**	**-0.3**
LAZ				Sn	**Sn**	**06 52 15.4**	**+2.1**
PV01	**Paradox Valley**	**3.23**	**294**	*e*Pn	**Pn**	**06 51 37.3**	**+0.4**
LENM	**Lemitar**	**3.23**	**213**	*e*Pn	**Pn**	**06 51 37.8**	**+0.9**
LENM				*e*Pg	**Pg**	**06 51 43.8**	**-5.2**
PV10	**Paradox Valley**	**3.66**	**295**	*e*Pn	**Pn**	**06 51 43.4**	**+0.3**
PV10				*e*Pg	**Pg**	**06 51 50.2**	**-7.3**
CPRX	**Cap Rock**	**3.93**	**168**	*e*Pg	**Pg**	**06 51 59.2**	**-3.7**
CBKS	**Cedar Bluff**	**4.46**	**63**	*e*Pn	**Pn**	**06 51 56.8**	**+2.4**
CBKS				*e*Pg	**Pg**	**06 52 09.6**	**-4.0**
CBKS				*e*Sg	**Sg**	**06 53 09.3**	**-3.8**
CLNB	**Carlsbad**	**4.68**	**170**	*e*Pn	**Pn**	**06 51 55.1**	**-2.3**
CLNB				*e*Pg	**Pg**	**06 52 10.1**	**-7.8**
CLNB				*e*Sg	**Sg**	**06 53 10.4**	**-10**
GDL2	**Guadalupe Moun**	**4.69**	**175**	*e*Pn	**Pn**	**06 51 58.1**	**+0.4**
GDL2				*e*Pg	**Pg**	**06 52 08.4**	**-10**
GDL2				*e*Sg	**Sg**	**06 53 09.8**	**-11**
SRU	**San Rafael**	**5.02**	**298**	*e*Pn	**Pn**	**06 52 02.5**	**+0.2**
SRU				*e*Pg	**Pg**	**06 52 15.2**	**-10**
SRU				*e*Sg	**Sg**	**06 53 15.6**	**-16**
WUAZ	**Wupatki**	**5.47**	**257**	⇑*e*Pn	**Pn**	**06 52 07.7**	**-1.0**
WUAZ				*e*Pg	**Pg**	**06 52 24.0**	**-10**
MSU	**Marysvale**	**6.05**	**288**	Pn	**Pn**	**06 52 12.8**	**-4.1**
MSU				*e*Pg	**Pg**	**06 52 34.0**	**-11**
DAU	**Daniels Canyon**	**6.14**	**307**	*e*Pn	**Pn**	**06 52 19.4**	**+1.3**
MPU	**Maple Canyon**	**6.19**	**302**	*e*Pn	**Pn**	**06 52 19.6**	**+0.7**
JLU	**Jordanelle**	**6.37**	**308**	*e*Pn	**Pn**	**06 52 18.2**	**-3.2**
NLU	**North Lily Min**	**6.46**	**300**	*e*Pn	**Pn**	**06 52 23.1**	**+0.4**
CTU	**Camp Tracy**	**6.61**	**307**	Pn	**Pn**	**06 52 22.8**	**-2.0**
TCUT	**Toone Canyon**	**6.64**	**312**	*e*Pn	**Pn**	**06 52 26.3**	**+1.1**
TUC	**Tucson**	**6.71**	**229**	*e*Pn	**Pn**	**06 52 24.6**	**-1.5**
TUC				*e*Pg	**Pg**	**06 52 44.7**	**-14**
BW06	**Boulder Array**	**6.91**	**330**	*e*Pn	**Pn**	**06 52 28.7**	**-0.3**
BW06				*e*Pg	**Pg**	**06 52 54.3**	**-8.1**
BW06				*e*Sg	**Sg**	**06 54 21.1**	**-13**
PDAR	**Pinedale Array**	**6.91**	**330**	Pn	**Pn**	**06 52 28.8**	**-0.2**
	0.8nm,0.3s,baz=142,slow=9.4,SNR=24						
PDAR				Pg	**Pg**	**06 52 56.7**	**-5.8**
	4.7nm,0.3s,baz=140,slow=14,SNR=23						
PDAR				Lg		06 54 19.0	
	2.9nm,0.3s,baz=122,slow=14,SNR=4.5						
PDAR	**Pinedale Array**	**6.91**	**330**	Pn	**Pn**	**06 52 28.8**	**-0.2**
PDAR				Pg	**Pg**	**06 52 56.7**	**-5.8**
PDAR				Lg		06 54 19.0	
HWUT	**Hardware Ranch**	**7.04**	**314**	*e*Pn	**Pn**	**06 52 30.6**	**-0.2**
DUG	**Dugway**	**7.08**	**300**	*e*Pn	**Pn**	**06 52 31.8**	**+0.5**
SPUT	**South Promonto**	**7.39**	**309**	Pn	**Pn**	**06 52 24.0**	**-12**
SPUT				*e*Pg	**Pg**	**06 52 59.0**	**-13**
BGU	**Big Grassy Mou**	**7.56**	**305**	Pn	**Pn**	**06 52 36.5**	**-1.7**
BGU				*e*Pg	**Pg**	**06 53 03.6**	**-12**
TXAR	**Lajitas Array**	**7.59**	**172**	Pn	**Pn**	**06 52 41.2**	**+2.6**
	0.4nm,0.3s,baz=1.3,slow=11,SNR=28						
TXAR				Pg	**Pg**	**06 53 06.7**	**-9.4**
	3.3nm,0.3s,baz=347,slow=16,SNR=18						
TXAR				Lg		06 54 44.0	
	4.2nm,0.3s,slow=28,SNR=10.0						
TXAR				LR	LR	06 55 40.3	
	comp=Z,193nm,19.8s,baz=205,slow=38						
TXAR	**Lajitas Array**	**7.59**	**172**	Pn	**Pn**	**06 52 41.2**	**+2.6**
TXAR				Pg	**Pg**	**06 53 06.7**	**-9.4**
TXAR				Lg		06 54 44.0	
TXAR				LR	LR	06 55 40.3	
AHID	**Auburn Hatcher**	**7.60**	**323**	*e*Pn	**Pn**	**06 52 37.5**	**-1.1**
JCT	**Junction City**	**7.64**	**145**	*e*Pn	**Pn**	**06 52 38.5**	**-0.7**
HVU	**Hansel Valley**	**7.86**	**311**	*e*Pn	**Pn**	**06 52 42.8**	**+0.5**
NEN	**Nelson**	**8.19**	**264**	*e*Pn	**P**	**06 52 44.4**	**-2.4**
NEN				*e*Pg	P	06 53 12.8	+26
NEN				*e*Sg	**Sg**	**06 54 56.5**	**-21**
LDFC	**Landfair**	**8.53**	**261**	*e*Pn	**P**	**06 52 51.6**	**0.0**
LDFC				*e*Pg	P	06 53 19.6	+28
YMR	**Madison River**	**9.06**	**331**	Pn	**P**	**06 52 55.5**	**-3.5**
QLMT	**Earthquake Lak**	**9.38**	**330**	Pn	**P**	**06 53 03.7**	**+0.4**
MIAR	**Mount Ida**	**9.44**	**101**	*e*Pn	**P**	**06 53 03.4**	**-0.8**
NATX	**Nacogdoches**	**9.84**	**118**	Pn	**P**	**06 53 06.0**	**-3.7**
LAO	**LASA Array**	**9.85**	**354**	*e*Pn	**P**	**06 53 09.2**	**-0.7**
HLID	**Hailey**	**9.91**	**315**	*e*Pn	**P**	**06 53 10.3**	**-0.3**
TPH	**Tonopah**	**9.93**	**281**	*e*Pn	**P**	**06 53 07.3**	**-3.6**
MCMT	**McKenzie Canyo**	**9.99**	**325**	*e*Pn	**P**	**06 53 10.1**	**-1.7**
PFO	**Pinyon Flat Ob**	**10.06**	**254**	Pn	**P**	**06 53 11.2**	**-1.5**
BOZ	**Bozeman (W)**	**10.14**	**332**	*e*Pn	**P**	**06 53 12.1**	**-1.7**
HKT	**Hockley**	**10.21**	**130**	*e*Pn	**P**	**06 53 14.4**	**-0.4**
UALR	**University of**	**10.35**	**98**	*e*Pn	**P**	**06 53 14.9**	**-1.8**
NVAR	**Mina Array Bea**	**10.80**	**282**	Pn	**P**	**06 53 24.5**	**+1.7**
	baz=90,slow=14,SNR=2.4						
NVAR				Pg	P	06 54 01.8	+39
	0.3nm,0.3s,baz=122,slow=16,SNR=5.6						
NVAR				Lg		06 56 13.8	
	baz=86,slow=14,SNR=1.8						
NVAR				LR	LR	06 57 57.2	
	comp=Z,230nm,20.1s,baz=90,slow=40						
NVAR	**Mina Array Bea**	**10.80**	**282**	Pn	**P**	**06 53 24.5**	**+1.7**
NVAR				Pg	P	06 54 01.8	+39
NVAR				Lg		06 56 13.8	
NVAR				LR	LR	06 57 57.2	
CCM	**Cathedral Cave**	**10.86**	**80**	*e*Pn	**P**	**06 53 23.0**	**-0.7**
HRY	**Holter Researc**	**11.12**	**334**	*e*Pn	**P**	**06 53 27.1**	**-0.1**
FVM	**French Village**	**11.50**	**80**	*e*Pn	**P**	**06 53 31.1**	**-1.3**
CHMT	**Chamberlain Mo**	**11.82**	**331**	*e*Pn	**P**	**06 53 37.5**	**+0.9**
WVOR	**Wild Horse Val**	**11.99**	**302**	*e*Pn	**P**	**06 53 38.0**	**-1.1**
MSO	**Missoula**	**12.03**	**329**	*e*Pn	**P**	**06 53 39.0**	**-0.5**
JFWS	**Jewell Farm**	**12.70**	**57**	*e*Pn	**P**	**06 53 46.5**	**-2.1**
OXF	**Oxford**	**12.76**	**96**	*e*Pn	**P**	**06 53 48.0**	**-1.3**
USIN	**University of**	**13.68**	**80**	*e*Pn	**P**	**06 54 01.4**	**-0.3**
NEW	**Newport**	**14.51**	**325**	Pn	**P**	**06 54 14.1**	**+1.6**
	0.1nm,0.3s,baz=142,slow=13,SNR=3.5						
NEW				Lg		06 58 16.0	
	0.1nm,0.3s,baz=210,slow=24,SNR=2.2						
NEW				LR	LR	07 00 13.9	
	comp=Z,95nm,18.6s,baz=138,slow=39						
NEW	**Newport**	**14.51**	**325**	Pn	**P**	**06 54 12.0**	**-0.4**
BLO	**Bloomington**	**14.61**	**75**	*e*Pn	**P**	**06 54 12.1**	**-1.7**
YBH	**Yreka Blue Hor**	**14.66**	**295**	Pn	**P**	**06 54 20.0**	**+5.6**
	0.4nm,0.3s,baz=78,slow=5.1,SNR=15						
YBH	**Yreka Blue Hor**	**14.66**	**295**	Pn	**P**	**06 54 11.6**	**-2.9**
DPW	**Davenport**	**14.75**	**322**	Pn	**P**	**06 54 15.2**	**-0.3**
ULM	**Lac du Bonnet**	**14.83**	**23**	Pn	**P**	**06 54 14.7**	**-1.9**
	0.7nm,0.3s,baz=193,slow=9.8,SNR=5.9						
ULM				Lg		06 58 27.6	

	0.7nm,0.3s,baz=116,slow=23,SNR=7.4						
ULM				LR	LR	07 00 15.2	
	comp=Z,175nm,19.8s,baz=262,slow=38						
LRAL	Lakeview Retre	15.11	99	*e*Pn	P	06 54 20.3	-0.1
	15nm,0.9s						
SWET	Sewanee	15.38	91	*e*Pn	P	06 54 24.3	+0.5
RMW	Rattlesnake Mo	16.40	315	*e*P	P	06 54 38.4	+1.5
CPCT	Cooper Cave	16.46	89	*e*Pn	P	06 54 38.9	+1.1
MYNC	Murphy	16.85	90	P	P	06 54 42.0	-0.8
	12nm,0.9s						
AAM	Ann Arbor	17.17	65	*e*Pn	P	06 54 46.2	-0.5
	24nm,0.6s						
PWV	Princeton	18.96	81	Pn	P	06 55 09.8	+0.9
BLA	Blacksburg	19.47	82	*e*P	P	06 55 13.8	-1.1
	33nm,1.2s						
SADO	Sadowa	20.91	60	P	P	06 55 34.3	+4.1
	3.2nm,0.7s,baz=271,slow=9.3,SNR=2.7						
SADO				LR	LR	07 03 56.9	
	comp=Z,182nm,19.5s,MS3.5,baz=278,slow=38						
SSPA	Standing Stone	21.30	72	*e*P	P	06 55 34.9	+0.7
	4.9nm,0.7s,mb4.0						
YKA	Yellowknife Ar	26.34	350	P	P	06 56 23.3	+0.5
	2.7nm,0.7s,mb3.9,baz=159,slow=8.7,SNR=21						
YKA				LR	LR	07 07 45.1	
	comp=Z,39nm,21.3s,MS2.9,baz=210,slow=39						
YKA	Yellowknife Ar	26.34	350	P	P	06 56 23.3	+0.5
YKA				LR	LR	07 07 45.1	
DLBC	Dease Lake	27.14	331	P	P	06 56 32.4	+2.2
	3.3nm,1.1s,mb3.8,baz=165,slow=6.2,SNR=4.6						
DLBC				LR	LR	07 08 30.9	
	comp=Z,62nm,18.4s,MS3.2,baz=94,slow=39						
SCHQ	Schefferville	31.46	43	P	P	06 57 09.8	+0.9
	3.5nm,0.8s,mb4.3,baz=238,slow=14,SNR=4.5						
SCHQ				LR	LR	07 09 55.1	
	comp=Z,159nm,19.6s,MS3.7,baz=236,slow=36						
DAWY	Dawson	34.20	334	P	P	06 57 32.9	+0.2
FRB	Frobisher Bay	34.64	28	P	P	06 57 42.1	+5.7
	3.0nm,0.8s,mb4.3,baz=67,slow=20,SNR=2.8						
INK	Inuvik	35.29	342	P	P	06 57 43.4	+1.4
	4.4nm,1.1s,mb4.3,baz=117,slow=6.8,SNR=4.8						
ILAR	Eielson Array	37.34	332	P	P	06 58 00.6	+1.4
	5.0nm,0.7s,mb4.5,baz=132,slow=7.2,SNR=87						
COLA	College	37.75	332	*e*P	P	06 58 03.5	+0.8
	7.9nm,0.8s,mb4.5						
LPAZ	La Paz	63.20	140	P	P	07 01 16.9	+0.7
	0.9nm,0.8s,mb3.9,baz=270,slow=2.0,SNR=6.4						
ARCES	ARCESS Array B	67.86	17	P	P	07 01 47.1	+1.8
	0.7nm,0.7s,mb3.8,baz=326,slow=4.4,SNR=7.3						
NOA	NORSAR Array B	69.47	28	P	P	07 01 56.9	+1.5
	1.5nm,1.2s,mb3.8,baz=311,slow=6.8,SNR=2.7						
NOA				LR	LR	07 31 07.6	
	comp=Z,26nm,19.9s,MS3.5,baz=315,slow=35						
FINES	FINESS Array B	74.22	22	P	P	07 02 24.4	+0.8
	1.5nm,0.9s,mb3.9,baz=284,slow=5.7,SNR=4.6						
BDFB	Brasilia	74.77	123	LR	LR	07 37 30.7	
	comp=Z,59nm,21.0s,MS3.9,baz=111,slow=37						
GRA1	Grafenberg Arr	76.95	37	*e*P	P	07 02 42.1	+2.7
	4.0nm,1.2s,mb4.2						
CPUP	Villa Florida	77.14	137	P	P	07 02 43.8	+2.9
	3.1nm,0.7s,mb4.3,baz=342,slow=5.1,SNR=9.6						
PVCC	Panska Ves	77.94	35	LM		07 33 30.0	
PRU	Pruhonice	78.31	35	LM		07 34 10.0	
KHC	Kasperske Hory	78.46	36	LM		07 33 00.0	
GERES	GERESS Array B	78.71	36	P	P	07 02 51.5	+2.4
	1.4nm,1.1s,mb3.8,baz=320,slow=7.7,SNR=5.0						
DPC	Dobruska-Polom	78.86	34	*e*P	P	07 02 52.6	+2.7
DPC				LM		07 33 20.0	
PLCA	Paso Flores	83.39	154	P	P	07 03 17.2	+3.2
	1.3nm,0.7s,mb4.1,baz=201,slow=3.9,SNR=5.1						
AKASG	Malin Array Be	83.87	27	P	P	07 03 17.4	+1.3
	1.6nm,0.7s,mb4.3,baz=317,slow=4.1,SNR=9.2						
MDJ	Mudanjiang	85.12	324	P	P	07 03 23.1	+0.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,48nm,6.5s						
CN2	Changchun	87.64	326	*e*P	P	07 03 35.0	+0.1
DBIC	Dimbokro	93.95	79	LR	LR	07 39 42.5	
	comp=Z,44nm,21.5s,MS3.9,baz=225,slow=31						
MKAR	Makanchi Array	96.45	355	P	P	07 04 16.7	+1.0
	comp=Z,1.1nm,0.9s,mb4.3,slow=2.4,SNR=6.0						
USHA	Ushuaia	96.55	160	LR	LR	07 38 50.6	
	comp=Z,329nm,21.9s,MS4.8,baz=321,slow=30						
WMQ	Urumqi	98.87	351	*e*P	P	07 04 29.6	+3.0
WMQ				AP	pP	07 04 33.1	+4.8
NJ2	Nanjing	100.18	323	*e*P	P	07 04 31.2	-1.8
LZH	Lanzhou	102.67	337	*e*P	Pdif	07 04 41.2	-2.8
LZH				AP		07 04 44.5	

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*NEIC **01** 07:12:03.5±2.6,23.94S×179.72W,h506^{km}±27^{km},mb4.8/8, Error ellipse: s-maj=24.3km s-min=12.9km az=218.0*

*IDC **01** 07:12:08.2±2.9,23.95S×179.95W,h548^{km}±31^{km},mb3.7/8, mb1 3.9/9,mb1mx3.6/15,Error ellipse: s-maj=21.2km s-min=16.8km az=25.0*

ISC 01 07:12:02.2±2.4**,23.91S**±0.09×**179.9W**±0.1**,h491**^{km}±28^{km}**, n48,**σ**0**^{s}**.88**/39**,mb4.5**/11**,1C-2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.54	190	P	P	07 15 07.3	-0.9
	4.3nm,0.3s,baz=18,slow=2.7,SNR=18						
URZ				S	S	07 17 38.9	+0.6
	0.3nm,0.3s,baz=233,slow=20,SNR=5.5						
URZ	Urewera	14.54	190	P	P	07 15 09.8	+1.6
URZ	Urewera	14.54	190	*e*P	P	07 15 09.8	+1.6
MWZ	Matawai	14.55	188	P	P	07 15 08.3	0.0
MWZ	Matawai	14.55	188	*e*P	P	07 15 08.3	0.0
BKZ	Black Stump Fm	15.52	191	P	P	07 15 18.6	+0.5
BKZ				S	S	07 17 56.0	-0.5
BKZ	Black Stump Fm	15.52	191	*e*P	P	07 15 18.6	+0.5
SNZO	South Karori	17.94	193	*e*P	P	07 15 40.3	-1.8
	72nm,1.1s						
QRZ	Quartz Range	18.04	199	P	P	07 15 44.3	+1.2
NNZ	Nelson	18.16	197	P	P	07 15 43.9	-0.4
NNZ	Nelson	18.16	197	*e*P	P	07 15 43.9	-0.4
KHZ	Kahutara	19.25	195	P	P	07 15 54.3	-0.5
KHZ	Kahutara	19.25	195	*e*P	P	07 15 54.3	-0.5
LTZ	Lake Taylor	19.92	197	P	P	07 15 59.7	-1.4
LTZ	Lake Taylor	19.92	197	*e*P	P	07 15 59.7	-1.4
RPZ	Rata Peaks	21.12	199	P	P	07 16 12.7	+0.4
	13nm,0.5s,mb4.7,baz=348,slow=1.2,SNR=21						
ARMA	Armidale	26.14	249	*e*P	P	07 16 59.4	+1.6
CTA	Charters Tower	31.61	270	*e*P	P	07 17 45.5	+0.1
	23nm,0.6s,mb4.8						
CTA	Charters Tower	31.61	270	P	P	07 17 46.2	+0.9
	34nm,0.6s,mb4.9,baz=100,slow=10,SNR=43						
CTAO	Charters Tower	31.61	270	⇓*e*P	P	07 17 45.8	+0.4
	25nm,0.5s,mb4.9						
PMG	Port Moresby	34.62	289	P	P	07 18 11.0	+0.2
	29nm,0.8s,mb4.8,baz=134,slow=3.6,SNR=6.4						
PMG	Port Moresby	34.62	289	*e*P	P	07 18 10.8	0.0
	25nm,0.7s,mb4.8						
STKA	Stephens Creek	34.84	248	*e*P	P	07 18 13.6	+1.2
	3.9nm,0.9s,mb3.8						
STKA	Stephens Creek	34.84	248	P	P	07 18 13.3	+0.8
	6.2nm,0.8s,mb4.1,baz=112,slow=8.2,SNR=11						
ASPA	Alice Springs	42.17	261	*e*P	P	07 19 12.5	+0.2
WB2	Warramunga Arr	42.53	266	⇓*i*P	P	07 19 14.6	-0.6
WRA	Warramunga Arr	42.54	266	P	P	07 19 14.7	-0.6
	12nm,0.3s,mb4.7,baz=96,slow=8.4,SNR=361						
WRA				S	S	07 24 57.6	-4.6
	0.5nm,0.8s,baz=98,slow=12,SNR=3.8						
WRA	Warramunga Arr	42.54	266	P	P	07 19 14.7	-0.6
WRA				S	S	07 24 57.6	-4.6
FORT	Forrest	46.43	250	⇑*i*P	P	07 19 44.8	-0.7
	100nm,0.6s,mb5.4						
KAKA	Kakadu	46.48	275	*e*P	P	07 19 44.6	-1.5
	9.3nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	50.96	266	*e*P	P	07 20 19.2	-0.5
	11nm,0.8s,mb4.2						
VNDA	Vanda	54.38	185	P	P	07 20 43.5	0.0
	1.4nm,0.6s,mb3.5,baz=353,slow=7.8,SNR=2.2						
QSPA	South Pole Qui	66.17	180	*e*P	P	07 22 02.0	+0.7
	9.7nm,1.1s,mb4.3						
CMAR	Chiang Mai Arr	89.66	290	P	P	07 24 09.8	+1.3
	1.4nm,0.7s,mb3.9,baz=136,slow=3.6,SNR=5.7						
TXAR	Lajitas Array	90.32	58	P	P	07 24 11.1	-0.2
	0.2nm,0.7s,baz=225,slow=5.3,SNR=4.1						
MKAR	Makanchi Array	112.26	313	PKiKP		07 29 40.4	
	0.2nm,0.5s,baz=175,slow=2.3,SNR=3.2						
ARCES	ARCESS Array B	131.93	348	PKP	PKPdf	07 30 17.3	-1.2
	0.5nm,0.6s,baz=45,slow=1.7,SNR=5.4						
FINES	FINESS Array B	138.50	342	PKP	PKPdf	07 30 29.9	-0.8
	0.8nm,0.9s,baz=243,slow=3.1,SNR=3.9						
NB2	NORSAR Subarra	142.12	351	PKP		07 30 32.9	
	0.4nm,0.7s,baz=20,slow=3.6						
NOA	NORSAR Array B	142.12	351	PKhKP		07 30 32.5	
	0.4nm,0.6s,baz=16,slow=4.8,SNR=3.9						
HFS	Hagfors	142.59	349	PKhKP		07 30 33.7	
	1.2nm,0.4s,baz=63,slow=3.3,SNR=20						
AKASG	Malin Array Be	145.06	327	PKPbc	PKPbc	07 30 42.5	-0.8
	0.9nm,0.3s,baz=44,slow=4.5,SNR=13						
ASF	Jabal al Asfar	146.66	293	PKPbc	PKPbc	07 30 48.1	+0.3
	2.7nm,0.9s,baz=280,slow=8.8,SNR=3.2						
BRTR	Keskin Array B	147.69	307	PKPbc	PKPdf	07 30 50.7	+3.5
	0.6nm,0.5s,baz=108,slow=3.9,SNR=3.8						
BRTR				PKPab	PKPab	07 30 56.2	-0.9
	2.5nm,0.9s,baz=86,slow=3.3,SNR=8.5						
CLL	Collm	150.91	343	*e*PKP1	PKPdf	07 30 59.0	+7.2
BRG	Berggiesshubel	151.04	342	*i* P	PKPdf	07 30 59.0	+7.0
GERES	GERESS Array B	152.91	340	PKPbc	PKPdf	07 31 03.3	+8.6
	0.2nm,0.6s,baz=90,slow=5.9,SNR=3.1						
DAVOX	Davos	155.88	343	PKPab	PKPab	07 31 30.0	-1.1
	1.1nm,0.6s,baz=326,slow=24,SNR=2.9						

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*IDC **01** 07:16:56.2±1.1,61.29N×146.58W,mb3.5/6,mb1 3.6/10, mb1mx3.5/23,ML3.1/4,MS2.7/3,Ms1 2.6/3,ms1mx2.2/30, Error ellipse: s-maj=20.5km s-min=13.0km az=39.0*

*NEIC **01** 07:17:01.2,61.47N×146.44W,h12^{km},ML3.5(AEIC), ML3.5(PMR),After AEIC.*

ISC 01 07:16:58.9±0.8**,61.49N**±0.02×**146.42W**±0.03**,h11**^{km}±6^{km}**, n86,**σ**1**^{s}**.18**/107**,mb3.4**/7**,MS2.6**/1**,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIV	Divide	0.48	139	P	Pb	07 17 10.6	+1.8
DIV				S	Sg	07 17 17.9	+2.7
SCM	Sheep Creek Mo	0.55	309	P	Pb	07 17 11.9	+1.8
CFI	College Fiord	0.72	245	P	Pb	07 17 13.9	+1.0
TZL	Tazlina	0.73	40	P	Pb	07 17 15.4	+2.3
SML	Sawmill	0.97	290	P	Pb	07 17 17.4	+0.3
SML				S	Sb	07 17 30.4	+0.7
KNK	Knik Glacier	0.98	266	P	Pb	07 17 18.2	+0.8
KNK				S	Sb	07 17 31.2	+1.1
EYAK	Cordova Ski Ar	1.00	161	P	Pb	07 17 18.5	+0.8
EYAK				S	Sb	07 17 32.2	+1.6
CVA	Cordova	1.00	161	P	Pb	07 17 18.4	+0.6
BMRM	Bremner River	1.02	120	P	Pb	07 17 18.5	+0.4
BMRM				S	Sb	07 17 32.9	+1.5
HIN	Hinchinbrook I	1.10	182	P	Pb	07 17 20.2	+0.8
WACK	Wrangell Chich	1.11	63	P	Pb	07 17 20.8	+1.1
WACK				S	Sb	07 17 36.2	+2.2
SDG	Sourdough	1.12	21	P	Pb	07 17 20.8	+1.0
SDG				S	Sb	07 17 35.4	+1.3
PWL	Port Wells	1.12	237	P	Pb	07 17 20.1	+0.3
PWL				S	Sb	07 17 35.0	+0.8
SGAM	Sherman Glacie	1.16	149	P	Pb	07 17 21.0	+0.6
SGAM				S	Sb	07 17 34.8	-0.4
GHO	Glory Hole Cre	1.23	284	P	Pb	07 17 21.7	0.0
WANC	Wrangell North	1.23	64	P	Pb	07 17 22.8	+1.2
GLB	Gilahina Butte	1.25	91	P	Pb	07 17 22.1	+0.1
GLB				S	Sb	07 17 40.2	+2.2
PMR	Palmer	1.30	276	P	Pb	07 17 22.9	0.0
PMR				S	Sb	07 17 39.8	+0.4
RAGM	Ragged Mountai	1.40	142	P	Pn	07 17 24.9	+0.6
PMS	Palmer South	1.53	262	P	Pn	07 17 26.6	+0.3
PMS				S	Sb	07 17 47.4	+1.3
PAX	Paxson	1.55	16	P	Pn	07 17 26.9	+0.3
HMT	Hamilton	1.57	137	P	Pn	07 17 26.6	-0.2
RC01	Rabbit Creek A	1.65	257	P	Pn	07 17 28.4	+0.4
RC01				S	Sn	07 17 49.8	+0.5
DHY	Denali Highway	1.65	345	P	Pn	07 17 28.4	+0.3
DHY				S	Sn	07 17 49.4	0.0
PWA	Palmer West	1.66	277	P	Pn	07 17 28.3	+0.2
MPA	Moose Pass	1.75	236	P	Pn	07 17 29.1	-0.4
MPA				S	Sn	07 17 52.1	+0.3
FIB	Fire Island	1.84	261	*e*P	Pn	07 17 31.7	+1.0
KAIM	Kayak Island	1.85	147	P	Pn	07 17 30.6	-0.3
THY	Trims Highway	1.96	9	P	Pn	07 17 33.6	+1.2
BALM	Baldy	2.02	101	P	Pn	07 17 33.3	0.0
WAX	Waxell Ridge	2.03	119	P	Pn	07 17 33.2	-0.2
SEW	Seward	2.03	228	P	Pn	07 17 32.8	-0.7
SEW				S	Sn	07 17 59.7	+0.7
CUT	Chulitna	2.04	298	P	Pn	07 17 34.2	+0.6
MID	Middleton Isla	2.07	179	P	Pn	07 17 33.6	-0.4
SUA	Susitna One	2.07	271	P	Pn	07 17 34.3	+0.2
SUA				S	Sn	07 18 01.7	+1.6
SLKM	Skilak Lake	2.10	244	P	Pn	07 17 35.1	+0.7
SLKM				S	Sn	07 18 01.6	+0.9
HUR	Hurricane	2.12	316	P	Pn	07 17 35.4	+0.6
SKT	Skwentna	2.48	284	P	Pn	07 17 39.5	-0.4
CTGM	Chitina Glacie	2.52	100	P	Pn	07 17 40.5	+0.1
MCK	McKinley	2.53	334	P	Pn	07 17 41.3	+0.6
MCK				S	Sn	07 18 12.8	+1.0
YAH	Yahtse	2.55	114	P	Pn	07 17 40.4	-0.4
TRF	Thorofare Moun	2.66	319	P	Pn	07 17 43.1	+0.6
BCA3	Beaver Creek A	2.68	52	P	Pn	07 17 43.5	+0.7
SPU	Mount Spurr	2.73	266	P	Pn	07 17 43.1	-0.4
SPU				S	Sn	07 18 19.5	+2.7
BRLK	Bradley Lake	2.80	234	P	Pn	07 17 43.5	-0.9
BKG	Blockade Glaci	2.85	264	P	Pn	07 17 44.5	-0.7
BKG				S	Sn	07 18 20.7	+0.8
CKL	Chakachamna La	2.87	267	P	Pn	07 17 44.6	-0.8
HDA	Harding Lake	2.94	355	P	Pn	07 17 46.5	+0.1
KTH	Kantishna Hill	2.94	317	P	Pn	07 17 46.6	+0.2
CHX	Chaix Hills	2.97	116	P	Pn	07 17 46.7	-0.2
CNPM	China Poot	3.09	233	P	Pn	07 17 47.4	-1.2
CCB	Clear Creek Bu	3.23	349	P	Pn	07 17 49.8	-0.7
RSO	Redoubt South	3.25	254	*e*P	Pn	07 17 49.5	-1.4
ILAR	Eielson Array	3.30	357	Pn	Pn	07 17 50.6	-1.0
	1.5nm,0.3s,baz=179,slow=12,SNR=26						
ILAR				Sn	Sn	07 18 34.4	+3.2
	9.1nm,0.3s,baz=184,slow=21,SNR=7.7						
IL1	Eielson Array	3.30	357	P	Pn	07 17 50.4	-1.2
PCA	Pinnacle	3.33	112	P	Pn	07 17 51.3	-0.6
COLA	College	3.46	350	P	Pn	07 17 53.4	-0.5
ILIM	Iliamna	3.50	249	P	Pn	07 17 52.6	-1.8
ILW	Iliamna West	3.59	249	P	Pn	07 17 54.0	-1.7
PNL	Peninsula	3.92	115	P	Pn	07 18 00.0	-0.3
MLY	Manley	4.05	333	P	Pn	07 18 01.3	-1.0
AGU	Augustine-Summ	4.08	242	P	Pn	07 18 01.2	-1.4
DAWY	Dawson	4.14	48	P	Pn	07 18 03.5	+0.1
SVW	Sparrevohn	4.45	269	P	Pn	07 18 05.5	-2.5
TT01	Tatalina	4.71	292	P	Pn	07 18 08.8	-2.9
KDAK	Kodiak Island	4.86	223	P	Pn	07 18 11.1	-2.6
IM3	Indian Mountai	5.56	327	P	Pn	07 18 21.8	-1.8
IMA	Indian Mountai	5.61	328	*e*P	Pn	07 18 24.5	+0.2
CAHL	Cahill	5.66	236	P	Pn	07 18 22.4	-2.5
WHY	Whitehorse	5.66	93	P	Pn	07 18 23.9	-1.1
COLD	Coldfoot	5.99	346	P	Pn	07 18 29.2	-0.4
BM3	Burnt Mountain	6.01	7	P	Pn	07 18 28.7	-1.2
BESE	Bessie Mountai	6.49	112	P	Pn	07 18 34.8	-1.9
SIT	Sitka	7.21	123	P	Pn	07 18 44.0	-2.8
INK	Inuvik	8.75	33	Pn	P	07 19 06.5	-1.8
	0.1nm,0.3s,baz=82,slow=13,SNR=3.1						
DLBC	Dease Lake	8.77	103	Pn	P	07 19 04.5	-4.0
	0.1nm,0.3s,baz=184,slow=14,SNR=2.9						
DLBC				Lg		07 21 33.8	
	0.1nm,0.3s,baz=203,slow=24,SNR=3.6						
DLBC				LR	LR	07 22 41.1	
	comp=Z,55nm,21.3s,baz=320,slow=39						
YKA	Yellowknife Ar	14.90	72	Pn	P	07 20 27.7	-3.1
	0.1nm,0.3s,baz=282,slow=13,SNR=4.5						
YKA				LR	LR	07 26 29.4	
	comp=Z,19nm,18.1s,baz=220,slow=38						
YKA	Yellowknife Ar	14.90	72	Pn	P	07 20 27.7	-3.1
YKA				LR	LR	07 26 29.4	
NEW	Newport	21.20	115	P	P	07 21 44.4	-2.0
	0.6nm,0.3s,mb3.3						
FX1	Attu Island--F	23.18	267	P	P	07 22 02.2	-3.7
	4.3nm,0.4s,mb4.2,baz=320,slow=3.7,SNR=13						
PDAR	Pinedale Array	28.80	114	P	P	07 22 57.4	-1.1
	0.2nm,0.7s,mb3.0,baz=324,slow=12,SNR=2.3						
ULM	Lac du Bonnet	29.72	89	LR	LR	07 34 10.5	
	comp=Z,15nm,20.6s,MS2.6,baz=51,slow=35						
TXAR	Lajitas Array	42.67	119	P	P	07 24 54.7	-2.2
	0.2nm,0.7s,mb3.0,baz=328,slow=6.6,SNR=3.8						
SONM	Songino Array	56.44	309	P	P	07 26 39.5	-2.8
	0.3nm,0.5s,mb3.6,baz=45,slow=4.1,SNR=2.7						
NOA	NORSAR Array B	56.60	13	P	P	07 26 42.3	-1.0
	0.4nm,0.8s,mb3.5,baz=46,slow=6.9,SNR=3.3						
FINES	FINESS Array B	57.26	4	P	P	07 26 44.8	-3.1
	0.2nm,0.5s,mb3.4,baz=27,slow=8.5,SNR=5.3						

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*ISK **01** 07:50:25.8,38.61N×25.93E,h9^{km},MD3.4*

*ATH **01** 07:50:27.1,38.77N×26.39E,h75^{km}±6^{km}*

ISC 01 07:50:29.1±1.0**,38.65N**±0.03×**26.12E**±0.05**,h14**^{km}±8^{km}**, n21,**σ**1**^{s}**.12**/30**,3C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.61	11	*e*P	Pb	07 50 40.5	-0.5
PRK				*e*S	Sg	07 50 51.0	+1.2
IZM	Izmir	0.93	105	*i* PG	Pg	07 50 47.0	-0.9
IZM				SG	Sg	07 51 01.3	+0.9
KDAG	Bornova	0.93	105	⇑*i*P	Pb	07 50 46.7	+0.1
KDAG				*i* S	Sb	07 50 54.6	-3.9
SMG	Samos	1.10	149	*e*P	Pb	07 50 48.5	-0.8
SMG				*e*S	Sb	07 51 03.5	+0.3
EZN	Ezine	1.19	8	PN	Pn	07 50 49.8	-1.5
AKS	Akhisar	1.35	80	PN	Pn	07 50 54.2	+0.7
AKS				SN	Sn	07 51 13.9	+2.7
APE	Apeiranthos	1.64	197	*e*P	Pn	07 50 57.0	-0.8
BALB	Balikesir	1.69	54	*e*PN	Pn	07 50 58.4	-0.1
LPK	Lapseki	1.79	16	PN	Pn	07 50 58.8	-1.1
PTL	Penteli	1.87	252	*e*P	Pn	07 51 01.0	0.0
MLSB	Milas	1.88	135	*e*PN	Pn	07 51 00.0	-1.2
BDRM	Kayabasi	1.90	146	*i* P	Pn	07 51 03.1	+1.6
BDRM				*i* S	Sn	07 51 30.0	+4.7
MANT	Manisa	1.92	94	*i* P	Pn	07 51 00.9	-0.8
MANT				*i* S	Sn	07 51 30.9	+5.1
MPAR	Parnis Oros	1.94	256	*e*P	Pn	07 51 03.5	+1.5
SART	Tekirdag	2.20	22	⇑*i*P	Pn	07 51 06.8	+1.1
SART				*i* S	Sn	07 51 29.4	-3.4
BNT	Bandirma	2.20	39	*e*PN	Pn	07 51 04.3	-1.5
NSAL	Nisos Salamina	2.22	251	*e*P	Pn	07 51 06.5	+0.5
NAIG	Nisos Aigina	2.25	248	*e*P	Pn	07 51 07.5	+1.0
YER	Yerkesik	2.28	131	*e*PN	Pn	07 51 05.6	-1.4
ULDT	Uludag	2.77	57	⇑*i*P	Pn	07 51 19.6	+5.6
ULDT				*i* S	Sn	07 51 58.1	+11
YLV	Yalova	3.16	52	*e*PN	Pn	07 51 19.0	-0.5

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*NIED **01** 07:57:00,34.80N×140.40E,h50^{km},Mw3.8 Best double couple: M$_0$5.92×10^{14} NP1:φ$_s$98°,δ65°,λ-63°. NP2:φ$_s$228°, δ36°,λ-134°.*

*JMA **01** 07:57:02.3±0.1,34.83N×140.35E,h67^{km}±2^{km},M4.0 Broadband fault plane solution: P waves. NP1:φ$_s$262°, δ41°,λ-110°. NP2:φ$_s$107°,δ52°,λ-74°. Principal axes: T Plg6°, Azm186°; N Plg13°, Azm277°; P Plg76°, Azm72°;*

JMA Felt I J1.

*IDC **01** 07:57:03.4±1.9,34.83N×140.17E,h58^{km}±20^{km},mb3.5/15, mb1 3.7/17,mb1mx3.7/25,ML4.2/2 Error ellipse: s-maj=20.1km s-min=13.8km az=102.0*

*NEIC **01** 07:57:04.2±1.5,34.79N×140.19E,h67^{km}±12^{km},mb4.1/1, Error ellipse: s-maj=15.3km s-min=13.5km az=170.0*

NEIC Recorded [1 JMA] in Chiba and Kanagawa Prefectures.

ISC 01 07:57:02.5±0.4**,34.81N**±0.04×**140.31E**±0.05**,h65**^{km}±3^{km}**, n35,**σ**0**^{s}**.96**/47**,mb3.6**/15**,1C-8D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	Boso 3	0.17	94	⇓P	P	07 57 12.2	-0.1
BSO3				S	S	07 57 19.8	+0.1
BSO4	Boso 4	0.18	8	⇓P	P	07 57 12.5	+0.1
BSO4				S	S	07 57 20.4	+0.7
KTR	Katsuura	0.33	1	⇓P	P	07 57 13.2	-0.3
KTR				S	S	07 57 20.1	-1.5
TATJ	Tateyama 2	0.41	302	⇓P	P	07 57 14.8	+0.7
TATJ				S	S	07 57 23.7	+1.1
BSO1	Boso 1	0.57	106	⇓P	P	07 57 15.2	-0.6
JIM2	Oshima 3	0.73	263	⇓P	P	07 57 17.7	+0.2
JIM2				S	S	07 57 28.7	0.0
JOD2	Odawara 2	1.10	294	⇓P	P	07 57 22.2	-0.1
JOD2				S	S	07 57 36.8	-0.1
JIZS	Izushimoda	1.18	266	⇓P	P	07 57 23.7	+0.3
JIZS				S	S	07 57 39.1	+0.1
JHJ	Hachijo jima 2	1.75	195	P	P	07 57 31.8	+0.6
	216nm,0.3s,baz=340,slow=3.0,SNR=60						
JHJ				S	S	07 57 52.4	+0.1
	428nm,0.3s,baz=263,slow=23,SNR=14						
MAJO	Matsushiro	2.43	316	⇑*e*Pn	P	07 57 41.0	+0.2
MAJO				*e*Sn	S	07 58 07.6	-1.7
MAT	Matsushiro	2.43	316	P	P	07 57 40.7	-0.1
MAT				S	S	07 58 11.0	+1.7
MAT	Matsushiro	2.43	316	*e*P	P	07 57 41.0	+0.2
MAT				*e*S	S	07 58 11.0	+1.7
CBIJ	Chichi jima	7.86	168	P	P	07 58 53.8	-2.7
	19nm,0.3s,baz=270,slow=20,SNR=12						
CBIJ				S	S	08 00 16.2	-8.5
	3.7nm,0.3s,baz=349,slow=23,SNR=2.0						
ASAJ	Asahikawa	9.46	10	P	P	07 59 15.6	-2.7
	1.3nm,0.3s,baz=262,slow=15,SNR=3.6						
ASAJ				S	S	08 00 54.8	-9.2
	0.9nm,0.3s,baz=107,slow=30,SNR=3.0						
SONM	Songino Array	28.35	308	P	P	08 02 51.5	-0.7
	0.4nm,0.7s,mb3.1,baz=115,slow=8.5,SNR=4.1						
FX1	Attu Island--F	29.43	42	P	P	08 03 02.6	+0.8
	2.1nm,0.5s,mb4.0,baz=250,slow=20,SNR=3.8						
MKAR	Makanchi Array	44.57	304	P	P	08 05 07.9	-1.6
	0.3nm,0.5s,mb3.2,baz=120,slow=9.5,SNR=2.3						
ILAR	Eielson Array	51.85	31	P	P	08 06 05.2	-0.5
	0.8nm,0.7s,mb3.9,baz=264,slow=5.9,SNR=10						
WRA	Warramunga Arr	54.75	187	P	P	08 06 26.5	-1.2
	1.0nm,0.4s,mb4.2,baz=1.6,slow=7.6,SNR=42						
WRA				pP	pP	08 06 43.2	-1.6
	1.6nm,0.5s,baz=4.0,slow=7.6,SNR=7.1						
INK	Inuvik	56.77	26	P	P	08 06 41.2	-0.5
	2.2nm,0.9s,mb4.2,baz=0.6,slow=15,SNR=3.2						
INK	Inuvik	56.77	26	*e*P	P	08 06 40.7	-1.0
	0.9nm,0.6s,mb4.0						
ARCES	ARCESS Array B	65.76	340	P	P	08 07 42.6	+0.5
	0.5nm,0.8s,mb3.4,baz=78,slow=8.3,SNR=3.1						
YKA	Yellowknife Ar	66.18	29	P	P	08 07 44.2	-0.6
	0.2nm,0.6s,mb3.1,baz=298,slow=6.1,SNR=4.4						
YKA	Yellowknife Ar	66.18	29	P	P	08 07 44.2	-0.6
FINES	FINESS Array B	70.36	332	P	P	08 08 09.9	-0.8
	1.4nm,1.1s,mb3.7,baz=79,slow=7.1,SNR=4.6						
NEW	Newport	72.35	43	P	P	08 08 23.7	+0.8
	0.7nm,0.3s,mb3.9,baz=349,slow=16,SNR=3.2						
AKASG	Malin Array Be	75.50	322	P	P	08 08 40.4	-0.6
	0.9nm,0.6s,mb3.7,baz=48,slow=6.6,SNR=5.5						
NOA	NORSAR Array B	75.88	337	P	P	08 08 43.1	+0.1
	0.2nm,0.6s,mb3.1,baz=60,slow=4.5,SNR=2.7						
NVAR	Mina Array Bea	77.05	52	P	P	08 08 51.5	+1.4
	1.8nm,1.0s,mb3.8,baz=307,slow=4.4,SNR=10.0						
PDAR	Pinedale Array	79.87	45	P	P	08 09 06.1	+0.7
	0.5nm,0.6s,mb3.5,baz=267,slow=1.6,SNR=6.2						
PV10	Paradox Valley	82.92	48	*e*P	P	08 09 23.0	+1.6
PV01	Paradox Valley	83.36	48	*e*P	P	08 09 25.3	+1.6
TXAR	Lajitas Array	92.19	52	P	P	08 10 07.2	+0.9
	0.1nm,0.3s,mb3.5,baz=270,slow=2.7,SNR=3.9						
TXAR	Lajitas Array	92.19	52	P	P	08 10 07.2	+0.9
LPAZ	La Paz	148.57	61	PKPbc	PKPdf	08 16 45.3	+6.7
	0.8nm,0.6s,baz=332,slow=3.6,SNR=6.1						

MAN 01 07:57:08.8,19.31N×120.89E,h20^{km}**,mb4.9,ML3.8, MS3.8,1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	Basco	1.51	42	*e*P	Pn	07 57 34.2	-0.9
BBP				*e*S	Sn	07 57 40.1	-14
SGCP	Mt. Cagua	1.53	134	*e*P	Pn	07 57 38.0	+2.7
SGCP				*e*S	Sn	07 57 54.6	-0.2
ABRA	Dolores	1.66	186	*e*P	Pn	07 57 35.1	-2.2
ABRA				*e*S	Sn	07 57 50.4	-7.8
CAUP	Cauayan	2.52	159	*e*P	Pn	07 57 50.6	+1.1
CAUP				*e*S	Sn	07 58 16.9	-3.0
PALP	Palanan	2.67	147	*e*P	Pn	07 57 52.3	+0.6
PALP				*e*S	Sn	07 58 23.7	-0.1
BCPH	Baguio City Da	2.93	186	⇑*i*P	Pn	07 58 01.8	+6.4
BCPH				*i* S	Sn	07 58 21.9	-8.5
BOLP	Bolinao	3.06	198	*e*P	Pn	07 57 57.1	-0.1
BOLP				*e*S	Sn	07 58 30.5	-3.2
BALP	Baler	3.61	169	*e*P	Pn	07 58 04.5	-0.6
BALP				*e*S	Sn	07 58 42.5	-5.1

JMA 01 08:05:06.5±0.3**,20.72N**×**122.49E,M3.9,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	Basco	0.57	241	*e*P	Pg	08 05 12.9	-4.9

BBP				*e*S	Sg	08 05 18.6	-6.7
HATJ	**Hateruma jima**	**3.54**	**20**	P	Pn	08 06 04.2	+0.4
HATJ				*e*S	Sn	08 06 47.2	+0.2
YOJ	**Yonaguni jima**	**3.75**	**7**	P	Pn	08 06 07.5	+0.6
JKRS	**Kuro-shima**	**3.77**	**22**	P	Pn	08 06 07.5	+0.3
JKRS				*e*S	Sn	08 06 53.1	+0.2
IRIF	**Iriomote-Funau**	**3.78**	**17**	P	Pn	08 06 07.5	+0.3
IRIF				*e*S	Sn	08 06 53.2	+0.2
JIJ	**Ishigaki jima**	**3.94**	**23**	P	Pn	08 06 09.7	+0.2
JIJ				*e*S	Sn	08 06 56.4	-0.7
JTJ	**Tarama**	**4.40**	**27**	P	Pn	08 06 17.0	+0.8
JTJ				*e*S	Sn	08 07 08.2	-0.8
JOGS	**Gusukube**	**4.84**	**33**	P	Pn	08 06 22.6	+0.3

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*LDG **01** 08:29:35.2±0.9, 46.12N×14.34E, h10^{km}, Ml2.9/6, Error ellipse: s-maj=21.1km s-min=11.8km az=125.0*
*LJU **01** 08:29:38.9, 46.33N×13.59E, h7^{km}, ML2.9*
*BGR **01** 08:29:39.1±1.1, 46.14N×13.59E, h10^{km}, ML3.1/3, Error ellipse: s-maj=18.9km s-min=6.7km az=0.0*
*NEIC **01** 08:29:39.3±0.3, 46.33N×13.59E, h5^{km}, ML3.1(SZGRF), ML3.0(VIE), ML2.9(CLL), ML2.9(LDG), ML2.8(FUR), Error ellipse: s-maj=4.4km s-min=3.0km az=194.0*
*ROM **01** 08:29:39.2±0.4, 46.36N×13.53E, h5^{km}, MD3.2/6, ML2.7/3, Error ellipse: s-maj=2.8km s-min=2.7km az=90.0*
ISC 01 08:29:38.5±0.2**, 46.35N**±0.01×**13.59E**±0.02**, h9**^{km}±2^{km}**, n89, σ1^{s}16**/144**, 17C-16D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.12**	**210**	⇑*i*Pg	**Pg**	**08 29 41.3**	**0.0**
ROBS				*i* Sg	**Sg**	**08 29 42.8**	**-0.3**
	comp=Z,2μm,0.1s						
LSR	**Lussari**	**0.14**	**341**	⇓*i*Pg	**Pg**	**08 29 42.5**	**+0.9**
LSR				*i* Sg	**Sg**	**08 29 45.6**	**+1.9**
CADS	**Cadrg**	**0.15**	**140**	⇓*i*Pg	**Pg**	**08 29 42.5**	**+0.6**
CADS				*i* Sg	**Sg**	**08 29 45.0**	**+0.8**
	comp=Z,2μm,0.1s						
DRE	**Drenchia**	**0.18**	**169**	⇓*i*Pg	**Pg**	**08 29 42.5**	**+0.2**
DRE				*i* Sg	**Sg**	**08 29 45.1**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.18**	**290**	⇓*i*PG	**Pg**	**08 29 42.7**	**+0.4**
PTCC				SG	**Sg**	**08 29 45.0**	**+0.1**
GMNA	**Gemona**	**0.26**	**254**	⇑*i*PG	**Pg**	**08 29 45.1**	**+1.3**
GMNA				SG	**Sg**	**08 29 49.7**	**+2.3**
COLI	**Coloredo**	**0.26**	**215**	⇑*i*Pg	**Pg**	**08 29 43.8**	**-0.1**
COLI				*i* Sg	**Sg**	**08 29 48.0**	**+0.5**
BAD	**Bernadia**	**0.27**	**246**	⇑*i*Pg	**Pg**	**08 29 43.9**	**-0.1**
BAD				*i* Sg	**Sg**	**08 29 48.0**	**+0.3**
BOO	**Bordano**	**0.34**	**266**	⇑*e*Pg	**Pg**	**08 29 45.1**	**-0.4**
BUA	**Buia**	**0.35**	**249**	⇑*i*Pg	**Pg**	**08 29 45.5**	**-0.1**
PLRO	**Paularo**	**0.37**	**304**	⇓*e*Pg	**Pg**	**08 29 46.3**	**+0.3**
PLRO				*e*Sg	**Sg**	**08 29 52.5**	**+1.5**
VOY	**Vojsko**	**0.38**	**146**	⇓*i*Pg	**Pg**	**08 29 46.3**	**+0.2**
VOY				*e*Sg	**Sg**	**08 29 52.1**	**+0.8**
MPRI	**Monte Prat**	**0.43**	**256**	⇓*e*Pg	**Pg**	**08 29 47.0**	**-0.2**
MPRI				*e*Sg	**Sg**	**08 29 53.6**	**+0.5**
ZOU	**Zoufplan**	**0.48**	**296**	⇓*e*Pg	**Pg**	**08 29 48.4**	**+0.3**
ZOU				*e*Sg	**Sg**	**08 29 56.1**	**+1.5**
TLI	**Talmassons**	**0.55**	**219**	*e*Pg	**Pg**	**08 29 49.1**	**-0.4**
TLI	**Talmassons**	**0.55**	**219**	Pg	**Pg**	**08 29 49.2**	**-0.3**
JAVS	**Javornik**	**0.56**	**144**	⇓*i*Pg	**Pg**	**08 29 49.3**	**-0.4**
FVI	**Forni Avoltri**	**0.62**	**294**	*e*PG	**Pg**	**08 29 50.6**	**-0.2**
FVI				SG	**Sg**	**08 29 59.6**	**+0.5**
TRI	**Trieste**	**0.65**	**169**	*e*PG	**Pg**	**08 29 52.3**	**+0.8**
TRI				SG	**Sg**	**08 30 03.6**	**+3.4**
	comp=Z,459nm,0.4s						
CSM	**Casamicciola**	**0.67**	**285**	⇑*e*Pg	**Pg**	**08 29 52.3**	**+0.3**
CSM				*e*Sg	**Sg**	**08 30 02.4**	**+1.4**
OBKA	**Obir**	**0.68**	**76**	⇑*i*PG	**Pg**	**08 29 52.6**	**+0.5**
OBKA				*i* SG	**Sg**	**08 30 01.8**	**+0.6**
	comp=Z,75nm,0.2s						
MLNI	**Malnisio**	**0.71**	**254**	⇓*e*Pg	**Pg**	**08 29 52.0**	**-0.8**
MLNI				*e*Sg	**Sg**	**08 30 03.2**	**+0.9**
LJU	**Ljubljana**	**0.71**	**115**	*i* Pg	**Pg**	**08 29 53.4**	**+0.6**
LJU				*e*Sg	**Sg**	**08 30 01.5**	**-0.9**
KBA	**Koelnbreinsper**	**0.75**	**347**	⇑*i*PG	**Pg**	**08 29 54.2**	**+0.6**
KBA				*i* SG	**Sg**	**08 30 04.5**	**+0.9**
	comp=Z,80nm,0.3s						
KBA	**Koelnbreinsper**	**0.75**	**347**	*e*Pg	**Pg**	**08 29 54.1**	**+0.6**
CEY	**Cerknica**	**0.84**	**136**	*i* Pg	**Pg**	**08 29 54.2**	**-1.1**
CAE	**Caneva**	**0.87**	**248**	*e*Pg	**Pg**	**08 29 55.2**	**-0.7**
CAE				*e*Sg	**Sg**	**08 30 09.0**	**+1.3**
KNDS	**Knezji Dol**	**0.98**	**146**	*e*Pg	**Pg**	**08 29 56.9**	**-1.3**
AFL	**Alpe Faloria**	**0.99**	**281**	*e*Pg	**Pg**	**08 29 58.6**	**+0.2**
PDKS	**Podkum**	**1.01**	**105**	⇓*i*Pg	**Pg**	**08 29 58.8**	**+0.1**
VISS	**Visnje**	**1.02**	**122**	*e*Pg	**Pg**	**08 29 58.3**	**-0.6**
PERS	**Pernice**	**1.09**	**74**	*e*Pg	**Pg**	**08 29 59.9**	**-0.4**
BISS	**Bistriski jare**	**1.10**	**74**	*i* Pg	**Pg**	**08 30 00.3**	**-0.2**
BISS				*i* Sg	**Sg**	**08 30 16.2**	**+1.0**
IESO	**Jesolo**	**1.10**	**222**	⇓*i*Pg	**Pg**	**08 30 00.5**	**0.0**
FAU	**Forcella Aurin**	**1.12**	**265**	⇓*e*Pg	**Pg**	**08 30 00.9**	**-0.1**
DOBS	**Dobrina**	**1.32**	**98**	*e*Pg	**Pg**	**08 30 04.3**	**-0.4**
GROS	**Grobnik**	**1.32**	**84**	*i* Pg	**Pg**	**08 30 03.8**	**-1.2**
CGRP	**Cima Grappa**	**1.33**	**250**	⇑*e*Pg	**Pg**	**08 30 04.4**	**-0.7**
CGRP				*e*Sg	**Sg**	**08 30 24.1**	**+1.2**
BGLD	**Berchtesgaden**	**1.37**	**343**	⇑*i*Pg	**Pg**	**08 30 05.4**	**-0.4**
CTI	**Castel Tesino**	**1.38**	**258**	*e*PN	**Pn**	**08 30 05.4**	**+1.3**
	comp=Z,122nm,0.4s						
CRES	**Cresnjevec ost**	**1.40**	**111**	*e*Pg	**Pg**	**08 30 05.9**	**-0.5**
BOJS	**Bojanci**	**1.43**	**125**	*i* Pg	**Pg**	**08 30 06.1**	**-1.0**
VBY	**Vinica-Bojanci**	**1.43**	**125**	*e*Sg	**Sg**	**08 30 26.9**	**+0.7**
GOLS	**Golise**	**1.45**	**103**	*i* Pg	**Pg**	**08 30 07.3**	**-0.1**
SCE	**Schlegeis**	**1.47**	**299**	⇓*i*Pg	**Pg**	**08 30 06.6**	**-1.2**
SCE				*e*Sg	**Sg**	**08 30 26.7**	**-0.8**
GCIS	**Gornji Cirnik**	**1.48**	**108**	*i* Pg	**Pg**	**08 30 07.4**	**-0.7**
MOA	**Molln**	**1.57**	**17**	⇓*i*PG	**Pg**	**08 30 10.0**	**+0.1**
MOA				*i* SG	**Sg**	**08 30 31.8**	**+0.9**
	comp=Z,31nm,0.4s						
MOA	**Molln**	**1.57**	**17**	*e*Pn	**Pn**	**08 30 10.2**	**+3.4**
MOA				*e*Sn	**Sn**	**08 30 33.2**	**+5.8**
ARSA	**Arzberg**	**1.60**	**55**	⇑*i*PG	**Pg**	**08 30 09.8**	**-0.7**
ARSA				*i* SG	**Sg**	**08 30 31.1**	**-0.8**
	comp=Z,25nm,0.4s						
ARSA	**Arzberg**	**1.60**	**55**	*e*Pn	**Pn**	**08 30 09.9**	**+2.7**
ARSA				*e*Sn	**Sn**	**08 30 32.1**	**+3.9**
WTTA	**Wattenberg**	**1.63**	**305**	⇑*i*PG	**Pg**	**08 30 09.6**	**-1.4**
WTTA				*i* SG	**Sg**	**08 30 32.2**	**-0.5**
	comp=Z,54nm,0.4s						
WTTA	**Wattenberg**	**1.63**	**305**	*e*Pn	**Pn**	**08 30 09.7**	**+2.1**
TEOL	**Teolo**	**1.67**	**234**	⇑*e*Pg	**Pg**	**08 30 08.7**	**-3.1**
TEOL				*e*Sg	**Sg**	**08 30 32.0**	**-2.1**
WATA	**Walderalm**	**1.70**	**306**	⇑*i*PG	**Pg**	**08 30 11.7**	**-0.8**
WATA				*i* SG	**Sg**	**08 30 35.3**	**+0.1**
	comp=Z,41nm,0.5s						
SQTA	**Sankt Quirin**	**1.86**	**299**	⇑*i*PG	**Pg**	**08 30 14.0**	**-1.6**
SQTA				*i* SG	**Sg**	**08 30 40.3**	**-0.1**
	comp=Z,42nm,0.6s						
MOTA	**Moosalm**	**1.98**	**301**	⇑*i*PG	**Pg**	**08 30 16.3**	**-1.7**
MOTA				*i* SG	**Sg**	**08 30 44.1**	**-0.3**
	comp=Z,32nm,0.5s						
NVLJ	**Novalja**	**2.00**	**153**	*i* Pn	**Pn**	**08 30 14.8**	**+1.9**
NVLJ				*i* Sn	**Sn**	**08 30 39.9**	**+1.8**
NVLJ				*i* Sg	**Sg**	**08 30 43.0**	**-2.0**
GEC2	**GERESS Array S**	**2.50**	**2**	*e*Pn	**Pn**	**08 30 22.6**	**+2.6**
GEC2	**GERESS Array S**	**2.50**	**2**	*e*Pn	**Pn**	**08 30 22.6**	**+2.5**
SFI	**Santa Sofia**	**2.74**	**207**	*e*PN	**Pn**	**08 30 23.6**	**+0.2**
SFI				SN	**Sn**	**08 30 56.7**	**-0.3**
KHC	**Kasperske Hory**	**2.79**	**360**	*e*PN	**Pn**	**08 30 26.5**	**+2.4**
KHC				*e*PG	**Pg**	**08 30 32.5**	**-1.6**
KHC				*e*		08 30 36.9	
KHC				*e*SN	**Sn**	**08 31 01.1**	**+2.8**
KHC				*e*SG	**Sg**	**08 31 10.8**	**-0.5**
PGD	**Poggio Sodo**	**2.80**	**209**	*e*PN	**Pn**	**08 30 26.1**	**+1.7**
	comp=Z,15nm,0.8s						
WET	**Wettzell**	**2.84**	**350**	*e*Pn	**Pn**	**08 30 27.0**	**+2.1**
WET	**Wettzell**	**2.84**	**350**	⇓*i*Pn	**Pn**	**08 30 27.1**	**+2.2**
ARV	**Arcevia**	**2.89**	**189**	*e*PN	**Pn**	**08 30 25.6**	**+0.1**
	comp=Z,5.0nm,0.5s						
ZST	**Bratislava**	**3.02**	**51**	*e*SG	**Sg**	**08 31 19.8**	**+0.7**
NRCA	**Norcia**	**3.53**	**186**	*e*PN	**Pn**	**08 30 34.1**	**-0.6**
PRU	**Pruhonice**	**3.70**	**10**	PG	**Pg**	**08 30 48.8**	**-3.5**
PRU				SG	**Sg**	**08 31 38.9**	**-2.8**
	comp=Z,14nm,0.6s						
PRU	**Pruhonice**	**3.70**	**10**	*e*Pg	**Pg**	**08 30 48.6**	**-3.7**
PRU				*e*Sg	**Sg**	**08 31 39.6**	**-2.0**
GRA1	**Grafenberg Arr**	**3.71**	**335**	*e*Pg	**Pg**	**08 30 49.8**	**-2.7**
GRF	**Grafenberg Arr**	**3.71**	**335**	*e*Pg	**Pg**	**08 30 49.8**	**-2.7**
DPC	**Dobruska-Polom**	**4.40**	**23**	*e*PG	**Pg**	**08 31 01.3**	**-5.0**
DPC				*e*SG	**Sg**	**08 32 01.8**	**-3.2**
MOX	**Moxa**	**4.50**	**344**	*i* P	**Pn**	**08 30 49.9**	**+1.4**
MOX				S	**Sn**	**08 31 41.0**	**-0.6**
MOX				Sg	**Sg**	**08 32 06.0**	**-2.2**
MOX	**Moxa**	**4.50**	**344**	*e*Pn	**Pn**	**08 30 49.9**	**+1.4**
MOX				*e*Sn	**Sn**	**08 31 41.5**	**-0.1**
MOX				*e*Sg	**Sg**	**08 32 05.8**	**-2.4**
BRG	**Berggiesshubel**	**4.54**	**3**	*e*Pg	**Pg**	**08 31 05.2**	**-3.8**
BRG				*e*		08 31 44.4	
BRG				*e*		08 31 57.2	
BRG				*e*Sg	**Sg**	**08 32 04.1**	**-5.4**
CDF	**Champ du Feu**	**4.76**	**298**	*e*Pn	**Pn**	**08 30 52.4**	**+0.2**
HINF	**Hinteralfeld**	**4.83**	**290**	*e*Pn	**Pn**	**08 30 54.3**	**+1.1**
HINF				*e*Sn	**Sn**	**08 31 47.2**	**-2.9**
	comp=Z,4.7nm,0.3s						
LPG	**La Plagne**	**4.85**	**262**	*e*Pn	**Pn**	**08 30 53.0**	**-0.4**
LPL	**La Plagne**	**4.86**	**263**	*e*Pn	**Pn**	**08 30 53.8**	**+0.2**
CLL	**Collm**	**4.98**	**356**	*i* PN	**Pn**	**08 30 57.0**	**+1.7**
CLL				*i* SN	**Sn**	**08 31 52.4**	**-1.4**
CLL				*e*		08 32 03.0	
CLL				*i* SG	**Sg**	**08 32 20.4**	**-3.9**
CLL	**Collm**	**4.98**	**356**	*i* Pn	**Pn**	**08 30 57.0**	**+1.7**
CLL				*i* Sn	**Sn**	**08 31 52.4**	**-1.4**
CLL				*i* Sg	**Sg**	**08 32 20.4**	**-3.9**
SBF	**Sospel**	**5.02**	**243**	*e*Pn	**Pn**	**08 30 52.5**	**-3.3**
SBF				*e*Sn	**Sn**	**08 31 52.1**	**-2.6**
	comp=Z,2.8nm,0.3s						
MBDF	**Montbardon**	**5.06**	**254**	*e*Pn	**Pn**	**08 30 55.1**	**-1.3**
CABF	**La Chapelle**	**5.19**	**276**	*e*Pn	**Pn**	**08 30 58.4**	**+0.1**
HAU	**Haudompre**	**5.21**	**291**	*e*Pn	**Pn**	**08 30 58.6**	**0.0**
ORIF	**Oris-en-Rattie**	**5.59**	**258**	*e*Pn	**Pn**	**08 31 03.5**	**-0.5**
ORIF				*e*Sn	**Sn**	**08 32 09.6**	**+0.4**
	comp=Z,1.6nm,0.3s						
FRF	**La Foret Royal**	**5.66**	**243**	*e*Pn	**Pn**	**08 31 03.4**	**-1.5**
FRF				*e*Sn	**Sn**	**08 32 07.3**	**-3.6**
	comp=Z,0.9nm,0.3s						
LMR	**La Mourre**	**5.87**	**242**	*e*Sn	**Sn**	**08 32 09.9**	**-6.1**
	comp=Z,1.5nm,0.3s						
SMRF	**Simiane la Rot**	**6.14**	**250**	*e*Pn	**Pn**	**08 31 05.6**	**-6.1**
SMRF				*e*Sg	**Sg**	**08 33 01.1**	**-2.0**
	comp=Z,2.6nm,0.4s						

JSN 01 08:30:13.1±1.4**, 16.61N×79.09W, MD3.8, MW3.7, 2C-2D, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**1.88**	**45**	⇑*i*P	Pn	08 30 44.4	-2.3
MCJ				*e*S	Sn	08 31 08.0	-3.5
PCJ	**Portland Cotta**	**2.17**	**58**	⇓*i*P	Pn	08 30 49.1	-1.8
PCJ				*i* S	Sn	08 31 15.8	-3.1
BBJ	**Bamboo Saint A**	**2.48**	**44**	⇓*e*P	Pn	08 30 53.9	-1.4
BBJ				*e*S	Sn	08 31 25.1	-1.7
STH	**Stony Hill**	**2.62**	**56**	⇑*e*P	Pn	08 30 55.8	-1.6
STH				*e*S	Sn	08 31 27.6	-2.8

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*IDC **01** 08:51:21.4±5.5, 37.30N×21.95E, h28^{km}±38^{km}, mb3.9/11, mb1 3.9/18, mb1mx3.8/29, ML3.7/7, Error ellipse: s-maj=26.6km s-min=16.4km az=38.0*
*NEIC **01** 08:51:23.8, 37.32N×21.85E, h30^{km}, ML3.4(ATH), After ATH.*
*THE **01** 08:51:24.7, 37.18N×22.00E, h20^{km}, ML3.9*
ATH 01 08:51:23.8, 37.32N×21.85E, h30^{km}±3^{km}**, MD3.8**/20**, ML3.5, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.15**	**156**	*e*PB	Pb	08 51 29.8	+0.3
VLI	**Veliai**	**1.06**	**124**	*e*PB	Pb	08 51 42.5	-0.9
VLS	**Valsamata**	**1.31**	**311**	*e*PN	Pn	08 51 48.0	+1.6
NAIG	**Nisos Aigina**	**1.37**	**71**	*e*PN	Pn	08 51 48.4	+1.1
KYTH	**Kithira**	**1.41**	**137**	*e*PN	Pn	08 51 46.0	-1.8
NSAL	**Nisos Salamina**	**1.41**	**65**	*e*PB	Pb	08 51 48.5	-0.9
MKIT	**Kithairon Oros**	**1.41**	**52**	*e*PN	Pn	08 51 49.5	+1.7
EVR	**Evrytania**	**1.59**	**359**	*e*PN	Pn	08 51 52.5	+2.1
ATH	**Athens Observa**	**1.62**	**66**	*e*PB	Pb	08 51 51.5	-1.4
LKD	**Levkas**	**1.68**	**326**	*e*Pb	Pb	08 51 54.8	+0.9
LKD				*e*Sb	Sb	08 52 18.9	+4.1
MPAR	**Parnis Oros**	**1.71**	**60**	*e*PB	Pb	08 51 53.0	-1.4
AGG	**Agios Georgios**	**1.74**	**12**	*e*Pb	Pb	08 51 56.5	+1.6
	comp=Z,17nm,0.1s						
AGG				*e*Sb	Sb	08 52 18.2	+1.7
PTL	**Penteli**	**1.76**	**65**	*e*PN	Pn	08 51 53.5	+0.8
PTL				*e*SN	Sn	08 52 16.0	+1.7
NEO	**Neokhori**	**2.26**	**28**	*e*PB	Pb	08 52 02.5	-1.3
JAN	**Janina**	**2.46**	**342**	*e*PB	Pb	08 52 05.5	-1.7
MEV	**Metsovon**	**2.51**	**349**	*e*Pn	Pn	08 52 06.6	+3.0
	comp=Z,8.8nm,0.2s						
MEV				*e*Sn	Sn	08 52 39.1	+5.7
IGT	**Igoumenitsa**	**2.51**	**332**	*e*Pn	Pn	08 52 04.7	+1.1
IGT				*e*Sn	Sn	08 52 38.7	+5.2
VAM	**Vamos**	**2.69**	**134**	*e*PN	Pn	08 52 04.0	-2.1
KEK	**Kerkira**	**2.88**	**327**	*e*PN	Pn	08 52 09.0	+0.2
KEK				*e*SN	Sn	08 52 44.5	+1.7
THR5	**Thira Island,**	**2.95**	**107**	*e*Pn	Pn	08 52 07.6	-2.1
THR5				*e*Sn	Sn	08 52 41.8	-2.7
APE	**Apeiranthos**	**2.95**	**94**	*e*PN	Pn	08 52 08.0	-1.8
PAIG	**Paliouri**	**2.97**	**28**	*e*Pn	Pn	08 52 12.0	+1.9
KZN	**Kozani**	**2.98**	**359**	*e*PN	Pn	08 52 12.5	+2.2
THR6	**Thira Island,**	**3.00**	**108**	*e*Pn	Pn	08 52 09.1	-1.5
GVD	**Gavdhos**	**3.07**	**143**	*e*PB	Pb	08 52 14.5	-3.1
GVD	**Gavdhos**	**3.07**	**143**	*e*Pn	Pn	08 52 07.6	-3.9
GVD				*e*Pb	Pb	08 52 14.5	-3.1
IDI	**Anoyia**	**3.18**	**129**	Pn	Pn	08 52 07.9	-5.2
	1.2nm,0.3s,baz=54,slow=13,SNR=24						
IDI				Sn	Sn	08 52 47.2	-3.3
	20nm,0.3s,baz=356,slow=23,SNR=10						
THE	**Thessaloniki**	**3.42**	**14**	*e*Pn	Pn	08 52 19.3	+2.8
OUR	**Ouranopolis**	**3.44**	**28**	*e*Pn	Pn	08 52 18.2	+1.5
	comp=Z,4.0nm,0.3s						
FNA	**Florina**	**3.48**	**354**	*e*Pn	Pn	08 52 19.0	+1.7
	comp=Z,2.0nm,0.3s						
FNA				*e*Sn	Sn	08 53 02.1	+4.1
GRG	**Griva**	**3.66**	**7**	*e*Pn	Pn	08 52 21.5	+1.7
GRG				*e*Sn	Sn	08 53 06.6	+4.1
NPS	**Neapolis**	**3.67**	**123**	*e*PN	Pn	08 52 18.0	-2.0
SOH	**Sokhos**	**3.69**	**18**	*e*Pn	Pn	08 52 22.4	+2.2
KNT	**Kendrikon**	**3.92**	**12**	*e*Pn	Pn	08 52 25.5	+1.9
TIP	**Timpagrande**	**4.42**	**296**	*e*Pn	Pn	08 52 28.2	-2.4
KARP	**Karpathos**	**4.63**	**111**	*e*PN	Pn	08 52 30.5	-3.2
ALN	**Alexandroupoli**	**4.84**	**41**	*e*Pn	Pn	08 52 36.4	-0.2
VAE	**Valguarnera**	**5.92**	**274**	Pn	Pn	08 52 49.5	-2.4
	8.6nm,0.3s,baz=124,slow=5.2,SNR=9.1						
VAE				Sn	Sn	08 53 51.3	-8.2
	8.7nm,0.3s,baz=348,slow=14,SNR=6.1						
CII	**Carovilli**	**7.30**	**309**	*e*Pn	Pn	08 53 09.9	-1.4
CII				*e*Sn	Sn	08 54 27.1	-6.9
MLR	**Muntele Rosu**	**8.72**	**19**	Pn	P	08 53 34.3	+3.3
	0.2nm,0.3s,baz=146,slow=9.7,SNR=4.1						
BRTR	**Keskin Array B**	**9.55**	**72**	Pn	P	08 53 46.0	+3.7
	0.3nm,0.3s,baz=251,slow=14,SNR=5.6						
VYHS	**Vyhne**	**11.38**	**350**	*e*Pn	P	08 54 13.8	+6.3
VYHS				*e*Sn	S	08 56 11.4	-3.2
VRAC	**Vranov**	**12.57**	**344**	Pn	P	08 54 15.5	-8.0
	0.2nm,0.3s,baz=162,slow=19,SNR=2.6						
GERES	**GERESS Array B**	**12.96**	**335**	Pn	P	08 54 25.1	-3.5
	0.1nm,0.3s,baz=153,slow=13,SNR=6.4						
GERES				Sn	S	08 56 44.2	-8.5
	0.2nm,0.3s,baz=273,slow=27,SNR=4.1						
DAVOX	**Davos**	**12.97**	**321**	Sn	S	08 56 42.5	-10
	0.4nm,0.3s,baz=331,slow=19,SNR=2.7						
KHC	**Kasperske Hory**	**13.24**	**336**	*e*P	P	08 54 32.0	-0.4
KHC				*e*		08 55 08.5	
AKASG	**Malin Array Be**	**14.38**	**19**	Pn	P	08 54 42.3	-4.9
	0.9nm,0.3s,baz=225,slow=8.1,SNR=4.4						
HFS	**Hagfors**	**23.42**	**350**	P	P	08 56 27.8	-3.0
	4.2nm,0.4s,baz=157,slow=11,SNR=58						
HFS	**Hagfors**	**23.42**	**350**	P	P	08 56 27.8	-3.0
FINES	**FINESS Array B**	**24.29**	**5**	P	P	08 56 36.8	-2.5
	2.2nm,0.4s,baz=170,slow=9.8,SNR=50						
FINES				PcP	PcP	09 00 13.9	-6.2
	0.3nm,0.4s,baz=135,slow=2.0,SNR=3.3						
NB2	**NORSAR Subarra**	**24.67**	**348**	P	P	08 56 40.0	-3.0
	0.3nm,0.5s,baz=152,slow=9.3						
NOA	**NORSAR Array B**	**24.67**	**348**	P	P	08 56 39.7	-3.3
	1.9nm,0.5s,baz=157,slow=8.9,SNR=22						
NOA	**NORSAR Array B**	**24.67**	**348**	P	P	08 56 39.7	-3.3
EKA	**Eskdalemuir Ar**	**24.74**	**325**	P	P	08 56 41.2	-2.4
	1.1nm,0.6s,baz=124,slow=9.0,SNR=8.2						
JOF	**Joensuu**	**26.28**	**10**	*e*p	P	08 56 53.1	-4.9
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**32.34**	**2**	P	P	08 57 49.0	-3.2
	1.4nm,0.6s,baz=190,slow=9.4,SNR=12						
KEV	**Kevo**	**32.62**	**3**	*e*p	P	08 57 50.6	-4.0
CHKZ	**Chkalovo**	**37.07**	**48**	*e*P	P	08 58 28.9	-3.9
MKAR	**Makanchi Array**	**44.86**	**58**	P	P	08 59 32.2	-4.7
	3.2nm,0.3s,baz=272,slow=7.8,SNR=68						
SCHQ	**Schefferville**	**59.80**	**318**	P	P	09 01 24.2	-4.1
	0.8nm,0.3s,baz=141,slow=16,SNR=5.1						
SCHQ	**Schefferville**	**59.80**	**318**	P	P	09 01 24.2	-4.1
SONM	**Songino Array**	**60.19**	**51**	P	P	09 01 26.1	-4.9
	0.4nm,0.5s,baz=281,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	**74.55**	**341**	P	P	09 02 57.2	-3.8
	0.5nm,0.7s,baz=32,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**74.55**	**341**	P	P	09 02 57.2	-3.8
ULM	**Lac du Bonnet**	**77.01**	**324**	P	P	09 03 11.9	-3.2
	0.9nm,0.3s,baz=16,slow=3.3,SNR=2.9						
ILAR	**Eielson Array**	**77.86**	**355**	P	P	09 03 16.6	-2.9
	0.3nm,0.5s,baz=344,slow=3.5,SNR=9.9						

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*IDC **01** 09:07:20.3±4.0, 18.51N×145.42E, h492^{km}±50^{km}, mb3.0/9, mb1 3.2/11, mb1mx3.2/21, Error ellipse: s-maj=21.8km s-min=13.4km az=97.0*
ISC 01 09:07:21.3±4.6**, 18.5N**±0.1×**145.4E**±0.2**, h521**^{km}±59^{km}**, n12, σ0^{s}98**/11**, mb3.4**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.81**	**301**	P	**P**	**09 10 58.9**	**+0.1**
	4.5nm,0.3s,baz=134,slow=14,SNR=20						
JNU	**Nakatsue**	**19.53**	**321**	P	**P**	**09 11 14.7**	**-0.5**
	0.3nm,0.3s,baz=50,slow=34,SNR=3.1						
WRA	**Warramunga Arr**	**39.68**	**196**	P	**P**	**09 14 10.1**	**+0.8**
	0.4nm,0.6s,mb3.2,baz=20,slow=8.2,SNR=6.9						
FX1	**Attu Island--F**	**40.60**	**26**	P	**P**	**09 14 17.3**	**+0.9**
	1.7nm,0.4s,mb3.9,baz=283,slow=23,SNR=2.8						
SONM	**Songino Array**	**43.12**	**322**	P	**P**	**09 14 36.8**	**+0.3**
	0.7nm,0.7s,mb3.3,baz=121,slow=7.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**43.92**	**278**	P	**P**	**09 14 44.0**	**+0.8**
	2.2nm,0.6s,mb3.9,baz=76,slow=6.2,SNR=9.6						
STKA	**Stephens Creek**	**50.19**	**184**	P	**P**	**09 15 29.4**	**-1.3**
	2.3nm,1.1s,mb3.5,baz=13,slow=19,SNR=3.0						
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**09 16 27.8**	**-0.5**
	0.6nm,0.5s,mb3.1,baz=90,slow=8.3,SNR=7.4						
ILAR	**Eielson Array**	**63.99**	**26**	P	**P**	**09 17 02.5**	**-2.1**
	0.4nm,0.5s,mb3.1,baz=247,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**78.34**	**28**	P	**P**	**09 18 27.9**	**-0.2**
	0.4nm,0.6s,mb3.0,baz=287,slow=5.2,SNR=6.9						
NVAR	**Mina Array Bea**	**83.53**	**52**	P	**P**	**09 18 57.0**	**+1.6**
	0.6nm,0.6s,mb3.3,baz=261,slow=3.9,SNR=7.1						
LPAZ	**La Paz**	**147.99**	**91**	PKPbc	PKPdf	09 26 11.7	+7.3
	0.7nm,0.5s,baz=320,slow=3.2,SNR=5.0						

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*CASC **01** 09:47:08.1±2.3, 13.67N×90.95W, h16^{km}±9^{km}, MD3.7, ML3.9*
*NEIC **01** 09:47:12.2±2.1, 14.33N×90.38W, h122^{km}±26^{km}, Error ellipse: s-maj=40.5km s-min=20.5km az=49.0*
*IDC **01** 09:47:21.1±20.0, 14.68N×90.51W, h184^{km}±155^{km}, mb3.2/3, mb1 3.3/4, mb1mx3.0/19, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/21, Error ellipse: s-maj=118.0km s-min=38.2km az=161.0*
ISC 01 09:47:06.2±0.8**, 13.92N**±0.08×**91.01W**±0.05**, h109**^{km}±6^{km}**, n25, σ0^{s}78**/35**, mb3.7**/3**, 1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.55**	**17**	*e*P	**P**	**09 47 22.8**	**-0.6**
PCG	**Pacaya**	**0.61**	**40**	*e*P	**P**	**09 47 23.4**	**-0.5**
JAT	**Jato**	**0.72**	**303**	*e*P	**P**	**09 47 26.3**	**+1.4**
JAT				*e*S	**S**	**09 47 38.7**	**-0.2**
JAT				AML	AML	09 47 42.7	
	comp=N,3μm,0.3s						
GCG	**Guatemala City**	**0.81**	**35**	*e*P	**P**	**09 47 24.9**	**-0.8**
NBG	**Las Nubes**	**0.92**	**44**	*e*P	**P**	**09 47 26.5**	**-0.4**
NBG				*e*S	**S**	**09 47 43.6**	**+1.3**
NBG				AML	AML	09 47 49.0	
	comp=N,4μm,0.5s						
RBDL	**Robledal**	**1.30**	**81**	*e*P	**P**	**09 47 30.3**	**-0.7**
RBDL				*e*S	**S**	**09 47 49.2**	**-0.5**
RTR	**El Retiro**	**1.33**	**91**	*e*P	**P**	**09 47 30.7**	**-0.6**
RTR				*e*S	**S**	**09 47 49.2**	**-1.1**
SBLS	**San Blas**	**1.35**	**93**	*e*P	**P**	**09 47 31.2**	**-0.5**
SBLS				*e*S	**S**	**09 47 50.6**	**-0.2**
SNJE	**San Jose**	**1.37**	**92**	*e*P	**P**	**09 47 31.2**	**-0.6**
SNJE				*e*S	**S**	**09 47 51.0**	**-0.1**
BOQS	**Boqueron**	**1.69**	**96**	*e*P	**P**	**09 47 35.6**	**-0.2**
BOQS				*e*S	**S**	**09 47 58.8**	**+0.8**
MRL	**Marmol**	**1.71**	**48**	⇓*e*P	**P**	**09 47 36.0**	**0.0**
MRL				*e*S	**S**	**09 47 58.8**	**+0.4**
SNET	**Serv Nac Est T**	**1.74**	**98**	*e*P	**P**	**09 47 36.0**	**-0.4**
SNET				*e*S	**S**	**09 47 58.7**	**-0.4**
LFRS	**El Faro**	**1.92**	**99**	*e*P	**P**	**09 47 38.3**	**-0.2**
LFRS				*e*S	**S**	**09 48 03.7**	**+0.9**
LBRS	**Las Brisas**	**1.92**	**95**	*e*P	**P**	**09 47 38.5**	**-0.2**
LBRS				*e*S	**S**	**09 48 04.1**	**+1.3**
LCBS	**La Ceiba**	**1.99**	**97**	*e*P	**P**	**09 47 39.3**	**-0.2**
LCBS				*e*S	**S**	**09 48 05.5**	**+1.0**
CNCH	**Conchagua**	**3.15**	**101**	*e*P	**P**	**09 47 55.6**	**+0.4**
JTS	**JuntasAbangare**	**6.94**	**121**	*e*Pn	**P**	**09 48 47.6**	**+0.8**
TXAR	**Lajitas Array**	**19.30**	**325**	P	**P**	**09 51 28.0**	**+2.9**
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=11						
TXAR				LR	LR	10 00 29.1	
	comp=N,76nm,19.8s,baz=145,slow=42						
TXAR	**Lajitas Array**	**19.30**	**325**	P	**P**	**09 51 28.0**	**+2.9**
TXAR				LR	LR	10 00 29.1	
NVAR	**Mina Array Bea**	**34.34**	**320**	P	**P**	**09 53 49.1**	**+4.8**
	comp=N,1.1nm,0.7s,mb3.8,baz=131,slow=8.3,SNR=9.9						
NVAR				PcP	PcP	09 56 21.1	+2.9
	comp=N,0.3nm,0.6s,baz=108,slow=5.7,SNR=3.7						
SCHQ	**Schefferville**	**44.97**	**20**	P	**P**	**09 55 10.9**	**-1.0**
	comp=N,2.6nm,0.7s,mb4.1,baz=232,slow=12,SNR=10						
YKA	**Yellowknife Ar**	**51.32**	**346**	P	**P**	**09 56 00.9**	**-0.2**
	comp=N,0.1nm,0.3s,mb3.3,baz=140,slow=8.8,SNR=3.6						
YKA	**Yellowknife Ar**	**51.32**	**346**	P	**P**	**09 56 00.9**	**-0.2**
WRA	**Warramunga Arr**	**136.31**	**256**	PKP	PKPdf	10 06 21.6	+5.8
	comp=N,0.2nm,0.7s,baz=85,slow=2.4,SNR=4.3						
WRA	**Warramunga Arr**	**136.31**	**256**	PKP	PKPdf	10 06 21.6	+5.8

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*BJI **01** 09:54:02.6, 6.00S×103.60E, h46^{km}, mB4.6, mb4.9, Ms4.3, Msz3.8*
*NEIC **01** 09:54:03.6±0.4, 6.02S×103.62E, mb4.5/8, Error ellipse: s-maj=18.9km s-min=7.3km az=223.0*
*IDC **01** 09:54:04.2±0.6, 5.99S×103.56E, h48^{km}±4^{km}, mb4.2/15, mb1 4.3/15, mb1mx4.1/18, MS3.5/8, Ms1 3.5/8, ms1mx3.2/20, Error ellipse: s-maj=25.9km s-min=12.0km az=46.0*
ISC 01 09:54:02.1±0.5**, 5.9S**±0.1×**103.7E**±0.1**, h46**^{km}**, h46**^{km}±1.0^{km}**:pP-P, n39, σ0^{s}82**/33**, mb4.5**/25**, MS3.5**/9**, 1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.60**	**121**	*e*P	**P**	**09 59 20.1**	**+0.6**
	13nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.60**	**121**	P	**P**	**09 59 20.6**	**+1.0**
	18nm,0.7s,mb4.7,baz=320,slow=3.9,SNR=29						
FITZ				LR	LR	10 06 52.4	
	comp=Z,77nm,21.7s,MS3.2,baz=348,slow=31						
CMAR	**Chiang Mai Arr**	**24.68**	**349**	P	**P**	**09 59 20.3**	**-0.1**
	5.0nm,0.7s,mb4.1,baz=180,slow=8.9,SNR=21						
CMAR				LR	LR	10 09 52.2	
	comp=Z,58nm,20.6s,MS3.1,baz=190,slow=38						
KAKA	**Kakadu**	**29.09**	**105**	*e*P	**P**	**10 00 02.0**	**+1.1**
	6.2nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**32.87**	**118**	P	**P**	**10 00 33.3**	**-0.8**
	5.5nm,0.8s,mb4.5,baz=292,slow=10,SNR=30						
WRA				PcP	PcP	10 03 17.8	-0.3
	0.4nm,0.6s,baz=304,slow=2.0,SNR=4.9						
WB2	**Warramunga Arr**	**32.88**	**118**	*e*P	**P**	**10 00 33.6**	**-0.6**
ASPA	**Alice Springs**	**33.98**	**124**	*e*P	pP	10 00 53.6	-2.4
LSA	**Lhasa**	**37.42**	**342**	*e*P	**P**	**10 01 14.0**	**+1.3**
	8.3nm,0.8s,mb4.6						
PKI	**Pulchoki**	**37.71**	**333**	*e*P	**P**	**10 01 14.4**	**-0.8**
DMN	**Daman**	**37.88**	**333**	*e*P	**P**	**10 01 15.3**	**-1.3**
	37nm,1.2s,mb5.0						
KKN	**Kakani**	**37.95**	**333**	*e*P	**P**	**10 01 17.8**	**+0.6**
GKN	**Gorkha**	**38.43**	**332**	*e*P	**P**	**10 01 21.7**	**+0.5**
	15nm,0.6s,mb4.9						
KOLN	**Koldanda**	**38.72**	**331**	*e*P	**P**	**10 01 24.1**	**+0.5**
	31nm,0.9s,mb5.0						
JOW	**Kunigami**	**40.34**	**35**	LR	LR	10 19 21.1	
	comp=Z,42nm,19.2s,MS3.3,baz=350,slow=38						
NDI	**New Delhi**	**42.84**	**325**	*e*P	**P**	**10 01 57.0**	**-0.6**

PMG	**Port Moresby**	43.19	97	P	P	10 02 01.4	+0.6
	18nm,0.9s,mb4.8,baz=277,slow=15,SNR=3.2						
PMG				LR	LR	10 21 48.2	
	comp=Z,82nm,21.2s,MS3.6,baz=233,slow=38						
CTAO	**Charters Tower**	43.64	113	*e*P	P	10 02 02.7	-1.6
	20nm,1.4s,mb4.6						
STKA	**Stephens Creek**	43.80	131	*e*P	P	10 02 05.2	-0.2
	6.3nm,0.7s,mb4.5						
STKA	**Stephens Creek**	43.80	131	P	P	10 02 05.7	+0.2
	6.3nm,0.8s,mb4.4,baz=302,slow=4.9,SNR=11						
STKA				pP	pP	10 02 18.9	+0.9
	3.3nm,0.5s,baz=300,slow=7.6,SNR=4.9						
STKA				LR	LR	10 22 12.2	
	comp=Z,102nm,19.1s,MS3.8,baz=263,slow=38						
WMQ	**Urumqi**	51.59	345	⇓P	P	10 03 07.0	+1.0
WMQ				AP	pP	10 03 19.5	+0.7
WMQ				XP	sP	10 03 25.0	+0.9
WMQ				PCP	PcP	10 04 20.5	+1.0
WMQ				PP	PP	10 05 05.3	+1.0
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=E,67nm,20.0s						
WMQ				LR	LR		
	comp=Z,27nm,19.9s,MS3.3						
SONM	**Songino Array**	53.59	2	P	P	10 03 21.3	+0.4
	comp=Z,4.1nm,0.8s,mb4.4,baz=178,slow=9.0,SNR=35						
SONM				pP	pP	10 03 34.5	+0.7
	comp=Z,3.5nm,0.9s,baz=178,slow=7.6,SNR=9.9						
ULN	**Ulaanbaatar**	53.65	3	*e*P	P	10 03 25.5	+4.2
	comp=Z,3.4nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	55.83	342	P	P	10 03 36.5	-0.6
	comp=Z,7.0nm,0.9s,mb4.7,baz=146,slow=8.0,SNR=38						
MKAR				pP	pP	10 03 49.6	-0.5
	comp=Z,4.2nm,0.8s,baz=147,slow=8.1,SNR=7.8						
MKAR				LR	LR	10 30 45.8	
	comp=Z,56nm,18.6s,MS3.7,baz=156,slow=39						
BVAR	**Borovoye Array**	65.14	339	P	P	10 04 39.2	-1.3
	comp=Z,2.6nm,0.6s,mb4.4,baz=146,slow=10,SNR=5.9						
BVAR	**Borovoye Array**	65.14	339	P	P	10 04 39.2	-1.3
BRVK	**Borovoye**	65.21	339	*e*P	P	10 04 40.0	-0.9
CHKZ	**Chkalovo**	65.58	339	*e*P	P	10 04 42.2	-1.1
	comp=Z,2.4nm,0.6s,mb4.4						
KMBO	**Kilima Mbogo**	66.45	271	LR	LR	10 28 20.6	
	comp=Z,62nm,19.4s,MS3.8,baz=256,slow=31						
ARU	**Arti**	72.27	336	*e*P	P	10 05 24.1	-0.3
	comp=Z,5.5nm,0.9s,mb4.5						
ASF	**Jabal al Asfar**	73.86	306	P	P	10 05 35.3	+1.0
	comp=Z,1.8nm,0.5s,mb4.3,baz=117,slow=3.6,SNR=3.9						
BRTR	**Keskin Array B**	78.68	312	P	P	10 06 00.8	-0.6
	comp=Z,2.5nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=12						
BRTR				pP	pP	10 06 14.8	+0.1
	comp=Z,1.1nm,0.7s,baz=112,slow=6.7,SNR=3.1						
BRTR				LR	LR	10 42 52.2	
	comp=Z,36nm,19.5s,MS3.7,baz=130,slow=37						
SUR	**Sutherland**	80.85	238	P	P	10 06 13.3	+0.2
	comp=Z,6.5nm,0.9s,mb4.6,baz=88,slow=7.7,SNR=2.6						
AKASG	**Malin Array Be**	84.83	322	P	P	10 06 33.2	+0.1
	comp=Z,1.7nm,0.7s,mb4.3,baz=86,slow=5.2,SNR=12						
AKASG				pP	pP	10 06 46.5	-0.2
	comp=Z,0.4nm,0.4s,baz=84,slow=5.0,SNR=2.3						
FINES	**FINESS Array B**	89.29	332	P	P	10 06 55.3	+0.9
	comp=Z,1.6nm,0.8s,mb4.4,baz=108,slow=12,SNR=6.2						
ARCES	**ARCESS Array B**	91.41	340	P	P	10 07 04.4	+0.3
	comp=Z,0.7nm,0.8s,mb4.0,baz=101,slow=9.2,SNR=2.6						
GERES	**GERESS Array B**	94.42	319	P	P	10 07 19.2	+0.9
	comp=Z,0.2nm,0.3s,mb4.0,baz=101,slow=5.0,SNR=7.2						
GERES				pP	pP	10 07 32.0	-0.2
	comp=Z,0.4nm,0.8s,baz=63,slow=6.0,SNR=2.9						
BDFB	**Brasilia**	144.72	232	PKP	PKPdf	10 13 35.5	+0.6
	comp=Z,1.0nm,0.4s,baz=70,slow=4.4,SNR=3.7						
TXAR	**Lajitas Array**	145.23	45	PKPbc	PKPbc	10 13 38.2	+2.3
	comp=Z,0.6nm,0.5s,baz=273,slow=1.3,SNR=23						
TXAR				pPKPbc		10 13 52.6	
	comp=Z,1.5nm,0.6s,baz=294,slow=1.3,SNR=11						
TXAR	**Lajitas Array**	145.23	45	PKPbc	PKPbc	10 13 38.2	+2.3
TXAR				pPKPbc		10 13 52.6	

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*BER **01** 09:58:56.3±3.3,76.85N×18.83E,ML2.4(NAO)*

NAO 01 09:58:55.2±4.6**,76.80N×18.36E,h17^{km}**±33^{km}**,ML2.4, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	1.45	344	Pn	Pn	09 59 20.1	-0.8
	baz=167,slow=18						
SPA0				Lg		09 59 40.9	
	baz=154,slow=28						
KBS	**Kingsbay**	2.53	331	Pn	Pn	09 59 36.9	+0.6
KBS				Sn	Sn	10 00 07.7	+0.8
ARA0	**ARCESS Array S**	7.59	161	Sn	Sn	10 02 08.3	-5.9
	baz=360,slow=22						

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*LDG **01** 10:06:05.3±0.6,44.04N×10.54E,h2^{km},Ml2.4/5,Error ellipse: s-maj=13.4km s-min=10.4km az=115.0*

*ROM **01** 10:06:07.1±0.2,44.51N×10.14E,h9^{km}±1^{km},MD2.3/5, ML1.6/3,Error ellipse: s-maj=2.9km s-min=1.9km az=0.0*

ISC 01 10:06:07.7±0.5**,44.46N**±0.05×**10.09E**±0.06**,h11^{km}**±6^{km}**, n16,σ1^{s}08**/27**,2C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERBM	**Eremo**	0.24	99	⇑*i*PG	Pg	10 06 12.4	-0.5
ERBM				SG	Sg	10 06 16.7	+0.3
GSCL	**Gusciola**	0.38	106	⇑*i*PG	Pg	10 06 14.6	-0.9
GSCL				SG	Sg	10 06 21.1	+0.4
BDI	**Bagni Di Lucca**	0.54	137	*e*PG	Pg	10 06 18.3	-0.4
BDI				SG	Sg	10 06 26.2	+0.2
	16nm,0.4s						
BOB	**Bobbio (Coli)**	0.55	304	*e*PG	Pg	10 06 18.2	-0.7
BOB				SG	Sg	10 06 27.1	+0.7
ZCCA	**Zocca**	0.65	99	*e*PG	Pg	10 06 20.0	-0.8
	18nm,0.4s						
PII	**Pisa**	0.80	157	*e*PG	Pg	10 06 24.5	+0.6
PII				SG	Sg	10 06 35.3	+0.7
	33nm,0.3s						
CSNT	**Castellina Chi**	1.31	138	*e*PN	Pn	10 06 32.2	+0.2
CSNT				SN	Sn	10 06 50.0	+0.4
TEOL	**Teolo**	1.44	51	*e*Pg	Pg	10 06 30.3	-6.3
SBF	**Sospel**	2.00	254	*e*Pn	Pn	10 06 41.4	-0.4
SBF				*e*Sn	Sn	10 07 08.8	+1.9
	4.4nm,0.2s						
LPG	**La Plagne**	2.58	295	*e*Pn	Pn	10 06 52.8	+2.6
LPL	**La Plagne**	2.60	295	*e*Pn	Pn	10 06 53.6	+3.1
LPL				*e*Sn	Sn	10 07 27.5	+5.1
	3.5nm,0.5s						
FRF	**La Foret Royal**	2.64	251	*e*Pn	Pn	10 06 50.4	-0.6
FRF				*e*Sn	Sn	10 07 22.4	-0.8
	1.5nm,0.2s						
LMR	**La Mourre**	2.82	248	*e*Pn	Pn	10 06 52.0	-1.5
LMR				*e*Sn	Sn	10 07 26.4	-1.4
	3.8nm,0.2s						
ORIF	**Oris-en-Rattie**	3.03	280	*e*Pn	Pn	10 06 58.7	+2.1
ORIF				*e*Sn	Sn	10 07 38.4	+5.1
	2.2nm,0.4s						
SMRF	**Simiane la Rot**	3.28	263	*e*Pn	Pn	10 06 59.6	-0.5
CABF	**La Chapelle**	3.54	309	*e*Pn	Pn	10 07 02.3	-1.5

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*FUNV **01** 10:14:00.0,10.13N×61.47W,h12^{km},MW2.1*

TRN 01 10:14:00.1,10.48N×61.85W,h0^{km},MD1.6,1C,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALNG	**Atlantic LNG**	0.34	152	*e*P	Pg	10 14 06.3	-0.5
ALNG				*e*S	Sg	10 14 10.9	-0.3
BUAY	**Buenos Aires**	0.40	157	⇑*i*P	Pg	10 14 08.0	-0.1
BUAY				*e*S	Sg	10 14 14.2	+0.7
GUIV	**Guiria**	0.40	294	*e*P	Pg	10 14 16.1	+7.9
GUIV				*e*S	Sg	10 14 28.3	+15
SIPA	**Siparia**	0.47	135	*e*P	Pg	10 14 09.6	+0.1
GUNV	**Guanoco**	1.12	254	*e*P	Pb	10 14 25.7	+3.7
GUNV				*e*S	Sb	10 14 44.4	+7.3
CRUV	**Carupano**	1.38	278	*e*P	Pb	10 14 29.8	+3.3
CRUV				*e*S	Sb	10 14 52.0	+7.5
RIOV	**Rio Grande**	2.40	179	*e*P	Pn	10 14 34.0	-7.1
RIOV				*e*S	Sn	10 14 59.5	-12

TAP 01 11:21:21.7,24.57N×121.89E,h11^{km},ML2.3,Taiwan

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*NIED **01** 11:21:00,24.70N×121.90E,h8^{km},Mw4.0 Best double couple: $M_0$1.22×10^{15} NP1:ϕ_s23°,δ62°,λ-142°. NP2: ϕ_s273°,δ57°,λ-34°.*

*IDC **01** 11:21:25.0±1.4,24.38N×121.98E,mb3.8/3,mb1 3.8/4, mb1mx3.5/20,ML3.3/1,MS3.1/3,Ms1 3.1/3,ms1mx2.8/31, Error ellipse: s-maj=43.3km s-min=24.8km az=61.0*

*TAP **01** 11:21:25.7,24.56N×121.86E,h12^{km},ML4.2*

TAP Felt IV J at Suao, IV J at Nanau, I J at Ilan, II J at Neicheng, III J at Nioudou, I J at Nanshan, II J at Sanguang, I J.

*JMA **01** 11:21:26.3±0.3,24.69N×121.94E,h42^{km},M3.8*

*BJI **01** 11:21:28.2,24.72N×121.50E,h5^{km},mB4.3,mb4.0,ML4.2, Ms4.0,Msz3.4*

ISC 01 11:21:24.7±0.4**,24.56N**±0.02×**122.00E**±0.02**,h0^{km}**±3^{km}**, n63,σ1^{s}00**/86**,mb3.7**/3**,MS3.4**/1**,4C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	0.14	289	P	Pg	11 21 28.2	+0.5
ENA	**Nanau**	0.27	240	⇑*i*P	Pg	11 21 30.4	+0.3
ENA				S	Sg	11 21 33.4	-0.4
ILA	**Ilan**	0.31	311	⇓*i*P	Pg	11 21 31.3	+0.5
ILA				S	Sg	11 21 35.1	+0.2
TWE	**Neicheng**	0.34	298	⇓*i*P	Pg	11 21 31.5	0.0
ENTT	**Nioudou**	0.40	281	⇓*i*P	Pg	11 21 32.5	-0.3
TWB1	**Santiao Chiao**	0.44	359	*e*P	Pg	11 21 34.4	+0.8
TWB1				S	Sg	11 21 40.4	+0.8
NWF	**Wu-fen Shan**	0.54	339	*e*P	Pg	11 21 36.4	+0.8
NWF				S	Sg	11 21 43.0	+0.2
NNS	**Nan Shan**	0.58	258	⇑*i*P	Pg	11 21 35.7	-0.7
NNS				S	Sg	11 21 42.4	-1.8
NSK	**Sanguang**	0.59	281	⇓*i*P	Pg	11 21 36.1	-0.4
NSK				S	Sg	11 21 42.5	-2.1
TWD	**Chiawan**	0.60	218	⇑*i*P	Pg	11 21 36.8	0.0
TWD				S	Sg	11 21 44.2	-0.6
TAP1	**Taipei**	0.64	318	⇓*i*P	Pg	11 21 38.1	+0.6
TAP1				S	Sg	11 21 45.8	-0.3
TAP	**Taipei**	0.65	317	*e*P	Pg	11 21 38.2	+0.4
TAP				S	Sg	11 21 46.0	-0.4
HWA	**Hwalien**	0.69	212	*e*P	Pg	11 21 38.8	+0.4
WHF	**Hehuan Shan**	0.79	238	⇑*i*P	Pg	11 21 39.8	-0.7
WHF				S	Sg	11 21 48.9	-2.1
TWY	**Chenhua**	0.80	333	*e*P	Pg	11 21 41.2	+0.6
TWY				S	Sg	11 21 50.6	-0.7
ESL	**Shilin**	0.91	215	*e*P	Pg	11 21 42.0	-0.8
NSTT	**Nanjuang**	0.91	275	*e*P	Pg	11 21 42.4	-0.5
NSTT				S	Sg	11 21 53.0	-2.1
YOJ	**Yonaguni jima**	0.93	96	P	Pg	11 21 44.2	+1.0
YOJ				S	Sg	11 21 57.2	+1.6
HSN	**Hsinchu**	0.97	285	*e*P	Pb	11 21 44.4	+0.4
HSN				S	Sg	11 21 56.0	-1.0
PCYT	**Pengchaiyu**	1.06	3	*e*P	Pb	11 21 45.5	-0.2
PCYT				S	Sb	11 22 01.0	+1.0
NSY	**Sanyi**	1.14	263	*e*P	Pb	11 21 47.5	+0.6
NSY				S	Sb	11 22 01.7	-0.4
TWQ1	**Liyutan**	1.14	259	*e*P	Pb	11 21 47.2	+0.2
TWQ1				S	Sb	11 22 01.0	-1.1
EHY	**Hungye**	1.22	211	*e*P	Pb	11 21 48.0	-0.4
TYC	**Yuchr**	1.23	238	*e*P	Pb	11 21 48.0	-0.5
TCU	**Taichung**	1.28	251	*e*P	Pb	11 21 50.1	+0.8
TCU				S	Sb	11 22 07.8	+1.6
WNT	**Mingjian**	1.38	241	*e*P	Pb	11 21 52.2	+1.1
ALS	**Alishan**	1.51	226	*e*P	Pn	11 21 53.8	+0.6
CHN5	**Tsauling**	1.54	232	*e*P	Pn	11 21 54.6	+1.0
CHKT	**Chengkung**	1.57	202	*e*P	Pn	11 21 53.7	-0.2
WGK	**Gukeng**	1.58	237	*e*P	Pn	11 21 55.1	+1.0
IRIF	**Iriomote-Funau**	1.59	98	P	Pn	11 21 53.6	-0.7
IRIF				*e*S	Sb	11 22 14.0	-1.3
WTCT	**Ta-ch'eng**	1.72	246	*e*P	Pn	11 21 56.1	+0.1
HATJ	**Hateruma jima**	1.72	107	P	Pn	11 21 56.1	0.0
HATJ				*e*S	Sb	11 22 18.9	-0.2
CHN2	**Minshiung**	1.73	234	*e*P	Pn	11 21 57.7	+1.5
CHY	**Chiayi**	1.79	234	*e*P	Pn	11 21 57.9	+0.8
STYT	**Tauyuan**	1.80	219	*e*P	Pn	11 21 57.3	+0.1
WTP	**Ta-pu**	1.82	224	*e*P	Pn	11 21 59.6	+2.0
JKRS	**Kuro-shima**	1.86	100	P	Pn	11 21 57.9	-0.2
JKRS				*e*S	Sn	11 22 21.0	-1.6
WSF	**Szhu**	1.87	241	*e*P	Pn	11 21 58.9	+0.7
TWK	**Hsinying**	1.89	227	*e*P	Pn	11 21 58.4	-0.1
CHN1	**Nanshi**	1.92	225	*e*P	Pn	11 22 00.2	+1.2
TWG	**Pinlang**	1.93	206	*e*P	Pn	11 21 57.6	-1.5
JIJ	**Ishigaki jima**	1.96	95	P	Pn	11 21 58.4	-1.2
JIJ				*e*S	Sn	11 22 22.2	-3.0
SGST	**Jiashian**	1.96	222	*e*P	Pn	11 22 00.8	+1.2
CHN8	**Yiju**	2.04	234	*e*P	Pn	11 22 02.0	+1.4
ECL	**Taimali**	2.18	206	*e*P	Pn	11 22 03.5	+0.9
SSD	**Sandimen**	2.20	215	*e*P	Pn	11 22 04.1	+1.1
EAST	**Anshuo**	2.41	206	*e*P	Pn	11 22 06.5	+0.4
PNG	**Penghu**	2.44	247	*e*P	Pn	11 22 05.2	-1.3
JTJ	**Tarama**	2.46	88	P	Pn	11 22 06.6	-0.1
JTJ				*e*S	Sn	11 22 35.4	-2.5
SCZT	**Fangliau**	2.52	210	*e*P	Pn	11 22 09.6	+2.0
TWK1	**Hengchun**	2.83	203	*e*P	Pn	11 22 13.6	+1.7
JMJ	**Miyako jima 2**	3.01	85	*e*S	Sn	11 22 51.3	-0.5
JOGS	**Gusukube**	3.10	86	P	Pn	11 22 16.0	+0.1
JOGS				*e*S	Sn	11 22 53.9	-0.4
QZH	**Quanzhou**	3.12	278	P	Pn	11 22 13.2	-2.9
QZH				S	Sn	11 22 48.2	-6.5
QZH				Smax			
	comp=N,1µm,0.7s						
QZH				Smax			
	comp=E,820nm,0.9s						
JOW	**Kunigami**	6.09	67	Pn	Pn	11 22 57.8	-0.5
	comp=E,1.7nm,0.3s,baz=256,slow=9.1,SNR=8.4						
NJ2	**Nanjing**	7.96	340	*e*P	Pn	11 23 24.7	+0.3
NJ2				AP		11 23 27.7	
NJ2				XP		11 23 30.6	
NJ2				S	Sn	11 24 56.3	0.0
NJ2				XS		11 25 01.3	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				Smax			
	comp=N,240nm,1.2s						
NJ2				Smax			
	comp=E,230nm,1.2s						
NJ2				LR	LR		
	comp=N,550nm,9.2s						
NJ2				LR	LR		
	comp=E,810nm,11.2s						
NJ2				LR	LR		
	comp=Z,360nm,8.6s						
TGY	**Tagaytay City**	10.45	186	LR	LR	11 27 27.3	
	comp=Z,66nm,21.3s,baz=207,slow=35						
JNU	**Nakatsue**	11.54	40	LR	LR	11 28 59.5	
	comp=Z,65nm,18.1s,baz=241,slow=39						
SONM	**Songino Array**	26.32	336	P	P	11 27 04.1	+0.3
	comp=Z,1.2nm,1.0s,mb3.5,baz=153,slow=8.3,SNR=6.1						
MKAR	**Makanchi Array**	38.59	315	P	P	11 28 50.5	-0.5
	comp=Z,1.0nm,0.8s,mb3.5,baz=111,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	45.84	164	P	P	11 29 47.6	-3.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=346,slow=8.7,SNR=16						
NOA	**NORSAR Array B**	78.24	332	LR	LR	12 14 02.3	
	comp=Z,17nm,19.3s,MS3.4,baz=255,slow=40						

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*IDC **01** 11:29:11.2±0.7,54.71S×144.01E,mb4.2/8,mb1 4.4/8, mb1mx4.4/11,MS4.2/5,Ms1 4.2/5,ms1mx3.9/14,Error ellipse: s-maj=27.4km s-min=18.7km az=67.0*

*NEIC **01** 11:29:12.9±0.3,54.65S×143.89E,h10^{km},mb4.5/8,Error ellipse: s-maj=15.5km s-min=7.3km az=96.0*

ISC 01 11:29:11.4±0.4**,54.63S**±0.05×**144.0E**±0.2**,h10^{km}, (h8^{km}**±.2^{km}**:pP-P),n55,σ1^{s}24**/32**,mb4.3**/10**,MS4.1**/5**,4C-1D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	11.94	12	P	P	11 32 04.3	-0.3
	4.6nm,0.6s						
TOO	**Toolangi**	17.09	4	*e*P	P	11 33 12.5	+0.6
	10nm,0.9s						
TOO				*e*S	S	11 36 31.4	+11
CNB	**Canberra Magne**	19.68	13	*e*P	P	11 33 43.2	-0.1
	26nm,1.4s						
CASY	**Casey**	19.89	221	*e*P	P	11 33 43.5	-1.9
	97nm,1.6s						
RPZ	**Rata Peaks**	20.68	69	P	P	11 33 54.0	+0.2
	10nm,0.9s,baz=190,slow=6.3,SNR=3.7						
RPZ				LR	LR	11 40 13.4	
	comp=Z,2µm,18.1s,MS4.5,baz=210,slow=32						
STKA	**Stephens Creek**	22.80	355	*e*P	P	11 34 16.3	+1.0
	4.3nm,0.6s,mb4.1						
STKA				*e*S	S	11 38 28.3	+8.7
STKA	**Stephens Creek**	22.80	355	P	P	11 34 16.7	+1.4
	4.5nm,0.6s,mb4.1,baz=158,slow=8.6,SNR=10.0						
VNDA	**Vanda**	23.87	170	P	P	11 34 24.4	-0.8
	2.5nm,0.7s,mb3.8,baz=336,slow=12,SNR=7.1						
VNDA				LR	LR	11 41 52.7	
	comp=Z,110nm,18.8s,MS3.4,baz=343,slow=32						
VNDA	**Vanda**	23.87	170	P	P	11 34 24.4	-0.8
VNDA				LR	LR	11 41 52.7	
SBA	**Scott Base**	24.68	169	P	P	11 34 35.6	+2.5
	35nm,1.6s,mb4.6						
ARMA	**Armidale**	24.82	16	*e*P	P	11 34 36.1	+1.3
URZ	**Urewera**	27.76	68	P	P	11 34 59.8	-2.2
	6.4nm,0.9s,mb4.2,baz=168,slow=3.3,SNR=2.8						
URZ				LR	LR	11 45 03.9	
	comp=Z,840nm,19.9s,MS4.3,baz=242,slow=34						
NWAO	**Narrogin (SRO)**	28.73	308	LR	LR	11 44 10.3	
	comp=Z,560nm,20.4s,MS4.2,baz=79,slow=31						
CTAO	**Charters Tower**	34.53	4	P	P	11 36 01.5	-0.3
WB2	**Warramunga Arr**	35.39	344	⇑*i*P	P	11 36 08.2	-1.1
WRA	**Warramunga Arr**	35.40	344	P	P	11 36 08.2	-1.1
	7.7nm,0.6s,mb4.8,baz=167,slow=7.8,SNR=103						
QSPA	**South Pole Qui**	35.48	180	*e*P	P	11 36 08.4	-1.1
	21nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	39.08	332	*e*P	P	11 36 39.9	-0.4
	6.7nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	39.08	332	P	P	11 36 40.4	+0.2
	7.1nm,0.8s,mb4.4,baz=175,slow=8.1,SNR=9.4						
KAKA	**Kakadu**	42.81	343	*e*P	P	11 37 10.3	-0.7
	11nm,0.9s,mb4.6						
SNAA	**Sanae**	51.84	193	*e*	P	11 38 22.0	+0.9
SNAA	**Sanae**	51.84	193	⇑*i*P	P	11 38 19.5	-1.6
SNAA				*e*	pP	11 38 22.0	-2.1
VNA3	**Neumayer Olymp**	53.04	190	*e*	P	11 38 32.2	+2.1
VNA3	**Neumayer Olymp**	53.04	190	⇑*i*P	P	11 38 29.8	-0.3
VNA3				*e*	pP	11 38 32.2	-0.9
VNA2	**Neumayer--Watz**	53.09	191	*e*	P	11 38 33.1	+2.7
VNA2	**Neumayer--Watz**	53.09	191	⇑*i*P	P	11 38 30.7	+0.3
VNA2				*e*	pP	11 38 33.1	-0.4
VNA1	**Neumayer--Stat**	53.45	191	*e*	P	11 38 36.3	+3.2
VNA1	**Neumayer--Stat**	53.45	191	⇓*i*P	P	11 38 34.1	+1.0
VNA1				*e*	pP	11 38 36.3	+0.2
PLCA	**Paso Flores**	80.52	154	P	P	11 41 24.6	-0.2
	1.0nm,0.7s,mb3.9,baz=128,slow=8.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	82.29	317	P	P	11 41 36.8	+2.4
	0.2nm,0.3s,mb3.5,baz=193,slow=5.5,SNR=4.3						
CMAR				LR	LR	12 16 53.3	
	comp=Z,82nm,19.2s,MS4.1,baz=135,slow=35						
CMAR	**Chiang Mai Arr**	82.29	317	P	P	11 41 36.8	+2.4
CMAR				LR	LR	12 16 53.3	
NVAR	**Mina Array Bea**	124.41	71	PKP	PKPdf	11 48 13.5	0.0
	0.3nm,0.8s,baz=190,slow=5.5,SNR=3.3						
TXAR	**Lajitas Array**	126.14	89	PKP	PKPdf	11 48 15.9	-1.0
	0.2nm,0.8s,baz=180,slow=5.4,SNR=2.9						
ILAR	**Eielson Array**	130.27	32	PKP	PKPdf	11 48 20.6	-3.3
	0.2nm,0.8s,baz=252,slow=2.9,SNR=4.0						
YKA	**Yellowknife Ar**	140.72	46	PKP	PKPdf	11 48 41.3	-1.7
	0.3nm,0.7s,baz=256,slow=5.1,SNR=4.0						
ULM	**Lac du Bonnet**	144.23	72	PKP	PKPdf	11 48 46.8	-2.6
	1.4nm,0.5s,baz=44,slow=4.6,SNR=3.0						
JOF	**Joensuu**	145.67	311	*e*p	PKPbc	11 48 48.4	-0.9
FINES	**FINESS Array B**	147.58	308	PKPbc	PKPdf	11 48 55.3	+0.5
	1.3nm,0.6s,baz=122,slow=3.5,SNR=11						
GERES	**GERESS Array B**	149.20	280	PKPbc	PKPdf	11 48 59.7	+1.9
	0.5nm,0.7s,baz=153,slow=3.0,SNR=5.0						
ARCES	**ARCESS Array B**	149.21	323	PKPbc	PKPdf	11 48 59.1	+2.0
	5.2nm,1.2s,baz=90,slow=1.2,SNR=5.5						
BRG	**Berggiesshubel**	150.03	284	P	PKPdf	11 49 13.2	+14
DAVOX	**Davos**	150.34	274	PKPbc	PKPdf	11 49 02.8	+3.1
	1.6nm,0.8s,baz=245,slow=15,SNR=2.6						
CLL	**Collm**	150.76	284	*e*PKIKP	PKPdf	11 49 01.0	+0.9
CLL				*e*PKP2	PKPab	11 49 13.0	+1.0
CLL	**Collm**	150.76	284	P	PKPdf	11 49 08.0	+7.9
MBDF	**Montbardon**	151.00	268	*e*PKIKP	PKPdf	11 49 04.8	+4.1
	6.0nm,0.8s						
GRA1	**Grafenberg Arr**	151.03	280	*e*PKP	PKPdf	11 49 06.2	+5.6
SMRF	**Simiane la Rot**	151.25	266	*e*PKIKP	PKPdf	11 49 04.9	+3.8
	25nm,1.4s						
LPG	**La Plagne**	151.45	269	*e*PKIKP	PKPdf	11 49 05.0	+3.7
	3.0nm,0.5s						
LPL	**La Plagne**	151.47	269	*e*PKIKP	PKPdf	11 49 05.1	+3.7
	9.0nm,1.0s						
CABF	**La Chapelle**	152.45	271	*e*PKIKP	PKPdf	11 49 06.9	+4.1
	3.5nm,0.6s						
LOR	**Lormes**	154.09	270	*e*PKIKP	PKPdf	11 49 08.9	+3.9
SSF	**Saint Saulge**	154.19	269	*e*PKIKP	PKPdf	11 49 09.0	+3.9
	2.3nm,0.4s						
EVO	**Evora**	155.13	241	*e*PKIKP	PKPdf	11 49 10.0	+3.3
	22nm,1.6s						
BAIF	**Baives**	155.24	276	*e*PKIKP	PKPdf	11 49 10.4	+4.0
	15nm,1.3s						
MFF	**Saint Martin d**	156.07	265	*e*PKIKP	PKPdf	11 49 11.2	+3.6
	15nm,1.2s						

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*IDC **01** 12:09:55.0±0.5,63.42S×167.01W,mb4.8/10,mb1 4.9/11, mb1mx4.9/13,ML4.5/1,MS5.3/15,Ms1 5.3/15, ms1mx5.2/17,Error ellipse: s-maj=29.7km s-min=14.8km az=33.0*

*HRVD **01** 12:09:56.9±0.2,63.65S×166.95W,h12^{km},MW5.5/61, Centroid moment Tensor Solution. LP body waves: s60,c120;Mantle waves: s61,c118; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.04; $M_{\theta\theta}$-0.87±.05; $M_{\phi\phi}$1.20±.04; $M_{r\theta}$-0.07±.12; $M_{\theta\phi}$2.05±.04; $M_{\phi r}$-1.16±.10; Best double couple: $M_0$2.55×10^{17} NP1: ϕ_s258°,δ64°,λ1°. NP2:ϕ_s167°,δ89°,λ154°. Principal axes: T 2.8, Plg18°, Azm119°; N -.5, Plg64°, Azm346°; P -2.3, Plg17°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 12:09:56.9±0.4,63.38S×166.72W,h10^{km},mb5.0/12, MS5.2/101 Error ellipse: s-maj=13.2km s-min=9.6km az=50.0*

*MOS **01** 12:09:56.7±2.5,63.53S×166.72W,h10^{km},mb4.9/3, MS5.6/4,Error ellipse: s-maj=53.7km s-min=24.2km az=86.7*

*BJI **01** 12:09:57.9,63.40S×166.70W,h10^{km},Ms4.9,Msz4.7*

ISC 01 12:09:55.8±0.5**,63.39S**±0.07×**166.8W**±0.2**,h10^{km},n192, σ1^{s}13**/42**,mb4.8**/22**,MS5.2**/117**,12C-2D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	16.67	199	*e*P	P	12 13 49.1	-1.5
	384nm,1.6s						
VNDA	**Vanda**	17.23	202	P	P	12 13 57.1	-0.5
	1.5nm,0.3s,baz=60,slow=14,SNR=75						
VNDA				LR	LR	12 19 06.7	
	comp=Z,10µm,20.2s,baz=66,slow=32						
RPZ	**Rata Peaks**	23.47	317	P	P	12 15 04.7	-1.1
	3.2nm,1.0s,mb3.7,baz=167,slow=15,SNR=2.6						
RPZ				LR	LR	12 22 08.1	
	comp=Z,8µm,20.3s,MS5.2,baz=150,slow=31						
SNZO	**South Karori**	24.65	325	PFAKE		12 15 30.0	+13
SNZO				LR	LR		
	comp=Z,8µm,21.0s,MS5.2						
QSPA	**South Pole Qui**	26.72	180	*e*P	P	12 15 36.1	-0.3
	comp=Z,61nm,1.1s,mb5.0						
QSPA				LR	LR		
	comp=Z,2µm,20.1s,MS4.8						
URZ	**Urewera**	26.97	331	P	P	12 15 39.2	+0.1
	comp=Z,6.3nm,0.9s,mb4.2,baz=176,slow=3.2,SNR=2.0						
URZ				LR	LR	12 23 55.7	
	comp=Z,4µm,21.8s,MS5.0,baz=277,slow=31						
CASY	**Casey**	32.89	228	*e*P	P	12 16 30.7	-0.8
	comp=Z,46nm,1.7s,mb5.1						
TAU	**Tasmania Unive**	33.28	286	PFAKE		12 16 50.0	+15
TAU				LR	LR		
	comp=Z,2µm,22.0s,MS4.7						
MIR	**Mirnyy**	38.16	220	α*e*P	P	12 17 17.0	+0.6
MIR				*e*		12 17 17.0	
MIR				pmax	pmax		
	comp=Z,600nm,7.6s						
MIR				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.1						
MIR				MLR	MLR		
	comp=Z,20µm,16.0s,MS6.0						
MIR				MLR	MLR		
	comp=E,6µm,16.0s						
TOO	**Toolangi**	38.48	289	*e*P	P	12 17 21.7	+2.3
	comp=E,15nm,1.1s,mb4.6						
TOO				*e*S	S	12 23 05.7	-8.6
CNB	**Canberra Magne**	38.79	295	*e*P	P	12 17 25.1	+3.1
	comp=E,39nm,1.7s,mb4.9						
PMSA	**Palmer Station**	40.17	140	*e*P	P	12 17 33.7	+0.6

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      comp=E,39nm,1.1s,mb5.0
RAR   Rarotonga          42.41  10  PFAKE              12 18 00.0 +8.1
RAR                                 LR        LR
      comp=Z,3µm,20.0s,MS5.1
MAW   Mawson             44.53 205 ePP        P        12 18 09.4 +0.9
      comp=Z,6.8nm,1.0s,mb4.4
MAW                                eS         S        12 24 54.3  +11
VNA3  Neumayer Olymp     44.72 170⇓i          P        12 18 10.7 +0.7
VNA3  Neumayer Olymp     44.72 170⇑i          P        12 18 12.1 +2.1
SNAA  Sanae              44.77 173⇓i          P        12 18 08.7 -1.6
SNAA  Sanae              44.77 173⇑i          P        12 18 09.5 -0.8
SNAA  Sanae              44.77 173 eP         P        12 18 08.7 -1.7
      comp=Z,40nm,1.0s,mb5.2
STKA  Stephens Creek     45.00 289 eP         P        12 18 14.8 +2.0
      comp=Z,8.4nm,1.0s,mb4.5
STKA                               eS         S        12 24 57.4 +6.8
STKA  Stephens Creek     45.00 289  P         P        12 18 11.8 -1.0
      comp=Z,8.7nm,1.1s,mb4.5,baz=133,slow=5.2,SNR=6.0
STKA                                LR        LR       12 33 46.5
      comp=Z,6µm,19.9s,MS5.5,baz=315,slow=32
VNA2  Neumayer--Watz     45.20 171⇑i          P        12 18 04.3  -10
VNA2  Neumayer--Watz     45.20 171            P        12 18 14.4 +0.6
VNA2  Neumayer--Watz     45.20 171⇑i          P        12 18 16.0 +2.2
VNA2  Neumayer--Watz     45.20 171 eP         P        12 18 14.4 +0.6
VNA1  Neumayer--Stat     45.41 170⇑i          P        12 18 07.5 -8.0
VNA1  Neumayer--Stat     45.41 170⇑i          P        12 18 17.0 +1.5
VNA1  Neumayer--Stat     45.41 170⇑i          P        12 18 18.3 +2.8
USHA  Ushuaia            46.34 128  P         P        12 18 23.6 +0.6
      comp=Z,31nm,1.0s,mb5.2,baz=203,slow=10,SNR=6.1
USHA                                LR        LR       12 33 04.1
      comp=Z,3µm,19.9s,MS5.3,baz=190,slow=30
EFI   East Falkland      52.51 132  PFAKE              12 19 20.0 +9.4
EFI                                 LR        LR
      comp=Z,682nm,21.0s,MS4.7
CTAO  Charters Tower     53.58 301  PFAKE              12 19 30.0  +11
CTAO                                LR        LR
      comp=Z,3µm,19.0s,MS5.4
NWAO  Narrogin (SRO)     54.92 266  PFAKE              12 19 40.0  +11
NWAO                                LR        LR
      comp=Z,2µm,20.0s,MS5.1
ASPA  Alice Springs      55.45 287 eP         P        12 19 32.2 -0.4
PLCA  Paso Flores        57.10 116  P         P        12 19 44.1 -0.1
      comp=Z,15nm,1.1s,mb5.0,baz=214,slow=7.6,SNR=13
PLCA                                LR        LR       12 38 42.5
      comp=Z,4µm,19.2s,MS5.5,baz=197,slow=30
WRA   Warramunga Arr     58.55 289  P         P        12 19 52.3 -2.3
      comp=Z,4.1nm,0.9s,mb4.5,baz=157,slow=6.0,SNR=45
WRA                                 LR        LR       12 42 40.0
      comp=Z,4µm,18.4s,MS5.5,baz=155,slow=34
TRQA  Tornquist          62.79 121 eP         P        12 20 21.4 -1.8
      comp=Z,53nm,1.2s,mb5.5
PMG   Port Moresby       63.04 307  PFAKE              12 20 40.0  +15
PMG                                 LR        LR
      comp=Z,2µm,20.0s,MS5.2
FITZ  Fitzroy Crossi     63.95 282 eP         P        12 20 31.9 +0.8
      comp=Z,8.1nm,1.0s,mb4.7
FITZ  Fitzroy Crossi     63.95 282  LR        LR       12 44 44.6
      comp=Z,1µm,19.6s,MS5.0,baz=106,slow=33
KAKA  Kakadu             65.84 291 eP         P        12 20 42.6 -0.7
      comp=Z,11nm,0.9s,mb4.9
LVC   Limon Verde        73.48 107  P         P        12 21 29.9 -0.1
      comp=Z,25nm,1.1s,mb5.0,baz=203,slow=8.3,SNR=14
LVC                                 LR        LR       12 45 23.0
      comp=Z,2µm,20.2s,MS5.3,baz=184,slow=29
KWAJ  Kwajalein Atol     74.59 334  PFAKE              12 21 50.0  +13
KWAJ                                LR        LR
      comp=Z,177nm,20.0s,MS4.4
CPUP  Villa Florida      74.97 119  P         P        12 21 37.9 -0.6
      comp=Z,17nm,1.0s,mb4.9,baz=243,slow=4.5,SNR=20
CPUP                                LR        LR       12 49 50.2
      comp=Z,3µm,20.7s,MS5.6,baz=220,slow=32
CPUP  Villa Florida      74.97 119  P         P        12 21 37.9 -0.6
CPUP                                LR        LR       12 49 50.2
NNA   Nana               79.36  95  PFAKE              12 22 10.0 +6.9
NNA                                 LR        LR
      comp=Z,311nm,20.0s,MS4.7
LPAZ  La Paz             79.41 105  P         P        12 22 03.6 +0.2
      comp=Z,8.7nm,1.1s,mb4.6,baz=143,slow=3.4,SNR=17
LPAZ                                LR        LR       12 49 36.4
      comp=Z,478nm,21.8s,MS4.8,baz=168,slow=30
PAYG  Puerto Ayora       83.36  78  PFAKE              12 22 40.0  +16
PAYG                                LR        LR
      comp=Z,901nm,22.0s,MS5.1
SUR   Sutherland         84.37 186  P         P        12 22 29.6 +0.8
      comp=Z,12nm,1.1s,mb4.9,baz=165,slow=3.4,SNR=2.6
SUR   Sutherland         84.37 186  P         P        12 22 29.6 +0.8
SUR                                 LR        LR
      comp=Z,443nm,19.0s,MS4.9
KIP   Kipapa             84.80   8  PFAKE              12 22 40.0 +8.8
KIP                                 LR        LR
      comp=Z,1µm,20.0s,MS5.4
GUMO  Guam               85.26 313  PFAKE              12 22 40.0 +6.4
GUMO                                LR        LR
      comp=Z,1µm,21.0s,MS5.2
BDFB  Brasilia           88.26 122  P         P        12 22 48.2  0.0
      comp=Z,6.1nm,1.0s,mb4.8,baz=147,slow=3.5,SNR=4.9
BDFB                                LR        LR       13 00 28.2
      comp=Z,3µm,18.0s,MS5.8,baz=24,slow=34
MIDW  Midway             91.67 351  PFAKE              12 23 10.0 +6.0
MIDW                                LR        LR
      comp=Z,613nm,19.0s,MS5.1
ROSC  El Rosal           95.41  90  LR        LR       12 59 31.2
      comp=Z,1µm,18.2s,MS5.4,baz=224,slow=31
JTS   JuntasAbangare     95.48  78  LR        LR       12 56 39.5
      comp=Z,2µm,20.4s,MS5.5,baz=167,slow=29
JTS   JuntasAbangare     95.48  78  PFAKE              12 23 30.0 +8.2
JTS                                 LR        LR
      comp=Z,477nm,21.0s,MS4.9
TSUM  Tsumeb             97.62 184  PFAKE              12 23 40.0 +8.7
TSUM                                LR        LR
      comp=Z,996nm,20.0s,MS5.3
CBIJ  Chichi jima        98.74 315  LR        LR       13 04 47.9
      comp=Z,438nm,18.1s,MS5.0,baz=122,slow=33
SDV   Santo Domingo     100.64  91  PFAKE              12 24 00.0  +15
SDV                                 LR        LR
      comp=Z,1µm,20.0s,MS5.4
LSZ   Lusaka            100.73 195  PFAKE              12 24 00.0  +15
LSZ                                 LR        LR
      comp=Z,939nm,20.0s,MS5.3
RCBR  Riachuelo         101.73 130  PFAKE              12 24 00.0  +10
RCBR                                LR        LR
      comp=Z,644nm,22.0s,MS5.1
TATO  Taipei            104.28 297  PFAKE              12 24 10.0 +8.9
TATO                                LR        LR
      comp=Z,636nm,21.0s,MS5.1
PFO   Pinyon Flat Ob    104.59  42  PFAKE              12 24 10.0 +7.7
PFO                                 LR        LR
      comp=Z,322nm,21.0s,MS4.8
LTX   Lajitas           104.91  54  PFAKE              12 24 10.0 +6.2
LTX                                 LR        LR
      comp=Z,872nm,20.0s,MS5.3
TUC   Tucson            105.17  47  PFAKE              12 28 30.0
TUC                                 LR        LR
      comp=Z,528nm,22.0s,MS5.0
SAO   San Andreas Ge    106.13  36  PFAKE              12 28 30.0
SAO                                 LR        LR
      comp=Z,932nm,20.0s,MS5.3
DAC   Darwin (Calif)    106.74  40  PFAKE              12 28 30.0
DAC                                 LR        LR
      comp=Z,2µm,19.0s,MS5.6
JCT   Junction City     107.37  56  PFAKE              12 28 30.0
JCT                                 LR        LR
      comp=Z,475nm,20.0s,MS5.0
CMB   Columbia Colle    107.61  37  PFAKE              12 28 30.0
CMB                                 LR        LR
      comp=Z,1µm,22.0s,MS5.4
HOPS  Hopland           107.80  34  PFAKE              12 28 30.0
HOPS                                LR        LR
      comp=Z,1µm,20.0s,MS5.4
HKT   Hockley           108.41  60  PFAKE              12 28 40.0
HKT                                 LR        LR
      comp=Z,318nm,19.0s,MS4.9
TPH   Tonopah           108.52  39  PFAKE              12 28 40.0
TPH                                 LR        LR
      comp=Z,1µm,19.0s,MS5.6
MNV   Mina              108.59  38  PFAKE              12 28 40.0
MNV                                 LR        LR
      comp=Z,897nm,22.0s,MS5.3
MAJO  Matsushiro        108.74 316  PFAKE              12 28 40.0
MAJO                                LR        LR
      comp=Z,328nm,21.0s,MS4.9
ANMO  Albuquerque       109.02  49  PFAKE              12 28 40.0
ANMO                                LR        LR
      comp=Z,711nm,19.0s,MS5.3
WDC   Whiskeytown Da    109.44  34  PFAKE              12 28 40.0
WDC                                 LR        LR
      comp=Z,1µm,21.0s,MS5.4
YBH   Yreka Blue Hor    110.48  34  PFAKE              12 28 40.0  +10
YBH                                 LR        LR
      comp=Z,809nm,21.0s,MS5.3
NATX  Nacogdoches       110.48  60  PFAKE              12 28 40.0 +9.4
NATX                                LR        LR
      comp=Z,354nm,19.0s,MS5.0
BMN   Battle Mountai    110.72  38  PFAKE              12 28 40.0 +9.1
BMN                                 LR        LR
      comp=Z,682nm,19.0s,MS5.2
SJG   San Juan          110.79  91  PFAKE              12 28 40.0 +8.5
SJG                                 LR        LR
      comp=Z,494nm,19.0s,MS5.1
MOD   Modoc             111.25  36  PFAKE              12 28 40.0 +8.2
MOD                                 LR        LR
      comp=Z,715nm,19.0s,MS5.3
DUG   Dugway            111.78  42  PFAKE              12 28 40.0 +7.2
DUG                                 LR        LR
      comp=Z,1µm,20.0s,MS5.5
SDCO  Great Sand Dun    111.88  49  PFAKE              12 28 40.0 +6.9
SDCO                                LR        LR
      comp=Z,1µm,22.0s,MS5.4
WVOR  Wild Horse Val    112.19  37  PFAKE              12 28 40.0 +6.4
WVOR                                LR        LR
      comp=Z,1µm,20.0s,MS5.4
KMI   Kunming           112.36 281 ePKP       PKPdf    12 28 37.8 +3.4
KMI                                 LR        LR
      comp=N,224nm,26.1s
COR   Corvallis         113.02  32  PFAKE              12 28 40.0 +4.7
COR                                 LR        LR
      comp=Z,919nm,22.0s,MS5.3
KMBO  Kilima Mbogo      113.19 206  PFAKE              12 28 50.0  +14
KMBO                                LR        LR
      comp=Z,1µm,22.0s,MS5.5
MIAR  Mount Ida         113.36  59  PFAKE              12 28 50.0  +14
MIAR                                LR        LR
      comp=Z,392nm,19.0s,MS5.0
HWUT  Hardware Ranch    113.45  42  PFAKE              12 28 50.0  +14
HWUT                                LR        LR
      comp=Z,1µm,19.0s,MS5.5
INCN  Inchon            113.49 307  PFAKE              12 28 50.0  +14
INCN                                LR        LR
      comp=Z,612nm,22.0s,MS5.2
ISCO  Idaho Springs     113.69  47  PFAKE              12 28 50.0  +13
ISCO                                LR        LR
      comp=Z,828nm,22.0s,MS5.3
ENH   Enshi             113.91 290  PFAKE              12 28 50.0  +13
ENH                                 LR        LR
      comp=Z,341nm,21.0s,MS4.9
HLID  Hailey            114.40  39  PFAKE              12 28 50.0  +12
HLID                                LR        LR
      comp=Z,1µm,22.0s,MS5.5
AHID  Auburn Hatcher    114.64  42  PFAKE              12 28 50.0  +12
AHID                                LR        LR
      comp=Z,683nm,20.0s,MS5.2
LRAL  Lakeview Retre    114.66  65  PFAKE              12 28 50.0  +11
LRAL                                LR        LR
      comp=Z,496nm,21.0s,MS5.1
CBKS  Cedar Bluff       114.84  52  PFAKE              12 28 50.0  +11
CBKS                                LR        LR
      comp=Z,1µm,19.0s,MS5.5
MBAR  Mbarara           114.85 199  PFAKE              12 28 50.0  +10
MBAR                                LR        LR
      comp=Z,391nm,20.0s,MS5.0
OXF   Oxford            114.97  63  PFAKE              12 28 50.0  +11
OXF                                 LR        LR
      comp=Z,350nm,21.0s,MS4.9
BW06  Boulder Array     115.12  43  PFAKE              12 28 50.0  +11
BW06                                LR        LR
      comp=Z,1µm,20.0s,MS5.5
HAWA  Hanford           115.64  34  PFAKE              12 28 50.0  +10
HAWA                                LR        LR
      comp=Z,1µm,20.0s,MS5.5
OCWA  Octopus Mounta    115.79  30  PFAKE              12 28 50.0 +9.4
OCWA                                LR        LR
      comp=Z,2µm,20.0s,MS5.7
PLAL  Pickwick Lake     115.92  64  PFAKE              12 28 50.0 +8.8
PLAL                                LR        LR
      comp=Z,275nm,20.0s,MS4.9
SMY   Shemya            116.74 347  PFAKE              12 28 50.0 +7.7
SMY                                 LR        LR
      comp=Z,1µm,21.0s,MS5.4
UNV   Unalaska Valle    116.89   0  PFAKE              12 28 50.0 +7.4
UNV                                 LR        LR
      comp=Z,2µm,20.0s,MS5.7
YSS   Yuzh-Sakhalins    117.00 324  PFAKE              12 28 50.0 +7.0
YSS                                 LR        LR
      comp=Z,761nm,22.0s,MS5.3
BOZ   Bozeman (W)       117.11  40  PFAKE              12 28 50.0 +6.8
BOZ                                 LR        LR
      comp=Z,1µm,20.0s,MS5.5
CCM   Cathedral Cave    117.34  59  PFAKE              12 28 50.0 +6.2
CCM                                 LR        LR
      comp=Z,322nm,19.0s,MS5.0
MSO   Missoula          117.53  38  PFAKE              12 28 50.0 +6.0
MSO                                 LR        LR
      comp=Z,670nm,20.0s,MS5.3
NHSC  New Hope          117.58  71  PFAKE              12 28 50.0 +5.6
NHSC                                LR        LR
      comp=Z,626nm,19.0s,MS5.2
MYNC  Murphy            117.61  67  PFAKE              12 28 50.0 +5.6
MYNC                                LR        LR
      comp=Z,417nm,19.0s,MS5.1
NEW   Newport           118.00  35  PFAKE              12 28 50.0 +5.2
NEW                                 LR        LR
      comp=Z,1µm,19.0s,MS5.5
MDJ   Mudanjiang        118.82 313  PFAKE              12 29 00.0  +13
MDJ                                 LR        LR
      comp=Z,337nm,21.0s,MS5.0
PET   Petropavlovsk     119.17 337  PFAKE              12 29 00.0  +13
PET                                 LR        LR
      comp=Z,392nm,20.0s,MS5.0
VIB   Van Inlet         119.33  23  T                  14 39 52.9
      SNR=13
BJT   Baijiatuau        119.63 301  PFAKE              12 29 00.0  +12
BJT                                 LR        LR
      comp=Z,763nm,20.0s,MS5.3
LAO   LASA Array        119.68  44  PFAKE              12 29 00.0  +12
LAO                                 LR        LR
      comp=Z,839nm,20.0s,MS5.4
BLA   Blacksburg        120.98  68  PFAKE              12 29 00.0 +9.0
BLA                                 LR        LR
      comp=Z,385nm,22.0s,MS5.0
KDAK  Kodiak Island     121.33   9  PFAKE              12 29 00.0 +8.9
KDAK                                LR        LR
      comp=Z,235nm,20.0s,MS4.8
LSA   Lhasa             121.47 274  PFAKE              12 29 00.0 +7.9
LSA                                 LR        LR
      comp=Z,382nm,21.0s,MS5.0
DGMT  Dagmar            121.89  44  PFAKE              12 29 00.0 +7.6
DGMT                                LR        LR
      comp=Z,1µm,21.0s,MS5.5
JFWS  Jewell Farm       121.91  57  PFAKE              12 29 00.0 +7.4
JFWS                                LR        LR
      comp=Z,486nm,21.0s,MS5.1
SIT   Sitka             122.53  20  PFAKE              12 29 00.0 +6.6
SIT                                 LR        LR
      comp=Z,968nm,22.0s,MS5.4
CBN   Corbin            123.11  70  PFAKE              12 29 00.0 +5.0
CBN                                 LR        LR
      comp=Z,533nm,20.0s,MS5.2
MCWV  Mont Chateau      123.29  67  PFAKE              12 29 00.0 +4.7
MCWV                                LR        LR
      comp=Z,581nm,20.0s,MS5.2
BBSR  BB Station        123.75  84  PFAKE              12 29 10.0  +14
BBSR                                LR        LR
      comp=Z,348nm,22.0s,MS5.0
AAM   Ann Arbor         123.96  63  PFAKE              12 29 10.0  +13
AAM                                 LR        LR
      comp=Z,385nm,19.0s,MS5.1
SSPA  Standing Stone    124.93  68  PFAKE              12 29 10.0  +12
SSPA                                LR        LR
      comp=Z,254nm,20.0s,MS4.9
DIV   Divide            125.21  12  PFAKE              12 29 10.0  +12
DIV                                 LR        LR
      comp=Z,2µm,22.0s,MS5.8
ERPA  Erie              125.30  66  PFAKE              12 29 10.0  +11
ERPA                                LR        LR
      comp=Z,421nm,22.0s,MS5.1
PMR   Palmer            125.37  10  PFAKE              12 29 10.0  +11
PMR                                 LR        LR
      comp=Z,840nm,21.0s,MS5.4
GTA   Gaotai            125.82 287 ePKP       PKPdf    12 28 58.7 -1.4
GTA                                 LR        LR
      comp=N,37nm,14.5s,MS4.6
GTA                                 LR        LR
      comp=E,79nm,12.2s,MS4.6
HIA   Hailar            126.20 309  PFAKE              12 29 10.0 +9.5
HIA                                 LR        LR
      comp=Z,615nm,21.0s,MS5.2
MA2   Magadan           126.83 335  PFAKE              12 29 10.0 +8.6
MA2                                 LR        LR
      comp=Z,257nm,21.0s,MS4.9
BINY  Binghamton        127.02  69  PFAKE              12 29 10.0 +7.8
BINY                                LR        LR
      comp=Z,637nm,21.0s,MS5.3
MCK   McKinley          127.50  10  PFAKE              12 29 10.0 +7.3
MCK                                 LR        LR
      comp=Z,337nm,21.0s,MS5.0
TNA   Tin City          128.65 359  PFAKE              12 29 10.0 +5.1
TNA                                 LR        LR
      comp=Z,458nm,20.0s,MS5.2
ILAR  Eielson Array     128.69  11  PKP       PKPdf    12 29 00.8 -4.1
      comp=Z,2.2nm,0.8s,baz=246,slow=2.2,SNR=20
COLA  College           128.71  10 ePKIKP     PKPdf    12 29 04.3 -0.7
COLA  College           128.71  10  PKPdf     PKPdf    12 29 03.5 -1.5
COLA                                LR        LR
      comp=Z,514nm,19.0s,MS5.2
HRV   Harvard--Oak R    129.15  72  PFAKE              12 29 20.0  +14
HRV                                 LR        LR
      comp=Z,548nm,22.0s,MS5.2
ULN   Ulaanbaatar       129.78 299cePKIKP     PKPdf    12 29 10.4 +2.9
ULN   Ulaanbaatar       129.78 299  PFAKE              12 29 20.0  +13
ULN                                 LR        LR
      comp=Z,487nm,20.0s,MS5.2
SONM  Songino Array     130.01 299  PKP       PKPdf    12 29 04.6 -3.3
      comp=Z,0.7nm,0.9s,baz=153,slow=2.8,SNR=5.2
EMMW  East Machias      132.69  73  PFAKE              12 29 20.0 +6.9
EMMW                                LR        LR
      comp=Z,2µm,20.0s,MS5.9
ZAK   Zakamensk         133.28 298 ePKIKP     PKPdf    12 29 21.0 +7.0
INK   Inuvik            133.53  16  PKP       PKPdf    12 29 12.4 -1.5
      comp=Z,1.5nm,0.9s,baz=161,slow=6.1,SNR=2.5
YAK   Yakutsk           133.85 324  PFAKE              12 29 20.0 +5.3
YAK                                 LR        LR
      comp=Z,369nm,20.0s,MS5.1
PQI   Presque Isle      134.00  71  PFAKE              12 29 20.0 +4.6
PQI                                 LR        LR
      comp=Z,2µm,22.0s,MS5.8
TLY   Talaya            134.15 300α iPKHKP             12 28 59.5
TLY                                eSSS       SSS      12 54 39.2 +5.8
TLY                                 MLR       MLR
      comp=Z,3µm,20.0s,MS6.0
MKAR  Makanchi Array    139.40 280  PKP       PKPdf    12 29 22.7 -2.6
      comp=Z,2.2nm,1.0s,baz=180,slow=8.5,SNR=5.7
MKAR  Makanchi Array    139.40 280 i PKIKP    PKPdf    12 29 24.5 -0.9
MKAR                                pmax      pmax
      comp=Z,2.0nm,1.0s
TIXI  Tiksi             141.73 333  PFAKE              12 29 40.0  +11
TIXI                                LR        LR
      comp=Z,187nm,19.0s,MS4.9
KURK  Kurchatov         143.94 281 ePKPdf     PKPdf    12 29 28.6 -4.3
NVS   Novosibirsk       144.82 289 ePKHKP              12 29 28.9
NVS                                 pmax      pmax
      comp=Z,21nm,1.2s
NVS                                 pmax      pmax
      comp=N,18nm,1.4s
NVS                                 pmax      pmax
      comp=E,15nm,1.5s
FRB   Frobisher Bay     145.93  52  PKPbc     PKPbc    12 29 34.1 +0.2
      comp=E,10.0nm,0.8s,baz=193,slow=5.7,SNR=3.3
BRVK  Borovoye          149.28 277 ePKPbc     PKPdf    12 29 43.2 +1.3
CHKZ  Chkalovo          149.54 279 ePKPdf     PKPdf    12 29 40.1 -2.2
CHKZ                               ePKPbc     PKPdf    12 29 44.2 +2.0
MALT  Malatya           150.67 223 ePKPbc     PKPdf    12 29 47.5 +3.0
TI2   Plekhanov         151.57 235 ePKP2      PKPab    12 30 14.2  +14
MAK   Makhachkala       151.58 240 ePKP2      PKPab    12 30 07.0 +7.2
EVO   Evora             152.03 143 ePKP1      PKPab    12 30 31.5  +30
      comp=E,20nm,1.3s
BRTR  Keskin Array B    153.36 217  PKPbc     PKPdf    12 29 52.6 +4.3
      comp=E,6.6nm,1.1s,baz=166,slow=5.1,SNR=13
ESDC  Sonseca Array     154.14 148  PKP       PKPdf    12 29 48.4 -1.0
      comp=E,0.9nm,0.9s,baz=194,slow=0.9,SNR=6.2
ESDC                                PKPbc     PKPdf    12 29 56.5 +7.1
      comp=E,1.3nm,0.9s,baz=242,slow=1.3,SNR=5.3
ESDC                                PKPab     PKPab    12 30 07.8 -2.9
      comp=E,2.2nm,0.9s,baz=168,slow=1.4,SNR=5.7
KIV   Kislovodsk        154.26 235 ePKIKP     PKPdf    12 29 46.7 -2.7
KIV                                i                   12 29 56.1
KIV                                eSSS       SSS      12 59 20.4 +3.6
KIV                                 pmax      pmax
      comp=Z,12nm,1.6s
KIV   Kislovodsk        154.26 235  PFAKE              12 30 00.0  +11
KIV                                 LR        LR
      comp=Z,104nm,20.0s,MS4.7
ARU   Arti              156.67 274 ePKIKP     PKPdf    12 29 53.3 +1.1
ARU                                 pmax      pmax
      comp=Z,2.0nm,1.0s
ARU   Arti              156.67 274  PFAKE              12 30 00.0 +7.8
ARU                                 LR        LR
      comp=Z,152nm,20.0s,MS4.8
SJPF  Ste Jean          158.03 151 ePKIKP     PKPab    12 30 34.9 +7.6
EPF   Esparros          158.28 154 ePKIKP     PKPab    12 30 35.9 +7.6
MTLF  Montolieu         158.93 157 ePKIKP     PKPab    12 30 36.6 +5.5
FRF   La Foret Royal    159.78 166 ePKIKP     PKPab    12 30 37.4 +2.7
      comp=Z,13nm,0.9s
LASF  Ste Croix         159.92 160 ePKIKP     PKPab    12 30 37.7 +2.4
      comp=Z,32nm,1.5s
SMRF  Simiane la Rot    160.06 164 ePKIKP     PKPab    12 30 37.9 +2.0
VIVF  Saint-Julien-l    160.80 161 ePKIKP     PKPab    12 30 37.4 -1.7
      comp=Z,17nm,1.3s
MBDF  Montbardon        160.94 166 ePKIKP     PKPab    12 30 38.9 -0.8
      comp=Z,22nm,1.3s
ORIF  Oris-en-Rattie    161.03 164 ePKIKP     PKPab    12 30 38.9 -1.2
      comp=Z,7.9nm,1.0s
LPL   La Plagne         161.72 165 ePKIKP     PKPab    12 30 39.6 -3.5
      comp=Z,22nm,1.2s
TCF   Toulx Ste Croi    161.78 155 ePKIKP     PKPab    12 30 39.6 -3.7
LOR   Lormes            163.03 158 ePKIKP     PKPab    12 30 40.9 -7.8
KBS   Kingsbay          164.37   1  PFAKE              12 30 10.0  +10
KBS                                 LR        LR
      comp=Z,572nm,19.0s
AKASG Malin Array Be    164.66 222  PKPab     PKPab    12 30 53.0 -2.7
      comp=Z,0.1nm,0.3s,baz=166,slow=3.8,SNR=4.1
OBN   Obninsk           165.54 246  PFAKE              12 30 10.0 +8.2
OBN                                 LR        LR
      comp=Z,164nm,20.0s
KHC   Kasperske Hory    165.71 181 ePKP2      PKPab    12 31 06.5 +6.2
KHC                                e                   13 01 36.7
KHC                                 LM                 13 50 20.0
      comp=Z,0.7nm,22.7s
KHC   Kasperske Hory    165.71 181 ePKP2      PKPab    12 31 06.5 +6.2
KHC                                 MLR       MLR
      comp=Z,700nm,22.7s
OKC   Ostrava-Krasne    166.16 193  LM                 13 49 50.0
      comp=Z,0.5nm,20.0s
GRF   Grafenberg Arr    166.23 175 ePKP2      PKPab    12 31 01.1 -1.5
GRF                                e                   12 34 58.7
DPC   Dobruska-Polom    166.82 189 ePKP2      PKPab    12 31 03.8 -1.3
DPC                                e                   13 01 19.3
DPC                                 LM                 13 51 00.0
      comp=Z,0.7nm,22.2s
DPC   Dobruska-Polom    166.82 189 ePKP2      PKPab    12 31 03.8 -1.3
DPC                                 MLR       MLR
      comp=Z,700nm,22.2s
PVCC  Panska Ves        167.09 184  LM                 13 56 20.0
      comp=Z,0.5nm,18.0s
CLL   Collm             167.89 179 e*PPKP2    PKPab    12 31 16.0 +6.3
ESK   Eskdalemuir       168.39 127  PFAKE              12 30 10.0 +6.3
ESK                                 LR        LR
      comp=Z,208nm,20.0s
KONO  Kongsberg         175.87 154  PFAKE              12 30 20.0  +13
KONO                                LR        LR
      comp=Z,14586µm,19.0s
```

IDC ***01*** *12:37:01.7±1.4, 38.52N×143.12E, mb3.5/4, mb1 3.6/5, mb1mx3.4/21, ML3.3/1, Error ellipse: s-maj=36.1km s-min=24.3km az=92.0*

JMA ***01*** *12:37:03.6±0.2, 38.61N×143.20E, h22^{km}, M4.0*

NEIC ***01*** *12:37:06.1±4.7, 38.63N×143.21E, h30^{km}±34^{km}, Error ellipse: s-maj=26.4km s-min=12.7km az=119.0*

ISC 01 12:37:04.3±1.4, **38.63N**±0.06×**143.3E**±0.1, **h33**^{km}±12^{km}, **n22**, σ0^s**71**/29, **mb3.5**/4, **Off east coast of Honshu**

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Code  Station Name       Δ°    AZ°     Phase ID          Time      Res
                                     Op        ISC      h  m  s    ISC
OFUJ  Ofunato             1.32 291  P         P        12 37 26.5 -0.2
OFUJ                               eS         S        12 37 43.1 -0.2
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Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
MIYJ	Miyako 2	1.47	311	P	P	12 37 28.5	-0.2
JIO	Ouri	1.51	264	P	P	12 37 29.0	-0.3
JIO				eS	S	12 37 47.4	-0.6
JMK	Ichinoseki	1.63	282	P	P	12 37 31.1	+0.1
JOM	Ohasama	1.75	300	P	P	12 37 33.0	+0.2
JOU	Okura	2.06	264	P	P	12 37 37.2	+0.1
JMM	Marumori	2.09	249	P	P	12 37 37.0	-0.6
JMM				eS	S	12 38 02.0	-0.6
JANG	Nango	2.21	323	P	P	12 37 39.0	-0.3
JYK	Kaneyama	2.29	278	P	P	12 37 40.9	+0.4
JYS	Shirataka	2.54	262	P	P	12 37 44.4	+0.3
JFT	Otama	2.56	245	P	P	12 37 44.8	+0.4
JFT				eS	S	12 38 14.7	+0.1
JAH	Hinai	2.56	308	P	P	12 37 45.2	+0.8
MAJO	Matsushiro	4.52	244	ePn	P	12 38 12.5	+0.2
MAT	Matsushiro	4.52	244	P	P	12 38 12.4	+0.1
MAT				S	S	12 39 06.0	+1.6
MAT	Matsushiro	4.52	244	eP	P	12 38 12.0	-0.3
MAT				eS	S	12 39 06.0	+1.6
ASAJ	Asahikawa	5.51	355	Pn	P	12 38 26.4	+0.2
	0.9nm,0.3s,baz=213,slow=14,SNR=6.3						
ASAJ				Sn	S	12 39 29.7	+0.4
	1.0nm,0.3s,baz=180,slow=20,SNR=3.2						
YSS	Yuzh-Sakhalins	8.33	358	Pn	P	12 39 04.0	-1.7
SONM	Songino Array	28.16	301	P	P	12 42 55.8	+0.2
	0.5nm,0.5s,mb3.4,baz=93,slow=8.6,SNR=4.2						
MKAR	Makanchi Array	44.53	301	P	P	12 45 14.5	+0.1
	0.9nm,0.8s,mb3.6,baz=92,slow=6.7,SNR=5.5						
KURK	Kurchatov	46.12	307	eP	P	12 45 26.2	-0.8
ILAR	Eielson Array	47.37	33	P	P	12 45 38.5	+1.9
	0.2nm,0.5s,mb3.3,baz=278,slow=6.4,SNR=3.1						
WRA	Warramunga Arr	58.85	190	P	P	12 47 01.0	-1.3
	0.5nm,0.8s,mb3.6,baz=7.8,slow=7.0,SNR=7.5						

WEL 01 12:39:27.7±0.3, 37.16S×177.45E, h135^{km}±2^{km}, ML3.5/4, 4D, Error ellipse: s-maj=1.7km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	120	PN	P	12 39 49.2	-0.5
MXZ				SN	S	12 40 05.9	-0.7
MXZ				SN	S	12 40 05.9	-0.6
PUZ	Puketiti	1.11	145	PN	P	12 39 52.1	-0.3
PUZ				SN	S	12 40 10.1	-1.3
URZ	Urewera	1.13	194	⇓PN	P	12 39 52.0	-0.5
URZ				SN	S	12 40 10.6	-1.0
MWZ	Matawai	1.17	177	PN	P	12 39 52.8	-0.2
MWZ				SN	S	12 40 12.0	-0.4
KUZ	Kuaotunu	1.44	286	⇓PN	P	12 39 55.2	-0.7
MKAZ	Moumakai	1.82	271	⇓PN	P	12 40 00.5	+0.3
KNZ	Kokohu	1.86	175	PN	P	12 39 59.9	-0.7
OTAZ	Otara	2.03	275	PN	P	12 40 03.1	+0.5
MTAZ	Motutapu	2.06	280	PN	P	12 40 03.6	+0.5
BKZ	Black Stump Fm	2.14	200	PN	P	12 40 03.3	-0.8
BKZ				SN	S	12 40 30.3	-1.5
KAAZ	Kauri Point	2.22	278	PN	P	12 40 06.0	+0.8
NGZ	Ngauruhoe	2.48	215	PN	P	12 40 08.5	0.0
CNZ	Chateau	2.52	216	PN	P	12 40 09.2	+0.1
TUVZ	Tukino	2.53	213	PN	P	12 40 08.7	-0.5
FWVZ	Far West T-bar	2.57	215	PN	P	12 40 09.3	-0.4
WNVZ	Wahianoa	2.61	213	PN	P	12 40 09.7	-0.4
PWZ	Pawanui	2.90	189	PN	P	12 40 11.4	-2.5
PWZ				SN	S	12 40 46.3	-2.8
WAZ	Wanganui	3.23	216	PN	P	12 40 16.8	-1.5
WAZ				SN	S	12 40 56.9	-0.1
BFZ	Birch Farm	3.64	195	PN	P	12 40 20.3	-3.4
BFZ				SN	S	12 41 01.8	-4.7
MRZ	Mangatainoka R	3.79	202	⇓PN	P	12 40 21.7	-4.0
MRZ				SN	S	12 41 03.9	-6.1
KIW	Kapiti Island	4.19	207	PN	P	12 40 26.7	-4.4
MTW	Mount Morrison	4.27	200	PN	P	12 40 27.4	-4.7
CAW	Cannon Point	4.35	204	PN	P	12 40 28.4	-4.9
SNZO	South Karori	4.66	206	PN	P	12 40 32.1	-5.2
TUWZ	Tuamarina	5.05	211	PN	P	12 40 37.5	-5.1
QRZ	Quartz Range	5.30	225	PN	P	12 40 41.0	-4.8
THZ	Tophouse	5.78	216	PN	P	12 40 47.8	-4.5
KHZ	Kahutara	6.05	209	PN	P	12 40 48.6	-7.3
LTZ	Lake Taylor	6.88	214	ePN	P	12 41 01.1	-6.1

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*IDC **01** 12:42:26.1±1.2, 20.15N×122.44E, mb3.8/7, mb1 4.0/8, mb1mx3.8/18, ML4.1/1, Error ellipse: s-maj=42.1km s-min=26.6km az=65.0*

*NEIC **01** 12:42:28.6±4.6, 20.13N×122.48E, h17^{km}±29^{km}, Error ellipse: s-maj=14.7km s-min=12.5km az=146.0*

*JMA **01** 12:42:31.8±0.4, 20.65N×122.59E*

ISC 01 12:42:33.3±1.5, 20.40N±0.07×122.8E±0.1, h72^{km}±14^{km}, n25, σ0^{s}67/32, mb3.6/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.75	14	P	P	12 43 30.0	-0.2
HATJ				eS	S	12 44 13.1	-0.3
JKRS	Kuro-shima	3.98	16	P	P	12 43 33.6	+0.3
JKRS				eS	S	12 44 19.4	+0.4
IRIF	Iriomote-Funau	4.00	12	P	P	12 43 33.3	-0.4
IRIF				eS	S	12 44 19.4	-0.3
YOJ	Yonaguni jima	4.04	3	P	P	12 43 33.5	-0.8
YOJ				eS	S	12 44 20.1	-0.6
JIJ	Ishigaki jima	4.13	17	P	P	12 43 35.2	-0.2
JIJ				eS	S	12 44 22.1	-0.7
JTJ	Tarama	4.56	22	P	P	12 43 42.3	+0.8
JTJ				eS	S	12 44 35.1	+1.4
TATO	Taipei	4.71	345	Pn	P	12 43 35.6	-8.0
JOGS	Gusukube	4.96	28	P	P	12 43 48.3	+1.4
JKE	Kume jima 2	6.93	31	P	P	12 44 14.6	+0.2
JKE				eS	S	12 45 31.6	-0.8
JOW	Kunigami	8.12	37	Pn	P	12 44 31.1	+0.4
	5.4nm,0.3s,baz=205,slow=8.3,SNR=44						
JOW				Sn	S	12 46 01.6	-0.3
	baz=124,slow=27,SNR=1.7						
JOW	Kunigami	8.12	37	P	P	12 44 31.5	+0.8
JTK	Tokunoshima	9.24	36	P	P	12 44 45.9	-0.1
JAM	Amami Oshima	10.09	36	P	P	12 44 57.3	-0.3
QIZ	Qiongzhong	12.29	266	P	P	12 45 18.4	-8.9
SONM	Songino Array	30.42	338	P	P	12 48 40.7	-0.3
	0.4nm,0.4s,mb3.4,baz=148,slow=12,SNR=4.0						
WRA	Warramunga Arr	41.65	164	P	P	12 50 15.2	-1.3
	0.5nm,0.7s,mb3.3,baz=343,slow=9.2,SNR=3.7						
MKAR	Makanchi Array	42.12	318	P	P	12 50 20.5	+0.5
	2.1nm,0.6s,mb4.1,baz=118,slow=9.9,SNR=21						
MKAR	Makanchi Array	42.12	318	P	P	12 50 20.5	+0.5
KURK	Kurchatov	45.97	322	eP	P	12 50 50.6	-0.3
BVAR	Borovoye Array	51.56	322	P	P	12 51 34.2	+0.2
	0.7nm,0.5s,mb4.0,baz=101,slow=7.6,SNR=4.3						
ARCES	ARCESS Array B	73.60	339	P	P	12 54 01.1	+1.0
	0.8nm,0.7s,mb3.6,baz=45,slow=6.9,SNR=3.8						
FINES	FINESS Array B	75.46	330	P	P	12 54 10.9	-0.1
	0.7nm,0.7s,mb3.5,baz=108,slow=8.8,SNR=4.4						
YKA	Yellowknife Ar	85.85	23	P	P	12 55 09.9	+4.1
	0.9nm,0.8s,mb3.8,baz=308,slow=4.7,SNR=9.6						
YKA	Yellowknife Ar	85.85	23	P	P	12 55 09.9	+4.1
PMSA	Palmer Station	135.41	176	ePKPdf	PKPdf	13 01 45.8	+1.1

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*IDC **01** 12:43:04.8±1.0, 20.07N×122.50E, mb3.9/5, mb1 4.1/6, mb1mx3.7/19, ML4.4/1, Error ellipse: s-maj=44.9km s-min=20.9km az=80.0*

*NEIC **01** 12:43:07.1±0.6, 20.08N×122.55E, h15^{km}, Error ellipse: s-maj=20.4km s-min=10.7km az=87.0*

*JMA **01** 12:43:10.8±0.6, 20.73N×122.50E, M4.5*

ISC 01 12:43:10.5±1.4, 20.36N±0.07×122.7E±0.1, h62^{km}±16^{km}, n24, σ1^{s}26/37, mb3.7/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.81	15	P	P	12 44 08.2	0.0
HATJ				eS	S	12 44 51.0	-1.2
JKRS	Kuro-shima	4.04	17	P	P	12 44 12.9	+1.5
JKRS				eS	S	12 44 57.2	-0.6
IRIF	Iriomote-Funau	4.07	13	P	P	12 44 11.5	-0.2
IRIF				eS	S	12 44 56.9	-1.6
YOJ	Yonaguni jima	4.09	4	P	P	12 44 11.8	-0.3
YOJ				eS	S	12 44 58.1	-1.0
JIJ	Ishigaki jima	4.20	18	P	P	12 44 14.2	+0.6
JIJ				eS	S	12 45 00.1	-1.7
BCPH	Baguio City Da	4.45	207	⇓iP	P	12 44 12.0	-5.0
JTJ	Tarama	4.64	23	P	P	12 44 21.2	+1.4
JTJ				eS	S	12 45 13.3	+0.4
TATO	Taipei	4.73	346	ePn	P	12 44 20.9	-0.1
TATO				eSn	S	12 45 11.6	-3.6
JMJ	Miyako jima 2	5.03	28	P	P	12 44 26.7	+1.5
JMJ				eS	S	12 45 24.5	+1.8
JOGS	Gusukube	5.04	29	P	P	12 44 26.5	+1.2
JOGS				eS	S	12 45 24.3	+1.5
JKE	Kume jima 2	7.02	31	P	P	12 44 52.8	-0.1
JKE				eS	S	12 46 09.2	-2.8
JAGN	Aguni-jima	7.46	33	P	P	12 44 58.8	-0.2
JOW	Kunigami	8.21	37	Pn	P	12 45 09.9	+0.5
	10nm,0.3s,baz=199,slow=11,SNR=23						
JOW				Sn	S	12 46 37.4	-4.2
	2.6nm,0.3s,baz=118,slow=25,SNR=3.1						
JOW	Kunigami	8.21	37	P	P	12 45 09.9	+0.5
JOW				eS	S	12 46 37.2	-4.4
JTK	Tokunoshima	9.33	36	P	P	12 45 23.8	-0.9
JTK				eS	S	12 47 03.1	-6.0
JAM	Amami Oshima	10.18	37	P	P	12 45 35.4	-0.9
JZK	Kikaishima	10.31	38	P	P	12 45 37.9	-0.3
FITZ	Fitzroy Crossi	38.33	176	P	P	12 50 24.8	-2.3
	4.3nm,1.1s,mb4.1,slow=19,SNR=4.0						
WRA	Warramunga Arr	41.64	163	P	P	12 50 53.4	-1.2
	3.1nm,1.0s,mb3.9,baz=343,slow=9.1,SNR=11						
MKAR	Makanchi Array	42.09	318	P	P	12 50 58.9	+1.0
	0.6nm,0.6s,mb3.4,baz=124,slow=8.7,SNR=3.6						
MKAR	Makanchi Array	42.09	318	P	P	12 50 58.9	+1.0
FINES	FINESS Array B	75.45	330	P	P	12 54 51.6	+2.3
	0.7nm,0.7s,mb3.7,baz=23,slow=25,SNR=2.6						
YKA	Yellowknife Ar	85.92	23	P	P	12 55 48.2	+3.7
	0.2nm,0.5s,mb3.6,baz=302,slow=5.0,SNR=2.8						
YKA	Yellowknife Ar	85.92	23	P	P	12 55 48.2	+3.7

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*IDC **01** 12:52:33.9±1.1, 63.10S×166.85W, mb3.9/4, mb1 4.2/5, mb1mx4.0/10, ML4.3/1, MS4.0/4, Ms1 4.0/4, ms1mx3.7/19, Error ellipse: s-maj=52.0km s-min=29.9km az=21.0*

*NEIC **01** 12:52:35.4±0.9, 63.25S×166.92W, h10^{km}, mb4.0/2, Error ellipse: s-maj=25.5km s-min=19.3km az=112.0*

ISC 01 12:52:34.3±1.1, 63.2S±0.1×167.0W±0.3, h10^{km}, n16, σ1^{s}21/13, mb3.8/5, MS4.0/3, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	16.83	199	P	P	12 56 28.6	-2.5
	22nm,1.3s						
VNDA	Vanda	17.38	202	P	P	12 56 38.9	+0.8
	0.9nm,0.3s,baz=52,slow=17,SNR=8.9						
VNDA				LR	LR	13 01 21.6	
	comp=Z,284nm,21.0s,baz=39,slow=30						
VNDA	Vanda	17.38	202	P	P	12 56 38.9	+0.8
VNDA				LR	LR	13 01 21.6	
RPZ	Rata Peaks	23.25	317	LR	LR	13 04 32.8	
	comp=Z,280nm,18.3s,MS3.8,baz=26,slow=31						
QSPA	South Pole Qui	26.93	180	eP	P	12 58 16.7	-0.1
	3.1nm,1.0s,mb3.8						
VNA3	Neumayer Olymp	44.94	170	⇑i	P	13 00 51.0	+0.7
SNAA	Sanae	44.98	173	⇑i	P	13 00 47.2	-3.5
VNA2	Neumayer--Watz	45.42	171	⇑i	P	13 00 54.7	+0.5
VNA1	Neumayer--Stat	45.63	170	⇑i	P	13 00 57.3	+1.5
PLCA	Paso Flores	57.28	116	P	P	13 02 22.7	-1.4
	1.3nm,0.8s,mb4.0,baz=238,slow=9.5,SNR=2.4						
PLCA				LR	LR	13 21 09.7	
	comp=Z,139nm,18.1s,MS4.1,baz=141,slow=30						
PLCA	Paso Flores	57.28	116	P	P	13 02 22.7	-1.4
PLCA				LR	LR	13 21 09.7	
WRA	Warramunga Arr	58.39	289	P	P	13 02 31.9	-0.1
	0.5nm,0.9s,mb3.5,baz=156,slow=6.1,SNR=3.6						
CPUP	Villa Florida	75.17	119	P	P	13 04 17.4	-0.9
	2.8nm,0.9s,mb4.2,baz=225,slow=1.4,SNR=3.1						
CPUP				LR	LR	13 34 50.2	
	comp=Z,123nm,19.3s,MS4.2,baz=162,slow=34						
LPAZ	La Paz	79.56	105	P	P	13 04 44.1	+1.3
	0.9nm,0.9s,mb3.7,baz=180,slow=5.1,SNR=3.5						
ILAR	Eielson Array	128.51	11	PKP	PKPdf	13 11 40.5	-2.8
	0.4nm,1.0s,baz=194,slow=3.7,SNR=3.6						
SONM	Songino Array	129.82	299	PKP	PKPdf	13 11 42.4	-3.8
	0.1nm,0.3s,baz=180,slow=2.9,SNR=2.5						

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*JMA **01** 13:01:45.7±0.3, 24.99N×121.73E, h145^{km}, M2.8*

TAP 01 13:01:45.6, 25.07N×121.66E, h143^{km}, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.37	116	P	P	13 02 12.8	-0.8
YOJ				eS	S	13 02 33.8	-1.3
IRIF	Iriomote-Funau	2.02	111	P	P	13 02 19.7	-1.2
IRIF				eS	S	13 02 46.2	-1.8
HATJ	Hateruma jima	2.20	117	P	P	13 02 22.3	-0.9
HATJ				eS	S	13 02 50.1	-1.8
JKRS	Kuro-shima	2.29	111	P	P	13 02 23.4	-1.0
JKRS				eS	S	13 02 52.6	-1.4
JIJ	Ishigaki jima	2.37	107	P	P	13 02 24.0	-1.3
JIJ				eS	S	13 02 52.7	-2.9
JTJ	Tarama	2.80	98	P	P	13 02 30.1	-0.7
JTJ				eS	S	13 03 03.4	-1.9
JOGS	Gusukube	3.42	94	P	P	13 02 38.7	-0.2
JOGS				eS	S	13 03 17.7	-2.0

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*IDC **01** 13:03:43.9±4.6, 31.59S×179.26E, h489^{km}±52^{km}, mb3.3/4, mb1 3.5/5, mb1mx3.2/15, Error ellipse: s-maj=61.7km s-min=26.9km az=18.0*

*NEIC **01** 13:03:45.3±1.9, 31.65S×179.24E, h506^{km}±22^{km}, mb4.1/1, Error ellipse: s-maj=36.3km s-min=17.7km az=195.0*

ISC 01 13:03:45.4±1.9, 31.8S±0.2×179.2E±0.6, h526^{km}±50^{km}, n21, σ0^{s}54/19, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.76	187	P	P	13 05 20.8	-0.7
MXZ	Matakaoa Point	5.76	187	eP	P	13 05 20.8	-0.7
PUZ	Puketiti	6.27	187	P	P	13 05 26.6	+0.3
PUZ	Puketiti	6.27	187	eP	P	13 05 26.6	+0.3
MWZ	Matawai	6.63	192	P	P	13 05 29.9	+0.1
MWZ	Matawai	6.63	192	eP	P	13 05 29.9	+0.1
URZ	Urewera	6.64	194	P	P	13 05 29.4	-0.5
	2.8nm,0.3s,baz=354,slow=4.9,SNR=13						
URZ				S	S	13 06 52.9	+0.1
	4.3nm,0.3s,baz=48,slow=22,SNR=9.2						
URZ	Urewera	6.64	194	P	P	13 05 29.8	0.0
URZ	Urewera	6.64	194	eP	P	13 05 29.8	0.0
NNZ	Nelson	10.47	205	eP	P	13 06 09.0	+0.2
NNZ				S	S	13 08 03.1	-0.5
THZ	Tophouse	11.12	205	eP	P	13 06 16.2	+0.7
CTA	Charters Tower	31.74	284	P	P	13 09 27.5	+0.1
	3.5nm,0.6s,mb4.1,baz=103,slow=12,SNR=6.2						
CTA	Charters Tower	31.74	284	P	P	13 09 27.5	+0.1
CTAO	Charters Tower	31.74	284	P	P	13 09 27.7	+0.3
	3.5nm,0.6s,mb4.1						
STKA	Stephens Creek	31.85	260	P	P	13 09 29.3	+1.1
	1.7nm,0.5s,mb3.9,baz=96,slow=13,SNR=5.2						
WRA	Warramunga Arr	41.80	275	P	P	13 10 49.4	-0.7
	4.3nm,0.7s,mb4.1,baz=114,slow=7.6,SNR=40						
FITZ	Fitzroy Crossi	50.00	273	P	P	13 11 52.4	-0.7
	1.5nm,0.7s,mb3.5,baz=200,slow=6.2,SNR=6.7						
ARCES	ARCESS Array B	139.44	346	PKP	PKPdf	13 22 14.6	+2.9
	0.4nm,0.6s,baz=63,slow=2.7,SNR=3.8						
FINES	FINESS Array B	145.61	337	PKPbc	PKPbc	13 22 24.9	+1.2
	2.1nm,0.5s,baz=43,slow=3.7,SNR=29						
ASF	Jabal al Asfar	148.15	281	PKPbc	PKPdf	13 22 34.4	+6.9
	1.1nm,0.3s,baz=32,slow=2.7,SNR=2.0						
NOA	NORSAR Array B	149.74	348	PKPbc	PKPdf	13 22 36.0	+6.9
	0.6nm,0.6s,baz=17,slow=4.2,SNR=4.9						

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*IDC **01** 13:09:21.2±1.0, 11.20N×143.18E, mb3.9/6, mb1 4.2/6, mb1mx3.8/18, Error ellipse: s-maj=52.5km s-min=26.9km az=95.0*

*NEIC **01** 13:09:22.8±0.6, 11.21N×143.25E, h10^{km}, Error ellipse: s-maj=31.3km s-min=13.2km az=113.0*

ISC 01 13:09:21.2±0.8, 11.2N±0.2×143.2E±0.3, h10^{km}, n9, σ0^{s}66/8, mb3.9/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.90	35	ePn	Pn	13 10 07.8	-0.5
WRA	Warramunga Arr	32.14	196	P	P	13 15 50.9	-0.4
	0.8nm,1.1s,mb3.5,baz=19,slow=9.4,SNR=6.0						
BVAR	Borovoye Array	70.79	322	P	P	13 20 39.2	-0.5
	1.1nm,0.5s,mb4.0,baz=98,slow=6.6,SNR=7.5						
ILAR	Eielson Array	71.43	25	P	P	13 20 42.9	-0.6
	0.2nm,0.5s,mb3.3,baz=258,slow=5.2,SNR=4.5						
ARCES	ARCESS Array B	88.84	342	P	P	13 22 17.4	+1.0
	0.4nm,0.6s,mb3.9,baz=74,slow=6.6,SNR=3.9						
ARCES	ARCESS Array B	88.84	342	P	P	13 22 17.4	+1.0
VNDA	Vanda	89.20	176	P	P	13 22 17.9	0.0
	2.3nm,1.0s,mb4.5,baz=338,slow=5.4,SNR=5.1						
NVAR	Mina Array Bea	89.70	51	P	P	13 22 22.2	+1.1
	1.2nm,1.1s,mb4.1,baz=277,slow=3.2,SNR=3.6						
NB2	NORSAR Subarra	98.68	339	PKP		13 22 35.7	
	0.5nm,0.5s,baz=18,slow=4.1						

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*NEIC **01** 13:29:34.9±0.6, 15.04N×147.31E, h40^{km}, Error ellipse: s-maj=17.6km s-min=12.1km az=103.0*

*IDC **01** 13:29:39.0±8.0, 15.06N×147.34E, h76^{km}±74^{km}, mb3.6/12, mb1 3.7/12, mb1mx3.6/22, Error ellipse: s-maj=30.3km s-min=15.8km az=87.0*

ISC 01 13:29:33.3±0.7, 15.04N±0.09×147.3E±0.1, h40^{km}, n20, σ0^{s}79/17, mb3.9/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.74	239	ePn	P	13 30 15.1	-0.8
GUMO				eSn	S	13 30 48.0	-0.1
JOW	Kunigami	21.25	307	P	P	13 34 18.6	+0.4
	3.0nm,0.5s,mb3.9,baz=121,slow=17,SNR=5.0						
ASAJ	Asahikawa	29.26	353	P	P	13 35 34.7	+0.9
	2.1nm,0.5s,mb4.1,baz=151,slow=11,SNR=4.0						
CTA	Charters Tower	34.92	182	P	P	13 36 22.8	-0.7
	2.6nm,0.9s,mb4.2,baz=12,slow=19,SNR=2.1						
CTA	Charters Tower	34.92	182	P	P	13 36 22.8	-0.7
WRA	Warramunga Arr	37.01	200	P	P	13 36 41.7	+0.5
	3.2nm,0.9s,mb4.2,baz=23,slow=9.2,SNR=17						
FITZ	Fitzroy Crossi	39.23	214	P	P	13 37 01.8	+2.1
	3.1nm,0.9s,mb4.0,baz=351,slow=3.4,SNR=4.6						
CMAR	Chiang Mai Arr	46.31	281	P	P	13 37 57.5	+0.2
	1.3nm,0.9s,mb3.9,baz=75,slow=5.5,SNR=5.2						
SONM	Songino Array	46.95	323	P	P	13 38 01.8	-0.1
	0.2nm,0.3s,mb3.5,baz=121,slow=8.4,SNR=3.6						
MKAR	Makanchi Array	62.10	315	P	P	13 39 52.0	-0.4
	1.4nm,0.4s,mb4.4,baz=105,slow=7.2,SNR=25						
KURK	Kurchatov	65.00	319	eP	P	13 40 10.4	-1.0
ILAR	Eielson Array	66.27	25	P	P	13 40 19.2	0.0
	0.4nm,0.6s,mb3.6,baz=262,slow=5.2,SNR=8.3						
BRVK	Borovoye	70.32	321	eP	P	13 40 44.9	+0.3
NVAR	Mina Array Bea	84.20	52	P	P	13 42 01.1	-1.0
	0.1nm,0.4s,mb3.3,baz=260,slow=10,SNR=2.4						
ARCES	ARCESS Array B	86.42	343	P	P	13 42 13.3	+1.0
	0.6nm,0.7s,mb3.9,baz=59,slow=7.1,SNR=3.8						
FINES	FINESS Array B	90.83	336	P	P	13 42 32.6	-0.8
	0.3nm,0.6s,mb3.8,baz=27,slow=4.3,SNR=4.7						
DBIC	Dimbokro	144.96	306	PKP	PKPdf	13 49 08.8	+1.5
	1.8nm,0.4s,baz=347,slow=7.8,SNR=7.7						
KIC	Kosan Boka	145.06	305	ePKP1	PKPbc	13 49 08.8	+1.1
	47nm,1.2s						
TIC	Toumodi	145.10	306	ePKP1	PKPbc	13 49 08.9	+1.1
	9.2nm,0.3s						
LIC	Lamto	145.36	306	ePKP1	PKPbc	13 49 09.9	+1.4
	74nm,1.7s						

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*NEIC **01** 13:34:19.6±0.6, 16.62S×69.71W, h174^{km}±6^{km}, Error ellipse: s-maj=12.9km s-min=9.1km az=49.0*

*IDC **01** 13:34:19.6±1.0, 16.73S×69.65W, h178^{km}±9^{km}, mb3.6/10, mb1 3.8/11, mb1mx3.8/17, Error ellipse: s-maj=19.0km s-min=12.0km az=97.0*

ISC 01 13:34:18.8±0.5, 16.57S±0.08×69.69W±0.06, h185^{km}±4^{km}, n30, σ1^{s}08/31, mb4.1/11, 3C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.53	80	P	P	13 34 53.4	+1.6
	188nm,0.3s,baz=273,slow=9.1,SNR=3472						
LPAZ				S	S	13 35 17.4	+0.1
	24nm,0.3s,baz=170,slow=25,SNR=12						
LPAZ	La Paz	1.53	80	P	P	13 34 53.4	+1.6
LPAZ				S	S	13 35 17.4	+0.1
ARE	Arequipa	1.73	273	⇑iP	P	13 34 54.0	+0.3
ARE				i S	S	13 35 20.0	-0.7
LVC	Limon Verde	6.06	173	P	P	13 35 46.3	-1.1
	3.8nm,0.3s,baz=359,slow=16,SNR=56						
LVC				S	S	13 36 49.2	-7.0
	13nm,0.3s,baz=134,slow=23,SNR=30						
LVC	Limon Verde	6.06	173	ePn	P	13 35 46.1	-1.3
LVC				eSn	Px	13 36 37.7	
NNA	Nana	8.29	302	ePn	P	13 36 15.9	-0.8
	24nm,0.5s						
BDFB	Brasilia	20.85	91	P	P	13 38 47.2	-0.1
	1.8nm,0.6s,baz=274,slow=12,SNR=3.1						
TRQA	Tornquist	22.46	164	eP	P	13 39 03.5	+0.6
PLCA	Paso Flores	24.09	182	P	P	13 39 18.8	+0.3
	3.4nm,0.8s,mb3.9,baz=353,slow=12,SNR=7.6						
PLCA	Paso Flores	24.09	182	P	P	13 39 18.8	+0.3
TXAR	Lajitas Array	56.20	324	P	P	13 43 42.3	+0.5
	0.4nm,0.6s,mb3.4,baz=154,slow=8.8,SNR=6.7						
TXAR				PcP	PcP	13 44 38.4	+1.2
	0.2nm,0.5s,baz=142,slow=5.2,SNR=4.1						
VNA3	Neumayer Olymp	64.96	162	⇑i	P	13 44 43.8	+3.4
VNA1	Neumayer--Stat	65.16	161	⇑i	P	13 44 46.3	+4.7
VNA2	Neumayer--Watz	65.53	161	⇓i	P	13 44 47.7	+3.7
SNAA	Sanae	67.16	162	⇓i	P	13 44 54.7	+0.4
LIC	Lamto	67.83	76	eP	P	13 44 57.7	-1.7
	78nm,2.0s,mb5.1						
TIC	Toumodi	67.98	76	eP	P	13 44 58.6	-1.7
	5.1nm,0.2s,mb4.9						
KIC	Kosan Boka	68.14	76	eP	P	13 45 00.3	-1.0
	30nm,0.3s						
DBIC	Dimbokro	68.14	76	P	P	13 45 00.6	-0.7
	3.8nm,0.3s,mb4.5,baz=226,slow=6.1,SNR=17						
PDAR	Pinedale Array	69.49	330	P	P	13 45 09.7	+0.6
	0.6nm,0.4s,mb3.7,baz=122,slow=7.9,SNR=9.6						
ULM	Lac du Bonnet	70.42	343	P	P	13 45 13.8	-0.8
	3.6nm,0.4s,mb4.4,baz=151,slow=7.2,SNR=7.6						
ULM	Lac du Bonnet	70.42	343	P	P	13 45 13.8	-0.8
SCHQ	Schefferville	71.16	2	P	P	13 45 18.0	-0.9
	3.5nm,1.0s,mb4.0,baz=210,slow=8.1,SNR=3.0						
NVAR	Mina Array Bea	71.18	322	P	P	13 45 21.1	+1.8
	0.4nm,0.7s,mb3.3,baz=122,slow=6.8,SNR=3.8						
ESDC	Sonseca Array	82.88	45	P	P	13 46 24.8	+0.8
	0.2nm,0.4s,mb3.2,baz=256,slow=5.5,SNR=6.1						
YKA	Yellowknife Ar	86.31	341	P	P	13 46 42.0	+1.5
	2.9nm,0.6s,mb4.2,baz=133,slow=4.9,SNR=28						
YKA	Yellowknife Ar	86.31	341	P	P	13 46 42.0	+1.5
WRA	Warramunga Arr	136.71	214	PKhKP		13 53 10.2	
	0.5nm,1.1s,baz=143,slow=3.3,SNR=5.3						
WRA				PKP	PKPdf	13 53 22.3	+2.5
	0.6nm,0.4s,baz=153,slow=2.1,SNR=22						
MKAR	Makanchi Array	141.96	32	PKP	PKPdf	13 53 32.1	+3.6
	0.9nm,0.5s,baz=11,slow=0.7,SNR=8.7						
SONM	Songino Array	148.66	5	PKPbc	PKPdf	13 53 47.6	+7.8
	6.3nm,0.4s,baz=330,slow=2.0,SNR=77						

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*NIED **01** 13:38:00, 20.70N×122.40E, h50^{km}, Mw4.0 Best double couple: $M_0$1.29×10^{15} NP1:ϕ_s13°, δ62°, λ120°. NP2:ϕ_s143°, δ40°, λ47°.*

*IDC **01** 13:38:12.2±1.3, 20.15N×122.62E, mb3.8/4, mb1 4.0/5, mb1mx3.6/20, ML4.0/1, Error ellipse: s-maj=49.9km s-min=23.5km az=77.0*

*NEIC **01** 13:38:14.2±0.8, 20.16N×122.54E, h15^{km}, Error ellipse: s-maj=16.4km s-min=14.8km az=110.0*

*JMA **01** 13:38:16.7±0.3, 20.67N×122.58E*

ISC 01 13:38:14.6±0.6, 20.37N±0.04×122.41E±0.09, h48^{km}±12^{km}, n21, σ1^{s}14/32, mb3.6/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.42	280	eP	P	13 38 23.6	-1.2
SGCP	Mt. Cagua	2.14	189	eP	S	13 39 07.6	-6.5
ABRA	Dolores	3.14	211	eP	P	13 39 02.2	-0.7
PALP	Palanan	3.29	180	eP	P	13 38 55.6	-9.3
PALP				eS	S	13 39 44.3	+1.2
HATJ	Hateruma jima	3.89	19	P	P	13 39 14.9	+1.4
HATJ				eS	S	13 39 58.0	-0.5
YOJ	Yonaguni jima	4.11	8	P	P	13 39 18.4	+1.8
YOJ				eS	S	13 40 04.3	+0.3
JKRS	Kuro-shima	4.13	21	P	P	13 39 18.3	+1.5
JKRS				eS	S	13 40 04.1	-0.3
IRIF	Iriomote-Funau	4.13	17	P	P	13 39 18.0	+1.1
IRIF				eS	S	13 40 04.1	-0.5
JIJ	Ishigaki jima	4.29	22	P	P	13 39 20.0	+0.9
JIJ				eS	S	13 40 07.1	-1.4
BCPH	Baguio City Da	4.33	204	⇓iP	P	13 39 18.2	-1.4

BALP	Baler	4.67	190	*e*P	P	13 39 23.2	-1.2
JTJ	Tarama	4.75	26	P	P	13 39 27.2	+1.5
JTJ				*e*S	S	13 40 19.1	-1.0
JOGS	Gusukube	5.18	32	P	P	13 39 33.2	+1.6
JOGS				*e*S	S	13 40 30.4	-0.4
JOW	Kunigami	8.39	39	Pn	P	13 40 16.2	-0.1
	4.3nm,0.3s,baz=203,slow=12,SNR=28						
JOW				Sn	S	13 41 43.8	-6.9
	0.8nm,0.3s,baz=106,slow=27,SNR=2.6						
JOW	Kunigami	8.39	39	P	P	13 40 16.5	+0.2
JOW				*e*S	S	13 41 44.2	-6.4
JTK	Tokunoshima	9.50	38	P	P	13 40 30.5	-1.1
JTK				*e*S	S	13 42 15.4	-2.7
QIZ	Qiongzhong	11.91	266	Pn	P	13 41 04.5	+0.1
FITZ	Fitzroy Crossi	38.36	175	P	P	13 45 34.3	+1.4
	2.7nm,0.9s,mb4.0,baz=193,slow=16,SNR=4.5						
WRA	Warramunga Arr	41.73	163	P	P	13 45 59.8	-1.0
	1.2nm,0.9s,mb3.5,baz=343,slow=9.0,SNR=8.9						
MKAR	Makanchi Array	41.90	318	P	P	13 46 06.5	+4.5
	0.9nm,0.9s,mb3.4,baz=112,slow=10.0,SNR=5.0						
ASAR	Alice Springs	45.18	165	P	P	13 46 28.8	0.0
	0.4nm,0.5s,mb3.5,baz=346,slow=7.4,SNR=12						

JMA 01 13:38:22.9±0.6**, 20.72N×122.44E, M4.4, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.55	21	P	Pn	13 39 20.7	+0.2
HATJ				*e*S	Sn	13 40 03.6	-0.2
YOJ	Yonaguni jima	3.76	8	P	Pn	13 39 24.1	+0.7
YOJ				*e*S	Sn	13 40 09.9	+0.8
IRIF	Iriomote-Funau	3.79	18	P	Pn	13 39 23.9	+0.1
IRIF				*e*S	Sn	13 40 09.8	0.0
JKRS	Kuro-shima	3.79	22	P	Pn	13 39 25.3	+1.5
JKRS				*e*S	Sn	13 40 10.1	+0.3
JIJ	Ishigaki jima	3.95	23	P	Pn	13 39 26.6	+0.5
JIJ				*e*S	Sn	13 40 13.4	-0.5
JTJ	Tarama	4.43	28	P	Pn	13 39 33.6	+0.7
JTJ				*e*S	Sn	13 40 25.5	-0.4
JMJ	Miyako jima 2	4.85	32	*e*S	Sn	13 40 37.0	+0.3
JOGS	Gusukube	4.86	34	P	Pn	13 39 39.1	0.0
JOGS				*e*S	Sn	13 40 37.6	+0.6
JKE	Kume jima 2	6.86	35	P	Pn	13 40 06.8	-0.4
JKE				*e*S	Sn	13 41 25.1	-1.8
JAGN	Aguni-jima	7.31	36	*e*S	Sn	13 41 35.7	-2.7
JOW	Kunigami	8.10	40	P	P	13 40 22.6	-1.9

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*IDC **01** 13:43:58.7±1.2, 6.54N×33.81W, mb3.9/5, mb1 4.1/5, mb1mx3.6/22, MS3.7/5, Ms1 3.7/5, ms1mx3.3/29, Error ellipse: s-maj=37.1km s-min=29.4km az=146.0*

*NEIC **01** 13:43:59.7±0.9, 6.62N×33.72W, h10^{km}, Error ellipse: s-maj=31.4km s-min=15.6km az=146.0*

ISC 01 13:43:56.6±0.9**, 6.3N**±0.1×**33.3W**±0.2**, h10^{km}, n12, σ0^{s}68**/9**, mb3.7**/5**, MS3.6**/5**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	Riachuelo	12.34	192	*e*Pn	P	13 46 54.5	-0.9
SACV	Santiago Islan	12.85	47	P	P	13 47 02.4	+0.3
BDFB	Brasilia	26.22	214	P	P	13 49 34.7	+1.0
	1.6nm,0.7s,mb3.6,baz=32,slow=9.5,SNR=3.2						
BDFB				LR	LR	13 59 06.0	
	comp=Z,142nm,18.6s,MS3.5,baz=110,slow=35						
DBIC	Dimbokro	28.30	88	P	P	13 49 58.6	+6.0
	2.1nm,0.8s,mb3.9,baz=148,slow=9.4,SNR=3.1						
CPUP	Villa Florida	39.94	215	LR	LR	14 07 49.2	
	comp=Z,121nm,19.1s,MS3.8,baz=259,slow=36						
LPAZ	La Paz	41.11	236	P	P	13 51 43.1	+0.5
	1.8nm,1.0s,mb3.7,baz=67,slow=7.1,SNR=7.5						
LPAZ				LR	LR	14 08 31.3	
	comp=Z,68nm,22.0s,MS3.5,baz=68,slow=36						
LVC	Limon Verde	45.15	229	LR	LR	14 10 34.1	
	comp=Z,35nm,19.8s,MS3.3,baz=3.2,slow=36						
PLCA	Paso Flores	57.97	213	LR	LR	14 19 17.6	
	comp=Z,133nm,19.3s,MS4.1,baz=355,slow=37						
TXAR	Lajitas Array	69.78	299	P	P	13 55 09.0	-0.5
	0.4nm,0.7s,mb3.5,baz=105,slow=8.5,SNR=6.8						
TXAR	Lajitas Array	69.78	299	P	P	13 55 09.0	-0.5
YKA	Yellowknife Ar	80.39	332	P	P	13 56 09.0	-0.5
	1.6nm,1.1s,mb3.9,baz=99,slow=5.7,SNR=6.6						
YKA	Yellowknife Ar	80.39	332	P	P	13 56 09.0	-0.5

JMA 01 13:49:33.7±0.4**, 20.68N×122.57E, M3.9, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.55	19	P	Pn	13 50 31.7	+0.5
HATJ				*e*S	Sn	13 51 14.3	-0.2
JKRS	Kuro-shima	3.78	20	P	Pn	13 50 35.0	+0.5
JKRS				*e*S	Sn	13 51 20.7	+0.3
YOJ	Yonaguni jima	3.79	6	P	Pn	13 50 35.1	+0.5
YOJ				*e*S	Sn	13 51 22.1	+1.6
IRIF	Iriomote-Funau	3.79	16	P	Pn	13 50 34.9	+0.3
IRIF				*e*S	Sn	13 51 20.6	0.0
JIJ	Ishigaki jima	3.94	21	P	Pn	13 50 37.0	+0.2
JIJ				*e*S	Sn	13 51 23.5	-1.0
JTJ	Tarama	4.41	26	P	Pn	13 50 44.4	+1.0
JTJ				*e*S	Sn	13 51 36.7	+0.5
JOGS	Gusukube	4.83	32	P	Pn	13 50 50.1	+0.7
JOGS				*e*S	Sn	13 51 46.9	-0.1
JKE	Kume jima 2	6.82	34	P	Pn	13 51 16.2	-1.3
JKE				*e*S	Sn	13 52 32.4	-4.5
JAGN	Aguni-jima	7.28	35	P	Pn	13 51 22.7	-1.2
JOW	Kunigami	8.05	39	P	P	13 51 33.4	-1.3
JOW				*e*S	Sn	13 53 07.2	-0.3
JTK	Tokunoshima	9.16	38	P	P	13 51 47.6	-2.5
JAM	Amami Oshima	10.01	38	P	P	13 51 59.0	-2.9

JMA 01 13:56:26.6±0.4**, 20.70N×122.60E, M4.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.52	18	P	Pn	13 57 24.2	+0.5
HATJ				S	Sn	13 58 06.8	+0.1
JKRS	Kuro-shima	3.75	20	P	Pn	13 57 27.8	+0.8
JKRS				*e*S	Sn	13 58 12.0	-0.6
YOJ	Yonaguni jima	3.76	6	P	Pn	13 57 27.7	+0.6
YOJ				*e*S	Sn	13 58 14.8	+2.0
IRIF	Iriomote-Funau	3.77	16	P	Pn	13 57 27.4	+0.2
IRIF				S	Sn	13 58 13.3	+0.4
JIJ	Ishigaki jima	3.92	21	P	Pn	13 57 29.8	+0.5
JIJ				*e*S	Sn	13 58 16.3	-0.3
JTJ	Tarama	4.38	26	P	Pn	13 57 37.0	+1.1
JTJ				*e*S	Sn	13 58 27.8	-0.5
JOGS	Gusukube	4.80	32	P	Pn	13 57 42.5	+0.6
JOGS				*e*S	Sn	13 58 39.5	+0.5
JKE	Kume jima 2	6.79	34	*e*S	Sn	13 59 24.9	-4.1

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*NEIC **01** 14:09:04.7±0.4, 52.35N×173.32W, h98^{km}±5^{km}, Error ellipse: s-maj=18.3km s-min=5.2km az=165.0*

*IDC **01** 14:09:06.1±3.9, 52.43N×173.38W, h111^{km}±45^{km}, mb3.4/8, mb1 3.6/10, mb1mx3.4/25, Error ellipse: s-maj=37.3km s-min=23.7km az=15.0*

ISC 01 14:09:03.9±0.4**, 52.4N**±0.1×**173.34W**±0.07**, h103^{km}**±6^{km}**, n30, σ0^{s}75**/40**, mb3.6**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.57	248	P	P	14 09 18.9	-1.7
ATKA				S	S	14 09 30.3	-2.9
GSIG	Igitkin Island	1.65	256	P	P	14 09 31.9	-0.7
GSIG				S	S	14 09 53.9	0.0
GSTR	Great Sitkin T	1.70	260	P	P	14 09 33.5	+0.2
GSMY	Great Sitkin M	1.71	258	P	P	14 09 33.1	-0.2
GSMY				S	S	14 09 55.8	+0.4
GSTD	Great Sitkin T	1.76	259	P	P	14 09 34.0	0.0
GSTD				S	S	14 09 56.2	-0.2
GSSP	Great Sitkin S	1.77	261	P	P	14 09 34.0	-0.2
GSSP				S	S	14 09 57.5	+0.8
ETKA	Kagalaska Isla	1.97	255	P	P	14 09 36.4	-0.3
ETKA				S	S	14 10 00.4	-0.6
ADAG	Mount Adagdak	2.06	259	P	P	14 09 38.6	+0.8
ADAG				S	S	14 10 04.3	+1.2
KIRH	Kanaga Island	2.37	259	P	P	14 09 43.3	+1.1
KINC	Kanaga Island	2.38	260	P	P	14 09 43.3	+1.0
KIWB	Kanaga Island	2.42	258	P	P	14 09 42.9	+0.1
KIMD	Kanaga Island	2.49	256	P	P	14 09 43.7	-0.1
KIMD				S	S	14 10 13.7	0.0
NIKO	Nikolski	2.79	77	P	P	14 09 47.6	-0.2
NIKO				S	S	14 10 21.9	+1.2
UNV	Unalaska Valle	4.36	68	P	P	14 10 09.0	-0.3
AKGG	Akutan Green G	4.75	65	P	P	14 10 15.0	+0.4
FX1	Attu Island--F	8.22	279	P	P	14 11 01.7	-0.3
	0.2nm,0.3s,baz=90,slow=20,SNR=2.9						
FX1				S	S	14 12 33.6	-0.3
	0.0nm,0.3s,baz=193,slow=18,SNR=2.4						
ILAR	Eielson Array	18.34	37	P	P	14 13 12.2	+0.1
	0.9nm,0.3s,baz=246,slow=11,SNR=79						
DAWY	Dawson	21.03	43	*e*P	P	14 13 40.8	+0.2
INK	Inuvik	24.67	35	P	P	14 14 15.7	-0.1
	2.1nm,0.8s,mb3.6,baz=250,slow=8.6,SNR=12						
DLBC	Dease Lake	24.94	59	P	P	14 14 19.4	+0.9
	0.9nm,0.9s,mb3.2,baz=233,slow=5.1,SNR=3.3						
YKA	Yellowknife Ar	32.04	48	P	P	14 15 21.3	-0.9
	0.3nm,0.6s,mb3.2,baz=275,slow=8.4,SNR=4.1						
HLID	Hailey	39.41	79	P	P	14 16 24.8	0.0
MCMT	McKenzie Canyo	39.64	76	*e*P	P	14 16 26.6	-0.1
NVAR	Mina Array Bea	40.09	88	P	P	14 16 31.8	+1.3
	1.0nm,0.8s,mb3.7,baz=301,slow=7.1,SNR=8.0						
NVAR	Mina Array Bea	40.09	88	P	P	14 16 31.8	+1.3
PDAR	Pinedale Array	42.77	77	P	P	14 16 52.6	+0.3
	0.5nm,0.4s,mb3.6,baz=315,slow=2.8,SNR=10						
ULM	Lac du Bonnet	46.26	60	P	P	14 17 18.8	-1.3
	0.9nm,0.3s,mb3.9,baz=324,slow=6.0,SNR=2.5						
ULM	Lac du Bonnet	46.26	60	P	P	14 17 18.8	-1.3
TXAR	Lajitas Array	55.17	86	P	P	14 18 26.8	-1.1
	1.3nm,0.7s,mb4.1,baz=312,slow=5.5,SNR=13						
HFS	Hagfors	67.66	356	P	P	14 19 50.8	-0.3
	0.8nm,0.8s,mb3.6,baz=9.5,slow=8.8,SNR=3.1						

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*MAN **01** 14:11:44.7, 20.06N×122.37E, h1^{km}, mb5.0, ML3.9, MS4.0*

*JMA **01** 14:11:48.0±0.3, 20.72N×122.49E, M4.4*

*NEIC **01** 14:11:50.1±2.3, 20.25N×122.79E, h69^{km}±26^{km}, mb4.1/1, Error ellipse: s-maj=21.4km s-min=12.0km az=63.0*

*IDC **01** 14:11:50.2±4.6, 20.23N×122.81E, h75^{km}±50^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.4/20, ML4.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=35.8km s-min=17.5km az=65.0*

ISC 01 14:11:42.1±0.3**, 20.28N**±0.03×**122.56E**±0.04**, h10^{km}, n37, σ1^{s}47**/54**, mb3.6**/6**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.58	286	*e*P	Pg	14 11 54.5	+0.8
BBP				*e*S	Sg	14 12 00.2	-1.4
SGCP	Mt. Cagua	2.09	193	*e*P	Pn	14 12 18.1	+0.5
SGCP				*e*S	Sn	14 12 41.9	-1.9
APYP	Conner	2.71	208	*e*P	Pn	14 12 26.2	-0.3
APYP				*e*S	Sn	14 13 08.3	+8.7
CAUP	Cauayan	3.39	192	*e*P	Pn	14 12 38.6	+2.4
HATJ	Hateruma jima	3.93	17	P	Pn	14 12 45.7	+1.8
HATJ				S	Sn	14 13 28.4	-2.2
JKRS	Kuro-shima	4.16	19	P	Pn	14 12 49.2	+2.1
JKRS				S	Sn	14 13 35.1	-1.3
IRIF	Iriomote-Funau	4.18	15	P	Pn	14 12 48.9	+1.5
IRIF				S	Sn	14 13 34.6	-2.2
YOJ	Yonaguni jima	4.18	6	P	Pn	14 12 49.2	+1.8
BCPH	Baguio City Da	4.31	206	⇓ *i*P	Pn	14 12 49.6	+0.4
BCPH				*i* S	Sn	14 13 39.8	-0.4
JIJ	Ishigaki jima	4.32	20	P	Pn	14 12 51.2	+1.8
JIJ				S	Sn	14 13 37.9	-2.5
BALP	Baler	4.61	192	*e*P	Pn	14 12 53.6	+0.1
BOLP	Bolinao	4.62	213	*e*P	Pn	14 12 54.1	+0.5
BOLP				*e*S	Sn	14 13 46.5	-1.6
JTJ	Tarama	4.77	24	P	Pn	14 12 58.2	+2.4
JTJ				S	Sn	14 13 49.1	-2.7
SCZP	Santa Cruz	5.14	210	*e*P	Pn	14 12 58.8	-2.2
JMJ	Miyako jima 2	5.17	29	P	Pn	14 13 04.5	+3.0
JMJ				*e*S	Sn	14 14 02.3	+0.4
JOGS	Gusukube	5.18	30	P	Pn	14 13 04.1	+2.6
JOGS				*e*S	Sn	14 14 01.6	-0.5
POLP	Polilio Island	5.55	186	*e*P	Pn	14 13 07.4	+0.5
TGY	Tagaytay City	6.34	194	LR	LR	14 16 01.1	
	comp=Z,165nm,18.6s,baz=68,slow=40						
JKE	Kume jima 2	7.16	32	P	Pn	14 13 30.4	+0.9
JKE				*e*S	Sn	14 14 48.2	-3.5
JJT2	Tamagusuku 2	7.53	38	P	Pn	14 13 36.4	+1.7
JAGN	Aguni-jima	7.61	34	P	Pn	14 13 36.6	+0.8
JAGN				*e*S	Sn	14 14 59.8	-3.1
JIH	Iheya	8.35	35	P	P	14 13 46.5	+0.4
JOW	Kunigami	8.37	38	P	P	14 13 47.5	+1.1
	9.4nm,0.3s,baz=208,slow=12,SNR=42						
JOW				S	Sn	14 15 13.7	-8.2
	2.4nm,0.3s,baz=114,slow=19,SNR=5.0						
JOW	Kunigami	8.37	38	P	P	14 13 46.9	+0.6
JOW				*e*S	Sn	14 15 14.9	-6.9
JTK	Tokunoshima	9.48	37	P	P	14 14 01.5	-0.3
JTK				*e*S	Sn	14 15 40.2	-9.3
JAM	Amami Oshima	10.33	37	P	P	14 14 13.1	-0.4
JZK	Kikaishima	10.47	39	P	P	14 14 15.6	+0.2
JZK				*e*S	S	14 16 11.8	-2.0
CMAR	Chiang Mai Arr	22.35	269	P	P	14 16 45.3	+3.5
	0.9nm,0.9s,mb3.2,baz=86,slow=9.1,SNR=3.5						
LSA	Lhasa	29.89	295	P	P	14 17 53.6	+1.3
SONM	Songino Array	30.44	338	P	P	14 17 56.2	-0.8
	0.3nm,0.8s,mb3.1,baz=143,slow=7.2,SNR=2.5						
FITZ	Fitzroy Crossi	38.27	175	*e*P	P	14 19 02.1	-2.4
	2.3nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	38.27	175	P	P	14 19 01.7	-2.7
	2.5nm,0.9s,mb3.9,baz=121,slow=6.5,SNR=5.8						
WRA	Warramunga Arr	41.61	163	P	P	14 19 30.5	-1.7
	2.1nm,0.7s,mb3.9,baz=343,slow=9.1,SNR=24						
MKAR	Makanchi Array	42.05	318	P	P	14 19 35.9	+0.4
	1.4nm,0.7s,mb3.7,baz=114,slow=9.0,SNR=4.4						
ASPA	Alice Springs	45.06	165	*e*P	P	14 20 00.1	-0.1
BVAR	Borovoye Array	51.51	322	P	P	14 20 50.2	+0.3
	0.7nm,0.5s,mb3.8,baz=101,slow=7.3,SNR=4.2						
KHC	Kasperske Hory	86.60	322	*e*P	P	14 24 27.5	+0.6

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*MAN **01** 14:27:05.6, 20.37N×122.33E, h32^{km}, mb4.9, ML3.8, MS4.0*

MAN F Intensity II - Basco Batanes.

*NEIC **01** 14:27:05.8±1.0, 20.04N×122.58E, h15^{km}, Error ellipse: s-maj=22.3km s-min=15.3km az=151.0*

NEIC Felt [II PIVS] at Basco.

*JMA **01** 14:27:08.8±0.2, 20.69N×122.51E, M4.5*

*IDC **01** 14:27:08.8±5.6, 20.07N×122.63E, h36^{km}±49^{km}, mb3.5/5, mb1 3.9/6, mb1mx3.6/18, ML4.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=30.6km s-min=23.7km az=66.0*

ISC 01 14:27:05.7±0.3**, 20.32N**±0.03×**122.42E**±0.05**, h33^{km}, n35, σ1^{s}23**/56**, mb3.5**/5**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.44	286	*e*P	P	14 27 15.8	+0.3
BBP				*e*S	S	14 27 21.5	-0.8
SGCP	Mt. Cagua	2.10	190	*e*P	P	14 27 39.3	+0.2
SGCP				*e*S	S	14 28 02.2	-2.1
APYP	Conner	2.69	205	*e*P	P	14 27 47.6	+0.1
APYP				*e*S	S	14 28 17.2	-2.0
ABRA	Dolores	3.11	212	*e*P	P	14 27 53.6	0.0
ABRA				*e*S	S	14 28 29.3	-0.7
PALP	Palanan	3.24	180	*e*P	P	14 27 55.8	+0.3
PALP				*e*S	S	14 28 28.4	-4.9
CAUP	Cauayan	3.41	190	*e*P	P	14 27 59.8	+2.0
CAUP				*e*S	S	14 28 40.0	+2.4
HATJ	Hateruma jima	3.93	19	P	P	14 28 06.8	+1.5
HATJ				*e*S	S	14 28 49.6	-1.3
YOJ	Yonaguni jima	4.16	7	P	P	14 28 10.2	+1.7
YOJ				*e*S	S	14 28 56.3	-0.3
JKRS	Kuro-shima	4.17	20	P	P	14 28 10.3	+1.7
JKRS				*e*S	S	14 28 55.8	-1.0
IRIF	Iriomote-Funau	4.18	17	P	P	14 28 10.1	+1.4
IRIF				*e*S	S	14 28 55.8	-1.2
BCPH	Baguio City Da	4.29	204	*i* P	P	14 28 10.6	+0.2
JIJ	Ishigaki jima	4.33	21	P	P	14 28 12.2	+1.3
JIJ				S	S	14 28 58.8	-2.1
BOLP	Bolinao	4.58	212	*e*P	P	14 28 14.2	-0.3
BOLP				*e*S	S	14 29 07.8	+0.4
BALP	Baler	4.62	190	*e*P	P	14 28 14.9	-0.2
JTJ	Tarama	4.79	26	P	P	14 28 19.0	+1.5
JTJ				S	S	14 29 11.2	-1.3
SCZP	Santa Cruz	5.11	208	*e*P	P	14 28 17.8	-4.2
SCZP				*e*S	S	14 29 20.0	-0.6
JMJ	Miyako jima 2	5.20	30	P	P	14 28 25.4	+2.2
JMJ				*e*S	S	14 29 22.9	0.0
JOGS	Gusukube	5.21	31	P	P	14 28 25.1	+1.8
JOGS				*e*S	S	14 29 22.1	-1.0
POLP	Polilio Island	5.58	185	*e*P	P	14 28 28.4	-0.1
TGY	Tagaytay City	6.34	193	LR	LR	14 30 44.7	
	comp=Z,76nm,21.2s,baz=134,slow=35						
PVCP	Virac	6.89	166	*e*P	P	14 28 46.7	-0.3
JKE	Kume jima 2	7.20	33	P	P	14 28 51.5	+0.2
JKE				*e*S	S	14 30 08.1	-4.7
JAGN	Aguni-jima	7.65	34	P	P	14 28 57.7	+0.2
JAGN				*e*S	S	14 30 19.7	-4.3
JIH	Iheya	8.40	36	P	P	14 29 07.5	-0.4
JIH				*e*S	S	14 30 37.2	-5.4
JOW	Kunigami	8.42	39	Pn	P	14 29 08.4	+0.2
	11nm,0.3s,baz=213,slow=9.8,SNR=95						
JOW				Sn	Sn	14 30 35.2	-8.0
	2.4nm,0.3s,baz=107,slow=19,SNR=4.6						
JOW	Kunigami	8.42	39	P	P	14 29 08.1	-0.1
JOW				*e*S	S	14 30 36.0	-7.1
JTK	Tokunoshima	9.53	38	P	P	14 29 22.5	-1.2
JTK				*e*S	S	14 31 01.3	-9.5
JAM	Amami Oshima	10.38	38	P	P	14 29 34.2	-1.2
QIZ	Qiongzhong	11.92	266	*e*Pn	P	14 29 55.6	-0.7
CMAR	Chiang Mai Arr	22.22	269	P	P	14 32 05.4	+4.4
	1.0nm,0.8s,mb3.3,baz=78,slow=8.3,SNR=4.4						
SONM	Songino Array	30.36	338	P	P	14 33 20.6	+3.9
	0.3nm,0.8s,mb3.1,baz=158,slow=7.8,SNR=2.3						
WRA	Warramunga Arr	41.68	163	P	P	14 34 51.4	-1.8
	2.0nm,0.8s,mb3.8,baz=342,slow=9.1,SNR=11						
MKAR	Makanchi Array	41.94	319	P	P	14 34 57.4	+2.5
	1.3nm,0.7s,mb3.7,baz=109,slow=9.8,SNR=9.3						
YKA	Yellowknife Ar	86.07	23	P	P	14 39 47.4	+3.6
	0.3nm,0.6s,mb3.7,baz=309,slow=4.7,SNR=4.1						
YKA	Yellowknife Ar	86.07	23	P	P	14 39 47.4	+3.5

MAN 01 14:33:43.2, 12.24N×121.70E, h4^{km}, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTRP	Odiongan	0.34	69	*e*P	Pg	14 33 49.8	-0.2
OTRP				*e*S	Sg	14 33 55.1	+0.5
SJMP	San Jose	0.61	291	*e*P	Pg	14 33 55.5	+0.2
SJMP				*e*S	Sg	14 34 04.7	+1.3
RCP	Roxas	1.23	123	⇑ *e*P	Pb	14 34 06.5	-0.1
RCP				*e*S	Sb	14 34 24.3	+1.7
BUSP	Coron	1.48	261	*e*P	Pn	14 34 09.3	-1.5
CUYO	Cuyo Island	1.53	206	*e*P	Pn	14 34 10.8	-0.7
LUBP	Lubang	2.05	317	*e*P	Pn	14 34 18.9	0.0

NEIC 01 14:36:51.8, 60.01N×152.59W, h84^{km}, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILIM	Iliamna	0.20	290	P	P	14 37 03.2	-0.8
ILIM				S	S	14 37 13.1	-0.1
INE	Iliamna NE	0.24	281	P	P	14 37 03.4	-0.9
INE				S	S	14 37 13.7	+0.1
IVS	Iliamna South	0.25	269	P	P	14 37 03.9	-0.4
IVS				S	S	14 37 14.1	+0.4
ILW	Iliamna West	0.28	280	P	P	14 37 03.6	-0.9
ILW				S	S	14 37 14.1	+0.1
RSO	Redoubt South	0.46	350	P	P	14 37 05.1	-0.6
RSO				S	S	14 37 15.8	-0.3
REF	Redoubt East F	0.48	353	P	P	14 37 05.2	-0.6
REF				S	S	14 37 17.0	+0.5
RDT	Redoubt	0.57	9	P	P	14 37 05.7	-1.0
RDT				S	S	14 37 17.3	-0.4
NNL	Ninilchik	0.65	87	P	P	14 37 07.8	+0.2
XLV	Seldovia	0.71	141	P	P	14 37 07.4	-0.8
XLV				S	S	14 37 20.4	+0.1
AUL	Augustine Lava	0.77	214	P	P	14 37 08.2	-0.6
AUL				S	S	14 37 21.6	+0.4
AGU	Augustine-Summ	0.78	213	P	P	14 37 08.3	-0.7
CNPM	China Poot	0.84	125	P	P	14 37 08.6	-0.9
CNPM				S	S	14 37 23.1	+0.3
BRLK	Bradley Lake	0.90	106	P	P	14 37 09.3	-0.8
BRLK				S	S	14 37 24.2	+0.4
BKG	Blockade Glaci	1.07	9	P	P	14 37 11.4	-0.8
BKG				S	S	14 37 26.9	-0.6
CKL	Chakachamna La	1.19	6	P	P	14 37 12.8	-1.0
SPU	Mount Spurr	1.20	13	P	P	14 37 12.8	-1.0
SPU				S	S	14 37 30.3	-0.1
BGL	Barrier Glacie	1.26	4	P	P	14 37 13.7	-0.8
SLKM	Skilak Lake	1.28	66	P	P	14 37 14.3	-0.6
SEW	Seward	1.58	85	P	P	14 37 17.0	-1.8
SEW				S	S	14 37 37.5	-1.2
MPA	Moose Pass	1.68	72	P	P	14 37 18.9	-1.2
SUA	Susitna One	1.71	31	P	P	14 37 20.0	-0.6
RC01	Rabbit Creek A	1.78	51	P	P	14 37 20.3	-1.1
SVW	Sparrevohn	1.86	308	P	P	14 37 20.6	-1.9
KARR	Katmai Rainbow	1.87	216	P	P	14 37 21.4	-1.2
PMS	Palmer South	1.94	49	P	P	14 37 22.7	-0.9
PMS				S	S	14 37 46.2	-0.8
KAWH	Katmai	1.99	216	P	P	14 37 22.7	-1.6
KAWH				S	S	14 37 45.2	-3.0
SKT	Skwentna	2.04	14	P	P	14 37 23.5	-1.5
PWA	Palmer West	2.11	38	P	P	14 37 25.2	-0.7
KDAK	Kodiak Island	2.24	180	P	P	14 37 24.8	-3.0
KDAK				S	S	14 37 51.5	-2.8
KABR	Katmai Barrier	2.25	214	P	P	14 37 26.2	-1.7
KABR				S	S	14 37 55.0	+0.3
PWL	Port Wells	2.27	66	P	P	14 37 25.3	-2.9
PWL				S	S	14 37 52.8	-2.4
MGLS	Mageik LS	2.29	219	P	P	14 37 27.2	-1.3
PMR	Palmer	2.32	45	P	P	14 37 26.8	-2.1
PMR				S	S	14 37 54.1	-2.3
ANCK	Angle Creek	2.36	221	P	P	14 37 27.8	-1.6
ANCK				S	S	14 37 55.7	-1.6
CAHL	Cahill	2.42	217	P	P	14 37 28.9	-1.3
KNK	Knik Glacier	2.47	54	P	P	14 37 28.7	-2.3
KNK				S	S	14 37 57.8	-2.3
KJL	Kejulik	2.50	219	P	P	14 37 30.2	-1.2
GHO	Glory Hole Cre	2.52	44	P	P	14 37 29.7	-1.9
GHO				S	S	14 38 00.5	-0.7
CUT	Chulitna	2.65	24	P	P	14 37 32.2	-1.2
SML	Sawmill	2.75	47	P	P	14 37 32.6	-2.3
HIN	Hinchinbrook I	3.06	80	P	P	14 37 35.5	-3.7
SCM	Sheep Creek Mo	3.15	52	P	P	14 37 37.9	-2.5
MID	Middleton Isla	3.22	98	P	P	14 37 38.9	-2.5
TT01	Tatalina	3.34	332	P	P	14 37 40.5	-2.5
CVA	Cordova	3.45	78	P	P	14 37 40.7	-3.9
EYAK	Cordova Ski Ar	3.45	78	P	P	14 37 42.0	-2.5
DIV	Divide	3.55	69	P	P	14 37 42.4	-3.5
KLU	Klutina	3.59	63	P	P	14 37 43.3	-3.3
SGAM	Sherman Glacie	3.71	79	P	P	14 37 45.5	-2.7
RAGM	Ragged Mountai	3.97	81	P	P	14 37 49.3	-2.5
BMRM	Bremner River	4.07	73	P	P	14 37 48.9	-4.2
BMRM				S	S	14 38 33.2	-6.6
KAIM	Kayak Island	4.11	88	P	P	14 37 51.8	-1.9
MCK	McKinley	4.11	23	P	P	14 37 50.5	-3.2
HMT	Hamilton	4.17	82	P	P	14 37 52.7	-1.9
SDG	Sourdough	4.23	50	P	P	14 37 52.8	-2.6
PAX	Paxson	4.52	46	P	P	14 37 57.1	-2.3
GLB	Gilahina Butte	4.54	68	P	P	14 37 55.9	-3.8
GLB				S	S	14 38 46.0	-5.7
WAX	Waxell Ridge	4.88	81	P	P	14 38 01.9	-2.4
WAX				S	S	14 38 52.8	-7.1
BALM	Baldy	5.17	74	P	P	14 38 05.7	-2.5
COLA	College	5.35	22	P	P	14 38 08.6	-2.2
YAH	Yahtse	5.42	82	P	P	14 38 09.9	-1.9
IL1	Eielson Array	5.46	27	P	P	14 38 09.3	-3.0
CTGM	Chitina Glacie	5.65	75	P	P	14 38 12.8	-2.0
BCA3	Beaver Creek A	6.00	55	P	P	14 38 16.2	-3.5
IM3	Indian Mountai	6.02	355	P	P	14 38 17.8	-2.1
PCA	Pinnacle	6.18	84	P	P	14 38 19.8	-2.4
PNL	Peninsula	6.66	87	P	P	14 38 25.7	-3.2
DLBC	Dease Lake	11.65	88	P	P	14 39 35.1	-1.4

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*ATH **01** 14:58:38.5, 38.90N×20.55E, h7^{km}±3^{km}, MD3.6/15, ML3.7*

*NEIC **01** 14:58:39.3, 38.96N×20.55E, h11^{km}, ML3.7(ATH), After ATH.*

*THE **01** 14:58:39.2, 38.88N×20.60E, h10^{km}, ML3.7*

ISC 01 14:58:39.3±0.4**,38.93N**±0.02×**20.54E**±0.04**,h7^{km},n40,**
σ1^{s}42/60**,2C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	Levkas	0.24	158	*e*Pg	Pg	14 58 44.1	-0.3
IGT	Igoumenitsa	0.62	345	*e*Pg	Pg	14 58 50.9	-0.9
IGT				*e*Sg	Sg	14 59 02.8	+2.8
VLS	Valsamata	0.76	177	*e*Pb	Pb	14 58 52.5	-1.9
VLS				*e*Sb	Sb	14 59 07.0	+2.3
JAN	Janina	0.76	19	*e*PB	Pb	14 58 52.8	-1.7
JAN				*e*SB	Sb	14 59 04.5	-0.4
KEK	Kerkira	0.97	324	*e*PB	Pb	14 58 57.5	-0.5
EVR	Evrytania	0.99	91	*e*PB	Pb	14 58 55.8	-2.7
EVR				*e*SB	Sb	14 59 11.5	-0.1
MEV	Metsovon	1.01	32	*e*Pg	Pg	14 58 57.4	-2.1
	comp=Z,31nm,0.1s						
MEV				*e*Sg	Sg	14 59 13.6	+0.7
SRN	Sarande	1.03	337	*e*Pn	Pn	14 58 58.4	-1.7
SRN				*i* Sn	Sn	14 59 15.2	+0.3
LSK	Leskovik	1.22	2	*e*Pn	Pn	14 59 04.0	+1.3
LSK				*i* Sn	Sn	14 59 22.2	+2.6
AGG	Agios Georgios	1.40	86	*e*Pb	Pb	14 59 03.9	-1.6
	comp=Z,33nm,0.1s						
AGG				*e*Sb	Sb	14 59 23.6	+0.1
KZN	Kozani	1.67	34	*e*PN	Pn	14 59 11.0	+1.7
LIT	Litokhoron	1.91	52	*e*Pb	Pb	14 59 12.7	-1.5
	comp=Z,7.1nm,0.2s						
LIT				*e*Sb	Sb	14 59 38.1	0.0
FNA	Florina	1.96	19	*e*Pn	Pn	14 59 14.0	+0.6
	comp=Z,2.9nm,0.2s						
FNA				*e*Sn	Sn	14 59 40.0	+1.5
ITM	Ithomi	2.07	147	*e*PN	Pn	14 59 15.7	+0.8
NEO	Neokhori	2.12	79	*e*PN	Pn	14 59 17.0	+1.3
BIA	Bitola	2.17	16	*i* Pn	Pn	14 59 14.2	-2.2
BIA				*i* Sn	Sn	14 59 40.8	-3.0
BIA				*i* Sg	Sg	14 59 44.5	-7.1
OHR	Ohrid	2.19	5	⇑*i*Pn	Pn	14 59 17.7	+1.1
OHR				⇑*i*		14 59 20.7	
OHR				*i* Sn	Sn	14 59 44.6	+0.4
OHR				*i* Sg	Sg	14 59 50.5	-1.6
MKIT	Kithairon Oros	2.26	108	*e*PN	Pn	14 59 18.0	+0.3
MKIT	Kithairon Oros	2.26	108	*e*Pn	Pn	14 59 19.5	+1.8
TIR	Tirane	2.47	348	*e*Pn	Pn	14 59 21.0	+0.4
TIR				*i* Sn	Sn	14 59 59.5	+8.2
GRG	Griva	2.48	35	*e*Pn	Pn	14 59 19.9	-0.9
GRG				*e*Sn	Sn	14 59 53.5	+1.9
NSAL	Nisos Salamina	2.52	113	*e*PN	Pn	14 59 22.2	+0.8
NSAL	Nisos Salamina	2.52	113	*e*Pn	Pn	14 59 24.0	+2.6
MPAR	Parnis Oros	2.63	106	*e*PB	Pb	14 59 22.5	-3.9
MPAR	Parnis Oros	2.63	106	*e*Pn	Pn	14 59 25.0	+2.0
PAIG	Paliouri	2.63	67	*e*Pn	Pn	14 59 21.8	-1.2
QSH	Qafa e Shtames	2.63	350	*i* Pn	Pg	14 59 34.0	+2.1
QSH				*i* Sn	Sg	15 00 07.0	+0.1
PLG	Polygyros	2.67	56	*e*PB	Pb	14 59 22.5	-4.6
ATH	Athens Observa	2.68	110	*e*PN	Pn	14 59 25.2	+1.6
ATH	Athens Observa	2.68	110	*e*Pg	Pg	14 59 27.5	-5.3
PTL	Penteli	2.76	108	*e*PB	Pb	14 59 24.5	-4.2
KNT	Kendrikon	2.87	38	*e*Pn	Pn	14 59 25.9	-0.5
KNT				*e*Sn	Sn	15 00 03.0	+1.4
SOH	Sokhos	2.87	48	*e*Pn	Pn	14 59 25.4	-1.0
SOH				*e*Sn	Sn	15 00 02.4	+0.7
VLI	Veliai	2.92	139	*e*PN	Pn	14 59 29.0	+1.9
TIP	Timpagrande	2.95	276	*e*Pn	Pn	14 59 27.9	+0.3
OUR	Ouranopolis	3.01	61	*e*Pn	Pn	14 59 27.0	-1.3
	comp=Z,5.2nm,0.4s						
OUR				*e*Sn	Sn	15 00 05.3	+0.3
SKO	Skopje	3.11	13	*e*Pn	Pn	14 59 27.4	-2.5
SKO				*i*		14 59 31.2	
SKO				*i*		14 59 37.0	
KYTH	Kithira	3.31	142	*e*PB	Pb	14 59 33.5	-4.6
ALN	Alexandroupoli	4.67	63	*e*Pn	Pn	14 59 50.4	-1.6
CII	Carovilli	5.52	302	*e*Pn	Pn	15 00 03.2	-0.7

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*PRU **01** 15:06:00.1,43.31N×15.74E*
*NEIC **01** 15:06:00.7±1.1,43.17N×14.77E,h10^{km},ML3.6(VIE),*
Error ellipse: s-maj=14.4km s-min=7.8km az=120.0
*LDG **01** 15:06:03.9±0.5,43.99N×15.17E,h10^{km},Ml3.1/7,Error*
ellipse: s-maj=14.3km s-min=7.7km az=164.0
ISC 01 15:05:58.3±0.7**,43.11N**±0.04×**14.84E**±0.05**,h10^{km},n38,**
σ1^{s}45/64**,5C-2D,Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	L'Aquila	1.30	235	*e*Pn	Pn	15 06 27.2	+4.6
CII	Carovilli	1.44	196	*e*Pn	Pn	15 06 26.4	+1.8
NVLJ	Novalja	1.46	1	*i* Pn	Pn	15 06 24.5	-0.4
NVLJ				*i* Sn	Sn	15 06 45.8	+1.6
STON	Ston	2.11	95	*i* Pn	Pn	15 06 28.9	-5.2
STON				*i* Sn	Sn	15 06 51.5	-9.2
BOJS	Bojanci	2.42	7	*i* Pn	Pn	15 06 39.3	+0.8
VBY	Vinica-Bojanci	2.42	7	*e*Sn	Sn	15 07 09.5	+1.0
SISC	Sisak	2.61	24	*i* Pn	Pn	15 06 39.8	-1.5
SISC				*i* Sg	Sn	15 07 16.6	+3.3
CEY	Cerknica	2.65	354	*e*Pn	Pn	15 06 42.8	+0.9
VISS	Visnje	2.70	360	*e*Pn	Pn	15 06 43.3	+0.7
LJU	Ljubljana	2.95	356	⇑*i*Pn	Pn	15 06 47.2	+1.1
LJU				*i* Sn	Sn	15 07 22.0	+0.1
VOY	Vojsko	3.00	347	*e*Pn	Pn	15 06 48.1	+1.2
VOY				*e*Sn	Sn	15 07 25.9	+2.5
CADS	Cadrg	3.22	346	*i* Pn	Pn	15 06 51.0	+1.0
OBKA	Obir	3.41	357	⇑*i*PN	Pn	15 06 53.6	+0.9
OBKA				*i* SN	Sn	15 07 33.5	-0.2
OBKA				*i* SG	Sg	15 07 51.4	-0.5
	41nm,0.5s						
KBA	Koelnbreinsper	4.11	346	⇑*i*PN	Pn	15 07 03.3	+0.6
KBA				*i* SN	Sn	15 07 52.4	+1.0
ARSA	Arzberg	4.17	6	⇓*i*PN	Pn	15 07 02.5	-1.1
ARSA				*i* SN	Sn	15 07 51.3	-1.7
WTTA	Wattenberg	4.74	333	⇑*i*PN	Pn	15 07 12.6	+1.1
WTTA				*i* SN	Sn	15 08 09.1	+1.9
MOA	Molln	4.76	355	⇑*i*PN	Pn	15 07 12.0	+0.1
MOA				*i* SN	Sn	15 08 07.3	-0.6
WATA	Walderalm	4.82	333	⇓*i*PN	Pn	15 07 14.2	+1.5
WATA				*i* SN	Sn	15 08 11.3	+2.0
SBF	Sospel	5.44	281	*e*Pn	Pn	15 07 26.1	+4.6
SBF				*e*Sn	Sn	15 08 26.9	+2.0
SBF				*e*Sg	Sg	15 08 58.7	-0.8
	7.3nm,0.5s						
GEC2	GERESS Array S	5.80	353	*e*Pn	Pn	15 07 25.7	-0.8
GEC2				*e*Sn	Sn	15 08 28.0	-5.8
FRF	La Foret Royal	5.99	277	*e*Pn	Pn	15 07 32.9	+3.6
FRF				*e*Sn	Sn	15 08 40.8	+2.0
	7.5nm,0.6s						
MBDF	Montbardon	6.05	288	*e*Pn	Pn	15 07 29.2	-0.9
MBDF				*e*Sn	Sn	15 08 37.1	-3.1
	2.5nm,0.4s						
KHC	Kasperske Hory	6.09	352	*e*PN	Pn	15 07 29.2	-1.5
KHC				*e*		15 07 37.7	
KHC				*e*		15 08 18.0	
KHC				*e*SN	Sn	15 08 36.1	-5.1
LMR	La Mourre	6.09	275	*e*Pn	Pn	15 07 34.5	+3.8
LMR				*e*Sn	Sn	15 08 42.4	+1.2
	2.4nm,0.5s						
WET	Wettzell	6.19	348	*e*Pn	Pn	15 07 31.0	-1.1
WET				*e*Sn	Sn	15 08 38.6	-5.1
LPG	La Plagne	6.28	295	*e*Pn	Pn	15 07 33.6	+0.3
LPG				*e*Sn	Sn	15 08 38.5	-7.4
	4.8nm,0.4s						
LPL	La Plagne	6.30	295	*e*Pn	Pn	15 07 33.6	0.0
LPL				*e*Sn	Sn	15 08 39.0	-7.4
	5.0nm,0.4s						
ORIF	Oris-en-Rattie	6.71	289	*e*Pn	Pn	15 07 39.9	+0.5
ORIF				*e*Sn	Sn	15 08 53.3	-3.4
	2.6nm,0.4s						
PRU	Pruhonice	6.89	358	*e*SN	Sn	15 08 54.4	-6.8
CABF	La Chapelle	7.14	302	*e*Pn	Pn	15 07 43.1	-2.3
HINF	Hinteralfeld	7.33	313	*e*Pn	Pn	15 07 43.9	-4.2
VIVF	Saint-Julien-l	7.54	287	*e*Pn	Pn	15 07 48.5	-2.5
MOX	Moxa	7.86	345	*e*P	Pn	15 07 53.0	-2.5
MOX				S	Sn	15 09 40.0	+15
MOX				Sg	Sg	15 10 20.0	0.0
CLL	Collm	8.30	352	*e*PN	P	15 08 00.0	-1.6
CLL				*e*		15 09 48.0	
CLL				*e*		15 09 57.0	
CLL				*e*		15 10 22.0	
CLL				*e*SG	Sg	15 10 32.0	-2.7
CLL	Collm	8.30	352	P	P	15 08 00.0	-1.6
CLL				Sg	Sx	15 10 22.0	
SMF	Signal de Mont	8.57	298	*e*Pn	P	15 08 03.7	-1.8
BGF	Bois d'Agland	9.20	296	*e*Pn	P	15 08 12.1	-1.9
SGMF	Saint Gilles	13.20	299	*e*Pn	P	15 09 05.7	-2.7

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*IDC **01** 15:12:14.5±11.0,36.91N×71.91E,h120^{km}±98^{km},mb3.2/6,*
mb1 3.3/8,mb1mx3.1/20,ML3.7/2,Error ellipse:
s-maj=72.7km s-min=21.0km az=28.0
*NNC **01** 15:12:30.6±10.0,38.85N×72.07E,Error ellipse:*
s-maj=114.8km s-min=55.7km az=173.0
ISC 01 15:12:23.4±0.9**,37.37N**±0.05×**72.1E**±0.1**,h205^{km}**±10^{km}**,**
n31,σ0^{s}99/35**,mb3.1**/6**,1C-1D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	4.92	14	P	P	15 13 38.0	+0.5
	SNR=354						
KZA	Kyzart	5.30	27	P	P	15 13 42.6	+0.1
	SNR=9.3						
EKS2	Erkin-Say	5.44	13	P	P	15 13 44.7	+0.4
	SNR=41						
AAK	Ala-Archa	5.58	19	P	P	15 13 46.6	+0.7
	SNR=22						
KBK	Karagaybulak	5.72	22	P	P	15 13 48.8	+0.9
	SNR=16						
THN	Thein Dam	5.77	148	*e*P	P	15 13 48.4	-0.1
THN				*e*S	S	15 14 52.6	-2.1
	55nm,0.4s						
DLH	Dalhousie	5.79	145	*e*P	P	15 13 49.0	+0.2
DLH				*e*S	S	15 14 50.0	-5.1
ULHL	Ulahol	5.83	32	P	P	15 13 48.9	-0.5
	SNR=19						
CHMS	Chumysh	5.98	19	P	P	15 13 51.0	-0.3
	SNR=17						
TKM2	Tokmak 2	6.17	25	P	P	15 13 53.7	+0.1
	SNR=31						
USP	Ospenovka	6.17	17	P	P	15 13 53.1	-0.6
	SNR=20						
SDNR	Sundarnagar	7.13	144	*e*P	P	15 14 06.0	-0.1
SDNR				*e*S	S	15 15 19.0	-7.2
DDI	Dehra Dun	8.62	143	*e*S	S	15 15 53.5	-7.5
MKAR	Makanchi Array	12.09	36	P	P	15 15 09.1	-0.9
	0.2nm,0.3s,baz=212,slow=12,SNR=5.4						
KOLN	Koldanda	13.64	131	*e*P	P	15 15 33.3	+3.7
	11nm,0.5s						
GKN	Gorkha	14.11	128	*e*P	P	15 15 38.0	+2.5
	68nm,0.4s						
KKN	Kakani	14.67	127	*e*P	P	15 15 44.0	+1.6
	7.8nm,0.2s						
DMN	Daman	14.68	128	*e*P	P	15 15 42.9	+0.3
	28nm,0.6s						
AB31	Akbulak array	14.77	327	P	P	15 15 44.2	+0.8
	1.0nm,0.6s,baz=136,slow=11,SNR=13						
AB31				⇑S	S	15 18 16.4	-5.4
	2.1nm,0.7s,baz=149,slow=22,SNR=6.8						
PKI	Pulchoki	14.90	127	*e*P	P	15 15 45.7	+0.4
	12nm,0.6s						
VOSK	Vostochnaya	15.37	358	⇓P	P	15 15 48.7	-2.2
	1.4nm,0.8s						
BVA0	Borovoye Array	15.70	356	P	P	15 15 56.2	+1.4
	slow=0.1,SNR=8.0						
BVAR	Borovoye Array	15.70	356	P	P	15 15 53.3	-1.5
	0.6nm,0.3s,baz=165,slow=11,SNR=7.1						
CHKZ	Chkalovo	16.33	357	P	P	15 16 01.3	-1.3
SONM	Songino Array	27.14	56	P	P	15 17 49.7	+0.3
	0.1nm,0.4s,mb2.8,baz=260,slow=8.8,SNR=2.8						
FINES	FINESS Array B	37.24	325	P	P	15 19 16.7	+0.2
	1.2nm,1.0s,mb3.4,baz=129,slow=8.9,SNR=4.1						
ARCES	ARCESS Array B	40.67	337	P	P	15 19 45.3	+0.5
	0.3nm,0.3s,mb3.1,baz=118,slow=8.8,SNR=7.8						
HFS	Hagfors	42.91	321	P	P	15 20 03.5	+0.5
	0.5nm,0.4s,mb3.3,baz=98,slow=10,SNR=5.9						
NB2	NORSAR Subarra	44.20	322	P	P	15 20 13.1	-0.2
	0.4nm,0.6s,mb2.9,baz=94,slow=7.9						
NOA	NORSAR Array B	44.20	322	P	P	15 20 13.2	0.0
	0.5nm,0.8s,mb2.9,baz=95,slow=7.8,SNR=3.8						
WRA	Warramunga Arr	81.74	123	P	P	15 24 19.0	-1.6
	0.7nm,1.1s,mb3.2,baz=310,slow=7.5,SNR=2.9						

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*IDC **01** 15:43:29.4±2.0,40.36N×123.95W,mb2.8/1,mb1 3.7/5,*
mb1mx3.5/23,ML3.4/3,Error ellipse: s-maj=21.0km
s-min=9.5km az=89.0
*NEIC **01** 15:43:32.4,40.32N×124.06W,h33^{km},ML3.4(NCEDC),*
After NCEDC.
ISC 01 15:43:29.3±1.4**,40.29N**±0.04×**124.09W**±0.09**,**
h18^{km}±12^{km}**,n41,σ0^{s}93**/42**,mb2.8**/1**,Near coast of**
northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	Horse Mountain	0.64	25	*e*P	Pb	15 43 44.1	+2.4
WDC	Whiskeytown Da	1.22	76	*e*P	Pb	15 43 51.8	+0.3
WDC				*e*S	Sb	15 44 05.0	-1.7
KRMB	Red Mountain	1.24	6	*e*P	Pb	15 43 52.1	+0.2
HOPS	Hopland	1.51	149	*e*P	Pn	15 43 55.8	0.0
YBH	Yreka Blue Hor	1.78	35	Pg	Pn	15 43 60.0	+0.4
	24nm,0.3s,baz=215,slow=14,SNR=246						
YBH				Lg		15 44 21.5	
	72nm,0.3s,baz=54,slow=19,SNR=22						
YBH	Yreka Blue Hor	1.78	35	*e*P	Pn	15 43 60.0	+0.4
KBO	Bosley Butte	1.92	357	*e*P	Pn	15 44 01.3	-0.4
NSHM	Saint Helena R	2.11	147	*e*Pn	Pn	15 44 04.3	0.0
OHCM	Honcut	2.22	115	*e*Pn	Pn	15 44 05.5	-0.5
HUMO	Hull Mountain	2.47	20	*e*Pn	Pn	15 44 09.6	+0.2
KEBM	Edson Butte	2.59	356	*e*Pn	Pn	15 44 10.7	-0.5
BEKR	Beckwourth	2.89	97	*e*Pn	Pn	15 44 15.8	+0.3
LKC	Lake Chabot	3.00	148	*e*Pn	Pn	15 44 17.7	+0.7
SAC	San Andreas	3.00	154	*e*Pn	Pn	15 44 16.9	-0.2
MOD	Modoc	3.28	59	*e*Pn	Pn	15 44 20.2	-0.8
HSO	Harness Mounta	3.32	13	*e*Pn	Pn	15 44 21.9	+0.4
WCN	Washoe City	3.48	105	*e*Pn	Pn	15 44 24.5	+0.7
CMB	Columbia Colle	3.65	127	*e*Pn	Pn	15 44 26.4	+0.1
SAO	San Andreas Ge	4.08	149	*e*Pn	Pn	15 44 31.4	-1.1
LRV	Little Rabbit	4.55	147	*e*Pn	Pn	15 44 38.6	-0.4
WVOR	Wild Horse Val	4.63	61	*e*Pn	Pn	15 44 37.9	-2.2
SSOR	Sweet Springs	4.72	14	*e*Pn	Pn	15 44 41.6	+0.2
OMM	Old Mammoth Mi	4.78	122	*e*Pn	Pn	15 44 41.8	-0.6
NVAR	Mina Array Bea	4.85	111	Pn	Pn	15 44 43.5	+0.2
	2.7nm,0.3s,baz=288,slow=15,SNR=106						
NVAR				Lg		15 45 58.8	
	0.4nm,0.3s,baz=283,slow=33,SNR=3.0						
VGB	Gordon Butte	5.76	24	*e*Pn	Pn	15 44 55.6	-0.5
TPH	Tonopah	5.77	110	*e*Pn	Pn	15 44 55.1	-1.2
SHW	Mount Saint He	6.05	12	*e*Pn	Pn	15 44 59.5	-0.8
LON	Longmire	6.67	14	*e*Pn	Pn	15 45 07.7	-1.2
HAWA	Hanford	6.94	27	*e*Pn	Pn	15 45 12.6	-0.2
LNOR	Lincton Mounta	7.01	35	*e*Pn	Pn	15 45 13.5	-0.2
GNW	Green Mountain	7.33	7	*e*Pn	Pn	15 45 17.1	-1.1
DUG	Dugway	8.62	87	*e*P	P	15 45 35.8	-0.5
MSU	Marysvale	9.39	97	*e*P	P	15 45 46.5	-0.3
NEW	Newport	9.40	30	Pn	P	15 45 48.5	+1.4
	0.2nm,0.3s,baz=210,slow=14,SNR=2.1						
HWUT	Hardware Ranch	9.57	78	*e*P	P	15 45 50.3	+1.0
SRU	San Rafael	10.52	92	*e*P	P	15 46 04.6	+2.2
PDAR	Pinedale Array	11.17	72	Pn	P	15 46 13.2	+2.0
	0.0nm,0.3s,baz=253,slow=9.4,SNR=9.4						
SDCO	Great Sand Dun	14.67	94	*e*P	P	15 46 59.4	+1.6
TXAR	Lajitas Array	19.97	117	P	P	15 48 03.7	+0.2
	baz=301,slow=10,SNR=4.6						
YKA	Yellowknife Ar	22.96	11	P	P	15 48 34.0	+0.6
	0.2nm,0.5s,mb2.8,baz=197,slow=12,SNR=3.6						
YKA	Yellowknife Ar	22.96	11	P	P	15 48 34.0	+0.6

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*HEL **01** 15:51:31.8±0.1,67.80N×20.29E,ML1.7,ML1.5(BER),*
ML2.1(NAO),Explosion
*NAO **01** 15:51:32.3±3.3,67.85N×20.43E,ML2.1*
*BER **01** 15:51:33.9±3.7,67.88N×20.20E,ML1.5,ML2.1(NAO),*
Suspected explosion
ISC 01 15:51:28.1±0.5**,67.70N**±0.03×**19.96E**±0.08**,n15,σ1^{s}52**/25**,**
Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	Kilpisjarvi	1.35	13	*e*P	Pb	15 51 54.1	+0.1
KIF				*e*S	Sb	15 52 10.3	-1.4
KTK1	Kautokeino	1.80	41	*e*P	Pn	15 52 02.6	+2.0
KTK1				*e*SN	Sn	15 52 25.7	+1.2
KTK1				AML	AML	15 52 29.0	
	comp=Z,8.4nm,0.3s						
TRO	Tromso	1.98	350	*e*P	Pn	15 52 05.5	+2.3
TRO				*e*SG	Sg	15 52 30.6	-3.5
TRO				AML	AML	15 52 33.3	
	comp=Z,7.7nm,0.5s						
LOF	Lofoten	2.46	283	*e*SG	Sg	15 52 50.8	+0.6
LOF				AML	AML	15 52 56.0	
	comp=Z,3.6nm,0.6s						
SGF	Sodankyl	2.53	93	*e*P	Pn	15 52 12.4	+1.3
SGF				*e*S	Sn	15 52 42.5	-0.7
MOR8	Moi Rana	2.66	237	*e*SG	Sg	15 52 56.4	-0.2
MOR8				AML	AML	15 52 58.4	
	comp=Z,7.9nm,0.4s						
ARA0	ARCESS Array S	2.75	45	*e*P	Pn	15 52 14.0	-0.2
ARA0				*e*SG	Sg	15 52 51.5	-8.1
ARA0	ARCESS Array S	2.75	45	Pn	Pn	15 52 14.0	-0.2
	baz=229,slow=14						
ARA0				Sg	Sg	15 52 51.5	-8.1
	baz=229,slow=28						
KEV	Kevo	3.30	48	*e*P	Pn	15 52 22.3	+0.2
KEV				*e*S	Sn	15 52 59.5	-3.1
OUL	Oulu	3.55	135	*e*P	Pn	15 52 27.8	+2.2
OUL				*e*S	Sn	15 53 09.0	+0.2
OUL				*e*		15 53 28.3	
OUL				MSG		15 53 32.5	
	comp=Z,1.5nm,0.3s						
MSF	Maaselka	4.01	112	*e*P	Pn	15 52 33.5	+1.3
MSF				*e*S	Sn	15 53 18.9	-1.8
MSF				*e*SG	Sg	15 53 34.0	-7.7
MSF				MSG		15 53 38.7	
	comp=Z,1.4nm,0.4s						
FIA0	FINESS Array S	6.80	154	*e*	Sg	15 55 07.8	-6.9
FIA0	FINESS Array S	6.80	154	Sg	Sg	15 55 07.8	-6.9
	baz=342,slow=37						
HFS	Hagfors	8.07	203	*e*	Sg	15 55 54.6	-2.3
HFS	Hagfors	8.07	203	Sg	Sg	15 55 54.6	-2.3
	baz=21,slow=28						

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*STR **01** 16:21:29.5±1.4,47.66N×8.97E,h10^{km}±1^{km},Ml2.0,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*BGR **01** 16:21:29.5±0.2,47.73N×9.00E,h20^{km},ML2.1/4,Error*
ellipse: s-maj=3.3km s-min=2.2km az=149.0
*ZUR **01** 16:21:29.9,47.70N×8.96E,h20^{km},ML2.0/9*
*LEDBW **01** 16:21:30.0±0.1,47.69N×8.98E,h18^{km}±1^{km},ML2.0,Error*
ellipse: s-maj=4.0km s-min=2.0km az=117.0
*LDG **01** 16:21:30.4±0.2,47.71N×8.94E,h2^{km},Md2.4/2,Ml2.4/9,*
Error ellipse: s-maj=4.4km s-min=2.3km az=158.0
*NEIC **01** 16:21:30.0,47.70N×9.00E,h19^{km},ML2.5(VIE),*
ML2.4(LDG),ML2.0(STR),ML1.9(ZUR),After ZUR.
ISC 01 16:21:30.5±0.2**,47.70N**±0.02×**8.92E**±0.02**,h20^{km},n55,**
σ0^{s}98/98**,17C-9D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISB	Singen-Sch Ber	0.03	115	⇓*i*Pg	Pb	16 21 33.3	-0.7
SISB				Sg	Sb	16 21 35.8	-0.6
STEIN	Stein am Rhein	0.05	232	⇑*i*Pg	Pb	16 21 33.6	-0.4
	7.5nm,0.3s						
STEIN				*i* Sg	Sb	16 21 36.3	-0.2
	7.5nm,0.3s						
TRULL	Truellikon	0.17	253	⇑*i*Pg	Pb	16 21 35.2	0.0
	22nm,0.3s						
TRULL				*e*Sg	Sb	16 21 38.9	+0.5
	22nm,0.3s						
WEIN	Weingarten	0.18	166	⇓*i*Pg	Pb	16 21 34.7	-0.6
	12nm,0.1s						
WEIN				*i* Sg	Sb	16 21 38.2	-0.4
	12nm,0.1s						
FLACH	Flaach	0.27	242	⇑*i*Pg	Pb	16 21 36.6	-0.1
	2.7nm,0.2s						
WILA	Wila	0.28	182	⇓*i*Pg	Pb	16 21 36.4	-0.5
	12nm,0.3s						
WILA				*i* Sg	Sb	16 21 41.1	-0.2
	12nm,0.3s						
WILA	Wila	0.28	182	*e*Pg	Pb	16 21 36.4	-0.5
	SNR=33						
WILA				*e*Sg	Sb	16 21 41.0	-0.3
SLE	Schleitheim	0.30	283	⇑*i*Pg	Pb	16 21 37.0	-0.1
	2.9nm,0.1s						
SLE				*i* Sg	Sb	16 21 41.8	+0.2
	2.9nm,0.1s						
SLE	Schleitheim	0.30	283	*e*Pg	Pb	16 21 37.0	-0.1
	SNR=45						
SLE				*e*Sg	Sb	16 21 41.7	+0.1
GUT	Gutenstein	0.39	19	⇓*i*Pg	Pb	16 21 38.0	-0.7
GUT				PmP		16 21 39.3	
GUT				*i* Sg	Sb	16 21 43.6	-0.6
GUT				SmS		16 21 45.8	
GUT	Gutenstein	0.39	19	⇓*i*P	Pb	16 21 38.0	-0.7
GUT				*i* S	Sb	16 21 43.6	-0.6
ZUR	Zurich	0.40	215	⇑*i*Pg	Pb	16 21 38.7	-0.1
	20nm,0.4s						
ZUR				*i* Sg	Sb	16 21 44.9	+0.4
	20nm,0.4s						
ZUR	Zurich	0.40	215	*e*Pg	Pb	16 21 38.7	-0.2
	SNR=2.8						
ZUR				*e*Sg	Sb	16 21 44.8	+0.3
SPAK	Spaichingen	0.41	347	Pg	Pb	16 21 38.8	-0.1
MSS	Messtetten	0.48	3	⇑*e*P	Pb	16 21 39.7	-0.4
MSS				*e*S	Sb	16 21 46.5	-0.2
KAMOR	Kamor	0.56	137	*e*Pg	Pb	16 21 41.1	-0.4
	SNR=3.9						
KAMOR				*e*Sg	Sb	16 21 49.0	0.0
FELD	Feldberg	0.65	286	Pg	Pb	16 21 43.1	+0.2
FELD	Feldberg	0.65	286	Pg	Pb	16 21 43.0	+0.1
FELD				Sg	Sb	16 21 52.2	+0.8
PLONS	Plons	0.72	154	⇑*i*Pg	Pb	16 21 44.0	-0.2
	1.0nm,0.3s						
PLONS				*i* Sg	Sb	16 21 53.6	0.0
	1.0nm,0.3s						
KIZ	Kirchzarten	0.72	291	⇑*e*Pn	Pn	16 21 44.3	-1.2
KIZ				Sn	Sn	16 21 54.2	-1.8
BFO	Black Forest	0.75	328	*e*Pg	Pb	16 21 44.5	-0.1
	SNR=8.7						
BFO				*e*Sg	Sb	16 21 54.5	+0.1
BFO	Black Forest	0.75	328	*e*Pg	Pb	16 21 44.5	-0.1
BFO				*e*Sg	Sb	16 21 54.5	+0.1
MUO	Muotathal	0.76	195	⇓*i*Pg	Pb	16 21 44.9	+0.1
	8.0nm,0.5s						
MUO				*e*Sg	Sb	16 21 55.5	+0.8
	8.0nm,0.5s						
DAVA	Damuels	0.77	122	⇑*i*PG	Pb	16 21 44.8	-0.2
DAVA				*i* SG	Sb	16 21 54.5	-0.5
	12nm,0.2s						
UBR	Uberruh	0.80	91	⇑*e*Pn	Pn	16 21 45.1	-1.5
UBR				Pg	Pb	16 21 45.6	0.0
UBR				Sg	Sb	16 21 55.9	0.0
UBR	Uberruh	0.80	91	⇑*e*PN	Pn	16 21 45.1	-1.5
UBR				SG	Sb	16 21 55.9	0.0
BUCH	Bad Urach	0.80	21	⇓*i*Pn	Pn	16 21 44.7	-1.9
BUCH				⇑*i*Pg	Pb	16 21 45.4	-0.2
BUCH				*i* Sg	Sb	16 21 56.4	+0.3
BUCH	Bad Urach	0.80	21	⇑*i*PG	Pb	16 21 45.4	-0.2
BUCH				*i* SG	Sb	16 21 56.4	+0.4
BUCH	Bad Urach	0.80	21	⇓*i*Pn	Pn	16 21 44.7	-1.9
BUCH				⇑*i*Pg	Pb	16 21 45.4	-0.2
BUCH				*i* Sg	Sb	16 21 56.4	+0.4
LLS	Linth-Limmern	0.85	176	⇑*i*P*	Pb	16 21 46.2	-0.2
	0.9nm,0.4s						
BALST	Balsthal	0.91	247	⇑*i*Pn	Pn	16 21 46.7	-1.4
	2.7nm,0.4s						
LBG	Lerchenberg	0.97	355	⇓*e*Pn	Pn	16 21 48.0	-1.1
LBG				Pg	Pb	16 21 48.5	0.0
OBER	Oberstdorf	0.97	107	*e*Pg	Pb	16 21 48.2	-0.3
OBER				*e*Sg	Sb	16 22 01.4	+0.5
BBS	Basel-Blauen	0.99	257	Pg	Pb	16 21 47.7	-1.0
BOURR	Bourrignon	1.19	256	*e*Pn	Pn	16 21 50.5	-1.6
BOURR				*e*Pg	Pn	16 21 54.2	+2.1
	SNR=2.7						
BOURR				*e*Sn	Sn	16 22 05.8	-1.9
MOF	Molkenrain	1.22	278	Pg	Pn	16 21 53.1	+0.5
HDH	Heidenheim	1.23	44	Sg	Sb	16 22 08.0	-0.5
WLS	Welschbruch	1.27	305	Pg	Pn	16 21 56.3	+3.0
CDF	Champ du Feu	1.32	303	*e*Pg	Pn	16 21 54.9	+0.9
CDF				*e*Sg	Sb	16 22 11.6	+0.8
	4.8nm,0.2s						
HINF	Hinteralfeld	1.40	276	*e*Pg	Pn	16 21 57.9	+2.7
HINF				*e*Sg	Sn	16 22 13.8	+0.6
	4.0nm,0.3s						
MOTA	Moosalm	1.52	103	⇑*i*PN	Pn	16 21 57.2	+0.3
MOTA				*i* SN	Sn	16 22 17.4	+1.2
SQTA	Sankt Quirin	1.62	106	⇑*i*PN	Pn	16 21 59.9	+1.6
SQTA				*i* SN	Sn	16 22 20.5	+1.7
SIND	Sindeldorf	1.71	15	Pg	Pn	16 22 01.8	+2.2
HAU	Haudompre	1.76	281	*e*Pg	Pn	16 22 03.5	+3.2
HAU				*e*Sg	Sn	16 22 25.6	+3.2

	7.5nm,0.3s						
CABF	La Chapelle	2.22	242	*e*Pg	Pn	16 22 11.6	+4.7
CABF				*e*Sg	Sn	16 22 40.5	+6.5
	4.0nm,0.3s						
GRF	Grafenberg Arr	2.51	36	*e*Sg	Sn	16 22 47.6	+6.2
MEZF	Maizieres J'vi	2.72	289	*e*Pn	Pn	16 22 13.6	-0.4
MEZF				*e*Pg	Pn	16 22 21.6	+7.6
MEZF				*e*Sg	Sn	16 22 53.8	+7.2
	7.5nm,0.3s						
WET	Wettzell	3.00	60	*e*Sg	Sn	16 23 01.8	+7.9
GEC2	GERESS Array S	3.39	68	*e*Pg	Pn	16 22 31.9	+8.3
	SNR=1.1						
GEC2				*e*Sg	Sn	16 23 15.3	+12
GEC2	GERESS Array S	3.39	68	*e*Pg	Pn	16 22 31.9	+8.3
GEC2				*e*Sg	Sn	16 23 15.3	+12
KHC	Kasperske Hory	3.42	63	*e*PG	Pn	16 22 27.1	+3.2
KHC				*e*SG	Sn	16 23 15.7	+11
LOR	Lormes	3.46	265	*e*Sg	Sn	16 23 18.1	+13
	1.7nm,0.2s						
SMF	Signal de Mont	3.62	255	*e*Sg	Sn	16 23 24.5	+15
	1.5nm,0.3s						
PRU	Pruhonice	4.36	56	*e*SG	Sn	16 23 45.4	+17
DPC	Dobruska-Polom	5.54	59	*e*SG	Sx	16 24 21.6	

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*NEIC **01** 16:23:46.4±1.6,31.50N×138.71E,h291^{km}±17^{km},mb3.9/3, Error ellipse: s-maj=41.7km s-min=20.4km az=84.0*

*IDC **01** 16:23:46.8±1.1,31.40N×138.90E,h301^{km}±21^{km},mb2.8/3, mb1 3.0/5,mb1mx2.8/21,Error ellipse: s-maj=61.8km s-min=11.6km az=73.0*

*JMA **01** 16:23:48.5±0.2,31.80N×139.05E,h315^{km},M3.4*

ISC 01 16:23:45.6±0.6,**31.55N**±0.05×**139.2E**±0.1,**h316**^{km}±7^{km}, **n26,**σ**1**^{s}**14**/35,**mb3.0**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.64	17	P	P	16 24 33.2	+1.7
	22nm,0.3s,baz=77,slow=12,SNR=18						
JHJ				S	S	16 25 10.0	+2.6
	33nm,0.3s,baz=66,slow=23,SNR=7.1						
JHJ2	Mitsune	1.64	18	P	P	16 24 33.1	+1.6
BSO3	Boso 3	3.42	18	*e*S	S	16 25 34.7	-0.4
BSO1	Boso 1	3.44	25	P	P	16 24 48.2	+1.0
BSO1				*e*S	S	16 25 35.3	-0.1
HMMJ	Hamamatsu 2	3.52	340	P	P	16 24 48.3	+0.2
JIE	Ise	3.52	324	P	P	16 24 47.8	-0.3
JOD2	Odawara 2	3.70	359	P	P	16 24 51.1	+1.1
JNY	Yasuok	3.96	344	P	P	16 24 53.5	+0.9
JWY	Kouya	4.04	312	P	P	16 24 52.9	-0.6
JHU	Hanno	4.29	1	P	P	16 24 56.1	-0.2
JHU				*e*S	S	16 25 47.6	-4.0
JYT	Yasato	4.74	10	P	P	16 25 00.6	-0.6
JYT				*e*S	S	16 25 55.6	-5.0
JFM	Mihama	4.79	327	P	P	16 25 02.1	+0.3
JAG	Ashikaga	4.87	2	P	P	16 25 01.8	-0.9
JWT	Wachi	4.89	321	P	P	16 25 02.7	-0.3
MAJO	Matsushiro	5.05	351	*e*Pn	P	16 25 04.1	-0.6
	7.6nm,0.4s						
MAT	Matsushiro	5.05	351	P	P	16 25 04.3	-0.5
MAT				S	S	16 26 06.8	-0.1
MAT	Matsushiro	5.05	351	*e*P	P	16 25 04.0	-0.8
	6.3nm,0.5s						
MAT				*e*S	S	16 26 07.0	+0.1
CBIJ	Chichi jima	5.15	149	P	P	16 25 05.0	-0.9
	6.4nm,0.3s,baz=289,slow=10.0,SNR=9.8						
CBIJ				S	S	16 26 07.8	-1.2
	21nm,0.3s,baz=115,slow=20,SNR=6.8						
JHO	Hitachi	5.17	12	P	P	16 25 05.5	-0.7
JHO				*e*S	S	16 26 06.1	-3.4
JFK	Kawauchi	5.96	13	P	P	16 25 15.1	-0.4
JFK				*e*S	S	16 26 22.8	-3.3
JSZ	Suzu	6.08	346	P	P	16 25 16.0	-0.8
ASAJ	Asahikawa	12.83	11	P	P	16 26 40.4	+1.4
	0.5nm,0.3s,baz=252,slow=8.7,SNR=4.8						
YSS	Yuzh-Sakhalins	15.62	9	*e*Pn	P	16 27 13.7	+2.7
	5.8nm,0.4s						
SONM	Songino Array	29.74	313	P	P	16 29 23.6	-1.7
	0.2nm,0.4s,mb3.0,baz=118,slow=11,SNR=3.2						
WRA	Warramunga Arr	51.41	186	P	P	16 32 21.6	+0.7
	0.4nm,0.6s,mb2.9,baz=2.1,slow=7.8,SNR=15						
FINES	FINESS Array B	72.81	332	P	P	16 34 42.1	+1.0
	0.3nm,0.4s,mb3.3,baz=56,slow=5.0,SNR=7.6						

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*MDD **01** 16:27:41.3±0.9,42.86N×2.11E,mbLg1.2/5,Error ellipse: s-maj=7.4km s-min=6.6km az=44.0,PRXIMO*

*STR **01** 16:27:41.6±0.1,42.88N×2.11E,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **01** 16:27:42.1±0.1,42.88N×2.12E,h2^{km},Md2.0/1,Ml2.0/5, Error ellipse: s-maj=1.5km s-min=1.0km az=168.0*

ISC 01 16:27:40.5±0.5,**42.88N**±0.03×**2.12E**±0.03,**h12**^{km}±6^{km}, **n12,**σ**1**^{s}**15**/22,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPEF	Le Peyrat	0.17	293	Pg	Pg	16 27 45.3	+0.9
LPEF				Sg	Sg	16 27 48.1	+1.1
LRDF	Laroque-de-Fa	0.32	80	Pg	Pg	16 27 48.0	+0.9
LRDF				Sg	Sg	16 27 52.9	+1.4
FILF	Fillols	0.46	135	Pg	Pg	16 27 49.4	-0.5
FILF				Sg	Sg	16 27 55.1	-1.1
MTLF	Montolieu	0.46	9	*e*Pg	Pg	16 27 50.8	+0.9
MTLF				*e*Sg	Sg	16 27 57.6	+1.3
	1.9nm,0.2s						
SALF	Salau	0.69	260	Pg	Pg	16 27 54.8	+0.3
SALF				Sg	Sg	16 28 04.0	+0.2
EJON	La Jonquera	0.72	127	Pg	Pg	16 27 55.1	+0.2
	0.5nm,0.3s,SNR=7.9						
EJON				Lg		16 28 05.1	
	11nm,1.5s,SNR=7.9						
EPF	Esparros	1.31	277	*e*Pn	Pn	16 28 05.8	+1.1
EPF				*e*Sg	Sg	16 28 23.6	-0.7
	1.7nm,0.2s						
LASF	Ste Croix	1.74	46	*e*Pn	Pn	16 28 11.9	+1.0
LASF				*e*Sg	Sg	16 28 37.5	-1.0
	3.4nm,0.3s						
ETSF	Etsaut	1.97	271	*e*Pg	Pg	16 28 19.1	-0.7
ETSF				*e*Sg	Sg	16 28 44.1	-1.9
	1.8nm,0.2s						
CAF	Calviac	2.04	359	*e*Pn	Pn	16 28 15.9	+0.7
CAF				*e*Sg	Sg	16 28 46.4	-2.1
	1.3nm,0.2s						
SJPF	Ste Jean	2.46	276	*e*Pn	Pn	16 28 21.5	+0.3
VIVF	Saint-Julien-l	2.70	42	*e*Pg	Pg	16 28 32.3	-2.2
VIVF				*e*Sg	Sg	16 29 07.4	-3.1
	0.7nm,0.2s						

MEX 01 16:43:57.2±0.6,**15.76N**×**95.55W**,**h52**^{km}±28^{km},**MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.54	271	*i* P	P	16 44 07.8	-1.3
HUIG				*i* S	S	16 44 15.5	-2.3
CMIG	Matias Romero	1.47	25	*i* P	P	16 44 19.5	-2.4
CMIG				*i* S	S	16 44 37.7	-2.4
OXX	Oaxaca	1.74	320	*e*P	P	16 44 23.5	-2.1

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*IDC **01** 17:20:56.8±1.1,20.08N×122.45E,mb3.8/6,mb1 4.0/7, mb1mx3.7/18,ML4.0/1,Error ellipse: s-maj=44.3km s-min=24.5km az=69.0*

*NEIC **01** 17:20:59.0±0.8,20.06N×122.41E,h15^{km},Error ellipse: s-maj=16.4km s-min=13.1km az=150.0*

NEIC Felt [II PIVS] at Basco.

*MAN **01** 17:21:00.0,20.38N×122.25E,h32^{km},mb4.5,ML3.3, MS3.1*

MAN F Basco Batanes - Intensity II.

*NIED **01** 17:21:00,20.70N×122.60E,h38^{km},Mw4.2 Best double couple: $M_0$1.91×10^{15} NP1:ϕ_s206°,δ86°,λ-96°. NP2:ϕ_s84°, δ8°,λ-32°.*

*JMA **01** 17:21:02.6±0.3,20.68N×122.55E,M4.3*

ISC 01 17:21:04.3±1.4,**20.42N**±0.07×**122.81E**±0.09,**h70**^{km}±13^{km}, **n26,**σ**0**^{s}**96**/38,**mb3.5**/6,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.74	14	P	P	17 22 00.7	-0.3
HATJ				S	S	17 22 43.4	-0.6
JKRS	Kuro-shima	3.96	16	P	P	17 22 04.0	-0.1
JKRS				*e*S	S	17 22 49.5	-0.1
IRIF	Iriomote-Funau	3.99	12	P	P	17 22 03.8	-0.7
IRIF				*e*S	S	17 22 49.7	-0.7
YOJ	Yonaguni jima	4.03	3	P	P	17 22 04.1	-1.0
YOJ				*e*S	S	17 22 50.7	-0.6
JIJ	Ishigaki jima	4.12	17	P	P	17 22 06.0	-0.3
JIJ				*e*S	S	17 22 52.9	-0.6
JTJ	Tarama	4.55	22	P	P	17 22 12.8	+0.4
JTJ				*e*S	S	17 23 05.0	+0.5
JMJ	Miyako jima 2	4.94	27	P	P	17 22 19.1	+1.3
JMJ				*e*S	S	17 23 16.6	+2.4
JOGS	Gusukube	4.94	29	P	P	17 22 18.8	+1.0
JOGS				*e*S	S	17 23 16.1	+1.9
JKE	Kume jima 2	6.92	31	P	P	17 22 45.2	-0.1
JKE				*e*S	S	17 24 03.1	-0.1
JJT2	Tamagusuku 2	7.28	38	P	P	17 22 51.3	+1.1
JAGN	Aguni-jima	7.37	33	P	P	17 22 51.3	-0.1
JAGN				*e*S	S	17 24 10.8	-3.4
JIH	Iheya	8.10	35	P	P	17 23 01.7	+0.2
JOW	Kunigami	8.11	37	Pn	P	17 23 02.6	+1.0
	4.5nm,0.3s,baz=198,slow=12,SNR=22						
JOW				Sn	S	17 24 30.2	-2.5
	0.8nm,0.3s,baz=130,slow=26,SNR=2.9						
JOW	Kunigami	8.11	37	P	P	17 23 02.2	+0.6
JTK	Tokunoshima	9.23	36	P	P	17 23 16.4	-0.5
JTK				*e*S	S	17 24 59.0	-1.1
JAM	Amami Oshima	10.08	37	P	P	17 23 28.0	-0.5
QIZ	Qiongzhong	12.29	266	*e*Pn	P	17 23 47.5	-11
SONM	Songino Array	30.41	338	P	P	17 27 12.7	+0.7
	0.4nm,0.6s,mb3.2,baz=149,slow=5.5,SNR=4.5						
WRA	Warramunga Arr	41.67	164	P	P	17 28 45.4	-2.4
	0.7nm,0.7s,mb3.5,baz=343,slow=9.1,SNR=7.5						
MKAR	Makanchi Array	42.11	318	P	P	17 28 51.9	+0.8
	2.1nm,0.6s,mb4.1,baz=112,slow=9.8,SNR=19						
KURK	Kurchatov	45.95	322	*e*P	P	17 29 21.5	-0.4
BRVK	Borovoye	51.62	322	*e*P	P	17 30 05.4	-0.2
ARCES	ARCESS Array B	73.58	339	P	P	17 32 31.7	+0.6
	0.5nm,0.6s,mb3.5,baz=63,slow=11,SNR=4.3						
FINES	FINESS Array B	75.44	330	P	P	17 32 42.3	+0.2
	1.1nm,0.8s,mb3.6,baz=63,slow=8.5,SNR=6.6						
YKA	Yellowknife Ar	85.83	23	P	P	17 33 41.0	+4.1
	0.2nm,0.5s,mb3.3,baz=308,slow=4.9,SNR=5.1						
YKA	Yellowknife Ar	85.83	23	P	P	17 33 41.0	+4.1

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*NEIC **01** 17:26:10.8,16.30N×98.45W,h35^{km},MD4.0(MEX),After MEX.*

MEX 01 17:26:10.6±0.5,**16.28N**×**98.46W**,**h34**^{km}±13^{km},**MD4.0,1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	71	*i* P	P	17 26 17.5	-1.3
PNIG				*i* S	S	17 26 22.7	-1.9
PNIG	Pinotepa	0.33	71	⇑*i*P	P	17 26 17.7	-1.1
PNIG				*i* S	S	17 26 22.7	-1.9
OXX	Oaxaca	1.84	64	*e*P	P	17 26 38.0	-2.3
CAIG	El Cayaco	1.90	294	*i* P	P	17 26 37.9	-3.2
CAIG				*i* S	S	17 27 01.8	-2.3
CAIG	El Cayaco	1.90	294	*i* P	P	17 26 34.8	-6.3
CAIG				*i* S	S	17 26 58.4	-5.6
PLIG	Platanillo	2.32	335	*i* P	P	17 26 45.9	-1.3
PLIG				*i* S	S	17 27 11.5	-3.4
PLIG	Platanillo	2.32	335	*i* P	P	17 26 47.2	0.0
PLIG				*i* S	S	17 27 11.5	-3.4
YAIG	Yautepec	2.63	347	*i* P	P	17 26 50.4	-1.3
YAIG				*i* S	S	17 27 19.0	-3.7
YAIG	Yautepec	2.63	347	*i* P	P	17 26 50.4	-1.3
YAIG				*i* S	S	17 27 17.3	-5.4
PPM	Popocatepetl	2.77	357	*e*P	P	17 26 50.0	-3.7
PPM				*i* P		17 26 52.5	
PPM				*i* S	S	17 27 24.0	-2.4
PPM	Popocatepetl	2.77	357	*e*P	P	17 26 50.0	-3.7
PPM				*i* S	S	17 27 24.0	-2.4
CMIG	Matias Romero	3.52	76	*i* P	P	17 27 02.0	-2.3
CMIG				*i* S	S	17 27 41.8	-3.4
CMIG	Matias Romero	3.52	76	*i* P	P	17 27 07.0	+2.8
CMIG				*i* S	S	17 27 49.2	+4.0

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*BER **01** 17:48:13.9±3.6,67.87N×20.06E,ML1.7,Suspected explosion*

HEL 01 17:48:12.6±0.1,**67.89N**×**20.11E**,**ML1.9**,**ML1.7**(BER), **Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.15	12	*e*P	Pb	17 48 33.8	-1.2
KIF				*e*S	Sb	17 48 49.4	-0.9
KTK1	Kautokeino	1.61	44	*e*P	Pn	17 48 42.5	+0.1
KTK1				*e*SN	Sn	17 49 05.8	+1.5
TRO	Tromso	1.81	347	*e*P	Pn	17 48 44.0	-1.2
TRO				*e*SN	Sn	17 49 08.5	-0.6
TRO				AML	AML	17 49 18.5	
	comp=Z,13nm,0.7s						
LOF	Lofoten	2.48	279	*e*	Sg	17 49 33.3	-2.0
LOF				AML	AML	17 49 37.7	
	comp=Z,5.7nm,0.5s						
LOF	Lofoten	2.48	279	*e*Sg	Sg	17 49 33.3	-2.0
LOF				AML	AML	17 49 37.7	
	comp=Z,5.7nm,0.5s						
SGF	Sodankyl	2.49	97	*e*P	Pn	17 48 54.6	-0.4
SGF				*e*S	Sn	17 49 24.3	-2.3
MOR8	Moi Rana	2.81	235	*e*SG	Sg	17 49 34.1	-12
MOR8				AML	AML	17 49 37.9	
	comp=Z,8.6nm,0.3s						
KEV	Kevo	3.13	50	*e*P	Pn	17 49 03.0	-1.1
KEV				*e*S	Sn	17 49 40.0	-2.7
KEV				*e*SB	Sb	17 49 45.6	-2.2
KEV				MSG		17 49 47.2	
	comp=Z,3.2nm,0.4s						
NSS	Namsos	4.72	228	*e*SG	Sg	17 50 39.9	-10

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*NEIC **01** 17:57:50.0±0.8,16.71S×69.77W,h168^{km}±9^{km},Error ellipse: s-maj=17.5km s-min=12.1km az=214.0*

*IDC **01** 17:57:51.5±1.6,16.90S×69.53W,h177^{km}±10^{km},mb3.5/4, mb1 3.6/6,mb1mx3.4/18,Error ellipse: s-maj=30.6km s-min=12.6km az=107.0*

ISC 01 17:57:49.1±0.6,**16.7S**±0.1×**69.79W**±0.06,**h179**^{km}±6^{km}, **n11,**σ**1**^{s}**06**/15,**mb3.8**/3,**1C,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.64	76	P	P	17 58 24.1	+1.3
	11nm,0.3s,baz=283,slow=10.0,SNR=158						
LPAZ				S	S	17 58 48.5	-0.2
	9.4nm,0.3s,baz=338,slow=24,SNR=30						
ARE	Arequipa	1.64	278	⇑*i*P	P	17 58 23.3	+0.5
ARE				*i* S	S	17 58 48.5	-0.2
LVC	Limon Verde	5.96	172	P	P	17 59 15.7	-0.6
	25nm,0.3s,baz=352,slow=8.9,SNR=415						
LVC				S	S	18 00 18.2	-5.8
	9.1nm,0.3s,baz=193,slow=19,SNR=20						
LVC	Limon Verde	5.96	172	*e*Pn	P	17 59 15.8	-0.5
LVC				*e*Sn	S	18 00 17.6	-6.5
NNA	Nana	8.27	303	*e*Pn	P	17 59 46.1	-0.8
NNA				*e*Sn	S	18 01 15.1	-3.8
CPUP	Villa Florida	15.04	132	P	P	18 01 12.8	-1.2
	0.1nm,0.3s,baz=69,slow=20,SNR=2.8						
BDFB	Brasilia	20.94	90	P	P	18 02 19.1	-0.1
	1.7nm,0.5s,baz=247,slow=15,SNR=3.6						
PLCA	Paso Flores	23.97	181	P	P	18 02 49.9	+1.5
	2.3nm,0.8s,mb3.8,baz=355,slow=13,SNR=4.3						
DBIC	Dimbokro	68.26	76	P	P	18 08 31.9	-1.3
	1.8nm,0.3s,mb4.2,baz=238,slow=9.7,SNR=11						
YKA	Yellowknife Ar	86.39	341	P	P	18 10 13.6	+1.6
	0.5nm,0.5s,mb3.5,baz=137,slow=5.1,SNR=7.4						
SONM	Songino Array	148.78	5	PKPbc	PKPdf	18 17 19.3	+8.2
	1.2nm,0.7s,baz=311,slow=2.7,SNR=4.4						

MAN 01 18:02:46.1,13.67N×120.64E,h123^{km},mb4.2,ML3.0, MS2.8,2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.39	280	*e*P	P	18 03 06.5	+2.6
LUBP				*e*S	S	18 03 20.9	+3.5
QVPH	Quezon City--P	1.06	23	⇑*i*P	S	18 03 30.1	+3.4
NBP	Mount Natib	1.09	349	⇑*e*P	P	18 03 11.5	+1.9
SJMP	San Jose	1.29	159	*e*P	P	18 03 12.9	+1.2
SJMP				*e*S	S	18 03 32.1	+1.1
POLP	Polilio Island	1.64	50	*e*P	P	18 03 17.4	+1.6
BUSP	Coron	1.71	195	*e*P	P	18 03 17.8	+1.2
BUSP				*e*S	S	18 03 40.9	+1.1
OTRP	Odiongan	1.87	134	*e*P	P	18 03 17.4	-1.1
BALP	Baler	2.25	24	*e*P	P	18 03 24.6	+1.2
ENPP	El Nido	2.72	206	*e*P	P	18 03 31.0	+1.4
BOLP	Bolinao	2.79	346	*e*P	P	18 03 31.1	+0.5
BOLP				*e*S	S	18 04 05.5	+1.3
APYP	Conner	4.21	8	*e*P	P	18 03 49.9	+0.4
APYP				*e*S	S	18 04 41.7	+3.4

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*NEIC **01** 18:04:41.3±0.3,6.85S×155.90E,mb4.6/11,Error ellipse: s-maj=10.4km s-min=8.3km az=106.0*

*IDC **01** 18:04:42.0±0.7,6.86S×156.01E,h59^{km}±6^{km},mb4.3/12, mb1 4.4/14,mb1mx4.4/17,MS3.6/5,Ms1 3.6/5, ms1mx3.4/13,Error ellipse: s-maj=17.5km s-min=14.2km az=90.0*

ISC 01 18:04:40.3±0.5,**6.91S**±0.07×**155.82E**±0.09,**h56**^{km}, **h56**^{km}±1.2^{km}**:pP-P,n57,**σ**0**^{s}**86**/42,**mb4.7**/26,**MS3.6**/3, **3C-2D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.93	253	P	P	18 06 52.2	+3.0
	12nm,0.3s,baz=51,slow=8.3,SNR=37						
PMG				S	S	18 08 37.0	+7.7
	2.4nm,0.3s,baz=49,slow=18,SNR=4.1						
PMG				LR	LR	18 10 08.7	
	comp=Z,324nm,20.9s,baz=44,slow=36						
PMG	Port Moresby	8.93	253	*e*Pn	P	18 06 51.3	+2.1
PMG				S	S	18 08 37.0	+7.7
PMG				LR	LR	18 10 08.7	
CTA	Charters Tower	16.06	214	*e*P	P	18 08 29.1	+5.1
	5.8nm,0.7s						
CTA	Charters Tower	16.06	214	P	P	18 08 29.3	+5.3
	0.7nm,0.3s,baz=33,slow=12,SNR=13						
CTA				LR	LR	18 13 45.3	
	comp=Z,244nm,20.4s,baz=38,slow=34						
CTAO	Charters Tower	16.06	214	*e*P	P	18 08 28.9	+4.9
	12nm,0.9s						
KWAJ	Kwajalein Atol	19.54	37	*e*pP		18 09 15.2	
	196nm,0.5s						
ARMA	Armidale	23.72	189	*e*P	P	18 09 49.2	+1.1
KAKA	Kakadu	23.78	254	⇑*i*P	P	18 09 49.1	+0.3
	36nm,0.6s,mb5.0						
WRA	Warramunga Arr	24.55	236	P	P	18 09 57.2	+0.9
	10nm,0.5s,mb4.6,baz=64,slow=10,SNR=105						
WRA				PcP	PcP	18 13 33.7	-0.8
	3.2nm,0.8s,baz=57,slow=2.0,SNR=8.6						
WRA				LR	LR	18 19 28.9	
	comp=Z,152nm,19.6s,MS3.5,baz=40,slow=36						
ASPA	Alice Springs	26.85	229	*e*P	P	18 10 16.9	-0.9
STKA	Stephens Creek	28.17	206	*e*P	P	18 10 28.4	-1.3
	4.2nm,0.4s,mb4.4						
STKA				*e*		18 13 41.1	
STKA	Stephens Creek	28.17	206	P	P	18 10 28.4	-1.3
	4.9nm,0.5s,mb4.4,baz=33,slow=13,SNR=20						
STKA				PcP	PcP	18 13 40.9	-1.8
	5.2nm,0.9s,baz=67,slow=4.6,SNR=3.9						
STKA				LR	LR	18 20 04.0	
	comp=Z,240nm,21.8s,MS3.8,baz=125,slow=33						
CNB	Canberra Magne	28.89	191	*e*P	P	18 10 35.9	-0.2
	14nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	31.44	246	⇑*i*P	P	18 10 58.0	-0.9
	17nm,0.5s,mb5.1						
FITZ				*e*		18 11 18.3	
FITZ				*e*		18 13 51.4	
URZ	Urewera	36.68	151	P	P	18 11 44.5	+0.8
	6.0nm,0.6s,mb4.6,baz=169,slow=10,SNR=8.8						
WVZ	Waitaha Valley	38.34	162	P	P	18 11 57.9	+0.4
LTZ	Lake Taylor	38.56	160	P	P	18 11 58.8	-0.5
RPZ	Rata Peaks	39.02	162	P	P	18 12 03.5	+0.4
	24nm,0.8s,mb5.0,baz=57,slow=2.3,SNR=9.6						
KLBR	Kellerberrin	43.17	230	⇓*i*P	P	18 12 36.8	-0.7
	46nm,0.9s,mb5.2						
NWAO	Narrogin (SRO)	44.17	229	*e*P	P	18 12 44.6	-1.0
	21nm,0.9s,mb4.9						
CMAR	Chiang Mai Arr	61.49	295	P	P	18 14 55.1	+1.1
	1.0nm,0.6s,mb4.1,baz=117,slow=6.0,SNR=6.6						
CMAR				LR	LR	18 38 57.8	
	comp=Z,29nm,18.2s,MS3.5,baz=309,slow=33						
CASY	Casey	66.93	198	*e*P	P	18 15 27.4	-1.4
	6.9nm,1.2s,mb4.6						
SONM	Songino Array	69.71	327	P	P	18 15 47.2	+0.9
	5.1nm,0.6s,mb4.6,baz=140,slow=6.6,SNR=54						
SHL	Shillong	69.96	300	*e*	P	18 15 49.2	+1.0
VNDA	Vanda	70.64	179	P	P	18 15 51.6	+0.1
	2.5nm,0.9s,mb4.2,baz=324,slow=6.0,SNR=8.4						
SBA	Scott Base	71.14	178	*e*P	P	18 15 54.7	+0.2
PKI	Pulchoki	76.09	300	*e*P	P	18 16 24.4	+0.2
	7.7nm,0.5s,mb4.9						
KKN	Kakani	76.26	301	*e*P	P	18 16 25.3	+0.1
	12nm,0.6s,mb5.0						
DMN	Daman	76.36	300	*e*P	P	18 16 25.1	-0.7
	12nm,0.4s,mb5.2						
GKN	Gorkha	76.86	301	*e*P	P	18 16 27.9	-0.7
	12nm,0.5s,mb5.1						
KOLN	Koldanda	77.69	300	*e*P	P	18 16 29.1	-4.1
	14nm,0.6s,mb5.1						
ILAR	Eielson Array	82.99	21	P	P	18 17 00.6	0.0
	0.8nm,0.5s,mb4.0,baz=252,slow=5.2,SNR=14						
ILAR				pP	pP	18 17 15.6	-0.9
	2.4nm,1.1s,baz=270,slow=5.5,SNR=7.6						
QSPA	South Pole Qui	83.07	180	⇑*i*P	P	18 17 01.3	+0.6
	22nm,0.9s,mb5.2						
QSPA				*e*pP	pP	18 17 17.4	+0.8
MKAR	Makanchi Array	83.88	318	P	P	18 17 06.2	+0.7
	2.9nm,0.5s,mb4.7,baz=106,slow=5.4,SNR=35						
MKAR				pP	pP	18 17 22.6	+1.2
	2.2nm,0.6s,baz=117,slow=5.4,SNR=7.4						
MKAR	Makanchi Array	83.88	318	P	P	18 17 06.2	+0.7
MKAR				pP	pP	18 17 22.6	+1.2
VIB	Van Inlet	84.69	35	T		19 50 41.5	
	SNR=10.0						
MAW	Mawson	84.79	203	P	P	18 17 10.0	+0.5
	6.9nm,0.8s,mb4.8,baz=97,slow=7.1,SNR=12						
KURK	Kurchatov	87.27	322	*e*P	P	18 17 21.3	-0.9
	1.3nm,0.5s,mb4.4						
CHKZ	Chkalovo	92.68	324	*e*P	P	18 17 45.9	-1.5
	1.9nm,0.8s,mb4.6						
BVAR	Borovoye Array	92.72	323	P	P	18 17 46.9	-0.7
	2.2nm,0.5s,mb4.8,baz=119,slow=5.2,SNR=11						
YKA	Yellowknife Ar	95.88	28	P	P	18 18 02.2	+0.5
	0.4nm,0.5s,mb4.1,baz=268,slow=4.5,SNR=5.2						
YKA				pP	pP	18 18 18.5	+0.6
	1.0nm,0.7s,baz=267,slow=4.4,SNR=6.8						
YKA	Yellowknife Ar	95.88	28	P	P	18 18 02.2	+0.5
YKA				pP	pP	18 18 18.5	+0.6
ARCES	ARCESS Array B	109.74	343	PKiKP		18 23 05.4	
	0.6nm,0.8s,baz=90,slow=2.4,SNR=8.1						
FINES	FINESS Array B	114.19	336	PKP	PKPdf	18 23 13.8	+0.4
	0.4nm,0.5s,baz=90,slow=1.9,SNR=7.0						
FINES	FINESS Array B	114.19	336	PKP	PKPdf	18 23 13.8	+0.4
AKASG	Malin Array Be	117.95	325	PKP	PKPdf	18 23 21.2	+0.5
	1.4nm,0.5s,baz=45,slow=2.4,SNR=9.8						
BRTR	Keskin Array B	118.94	312	PKP	PKPdf	18 23 23.4	+0.4
	0.5nm,0.4s,baz=118,slow=2.5,SNR=3.0						
NB2	NORSAR Subarra	119.89	341	PKPdf	PKPdf	18 23 24.4	0.0
	0.5nm,0.5s,baz=39,slow=1.7						
NOA	NORSAR Array B	119.89	341	PKP	PKPdf	18 23 24.7	+0.3
	0.5nm,0.6s,baz=39,slow=1.6,SNR=4.3						
CLL	Collm	126.13	332	⇓*i*PKIKP	PKPdf	18 23 37.8	+1.2
	logA/T=0.8						
GERES	GERESS Array B	127.40	329	PKP	PKPdf	18 23 40.8	+1.6
	1.8nm,0.6s,baz=67,slow=1.8,SNR=16						
GRA1	Grafenberg Arr	128.06	331	*e*PKP	PKPdf	18 23 41.4	+1.0
BDFB	Brasilia	147.45	134	PKPbc	PKPdf	18 24 18.9	+2.5
	7.0nm,0.8s,baz=327,slow=1.1,SNR=9.4						
KIC	Kosan Boka	160.69	270	*e*PKP1	PKPab	18 25 18.5	-0.7
	42nm,0.6s						
DBIC	Dimbokro	160.81	270	PKPab	PKPab	18 25 18.9	-0.8
	4.3nm,0.6s,baz=83,slow=4.5,SNR=6.9						
LIC	Lamto	160.97	269	*e*PKP1	PKPab	18 25 19.6	-0.8
	68nm,2.2s						
TIC	Toumodi	160.98	270	*e*PKP1	PKPab	18 25 19.5	-0.9
	39nm,0.8s						

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*LDG **01** 18:37:56.7±0.8,42.81N×0.27W,h2^{km},Md1.8/3,Error ellipse: s-maj=31.5km s-min=3.7km az=179.0*

MDD 01 18:37:57.5±0.4,**42.86N**×**0.28W**,**mbLg1.5**/2,**Error ellipse: s-maj=4.8km s-min=2.3km az=177.0,PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.21**	**281**	*e*Pg	Pg	18 38 01.0	-0.6
ETSF				*e*Sg	Sg	18 38 04.1	-0.3
	4.8nm,0.2s						
FDAF	**Les Forges d'A**	**0.21**	**259**	Pg	Pg	18 38 01.2	-0.5
FDAF				Lg		18 38 04.3	
ATE	**Arette**	**0.38**	**307**	Pg	Pg	18 38 04.4	-0.7
ATE				Lg		18 38 09.5	
EPF	**Esparros**	**0.49**	**69**	*e*Pg	Pg	18 38 06.1	-1.1
EPF				*e*Sg	Sg	18 38 13.3	-0.5
	4.0nm,0.2s						
SJPF	**Ste Jean**	**0.74**	**290**	*e*Pg	Pg	18 38 11.5	-0.7
SJPF				*e*Sg	Sg	18 38 20.8	-1.2
	1.4nm,0.2s						
EALK	**Alkurruntz**	**0.97**	**292**	Pg	Pg	18 38 15.2	-1.6
	0.0nm,1.6s,SNR=7.9						
EALK				Lg		18 38 28.6	
	4.3nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.15**	**187**	Pg	Pg	18 38 18.0	-2.3
	1.1nm,0.2s,SNR=7.9						
ESAC				Lg		18 38 35.1	
	6.9nm,0.2s,SNR=7.9						

NIED ***01*** *18:45:00, 41.60N×144.70E, h14^{km}, Mw3.8 Best double couple: M$_0$6.55×10^{14} NP1:φ$_s$7°, δ70°, λ57°. NP2:φ$_s$249°, δ38°, λ146°.*

JMA ***01*** *18:45:43.6±0.3, 41.62N×144.75E, h41^{km}±2^{km}, M3.8*

IDC ***01*** *18:45:48.5±4.0, 41.52N×144.16E, h36^{km}±35^{km}, mb3.5/7, mb1 3.7/9, mb1mx3.5/23, ML3.4/2, Error ellipse: s-maj=26.3km s-min=19.8km az=110.0*

ISC 01 18:45:44.0±1.2**, 41.62N**±0.07×**144.8E**±0.2**, h41^{km}, n14, σ0^{s}90**/16**, mb3.6**/7**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.30**	**288**	P	**P**	**18 46 06.0**	**-0.1**
JAK	**Akkeshi**	**1.37**	**356**	P	**P**	**18 46 06.5**	**-0.6**
JAK				*e*S	**S**	**18 46 24.0**	**-0.3**
JCH	**Churui**	**1.47**	**313**	P	**P**	**18 46 07.8**	**-0.6**
JOB	**Onbets**	**1.47**	**331**	P	**P**	**18 46 07.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.68**	**294**	P	**P**	**18 46 11.7**	**+0.3**
ASAJ	**Asahikawa**	**2.98**	**327**	Pn	**P**	**18 46 30.2**	**+0.3**
	2.7nm,0.3s,baz=123,slow=11,SNR=15						
JHJ	**Hachijo jima 2**	**9.39**	**207**	Pn	**P**	**18 47 57.1**	**-2.5**
	3.3nm,0.3s,baz=222,slow=20,SNR=4.0						
JHJ				Sn	**S**	**18 49 36.8**	**-8.2**
	7.5nm,0.3s,baz=70,slow=23,SNR=4.8						
FX1	**Attu Island--F**	**22.14**	**50**	P	**P**	**18 50 46.0**	**+8.7**
	5.4nm,0.8s,mb4.0,baz=109,slow=23,SNR=5.4						
SONM	**Songino Array**	**27.78**	**296**	P	**P**	**18 51 32.2**	**+1.3**
	1.3nm,1.0s,mb3.5,baz=76,slow=9.0,SNR=7.8						
MKAR	**Makanchi Array**	**44.07**	**299**	P	**P**	**18 53 50.2**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=90,slow=7.4,SNR=4.6						
ILAR	**Eielson Array**	**44.22**	**35**	P	**P**	**18 53 57.5**	**+7.2**
	0.2nm,0.7s,mb2.9,baz=280,slow=7.2,SNR=4.7						
WRA	**Warramunga Arr**	**62.02**	**191**	P	**P**	**18 56 03.5**	**+1.0**
	1.2nm,1.2s,mb3.9,baz=7.7,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**65.98**	**333**	P	**P**	**18 56 28.2**	**+0.5**
	1.3nm,0.8s,mb4.0,baz=45,slow=8.1,SNR=9.1						
NOA	**NORSAR Array B**	**70.95**	**338**	P	**P**	**18 57 03.7**	**+5.2**
	0.4nm,0.9s,mb3.4,baz=46,slow=5.5,SNR=3.1						

IDC ***01*** *18:55:54.3±2.9, 2.98S×100.77E, mb3.8/7, mb1 4.0/7, mb1mx3.7/16, MS3.1/1, Ms1 3.3/1, ms1mx2.9/25, Error ellipse: s-maj=118.0km s-min=17.7km az=58.0*

NEIC ***01*** *18:56:00.4±1.7, 2.87S×100.92E, h40^{km}, Error ellipse: s-maj=75.0km s-min=12.0km az=58.0*

ISC 01 18:55:57.3±2.3**, 2.9S**±0.4×**100.9E**±0.6**, h33^{km}, n12, σ0^{s}77**/11**, mb3.8**/7**, MS2.9**/1**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.28**	**355**	P	**P**	**19 00 42.3**	**-1.0**
	0.6nm,0.6s,mb3.1,baz=180,slow=9.0,SNR=3.6						
CMAR				LR	LR	19 08 51.5	
	comp=Z,48nm,18.5s,MS2.9,baz=154,slow=36						
CMAR	**Chiang Mai Arr**	**21.28**	**355**	P	**P**	**19 00 42.3**	**-1.0**
CMAR				LR	LR	19 08 51.5	
FITZ	**Fitzroy Crossi**	**28.62**	**124**	P	**P**	**19 01 52.1**	**-1.0**
	3.7nm,1.1s,mb4.0,baz=178,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**36.82**	**120**	P	**P**	**19 03 04.5**	**+0.1**
	0.2nm,0.3s,mb3.4,baz=309,slow=8.8,SNR=20						
ASAR	**Alice Springs**	**38.05**	**126**	P	**P**	**19 03 15.2**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=297,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**47.94**	**132**	P	**P**	**19 04 35.2**	**+0.3**
	1.9nm,0.7s,mb4.2,baz=122,slow=22,SNR=2.9						
STKA	**Stephens Creek**	**47.94**	**132**	P	**P**	**19 04 35.2**	**+0.3**
SONM	**Songino Array**	**50.73**	**5**	P	**P**	**19 04 57.6**	**+1.5**
	5.4nm,0.7s,mb4.6,baz=184,slow=8.5,SNR=54						
MKAR	**Makanchi Array**	**52.10**	**344**	P	**P**	**19 05 06.6**	**+0.2**
	2.5nm,0.9s,mb4.2,baz=158,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**52.10**	**344**	P	**P**	**19 05 06.6**	**+0.2**
KURK	**Kurchatov**	**56.68**	**343**	*e*P	**P**	**19 05 39.6**	**-0.4**
TXAR	**Lajitas Array**	**144.87**	**39**	PKP	PKPdf	19 15 33.5	+1.8
	0.6nm,0.7s,baz=279,slow=1.6,SNR=7.2						

IDC ***01*** *19:03:08.9±0.4, 63.50S×166.76W, mb4.9/16, mb1 4.9/17, mb1mx4.9/18, ML3.9/1, MS5.8/15, Ms1 5.8/15, ms1mx5.7/19, Error ellipse: s-maj=21.4km s-min=12.5km az=29.0*

MOS ***01*** *19:03:09.4±1.9, 63.53S×167.28W, h10^{km}, mb5.7/5, MS5.9/24, Error ellipse: s-maj=63.5km s-min=16.4km az=86.5*

HRVD ***01*** *19:03:10.3±0.1, 63.65S×166.92W, h12^{km}, MW6.0/72, Centroid moment Tensor Solution. LP body waves: s71,c165;Mantle waves: s72,c148; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.12±.01; M$_{\theta\theta}$0.91±.01; M$_{\phi\phi}$-0.79±.01; M$_{r\theta}$-0.23±.03; M$_{\theta\phi}$0.79±.01; M$_{\phi r}$0.07±.03; Best double couple: M$_0$1.19×10^{18} NP1: φ$_s$203°, δ78°, λ-179°. NP2:φ$_s$113°, δ89°, λ-12°. Principal axes: T 1.25, Plg8°, Azm159°; N -.12, Plg78°, Azm290°; P -1.12, Plg9°, Azm68°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***01*** *19:03:10.2, 63.60S×166.70W, h10^{km}, mB5.7, Ms6.0, Msz5.8*

SYO ***01*** *19:03:10.2, 63.56S×166.67W, h10^{km}, MB5.2, MS6.0*

NEIC ***01*** *19:03:10.3±0.2, 63.56S×166.67W, h10^{km}, mb5.2/15, MS6.0/101, MW6.0, Error ellipse: s-maj=11.9km s-min=8.5km az=33.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{18}Nm; M$_{rr}$0.14; M$_{\theta\theta}$0.82; M$_{\phi\phi}$-0.97; M$_{r\theta}$-0.05; M$_{\theta\phi}$1.00; M$_{\phi r}$-0.01; Best double couple: M$_0$1.3×10^{18} NP1:φ$_s$201°, δ88°, λ179°. NP2:φ$_s$291°, δ89°, λ2°. Principal axes: T 1.27, Plg3°, Azm156°; N .14, Plg87°, Azm327°; P -1.41, Plg0°, Azm66°;*

ISC 01 19:03:09.5±0.3**, 63.69S**±0.05×**166.7W**±0.1**, h10^{km}, n297, σ1^{s}37**/68**, mb5.1**/27**, MS6.0**/126**, 11C-8D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**16.40**	**200**	*e*P	**P**	**19 07 01.6**	**+0.7**
SBA				pmax	pmax		
	comp=Z,170nm,0.8s						
SBA	**Scott Base**	**16.40**	**200**	*e*P	**P**	**19 07 01.6**	**+0.7**
	comp=Z,168nm,0.8s						
VNDA	**Vanda**	**16.98**	**203**	P	**P**	**19 07 09.4**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=63,slow=18,SNR=9.2						
VNDA				LR	LR	19 12 07.5	
	comp=Z,34μm,19.5s,baz=54,slow=31						
ODZ	**Otahua Downs**	**22.66**	**315**	P	**P**	**19 08 12.5**	**+0.9**
WKZ	**Wanaka**	**23.38**	**312**	P	**P**	**19 08 24.2**	**+5.5**
LBZ	**Lake Benmore**	**23.39**	**315**	P	**P**	**19 08 19.2**	**+0.4**
RPZ	**Rata Peaks**	**23.73**	**317**	P	**P**	**19 08 22.1**	**0.0**
	comp=Z,24nm,1.0s,mb4.6,baz=154,slow=6.8,SNR=14						
RPZ				LR	LR	19 15 10.7	
	comp=Z,37μm,21.0s,MS5.8,baz=150,slow=31						
LTZ	**Lake Taylor**	**24.22**	**320**	P	**P**	**19 08 28.3**	**+1.4**
LTZ	**Lake Taylor**	**24.22**	**320**	*e*P	**P**	**19 08 28.3**	**+1.4**
WVZ	**Waitaha Valley**	**24.41**	**317**	P	**P**	**19 08 31.6**	**+2.9**
WVZ	**Waitaha Valley**	**24.41**	**317**	*e*P	**P**	**19 08 31.6**	**+2.9**
SNZO	**South Karori**	**24.93**	**325**	PFAKE		19 08 40.0	+6.2
SNZO				LR	LR		
	comp=Z,44μm,20.0s,MS6.0						
NNZ	**Nelson**	**25.36**	**323**	P	**P**	**19 08 40.2**	**+2.3**
QRZ	**Quartz Range**	**25.96**	**322**	P	**P**	**19 08 44.0**	**+0.6**
QRZ	**Quartz Range**	**25.96**	**322**	*e*P	**P**	**19 08 44.0**	**+0.6**
QSPA	**South Pole Qui**	**26.42**	**180**	PFAKE		19 09 00.0	+13
QSPA				LR	LR		
	comp=Z,35μm,20.0s,MS5.9						
URZ	**Urewera**	**27.27**	**331**	P	**P**	**19 08 54.3**	**-1.2**
	comp=Z,2.6nm,0.5s,mb4.0,baz=188,slow=19,SNR=2.3						
URZ				LR	LR	19 17 30.3	
	comp=Z,32μm,21.4s,MS5.9,baz=167,slow=32						
CASY	**Casey**	**32.73**	**228**	*e*P	**P**	**19 09 43.1**	**-0.7**
	comp=Z,64nm,1.2s,mb5.4						
TAU	**Tasmania Unive**	**33.42**	**286**	PFAKE		19 10 00.0	+10
TAU				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
MIR	**Mirnyy**	**37.96**	**220**	⇓*e*P	**P**	**19 10 30.6**	**+2.2**
MIR				*e*		19 12 03.0	
MIR				*e*SS	SS	19 19 00.0	+3.8
MIR				pmax	pmax		
	comp=Z,275nm,2.2s,mb5.6						
MIR				MLR	MLR		
	comp=N,8μm,14.0s,MS6.0						
MIR				MLR	MLR		
	comp=E,13μm,14.0s,MS6.0						
MIR				MLR	MLR		
	comp=Z,30μm,14.0s,MS6.2						
TOO	**Toolangi**	**38.64**	**289**	⇑*i*P	**P**	**19 10 33.6**	**-0.8**
	comp=Z,44nm,1.1s,mb5.1						
TOO				*e*S	**S**	**19 16 38.0**	**+7.6**
CNB	**Canberra Magne**	**38.98**	**295**	*e*P	**P**	**19 10 36.5**	**-0.8**
	comp=Z,70nm,1.2s,mb5.3						
TBI	**Tubuai**	**41.92**	**24**	*e*P	**P**	**19 11 02.7**	**+1.2**
	comp=Z,172nm,1.2s,mb5.6						
TBI				*e*L		19 20 36.4	
TBI				*e*R		19 22 08.6	
	comp=Z,5μm,25.2s						
ARMA	**Armidale**	**42.41**	**302**	*e*P	**P**	**19 11 03.9**	**-1.6**
RAR	**Rarotonga**	**42.71**	**9**	PFAKE		19 11 20.0	+12
RAR				LR	LR		
	comp=Z,8μm,21.0s,MS5.6						
MAW	**Mawson**	**44.27**	**205**	*e*P	**P**	**19 11 21.1**	**+1.0**
	comp=Z,40nm,1.8s,mb4.8						
MAW				*e*PP	PP	19 13 01.6	-3.3
MAW				*i* S	ScS	19 21 23.0	+6.6
MAW	**Mawson**	**44.27**	**205**	P	**P**	**19 11 21.9**	**+1.7**
	comp=Z,12nm,0.9s,mb4.6,baz=171,slow=7.6,SNR=12						
MAW				LR	LR	19 28 50.4	
	comp=Z,16μm,20.1s,MS5.9,baz=149,slow=35						
SNAA	**Sanae**	**44.45**	**173**	⇑*i*P	**P**	**19 11 21.5**	**-0.1**
SNAA	**Sanae**	**44.45**	**173**	⇑*i*P	**P**	**19 11 21.5**	**-0.1**
SNAA	**Sanae**	**44.45**	**173**	*e*P	**P**	**19 11 21.1**	**-0.5**
VNA2	**Neumayer--Watz**	**44.89**	**171**	⇑*i*P	**P**	**19 11 28.0**	**+2.9**
VNA2				*e*		19 18 11.8	
VNA2				*e*		19 21 21.0	
VNA1	**Neumayer--Stat**	**45.10**	**170**	⇑*i*P	**P**	**19 11 30.2**	**+3.5**
STKA	**Stephens Creek**	**45.16**	**290**	⇑*i*P	**P**	**19 11 26.8**	**-0.9**
	comp=Z,29nm,1.1s,mb5.0						
STKA				*i* S	**S**	**19 18 12.0**	**+5.4**
STKA	**Stephens Creek**	**45.16**	**290**	P	**P**	**19 11 26.9**	**-0.9**
	comp=Z,9.7nm,0.8s,mb4.7,baz=149,slow=8.7,SNR=9.2						
STKA				LR	LR	19 25 43.0	
	comp=Z,10μm,19.8s,MS5.8,baz=150,slow=30						
RKT	**Rikitea**	**45.68**	**43**	*e*P	**P**	**19 11 32.3**	**+0.3**
	comp=Z,122nm,1.1s,mb5.7						
RKT				*e*L		19 22 03.7	
RKT				*e*R		19 23 50.3	
	comp=Z,22μm,28.8s,baz=199						
NVL	**N'lazarevskaya**	**45.81**	**179**	⇑*e*P	**P**	**19 11 31.0**	**-1.4**
NVL				*e*		19 13 24.0	
NVL				*e*S	**S**	**19 18 22.0**	**+6.5**
NVL				pmax	pmax		
	comp=Z,1μm,3.9s						
NVL				MLR	MLR		
	comp=Z,27μm,15.0s,MS6.3						
USHA	**Ushuaia**	**46.11**	**127**	P	**P**	**19 11 35.5**	**+0.6**
	comp=Z,61nm,1.3s,mb5.4,baz=208,slow=12,SNR=3.9						
SYO	**Syowa Base**	**46.29**	**193**	⇓P	**P**	**19 11 35.0**	**-1.1**
PPT	**Papeete**	**47.55**	**22**	*e*L		19 22 45.4	
PPT				*e*R		19 24 51.0	
	comp=Z,7μm,25.8s,baz=196						
RPN	**Rapa Nui**	**51.65**	**73**	PFAKE		19 12 30.0	+12
RPN				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
EFI	**East Falkland**	**52.27**	**132**	PFAKE		19 12 30.0	+7.5
EFI				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
CTA	**Charters Tower**	**53.78**	**301**	*e*P	**P**	**19 12 33.9**	**-0.2**
	comp=Z,14nm,1.1s,mb4.8						
CTA				*i* S	**S**	**19 20 09.5**	**+2.5**
CTA	**Charters Tower**	**53.78**	**301**	P	**P**	**19 12 32.1**	**-2.0**
	comp=Z,4.7nm,0.8s,mb4.5,baz=130,slow=8.2,SNR=4.3						
CTA				LR	LR	19 30 44.9	
	comp=Z,8μm,21.8s,MS5.8,baz=150,slow=31						
CTAO	**Charters Tower**	**53.78**	**301**	*e*P	**P**	**19 12 30.0**	**-4.1**
CTAO				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,8μm,22.0s,MS5.7						
CTAO	**Charters Tower**	**53.78**	**301**	*e*P	**P**	**19 12 30.0**	**-4.1**
	comp=Z,59nm,1.5s,mb5.3						
CTAO				LR	LR		
	comp=Z,8μm,22.0s,MS5.8						
NWAO	**Narrogin (SRO)**	**54.95**	**266**	P	**P**	**19 12 41.5**	**-1.1**
	comp=Z,31nm,1.0s,mb5.3,baz=151,slow=12,SNR=2.9						
NWAO				LR	LR	19 30 26.2	
	comp=Z,12μm,20.3s,MS6.0,baz=144,slow=30						
NWAO	**Narrogin (SRO)**	**54.95**	**266**	P	**P**	**19 12 41.5**	**-1.1**
NWAO				LR	LR	19 30 26.2	
ASPA	**Alice Springs**	**55.60**	**287**	⇑*i*P	**P**	**19 12 44.2**	**-3.2**
KLBR	**Kellerberrin**	**55.86**	**267**	*e*P	**P**	**19 12 48.5**	**-0.6**
	comp=Z,80nm,1.2s,mb5.6						
PLCA	**Paso Flores**	**56.91**	**116**	P	**P**	**19 12 57.3**	**+0.7**
	comp=Z,22nm,1.1s,mb5.1,baz=212,slow=4.4,SNR=12						
PLCA				LR	LR	19 31 36.7	
	comp=Z,6μm,19.1s,MS5.7,baz=208,slow=30						
WRA	**Warramunga Arr**	**58.71**	**289**	P	**P**	**19 13 05.6**	**-3.9**
	comp=Z,6.3nm,0.8s,mb4.7,baz=160,slow=5.8,SNR=23						
WRA				LR	LR	19 35 19.5	
	comp=Z,8μm,18.5s,MS5.8,baz=125,slow=33						
TRQA	**Tornquist**	**62.59**	**121**	*e*P	**P**	**19 13 33.6**	**-2.0**
	comp=Z,56nm,1.2s,mb5.6						
PMG	**Port Moresby**	**63.27**	**307**	P	**P**	**19 13 39.1**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.7,baz=94,slow=20,SNR=2.0						
PMG	**Port Moresby**	**63.27**	**307**	P	**P**	**19 13 39.1**	**-1.4**
PMG				LR	LR		
	comp=Z,8μm,20.0s,MS5.9						
FITZ	**Fitzroy Crossi**	**64.07**	**282**	*e*P	**P**	**19 13 42.9**	**-2.7**
	comp=Z,20nm,1.2s,mb5.0						
FITZ				*i* S	**S**	**19 22 21.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**64.07**	**282**	P	**P**	**19 13 42.9**	**-2.7**
	comp=Z,16nm,1.1s,mb5.0,baz=177,slow=10,SNR=6.9						
FITZ				LR	LR	19 40 47.0	
	comp=Z,2μm,18.0s,MS5.4,baz=138,slow=35						
TLL	**Tololo Astrono**	**65.90**	**109**	*i* P	**P**	**19 13 56.1**	**-1.1**
KAKA	**Kakadu**	**66.00**	**291**	⇑*i*P	**P**	**19 13 53.9**	**-4.2**
	comp=Z,36nm,1.1s,mb5.3						
LPA	**La Plata**	**66.89**	**122**	*ce*P	**P**	**19 14 02.0**	**-1.5**
LPA				*e*pP	pP	19 14 05.0	-1.6
LPA				*e*sP	sP	19 14 06.0	-1.7
LPA				*e*PCP	PcP	19 14 31.0	-1.1
LPA				*e*PP	PP	19 16 23.0	-10
LPA				*e*S	S	19 22 55.0	+0.2
LPA				*e*sS		19 23 04.0	
LPA				SKIKP		19 24 04.0	
	comp=Z,14μm,18.0s						
LVC	**Limon Verde**	**73.33**	**107**	P	**P**	**19 14 43.3**	**+0.4**
	comp=Z,22nm,0.9s,mb5.1,baz=218,slow=5.4,SNR=10						
LVC	**Limon Verde**	**73.33**	**107**	*e*P	**P**	**19 14 42.4**	**-0.5**
	comp=Z,54nm,1.3s,mb5.3						
LVC				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
CPUP	**Villa Florida**	**74.78**	**119**	P	**P**	**19 14 50.9**	**-0.2**
	comp=Z,37nm,1.2s,mb5.2,baz=241,slow=5.5,SNR=16						
CPUP				LR	LR	19 43 15.5	
	comp=Z,6μm,19.5s,MS5.9,baz=240,slow=32						
CPUP	**Villa Florida**	**74.78**	**119**	P	**P**	**19 14 50.1**	**-1.0**
ARE	**Arequipa**	**77.66**	**102**	*e*P	**P**	**19 15 08.0**	**+0.5**
NNA	**Nana**	**79.27**	**95**	*e*P	**P**	**19 15 16.0**	**-0.4**
	comp=Z,23nm,1.0s,mb5.0						
NNA				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
LPAZ	**La Paz**	**79.27**	**105**	P	**P**	**19 15 17.6**	**+1.3**
	comp=Z,13nm,1.1s,mb4.8,baz=172,slow=3.0,SNR=16						
PAYG	**Puerto Ayora**	**83.37**	**78**	PFAKE		19 15 50.0	+12
PAYG				LR	LR		
	comp=Z,25μm,21.0s,MS6.6						
SUR	**Sutherland**	**84.08**	**186**	PFAKE		19 15 50.0	+8.9
SUR				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
KIP	**Kipapa**	**85.10**	**8**	PFAKE		19 16 00.0	+14
KIP				LR	LR		
	comp=Z,6μm,22.0s,MS5.9						
GUMO	**Guam**	**85.51**	**313**	PFAKE		19 16 00.0	+11
GUMO				LR	LR		
	comp=Z,3μm,21.0s,MS5.6						
DAV	**Davao City (W)**	**86.68**	**293**	P	**P**	**19 15 58.0**	**+3.5**
BDFB	**Brasilia**	**88.05**	**122**	P	**P**	**19 16 01.4**	**+0.4**
	comp=Z,14nm,1.2s,mb5.1,baz=199,slow=0.7,SNR=8.0						
BDFB				LR	LR	19 53 23.8	
	comp=Z,9μm,18.6s,MS6.2,baz=82,slow=34						
OTAV	**Otavalo**	**89.41**	**88**	P	**P**	**19 16 04.8**	**-2.7**
	comp=Z,4.5nm,1.0s,mb4.8						
MIDW	**Midway**	**91.98**	**351**	PFAKE		19 16 30.0	+11
MIDW				LR	LR		
	comp=Z,6μm,20.0s,MS6.0						
TGY	**Tagaytay City**	**94.94**	**292**	LR	LR	19 59 31.1	
	comp=Z,2μm,19.4s,MS5.5,baz=150,slow=36						
ROSC	**El Rosal**	**95.35**	**90**	P	**P**	**19 16 37.8**	**+2.9**
	comp=Z,4.3nm,0.3s,mb5.4,baz=133,slow=21,SNR=2.5						
JTS	**JuntasAbangare**	**95.48**	**78**	LR	LR	19 50 28.8	
	comp=Z,7μm,21.6s,MS6.1,baz=212,slow=30						
JTS	**JuntasAbangare**	**95.48**	**78**	PFAKE		19 16 50.0	+15
JTS				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
TSUM	**Tsumeb**	**97.32**	**184**	PFAKE		19 17 00.0	+16
TSUM				LR	LR		
	comp=Z,13μm,20.0s,MS6.4						
CBIJ	**Chichi jima**	**99.00**	**315**	LR	LR	19 57 21.7	
	comp=Z,2μm,20.1s,MS5.7,baz=114,slow=33						
LSZ	**Lusaka**	**100.45**	**195**	PFAKE		19 17 10.0	+12
LSZ				LR	LR		
	comp=Z,10μm,20.0s,MS6.3						
SDV	**Santo Domingo**	**100.58**	**91**	PFAKE		19 17 10.0	+11
SDV				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
RCBR	**Riachuelo**	**101.49**	**130**	PFAKE		19 17 10.0	+7.3
RCBR				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
TATO	**Taipei**	**104.48**	**297**	PFAKE		19 17 30.0	+14
TATO				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
PFO	**Pinyon Flat Ob**	**104.78**	**42**	PFAKE		19 17 30.0	+13
PFO				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
LTX	**Lajitas**	**105.04**	**54**	PFAKE		19 17 30.0	+12
LTX				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
TXAR	**Lajitas Array**	**105.04**	**54**	PKKPab		19 33 16.4	
	comp=Z,1.0nm,1.1s,baz=45,slow=3.5,SNR=5.2						
QZH	**Quanzhou**	**105.61**	**295**	PDIF	Pdif	19 17 20.9	+0.2
QZH				S		19 29 14.2	
QZH				SS	SS	19 36 36.7	-4.4
QZH				LR	LR		
	comp=N,2μm,19.4s						
QZH				LR	LR		
	comp=E,3μm,25.4s						
QZH				LR	LR		
	comp=Z,4μm,27.2s						
SAO	**San Andreas Ge**	**106.34**	**36**	PFAKE		19 21 50.0	
SAO				LR	LR		
	comp=Z,9μm,19.0s,MS6.3						
DAC	**Darwin (Calif)**	**106.94**	**40**	PFAKE		19 21 50.0	
DAC				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
JCT	**Junction City**	**107.49**	**56**	PFAKE		19 21 50.0	
JCT				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
CMB	**Columbia Colle**	**107.82**	**37**	PFAKE		19 21 50.0	
CMB				LR	LR		
	comp=Z,12μm,19.0s,MS6.5						
HOPS	**Hopland**	**108.02**	**34**	PFAKE		19 21 50.0	
HOPS				LR	LR		
	comp=Z,11μm,20.0s,MS6.4						
WUAZ	**Wupatki**	**108.10**	**45**	PFAKE		19 21 50.0	
WUAZ				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
HKT	**Hockley**	**108.52**	**60**	PFAKE		19 21 50.0	
HKT				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
TPH	**Tonopah**	**108.72**	**39**	PFAKE		19 21 50.0	
TPH				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
MNV	**Mina**	**108.80**	**38**	PFAKE		19 21 50.0	
MNV				LR	LR		
	comp=Z,9μm,21.0s,MS6.3						
MAJO	**Matsushiro**	**109.00**	**316**	PFAKE		19 21 50.0	
MAJO				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
MAT	**Matsushiro**	**109.00**	**316**	PP	PP	19 22 02.0	-9.2
ANMO	**Albuquerque**	**109.18**	**49**	PFAKE		19 21 50.0	
ANMO				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
WDC	**Whiskeytown Da**	**109.65**	**34**	PFAKE		19 21 50.0	
WDC				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
SSE	**Sheshan**	**110.06**	**300**	PKP	PKPdf	19 21 44.7	+1.2
SSE				LR	LR		
	comp=N,751nm,20.0s,MS5.6						
SSE				LR	LR		
	comp=E,2μm,20.0s,MS5.6						
SSE				LR	LR		
	comp=Z,2μm,21.6s,MS5.6						
NATX	**Nacogdoches**	**110.58**	**60**	PFAKE		19 21 50.0	+5.4
NATX				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
YBH	**Yreka Blue Hor**	**110.70**	**34**	PFAKE		19 21 50.0	+5.4
YBH				LR	LR		
	comp=Z,9μm,22.0s,MS6.3						
SJG	**San Juan**	**110.72**	**91**	PFAKE		19 21 50.0	+4.9
SJG				LR	LR		
	comp=Z,4μm,22.0s,MS6.0						
BMN	**Battle Mountai**	**110.92**	**38**	PFAKE		19 21 50.0	+5.0
BMN				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
MOD	**Modoc**	**111.47**	**35**	PFAKE		19 22 00.0	+14
MOD				LR	LR		
	comp=Z,8μm,19.0s,MS6.3						
NJ2	**Nanjing**	**111.81**	**298**	*e*PKP	PKPdf	19 21 44.6	-2.2
NJ2				PP	PP	19 22 33.0	+1.9
NJ2				PPP	PPP	19 24 56.0	+3.1
NJ2				PKS	PKS	19 25 22.0	+2.4
NJ2				SKS	SKS	19 28 52.0	+22
NJ2				SKKS		19 29 25.0	
NJ2				LR	LR		
	comp=N,4μm,31.8s,MS6.0						
NJ2				LR	LR		
	comp=E,5μm,28.6s,MS6.0						
NJ2				LR	LR		
	comp=Z,3μm,31.2s,MS5.7						
DUG	**Dugway**	**111.97**	**42**	PFAKE		19 22 00.0	+13
DUG				LR	LR		
	comp=Z,7μm,19.0s,MS6.2						
SDCO	**Great Sand Dun**	**112.04**	**49**	PFAKE		19 22 00.0	+13
SDCO				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
WVOR	**Wild Horse Val**	**112.40**	**37**	PFAKE		19 22 00.0	+12
WVOR				LR	LR		
	comp=Z,14μm,19.0s,MS6.6						
KMI	**Kunming**	**112.47**	**281**	*e*PKP	PKPdf	19 21 43.1	-5.2
KMI				XPKP		19 21 50.1	
KMI				PP	PP	19 22 33.7	-2.6
KMI				PPP	PPP	19 25 00.0	+1.2
KMI				S		19 30 11.3	
KMI				SS	SS	19 38 14.3	+1.1
KMI				LR	LR		
	comp=N,1μm,22.3s,MS5.6						
KMI				LR	LR		
	comp=E,1μm,22.3s,MS5.6						
KMI				LR	LR		
	comp=Z,2μm,26.2s,MS5.5						
KMI	**Kunming**	**112.47**	**281**	*e*PKP	PKPdf	19 21 43.1	-5.2
KMI				sPKP		19 21 50.1	
KMI				PP	PP	19 22 33.7	-2.6
KMI				PPP	PPP	19 25 00.0	+1.2
KMI				S		19 30 11.3	
KMI				sS		19 30 20.7	
KMI				PS	PS	19 32 06.3	+1.1
KMI				SS	SS	19 38 14.3	+1.1
KMI				LR	LR		
	comp=Z,2μm,26.2s,MS5.5						
KMBO	**Kilima Mbogo**	**112.95**	**206**	PFAKE		19 22 00.0	+10
KMBO				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
COR	**Corvallis**	**113.25**	**32**	PFAKE		19 22 00.0	+11

COR				LR	LR		
	comp=Z,6μm,22.0s,MS6.2						
MIAR	**Mount Ida**	**113.47**	**59**	PFAKE		19 22 00.0	+10
MIAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
HWUT	**Hardware Ranch**	**113.63**	**42**	PFAKE		19 22 00.0	+10
HWUT				LR	LR		
	comp=Z,8μm,22.0s,MS6.2						
INCN	**Inchon**	**113.72**	**307**	PFAKE		19 22 00.0	+9.4
INCN				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
ISCO	**Idaho Springs**	**113.86**	**47**	PFAKE		19 22 00.0	+9.2
ISCO				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
ENH	**Enshi**	**114.07**	**290**	PFAKE		19 22 00.0	+8.6
ENH				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
MBAR	**Mbarara**	**114.58**	**199**	PFAKE		19 22 00.0	+7.3
MBAR				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
HLID	**Hailey**	**114.60**	**39**	PFAKE		19 22 00.0	+7.9
HLID				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
ASAJ	**Asahikawa**	**114.70**	**322**	PKP	PKPdf	19 21 51.1	-1.1
	comp=Z,0.9nm,0.4s,baz=336,slow=1.9,SNR=2.7						
AHID	**Auburn Hatcher**	**114.83**	**42**	PFAKE		19 22 00.0	+7.5
AHID				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
CBKS	**Cedar Bluff**	**114.98**	**52**	PFAKE		19 22 00.0	+7.1
CBKS				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
OXF	**Oxford**	**115.06**	**63**	PFAKE		19 22 00.0	+6.8
OXF				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
BW06	**Boulder Array**	**115.30**	**43**	PFAKE		19 22 00.0	+6.5
BW06				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
PDAR	**Pinedale Array**	**115.30**	**43**	PKP	PKPdf	19 21 51.3	-2.2
	comp=Z,0.2nm,0.5s,baz=45,slow=2.1,SNR=2.4						
HAWA	**Hanford**	**115.86**	**34**	PFAKE		19 22 00.0	+5.5
HAWA				LR	LR		
	comp=Z,11μm,19.0s,MS6.5						
PLAL	**Pickwick Lake**	**116.00**	**64**	PFAKE		19 22 00.0	+4.9
PLAL				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
OCWA	**Octopus Mounta**	**116.03**	**30**	PFAKE		19 22 00.0	+5.2
OCWA				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
SMY	**Shemya**	**117.05**	**347**	PFAKE		19 22 10.0	+13
SMY				LR	LR		
	comp=Z,11μm,21.0s,MS6.4						
UNV	**Unalaska Valle**	**117.20**	**0**	PFAKE		19 22 10.0	+13
UNV				LR	LR		
	comp=Z,21μm,21.0s,MS6.7						
YSS	**Yuzh-Sakhalins**	**117.28**	**323**	*i* PKIKP		19 21 43.4	
YSS	**Yuzh-Sakhalins**	**117.28**	**323**	PFAKE		19 22 10.0	+13
YSS				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
BOZ	**Bozeman (W)**	**117.31**	**40**	PFAKE		19 22 10.0	+13
BOZ				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
CCM	**Cathedral Cave**	**117.44**	**59**	PFAKE		19 22 10.0	+12
CCM				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
XAN	**Xi'an**	**117.57**	**291**	PKP	PKPdf	19 22 00.2	+2.1
NHSC	**New Hope**	**117.62**	**71**	PFAKE		19 22 10.0	+12
NHSC				LR	LR		
	comp=Z,11μm,20.0s,MS6.5						
MYNC	**Murphy**	**117.68**	**67**	PFAKE		19 22 10.0	+12
MYNC				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
SKR	**Severo-Kuril's**	**117.71**	**334**	*e*PKIKP	PKPdf	19 22 08.0	+10
SKR				*e*		19 25 43.0	
SKR				*e*S	PS	19 32 56.0	+2.8
SKR				MLR	MLR		
	comp=N,6μm,26.0s,MS6.1						
SKR				MLR	MLR		
	comp=E,3μm,26.0s,MS6.1						
SKR				MLR	MLR		
	comp=Z,8μm,26.0s,MS6.2						
SKR				MLR	MLR		
	comp=N,5μm,26.0s						
SKR				MLR	MLR		
	comp=E,3μm,26.0s						
SKR				MLR	MLR		
	comp=Z,6μm,26.0s						
MSO	**Missoula**	**117.74**	**38**	PKPdf	PKPdf	19 21 54.2	-3.9
MSO				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
CHMT	**Chamberlain Mo**	**118.01**	**39**	*e*PKPdf	PKPdf	19 21 57.3	-1.3
NEW	**Newport**	**118.21**	**35**	PKP	PKPdf	19 21 58.1	-0.9
	comp=Z,0.6nm,0.3s,baz=50,slow=3.0,SNR=2.2						
NEW	**Newport**	**118.21**	**35**	PKP	PKPdf	19 21 58.1	-0.9
NEW				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
MDJ	**Mudanjiang**	**119.07**	**313**	PKP	PKPdf	19 21 58.0	-2.8
MDJ				PP	PP	19 23 18.1	-4.3
MDJ				PKS	PKS	19 25 33.8	+0.4
MDJ				SKS	SKS	19 29 10.1	+13
MDJ				SS	SS	19 39 41.0	+2.0
MDJ				LR	LR		
	comp=N,1μm,24.8s,MS5.7						
MDJ				LR	LR		
	comp=E,1μm,23.9s,MS5.7						
MDJ				LR	LR		
	comp=Z,3μm,24.8s,MS5.8						
MDJ	**Mudanjiang**	**119.07**	**313**	PFAKE		19 22 10.0	+9.2
MDJ				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
PET	**Petropavlovsk**	**119.48**	**337**	PFAKE		19 22 10.0	+8.7
PET				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
CN2	**Changchun**	**119.74**	**309**	*e*PKP	PKPdf	19 21 57.0	-5.0
CN2				*e*XPKP		19 22 05.4	
CN2				*e*PP	PP	19 23 25.3	-1.2
CN2				LR	LR		
	comp=N,1μm,20.0s,MS5.6						
CN2				LR	LR		
	comp=E,1μm,20.0s,MS5.6						
CN2				LR	LR		
	comp=Z,2μm,22.0s,MS5.6						
BJT	**Baijiatuau**	**119.83**	**300**	PFAKE		19 22 10.0	+7.7
BJT				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
BJI	**Beijing**	**119.85**	**300**	PKP	PKPdf	19 22 05.4	+3.1
BJI				PP	PP	19 23 23.5	-3.7
BJI				LR	LR		
	comp=N,1μm,24.6s,MS5.6						
BJI				LR	LR		
	comp=E,1μm,26.4s,MS5.6						
BJI				LR	LR		
	comp=Z,3μm,25.5s,MS5.8						
LAO	**LASA Array**	**119.86**	**44**	PFAKE		19 22 10.0	+7.8
LAO				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
BLA	**Blacksburg**	**121.04**	**68**	PFAKE		19 22 10.0	+5.2
BLA				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
LZH	**Lanzhou**	**121.46**	**288**	*e*PKP	PKPdf	19 21 59.9	-5.8
LZH				XPKP		19 22 05.0	
LZH				PP	PP	19 23 36.0	-2.4
LZH				SS	SS	19 40 05.9	-4.4
LZH				LR	LR		
	comp=E,2μm,18.2s						
LZH	**Lanzhou**	**121.46**	**288**	*e*PKP	PKPdf	19 21 59.9	-5.8
LZH				sPKP		19 22 05.0	
LZH				PP	PP	19 23 36.0	-2.4
LZH				SKS	SKS	19 29 07.0	+1.4
LZH				SKKS		19 30 23.0	
LZH				SS	SS	19 40 05.9	-4.4
LZH				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
LSA	**Lhasa**	**121.55**	**274**	PKP	PKPdf	19 22 05.0	-1.0
LSA	**Lhasa**	**121.55**	**274**	*e*PKPdf	PKPdf	19 22 04.8	-1.2
LSA				LR	LR		
	comp=Z,960nm,22.0s,MS5.4						
KDAK	**Kodiak Island**	**121.62**	**9**	PFAKE		19 22 10.0	+4.6
KDAK				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
JFWS	**Jewell Farm**	**122.03**	**57**	PFAKE		19 22 20.0	+13
JFWS				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
DGMT	**Dagmar**	**122.07**	**44**	PFAKE		19 22 20.0	+14
DGMT				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
HHC	**Hu-ho-hao-te**	**122.34**	**297**	*e*PKP	PKPdf	19 22 06.8	-0.3
HHC				PP	PP		
	comp=Z,130nm,5.2s						
KLR	**Kul'dur**	**122.48**	**317**	*e*PKIKP	PKPdf	19 22 02.3	-4.9
KLR				*e*		19 23 38.0	
BTO	**Baotou**	**122.75**	**296**	*e*PKP	PKPdf	19 22 03.6	-4.3
SIT	**Sitka**	**122.80**	**20**	PFAKE		19 22 20.0	+12
SIT				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
CBN	**Corbin**	**123.16**	**70**	PFAKE		19 22 20.0	+11
CBN				LR	LR		
	comp=Z,9μm,20.0s,MS6.4						
MCWV	**Mont Chateau**	**123.36**	**67**	PFAKE		19 22 20.0	+11
MCWV				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
BBSR	**BB Station**	**123.72**	**84**	PFAKE		19 22 20.0	+10
BBSR				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
DLBC	**Dease Lake**	**124.97**	**23**	*e*PKPdf	PKPdf	19 22 08.1	-3.6
SSPA	**Standing Stone**	**124.99**	**68**	PFAKE		19 22 20.0	+7.8
SSPA				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
FIB	**Fire Island**	**125.16**	**10**	PFAKE		19 22 20.0	+8.0
FIB				LR	LR		
	comp=Z,12μm,20.0s,MS6.5						
ERPA	**Erie**	**125.37**	**66**	PFAKE		19 22 20.0	+7.1
ERPA				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
DIV	**Divide**	**125.49**	**12**	PFAKE		19 22 20.0	+7.4
DIV				LR	LR		
	comp=Z,11μm,20.0s,MS6.5						
PMR	**Palmer**	**125.66**	**10**	*e*PKIKP	PKPdf	19 22 08.6	-4.3
PMR				*e*		19 22 17.0	
PMR				MLR	MLR		
	comp=Z,7μm,20.0s,MS6.3						
GTA	**Gaotai**	**125.97**	**287**	PKP	PKPdf	19 22 10.8	-3.3
GTA				PPP	PPP	19 26 41.5	-9.3
GTA				SKS	SKS	19 29 16.7	-2.7
GTA				PP	PP		
	comp=Z,245nm,9.5s						
ULM	**Lac du Bonnet**	**126.31**	**49**	PKP	PKPdf	19 22 11.1	-3.3
	comp=Z,4.1nm,0.9s,baz=282,slow=2.6,SNR=3.7						
HIA	**Hailar**	**126.44**	**309**	*e*PKIKP	PKPdf	19 22 10.6	-4.1
HIA				MLR	MLR		
	comp=Z,3μm,20.0s						
BINY	**Binghamton**	**127.08**	**69**	PFAKE		19 22 30.0	+14
BINY				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
MA2	**Magadan**	**127.13**	**334**	PFAKE		19 22 20.0	+4.3
MA2				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
MCK	**McKinley**	**127.79**	**10**	*e*PKIKP	PKPdf	19 22 12.7	-4.3
MCK				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.8						
FFC	**Flin Flon**	**128.21**	**42**	PFAKE		19 22 30.0	+12
FFC				LR	LR		
	comp=Z,253nm,19.0s,MS4.9						
TNA	**Tin City**	**128.95**	**359**	PFAKE		19 22 30.0	+11
TNA				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
ILAR	**Eielson Array**	**128.98**	**11**	PKP	PKPdf	19 22 14.3	-4.9
	comp=Z,16nm,1.2s,baz=276,slow=1.0,SNR=22						
COLA	**College**	**129.00**	**10**	*e*PKIKP	PKPdf	19 22 16.1	-3.2
DAWY	**Dawson**	**129.04**	**15**	*e*PKPdf	PKPdf	19 22 14.3	-5.1
HRV	**Harvard--Oak R**	**129.19**	**72**	PFAKE		19 22 30.0	+10
HRV				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
NCB	**Newcomb**	**129.27**	**69**	PFAKE		19 22 30.0	+10
NCB				LR	LR		
	comp=Z,5μm,22.0s,MS6.2						
ULN	**Ulaanbaatar**	**129.97**	**299**	*e*P	PKPdf	19 22 19.0	-2.6
ULN				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
SONM	**Songino Array**	**130.21**	**298**	PKP	PKPdf	19 22 18.6	-3.4
	comp=Z,1.2nm,1.0s,baz=135,slow=1.7,SNR=7.0						
CLNS	**Chul'man**	**131.14**	**317**	*e*PKIKP	PKPdf	19 22 16.8	-6.7
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**131.73**	**29**	PKP	PKPdf	19 22 19.3	-5.2
	comp=E,1.1nm,0.8s,baz=204,slow=2.4,SNR=5.0						
EMMW	**East Machias**	**132.72**	**73**	PFAKE		19 22 40.0	+13
EMMW				LR	LR		
	comp=Z,29μm,21.0s,MS7.0						
ZAK	**Zakamensk**	**133.47**	**298**	*e*PKIKP	PKPdf	19 22 22.4	-5.6
INK	**Inuvik**	**133.81**	**16**	PKP	PKPdf	19 22 25.9	-2.3
	comp=Z,2.5nm,0.8s,baz=215,slow=7.1,SNR=3.6						
PQI	**Presque Isle**	**134.04**	**71**	PFAKE		19 22 40.0	+11
PQI				LR	LR		
	comp=Z,20μm,20.0s,MS6.8						
YAK	**Yakutsk**	**134.13**	**324**	*e*PKIKP	PKPdf	19 22 27.0	-1.9
YAK				*e*PPP	PPP	19 28 01.2	+4.8
YAK				*e*	SKS	19 29 40.0	+0.7
YAK				*e*SS	tx	19 43 17.6	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,125nm,9.8s						
YAK	**Yakutsk**	**134.13**	**324**	*e*P	PKPdf	19 22 27.5	-1.4
YAK				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
TLY	**Talaya**	**134.35**	**299**κ	*i* PKIKP	PKPdf	19 22 26.5	-3.2
TLY				*i*		19 25 06.3	
TLY				*i* PS	PS	19 35 20.9	+3.0
TLY				pmax	pmax		
	comp=Z,55nm,1.2s						
TLY				MLR	MLR		
	comp=Z,13μm,19.0s,MS6.7						
WMQ	**Urumqi**	**134.81**	**281**	PKP	PKPdf	19 22 26.0	-4.8
WMQ				XPKP		19 22 38.5	
WMQ				PP	PP	19 25 05.0	-0.8
WMQ				SKKS		19 31 52.0	
WMQ				LR	LR		
	comp=N,1μm,15.5s,MS5.9						
WMQ				LR	LR		
	comp=E,2μm,17.6s,MS5.9						
WMQ				LR	LR		
	comp=Z,2μm,17.8s,MS5.8						
KSH	**Kashi**	**136.54**	**267**	*e*PKP	PKPdf	19 22 32.2	-1.8
KSH				*e*PP	PP	19 25 14.3	-2.0
KSH				*e*PKS	PKS	19 26 07.2	+1.1
KSH				*e*SKS	SKS	19 29 40.9	-3.2
KSH				*e*SKKS		19 32 05.6	
KSH				LR	LR		
	comp=N,1μm,18.7s,MS6.0						
KSH				LR	LR		
	comp=E,2μm,15.3s,MS6.0						
MKAR	**Makanchi Array**	**139.50**	**279**	PKP	PKPdf	19 22 35.5	-3.7
	comp=E,4.4nm,1.1s,baz=90,slow=2.9,SNR=4.6						
FRU	**Bishkek**	**139.82**	**269**	*e*PKIKP	PKPdf	19 22 39.0	-1.0
SCHQ	**Schefferville**	**140.72**	**64**	PKP	PKPdf	19 22 38.8	-2.3
	comp=E,7.8nm,1.1s,baz=262,slow=7.1,SNR=2.9						
TIXI	**Tiksi**	**142.03**	**332**	PFAKE		19 22 50.0	+7.2
TIXI				LR	LR		
	comp=Z,1μm,22.0s,MS5.7						
KURK	**Kurchatov**	**144.05**	**280**	*e*PKHKP		19 22 40.0	
NVS	**Novosibirsk**	**144.97**	**289**	*i* PKHKP		19 22 41.5	
NVS				pmax	pmax		
	comp=Z,67nm,1.4s						
NVS				pmax	pmax		
	comp=N,48nm,1.5s						
NVS				pmax	pmax		
	comp=E,32nm,1.4s						
ASF	**Jabal al Asfar**	**145.17**	**216**	PKPbc	PKPbc	19 22 46.1	-0.7
	comp=E,14nm,1.2s,baz=145,slow=1.2,SNR=11						
RES	**Resolute Bay**	**145.68**	**27**	*e*PKIKP	PKPdf	19 22 46.2	-2.9
FRB	**Frobisher Bay**	**146.07**	**52**	PKPbc	PKPbc	19 22 48.0	0.0
	comp=E,25nm,1.0s,baz=225,slow=5.1,SNR=6.8						
BVAR	**Borovoye Array**	**149.30**	**277**	PKPbc	PKPdf	19 22 55.9	+0.3
	comp=E,9.7nm,0.8s,baz=135,slow=4.2,SNR=22						
BRVK	**Borovoye**	**149.37**	**277**	*e*PKIKP	PKPdf	19 22 52.1	-3.6
BRVK				*e*		19 22 56.4	
CHKZ	**Chkalovo**	**149.65**	**278**	*e*PKHKP		19 22 52.0	
CHKZ				*e*		19 22 57.1	
MALT	**Malatya**	**150.48**	**223**	*e*PKPbc	PKPdf	19 23 00.7	+2.8
MALT				*e*PKPab	PKPab	19 23 07.9	-1.2
IDI	**Anoyia**	**150.70**	**200**	PKPbc	PKPdf	19 23 03.5	+5.1
	comp=E,25nm,1.1s,baz=253,slow=2.2,SNR=3.8						
IDI				PKPab	PKPab	19 23 08.8	-1.3
	comp=E,80nm,1.3s,baz=116,slow=15,SNR=4.6						
TI2	**Plekhanov**	**151.45**	**235**	*e*PKIKP	PKPdf	19 22 54.0	-5.3
TI2				pmax	pmax		
	comp=Z,2μm,6.0s						
TI2				MLR	MLR		
	comp=N,1μm,18.0s,MS5.9						
TI2				MLR	MLR		
	comp=E,2μm,18.0s,MS5.9						
TI2				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.8						
MAK	**Makhachkala**	**151.47**	**240**	*e*PKIKP	PKPdf	19 22 56.0	-3.3
MAK				*e*		19 23 03.0	
MAK				pmax	pmax		
	comp=Z,2μm,7.0s						
MAK				pmax	pmax		
	comp=N,400nm,6.0s						
MAK				pmax	pmax		
	comp=E,400nm,6.0s						
MAK				pmax	pmax		
	comp=Z,2μm,8.0s						
MAK				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.9						
EVO	**Evora**	**151.75**	**143**	*e*PKIKP	PKPdf	19 23 03.4	+3.6
	comp=Z,40nm,1.2s						
BRTR	**Keskin Array B**	**153.15**	**216**	PKP	PKPdf	19 23 00.1	-1.7
	comp=Z,0.4nm,0.4s,slow=2.5,SNR=3.8						
BRTR				PKPbc	PKPdf	19 23 06.3	+4.5
	comp=Z,2.6nm,1.0s,baz=153,slow=2.8,SNR=6.0						
MTE	**Manteigas**	**153.62**	**142**	*e*PKPdf	PKPdf	19 23 01.3	-1.1
ESDC	**Sonseca Array**	**153.84**	**149**	PKP	PKPdf	19 23 00.1	-2.7
	comp=Z,4.5nm,1.1s,baz=43,slow=0.6,SNR=7.2						
ESDC				PKPbc	PKPdf	19 23 09.0	+6.2
	comp=Z,11nm,1.3s,baz=249,slow=0.6,SNR=9.1						
KIV	**Kislovodsk**	**154.13**	**234**	*i* PKIKP	PKPdf	19 23 00.7	-2.3
KIV				*e*		19 30 25.6	
KIV				pmax	pmax		
	comp=Z,22nm,1.6s						
KIV	**Kislovodsk**	**154.13**	**234**	PKPdf	PKPdf	19 22 58.4	-4.5
KIV				LR	LR		
	comp=Z,553nm,20.0s,MS5.4						
TIP	**Timpagrande**	**155.37**	**186**	*e*PKPdf	PKPdf	19 23 01.2	-3.5
ARU	**Arti**	**156.75**	**273**⇓	*i*PKIKP	PKPdf	19 23 09.3	+3.3
ARU				pmax	pmax		
	comp=Z,11nm,1.3s						
ARU				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9						
ARU				MLR	MLR		
	comp=N,1μm,19.0s,MS5.8						
ARU				MLR	MLR		
	comp=E,1μm,21.0s,MS5.8						
ARU	**Arti**	**156.75**	**273**	PKPdf	PKPdf	19 23 03.2	-2.8
ARU				LR	LR		
	comp=Z,742nm,20.0s,MS5.5						
VAY	**Valandovo**	**156.95**	**198**	*e*PKP	PKPdf	19 23 23.8	+17
ETSF	**Etsaut**	**157.68**	**152**	*e*PKIKP	PKPdf	19 23 07.1	-0.6
	comp=Z,16nm,1.2s						
SJPF	**Ste Jean**	**157.74**	**151**	*e*PKIKP	PKPdf	19 23 06.8	-1.0
	comp=Z,59nm,1.3s						
SKO	**Skopje**	**157.74**	**196**	*e*PKP	PKPdf	19 23 17.0	+9.2
SIM	**Simferopol'**	**157.85**	**222**	*i* PKIKP	PKPdf	19 23 06.2	-1.7
SIM				*i* SS	SS	19 47 19.0	+3.1
EPF	**Esparros**	**157.98**	**154**	*e*PKIKP	PKPdf	19 23 07.6	-0.5
MTLF	**Montolieu**	**158.63**	**157**	*e*PKIKP	PKPdf	19 23 08.1	-0.8
SUMG	**Summit**	**159.49**	**43**	PKPdf	PKPdf	19 23 06.5	-2.5
LASF	**Ste Croix**	**159.61**	**160**	*e*PKIKP	PKPdf	19 23 08.4	-1.6
	comp=Z,50nm,1.6s						
DIVS	**Divcibare**	**160.01**	**194**⇑	*i*P	PKPdf	19 23 12.2	+1.8
MLR	**Muntele Rosu**	**160.43**	**207**	PKP	PKPdf	19 23 10.2	-0.6
	comp=Z,6.9nm,1.2s,baz=71,slow=7.5,SNR=3.9						
MLR				PKPab	PKPab	19 23 52.1	+0.9
	comp=Z,13nm,1.0s,baz=180,slow=6.5,SNR=12						
MLR	**Muntele Rosu**	**160.43**	**207**⇓	*i*P	PKPab	19 23 51.6	+0.4
VRI	**Vrincioaia**	**160.62**	**209**⇓	*i*P	PKPab	19 23 52.6	+0.6
KIS	**Kishinev**	**161.20**	**214**	*e*PKIKP	PKPdf	19 23 10.0	-1.5
KIS				*e*		19 23 52.0	
KIS				*e*		19 30 12.0	
KIS				MLR	MLR		
	comp=Z,2μm,19.0s						
KIS				MLR	MLR		
	comp=N,2μm,22.0s						
KIS				MLR	MLR		
	comp=E,1μm,19.0s						
KIS				MLR	MLR		
	comp=Z,2μm,20.0s						
LPG	**La Plagne**	**161.39**	**165**	*e*PKIKP	PKPdf	19 23 11.6	-0.1
LPL	**La Plagne**	**161.41**	**165**	*e*PKIKP	PKPdf	19 23 11.5	-0.2
	comp=Z,36nm,1.5s						
TCF	**Toulx Ste Croi**	**161.48**	**155**	*e*PKIKP	PKPdf	19 23 11.9	+0.1
	comp=Z,33nm,1.5s						
CEY	**Cerknica**	**162.00**	**182**	*e*PKPab	PKPab	19 23 57.1	-1.0
VOY	**Vojsko**	**162.30**	**181**	*e*PKPdf	PKPab	19 24 05.6	+6.3
SSF	**Saint Saulge**	**162.46**	**157**	*e*PKIKP	PKPdf	19 23 12.8	+0.1
ROBS	**Robic**	**162.52**	**180**	*e*PKPdf	PKPdf	19 23 08.5	-4.3
ROBS				*e*PKPab	PKPab	19 23 58.7	-1.6
LOR	**Lormes**	**162.72**	**158**	*e*PKIKP	PKPdf	19 23 13.1	+0.1
	comp=Z,47nm,1.6s						
GRR	**Gorron**	**162.80**	**146**	*e*PKIKP	PKPdf	19 23 11.8	-1.2
	comp=Z,46nm,1.2s						
PERS	**Pernice**	**162.88**	**184**	*e*PKPdf	PKPdf	19 23 10.3	-2.9
PECR	**Pechory**	**163.10**	**258**	*e*PKP2	PKPab	19 24 05.3	+2.9
PECR				MLR	MLR		
	comp=Z,2μm,22.0s						
AKASG	**Malin Array Be**	**164.47**	**221**	PKP	PKPdf	19 23 11.6	-3.0
	comp=Z,0.2nm,0.3s,baz=194,slow=3.9,SNR=2.9						
AKASG				PKPab	PKPab	19 24 08.0	-0.6
	comp=Z,1.1nm,0.6s,baz=167,slow=3.2,SNR=5.8						
VYHS	**Vyhne**	**164.47**	**194**	*e*P	PKPdf	19 23 18.6	+3.9
VYHS				*e*		19 24 23.1	
CRVS	**Cervenica-Dubn**	**164.53**	**200**	*e*PKP	PKPab	19 24 10.8	+1.9
CRVS	**Cervenica-Dubn**	**164.53**	**200**	*e*PKP	PKPdf	19 23 19.7	+4.9
CRVS				*e*		19 24 10.8	
KBS	**Kingsbay**	**164.68**	**1**	*e*P	PKPdf	19 23 09.4	-4.7
KBS				*e*PP	PP	19 27 56.0	-0.2
KBS				*e*SS	SS	19 48 24.8	-1.6
KBS				AMS	AMS	20 48 42.2	
	comp=Z,2μm,18.0s						
KBS	**Kingsbay**	**164.68**	**1**	*e*P	PKPdf	19 23 09.1	-5.0
KBS				LR	LR		
	comp=Z,3μm,19.0s						
GERES	**GERESS Array B**	**165.12**	**181**	PKP	PKPdf	19 23 12.2	-3.2
	comp=Z,0.4nm,0.9s,baz=90,slow=1.3,SNR=3.8						
GERES				PKPab	PKPab	19 24 11.8	+0.4
	comp=Z,0.9nm,0.9s,baz=180,slow=5.3,SNR=5.0						
KHC	**Kasperske Hory**	**165.40**	**181**	*e*PKPDF	PKPdf	19 23 21.5	+5.9
KHC				*e*PKPAB	PKPab	19 24 11.4	-1.3
KHC				*e*PP	PP	19 28 02.4	+1.8
KHC				*e*SKKS		19 34 45.2	
KHC				*e*SS	SS	19 48 47.5	+13
KHC				LM		20 34 40.0	
	comp=Z,4.1nm,21.8s						
KHC	**Kasperske Hory**	**165.40**	**181**	*e*PKIKP	PKPdf	19 23 21.5	+5.9
KHC				*e*		19 24 11.4	
KHC				*e*		19 28 02.4	
KHC				MLR	MLR		
	comp=Z,4μm,21.8s						
OBN	**Obninsk**	**165.47**	**245**	*e*PKIKP	PKPdf	19 23 11.4	-4.1
OBN				*e*SS	SS	19 48 38.8	+3.9
OBN				pmax	pmax		
	comp=Z,18nm,1.4s						
OBN	**Obninsk**	**165.47**	**245**	PFAKE		19 23 20.0	+4.5
OBN				LR	LR		
	comp=Z,913nm,22.0s						
BAIF	**Baives**	**165.48**	**156**	*e*PKIKP	PKPdf	19 23 16.0	+0.4
	comp=Z,39nm,1.5s						
OKC	**Ostrava-Krasne**	**165.87**	**193**	*e*PKPDF	PKPdf	19 23 21.1	+5.1
OKC				*e*PKPAB	PKPab	19 24 23.6	+8.9
OKC				*e*PP	PP	19 28 02.5	-0.5
OKC				*e*SKKS		19 34 45.8	
OKC				*e*SS	SS	19 48 42.0	+2.9
OKC				LM		20 46 20.0	
	comp=Z,3.0nm,21.4s						
OKC	**Ostrava-Krasne**	**165.87**	**193**	*e*PKIKP	PKPdf	19 23 21.1	+5.1
OKC				*e*		19 28 02.5	
OKC				*e*SS	SS	19 48 42.0	+2.9
OKC				MLR	MLR		
	comp=Z,3μm,21.4s						
GRA1	**Grafenberg Arr**	**165.92**	**174**	*e*PKP	PKPdf	19 23 13.2	-2.8
GRA1				*e*PKPab	PKPab	19 24 14.2	-0.7
GRA1				*e*PP	PP	19 28 01.3	-1.9
GRA1				LR	LR		
	comp=Z,4μm,20.9s						
GRF	**Grafenberg Arr**	**165.92**	**174**	*e*PKIKP	PKPdf	19 23 13.2	-2.8
GRF	**Grafenberg Arr**	**165.92**	**174**	*e*PKP2	PKPab	19 24 14.2	-0.7
GRF				*e*		19 28 01.3	
GRF				MLR	MLR		
	comp=Z,4μm,20.9s						
OJC	**Ojcow**	**166.06**	**197**	*e*PKIKP	PKPdf	19 23 14.7	-1.4
OJC				*e*		19 28 03.1	

OJC				*e*		19 30 18.0	
OJC				MLR	MLR		
	comp=Z,5µm,23.6s						
OJC	**Ojcow**	**166.06**	**197**	*e*PKP	PKPdf	19 23 14.7	-1.4
OJC				*e*PP	PP	19 28 03.1	-0.8
OJC				*e*SKS	SKS	19 30 18.0	-1.4
OJC				*e*SS	tx	19 48 18.3	
OJC				LR	LR		
	comp=Z,5µm,23.6s						
PRU	**Pruhonice**	**166.25**	**183**	*e*PKPDF	PKPdf	19 23 26.5	+10
PRU				*e*PKPAB	PKPab	19 24 14.5	-1.9
PRU				*e*PP	PP	19 28 04.6	-0.2
PRU				*e*SKKS		19 34 52.2	
PRU				*e*SS	SS	19 49 19.5	+37
PRU				LM		20 46 50.0	
	comp=Z,2.6nm,19.0s						
PRU	**Pruhonice**	**166.25**	**183**	*e*PKIKP	PKPdf	19 23 26.5	+10
PRU				*e*		19 24 14.5	
PRU				*e*		19 28 04.6	
PRU				MLR	MLR		
	comp=Z,1µm,21.4s						
DPC	**Dobruska-Polom**	**166.53**	**188**	*e*PKPDF	PKPdf	19 23 18.0	+1.5
DPC				*e*PKPAB	PKPab	19 24 15.2	-2.4
DPC				*e*PP	PP	19 28 00.6	-5.6
DPC				*e*SKKS		19 34 52.4	
DPC				*e*SS	SS	19 48 49.4	+3.7
DPC				LM		20 45 40.0	
	comp=Z,4.0nm,22.8s						
DPC	**Dobruska-Polom**	**166.53**	**188**	*e*PKIKP	PKPdf	19 23 18.0	+1.5
DPC				*e*		19 24 15.2	
DPC				*e*SS	SS	19 48 49.4	+3.7
DPC				MLR	MLR		
	comp=Z,4µm,22.8s						
PVCC	**Panska Ves**	**166.79**	**183**	*e*PKPDF	PKPdf	19 23 20.5	+3.9
PVCC				*e*PKPAB	PKPab	19 24 18.3	-0.4
PVCC				*e*		19 27 51.2	
PVCC				*e*SKKS		19 34 48.1	
PVCC				*e*SS	SS	19 48 49.8	+1.6
PVCC				LM		20 34 40.0	
	comp=Z,3.5nm,23.1s						
PVCC	**Panska Ves**	**166.79**	**183**	*e*PKIKP	PKPdf	19 23 20.5	+3.9
PVCC				*e*		19 24 18.3	
PVCC				*e*SS	SS	19 48 49.8	+1.6
PVCC				MLR	MLR		
	comp=Z,4µm,23.1s						
MOX	**Moxa**	**166.89**	**175**	*i* P	PKPdf	19 23 24.2	+7.5
MOX				PKP2	PKPab	19 24 27.0	+7.9
MOX				PPP	PPP	19 32 20.0	+13
MOX				SS	tx	19 49 51.0	
MOX				*e*		20 01 42.0	
MOX				LQ		20 14 27.0	
MOX				L		20 50 02.0	
MOX	**Moxa**	**166.89**	**175**	*e*PKIKP	PKPdf	19 23 24.2	+7.5
MOX				MLR	MLR		
	comp=Z,2µm,21.0s						
MOX	**Moxa**	**166.89**	**175**	P	PKPdf	19 23 24.2	+7.5
MOX				*e*		19 24 27.0	
MOX				LR	LR		
	comp=Z,2µm,21.0s						
KSP	**Ksiaz**	**167.02**	**188**	*e*PKP2	PKPab	19 24 20.8	+1.1
KSP				*e*SS	SS	19 48 50.0	-0.6
KSP				MLR	MLR		
	comp=Z,9µm,22.3s						
KSP	**Ksiaz**	**167.02**	**188**	*e*PKPdf	PKPdf	19 23 19.0	+2.2
KSP				*e*PKPab	PKPab	19 24 20.8	+1.1
KSP				*e*PP	PP	19 27 57.0	-12
KSP				*e*SKKS		19 34 56.0	
KSP				*e*		19 38 36.0	
KSP				*e*SS	SS	19 48 50.0	-0.6
KSP				LR	LR		
	comp=Z,9µm,22.3s						
BRG	**Berggiesshubel**	**167.15**	**182**	*e*PKIKP	PKPdf	19 23 17.1	+0.2
BRG				*e*		19 49 01.0	
BRG				pmax	pmax		
	comp=Z,38nm,2.1s						
BRG				MLR	MLR		
	comp=Z,3µm,19.8s						
BRG				MLR	MLR		
	comp=N,3µm,20.7s						
BRG				MLR	MLR		
	comp=E,2µm,20.7s						
BRG	**Berggiesshubel**	**167.15**	**182**	P	PKPdf	19 23 17.1	+0.2
BRG				*e*		19 24 27.3	
BRG				SKKS		19 35 04.0	
BRG				*e*		19 43 59.0	
BRG				*e*		19 49 01.0	
BRG				LR	LR		
	comp=Z,3µm,19.8s						
CLL	**Collm**	**167.58**	**179**	*e*PKIKP	PKPdf	19 23 16.0	-1.1
	comp=Z,logA/T=0.8						
CLL				*i* PKP2	PKPab	19 24 20.6	-1.5
CLL				*e*PP	PP	19 28 24.0	+13
CLL				*e*		19 34 54.0	
CLL				*e*SKSP		19 38 48.0	
CLL				*e*PPS	PPS	19 41 54.0	-4.8
CLL				*e*		19 44 03.0	
CLL				*e*SS	SS	19 49 00.0	+3.8
CLL				*e*		19 50 36.0	
CLL				*e*		19 52 54.0	
CLL				*e*SSS	SSS	19 55 18.0	-13
CLL				*e*		20 01 24.0	
CLL	**Collm**	**167.58**	**179**	*e*PKIKP	PKPdf	19 23 16.0	-1.1
CLL				*i*		19 24 20.6	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.6s						
CLL				pmax	pmax		
	comp=Z,28nm,1.6s						
CLL				MLR	MLR		
	comp=Z,4µm,18.9s						
ESK	**Eskdalemuir**	**168.16**	**127**	PFAKE		19 23 30.0	+13
ESK				LR	LR		
	comp=Z,788nm,19.0s						
MNK	**Minsk**	**168.19**	**225**	*e*PKIKP	PKPdf	19 23 18.0	+0.6
JMIC	**Jan Mayen**	**168.91**	**39**	*e*P	PKPdf	19 23 14.1	-3.3
JMIC				*e*SS	SS	19 49 09.9	+1.1
JMIC				AMS	AMS	20 45 20.7	
	comp=Z,3µm,21.7s						
BJO	**Bjornoya**	**168.94**	**352**	AMS	AMS	20 50 03.4	
	comp=Z,1µm,19.8s						
APA	**Apatity**	**170.87**	**304**⇓	*i*PKP2	PKPab	19 24 41.9	+5.7
APA				*e*		19 28 30.9	
APA				*e*PPP	PPP	19 32 31.0	-3.1
APA				*e*PPS	PPS	19 42 25.0	-1.0
APA				*i* SS	SS	19 49 29.0	+1.4
APA				pmax	pmax		
	comp=Z,32nm,1.4s						
APA				MLR	MLR		
	comp=Z,2µm,19.0s						
PUL	**Pulkovo**	**171.05**	**252**	*e*PKIKP	PKPdf	19 23 10.0	-8.9
ARCES	**ARCESS Array B**	**172.41**	**326**	PKPab	PKPab	19 24 43.2	+0.3
	comp=Z,2.8nm,1.1s,baz=14,slow=5.0,SNR=5.8						
ARCES	**ARCESS Array B**	**172.41**	**326**	PKPab	PKPab	19 24 43.2	+0.2
TRO	**Tromso**	**173.63**	**342**	*e*PP	PP	19 28 33.4	-7.8
TRO				*e*SS	SS	19 49 55.5	+1.0
TRO				AMS	AMS	20 52 18.4	
	comp=Z,2µm,19.7s						
FINES	**FINESS Array B**	**173.70**	**255**	PKPab	PKPab	19 24 49.0	+0.2
	comp=Z,1.5nm,0.9s,baz=101,slow=9.7,SNR=5.6						
KONO	**Kongsberg**	**175.57**	**155**	*e*PP	PP	19 28 51.7	+0.5
KONO				*e*SS	SS	19 50 14.3	+1.1
KONO				AMS	AMS	20 46 18.5	
	comp=Z,3µm,20.0s						
KONO	**Kongsberg**	**175.57**	**155**	PFAKE		19 23 30.0	+9.2
KONO				LR	LR		
	comp=Z,418nm,20.0s						
NOA	**NORSAR Array B**	**177.16**	**159**	PKP	PKPdf	19 23 18.2	-2.8
	comp=Z,0.4nm,0.8s,baz=193,slow=3.9,SNR=2.5						
NOA				PKPab	PKPab	19 25 05.2	+1.0
	comp=Z,1.1nm,1.1s,baz=176,slow=4.9,SNR=2.3						
NSS	**Namsos**	**178.96**	**35**	*e*PP	PP	19 29 02.7	-4.2
NSS				*e*SS	SS	19 50 47.3	+2.7
NSS				AMS	AMS	20 44 52.6	
	comp=Z,3µm,19.5s						

JMA 01 19:05:00.0±0.3, 20.71N×122.55E, M3.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.53**	**19**	P	Pn	19 05 57.5	+0.3
HATJ				*e*S	Sn	19 06 40.3	+0.1
YOJ	**Yonaguni jima**	**3.76**	**6**	P	Pn	19 06 01.0	+0.5
YOJ				*e*S	Sn	19 06 47.0	+0.9
JKRS	**Kuro-shima**	**3.76**	**21**	P	Pn	19 06 01.1	+0.6
JKRS				*e*S	Sn	19 06 46.6	+0.4
IRIF	**Iriomote-Funau**	**3.77**	**17**	P	Pn	19 06 00.8	+0.2
IRIF				*e*S	Sn	19 06 46.4	0.0
JIJ	**Ishigaki jima**	**3.92**	**22**	P	Pn	19 06 03.5	+0.7
JIJ				*e*S	Sn	19 06 49.3	-0.9
JTJ	**Tarama**	**4.39**	**27**	P	Pn	19 06 10.2	+0.8
JTJ				*e*S	Sn	19 07 01.6	-0.4
JOGS	**Gusukube**	**4.82**	**33**	P	Pn	19 06 15.8	+0.3
JOGS				*e*S	Sn	19 07 13.3	+0.4
JKE	**Kume jima 2**	**6.81**	**34**	*e*S	Sn	19 07 59.2	-3.6

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*IDC **01** 19:27:02.8±4.0, 3.59S×128.39E, h92^{km}±35^{km}, mb4.1/12, mb1 4.3/14, mb1mx4.2/19, Error ellipse: s-maj=25.0km s-min=12.5km az=67.0*

*NEIC **01** 19:27:06.5±1.9, 3.61S×128.45E, h128^{km}±17^{km}, mb4.1/7, Error ellipse: s-maj=20.9km s-min=9.1km az=65.0*

ISC 01 19:27:03.7±2.0, 3.55S±0.06×128.4E±0.1, h119^{km}±19^{km}, n38, σ1^{s}13/33, mb4.2/16, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.90**	**157**	*e*P	**P**	**19 29 22.9**	**-1.2**
	28nm,0.4s						
KAKA				*e*S	**S**	**19 31 08.8**	**-5.0**
FITZ	**Fitzroy Crossi**	**14.72**	**191**	*e*P	**P**	**19 30 30.1**	**+2.9**
	19nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.72**	**191**	P	**P**	**19 30 27.6**	**+0.4**
	4.8nm,0.3s,baz=15,slow=9.5,SNR=205						
FITZ				S	**S**	**19 33 07.9**	**+0.4**
	0.3nm,0.3s,baz=277,slow=4.7,SNR=1.7						
WRA	**Warramunga Arr**	**17.28**	**161**	P	**P**	**19 30 58.1**	**-1.1**
	17nm,0.3s,baz=340,slow=12,SNR=1122						
WRA				S	**S**	**19 34 07.6**	**+2.1**
	1.6nm,0.3s,baz=341,slow=21,SNR=7.0						
TGY	**Tagaytay City**	**19.05**	**337**	P	**P**	**19 31 21.8**	**+2.6**
	baz=138,slow=19,SNR=3.1						
ASPA	**Alice Springs**	**20.69**	**166**⇑	*i*P	**P**	**19 31 35.8**	**-0.3**
ASPA				*e*S	**S**	**19 35 17.2**	**+1.9**
CTA	**Charters Tower**	**23.92**	**135**	*e*P	**P**	**19 32 09.9**	**+2.1**
	4.8nm,1.5s,mb3.6						
CTA	**Charters Tower**	**23.92**	**135**	P	**P**	**19 32 09.4**	**+1.6**
	3.9nm,0.5s,mb4.0,baz=327,slow=11,SNR=14						
CTAO	**Charters Tower**	**23.92**	**135**	*e*P	**P**	**19 32 09.3**	**+1.5**
	4.6nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**30.78**	**158**	*e*P	**P**	**19 33 08.9**	**-1.4**
	4.0nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**30.78**	**158**	P	**P**	**19 33 09.3**	**-0.9**
	4.7nm,0.3s,mb4.6,baz=331,slow=8.4,SNR=39						
NWAO	**Narrogin (SRO)**	**31.05**	**198**	P	**P**	**19 33 12.2**	**-0.5**
	29nm,1.2s,mb4.9,baz=88,slow=7.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**36.36**	**308**	P	**P**	**19 33 58.7**	**+0.5**
	1.5nm,1.0s,mb3.9,baz=132,slow=6.7,SNR=6.1						
LSA	**Lhasa**	**48.65**	**315**	P	**P**	**19 35 38.8**	**+1.1**
	1.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**54.70**	**342**	P	**P**	**19 36 23.6**	**+0.8**
	0.4nm,0.9s,mb3.4,baz=163,slow=7.8,SNR=2.6						
URZ	**Urewera**	**56.17**	**135**	P	**P**	**19 36 32.7**	**-0.9**
	4.8nm,0.5s,mb4.8,baz=301,slow=5.9,SNR=3.2						
CASY	**Casey**	**63.87**	**188**	*e*P	**P**	**19 37 23.1**	**-2.5**
	0.8nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**64.50**	**327**	P	**P**	**19 37 29.3**	**-0.7**
	1.9nm,0.4s,mb4.3,baz=124,slow=8.0,SNR=22						
MKAR	**Makanchi Array**	**64.50**	**327**	P	**P**	**19 37 29.3**	**-0.7**
FX1	**Attu Island--F**	**67.61**	**27**	P	**P**	**19 37 50.5**	**+0.9**
	2.2nm,0.3s,mb4.4,baz=356,slow=14,SNR=5.8						
KURK	**Kurchatov**	**68.78**	**329**	*e*P	**P**	**19 37 55.9**	**-1.0**
	2.8nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**74.52**	**328**	*e*P	**P**	**19 38 30.3**	**-0.7**
VNDA	**Vanda**	**76.04**	**173**	P	**P**	**19 38 39.2**	**+0.1**
	1.3nm,0.8s,mb3.7,baz=314,slow=4.6,SNR=4.4						
VNDA	**Vanda**	**76.04**	**173**	P	**P**	**19 38 39.2**	**+0.1**
MAW	**Mawson**	**77.59**	**201**	P	**P**	**19 38 47.2**	**-0.7**
	1.4nm,0.5s,mb4.0,baz=165,slow=1.9,SNR=3.8						
ILAR	**Eielson Array**	**90.91**	**25**	P	**P**	**19 39 54.4**	**-0.4**
	0.4nm,0.4s,mb3.9,baz=259,slow=4.4,SNR=8.9						
INK	**Inuvik**	**96.26**	**22**	P	**P**	**19 40 19.4**	**+0.3**
	1.5nm,0.8s,mb4.5,baz=266,slow=14,SNR=2.0						
INK	**Inuvik**	**96.26**	**22**	P	**P**	**19 40 19.4**	**+0.3**
ARCES	**ARCESS Array B**	**97.82**	**340**	P	**P**	**19 40 25.7**	**-0.5**
	0.5nm,0.5s,mb4.3,baz=90,slow=3.6,SNR=8.8						
TXAR	**Lajitas Array**	**124.42**	**57**	PKP	PKPdf	19 45 52.1	+2.8
	0.2nm,0.4s,baz=209,slow=3.4,SNR=6.4						
SCHQ	**Schefferville**	**127.39**	**11**	PKP	PKPdf	19 45 56.6	+2.2
	2.5nm,0.9s,baz=21,slow=1.3,SNR=3.8						
PLCA	**Paso Flores**	**132.63**	**160**	PKP	PKPdf	19 46 07.4	+2.5
	0.9nm,0.8s,baz=186,slow=13,SNR=2.6						
JTS	**JuntasAbangare**	**146.21**	**77**	PKPbc	PKPbc	19 46 33.0	+1.8
	2.8nm,0.5s,baz=303,slow=6.9,SNR=2.7						
JTS	**JuntasAbangare**	**146.21**	**77**	PKPbc	PKPbc	19 46 33.0	+1.8
LVC	**Limon Verde**	**148.97**	**148**	PKPbc	PKPdf	19 46 41.9	+7.7
	baz=178,slow=6.7						
CPUP	**Villa Florida**	**149.78**	**170**	PKPbc	PKPdf	19 46 42.5	+7.1
	4.7nm,0.8s,baz=112,slow=0.8,SNR=7.0						
LPAZ	**La Paz**	**154.37**	**141**	PKPbc	PKPdf	19 46 55.0	+13
	0.5nm,0.4s,baz=119,slow=1.9,SNR=2.1						
LPAZ				PKPab	PKPab	19 47 09.3	+1.5
	0.7nm,0.5s,baz=245,slow=7.0,SNR=3.1						
LPAZ	**La Paz**	**154.37**	**141**	PKPbc	PKPdf	19 46 55.0	+13
LPAZ				PKPab	PKPab	19 47 09.3	+1.5

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*NEIC **01** 19:27:18.7, 35.76N×21.96E, h5^{km}, MD3.7(ATH), After ATH.*

ATH 01 19:27:18.4, 35.75N×21.95E, h5^{km}, MD3.7/12, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.03**	**59**	*e*PN	Pn	19 27 38.5	-0.8
KYTH				*e*SB	Sb	19 27 52.5	+0.6
VLI	**Veliai**	**1.25**	**39**	*e*PG	Pg	19 27 42.0	-1.4
VLI				*e*SB	Sb	19 27 59.5	+1.1
ITM	**Ithomi**	**1.43**	**359**	*e*PG	Pg	19 27 44.8	-2.1
ITM				*e*SB	Sb	19 28 05.5	+2.0
VAM	**Vamos**	**1.87**	**100**	*e*PN	Pn	19 27 53.5	+2.2
NAIG	**Nisos Aigina**	**2.35**	**31**	*e*PG	Pg	19 28 03.0	-2.4
NAIG	**Nisos Aigina**	**2.35**	**31**	*e*Pg	Pg	19 28 04.0	-1.4
NSAL	**Nisos Salamina**	**2.47**	**29**	*e*PG	Pg	19 28 03.5	-4.2
MKIT	**Kithairon Oros**	**2.65**	**23**	*e*PN	Pn	19 28 05.5	+3.0
VLS	**Valsamata**	**2.66**	**336**	*e*PB	Pb	19 28 02.5	-3.7
PTL	**Penteli**	**2.76**	**33**	*e*PB	Pb	19 28 05.0	-2.9
MPAR	**Parnis Oros**	**2.79**	**30**	*e*PN	Pn	19 28 06.5	+1.9
MPAR	**Parnis Oros**	**2.79**	**30**	*e*Pn	Pn	19 28 08.5	+3.9
EVR	**Evrytania**	**3.16**	**358**	*e*PG	Pg	19 28 16.5	-5.0
NEO	**Neokhori**	**3.69**	**16**	*e*PB	Pb	19 28 20.0	-3.9

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*NIED **01** 19:40:00, 41.60N×144.70E, h11^{km}, Mw4.3 Best double couple: M$_0$2.73×10^{15} NP1: φ$_s$189°, δ87°, λ58°. NP2: φ$_s$95°, δ32°, λ175°.*

*JMA **01** 19:40:42.3±0.4, 41.62N×144.73E, h40^{km}±3^{km}, M4.0*

*MOS **01** 19:40:43.1±1.0, 41.51N×144.41E, h33^{km}, mb4.1/9, Error ellipse: s-maj=25.0km s-min=13.9km az=103.8*

*IDC **01** 19:40:45.3±6.1, 41.52N×144.48E, h35^{km}±48^{km}, mb3.7/12, mb1 3.8/13, mb1mx3.7/23, ML2.8/1, Error ellipse: s-maj=24.9km s-min=19.3km az=146.0*

*BJI **01** 19:40:46.1, 42.01N×144.55E, h55^{km}, mB4.8, mb4.5, Ms4.0, Msz4.1*

*NEIC **01** 19:40:48.9±2.0, 41.57N×144.46E, h66^{km}±20^{km}, mb4.3/5, Error ellipse: s-maj=18.3km s-min=16.8km az=121.0*

ISC 01 19:40:45.1±1.3, 41.73N±0.07×144.5E±0.1, h40^{km}±8^{km}, n44, σ0^{s}99/47, mb4.0/17, MS4.0/1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.04**	**286**	P	**P**	**19 41 04.6**	**+1.2**
JCH	**Churui**	**1.22**	**317**	P	**P**	**19 41 06.5**	**+0.6**
JOB	**Onbets**	**1.27**	**338**	P	**P**	**19 41 06.6**	**-0.1**
JAK	**Akkeshi**	**1.27**	**7**	P	**P**	**19 41 05.2**	**-1.5**
JAK				*e*S	**S**	**19 41 22.1**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.41**	**294**	P	**P**	**19 41 10.4**	**+1.7**
ASAJ	**Asahikawa**	**2.76**	**330**	Pn	**P**	**19 41 28.2**	**+0.2**
	1.0nm,0.3s,baz=166,slow=13,SNR=8.1						
ASAJ	**Asahikawa**	**2.76**	**330**	P	**P**	**19 41 28.2**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.37**	**347**	P	**P**	**19 42 13.4**	**+8.6**
MAJO	**Matsushiro**	**7.12**	**225**	*e*Pn	**P**	**19 42 27.7**	**-1.7**
	comp=Z,5.8nm,0.8s						
MAT	**Matsushiro**	**7.12**	**225**	P	**P**	**19 42 30.1**	**+0.7**
MAT				S	**S**	**19 43 58.3**	**+8.4**
MAT	**Matsushiro**	**7.12**	**225**	*e*P	**P**	**19 42 30.0**	**+0.6**
	comp=Z,4.8nm,0.7s						
MAT				*e*S	**S**	**19 43 58.0**	**+8.1**
KLR	**Kul'dur**	**11.66**	**314**	*e*P	**P**	**19 43 44.2**	**+12**
KLR				MLR	MLR		
	comp=N,700nm,20.0s						
KLR				MLR	MLR		
	comp=E,2µm,20.0s						
HIA	**Hailar**	**18.86**	**302**	*e*P	**P**	**19 45 02.6**	**-1.6**
	comp=E,19nm,1.0s						
FX1	**Attu Island--F**	**22.26**	**50**	P	**P**	**19 45 41.0**	**+1.2**
	comp=E,5.4nm,0.6s,mb4.2,baz=71,slow=4.7,SNR=2.0						
FX1	**Attu Island--F**	**22.26**	**50**	P	**P**	**19 45 41.0**	**+1.2**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**24.68**	**279**	*e*P	**P**	**19 46 03.0**	**-0.4**
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,205nm,12.0s						
HHC				LR	LR		
	comp=N,341nm,27.4s,MS3.8						
HHC				LR	LR		
	comp=E,328nm,28.5s,MS3.8						
HHC				LR	LR		
	comp=Z,861nm,28.6s,MS4.1						
SONM	**Songino Array**	**27.52**	**296**	P	**P**	**19 46 30.2**	**+0.4**
	comp=Z,2.9nm,1.0s,mb3.9,baz=90,slow=7.4,SNR=19						
ZAK	**Zakamensk**	**29.55**	**301**	*e*P	**P**	**19 46 48.2**	**+0.3**
MKAR	**Makanchi Array**	**43.81**	**299**	P	**P**	**19 48 49.0**	**+0.4**
	comp=Z,2.0nm,0.8s,mb3.9,baz=80,slow=7.4,SNR=8.7						
MKAR	**Makanchi Array**	**43.81**	**299**	P	**P**	**19 48 49.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**44.27**	**35**	P	**P**	**19 48 53.2**	**+1.2**
	comp=Z,1.2nm,0.9s,mb3.6,baz=271,slow=8.6,SNR=8.7						
ILAR	**Eielson Array**	**44.27**	**35**	P	**P**	**19 48 53.2**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**45.06**	**305**	*e*P	**P**	**19 48 58.3**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.0						
CMAR	**Chiang Mai Arr**	**45.07**	**253**	P	**P**	**19 48 57.7**	**-1.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=40,slow=7.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**45.07**	**253**	P	**P**	**19 48 57.7**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**48.95**	**311**	*e*P	**P**	**19 49 27.8**	**-1.2**
	comp=Z,3.9nm,0.9s,mb4.4						
INK	**Inuvik**	**49.13**	**29**	P	**P**	**19 49 30.2**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=311,slow=5.6,SNR=3.2						
INK	**Inuvik**	**49.13**	**29**	P	**P**	**19 49 30.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**49.33**	**310**	*e*P	**P**	**19 49 32.4**	**+0.3**
	comp=Z,2.6nm,1.0s,mb4.2						
ARU	**Arti**	**54.49**	**317**	*e*P	**P**	**19 50 09.8**	**-0.8**
ARCES	**ARCESS Array B**	**60.45**	**339**	P	**P**	**19 50 51.6**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=31,slow=7.1,SNR=5.2						
ARCES	**ARCESS Array B**	**60.45**	**339**	P	**P**	**19 50 51.6**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**62.08**	**191**	P	**P**	**19 51 00.5**	**-3.7**
	comp=Z,0.2nm,0.5s,mb3.5,baz=7.6,slow=7.1,SNR=2.4						
FINES	**FINESS Array B**	**65.77**	**332**	P	**P**	**19 51 26.8**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=54,slow=8.0,SNR=17						
FINES	**FINESS Array B**	**65.77**	**332**	P	**P**	**19 51 26.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIV	**Kislovodsk**	**69.63**	**311**	*e*P	**P**	**19 51 53.6**	**+1.6**
	comp=Z,6.5nm,0.7s,mb4.7						
NB2	**NORSAR Subarra**	**70.76**	**338**	P	**P**	**19 51 58.1**	**-0.5**
	comp=Z,1.9nm,1.2s,mb3.9,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**70.76**	**338**	P	**P**	**19 51 58.1**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=36,slow=6.1,SNR=3.5						
NOA	**NORSAR Array B**	**70.76**	**338**	P	**P**	**19 51 58.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**72.03**	**323**	P	**P**	**19 52 06.4**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=43,slow=6.1,SNR=4.6						
AKASG	**Malin Array Be**	**72.03**	**323**	P	**P**	**19 52 06.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**78.17**	**331**	P	**P**	**19 52 42.0**	**+0.5**
KHC	**Kasperske Hory**	**79.75**	**330**	*e*P	**P**	**19 52 51.5**	**+1.4**
GERES	**GERESS Array B**	**79.93**	**329**	P	**P**	**19 52 51.7**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=27,slow=3.0,SNR=4.9						

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*IDC **01** 19:41:09.2±3.5, 19.13N×145.75E, h97^{km}±32^{km}, mb3.8/16, mb1 4.0/20, mb1mx3.9/27, Error ellipse: s-maj=22.2km s-min=11.4km az=98.0*

*NEIC **01** 19:41:13.7±6.6, 19.14N×145.66E, h142^{km}±62^{km}, mb4.4/3, Error ellipse: s-maj=24.9km s-min=12.0km az=83.0*

ISC 01 19:41:09.0±2.3, 19.13N±0.06×145.7E±0.1, h113^{km}±21^{km}, n27, σ0^{s}90/29, mb4.0/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.55**	**339**	P	**P**	**19 43 11.2**	**0.0**
	2.7nm,0.3s,baz=283,slow=22,SNR=2.6						
CBIJ				S	**S**	**19 44 46.9**	**+0.3**
	7.5nm,0.3s,baz=296,slow=20,SNR=3.0						
JHJ	**Hachijo jima 2**	**14.89**	**340**	P	**P**	**19 44 34.7**	**-0.1**
	13nm,0.3s,baz=247,slow=22,SNR=6.6						
JHJ				S	**S**	**19 47 17.0**	**0.0**
	2.3nm,0.3s,baz=144,slow=13,SNR=2.6						
JOW	**Kunigami**	**17.74**	**299**	P	**P**	**19 45 09.9**	**-0.4**
	0.2nm,0.3s,baz=262,slow=23,SNR=2.4						
JNU	**Nakatsue**	**19.21**	**319**	P	**P**	**19 45 25.4**	**-1.2**
	0.2nm,0.3s,baz=161,slow=7.0,SNR=2.7						
BJT	**Baijiatuau**	**32.80**	**316**	*e*P	**P**	**19 47 34.1**	**+0.5**
	9.1nm,0.4s,mb5.0						
CTA	**Charters Tower**	**38.98**	**179**	P	**P**	**19 48 26.4**	**+0.5**
	2.4nm,0.9s,mb4.0,baz=4.8,slow=12,SNR=2.7						
CTA	**Charters Tower**	**38.98**	**179**	P	**P**	**19 48 26.4**	**+0.5**
WRA	**Warramunga Arr**	**40.39**	**197**	P	**P**	**19 48 37.5**	**-0.1**
	7.8nm,0.6s,mb4.7,baz=17,slow=8.6,SNR=87						
FITZ	**Fitzroy Crossi**	**41.91**	**209**	*e*P	**P**	**19 48 49.9**	**-0.2**
	5.5nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**41.91**	**209**	P	**P**	**19 48 50.1**	**0.0**
	7.6nm,0.7s,mb4.5,baz=17,slow=7.1,SNR=47						
SONM	**Songino Array**	**42.79**	**321**	P	**P**	**19 48 57.9**	**+0.9**
	0.3nm,0.4s,mb3.4,baz=135,slow=7.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**44.14**	**277**	P	**P**	**19 49 09.7**	**+1.5**
	1.1nm,0.8s,mb3.6,baz=60,slow=8.0,SNR=4.6						
STKA	**Stephens Creek**	**50.87**	**184**	P	**P**	**19 49 59.8**	**-0.8**
	2.0nm,0.8s,mb4.2,baz=343,slow=16,SNR=5.3						
MKAR	**Makanchi Array**	**58.14**	**314**	P	**P**	**19 50 54.4**	**+1.3**
	0.3nm,0.5s,mb3.6,baz=104,slow=5.9,SNR=4.5						
ILAR	**Eielson Array**	**63.27**	**26**	P	**P**	**19 51 26.8**	**-0.9**
	2.5nm,0.5s,mb4.4,baz=259,slow=5.7,SNR=42						
RPZ	**Rata Peaks**	**66.74**	**160**	P	**P**	**19 51 50.2**	**-0.1**
	15nm,1.2s,mb4.7,baz=22,slow=6.7,SNR=3.0						
INK	**Inuvik**	**68.99**	**23**	P	**P**	**19 52 04.2**	**+0.5**
	0.9nm,0.3s,mb4.0,baz=252,slow=11,SNR=3.4						
INK	**Inuvik**	**68.99**	**23**	*e*P	**P**	**19 52 04.0**	**+0.2**
	0.8nm,0.3s,mb4.0						
YKA	**Yellowknife Ar**	**77.62**	**28**	P	**P**	**19 52 54.5**	**+0.4**
	1.3nm,0.6s,mb3.8,baz=290,slow=5.5,SNR=7.7						
YKA	**Yellowknife Ar**	**77.62**	**28**	P	**P**	**19 52 54.5**	**+0.4**
NEW	**Newport**	**80.61**	**42**	P	**P**	**19 53 10.2**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=199,slow=21,SNR=2.9						
KEV	**Kevo**	**81.51**	**342**	*e*p	**P**	**19 53 12.4**	**-2.5**
	0.3nm,0.4s,mb3.5						
ARCES	**ARCESS Array B**	**82.07**	**342**	P	**P**	**19 53 17.1**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=72,slow=7.7,SNR=5.8						
NVAR	**Mina Array Bea**	**82.89**	**52**	P	**P**	**19 53 24.3**	**+1.7**
	2.7nm,0.7s,mb4.2,baz=274,slow=3.5,SNR=12						
NVAR	**Mina Array Bea**	**82.89**	**52**	P	**P**	**19 53 24.3**	**+1.7**
FINES	**FINESS Array B**	**86.48**	**335**	P	**P**	**19 53 38.2**	**-1.6**
	0.4nm,0.3s,mb3.8,baz=71,slow=4.4,SNR=7.1						
PDAR	**Pinedale Array**	**87.54**	**45**	P	**P**	**19 53 46.3**	**+0.9**
	0.5nm,0.4s,mb3.9,baz=279,slow=0.9,SNR=5.3						

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*MOS **01** 19:44:46.6±2.2, 13.35S×112.19W, h10^{km}, mb4.9/4, MS5.6/6, Error ellipse: s-maj=29.8km s-min=20.8km az=133.7*

*HRVD **01** 19:44:47.6±0.1, 13.39S×112.17W, h12^{km}, MW5.8/69, Centroid moment Tensor Solution. LP body waves: s49,c94; Mantle waves: s69,c156; Half duration: 2^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.63±.09; M$_{\theta\theta}$2.79±.09; M$_{\phi\phi}$-2.16±.10; M$_{r\theta}$-0.10±.26; M$_{\theta\phi}$5.98±.07; M$_{\phi r}$-0.34±.27; Best double couple: M$_0$6.48×10^{17} NP1:*

ϕs281°,δ87°,λ0°. NP2:ϕs11°,δ90°,λ-177°. Principal axes: T 6.8, Plg2°, Azm146°; N -.63, Plg87°, Azm15°; P -6.17, Plg2°, Azm236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **01** 19:44:47.6±0.3, 13.39S×112.21W, h10^{km}, mb5.1/36, MS5.6/1 Error ellipse: s-maj=11.3km s-min=6.7km az=69.0*

*IDC **01** 19:44:47.2±0.6, 13.27S×112.19W, mb4.5/20, mb1 4.6/20, mb1mx4.6/23, MS5.5/19, Ms1 5.5/19, ms1mx5.5/24, Error ellipse: s-maj=20.7km s-min=13.5km az=61.0*

*BJI **01** 19:44:48.5, 13.40S×112.20W, h10^{km}, mB5.3, Ms5.8, Msz5.7*

ISC 01 19:44:46.3±0.4**, 13.29S**±0.06×**112.20W**±0.08**, h10**^{km}**, n191,** σ1§**15**/115**, mb4.8**/53**, MS5.6**/33**, 4C-1D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**23.71**	**242**	*e*L		19 54 41.8	
RKT				*e*R		19 55 36.7	
	30µm,27.5s,baz=66						
PAYG	**Puerto Ayora**	**25.07**	**62**	*e*P	**P**	**19 50 12.5**	**-0.1**
	92nm,1.1s,mb5.2						
JTS	**JuntasAbangare**	**35.78**	**50**	P	**P**	**19 51 49.7**	**+1.8**
	4.9nm,0.9s,mb4.4,baz=263,slow=16,SNR=3.4						
JTS				LR	LR	20 02 31.8	
	comp=Z,15µm,21.3s,MS5.7,baz=242,slow=30						
OTAV	**Otavalo**	**36.05**	**71**	*e*P	**P**	**19 51 52.2**	**+2.1**
	26nm,1.2s,mb5.0						
PPT	**Papeete**	**36.24**	**258**	*e*L		19 59 44.5	
PPT				*e*R		20 01 19.1	
	15µm,27.5s,baz=92						
TBI	**Tubuai**	**36.66**	**249**	*e*L		20 00 03.2	
TBI				*e*R		20 01 36.7	
	20µm,27.2s,baz=80						
ROSC	**El Rosal**	**41.70**	**67**	P	**P**	**19 52 40.1**	**+2.7**
	17nm,0.8s,mb4.7,baz=134,slow=17,SNR=6.1						
ROSC				LR	LR	20 06 06.3	
	comp=Z,6µm,20.8s,MS5.4,baz=33,slow=31						
LVC	**Limon Verde**	**42.08**	**109**	P	**P**	**19 52 42.1**	**+1.8**
	6.9nm,0.8s,mb4.3,baz=289,slow=7.5,SNR=9.9						
LVC				LR	LR	20 05 38.9	
	comp=Z,5µm,18.3s,MS5.4,baz=272,slow=30						
LVC	**Limon Verde**	**42.08**	**109**	*e*P	**P**	**19 52 39.1**	**-1.2**
	63nm,1.8s,mb5.0						
LPAZ	**La Paz**	**42.66**	**100**	P	**P**	**19 52 46.5**	**+1.5**
	34nm,1.1s,mb5.0,baz=283,slow=7.2,SNR=43						
LPAZ				LR	LR	20 04 46.4	
	comp=Z,2µm,21.3s,MS5.0,baz=70,slow=28						
TXAR	**Lajitas Array**	**43.17**	**11**	P	**P**	**19 52 50.9**	**+1.7**
	1.2nm,0.8s,mb3.7,baz=194,slow=10,SNR=10.0						
TXAR				LR	LR	20 07 22.8	
	comp=Z,4µm,18.5s,MS5.3,baz=210,slow=31						
JCT	**Junction City**	**45.12**	**15**	*e*P	**P**	**19 53 04.6**	**-0.3**
	64nm,1.2s,mb5.3						
PLCA	**Paso Flores**	**45.47**	**135**	P	**P**	**19 53 08.2**	**+0.7**
	10.0nm,1.0s,mb4.6,baz=286,slow=9.4,SNR=11						
PLCA				LR	LR	20 07 27.1	
	comp=Z,14µm,18.4s,MS5.9,baz=284,slow=30						
HKT	**Hockley**	**45.80**	**20**	*e*P	**P**	**19 53 09.4**	**-0.8**
	45nm,1.4s,mb5.2						
GDL2	**Guadalupe Moun**	**45.85**	**9**	*e*P	**P**	**19 53 10.1**	**-0.5**
BAR	**Barrett**	**45.91**	**355**	*e*P	**P**	**19 53 12.6**	**+1.5**
RAR	**Rarotonga**	**45.97**	**253**	LR	LR	20 07 11.5	
	comp=Z,6µm,19.1s,MS5.5,baz=94,slow=29						
SDV	**Santo Domingo**	**46.79**	**64**	*e*P	**P**	**19 53 18.1**	**-0.2**
	74nm,1.1s,mb5.5						
PFO	**Pinyon Flat Ob**	**46.81**	**355**	*e*P	**P**	**19 53 17.4**	**-0.8**
	33nm,1.6s,mb5.0						
LENM	**Lemitar**	**47.45**	**6**	*e*P	**P**	**19 53 25.0**	**+1.7**
MWC	**Mount Wilson**	**47.58**	**353**	*e*P	**P**	**19 53 25.9**	**+1.7**
LPM	**Los Pinos Moun**	**47.63**	**6**	*e*P	**P**	**19 53 26.2**	**+1.6**
LAZ	**Ladron**	**47.67**	**6**	*e*P	**P**	**19 53 26.4**	**+1.4**
LDFC	**Landfair**	**48.18**	**357**	*e*P	**P**	**19 53 30.9**	**+1.9**
ANMO	**Albuquerque**	**48.28**	**6**	*e*P	**P**	**19 53 31.3**	**+1.6**
ANMO	**Albuquerque**	**48.28**	**6**	*e*P	**P**	**19 53 29.7**	**-0.1**
	21nm,1.6s,mb4.9						
NEN	**Nelson**	**48.74**	**357**	*e*P	**P**	**19 53 34.6**	**+1.4**
DAC	**Darwin (Calif)**	**49.56**	**354**	*e*P	**P**	**19 53 41.3**	**+1.8**
	39nm,1.6s,mb5.2						
MTUM	**Tungsten Hills**	**50.73**	**353**	*e*P	**P**	**19 53 49.9**	**+1.5**
MIAR	**Mount Ida**	**50.76**	**20**	*e*P	**P**	**19 53 48.4**	**-0.4**
	38nm,1.4s,mb5.1						
TRQA	**Tornquist**	**50.80**	**128**	*e*P	**P**	**19 53 47.4**	**-1.6**
	95nm,1.9s,mb5.4						
OMM	**Old Mammoth Mi**	**51.04**	**353**	*e*P	**P**	**19 53 51.8**	**+1.0**
SDCO	**Great Sand Dun**	**51.15**	**7**	*e*P	**P**	**19 53 52.4**	**+0.7**
	15nm,1.1s,mb4.8						
PV01	**Paradox Valley**	**51.27**	**4**	*e*P	**P**	**19 53 53.5**	**+0.9**
UALR	**University of**	**51.39**	**21**	*e*P	**P**	**19 53 53.4**	**-0.1**
	39nm,1.3s,mb5.2						
RW3	**Ridgway**	**51.44**	**5**	*e*P	**P**	**19 53 55.7**	**+1.9**
CMB	**Columbia Colle**	**51.63**	**352**	*e*P	**P**	**19 53 55.0**	**-0.3**
	25nm,1.4s,mb5.0						
MNV	**Mina**	**51.75**	**354**	*e*P	**P**	**19 53 56.7**	**+0.5**
	47nm,1.6s,mb5.2						
NVAR	**Mina Array Bea**	**51.77**	**354**	P	**P**	**19 53 57.6**	**+1.3**
	15nm,1.2s,mb4.8,baz=167,slow=8.4,SNR=20						
NVAR				LR	LR	20 10 47.6	
	comp=Z,7µm,21.4s,MS5.7,baz=190,slow=30						
LRAL	**Lakeview Retre**	**51.98**	**27**	*e*P	**P**	**19 53 57.2**	**-0.8**
	27nm,1.4s,mb5.0						
SRU	**San Rafael**	**52.15**	**2**	*e*P	**P**	**19 54 00.6**	**+1.4**
WCN	**Washoe City**	**52.79**	**353**	P	**P**	**19 54 04.8**	**+0.8**
	23nm,1.3s,mb5.0						
CPUP	**Villa Florida**	**52.88**	**113**	P	**P**	**19 54 03.4**	**-1.4**
	12nm,1.0s,mb4.8,baz=301,slow=7.9,SNR=14						
CPUP				LR	LR	20 12 03.3	
	comp=Z,5µm,21.1s,MS5.5,baz=296,slow=31						
NLU	**North Lily Min**	**52.97**	**0**	*e*P	**P**	**19 54 05.9**	**+0.5**
MPU	**Maple Canyon**	**53.03**	**1**	*e*P	**P**	**19 54 05.7**	**-0.1**
OHCM	**Honcut**	**53.06**	**351**	*e*P	**P**	**19 54 06.6**	**+0.6**
PLAL	**Pickwick Lake**	**53.19**	**25**	*e*P	**P**	**19 54 03.8**	**-3.2**
	23nm,1.1s,mb5.0						
DUG	**Dugway**	**53.22**	**359**	*e*P	**P**	**19 54 06.9**	**-0.2**
	4.1nm,0.6s,mb4.5						
BEKR	**Beckwourth**	**53.43**	**352**	*e*P	**P**	**19 54 08.0**	**-0.7**
	17nm,1.4s,mb4.8						
DAU	**Daniels Canyon**	**53.44**	**1**	*e*P	**P**	**19 54 09.5**	**+0.7**
USHA	**Ushuaia**	**53.62**	**150**	P	**P**	**19 54 11.6**	**+1.7**
	6.7nm,0.9s,mb4.6,baz=344,slow=5.4,SNR=3.4						
JLU	**Jordanelle**	**53.62**	**1**	*e*P	**P**	**19 54 11.1**	**+0.9**
BMN	**Battle Mountai**	**53.65**	**355**	*e*P	**P**	**19 54 11.0**	**+0.7**
	44nm,1.6s,mb5.1						
CTU	**Camp Tracy**	**53.71**	**0**	P	**P**	**19 54 10.4**	**-0.4**
SWET	**Sewanee**	**54.29**	**27**	*e*P	**P**	**19 54 14.3**	**-0.8**
WDC	**Whiskeytown Da**	**54.45**	**350**	P	**P**	**19 54 14.3**	**-1.9**
	35nm,1.4s,mb5.1						
HWUT	**Hardware Ranch**	**54.62**	**1**	*e*P	**P**	**19 54 16.4**	**-1.1**
	6.9nm,0.9s,mb4.7						
CCM	**Cathedral Cave**	**54.73**	**20**	*e*P	**P**	**19 54 15.9**	**-2.4**
	5.5nm,0.8s,mb4.6						
SJG	**San Juan**	**55.11**	**57**	LR	LR	20 13 11.7	
	comp=Z,4µm,21.7s,MS5.5,baz=248,slow=31						
MOD	**Modoc**	**55.42**	**353**	*e*P	**P**	**19 54 24.6**	**+1.3**
	45nm,1.6s,mb5.2						
YBH	**Yreka Blue Hor**	**55.60**	**350**	P	**P**	**19 54 25.3**	**+0.7**
	2.2nm,1.0s,mb4.1,baz=174,slow=5.2,SNR=3.6						
YBH	**Yreka Blue Hor**	**55.60**	**350**	*e*P	**P**	**19 54 23.7**	**-0.8**
	17nm,1.4s,mb4.9						
WVOR	**Wild Horse Val**	**55.76**	**354**	*e*P	**P**	**19 54 26.3**	**+0.5**
	60nm,1.4s,mb5.4						
PDAR	**Pinedale Array**	**55.83**	**2**	P	**P**	**19 54 26.1**	**-0.1**
	2.4nm,0.7s,mb4.3,baz=167,slow=6.0,SNR=12						
PDAR				LR	LR	20 14 36.6	
	comp=Z,5µm,18.9s,MS5.6,baz=201,slow=32						
HUMO	**Hull Mountain**	**56.49**	**350**	*e*P	**P**	**19 54 30.4**	**-0.6**
HSO	**Harness Mounta**	**57.41**	**351**	*e*P	**P**	**19 54 35.5**	**-2.0**
MCMT	**McKenzie Canyo**	**57.84**	**359**	*e*P	**P**	**19 54 38.7**	**-1.8**
QLMT	**Earthquake Lak**	**57.85**	**1**	*e*P	**P**	**19 54 39.6**	**-0.9**
VGB	**Gordon Butte**	**59.04**	**353**	*e*P	**P**	**19 54 48.3**	**-0.5**
LNOR	**Lincton Mounta**	**59.14**	**355**	P	**P**	**19 54 49.5**	**0.0**
HRY	**Holter Researc**	**59.73**	**0**	*e*P	**P**	**19 54 54.1**	**+0.6**
HAWA	**Hanford**	**59.77**	**354**	*e*P	**P**	**19 54 53.5**	**-0.4**
	7.8nm,0.9s,mb4.7						
CHMT	**Chamberlain Mo**	**59.94**	**359**	*e*P	**P**	**19 54 54.3**	**-0.7**
LAO	**LASA Array**	**59.94**	**5**	*e*P	**P**	**19 54 54.1**	**-1.0**
	14nm,1.0s,mb5.0						
LON	**Longmire**	**60.38**	**352**	*e*P	**P**	**19 54 58.4**	**+0.4**
RMW	**Rattlesnake Mo**	**61.08**	**353**	*e*P	**P**	**19 55 03.0**	**+0.2**
DPW	**Davenport**	**61.12**	**355**	*e*P	**P**	**19 55 01.5**	**-1.6**
GNW	**Green Mountain**	**61.32**	**352**	P	**P**	**19 55 03.0**	**-1.4**
NEW	**Newport**	**61.44**	**356**	P	**P**	**19 55 05.3**	**+0.2**
NEW				LR	LR	20 17 30.9	
	comp=Z,5µm,18.1s,MS5.7,baz=180,slow=32						
NEW	**Newport**	**61.44**	**356**	P	**P**	**19 55 05.3**	**+0.1**
NLW	**Nelson Butte**	**61.52**	**354**	P	**P**	**19 55 07.0**	**+1.2**
DGMT	**Dagmar**	**61.90**	**6**	*e*P	**P**	**19 55 06.4**	**-1.9**
	28nm,1.0s,mb5.3						
BDFB	**Brasilia**	**61.99**	**101**	P	**P**	**19 55 08.0**	**-1.4**
	6.3nm,0.8s,mb4.8,baz=270,slow=7.5,SNR=8.6						
RPW	**Rockport**	**62.02**	**353**	*e*P	**P**	**19 55 07.8**	**-1.3**
BINY	**Binghamton**	**64.48**	**29**	*e*P	**P**	**19 55 23.4**	**-2.1**
	37nm,1.4s,mb5.2						
ULM	**Lac du Bonnet**	**64.87**	**11**	P	**P**	**19 55 27.8**	**-0.1**
	3.0nm,0.9s,mb4.3,baz=201,slow=14,SNR=1.9						
ULM	**Lac du Bonnet**	**64.87**	**11**	P	**P**	**19 55 27.8**	**-0.1**
ACCN	**Adirondack Com**	**66.49**	**30**	*e*P	**P**	**19 55 36.3**	**-2.1**
BBB	**Bella Bella**	**66.65**	**349**	LR	LR	20 18 24.8	
	comp=Z,2µm,19.7s,MS5.4,baz=167,slow=30						
NCB	**Newcomb**	**66.67**	**29**	*e*P	**P**	**19 55 37.9**	**-1.6**
	24nm,1.4s,mb5.0						
RPZ	**Rata Peaks**	**71.39**	**228**	P	**P**	**19 56 09.9**	**+1.3**
	6.5nm,0.8s,mb4.6,baz=84,slow=7.2,SNR=2.7						
SIT	**Sitka**	**72.67**	**347**	P	**P**	**19 56 15.0**	**-1.0**
	28nm,1.3s,mb5.0						
DLBC	**Dease Lake**	**72.95**	**350**	*e*P	**P**	**19 56 17.9**	**+0.3**
FCC	**Fort Churchill**	**73.31**	**10**	*e*P	**P**	**19 56 19.9**	**+0.2**
	8.2nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	**75.56**	**359**	P	**P**	**19 56 32.9**	**+0.3**
	1.1nm,0.8s,mb3.8,baz=183,slow=4.7,SNR=8.4						
YKA				LR	LR	20 26 37.0	
	comp=Z,6µm,18.4s,MS6.0,baz=215,slow=33						
YKW3	**Yellowknife Ar**	**75.63**	**359**	*e*P	**P**	**19 56 32.4**	**-0.6**
VNDA	**Vanda**	**76.23**	**193**	P	**P**	**19 56 37.9**	**+1.7**
	1.9nm,0.8s,mb4.1,baz=94,slow=2.0,SNR=4.6						
VNDA				LR	LR	20 22 44.5	
	comp=Z,2µm,19.4s,MS5.5,baz=92,slow=30						
SCHQ	**Schefferville**	**77.91**	**25**	P	**P**	**19 56 44.8**	**-1.1**
	12nm,1.0s,mb4.7,baz=141,slow=2.1,SNR=3.9						
SCHQ				LR	LR	20 29 31.6	
	comp=Z,6µm,20.9s,MS5.9,baz=224,slow=34						
KDAK	**Kodiak Island**	**78.21**	**339**	*e*P	**P**	**19 56 46.7**	**-0.8**
EYAK	**Cordova Ski Ar**	**78.33**	**344**	P	**P**	**19 56 49.3**	**+1.3**
DAWY	**Dawson**	**79.89**	**348**	*e*P	**P**	**19 56 56.1**	**-0.4**
PMS	**Palmer South**	**79.97**	**343**	*e*P	**P**	**19 56 56.5**	**-0.4**
SML	**Sawmill**	**80.08**	**343**	*e*P	**P**	**19 56 56.2**	**-1.3**
PMR	**Palmer**	**80.12**	**343**	*e*P	**P**	**19 56 57.3**	**-0.5**
SPU	**Mount Spurr**	**80.66**	**342**	*e*P	**P**	**19 56 60.0**	**-0.7**
UNV	**Unalaska Valle**	**81.22**	**331**	P	**P**	**19 57 01.8**	**-2.0**
SVW	**Sparrevohn**	**81.74**	**340**	*e*P	**P**	**19 57 05.3**	**-1.0**
MCK	**McKinley**	**81.80**	**344**	*e*P	**P**	**19 57 06.8**	**+0.3**
	15nm,1.3s,mb4.8						
VNA1	**Neumayer--Stat**	**82.11**	**161**	⇑*i*	**P**	**19 57 13.9**	**+5.9**
VNA1	**Neumayer--Stat**	**82.11**	**161**		**P**	**19 57 17.0**	**+9.0**
VNA1	**Neumayer--Stat**	**82.11**	**161**	⇑*i*P	**P**	**19 57 07.3**	**-0.7**
VNA1				*e*		19 57 17.0	
ILAR	**Eielson Array**	**82.14**	**346**	P	**P**	**19 57 08.8**	**+0.5**
	0.6nm,0.7s,mb3.6,baz=162,slow=4.7,SNR=7.6						
ILAR				LR	LR	20 27 03.0	
	comp=Z,2µm,19.8s,MS5.4,baz=126,slow=31						
VNA2	**Neumayer--Watz**	**82.30**	**161**		**P**	**19 57 14.0**	**+5.0**
VNA2	**Neumayer--Watz**	**82.30**	**161**	P	**P**	**19 57 08.4**	**-0.6**
VNA2				*e*		19 57 14.0	
COLA	**College**	**82.46**	**345**	*e*P	**P**	**19 57 09.8**	**-0.2**
COLA				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.7						
INK	**Inuvik**	**82.81**	**352**	P	**P**	**19 57 11.6**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=155,slow=6.5,SNR=4.9						
INK	**Inuvik**	**82.81**	**352**	*e*P	**P**	**19 57 09.6**	**-2.1**
	comp=Z,21nm,1.3s,mb5.0						
SNAA	**Sanae**	**83.42**	**163**	P	**P**	**19 57 10.7**	**-4.1**
SNAA	**Sanae**	**83.42**	**163**		**P**	**19 57 15.1**	**+0.3**
SNAA	**Sanae**	**83.42**	**163**	*e*P	**P**	**19 57 14.0**	**-0.8**
SNAA				*e*		19 57 15.1	
FX1	**Attu Island--F**	**91.45**	**324**	P	**P**	**19 57 53.8**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.7,baz=73,slow=14,SNR=4.7						
ADH	**Angra Heroismo**	**94.31**	**51**	*e*LR	LR	20 29 45.0	
STKA	**Stephens Creek**	**96.38**	**235**	LR	LR	20 33 13.8	
	comp=Z,3µm,21.6s,MS5.7,baz=89,slow=30						
MAW	**Mawson**	**99.25**	**178**	LR	LR	20 38 46.1	
	comp=Z,2µm,20.3s,MS5.6,baz=271,slow=33						
MDJ	**Mudanjiang**	**119.25**	**314**	PKP	PKPdf	20 03 36.9	-2.1
MDJ				LR	LR		
	comp=N,163nm,22.6s,MS5.5						
MDJ				LR	LR		
	comp=E,1µm,25.2s,MS5.5						
MDJ				LR	LR		
	comp=Z,1µm,19.9s						
GRA1	**Grafenberg Arr**	**121.47**	**39**	*e*PKP	PKPdf	20 03 41.8	-1.4
GRF	**Grafenberg Arr**	**121.47**	**39**	*e*PKIKP	PKPdf	20 03 41.8	-1.4
CLL	**Collm**	**122.02**	**37**	*e*PKIKP	PKPdf	20 03 49.0	+4.8
CN2	**Changchun**	**122.33**	**314**	*e*PKP	PKPdf	20 03 39.1	-5.9
CN2				*e*PP	PP	20 05 20.0	-2.3
CN2				LR	LR		
	comp=N,700nm,16.0s,MS5.6						
CN2				LR	LR		
	comp=E,800nm,16.0s,MS5.6						
CN2				LR	LR		
	comp=Z,900nm,17.0s,MS5.5						
BRG	**Berggiesshubel**	**122.72**	**37**	*e*PKIKP	PKPdf	20 03 46.0	+0.5
BRG				pmax	pmax		
	comp=Z,7.0nm,1.6s						
KHC	**Kasperske Hory**	**123.10**	**40**	*e*P	PKPdf	20 02 47.0	-59
GERES	**GERESS Array B**	**123.28**	**40**	PKP	PKPdf	20 03 46.1	-0.6
	comp=Z,0.4nm,0.8s,baz=243,slow=3.0,SNR=5.3						
FINES	**FINESS Array B**	**123.33**	**23**	PKP	PKPdf	20 03 45.7	-0.8
	comp=Z,0.5nm,0.6s,baz=63,slow=6.2,SNR=3.7						
SSE	**Sheshan**	**127.99**	**299**	PKP	PKPdf	20 03 50.6	-5.8
SSE				LR	LR		
	comp=N,443nm,26.9s,MS5.4						
SSE				LR	LR		
	comp=E,937nm,26.9s,MS5.4						
SSE				LR	LR		
	comp=Z,2µm,25.4s,MS5.6						
KWP	**Kalwaria**	**128.35**	**36**	PKPdf	PKPdf	20 03 53.9	-2.6
NJ2	**Nanjing**	**129.81**	**301**	*e*PKP	PKPdf	20 03 54.5	-5.3
NJ2				PKS	PKS	20 07 30.0	-2.0
NJ2				LR	LR		
	comp=N,1µm,30.6s,MS5.7						
NJ2				LR	LR		
	comp=E,2µm,32.4s,MS5.7						
NJ2				LR	LR		
	comp=Z,3µm,32.1s,MS5.8						
AKASG	**Malin Array Be**	**131.32**	**32**	PKP	PKPdf	20 04 00.4	-1.8
	comp=Z,0.5nm,0.4s,baz=228,slow=2.9,SNR=4.5						
OBN	**Obninsk**	**131.70**	**24**	*i* PKIKP	PKPdf	20 03 58.7	-4.0
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.8						
OBN	**Obninsk**	**131.70**	**24**	*e*PKP	PKPdf	20 03 58.8	-3.9
TLY	**Talaya**	**132.08**	**331**	PKIKP	PKPdf	20 03 53.0	-11
MLR	**Muntele Rosu**	**132.26**	**39**	PKP	PKPdf	20 04 01.8	-2.2
	comp=Z,1.1nm,0.7s,baz=105,slow=18,SNR=2.5						
ULN	**Ulaanbaatar**	**132.57**	**325**	*i* PKIKP	PKPdf	20 04 00.0	-4.6
ULN	**Ulaanbaatar**	**132.57**	**325**	*e*PKP	PKPdf	20 04 00.1	-4.5
SONM	**Songino Array**	**132.96**	**325**	PKP	PKPdf	20 04 04.4	-0.9
	comp=Z,0.9nm,1.0s,baz=74,slow=0.9,SNR=6.1						
SONM				PP	PP	20 06 35.7	+4.0
	comp=Z,1.6nm,1.3s,baz=63,slow=2.8,SNR=4.2						
ZAK	**Zakamensk**	**133.08**	**329**	*e*PKIKP	PKPdf	20 04 04.3	-1.1
ZAK				*e*		20 06 28.5	
ARU	**Arti**	**136.37**	**7**	⇓*i*PKIKP	PKPdf	20 04 07.4	-3.8
ARU				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ARU				MLR	MLR		
	comp=Z,3µm,19.0s,MS6.0						
ARU				MLR	MLR		
	comp=N,1µm,20.0s,MS5.7						
ARU				MLR	MLR		
	comp=E,1µm,19.0s,MS5.7						
ARU	**Arti**	**136.37**	**7**	*e*PKP	PKPdf	20 04 07.5	-3.7
CHKZ	**Chkalovo**	**139.65**	**357**	*e*PKPdf	PKPdf	20 04 17.4	0.0
BRTR	**Keskin Array B**	**140.06**	**42**	PKP	PKPdf	20 04 15.7	-2.8
	comp=E,1.7nm,0.8s,baz=207,slow=2.8,SNR=7.1						
BRVK	**Borovoye**	**140.28**	**358**	*e*PKP	PKPdf	20 04 13.0	-5.6
BRVK				*e*PKPdf	PKPdf	20 04 17.1	-1.4
LZH	**Lanzhou**	**140.50**	**311**	*e*PKP	PKPdf	20 04 13.4	-6.0
LZH				PP	PP	20 07 17.0	-2.2
LZH				*e*SKS	SKS	20 11 21.0	-7.7
LZH				PP	PP		
	comp=Z,221nm,8.5s						
LZH				LR	LR		
	comp=E,846nm,18.2s						
LZH				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
LZH	**Lanzhou**	**140.50**	**311**	*e*PKP	PKPdf	20 04 13.4	-6.0
LZH				sPKP		20 04 28.5	
LZH				PP	PP	20 07 17.0	-2.2
LZH				*e*SKS	SKS	20 11 21.0	-7.7
LZH				SKKS		20 14 04.4	
LZH				SS	SS	20 25 37.0	-4.0
LZH				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
GYA	**Guiyang**	**141.33**	**296**	PKP	PKPdf	20 04 24.0	+2.8
GYA				PP	PP		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=N,760nm,18.6s,MS5.8						
GYA				LR	LR		
	comp=E,1µm,17.7s,MS5.8						
GYA				LR	LR		
	comp=Z,1µm,19.5s,MS5.7						
GTA	**Gaotai**	**141.63**	**319**	*e*PKP	PKPdf	20 04 25.8	+4.4
KURK	**Kurchatov**	**141.65**	**349**	PKPpre		20 04 16.4	
CD2	**Chengdu**	**142.57**	**304**	*e*PKP	PKPdf	20 04 25.5	+2.3
KIV	**Kislovodsk**	**142.62**	**30**	*i* PKHKP		20 04 16.4	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.5						
KIV	**Kislovodsk**	**142.62**	**30**	*e*PKPpre		20 04 15.8	
KELT	**Kelkit**	**143.35**	**38**	*i* P	PKPbc	20 04 31.4	+12
GZT	**Gaziantep**	**143.93**	**43**	⇑*i*P	PKPbc	20 04 21.6	+0.1
MALT	**Malatya**	**143.95**	**41**	*e*PKPpre		20 04 19.9	
ELZG	**Elazig**	**144.19**	**40**	*i* P	PKPbc	20 04 22.6	+0.5
MKAR	**Makanchi Array**	**144.45**	**343**	PKhKP		20 04 21.7	
	comp=Z,1.6nm,0.8s,baz=225,slow=1.7,SNR=6.2						
SLTI	**Sal’it**	**144.60**	**52**	P	PKPbc	20 04 24.3	+0.8
KZIT	**Kziot**	**144.62**	**55**	P	PKPbc	20 04 24.2	+0.6
HRI	**Mount Hermon**	**144.68**	**50**	P	PKPbc	20 04 24.5	+0.8
ERZM	**Erzurum**	**144.74**	**36**	*i* P	PKPbc	20 04 25.8	+2.2
MMLI	**Mount Malkishu**	**144.81**	**52**	P	PKPbc	20 04 24.8	+0.8
HMDT	**Nahal Hemdat**	**144.97**	**52**	P	PKPbc	20 04 25.2	+0.7
KMI	**Kunming**	**145.07**	**295**	*e*PKP	PKPdf	20 04 25.5	-2.2
KMI				PP	PP	20 07 47.2	+0.2
KMI				SS	SS	20 26 32.1	-2.1
KMI				SSS	SSS	20 32 08.9	+7.2
KMI				LR	LR		
	comp=N,675nm,14.8s						
KMI				LR	LR		
	comp=E,654nm,24.6s						
KMI				LR	LR		
	comp=Z,910nm,29.5s						
KMI	**Kunming**	**145.07**	**295**	*e*PKP	PKPdf	20 04 25.5	-2.2
KMI				sPKP		20 04 38.3	
KMI				PP	PP	20 07 47.2	+0.2
KMI				SS	SS	20 26 32.1	-2.1
KMI				SSS	SSS	20 32 08.9	+7.2
KMI				LR	LR		
	comp=Z,910nm,29.5s,MS5.4						
WMQ	**Urumqi**	**145.11**	**334**	⇑PKP	PKPdf	20 04 24.0	-3.2
WMQ				APKP		20 04 32.0	
WMQ				PP	PP	20 07 45.0	-1.7
WMQ				PKS	PKS	20 07 58.0	-0.5
WMQ				SKS	SKS	20 11 27.8	-7.9
WMQ				LR	LR		
	comp=N,2µm,23.0s,MS5.9						
WMQ				LR	LR		
	comp=E,2µm,23.0s,MS5.9						
WMQ				LR	LR		
	comp=Z,3µm,23.0s,MS6.0						
DRGI	**Dragot**	**145.14**	**53**	P	PKPbc	20 04 25.8	+0.8
KMTI	**Karmit**	**145.18**	**56**	P	PKPbc	20 04 25.9	+0.8
TI2	**Plekhanov**	**145.29**	**31**	*e*PKIKP	PKPdf	20 04 29.0	+1.4
PRNI	**Paran**	**145.31**	**55**	P	PKPbc	20 04 26.7	+1.3
ZFRI	**Zfri**	**145.38**	**55**	P	PKPbc	20 04 26.4	+0.8
MBH	**Mount Berech**	**145.45**	**56**	P	PKPbc	20 04 27.1	+1.3
EIL	**Elat**	**145.52**	**57**	P	PKPbc	20 04 27.3	+1.3
MAK	**Makhachkala**	**145.63**	**27**	*e*PKP2	PKPab	20 04 28.5	+0.7
MAK				*e*		20 07 56.0	
MAK				pmax	pmax		
	comp=Z,900nm,8.0s						
MAK				pmax	pmax		
	comp=Z,800nm,7.0s						
MAK				MLR	MLR		
	comp=Z,500nm,17.0s,MS5.4						
BEST	**Besiri**	**145.98**	**39**	*i* P	PKPbc	20 04 29.1	+2.2
KKTK	**Khon Kaen**	**146.03**	**280**	P	PKPbc	20 04 27.0	-0.6
ASF	**Jabal al Asfar**	**146.05**	**51**	PKPbc	PKPbc	20 04 29.1	+1.9
	comp=Z,7.0nm,0.8s,baz=162,slow=2.3,SNR=7.5						
KMBO	**Kilima Mbogo**	**146.49**	**113**	PKPbc	PKPbc	20 04 32.4	+3.6
	comp=Z,22nm,1.2s,baz=239,slow=3.0,SNR=15						
KMBO	**Kilima Mbogo**	**146.49**	**113**	*e*PKPdf	PKPdf	20 04 29.8	-0.8
TVAN	**Van**	**146.84**	**36**	*i* P	PKPbc	20 04 36.5	+7.6
CMAR	**Chiang Mai Arr**	**149.63**	**284**	PKPbc	PKPdf	20 04 40.2	+4.8
	comp=Z,4.6nm,1.0s,baz=72,slow=1.0,SNR=15						
BDT	**Bhumibol Dam**	**149.66**	**281**	P	PKPdf	20 04 46.0	+11
FRU	**Bishkek**	**149.98**	**350**	*e*PKIKP	PKPdf	20 04 44.0	+8.8
FRU				pmax	pmax		
	comp=Z,60nm,2.1s						
FRU				MLR	MLR		
	comp=N,1µm,18.0s						
FRU				MLR	MLR		
	comp=Z,2µm,18.0s,MS6.0						
KSH	**Kashi**	**152.90**	**346**	*e*PKP	PKPdf	20 04 35.9	-3.8
KSH				*e*PKS	PKS	20 08 09.2	-0.6
KSH				*e*SKS	SKS	20 11 42.0	-4.1
LSA	**Lhasa**	**152.91**	**311**	PKPdf	PKPdf	20 04 39.7	-0.3

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*STR **01** 20:05:39.9±0.1, 42.87N×2.10E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **01** 20:05:40.4±0.3, 42.87N×2.12E, mbLg1.6/15, Error ellipse: s-maj=3.1km s-min=2.4km az=25.0, PRXIMO*

*LDG **01** 20:05:40.4±0.1, 42.87N×2.12E, h2^{km}, Md2.3/3, Ml2.3/11, Error ellipse: s-maj=1.9km s-min=1.6km az=5.0*

ISC 01 20:05:38.7±0.3**, 42.95N**±0.02×**2.13E**±0.03**, h12**^{km}±5^{km}**, n33,** σ1§**21**/50**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPEF	**Le Peyrat**	**0.16**	**269**	Pg	**Pg**	**20 05 43.7**	**+1.1**
LPEF				Sg	**Sg**	**20 05 46.3**	**+1.1**
LPEF	**Le Peyrat**	**0.16**	**269**	Pg	**Pg**	**20 05 43.8**	**+1.2**
LPEF				Lg		20 05 46.4	
LRDF	**Laroque-de-Fa**	**0.30**	**93**	Pg	**Pg**	**20 05 46.3**	**+1.3**
LRDF				Sg	**Sg**	**20 05 51.3**	**+2.0**
LRDF	**Laroque-de-Fa**	**0.30**	**93**	Pg	**Pg**	**20 05 46.4**	**+1.3**
LRDF				Lg		20 05 51.4	
MTLF	**Montolieu**	**0.39**	**9**	*e*Pg	**Pg**	**20 05 49.0**	**+2.2**
MTLF				*e*Sg	**Sg**	**20 05 55.5**	**+3.3**
	5.7nm,0.2s						
GRBF	**Gourbit**	**0.45**	**256**	Pg	**Pg**	**20 05 48.1**	**+0.2**
GRBF				Lg		20 05 55.3	
CLLI	**Llivia**	**0.49**	**194**	Pg	**Pg**	**20 05 48.3**	**-0.3**
CLLI				Lg		20 05 54.1	
	16nm,0.1s						
FILF	**Fillols**	**0.50**	**141**	Pg	**Pg**	**20 05 47.7**	**-1.2**
FILF				Sg	**Sg**	**20 05 53.4**	**-2.4**
FILF	**Fillols**	**0.50**	**141**	Pg	**Pg**	**20 05 47.8**	**-1.1**
FILF				Lg		20 05 53.5	
CBRU	**Bruguera**	**0.67**	**177**	Pg	**Pg**	**20 05 51.9**	**-0.3**
CBRU				Lg		20 06 00.0	
	4.1nm,0.1s						
SALF	**Salau**	**0.72**	**255**	Pg	**Pg**	**20 05 52.4**	**-0.7**
SALF	**Salau**	**0.72**	**255**	Pg	**Pg**	**20 05 53.0**	**-0.1**
SALF				Lg		20 06 02.7	
SJAF	**Saint Jean de**	**0.72**	**130**	Pg	**Pg**	**20 05 53.4**	**+0.1**
SJAF				Sg	**Sg**	**20 06 02.2**	**-0.9**
SJAF	**Saint Jean de**	**0.72**	**130**	Pg	**Pg**	**20 05 53.5**	**+0.2**
SJAF				Lg		20 06 02.6	
EJON	**La Jonquera**	**0.75**	**132**	Pg	**Pg**	**20 05 54.4**	**+0.6**
	0.5nm,0.1s,SNR=6.2						
EJON				Lg		20 06 03.6	
	5.1nm,0.1s						
MLS	**Moulis**	**0.76**	**271**	Pg	**Pg**	**20 05 54.5**	**+0.5**
MLS	**Moulis**	**0.76**	**271**	Pg	**Pg**	**20 05 54.4**	**+0.4**
MLS				Lg		20 06 04.7	
CORG	**Organya**	**0.94**	**220**	Pg	**Pg**	**20 05 57.7**	**+0.2**
MELF	**Melles**	**1.01**	**266**	Pg	**Pg**	**20 05 58.4**	**-0.5**
MELF	**Melles**	**1.01**	**266**	Pg	**Pg**	**20 05 58.6**	**-0.4**
MELF				Lg		20 06 12.2	
EMIR	**Miracle**	**1.13**	**204**	Pg	**Pg**	**20 06 01.0**	**-0.3**
	0.8nm,0.1s,SNR=6.0						
EMIR				Lg		20 06 14.8	
	1.7nm,0.1s						
EPF	**Esparros**	**1.32**	**274**	*e*Pg	**Pg**	**20 06 05.3**	**+0.3**
EPF				*e*Sg	**Sg**	**20 06 23.2**	**+0.6**
	4.2nm,0.2s						
LASF	**Ste Croix**	**1.69**	**48**	*e*Pn	**Pn**	**20 06 10.1**	**+1.9**
LASF				*e*Pg	**Pg**	**20 06 13.1**	**+0.7**

LASF				*e*Sg	Sg	20 06 36.2	+1.3
	7.8nm,0.2s						
EPOB	**Poblet**	1.78	206	Pg	Pg	20 06 12.5	-1.7
	2.4nm,0.2s,SNR=6.6						
EPOB				Lg		20 06 34.8	
	3.6nm,0.1s						
CAF	**Calviac**	1.97	359	*e*Pg	Pg	20 06 18.7	+0.6
CAF				*e*Sg	Sg	20 06 45.8	+1.4
	2.9nm,0.2s						
ETSF	**Etsaut**	1.98	269	*e*Pn	Pn	20 06 13.0	+0.6
ETSF				*e*Pg	Pg	20 06 17.5	-0.7
ETSF				*e*Sg	Sg	20 06 44.2	-0.3
	4.7nm,0.2s						
LFF	**La Frestale**	2.23	334	*e*Pg	Pg	20 06 24.1	+1.0
LFF				*e*Sg	Sg	20 06 51.0	-1.8
	9.2nm,0.4s						
ESAC	**San Caprasio**	2.29	238	Pn	Pn	20 06 18.0	+1.2
	1.1nm,0.1s,SNR=7.9						
ESAC				Sn	Sn	20 06 45.5	+0.4
	SNR=7.9						
ESAC				Lg		20 06 52.8	
	4.4nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	2.39	350	*e*Pg	Pg	20 06 27.0	+0.5
RJF				*e*Sg	Sg	20 06 57.6	-0.8
	2.4nm,0.3s						
VIVF	**Saint-Julien-l**	2.65	43	*e*Pg	Pg	20 06 30.1	-1.4
VIVF				*e*Sg	Sg	20 07 05.9	-0.9
	2.6nm,0.3s						
TCF	**Toulx Ste Croi**	3.34	1	*e*Pg	Pg	20 06 43.4	-1.9
TCF				*e*Sg	Sg	20 07 27.9	-1.9
	1.5nm,0.3s						
AVF	**Avril sur Loir**	3.94	12	*e*Sg	Sg	20 07 47.3	-2.4
	0.6nm,0.3s						
MFF	**Saint Martin d**	3.99	337	*e*Pg	Pg	20 06 56.1	-2.3
MFF				*e*Sg	Sg	20 07 47.2	-4.4
	1.2nm,0.3s						

*NIED **01** 20:25:00, 30.10N×130.90E, h83^{km}, Mw4.5 Best double couple: M$_0$6.16×10^{15} NP1:ϕ$_s$189°, δ59°, λ-113°. NP2: ϕ$_s$49°, δ38°, λ-57°.*
*JMA **01** 20:25:11.4±0.1, 30.12N×130.87E, h26^{km}±1^{km}, M3.8*
*NEIC **01** 20:25:16.4±1.0, 30.07N×130.47E, h65^{km}±9^{km}, Error ellipse: s-maj=15.8km s-min=9.0km az=92.0*
*IDC **01** 20:25:17.0±1.5, 30.11N×130.44E, h70^{km}±13^{km}, mb3.5/10, mb1 3.6/10, mb1mx3.5/20, MS3.2/2, Ms1 3.2/2, ms1mx3.1/20, Error ellipse: s-maj=24.2km s-min=9.4km az=104.0*
ISC 01 20:25:11.6±0.7**, 30.13N**±0.05×**130.84E**±0.07**, h45**^{km}±6^{km}**, n24, σ0^{s}86**/31**, mb3.7**/10**, 6C, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	0.53	13	⇑P	P	20 25 22.1	-0.9
JTN				S	S	20 25 29.5	-1.6
JKC	**Kuchinoerabu**	0.64	301	⇑P	P	20 25 24.3	-0.1
JKC				S	S	20 25 33.8	0.0
JNN	**Nakanoshima**	0.88	251	⇑P	P	20 25 28.0	+0.2
JNN				S	S	20 25 40.4	+0.8
JTSR	**Tashiro 2**	1.03	4	⇑P	P	20 25 30.3	+0.5
JTSR				S	S	20 25 44.1	+0.7
JSU	**Suzuyama**	1.41	347	⇑P	P	20 25 35.4	+0.1
JSU				S	S	20 25 53.4	+0.6
JNAR	**Kushima--Naru**	1.44	15	⇑P	P	20 25 37.3	+1.6
JNU	**Nakatsue**	2.98	1	P	P	20 26 02.3	+4.7
JNU				S	S	20 26 38.0	+5.6
	7.8nm,0.3s,baz=31,slow=27,SNR=3.7						
JNU				LR	LR	20 27 10.0	
	comp=Z,319nm,18.2s,baz=69,slow=37						
JOW	**Kunigami**	3.99	215	P	P	20 26 11.8	-0.1
JOW				S	S	20 26 57.2	-0.7
	2.4nm,0.3s,baz=119,slow=27,SNR=4.0						
JOW				LR	LR	20 28 04.3	
	comp=Z,368nm,18.7s,baz=264,slow=44						
MAJO	**Matsushiro**	8.88	42	Pn	P	20 27 19.2	-0.9
SONM	**Songino Array**	25.78	320	P	P	20 30 39.7	-0.2
	1.0nm,0.5s,mb3.6,baz=137,slow=10,SNR=13						
MKAR	**Makanchi Array**	40.80	308	P	P	20 32 50.0	-0.2
	1.1nm,0.5s,mb3.8,baz=96,slow=9.9,SNR=9.1						
KURK	**Kurchatov**	43.70	313	*e*P	P	20 33 13.8	+0.1
CHKZ	**Chkalovo**	48.89	317	*e*P	P	20 33 54.1	-0.6
BRVK	**Borovoye**	49.06	316	*e*P	P	20 33 55.5	-0.5
WRA	**Warramunga Arr**	49.90	176	P	P	20 34 03.1	+0.1
	0.4nm,0.8s,mb3.5,baz=357,slow=8.2,SNR=3.9						
ILAR	**Eielson Array**	59.92	29	P	P	20 35 18.2	+3.1
	0.2nm,0.7s,mb3.3,baz=248,slow=7.6,SNR=4.1						
STKA	**Stephens Creek**	62.51	170	P	P	20 35 33.5	+0.5
	2.8nm,1.0s,mb4.4,baz=31,slow=5.9,SNR=2.1						
ARCES	**ARCESS Array B**	67.23	338	P	P	20 36 02.5	-0.4
	0.4nm,0.5s,mb3.7,baz=63,slow=8.1,SNR=6.1						
FINES	**FINESS Array B**	70.61	330	P	P	20 36 23.0	-0.8
	0.6nm,0.4s,mb3.9,baz=76,slow=7.9,SNR=13						
FINES	**FINESS Array B**	70.61	330	P	P	20 36 23.0	-0.8
BRTR	**Keskin Array B**	76.45	308	P	P	20 36 58.0	-0.3
	0.8nm,0.9s,mb3.6,baz=90,slow=2.9,SNR=4.5						
NB2	**NORSAR Subarra**	76.83	334	P	P	20 36 58.5	-1.5
	0.5nm,0.6s,mb3.6,baz=51,slow=5.6						
NOA	**NORSAR Array B**	76.83	334	P	P	20 36 59.5	-0.4
	0.5nm,0.6s,mb3.6,baz=53,slow=5.4,SNR=4.0						
NVAR	**Mina Array Bea**	86.17	47	P	P	20 37 51.5	+2.2
	0.4nm,0.7s,mb3.8,baz=284,slow=7.4,SNR=2.7						

*IDC **01** 20:39:10.0±0.7, 30.31S×177.61W, mb4.6/6, mb1 4.7/8, mb1mx4.5/15, ML3.8/2, Error ellipse: s-maj=27.3km s-min=20.1km az=128.0*
*NEIC **01** 20:39:14.1±7.8, 30.45S×177.62W, h29^{km}±52^{km}, mb5.0/7, Error ellipse: s-maj=25.0km s-min=16.5km az=48.0*
ISC 01 20:39:11.9±4.0**, 30.56S**±0.07×**177.8W**±0.1**, h18**^{km}±28^{km}**, n36, σ1^{s}17**/30**, mb4.6**/11**, 6C-1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWZ	**Matawai**	8.66	205	P	P	20 41 18.2	-1.2
MWZ				S	Sn	20 42 57.6	0.0
URZ	**Urewera**	8.76	207	Pn	P	20 41 20.4	-0.3
	1.1nm,0.3s,baz=182,slow=4.7,SNR=7.1						
URZ				Sn	Sn	20 42 59.1	-0.8
	3.0nm,0.3s,baz=204,slow=22,SNR=13						
URZ	**Urewera**	8.76	207	P	P	20 41 19.4	-1.3
MRZ	**Mangatainoka R**	11.43	206	S	S	20 43 58.9	-6.6
THZ	**Tophouse**	13.46	211	P	P	20 42 25.5	+1.0
RPZ	**Rata Peaks**	15.84	211	Pn	P	20 42 56.8	+1.2
	0.4nm,0.3s,baz=34,slow=7.3,SNR=2.7						
RPZ				Sn	S	20 45 40.9	-10
	0.6nm,0.3s,baz=44,slow=18,SNR=1.9						
CTA	**Charters Tower**	34.01	279	⇑*i*P	P	20 45 57.7	+0.8
	18nm,0.4s,mb5.4						
CTA	**Charters Tower**	34.01	279	P	P	20 45 57.7	+0.8
	33nm,0.7s,mb5.4,baz=101,slow=10,SNR=56						
CTAO	**Charters Tower**	34.01	279	*e*P	P	20 45 57.4	+0.5
	22nm,0.5s,mb5.3						
STKA	**Stephens Creek**	34.62	257	⇑*i*P	P	20 46 03.6	+1.5
	14nm,0.6s,mb5.1						
STKA	**Stephens Creek**	34.62	257	P	P	20 46 03.7	+1.6
	16nm,0.6s,mb5.1,baz=94,slow=9.8,SNR=37						
ASPA	**Alice Springs**	43.29	267	*e*P	P	20 47 14.0	-0.4
WRA	**Warramunga Arr**	44.29	272	P	P	20 47 21.8	-0.8
	14nm,0.4s,mb5.0,baz=110,slow=8.1,SNR=377						
SBA	**Scott Base**	47.89	184	P	P	20 47 49.5	-0.8
	5.4nm,0.9s,mb4.6						
SBA				*e*		20 47 59.3	
VNDA	**Vanda**	47.95	186	P	P	20 47 51.6	+0.8
	0.8nm,0.5s,mb4.0,baz=21,slow=6.7,SNR=2.2						
FITZ	**Fitzroy Crossi**	52.55	270	*e*P	P	20 48 25.2	-1.4
	2.9nm,0.6s,mb4.4						
CASY	**Casey**	55.08	208	⇑*e*P	P	20 48 44.5	-0.2
	5.7nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	59.55	180	*e*P	P	20 49 19.2	+3.1
	21nm,0.8s,mb5.2						
MAW	**Mawson**	72.22	201	P	P	20 50 39.5	+2.2
	1.3nm,0.5s,mb4.1,baz=128,slow=14,SNR=2.7						
SNAA	**Sanae**	77.99	178		P	20 51 08.3	-1.7
SNAA	**Sanae**	77.99	178	⇓*i*	P	20 51 18.2	+8.2
VNA2	**Neumayer--Watz**	78.57	177		P	20 51 17.9	+4.7
VNA2	**Neumayer--Watz**	78.57	177	⇑*i*	P	20 51 25.5	+12
VNA1	**Neumayer--Stat**	78.80	176	⇑*i*	P	20 51 20.2	+5.7
VNA1	**Neumayer--Stat**	78.80	176	⇑*i*	P	20 51 27.2	+13
NVAR	**Mina Array Bea**	88.23	43	P	P	20 52 03.5	+0.2
	0.8nm,0.6s,mb4.1,baz=211,slow=8.3,SNR=5.0						
TXAR	**Lajitas Array**	92.32	57	P	P	20 52 21.0	-1.5
	0.4nm,1.1s,mb3.7,baz=252,slow=5.7,SNR=2.4						
MKAR	**Makanchi Array**	118.02	310	PKP	PKPdf	20 57 56.5	-4.9
	0.4nm,0.6s,baz=206,slow=1.5,SNR=3.9						
ARCES	**ARCESS Array B**	138.79	348	PKhKP		20 58 31.5	
	0.5nm,0.6s,baz=101,slow=4.6,SNR=3.1						
ARCES				PKP	PKPdf	20 58 37.4	-2.9
	0.5nm,0.6s,baz=63,slow=5.4,SNR=4.8						
FINES	**FINESS Array B**	145.36	340	PKPbc	PKPbc	20 58 47.0	-1.5
	8.2nm,0.7s,baz=64,slow=4.2,SNR=68						
NB2	**NORSAR Subarra**	148.94	352	PKP		20 58 57.5	
	1.2nm,0.7s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	148.94	352	PKPbc	PKPdf	20 58 57.7	-0.1
	0.6nm,0.7s,baz=33,slow=2.7,SNR=7.1						
NOA				PKPab	PKPab	20 59 02.4	-1.7
	1.1nm,0.6s,baz=16,slow=4.3,SNR=8.7						
NOA	**NORSAR Array B**	148.94	352	PKPbc	PKPdf	20 58 57.7	-0.1
NOA				PKPab	PKPab	20 59 02.4	-1.7
AKASG	**Malin Array Be**	151.54	323	PKPbc	PKPdf	20 59 04.2	+2.0
	3.8nm,0.6s,baz=48,slow=2.8,SNR=13						
BRTR	**Keskin Array B**	152.84	298	PKPbc	PKPdf	20 59 08.0	+3.6
	0.7nm,0.8s,baz=110,slow=3.1,SNR=5.3						
GERES	**GERESS Array B**	159.76	338	PKPab	PKPab	20 59 49.5	-0.8
	0.4nm,0.7s,baz=180,slow=4.0,SNR=3.4						

*JMA **01** 20:51:10.8±0.2, 24.10N×121.88E, h75^{km}, M2.8*
*TAP **01** 20:51:12.7, 23.97N×121.82E, h44^{km}, ML3.3*
ISC 01 20:51:10.5±2.0**, 24.1N**±0.3×**121.8E**±0.1**, h71**^{km}±30^{km}**, n7, σ0^{s}43**/14**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	1.11	73	P	P	20 51 30.9	+0.2
YOJ				*e*S	S	20 51 45.8	0.0
IRIF	**Iriomote-Funau**	1.73	83	P	P	20 51 39.2	+0.1
IRIF				*e*S	S	20 52 00.4	+0.1
HATJ	**Hateruma jima**	1.80	92	P	P	20 51 39.7	-0.3
HATJ				*e*S	S	20 52 02.1	+0.4
JKRS	**Kuro-shima**	1.98	87	P	P	20 51 42.6	+0.1
JKRS				*e*S	S	20 52 06.6	+0.5
JIJ	**Ishigaki jima**	2.11	83	P	P	20 51 43.9	-0.4
JIJ				*e*S	S	20 52 08.2	-1.2
JTJ	**Tarama**	2.66	79	P	P	20 51 51.7	-0.3
JTJ				*e*S	S	20 52 23.2	+0.1
JOGS	**Gusukube**	3.31	79	P	P	20 52 01.7	+0.6
JOGS				*e*S	S	20 52 39.7	+0.3

*IDC **01** 21:03:34.1±0.8, 63.36S×167.02W, mb4.1/6, mb1 4.3/7, mb1mx4.2/12, ML3.4/1, MS4.0/1, Ms1 4.0/1, ms1mx3.7/10, Error ellipse: s-maj=40.0km s-min=21.4km az=32.0*
*NEIC **01** 21:03:35.7±0.6, 63.36S×167.10W, h10^{km}, Error ellipse: s-maj=17.3km s-min=13.6km az=91.0*
ISC 01 21:03:33.9±0.8**, 63.3S**±0.1×**167.2W**±0.3**, h10**^{km}**, n15, σ0^{s}79**/11**, mb4.1**/7**, MS3.9**/1**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	16.67	199	*e*P	P	21 07 27.6	-1.2
	11nm,1.0s						
VNDA	**Vanda**	17.23	202	P	P	21 07 35.7	0.0
	0.1nm,0.3s,baz=59,slow=17,SNR=12						
VNDA	**Vanda**	17.23	202	P	P	21 07 35.7	0.0
RPZ	**Rata Peaks**	23.30	317	LR	LR	21 15 34.6	
	comp=Z,360nm,18.6s,MS3.9,baz=12,slow=31						
QSPA	**South Pole Qui**	26.78	180	*e*P	P	21 09 16.4	+1.3
	6.6nm,1.0s,mb4.1						
URZ	**Urewera**	26.84	332	P	P	21 09 15.3	-0.6
	7.8nm,1.1s,mb4.1,baz=108,slow=20,SNR=2.4						
PLCA	**Paso Flores**	57.28	116	P	P	21 13 22.6	-1.0
	6.8nm,1.4s,mb4.5,baz=225,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	58.37	290	P	P	21 13 32.2	+0.7
	0.8nm,0.8s,mb3.8,baz=155,slow=6.1,SNR=6.2						
LVC	**Limon Verde**	73.66	108	P	P	21 15 09.8	+0.7
	2.2nm,1.0s,mb4.0,baz=240,slow=4.8,SNR=2.2						
CPUP	**Villa Florida**	75.15	119	P	P	21 15 17.6	-0.2
	3.4nm,1.1s,mb4.2,baz=113,slow=7.5,SNR=2.3						
LPAZ	**La Paz**	79.59	105	P	P	21 15 42.7	+0.3
	0.4nm,0.5s,mb3.6,baz=7.5,slow=3.6,SNR=3.3						
LPAZ	**La Paz**	79.59	105	P	P	21 15 42.7	+0.2
ILAR	**Eielson Array**	128.66	11	PKP	PKPdf	21 22 42.8	-0.3
	0.7nm,0.8s,baz=240,slow=2.6,SNR=8.3						
BVAR	**Borovoye Array**	149.03	278	PKPbc	PKPdf	21 23 22.9	+3.3
	0.4nm,0.7s,baz=79,slow=15,SNR=2.7						
BRTR	**Keskin Array B**	153.31	218	PKPbc	PKPdf	21 23 31.5	+5.1
	0.6nm,0.9s,baz=180,slow=4.3,SNR=2.7						

*STR **01** 21:04:47.3±2.3, 49.76N×8.67E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **01** 21:04:48.3±0.7, 49.73N×8.78E, h5^{km}, ML1.9/6, Error ellipse: s-maj=7.8km s-min=3.3km az=131.0*
*LDG **01** 21:04:49.1±0.4, 49.69N×8.63E, h25^{km}, Md2.4/3, Ml2.4/8, Error ellipse: s-maj=6.5km s-min=5.2km az=73.0*
ISC 01 21:04:43.6±0.5**, 49.78N**±0.04×**8.68E**±0.04**, h13**^{km}±6^{km}**, n16, σ1^{s}29**/30**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANF	**Langenberg**	0.98	216	Pg	Pg	21 05 03.7	+0.4
LANF				Sg	Sg	21 05 18.5	+2.0
BFO	**Black Forest**	1.47	189	*e*Pg	Pg	21 05 15.9	+2.9
	SNR=2.0						
BFO				*e*Sg	Sg	21 05 33.0	+0.4
CDF	**Champ du Feu**	1.65	215	*e*Pn	Pn	21 05 13.2	+0.8
CDF				*e*Pg	Pg	21 05 17.8	+1.2
CDF				*e*Sg	Sg	21 05 37.4	-1.2
	7.7nm,0.3s						
GRF	**Grafenberg Arr**	1.65	92	*e*Pg	Pg	21 05 19.2	+2.6
	SNR=3.5						
GRF				*e*Sg	Sg	21 05 39.6	+0.9
MOX	**Moxa**	2.08	64	*e*Pg	Pg	21 05 26.2	+1.1
	SNR=2.0						
MOX				*e*Sg	Sg	21 05 53.1	+0.3
HINF	**Hinteralfeld**	2.31	212	*e*Pg	Pg	21 05 30.6	+0.9
HINF				*e*Sg	Sg	21 05 59.4	-1.0
	6.6nm,0.3s						
HAU	**Haudompre**	2.35	222	*e*Pg	Pg	21 05 31.3	+0.8
HAU				*e*Sg	Sg	21 06 00.7	-1.2
	6.8nm,0.3s						
WERD	**Werda**	2.43	73	*e*Pg	Pg	21 05 32.8	+0.7
	SNR=2.6						
WERD				*e*Sg	Sg	21 06 03.9	-0.7
WET	**Wettzell**	2.81	101	*e*Sn	Sn	21 06 03.8	+0.7
WET				*e*Sg	Sg	21 06 14.0	-3.3
BAIF	**Baives**	2.90	277	*e*Pn	Pn	21 05 31.4	+1.0
BAIF				*e*Sn	Sn	21 06 04.2	-1.2
BAIF				*e*Sg	Sg	21 06 19.5	-0.8
	0.9nm,0.3s						
CLL	**Collm**	3.15	59	*e*Pg	Pg	21 05 47.1	+0.5
	SNR=1.3						
CLL				*e*Sg	Sg	21 06 27.3	-1.4
GEC2	**GERESS Array S**	3.42	104	*e*Sg	Sg	21 06 34.3	-3.1
BRG	**Berggiesshubel**	3.55	70	*e*Sg	Sg	21 06 40.2	-1.5
CABF	**La Chapelle**	3.61	210	*e*Pn	Pn	21 05 39.8	-0.6
CABF				*e*Sg	Sg	21 06 41.7	-2.2
LOR	**Lormes**	4.07	234	*e*Sg	Sg	21 06 53.4	-5.8
	1.5nm,0.4s						
SMF	**Signal de Mont**	4.50	228	*e*Sg	Sg	21 07 07.6	-6.0
	1.3nm,0.4s						

*GRAL **01** 21:22:38.9±6.4, 37.10N×38.22E, h15^{km}, MD4.0*
*ISK **01** 21:22:51.3, 36.69N×36.58E, h10^{km}, MD3.4*
ISC 01 21:22:51.2±0.7**, 36.66N**±0.03×**36.61E**±0.05**, h4**^{km}±6^{km}**, n21, σ0^{s}93**/30**, 1C, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HTY	**Hatay**	0.66	215	*i* PG	Pg	21 23 04.5	+0.2
HTY				SG	Sg	21 23 14.7	+1.6
GAZ	**Gaziantep**	0.70	43	*i* PG	Pg	21 23 05.1	-0.1
GAZ				SG	Sg	21 23 15.7	+1.1
CEYT	**Ceyhan**	0.77	297	*i* PG	Pg	21 23 06.2	-0.4
KAHT	**Ahir Dag**	0.99	12	*i* P	Pb	21 23 10.3	-0.3
KAHT				*i* S	Sb	21 23 23.4	-0.4
GZT	**Gaziantep**	1.03	48	*i* P	Pb	21 23 11.3	0.0
GZT				*i* S	Sb	21 23 27.1	+2.1
NIG	**Nigde**	2.15	313	*e*PN	Pn	21 23 27.8	-0.5
MALT	**Malatya**	2.19	41	PN	Pn	21 23 28.3	-0.6
MYA	**Malataya**	2.20	40	PN	Pn	21 23 28.8	-0.3
IKL	**Isikli**	2.39	261	*e*PN	Pn	21 23 30.7	-1.1
HWQ	**Hawqa**	2.44	193	*e*PN	Pn	21 23 32.7	+0.3
HWQ				SN	Sn	21 24 03.9	+0.8
AVNT	**Avonos**	2.53	327	⇑*i*P	Pn	21 23 34.1	+0.3
AVNT				*i* S	Sn	21 24 07.4	+2.0
ELZG	**Elazig**	2.63	45	*i* P	Pn	21 23 34.7	-0.5
ELZG				*i* S	Sn	21 24 13.3	+5.2
BHL	**Bhannes**	2.86	196	*e*PN	Pn	21 23 36.7	-1.7
BHL				SN	Sn	21 24 22.6	+8.8
DIY	**Diyarbakir**	3.14	66	*e*PN	Pn	21 23 43.1	+0.7
SVSK	**Karacayir**	3.27	5	*e*PN	Pn	21 23 43.8	-0.4
HDMB	**Hadim**	3.32	276	*e*PN	Pn	21 23 45.0	0.0
MATL	**Matirih**	3.33	199	*e*PN	Pn	21 23 39.7	-5.5
KAMT	**Kaman**	3.54	321	*e*PN	Pn	21 23 47.7	-0.4
KELT	**Kelkit**	4.06	30	*i* P	Pg	21 24 06.8	-5.3
KELT				*i* S	Sg	21 25 01.0	-5.2
BTMT	**Batman**	4.18	67	*e*PN	Pn	21 23 55.2	-1.9
TVAN	**Van**	5.71	69	*i* P	Pg	21 24 45.0	-0.2

IDC 01 21:52:01.3±9.6**, 7.20S×129.20E, h88**^{km}±98^{km}**, mb3.4**/4**, mb1 3.7**/5**, mb1mx3.6**/11**, ML4.0**/1**, Error ellipse: s-maj=86.8km s-min=29.8km az=57.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	13.62	159	P	P	21 55 10.5	-1.4
	0.8nm,0.3s,baz=343,slow=13,SNR=41						
WRA				S	S	21 57 32.2	-9.2
	2.9nm,0.3s,baz=337,slow=22,SNR=8.3						
STKA	**Stephens Creek**	27.14	156	P	P	21 57 36.5	-1.9
	1.6nm,0.7s,baz=332,slow=7.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	39.25	311	P	P	21 59 21.4	-1.6
	0.8nm,0.6s,baz=135,slow=7.2,SNR=5.4						
SONM	**Songino Array**	58.38	342	P	P	22 01 48.4	-1.5
	0.2nm,0.7s,baz=153,slow=3.2,SNR=2.0						
MKAR	**Makanchi Array**	67.96	327	P	P	22 02 50.2	-2.7
	0.9nm,0.7s,baz=133,slow=8.0,SNR=7.6						

*IDC **01** 21:58:21.7±0.9, 63.15S×166.06W, mb4.0/6, mb1 4.3/7, mb1mx4.2/10, ML3.7/1, MS4.2/6, Ms1 4.2/6, ms1mx3.9/15, Error ellipse: s-maj=54.2km s-min=21.6km az=20.0*
*NEIC **01** 21:58:23.6±0.9, 63.24S×166.21W, h10^{km}, mb4.3/2, Error ellipse: s-maj=20.6km s-min=19.5km az=70.0*
ISC 01 21:58:21.9±0.8**, 63.1S**±0.1×**166.2W**±0.3**, h10**^{km}**, n17, σ1^{s}21**/13**, mb4.0**/7**, MS4.3**/6**, 1C-2D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	17.03	199	*e*P	P	22 02 17.1	-4.1
	38nm,1.4s						
VNDA	**Vanda**	17.60	202	P	P	22 02 27.5	-0.9
	0.2nm,0.3s,baz=55,slow=16,SNR=19						
RPZ	**Rata Peaks**	23.46	315	LR	LR	22 10 15.1	
	comp=Z,442nm,21.3s,MS3.9,baz=198,slow=30						
QSPA	**South Pole Qui**	27.00	180	*e*P	P	22 04 06.1	+1.0
	6.4nm,0.9s,mb4.2						
SNAA	**Sanae**	45.01	173	⇓*i*	P	22 06 36.2	-2.2
STKA	**Stephens Creek**	45.17	288	P	P	22 06 41.5	+1.3
	4.0nm,1.0s,mb4.2,baz=142,slow=12,SNR=3.0						
VNA2	**Neumayer--Watz**	45.44	170	⇓*i*	P	22 06 43.1	+1.3
VNA1	**Neumayer--Stat**	45.64	170	⇑*i*	P	22 06 45.0	+1.6
CTA	**Charters Tower**	53.67	301	LR	LR	22 28 27.8	
	comp=Z,356nm,20.3s,MS4.4,baz=213,slow=34						
ASAR	**Alice Springs**	55.64	286	LR	LR	22 30 57.2	
	comp=Z,138nm,18.7s,MS4.1,baz=154,slow=35						
PLCA	**Paso Flores**	56.97	116	P	P	22 08 08.6	-0.8
	1.0nm,0.7s,mb4.0,baz=212,slow=7.0,SNR=3.6						
PLCA				LR	LR	22 26 57.0	
	comp=Z,217nm,20.1s,MS4.2,baz=167,slow=30						
PLCA	**Paso Flores**	56.97	116	P	P	22 08 08.6	-0.8
PLCA				LR	LR	22 26 57.0	
WRA	**Warramunga Arr**	58.73	288	P	P	22 08 20.7	-1.3
	0.9nm,0.6s,mb4.0,baz=158,slow=5.9,SNR=12						
CPUP	**Villa Florida**	74.86	118	P	P	22 10 03.5	-0.6
	1.0nm,0.5s,mb4.0,baz=228,slow=6.3,SNR=4.4						
CPUP				LR	LR	22 38 05.9	
	comp=Z,198nm,20.1s,MS4.4,baz=170,slow=32						
LPAZ	**La Paz**	79.21	105	P	P	22 10 28.6	+0.1
	0.5nm,0.5s,mb3.7,baz=227,slow=4.1,SNR=5.3						
BDFB	**Brasilia**	88.17	122	P	P	22 11 14.3	+0.4
	2.3nm,1.0s,mb4.4,baz=231,slow=15,SNR=2.8						
BDFB				LR	LR	22 53 07.3	
	comp=Z,179nm,18.3s,MS4.5,baz=32,slow=37						
BVAR	**Borovoye Array**	149.45	277	PKPbc	PKPdf	22 18 11.1	+2.9
	1.0nm,0.7s,SNR=7.6						

*NEIC **01** 21:59:05.9±4.2, 36.19N×71.19E, h124^{km}±34^{km}, mb3.7/1, Error ellipse: s-maj=29.8km s-min=13.5km az=197.0*
*IDC **01** 21:59:06.0±8.1, 36.16N×71.22E, h126^{km}±71^{km}, mb3.3/8, mb1 3.4/10, mb1mx3.2/20, Error ellipse: s-maj=45.1km s-min=21.5km az=19.0*
ISC 01 21:59:00.2±1.5**, 36.19N**±0.08×**71.4E**±0.1**, h90**^{km}±18^{km}**, n25, σ1^{s}31**/31**, mb3.5**/8**, 1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	5.17	135	*e*P	P	22 00 18.8	+2.1
THN				*e*S	S	22 01 16.0	+0.4
	70nm,0.4s						
DLH	**Dalhousie**	5.24	133	*e*	P	22 00 17.0	-0.6
DLH				*e*S	S	22 01 18.0	+0.8
SDNR	**Sundarnagar**	6.58	134	*e*P	P	22 00 38.0	+1.9
SDNR				*e*S	S	22 01 48.0	-2.2
KOLN	**Koldanda**	13.31	126	*e*P	P	22 02 12.7	+6.0
	24nm,0.5s						
MKAR	**Makanchi Array**	13.36	34	P	P	22 02 12.0	+4.8
	0.1nm,0.3s,baz=216,slow=11,SNR=2.7						
GKN	**Gorkha**	13.86	122	*e*P	P	22 02 12.6	-1.2
	11nm,0.4s						
DMN	**Daman**	14.43	122	*e*P	P	22 02 19.2	-2.0
	9.7nm,0.5s						
KKN	**Kakani**	14.43	122	*e*P	P	22 02 17.7	-3.5
	3.3nm,0.2s						
PKI	**Pulchoki**	14.66	122	*e*P	P	22 02 21.0	-3.2
AB31	**Akbulak array**	15.52	331	P	P	22 02 33.5	-1.4
	0.7nm,0.3s,baz=148,slow=11,SNR=64						
AB31				⇓S	S	22 05 11.6	-13
	1.9nm,0.5s,baz=145,slow=24,SNR=10						
BVAR	**Borovoye Array**	16.85	358	P	P	22 02 52.8	+1.2
	0.3nm,0.3s,baz=161,slow=12,SNR=9.1						
BVAR				S	S	22 05 53.4	-1.3
	0.1nm,0.3s,baz=177,slow=24,SNR=3.1						
BVAR	**Borovoye Array**	16.85	358	P	P	22 02 52.8	+1.2
BVAR				S	S	22 05 53.4	-1.3
CHKZ	**Chkalovo**	17.50	358	P	P	22 02 55.0	-4.7
ARU	**Arti**	22.04	341	*e*P	P	22 03 49.6	+1.4
SONM	**Songino Array**	28.25	55	P	P	22 04 49.0	+2.3
	0.2nm,0.4s,mb3.0,baz=264,slow=9.7,SNR=2.6						
BRTR	**Keskin Array B**	29.84	288	P	P	22 05 00.5	-0.5
	0.3nm,0.5s,mb3.1,baz=90,slow=12,SNR=2.5						
FINES	**FINESS Array B**	37.93	326	P	P	22 06 10.3	+0.2
	3.3nm,1.1s,mb4.1,baz=121,slow=11,SNR=4.9						
ARCES	**ARCESS Array B**	41.56	338	P	P	22 06 40.2	+0.3
	0.3nm,0.3s,mb3.4,baz=111,slow=9.8,SNR=7.3						
ARCES	**ARCESS Array B**	41.56	338	P	P	22 06 40.2	+0.3
HFS	**Hagfors**	43.52	322	P	P	22 06 56.0	0.0
	2.2nm,0.6s,mb4.0,baz=106,slow=11,SNR=13						
NB2	**NORSAR Subarra**	44.83	323	P	P	22 07 05.7	-0.9
	0.8nm,0.5s,mb3.7,baz=97,slow=7.9						
NOA	**NORSAR Array B**	44.83	323	P	P	22 07 06.1	-0.5
	1.3nm,0.7s,mb3.8,baz=96,slow=7.8,SNR=9.1						
NOA	**NORSAR Array B**	44.83	323	P	P	22 07 06.1	-0.5
YKA	**Yellowknife Ar**	81.54	3	P	P	22 11 09.1	+0.4
	0.4nm,0.5s,mb3.5,baz=353,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	81.55	122	P	P	22 11 10.0	+0.4
	0.3nm,0.8s,mb3.2,baz=324,slow=4.8,SNR=4.6						

*NEIC **01** 22:45:20.1±2.2, 6.21S×150.78E, h47^{km}±19^{km}, mb4.5/6, Error ellipse: s-maj=18.7km s-min=11.6km az=95.0*
*IDC **01** 22:45:22.3±2.8, 6.25S×150.67E, h60^{km}±23^{km}, mb4.2/12, mb1 4.3/14, mb1mx4.2/17, ML3.3/2, MS3.5/4, Ms1 3.4/4, ms1mx3.3/17, Error ellipse: s-maj=23.4km s-min=12.6km az=117.0*
ISC 01 22:45:19.2±2.9**, 6.21S**±0.09×**150.7E**±0.1**, h52**^{km}±25^{km}**, n35, σ0^{s}98**/30**, mb4.4**/15**, MS3.5**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.73	228	P	P	22 46 30.1	+0.3
	5.6nm,0.3s,baz=19,slow=5.4,SNR=11						
PMG				S	S	22 47 24.3	+0.4
	30nm,0.3s,baz=6.2,slow=15,SNR=9.0						
PMG				LR	LR	22 48 21.2	

	comp=Z,225nm,22.0s,baz=50,slow=38						
PMG	Port Moresby	4.73	228	*e*Pn	P	22 46 30.0	+0.2
PMG				*e*Sn	S	22 47 23.0	-1.0
PMG				LR	LR	22 48 21.2	
CTA	Charters Tower	14.45	197	P	P	22 48 42.0	-0.6
	0.1nm,0.3s,baz=20,slow=15,SNR=2.1						
WB2	Warramunga Arr	20.94	228	*e*P	P	22 49 59.6	-0.4
WRA	Warramunga Arr	20.95	228	P	P	22 49 59.8	-0.3
	18nm,0.6s,baz=52,slow=11,SNR=89						
WRA				S	S	22 53 50.6	+5.1
	1.9nm,1.4s,baz=355,slow=19,SNR=5.3						
WRA				ScP		22 57 43.1	
	0.9nm,0.9s,baz=60,slow=2.2,SNR=6.1						
WRA				LR	LR	22 57 46.0	
	comp=Z,100nm,19.8s,MS3.2,baz=65,slow=36						
ASPA	Alice Springs	23.71	221	*e*P	P	22 50 28.5	+1.1
STKA	Stephens Creek	26.91	197	*e*P	P	22 50 57.2	-0.4
	11nm,0.8s,mb4.4						
STKA	Stephens Creek	26.91	197	P	P	22 50 57.8	+0.2
	12nm,0.8s,mb4.5,baz=348,slow=8.0,SNR=15						
STKA				LR	LR	23 01 31.8	
	comp=Z,175nm,18.4s,MS3.6,baz=27,slow=36						
FITZ	Fitzroy Crossi	27.15	242	*e*P	P	22 50 59.8	-0.1
	8.8nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	27.15	242	P	P	22 51 00.2	+0.3
	6.1nm,0.7s,mb4.3,baz=56,slow=4.6,SNR=17						
JOW	Kunigami	39.38	328	P	P	22 52 47.3	+1.7
	8.3nm,0.9s,mb4.5,baz=122,slow=25,SNR=4.7						
JNU	Nakatsue	43.41	336	P	P	22 53 19.6	+0.9
	14nm,0.9s,mb4.7,baz=99,slow=11,SNR=5.4						
ASAJ	Asahikawa	50.62	352	LR	LR	23 13 32.0	
	comp=Z,53nm,18.7s,MS3.6,baz=158,slow=33						
SONM	Songino Array	66.42	329	P	P	22 56 05.5	+0.3
	1.2nm,0.5s,mb4.2,baz=143,slow=4.9,SNR=10						
VNDA	Vanda	71.51	177	P	P	22 56 36.4	+0.3
	1.4nm,0.8s,mb4.0,baz=348,slow=4.3,SNR=3.0						
MKAR	Makanchi Array	80.02	320	P	P	22 57 25.1	+0.2
	1.3nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=8.5						
SML	Sawmill	82.27	25	*e*P	P	22 57 35.9	-0.5
MCK	McKinley	82.97	23	*e*P	P	22 57 39.8	0.0
	5.4nm,0.9s,mb4.6						
KURK	Kurchatov	83.59	323	*e*P	P	22 57 42.8	-0.5
	3.6nm,0.8s,mb4.5						
QSPA	South Pole Qui	83.76	180	*e*P	P	22 57 44.7	+1.2
	3.8nm,0.9s,mb4.5						
COLA	College	83.94	22	P	P	22 57 42.5	-2.2
ILAR	Eielson Array	84.25	22	P	P	22 57 44.4	-1.9
	4.6nm,1.0s,mb4.6,baz=247,slow=5.0,SNR=38						
DAWY	Dawson	86.93	24	*e*P	P	22 57 59.7	+0.3
CHKZ	Chkalovo	89.11	324	*e*P	P	22 58 08.5	-1.7
	1.2nm,0.7s,mb4.3						
BVAR	Borovoye Array	89.11	323	P	P	22 58 09.3	-0.9
	1.1nm,0.7s,mb4.3,baz=108,slow=4.7,SNR=9.4						
NVAR	Mina Array Bea	94.60	52	P	P	22 58 37.9	+2.0
	0.6nm,0.5s,mb4.3,baz=290,slow=3.7,SNR=5.2						
YKA	Yellowknife Ar	97.64	28	P	P	22 58 49.8	+0.7
	0.9nm,0.7s,mb4.4,baz=268,slow=4.5,SNR=7.0						
YKA	Yellowknife Ar	97.64	28	P	P	22 58 49.8	+0.7
PDAR	Pinedale Array	101.34	48	P	P	22 59 07.1	+0.7
	0.8nm,0.8s,baz=270,slow=1.5,SNR=5.0						
AKASG	Malin Array Be	114.39	323	PKP	PKPdf	23 03 55.0	+1.6
	0.5nm,0.5s,baz=54,slow=2.1,SNR=2.9						
NOA	NORSAR Array B	117.50	339	PKP	PKPdf	23 04 00.4	+1.3
	0.3nm,0.7s,baz=61,slow=2.8,SNR=2.4						
GERES	GERESS Array B	124.12	327	PKP	PKPdf	23 04 14.3	+2.0
	1.0nm,0.6s,baz=90,slow=1.3,SNR=13						
EKA	Eskdalemuir Ar	126.74	342	PKP	PKPdf	23 04 19.3	+2.2
	1.8nm,0.9s,baz=31,slow=4.9,SNR=4.7						
DAVOX	Davos	127.42	327	PKP	PKPdf	23 04 20.9	+2.2
	1.5nm,0.6s,baz=357,slow=11,SNR=4.9						
BDFB	Brasilia	151.46	140	PKPbc	PKPdf	23 05 10.0	+7.9
	2.4nm,0.6s,baz=196,slow=2.4,SNR=5.9						

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*TAP **01** 22:50:22.4,24.37N×122.92E,h14^{km}±1^{km},ML3.9*

*JMA **01** 22:50:22.3±0.1,24.39N×123.07E,h58^{km}±1^{km},M3.4*

ISC 01 22:50:21.9±1.7,**24.4N**±0.1×**123.04E**±0.08,**h58**^{km}±10^{km}, **n10**,σ**0^{s}57**/18,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.09	342	P	P	22 50 31.0	+0.4
YOJ				S	S	22 50 37.2	+0.1
IRIF	Iriomote-Funau	0.63	94	P	P	22 50 35.2	0.0
IRIF				S	S	22 50 45.1	0.0
HATJ	Hateruma jima	0.77	115	P	P	22 50 37.0	0.0
HATJ				S	S	22 50 48.2	+0.1
JKRS	Kuro-shima	0.90	99	P	P	22 50 38.9	+0.3
JKRS				*e*S	S	22 50 50.8	-0.4
JIJ	Ishigaki jima	1.00	91	P	P	22 50 39.8	-0.4
JIJ				S	S	22 50 52.7	-1.0
JTJ	Tarama	1.54	80	P	P	22 50 47.6	0.0
JTJ				S	S	22 51 06.3	-0.3
JMJ	Miyako jima 2	2.10	78	P	P	22 50 56.0	+0.6
JMJ				S	S	22 51 21.0	+0.8
JOGS	Gusukube	2.19	80	P	P	22 50 57.3	+0.6
JOGS				*e*S	S	22 51 23.6	+1.1
JKE	Kume jima 2	3.90	59	P	P	22 51 19.9	-1.0
JAGN	Aguni-jima	4.39	59	P	P	22 51 26.8	-0.9

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*MEX **01** 22:57:15.6±0.7,16.07N×97.16W,h28^{km}±20^{km},MD4.6*

*NEIC **01** 22:57:15.6±0.5,16.11N×97.09W,mb4.2/7,MD4.6(MEX), Error ellipse: s-maj=10.9km s-min=6.2km az=213.0*

*IDC **01** 22:57:16.2±0.7,16.17N×96.99W,h27^{km}±3^{km},mb3.7/10, mb1 3.9/12,mb1mx3.8/23,ML3.2/2,MS3.5/4,Ms1 3.5/4, ms1mx3.2/21,Error ellipse: s-maj=33.8km s-min=12.6km az=61.0*

ISC 01 22:57:13.1±0.7,**16.10N**±0.04×**97.14W**±0.03,**h22**^{km}±5^{km}, **h28**^{km}±1.3^{km}**:pP-P,n59**,σ**1^{s}18**/72,**mb3.9**/13,**MS3.5**/3, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.99	287	*e*P	Pb	22 57 31.2	-0.3
PNIG				*i* S	Sb	22 57 43.0	-1.1
PNIG	Pinotepa	0.99	287	*e*P	Pb	22 57 31.7	+0.2
PNIG				*e*S	Sb	22 57 43.5	-0.7
VHO	Vista Hermosa	1.04	22	*i* P	Pb	22 57 33.2	+0.9
VHO				*i* S	Sb	22 57 46.6	+1.1
HUIG	Huatulco	1.04	108	*i* P	Pb	22 57 32.6	+0.3
HUIG				*i* S	Sb	22 57 44.8	-0.8
HUIG	Huatulco	1.04	108	*e*P	Pb	22 57 32.4	+0.1
HUIG				*e*S	Sb	22 57 47.4	+1.8
OXX	Oaxaca	1.05	22	*i* P	Pb	22 57 32.0	-0.4
CMIG	Matias Romero	2.37	65	*e*P	Pn	22 57 51.8	+0.2
CMIG				*i* S	Sn	22 58 19.2	-1.1
CMIG	Matias Romero	2.37	65	*e*P	Pn	22 57 53.0	+1.4
CMIG				*i* S	Sn	22 58 27.5	+7.2
EVV	El Vigia	2.90	36	*e*P	Pn	22 58 03.5	+4.5
CAIG	El Cayaco	3.15	288	*e*P	Pn	22 58 02.4	-0.2
CAIG				*i* S	Sn	22 58 34.7	-5.2
CAIG	El Cayaco	3.15	288	*e*P	Pn	22 58 02.4	-0.2
CAIG				*e*S	Sn	22 58 34.2	-5.6
PLIG	Platanillo	3.21	316	*e*P	Pn	22 58 02.0	-1.5
PLIG				*i* S	Sn	22 58 39.4	-2.1
PLIG	Platanillo	3.21	316	*e*P	Pn	22 58 06.2	+2.8
PLIG				*i* S	Sn	22 58 41.3	-0.1
TUIG	Tuzandepetl	3.23	53	*e*P	Pn	22 58 03.9	+0.2
TUIG				*i* S	Sn	22 58 40.9	-1.1
TUIG	Tuzandepetl	3.23	53	*e*P	Pn	22 58 03.9	+0.2
TUIG				*e*S	Sn	22 58 55.3	+13
PPM	Popocatepetl	3.27	334	*e*P	Pn	22 58 02.9	-1.4
PPM				*e*P		22 58 04.0	
PPM				*i* S	Sn	22 58 40.4	-2.7
PPM	Popocatepetl	3.27	334	*e*P	Pn	22 58 04.0	-0.4
PPM				*e*S	Sn	22 58 52.1	+9.0
UNM	Universidad Na	3.75	329	*e*P	Pn	22 58 10.5	-0.7
SCX	San Cristobal	4.37	81	*e*P	Pn	22 58 27.0	+7.1
ZIIG	Zihuatanejo	4.41	290	*i* S	Sn	22 59 06.5	-5.3
TPX	Tapachula	4.85	104	*e*P	Pn	22 58 25.0	-1.7
SFJM	Santa Fe	7.10	309	*e*P	Pn	22 58 56.0	-2.5
TEIG	Tepich	9.37	63	Pn	P	22 59 28.3	-1.6
	0.0nm,0.3s,baz=306,slow=24,SNR=1.5						
TEIG				Sn	Sn	23 01 06.1	-10
	0.0nm,0.3s,baz=247,slow=24,SNR=5.8						
JTS	JuntasAbangare	13.19	114	Pn	P	23 00 22.0	+0.1
	0.1nm,0.3s,baz=221,slow=17,SNR=1.7						
JTS	JuntasAbangare	13.19	114	Pn	P	23 00 21.8	-0.1
TXAR	Lajitas Array	14.47	337	Pn	P	23 00 40.7	+1.9
	0.0nm,0.3s,baz=160,slow=12,SNR=12						
TXAR				Lg		23 05 02.9	
	0.0nm,0.3s,baz=156,slow=31,SNR=2.9						
TXAR				LR	LR	23 06 54.1	
	comp=Z,216nm,21.3s,baz=150,slow=40						
JCT	Junction City	14.52	351	*e*P	P	23 00 39.2	-0.1
	5.2nm,0.9s						
GDL2	Guadalupe Moun	17.32	339	*e*P	P	23 01 16.9	+1.6
MIAR	Mount Ida	18.64	9	*e*P	P	23 01 30.5	-1.2
	19nm,0.8s						
UALR	University of	19.09	12	*e*P	P	23 01 36.7	-0.3
	13nm,0.8s						
LPM	Los Pinos Moun	20.04	337	*e*P	P	23 01 48.6	+0.9
LAZ	Ladron	20.32	336	*e*P	P	23 01 50.9	+0.3
PLAL	Pickwick Lake	20.48	22	*e*P	P	23 01 47.5	-4.7
	9.0nm,0.8s						
ANMO	Albuquerque	20.55	338	*e*P	P	23 01 53.0	+0.1
	4.8nm,1.2s						
SWET	Sewanee	21.52	26	*e*P	P	23 02 00.1	-2.7
CCM	Cathedral Cave	22.48	12	*e*P	P	23 02 11.5	-0.9
SDCO	Great Sand Dun	22.79	343	*e*P	P	23 02 15.8	+0.3
	2.4nm,0.7s,mb3.7						
RW3	Ridgway	23.94	339	P	P	23 02 29.3	+2.6
PV01	Paradox Valley	24.15	338	*e*P	P	23 02 29.7	+1.0
ISCO	Idaho Springs	24.74	344	*e*P	P	23 02 35.2	+0.8
	7.0nm,1.1s,mb4.1						
BLA	Blacksburg	25.71	32	*e*P	P	23 02 42.7	-0.9
BLA				*e*	pP	23 02 50.9	+0.9
SRU	San Rafael	25.75	336	*e*P	P	23 02 45.9	+1.9
SDV	Santo Domingo	26.83	102	*e*P	P	23 02 54.2	0.0
	7.7nm,1.0s,mb4.2						
TPH	Tonopah	28.14	325	*e*P	P	23 03 06.1	+0.3
PDAR	Pinedale Array	28.62	341	P	P	23 03 11.5	+1.3
	0.6nm,0.8s,mb3.4,baz=180,slow=5.4,SNR=2.5						
PDAR				pP	pP	23 03 17.4	+0.9
	0.6nm,0.8s,baz=153,slow=9.9,SNR=4.1						
PDAR				sP	sP	23 03 22.6	+3.2
	1.2nm,0.9s,baz=180,slow=7.4,SNR=5.1						
NVAR	Mina Array Bea	29.00	324	P	P	23 03 15.8	+2.3
	1.2nm,0.7s,mb3.7,baz=132,slow=9.4,SNR=7.1						
NVAR				pP	pP	23 03 23.5	+3.6
	1.3nm,0.6s,baz=133,slow=9.2,SNR=3.8						
SADO	Sadowa	32.36	24	pP	pP	23 03 48.8	-0.8
	4.3nm,1.1s,baz=202,slow=2.4,SNR=3.2						
ULM	Lac du Bonnet	34.08	1	LR	LR	23 19 02.7	
	comp=Z,52nm,19.6s,MS3.3,baz=138,slow=38						
LPAZ	La Paz	43.07	137	P	P	23 05 13.1	-0.4
	0.5nm,0.6s,mb3.4,baz=259,slow=5.2,SNR=2.7						
LPAZ				sP	sP	23 05 25.7	+3.0
	2.3nm,1.3s,baz=278,slow=8.3,SNR=2.8						
LPAZ				LR	LR	23 19 28.3	
	comp=Z,60nm,21.8s,MS3.5,baz=36,slow=31						
SCHQ	Schefferville	45.17	24	P	P	23 05 26.4	-3.6
	1.7nm,0.9s,mb3.9,baz=234,slow=16,SNR=2.9						
SCHQ				pP	pP	23 05 36.5	0.0
	3.6nm,0.8s,baz=245,slow=9.7,SNR=3.7						
LVC	Limon Verde	47.37	144	P	P	23 05 48.8	+1.0
	0.5nm,0.4s,mb3.8,baz=312,slow=15,SNR=2.3						
YKA	Yellowknife Ar	47.94	349	P	P	23 05 50.3	-1.5
	0.9nm,0.6s,mb4.0,baz=154,slow=7.8,SNR=4.8						
YKA				pP	pP	23 05 59.1	+0.7
	1.4nm,0.7s,baz=148,slow=7.5,SNR=7.1						
YKA	Yellowknife Ar	47.94	349	P	P	23 05 50.3	-1.5
YKA				pP	pP	23 05 59.1	+0.7
ILAR	Eielson Array	58.99	338	P	P	23 07 12.5	-0.8
	1.9nm,0.9s,mb4.1,baz=135,slow=4.2,SNR=22						
ILAR				pP	pP	23 07 21.4	+1.3
	3.5nm,1.1s,baz=136,slow=4.3,SNR=13						
PLCA	Paso Flores	61.70	157	P	P	23 07 31.9	-0.2
	0.9nm,0.7s,mb4.0,baz=236,slow=20,SNR=3.6						
PLCA				pP	pP	23 07 40.4	+1.5
	1.1nm,0.8s,baz=33,slow=8.8,SNR=2.4						
PLCA				LR	LR	23 27 15.4	
	comp=Z,83nm,19.8s,MS3.9,baz=97,slow=29						
PLCA	Paso Flores	61.70	157	P	P	23 07 31.9	-0.2
PLCA				pP	pP	23 07 40.4	+1.5
PLCA				LR	LR	23 27 15.4	
NOA	NORSAR Array B	84.64	28	P	P	23 09 47.2	+1.2
	0.8nm,0.8s,mb3.9,baz=298,slow=4.9,SNR=5.0						
NOA				pP	pP	23 09 55.8	+2.8
	0.6nm,0.8s,baz=288,slow=4.9,SNR=4.4						
HFS	Hagfors	86.13	28	P	P	23 09 53.7	+0.2
	0.8nm,0.7s,mb4.0,baz=329,slow=8.6,SNR=2.7						
WRA	Warramunga Arr	131.05	257	PKP	PKPdf	23 16 26.0	-2.6
	0.2nm,0.6s,baz=88,slow=3.1,SNR=6.1						
WRA				pPKP		23 16 35.6	
	0.5nm,0.8s,baz=86,slow=3.8,SNR=3.8						

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*STR **01** 23:01:40.7±0.2,44.26N×7.34E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 01 23:01:40.1±0.1,**44.30N×7.33E,h2**^{km}**,Md2.0**/6,**Ml1.6**/7, **Error ellipse: s-maj=2.1km s-min=0.8km az=74.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOUF	Mont Tournerai	0.29	192	Pg	Pg	23 01 46.0	+0.2
TOUF				Sg	Sg	23 01 50.1	+0.4
AUTN	L'Aution	0.31	167	Pg	Pg	23 01 46.2	0.0
AUTN				Sg	Sg	23 01 50.5	+0.2
AURF	Auriere	0.41	181	Pg	Pg	23 01 48.0	-0.2
AURF				Sg	Sg	23 01 53.5	-0.2
MVIF	Mont Vial	0.42	198	Pg	Pg	23 01 48.5	0.0
MVIF				Sg	Sg	23 01 53.9	-0.2
SBF	Sospel	0.44	170	*e*Pg	Pg	23 01 48.4	-0.4
SBF				*e*Sg	Sg	23 01 54.6	-0.1
	8.1nm,0.2s						
MBDF	Montbardon	0.59	317	*e*Pg	Pg	23 01 51.3	-0.6
MBDF				*e*Sg	Sg	23 01 59.7	-0.1
	7.4nm,0.4s						
CALN	Calern	0.63	211	Pg	Pg	23 01 52.3	-0.4
CALN				Sg	Sg	23 02 00.5	-0.6
FRF	La Foret Royal	0.89	214	*e*Pg	Pg	23 01 56.1	-1.7
FRF				*e*Sg	Sg	23 02 07.6	-2.0
	2.0nm,0.2s						
LMR	La Mourre	1.13	212	*e*Pn	Pn	23 02 00.8	-2.0
LMR				*e*Sg	Sg	23 02 15.4	-2.3
	7.0nm,0.3s						
ORIF	Oris-en-Rattie	1.21	302	*e*Pn	Pn	23 02 02.8	-1.2
ORIF				*e*Sg	Sg	23 02 18.3	-2.1
	1.0nm,0.2s						
LPG	La Plagne	1.27	341	*e*Pn	Pn	23 02 03.5	-1.4
LPG				*e*Sg	Sg	23 02 20.4	-2.1
	0.9nm,0.3s						
LPL	La Plagne	1.29	341	*e*Pn	Pn	23 02 03.7	-1.5
LPL				*e*Sg	Sg	23 02 20.0	-3.2
	0.6nm,0.3s						
SMRF	Simiane la Rot	1.30	256	*e*Pn	Pn	23 02 04.4	-0.9
SMRF				*e*Sg	Sg	23 02 23.2	-0.4
	1.4nm,0.3s						
VIVF	Saint-Julien-l	1.98	287	*e*Pn	Pn	23 02 13.1	-1.9
VIVF				*e*Sn	Sn	23 02 36.7	-4.1
VIVF				*e*Sg	Sg	23 02 42.5	-3.6
	0.4nm,0.2s						

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*IDC **01** 23:10:44.6±10.0,5.11S×102.16E,h140^{km}±91^{km},mb3.7/8, mb1 3.8/8,mb1mx3.6/16,Error ellipse: s-maj=63.4km s-min=16.4km az=53.0*

ISC 01 23:10:44.3±1.3,**5.1S**±0.3×**102.3E**±0.3,**h150**^{km}**,n9**, σ**0^{s}57**/8,**mb3.9**/8,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.58	352	P	P	23 15 42.9	+0.4
	3.9nm,0.7s,mb4.1,baz=183,slow=8.6,SNR=22						
FITZ	Fitzroy Crossi	26.28	122	P	P	23 16 08.2	+0.4
	1.8nm,0.7s,mb3.8,baz=188,slow=21,SNR=4.1						
WRA	Warramunga Arr	34.55	118	P	P	23 17 20.1	-0.5
	1.3nm,0.7s,mb3.7,baz=293,slow=9.8,SNR=18						
SONM	Songino Array	52.78	4	P	P	23 19 46.2	+0.1
	6.4nm,1.1s,mb4.3,baz=180,slow=9.1,SNR=29						
MKAR	Makanchi Array	54.56	343	P	P	23 19 58.7	-0.4
	2.9nm,0.6s,mb4.2,baz=145,slow=9.9,SNR=19						
BVAR	Borovoye Array	63.80	339	P	P	23 21 01.6	-1.0
	1.7nm,0.4s,mb4.3,baz=143,slow=9.0,SNR=23						
BRTR	Keskin Array B	77.02	313	P	P	23 22 22.4	0.0
	0.5nm,0.5s,mb3.4,baz=121,slow=7.2,SNR=5.3						
FINES	FINESS Array B	87.83	332	P	P	23 23 18.4	+1.0
	0.3nm,0.5s,mb3.4,baz=225,slow=2.7,SNR=4.7						
TXAR	Lajitas Array	145.58	42	PKPbc	PKPbc	23 30 06.8	+0.7
	2.6nm,1.2s,baz=303,slow=2.1,SNR=8.2						

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*NEIC **01** 23:18:09.8,16.15N×97.15W,h20^{km},MD4.2(MEX),After MEX.*

MEX 01 23:18:09.6±0.9,**16.09N×97.17W,h22**^{km}±47^{km}**,MD4.2, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.97	288	*i* P	Pb	23 18 25.1	-2.5
PNIG				*i* S	Sb	23 18 37.2	-2.8
HUIG	Huatulco	1.07	107	*i* P	Pb	23 18 25.7	-3.5
HUIG				*i* S	Sb	23 18 40.4	-2.3
VHO	Vista Hermosa	1.07	23	*i* P	Pb	23 18 26.6	-2.7
VHO				*i* S	Sb	23 18 40.0	-2.8
OXX	Oaxaca	1.08	23	*i* P	Pb	23 18 25.5	-3.9
OXX				*i* S	Sb	23 18 39.5	-3.6
CMIG	Matias Romero	2.41	65	*e*P	Pn	23 18 45.4	-3.2
CMIG				*i* S	Sn	23 19 13.7	-4.0
PLIG	Platanillo	3.20	316	*i* P	Pn	23 18 58.3	-1.6
PLIG				*i* S	Sn	23 19 34.3	-3.5
PLIG	Platanillo	3.20	316	*i* P	Pn	23 19 01.6	+1.8
PLIG				*i* S	Sn	23 19 34.3	-3.5
PPM	Popocatepetl	3.28	335	*e*P	Pn	23 18 56.0	-4.9
PPM				*i* P		23 18 57.1	
PPM				*i* S	Sn	23 19 35.7	-4.0
PPM	Popocatepetl	3.28	335	*i* P	Pn	23 18 57.1	-3.8

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*HEL **01** 23:21:39.1±0.1,67.83N×20.16E,ML1.6,ML1.7(UPP), ML1.3(BER),Explosion*

*BER **01** 23:21:39.8±3.8,67.81N×20.16E,ML1.3,Suspected explosion*

ISC 01 23:21:37.6±0.5,**67.81N**±0.03×**20.16E**±0.08,**n17**,σ**0^{s}80**/25, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	24	*i* P	Pg	23 21 41.4	+0.5
KUA				*i* S	Sg	23 21 43.5	+0.5
NIKU	Nikkaluokta	0.43	279	*i* P	Pg	23 21 46.8	+0.6
DUNU	Dundret	0.71	167	*i* P	Pg	23 21 51.9	+0.2
DUNU				*i* S	Sg	23 22 01.6	+0.5
SALU	Saltoluokta	0.76	237	*i* P	Pg	23 21 53.1	+0.3
MASU	Masugnsbyn	0.79	116	*i* P	Pg	23 21 53.1	-0.2
KIF	Kilpisjarvi	1.23	11	*e*P	Pb	23 22 00.8	-0.6
KIF				*e*S	Sb	23 22 17.4	-0.2
PAJU	Pajala	1.39	123	*e*P	Pb	23 22 03.6	-0.4
ERTU	Ertsjaerv	1.49	147	*e*P	Pn	23 22 05.8	+0.2
KTK1	Kautokeino	1.66	42	*e*P	Pn	23 22 09.2	+1.1
KTK1				*e*SN	Sn	23 22 31.8	+1.3
KTK1				AML	AML	23 22 35.1	
	comp=Z,3.2nm,0.3s						
TRO	Tromso	1.89	347	*e*SG	Sg	23 22 36.8	-3.7
TRO				AML	AML	23 22 38.5	
	comp=Z,3.4nm,0.1s						
SGF	Sodankyl	2.46	96	*e*P	Pn	23 22 20.5	+0.9
SGF				*e*S	Sn	23 22 51.1	+0.2
LOF	Lofoten	2.52	281	*e*SG	Sg	23 23 00.3	-1.1
LOF				AML	AML	23 23 02.0	
	comp=Z,2.9nm,0.3s						
MOR8	Moi Rana	2.78	236	*e*SG	Sg	23 23 01.3	-8.9
MOR8				AML	AML	23 23 02.4	
	comp=Z,6.2nm,0.4s						
KEV	Kevo	3.17	49	*e*P	Pn	23 22 30.1	+0.5
KEV				*e*S	Sn	23 23 07.2	-1.5
KEV				*e*SB	Sb	23 23 13.4	-0.6
KEV				MSG		23 23 14.9	
	comp=Z,1.4nm,0.2s						
OUL	Oulu	3.57	137	*e*SB	Sb	23 23 25.1	-0.6
OUL				MSG		23 23 33.4	
	comp=Z,1.2nm,0.3s						
MSF	Maaselka	3.99	114	*e*S	Sn	23 23 28.1	-1.4
MSF				*e*SG	Sg	23 23 42.6	-7.8
NSS	Namsos	4.67	229	*e*SG	Sg	23 24 03.9	-9.2

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*UCR **01** 23:24:59.7,10.30N×87.01W,h84^{km},MD3.4*

*INET **01** 23:24:59.0,10.73N×87.17W,h2^{km},MD3.3,ML3.7*

CASC 01 23:25:00.2±2.2,**10.63N×87.15W,h35**^{km}±32^{km}**,MD3.5, ML3.6,2C,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRZC	La Cruz	1.56	78	*e*P	P	23 25 25.3	-0.7
VCR	Vista de Mar	1.58	108⇑	*e*P	P	23 25 24.6	-1.6
COPN	Copaltepe	1.64	20	*e*P	P	23 25 26.2	-0.8
TICN	Ticuantepe	1.66	33	*e*P	P	23 25 27.1	-0.3
APON	Apoyo	1.67	40	*e*P	P	23 25 27.2	-0.2
XAVN	Gruta Xavier	1.71	28	*e*P	P	23 25 27.4	-0.7
PYN	Poneloya	1.75	4	*e*P	P	23 25 27.9	-0.7
MGAN	Managua	1.75	30	*e*P	P	23 25 27.9	-0.7
MGAN				*e*S	S	23 25 50.4	+0.4
MGAN				*i*		23 25 51.6	
	comp=N,821nm,0.3s						
WILN	Americas 2	1.79	32	*e*P	P	23 25 28.6	-0.6
WILN				*e*S	S	23 25 51.4	+0.4
COFN	Cofrada	1.82	34	*e*P	P	23 25 28.8	-0.9
COFN				*e*S	S	23 25 52.9	+1.0
MIRN	Miramar	1.85	14	*e*P	P	23 25 29.2	-0.8
MIRN				*e*S	S	23 25 52.8	+0.3
MOMJ	Momotombo	1.87	19	*e*P	P	23 25 29.4	-0.9
TEL3	Telica 3	1.95	9	*e*P	P	23 25 30.5	-1.0
TELN	Telica	1.99	9	*e*P	P	23 25 31.2	-0.9
JCR	Jicaral	2.15	111⇑	*e*P	P	23 25 33.1	-1.3
JCR				*e*S	S	23 25 58.3	-1.9
CGA2	Cerro Gallo 2	2.71	103	*e*P	P	23 25 42.4	0.0
CGA2				*e*S	S	23 26 14.0	-0.4
LAJ	Bijagual	3.08	104	*e*P	P	23 25 42.7	-5.0
LCR2	La Lucha 2	3.23	106	*e*P	P	23 25 49.7	0.0
LCR2				*e*S	S	23 26 29.2	+1.8
TRTC	Tortuguero	3.38	91	*e*P	P	23 25 52.5	+0.5
TRTC				*e*S	S	23 26 30.4	-1.0
URSC	Urasca	3.42	103	*e*P	P	23 25 53.2	+0.8
URSC				*e*S	S	23 26 32.4	+0.1

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*NEIC **01** 23:55:49.6,33.42S×72.11W,h40^{km},MD4.1(GUC),After GUC.*

GUC 01 23:55:49.6±0.7,**33.42S×72.11W,h40**^{km}±1^{km}**,MD4.1, ML3.6,9C-8D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.46	98⇑	*i*P	P	23 55 59.6	-0.1
LCCH				*i* S	S	23 56 07.5	+0.6
IHA	Instituto Hidr	0.55	45⇓	*i*P	P	23 56 01.3	+0.2
IHA				*i* S	S	23 56 09.5	+0.2
LNV	Longovilo	0.79	133⇓	*i*P	P	23 56 04.3	0.0
ROCH	El Roble	1.02	65⇑	*i*P	P	23 56 08.4	+0.8
ROCH				*i* S	S	23 56 22.7	+1.7
PACH	Papudo	1.04	33	*e*P	P	23 56 08.3	+0.4
PACH				*i* S	S	23 56 22.8	+1.2
PEL	Peldehue	1.22	78⇑	*i*P	P	23 56 11.7	+1.2
PEL				*i* S	S	23 56 27.8	+1.7
PEL				AMP		23 56 30.6	
	comp=N,2μm,0.3s						
ANTU	Antumapu	1.24	97⇓	*i*P	P	23 56 11.9	+1.1
ANTU				*i* S	S	23 56 28.4	+1.8
ANTU				AMP		23 56 29.4	
	comp=N,1μm,0.3s						
DSCH	Colegio Aleman	1.29	90⇑	*i*P	P	23 56 12.7	+1.2
DSCH				*i* S	S	23 56 29.4	+1.6
DSCH				AMP		23 56 31.7	
	comp=E,2μm,0.6s						
CLCH	Cerro Calan	1.31	90⇓	*i*P	P	23 56 13.0	+1.1
CLCH				*e*S	S	23 56 30.5	+2.0
CLCH				AMP		23 56 34.2	
	comp=E,1μm,0.5s						
CHCH	Chadas Angostu	1.32	113⇑	*i*P	P	23 56 12.2	+0.2
CHCH				*i* S	S	23 56 29.9	+1.3
PCH	Pirque	1.35	99⇑	*i*P	P	23 56 13.3	+0.9
PCH				*i* S	S	23 56 31.2	+1.9
CACH	El Canelo	1.44	119⇓	*i*P	P	23 56 14.9	+1.2
JACH	Jahuel	1.47	61⇑	*i*P	P	23 56 14.7	+0.6
SFDO	San Fernando	1.50	143	*e*P	P	23 56 14.9	+0.3
FCH	Farellones	1.52	87⇓	*i*P	P	23 56 16.2	+1.4
FCH				*i* P		23 56 16.3	
FCH				*i* S	S	23 56 36.4	+2.8
FCH				AMP		23 56 37.9	
	comp=N,1μm,0.3s						
FCH	Farellones	1.52	87	P	P	23 56 16.3	+1.4
LMEL	Las Melosas	1.65	106⇓	*i*P	P	23 56 17.4	+0.8
LMEL				*i* S	S	23 56 38.6	+1.9
LMEL				AMP		23 56 43.5	
	comp=N,1μm,0.1s						
CICH	Cipreses	1.67	123⇑	*i*P	P	23 56 18.0	+1.1

CICH				i S	S	23 56 38.6	+1.4
NICH	**Los Niches**	1.74	156	⇓iP	P	23 56 18.6	+0.6
TALC	**Talca**	2.02	169	eP	P	23 56 25.1	+3.3
TALC				i S	S	23 56 49.7	+3.8
MDZ	**Mendoza**	2.79	80	eP	P	23 56 31.9	-0.9
TLL	**Tololo Astrono**	3.42	19	⇑iP	P	23 56 42.0	+0.1
TLL				AMP		23 57 47.9	
	comp=N,206nm,0.7s						

NEIC ***02*** *00:02:53.4, 33.44S×72.06W, h39^{km}, MD3.9(GUC), After GUC.*

GUC 02 00:02:53.4±0.7**, 33.44S×72.06W, h39**^{km}±2^{km}**, MD3.9, ML3.1, 5C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	0.41	95	⇑iP	P	00 03 03.0	+0.1
LCCH				i S	S	00 03 10.0	+0.3
IHA	**Instituto Hidr**	0.54	41	eP	P	00 03 04.5	-0.1
IHA				i S	S	00 03 12.9	+0.2
LNV	**Longovilo**	0.75	134	⇓iP	P	00 03 07.7	+0.1
LNV				i S	S	00 03 18.2	+0.3
PACH	**Papudo**	1.04	31	eP	P	00 03 12.1	+0.4
PACH				i S	S	00 03 25.1	-0.2
PEL	**Peldehue**	1.19	76	eP	P	00 03 14.9	+1.1
PEL				i S	S	00 03 30.9	+1.8
PEL				AMP		00 03 33.9	
	comp=N,1µm,0.3s						
ANTU	**Antumapu**	1.20	97	eP	P	00 03 14.9	+0.9
ANTU				i S	S	00 03 31.1	+1.7
ANTU				AMP		00 03 33.1	
	comp=N,504nm,0.4s						
DSCH	**Colegio Aleman**	1.25	89	eP	P	00 03 15.7	+1.0
DSCH				i S	S	00 03 32.5	+1.9
DSCH				AMP		00 03 38.0	
	comp=E,986nm,0.4s						
CHCH	**Chadas Angostu**	1.28	113	⇑iP	P	00 03 15.6	+0.6
CLCH	**Cerro Calan**	1.28	89	⇓iP	P	00 03 16.4	+1.4
CLCH				i S	S	00 03 33.0	+1.7
CLCH				AMP		00 03 42.5	
	comp=E,561nm,0.5s						
PCH	**Pirque**	1.31	98	⇑iP	P	00 03 16.6	+1.0
CACH	**El Canelo**	1.40	119	eP	P	00 03 18.2	+1.4
CACH				i S	S	00 03 36.9	+2.6
JACH	**Jahuel**	1.45	59	⇑iP	P	00 03 18.1	+0.5
JACH				i S	S	00 03 36.4	+0.9
SFDO	**San Fernando**	1.46	144	eP	P	00 03 18.5	+0.7
FCH	**Farellones**	1.49	86	⇓iP	P	00 03 19.6	+1.5
FCH				i S	S	00 03 39.4	+2.8
FCH				AMP		00 03 40.9	
	comp=N,373nm,0.3s						
LMEL	**Las Melosas**	1.60	105	eP	P	00 03 20.9	+1.2
LMEL				i S	S	00 03 40.9	+1.4
LMEL				AMP		00 03 44.8	
	comp=E,474nm,0.2s						
CICH	**Cipreses**	1.63	123	⇑iP	P	00 03 21.4	+1.4
TLL	**Tololo Astrono**	3.43	19	eP	P	00 03 46.3	+0.5

MOS ***02*** *00:07:58.7±0.8, 34.68N×135.17E, h370^{km}, mb4.1/15, Error ellipse: s-maj=17.3km s-min=9.1km az=101.9*

NIED ***02*** *00:08:00, 34.80N×135.20E, h380^{km}, Mw4.6 Best double couple: M$_0$8.8×10^{15} NP1:φ$_s$28°, δ78°, λ-151°. NP2:φ$_s$291°, δ62°, λ-14°.*

BJI ***02*** *00:08:01.0, 34.83N×135.25E, h411^{km}, mB4.7, mb4.9*

JMA ***02*** *00:08:03.4±0.1, 34.81N×135.16E, h402^{km}±1^{km}, M4.5 Broadband fault plane solution: P waves. NP1:φ$_s$286°, δ57°, λ-5°. NP2:φ$_s$19°, δ85°, λ-147°. Principal axes: T Plg19°, Azm148°; N Plg57°, Azm26°; P Plg26°, Azm248°;*

NEIC ***02*** *00:08:03.1±0.2, 34.74N×135.09E, mb4.5/18, MW4.6(NIED) Error ellipse: s-maj=6.0km s-min=4.9km az=124.0*

IDC ***02*** *00:08:04.1±0.6, 34.72N×135.05E, h408^{km}±6^{km}, mb3.7/16, mb1 3.9/21, mb1mx3.8/27, Error ellipse: s-maj=10.7km s-min=9.3km az=155.0*

ISC 02 00:08:02.5±0.2**, 34.78N**±0.04×**135.12E**±0.04**, h407**^{km}±2^{km}**, h397**^{km}±4.2^{km}**:pP-P, n131, σ0^{s}88**/151**, mb4.3**/45**, 10C-19D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIK	**Miki**	0.06	299	⇓P	P	00 08 53.2	+0.3
JMIK				S	S	00 09 32.2	-0.3
JWT	**Wachi**	0.56	25	⇓P	P	00 08 53.8	+0.4
JWT				S	S	00 09 33.1	-0.4
JWY	**Kouya**	0.68	145	P	P	00 08 54.2	+0.5
JWY				S	S	00 09 33.7	-0.2
JAI	**Aioi**	1.13	209	P	P	00 08 55.5	+0.4
JAI				S	S	00 09 36.5	+0.1
JWZ	**Kozaga**	1.34	158	⇓P	P	00 08 56.1	+0.1
JWZ				S	S	00 09 37.3	-0.7
JIE	**Ise**	1.37	106	⇓P	P	00 08 56.4	+0.3
JIE				S	S	00 09 37.8	-0.4
JMN	**Monobe**	1.47	225	⇑P	P	00 08 57.1	+0.5
JMN				S	S	00 09 39.6	+0.5
JGM	**Miyama**	1.60	54	⇓P	P	00 08 57.4	+0.1
JGM				S	S	00 09 40.1	-0.2
JHS	**Saijyo**	1.66	278	⇑P	P	00 08 58.0	+0.4
JHS				S	S	00 09 41.1	+0.3
JKG	**Kaga**	1.79	33	⇓P	P	00 08 58.3	-0.1
JKG				S	S	00 09 41.1	-1.0
JHT	**Toyohira**	2.22	268	P	P	00 09 01.4	+0.4
JHT				S	S	00 09 47.0	+0.1
TK01	**Tokai 1**	2.28	116	P	P	00 09 01.4	0.0
JNA	**Nagahama**	2.50	242	⇑P	P	00 09 03.8	+0.9
JNA				S	S	00 09 51.2	+0.8
JTO	**Tosashimizu**	2.72	226	P	P	00 09 05.0	+0.6
JYN	**Shimob**	2.90	75	⇓P	P	00 09 05.6	-0.2
MAJO	**Matsushiro**	3.07	54	⇓iPn	P	00 09 07.1	-0.2
MAT	**Matsushiro**	3.07	54	P	P	00 09 07.0	-0.2
MAT				S	S	00 09 58.9	+0.7
MAT	**Matsushiro**	3.07	54	P	P	00 09 07.1	-0.1
MAT	**Matsushiro**	3.07	54	eP	P	00 09 07.0	-0.2
MAT				eS	S	00 09 59.0	+0.8
JOD2	**Odawara 2**	3.29	80	⇓P	P	00 09 08.8	-0.3
JRY	**Ryogami san**	3.33	67	⇓P	P	00 09 09.1	-0.3
JNU	**Nakatsue**	3.89	246	P	P	00 09 15.2	+0.7
	35nm,0.3s,baz=53,slow=9.7,SNR=100						
JNU				S	S	00 10 11.8	+0.8
	baz=216,slow=19,SNR=6.3						
JHJ	**Hachijo jima 2**	4.22	112	P	P	00 09 18.1	+0.5
	356nm,0.3s,baz=65,slow=20,SNR=81						
JHJ				S	S	00 10 23.6	+7.0
	43nm,0.3s,baz=66,slow=19,SNR=3.4						
JHJ2	**Mitsune**	4.25	112	P	P	00 09 18.1	+0.2
CBIJ	**Chichi jima**	9.77	140	P	P	00 10 13.6	-5.3
	102nm,0.3s,baz=274,slow=15,SNR=25						
CBIJ				S	S	00 11 57.6	-9.1
	112nm,0.3s,baz=283,slow=23,SNR=19						
JOW	**Kunigami**	9.86	218	P	P	00 10 19.4	-0.5
	10nm,0.3s,baz=29,slow=9.6,SNR=116						
MDJ	**Mudanjiang**	10.71	338	P	P	00 10 29.1	-0.7
MDJ				AMB	AMB		
	comp=Z,87nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,96nm,4.2s						
MDJ	**Mudanjiang**	10.71	338	⇑iP	P	00 10 29.0	-0.8
	comp=Z,82nm,0.8s						
ASAJ	**Asahikawa**	10.97	30	P	P	00 10 30.0	-2.8
	comp=Z,14nm,0.3s,baz=256,slow=11,SNR=28						
ASAJ				S	S	00 12 25.6	-6.3
	comp=Z,8.2nm,0.3s,baz=77,slow=28,SNR=16						
SNY	**Shenyang**	11.47	311	⇑P	P	00 10 38.5	0.0
SNY				AMB	AMB		
	comp=Z,20nm,0.7s						
DL2	**Dalian**	11.56	295	P	P	00 10 38.8	-0.8
DL2				AMB	AMB		
	comp=Z,30nm,0.7s						
CN2	**Changchun**	11.71	323	eP	P	00 10 40.7	-0.5
CN2				eS	S	00 12 47.9	+0.3
CN2				AMB	AMB		
	comp=Z,30nm,1.5s						
CN2				AMB	AMB		
	comp=Z,120nm,3.0s						
YSS	**Yuzh-Sakhalins**	13.46	23j	iP	P	00 10 59.0	-1.6
YSS				S	S	00 13 18.0	-5.0
YSS	**Yuzh-Sakhalins**	13.46	23	⇑eP	P	00 10 58.8	-1.8
	comp=Z,35nm,0.4s						
NJ2	**Nanjing**	13.86	263	eP	P	00 11 03.3	-1.6
KLR	**Kul'dur**	14.65	351	eP	P	00 11 10.7	-2.5
BJI	**Beijing**	15.94	295	eP	P	00 11 25.2	-1.1
	comp=Z,23nm,1.3s						
BJI				Lg		00 14 11.2	
BJT	**Baijiatuau**	15.94	295	eP	P	00 11 25.1	-1.2
	comp=Z,25nm,0.6s						
WHN	**Wuhan**	17.98	262	⇓P	P	00 11 47.3	+0.2
WHN				AMB	AMB		
	comp=Z,66nm,0.8s						
HIA	**Hailar**	18.39	327	eP	P	00 11 49.6	-1.3
	comp=Z,41nm,0.8s						
HHC	**Hu-ho-hao-te**	19.54	295	eP	P	00 12 02.1	-0.2
HHC				S	S	00 15 16.3	+0.1
HHC				AMB	AMB		
	comp=Z,80nm,0.9s						
BTO	**Baotou**	20.66	294	eP	P	00 12 12.6	-0.5
XAN	**Xi'an**	21.61	276	P	P	00 12 22.4	+0.2
XAN				AMB	AMB		
	comp=Z,87nm,0.7s,mb5.3						
ENH	**Enshi**	22.05	265	eP	P	00 12 25.9	-0.4
	comp=Z,167nm,0.9s,mb5.5						
SONM	**Songino Array**	25.05	310	P	P	00 12 54.2	+0.9
	comp=Z,6.7nm,0.8s,mb4.1,baz=117,slow=8.7,SNR=56						
LZH	**Lanzhou**	25.46	282	⇓P	P	00 12 56.7	-0.6
LZH				AMB	AMB		
	comp=Z,38nm,1.1s,mb4.7						
GYA	**Guiyang**	25.79	259	⇓iP	P	00 12 59.2	-1.1
GYA				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.2						
MA2	**Magadan**	26.85	18	eP	P	00 13 09.4	0.0
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
MA2	**Magadan**	26.85	18	eP	P	00 13 09.3	-0.1
QIZ	**Qiongzhong**	27.35	242	P	P	00 13 15.0	+0.8
QIZ	**Qiongzhong**	27.35	242	eP	P	00 13 14.7	+0.4
YAK	**Yakutsk**	27.49	354	eP	P	00 13 22.1	+7.0
YAK				eS	S	00 17 23.9	-2.0
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
YAK				smax			
	comp=E,11nm,1.1s						
YAK				smax			
	comp=N,7.0nm,0.9s						
GTA	**Gaotai**	28.42	290	eP	P	00 13 20.4	-3.0
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.2						
KMI	**Kunming**	29.55	260	eP	P	00 13 33.3	-0.1
KMI				AMB	AMB		
	comp=Z,41nm,1.0s,mb4.7						
KMI	**Kunming**	29.55	260	eP	P	00 13 33.3	-0.1
	comp=Z,41nm,1.0s,mb4.7						
KMI				pP		00 13 42.4	
KMI				LR	LR		
	comp=Z,40nm,22.4s						
NANT	**Nan**	34.40	251	P	P	00 14 14.8	-0.1
CHG	**Chiang Mai**	35.76	253	⇓P	P	00 14 26.7	+0.3
	comp=Z,22nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	35.96	253	P	P	00 14 28.3	+0.2
	comp=Z,6.8nm,0.5s,mb4.2,baz=52,slow=5.2,SNR=30						
CMAR				ScP		00 19 52.9	
	comp=Z,1.3nm,0.7s,baz=34,slow=3.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	35.96	253	P	P	00 14 28.3	+0.2
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	37.31	275	P	P	00 14 41.0	+1.9
LSA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.5						
LSA	**Lhasa**	37.31	275	eP	P	00 14 40.2	+1.0
	comp=Z,28nm,0.8s,mb4.6						
WMQ	**Urumqi**	37.35	299	⇑P	P	00 14 38.0	-1.3
WMQ				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.6						
SHL	**Shillong**	38.24	268	eP	P	00 14 46.5	-0.3
NVS	**Novosibirsk**	40.79	316	eP	P	00 15 07.2	-0.1
NVS				e		00 20 47.8	
NVS				e		00 24 21.3	
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.8						
MKAR	**Makanchi Array**	41.04	304	P	P	00 15 10.3	+0.9
	comp=Z,18nm,0.4s,mb4.7,baz=99,slow=8.5,SNR=272						
MKAR	**Makanchi Array**	41.04	304	P	P	00 15 10.4	+1.0
MKAR				pmax	pmax		
	comp=Z,18nm,0.4s						
PKI	**Pulchoki**	42.78	274	eP	P	00 15 23.6	0.0
	comp=Z,33nm,0.5s,mb4.9						
KKN	**Kakani**	42.80	275	eP	P	00 15 24.0	+0.2
	comp=Z,56nm,0.6s,mb5.0						
DMN	**Daman**	43.02	275	eP	P	00 15 25.5	0.0
	comp=Z,38nm,0.8s,mb4.8						
GKN	**Gorkha**	43.25	275	eP	P	00 15 27.4	+0.1
	comp=Z,64nm,0.6s,mb5.2						
KURK	**Kurchatov**	43.35	309	i P	P	00 15 27.8	0.0
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
KURK	**Kurchatov**	43.35	309	⇓iP	P	00 15 27.8	0.0
	comp=Z,32nm,0.9s,mb4.7						
KOLN	**Koldanda**	44.19	276	eP	P	00 15 33.9	-0.9
	comp=Z,88nm,0.8s,mb5.1						
TKM2	**Tokmak 2**	46.21	299	P	P	00 15 51.3	+0.9
	SNR=19						
KBK	**Karagaybulak**	46.73	298	P	P	00 15 55.4	+1.0
	SNR=12						
CHMS	**Chumysh**	46.81	299	P	P	00 15 55.4	+0.5
	SNR=5.1						
USP	**Ospenovka**	46.94	299	P	P	00 15 56.4	+0.4
	SNR=11						
KAKA	**Kakadu**	47.28	184	eP	P	00 15 57.2	-1.8
	comp=Z,6.3nm,0.6s,mb4.1						
EKS2	**Erkin-Say**	47.58	299	P	P	00 16 01.3	+0.4
	SNR=5.5						
AML	**Almayashu**	47.75	298	P	P	00 16 03.6	+1.4
	SNR=25						
CHKZ	**Chkalovo**	48.15	314	⇓iP	P	00 16 04.4	-0.6
	comp=Z,17nm,0.6s,mb4.6						
BRVK	**Borovoye**	48.40	313	eP	P	00 16 06.8	-0.1
BRVK				e	pP	00 17 25.9	-2.4
FITZ	**Fitzroy Crossi**	53.35	191	eP	P	00 16 42.9	-1.2
	comp=Z,2.1nm,0.6s,mb3.5						
COLA	**College**	53.68	31	c eP	P	00 16 46.7	+0.8
ILAR	**Eielson Array**	54.10	31	P	P	00 16 48.2	-0.6
	comp=Z,2.6nm,0.6s,mb3.6,baz=259,slow=6.0,SNR=58						
ILAR				pP	pP	00 18 13.2	+0.6
	comp=Z,0.4nm,0.6s,baz=272,slow=5.8,SNR=1.9						
WB2	**Warramunga Arr**	54.42	181	⇑iP	P	00 16 50.1	-1.7
WRA	**Warramunga Arr**	54.42	181	P	P	00 16 50.1	-1.6
	comp=Z,6.0nm,0.4s,mb4.1,baz=358,slow=7.6,SNR=209						
WRA	**Warramunga Arr**	54.42	181	P	P	00 16 50.1	-1.7
WRA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ARU	**Arti**	54.66	319	i P	P	00 16 52.2	-0.8
ARU				e	pP	00 18 12.6	-4.3
ARU				e		00 18 45.6	
ARU				eS	S	00 23 58.8	-1.2
ARU	**Arti**	54.66	319	⇓eP	P	00 16 52.0	-0.9
	comp=Z,3.8nm,0.3s,mb4.1						
AB31	**Akbulak array**	55.46	310	P	P	00 16 58.1	-0.6
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.0						
ASPA	**Alice Springs**	58.13	181	eP	P	00 17 16.2	-1.3
INK	**Inuvik**	58.68	26	P	P	00 17 20.8	+0.3
	comp=Z,6.9nm,0.5s,mb4.3,baz=288,slow=5.2,SNR=30						
INK	**Inuvik**	58.68	26	P	P	00 17 20.8	+0.3
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
INK	**Inuvik**	58.68	26	eP	P	00 17 20.7	+0.2
KEV	**Kevo**	63.69	338	ep	P	00 17 52.1	-1.3
ARCES	**ARCESS Array B**	64.26	338	P	P	00 17 57.1	+0.1
	comp=Z,1.5nm,0.8s,mb3.6,baz=59,slow=8.1,SNR=12						
ARCES	**ARCESS Array B**	64.26	338	P	P	00 17 57.1	+0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RES	**Resolute Bay**	66.00	13	eP	P	00 18 08.2	+0.2
	comp=Z,6.2nm,0.5s,mb4.5						
STKA	**Stephens Creek**	66.58	174	P	P	00 18 11.5	-0.8
	comp=Z,5.5nm,1.1s,mb4.1,baz=339,slow=11,SNR=8.7						
YKA	**Yellowknife Ar**	68.26	28	P	P	00 18 22.2	+0.2
	comp=Z,1.5nm,0.7s,mb3.8,baz=299,slow=6.3,SNR=9.4						
YKA	**Yellowknife Ar**	68.26	28	P	P	00 18 22.2	+0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	68.26	28	P	P	00 18 22.2	+0.2
FINES	**FINESS Array B**	68.35	331	P	P	00 18 22.6	0.0
	comp=Z,1.2nm,0.5s,mb3.8,baz=80,slow=5.8,SNR=25						
FINES	**FINESS Array B**	68.35	331	P	P	00 18 22.7	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIV	**Kislovodsk**	68.44	309	d iP	P	00 18 23.7	+0.3
KIV				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
KIV	**Kislovodsk**	68.44	309	eP	P	00 18 23.7	+0.3
	comp=Z,16nm,1.0s,mb4.6						
SUMG	**Summit**	72.84	358	eP	P	00 18 50.8	+1.8
	comp=Z,10nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	72.85	320	P	P	00 18 50.2	+0.8
	comp=Z,2.6nm,0.5s,mb4.0,baz=52,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	72.85	320	P	P	00 18 50.3	+0.8
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB2	**NORSAR Subarra**	74.19	335	P	P	00 18 57.0	+0.1
	comp=Z,1.0nm,0.5s,mb3.7,baz=45,slow=5.6						
NOA	**NORSAR Array B**	74.19	335	P	P	00 18 57.2	+0.4
	comp=Z,1.0nm,0.4s,mb3.8,baz=45,slow=5.7,SNR=8.2						
NOA	**NORSAR Array B**	74.19	335	P	P	00 18 57.2	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	74.19	335	P	P	00 18 57.2	+0.4
BRTR	**Keskin Array B**	76.40	309	P	P	00 19 10.3	+0.6
	comp=Z,1.2nm,0.5s,mb3.8,baz=136,slow=5.5,SNR=11						
BRTR	**Keskin Array B**	76.40	309	P	P	00 19 10.3	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KWP	**Kalwaria**	76.86	322	eP	P	00 19 13.0	+1.0
	comp=Z,6.1nm,0.8s,mb4.3						
OJC	**Ojcow**	77.94	324	eP	P	00 19 18.5	+0.7
BOZ	**Bozeman (W)**	79.82	41	eP	P	00 19 29.1	+1.2
	comp=Z,1.0nm,0.6s,mb3.6						
KHC	**Kasperske Hory**	81.65	326	eP	P	00 19 38.5	+1.2
GERES	**GERESS Array B**	81.79	325	P	P	00 19 38.6	+0.6
	comp=Z,0.5nm,0.5s,mb3.5,baz=34,slow=4.8,SNR=9.6						
GERES	**GERESS Array B**	81.79	325	P	P	00 19 38.6	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRA1	**Grafenberg Arr**	82.32	327	eP	P	00 19 42.4	+1.7
	comp=Z,2.0nm,0.8s,mb3.9						
GRF	**Grafenberg Arr**	82.32	327	eP	P	00 19 42.4	+1.7
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	82.83	42	P	P	00 19 44.8	+1.3
	comp=Z,0.9nm,0.9s,mb3.5,baz=27,slow=3.3,SNR=6.3						
PDAR				pP	pP	00 21 16.4	+0.2
	comp=Z,0.6nm,0.8s,baz=284,slow=3.7,SNR=4.0						
MSU	**Marysvale**	84.10	47	eP	P	00 19 52.3	+2.4
PV10	**Paradox Valley**	86.04	45	eP	P	00 20 01.8	+2.4
TXAR	**Lajitas Array**	95.50	49	P	P	00 20 45.3	+1.9
	comp=Z,0.5nm,0.7s,mb3.7,baz=288,slow=4.0,SNR=5.3						
TXAR				pP	pP	00 22 16.9	-1.1
	comp=Z,0.6nm,0.9s,baz=315,slow=6.4,SNR=4.5						
TSUM	**Tsumeb**	123.04	269	PKP	PKPdf	00 26 13.5	+1.8
	comp=Z,1.5nm,0.9s,baz=128,slow=19,SNR=3.1						
DBIC	**Dimbokro**	124.10	310	PKP	PKPdf	00 26 14.9	+1.0
	comp=Z,1.5nm,0.4s,baz=329,slow=3.9,SNR=10						
DBIC	**Dimbokro**	124.10	310	PKIKP	PKPdf	00 26 15.0	+1.1
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.4s						

ISC 02 00:31:03.6±0.9**, 44.92N**±0.03×**15.02E**±0.09**, h10**^{km}**, n8, σ0^{s}39**/10**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVLJ	**Novalja**	0.37	197	i Pg	Pg	00 31 10.9	-0.2
NVLJ				i Sg	Sg	00 31 16.5	+0.2
BOJS	**Bojanci**	0.61	15	ePg	Pg	00 31 15.7	-0.2
BOJS				i Sg	Sg	00 31 24.5	+0.4
KNDS	**Knezji Dol**	0.76	324	i Sg	Sg	00 31 29.2	0.0
VISS	**Visnje**	0.90	352	i Sg	Sg	00 31 33.5	-0.1
CEY	**Cerknica**	0.92	333	i Sg	Sg	00 31 35.3	+0.8
CRES	**Cresnjevec ost**	0.96	18	eSg	Sg	00 31 35.7	0.0
LEGS	**Legarje**	1.05	11	i Sg	Sg	00 31 38.6	-0.2
CADS	**Cadrg**	1.59	326	i Sn	Sg	00 31 56.0	-0.6

ISC 02 00:38:07.6±0.7**, 46.40N**±0.03×**15.09E**±0.07**, n6, σ0^{s}49**/10**, 2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS	**Pernice**	0.24	5	i Pg	Pg	00 38 12.7	+0.3
PERS				i Sg	Sg	00 38 16.4	+0.9
GROS	**Grobnik**	0.29	77	i Pg	Pg	00 38 13.6	+0.1
DOBS	**Dobrina**	0.36	133	i Pg	Pg	00 38 15.2	+0.3
OBKA	**Obir**	0.39	287	⇑iPG	Pg	00 38 14.9	-0.5
OBKA				i SG	Sg	00 38 20.8	+0.2
	5.0nm,0.5s						
LEGS	**Legarje**	0.48	160	ePg	Pg	00 38 17.0	-0.1
LEGS				i Sg	Sg	00 38 23.6	+0.1
ARSA	**Arzberg**	0.90	19	⇑iPG	Pg	00 38 24.6	-1.0
ARSA				i SG	Sg	00 38 37.3	-0.4
	0.5nm,0.2s						

NEIC ***02*** *00:48:34.2, 37.42N×21.09E, h12^{km}, MD3.6(ATH), After ATH.*

ATH ***02*** *00:48:34.8, 37.46N×21.13E, h14^{km}±5^{km}, MD3.6/13*

ISC 02 00:48:36.3±1.1**, 37.53N**±0.08×**21.17E**±0.10**, h14**^{km}**, n21, σ1^{s}46**/23**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	0.70	120	ePB	Pb	00 48 48.5	-1.2
ITM	**Ithomi**	0.70	120	ePb	Pb	00 48 46.0	-3.7
ITM				eSb	Sb	00 48 59.0	+0.1
VLS	**Valsamata**	0.79	325	ePB	Pb	00 48 49.2	-2.1
VLS				eSB	Sb	00 49 03.0	+1.4
EVR	**Evrytania**	1.47	20	ePB	Pb	00 49 05.0	+2.0
EVR	**Evrytania**	1.47	20	ePb	Pb	00 49 05.5	+2.5
VLI	**Veliai**	1.63	119	ePB	Pb	00 49 06.3	+0.6
VLI	**Veliai**	1.63	119	ePb	Pb	00 49 06.5	+0.8
AGG	**Agios Georgios**	1.75	31	eP	Pn	00 49 08.4	+1.9
MKIT	**Kithairon Oros**	1.78	68	ePN	Pn	00 49 07.5	+0.5
NAIG	**Nisos Aigina**	1.86	82	ePN	Pn	00 49 08.5	+0.4
NSAL	**Nisos Salamina**	1.86	78	ePN	Pn	00 49 08.5	+0.4
KYTH	**Kithira**	1.95	129	ePN	Pn	00 49 09.5	+0.1
MPAR	**Parnis Oros**	2.13	72	ePN	Pn	00 49 12.5	+0.6
JAN	**Janina**	2.14	353	ePG	Pg	00 49 16.5	-2.5
PTL	**Penteli**	2.20	76	ePB	Pb	00 49 13.0	-2.4
NEO	**Neokhori**	2.40	42	ePB	Pb	00 49 16.0	-2.8
KEK	**Kerkira**	2.43	334	ePN	Pn	00 49 17.5	+1.3
LIT	**Litokhoron**	2.77	22	eP	Pn	00 49 22.4	+1.4
FNA	**Florina**	3.25	3	eP	Pn	00 49 26.7	-1.2
KNT	**Kendrikon**	3.87	20	eP	Pn	00 49 36.5	-0.2
SKO	**Skopje**	4.44	3	ePn	Pn	00 49 42.0	-2.9

IDC ***02*** *00:58:52.2±1.9, 13.53N×50.31E, mb3.8/5, mb1 3.8/6, mb1mx3.6/16, ML2.8/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/23, Error ellipse: s-maj=41.6km s-min=31.8km az=135.0*

ISC 02 00:58:48.8±1.3**, 13.1N**±0.1×**50.07E**±0.07**, h10**^{km}**, n9, σ0^{s}81**/10**, mb3.7**/5**, MS3.4**/2**, 1C-1D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	1.54	319	⇓iP	Pn	00 59 15.3	-1.3
	baz=113,slow=3.4						
MUKL				i S	Sb	00 59 36.7	+0.2
MUKL				AML	AML	00 59 40.6	
	comp=N,301nm,0.5s						
LBOS		4.75	280	⇑iP	Pn	01 00 02.9	+0.7
LBOS				i S	Sn	01 00 57.4	-0.6
KMBO	**Kilima Mbogo**	19.02	223	P	P	01 03 21.3	+7.7
	comp=N,0.0nm,0.3s,baz=32,slow=16,SNR=3.8						
KMBO				LR	LR	01 10 32.7	
	comp=N,159nm,18.7s,baz=278,slow=36						
ASF	**Jabal al Asfar**	22.49	330	P	P	01 03 51.7	+1.8
	comp=N,4.2nm,0.9s,mb3.9,baz=11,slow=8.2,SNR=6.3						
ASF				LR	LR	01 12 53.4	
	comp=N,175nm,18.0s,MS3.5,baz=57,slow=38						
BRTR	**Keskin Array B**	30.21	334	LR	LR	01 17 59.4	
	comp=N,73nm,18.3s,MS3.4,baz=260,slow=38						
AKASG	**Malin Array Be**	41.15	340	P	P	01 06 35.1	+0.3
	comp=N,1.7nm,0.7s,mb3.8,baz=148,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	43.10	32	P	P	01 06 50.3	-0.6
	comp=N,0.4nm,0.6s,mb3.4,baz=225,slow=8.6,SNR=5.0						
FINES	**FINESS Array B**	51.29	346	P	P	01 07 54.9	0.0
	comp=N,1.1nm,0.7s,mb3.9,baz=162,slow=12,SNR=7.2						
SONM	**Songino Array**	57.96	41	P	P	01 08 43.5	-0.3
	comp=N,0.6nm,0.7s,mb3.7,baz=254,slow=7.1,SNR=6.1						

BJI ***02*** *01:05:49.2, 4.94S×133.93E, h30^{km}, mB5.3, mb5.2, Ms5.1, Msz4.8*

IDC ***02*** *01:05:50.2±0.5, 4.63S×133.67E, mb5.1/15, mb1 5.2/19, mb1mx5.2/21, ML4.9/4, MS4.8/14, Ms1 4.8/14, ms1mx4.7/19, Error ellipse: s-maj=26.7km s-min=12.2km az=68.0*

HRVD ***02*** *01:05:51.6±0.2, 4.55S×133.73E, h14^{km}±1^{km}, MW5.4/66, Centroid moment Tensor Solution. LP body waves: s59,c104;Mantle waves: s66,c139; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.32±.04; M$_{\theta\theta}$-1.17±.03; M$_{\phi\phi}$1.49±.04; M$_{r\theta}$-0.18±.07; M$_{\theta\phi}$0.79±.03; M$_{\phi r}$-0.03±.07; Best double couple: M$_0$1.56×10^{17} NP1: ϕ_s151°,δ82°,λ-175°. NP2:ϕ_s60°,δ85°,λ-8°. Principal axes: T 1.71, Plg2°, Azm105°; N -.3, Plg81°, Azm209°; P -1.41, Plg9°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *01:05:51.6±0.2, 4.66S×133.63E, h10^{km}, mb5.4/35, MS5.1/98, MW5.4 Error ellipse: s-maj=9.5km s-min=4.9km az=78.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.04; M$_{\theta\theta}$-1.00; M$_{\phi\phi}$0.96; M$_{r\theta}$-0.22; M$_{\theta\phi}$0.09; M$_{\phi r}$0.79; Best double couple: M$_0$1.3×10^{17} NP1: ϕ_s53°,δ56°,λ10°. NP2:ϕ_s317°,δ81°,λ146°. Principal axes: T 1.42, Plg30°, Azm269°; N -.33, Plg55°, Azm125°; P -1.08, Plg17°, Azm9°;*

SYO ***02*** *01:05:51.5, 4.66S×133.63E, h10^{km}, MB5.4, MS5.1*

MOS ***02*** *01:05:53.9±0.8, 4.52S×133.39E, h33^{km}, mb5.6/18, MS4.7/8, Error ellipse: s-maj=21.2km s-min=9.5km az=98.4*

ISC 02 01:05:52.0±1.1**, 4.68S**±0.04×**133.65E**±0.05**, h26**^{km}±8^{km}**, h26**^{km}±1.5^{km}**:pP-P, n310,** σ**1^{s}18**/192**, mb5.3**/72**, MS5.0**/127**, 19C-12D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.06**	**189**	⇓*i*P	**P**	**01 07 48.5**	**-1.9**
	640nm,0.8s						
KAKA				*e*S	**Sn**	**01 09 15.8**	**-5.9**
DAV	**Davao City (W)**	**14.18**	**325**	P	**P**	**01 09 08.0**	**-5.6**
PMG	**Port Moresby**	**14.20**	**110**	Pn	**P**	**01 09 09.8**	**-4.1**
	6.0nm,0.3s,baz=300,slow=9.6,SNR=15						
PMG				Sn	**S**	**01 11 39.4**	**-12**
	1.9nm,0.3s,baz=17,slow=19,SNR=2.9						
PMG				LR	LR	01 15 41.4	
	comp=Z,4µm,19.3s,baz=104,slow=42						
PMG	**Port Moresby**	**14.20**	**110**	⇑*i*P	**P**	**01 09 08.8**	**-5.1**
PMG				pmax	pmax		
	comp=Z,800nm,1.2s						
PMG	**Port Moresby**	**14.20**	**110**	⇑*i*P	**P**	**01 09 08.8**	**-5.1**
	comp=Z,799nm,1.2s						
PMG				*e*S	Sx	01 12 20.0	
BUKP	**Musuan**	**15.13**	**325**	*e*P	**P**	**01 09 25.7**	**-0.4**
WRA	**Warramunga Arr**	**15.18**	**178**	Pn	**P**	**01 09 21.1**	**-5.6**
	comp=Z,6.6nm,0.3s,baz=359,slow=13,SNR=132						
WRA				Sn	**S**	**01 12 01.1**	**-14**
	comp=Z,8.1nm,0.3s,baz=356,slow=21,SNR=10						
WB2	**Warramunga Arr**	**15.19**	**177**	⇑*i*P	**P**	**01 09 21.8**	**-4.9**
WB2				*e*S	**S**	**01 12 00.5**	**-14**
FITZ	**Fitzroy Crossi**	**15.47**	**210**	*e*P	**P**	**01 09 25.4**	**-5.0**
	comp=Z,69nm,0.4s						
FITZ				*e*S	**S**	**01 12 09.3**	**-12**
FITZ	**Fitzroy Crossi**	**15.47**	**210**	Pn	**P**	**01 09 26.5**	**-3.8**
	comp=Z,5.3nm,0.3s,baz=22,slow=11,SNR=72						
FITZ				Sn	**S**	**01 12 10.6**	**-11**
	comp=Z,9.3nm,0.3s,baz=176,slow=14,SNR=5.2						
PAGZ	**Pagadian**	**16.12**	**320**	*e*P	**P**	**01 09 46.0**	**+7.3**
SCPH	**Surigao**	**16.51**	**331**	*e*P	**P**	**01 09 50.5**	**+6.8**
BESP	**Borongan**	**18.12**	**333**	*e*P	**P**	**01 10 05.3**	**+1.4**
ASPA	**Alice Springs**	**18.88**	**179**	*e*P	**P**	**01 10 09.9**	**-3.1**
ASPA				*e*S	**S**	**01 13 27.8**	**-11**
RCP	**Roxas**	**19.44**	**326**	*i* P	**P**	**01 10 20.9**	**+1.2**
CTA	**Charters Tower**	**19.62**	**142**	⇑*i*P	**P**	**01 10 21.0**	**-0.7**
	comp=Z,155nm,0.9s						
CTA				*i* S	**S**	**01 13 59.4**	**+3.5**
CTA	**Charters Tower**	**19.62**	**142**	P	**P**	**01 10 20.8**	**-0.9**
	comp=Z,4.3nm,0.3s,baz=320,slow=12,SNR=71						
CTA				LR	LR	01 18 59.0	
	comp=Z,5µm,18.7s,baz=326,slow=40						
CTAO	**Charters Tower**	**19.62**	**142**	⇑*i*P	**P**	**01 10 20.9**	**-0.8**
CTAO				*e*S	**S**	**01 14 01.2**	**+5.3**
CTAO				pmax	pmax		
	comp=Z,340nm,1.1s						
CTAO	**Charters Tower**	**19.62**	**142**	⇑*i*P	**P**	**01 10 20.9**	**-0.8**
	comp=Z,346nm,1.1s						
CTAO				*e*S	**S**	**01 14 01.2**	**+5.3**
KKM	**Kota Kinabalu**	**20.41**	**301**	⇓*e*P	**P**	**01 10 30.0**	**0.0**
BATP	**Bataraza**	**20.71**	**310**	*e*P	**P**	**01 10 39.4**	**+6.3**
SJMP	**San Jose**	**21.10**	**324**	*e*P	**P**	**01 10 37.4**	**+0.3**
ENPP	**El Nido**	**21.20**	**318**	*e*P	**P**	**01 10 41.1**	**+2.9**
GUMO	**Guam**	**21.30**	**31**	*e*P	**P**	**01 10 38.8**	**-0.3**
	comp=Z,591nm,1.0s,mb5.9						
GUMO				LR	LR		
	comp=Z,3µm,20.0s,MS4.7						
BUSP	**Coron**	**21.30**	**321**	*e*P	**P**	**01 10 42.0**	**+2.8**
LQP	**Lukban**	**22.20**	**327**	⇓*i*P	**P**	**01 10 48.5**	**+0.3**
POLP	**Polilio Island**	**22.51**	**329**	*e*P	**P**	**01 10 52.3**	**+1.0**
TGY	**Tagaytay City**	**22.52**	**326**	P	**P**	**01 10 52.9**	**+1.5**
	comp=Z,514nm,0.9s,mb5.9,baz=188,slow=9.1,SNR=3.1						
TGY				LR	LR	01 21 08.6	
	comp=Z,1µm,20.1s,MS4.4,baz=131,slow=41						
TGY	**Tagaytay City**	**22.52**	**326**	P	**P**	**01 10 52.9**	**+1.5**
TGY				LR	LR	01 21 08.6	
LUBP	**Lubang**	**22.62**	**324**	*e*P	**P**	**01 10 54.5**	**+2.1**
SAPN	**Saipan**	**23.12**	**31**	*e*P	**P**	**01 10 57.9**	**+0.6**
BALP	**Baler**	**23.55**	**330**	*e*P	**P**	**01 11 00.2**	**-1.3**
BALP	**Baler**	**23.55**	**330**	*e*P	**P**	**01 11 00.2**	**-1.3**
SCZP	**Santa Cruz**	**24.45**	**326**	*e*P	**P**	**01 11 09.5**	**-0.8**
CAUP	**Cauayan**	**24.46**	**332**	*e*P	**P**	**01 11 15.6**	**+5.3**
BCPH	**Baguio City Da**	**24.60**	**329**	⇓*i*P	**P**	**01 11 12.3**	**+0.7**
APYP	**Conner**	**25.53**	**332**	*e*P	**P**	**01 11 27.2**	**+6.8**
ABRA	**Dolores**	**25.60**	**330**	*e*P	**P**	**01 11 39.7**	**+19**
STKA	**Stephens Creek**	**28.06**	**166**	⇓*i*P	**P**	**01 11 42.5**	**-1.1**
	comp=Z,29nm,0.7s,mb5.0						
STKA				*e*S	**S**	**01 16 35.2**	**+10**
STKA	**Stephens Creek**	**28.06**	**166**	P	**P**	**01 11 42.8**	**-0.8**
	comp=Z,24nm,0.8s,mb4.9,baz=336,slow=8.3,SNR=27						
STKA				LR	LR	01 23 27.3	
	comp=Z,3µm,21.7s,MS4.8,baz=341,slow=38						
KLBR	**Kellerberrin**	**30.65**	**207**	*e*P	**P**	**01 12 06.6**	**-0.1**
	comp=Z,123nm,1.0s,mb5.7						
ARMA	**Armidale**	**30.71**	**149**	*e*P	**P**	**01 12 06.5**	**-0.7**
JOW	**Kunigami**	**31.75**	**351**	P	**P**	**01 12 15.2**	**-1.3**
	comp=Z,15nm,0.9s,mb4.8,baz=209,slow=7.8,SNR=8.0						
JOW				LR	LR	01 23 35.7	
	comp=Z,3µm,21.7s,MS4.9,baz=156,slow=34						
TATO	**Taipei**	**31.76**	**339**	PFAKE		01 12 30.0	+13
TATO				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
NWAO	**Narrogin (SRO)**	**32.01**	**207**	P	**P**	**01 12 18.7**	**+0.1**
	comp=Z,47nm,1.0s,mb5.3,baz=44,slow=9.5,SNR=5.8						
NWAO	**Narrogin (SRO)**	**32.01**	**207**	P	**P**	**01 12 19.4**	**+0.7**
	comp=Z,97nm,1.1s,mb5.5						
NWAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
QZH	**Quanzhou**	**32.88**	**334**	*e*P	**P**	**01 12 28.8**	**+2.5**
QZH				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
QZH				AMB	AMB		
	comp=Z,330nm,4.8s						
QZH				LR	LR		
	comp=N,1µm,14.2s,MS4.9						
QZH				LR	LR		
	comp=E,780nm,13.8s,MS4.9						
QZH				LR	LR		
	comp=Z,2µm,25.6s						
QIZ	**Qiongzhong**	**33.24**	**316**	P	**P**	**01 12 28.5**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.2						
QIZ				LR	LR		
	comp=N,842nm,17.6s,MS4.6						
QIZ				LR	LR		
	comp=E,728nm,18.3s,MS4.6						
QIZ				LR	LR		
	comp=Z,1µm,19.5s,MS4.6						
TOO	**Toolangi**	**34.48**	**163**	*e*P	**P**	**01 12 40.7**	**+0.7**
	comp=Z,33nm,1.0s,mb5.2						
SNG	**Songkhla**	**35.01**	**289**	P	**P**	**01 12 39.0**	**-5.8**
NOUC	**Port Laguerre**	**36.04**	**122**	*e*P	**P**	**01 12 51.5**	**-1.9**
DZM	**Mont Dzumac**	**36.15**	**122**	*e*P	**P**	**01 12 53.5**	**-0.9**
KWAJ	**Kwajalein Atol**	**36.42**	**68**	PFAKE		01 13 10.0	+13
KWAJ				LR	LR		
	comp=Z,383nm,19.0s,MS4.2						
KKTK	**Khon Kaen**	**36.95**	**305**	PN	**P**	**01 13 02.5**	**+1.3**
SSE	**Sheshan**	**37.51**	**342**	P	**P**	**01 13 08.0**	**+2.3**
SSE				AP	pP	01 13 16.7	+3.1
SSE				S	**S**	**01 18 50.9**	**-1.7**
SSE				XS		01 19 04.6	
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.0						
SSE				LR	LR		
	comp=N,1µm,21.8s,MS4.7						
SSE				LR	LR		
	comp=E,569nm,21.8s,MS4.7						
SSE				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
SSE	**Sheshan**	**37.51**	**342**	P	**P**	**01 13 08.0**	**+2.3**
	comp=Z,21nm,0.6s,mb5.0						
SSE				pP	pP	01 13 16.7	+3.1
SSE				sP	sP	01 13 20.6	+3.7
SSE				S	**S**	**01 18 50.9**	**-1.7**
SSE				sS		01 19 04.6	
SSE				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
JNU	**Nakatsue**	**37.69**	**356**	P	**P**	**01 13 06.4**	**-0.8**
	comp=Z,26nm,0.9s,mb5.0,baz=57,slow=6.9,SNR=4.1						
NST	**Nakhon Sawan**	**38.86**	**302**	P	**P**	**01 13 16.5**	**-0.6**
NJ2	**Nanjing**	**39.15**	**340**	*e*P	**P**	**01 13 20.4**	**+0.9**
NJ2				AP	pP	01 13 30.4	+3.1
NJ2				XP	sP	01 13 33.5	+2.9
NJ2				PP	PP	01 14 55.3	+2.1
NJ2				S	**S**	**01 19 16.0**	**-1.4**
NJ2				PCS		01 19 17.0	
NJ2				XS		01 19 33.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
NJ2				LR	LR		
	comp=N,3µm,20.2s,MS5.2						
NJ2				LR	LR		
	comp=E,1µm,15.5s,MS5.2						
NJ2				LR	LR		
	comp=Z,6µm,19.4s,MS5.4						
WHN	**Wuhan**	**39.59**	**333**	*e*P	**P**	**01 13 23.6**	**+0.4**
WHN				S	**S**	**01 19 24.0**	**-0.1**
WHN				LR	LR		
	comp=N,1µm,12.8s,MS4.9						
WHN				LR	LR		
	comp=E,700nm,14.2s,MS4.9						
WHN				LR	LR		
	comp=Z,2µm,21.7s						
TAU	**Tasmania Unive**	**39.96**	**164**	*e*P	**P**	**01 13 27.2**	**+1.2**
TAU				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.2						
TAU				MLR	MLR		
	comp=Z,5µm,19.0s,MS5.4						
TAU	**Tasmania Unive**	**39.96**	**164**	*e*P	**P**	**01 13 27.2**	**+1.1**
	comp=Z,48nm,0.9s,mb5.2						
TAU				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
NANT	**Nan**	**39.97**	**307**	P	**P**	**01 13 25.7**	**-0.7**
GYA	**Guiyang**	**40.51**	**321**	⇑*i*P	**P**	**01 13 30.5**	**-0.2**
GYA				AP	pP	01 13 38.2	-0.4
GYA				XP	sP	01 13 44.0	+2.2
GYA				PP	PP	01 15 10.2	+2.8
GYA				S	**S**	**01 19 44.5**	**+6.7**
GYA				XS		01 20 01.2	
GYA				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,980nm,20.3s,MS4.7						
GYA				LR	LR		
	comp=E,500nm,16.8s,MS4.7						
GYA				LR	LR		
	comp=Z,930nm,18.5s,MS4.7						
BDT	**Bhumibol Dam**	**40.56**	**303**	P	**P**	**01 13 31.0**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
CMAR	**Chiang Mai Arr**	**41.22**	**305**	P	**P**	**01 13 36.5**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.4,baz=128,slow=6.7,SNR=23						
MAJO	**Matsushiro**	**41.23**	**6**	P	**P**	**01 13 30.4**	**-6.2**
MAJO				*e*		01 13 41.8	
MAJO				*e*		01 15 21.8	
MAJO				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
MAT	**Matsushiro**	**41.23**	**6**	P	**P**	**01 13 37.1**	**+0.6**
MAT				S	**S**	**01 19 50.0**	**+1.6**
MAT	**Matsushiro**	**41.23**	**6**	*e*P	**P**	**01 13 38.0**	**+1.5**
	comp=Z,5.5nm,0.7s,mb4.3						
MAT				*e*S	**S**	**01 19 50.0**	**+1.6**
MAT				LR	LR		
	comp=Z,2µm,18.0s,MS5.1						
CHG	**Chiang Mai**	**41.40**	**305**	⇑P	**P**	**01 13 38.2**	**+0.1**
	comp=Z,43nm,1.3s,mb4.9						
ENH	**Enshi**	**41.75**	**328**	⇑*e*P	**P**	**01 13 40.1**	**-0.9**
	comp=Z,18nm,0.8s,mb4.8						
ENH				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
KMI	**Kunming**	**42.19**	**316**	*e*P	**P**	**01 13 44.8**	**+0.2**
KMI				AP	pP	01 13 50.3	-2.2
KMI				PP	PP	01 15 26.3	+1.0
KMI				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,104nm,3.1s						
KMI				LR	LR		
	comp=N,621nm,17.5s,MS4.6						
KMI				LR	LR		
	comp=E,503nm,21.7s,MS4.6						
KMI	**Kunming**	**42.19**	**316**	*e*P	**P**	**01 13 44.8**	**+0.2**
	comp=E,23nm,1.1s,mb4.7						
KMI				pP	pP	01 13 50.3	-2.2
KMI				PP	PP	01 15 26.3	+1.0
KMI				S	**S**	**01 19 58.1**	**-4.7**
KMI				sS		01 20 06.8	
KMI				SS	SS	01 22 54.6	-11
KMI				LR	LR		
	comp=Z,810nm,33.0s,MS4.4						
INCN	**Inchon**	**42.45**	**352**	PFAKE		01 14 00.0	+13
INCN				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
DL2	**Dalian**	**44.77**	**347**	*e*P	**P**	**01 14 09.7**	**+4.3**
DL2				S	**S**	**01 20 39.3**	**-0.9**
DL2				XS		01 20 59.0	
DL2				LR	LR		
	comp=N,590nm,19.8s,MS4.9						
DL2				LR	LR		
	comp=E,1µm,19.6s,MS4.9						
DL2				LR	LR		
	comp=Z,970nm,16.9s,MS4.8						
XAN	**Xi'an**	**45.04**	**331**	P	**P**	**01 14 06.2**	**-1.4**
XAN				AP	pP	01 14 11.7	-3.8
XAN				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
CD2	**Chengdu**	**45.47**	**323**	P	**P**	**01 14 10.2**	**-0.9**
CD2				PP	PP	01 15 57.6	-0.5
CD2				S	**S**	**01 20 48.7**	**-1.6**
CD2				XS		01 21 10.8	
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.1						
CD2				AMB	AMB		
	comp=Z,180nm,5.3s						
CD2				LR	LR		
	comp=E,1µm,18.5s						
CD2				LR	LR		
	comp=Z,1µm,20.2s,MS4.8						
TIY	**Taiyuan**	**46.57**	**337**	*e*P	**P**	**01 14 16.0**	**-3.6**
TIY				LR	LR		
	comp=N,515nm,15.0s						
TIY				LR	LR		
	comp=Z,566nm,16.0s,MS4.6						
SNY	**Shenyang**	**47.19**	**350**	⇓P	**P**	**01 14 25.2**	**+0.7**
SNY				S	**S**	**01 21 14.1**	**-0.6**
SNY				XS		01 21 30.7	
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
SNY				AMB	AMB		
	comp=Z,120nm,4.1s						
SNY				LR	LR		
	comp=N,1µm,21.4s,MS5.0						
SNY				LR	LR		
	comp=E,1µm,18.8s,MS5.0						
SNY				LR	LR		
	comp=Z,1µm,21.1s,MS4.8						
BJI	**Beijing**	**47.32**	**342**	*e*P	**P**	**01 14 24.5**	**-1.1**
BJI				AP	pP	01 14 33.8	+0.3
BJI				S	**S**	**01 21 14.1**	**-2.4**
BJI				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,901nm,19.8s,MS4.9						
BJI				LR	LR		
	comp=E,994nm,19.2s,MS4.9						
BJI				LR	LR		
	comp=Z,1µm,22.9s,MS4.7						
BJI	**Beijing**	**47.32**	**342**	*e*P	**P**	**01 14 24.5**	**-1.1**
	comp=Z,20nm,1.0s,mb5.0						
BJI				pP	pP	01 14 33.8	+0.3
BJI				S	**S**	**01 21 14.1**	**-2.4**
BJI				SS	SS	01 24 54.3	+17
BJI				LR	LR		
	comp=Z,1µm,22.9s,MS4.7						
IMP	**Imphal**	**48.46**	**309**	*e*P	**P**	**01 14 36.0**	**+1.3**
CN2	**Changchun**	**48.82**	**352**	*e*P	**P**	**01 14 37.0**	**-0.2**
CN2				*e*AP	pP	01 14 43.3	-1.9
CN2				*e*S	**S**	**01 21 38.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,820nm,20.0s,MS5.0						
CN2				LR	LR		
	comp=E,2µm,20.0s,MS5.0						
CN2				LR	LR		
	comp=Z,930nm,21.0s,MS4.8						
MDJ	**Mudanjiang**	**49.21**	**356**	P	**P**	**01 14 40.2**	**+0.1**
MDJ				AP	pP	01 14 49.0	+0.9
MDJ				XP	sP	01 14 53.0	+1.7
MDJ				PCP	PcP	01 16 01.3	-2.1
MDJ				S	**S**	**01 21 43.6**	**+0.5**
MDJ				XS		01 22 01.6	
MDJ				AMB	AMB		
	comp=Z,84nm,1.0s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,71nm,3.3s						
MDJ				LR	LR		
	comp=N,454nm,20.7s,MS4.6						
MDJ				LR	LR		
	comp=E,602nm,23.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,920nm,19.4s,MS4.8						
MDJ	**Mudanjiang**	**49.21**	**356**	PFAKE		01 14 50.0	+10
MDJ				LR	LR		
	comp=Z,495nm,19.0s,MS4.5						
LZH	**Lanzhou**	**49.23**	**328**	⇑P	**P**	**01 14 40.6**	**+0.1**
LZH				AP	pP	01 14 49.1	+0.7
LZH				XP	sP	01 14 52.3	+0.7
LZH				PP	PP	01 16 34.3	-0.3
LZH				S	**S**	**01 21 42.0**	**-1.5**
LZH				XS		01 21 57.2	
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,165nm,4.0s						
LZH				LR	LR		
	comp=N,900nm,14.1s						
LZH				LR	LR		
	comp=Z,1µm,16.1s,MS5.0						
LZH	**Lanzhou**	**49.23**	**328**	⇑P	**P**	**01 14 40.6**	**+0.1**
	comp=Z,56nm,1.5s,mb5.4						
LZH				pP	pP	01 14 49.1	+0.7
LZH				sP	sP	01 14 52.3	+0.7
LZH				PP	PP	01 16 34.3	-0.3
LZH				S	**S**	**01 21 42.0**	**-1.5**
LZH				sS		01 21 57.2	
LZH				*e*SS	SS	01 25 11.3	+0.5
LZH				LR	LR		
	comp=Z,1µm,16.1s,MS5.0						
ASAJ	**Asahikawa**	**49.24**	**9**	P	**P**	**01 14 41.0**	**+0.6**
	comp=Z,8.6nm,0.6s,mb5.0,baz=235,slow=7.8,SNR=7.4						
ASAJ				LR	LR	01 32 22.7	
	comp=Z,419nm,20.7s,MS4.4,baz=22,slow=32						
HHC	**Hu-ho-hao-te**	**49.62**	**338**	*e*P	**P**	**01 14 41.8**	**-1.6**
HHC				PCP	PcP	01 16 02.3	-2.6
HHC				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,268nm,4.1s						
HHC				LR	LR		
	comp=N,384nm,20.6s,MS4.6						
HHC				LR	LR		
	comp=E,447nm,17.8s,MS4.6						
BTO	**Baotou**	**50.01**	**337**	*e*P	**P**	**01 14 44.7**	**-1.6**
SHL	**Shillong**	**50.46**	**309**	*e*P	**P**	**01 14 49.0**	**-1.0**
	comp=E,28nm,0.7s,mb5.4						
SHL				*e*		01 22 18.0	
RPZ	**Rata Peaks**	**50.96**	**145**	P	**P**	**01 14 52.9**	**-0.7**
	comp=E,26nm,1.1s,mb5.1,baz=33,slow=9.5,SNR=8.9						
RPZ				LR	LR	01 37 48.6	
	comp=E,4µm,19.3s,MS5.5,baz=314,slow=38						
SNZO	**South Karori**	**51.72**	**141**	PFAKE		01 15 10.0	+11
SNZO				LR	LR		
	comp=Z,5µm,19.0s,MS5.5						
URZ	**Urewera**	**51.72**	**136**	LR	LR	01 37 26.9	
	comp=Z,1µm,18.9s,MS5.0,baz=318,slow=37						
YSS	**Yuzh-Sakhalins**	**52.04**	**8**	P	**P**	**01 15 00.0**	**-1.7**
YSS				*e**SP	sP	01 15 12.0	-0.8
YSS				*e*S	**S**	**01 22 21.0**	**-1.1**
YSS				*e*PS	PS	01 22 32.0	-3.3
YSS				*e*SSS	SSS	01 27 35.0	-4.2
YSS				MLR	MLR		
	comp=N,600nm,18.0s,MS4.7						
YSS				MLR	MLR		
	comp=E,200nm,18.0s,MS4.7						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**52.04**	**8**	*e*P	**P**	**01 14 59.7**	**-2.0**
	comp=Z,16nm,0.6s,mb5.1						
YSS				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
LSA	**Lhasa**	**53.17**	**313**	*e*P	**P**	**01 15 07.8**	**-2.6**
	comp=Z,33nm,0.8s,mb5.3						
LSA				LR	LR		
	comp=Z,361nm,20.0s,MS4.4						
KLR	**Kul'dur**	**53.71**	**358**	*e*P	**P**	**01 15 13.9**	**-0.2**
KLR				*e*S	**S**	**01 22 46.0**	**+1.1**
GTA	**Gaotai**	**53.83**	**328**	*e*P	**P**	**01 15 14.8**	**-0.3**
GTA				AP	pP	01 15 22.0	-1.1
GTA				XP	sP	01 15 25.0	-1.2
GTA				PP	PP	01 17 15.7	-2.0
GTA				PPP	PPP	01 18 18.8	-8.1
GTA				SCP		01 20 17.6	
GTA				SCS	ScS	01 25 01.1	+1.9
GTA				AMB	AMB		
	comp=Z,92nm,4.9s						
GTA				LR	LR		
	comp=N,351nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=E,263nm,20.5s,MS4.5						
HIA	**Hailar**	**55.07**	**349**	*e*P	**P**	**01 15 22.3**	**-1.8**
	comp=E,22nm,0.9s,mb5.2						
HIA				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
PKI	**Pulchoki**	**56.50**	**307**	*e*P	**P**	**01 15 33.4**	**-1.2**
	comp=Z,53nm,1.0s,mb5.5						
KKN	**Kakani**	**56.70**	**308**	*e*P	**P**	**01 15 34.0**	**-2.1**
	comp=Z,51nm,0.8s,mb5.6						
DMN	**Daman**	**56.76**	**307**	*e*P	**P**	**01 15 35.3**	**-1.2**
	comp=Z,61nm,0.8s,mb5.7						
GKN	**Gorkha**	**57.30**	**308**	*e*P	**P**	**01 15 39.1**	**-1.2**
	comp=Z,78nm,0.7s,mb5.8						
MIDW	**Midway**	**57.37**	**52**	PFAKE		01 15 50.0	+9.2
MIDW				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
SONM	**Songino Array**	**57.51**	**339**	P	**P**	**01 15 40.5**	**-1.0**
	comp=Z,5.7nm,0.6s,mb4.8,baz=151,slow=6.3,SNR=21						
KOLN	**Koldanda**	**58.02**	**307**	*e*P	**P**	**01 15 45.1**	**-0.3**
	comp=Z,49nm,0.7s,mb5.7						
ZAK	**Zakamensk**	**60.77**	**338**	*e*P	**P**	**01 16 03.5**	**-0.5**
PET	**Petropavlovsk**	**61.25**	**17**	*e*P	**P**	**01 16 13.1**	**+5.9**
PET				*e*S	**S**	**01 24 35.0**	**+11**
PET				*e*PS	PS	01 24 53.4	+10
PET				pmax	pmax		
	comp=Z,26nm,1.9s,mb5.0						
PET				pmax	pmax		
	comp=Z,100nm,11.9s						
PET				pmax	pmax		
	comp=Z,100nm,21.3s						
PET				smax			
	comp=E,200nm,9.0s						
PET				smax			
	comp=N,300nm,14.6s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.8						

PET	**Petropavlovsk**	**61.25**	**17**	PFAKE		01 16 20.0	+13
PET				LR	LR		
	comp=Z,541nm,19.0s,MS4.7						
CLNS	**Chul'man**	**61.73**	**355**	*e*P	**P**	**01 16 09.0**	**-1.4**
CLNS				*e*PPP	PP	01 18 24.2	-4.3
CLNS				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.8						
CLNS				pmax	pmax		
	comp=N,43nm,1.1s						
CLNS				pmax	pmax		
	comp=E,35nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,20nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,2µm,14.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,300nm,13.0s,MS5.3						
IRK	**Irkutsk**	**61.96**	**340**	*e*P	**P**	**01 16 10.9**	**-1.1**
DDI	**Dehra Dun**	**63.50**	**307**	*e*P	**P**	**01 16 23.0**	**+0.5**
DDI				*e*		01 16 39.8	
WMQ	**Urumqi**	**63.53**	**324**	⇑P	**P**	**01 16 22.3**	**-0.3**
WMQ				PCP	PcP	01 16 59.1	+0.2
WMQ				PP	PP	01 18 43.4	-0.6
WMQ				S	**S**	**01 24 54.4**	**+1.6**
WMQ				PS	PS	01 25 12.3	-2.7
WMQ				SCS	ScS	01 26 12.8	+2.5
WMQ				AMB	AMB		
	comp=Z,83nm,0.9s,mb5.8						
WMQ				LR	LR		
	comp=N,948nm,25.0s,MS4.9						
WMQ				LR	LR		
	comp=E,359nm,22.4s,MS4.9						
NDI	**New Delhi**	**63.54**	**305**	*e*P	**P**	**01 16 22.5**	**-0.4**
CASY	**Casey**	**63.58**	**190**	⇓*e*P	**P**	**01 16 22.4**	**-0.1**
	comp=E,48nm,1.3s,mb5.4						
CASY				*e*		01 18 38.1	
BOD	**Bodaibo**	**64.28**	**348**	*e*P	**P**	**01 16 25.9**	**-1.4**
SDNR	**Sundarnagar**	**64.81**	**308**	*e*P	**P**	**01 16 31.0**	**-0.2**
MA2	**Magadan**	**65.48**	**9**	PFAKE		01 16 50.0	+15
MA2				LR	LR		
	comp=Z,416nm,21.0s,MS4.6						
FX1	**Attu Island--F**	**66.33**	**25**	LR	LR	01 44 16.2	
	comp=Z,49nm,19.5s,baz=227,slow=35						
YAK	**Yakutsk**	**66.59**	**358**	*e*P	**P**	**01 16 41.4**	**-0.6**
YAK				*e*		01 17 10.6	
YAK				*e*		01 19 10.7	
YAK				*e*PPP	PPP	01 20 43.4	-3.4
YAK				*e*S	S	01 25 30.3	+0.3
YAK				*e*		01 26 38.9	
YAK				*e*SS	SS	01 29 48.6	-0.4
YAK				pmax	pmax		
	comp=Z,68nm,0.7s,mb5.8						
YAK				pmax	pmax		
	comp=N,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.7s						
YAK				smax			
	comp=E,30nm,5.1s						
YAK				smax			
	comp=N,53nm,8.7s						
YAK				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,200nm,18.0s,MS4.4						
YAK				MLR	MLR		
	comp=E,100nm,21.0s,MS4.4						
YAK	**Yakutsk**	**66.59**	**358**	*e*P	**P**	**01 16 41.1**	**-0.9**
	comp=E,168nm,0.8s,mb6.1						
YAK				LR	LR		
	comp=Z,544nm,19.0s,MS4.8						
SMY	**Shemya**	**66.61**	**25**	*e*P	**P**	**01 16 32.6**	**-10**
	comp=Z,92nm,0.9s,mb5.8						
SMY				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
MIR	**Mirnyy**	**67.85**	**196**	⇑*e*P	**P**	**01 16 51.0**	**+1.1**
MIR				*e*		01 17 07.5	
MIR				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.5						
MKAR	**Makanchi Array**	**68.36**	**325**	P	**P**	**01 16 53.3**	**-0.1**
	comp=Z,68nm,0.8s,mb5.7,baz=115,slow=8.7,SNR=76						
MKAR	**Makanchi Array**	**68.36**	**325**	*i* P	**P**	**01 16 53.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,68nm,0.8s						
KSH	**Kashi**	**68.85**	**316**	*e*P	**P**	**01 16 58.2**	**+1.6**
KSH				*e*PCP	PcP	01 17 22.0	+1.0
KSH				*e*PP	PP	01 19 33.2	+2.3
KSH				*e*S	S	01 25 59.0	+1.7
KSH				*e*XS		01 26 15.9	
KSH				*e*PS	PS	01 26 28.8	+2.6
KSH				*e*SCS	ScS	01 26 52.2	+0.9
KSH				*e*SS	SS	01 30 27.5	+3.1
KSH				LR	LR		
	comp=N,460nm,8.9s						
KSH				LR	LR		
	comp=E,430nm,8.9s						
SEY	**Seymchan**	**68.92**	**9**	*e*P	**P**	**01 16 57.1**	**+0.5**
SEY						01 17 18.7	
SEY				PPP	PPP	01 21 10.0	+1.0
SEY				*e*S	S	01 25 59.9	+2.1
SEY				*e*PS	PS	01 26 24.6	-2.1
SEY						01 26 44.3	
SEY				SS	SS	01 30 28.2	+3.0
SEY				SSS	SSS	01 33 32.3	+5.3
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
SEY				pmax	pmax		
	comp=E,50nm,1.7s						
SEY				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.1						
SEY				MLR	MLR		
	comp=N,880nm,21.0s,MS5.0						
SEY				MLR	MLR		
	comp=E,350nm,18.0s,MS5.0						
FRU	**Bishkek**	**71.19**	**318**	*e*P	**P**	**01 17 12.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,70nm,2.1s,mb5.2						
KIP	**Kipapa**	**71.74**	**66**	PFAKE		01 17 30.0	+16
KIP				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
NVS	**Novosibirsk**	**72.47**	**332**	*i* P	**P**	**01 17 16.6**	**-1.6**
NVS				pmax	pmax		
	comp=N,29nm,1.4s						
NVS				pmax	pmax		
	comp=E,22nm,1.4s						
NVS				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.2						
KURK	**Kurchatov**	**72.51**	**327**	*i* P	**P**	**01 17 18.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
KURK	**Kurchatov**	**72.51**	**327**	⇑*e*P	**P**	**01 17 17.7**	**-0.8**
	comp=Z,68nm,1.0s,mb5.5						
VNDA	**Vanda**	**74.32**	**174**	P	**P**	**01 17 29.1**	**+0.5**
	comp=Z,8.2nm,0.8s,mb4.7,baz=320,slow=6.6,SNR=15						
VNDA				LR	LR	01 50 18.4	
	comp=Z,1µm,21.0s,MS5.1,baz=92,slow=36						
SBA	**Scott Base**	**75.16**	**173**	*e*P	**P**	**01 17 35.1**	**+1.6**
SBA				*e*	pP	01 17 44.6	+2.9
PPT	**Papeete**	**76.00**	**107**	*e*L		01 38 35.9	
	comp=Z,652nm,25.2s						
PPT				*e*R		01 41 48.3	
	comp=Z,1µm,24.0s						
TBI	**Tubuai**	**76.13**	**113**	*e*L		01 38 24.9	
	comp=Z,669nm,33.8s						
TBI				*e*R		01 42 03.5	
	comp=Z,1µm,25.2s,baz=279						
TIXI	**Tiksi**	**76.25**	**358**	*e*P	**P**	**01 17 40.0**	**+0.3**
TIXI				*e*S	S	01 27 20.0	-1.0
TIXI				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,553nm,19.0s,MS4.9						
TIXI	**Tiksi**	**76.25**	**358**	PFAKE		01 17 50.0	+10
TIXI				LR	LR		
	comp=Z,554nm,20.0s,MS4.9						
UNV	**Unalaska Valle**	**76.62**	**32**	*e*P	**P**	**01 17 42.5**	**+0.4**
	comp=Z,110nm,1.1s,mb5.7						
UNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
BVA0	**Borovoye Array**	**78.09**	**327**	P	**P**	**01 17 50.0**	**-0.2**
BVAR	**Borovoye Array**	**78.09**	**327**	P	**P**	**01 17 50.0**	**-0.3**
	comp=Z,58nm,0.9s,mb5.5,baz=127,slow=7.4,SNR=61						
BRVK	**Borovoye**	**78.17**	**327**	⇑*i*P	**P**	**01 17 50.5**	**-0.1**
	comp=Z,50nm,0.8s,mb5.5						
BRVK				*e*		01 18 05.1	
CHKZ	**Chkalovo**	**78.24**	**327**	⇑*e*P	**P**	**01 17 50.5**	**-0.5**
	comp=Z,31nm,0.9s,mb5.2						
CHKZ				*e*		01 18 02.8	
MAW	**Mawson**	**78.43**	**202**	⇓*i*P	**P**	**01 17 53.3**	**+1.5**
	comp=Z,20nm,1.0s,mb5.0						
MAW	**Mawson**	**78.43**	**202**	LR	LR	01 53 26.0	
	comp=Z,551nm,18.1s,MS4.9,baz=344,slow=36						
SDN	**Sand Point**	**80.42**	**32**	*e*P	**P**	**01 18 04.5**	**+1.7**
	comp=Z,136nm,1.2s,mb5.8						
TNA	**Tin City**	**81.75**	**21**	PFAKE		01 18 20.0	+10
TNA				LR	LR		
	comp=Z,250nm,20.0s,MS4.6						
AB31	**Akbulak array**	**82.99**	**321**	*i* P	**P**	**01 18 15.9**	**-0.4**
AB31				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
SVW	**Sparrevohn**	**84.90**	**27**	*e*P	**P**	**01 18 28.4**	**+2.7**
	comp=Z,17nm,1.1s,mb5.1						
QSPA	**South Pole Qui**	**85.28**	**180**	*e*P	**P**	**01 18 28.7**	**+1.5**
	comp=Z,24nm,0.9s,mb5.3						
QSPA				*e*		01 21 45.6	
QSPA				LR	LR		
	comp=Z,1µm,21.1s,MS5.3						
KDAK	**Kodiak Island**	**85.36**	**31**	*e*P	**P**	**01 18 28.4**	**+0.3**
	comp=Z,75nm,1.1s,mb5.7						
KDAK				LR	LR		
	comp=Z,226nm,20.0s,MS4.6						
ARU	**Arti**	**85.69**	**327**	⇑*i*P	**P**	**01 18 29.6**	**-0.2**
ARU				*i*	pP	01 18 36.5	-1.7
ARU				*i*		01 21 50.4	
ARU				*e*PPP	PPP	01 23 42.2	-5.0
ARU				*e*S	S	01 28 52.3	-6.6
ARU				*e*SS	SS	01 34 35.7	-3.3
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.1						
ARU				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,100nm,18.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,100nm,19.0s,MS4.4						
ARU	**Arti**	**85.69**	**327**	*e*P	**P**	**01 18 29.3**	**-0.4**
	comp=E,24nm,0.8s,mb5.5						
ARU				LR	LR		
	comp=Z,106nm,21.0s,MS4.2						
HASS	**Wahat al Ahsa'**	**86.52**	**295**	P	**P**	**01 18 36.7**	**+2.1**
SYO	**Syowa Base**	**87.12**	**201**	⇓P	**P**	**01 18 37.6**	**+1.1**
SYO	**Syowa Base**	**87.12**	**201**	⇓pP	pP	01 18 40.7	-4.2
IMA	**Indian Mountai**	**87.30**	**23**	*e*P	**P**	**01 18 39.1**	**+1.7**
IMA				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.8						
IMA	**Indian Mountai**	**87.30**	**23**	*e*P	**P**	**01 18 39.5**	**+2.1**
	comp=Z,8.3nm,0.7s,mb5.1						
PMR	**Palmer**	**88.04**	**28**	*e*P	**P**	**01 18 41.4**	**+0.4**
	comp=Z,41nm,1.0s,mb5.6						
PMR				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
MCK	**McKinley**	**88.62**	**26**	PFAKE		01 19 00.0	+16
MCK				LR	LR		
	comp=Z,241nm,20.0s,MS4.6						
COLA	**College**	**89.34**	**25**	*e*P	**P**	**01 18 48.1**	**+0.9**
	comp=Z,7.0nm,0.9s,mb5.0						
COLA				LR	LR		
	comp=Z,408nm,20.0s,MS4.8						
DIV	**Divide**	**89.52**	**29**	PFAKE		01 19 00.0	+12
DIV				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
ILAR	**Eielson Array**	**89.72**	**25**	P	**P**	**01 18 47.8**	**-1.2**
	comp=Z,8.3nm,1.0s,mb5.0,baz=278,slow=4.0,SNR=39						
ILAR				LR	LR	02 00 23.4	
	comp=Z,334nm,18.7s,MS4.8,baz=264,slow=36						
MZLS	**Mizel**	**90.46**	**294**	P	**P**	**01 18 55.1**	**+1.7**
KAMS	**Al Khamasin**	**90.73**	**290**	P	**P**	**01 18 57.3**	**+2.5**
TATS	**Tathlith**	**91.71**	**289**	P	**P**	**01 18 59.7**	**+0.5**
DAWY	**Dawson**	**92.84**	**26**	*e*P	**P**	**01 19 03.6**	**+0.2**
DAWY				*e*	pP	01 19 11.3	-0.5
DAWY				*e*		01 19 19.5	
HILS	**Ha'il**	**93.77**	**297**	P	**P**	**01 19 10.4**	**+1.8**
KIV	**Kislovodsk**	**93.91**	**314**	*e*P	**P**	**01 19 07.8**	**-1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.5						
KIV				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.6						
KIV	**Kislovodsk**	**93.91**	**314**	PFAKE		01 19 20.0	+11
KIV				LR	LR		
	comp=Z,65nm,19.0s,MS4.1						
SIT	**Sitka**	**94.45**	**33**	PFAKE		01 19 20.0	+9.1
SIT				LR	LR		
	comp=Z,718nm,19.0s,MS5.2						
INK	**Inuvik**	**95.37**	**22**	P	**P**	**01 19 15.3**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.8,baz=141,slow=4.6,SNR=3.5						
INK	**Inuvik**	**95.37**	**22**	*e*P	**P**	**01 19 15.2**	**+0.3**
INK				*e*		01 19 30.3	
INK				pmax	pmax		
	comp=Z,15nm,1.1s						
INK	**Inuvik**	**95.37**	**22**	*e*P	**P**	**01 19 15.2**	**+0.3**
	comp=Z,15nm,1.1s,mb5.3						
INK				*e*		01 19 30.3	
KMBO	**Kilima Mbogo**	**96.28**	**268**	LR	LR	02 00 26.6	
	comp=Z,378nm,21.3s,MS4.8,baz=96,slow=34						
KMBO	**Kilima Mbogo**	**96.28**	**268**	PFAKE		01 19 30.0	+10
KMBO				LR	LR		
	comp=Z,397nm,21.0s,MS4.9						
DLBC	**Dease Lake**	**97.28**	**32**	*e*P	**P**	**01 19 25.6**	**+1.8**
OBN	**Obninsk**	**97.87**	**325**	*e*P	**P**	**01 19 25.8**	**-0.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.2						
OBN	**Obninsk**	**97.87**	**325**	PFAKE		01 19 40.0	+13
OBN				LR	LR		
	comp=Z,99nm,20.0s,MS4.3						
ASF	**Jabal al Asfar**	**98.18**	**302**	P	**P**	**01 19 31.1**	**+2.6**
	comp=Z,5.0nm,1.2s,mb4.9,baz=294,slow=14,SNR=1.8						
ASF				LR	LR	02 08 01.5	
	comp=Z,160nm,21.2s,MS4.5,baz=311,slow=38						
APA	**Apatity**	**98.22**	**338**	⇑*i*P	**P**	**01 19 39.9**	**+12**
BBB	**Bella Bella**	**98.73**	**38**	LR	LR	01 59 11.9	
	comp=Z,476nm,21.5s,MS5.0,baz=287,slow=32						
SNAA	**Sanae**	**98.73**	**193**	*e*P	**P**	**01 19 31.3**	**+1.2**
SNAA	**Sanae**	**98.73**	**193**	⇓*i*Pdif	**P**	**01 19 30.8**	**+0.7**
SNAA				*e*	pP	01 19 40.5	+2.0
SNAA				*e*		01 23 30.3	
SNAA				*e*		01 24 02.8	
SPITS	**Spitsbergen Ar**	**99.99**	**349**	LR	LR	02 10 34.7	
	comp=Z,30nm,18.4s,baz=156,slow=39						
KEV	**Kevo**	**100.10**	**340**	*e*p	P	01 19 39.3	+3.0
VNA2	**Neumayer--Watz**	**100.27**	**192**	⇑*i*Pdif	P	01 19 32.2	-4.9
VNA2				*e*		01 19 42.1	
KBS	**Kingsbay**	**100.42**	**350**	*e*SS	SS	01 38 13.0	+5.0
KBS				AMS	AMS	02 03 31.4	
	comp=Z,342nm,19.1s,MS4.9						
KBS	**Kingsbay**	**100.42**	**350**	PFAKE		01 19 50.0	+12
KBS				LR	LR		
	comp=Z,446nm,20.0s,MS5.0						
ARCES	**ARCESS Array B**	**100.66**	**340**	P	P	01 19 39.0	+0.1
	comp=Z,4.0nm,0.8s,baz=68,slow=6.5,SNR=15						
ARCES	**ARCESS Array B**	**100.66**	**340**	P	P	01 19 39.0	+0.1
VNA1	**Neumayer--Stat**	**100.67**	**192**	*e*	P	01 19 43.8	+4.9
VNA1	**Neumayer--Stat**	**100.67**	**192**	⇓*i*Pdif	P	01 19 34.3	-4.6
VNA1				*e*		01 19 43.8	
BRTR	**Keskin Array B**	**100.67**	**309**	P	P	01 19 40.5	+0.9
	comp=Z,1.1nm,0.9s,baz=121,slow=7.2,SNR=6.1						
OCWA	**Octopus Mounta**	**101.63**	**42**	PFAKE		01 20 00.0	+16
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
FINES	**FINESS Array B**	**102.45**	**332**	P	Pdif	01 19 48.2	+1.2
	comp=Z,3.5nm,0.8s,baz=79,slow=7.1,SNR=15						
COR	**Corvallis**	**102.56**	**45**	PFAKE		01 20 00.0	+12
COR				LR	LR		
	comp=Z,815nm,19.0s,MS5.3						
MBAR	**Mbarara**	**102.82**	**268**	PFAKE		01 20 00.0	+10
MBAR				LR	LR		
	comp=Z,110nm,22.0s,MS4.3						
TRO	**Tromso**	**102.82**	**341**	*e*	SS	01 38 41.9	+0.1
TRO				AMS	AMS	02 13 01.0	
	comp=Z,570nm,19.3s,MS5.1						
HOPS	**Hopland**	**103.25**	**51**	PFAKE		01 20 00.0	+8.9
HOPS				LR	LR		
	comp=Z,974nm,20.0s,MS5.3						
YBH	**Yreka Blue Hor**	**103.28**	**48**	PFAKE		01 20 00.0	+8.9
YBH				LR	LR		
	comp=Z,617nm,19.0s,MS5.2						
WDC	**Whiskeytown Da**	**103.52**	**50**	PFAKE		01 20 00.0	+7.8
WDC				LR	LR		
	comp=Z,861nm,19.0s,MS5.3						
LSZ	**Lusaka**	**103.60**	**253**	PFAKE		01 20 10.0	+17
LSZ				LR	LR		
	comp=Z,529nm,21.0s,MS5.0						
YKA	**Yellowknife Ar**	**104.08**	**26**	PP	PP	01 24 13.7	-0.7
	comp=Z,0.6nm,0.7s,baz=280,slow=6.9,SNR=2.9						
SAO	**San Andreas Ge**	**104.72**	**53**	PFAKE		01 20 10.0	+12
SAO				LR	LR		
	comp=Z,565nm,19.0s,MS5.1						
HAWA	**Hanford**	**104.96**	**43**	PFAKE		01 20 10.0	+12
HAWA				LR	LR		
	comp=Z,839nm,20.0s,MS5.3						
MOD	**Modoc**	**105.05**	**48**	PFAKE		01 24 30.0	
MOD				LR	LR		
	comp=Z,699nm,20.0s,MS5.2						
CMB	**Columbia Colle**	**105.44**	**52**	PFAKE		01 24 30.0	
CMB				LR	LR		
	comp=Z,585nm,22.0s,MS5.1						
WVOR	**Wild Horse Val**	**106.20**	**47**	PFAKE		01 24 30.0	
WVOR				LR	LR		
	comp=Z,928nm,20.0s,MS5.3						
NEW	**Newport**	**106.24**	**41**	PFAKE		01 24 30.0	
NEW				LR	LR		
	comp=Z,463nm,20.0s,MS5.0						
NVAR	**Mina Array Bea**	**107.02**	**51**	Pdiff	Pdif	01 20 12.3	+4.6
	comp=Z,0.3nm,0.5s,baz=263,slow=7.3,SNR=3.6						
NVAR				PKKPab		01 35 54.3	
	comp=Z,2.0nm,1.2s,baz=127,slow=4.5,SNR=3.5						
NVAR	**Mina Array Bea**	**107.02**	**51**	Pdif	Pdif	01 20 12.3	+4.6
NVAR				PKKPab		01 35 54.3	
MNV	**Mina**	**107.14**	**51**	PFAKE		01 24 30.0	
MNV				LR	LR		
	comp=Z,673nm,19.0s,MS5.2						
BMN	**Battle Mountai**	**107.56**	**49**	PFAKE		01 24 30.0	
BMN				LR	LR		
	comp=Z,607nm,20.0s,MS5.2						
DAC	**Darwin (Calif)**	**107.86**	**54**	PFAKE		01 24 30.0	
DAC				LR	LR		
	comp=Z,591nm,20.0s,MS5.2						
TPH	**Tonopah**	**107.91**	**52**	PFAKE		01 24 30.0	
TPH				LR	LR		
	comp=Z,588nm,21.0s,MS5.1						
MSO	**Missoula**	**108.65**	**42**	PFAKE		01 24 30.0	
MSO				LR	LR		
	comp=Z,452nm,20.0s,MS5.0						
OJC	**Ojcow**	**108.72**	**322**	*e*PKP		01 24 36.5	
PFO	**Pinyon Flat Ob**	**109.13**	**56**	PFAKE		01 24 30.0	
PFO				LR	LR		
	comp=Z,167nm,20.0s,MS4.6						
NB2	**NORSAR Subarra**	**109.33**	**334**	P	Pdif	01 20 23.8	+6.5
	comp=Z,1.0nm,0.7s,baz=68,slow=4.3						
NB2	**NORSAR Subarra**	**109.33**	**334**	P	Pdif	01 20 23.8	+6.5
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	**109.33**	**334**	Pdiff	Pdif	01 20 24.1	+6.8
	comp=Z,2.3nm,1.1s,baz=68,slow=4.6,SNR=5.7						
JMIC	**Jan Mayen**	**109.55**	**348**	AMS	AMS	02 21 28.3	
	comp=Z,194nm,19.1s,MS4.7						
BOZ	**Bozeman (W)**	**110.50**	**43**	PFAKE		01 24 40.0	+13
BOZ				LR	LR		
	comp=Z,150nm,20.0s,MS4.6						
KONO	**Kongsberg**	**110.69**	**333**	*e*SS	SS	01 40 33.3	+4.8
KONO				AMS	AMS	02 20 06.2	
	comp=Z,497nm,16.0s,MS5.2						
KONO	**Kongsberg**	**110.69**	**333**	PFAKE		01 24 40.0	+13
KONO				LR	LR		
	comp=Z,73nm,19.0s,MS4.3						
DUG	**Dugway**	**110.92**	**49**	PFAKE		01 24 40.0	+12
DUG				LR	LR		
	comp=Z,632nm,19.0s,MS5.2						
HWUT	**Hardware Ranch**	**111.53**	**47**	PFAKE		01 24 40.0	+11
HWUT				LR	LR		
	comp=Z,641nm,21.0s,MS5.2						
AHID	**Auburn Hatcher**	**111.59**	**46**	PFAKE		01 24 40.0	+11
AHID				LR	LR		
	comp=Z,652nm,19.0s,MS5.2						
MVU	**Marysvale**	**111.72**	**50**	PFAKE		01 24 40.0	+11
MVU				LR	LR		
	comp=Z,482nm,21.0s,MS5.1						
PRU	**Pruhonice**	**112.02**	**323**	*e*PKP	PKPdf	01 24 35.2	+5.6
BRG	**Berggiesshubel**	**112.06**	**324**	*e*P	Pdif	01 20 36.9	+7.3
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRG	**Berggiesshubel**	**112.06**	**324**	P	Pdif	01 20 36.9	+7.3
BRG				P		01 24 43.9	
CLL	**Collm**	**112.46**	**324**	*e*PKIKP	PKPdf	01 24 33.0	+2.5
CLL				*e*PP	PP	01 25 15.0	-1.8
CLL	**Collm**	**112.46**	**324**	P	PKPdf	01 24 43.0	+12
CLL				*e*		01 25 15.0	
CLL				LR	LR		
	comp=Z,400nm,19.8s,MS5.0						
BW06	**Boulder Array**	**112.69**	**45**	PFAKE		01 24 40.0	+8.8
BW06				LR	LR		
	comp=Z,588nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**112.69**	**45**	Pdiff	Pdif	01 20 37.1	+4.6
	comp=Z,0.1nm,0.3s,baz=337,slow=6.9,SNR=2.6						
PDAR				PKiKP		01 24 30.5	
	comp=Z,0.7nm,0.9s,baz=90,slow=1.8,SNR=4.4						
PDAR				PKKPbc		01 35 19.3	
	comp=Z,0.8nm,0.9s,baz=80,slow=5.5,SNR=4.3						
TSUM	**Tsumeb**	**112.79**	**247**	PFAKE		01 24 40.0	+8.1
TSUM				LR	LR		
	comp=Z,439nm,21.0s,MS5.0						
KHC	**Kasperske Hory**	**112.90**	**322**	*e*PKP		01 24 17.0	
GERES	**GERESS Array B**	**112.93**	**322**	PKiKP		01 24 31.3	
	comp=Z,0.1nm,0.3s,baz=117,slow=2.2,SNR=5.2						
FFC	**Flin Flon**	**113.11**	**31**	PFAKE		01 24 40.0	+8.3
FFC				LR	LR		
	comp=Z,208nm,21.0s,MS4.7						
LAO	**LASA Array**	**113.78**	**41**	PFAKE		01 24 40.0	+6.7
LAO				LR	LR		
	comp=Z,520nm,20.0s,MS5.1						
PV01	**Paradox Valley**	**114.59**	**50**	*e*PKP	PKPdf	01 24 32.0	-3.0
ANMO	**Albuquerque**	**117.02**	**53**	*e*PKP	PKPdf	01 24 37.1	-2.8
ANMO				LR	LR		
	comp=Z,379nm,21.0s,MS5.0						
SDCO	**Great Sand Dun**	**117.04**	**50**	PFAKE		01 24 50.0	+10
SDCO				LR	LR		
	comp=Z,656nm,21.0s,MS5.2						
HINF	**Hinteralfeld**	**117.53**	**323**	*e*PKIKP	PKPdf	01 24 43.8	+3.3
HAU	**Haudompre**	**117.75**	**323**	*e*PKIKP	PKPdf	01 24 44.3	+3.4
HAU				*e*R			
	comp=Z,361nm,20.8s						
BAIF	**Baives**	**118.04**	**326**	*e*PKIKP	PKPdf	01 24 44.4	+3.0
PGF	**Pioggiola**	**118.25**	**316**	*e*PKIKP	PKPdf	01 24 45.1	+3.1
	comp=Z,24nm,0.9s						
CABF	**La Chapelle**	**118.53**	**322**	*e*PKIKP	PKPdf	01 24 45.3	+2.8
	comp=Z,35nm,1.4s						
LPG	**La Plagne**	**118.59**	**320**	*e*PKIKP	PKPdf	01 24 46.2	+3.6
	comp=Z,9.1nm,0.9s						
LPL	**La Plagne**	**118.59**	**320**	*e*PKIKP	PKPdf	01 24 46.1	+3.5
	comp=Z,9.2nm,1.0s						
ESK	**Eskdalemuir**	**118.83**	**333**	PFAKE		01 24 50.0	+7.1
ESK				LR	LR		
	comp=Z,113nm,21.0s,MS4.5						
ORIF	**Oris-en-Rattie**	**119.39**	**320**	*e*PKIKP	PKPdf	01 24 47.5	+3.3
	comp=Z,8.5nm,0.9s						
ORIF				*e*R			
	comp=Z,494nm,19.0s						
LOR	**Lormes**	**119.59**	**323**	*e*PKIKP	PKPdf	01 24 47.6	+3.1
LOR				*e*R			
	comp=Z,376nm,21.5s						
SSF	**Saint Saulge**	**119.90**	**323**	*e*PKIKP	PKPdf	01 24 48.0	+2.9
	comp=Z,8.1nm,0.9s						
AVF	**Avril sur Loir**	**120.12**	**323**	*e*PKIKP	PKPdf	01 24 48.2	+2.7
VIVF	**Saint-Julien-l**	**120.19**	**320**	*e*PKIKP	PKPdf	01 24 48.6	+2.9
	comp=Z,17nm,1.2s						
LTX	**Lajitas**	**120.63**	**59**	PFAKE		01 25 00.0	+13
LTX				LR	LR		
	comp=Z,701nm,20.0s,MS5.3						
TXAR	**Lajitas Array**	**120.63**	**59**	PKP	PKPdf	01 24 44.9	-2.1
	comp=Z,1.1nm,1.0s,baz=270,slow=1.3,SNR=6.9						
TXAR				PKKPbc		01 34 50.0	
	comp=Z,1.2nm,1.0s,baz=180,slow=0.9,SNR=6.3						
TXAR	**Lajitas Array**	**120.63**	**59**	PKP	PKPdf	01 24 44.9	-2.1
TXAR				PKKPbc		01 34 50.0	
CBKS	**Cedar Bluff**	**121.00**	**47**	PFAKE		01 25 00.0	+12
CBKS				LR	LR		
	comp=Z,664nm,19.0s,MS5.3						
TCF	**Toulx Ste Croi**	**121.05**	**323**	*e*PKIKP	PKPdf	01 24 50.3	+2.9
	comp=Z,15nm,0.9s						

LASF	**Ste Croix**	121.06	320	ePKIKP	PKPdf	01 24 50.5	+3.0
MTLF	**Montolieu**	122.45	320	ePKIKP	PKPdf	01 24 53.4	+3.3
JCT	**Junction City**	123.59	56	ePKP	PKPdf	01 24 50.3	-2.4
JCT				LR	LR		
	comp=Z,411nm,20.0s,MS5.1						
EPF	**Esparros**	123.81	320	ePKIKP	PKPdf	01 24 55.3	+2.5
	comp=Z,24nm,1.4s						
JFWS	**Jewell Farm**	125.64	39	PFAKE		01 25 10.0	+14
JFWS				LR	LR		
	comp=Z,682nm,21.0s,MS5.3						
HKT	**Hockley**	127.03	56	PFAKE		01 25 10.0	+11
HKT				LR	LR		
	comp=Z,399nm,20.0s,MS5.1						
MIAR	**Mount Ida**	127.19	50	ePKP	PKPdf	01 24 57.2	-2.4
MIAR				LR	LR		
	comp=Z,636nm,20.0s,MS5.3						
SCHQ	**Schefferville**	127.32	15	PKP	PKPdf	01 24 57.0	-2.2
	comp=Z,5.7nm,1.0s,baz=43,slow=7.3,SNR=3.2						
CCM	**Cathedral Cave**	127.38	45	PFAKE		01 25 10.0	+10
CCM				LR	LR		
	comp=Z,565nm,21.0s,MS5.2						
NATX	**Nacogdoches**	127.38	53	PFAKE		01 25 10.0	+10
NATX				LR	LR		
	comp=Z,482nm,20.0s,MS5.2						
FVM	**French Village**	127.99	44	ePKIKP	PKPdf	01 24 58.7	-2.4
FVM				e		01 25 04.8	
PLCA	**Paso Flores**	129.66	156	PKP	PKPdf	01 25 01.9	-2.3
	comp=Z,3.2nm,1.1s,baz=233,slow=5.1,SNR=2.9						
BLO	**Bloomington**	130.02	41	ePKIKP	PKPdf	01 25 01.2	-3.7
OXF	**Oxford**	130.32	48	PFAKE		01 25 10.0	+4.4
OXF				LR	LR		
	comp=Z,444nm,22.0s,MS5.1						
PLAL	**Pickwick Lake**	131.08	46	PFAKE		01 25 20.0	+13
PLAL				LR	LR		
	comp=Z,826nm,21.0s,MS5.4						
ERPA	**Erie**	132.19	34	PFAKE		01 25 20.0	+11
ERPA				LR	LR		
	comp=Z,584nm,20.0s,MS5.3						
NCB	**Newcomb**	133.81	28	P	PKPdf	01 25 13.6	+1.7
NCB				LR	LR		
	comp=Z,341nm,22.0s,MS5.0						
PQI	**Presque Isle**	134.16	21	PFAKE		01 25 20.0	+7.6
PQI				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
BINY	**Binghamton**	134.27	31	PKP	PKPdf	01 25 11.7	-1.0
BINY				LR	LR		
	comp=Z,174nm,20.0s,MS4.8						
SSPA	**Standing Stone**	134.35	34	PFAKE		01 25 20.0	+7.0
SSPA				LR	LR		
	comp=Z,618nm,20.0s,MS5.3						
BLA	**Blacksburg**	135.07	39	PFAKE		01 25 20.0	+5.6
BLA				LR	LR		
	comp=Z,540nm,21.0s,MS5.2						
PAYG	**Puerto Ayora**	135.79	96	PFAKE		01 25 30.0	+14
PAYG				LR	LR		
	comp=Z,375nm,19.0s,MS5.1						
EMMW	**East Machias**	136.04	22	PFAKE		01 25 20.0	+4.0
EMMW				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
HRV	**Harvard--Oak R**	136.17	27	PFAKE		01 25 30.0	+14
HRV				LR	LR		
	comp=Z,539nm,19.0s,MS5.3						
CBN	**Corbin**	136.29	36	PFAKE		01 25 30.0	+13
CBN				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
NHSC	**New Hope**	137.65	44	PFAKE		01 25 30.0	+11
NHSC				LR	LR		
	comp=Z,389nm,19.0s,MS5.2						
KIC	**Kosan Boka**	138.56	274	eP	PKPdf	01 25 17.4	-4.0
	comp=Z,65nm,1.3s						
DBIC	**Dimbokro**	138.67	275	PKP	PKPdf	01 25 19.4	-2.2
	comp=Z,4.8nm,1.1s,baz=33,slow=2.0,SNR=4.1						
DBIC	**Dimbokro**	138.67	275	PKP	PKPdf	01 25 19.4	-2.2
TIC	**Toumodi**	138.83	275	eP	PKPdf	01 25 20.1	-1.8
	comp=Z,62nm,1.2s						
LIC	**Lamto**	138.84	274	eP	PKPdf	01 25 21.3	-0.6
	comp=Z,45nm,1.4s						
JTS	**JuntasAbangare**	141.35	79	ePKP	PKPdf	01 25 20.5	-6.0
JTS				LR	LR		
	comp=Z,139nm,20.0s,MS4.7						
LVC	**Limon Verde**	145.04	142	PKPbc	PKPbc	01 25 31.0	+2.8
	comp=Z,37nm,1.1s,baz=235,slow=3.1,SNR=9.1						
LVC	**Limon Verde**	145.04	142	PKPbc	PKPbc	01 25 31.0	+2.8
LVC				LR	LR		
	comp=Z,569nm,20.0s,MS5.3						
NNA	**Nana**	145.45	119	ePKP	PKPdf	01 25 31.6	-2.0
NNA				LR	LR		
	comp=Z,163nm,19.0s,MS4.8						
CPUP	**Villa Florida**	147.39	162	PKPbc	PKPdf	01 25 36.1	-0.4
	comp=Z,22nm,1.0s,baz=246,slow=1.5,SNR=24						
CPUP	**Villa Florida**	147.39	162	PKPbc	PKPdf	01 25 36.5	-0.1
CPUP				sPKiKP		01 25 52.7	
BBSR	**BB Station**	147.54	30	PFAKE		01 25 50.0	+13
BBSR				LR	LR		
	comp=Z,433nm,20.0s,MS5.2						
OTAV	**Otavalo**	147.64	97	ePKP	PKPdf	01 25 42.0	+4.7
LPAZ	**La Paz**	150.03	134	PKPbc	PKPdf	01 25 45.2	+4.2
	comp=Z,14nm,1.0s,baz=20,slow=0.8,SNR=26						
LPAZ	**La Paz**	150.03	134	PKPbc	PKPdf	01 25 44.9	+3.9
LPAZ	**La Paz**	150.03	134	PKPbc	PKPdf	01 25 45.2	+4.2
ROSC	**El Rosal**	152.12	88	PKPbc	PKPdf	01 25 49.3	+5.0
	comp=Z,12nm,0.6s,baz=135,slow=12,SNR=13						
ROSC				PKPab	PKPab	01 25 59.0	+0.9
	comp=Z,57nm,0.9s,baz=129,slow=9.9,SNR=16						
SDV	**Santo Domingo**	155.53	79	ePKP	PKPdf	01 25 46.2	-2.6
SDV				LR	LR		
	comp=Z,304nm,20.0s,MS5.1						
SJG	**San Juan**	156.48	54	PFAKE		01 26 00.0	+10
SJG				LR	LR		
	comp=Z,343nm,21.0s,MS5.2						
RCBR	**Riachuelo**	165.24	225	PFAKE		01 26 10.0	+10
RCBR				LR	LR		
	comp=Z,595nm,22.0s						

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*NEIC **02** 01:31:18.9±2.4, 18.52S×177.59W, h564^{km}±27^{km}, mb4.1/6, Error ellipse: s-maj=17.8km s-min=13.5km az=170.0*

*IDC **02** 01:31:19.6±2.9, 18.57S×177.56W, h572^{km}±34^{km}, mb3.6/14, mb1 3.8/14, mb1mx3.7/20, Error ellipse: s-maj=20.7km s-min=15.6km az=171.0*

ISC 02 01:31:12.4±5.3**, 18.4S**±0.2×**177.6W**±0.1**, h493**^{km}±63^{km}**,** **n92,** σ**0^{s}91**/30**, mb4.0**/17**, 6C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	20.34	192	P	P	01 35 14.5	-0.6
	19nm,0.4s,baz=14,slow=3.0,SNR=27						
SNZO	**South Karori**	23.78	195	P	P	01 35 45.8	-0.9
RPZ	**Rata Peaks**	27.01	198	P	P	01 36 15.8	+0.4
	4.2nm,0.4s,mb4.2,baz=0.5,slow=2.2,SNR=12						
CTA	**Charters Tower**	34.16	261	eP	P	01 37 18.1	+1.2
	4.0nm,0.4s,mb4.2						
CTA	**Charters Tower**	34.16	261	P	P	01 37 18.3	+1.4
	19nm,1.1s,mb4.4,baz=94,slow=12,SNR=12						
CTAO	**Charters Tower**	34.16	261	eP	P	01 37 18.0	+1.1
PMG	**Port Moresby**	35.33	280	P	P	01 37 29.1	+2.3
	23nm,0.8s,mb4.7,baz=133,slow=3.3,SNR=4.9						
PMG	**Port Moresby**	35.33	280	eP	P	01 37 28.9	+2.1
	19nm,0.8s,mb4.6						
STKA	**Stephens Creek**	39.11	242	P	P	01 37 59.1	+1.5
	1.5nm,0.5s,mb3.7,baz=91,slow=6.5,SNR=4.8						
STKA				PcP	PcP	01 39 53.5	-2.4
	4.2nm,1.1s,baz=354,slow=9.2,SNR=2.8						
WB2	**Warramunga Arr**	45.33	260	eP	P	01 38 46.6	-0.6
WRA	**Warramunga Arr**	45.34	260	P	P	01 38 46.9	-0.4
	4.4nm,0.4s,mb4.3,baz=98,slow=6.8,SNR=189						
WRA				PcP	PcP	01 40 14.8	-2.3
	0.9nm,0.4s,baz=91,slow=3.8,SNR=6.2						
ASPA	**Alice Springs**	45.44	255	eP	P	01 38 47.8	-0.2
KAKA	**Kakadu**	48.42	269	⇑iP	P	01 39 09.9	-1.0
	6.9nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	53.74	261	eP	P	01 39 48.9	-0.9
	4.8nm,1.2s,mb3.7						
FITZ	**Fitzroy Crossi**	53.74	261	P	P	01 39 48.8	-1.0
	2.0nm,0.5s,mb3.7,baz=187,slow=5.8,SNR=16						
FX1	**Attu Island--F**	71.43	354	P	P	01 41 42.2	-1.2
	4.1nm,0.6s,mb4.2,baz=348,slow=2.9,SNR=5.2						
QSPA	**South Pole Qui**	71.67	180	eP	P	01 41 44.5	+0.1
	3.1nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	79.22	43	P	P	01 42 27.4	+0.6
	2.9nm,0.9s,mb3.8,baz=217,slow=7.7,SNR=15						
MNV	**Mina**	79.32	43	eP	P	01 42 27.6	+0.2
WVOR	**Wild Horse Val**	81.26	40	eP	P	01 42 37.4	0.0
	4.4nm,1.0s,mb3.9						
MCK	**McKinley**	84.83	12	eP	P	01 42 53.5	-1.3
NEW	**Newport**	85.43	36	P	P	01 42 57.9	-0.1
	1.5nm,0.6s,mb3.8,baz=217,slow=20,SNR=3.6						
NEW	**Newport**	85.43	36	P	P	01 42 57.9	-0.1
TXAR	**Lajitas Array**	85.58	57	P	P	01 43 00.6	+1.4
	4.7nm,0.9s,mb4.1,baz=222,slow=6.4,SNR=40						
TXAR	**Lajitas Array**	85.58	57	P	P	01 43 00.6	+1.4
ILAR	**Eielson Array**	86.18	13	P	P	01 42 59.6	-1.5
	1.3nm,0.5s,mb3.8,baz=220,slow=4.7,SNR=16						
BW06	**Boulder Array**	87.15	43	eP	P	01 43 06.6	+0.3
PDAR	**Pinedale Array**	87.15	43	P	P	01 43 06.8	+0.4
	1.2nm,0.7s,mb3.7,baz=215,slow=2.7,SNR=10						
BOZ	**Bozeman (W)**	87.24	40	eP	P	01 43 07.2	+0.6
	4.7nm,1.3s,mb4.1						
CMAR	**Chiang Mai Arr**	89.80	289	P	P	01 43 19.7	+0.5
	0.8nm,0.4s,mb3.9,baz=129,slow=4.0,SNR=5.9						
MKAR	**Makanchi Array**	110.05	314	PKiKP		01 48 45.4	
	0.7nm,0.5s,baz=138,slow=1.7,SNR=9.9						
BVAR	**Borovoye Array**	117.72	321	PKP	PKPdf	01 49 00.1	-1.6
	1.0nm,0.4s,baz=147,slow=1.5,SNR=6.6						
SPITS	**Spitsbergen Ar**	119.80	357	PKhKP		01 49 01.5	
	13nm,0.9s,baz=350,slow=5.5,SNR=3.6						
KEV	**Kevo**	126.48	350	ep	PKPdf	01 49 15.4	-2.7
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	126.93	350	PKP	PKPdf	01 49 18.0	-1.0
	1.5nm,0.5s,baz=26,slow=1.4,SNR=25						
FINES	**FINESS Array B**	133.87	344	PKhKP		01 49 26.5	
	0.6nm,0.4s,slow=1.4,SNR=3.4						
FINES				PKP	PKPdf	01 49 31.8	-0.6
	0.4nm,0.3s,baz=117,slow=3.1,SNR=4.6						
NOA	**NORSAR Array B**	136.94	354	PKP	PKPdf	01 49 38.9	+0.9
	0.7nm,0.7s,baz=14,slow=4.1,SNR=4.1						
HFS	**Hagfors**	137.53	352	PKhKP		01 49 26.6	
	0.8nm,0.5s,baz=45,slow=2.1,SNR=8.5						
HFS	**Hagfors**	137.53	352	PKP	PKPdf	01 49 26.6	-12
AKASG	**Malin Array Be**	141.36	333	PKhKP		01 49 40.2	
	1.2nm,0.3s,baz=41,slow=4.1,SNR=10						
EKA	**Eskdalemuir Ar**	142.88	5	PKhKP		01 49 45.2	
	4.7nm,1.1s,baz=324,slow=2.1,SNR=5.4						
MALT	**Malatya**	142.94	310	ePKPpre		01 49 46.6	
GKP	**Gorka Klasztor**	143.34	345	ePKP	PKPdf	01 49 48.0	-1.4
KWP	**Kalwaria**	144.83	337	ePKP	PKPdf	01 49 52.4	+0.2
WIT	**Witteveen**	145.49	355	eP	PKPdf	01 49 55.0	+1.8
	60nm,1.0s						
BRTR	**Keskin Array B**	145.69	315	PKPbc	PKPbc	01 49 55.0	-0.3
	2.6nm,0.7s,baz=140,slow=4.6,SNR=17						
KSP	**Ksiaz**	145.79	344	ePKP	PKPdf	01 49 54.8	+1.0
KSP				i		01 49 55.7	
CRVS	**Cervenica-Dubn**	145.89	337	i PKP	PKPdf	01 49 58.2	+4.2
CLL	**Collm**	146.10	348	⇓iPKP1	PKPbc	01 49 56.1	+0.2
ASF	**Jabal al Asfar**	146.11	301	PKPbc	PKPbc	01 49 56.9	+0.3
	3.1nm,0.7s,baz=18,slow=9.6,SNR=6.4						
OKC	**Ostrava-Krasne**	146.19	342	⇓iPKP1	PKPbc	01 49 56.5	+0.3
OKC				ePKP2	PKPab	01 49 59.0	-2.0
OKC				LM		02 10 00.0	
	0.3nm,26.3s						
DPC	**Dobruska-Polom**	146.24	344	⇓iPKP1	PKPbc	01 49 57.0	+0.7
DPC				ePKP2	PKPab	01 49 59.8	-1.3
DPC				LM		02 22 10.0	
	0.3nm,17.4s						
WTSB	**Winterswijk**	146.32	355	eP	PKPdf	01 49 56.1	+1.5
	10nm,0.8s						
BRG	**Berggiesshubel**	146.32	347	⇓iP	PKPdf	01 49 56.9	+2.2
BRG				LR	LR		
	comp=Z,510nm,19.8s						
MORC	**Moravsky Berou**	146.42	342	ePKPdf	PKPdf	01 49 55.5	+0.7
PVCC	**Panska Ves**	146.50	346	⇓iPKP1	PKPbc	01 49 57.6	+0.7
PVCC				LM		02 17 00.0	
	comp=Z,0.4nm,19.1s						
MLR	**Muntele Rosu**	146.66	329	PKPbc	PKPbc	01 49 57.6	+0.2
	comp=Z,3.8nm,0.7s,baz=108,slow=9.6,SNR=6.2						
PRU	**Pruhonice**	147.01	346	⇓iPKP	PKPdf	01 49 58.6	+2.8
PRU				e		01 50 02.7	
PRU				LR	LR		
	comp=Z,100nm,18.3s						
VRAC	**Vranov**	147.11	343	PKPbc	PKPdf	01 49 59.3	+3.4
	comp=Z,1.6nm,0.5s,baz=3.8,slow=3.8,SNR=3.6						
VYHS	**Vyhne**	147.15	340	i PKP	PKPdf	01 49 59.7	+3.6
VYHS				e		01 56 57.5	
SMOL	**Smolenice**	147.58	341	ePKP	PKPdf	01 49 59.2	+2.5
GRA1	**Grafenberg Arr**	147.98	349	ePKP	PKPdf	01 50 01.5	+4.2
KHC	**Kasperske Hory**	148.04	346	⇓iPKP1	PKPdf	01 50 01.4	+3.9
KHC				ePKP2	PKPab	01 50 06.3	-1.9
KHC				LM		02 23 20.0	
	comp=Z,0.4nm,19.8s						
GERES	**GERESS Array B**	148.28	346	PKPbc	PKPdf	01 50 01.6	+3.8
	comp=Z,2.6nm,0.7s,baz=26,slow=2.8,SNR=36						
BAIF	**Baives**	148.38	358	ePKP1	PKPdf	01 50 00.4	+2.4
	comp=Z,9.4nm,0.8s						
MOA	**Molln**	149.07	344	⇑iP	PKPdf	01 50 04.0	+4.8
FLN	**La Foliniere**	149.61	4	ePKP1	PKPdf	01 50 04.3	+4.3
CDF	**Champ du Feu**	149.80	354	ePKP1	PKPdf	01 50 05.1	+4.8
	comp=Z,6.3nm,0.7s						
LDF	**La Druitiere**	149.80	3	ePKP1	PKPdf	01 50 04.6	+4.3
MEZF	**Maizieres J'vi**	149.89	357	ePKP1	PKPdf	01 50 05.5	+5.0
GRR	**Gorron**	149.96	4	ePKP1	PKPdf	01 50 05.3	+4.7
	comp=Z,11nm,0.6s						
KBA	**Koelnbreinsper**	150.02	345	⇑iP	PKPdf	01 50 05.9	+5.2
WATA	**Walderalm**	150.17	347	⇓iP	PKPdf	01 50 06.4	+5.5
WTTA	**Wattenberg**	150.23	347	⇑iP	PKPdf	01 50 06.6	+5.6
MOTA	**Moosalm**	150.26	348	⇑iP	PKPdf	01 50 06.5	+5.4
HAU	**Haudompre**	150.29	355	ePKP1	PKPdf	01 50 06.2	+5.1
	comp=Z,8.2nm,0.6s						
SQTA	**Sankt Quirin**	150.36	348	⇓iP	PKPdf	01 50 07.0	+5.8
HINF	**Hinteralfeld**	150.43	354	ePKP1	PKPdf	01 50 06.3	+5.0
	comp=Z,11nm,1.0s						
DAVA	**Damuels**	150.54	350	⇑iP	PKPdf	01 50 07.4	+5.9
BOJS	**Bojanci**	150.94	341	ePKP	PKPdf	01 50 08.3	+6.2
DAVOX	**Davos**	151.03	349	PKPbc	PKPdf	01 50 08.8	+6.6
	comp=Z,10nm,0.6s,baz=255,slow=2.7,SNR=31						
LOR	**Lormes**	151.18	358	ePKP1	PKPdf	01 50 08.3	+5.9
	comp=Z,8.0nm,0.7s						
SSF	**Saint Saulge**	151.39	358	ePKP1	PKPdf	01 50 08.8	+6.1
	comp=Z,7.7nm,0.7s						
AVF	**Avril sur Loir**	151.67	359	ePKP1	PKPdf	01 50 09.5	+6.4
CABF	**La Chapelle**	151.70	355	ePKP1	PKPdf	01 50 10.0	+6.8
	comp=Z,8.3nm,0.8s						
MFF	**Saint Martin d**	151.79	4	ePKP1	PKPdf	01 50 09.4	+6.1
	comp=Z,3.3nm,0.4s						
BGF	**Bois d'Agland**	151.91	359	ePKP1	PKPdf	01 50 09.9	+6.4
	comp=Z,8.9nm,0.8s						
LPL	**La Plagne**	152.72	353	ePKP1	PKPdf	01 50 12.4	+7.8
LPG	**La Plagne**	152.73	353	ePKP1	PKPdf	01 50 12.4	+7.7
RJF	**Les Rejaudoux**	153.15	1	ePKP1	PKPdf	01 50 13.1	+7.9
	comp=Z,12nm,1.0s						
ORIF	**Oris-en-Rattie**	153.40	355	ePKP1	PKPdf	01 50 13.4	+7.8
MBDF	**Montbardon**	153.49	353	ePKP1	PKPdf	01 50 13.4	+7.7
	comp=Z,5.5nm,0.8s						

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*IDC **02** 01:59:00.4±3.6, 9.41S×109.97W, mb3.5/5, mb1 3.9/5, mb1mx3.8/13, MS3.9/1, Ms1 4.0/1, ms1mx3.6/11, Error ellipse: s-maj=108.0km s-min=31.9km az=48.0*

ISC 02 01:59:00.9±3.5**, 9.3S**±0.5×**110.0W**±0.6**, h10**^{km}**, n7,** σ**0^{s}51**/5**, mb3.5**/5**, MS3.9**/1**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	38.89	9	P	P	02 06 28.9	+0.3
	1.7nm,1.2s,mb3.6,baz=187,slow=7.3,SNR=3.4						
PPT	**Papeete**	39.33	254	eL		02 15 44.8	
	242nm,30.0s						
PPT				eR		02 17 14.8	
	263nm,26.2s						
TBI	**Tubuai**	40.25	245	eL		02 16 16.0	
	157nm,28.0s						
TBI				eR		02 17 49.5	
	283nm,27.5s						
LPAZ	**La Paz**	41.31	104	P	P	02 06 48.6	0.0
	0.4nm,0.6s,mb3.2,baz=293,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	48.12	351	P	P	02 07 47.9	+4.7
	0.7nm,0.8s,mb3.8,baz=157,slow=6.9,SNR=2.9						
NVAR				LR	LR	02 23 02.0	
	comp=Z,146nm,20.8s,MS3.9,baz=310,slow=30						
PDAR	**Pinedale Array**	51.82	0	P	P	02 08 10.8	-0.5
	0.2nm,0.3s,mb3.5,baz=170,slow=5.5,SNR=2.8						
ILAR	**Eielson Array**	78.87	345	P	P	02 11 05.8	+0.2
	0.3nm,0.8s,mb3.3,baz=180,slow=7.2,SNR=3.6						

DJA 02 02:27:07.5±0.9**, 8.77S**×**113.40E, h147**^{km}±12^{km}**, MD4.9**/4**, ML4.1**/2**, 1C-7D, Error ellipse: s-maj=48.4km s-min=20.1km az=18.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	1.21	63	⇓iPn	P	02 27 33.8	-0.4
	106nm,0.2s						
KELI				⇓iSn	S	02 27 53.7	-1.0
INGI	**Ingas**	1.72	92	⇓iPn	P	02 27 39.8	+0.2
	340nm,0.2s						
INGI				⇓iSn	S	02 28 02.3	-2.0
RATI	**Rata**	2.10	89	⇓iPn	P	02 27 43.5	-0.6
RATI				⇓iSn	S	02 28 10.6	-1.5
KEDI	**Kedomdong**	2.69	84	⇓iPn	P	02 27 51.2	-0.3
KEDI				⇑iSn	S	02 28 22.5	-2.7

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*MDD **02** 02:35:09.2±0.4, 42.56N×1.12E, mbLg1.5/2, Error ellipse: s-maj=4.7km s-min=2.5km az=88.0, PRXIMO*

*STR **02** 02:35:10.5±0.4, 42.67N×1.07E, h14^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 02:35:08.4±0.7**, 42.57N**±0.04×**1.13E**±0.07**, h12**^{km}±10^{km}**,** **n14,** σ**0^{s}42**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSOR	**Sort**	0.19	179	Pg	Pg	02 35 13.0	+0.2
CSOR				Lg		02 35 15.9	
	8.7nm,0.1s						
SALF	**Salau**	0.20	13	Pg	Pg	02 35 13.3	+0.3
SALF				Sg	Sg	02 35 16.2	+0.2
SALF	**Salau**	0.20	13	Pg	Pg	02 35 13.3	+0.4
SALF				Lg		02 35 16.2	
CORG	**Organya**	0.36	157	Pg	Pg	02 35 16.0	0.0
CORG				Lg		02 35 21.2	
	0.8nm,0.0s						
MLS	**Moulis**	0.39	356	Pg	Pg	02 35 16.6	0.0
MLS				Sg	Sg	02 35 21.6	-0.4
MLS	**Moulis**	0.39	356	Pg	Pg	02 35 16.7	+0.1
MLS				Lg		02 35 21.6	
GRBF	**Gourbit**	0.41	47	Pg	Pg	02 35 17.9	+1.0
GRBF				Lg		02 35 22.9	
MELF	**Melles**	0.41	318	Pg	Pg	02 35 16.9	0.0
MELF				Sg	Sg	02 35 22.2	-0.4
MELF	**Melles**	0.41	318	Pg	Pg	02 35 17.0	+0.1
MELF				Lg		02 35 22.4	
CLLI	**Llivia**	0.63	98	Pg	Pg	02 35 20.6	-0.6
CLLI				Lg		02 35 29.2	
	1.1nm,0.0s						
CAVN	**Les Avellanes**	0.74	202	Pg	Pg	02 35 23.4	+0.1
CAVN				Lg		02 35 32.6	
	1.7nm,0.1s						
CFON	**Fontmartina**	1.26	129	Lg		02 35 49.7	
	2.8nm,0.2s						
EJON	**La Jonquera**	1.31	95	Pg	Pg	02 35 34.0	-0.6
	1.1nm,0.3s,SNR=7.9						
EJON				Lg		02 35 51.2	
	0.7nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	2.04	290	Pn	Pn	02 35 43.4	+0.2
	0.0nm,0.4s,SNR=7.9						
EALK				Lg		02 36 14.1	
	8.1nm,0.5s,SNR=7.9						

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*BJI **02** 02:36:46.9, 6.22S×102.65E, h40^{km}, mB5.3, mb5.3, Ms5.3, Msz5.2*

*DJA **02** 02:36:53.7±0.8, 5.34S×102.69E, h80^{km}, mb5.9/3, Error ellipse: s-maj=29.4km s-min=6.0km az=51.0*

*HRVD **02** 02:36:54.9±0.2, 5.70S×102.50E, h29^{km}, MW5.5/60, Centroid moment Tensor Solution. LP body waves: s53,c100;Mantle waves: s60,c118; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16±.04; $M_{\theta\theta}$0.83±.03; $M_{\phi\phi}$0.34±.04; $M_{r\theta}$-0.15±.05; $M_{\theta\phi}$-1.55±.02; $M_{\phi r}$-1.26±.06; Best double couple: $M_0$2.25×10^{17} NP1: ϕ_s96°,δ47°,λ-149°. NP2:ϕ_s344°,δ68°,λ-48°. Principal axes: T 2.31, Plg13°, Azm45°; N -.11, Plg39°, Azm145°; P -2.19, Plg48°, Azm300°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 02:36:54.9±0.1, 5.47S×102.62E, mb5.5/50, MS5.0/96, MW5.6 Error ellipse: s-maj=5.4km s-min=3.3km az=212.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.64; $M_{\theta\theta}$2.16; $M_{\phi\phi}$-0.52; $M_{r\theta}$1.34; $M_{\theta\phi}$-1.18; $M_{\phi r}$-0.44; Best double couple: $M_0$2.5×10^{17} NP1:ϕ_s115°, δ28°,λ-84°. NP2:ϕ_s288°,δ62°,λ-93°. Principal axes: T 3.03, Plg17°, Azm20°; N -.96, Plg3°, Azm290°; P -2.07, Plg73°, Azm191°;*

NEIC Felt [II] at Bengkulu.

*MOS **02** 02:36:54.8±0.8, 4.95S×102.62E, h35^{km}, mb5.7/30, MS4.9/16 Error ellipse: s-maj=14.8km s-min=7.1km az=113.5*

*SYO **02** 02:36:54.9, 5.47S×102.62E, h41^{km}, MB5.5, MS5.0*

*IDC **02** 02:36:54.4±1.4, 5.50S×102.54E, h36^{km}±9^{km}, mb5.1/21, mb1 5.1/21, mb1mx5.1/21, MS4.9/17, Ms1 4.9/17, ms1mx4.8/22, Error ellipse: s-maj=15.1km s-min=9.0km az=54.0*

*CSEM **02** 02:36:56.5, 4.58S×102.61E, h33^{km}, mb6.1*

ISC 02 02:36:53.5±0.6**, 5.46S**±0.03×**102.66E**±0.03**, h43**^{km}±5^{km}**,** **h43**^{km}±1.3^{km}**:pP-P, n539,** σ**0^{s}95**/407**, mb5.5**/104**, MS5.0**/131**, 29C-61D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	1.80	358	eP	P	02 37 22.0	-0.7
KSI				eS	S	02 37 45.0	+0.6
PULI	**Pulasari**	3.42	105	eP	P	02 37 47.6	+1.9
PULI				eS	S	02 38 26.0	+0.6
KALI	**Kaliastana**	4.30	113	eP	P	02 37 58.0	-0.2
KALI				eS	S	02 38 44.0	-3.8
PACI	**Pancar Gunung**	4.38	105	eP	P	02 38 01.1	+1.8
PACI				eS	S	02 38 48.8	-0.9
KGM	**Kluang**	7.46	5	eP	P	02 38 47.0	+4.6
	111nm,1.0s						
IPM	**Ipoh**	10.11	351	⇑eP	P	02 39 22.0	+2.9
KELI	**Kelakatan**	12.06	104	⇑eP	P	02 39 44.9	-0.8
	661nm,0.3s						
KELI	**Kelakatan**	12.06	104	⇑eP	P	02 39 44.9	-0.8
KELI				i S	S	02 41 49.7	-10
SNG	**Songkhla**	12.72	351	P	P	02 39 47.0	-7.4
INGI	**Ingas**	12.83	106	⇑iP	P	02 39 55.3	-0.7
	1µm,0.2s						
INGI	**Ingas**	12.83	106	⇑iP	P	02 39 55.3	-0.7
INGI				i S	S	02 42 02.7	-16
RATI	**Rata**	13.18	105	⇓iP	P	02 39 57.7	-2.9
RATI				i S	S	02 42 08.5	-18
KEDI	**Kedomdong**	13.69	103	⇑iP	P	02 40 03.9	-3.5
	732nm,0.2s						
KEDI	**Kedomdong**	13.69	103	⇑iP	P	02 40 03.9	-3.5
KEDI				i S	S	02 42 23.1	-16
KKM	**Kota Kinabalu**	17.71	50	⇑eP	P	02 41 00.3	+1.4
	169nm,1.1s						
BATP	**Bataraza**	20.70	47	eP	P	02 41 33.4	+0.6
NST	**Nakhon Sawan**	21.14	353	P	P	02 41 35.5	-1.8
KKTK	**Khon Kaen**	21.66	0	PG	P	02 41 42.0	-0.4
KKTK				SG	Px	02 42 00.0	
PPR	**Puerto Princes**	22.04	47	⇑eP	P	02 41 47.6	+1.5
BDT	**Bhumibol Dam**	22.85	351	P	P	02 41 53.0	-1.3
	22nm,0.9s,mb4.6						
ENPP	**El Nido**	23.51	45	eP	P	02 42 02.3	+1.6
IPIL	**Ipil**	23.83	57	eP	P	02 42 07.8	+4.0
CMAR	**Chiang Mai Arr**	24.05	351	P	P	02 42 05.8	-0.1
	39nm,0.5s,mb5.1,baz=181,slow=8.5,SNR=110						
CMAR				PcP	PcP	02 45 48.6	+0.3
	10nm,0.7s,baz=214,slow=2.9,SNR=8.6						
CMAR				ScP		02 49 24.8	
	0.9nm,0.5s,baz=197,slow=4.3,SNR=5.1						
CMAR				LR	LR	02 51 49.7	
	comp=Z,2µm,20.8s,MS4.6,baz=175,slow=37						
NANT	**Nan**	24.18	355	P	P	02 42 08.0	+0.8
	75nm,1.8s,mb4.8						
CHG	**Chiang Mai**	24.40	351	⇑P	P	02 42 09.3	0.0
	118nm,0.6s,mb5.5						
CHTO	**Chiang Mai**	24.40	351	P	P	02 42 09.2	-0.1
CHTO				PcP	PcP	02 45 49.5	+0.5
CHTO				S	S	02 46 25.9	+2.6
PAGZ	**Pagadian**	24.54	58	eP	P	02 42 12.4	+1.6
BUSP	**Coron**	24.60	45	eP	P	02 42 13.7	+2.3
CHRT	**Chiangrai**	25.33	354	⇑P	P	02 42 18.0	-0.3
	421nm,1.1s,mb5.9						
QIZ	**Qiongzhong**	25.34	16	P	P	02 42 18.4	0.0
QIZ				PP	PP	02 43 00.4	+2.5
QIZ				PPP	PPP	02 43 11.0	+1.6
QIZ				S	S	02 46 43.6	+4.5
QIZ				SS	SS	02 47 48.4	+5.9
QIZ				AMB	AMB		
	comp=Z,90nm,1.4s,mb5.1						

QIZ				LR	LR		
	comp=N,2µm,23.3s,MS4.8						
QIZ				LR	LR		
	comp=E,3µm,23.0s,MS4.8						
QIZ				LR	LR		
	comp=Z,2µm,23.2s,MS4.6						
QIZ	**Qiongzhong**	**25.34**	**16**	P	**P**	**02 42 20.3**	**+1.9**
QIZ	**Qiongzhong**	**25.34**	**16**	*e*P	**P**	**02 42 19.7**	**+1.3**
	comp=Z,174nm,1.4s,mb5.4						
SJMP	**San Jose**	**25.57**	**46**	*e*P	**P**	**02 42 21.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.72**	**121**	⇓*i*P	**P**	**02 42 22.0**	**0.0**
	comp=Z,49nm,0.9s,mb5.0						
FITZ				*e*S	S	02 47 09.8	+24
FITZ	**Fitzroy Crossi**	**25.72**	**121**	P	**P**	**02 42 22.7**	**+0.8**
	comp=Z,50nm,0.8s,mb5.1,baz=286,slow=2.9,SNR=60						
LUBP	**Lubang**	**25.86**	**42**	*e*P	**P**	**02 42 24.0**	**+0.8**
BUKP	**Musuan**	**25.98**	**60**	*e*P	**P**	**02 42 25.4**	**+0.9**
DAV	**Davao City (W)**	**26.04**	**62**	*e*P	**P**	**02 42 27.0**	**+2.0**
OTRP	**Odiongan**	**26.16**	**47**	*e*P	**P**	**02 42 26.9**	**+0.9**
TGY	**Tagaytay City**	**26.59**	**43**	P	**P**	**02 42 31.8**	**+1.9**
	comp=Z,191nm,0.3s,mb6.0,baz=126,slow=8.2,SNR=4.4						
TGY				LR	LR	02 54 08.1	
	comp=Z,2µm,20.0s,MS4.7,baz=210,slow=39						
BOLP	**Bolinao**	**27.61**	**38**	*e*P	**P**	**02 42 39.5**	**+0.2**
BALP	**Baler**	**28.19**	**41**	*e*P	**P**	**02 42 44.4**	**-0.2**
ABRA	**Dolores**	**29.07**	**37**	*e*P	**P**	**02 42 50.2**	**-2.1**
CAUP	**Cauayan**	**29.23**	**40**	*e*P	**P**	**02 42 53.7**	**-0.1**
VIS	**Vishakhapatnam**	**29.91**	**321**	*e*P	**P**	**02 43 00.0**	**+0.1**
KAKA	**Kakadu**	**30.21**	**106**	*e*P	**P**	**02 43 01.0**	**-1.6**
	comp=Z,35nm,0.6s,mb5.3						
GZH	**Guangzhou**	**30.23**	**20**	P	**P**	**02 43 07.6**	**+4.9**
GZH				S	**S**	**02 48 06.9**	**+8.9**
GZH				AMB	AMB		
	comp=Z,273nm,3.9s						
GZH				LR	LR		
	comp=N,3µm,17.1s,MS5.2						
GZH				LR	LR		
	comp=E,3µm,16.1s,MS5.2						
GZH				LR	LR		
	comp=Z,4µm,22.4s						
KMI	**Kunming**	**30.40**	**0**	*e*P	**P**	**02 43 05.0**	**+0.9**
KMI				PP	PP	02 44 12.0	+7.5
KMI				S	**S**	**02 48 00.3**	**-0.3**
KMI				AMB	AMB		
	comp=Z,159nm,3.1s						
KMI				LR	LR		
	comp=N,2µm,19.9s						
KMI				LR	LR		
	comp=E,4µm,14.5s						
KMI				LR	LR		
	comp=Z,3µm,19.9s,MS4.9						
KMI	**Kunming**	**30.40**	**0**	*e*P	**P**	**02 43 05.0**	**+0.9**
	comp=Z,28nm,1.2s,mb4.9						
KMI				pP	pP	02 43 16.1	+0.4
KMI				sP	sP	02 43 20.2	-0.9
KMI				PP	PP	02 44 12.0	+7.5
KMI				PcP	PcP	02 46 04.2	+1.0
KMI				S	**S**	**02 48 00.3**	**-0.3**
KMI				sS		02 48 22.3	
KMI				SS	SS	02 49 45.8	+3.6
KMI				SSS	SSS	02 50 09.5	+5.4
KMI				LR	LR		
	comp=Z,3µm,19.9s,MS4.9						
NWAO	**Narrogin (SRO)**	**30.52**	**155**	P	**P**	**02 43 03.7**	**-1.4**
	comp=Z,16nm,0.5s,mb5.1,baz=311,slow=7.8,SNR=22						
NWAO				LR	LR	02 53 45.8	
	comp=Z,4µm,19.4s,MS5.1,baz=327,slow=33						
NWAO	**Narrogin (SRO)**	**30.52**	**155**	*e*P	**P**	**02 43 03.5**	**-1.7**
	comp=Z,13nm,0.5s,mb5.0						
NWAO				LR	LR		
	comp=Z,5µm,21.0s,MS5.1						
CUD	**Cuddapah**	**30.88**	**310**	*e*P	**P**	**02 43 07.9**	**-0.6**
CUD				*e*	pP	02 43 22.1	+2.0
CUD				*e*		02 43 26.5	
CUD				*e*		02 45 04.7	
CUD				*e*PcP	PcP	02 46 02.3	-2.3
CUD				*e*S	**S**	**02 48 03.8**	**-4.4**
CUD				*e*		02 49 34.0	
GYA	**Guiyang**	**31.97**	**7**	⇑*i*P	**P**	**02 43 17.5**	**-0.4**
GYA				PP	PP	02 44 26.6	+1.8
GYA				PCP	PcP	02 46 07.6	+0.2
GYA				S	**S**	**02 48 23.5**	**-1.7**
GYA				LR	LR		
	comp=N,2µm,16.2s,MS5.1						
GYA				LR	LR		
	comp=E,2µm,16.5s,MS5.1						
GYA				LR	LR		
	comp=Z,3µm,18.0s,MS5.0						
BBP	**Basco**	**31.98**	**36**	*e*P	**P**	**02 43 17.5**	**-0.6**
SHL	**Shillong**	**32.57**	**342**	⇑*e*P	**P**	**02 43 23.5**	**+0.3**
SHL				*e*		02 48 31.5	
QZH	**Quanzhou**	**33.97**	**26**	P	**P**	**02 43 32.2**	**-3.1**
QZH				S	**S**	**02 48 56.0**	**-0.3**
QZH				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
QZH				AMB	AMB		
	comp=Z,300nm,4.2s						
QZH				LR	LR		
	comp=N,4µm,18.2s,MS5.3						
QZH				LR	LR		
	comp=E,2µm,15.2s,MS5.3						
QZH				LR	LR		
	comp=Z,5µm,17.6s,MS5.3						
WRA	**Warramunga Arr**	**34.00**	**118**	P	**P**	**02 43 35.4**	**-0.2**
	comp=Z,22nm,0.8s,mb5.1,baz=288,slow=11,SNR=96						
WRA				PcP	PcP	02 46 13.0	-0.1
	comp=Z,5.1nm,0.6s,baz=308,slow=2.1,SNR=6.2						
WRA				S	**S**	**02 48 59.3**	**+2.5**
	comp=Z,2.6nm,0.7s,baz=294,slow=19,SNR=4.4						
WRA				LR	LR	02 58 01.3	
	comp=Z,1µm,20.4s,MS4.6,baz=280,slow=37						
WB2	**Warramunga Arr**	**34.01**	**118**	*e*P	**P**	**02 43 35.3**	**-0.4**
WB2				*e*S	**S**	**02 49 03.0**	**+6.0**
ASPA	**Alice Springs**	**35.10**	**124**	*e*P	**P**	**02 43 44.9**	**-0.1**
ASPA				*e*	pP	02 43 57.3	+0.6
ASPA				*e*S	**S**	**02 49 13.4**	**-0.5**
TATO	**Taipei**	**35.37**	**30**	PFAKE		02 44 00.0	+13
TATO				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
ENH	**Enshi**	**36.13**	**10**	⇑*e*P	**P**	**02 43 52.4**	**-1.2**
	comp=Z,33nm,0.7s,mb5.4						
ENH				*e*S	**S**	**02 49 27.9**	**-1.7**
ENH				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
CD2	**Chengdu**	**36.18**	**2**	*e*P	**P**	**02 43 53.4**	**-0.7**
CD2				PP	PP	02 45 17.7	+0.2
CD2				S	**S**	**02 49 27.6**	**-2.8**
CD2				SCS	ScS	02 54 05.3	0.0
CD2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.8						
CD2				LR	LR		
	comp=N,5µm,17.4s						
CD2				LR	LR		
	comp=Z,6µm,17.8s,MS5.4						
LSA	**Lhasa**	**36.66**	**343**	P	**P**	**02 43 58.6**	**+0.4**
LSA				PP	PP	02 45 21.8	-1.9
LSA				PCP	PcP	02 46 20.6	-0.2
LSA				S	**S**	**02 49 37.0**	**-0.8**
LSA				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.2						
LSA				LR	LR		
	comp=N,880nm,24.6s,MS4.7						
LSA				LR	LR		
	comp=E,1µm,25.7s,MS4.7						
LSA				LR	LR		
	comp=Z,1µm,24.6s,MS4.5						
LSA	**Lhasa**	**36.66**	**343**	*e*P	**P**	**02 43 59.3**	**+1.2**
	comp=Z,118nm,1.4s,mb5.5						
LSA				*e*PcP	PcP	02 46 22.2	+1.4
LSA				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
PKI	**Pulchoki**	**36.82**	**334**	*e*P	**P**	**02 43 59.5**	**0.0**
	comp=Z,254nm,1.5s,mb5.8						
GUN	**Gumba**	**36.92**	**335**	*e*P	**P**	**02 44 00.9**	**+0.6**
	comp=Z,130nm,0.5s,mb6.0						
DMN	**Daman**	**36.99**	**334**	*e*P	**P**	**02 44 01.2**	**+0.3**
	comp=Z,218nm,1.3s,mb5.8						
KKN	**Kakani**	**37.07**	**334**	*e*P	**P**	**02 44 01.4**	**-0.2**
	comp=Z,322nm,1.2s,mb6.0						
WHN	**Wuhan**	**37.51**	**17**	P	**P**	**02 44 06.2**	**+0.9**
WHN				PP	PP	02 45 35.3	+1.2
WHN				S	**S**	**02 49 52.0**	**+1.3**
WHN				SCP		02 49 58.7	
WHN				AMB	AMB		
	comp=Z,81nm,1.5s,mb5.2						
WHN				LR	LR		
	comp=Z,7µm,20.4s,MS5.4						
GKN	**Gorkha**	**37.54**	**333**	*e*P	**P**	**02 44 05.8**	**+0.3**
	comp=Z,59nm,0.3s,mb5.8						
BHPL	**Bhopal**	**37.70**	**320**	*e*P	**P**	**02 44 07.3**	**+0.4**
BHPL				*e*		02 44 09.7	
	comp=Z,178nm,1.6s						
KOLN	**Koldanda**	**37.81**	**332**	*e*P	**P**	**02 44 08.5**	**+0.7**
	comp=Z,192nm,0.9s,mb5.8						
XAN	**Xi’an**	**39.73**	**8**	P	**P**	**02 44 22.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.3						
XAN				LR	LR		
	comp=N,2µm,20.0s,MS4.9						
XAN				LR	LR		
	comp=E,1µm,22.5s,MS4.9						
XAN				LR	LR		
	comp=Z,3µm,17.5s,MS5.2						
NJ2	**Nanjing**	**40.37**	**21**	*e*P	**P**	**02 44 30.0**	**+1.0**
NJ2				PP	PP	02 46 06.5	+0.8
NJ2				PCS		02 50 23.0	
NJ2				S	**S**	**02 50 37.0**	**+3.1**
NJ2				SS	SS	02 53 35.0	+6.5
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,3µm,17.2s,MS5.4						
NJ2				LR	LR		
	comp=E,3µm,18.9s,MS5.4						
NJ2				LR	LR		
	comp=Z,4µm,15.0s,MS5.4						
SSE	**Sheshan**	**40.44**	**25**	P	**P**	**02 44 30.2**	**+0.6**
SSE				S	**S**	**02 50 32.8**	**-2.0**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,147nm,4.9s						
SSE				LR	LR		
	comp=N,1µm,15.9s,MS5.0						
SSE				LR	LR		
	comp=E,494nm,15.8s,MS5.0						
SSE				LR	LR		
	comp=Z,2µm,17.2s,MS5.0						
SSE	**Sheshan**	**40.44**	**25**	P	**P**	**02 44 30.2**	**+0.6**
	comp=Z,44nm,0.7s,mb5.3						
SSE				sP	sP	02 44 45.5	-1.2
SSE				PcS		02 50 25.5	
SSE				S	**S**	**02 50 32.8**	**-2.0**
SSE				sS		02 50 51.1	
SSE				LR	LR		
	comp=Z,2µm,17.2s,MS5.0						
JOW	**Kunigami**	**40.56**	**36**	P	**P**	**02 44 31.9**	**+1.2**
	comp=Z,19nm,0.7s,mb4.8,baz=153,slow=23,SNR=8.1						
JOW				LR	LR	03 01 22.0	
	comp=Z,1µm,21.6s,MS4.7,baz=221,slow=36						
PTH	**Pithoragarh**	**40.94**	**329**	*e*P	**P**	**02 44 32.8**	**-1.0**
PTH				*e*		02 46 27.0	
LZH	**Lanzhou**	**41.34**	**1**	⇑P	**P**	**02 44 37.9**	**+0.9**
LZH				PP	PP	02 46 17.0	+1.3
LZH				PCP	PcP	02 46 35.1	-0.3
LZH				S	**S**	**02 50 50.1**	**+1.8**
LZH				SS	SS	02 53 52.2	+3.9
LZH				AMB	AMB		
	comp=Z,111nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,229nm,4.0s						
LZH				LR	LR		
	comp=N,2µm,12.5s						
LZH				LR	LR		
	comp=Z,3µm,16.1s,MS5.3						
LZH	**Lanzhou**	**41.34**	**1**	⇑P	**P**	**02 44 37.9**	**+0.9**
	comp=Z,111nm,1.5s,mb5.3						
LZH				pP	pP	02 44 49.2	+0.4
LZH				sP	sP	02 44 53.1	-1.0
LZH				PP	PP	02 46 17.0	+1.3
LZH				PcP	PcP	02 46 35.1	-0.3
LZH				ScP		02 50 22.7	
LZH				S	**S**	**02 50 50.1**	**+1.8**
LZH				sS		02 51 07.0	
LZH				SS	SS	02 53 52.2	+3.9
LZH				ScS	ScS	02 54 37.0	+2.0
LZH				LR	LR		
	comp=Z,3µm,16.1s,MS5.3						
NDI	**New Delhi**	**41.86**	**326**	⇓*i*P	**P**	**02 44 40.0**	**-1.4**
	comp=Z,281nm,1.1s,mb5.8						
NDI				*e*		02 50 52.0	
KHET	**Khetri**	**42.22**	**324**	*e*P	**P**	**02 44 44.5**	**+0.1**
SDNR	**Sundarnagar**	**44.18**	**328**	*e*P	**P**	**02 45 01.6**	**+1.4**
PMG	**Port Moresby**	**44.28**	**98**	P	**P**	**02 45 02.1**	**+0.8**
	comp=Z,68nm,1.1s,mb5.3,baz=218,slow=3.7,SNR=7.8						
PMG				LR	LR	03 05 41.8	
	comp=Z,676nm,20.9s,MS4.5,baz=260,slow=39						
PMG	**Port Moresby**	**44.28**	**98**	⇑*e*P	**P**	**02 45 00.5**	**-0.7**
	comp=Z,69nm,1.1s,mb5.3						
PMG				LR	LR		
	comp=Z,871nm,21.0s,MS4.7						
JASL	**Jaisalmer**	**44.50**	**318**	*e*P	**P**	**02 45 04.0**	**+1.1**
GTA	**Gaotai**	**44.72**	**357**	*e*P	**P**	**02 45 05.1**	**+0.6**
GTA				PCP	PcP	02 46 47.3	+0.5
GTA				PP	PP	02 46 48.4	-1.8
GTA				PCS		02 50 37.1	
GTA				S	**S**	**02 51 38.9**	**+1.3**
GTA				SCS	ScS	02 54 56.0	+0.1
GTA				AMB	AMB		
	comp=Z,36nm,1.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,159nm,4.8s						
GTA				LR	LR		
	comp=N,2µm,16.7s,MS5.0						
GTA				LR	LR		
	comp=E,648nm,17.5s,MS5.0						
GTA				LR	LR		
	comp=Z,2µm,16.7s,MS5.1						
CTA	**Charters Tower**	**44.77**	**113**	*e*P	**P**	**02 45 06.3**	**+1.2**
	comp=Z,28nm,0.8s,mb5.2						
CTA				*e*S	**S**	**02 51 40.7**	**+2.1**
CTA	**Charters Tower**	**44.77**	**113**	LR	LR	03 04 50.4	
	comp=Z,2µm,21.3s,MS5.0,baz=289,slow=37						
CTAO	**Charters Tower**	**44.77**	**113**	*e*P	**P**	**02 45 05.0**	**-0.2**
	comp=Z,44nm,1.3s,mb5.1						
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
STKA	**Stephens Creek**	**44.89**	**131**	⇓*i*P	**P**	**02 45 05.9**	**0.0**
	comp=Z,58nm,0.6s,mb5.6						
STKA	**Stephens Creek**	**44.89**	**131**	P	**P**	**02 45 06.5**	**+0.5**
	comp=Z,60nm,0.5s,mb5.7,baz=303,slow=7.7,SNR=181						
STKA				LR	LR	03 05 44.3	
	comp=Z,2µm,19.9s,MS5.1,baz=300,slow=38						
THN	**Thein Dam**	**45.57**	**328**	*e*	**P**	**02 45 10.2**	**-1.2**
BTO	**Baotou**	**46.34**	**8**	*e*P	**P**	**02 45 15.9**	**-1.4**
BTO				S	**S**	**02 51 58.8**	**-1.9**
BTO				AMB	AMB		
	comp=Z,56nm,1.9s,mb5.2						
JNU	**Nakatsue**	**46.79**	**33**	P	**P**	**02 45 20.9**	**0.0**
	comp=Z,19nm,0.7s,mb5.2,baz=167,slow=7.5,SNR=10						
JNU				LR	LR	03 07 48.1	
	comp=Z,641nm,18.5s,MS4.6,baz=47,slow=40						
HHC	**Hu-ho-hao-te**	**46.80**	**9**	*e*P	**P**	**02 45 20.8**	**-0.2**
HHC				AP	pP	02 45 35.0	+2.1
HHC				PCP	PcP	02 46 50.2	-3.8
HHC				PP	PP	02 47 10.8	-0.1
HHC				S	**S**	**02 52 02.4**	**-4.9**
HHC				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,124nm,3.0s						
HHC				LR	LR		
	comp=N,2µm,16.7s						
HHC				LR	LR		
	comp=E,580nm,24.0s						
HHC				LR	LR		
	comp=Z,2µm,15.7s,MS5.1						
BJI	**Beijing**	**46.96**	**14**	*e*P	**P**	**02 45 22.0**	**-0.2**
BJI				PP	PP	02 47 10.6	-1.9
BJI				S	**S**	**02 52 06.9**	**-2.6**
BJI				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.2						
BJI				LR	LR		
	comp=Z,4µm,19.2s,MS5.4						
BJI	**Beijing**	**46.96**	**14**	*e*P	**P**	**02 45 22.0**	**-0.2**
	comp=Z,34nm,1.0s,mb5.2						
BJI				pP	pP	02 45 32.8	-1.3
BJI				PP	PP	02 47 10.6	-1.9
BJI				S	**S**	**02 52 06.9**	**-2.6**
BJI				ScS	ScS	02 55 12.7	+2.5
BJI				SS	SS	02 55 39.3	+10
BJI				LR	LR		
	comp=Z,4µm,19.2s,MS5.4						
DL2	**Dalian**	**47.51**	**20**	P	**P**	**02 45 26.4**	**-0.2**
DL2				S	**S**	**02 52 17.0**	**-0.4**
DL2				AMB	AMB		
	comp=Z,160nm,4.6s						
DL2				LR	LR		
	comp=N,680nm,16.3s,MS4.9						
DL2				LR	LR		
	comp=E,730nm,15.9s,MS4.9						
DL2				LR	LR		
	comp=Z,670nm,19.6s,MS4.6						
INCN	**Inchon**	**48.22**	**26**	PFAKE		02 45 40.0	+7.9
INCN				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
CBIJ	**Chichi jima**	**50.08**	**48**	LR	LR	03 05 40.5	
	comp=Z,854nm,21.9s,MS4.7,baz=235,slow=34						
SNY	**Shenyang**	**50.79**	**20**	⇑P	**P**	**02 45 50.2**	**-1.6**
SNY				S	**S**	**02 52 59.1**	**-3.9**
SNY				AMB	AMB		
	comp=Z,130nm,5.3s						
SNY				LR	LR		
	comp=N,1µm,18.7s,MS5.2						
SNY				LR	LR		
	comp=E,1µm,17.6s,MS5.2						
SNY				LR	LR		
	comp=Z,1µm,19.1s,MS5.0						
WMQ	**Urumqi**	**50.88**	**346**	⇓P	**P**	**02 45 53.0**	**+0.6**
WMQ				AP	pP	02 46 05.5	+1.0
WMQ				PCP	PcP	02 47 09.5	+0.8
WMQ				PP	PP	02 47 50.5	+0.8
WMQ				S	**S**	**02 53 04.4**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,116nm,0.9s,mb5.8						
WMQ				LR	LR		
	comp=N,1µm,15.9s,MS5.0						
WMQ				LR	LR		
	comp=E,198nm,14.7s,MS5.0						
WMQ				LR	LR		
	comp=Z,929nm,14.0s,MS5.0						
KSH	**Kashi**	**51.09**	**333**	*i* PR		02 45 53.9	
KSH				AP	pP	02 46 06.5	+0.4
KSH				PCP	PcP	02 47 09.5	-0.1
KSH				PP	PP	02 47 51.1	-0.5
KSH				SCP		02 51 00.0	
KSH				PCS		02 51 05.8	
KSH				S	**S**	**02 53 06.9**	**-0.3**
KSH				SCS	ScS	02 55 37.4	-0.3
KSH				SS	SS	02 56 39.7	-0.7
KSH				LR	LR		
	comp=N,1µm,14.2s						
KSH				LR	LR		
	comp=E,640nm,7.7s						
JHJ	**Hachijo jima 2**	**52.07**	**40**	LR	LR	03 09 20.4	
	comp=E,587nm,19.1s,MS4.6,baz=272,slow=37						
ARMA	**Armidale**	**52.26**	**125**	*e*P	**P**	**02 46 04.6**	**+1.6**
SONM	**Songino Array**	**53.17**	**3**	P	**P**	**02 46 10.1**	**+0.5**
	comp=E,65nm,0.8s,mb5.6,baz=182,slow=8.7,SNR=376						
SONM				ScP		02 51 11.4	
	comp=E,3.0nm,1.1s,baz=166,slow=5.1,SNR=6.3						
SONM				S	**S**	**02 53 40.1**	**+4.6**
	comp=E,2.3nm,1.2s,baz=210,slow=9.6,SNR=5.3						
CN2	**Changchun**	**53.18**	**21**	⇑*e*P	**P**	**02 46 08.4**	**-1.3**
CN2				*e*AP	pP	02 46 23.7	+1.9
CN2				PPP	PPP	02 49 23.0	+4.6
CN2				*e*S	**S**	**02 53 34.0**	**-1.7**
CN2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
CN2				AMB	AMB		
	comp=Z,260nm,3.0s						
CN2				LR	LR		
	comp=N,1µm,18.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,18.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2µm,18.0s,MS5.1						
ULHL	**Ulahol**	**53.22**	**336**	P	**P**	**02 46 10.1**	**+0.1**
	SNR=13						
ULN	**Ulaanbaatar**	**53.24**	**4**	PFAKE		02 46 20.0	+10
ULN				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
MAJO	**Matsushiro**	**53.40**	**36**	*e*P	**P**	**02 46 09.1**	**-2.3**
	comp=Z,21nm,0.8s,mb5.1						
MAJO				LR	LR		
	comp=Z,708nm,21.0s,MS4.7						
MAT	**Matsushiro**	**53.40**	**36**	P	**P**	**02 46 09.3**	**-2.1**
MAT				S	**S**	**02 53 35.0**	**-3.8**
MAT	**Matsushiro**	**53.40**	**36**	*e*P	**P**	**02 46 09.0**	**-2.4**
	comp=Z,38nm,1.2s,mb5.2						
MAT				*e*S	**S**	**02 53 35.0**	**-3.8**
KZA	**Kyzart**	**53.50**	**335**	P	**P**	**02 46 12.6**	**+0.5**
	SNR=9.8						
TKM2	**Tokmak 2**	**54.05**	**336**	P	**P**	**02 46 15.3**	**-0.8**
	SNR=70						
KBK	**Karagaybulak**	**54.10**	**335**	P	**P**	**02 46 16.6**	**+0.1**
	SNR=22						
AML	**Almayashu**	**54.22**	**334**	P	**P**	**02 46 17.3**	**0.0**
	SNR=26						
TAU	**Tasmania Unive**	**54.24**	**140**	PFAKE		02 46 30.0	+12
TAU				LR	LR		
	comp=Z,512nm,21.0s,MS4.6						
AAK	**Ala-Archa**	**54.27**	**335**	P	**P**	**02 46 17.6**	**-0.2**
	SNR=9.8						
FRU	**Bishkek**	**54.38**	**335**	⇓*i*P	**P**	**02 46 18.0**	**-0.6**
FRU				*i* S	**S**	**02 53 54.0**	**+1.9**
FRU				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
FRU				smax			
	comp=E,1µm,8.0s						
FRU				MLR	MLR		
	comp=Z,900nm,20.0s,MS4.8						
CHMS	**Chumysh**	**54.46**	**335**	P	**P**	**02 46 18.2**	**-0.9**
	SNR=22						
EKS2	**Erkin-Say**	**54.61**	**334**	P	**P**	**02 46 19.7**	**-0.5**
	SNR=44						
USP	**Ospenovka**	**54.79**	**335**	P	**P**	**02 46 20.8**	**-0.8**
	SNR=40						
MKAR	**Makanchi Array**	**55.07**	**343**	P	**P**	**02 46 22.7**	**-0.8**
	comp=Z,43nm,0.7s,mb5.6,baz=153,slow=8.1,SNR=179						
MKAR				S	**S**	**02 54 04.0**	**+2.8**
	comp=Z,3.7nm,1.1s,baz=166,slow=12,SNR=7.9						
MKAR	**Makanchi Array**	**55.07**	**343**	P	**P**	**02 46 22.7**	**-0.8**
MKAR				S	**S**	**02 54 04.0**	**+2.8**
MDJ	**Mudanjiang**	**55.41**	**23**	P	**P**	**02 46 25.8**	**-0.2**
MDJ				PCP	PcP	02 47 18.1	-7.7
MDJ				PP	PP	02 48 30.3	-1.1
MDJ				S	**S**	**02 54 08.6**	**+2.8**
MDJ				LR	LR		
	comp=N,1µm,19.2s,MS5.0						
MDJ				LR	LR		
	comp=E,871nm,17.9s,MS5.0						
MDJ				LR	LR		
	comp=Z,1µm,19.2s,MS4.9						
MDJ	**Mudanjiang**	**55.41**	**23**	P	**P**	**02 46 23.5**	**-2.5**
MDJ				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
ZAK	**Zakamensk**	**55.62**	**0**	*e*P	**P**	**02 46 26.9**	**-0.5**
ZAK				*e*	pP	02 46 40.0	+0.4
HIA	**Hailar**	**56.50**	**13**	*e*P	**P**	**02 46 32.3**	**-1.4**
	comp=Z,47nm,1.1s,mb5.4						
HIA				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
IRK	**Irkutsk**	**57.50**	**1**	*e*P	**P**	**02 46 41.4**	**+0.6**
IRK				*e*	pP	02 46 56.0	+2.9
KURK	**Kurchatov**	**59.67**	**343**	*i* P	**P**	**02 46 54.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
KLR	**Kul’dur**	**60.07**	**22**	*e*P	**P**	**02 46 57.2**	**-1.5**
KLR				*e*S	**S**	**02 55 07.0**	**+0.2**
CASY	**Casey**	**60.96**	**176**	*e*P	**P**	**02 47 02.2**	**-2.4**
	comp=Z,55nm,1.3s,mb5.5						
ASAJ	**Asahikawa**	**61.04**	**32**	P	**P**	**02 47 04.2**	**-1.1**
	comp=Z,32nm,0.8s,mb5.5,baz=269,slow=7.7,SNR=14						
ASAJ				LR	LR	03 14 35.7	
	comp=Z,741nm,20.4s,MS4.8,baz=219,slow=37						
MIR	**Mirnyy**	**61.35**	**184**	⇓*e*P	**P**	**02 47 06.4**	**-0.8**
MIR				pmax	pmax		
	comp=Z,65nm,1.3s,mb5.6						
RYDS	**Riyadh**	**61.99**	**301**	P	**P**	**02 47 12.7**	**+0.8**
NVS	**Novosibirsk**	**62.23**	**347**	*i* P	**P**	**02 47 12.3**	**-0.8**
NVS				*e*S	**S**	**02 55 28.4**	**-5.7**
NVS				pmax	pmax		
	comp=N,119nm,1.5s						
NVS				pmax	pmax		
	comp=Z,86nm,1.5s,mb5.7						

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NVS                                  pmax     pmax
        comp=E,44nm,1.6s
NVS                                  smax
        comp=N,172nm,1.9s
RAYN    Ar Rayn             62.73 300  P        P         02 47 16.5  -0.5
        comp=N,265nm,1.9s,mb6.0,SNR=31
YSS     Yuzh-Sakhalins      63.08  30⇑eP        P         02 47 16.5  -2.5
YSS                                   e*SP      sP        02 47 34.2  -2.1
YSS                                   eS        S         02 55 40.0  -4.9
YSS                                   ePS       PS        02 55 54.0   -15
YSS                                   ePPS      PPS       02 56 11.0  -7.4
YSS                                    pmax     pmax
        comp=Z,60nm,1.0s,mb5.7
YSS                                    smax
        comp=E,300nm,5.0s
YSS     Yuzh-Sakhalins      63.08  30 eP        P         02 47 17.6  -1.4
        comp=E,102nm,1.3s,mb5.8
YSS                                    LR       LR
        comp=Z,435nm,19.0s,MS4.7
MZLS    Mizel               63.16 300  P        P         02 47 19.2  -0.6
TATS    Tathlith            63.28 295  P        P         02 47 20.3  -0.3
BOD     Bodaibo             63.74   7 eP        P         02 47 22.0  -1.1
BOD                                   e                   02 47 28.2
NAMS    An Nimas            64.33 294  P        P         02 47 27.9  +0.4
BVA0    Borovoye Array      64.33 339  P        P         02 47 25.6  -1.4
BVAR    Borovoye Array      64.33 339  P        P         02 47 25.7  -1.3
        comp=Z,32nm,0.8s,mb5.4,baz=146,slow=9.3,SNR=116
BVAR                                   S        S         02 55 59.0  -1.5
        comp=Z,0.2nm,0.3s,baz=80,slow=8.8,SNR=2.6
BRVK    Borovoye            64.40 339⇓iP        P         02 47 26.0  -1.4
        comp=Z,88nm,1.2s,mb5.7
CLNS    Chul'man            64.69  13 eP        P         02 47 27.0  -2.3
CLNS                                  e                   02 47 42.5
CLNS                                  eS        S         02 56 16.9   +12
CLNS                                   pmax     pmax
        comp=Z,17nm,1.0s,mb5.0
CLNS                                   pmax     pmax
        comp=N,10.0nm,1.2s
CLNS                                   pmax     pmax
        comp=E,10.0nm,0.9s
CLNS                                   pmax     pmax
        comp=Z,7.0nm,0.7s,mb4.8
CLNS                                   pmax     pmax
        comp=N,12nm,1.0s
CLNS                                   pmax     pmax
        comp=E,16nm,1.0s
CLNS                                   smax
        comp=E,7.0nm,1.0s
CLNS                                   smax
        comp=Z,5.0nm,0.8s
CLNS                                   smax
        comp=N,5.0nm,0.9s
CLNS                                   MLR      MLR
        comp=Z,2µm,16.0s,MS5.3
CLNS                                   MLR      MLR
        comp=N,3µm,14.0s,MS5.6
CLNS                                   MLR      MLR
        comp=E,1µm,14.0s,MS5.6
CHKZ    Chkalovo            64.78 340⇓iP        P         02 47 28.9  -1.0
        comp=E,275nm,1.4s,mb6.1
AFFS    'Afif               65.03 299  P        P         02 47 31.8  -0.3
BLJS    Baljurashi          65.07 295  P        P         02 47 33.1  +0.7
KMBO    Kilima Mbogo        65.41 271  P        P         02 47 34.5  -0.2
        comp=E,16nm,1.0s,mb5.0,baz=73,slow=7.6,SNR=27
KMBO    Kilima Mbogo        65.41 271⇓eP        P         02 47 34.1  -0.6
        comp=E,90nm,1.6s,mb5.5
KMBO                                  epP       pP        02 47 46.4  -0.8
KMBO                                   LR       LR
        comp=Z,1µm,20.0s,MS5.0
AB31    Akbulak array       65.93 331 i P       P         02 47 36.1  -1.3
AB31                                   pmax     pmax
        comp=Z,372nm,1.4s,mb6.2
LTHS    Al Lith             66.26 295  P        P         02 47 39.9   0.0
KWAJ    Kwajalein Atol      66.29  78  PFAKE              02 47 50.0   +10
KWAJ                                   LR       LR
        comp=Z,109nm,21.0s,MS4.0
HILS    Ha'il               67.19 303  P        P         02 47 46.1  +0.4
MAW     Mawson              67.64 195⇓iP        P         02 47 47.0  -0.8
        comp=Z,33nm,0.6s,mb5.5
MAW     Mawson              67.64 195  LR       LR        03 12 18.2
        comp=Z,2µm,19.3s,MS5.3,baz=20,slow=31
KBRS    Khaybar             68.83 300  P        P         02 47 56.5  +0.5
MAK     Makhachkala         69.30 320c iP       P         02 47 58.0  -0.6
MAK                                   e                   02 48 22.0
MAK                                   i S       S         02 57 01.0  +0.4
MAK                                   ePS       PS        02 57 17.0   -15
MAK                                   e                   02 57 46.0
MAK                                    pmax     pmax
        comp=Z,800nm,4.0s
MAK                                    pmax     pmax
        comp=E,400nm,2.0s
MAK                                    smax
        comp=N,1µm,6.0s
MAK                                    smax
        comp=E,500nm,6.0s
HKR     Hakkari             69.45 313 eP        P         02 47 59.3  -0.3
YNBS    Yanbu' al Bahr      69.52 298  P        P         02 48 01.0  +0.8
UMJS    Umm Lajj            70.36 299  P        P         02 48 06.5  +1.1
YAK     Yakutsk             70.44  13 eP        P         02 48 04.1  -1.1
YAK                                   e*PP      pP        02 48 14.8  -3.0
YAK                                   e                   02 48 25.6
YAK                                   e                   02 50 35.5
YAK                                   ePPP      PPP       02 52 18.7  -5.2
YAK                                   eS        S         02 57 10.2  -3.4
YAK                                   e                   02 57 59.9
YAK                                   eSS       SS        03 01 42.2  -4.6
YAK                                    pmax     pmax
        comp=Z,21nm,0.9s,mb5.1
YAK                                    pmax     pmax
        comp=N,8.0nm,1.1s
YAK                                    pmax     pmax
        comp=E,4.0nm,1.2s
YAK                                    pmax     pmax
        comp=Z,4.0nm,0.8s,mb4.4
YAK                                    smax
        comp=E,19nm,1.4s
YAK                                    smax
        comp=N,6.0nm,1.1s
YAK                                    MLR      MLR
        comp=Z,640nm,16.0s,MS5.0
YAK                                    MLR      MLR
        comp=N,469nm,17.0s
YAK                                    MLR      MLR
        comp=E,320nm,24.0s
YAK     Yakutsk             70.44  13 eP        P         02 48 03.4  -1.8
        comp=E,32nm,0.6s,mb5.4
YAK                                    LR       LR
        comp=Z,847nm,19.0s,MS5.0
TI2     Plekhanov           70.54 318d iP       P         02 48 05.0  -1.1
TI2                                   i S       S         02 57 16.0  +0.9
TI2                                    pmax     pmax
        comp=N,200nm,1.0s
TI2                                    pmax     pmax
        comp=E,200nm,1.0s
TI2                                    pmax     pmax
        comp=Z,1µm,1.0s
BEST    Besiri              71.37 313 i P       P         02 48 10.9  -0.3
ARU     Arti                71.42 336⇓iP        P         02 48 10.6  -0.6
ARU                                   i         pP        02 48 22.3  -1.5
ARU                                   i                   02 48 27.5
ARU                                   e                   02 50 49.2
ARU                                   eS        S         02 57 25.3  +0.3
ARU                                   e                   02 58 09.1
ARU                                   eSS       SS        03 01 58.7  -3.4
ARU                                    pmax     pmax
        comp=Z,112nm,1.2s,mb5.7
ARU                                    MLR      MLR
        comp=Z,800nm,24.0s,MS4.9
ARU                                    MLR      MLR
        comp=N,300nm,23.0s,MS4.9
ARU                                    MLR      MLR
        comp=E,700nm,22.0s,MS4.9
ARU     Arti                71.42 336⇓iP        P         02 48 10.6  -0.6
        comp=E,144nm,1.3s,mb5.7
ARU                                    LR       LR
        comp=Z,176nm,21.0s,MS4.3
TBKS    Tabuk               71.86 302  P        P         02 48 14.9  +0.6
MBAR    Mbarara             71.94 271⇓eP        P         02 48 14.0  -1.0
        comp=Z,75nm,1.2s,mb5.5
MBAR                                   LR       LR
        comp=Z,347nm,19.0s,MS4.6
ERZM    Erzurum             72.09 315 i P       P         02 48 16.2  +0.8
EZM     Erzurum             72.10 315 i P       P         02 48 16.9  +1.4
JMQS    Jabal Moqyreh       72.61 302  P        P         02 48 19.1  +0.3
ASF     Jabal al Asfar      72.75 306  P        P         02 48 20.1  +0.6
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        comp=Z,108nm,1.2s,mb5.7,baz=347,slow=3.0,SNR=63
KIV     Kislovodsk          72.88 319d iP       P         02 48 19.7  -0.4
KIV                                   i         pP        02 48 34.6  +1.9
KIV                                   i                   02 51 01.3
KIV                                   i S       S         02 57 42.8  +0.8
KIV                                    pmax     pmax
        comp=Z,152nm,1.1s,mb5.8
KIV                                    MLR      MLR
        comp=Z,300nm,19.0s,MS4.6
KIV     Kislovodsk          72.88 319 eP        P         02 48 18.4  -1.6
        comp=Z,174nm,1.2s,mb5.9
KIV                                    LR       LR
        comp=Z,74nm,21.0s
AYUS    'Aynunah            72.94 302  P        P         02 48 20.8   0.0
SNZO    South Karori        72.94 131  PFAKE              02 48 30.0  +9.5
SNZO                                   LR       LR
        comp=Z,2µm,20.0s,MS5.4
EZC     Erzincan            73.13 314 eP        P         02 48 24.8  +3.1
BDAS    Al Bad'             73.14 302  P        P         02 48 21.7  -0.2
ELZG    Elazig              73.27 313 i P       P         02 48 22.7  +0.2
JMOS    Jabal al Moall      73.34 302  P        P         02 48 23.2  +0.1
HAQS    Haql                73.46 302  P        P         02 48 23.9  +0.1
AQBJ    Aqaba               73.55 303  P        P         02 48 24.0  -0.3
EIL     Elat                73.61 303  P        P         02 48 24.5  -0.2
MALT    Malatya             73.61 312 eP        P         02 48 25.0  +0.5
MALT    Malatya             73.61 312⇓iP        P         02 48 24.5   0.0
        comp=Z,134nm,1.3s,mb5.7
LSZ     Lusaka              73.62 256 eP        P         02 48 24.0  -1.0
        comp=Z,115nm,1.4s,mb5.6
LSZ                                   epP       pP        02 48 35.8  -1.8
LSZ                                    LR       LR
        comp=Z,2µm,22.0s,MS5.3
MYA     Malataya            73.62 312 i P       P         02 48 25.5  +0.9
GUMT    Gumushane           73.64 315 eP        P         02 48 23.8  -0.8
ZFRI    Zfri                73.67 304  P        P         02 48 25.1  +0.1
MBH     Mount Berech        73.68 303  P        P         02 48 25.0  -0.1
KELT    Kelkit              73.68 314 i P       P         02 48 25.6  +0.7
PRNI    Paran               73.76 304  P        P         02 48 25.7  +0.2
DRGI    Dragot              73.80 305  P        P         02 48 25.7   0.0
KSHT    Keshet              73.87 306  P        P         02 48 26.7  +0.6
HMDT    Nahal Hemdat        73.88 306  P        P         02 48 26.2   0.0
GZT     Gaziantep           73.92 311 i P       P         02 48 26.6  +0.3
KMTI    Karmit              73.92 303  P        P         02 48 26.3  -0.2
HRI     Mount Hermon        74.02 307  P        P         02 48 27.4  +0.4
MMLI    Mount Malkishu      74.02 306  P        P         02 48 27.5  +0.5
GAZ     Gaziantep           74.12 311 i P       P         02 48 28.3  +0.8
MASH    Mash'abbe Sade      74.12 304  P        P         02 48 27.6   0.0
SVTA    Shivta              74.24 304  P        P         02 48 28.3   0.0
SLTI    Sal'it              74.27 306  P        P         02 48 28.7  +0.2
OFRI    'Ofer               74.43 306  P        P         02 48 29.5  +0.1
HAF     Haifa               74.44 306  P        P         02 48 29.5  +0.1
KAHT    Ahir Dag            74.53 311 i P       P         02 48 29.9   0.0
PET     Petropavlovsk       74.87  31 eP        P         02 48 31.7  +0.2
PET                                   e*PP      pP        02 48 46.3  +2.2
PET                                   eS        S         02 58 05.3  +1.2
PET                                   ePS       PS        02 58 42.1  -3.3
PET                                    pmax     pmax
        comp=Z,35nm,1.1s,mb5.2
PET                                    pmax     pmax
        comp=Z,85nm,0.6s,mb5.8
PET                                    smax
        comp=N,200nm,14.0s
PET                                    smax
        comp=E,200nm,15.2s
PET                                    MLR      MLR
        comp=Z,500nm,19.0s,MS4.8
PET     Petropavlovsk       74.87  31  PFAKE              02 48 40.0  +8.5
PET                                    LR       LR
        comp=Z,479nm,19.0s,MS4.8
MA2     Magadan             75.11  23 eP        P         02 48 34.4  +1.7
MA2                                   eS        S         02 58 06.8  +0.2
MA2                                   ePS       PS        02 58 51.4  +3.1
MA2                                    pmax     pmax
        comp=Z,40nm,1.6s,mb5.1
MA2     Magadan             75.11  23 eP        P         02 48 32.8  +0.1
MA2                                    LR       LR
        comp=Z,262nm,19.0s,MS4.5
CEYT    Ceyhan              75.17 310 eP        P         02 48 34.7  +1.1
SVST    Sivas               75.20 313 i P       P         02 48 34.1  +0.5
SVSK    Karacayir           75.22 314 i P       P         02 48 34.2  +0.4
SYO     Syowa Base          75.48 199 ⇑P        P         02 48 33.5  -1.2
SYO     Syowa Base          75.48 199 ⇓pP       pP        02 48 46.5  -0.8
TOKT    Tokat               75.68 314 eP        P         02 48 36.2  -0.2
NIG     Nigde               76.38 311 i P       P         02 48 41.0  +0.6
AVNT    Avonos              76.41 312 i P       P         02 48 40.0  -0.6
CSS     Prodhromos          76.42 308 ⇓P        P         02 48 40.7   0.0
        comp=Z,2.3nm,1.2s,mb4.0
CSS     Prodhromos          76.42 308⇓iP        P         02 48 40.5  -0.2
        comp=Z,259nm,1.3s,mb6.0
IKL     Isikli              76.52 309 eP        P         02 48 39.4  -1.8
MAMC    Mammari             76.57 308 ⇓P        P         02 48 42.0  +0.4
ANN     Anapa               76.67 318 eP        P         02 48 40.2  -1.7
ANN                                   eS        S         02 58 23.4  -0.6
ANN                                    pmax     pmax
        comp=Z,70nm,1.4s,mb5.4
ANN                                    MLR      MLR
        comp=Z,422nm,21.0s,MS4.7
ANN                                    MLR      MLR
        comp=N,431nm,22.0s,MS4.8
ANN                                    MLR      MLR
        comp=E,351nm,20.0s,MS4.8
SZAC    Souni-Zanaja        76.72 307  P        P         02 48 42.2  -0.2
CTKT    Corum               77.05 314 i P       P         02 48 43.8  -0.4
ALFC    Alevga              77.05 308 ⇓P        P         02 48 43.8  -0.5
BOYT    Boyabat             77.22 314 i P       P         02 48 44.5  -0.6
BYBT    Boyabat             77.34 314 eP        P         02 48 45.1  -0.6
KAMT    Kaman               77.44 312 i P       P         02 48 45.6  -0.7
BRTR    Keskin Array B      77.60 312  P        P         02 48 46.2  -1.0
        comp=E,32nm,0.9s,mb5.3,baz=127,slow=6.2,SNR=190
TOS     Tosya               77.73 314 eP        P         02 48 47.9   0.0
SEY     Seymchan            77.86  21 eP        P         02 48 48.6  +0.5
SEY                                             pP        02 48 59.8  -1.0
SEY                                                       02 51 46.5
SEY                                   eS        S         02 58 38.5  +2.0
SEY                                   eSS       SS        03 03 38.5  -1.9
SEY                                    pmax     pmax
        comp=Z,30nm,0.7s,mb5.3
SEY                                    smax
        comp=N,2µm,22.8s
SEY                                    smax
        comp=E,400nm,21.0s
SEY                                    MLR      MLR
        comp=Z,2µm,24.0s,MS5.4
SEY                                    MLR      MLR
        comp=N,2µm,22.0s,MS5.4
SEY                                    MLR      MLR
        comp=E,930nm,25.0s,MS5.4
CANT    Cankiri             77.88 313 i P       P         02 48 49.1  +0.3
ELDT    Eldivan             77.99 313 i P       P         02 48 48.8  -0.5
BZK     Bozkurt             78.03 315 i P       P         02 48 49.7  +0.2
ANTO    Ankara              78.26 312 i P       P         02 48 50.5  -0.3
VNDA    Vanda               78.28 169  P        P         02 48 49.7  -0.5
        comp=E,19nm,1.0s,mb5.0,baz=298,slow=6.1,SNR=32
VNDA                                   LR       LR        03 18 48.7
        comp=E,1µm,19.1s,MS5.2,baz=310,slow=32
VNDA    Vanda               78.28 169  P        P         02 48 49.7  -0.5
VNDA    Vanda               78.28 169  P        P         02 48 49.7  -0.5
VNDA                                   LR       LR        03 18 48.7
BALT    Daday               78.34 314 i P       P         02 48 50.9  -0.3
SAFT    Safranbolu          78.75 314 i P       P         02 48 53.3  -0.2
TIXI    Tiksi               78.86   8 eP        P         02 48 53.1  -0.4
TIXI                                   pmax     pmax
        comp=Z,18nm,0.9s,mb5.0
TIXI                                   MLR      MLR
        comp=Z,2µm,18.0s,MS5.4
TIXI    Tiksi               78.86   8⇓eP        P         02 48 53.1  -0.4
TIXI                                   LR       LR
        comp=Z,2µm,19.0s,MS5.4
SIM     Simferopol'         78.93 318d iP       P         02 48 54.2  -0.2
SIM                                   eS        S         02 58 56.0  +7.8
SIM                                    pmax     pmax
        comp=Z,90nm,0.9s,mb5.7
SGKT    Sivrigoynuk         79.01 313 i P       P         02 48 53.8  -1.2
SBA     Scott Base          79.37 169⇓eP        P         02 48 56.1  -0.1
        comp=Z,33nm,1.2s,mb5.1
SBA                                    LR       LR
        comp=Z,1µm,19.0s,MS5.3
ISP     Isparta             79.41 310 eP        P         02 48 56.4  -0.7
ISP     Isparta             79.41 310 i Pr                02 48 55.6
ELL     Elmali              79.58 309  P        P         02 48 57.2  -0.9
ESKT    Eskisehir           79.60 312 i P       P         02 48 57.3  -0.9
HENT    Hendek              79.92 313 i P       P         02 48 59.0  -0.8
SUR     Sutherland          80.22 238 eP        P         02 49 01.7  +0.1
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HRT     Hereke              80.82 313 i P       P         02 49 04.8  +0.1
ULDT    Uludag              81.04 312 i P       P         02 49 05.5  -0.3
MANT    Manisa              81.06 310 i P       P         02 49 05.5  -0.4
OBN     Obninsk             81.11 328d iP       P         02 49 05.7  -0.2
OBN                                   i         pP        02 49 17.7  -0.9
OBN                                   i                   02 52 09.1
OBN                                   i S       S         02 59 09.8  -1.1
OBN                                   i SS      SS        03 04 26.0  -3.4
OBN                                    pmax     pmax
        comp=Z,271nm,1.5s,mb6.0
OBN     Obninsk             81.11 328 eP        P         02 49 05.6  -0.3
        comp=Z,341nm,1.4s,mb6.1
OBN                                    LR       LR
        comp=Z,111nm,19.0s,MS4.2
ISK     Istanbul-Kandi      81.33 313  P        P         02 49 02.8  -4.5
AYDN    Tasoluk             81.38 309 i P       P         02 49 08.1  +0.5
BDRM    Kayabasi            81.58 309 i P       P         02 49 08.2  -0.5
CTT     Catalca             81.81 313 eP        P         02 49 10.0  +0.2
KDAG    Bornova             82.02 310 i P       P         02 49 11.3  +0.4
IZM     Izmir               82.02 310 i P       P         02 49 12.0  +1.0
SART    Tekirdag            82.62 312 i P       P         02 49 13.7  -0.2
PSN     Preselentsi         82.63 315 eP        P         02 49 14.0  +0.1
SANT    Santorini           82.98 308 eP        P         02 49 15.1  -0.8
KIS     Kishinev            83.06 319 eP        P         02 49 15.0  -1.1
KIS                                   e         pP        02 49 26.0  -2.9
KIS                                   e         pP        02 49 29.0  +0.1
KIS                                   e                   02 52 25.0
KIS                                   eS        S         02 59 29.0  -1.9
KIS                                   e                   02 59 36.0
KIS                                   ePS       PS        03 00 14.0   -15
KIS                                    pmax     pmax
        comp=Z,350nm,1.5s,mb6.2
KIS                                    pmax     pmax
        comp=E,160nm,1.6s
APE     Apeiranthos         83.07 308 ePr                 02 49 15.5
SMY     Shemya              83.24  35  PFAKE              02 49 30.0   +13
SMY                                    LR       LR
        comp=Z,676nm,22.0s,MS5.0
JMB     Yambol              83.47 314 eP        P         02 49 18.5  +0.3
TSUM    Tsumeb              83.59 251 eP        P         02 49 18.2  -1.2
        comp=Z,57nm,1.1s,mb5.6
TSUM                                  epP       pP        02 49 31.4  -0.8
TSUM                                   LR       LR
        comp=Z,2µm,20.0s,MS5.4
GVD     Gavdhos             83.77 306 eP        P         02 49 19.7  -0.3
MIDW    Midway              83.77  61  PFAKE              02 49 30.0   +10
MIDW                                   LR       LR
        comp=Z,392nm,20.0s,MS4.8
AKASG   Malin Array Be      83.83 322  P        P         02 49 19.4  -0.5
        comp=Z,40nm,1.0s,mb5.5,baz=84,slow=4.5,SNR=22
AKASG                                  PP       PP        02 52 31.8  -3.3
        comp=Z,4.1nm,0.8s,baz=96,slow=6.4,SNR=9.1
DIM     Dimitrovgrad        84.14 313 eP        P         02 49 21.5  -0.2
VRI     Vrincioaia          84.17 317⇓iP        P         02 49 22.8  +1.0
BUC1    Bucharest           84.30 315⇓iP        P         02 49 23.7  +1.3
QSPA    South Pole Qui      84.52 180 eP        P         02 49 22.8   0.0
        comp=Z,33nm,0.9s,mb5.5
QSPA                                  e         pP        02 49 35.3  -0.3
QSPA                                   LR       LR
        comp=Z,980nm,19.0s,MS5.2
PVL     Pavlikeni           84.54 314 eP        P         02 49 24.0  +0.4
MLR     Muntele Rosu        84.62 317⇓iP        P         02 49 24.8  +0.8
RZN     Rozhen              84.66 313 eP        P         02 49 24.0  -0.3
PLD     Plovdiv             84.75 313 eP        P         02 49 24.5  -0.2
MMB     Musomiste           85.36 312 eP        P         02 49 27.0  -0.8
MNK     Minsk               85.69 326 eP        P         02 49 28.0  -1.0
MNK                                    pmax     pmax
        comp=Z,380nm,1.2s,mb6.5
MNK                                    pmax     pmax
        comp=E,460nm,1.5s
KKB     Krupnik             85.89 313 eP        P         02 49 30.0  -0.3
VTS     Vitosha             85.94 313 eP        P         02 49 30.0  -0.6
VAY     Valandovo           86.16 312⇓iP        P         02 49 31.0  -0.7
LVV     L'vov               86.84 321 i P       P         02 49 35.0  +0.2
LVZ     Lovozero            86.93 339d iP       P         02 49 34.7  -0.1
LVZ                                   e                   02 52 58.6
LVZ                                   i                   02 59 54.5
LVZ                                    pmax     pmax
        comp=N,2.0nm,1.1s
LVZ                                    pmax     pmax
        comp=Z,29nm,1.1s,mb5.4
LVZ                                    pmax     pmax
        comp=E,4.0nm,1.2s
LVZ                                    pmax     pmax
        comp=Z,117nm,1.8s,mb5.8
LVZ                                    pmax     pmax
        comp=N,37nm,2.9s
LVZ                                    pmax     pmax
        comp=E,60nm,2.8s
LVZ                                    MLR      MLR
        comp=Z,922nm,22.0s,MS5.1
LVZ                                    MLR      MLR
        comp=N,362nm,17.0s
LVZ                                    MLR      MLR
        comp=E,639nm,24.0s
LVZ     Lovozero            86.93 339 i Pr                02 49 34.6
BARS    Barje               86.98 313⇓iP        P         02 49 35.2  -0.5
BOLS    Boljevac            87.06 314⇓iP        P         02 49 36.0   0.0
SKO     Skopje              87.11 312 i P       P         02 49 35.5  -0.8
APA     Apatity             87.25 339⇓eP        P         02 49 35.0  -1.4
APA                                    pmax     pmax
        comp=Z,16nm,0.7s,mb5.4
VSU     Vasula              87.31 329 i Pr                02 49 37.5
KWP     Kalwaria            87.64 320⇓eP        P         02 49 39.6  +0.9
SVIS    Svilajnac           87.67 315⇓iP        P         02 49 39.4  +0.4
UZH     Uzhgorod            87.72 319 i P       P         02 49 40.0  +0.9
UZH     Uzhgorod            87.72 319 i Pr                02 49 40.0
GRUS    Gruza               87.96 314⇑iP        P         02 49 40.9  +0.6
SUW     Suwalki             88.22 325⇓eP        P         02 49 41.6  +0.3
SUW                                   e*PP      pP        02 49 53.1  -1.2
SUW     Suwalki             88.22 325⇓eP        P         02 49 41.8  +0.5
CRVS    Cervenica-Dubn      88.31 319 i P       P         02 49 43.1  +1.2
CRVS                                  i PP      PP        02 53 11.8  -0.3
FINES   FINESS Array B      88.39 332  P        P         02 49 42.6  +0.6
        comp=Z,18nm,1.0s,mb5.2,baz=108,slow=6.0,SNR=50
FINES                                  PKiKP              02 54 42.1
        comp=Z,0.6nm,0.6s,baz=117,slow=3.1,SNR=3.6
FINES                                  LR       LR        03 40 03.2
        comp=Z,380nm,18.1s,MS4.8,baz=341,slow=43
FINES   FINESS Array B      88.39 332 i P       P         02 49 42.6  +0.6
FINES                                  pmax     pmax
        comp=Z,18nm,1.0s
DIVS    Divcibare           88.51 314⇑iP        P         02 49 43.5  +0.6
NVSS    Nova Varos 2        88.63 314⇑iP        P         02 49 44.1  +0.6
KECS    Kecovo              88.87 319 i P       P         02 49 45.8  +1.2
KECS                                  epP       pP        02 49 57.5  -0.1
WAR     Warsaw              89.17 323⇓eP        P         02 49 47.0  +1.1
        comp=Z,0.5nm,1.2s
WAR                                    LR       LR
        comp=Z,700nm,20.6s
PSZ     Piszkesteto         89.17 318⇓iP        P         02 49 46.9  +0.9
PSZ                                   i PP      PP        02 53 18.4  -0.6
PSZ     Piszkesteto         89.17 318 eP        P         02 49 46.6  +0.6
PSZ                                    pmax     pmax
        comp=Z,65nm,1.2s,mb5.8
PSZ     Piszkesteto         89.17 318 eP        P         02 49 46.6  +0.5
        comp=Z,70nm,1.3s,mb5.8
OJC     Ojcow               89.59 320 eP        P         02 49 48.6  +0.6
        comp=Z,400nm,3.3s
OJC                                   ePP       PP        02 53 16.1  -6.2
OJC                                   eS        S         03 00 15.1   -18
OJC                                   eSS       SS        03 06 21.4   -12
OJC                                    LR       LR
        comp=Z,500nm,22.8s,MS4.9
SNAA    Sanae               89.68 198 e         PP        02 53 20.1  -2.5
SNAA    Sanae               89.68 198 eP        P         02 49 48.7  +0.8
SNAA                                  e*PP      pP        02 50 01.4  +0.5
SNAA    Sanae               89.68 198⇑iP        P         02 49 48.5  +0.6
SNAA                                  e         pP        02 50 00.4  -0.5
SNAA                                  e                   02 50 04.7
SNAA                                  e                   02 53 20.1
VYHS    Vyhne               89.96 319 i P       P         02 49 50.4  +0.7
VYHS                                  e*SP      sP        02 50 02.3  -4.8
VYHS                                  e                   02 53 23.1
VYHS    Vyhne               89.96 319 i P       P         02 49 50.4  +0.7
VYHS                                  epP       pP        02 49 57.9  -4.8
VYHS                                  esP       sP        02 50 02.3  -4.8
VYHS                                  ePP       PP        02 53 23.1  -2.2
VYHS                                  eS        S         03 00 24.0   -13
STON    Ston                89.98 313⇓iP        P         02 49 49.4  -0.6
KEV     Kevo                90.16 340 ep        P         02 49 48.4  -1.8
SRO     Srobarova           90.21 318 i P       P         02 49 53.0  +2.1
TIP     Timpagrande         90.24 309⇓eP        P         02 49 52.1  +0.9
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OKC	**Ostrava-Krasne**	**90.59**	**320**	*e*P	**P**	**02 49 53.7**	**+1.0**
OKC				*e*PP	PP	02 53 27.9	-2.4
OKC				*e*S	S	03 00 44.8	+2.2
OKC				LM		03 37 00.0	
	comp=Z,0.3nm,19.6s						
RAC	**Raciborz**	**90.60**	**320**	*e*P	**P**	**02 49 53.7**	**+1.0**
RAC				*e*		02 53 27.7	
RAC				*e*		03 00 22.3	
RAC				*e*S	S	03 00 48.2	+5.6
RAC	**Raciborz**	**90.60**	**320**	*e*P	**P**	**02 49 53.7**	**+1.0**
RAC				*e*PcP	PcP	02 49 54.5	+0.5
RAC				*e*PP	PP	02 53 27.7	-2.6
RAC				*e*SKSac		03 00 22.3	
RAC				*e*S	S	03 00 48.2	+5.6
RAC				LR	LR		
	comp=Z,700nm,21.2s,MS5.1						
ARCES	**ARCESS Array B**	**90.61**	**340**	P	**P**	**02 49 52.5**	**+0.2**
	comp=Z,6.3nm,0.9s,mb5.0,baz=117,slow=5.4,SNR=23						
ARCES				PP	PP	02 53 28.7	-1.3
	comp=Z,2.0nm,1.0s,baz=107,slow=12,SNR=3.4						
ARCES				LR	LR	03 35 52.0	
	comp=Z,791nm,20.5s,MS5.1,baz=100,slow=39						
ARCES	**ARCESS Array B**	**90.61**	**340**	P	**P**	**02 49 52.5**	**+0.2**
ARCES				PP	PP	02 53 28.7	-1.3
ARCES				LR	LR	03 35 52.0	
SMOL	**Smolenice**	**90.89**	**318**	*e*P	**P**	**02 49 55.2**	**+1.1**
MORC	**Moravsky Berou**	**90.97**	**320**⇓	*e*P	**P**	**02 49 55.2**	**+0.7**
	comp=Z,57nm,1.3s,mb5.7						
MORC				*e*pP	pP	02 50 07.3	-0.2
MORC				PP	PP	02 53 21.5	-12
ZST	**Bratislava**	**91.07**	**318**	*i* P	**P**	**02 49 56.2**	**+1.3**
ZST				*e*S	S	03 01 06.9	+20
SISC	**Sisak**	**91.25**	**315**	*i* P	**P**	**02 49 58.5**	**+2.7**
VNA2	**Neumayer--Watz**	**91.31**	**198**	*e*	PP	02 53 29.1	-6.5
VNA2	**Neumayer--Watz**	**91.31**	**198**⇓	*i*P	**P**	**02 49 58.2**	**+2.6**
VNA2				*e*	pP	02 50 09.6	+1.0
VNA2				*e*	pP	02 50 13.9	+5.3
VNA2				*e*		02 53 29.1	
GKP	**Gorka Klasztor**	**91.59**	**323**⇓	*e*P	**P**	**02 49 58.0**	**+0.8**
	comp=Z,0.2nm,1.4s						
GKP				LR	LR		
	comp=Z,700nm,18.7s						
VNA1	**Neumayer--Stat**	**91.68**	**198**	*e*	PP	02 53 31.5	-7.1
VNA1	**Neumayer--Stat**	**91.68**	**198**⇓	*i*P	**P**	**02 50 00.4**	**+3.2**
VNA1				*e*	pP	02 50 11.7	+1.4
VNA1				*e*	pP	02 50 15.9	+5.6
VNA1				*e*		02 53 31.5	
DPC	**Dobruska-Polom**	**91.82**	**320**	*e*P	**P**	**02 49 59.8**	**+1.5**
DPC				*e*PP	PP	02 53 36.0	-4.1
DPC				*e*S	S	03 00 53.8	+0.4
DPC				LM		03 36 50.0	
	comp=Z,0.7nm,20.7s						
KSP	**Ksiaz**	**91.89**	**321**⇑	*e*P	**P**	**02 49 59.4**	**+0.7**
KSP				*e*PP	pP	02 50 11.5	-0.2
KSP				*e*PP	PP	02 53 37.5	-3.2
KSP				*e*S	S	03 00 55.0	+1.0
KSP				LR	LR		
	comp=Z,900nm,21.7s,MS5.2						
ARSA	**Arzberg**	**92.02**	**317**⇑	*i*P	**P**	**02 50 00.0**	**+0.7**
	comp=Z,45nm,1.6s,mb5.5						
BOJS	**Bojanci**	**92.03**	**315**⇓	*e*P	**P**	**02 49 59.9**	**+0.5**
VISS	**Visnje**	**92.35**	**316**⇓	*e*P	**P**	**02 50 01.3**	**+0.4**
LJU	**Ljubljana**	**92.59**	**316**⇓	*e*P	**P**	**02 50 02.7**	**+0.7**
LJU				*e*pP	pP	02 50 14.7	-0.3
LJU				*e*PP	PP	02 53 45.9	-0.5
TRO	**Tromso**	**92.89**	**340**	*e*SS	SS	03 07 16.4	-4.4
MOA	**Molln**	**92.92**	**318**⇑	*i*P	**P**	**02 50 04.2**	**+0.7**
	comp=Z,14nm,1.4s,mb5.2						
PRU	**Pruhonice**	**92.93**	**320**⇓	*i*P	**P**	**02 50 04.1**	**+0.7**
	comp=Z,59nm,1.7s,mb5.7						
PRU				PP	PP	02 53 39.7	-9.3
PRU				*e*S	S	03 01 06.2	+3.1
PRU				LM		03 37 30.0	
	comp=Z,0.6nm,20.0s						
PRU	**Pruhonice**	**92.93**	**320**	*e*P	**P**	**02 50 04.4**	**+1.0**
PRU				*e*PP	PP	02 53 47.1	-1.9
PRU				*e*S	S	03 01 06.2	+3.1
PVCC	**Panska Ves**	**92.96**	**320**⇓	*e*P	**P**	**02 50 04.7**	**+1.2**
PVCC				*e*PP	PP	02 53 45.4	-3.8
PVCC				*e*S	S	03 01 07.8	+4.5
PVCC				LM		03 37 40.0	
	comp=Z,0.4nm,21.7s						
AQU	**L'Aquila**	**93.09**	**312**	*e*P	**P**	**02 50 03.6**	**-0.8**
AQU				*e**PP	pP	02 50 16.5	-0.9
ROBS	**Robic**	**93.31**	**316**⇓	*e*P	**P**	**02 50 05.2**	**0.0**
BRG	**Berggiesshubel**	**93.38**	**321**⇓	*i*P	**P**	**02 50 06.4**	**+0.9**
BRG				*e*	pP	02 50 18.2	-0.3
BRG						02 53 49.5	
BRG				S	S	03 01 10.0	+3.0
BRG				pmax	pmax		
	comp=Z,72nm,1.8s,mb5.8						
BRG				MLR	MLR		
	comp=Z,470nm,19.9s,MS4.9						
BRG				MLR	MLR		
	comp=N,280nm,18.0s,MS5.0						
BRG				MLR	MLR		
	comp=E,330nm,18.0s,MS5.0						
BRG	**Berggiesshubel**	**93.38**	**321**⇓	*i*P	**P**	**02 50 06.4**	**+0.9**
	comp=E,72nm,1.8s,mb5.8						
BRG				*e*	pP	02 50 18.2	-0.3
BRG				PP	PP	02 53 49.5	-3.1
BRG				S	S	03 01 10.0	+3.0
BRG				LR	LR		
	comp=Z,470nm,19.9s,MS4.9						
GEC2	**GERESS Array S**	**93.38**	**319**	*e*P	**P**	**02 50 06.2**	**+0.7**
GEC2				*e*		02 53 48.1	
GEC2				pmax	pmax		
	comp=Z,101nm,1.9s,mb5.9						
GEC2	**GERESS Array S**	**93.38**	**319**	*e*P	**P**	**02 50 06.2**	**+0.7**
	comp=Z,101nm,1.9s,mb5.9						
GEC2				*e*PP	PP	02 53 48.1	-4.5
GERES	**GERESS Array B**	**93.38**	**319**	P	**P**	**02 50 06.0**	**+0.5**
	comp=Z,7.5nm,1.0s,mb5.1,baz=108,slow=4.2,SNR=70						
KHC	**Kasperske Hory**	**93.48**	**319**	*e*P	**P**	**02 50 06.4**	**+0.4**
KHC				*e*		02 53 34.0	
KHC				*e*PP	PP	02 53 49.8	-3.7
KHC				*e*S	S	03 01 10.8	+2.9
KHC				LM		03 42 10.0	
	comp=Z,0.5nm,20.8s						
KHC	**Kasperske Hory**	**93.48**	**319**	*e*P	**P**	**02 50 06.4**	**+0.4**
KHC				*e*		02 53 49.8	
KHC				*e*S	S	03 01 10.8	+2.9
KHC				MLR	MLR		
	comp=Z,500nm,20.8s,MS5.0						
KBA	**Koelnbreinsper**	**93.49**	**317**⇓	*i*P	**P**	**02 50 06.0**	**0.0**
	comp=Z,9.5nm,1.1s,mb5.1						
WET	**Wettzell**	**93.94**	**319**	*e*P	**P**	**02 50 08.8**	**+0.8**
WET				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.7						
WET	**Wettzell**	**93.94**	**319**	*e*P	**P**	**02 50 08.8**	**+0.8**
	comp=Z,41nm,1.4s,mb5.7						
CLL	**Collm**	**94.00**	**321**	⇓P	**P**	**02 50 08.5**	**+0.3**
	comp=Z,logA/T=1.3,mb5.5						
CLL				*e**SP	sP	02 50 22.0	-3.6
CLL				*e*PP	PP	02 53 54.0	-3.6
CLL				*e*S	S	03 01 13.0	+0.7
CLL				*e*PS	PS	03 02 40.0	+2.1
CLL	**Collm**	**94.00**	**321**⇓	*i*P	**P**	**02 50 08.5**	**+0.3**
CLL				*e*	pP	02 50 22.0	+0.7
CLL				*e*S	S	03 01 13.0	+0.7
CLL				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.5						
CLL				MLR	MLR		
	comp=Z,400nm,17.7s,MS4.9						
CLL	**Collm**	**94.00**	**321**⇓	*i*P	**P**	**02 50 08.5**	**+0.3**
	comp=Z,26nm,1.4s,mb5.5						
CLL				*e*	pP	02 50 22.0	+0.7
CLL				*e*S	S	03 01 13.0	+0.7
CLL				LR	LR		
	comp=Z,400nm,17.7s,MS4.9						
WTTA	**Wattenberg**	**94.66**	**317**⇓	*i*P	**P**	**02 50 11.3**	**-0.1**
	comp=Z,16nm,1.3s,mb5.3						
TNA	**Tin City**	**94.69**	**25**	PFAKE		02 50 20.0	+8.9
TNA				LR	LR		
	comp=Z,265nm,20.0s,MS4.7						
WATA	**Walderalm**	**94.71**	**317**⇓	*i*P	**P**	**02 50 11.2**	**-0.4**
	comp=Z,20nm,1.5s,mb5.3						
MOX	**Moxa**	**94.84**	**320**	*i* P	**P**	**02 50 12.7**	**+0.6**
	comp=Z,logA/T=1.3,mb5.5						
MOX				pP	pP	02 50 32.0	+6.9
MOX				PP	PP	02 54 00.0	-3.4
MOX				L		03 42 26.0	
MOX	**Moxa**	**94.84**	**320**	*e*P	**P**	**02 50 12.7**	**+0.6**
MOX				*e*		02 50 31.7	
MOX				pmax	pmax		
	comp=Z,32nm,1.6s,mb5.5						
MOX				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.9						
MOX	**Moxa**	**94.84**	**320**	*e*P	**P**	**02 50 12.7**	**+0.6**
	comp=Z,32nm,1.6s,mb5.5						
MOX				*e*		02 50 31.7	
MOX				LR	LR		
	comp=Z,400nm,21.0s,MS4.9						
UNV	**Unalaska Valle**	**94.86**	**36**	PFAKE		02 50 20.0	+7.9
UNV				LR	LR		
	comp=Z,973nm,21.0s,MS5.2						
GRA1	**Grafenberg Arr**	**95.05**	**319**	*e*P	**P**	**02 50 14.1**	**+1.0**
	comp=Z,59nm,1.5s,mb5.8						
GRA1				*e*PP	PP	02 54 02.7	-2.3
GRA1				LR	LR		
	comp=Z,300nm,21.1s,MS4.7						
GRF	**Grafenberg Arr**	**95.05**	**319**	*e*P	**P**	**02 50 14.1**	**+1.0**
GRF				*e*		02 54 02.7	
GRF				pmax	pmax		
	comp=Z,59nm,1.5s,mb5.8						
NB2	**NORSAR Subarra**	**95.44**	**331**	P	**P**	**02 50 14.2**	**-0.4**
	comp=Z,24nm,1.4s,mb5.4,baz=95,slow=4.6						
NB2	**NORSAR Subarra**	**95.44**	**331**	*e*	**P**	**02 50 14.2**	**-0.4**
	baz=95,slow=4.6						
NOA	**NORSAR Array B**	**95.44**	**331**	P	**P**	**02 50 14.0**	**-0.5**
	comp=Z,4.3nm,1.0s,mb4.8,baz=93,slow=4.6,SNR=8.7						
NOA				PP	PP	02 54 02.8	-5.0
	comp=Z,1.0nm,1.1s,baz=238,slow=19,SNR=2.7						
NOA				LR	LR	03 40 12.7	
	comp=Z,394nm,20.3s,MS4.9,baz=60,slow=40						
NOA	**NORSAR Array B**	**95.44**	**331**	P	**P**	**02 50 14.0**	**-0.6**
NOA				PP	PP	02 54 02.8	-5.0
NOA				LR	LR	03 40 12.7	
KBS	**Kingsbay**	**95.46**	**349**	*e*S	S	03 01 26.2	+2.1
KBS				*e*SS	SS	03 07 56.1	-0.6
KBS				AMS	AMS	03 41 41.4	
	comp=Z,632nm,19.9s,MS5.1						
KBS	**Kingsbay**	**95.46**	**349**	PFAKE		02 50 30.0	+16
KBS				LR	LR		
	comp=Z,730nm,19.0s,MS5.2						
CLZ	**Clausthal**	**95.67**	**321**	*e*P	**P**	**02 50 16.6**	**+0.8**
	comp=Z,35nm,1.4s,mb5.6						
BSEG	**Bad Segeberg**	**95.75**	**324**	*e*P	**P**	**02 50 17.1**	**+0.9**
BSEG				*e*		02 54 07.6	
BSEG				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.5						
DAVA	**Damuels**	**95.86**	**317**⇑	*i*P	**P**	**02 50 17.1**	**+0.3**
	comp=Z,25nm,1.8s,mb5.3						
KONO	**Kongsberg**	**96.22**	**329**	*e*S	S	03 01 33.9	+2.9
KONO				*e*SS	SS	03 08 04.2	-3.5
KONO				AMS	AMS	03 38 55.0	
	comp=Z,290nm,19.2s,MS4.8						
KONO	**Kongsberg**	**96.22**	**329**	PFAKE		02 50 30.0	+12
KONO				LR	LR		
	comp=Z,53nm,20.0s,MS4.0						
CDF	**Champ du Feu**	**97.62**	**318**	*e*PP	PP	02 54 21.7	-3.9
HINF	**Hinteralfeld**	**97.91**	**317**	*e*PP	PP	02 54 24.0	-3.9
MBDF	**Montbardon**	**97.99**	**314**	*e*PP	PP	02 54 24.4	-4.2
	comp=Z,2.4nm,0.7s						
LPG	**La Plagne**	**98.00**	**315**	*e*PP	PP	02 54 24.7	-4.0
	comp=Z,3.7nm,0.7s						
LPL	**La Plagne**	**98.02**	**315**	*e*PP	PP	02 54 24.5	-4.3
	comp=Z,44nm,1.5s						
FRF	**La Foret Royal**	**98.09**	**313**	*e*PP	PP	02 54 23.9	-5.4
LMR	**La Mourre**	**98.19**	**313**	*e*PP	PP	02 54 25.2	-4.9
SMRF	**Simiane la Rot**	**98.86**	**314**	*e*PP	PP	02 54 30.3	-4.4
MEZF	**Maizieres J'vi**	**99.10**	**318**	*e*PP	PP	02 54 33.1	-3.3
LOR	**Lormes**	**99.96**	**317**	*e*PP	PP	02 54 39.3	-4.0
LOR				*e*R			
	comp=Z,431nm,22.0s						
SMF	**Signal de Mont**	**100.00**	**316**	*e*PP	PP	02 54 39.5	-4.1
	comp=Z,39nm,1.4s						
LASF	**Ste Croix**	**100.10**	**314**	*e*PP	PP	02 54 40.3	-4.2
SSF	**Saint Saulge**	**100.21**	**317**	*e*PP	PP	02 54 40.0	-5.3
	comp=Z,6.5nm,1.1s						
AVF	**Avril sur Loir**	**100.33**	**316**	*e*PP	PP	02 54 41.0	-5.3
TCF	**Toulx Ste Croi**	**101.14**	**316**	*e*PP	PP	02 54 48.5	-4.2
	comp=Z,5.9nm,0.9s						
RJF	**Les Rejaudoux**	**101.70**	**315**	*e*PP	PP	02 54 52.3	-4.3
	comp=Z,33nm,1.4s						
RJF				*e*R			
	comp=Z,353nm,22.0s						
JMIC	**Jan Mayen**	**101.95**	**342**	*e*	S	03 02 09.2	-10
KDAK	**Kodiak Island**	**102.46**	**32**	PFAKE		02 51 00.0	+14
KDAK				LR	LR		
	comp=Z,87nm,20.0s,MS4.3						
MCK	**McKinley**	**102.98**	**26**	PFAKE		02 51 00.0	+11
MCK				LR	LR		
	comp=Z,174nm,20.0s,MS4.6						
FIB	**Fire Island**	**103.01**	**28**	PFAKE		02 51 00.0	+11
FIB				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
COLA	**College**	**103.14**	**24**	PFAKE		02 51 00.0	+11
COLA				LR	LR		
	comp=Z,250nm,19.0s,MS4.8						
PMR	**Palmer**	**103.40**	**28**	PFAKE		02 51 00.0	+10
PMR				LR	LR		
	comp=Z,249nm,20.0s,MS4.7						
ESK	**Eskdalemuir**	**103.48**	**326**	PFAKE		02 51 00.0	+9.1
ESK				LR	LR		
	comp=Z,112nm,20.0s,MS4.4						
ILAR	**Eielson Array**	**103.56**	**24**	Pdiff	Pdif	02 51 05.8	+15
	comp=Z,0.4nm,0.6s,baz=300,slow=4.6,SNR=7.7						
ILAR				PKiKP		02 55 09.1	
	comp=Z,0.9nm,1.1s,baz=272,slow=3.4,SNR=5.7						
ILAR				PKKPbc		03 06 43.1	
	comp=Z,0.4nm,0.6s,baz=111,slow=1.6,SNR=8.6						
ILAR				PKKP	PKKP	03 06 55.8	+12
	comp=Z,0.6nm,0.7s,baz=121,slow=2.4,SNR=8.1						
DIV	**Divide**	**105.09**	**28**	PFAKE		02 55 20.0	
DIV				LR	LR		
	comp=Z,616nm,19.0s,MS5.2						
ESDC	**Sonseca Array**	**106.25**	**310**	PP	PP	02 55 28.2	-2.6
	comp=Z,0.8nm,0.8s,baz=67,slow=6.5,SNR=4.3						
INK	**Inuvik**	**107.08**	**19**	*e*PKiKP		02 55 16.0	
SIT	**Sitka**	**111.56**	**30**	PFAKE		02 55 40.0	+17
SIT				LR	LR		
	comp=Z,359nm,20.0s,MS5.0						
YKW3	**Yellowknife Ar**	**116.79**	**18**	*e*PKPdf	PKPdf	02 55 33.8	+0.5
YKA	**Yellowknife Ar**	**116.85**	**18**	PKP	PKPdf	02 55 34.3	+1.0
	comp=Z,4.8nm,1.0s,baz=320,slow=2.3,SNR=18						
YKA				PKKPbc		03 06 00.7	
	comp=Z,1.1nm,0.8s,baz=128,slow=3.8,SNR=4.1						
OCWA	**Octopus Mounta**	**121.96**	**35**	PFAKE		02 56 00.0	+16
OCWA				LR	LR		
	comp=Z,367nm,22.0s,MS5.0						
CMW	**Cultus Mountai**	**122.77**	**34**	P	PKPdf	02 55 47.7	+2.6
GNW	**Green Mountain**	**122.84**	**35**	*e*PKPdf	PKPdf	02 55 47.5	+2.2
GNW				*e*pPKPdf		02 55 59.8	
JCW	**Jim Creek**	**123.00**	**34**	P	PKPdf	02 55 48.0	+2.4
RMW	**Rattlesnake Mo**	**123.48**	**35**	*e*PKIKP	PKPdf	02 55 48.5	+1.9
SHW	**Mount Saint He**	**123.91**	**36**	*e*PKIKP	PKPdf	02 55 50.3	+2.9
NLW	**Nelson Butte**	**123.95**	**33**	*e*PKPdf	PKPdf	02 55 49.2	+1.8
COR	**Corvallis**	**124.10**	**38**	PFAKE		02 56 00.0	+12
COR				LR	LR		
	comp=Z,268nm,22.0s,MS4.9						
VGB	**Gordon Butte**	**125.14**	**36**	*e*PKIKP	PKPdf	02 55 50.7	+0.9
DPW	**Davenport**	**125.23**	**33**	*e*PKIKP	PKPdf	02 55 52.0	+2.1
DPW				*e*		02 56 03.2	
FCC	**Fort Churchill**	**125.28**	**11**	*e*PKIKP	PKPdf	02 55 50.6	+0.9
FCC				*e*		02 56 02.9	
HUMO	**Hull Mountain**	**125.30**	**40**	*e*PKPdf	PKPdf	02 55 52.5	+2.3
HAWA	**Hanford**	**125.36**	**35**	*e*PKPdf	PKPdf	02 55 52.2	+2.0
HAWA				LR	LR		
	comp=Z,340nm,19.0s,MS5.0						
REDWA	**Red Mountain**	**125.47**	**35**	P	PKPdf	02 55 53.4	+3.0
NEW	**Newport**	**125.56**	**32**	PFAKE		02 56 00.0	+9.5
NEW				LR	LR		
	comp=Z,382nm,21.0s,MS5.0						
VIPM	**Ingram Point**	**125.78**	**37**	P	PKPdf	02 55 54.1	+3.1
YBH	**Yreka Blue Hor**	**125.89**	**41**	PFAKE		02 56 00.0	+8.7
YBH				LR	LR		
	comp=Z,422nm,21.0s,MS5.1						
LNOR	**Lincton Mounta**	**126.37**	**35**	*e*PKIKP	PKPdf	02 55 54.1	+1.9
WDC	**Whiskeytown Da**	**126.55**	**42**	*e*PKPdf	PKPdf	02 55 54.6	+1.9
WDC				LR	LR		
	comp=Z,314nm,20.0s,MS5.0						
HOPS	**Hopland**	**126.93**	**44**	PFAKE		02 56 10.0	+17
HOPS				LR	LR		
	comp=Z,298nm,20.0s,MS5.0						
FFC	**Flin Flon**	**127.01**	**18**	*e*PKPdf	PKPdf	02 55 54.0	+0.9
FFC				LR	LR		
	comp=Z,133nm,22.0s,MS4.6						
MOD	**Modoc**	**127.36**	**40**⇓	*e*PKPdf	PKPdf	02 55 56.5	+2.3
MOD				LR	LR		
	comp=Z,282nm,20.0s,MS4.9						
OHCM	**Honcut**	**127.86**	**43**	*e*PKPdf	PKPdf	02 55 56.9	+1.6
WVOR	**Wild Horse Val**	**128.12**	**38**	*e*PKPdf	PKPdf	02 55 58.1	+2.5
WVOR				*e*pPKPdf		02 56 10.3	
WVOR				LR	LR		
	comp=Z,292nm,19.0s,MS5.0						
BEKR	**Beckwourth**	**128.36**	**42**	*e*PKPdf	PKPdf	02 55 58.3	+2.1
CHMT	**Chamberlain Mo**	**128.43**	**31**	*e*PKPdf	PKPdf	02 55 57.5	+1.4
SAO	**San Andreas Ge**	**129.08**	**46**	PFAKE		02 56 10.0	+12
SAO				LR	LR		
	comp=Z,266nm,20.0s,MS4.9						
CMB	**Columbia Colle**	**129.24**	**44**	*e*PKPdf	PKPdf	02 55 59.6	+1.7
CMB				LR	LR		
	comp=Z,249nm,20.0s,MS4.9						
HRY	**Holter Researc**	**129.29**	**30**	*e*PKPdf	PKPdf	02 55 59.6	+1.8
LRV	**Little Rabbit**	**129.54**	**46**	*e*PKPdf	PKPdf	02 56 02.1	+3.5
MCMT	**McKenzie Canyo**	**130.02**	**33**	*e*PKPdf	PKPdf	02 56 01.8	+2.6
SCHQ	**Schefferville**	**130.05**	**352**	PKP	PKPdf	02 56 00.6	+1.6
	comp=Z,11nm,0.7s,baz=18,slow=2.5,SNR=25						
BMN	**Battle Mountai**	**130.11**	**40**	PFAKE		02 56 10.0	+10
BMN				LR	LR		
	comp=Z,247nm,20.0s,MS4.9						
BOZ	**Bozeman (W)**	**130.12**	**31**	*e*PKPdf	PKPdf	02 56 01.0	+1.7
BOZ				*e*pPKPdf		02 56 13.8	
BOZ				*e*SKPab		02 59 20.9	
BOZ				*e*SKPdf		02 59 35.4	
BOZ				LR	LR		
	comp=Z,266nm,19.0s,MS5.0						
OMM	**Old Mammoth Mi**	**130.40**	**44**	*e*PKPdf	PKPdf	02 56 03.1	+3.0
OMM				*e*pPKPdf		02 56 15.5	
OMM				*e*SKPbc		02 59 22.3	
NVAR	**Mina Array Bea**	**130.46**	**43**	PKP	PKPdf	02 56 03.2	+3.0
	comp=Z,2.0nm,0.5s,baz=327,slow=1.1,SNR=18						
NVAR				SKPbc		02 59 23.2	
	comp=Z,5.4nm,0.8s,baz=289,slow=2.8,SNR=19						
NVAR	**Mina Array Bea**	**130.46**	**43**	PKP	PKPdf	02 56 03.2	+3.0
NVAR				SKPbc		02 59 23.2	
MNV	**Mina**	**130.56**	**43**	*e*PKPdf	PKPdf	02 56 02.3	+1.9
MNV				*e*SKPbc		02 59 23.1	
MNV				LR	LR		
	comp=Z,291nm,20.0s,MS5.0						
QLMT	**Earthquake Lak**	**130.78**	**32**	*e*PKPdf	PKPdf	02 56 03.5	+2.8
QLMT				*e*SKPbc		02 59 24.4	
MTUM	**Tungsten Hills**	**130.83**	**44**	*e*PKPdf	PKPdf	02 56 03.5	+2.6
MTUM				*e*SKPbc		02 59 23.7	
YMR	**Madison River**	**131.13**	**32**	*e*PKPdf	PKPdf	02 56 05.3	+3.9
YMR				*e*SKPab		02 59 25.7	
TPH	**Tonopah**	**131.38**	**42**	*e*PKPdf	PKPdf	02 56 05.3	+3.3
TPH				*e*SKPab		02 59 27.2	
TPH				LR	LR		
	comp=Z,278nm,22.0s,MS4.9						
DGMT	**Dagmar**	**131.43**	**24**	*e*PKPdf	PKPdf	02 56 03.9	+2.1
DGMT				*e*SKPbc		02 59 24.6	
LAO	**LASA Array**	**131.96**	**27**	*e*PKPdf	PKPdf	02 56 05.7	+2.8
LAO				*e*SKPbc		02 59 28.3	
LAO				LR	LR		
	comp=Z,428nm,20.0s,MS5.2						
HVU	**Hansel Valley**	**132.02**	**36**	*e*PKPdf	PKPdf	02 56 05.2	+2.1
HVU				*e*SKPbc		02 59 28.2	
DAC	**Darwin (Calif)**	**132.04**	**45**	PFAKE		02 56 20.0	+17
DAC				LR	LR		
	comp=Z,280nm,22.0s,MS4.9						
AHID	**Auburn Hatcher**	**132.34**	**34**	PFAKE		02 56 20.0	+16
AHID				LR	LR		
	comp=Z,342nm,21.0s,MS5.0						
ULM	**Lac du Bonnet**	**132.72**	**16**	PKP	PKPdf	02 56 05.3	+1.2
	comp=Z,34nm,1.2s,baz=348,slow=4.0,SNR=15						
ULM				SKPbc		02 59 29.6	
	comp=Z,13nm,1.2s,baz=335,slow=3.3,SNR=12						
HWUT	**Hardware Ranch**	**132.83**	**35**	*e*PKPdf	PKPdf	02 56 05.8	+1.2
HWUT				*e*SKPbc		02 59 31.7	
HWUT				LR	LR		
	comp=Z,341nm,22.0s,MS5.0						
DUG	**Dugway**	**132.99**	**37**	*e*PKPdf	PKPdf	02 56 06.7	+1.8
DUG				*e*SKPbc		02 59 31.8	
DUG				*e*SKPdf		02 59 38.9	
DUG				LR	LR		
	comp=Z,294nm,22.0s,MS5.0						
PDAR	**Pinedale Array**	**133.17**	**33**	PKP	PKPdf	02 56 07.2	+1.9
	comp=Z,1.4nm,0.6s,baz=140,slow=1.9,SNR=15						
PDAR				SKPbc		02 59 32.4	
	comp=Z,4.0nm,1.2s,SNR=6.6						
TCUT	**Toone Canyon**	**133.24**	**36**	*e*PKPdf	PKPdf	02 56 07.7	+2.3
TCUT				*e*SKPbc		02 59 33.6	
CTU	**Camp Tracy**	**133.31**	**36**	*e*PKPdf	PKPdf	02 56 07.9	+2.3
JLU	**Jordanelle**	**133.54**	**36**	*e*PKPdf	PKPdf	02 56 07.1	+1.1
JLU				*e*SKPbc		02 59 33.2	
NLU	**North Lily Min**	**133.58**	**37**	*e*PKPdf	PKPdf	02 56 08.6	+2.5
NLU				*e*SKPbc		02 59 34.0	
NLU				*e*SKPdf		02 59 41.2	
PFO	**Pinyon Flat Ob**	**134.16**	**47**	*e*PKPdf	PKPdf	02 56 10.2	+2.8
PFO				*e*SKPab		02 59 37.2	
PFO				LR	LR		
	comp=Z,70nm,19.0s,MS4.4						
NEN	**Nelson**	**134.28**	**44**	*e*PKPdf	PKPdf	02 56 10.3	+2.8
NEN				*e*SKPbc		02 59 37.0	
MVU	**Marysvale**	**134.38**	**39**	*e*PKPdf	PKPdf	02 56 09.1	+1.5
MVU				*e*SKPbc		02 59 35.2	
MVU				LR	LR		
	comp=Z,327nm,20.0s,MS5.0						
LDFC	**Landfair**	**134.39**	**45**	*e*PKPdf	PKPdf	02 56 10.2	+2.4
MSU	**Marysvale**	**134.40**	**39**	*e*PKPdf	PKPdf	02 56 09.2	+1.5
MSU				*e*SKPbc		02 59 37.6	
SRU	**San Rafael**	**135.04**	**37**	*e*PKPdf	PKPdf	02 56 10.8	+2.0
SRU				*e*pPKPdf		02 56 23.5	
SRU				*e*SKPbc		02 59 38.8	
PV10	**Paradox Valley**	**136.40**	**37**	*e*PKPdf	PKPdf	02 56 14.1	+2.8
PV10				*e*SKPdf		02 59 44.7	
WUAZ	**Wupatki**	**136.70**	**42**	*e*PKPdf	PKPdf	02 56 14.2	+2.3
PV01	**Paradox Valley**	**136.84**	**37**	*e*PKPdf	PKPdf	02 56 14.6	+2.5
PV01				*e*SKPdf		02 59 45.7	
RW3	**Ridgway**	**137.28**	**36**	*e*PKIKP	PKPdf	02 56 16.0	+3.0
ISCO	**Idaho Springs**	**137.37**	**33**	*e*PKPdf	PKPdf	02 56 14.7	+1.6
ISCO				*e*SKPbc		02 59 45.8	
PQI	**Presque Isle**	**138.16**	**350**	PFAKE		02 56 30.0	+16
PQI				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
SDCO	**Great Sand Dun**	**138.89**	**35**	*e*PKPdf	PKPdf	02 56 18.2	+2.4
SDCO				LR	LR		
	comp=Z,541nm,21.0s,MS5.3						
EMMW	**East Machias**	**139.96**	**349**	PFAKE		02 56 30.0	+12
EMMW				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
LAZ	**Ladron**	**140.13**	**40**	*e*PKPdf	PKPdf	02 56 20.4	+2.2
ANMO	**Albuquerque**	**140.21**	**39**	*e*PKPpre		02 56 16.5	
ANMO				*e*PKPdf	PKPdf	02 56 20.9	+2.5
ANMO				LR	LR		
	comp=Z,299nm,20.0s,MS5.0						
LENM	**Lemitar**	**140.39**	**40**	PKPdf	PKPdf	02 56 20.8	+2.1
LPM	**Los Pinos Moun**	**140.51**	**40**	*e*PKPdf	PKPdf	02 56 19.7	+0.7
JFWS	**Jewell Farm**	**140.99**	**15**	*e*PKPdf	PKPdf	02 56 19.9	+0.4
JFWS				LR	LR		
	comp=Z,537nm,21.0s,MS5.3						
CBKS	**Cedar Bluff**	**141.09**	**28**	PFAKE		02 56 30.0	+10
CBKS				LR	LR		
	comp=Z,584nm,22.0s,MS5.3						
NCB	**Newcomb**	**141.55**	**356**	*e*PKPdf	PKPdf	02 56 22.0	+1.5
NCB				LR	LR		
	comp=Z,441nm,21.0s,MS5.2						
HRV	**Harvard--Oak R**	**142.75**	**353**	PFAKE		02 56 40.0	+17
HRV				LR	LR		
	comp=Z,389nm,19.0s,MS5.2						
CPUP	**Villa Florida**	**142.92**	**211**	PKhKP		02 56 20.6	
	comp=Z,5.3nm,0.8s,baz=145,slow=3.3,SNR=11						
GDL2	**Guadalupe Moun**	**143.32**	**40**	*e*PKPpre		02 56 24.2	
BINY	**Binghamton**	**143.40**	**358**	*e*PKPdf	PKPdf	02 56 25.0	+1.4
ERPA	**Erie**	**143.42**	**3**	PKPpre		02 56 22.8	
ERPA				LR	LR		
	comp=Z,435nm,20.0s,MS5.2						
CLNB	**Carlsbad**	**143.59**	**40**	*e*PKPdf	PKPdf	02 56 25.1	+0.8
BDFB	**Brasilia**	**144.18**	**234**	PKP	PKPdf	02 56 25.4	-0.3
	comp=Z,10nm,0.5s,baz=124,slow=2.2,SNR=42						
PAL	**Palisades**	**144.48**	**356**	*e*PKIKP	PKPdf	02 56 25.3	-0.3
SLM	**Saint Louis**	**144.96**	**18**	*e*PKIKP	PKPdf	02 56 26.8	+0.3
SSPA	**Standing Stone**	**144.98**	**1**	*e*PKPab	PKPab	02 56 26.7	-1.2
SSPA				LR	LR		
	comp=Z,467nm,21.0s,MS5.2						
CCM	**Cathedral Cave**	**145.18**	**19**	*e*PKPbc	PKPbc	02 56 27.3	0.0
CCM				LR	LR		
	comp=Z,625nm,20.0s,MS5.4						
BLO	**Bloomington**	**145.43**	**13**	*e*PKIKP	PKPdf	02 56 28.7	+1.4

FVM	**French Village**	145.50	18	*e*PKPdf	PKPdf	02 56 28.2	+0.7
FVM				*e*pPKPdf		02 56 40.7	
TXAR	**Lajitas Array**	145.61	43	PKPbc	PKPbc	02 56 30.6	+2.0
	comp=Z,31nm,0.9s,baz=270,slow=2.5,SNR=149						
TXAR				SKPbc		03 00 19.2	
	comp=Z,1.9nm,0.9s,baz=270,slow=1.8,SNR=4.3						
TXAR	**Lajitas Array**	145.61	43	PKPbc	PKPbc	02 56 30.6	+2.0
TXAR				SKPbc		03 00 19.2	
USIN	**University of**	146.31	15	*e*PKPdf	PKPdf	02 56 30.6	+1.7
JCT	**Junction City**	147.35	38	*e*PKPdf	PKPdf	02 56 32.3	+1.5
JCT				LR	LR		
	comp=Z,469nm,21.0s,MS5.2						
MIAR	**Mount Ida**	147.39	25	*e*PKPdf	PKPdf	02 56 32.6	+1.8
MIAR				LR	LR		
	comp=Z,580nm,20.0s,MS5.4						
CBN	**Corbin**	147.41	0	*e*PKPdf	PKPdf	02 56 32.6	+1.9
CBN				LR	LR		
	comp=Z,606nm,20.0s,MS5.4						
GLAT	**Glass**	147.44	18	*e*PKPbc	PKPdf	02 56 35.0	+4.2
GNAR	**Gosnell**	147.48	19	*e*PKPbc	PKPdf	02 56 35.3	+4.4
UTMT	**University of**	147.50	17	*e*PKPdf	PKPdf	02 56 32.4	+1.5
UALR	**University of**	147.70	23	*e*PKPdf	PKPdf	02 56 32.9	+1.6
UALR				*e*PKPbc	PKPdf	02 56 35.6	+4.3
HALT	**Halls**	147.75	18	*e*PKPbc	PKPdf	02 56 35.7	+4.4
FWV	**Forest Hill**	147.87	5	*e*PKPdf	PKPdf	02 56 32.6	+1.1
FWV				*e*PKPbc	PKPdf	02 56 35.6	+4.2
ELN	**Prospectdale**	148.23	5	*e*PKPbc	PKPdf	02 56 36.5	+4.5
BLA	**Blacksburg**	148.27	5	PFAKE		02 56 50.0	+18
BLA				LR	LR		
	comp=Z,521nm,20.0s,MS5.3						
PLAL	**Pickwick Lake**	148.99	17	*e*PKPdf	PKPdf	02 56 33.3	0.0
PLAL				*e*PKPbc	PKPdf	02 56 37.2	+3.9
PLAL				LR	LR		
	comp=Z,451nm,20.0s,MS5.3						
OXF	**Oxford**	149.01	20	*e*PKPdf	PKPdf	02 56 34.7	+1.4
OXF				*e*PKPbc	PKPdf	02 56 39.0	+5.7
OXF				LR	LR		
	comp=Z,454nm,20.0s,MS5.3						
NATX	**Nacogdoches**	149.22	30	*e*PKPdf	PKPdf	02 56 35.6	+1.8
NATX				*e*PKPbc	PKPdf	02 56 40.2	+6.4
NATX				LR	LR		
	comp=Z,478nm,20.0s,MS5.3						
SWET	**Sewanee**	149.35	14	*e*PKPdf	PKPdf	02 56 34.9	+1.0
SWET				*e*PKPbc	PKPdf	02 56 39.5	+5.6
CPCT	**Cooper Cave**	149.43	12	*e*PKPdf	PKPdf	02 56 36.0	+2.0
CPCT				*e*PKPbc	PKPdf	02 56 40.4	+6.4
CJM	**Chamela**	149.64	60	*i* P	PKPdf	02 56 37.6	+2.8
BBSR	**BB Station**	150.73	338	*e*PKPdf	PKPdf	02 56 37.5	+1.4
BBSR				*e*PKPbc	PKPdf	02 56 43.4	+7.2
BBSR				LR	LR		
	comp=Z,422nm,21.0s,MS5.2						
LVC	**Limon Verde**	150.91	196	PKPbc	PKPdf	02 56 44.9	+8.2
LVC	**Limon Verde**	150.91	196	*e*PKPdf	PKPdf	02 56 39.1	+2.4
LVC				*e*PKPbc	PKPdf	02 56 44.7	+8.0
LVC				*e*PKPab	PKPab	02 56 51.5	-0.5
LVC				*e*PP	PP	03 00 19.3	-4.5
LVC				LR	LR		
	comp=Z,400nm,19.0s,MS5.2						
JSC	**Jenkinsville**	151.09	7	*e*PKIKP	PKPdf	02 56 43.7	+7.1
TWB	**Tillmans-White**	152.37	5	*e*PKPbc	PKPdf	02 56 47.4	+8.9
NHSC	**New Hope**	152.37	5	PFAKE		02 56 50.0	+11
NHSC				LR	LR		
	comp=Z,456nm,20.0s,MS5.3						
LPAZ	**La Paz**	156.55	203	PKP	PKPdf	02 56 47.3	+2.7
	comp=Z,5.9nm,1.1s,baz=49,slow=3.4,SNR=17						
LPAZ				PKPab	PKPab	02 57 16.6	+0.5
	comp=Z,14nm,1.1s,baz=186,slow=5.2,SNR=16						
LPAZ	**La Paz**	156.55	203	PKPdf	PKPdf	02 56 46.9	+2.4
LPAZ				PKPab	PKPab	02 57 16.7	+0.7
NNA	**Nana**	162.66	182	PFAKE		02 57 00.0	+8.5
NNA				LR	LR		
	comp=Z,117nm,19.0s						
SJG	**San Juan**	163.34	320	PFAKE		02 57 10.0	+18
SJG				LR	LR		
	comp=Z,640nm,21.0s						
PAYG	**Puerto Ayora**	165.71	115	PFAKE		02 57 10.0	+15
PAYG				LR	LR		
	comp=Z,507nm,21.0s						
JTS	**JuntasAbangare**	171.07	57	PFAKE		02 57 10.0	+12
JTS				LR	LR		
	comp=Z,156nm,20.0s						
SDV	**Santo Domingo**	172.52	297	PFAKE		02 57 10.0	+11
SDV				LR	LR		
	comp=Z,564nm,20.0s						
ROSC	**El Rosal**	176.94	259	PKP	PKPdf	02 57 01.0	+0.9
	comp=Z,5.8nm,1.0s,baz=90,slow=20,SNR=6.1						
ROSC				PKPab	PKPab	02 58 42.4	-3.1
	comp=Z,3.8nm,0.6s,baz=130,slow=18,SNR=6.3						

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*BJI **02** 03:00:02.3, 47.48N×82.43E, h14^{km}, ML3.3*
*NNC **02** 03:00:03.9±0.3, 47.35N×82.37E, mpv3.5, Error ellipse: s-maj=11.8km s-min=1.5km az=91.0*
ISC 02 03:00:02.1±0.9**, 47.37N**±0.05×**82.62E**±0.10**, h10^{km}, n7, σ0^{s}84**/14**, 5C-7D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK05	**Makanchi Array**	0.62	201	⇓P	**Pb**	**03 00 14.9**	**+0.4**
	63nm,0.2s						
MK05				⇑S	**Sg**	**03 00 22.7**	**-0.1**
	859nm,0.5s						
MK04	**Makanchi Array**	0.64	200	⇑P	**Pb**	**03 00 15.2**	**+0.4**
	44nm,0.2s						
MK04				⇓S	**Sg**	**03 00 23.2**	**-0.3**
	503nm,0.3s						
MK09	**Makanchi Array**	0.64	202	⇓P	**Pb**	**03 00 15.2**	**+0.4**
	72nm,0.2s						
MK09				⇑S	**Sb**	**03 00 23.3**	**-0.2**
	717nm,0.5s						
MK03	**Makanchi Array**	0.64	200	⇓P	**Pb**	**03 00 15.3**	**+0.4**
	57nm,0.2s						
MK03				⇓S	**Sb**	**03 00 23.4**	**-0.2**
	925nm,0.5s						
KURK	**Kurchatov**	4.26	323	⇑Pn	**Pn**	**03 01 09.4**	**+0.9**
	1.2nm,0.7s,baz=100,slow=16,SNR=5.9						
KURK				⇓Pg	**Pg**	**03 01 19.8**	**-7.3**
	4.5nm,0.5s						
KURK				⇑Lg		03 02 15.8	
	34nm,0.8s,baz=83,slow=17,SNR=3.5						
WMQ	**Urumqi**	5.03	133	*e*P	**Pn**	**03 01 20.5**	**+1.1**
WMQ				S	**Sn**	**03 02 17.2**	**-1.1**
WMQ				SG	**Sg**	**03 02 39.6**	**-10**
WMQ				Smax			
	comp=N,9.0nm,0.6s						
WMQ				Smax			
	comp=E,14nm,0.6s						
CHKZ	**Chkalovo**	9.91	314	⇓Pn	**P**	**03 02 25.0**	**-2.5**
	comp=E,1.7nm,0.9s						

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*INMG **02** 03:21:40.2, 45.35N×23.51W, h10^{km}*
*SVSA **02** 03:22:20.4, 42.30N×21.34W, h10^{km}, Mb4.4*
*LDG **02** 03:22:39.1±5.0, 46.98N×16.79W, h10^{km}, Mb4.7/24, Error ellipse: s-maj=109.4km s-min=19.6km az=85.0*
ISC 02 03:21:30.5±0.6**, 45.00N**±0.04×**24.29W**±0.05**, h10^{km}, n67, σ1^{s}18**/80**, mb3.7**/3**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	6.53	206	*e*P	**Pn**	**03 23 06.8**	**-2.2**
STGR				*e*S	**Sn**	**03 24 23.7**	**-0.7**
PVNV	**Vila Nova**	6.59	200	*e*P	**Pn**	**03 23 09.2**	**-0.7**
PVNV				*e*S	**Sn**	**03 24 27.2**	**+1.3**
PBIS	**Biscoitos**	6.62	201	*e*P	**Pn**	**03 23 09.4**	**-0.8**
PBIS				*e*S	**Sn**	**03 24 29.4**	**+2.9**
PFAV	**Pico das Favas**	6.62	199	*e*P	**Pn**	**03 23 09.4**	**-0.9**
PFAV				*e*S	**Sn**	**03 24 28.1**	**+1.4**
PSBA	**Serra de Santa**	6.63	201	*e*P	**Pn**	**03 23 09.5**	**-0.9**
	353nm,0.5s						
PSBA				*e*S	**Sn**	**03 24 30.4**	**+3.6**
PSCM	**Serra do Cume**	6.64	199	*e*P	**Pn**	**03 23 09.6**	**-1.0**
ASBA	**Santa Barbara**	6.67	201	*e*P	**Pn**	**03 23 10.4**	**-0.7**
PPAD	**Pico dos Padre**	6.68	201	*e*P	**Pn**	**03 23 10.3**	**-0.9**
PPAD				*e*S	**Sn**	**03 24 28.7**	**+0.5**
RIB2	**Ribeirinha**	6.68	200	*e*P	**Pn**	**03 23 10.3**	**-0.9**
RIB2				*e*S	**Sn**	**03 24 31.7**	**+3.5**
ADH	**Angra Heroismo**	6.71	200	*e*P	**Pn**	**03 23 10.3**	**-1.3**
PID	**Ribeirinha**	7.15	205	*e*S	**Sn**	**03 24 39.9**	**0.0**
PCED	**Cedros**	7.17	209	*e*S	**Sn**	**03 24 37.0**	**-3.4**
PICO	**Pico**	7.19	207	*e*S	**Sn**	**03 24 37.3**	**-3.7**
PICO				*e*-		03 26 06.9	
PFAD	**Fenais da Ajud**	7.20	187	*e*P	**Pn**	**03 23 18.5**	**+0.1**
CALA	**Caldeira**	7.21	209	*e*S	**Sn**	**03 24 36.6**	**-4.8**
SET4	**Mosteiros**	7.21	190	*e*P	**Pn**	**03 23 18.0**	**-0.6**
PSAN	**Santo Antonio**	7.23	189	*e*P	**Pn**	**03 23 19.0**	**+0.2**
PMAT	**Coroa da Mata**	7.24	187	*e*P	**Pn**	**03 23 18.9**	**0.0**
SET2	**Ginetes**	7.24	190	*e*P	**Pn**	**03 23 19.0**	**-0.1**
MESC	**Monte Escuro**	7.25	187	*e*P	**Pn**	**03 23 19.8**	**+0.6**
PVER	**Pico Vermelho**	7.26	188	*e*P	**Pn**	**03 23 19.6**	**+0.3**
PFET	**Feteiras**	7.27	189	*e*P	**Pn**	**03 23 18.7**	**-0.7**
LFA	**Lagoa do Fogo**	7.28	187	*e*P	**Pn**	**03 23 19.6**	**0.0**
CML	**Cha da Macela**	7.29	188	*e*P	**Pn**	**03 23 19.5**	**-0.2**
FAC	**Faja de Cima**	7.29	189	*e*P	**Pn**	**03 23 20.0**	**+0.2**
VIF	**Vila Franca**	7.30	187	*e*P	**Pn**	**03 23 19.9**	**0.0**
PRCH	**Ribeira Ch**	7.32	187	*e*P	**Pn**	**03 23 20.8**	**+0.6**
PSMN	**Pico do Norte,**	8.01	184	*e*P	**P**	**03 23 30.1**	**+0.3**
PVRL	**Vila Real**	12.67	101	*e*P	**P**	**03 24 34.0**	**+0.5**
PVIS	**Viseu**	12.77	104	*e*P	**P**	**03 24 35.5**	**+0.6**
PVIS				*e*S	**S**	**03 26 54.5**	**-3.6**
PLOU	**Loures**	12.81	113	*e*P	**P**	**03 24 37.6**	**+2.1**
PLOU				*e*S	**S**	**03 26 57.7**	**-1.5**
PTOM	**Tomar**	12.92	109	*e*P	**P**	**03 24 38.2**	**+1.3**
MTE	**Manteigas**	13.14	105	*e*P	**P**	**03 24 40.4**	**+0.5**
MTE				*e*S	**S**	**03 27 03.8**	**-3.4**
PCBR	**Castelo Branco**	13.45	107	*e*P	**P**	**03 24 45.2**	**+1.4**
PCBR				*e*S	**S**	**03 27 11.1**	**-3.2**
MOE	**Montemor**	13.54	113	*e*S	**S**	**03 27 15.7**	**-0.8**
PTEO	**Sao Teotonio**	13.86	117	*e*S	**S**	**03 27 24.1**	**-0.2**
PBEJ	**Beja**	14.13	114	*e*P	**P**	**03 24 55.8**	**+3.0**
PBEJ				*e*S	**S**	**03 27 29.8**	**-0.8**
PALC	**Alcoutim**	14.71	115	*e*P	**P**	**03 25 04.3**	**+3.9**
PALC				*e*S	**S**	**03 27 44.3**	**0.0**
ROSF	**Rostrenen**	14.80	70	*e*P	**P**	**03 24 54.1**	**-7.4**
	6.8nm,0.3s						
QUIF	**Quistinic**	14.84	71	*e*P	**P**	**03 24 55.6**	**-6.5**
	11nm,0.3s						
SGMF	**Saint Gilles**	15.27	70	*e*P	**P**	**03 25 01.0**	**-6.7**
	12nm,0.4s						
GRR	**Gorron**	16.41	70	*e*P	**P**	**03 25 16.4**	**-5.9**
	8.6nm,0.3s						
SJPF	**Ste Jean**	16.68	88	*e*P	**P**	**03 25 27.5**	**+1.7**
	5.3nm,0.3s						
FLN	**La Foliniere**	16.69	68	*e*P	**P**	**03 25 20.2**	**-5.6**
	4.2nm,0.3s						
MFF	**Saint Martin d**	16.90	76	*e*P	**P**	**03 25 25.9**	**-2.6**
	6.1nm,0.2s						
LDF	**La Druitiere**	16.91	69	*e*P	**P**	**03 25 23.4**	**-5.3**
	4.2nm,0.3s						
ETSF	**Etsaut**	17.21	89	*e*P	**P**	**03 25 34.7**	**+2.3**
	17nm,0.7s						
LFF	**La Frestale**	17.70	81	*e*P	**P**	**03 25 38.6**	**+0.1**
	7.5nm,0.5s						
EPF	**Esparros**	17.81	88	*e*P	**P**	**03 25 42.6**	**+2.7**
RJF	**Les Rejaudoux**	18.19	80	*e*P	**P**	**03 25 44.5**	**-0.1**
TCF	**Toulx Ste Croi**	18.55	77	*e*P	**P**	**03 25 48.4**	**-0.7**
	4.6nm,0.2s						
CAF	**Calviac**	18.63	81	*e*P	**P**	**03 25 49.9**	**-0.2**
	5.2nm,0.4s						
HYF	**Humbligny**	18.77	73	*e*P	**P**	**03 25 51.1**	**-0.7**
BGF	**Bois d'Agland**	18.96	76	*e*P	**P**	**03 25 53.9**	**-0.2**
	8.1nm,0.3s						
MTLF	**Montolieu**	19.06	86	*e*P	**P**	**03 25 57.9**	**+2.6**
	2.9nm,0.3s						
AVF	**Avril sur Loir**	19.29	75	*e*P	**P**	**03 25 57.8**	**-0.1**
	5.1nm,0.3s						
SSF	**Saint Saulge**	19.37	74	*e*P	**P**	**03 25 58.4**	**-0.5**
	9.7nm,0.5s						
LOR	**Lormes**	19.60	73	*e*P	**P**	**03 26 01.4**	**-0.1**
	5.1nm,0.4s						
SMF	**Signal de Mont**	19.64	75	*e*P	**P**	**03 26 01.9**	**0.0**
	1.2nm,0.2s						
LASF	**Ste Croix**	20.05	83	*e*P	**P**	**03 26 09.8**	**+3.3**
	3.9nm,0.4s						
GIVF	**Givet**	20.23	65	*e*P	**P**	**03 26 07.8**	**-0.5**
MEZF	**Maizieres J'vi**	20.35	70	*e*P	**P**	**03 26 09.8**	**+0.2**
	4.2nm,0.4s						
CABF	**La Chapelle**	21.18	75	*e*P	**P**	**03 26 22.2**	**+4.1**
	4.1nm,0.5s,mb3.7						
HAU	**Haudompre**	21.23	71	*e*P	**P**	**03 26 22.1**	**+3.4**
HINF	**Hinteralfeld**	21.59	71	*e*P	**P**	**03 26 26.5**	**+4.3**
LPL	**La Plagne**	21.78	78	*e*P	**P**	**03 26 30.4**	**+6.2**
	1.6nm,0.4s,mb3.5						
LPG	**La Plagne**	21.80	78	*e*P	**P**	**03 26 30.8**	**+6.4**
	5.9nm,0.8s,mb3.8						

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*INET **02** 03:23:38.9, 12.27N×88.74W, h32^{km}, MD3.6, ML3.2*
*SSS **02** 03:23:41.0, 12.85N×88.44W, h133^{km}, MD3.7*
CASC 02 03:23:40.5±1.9**, 12.27N×88.60W, h61**^{km}±82^{km}**, MD3.8, ML3.1, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	1.19	15	*e*P	P	03 24 02.1	+0.7
VSM				*e*S	S	03 24 18.4	+1.5
CNCH	**Conchagua**	1.25	37	*e*P	P	03 24 02.1	-0.1
SNVI	**San Vicente**	1.35	350	*e*P	P	03 24 03.7	-0.1
SNVI				*e*S	S	03 24 21.9	+0.9
LFRS	**El Faro**	1.42	341	*e*P	P	03 24 04.5	-0.2
LFRS				*e*S	S	03 24 23.0	+0.4
LCBS	**La Ceiba**	1.43	345	*e*P	P	03 24 04.4	-0.3
LCBS				*e*S	S	03 24 22.1	-0.6
PYN	**Poneloya**	1.54	86	*e*P	P	03 24 05.1	-1.2
BOQS	**Boqueron**	1.60	335	*e*P	P	03 24 07.3	+0.2
BOQS				*e*S	S	03 24 27.6	+0.8
TEL3	**Telica 3**	1.74	80	*e*P	P	03 24 07.6	-1.4
TELN	**Telica**	1.76	79	*e*P	P	03 24 08.1	-1.2
MIRN	**Miramar**	1.85	85	*e*P	P	03 24 09.7	-0.8
MIRN				*e*S	S	03 24 34.8	+2.0
SBLS	**San Blas**	1.85	327	*e*P	P	03 24 11.0	+0.5
SNJE	**San Jose**	1.87	328	*e*P	P	03 24 10.8	0.0
SNJE				*e*S	S	03 24 33.6	+0.4
RTR	**El Retiro**	1.91	328	*e*P	P	03 24 10.7	-0.7
COPN	**Copaltepe**	1.96	92	*e*P	P	03 24 11.1	-1.0
COPN				*e*S	S	03 24 35.9	+0.4
MOMJ	**Momotombo**	2.02	86	*e*P	P	03 24 11.2	-1.6
MGAN	**Managua**	2.30	93	*e*S	S	03 24 43.6	-0.4
MGAN				*i*		03 24 44.4	
	comp=E,129nm,0.4s						
TICN	**Ticuantepe**	2.33	96	*e*P	P	03 24 16.7	-0.6
COFN	**Cofrada**	2.43	93	*e*P	P	03 24 18.2	-0.6
JCR	**Jicaral**	4.18	125	*e*P	P	03 24 43.3	-0.1
JCR				*e*S	S	03 25 30.0	-1.4
LAJ	**Bijagual**	5.00	118	*e*P	P	03 24 50.9	-3.9
LAJ				*e*S	S	03 25 43.1	-8.8
LCR2	**La Lucha 2**	5.16	119	*e*P	P	03 24 57.3	+0.3
LCR2				*e*S	S	03 25 54.0	-2.1
URSC	**Urasca**	5.31	117	*e*P	P	03 24 59.7	+0.6
URSC				*e*S	S	03 26 00.2	+0.4

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*IDC **02** 03:31:00.8±3.2, 44.48N×148.09E, mb3.6/3, mb1 3.8/4, mb1mx3.4/22, ML2.8/1, Error ellipse: s-maj=92.8km s-min=31.8km az=168.0*
*JMA **02** 03:31:02.5±0.2, 43.67N×147.75E, M3.8*
ISC 02 03:31:03.9±1.5**, 43.7N**±0.1×**148.0E**±0.1**, h65**^{km}±18^{km}**, n14, σ0^{s}71**/23**, mb3.4**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	1.67	258	P	**P**	**03 31 30.5**	**-1.0**
NEM2				*e*S	**S**	**03 31 50.9**	**-1.0**
JRA	**Rausu**	2.08	277	P	**P**	**03 31 36.9**	**-0.3**
JRA				*e*S	**S**	**03 32 01.8**	**0.0**
JNK	**Nakash**	2.37	268	P	**P**	**03 31 41.0**	**-0.3**
JNK				*e*S	**S**	**03 32 08.7**	**-0.5**
JAK	**Akkeshi**	2.50	254	P	**P**	**03 31 42.7**	**-0.5**
JAK				*e*S	**S**	**03 32 12.1**	**-0.5**
JTKR	**Abashiri--Toko**	2.95	276	P	**P**	**03 31 49.7**	**+0.1**
JTKR				*e*S	**S**	**03 32 24.7**	**+0.8**
JAR	**Ashorobuto**	3.09	263	P	**P**	**03 31 52.0**	**+0.5**
JAR				*e*S	**S**	**03 32 27.4**	**0.0**
JOB	**Onbets**	3.13	256	P	**P**	**03 31 52.0**	**-0.1**
JOB				*e*S	**S**	**03 32 28.4**	**-0.1**
JMP	**Maruseppu**	3.35	276	P	**P**	**03 31 55.5**	**+0.4**
JCH	**Churui**	3.56	253	P	**P**	**03 31 58.8**	**+0.8**
JCH				*e*S	**S**	**03 32 39.8**	**+0.7**
ASAJ	**Asahikawa**	3.91	277	Pn	**P**	**03 32 04.3**	**+1.4**
	0.5nm,0.3s,baz=95,slow=16,SNR=2.9						
ASAJ				Sn	**S**	**03 32 56.8**	**+8.9**
	1.2nm,0.3s,baz=343,slow=20,SNR=2.8						
JNBK	**Urakawa-nobuka**	4.10	251	P	**P**	**03 32 05.9**	**+0.3**
ILAR	**Eielson Array**	41.15	36	P	**P**	**03 38 42.1**	**-0.7**
	0.6nm,0.7s,mb3.5,baz=282,slow=9.7,SNR=9.7						
FINES	**FINESS Array B**	65.16	333	P	**P**	**03 41 38.2**	**-1.4**
	0.4nm,0.5s,mb3.5,baz=59,slow=8.1,SNR=7.4						
TXAR	**Lajitas Array**	82.16	57	P	**P**	**03 43 20.3**	**+1.3**
	0.2nm,0.6s,mb3.2,baz=315,slow=3.5,SNR=4.1						

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*NNC **02** 03:40:46.6±8.9, 43.23N×84.91E, mpv2.9, Error ellipse: s-maj=87.0km s-min=78.1km az=62.0*
BJI 02 03:40:43.4, 43.07N×85.14E, h14^{km}, ML3.5, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	2.01	67	PG	Pg	03 41 20.1	-3.4
WMQ				SG	Sg	03 41 44.6	-5.7
WMQ				Smax			
	comp=N,160nm,0.3s						
WMQ				Smax			
	comp=E,144nm,0.3s						
MK03	**Makanchi Array**	4.21	332	⇑Lg		03 42 53.7	
	comp=E,62nm,0.9s,baz=150,slow=29						
MK04	**Makanchi Array**	4.22	332	⇑Pg	Pg	03 41 59.4	-8.3
	comp=E,4.5nm,0.5s,baz=148,slow=17						
MK05	**Makanchi Array**	4.24	332	⇑Pn	Pn	03 41 49.5	+0.4
	comp=E,0.2nm,0.2s,baz=162,slow=14						

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*NEIC **02** 03:43:39.3±0.3, 17.11S×174.55W, h100^{km}, mb4.5/9, Error ellipse: s-maj=17.5km s-min=7.9km az=132.0*
*IDC **02** 03:43:41.2±9.2, 17.17S×174.53W, h115^{km}±83^{km}, mb4.1/9, mb1 4.3/9, mb1mx4.1/15, Error ellipse: s-maj=40.2km s-min=19.8km az=159.0*
ISC 02 03:43:38.1±0.4**, 17.1S**±0.1×**174.6W**±0.1**, h100^{km}, n70, σ0^{s}70**/32**, mb4.3**/17**, 3C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	22.32	197	P	**P**	**03 48 27.3**	**-0.9**
	39nm,0.8s,mb4.8,baz=356,slow=1.5,SNR=20						
SNZO	**South Karori**	25.84	199	P	**P**	**03 49 03.2**	**+1.3**
RPZ	**Rata Peaks**	29.20	202	P	**P**	**03 49 32.2**	**-0.1**
	4.6nm,0.5s,mb4.4,baz=135,slow=1.4,SNR=4.2						
CTA	**Charters Tower**	37.15	259	P	**P**	**03 50 42.0**	**+0.9**
	0.9nm,0.4s,mb4.0,baz=72,slow=13,SNR=4.3						
CTA	**Charters Tower**	37.15	259	P	**P**	**03 50 42.0**	**+0.9**
CTAO	**Charters Tower**	37.15	259	*e*P	**P**	**03 50 36.8**	**-4.4**
	17nm,1.4s,mb4.8						
STKA	**Stephens Creek**	42.20	241	P	**P**	**03 51 23.7**	**+0.9**
	8.6nm,0.7s,mb4.6,baz=97,slow=9.7,SNR=16						
STKA	**Stephens Creek**	42.20	241	P	**P**	**03 51 23.7**	**+0.9**
WB2	**Warramunga Arr**	48.33	258	*e*P	**P**	**03 52 11.3**	**-0.4**
WRA	**Warramunga Arr**	48.34	258	P	**P**	**03 52 11.5**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=95,slow=7.2,SNR=23						
ASPA	**Alice Springs**	48.50	253	*e*P	**P**	**03 52 12.9**	**0.0**
QSPA	**South Pole Qui**	72.98	180	*e*P	**P**	**03 54 55.0**	**-2.9**
	1.3nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	76.35	42	P	**P**	**03 55 18.7**	**+0.6**
	3.6nm,0.9s,mb4.1,baz=211,slow=7.1,SNR=17						
NEN	**Nelson**	77.12	46	*e*P	**P**	**03 55 22.4**	**-0.1**
DIV	**Divide**	81.29	14	*e*P	**P**	**03 55 44.4**	**-0.1**
	28nm,0.6s,mb5.3						
TCUT	**Toone Canyon**	82.27	43	*e*P	**P**	**03 55 49.1**	**-0.9**
HWUT	**Hardware Ranch**	82.41	42	*e*P	**P**	**03 55 50.3**	**-0.4**
	1.8nm,0.8s,mb4.0						
PV10	**Paradox Valley**	82.51	46	*e*P	**P**	**03 55 51.2**	**0.0**
TXAR	**Lajitas Array**	82.51	56	P	**P**	**03 55 52.2**	**+0.8**
	1.8nm,0.8s,mb3.9,baz=214,slow=9.0,SNR=19						
TXAR	**Lajitas Array**	82.51	56	P	**P**	**03 55 52.2**	**+0.8**
PV01	**Paradox Valley**	82.72	47	*e*P	**P**	**03 55 52.5**	**+0.2**
ANMO	**Albuquerque**	82.77	50	*e*P	**P**	**03 55 53.0**	**+0.4**
	4.9nm,0.7s,mb4.5						
MCK	**McKinley**	82.98	11	*e*P	**P**	**03 55 52.9**	**-0.2**
	4.1nm,0.9s,mb4.3						
GDL2	**Guadalupe Moun**	83.15	53	*e*P	**P**	**03 55 55.5**	**+0.9**
MCMT	**McKenzie Canyo**	83.28	39	*e*P	**P**	**03 55 55.4**	**+0.3**
RW3	**Ridgway**	83.39	47	*e*P	**P**	**03 55 56.1**	**+0.4**
COLA	**College**	84.22	11	*e*P	**P**	**03 55 58.9**	**-0.4**
	11nm,0.7s,mb4.8						
PDAR	**Pinedale Array**	84.29	42	P	**P**	**03 55 59.9**	**-0.2**
	5.1nm,1.1s,mb4.2,baz=218,slow=3.1,SNR=18						
ILAR	**Eielson Array**	84.31	12	P	**P**	**03 55 59.3**	**-0.4**
	1.9nm,0.5s,mb4.2,baz=229,slow=5.9,SNR=69						
BOZ	**Bozeman (W)**	84.45	39	*e*P	**P**	**03 56 00.9**	**+0.1**
	2.7nm,1.1s,mb4.0						
DAWY	**Dawson**	85.33	15	*e*P	**P**	**03 56 05.1**	**+0.4**
INK	**Inuvik**	90.17	14	P	**P**	**03 56 26.6**	**-1.2**
	7.3nm,1.2s,mb4.7						
MKAR	**Makanchi Array**	111.15	314	PKiKP		04 02 00.1	
	0.4nm,0.4s,baz=114,slow=2.2,SNR=4.9						
ARCES	**ARCESS Array B**	126.09	351	PKP	PKPdf	04 02 28.3	+0.1
	1.4nm,0.7s,baz=315,slow=1.7,SNR=9.4						
FINES	**FINESS Array B**	133.30	347	PKP	PKPdf	04 02 41.7	-0.5
	0.5nm,0.6s,baz=346,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	133.30	347	PKP	PKPdf	04 02 41.7	-0.5
KWP	**Kalwaria**	144.63	340	*e*PKPbc	PKPbc	04 03 02.7	0.0
CLL	**Collm**	145.31	352	⇓*i*PKP1	PKPbc	04 03 05.0	+0.5
BRG	**Berggiesshubel**	145.59	350	*e*P	PKPdf	04 03 04.7	+0.3
BRG				*e*		04 03 06.0	
DPC	**Dobruska-Polom**	145.66	348	*e*PKP	PKPdf	04 03 06.8	+2.2
PVCC	**Panska Ves**	145.82	350	*e*PKP	PKPdf	04 03 07.3	+2.5
MOX	**Moxa**	146.14	353	*e*P	PKPdf	04 03 06.0	+0.6
PRU	**Pruhonice**	146.34	349	*e*PKP	PKPdf	04 03 08.4	+2.7
	5.1nm,0.8s						
VRAC	**Vranov**	146.58	347	PKPbc	PKPbc	04 03 10.9	+3.3
	2.1nm,0.5s,baz=16,slow=13,SNR=4.7						
BRTR	**Keskin Array B**	146.67	318	PKPbc	PKPbc	04 03 10.1	+1.9
	2.0nm,0.6s,baz=117,slow=2.8,SNR=13						
MLR	**Muntele Rosu**	146.86	333	PKPbc	PKPbc	04 03 09.7	+1.3
	5.0nm,1.0s,baz=172,slow=1.1,SNR=5.3						
KHC	**Kasperske Hory**	147.34	350	*e*PKP	PKPdf	04 03 11.5	+4.1
KHC				*e*		04 03 14.2	
GERES	**GERESS Array B**	147.59	350	PKPbc	PKPdf	04 03 12.0	+4.1
	1.8nm,0.6s,baz=18,slow=2.7,SNR=22						
ROSF	**Rostrenen**	148.03	11	*e*PKP1	PKPdf	04 03 12.2	+3.6
	22nm,1.0s						
FLN	**La Foliniere**	148.03	7	*e*PKP1	PKPdf	04 03 12.0	+3.4
SGMF	**Saint Gilles**	148.23	10	*e*PKP1	PKPdf	04 03 12.7	+3.8
LDF	**La Druitiere**	148.24	7	*e*PKP1	PKPdf	04 03 12.8	+3.9
	10nm,0.8s						
GRR	**Gorron**	148.35	8	*e*PKP1	PKPdf	04 03 13.5	+4.4
	30nm,1.0s						
CDF	**Champ du Feu**	148.71	358	*e*PKP1	PKPdf	04 03 14.7	+5.1
	7.3nm,0.7s						
HAU	**Haudompre**	149.14	359	*e*PKP1	PKPdf	04 03 15.7	+5.3
	7.5nm,0.7s						
HINF	**Hinteralfeld**	149.32	358	*e*PKP1	PKPdf	04 03 15.8	+5.2
	4.0nm,0.6s						
WATA	**Walderalm**	149.39	352	⇓*i*P	PKPdf	04 03 16.6	+5.8
WTTA	**Wattenberg**	149.46	352	⇑*i*P	PKPdf	04 03 16.8	+5.9
SQTA	**Sankt Quirin**	149.56	352	⇑*i*P	PKPdf	04 03 16.6	+5.6
DAVA	**Damuels**	149.64	354	⇑*i*P	PKPdf	04 03 17.7	+6.5
LOR	**Lormes**	149.86	2	*e*PKP1	PKPdf	04 03 17.4	+5.9
	7.4nm,0.7s						
SSF	**Saint Saulge**	150.06	3	*e*PKP1	PKPdf	04 03 18.0	+6.2
DAVOX	**Davos**	150.14	354	PKPbc	PKPdf	04 03 18.2	+6.3
	9.5nm,0.7s,baz=301,slow=1.8,SNR=14						
AVF	**Avril sur Loir**	150.32	3	*e*PKP1	PKPdf	04 03 18.7	+6.5
BOJS	**Bojanci**	150.48	346	⇓*e*P	PKPdf	04 03 19.1	+6.6
CABF	**La Chapelle**	150.54	359	*e*PKP1	PKPdf	04 03 19.7	+7.1
	8.4nm,0.7s						
VIVF	**Saint-Julien-l**	152.30	1	*e*PKP1	PKPdf	04 03 23.2	+8.0
MBDF	**Montbardon**	152.41	358	*e*PKP1	PKPdf	04 03 24.1	+8.7
	4.2nm,0.7s						
LMR	**La Mourre**	153.81	358	*e*PKP1	PKPdf	04 03 27.1	+10
ESDC	**Sonseca Array**	156.06	18	PKPab	PKPab	04 03 50.1	-0.8
	0.1nm,0.4s,baz=331,slow=5.7,SNR=4.8						

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*NEIC **02** 03:53:53.4, 37.83N×21.12E, h8^{km}, ML3.5(ATH), After ATH.*
*ATH **02** 03:53:53.4, 37.84N×21.12E, h7^{km}±3^{km}, MD3.8/16, ML3.5*
*IDC **02** 03:53:54.7±1.8, 38.09N×21.30E, mb3.7/6, mb1 3.6/11, mb1mx3.6/26, ML3.5/5, Error ellipse: s-maj=38.2km s-min=19.6km az=42.0*
*THE **02** 03:53:58.5, 37.89N×21.25E, h17^{km}, ML3.8*
ISC 02 03:53:54.3±1.1**, 37.85N**±0.03×**21.09E**±0.05**, h12**^{km}±8^{km}**, n47, σ1^{s}32**/55**, mb3.6**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.51	310	*e*PB	**Pb**	**03 54 04.0**	**-0.7**
ITM	**Ithomi**	0.94	135	*e*PB	**Pb**	**03 54 10.0**	**-2.1**
ITM				*e*SB	**Sb**	**03 54 24.5**	**+0.1**
EVR	**Evrytania**	1.21	28	*e*PG	**Pg**	**03 54 16.0**	**-2.5**
AGG	**Agios Georgios**	1.53	39	*e*Pb	**Pb**	**03 54 22.4**	**+0.3**

AGG				*e*Sb	Sb	03 54 41.0	-0.3
MKIT	Kithairon Oros	1.75	78	*e*PN	Pn	03 54 26.0	+1.2
JAN	Janina	1.82	354	*e*PG	Pg	03 54 28.5	-2.1
JAN	Janina	1.82	354	*e*Pg	Pg	03 54 29.0	-1.6
VLI	Veliai	1.86	127	*e*PN	Pn	03 54 27.2	+0.9
VLI	Veliai	1.86	127	*e*PN	Pn	03 54 27.2	+0.9
NSAL	Nisos Salamina	1.88	87	*e*PN	Pn	03 54 26.5	-0.2
NAIG	Nisos Aigina	1.91	92	*e*PN	Pn	03 54 27.0	0.0
MEV	Metsovon	1.94	3	*e*Pb	Pb	03 54 29.5	+0.3
MEV				*e*Sb	Sb	03 54 52.9	-0.4
ATH	Athens Observa	2.08	86	*e*PN	Pn	03 54 30.5	+0.9
MPAR	Parnis Oros	2.12	81	*e*PN	Pn	03 54 31.5	+1.5
KEK	Kerkira	2.12	332	*e*PN	Pn	03 54 32.0	+2.0
SRN	Sarande	2.20	338	*e*Pn	Pn	03 54 32.7	+1.5
SRN				*i* Sn	Sn	03 55 02.0	+3.4
PTL	Penteli	2.21	84	*e*PN	Pn	03 54 31.5	+0.2
NEO	Neokhori	2.22	48	*e*PN	Pn	03 54 32.5	+1.0
LIT	Litokhoron	2.50	26	*e*Pn	Pn	03 54 37.4	+1.8
LIT				*e*Sn	Sn	03 55 05.3	-1.0
KZN	Kozani	2.51	12	*e*PN	Pn	03 54 37.0	+1.3
FNA	Florina	2.94	4	*e*Pn	Pn	03 54 43.0	+1.2
SOH	Sokhos	3.45	30	*e*Pn	Pn	03 54 50.1	+1.1
SOH				*e*Sn	Sn	03 55 28.3	-2.0
VAM	Vamos	3.49	133	*e*PN	Pn	03 54 46.5	-3.2
KNT	Kendrikon	3.59	22	*e*Pn	Pn	03 54 52.3	+1.2
KNT				*e*Sn	Sn	03 55 32.8	-1.1
TIR	Tirane	3.62	345	*e*Pn	Pn	03 54 53.0	+1.5
TIP	Timpagrande	3.65	293	*e*P	Pn	03 54 50.4	-1.4
IDI	Anoyia	3.99	129	Pn	Pn	03 54 55.4	-1.2
	0.8nm,0.3s,baz=307,slow=16,SNR=6.2						
IDI				Sn	Sn	03 55 43.5	-0.4
	2.4nm,0.3s,baz=308,slow=23,SNR=4.3						
SKO	Skopje	4.13	4	*e*Pn	Pn	03 54 57.0	-1.7
MMB	Musomiste	4.26	28	*e*P	Pn	03 55 02.0	+1.5
KKB	Krupnik	4.30	20	*e*P	Pn	03 55 05.0	+3.9
RZN	Rozhen	4.75	35	*e*P	Pn	03 55 04.0	-3.5
VTS	Vitosha	5.01	18	*e*P	Pn	03 55 12.0	+0.8
CII	Carovilli	6.50	309	*e*Pn	Pn	03 55 31.6	-0.6
	6.2nm,0.6s						
MLR	Muntele Rosu	8.46	24	Pn	P	03 56 06.1	+6.5
	0.4nm,0.3s,baz=198,slow=20,SNR=3.4						
MLR	Muntele Rosu	8.46	24	Pn	P	03 56 06.1	+6.5
CEY	Cerknica	9.32	330	*e*Pn	P	03 56 09.5	-2.0
BRTR	Keskin Array B	9.98	75	Pn	P	03 56 21.1	+0.5
	0.1nm,0.3s,baz=261,slow=12,SNR=3.7						
GERES	GERESS Array B	12.23	336	Pn	P	03 56 48.0	-3.2
	0.1nm,0.3s,baz=157,slow=15,SNR=2.8						
ESDC	Sonseca Array	19.61	283	P	P	03 58 26.6	+1.4
	0.1nm,0.3s,baz=96,slow=9.9,SNR=4.1						
HFS	Hagfors	22.80	350	P	P	03 58 56.7	-1.0
	3.2nm,1.0s,mb3.7,baz=180,slow=13,SNR=6.6						
FINES	FINESS Array B	23.83	6	P	P	03 59 06.3	-1.4
	1.2nm,0.7s,mb3.4,baz=164,slow=14,SNR=5.8						
EKA	Eskdalemuir Ar	23.95	325	P	P	03 59 11.0	+2.0
	1.4nm,0.8s,mb3.5,baz=135,slow=9.4,SNR=5.8						
NB2	NORSAR Subarra	24.03	348	P	P	03 59 09.8	+0.1
	1.3nm,0.8s,mb3.4,baz=156,slow=9.3						
NOA	NORSAR Array B	24.03	348	P	P	03 59 09.2	-0.5
	1.0nm,0.7s,mb3.4,baz=158,slow=8.2,SNR=6.9						
ARCES	ARCESS Array B	31.84	3	P	P	04 00 17.4	-3.4
	0.8nm,0.8s,mb3.6,baz=203,slow=9.2,SNR=3.9						
KURK	Kurchatov	42.12	53	P	P	04 01 46.5	-1.2
MKAR	Makanchi Array	45.10	58	P	P	04 02 11.9	0.0
	1.6nm,0.6s,mb4.0,baz=271,slow=6.9,SNR=12						

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*NIED **02** 03:56:00,35.70N×140.80E,h56^{km},Mw4.2 Best double couple: M$_0$1.89×10^{15} NP1:ϕ_s357°,δ84°,λ106°. NP2: ϕ_s106°,δ17°,λ20°.*

*IDC **02** 03:56:43.7±0.8,35.60N×140.59E,mb3.9/12,mb1 4.0/15, mb1mx4.0/24,ML4.0/3,MS3.2/2,Ms1 3.2/2,ms1mx2.6/24, Error ellipse: s-maj=24.4km s-min=20.0km az=72.0*

*JMA **02** 03:56:49.0±0.1,35.69N×140.77E,h48^{km}±1^{km},M3.9*

JMA Felt I J1.

*NEIC **02** 03:56:53.5±1.3,35.65N×140.48E,h73^{km}±10^{km},mb4.4/5, Error ellipse: s-maj=12.6km s-min=10.0km az=80.0*

ISC 02 03:56:49.1±0.5**,35.66N**±0.03×**140.73E**±0.07**,h52**^{km}±3^{km}**, n38,**σ**1**^{s}**06**/46**,mb4.0**/17**,MS3.3**/1**,2C-3D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.12	69	P	P	03 56 56.4	-0.8
CHOJ				*e*S	S	03 57 01.8	-1.3
JCN	Nagara	0.49	241	⇓P	P	03 57 01.1	+0.7
JCN				S	S	03 57 10.3	+1.7
KTR	Katsuura	0.61	213	⇓P	P	03 57 02.1	+0.2
JYT	Yasato	0.71	323	⇑P	P	03 57 02.9	-0.2
JYT				*e*S	S	03 57 13.1	-0.4
BSO4	Boso 4	0.74	205	⇓P	P	03 57 03.9	+0.4
BSO3	Boso 3	0.87	192	P	P	03 57 05.4	+0.1
BSO3				*e*S	S	03 57 18.4	+1.0
JHO	Hitachi	0.96	352	P	P	03 57 06.6	+0.1
BSO1	Boso 1	1.02	168	P	P	03 57 07.5	0.0
JAG	Ashikaga	1.28	307	P	P	03 57 11.2	+0.1
JIM2	Oshima 3	1.42	229	P	P	03 57 12.0	-1.0
JIM2				S	S	03 57 28.8	-2.0
MAJO	Matsushiro	2.22	294	⇑*e*Pn	P	03 57 25.9	+1.6
MAT	Matsushiro	2.22	294	P	P	03 57 25.1	+0.8
MAT				S	S	03 57 52.4	+1.8
MAT	Matsushiro	2.22	294	*e*P	P	03 57 26.0	+1.7
MAT				*e*S	S	03 57 55.0	+4.4
JHJ	Hachijo jima 2	2.65	197	Pn	P	03 57 30.1	-0.3
	30nm,0.3s,baz=56,slow=18,SNR=25						
JHJ				LR	LR	03 57 56.7	
	comp=Z,362nm,21.0s,baz=72,slow=29						
JHJ				Sn	S	03 58 01.7	+0.2
	99nm,0.3s,baz=244,slow=23,SNR=12						
ASAJ	Asahikawa	8.57	9	Pn	P	03 58 49.0	-4.1
	1.4nm,0.3s,baz=262,slow=19,SNR=4.9						
CBIJ	Chichi jima	8.63	171	Pn	P	03 58 49.5	-4.5
	12nm,0.3s,baz=291,slow=18,SNR=4.8						
CBIJ				Sn	S	04 00 19.7	-11
	2.7nm,0.3s,baz=211,slow=19,SNR=2.4						
ENH	Enshi	26.69	267	*e*P	P	04 02 23.3	-1.9
	8.7nm,0.6s,mb4.5						
TGY	Tagaytay City	27.87	225	LR	LR	04 10 38.8	
	comp=Z,84nm,21.9s,MS3.3,baz=184,slow=30						
SONM	Songino Array	28.12	306	P	P	04 02 37.3	-0.7
	1.6nm,0.8s,mb3.7,baz=102,slow=9.0,SNR=11						
MKAR	Makanchi Array	44.39	303	P	P	04 04 55.8	-0.3
	2.1nm,0.5s,mb4.1,baz=96,slow=9.4,SNR=16						
KURK	Kurchatov	46.35	309	*e*P	P	04 05 11.0	-0.6
	14nm,1.2s,mb4.8						
CHKZ	Chkalovo	50.85	314	*e*P	P	04 05 45.4	-1.0
	2.9nm,0.8s,mb4.3						
ILAR	Eielson Array	50.95	32	P	P	04 05 47.4	+0.4
	0.1nm,0.4s,mb3.1,baz=268,slow=5.9,SNR=4.1						
BRVK	Borovoye	51.15	313	P	P	04 05 46.6	-2.0
ZRNK	Zerenda	51.93	313	*e*P	P	04 05 53.7	-0.8
	3.4nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	55.35	198	*e*P	P	04 06 19.8	-0.3
	4.9nm,1.8s,mb4.2						
WB2	Warramunga Arr	55.63	187	*e*P	P	04 06 22.7	+0.6
WRA	Warramunga Arr	55.63	187	P	P	04 06 20.3	-1.8
	1.1nm,0.4s,mb4.2,baz=1.0,slow=7.6,SNR=14						
ARCES	ARCESS Array B	65.09	339	P	P	04 07 25.7	-0.1
	0.9nm,0.7s,mb3.9,baz=51,slow=7.8,SNR=4.4						
ARCES	ARCESS Array B	65.09	339	P	P	04 07 25.7	-0.2
FINES	FINESS Array B	69.77	332	P	P	04 07 55.0	-0.3
	0.4nm,0.4s,mb3.7,baz=55,slow=7.5,SNR=9.5						
HFS	Hagfors	75.11	336	P	P	04 08 26.8	+0.1
	0.7nm,0.6s,mb3.8,baz=117,slow=3.3,SNR=8.0						
NB2	NORSAR Subarra	75.24	337	P	P	04 08 27.3	-0.1
	0.8nm,0.4s,mb4.0,baz=41,slow=5.6						
NOA	NORSAR Array B	75.24	337	P	P	04 08 27.9	+0.4
	0.8nm,0.5s,mb3.9,baz=40,slow=5.7,SNR=8.0						
NVAR	Mina Array Bea	76.26	53	P	P	04 08 35.9	+2.1
	0.7nm,0.7s,mb3.7,baz=305,slow=4.1,SNR=6.0						
PDAR	Pinedale Array	79.03	45	P	P	04 08 50.8	+1.7
	0.6nm,0.9s,mb3.5,baz=270,slow=1.5,SNR=5.2						
BRTR	Keskin Array B	79.34	311	P	P	04 08 52.0	+1.2
	0.7nm,0.8s,mb3.6,baz=90,slow=2.5,SNR=4.4						
TXAR	Lajitas Array	91.40	52	P	P	04 09 52.8	+1.9
	0.3nm,0.8s,mb3.7,baz=315,slow=1.8,SNR=4.1						

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*NEIC **02** 03:57:49.4,37.79N×21.13E,h5^{km},ML3.5(ATH),After ATH.*

*ATH **02** 03:57:49.4,37.79N×21.12E,h6^{km}±3^{km},MD3.8/15,ML3.5*

*THE **02** 03:57:50.6,37.70N×21.20E,h10^{km},ML3.8*

*IDC **02** 03:57:51.1±2.4,38.15N×21.65E,mb3.5/6,mb1 3.5/8, mb1mx3.4/23,ML2.8/2,MS3.0/1,Ms1 3.0/1,ms1mx2.6/17, Error ellipse: s-maj=58.6km s-min=21.5km az=51.0*

ISC 02 03:57:48.0±0.6**,37.69N**±0.04×**20.97E**±0.05**,h6**^{km}**,n40,** σ**1**^{s}**15**/44**,mb3.5**/6**,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.57	328	*e*PB	Pb	03 58 00.5	+0.5
ITM	Ithomi	0.92	124	*e*PB	Pb	03 58 06.5	+0.6
EVR	Evrytania	1.39	28	*e*PB	Pb	03 58 13.0	-1.0
AGG	Agios Georgios	1.71	38	*e*Pb	Pb	03 58 19.1	-0.3
AGG				*e*Sb	Sb	03 58 40.4	-0.6
VLI	Veliai	1.84	121	*e*PG	Pg	03 58 22.5	-2.4
MKIT	Kithairon Oros	1.87	74	*e*PG	Pg	03 58 21.5	-3.9
JAN	Janina	1.96	357	*e*PG	Pg	03 58 25.0	-2.3
JAN	Janina	1.96	357	*e*Pg	Pg	03 58 25.5	-1.8
NSAL	Nisos Salamina	1.98	83	*e*PN	Pn	03 58 23.0	+0.5
NAIG	Nisos Aigina	2.00	87	*e*PN	Pn	03 58 24.0	+1.3
MEV	Metsovon	2.10	5	*e*Pn	Pn	03 58 26.0	+1.8
MEV				*e*Sn	Sn	03 58 52.9	+1.9
KYTH	Kithira	2.17	130	*e*PG	Pg	03 58 29.0	-2.4
ATH	Athens Observa	2.19	82	*e*PN	Pn	03 58 26.0	+0.5
KEK	Kerkira	2.22	336	*e*PN	Pn	03 58 28.0	+2.1
MPAR	Parnis Oros	2.23	77	*e*PN	Pn	03 58 26.8	+0.7
PTL	Penteli	2.32	80	*e*PN	Pn	03 58 27.8	+0.5
XOR	Xorichti	2.41	45	*e*Pn	Pn	03 58 28.9	+0.2
LIT	Litokhoron	2.68	26	*e*Pn	Pn	03 58 33.4	+0.9
LIT				*e*Sn	Sn	03 59 04.8	-0.8
KZN	Kozani	2.69	13	*e*PG	Pg	03 58 37.0	-4.6
FNA	Florina	3.10	6	*e*Pn	Pn	03 58 39.5	+1.0
VAM	Vamos	3.46	130	*e*PN	Pn	03 58 45.0	+1.5
OUR	Ouranopolis	3.53	41	*e*Pn	Pn	03 58 44.2	-0.4
TIP	Timpagrande	3.63	295	*e*Pn	Pn	03 58 46.6	+0.6
TIP				*e*Sn	Sn	03 59 28.8	-0.8
SOH	Sokhos	3.63	30	*e*Pn	Pn	03 58 46.4	+0.4
KNT	Kendrikon	3.77	23	*e*Pn	Pn	03 58 48.8	+0.7
IDI	Anoyia	3.96	126	Pn	Pn	03 58 51.1	+0.3
	0.5nm,0.3s,baz=295,slow=17,SNR=3.3						
IDI				Sn	Sn	03 59 38.8	+0.6
	3.4nm,0.3s,baz=341,slow=20,SNR=4.5						
SKO	Skopje	4.29	5	*e*Pn	Pn	03 58 50.0	-5.4
MMB	Musomiste	4.44	28	*i* P	Pn	03 58 58.0	+0.6
RZN	Rozhen	4.93	35	*i* P	Pn	03 59 03.0	-1.4
ALN	Alexandroupoli	5.07	49	*e*Pn	Pn	03 59 06.4	-0.1
VAE	Valguarnera	5.21	270	LR	LR	04 01 44.0	
	comp=Z,122nm,18.1s,baz=122,slow=40						
BRTR	Keskin Array B	10.11	75	Pn	P	04 00 16.3	-0.5
	0.1nm,0.3s,baz=258,slow=12,SNR=2.5						
BRTR	Keskin Array B	10.11	75	Pn	P	04 00 16.3	-0.5
HFS	Hagfors	22.94	351	P	P	04 02 52.2	-1.5
	1.6nm,0.7s,mb3.6,baz=159,slow=12,SNR=7.0						
FINES	FINESS Array B	23.99	6	P	P	04 03 02.8	-1.0
	1.8nm,1.0s,mb3.5,baz=172,slow=9.8,SNR=6.9						
EKA	Eskdalemuir Ar	24.03	325	P	P	04 03 08.5	+4.2
	1.4nm,0.7s,mb3.5,baz=128,slow=8.1,SNR=6.0						
NB2	NORSAR Subarra	24.17	348	P	P	04 03 04.4	-1.2
	0.6nm,0.6s,mb3.2,baz=157,slow=9.3						
NOA	NORSAR Array B	24.17	348	P	P	04 03 04.4	-1.1
	0.4nm,1.0s,mb2.8,baz=161,slow=12,SNR=3.6						
ARCES	ARCESS Array B	32.00	3	P	P	04 04 13.0	-3.9
	0.6nm,0.8s,mb3.5,baz=189,slow=12,SNR=2.8						
MKAR	Makanchi Array	45.25	58	P	P	04 06 05.8	-1.9
	0.6nm,0.5s,mb3.7,baz=275,slow=7.8,SNR=6.0						

IDC 02 04:07:14.7±4.5**,22.00N**×**143.24E,mb3.8**/3**,mb1 4.0**/3**, mb1mx3.5**/20**,Error ellipse: s-maj=335.0km s-min=31.2km az=89.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.58	192	P	P	04 15 12.5	-1.8
	0.3nm,0.4s,baz=17,slow=8.0,SNR=7.4						
ARCES	ARCESS Array B	78.66	341	P	P	04 19 19.0	-0.6
	0.7nm,0.6s,baz=67,slow=6.9,SNR=8.1						
FINES	FINESS Array B	82.94	334	P	P	04 19 40.4	-2.0
	0.6nm,0.6s,baz=90,slow=6.9,SNR=7.0						

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*NEIC **02** 04:32:51.4±0.9,21.62S×68.43W,h119^{km}±10^{km},Error ellipse: s-maj=20.4km s-min=13.3km az=51.0*

*IDC **02** 04:32:51.9±0.7,21.68S×68.38W,h123^{km}±9^{km},mb3.5/5, mb1 3.6/7,mb1mx3.5/14,Error ellipse: s-maj=21.5km s-min=14.8km az=96.0*

ISC 02 04:32:50.9±0.7**,21.72S**±0.07×**68.4W**±0.1**,h134**^{km}±8^{km}**, n13,**σ**0**^{s}**85**/15**,mb3.6**/4**,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.00	208	P	P	04 33 15.6	+1.2
	62nm,0.3s,baz=18,slow=8.3,SNR=748						
LVC				S	S	04 33 32.6	+0.3
	238nm,0.3s,baz=61,slow=1.0,SNR=133						
LVC	Limon Verde	1.00	208	*e*Pn	P	04 33 15.0	+0.5
LVC				*e*Sn	S	04 33 30.3	-2.1
LPAZ	La Paz	5.41	3	P	P	04 34 11.2	+0.6
	3.6nm,0.3s,baz=188,slow=6.0,SNR=34						
LPAZ				S	S	04 35 12.1	-0.1
	0.7nm,0.3s,baz=42,slow=16,SNR=3.6						
ARE	Arequipa	5.99	330	*e*P	P	04 34 14.5	-3.8
CPUP	Villa Florida	11.11	117	P	P	04 35 27.5	+0.6
	0.1nm,0.3s,baz=309,slow=11,SNR=3.0						
BDFB	Brasilia	20.23	76	P	P	04 37 16.5	-1.0
	3.5nm,0.5s,baz=235,slow=11,SNR=12						
TXAR	Lajitas Array	61.08	325	P	P	04 42 52.4	-0.8
	0.3nm,0.7s,mb3.3,baz=146,slow=8.1,SNR=5.1						
DBIC	Dimbokro	68.35	73	P	P	04 43 40.0	-0.4
	1.2nm,0.5s,mb3.9,baz=175,slow=4.6,SNR=4.1						
DBIC	Dimbokro	68.35	73	P	P	04 43 40.0	-0.4
PDAR	Pinedale Array	74.54	330	P	P	04 44 17.3	+0.6
	0.2nm,0.4s,mb3.1,baz=146,slow=5.3,SNR=4.0						
YKA	Yellowknife Ar	91.55	340	P	P	04 45 43.8	+0.6
	0.8nm,0.5s,mb4.0,baz=132,slow=4.1,SNR=8.3						
YKA	Yellowknife Ar	91.55	340	P	P	04 45 43.8	+0.6
MKAR	Makanchi Array	145.53	36	PKPbc	PKPbc	04 52 16.6	+2.9
	0.5nm,0.5s,baz=53,slow=7.2,SNR=3.8						

JMA 02 04:56:06.5±0.4**,20.75N**×**122.51E,M3.8,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.50	20	P	Pn	04 57 03.6	+0.3
HATJ				S	Sn	04 57 45.8	-0.3
YOJ	Yonaguni jima	3.72	7	P	Pn	04 57 07.1	+0.6
JKRS	Kuro-shima	3.74	21	P	Pn	04 57 07.0	+0.3
JKRS				S	Sn	04 57 52.5	+0.4
IRIF	Iriomote-Funau	3.74	17	P	Pn	04 57 07.2	+0.5
IRIF				S	Sn	04 57 51.4	-0.8
JIJ	Ishigaki jima	3.90	22	P	Pn	04 57 09.6	+0.6
JIJ				S	Sn	04 57 55.9	-0.3
JTJ	Tarama	4.37	27	S	Sn	04 58 08.7	+0.6
JOGS	Gusukube	4.80	33	*e*S	Sn	04 58 20.4	+1.4

KRSC 02 04:57:46.0,49.90N×**160.62E,h41**^{km}**,ML4.0,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	2.86	333	*e*P	P	04 58 31.6	+1.3
RUS				*e*S	S	04 59 04.8	+0.9
SKR	Severo-Kuril's	2.99	287	*e*P	P	04 58 33.0	+0.8
SKR				*e*S	S	04 59 07.0	-0.2
GRL	Gorelyy	3.10	330	*e*P	P	04 58 35.7	+2.0
GRL				*e*S	S	04 59 12.2	+2.3
SPN	Mys Shipunski	3.22	354	*e*P	P	04 58 36.7	+1.2
SPN				*e*S	S	04 59 12.9	-0.2
PET	Petropavlovsk	3.36	339	*e*P	P	04 58 39.5	+2.1
NLC	Nalytchevo	3.37	347	*e*P	P	04 58 39.5	+2.0
NLC				*e*S	S	04 59 18.4	+1.6
ALID	Alaid	3.39	289	*e*P	P	04 58 37.7	-0.1
ALID				*e*S	S	04 59 15.7	-1.5
MIPR	Malaya Ipel'ka	3.40	316	*e*P	P	04 58 39.3	+1.3
UGLR	Uglovaya	3.50	342	*e*P	P	04 58 41.6	+2.3
UGLR				*e*S	S	04 59 21.6	+1.6
SDLR	Sedlovina	3.55	343	*e*P	P	04 58 42.0	+1.9
SDLR				*e*S	S	04 59 22.3	+0.9
SMAR	Somma	3.55	342	*e*P	P	04 58 43.0	+2.9
SMAR				*e*S	S	04 59 25.5	+4.1
AVH	Avacha	3.57	342	*e*P	P	04 58 42.6	+2.3
AVH				*e*S	S	04 59 23.7	+1.9
KOK	Koryaka	3.62	341	*e*P	P	04 58 43.6	+2.6
KOK				*e*S	S	04 59 26.4	+3.4
GNL	Ganaly	4.15	337	*e*P	P	04 58 51.2	+2.7
GNL				*e*S	S	04 59 39.7	+3.3
MKZ	Mys Kozlova	4.71	8	*e*P	P	04 58 57.1	+0.6
MKZ				*e*S	S	04 59 49.9	-0.8
TUMR	Tumrok	5.40	357	*e*P	P	04 59 08.8	+2.7
KMNR	Kamenistaya	5.87	358	*e*P	P	04 59 16.6	+3.9
KBTR	Krutoberegovo	6.46	11	*e*P	P	04 59 22.1	+1.1

BJI 02 05:09:14.0,40.16N×**77.87E,h16**^{km}**,ML3.5, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.60	247	*e*PG	Pn	05 09 42.9	+1.1
KSH				SG	Sn	05 10 05.9	+3.7
KSH				Smax			
	comp=N,610nm,0.4s						
KSH				Smax			
	comp=E,600nm,0.4s						
WMQ	Urumqi	8.18	60	*e*P	P	05 11 12.0	-3.0
WMQ				Smax			
	comp=N,10.0nm,1.0s						

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*IDC **02** 05:20:48.7±10.0,23.53S×179.96W,h576^{km}±121^{km}, mb3.0/4,mb1 3.3/4,mb1mx3.0/13,Error ellipse: s-maj=151.0km s-min=46.6km az=171.0*

*NEIC **02** 05:20:50.6±1.0,23.56S×179.97E,h600^{km},mb4.2/2,Error ellipse: s-maj=72.1km s-min=15.1km az=162.0*

ISC 02 05:20:49.5±1.6**,23.5S**±0.7×**179.9E**±0.3**,h600**^{km}**,n12,** σ**0**^{s}**44**/8**,mb3.8**/6**,1C-1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	31.40	270	*e*P	P	05 26 25.5	+0.9
	2.8nm,0.4s,mb4.2						
STKA	Stephens Creek	34.81	248	P	P	05 26 52.9	0.0
	2.2nm,0.7s,mb3.9,baz=105,slow=12,SNR=3.6						
STKA	Stephens Creek	34.81	248	P	P	05 26 52.9	-0.1
WB2	Warramunga Arr	42.35	266	⇓*i*P	P	05 27 53.7	-0.4
WRA	Warramunga Arr	42.36	266	P	P	05 27 54.1	-0.1
	1.3nm,0.4s,mb3.8,baz=92,slow=8.4,SNR=32						
KAKA	Kakadu	46.24	275	⇑*i*P	P	05 28 23.5	-0.6
	6.2nm,1.0s,mb4.1						
FITZ	Fitzroy Crossi	50.79	265	P	P	05 28 58.1	+0.1
	1.2nm,0.5s,mb3.6,baz=72,slow=3.2,SNR=6.6						
TXAR	Lajitas Array	90.27	58	P	P	05 32 48.8	+0.1
	0.3nm,0.8s,mb3.2,baz=211,slow=7.3,SNR=4.2						
ARCES	ARCESS Array B	131.46	348	PKP	PKPdf	05 38 55.0	+0.9
	0.6nm,0.5s,baz=45,slow=1.7,SNR=7.6						
FINES	FINESS Array B	138.02	342	PKP	PKPdf	05 39 08.2	+1.9
	0.5nm,0.7s,baz=346,slow=5.7,SNR=3.9						
AKASG	Malin Array Be	144.57	328	PKP	PKPdf	05 39 19.5	+1.5
	2.6nm,0.7s,baz=42,slow=4.0,SNR=7.4						
BRTR	Keskin Array B	147.26	308	PKPbc	PKPdf	05 39 27.9	+5.0
	0.4nm,0.4s,baz=117,slow=3.2,SNR=2.2						

ISC 02 05:21:23.3±1.1**,37.95N**±0.06×**73.6E**±0.2**,h33**^{km}**,n16,** σ**1**^{s}**18**/18**,1C,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.18	1	P	P	05 22 27.8	+1.4
	SNR=146						
KZA	Kyzart	4.31	16	P	P	05 22 28.2	0.0
	SNR=38						
EKS2	Erkin-Say	4.71	1	P	P	05 22 35.1	+1.2
	SNR=19						
AAK	Ala-Archa	4.73	8	P	P	05 22 34.8	+0.6
	SNR=8.8						
ULHL	Ulahol	4.74	24	P	P	05 22 33.8	-0.5
	SNR=36						
KBK	Karagaybulak	4.81	12	P	P	05 22 35.6	+0.2
	SNR=10						
CHMS	Chumysh	5.12	9	P	P	05 22 39.6	-0.1
	SNR=9.2						
TKM2	Tokmak 2	5.19	16	P	P	05 22 40.0	-0.6
	SNR=15						
DLH	Dalhousie	5.72	160	*e*P	S	05 24 00.0	+6.5
SDNR	Sundarnagar	7.00	156	*e*P	P	05 23 11.4	+5.4
SDNR				*e*S	S	05 24 27.0	+1.7
KOLN	Koldanda	13.16	138	*e*P	P	05 24 31.1	+0.8
	6.9nm,0.4s						
GKN	Gorkha	13.55	134	*e*P	P	05 24 35.6	+0.1
KKN	Kakani	14.08	133	*e*P	P	05 24 40.2	-2.2
DMN	Daman	14.12	134	*e*P	P	05 24 40.2	-2.7
PKI	Pulchoki	14.32	133	*e*P	P	05 24 42.3	-3.3
	9.9nm,0.6s						
AB31	Akbulak array	15.00	323	⇑P	P	05 24 53.1	-1.3
	0.8nm,0.7s,baz=133,slow=12,SNR=10						
AB31				S	S	05 27 25.9	-14
	0.4nm,0.3s,baz=133,slow=25,SNR=5.4						

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*IDC **02** 05:25:57.1±1.3,3.72N×126.90E,mb3.7/6,mb1 3.9/6, mb1mx3.8/17,Error ellipse: s-maj=91.8km s-min=19.3km az=72.0*

ISC 02 05:26:00.0±1.1**,3.7N**±0.2×**126.8E**±0.6**,h33**^{km}**,n8,**σ**0**^{s}**79**/8**, mb3.7**/6**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.68	183	*e*P	P	05 30 50.0	0.0
	3.8nm,1.5s,mb3.6						
FITZ	Fitzroy Crossi	21.68	183	P	P	05 30 49.8	-0.1
	2.3nm,0.8s,mb3.6,baz=359,slow=11,SNR=5.2						
WRA	Warramunga Arr	24.62	163	P	P	05 31 18.0	-0.9
	2.6nm,0.9s,mb3.8,baz=343,slow=10,SNR=12						
WB2	Warramunga Arr	24.62	163	*e*P	P	05 31 18.4	-0.5
ASAR	Alice Springs	28.05	166	P	P	05 31 52.5	+1.8
	0.5nm,0.8s,mb3.2,baz=344,slow=8.4,SNR=4.5						
STKA	Stephens Creek	38.06	159	P	P	05 33 17.3	0.0
	2.4nm,0.7s,mb4.1,baz=303,slow=9.1,SNR=2.9						
SONM	Songino Array	47.37	341	P	P	05 34 33.1	+0.2
	0.6nm,0.7s,mb3.6,baz=135,slow=9.3,SNR=4.4						
MKAR	Makanchi Array	57.64	325	P	P	05 35 49.1	-0.3
	0.4nm,0.4s,mb3.8,baz=117,slow=10,SNR=5.4						

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*IDC **02** 05:31:42.7±29.0,17.20S×178.81W,h488^{km}±358^{km}, mb3.0/7,mb1 3.3/7,mb1mx3.2/13,MS3.5/1,Ms1 3.5/1, ms1mx2.6/4,Error ellipse: s-maj=125.0km s-min=56.4km az=5.0*

*NEIC **02** 05:31:43.6±0.8,17.27S×178.80W,h500^{km},mb4.1/1, Error ellipse: s-maj=55.5km s-min=10.9km az=153.0*

ISC 02 05:31:42.9±1.2**,17.2S**±0.5×**178.9W**±0.3**,h500**^{km}**,n12,** σ**0**^{s}**23**/11**,mb3.4**/8**,2C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	33.88	279	LR	LR	05 49 11.8	
	comp=Z,71nm,19.9s,baz=196,slow=31						
STKA	Stephens Creek	38.57	240	P	P	05 38 23.2	0.0
	2.5nm,0.3s,mb4.0,baz=83,slow=9.6,SNR=11						
WB2	Warramunga Arr	44.29	259	*e*P	P	05 39 08.9	-0.3
WRA	Warramunga Arr	44.30	259	P	P	05 39 09.3	0.0
	1.4nm,0.6s,mb3.6,baz=94,slow=7.0,SNR=20						
ASPA	Alice Springs	44.54	254	⇑*i*P	P	05 39 11.1	0.0
KAKA	Kakadu	47.17	268	⇑*i*P	P	05 39 31.9	+0.5
	3.1nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	52.68	260	P	P	05 40 12.0	-0.2
	0.8nm,0.3s,mb3.5,baz=127,slow=5.4,SNR=6.8						
NVAR	Mina Array Bea	79.24	44	P	P	05 42 57.2	+0.3
	0.5nm,0.7s,mb3.1,baz=212,slow=7.8,SNR=3.7						
NVAR	Mina Array Bea	79.24	44	P	P	05 42 57.2	+0.3
ILAR	Eielson Array	85.30	13	P	P	05 43 26.6	-0.2
	0.1nm,0.4s,mb2.8,baz=214,slow=5.8,SNR=5.7						
TXAR	Lajitas Array	86.02	58	P	P	05 43 31.2	+0.1
	0.3nm,0.7s,mb3.0,baz=225,slow=5.3,SNR=3.9						
PDAR	Pinedale Array	87.16	44	P	P	05 43 36.0	-0.2
	0.2nm,0.8s,mb2.9,baz=198,slow=4.7,SNR=3.4						

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*IDC **02** 06:06:53.2±1.0,63.30S×166.23W,mb4.2/3,mb1 4.4/4, mb1mx4.3/8,ML3.7/1,MS4.1/6,Ms1 4.1/6,ms1mx3.9/9, Error ellipse: s-maj=50.2km s-min=28.8km az=19.0*

*NEIC **02** 06:06:54.3±0.7,63.29S×166.52W,h10^{km},mb4.2/2,Error ellipse: s-maj=24.9km s-min=17.1km az=90.0*

ISC 02 06:06:52.7±1.2**,63.3S**±0.1×**166.6W**±0.4**,h10**^{km}**,n19,** σ**1**^{s}**25**/9**,mb4.1**/4**,MS4.2**/6**,2D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	16.81	199	eP	P	06 10 47.6	-1.7
	17nm,1.1s						
VNDA	Vanda	17.37	202	P	P	06 10 57.2	+0.8
	0.2nm,0.3s,baz=59,slow=14,SNR=12						
VNDA				LR	LR	06 16 10.4	
	comp=Z,254nm,21.3s,baz=51,slow=32						
QSPA	South Pole Qui	26.84	180	eP	P	06 12 35.2	+0.7
	6.5nm,0.9s,mb4.2						
QSPA				LR	LR		
	comp=Z,280nm,22.0s,MS3.8						
SNAA	Sanae	44.88	173	e	P	06 15 14.3	+6.1
SNAA	Sanae	44.88	173	⇓iP	P	06 15 06.7	-1.5
SNAA				e		06 15 14.3	
STKA	Stephens Creek	45.03	289	LR	LR	06 30 23.8	
	comp=Z,228nm,18.0s,MS4.2,baz=48,slow=31						
VNA1	Neumayer--Stat	45.52	170	⇓i	P	06 15 14.8	+1.5
WRA	Warramunga Arr	58.58	289	P	P	06 16 51.8	0.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=157,slow=5.8,SNR=13						
LVC	Limon Verde	73.45	107	LR	LR	06 44 17.4	
	comp=Z,79nm,20.4s,MS4.0,baz=224,slow=31						
CPUP	Villa Florida	74.97	119	P	P	06 18 33.6	-1.9
	comp=Z,4.1nm,1.0s,mb4.3,baz=229,slow=6.3,SNR=6.9						
CPUP				LR	LR	06 46 56.8	
	comp=Z,113nm,19.4s,MS4.2,baz=45,slow=32						
LPAZ	La Paz	79.37	105	P	P	06 19 01.1	+0.9
	comp=Z,1.8nm,0.8s,mb4.0,baz=180,slow=7.0,SNR=4.2						
SUR	Sutherland	84.50	186	LR	LR	06 51 51.2	
	comp=Z,182nm,20.5s,MS4.5,baz=249,slow=32						
BDFB	Brasilia	88.27	122	LR	LR	06 58 33.4	
	comp=Z,132nm,18.3s,MS4.4,baz=288,slow=35						
ILAR	Eielson Array	128.56	11	PKP	PKPdf	06 26 00.8	-0.9
	comp=Z,0.7nm,0.7s,baz=243,slow=1.5,SNR=8.7						
KURK	Kurchatov	143.98	281	ePKPdf	PKPdf	06 26 26.6	-3.5
BRVK	Borovoye	149.33	278	ePKPab	PKPab	06 26 46.9	-0.2
CHKZ	Chkalovo	149.59	279	ePKPbc	PKPdf	06 26 42.1	+2.8
ZRNK	Zerenda	149.83	276	ePKPbc	PKPdf	06 26 42.9	+3.2
BRTR	Keskin Array B	153.50	217	PKP	PKPdf	06 26 46.2	+0.7
	comp=Z,0.3nm,0.3s,baz=53,slow=7.2,SNR=2.2						
BRTR				PKPbc	PKPdf	06 26 53.9	+8.4
	comp=Z,0.8nm,0.8s,baz=135,slow=5.2,SNR=3.6						

*IDC **02** 06:20:48.2±3.8, 21.71S×169.78E, mb3.5/2, mb1 3.7/2, mb1mx3.6/10, Error ellipse: s-maj=165.0km s-min=52.2km az=157.0*

ISC 02 06:20:54.1±1.9**, 21.36S**±0.09×**169.5E**±0.1**, h33^{km}, n7, σ0^{s}76**/8**, mb3.5**/2**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.91	255	eP	P	06 21 39.6	+0.5
DZM				eS	S	06 22 12.2	-0.9
NOUC	Port Laguerre	3.04	255	eP	P	06 21 41.8	+0.9
NOUC				eS	S	06 22 17.0	+0.5
BKM	Butte a Klehm	3.85	342	i P	P	06 21 51.7	-0.8
BKM				S	S	06 22 37.8	+0.4
WRA	Warramunga Arr	32.87	266	P	P	06 27 26.2	-1.1
	0.3nm,0.4s,mb3.6,baz=95,slow=8.1,SNR=4.5						
SONM	Songino Array	89.04	323	P	P	06 33 47.5	+0.5
	0.1nm,0.4s,mb3.5,baz=90,slow=4.3,SNR=2.2						
ARCES	ARCESS Array B	127.17	345	PKP	PKPdf	06 39 53.9	-0.8
	0.2nm,0.4s,baz=90,slow=2.4,SNR=5.9						
GERES	GERESS Array B	146.45	331	PKPbc	PKPbc	06 40 32.2	+0.6
	0.4nm,0.4s,baz=27,slow=4.4,SNR=5.1						

*BJI **02** 06:22:57.2, 54.33N×169.08E, h6^{km}, mB4.8, mb4.7, Ms4.3, Msz3.9*

*MOS **02** 06:22:57.1±1.2, 54.04N×169.37E, h17^{km}, mb4.4/11, Error ellipse: s-maj=12.6km s-min=9.9km az=43.0*

*IDC **02** 06:22:57.4±0.6, 54.19N×169.32E, mb4.1/16, mb1 4.4/17, mb1mx4.3/22, ML4.4/1, MS3.4/5, Ms1 3.5/5, ms1mx3.1/23, Error ellipse: s-maj=18.9km s-min=9.8km az=26.0*

*NEIC **02** 06:22:58.8±0.3, 54.16N×169.31E, h10^{km}, mb4.7/14, Error ellipse: s-maj=8.2km s-min=4.1km az=184.0*

*KRSC **02** 06:23:01.3, 53.82N×168.74E, h20^{km}, ML5.0*

ISC 02 06:22:58.8±1.1**, 54.07N**±0.05×**169.25E**±0.04**, h26**^{km}±8^{km}**, h21**^{km}±.7^{km}**:pP-P, n115, σ1^{s}12**/151**, mb4.3**/34**, MS3.6**/12**, 4C, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.22	302	eP	Pn	06 23 35.0	+0.3
BKI				eS	Sn	06 24 01.4	-0.1
BKI				Smax			
	5µm,0.7s						
FX1	Attu Island--F	2.62	115	Pn	Pn	06 23 39.2	-1.2
	215nm,0.3s,baz=329,slow=7.1,SNR=1615						
FX1				Sn	Sn	06 24 10.3	-1.4
	350nm,0.3s,baz=191,slow=20,SNR=11						
FX1	Attu Island--F	2.62	115	PN	Pn	06 23 39.2	-1.2
FX1						06 24 10.3	
FX1				pmax	pmax		
	comp=Z,215nm,0.3s						
FX1	Attu Island--F	2.62	115	P	Pn	06 23 39.4	-1.0
SMY	Shemya	3.20	113	P	Pn	06 23 48.5	-0.1
SMY				S	Sn	06 24 25.2	-1.0
KBTR	Krutoberegovo	4.27	303	P	Pn	06 24 04.2	+0.4
KBTR	Krutoberegovo	4.27	303	eP	Pn	06 24 03.2	-0.6
KBTR				eS	Sn	06 24 52.7	-0.7
KBG	Krutoberegovo	4.35	303	eP	Pn	06 24 04.5	-0.4
KBG				eS	Sn	06 24 55.5	+0.1
KBG				Smax			
	comp=Z,1µm,0.9s						
MKZ	Mys Kozlova	4.43	279	P	Pn	06 24 06.1	0.0
MKZ				S	Sn	06 24 52.8	-4.8
MKZ	Mys Kozlova	4.43	279	i P	Pn	06 24 06.1	0.0
MKZ				eS	Sn	06 24 53.1	-4.5
SVLR	Shiveluch	5.23	302	i P	Pn	06 24 20.0	+2.6
LGNR	Loginova	5.32	296	eP	Pn	06 24 21.9	+3.3
LGNR				eS	Sn	06 25 19.3	-0.5
KLY	Klyuchi	5.42	298	P	Pn	06 24 20.5	+0.5
KLY				S	Sn	06 25 19.2	-3.1
KLY	Klyuchi	5.42	298	eP	Pn	06 24 20.6	+0.6
KLY				eS	Sn	06 25 19.0	-3.3
TUMR	Tumrok	5.42	287	i P	Pn	06 24 20.9	+0.8
TUMR				eS	Sn	06 25 20.4	-2.1
KMNR	Kamenistaya	5.47	292	eP	Pn	06 24 21.8	+1.0
KMNR				eS	Sn	06 25 20.7	-2.9
SPN	Mys Shipunski	5.58	264	P	Pn	06 24 21.7	-0.7
SPN				S	Sn	06 25 20.0	-6.5
SPN	Mys Shipunski	5.58	264	i P	Pn	06 24 21.9	-0.5
SPN				eS	Sn	06 25 19.4	-7.1
KOZR	Kozyr	5.74	294	PN	Pn	06 24 26.7	+2.2
KOZ	Kozyrevsk	5.75	294	P	Pn	06 24 26.7	+2.0
KOZ				S	Sn	06 25 29.9	-0.7
KOZ	Kozyrevsk	5.75	294	eP	Pn	06 24 26.3	+1.6
KOZ				eS	Sn	06 25 29.4	-1.2
KII	Karymskiy	5.78	274	eP	Pn	06 24 24.9	-0.2
KII				eS	Sn	06 25 26.6	-4.7
NLC	Nalytchevo	5.96	265	P	Pn	06 24 27.1	-0.7
NLC				S	Sn	06 25 29.7	-6.3
NLC	Nalytchevo	5.96	265	eP	Pn	06 24 26.9	-0.9
NLC				eS	Sn	06 25 29.6	-6.4
SDLR	Sedlovina	6.21	267	i P	Pn	06 24 31.1	-0.2
SDLR				i S	Sn	06 25 36.6	-5.6
UGLR	Uglovaya	6.26	266	eP	Pn	06 24 32.1	+0.1
UGLR				eS	Sn	06 25 38.0	-5.5
SMAR	Somma	6.27	267	i P	Pn	06 24 31.6	-0.4
SMAR				eS	Sn	06 25 36.6	-6.9
AVH	Avacha	6.30	267	i P	Pn	06 24 32.7	+0.2
AVH				eS	Sn	06 25 39.4	-5.1
ESO	Esso	6.35	291	i P	Pn	06 24 33.1	-0.1
ESO				Smax			
	comp=Z,80nm,1.0s						
KOK	Koryaka	6.36	267	eP	Pn	06 24 33.1	-0.2
KOK				eS	Sn	06 25 40.2	-5.6
PET	Petropavlovsk	6.41	265	P	Pn	06 24 33.3	-0.7
PET	Petropavlovsk	6.41	265	eP	Pn	06 24 34.0	0.0
PET				eS	Sn	06 25 41.6	-5.4
PET	Petropavlovsk	6.41	265	⇑iPN	Pn	06 24 34.1	+0.1
PET				pmax	pmax		
	comp=Z,93nm,0.3s						
PET				MLR	MLR		
	comp=Z,200nm,11.0s						
PET	Petropavlovsk	6.41	265	ePn	Pn	06 24 33.7	-0.2
	comp=Z,78nm,0.3s						
PET				Sn	Sn	06 25 36.8	-10
RUS	Russkaya	6.65	260	P	Pn	06 24 36.4	-1.0
RUS				S	Sn	06 25 45.9	-7.3
RUS	Russkaya	6.65	260	eP	Pn	06 24 36.6	-0.8
RUS				eS	Sn	06 25 46.3	-6.9
GNL	Ganaly	6.70	271	eP	Pn	06 24 38.6	+0.5
GNL				eS	Sn	06 25 49.7	-4.7
GRL	Gorelyy	6.87	262	eP	Pn	06 24 40.7	+0.2
GRL				eS	Sn	06 25 52.7	-6.0
APC	Apacha	7.31	266	eP	Pn	06 24 46.8	+0.2
APC				eS	Sn	06 26 03.8	-5.8
KIMD	Kanaga Island	8.49	100	P	P	06 25 01.0	-2.1
SKR	Severo-Kuril's	8.72	252	eP	P	06 25 06.2	-0.1
SKR				eS	Sn	06 26 37.8	-7.0
SKR	Severo-Kuril's	8.72	252	ePN	P	06 25 01.4	-4.9
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				MLR	MLR		
	comp=N,1µm,10.0s						
SKR				MLR	MLR		
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=Z,1µm,10.0s						
ALID	Alaid	8.96	255	eP	P	06 25 09.1	-0.5
ALID				eS	Sn	06 26 42.8	-7.9
GSTR	Great Sitkin T	9.06	97	P	P	06 25 09.1	-2.0
ATKA	Atka Island	10.12	94	P	P	06 25 23.1	-2.4
UNV	Unalaska Valle	14.26	81	ePn	P	06 26 20.0	-0.9
	comp=Z,175nm,1.2s						
YSS	Yuzh-Sakhalins	18.22	258	eP		06 27 27.0	
ASAJ	Asahikawa	19.98	251	LR	LR	06 33 45.9	
	comp=Z,62nm,20.9s,baz=345,slow=32						
SPU	Mount Spurr	21.63	55	eP	P	06 27 47.1	-1.6
IMA	Indian Mountai	21.66	42	eP	P	06 27 49.9	+1.1
	comp=Z,29nm,1.4s,mb4.5						
YAK	Yakutsk	22.09	307	eP	P	06 27 54.3	+1.1
YAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.6						
YAK	Yakutsk	22.09	307	P	P	06 27 52.6	-0.6
	comp=Z,48nm,0.8s,mb5.0						
MCK	McKinley	23.23	49	P	P	06 28 05.3	+1.1
	comp=Z,5.6nm,1.1s,mb3.9						
SML	Sawmill	23.43	54	eP	P	06 28 06.3	+0.2
KLR	Kul'dur	23.57	274	eP	P	06 28 08.8	+1.1
COLA	College	23.81	46c	iP	P	06 28 10.6	+0.7
COLA	College	23.81	46	eP	P	06 28 10.4	+0.5
	comp=Z,6.4nm,0.6s,mb4.2						
ILAR	Eielson Array	24.21	46	P	P	06 28 13.8	0.0
	comp=Z,2.0nm,0.7s,mb3.7,baz=253,slow=7.2,SNR=32						
ILAR				LR	LR	06 37 38.5	
	comp=Z,47nm,20.1s,MS3.0,baz=100,slow=37						
ILAR	Eielson Array	24.21	46	P	P	06 28 13.9	+0.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,47nm,20.1s						
TIXI	Tiksi	24.71	331	eP	P	06 28 18.0	-0.5
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,29nm,15.0s,MS2.9						
MDJ	Mudanjiang	27.19	266	P	P	06 28 41.4	-0.5
MDJ				AP	pP	06 28 47.4	-2.1
MDJ				XP	sP	06 28 50.2	-2.8
MDJ				PCP	PcP	06 32 01.7	-0.5
MDJ				S	S	06 33 28.0	+11
MDJ				SCP		06 35 42.7	
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.1s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,90nm,4.6s						
MDJ				LR	LR		
	comp=N,119nm,20.4s,MS3.5						
MDJ				LR	LR		
	comp=E,41nm,20.4s,MS3.5						
MDJ				LR	LR		
	comp=Z,63nm,20.4s,MS3.2						
DAWY	Dawson	27.45	48	eP	P	06 28 43.9	-0.1
MAJO	Matsushiro	27.68	243	P	P	06 28 47.1	+0.8
INK	Inuvik	29.71	39	P	P	06 29 03.1	-1.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=304,slow=3.6,SNR=3.7						
INK	Inuvik	29.71	39	P	P	06 29 03.1	-1.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	29.71	39	eP	P	06 29 03.0	-1.4
CN2	Changchun	30.10	268	eP	P	06 29 09.6	+1.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				LR	LR		
	comp=Z,200nm,14.0s,MS3.9						
YKA	Yellowknife Ar	38.65	46	P	P	06 30 21.5	+0.2
	comp=Z,3.8nm,1.1s,mb4.0,baz=293,slow=7.5,SNR=5.7						
YKA	Yellowknife Ar	38.65	46	P	P	06 30 21.5	+0.2
YKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	Songino Array	38.91	287	P	P	06 30 25.3	+1.6
	comp=Z,1.8nm,0.5s,mb4.1,baz=58,slow=8.0,SNR=22						
SSE	Sheshan	41.15	256	P	P	06 30 45.3	+3.1
SSE				XP	sP	06 30 54.1	+0.7
SSE				S	S	06 36 58.1	+4.5
SSE				XS		06 37 08.3	
SSE				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
SSE				AMB	AMB		
	comp=Z,56nm,3.5s						
SSE				LR	LR		
	comp=N,33nm,19.9s,MS3.3						
SSE				LR	LR		
	comp=E,19nm,20.0s,MS3.3						
SSE				LR	LR		
	comp=Z,33nm,20.4s,MS3.2						
SSE	Sheshan	41.15	256	P	P	06 30 45.3	+3.1
	comp=Z,20nm,0.5s,mb5.0						
SSE				sP	sP	06 30 54.1	+0.7
SSE				S	S	06 36 58.1	+4.5
SSE				sS		06 37 08.3	
SSE				LR	LR		
	comp=Z,30nm,20.4s,MS3.1						
NJ2	Nanjing	41.78	259	eP	P	06 30 48.6	+1.2
NJ2				AP	pP	06 30 55.6	+0.3
NJ2				XP	sP	06 30 58.4	-0.1
NJ2				PP	PP	06 32 28.3	+1.1
NJ2				S	S	06 37 02.0	-0.9
NJ2				XS		06 37 14.0	
NJ2				SS	SS	06 40 02.0	-2.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				LR	LR		
	comp=N,240nm,22.0s,MS4.1						
NJ2				LR	LR		
	comp=E,110nm,19.9s,MS4.1						
NJ2				LR	LR		
	comp=Z,170nm,17.2s,MS4.0						
MOD	Modoc	46.78	75	eP	P	06 31 28.6	+1.1
	comp=Z,2.3nm,0.6s,mb4.3						
LZH	Lanzhou	47.75	276	eP	P	06 31 35.9	+0.7
LZH				AP	pP	06 31 41.8	-1.4
LZH				XP	sP	06 31 45.0	-1.4
LZH				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,61nm,4.8s						
LZH				LR	LR		
	comp=N,203nm,12.0s						
LZH				LR	LR		
	comp=Z,342nm,14.7s,MS4.5						
LZH	Lanzhou	47.75	276	eP	P	06 31 35.9	+0.7
	comp=Z,16nm,1.4s,mb4.9						
LZH				pP	pP	06 31 41.8	-1.4
LZH				sP	sP	06 31 45.0	-1.4
LZH				LR	LR		
	comp=Z,340nm,14.7s,MS4.5						
HRY	Holter Researc	48.38	65	eP	P	06 31 40.2	+0.3
HRY				e		06 31 50.8	
FCC	Fort Churchill	49.17	43	eP	P	06 31 45.4	-0.5
	comp=Z,3.7nm,0.6s,mb4.6						
BOZ	Bozeman (W)	49.17	66	eP	P	06 31 46.6	+0.5
BOZ				e		06 31 57.4	
NVAR	Mina Array Bea	50.23	77	P	P	06 31 55.5	+1.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=304,slow=5.9,SNR=20						
WMQ	Urumqi	51.68	294	⇑P	P	06 32 07.2	+2.0
WMQ				AP	pP	06 32 13.2	-0.1
WMQ				XP	sP	06 32 16.2	-0.2
WMQ				PCP	PcP	06 33 25.0	+6.3
WMQ				PP	PP	06 34 05.0	+1.5
WMQ				eS	S	06 39 20.2	-3.3
WMQ				LR	LR		
	comp=N,392nm,20.9s,MS4.5						
WMQ				LR	LR		
	comp=E,269nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,87nm,23.8s,MS3.7						
KURK	Kurchatov	51.73	306	eP	P	06 32 04.7	-0.8
	comp=Z,4.7nm,0.9s,mb4.4						
PDAR	Pinedale Array	52.19	67	P	P	06 32 09.5	+0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=317,slow=4.2,SNR=15						
MKAR	Makanchi Array	52.52	300	P	P	06 32 10.3	-1.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=53,slow=6.1,SNR=8.0						
MKAR	Makanchi Array	52.52	300	P	P	06 32 10.3	-1.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	52.52	300	P	P	06 32 10.3	-1.2
CHKZ	Chkalovo	53.37	313	eP	P	06 32 16.6	-1.1
	comp=Z,11nm,0.9s,mb4.8						
MSU	Marysvale	53.66	73	P	P	06 32 21.1	+1.0
ARCES	ARCESS Array B	53.91	345	P	P	06 32 20.5	-0.9
	comp=Z,1.7nm,0.6s,mb4.2,baz=25,slow=9.5,SNR=20						
ARCES	ARCESS Array B	53.91	345	P	P	06 32 20.5	-0.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	53.91	345	P	P	06 32 20.5	-0.9
BRVK	Borovoye	53.94	312	eP	P	06 32 21.3	-0.5
	comp=Z,9.3nm,0.7s,mb4.8						
BRVK				e		06 32 25.6	
SRU	San Rafael	54.17	71	eP	P	06 32 24.6	+0.8
ZRNK	Zerenda	54.57	313	eP	P	06 32 25.9	-0.6
	comp=Z,6.2nm,0.8s,mb4.7						
PV10	Paradox Valley	55.51	71	eP	P	06 32 34.5	+1.0
PV01	Paradox Valley	55.94	71	eP	P	06 32 37.3	+0.6
ARU	Arti	56.22	321	⇑eP	P	06 32 37.9	-0.5
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KMI	Kunming	56.36	267	eP	P	06 32 43.7	+3.9
KMI				AP	pP	06 32 50.1	+2.2
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
KMI				LR	LR		
	comp=Z,61nm,20.5s,MS3.7						
KMI	Kunming	56.36	267	eP	P	06 32 43.7	+3.9
	comp=Z,12nm,0.7s,mb5.0						
KMI				pP	pP	06 32 50.1	+2.2
KMI				LR	LR		
	comp=Z,60nm,20.5s,MS3.7						
ANMO	Albuquerque	59.41	72	eP	P	06 32 58.0	-3.2
FINES	FINESS Array B	61.20	341	P	P	06 33 12.1	-0.8
	comp=Z,2.5nm,0.9s,mb4.3,baz=22,slow=10,SNR=7.2						
FINES				LR	LR	07 05 26.0	
	comp=Z,30nm,18.2s,MS3.5,baz=355,slow=42						
CMAR	Chiang Mai Arr	63.72	265	P	P	06 33 31.9	+1.6
	comp=Z,1.0nm,0.7s,mb4.0,baz=32,slow=8.5,SNR=3.8						
CMAR				LR	LR	07 01 10.0	
	comp=Z,54nm,19.0s,MS3.8,baz=285,slow=36						
CMAR	Chiang Mai Arr	63.72	265	P	P	06 33 31.9	+1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,54nm,19.0s						
NB2	NORSAR Subarra	63.92	348	P	P	06 33 30.4	-0.5
	comp=Z,1.9nm,0.6s,mb4.3,baz=15,slow=6.5						
NOA	NORSAR Array B	63.92	348	P	P	06 33 30.5	-0.4
	comp=Z,2.4nm,0.6s,mb4.4,baz=15,slow=6.7,SNR=10						
NOA	NORSAR Array B	63.92	348	P	P	06 33 30.5	-0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	Lajitas Array	65.17	74	P	P	06 33 40.3	+0.7
	comp=Z,2.8nm,0.4s,mb4.6,baz=304,slow=5.1,SNR=88						
TXAR				LR	LR	07 03 30.2	
	comp=Z,37nm,18.3s,MS3.6,baz=115,slow=37						
AKASG	Malin Array Be	70.36	334	P	P	06 34 11.5	-0.1
	comp=Z,0.9nm,0.4s,mb4.1,baz=28,slow=6.4,SNR=5.1						
AKASG	Malin Array Be	70.36	334	P	P	06 34 11.5	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KHC	Kasperske Hory	75.15	344	eP	P	06 34 41.0	+1.2
GERES	GERESS Array B	75.40	344	P	P	06 34 42.9	+1.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=79,slow=10.0,SNR=5.1						
BRTR	Keskin Array B	79.08	327	P	P	06 35 02.5	+0.6
	comp=Z,1.3nm,0.7s,mb4.0,baz=64,slow=3.8,SNR=7.8						
BRTR	Keskin Array B	79.08	327	P	P	06 35 02.5	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	79.58	213	P	P	06 35 06.5	+1.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=28,slow=6.2,SNR=4.4						
WRA	Warramunga Arr	79.58	213	P	P	06 35 06.5	+1.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*NEIC **02** 06:42:37.0, 17.08N×101.22W, h17^{km}, MD3.8(MEX), After MEX.*

MEX 02 06:42:37.0±1.1**, 17.08N**×**101.22W, h17**^{km}±46^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.58	336	i P	Pb	06 42 46.4	-1.8
ZIIG				i S	Sb	06 42 53.3	-2.6
CAIG	El Cayaco	0.91	92	i P	Pb	06 42 51.3	-2.7
CAIG				i S	Sb	06 43 02.3	-3.4
PLIG	Platanillo	2.10	51	i P	Pn	06 43 09.5	-2.4
PLIG				i S	Sn	06 43 31.8	-6.0
MOIG	Morelia	2.59	1	i P	Pn	06 43 18.0	-0.9
MOIG				i S	Sn	06 43 47.2	-3.0
PPM	Popocatepetl	3.16	51	i P	Pn	06 43 25.0	-2.1
PPM				eP		06 43 28.0	
PPM				i S	Sn	06 44 00.2	-4.6
PPM	Popocatepetl	3.16	51	i P	Pn	06 43 25.0	-2.1
PPM				i S	Sn	06 44 00.2	-4.6

CASC 02 06:57:13.0±1.9**, 12.31N**×**88.20W, h25**^{km}±10^{km}**, MD3.7, ML3.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.02	20	eP	Pn	06 57 31.9	0.0
VSM	San Miguel	1.11	356	eP	Pn	06 57 34.1	+1.0
VSM				eS	Sb	06 57 49.5	+1.9
BLLM	Bellamira	1.13	358	eP	Pn	06 57 34.0	+0.6
BLLM				eS	Sb	06 57 48.6	+0.6
PYN	Poneloya	1.15	86	eP	Pn	06 57 32.7	-1.0
PYN				eS	Sb	06 57 48.6	-0.1
TEL3	Telica 3	1.35	79	eP	Pn	06 57 36.0	-0.5
TEL3				eS	Sn	06 57 52.4	-1.2
TELN	Telica	1.37	78	eP	Pn	06 57 36.1	-0.7
MIRN	Miramar	1.46	85	eP	Pn	06 57 37.1	-1.0
LCBS	La Ceiba	1.54	330	eP	Pn	06 57 38.5	-0.7
LCBS				eS	Sn	06 57 58.6	+0.1
LFRS	El Faro	1.55	327	eP	Pn	06 57 38.6	-0.8
LFRS				eS	Sn	06 57 59.6	+0.7
COPN	Copaltepe	1.58	95	eP	Pn	06 57 38.8	-1.0
MOMJ	Momotombo	1.62	86	eP	Pn	06 57 39.1	-1.4
BOQS	Boqueron	1.77	323	eP	Pn	06 57 42.1	-0.3
BOQS				eS	Sn	06 58 04.7	+0.3
MGAN	Managua	1.91	95	eP	Pn	06 57 44.4	-0.2
MGAN				eS	Sn	06 58 09.5	+1.4
MGAN				i		06 58 11.0	
	comp=N,130nm,0.5s						
TICN	Ticuantepe	1.94	98	eP	Pn	06 57 45.0	0.0
WILN	Americas 2	1.97	94	eS	Sn	06 58 10.7	+1.2
RTR	El Retiro	2.12	318	eP	Pn	06 57 47.0	-0.5
RTR				eS	Sn	06 58 14.1	+0.9
RBDL	Robledal	2.31	321	eP	Pn	06 57 49.3	-0.9
MTO2	Montecristo 2	2.37	332	eP	Pn	06 57 51.3	+0.2

*NIED **02** 07:24:00, 20.70N×122.60E, h32^{km}, Mw3.9 Best double couple: $M_0$7.36×10^{14} NP1:ϕ_s27°, δ90°, λ167°. NP2:ϕ_s117°, δ77°, λ0°.*

*IDC **02** 07:24:32.8±1.4, 20.07N×122.50E, mb3.8/3, mb1 4.1/4, mb1mx3.7/18, ML4.5/1, Error ellipse: s-maj=49.7km s-min=25.0km az=71.0*

*JMA **02** 07:24:39.1±0.4, 20.70N×122.59E, M4.4*

ISC 02 07:24:40.6±1.5**, 20.45N**±0.08×**122.8E**±0.1**, h73**^{km}±17^{km}**, n17, σ0^{s}75**/29**, mb3.6**/3**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.71	14	P	P	07 25 36.7	-0.2
HATJ				S	S	07 26 19.3	-0.4
JKRS	Kuro-shima	3.94	16	P	P	07 25 40.2	+0.1
JKRS				S	S	07 26 25.6	+0.3
IRIF	Iriomote-Funau	3.96	12	P	P	07 25 39.8	-0.7
IRIF				S	S	07 26 25.3	-0.7
YOJ	Yonaguni jima	4.00	3	P	P	07 25 40.3	-0.7
YOJ				S	S	07 26 26.8	-0.1
JIJ	Ishigaki jima	4.09	17	P	P	07 25 41.9	-0.3
JIJ				S	S	07 26 28.7	-0.5
JTJ	Tarama	4.53	23	P	P	07 25 49.3	+1.0
JTJ				S	S	07 26 40.5	+0.3
JOGS	Gusukube	4.92	29	P	P	07 25 55.5	+1.7
JOGS				*e*S	S	07 26 51.0	+1.0
JKE	Kume jima 2	6.90	31	P	P	07 26 21.3	0.0
JKE				S	S	07 27 38.0	-1.0
JAGN	Aguni-jima	7.35	33	P	P	07 26 27.3	-0.1
JAGN				S	S	07 27 49.8	-0.2
JIH	Iheya	8.09	35	P	P	07 26 37.7	+0.2
JIH				*e*S	S	07 28 08.6	+0.4
JOW	Kunigami	8.10	37	Pn	P	07 26 38.4	+0.7
	12nm,0.3s,baz=192,slow=14,SNR=24						
JOW				Sn	S	07 28 04.5	-4.0
	1.3nm,0.3s,baz=120,slow=26,SNR=3.6						
JOW	Kunigami	8.10	37	P	P	07 26 38.6	+0.9
JOW				*e*S	S	07 28 04.9	-3.6
JTK	Tokunoshima	9.21	36	P	P	07 26 52.8	-0.1
JAM	Amami Oshima	10.06	37	P	P	07 27 04.3	-0.2
SONM	Songino Array	30.38	338	P	P	07 30 48.2	+0.4
	0.5nm,0.6s,mb3.3,baz=157,slow=9.4,SNR=4.2						
WRA	Warramunga Arr	41.70	164	P	P	07 32 21.1	-2.9
	0.9nm,0.8s,mb3.6,baz=343,slow=9.1,SNR=8.8						
MKAR	Makanchi Array	42.08	318	P	P	07 32 27.5	+0.7
	1.4nm,0.5s,mb4.0,baz=117,slow=8.6,SNR=10						

JMA 02 07:38:13.8±0.4**, 20.76N×122.48E, M3.6, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.50	20	P	Pn	07 39 11.0	+0.4
HATJ				S	Sn	07 39 53.6	+0.2
YOJ	Yonaguni jima	3.72	7	P	Pn	07 39 14.3	+0.6
JKRS	Kuro-shima	3.74	22	P	Pn	07 39 14.5	+0.5
JKRS				S	Sn	07 39 59.6	+0.2
IRIF	Iriomote-Funau	3.74	18	P	Pn	07 39 14.3	+0.3
IRIF				S	Sn	07 40 00.0	+0.6
JIJ	Ishigaki jima	3.90	23	P	Pn	07 39 17.0	+0.7
JIJ				S	Sn	07 40 03.2	-0.3
JTJ	Tarama	4.37	28	P	Pn	07 39 24.1	+1.1
JTJ				S	Sn	07 40 13.8	-1.7

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*NEIC **02** 07:50:41.1, 40.93S×172.91E, h201^{km}, After WEL.*

WEL 02 07:50:41.6±0.3**, 40.92S×172.95E, h197**^{km}±2^{km}**, ML3.7**/5**, 10C-2D, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.33	286	⇑PN	P	07 51 07.9	-0.3
QRZ				SN	S	07 51 27.0	-1.7
QRZ	Quartz Range	0.33	286	P	P	07 51 07.9	-0.3
QRZ				S	S	07 51 27.2	-1.5
NNZ	Nelson	0.44	132	⇑PN	P	07 51 08.4	-0.1
NNZ				SN	S	07 51 28.3	-1.0
NNZ	Nelson	0.44	132	P	P	07 51 08.4	-0.1
NNZ				S	S	07 51 28.3	-1.0
THZ	Tophouse	0.84	182	⇑PN	P	07 51 10.2	-0.1
THZ				SN	S	07 51 31.7	-0.8
THZ	Tophouse	0.84	182	P	P	07 51 10.2	-0.1
THZ				S	S	07 51 31.7	-0.8
TUWZ	Tuamarina	0.91	124	⇑PN	P	07 51 10.8	+0.1
TUWZ				SN	S	07 51 32.1	-1.1
BSWZ	Blackbirch Sta	1.06	139	⇑PN	P	07 51 11.7	0.0
BSWZ				SN	S	07 51 34.2	-0.7
DSZ	Denniston Nort	1.19	226	⇑PN	P	07 51 11.8	-1.0
DSZ				SN	S	07 51 33.9	-3.0
DSZ	Denniston Nort	1.19	226	P	P	07 51 11.8	-1.0
DSZ				S	S	07 51 33.9	-3.0
CMWZ	Cape Campbell	1.26	131	PN	P	07 51 13.4	0.0
MRW	Makara Radio	1.36	104	⇑PN	P	07 51 13.9	-0.4
MRW				SN	S	07 51 37.4	-2.0
MRW	Makara Radio	1.36	104	P	P	07 51 13.9	-0.3
SNZO	South Karori	1.39	107	⇑PN	P	07 51 13.9	-0.5
SNZO				SN	S	07 51 38.2	-1.6
SNZO	South Karori	1.39	107	P	P	07 51 13.9	-0.5
WEL	Wellington	1.43	105	PN	P	07 51 14.4	-0.4
WEL				SN	S	07 51 38.7	-1.7
WEL	Wellington	1.43	105	P	P	07 51 14.4	-0.4
KIW	Kapiti Island	1.49	88	PN	P	07 51 15.0	-0.4
KIW				SN	S	07 51 39.8	-1.6
KIW	Kapiti Island	1.49	88	P	P	07 51 15.0	-0.4
KIW				S	S	07 51 39.8	-1.6
BHW	Baring Head	1.53	109	PN	P	07 51 15.1	-0.7
BHW				SN	S	07 51 39.5	-2.6
BHW	Baring Head	1.53	109	P	P	07 51 15.1	-0.7
KHZ	Kahutara	1.56	164	⇑PN	P	07 51 15.0	-1.0
KHZ				SN	S	07 51 40.4	-2.2
KHZ	Kahutara	1.56	164	P	P	07 51 15.0	-1.0
CAW	Cannon Point	1.62	97	PN	P	07 51 16.1	-0.5
CAW				SN	S	07 51 42.1	-1.4
CAW	Cannon Point	1.62	97	P	P	07 51 16.1	-0.4
NRZ	Ngariki Road	1.75	26	PN	P	07 51 17.3	-0.5
NRZ	Ngariki Road	1.75	26	P	P	07 51 17.3	-0.5
NWEZ	Newall Road	1.79	24	PN	P	07 51 17.7	-0.5
NWEZ	Newall Road	1.79	24	P	P	07 51 17.7	-0.5
MSWZ	Moikau Station	1.81	107	PN	P	07 51 17.7	-0.7
MSWZ				SN	S	07 51 44.4	-2.2
DFE	Dawson Falls	1.82	30	PN	P	07 51 17.7	-0.8
DFE	Dawson Falls	1.82	30	P	P	07 51 17.9	-0.6
NEZ	North Egmont	1.87	29	PN	P	07 51 18.1	-0.8
NEZ	North Egmont	1.87	29	P	P	07 51 18.1	-0.8
PKE	Pukeiti	1.90	25	⇓PN	P	07 51 18.6	-0.6
PKE				SN	S	07 51 47.2	-1.1
PKE	Pukeiti	1.90	25	P	P	07 51 18.6	-0.7
LTZ	Lake Taylor	1.93	195	PN	P	07 51 18.4	-1.2
LTZ				SN	S	07 51 45.6	-3.1
LTZ	Lake Taylor	1.93	195	*e*P	P	07 51 18.4	-1.2
PAWZ	Paruwai Farm	1.93	105	PN	P	07 51 19.3	-0.2
WAZ	Wanganui	1.94	54	PN	P	07 51 19.6	-0.1
WAZ				SN	S	07 51 49.1	0.0
WAZ	Wanganui	1.94	54	P	P	07 51 19.7	0.0
MTW	Mount Morrison	1.95	98	PN	P	07 51 19.2	-0.5
MTW				SN	S	07 51 48.2	-0.9
MTW	Mount Morrison	1.95	98	P	P	07 51 19.2	-0.6
RAEZ	Rainy Point	1.97	35	PN	P	07 51 19.4	-0.6
MRZ	Mangatainoka R	2.02	84	⇓PN	P	07 51 19.8	-0.6
MRZ				SN	S	07 51 48.7	-1.7
VRZ	Vera Road	2.27	38	PN	P	07 51 21.7	-1.5
VRZ				SN	S	07 51 54.1	-1.2
VRZ	Vera Road	2.27	38	P	P	07 51 21.7	-1.5
VRZ				S	S	07 51 54.5	-0.8
TSZ	Takapari Road	2.46	70	PN	P	07 51 24.6	-0.7
TSZ				SN	S	07 51 56.8	-2.2
TSZ	Takapari Road	2.46	70	P	P	07 51 24.8	-0.5
TSZ				S	S	07 51 57.5	-1.5
BFZ	Birch Farm	2.52	86	PN	P	07 51 25.4	-0.7
BFZ				SN	S	07 51 58.0	-2.3
BFZ	Birch Farm	2.52	86	*e*P	P	07 51 25.4	-0.6
BFZ				S	S	07 51 58.2	-2.1
WNVZ	Wahianoa	2.58	53	PN	P	07 51 25.5	-1.2
WNVZ				SN	S	07 51 60.0	-1.6
FWVZ	Far West T-bar	2.60	51	PN	P	07 51 25.7	-1.2
FWVZ				SN	S	07 52 01.0	-0.9
FWVZ	Far West T-bar	2.60	51	P	P	07 51 25.9	-1.1
FWVZ				S	S	07 52 01.3	-0.7
MOVZ	Moawhango	2.63	56	PN	P	07 51 25.8	-1.5
MOVZ				SN	S	07 52 00.0	-2.5
WPVZ	Whakapapa	2.63	50	PN	P	07 51 26.0	-1.3
WPVZ				SN	S	07 52 02.3	-0.2
CNZ	Chateau	2.63	50	PN	P	07 51 26.0	-1.4
CNZ	Chateau	2.63	50	P	P	07 51 26.0	-1.4
TUVZ	Tukino	2.65	52	PN	P	07 51 26.1	-1.4
TUVZ				PN	P	07 51 26.5	-1.1
TUVZ	Tukino	2.65	52	P	P	07 51 26.4	-1.2
CRLZ	Canterbury Las	2.67	185	PN	P	07 51 26.7	-1.0
CRLZ				SN	S	07 51 58.5	-4.8
CRLZ	Canterbury Las	2.67	185	P	P	07 51 26.8	-0.9
NGZ	Ngauruhoe	2.68	50	PN	P	07 51 26.4	-1.5
NGZ	Ngauruhoe	2.68	50	P	P	07 51 26.4	-1.5
WVZ	Waitaha Valley	2.71	217	⇑PN	P	07 51 25.8	-2.5
WVZ				SN	S	07 51 58.5	-5.8
WTVZ	West Tongariro	2.71	49	PN	P	07 51 26.8	-1.5
KAVZ	Karewarewa	2.76	50	PN	P	07 51 27.3	-1.5
MQZ	McQueen’s Vall	2.79	184	PN	P	07 51 26.3	-3.0
MQZ				SN	S	07 52 00.5	-5.5
MQZ	McQueen’s Vall	2.79	184	*e*P	P	07 51 26.3	-2.9
MQZ				S	S	07 52 00.6	-5.4
HIZ	Hauiti	2.82	32	PN	P	07 51 27.7	-1.7
HIZ				SN	S	07 52 04.5	-2.0
KATZ	Kakaramea	2.87	48	PN	P	07 51 28.7	-1.4
KATZ	Kakaramea	2.87	48	P	P	07 51 28.7	-1.4
PWZ	Pawanui	3.12	75	PN	P	07 51 32.5	-0.6
PWZ	Pawanui	3.12	75	*e*P	P	07 51 32.6	-0.4
RPZ	Rata Peaks	3.13	206	PN	P	07 51 30.8	-2.3
RPZ				SN	S	07 52 07.2	-5.7
RPZ	Rata Peaks	3.13	206	P	P	07 51 30.8	-2.4
BKZ	Black Stump Fm	3.24	58	PN	P	07 51 32.6	-1.9
LBZ	Lake Benmore	4.02	210	PN	P	07 51 40.9	-3.3
KNZ	Kokohu	4.10	64	PN	P	07 51 43.4	-1.7
KNZ	Kokohu	4.10	64	P	P	07 51 43.4	-1.8
URZ	Urewera	4.17	52	PN	P	07 51 43.0	-3.1
URZ	Urewera	4.17	52	P	P	07 51 43.0	-3.1
MWZ	Matawai	4.38	55	PN	P	07 51 46.1	-2.6
ODZ	Otahua Downs	4.46	202	PN	P	07 51 47.6	-2.1
WKZ	Wanaka	4.86	215	PN	P	07 51 50.6	-4.2
MXZ	Matakaoa Point	5.34	53	PN	P	07 51 57.9	-3.1

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*NIED **02** 07:50:00, 40.90N×142.90E, h35^{km}, Mw3.6 Best double couple: M₀2.76×10^{14} NP1:φ$_{s}$332°, δ81°, λ-63°. NP2:φ$_{s}$79°, δ28°, λ-160°.*

*IDC **02** 07:50:55.6±1.3, 40.83N×142.83E, mb3.5/5, mb1 3.7/6, mb1mx3.5/21, ML4.0/1, Error ellipse: s-maj=35.9km s-min=25.5km az=92.0*

*JMA **02** 07:50:59.9±0.1, 40.93N×142.92E, h25^{km}, M4.0*

ISC 02 07:51:00.4±0.7**, 40.95N**±0.04×**142.96E**±0.07**, h51**^{km}±8^{km}**, n19, σ0^{s}78**/28**, mb3.5**/5**, 4C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.08	8	⇑P	P	07 51 19.7	+0.2
JANG	Nango	1.24	243	P	P	07 51 21.5	-0.2
JANG				*e*S	S	07 51 37.0	-0.5
JTH	Tanohata	1.31	220	⇑P	P	07 51 22.3	-0.5
JNBK	Urakawa-nobuka	1.34	354	P	P	07 51 23.6	+0.3
JNBK				*e*S	S	07 51 41.5	+1.3
JTM	Tenmabayashi	1.44	264	P	P	07 51 24.9	+0.2
JTM				*e*S	S	07 51 42.3	-0.3
JOT	Ohata	1.50	287	⇓P	P	07 51 25.4	-0.1
JOT				*e*S	S	07 51 43.3	-0.8
JCH	Churui	1.69	10	P	P	07 51 28.3	+0.2
JCH				*e*S	S	07 51 49.4	+0.7
JKB	Kayabe	1.72	304	⇓P	P	07 51 28.6	0.0
JKB				*e*S	S	07 51 49.3	-0.2
JOM	Ohasama	1.95	221	P	P	07 51 32.7	+1.0
JFR	Furan	2.23	353	P	P	07 51 36.4	+0.7
JMK	Ichinoseki	2.40	214	P	P	07 51 39.0	+0.8
JAK	Akkeshi	2.42	32	⇑P	P	07 51 37.9	-0.6
JAK				*e*S	S	07 52 04.6	-2.4
JAR	Ashorobuto	2.42	14	⇑P	P	07 51 38.0	-0.5
JAR				*e*S	S	07 52 05.9	-1.1
ASAJ	Asahikawa	3.18	355	Pn	P	07 51 50.0	+0.8
	10nm,0.3s,baz=190,slow=3.8,SNR=13						
ASAJ				Sn	S	07 52 32.0	+5.9
	5.0nm,0.3s,baz=117,slow=33,SNR=12						
SONM	Songino Array	26.83	297	P	P	07 56 38.2	+0.5
	0.4nm,0.6s,mb3.1,baz=96,slow=8.0,SNR=4.1						
MKAR	Makanchi Array	43.17	299	P	P	07 58 57.3	-0.3
	0.6nm,0.6s,mb3.5,baz=88,slow=8.6,SNR=4.6						
ILAR	Eielson Array	45.57	34	P	P	07 59 18.1	+1.5
	0.2nm,0.4s,mb3.4,baz=256,slow=5.8,SNR=6.3						
WRA	Warramunga Arr	61.10	189	P	P	08 01 10.7	-1.0
	0.2nm,0.5s,mb3.5,baz=4.7,slow=5.4,SNR=3.9						
FINES	FINESS Array B	65.92	332	P	P	08 01 42.3	-0.3
	0.5nm,0.5s,mb3.8,baz=34,slow=6.9,SNR=5.4						

JMA 02 07:57:34.4±0.5**, 20.71N×122.61E, h1**^{km}**, M3.6, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.51	18	P	Pn	07 58 31.5	+0.3
HATJ				*e*S	Sn	07 59 13.7	-0.3
JKRS	Kuro-shima	3.74	20	P	Pn	07 58 35.0	+0.5
JKRS				S	Sn	07 59 19.9	0.0
YOJ	Yonaguni jima	3.75	6	P	Pn	07 58 35.2	+0.5
YOJ				*e*S	Sn	07 59 21.5	+1.4
IRIF	Iriomote-Funau	3.75	16	P	Pn	07 58 34.9	+0.2
IRIF				S	Sn	07 59 20.2	0.0
JIJ	Ishigaki jima	3.90	21	P	Pn	07 58 38.0	+1.2
JIJ				S	Sn	07 59 23.9	0.0
JTJ	Tarama	4.36	26	P	Pn	07 58 44.1	+0.7
JTJ				S	Sn	07 59 35.0	-0.6

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*JMA **02** 07:58:46.1±0.1, 36.25N×137.08E, h273^{km}±1^{km}, M3.0*

*NEIC **02** 07:58:46.2±0.8, 36.30N×137.16E, h278^{km}±14^{km}, Error ellipse: s-maj=53.6km s-min=22.2km az=67.0*

*IDC **02** 07:58:48.7±30.0, 36.27N×137.02E, h301^{km}±300^{km}, mb3.1/5, mb1 3.2/5, mb1mx3.0/21, Error ellipse: s-maj=145.0km s-min=17.7km az=74.0*

ISC 02 07:58:45.2±0.5**, 36.30N**±0.08×**137.1E**±0.1**, h279**^{km}±5^{km}**, n22, σ0^{s}54**/30**, mb3.3**/5**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JGN	Niukaw	0.22	109	P	P	07 59 21.2	+0.1
JKG	Kaga	0.59	268	P	P	07 59 22.1	+0.2
JGM	Miyama	0.66	205	P	P	07 59 22.1	0.0
JGM				S	S	07 59 49.9	-1.1
MAJO	Matsushiro	0.96	75	*e*Pn	P	07 59 23.3	0.0
MAT	Matsushiro	0.96	75	P	P	07 59 23.5	+0.2
MAT				S	S	07 59 53.0	-0.1
MAT	Matsushiro	0.96	75	P	P	07 59 23.5	+0.2
MAT				S	S	07 59 53.2	+0.1
MAT	Matsushiro	0.96	75	*e*P	P	07 59 24.0	+0.7
MAT				*e*S	S	07 59 53.0	-0.1
JYN	Shimob	1.45	123	P	P	07 59 26.1	-0.1
JRY	Ryogami san	1.52	100	P	P	07 59 26.6	-0.1
JRY				S	S	07 59 58.9	-0.2
JWT	Wachi	1.68	234	P	P	07 59 27.6	-0.3
JIE	Ise	1.92	189	P	P	07 59 30.0	+0.3
JIE				S	S	08 00 04.2	-0.2
JAG	Ashikaga	1.94	85	P	P	07 59 29.7	-0.1
JAG				S	S	08 00 03.7	-0.9
JOD2	Odawara 2	1.94	121	P	P	07 59 30.2	+0.3
JOD2				S	S	08 00 05.4	+0.7
JSD	Sado	1.99	29	P	P	07 59 31.0	+0.8
TK01	Tokai 1	2.56	170	P	P	07 59 35.7	+0.2
JWZ	Kozaga	2.97	202	P	P	07 59 40.3	+0.7
SONM	Songino Array	25.35	307	P	P	08 03 47.9	-0.5
	0.7nm,0.8s,mb3.1,baz=101,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	41.55	302	P	P	08 06 07.8	+0.8
	0.5nm,0.3s,mb3.3,baz=102,slow=6.6,SNR=6.2						
WRA	Warramunga Arr	55.99	183	P	P	08 07 56.2	-0.7
	1.1nm,0.6s,mb3.5,baz=359,slow=7.6,SNR=23						
ARCES	ARCESS Array B	63.43	339	P	P	08 08 47.2	+0.6
	0.4nm,0.7s,mb3.2,baz=56,slow=7.0,SNR=5.7						
ARCES	ARCESS Array B	63.43	339	P	P	08 08 47.2	+0.6
FINES	FINESS Array B	67.80	331	P	P	08 09 13.1	-1.2
	0.6nm,0.7s,mb3.5,baz=79,slow=7.1,SNR=5.1						

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*DJA **02** 08:44:37.9±0.9, 8.99S×117.50E, h2^{km}, MD5.5/4, ML5.4/4, Error ellipse: s-maj=41.5km s-min=17.9km az=11.0*

ISC 02 08:44:36.7±1.1**, 9.2S**±0.2×**117.4E**±0.1**, h10**^{km}**, n7, σ0^{s}86**/12**, 6C-2D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.41	300	⇓*i*Pn	Pn	08 45 02.3	-0.2
	3μm,0.2s						
KEDI				⇓*i*Sn	Sn	08 45 20.3	-0.9
RATI	Rata	1.85	285	⇑*i*Pn	Pn	08 45 09.9	+1.0
	6μm,0.2s						
RATI				⇑*i*Sn	Sn	08 45 31.6	-0.9
INGI	Ingas	2.21	280	⇑*i*Pn	Pn	08 45 14.7	+0.8
	6μm,0.2s						
INGI				⇑*i*Sn	Sn	08 45 41.5	0.0
KELI	Kelakatan	2.99	289	⇑*i*Pn	Pn	08 45 25.4	+0.3
	278nm,0.2s						
KELI				⇑*i*Sn	Sn	08 46 01.8	+0.5
FITZ	Fitzroy Crossi	11.97	139	*e*P	P	08 47 28.6	-1.8
	7.2nm,1.6s						
FITZ				*e*S	S	08 49 37.2	-7.8
WB2	Warramunga Arr	19.60	125	*e*P	P	08 49 08.1	0.0
ASPA	Alice Springs	21.39	134	*e*P	P	08 49 28.0	+1.2

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*IDC **02** 08:56:01.9±1.9, 60.18N×25.40E, mb1 2.7/3, mb1mx2.7/19, ML2.6/3, Error ellipse: s-maj=18.8km s-min=7.6km az=144.0*

*HEL **02** 08:56:02.2±0.1, 60.19N×25.22E, ML1.8, ML2.0(UPP), Explosion*

ISC 02 08:56:00.9±0.6**, 60.19N**±0.03×**25.27E**±0.06**, n17, σ0^{s}79**/25**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUR	Nurmij rvi	0.45	317	*e*P	Pg	08 56 09.7	-0.2
NUR				*e*S	Sg	08 56 15.5	-0.3
PVF	Pernaja	0.47	39	*e*P	Pg	08 56 10.7	+0.4
PVF				*e*S	Sg	08 56 17.1	+0.7
VJF	Virojoki	1.19	72	*e*P	Pb	08 56 23.5	-0.5
VJF				*e*S	Sb	08 56 39.8	-0.1
FIA0	FINESS Array S	1.32	17	*e*P	Pb	08 56 26.1	-0.2
FIA0				*e*S	Sb	08 56 43.2	-0.5
FINES	FINESS Array B	1.32	17	Pg	Pg	08 56 26.1	-1.2
	5.1nm,0.3s,baz=190,slow=16,SNR=98						
FINES				Lg		08 56 43.1	
	2.0nm,0.3s,baz=190,slow=31,SNR=13						
FINES				Rg		08 56 49.1	
	17nm,0.6s,baz=192,slow=34,SNR=19						
VSU	Vasula	1.89	156	*e*S	Sn	08 56 59.9	+0.4
KEF	Keuruu	2.00	355	*e*P	Pn	08 56 38.0	+1.7
KEF				*e*S	Sn	08 57 03.9	+1.5
KEF				MSG		08 57 06.8	
	comp=Z,5.2nm,0.2s						
SUF	Sumiainen	2.58	9	*e*SB	Sb	08 57 19.9	-0.3
SUF				MSG		08 57 22.1	
	comp=Z,3.0nm,0.2s						
AAL	Aland	2.63	272	*e*P	Pn	08 56 45.9	+0.5
AAL				*e*S	Sn	08 57 19.6	+1.0
GRAU	Graesoe	3.36	275	*e*P	Pn	08 56 55.4	-0.3
NRTU	Norrtaelje	3.38	264	*e*P	Pn	08 56 56.5	+0.5
FLYU	Flymyra	3.69	272	*e*P	Pn	08 57 00.3	-0.1
IGGU	Iggoen	3.99	283	*e*P	Pn	08 57 03.7	-1.0
OSTU	Oestervaala	4.06	274	*e*P	Pn	08 57 05.3	-0.3
HFS	Hagfors	5.78	275	Pn	Pn	08 57 29.4	-0.6
	comp=Z,0.0nm,0.3s,baz=102,slow=12,SNR=3.8						
HFS				Sn	Sn	08 58 32.5	-5.5
	comp=Z,0.1nm,0.3s,baz=84,slow=28,SNR=7.5						
NOA	NORSAR Array B	6.97	283	Pn	Pn	08 57 42.8	-4.0
	comp=Z,0.1nm,0.3s,baz=83,slow=14,SNR=2.0						
NOA				Sn	Sn	08 58 59.9	-7.9
	comp=Z,0.2nm,0.3s,baz=133,slow=20,SNR=2.6						
NOA				Lg		08 59 39.9	
	comp=Z,0.3nm,0.3s,baz=134,slow=26,SNR=4.5						
ARCES	ARCESS Array B	9.39	1	Pn	P	08 58 16.9	-3.7
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=5.6						

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*NEIC **02** 09:10:25.2±0.6, 18.58S×177.84W, h500^{km}, mb4.0/4, Error ellipse: s-maj=25.9km s-min=11.5km az=150.0*

*IDC **02** 09:10:25.4±6.6, 18.61S×177.80W, h502^{km}±78^{km}, mb3.3/9, mb1 3.6/9, mb1mx3.5/15, Error ellipse: s-maj=38.1km s-min=20.8km az=5.0*

ISC 02 09:10:24.5±0.7**, 18.6S**±0.2×**177.9W**±0.1**, h500**^{km}**, n22, σ0^{s}93**/18**, mb3.7**/9**, 5C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.09	191	P	P	09 14 23.6	-1.0
	5.7nm,0.3s,baz=257,slow=2.0,SNR=18						
CTA	Charters Tower	33.80	261	⇑*i*P	P	09 16 26.2	+0.7
	4.7nm,0.7s,mb4.0						
CTA	Charters Tower	33.80	261	P	P	09 16 26.3	+0.8
	7.2nm,0.8s,mb4.2,baz=86,slow=10,SNR=13						
CTAO	Charters Tower	33.80	261	*e*P	P	09 16 26.1	+0.6
	5.7nm,0.7s,mb4.1						
STKA	Stephens Creek	38.72	242	⇑*i*P	P	09 17 08.1	+2.0
	5.5nm,1.0s,mb3.9						
STKA	Stephens Creek	38.72	242	P	P	09 17 08.1	+2.0
	4.4nm,0.6s,mb4.1,baz=87,slow=11,SNR=10						
WB2	Warramunga Arr	44.95	260	⇑*i*P	P	09 17 55.4	-0.5
WRA	Warramunga Arr	44.97	260	P	P	09 17 55.6	-0.5
	2.9nm,0.5s,mb4.0,baz=98,slow=6.6,SNR=182						
ASPA	Alice Springs	45.06	255	⇑*i*P	P	09 17 57.1	+0.4
KAKA	Kakadu	48.07	269	⇓*i*P	P	09 18 19.2	-0.7
	4.2nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	53.37	261	⇑*i*P	P	09 18 58.9	+0.2
	3.4nm,1.4s,mb3.5						
FITZ	Fitzroy Crossi	53.37	261	P	P	09 18 58.2	-0.6
	1.1nm,0.5s,mb3.5,baz=121,slow=5.9,SNR=5.5						
NVAR	Mina Array Bea	79.58	44	P	P	09 21 40.7	+0.5
	0.7nm,0.6s,mb3.4,baz=225,slow=8.9,SNR=7.9						
NVAR	Mina Array Bea	79.58	44	P	P	09 21 40.7	+0.5
RMW	Rattlesnake Mo	82.74	35	*e*P	P	09 21 56.3	+0.1
TXAR	Lajitas Array	85.96	57	P	P	09 22 13.8	+1.3
	0.3nm,0.7s,mb3.0,baz=213,slow=8.0,SNR=5.0						
ILAR	Eielson Array	86.42	13	P	P	09 22 12.1	-1.7
	0.8nm,0.5s,mb3.6,baz=223,slow=5.0,SNR=21						
PDAR	Pinedale Array	87.52	43	P	P	09 22 19.3	-0.2
	0.5nm,0.8s,mb3.3,baz=225,slow=2.6,SNR=5.5						
ARCES	ARCESS Array B	127.04	350	PKP	PKPdf	09 28 30.5	-0.1
	0.6nm,0.4s,baz=42,slow=1.8,SNR=14						
AKASG	Malin Array Be	141.35	332	PKhKP		09 28 51.7	
	0.2nm,0.3s,baz=46,slow=4.0,SNR=4.1						
MOX	Moxa	147.10	349	*e*P	PKPdf	09 29 10.0	+2.7
GERES	GERESS Array B	148.36	345	PKPbc	PKPdf	09 29 15.1	+5.7
	3.2nm,0.6s,slow=2.9,SNR=14						

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*IDC **02** 09:42:29.8±1.2, 26.49S×69.52W, mb3.9/5, mb1 4.1/8, mb1mx3.9/16, ML3.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/17, Error ellipse: s-maj=34.0km s-min=28.3km az=62.0*

*GUC **02** 09:42:30.7±0.8, 26.30S×69.54W, h1^{km}±5^{km}, MD4.2, ML4.4*

*NEIC **02** 09:42:30.7, 26.30S×69.54W, h1^{km}, mb4.2/1, ML4.4(GUC), After GUC.*

ISC 02 09:42:30.3±0.5**, 26.34S**±0.03×**69.32W**±0.06**, h10**^{km}**, n21, σ1^{s}03**/27**, mb4.3**/9**, MS3.3**/1**, 2C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	1.38	222	⇑*i*P	Pn	09 42 54.1	-1.6
CPCH				*i* S	Sb	09 43 12.7	-0.5
CPCH				AMP		09 43 14.0	
	comp=E,7μm,0.1s						
CPN1	Cerro Paranal	1.97	330	⇓*i*P	Pn	09 43 04.0	-0.1
CPN1				*i* S	Sn	09 43 29.1	+0.1
CPN1				AMP		09 43 31.1	
	comp=E,6μm,0.4s						
VACH	Vallenar	2.57	210	*i* P	Pn	09 43 11.8	-1.0
VACH				*i* S	Sn	09 43 44.5	0.0
VACH				AMP		09 43 49.5	
	comp=N,4μm,0.2s						
ANCH	Antofagasta	2.82	339	⇑*i*P	Pn	09 43 17.0	+0.7
ANCH				*i* S	Sn	09 43 51.5	+0.8
ANCH				AMP		09 43 59.2	
	comp=E,1μm,0.5s						
LVC	Limon Verde	3.72	6	Pn	Pn	09 43 32.5	+3.4
	comp=E,26nm,0.3s,baz=183,slow=10,SNR=148						
LVC				Sn	Sn	09 44 20.8	+7.2
	comp=E,35nm,0.3s,baz=343,slow=16,SNR=9.3						
LVC				Lg		09 44 26.0	
	comp=E,122nm,0.3s,baz=56,slow=15,SNR=16						
LVC	Limon Verde	3.72	6	*e*Pn	Pn	09 43 31.9	+2.8
LVC				*e*Sn	Sn	09 44 19.8	+6.2
LVC				*e*Sg	Sg	09 44 26.1	-8.2
TLL	Tololo Astrono	4.04	199	*i* P	Pn	09 43 35.0	+1.4
TLL				*i* S	Sn	09 44 23.7	+2.2
LPAZ	La Paz	10.06	7	Pn	P	09 44 57.0	-1.1
	comp=E,0.3nm,0.3s,baz=199,slow=13,SNR=9.1						
CPUP	Villa Florida	10.75	93	Pn	P	09 45 07.9	+0.4

	comp=E,0.0nm,0.3s,baz=275,slow=12,SNR=3.4						
CPUP				LR	LR	09 49 51.5	
	comp=E,80nm,21.0s,baz=110,slow=40						
BDFB	**Brasilia**	**22.52**	**66**	P	**P**	**09 47 30.4**	**-1.4**
	comp=E,2.2nm,0.5s,mb3.9,baz=232,slow=11,SNR=4.8						
QSPA	**South Pole Qui**	**63.88**	**180**	*e*P	**P**	**09 53 04.6**	**-0.2**
	comp=E,1.2nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**64.41**	**327**	P	**P**	**09 53 07.5**	**-1.6**
	comp=E,0.2nm,0.5s,mb3.5,baz=158,slow=9.7,SNR=4.5						
TXAR				LR	LR	10 18 29.7	
	comp=E,23nm,21.6s,MS3.3,baz=35,slow=34						
LIC	**Lamto**	**70.15**	**72**	*e*P	**P**	**09 53 49.6**	**+4.1**
	comp=E,73nm,2.1s,mb5.2						
TIC	**Toumodi**	**70.37**	**72**	*e*P	**P**	**09 53 47.6**	**+0.8**
	comp=E,33nm,1.0s,mb5.2						
KIC	**Kosan Boka**	**70.46**	**72**	*e*P	**P**	**09 53 47.1**	**-0.3**
	comp=E,42nm,1.2s,mb5.3						
DBIC	**Dimbokro**	**70.52**	**72**	P	**P**	**09 53 47.8**	**0.0**
	comp=E,1.9nm,0.5s,mb4.3,baz=235,slow=6.8,SNR=6.9						
PDAR	**Pinedale Array**	**78.12**	**331**	P	**P**	**09 54 31.6**	**+0.5**
	comp=E,0.3nm,0.6s,mb3.4,baz=149,slow=5.3,SNR=3.6						
YKA	**Yellowknife Ar**	**95.60**	**341**	P	**P**	**09 55 56.3**	**-0.3**
	comp=E,0.5nm,0.6s,mb4.1,baz=138,slow=3.9,SNR=5.1						
YKA	**Yellowknife Ar**	**95.60**	**341**	P	**P**	**09 55 56.3**	**-0.4**
WRA	**Warramunga Arr**	**128.59**	**209**	PKP	PKPdf	10 01 39.2	-2.3
	comp=E,0.3nm,0.6s,baz=154,slow=2.0,SNR=9.8						
MKAR	**Makanchi Array**	**149.65**	**40**	PKPbc	PKPdf	10 02 22.0	+3.6
	comp=E,4.3nm,0.8s,baz=297,slow=2.7,SNR=24						

IDC 02 10:05:12.4±0.8,19.46N×65.38W,mb3.7/9,mb1 4.0/9, mb1mx3.8/21,MS3.9/2,Ms1 3.8/2,ms1mx2.8/23,Error ellipse: s-maj=22.9km s-min=15.1km az=89.0

NEIC 02 10:05:15.1±7.2,19.49N×65.42W,h17^{km}±46^{km},mb4.2/7, Error ellipse: s-maj=19.6km s-min=10.9km az=75.0

ISC 02 10:05:14.0±3.7,**19.52N**±0.06×**65.4W**±0.1,**h23**^{km}±28^{km},**n30,σ0^{s}90**/27,**mb3.9**/15,**MS3.9**/2,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.43**	**186**	*e*P	**Pn**	**10 05 38.7**	**-0.2**
SJG	**San Juan**	**1.58**	**207**	Pn	**Pn**	**10 05 41.5**	**+0.5**
	40nm,0.3s,baz=40,slow=9.3,SNR=36						
SJG				Sn	**Sn**	**10 06 00.6**	**-0.2**
	179nm,0.3s,baz=299,slow=20,SNR=18						
MGP	**Maguayo**	**2.20**	**227**	*e*P	**Pn**	**10 05 49.9**	**-0.1**
SDV	**Santo Domingo**	**11.73**	**206**	*e*P	**P**	**10 08 03.8**	**+0.5**
JTS	**JuntasAbangare**	**20.99**	**247**	P	**P**	**10 09 56.8**	**-1.7**
	5.0nm,1.0s,baz=76,slow=8.7,SNR=3.0						
BLA	**Blacksburg**	**21.98**	**326**	P	**P**	**10 10 08.1**	**-0.1**
	19nm,0.9s,mb4.5						
OTAV	**Otavalo**	**23.05**	**215**	P	**P**	**10 10 18.9**	**-0.1**
HRV	**Harvard--Oak R**	**23.50**	**349**	P	**P**	**10 10 21.2**	**-1.9**
	9.0nm,0.5s,mb4.5						
ACCN	**Adirondack Com**	**24.79**	**346**	P	**P**	**10 10 35.0**	**-0.6**
NCB	**Newcomb**	**25.48**	**345**	P	**P**	**10 10 43.6**	**+1.5**
	5.4nm,0.8s,mb4.1						
LPAZ	**La Paz**	**35.69**	**185**	P	**P**	**10 12 12.8**	**-0.1**
	0.9nm,1.0s,mb3.7,baz=13,slow=4.3,SNR=3.4						
LPAZ	**La Paz**	**35.69**	**185**	P	**P**	**10 12 12.8**	**-0.2**
TXAR	**Lajitas Array**	**36.06**	**293**	P	**P**	**10 12 16.9**	**+1.0**
	0.5nm,0.8s,mb3.5,baz=96,slow=9.1,SNR=7.5						
BDFB	**Brasilia**	**38.90**	**153**	LR	LR	10 30 02.5	
	comp=Z,73nm,20.8s,MS3.5,baz=202,slow=38						
SDCO	**Great Sand Dun**	**39.26**	**306**	*e*P	**P**	**10 12 43.9**	**+1.2**
	3.4nm,1.0s,mb4.0						
PV10	**Paradox Valley**	**42.12**	**306**	*e*P	**P**	**10 13 07.6**	**+1.3**
BW06	**Boulder Array**	**43.70**	**312**	P	**P**	**10 13 19.0**	**-0.1**
	1.1nm,0.7s,mb3.7						
PDAR	**Pinedale Array**	**43.70**	**312**	P	**P**	**10 13 19.0**	**-0.1**
	0.6nm,0.8s,mb3.4,baz=117,slow=6.0,SNR=5.2						
FCC	**Fort Churchill**	**44.38**	**339**	*e*P	**P**	**10 13 24.1**	**-0.3**
	2.2nm,0.5s,mb4.1						
DUG	**Dugway**	**45.38**	**308**	P	**P**	**10 13 32.0**	**-0.7**
	0.9nm,0.7s,mb3.7						
CPUP	**Villa Florida**	**46.24**	**170**	P	**P**	**10 13 39.7**	**0.0**
	1.7nm,0.9s,mb4.0,baz=4.2,slow=10,SNR=6.0						
HLID	**Hailey**	**47.33**	**312**	*e*P	**P**	**10 13 46.4**	**-1.7**
NVAR	**Mina Array Bea**	**49.28**	**304**	P	**P**	**10 14 05.0**	**+1.8**
	0.7nm,0.6s,mb3.9,baz=108,slow=5.7,SNR=5.9						
YKA	**Yellowknife Ar**	**54.53**	**334**	P	**P**	**10 14 41.7**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=107,slow=7.2,SNR=5.0						
YKA	**Yellowknife Ar**	**54.53**	**334**	P	**P**	**10 14 41.7**	**-0.6**
NOA	**NORSAR Array B**	**66.64**	**31**	P	**P**	**10 16 05.3**	**+0.6**
	0.6nm,0.9s,mb3.6,baz=275,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**68.91**	**333**	P	**P**	**10 16 18.9**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=103,slow=4.2,SNR=16						
SUR	**Sutherland**	**97.13**	**122**	LR	LR	10 55 06.9	
	comp=Z,105nm,20.0s,MS4.3,baz=216,slow=31						
WRA	**Warramunga Arr**	**161.42**	**265**	PKPab	PKPab	10 25 59.5	-0.6
	1.5nm,1.3s,baz=82,slow=4.2,SNR=5.0						
ASAR	**Alice Springs**	**161.59**	**254**	PKPab	PKPab	10 26 00.3	-0.4
	0.4nm,0.8s,baz=108,slow=4.7,SNR=4.3						

IDC 02 10:39:16.2±1.1,12.11N×143.60E,mb3.9/7,mb1 4.1/7, mb1mx4.0/17,MS3.2/2,Ms1 3.2/2,ms1mx2.6/22,Error ellipse: s-maj=42.7km s-min=27.4km az=89.0

NEIC 02 10:39:18.7±8.2,12.09N×143.63E,h16^{km}±51^{km},mb4.4/1, Error ellipse: s-maj=26.8km s-min=18.3km az=107.0

ISC 02 10:39:17.4±5.9,**12.1N**±0.1×**143.6E**±0.2,**h17**^{km}±42^{km},**n10, σ0^{s}62**/10,**mb3.9**/8,**MS3.1**/2,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.95**	**41**	*e*Pn	**Pn**	**10 39 50.6**	**+0.4**
GUMO				*e*Sn	**Sn**	**10 40 13.8**	**-0.6**
TGY	**Tagaytay City**	**22.12**	**278**	LR	LR	10 52 23.3	
	comp=Z,49nm,19.6s,MS2.9,baz=212,slow=36						
WRA	**Warramunga Arr**	**33.11**	**196**	P	**P**	**10 45 54.2**	**-0.7**
	0.7nm,0.6s,mb3.8,baz=20,slow=10.0,SNR=14						
WRA				LR	LR	11 00 06.9	
	comp=Z,46nm,19.2s,MS3.2,baz=285,slow=38						
SONM	**Songino Array**	**47.22**	**326**	P	**P**	**10 47 50.5**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=146,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**10 49 37.6**	**+0.8**
	0.6nm,0.8s,mb3.8,baz=104,slow=5.9,SNR=2.9						
KURK	**Kurchatov**	**64.90**	**321**	*e*P	**P**	**10 49 58.1**	**+0.2**
	2.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**84.76**	**27**	P	**P**	**10 51 52.1**	**+0.5**
	0.5nm,0.5s,mb4.0,baz=284,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**10 52 07.7**	**-0.1**
	0.5nm,0.7s,mb3.9,baz=60,slow=7.3,SNR=6.0						
NVAR	**Mina Array Bea**	**88.84**	**51**	P	**P**	**10 52 13.1**	**+0.9**
	0.8nm,0.7s,mb4.2,baz=261,slow=4.8,SNR=7.6						
FINES	**FINESS Array B**	**91.95**	**335**	P	**P**	**10 52 25.4**	**-0.6**
	0.9nm,0.6s,mb4.3,baz=72,slow=4.4,SNR=4.6						

IDC 02 10:50:36.4±0.7,2.47S×12.29W,mb4.2/11,mb1 4.3/12, mb1mx4.1/21,ML3.6/1,MS3.7/11,Ms1 3.7/11, ms1mx3.4/24,Error ellipse: s-maj=25.4km s-min=16.1km az=129.0

NEIC 02 10:50:37.9±0.3,2.49S×12.28W,h10^{km},mb4.6/4,Error ellipse: s-maj=10.0km s-min=7.5km az=125.0

ISC 02 10:50:36.1±0.4,**2.45S**±0.08×**12.27W**±0.09,**h10**^{km},**n37, σ0^{s}97**/30,**mb4.3**/19,**MS3.8**/10,**North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**11.25**	**40**	*e*P	**P**	**10 53 21.2**	**+1.1**
	48nm,1.5s						
KIC	**Kosan Boka**	**11.54**	**41**	*e*P	**P**	**10 53 21.5**	**-2.5**
	31nm,0.8s						
TIC	**Toumodi**	**11.57**	**39**	*e*P	**P**	**10 53 24.9**	**+0.3**
	59nm,1.1s						
DBIC	**Dimbokro**	**11.70**	**39**	Pn	**P**	**10 53 24.8**	**-1.4**
	0.4nm,0.3s,baz=190,slow=14,SNR=6.9						
DBIC				LR	LR	10 56 54.1	
	comp=Z,464nm,21.1s,baz=200,slow=32						
DBIC	**Dimbokro**	**11.70**	**39**	Pn	**P**	**10 53 24.8**	**-1.5**
DBIC				LR	LR	10 56 54.1	
TSUM	**Tsumeb**	**33.61**	**122**	P	**P**	**10 57 17.6**	**-1.4**
	2.0nm,1.0s,mb4.0,baz=291,slow=8.5,SNR=2.7						
BDFB	**Brasilia**	**37.57**	**247**	P	**P**	**10 57 52.2**	**-0.6**
	12nm,1.2s,mb4.5,baz=70,slow=9.4,SNR=5.2						
BDFB				LR	LR	11 10 21.7	
	comp=Z,161nm,18.4s,MS3.9,baz=142,slow=32						
LSZ	**Lusaka**	**41.86**	**110**	*e*P	**P**	**10 58 29.4**	**+1.0**
	4.0nm,0.9s,mb4.0						
LBTB	**Lobatse**	**42.82**	**125**	P	**P**	**10 58 36.3**	**+0.1**
	6.1nm,1.0s,mb4.3						
MBAR	**Mbarara**	**43.03**	**88**	*e*P	**P**	**10 58 38.3**	**+0.2**
	18nm,1.2s,mb4.7						
CPUP	**Villa Florida**	**49.30**	**237**	P	**P**	**10 59 27.4**	**-0.2**
	3.2nm,1.0s,mb4.3,baz=93,slow=7.9,SNR=4.6						
CPUP				LR	LR	11 17 23.9	
	comp=Z,115nm,20.0s,MS3.9,baz=135,slow=33						
CPUP	**Villa Florida**	**49.30**	**237**	P	**P**	**10 59 27.4**	**-0.2**
CPUP				LR	LR	11 17 23.9	
KMBO	**Kilima Mbogo**	**49.51**	**89**	LR	LR	11 18 44.5	
	comp=Z,255nm,19.4s,MS4.2,baz=95,slow=34						
GRA1	**Grafenberg Arr**	**55.75**	**18**	*e*P	**P**	**11 00 15.4**	**0.0**
	4.0nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**55.84**	**20**	P	**P**	**11 00 16.2**	**+0.1**
	2.4nm,0.7s,mb4.4,baz=191,slow=6.8,SNR=25						
LPAZ	**La Paz**	**56.61**	**252**	P	**P**	**11 00 21.8**	**-0.2**
	1.9nm,0.9s,mb4.1,baz=180,slow=8.8,SNR=7.3						
LPAZ				LR	LR	11 24 30.2	
	comp=Z,56nm,19.2s,MS3.7,baz=220,slow=36						
MOX	**Moxa**	**56.71**	**18**	*e*P	**P**	**11 00 24.0**	**+1.7**
TRQA	**Tornquist**	**57.59**	**226**	P	**P**	**11 00 27.8**	**-0.9**
	3.5nm,1.0s,mb4.3						
BRG	**Berggiesshubel**	**57.65**	**19**	P	**P**	**11 00 29.6**	**+0.7**
	6.0nm,1.2s,mb4.5						
ASF	**Jabal al Asfar**	**57.89**	**49**	LR	LR	11 24 55.6	
	comp=Z,74nm,20.8s,MS3.8,baz=67,slow=36						
MLR	**Muntele Rosu**	**58.53**	**31**	LR	LR	11 26 32.1	
	comp=Z,70nm,19.5s,MS3.8,baz=350,slow=37						
BRTR	**Keskin Array B**	**59.39**	**40**	P	**P**	**11 00 42.0**	**+0.8**
	4.2nm,0.9s,mb4.5,baz=219,slow=7.9,SNR=14						
BRTR				LR	LR	11 29 06.4	
	comp=Z,37nm,19.1s,MS3.5,baz=185,slow=39						
AKASG	**Malin Array Be**	**63.70**	**28**	P	**P**	**11 01 08.7**	**-1.4**
	1.1nm,0.5s,mb4.1,baz=232,slow=7.3,SNR=8.5						
PLCA	**Paso Flores**	**64.74**	**226**	LR	LR	11 23 39.0	
	comp=Z,85nm,19.7s,MS3.9,baz=1.4,slow=31						
NB2	**NORSAR Subarra**	**65.86**	**12**	P	**P**	**11 01 22.9**	**-1.0**
	3.6nm,1.0s,mb4.4,baz=204,slow=6.2						
NOA	**NORSAR Array B**	**65.86**	**12**	P	**P**	**11 01 23.9**	**0.0**
	0.8nm,0.8s,mb3.8,baz=193,slow=8.7,SNR=4.3						
NOA				LR	LR	11 33 34.9	
	comp=Z,15nm,19.9s,MS3.2,baz=215,slow=39						
NOA	**NORSAR Array B**	**65.86**	**12**	P	**P**	**11 01 23.9**	**0.0**
NOA				LR	LR	11 33 34.9	
SNAA	**Sanae**	**69.38**	**177**	*e*P	**P**	**11 01 45.4**	**-0.5**
	4.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**70.17**	**18**	P	**P**	**11 01 50.5**	**-0.3**
	2.4nm,0.6s,mb4.3,baz=210,slow=4.6,SNR=18						
FINES				LR	LR	11 30 35.7	
	comp=Z,31nm,18.5s,MS3.6,baz=307,slow=34						
ARCES	**ARCESS Array B**	**76.23**	**13**	P	**P**	**11 02 26.7**	**+0.5**
	3.3nm,0.7s,mb4.4,baz=233,slow=6.1,SNR=14						
KEV	**Kevo**	**76.74**	**13**	*e*p	**P**	**11 02 28.6**	**-0.4**
MAW	**Mawson**	**82.10**	**158**	P	**P**	**11 02 59.9**	**+2.0**
	6.4nm,0.8s,mb4.6,baz=306,slow=9.8						
TXAR	**Lajitas Array**	**92.41**	**299**	P	**P**	**11 03 49.9**	**+1.1**
	0.5nm,0.8s,mb3.9,baz=121,slow=7.3,SNR=7.4						
TXAR	**Lajitas Array**	**92.41**	**299**	P	**P**	**11 03 49.9**	**+1.1**
WRA	**Warramunga Arr**	**140.39**	**126**	PKhKP		11 09 58.6	
	1.2nm,1.1s,baz=236,slow=2.7,SNR=10						
CTA	**Charters Tower**	**149.24**	**138**	PKPbc	PKPdf	11 10 27.4	+2.8
	4.6nm,0.9s,baz=338,slow=1.3,SNR=4.4						
CTAO	**Charters Tower**	**149.24**	**138**	*e*PKPbc	PKPdf	11 10 27.5	+2.8

NIED 02 10:52:00,36.40N×141.10E,h35^{km},Mw3.6 Best double couple: $M_0$3.1×10^{14} NP1:ϕ_s261°,δ88°,λ111°. NP2:ϕ_s356°, δ21°,λ5°.

JMA 02 10:52:34.7±0.1,36.44N×141.01E,h46^{km}±1^{km},M3.4

JMA Felt I J1.

ISC 02 10:52:34.7±1.6,**36.46N**±0.07×**141.0E**±0.1,**h37**^{km}±23^{km}, **n10,σ0^{s}53**/19,**3C-4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**292**	⇑P	**P**	**10 52 44.4**	**+0.4**
JHO				S	**S**	**10 52 50.8**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.67**	**344**	⇓P	**P**	**10 52 47.6**	**0.0**
ONAJ				S	**S**	**10 52 56.8**	**-0.3**
JYT	**Yasato**	**0.72**	**251**	⇑P	**P**	**10 52 48.2**	**-0.2**
JYT				S	**S**	**10 52 57.4**	**-0.9**
JFK	**Kawauchi**	**0.91**	**352**	⇓P	**P**	**10 52 50.8**	**-0.3**
JFK				S	**S**	**10 53 02.2**	**-1.1**
JFT	**Otama**	**1.19**	**332**	⇓P	**P**	**10 52 56.2**	**+1.1**
JFT				S	**S**	**10 53 11.3**	**+0.9**
JAG	**Ashikaga**	**1.27**	**269**	P	**P**	**10 52 56.2**	**-0.1**
JAG				S	**S**	**10 53 12.2**	**-0.3**
JMM	**Marumori**	**1.42**	**352**	P	**P**	**10 52 58.5**	**+0.1**
JMM				S	**S**	**10 53 15.4**	**-0.6**
JFY	**Yanaizu**	**1.42**	**312**	⇓P	**P**	**10 52 59.0**	**+0.5**
JKT	**Katashina**	**1.47**	**283**	⇑P	**P**	**10 52 59.3**	**+0.2**
JKT				S	**S**	**10 53 17.7**	**+0.4**
MAT	**Matsushiro**	**2.28**	**273**	P	**P**	**10 53 11.0**	**+0.3**
MAT				S	**S**	**10 53 37.5**	**-0.3**

NIED 02 10:56:00,25.60N×128.70E,h35^{km},Mw3.9 Best double couple: $M_0$8.46×10^{14} NP1:ϕ_s22°,δ82°,λ-141°. NP2: ϕ_s286°,δ52°,λ-10°.

IDC 02 10:56:36.2±1.8,25.69N×128.92E,mb3.9/6,mb1 4.0/6, mb1mx3.7/20,MS2.9/1,Ms1 3.1/1,ms1mx2.4/23,Error ellipse: s-maj=90.3km s-min=21.4km az=69.0

JMA 02 10:56:39.7±0.3,25.62N×128.73E,h53^{km},M4.0

ISC 02 10:56:39.7±0.6,**25.63N**±0.04×**128.69E**±0.04,**h53**^{km},**n25, σ1^{s}16**/39,**mb3.8**/6,**MS2.8**/1,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.99**	**301**	P	**P**	**10 56 58.2**	**+0.7**
JJT2				S	**S**	**10 57 11.3**	**+0.5**
NAH1	**Naha**	**1.07**	**302**	P	**P**	**10 56 59.1**	**+0.4**
NAH1				S	**S**	**10 57 12.5**	**-0.2**
JOW	**Kunigami**	**1.25**	**343**	Pn	**P**	**10 57 01.8**	**+0.5**
	248nm,0.3s,baz=150,slow=15,SNR=2133						
JOW				Sn	**S**	**10 57 16.1**	**-1.1**
	baz=122,slow=19						
JOW	**Kunigami**	**1.25**	**343**	P	**P**	**10 57 01.7**	**+0.5**
JOW				S	**S**	**10 57 17.5**	**+0.2**
JIH	**Iheya**	**1.54**	**335**	P	**P**	**10 57 06.2**	**+0.9**
JIH				S	**S**	**10 57 24.1**	**-0.2**
JAGN	**Aguni-jima**	**1.61**	**306**	P	**P**	**10 57 07.0**	**+0.6**
JAGN				S	**S**	**10 57 26.5**	**+0.4**
JKE	**Kume jima 2**	**1.85**	**292**	P	**P**	**10 57 09.6**	**0.0**
JKE				S	**S**	**10 57 31.2**	**-0.6**
JTK	**Tokunoshima**	**2.16**	**6**	P	**P**	**10 57 14.1**	**+0.1**
JTK				S	**S**	**10 57 38.7**	**-0.8**
JMZ	**Minamidaito 2**	**2.29**	**85**	P	**P**	**10 57 14.3**	**-1.6**
JMZ				S	**S**	**10 57 39.2**	**-3.7**
JAM	**Amami Oshima**	**2.88**	**16**	P	**P**	**10 57 23.8**	**-0.5**
JAM				S	**S**	**10 57 56.3**	**-1.7**
JZK	**Kikaishima**	**2.90**	**23**	P	**P**	**10 57 26.0**	**+1.4**
JZK				S	**S**	**10 57 58.5**	**0.0**
JOGS	**Gusukube**	**3.10**	**254**	P	**P**	**10 57 27.2**	**-0.2**
JOGS				S	**S**	**10 58 02.8**	**-0.7**
JMJ	**Miyako jima 2**	**3.18**	**256**	P	**P**	**10 57 28.3**	**-0.3**
JMJ				S	**S**	**10 58 04.6**	**-1.0**
JTJ	**Tarama**	**3.75**	**256**	P	**P**	**10 57 35.5**	**-1.0**
JTJ				S	**S**	**10 58 16.0**	**-3.8**
JIJ	**Ishigaki jima**	**4.32**	**254**	P	**P**	**10 57 42.7**	**-1.8**
JIJ				S	**S**	**10 58 29.1**	**-5.1**
JNN	**Nakanoshima**	**4.32**	**14**	P	**P**	**10 57 44.0**	**-0.6**
IRIF	**Iriomote-Funau**	**4.69**	**255**	P	**P**	**10 57 49.5**	**-0.2**
SONM	**Songino Array**	**28.28**	**327**	P	**P**	**11 02 37.2**	**+7.2**
	0.4nm,0.5s,mb3.4,baz=148,slow=11,SNR=4.6						
CMAR	**Chiang Mai Arr**	**28.44**	**261**	LR	LR	11 15 09.7	
	comp=Z,25nm,19.4s,MS2.8,baz=190,slow=39						
MKAR	**Makanchi Array**	**42.24**	**312**	P	**P**	**11 04 31.6**	**+2.4**
	0.6nm,0.5s,mb3.5,baz=112,slow=9.6,SNR=8.7						
WRA	**Warramunga Arr**	**45.63**	**173**	P	**P**	**11 04 59.0**	**+2.0**
	0.9nm,0.6s,mb3.9,baz=354,slow=8.6,SNR=16						
BVAR	**Borovoye Array**	**50.99**	**319**	P	**P**	**11 05 41.0**	**+2.9**
	2.2nm,1.0s,mb4.0,baz=112,slow=7.8,SNR=3.6						
BRTR	**Keskin Array B**	**77.73**	**308**	P	**P**	**11 08 35.5**	**+2.8**
	1.3nm,0.8s,mb3.9,baz=88,slow=3.3,SNR=5.0						
NB2	**NORSAR Subarra**	**80.03**	**334**	P	**P**	**11 08 47.6**	**+2.8**
	0.6nm,0.7s,mb3.6,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**80.03**	**334**	P	**P**	**11 08 47.7**	**+2.9**
	2.1nm,1.1s,mb4.0,baz=52,slow=5.6,SNR=4.0						

MAN 02 11:01:47.2,20.27N×122.14E,h33^{km}**,mb3.6,ML2.3, MS1.7,Philippine Islands region**

DJA 02 11:37:38.9±1.0,**8.86S×116.99E,h114**^{km}±9^{km},**MD5.0**/4,**ML4.1**/4,**4C-3D,Error ellipse: s-maj=54.0km s-min=24.7km az=165.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.94**	**293**	⇑*i*Pn	P	11 38 00.0	-0.1
	148nm,0.1s						
KEDI				⇓*i*Sn	S	11 38 16.2	+0.2
RATI	**Rata**	**1.44**	**275**	⇓*i*Pn	P	11 38 04.8	-0.9
	172nm,0.2s						
RATI				⇑*i*Sn	S	11 38 24.3	-1.7
INGI	**Ingas**	**1.82**	**271**	⇑*i*Pn	P	11 38 10.5	+0.2
	505nm,0.2s						
INGI				⇑*i*Sn	S	11 38 32.3	-1.6
KELI	**Kelakatan**	**2.55**	**284**	⇓*i*Pn	P	11 38 19.3	-0.6
	29nm,0.2s						

NEIC 02 11:42:50.7,16.94N×100.25W,h44^{km},MD3.9(MEX),After MEX.

MEX 02 11:42:50.7±0.6,**16.94N×100.25W,h44**^{km}±5^{km},**MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.11**	**350**	*i* P	P	11 42 56.9	-0.9
CAIG				*i* S	S	11 43 00.7	-2.2
ZIIG	**Zihuatanejo**	**1.34**	**300**	*i* P	P	11 43 11.2	-2.2
ZIIG				*i* S	S	11 43 27.5	-2.7
PLIG	**Platanillo**	**1.61**	**26**	*i* P	P	11 43 14.8	-2.4
PLIG				*i* S	S	11 43 34.6	-2.3
PPM	**Popocatepetl**	**2.62**	**36**	*i* P	P	11 43 29.9	-1.7
PPM				*i* P		11 43 30.5	
PPM				*i* S	S	11 44 00.0	-2.3
PPM	**Popocatepetl**	**2.62**	**36**	*i* P	P	11 43 29.9	-1.7
PPM				*i* S	S	11 44 00.0	-2.3

NEIC 02 11:53:32.1,17.13N×94.98W,h133^{km},MD4.1(MEX),After MEX.

MEX 02 11:53:32.4±1.1,**17.11N×94.97W,h131**^{km}±13^{km},**MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.09**	**99**	*i* P	P	11 53 48.1	-2.2
CMIG				*i* S	S	11 54 01.8	-2.1
TUIG	**Tuzandepetl**	**1.06**	**29**	*i* P	P	11 53 55.5	-0.7
TUIG				*i* S	S	11 54 12.5	-1.8
OXX	**Oaxaca**	**1.68**	**269**	*i* P	P	11 54 01.0	-2.0
OXX				*i* S	S	11 54 23.5	-2.8
HUIG	**Huatulco**	**1.72**	**220**	*i* P	P	11 54 02.0	-1.5
HUIG				*i* S	S	11 54 25.6	-1.6
PPM	**Popocatepetl**	**3.99**	**300**	*i* P	P	11 54 32.0	-1.0
PPM				*i* P		11 54 33.3	
PPM				*i* S	S	11 55 18.4	-1.1
PPM	**Popocatepetl**	**3.99**	**300**	*i* P	P	11 54 32.0	-1.0
PPM				*i* S	S	11 55 13.8	-5.7

CASC 02 11:57:21.6±2.2,14.61N×91.02W,h0^{km}±6^{km},MD3.8, ML4.2

MEX 02 11:57:26.0±0.8,14.30N×92.94W,h95^{km}±17^{km},MD4.1

ISC 02 11:57:23.0±0.6,**14.57N**±0.05×**91.05W**±0.03,**h10**^{km},**n12, σ1^{s}31**/21,**1C-2D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCG	**Guatemala City**	**0.50**	**88**	*e*P	**Pg**	**11 57 32.4**	**-0.7**
GCG				*e*S	**Sg**	**11 57 39.3**	**-0.5**
JAT	**Jato**	**0.62**	**247**	⇑*e*P	**Pb**	**11 57 35.0**	**-0.6**
JAT				*e*S	**Sg**	**11 57 45.9**	**+1.9**
JAT				AML	AML	11 57 46.4	
	comp=E,38µm,0.3s						
NBG	**Las Nubes**	**0.68**	**88**	*e*P	**Pb**	**11 57 35.5**	**-0.9**
NBG				*e*S	**Sb**	**11 57 45.4**	**-0.3**
NBG				AML	AML	11 57 47.5	
	comp=E,10µm,0.3s						
IXG	**Ixpaco**	**0.69**	**124**	⇓*e*P	**Pb**	**11 57 34.9**	**-1.9**
TPX	**Tapachula**	**1.22**	**286**	*i* P	**Pb**	**11 57 44.0**	**-1.8**
TPX				*i* S	**Sb**	**11 57 57.0**	**-4.4**
RBDL	**Robledal**	**1.39**	**109**	⇓*e*P	**Pn**	**11 57 47.8**	**-0.8**
RBDL				*e*S	**Sb**	**11 58 09.1**	**+2.7**
MRL	**Marmol**	**1.40**	**69**	*e*P	**Pn**	**11 57 47.9**	**-0.9**
MRL				*e*S	**Sb**	**11 58 07.9**	**+1.3**
MRL				AML	AML	11 58 11.2	
	comp=N,1µm,0.5s						
RTR	**El Retiro**	**1.51**	**116**	*e*P	**Pn**	**11 57 50.3**	**-0.1**
SBLS	**San Blas**	**1.56**	**118**	*e*P	**Pn**	**11 57 50.4**	**-0.7**
SBLS				*e*S	**Sb**	**11 58 13.8**	**+2.6**
SNJE	**San Jose**	**1.56**	**116**	*e*P	**Pn**	**11 57 50.8**	**-0.3**
SNJE				*e*S	**Sb**	**11 58 12.5**	**+1.2**
CCIG	**Comitan**	**2.00**	**328**	*i* P	**Pn**	**11 57 58.5**	**+1.1**
CCIG				*i* S	**Sn**	**11 58 25.2**	**+2.5**
LFRS	**El Faro**	**2.14**	**116**	*e*P	**Pn**	**11 57 58.6**	**-0.8**

IDC 02 12:39:13.4±11.0,20.57S×177.52W,h492^{km}±108^{km}, mb3.3/5,mb1 3.6/5,mb1mx3.3/13,Error ellipse: s-maj=109.0km s-min=52.2km az=140.0

NEIC 02 12:39:14.5±2.1,20.29S×177.79W,h490^{km},mb3.9/3, Error ellipse: s-maj=87.1km s-min=20.3km az=145.0

ISC 02 12:39:15.3±3.0,**20.2S**±0.6×**178.0W**±0.5,**h500**^{km},**n14, σ0^{s}77**/11,**mb3.7**/7,**6C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.54**	**264**	⇑*i*P	**P**	**12 45 15.1**	**+1.0**
	3.7nm,0.9s,mb3.8						
CTA	**Charters Tower**	**33.54**	**264**	P	**P**	**12 45 15.1**	**+1.0**
	3.3nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**12 45 50.8**	**+0.3**
	5.0nm,1.1s,mb3.9,baz=85,slow=11,SNR=4.7						
ASPA	**Alice Springs**	**44.61**	**256**	⇑*i*P	**P**	**12 46 43.9**	**-0.1**
WB2	**Warramunga Arr**	**44.65**	**262**	⇑*i*P	**P**	**12 46 43.8**	**-0.5**
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**12 46 43.7**	**-0.7**
	1.7nm,0.3s,mb3.9,baz=97,slow=7.6,SNR=140						
KAKA	**Kakadu**	**48.02**	**271**	⇑*i*P	**P**	**12 47 09.6**	**-0.7**
	2.7nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.08**	**262**	⇑*i*P	**P**	**12 47 47.1**	**-0.3**
	1.6nm,0.5s,mb3.6						
FITZ	**Fitzroy Crossi**	**53.08**	**262**	P	**P**	**12 47 47.0**	**-0.4**
	1.8nm,0.6s,mb3.6,baz=315,slow=4.3,SNR=13						
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**12 51 11.4**	**-0.5**
	0.2nm,0.6s,mb3.1,baz=217,slow=5.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**12 51 24.1**	**+1.7**
	1.3nm,0.7s,mb3.9,baz=108,slow=2.9,SNR=5.8						
AKASG	**Malin Array Be**	**142.74**	**331**	PKP	PKPdf	12 57 48.3	-2.3
	1.9nm,0.6s,baz=37,slow=4.4,SNR=7.5						
BRTR	**Keskin Array B**	**146.63**	**313**	PKPbc	PKPbc	12 58 01.2	+1.6
	1.0nm,0.5s,baz=116,slow=4.9,SNR=4.1						
CLL	**Collm**	**147.75**	**347**	⇑*i*PKP1	PKPdf	12 58 04.1	+5.0

IDC 02 12:46:15.8±0.9,3.65N×126.76E,mb4.0/9,mb1 4.2/9, mb1mx4.1/17,Error ellipse: s-maj=50.6km s-min=16.7km az=69.0

BJI 02 12:46:21.5,3.60N×126.70E,h49^{km},mB4.8,mb4.6, Msz4.1

NEIC 02 12:46:22.5±6.2,3.61N×126.70E,h50^{km}±61^{km},mb4.5/6, Error ellipse: s-maj=34.4km s-min=10.6km az=65.0

ISC 02 12:46:21.9±1.5,**3.60N**±0.10×**126.6E**±0.2,**h60**^{km}±13^{km}, **n22,σ0^{s}74**/22,**mb4.2**/13,**1C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.98**	**326**	⇓*i*P	**P**	**12 47 07.8**	**-0.1**
KCP	**Kidapawan**	**3.71**	**336**	⇓*e*P	**P**	**12 47 18.3**	**+0.1**
BUKP	**Musuan**	**4.53**	**340**	*e*P	**P**	**12 47 29.5**	**-0.1**
IPIL	**Ipil**	**5.79**	**316**	*e*P	**P**	**12 47 47.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.58**	**183**	*e*P	**P**	**12 51 09.0**	**+0.6**
	3.9nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.58**	**183**	P	**P**	**12 51 08.7**	**+0.3**
	1.1nm,0.4s,mb3.7,baz=356,slow=12,SNR=7.8						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**12 51 37.2**	**-0.7**
	6.0nm,1.0s,mb4.1,baz=334,slow=11,SNR=20						
WB2	**Warramunga Arr**	**24.60**	**162**	*e*P	**P**	**12 51 37.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**12 52 35.8**	**+1.0**
	0.8nm,0.8s,mb3.6,baz=105,slow=6.4,SNR=4.7						
ENH	**Enshi**	**31.08**	**330**	*e*P	**P**	**12 52 35.5**	**-1.3**
	8.3nm,0.8s,mb4.6						
BJI	**Beijing**	**37.49**	**347**	*e*P	**P**	**12 53 32.1**	**+0.6**
BJI				AMB	AMB		

	comp=Z,34nm,0.8s,mb5.2						
BJI	**Beijing**	**37.49**	**347**	*e*P	**P**	**12 53 32.1**	**+0.6**
	comp=Z,34nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**38.05**	**159**	⇑*i*P	**P**	**12 53 36.3**	**0.0**
	comp=Z,8.3nm,1.4s,mb4.3						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**12 53 36.2**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.2,baz=1.7,slow=6.8,SNR=6.7						
HIA	**Hailar**	**45.88**	**354**	*e*P	**P**	**12 54 39.2**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.3						
SONM	**Songino Array**	**47.39**	**342**	P	**P**	**12 54 52.1**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=157,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**12 56 07.1**	**-0.9**
	comp=Z,1.5nm,0.5s,mb4.3,baz=126,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**12 56 07.1**	**-0.9**
BVAR	**Borovoye Array**	**67.37**	**327**	P	**P**	**12 57 13.2**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=117,slow=9.9,SNR=4.6						
ZRNK	**Zerenda**	**68.09**	**327**	*e*P	**P**	**12 57 16.5**	**-0.8**
	comp=Z,5.7nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**12 58 55.0**	**+1.9**
	comp=Z,0.8nm,1.2s,mb3.7,baz=232,slow=4.4,SNR=4.1						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**12 59 18.5**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=4.9						

JMA ***02*** *12:56:46.2±0.4, 23.28N×121.59E, h95^{km}, M2.5*

TAP 02 12:56:42.9, 23.16N×121.42E, h20^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.95**	**48**	P	Pn	12 57 15.7	+0.2
YOJ				S	Sn	12 57 38.5	-1.2
HATJ	**Hateruma jima**	**2.36**	**67**	S	Sn	12 57 47.1	-3.1
IRIF	**Iriomote-Funau**	**2.42**	**61**	P	Pn	12 57 22.0	-0.2
IRIF				*e*S	Sn	12 57 49.7	-1.9
JKRS	**Kuro-shima**	**2.60**	**65**	P	Pn	12 57 25.0	+0.1
JKRS				S	Sn	12 57 54.3	-2.0
JIJ	**Ishigaki jima**	**2.77**	**64**	P	Pn	12 57 26.6	-0.6
JIJ				S	Sn	12 57 56.3	-4.1
JTJ	**Tarama**	**3.35**	**63**	P	Pn	12 57 34.6	-0.8
JTJ				*e*S	Sn	12 58 11.4	-3.7

BER ***02*** *13:06:11.7±3.0, 58.19N×12.21E, ML2.1(NAO), Suspected explosion*

NAO 02 13:06:06.9±10.0**, 58.05N×12.14E, ML2.1, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HFS	**Hagfors**	**2.24**	**20**	Pn	Pn	13 06 44.6	-1.2
	baz=205,slow=16						
HFS				Sn	Sn	13 07 13.3	-1.2
	baz=200,slow=28						
HFS				Lg		13 07 17.8	
	baz=208,slow=28						
HFS				Rg		13 07 27.2	
	baz=196,slow=28						

MAN ***02*** *13:09:32.1, 12.69N×123.16E, h17^{km}, mb4.6, ML3.4, MS3.3*

ISC 02 13:09:32.1±0.8**, 12.71N**±0.03×**123.15E**±0.04**, h18**^{km}±9^{km}**, n21, σ1^{s}03**/31**, 4C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.58**	**128**	⇑*i*P	**Pb**	**13 09 42.7**	**-0.7**
MMPH				*i* S	**Sb**	**13 09 57.1**	**+6.0**
AUQP	**San Andres**	**0.77**	**322**	*e*P	**Pb**	**13 09 47.3**	**+0.8**
AUQP				*e*S	**Sb**	**13 10 01.8**	**+5.3**
OTRP	**Odiongan**	**1.16**	**253**	*e*P	**Pb**	**13 09 52.5**	**-0.7**
RCP	**Roxas**	**1.21**	**199**	⇑*e*P	**Pb**	**13 09 53.1**	**-1.1**
RCP				*e*S	**Sb**	**13 10 10.5**	**+1.0**
KALP	**Kalibo**	**1.30**	**218**	⇑*e*P	**Pn**	**13 10 10.1**	**+15**
PVCP	**Virac**	**1.31**	**48**	*e*P	**Pn**	**13 09 55.2**	**-0.5**
PVCP				*e*S	**Sb**	**13 10 18.0**	**+5.8**
GQP	**Guinayangan**	**1.37**	**330**	⇓*i*P	**Pn**	**13 09 56.3**	**-0.2**
GQP				*i* S	**Sb**	**13 10 14.9**	**+0.9**
CNP	**Catarman**	**1.49**	**98**	*e*P	**Pn**	**13 09 58.2**	**0.0**
SJMP	**San Jose**	**2.00**	**263**	*e*P	**Pn**	**13 10 05.3**	**-0.3**
SJMP				*e*S	**Sn**	**13 10 31.6**	**+1.2**
LQP	**Lukban**	**2.10**	**312**	⇑*i*P	**Pn**	**13 10 09.5**	**+2.5**
GUIM	**Jordan**	**2.15**	**195**	*e*P	**Pn**	**13 10 07.6**	**-0.1**
GUIM				*e*S	**Sn**	**13 10 40.0**	**+5.9**
OCLP	**Ormoc**	**2.18**	**139**	*e*P	**Pn**	**13 10 10.9**	**+2.8**
POLP	**Polilio Island**	**2.33**	**330**	*e*P	**Pn**	**13 10 10.1**	**-0.1**
POLP				*e*S	**Sn**	**13 10 43.1**	**+4.5**
BESP	**Borongan**	**2.49**	**116**	*e*P	**Pn**	**13 10 14.7**	**+2.1**
BESP				*e*S	**Sn**	**13 10 42.4**	**-0.5**
CUYO	**Cuyo Island**	**2.79**	**229**	*e*P	**Pn**	**13 10 16.2**	**-0.7**
BUSP	**Coron**	**2.97**	**257**	*e*P	**Pn**	**13 10 18.6**	**-0.8**
BUSP				*e*S	**Sn**	**13 10 38.5**	**-17**
LUBP	**Lubang**	**3.01**	**290**	*e*P	**Pn**	**13 10 20.0**	**0.0**
BALP	**Baler**	**3.38**	**333**	*e*P	**Pn**	**13 10 25.2**	**0.0**
ENPP	**El Nido**	**3.94**	**248**	*e*P	**Pn**	**13 10 32.2**	**-1.0**
CAUP	**Cauayan**	**4.40**	**343**	*e*P	**Pn**	**13 10 39.0**	**-0.7**
APYP	**Conner**	**5.44**	**340**	*e*P	**Pn**	**13 10 52.7**	**-1.7**

NEIC ***02*** *13:13:14.4±0.4, 23.37N×142.73E, mb4.3/3, Error ellipse: s-maj=18.0km s-min=8.5km az=78.0*

IDC ***02*** *13:13:14.2±1.0, 23.42N×142.73E, h70^{km}±7^{km}, mb3.7/10, mb1 3.8/11, mb1mx3.7/22, MS2.7/1, Ms1 2.7/1, ms1mx2.4/19, Error ellipse: s-maj=27.2km s-min=11.2km az=85.0*

ISC 02 13:13:11.9±2.0**, 23.39N**±0.08×**142.8E**±0.2**, h68**^{km}±19^{km}**, h71**^{km}±.7^{km}**:pP-P, n20, σ0^{s}85**/18**, mb3.9**/11**, 3D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.73**	**352**	P	**P**	**13 14 08.8**	**+0.4**
	36nm,0.3s,baz=291,slow=17,SNR=20						
CBIJ				S	**S**	**13 14 51.1**	**-0.3**
	87nm,0.3s,baz=112,slow=23,SNR=12						
JOW	**Kunigami**	**13.60**	**288**	LR	LR	13 21 10.4	
	comp=Z,31nm,18.5s,baz=88,slow=35						
SONM	**Songino Array**	**37.82**	**319**	P	**P**	**13 20 24.3**	**+1.0**
	0.3nm,0.6s,mb3.3,baz=128,slow=7.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**41.14**	**272**	P	**P**	**13 20 51.8**	**+0.7**
	0.9nm,0.5s,mb3.9,baz=57,slow=8.3,SNR=4.4						
CTA	**Charters Tower**	**43.34**	**175**	P	**P**	**13 21 09.9**	**+0.8**
	4.5nm,1.0s,mb4.2,baz=348,slow=9.8,SNR=4.4						
CTAO	**Charters Tower**	**43.34**	**175**	P	**P**	**13 21 09.4**	**+0.2**
	4.4nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**43.85**	**192**	⇓*i*P	**P**	**13 21 12.6**	**-0.7**
WRA	**Warramunga Arr**	**43.85**	**192**	P	**P**	**13 21 13.0**	**-0.3**
	2.2nm,0.5s,mb4.2,baz=11,slow=8.6,SNR=139						
WRA				ScP		13 26 43.4	
	0.4nm,0.7s,baz=8.9,slow=4.0,SNR=5.3						
FITZ	**Fitzroy Crossi**	**44.51**	**204**	*e*P	**P**	**13 21 19.0**	**+0.4**
	3.9nm,1.2s,mb4.0						
ASPA	**Alice Springs**	**47.56**	**191**	⇓*i*P	**P**	**13 21 43.2**	**+0.5**
MKAR	**Makanchi Array**	**53.30**	**312**	P	**P**	**13 22 25.2**	**-0.8**
	1.0nm,0.5s,mb4.2,baz=95,slow=7.5,SNR=9.2						
MKAR				pP	pP	13 22 43.9	+0.2
	0.4nm,0.5s,baz=97,slow=8.7,SNR=2.3						
STKA	**Stephens Creek**	**54.96**	**181**	⇓*i*P	**P**	**13 22 37.6**	**-0.8**
	6.3nm,1.5s,mb4.4						
STKA	**Stephens Creek**	**54.96**	**181**	P	**P**	**13 22 37.7**	**-0.7**
	1.5nm,0.4s,mb4.4,baz=323,slow=22,SNR=8.0						
KURK	**Kurchatov**	**56.01**	**316**	*e*P	**P**	**13 22 44.1**	**-1.5**
ILAR	**Eielson Array**	**60.71**	**28**	P	**P**	**13 23 17.9**	**-0.3**
	0.7nm,0.7s,mb3.8,baz=258,slow=5.8,SNR=6.0						
BVAR	**Borovoye Array**	**61.16**	**319**	P	**P**	**13 23 20.5**	**-0.9**
	0.9nm,0.4s,mb4.1,baz=88,slow=7.1,SNR=8.6						
BVAR				pP	pP	13 23 39.0	-0.5
	1.0nm,0.5s,baz=99,slow=7.6,SNR=4.7						
ARCES	**ARCESS Array B**	**77.21**	**341**	P	**P**	**13 25 01.9**	**+2.2**
	1.5nm,0.9s,mb3.7,baz=68,slow=6.5,SNR=4.2						
FINES	**FINESS Array B**	**81.51**	**334**	P	**P**	**13 25 23.4**	**+0.4**
	0.5nm,0.5s,mb3.6,baz=63,slow=4.3,SNR=6.1						
FINES				pP	pP	13 25 42.9	+1.0
	1.0nm,0.6s,baz=72,slow=6.0,SNR=3.0						
PLCA	**Paso Flores**	**147.12**	**130**	PKPbc	PKPdf	13 32 49.6	+4.6
	1.1nm,0.8s,baz=260,slow=6.1,SNR=2.9						
LPAZ	**La Paz**	**150.10**	**82**	PKPbc	PKPdf	13 32 59.0	+8.7
	1.1nm,0.6s,baz=241,slow=5.1,SNR=7.1						

NIED ***02*** *13:29:00, 43.10N×146.00E, h44^{km}, Mw3.9 Best double couple: M$_0$6.74×10^{14} NP1:φ$_s$179°, δ59°, λ53°. NP2:φ$_s$54°, δ46°, λ135°.*

JMA ***02*** *13:29:44.9±0.1, 43.09N×145.99E, h51^{km}±1^{km}, M3.9*

JMA Felt I J1.

NEIC ***02*** *13:29:48.9±3.8, 43.28N×145.90E, h78^{km}±23^{km}, mb4.2/2, Error ellipse: s-maj=45.4km s-min=10.3km az=177.0*

IDC ***02*** *13:29:48.6±4.1, 43.31N×145.91E, h75^{km}±30^{km}, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, Error ellipse: s-maj=77.2km s-min=20.2km az=179.0*

MOS ***02*** *13:29:49.4±1.2, 43.91N×145.81E, h72^{km}, mb4.3/5, Error ellipse: s-maj=33.8km s-min=24.5km az=108.9*

ISC 02 13:29:44.3±0.9**, 43.12N**±0.07×**146.02E**±0.07**, h57**^{km}±6^{km}**, n34, σ0^{s}75**/43**, mb3.9**/13**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.32**	**320**	P	**P**	**13 29 54.4**	**+0.1**
NEM2				*e*S	**S**	**13 30 01.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**0.92**	**353**	PN	**P**	**13 30 00.5**	**-0.8**
YUK				*i* S	**S**	**13 30 12.8**	**-1.2**
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				pmax	pmax		
	comp=N,530nm,0.4s						
YUK				pmax	pmax		
	comp=E,390nm,0.4s						
YUK				smax			
	comp=N,10µm,0.7s						
YUK				smax			
	comp=E,16µm,0.7s						
YUK				smax			
	comp=N,4µm,0.5s						
YUK				smax			
	comp=E,9µm,0.5s						
JAK	**Akkeshi**	**0.98**	**263**	P	**P**	**13 30 02.2**	**0.0**
JAK				*e*S	**S**	**13 30 14.9**	**-0.5**
JRA	**Rausu**	**1.04**	**321**	P	**P**	**13 30 03.7**	**+0.6**
JRA				*e*S	**S**	**13 30 17.7**	**+0.7**
JNK	**Nakash**	**1.06**	**296**	P	**P**	**13 30 03.2**	**-0.1**
JNK				*e*S	**S**	**13 30 16.7**	**-0.6**
JOB	**Onbets**	**1.62**	**263**	P	**P**	**13 30 11.0**	**-0.1**
JOB				*e*S	**S**	**13 30 30.6**	**-0.4**
JAR	**Ashorobuto**	**1.66**	**277**	P	**P**	**13 30 11.8**	**+0.2**
JAR				*e*S	**S**	**13 30 32.1**	**+0.2**
JTKR	**Abashiri--Toko**	**1.76**	**300**	P	**P**	**13 30 13.9**	**+0.9**
JTKR				*e*S	**S**	**13 30 35.9**	**+1.7**
ASAJ	**Asahikawa**	**2.68**	**293**	P	**P**	**13 30 27.4**	**+1.3**
	comp=E,32nm,0.3s,baz=103,slow=11,SNR=102						
ASAJ				S	**S**	**13 31 06.7**	**+9.3**
	comp=E,7.5nm,0.3s,baz=294,slow=29,SNR=2.5						
YSS	**Yuzh-Sakhalins**	**4.48**	**330**	*e*Pn	**P**	**13 30 51.5**	**+0.1**
FX1	**Attu Island--F**	**20.50**	**52**	*e*P	**P**	**13 34 20.5**	**+0.7**
SONM	**Songino Array**	**27.96**	**294**	P	**P**	**13 35 30.8**	**-0.6**
	comp=E,1.3nm,0.8s,mb3.6,baz=86,slow=8.7,SNR=8.2						
IMA	**Indian Mountai**	**39.66**	**34**	*e*P	**P**	**13 37 12.2**	**+0.4**
COLA	**College**	**42.06**	**36**	P	**P**	**13 37 32.9**	**+1.4**
	comp=E,4.6nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**42.48**	**36**	P	**P**	**13 37 35.0**	**+0.1**
	comp=E,1.2nm,0.7s,mb3.6,baz=284,slow=9.2,SNR=12						
ILAR	**Eielson Array**	**42.48**	**36**	P	**P**	**13 37 35.0**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.15**	**298**	P	**P**	**13 37 48.5**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.1,baz=96,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**44.15**	**298**	P	**P**	**13 37 48.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**44.15**	**298**	P	**P**	**13 37 48.5**	**-0.3**
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**13 39 42.9**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.8,baz=11,slow=9.2,SNR=4.2						
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**13 39 42.9**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**65.06**	**333**	P	**P**	**13 40 19.3**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=45,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**65.06**	**333**	P	**P**	**13 40 19.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.06**	**333**	P	**P**	**13 40 19.3**	**-1.1**
BOZ	**Bozeman (W)**	**67.94**	**48**	*e*P	**P**	**13 40 39.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**68.61**	**57**	P	**P**	**13 40 44.1**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=305,slow=4.2,SNR=8.2						
NB2	**NORSAR Subarra**	**69.89**	**338**	P	**P**	**13 40 49.6**	**-1.0**
	comp=Z,1.0nm,0.3s,mb4.2,baz=33,slow=6.2						
NOA	**NORSAR Array B**	**69.89**	**338**	P	**P**	**13 40 49.6**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=9.0						
NOA	**NORSAR Array B**	**69.89**	**338**	P	**P**	**13 40 49.7**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BW06	**Boulder Array**	**70.94**	**49**	P	**P**	**13 40 57.4**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.9						
PDAR	**Pinedale Array**	**70.94**	**49**	P	**P**	**13 40 57.6**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=288,slow=1.4,SNR=5.2						
AKASG	**Malin Array Be**	**71.60**	**323**	P	**P**	**13 40 59.9**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=40,slow=7.4,SNR=7.1						
ULM	**Lac du Bonnet**	**72.49**	**36**	P	**P**	**13 41 05.5**	**-0.9**
	comp=Z,3.9nm,1.1s,mb4.2,slow=3.0,SNR=3.5						
ULM	**Lac du Bonnet**	**72.49**	**36**	P	**P**	**13 41 05.5**	**-0.9**

BJI ***02*** *14:04:10.8, 49.01S×127.98E, h8^{km}, mB5.3, mb4.9, Ms4.7, Msz4.4*

IDC ***02*** *14:04:11.5±0.6, 49.12S×127.51E, mb4.8/11, mb1 4.9/12, mb1mx4.9/13, ML2.3/1, MS4.7/11, Ms1 4.7/11, ms1mx4.7/12, Error ellipse: s-maj=27.5km s-min=16.5km az=103.0*

HRVD ***02*** *14:04:13.3±0.2, 49.00S×127.50E, h12^{km}, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s53,c82;Mantle waves: s63,c118; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.05±.02; M$_{\theta\theta}$-0.33±.02; M$_{\phi\phi}$0.38±.02; M$_{r\theta}$-0.10±.05; M$_{\theta\phi}$-0.88±.02; M$_{\phi r}$0.08±.05; Best double couple: M$_0$.95×10^{17} NP1:φ$_s$11°, δ83°, λ3°. NP2:φ$_s$281°, δ87°, λ173°. Principal axes: T .99, Plg7°, Azm236°; N -.06, Plg83°, Azm77°; P -.92, Plg3°, Azm326°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *14:04:13.3±0.3, 49.11S×127.31E, h10^{km}, mb5.1/32, MS4.6/10 Error ellipse: s-maj=10.6km s-min=6.8km az=102.0*

ISC 02 14:04:11.4±0.3**, 49.11S**±0.05×**127.4E**±0.1**, h10**^{km}**, (h27**^{km}±1.3^{km}**:pP-P), n108, σ1^{s}26**/71**, mb5.1**/35**, MS4.6**/21**, 8C-5D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**15.17**	**73**	*e*P	**P**	**14 07 47.5**	**+0.3**
	186nm,1.3s						
TOO	**Toolangi**	**17.47**	**55**	⇑*i*P	**P**	**14 08 20.0**	**+3.4**
	19nm,0.8s						
NWAO	**Narrogin (SRO)**	**17.86**	**331**	P	**P**	**14 08 22.9**	**+1.4**
	0.4nm,0.3s,baz=179,slow=8.9,SNR=4.6						
NWAO				LR	LR	14 13 38.4	
	comp=Z,4µm,18.6s,baz=154,slow=32						
NWAO	**Narrogin (SRO)**	**17.86**	**331**	P	**P**	**14 08 22.9**	**+1.5**
	20nm,0.9s						
NWAO				LR	LR	14 13 38.4	
FORT	**Forrest**	**18.32**	**2**	*e*P	**P**	**14 08 28.3**	**+1.0**
	175nm,1.1s						
FORT				*e*S	**S**	**14 11 55.7**	**+7.0**
KLBR	**Kellerberrin**	**18.94**	**334**	*e*P	**P**	**14 08 33.1**	**-1.7**
	108nm,1.5s						
MUN	**Mundaring**	**19.06**	**330**	*e*P	**P**	**14 08 34.9**	**-1.4**
	28nm,1.1s						
MUN				*i* S	**S**	**14 12 14.9**	**+9.4**
CASY	**Casey**	**19.30**	**201**	*e*P	**P**	**14 08 35.7**	**-3.1**
	209nm,1.3s						
CASY				*e*		14 13 17.6	
CASY				*e*		14 13 47.3	
CASY				*e*		14 17 31.1	
STKA	**Stephens Creek**	**20.27**	**37**	⇑*i*P	**P**	**14 08 49.4**	**-0.4**
	25nm,0.9s						
STKA				*e*S	**S**	**14 12 35.6**	**+3.8**
STKA	**Stephens Creek**	**20.27**	**37**	P	**P**	**14 08 48.3**	**-1.5**
	46nm,1.1s,baz=185,slow=12,SNR=23						
STKA				LR	LR	14 15 08.8	
	comp=Z,5µm,20.1s,MS4.8,baz=203,slow=32						
CNB	**Canberra Magne**	**21.24**	**58**	⇑*i*P	**P**	**14 09 01.3**	**+1.5**
	55nm,0.9s,mb4.9						
ASPA	**Alice Springs**	**25.91**	**14**	*e*P	**P**	**14 09 44.0**	**-1.3**
WRA	**Warramunga Arr**	**29.64**	**13**	P	**P**	**14 10 17.3**	**-1.9**
	38nm,0.9s,mb5.1,baz=192,slow=9.7,SNR=80						
WRA				LR	LR	14 22 04.3	
	comp=Z,724nm,19.8s,MS4.3,baz=190,slow=36						
WB2	**Warramunga Arr**	**29.64**	**13**	⇓*i*P	**P**	**14 10 17.2**	**-2.0**
RPZ	**Rata Peaks**	**30.27**	**97**	LR	LR	14 19 45.8	
	comp=Z,1µm,20.4s,MS4.6,baz=244,slow=31						
FITZ	**Fitzroy Crossi**	**30.96**	**357**	⇓*i*P	**P**	**14 10 30.1**	**-0.8**
	12nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.96**	**357**	P	**P**	**14 10 29.7**	**-1.2**
	17nm,1.0s,mb4.8,baz=186,slow=12,SNR=10						
FITZ				LR	LR	14 22 32.4	
	comp=Z,612nm,18.6s,MS4.3,baz=191,slow=36						
VNDA	**Vanda**	**31.40**	**166**	P	**P**	**14 10 33.3**	**-0.9**
	40nm,1.0s,mb5.2,baz=316,slow=9.0,SNR=69						
VNDA				LR	LR	14 21 38.4	
	comp=Z,2µm,20.1s,MS4.7,baz=324,slow=33						
VNDA	**Vanda**	**31.40**	**166**	*e*P	**P**	**14 10 33.0**	**-1.2**
	47nm,1.0s,mb5.3						
VNDA				*e*		14 10 41.8	
SBA	**Scott Base**	**32.41**	**165**	*e*P	**P**	**14 10 42.6**	**-0.4**
	45nm,1.1s,mb5.2						
SBA				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
CTA	**Charters Tower**	**32.68**	**34**	*e*P	**P**	**14 10 46.7**	**+0.8**
	comp=Z,6.6nm,1.0s,mb4.5						
CTA	**Charters Tower**	**32.68**	**34**	P	**P**	**14 10 45.4**	**-0.5**
	comp=Z,7.9nm,0.9s,mb4.6,baz=211,slow=9.9,SNR=7.3						
CTA				LR	LR	14 23 22.2	
	comp=Z,3µm,19.1s,MS5.0,baz=202,slow=35						
CTAO	**Charters Tower**	**32.68**	**34**	*e*P	**P**	**14 10 45.2**	**-0.7**
	comp=Z,11nm,1.0s,mb4.8						
CTAO				LR	LR		
	comp=Z,3µm,21.0s,MS5.0						
MAW	**Mawson**	**36.42**	**216**	⇑*i*P	**P**	**14 11 16.6**	**-0.9**
	comp=Z,9.0nm,1.2s,mb4.6						
KAKA	**Kakadu**	**36.54**	**8**	⇓*i*P	**P**	**14 11 17.7**	**-1.4**
	comp=Z,31nm,0.6s,mb5.3						
QSPA	**South Pole Qui**	**41.01**	**180**	⇑*e*P	**P**	**14 11 55.6**	**-0.1**
	comp=Z,110nm,1.2s,mb5.4						
QSPA				*e*		14 13 37.7	
QSPA				LR	LR		
	comp=Z,510nm,19.2s,MS4.4						
PMG	**Port Moresby**	**42.91**	**29**	P	**P**	**14 12 11.3**	**-0.6**
	comp=Z,19nm,0.9s,mb4.8,baz=216,slow=5.3,SNR=2.8						
PMG				LR	LR	14 29 46.1	
	comp=Z,2µm,18.4s,MS5.0,baz=84,slow=36						
PMG	**Port Moresby**	**42.91**	**29**	P	**P**	**14 12 10.9**	**-1.0**
	comp=Z,24nm,0.9s,mb4.9						
PMG				LR	LR	14 29 46.1	
SYO	**Syowa Base**	**44.57**	**211**	⇓P	**P**	**14 12 23.0**	**-1.7**
SYO	**Syowa Base**	**44.57**	**211**	⇓P	**P**	**14 12 32.9**	**+8.2**
SNAA	**Sanae**	**54.49**	**197**	⇑*i*	**P**	**14 13 39.2**	**-1.6**
SNAA	**Sanae**	**54.49**	**197**	*e*P	**P**	**14 13 39.7**	**-1.1**
	comp=Z,145nm,1.2s,mb5.8						
VNA2	**Neumayer--Watz**	**55.96**	**196**	⇑*i*	**P**	**14 13 53.3**	**+1.8**
VNA1	**Neumayer--Stat**	**56.35**	**196**	⇑*i*	**P**	**14 13 56.6**	**+2.3**
PMSA	**Palmer Station**	**66.11**	**175**	*e*P	**P**	**14 14 59.1**	**-1.0**
	comp=Z,28nm,1.3s,mb5.1						
TBI	**Tubuai**	**68.36**	**101**	*e*S	S	14 24 36.3	+22
	comp=Z,76nm,26.8s						
TBI				*e*L		14 32 24.9	
	comp=Z,650nm,32.0s						
TBI				*e*R		14 35 46.4	
	comp=Z,449nm,30.8s,baz=220						
CM31	**Chiang Mai Arr**	**71.86**	**332**	*e*P	**P**	**14 15 36.8**	**+0.3**
	comp=Z,25nm,1.0s,mb5.1						
CMAR	**Chiang Mai Arr**	**71.86**	**332**	P	**P**	**14 15 37.0**	**+0.5**
	comp=Z,8.2nm,0.9s,mb4.7,baz=178,slow=5.2,SNR=28						
CMAR				LR	LR	14 43 10.1	
	comp=Z,306nm,21.9s,MS4.5,baz=160,slow=32						
PPT	**Papeete**	**72.43**	**97**	*e*S	S	14 24 57.7	-4.6
	comp=Z,103nm,28.5s						
PPT				*e*L		14 33 52.9	
	comp=Z,678nm,30.0s						
PPT				*e*R		14 38 04.6	
	comp=Z,560nm,29.5s,baz=226						
SUR	**Sutherland**	**75.92**	**237**	P	**P**	**14 15 60.0**	**+0.2**
	comp=Z,25nm,1.3s,mb5.0,baz=158,slow=11,SNR=3.8						
SUR	**Sutherland**	**75.92**	**237**	*e*P	**P**	**14 16 00.2**	**+0.4**
KMI	**Kunming**	**77.10**	**337**	*e*P	**P**	**14 16 08.8**	**+2.3**
KMI				AP	pP	14 16 17.4	+7.7
KMI				S	S	14 25 59.7	+5.6
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,138nm,3.9s						
KMI				LR	LR		
	comp=N,224nm,19.2s,MS4.7						
KMI				LR	LR		
	comp=E,242nm,15.4s,MS4.7						
KMI				LR	LR		
	comp=Z,273nm,28.8s						
KMI	**Kunming**	**77.10**	**337**	*e*P	**P**	**14 16 08.8**	**+2.3**
	comp=Z,14nm,1.1s,mb4.8						
KMI				pP	pP	14 16 17.4	+7.7
KMI				sP	sP	14 16 23.2	+12
KMI				S	S	14 25 59.7	+5.6
KMI				sS		14 26 15.1	
KMI				SS	SS	14 31 03.2	+8.8
KMI				LR	LR		
	comp=Z,270nm,28.8s,MS4.4						
RKT	**Rikitea**	**77.67**	**111**	*e*S	S	14 26 01.1	+0.9
	comp=Z,140nm,32.5s						
RKT				*e*L		14 36 49.3	
	comp=Z,442nm,39.2s						
RKT				*e*R		14 39 55.7	
	comp=Z,280nm,26.2s						
SSE	**Sheshan**	**80.03**	**355**	P	**P**	**14 16 21.6**	**-0.9**
SSE				S	S	14 26 26.9	+1.7
SSE				SS	SS	14 31 41.9	+3.6
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,127nm,4.3s						
SSE				LR	LR		
	comp=N,165nm,25.9s,MS4.3						
SSE				LR	LR		
	comp=E,78nm,25.9s,MS4.3						
SSE				LR	LR		
	comp=Z,177nm,20.0s						
SSE	**Sheshan**	**80.03**	**355**	P	**P**	**14 16 21.6**	**-0.9**
	comp=Z,21nm,0.7s,mb5.2						
SSE				sP	sP	14 16 38.0	+11
SSE				S	S	14 26 26.9	+1.7
SSE				sS		14 26 47.7	
SSE				SS	SS	14 31 41.9	+3.6
SSE				LR	LR		
	comp=Z,180nm,20.0s,MS4.4						
WHN	**Wuhan**	**80.14**	**349**	*e*P	**P**	**14 16 23.8**	**+0.8**
ENH	**Enshi**	**80.62**	**344**	*e*P	**P**	**14 16 26.2**	**+0.6**
	comp=Z,31nm,1.5s,mb5.0						
ENH				LR	LR		
	comp=Z,243nm,22.0s,MS4.5						
SHL	**Shillong**	**80.81**	**328**	*e*P	**P**	**14 16 28.0**	**+1.3**
XAN	**Xi'an**	**84.39**	**345**	P	**P**	**14 16 45.7**	**+0.7**
XAN				AP	pP	14 16 53.6	+5.4
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.9						
LSZ	**Lusaka**	**84.48**	**253**	*e*P	**P**	**14 16 47.0**	**+1.2**
	comp=Z,66nm,1.8s,mb5.5						
LSZ				LR	LR		
	comp=Z,640nm,19.0s,MS5.0						
LSA	**Lhasa**	**84.85**	**329**	P	**P**	**14 16 47.0**	**-0.3**
LSA	**Lhasa**	**84.85**	**329**	*e*P	**P**	**14 16 48.7**	**+1.4**
	comp=Z,4.3nm,0.6s,mb4.8						
LSA				LR	LR		
	comp=Z,144nm,20.0s,MS4.4						
PKI	**Pulchoki**	**85.02**	**323**	*e*P	**P**	**14 16 47.8**	**-0.4**
	comp=Z,56nm,1.1s,mb5.6						
DMN	**Daman**	**85.17**	**323**	*e*P	**P**	**14 16 46.9**	**-2.1**
	comp=Z,45nm,0.9s,mb5.6						
KKN	**Kakani**	**85.27**	**323**	*e*P	**P**	**14 16 49.5**	**+0.1**
	comp=Z,64nm,1.0s,mb5.7						
GKN	**Gorkha**	**85.71**	**323**	*e*P	**P**	**14 16 50.8**	**-0.9**
	comp=Z,72nm,1.1s,mb5.8						
MAJO	**Matsushiro**	**85.82**	**9**	*e*P	**P**	**14 16 52.2**	**+0.2**
	comp=Z,14nm,0.9s,mb5.2						
MAJO				LR	LR		
	comp=Z,167nm,21.0s,MS4.4						
MAT	**Matsushiro**	**85.82**	**9**	P	**P**	**14 16 50.2**	**-1.8**
MAT	**Matsushiro**	**85.82**	**9**	*e*P	**P**	**14 16 51.0**	**-1.0**
	comp=Z,8.2nm,0.8s,mb5.0						
KOLN	**Koldanda**	**85.92**	**322**	*e*P	**P**	**14 16 52.4**	**-0.3**
	comp=Z,66nm,1.2s,mb5.8						
LZH	**Lanzhou**	**87.36**	**341**	*e*P	**P**	**14 17 01.0**	**+1.4**
LZH				AP	pP	14 17 11.0	+8.2
LZH				SKS	SKS	14 27 26.0	-3.6
LZH				S	S	14 27 42.2	+4.0
LZH				AMB	AMB		

	comp=Z,50nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,203nm,4.8s						
LZH				LR	LR		
	comp=E,541nm,16.5s						
LZH				LR	LR		
	comp=Z,942nm,18.8s,MS5.2						
PLCA	**Paso Flores**	**89.15**	**166**	P	**P**	**14 17 08.5**	**+0.5**
	comp=Z,8.4nm,1.1s,mb5.0,baz=170,slow=5.3,SNR=5.5						
PLCA				LR	LR	14 53 11.3	
	comp=Z,280nm,18.8s,MS4.7,baz=188,slow=33						
PLCA	**Paso Flores**	**89.15**	**166**	*e*P	**P**	**14 17 08.7**	**+0.7**
	comp=Z,17nm,1.3s,mb5.2						
PLCA				LR	LR	14 53 11.3	
KMBO	**Kilima Mbogo**	**89.23**	**269**	P	**P**	**14 17 10.0**	**+1.0**
	comp=Z,1.0nm,0.8s,mb4.2,baz=230,slow=23,SNR=2.6						
KMBO				LR	LR	14 48 16.6	
	comp=Z,272nm,21.1s,MS4.7,baz=97,slow=30						
BJI	**Beijing**	**89.32**	**351**	*e*P	**P**	**14 17 07.4**	**-1.4**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,205nm,20.2s,MS4.6						
BJI				LR	LR		
	comp=E,111nm,18.2s,MS4.6						
BJI				LR	LR		
	comp=Z,133nm,22.3s,MS4.3						
BJI	**Beijing**	**89.32**	**351**	*e*P	**P**	**14 17 07.4**	**-1.4**
	comp=Z,7.0nm,1.0s,mb5.0						
BJI				SKS	SKS	14 27 43.3	+1.6
BJI				S	S	14 28 09.7	+13
BJI				SS	SS	14 34 07.1	+13
BJI				LR	LR		
	comp=Z,130nm,22.3s,MS4.3						
DDI	**Dehra Dun**	**90.47**	**319**	*e*	**P**	**14 17 15.2**	**+0.8**
GTA	**Gaotai**	**91.45**	**339**	*e*P	**P**	**14 17 20.3**	**+1.6**
GTA				AP	pP	14 17 28.8	+6.9
GTA				S	S	14 28 18.5	+3.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,82nm,3.8s						
GTA				LR	LR		
	comp=N,85nm,24.3s,MS4.2						
GTA				LR	LR		
	comp=E,65nm,22.1s,MS4.2						
GTA				LR	LR		
	comp=Z,138nm,24.3s,MS4.3						
CN2	**Changchun**	**92.54**	**359**	*e*P	**P**	**14 17 26.5**	**+2.9**
TRQA	**Tornquist**	**92.82**	**173**	*e*P	**P**	**14 17 25.5**	**+0.5**
	comp=Z,11nm,1.3s,mb5.1						
SONM	**Songino Array**	**98.26**	**346**	P	**P**	**14 17 50.8**	**+1.3**
	comp=Z,0.7nm,0.8s,mb4.3,baz=173,slow=3.9,SNR=5.0						
BRTR	**Keskin Array B**	**120.85**	**296**	PKP	PKPdf	14 23 05.8	-0.9
	comp=Z,0.8nm,0.6s,baz=90,slow=5.8,SNR=3.2						
ILAR	**Eielson Array**	**131.31**	**35**	PKP	PKPdf	14 23 24.7	-1.3
	comp=Z,0.3nm,0.6s,baz=286,slow=3.7,SNR=6.2						
NVAR	**Mina Array Bea**	**132.78**	**77**	PKP	PKPdf	14 23 29.8	+0.2
	comp=Z,1.1nm,0.9s,baz=210,slow=3.9,SNR=5.2						
FINES	**FINESS Array B**	**136.29**	**317**	PKP	PKPdf	14 23 34.5	-0.8
	comp=Z,1.6nm,0.9s,baz=153,slow=21,SNR=2.3						
FINES	**FINESS Array B**	**136.29**	**317**	PKP	PKPdf	14 23 34.5	-0.8
TXAR	**Lajitas Array**	**136.74**	**98**	PKP	PKPdf	14 23 36.9	-0.1
	comp=Z,0.5nm,0.3s,baz=207,slow=4.0,SNR=2.4						
MVU	**Marysvale**	**136.76**	**81**	*e*PKPdf	PKPdf	14 23 39.5	+2.8
GERES	**GERESS Array B**	**137.74**	**296**	PKP	PKPdf	14 23 35.5	-2.8
	comp=Z,0.6nm,0.6s,baz=207,slow=2.2,SNR=3.3						
ARCES	**ARCESS Array B**	**138.86**	**328**	PKP	PKPdf	14 23 38.7	-1.2
	comp=Z,2.1nm,0.7s,SNR=6.3						
ARCES	**ARCESS Array B**	**138.86**	**328**	PKP	PKPdf	14 23 38.7	-1.2
PV01	**Paradox Valley**	**138.92**	**84**	PKPdf	PKPdf	14 23 37.7	-3.1
CLL	**Collm**	**139.19**	**299**	*e*PKIKP	PKPdf	14 23 46.0	+5.1
SMRF	**Simiane la Rot**	**140.49**	**285**	*e*PKIKP	PKPdf	14 23 43.1	-0.4
PDAR	**Pinedale Array**	**140.72**	**77**	PKhKP		14 23 34.7	
	comp=Z,0.2nm,0.4s,baz=231,slow=21,SNR=4.0						
PDAR				PKP	PKPdf	14 23 46.6	+2.7
	comp=Z,0.4nm,0.7s,baz=180,slow=1.5,SNR=3.5						
ORIF	**Oris-en-Rattie**	**140.74**	**287**	*e*PKIKP	PKPdf	14 23 43.7	-0.1
ORIF				*e*R			
	comp=Z,165nm,19.0s						
VIVF	**Saint-Julien-l**	**141.47**	**286**	*e*PKIKP	PKPdf	14 23 45.0	-0.1
LOR	**Lormes**	**143.03**	**289**	*e*PKIKP	PKPdf	14 23 46.5	-1.2
	comp=Z,10.0nm,0.9s						
LOR				*e*R			
	comp=Z,172nm,19.8s						
NB2	**NORSAR Subarra**	**143.07**	**313**	PKPdf	PKPdf	14 23 47.0	-0.3
	comp=Z,2.3nm,1.0s,baz=101,slow=1.8						
NOA	**NORSAR Array B**	**143.07**	**313**	PKP	PKPdf	14 23 44.5	-2.8
	comp=Z,0.2nm,0.6s,baz=107,slow=3.1,SNR=3.0						
YKA	**Yellowknife Ar**	**144.19**	**44**	PKP	PKPdf	14 23 45.6	-3.6
	comp=Z,3.5nm,1.0s,baz=265,slow=3.9,SNR=12						
SJPF	**Ste Jean**	**144.43**	**280**	*e*PKIKP	PKPdf	14 23 50.5	+0.3
	comp=Z,18nm,1.0s						
ESDC	**Sonseca Array**	**144.51**	**273**	PKP	PKPdf	14 23 47.8	-2.6
	comp=Z,0.5nm,0.3s,baz=126,slow=2.9,SNR=7.5						
LAO	**LASA Array**	**144.61**	**73**	*e*PKPdf	PKPdf	14 23 50.3	-0.2
MFF	**Saint Martin d**	**145.27**	**286**	*e*PKIKP	PKPdf	14 23 51.2	-0.4
	comp=Z,72nm,1.1s						
LDF	**La Druitiere**	**146.01**	**290**	*e*PKIKP	PKPdf	14 23 53.5	+0.7
	comp=Z,9.8nm,0.6s						
GRR	**Gorron**	**146.40**	**289**	*e*PKIKP	PKPdf	14 23 53.8	+0.3
EVO	**Evora**	**146.56**	**269**	*e*PKIKP	PKPdf	14 23 53.9	-0.2
	comp=Z,37nm,1.1s						
EVO				*e*R			
	comp=Z,201nm,21.2s						
DGMT	**Dagmar**	**146.56**	**71**	*e*PKPbc	PKPbc	14 23 56.0	+3.9
MIAR	**Mount Ida**	**146.64**	**100**	*e*PKPbc	PKPbc	14 23 55.0	+2.3
UALR	**University of**	**147.58**	**101**	*e*PKPbc	PKPdf	14 23 57.5	+1.6
QUIF	**Quistinic**	**147.67**	**287**	*e*PKIKP	PKPdf	14 23 55.6	0.0
	comp=Z,43nm,1.3s						
RES	**Resolute Bay**	**148.86**	**20**	*e*PKPbc	PKPdf	14 23 59.0	+2.2
FFC	**Flin Flon**	**149.58**	**60**	*e*PKPbc	PKPdf	14 24 01.6	+3.1
EKA	**Eskdalemuir Ar**	**149.61**	**301**	PKPbc	PKPdf	14 24 02.2	+3.8
	comp=Z,7.9nm,0.9s,baz=90,slow=2.5,SNR=12						
CCM	**Cathedral Cave**	**150.24**	**97**	PKPdf	PKPdf	14 23 58.9	-1.0
CCM				*e*PKPbc	PKPdf	14 24 04.0	+4.0
ULM	**Lac du Bonnet**	**152.28**	**71**	PKPbc	PKPdf	14 24 06.8	+4.2
	comp=Z,3.6nm,0.7s,baz=321,slow=3.4,SNR=4.2						

DJA 02 14:11:32.6±1.0**,8.86S**×**117.40E,h2**^{km}**,MD5.4**/3**,ML4.1**/3**,**
4C-2D,Error ellipse: s-maj=47.7km s-min=22.2km
az=6.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.33**	**286**	⇑*i*Pn	Pn	14 11 55.7	-2.4
	64nm,0.2s						
KEDI				⇓*i*Sn	Sn	14 12 12.4	-4.2
RATI	**Rata**	**1.85**	**274**	⇑*i*Pn	Pn	14 12 02.7	-3.0
	349nm,0.2s						
RATI				⇓*i*Sn	Sn	14 12 24.8	-5.2
INGI	**Ingas**	**2.23**	**271**	⇑*i*Pn	Pn	14 12 08.1	-3.0
	134nm,0.2s						
INGI				⇑*i*Sn	Sn	14 12 33.9	-5.7

KRSC 02 14:12:03.4,53.67N×**169.83E,h20**^{km}**,ML3.8,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**2.73**	**306**	*e*S	Sn	14 13 15.4	-4.4
MKZ	**Mys Kozlova**	**4.85**	**284**	*i* P	Pn	14 13 16.9	-0.3
MKZ				*e*S	Sn	14 14 11.4	-2.1
SPN	**Mys Shipunski**	**5.90**	**268**	*e*P	Pn	14 13 33.1	+1.1
SPN				*e*S	Sn	14 14 37.5	-2.3
KII	**Karymskiy**	**6.16**	**278**	*e*P	Pn	14 13 36.4	+0.8
NLC	**Nalytchevo**	**6.29**	**270**	*i* P	Pn	14 13 38.5	+1.0
NLC				*e*S	Sn	14 14 48.1	-1.5
SDLR	**Sedlovina**	**6.55**	**271**	*e*P	Pn	14 13 42.0	+0.8
UGLR	**Uglovaya**	**6.59**	**270**	*e*P	Pn	14 13 43.3	+1.5
AVH	**Avacha**	**6.64**	**271**	*e*P	Pn	14 13 43.7	+1.3
KOK	**Koryaka**	**6.69**	**271**	*e*P	Pn	14 13 44.4	+1.2
RUS	**Russkaya**	**6.94**	**264**	*e*P	Pn	14 13 47.6	+1.0
GNL	**Ganaly**	**7.06**	**275**	*e*P	Pn	14 13 49.9	+1.5

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*NEIC **02** 14:29:12.9±0.8, 5.67S×105.27E, Error ellipse:*
s-maj=44.8km s-min=14.6km az=51.0
*IDC **02** 14:29:12.8±0.7, 5.64S×105.24E, h15^{km}±3^{km}, mb3.8/10,*
mb1 4.0/10, mb1mx3.9/15, Error ellipse: s-maj=47.0km
s-min=12.9km az=47.0
ISC 02 14:29:11.1±1.0**,5.7S**±0.2×**105.2E**±0.3**,h17**^{km}**,**
h17^{km}±.6^{km}**:pP-P,n14,**σ**0**^{s}**87**/11**,mb3.9**/10**,Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.46**	**123**	P	**P**	**14 34 21.3**	**+0.5**
	2.2nm,0.9s,mb3.6,baz=304,slow=15,SNR=3.4						
FITZ				pP		14 34 27.1	
	2.2nm,0.7s,baz=202,slow=0.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**24.77**	**346**	P	**P**	**14 34 33.8**	**+0.2**
	1.3nm,0.9s,mb3.4,baz=185,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**31.67**	**119**	P	**P**	**14 35 34.9**	**-1.1**
	4.1nm,1.4s,mb4.1,baz=293,slow=10,SNR=5.9						
WRA				pP	pP	14 35 40.6	-0.5
	2.2nm,1.1s,baz=294,slow=10,SNR=7.6						
WRA				PcP	PcP	14 38 27.6	-0.4
	0.2nm,0.7s,baz=307,slow=2.2,SNR=4.1						
WRA				pPcP		14 38 33.2	
	0.8nm,0.9s,baz=305,slow=2.1,SNR=6.6						
STKA	**Stephens Creek**	**42.84**	**132**	P	**P**	**14 37 10.6**	**+0.4**
	4.2nm,0.7s,mb4.3,baz=311,slow=8.3,SNR=9.6						
STKA				pP	pP	14 37 15.6	+0.3
	11nm,0.5s,baz=304,slow=10,SNR=7.9						
SONM	**Songino Array**	**53.30**	**1**	P	**P**	**14 38 32.7**	**+1.3**
	0.8nm,1.0s,mb3.6,baz=190,slow=7.5,SNR=4.3						
SONM				PcP	PcP	14 39 39.1	+0.1
	1.1nm,0.9s,baz=161,slow=1.7,SNR=6.0						
SONM				pPcP		14 39 45.1	
	0.7nm,0.6s,baz=169,slow=2.8,SNR=4.9						
SONM				ScP		14 43 36.2	
	0.3nm,0.6s,baz=217,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**56.06**	**341**	P	**P**	**14 38 50.7**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=153,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**56.06**	**341**	P	**P**	**14 38 50.7**	**-0.9**
BVAR	**Borovoye Array**	**65.48**	**338**	P	**P**	**14 39 53.8**	**-1.7**
	0.3nm,0.5s,mb3.5,baz=163,slow=15,SNR=3.5						
BVAR				PcP	PcP	14 40 27.1	-0.1
	1.8nm,1.0s,baz=135,slow=6.3,SNR=5.3						
BRTR	**Keskin Array B**	**79.62**	**312**	P	**P**	**14 41 19.9**	**+0.6**
	1.3nm,0.6s,mb4.0,baz=135,slow=7.0,SNR=5.7						
BRTR				pP	pP	14 41 24.8	+0.1
	2.2nm,0.7s,baz=126,slow=6.9,SNR=5.7						
AKASG	**Malin Array Be**	**85.56**	**322**	P	**P**	**14 41 49.6**	**0.0**
	0.6nm,0.3s,mb4.2,baz=80,slow=4.8,SNR=6.8						
AKASG				pP	pP	14 41 55.2	+0.1
	2.6nm,0.8s,baz=80,slow=4.6,SNR=2.1						
FINES	**FINESS Array B**	**89.78**	**332**	P	**P**	**14 42 10.4**	**+0.6**
	1.1nm,0.7s,mb4.3,baz=106,slow=14,SNR=5.9						
FINES				pP	pP	14 42 15.8	+0.5
	0.8nm,0.6s,baz=153,slow=4.3,SNR=2.7						
TXAR	**Lajitas Array**	**143.99**	**46**	PKP	PKPdf	14 48 45.6	-4.6
	0.6nm,0.3s,baz=297,slow=2.0,SNR=3.3						
TXAR				pPKP		14 48 52.2	
	1.1nm,0.3s,SNR=3.3						
TXAR	**Lajitas Array**	**143.99**	**46**	PKP	PKPdf	14 48 45.6	-4.6
TXAR				pPKP		14 48 52.2	
BDFB	**Brasilia**	**146.05**	**231**	PKPbc	PKPbc	14 48 54.3	+3.0
	3.1nm,0.5s,baz=226,slow=3.6,SNR=3.1						

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*NEIC **02** 14:32:42.0, 32.71S×71.72W, h26^{km}, ML3.0(GUC), After*
GUC.
GUC 02 14:32:42.0±0.6**,32.71S**×**71.72W,h26**^{km}±5^{km}**,MD3.6,**
ML3.0,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.65**	**114**	⇑*i*P	Pb	14 32 54.8	+0.1
ROCH				*i* S	Sb	14 33 04.2	+0.9
LCCH	**Las Cruces**	**0.77**	**171**	*e*P	Pb	14 32 56.5	-0.2
LCCH				*i* S	Sb	14 33 06.8	0.0
PEL	**Peldehue**	**0.97**	**117**	*e*P	Pn	14 32 59.4	-0.6
PEL				*i* S	Sb	14 33 13.3	+0.8
PEL				AMP		14 33 17.1	
	comp=E,916nm,0.3s						
LNV	**Longovilo**	**1.27**	**168**	⇑*i*P	Pn	14 33 03.9	-0.4
LNV				*i* S	Sn	14 33 20.5	0.0
FCH	**Farellones**	**1.34**	**118**	*i* P	Pn	14 33 05.7	+0.3
FCH				⇓*i*P		14 33 05.8	
FCH				*i* S	Sn	14 33 23.7	+1.1
FCH				AMP		14 33 24.5	
	comp=E,229nm,0.3s						
PCH	**Pirque**	**1.36**	**132**	*e*P	Pn	14 33 05.5	0.0
LMEL	**Las Melosas**	**1.70**	**132**	*e*P	Pn	14 33 11.3	+0.8
LMEL				*e*S	Sn	14 33 33.6	+2.1
LMEL				AMP		14 33 39.2	
	comp=N,218nm,0.1s						
CICH	**Cipreses**	**1.94**	**146**	*e*P	Pn	14 33 14.8	+1.0
SFDO	**San Fernando**	**1.99**	**163**	*e*S	Sn	14 33 40.6	+1.8
TLL	**Tololo Astrono**	**2.65**	**17**	AMP		14 34 11.1	
	comp=E,115nm,0.5s						

CASC 02 14:57:28.2±1.0**,12.75N**×**87.05W,h8**^{km}±4^{km}**,MD3.5,Near**
coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.05**	**181**	*e*P	Pg	14 57 30.5	+0.5
TELN	**Telica**	**0.26**	**125**	*e*P	Pg	14 57 33.8	+0.2
TEL3	**Telica 3**	**0.27**	**132**	*e*P	Pg	14 57 34.0	+0.3
PYN	**Poneloya**	**0.37**	**176**	*e*P	Pg	14 57 35.8	+0.1
MIRN	**Miramar**	**0.45**	**133**	*e*P	Pg	14 57 37.3	-0.1
MOMJ	**Momotombo**	**0.60**	**124**	*e*P	Pg	14 57 40.1	-0.2
COPN	**Copaltepe**	**0.72**	**142**	*e*P	Pb	14 57 42.0	-0.6
CNCH	**Conchagua**	**0.93**	**304**	*e*P	Pb	14 57 45.1	-1.0
CNCH				*e*S	Sb	14 57 59.0	+0.7
MGAN	**Managua**	**0.99**	**127**	*e*S	Sb	14 57 59.6	-0.4
PYTN	**Playitas**	**0.99**	**102**	*e*P	Pb	14 57 46.3	-0.8
TICN	**Ticuantepe**	**1.07**	**132**	*e*P	Pb	14 57 48.5	0.0
COFN	**Cofrada**	**1.09**	**123**	*e*P	Pb	14 57 48.6	-0.3

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*IDC **02** 15:08:35.8±10.0, 13.73S×167.27E, h194^{km}±88^{km},*
mb3.6/8, mb1 3.8/8, mb1mx3.7/14, Error ellipse:
s-maj=55.8km s-min=32.9km az=103.0
*NEIC **02** 15:08:38.5±6.6, 13.72S×167.20E, h218^{km}±56^{km}, mb4.1/5,*
Error ellipse: s-maj=32.8km s-min=14.9km az=73.0
ISC 02 15:08:35.4±0.8**,13.7S**±0.1×**167.2E**±0.2**,h200**^{km}**,n29,**
σ**0**^{s}**72**/14**,mb3.8**/11**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.00**	**250**	P	**P**	**15 13 05.5**	**+1.3**
	1.4nm,0.5s,mb3.7,baz=86,slow=12,SNR=4.7						
CTA	**Charters Tower**	**21.00**	**250**	P	**P**	**15 13 05.5**	**+1.3**
CTAO	**Charters Tower**	**21.00**	**250**	*e*P	**P**	**15 13 05.0**	**+0.8**
	1.6nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**29.59**	**228**	*e*P	**P**	**15 14 24.3**	**+0.3**
	3.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**29.59**	**228**	P	**P**	**15 14 24.1**	**+0.1**
	4.4nm,0.5s,mb4.4,baz=57,slow=7.6,SNR=18						
STKA				PcP	PcP	15 17 22.6	-1.1
	3.9nm,1.1s,baz=45,slow=1.4,SNR=2.8						
WRA	**Warramunga Arr**	**32.01**	**254**	P	**P**	**15 14 43.9**	**-1.3**
	1.0nm,0.5s,mb3.6,baz=86,slow=9.5,SNR=24						
WRA				PcP	PcP	15 17 29.1	-1.0
	0.9nm,0.7s,baz=80,slow=3.3,SNR=7.9						
ASAR	**Alice Springs**	**32.97**	**248**	P	**P**	**15 14 52.7**	**-0.7**
	2.6nm,0.4s,mb4.1,baz=75,slow=9.4,SNR=122						
SBA	**Scott Base**	**64.12**	**180**	P	**P**	**15 18 50.5**	**+0.6**
	2.2nm,0.9s,mb3.8						
CMAR	**Chiang Mai Arr**	**74.49**	**294**	P	**P**	**15 19 54.3**	**+0.2**
	1.6nm,0.7s,mb3.8,baz=135,slow=4.7,SNR=7.4						
QSPA	**South Pole Qui**	**76.28**	**180**	*e*P	**P**	**15 20 03.2**	**+0.2**
	4.3nm,0.9s,mb4.1						
QSPA				LR	LR		
	comp=Z,250nm,20.1s						
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**15 20 33.4**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.2,baz=169,slow=6.3,SNR=4.1						
ILAR	**Eielson Array**	**85.61**	**18**	P	**P**	**15 20 51.4**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.3,baz=236,slow=6.0,SNR=4.4						
SNAA	**Sanae**	**94.53**	**183**	*e*P	**P**	**15 21 32.9**	**-0.7**
	comp=Z,1.2nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**96.45**	**316**	P	**P**	**15 21 43.0**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=11						
ARCES	**ARCESS Array B**	**119.28**	**346**	PKP	PKPdf	15 27 00.7	+0.5
	comp=Z,1.8nm,0.8s,baz=27,slow=2.7,SNR=7.5						
GERES	**GERESS Array B**	**138.74**	**333**	PKP	PKPdf	15 27 38.4	+0.8
	comp=Z,0.2nm,0.3s,baz=27,slow=3.0,SNR=3.5						
AVF	**Avril sur Loir**	**144.37**	**341**	*e*PKP1	PKPbc	15 27 47.5	+0.2
	comp=Z,4.9nm,0.5s						
SGMF	**Saint Gilles**	**144.56**	**348**	*e*PKP1	PKPbc	15 27 48.0	+0.2
BGF	**Bois d'Agland**	**144.74**	**341**	*e*PKP1	PKPbc	15 27 48.9	+0.6
MBDF	**Montbardon**	**144.91**	**335**	*e*PKP1	PKPbc	15 27 49.5	+0.6
	comp=Z,6.4nm,0.8s						
QUIF	**Quistinic**	**145.00**	**349**	*e*PKP1	PKPbc	15 27 49.3	+0.3
	comp=Z,6.8nm,0.5s						
ORIF	**Oris-en-Rattie**	**145.10**	**337**	*e*PKP1	PKPbc	15 27 50.6	+1.2
	comp=Z,16nm,0.7s						
ORIF				*e*R			
	comp=Z,116nm,23.0s						
TCF	**Toulx Ste Croi**	**145.18**	**342**	*e*PKP1	PKPbc	15 27 49.4	-0.1
SBF	**Sospel**	**145.34**	**334**	*e*PKP1	PKPbc	15 27 50.4	+0.4
	comp=Z,51nm,1.1s						
VIVF	**Saint-Julien-l**	**145.61**	**338**	*e*PKP1	PKPbc	15 27 51.7	+1.1
PGF	**Pioggiola**	**145.67**	**331**	*e*PKP1	PKPbc	15 27 50.9	0.0
	comp=Z,50nm,1.0s						
FRF	**La Foret Royal**	**145.91**	**334**	*e*PKP1	PKPbc	15 27 51.9	+0.5
	comp=Z,22nm,1.0s						
SMRF	**Simiane la Rot**	**146.01**	**336**	*e*PKP1	PKPbc	15 27 53.3	+1.6
	comp=Z,11nm,0.7s						
MTLF	**Montolieu**	**147.80**	**339**	*e*PKP1	PKPdf	15 27 57.2	+3.8
	comp=Z,12nm,0.8s						

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*NEIC **02** 15:23:24.4±0.6, 41.27S×86.17W, h10^{km}, mb4.5/9, Error*
ellipse: s-maj=14.8km s-min=12.2km az=81.0
*IDC **02** 15:23:25.3±1.1, 40.80S×85.99W, mb4.3/8, mb1 4.5/9,*
mb1mx4.4/15, ML3.4/1, MS4.3/18, Ms1 4.3/18,
ms1mx4.2/22, Error ellipse: s-maj=31.2km s-min=24.3km
az=152.0
ISC 02 15:23:22.8±0.6**,41.32S**±0.08×**86.1W**±0.1**,h10**^{km}**,n40,**
σ**1**^{s}**14**/26**,mb4.2**/15**,MS4.3**/16**,3C,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**11.79**	**92**	Pn	**P**	**15 26 15.1**	**+1.1**
	0.1nm,0.3s,baz=243,slow=12,SNR=5.6						
PLCA				LR	LR	15 29 44.2	
	comp=Z,965nm,20.9s,baz=262,slow=32						
PLCA	**Paso Flores**	**11.79**	**92**	Pn	**P**	**15 26 15.1**	**+1.1**
PLCA				LR	LR	15 29 44.2	
USHA	**Ushuaia**	**17.89**	**145**	LR	LR	15 33 11.9	
	comp=Z,1µm,18.7s,baz=289,slow=32						
TRQA	**Tornquist**	**18.86**	**88**	*e*P	**P**	**15 27 44.9**	**-0.3**
	26nm,1.0s						
LVC	**Limon Verde**	**23.61**	**43**	P	**P**	**15 28 35.6**	**+0.9**
	10nm,0.8s,mb4.3,baz=214,slow=9.7,SNR=20						
LVC				LR	LR	15 35 33.0	
	comp=Z,975nm,19.8s,MS4.3,baz=220,slow=31						
LVC	**Limon Verde**	**23.61**	**43**	*e*P	**P**	**15 28 35.1**	**+0.4**
	15nm,0.9s,mb4.4						
ARE	**Arequipa**	**27.80**	**31**	*e*P	**P**	**15 29 14.5**	**+0.4**
CPUP	**Villa Florida**	**28.05**	**67**	P	**P**	**15 29 13.7**	**-2.6**
	8.8nm,1.1s,mb4.3,baz=270,slow=8.6,SNR=12						
CPUP				LR	LR	15 39 40.3	
	comp=Z,1µm,19.2s,MS4.5,baz=257,slow=35						
CPUP	**Villa Florida**	**28.05**	**67**	*e*P	**P**	**15 29 13.5**	**-2.8**
	11nm,1.1s,mb4.4						
LPAZ	**La Paz**	**29.39**	**37**	P	**P**	**15 29 28.6**	**+0.2**
	4.9nm,1.0s,mb4.2,baz=204,slow=7.0,SNR=11						
LPAZ				LR	LR	15 39 04.4	
	comp=Z,277nm,19.6s,MS3.9,baz=184,slow=32						
LPAZ	**La Paz**	**29.39**	**37**	*e*P	**P**	**15 29 28.3**	**-0.1**
	13nm,1.3s,mb4.5						
BDFB	**Brasilia**	**41.65**	**63**	P	**P**	**15 31 11.8**	**-1.3**
	8.6nm,1.1s,mb4.3,baz=242,slow=12,SNR=5.3						
BDFB				LR	LR	15 47 47.4	
	comp=Z,647nm,19.3s,MS4.5,baz=232,slow=35						
OTAV	**Otavalo**	**41.95**	**12**	*e*P	**P**	**15 31 16.5**	**+1.0**
	4.8nm,0.7s,mb4.2						
RKT	**Rikitea**	**44.51**	**279**	*e*L		15 41 51.6	
	401nm,27.0s						
RKT				*e*R		15 44 00.8	
	458nm,27.5s						
ROSC	**El Rosal**	**47.20**	**16**	LR	LR	15 49 21.2	
	comp=Z,787nm,21.6s,MS4.6,baz=222,slow=33						
VNA1	**Neumayer--Stat**	**47.71**	**154**	⇑*i*	**P**	**15 32 03.0**	**+2.0**
VNA2	**Neumayer--Watz**	**47.97**	**154**	⇑*i*	**P**	**15 32 04.4**	**+1.4**
QSPA	**South Pole Qui**	**48.92**	**180**	*e*P	**P**	**15 32 09.1**	**-1.1**
	1.7nm,0.7s,mb4.2						
SNAA	**Sanae**	**49.32**	**156**	⇑*i*P	**P**	**15 32 11.9**	**-1.6**
	0.4nm,1.4s,mb3.3						
JTS	**JuntasAbangare**	**51.36**	**1**	LR	LR	15 49 55.3	
	comp=Z,97nm,18.8s,MS3.9,baz=261,slow=31						
VNDA	**Vanda**	**54.51**	**194**	P	**P**	**15 32 59.3**	**+6.9**
	1.2nm,0.9s,mb3.9,baz=116,slow=5.9,SNR=3.7						
VNDA				LR	LR	15 51 24.4	
	comp=Z,285nm,21.2s,MS4.3,baz=122,slow=30						
VNDA	**Vanda**	**54.51**	**194**	P	**P**	**15 32 52.1**	**-0.3**
	2.7nm,1.0s,mb4.2						
TBI	**Tubuai**	**55.26**	**268**	*e*L		15 46 23.3	
	217nm,36.0s						
TBI				*e*R		15 48 31.0	
	195nm,27.8s						
PPT	**Papeete**	**58.77**	**274**	*e*L		15 48 01.8	
	637nm,29.5s						
PPT				*e*R		15 50 18.1	
	358nm,29.0s						
SJG	**San Juan**	**61.96**	**22**	LR	LR	15 58 16.4	
	comp=Z,206nm,21.4s,MS4.3,baz=277,slow=34						
RPZ	**Rata Peaks**	**70.62**	**229**	LR	LR	15 58 13.7	
	comp=Z,312nm,19.5s,MS4.6,baz=45,slow=29						
TXAR	**Lajitas Array**	**72.15**	**344**	P	**P**	**15 34 48.5**	**-1.0**
	1.0nm,0.3s,mb4.2,baz=164,slow=9.1,SNR=4.3						
TXAR				LR	LR	16 01 06.6	
	comp=Z,149nm,19.3s,MS4.3,baz=195,slow=32						
ANMO	**Albuquerque**	**78.16**	**343**	*e*P	**P**	**15 35 24.6**	**+0.8**
	4.5nm,1.0s,mb4.3						
CCM	**Cathedral Cave**	**79.13**	**356**	*e*P	**P**	**15 35 27.7**	**-1.3**
	9.0nm,0.9s,mb4.7						
SUR	**Sutherland**	**80.51**	**125**	LR	LR	16 06 46.6	
	comp=Z,195nm,19.8s,MS4.5,baz=200,slow=32						
SDCO	**Great Sand Dun**	**80.66**	**345**	*e*P	**P**	**15 35 36.0**	**-1.2**
	4.2nm,1.1s,mb4.3						
TPH	**Tonopah**	**83.96**	**336**	*e*P	**P**	**15 35 55.3**	**+1.1**
	4.9nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**84.63**	**335**	P	**P**	**15 35 58.4**	**+0.9**
	1.0nm,0.8s,mb4.0,baz=148,slow=6.1,SNR=5.6						
NVAR				LR	LR	16 07 25.3	
	comp=Z,69nm,18.9s,MS4.1,baz=260,slow=31						
NVAR	**Mina Array Bea**	**84.63**	**335**	P	**P**	**15 35 58.4**	**+0.9**
NVAR				LR	LR	16 07 25.3	
PDAR	**Pinedale Array**	**86.33**	**343**	P	**P**	**15 36 06.3**	**+0.4**
	1.3nm,0.9s,mb4.2,baz=146,slow=5.3,SNR=6.9						
TSUM	**Tsumeb**	**87.35**	**113**	LR	LR	16 09 36.3	
	comp=Z,156nm,21.0s,MS4.4,baz=327,slow=32						
ULM	**Lac du Bonnet**	**91.59**	**354**	LR	LR	16 14 16.3	
	comp=Z,72nm,21.8s,MS4.1,baz=191,slow=34						
STKA	**Stephens Creek**	**94.90**	**219**	LR	LR	16 11 03.2	
	comp=Z,197nm,21.5s,MS4.5,baz=206,slow=30						
SCHQ	**Schefferville**	**97.19**	**11**	LR	LR	16 18 14.1	
	comp=Z,87nm,20.5s,MS4.2,baz=260,slow=34						
GERES	**GERESS Array B**	**125.36**	**53**	PKP	PKPdf	15 42 25.8	-0.9
	0.2nm,0.3s,baz=252,slow=4.2,SNR=4.1						

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*JMA **02** 15:31:48.1±0.3, 23.13N×120.97E, h57^{km}, M2.7*
TAP 02 15:31:44.9,23.36N×**120.92E,h2**^{km}±1^{km}**,ML3.2,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.21**	**60**	P	Pn	15 32 24.5	+1.6
YOJ				S	Sn	15 32 51.0	-0.1
HATJ	**Hateruma jima**	**2.73**	**75**	S	Sn	15 33 02.9	-1.6
IRIF	**Iriomote-Funau**	**2.75**	**69**	P	Pn	15 32 31.8	+1.1
IRIF				S	Sn	15 33 04.9	0.0
JKRS	**Kuro-shima**	**2.96**	**72**	P	Pn	15 32 34.2	+0.5
JIJ	**Ishigaki jima**	**3.12**	**71**	P	Pn	15 32 36.4	+0.5
JIJ				S	Sn	15 33 13.4	-0.8
JTJ	**Tarama**	**3.69**	**69**	P	Pn	15 32 44.5	+0.5
JTJ				S	Sn	15 33 26.7	-1.9
JOGS	**Gusukube**	**4.33**	**70**	S	Sn	15 33 44.4	-0.6

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*IDC **02** 15:35:35.0±3.1, 41.60S×85.95W, mb4.2/7, mb1 4.5/8,*
mb1mx4.3/15, ML3.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/17,
Error ellipse: s-maj=80.4km s-min=26.1km az=6.0
*NEIC **02** 15:35:37.0±1.0, 41.44S×86.01W, h10^{km}, mb4.4/6, Error*
ellipse: s-maj=23.4km s-min=14.6km az=206.0
ISC 02 15:35:35.5±1.0**,41.5S**±0.1×**86.0W**±0.1**,h10**^{km}**,n19,**
σ**0**^{s}**98**/15**,mb4.2**/10**,MS4.0**/7**,1D,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**11.65**	**91**	Pn	**P**	**15 38 24.0**	**-0.7**
	0.0nm,0.3s,baz=266,slow=11,SNR=1.7						
PLCA				LR	LR	15 41 57.4	
	comp=Z,329nm,20.1s,baz=259,slow=33						
USHA	**Ushuaia**	**17.65**	**145**	LR	LR	15 45 17.4	
	comp=Z,516nm,21.0s,baz=290,slow=33						
TRQA	**Tornquist**	**18.73**	**87**	*e*P	**P**	**15 39 58.0**	**+1.6**
	12nm,0.9s						
LVC	**Limon Verde**	**23.67**	**42**	P	**P**	**15 40 49.0**	**+1.1**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	6.9nm,0.7s,mb4.2,baz=225,slow=8.3,SNR=14						
LVC				LR	LR	15 48 05.4	
	comp=Z,218nm,20.0s,MS3.6,baz=212,slow=32						
CPUP	**Villa Florida**	28.01	66	P	P	15 41 27.4	-1.1
	4.9nm,0.7s,mb4.2,baz=265,slow=7.4,SNR=14						
CPUP				LR	LR	15 51 43.4	
	comp=Z,375nm,19.2s,MS4.0,baz=254,slow=34						
CPUP	**Villa Florida**	28.01	66	eP	P	15 41 26.7	-1.8
	6.8nm,0.9s,mb4.3						
LPAZ	**La Paz**	29.47	37	P	P	15 41 41.9	+0.1
	3.3nm,0.8s,mb4.1,baz=192,slow=7.5,SNR=10						
LPAZ				LR	LR	15 51 17.4	
	comp=Z,78nm,21.7s,MS3.3,baz=29,slow=32						
LPAZ	**La Paz**	29.47	37	eP	P	15 41 41.3	-0.5
	2.9nm,0.6s,mb4.2						
BDFB	**Brasilia**	41.62	63	P	P	15 43 25.2	-0.2
	9.4nm,0.9s,mb4.4,baz=226,slow=6.4,SNR=9.1						
BDFB				LR	LR	15 59 38.1	
	comp=Z,246nm,18.8s,MS4.1,baz=271,slow=35						
OTAV	**Otavalo**	42.12	11	eP	P	15 43 29.6	+0.1
	4.0nm,0.7s,mb4.2						
ROSC	**El Rosal**	47.36	16	LR	LR	16 01 22.8	
	comp=Z,402nm,20.2s,MS4.4,baz=14,slow=33						
SNAA	**Sanae**	49.09	155	⇓i	P	15 44 24.4	+0.1
VNDA	**Vanda**	54.35	194	LR	LR	16 04 26.9	
	comp=Z,136nm,20.5s,MS4.0,baz=126,slow=32						
TXAR	**Lajitas Array**	72.38	344	P	P	15 47 04.3	+0.8
	1.4nm,0.6s,mb4.1,baz=162,slow=7.9,SNR=7.2						
ANMO	**Albuquerque**	78.39	343	eP	P	15 47 38.1	+0.5
	2.2nm,0.5s,mb4.3						
CCM	**Cathedral Cave**	79.34	356	eP	P	15 47 40.0	-2.8
	4.8nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	84.86	335	P	P	15 48 12.0	+0.6
	0.6nm,0.8s,mb3.8,baz=154,slow=6.7,SNR=3.4						
PDAR	**Pinedale Array**	86.56	343	P	P	15 48 19.1	-0.6
	0.6nm,0.8s,mb3.9,baz=180,slow=4.5,SNR=3.7						
STKA	**Stephens Creek**	94.83	219	LR	LR	16 23 11.1	
	comp=Z,154nm,21.4s,MS4.4,baz=206,slow=30						

PRE 02 16:00:02.6±1.1, 26.44S×27.42E, h2^{km}, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	0.74	320	eP	Pg	16 00 16.3	-1.1
KSR				eS	Sg	16 00 25.9	-1.4
KSR				e		16 00 31.9	
	comp=Z,703nm,0.5s						
SLR	**Silverton**	1.04	48	eP	Pb	16 00 21.5	-1.5
SLR				eS	Sb	16 00 34.6	-2.3
SLR				e		16 00 40.8	
	comp=Z,342nm,0.1s						
SEK	**Senekal**	1.89	175	eP	Pn	16 00 35.9	-0.3
SEK				eS	Sn	16 00 59.1	-1.8
SEK				e		16 01 02.2	
	comp=Z,903nm,0.3s						
NWL	**Newcastle**	2.59	120	eP	Pn	16 00 45.3	-1.0
NWL				eS	Sn	16 01 15.8	-3.0
NWL				e		16 01 29.0	
	comp=Z,464nm,0.5s						
LEP	**Lephalale**	2.79	6	eP	Pn	16 00 47.3	-1.8
LEP				eS	Sn	16 01 20.5	-3.2
LEP				e		16 01 29.8	
	comp=Z,187nm,0.5s						
CVNA	**Calvinia**	8.38	231	eP	P	16 02 01.8	-6.2
CVNA				eS	Sn	16 03 31.3	-13
CVNA				e		16 03 36.3	
	comp=Z,13nm,0.3s						

CASC 02 16:15:35.2±1.5, 11.39N×87.33W, h13^{km}±22^{km}, MD3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYN	**Poneloya**	1.03	17	eP	Pb	16 15 54.3	-0.1
PYN				eS	Sb	16 16 07.9	+0.2
COPN	**Copaltepe**	1.07	43	eP	Pb	16 15 54.4	-0.7
COPN				eS	Sb	16 16 09.1	+0.4
MIRN	**Miramar**	1.21	30	eP	Pb	16 15 56.4	-1.0
TEL3	**Telica 3**	1.27	22	eP	Pb	16 15 56.9	-1.6
MOMJ	**Momotombo**	1.28	37	eP	Pb	16 15 57.0	-1.6
CRZC	**La Cruz**	1.76	104	eP	Pn	16 16 05.7	0.0
JCR	**Jicaral**	2.67	125	eP	Pn	16 16 16.7	-1.9
LAJ	**Bijagual**	3.50	115	eP	Pn	16 16 24.7	-5.9
URSC	**Urasca**	3.82	114	eP	Pn	16 16 35.1	0.0
URSC				eS	Sn	16 17 19.5	-0.8

TRN 02 16:16:09.3, 18.50N×63.20W, h13^{km}, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SABT	**Saba**	0.88	183	eP	Pb	16 16 29.1	+3.1
SABT				eS	Sb	16 16 43.5	+6.2
STAT	**Sint Eustatius**	1.02	168	eP	Pb	16 16 31.1	+2.7
STAT				eS	Sb	16 16 47.1	+5.6
SKI	**Saint Kitts**	1.24	159	eP	Pb	16 16 34.3	+2.1
SKI				eS	Sb	16 16 52.4	+4.6

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*CASC **02** 16:19:31.3±2.4, 13.82N×91.86W, h3^{km}±17^{km}, MD3.9, ML3.9*

*MEX **02** 16:19:36.4±0.8, 14.23N×92.29W, h20^{km}, MD4.3*

ISC 02 16:19:27.4±1.1, 13.78N±0.07×92.12W±0.05, h10^{km}, n13, σ1^{s}20/23, 2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	0.71	42	⇓iP	Pb	16 19 43.6	+2.2
JAT				eS	Sb	16 19 51.3	+0.3
TPX	**Tapachula**	1.12	353	i P	Pb	16 19 47.0	-1.5
FUG	**Fuego 3**	1.41	62	⇓eP	Pn	16 19 52.6	-0.6
IXG	**Ixpaco**	1.67	76	eP	Pn	16 19 56.6	-0.3
IXG				eS	Sn	16 20 17.2	-1.3
IXG				AML	AML	16 20 24.6	
	comp=E,3μm,0.4s						
NBG	**Las Nubes**	1.90	65	eP	Pn	16 20 01.2	+1.0
NBG				eS	Sn	16 20 26.0	+1.6
NBG				AML	AML	16 20 28.3	
	comp=N,1μm,0.5s						
RBDL	**Robledal**	2.39	82	eP	Pn	16 20 07.5	+0.2
RBDL				eS	Sn	16 20 35.6	-1.2
SBLS	**San Blas**	2.43	88	eP	Pn	16 20 09.2	+1.3
SBLS				eS	Sn	16 20 36.6	-1.3
SNJE	**San Jose**	2.45	88	eP	Pn	16 20 08.9	+0.8
SNJE				eS	Sn	16 20 37.3	-1.0
CCIG	**Comitan**	2.48	360	i P	Pn	16 20 08.9	+0.2
CCIG				i S	Sn	16 20 31.2	-8.1
MRL	**Marmol**	2.68	61	eP	Pn	16 20 12.1	+0.7
MRL				eS	Sn	16 20 44.4	+0.2
LFRS	**El Faro**	2.98	93	eP	Pn	16 20 17.5	+1.8
LCBS	**La Ceiba**	3.06	92	eP	Pn	16 20 17.8	+0.9
LCBS				eS	Sn	16 20 51.8	-2.0
CMIG	**Matias Romero**	4.23	321	i P	Pn	16 20 31.5	-2.0
CMIG				i S	Sn	16 21 14.9	-8.7

SKHL 02 16:24:16.8±0.7, 53.78N×136.39E, h24^{km}±4^{km}, mb4.4/8, Ms3.5/1, msh4.6/1, 1C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKMR	**Ekimchan**	2.18	252	⇓iPn	Pn	16 24 52.0	-0.3
EKMR				ePg	Pn	16 24 56.5	+4.2
EKMR				AMB	AMB	16 24 57.8	
	90nm,0.6s						
EKMR				AMB	AMB	16 24 57.8	
	120nm,0.6s						
EKMR				AMB	AMB	16 24 57.8	
	160nm,0.6s						
EKMR				pPg		16 25 05.0	
EKMR				eSn	Sn	16 25 19.7	+0.9
EKMR				eSg	Sn	16 25 26.0	+7.2
EKMR				A		16 25 30.9	
	440nm,0.6s						
EKMR				A		16 25 30.9	
	480nm,0.6s						
EKMR				A		16 25 30.9	
	450nm,0.6s						
NKL	**Nikolayevsk**	2.64	102	erx	rx	16 24 58.0	
NKL				eSn	Sn	16 25 31.0	+0.5
NKL				AMS	AMS	16 25 51.0	
	600nm,6.0s						
NKL				AMS	AMS	16 25 51.0	
	1μm,5.0s						
GRNR	**Gornyy**	3.02	180	⇑iPn	Pn	16 25 02.1	-2.1
GRNR				pPn		16 25 08.8	
GRNR				ePg	Pn	16 25 11.8	+7.6
GRNR				AMB	AMB	16 25 15.0	
	210nm,0.8s						
GRNR				eSn	Sn	16 25 40.0	0.0
GRNR				eSg	Sn	16 25 51.1	+11
GRNR				A		16 25 52.2	
	2μm,0.8s						
OKH	**Okha**	3.90	91	ePg	Pn	16 25 27.2	+10
OKH				AMB	AMB	16 25 28.1	
	900nm,1.5s						
OKH				eSg	Sn	16 26 19.0	+17
OKH				A		16 26 20.0	
	1μm,0.9s						
BMKR	**Bomnak**	4.53	285	ePn	Pn	16 25 24.0	-1.7
BMKR				sPn		16 25 34.0	
BMKR				ePg	Pn	16 25 36.6	+11
BMKR				AMB	AMB	16 25 38.5	
	23nm,0.6s						
BMKR				AMB	AMB	16 25 38.5	
	54nm,0.6s						
BMKR				AMB	AMB	16 25 38.5	
	40nm,0.6s						
BMKR				eSg	Sn	16 26 36.0	+18
BMKR				A		16 26 39.0	
	629nm,0.7s						
BMKR				A		16 26 39.0	
	192nm,0.7s						
BMKR				A		16 26 39.0	
	155nm,0.7s						
TYV	**Tymovskoe**	4.83	125	ePn	Pn	16 25 27.2	-2.8
TYV				sPn		16 25 40.0	
TYV				ePg	Pn	16 25 44.0	+14
TYV				AMB	AMB	16 25 47.3	
	17nm,0.8s						
TYV				i Sg	Sn	16 26 48.1	+22
TYV				A		16 26 53.2	
	35nm,0.8s						
TYV				A		16 26 53.2	
	42nm,0.8s						
YASR	**Yasnyy**	5.04	268	ePn	Pn	16 25 29.7	-3.3
YASR				ePg	Pn	16 25 47.4	+14
YASR				AMB	AMB	16 25 55.9	
	5.0nm,0.6s						
YASR				AMB	AMB	16 25 55.9	
	13nm,0.6s						
YASR				i Sg	Sn	16 26 54.9	+24
YASR				A		16 27 04.7	
	80nm,0.6s						
YASR				A		16 27 04.7	
	50nm,0.6s						
YASR				A		16 27 04.7	
	40nm,0.6s						
KLR	**Kul’dur**	5.40	214	erx	rx	16 25 54.8	
KLR				erx	rx	16 27 09.8	
ZEA	**Zeya**	5.42	273	erx	rx	16 25 43.4	
ZEA				ePg	Pn	16 25 52.7	+14
ZEA				AMB	AMB	16 26 01.7	
	19nm,0.5s						
ZEA				AMB	AMB	16 26 01.7	
	29nm,0.5s						
ZEA				eSn	Sn	16 26 38.9	-1.9
ZEA				eSg	Sn	16 27 04.6	+24
ZEA				A		16 27 07.5	
	200nm,2.0s						
ZEA				A		16 27 07.9	
	200nm,1.0s						
ZEA				A		16 27 07.9	
	120nm,1.0s						
ZEA				A		16 27 07.9	
	140nm,1.0s						
KROS	**Kirovskiy**	5.58	281	ePn	Pn	16 25 38.6	-2.0
KROS				pPn		16 25 47.7	
KROS				ePg	Pn	16 25 57.4	+17
KROS				AMB	AMB	16 25 59.8	
	6.0nm,0.5s						
KROS				AMB	AMB	16 25 59.8	
	8.0nm,0.5s						
KROS				eSn	Sn	16 26 41.9	-2.8
KROS				eSg	Sn	16 27 10.1	+25
KROS				A		16 27 13.9	
	95nm,0.7s						
KROS				A		16 27 13.9	
	46nm,0.7s						
KROS				A		16 27 13.9	
	98nm,0.7s						
UGL	**Uglegorsk**	5.89	141	eSg	Sn	16 27 20.0	+27
UGL				A		16 27 27.5	
	60nm,0.8s						
YSS	**Yuzh-Sakhalins**	7.95	147	erx	rx	16 28 17.8	
TEY	**Ternei**	8.75	179	eSg	Sn	16 28 50.0	+46

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*TAP **02** 16:28:03.7, 24.94N×122.15E, h8^{km}, ML2.4*

JMA 02 16:28:19.0±0.4, 24.77N×124.05E, h84^{km}, M0.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIJ	**Ishigaki jima**	0.41	168	P	P	16 28 32.5	0.0
JIJ				S	S	16 28 41.7	-1.0
IRIF	**Iriomote-Funau**	0.52	214	P	P	16 28 33.4	-0.1
IRIF				S	S	16 28 43.8	-0.5
JKRS	**Kuro-shima**	0.53	184	P	P	16 28 33.7	+0.2
JKRS				eS	S	16 28 44.9	+0.5
JTJ	**Tarama**	0.61	102	P	P	16 28 34.1	-0.2
JTJ				S	S	16 28 45.3	-0.3
HATJ	**Hateruma jima**	0.74	198	P	P	16 28 34.9	-0.8
HATJ				eS	S	16 28 48.7	+0.6

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*NEIC **02** 16:28:46.0, 32.08N×117.38W, h6^{km}, ML3.6(PAS), After PAS.*

ECX 02 16:28:45.4±0.3, 32.05N×117.48W, h8^{km}±3^{km}, MD3.4, ML3.4, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBX	**Punta Banda**	0.71	115	⇑eP	Pb	16 28 58.1	-1.5
PBX				eS	Sg	16 29 07.7	-1.5
PBX				⇓e		16 29 08.6	
	comp=E,2μm,0.3s						
ENX	**Ensenada**	0.71	103	eP	Pb	16 28 57.9	-1.6
ENX				eS	Sb	16 29 07.6	-1.7
ENX				e		16 29 08.7	
	comp=N,1μm,0.2s						
ENX				⇓e		16 29 13.8	
	comp=E,1μm,0.6s						
CBX	**Cerro Bola**	0.74	69	eP	Pb	16 28 58.5	-1.6
CBX				eS	Sb	16 29 08.7	-1.4
CBX				eS	Sb	16 29 08.9	-1.2
ECNX	**Esteban Cantu**	0.85	117	eP	Pb	16 29 00.1	-1.8
ECNX				⇑eP		16 28 58.1	
ECNX				eS	Sb	16 29 07.9	-5.3
ECNX				eS	Sb	16 29 11.9	-1.2
PGX	**Piedras Gordas**	0.89	95	eS	Sb	16 29 12.8	-1.4
BAR	**Barrett**	0.93	47	⇑iP	Pb	16 29 01.5	-1.8
BAR	**Barrett**	0.93	47	eP	Pb	16 29 01.6	-1.7
BAR				eS	Sb	16 29 12.4	-3.1
RDX	**Rancho Dowling**	1.31	95	⇑eP	Pb	16 29 07.9	-1.8
RDX				eS	Sb	16 29 25.8	-0.7
RDX				⇑e		16 29 31.6	
	comp=N,2μm,0.5s						
PFO	**Pinyon Flat Ob**	1.78	29	eP	Pn	16 29 15.2	-1.5
PFO				eS	Sn	16 29 37.0	-2.7
EMX	**El Mayor**	1.90	91	eS	Sn	16 29 43.2	+0.4
ECBX	**El Chinero**	2.15	105	eP	Pn	16 29 21.2	-0.8
ECBX				eS	Sn	16 29 49.2	+0.2
MWC	**Mount Wilson**	2.22	348	ePn	Pn	16 29 23.0	0.0
LDFC	**Landfair**	3.61	33	ePn	Pn	16 29 41.4	-1.5
NEN	**Nelson**	4.21	31	ePn	Pn	16 29 48.8	-2.6

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*TAP **02** 16:46:54.6, 24.59N×122.45E, h55^{km}±1^{km}, ML4.0*

*JMA **02** 16:46:54.6±0.2, 24.60N×122.49E, h68^{km}±2^{km}, M3.4*

ISC 02 16:46:53.5±1.9, 24.5N±0.2×122.4E±0.1, h65^{km}±14^{km}, n9, σ0^{s}49/16, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	0.57	89	P	P	16 47 07.2	+0.4
YOJ				S	S	16 47 16.5	0.0
IRIF	**Iriomote-Funau**	1.23	95	P	P	16 47 15.0	-0.2
IRIF				S	S	16 47 30.4	-0.8
HATJ	**Hateruma jima**	1.36	106	P	P	16 47 17.6	+0.7
HATJ				S	S	16 47 34.3	0.0
JKRS	**Kuro-shima**	1.50	98	P	P	16 47 19.0	+0.1
JKRS				S	S	16 47 37.9	+0.3
JIJ	**Ishigaki jima**	1.61	93	P	P	16 47 19.6	-0.7
JIJ				S	S	16 47 39.4	-0.7
JTJ	**Tarama**	2.12	84	P	P	16 47 27.1	-0.3
JTJ				S	S	16 47 53.3	+0.7
JMJ	**Miyako jima 2**	2.67	82	P	P	16 47 35.8	+0.5
JMJ				S	S	16 48 06.9	+0.4
JOGS	**Gusukube**	2.77	83	P	P	16 47 36.6	0.0
JKE	**Kume jima 2**	4.40	64	P	P	16 47 58.9	-0.5

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*MAN **02** 17:01:15.7, 13.89N×120.52E, h175^{km}, mb4.4, ML3.3, MS3.1*

*NEIC **02** 17:01:15.1±0.9, 13.80N×120.96E, h198^{km}±8^{km}, mb4.2/3, Error ellipse: s-maj=34.1km s-min=15.1km az=61.0*

*IDC **02** 17:01:15.3±0.7, 13.88N×120.96E, h191^{km}±4^{km}, mb3.4/7, mb1 3.6/7, mb1mx3.4/17, Error ellipse: s-maj=38.7km s-min=15.7km az=62.0*

ISC 02 17:01:14.5±0.4, 13.87N±0.03×120.61E±0.07, h190^{km}±3^{km}, n30, σ1^{s}06/38, mb3.9/10, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	0.38	249	eP	P	17 01 40.4	0.0
LUBP				eS	S	17 01 59.4	-1.0
TGY	**Tagaytay City**	0.39	54	⇑iP	P	17 01 40.9	+0.5
TGY				i S	S	17 02 01.1	+0.7
TGY	**Tagaytay City**	0.39	54	P	P	17 01 41.1	+0.7
TGY				S	S	17 02 01.2	+0.8
ARP	**Angono**	0.84	38	⇓eP	P	17 01 42.5	0.0
QVPH	**Quezon City--P**	0.89	29	⇓eP	S	17 02 03.9	-0.6
LQP	**Lukban**	0.93	75	⇑iP	P	17 01 44.0	+1.1
SJMP	**San Jose**	1.49	161	eP	P	17 01 47.5	0.0
SJMP				eS	S	17 02 10.8	-2.3
BUSP	**Coron**	1.90	192	eP	P	17 01 52.4	+0.8
BUSP				eS	S	17 02 19.3	-0.9
SCZP	**Santa Cruz**	2.01	340	eP	P	17 01 52.8	+0.1
SCZP				eS	S	17 02 20.3	-1.8
OTRP	**Odiongan**	2.04	137	eP	P	17 01 53.0	0.0
OTRP				eS	S	17 02 20.9	-1.7
BALP	**Baler**	2.08	27	eP	P	17 01 54.1	+0.6
BALP				eS	S	17 02 23.7	+0.2
AUQP	**San Andres**	2.08	105	eP	P	17 01 55.4	+1.9
BCPH	**Baguio City Da**	2.49	359	⇓iP	P	17 01 58.4	+0.2
BOLP	**Bolinao**	2.58	345	eP	P	17 01 59.7	+0.5
BOLP				eS	S	17 02 32.6	-1.2
ENPP	**El Nido**	2.89	204	eP	P	17 02 04.6	+1.8
ENPP				eS	S	17 02 42.3	+2.1
CAUP	**Cauayan**	3.27	21	eP	P	17 02 08.4	+0.9
APYP	**Conner**	4.01	9	eP	P	17 02 17.6	+0.8
CMAR	**Chiang Mai Arr**	21.30	285	P	P	17 05 50.6	+3.6
	1.8nm,0.5s,mb3.6,baz=96,slow=7.5,SNR=11						
SONM	**Songino Array**	35.87	344	P	P	17 07 58.3	+0.6
	1.1nm,0.7s,mb3.6,baz=163,slow=9.5,SNR=8.6						
WRA	**Warramunga Arr**	36.22	158	P	P	17 07 59.1	-1.8
	0.7nm,0.6s,mb3.5,baz=331,slow=10,SNR=15						
MKAR	**Makanchi Array**	45.84	324	P	P	17 09 19.9	+0.8
	0.8nm,0.3s,mb3.8,baz=130,slow=9.3,SNR=21						
KURK	**Kurchatov**	50.00	326	eP	P	17 09 51.7	+0.6
	7.1nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	55.58	326	P	P	17 10 32.0	-0.2
	0.5nm,0.5s,mb3.6,baz=112,slow=8.0,SNR=4.5						
ZRNK	**Zerenda**	56.31	325	eP	P	17 10 36.3	-1.1
	1.6nm,0.7s,mb4.0						
ARU	**Arti**	63.19	327	eP	P	17 11 23.1	-1.1
	2.2nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	78.89	339	P	P	17 12 57.4	-0.3
	8.5nm,1.3s,mb4.2,baz=80,slow=6.9,SNR=8.2						
NOA	**NORSAR Array B**	87.07	333	P	P	17 13 38.4	-0.9
	0.5nm,0.6s,mb3.5,baz=72,slow=4.2,SNR=3.3						
NOA	**NORSAR Array B**	87.07	333	P	P	17 13 38.4	-0.9
SNAA	**Sanae**	113.29	197		PKPdf	17 19 28.2	-0.6
VNA1	**Neumayer--Stat**	115.33	197	⇑i	PKPdf	17 19 30.8	-2.0

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*NEIC **02** 17:09:18.8±1.0, 21.22S×68.58W, h111^{km}±14^{km}, mb4.0/2, Error ellipse: s-maj=21.8km s-min=12.8km az=84.0*

*IDC **02** 17:09:20.5±3.1, 21.32S×68.38W, h116^{km}±29^{km}, mb3.4/1, mb1 3.6/4, mb1mx3.4/15, Error ellipse: s-maj=40.9km s-min=26.8km az=83.0*

ISC 02 17:09:17.1±0.7, 21.16S±0.05×68.6W±0.1, h120^{km}±10^{km}, n13, σ0^{s}69/14, mb4.0/1, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	1.48	192	⇓iPn	P	17 09 45.5	+0.8
LVC				eSn	S	17 10 05.4	-0.2
LPAZ	**La Paz**	4.87	5	P	P	17 10 34.2	+4.7
	3.3nm,0.3s,baz=200,slow=6.7,SNR=65						
LPAZ				S	S	17 11 25.5	+0.4
	0.8nm,0.3s,baz=225,slow=20,SNR=3.9						
LPAZ	**La Paz**	4.87	5	ePn	P	17 10 33.7	+4.3
LPAZ				S	S	17 11 25.5	+0.4
ARE	**Arequipa**	5.42	329	eP	P	17 10 36.0	-0.9
CPUP	**Villa Florida**	11.52	119	P	P	17 11 59.0	+0.1
	0.1nm,0.3s,baz=312,slow=12,SNR=8.2						
CPUP	**Villa Florida**	11.52	119	ePn	P	17 11 58.5	-0.4
TRQA	**Tornquist**	17.78	163	eP	P	17 13 17.5	-0.9
	9.5nm,1.1s						
PLCA	**Paso Flores**	19.58	184	P	P	17 13 37.3	-0.6
	0.2nm,0.3s,baz=11,slow=11,SNR=2.9						
PLCA	**Paso Flores**	19.58	184	eP	P	17 13 38.1	+0.2
BDFB	**Brasilia**	20.27	78	P	P	17 13 45.1	-0.1
	2.7nm,0.6s,baz=258,slow=9.9,SNR=4.5						
QSPA	**South Pole Qui**	69.03	180	eP	P	17 20 12.3	+1.1
	1.4nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	145.19	36	PKPbc	PKPbc	17 28 43.7	+3.0
	4.3nm,1.1s,baz=315,slow=3.4,SNR=9.7						
MKAR	**Makanchi Array**	145.19	36	PKPbc	PKPbc	17 28 43.7	+3.0

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*BJI **02** 17:19:33.7, 7.81S×129.06E, h136^{km}, mB4.8, mb5.2*

*MOS **02** 17:19:38.5±1.2, 7.29S×128.52E, h136^{km}, mb4.8/7, Error ellipse: s-maj=23.4km s-min=11.3km az=119.7*

*NEIC **02** 17:19:40.8±1.3, 7.31S×128.52E, h136^{km}±13^{km}, mb4.8/25, Error ellipse: s-maj=13.6km s-min=6.7km az=71.0*

*IDC **02** 17:19:41.3±1.8, 7.34S×128.47E, h137^{km}±15^{km}, mb4.5/11, mb1 4.7/14, mb1mx4.6/17, Error ellipse: s-maj=22.2km s-min=10.3km az=64.0*

ISC 02 17:19:39.0±1.3, 7.33S±0.05×128.53E±0.07, h135^{km}±13^{km}, n95, σ1^{s}06/94, mb4.8/50, 12C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	6.56	145	eP	P	17 21 16.7	+2.5
	493nm,0.6s						
KAKA				eS	S	17 22 25.6	-2.4
FITZ	**Fitzroy Crossi**	11.08	194	eP	P	17 22 13.8	-0.7
	41nm,0.3s						
FITZ				eS	S	17 24 07.5	-8.7
FITZ	**Fitzroy Crossi**	11.08	194	P	P	17 22 14.3	-0.1
	22nm,0.3s,baz=19,slow=8.8,SNR=258						
FITZ				S	S	17 24 09.7	-6.6
	29nm,0.3s,baz=162,slow=24,SNR=9.1						
WRA	**Warramunga Arr**	13.75	156	P	P	17 22 47.6	-1.7
	8.2nm,0.3s,baz=337,slow=13,SNR=350						
WRA				S	S	17 25 11.5	-7.5
	16nm,0.3s,baz=334,slow=21,SNR=12						
WB2	**Warramunga Arr**	13.75	156	eP	P	17 22 47.3	-2.1
WB2				i		17 22 55.4	
WB2				eS	S	17 25 08.0	-11
MATI	**Mati**	14.36	351	eP	P	17 23 02.6	+5.4
ASPA	**Alice Springs**	17.05	163	eP	P	17 23 30.9	+0.3
ASPA				eS	S	17 26 27.9	-6.2
PMG	**Port Moresby**	18.54	98	P	P	17 23 47.8	-0.1
	1.2nm,0.3s,baz=310,slow=7.9,SNR=5.0						
PMG				S	S	17 27 09.5	+2.6
	1.3nm,0.3s,baz=102,slow=16,SNR=6.5						
PMG	**Port Moresby**	18.54	98	eP	P	17 23 51.4	+3.5
PMG				S	S	17 27 09.5	+2.6
BATP	**Bataraza**	19.26	326	eP	P	17 23 59.4	+3.9
PVCP	**Virac**	21.23	348	eP	P	17 24 18.2	+2.7
CTA	**Charters Tower**	21.36	128	⇓iP	P	17 24 18.6	+1.9
	29nm,0.6s,mb4.8						
CTA				eS	S	17 28 38.2	+38

CTA	**Charters Tower**	21.36	128	P	P	17 24 18.4	+1.7
	37nm,0.7s,mb4.8,baz=305,slow=12,SNR=70						
CTAO	**Charters Tower**	21.36	128	⇓*i*P	P	17 24 18.3	+1.6
	34nm,0.6s,mb4.8						
FORT	**Forrest**	23.34	181	⇑*i*P	P	17 24 37.4	+1.4
	184nm,0.7s,mb5.6						
FORT				*e*S	S	17 28 57.4	+22
BALP	**Baler**	23.93	343	*e*P	P	17 24 42.0	+0.2
KLBR	**Kellerberrin**	26.16	201	*e*P	P	17 25 02.8	+0.2
	23nm,0.9s,mb4.8						
KLBR				*e*S	S	17 30 03.3	+41
STKA	**Stephens Creek**	27.30	155	⇓*i*P	P	17 25 12.9	-0.1
	20nm,0.6s,mb4.9						
STKA	**Stephens Creek**	27.30	155	P	P	17 25 12.6	-0.4
	25nm,0.6s,mb5.0,baz=324,slow=9.0,SNR=71						
NWAO	**Narrogin (SRO)**	27.55	201	P	P	17 25 15.5	+0.2
	18nm,0.4s,mb5.1,baz=37,slow=7.6,SNR=33						
NWAO	**Narrogin (SRO)**	27.55	201	*e*P	P	17 25 15.4	+0.1
	16nm,0.6s,mb4.9						
ARMA	**Armidale**	31.57	140	*e*P	P	17 25 52.6	+1.6
QIZ	**Qiongzhong**	32.02	325	*e*P	P	17 25 55.0	0.0
TOO	**Toolangi**	33.82	155	*e*P	P	17 26 11.8	+1.5
	8.5nm,0.5s,mb4.7						
JOW	**Kunigami**	33.95	360	P	P	17 26 12.0	+0.4
	15nm,0.7s,mb4.8,baz=223,slow=11,SNR=7.0						
KKTK	**Khon Kaen**	34.64	313	P	P	17 26 18.0	+0.5
NANT	**Nan**	37.78	314	⇑P	P	17 26 45.0	+1.1
BDT	**Bhumibol Dam**	38.05	310	P	P	17 26 47.0	+0.8
CM31	**Chiang Mai Arr**	38.84	312	*e*P	P	17 26 54.0	+1.3
	28nm,1.0s,mb4.8						
CMAR	**Chiang Mai Arr**	38.84	312	P	P	17 26 53.9	+1.1
	21nm,1.1s,mb4.7,baz=143,slow=7.2,SNR=40						
CMAR				PcP	PcP	17 29 02.2	+0.6
	1.6nm,0.6s,baz=173,slow=2.5,SNR=6.2						
CMAR				ScP		17 32 34.6	
	2.1nm,1.0s,baz=159,slow=4.6,SNR=6.3						
CHG	**Chiang Mai**	39.06	312	⇑P	P	17 26 55.4	+0.9
	27nm,0.9s,mb4.9						
CHRT	**Chiangrai**	39.13	314	P	P	17 26 57.0	+1.9
	126nm,0.9s,mb5.5						
GYA	**Guiyang**	39.73	329	⇓*i*P	P	17 27 00.9	+1.0
GYA				PCP	PcP	17 29 06.1	+1.7
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2	**Nanjing**	40.23	347	*e*P	P	17 27 04.3	+0.3
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.3						
KMI	**Kunming**	40.88	323	*e*P	P	17 27 11.2	+1.8
	comp=Z,23nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=Z,30nm,36.4s						
ENH	**Enshi**	41.61	335	⇑*e*P	P	17 27 15.4	-0.1
	comp=Z,23nm,0.7s,mb4.9						
MAJO	**Matsushiro**	44.57	11	*e*P	P	17 27 37.6	-1.7
	comp=Z,9.0nm,0.8s,mb4.5						
MAT	**Matsushiro**	44.57	11	P	P	17 27 37.6	-1.7
MAT	**Matsushiro**	44.57	11	*e*P	P	17 27 38.0	-1.3
	comp=Z,4.8nm,0.7s,mb4.2						
XAN	**Xi'an**	45.14	337	P	P	17 27 43.2	-0.7
XAN				AMB	AMB		
	comp=Z,54nm,0.9s,mb5.2						
BJI	**Beijing**	48.49	347	*e*P	P	17 28 09.4	-0.6
BJI				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.0						
BJI	**Beijing**	48.49	347	*e*P	P	17 28 09.4	-0.6
	comp=Z,28nm,0.7s,mb5.0						
LZH	**Lanzhou**	49.02	333	⇑P	P	17 28 14.6	+0.4
LZH				AMB	AMB		
	comp=Z,101nm,1.0s,mb5.4						
HHC	**Hu-ho-hao-te**	50.42	343	*e*P	P	17 28 23.9	-0.8
HHC				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,91nm,4.5s						
LSA	**Lhasa**	51.44	318	P	P	17 28 31.4	-1.2
LSA	**Lhasa**	51.44	318	⇑*i*P	P	17 28 33.3	+0.7
	comp=Z,12nm,0.6s,mb4.7						
RPZ	**Rata Peaks**	51.88	141	P	P	17 28 36.2	+0.5
	comp=Z,22nm,0.5s,mb5.0,baz=276,slow=2.1,SNR=38						
GTA	**Gaotai**	53.57	332	⇑*i*P	P	17 28 48.5	+0.2
GTA				AMB	AMB		
	comp=Z,49nm,0.8s,mb5.3						
PKI	**Pulchoki**	54.24	312	*e*P	P	17 28 52.2	-1.1
	comp=Z,21nm,0.6s,mb5.0						
KKN	**Kakani**	54.46	312	*e*P	P	17 28 54.1	-0.8
	comp=Z,28nm,0.8s,mb5.1						
DMN	**Daman**	54.49	311	*e*P	P	17 28 54.3	-0.8
	comp=Z,33nm,0.9s,mb5.1						
GKN	**Gorkha**	55.05	312	*e*P	P	17 28 58.3	-0.9
	comp=Z,29nm,0.4s,mb5.4						
KOLN	**Koldanda**	55.70	311	*e*P	P	17 29 03.2	-0.7
	comp=Z,53nm,0.8s,mb5.4						
SONM	**Songino Array**	58.30	343	P	P	17 29 21.6	-0.3
	comp=Z,10nm,0.7s,mb4.8,baz=166,slow=7.2,SNR=80						
CASY	**Casey**	60.16	188	*e*P	P	17 29 34.0	-0.5
	comp=Z,2.2nm,0.4s,mb4.3						
ZAK	**Zakamensk**	61.51	342	*e*P	P	17 29 42.6	-1.2
WMQ	**Urumqi**	62.88	328	⇑*i*P	P	17 29 52.8	-0.3
WMQ				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.2						
MKAR	**Makanchi Array**	67.71	328	P	P	17 30 23.8	-0.2
	comp=Z,14nm,0.5s,mb5.0,baz=117,slow=8.7,SNR=157						
MKAR	**Makanchi Array**	67.71	328	*i* P	P	17 30 23.8	-0.1
MKAR				pmax	pmax		
	comp=Z,14nm,0.5s						
YAK	**Yakutsk**	69.15	1	*e*P	P	17 30 31.2	-1.3
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK	**Yakutsk**	69.15	1	*e*P	P	17 30 31.1	-1.5
	comp=N,29nm,0.8s,mb5.0						
TKM2	**Tokmak 2**	69.31	321	P	P	17 30 34.3	+0.4
	SNR=9.9						
AAK	**Ala-Archa**	69.86	320	P	P	17 30 37.8	+0.6
	SNR=6.1						
AML	**Almayashu**	70.11	320	P	P	17 30 39.7	+1.0
	SNR=16						
USP	**Ospenovka**	70.18	321	P	P	17 30 39.3	+0.2
	SNR=23						
EKS2	**Erkin-Say**	70.32	320	P	P	17 30 40.8	+0.8
	SNR=20						
KURK	**Kurchatov**	72.04	329	*i* P	P	17 30 49.5	-0.6
KURK				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.6						
KURK	**Kurchatov**	72.04	329	⇑*i*P	P	17 30 49.7	-0.3
	comp=Z,31nm,1.1s,mb5.0						
VNDA	**Vanda**	72.31	173	P	P	17 30 50.6	-0.6
	comp=Z,2.3nm,0.6s,mb4.1,baz=315,slow=6.0,SNR=18						
VNDA	**Vanda**	72.31	173	*e*P	P	17 30 50.6	-0.6
SEY	**Seymchan**	72.40	11	*e*P	P	17 30 52.0	+0.1
SEY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
SEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
NVS	**Novosibirsk**	72.53	334	*i* P	P	17 30 51.0	-1.8
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
KKAR	**Karatay Array**	72.63	319	*i* P	P	17 30 53.5	-0.2
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SBA	**Scott Base**	73.21	172	*e*P	P	17 30 56.9	+0.5
	comp=Z,2.3nm,0.7s,mb4.0						
VOSK	**Vostochnaya**	77.11	328	P	P	17 31 18.0	-1.0
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
BVA0	**Borovoye Array**	77.57	328	*i* P	P	17 31 21.2	-0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
BVAR	**Borovoye Array**	77.57	328	P	P	17 31 21.2	-0.3
	comp=Z,4.0nm,0.5s,mb4.3,baz=126,slow=9.9,SNR=44						
BRVK	**Borovoye**	77.64	328	⇑*i*P	P	17 31 21.6	-0.3
	comp=Z,7.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	78.26	328	P	P	17 31 24.9	-0.4
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	78.26	328	⇑*e*P	P	17 31 24.8	-0.5
	comp=Z,17nm,0.9s,mb4.7						
AB31	**Akbulak array**	81.86	322	*i* P	P	17 31 44.2	-0.4
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	82.65	180	*e*P	P	17 31 48.3	+0.2
	comp=Z,5.3nm,0.8s,mb4.3						
ARU	**Arti**	85.22	328	⇑*i*P	P	17 31 57.9	-3.4
ARU				*i*		17 32 47.1	
ARU				*e*S	S	17 42 12.4	-5.8
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ARU	**Arti**	85.22	328	*e*P	P	17 32 00.6	-0.7
	comp=Z,14nm,1.1s,mb4.6						
ILAR	**Eielson Array**	94.26	25	P	P	17 32 41.6	-2.0
	comp=Z,0.8nm,0.8s,mb3.9,baz=266,slow=5.0,SNR=6.6						
LSZ	**Lusaka**	97.97	253	P	P	17 33 01.6	0.0
	comp=Z,1.5nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	101.37	340	P	P	17 33 14.9	-0.8
	comp=Z,1.8nm,1.0s,baz=90,slow=3.6,SNR=4.7						
GERES	**GERESS Array B**	111.73	320	PKiKP		17 37 58.7	
	comp=Z,0.5nm,0.5s,baz=90,slow=2.7,SNR=6.4						
SCHQ	**Schefferville**	131.05	12	SKPbc		17 41 43.5	
	comp=Z,6.2nm,0.7s,baz=16,slow=4.5,SNR=5.8						
DBIC	**Dimbokro**	133.75	272	PKP	PKPdf	17 38 42.9	+1.9
	comp=Z,2.3nm,0.7s,baz=131,slow=17,SNR=4.3						
DBIC				SKPbc		17 41 53.3	
	comp=Z,3.3nm,0.7s,baz=92,slow=5.4,SNR=7.4						
LVC	**Limon Verde**	145.69	151	*e*PKPbc	PKPbc	17 39 05.6	+2.5
CPUP	**Villa Florida**	146.06	171	PKPbc	PKPbc	17 39 05.4	+1.6
	comp=Z,1.4nm,0.5s,baz=204,slow=5.1,SNR=7.2						
CPUP				pPKPbc		17 39 45.4	
	comp=Z,2.8nm,0.8s,baz=222,slow=4.1,SNR=3.3						
CPUP				SKP		17 42 26.3	
	comp=Z,4.0nm,1.0s,baz=258,slow=3.1,SNR=4.7						
CPUP	**Villa Florida**	146.06	171	PKPbc	PKPbc	17 39 05.4	+1.6
CPUP				pPKPbc		17 39 45.4	
CPUP				SKP		17 42 26.3	
LPAZ	**La Paz**	151.32	145	PKPbc	PKPdf	17 39 20.5	+9.3
	comp=Z,1.5nm,0.4s,baz=11,slow=5.4,SNR=6.8						
LPAZ				PKPab	PKPab	17 39 29.6	+1.3
	comp=Z,4.7nm,0.5s,baz=213,slow=3.0,SNR=26						
LPAZ	**La Paz**	151.32	145	*e*PKPbc	PKPdf	17 39 20.3	+9.1
LPAZ				*e*PKPab	PKPab	17 39 29.1	+0.8

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*NAO **02** 17:20:58.8±1.5, 67.07N×20.82E, ML2.0*
*HEL **02** 17:20:59.5±0.1, 67.09N×20.95E, ML2.1, ML2.0(UPP), ML2.0(NAO), Explosion*
*BER **02** 17:21:01.2±4.0, 67.10N×20.86E, ML1.7, ML2.0(NAO), Suspected explosion*
ISC 02 17:20:57.3±0.4**, 67.02N**±0.03×**20.82E**±0.08**, n28,** σ**1^{s}41**/40**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	0.14	315	*i* P	Pg	17 21 01.8	+1.7
MASU	**Masugnsbyn**	0.63	46	*i* P	Pg	17 21 09.5	-0.5
ERTU	**Ertsjaerv**	0.72	130	*i* P	Pg	17 21 12.2	+0.6
PAJU	**Pajala**	0.90	89	*i* P	Pg	17 21 13.8	-1.5
NIKU	**Nikkaluokta**	1.09	322	*e*P	Pb	17 21 18.6	-0.3
SJUU	**Sjulsmark**	1.55	168	*e*P	Pn	17 21 27.8	+1.5
LILU	**Lilltraesk**	1.79	193	*e*P	Pn	17 21 31.9	+2.3
KIF	**Kilpisjarvi**	1.99	360	*e*P	Pn	17 21 34.1	+1.5
KIF				*e*S	Sn	17 21 59.1	+0.4
KTK1	**Kautokeino**	2.20	23	*e*P	Pn	17 21 37.6	+2.0
KTK1				*e*Sg	Sg	17 22 07.0	-3.4
KTK1				AML	AML	17 22 12.5	
	comp=Z,9.4nm,0.2s						
SGF	**Sodankyl**	2.26	77	*e*P	Pn	17 21 37.4	+0.9
SGF				*e*SG	Sg	17 22 06.8	-5.7
SGF				MSG		17 22 12.1	
	comp=Z,16nm,0.2s						
MOR8	**Moi Rana**	2.69	254	*e*Sg	Sg	17 22 19.8	-7.0
MOR8				AML	AML	17 22 26.1	
	comp=Z,8.9nm,0.3s						
TRO	**Tromso**	2.72	346	*e*Sg	Sg	17 22 20.6	-7.2
TRO				AML	AML	17 22 24.7	
	comp=Z,6.4nm,0.2s						
OUL	**Oulu**	2.84	131	*e*P	Pn	17 21 46.8	+2.0
OUL				*e*S	Sn	17 22 21.1	+0.9
OUL				MSG		17 22 29.7	
	comp=Z,6.4nm,0.2s						
LOF	**Lofoten**	3.01	295	*e*	Sg	17 22 37.6	+0.3
LOF	**Lofoten**	3.01	295	*e*Sg	Sg	17 22 37.6	+0.3
LOF				AML	AML	17 22 43.5	
	comp=Z,6.0nm,0.5s						
ARA0	**ARCESS Array S**	3.07	32	Pn	Pn	17 21 47.6	-0.4
	baz=221,slow=14						
ARA0				Sn	Sn	17 22 24.9	-1.0
	baz=226,slow=22						
ARA0	**ARCESS Array S**	3.07	32	*e*P	Pn	17 21 47.6	-0.4
ARA0				*e*S	Sn	17 22 24.9	-1.0
STOK	**Stokkvaagen**	3.18	261	*e*SG	Sg	17 22 41.1	-2.1
MSF	**Maaselka**	3.48	105	*e*P	Pn	17 21 54.2	+0.4
MSF				*e*SG	Sg	17 22 45.7	-7.5
MSF				MSG		17 22 54.2	
	comp=Z,3.2nm,0.2s						
KEV	**Kevo**	3.57	37	*e*P	Pn	17 21 54.3	-0.9
KJN	**Kajaani**	4.11	133	*e*P	Pn	17 22 04.3	+1.5
APA0	**Apatity Array**	4.75	77	Pn	Pn	17 22 09.7	-2.2
	baz=265,slow=14						
APA0	**Apatity Array**	4.75	77	*e*P	Pn	17 22 09.7	-2.2
SUF	**Sumiainen**	4.88	150	*e*S	Sn	17 23 10.5	-1.3
FIA0	**FINESS Array S**	6.05	155	Pn	Pn	17 22 30.3	+0.1
	baz=347,slow=16						
FIA0				Sn	Sn	17 23 38.9	-2.3
	baz=349,slow=28						
FIA0				Lg		17 24 09.1	
	baz=337,slow=37						
FIA0	**FINESS Array S**	6.05	155	*e*P	Pn	17 22 30.3	+0.1
FIA0				*e*S	Sn	17 23 38.9	-2.3
FIA0				*e*SG	Sg	17 24 09.1	-10
JOF	**Joensuu**	6.06	128	*e*P	Pn	17 22 30.6	+0.2
JOF				*e*SG	Sg	17 24 07.4	-12
HFS	**Hagfors**	7.60	208	*e*P	Pn	17 22 49.8	-2.3
HFS				*e*SG	Sg	17 24 57.9	-13

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*MAN **02** 17:22:32.5, 5.86N×124.95E, h258^{km}, mb4.2, ML3.0, MS2.7*
ISC 02 17:22:33.7±4.1**, 6.1N**±0.4×**124.9E**±0.2**, h268**^{km}±16^{km}**, n8,** σ**0^{s}64**/9**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	1.32	330	*e*P	P	17 23 12.5	-0.3
CTBH				*i* S	S	17 23 43.2	-0.2
BUKP	**Musuan**	1.80	5	*e*P	P	17 23 16.3	-0.1
PAGZ	**Pagadian**	2.33	319	*e*P	P	17 23 21.9	+0.9
IPIL	**Ipil**	2.88	306	*e*P	P	17 23 26.1	-0.4
BUTP	**Butuan**	2.96	14	*e*P	P	17 23 27.6	+0.3
OCLP	**Ormoc**	4.95	357	*e*P	P	17 23 51.1	+1.1
BESP	**Borongan**	5.52	5	*e*P	P	17 23 55.8	-1.1
OTRP	**Odiongan**	6.87	336	*e*P	P	17 24 13.3	-0.3

GUC 02 17:48:31.4±0.7**, 33.21S**×**70.18W, h2**^{km}±3^{km}**, MD3.6, ML2.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	0.15	218	*e*P	Pg	17 48 35.2	+0.8
FCH				*i* S	Sg	17 48 37.9	+1.4
FCH				AMP		17 48 38.8	
	comp=E,881nm,0.1s						
LMEL	**Las Melosas**	0.64	182	*e*P	Pg	17 48 44.8	+0.6
LMEL				*i* S	Sg	17 48 54.5	+1.8
LMEL				AMP		17 48 55.7	
	comp=N,126nm,0.1s						
CHCH	**Chadas Angostu**	0.83	208	*e*P	Pg	17 48 47.7	-0.2
CACH	**El Canelo**	0.97	201	*e*P	Pb	17 48 50.4	-0.3
CICH	**Cipreses**	1.13	190	*e*P	Pb	17 48 53.3	-0.1
CICH				*i* S	Sb	17 49 09.5	+1.2

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*NIED **02** 18:18:00, 20.60N×122.60E, h44^{km}, Mw3.6 Best double couple: $M_0$2.91×10^{14} NP1:ϕ_s38°, δ69°, λ-152°. NP2: ϕ_s298°, δ64°, λ-24°.*
JMA 02 18:18:24.3±0.4**, 20.64N**×**122.57E, M4.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	3.59	18	P	Pn	18 19 22.8	+0.5
HATJ				S	Sn	18 20 05.6	-0.5
JKRS	**Kuro-shima**	3.82	20	P	Pn	18 19 26.2	+0.6
JKRS				S	Sn	18 20 12.2	+0.3
YOJ	**Yonaguni jima**	3.83	6	P	Pn	18 19 26.4	+0.7
YOJ				S	Sn	18 20 13.6	+1.5
IRIF	**Iriomote-Funau**	3.83	16	P	Pn	18 19 26.1	+0.3
IRIF				S	Sn	18 20 11.7	-0.5
JIJ	**Ishigaki jima**	3.98	21	P	Pn	18 19 28.2	+0.3
JIJ				S	Sn	18 20 15.8	-0.2
JTJ	**Tarama**	4.44	26	P	Pn	18 19 35.6	+1.1
JTJ				S	Sn	18 20 27.1	-0.6
JOGS	**Gusukube**	4.87	32	P	Pn	18 19 41.3	+0.8
JOGS				S	Sn	18 20 39.2	+0.8

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*NNC **02** 18:20:08.1±5.5, 40.86N×72.90E, mpv4.0, Error ellipse: s-maj=79.9km s-min=29.4km az=27.0*
*KNET **02** 18:20:13.4±0.5, 41.39N×73.00E, h9^{km}±2^{km}, ml3.3, Error ellipse: s-maj=3.8km s-min=2.6km az=118.0*
ISC 02 18:20:12.5±1.3**, 41.30N**±0.09×**72.72E**±0.08**, h9**^{km}**, n12,** σ**1^{s}27**/21**, 12C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	1.11	41	P	Pb	18 20 31.5	-2.0
	93nm,0.1s,SNR=250						
AML				⇓S	Sb	18 20 44.9	-2.9
	462nm,0.2s						
EKS2	**Erkin-Say**	1.58	30	⇑P	Pn	18 20 40.0	-0.9
	64nm,0.2s,SNR=52						
EKS2				⇑S	Sb	18 21 00.2	-1.2
	83nm,0.2s						
AAK	**Ala-Archa**	1.88	44	⇓P	Pn	18 20 45.2	0.0
	117nm,0.3s,SNR=51						
AAK				⇑S	Sn	18 21 08.8	-0.5
	539nm,0.3s						
KZA	**Kyzart**	2.05	67	⇑P	Pn	18 20 47.3	-0.4
	100nm,0.2s,SNR=61						
KZA				⇓S	Sn	18 21 13.1	-0.4
	166nm,0.3s						
KBK	**Karagaybulak**	2.15	50	P	Pn	18 20 49.7	+0.7
	66nm,0.2s,SNR=70						
KBK				⇑S	Sn	18 21 17.3	+1.2
	411nm,0.5s						
CHMS	**Chumysh**	2.28	41	⇑P	Pn	18 20 51.2	+0.3
	30nm,0.2s,SNR=44						
CHMS				⇓S	Sn	18 21 20.8	+1.5
	187nm,0.4s						
USP	**Ospenovka**	2.37	33	⇑P	Pn	18 20 52.4	+0.1
	58nm,0.2s,SNR=80						
USP				⇓S	Sn	18 21 23.2	+1.4
	337nm,0.3s						
KK31	**Karatay Array**	2.44	319	P	Pn	18 20 55.0	+1.8
	30nm,0.5s,baz=125,slow=12,SNR=349						
KK31				⇑S	Sn	18 21 31.3	+7.9
	86nm,0.5s,baz=139,slow=30,SNR=28						
TKM2	**Tokmak 2**	2.69	52	⇑P	Pn	18 20 56.9	+0.2
	70nm,0.4s,SNR=69						
TKM2				⇓S	Sn	18 21 31.7	+1.9
	121nm,0.3s						
ULHL	**Ulahol**	2.80	69	⇑P	Pn	18 20 58.3	-0.1
	41nm,0.6s,SNR=30						
MK05	**Makanchi Array**	8.81	48	⇑P	P	18 22 19.9	-3.2
	2.6nm,0.7s						
AB31	**Akbulak array**	12.00	316	⇑P	P	18 23 04.4	-2.3
	1.5nm,0.7s,baz=360,slow=26,SNR=21						

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*IDC **02** 18:22:13.6±0.6, 5.67S×105.25E, mb4.1/12, mb1 4.3/12, mb1mx4.2/17, MS3.7/8, Ms1 3.7/8, ms1mx3.6/15, Error ellipse: s-maj=29.8km s-min=14.0km az=55.0*
*NEIC **02** 18:22:35.3±2.5, 5.73S×105.56E, h178^{km}±23^{km}, mb4.3/9, Error ellipse: s-maj=26.3km s-min=11.2km az=46.0*
ISC 02 18:22:16.7±0.4**, 5.63S**±0.10×**105.3E**±0.1**, h33**^{km}**, n40,** σ**0^{s}83**/31**, mb4.3**/22**, MS3.7**/8**, 4C, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGM	**Kluang**	7.85	345	⇑*e*P	P	18 24 30.0	+19
FITZ	**Fitzroy Crossi**	23.43	124	*e*P	P	18 27 25.0	+1.0
	4.1nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	23.43	124	P	P	18 27 24.8	+0.8
	3.4nm,0.7s,mb3.9,baz=302,slow=7.3,SNR=6.7						
FITZ				LR	LR	18 36 06.9	
	comp=Z,134nm,21.6s,MS3.4,baz=300,slow=36						
CMAR	**Chiang Mai Arr**	24.74	345	P	P	18 27 37.7	+0.9
	1.3nm,0.9s,mb3.5,baz=183,slow=9.1,SNR=5.9						
KAKA	**Kakadu**	27.66	107	⇑*i*P	P	18 28 03.6	-0.3
	17nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	31.62	119	P	P	18 28 38.4	-0.8
	1.7nm,0.6s,mb4.0,baz=294,slow=10,SNR=16						
WRA				LR	LR	18 39 56.1	
	comp=Z,80nm,20.5s,MS3.4,baz=330,slow=34						
WB2	**Warramunga Arr**	31.64	119	⇑*i*P	P	18 28 38.6	-0.7
ASPA	**Alice Springs**	32.87	126	*e*P	P	18 28 49.8	-0.2
ASAR	**Alice Springs**	32.87	126	P	P	18 28 49.1	-0.9
	3.8nm,1.1s,mb4.2,baz=301,slow=7.8,SNR=38						
PKI	**Pulchoki**	38.19	331	*e*P	P	18 29 34.5	-0.7
DMN	**Daman**	38.37	330	*e*P	P	18 29 36.9	+0.3
	14nm,0.9s,mb4.7						
KKN	**Kakani**	38.43	331	*e*P	P	18 29 36.6	-0.6
	6.2nm,0.5s,mb4.6						
GKN	**Gorkha**	38.92	330	*e*P	P	18 29 40.9	-0.4
	9.9nm,0.5s,mb4.8						
KOLN	**Koldanda**	39.26	329	*e*P	P	18 29 42.9	-1.1
	16nm,0.8s,mb4.8						
CTA	**Charters Tower**	42.31	114	*e*P	P	18 30 11.7	+2.3
	5.4nm,1.0s,mb4.1						
CTA	**Charters Tower**	42.31	114	LR	LR	18 48 43.6	
	comp=Z,146nm,18.6s,MS3.9,baz=105,slow=38						
CTAO	**Charters Tower**	42.31	114	P	P	18 30 10.4	+1.0
	18nm,1.2s,mb4.6						
STKA	**Stephens Creek**	42.82	132	*e*P	P	18 30 13.6	+0.2
	18nm,1.0s,mb4.8						
STKA	**Stephens Creek**	42.82	132	P	P	18 30 13.6	+0.2
	11nm,0.5s,mb4.9,baz=304,slow=7.4,SNR=59						
STKA				LR	LR	18 47 14.3	
	comp=Z,252nm,19.9s,MS4.1,baz=113,slow=35						
SONM	**Songino Array**	53.25	1	P	P	18 31 35.5	+1.2
	0.5nm,0.5s,mb3.7,baz=180,slow=8.6,SNR=6.3						
BVAR	**Borovoye Array**	65.46	338	P	P	18 32 57.6	-1.0
	0.4nm,0.3s,mb3.9,baz=144,slow=7.3,SNR=2.9						
MAW	**Mawson**	68.18	196	P	P	18 33 15.0	-0.5
	1.5nm,0.6s,mb4.2,baz=9.5,slow=6.1						
ASF	**Jabal al Asfar**	74.97	305	P	P	18 33 58.7	+1.9
	4.3nm,0.6s,mb4.6,baz=338,slow=2.1,SNR=3.9						
VNDA	**Vanda**	77.62	169	P	P	18 34 11.3	+0.3
	2.2nm,1.0s,mb4.1,baz=330,slow=5.6,SNR=3.4						
VNDA				LR	LR	19 03 46.4	
	comp=Z,93nm,20.0s,MS4.1,baz=302,slow=32						
VNDA	**Vanda**	77.62	169	*e*P	P	18 34 11.3	+0.3
	6.9nm,1.3s,mb4.4						
SBA	**Scott Base**	78.70	169	P	P	18 34 16.0	-0.9
	4.0nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	79.65	312	P	P	18 34 22.6	-0.1
	1.6nm,0.7s,mb4.1,baz=132,slow=6.1,SNR=7.8						
BRTR				LR	LR	19 11 48.7	
	comp=Z,33nm,19.9s,MS3.7,baz=165,slow=37						
QSPA	**South Pole Qui**	84.35	180	*e*P	P	18 34 46.5	+0.3
	4.1nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	85.57	322	P	P	18 34 52.3	-0.6
	0.4nm,0.4s,mb4.0,baz=86,slow=4.2,SNR=9.3						
FINES	**FINESS Array B**	89.77	332	P	P	18 35 13.3	+0.4
	2.0nm,0.9s,mb4.4,baz=110,slow=5.4,SNR=5.0						
FINES				LR	LR	19 21 08.2	
	comp=Z,35nm,18.7s,MS3.8,baz=89,slow=39						
SNAA	**Sanae**	90.31	198	⇑*i*	P	18 35 16.9	+1.7
SNAA	**Sanae**	90.31	198	*e*P	P	18 35 16.0	+0.8
	7.4nm,1.3s,mb4.9						
NOA	**NORSAR Array B**	96.86	331	LR	LR	19 22 08.7	
	comp=Z,18nm,18.1s,MS3.6,baz=100,slow=37						
TXAR	**Lajitas Array**	143.90	46	PKP	PKPdf	18 41 50.5	+1.2
	2.6nm,1.0s,baz=270,slow=1.3,SNR=5.7						
CPUP	**Villa Florida**	144.03	207	PKP	PKPdf	18 41 51.2	+1.6
	3.2nm,1.1s,baz=141,slow=2.7,SNR=4.0						
CPUP	**Villa Florida**	144.03	207	PKP	PKPdf	18 41 51.2	+1.6
BDFB	**Brasilia**	146.15	231	PKPbc	PKPbc	18 41 57.3	+2.6
	4.4nm,0.7s,baz=164,slow=3.5,SNR=5.5						
HKT	**Hockley**	148.67	37	*e*PKPbc	PKPdf	18 42 04.3	+6.9
LVC	**Limon Verde**	151.36	191	PKPbc	PKPdf	18 42 11.5	+10
	6.3nm,0.9s,baz=55,slow=0.4,SNR=3.6						
LVC				PKPab	PKPab	18 42 17.0	-1.3
	4.1nm,0.6s,baz=165,slow=4.4,SNR=8.0						
LVC	**Limon Verde**	151.36	191	PKPbc	PKPdf	18 42 11.5	+10
LVC				PKPab	PKPab	18 42 17.0	-1.3

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*NNC **02** 18:29:14.7±0.7, 42.20N×71.34E, mpv3.3, Error ellipse: s-maj=167.2km s-min=3.8km az=56.0*

*KNET **02** 18:29:15.2±0.7,42.40N×72.03E,ml2.9,Error ellipse: s-maj=4.5km s-min=2.4km az=41.0*

ISC 02 18:29:14.7±1.1,**42.17N**±0.10×**71.54E**±0.05,**h33**^{km}**,n18,** σ**0**^{s}**82**/29,**8C-7D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK06	Karatay Array	1.19	321	P	P	18 29 35.1	0.0
KK06				S	S	18 29 50.4	0.0
KK07	Karatay Array	1.20	320	P	P	18 29 35.3	+0.1
KK07				S	S	18 29 50.2	-0.4
KK02	Karatay Array	1.20	321	P	P	18 29 35.4	+0.1
KK02				S	S	18 29 50.9	+0.2
KK31	Karatay Array	1.20	321	⇑P	P	18 29 35.3	+0.1
	12nm,0.3s,baz=105,slow=8.7,SNR=924						
KK31				⇑S	S	18 29 50.2	-0.5
	20nm,0.2s,baz=130,slow=27,SNR=31						
KK01	Karatay Array	1.21	321	P	P	18 29 35.4	+0.1
KK03	Karatay Array	1.21	321	P	P	18 29 35.4	+0.1
KK05	Karatay Array	1.21	322	P	P	18 29 35.4	0.0
KK05				S	S	18 29 51.0	+0.2
KK04	Karatay Array	1.21	321	P	P	18 29 35.5	+0.1
KK08	Karatay Array	1.22	321	P	P	18 29 35.6	+0.2
KK09	Karatay Array	1.22	321	P	P	18 29 35.7	+0.1
AML	Almayashu	1.60	91	⇑P	P	18 29 40.0	-1.0
	35nm,0.2s,SNR=20						
AML				⇓S	S	18 29 58.7	-2.0
	47nm,0.2s						
EKS2	Erkin-Say	1.73	73	⇓P	P	18 29 41.1	-1.8
	33nm,0.1s,SNR=32						
AAK	Ala-Archa	2.24	77	P	P	18 29 50.7	+0.5
	48nm,0.3s,SNR=20						
AAK				⇓S	S	18 30 17.0	+0.1
	32nm,0.2s						
USP	Ospenovka	2.44	62	⇓P	P	18 29 52.0	-1.1
	20nm,0.3s,SNR=18						
USP				⇑S	S	18 30 21.7	-0.3
	152nm,0.3s						
CHMS	Chumysh	2.51	70	⇑P	P	18 29 53.7	-0.4
	33nm,0.3s,SNR=16						
CHMS				⇑S	S	18 30 24.2	+0.3
	54nm,0.2s						
KBK	Karagaybulak	2.57	78	⇑P	P	18 29 55.8	+0.9
	31nm,0.2s,SNR=65						
KBK				⇑S	S	18 30 27.6	+2.3
	55nm,0.1s						
KZA	Kyzart	2.76	91	⇓P	P	18 29 59.2	+1.6
	36nm,0.4s,SNR=15						
KZA				⇓S	S	18 30 33.9	+3.7
	107nm,0.4s						
TKM2	Tokmak 2	3.09	75	⇓P	P	18 30 02.3	0.0
	9.5nm,0.2s,SNR=11						

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*MDD **02** 18:33:34.8±0.3,42.98N×0.23E,h11^{km}±1^{km},mbLg1.3/5, Error ellipse: s-maj=3.2km s-min=2.0km az=6.0,PRXIMO*

*STR **02** 18:33:35.0±0.2,42.90N×0.25E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 02 18:33:34.0±0.1,**42.95N×0.23E,h15**^{km}**,Md1.8**/2,**Ml1.6**/3, **Error ellipse: s-maj=3.6km s-min=1.6km az=169.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	Esparros	0.12	45	ePg	Pg	18 33 37.7	+0.2
EPF				eSg	Sg	18 33 39.8	-0.1
	16nm,0.2s						
LABF	Labassere	0.15	311	Pg	Pg	18 33 37.7	-0.3
LABF				Lg		18 33 40.2	
RESF	Ens	0.16	150	Pg	Pg	18 33 37.8	-0.4
RESF	Ens	0.16	150	Pg	Pg	18 33 38.3	+0.1
RESF				Lg		18 33 42.3	
VIEF	Viey	0.16	246	Pg	Pg	18 33 38.5	+0.3
VIEF				Sg	Sg	18 33 41.7	+0.6
VIEF	Viey	0.16	246	Pg	Pg	18 33 38.6	+0.4
VIEF				Lg		18 33 41.5	
MELF	Melles	0.40	101	Pg	Pg	18 33 42.4	0.0
MELF	Melles	0.40	101	Pg	Pg	18 33 42.0	-0.4
MELF				Lg		18 33 47.4	
ETSF	Etsaut	0.58	265	ePg	Pg	18 33 45.2	-0.7
ETSF				eSg	Sg	18 33 53.0	-0.8
	2.5nm,0.2s						
SJPF	Ste Jean	1.08	279	ePn	Pn	18 33 53.2	-1.3
SJPF				eSg	Sg	18 34 07.9	-2.3
	0.8nm,0.3s						
EALK	Alkurruntz	1.30	283	Pg	Pg	18 33 59.4	-0.7
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		18 34 16.5	
	8.3nm,0.8s,SNR=7.9						
ESAC	San Caprasio	1.33	203	Lg		18 34 18.5	
	6.7nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.51	74	ePg	Pg	18 34 02.3	-1.9
MTLF				eSg	Sg	18 34 21.6	-2.8
	1.1nm,0.2s						
EPOB	Poblet	1.72	158	Lg		18 34 30.4	
	2.9nm,0.4s,SNR=7.9						
CAF	Calviac	2.38	33	eSg	Sg	18 34 48.8	-4.6
	1.1nm,0.3s						

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*NNC **02** 18:34:30.1±0.2,42.49N×71.74E,mpv2.4,Error ellipse: s-maj=83.4km s-min=1.3km az=34.0*

*KNET **02** 18:34:31.0±0.9,42.44N×71.99E,h4^{km}±3^{km},ml2.2,Error ellipse: s-maj=9.6km s-min=6.1km az=3.0*

ISC 02 18:34:28.5±1.4,**42.2N**±0.1×**71.60E**±0.06,**h10**^{km}**,n17,** σ**0**^{s}**73**/22,**8C-5D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK06	Karatay Array	1.19	318	P	Pb	18 34 50.7	0.0
KK07	Karatay Array	1.19	317	P	Pb	18 34 50.9	+0.1
KK02	Karatay Array	1.20	318	P	Pb	18 34 50.9	0.0
KK31	Karatay Array	1.20	318	⇑P	Pb	18 34 50.7	-0.2
	1.1nm,0.2s,baz=338,slow=33,SNR=180						
KK31				⇑S	Sb	18 35 06.0	-0.2
	3.5nm,0.2s,baz=123,slow=25,SNR=14						
KK01	Karatay Array	1.20	318	P	Pb	18 34 51.0	0.0
KK03	Karatay Array	1.20	318	P	Pb	18 34 51.0	0.0
KK05	Karatay Array	1.20	319	P	Pb	18 34 50.9	0.0
KK04	Karatay Array	1.21	318	P	Pb	18 34 51.0	0.0
KK08	Karatay Array	1.21	318	P	Pb	18 34 51.2	+0.1
KK09	Karatay Array	1.22	318	P	Pb	18 34 51.2	0.0
AML	Almayashu	1.56	92	⇑P	Pn	18 34 55.5	-0.9
	4.9nm,0.1s,SNR=8.4						
AML				⇑S	Sb	18 35 15.0	-1.6
	9.5nm,0.2s						
EKS2	Erkin-Say	1.67	74	⇑P	Pn	18 34 57.2	-0.9
	6.6nm,0.1s,SNR=27						
AAK	Ala-Archa	2.18	78	⇑P	Pn	18 35 06.3	+0.9
	8.1nm,0.3s,SNR=5.1						
USP	Ospenovka	2.38	63	⇓P	Pn	18 35 07.7	-0.5
	3.4nm,0.2s,SNR=9.8						
USP				⇑S	Sn	18 35 36.8	-1.0
	33nm,0.3s						
CHMS	Chumysh	2.45	70	⇓P	Pn	18 35 09.5	+0.2
	5.9nm,0.3s,SNR=7.6						
CHMS				⇑S	Sn	18 35 40.0	+0.4
	12nm,0.2s						
KBK	Karagaybulak	2.52	79	⇓P	Pn	18 35 11.6	+1.4
	6.4nm,0.2s,SNR=12						
KBK				⇓S	Sn	18 35 43.1	+1.9
	16nm,0.2s						
TKM2	Tokmak 2	3.03	75	⇓P	Pn	18 35 18.0	+0.4
	2.0nm,0.2s,SNR=6.2						

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*ROM **02** 18:44:43.8±0.3,44.57N×9.32E,h4^{km}±2^{km},MD2.5/4, ML1.7/4,Error ellipse: s-maj=1.6km s-min=1.0km az=0.0*

*LDG **02** 18:44:52.0±0.3,44.25N×8.78E,h2^{km},Md2.5/1,Ml2.2/9, Error ellipse: s-maj=4.9km s-min=3.9km az=90.0*

ISC 02 18:44:44.1±0.5,**44.55N**±0.03×**9.30E**±0.03,**h8**^{km}±4^{km}**,n18,** σ**1**^{s}**20**/33,**1C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOB	Bobbio (Coli)	0.24	25	⇑iPG	Pg	18 44 48.6	-0.6
BOB				SG	Sg	18 44 51.9	-0.7
	251nm,0.3s						
ERBM	Eremo	0.81	99	ePG	Pg	18 44 59.7	-0.6
ERBM				SG	Sg	18 45 11.6	+0.6
FIN	Finale Ligure	0.85	247	ePG	Pg	18 45 02.0	+0.8
FIN				SG	Sg	18 45 14.6	+1.9
	11nm,0.2s						
GSCL	Gusciola	0.94	102	ePG	Pg	18 45 03.3	+0.3
BDI	Bagni Di Lucca	1.05	117	ePG	Pg	18 45 05.1	0.0
BDI				SG	Sg	18 45 20.1	+1.0
	11nm,0.3s						
IMI	Imperia	1.20	238	ePN	Pn	18 45 06.8	-0.3
IMI				SN	Sn	18 45 24.6	+0.9
	20nm,0.5s						
PII	Pisa	1.21	133	ePN	Pn	18 45 08.2	+1.0
PII				SN	Sn	18 45 23.2	-0.7
	14nm,0.2s						
VAI	Varese	1.37	344	ePN	Pn	18 45 09.4	-0.2
VAI				SN	Sn	18 45 28.6	+0.5
	6.0nm,0.2s						
SBF	Sospel	1.51	244	ePg	Pg	18 45 11.8	-2.4
SBF				eSg	Sg	18 45 26.5	-7.8
	7.0nm,0.2s						
MBDF	Montbardon	1.82	277	ePn	Pn	18 45 18.8	+2.9
MBDF				eSg	Sg	18 45 39.1	-5.5
	6.1nm,0.3s						
PGF	Pioggiola	2.01	186	eSn	Sn	18 45 42.1	-2.2
	3.1nm,0.2s						
LPG	La Plagne	2.04	299	ePn	Pn	18 45 23.8	+4.6
LPG				eSg	Sg	18 45 52.7	+0.5
	4.1nm,0.4s						
LPL	La Plagne	2.06	299	ePn	Pn	18 45 24.6	+5.1
LPL				eSg	Sg	18 45 51.0	-1.9
	3.9nm,0.4s						
FRF	La Foret Royal	2.15	244	ePn	Pn	18 45 20.5	-0.3
FRF				eSg	Sg	18 45 46.0	-10
	4.4nm,0.4s						
LMR	La Mourre	2.35	240	ePn	Pn	18 45 23.2	-0.5
LMR				eSg	Sn	18 45 51.1	-1.9
	2.5nm,0.2s						
ORIF	Oris-en-Rattie	2.47	280	ePn	Pn	18 45 28.0	+2.7
ORIF				eSg	Sg	18 45 59.9	-6.4
	2.3nm,0.3s						
SMRF	Simiane la Rot	2.74	259	ePn	Pn	18 45 29.7	+0.6
SMRF				eSg	Sn	18 46 04.2	+1.4
	2.2nm,0.4s						
MTLF	Montolieu	5.26	259	ePn	Pn	18 46 03.8	-1.1

MAN 02 18:49:24.7,17.86N×120.04E,h1^{km}**,mb4.4,ML3.2,MS3.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	Dolores	0.67	108	eP	Pg	18 49 37.8	-0.3
ABRA				eS	Sg	18 49 46.7	-0.3
APYP	Conner	1.14	89	eP	Pb	18 49 44.0	-2.9
APYP				eS	Sb	18 49 59.4	-2.8
BOLP	Bolinao	1.47	185	eP	Pn	18 49 51.6	-0.8
BOLP				eS	Sb	18 50 16.7	+5.0
CVP	Callao Caves	1.70	95	i P	Pn	18 49 53.7	-2.0
CVP				i S	Sb	18 50 16.5	-1.9
SCZP	Santa Cruz	2.07	183	eP	Pn	18 50 00.7	-0.4
SCZP				eS	Sn	18 50 32.3	+4.4
PALP	Palanan	2.41	109	eP	Pn	18 50 05.6	-0.3
PALP				eS	Sn	18 50 37.7	+1.4
BALP	Baler	2.56	145	eP	Pn	18 50 08.6	+0.5
BALP				eS	Sn	18 50 42.1	+1.8
LUBP	Lubang	4.10	177	eP	Pn	18 50 34.1	+4.2

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*JMA **02** 18:50:10.7±0.3,20.70N×122.57E,M3.8*

ISC 02 18:50:07.1±0.6,**20.34N**±0.04×**122.38E**±0.07,**h33**^{km}**,n13,** σ**1**^{s}**44**/21,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	Basco	0.40	284	eP	P	18 50 16.7	+0.4
BBP				eS	S	18 50 22.0	-0.7
APYP	Conner	2.69	204	eP	S	18 51 19.9	-0.9
ABRA	Dolores	3.11	211	eP	S	18 51 30.0	-1.4
HATJ	Hateruma jima	3.93	19	P	P	18 51 08.2	+1.6
HATJ				S	S	18 51 51.1	-1.1
YOJ	Yonaguni jima	4.14	8	P	P	18 51 11.8	+2.1
YOJ				S	S	18 51 58.1	+0.5
JKRS	Kuro-shima	4.16	21	P	P	18 51 11.8	+1.9
JKRS				S	S	18 51 57.0	-1.1
IRIF	Iriomote-Funau	4.17	17	P	P	18 51 11.5	+1.5
IRIF				eS	S	18 51 57.2	-1.0
JIJ	Ishigaki jima	4.32	22	P	P	18 51 13.9	+1.7
JIJ				S	S	18 51 59.7	-2.5
BALP	Baler	4.64	190	eP	P	18 51 16.7	-0.1
JTJ	Tarama	4.79	26	P	P	18 51 20.8	+2.0
JTJ				S	S	18 52 12.1	-1.8
JMJ	Miyako jima 2	5.20	31	eS	S	18 52 24.0	-0.3
JOGS	Gusukube	5.21	32	P	P	18 51 26.8	+2.0
JOGS				S	S	18 52 23.5	-1.1
JKE	Kume jima 2	7.20	33	eS	S	18 53 11.2	-3.1

MAN 02 18:55:13.0,11.94N×125.87E,h6^{km}**,mb4.5,ML3.4,MS3.3, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	Borongan	0.54	231	eP	Pg	18 55 23.7	-0.1
BESP				eS	Sg	18 55 31.2	+0.3
CNP	Catarman	1.30	296	eP	Pb	18 55 37.2	-0.3
CNP				eS	Sb	18 55 55.6	+1.2
OCLP	Ormoc	1.52	234	eP	Pn	18 55 40.8	0.0
MSLP	Maasin	2.05	209	eP	Pn	18 55 47.6	-0.8
MSLP				eS	Sn	18 56 17.1	+2.6
SCPH	Surigao	2.18	190	eP	Pn	18 55 49.2	-1.1
SCPH				eS	Sn	18 56 15.8	-2.0
PVCP	Virac	2.34	315	eP	Pn	18 55 52.4	-0.3
PVCP				eS	Sn	18 56 33.5	+11
BUTP	Butuan	2.96	185	eP	Pn	18 56 01.5	0.0
CAUP	Cauayan	6.33	322	eP	Pn	18 56 48.3	-0.8

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*NEIC **02** 18:57:04.0,15.98N×97.18W,h58^{km},MD4.0(MEX),After MEX.*

MEX 02 18:57:04.7±0.9,**16.02N×97.16W,h45**^{km}±31^{km}**,MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	1.00	292	i P	P	18 57 20.9	-1.6
PNIG				i S	S	18 57 33.1	-2.6
HUIG	Huatulco	1.04	104	i P	P	18 57 21.7	-1.3
HUIG				i S	S	18 57 33.9	-2.7
VHO	Vista Hermosa	1.12	21	i P	P	18 57 22.8	-1.4
VHO				i S	S	18 57 35.6	-3.1
OXX	Oaxaca	1.13	21	i P	P	18 57 23.0	-1.3
OXX				i S	S	18 57 38.0	-1.0
CMIG	Matias Romero	2.42	64	eP	P	18 57 39.4	-3.4
CMIG				i S	S	18 58 08.2	-3.2
CMIG	Matias Romero	2.42	64	eP	P	18 57 37.6	-5.1
CMIG				i S	S	18 58 08.2	-3.2
CAIG	El Cayaco	3.15	289	i S	S	18 58 26.5	-3.4
PLIG	Platanillo	3.25	317	i P	P	18 57 50.7	-3.9
PLIG				i S	S	18 58 29.4	-3.0
PLIG	Platanillo	3.25	317	i P	P	18 57 54.2	-0.4
PLIG				i S	S	18 58 29.4	-3.0
PPM	Popocatepetl	3.34	335	i P	P	18 57 52.5	-3.3
PPM				i S	S	18 58 32.2	-2.3

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*ROM **02** 19:25:15.5±0.2,44.59N×9.33E,h5^{km},MD2.4/4,ML1.6/4, Error ellipse: s-maj=2.0km s-min=1.8km az=90.0*

*LDG **02** 19:25:23.0±0.2,44.26N×8.77E,h2^{km},Ml2.1/9,Error ellipse: s-maj=4.4km s-min=3.3km az=59.0*

ISC 02 19:25:15.6±0.5,**44.57N**±0.04×**9.27E**±0.04,**h5**^{km}**,n14,** σ**1**^{s}**39**/27,**1C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOB	Bobbio (Coli)	0.24	33	⇑iPG	Pg	19 25 19.8	-0.6
BOB				SG	Sg	19 25 23.6	0.0
	210nm,0.3s						
FIN	Finale Ligure	0.84	245	ePG	Pg	19 25 33.9	+1.4
FIN				SG	Sg	19 25 46.1	+2.4
	16nm,0.3s						
BDI	Bagni Di Lucca	1.08	118	ePG	Pg	19 25 37.1	-0.1
BDI				SG	Sg	19 25 51.3	-0.3
	8.0nm,0.3s						
IMI	Imperia	1.19	237	ePN	Pn	19 25 39.8	+0.9
IMI				SN	Sn	19 25 55.6	0.0
	10.0nm,0.4s						
SBF	Sospel	1.50	243	ePg	Pg	19 25 42.7	-2.8
SBF				eSg	Sg	19 25 57.2	-8.3
	6.5nm,0.2s						
MBDF	Montbardon	1.79	276	ePn	Pn	19 25 49.5	+2.0
MBDF				eSg	Sg	19 26 10.1	-5.2
	4.8nm,0.4s						
LPG	La Plagne	2.01	298	ePn	Pn	19 25 54.5	+3.8
LPG				eSg	Sg	19 26 22.8	+0.1
	1.3nm,0.2s						
PGF	Pioggiola	2.03	186	ePn	Pn	19 25 52.3	+1.4
PGF				eSn	Sn	19 26 12.5	-4.4
	2.1nm,0.3s						
LPL	La Plagne	2.03	299	ePn	Pn	19 25 55.7	+4.7
LPL				eSg	Sg	19 26 21.9	-1.4
	1.3nm,0.2s						
FRF	La Foret Royal	2.14	243	ePn	Pn	19 25 51.4	-1.1
FRF				eSg	Sn	19 26 16.9	-2.9
	2.7nm,0.3s						
LMR	La Mourre	2.34	239	ePn	Pn	19 25 54.3	-1.1
LMR				eSg	Sn	19 26 22.0	-2.9
	2.4nm,0.3s						
ORIF	Oris-en-Rattie	2.44	279	ePn	Pn	19 25 58.5	+1.7
ORIF				eSg	Sg	19 26 30.6	-6.3
	2.2nm,0.4s						
SMRF	Simiane la Rot	2.72	259	ePn	Pn	19 26 00.9	+0.1
SMRF				eSg	Sn	19 26 35.0	+0.5
	2.1nm,0.3s						
VIVF	Saint-Julien-l	3.29	277	ePn	Pn	19 26 09.6	+0.7

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*IDC **02** 19:33:23.8±15.0,20.55S×178.03W,h518^{km}±159^{km}, mb3.4/4,mb1 3.5/5,mb1mx3.3/15,Error ellipse: s-maj=110.0km s-min=33.2km az=32.0*

NEIC 02 19:33:23.0±0.7,**20.48S×178.04W,h510**^{km}**,mb4.1**/3,**4C, Error ellipse: s-maj=20.8km s-min=16.2km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	18.21	192	P	P	19 37 04.5	-0.2
	0.9nm,0.3s,baz=56,slow=18,SNR=3.8						
CTA	Charters Tower	33.45	264	⇑iP	P	19 39 20.2	-0.3
	3.6nm,0.6s						
CTA	Charters Tower	33.45	264	P	P	19 39 20.1	-0.3
	3.5nm,0.4s,baz=96,slow=9.7,SNR=12						
CTAO	Charters Tower	33.45	264	eP	P	19 39 19.4	-1.0
	3.8nm,0.5s						
STKA	Stephens Creek	37.76	244	P	P	19 39 55.4	-0.7
	4.9nm,1.0s,baz=329,slow=22,SNR=4.8						
ASPA	Alice Springs	44.49	257	⇑iP	P	19 40 49.0	-1.0
WB2	Warramunga Arr	44.55	262	eP	P	19 40 48.8	-1.8
WRA	Warramunga Arr	44.56	262	P	P	19 40 48.8	-1.9
	1.7nm,0.3s,baz=97,slow=7.2,SNR=61						
KAKA	Kakadu	47.98	271	⇑iP	P	19 41 15.1	-1.8
	2.9nm,0.4s						
FITZ	Fitzroy Crossi	52.99	262	P	P	19 41 52.3	-1.3
	0.9nm,0.4s,baz=78,slow=3.4,SNR=5.6						
BVAR	Borovoye Array	119.04	320	PKP	PKPdf	19 51 13.4	+0.4
	0.5nm,0.3s,baz=68,slow=1.0,SNR=7.0						
ARCES	ARCESS Array B	128.90	350	PKP	PKPdf	19 51 32.1	+0.5
	1.1nm,0.8s,baz=45,slow=3.4,SNR=5.1						
AKASG	Malin Array Be	142.98	331	PKP	PKPdf	19 51 56.0	-1.7
	2.2nm,0.5s,baz=36,slow=4.4,SNR=13						
BRTR	Keskin Array B	146.80	312	PKPbc	PKPbc	19 52 08.4	+1.7
	2.1nm,1.0s,baz=109,slow=5.4,SNR=6.1						
CLL	Collm	148.04	347	⇑iPKP1	PKPdf	19 52 12.1	+5.9
GERES	GERESS Array B	150.18	344	PKPbc	PKPdf	19 52 15.2	+5.5
	0.2nm,0.5s,slow=2.7,SNR=6.2						

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*THE **02** 19:35:56.5,39.45N×23.83E,h1^{km},ML2.7*

*ATH **02** 19:36:00.7,39.10N×22.91E,h3^{km},MD2.9/4*

ISC 02 19:35:56.1±0.8,**39.49N**±0.04×**23.85E**±0.06,**h6**^{km}±8^{km}**, n11,** σ**0**^{s}**66**/15,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	Paliouri	0.46	343	ePg	Pg	19 36 06.0	+0.6
PAIG				eSg	Sg	19 36 12.3	+0.7
NEO	Neokhori	0.52	250	ePG	Pg	19 36 07.0	+0.5
XOR	Xorichti	0.53	257	ePg	Pg	19 36 06.7	0.0
XOR				eSg	Sg	19 36 13.1	-0.7
OUR	Ouranopolis	0.85	7	ePg	Pg	19 36 13.3	+0.2
LOS	Limnos	1.05	64	ePg	Pg	19 36 16.2	-0.9
LIT	Litokhoron	1.22	301	ePb	Pb	19 36 18.8	-0.3
AGG	Agios Georgios	1.27	249	ePb	Pb	19 36 19.1	-0.9
AGG				eSb	Sb	19 36 36.8	+0.4
MKIT	Kithairon Oros	1.38	200	ePG	Pg	19 36 17.5	-6.2
PTL	Penteli	1.44	180	ePG	Pg	19 36 24.5	-0.3
NSAL	Nisos Salamina	1.61	191	ePN	Pn	19 36 26.7	+1.5
KNT	Kendrikon	1.83	337	ePb	Pb	19 36 28.9	-0.6
KNT				eSb	Sb	19 36 52.4	-0.2

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*IDC **02** 19:39:54.5±0.9,5.65S×105.21E,mb4.0/6,mb1 4.2/6, mb1mx3.9/13,MS3.1/1,Ms1 3.3/1,ms1mx2.5/17,Error ellipse: s-maj=53.8km s-min=20.9km az=51.0*

ISC 02 19:39:57.6±1.2,**5.6S**±0.3×**105.3E**±0.3,**h33**^{km}**,n9,** σ**1**^{s}**11**/6, **mb4.0**/6,**MS3.0**/1,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	24.74	345	LR	LR	19 57 43.6	
	comp=Z,45nm,18.7s,MS3.0,baz=67,slow=43						
WRA	Warramunga Arr	31.63	119	P	P	19 46 19.7	-0.4
	1.6nm,1.1s,mb3.8,baz=294,slow=10.0,SNR=4.2						
WRA				PcP	PcP	19 49 11.8	-0.1
	0.4nm,0.5s,baz=303,slow=2.1,SNR=9.1						
STKA	Stephens Creek	42.82	132	P	P	19 47 54.7	+0.3
	14nm,1.0s,mb4.6,baz=302,slow=10,SNR=5.7						
SONM	Songino Array	53.24	1	P	P	19 49 16.2	+1.0
	0.3nm,0.7s,mb3.4,baz=180,slow=8.6,SNR=3.5						
SONM				PcP	PcP	19 50 23.1	+0.3
	0.8nm,0.7s,baz=205,slow=2.5,SNR=5.4						
MKAR	Makanchi Array	56.03	341	P	P	19 49 34.1	-1.5
	0.7nm,0.6s,mb3.9,baz=111,slow=10,SNR=8.4						
BRTR	Keskin Array B	79.65	312	P	P	19 52 03.8	+0.1
	2.6nm,1.0s,mb4.1,baz=139,slow=6.5,SNR=6.8						
AKASG	Malin Array Be	85.57	322	P	P	19 52 34.3	+0.5
	1.3nm,0.6s,mb4.3,baz=83,slow=4.9,SNR=4.2						
TXAR	Lajitas Array	143.89	46	PKP	PKPdf	19 59 31.1	+0.9
	1.1nm,0.8s,baz=270,slow=1.3,SNR=3.7						
BDFB	Brasilia	146.15	231	PKPbc	PKPbc	19 59 38.1	+2.5
	4.9nm,0.8s,baz=102,slow=5.5,SNR=3.6						

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*IDC **02** 19:40:29.9±1.7,39.40S×176.38E,h79^{km}±12^{km},mb3.3/2, mb1 3.6/3,mb1mx3.5/11,Error ellipse: s-maj=54.1km s-min=11.6km az=125.0*

*WEL **02** 19:40:33.6±0.1,39.04S×176.14E,h84^{km}±1^{km},ML4.3/11, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0*

*NEIC **02** 19:40:33.6,39.04S×176.14E,h84^{km},ML4.2(WEL),After WEL.*

ISC 02 19:40:32.4±0.2,**39.17S**±0.02×**176.17E**±0.03,**h84**^{km}**,n135,** σ**1**^{s}**26**/184,**mb3.6**/2,**22C-14D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKZ	Black Stump Fm	0.25	90	⇑P*	P	19 40 46.7	+1.9
BKZ				S*	S	19 40 56.4	+2.1
BKZ	Black Stump Fm	0.25	90	P	P	19 40 46.7	+1.8
BKZ				S	S	19 40 56.4	+2.2
HATZ	Hinemaiaia	0.28	348	P*	P	19 40 45.6	+0.5
HATZ				S*	S	19 40 54.3	-0.3
HATZ	Hinemaiaia	0.28	348	P	P	19 40 45.6	+0.6
HATZ				S	S	19 40 54.3	-0.3
RITZ	Rihia Road	0.31	308	⇓P*	P	19 40 46.2	+1.1
RITZ				S*	S	19 40 54.6	-0.2
RITZ	Rihia Road	0.31	308	P	P	19 40 46.2	+1.0
MOVZ	Moawhango	0.40	233	⇑P*	P	19 40 47.4	+1.6
MOVZ				S*	S	19 40 57.2	+1.3
KAVZ	Karewarewa	0.41	279	⇓P*	P	19 40 46.9	+1.1
KAVZ	Karewarewa	0.41	279	P	P	19 40 46.9	+1.1
TUVZ	Tukino	0.41	256	⇑P*	P	19 40 47.4	+1.6
TUVZ				S*	S	19 40 57.6	+1.6
TUVZ	Tukino	0.41	256	P	P	19 40 47.4	+1.6
KATZ	Kakaramea	0.42	297	⇑P*	P	19 40 46.8	+0.9
KATZ	Kakaramea	0.42	297	P	P	19 40 46.8	+0.9
RATZ	Rangitukua	0.43	314	⇑P*	P	19 40 46.4	+0.4
RATZ				S*	S	19 40 56.3	0.0
RATZ	Rangitukua	0.43	314	P	P	19 40 46.4	+0.4
NGZ	Ngauruhoe	0.44	269	⇑P*	P	19 40 47.2	+1.2
NGZ				S*	S	19 40 57.5	+1.1
NGZ	Ngauruhoe	0.44	269	P	P	19 40 47.2	+1.1
WTVZ	West Tongariro	0.45	276	⇑P*	P	19 40 47.1	+0.9

WTVZ				S*	S	19 40 57.7	+1.2
WNVZ	Wahianoa	0.47	250	⇑P*	P	19 40 47.9	+1.6
WNVZ				S*	S	19 40 58.4	+1.6
WNVZ				S*	S	19 40 58.6	+1.8
DRZ	Dome Shelter	0.48	257	⇓P*	P	19 40 48.0	+1.6
DRZ				S*	S	19 40 59.2	+2.3
DRZ	Dome Shelter	0.48	257	P	P	19 40 48.0	+1.6
CNZ	Chateau	0.48	266	P*	P	19 40 47.3	+0.9
CNZ	Chateau	0.48	266	P	P	19 40 47.5	+1.1
WPVZ	Whakapapa	0.48	265	P*	P	19 40 47.5	+1.1
WPVZ				S*	S	19 40 58.4	+1.4
FWVZ	Far West T-bar	0.49	259	⇓P*	P	19 40 47.9	+1.4
FWVZ				S*	S	19 40 58.1	+1.0
FWVZ	Far West T-bar	0.49	259	P	P	19 40 47.9	+1.5
MGZ	Maungaku	0.52	288	⇑P*	P	19 40 47.3	+0.6
MGZ	Maungaku	0.52	288	P	P	19 40 47.4	+0.7
WATZ	Wairara	0.57	323	⇑P*	P	19 40 47.2	-0.1
WATZ				S*	S	19 40 57.7	-0.6
WATZ	Wairara	0.57	323	P	P	19 40 47.2	-0.1
WATZ				S	S	19 40 57.6	-0.7
TWVZ	Taurewa	0.58	279	⇑P*	P	19 40 47.9	+0.6
TWVZ				S*	S	19 40 58.4	0.0
PATZ	Paeroa	0.79	5	⇓P*	P	19 40 49.5	0.0
PATZ	Paeroa	0.79	5	P	P	19 40 49.5	0.0
TSZ	Takapari Road	0.91	190	⇑PN	P	19 40 52.9	+2.1
TSZ				SN	S	19 41 07.0	+2.4
TSZ	Takapari Road	0.91	190	*e*P	P	19 40 52.9	+2.2
TAZ	Tarawera	0.97	16	P*	P	19 40 51.4	-0.1
TAZ	Tarawera	0.97	16	P	P	19 40 51.4	-0.1
UTU	Utuhina	0.99	1	P*	P	19 40 51.6	-0.1
UTU	Utuhina	0.99	1	P	P	19 40 51.6	-0.1
PWZ	Pawanui	1.01	148	⇓PN	P	19 40 54.5	+2.5
PWZ				SN	S	19 41 10.0	+3.2
PWZ	Pawanui	1.01	148	P	P	19 40 54.5	+2.5
WAZ	Wanganui	1.09	237	PN	P	19 40 54.7	+1.8
WAZ				SN	S	19 41 09.7	+1.3
WAZ	Wanganui	1.09	237	P	P	19 40 54.8	+1.9
VRZ	Vera Road	1.10	272	⇓P*	P	19 40 53.6	+0.6
VRZ				S*	S	19 41 08.5	-0.1
VRZ	Vera Road	1.10	272	P	P	19 40 53.6	+0.6
EDRZ	Edgecumbe	1.15	23	P*	P	19 40 53.3	-0.4
EDRZ	Edgecumbe	1.15	23	P	P	19 40 53.3	-0.4
URZ	Urewera	1.17	39	P	P	19 40 53.6	-0.4
	baz=248,slow=8.9						
URZ				S	S	19 41 08.7	-1.4
	381nm,0.3s,baz=99,slow=17,SNR=30						
URZ	Urewera	1.17	39	⇓P*	P	19 40 53.7	-0.2
URZ				S*	S	19 41 08.5	-1.6
URZ	Urewera	1.17	39	P	P	19 40 53.7	-0.2
KNZ	Kokohu	1.18	83	PN	P	19 40 55.1	+1.0
KNZ				SN	S	19 41 11.6	+1.2
KNZ	Kokohu	1.18	83	P	P	19 40 55.2	+1.1
HIZ	Hauiti	1.22	302	⇓PN	P	19 40 54.3	-0.2
HIZ				SN	S	19 41 09.5	-1.7
MARZ	Manawahe	1.24	19	P*	P	19 40 54.3	-0.7
MARZ	Manawahe	1.24	19	P	P	19 40 54.2	-0.7
MWZ	Matawai	1.35	52	⇓P*	P	19 40 56.3	0.0
MWZ				S*	S	19 41 13.6	-0.5
MWZ	Matawai	1.35	52	P	P	19 40 56.3	-0.1
RAEZ	Rainy Point	1.38	264	⇓PN	P	19 40 57.9	+1.1
RAEZ				SN	S	19 41 15.4	+0.5
RAEZ	Rainy Point	1.38	264	P	P	19 40 57.9	+1.1
BFZ	Birch Farm	1.51	178	⇑PN	P	19 40 59.8	+1.3
BFZ				SN	S	19 41 20.3	+2.6
BFZ	Birch Farm	1.51	178	P	P	19 40 59.8	+1.3
TOZ	Tahuroa Road	1.53	340	⇓PN	P	19 40 57.9	-0.8
TOZ				SN	S	19 41 15.6	-2.5
TOZ	Tahuroa Road	1.53	340	P	P	19 40 57.9	-0.8
MRZ	Mangatainoka R	1.56	197	⇑PN	P	19 40 59.9	+0.8
MRZ				SN	S	19 41 19.6	+0.8
DFE	Dawson Falls	1.61	264	⇓PN	P	19 41 01.0	+1.2
DFE	Dawson Falls	1.61	264	P	P	19 41 01.0	+1.2
NEZ	North Egmont	1.61	266	⇑PN	P	19 41 01.0	+1.2
NEZ	North Egmont	1.61	266	P	P	19 41 01.0	+1.2
PKE	Pukeiti	1.70	268	⇓PN	P	19 41 01.4	+0.5
PKE				SN	S	19 41 22.8	+1.0
NRZ	Ngariki Road	1.74	264	PN	P	19 41 02.3	+0.8
NRZ	Ngariki Road	1.74	264	P	P	19 41 02.3	+0.8
NWEZ	Newall Road	1.79	266	PN	P	19 41 02.5	+0.4
NWEZ	Newall Road	1.79	266	P	P	19 41 02.6	+0.5
WIZ	White Island	1.82	26	P*	P	19 41 01.1	-1.4
MYRZ	Mayor Island	1.88	2	P*	P	19 41 02.6	-0.8
KIW	Kapiti Island	1.95	209	⇑PN	P	19 41 04.3	+0.1
KIW				SN	S	19 41 28.1	+0.4
KIW	Kapiti Island	1.95	209	P	P	19 41 04.3	+0.1
KIW				S	S	19 41 28.6	+0.9
PUZ	Puketiti	1.97	57	PN	P	19 41 04.0	-0.5
PUZ				SN	S	19 41 27.0	-1.1
PUZ	Puketiti	1.97	57	P	P	19 41 04.0	-0.5
MTW	Mount Morrison	2.05	194	⇑PN	P	19 41 05.6	-0.1
MTW				SN	S	19 41 29.8	-0.4
MTW	Mount Morrison	2.05	194	P	P	19 41 05.6	-0.1
CAW	Cannon Point	2.11	203	⇑PN	P	19 41 06.3	-0.2
CAW				SN	S	19 41 31.7	-0.1
MKAZ	Moumakai	2.20	339	PN	P	19 41 06.7	-1.0
MKAZ	Moumakai	2.20	339	P	P	19 41 06.7	-1.0
PAWZ	Paruwai Farm	2.28	194	⇑PN	P	19 41 08.3	-0.6
PAWZ				SN	S	19 41 35.0	-1.0
MXZ	Matakaoa Point	2.32	47	PN	P	19 41 08.5	-0.9
MXZ	Matakaoa Point	2.32	47	P	P	19 41 08.5	-0.9
MRW	Makara Radio	2.35	208	PN	P	19 41 08.9	-0.9
MRW				SN	S	19 41 36.7	-0.9
MSWZ	Moikau Station	2.35	197	⇑PN	P	19 41 09.0	-0.8
MSWZ				SN	S	19 41 36.7	-1.0
WEL	Wellington	2.37	206	PN	P	19 41 09.3	-0.8
WEL				SN	S	19 41 37.3	-0.9
SNZO	South Karori	2.42	207	⇑PN	P	19 41 09.7	-1.1
SNZO				SN	S	19 41 37.8	-1.4
SNZO	South Karori	2.42	207	*e*Pn	P	19 41 09.7	-1.0
SNZO				*e*Sn	S	19 41 37.6	-1.7
KUZ	Kuaotunu	2.44	352	⇑PN	P	19 41 09.7	-1.4
KUZ	Kuaotunu	2.44	352	P	P	19 41 09.7	-1.4
BHW	Baring Head	2.45	203	PN	P	19 41 10.0	-1.2
BHW				SN	S	19 41 38.9	-1.2
BHW	Baring Head	2.45	203	P	P	19 41 10.1	-1.1
WTAZ	Waiatarua	2.56	330	PN	P	19 41 11.7	-1.0
WTAZ	Waiatarua	2.56	330	P	P	19 41 11.7	-1.1
MTAZ	Motutapu	2.58	337	PN	P	19 41 11.5	-1.5
MTAZ	Motutapu	2.58	337	P	P	19 41 11.5	-1.5
TUWZ	Tuamarina	2.83	216	PN	P	19 41 15.1	-1.5
TUWZ				SN	S	19 41 47.6	-2.0
NNZ	Nelson	2.96	225	PN	P	19 41 16.2	-2.2
NNZ				SN	S	19 41 52.1	-0.8
NNZ	Nelson	2.96	225	*e*P	P	19 41 16.3	-2.0
CMWZ	Cape Campbell	2.98	209	SN	S	19 41 52.8	-0.5
BSWZ	Blackbirch Sta	3.09	214	PN	P	19 41 18.2	-1.9
BSWZ				SN	S	19 41 53.5	-2.5
QRZ	Quartz Range	3.25	238	PN	P	19 41 19.9	-2.4
QRZ				SN	S	19 41 58.1	-2.0
QRZ	Quartz Range	3.25	238	P	P	19 41 20.0	-2.3
THZ	Tophouse	3.59	223	PN	P	19 41 24.8	-2.3
THZ	Tophouse	3.59	223	P	P	19 41 25.1	-2.0
KHZ	Kahutara	3.81	211	PN	P	19 41 27.4	-2.7
KHZ	Kahutara	3.81	211	P	P	19 41 27.5	-2.6
DSZ	Denniston Nort	4.21	231	PN	P	19 41 32.2	-3.5
DSZ				SN	S	19 42 19.5	-4.3
DSZ	Denniston Nort	4.21	231	P	P	19 41 32.6	-3.0
LTZ	Lake Taylor	4.66	218	PN	P	19 41 38.1	-3.8
LTZ	Lake Taylor	4.66	218	*e*P	P	19 41 38.1	-3.8
MQZ	McQueen’s Vall	5.25	209	PN	P	19 41 45.3	-4.6
MQZ				SN	S	19 42 40.2	-9.5
MQZ	McQueen’s Vall	5.25	209	*e*P	P	19 41 45.1	-4.8
WVZ	Waitaha Valley	5.66	225	PN	P	19 41 51.5	-4.1
WVZ	Waitaha Valley	5.66	225	P	P	19 41 51.6	-3.9
RPZ	Rata Peaks	5.95	219	P	P	19 41 55.9	-3.6
	3.6nm,0.3s,baz=63,slow=6.4,SNR=17						
RPZ				S	S	19 42 59.6	-7.4
	28nm,0.3s,baz=20,slow=18,SNR=41						
RPZ	Rata Peaks	5.95	219	PN	P	19 41 55.9	-3.6
RPZ	Rata Peaks	5.95	219	*e*P	P	19 41 56.4	-3.1
LBZ	Lake Benmore	6.87	219	PN	P	19 42 07.8	-4.6
ODZ	Otahua Downs	7.17	213	PN	P	19 42 11.6	-4.8
ODZ	Otahua Downs	7.17	213	P	P	19 42 11.6	-4.8
WKZ	Wanaka	7.77	221	PN	P	19 42 19.4	-5.2
AXZ	Alexandra	7.93	218	SN	S	19 43 44.2	-11
TUZ	Tuapeka	8.32	213	PN	P	19 42 27.5	-4.7
TUZ	Tuapeka	8.32	213	*e*P	P	19 42 27.6	-4.6
MLZ	Mavora Lakes	8.56	221	SN	S	19 44 00.4	-11
WHZ	Wether Hill Ro	9.05	219	SN	S	19 44 11.9	-11
WRA	Warramunga Arr	40.69	286	P	P	19 48 04.5	-1.7
	0.4nm,0.7s,mb3.3,baz=125,slow=8.1,SNR=7.0						
FITZ	Fitzroy Crossi	48.37	281	P	P	19 49 05.7	-2.1
	0.8nm,0.5s,mb3.8,baz=108,slow=6.4,SNR=5.4						
ARCES	ARCESS Array B	145.81	342	PKPbc	PKPbc	19 59 58.6	-2.3
	0.9nm,0.6s,baz=45,slow=3.4,SNR=6.4						
FINES	FINESS Array B	151.10	330	PKPbc	PKPdf	20 00 13.0	+4.3
	0.6nm,0.6s,baz=63,slow=3.1,SNR=4.7						

MDD 02 19:51:41.9±0.5,40.65N×7.29W,mbLg1.4/9,Error ellipse: s-maj=6.2km s-min=2.7km az=104.0,PRXIMO

INMG 02 19:51:41.8±0.9,40.66N×7.29W,h3^{km}±4^{km},ML1.0,Error ellipse: s-maj=3.4km s-min=1.3km az=93.0

ISC 02 19:51:39.8±0.6,40.62N±0.03×7.17W±0.07,h3^{km},n16, σ1^{s}.07/19,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTE	Manteigas	0.36	233	*e*Pg	Pg	19 51 47.3	+0.2
MTE				*e*Sg	Sg	19 51 51.8	-0.1
	22nm,0.7s						
MTE	Manteigas	0.36	233	Pg	Pg	19 51 47.3	+0.2
MTE				Lg		19 51 51.8	
	11nm,0.7s						
PVIS	Viseu	0.56	280	*e*Pg	Pg	19 51 50.3	-0.8
	7.3nm,0.1s						
PVRL	Vila Real	0.78	328	*e*Pg	Pg	19 51 54.7	-0.6
	8.0nm,0.1s						
PCBR	Castelo Branco	0.81	197	*e*Pg	Pg	19 51 56.8	+0.7
PCBR				*e*Sg	Sg	19 52 08.5	+1.6
	2.2nm,0.1s						
PCBR	Castelo Branco	0.81	197	Pg	Pg	19 51 56.8	+0.7
PCBR				Lg		19 52 08.5	
	1.1nm,0.1s						
PBRG	Braganca	1.23	15	*e*P	Pb	19 52 03.7	+0.4
PBRG				*e*S	Sb	19 52 20.4	+1.0
	2.3nm,0.1s						
PBRG	Braganca	1.23	15	Pg	Pb	19 52 03.7	+0.4
PBRG				Lg		19 52 20.4	
	1.1nm,0.1s						
ECAL	Calabor	1.36	14	Pg	Pg	19 52 07.3	+0.4
	1.7nm,0.3s,SNR=13						
ECAL				Lg		19 52 26.9	
	1.6nm,0.4s,SNR=7.9						
PTOM	Tomar	1.38	224	*e*P	Pb	19 52 06.1	+0.1
PTOM				*e*S	Sb	19 52 24.1	+0.2
	3.2nm,0.2s						
PTOM	Tomar	1.38	224	Pg	Pb	19 52 06.1	+0.1
PTOM				Lg		19 52 24.1	
	1.6nm,0.2s						
ELOB	Lobios	1.42	332	Pg	Pg	19 52 05.9	-2.2
	2.2nm,0.5s,SNR=5.7						
ELOB				Lg		19 52 24.7	
	1.9nm,0.2s,SNR=7.9						
ERUA	La Rua	1.77	1	Pn	Pn	19 52 13.3	+1.7
	5.7nm,1.8s,SNR=7.9						
ERUA				Lg		19 52 37.0	
	2.4nm,0.8s,SNR=7.9						
EBAD	Badajoz	1.86	176	Pg	Pg	19 52 15.9	-1.1
	0.5nm,0.1s,SNR=8.5						
EBAD				Lg		19 52 40.7	
	5.5nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.87	172	Lg		19 53 14.0	
	0.8nm,0.4s,SNR=7.9						
EADA	Adamuz	3.16	140	Pg	Pg	19 52 41.0	-2.0
	0.4nm,0.2s,SNR=7.9						
EADA				Lg		19 53 25.8	
	0.6nm,0.2s,SNR=7.9						

MAN 02 19:56:56.8,9.05N×125.60E,h5^{km},mb4.6,ML3.5,MS3.3

ISC 02 19:56:57.5±0.8,9.04N±0.03×125.55E±0.05,h2^{km}±7^{km}, n12,σ1^{s}.24/21,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.10	131	*e*P	Pg	19 56 59.4	-0.1
BUTP				*e*S	Sg	19 57 02.1	+1.3
SCPH	Surigao	0.74	356	*e*P	Pg	19 57 11.1	-1.3
SCPH				*e*S	Sg	19 57 23.9	+1.6
CGP	Cagayan de Oro	1.02	236	⇓*e*P	Pb	19 57 16.8	-0.6
CGP				*e*S	Sb	19 57 33.0	+1.8
BIPH	Bislig	1.17	136	*e*P	Pb	19 57 16.5	-3.5
BIPH				*i* S	Sb	19 57 30.5	-4.9
BUKP	Musuan	1.24	203	*e*P	Pb	19 57 21.1	-0.2
BUKP				*e*S	Sb	19 57 41.8	+4.1
MSLP	Maasin	1.28	328	*e*P	Pb	19 57 20.4	-1.6
TBP	Tagbilaran	1.79	292	*e*P	Pn	19 57 28.4	-1.2
TBP				*i* S	Sn	19 57 53.5	+0.4
PLP	Palo	2.19	345	*e*P	Sn	19 58 02.9	-0.5
MATI	Mati	2.19	161	*e*P	Pn	19 57 33.7	-1.7
MATI				*e*S	Sn	19 58 04.0	+0.6
PAGZ	Pagadian	2.44	241	*e*P	Pn	19 57 39.1	+0.1
BESP	Borongan	2.55	358	*e*P	Sn	19 58 15.7	+3.2
BESP				*e*S	Sn	19 58 15.7	+3.2
CNP	Catarman	3.56	346	*e*P	Pn	19 57 55.6	+0.8
CNP				*e*S	Sn	19 58 45.9	+7.8

IDC 02 20:06:48.1±8.3,13.41N×92.44W,mb3.7/4,mb1 4.2/5, mb1mx3.8/19,ML4.9/1,MS3.2/1,Ms1 3.2/1,ms1mx2.6/22, Error ellipse: s-maj=189.0km s-min=103.1km az=23.0

MEX 02 20:06:55.5±0.5,13.70N×93.06W,h18^{km}±132^{km},MD4.4

ISC 02 20:06:54.2±4.2,13.8N±0.1×93.0W±0.1,h22^{km}±32^{km},n9, σ1^{s}.05/10,mb3.8/4,MS3.1/1,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPX	Tapachula	1.29	35	*e*P	Pn	20 07 16.0	-1.2
CCIG	Comitan	2.58	19	*i* P	Pn	20 07 36.1	+0.6
CCIG				*i* S	Sn	20 08 07.3	+0.7
CMIG	Matias Romero	3.70	331	*i* P	Pn	20 07 51.0	-0.6
CMIG				*i* S	Sn	20 08 34.0	-0.9
TXAR	Lajitas Array	18.30	329	P	P	20 11 11.3	+2.6
	0.8nm,0.3s,baz=160,slow=11,SNR=3.5						
PDAR	Pinedale Array	32.16	337	P	P	20 13 23.4	+0.8
	0.4nm,0.8s,mb3.3,baz=135,slow=5.1,SNR=4.2						
SADO	Sadowa	33.02	18	LR	LR	20 28 03.1	
	comp=Z,38nm,18.0s,MS3.1,baz=275,slow=38						
NVAR	Mina Array Bea	33.18	322	P	P	20 13 32.4	+0.8
	1.3nm,0.8s,mb3.9,baz=146,slow=13,SNR=4.8						
YKA	Yellowknife Ar	50.96	347	P	P	20 15 55.0	-1.0
	2.7nm,0.8s,mb4.2,baz=145,slow=7.7,SNR=8.6						
ILAR	Eielson Array	62.60	337	P	P	20 17 18.1	-0.8
	0.5nm,0.7s,mb3.7,baz=120,slow=5.7,SNR=6.1						

NIED 02 20:25:00,43.60N×147.60E,h20^{km},Mw3.7 Best double couple: M$_0$4.33×10^{14} NP1:φ$_s$35°,δ74°,λ79°. NP2:φ$_s$250°, δ19°,λ124°.

JMA 02 20:25:27.8±0.3,43.61N×147.57E,h6^{km}±4^{km},M4.0

IDC 02 20:25:29.9±7.6,43.03N×148.00E,h85^{km}±38^{km},mb3.5/9, mb1 3.6/10,mb1mx3.5/23,MS2.8/2,Ms1 2.8/2, ms1mx2.7/23,Error ellipse: s-maj=112.0km s-min=27.9km az=172.0

MOS 02 20:25:30.6±1.3,43.93N×147.63E,h59^{km},mb4.1/5,Error ellipse: s-maj=22.6km s-min=14.8km az=116.8

ISC 02 20:25:28.8±1.1,43.79N±0.07×147.74E±0.09,h48^{km}±8^{km}, n36,σ1^{s}.05/48,mb3.7/9,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril’sk	1.38	281	⇓*i*PN	P	20 25 51.4	-0.8
YUK				*i* S	S	20 26 08.0	-1.5
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,390nm,0.4s						
YUK				pmax	pmax		
	comp=E,420nm,0.5s						
YUK				smax			
	comp=E,2μm,0.4s						
YUK				smax			
	comp=E,2μm,0.4s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,5μm,0.8s						
KUR	Kuril’sk	1.45	3	*e*PN	P	20 25 53.6	+0.4
KUR				*i* S	S	20 26 10.0	-1.2
KUR				pmax	pmax		
	comp=Z,140nm,0.5s						
KUR				smax			
	comp=N,720nm,0.3s						
KUR				smax			
	comp=E,470nm,0.3s						
NEM2	Nemuro 2	1.51	255	P	P	20 25 53.1	-0.9
NEM2				*e*S	S	20 26 10.8	-1.9
JRA	Rausu	1.90	275	P	P	20 25 59.7	+0.2
JRA				*e*S	S	20 26 23.6	+1.3
JNK	Nakash	2.20	266	P	P	20 26 03.4	-0.4
JNK				*e*S	S	20 26 30.0	+0.2
JAK	Akkeshi	2.36	251	P	P	20 26 05.1	-0.9
JAK				*e*S	S	20 26 32.8	-1.0
JTKR	Abashiri--Toko	2.78	275	P	P	20 26 12.7	+0.7
JTKR				*e*S	S	20 26 46.5	+2.0
JAR	Ashorobuto	2.93	262	P	P	20 26 14.0	-0.1
JAR				*e*S	S	20 26 47.3	-1.0
JOB	Onbets	2.98	254	P	P	20 26 14.8	-0.1
JOB				*e*S	S	20 26 48.6	-1.1
JMP	Maruseppu	3.17	276	P	P	20 26 18.2	+0.6
JCH	Churui	3.41	251	P	P	20 26 20.5	-0.4
JCH				*e*S	S	20 26 58.9	-1.6
JKK2	Kamakawa 2	3.62	273	P	P	20 26 26.1	+2.3
ASAJ	Asahikawa	3.73	277	P	P	20 26 27.9	+2.5
	comp=E,1.9nm,0.3s,baz=91,slow=13,SNR=11						
ASAJ				S	S	20 27 17.8	+9.2
	comp=E,2.6nm,0.3s,baz=352,slow=22,SNR=3.6						
ASAJ				LR	LR	20 28 00.4	
	comp=E,157nm,19.6s,baz=146,slow=37						
ASAJ	Asahikawa	3.73	277	P	P	20 26 27.7	+2.3
JFR	Furan	3.80	262	P	P	20 26 27.7	+1.3
JFR				*e*S	S	20 27 11.3	+1.0
JEM	Erimo	3.80	244	P	P	20 26 28.1	+1.6
JEM				*e*S	S	20 27 11.5	+1.1
JSE	Soyaes	3.88	289	P	P	20 26 28.1	+0.6
JNBK	Urakawa-nobuka	3.96	249	P	P	20 26 28.5	-0.1
YSS	Yuzh-Sakhalins	4.73	314	PN	P	20 26 39.3	-0.2
JNU	Nakatsue	16.93	237	LR	LR	20 35 39.3	
	comp=E,29nm,19.3s,baz=60,slow=36						
SONM	Songino Array	28.85	293	P	P	20 31 23.9	-0.7
	comp=E,0.6nm,0.7s,mb3.4,baz=75,slow=8.2,SNR=4.8						
ILAR	Eielson Array	41.21	36	P	P	20 33 10.6	+0.5
	comp=E,0.6nm,0.6s,mb3.4,baz=270,slow=7.7,SNR=6.8						
ILAR	Eielson Array	41.21	36	P	P	20 33 10.6	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.95	298	P	P	20 33 41.1	+0.6
	comp=Z,2.4nm,1.0s,mb4.0,baz=89,slow=4.8,SNR=7.5						
MKAR	Makanchi Array	44.95	298	P	P	20 33 41.1	+0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	65.04	333	P	P	20 36 04.1	-1.6
	comp=Z,0.5nm,0.4s,mb3.9,baz=45,slow=8.1,SNR=8.6						
FINES	FINESS Array B	65.04	333	P	P	20 36 04.1	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	69.72	339	P	P	20 36 34.9	-0.2
	comp=Z,0.3nm,0.6s,mb3.4,baz=40,slow=5.8						
NOA	NORSAR Array B	69.72	339	P	P	20 36 34.4	-0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=6.1,SNR=4.0						
HFS	Hagfors	69.82	337	P	P	20 36 34.8	-0.9
	comp=Z,0.6nm,0.4s,mb3.9,baz=45,slow=4.2,SNR=10						
HFS	Hagfors	69.82	337	P	P	20 36 34.8	-0.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.81	324	P	P	20 36 47.5	-0.3
	comp=Z,4.0nm,0.8s,mb4.4,baz=40,slow=5.9,SNR=8.5						
AKASG	Malin Array Be	71.81	324	P	P	20 36 47.5	-0.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKA	Eskdalemuir Ar	78.21	344	P	P	20 37 25.1	+0.8
	comp=Z,0.6nm,0.7s,mb3.7,baz=31,slow=4.9,SNR=3.6						
EKA	Eskdalemuir Ar	78.21	344	P	P	20 37 25.2	+0.9
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	79.34	331	P	P	20 37 31.0	+0.4
	comp=Z,0.2nm,0.4s,mb3.4,baz=53,slow=6.7,SNR=3.7						

ISK 02 20:29:43.3,36.88N×27.66E,h5^{km},MD3.5

NEIC 02 20:29:46.7,36.89N×27.72E,h27^{km},MD3.6(ATH),After ATH.

ATH 02 20:29:46.1,36.91N×27.68E,h25^{km}±1^{km},MD3.6/14

IDC 02 20:29:51.2±1.7,36.89N×27.59E,h56^{km}±24^{km},mb3.4/5, mb1 3.5/10,mb1mx3.4/24,ML3.2/5,MS2.3/1,Ms1 2.4/1, ms1mx2.3/9,Error ellipse: s-maj=24.8km s-min=13.5km az=154.0

ISC 02 20:29:44.9±0.8,36.86N±0.02×27.69E±0.03,h5^{km}±5^{km}, n51,σ1^{s}.11/61,mb3.5/5,MS2.2/1,4C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	316	*i* P	Pg	20 29 51.8	+1.1
BDRM				*i* S	Sg	20 30 01.3	+6.8
MLSB	Milas	0.44	9	*i* PG	Pg	20 29 53.2	-0.6
MLSB				SG	Sg	20 29 59.9	+0.2
NISR	Nisiros	0.51	241	*e*PN	Pn	20 29 57.3	-1.2
YER	Yerkesik	0.55	60	*i* PG	Pg	20 29 55.1	-0.8
ARG	Arkhangelos	0.73	151	*e*PN	Pn	20 30 00.4	-1.2
ARG				*e*SN	Sn	20 30 13.5	+0.3
AYDN	Tasoluk	0.81	11	⇑*i*P	Pb	20 30 00.2	-1.0
AYDN				*i* S	Sg	20 30 14.7	+2.6
SMG	Samos	1.09	322	*e*Pb	Pb	20 30 06.0	+0.2
SMG				*e*Sn	Sn	20 30 24.5	+2.3
DNZL	Cakiroluk	1.36	52	*i* P	Pb	20 30 09.9	-0.6
DNZL				*i* S	Sb	20 30 29.4	+1.2
KARP	Karpathos	1.38	198	*e*PB	Pb	20 30 11.5	+0.7
KARP				*e*SN	Sn	20 30 31.0	+1.4
DENT	Denizli	1.40	50	PN	Pn	20 30 10.4	-0.7
IZM	Izmir	1.57	348	PN	Pn	20 30 12.8	-0.8
KDAG	Bornova	1.58	348	⇑*i*P	Pn	20 30 12.3	-1.4
KDAG				*i* S	Sb	20 30 42.9	+8.6
KSL	Kastellorizon	1.68	114	*e*PN	Pn	20 30 16.5	+1.3
APE	Apeiranthos	1.74	278	*e*PN	Pn	20 30 16.5	+0.5
MANT	Manisa	1.77	23	⇑*i*P	Pn	20 30 15.5	-0.9
MANT				*i* S	Sn	20 30 41.2	+1.7
ELL	Elmali	1.79	93	*e*PN	Pn	20 30 16.9	+0.2
SANT	Santorini	1.86	255	*e*Pn	Pn	20 30 21.1	+3.4
AKS	Akhisar	2.02	3	PN	Pn	20 30 19.3	-0.7
NPS	Neapolis	2.32	227	*e*PB	Pb	20 30 25.5	-1.4
NPS	Neapolis	2.32	227	*e*Pb	Pb	20 30 27.8	+0.9
ANTB	Antalya	2.38	88	*e*PN	Pn	20 30 25.5	+0.4
ISP	Isparta	2.45	66	*e*PN	Pn	20 30 27.1	+0.9
XRY	Khrisi	2.56	220	*e*PB	Pb	20 30 31.0	0.0
PRK	Paraskevi	2.63	335	*e*PN	Pn	20 30 28.5	-0.3
IDI	Anoyia	2.76	236	P	Pn	20 30 31.7	+1.2
	2.3nm,0.3s,baz=61,slow=15,SNR=21						
IDI				S	Sn	20 31 04.8	+0.2
	4.5nm,0.3s,baz=331,slow=18,SNR=4.2						
BALB	Balikesir	2.78	3	*e*PN	Pn	20 30 30.8	-0.1
ALT	Altintas	2.91	40	*e*PN	Pn	20 30 33.1	+0.4
VAM	Vamos	3.17	244	*e*PB	Pb	20 30 40.2	-1.3
PTL	Penteli	3.27	292	*e*PN	Pn	20 30 38.0	+0.2
ORLT	Orhaneli	3.32	16	*e*PN	Pn	20 30 38.8	+0.2
MPAR	Parnis Oros	3.40	293	*e*PN	Pn	20 30 40.0	+0.3
ULDT	Uludag	3.47	19	⇑*i*P	Pn	20 30 37.8	-2.9
ULDT				*i* S	Sn	20 31 28.3	+5.7
BNT	Bandirma	3.50	3	*e*PN	Pn	20 30 40.6	-0.5
LPK	Lapseki	3.58	349	*e*PN	Pn	20 30 41.6	-0.7
ESKT	Eskisehir	3.64	42	*e*PN	Pn	20 30 43.8	+0.7
MKIT	Kithairon Oros	3.76	292	*e*PN	Pn	20 30 45.5	+0.7
VLI	Veliai	3.82	269	*e*PN	Pn	20 30 46.0	+0.4
YLV	Yalova	3.93	19	*e*PN	Pn	20 30 47.5	+0.3
CSS	Prodhromos	4.96	111	*e*Pn	Pn	20 31 01.2	-0.6
BRTR	Keskin Array B	5.49	57	P	Pn	20 31 09.7	+0.4
	0.6nm,0.3s,baz=237,slow=16,SNR=9.0						
MLR	Muntele Rosu	8.72	352	P	P	20 31 55.1	+0.5
	0.1nm,0.3s,baz=189,slow=13,SNR=3.0						
ASF	Jabal al Asfar	8.92	119	P	P	20 31 59.8	+2.4
	0.4nm,0.3s,baz=303,slow=16,SNR=2.4						
TIP	Timpagrande	8.93	288	Pn	P	20 31 53.0	-4.6
GERES	GERESS Array B	15.74	324	P	P	20 33 29.3	+0.5
	0.1nm,0.3s,baz=140,slow=17,SNR=2.3						
CLL	Collm	17.84	329	*e*	P	20 33 59.0	+3.7
FINES	FINESS Array B	24.63	358	P	P	20 35 05.7	-1.4
	1.0nm,0.7s,mb3.5,baz=186,slow=19,SNR=3.6						
ESDC	Sonseca Array	24.94	286	P	P	20 35 07.7	-2.6
	0.4nm,0.4s,mb3.3,baz=76,slow=11,SNR=4.3						
NOA	NORSAR Array B	26.35	342	LR	LR	20 47 18.1	
	comp=Z,7.3nm,21.9s,MS2.2,baz=210,slow=40						
EKA	Eskdalemuir Ar	27.92	321	P	P	20 35 35.3	-2.3
	1.9nm,1.1s,mb3.6,baz=119,slow=13,SNR=3.6						
MKAR	Makanchi Array	41.13	58	P	P	20 37 29.6	-1.7

	0.7nm,0.6s,mb3.5,baz=270,slow=8.5,SNR=6.3						
SONM	**Songino Array**	**56.83**	**52**	P	**P**	**20 39 30.8**	**-1.6**
	0.4nm,0.6s,mb3.6,baz=294,slow=7.8,SNR=5.2						

*IDC **02** 20:56:57.2±0.6, 5.63S×105.24E, mb4.1/13, mb1 4.2/13, mb1mx4.2/16, Error ellipse: s-maj=37.9km s-min=14.7km az=52.0*

*NEIC **02** 20:57:00.1±0.4, 5.63S×105.27E, mb4.5/7, Error ellipse: s-maj=21.1km s-min=9.3km az=56.0*

ISC 02 20:57:00.4±0.4**, 5.6S**±0.1×**105.3E**±0.1**, h33**^{km}**, n31,** $\sigma 1\overset{s}{.}06$/25**, mb4.2**/19**, 2D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.42**	**124**	P	**P**	**21 02 08.2**	**+0.6**
	1.9nm,0.7s,mb3.6,baz=311,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**24.68**	**345**	P	**P**	**21 02 20.6**	**+0.7**
	0.9nm,0.7s,mb3.4,baz=179,slow=8.5,SNR=5.4						
CMAR				PcP	PcP	21 05 58.2	+0.5
	0.9nm,0.7s,baz=204,slow=2.3,SNR=4.8						
KAKA	**Kakadu**	**27.63**	**107**	*e*P	**P**	**21 02 50.9**	**+3.6**
	16nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**31.61**	**120**	P	**P**	**21 03 22.2**	**-0.6**
	3.6nm,0.8s,mb4.2,baz=295,slow=9.5,SNR=8.9						
WRA				PcP	PcP	21 06 14.1	-0.5
	0.7nm,0.6s,baz=310,slow=2.1,SNR=8.4						
WB2	**Warramunga Arr**	**31.63**	**120**	⇓*i*P	**P**	**21 03 22.6**	**-0.3**
STKA	**Stephens Creek**	**42.83**	**132**	P	**P**	**21 04 57.7**	**+0.5**
	20nm,0.7s,mb5.0,baz=291,slow=7.9,SNR=26						
STKA	**Stephens Creek**	**42.83**	**132**	*e*P	**P**	**21 04 57.5**	**+0.2**
STKA				*e*		21 05 02.3	
SONM	**Songino Array**	**53.17**	**1**	P	**P**	**21 06 18.6**	**+1.2**
	1.7nm,1.1s,mb3.9,baz=180,slow=6.2,SNR=7.6						
SONM				PcP	PcP	21 07 25.8	+0.5
	2.1nm,0.9s,baz=183,slow=4.1,SNR=9.7						
ULN	**Ulaanbaatar**	**53.21**	**1**	*e*P	**P**	**21 06 17.3**	**-0.5**
	1.1nm,0.8s,mb3.8						
ULN				*e*pP	pP	21 06 24.8	-3.0
MKAR	**Makanchi Array**	**55.98**	**341**	P	**P**	**21 06 36.9**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=126,slow=10.0,SNR=4.9						
MKAR	**Makanchi Array**	**55.98**	**341**	P	**P**	**21 06 36.9**	**-1.1**
BVAR	**Borovoye Array**	**65.41**	**338**	P	**P**	**21 07 41.1**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=146,slow=10,SNR=2.9						
BVAR				PcP	PcP	21 08 13.5	-0.1
	1.5nm,0.9s,baz=146,slow=5.3,SNR=6.5						
ARU	**Arti**	**72.62**	**335**	P	**P**	**21 08 24.4**	**-1.9**
	2.4nm,0.9s,mb4.1						
KIV	**Kislovodsk**	**74.71**	**318**	*e*P	**P**	**21 08 40.0**	**+1.3**
	5.7nm,0.8s,mb4.5						
ASF	**Jabal al Asfar**	**74.97**	**305**	P	**P**	**21 08 42.1**	**+1.6**
	7.6nm,0.9s,mb4.6,baz=11,slow=2.7,SNR=7.9						
VNDA	**Vanda**	**77.68**	**169**	P	**P**	**21 08 54.5**	**-0.5**
	1.3nm,1.0s,mb3.8,baz=302,slow=3.1,SNR=3.9						
VNDA	**Vanda**	**77.68**	**169**	*e*P	**P**	**21 08 54.0**	**-0.9**
	2.5nm,1.0s,mb4.1						
VNDA				*e*		21 08 59.6	
SBA	**Scott Base**	**78.76**	**169**	P	**P**	**21 08 59.9**	**-1.0**
SBA				*e*pP	pP	21 09 06.7	-4.6
BRTR	**Keskin Array B**	**79.64**	**312**	P	**P**	**21 09 05.4**	**-1.0**
	2.5nm,0.7s,mb4.2,baz=132,slow=6.9,SNR=11						
OBN	**Obninsk**	**82.62**	**327**	P	**P**	**21 09 19.6**	**-2.1**
	18nm,1.5s,mb4.9						
QSPA	**South Pole Qui**	**84.42**	**180**	*e*P	**P**	**21 09 30.6**	**+0.3**
	4.1nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**85.54**	**322**	P	**P**	**21 09 36.5**	**0.0**
	1.9nm,0.6s,mb4.5,baz=85,slow=4.1,SNR=9.7						
FINES	**FINESS Array B**	**89.72**	**332**	P	**P**	**21 09 57.6**	**+1.3**
	1.8nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=6.8						
SNAA	**Sanae**	**90.40**	**197**	⇓*i*	**P**	**21 10 00.1**	**+0.8**
GERES	**GERESS Array B**	**95.22**	**318**	P	**P**	**21 10 22.9**	**+1.0**
	0.1nm,0.3s,mb3.7,baz=120,slow=7.9,SNR=3.5						
ULM	**Lac du Bonnet**	**132.03**	**18**	PKP	PKPdf	21 16 14.4	+3.5
	2.1nm,0.6s,baz=7.8,slow=3.3,SNR=3.4						
TXAR	**Lajitas Array**	**143.81**	**46**	PKP	PKPdf	21 16 34.3	+1.5
	0.5nm,0.3s,baz=270,slow=2.5,SNR=4.9						
CPUP	**Villa Florida**	**144.12**	**207**	PKP	PKPdf	21 16 34.7	+1.2
	1.9nm,1.0s,baz=120,slow=4.2,SNR=2.6						
CPUP	**Villa Florida**	**144.12**	**207**	PKP	PKPdf	21 16 34.7	+1.2
BDFB	**Brasilia**	**146.24**	**231**	PKPbc	PKPbc	21 16 40.8	+2.2
	4.6nm,0.6s,baz=50,slow=3.2,SNR=8.5						
HKT	**Hockley**	**148.58**	**37**	*e*PKP	PKPdf	21 16 48.3	+7.4

*IDC **02** 21:03:05.7±0.9, 5.81S×104.92E, mb3.9/8, mb1 4.0/8, mb1mx3.9/14, Error ellipse: s-maj=51.4km s-min=18.5km az=48.0*

ISC 02 21:03:09.4±1.1**, 5.7S**±0.3×**105.1E**±0.3**, h33**^{km}**, n10,** $\sigma 0\overset{s}{.}$**74**/8**, mb3.8**/8**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.58**	**123**	P	**P**	**21 08 19.5**	**+1.4**
	1.6nm,0.6s,mb3.6,baz=315,slow=8.6,SNR=2.3						
WRA	**Warramunga Arr**	**31.79**	**119**	P	**P**	**21 09 32.4**	**-0.9**
	0.5nm,0.9s,mb3.3,baz=288,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**42.95**	**132**	P	**P**	**21 11 06.5**	**-0.6**
	3.8nm,0.4s,mb4.4,baz=330,slow=9.8,SNR=8.7						
SONM	**Songino Array**	**53.31**	**1**	P	**P**	**21 12 27.9**	**+0.4**
	0.5nm,1.0s,mb3.4,baz=198,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**56.02**	**341**	P	**P**	**21 12 46.3**	**-0.9**
	0.3nm,0.5s,mb3.6,baz=151,slow=9.8,SNR=6.0						
BRTR	**Keskin Array B**	**79.52**	**312**	P	**P**	**21 15 14.7**	**0.0**
	1.0nm,0.8s,mb3.8,baz=143,slow=6.2,SNR=4.0						
AKASG	**Malin Array Be**	**85.48**	**322**	P	**P**	**21 15 45.5**	**+0.4**
	0.5nm,0.4s,mb4.0,baz=90,slow=4.1,SNR=4.6						
FINES	**FINESS Array B**	**89.72**	**332**	P	**P**	**21 16 05.7**	**+0.4**
	1.6nm,1.0s,mb4.3,baz=129,slow=8.9,SNR=4.1						
TXAR	**Lajitas Array**	**144.11**	**46**	PKP	PKPdf	21 22 43.1	+0.8
	3.5nm,0.7s,baz=315,slow=7.1,SNR=6.5						
BDFB	**Brasilia**	**145.93**	**231**	PKPbc	PKPbc	21 22 47.4	+0.6
	1.4nm,0.6s,baz=153,slow=2.3,SNR=2.4						

*MOS **02** 21:10:33.6±0.5, 5.06N×127.68E, h74^{km}, mb4.8/6, Error ellipse: s-maj=38.5km s-min=13.4km az=119.2*

*MAN **02** 21:10:34.4, 4.56N×127.35E, h176^{km}, mb5.0, ML4.0, MS4.0*

*BJI **02** 21:10:37.9, 4.96N×127.68E, h113^{km}, mB4.9, mb4.8*

*NEIC **02** 21:10:40.3±0.3, 4.95N×127.56E, mb4.7/20, Error ellipse: s-maj=14.9km s-min=5.4km az=74.0*

*IDC **02** 21:10:40.4±0.7, 4.91N×127.52E, h116^{km}±6^{km}, mb4.1/14, mb1 4.2/14, mb1mx4.1/20, Error ellipse: s-maj=23.8km s-min=10.0km az=77.0*

ISC 02 21:10:37.8±0.8**, 4.95N**±0.04×**127.48E**±0.07**, h105**^{km}±6^{km}**, h115**^{km}±1.6^{km}**:pP-P, n85,** $\sigma 0\overset{s}{.}$**91**/92**, mb4.6**/42**, 8C-8D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**2.33**	**329**	*e*P	**P**	**21 11 16.1**	**+0.6**
MATI				*e*S	**S**	**21 11 42.9**	**-0.8**
GSPH	**General Santos**	**2.76**	**294**	⇓*i*P	**P**	**21 11 20.5**	**-0.9**
GSPH				*i* S	**S**	**21 11 52.9**	**-1.3**
KCP	**Kidapawan**	**3.14**	**311**	⇑*e*P	**P**	**21 11 27.3**	**+0.8**
KCP				*i* S	**S**	**21 12 09.2**	**+5.9**
BUKP	**Musuan**	**3.77**	**321**	*e*P	**P**	**21 11 36.5**	**+1.3**
BUKP				*e*S	**S**	**21 12 20.1**	**+1.3**
CTBH	**Cotabato--PC H**	**3.93**	**305**	⇑*e*P	**P**	**21 11 37.2**	**-0.1**
CTBH				*i* S	**S**	**21 12 22.2**	**-0.4**
BUTP	**Butuan**	**4.40**	**335**	*e*P	**P**	**21 11 45.3**	**+1.6**
BUTP				*e*S	**S**	**21 12 40.3**	**+6.1**
PAGZ	**Pagadian**	**4.99**	**305**	*e*P	**P**	**21 11 50.5**	**-1.2**
IPIL	**Ipil**	**5.63**	**300**	*e*P	**P**	**21 12 01.5**	**+1.1**
TBP	**Tagbilaran**	**5.92**	**323**	*e*P	**P**	**21 12 04.5**	**+0.2**
TBP				*e*S	**S**	**21 13 10.6**	**-0.9**
BESP	**Borongan**	**6.91**	**343**	*e*P	**P**	**21 12 16.6**	**-1.4**
KAKA	**Kakadu**	**18.20**	**164**	⇑*i*P	**P**	**21 14 44.4**	**-0.6**
	6.2nm,0.4s						
JOW	**Kunigami**	**21.77**	**2**	P	**P**	**21 15 24.6**	**+2.3**
	6.0nm,0.5s,mb4.2,baz=175,slow=13						
GZH	**Guangzhou**	**22.62**	**324**	P	**P**	**21 15 29.7**	**-0.9**
GZH				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.6						
GZH				LR	LR		
	comp=N,422nm,13.7s						
GZH				LR	LR		
	comp=E,273nm,12.3s						
GZH				LR	LR		
	comp=Z,394nm,15.5s						
FITZ	**Fitzroy Crossi**	**22.98**	**184**	⇓*i*P	**P**	**21 15 34.7**	**+0.6**
	comp=Z,18nm,1.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**22.98**	**184**	P	**P**	**21 15 34.8**	**+0.8**
	comp=Z,10nm,0.5s,mb4.4,baz=12,slow=7.8,SNR=62						
WRA	**Warramunga Arr**	**25.64**	**165**	P	**P**	**21 15 58.7**	**-0.8**
	comp=Z,1.7nm,0.4s,mb3.8,baz=332,slow=11,SNR=136						
WB2	**Warramunga Arr**	**25.64**	**165**	*e*P	**P**	**21 15 58.9**	**-0.6**
JNU	**Nakatsue**	**28.21**	**6**	P	**P**	**21 16 22.4**	**-0.5**
	comp=Z,6.3nm,0.8s,mb4.2,baz=135,slow=19,SNR=3.7						
WHN	**Wuhan**	**28.31**	**336**	*e*P	**P**	**21 16 23.2**	**-0.6**
ASPA	**Alice Springs**	**29.12**	**168**	⇓*i*P	**P**	**21 16 30.6**	**-0.5**
GYA	**Guiyang**	**29.21**	**319**	⇑*i*P	**P**	**21 16 31.8**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
ENH	**Enshi**	**30.37**	**328**	*e*P	**P**	**21 16 41.8**	**-0.4**
	comp=Z,30nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**30.93**	**298**	P	**P**	**21 16 47.0**	**-0.2**
	comp=Z,3.7nm,1.1s,mb4.0,baz=135,slow=6.1,SNR=6.9						
CTA	**Charters Tower**	**30.98**	**144**	P	**P**	**21 16 45.7**	**-1.8**
	comp=Z,6.3nm,0.9s,mb4.3,baz=333,slow=6.4,SNR=5.8						
CTA	**Charters Tower**	**30.98**	**144**	P	**P**	**21 16 45.7**	**-1.8**
CTAO	**Charters Tower**	**30.98**	**144**	P	**P**	**21 16 47.5**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.5						
KMI	**Kunming**	**31.08**	**313**	*e*P	**P**	**21 16 49.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.0						
KMI				LR	LR		
	comp=N,358nm,17.7s						
KMI				LR	LR		
	comp=E,1µm,14.1s						
KMI				LR	LR		
	comp=Z,483nm,16.9s						
KMI	**Kunming**	**31.08**	**313**	*e*P	**P**	**21 16 49.3**	**+0.9**
	comp=Z,6.0nm,1.8s,mb4.0						
KMI				LR	LR		
	comp=Z,480nm,16.9s						
XAN	**Xi’an**	**33.69**	**332**	P	**P**	**21 17 10.6**	**-0.3**
XAN				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.9						
CD2	**Chengdu**	**34.13**	**322**	*e*P	**P**	**21 17 14.5**	**-0.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
FORT	**Forrest**	**35.53**	**179**	⇑*i*P	**P**	**21 17 26.7**	**+0.1**
	comp=Z,56nm,0.5s,mb5.8						
BJI	**Beijing**	**36.39**	**345**	*e*P	**P**	**21 17 34.0**	**+0.2**
BJI				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,188nm,15.9s						
BJI				LR	LR		
	comp=E,381nm,17.0s						
BJI				LR	LR		
	comp=Z,183nm,21.7s						
BJI	**Beijing**	**36.39**	**345**	*e*P	**P**	**21 17 34.0**	**+0.2**
	comp=Z,18nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=Z,180nm,21.7s						
KLBR	**Kellerberrin**	**37.50**	**194**	⇓*i*P	**P**	**21 17 44.6**	**+1.4**
	comp=Z,40nm,1.3s,mb5.2						
LZH	**Lanzhou**	**37.85**	**328**	⇓P	**P**	**21 17 48.1**	**+2.0**
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.2						
LZH	**Lanzhou**	**37.85**	**328**	⇓P	**P**	**21 17 48.1**	**+2.0**
	comp=Z,56nm,1.5s,mb5.2						
LZH				pP	pP	21 18 05.8	-4.5
LZH				sP	sP	21 18 14.7	-8.0
MUN	**Mundaring**	**38.26**	**196**	⇓*i*P	**P**	**21 17 50.7**	**+1.2**
	comp=Z,10nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**38.49**	**340**	*e*P	**P**	**21 17 51.6**	**+0.3**
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,55nm,3.5s						
HHC				LR	LR		
	comp=N,70nm,12.3s						
HHC				LR	LR		
	comp=E,187nm,20.2s						
HHC				LR	LR		
	comp=Z,29nm,10.8s						
NWAO	**Narrogin (SRO)**	**38.90**	**194**	P	**P**	**21 17 55.5**	**+0.7**
	comp=Z,11nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**38.90**	**194**	*e*P	**P**	**21 17 55.9**	**+1.1**
	comp=Z,18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**39.01**	**161**	⇓*i*P	**P**	**21 17 55.6**	**-0.1**
	comp=Z,6.1nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**39.01**	**161**	P	**P**	**21 17 55.5**	**-0.2**
	comp=Z,8.6nm,0.5s,mb4.9,baz=339,slow=8.1,SNR=44						
SHL	**Shillong**	**39.78**	**305**	⇑*e*P	**P**	**21 18 03.5**	**+1.4**
ASAJ	**Asahikawa**	**41.22**	**17**	P	**P**	**21 18 15.2**	**+1.4**
	comp=Z,7.3nm,0.4s,mb4.8,baz=231,slow=12,SNR=12						
LSA	**Lhasa**	**42.22**	**310**	P	**P**	**21 18 23.6**	**+1.4**
LSA	**Lhasa**	**42.22**	**310**	*e*P	**P**	**21 18 23.7**	**+1.5**
	comp=Z,5.7nm,0.7s,mb4.4						
LSA				*e*	pP	21 18 49.0	+2.4
GTA	**Gaotai**	**42.45**	**328**	*e*P	**P**	**21 18 25.6**	**+1.6**
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,33nm,4.6s						
GTA				LR	LR		
	comp=N,127nm,17.9s						
GTA				LR	LR		
	comp=E,172nm,17.5s						
GTA				LR	LR		
	comp=Z,103nm,14.1s						
PKI	**Pulchoki**	**45.89**	**304**	*e*P	**P**	**21 18 51.5**	**-0.3**
KKN	**Kakani**	**46.08**	**304**	*e*P	**P**	**21 18 53.1**	**-0.1**
	comp=Z,22nm,0.7s,mb5.0						
DMN	**Daman**	**46.16**	**304**	*e*P	**P**	**21 18 54.0**	**+0.1**
	comp=Z,42nm,1.1s,mb5.1						
SONM	**Songino Array**	**46.40**	**340**	P	**P**	**21 18 54.4**	**-1.0**
	comp=Z,1.9nm,0.4s,mb4.2,baz=156,slow=9.0,SNR=39						
GKN	**Gorkha**	**46.69**	**304**	*e*P	**P**	**21 18 57.3**	**-0.7**
KOLN	**Koldanda**	**47.46**	**304**	*e*P	**P**	**21 19 04.3**	**+0.2**
	comp=Z,31nm,0.5s,mb5.3						
ZAK	**Zakamensk**	**49.64**	**340**	*e*P	**P**	**21 19 10.4**	**-10**
WMQ	**Urumqi**	**52.17**	**324**	⇑*i*P	**P**	**21 19 40.3**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=E,94nm,26.0s						
WMQ				LR	LR		
	comp=Z,46nm,21.4s						
DDI	**Dehra Dun**	**52.88**	**305**	*e*	**P**	**21 19 45.1**	**-0.3**
YAK	**Yakutsk**	**56.98**	**1**	*e*P	**P**	**21 20 13.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK	**Yakutsk**	**56.98**	**1**	*e*P	**P**	**21 20 12.7**	**-1.9**
	comp=N,38nm,0.8s,mb5.5						
MKAR	**Makanchi Array**	**56.99**	**324**	P	**P**	**21 20 14.9**	**+0.1**
	comp=N,3.9nm,0.3s,mb4.8,baz=122,slow=7.7,SNR=88						
MKAR				pP	pP	21 20 43.6	+3.2
	comp=N,5.4nm,0.7s,baz=124,slow=8.7,SNR=4.0						
KSH	**Kashi**	**57.72**	**314**	*e*P	**P**	**21 20 20.4**	**+0.3**
TKM2	**Tokmak 2**	**59.34**	**318**	P	**P**	**21 20 31.8**	**+0.6**
	SNR=8.7						
KBK	**Karagaybulak**	**59.67**	**317**	P	**P**	**21 20 34.7**	**+1.2**
	SNR=5.1						
USP	**Ospenovka**	**60.22**	**318**	P	**P**	**21 20 37.5**	**+0.3**
	SNR=14						
AML	**Almayashu**	**60.32**	**316**	P	**P**	**21 20 39.1**	**+1.2**
	SNR=13						
EKS2	**Erkin-Say**	**60.47**	**317**	P	**P**	**21 20 38.8**	**-0.2**
	SNR=13						
FX1	**Attu Island--F**	**60.66**	**30**	*e*P	**P**	**21 20 40.2**	**+0.1**
KURK	**Kurchatov**	**61.13**	**327**	P	**P**	**21 20 43.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**61.13**	**327**	*e*P	**P**	**21 20 42.9**	**-0.5**
	comp=Z,8.6nm,0.6s,mb5.0						
KURK				*e*pP	pP	21 21 11.6	+2.3
NVS	**Novosibirsk**	**61.13**	**333**	*e*P	**P**	**21 20 41.4**	**-1.9**
KKAR	**Karatay Array**	**62.86**	**316**	*i* P	**P**	**21 20 54.8**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
VOSK	**Vostochnaya**	**66.27**	**326**	P	**P**	**21 21 16.1**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BVA0	**Borovoye Array**	**66.72**	**326**	*i* P	**P**	**21 21 19.1**	**-0.6**
BVAR	**Borovoye Array**	**66.72**	**326**	P	**P**	**21 21 19.3**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.4,baz=112,slow=8.0,SNR=34						
BVAR				pP	pP	21 21 48.6	+2.5
	comp=Z,2.5nm,0.5s,baz=135,slow=6.3,SNR=3.4						
BRVK	**Borovoye**	**66.79**	**326**	*e*P	**P**	**21 21 19.7**	**-0.4**
	comp=Z,4.9nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**67.45**	**326**	P	**P**	**21 21 23.9**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**67.45**	**326**	*e*P	**P**	**21 21 23.6**	**-0.8**
	comp=Z,8.4nm,0.3s,mb5.0						
AB31	**Akbulak array**	**71.69**	**320**	P	**P**	**21 21 50.0**	**-0.2**
ARU	**Arti**	**74.31**	**327**	⇑*i*P	**P**	**21 22 04.5**	**-0.9**
ARU				*e*	pP	21 22 34.1	+1.8
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ARU	**Arti**	**74.31**	**327**	*e*P	**P**	**21 22 03.6**	**-1.8**
	comp=Z,3.9nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**83.69**	**25**	P	**P**	**21 22 56.5**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=249,slow=4.8,SNR=9.8						
ILAR				pP	pP	21 23 24.8	+1.5
	comp=Z,3.2nm,1.1s,baz=255,slow=4.3,SNR=5.8						
VNDA	**Vanda**	**84.53**	**173**	P	**P**	**21 22 59.2**	**-0.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=303,slow=5.1,SNR=5.0						
VNDA	**Vanda**	**84.53**	**173**	*e*P	**P**	**21 22 58.3**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**89.57**	**340**	P	**P**	**21 23 23.6**	**-0.7**
	comp=Z,1.5nm,0.4s,mb4.5,baz=87,slow=5.8,SNR=34						
ARCES				pP	pP	21 23 53.3	+1.2
	comp=Z,0.9nm,0.5s,baz=82,slow=5.7,SNR=2.3						
FINES	**FINESS Array B**	**91.12**	**332**	P	**P**	**21 23 30.4**	**-1.3**
	comp=Z,3.4nm,1.2s,mb4.4,baz=83,slow=6.5,SNR=13						
QSPA	**South Pole Qui**	**94.85**	**180**	*e*P	**P**	**21 23 49.4**	**+1.1**
	comp=Z,1.1nm,0.5s,mb4.5						

*IDC **02** 21:16:40.8±0.6, 5.81S×104.86E, mb4.2/12, mb1 4.3/12, mb1mx4.3/15, MS3.8/4, Ms1 3.8/4, ms1mx3.5/15, Error ellipse: s-maj=36.6km s-min=13.7km az=52.0*

*BJI **02** 21:16:43.9, 5.90S×104.80E, h18^{km}, mB4.9, mb4.7, Ms4.8, Msz4.4*

*NEIC **02** 21:16:43.9±0.3, 5.87S×104.84E, mb4.8/24, Error ellipse: s-maj=15.4km s-min=8.8km az=50.0*

*SYO **02** 21:16:43.9, 5.87S×104.84E, h18^{km}, MB4.8*

ISC 02 21:16:42.2±2.6**, 5.96S**±0.06×**104.81E**±0.08**, h19**^{km}±18^{km}**, h18**^{km}±.4^{km}**:pP-P, n72,** $\sigma 1\overset{s}{.}$**32**/63**, mb4.6**/40**, MS4.0**/10**, 2C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGM	**Kluang**	**8.06**	**349**	⇓*e*P	**P**	**21 18 56.0**	**+15**
FITZ	**Fitzroy Crossi**	**23.64**	**123**	*e*P	**P**	**21 21 54.8**	**+1.3**
	6.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.64**	**123**	P	**P**	**21 21 54.3**	**+0.8**
	7.4nm,0.6s,mb4.3,baz=349,slow=14,SNR=14						
FITZ				LR	LR	21 31 06.9	
	comp=Z,126nm,21.2s,MS3.4,baz=288,slow=37						
CMAR	**Chiang Mai Arr**	**24.94**	**347**	P	**P**	**21 22 04.8**	**-1.3**
	0.7nm,0.5s,mb3.5,baz=192,slow=8.3,SNR=3.9						
CMAR				PcP	PcP	21 25 42.8	+0.4
	0.4nm,0.4s,baz=162,slow=2.9,SNR=2.9						
QIZ	**Qiongzhong**	**25.32**	**11**	*e*P	**P**	**21 22 10.2**	**+0.6**
	36nm,1.1s,mb4.8						
QIZ				*e*		21 22 19.5	
KAKA	**Kakadu**	**28.02**	**106**	⇑*i*P	**P**	**21 22 36.0**	**+1.5**
	12nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**29.22**	**158**	P	**P**	**21 22 51.6**	**+6.4**
	41nm,1.3s,mb5.0						
KMI	**Kunming**	**30.96**	**356**	*e*P	**P**	**21 23 03.9**	**+3.2**
KMI				S	**S**	**21 28 01.2**	**-1.9**
KMI				SS	SS	21 29 51.1	+4.0
KMI				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.8						
KMI				AMB	AMB		
	comp=Z,86nm,7.2s						
KMI				LR	LR		
	comp=N,316nm,15.8s,MS4.8						
KMI				LR	LR		
	comp=E,1µm,14.6s,MS4.8						
KMI				LR	LR		
	comp=Z,483nm,16.9s,MS4.2						
KMI	**Kunming**	**30.96**	**356**	*e*P	**P**	**21 23 03.9**	**+3.2**
	comp=Z,2.0nm,1.2s,mb3.8						
KMI				pP	pP	21 23 24.2	+18
KMI				sP	sP	21 23 32.3	+24
KMI				S	**S**	**21 28 01.2**	**-1.9**
KMI				SS	SS	21 29 51.1	+4.0
KMI				LR	LR		
	comp=Z,480nm,16.9s,MS4.2						
WRA	**Warramunga Arr**	**31.88**	**119**	P	**P**	**21 23 06.7**	**-2.1**
	comp=Z,15nm,1.2s,mb4.7,baz=292,slow=10,SNR=13						
WRA				PcP	PcP	21 26 00.1	+0.7
	comp=Z,1.6nm,0.6s,baz=301,slow=2.0,SNR=13						
WB2	**Warramunga Arr**	**31.89**	**119**	*e*P	**P**	**21 23 08.4**	**-0.5**
GYA	**Guiyang**	**32.27**	**3**	P	**P**	**21 23 18.1**	**+5.9**
GYA				S	**S**	**21 28 27.4**	**+3.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,150nm,15.8s,MS4.0						
GYA				LR	LR		
	comp=E,240nm,16.2s,MS4.0						
GYA				LR	LR		
	comp=Z,280nm,15.6s,MS4.1						
ASPA	**Alice Springs**	**33.06**	**125**	*e*P	**P**	**21 23 17.0**	**-2.1**
LSA	**Lhasa**	**37.80**	**340**	P	**P**	**21 24 00.8**	**+1.4**
LSA	**Lhasa**	**37.80**	**340**	*e*P	**P**	**21 24 00.6**	**+1.2**
	comp=Z,5.1nm,0.8s,mb4.3						
LSA				*e*	pP	21 24 06.5	+1.6
PKI	**Pulchoki**	**38.24**	**332**	*e*P	**P**	**21 24 02.9**	**-0.2**
	comp=Z,16nm,0.9s,mb4.8						
DMN	**Daman**	**38.42**	**331**	*e*P	**P**	**21 24 04.8**	**+0.2**
	comp=Z,24nm,0.9s,mb5.0						
KKN	**Kakani**	**38.49**	**332**	*e*P	**P**	**21 24 05.1**	**-0.1**
	comp=Z,30nm,0.9s,mb5.0						
GKN	**Gorkha**	**38.98**	**331**	*e*P	**P**	**21 24 08.2**	**-1.0**
KOLN	**Koldanda**	**39.29**	**330**	*e*P	**P**	**21 24 11.3**	**-0.6**
	comp=Z,27nm,0.7s,mb5.1						
SSE	**Sheshan**	**40.03**	**22**	P	**P**	**21 24 19.5**	**+1.5**
SSE				XP	sP	21 24 32.2	+6.3
SSE				S	**S**	**21 30 23.0**	**+0.4**
SSE				XS		21 30 37.3	
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,33nm,3.9s						
SSE				LR	LR		
	comp=N,76nm,15.9s,MS3.8						
SSE				LR	LR		
	comp=E,89nm,16.1s,MS3.8						
SSE	**Sheshan**	**40.03**	**22**	P	**P**	**21 24 19.5**	**+1.5**
	comp=E,24nm,0.6s,mb5.1						
SSE				sP	sP	21 24 32.2	+6.3
SSE				S	**S**	**21 30 23.0**	**+0.4**
SSE				sS		21 30 37.3	
SSE				LR	LR		
	comp=Z,60nm,18.5s,MS3.5						
LZH	**Lanzhou**	**41.83**	**359**	*e*P	**P**	**21 24 35.8**	**+3.1**
LZH				PP	PP	21 26 18.0	+5.2
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,101nm,4.6s						
LZH				LR	LR		
	comp=E,550nm,11.8s						
LZH				LR	LR		
	comp=Z,721nm,14.5s,MS4.7						
PMG	**Port Moresby**	**42.09**	**97**	*e*P	**P**	**21 24 34.8**	**-0.3**
	comp=Z,16nm,1.0s,mb4.6						
CTA	**Charters Tower**	**42.61**	**113**	*e*P	**P**	**21 24 40.7**	**+1.4**
	comp=Z,8.3nm,1.5s,mb4.2						
CTA	**Charters Tower**	**42.61**	**113**	P	**P**	**21 24 40.3**	**+0.9**
	comp=Z,15nm,1.2s,mb4.6,baz=268,slow=10,SNR=4.3						
CTAO	**Charters Tower**	**42.61**	**113**	*e*P	**P**	**21 24 40.8**	**+1.4**
	comp=Z,19nm,1.1s,mb4.7						
CTAO				*e*		21 24 52.5	
STKA	**Stephens Creek**	**42.95**	**132**	P	**P**	**21 24 41.5**	**-0.5**
	comp=Z,30nm,0.6s,mb5.2,baz=308,slow=8.4,SNR=38						
STKA				LR	LR	21 42 58.2	
	comp=Z,259nm,18.8s,MS4.2,baz=334,slow=37						
STKA	**Stephens Creek**	**42.95**	**132**	*e*P	**P**	**21 24 41.6**	**-0.4**
STKA				*e*	pP	21 24 47.1	-0.4
WMQ	**Urumqi**	**51.91**	**344**	*e*P	**P**	**21 25 53.4**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
TAU	**Tasmania Unive**	**52.51**	**141**	P	**P**	**21 25 53.8**	**-2.7**
	comp=Z,22nm,1.1s,mb5.0						
CN2	**Changchun**	**52.92**	**19**	*e*P	**P**	**21 26 04.5**	**+4.9**
CN2				*e*S	**S**	**21 33 26.7**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CN2				LR	LR		
	comp=Z,300nm,14.0s,MS4.5						
SONM	**Songino Array**	**53.58**	**1**	P	**P**	**21 26 04.1**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=178,slow=10,SNR=8.9						

SONM				PcP	PcP	21 27 09.6	-1.3
	comp=Z,2.9nm,1.0s,baz=172,slow=5.4,SNR=6.5						
MDJ	**Mudanjiang**	**55.05**	**21**	P	**P**	**21 26 14.8**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,141nm,3.6s						
MDJ				LR	LR		
	comp=N,101nm,17.6s,MS4.0						
MDJ				LR	LR		
	comp=E,77nm,17.6s,MS4.0						
MDJ				LR	LR		
	comp=Z,64nm,19.3s,MS3.7						
MKAR	**Makanchi Array**	**56.19**	**342**	P	**P**	**21 26 21.4**	**-1.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=148,slow=9.4,SNR=15						
HIA	**Hailar**	**56.52**	**12**	P	**P**	**21 26 24.1**	**-1.6**
	comp=Z,12nm,1.6s,mb4.7						
CASY	**Casey**	**60.35**	**177**	*e*P	**P**	**21 26 52.3**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.6						
ASAJ	**Asahikawa**	**60.35**	**31**	LR	LR	21 55 14.5	
	comp=Z,55nm,18.1s,MS3.7,baz=75,slow=38						
BVAR	**Borovoye Array**	**65.58**	**338**	P	**P**	**21 27 23.7**	**-3.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=146,slow=8.6,SNR=5.0						
ARU	**Arti**	**72.76**	**335**	*e*P	**P**	**21 28 09.6**	**-1.6**
	comp=Z,5.5nm,1.0s,mb4.4						
MBAR	**Mbarara**	**74.09**	**271**	P	**P**	**21 28 18.5**	**-1.3**
	comp=Z,3.0nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**74.66**	**319**	*e*P	**P**	**21 28 20.8**	**-1.6**
	comp=Z,14nm,1.0s,mb4.8						
MALT	**Malatya**	**75.53**	**312**	*e*P	**P**	**21 28 29.2**	**+1.6**
	comp=Z,6.4nm,1.0s,mb4.5						
SYO	**Syowa Base**	**75.73**	**200**	⇑P	**P**	**21 28 27.2**	**-0.9**
VNDA	**Vanda**	**77.39**	**169**	P	**P**	**21 28 37.7**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=312,slow=7.8,SNR=3.5						
VNDA	**Vanda**	**77.39**	**169**	*e*P	**P**	**21 28 37.7**	**+0.5**
	comp=Z,11nm,1.1s,mb4.7						
VNDA				*e*pP	pP	21 28 43.1	-0.1
LBTB	**Lobatse**	**77.74**	**246**	*e*P	**P**	**21 28 41.7**	**+1.5**
	comp=Z,2.5nm,0.8s,mb4.2						
CSS	**Prodhromos**	**78.42**	**307**	*e*P	**P**	**21 28 45.9**	**+2.2**
	comp=Z,34nm,1.0s,mb5.2						
CSS				*e*pP	pP	21 28 51.5	+1.9
SBA	**Scott Base**	**78.47**	**169**	*e*P	**P**	**21 28 45.5**	**+2.3**
	comp=Z,12nm,1.0s,mb4.8						
SBA				*e*pP	pP	21 28 51.0	+1.9
BRTR	**Keskin Array B**	**79.52**	**312**	P	**P**	**21 28 49.5**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=129,slow=7.6,SNR=11						
OBN	**Obninsk**	**82.68**	**327**	P	**P**	**21 29 06.5**	**+0.6**
	comp=Z,23nm,1.0s,mb5.2						
OBN				*e*pP	pP	21 29 12.3	+0.5
AKASG	**Malin Array Be**	**85.53**	**322**	P	**P**	**21 29 19.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.4,baz=78,slow=4.9,SNR=7.3						
KWP	**Kalwaria**	**89.39**	**320**	*e*P	**P**	**21 29 40.0**	**+0.9**
FINES	**FINESS Array B**	**89.83**	**332**	P	**P**	**21 29 40.9**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.6,baz=128,slow=5.8,SNR=11						
FINES				LR	LR	22 15 15.5	
	comp=Z,41nm,18.2s,MS3.9,baz=144,slow=39						
FINES	**FINESS Array B**	**89.83**	**332**	P	**P**	**21 29 40.9**	**0.0**
FINES				LR	LR	22 15 15.5	
SNAA	**Sanae**	**89.86**	**198**		**P**	**21 29 44.9**	**+4.1**
SNAA	**Sanae**	**89.86**	**198**	*e*P	**P**	**21 29 43.5**	**+2.7**
	comp=Z,10nm,1.0s,mb5.1						
SNAA				*e*pP	pP	21 29 49.1	+2.3
GERES	**GERESS Array B**	**95.17**	**318**	P	**P**	**21 30 05.2**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.8,baz=108,slow=3.1,SNR=3.2						
PDAR	**Pinedale Array**	**132.41**	**34**	PKP	PKPdf	21 35 57.2	-2.7
	comp=Z,0.4nm,0.8s,baz=315,slow=4.2,SNR=3.9						
CPUP	**Villa Florida**	**143.53**	**208**	PKP	PKPdf	21 36 20.4	-0.1
	comp=Z,1.3nm,0.7s,baz=180,slow=4.0,SNR=3.1						
CPUP	**Villa Florida**	**143.53**	**208**	PKP	PKPdf	21 36 20.4	-0.1
WMOK	**Wichita Mounta**	**144.02**	**34**	*e*PKPdf	PKPdf	21 36 21.6	+0.5
LTX	**Lajitas**	**144.46**	**46**	*e*PKPdf	PKPdf	21 36 18.5	-3.6
TXAR	**Lajitas Array**	**144.46**	**46**	PKP	PKPdf	21 36 18.3	-3.8
	comp=Z,1.3nm,0.5s,baz=270,slow=2.5,SNR=11						
PAL	**Palisades**	**145.09**	**358**	*e*PKPdf	PKPdf	21 36 19.4	-3.4
PAL				*e*		21 36 25.3	
SSPA	**Standing Stone**	**145.39**	**4**	*e*PKPdf	PKPdf	21 36 20.5	-2.9
SSPA				*e*		21 36 26.1	
BDFB	**Brasilia**	**145.58**	**231**	PKPbc	PKPbc	21 36 23.3	+2.2
	comp=Z,4.8nm,0.9s,baz=111,slow=1.8,SNR=6.0						
JCT	**Junction City**	**146.38**	**40**	*e*PKPdf	PKPdf	21 36 23.8	-1.6
PLAL	**Pickwick Lake**	**148.76**	**21**	*e*PKPbc	PKPdf	21 36 28.7	-0.4
HKT	**Hockley**	**149.21**	**37**	*e*PKPbc	PKPdf	21 36 32.8	+2.8
SWET	**Sewanee**	**149.25**	**17**	*e*PKPbc	PKPdf	21 36 31.0	+1.2
CPCT	**Cooper Cave**	**149.42**	**15**	*e*PKPbc	PKPdf	21 36 32.0	+1.9
CPCT				*e*		21 36 37.9	

*MOS **02** 21:31:14.5±1.3, 51.97N×174.17E, h19^{km}, mb4.3/10, Error ellipse: s-maj=42.0km s-min=16.8km az=97.7*

*BJI **02** 21:31:15.7, 52.69N×173.80E, h11^{km}, mB5.0, mb4.7, Ms4.6, Msz4.2*

*IDC **02** 21:31:16.1±5.1, 51.96N×174.25E, h17^{km}±32^{km}, mb3.9/15, mb1 4.1/15, mb1mx4.1/21, Error ellipse: s-maj=19.5km s-min=10.9km az=34.0*

*NEIC **02** 21:31:18.5±3.8, 52.06N×174.19E, h32^{km}±25^{km}, mb4.6/9, Error ellipse: s-maj=14.5km s-min=6.0km az=179.0*

ISC 02 21:31:19.1±1.7**, 52.1N**±0.1×**174.22E**±0.09**, h52^{km}**±12^{km}**, n52, $\sigma 0\overset{s}{.}86$**/52**, mb4.2**/24**, 1C, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.64**	**353**	P	**P**	**21 31 31.9**	**-0.3**
SMY				S	**S**	**21 31 42.3**	**+0.5**
FX1	**Attu Island--F**	**1.02**	**321**	Pn	**P**	**21 31 36.0**	**-1.3**
	171nm,0.3s,baz=193,slow=8.6,SNR=1290						
FX1				Sn	**S**	**21 31 51.6**	**+0.8**
	1µm,0.3s,baz=297,slow=19,SNR=27						
FX1	**Attu Island--F**	**1.02**	**321**	P	**P**	**21 31 36.0**	**-1.3**
FX1						21 31 51.6	
FX1				pmax	pmax		
	comp=Z,171nm,0.3s						
FX1	**Attu Island--F**	**1.02**	**321**	P	**P**	**21 31 36.2**	**-1.1**
SPU	**Mount Spurr**	**20.43**	**50**	*e*P	**P**	**21 35 54.1**	**-0.1**
IMA	**Indian Mountai**	**21.29**	**37**	*e*P	**P**	**21 36 01.1**	**-1.9**
	comp=Z,34nm,0.9s,mb4.7						
COLA	**College**	**23.15**	**42**	*e*P	**P**	**21 36 22.4**	**+1.3**
ILAR	**Eielson Array**	**23.53**	**42**	P	**P**	**21 36 25.6**	**+0.8**
	comp=Z,2.9nm,0.7s,mb3.9,baz=246,slow=7.8,SNR=16						
ILAR	**Eielson Array**	**23.53**	**42**	P	**P**	**21 36 25.6**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAWY	**Dawson**	**26.62**	**45**	*e*P	**P**	**21 36 55.2**	**+1.0**
YKA	**Yellowknife Ar**	**37.86**	**46**	P	**P**	**21 38 32.2**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.8,baz=287,slow=7.5,SNR=4.3						
YKA	**Yellowknife Ar**	**37.86**	**46**	P	**P**	**21 38 32.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**37.86**	**46**	P	**P**	**21 38 32.2**	**0.0**
SONM	**Songino Array**	**42.40**	**292**	P	**P**	**21 39 10.5**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.3,baz=48,slow=8.8,SNR=4.8						
SSE	**Sheshan**	**43.72**	**263**	P	**P**	**21 39 21.5**	**+0.8**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,34nm,3.8s						
SSE	**Sheshan**	**43.72**	**263**	P	**P**	**21 39 21.5**	**+0.8**
	comp=Z,22nm,0.7s,mb5.0						
HLID	**Hailey**	**46.86**	**71**	P	**P**	**21 39 46.1**	**+0.5**
BOZ	**Bozeman (W)**	**47.23**	**67**	*e*P	**P**	**21 39 48.1**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.1						
NVAR	**Mina Array Bea**	**47.72**	**79**	P	**P**	**21 39 52.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=295,slow=5.6,SNR=3.9						
BW06	**Boulder Array**	**50.16**	**69**	P	**P**	**21 40 10.8**	**-0.3**
PDAR	**Pinedale Array**	**50.16**	**69**	P	**P**	**21 40 10.8**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.1,baz=318,slow=3.6,SNR=7.2						
LZH	**Lanzhou**	**51.00**	**281**	*e*P	**P**	**21 40 16.3**	**-1.3**
LZH				AP	pP	21 40 27.0	-4.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
LZH	**Lanzhou**	**51.00**	**281**	*e*P	**P**	**21 40 16.3**	**-1.3**
	comp=Z,22nm,1.5s,mb4.9						
LZH				pP	pP	21 40 27.0	-4.5
LZH				sP	sP	21 40 32.8	-4.7
ULM	**Lac du Bonnet**	**52.84**	**54**	P	**P**	**21 40 30.5**	**-0.7**
	comp=Z,1.7nm,0.4s,mb4.3,baz=275,slow=8.4,SNR=3.1						
ULM	**Lac du Bonnet**	**52.84**	**54**	P	**P**	**21 40 30.5**	**-0.7**
WMQ	**Urumqi**	**55.24**	**298**	⇑P	**P**	**21 40 49.6**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**55.30**	**310**	*e*P	**P**	**21 40 48.2**	**-1.0**
	comp=Z,6.7nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**56.11**	**304**	P	**P**	**21 40 53.6**	**-1.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=59,slow=5.0,SNR=20						
MKAR	**Makanchi Array**	**56.11**	**304**	P	**P**	**21 40 53.7**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**56.54**	**347**	P	**P**	**21 40 57.4**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.1,baz=27,slow=8.1,SNR=5.3						
ARCES	**ARCESS Array B**	**56.54**	**347**	P	**P**	**21 40 57.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**57.44**	**316**	P	**P**	**21 41 04.0**	**-0.6**
	baz=53,slow=7.2						
BRVK	**Borovoye**	**57.46**	**316**	*e*P	**P**	**21 41 04.2**	**-0.5**
KMI	**Kunming**	**59.34**	**272**	*e*P	**P**	**21 41 20.2**	**+2.1**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
KMI	**Kunming**	**59.34**	**272**	*e*P	**P**	**21 41 20.2**	**+2.1**
	comp=Z,3.0nm,1.2s,mb4.2						
KMI				sP	sP	21 41 38.6	+0.3
ARU	**Arti**	**59.60**	**325**	*e*P	**P**	**21 41 18.8**	**-0.7**
	comp=Z,3.1nm,0.5s,mb4.6						
SCHQ	**Schefferville**	**62.02**	**35**	P	**P**	**21 41 35.0**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.6,baz=348,slow=7.5,SNR=6.5						
LTX	**Lajitas**	**62.77**	**77**	*e*P	**P**	**21 41 41.4**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**62.77**	**77**	P	**P**	**21 41 41.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.3,baz=304,slow=4.5,SNR=7.0						
FINES	**FINESS Array B**	**63.99**	**344**	P	**P**	**21 41 48.3**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=37,slow=9.5,SNR=7.3						
FINES	**FINESS Array B**	**63.99**	**344**	P	**P**	**21 41 48.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**66.40**	**351**	P	**P**	**21 42 04.7**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=11,slow=6.2						
NOA	**NORSAR Array B**	**66.40**	**351**	P	**P**	**21 42 04.2**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=12,slow=6.5,SNR=12						
NOA	**NORSAR Array B**	**66.40**	**351**	P	**P**	**21 42 04.3**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.38**	**338**	P	**P**	**21 42 47.3**	**+0.6**
	comp=Z,1.2nm,0.4s,mb4.2,baz=23,slow=6.2,SNR=5.1						
AKASG	**Malin Array Be**	**73.38**	**338**	P	**P**	**21 42 47.3**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**79.72**	**218**	P	**P**	**21 43 22.7**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=31,slow=6.3,SNR=13						
WRA	**Warramunga Arr**	**79.72**	**218**	P	**P**	**21 43 22.7**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**82.33**	**330**	P	**P**	**21 43 38.1**	**+1.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=64,slow=3.1,SNR=8.9						
BRTR	**Keskin Array B**	**82.33**	**330**	P	**P**	**21 43 38.1**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**144.39**	**218**	PKP	PKPdf	21 50 48.0	+0.1
	comp=Z,2.4nm,0.6s,baz=106,slow=6.7						
MAW	**Mawson**	**144.39**	**218**	PKIKP	PKPdf	21 50 48.0	+0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						

*JMA **02** 21:45:37.0±0.5, 22.39N×121.54E, h110^{km}, M2.6*

TAP 02 21:45:38.0, 22.50N×121.24E, h56^{km}, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.54**	**39**	P	P	21 46 16.4	-1.3
YOJ				S	S	21 46 46.6	-1.0
HATJ	**Hateruma jima**	**2.82**	**56**	P	P	21 46 19.2	-2.5
HATJ				S	S	21 46 51.1	-3.6
IRIF	**Iriomote-Funau**	**2.93**	**51**	P	P	21 46 20.7	-2.5
IRIF				S	S	21 46 54.8	-2.5
JKRS	**Kuro-shima**	**3.08**	**55**	P	P	21 46 22.7	-2.6
JKRS				S	S	21 46 57.6	-3.5
JIJ	**Ishigaki jima**	**3.25**	**55**	P	P	21 46 24.5	-3.2
JIJ				S	S	21 47 01.2	-4.2
JTJ	**Tarama**	**3.83**	**55**	P	P	21 46 32.4	-3.4
JTJ				S	S	21 47 15.5	-4.5

*IDC **02** 21:51:00.5±1.1, 11.35N×143.13E, mb3.7/5, mb1 4.0/5, mb1mx3.8/17, Error ellipse: s-maj=49.8km s-min=23.8km az=100.0*

*NEIC **02** 21:51:05.4±0.7, 11.36N×143.27E, h35^{km}, mb4.4/2, Error ellipse: s-maj=25.5km s-min=13.3km az=112.0*

ISC 02 21:51:03.5±0.8**, 11.4N**±0.1×**143.2E**±0.2**, h35^{km}, n10, $\sigma 0\overset{s}{.}86$**/10**, mb3.9**/7**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.77**	**36**	Pn	**P**	**21 51 45.3**	**-1.1**
WRA	**Warramunga Arr**	**32.29**	**196**	P	**P**	**21 57 30.8**	**-0.8**
	1.3nm,0.8s,mb3.8,baz=17,slow=9.5,SNR=7.7						
ASAR	**Alice Springs**	**35.97**	**195**	P	**P**	**21 58 03.1**	**0.0**
	0.6nm,0.7s,mb3.6,baz=16,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**35.97**	**195**	P	**P**	**21 58 03.1**	**0.0**
MKAR	**Makanchi Array**	**61.97**	**317**	P	**P**	**22 01 22.4**	**0.0**
	0.6nm,0.8s,mb3.8,baz=104,slow=6.7,SNR=3.7						
KURK	**Kurchatov**	**65.25**	**321**	P	**P**	**22 01 43.9**	**+0.1**
	1.8nm,0.7s,mb4.2						
BRVK	**Borovoye**	**70.73**	**322**	*e*P	**P**	**22 02 17.7**	**-0.2**
	3.1nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**71.28**	**25**	P	**P**	**22 02 21.3**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=250,slow=4.7,SNR=4.1						
NVAR	**Mina Array Bea**	**89.60**	**51**	P	**P**	**22 04 01.3**	**+2.1**
	0.6nm,0.6s,mb4.1,baz=269,slow=4.2,SNR=4.0						
NVAR	**Mina Array Bea**	**89.60**	**51**	P	**P**	**22 04 01.3**	**+2.1**

*NEIC **02** 22:02:44.9±1.2, 12.21N×94.94E, mb3.9/2, Error ellipse: s-maj=49.2km s-min=17.7km az=62.0*

*IDC **02** 22:02:44.6±1.2, 12.25N×94.92E, h25^{km}±5^{km}, mb3.3/4, mb1 3.5/4, mb1mx3.3/15, MS2.8/1, Ms1 3.0/1, ms1mx2.6/12, Error ellipse: s-maj=46.1km s-min=19.7km az=57.0*

ISC 02 22:02:42.6±1.4**, 12.2N**±0.2×**94.8E**±0.3**, h25^{km}, (h25^{km}**±1.0^{km}**:pP-P), n11, $\sigma 1\overset{s}{.}07$**/10**, mb3.5**/5**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.41**	**32**	LR	LR	22 07 33.1	
	comp=Z,60nm,18.5s,baz=210,slow=40						
LSA	**Lhasa**	**17.77**	**350**	*e*P	**P**	**22 06 51.5**	**+1.4**
	5.8nm,0.7s						
DMN	**Daman**	**17.85**	**331**	*e*P	**P**	**22 06 49.1**	**-2.0**
	79nm,1.7s						
KKN	**Kakani**	**17.92**	**332**	*e*P	**P**	**22 06 52.2**	**+0.3**
GKN	**Gorkha**	**18.41**	**330**	*e*P	**P**	**22 06 50.7**	**-7.3**
	6.6nm,0.5s						
KOLN	**Koldanda**	**18.74**	**328**	*e*P	**P**	**22 06 53.7**	**-8.3**
	9.0nm,0.6s						
MKAR	**Makanchi Array**	**36.09**	**345**	P	**P**	**22 09 44.1**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=153,slow=9.7,SNR=3.8						
MKAR				pP	pP	22 09 52.0	+0.3
	1.8nm,0.8s,baz=159,slow=10,SNR=8.8						
SONM	**Songino Array**	**36.85**	**13**	P	**P**	**22 09 49.5**	**-1.2**
	0.1nm,0.3s,mb3.1,baz=180,slow=5.8,SNR=2.1						
SONM				pP	pP	22 09 57.7	-0.4
	0.9nm,0.9s,baz=202,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	**40.65**	**344**	P	**P**	**22 10 23.7**	**+1.4**
	2.4nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**50.32**	**129**	P	**P**	**22 11 39.7**	**0.0**
	0.4nm,0.8s,mb3.5,baz=310,slow=8.2,SNR=2.4						
WRA				pP	pP	22 11 46.6	-0.7
	1.3nm,0.6s,baz=310,slow=8.2,SNR=6.4						
GERES	**GERESS Array B**	**75.10**	**318**	P	**P**	**22 14 24.7**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=90,slow=2.9,SNR=2.9						
GERES				pP	pP	22 14 32.5	+0.3
	0.5nm,0.7s,baz=90,slow=4.0,SNR=5.7						

*NEIC **02** 22:19:30.6, 40.54S×173.26E, h177^{km}, After WEL.*

WEL 02 22:19:30.6±0.2**, 40.54S×173.25E, h176^{km}**±2^{km}**, ML4.3**/8**, 17C-10D, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.62**	**242**	⇑PN	P	22 19 55.5	-0.4
QRZ				SN	S	22 20 13.8	-1.5
QRZ	**Quartz Range**	**0.62**	**242**	P	P	22 19 55.5	-0.3
QRZ				S	S	22 20 14.0	-1.3
NNZ	**Nelson**	**0.68**	**172**	⇑PN	P	22 19 55.9	-0.2
NNZ				SN	S	22 20 15.0	-0.9
TUWZ	**Tuamarina**	**1.03**	**150**	⇑PN	P	22 19 58.4	+0.1
TUWZ				SN	S	22 20 19.0	-0.7
THZ	**Tophouse**	**1.25**	**192**	⇑PN	P	22 19 59.8	-0.5
THZ				SN	S	22 20 21.5	-1.6
THZ	**Tophouse**	**1.25**	**192**	P	P	22 19 59.8	-0.4
THZ				S	S	22 20 21.5	-1.6
BSWZ	**Blackbirch Sta**	**1.26**	**158**	⇑PN	P	22 20 00.2	-0.1
BSWZ				SN	S	22 20 21.6	-1.8
MRW	**Makara Radio**	**1.29**	**122**	⇑PN	P	22 20 00.4	-0.2
MRW				SN	S	22 20 21.8	-2.1
MRW	**Makara Radio**	**1.29**	**122**	P	P	22 20 00.4	-0.3
MRW				S	S	22 20 22.1	-1.8
KIW	**Kapiti Island**	**1.30**	**105**	⇑PN	P	22 20 00.5	-0.2
KIW				SN	S	22 20 22.0	-2.0
KIW	**Kapiti Island**	**1.30**	**105**	P	P	22 20 00.5	-0.2
KIW				S	S	22 20 21.9	-2.1
NRZ	**Ngariki Road**	**1.31**	**24**	⇑PN	P	22 20 00.5	-0.4
NRZ				SN	S	22 20 24.0	-0.2
NRZ	**Ngariki Road**	**1.31**	**24**	P	P	22 20 00.5	-0.3
SNZO	**South Karori**	**1.34**	**125**	⇑PN	P	22 20 00.7	-0.4
SNZO				PN	P	22 20 00.7	-0.3
SNZO				SN	S	22 20 22.9	-1.8
SNZO				SN	S	22 20 22.9	-1.8
NWEZ	**Newall Road**	**1.35**	**21**	⇓PN	P	22 20 00.8	-0.4
NWEZ	**Newall Road**	**1.35**	**21**	P	P	22 20 00.8	-0.4
WEL	**Wellington**	**1.37**	**123**	PN	P	22 20 01.0	-0.3
WEL				SN	S	22 20 23.0	-2.1
WEL	**Wellington**	**1.37**	**123**	P	P	22 20 01.0	-0.3
DFE	**Dawson Falls**	**1.38**	**29**	PN	P	22 20 01.0	-0.5
DFE	**Dawson Falls**	**1.38**	**29**	P	P	22 20 01.0	-0.5
CMWZ	**Cape Campbell**	**1.41**	**149**	PN	P	22 20 01.7	0.0
NEZ	**North Egmont**	**1.43**	**27**	PN	P	22 20 01.2	-0.7
NEZ	**North Egmont**	**1.43**	**27**	P	P	22 20 01.5	-0.4
PKE	**Pukeiti**	**1.46**	**23**	⇓PN	P	22 20 01.6	-0.6
PKE				SN	S	22 20 25.6	-1.0
PKE	**Pukeiti**	**1.46**	**23**	P	P	22 20 01.6	-0.6
PKE				S	S	22 20 26.1	-0.6
CAW	**Cannon Point**	**1.49**	**113**	⇑PN	P	22 20 02.1	-0.4
CAW	**Cannon Point**	**1.49**	**113**	P	P	22 20 02.1	-0.4
BHW	**Baring Head**	**1.50**	**126**	⇑PN	P	22 20 01.9	-0.7
BHW				SN	S	22 20 25.0	-2.3
BHW	**Baring Head**	**1.50**	**126**	P	P	22 20 01.9	-0.7
BHW				S	S	22 20 24.9	-2.4
RAEZ	**Rainy Point**	**1.53**	**35**	PN	P	22 20 02.4	-0.5
RAEZ	**Rainy Point**	**1.53**	**35**	P	P	22 20 02.5	-0.4
WAZ	**Wanganui**	**1.54**	**60**	PN	P	22 20 02.9	-0.1
WAZ				SN	S	22 20 28.4	+0.3
WAZ	**Wanganui**	**1.54**	**60**	P	P	22 20 03.0	0.0
DSZ	**Denniston Nort**	**1.62**	**222**	PN	P	22 20 02.7	-1.1
DSZ				SN	S	22 20 26.4	-3.1
DSZ	**Denniston Nort**	**1.62**	**222**	P	P	22 20 02.7	-1.1
MSWZ	**Moikau Station**	**1.75**	**121**	⇑PN	P	22 20 04.4	-0.7
MSWZ				SN	S	22 20 29.0	-2.6
MRZ	**Mangatainoka R**	**1.78**	**95**	⇑PN	P	22 20 04.8	-0.5
MRZ				SN	S	22 20 29.5	-2.7
MTW	**Mount Morrison**	**1.81**	**111**	⇑PN	P	22 20 05.2	-0.6
MTW				SN	S	22 20 30.7	-2.2
MTW	**Mount Morrison**	**1.81**	**111**	P	P	22 20 05.2	-0.5
VRZ	**Vera Road**	**1.83**	**40**	⇓PN	P	22 20 04.7	-1.2
VRZ				SN	S	22 20 31.7	-1.4
VRZ	**Vera Road**	**1.83**	**40**	P	P	22 20 04.7	-1.2
VRZ				S	S	22 20 31.7	-1.5
PAWZ	**Paruwai Farm**	**1.85**	**118**	⇑PN	P	22 20 05.4	-0.7
PAWZ				SN	S	22 20 31.0	-2.5
KHZ	**Kahutara**	**1.89**	**173**	⇑PN	P	22 20 05.4	-1.1
KHZ				SN	S	22 20 31.6	-2.6
KHZ	**Kahutara**	**1.89**	**173**	P	P	22 20 05.4	-1.1
TSZ	**Takapari Road**	**2.13**	**78**	PN	P	22 20 08.3	-0.9
TSZ				SN	S	22 20 36.8	-2.1
TSZ	**Takapari Road**	**2.13**	**78**	P	P	22 20 08.3	-0.9
WNVZ	**Wahianoa**	**2.17**	**57**	⇓PN	P	22 20 08.5	-1.2
DRZ	**Dome Shelter**	**2.18**	**55**	PN	P	22 20 08.8	-1.0
DRZ	**Dome Shelter**	**2.18**	**55**	P	P	22 20 09.3	-0.5
FWVZ	**Far West T-bar**	**2.19**	**55**	PN	P	22 20 08.7	-1.2
FWVZ				SN	S	22 20 37.7	-2.5
FWVZ	**Far West T-bar**	**2.19**	**55**	P	P	22 20 07.8	-2.1
WPVZ	**Whakapapa**	**2.21**	**54**	PN	P	22 20 08.9	-1.3
CNZ	**Chateau**	**2.22**	**54**	PN	P	22 20 08.8	-1.4
CNZ	**Chateau**	**2.22**	**54**	P	P	22 20 08.8	-1.5
MOVZ	**Moawhango**	**2.23**	**60**	⇓PN	P	22 20 08.8	-1.6
MOVZ				SN	S	22 20 37.8	-3.3
TWVZ	**Taurewa**	**2.23**	**50**	PN	P	22 20 08.8	-1.7
TWVZ				SN	S	22 20 39.2	-2.0
TUVZ	**Tukino**	**2.24**	**56**	⇓PN	P	22 20 09.3	-1.3
TUVZ	**Tukino**	**2.24**	**56**	P	P	22 20 09.4	-1.1
NGZ	**Ngauruhoe**	**2.27**	**54**	⇓PN	P	22 20 09.3	-1.5
NGZ				SN	S	22 20 39.1	-2.7
NGZ	**Ngauruhoe**	**2.27**	**54**	P	P	22 20 09.3	-1.5
BFZ	**Birch Farm**	**2.28**	**94**	⇑PN	P	22 20 10.4	-0.6
BFZ				SN	S	22 20 39.3	-2.9
BFZ	**Birch Farm**	**2.28**	**94**	P	P	22 20 10.4	-0.6
WTVZ	**West Tongariro**	**2.30**	**52**	PN	P	22 20 09.6	-1.6
WTVZ				SN	S	22 20 39.6	-2.8
MGZ	**Maungaku**	**2.34**	**50**	PN	P	22 20 10.1	-1.6
MGZ	**Maungaku**	**2.34**	**50**	P	P	22 20 10.1	-1.6
KAVZ	**Karewarewa**	**2.34**	**53**	PN	P	22 20 10.1	-1.6
KAVZ	**Karewarewa**	**2.34**	**53**	P	P	22 20 10.1	-1.6
LTZ	**Lake Taylor**	**2.35**	**198**	PN	P	22 20 10.4	-1.5
LTZ				SN	S	22 20 39.4	-4.3
LTZ	**Lake Taylor**	**2.35**	**198**	P	P	22 20 10.4	-1.5
HIZ	**Hauiti**	**2.38**	**32**	⇓PN	P	22 20 10.3	-1.8
HIZ				SN	S	22 20 42.0	-2.1
KATZ	**Kakaramea**	**2.45**	**51**	PN	P	22 20 11.4	-1.6
KATZ	**Kakaramea**	**2.45**	**51**	P	P	22 20 11.4	-1.6
RITZ	**Rihia Road**	**2.55**	**53**	PN	P	22 20 12.7	-1.4
RITZ	**Rihia Road**	**2.55**	**53**	P	P	22 20 12.9	-1.2
RATZ	**Rangitukua**	**2.56**	**50**	⇓PN	P	22 20 13.1	-1.2
RATZ	**Rangitukua**	**2.56**	**50**	P	P	22 20 13.1	-1.2
WATZ	**Wairara**	**2.65**	**47**	PN	P	22 20 13.4	-2.0
WATZ	**Wairara**	**2.65**	**47**	P	P	22 20 13.7	-1.7
PWZ	**Pawanui**	**2.81**	**81**	PN	P	22 20 16.2	-1.1
PWZ				SN	S	22 20 51.0	-2.3
PWZ	**Pawanui**	**2.81**	**81**	P	P	22 20 16.2	-1.1
BKZ	**Black Stump Fm**	**2.85**	**62**	PN	P	22 20 15.6	-2.2
BKZ				SN	S	22 20 50.3	-3.8
BKZ	**Black Stump Fm**	**2.85**	**62**	P	P	22 20 15.6	-2.2
CRLZ	**Canterbury Las**	**3.07**	**189**	SN	S	22 20 52.3	-6.6
WVZ	**Waitaha Valley**	**3.15**	**216**	⇓PN	P	22 20 18.8	-2.7
WVZ				SN	S	22 20 53.9	-6.9
MQZ	**McQueen's Vall**	**3.19**	**188**	PN	P	22 20 18.8	-3.3
MQZ				SN	S	22 20 55.1	-6.6
MQZ	**McQueen's Vall**	**3.19**	**188**	P	P	22 20 18.6	-3.4
RPZ	**Rata Peaks**	**3.57**	**207**	PN	P	22 20 23.7	-3.0
RPZ				SN	S	22 21 02.8	-7.2
RPZ	**Rata Peaks**	**3.57**	**207**	P	P	22 20 23.8	-2.9
KNZ	**Kokohu**	**3.73**	**67**	PN	P	22 20 26.1	-2.7
KNZ	**Kokohu**	**3.73**	**67**	*e*P	P	22 20 26.1	-2.7
URZ	**Urewera**	**3.76**	**54**	PN	P	22 20 25.5	-3.7
URZ	**Urewera**	**3.76**	**54**	P	P	22 20 25.5	-3.7
MWZ	**Matawai**	**3.98**	**58**	PN	P	22 20 28.7	-3.3
MWZ	**Matawai**	**3.98**	**58**	P	P	22 20 28.7	-3.3
LBZ	**Lake Benmore**	**4.46**	**210**	PN	P	22 20 34.4	-3.8
PUZ	**Puketiti**	**4.60**	**59**	PN	P	22 20 36.2	-3.8
PUZ	**Puketiti**	**4.60**	**59**	*e*P	P	22 20 36.2	-3.8
ODZ	**Otahua Downs**	**4.89**	**202**	PN	P	22 20 40.4	-3.3
ODZ	**Otahua Downs**	**4.89**	**202**	P	P	22 20 40.4	-3.4
MXZ	**Matakaoa Point**	**4.93**	**55**	PN	P	22 20 40.4	-3.9
MXZ	**Matakaoa Point**	**4.93**	**55**	P	P	22 20 40.5	-3.8
WKZ	**Wanaka**	**5.30**	**215**	PN	P	22 20 44.1	-5.0
AXZ	**Alexandra**	**5.53**	**210**	PN	P	22 20 46.9	-5.2
AXZ				SN	S	22 21 45.7	-10
TUZ	**Tuapeka**	**6.02**	**205**	PN	P	22 20 54.5	-4.0
TUZ	**Tuapeka**	**6.02**	**205**	*e*P	P	22 20 54.6	-3.9
MLZ	**Mavora Lakes**	**6.08**	**216**	PN	P	22 20 55.3	-4.0
MLZ	**Mavora Lakes**	**6.08**	**216**	*e*P	P	22 20 55.4	-3.9
WHZ	**Wether Hill Ro**	**6.60**	**214**	PN	P	22 21 01.5	-4.7
WHZ	**Wether Hill Ro**	**6.60**	**214**	*e*P	P	22 21 01.5	-4.8

*NIED **02** 22:21:00, 39.00N×144.40E, h5^{km}, Mw3.8 Best double couple: $M_0$5.48×10^{14} NP1:ϕ_s186°, δ58°, λ-88°. NP2:ϕ_s2°, δ32°, λ-93°.*

*JMA **02** 22:21:26.3±0.2, 39.02N×144.40E, h44^{km}, M3.9*

*IDC **02** 22:22:03.5±1.3, 46.47N×142.22E, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/22, Error ellipse: s-maj=29.9km s-min=23.7km az=90.0*

ISC 02 22:21:25.4±1.1**, 39.01N**±0.04×**144.43E**±0.08**, h53^{km}**±13^{km}**, n24, $\sigma 1\overset{s}{.}17$**/35**, mb3.7**/5**, MS3.5**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyako 2**	**2.10**	**286**	P	**P**	**22 21 59.8**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.15	273	P	P	22 22 00.5	+0.8
OFUJ				S	S	22 22 25.6	+0.4
JTH	Tanohata	2.19	296	P	P	22 22 00.9	+0.6
JTH				S	S	22 22 26.3	+0.1
JOM	Ohasama	2.48	282	P	P	22 22 05.5	+1.1
JOM				eS	S	22 22 34.6	+1.0
JMK	Ichinoseki	2.51	270	P	P	22 22 05.6	+0.9
JMK				eS	S	22 22 34.6	+0.5
JANG	Nango	2.63	302	P	P	22 22 06.7	+0.2
JMM	Marumori	3.08	249	P	P	22 22 12.5	-0.3
JMM				eS	S	22 22 47.3	-1.4
JYK	Kaneyama	3.18	270	P	P	22 22 15.2	+1.0
JNBK	Urakawa-nobuka	3.51	339	eS	S	22 22 59.1	-0.3
JOT	Ohata	3.51	313	P	P	22 22 19.2	+0.3
JOT				eS	S	22 22 57.7	-1.9
JKB	Kayabe	3.87	319	eS	S	22 23 07.4	-1.2
JTKR	Abashiri--Toko	4.97	356	P	P	22 22 37.9	-1.5
JTKR				eS	S	22 23 32.0	-4.3
JHR	Hokuryu	5.15	338	P	P	22 22 43.0	+1.1
JHR				eS	S	22 23 40.0	-0.7
BSO1	Boso 1	5.16	214	P	P	22 22 38.4	-3.6
BSO1				eS	S	22 23 36.5	-4.5
ASAJ	Asahikawa	5.28	345	Pn	P	22 22 44.0	+0.2
	2.7nm,0.3s,baz=214,slow=13,SNR=4.5						
ASAJ				Sn	S	22 23 14.1	-30
	0.9nm,0.3s,baz=128,slow=19,SNR=2.8						
JRY	Ryogami san	5.32	237	P	P	22 22 43.2	-1.0
JRY				eS	S	22 23 41.0	-4.0
MAT	Matsushiro	5.51	245	P	P	22 22 47.4	+0.4
MAT				eS	S	22 23 49.1	-0.8
JOD2	Odawara 2	5.68	230	P	P	22 22 48.1	-1.1
JOD2				eS	S	22 23 48.8	-5.2
SONM	Songino Array	28.76	300	P	P	22 27 22.0	+2.1
	0.6nm,0.9s,mb3.3,baz=69,slow=12,SNR=2.5						
TGY	Tagaytay City	32.33	226	LR	LR	22 43 38.3	
	comp=Z,102nm,21.6s,MS3.5,baz=22,slow=35						
MKAR	Makanchi Array	45.12	301	P	P	22 29 41.0	+2.9
	0.6nm,0.8s,mb3.5,baz=80,slow=8.8,SNR=3.5						
ILAR	Eielson Array	46.54	33	P	P	22 29 50.6	+1.5
	0.5nm,0.6s,mb3.6,baz=277,slow=6.5,SNR=5.2						
INK	Inuvik	51.53	28	P	P	22 30 26.5	-1.1
	1.8nm,0.7s,mb4.1,baz=309,slow=6.5,SNR=2.7						
FINES	FINESS Array B	68.16	333	P	P	22 32 18.4	-3.1
	1.4nm,1.0s,mb3.9,baz=59,slow=8.1,SNR=2.7						

*JMA **02** 22:29:31.0±0.2,23.10N×121.57E,h67^{km},M3.2*
*TAP **02** 22:29:34.0,23.13N×121.34E,h22^{km},ML3.6*
TAP Felt II J at Chenggung.
ISC 02 22:29:31.3±0.3,**23.08N**±0.02×**121.59E**±0.02,**h23**^{km}±3^{km}, **n54**,σ1^{s}**22**/107,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	Chengkung	0.21	275	iP	Pb	22 29 37.7	+0.9
CHKT				S	Sb	22 29 41.5	+0.9
EHY	Hungye	0.49	330	eP	Pb	22 29 40.7	-0.5
EHY				S	Sb	22 29 49.4	+1.5
TTN	Taitung	0.52	231	P	Pb	22 29 43.5	+1.8
TTN				S	Sb	22 29 50.1	+1.3
ELDTW	Lidau	0.54	281	iP	Pb	22 29 41.0	-0.9
ELDTW				S	Sb	22 29 46.7	-2.6
TWG	Pinlang	0.54	241	P	Pb	22 29 42.2	+0.1
TWG				S	Sb	22 29 49.3	-0.2
ESL	Shilin	0.74	349	eP	Pb	22 29 46.0	+0.5
ESL				S	Sb	22 29 57.0	+1.9
ECL	Taimali	0.76	231	eP	Pb	22 29 45.2	-0.5
ECL				S	Sb	22 29 54.5	-1.1
STYT	Tauyuan	0.77	276	P	Pb	22 29 45.0	-0.8
STYT				S	Sb	22 29 53.7	-2.3
HWA	Hwalien	0.89	1	eP	Pb	22 29 50.5	+2.6
HWA				S	Sb	22 30 02.9	+3.5
WTP	Ta-pu	0.91	280	P	Pb	22 29 47.9	-0.4
WTP				S	Sb	22 29 58.2	-1.8
SGST	Jiashian	0.93	270	eP	Pb	22 29 48.5	-0.1
SGST				S	Sb	22 29 58.9	-1.5
SSD	Sandimen	0.94	249	eP	Pb	22 29 49.1	+0.3
SSD				S	Sb	22 30 00.8	-0.1
EAST	Anshuo	0.98	225	eP	Pb	22 29 48.9	-0.4
EAST				S	Sb	22 30 01.9	0.0
CHN1	Nanshi	0.98	276	eP	Pb	22 29 49.4	0.0
CHN1				S	Sb	22 30 01.6	-0.4
CHN5	Tsauling	0.98	302	eP	Pb	22 29 49.3	-0.1
CHN5				S	Sb	22 30 01.0	-1.0
TWD	Chiawan	0.99	0	eP	Pb	22 29 49.3	-0.4
TWD				S	Sb	22 30 05.7	+3.3
TWK	Hsinying	1.03	280	eP	Pb	22 29 50.0	-0.3
TWK				S	Sb	22 30 03.2	-0.2
LAY	Lan-yu	1.04	182	eP	Pb	22 29 51.0	+0.6
LAY				S	Sb	22 30 05.9	+2.2
TYC	Yuchr	1.06	321	eP	Pn	22 29 51.0	+0.2
TYC				S	Sb	22 30 03.8	-0.4
SGLT	Jiouru	1.07	251	eP	Pn	22 29 52.4	+1.4
SGLT				S	Sb	22 30 03.9	-0.7
WHF	Hehuan Shan	1.10	344	eP	Pn	22 29 50.5	-0.9
WHF				S	Sb	22 30 04.8	-0.5
CHN2	Minshiung	1.12	294	eP	Pn	22 29 52.0	+0.4
CHN2				S	Sb	22 30 04.0	-1.9
WGK	Gukeng	1.12	303	eP	Pn	22 29 51.9	+0.2
WGK				S	Sb	22 30 05.6	-0.4
CHN3	Shinhua	1.13	270	eP	Pn	22 29 53.4	+1.6
SCZT	Fangliau	1.14	232	eP	Pn	22 29 52.2	+0.2
SCZT				S	Sb	22 30 07.1	+0.5
WNT	Mingjian	1.15	314	eP	Pn	22 29 52.2	+0.1
WNT				S	Sb	22 30 06.0	-0.7
CHY	Chiayi	1.15	291	eP	Pn	22 29 52.2	+0.1
CHY				S	Sb	22 30 06.2	-0.6
CHN8	Yiju	1.29	282	eP	Pn	22 29 55.0	+0.8
CHN8				S	Sn	22 30 10.4	-0.5
HEN	Hengchun	1.33	216	eP	Pn	22 29 59.4	+4.7
HEN				S	Sn	22 30 16.1	+4.3
ENA	Nanau	1.35	6	eP	Pn	22 29 55.0	+0.1
ENA				S	Sn	22 30 12.8	+0.6
TWK1	Hengchun	1.35	213	eP	Pn	22 29 55.6	+0.7
TWK1				S	Sn	22 30 13.2	+1.0
TWP	Hsiaoliuchiu	1.35	237	eP	Pn	22 29 58.2	+3.3
TWP				S	Sn	22 30 13.0	+0.8
TCU	Taichung	1.35	322	eP	Pn	22 29 55.6	+0.6
TCU				S	Sn	22 30 12.3	0.0
NNS	Nan Shan	1.36	352	eP	Pn	22 29 57.4	+2.2
NNS				S	Sn	22 30 13.9	+1.2
WSF	Szhu	1.37	294	eP	Pn	22 29 55.2	-0.1
WSF				S	Sn	22 30 11.7	-1.2
TWQ1	Liyutan	1.46	329	eP	Pn	22 29 57.6	+0.9
TWQ1				S	Sn	22 30 15.5	+0.3
NSY	Sanyi	1.53	330	eP	Pn	22 29 58.8	+1.3
NSY				S	Sn	22 30 18.1	+1.2
TWC	Suao	1.54	9	eP	Pn	22 30 01.3	+3.6
TWC				S	Sn	22 30 19.8	+2.8
ENTT	Nioudou	1.55	359	eP	Pn	22 29 57.5	-0.3
ENTT				S	Sn	22 30 17.4	0.0
NSK	Sanguang	1.60	352	eP	Pn	22 29 58.8	+0.2
NSK				S	Sn	22 30 17.3	-1.4
NSTT	Nanjuang	1.63	341	eP	Pn	22 29 59.5	+0.5
NSTT				S	Sn	22 30 18.6	-0.8
TWE	Neicheng	1.63	3	eP	Pn	22 29 59.4	+0.3
TWE				S	Sn	22 30 23.2	+3.7
YOJ	Yonaguni jima	1.89	43	P	Pn	22 30 01.7	-1.0
YOJ				S	Sn	22 30 24.3	-1.8
PNG	Penghu	1.93	285	eP	Pn	22 30 02.4	-0.9
PNG				S	Sn	22 30 23.6	-3.5
TWB1	Santiao Chiao	1.95	11	eP	Pn	22 30 05.5	+1.9
TWB1				S	Sn	22 30 28.8	+1.3
NWF	Wu-fen Shan	1.99	5	eP	Pn	22 30 06.6	+2.5
NWF				S	Sn	22 30 32.4	+4.0
TWY	Chenhua	2.18	0	eP	Pn	22 30 10.3	+3.4
TWY				S	Sn	22 30 36.9	+3.4
HATJ	Hateruma jima	2.25	64	P	Pn	22 30 06.7	-1.2
HATJ				S	Sn	22 30 33.8	-1.4
IRIF	Iriomote-Funau	2.33	57	P	Pn	22 30 07.8	-1.1
IRIF				eS	Sn	22 30 36.2	-0.9
JKRS	Kuro-shima	2.50	62	P	Pn	22 30 10.6	-0.8
JKRS				eS	Sn	22 30 40.2	-1.3
PCYT	Pengchaiyu	2.57	10	eP	Pn	22 30 12.4	0.0
PCYT				S	Sn	22 30 42.2	-1.1
JIJ	Ishigaki jima	2.67	61	P	Pn	22 30 12.3	-1.5
JIJ				S	Sn	22 30 43.2	-2.5
JTJ	Tarama	3.25	61	P	Pn	22 30 20.4	-1.6
JTJ				eS	Sn	22 30 57.9	-2.5
JOGS	Gusukube	3.87	64	P	Pn	22 30 29.6	-1.3
JOGS				eS	Sn	22 31 15.1	-1.1

*BJI **02** 22:59:33.5,7.70S×159.61E,h15^{km},mB5.0,mb4.8,Ms4.5, Msz4.3*
*HRVD **02** 22:59:36.1±0.4,7.75S×159.54E,h23^{km}±1^{km},MW4.9/38, Centroid moment Tensor Solution. LP body waves: s28,c38;Mantle waves: s38,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.12±.16; M$_{\theta\theta}$-2.20±.11; M$_{\phi\phi}$0.08±.12; M$_{r\theta}$-1.16±.17; M$_{\theta\phi}$0.02±.10; M$_{\phi r}$1.28±.21; Best double couple: M$_0$2.74×10^{16} NP1:φ$_s$71°,δ34°,λ51°. NP2:φ$_s$295°,δ64°,λ113°. Principal axes: T 2.95, Plg64°, Azm243°; N -.41, Plg20°, Azm105°; P -2.54, Plg16°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **02** 22:59:36.1,7.94S×159.59E,h21^{km},MB4.9,MS4.2*
*NEIC **02** 22:59:36.1±0.2,7.94S×159.59E,mb4.9/36,MS4.2/20, Error ellipse: s-maj=9.2km s-min=6.1km az=134.0*
*MOS **02** 22:59:37.6±1.5,7.98S×159.42E,h33^{km},mb5.2/2,Error ellipse: s-maj=22.4km s-min=20.2km az=17.2*
*IDC **02** 22:59:39.4±5.6,7.88S×159.53E,h42^{km}±48^{km},mb4.5/11, mb1 4.7/12,mb1mx4.7/14,MS4.3/8,Ms1 4.3/8, ms1mx4.0/14,Error ellipse: s-maj=27.0km s-min=20.8km az=100.0*
ISC 02 22:59:34.7±0.3,**7.92S**±0.05×**159.50E**±0.06,**h21**^{km}, **h21**^{km}±.5^{km}**:pP-P,n129,**σ1^{s}**00**/96,**mb4.9**/55,**MS4.3**/33, **10C-9D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	12.29	262	P	P	23 02 33.3	+1.7
	baz=62,slow=6.0,SNR=4.2						
PMG	Port Moresby	12.29	262	P	P	23 02 31.9	+0.3
	42nm,0.9s						
NOUC	Port Laguerre	15.55	156	eP	P	23 03 19.7	+5.2
DZM	Mont Dzumac	15.58	155	eP	P	23 03 20.5	+5.5
CTA	Charters Tower	17.63	225	⇓iP	P	23 03 46.1	+5.2
	32nm,0.9s						
CTAO	Charters Tower	17.63	225	eP	P	23 03 42.2	+1.2
	42nm,0.7s						
KWAJ	Kwajalein Atol	18.47	26	eP	P	23 03 47.0	-4.4
	218nm,0.6s						
GUMO	Guam	25.84	326	eP	P	23 05 08.0	+1.2
	253nm,1.1s,mb5.7						
KAKA	Kakadu	27.07	258	⇑iP	P	23 05 18.1	+0.1
	14nm,0.6s,mb4.7						
KAKA				i PCP	PcP	23 08 38.9	-0.4
WB2	Warramunga Arr	27.13	241	⇑iP	P	23 05 18.5	0.0
WB2				ePCP	PcP	23 08 39.4	0.0
WB2				i PCS		23 12 20.2	
WRA	Warramunga Arr	27.14	241	P	P	23 05 18.3	-0.3
	68nm,0.9s,mb5.2,baz=66,slow=8.9,SNR=109						
WRA				PcP	PcP	23 08 38.6	-0.8
	8.0nm,0.8s,baz=68,slow=2.3,SNR=6.8						
STKA	Stephens Creek	29.09	213	⇓iP	P	23 05 36.3	+0.2
	20nm,0.9s,mb4.8						
STKA	Stephens Creek	29.09	213	P	P	23 05 36.4	+0.2
	19nm,0.6s,mb5.0,baz=36,slow=12,SNR=20						
STKA				LR	LR	23 17 31.2	
	comp=Z,1μm,19.0s,MS4.6,baz=157,slow=37						
ASPA	Alice Springs	29.11	235	⇑iP	P	23 05 35.5	-0.9
TOO	Toolangi	32.14	201	⇓iP	P	23 06 04.0	+1.0
	12nm,1.2s,mb4.6						
FITZ	Fitzroy Crossi	34.45	250	⇓iP	P	23 06 22.1	-1.2
	6.8nm,0.6s,mb4.8						
FITZ				i PCP	PcP	23 08 59.0	+0.4
FORT	Forrest	37.15	228	⇓iP	P	23 06 46.3	+0.3
	104nm,1.0s,mb5.6						
KLBR	Kellerberrin	45.41	233	⇓iP	P	23 07 53.4	-0.5
	56nm,1.3s,mb5.2						
NWAO	Narrogin (SRO)	46.33	231	eP	P	23 07 59.5	-1.7
	36nm,1.0s,mb5.3						
MAJO	Matsushiro	48.54	337	P	P	23 08 17.8	-0.7
MAJO				LR	LR		
	comp=Z,136nm,19.0s,MS4.0						
TATO	Taipei	49.40	313	PFAKE		23 08 40.0	+15
TATO				LR	LR		
	comp=Z,158nm,20.0s,MS4.0						
SSE	Sheshan	53.39	319	P	P	23 08 56.6	+1.3
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,38nm,4.0s						
SSE	Sheshan	53.39	319	P	P	23 08 56.6	+1.3
	comp=Z,32nm,0.7s,mb5.4						
KS15	Wonju Array Si	53.95	329	P	P	23 08 58.8	-0.5
YSS	Yuzh-Sakhalins	56.63	346	eP	P	23 09 22.1	+3.5
YSS				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
YSS	Yuzh-Sakhalins	56.63	346	PFAKE		23 09 30.0	+11
YSS				LR	LR		
	comp=Z,187nm,19.0s,MS4.2						
MDJ	Mudanjiang	58.84	335	P	P	23 09 33.2	-1.0
MDJ				AP	pP	23 09 39.6	-1.2
MDJ				XP	sP	23 09 42.1	-1.1
MDJ				PCP	PcP	23 10 22.0	-1.4
MDJ				PCS		23 14 23.6	
MDJ				S	S	23 17 39.6	+2.8
MDJ				XS		23 17 50.3	
MDJ				SS	SS	23 21 34.4	+2.3
MDJ				AMB	AMB		
	comp=Z,14nm,2.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,219nm,4.1s						
MDJ				LR	LR		
	comp=N,75nm,22.6s,MS4.0						
MDJ				LR	LR		
	comp=E,109nm,22.6s,MS4.0						
MDJ				LR	LR		
	comp=Z,111nm,23.3s,MS3.9						
CN2	Changchun	60.01	332	eP	P	23 09 41.6	-0.7
CN2				eAP	pP	23 09 47.6	-1.3
CN2				eS	S	23 17 52.8	+0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,13.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,13.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,14.0s,MS4.6						
PET	Petropavlovsk	60.71	359	eP	P	23 09 50.1	+3.2
PET				e		23 10 33.9	
PET				e		23 12 08.9	
PET				eS	S	23 18 00.5	-0.2
PET				ePS	PS	23 18 18.4	-0.5
PET				e		23 19 34.2	
PET				smax			
	comp=N,100nm,14.1s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
PET	Petropavlovsk	60.71	359	PFAKE		23 10 00.0	+13
PET				LR	LR		
	comp=Z,141nm,20.0s,MS4.1						
KKTK	Khon Kaen	61.04	294	P	P	23 09 50.0	+0.4
ENH	Enshi	61.18	311	eP	P	23 09 48.8	-1.6
	comp=Z,29nm,1.0s,mb5.4						
ENH				epP	pP	23 09 55.6	-1.5
ENH				LR	LR		
	comp=Z,99nm,22.0s,MS3.9						
GYA	Guiyang	61.59	306	⇑iP	P	23 09 53.3	0.0
GYA				AP	pP	23 09 59.8	-0.1
GYA				XP	sP	23 10 02.6	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.8						
FX1	Attu Island--F	61.67	9	P	P	23 09 51.2	-2.3
KLR	Kul'dur	61.88	340	eP	P	23 09 53.8	-1.1
BJI	Beijing	62.26	323	eP	P	23 09 56.2	-1.4
BJI				S	S	23 18 25.5	+4.9
BJI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.5						
BJI				LR	LR		
	comp=N,144nm,21.5s,MS4.3						
BJI				LR	LR		
	comp=E,149nm,19.8s,MS4.3						
BJI				LR	LR		
	comp=Z,141nm,21.5s,MS4.1						
BJI	Beijing	62.26	323	eP	P	23 09 56.2	-1.4
	comp=Z,5.0nm,1.3s,mb4.5						
BJI				S	S	23 18 25.5	+4.9
BJI				LR	LR		
	comp=Z,140nm,21.5s,MS4.1						
XAN	Xi'an	63.51	314	P	P	23 10 04.8	-1.2
XAN				AP	pP	23 10 10.9	-1.7
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
NANT	Nan	63.75	295	P	P	23 10 07.5	-0.3
KMI	Kunming	64.25	303	eP	P	23 10 12.0	+1.0
KMI				AP	pP	23 10 18.2	+0.6
KMI				XP	sP	23 10 20.6	+0.6
KMI				PP	PP	23 12 35.0	+0.8
KMI				S	S	23 18 46.8	+1.0
KMI				XS		23 18 56.7	
KMI				SS	SS	23 22 56.2	-0.9
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,104nm,4.3s						
KMI				LR	LR		
	comp=N,80nm,17.0s,MS4.2						
KMI				LR	LR		
	comp=E,96nm,17.0s,MS4.2						
KMI				LR	LR		
	comp=Z,117nm,16.2s,MS4.2						
KMI	Kunming	64.25	303	eP	P	23 10 12.0	+1.0
	comp=Z,15nm,1.2s,mb4.9						
KMI				pP	pP	23 10 18.2	+0.6
KMI				sP	sP	23 10 20.6	+0.6
KMI				PP	PP	23 12 35.0	+0.8
KMI				S	S	23 18 46.8	+1.0
KMI				sS		23 18 56.7	
KMI				SS	SS	23 22 56.2	-0.9
KMI				LR	LR		
	comp=Z,120nm,16.2s,MS4.2						
CHRT	Chiangrai	64.92	296	⇓P	P	23 10 16.3	+0.9
CM31	Chiang Mai Arr	65.22	294	⇑eP	P	23 10 17.9	+0.6
	comp=Z,28nm,0.9s,mb5.3						
CM31				epP	pP	23 10 25.1	+1.1
CMAR	Chiang Mai Arr	65.22	294	P	P	23 10 18.1	+0.7
	comp=Z,18nm,0.9s,mb5.1,baz=112,slow=4.8,SNR=47						
CHG	Chiang Mai	65.33	295	⇑P	P	23 10 18.4	+0.3
	comp=Z,24nm,1.0s,mb5.2						
CD2	Chengdu	65.84	309	eP	P	23 10 20.0	-1.1
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
HIA	Hailar	66.71	333	⇑eP	P	23 10 25.6	-0.7
	comp=Z,24nm,1.1s,mb5.1						
HIA				epP	pP	23 10 32.0	-0.9
CASY	Casey	67.15	199	eP	P	23 10 27.6	-1.3
	comp=Z,20nm,1.1s,mb5.1						
CASY				epP	pP	23 10 35.4	-0.2
LZH	Lanzhou	68.14	314	eP	P	23 10 36.4	+0.8
LZH				AP	pP	23 10 43.5	+1.3
LZH				XP	sP	23 10 47.8	+3.2
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,141nm,4.4s						
LZH				LR	LR		
	comp=N,121nm,14.4s						
LZH				LR	LR		
	comp=Z,140nm,16.7s,MS4.3						
LZH	Lanzhou	68.14	314	eP	P	23 10 36.4	+0.8
	comp=Z,43nm,1.5s,mb5.3						
LZH				pP	pP	23 10 43.5	+1.3
LZH				sP	sP	23 10 47.8	+3.2
LZH				LR	LR		
	comp=Z,140nm,16.7s,MS4.3						
VNDA	Vanda	69.58	179	P	P	23 10 44.1	+0.3
	comp=Z,2.5nm,1.0s,mb4.1,baz=339,slow=7.1,SNR=6.4						
VNDA				LR	LR	23 36 34.1	
	comp=Z,243nm,18.3s,MS4.5,baz=318,slow=32						
VNDA	Vanda	69.58	179	eP	P	23 10 43.1	-0.7
	comp=Z,5.3nm,1.0s,mb4.4						
VNDA				LR	LR		
	comp=Z,381nm,22.0s,MS4.6						
SBA	Scott Base	70.01	178	P	P	23 10 49.8	+3.3
	comp=Z,7.4nm,1.1s,mb4.5						
SBA				epP	pP	23 10 55.5	+2.4
GTA	Gaotai	72.50	315	eP	P	23 11 02.7	+0.7
GTA				AP	pP	23 11 09.2	+0.5
GTA				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
SONM	Songino Array	72.57	326	P	P	23 11 02.6	+0.3
	comp=Z,9.8nm,0.8s,mb4.8,baz=138,slow=6.1,SNR=73						
YAK	Yakutsk	73.47	346	PFAKE		23 11 20.0	+13
YAK				LR	LR		
	comp=Z,154nm,21.0s,MS4.3						
SHL	Shillong	73.62	299	eP	P	23 11 10.0	+1.1
LSA	Lhasa	75.49	303	P	P	23 11 21.2	+1.6
LSA	Lhasa	75.49	303	eP	P	23 11 20.7	+1.0
	comp=Z,9.3nm,0.9s,mb4.7						
ZAK	Zakamensk	75.67	327	⇑iP	P	23 11 20.1	-0.1
ZAK				e	pP	23 11 26.0	-0.9
PKI	Pulchoki	79.75	300	eP	P	23 11 43.8	+0.6
	comp=Z,42nm,1.1s,mb5.3						
PMR	Palmer	79.89	22	eP	P	23 11 42.1	-1.1
	comp=Z,14nm,0.9s,mb4.9						
PMR				epP	pP	23 11 48.8	-1.2
PMR				LR	LR		
	comp=Z,133nm,19.0s,MS4.3						
KKN	Kakani	79.91	300	eP	P	23 11 44.3	+0.2
	comp=Z,27nm,1.0s,mb5.1						
DMN	Daman	80.02	300	eP	P	23 11 45.1	+0.5
	comp=Z,76nm,1.2s,mb5.5						
GKN	Gorkha	80.52	300	eP	P	23 11 47.1	-0.2
	comp=Z,35nm,0.9s,mb5.3						
MCK	McKinley	81.29	21	eP	P	23 11 49.4	-1.2
	comp=Z,8.3nm,0.9s,mb4.7						
MCK				LR	LR		
	comp=Z,76nm,19.0s,MS4.1						
KOLN	Koldanda	81.35	300	eP	P	23 11 52.0	+0.3
	comp=Z,55nm,1.4s,mb5.3						
QSPA	South Pole Qui	82.06	180	eP	P	23 11 52.9	-1.4
	comp=Z,5.7nm,1.0s,mb4.5						
QSPA				LR	LR		
	comp=Z,120nm,18.0s,MS4.3						
COLA	College	82.37	20	eP	P	23 11 54.0	-2.2
	comp=Z,13nm,1.0s,mb4.8						
COLA				LR	LR		
	comp=Z,106nm,19.0s,MS4.2						
WMQ	Urumqi	82.56	316	⇓P	P	23 11 57.5	-0.1
WMQ				AP	pP	23 12 04.0	-0.4
WMQ				XP	sP	23 12 06.7	+0.1
WMQ				ePP	PP	23 15 12.0	+2.8
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=E,50nm,19.2s						
WMQ				LR	LR		
	comp=Z,33nm,21.0s,MS3.7						
ILAR	Eielson Array	82.64	20	P	P	23 11 56.8	-0.8
	comp=Z,2.9nm,0.9s,mb4.3,baz=272,slow=4.9,SNR=22						
ILAR				LR	LR	23 45 06.1	
	comp=Z,108nm,19.3s,MS4.2,baz=272,slow=33						
VIB	Van Inlet	83.46	34	T		00 43 50.0	
	SNR=13						
DAWY	Dawson	84.98	23	eP	P	23 12 09.5	+0.1
DAWY				e		23 12 19.6	
MAW	Mawson	85.26	202	⇓iP	P	23 12 11.2	+0.4
	comp=Z,5.5nm,0.9s,mb4.7						
BBB	Bella Bella	85.60	36	LR	LR	23 47 07.6	
	comp=Z,119nm,18.0s,MS4.3,slow=33						
YBH	Yreka Blue Hor	86.21	47	P	P	23 12 17.2	+1.1
	comp=Z,2.9nm,1.0s,mb4.5,baz=240,slow=2.1,SNR=4.9						
YBH	Yreka Blue Hor	86.21	47	eP	P	23 12 17.1	+1.0
	comp=Z,9.4nm,1.0s,mb5.0						
YBH				epP	pP	23 12 23.7	+0.8
HUMO	Hull Mountain	86.25	46	eP	P	23 12 17.0	+0.8
	comp=Z,9.8nm,1.0s,mb5.0						
HUMO				epP	pP	23 12 23.9	+0.8
MKAR	Makanchi Array	87.06	318	P	P	23 12 20.1	0.0
	comp=Z,14nm,1.1s,mb5.1,baz=104,slow=5.0,SNR=15						
CMB	Columbia Colle	87.11	51	eP	P	23 12 21.4	+0.8
	comp=Z,4.8nm,1.1s,mb4.6						
CMB				epP	pP	23 12 27.4	0.0
BEKR	Beckwourth	87.53	49	P	P	23 12 22.5	0.0
	comp=Z,13nm,1.3s,mb5.0						
BEKR				epP	pP	23 12 29.7	+0.3
MWC	Mount Wilson	88.20	55	eP	P	23 12 26.8	+0.8
MWC				epP	pP	23 12 33.3	+0.5
NVS	Novosibirsk	88.60	326	iP	P	23 12 25.9	-1.4
NVS				pmax	pmax		
	comp=N,2.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
NVS				pmax	pmax		
	comp=Z,17nm,1.7s,mb5.1						

NVAR	Mina Array Bea	88.80	51	P	P	23 12 30.1	+1.4
	comp=Z,1.9nm,0.9s,mb4.4,baz=240,slow=5.8,SNR=9.4						
WVOR	Wild Horse Val	89.32	47	*e*P	P	23 12 30.1	-0.9
	comp=Z,8.9nm,1.1s,mb5.0						
WVOR				*e*pP	pP	23 12 38.0	+0.1
TPH	Tonopah	89.57	52	P	P	23 12 38.9	+6.5
	comp=Z,7.3nm,1.3s,mb4.8						
KSH	Kashi	90.02	310	*e*P	P	23 12 34.9	+0.5
KSH				*e*AP	pP	23 12 44.8	+3.6
KSH				*e*XP	sP	23 12 49.4	+6.0
NEN	Nelson	91.05	54	*e*P	P	23 12 40.6	+1.4
NEN				*e*pP	pP	23 12 46.6	+0.6
NEW	Newport	91.46	42	LR	LR	23 46 33.7	
	comp=Z,150nm,20.7s,MS4.4,baz=71,slow=31						
HLID	Hailey	92.57	47	*e*P	P	23 12 47.1	+1.1
	comp=Z,6.2nm,1.1s,mb5.0						
SYO	Syowa Base	92.88	198	⇑P	P	23 12 46.7	-0.2
SYO	Syowa Base	92.88	198	⇑PcP	PcP	23 12 48.0	+0.2
CTU	Camp Tracy	94.15	50	P	P	23 12 53.8	+0.4
CTU				*e*pP	pP	23 13 01.0	+0.8
HWUT	Hardware Ranch	94.40	49	*e*P	P	23 12 55.8	+1.3
	comp=Z,4.5nm,1.0s,mb4.8						
YKA	Yellowknife Ar	95.06	28	P	P	23 12 56.0	-1.0
	comp=Z,1.7nm,0.7s,mb4.6,baz=255,slow=4.4,SNR=12						
YKA				LR	LR	23 50 09.2	
	comp=Z,137nm,19.7s,MS4.4,baz=270,slow=32						
PDAR	Pinedale Array	96.00	48	P	P	23 13 02.3	+0.5
	comp=Z,0.6nm,0.8s,mb4.1,baz=288,slow=4.7,SNR=3.8						
PDAR				LR	LR	23 52 36.1	
	comp=Z,48nm,18.3s,MS4.0,baz=146,slow=33						
ZRNK	Zerenda	96.56	322	P	P	23 13 02.3	-1.8
	comp=Z,6.3nm,1.5s,mb4.8						
ANMO	Albuquerque	97.78	56	PFAKE		23 13 20.0	+10
ANMO				LR	LR		
	comp=Z,192nm,20.0s,MS4.6						
SDCO	Great Sand Dun	98.73	53	PFAKE		23 13 30.0	+16
SDCO				LR	LR		
	comp=Z,114nm,20.0s,MS4.4						
TXAR	Lajitas Array	99.77	62	LR	LR	23 53 58.4	
	comp=Z,97nm,18.2s,MS4.3,baz=270,slow=33						
ARU	Arti	102.61	326	PFAKE		23 13 40.0	+8.8
ARU				LR	LR		
	comp=Z,30nm,19.0s,MS3.8						
WMOK	Wichita Mounta	104.08	56	PFAKE		23 13 50.0	+12
WMOK				LR	LR		
	comp=Z,186nm,21.0s,MS4.6						
MIAR	Mount Ida	108.38	56	PFAKE		23 18 10.0	
MIAR				LR	LR		
	comp=Z,168nm,20.0s,MS4.6						
KIV	Kislovodsk	114.67	315	PFAKE		23 18 30.0	+12
KIV				LR	LR		
	comp=Z,19nm,19.0s,MS3.7						
OBN	Obninsk	114.93	328	PFAKE		23 18 30.0	+12
OBN				LR	LR		
	comp=Z,24nm,22.0s,MS3.8						
FINES	FINESS Array B	116.57	337	PKP	PKPdf	23 18 18.0	-3.3
	comp=Z,1.2nm,0.8s,baz=326,slow=6.9,SNR=4.3						
AKASG	Malin Array Be	120.86	326	PKP	PKPdf	23 18 26.5	-3.4
	comp=Z,1.8nm,0.7s,baz=60,slow=1.5,SNR=5.0						
KMBO	Kilima Mbogo	121.72	264	PKP	PKPdf	23 18 30.4	-2.0
	comp=Z,1.7nm,0.7s,baz=40,slow=12,SNR=6.9						
KMBO	Kilima Mbogo	121.72	264	*e*P	PKPdf	23 18 30.5	-2.0
NB2	NORSAR Subarra	121.99	342	PKPdf	PKPdf	23 18 28.1	-3.7
	comp=Z,0.6nm,0.7s,baz=39,slow=1.8						
NOA	NORSAR Array B	121.99	342	PKP	PKPdf	23 18 28.5	-3.3
	comp=Z,1.0nm,0.8s,baz=42,slow=1.9,SNR=5.0						
LBTB	Lobatse	124.45	232	PFAKE		23 18 50.0	+13
LBTB				LR	LR		
	comp=Z,226nm,20.0s,MS4.8						
CRVS	Cervenica-Dubn	126.08	327	*e*PKP	PKPdf	23 18 38.0	-2.0
LPAZ	La Paz	127.08	117	PKP	PKPdf	23 18 41.5	-1.2
	comp=Z,3.0nm,0.7s,baz=270,slow=2.2,SNR=18						
LPAZ	La Paz	127.08	117	*e*P	PKPdf	23 18 41.1	-1.6
VYHS	Vyhne	127.72	328	*e*	PKPdf	23 18 50.2	+7.0
SRO	Srobarova	128.42	327	*e*PKP	PKPdf	23 18 40.7	-3.8
BRG	Berggiesshubel	128.57	333	*e*PKIKP	PKPdf	23 18 42.3	-2.4
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	Collm	128.69	334	*e*PKIKP	PKPdf	23 18 42.0	-2.9
KHC	Kasperske Hory	129.95	331	*e*PKIKP	PKPdf	23 18 44.5	-2.9
GERES	GERESS Array B	130.09	331	PKP	PKPdf	23 18 45.3	-2.4
	comp=Z,0.8nm,0.6s,SNR=12						
SDV	Santo Domingo	130.42	85	*e*P	PKPdf	23 18 46.0	-3.2
SDV				*e*pP		23 18 52.4	
CPUP	Villa Florida	130.63	135	PKP	PKPdf	23 18 46.6	-2.7
	comp=Z,5.0nm,1.1s,baz=262,slow=4.2,SNR=7.3						
DAVOX	Davos	133.37	331	PKP	PKPdf	23 18 51.2	-2.7
	comp=Z,1.2nm,0.5s,baz=359,slow=15,SNR=4.2						
BDFB	Brasilia	144.07	131	PKP	PKPdf	23 19 09.6	-4.4
	comp=Z,10nm,0.9s,baz=240,slow=2.0,SNR=14						
ESDC	Sonseca Array	145.08	337	PKPbc	PKPbc	23 19 11.5	+0.3
	comp=Z,1.6nm,0.8s,baz=31,slow=3.2,SNR=14						
ESLA	Sonseca Array	145.08	337	*e*PKPdf	PKPdf	23 19 10.5	-4.7
ESLA				LR	LR		
	comp=Z,637nm,22.0s,MS5.3						
MTE	Manteigas	145.65	342	*e*PKPdf	PKPdf	23 19 13.7	-2.4
DBIC	Dimbokro	164.43	266	PFAKE		23 19 50.0	+8.2
DBIC				LR	LR		
	comp=Z,188nm,19.0s						

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*JMA **02** 23:06:43.0±0.5, 22.66N×121.46E, h35^{km}, M2.9*

TAP 02 23:06:43.8, 22.75N×121.33E, h31^{km}, ML3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.30	42	P	Pn	23 07 19.8	-0.6
YOJ				*e*S	Sn	23 07 46.4	-1.5
HATJ	Hateruma jima	2.62	60	P	Pn	23 07 23.4	-1.6
HATJ				*e*S	Sn	23 07 54.2	-1.9
IRIF	Iriomote-Funau	2.71	54	P	Pn	23 07 25.8	-0.5
IRIF				*e*S	Sn	23 07 57.4	-0.9
JKRS	Kuro-shima	2.87	58	*e*S	Sn	23 08 00.3	-2.1
JIJ	Ishigaki jima	3.04	58	P	Pn	23 07 29.7	-1.2
JIJ				*e*S	Sn	23 08 03.7	-3.0
JTJ	Tarama	3.62	58	*e*S	Sn	23 08 18.4	-2.9

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*HEL **03** 00:16:32.5±0.1, 68.13N×20.33E, ML2.0, ML2.0(UPP), ML2.0(BER), Explosion*

*BER **03** 00:16:32.7±2.9, 68.10N×20.30E, ML2.0, ML2.4(NAO), Suspected explosion*

*NAO **03** 00:16:33.0±2.4, 68.07N×20.70E, ML2.4*

ISC 03 00:16:30.8±0.4, **68.13N**±0.02×**20.24E**±0.07, **n30**, σ**1^{s}10**/41, **1C-2D, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.18	168	⇑*i*P	Pg	00 16 36.0	+1.6
KUA				*i* S	Sg	00 16 38.2	+1.4
NIKU	Nikkaluokta	0.52	240	⇓*i*P	Pg	00 16 42.2	+1.0
NIKU				*i* S	Sg	00 16 49.1	+0.9
KIF	Kilpisjarvi	0.90	13	*e*P	Pg	00 16 50.0	+1.2
KIF				*e*S	Sg	00 17 02.5	+1.7
MASU	Masugnsbyn	0.95	134	⇓*e*P	Pg	00 16 49.4	-0.4
MASU				*e*S	Sg	00 17 01.7	-0.8
DUNU	Dundret	1.02	173	*e*P	Pb	00 16 50.4	-0.6
KTK1	Kautokeino	1.42	50	*e*P	Pb	00 16 59.2	+1.4
KTK1				*e*SN	Sn	00 17 17.2	-0.2
PAJU	Pajala	1.56	134	*e*P	Pn	00 16 59.9	-0.1
PAJU				*e*S	Sb	00 17 19.9	-0.7
TRO	Tromso	1.58	343	*e*P	Pn	00 17 00.4	+0.2
TRO				*e*SG	Sg	00 17 22.0	-1.5
TRO				AML	AML	00 17 23.3	
	comp=Z,23nm,0.5s						
ERTU	Ertsjaerv	1.75	154	*e*P	Pn	00 17 03.1	+0.4
ARA0	ARCESS Array S	2.38	51	*e*P	Pn	00 17 12.0	+0.4
ARA0				*e*SB	Sb	00 17 43.9	-0.3
ARA0	ARCESS Array S	2.38	51	Pn	Pn	00 17 12.0	+0.4
	baz=227,slow=16						
ARA0				Lg		00 17 43.9	
	baz=231,slow=28						
SGF	Sodankyl	2.49	103	*e*P	Pn	00 17 13.4	+0.2
SGF				*e*S	Sn	00 17 43.9	-0.8
SGF				MSG		00 17 49.5	
	comp=Z,4.2nm,0.1s						
LOF	Lofoten	2.51	273	*e*SG	Sg	00 17 52.4	-1.9
LOF				AML	AML	00 17 55.8	
	comp=Z,15nm,0.5s						
SJUU	Sjulsmark	2.69	168	*e*P	Pn	00 17 16.9	+0.9
LILU	Lilltraesk	2.86	183	*e*P	Pn	00 17 19.1	+0.6
KEV	Kevo	2.94	53	*e*P	Pn	00 17 19.7	+0.1
KEV				MSG		00 18 03.3	
	comp=Z,6.3nm,0.2s						
MOR8	Moi Rana	3.00	232	*e*SG	Sg	00 18 00.9	-10
MOR8				AML	AML	00 18 03.3	
	comp=Z,14nm,0.5s						
STOK	Stokkvaagen	3.34	241	*e*SG	Sg	00 18 16.4	-5.4
BURU	Burvik	3.59	172	*e*P	Pn	00 17 29.2	+0.3
SVAU	Svanoeiden	3.66	184	*e*P	Pn	00 17 30.2	+0.3
OUL	Oulu	3.80	141	MSG		00 18 34.3	
	comp=Z,3.2nm,0.2s						
MSF	Maaselka	4.11	119	MSG		00 18 42.1	
	comp=Z,1.8nm,0.2s						
UMAU	Umeaa	4.27	177	*e*P	Pn	00 17 38.2	-0.3
APA0	Apatity Array	4.85	90	Pn	Pn	00 17 45.0	-1.8
	baz=286,slow=11						
APA0				Sn	Sn	00 18 38.9	-5.7
	baz=286,slow=28						
APA0	Apatity Array	4.85	90	*e*P	Pn	00 17 45.0	-1.8
APA0				*e*S	Sn	00 18 38.9	-5.7
NSS	Namsos	4.91	227	*e*SG	Sg	00 19 05.3	-9.1
NSS				AML	AML	00 19 06.8	
	comp=Z,5.1nm,0.6s						
KJN	Kajaani	5.07	140	MSG		00 18 47.9	
	comp=Z,1.7nm,0.2s						
FIA0	FINESS Array S	7.16	157	Pn	Pn	00 18 16.5	-2.8
	baz=349,slow=12						
FIA0				Sn	Sn	00 19 34.1	-8.2
	baz=353,slow=22						
FIA0				Lg		00 20 10.8	
	baz=347,slow=28						
HFS	Hagfors	8.52	203	Pn	P	00 18 34.7	-3.6
	baz=4.6,slow=12						
HFS				Sn	Sn	00 20 06.2	-10
	baz=15,slow=22						
HFS	Hagfors	8.52	203	*e*P	P	00 18 34.7	-3.6
HFS				*e*S	Sn	00 20 06.2	-10

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*BER **03** 00:28:25.4±4.8, 75.14N×11.99E, h14^{km}±121^{km}, ML2.0(NAO)*

NAO 03 00:28:21.4±4.2, **74.96N×11.46E, ML2.0, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	3.43	17	Pn	Pn	00 29 16.6	-0.6
	baz=214,slow=16						
KBS	Kingsbay	3.99	1	Pn	Pn	00 29 20.3	-4.9
ARA0	ARCESS Array S	6.92	135	Pn	Pn	00 30 02.8	-3.7
	baz=322,slow=14						
ARA0				Sn	Sn	00 31 19.4	-7.5
	baz=327,slow=22						
HFS	Hagfors	14.92	176	P	P	00 31 54.7	-0.2
	baz=4.1,slow=8.6						

WEL 03 00:38:13.2±0.4, **45.09S×167.50E, h117**^{km}±3^{km}, **ML3.5**/6, **1C-3D, Error ellipse: s-maj=3.1km s-min=2.8km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.46	212	PN	P	00 38 29.9	-0.8
DCZ				SN	S	00 38 43.0	-0.8
MLZ	Mavora Lakes	0.54	119	⇓PN	P	00 38 30.9	-0.2
MLZ				SN	S	00 38 44.6	-0.2
WHZ	Wether Hill Ro	0.87	159	⇓PN	P	00 38 33.6	-0.3
WHZ				SN	S	00 38 49.1	-0.3
WKZ	Wanaka	1.11	77	PN	P	00 38 36.2	-0.2
WKZ				SN	S	00 38 52.7	-1.1
AXZ	Alexandra	1.31	99	PN	P	00 38 38.1	-0.5
AXZ				SN	S	00 38 55.9	-2.0
TUZ	Tuapeka	1.73	121	⇑PN	P	00 38 43.1	-0.6
TUZ				SN	S	00 39 03.8	-2.8
LBZ	Lake Benmore	2.04	71	⇓PN	P	00 38 45.3	-2.1
LBZ				SN	S	00 39 09.3	-3.9
ODZ	Otahua Downs	2.23	90	PN	P	00 38 48.2	-1.8
ODZ				SN	S	00 39 13.9	-3.8
RPZ	Rata Peaks	2.89	63	PN	P	00 38 55.6	-3.2
RPZ				SN	S	00 39 28.3	-5.1
WVZ	Waitaha Valley	3.08	50	PN	P	00 38 57.8	-3.6
WVZ				SN	S	00 39 32.0	-5.9
MQZ	McQueen's Vall	3.94	71	PN	P	00 39 10.4	-2.6
MQZ				*e*SN	S	00 39 51.1	-7.6
LTZ	Lake Taylor	4.14	58	PN	P	00 39 13.4	-2.3
QRZ	Quartz Range	5.63	43	PN	P	00 39 32.3	-3.5

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*NEIC **03** 00:43:41.7±0.7, 23.90N×121.59E, h10^{km}, mb4.4/3, ML4.6(TAP), Error ellipse: s-maj=16.1km s-min=15.1km az=71.0*

NEIC Recorded [3 TAP] in Hua-lien and [2 TAP] in I-lan and Nan-t'ou Counties.

*IDC **03** 00:43:41.9±0.9, 23.88N×121.73E, mb3.7/9, mb1 3.9/10, mb1mx3.8/20, ML4.0/1, MS3.5/3, Ms1 3.6/3, ms1mx3.0/21, Error ellipse: s-maj=33.8km s-min=20.8km az=64.0*

*BJI **03** 00:43:42.7, 23.83N×121.47E, h7^{km}, mB4.3, mb4.5, ML4.2, Ms3.9, Msz3.8*

*TAP **03** 00:43:44.5, 23.96N×121.69E, h22^{km}, ML4.5*

TAP Felt II J at Shilin, II J at Hehuanshan, II J at Nanau, II J at Nanshan, I J at Nioudou, II J at Chiawan, III J at Hualien.

*JMA **03** 00:43:44.7±0.2, 24.05N×121.66E, h75^{km}, M3.7*

ISC 03 00:43:44.9±0.3, **23.95N**±0.02×**121.77E**±0.02, **h23**^{km}±3^{km}, **n84**, σ**1^{s}14**/129, **mb3.8**/12, **MS3.5**/3, **5C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.15	279	⇑*i*P	Pb	00 43 49.2	-0.5
TWD	Chiawan	0.20	309	⇑*i*P	Pb	00 43 49.6	-0.8
TWD				S	Sb	00 43 53.0	-1.0
ESL	Shilin	0.34	246	*i* P	Pb	00 43 51.3	-0.9
ESL				S	Sb	00 43 56.5	-0.8
ENA	Nanau	0.47	357	*i* P	Pb	00 43 54.5	0.0
ENA				S	Sb	00 44 01.3	+0.2
WHF	Hehuan Shan	0.50	293	P	Pb	00 43 54.0	-0.9
EHY	Hungye	0.60	223	⇓*i*P	Pb	00 43 55.5	-1.2
EHY				S	Sb	00 44 05.0	+0.3
NNS	Nan Shan	0.60	324	⇑*i*P	Pb	00 43 56.3	-0.4
NNS				S	Sb	00 44 03.9	-0.9
TWC	Suao	0.66	7	*i* P	Pb	00 43 57.9	+0.3
TWC				S	Sb	00 44 07.5	+1.1
ENTT	Nioudou	0.71	345	⇑*i*P	Pb	00 43 58.5	+0.1
ENTT				S	Sb	00 44 08.2	+0.5
TWE	Neicheng	0.77	353	*e*P	Pb	00 43 59.7	+0.2
TWE				S	Sb	00 44 10.5	+1.0
ILA	Ilan	0.81	359	*e*P	Pb	00 44 01.5	+1.3
ILA				S	Sb	00 44 12.8	+2.1
NSK	Sanguang	0.81	333	⇑*i*P	Pb	00 43 59.8	-0.4
NSK				S	Sb	00 44 09.9	-0.8
TYC	Yuchr	0.83	267	⇓*i*P	Pb	00 43 59.5	-1.1
TYC				S	Sb	00 44 10.1	-1.2
CHKT	Chengkung	0.93	204	*e*P	Pb	00 44 02.0	-0.1
CHKT				S	Sb	00 44 15.6	+1.6
NSTT	Nanjuang	0.97	314	*e*P	Pb	00 44 02.6	-0.3
NSTT				S	Sb	00 44 14.3	-1.0
ALS	Alishan	0.98	244	*e*P	Pb	00 44 02.5	-0.6
ALS				S	Sb	00 44 15.1	-0.6
TWQ1	Liyutan	0.99	294	*e*P	Pb	00 44 03.0	-0.2
TWQ1				S	Sb	00 44 15.6	-0.2
WNT	Mingjian	0.99	266	*e*P	Pb	00 44 03.2	-0.1
WNT				S	Sb	00 44 15.6	-0.4
TCU	Taichung	1.02	281	*e*P	Pb	00 44 03.7	0.0
TCU				S	Sb	00 44 17.2	+0.6
ELDTW	Lidau	1.02	222	*e*P	Pb	00 44 00.8	-3.0
NSY	Sanyi	1.03	297	*e*P	Pb	00 44 04.2	+0.3
NSY				S	Sb	00 44 17.8	+0.8
TATO	Taipei	1.05	346	*e*Pn	Pn	00 44 04.2	-0.1
TATO				*e*S	Sb	00 44 19.2	+1.6
CHN5	Tsauling	1.06	251	*e*P	Pb	00 44 04.1	-0.2
CHN5				S	Sb	00 44 18.5	+0.7
TWB1	Santiao Chiao	1.07	11	*e*P	Pb	00 44 04.7	+0.2
TAP1	Taipei	1.10	348	*e*P	Pn	00 44 05.8	+0.7
TAP1				S	Sb	00 44 19.9	+0.7
NWF	Wu-fen Shan	1.11	1	*e*P	Pn	00 44 04.2	-1.0
HSN	Hsinchu	1.11	320	*e*P	Pn	00 44 06.0	+0.7
HSN				S	Sb	00 44 21.2	+1.7
WGK	Gukeng	1.14	257	*e*P	Pn	00 44 06.0	+0.5
STYT	Tauyuan	1.22	230	*e*P	Pn	00 44 06.1	-0.5
STYT				S	Sb	00 44 21.9	-0.5
YOJ	Yonaguni jima	1.24	66	P	Pn	00 44 07.5	+0.4
YOJ				S	Sb	00 44 24.8	+1.6
CHN2	Minshiung	1.25	251	*e*P	Pn	00 44 08.0	+0.7
CHN2				S	Sb	00 44 25.5	+2.0
WTP	Ta-pu	1.27	237	*e*P	Pn	00 44 07.4	-0.1
WTP				S	Sb	00 44 24.7	+0.8
TWG	Pinlang	1.29	210	*e*P	Pn	00 44 05.6	-2.2
TWG				S	Sn	00 44 22.0	-2.5
CHY	Chiayi	1.31	250	*e*P	Pn	00 44 07.9	-0.2
CHY				S	Sn	00 44 25.6	+0.7
TTN	Taitung	1.32	206	*e*P	Pn	00 44 07.2	-1.0
TWY	Chenhua	1.33	353	*e*P	Pn	00 44 10.5	+2.2
TWK	Hsinying	1.36	240	*e*P	Pn	00 44 08.7	0.0
TWK				S	Sn	00 44 27.4	+1.3
WTCT	Ta-ch'eng	1.36	267	*e*P	Pn	00 44 08.8	0.0
CHN1	Nanshi	1.37	236	*e*P	Pn	00 44 08.9	0.0
CHN1				S	Sn	00 44 28.1	+1.7
SGST	Jiashian	1.39	232	*e*P	Pn	00 44 09.4	+0.2
SGST				S	Sn	00 44 28.6	+1.7
WSF	Szhu	1.45	258	*e*P	Pn	00 44 10.6	+0.6
WSF				S	Sn	00 44 30.2	+1.8
ECL	Taimali	1.54	209	*e*P	Pn	00 44 10.7	-0.7
CHN8	Yiju	1.55	247	*e*P	Pn	00 44 11.4	0.0
CHN8				S	Sn	00 44 32.7	+1.7
CHN3	Shinhua	1.55	236	*e*P	Pn	00 44 12.9	+1.4
SSD	Sandimen	1.59	221	*e*P	Pn	00 44 11.5	-0.5
SSD				S	Sn	00 44 33.9	+1.8
PCYT	Pengchaiyu	1.69	9	*e*P	Pn	00 44 14.1	+0.5
SGLT	Jiouru	1.69	224	*e*P	Pn	00 44 15.7	+2.2
EAST	Anshuo	1.78	209	*e*P	Pn	00 44 12.8	-1.9
TAW	Tawu	1.78	207	*e*P	Pn	00 44 17.4	+2.7
IRIF	Iriomote-Funau	1.83	78	P	Pn	00 44 16.0	+0.5
IRIF				S	Sn	00 44 39.1	+0.9
HATJ	Hateruma jima	1.87	86	P	Pn	00 44 16.4	+0.4
HATJ				S	Sn	00 44 40.4	+1.3
SCZT	Fangliau	1.89	214	*e*P	Pn	00 44 16.4	0.0
SCZT				S	Sn	00 44 41.2	+1.5
TWP	Hsiaoliuchiu	2.06	219	*e*P	Pn	00 44 20.3	+1.6
PNG	Penghu	2.06	260	*e*P	Pn	00 44 17.7	-1.1
PNG				S	Sn	00 44 42.9	-1.1
JKRS	Kuro-shima	2.07	82	P	Pn	00 44 19.5	+0.6
JKRS				S	Sn	00 44 45.7	+1.5
HEN	Hengchun	2.16	206	*e*P	Pn	00 44 19.9	-0.3
TWK1	Hengchun	2.19	204	*e*P	Pn	00 44 20.6	0.0
TWK1				S	Sn	00 44 50.2	+3.0
JIJ	Ishigaki jima	2.21	79	P	Pn	00 44 20.7	-0.2
JIJ				S	Sn	00 44 47.4	-0.4
JTJ	Tarama	2.77	75	P	Pn	00 44 28.8	0.0
JTJ				S	Sn	00 45 01.8	-0.1
QZH	Quanzhou	3.06	289	P	Pn	00 44 30.6	-2.4
QZH				S	Sn	00 45 03.8	-5.5
QZH				Smax			
	comp=N,630nm,0.6s						
QZH				Smax			
	comp=E,620nm,0.8s						
JOGS	Gusukube	3.42	76	S	Sn	00 45 18.6	+0.3
JKE	Kume jima 2	5.13	62	P	Pn	00 45 01.1	-1.2
JAGN	Aguni-jima	5.61	61	P	Pn	00 45 06.8	-2.3
JAGN				*e*S	Sn	00 46 10.2	-3.5
JOW	Kunigami	6.55	63	Pn	Pn	00 45 19.4	-3.0
	comp=E,7.8nm,0.3s,baz=220,slow=15,SNR=15						
JOW	Kunigami	6.55	63	P	Pn	00 45 19.1	-3.3
JOW				*e*S	Sn	00 46 31.4	-5.7
JTK	Tokunoshima	7.51	58	P	Pn	00 45 32.2	-3.7
GZH	Guangzhou	7.78	265	P	Pn	00 45 31.4	-8.2
GZH				Smax			
	comp=N,99nm,0.8s						
GZH				Smax			
	comp=E,81nm,1.0s						
GZH				LR	LR		
	comp=N,253nm,10.4s						
GZH				LR	LR		
	comp=E,536nm,13.2s						
GZH				LR	LR		
	comp=Z,754nm,15.7s						
JAM	Amami Oshima	8.32	56	P	P	00 45 43.0	-4.2
NJ2	Nanjing	8.47	343	*e*P	P	00 45 48.0	-1.2
NJ2				AP		00 45 51.1	
NJ2				XP		00 45 54.0	
NJ2				S	Sn	00 47 23.0	-2.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				Smax			
	comp=N,130nm,0.7s						
NJ2				Smax			
	comp=E,60nm,0.6s						
NJ2				LR	LR		
	comp=N,630nm,13.3s						
NJ2				LR	LR		
	comp=E,350nm,13.4s						
NJ2				LR	LR		
	comp=Z,670nm,20.2s						
GYA	Guiyang	13.90	283	P	P	00 47 00.5	-2.4
GYA				LR	LR		
	comp=N,630nm,6.6s						
GYA				LR	LR		
	comp=E,520nm,10.2s						
GYA				LR	LR		
	comp=Z,640nm,11.1s						
CMAR	Chiang Mai Arr	21.96	260	P	P	00 48 33.8	-5.1
	comp=Z,0.5nm,0.4s,mb3.3,baz=225,slow=32,SNR=3.1						
CMAR				LR	LR	00 57 30.9	
	comp=Z,100nm,18.4s,MS3.3,baz=70,slow=38						
SONM	Songino Array	26.79	337	P	P	00 49 24.0	-1.0
	comp=Z,1.0nm,0.8s,mb3.4,baz=153,slow=11,SNR=7.5						
MKAR	Makanchi Array	38.87	316	P	P	00 51 09.2	-1.0
	comp=Z,1.3nm,0.6s,mb3.8,baz=113,slow=9.2,SNR=6.8						
KURK	Kurchatov	42.61	320	P	P	00 51 36.2	-4.8
	comp=Z,2.3nm,0.7s,mb4.0						
WRA	Warramunga Arr	45.32	163	P	P	00 51 59.9	-3.2
	comp=Z,1.1nm,0.8s,mb3.7,baz=343,slow=8.5,SNR=5.2						
CTAO	Charters Tower	49.85	149	P	P	00 52 36.6	-2.1
	comp=Z,13nm,1.3s,mb4.8						
ARU	Arti	55.61	323	P	P	00 53 15.6	-5.5
	comp=Z,2.2nm,0.5s,mb4.4						
STKA	Stephens Creek	58.66	160	P	P	00 53 42.0	-1.0
	comp=Z,2.7nm,0.8s,mb4.3,baz=143,slow=18,SNR=3.5						
ILAR	Eielson Array	69.17	27	P	P	00 54 52.1	+0.8
	comp=Z,0.5nm,0.7s,mb3.6,baz=295,slow=8.3,SNR=6.0						
FINES	FINESS Array B	71.91	330	P	P	00 55 06.0	-1.9
	comp=Z,0.2nm,0.6s,mb3.3,baz=231,slow=27,SNR=3.1						
FINES				LR	LR	01 29 32.4	
	comp=Z,43nm,20.0s,MS3.7,baz=309,slow=38						
AKASG	Malin Array Be	73.40	318	P	P	00 55 17.0	+0.1
	comp=Z,0.1nm,0.2s,mb3.3,baz=205,slow=8.1,SNR=4.1						
NOA	NORSAR Array B	78.68	332	LR	LR	01 33 44.1	
	comp=Z,25nm,21.2s,MS3.5,baz=70,slow=38						
YKA	Yellowknife Ar	82.98	23	P	P	00 56 07.6	-1.5
	comp=Z,0.5nm,0.7s,mb3.6,baz=325,slow=4.0,SNR=3.7						
YKA	Yellowknife Ar	82.98	23	P	P	00 56 07.6	-1.5

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*CASC **03** 00:51:40.2±1.4, 11.76N×87.84W, h13^{km}±19^{km}, MD3.7*

ISC 03 00:51:38.8±1.6, **11.7N**±0.1×**87.86W**±0.04, **h13**^{km}, **n11**, σ**0^{s}81**/18, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYN	Poneloya	1.08	49	*e*P	Pb	00 51 58.2	-0.6
PYN				*e*S	Sb	00 52 12.8	+0.1
LEON	Leon	1.20	52	*e*P	Pb	00 52 00.2	-0.7
LEON				*e*S	Sb	00 52 16.1	-0.1
TEL3	Telica 3	1.33	48	*e*P	Pb	00 52 02.0	-1.2
COPN	Copaltepe	1.34	68	*e*P	Pb	00 52 05.1	+1.8
COPN				*e*S	Sb	00 52 20.1	0.0
MIRN	Miramar	1.35	56	*e*P	Pn	00 52 05.5	+2.0
MIRN				*e*S	Sb	00 52 20.9	+0.2
TELN	Telica	1.36	47	*e*P	Pn	00 52 03.2	-0.5
CNGN	Cerro Negro	1.40	54	*e*P	Pn	00 52 03.4	-0.8
MOMJ	Momotombo	1.48	60	*e*P	Pn	00 52 05.6	+0.2
BOQS	Boqueron	2.48	326	*e*P	Pn	00 52 19.8	+0.1
BOQS				*e*S	Sn	00 52 50.7	+0.7
SBLS	San Blas	2.76	322	*e*P	Pn	00 52 23.1	-0.6
SBLS				*e*S	Sn	00 52 57.9	+0.8
SNJE	San Jose	2.77	322	*e*P	Pn	00 52 23.4	-0.4
SNJE				*e*S	Sn	00 52 57.0	-0.5

JSN 03 01:01:29.2±0.8, **19.48N×77.88W, h31**^{km}±999^{km}, **MD3.6, 3C-3D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBJ	Bamboo Saint A	1.24	152	⇑*e*P	Pn	01 01 49.6	-1.1
BNJ	Bonny Gate	1.45	142	⇓*e*P	Pn	01 01 52.5	-1.2
MCJ	Malvern	1.56	173	⇑*e*P	Pn	01 01 53.8	-1.5
MCJ				*e*S	Sn	01 02 12.4	-2.2
STH	Stony Hill	1.73	144	⇑*e*P	Pn	01 01 56.1	-1.6

STH				*e*S	Sn	01 02 16.3	-2.6
GWJ	**Greenwich**	**1.78**	**142**	⇓*e*P	Pn	01 01 56.8	-1.5
PCJ	**Portland Cotta**	**1.86**	**158**	⇓*i*P	Pn	01 01 58.8	-0.8
PCJ				*e*S	Sn	01 02 20.6	-1.7

JMA ***03*** *01:09:47.1±0.3, 43.78N×139.56E, h219^{km}±3^{km}, M3.2*
IDC ***03*** *01:09:48.8±2.3, 44.07N×139.54E, h213^{km}±36^{km}, mb3.2/6, mb1 3.3/7, mb1mx3.2/23, Error ellipse: s-maj=144.0km s-min=16.8km az=171.0*
ISC 03 01:09:46.3±0.6**, 43.61N**±0.07×**139.6E**±0.1**, h231**^{km}±7^{km}**, n21, σ0^{s}.88**/26**, mb3.5**/7**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.67**	**112**	P	**P**	**01 10 17.6**	**-0.2**
JSH	**Shimam**	**1.01**	**162**	P	**P**	**01 10 20.2**	**+0.7**
JHR	**Hokuryu**	**1.52**	**84**	P	**P**	**01 10 23.4**	**+0.1**
JYG	**Yagishiri**	**1.53**	**57**	P	**P**	**01 10 22.2**	**-1.2**
ASAJ	**Asahikawa**	**2.20**	**76**	P	**P**	**01 10 29.3**	**-0.2**
	9.8nm,0.3s,baz=255,slow=12,SNR=22						
ASAJ				S	**S**	**01 11 03.4**	**+0.4**
	0.5nm,0.3s,baz=124,slow=31,SNR=2.6						
JFR	**Furan**	**2.20**	**101**	P	**P**	**01 10 30.0**	**+0.5**
JKK2	**Kamakawa 2**	**2.27**	**82**	P	**P**	**01 10 30.4**	**+0.1**
JKK2				*e*S	**S**	**01 11 04.8**	**+0.5**
JWK2	**Keihoku**	**2.36**	**43**	P	**P**	**01 10 30.8**	**-0.3**
JSE	**Soyaes**	**2.51**	**56**	P	**P**	**01 10 32.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.65**	**119**	P	**P**	**01 10 35.4**	**+1.2**
JCH	**Churui**	**2.91**	**109**	P	**P**	**01 10 36.2**	**-0.8**
JCH				*e*S	**S**	**01 11 13.9**	**-2.4**
JAR	**Ashorobuto**	**3.03**	**94**	P	**P**	**01 10 38.7**	**+0.3**
JAR				*e*S	**S**	**01 11 19.9**	**+1.1**
JTKR	**Abashiri--Toko**	**3.12**	**82**	P	**P**	**01 10 39.5**	**+0.1**
JANG	**Nango**	**3.52**	**156**	P	**P**	**01 10 44.6**	**+0.5**
JANG				*e*S	**S**	**01 11 28.1**	**-0.9**
SONM	**Songino Array**	**23.48**	**292**	P	**P**	**01 14 37.3**	**+1.1**
	0.8nm,0.4s,mb3.6,baz=89,slow=8.7,SNR=8.7						
FX1	**Attu Island--F**	**23.99**	**55**	P	**P**	**01 14 41.7**	**+0.9**
	7.1nm,0.7s,mb4.4,baz=71,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**39.76**	**295**	P	**P**	**01 16 58.8**	**+0.9**
	0.7nm,0.5s,mb3.4,baz=90,slow=8.8,SNR=8.8						
ILAR	**Eielson Array**	**44.81**	**36**	P	**P**	**01 17 38.1**	**-0.2**
	0.3nm,0.5s,mb2.9,baz=281,slow=7.0,SNR=4.5						
YKA	**Yellowknife Ar**	**58.86**	**31**	P	**P**	**01 19 22.5**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=288,slow=14,SNR=1.9						
JOF	**Joensuu**	**59.57**	**330**	*e*p	**P**	**01 19 24.4**	**-2.7**
	0.3nm,0.4s,mb3.3						
FINES	**FINESS Array B**	**62.40**	**330**	P	**P**	**01 19 45.3**	**-0.9**
	0.9nm,0.4s,mb3.7,baz=63,slow=8.5,SNR=16						

ROM ***03*** *01:13:02.1±0.1, 44.66N×9.26E, h5^{km}, MD2.4/3, ML1.6/4, Error ellipse: s-maj=2.0km s-min=1.6km az=0.0*
LDG ***03*** *01:13:09.0±0.2, 44.26N×8.80E, h2^{km}, Ml2.0/9, Error ellipse: s-maj=4.7km s-min=3.5km az=90.0*
ISC 03 01:13:02.0±0.7**, 44.59N**±0.04×**9.26E**±0.05**, h5**^{km}**, n13, σ1^{s}.56**/28**, 1C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.22**	**37**	⇑*i*PG	**Pg**	**01 13 06.1**	**-0.5**
BOB				SG	**Sg**	**01 13 09.4**	**-0.2**
	185nm,0.4s						
FIN	**Finale Ligure**	**0.84**	**244**	*e*PG	**Pg**	**01 13 19.9**	**+1.0**
FIN				SG	**Sg**	**01 13 32.3**	**+2.2**
	13nm,0.3s						
IMI	**Imperia**	**1.20**	**236**	*e*PN	**Pn**	**01 13 26.2**	**+0.8**
IMI				SN	**Sn**	**01 13 43.5**	**+1.4**
	11nm,0.5s						
PII	**Pisa**	**1.26**	**133**	*e*PN	**Pn**	**01 13 26.8**	**+0.5**
	9.0nm,0.2s						
SBF	**Sospel**	**1.50**	**242**	*e*Pg	**Pg**	**01 13 28.9**	**-3.0**
SBF				*e*Pg	**Pg**	**01 13 28.9**	**-3.0**
SBF				*e*Sg	**Sg**	**01 13 43.9**	**-8.0**
	5.1nm,0.2s						
MBDF	**Montbardon**	**1.78**	**275**	*e*Pn	**Pn**	**01 13 35.5**	**+1.8**
MBDF				*e*Pn	**Pn**	**01 13 35.7**	**+2.0**
MBDF				*e*Sg	**Sg**	**01 13 57.6**	**-3.7**
	5.9nm,0.5s						
LPG	**La Plagne**	**2.00**	**298**	*e*Pn	**Pn**	**01 13 40.8**	**+4.0**
LPG				*e*Sg	**Sg**	**01 14 09.7**	**+1.2**
	1.2nm,0.3s						
LPL	**La Plagne**	**2.02**	**298**	*e*Pn	**Pn**	**01 13 41.8**	**+4.7**
LPL				*e*Sg	**Sg**	**01 14 07.8**	**-1.3**
	1.4nm,0.3s						
PGF	**Pioggiola**	**2.05**	**185**	*e*Sn	**Sn**	**01 13 58.9**	**-4.9**
	3.9nm,0.4s						
FRF	**La Foret Royal**	**2.14**	**242**	*e*Pn	**Pn**	**01 13 37.7**	**-1.2**
FRF				*e*Pn	**Pn**	**01 13 37.9**	**-1.0**
FRF				*e*Sg	**Sn**	**01 14 03.2**	**-3.0**
	1.5nm,0.2s						
LMR	**La Mourre**	**2.35**	**239**	*e*Pn	**Pn**	**01 13 40.5**	**-1.4**
LMR				*e*Pn	**Pn**	**01 13 40.9**	**-1.0**
LMR				*e*Sg	**Sn**	**01 14 08.3**	**-3.1**
	1.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.43**	**279**	*e*Pn	**Pn**	**01 13 45.0**	**+2.0**
ORIF				*e*Sg	**Sg**	**01 14 17.0**	**-5.9**
	1.1nm,0.3s						
SMRF	**Simiane la Rot**	**2.71**	**258**	*e*Pn	**Pn**	**01 13 47.2**	**+0.1**
SMRF				*e*Sg	**Sn**	**01 14 21.1**	**+0.4**
	1.6nm,0.4s						

NIED ***03*** *01:13:00, 20.30N×121.90E, h5^{km}, Mw4.1 Best double couple: M$_0$1.57×10^{15} NP1:φ$_s$173°, δ79°, λ87°. NP2:φ$_s$5°, δ12°, λ102°.*
MAN ***03*** *01:13:29.1, 20.09N×121.32E, h4^{km}, mb3.9, ML2.7, MS2.4*
IDC ***03*** *01:13:33.4±5.8, 20.13N×121.79E, h70^{km}±54^{km}, mb3.4/6, mb1 3.7/7, mb1mx3.5/17, ML3.9/1, MS3.4/3, Ms1 3.5/3, ms1mx2.9/15, Error ellipse: s-maj=57.4km s-min=22.6km az=68.0*
ISC 03 01:13:29.3±6.3**, 20.1N**±0.2×**121.7E**±0.3**, h45**^{km}±57^{km}**, n9, σ0^{s}.77**/8**, mb3.6**/6**, MS3.5**/2**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**9.02**	**41**	P	**P**	**01 15 39.9**	**+0.1**
	3.0nm,0.3s,baz=214,slow=17,SNR=6.0						
JOW				LR	LR	01 19 07.5	
	comp=Z,134nm,21.5s,baz=242,slow=37						
CMAR	**Chiang Mai Arr**	**21.54**	**270**	LR	LR	01 28 04.6	
	comp=Z,184nm,18.6s,MS3.5,baz=80,slow=40						
SONM	**Songino Array**	**30.33**	**339**	P	**P**	**01 19 38.0**	**-0.8**
	0.2nm,0.3s,mb3.3,baz=258,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**41.66**	**162**	P	**P**	**01 21 15.2**	**-0.1**
	1.7nm,0.7s,mb3.8,baz=343,slow=9.0,SNR=7.4						
MKAR	**Makanchi Array**	**41.67**	**319**	P	**P**	**01 21 15.9**	**+1.0**
	0.4nm,0.5s,mb3.3,baz=104,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**75.22**	**330**	P	**P**	**01 25 08.4**	**-0.1**
	1.7nm,0.8s,mb4.0,baz=135,slow=16,SNR=4.3						
NB2	**NORSAR Subarra**	**82.06**	**333**	P	**P**	**01 25 45.7**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=59,slow=5.3						
NOA	**NORSAR Array B**	**82.06**	**333**	P	**P**	**01 25 45.2**	**-0.8**
	0.3nm,0.8s,mb3.3,baz=69,slow=4.7,SNR=3.7						
NOA				LR	LR	02 03 05.0	
	comp=Z,18nm,18.6s,MS3.5,baz=5.0,slow=36						
YKA	**Yellowknife Ar**	**86.54**	**23**	P	**P**	**01 26 08.7**	**+0.4**
	0.4nm,0.6s,mb3.9,baz=310,slow=4.7,SNR=4.7						

NIED ***03*** *01:50:00, 35.80N×140.10E, h62^{km}, Mw3.7 Best double couple: M$_0$4.05×10^{14} NP1:φ$_s$250°, δ51°, λ-124°. NP2: φ$_s$117°, δ50°, λ-55°.*
JMA ***03*** *01:50:02.4±0.2, 35.81N×140.08E, h66^{km}±2^{km}, M3.3 Broadband fault plane solution: P waves. NP1:φ$_s$122°, δ37°, λ-20°. NP2:φ$_s$228°, δ78°, λ-125°. Principal axes: T Plg25°, Azm345°; N Plg34°, Azm236°; P Plg45°, Azm103°;*
JMA Felt I J1.
ISC 03 01:50:01.5±1.0**, 35.74N**±0.04×**140.09E**±0.06**, h75**^{km}±8^{km}**, n13, σ0^{s}.82**/24**, 1C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.28**	**259**	P	**P**	**01 50 13.9**	**+0.7**
TOK				*e*S	**S**	**01 50 22.5**	**+0.6**
JCN	**Nagara**	**0.34**	**164**	⇓P	**P**	**01 50 14.5**	**+0.9**
JCN				S	**S**	**01 50 24.1**	**+1.5**
JYT	**Yasato**	**0.49**	**10**	⇓P	**P**	**01 50 14.2**	**-0.6**
JYT				S	**S**	**01 50 23.2**	**-1.6**
JAG	**Ashikaga**	**0.85**	**323**	⇓P	**P**	**01 50 18.6**	**-0.1**
JAG				S	**S**	**01 50 30.7**	**-0.9**
JOD2	**Odawara 2**	**0.95**	**240**	⇓P	**P**	**01 50 19.8**	**0.0**
JOD2				S	**S**	**01 50 32.4**	**-1.2**
BSO3	**Boso 3**	**1.00**	**160**	⇑P	**P**	**01 50 20.5**	**0.0**
BSO3				S	**S**	**01 50 35.4**	**+0.7**
JRY	**Ryogami san**	**1.00**	**286**	⇓P	**P**	**01 50 21.3**	**+0.7**
JRY				S	**S**	**01 50 35.0**	**+0.2**
JIM2	**Oshima 3**	**1.16**	**208**	P	**P**	**01 50 21.9**	**-0.6**
JIM2				S	**S**	**01 50 37.0**	**-1.2**
JKT	**Katashina**	**1.23**	**327**	P	**P**	**01 50 23.3**	**-0.2**
JKT				S	**S**	**01 50 39.7**	**-0.2**
JYN	**Shimob**	**1.28**	**260**	⇓P	**P**	**01 50 24.5**	**+0.3**
JYN				S	**S**	**01 50 41.3**	**+0.2**
BSO1	**Boso 1**	**1.31**	**146**	P	**P**	**01 50 24.0**	**-0.6**
JIZS	**Izushimoda**	**1.42**	**225**	S	**S**	**01 50 43.4**	**-1.0**
MAT	**Matsushiro**	**1.72**	**298**	P	**P**	**01 50 30.9**	**+0.8**
MAT				S	**S**	**01 50 52.7**	**+1.5**

STR ***03*** *01:58:49.8±0.5, 45.95N×2.86E, h5^{km}±1^{km}, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***03*** *01:58:49.5±0.1, 45.97N×2.81E, h2^{km}, Md1.9/3, Ml1.7/8, Error ellipse: s-maj=0.9km s-min=0.7km az=79.0*
ISC 03 01:58:48.5±0.5**, 45.97N**±0.02×**2.81E**±0.04**, h2**^{km}**, n14, σ0^{s}.78**/26**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.23**	**70**	Pg	**Pg**	**01 58 54.0**	**+0.8**
AGO				Sg	**Sg**	**01 58 57.8**	**+1.4**
PYM	**Petit Puy Mans**	**0.26**	**149**	Pg	**Pg**	**01 58 54.5**	**+0.8**
PYM				Sg	**Sg**	**01 58 58.0**	**+0.8**
TCF	**Toulx Ste Croi**	**0.53**	**307**	*e*Pg	**Pg**	**01 58 59.6**	**+0.6**
TCF				*e*Sg	**Sg**	**01 59 06.5**	**+0.5**
	0.8nm,0.2s						
PLDF	**La Plantade**	**0.56**	**90**	Pg	**Pg**	**01 59 00.6**	**+0.8**
PLDF				Sg	**Sg**	**01 59 07.6**	**+0.3**
BGF	**Bois d'Agland**	**0.58**	**2**	*e*Pg	**Pg**	**01 59 00.7**	**+0.5**
BGF				*e*Sg	**Sg**	**01 59 08.5**	**+0.5**
	1.5nm,0.2s						
LBL	**Lubilhac**	**0.80**	**158**	Pg	**Pg**	**01 59 04.8**	**+0.3**
LBL				Sg	**Sg**	**01 59 14.7**	**-0.5**
AVF	**Avril sur Loir**	**0.90**	**24**	*e*Pg	**Pg**	**01 59 06.5**	**0.0**
AVF				*e*Sg	**Sg**	**01 59 18.2**	**-0.2**
	1.4nm,0.2s						
SMF	**Signal de Mont**	**0.98**	**46**	*e*Pg	**Pg**	**01 59 08.2**	**+0.1**
SMF				*e*Sg	**Sg**	**01 59 21.3**	**+0.2**
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**1.13**	**234**	*e*Pg	**Pg**	**01 59 10.5**	**-0.6**
RJF				*e*Sg	**Sg**	**01 59 25.9**	**-0.2**
	51nm,2.1s						
SSF	**Saint Saulge**	**1.19**	**23**	*e*Pg	**Pg**	**01 59 11.8**	**-0.5**
SSF				*e*Sg	**Sg**	**01 59 27.3**	**-0.8**
	1.3nm,0.2s						
LOR	**Lormes**	**1.48**	**29**	*e*Pg	**Pg**	**01 59 17.3**	**-0.8**
LOR				*e*Sg	**Sg**	**01 59 36.2**	**-1.7**
	1.6nm,0.2s						
VIVF	**Saint-Julien-l**	**1.72**	**130**	*e*Pn	**Pn**	**01 59 18.9**	**-0.8**
VIVF				*e*Sg	**Sg**	**01 59 44.0**	**-1.8**
	0.5nm,0.2s						
MFF	**Saint Martin d**	**2.15**	**288**	*e*Sg	**Sg**	**01 59 55.5**	**-4.5**
	0.6nm,0.3s						
MTLF	**Montolieu**	**2.67**	**189**	*e*Sg	**Sg**	**02 00 11.6**	**-5.7**
	0.2nm,0.2s						

ISK ***03*** *02:05:26.5, 36.87N×27.70E, h10^{km}, MD3.4*
NEIC ***03*** *02:05:29.1, 36.92N×27.66E, h30^{km}, MD3.2(ATH), After ATH.*
ATH ***03*** *02:05:29.1, 36.92N×27.65E, h29^{km}±3^{km}, MD3.2/6*
ISC 03 02:05:28.3±0.6**, 36.92N**±0.03×**27.68E**±0.04**, h19**^{km}±5^{km}**, n24, σ0^{s}.89**/36**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**307**	*i* P	**Pb**	**02 05 34.0**	**0.0**
BDRM				*i* S	**Sb**	**02 05 38.9**	**+1.1**
MLSB	**Milas**	**0.38**	**11**	*i* PG	**Pb**	**02 05 35.4**	**-0.9**
MLSB				SG	**Sb**	**02 05 42.1**	**+0.5**
YER	**Yerkesik**	**0.53**	**66**	*i* PG	**Pb**	**02 05 37.5**	**-1.2**
YER				SG	**Sb**	**02 05 44.8**	**-1.0**
NISR	**Nisiros**	**0.54**	**235**	*e*PN	**Pn**	**02 05 40.0**	**-0.9**
NISR				*e*SN	**Sn**	**02 05 49.2**	**-0.3**
NISR	**Nisiros**	**0.54**	**235**	*e*Pn	**Pn**	**02 05 40.0**	**-0.9**
NISR				*e*Sn	**Sn**	**02 05 49.5**	**0.0**
AYDN	**Tasoluk**	**0.75**	**12**	⇑*i*P	**Pb**	**02 05 42.6**	**0.0**
AYDN				*i* S	**Sb**	**02 05 53.3**	**+0.9**
ARG	**Arkhangelos**	**0.79**	**153**	*e*PN	**Pn**	**02 05 43.0**	**-1.5**
ARG				*e*SN	**Sn**	**02 05 56.0**	**+0.2**
SMG	**Samos**	**1.03**	**320**	*e*PN	**Pn**	**02 05 48.5**	**+0.6**
DNZL	**Cakiroluk**	**1.33**	**54**	⇑*i*P	**Pn**	**02 05 52.6**	**+0.4**
DNZL				*i* S	**Sb**	**02 06 09.7**	**+0.6**
DENT	**Denizli**	**1.36**	**52**	PN	**Pn**	**02 05 52.7**	**+0.1**
DENT				SN	**Sn**	**02 06 11.2**	**+1.0**
KARP	**Karpathos**	**1.44**	**197**	*e*PB	**Pb**	**02 05 54.5**	**+0.2**
KARP				*e*SN	**Sn**	**02 06 13.5**	**+1.3**
IZM	**Izmir**	**1.51**	**347**	PN	**Pn**	**02 05 54.3**	**-0.4**
KDAG	**Bornova**	**1.51**	**348**	⇑*i*P	**Pn**	**02 05 54.5**	**-0.2**
KDAG				*i* S	**Sn**	**02 06 11.7**	**-2.4**
MANT	**Manisa**	**1.71**	**24**	⇑*i*P	**Pn**	**02 05 57.8**	**+0.1**
MANT				*i* S	**Sn**	**02 06 22.6**	**+3.4**
KSL	**Kastellorizon**	**1.71**	**116**	*e*PN	**Pn**	**02 06 00.0**	**+2.3**
APE	**Apeiranthos**	**1.73**	**275**	*e*PB	**Pb**	**02 05 58.6**	**-0.6**
ELL	**Elmali**	**1.79**	**95**	*e*PN	**Pn**	**02 05 58.4**	**-0.4**
AKS	**Akhisar**	**1.96**	**3**	*e*PN	**Pn**	**02 06 01.2**	**+0.1**
BCK	**Bucak**	**2.38**	**76**	*e*PN	**Pn**	**02 06 06.5**	**-0.7**
BALB	**Balikesir**	**2.72**	**3**	*e*PN	**Pn**	**02 06 13.1**	**+1.1**
DST	**Dursunbey**	**2.78**	**15**	*e*PN	**Pn**	**02 06 12.4**	**-0.5**
ALT	**Altintas**	**2.87**	**41**	*e*PN	**Pn**	**02 06 13.8**	**-0.3**
ORLT	**Orhaneli**	**3.26**	**17**	*e*PN	**Pn**	**02 06 19.5**	**-0.2**
BNT	**Bandirma**	**3.43**	**3**	*e*PN	**Pn**	**02 06 22.0**	**-0.2**

IDC ***03*** *02:36:58.5±6.6, 6.50S×129.91E, h91^{km}±65^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.8/11, ML4.5/1, Error ellipse: s-maj=74.9km s-min=20.9km az=54.0*
NEIC ***03*** *02:37:01.1±0.7, 6.49S×129.99E, h120^{km}, mb4.1/1, Error ellipse: s-maj=25.8km s-min=12.0km az=63.0*
ISC 03 02:36:57.6±4.5**, 6.5S**±0.1×**129.9E**±0.1**, h104**^{km}±45^{km}**, n13, σ0^{s}.87**/13**, mb4.1**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.20**	**199**	P	**P**	**02 39 53.6**	**+4.5**
FITZ				S	**S**	**02 42 03.0**	**-0.2**
WRA	**Warramunga Arr**	**14.02**	**162**	P	**P**	**02 40 12.3**	**-0.5**
	2.1nm,0.3s,baz=338,slow=13,SNR=27						
WRA				S	**S**	**02 42 41.1**	**-4.9**
	2.0nm,0.3s,baz=349,slow=22,SNR=7.8						
CTA	**Charters Tower**	**20.86**	**132**	P	**P**	**02 41 33.7**	**+0.6**
	5.5nm,0.9s,baz=308,slow=12,SNR=6.3						
CTAO	**Charters Tower**	**20.86**	**132**	*e*P	**P**	**02 41 33.4**	**+0.3**
	7.9nm,0.9s						
STKA	**Stephens Creek**	**27.50**	**158**	P	**P**	**02 42 36.7**	**+0.3**
	2.3nm,0.6s,mb3.9,baz=324,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**27.50**	**158**	P	**P**	**02 42 36.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	**P**	**02 44 19.6**	**+1.3**
	1.6nm,0.6s,mb4.0,baz=134,slow=7.2,SNR=5.7						
SONM	**Songino Array**	**57.96**	**342**	P	**P**	**02 46 41.1**	**-0.4**
	0.7nm,0.6s,mb3.9,baz=159,slow=6.2,SNR=5.6						
MKAR	**Makanchi Array**	**67.76**	**327**	P	**P**	**02 47 46.6**	**+0.3**
	3.0nm,0.5s,mb4.4,baz=121,slow=8.4,SNR=32						
KURK	**Kurchatov**	**72.05**	**329**	*e*P	**P**	**02 48 10.3**	**-1.9**
SNAA	**Sanae**	**96.08**	**194**	P	**P**	**02 50 14.3**	**+0.2**
LPAZ	**La Paz**	**151.17**	**142**	PKPbc	PKPdf	02 56 42.7	+9.1
	1.6nm,1.2s,baz=186,slow=5.1,SNR=3.9						
LPAZ	**La Paz**	**151.17**	**142**	*e*PKPbc	PKPdf	02 56 42.5	+8.9

NEIC ***03*** *02:38:07.7, 36.78N×27.63E, h5^{km}, MD3.2(ATH), After ATH.*
ISK ***03*** *02:38:07.4, 37.02N×27.77E, h8^{km}, MD3.2*
ATH ***03*** *02:38:07.2, 36.82N×27.47E, h5^{km}, MD3.2/5*
ISC 03 02:38:06.0±0.7**, 36.93N**±0.03×**27.72E**±0.04**, h3**^{km}±6^{km}**, n19, σ1^{s}.01**/26**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**302**	*i* P	**Pg**	**02 38 12.0**	**+0.9**
BDRM				*i* S	**Sg**	**02 38 16.6**	**+2.0**
MLSB	**Milas**	**0.37**	**7**	*i* PG	**Pg**	**02 38 13.5**	**+0.2**
YER	**Yerkesik**	**0.50**	**66**	*i* PG	**Pg**	**02 38 15.7**	**-0.2**
YER				SG	**Sg**	**02 38 22.7**	**+0.2**
NISR	**Nisiros**	**0.57**	**236**	*e*Pb	**Pb**	**02 38 18.0**	**-0.2**
AYDN	**Tasoluk**	**0.74**	**10**	*i* P	**Pg**	**02 38 20.7**	**-0.1**
AYDN				*i* S	**Sg**	**02 38 30.6**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**155**	*e*PB	**Pb**	**02 38 20.7**	**-1.2**
ARG				*e*SB	**Sb**	**02 38 35.0**	**+2.2**
ARG	**Arkhangelos**	**0.79**	**155**	*e*Pg	**Pg**	**02 38 21.0**	**-0.7**
SMG	**Samos**	**1.05**	**318**	*e*PB	**Pb**	**02 38 26.5**	**+0.1**
DNZL	**Cakiroluk**	**1.30**	**54**	⇑*i*P	**Pb**	**02 38 30.3**	**-0.5**
DNZL				*i* S	**Sb**	**02 38 47.6**	**-0.2**
DENT	**Denizli**	**1.33**	**52**	PN	**Pn**	**02 38 32.0**	**+0.5**
DENT				SN	**Sn**	**02 38 49.2**	**-0.7**
KARP	**Karpathos**	**1.45**	**198**	*e*PB	**Pb**	**02 38 32.5**	**-0.8**
IZM	**Izmir**	**1.51**	**346**	*e*PN	**Pn**	**02 38 33.7**	**-0.3**
KDAG	**Bornova**	**1.51**	**346**	⇑*i*P	**Pn**	**02 38 32.7**	**-1.3**
KDAG				*i* S	Px	02 38 35.0	
MANT	**Manisa**	**1.69**	**23**	⇑*i*P	**Pn**	**02 38 35.0**	**-1.6**
MANT				*i* S	**Sb**	**02 39 00.9**	**+1.8**
APE	**Apeiranthos**	**1.76**	**275**	*e*PG	**Pg**	**02 38 36.5**	**-4.5**
ELL	**Elmali**	**1.77**	**95**	*e*PN	**Pn**	**02 38 39.2**	**+1.5**
AKS	**Akhisar**	**1.95**	**2**	*e*PN	**Pn**	**02 38 39.9**	**-0.4**
BCK	**Bucak**	**2.35**	**76**	*e*PN	**Pn**	**02 38 47.3**	**+1.2**
PRK	**Paraskevi**	**2.58**	**334**	*e*PG	**Pg**	**02 38 56.0**	**-1.4**

IDC 03 03:38:39.1±8.2**, 7.31S**×**130.19E, h301**^{km}±100^{km}**, mb3.2**/2**, mb1 3.2**/4**, mb1mx3.1**/11**, Error ellipse: s-maj=58.1km s-min=47.4km az=58.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.61**	**202**	P	P	03 41 16.8	-1.2
	0.7nm,0.3s,baz=18,slow=13,SNR=33						
FITZ				S	S	03 43 25.9	+2.4
	0.5nm,0.3s,baz=192,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**13.19**	**163**	P	P	03 41 36.7	-0.6
	0.4nm,0.3s,baz=346,slow=13,SNR=14						
WRA				S	S	03 44 03.2	+4.8
	1.1nm,0.3s,baz=342,slow=22,SNR=11						
SONM	**Songino Array**	**58.79**	**341**	P	P	03 48 05.2	-2.9
	0.2nm,0.3s,baz=152,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**68.58**	**327**	P	P	03 49 10.4	-1.0
	0.9nm,0.4s,baz=143,slow=6.6,SNR=13						

DJA 03 03:46:37.8±1.3**, 9.53S**×**113.44E, h30**^{km}±70^{km}**, MD5.2**/3**, ML3.8**/3**, 5C-1D, Error ellipse: s-maj=119.9km s-min=27.9km az=20.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**1.66**	**39**	⇑*i*Pn	Pn	03 47 03.9	-1.5
	87nm,0.2s						
KELI				⇓*i*Sn	Sn	03 47 25.1	-0.9
RATI	**Rata**	**2.21**	**69**	⇑*i*Pn	Pn	03 47 11.5	-1.8
	131nm,0.2s						
RATI				⇑*i*Sn	Sn	03 47 36.2	-3.7
KEDI	**Kedomdong**	**2.83**	**69**	⇑*i*Pn	Pn	03 47 20.0	-2.1
	16nm,0.2s						
KEDI				⇑*i*Sn	Sn	03 47 35.6	-20

NEIC ***03*** *04:25:26.8±2.0, 7.45S×128.47E, h152^{km}±18^{km}, mb4.2/4, Error ellipse: s-maj=14.2km s-min=11.1km az=51.0*
IDC ***03*** *04:25:26.1±3.6, 7.41S×128.50E, h144^{km}±34^{km}, mb3.7/8, mb1 3.8/11, mb1mx3.8/15, Error ellipse: s-maj=24.5km s-min=14.6km az=64.0*
ISC 03 04:25:19.4±3.1**, 7.44S**±0.08×**128.3E**±0.1**, h99**^{km}±31^{km}**, n24, σ1^{s}.00**/23**, mb4.3**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.92**	**194**	P	**P**	**04 27 58.8**	**+4.8**
	0.6nm,0.3s,baz=17,slow=11,SNR=34						
FITZ				S	**S**	**04 29 53.7**	**-1.0**
	2.2nm,0.3s,baz=358,slow=23,SNR=8.0						
WRA	**Warramunga Arr**	**13.73**	**155**	P	**P**	**04 28 29.9**	**-1.2**
	1.9nm,0.3s,baz=326,slow=13,SNR=68						
WRA				S	**S**	**04 30 54.2**	**-7.3**
	4.0nm,0.3s,baz=325,slow=23,SNR=8.7						
PMG	**Port Moresby**	**18.73**	**97**	P	**P**	**04 29 33.5**	**+0.5**
	1.3nm,0.3s,baz=252,slow=5.9,SNR=6.7						
PMG	**Port Moresby**	**18.73**	**97**	*e*P	**P**	**04 29 34.1**	**+1.1**
	27nm,0.8s						
CTA	**Charters Tower**	**21.45**	**128**	P	**P**	**04 30 00.8**	**-0.4**
	4.1nm,0.8s,mb3.8,baz=308,slow=12,SNR=4.4						
CTAO	**Charters Tower**	**21.45**	**128**	*e*P	**P**	**04 30 01.2**	**+0.1**
	4.7nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**27.28**	**155**	P	**P**	**04 30 56.8**	**+0.1**
	4.2nm,1.1s,mb3.9,baz=320,slow=16,SNR=2.8						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**04 30 59.2**	**+1.6**
	6.5nm,0.4s,mb4.5,baz=11,slow=7.0,SNR=7.1						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**04 30 59.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**38.76**	**312**	P	**P**	**04 32 37.9**	**+2.0**
	1.6nm,0.8s,mb3.9,baz=145,slow=7.7,SNR=6.0						
PKI	**Pulchoki**	**54.16**	**312**	*e*P	**P**	**04 34 36.1**	**-0.9**
	10nm,0.6s,mb5.0						
KKN	**Kakani**	**54.38**	**312**	*e*P	**P**	**04 34 37.8**	**-0.8**
	14nm,0.8s,mb5.1						
DMN	**Daman**	**54.41**	**312**	*e*P	**P**	**04 34 38.7**	**-0.1**
GKN	**Gorkha**	**54.97**	**312**	*e*P	**P**	**04 34 42.6**	**-0.3**
	10nm,0.4s,mb5.2						
KOLN	**Koldanda**	**55.62**	**311**	*e*P	**P**	**04 34 47.7**	**+0.1**
	9.5nm,0.6s,mb5.0						
SONM	**Songino Array**	**58.34**	**343**	P	**P**	**04 35 06.0**	**-0.5**
	0.6nm,0.7s,mb3.7,baz=160,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**04 36 08.1**	**-0.1**
	4.5nm,1.0s,mb4.3,baz=132,slow=7.3,SNR=12						
KURK	**Kurchatov**	**72.03**	**329**	*e*P	**P**	**04 36 33.7**	**-0.8**
	3.5nm,0.5s,mb4.5						
VNDA	**Vanda**	**72.22**	**173**	P	**P**	**04 36 34.6**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=28,slow=2.4,SNR=2.5						
MAW	**Mawson**	**73.94**	**201**	P	**P**	**04 36 46.1**	**+0.8**
	1.2nm,0.6s,mb3.8,baz=61,slow=6.8,SNR=4.3						
QSPA	**South Pole Qui**	**82.54**	**180**	*e*P	**P**	**04 37 32.2**	**+0.1**
	1.6nm,0.7s,mb4.0						
CPUP	**Villa Florida**	**145.99**	**171**	PKPbc	PKPbc	04 44 48.6	+0.1
	0.8nm,0.5s,baz=256,slow=4.7,SNR=5.2						
LPAZ	**La Paz**	**151.35**	**145**	PKPbc	PKPdf	04 45 04.1	+7.9
	0.4nm,0.4s,baz=129,slow=4.6,SNR=5.2						
LPAZ				PKPab	PKPab	04 45 12.8	-0.4
	0.8nm,0.7s,baz=151,slow=4.0,SNR=5.2						
LPAZ	**La Paz**	**151.35**	**145**	*e*PKPbc	PKPdf	04 45 03.8	+7.6
LPAZ				*e*PKPab	PKPab	04 45 12.5	-0.6

HLW 03 04:27:09.9, 23.64N×**32.62E, h4**^{km}**, Mb3.7, 3C-7D, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKRL	**Khor El Raml**	**0.10**	**76**	⇓*i*P	Pg	04 27 12.3	+0.3
ANMR	**North Marawa**	**0.11**	**331**	⇓*i*P	Pg	04 27 12.4	+0.2
AAHD	**Abu Hadid**	**0.16**	**48**	⇓*e*P	Pg	04 27 13.1	-0.1
ASHG	**Umm Shaghir**	**0.96**	**247**	⇓*i*P	Pb	04 27 28.4	-0.3
HMSM	**Jabal Masmas**	**1.01**	**222**	⇑*e*P	Pb	04 27 29.3	-0.3
HKFR	**Khafra**	**1.60**	**229**	⇑P	Pn	04 27 38.9	-0.3
AADN	**Adndan**	**1.81**	**214**	⇓*e*P	Pn	04 27 41.5	-0.7
APRS		**1.89**	**293**	⇓*e*P	Pn	04 27 43.1	-0.2
EMRS	**Mersa Alam**	**2.44**	**56**	⇓P	Pn	04 27 50.3	-0.8
HADB		**2.50**	**47**	⇑P	Pn	04 27 51.0	-1.0
QEN		**2.58**	**5**	P	Pn	04 27 51.7	-1.5

NEIC ***03*** *04:34:31.3±3.5, 4.66S×153.25E, h61^{km}±26^{km}, mb4.3/4, Error ellipse: s-maj=30.1km s-min=17.4km az=65.0*
IDC ***03*** *04:34:34.4±8.1, 4.68S×153.14E, h84^{km}±63^{km}, mb3.8/3, mb1 3.9/5, mb1mx3.6/14, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=58.5km s-min=34.7km az=74.0*
ISC 03 04:34:30.2±4.8**, 4.6S**±0.2×**153.2E**±0.2**, h61**^{km}±37^{km}**, n13, σ0^{s}.89**/14**, mb4.2**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.63**	**231**	P	**P**	**04 36 22.7**	**+1.6**
	1.9nm,0.3s,baz=38,slow=15,SNR=5.0						
PMG				S	**S**	**04 37 47.5**	**+0.5**
	4.0nm,0.3s,baz=112,slow=19,SNR=7.3						
PMG	**Port Moresby**	**7.63**	**231**	Pn	**P**	**04 36 21.2**	**+0.1**
PMG				S	**S**	**04 37 45.3**	**-1.6**
CTA	**Charters Tower**	**16.79**	**203**	P	**P**	**04 38 21.8**	**-1.0**
	0.1nm,0.3s,baz=29,slow=10,SNR=3.1						
CTA				LR	LR	04 42 58.1	
	comp=Z,167nm,21.4s,baz=226,slow=30						
CTAO	**Charters Tower**	**16.79**	**203**	*e*P	**P**	**04 38 21.4**	**-1.3**

	16nm,1.3s						
KAKA	**Kakadu**	22.04	247	*e*P	P	04 39 21.8	+0.6
	13nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	23.83	229	*e*P	P	04 39 39.6	+0.9
WRA	**Warramunga Arr**	23.84	229	P	P	04 39 39.7	+0.9
	3.3nm,0.5s,mb4.0,baz=52,slow=9.8,SNR=38						
FITZ	**Fitzroy Crossi**	30.07	241	*e*P	P	04 40 35.2	-1.0
	1.3nm,0.5s,mb3.9						
LSA	**Lhasa**	68.44	304	*e*P	P	04 45 27.1	-1.0
	170nm,0.5s						
VNDA	**Vanda**	73.00	178	P	P	04 45 54.3	-0.4
	1.6nm,0.6s,mb4.1,baz=335,slow=6.2,SNR=8.9						
MKAR	**Makanchi Array**	80.44	319	P	P	04 46 37.1	+0.1
	1.0nm,0.9s,mb3.7,baz=117,slow=5.4,SNR=4.4						
QSPA	**South Pole Qui**	85.34	180	*e*P	P	04 47 02.0	+0.7
	3.3nm,0.8s,mb4.5						
GERES	**GERESS Array B**	124.10	329	PKP	PKPdf	04 53 23.5	+1.5
	0.2nm,0.3s,baz=45,slow=1.4,SNR=4.0						

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*CASC **03** 05:05:44.8±2.1, 12.19N×88.64W, h32^{km}±16^{km}, MD4.0, ML3.7, mb4.1(NEIC)*

*IDC **03** 05:05:48.9±3.8, 12.86N×87.90W, h47^{km}±65^{km}, mb3.5/6, mb1 3.9/7, mb1mx3.6/20, ML3.0/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/18, Error ellipse: s-maj=102.0km s-min=30.9km az=37.0*

*NEIC **03** 05:05:49.0±1.9, 12.60N×88.11W, h61^{km}±22^{km}, mb4.1/4, Error ellipse: s-maj=49.5km s-min=12.5km az=48.0*

ISC 03 05:05:44.1±0.7**, 12.13N**±0.05×**88.66W**±0.04**, h44**^{km}±8^{km}**, n44,** σ0^{s}**99**/59**, mb3.9**/9**, MS3.0**/3**, 5C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLLM	**Bellamira**	1.37	17	*e*P	P	05 06 07.3	0.0
BLLM				*e*S	S	05 06 25.5	+1.0
CNCH	**Conchagua**	1.40	35	⇓*e*P	P	05 06 06.9	-0.7
CNCH				*e*S	S	05 06 26.5	+1.3
SNVI	**San Vicente**	1.49	353	*e*P	P	05 06 08.2	-0.7
SNVI				*e*S	S	05 06 28.0	+0.7
LFRS	**El Faro**	1.54	345	⇑*e*P	P	05 06 08.6	-1.0
LFRS				*e*S	S	05 06 28.3	-0.3
LCBS	**La Ceiba**	1.55	348	⇑*e*P	P	05 06 08.8	-1.1
LCBS				*e*S	S	05 06 28.2	-0.6
PYN	**Poneloya**	1.62	81	*e*P	P	05 06 10.4	-0.3
PYN				*e*S	S	05 06 29.0	-1.6
LBRS	**Las Brisas**	1.64	347	*e*P	P	05 06 10.9	-0.2
LBRS				*e*S	S	05 06 32.1	+0.9
CAHU	**Cacacuatique**	1.69	15	*e*P	P	05 06 11.5	-0.2
BOQS	**Boqueron**	1.71	339	*e*P	P	05 06 11.6	-0.5
BOQS				*e*S	S	05 06 33.7	+0.9
LEON	**Leon**	1.75	80	⇓*e*P	P	05 06 12.4	-0.3
LEON				*e*S	S	05 06 32.1	-1.7
TEL3	**Telica 3**	1.83	76	*e*P	P	05 06 13.4	-0.3
TELN	**Telica**	1.85	75	*e*P	P	05 06 13.7	-0.2
MIRN	**Miramar**	1.93	81	*e*P	P	05 06 14.6	-0.5
MIRN				*e*S	S	05 06 38.3	+0.1
SBLS	**San Blas**	1.94	331	*e*P	P	05 06 14.8	-0.5
SBLS				*e*S	S	05 06 38.5	-0.1
SNJE	**San Jose**	1.96	332	⇑*e*P	P	05 06 15.4	-0.2
SNJE				*e*S	S	05 06 38.7	-0.4
RTR	**El Retiro**	2.00	331	⇑*e*P	P	05 06 16.3	+0.1
RTR				*e*S	S	05 06 40.8	+0.7
COPN	**Copaltepe**	2.02	88	⇓*e*P	P	05 06 16.4	0.0
COPN				*e*S	S	05 06 41.8	+1.2
MOMJ	**Momotombo**	2.09	82	*e*P	P	05 06 17.5	0.0
RBDL	**Robledal**	2.21	333	⇑*e*P	P	05 06 19.6	+0.3
RBDL				*e*S	S	05 06 45.6	+0.1
MGAN	**Managua**	2.36	89	⇓*e*P	P	05 06 21.3	0.0
MGAN				*e*S	S	05 06 49.0	-0.1
MGAN				*i*		05 06 50.1	
	comp=N,248nm,0.5s						
MTO2	**Montecristo 2**	2.36	343	*e*P	P	05 06 20.9	-0.4
TICN	**Ticuantepe**	2.38	92	*e*P	P	05 06 22.4	+0.8
WILN	**Americas 2**	2.42	89	*i*	S	05 06 52.2	+1.6
	comp=N,1μm,0.4s						
JTS	**JuntasAbangare**	4.07	116	P	P	05 06 45.7	+0.2
	comp=N,1.2nm,0.3s,baz=123,slow=24,SNR=9.0						
JTS				S	S	05 07 30.5	-2.0
	comp=N,1.2nm,0.3s,baz=270,slow=20,SNR=2.7						
JTS	**JuntasAbangare**	4.07	116	*e*Pn	P	05 06 46.0	+0.5
FORC	**Fortuna**	4.25	112	*e*P	P	05 06 49.4	+1.3
PRS1	**Puriscal**	4.77	116	*e*P	P	05 06 56.7	+1.3
LAJ	**Bijagual**	4.99	116	*e*P	P	05 06 55.0	-3.6
LCR2	**La Lucha 2**	5.15	117	*e*P	P	05 07 02.0	+1.3
URSC	**Urasca**	5.31	115	*e*P	P	05 07 03.7	+0.8
JCT	**Junction City**	20.98	332	*e*P	P	05 10 23.7	-2.2
	comp=N,11nm,0.7s						
LTX	**Lajitas**	22.10	323	P	P	05 10 39.1	+2.0
	comp=N,6.0nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	22.10	323	P	P	05 10 38.8	+1.6
	comp=N,2.7nm,0.7s,mb3.8,baz=147,slow=12,SNR=43						
TXAR				LR	LR	05 22 02.4	
	comp=N,29nm,19.3s,MS2.7,baz=215,slow=44						
MIAR	**Mount Ida**	22.76	349	*e*P	P	05 10 43.7	-0.1
	comp=N,7.2nm,0.7s,mb4.2						
SAML	**Samuel**	32.86	128	*e*P	P	05 12 15.9	-0.3
	comp=N,1.0nm,0.7s,mb3.9						
SADO	**Sadowa**	33.54	12	LR	LR	05 28 11.2	
	comp=N,20nm,18.2s,MS2.9,baz=1.0,slow=41						
PDAR	**Pinedale Array**	35.51	333	P	P	05 12 39.3	+0.5
	comp=N,0.5nm,0.8s,mb3.5,baz=135,slow=5.1,SNR=3.9						
NVAR	**Mina Array Bea**	37.18	320	P	P	05 12 55.3	+2.4
	comp=N,0.7nm,0.8s,mb3.6,baz=158,slow=7.4,SNR=4.1						
ULM	**Lac du Bonnet**	38.47	353	P	P	05 13 00.8	-2.7
	comp=N,3.3nm,0.6s,mb4.2,baz=152,slow=8.6,SNR=7.2						
ULM	**Lac du Bonnet**	38.47	353	P	P	05 13 00.8	-2.7
BMW	**Boistfort Moun**	44.98	326	*e*P	P	05 13 49.8	-7.0
YKA	**Yellowknife Ar**	53.62	345	P	P	05 15 01.4	-1.6
	comp=N,2.1nm,1.1s,mb4.0,baz=137,slow=7.4,SNR=7.5						
INK	**Inuvik**	63.16	343	LR	LR	05 50 02.2	
	comp=N,27nm,18.5s,MS3.5,baz=60,slow=42						
ILAR	**Eielson Array**	65.84	336	P	P	05 16 26.5	-0.4
	comp=N,0.6nm,1.0s,mb3.6,baz=125,slow=5.2,SNR=5.6						

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*NEIC **03** 05:12:59.9, 16.20N×98.12W, h10^{km}, MD4.0(MEX), After MEX.*

MEX 03 05:12:59.9±0.7**, 16.20N×98.11W, h10**^{km}±5^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.19	356	*i* P	Pg	05 13 03.6	-0.6
PNIG				*i* S	Sg	05 13 06.5	-0.4
VHO	**Vista Hermosa**	1.58	57	*i* P	Pn	05 13 24.5	-3.7
VHO				*i* S	Sb	05 13 43.4	-5.4
OXX	**Oaxaca**	1.59	56	*e*P	Pn	05 13 24.5	-3.9
OXX				*i* S	Sb	05 13 42.5	-6.7
HUIG	**Huatulco**	1.98	102	*i* P	Pn	05 13 32.2	-1.6
HUIG				*i* S	Sn	05 13 53.7	-5.2
CAIG	**El Cayaco**	2.23	293	*i* P	Pn	05 13 33.9	-3.6
CAIG				*i* S	Sn	05 13 58.7	-6.7
PLIG	**Platanillo**	2.55	329	*i* P	Pn	05 13 40.3	-1.8
PLIG				*i* S	Sn	05 14 08.4	-5.2
YAIG	**Yautepec**	2.80	341	*i* P	Pn	05 13 42.0	-3.6
YAIG				*i* S	Sn	05 14 15.6	-4.2
PPM	**Popocatepetl**	2.89	350	*i* P	Pn	05 13 44.9	-2.0
PPM				*e*P		05 13 46.0	
PPM				*i* S	Sn	05 14 17.6	-4.6
PPM	**Popocatepetl**	2.89	350	*i* P	Pn	05 13 44.9	-2.0
PPM				*i* S	Sn	05 14 17.6	-4.6

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*IDC **03** 05:22:51.3±1.4, 49.35N×124.09W, h23^{km}±12^{km}, mb2.7/1, mb1 3.6/7, mb1mx3.4/22, ML3.2/6, Error ellipse: s-maj=13.4km s-min=6.7km az=41.0*

*PGC **03** 05:22:52.4, 49.35N×123.98W, h66^{km}±4^{km}, ML3.1/24, MD3.1(SEA)*

PGC Strait of Georgia, British Columbia Felt (II) at Cobble Hill and Nanaimo on Vancouver Island, and (I) at Half Moon Bay on the adjacent mainland, British Columbia.

*NEIC **03** 05:22:52.0, 49.35N×123.98W, h66^{km}, mb3.0/1, ML3.1(PGC), After PGC.*

NEIC Felt along the east coast of Vancouver Island at Cobble Hill, Duncan, Nanaimo, Qualicum Beach and Sidney. Also felt at Half Moon Bay and North Vancouver, British Columbia.

ISC 03 05:22:51.5±0.2**, 49.39N**±0.02×**123.98W**±0.03**, h70**^{km}±3^{km}**, n123,** σ0^{s}**76**/152**, 7C-32D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLLB	**Nanaimo Lost L**	0.16	183	⇑P	P	05 23 02.0	0.0
NLLB				S	S	05 23 08.8	-0.9
NLLB				Trac		05 23 10.4	
	comp=Z,353nm,0.1s						
SHB	**Sechelt**	0.22	17	P	P	05 23 02.8	+0.6
SHB				S	S	05 23 10.5	+0.3
SHB				Trac		05 23 11.1	
	comp=Z,4μm,0.2s						
TXB	**Texada**	0.43	316	⇑P	P	05 23 04.1	+0.3
TXB				S	S	05 23 12.8	-0.1
TXB				Trac		05 23 13.6	
	comp=Z,989nm,0.2s						
BIB	**Bowen Island**	0.44	87	⇓P	P	05 23 04.2	+0.3
BIB				S	S	05 23 13.2	+0.2
BIB				Trac		05 23 13.9	
	comp=Z,639nm,0.2s						
GOBB	**Galiano Island**	0.54	145	P	P	05 23 05.0	+0.2
GOBB				S	S	05 23 14.3	-0.3
GOBB				Trac		05 23 15.0	
	comp=Z,911nm,0.2s						
WPB	**Watts Point**	0.57	61	⇓P	P	05 23 05.9	+0.7
WPB				S	S	05 23 15.8	+0.7
WPB				Trac		05 23 16.6	
	comp=Z,1μm,0.3s						
ALB	**Alberni**	0.57	258	⇓P	Px	05 23 28.0	
ALB				S	Sx	05 23 38.3	
ALB				Trac		05 23 38.4	
	comp=Z,56nm,0.1s						
MGB	**Mount Grey**	0.61	231	⇑P	P	05 23 06.0	+0.3
MGB				S	S	05 23 16.3	+0.4
MGB				Trac		05 23 17.9	
	comp=Z,1μm,0.2s						
LZB	**Mount Lazard**	0.78	173	⇓P	P	05 23 07.6	0.0
LZB				S	S	05 23 18.3	-1.2
LZB				Trac		05 23 20.9	
	comp=Z,154nm,0.1s						
SNB	**Saturna Island**	0.81	139	P	P	05 23 08.2	+0.3
SNB				S	S	05 23 19.2	-0.8
SNB				Trac		05 23 20.9	
	comp=Z,581nm,0.2s						
SNB	**Saturna Island**	0.81	139	⇓P	P	05 23 08.2	+0.3
PGC	**Sidney**	0.82	155	⇓P	P	05 23 08.0	+0.1
PGC				S	S	05 23 19.3	-0.9
PGC				Trac		05 23 20.6	
	comp=Z,405nm,0.1s						
PGC	**Sidney**	0.82	155	*e*P	P	05 23 08.0	0.0
PGC				*e*S	S	05 23 18.8	-1.3
PFB	**Port Renfrew**	0.87	201	⇓P	P	05 23 08.6	0.0
PFB				S	S	05 23 20.5	-0.9
PFB				Trac		05 23 22.2	
	comp=Z,340nm,0.2s						
PFB	**Port Renfrew**	0.87	201	⇓P	P	05 23 08.6	0.0
HNB	**Haney**	0.92	97	⇑P	P	05 23 09.3	+0.1
HNB				S	S	05 23 21.6	-0.8
HNB				Trac		05 23 23.3	
	comp=Z,258nm,0.1s						
WSLR	**Whistler**	1.01	42	⇓P	P	05 23 11.1	+0.7
WSLR				S	S	05 23 25.2	+0.8
WSLR				Trac		05 23 26.4	
	comp=Z,223nm,0.4s						
BTB	**Buttle Lake**	1.01	275	P	P	05 23 10.3	-0.1
BTB				S	S	05 23 23.6	-0.8
BTB				Trac		05 23 28.1	
	comp=Z,311nm,0.2s						
MCW	**Mount Constitu**	1.03	133	P	P	05 23 11.3	+0.6
VGZ	**Gonzales**	1.07	156	⇓P	P	05 23 01.0	-10
VGZ				S	S	05 23 14.2	-11
VGZ				Trac		05 23 15.4	
	comp=Z,379nm,0.1s						
OZB	**Mount Ozzard**	1.08	247	⇑P	P	05 23 11.2	-0.2
OZB				S	S	05 23 25.1	-1.0
OZB				Trac		05 23 26.3	
	comp=Z,161nm,0.1s						
CBB	**Campbell River**	1.11	306	P	P	05 23 12.1	+0.4
CBB				S	S	05 23 27.0	+0.4
CBB				Trac		05 23 27.8	
	comp=Z,635nm,0.6s						
STW	**Striped Peak**	1.26	171	⇓P	P	05 23 13.4	-0.2
VDB	**Vedder Mountai**	1.28	106	⇑P	P	05 23 13.8	-0.2
VDB				S	S	05 23 29.5	-1.2
VDB				Trac		05 23 31.3	
	comp=Z,129nm,0.2s						
VDB	**Vedder Mountai**	1.28	106	⇑P	P	05 23 13.8	-0.2
ERW	**Mount Erie**	1.29	136	P	P	05 23 14.6	+0.5
OTR	**Olympics--Tyee**	1.33	191	⇓P	P	05 23 14.9	+0.1
OBC	**Olympics--Boni**	1.36	183	⇓P	P	05 23 15.0	-0.1
GDR	**Gold River**	1.40	287	P	P	05 23 15.6	0.0
GDR				S	S	05 23 34.8	+1.3
GDR				Trac		05 23 40.4	
	comp=Z,126nm,0.3s						
SQM	**Sequim**	1.45	155	⇓P	P	05 23 16.5	+0.1
MBW	**Mount Baker**	1.49	113	⇑P	P	05 23 17.4	+0.5
BLN	**Blyn Mountain**	1.53	154	P	P	05 23 17.3	-0.2
CMW	**Cultus Mountai**	1.56	128	⇑P	P	05 23 18.6	+0.8
OCWA	**Octopus Mounta**	1.65	185	⇓P	P	05 23 18.8	-0.1
OCWA	**Octopus Mounta**	1.65	185	*e*P	P	05 23 18.6	-0.3
HOPB	**Hope**	1.67	89	⇓P	P	05 23 19.5	+0.2
HOPB				S	S	05 23 39.7	-0.1
HOPB				Trac		05 23 40.5	
	comp=Z,162nm,0.1s						
ETB	**Estevan Point**	1.68	271	P	P	05 23 18.9	-0.5
JCW	**Jim Creek**	1.81	131	⇑P	P	05 23 21.4	+0.3
LLLB	**Lillooet**	1.82	47	⇓P	P	05 23 22.5	+1.1
LLLB				S	S	05 23 44.4	+1.0
LLLB				Trac		05 23 47.3	
	comp=Z,581nm,0.5s						
HDW	**Hoodsport**	1.85	160	P	P	05 23 22.0	+0.3
RPW	**Rockport**	1.88	119	⇑P	P	05 23 22.4	+0.3
GNW	**Green Mountain**	1.98	157	⇓P	P	05 23 23.7	+0.2
GMW	**Gold Mountain**	2.00	156	P	P	05 23 24.3	+0.5
EDB	**Eliza Dome**	2.10	285	P	P	05 23 25.7	+0.5
EDB				Trac		05 23 57.1	
	comp=Z,87nm,0.4s						
SMW	**South Mountain**	2.11	168	P	P	05 23 25.6	+0.2
HTW	**Haystack Looko**	2.16	136	P	P	05 23 26.5	+0.4
MAYB	**Maynard**	2.30	297	P	P	05 23 28.1	0.0
MAYB				Trac		05 24 07.2	
	comp=Z,54nm,0.4s						
MEW	**McNeil Island**	2.36	157	P	P	05 23 29.5	+0.6
RMW	**Rattlesnake Mo**	2.41	142	P	P	05 23 30.4	+0.8
CPW	**Capitol Peak**	2.48	167	⇓P	P	05 23 30.4	-0.1
BPBC	**Brooks Peninsu**	2.58	289	P	P	05 23 31.2	-0.8
BPBC				Pg	P	05 23 33.0	+1.1
BPBC				S	S	05 24 02.1	0.0
BPBC				Trac		05 24 04.8	
	comp=Z,67nm,0.3s						
GHW	**Garrison Hill**	2.61	153	P	P	05 23 32.3	-0.1
GSM	**Grass Mountain**	2.63	146	⇑P	P	05 23 33.0	+0.4
PCMD	**Pierce County**	2.74	155	P	P	05 23 33.9	-0.4
NLW	**Nelson Butte**	2.74	117	⇑P	P	05 23 34.5	+0.3
RVC	**Mount Rainier-**	2.79	151	⇓P	P	05 23 35.1	+0.1
LCW	**Lucas Creek**	2.85	162	⇓P	P	05 23 35.6	-0.2
PNT	**Penticton**	2.85	90	⇑P	P	05 23 35.5	-0.3
PNT				⇑P		05 23 35.6	
PNT				S	S	05 24 07.7	-1.4
PNT				Trac		05 24 10.8	
	comp=Z,62nm,0.3s						
PNT	**Penticton**	2.85	90	⇑P	P	05 23 35.5	-0.3
FMW	**Mount Fremont**	2.90	147	⇓P	P	05 23 36.7	+0.1
REMR	**Mount Rainier-**	2.94	150	P	P	05 23 37.4	+0.3
LMW	**Ladd Mountain**	2.95	157	P	P	05 23 37.1	-0.1
BMW	**Boistfort Moun**	2.96	170	⇓P	P	05 23 36.9	-0.4
HOLB	**Holberg**	2.96	297	P	P	05 23 37.0	-0.3
HOLB				S	S	05 24 09.9	-1.8
HOLB				Trac		05 24 12.4	
	comp=Z,26nm,0.3s						
ETW	**Entiat**	3.01	125	P	P	05 23 38.7	+0.6
LON	**Longmire**	3.01	150	⇓P	P	05 23 38.0	-0.1
CZM	**Crazy Man Moun**	3.12	161	P	P	05 23 39.7	+0.2
WPW	**White Pass**	3.15	148	P	P	05 23 40.6	+0.7
WTV	**Waterville**	3.16	121	P	P	05 23 40.2	+0.1
KOSW	**Kosmos**	3.17	157	P	P	05 23 40.4	+0.2
TDL	**Tradedollar La**	3.26	158	⇓P	P	05 23 41.7	+0.2
ERK	**Elk Rock**	3.28	160	⇓P	P	05 23 41.6	-0.1
NLO	**Nicolai Mounta**	3.32	174	P	P	05 23 42.2	-0.2
RVW	**Rose Valley**	3.35	165	⇓P	P	05 23 42.7	0.0
STD	**Studebaker Rid**	3.37	159	P	P	05 23 43.4	+0.4
EBG	**Ellensburg**	3.37	136	⇓P	P	05 23 43.5	+0.5
FL2	**Flat Top 2**	3.38	160	P	P	05 23 43.4	+0.2
SOSW	**Source of Smit**	3.38	158	P	P	05 23 43.6	+0.4
YEL	**Yellow Rock**	3.40	159	P	P	05 23 44.2	+0.7
SHW	**Mount Saint He**	3.41	159	P	P	05 23 44.0	+0.4
ESD	**East Dome**	3.42	158	⇑P	P	05 23 44.5	+0.8
HSR	**South Ridge**	3.44	159	⇓P	P	05 23 44.6	+0.7
JLK	**June Lake**	3.47	159	⇓P	P	05 23 44.9	+0.5
LVP	**Lakeview Peak**	3.49	162	⇓P	P	05 23 44.8	+0.1
CDFW	**Cedar Flats**	3.52	158	P	P	05 23 45.7	+0.5
ASR	**Mount Adams--S**	3.62	153	P	P	05 23 46.8	+0.3
BVW	**Beverly**	3.77	132	P	P	05 23 48.5	-0.1
KMOR	**Kings Mountain**	3.77	175	⇓P	P	05 23 47.7	-0.9
BBB	**Bella Bella**	3.84	318	Pn	P	05 23 49.7	+0.1
	0.2nm,0.3s,baz=245,slow=5.5,SNR=4.6						
BBB				Pg	P	05 23 58.1	+8.5
	2.8nm,0.3s,baz=140,slow=12,SNR=8.6						
BBB				Sn	S	05 24 29.8	-4.0
	2.5nm,0.3s,baz=156,slow=20,SNR=6.7						
BBB				Lg		05 24 50.3	
	3.0nm,0.3s,baz=259,slow=16,SNR=3.7						
BBB	**Bella Bella**	3.84	318	Pg	P	05 23 56.7	+7.1
BBB				Trac		05 25 04.2	
	comp=Z,24nm,0.5s						
FHE	**Frenchman Hill**	3.86	127	P	P	05 23 49.6	-0.3
MDW	**Midway**	3.96	133	P	P	05 23 51.1	-0.2
OD2	**Odessa Site #2**	4.04	118	P	P	05 23 51.9	-0.5
PGO	**Gresham**	4.06	165	P	P	05 23 53.4	+0.8
VLMM	**Larch Mountain**	4.07	160	P	P	05 23 53.7	+0.9
DPW	**Davenport**	4.12	109	*e*P	P	05 23 53.5	0.0
GBL	**Gable Mountain**	4.12	131	P	P	05 23 52.9	-0.6
OT3	**Othello 3**	4.19	129	P	P	05 23 53.7	-0.8
HAWA	**Hanford**	4.23	133	*e*P	P	05 23 52.2	-2.8
SSOR	**Sweet Springs**	4.65	167	*e*P	P	05 24 00.2	-0.7
NEW	**Newport**	4.67	101	Pn	P	05 24 00.7	-0.5
NEW				Sn	S	05 24 51.6	-2.8
NEW				Lg		05 25 19.8	
NEW	**Newport**	4.67	101	*e*P	P	05 23 59.9	-1.2
HBO	**Huckleberry Mo**	5.66	168	P	P	05 24 15.4	+0.5
HSO	**Harness Mounta**	5.90	174	*e*P	P	05 24 17.9	-0.1
BBOR	**Butler Butte**	6.56	172	P	P	05 24 27.9	+0.4
VIB	**Van Inlet**	6.62	309	Pn	P	05 24 27.5	-0.7
VIB				Sn	S	05 25 39.0	-3.9
BMBC	**Bull Mountain**	6.76	9	P	P	05 24 32.0	+1.8
HUMO	**Hull Mountain**	6.82	174	*e*P	P	05 24 30.9	-0.1
MSO	**Missoula**	7.19	107	*e*P	P	05 24 34.8	-1.3
CHMT	**Chamberlain Mo**	7.59	105	*e*P	P	05 24 40.6	-1.0
YBH	**Yreka Blue Hor**	7.71	173	Pn	P	05 24 44.2	+0.9
	0.7nm,0.3s,baz=337,slow=10,SNR=18						
YBH	**Yreka Blue Hor**	7.71	173	P	P	05 24 42.0	-1.2
MCMT	**McKenzie Canyo**	8.85	117	P	P	05 24 57.4	-1.5
DLBC	**Dease Lake**	9.74	341	P	P	05 25 09.9	-1.0
NVAR	**Mina Array Bea**	11.69	157	Pn	P	05 25 40.7	+3.4
	0.1nm,0.3s,baz=333,slow=11,SNR=7.1						
PDAR	**Pinedale Array**	11.99	118	Pn	P	05 25 43.8	+2.4
	0.1nm,0.3s,baz=301,slow=8.6,SNR=4.8						
YKA	**Yellowknife Ar**	14.12	18	Pn	P	05 26 07.3	-1.7
	0.1nm,0.3s,baz=198,slow=12,SNR=3.4						
YKA	**Yellowknife Ar**	14.12	18	Pn	P	05 26 07.3	-1.7
FFC	**Flin Flon**	14.52	60	*e*P	P	05 26 12.0	-2.3
	5.4nm,0.8s						
PV01	**Paradox Valley**	15.79	130	*e*P	P	05 26 31.6	+0.9
SDCO	**Great Sand Dun**	17.68	124	P	P	05 26 54.6	+0.2
	0.6nm,0.6s						
ULM	**Lac du Bonnet**	18.11	77	Pn	P	05 26 58.1	-1.5
	0.5nm,0.3s,baz=278,slow=10,SNR=6.9						
TXAR	**Lajitas Array**	25.30	135	P	P	05 28 16.0	+3.1
	0.1nm,0.6s,baz=349,slow=4.6,SNR=3.9						

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*IDC **03** 05:27:13.0±0.8, 5.68S×105.16E, mb4.1/11, mb1 4.2/11, mb1mx4.1/17, MS3.4/5, Ms1 3.4/5, ms1mx3.2/21, Error ellipse: s-maj=45.1km s-min=16.0km az=51.0*

*NEIC **03** 05:27:21.5±0.5, 5.72S×105.29E, h60^{km}, mb4.6/2, Error ellipse: s-maj=26.3km s-min=10.8km az=54.0*

ISC 03 05:27:19.5±0.6**, 5.6S**±0.2×**105.4E**±0.2**, h60**^{km}**, n24,** σ0^{s}**83**/16**, mb4.1**/12**, MS3.4**/5**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	23.39	124	P	P	05 32 23.8	0.0
	6.3nm,1.2s,mb3.9,baz=320,slow=7.9,SNR=3.9						
FITZ				LR	LR	05 39 50.1	
	comp=Z,60nm,20.4s,MS3.0,baz=282,slow=32						
CMAR	**Chiang Mai Arr**	24.70	345	P	P	05 32 40.2	+3.6
	0.9nm,0.7s,mb3.4,baz=180,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	31.59	120	P	P	05 33 38.2	-0.7
	2.5nm,0.8s,mb4.1,baz=291,slow=10,SNR=7.8						
WRA				PcP	PcP	05 36 29.5	-0.7
	0.2nm,0.3s,baz=311,slow=2.1,SNR=8.0						
WB2	**Warramunga Arr**	31.59	120	*e*P	P	05 33 38.7	-0.3
ASAR	**Alice Springs**	32.84	126	P	P	05 33 50.0	+0.2
	2.7nm,0.8s,mb4.2,baz=312,slow=8.0,SNR=12						
JOW	**Kunigami**	39.11	33	LR	LR	05 49 54.4	
	comp=Z,101nm,19.6s,MS3.7,baz=264,slow=35						
STKA	**Stephens Creek**	42.80	132	*e*P	P	05 35 13.3	+0.1
	14nm,0.9s,mb4.7						
STKA	**Stephens Creek**	42.80	132	P	P	05 35 13.8	+0.5
	11nm,0.6s,mb4.8,baz=299,slow=6.9,SNR=16						
STKA				LR	LR	05 51 49.1	
	comp=Z,190nm,20.9s,MS4.0,baz=2.3,slow=34						
STKA	**Stephens Creek**	42.80	132	*e*P	P	05 35 13.3	+0.1
JNU	**Nakatsue**	45.46	30	LR	LR	05 53 05.9	
	comp=Z,60nm,21.6s,MS3.5,baz=184,slow=34						
SONM	**Songino Array**	53.18	1	P	P	05 36 35.1	+1.3
	0.4nm,0.5s,mb3.6,baz=190,slow=8.8,SNR=5.0						
SONM				PcP	PcP	05 37 41.7	+0.6
	1.7nm,0.8s,baz=178,slow=3.2,SNR=4.4						
MKAR	**Makanchi Array**	56.01	341	P	P	05 36 53.1	-1.2
	0.3nm,0.3s,mb3.7,baz=186,slow=9.7,SNR=5.4						
BVAR	**Borovoye Array**	65.43	338	P	P	05 37 57.8	-0.4
	0.2nm,0.3s,mb3.6,baz=129,slow=9.2,SNR=3.1						
VNDA	**Vanda**	77.66	169	P	P	05 39 10.6	-0.1
	1.6nm,1.1s,mb3.9,baz=322,slow=7.9,SNR=3.1						
VNDA	**Vanda**	77.66	169	*e*P	P	05 39 11.0	+0.2
	6.5nm,1.4s,mb4.4						
BRTR	**Keskin Array B**	79.67	312	P	P	05 39 21.4	-1.0
	2.1nm,0.7s,mb4.2,baz=140,slow=7.1,SNR=4.3						
AKASG	**Malin Array Be**	85.57	322	P	P	05 39 52.6	+0.2
	4.9nm,1.0s,mb4.7,baz=99,slow=3.4,SNR=5.7						
SNAA	**Sanae**	90.39	197	*e*P	P	05 40 16.0	+0.9
	6.5nm,1.2s,mb4.8						
SPITS	**Spitsbergen Ar**	95.21	348	LR	LR	06 35 09.7	
	comp=Z,4.2nm,19.7s,MS2.9,baz=273,slow=43						
TXAR	**Lajitas Array**	143.80	46	PKP	PKPdf	05 46 50.6	+2.1
	1.1nm,0.6s,baz=260,slow=1.5,SNR=19						
BDFB	**Brasilia**	146.25	231	PKPbc	PKPbc	05 46 56.6	+2.3
	2.9nm,0.5s,baz=116,slow=4.0,SNR=6.7						
MIAR	**Mount Ida**	146.26	29	*e*PKPbc	PKPbc	05 46 57.7	+3.8
ELN	**Prospectdale**	148.00	9	PKPdf	PKPdf	05 46 57.5	+2.1
ELN				*e*PKPbc	PKPdf	05 47 00.9	+5.5
OXF	**Oxford**	148.12	23	*e*PKPbc	PKPdf	05 47 01.3	+5.6

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*BJI **03** 05:33:34.4, 36.76N×27.39E, h27^{km}, mB5.0, mb4.8, Ms4.6, Msz4.7*

*MOS **03** 05:33:35.4±1.5, 36.87N×27.90E, h10^{km}, mb4.4/11, Error ellipse: s-maj=12.3km s-min=4.6km az=106.3*

*ATH **03** 05:33:36.6, 36.89N×27.66E, h16^{km}±2^{km}, MD4.3/20, ML4.4*

*NEIC **03** 05:33:37.4±0.2, 36.88N×27.70E, h10^{km}, mb4.5/42, ML4.4(ATH), ML4.3(GII), Error ellipse: s-maj=3.7km s-min=2.7km az=204.0*

*ZUR_RM **03** 05:33:37, 36.88N×27.70E, h9^{km}, Mw4.8/25, Moment Tensor Solution. s25 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.59; M$_{\theta\theta}$1.50; M$_{\phi\phi}$0.09; M$_{r\theta}$0.91; M$_{\theta\phi}$0.46; M$_{\phi r}$0.09; Best double couple: M$_0$1.85×10^{16} NP1:φ$_s$259°,δ60°,λ-84°. NP2:φ$_s$68°,δ31°,λ-99°. Principal axes: T 1.869, Plg15°, Azm345°; N -.03, Plg5°, Azm76°; P -1.839, Plg75°, Azm184°;*

*MED_RC **03** 05:33:37.4±0.2, 36.75N×27.88E, h15^{km}, MW4.7/29, Moment Tensor Solution. Body waves: s29,c45; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.13±.02; M$_{\theta\theta}$1.03±.02; M$_{\phi\phi}$0.09±.01; M$_{r\theta}$0.47±.06; M$_{\theta\phi}$0.33±.02; M$_{\phi r}$-0.17±.08; Best double couple: M$_0$1.23×10^{16} NP1:φ$_s$60°,δ37°,λ-112°. NP2:φ$_s$266°,δ56°,λ-74°. Principal axes: T 1.2, Plg10°, Azm345°; N .06, Plg13°, Azm77°; P -1.26, Plg74°, Azm219°; nsta1 refers to waves, cutoff=35s.*

*CSEM **03** 05:33:38.0, 36.85N×27.98E, h49^{km}, mb4.5*

*THE **03** 05:33:39.0, 36.83N×27.85E, h20^{km}, ML4.5*

*NIC **03** 05:33:39.2±0.4, 36.96N×27.71E, h66^{km}, mb4.8, ML4.5, MW4.0, Earthquake Dodecanese Islands, Greece 61km*

NW Rodhos.

*ISK **03** 05:33:41.3, 37.33N×27.87E, h14^{km}, MD4.3*

*IDC **03** 05:33:41.8±1.5, 36.94N×27.60E, h47^{km}±15^{km}, mb4.1/18, mb1 4.2/26, mb1mx4.1/32, ML3.9/8, MS3.9/14, Ms1 3.9/14, ms1mx3.7/22, Error ellipse: s-maj=13.5km s-min=11.2km az=139.0*

*NSSC **03** 05:33:54.3, 36.40N×29.07E, h40^{km}*

ISC 03 05:33:35.7±0.5**, 36.85N**±0.02×**27.73E**±0.02**, h12^{km}**±3^{km}**, n296,** σ**$1^{s}21$**/352**, mb4.5**/57**, MS4.0**/15**, 6C-8D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	314	*i* P	Pg	05 33 42.6	+0.2
BDRM				*i* S	Sg	05 33 47.4	+0.7
MLSB	Milas	0.45	5	*i* PG	Pg	05 33 44.4	-0.5
MLSB	Milas	0.45	5	Pg	Pg	05 33 44.0	-0.9
NISR	Nisiros	0.54	244	⇑*i*PN	Pn	05 33 47.0	-1.9
ARG	Arkhangelos	0.71	153	*e*PN	Pn	05 33 51.0	-0.3
AYDN	Tasoluk	0.82	8	*i* P	Pb	05 33 51.1	-0.4
AYDN				*i* S	Sb	05 34 06.5	+4.2
SMG	Samos	1.11	321	*e*PN	Pn	05 33 57.0	-0.1
DNZL	Cakiroluk	1.35	51	*i* P	Pb	05 34 01.1	+0.6
DNZL				*i* S	Sb	05 34 21.6	+4.1
KARP	Karpathos	1.38	200	*e*PN	Pn	05 34 02.5	+1.6
KARP				*e*SN	Sn	05 34 22.0	+2.9
DENT	Denizli	1.38	49	*i* PG	Pg	05 34 01.3	-2.0
DENT	Denizli	1.38	49	Pn	Pn	05 34 02.3	+1.4
IZM	Izmir	1.59	347	*i* PN	Pn	05 34 03.5	-0.5
KDAG	Bornova	1.60	347	*i* P	Pn	05 34 03.5	-0.6
KDAG				*i* S	Sb	05 34 23.2	-1.5
KSL	Kastellorizon	1.65	114	*e*PN	Pn	05 34 08.2	+3.4
ELL	Elmali	1.75	93	*i* PN	Pn	05 34 11.4	+5.1
ELL	Elmali	1.75	93	Pn	Pn	05 34 11.4	+5.1
ELL				Sg	Sg	05 34 36.4	+2.2
MANT	Manisa	1.77	22	*i* P	Pn	05 34 06.6	+0.1
MANT				*i* S	Sn	05 34 32.3	+3.2
APE	Apeiranthos	1.77	278	⇓*i*PB	Pb	05 34 07.0	-0.7
SANT	Santorini	1.89	256	*e*Pn	Pn	05 34 08.9	+0.7
SANT				*e*S	Sn	05 34 32.6	+0.5
THR3	Thira Island,	1.92	258	*e*Pn	Pn	05 34 10.0	+1.3
THR6	Thira Island,	1.94	256	*e*Pn	Pn	05 34 10.1	+1.2
THR5	Thira Island,	1.96	258	*e*Pn	Pn	05 34 10.3	+1.1
AKS	Akhisar	2.03	2	*i* PN	Pn	05 34 09.7	-0.5
KHL	Karahalli	2.05	44	PN	Pn	05 34 11.2	+0.7
KHL				SN	Sn	05 34 32.0	-4.3
KHL	Karahalli	2.05	44	Pn	Pn	05 34 11.9	+1.4
NPS	Neapolis	2.33	228	*e*PB	Pb	05 34 16.5	-0.8
ANTB	Antalya	2.35	88	*e*PN	Pn	05 34 19.4	+4.6
BCK	Bucak	2.37	74	PN	Pn	05 34 18.9	+3.8
ISP	Isparta	2.43	65	PN	Pn	05 34 17.5	+1.5
ISP	Isparta	2.43	65	Pn	Pn	05 34 18.8	+2.8
XRY	Khrisi	2.57	221	*e*PB	Pb	05 34 20.0	-1.4
PRK	Paraskevi	2.66	335	*e*PN	Pn	05 34 19.2	0.0
IDI	Anoyia	2.77	237	P	Pn	05 34 22.5	+1.6
	15nm,0.3s,baz=55,slow=16,SNR=46						
IDI				S	Sn	05 35 01.3	+6.7
	48nm,0.3s,baz=276,slow=15,SNR=6.7						
BALB	Balikesir	2.79	2	*e*PN	Pn	05 34 19.4	-1.7
BALB	Balikesir	2.79	2	Pn	Pn	05 34 20.6	-0.5
DST	Dursunbey	2.84	14	*e*PN	Pn	05 34 20.1	-1.8
DST	Dursunbey	2.84	14	Pn	Pn	05 34 21.4	-0.5
ALT	Altintas	2.90	40	*e*PN	Pn	05 34 22.4	-0.3
ALT	Altintas	2.90	40	Pn	Pn	05 34 23.5	+0.8
VAM	Vamos	3.20	244	*e*PB	Pb	05 34 30.5	-1.6
PTL	Penteli	3.30	292	*e*PN	Pn	05 34 29.0	+0.7
ORLT	Orhaneli	3.32	16	Pn	Pn	05 34 28.2	-0.5
ATH	Athens Observa	3.38	291	*e*PN	Pn	05 34 30.9	+1.3
MPAR	Parnis Oros	3.43	294	*e*PN	Pn	05 34 31.5	+1.3
KCT	Karacabey	3.45	8	*e*PN	Pn	05 34 29.0	-1.5
KCT	Karacabey	3.45	8	Pn	Pn	05 34 29.4	-1.1
ULDT	Uludag	3.47	18	*i* P	Pn	05 34 30.1	-0.7
ULDT				*i* S	Sn	05 35 19.9	+7.6
EDC	Edincik	3.50	2	Pn	Pn	05 34 29.7	-1.4
NAIG	Nisos Aigina	3.50	286	*e*PN	Pn	05 34 32.0	+0.8
BNT	Bandirma	3.51	2	*e*PN	Pn	05 34 29.9	-1.4
BNT	Bandirma	3.51	2	Pn	Pn	05 34 30.1	-1.2
NSAL	Nisos Salamina	3.56	289	*e*PN	Pn	05 34 33.0	+1.0
GVD	Gavdhos	3.57	237	*e*Pn	Pn	05 34 32.8	+0.6
LPK	Lapseki	3.60	348	*e*PN	Pn	05 34 31.9	-0.7
ESKT	Eskisehir	3.63	42	*e*PN	Pn	05 34 32.7	-0.3
ESKT	Eskisehir	3.63	42	*i* P	Pn	05 34 33.6	+0.6
ESKT				*i* S	Sn	05 35 29.3	+13
ESKT	Eskisehir	3.63	42	Pn	Pn	05 34 33.4	+0.4
LOS	Limnos	3.72	327	*e*Pn	Pn	05 34 34.6	+0.3
LOS				*e*Sn	Sn	05 35 16.3	-2.2
MKIT	Kithairon Oros	3.79	292	*e*PN	Pn	05 34 36.8	+1.4
HDMB	Hadim	3.82	87	Pn	Pn	05 34 40.3	+4.6
KYTH	Kithira	3.82	263	*e*PN	Pn	05 34 36.5	+0.8
VLI	Veliai	3.85	270	*e*PN	Pn	05 34 36.8	+0.7
KONT	Konya--Tatoy	3.85	72	*e*PN	Pn	05 34 38.2	+2.1
SART	Tekirdag	3.86	354	*i* P	Pn	05 34 34.5	-1.8
SART				*i* S	Sn	05 35 38.0	+16
KIZT	Kizilcal	3.86	57	*e*PN	Pn	05 34 37.5	+1.2
KIZT	Kizilcal	3.86	57	Pn	Pn	05 34 38.3	+2.0
PPCY	Paphos	4.23	116	P	Pn	05 34 43.5	+1.9
ALN	Alexandroupoli	4.25	343	*e*Pn	Pn	05 34 41.1	-0.7
ALFC	Alevga	4.29	112	⇑P	Pn	05 34 43.6	+1.1
	15nm,0.3s						
ALFC				S	Sn	05 35 34.1	+1.0
CTT	Catalca	4.33	7	Pn	Pn	05 34 41.7	-1.3
PAIG	Paliouri	4.42	315	*e*Pn	Pn	05 34 44.2	-0.1
LEF	Lefka	4.53	111	Pn	Pn	05 34 50.6	+4.8
MDU	Mudurnu	4.53	36	Pn	Pn	05 34 46.2	+0.4
OUR	Ouranopolis	4.55	321	*e*Pn	Pn	05 34 46.2	+0.1
RDO	Rodhopi	4.62	339	*e*PN	Pn	05 34 46.5	-0.6
ITM	Ithomi	4.65	276	*e*PN	Pn	05 34 49.5	+1.9
ITM	Ithomi	4.65	276	*e*Pn	Pn	05 34 50.5	+2.9
HENT	Hendek	4.68	31	*i* P	Pn	05 34 47.5	-0.4
HENT				*i* S	Sn	05 35 49.0	+6.2
SZAC	Souni-Zanaja	4.68	115	P	Pn	05 34 48.7	+0.7
	20nm,0.7s						
SZAC				S	Sn	05 35 44.3	+1.4
AGG	Agios Georgios	4.79	299	*e*Pn	Pn	05 34 50.3	+0.8
IKL	Isikli	4.84	95	Pn	Pn	05 34 53.2	+3.0
CSS	Prodhromos	4.92	111	P	Pn	05 34 53.0	+1.6
	8.0nm,0.8s						
CSS				S	Sn	05 35 50.5	+1.5
CSS	Prodhromos	4.92	111	*e*Pn	Pn	05 34 51.7	+0.3
ANTO	Ankara	5.00	51	*e*PN	Pn	05 34 52.9	+0.5
ANTO	Ankara	5.00	51	Pn	Pn	05 34 53.7	+1.3
SGKT	Sivrigoynuk	5.03	41	*i* P	Pn	05 34 54.0	+1.0
SGKT				*i* S	Sn	05 35 57.6	+5.9
EDRB	Edirne	5.05	352	Pn	Pn	05 34 52.0	-1.2
EVR	Evrytania	5.12	296	*e*PN	Pn	05 34 56.5	+2.4
KDZ	Kurdzhali	5.12	340	*i* P	Pn	05 34 52.0	-2.2
SOH	Sokhos	5.24	321	*e*Pn	Pn	05 34 56.1	+0.3
LIT	Litokhoron	5.24	310	*e*Pn	Pn	05 34 56.2	+0.3
THE	Thessaloniki	5.30	317	*e*Pn	Pn	05 34 57.3	+0.5
RZN	Rozhen	5.37	335	⇑*i*P	Pn	05 34 57.0	-0.7
PHNC	Paralimni	5.44	108	P	Pn	05 35 02.0	+3.4
PHNC				S	Sn	05 36 04.7	+2.8
BRTR	Keskin Array B	5.47	56	P	Pn	05 35 00.1	+1.0
	6.9nm,0.3s,baz=237,slow=15,SNR=78						
BRTR				S	Sn	05 36 06.0	+3.4
	2.4nm,0.3s,baz=246,slow=30,SNR=5.1						
BRTR				LR	LR	05 37 37.5	
	comp=Z,709nm,19.7s,baz=5.0,slow=43						
BRTR	Keskin Array B	5.47	56	P	Pn	05 35 00.1	+1.0
BRTR				S	Sn	05 36 06.1	+3.5
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,709nm,19.7s						
DIM	Dimitrovgrad	5.47	343	P	Pn	05 34 58.0	-1.1
MMB	Musomiste	5.66	328	⇑*i*P	Pn	05 35 01.3	-0.5
KNT	Kendrikon	5.72	320	*e*Pn	Pn	05 35 02.9	+0.3
KNT				*e*Sn	Sn	05 36 05.0	-4.0
PLD	Plovdiv	5.75	337	P	Pn	05 35 02.7	-0.3
ELDT	Eldivan	5.75	49	*i* P	Pn	05 35 03.9	+0.8
ELDT				*i* S	Sx	05 36 23.9	
AVNT	Avonos	5.96	69	*i* P	Pn	05 35 07.5	+1.5
KKB	Krupnik	6.17	326	*i* P	Pn	05 35 08.5	-0.5
PGB	Panagyurishte	6.32	335	*i* P	Pn	05 35 10.0	-1.1
FNA	Florina	6.33	310	*e*Pn	Pn	05 35 12.1	+0.9
BALT	Daday	6.42	41	*i* P	Pn	05 35 12.5	0.0
BALT				*i* S	Sg	05 37 06.5	-3.0
PVL	Pavlikeni	6.62	345	P	Pn	05 35 13.5	-1.9
CTKT	Corum	6.68	54	*i* P	Pn	05 35 17.9	+1.6
CTKT				*i* S	Sg	05 37 20.4	+2.1
VTS	Vitosha	6.71	330	*i* P	Pn	05 35 16.2	-0.4
ARNB	Al Arnab	6.73	96	⇑P	Pn	05 35 15.8	-1.0
ARNB				⇑S	Sn	05 36 15.8	-18
BTCH	Batrach	7.08	94	⇓P	Pn	05 35 21.7	-0.1
BTCH				⇓S	Sn	05 36 24.4	-19
BHL	Bhannes	7.11	112	*e*PN	Pn	05 35 21.3	-0.9
HWQ	Hawqa	7.17	109	*e*PN	Pn	05 35 21.4	-1.7
HNTI	Hanita	7.17	119	Pn	Pn	05 35 24.0	+0.9
HNTI				Sn	Sn	05 36 39.3	-6.1
DRWC	Darouich	7.18	89	⇓P	Pn	05 35 22.9	-0.4
DRWC				⇓S	Sn	05 36 28.1	-18
OFRI	‘Ofer	7.31	123	Pn	Pn	05 35 25.9	+0.9
HRI	Mount Hermon	7.47	116	Pn	Pn	05 35 27.9	+0.6
KSHT	Keshet	7.68	118	Pn	Pn	05 35 31.1	+0.9
QASN	Qassioun	7.74	113	⇑P	Pn	05 35 29.3	-1.7
HMDT	Nahal Hemdat	7.90	123	Pn	Pn	05 35 33.7	+0.5
KZIT	Kziot	8.11	135	Pn	P	05 35 35.2	-1.0
SVTA	Shivta	8.22	134	Pn	P	05 35 36.8	-1.0
DRGI	Dragot	8.23	127	Pn	P	05 35 37.2	-0.7
MZDA	Masada	8.40	129	Pn	P	05 35 39.9	-0.3
MZDA				Sn	Sn	05 37 08.1	-7.9
MLR	Muntele Rosu	8.74	352	P	P	05 35 45.0	+0.1
	comp=Z,0.3nm,0.3s,baz=186,slow=5.7,SNR=14						
ZFRI	Zfri	8.82	133	Pn	P	05 35 44.8	-1.3
PRNI	Paran	8.87	135	Pn	P	05 35 45.1	-1.7
PRNI				Sn	Sn	05 37 19.3	-8.5
ASF	Jabal al Asfar	8.89	119	P	P	05 35 48.2	+1.2
	comp=Z,3.1nm,0.3s,baz=188,slow=8.1,SNR=7.5						
ASF				S	Sn	05 37 23.1	-5.0
	comp=Z,1.3nm,0.3s,baz=218,slow=15,SNR=2.3						
ASF				LR	LR	05 39 57.0	
	comp=Z,439nm,20.0s,baz=174,slow=42						
KMTI	Karmit	8.91	137	Pn	P	05 35 45.9	-1.4
KMTI				Sn	Sn	05 37 19.3	-9.3
TIP	Timpagrande	8.96	288	*e*Pn	P	05 35 47.0	-1.1
MBH	Mount Berech	9.25	137	Pn	P	05 35 50.7	-1.3
EIL	Elat	9.37	138	Pn	P	05 35 53.3	-0.3
SIM	Simferopol’	9.43	29	*e*P	P	05 35 52.1	-2.3
SIM				*e*S	Sn	05 37 35.7	-5.7
SIM				pmax	pmax		
	comp=Z,20nm,1.0s						
SIM				MLR	MLR		
	comp=Z,600nm,13.5s						
ALWS	Ilw as Safayha	9.71	139	P	P	05 35 57.4	-1.0
STON	Ston	9.78	311	*i* Pn	P	05 35 58.0	-1.2
STON				*i* Sn	Sn	05 37 47.6	-2.4
HAQS	Haql	9.85	140	P	P	05 35 58.5	-1.8
HAQS				S	Sn	05 37 44.2	-7.6
JMOS	Jabal al Moall	9.85	139	P	P	05 35 59.1	-1.1
KIS	Kishinev	10.18	4	*e*P	P	05 36 10.0	+5.3
KIS				MLR	MLR		
	comp=Z,600nm,8.0s						
BDAS	Al Bad‘	10.44	141	P	P	05 36 06.1	-2.2
JMQS	Jabal Moqyreh	10.48	137	P	P	05 36 09.8	+0.9
AYUS	‘Aynunah	10.72	141	P	P	05 36 10.0	-2.2
ANN	Anapa	10.82	40	*e*P	P	05 36 17.9	+4.4
ANN				*e*S	S	05 38 20.0	+4.4
ANN				pmax	pmax		
	comp=Z,38nm,0.9s						
ANN				MLR	MLR		
	comp=Z,252nm,10.0s						
ANN				MLR	MLR		
	comp=N,307nm,11.0s						
ANN				MLR	MLR		
	comp=E,339nm,14.0s						
CII	Carovilli	11.48	299	*e*Pn	P	05 36 22.8	+0.2
	comp=E,8.8nm,0.6s						
PSZ	Piszkesteto	12.48	335	*e*PP	PP	05 36 47.7	+1.8
PSZ	Piszkesteto	12.48	335	*e*P	P	05 36 35.2	-0.8
	comp=E,12nm,0.9s						
BOJS	Bojanci	12.76	317	*e*Pn	P	05 36 40.0	+0.3
CRES	Cresnjevec ost	12.85	318	*e*Pn	P	05 36 39.9	-1.1
VISS	Visnje	13.17	317	*e*Pn	P	05 36 47.8	+2.5
VYHS	Vyhne	13.34	334	*e*PN	P	05 36 47.6	+0.2
VYHS				*e*		05 41 03.8	
KIV	Kislovodsk	13.42	53	P	P	05 36 54.0	+5.5
KIV				MLR	MLR		
	comp=Z,200nm,11.0s						
VOY	Vojsko	13.83	316	*e*Pn	P	05 36 55.3	+1.4
VOY				*e*		05 37 00.9	
AKASG	Malin Array Be	13.89	4	P	P	05 36 53.1	-1.5
	comp=Z,0.3nm,0.3s,baz=183,slow=13,SNR=7.5						
ROBS	Robic	14.18	316	*e*Pn	P	05 37 00.2	+1.8
OJC	Ojcow	14.54	339	*e*P	P	05 37 11.6	+8.5
OJC				*e*S	S	05 39 54.7	+10
OJC				MLR	MLR		
	comp=Z,600nm,19.0s						
OKC	Ostrava-Krasne	14.72	335	*e*P	P	05 37 13.8	+8.3
OKC				*e*S	S	05 40 11.0	+22
OKC				LM		05 43 40.0	
	comp=Z,0.7nm,13.9s						
OKC	Ostrava-Krasne	14.72	335	*e*P	P	05 37 13.8	+8.3
OKC				MLR	MLR		
	comp=Z,700nm,13.9s						
VRAC	Vranov	14.85	330	P	P	05 37 05.1	-2.1
	comp=Z,0.3nm,0.3s,baz=90,slow=8.1,SNR=2.1						
PGF	Pioggiola	15.49	297	*e*P	P	05 37 15.5	-0.1
	comp=Z,76nm,1.4s						
GEC2	GERESS Array S	15.77	324	*e*P	P	05 37 23.5	+4.4
GEC2				*e*S	S	05 40 25.1	+11
GEC2				MLR	MLR		
	comp=Z,700nm,13.2s						
GERES	GERESS Array B	15.77	324	P	P	05 37 22.1	+3.0
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=14						
GERES				ScP		05 45 49.9	
	comp=Z,0.2nm,0.3s,baz=162,slow=3.1,SNR=4.1						
DPC	Dobruska-Polom	15.80	332	*e*P	P	05 37 24.3	+4.8
DPC				*e*S	S	05 40 30.1	+15
DPC				LM		05 44 40.0	
	comp=Z,1.0nm,12.5s						
DPC	Dobruska-Polom	15.80	332	*e*P	P	05 37 24.3	+4.8
DPC				MLR	MLR		
	comp=Z,1μm,12.5s						
KHC	Kasperske Hory	16.02	324	*e*P	P	05 37 27.1	+4.7
KHC				AP		05 37 30.0	
KHC				*e*S	S	05 40 32.9	+13
KHC				LM		05 44 20.0	
	comp=Z,1.0nm,11.9s						
KHC	Kasperske Hory	16.02	324	*e*P	P	05 37 27.1	+4.7
KHC				MLR	MLR		
	comp=Z,1μm,11.9s						
KHC	Kasperske Hory	16.02	324	*e*P	P	05 37 27.1	+4.7
KHC				*e*		05 37 30.0	
KHC				*e*S	S	05 40 32.9	+13
KSP	Ksiaz	16.21	333	*e*P	P	05 37 25.5	+0.7
KSP				*e*S	S	05 40 34.5	+10
KSP	Ksiaz	16.21	333	*e*P	P	05 37 25.5	+0.7
KSP				*e*PP	PP	05 37 31.0	-7.1
KSP				*e*S	S	05 40 34.5	+10
PRU	Pruhonice	16.22	328	*e*P	P	05 37 28.8	+3.8
PRU				*e*S	S	05 40 37.3	+13
PRU				LM		05 43 40.0	
	comp=Z,0.5nm,11.0s						
MAK	Makhachkala	16.34	62	*e*P	P	05 37 35.0	+8.4
MAK				MLR	MLR		
	comp=Z,800nm,9.0s						
WET	Wettzell	16.36	323	*e*P	P	05 37 30.1	+3.3
WET				*e*S	S	05 40 37.6	+10
WET				MLR	MLR		
	comp=Z,600nm,11.3s						
DAVOX	Davos	16.56	312	P	P	05 37 33.6	+4.3
	comp=Z,0.1nm,0.3s,baz=112,slow=7.9,SNR=8.6						
PVCC	Panska Ves	16.62	329	*e*P	P	05 37 33.1	+3.0
PVCC				*e*S	S	05 40 50.0	+16
PVCC				LM		05 44 50.0	
	comp=Z,0.8nm,14.3s						
PVCC	Panska Ves	16.62	329	*e*P	P	05 37 33.1	+3.0
PVCC				MLR	MLR		
	comp=Z,800nm,14.3s						
SBF	Sospel	16.96	301	*e*P	P	05 37 34.4	+0.1
	comp=Z,40nm,1.0s						
BRG	Berggiesshubel	17.14	329	⇓*i*P	P	05 37 44.1	+7.5
BRG				*e*S	S	05 40 52.0	+6.1
BRG				pmax	pmax		
	comp=Z,29nm,0.9s						
BRG				MLR	MLR		
	comp=Z,710nm,17.5s						
BRG				MLR	MLR		
	comp=N,600nm,15.9s						
BRG				MLR	MLR		
	comp=E,650nm,15.9s						
BRG	Berggiesshubel	17.14	329	⇓*i*P	P	05 37 44.1	+7.5
	comp=E,29nm,0.9s						
BRG				*i*		05 37 47.3	
BRG				*e*S	S	05 40 52.0	+6.1
FRF	La Foret Royal	17.42	299	*e*P	P	05 37 40.2	+0.1
LMR	La Mourre	17.46	298	*e*P	P	05 37 40.4	-0.2
GRA1	Grafenberg Arr	17.54	322	*e*P	P	05 37 45.0	+3.5
GRA1				*e*S	S	05 41 06.0	+11
GRA1				*e*S	S	05 41 09.0	+14
GRF	Grafenberg Arr	17.54	322	*e*P	P	05 37 45.0	+3.5
GRF				*e*S	S	05 41 06.0	+11
GRF				MLR	MLR		
	comp=Z,600nm,13.4s						
MBDF	Montbardon	17.68	303	*e*P	P	05 37 45.0	+1.6
	comp=Z,12nm,0.7s						
BNI	Bardonecchia	17.85	304	*e*P	P	05 37 47.3	+1.8
	comp=Z,11nm,0.8s						
CLL	Collm	17.86	329	P	P	05 37 48.0	+2.4
CLL				*i*		05 37 51.2	
CLL				*i*		05 38 10.4	
CLL				*e*		05 38 45.0	
CLL				*e*S	S	05 41 11.0	+8.8
CLL	Collm	17.86	329	*e*P	P	05 37 48.0	+2.4
CLL				*e*S	S	05 41 11.0	+8.8
CLL				pmax	pmax		
	comp=Z,29nm,0.8s						
CLL	Collm	17.86	329	*e*P	P	05 37 48.0	+2.4
	comp=Z,29nm,0.8s						
CLL				*i*		05 37 51.2	
CLL				*e*S	S	05 41 11.0	+8.8
LPG	La Plagne	17.96	305	*e*P	P	05 37 49.3	+2.4
LPL	La Plagne	17.98	305	*e*P	P	05 37 49.3	+2.2
MOX	Moxa	17.99	325	*i* P	P	05 37 50.3	+3.1
	comp=Z,logA/T=1.5						
MOX				S	S	05 41 18.0	+13
MOX				L		05 45 05.0	
MOX	Moxa	17.99	325	*e*P	P	05 37 50.3	+3.1
MOX				pmax	pmax		
	comp=Z,50nm,1.6s						
MOX				MLR	MLR		
	comp=Z,500nm,17.0s						
MOX	Moxa	17.99	325	*e*P	P	05 37 50.3	+3.1
	comp=Z,50nm,1.6s						
MOX				*e*		05 41 18.0	
BFO	Black Forest	18.26	315	*e*P	P	05 37 53.2	+2.6
BFO				*e*S	S	05 41 21.8	+10
SMRF	Simiane la Rot	18.28	300	*e*P	P	05 37 52.2	+1.3
	comp=Z,71nm,1.6s						
ORIF	Oris-en-Rattie	18.34	303	*e*P	P	05 37 52.6	+0.9
	comp=Z,14nm,0.8s						
ORIF				*e*R			
	comp=Z,518nm,18.0s						
CABF	La Chapelle	18.82	308	*e*P	P	05 37 57.3	-0.1
	comp=Z,99nm,1.5s						
HINF	Hinteralfeld	18.87	312	*e*P	P	05 37 58.6	+0.6
CDF	Champ du Feu	18.91	314	*e*P	P	05 37 59.7	+1.2
	comp=Z,45nm,1.3s						
VIVF	Saint-Julien-l	19.14	302	*e*P	P	05 38 00.7	-0.6
OBN	Obninsk	19.25	16	*e*P	P	05 38 01.8	-0.6
OBN				*e*S	S	05 41 41.2	+7.7
OBN				pmax	pmax		
	comp=Z,17nm,1.0s						
OBN				MLR	MLR		
	comp=Z,300nm,12.0s						
HAU	Haudompre	19.26	312	*e*P	P	05 38 03.2	+0.6
HAU				*e*R			
	comp=Z,830nm,22.5s						
CLZ	Clausthal	19.39	326	*e*P	P	05 38 05.5	+1.4
CLZ				*e*S	S	05 41 43.2	+6.5
LASF	Ste Croix	19.50	299	*e*P	P	05 38 05.2	-0.3
BSD	Bornholm Skovb	20.26	338	*i* S	S	05 41 43.9	-12
	comp=Z,380nm,16.0s						
SMF	Signal de Mont	20.27	306	*e*P	P	05 38 13.3	-0.4
	comp=Z,111nm,1.2s						
LOR	Lormes	20.48	308	*e*P	P	05 38 15.4	-0.6
	comp=Z,46nm,1.0s						
LOR				*e*R			
	comp=Z,588nm,22.8s						
MTLF	Montolieu	20.52	296	*e*P	P	05 38 15.5	-0.9
SSF	Saint Saulge	20.63	307	*e*P	P	05 38 17.3	-0.2
	comp=Z,96nm,1.0s						
AVF	Avril sur Loir	20.63	306	*e*P	P	05 38 17.0	-0.5
	comp=Z,124nm,1.3s						
BGF	Bois d’Agland	20.88	305	*e*P	P	05 38 20.0	-0.1
	comp=Z,176nm,1.5s						
HGN	Heimansgroeve	20.89	319	*e*P	P	05 38 20.3	+0.1
	comp=Z,9.6nm,1.2s						
HGN				*e*S	S	05 42 13.9	+5.8
BSEG	Bad Segeberg	20.91	330	*e*P	P	05 38 19.8	-0.6
CAF	Calviac	20.95	301	*e*P	P	05 38 20.6	-0.3
EPOB	Poblet	21.13	290	P	P	05 38 20.8	-1.9
	comp=Z,20nm,1.6s,mb4.2						
TCF	Toulx Ste Croi	21.22	304	*e*P	P	05 38 23.5	0.0
LFF	La Frestale	21.87	300	*e*P	P	05 38 30.4	+0.2
ETSF	Etsaut	22.47	294	*e*P	P	05 38 36.1	-0.1
	comp=Z,10.0nm,0.8s,mb4.0						
MFF	Saint Martin d	22.87	304	*e*P	P	05 38 40.5	+0.5
	comp=Z,116nm,1.6s,mb4.8						
SJPF	Ste Jean	22.98	295	*e*P	P	05 38 40.8	-0.3
	comp=Z,27nm,1.1s,mb4.3						
ETOB	Tobarra	23.18	283	P	P	05 38 45.5	+2.4
	comp=Z,5.0nm,0.8s,mb4.0						
LDF	La Druitiere	23.45	309	*e*P	P	05 38 46.3	+0.7
	comp=Z,138nm,1.4s,mb4.9						
FLN	La Foliniere	23.73	309	*e*P	P	05 38 48.9	+0.6
	comp=Z,120nm,1.1s,mb4.9						
FLN				*e*R			
	comp=Z,490nm,22.2s						
GRR	Gorron	23.85	308	*e*P	P	05 38 49.5	0.0
	comp=Z,141nm,1.0s,mb5.1						
ECRI	Cripan	23.88	293	P	P	05 38 49.4	-0.4
	comp=Z,18nm,0.8s,mb4.6						
EVIA	Vianos	23.92	284	P	P	05 38 52.0	+1.7
	comp=Z,14nm,0.8s,mb4.4						
EQES	Quesada	24.46	282	P	P	05 38 56.0	+0.4
	comp=Z,14nm,1.1s,mb4.3						
FINES	FINESS Array B	24.64	358	P	P	05 38 56.9	-0.2
	comp=Z,5.1nm,0.7s,mb4.2,baz=153,slow=13,SNR=12						
FINES				LR	LR	05 49 34.0	
	comp=Z,140nm,18.2s,MS3.5,baz=0.4,slow=39						
FINES	FINESS Array B	24.64	358	P	P	05 38 56.9	-0.2
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,140nm,18.2s						
SGMF	Saint Gilles	24.89	307	*e*P	P	05 38 59.1	-0.5
	comp=Z,100nm,1.3s,mb4.9						
ESDC	Sonseca Array	24.98	286	P	P	05 39 00.9	+0.4
	comp=Z,5.9nm,0.6s,mb4.3,baz=79,slow=9.3,SNR=33						
ESDC				LR	LR	05 48 30.7	
	comp=Z,96nm,19.9s,MS3.3,baz=15,slow=36						
ESDC	Sonseca Array	24.98	286	P	P	05 39 00.9	+0.4
	comp=Z,5.5nm,0.6s,mb4.3						
ESLA	Sonseca Array	24.98	286	*e*P	P	05 39 00.1	-0.4
	comp=Z,3.5nm,0.8s,mb3.9						
HFS	Hagfors	24.98	343	P	P	05 38 60.0	-0.4
	comp=Z,5.1nm,0.7s,mb4.2,baz=153,slow=9.9,SNR=9.2						
HFS	Hagfors	24.98	343	P	P	05 39 00.0	-0.3
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
QUIF	Quistinic	25.20	306	*e*P	P	05 39 01.7	-0.8
ROSF	Rostrenen	25.37	307	*e*P	P	05 39 04.4	+0.2
	comp=Z,19nm,0.9s,mb4.3						
NAO01	NORSAR Array S	26.29	341	P	P	05 39 12.0	-0.6
	comp=Z,7.6nm,0.9s,mb4.2						
NB2	NORSAR Subarra	26.37	342	P	P	05 39 11.4	-1.9
	comp=Z,2.2nm,0.7s,mb3.8,baz=140,slow=10						
NOA	NORSAR Array B	26.37	342	P	P	05 39 12.4	-1.0
	comp=Z,1.1nm,0.9s,baz=141,slow=11,SNR=7.5						
NOA	NORSAR Array B	26.37	342	P	P	05 39 12.4	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ECAL	Calabor	27.00	292	P	P	05 39 20.4	+1.2
	comp=Z,15nm,0.8s,mb4.6						
PBRG	Braganca	27.00	291	*e*P	P	05 39 19.4	+0.1
	comp=Z,22nm,1.4s,mb4.5						
EMIN	Mina Concepcio	27.29	282	P	P	05 39 21.0	-0.9
	comp=Z,6.7nm,0.5s,mb4.4						
EBAD	Badajoz	27.42	285	P	P	05 39 22.4	-0.8
	comp=Z,8.6nm,1.0s,mb4.2						
PCBR	Castelo Branco	27.66	287	*e*P	P	05 39 24.6	-0.8
	comp=Z,21nm,1.5s,mb4.5						
MTE	Manteigas	27.67	288	*e*P	P	05 39 24.8	-0.6
	comp=Z,14nm,0.8s,mb4.6						
MTE				*e*S	S	05 44 07.0	+1.5
MTE	Manteigas	27.67	288	*e*P	P	05 39 24.5	-0.9
	comp=Z,12nm,0.8s,mb4.6						
EKA	Eskdalemuir Ar	27.95	321	P	P	05 39 26.6	-1.2

	comp=Z,1.6nm,0.7s,mb3.8,baz=127,slow=8.3,SNR=5.4						
EKA	**Eskdalemuir Ar**	**27.95**	**321**	P	**P**	**05 39 26.6**	**-1.2**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PALC	**Alcoutim**	**27.97**	**282**	*e*P	**P**	**05 39 27.3**	**-0.8**
	comp=Z,33nm,1.2s,mb4.8						
PBEJ	**Beja**	**28.18**	**283**	*e*P	**P**	**05 39 29.5**	**-0.6**
	comp=Z,26nm,1.5s,mb4.6						
ARU	**Arti**	**28.46**	**37**	⇑*i*P	**P**	**05 39 32.1**	**-0.3**
ARU				*e*		05 40 20.4	
ARU				*e*PPP	PPP	05 40 28.7	-7.8
ARU				*e*		05 42 41.2	
ARU				*e*S	**S**	**05 44 19.8**	**+1.7**
ARU				*e*SS	SS	05 45 40.1	-2.9
ARU				*e*		05 50 14.4	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS3.8						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,200nm,20.0s,MS3.8						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**05 40 09.0**	**-1.4**
	comp=E,1.8nm,0.6s,mb4.2,baz=180,slow=11,SNR=8.3						
ARCES				LR	LR	05 54 16.3	
	comp=E,188nm,18.8s,MS3.8,baz=196,slow=38						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**05 40 09.0**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,188nm,18.8s						
ZRNK	**Zerenda**	**32.84**	**47**	*e*P	**P**	**05 40 08.8**	**-2.4**
	comp=Z,5.6nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**33.68**	**48**	P	**P**	**05 40 18.2**	**-0.2**
	comp=Z,2.7nm,1.1s,mb4.1,baz=288,slow=9.1,SNR=4.7						
KURK	**Kurchatov**	**38.50**	**52**	*e*P	**P**	**05 40 58.5**	**-0.9**
	comp=Z,7.0nm,0.9s,mb4.4						
KMBO	**Kilima Mbogo**	**38.80**	**165**	LR	LR	05 57 49.0	
	comp=Z,157nm,19.0s,MS3.9,baz=47,slow=37						
MKAR	**Makanchi Array**	**41.12**	**58**	P	**P**	**05 41 21.1**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.4,baz=284,slow=5.0,SNR=34						
MKAR				LR	LR	06 01 03.1	
	comp=Z,80nm,19.4s,MS3.6,baz=280,slow=40						
MKAR	**Makanchi Array**	**41.12**	**58**	*i*P	**P**	**05 41 21.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS	**Novosibirsk**	**41.42**	**46**	*i*P	**P**	**05 41 23.0**	**-0.5**
NVS				*e*S	**S**	**05 47 37.7**	**-0.4**
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
NVS				smax			
	comp=N,18nm,1.9s						
NVS				smax			
	comp=E,15nm,1.9s						
DBIC	**Dimbokro**	**42.24**	**233**	P	**P**	**05 41 30.2**	**-0.5**
	comp=E,5.2nm,0.6s,mb4.4,baz=33,slow=10,SNR=17						
DBIC	**Dimbokro**	**42.24**	**233**	P	**P**	**05 41 30.2**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DBIC	**Dimbokro**	**42.24**	**233**	P	**P**	**05 41 30.2**	**-0.5**
TIC	**Toumodi**	**42.37**	**233**	*e*P	**P**	**05 41 31.1**	**-0.6**
	comp=Z,30nm,0.8s,mb5.0						
KIC	**Kosan Boka**	**42.41**	**232**	*e*P	**P**	**05 41 31.4**	**-0.6**
	comp=Z,161nm,1.4s,mb5.5						
LIC	**Lamto**	**42.69**	**232**	*e*P	**P**	**05 41 32.6**	**-1.8**
	comp=Z,38nm,1.0s,mb4.8						
LIC	**Lamto**	**42.69**	**232**	*e*P	**P**	**05 41 33.7**	**-0.7**
	comp=Z,52nm,1.0s,mb5.2						
KOLN	**Koldanda**	**47.51**	**84**	*e*P	**P**	**05 42 11.6**	**-1.1**
	comp=Z,6.4nm,0.6s,mb4.8						
SUMG	**Summit**	**48.17**	**338**	*e*P	**P**	**05 42 15.9**	**-1.4**
	comp=Z,15nm,1.1s,mb4.9						
GKN	**Gorkha**	**48.23**	**83**	*e*P	**P**	**05 42 17.7**	**-0.7**
	comp=Z,17nm,0.8s,mb5.1						
DMN	**Daman**	**48.78**	**84**	*e*P	**P**	**05 42 21.5**	**-1.1**
	comp=Z,125nm,1.8s						
KKN	**Kakani**	**48.84**	**83**	*e*P	**P**	**05 42 22.3**	**-0.7**
	comp=Z,45nm,1.3s,mb5.3						
PKI	**Pulchoki**	**49.03**	**83**	*e*P	**P**	**05 42 23.4**	**-1.1**
	comp=Z,45nm,1.5s,mb5.3						
ZAK	**Zakamensk**	**54.07**	**50**	⇓*i*P	**P**	**05 43 02.5**	**+0.4**
GTA	**Gaotai**	**55.34**	**64**	*e*P	**P**	**05 43 11.6**	**-0.1**
GTA				AP	pP	05 43 20.8	+5.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
TSUM	**Tsumeb**	**56.56**	**192**	P	**P**	**05 43 20.6**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.5,baz=345,slow=7.3,SNR=7.2						
SONM	**Songino Array**	**56.81**	**52**	P	**P**	**05 43 21.9**	**-0.2**
	comp=Z,2.8nm,0.5s,mb4.6,baz=288,slow=8.2,SNR=26						
LZH	**Lanzhou**	**59.60**	**66**	*e*P	**P**	**05 43 41.5**	**-0.3**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,83nm,4.0s						
LZH				LR	LR		
	comp=E,201nm,13.4s						
LZH				LR	LR		
	comp=Z,457nm,16.7s,MS4.7						
SCHQ	**Schefferville**	**63.25**	**320**	P	**P**	**05 44 03.7**	**-2.4**
	comp=Z,3.9nm,0.6s,mb4.7,baz=86,slow=5.8,SNR=9.5						
SCHQ				LR	LR	06 10 38.0	
	comp=Z,108nm,18.1s,MS4.1,baz=36,slow=35						
CMAR	**Chiang Mai Arr**	**64.34**	**86**	P	**P**	**05 44 12.8**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.4,baz=300,slow=8.7,SNR=13						
CMAR	**Chiang Mai Arr**	**64.34**	**86**	P	**P**	**05 44 12.8**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GYA	**Guiyang**	**66.26**	**74**	⇑*i*P	**P**	**05 44 25.2**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
SUR	**Sutherland**	**69.17**	**186**	P	**P**	**05 44 44.9**	**+0.7**
	comp=Z,5.1nm,1.0s,mb4.4,baz=360,slow=2.6,SNR=5.7						
NJ2	**Nanjing**	**72.43**	**63**	*e*P	**P**	**05 45 01.1**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=N,210nm,7.6s						
NJ2				LR	LR		
	comp=E,370nm,13.8s						
NJ2				LR	LR		
	comp=Z,590nm,13.2s,MS5.0						
INK	**Inuvik**	**74.22**	**353**	P	**P**	**05 45 11.7**	**-1.9**
	comp=Z,1.4nm,0.6s,mb4.1,baz=1.8,slow=14,SNR=6.4						
INK	**Inuvik**	**74.22**	**353**	P	**P**	**05 45 11.7**	**-1.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**76.47**	**343**	P	**P**	**05 45 24.8**	**-1.7**
	comp=Z,3.6nm,1.1s,mb4.2,baz=36,slow=5.5,SNR=10						
YKA				LR	LR	06 20 19.2	
	comp=Z,64nm,20.1s,MS3.9,baz=50,slow=37						
YKA	**Yellowknife Ar**	**76.47**	**343**	P	**P**	**05 45 24.8**	**-1.7**
YKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YKA				MLR	MLR		
	comp=Z,64nm,20.1s						
ILAR	**Eielson Array**	**78.63**	**358**	P	**P**	**05 45 38.4**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=349,slow=4.4,SNR=14						
ILAR	**Eielson Array**	**78.63**	**358**	P	**P**	**05 45 38.4**	**0.0**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	**Lac du Bonnet**	**80.05**	**327**	LR	LR	06 22 11.0	
	comp=Z,147nm,20.0s,MS4.3,baz=26,slow=36						
BDFB	**Brasilia**	**88.26**	**249**	P	**P**	**05 46 28.9**	**+0.3**
	comp=Z,5.3nm,0.8s,mb4.8,baz=59,slow=3.2,SNR=10						
BDFB				LR	LR	06 28 14.2	
	comp=Z,91nm,20.6s,MS4.2,baz=81,slow=37						
BDFB	**Brasilia**	**88.26**	**249**	P	**P**	**05 46 28.9**	**+0.3**
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,91nm,20.6s						
PDAR	**Pinedale Array**	**91.72**	**330**	LR	LR	06 31 37.9	
	comp=Z,84nm,18.8s,MS4.2,baz=44,slow=38						
NVAR	**Mina Array Bea**	**98.80**	**334**	LR	LR	06 35 56.8	
	comp=Z,68nm,18.4s,MS4.2,baz=55,slow=38						
TXAR	**Lajitas Array**	**99.91**	**318**	LR	LR	06 30 52.4	
	comp=Z,47nm,20.9s,MS4.0,baz=50,slow=34						
WRA	**Warramunga Arr**	**114.72**	**97**	PKP	PKPdf	05 52 15.8	-3.9
	comp=Z,0.4nm,0.9s,baz=295,slow=2.0,SNR=5.4						

IDC 03 05:36:39.2±2.0**, 5.20S**×**105.42E, mb4.0**/2**, mb1 4.2**/2**, mb1mx3.5**/14**, Error ellipse: s-maj=119.0km s-min=41.9km az=24.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.72**	**120**	P	P	05 43 04.8	-2.4
	0.9nm,1.1s,baz=294,slow=10.0,SNR=4.3						
WRA				PcP	PcP	05 45 57.2	-1.9
	0.7nm,1.1s,baz=298,slow=2.1,SNR=4.7						
STKA	**Stephens Creek**	**43.00**	**133**	P	P	05 44 40.6	-1.7
	3.2nm,0.6s,baz=316,slow=12,SNR=7.0						
TXAR	**Lajitas Array**	**143.50**	**46**	PKP	PKPdf	05 56 17.4	-1.0
	0.2nm,0.5s,baz=244,slow=1.4,SNR=7.3						
CPUP	**Villa Florida**	**144.47**	**207**	PKP	PKPdf	05 56 17.3	-2.9
	1.3nm,0.9s,baz=90,slow=3.0,SNR=3.6						
BDFB	**Brasilia**	**146.52**	**231**	PKPbc	PKPbc	05 56 22.6	-0.8
	1.3nm,0.7s,baz=188,slow=16,SNR=4.0						

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*ISK **03** 05:44:46.0, 36.90N×27.67E, h5^{km}, MD3.4*

*NEIC **03** 05:44:48.2, 36.88N×27.66E, h28^{km}, MD3.3(ATH), After ATH.*

*ATH **03** 05:44:48.2, 36.88N×27.66E, h28^{km}±3^{km}, MD3.3/5*

ISC 03 05:44:46.3±0.4**, 36.88N**±0.03×**27.62E**±0.04**, h5^{km}, n19, σ0^{s}.90**/28**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.43**	**16**	*i* PG	**Pg**	**05 44 54.8**	**-0.1**
NISR	**Nisiros**	**0.48**	**236**	*e*PN	**Pn**	**05 44 59.0**	**-0.4**
NISR				*e*SN	**Sn**	**05 45 07.0**	**-1.2**
YER	**Yerkesik**	**0.58**	**64**	*i* PG	**Pg**	**05 44 56.9**	**-1.1**
YER				SG	**Sg**	**05 45 04.6**	**-1.2**
ARG	**Arkhangelos**	**0.78**	**149**	*e*PB	**Pb**	**05 45 02.0**	**+0.1**
ARG				*e*SN	**Sn**	**05 45 15.0**	**-0.7**
AYDN	**Tasoluk**	**0.80**	**15**	⇑*i*P	**Pb**	**05 45 01.9**	**-0.4**
AYDN				*i* S	**Sg**	**05 45 12.6**	**-0.5**
KARP	**Karpathos**	**1.38**	**196**	*e*PN	**Pn**	**05 45 13.5**	**+1.2**
KARP				*e*SN	**Sn**	**05 45 32.0**	**+0.9**
DNZL	**Cakiroluk**	**1.39**	**54**	⇑*i*P	**Pb**	**05 45 12.0**	**-0.3**
DNZL				*i* S	**Sb**	**05 45 31.6**	**+1.3**
DENT	**Denizli**	**1.42**	**52**	*e*PN	**Pn**	**05 45 12.9**	**+0.1**
DENT				SN	**Sn**	**05 45 32.3**	**+0.2**
IZM	**Izmir**	**1.54**	**349**	PN	**Pn**	**05 45 14.0**	**-0.5**
KDAG	**Bornova**	**1.54**	**350**	⇑*i*P	**Pn**	**05 45 14.2**	**-0.3**
KDAG				*i* S	**Sb**	**05 45 37.4**	**+2.7**
APE	**Apeiranthos**	**1.69**	**277**	*e*PB	**Pb**	**05 45 18.0**	**+0.6**
KSL	**Kastellorizon**	**1.74**	**114**	*e*PN	**Pn**	**05 45 19.0**	**+1.6**
MANT	**Manisa**	**1.77**	**24**	⇑*i*P	**Pn**	**05 45 17.2**	**-0.5**
MANT				*i* S	**Sn**	**05 45 42.6**	**+1.7**
ELL	**Elmali**	**1.84**	**93**	*e*PN	**Pn**	**05 45 18.7**	**-0.1**
AKS	**Akhisar**	**2.00**	**4**	*e*PN	**Pn**	**05 45 20.3**	**-0.8**
BCK	**Bucak**	**2.44**	**75**	*e*PN	**Pn**	**05 45 27.5**	**+0.1**
ULDT	**Uludag**	**3.46**	**20**	*i* P	**Pn**	**05 45 48.6**	**+6.6**
SART	**Tekirdag**	**3.82**	**355**	*i* P	**Pn**	**05 45 45.8**	**-1.2**
IKL	**Isikli**	**4.92**	**96**	*e*PN	**Pn**	**05 46 02.6**	**-0.1**

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*IDC **03** 06:25:24.7±1.2, 70.91N×6.22W, mb3.9/1, mb1 3.7/5, mb1mx3.4/23, ML3.2/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/26, Error ellipse: s-maj=36.2km s-min=9.0km az=9.0*

*NEIC **03** 06:25:25.9±0.4, 70.89N×6.27W, h10^{km}, ML3.1(BER), Error ellipse: s-maj=9.7km s-min=4.2km az=192.0*

*BER **03** 06:25:27.7±1.9, 70.33N×7.60W, h10^{km}, MD3.4, ML3.1*

ISC 03 06:25:23.7±3.3**, 70.96N**±0.09×**6.0W**±0.1**, h8^{km}**±27^{km}**, n14, σ0^{s}.73**/17**, mb3.7**/1**, 4C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.75**	**273**	⇑*i*P	**Pb**	**06 25 39.1**	**+0.4**
JNE				*e*S	**Sb**	**06 25 49.8**	**+1.0**
JNW	**Jan Mayen West**	**0.80**	**276**	⇑*i*P	**Pb**	**06 25 39.6**	**+0.2**
JMIC	**Jan Mayen**	**0.82**	**273**	Pg	**Pb**	**06 25 39.9**	**0.0**
	352nm,0.3s,baz=48,slow=1.9,SNR=1115						
JMIC				Lg		06 25 49.1	
	288nm,0.3s,baz=146,slow=21,SNR=48						
JMIC	**Jan Mayen**	**0.82**	**273**	⇑*i*P	**Pb**	**06 25 39.9**	**0.0**
JMIC				*e*S	**Sb**	**06 25 49.5**	**-1.5**
JMIC				AML	AML	06 25 50.9	
	comp=Z,1µm,0.7s						
JMI	**Jan Mayen**	**0.90**	**269**	⇑*i*P	**Pb**	**06 25 41.5**	**+0.4**
MOR8	**Moi Rana**	**8.86**	**113**	*e*P	**P**	**06 27 34.8**	**-0.3**
MOR8				*e*S	**Sn**	**06 29 08.1**	**-8.0**
MOR8				AML	AML	06 29 15.2	
	comp=Z,4.8nm,0.6s						
KBS	**Kingsbay**	**9.20**	**22**	*e*P	**P**	**06 27 39.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**9.29**	**29**	Pn	**P**	**06 27 41.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=63,slow=4.5,SNR=6.9						
NSS	**Namsos**	**9.35**	**125**	*e*P	**P**	**06 27 41.2**	**-0.6**
SUMG	**Summit**	**10.21**	**294**	P	**P**	**06 27 52.6**	**-0.8**
ARCES	**ARCESS Array B**	**10.68**	**83**	Pn	**P**	**06 27 58.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=4.7						
ARCES				LR	LR	06 31 31.5	
	comp=Z,42nm,19.0s,baz=261,slow=34						
HFS	**Hagfors**	**13.48**	**134**	Pn	**P**	**06 28 37.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=337,slow=11,SNR=8.8						
FINES	**FINESS Array B**	**15.84**	**111**	Pn	**P**	**06 29 09.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=316,slow=11,SNR=5.9						
FINES				LR	LR	06 34 36.1	
	comp=Z,48nm,20.3s,baz=263,slow=35						
AKASG	**Malin Array Be**	**25.91**	**123**	P	**P**	**06 30 58.5**	**+1.1**
	comp=Z,1.6nm,0.7s,mb3.7,baz=332,slow=9.5,SNR=3.5						

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*ISK **03** 06:26:02.4, 35.52N×27.05E, h2^{km}, MD3.5*

*NEIC **03** 06:26:06.2, 35.79N×27.21E, h5^{km}, MD3.4(ATH), After ATH.*

*ATH **03** 06:26:06.2, 35.79N×27.21E, h5^{km}, MD3.4/9*

ISC 03 06:26:05.9±0.5**, 35.79N**±0.04×**27.11E**±0.05**, h5^{km}, n14, σ1^{s}.20**/17**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.25**	**170**	*e*PG	**Pg**	**06 26 11.5**	**+0.5**
KARP				*e*SG	**Sg**	**06 26 14.5**	**+0.1**
NISR	**Nisiros**	**0.82**	**1**	*e*PG	**Pg**	**06 26 21.5**	**-0.7**
ARG	**Arkhangelos**	**0.93**	**63**	*e*PB	**Pb**	**06 26 23.0**	**-1.1**
ARG				*e*SB	**Sb**	**06 26 35.0**	**-1.5**
NPS	**Neapolis**	**1.33**	**247**	*e*PG	**Pg**	**06 26 33.0**	**+0.5**
XRY	**Khrisi**	**1.48**	**232**	*e*PN	**Pn**	**06 26 33.5**	**+0.2**
MLSB	**Milas**	**1.59**	**20**	PN	**Pn**	**06 26 36.9**	**+2.0**
MLSB				SN	**Sn**	**06 27 01.4**	**+5.3**
YER	**Yerkesik**	**1.64**	**35**	*e*PN	**Pn**	**06 26 36.6**	**+1.0**
APE	**Apeiranthos**	**1.80**	**315**	*e*PN	**Pn**	**06 26 42.0**	**+4.1**
KSL	**Kastellorizon**	**2.04**	**79**	*e*PN	**Pn**	**06 26 41.0**	**-0.3**
VAM	**Vamos**	**2.40**	**262**	*e*PG	**Pg**	**06 26 52.5**	**-1.4**
ELL	**Elmali**	**2.45**	**66**	*e*PN	**Pn**	**06 26 46.5**	**-0.8**
DENT	**Denizli**	**2.49**	**38**	*e*PN	**Pn**	**06 26 49.9**	**+2.1**
IZM	**Izmir**	**2.60**	**3**	*e*PN	**Pn**	**06 26 50.0**	**+0.6**
VLI	**Veliai**	**3.50**	**287**	*e*PB	**Pb**	**06 27 05.8**	**-2.2**

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*NEIC **03** 06:32:44.0, 49.35N×123.97W, h67^{km}, ML2.9(PGC), After PGC.*

NEIC Felt along the east coast of Vancouver Island at Cobble Hill, Duncan, Nanaimo, Qualicum Beach and Sidney. Also felt at Half Moon Bay and North Vancouver, British Columbia.

PGC 03 06:32:43.5, 49.35N×**123.97W, h67^{km}**±4^{km}**, ML2.9**/24**, MD3.0**(SEA)**, 6C-22D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLLB	**Nanaimo Lost L**	**0.12**	**185**	P	P	06 32 53.2	-0.3
NLLB				S	S	06 33 00.2	-0.6
NLLB				Trac		06 33 02.1	
	comp=Z,582nm,0.2s						
SHB	**Sechelt**	**0.26**	**14**	P	P	06 32 54.0	-0.2
SHB				S	S	06 33 01.7	-0.3
SHB				Trac		06 33 02.3	
	comp=Z,5µm,0.1s						
BIB	**Bowen Island**	**0.44**	**82**	⇓P	P	06 32 55.3	-0.3
BIB				S	S	06 33 04.3	-0.3
BIB				Trac		06 33 04.8	
	comp=Z,353nm,0.1s						
TXB	**Texada**	**0.46**	**319**	⇑P	P	06 32 55.3	-0.5
TXB				S	S	06 33 04.5	-0.4
TXB				Trac		06 33 04.7	
	comp=Z,555nm,0.1s						
GOBB	**Galiano Island**	**0.50**	**143**	⇓P	P	06 32 56.2	0.0
GOBB				S	S	06 33 05.5	0.0
GOBB				Trac		06 33 06.8	
	comp=Z,631nm,0.1s						
ALB	**Alberni**	**0.57**	**263**	⇓P	P	06 33 19.4	+22
ALB				S	S	06 33 29.3	+22
ALB				Trac		06 33 30.6	
	comp=Z,193nm,0.1s						
WPB	**Watts Point**	**0.58**	**58**	⇓P	P	06 32 57.1	-0.1
WPB				S	S	06 33 07.1	0.0
WPB				Trac		06 33 07.9	
	comp=Z,658nm,0.2s						
MGB	**Mount Grey**	**0.59**	**234**	⇑P	P	06 32 57.2	0.0
MGB				S	S	06 33 07.5	+0.4
MGB				Trac		06 33 09.1	
	comp=Z,872nm,0.2s						
LZB	**Mount Lazard**	**0.74**	**172**	⇓P	P	06 32 58.8	-0.1
LZB				S	S	06 33 09.7	-0.7
LZB				Trac		06 33 11.0	
	comp=Z,87nm,0.1s						
PGC	**Sidney**	**0.78**	**154**	P	P	06 32 59.2	-0.1
PGC				S	S	06 33 10.4	-0.6
PGC				Trac		06 33 11.3	
	comp=Z,394nm,0.1s						
PGC	**Sidney**	**0.78**	**154**	*e*P	P	06 32 59.2	-0.1
PGC				*e*S	S	06 33 10.0	-1.0
SNB	**Saturna Island**	**0.78**	**137**	P	P	06 32 59.4	+0.1
SNB				S	S	06 33 10.2	-0.9
SNB				Trac		06 33 12.1	
	comp=Z,246nm,0.1s						
SNB	**Saturna Island**	**0.78**	**137**	⇓P	P	06 32 59.4	+0.1
PFB	**Port Renfrew**	**0.84**	**202**	⇓P	P	06 32 59.8	-0.2
PFB				S	S	06 33 11.6	-0.7
PFB				Trac		06 33 15.3	
	comp=Z,249nm,0.2s						
PFB	**Port Renfrew**	**0.84**	**202**	⇓P	P	06 32 59.8	-0.3
HNB	**Haney**	**0.91**	**94**	P	P	06 33 00.5	-0.5
HNB				S	S	06 33 12.8	-1.2
HNB				Trac		06 33 13.8	
	comp=Z,253nm,0.2s						
MCW	**Mount Constitu**	**1.00**	**131**	⇑P	P	06 33 02.5	+0.3
BTB	**Buttle Lake**	**1.02**	**277**	P	P	06 33 01.8	-0.6
BTB				S	S	06 33 15.8	-0.6
BTB				Trac		06 33 17.7	
	comp=Z,282nm,0.1s						
VGZ	**Gonzales**	**1.03**	**155**	⇓P	P	06 32 52.1	-10
VGZ				S	S	06 33 05.5	-11
VGZ				Trac		06 33 06.6	
	comp=Z,248nm,0.1s						
WSLR	**Whistler**	**1.03**	**41**	⇓P	P	06 33 02.2	-0.4
WSLR				S	S	06 33 16.4	-0.4
WSLR				Trac		06 33 19.9	
	comp=Z,83nm,0.2s						
OZB	**Mount Ozzard**	**1.07**	**249**	⇑P	P	06 33 02.3	-0.8
OZB				⇑P		06 33 02.4	
OZB				S	S	06 33 16.2	-1.4
OZB				Trac		06 33 17.4	
	comp=Z,217nm,0.1s						
CBB	**Campbell River**	**1.14**	**308**	⇑P	P	06 33 03.3	-0.7
CBB				S	S	06 33 18.2	-0.8
CBB				Trac		06 33 19.3	
	comp=Z,184nm,0.2s						
STW	**Striped Peak**	**1.22**	**170**	⇓P	P	06 33 04.6	-0.4
ERW	**Mount Erie**	**1.26**	**135**	P	P	06 33 06.0	+0.3
VDB	**Vedder Mountai**	**1.27**	**104**	⇑P	P	06 33 04.9	-0.8
VDB				S	S	06 33 20.9	-1.3
VDB				Trac		06 33 22.5	
	comp=Z,88nm,0.2s						
VDB	**Vedder Mountai**	**1.27**	**104**	⇑P	P	06 33 05.0	-0.8
OTR	**Olympics--Tyee**	**1.29**	**191**	⇓P	P	06 33 06.0	0.0
OBC	**Olympics--Boni**	**1.32**	**183**	⇓P	P	06 33 06.2	-0.3
GDR	**Gold River**	**1.41**	**289**	P	P	06 33 06.8	-1.0
GDR				Trac		06 33 28.7	
	comp=Z,42nm,0.1s						
SQM	**Sequim**	**1.42**	**154**	P	P	06 33 07.7	-0.2
MBW	**Mount Baker**	**1.48**	**112**	⇑P	P	06 33 08.6	0.0
BLN	**Blyn Mountain**	**1.50**	**153**	⇓P	P	06 33 08.5	-0.4
CMW	**Cultus Mountai**	**1.53**	**126**	⇑P	P	06 33 09.7	+0.3
OCWA	**Octopus Mounta**	**1.61**	**185**	P	P	06 33 10.0	-0.4
OCWA	**Octopus Mounta**	**1.61**	**185**	*e*P	P	06 33 09.7	-0.7
HOPB	**Hope**	**1.67**	**88**	P	P	06 33 10.7	-0.6
HOPB				S	S	06 33 31.0	-0.6
HOPB				Trac		06 33 31.8	
	comp=Z,154nm,0.2s						
ETB	**Estevan Point**	**1.68**	**272**	P	P	06 33 10.0	-1.3
JCW	**Jim Creek**	**1.78**	**130**	P	P	06 33 12.6	-0.1
HDW	**Hoodsport**	**1.81**	**160**	P	P	06 33 13.2	+0.1
LLLB	**Lillooet**	**1.85**	**46**	⇓P	P	06 33 13.6	0.0
LLLB				S	S	06 33 35.5	-0.3
LLLB				Trac		06 33 38.5	
	comp=Z,320nm,0.5s						
RPW	**Rockport**	**1.85**	**118**	⇑P	P	06 33 13.6	-0.1
GNW	**Green Mountain**	**1.94**	**156**	⇑P	P	06 33 15.0	0.0
GMW	**Gold Mountain**	**1.97**	**156**	P	P	06 33 15.5	+0.2
SMW	**South Mountain**	**2.07**	**168**	P	P	06 33 16.7	-0.1
EDB	**Eliza Dome**	**2.12**	**286**	P	P	06 33 16.9	-0.5
EDB				Trac		06 33 48.3	
	comp=Z,55nm,0.3s						
HTW	**Haystack Looko**	**2.13**	**136**	P	P	06 33 17.6	0.0
MEW	**McNeil Island**	**2.32**	**157**	P	P	06 33 20.7	+0.3
MAYB	**Maynard**	**2.32**	**298**	P	P	06 33 19.2	-1.2
MAYB				Trac		06 33 58.3	
	comp=Z,43nm,0.4s						
RMW	**Rattlesnake Mo**	**2.38**	**142**	P	P	06 33 21.5	+0.4
CPW	**Capitol Peak**	**2.44**	**166**	⇓P	P	06 33 21.6	-0.4
GSM	**Grass Mountain**	**2.59**	**145**	⇑P	P	06 33 24.2	0.0
BPBC	**Brooks Peninsu**	**2.59**	**290**	P	P	06 33 22.4	-1.8
BPBC				S	S	06 33 51.0	-3.6
BPBC				Trac		06 33 55.5	
	comp=Z,30nm,0.1s						
PCMD	**Pierce County**	**2.70**	**155**	P	P	06 33 25.1	-0.7
NLW	**Nelson Butte**	**2.72**	**116**	P	P	06 33 25.7	-0.3
RVC	**Mount Rainier-**	**2.75**	**150**	⇓P	P	06 33 26.2	-0.2
LCW	**Lucas Creek**	**2.81**	**162**	P	P	06 33 26.8	-0.5
PNT	**Penticton**	**2.85**	**89**	⇑P	P	06 33 26.8	-1.0
PNT				S	S	06 33 59.0	-1.9
PNT				Trac		06 34 01.9	
	comp=Z,33nm,0.3s						
PNT	**Penticton**	**2.85**	**89**	⇑P	P	06 33 26.7	-1.0
FMW	**Mount Fremont**	**2.87**	**147**	⇓P	P	06 33 27.9	-0.2
REMR	**Mount Rainier-**	**2.91**	**150**	P	P	06 33 28.5	0.0
LMW	**Ladd Mountain**	**2.91**	**157**	P	P	06 33 28.3	-0.3
BMW	**Boistfort Moun**	**2.92**	**170**	⇓P	P	06 33 28.0	-0.7
LON	**Longmire**	**2.98**	**150**	P	P	06 33 29.3	-0.3
HOLB	**Holberg**	**2.98**	**297**	P	P	06 33 28.2	-1.4
HOLB				S	S	06 34 00.8	-3.4
HOLB				Trac		06 34 03.9	
	comp=Z,14nm,0.1s						
WTV	**Waterville**	**3.14**	**120**	P	P	06 33 31.5	-0.3
TDL	**Tradedollar La**	**3.22**	**158**	P	P	06 33 32.9	-0.1
ERK	**Elk Rock**	**3.24**	**160**	P	P	06 33 32.9	-0.3
NLO	**Nicolai Mounta**	**3.28**	**174**	P	P	06 33 33.2	-0.6
RVW	**Rose Valley**	**3.31**	**165**	⇓P	P	06 33 33.9	-0.3
FL2	**Flat Top 2**	**3.34**	**160**	P	P	06 33 34.5	-0.1
EBG	**Ellensburg**	**3.34**	**136**	P	P	06 33 34.6	0.0
SHW	**Mount Saint He**	**3.37**	**159**	P	P	06 33 35.2	+0.2
ESD	**East Dome**	**3.38**	**158**	P	P	06 33 35.7	+0.5
HSR	**South Ridge**	**3.40**	**159**	P	P	06 33 35.8	+0.3
JLK	**June Lake**	**3.43**	**158**	P	P	06 33 36.0	+0.1
LVP	**Lakeview Peak**	**3.45**	**162**	⇓P	P	06 33 35.9	-0.2
CDFW	**Cedar Flats**	**3.48**	**157**	P	P	06 33 36.9	+0.3
ASR	**Mount Adams--S**	**3.58**	**152**	P	P	06 33 38.0	+0.1
KMOR	**Kings Mountain**	**3.73**	**175**	⇓P	P	06 33 38.9	-1.2
BVW	**Beverly**	**3.74**	**131**	P	P	06 33 39.7	-0.5
BBB	**Bella Bella**	**3.87**	**319**	P	P	06 33 42.0	-0.1
MDW	**Midway**	**3.94**	**132**	P	P	06 33 42.2	-0.7
DPW	**Davenport**	**4.10**	**109**	*e*P	P	06 33 44.1	-1.2
HAWA	**Hanford**	**4.20**	**133**	P	P	06 33 44.9	-1.9
SSOR	**Sweet Springs**	**4.61**	**167**	*e*P	P	06 33 51.4	-1.0
NEW	**Newport**	**4.66**	**101**	P	P	06 33 51.7	-1.3
NEW	**Newport**	**4.66**	**101**	*e*P	P	06 33 51.5	-1.6
HSO	**Harness Mounta**	**5.86**	**174**	P	P	06 34 08.8	-0.7
HUMO	**Hull Mountain**	**6.78**	**174**	*e*P	P	06 34 22.6	+0.1
CHMT	**Chamberlain Mo**	**7.58**	**105**	*e*P	P	06 34 31.2	-2.3
FFC	**Flin Flon**	**14.54**	**60**	*e*P	P	06 36 04.0	-2.7

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*NEIC **03** 06:55:40.0, 35.18N×5.79W, h75^{km}, MG3.9(MDD), After MDD.*

*INMG **03** 06:55:40.2±0.8, 35.17N×5.79W, h24^{km}±8^{km}, ML2.9, Error ellipse: s-maj=5.5km s-min=3.3km az=14.0*

MDD 03 06:55:39.5±1.2**, 35.14N**×**5.80W, h74^{km}**±22^{km}**, mb4.0**/16**, 3C-3D, Error ellipse: s-maj=12.8km s-min=6.8km az=13.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	1.33	11	P	P	06 56 02.6	-0.4
	0.1nm,0.2s,SNR=7.9						
EJIF				S	S	06 56 18.8	-1.4
	0.3nm,0.1s,SNR=4.0						
EMIJ	**Mijas**	1.64	30	⇓P	P	06 56 04.7	-2.3
	13nm,0.2s,SNR=18						
EMIJ				S	S	06 56 24.5	-2.8
	24nm,0.2s,SNR=7.9						
ESPR	**Espera**	1.72	358	P	P	06 56 06.8	-1.3
	8.1nm,0.2s,SNR=10						
ESPR				S	S	06 56 27.7	-1.4
	31nm,0.2s,SNR=7.0						
LIJA	**Lijar**	1.79	10	P	P	06 56 08.0	-1.0
LIJA				S	S	06 56 30.0	-0.7
EMEL	**Melilla**	2.33	85	S	S	06 56 41.6	-2.4
	115nm,0.1s,SNR=4.0						
ELOJ	**Sierra Loja**	2.40	33	P	P	06 56 17.3	-0.2
	4.5nm,0.2s,SNR=4.0						
ELOJ				S	S	06 56 38.9	-6.9
	2.7nm,0.1s,SNR=4.8						
ERON	**Agron**	2.47	40	P	P	06 56 17.0	-1.5
	14nm,0.3s,SNR=7.7						
PALC	**Alcoutim**	2.68	330	*e*Pn	P	06 56 19.6	-1.9
PALC				*e*Sn	S	06 56 49.7	-3.2
	107nm,0.4s						
PALC	**Alcoutim**	2.68	330	P	P	06 56 19.6	-1.9
PALC				S	S	06 56 49.7	-3.2
	54nm,0.4s						
ELUQ	**Luque**	2.71	27	P	P	06 56 20.4	-1.5
	7.3nm,0.2s,SNR=5.9						
ELUQ				S	S	06 56 51.3	-2.2
	16nm,0.2s,SNR=5.7						
EMIN	**Mina Concepcio**	2.71	345	P	P	06 56 19.7	-2.1
	3.7nm,0.1s,SNR=41						
EMIN				S	S	06 56 49.7	-3.9
	19nm,0.1s						
EGRO	**El Granado**	2.75	331	⇓P	P	06 56 20.4	-2.0
	14nm,0.1s,SNR=18						
EGRO				S	S	06 56 51.1	-3.4
	54nm,0.1s,SNR=15						
EADA	**Adamuz**	3.17	18	⇑P	P	06 56 26.4	-2.0
	3.3nm,0.1s,SNR=18						
EADA				S	S	06 57 00.2	-4.9
	29nm,0.2s,SNR=6.8						
PBEJ	**Beja**	3.32	331	*e*Pn	P	06 56 28.4	-2.1
PBEJ				*e*Sn	S	06 57 04.5	-4.4
	21nm,0.3s						
PBEJ	**Beja**	3.32	331	P	P	06 56 28.4	-2.1
PBEJ				S	S	06 57 04.5	-4.4
	11nm,0.3s						
PTEO	**Sao Teotonio**	3.37	316	*e*Pn	P	06 56 28.9	-2.1
PTEO				*e*Sn	S	06 57 06.1	-3.9
	29nm,0.3s						
PTEO	**Sao Teotonio**	3.37	316	P	P	06 56 28.9	-2.1
PTEO				S	S	06 57 06.1	-3.9
	15nm,0.3s						
EQES	**Quesada**	3.44	39	P	P	06 56 30.3	-1.8
	10nm,0.2s,SNR=15						
EQES				S	S	06 57 07.8	-4.1
	4.6nm,0.2s						
EBAD	**Badajoz**	3.73	345	P	P	06 56 34.1	-2.1
	4.7nm,0.1s,SNR=12						
EBAD				S	S	06 57 13.4	-5.8
	77nm,0.2s,SNR=15						
MOE	**Montemor**	3.95	329	*e*Pn	P	06 56 37.1	-2.0
MOE				*e*Sn	S	06 57 20.1	-4.4
EVIA	**Vianos**	4.37	36	⇓P	P	06 56 43.0	-2.1
	9.7nm,0.2s,SNR=18						
EVIA				S	S	06 57 29.0	-6.2
	4.9nm,0.2s						
PLOU	**Loures**	4.60	325	*e*Pn	P	06 56 45.9	-2.3
PLOU				*e*Sn	S	06 57 35.2	-5.6
	23nm,0.3s						
PLOU	**Loures**	4.60	325	P	P	06 56 45.9	-2.3
PLOU				S	S	06 57 35.2	-5.6
	11nm,0.3s						
ESDC	**Sonseca Array**	4.75	17	P	P	06 56 47.6	-2.7
	4.3nm,0.1s,baz=195,slow=12,SNR=10						
ESDC				S	S	06 57 36.8	-7.8
	9.0nm,0.1s,baz=201,slow=22,SNR=7.3						
ESDC	**Sonseca Array**	4.75	17	P	P	06 56 47.6	-2.7
ESDC				S	S	06 57 36.8	-7.8
ESDC				S	S	06 57 37.1	-7.5
PCBR	**Castelo Branco**	4.88	345	*e*Pn	P	06 56 50.0	-2.0
PCBR				*e*Sn	S	06 57 41.2	-6.5
	9.9nm,0.2s						
PCBR	**Castelo Branco**	4.88	345	P	P	06 56 50.0	-2.0
PCBR				S	S	06 57 41.2	-6.5
	4.9nm,0.2s						
ETOB	**Tobarra**	4.88	43	⇑P	P	06 56 49.5	-2.5
	8.8nm,0.2s,SNR=18						
ETOB				S	S	06 57 41.8	-6.0
	2.7nm,0.2s,SNR=7.4						
PTOM	**Tomar**	4.93	336	*e*Pn	P	06 56 50.7	-2.0
PTOM				*e*Sn	S	06 57 42.5	-6.5
	14nm,0.2s						
PTOM	**Tomar**	4.93	336	P	P	06 56 50.7	-2.0
PTOM				S	S	06 57 42.5	-6.5
	6.8nm,0.2s						
MTE	**Manteigas**	5.43	346	*e*Sn	S	06 57 54.8	-6.6
	11nm,0.3s						
MTE	**Manteigas**	5.43	346	S	S	06 57 54.8	-6.6
	5.6nm,0.3s						
EBEN	**Beniarda**	5.70	50	P	P	06 57 01.8	-1.6
	1.2nm,0.2s,SNR=4.0						
PVIS	**Viseu**	5.80	344	*e*Sn	S	06 58 03.8	-6.9
	6.0nm,0.1s						
PVIS	**Viseu**	5.80	344	S	S	06 58 03.8	-6.9
	3.0nm,0.1s						
PVRL	**Vila Real**	6.30	347	*e*Sn	S	06 58 16.0	-7.1
	24nm,0.1s						
PVRL	**Vila Real**	6.30	347	S	S	06 58 16.0	-7.1
	12nm,0.1s						
ETOR	**Torete**	6.39	26	⇑P	P	06 57 10.1	-2.8
	15nm,0.2s,SNR=18						
ETOR				S	S	06 58 15.5	-10
	5.1nm,0.2s,SNR=6.3						
PBRG	**Braganca**	6.69	354	*e*Pn	P	06 57 13.9	-3.3
EMOS	**Mosqueruela**	6.70	37	P	P	06 57 14.6	-2.8
	0.8nm,0.2s,SNR=7.9						
EMOS				S	S	06 58 23.4	-9.5
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	6.83	354	P	P	06 57 16.9	-2.2
	1.7nm,0.1s,SNR=6.7						
ECAL				S	S	06 58 27.6	-8.4
	8.2nm,0.2s,SNR=7.6						
ELOB	**Lobios**	6.94	346	P	P	06 57 18.5	-2.3
	1.1nm,0.2s,SNR=7.9						
ELOB				S	S	06 58 30.7	-8.2
	12nm,0.2s,SNR=10						
ERUA	**La Rua**	7.31	352	P	P	06 57 24.1	-1.7
	2.6nm,0.2s,SNR=7.9						
ERUA				S	S	06 58 39.4	-8.6
	2.8nm,0.2s,SNR=7.9						
ERUA	**La Rua**	7.31	352	P	P	06 57 24.1	-1.7
ERUA				S	S	06 58 36.7	-11
ESAC	**San Caprasio**	7.78	31	P	P	06 57 29.8	-2.5
	5.2nm,0.2s,SNR=4.0						
ESAC				S	S	06 58 51.3	-8.3
	14nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	7.78	31	P	P	06 57 29.8	-2.5
ESAC				S	S	06 58 54.8	-4.8
ECRI	**Cripan**	7.88	18	P	P	06 57 31.8	-1.7
	3.1nm,0.2s,SNR=7.9						
ECRI				S	S	06 58 52.6	-9.4
	4.8nm,0.4s,SNR=7.9						
ECRI	**Cripan**	7.88	18	P	P	06 57 31.8	-1.7
ECRI				S	S	06 58 56.6	-5.4
EPOB	**Poblet**	8.22	39	P	P	06 57 35.2	-3.1
	0.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	8.24	353	P	P	06 57 36.1	-2.4
	0.4nm,0.1s,SNR=7.9						
EPON				S	S	06 58 59.6	-11
	1.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	8.28	12	P	P	06 57 36.2	-2.9
	1.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	8.72	21	P	P	06 57 42.6	-2.4
	3.6nm,0.2s,SNR=9.8						
EALK				S	S	06 59 13.8	-8.9
	13nm,0.4s,SNR=7.9						

CASC 03 06:57:25.4±2.0**, 12.14N**×**88.68W, h35**^{km}±999^{km}**, MD3.8, ML3.2, 7C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	1.34	17	⇓*e*P	P	06 57 48.0	0.0
VSM				*e*S	S	06 58 06.1	+1.2
BLLM	**Bellamira**	1.37	18	*e*P	P	06 57 48.3	-0.1
BLLM				*e*S	S	06 58 05.4	-0.1
CNCH	**Conchagua**	1.40	36	*e*P	P	06 57 48.4	-0.5
SNVI	**San Vicente**	1.47	354	*e*P	P	06 57 50.1	+0.3
SNVI				*e*S	S	06 58 11.6	+3.5
LFRS	**El Faro**	1.52	346	⇑*e*P	P	06 57 49.8	-0.8
LFRS				*e*S	S	06 58 08.9	-0.5
LCBS	**La Ceiba**	1.54	349	⇑*e*P	P	06 57 50.1	-0.7
LBRS	**Las Brisas**	1.63	348	*e*P	P	06 57 52.5	+0.4
PYN	**Poneloya**	1.64	81	⇑*e*P	P	06 57 51.6	-0.7
BOQS	**Boqueron**	1.69	340	*e*P	P	06 57 52.5	-0.5
TEL3	**Telica 3**	1.84	76	⇓*e*P	P	06 57 54.4	-0.8
SBLS	**San Blas**	1.92	332	⇑*e*P	P	06 57 56.4	+0.1
SBLS				*e*S	S	06 58 19.3	-0.2
SNJE	**San Jose**	1.94	332	⇑*e*P	P	06 57 56.6	+0.1
SNJE				*e*S	S	06 58 19.2	-0.7
MIRN	**Miramar**	1.95	81	⇑*e*P	P	06 57 56.1	-0.6
RTR	**El Retiro**	1.98	332	⇓*e*P	P	06 57 57.2	0.0
RTR				*e*S	S	06 58 21.5	+0.4
COPN	**Copaltepe**	2.04	89	⇑*e*P	P	06 57 57.4	-0.7
MOMJ	**Momotombo**	2.11	82	*e*P	P	06 57 58.2	-0.7
RBDL	**Robledal**	2.19	334	⇓*e*P	P	06 58 00.8	+0.7
MGAN	**Managua**	2.38	90	⇓*e*P	P	06 58 02.2	-0.7
MGAN				*e*S	S	06 58 29.9	-1.2
MGAN				*i*		06 58 32.3	
	comp=N,171nm,0.4s						
TICN	**Ticuantepe**	2.40	92	⇓*e*P	P	06 58 03.3	+0.2
WILN	**Americas 2**	2.44	89	⇓*e*P	P	06 58 03.4	-0.3
WILN				*e*S	S	06 58 31.6	-1.0
PYTN	**Playitas**	2.59	81	*e*P	P	06 58 05.6	-0.3
PYTN				*e*S	S	06 58 36.4	-0.1

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*ISK **03** 07:05:28.8, 36.90N×27.70E, h9^{km}, MD3.2*
*ATH **03** 07:05:30.8, 36.83N×27.67E, h22^{km}±4^{km}, MD3.2/5*
*NEIC **03** 07:05:31.2, 36.83N×27.72E, h25^{km}, MD3.2(ATH), After ATH.*
ISC 03 07:05:29.8±0.8**, 36.91N**±0.04×**27.71E**±0.05**, h14**^{km}±6^{km}**, n14, σ0^{s}86**/20**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.26	306	*i* P	**Pg**	**07 05 36.1**	**+0.6**
BDRM				*i* S	**Sg**	**07 05 40.2**	**+0.9**
MLSB	**Milas**	0.39	8	*i* PG	**Pg**	**07 05 37.3**	**-0.6**
MLSB				SG	**Sg**	**07 05 43.2**	**-0.1**
YER	**Yerkesik**	0.51	64	*i* PG	**Pg**	**07 05 39.3**	**-1.0**
NISR	**Nisiros**	0.55	237	*e*Pn	**Pn**	**07 05 41.5**	**-1.4**
NISR				*e*Sn	**Sn**	**07 05 51.5**	**-0.3**
AYDN	**Tasoluk**	0.76	10	⇑*i*P	**Pb**	**07 05 43.9**	**-0.4**
AYDN				*i* S	**Sb**	**07 05 54.7**	**+0.4**
ARG	**Arkhangelos**	0.77	154	*e*PN	**Pn**	**07 05 44.5**	**-1.6**
DNZL	**Cakiroluk**	1.32	54	*i* P	**Pb**	**07 05 58.3**	**+4.4**
DNZL				*i* S	**Sb**	**07 06 19.4**	**+8.9**
DENT	**Denizli**	1.35	51	PN	**Pn**	**07 05 54.8**	**+0.4**
KARP	**Karpathos**	1.43	198	*e*PN	**Pn**	**07 05 56.0**	**+0.5**
KARP				*e*SN	**Sn**	**07 06 15.0**	**+0.8**
IZM	**Izmir**	1.52	347	*e*PN	**Pn**	**07 05 56.6**	**-0.2**
KSL	**Kastellorizon**	1.69	116	*e*PN	**Pn**	**07 06 01.5**	**+2.3**
APE	**Apeiranthos**	1.75	276	*e*PB	**Pb**	**07 06 01.0**	**-0.2**
ELL	**Elmali**	1.77	95	*e*PN	**Pn**	**07 06 00.9**	**+0.5**
AKS	**Akhisar**	1.97	2	*e*PN	**Pn**	**07 06 02.8**	**-0.3**

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*JMA **03** 07:06:40.8±0.2, 24.28N×121.87E, h43^{km}, M2.6*
*TAP **03** 07:06:41.8, 24.46N×121.86E, h17^{km}, ML3.1*
TAP Felt I J at Suao, III J at Nanau.
ISC 03 07:06:41.1±0.5**, 24.45N**±0.02×**121.99E**±0.02**, h12**^{km}±3^{km}**, n33, σ0^{s}94**/54**, 3C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	0.20	321	⇑*i*P	**Pg**	**07 06 46.3**	**+0.6**
TWC				S	**Sg**	**07 06 49.1**	**+0.4**
ENA	**Nanau**	0.23	265	⇑*i*P	**Pg**	**07 06 46.0**	**-0.1**
ENA				S	**Sg**	**07 06 48.8**	**-0.6**
ILA	**Ilan**	0.38	325	*e*P	**Pg**	**07 06 49.4**	**+0.4**
ILA				S	**Sg**	**07 06 54.4**	**+0.1**
TWE	**Neicheng**	0.40	313	⇓*i*P	**Pg**	**07 06 49.1**	**-0.2**
TWE				S	**Sg**	**07 06 53.8**	**-1.0**
ENTT	**Nioudou**	0.43	296	⇓*i*P	**Pg**	**07 06 49.4**	**-0.5**
ENTT				S	**Sg**	**07 06 54.6**	**-1.2**
TWD	**Chiawan**	0.52	224	*i* P	**Pg**	**07 06 51.0**	**-0.6**
TWB1	**Santiao Chiao**	0.56	360	*e*P	**Pb**	**07 06 52.7**	**+0.4**
TWB1				S	**Sb**	**07 06 59.8**	**-0.2**
NNS	**Nan Shan**	0.56	269	⇓*i*P	**Pb**	**07 06 51.5**	**-0.9**
NNS				S	**Sb**	**07 06 58.0**	**-2.2**
NSK	**Sanguang**	0.62	291	⇓P	**Pb**	**07 06 52.6**	**-0.8**
NSK				S	**Sb**	**07 06 59.6**	**-2.1**
NWF	**Wu-fen Shan**	0.65	343	*e*P	**Pb**	**07 06 54.4**	**+0.5**
NWF				S	**Sb**	**07 07 02.9**	**+0.3**
TAP1	**Taipei**	0.72	324	*e*P	**Pb**	**07 06 56.2**	**+1.1**
TAP1				S	**Sb**	**07 07 05.1**	**+0.3**
WHF	**Hehuan Shan**	0.73	246	⇑*i*P	**Pb**	**07 06 54.4**	**-0.9**
WHF				S	**Sb**	**07 07 04.3**	**-0.6**
TAP	**Taipei**	0.73	323	*e*P	**Pb**	**07 06 56.3**	**+0.9**
TAP				S	**Sb**	**07 07 05.4**	**+0.3**
ESL	**Shilin**	0.81	219	*e*P	**Pb**	**07 06 56.6**	**-0.1**
TWY	**Chenhua**	0.90	337	P	**Pb**	**07 06 59.1**	**+1.0**
TWY				S	**Sb**	**07 07 10.4**	**+0.6**
NSTT	**Nanjuang**	0.92	282	*e*P	**Pb**	**07 06 58.4**	**-0.1**
NSTT				S	**Sb**	**07 07 09.4**	**-1.1**
YOJ	**Yonaguni jima**	0.93	89	P	**Pb**	**07 06 59.4**	**+0.7**
YOJ				S	**Sb**	**07 07 13.2**	**+2.4**
TWQ1	**Liyutan**	1.11	265	*e*P	**Pb**	**07 07 03.4**	**+1.5**
TWQ1				S	**Sb**	**07 07 16.8**	**+0.6**
NSY	**Sanyi**	1.12	269	*e*P	**Pb**	**07 07 03.4**	**+1.5**
SMLT	**Sun Moon Lake**	1.15	241	*e*P	**Pb**	**07 07 03.1**	**+0.7**
TYC	**Yuchr**	1.17	243	*e*P	**Pb**	**07 07 02.9**	**+0.1**
PCYT	**Pengchaiyu**	1.18	4	*e*P	**Pb**	**07 07 02.3**	**-0.7**
CHN5	**Tsauling**	1.47	235	*e*P	**Pn**	**07 07 08.4**	**+0.8**
ELDTW	**Lidau**	1.54	216	*e*P	**Pn**	**07 07 08.3**	**-0.3**
IRIF	**Iriomote-Funau**	1.59	94	P	**Pn**	**07 07 08.6**	**-0.7**
IRIF				S	**Sn**	**07 07 29.5**	**-0.4**
HATJ	**Hateruma jima**	1.70	103	P	**Pn**	**07 07 09.8**	**-1.1**
HATJ				*e*S	**Sn**	**07 07 31.3**	**-1.5**
WTP	**Ta-pu**	1.74	227	*e*P	**Pn**	**07 07 12.8**	**+1.3**
TWK	**Hsinying**	1.81	230	*e*P	**Pn**	**07 07 13.8**	**+1.4**
CHN1	**Nanshi**	1.84	227	*e*P	**Pn**	**07 07 14.2**	**+1.4**
JKRS	**Kuro-shima**	1.85	96	P	**Pn**	**07 07 12.9**	**-0.2**
JKRS				S	**Sn**	**07 07 36.4**	**-0.2**
JIJ	**Ishigaki jima**	1.96	92	P	**Pn**	**07 07 14.3**	**-0.4**
JIJ				S	**Sn**	**07 07 37.7**	**-1.7**
SSD	**Sandimen**	2.10	217	*e*P	**Pn**	**07 07 18.8**	**+2.1**
JTJ	**Tarama**	2.48	85	P	**Pn**	**07 07 22.2**	**+0.2**
JTJ				S	**Sn**	**07 07 51.8**	**-0.7**

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*NIED **03** 07:36:00, 29.80N×130.20E, h62^{km}, Mw3.7 Best double couple: M$_0$3.56×10^{14} NP1:ϕ_s119°, δ75°, λ-45°. NP2: ϕ_s223°, δ47°, λ-160°.*
JMA 03 07:36:34.1, 29.82N×**130.24E, h56**^{km}±1^{km}**, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	0.32	274	P	P	07 36 43.8	-0.2
JNN				S	S	07 36 51.3	+0.1
JKC	**Kuchinoerabu**	0.64	357	P	P	07 36 47.5	+0.1
JKC				S	S	07 36 57.3	0.0
JTN	**Tanegashima 3**	1.05	37	P	P	07 36 52.9	0.0
JTSR	**Tashiro 2**	1.47	24	P	P	07 36 58.7	-0.1
JTSR				S	S	07 37 16.4	-0.6
JAM	**Amami Oshima**	1.51	202	P	P	07 36 58.6	-0.8
JAM				S	S	07 37 17.8	-0.3
JZK	**Kikaishima**	1.52	189	P	P	07 37 00.5	+1.0
JSU	**Suzuyama**	1.69	6	P	P	07 37 01.8	-0.1
JSU				S	S	07 37 22.5	+0.1

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*STR **03** 07:47:55.9±0.5, 44.81N×10.91E, h10^{km}±1^{km}, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **03** 07:48:06.1±0.1, 45.51N×10.29E, h5^{km}, MD3.1/9, ML2.7/15, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0*
*NEIC **03** 07:48:08.1, 45.50N×10.34E, h10^{km}, ML3.3(STR), ML3.0(LDG), After LDG.*
*LDG **03** 07:48:08.1±0.2, 45.50N×10.34E, h10^{km}, Ml3.0/16, Error ellipse: s-maj=4.4km s-min=2.4km az=85.0*
ISC 03 07:48:05.1±0.4**, 45.55N**±0.01×**10.24E**±0.02**, h4**^{km}±3^{km}**, n83, σ1^{s}16**/136**, 12C-7D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAL	**Salo**	0.21	75	*e*PG	**Pg**	**07 48 10.9**	**+1.6**
SAL				SG	**Sg**	**07 48 15.1**	**+3.0**
	933nm,0.3s						
BRMO	**Bormio**	0.93	6	*e*PG	**Pg**	**07 48 25.6**	**+2.0**
BRMO				SG	**Sg**	**07 48 39.8**	**+3.8**
BOB	**Bobbio (Coli)**	0.96	216	*e*PG	**Pg**	**07 48 24.5**	**+0.1**
BOB				SG	**Sg**	**07 48 37.7**	**+0.5**
	104nm,0.3s						
TEOL	**Teolo**	1.02	100	⇑*i*Pg	**Pg**	**07 48 24.4**	**-1.1**
TEOL				*i* Sg	**Sg**	**07 48 39.1**	**-0.1**
GRAM		1.07	187	P	**Pb**	**07 48 25.5**	**-0.3**
GRAM				S	**Sb**	**07 48 41.1**	**+1.3**
VAI	**Varese**	1.08	287	*e*PN	**Pn**	**07 48 27.5**	**+0.7**
VAI				SN	**Sn**	**07 48 45.0**	**+2.7**
CTI	**Castel Tesino**	1.10	63	*e*PN	**Pn**	**07 48 27.2**	**0.0**
CTI				SN	**Sn**	**07 48 43.1**	**+0.1**
	429nm,0.2s						
ERBM	**Eremo**	1.14	174	*e*PN	**Pn**	**07 48 27.4**	**-0.3**
	353nm,0.2s						
CGRP	**Cima Grappa**	1.14	73	⇑*i*Pg	**Pg**	**07 48 27.6**	**-0.3**
CGRP				*i* Sg	**Sg**	**07 48 43.7**	**+0.6**
CODM		1.19	194	P	**Pb**	**07 48 27.9**	**+0.1**
CODM				S	**Sb**	**07 48 45.2**	**+1.7**
VALM		1.20	180	P	**Pb**	**07 48 27.9**	**-0.2**
VALM				S	**Sb**	**07 48 45.1**	**+1.3**
GSCL	**Gusciola**	1.23	168	*e*PN	**Pn**	**07 48 28.4**	**-0.5**
	95nm,0.3s						
BACM		1.28	185	P	**Pb**	**07 48 28.9**	**-0.4**
BACM				S	**Sb**	**07 48 47.1**	**+1.2**
ZCCA	**Zocca**	1.31	156	*e*PN	**Pn**	**07 48 30.5**	**+0.4**
	200nm,0.3s						
SARO	**Sassorosso**	1.37	175	P	**Pb**	**07 48 30.1**	**-0.8**
SARO				S	**Sb**	**07 48 49.6**	**+0.9**
FAU	**Forcella Aurin**	1.39	60	⇓*i*Pg	**Pg**	**07 48 32.4**	**-0.5**
FAU				*i* Sg	**Sg**	**07 48 51.1**	**-0.3**
VLC	**Villacollemand**	1.40	176	*e*Pn	**Pn**	**07 48 30.6**	**-0.8**
VINC	**Vinca**	1.41	183	P	**Pn**	**07 48 31.5**	**-0.1**
VINC				S	**Sb**	**07 48 49.6**	**-0.2**
OGA	**Obergurgl**	1.42	22	⇓*i*Pg	**Pg**	**07 48 34.7**	**+1.2**
BDI	**Bagni Di Lucca**	1.51	170	*e*PN	**Pn**	**07 48 33.0**	**0.0**
BDI				SN	**Sn**	**07 48 53.8**	**+0.5**
	94nm,0.4s						
ORO	**Oropa**	1.59	273	*e*PN	**Pn**	**07 48 36.4**	**+2.3**
ORO				SN	**Sn**	**07 48 58.1**	**+2.9**
	118nm,0.2s						
CAE	**Caneva**	1.60	73	⇓*e*Pg	**Pg**	**07 48 34.5**	**-2.6**
CAE				*e*Sg	**Sg**	**07 48 57.9**	**-0.5**
CSO	**Casso**	1.62	63	⇑*e*Pg	**Pg**	**07 48 35.1**	**-2.4**
CSO				*e*Sg	**Sg**	**07 48 58.4**	**-0.7**
MCGN	**Macugnaga**	1.63	285	*e*PN	**Pn**	**07 48 35.9**	**+1.2**
MCGN				SN	**Sn**	**07 48 58.3**	**+2.0**
	32nm,0.3s						
MAIM		1.65	174	P	**Pn**	**07 48 35.1**	**+0.1**
MAIM				S	**Sb**	**07 48 56.6**	**-0.1**
AFL	**Alpe Faloria**	1.67	53	⇑*i*Pg	**Pg**	**07 48 37.3**	**-1.1**
DAVA	**Damuels**	1.75	352	⇑*i*PN	**Pg**	**07 48 39.9**	**-0.2**
DAVA				*i* SN	**Sg**	**07 49 06.2**	**+2.8**
MLNI	**Malnisio**	1.76	69	⇓*e*Pg	**Pn**	**07 48 36.9**	**+0.3**
SQTA	**Sankt Quirin**	1.80	22	⇑*i*PN	**Pg**	**07 48 40.4**	**-0.6**
SQTA				*i* SN	**Sg**	**07 49 06.2**	**+1.3**
PII	**Pisa**	1.84	174	*e*PN	**Pn**	**07 48 38.2**	**+0.5**
	377nm,0.5s						
VMG	**Vicchio**	1.84	149	*e*PN	**Pn**	**07 48 37.5**	**-0.2**
VMG				SN	**Sn**	**07 49 01.7**	**0.0**
	166nm,0.6s						
MOTA	**Moosalm**	1.89	18	⇑*i*PN	**Pg**	**07 48 41.8**	**-1.0**
MOTA				*i* SN	**Sg**	**07 49 08.6**	**+0.6**
CSM	**Casamicciola**	1.94	59	*e*Pg	**Pn**	**07 48 39.9**	**+0.9**
CSM				*e*Sg	**Sn**	**07 49 06.3**	**+2.3**
WTTA	**Wattenberg**	1.96	29	⇑*i*PN	**Pg**	**07 48 42.4**	**-1.9**
WTTA				*i* SN	**Sg**	**07 49 10.4**	**-0.1**
FIN	**Finale Ligure**	1.97	228	*e*PN	**Pn**	**07 48 40.2**	**+0.6**
	50nm,0.3s						
PGD	**Poggio Sodo**	1.98	147	*e*PN	**Pn**	**07 48 39.9**	**+0.2**
	37nm,0.6s						
SFI	**Santa Sofia**	2.01	145	*e*PN	**Pn**	**07 48 39.5**	**-0.6**
	40nm,0.4s						
WATA	**Walderalm**	2.01	27	⇓*i*PN	**Pg**	**07 48 42.9**	**-2.3**
WATA				*i* SN	**Sg**	**07 49 11.3**	**-0.7**
MPRI	**Monte Prat**	2.04	69	*e*Pg	**Pn**	**07 48 40.9**	**+0.3**
BUA	**Buia**	2.12	71	⇓*i*Pg	**Pn**	**07 48 41.9**	**+0.1**
BOO	**Bordano**	2.14	68	⇑*i*Pg	**Pn**	**07 48 41.8**	**-0.2**
ZOU	**Zoufplan**	2.15	61	*e*Pg	**Pn**	**07 48 43.3**	**+1.1**
BAD	**Bernadia**	2.21	71	⇑*e*Pg	**Pn**	**07 48 42.6**	**-0.3**
GMNA	**Gemona**	2.21	70	*e*PN	**Pn**	**07 48 42.1**	**-0.9**
	84nm,0.2s						
PLRO	**Paularo**	2.26	63	⇓*e*Pg	**Pn**	**07 48 44.5**	**+0.8**
CRE	**Caprese Michel**	2.29	147	*e*PN	**Pn**	**07 48 43.8**	**-0.3**
	18nm,0.3s						
IMI	**Imperia**	2.35	226	*e*PN	**Pn**	**07 48 44.1**	**-0.8**
IMI				SN	**Sn**	**07 49 14.3**	**-0.2**
	36nm,0.4s						
LPG	**La Plagne**	2.45	270	*e*Pn	**Pn**	**07 48 47.4**	**+0.9**
DRE	**Drenchia**	2.46	74	*e*Pg	**Pn**	**07 48 46.2**	**-0.3**
LPL	**La Plagne**	2.46	270	*e*Pn	**Pn**	**07 48 48.1**	**+1.5**
MBDF	**Montbardon**	2.59	253	*e*Pn	**Pn**	**07 48 47.4**	**-1.0**
MBDF				*e*Sn	**Sn**	**07 49 19.1**	**-1.6**
	15nm,0.3s						
VOY	**Vojsko**	2.60	78	*e*Pn	**Pn**	**07 48 47.7**	**-0.9**
VOY				*e*		07 48 53.5	
VOY				*e*(Sn)	**Sn**	**07 49 19.2**	**-1.8**
VOY				*e*		07 49 26.8	
SBF	**Sospel**	2.62	231	*e*Pn	**Pn**	**07 48 48.7**	**-0.1**
SBF				*e*Sn	**Sn**	**07 49 19.0**	**-2.4**
	37nm,0.3s						
KBA	**Koelnbreinsper**	2.64	54	⇑*i*PN	**Pn**	**07 48 51.0**	**+1.9**
KBA				*i* SN	**Sn**	**07 49 25.5**	**+3.6**
FELD	**Feldberg**	2.79	327	Pn	**Pn**	**07 48 52.5**	**+1.3**
FELD				Sg	**Sg**	**07 49 39.4**	**+1.5**
LOMF	**Lomont**	2.97	309	Pn	**Pn**	**07 48 54.4**	**+0.6**
CABF	**La Chapelle**	3.08	292	*e*Pn	**Pn**	**07 48 56.3**	**+0.9**
PGF	**Pioggiola**	3.13	197	*e*Pn	**Pn**	**07 48 55.9**	**-0.3**
PGF				*e*Sn	**Sn**	**07 49 30.4**	**-4.1**
	9.9nm,0.2s						
MOF	**Molkenrain**	3.14	318	Pn	**Pn**	**07 48 57.2**	**+0.9**
ORIF	**Oris-en-Rattie**	3.15	260	*e*Pn	**Pn**	**07 48 57.7**	**+1.4**
FRF	**La Foret Royal**	3.25	233	*e*Pn	**Pn**	**07 48 57.3**	**-0.5**
HINF	**Hinteralfeld**	3.25	315	*e*Pn	**Pn**	**07 48 58.7**	**+0.9**
HINF				*e*Sn	**Sn**	**07 49 36.6**	**-0.8**
	5.7nm,0.2s						
NVLJ	**Novalja**	3.43	105	*i* Pn	**Pn**	**07 48 58.4**	**-2.0**
NVLJ				*i* Sn	**Sn**	**07 49 37.5**	**-4.5**
LMR	**La Mourre**	3.47	232	*e*Pn	**Pn**	**07 48 59.4**	**-1.6**
LMR				*e*Sn	**Sn**	**07 49 38.1**	**-5.0**
	6.5nm,0.3s						
WLS	**Welschbruch**	3.48	326	Pn	**Pn**	**07 49 02.2**	**+1.1**
CDF	**Champ du Feu**	3.51	326	*e*Pn	**Pn**	**07 49 02.1**	**+0.6**
CDF				*e*Sn	**Sn**	**07 49 42.8**	**-1.1**
CDF				*e*Sg	**Sg**	**07 50 00.4**	**-1.4**
	16nm,0.5s						
MOA	**Molln**	3.60	49	⇑*i*PN	**Pn**	**07 49 02.8**	**0.0**
MOA				*i* SN	**Sn**	**07 49 48.7**	**+2.4**
HAU	**Haudompre**	3.63	314	*e*Pn	**Pn**	**07 49 03.5**	**+0.3**
HAU				*e*Sn	**Sn**	**07 49 44.8**	**-2.2**
	14nm,0.3s						
SMRF	**Simiane la Rot**	3.68	246	*e*Pn	**Pn**	**07 49 04.1**	**+0.2**
THEF	**They Montfort**	3.96	314	Pn	**Pn**	**07 49 08.8**	**+0.9**
VIVF	**Saint-Julien-l**	4.00	262	*e*Pn	**Pn**	**07 49 08.0**	**-0.4**
VIVF				*e*Sn	**Sn**	**07 49 53.0**	**-3.3**
	2.8nm,0.2s						
KHC	**Kasperske Hory**	4.24	31	*e*PN	**Pn**	**07 49 12.7**	**+0.8**
KHC				*e*PG	**Pg**	**07 49 31.5**	**+1.8**
KHC				*e*SN	**Sn**	**07 50 00.7**	**-1.8**
KHC				*e*SG	**Sg**	**07 50 22.8**	**-3.4**
SMF	**Signal de Mont**	4.58	286	*e*Pn	**Pn**	**07 49 16.4**	**-0.4**
SMF				*e*Sn	**Sn**	**07 50 06.8**	**-4.4**
	6.8nm,0.3s						
LOR	**Lormes**	4.74	294	*e*Pn	**Pn**	**07 49 18.3**	**-0.6**
LOR				*e*Sn	**Sn**	**07 50 12.3**	**-2.7**
	10.0nm,0.3s						
LASF	**Ste Croix**	4.78	254	*e*Pn	**Pn**	**07 49 18.8**	**-0.7**
LASF				*e*Sn	**Sn**	**07 50 11.4**	**-4.7**
	2.2nm,0.3s						
SSF	**Saint Saulge**	4.90	290	*e*Pn	**Pn**	**07 49 20.5**	**-0.8**

SSF				eSg	Sg	07 50 44.6	-3.7
	2.7nm,0.3s						
AVF	Avril sur Loir	4.94	287	ePn	Pn	07 49 21.2	-0.6
AVF				eSn	Sn	07 50 16.3	-3.9
	2.5nm,0.3s						
BGF	Bois d'Agland	5.24	284	ePn	Pn	07 49 25.6	-0.5
BGF				eSn	Sn	07 50 22.9	-4.9
	7.1nm,0.4s						
PRU	Pruhonice	5.30	32	eSG	Sg	07 50 56.1	-5.4
TCF	Toulx Ste Croi	5.65	280	ePn	Pn	07 49 30.8	-1.0
TCF				eSn	Sn	07 50 34.0	-4.1
	4.2nm,0.5s						
CLL	Collm	6.04	17	ePN	Pg	07 50 00.0	-5.8
CLL				eSG	Sg	07 51 22.0	-4.3
DPC	Dobruska-Polom	6.30	38	eSG	Sg	07 51 27.9	-7.0
GRR	Gorron	8.10	294	ePn	P	07 50 04.6	-1.7

MOS 03 08:11:28.6±2.0**,51.35N**×**98.73E,h2**^{km}**,mb4.2**/1**,Error ellipse: s-maj=99.9km s-min=34.0km az=49.5, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	1.37	29	ePG	Pg	08 11 51.5	-4.4
ORL				e		08 12 11.2	
ORL				pmax	pmax		
	comp=Z,84nm,0.3s						
ORL				smax			
	comp=E,361nm,0.9s						
ARS	Arshan	2.37	75	ePN	Pn	08 12 10.4	+1.3
IRK	Irkutsk	3.56	73	ePN	Pn	08 12 32.7	+6.8
IRK				e		08 13 18.3	
IRK				pmax	pmax		
	comp=Z,136nm,0.1s						
IRK				smax			
	comp=N,324nm,0.4s						
OGRR	Ongureny	5.88	64	ePN	Pn	08 12 56.4	-2.5
OGRR				e		08 13 14.2	
OGRR				e		08 14 30.4	
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
OGRR				smax			
	comp=E,45nm,0.6s						
NIZ	Nizh Angarsk	7.81	51	eP	Pn	08 13 24.9	-1.2
NIZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						

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*NEIC **03** 08:15:10.8±3.5, 11.10S×162.26E, h49^{km}±30^{km}, mb4.6/7, Error ellipse: s-maj=17.1km s-min=13.3km az=111.0*

*IDC **03** 08:15:13.7±8.9, 11.10S×162.19E, h74^{km}±77^{km}, mb4.0/13, mb1 4.2/15, mb1mx4.2/19, ML3.9/2, MS4.0/13, Ms1 4.0/13, ms1mx3.9/17, Error ellipse: s-maj=28.0km s-min=23.6km az=99.0*

ISC 03 08:15:10.9±6.8**,11.1S**±0.1×**162.1E**±0.2**,h61**^{km}±60^{km}**,n45,** σ**0^{s}80**/29**,mb4.4**/17**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	14.84	275	P	P	08 18 48.6	+10
	0.5nm,0.3s,baz=108,slow=16,SNR=3.4						
CTA	Charters Tower	17.71	238	eP	P	08 19 15.4	+0.4
	26nm,1.1s						
CTA	Charters Tower	17.71	238	P	P	08 19 16.1	+1.1
	1.0nm,0.3s,baz=69,slow=12,SNR=23						
CTAO	Charters Tower	17.71	238	P	P	08 19 14.8	-0.1
	72nm,1.1s						
STKA	Stephens Creek	28.06	219	P	P	08 20 57.8	-1.0
	8.8nm,1.1s,mb4.3,baz=120,slow=3.7,SNR=3.6						
STKA				LR	LR	08 30 44.9	
	comp=Z,1µm,21.3s,baz=31,slow=33						
WB2	Warramunga Arr	28.15	248	eP	P	08 21 00.8	+1.1
WRA	Warramunga Arr	28.16	248	P	P	08 20 58.5	-1.3
	1.2nm,0.6s,mb3.7,baz=77,slow=8.8,SNR=9.0						
WRA				PcP	PcP	08 24 09.8	-2.9
	1.2nm,1.0s,baz=77,slow=2.9,SNR=5.1						
WRA				LR	LR	08 31 39.4	
	comp=Z,511nm,18.3s,baz=75,slow=35						
KAKA	Kakadu	29.14	264	eP	P	08 21 07.4	-1.2
	6.6nm,0.6s,mb4.5						
RPZ	Rata Peaks	33.40	168	LR	LR	08 31 32.9	
	comp=Z,268nm,20.6s,baz=36,slow=29						
FITZ	Fitzroy Crossi	35.96	255	eP	P	08 22 09.5	+1.7
	6.2nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	35.96	255	P	P	08 22 08.4	+0.6
	2.3nm,0.6s,mb4.3,baz=163,slow=13,SNR=6.2						
PPT	Papeete	47.12	104	eL		08 35 09.6	
	287nm,23.0s						
TBI	Tubuai	47.59	111	eL		08 35 09.6	
	264nm,26.8s						
RKT	Rikitea	60.88	110	eL		08 41 03.5	
RKT				eR		08 43 20.8	
	219nm,30.0s						
FX1	Attu Island--F	64.42	7	LR	LR	08 49 40.4	
	comp=Z,4.2nm,19.9s,baz=168,slow=32						
VNDA	Vanda	66.41	180	P	P	08 25 55.7	+0.4
	1.2nm,0.8s,mb4.0,baz=341,slow=5.7,SNR=5.9						
VNDA				LR	LR	08 53 58.0	
	comp=Z,109nm,18.0s,baz=349,slow=35						
VNDA	Vanda	66.41	180	P	P	08 25 55.7	+0.4
VNDA				LR	LR	08 53 58.0	
CMAR	Chiang Mai Arr	68.91	295	P	P	08 26 11.7	-0.2
	0.7nm,0.4s,mb3.9,baz=119,slow=5.3,SNR=4.7						
CMAR				LR	LR	08 56 38.2	
	comp=Z,104nm,18.3s,baz=106,slow=36						
SONM	Songino Array	76.66	325	P	P	08 26 57.8	+0.8
	4.6nm,0.7s,mb4.5,baz=144,slow=5.7,SNR=17						
QSPA	South Pole Qui	78.90	180	eP	P	08 27 09.1	+0.3
	3.2nm,0.9s,mb4.2						
MAW	Mawson	83.33	202	LR	LR	09 02 41.8	
	comp=Z,60nm,19.8s,baz=309,slow=34						
IMA	Indian Mountai	83.54	17	eP	P	08 27 34.5	+1.3
	14nm,0.8s,mb5.2						
COLA	College	84.47	19	eP	P	08 27 37.1	-0.8
	15nm,0.8s,mb5.2						
ILAR	Eielson Array	84.72	20	P	P	08 27 38.6	-0.6
	1.6nm,0.6s,mb4.3,baz=237,slow=5.3,SNR=18						
ILAR				LR	LR	08 59 59.7	
	comp=Z,97nm,20.2s,baz=74,slow=32						
YBH	Yreka Blue Hor	86.47	46	P	P	08 27 48.0	-0.3
	2.1nm,1.0s,mb4.3,baz=186,slow=4.3,SNR=6.4						
DAWY	Dawson	86.91	22	eP	P	08 27 50.6	+0.6
NVAR	Mina Array Bea	88.78	51	P	P	08 28 00.2	+0.7
	0.9nm,0.6s,mb4.3,baz=226,slow=6.0,SNR=10						
NVAR				LR	LR	09 00 22.3	
	comp=Z,93nm,19.9s,baz=20,slow=30						
NVAR	Mina Array Bea	88.78	51	P	P	08 28 00.2	+0.7
NVAR				LR	LR	09 00 22.3	
INK	Inuvik	91.12	20	P	P	08 28 09.2	-0.6
	1.4nm,0.8s,mb4.4,baz=263,slow=7.0,SNR=3.9						
MKAR	Makanchi Array	91.16	317	P	P	08 28 10.8	+0.3
	1.4nm,0.6s,mb4.5,baz=112,slow=6.5,SNR=12						
MKAR				LR	LR	09 10 21.0	
	comp=Z,60nm,18.4s,baz=267,slow=36						
MKAR	Makanchi Array	91.16	317	P	P	08 28 10.8	+0.3
MKAR				LR	LR	09 10 21.0	
NEW	Newport	92.11	41	P	P	08 28 14.5	-0.3
	0.8nm,0.5s,mb4.3,baz=247,slow=8.4,SNR=4.6						
NEW	Newport	92.11	41	P	P	08 28 14.5	-0.3
PDAR	Pinedale Array	96.20	48	LR	LR	09 08 29.5	
	comp=Z,47nm,18.2s,baz=1.4,slow=33						
YKA	Yellowknife Ar	96.66	28	P	P	08 28 34.5	-0.7
	1.4nm,0.8s,mb4.4,baz=252,slow=4.7,SNR=5.9						
YKA				LR	LR	09 11 21.9	
	comp=Z,71nm,18.5s,baz=260,slow=35						
YKA	Yellowknife Ar	96.66	28	P	P	08 28 34.5	-0.7
YKA				LR	LR	09 11 21.9	
TXAR	Lajitas Array	98.97	62	LR	LR	09 07 26.4	
	comp=Z,79nm,19.0s,baz=230,slow=32						
ARCES	ARCESS Array B	115.47	344	PKP	PKPdf	08 33 45.8	+0.2
	1.0nm,0.6s,baz=63,slow=2.7,SNR=6.7						
LPAZ	La Paz	123.31	118	PKP	PKPdf	08 34 03.9	+2.0
	1.2nm,0.8s,baz=118,slow=0.6,SNR=6.6						
AKASG	Malin Array Be	124.94	325	PKP	PKPdf	08 34 05.0	+0.7
	0.3nm,0.3s,baz=73,slow=1.8,SNR=4.9						
NOA	NORSAR Array B	125.78	343	PKP	PKPdf	08 34 07.0	+1.4
	2.1nm,1.1s,baz=24,slow=1.7,SNR=4.3						
CPUP	Villa Florida	126.55	135	PKP	PKPdf	08 34 08.4	+0.3
	1.8nm,0.8s,baz=228,slow=5.6,SNR=6.1						
SDV	Santo Domingo	128.03	87	ePKPdf	PKPdf	08 34 11.4	+0.1
GERES	GERESS Array B	134.12	331	PKP	PKPdf	08 34 23.8	+2.0
	0.3nm,0.3s,baz=63,slow=3.0,SNR=4.0						
BDFB	Brasilia	140.03	131	PKP	PKPdf	08 34 35.2	+1.8
	2.4nm,0.8s,baz=211,slow=1.0,SNR=4.8						

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*NIED **03** 08:20:00, 44.10N×148.10E, h50^{km}, Mw3.5 Best double couple: M$_0$1.78×10^{14} NP1:ϕ_s155°, δ88°, λ-71°. NP2: ϕ_s251°, δ19°, λ-174°.*

JMA 03 08:20:32.4±0.4**,44.06N**×**148.13E,M4.1,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.86	249	P	Pn	08 21 05.9	0.0
NEM2				eS	Sn	08 21 30.3	-0.2
JRA	Rausu	2.17	268	P	Pn	08 21 10.4	+0.1
JRA				eS	Sn	08 21 39.4	+1.1
JNK	Nakash	2.51	260	P	Pn	08 21 15.5	+0.3
JNK				eS	Sn	08 21 47.6	+0.6
JAK	Akkeshi	2.71	248	P	Pn	08 21 18.1	+0.1
JAK				eS	Sn	08 21 52.5	+0.5
JAR	Ashorobuto	3.25	258	P	Pn	08 21 26.7	+1.0
JCH	Churui	3.77	249	P	Pn	08 21 33.8	+0.8
JCH				eS	Sn	08 22 18.3	-0.4
JNBK	Urakawa-nobuka	4.32	248	P	Pn	08 21 41.1	+0.3
JKB	Kayabe	5.64	250	P	Pn	08 21 59.1	-0.4
JKB				eS	Sn	08 23 03.7	-2.3
JOT	Ohata	5.86	245	P	Pn	08 22 01.7	-1.0
JOT				eS	Sn	08 23 08.6	-3.0
JANG	Nango	6.14	235	eS	Sn	08 23 14.2	-4.3

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*NEIC **03** 08:57:34.0±2.3, 20.12S×178.35W, h581^{km}±27^{km}, mb4.4/11, Error ellipse: s-maj=16.0km s-min=11.9km az=157.0*

*IDC **03** 08:57:36.4±2.6, 19.98S×178.44W, h602^{km}±31^{km}, mb3.6/10, mb1 3.9/11, mb1mx3.7/16, Error ellipse: s-maj=26.0km s-min=12.9km az=158.0*

ISC 03 08:57:33.7±2.7**,20.1S**±0.1×**178.43W**±0.10**,h590**^{km}±35^{km}**, n52,** σ**0^{s}93**/31**,mb4.3**/18**,1C-3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.47	191	P	P	09 01 13.7	-1.1
	1.6nm,0.3s,baz=314,slow=3.3,SNR=9.4						
CTA	Charters Tower	33.13	264	⇓iP	P	09 03 24.8	+1.0
	9.2nm,0.6s,mb4.6						
CTA	Charters Tower	33.13	264	P	P	09 03 24.9	+1.1
	8.4nm,0.4s,mb4.7,baz=97,slow=10,SNR=20						
STKA	Stephens Creek	37.59	244	⇑iP	P	09 04 02.0	+1.5
	8.5nm,1.0s,mb4.2						
STKA	Stephens Creek	37.59	244	P	P	09 04 01.9	+1.4
	8.7nm,0.8s,mb4.3,baz=75,slow=7.5,SNR=6.6						
STKA				PcP	PcP	09 06 03.4	+0.5
	3.2nm,0.8s,baz=339,slow=3.5,SNR=3.7						
ASPA	Alice Springs	44.22	256	eP	P	09 04 53.9	+0.5
WB2	Warramunga Arr	44.24	262	eP	P	09 04 53.0	-0.6
WRAB	Tennant Creek	44.25	262	eP	P	09 04 53.3	-0.4
	11nm,0.7s,mb4.5						
WRA	Warramunga Arr	44.26	262	P	P	09 04 53.7	0.0
	4.2nm,0.3s,mb4.4,baz=92,slow=5.7,SNR=329						
WRA				PcP	PcP	09 06 25.1	-0.3
	0.4nm,0.5s,baz=91,slow=3.6,SNR=5.2						
WRA				S	S	09 10 44.9	-1.0
	1.6nm,1.0s,baz=94,slow=13,SNR=5.7						
KAKA	Kakadu	47.61	271	⇓iP	P	09 05 18.5	-0.8
	9.1nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	52.68	262	P	P	09 05 56.3	0.0
	3.7nm,0.8s,mb3.8,baz=265,slow=4.7,SNR=7.6						
VNDA	Vanda	58.23	185	P	P	09 06 34.6	+0.7
	0.8nm,0.7s,baz=347,slow=5.9,SNR=7.1						
QSPA	South Pole Qui	69.93	180	eP	P	09 07 48.0	+0.5
	8.8nm,0.6s,mb4.4						
UNV	Unalaska Valle	74.39	7	eP	P	09 08 11.3	-2.1
	19nm,0.5s,mb4.9						
OMM	Old Mammoth Mi	80.13	44	eP	P	09 08 44.9	+0.4
YBH	Yreka Blue Hor	80.26	39	eP	P	09 08 45.3	+0.2
	6.4nm,0.8s,mb4.0						
NVAR	Mina Array Bea	81.04	44	P	P	09 08 49.5	+0.4
	5.2nm,1.0s,mb3.9,baz=211,slow=7.3,SNR=19						
PMSA	Palmer Station	81.78	157	P	P	09 08 50.1	-2.2
	12nm,0.9s,mb4.4						
MOD	Modoc	81.80	40	eP	P	09 08 52.9	+0.1
	6.7nm,0.6s,mb4.3						
RMW	Rattlesnake Mo	84.30	35	eP	P	09 09 05.9	+0.7
HLID	Hailey	86.31	41	eP	P	09 09 15.0	0.0
	4.3nm,0.8s,mb4.1						
SRU	San Rafael	86.56	46	eP	P	09 09 16.7	+0.4
TXAR	Lajitas Array	87.20	58	P	P	09 09 20.0	+0.5
	2.5nm,0.8s,mb4.0,baz=218,slow=6.9,SNR=34						
TXAR				pP	pP	09 11 28.6	+1.6
	0.6nm,1.1s,baz=252,slow=4.0,SNR=3.6						
GDL2	Guadalupe Moun	87.86	55	eP	P	09 09 23.2	+0.6
MCMT	McKenzie Canyo	87.94	40	eP	P	09 09 23.0	+0.4
COLA	College	87.94	13	eP	P	09 09 20.2	-1.9
	10nm,0.6s,mb4.7						
ILAR	Eielson Array	88.05	13	P	P	09 09 21.5	-1.2
	3.1nm,0.7s,mb4.2,baz=226,slow=5.6,SNR=26						
QLMT	Earthquake Lak	88.81	41	eP	P	09 09 27.5	+0.8
PDAR	Pinedale Array	88.97	43	P	P	09 09 27.1	-0.4
	2.3nm,0.6s,mb4.2,baz=219,slow=2.5,SNR=30						
CMAR	Chiang Mai Arr	89.62	290	P	P	09 09 32.6	+1.6
	3.7nm,0.8s,mb4.2,baz=108,slow=3.2,SNR=9.0						
MKAR	Makanchi Array	110.66	314	PKiKP		09 14 60.0	
	1.5nm,0.7s,baz=156,slow=1.4,SNR=5.5						
BVAR	Borovoye Array	118.55	320	PKP	PKPdf	09 15 15.1	+0.3
	2.7nm,0.5s,baz=88,slow=1.1,SNR=13						
ARCES	ARCESS Array B	128.49	349	PKP	PKPdf	09 15 34.2	+0.6
	1.6nm,0.5s,baz=3.8,slow=1.2,SNR=14						
ARCES	ARCESS Array B	128.49	349	PKP	PKPdf	09 15 34.2	+0.6
FINES	FINESS Array B	135.31	344	PKhKP		09 15 40.4	
	1.3nm,0.9s,baz=187,slow=33,SNR=2.6						
FINES				PKP	PKPdf	09 15 48.6	+2.1
	1.1nm,0.5s,baz=45,slow=2.7,SNR=6.2						
NB2	NORSAR Subarra	138.57	353	PKPbc	PKPdf	09 15 44.4	-8.1
	0.9nm,0.6s,baz=17,slow=2.0						
NOA	NORSAR Array B	138.57	353	PKhKP		09 15 45.5	
	0.9nm,0.7s,baz=15,slow=4.7,SNR=5.9						
NOA				PKP	PKPdf	09 15 55.0	+2.4
	0.4nm,0.5s,baz=13,slow=4.0,SNR=3.4						
NOA	NORSAR Array B	138.57	353	PKP	PKPdf	09 15 45.5	-7.1
NOA				PKP	PKPdf	09 15 55.0	+2.4
AKASG	Malin Array Be	142.50	331	PKhKP		09 15 51.2	
	6.7nm,0.6s,baz=42,slow=4.5,SNR=6.3						
AKASG				PKP	PKPdf	09 15 57.5	-2.2
	7.8nm,0.6s,baz=41,slow=4.4,SNR=22						
MALT	Malatya	143.39	308	ePKP	PKPdf	09 16 02.6	+1.0
MBAR	Mbarara	144.77	238	ePKP	PKPdf	09 16 05.8	+1.1
DMUB	Kingscourt	145.68	9	eP	PKPdf	09 16 07.0	+2.0
DCN	Croghan	146.16	10	eP	PKPdf	09 16 09.0	+3.1
ASF	Jabal al Asfar	146.25	298	PKPbc	PKPbc	09 16 11.3	+2.8
	6.3nm,0.7s,baz=259,slow=1.6,SNR=7.1						
BRTR	Keskin Array B	146.30	312	PKPbc	PKPbc	09 16 10.4	+2.0
	4.3nm,0.7s,baz=131,slow=4.5,SNR=14						
OJC	Ojcow	146.68	339	ePKP	PKPdf	09 16 10.8	+3.9
KSP	Ksiaz	147.23	343	ePKP	PKPdf	09 16 12.6	+4.9
CLL	Collm	147.62	347	ePKIKP	PKPdf	09 16 09.0	+0.6
CLL				i PKP1	PKPdf	09 16 13.5	+5.1
CLL				i PKP2	PKPab	09 16 17.6	-1.4
MORC	Moravsky Berou	147.80	340	ePKPbc	PKPdf	09 16 13.6	+4.9
BRG	Berggiesshubel	147.81	345	⇓iP	PKPdf	09 16 14.1	+5.4
BRG				e		09 16 18.7	
GERES	GERESS Array B	149.75	344	PKPbc	PKPdf	09 16 18.8	+7.0
	14nm,1.2s,slow=1.3,SNR=27						
ESDC	Sonseca Array	159.96	13	PKPab	PKPab	09 17 10.2	-1.1
	0.3nm,0.3s,baz=357,slow=5.2,SNR=4.5						

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*IDC **03** 08:59:00.3±1.4, 19.85N×95.43E, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, ML3.5/1, Error ellipse: s-maj=45.7km s-min=14.7km az=37.0*

*NEIC **03** 08:59:12.8±3.3, 19.96N×95.52E, h101^{km}±31^{km}, mb4.2/1, Error ellipse: s-maj=54.6km s-min=20.2km az=60.0*

ISC 03 08:59:07.9±1.3**,19.8N**±0.1×**95.13E**±0.10**,h81**^{km}±14^{km}**, n17,** σ**1^{s}00**/23**,mb3.7**/6**,2C,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHG	Chiang Mai	3.74	105	PG	P	09 00 05.4	+0.7
CHG				SG	S	09 00 46.2	-1.6
CM31	Chiang Mai Arr	3.85	110	Pn	P	09 00 06.3	+0.1
CMAR	Chiang Mai Arr	3.85	110	Pn	P	08 59 56.9	-9.4
	1.0nm,0.3s,baz=288,slow=13,SNR=7.4						
CMAR				Pg	P	09 00 07.1	+0.9
	4.7nm,0.3s,baz=289,slow=19,SNR=24						
CMAR				Sn	S	09 00 43.2	-7.4
	1.6nm,0.3s,baz=281,slow=22,SNR=5.2						
CMAR				Lg		09 00 53.6	
	6.5nm,0.3s,baz=287,slow=32,SNR=16						
CHRT	Chiangrai	4.38	89	⇑PN	P	09 00 08.5	-5.1
CHRT				PG	P	09 00 26.0	+12
CHRT				SG	S	09 01 05.0	+1.2
NANT	Nan	5.36	100	P	P	09 00 41.0	+14
NANT				S	S	09 01 41.0	+13
SHL	Shillong	6.46	333	⇑eP	P	09 00 41.0	-1.2
KKN	Kakani	12.00	313	eP	P	09 02 03.1	+5.6
DMN	Daman	12.01	312	eP	P	09 02 04.8	+7.2
GKN	Gorkha	12.58	312	eP	P	09 02 05.4	+0.2
	7.8nm,0.3s						
KOLN	Koldanda	13.18	309	eP	P	09 02 13.4	+0.3
	12nm,0.5s						
MKAR	Makanchi Array	28.89	342	P	P	09 05 00.9	-0.1
	1.9nm,0.9s,mb3.7,baz=146,slow=8.7,SNR=9.2						
SONM	Songino Array	29.41	16	P	P	09 05 05.0	-0.7
	0.1nm,0.3s,mb2.9,baz=180,slow=7.2,SNR=2.3						
KURK	Kurchatov	33.49	341	P	P	09 05 41.0	-0.4
	1.9nm,0.5s,mb4.2						
WRA	Warramunga Arr	55.11	134	P	P	09 08 33.1	-1.2
	0.8nm,0.7s,mb3.9,baz=323,slow=7.2,SNR=7.7						
GERES	GERESS Array B	69.77	316	P	P	09 10 14.6	+3.3
	0.4nm,0.3s,mb3.7,baz=72,slow=6.2,SNR=3.2						
NB2	NORSAR Subarra	69.94	329	P	P	09 10 13.2	+1.1
	0.4nm,0.5s,mb3.5,baz=84,slow=6.2						
NOA	NORSAR Array B	69.94	329	P	P	09 10 13.4	+1.3
	1.0nm,0.8s,mb3.7,baz=86,slow=6.1,SNR=4.7						

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*ROM **03** 09:22:51.5±1.1, 46.31N×13.63E, h0^{km}±7^{km}, MD2.8/4, Error ellipse: s-maj=6.1km s-min=4.7km az=90.0*

*NEIC **03** 09:22:53.4±0.5, 46.28N×13.57E, h5^{km}, ML2.5(LJU), ML3.0(VIE), ML2.8(SZGRF), Error ellipse: s-maj=7.0km s-min=3.3km az=204.0*

NEIC Felt [V] at Bovec.

*LJU **03** 09:22:53.1, 46.33N×13.58E, h7^{km}, ML2.5*

ISC 03 09:22:52.9±0.2**,46.35N**±0.01×**13.59E**±0.02**,h7**^{km}**,n54,** σ**1^{s}09**/103**,14C-14D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROBS	Robic	0.12	208	⇑iPg	Pg	09 22 55.4	-0.3
ROBS				i Sg	Sg	09 22 56.8	-0.6
	comp=Z,2µm,0.1s						
LSR	Lussari	0.13	342	⇓iPg	Pg	09 22 56.6	+0.7
LSR				i Sg	Sg	09 22 59.8	+1.9
CADS	Cadrg	0.16	140	⇓iPg	Pg	09 22 56.6	+0.2
CADS				i Sg	Sg	09 22 59.1	+0.5
	comp=Z,2µm,0.2s						
PTCC	Patocco-Chiusa	0.17	289	⇓iPG	Pg	09 22 56.8	+0.2
PTCC				SG	Sg	09 22 59.1	0.0
DRE	Drenchia	0.18	168	⇓iPg	Pg	09 22 56.5	-0.2
DRE				i Sg	Sg	09 22 59.2	-0.1
GMNA	Gemona	0.26	253	⇑iPG	Pg	09 22 59.1	+0.9
GMNA				SG	Sg	09 23 03.7	+2.0
COLI	Coloredo	0.26	214	⇑ePg	Pg	09 22 57.8	-0.5
COLI				eSg	Sg	09 23 02.3	+0.4
BAD	Bernadia	0.27	245	⇑iPg	Pg	09 22 58.0	-0.4
BAD				i Sg	Sg	09 23 02.0	0.0
BOO	Bordano	0.34	265	⇑ePg	Pg	09 22 59.2	-0.6
BUA	Buia	0.35	248	⇓iPg	Pg	09 22 59.6	-0.5
PLRO	Paularo	0.36	304	⇓ePg	Pg	09 23 00.4	0.0
PLRO				eSg	Sg	09 23 06.6	+1.3
VOY	Vojsko	0.38	146	⇓ePg	Pg	09 23 00.3	-0.4
VOY				eSg	Sg	09 23 06.0	+0.2
MPRI	Monte Prat	0.43	256	⇓iPg	Pg	09 23 01.1	-0.5
MPRI				i Sg	Sg	09 23 07.7	+0.3
ZOU	Zoufplan	0.47	296	⇓iPg	Pg	09 23 02.5	0.0
ZOU				i Sg	Sg	09 23 10.3	+1.4
JAVS	Javornik	0.56	144	i Pg	Pg	09 23 03.4	-0.8
JAVS				eSg	Sg	09 23 12.1	+0.3
FVI	Forni Avoltri	0.61	294	ePG	Pg	09 23 05.0	-0.2
FVI				SG	Sg	09 23 14.6	+1.2
TRI	Trieste	0.65	169	ePG	Pg	09 23 04.7	-1.3
TRI				SG	Sg	09 23 14.3	-0.4
CSM	Casamicciola	0.67	284	⇓ePg	Pg	09 23 06.2	-0.2
CSM				eSg	Sg	09 23 16.3	+1.0
OBKA	Obir	0.68	76	⇑iPG	Pg	09 23 07.1	+0.5
OBKA				i SG	Sg	09 23 16.1	+0.3
	comp=Z,84nm,0.2s						
MLNI	Malnisio	0.71	254	⇑ePg	Pg	09 23 06.2	-1.0
MLNI				eSg	Sg	09 23 17.3	+0.7
LJU	Ljubljana	0.72	115	i Pg	Pg	09 23 07.5	+0.1
LJU				i Sg	Sg	09 23 18.3	+1.3
	comp=Z,117nm,0.2s						
KBA	Koelnbreinsper	0.75	347	⇓iPG	Pg	09 23 08.2	+0.2
KBA				i SG	Sg	09 23 19.4	+1.4
	comp=Z,56nm,0.2s						
CEY	Cerknica	0.84	136	ePg	Pg	09 23 08.4	-1.4
CEY				eSg	Sg	09 23 22.1	+1.0
	comp=Z,83nm,0.3s						
CAE	Caneva	0.87	247	ePg	Pg	09 23 10.5	+0.1
CSO	Casso	0.88	266	ePg	Pg	09 23 08.8	-1.8
PDKS	Podkum	1.01	105	i Pg	Pg	09 23 13.0	-0.3
VISS	Visnje	1.03	122	i Pg	Pg	09 23 13.3	-0.2
VISS				i Sg	Sg	09 23 28.3	+1.1
	comp=Z,151nm,0.5s						
PERS	Pernice	1.09	74	⇓iPg	Pg	09 23 14.4	-0.4
PERS				i Sg	Sg	09 23 30.0	+0.6
	comp=Z,35nm,0.2s						
DOBS	Dobrina	1.32	98	i Pg	Pg	09 23 18.6	-0.8
GROS	Grobnik	1.33	84	i Pg	Pg	09 23 17.8	-1.7
GROS				eSg	Sg	09 23 37.0	-0.3
	comp=Z,24nm,0.2s						
CGRP	Cima Grappa	1.33	250	⇑ePg	Pg	09 23 18.4	-1.1
CGRP				eSg	Sg	09 23 38.1	+0.9
CESS	Cesta pri Krsk	1.36	105	i Pg	Pg	09 23 20.3	+0.3
CESS				eSg	Sg	09 23 39.8	+1.6
	comp=Z,59nm,0.2s						
CTI	Castel Tesino	1.38	258	ePN	Pn	09 23 19.5	+0.8
CTI				SN	Sn	09 23 39.9	+2.6
CRES	Cresnjevec ost	1.40	111	ePg	Pg	09 23 20.0	-0.9
	comp=Z,59nm,0.4s						
BOJS	Bojanci	1.44	125	ePg	Pg	09 23 20.2	-1.5
BOJS				i Sg	Sg	09 23 40.0	-0.8
	comp=Z,34nm,0.2s						
GOLS	Golise	1.45	103	ePg	Pg	09 23 21.3	-0.7
GOLS				eSg	Sg	09 23 43.3	+1.9
	comp=Z,90nm,0.4s						
SCE	Schlegeis	1.47	299	⇓iPg	Pg	09 23 21.6	-0.6
GCIS	Gornji Cirnik	1.49	108	ePg	Pg	09 23 21.6	-1.1
	comp=Z,95nm,0.4s						
MOA	Molln	1.57	17	⇑iPG	Pg	09 23 24.1	-0.2
MOA				i SG	Sg	09 23 46.8	+1.5
	comp=Z,27nm,0.4s						
ARSA	Arzberg	1.61	55	⇑iPG	Pg	09 23 24.2	-0.8
ARSA				i SG	Sg	09 23 46.6	+0.1
	comp=Z,36nm,0.5s						
WTTA	Wattenberg	1.62	305	⇑iPG	Pg	09 23 24.1	-1.3
WTTA				i SG	Sg	09 23 46.7	-0.3
	comp=Z,37nm,0.4s						
TEOL	Teolo	1.67	234	⇑iPg	Pg	09 23 22.8	-3.5
TEOL				i Sg	Sg	09 23 45.3	-3.1
WATA	Walderalm	1.70	306	⇓iPG	Pg	09 23 26.3	-0.6
WATA				i SG	Sg	09 23 49.9	+0.4
	comp=Z,32nm,0.4s						
SQTA	Sankt Quirin	1.85	299	⇑iPG	Pg	09 23 28.0	-2.0
SQTA				i SG	Sg	09 23 54.5	-0.2
	comp=Z,17nm,0.4s						
MOTA	Moosalm	1.98	301	⇑iPG	Pg	09 23 31.2	-1.2
MOTA				i SG	Sg	09 23 58.5	-0.2
	comp=Z,24nm,0.5s						
NVLJ	Novalja	2.00	153	i Pn	Pn	09 23 29.0	+1.4
NVLJ				i Sn	Sn	09 23 55.3	+2.2
GEC2	GERESS Array S	2.50	2	ePn	Pn	09 23 37.9	+3.2
KHC	Kasperske Hory	2.78	360	ePN	Pn	09 23 40.7	+1.9
KHC				ePG	Pg	09 23 45.9	-2.6
KHC				e		09 23 51.0	
KHC				eSN	Sn	09 24 14.9	+1.9
KHC				eSG	Sg	09 24 24.5	-1.1
PRU	Pruhonice	3.70	10	ePG	Pg	09 24 02.1	-4.7
PRU				eSG	Sg	09 24 53.0	-3.1
	comp=Z,12nm,0.4s						
STU	Stuttgart	3.84	311	eP	Pn	09 23 54.4	+0.6
DPC	Dobruska-Polom	4.40	23	eSG	Sg	09 25 14.6	-4.8
MOX	Moxa	4.50	344	i P	Pn	09 24 04.5	+1.4
MOX				Pg	Pg	09 24 21.0	-1.7
MOX				S	Sn	09 24 55.0	-1.3
MOX				Sg	Sg	09 25 20.0	-2.6
MOX	Moxa	4.50	344	ePn	Pn	09 24 04.5	+1.4
MOX				Pg	Pg	09 24 21.2	-1.5
MOX				Sn	Sn	09 24 55.9	-0.4
MOX				eSg	Sg	09 25 19.7	-2.9

CLL	**Collm**	4.98	356	*e*PN	**Pn**	**09 24 11.0**	**+1.1**
CLL				*e*SN	**Sn**	**09 25 07.0**	**-1.5**
CLL				*e*SG	**Sg**	**09 25 33.0**	**-5.7**
CLL				*e*L		09 25 44.0	

PRE 03 09:31:23.6±1.5**,28.06S**×**26.89E,h2**^{km}**,ML3.5,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEK	**Senekal**	0.70	112	*e*P	Pg	09 31 37.1	-0.4
SEK				*e*S	Sg	09 31 44.9	-1.9
KSR	**Koster**	2.19	0	*e*P	Pn	09 31 59.7	-1.7
KSR				*e*S	Sn	09 32 28.0	-1.5
KSR				*e*		09 32 30.6	
	comp=Z,316nm,0.2s						
SLR	**Silverton**	2.63	29	*e*P	Pn	09 32 06.2	-1.5
SLR				*e*S	Sn	09 32 38.2	-2.5
SLR				*e*		09 32 52.8	
	comp=Z,134nm,0.4s						
NWL	**Newcastle**	2.73	84	*e*P	Pn	09 32 11.8	+2.5
NWL				*e*S	Sn	09 32 44.1	+0.8
NWL				*e*		09 32 56.1	
	comp=Z,261nm,0.7s						
CVNA	**Calvinia**	7.07	239	*e*P	Pn	09 34 19.0	+68

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*NEIC **03** 09:32:27.1±6.4, 4.81S×144.69E, h81^{km}±62^{km}, mb3.9/1, Error ellipse: s-maj=71.1km s-min=16.4km az=143.0*

*IDC **03** 09:32:28.5±7.9, 4.91S×144.85E, h96^{km}±77^{km}, mb3.4/2, mb1 3.8/4, mb1mx3.4/13, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/15, Error ellipse: s-maj=62.0km s-min=25.9km az=147.0*

ISC 03 09:32:27.5±4.9**,5.0S**±0.2×**144.8E**±0.2**,h101**^{km}±49^{km}**,n8,** σ**1**^{s}**10**/8**,mb3.5**/2**,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	5.01	152	P	**P**	**09 33 42.4**	**+0.7**
	5.2nm,0.3s,baz=318,slow=7.0,SNR=17						
PMG				S	**S**	**09 34 38.6**	**-0.2**
	0.4nm,0.3s,baz=121,slow=16,SNR=2.5						
PMG				LR	LR	09 35 39.4	
	comp=Z,88nm,18.2s,baz=234,slow=38						
WRAB	**Tennant Creek**	18.01	213	*e*P	**P**	**09 36 32.1**	**-0.7**
	6.1nm,0.7s						
WB2	**Warramunga Arr**	18.02	213	*e*P	**P**	**09 36 32.0**	**-0.9**
WRA	**Warramunga Arr**	18.03	213	P	**P**	**09 36 32.6**	**-0.4**
	0.6nm,0.3s,baz=36,slow=12,SNR=66						
ASAR	**Alice Springs**	21.35	208	P	**P**	**09 37 08.8**	**+0.7**
	baz=36,slow=11						
FITZ	**Fitzroy Crossi**	22.81	234	P	**P**	**09 37 24.0**	**+1.4**
	1.5nm,0.8s,mb3.4,baz=54,slow=8.7,SNR=3.5						
ILAR	**Eielson Array**	85.41	24	P	**P**	**09 44 54.0**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=251,slow=5.2,SNR=12						
DBIC	**Dimbokro**	149.74	275	PKPbc	PKPdf	09 52 09.5	+7.7
	2.2nm,0.5s,baz=330,slow=1.2,SNR=4.7						

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*MOS **03** 09:41:13.8±2.0, 36.87N×27.94E, h10^{km}, mb4.2/9, Error ellipse: s-maj=13.0km s-min=5.5km az=105.6*

*NEIC **03** 09:41:14.4, 36.93N×27.70E, h19^{km}, mb4.3/14, ML4.4(ATH), After ATH.*

NEIC Felt at Bodrum and Datca, Turkey.

*ATH **03** 09:41:14.6, 36.92N×27.70E, h21^{km}±3^{km}, MD4.2/20, ML4.4*

*ISK **03** 09:41:15.7, 37.05N×27.79E, h15^{km}, MD3.9, ML3.9*

*NIC **03** 09:41:17.8±0.3, 36.93N×27.69E, h25^{km}, mb4.3, ML3.9*

*IDC **03** 09:41:17.1±2.7, 36.82N×27.76E, h30^{km}±21^{km}, mb3.8/11, mb1 3.9/19, mb1mx3.9/27, ML3.8/8, MS3.5/15, Ms1 3.5/15, ms1mx3.3/35, Error ellipse: s-maj=14.9km s-min=10.9km az=141.0*

*THE **03** 09:41:18.2, 37.01N×27.90E, h20^{km}, ML4.4*

ISC 03 09:41:13.2±0.6**,36.87N**±0.02×**27.80E**±0.02**,h7**^{km}±4^{km}**, n177,** σ**1**^{s}**23**/209**,mb4.1**/17**,MS3.6**/12**,4C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.34	304	*i* P	**Pg**	**09 41 20.3**	**+0.2**
BDRM				*i* S	**Sg**	**09 41 25.1**	**+0.4**
MLSB	**Milas**	0.42	358	*i* PG	**Pg**	**09 41 22.0**	**+0.3**
YER	**Yerkesik**	0.47	56	*i* PG	**Pg**	**09 41 23.8**	**+1.1**
NISR	**Nisiros**	0.60	244	*e*PN	**Pn**	**09 41 26.5**	**-1.3**
ARG	**Arkhangelos**	0.71	158	*e*PN	**Pn**	**09 41 29.0**	**-0.4**
AYDN	**Tasoluk**	0.79	5	*i* P	**Pb**	**09 41 28.8**	**0.0**
AYDN				*i* S	**Sg**	**09 41 43.2**	**+3.7**
SMG	**Samos**	1.13	318	*e*PN	**Pn**	**09 41 35.0**	**-0.4**
DNZL	**Cakiroluk**	1.29	50	*i* P	**Pb**	**09 41 38.6**	**+1.2**
DNZL				*i* S	**Sb**	**09 41 57.4**	**+3.5**
DENT	**Denizli**	1.32	48	*i* PN	**Pn**	**09 41 39.3**	**+1.2**
KARP	**Karpathos**	1.42	201	*e*PB	**Pb**	**09 41 40.5**	**+0.9**
KARP	**Karpathos**	1.42	201	*e*Pn	**Pn**	**09 41 41.0**	**+1.5**
IZM	**Izmir**	1.58	345	*i* PN	**Pn**	**09 41 41.3**	**-0.5**
IZM				SN	**Sn**	**09 42 00.3**	**-2.3**
KDAG	**Bornova**	1.58	345	*i* P	**Pn**	**09 41 41.2**	**-0.7**
KDAG				*i* S	**Sb**	**09 42 03.5**	**+1.0**
KSL	**Kastellorizon**	1.61	116	*e*PN	**Pn**	**09 41 45.7**	**+3.4**
ELL	**Elmali**	1.70	94	*e*PN	**Pn**	**09 41 46.3**	**+2.8**
MANT	**Manisa**	1.72	20	*i* P	**Pn**	**09 41 44.0**	**+0.2**
MANT				*i* S	**Sn**	**09 42 09.5**	**+3.2**
APE	**Apeiranthos**	1.82	277	*e*PB	**Pb**	**09 41 45.0**	**-1.5**
SANT	**Santorini**	1.94	256	*e*Pn	**Pn**	**09 41 43.2**	**-3.9**
THR1	**Thera Island**	1.94	256	*e*Pn	**Pn**	**09 41 49.9**	**+2.8**
THR1				*e*Sn	**Sn**	**09 42 13.6**	**+1.6**
THR4	**Thira Island,**	1.97	259	*e*Pn	**Pn**	**09 41 50.2**	**+2.8**
THR4				*e*Sn	**Sn**	**09 42 14.1**	**+1.4**
THR3	**Thira Island,**	1.98	257	*e*Pn	**Pn**	**09 41 50.1**	**+2.6**
THR3				*e*Sn	**Sn**	**09 42 13.9**	**+1.0**
KHL	**Karahalli**	1.99	43	PN	**Pn**	**09 41 48.1**	**+0.4**
THR6	**Thira Island,**	2.00	256	*e*Pn	**Pn**	**09 41 50.4**	**+2.6**
THR6				*e*Sn	**Sn**	**09 42 14.5**	**+1.2**
AKS	**Akhisar**	2.00	0	PN	**Pn**	**09 41 47.3**	**-0.5**
THR5	**Thira Island,**	2.02	258	*e*Pn	**Pn**	**09 41 51.0**	**+2.9**
BCK	**Bucak**	2.31	74	*e*PN	**Pn**	**09 41 54.0**	**+1.8**
ISP	**Isparta**	2.37	65	*e*PN	**Pn**	**09 41 54.2**	**+1.1**
NPS	**Neapolis**	2.39	228	*e*PN	**Pn**	**09 41 53.7**	**+0.3**
XRY	**Khrisi**	2.62	221	*e*PB	**Pb**	**09 41 59.5**	**-0.8**
PRK	**Paraskevi**	2.66	334	*e*PN	**Pn**	**09 41 56.5**	**-0.7**
BALB	**Balikesir**	2.76	1	*e*PN	**Pn**	**09 41 57.6**	**-1.1**
IDI	**Anoyia**	2.84	237	Pn	**Pn**	**09 42 00.4**	**+0.7**
	7.3nm,0.3s,baz=61,slow=12,SNR=31						
IDI				Sn	**Sn**	**09 42 34.0**	**-0.6**
	24nm,0.3s,baz=319,slow=19,SNR=7.2						
IDI				Lg		09 42 45.6	
	30nm,0.3s,baz=273,slow=18,SNR=6.4						
ALT	**Altintas**	2.84	39	*e*PN	**Pn**	**09 41 59.2**	**-0.7**
VAM	**Vamos**	3.26	244	*e*PB	**Pb**	**09 42 08.0**	**-3.1**
VAM	**Vamos**	3.26	244	*e*Pb	**Pb**	**09 42 10.5**	**-0.6**
BOZC	**Bozcaada**	3.26	336	*i* P	**Pn**	**09 42 04.5**	**-1.3**
BOZC				*i* S	**Sn**	**09 43 02.1**	**+17**
PTL	**Penteli**	3.34	292	*e*PN	**Pn**	**09 42 06.9**	**0.0**
ATH	**Athens Observa**	3.43	290	*e*PN	**Pn**	**09 42 08.5**	**+0.3**
ULDT	**Uludag**	3.43	17	*i* P	**Pn**	**09 42 07.8**	**-0.4**
ULDT				*i* S	**Sn**	**09 43 10.8**	**+21**
MPAR	**Parnis Oros**	3.47	293	*e*PN	**Pn**	**09 42 09.0**	**+0.2**
NAIG	**Nisos Aigina**	3.54	286	*e*PB	**Pb**	**09 42 11.5**	**-4.5**
ESKT	**Eskisehir**	3.57	41	*i* P	**Pn**	**09 42 11.3**	**+1.1**
ESKT				*i* S	**Sn**	**09 43 07.1**	**+14**
LPK	**Lapseki**	3.59	347	*e*PN	**Pn**	**09 42 09.5**	**-0.9**
NSAL	**Nisos Salamina**	3.60	288	*e*PN	**Pn**	**09 42 06.5**	**-4.1**
LOS	**Limnos**	3.73	326	*e*Pn	**Pn**	**09 42 12.2**	**-0.2**
HDMB	**Hadim**	3.76	87	*e*PN	**Pn**	**09 42 15.2**	**+2.3**
MKIT	**Kithairon Oros**	3.83	291	*e*PN	**Pn**	**09 42 14.2**	**+0.2**
SART	**Tekirdag**	3.84	353	*i* P	**Pn**	**09 42 11.2**	**-2.8**
SART				*i* S	**Sn**	**09 43 19.6**	**+20**
KYTH	**Kithira**	3.88	263	*e*PN	**Pn**	**09 42 14.5**	**-0.1**
VLI	**Veliai**	3.90	269	*e*PN	**Pn**	**09 42 14.5**	**-0.4**
PPCY	**Paphos**	4.19	117	⇑P	**Pn**	**09 42 20.9**	**+1.8**
ALN	**Alexandroupoli**	4.24	342	*e*Pn	**Pn**	**09 42 18.4**	**-1.4**
ALN				*e*Sn	**Sn**	**09 43 03.5**	**-6.7**
ALFC	**Alevga**	4.25	112	P	**Pn**	**09 42 21.1**	**+1.2**
	7.3nm,0.2s						
ALFC				S	**Sn**	**09 43 11.1**	**+0.6**
PAIG	**Paliouri**	4.44	315	*e*Pn	**Pn**	**09 42 22.5**	**-0.1**
OUR	**Ouranopolis**	4.57	320	*e*Pn	**Pn**	**09 42 23.6**	**-0.8**
RDO	**Rodhopi**	4.61	338	*e*PN	**Pn**	**09 42 23.5**	**-1.5**
HENT	**Hendek**	4.63	31	*i* P	**Pn**	**09 42 42.8**	**+18**
HENT				*i* S	**Sn**	**09 43 38.2**	**+18**
SZAC	**Souni-Zanaja**	4.64	116	⇑P	**Pn**	**09 42 26.9**	**+1.4**
	7.9nm,0.3s						
SZAC				S	**Sn**	**09 43 20.9**	**+0.6**
ITM	**Ithomi**	4.71	275	*e*PN	**Pn**	**09 42 27.5**	**+1.2**
AGG	**Agios Georgios**	4.82	298	*e*Pn	**Pn**	**09 42 28.2**	**+0.2**
AGG				*e*Sn	**Sn**	**09 43 21.4**	**-3.4**
CSS	**Prodhromos**	4.88	111	P	**Pn**	**09 42 30.1**	**+1.3**
	3.1nm,0.3s						
CSS				S	**Sn**	**09 43 27.5**	**+1.2**
CSS	**Prodhromos**	4.88	111	*e*Pn	**Pn**	**09 42 29.9**	**+1.0**
KDZ	**Kurdzhali**	5.11	340	P	**Pn**	**09 42 30.5**	**-1.6**
EVR	**Evrytania**	5.16	295	*e*PN	**Pn**	**09 42 33.5**	**+0.8**
SOH	**Sokhos**	5.25	320	*e*Pn	**Pn**	**09 42 33.5**	**-0.5**
LIT	**Litokhoron**	5.26	309	*e*Pn	**Pn**	**09 42 33.7**	**-0.5**
SRS	**Serrai**	5.35	324	*e*Pn	**Pn**	**09 42 34.9**	**-0.6**
RZN	**Rozhen**	5.37	335	*i* P	**Pn**	**09 42 32.5**	**-3.2**
BRTR	**Keskin Array B**	5.41	56	Pn	**Pn**	**09 42 37.1**	**+0.9**
	3.1nm,0.3s,baz=235,slow=14,SNR=30						
BRTR				Sn	**Sn**	**09 43 38.9**	**-0.7**
	1.1nm,0.3s,baz=144,slow=11,SNR=4.4						
BRTR				Lg		09 44 11.6	
	baz=189,slow=31,SNR=1.6						
BRTR	**Keskin Array B**	5.41	56	P	**Pn**	**09 42 37.1**	**+0.9**
BRTR						09 43 38.9	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
DIM	**Dimitrovgrad**	5.46	342	P	**Pn**	**09 42 35.0**	**-2.0**
MMB	**Musomiste**	5.67	327	*i* P	**Pn**	**09 42 38.5**	**-1.4**
ELDT	**Eldivan**	5.70	49	*i* P	**Pn**	**09 42 41.4**	**+1.1**
ELDT				*i* S	**Sg**	**09 44 21.4**	**-1.4**
KNT	**Kendrikon**	5.73	320	*e*Pn	**Pn**	**09 42 40.8**	**0.0**
MEV	**Metsovon**	5.92	301	*e*Pn	**Pn**	**09 42 43.3**	**-0.2**
LKD	**Levkas**	5.95	290	*e*Pn	**Pn**	**09 42 44.1**	**+0.3**
KKB	**Krupnik**	6.18	325	*i* P	**Pn**	**09 42 46.3**	**-0.8**
PGB	**Panagyurishte**	6.32	335	P	**Pn**	**09 42 43.0**	**-6.1**
FNA	**Florina**	6.35	310	*e*Pn	**Pn**	**09 42 49.6**	**0.0**
PVL	**Pavlikeni**	6.61	344	P	**Pn**	**09 42 51.5**	**-1.7**
SKO	**Skopje**	7.08	318	*e*Pn	**Pn**	**09 43 01.0**	**+1.2**
HNTI	**Hanita**	7.14	120	Pn	**Pn**	**09 43 01.0**	**+0.3**
HRI	**Mount Hermon**	7.44	117	Pn	**Pn**	**09 43 05.7**	**+0.9**
SLTI	**Sal'it**	7.55	126	Sn	**Sn**	**09 44 27.0**	**-6.3**
KSHT	**Keshet**	7.64	118	Pn	**Pn**	**09 43 08.9**	**+1.2**
HMDT	**Nahal Hemdat**	7.87	124	Pn	**Pn**	**09 43 11.1**	**+0.3**
KZIT	**Kziot**	8.10	135	Pn	**P**	**09 43 13.2**	**-0.8**
KZIT				Sn	**Sn**	**09 44 38.6**	**-8.2**
DRGI	**Dragot**	8.20	128	Pn	**P**	**09 43 14.7**	**-0.8**
SVTA	**Shivta**	8.20	134	Pn	**P**	**09 43 14.1**	**-1.4**
BOLS	**Boljevac**	8.25	329	⇑*i*P	**P**	**09 43 14.8**	**-1.4**
MLR	**Muntele Rosu**	8.72	351	Pn	**P**	**09 43 22.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=223,slow=4.9,SNR=8.7						
MLR				Lg		09 46 04.2	
	comp=Z,0.3nm,0.3s,baz=106,slow=12,SNR=3.0						
MLR				LR	LR	09 47 10.4	
	comp=Z,535nm,20.6s,baz=349,slow=40						
ASF	**Jabal al Asfar**	8.85	119	Pn	**P**	**09 43 22.4**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=94,slow=3.7,SNR=3.4						
ASF				Sn	**Sn**	**09 45 02.3**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=38,slow=23,SNR=2.4						
ASF				LR	LR	09 47 33.9	
	comp=Z,255nm,18.4s,baz=281,slow=43						
PRNI	**Paran**	8.86	135	Pn	**P**	**09 43 23.7**	**-0.9**
PRNI				Sn	**Sn**	**09 44 57.2**	**-8.5**
KMTI	**Karmit**	8.89	137	Pn	**P**	**09 43 23.8**	**-1.3**
KMTI				Sn	**Sn**	**09 44 57.6**	**-9.0**
TIP	**Timpagrande**	9.01	288	*e*Pn	**P**	**09 43 25.5**	**-1.2**
MBH	**Mount Berech**	9.24	138	Pn	**P**	**09 43 29.0**	**-0.9**
AQBJ	**Aqaba**	9.36	138	Pn	**P**	**09 43 29.5**	**-2.1**
ALWS	**Ilw as Safayha**	9.70	139	P	**P**	**09 43 34.5**	**-1.7**
ALWS				S	**Sn**	**09 45 16.2**	**-10**
HAQS	**Haql**	9.83	140	P	**P**	**09 43 36.2**	**-1.9**
HAQS				S	**Sn**	**09 45 23.5**	**-6.3**
JMOS	**Jabal al Moall**	9.83	139	P	**P**	**09 43 36.1**	**-2.0**
KIS	**Kishinev**	10.14	4	*e*P	**P**	**09 43 48.0**	**+5.7**
KIS				MLR	MLR		
	comp=Z,400nm,8.0s						
KIS				MLR	MLR		
	comp=Z,800nm,8.0s						
ANN	**Anapa**	10.76	40	*e*P	**P**	**09 43 57.2**	**+6.4**
ANN				pmax	pmax		
	comp=Z,60nm,1.6s						
ANN				MLR	MLR		
	comp=Z,201nm,16.0s						
KIV	**Kislovodsk**	13.36	53	*i* P	**P**	**09 44 26.5**	**+0.7**
KIV				pmax	pmax		
	comp=Z,24nm,1.8s						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s						
GNI	**Garni**	13.67	71	LR	LR	09 49 56.2	
	comp=Z,166nm,20.7s,baz=302,slow=38						
AKASG	**Malin Array Be**	13.86	4	Pn	**P**	**09 44 32.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=184,slow=13,SNR=6.7						
OKC	**Ostrava-Krasne**	14.72	335	LM		09 51 20.0	
	comp=Z,0.4nm,14.3s						
VRAC	**Vranov**	14.86	330	Pn	**P**	**09 44 44.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=317,slow=9.5,SNR=2.6						
GEC2	**GERESS Array S**	15.78	324	*e*P	**P**	**09 45 02.3**	**+5.0**
GEC2				*e*S	**S**	**09 48 06.2**	**+13**
GERES	**GERESS Array B**	15.78	324	Pn	**P**	**09 44 59.6**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=339,slow=30,SNR=4.5						
DPC	**Dobruska-Polom**	15.80	332	*e*P	**P**	**09 45 03.9**	**+6.3**
DPC				*e*S	**S**	**09 48 08.7**	**+15**
DPC				LM		09 52 10.0	
	comp=Z,0.8nm,10.9s						
DPC	**Dobruska-Polom**	15.80	332	*e*P	**P**	**09 45 03.9**	**+6.3**
DPC				MLR	MLR		
	comp=Z,800nm,10.9s						
KHC	**Kasperske Hory**	16.03	324	*e*P	**P**	**09 45 05.9**	**+5.2**
KHC				*e*		09 45 14.5	
KHC				*e*S	**S**	**09 48 12.6**	**+14**
KHC				LM		09 52 00.0	
	comp=Z,0.7nm,11.0s						
KHC	**Kasperske Hory**	16.03	324	*e*P	**P**	**09 45 05.9**	**+5.2**
KHC				MLR	MLR		
	comp=Z,700nm,11.0s						
PRU	**Pruhonice**	16.23	328	*e*P	**P**	**09 45 08.6**	**+5.5**
PRU				*e*S	**S**	**09 48 21.3**	**+18**
PRU				LM		09 52 20.0	
	comp=Z,0.3nm,9.0s						
WET	**Wettzell**	16.38	323	*e*P	**P**	**09 45 07.6**	**+2.6**
DAVOX	**Davos**	16.59	312	Pn	**P**	**09 45 08.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=142,slow=17,SNR=2.0						
PVCC	**Panska Ves**	16.63	329	*e*P	**P**	**09 45 10.6**	**+2.4**
PVCC				LM		09 52 40.0	
	comp=Z,0.6nm,11.3s						
BRG	**Berggiesshubel**	17.15	329	*e*P	**P**	**09 45 18.5**	**+3.7**
BRG				*e*S	**S**	**09 48 33.0**	**+8.5**
BRG				pmax	pmax		
	comp=Z,15nm,1.1s						
BRG				MLR	MLR		
	comp=Z,610nm,9.8s						
BRG				MLR	MLR		
	comp=N,300nm,9.5s						
BRG				MLR	MLR		
	comp=E,300nm,9.5s						
BRG	**Berggiesshubel**	17.15	329	*e*P	**P**	**09 45 18.5**	**+3.7**
	comp=E,15nm,1.1s						
BRG				*i*		09 45 21.4	
BRG				*e*S	**S**	**09 48 33.0**	**+8.5**
GRA1	**Grafenberg Arr**	17.55	322	*e*P	**P**	**09 45 24.8**	**+5.0**
GRA1				*e*S	**S**	**09 48 48.8**	**+15**
GRF	**Grafenberg Arr**	17.55	322	*e*P	**P**	**09 45 24.8**	**+5.0**
MBDF	**Montbardon**	17.71	303	*e*P	**P**	**09 45 22.7**	**+0.8**
CLL	**Collm**	17.87	329	P	**P**	**09 45 25.0**	**+1.3**
CLL				*i*		09 45 29.2	
CLL				*e*		09 45 46.0	
CLL				*e*S	**S**	**09 48 49.0**	**+8.2**
CLL	**Collm**	17.87	329	*e*P	**P**	**09 45 25.0**	**+1.3**
CLL				*e*S	**S**	**09 48 49.0**	**+8.2**
CLL				pmax	pmax		
	comp=Z,19nm,0.9s						
CLL	**Collm**	17.87	329	*e*P	**P**	**09 45 25.0**	**+1.3**
	comp=Z,19nm,0.9s						
CLL				*i*		09 45 29.2	
CLL				*e*S	**S**	**09 48 49.0**	**+8.2**
MOX	**Moxa**	18.00	325	*i* P	**P**	**09 45 28.5**	**+3.1**
	comp=Z,logA/T=1.3						
MOX				S	**S**	**09 48 58.0**	**+14**
MOX				L		09 53 26.0	
MOX	**Moxa**	18.00	325	*e*P	**P**	**09 45 28.5**	**+3.1**
MOX				pmax	pmax		
	comp=Z,35nm,1.6s						
MOX				MLR	MLR		
	comp=Z,400nm,11.0s						
MOX	**Moxa**	18.00	325	*e*P	**P**	**09 45 28.5**	**+3.1**
	comp=Z,35nm,1.6s						
MOX				*e*		09 48 58.0	
CABF	**La Chapelle**	18.84	308	*e*P	**P**	**09 45 37.5**	**+1.7**
	comp=Z,51nm,1.3s						
HINF	**Hinteralfeld**	18.89	312	*e*P	**P**	**09 45 36.6**	**+0.2**
CDF	**Champ du Feu**	18.93	314	*e*P	**P**	**09 45 37.7**	**+0.9**
OBN	**Obninsk**	19.20	15	*e*P	**P**	**09 45 39.5**	**-0.6**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,100nm,8.0s						
HAU	**Haudompre**	19.28	312	*e*P	**P**	**09 45 41.2**	**+0.2**
HAU				*e*R			
	comp=Z,130nm,17.2s						
CLZ	**Clausthal**	19.39	326	*e*P	**P**	**09 45 44.0**	**+1.7**
CLZ				*e*S	**S**	**09 49 23.8**	**+8.4**
SMF	**Signal de Mont**	20.29	306	*e*P	**P**	**09 45 51.5**	**-0.7**
	comp=Z,36nm,1.1s						
LOR	**Lormes**	20.50	308	*e*P	**P**	**09 45 53.5**	**-0.9**
	comp=Z,18nm,0.9s						
LOR				*e*R			
	comp=Z,143nm,18.6s						
SSF	**Saint Saulge**	20.65	307	*e*P	**P**	**09 45 55.5**	**-0.4**
	comp=Z,18nm,0.6s						
AVF	**Avril sur Loir**	20.66	306	*e*P	**P**	**09 45 54.5**	**-1.5**
	comp=Z,45nm,1.1s						
BGF	**Bois d'Agland**	20.91	305	*e*P	**P**	**09 45 58.2**	**-0.4**
TCF	**Toulx Ste Croi**	21.25	304	*e*P	**P**	**09 46 02.3**	**+0.3**
	comp=Z,41nm,1.3s,mb4.3						
BAIF	**Baives**	21.49	315	*e*P	**P**	**09 46 04.3**	**-0.2**
LDF	**La Druitiere**	23.48	309	*e*P	**P**	**09 46 24.0**	**0.0**
FLN	**La Foliniere**	23.76	309	*e*P	**P**	**09 46 26.9**	**+0.1**
	comp=Z,40nm,1.0s,mb4.5						
FLN				*e*R			
	comp=Z,248nm,22.2s						
GRR	**Gorron**	23.87	308	*e*P	**P**	**09 46 27.1**	**-0.8**
	comp=Z,55nm,0.9s,mb4.7						
FINES	**FINESS Array B**	24.62	358	P	**P**	**09 46 35.0**	**0.0**
	comp=Z,2.4nm,0.7s,mb3.8,baz=169,slow=9.7,SNR=6.7						
FINES				LR	LR	09 57 12.4	
	comp=Z,71nm,18.3s,MS3.2,baz=180,slow=39						
FINES	**FINESS Array B**	24.62	358	*i* P	**P**	**09 46 35.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	24.62	358	P	**P**	**09 46 35.0**	**0.0**
SGMF	**Saint Gilles**	24.92	307	*e*P	**P**	**09 46 38.0**	**0.0**
	comp=Z,12nm,0.8s,mb4.2						
HFS	**Hagfors**	24.97	343	P	**P**	**09 46 37.9**	**-0.5**
	comp=Z,5.7nm,1.0s,mb4.1,baz=172,slow=10,SNR=5.8						
HFS	**Hagfors**	24.97	343	P	**P**	**09 46 37.9**	**-0.5**
HFS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ESDC	**Sonseca Array**	25.02	286	P	**P**	**09 46 38.7**	**-0.4**
	comp=Z,1.2nm,0.5s,mb3.7,baz=81,slow=9.0,SNR=14						
NB2	**NORSAR Subarra**	26.36	342	P	**P**	**09 46 49.9**	**-1.5**
	comp=Z,3.0nm,1.0s,mb3.8,baz=147,slow=9.3						
NOA	**NORSAR Array B**	26.36	342	P	**P**	**09 46 51.5**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.4,baz=147,slow=9.4,SNR=3.7						
NOA				LR	LR	09 58 27.0	
	comp=Z,69nm,21.8s,MS3.2,baz=145,slow=39						
NOA	**NORSAR Array B**	26.36	342	P	**P**	**09 46 51.5**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,69nm,21.8s						
ARU	**Arti**	28.41	37	⇑*i*P	**P**	**09 47 09.7**	**-0.4**
ARU				*e*		09 48 00.7	
ARU				*e*PPP	PPP	09 48 09.5	-4.3
ARU				*e*S	**S**	**09 51 57.0**	**+1.1**
ARU				*e*SS	SS	09 53 18.2	-1.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.0						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS3.6						
ARU				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.4						
ARU				MLR	MLR		
	comp=E,100nm,20.5s,MS3.6						
ARCES	**ARCESS Array B**	32.74	359	P	**P**	**09 47 46.7**	**-1.7**
	comp=E,1.1nm,0.8s,mb3.9,baz=252,slow=3.8,SNR=4.6						
ARCES				LR	LR	10 00 58.9	
	comp=E,132nm,21.5s,MS3.6,baz=9.2,slow=36						
ARCES	**ARCESS Array B**	32.74	359	P	**P**	**09 47 46.7**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,132nm,21.5s						
KURK	**Kurchatov**	38.44	52	*e*P	**P**	**09 48 36.2**	**-0.9**
	comp=Z,5.2nm,1.0s,mb4.2						
KMBO	**Kilima Mbogo**	38.81	165	LR	LR	10 04 01.9	
	comp=Z,105nm,22.0s,MS3.6,baz=269,slow=35						
JMIC	**Jan Mayen**	39.08	342	LR	LR	10 04 32.5	
	comp=Z,58nm,20.7s,MS3.4,baz=272,slow=36						
MKAR	**Makanchi Array**	41.05	58	P	**P**	**09 48 58.6**	**-0.2**
	comp=Z,2.5nm,0.7s,mb3.9,baz=280,slow=7.4,SNR=16						
MKAR				LR	LR	10 08 41.2	
	comp=Z,54nm,19.4s,MS3.4,baz=16,slow=40						
MKAR	**Makanchi Array**	41.05	58	*i* P	**P**	**09 48 58.6**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NVS	**Novosibirsk**	41.37	46	*e*P	**P**	**09 49 00.8**	**-0.4**
SPITS	**Spitsbergen Ar**	41.69	356	LR	LR	10 06 34.8	
	comp=Z,4.3nm,19.6s,baz=254,slow=36						
DBIC	**Dimbokro**	42.30	233	P	**P**	**09 49 08.0**	**-1.4**
	comp=Z,2.6nm,0.7s,mb4.0,baz=18,slow=12,SNR=6.8						
DBIC	**Dimbokro**	42.30	233	P	**P**	**09 49 08.0**	**-1.4**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TSUM	**Tsumeb**	56.60	192	P	**P**	**09 50 56.1**	**-3.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=11,slow=3.2,SNR=3.7						
SONM	**Songino Array**	56.75	52	P	**P**	**09 50 58.9**	**-1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=292,slow=8.1,SNR=9.9						
SCHQ	**Schefferville**	63.26	320	LR	LR	10 17 32.8	
	comp=Z,60nm,21.2s,MS3.8,baz=48,slow=34						
CMAR	**Chiang Mai Arr**	64.28	86	P	**P**	**09 51 49.8**	**-1.9**
	comp=Z,1.8nm,1.0s,mb4.1,baz=303,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	64.28	86	P	**P**	**09 51 49.8**	**-1.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	78.60	358	P	**P**	**09 53 15.9**	**-0.6**
	comp=Z,1.4nm,1.1s,mb3.8,baz=342,slow=3.3,SNR=10						
ILAR	**Eielson Array**	78.60	358	P	**P**	**09 53 16.0**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ULM	**Lac du Bonnet**	80.06	327	LR	LR	10 29 29.8	
	comp=Z,66nm,19.0s,MS4.0,baz=62,slow=36						
BDFB	**Brasilia**	88.32	249	LR	LR	10 37 38.9	
	comp=Z,60nm,18.5s,MS4.0,baz=42,slow=38						
PDAR	**Pinedale Array**	91.73	330	LR	LR	10 32 39.4	
	comp=Z,65nm,21.9s,MS4.0,baz=49,slow=34						
TXAR	**Lajitas Array**	99.93	318	LR	LR	10 35 36.0	
	comp=Z,40nm,20.8s,MS3.9,baz=310,slow=33						

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*ISK **03** 09:45:58.4, 37.92N×27.59E, h10^{km}, MD3.6*

*NEIC **03** 09:45:58.3, 37.99N×27.65E, h5^{km}, MD3.5(ATH), After ATH.*

*ATH **03** 09:45:58.3, 37.99N×27.65E, h5^{km}, MD3.5/7*

ISC 03 09:45:58.5±0.5**,37.94N**±0.02×**27.58E**±0.04**,h6**^{km}±6^{km}**, n31,** σ**0**^{s}**88**/39**,1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	0.36	139	*i* P	**Pg**	**09 46 05.5**	**-0.3**
AYDN				*i* S	**Sg**	**09 46 14.0**	**+3.3**
IZM	**Izmir**	0.53	332	*i* PG	**Pg**	**09 46 10.1**	**+1.1**
KDAG	**Bornova**	0.53	332	*i* P	**Pg**	**09 46 10.1**	**+1.0**
KDAG				*i* S	**Sg**	**09 46 16.6**	**+0.4**
SMG	**Samos**	0.63	249	*e*PB	**Pb**	**09 46 12.0**	**+0.5**
MLSB	**Milas**	0.66	166	*i* PG	**Pg**	**09 46 11.2**	**-0.5**
BDRM	**Kayabasi**	0.88	187	*i* P	**Pb**	**09 46 15.1**	**-0.6**
BDRM				*i* S	**Sg**	**09 46 28.9**	**+1.2**
MANT	**Manisa**	0.95	54	⇑*i*P	**Pb**	**09 46 16.3**	**-0.7**
MANT				*i* S	**Sb**	**09 46 29.0**	**-0.6**
AKS	**Akhisar**	0.96	11	*i* PG	**Pg**	**09 46 17.4**	**-0.3**
YER	**Yerkesik**	0.97	145	*i* PG	**Pg**	**09 46 16.8**	**-1.2**
YER				SG	**Sg**	**09 46 31.3**	**+0.3**
DENT	**Denizli**	1.17	98	*i* PN	**Pn**	**09 46 20.6**	**-0.7**
DNZL	**Cakiroluk**	1.19	101	*i* P	**Pb**	**09 46 20.6**	**-0.5**
DNZL				*i* S	**Sb**	**09 46 38.2**	**+1.7**
NISR	**Nisiros**	1.37	195	*e*PG	**Pg**	**09 46 25.0**	**-0.8**
KHL	**Karahalli**	1.58	75	*e*PN	**Pn**	**09 46 26.6**	**-0.6**
PRK	**Paraskevi**	1.66	322	*e*PB	**Pb**	**09 46 29.5**	**+0.3**
BALB	**Balikesir**	1.72	8	PN	**Pn**	**09 46 29.1**	**-0.1**
ARG	**Arkhangelos**	1.77	166	*e*PG	**Pg**	**09 46 31.5**	**-2.4**

ARG				eSG	Sg	09 46 59.0	+1.5
APE	Apeiranthos	1.84	243	ePG	Pg	09 46 34.5	-0.8
APE				eSN	Sn	09 46 59.5	+4.6
DST	Dursunbey	1.86	26	ePN	Pn	09 46 30.4	-0.8
ELL	Elmali	2.20	122	ePN	Pn	09 46 35.8	-0.3
ALT	Altintas	2.28	60	i PN	Pn	09 46 37.9	+0.7
ORLT	Orhaneli	2.34	26	ePN	Pn	09 46 38.7	+0.5
KSL	Kastellorizon	2.40	137	ePN	Pn	09 46 40.5	+1.6
KARP	Karpathos	2.41	188	ePN	Pn	09 46 38.0	-1.1
EDC	Edincik	2.42	5	ePN	Pn	09 46 38.6	-0.6
BNT	Bandirma	2.43	6	PN	Pn	09 46 38.9	-0.5
LPK	Lapseki	2.52	346	ePN	Pn	09 46 40.5	-0.1
YLV	Yalova	2.97	27	ePN	Pn	09 46 47.3	+0.1
ESKT	Eskisehir	3.01	57	ePN	Pn	09 46 47.7	+0.1
BADT	Buyukada	3.15	22	ePN	Pn	09 46 50.5	+0.9
HRT	Hereke	3.31	29	ePN	Pn	09 46 52.3	+0.4
MDU	Mudurnu	3.79	47	ePN	Pn	09 46 59.0	+0.3

JMA 03 09:51:11.9±0.6,32.43N×142.06E,M3.6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	2.01	290	P	Pn	09 51 47.8	+0.4
BSO1	Boso 1	2.40	338	P	Pn	09 51 53.4	+0.4
BSO1				eS	Sn	09 52 23.9	+0.5
BSO3	Boso 3	2.70	332	P	Pn	09 51 58.2	+0.9
BSO3				S	Sn	09 52 32.0	+0.9
BSO4	Boso 4	2.93	331	P	Pn	09 52 01.9	+1.3
BSO4				eS	Sn	09 52 37.7	+0.7
JIM2	Oshima 3	3.17	317	P	Pn	09 52 05.9	+1.9
JOD2	Odawara 2	3.75	320	P	Pn	09 52 12.6	+0.3
JYN	Shimob	4.23	317	P	Pn	09 52 20.7	+1.6
JRY	Ryogami san	4.43	325	P	Pn	09 52 22.2	+0.3
JRY				eS	Sn	09 53 14.7	-0.4
JAG	Ashikaga	4.53	332	P	Pn	09 52 23.1	-0.2
JAG				S	Sn	09 53 15.0	-2.5
MAT	Matsushiro	5.19	323	P	Pn	09 52 33.1	+0.4
MAT				S	Sn	09 53 34.1	-0.1
JMK	Ichinoseki	6.54	354	P	Pn	09 52 49.0	-2.8
JMK				eS	Sn	09 53 58.8	-9.3

HEL **03** *09:59:27.3±0.3,59.31N×27.00E,ML1.7,ML2.0(UPP), Explosion*
IDC **03** *09:59:28.7±2.1,59.43N×27.21E,mb1 3.1/4, mb1mx3.0/19,ML2.5/4,Error ellipse: s-maj=20.5km s-min=11.0km az=114.0*
ISC 03 09:59:25.9±0.9,**59.31N**±0.04×**26.9E**±0.1,**n19,**σ**1^{s}15**/25, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	Vasula	0.85	185	eP	Pg	09 59 43.3	+0.4
VJF	Virojoki	1.28	15	eP	Pb	09 59 49.7	-0.9
VJF				eS	Sb	10 00 06.3	-1.2
PVF	Pernaja	1.34	338	eP	Pb	09 59 52.1	+0.5
PVF				eS	Sb	10 00 09.5	+0.3
NUR	Nurmij rvi	1.65	318	eP	Pn	09 59 58.1	+1.9
NUR				eS	Sb	10 00 19.6	+1.6
FIA0	FINESS Array S	2.18	350	eP	Pn	10 00 04.7	+0.8
FIA0				eS	Sn	10 00 32.6	+0.7
FIA0				MSG		10 00 37.1	
	comp=Z,3.9nm,0.1s						
FINES	FINESS Array B	2.18	350	Pn	Pn	10 00 04.7	+0.8
	comp=Z,0.9nm,0.3s,baz=169,slow=16,SNR=26						
FINES				Pg	Pg	10 00 06.0	-3.3
	comp=Z,0.9nm,0.3s,baz=170,slow=16,SNR=26						
FINES				Lg		10 00 35.0	
	comp=Z,1.5nm,0.3s,baz=170,slow=24,SNR=14						
KEF	Keuruu	3.03	342	MSG		10 01 12.0	
	comp=Z,1.6nm,0.2s						
SUF	Sumiainen	3.44	354	MSG		10 01 22.9	
	comp=Z,1.2nm,0.2s						
NRTU	Norrtaelje	4.22	279	eP	Pn	10 00 35.9	+2.9
NRTU				eS	Sn	10 01 23.7	0.0
GRAU	Graesoe	4.33	287	eP	Pn	10 00 34.1	-0.4
GRAU				eS	Sn	10 01 24.5	-2.0
NYNU	Nynaeshamn	4.58	270	eP	Pn	10 00 39.0	+1.0
FLYU	Flymyra	4.63	284	eP	Pn	10 00 38.5	-0.2
BACU	Backbrunna	5.00	280	eP	Pn	10 00 44.5	+0.6
OSTU	Oestervaala	5.01	285	eP	Pn	10 00 43.3	-0.8
IGGU	Iggoen	5.04	292	eP	Pn	10 00 44.3	-0.2
ARNU	Arnoeviken	5.27	301	eP	Pn	10 00 48.3	+0.5
HFS	Hagfors	6.72	283	Pn	Pn	10 01 07.6	-0.7
	comp=Z,0.0nm,0.3s,baz=101,slow=15,SNR=3.5						
HFS				Sn	Sn	10 02 23.4	-3.1
	comp=Z,0.0nm,0.3s,baz=107,slow=24,SNR=3.1						
NOA	NORSAR Array B	8.00	289	Pn	P	10 01 24.8	-1.3
	comp=Z,0.1nm,0.3s,baz=67,slow=16,SNR=2.5						
ARCES	ARCESS Array B	10.29	357	Pn	P	10 01 53.3	-4.3
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=8.9						

NEIC **03** *10:06:29.9,25.30S×69.80W,h161^{km},mb3.8/1, MD3.5(GUC),After GUC.*
GUC 03 10:06:29.9±0.9,**25.30S×69.80W,h161**^{km}±43^{km},**MD3.5, ML3.6,1C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPN1	Cerro Paranal	0.87	320	⇓iP	P	10 06 55.8	+0.8
CPN1				i S	S	10 07 15.2	+1.0
CPN1				AMP		10 07 17.1	
	comp=E,542nm,0.6s						
ANCH	Antofagasta	1.70	341	⇓iP	P	10 07 03.1	+0.3
ANCH				i S	S	10 07 27.3	-0.8
ANCH				AMP		10 07 30.6	
	comp=N,1μm,0.1s						
CPCH	Copiapo	2.11	194	i P	P	10 07 06.9	-0.5
CPCH				i S	S	10 07 36.2	0.0
LVC	Limon Verde	2.79	17	ePn	P	10 07 11.9	-3.8
VACH	Vallenar	3.38	195	⇑iP	P	10 07 19.4	-3.8
VACH				i S	S	10 07 59.9	-4.2
LPAZ	La Paz	9.10	10	eP	P	10 08 36.4	-2.2
	comp=N,1.5nm,0.5s						

IDC **03** *10:27:00.6±1.5,22.11N×142.73E,h239^{km}±13^{km}, mb3.9/16,mb1 4.1/20,mb1mx4.0/26,Error ellipse: s-maj=16.6km s-min=9.7km az=95.0*
BJI **03** *10:27:01.3,22.28N×142.72E,h253^{km},mb4.4*
NEIC **03** *10:27:04.0±1.7,22.10N×142.77E,h274^{km}±16^{km}, mb4.6/11,Error ellipse: s-maj=12.6km s-min=6.9km az=92.0*
JMA **03** *10:27:03.8±0.3,22.56N×143.23E,h265^{km},M4.8*
ISC 03 10:26:59.2±1.0,**22.10N**±0.05×**142.92E**±0.09,**h245**^{km}±8^{km}, **n66,**σ**0^{s}92**/67,**mb4.4**/31,**1C-2D,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	Haha-jima-NKT	4.56	352	eS	S	10 29 03.3	-1.7
CBIJ	Chichi jima	5.01	352	P	P	10 28 16.2	+0.8
	53nm,0.3s,baz=98,slow=15,SNR=13						
CBIJ				S	S	10 29 14.1	-0.9
	126nm,0.3s,baz=82,slow=22,SNR=17						
CBIJ	Chichi jima	5.01	352	P	P	10 28 15.7	+0.2
CBIJ				eS	S	10 29 11.4	-3.6
JHJ2	Mitsune	11.30	347	P	P	10 29 35.4	+0.3
JHJ	Hachijo jima 2	11.32	346	P	P	10 29 35.0	-0.3
	7.6nm,0.3s,baz=63,slow=19,SNR=5.7						
BSO1	Boso 1	12.62	353	P	P	10 29 50.7	-0.8
JIE	Ise	13.40	337	P	P	10 30 02.0	+0.8
JOD2	Odawara 2	13.53	346	P	P	10 30 02.0	-0.8
JOD2				eS	S	10 32 27.7	-0.4
JOW	Kunigami	14.14	292	P	P	10 30 11.4	+1.1
	3.7nm,0.3s,baz=122,slow=12,SNR=13						
JRY	Ryogami san	14.30	347	P	P	10 30 11.2	-1.1
JRY				S	S	10 32 38.2	-6.9
MAJO	Matsushiro	14.96	345	eP	P	10 30 20.5	+0.1
MAT	Matsushiro	14.96	345	P	P	10 30 20.7	+0.3
MAT				S	S	10 32 58.9	-0.9
MAT	Matsushiro	14.96	345	P	P	10 30 20.0	-0.4
MAT	Matsushiro	14.96	345	P	P	10 30 21.0	+0.6
	13nm,0.4s						
MAT				eS	S	10 32 59.0	-0.8
JSJ	Shimokoshiki	15.14	312	P	P	10 30 24.8	+2.2
JNU	Nakatsue	15.29	318	P	P	10 30 26.4	+2.0
	2.1nm,0.3s,baz=343,slow=4.6,SNR=5.2						
JKE	Kume jima 2	15.30	289	P	P	10 30 24.5	-0.1
JHS	Saijyo	15.45	328	P	P	10 30 27.7	+1.4
JMK	Ichinoseki	16.86	355	P	P	10 30 42.2	-0.1
KS15	Wonju Array Si	20.06	323	eP	P	10 31 17.4	+2.3
ASAJ	Asahikawa	21.95	359	P	P	10 31 36.5	+3.0
	9.9nm,0.6s,mb4.5,baz=221,slow=15,SNR=11						
SONM	Songino Array	38.87	320	P	P	10 34 02.6	+0.2
	9.2nm,0.7s,mb4.4,baz=136,slow=8.0,SNR=58						
GTA	Gaotai	40.44	305	eP	P	10 34 15.7	+0.3
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.1						
CMAR	Chiang Mai Arr	41.30	273	P	P	10 34 22.7	+0.1
	comp=Z,1.3nm,0.4s,mb3.7,baz=50,slow=6.3,SNR=8.5						
WB2	Warramunga Arr	42.62	192	⇑iP	P	10 34 33.3	0.0
WRA	Warramunga Arr	42.62	192	P	P	10 34 33.4	+0.1
	comp=Z,12nm,0.7s,mb4.5,baz=12,slow=8.5,SNR=189						
WRA				PcP	PcP	10 36 21.3	+0.1
	comp=Z,1.9nm,0.7s,baz=5.8,slow=3.5,SNR=7.1						
WRA				ScP		10 39 49.0	
	comp=Z,0.6nm,0.7s,baz=5.5,slow=4.5,SNR=4.9						
WRA				S	S	10 40 36.3	-1.0
	comp=Z,1.3nm,1.2s,baz=13,slow=14,SNR=4.9						
FITZ	Fitzroy Crossi	43.39	204	eP	P	10 34 39.5	0.0
	comp=Z,12nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	43.39	204	P	P	10 34 39.6	+0.1
	comp=Z,11nm,0.7s,mb4.4,baz=20,slow=9.0,SNR=46						
ASPA	Alice Springs	46.33	191	eP	P	10 35 02.4	-0.3
LSA	Lhasa	46.86	291	eP	P	10 35 07.8	+1.1
	comp=Z,12nm,0.4s,mb4.6						
UNV	Unalaska Valle	49.44	37	eP	P	10 35 26.9	+0.8
	comp=Z,29nm,0.4s,mb5.0						
WMQ	Urumqi	50.13	309	⇓P	P	10 35 32.3	+0.8
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.2						
PKI	Pulchoki	52.09	288	eP	P	10 35 45.5	-0.7
	comp=Z,19nm,0.6s,mb4.7						
KKN	Kakani	52.17	289	eP	P	10 35 46.0	-0.8
	comp=Z,9.1nm,0.3s,mb4.7						
DMN	Daman	52.35	288	eP	P	10 35 47.5	-0.6
	comp=Z,12nm,0.4s,mb4.7						
GKN	Gorkha	52.71	289	eP	P	10 35 50.3	-0.5
	comp=Z,19nm,0.3s,mb5.0						
KOLN	Koldanda	53.65	289	eP	P	10 35 57.0	-0.7
	comp=Z,12nm,0.3s,mb5.0						
STKA	Stephens Creek	53.69	181	P	P	10 35 57.3	-0.6
	comp=Z,6.0nm,0.8s,mb4.2,baz=324,slow=6.9,SNR=11						
STKA	Stephens Creek	53.69	181	eP	P	10 35 57.1	-0.8
MKAR	Makanchi Array	54.24	312	P	P	10 36 01.4	-0.2
	comp=Z,5.1nm,0.7s,mb4.2,baz=97,slow=8.2,SNR=16						
MKAR				PcP	PcP	10 37 02.4	-0.5
	comp=Z,2.9nm,0.6s,baz=90,slow=3.6,SNR=5.8						
FORT	Forrest	54.48	196	⇓iP	P	10 36 03.5	-0.1
	comp=Z,64nm,0.5s,mb5.4						
KURK	Kurchatov	57.01	317	eP	P	10 36 19.9	-1.4
	comp=Z,6.9nm,0.6s,mb4.5						
KLBR	Kellerberrin	58.58	205	eP	P	10 36 31.7	-0.9
	comp=Z,11nm,0.6s,mb4.7						
ILAR	Eielson Array	61.79	27	P	P	10 36 53.5	-0.3
	comp=Z,3.0nm,0.8s,mb4.0,baz=263,slow=5.4,SNR=53						
ILAR				pP	pP	10 37 46.8	-2.7
	comp=Z,0.4nm,0.7s,baz=265,slow=5.2,SNR=2.2						
BRVK	Borovoye	62.27	319	eP	P	10 36 56.8	-0.3
	comp=Z,9.4nm,0.6s,mb4.6						
DAWY	Dawson	64.98	28	eP	P	10 37 15.4	+1.0
INK	Inuvik	67.30	24	P	P	10 37 29.8	+0.8
	comp=Z,0.9nm,0.5s,mb3.7,baz=336,slow=7.3,SNR=7.5						
INK	Inuvik	67.30	24	eP	P	10 37 29.6	+0.6
	comp=Z,1.1nm,0.5s,mb3.7						
ARU	Arti	68.79	324	eP	P	10 37 38.0	-0.4
	comp=Z,13nm,0.5s,mb4.8						
KEV	Kevo	77.90	341	ep	P	10 38 30.3	-0.6
	comp=Z,1.1nm,0.4s,mb3.8						
ARCES	ARCESS Array B	78.46	341	P	P	10 38 34.7	+0.7
	comp=Z,3.8nm,0.6s,mb4.2,baz=74,slow=8.1,SNR=40						
ARE0	ARCESS Array S	78.46	341	eP	P	10 38 34.5	+0.5
DAG	Danmarks Havn	80.71	356	i P	P	10 38 54.0	+8.2
FINES	FINESS Array B	82.71	334	P	P	10 38 56.0	-0.4
	comp=Z,6.1nm,0.4s,mb4.7,baz=67,slow=4.9,SNR=42						
FINES	FINESS Array B	82.71	334	P	P	10 38 56.0	-0.4
NVAR	Mina Array Bea	83.08	51	P	P	10 39 01.2	+2.5
	comp=Z,0.6nm,0.6s,mb3.5,baz=284,slow=4.4,SNR=6.8						
NVAR				pP	pP	10 39 59.7	+2.0
	comp=Z,0.6nm,0.6s,baz=270,slow=3.8,SNR=3.5						
AKASG	Malin Array Be	87.03	324	P	P	10 39 17.2	-0.8
	comp=Z,1.5nm,0.4s,mb4.0,baz=50,slow=5.2,SNR=6.8						
NOA	NORSAR Array B	88.48	339	P	P	10 39 23.9	-0.5
	comp=Z,3.0nm,0.9s,mb4.1,baz=46,slow=4.7,SNR=6.1						
BRTR	Keskin Array B	89.89	313	P	P	10 39 31.1	-0.5
	comp=Z,2.0nm,0.7s,mb4.1,baz=72,slow=3.9,SNR=5.6						
GERES	GERESS Array B	96.11	329	P	P	10 39 59.1	-0.8
	comp=Z,1.1nm,0.9s,mb4.1,baz=60,slow=11,SNR=3.7						
PLCA	Paso Flores	146.21	131	PKPbc	PKPbc	10 46 14.2	+3.6
	comp=Z,4.4nm,0.7s,baz=238,slow=3.9,SNR=15						
PLCA	Paso Flores	146.21	131	ePKPbc	PKPbc	10 46 14.1	+3.5
EFI	East Falkland	146.30	156	ePKPdf	PKPdf	10 46 10.8	+1.7
EFI				ePKPbc	PKPbc	10 46 13.5	+3.0
LPAZ	La Paz	150.15	84	PKPbc	PKPdf	10 46 25.7	+9.5
	comp=Z,2.4nm,0.5s,baz=319,slow=2.1,SNR=20						
LPAZ	La Paz	150.15	84	ePKPbc	PKPdf	10 46 25.6	+9.4
TRQA	Tornquist	153.34	132	ePKPdf	PKPdf	10 46 23.2	+3.0
TRQA				ePKPbc	PKPdf	10 46 30.9	+11
TRQA				ePKPab	PKPab	10 46 43.4	-0.2

HEL **03** *10:35:01.2±0.4,55.76N×23.25E,ML2.4,ML2.5(NAO), Explosion*
NAO **03** *10:35:11.7±7.9,56.58N×22.80E,ML2.5*
BER **03** *10:35:11.1±3.0,56.41N×22.90E,ML2.5(NAO), Suspected explosion*
ISC 03 10:35:01.0±2.2,**56.0N**±0.1×**23.0E**±0.2,**n9,**σ**0^{s}81**/14, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	Vasula	3.20	37	eP	Pn	10 35 54.3	+0.8
VSU				eS	Sn	10 36 33.7	+0.7
NUR	Nurmij rvi	4.62	10	eS	Sn	10 37 09.4	+0.4
PVF	Pernaja	4.82	17	eS	Sn	10 37 13.1	-0.7
PVF				MSG		10 37 30.0	
	comp=Z,4.2nm,0.3s						
FIA0	FINESS Array S	5.71	15	Pn	Pn	10 36 29.8	+0.7
	baz=188,slow=12						
FIA0				Sn	Sn	10 37 28.6	-7.6
	baz=195,slow=22						
FIA0				Lg		10 37 54.6	
	baz=201,slow=28						
FIA0	FINESS Array S	5.71	15	eP	Pn	10 36 28.9	-0.1
FIA0				eSG	Sg	10 38 02.0	-8.9
FIA0				MSG		10 38 07.1	
	comp=Z,4.4nm,0.4s						
KEF	Keuruu	6.28	8	eP	Pn	10 36 36.9	-0.2
KEF				MSG		10 38 17.0	
	comp=Z,1.8nm,0.4s						
HFS	Hagfors	6.47	314	Pn	Pn	10 36 40.3	+0.4
	baz=126,slow=12						
HFS				Sn	Sn	10 37 49.4	-6.0
	baz=126,slow=37						
HFS				Lg		10 38 18.8	
	baz=110,slow=28						
HFS	Hagfors	6.47	314	eP	Pn	10 36 40.3	+0.4
HFS				e		10 37 49.4	
HFS				eSB	Sb	10 38 18.8	+5.4
JOF	Joensuu	8.13	28	eP	P	10 37 01.4	-1.8

NEIC **03** *10:58:43.7,41.09N×20.09E,h3^{km},MD2.8(PDG),After PDG.*
PDG **03** *10:58:43.7±0.1,41.09N×20.09E,h3^{km}*
THE **03** *10:58:45.2,41.31N×20.01E,h2^{km},ML2.6*
TIR **03** *10:58:45.2,41.26N×20.06E,h11^{km},Ml2.4*
ISC 03 10:58:45.7±0.4,**41.26N**±0.03×**20.07E**±0.04,**h2**^{km}**,n20,** σ**1^{s}13**/37,**6C-6D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	Tirane	0.17	301	⇑iPg	Pg	10 58 49.0	-0.2
TIR				i Sg	Sg	10 58 52.0	+0.5
QSH	Qafa e Shtames	0.29	335	i Pg	Pg	10 58 52.0	+0.6
PHP	Peshkopia	0.51	33	i Pg	Pg	10 58 55.5	-0.4
ULC	Ulcinj	0.93	319	⇓iPg	Pg	10 59 03.5	-0.8
ULC				eSg	Sg	10 59 20.4	+3.7
FNA	Florina	1.10	115	ePg	Pg	10 59 07.6	0.0
FNA				eSg	Sg	10 59 23.7	+1.5
SKO	Skopje	1.25	55	i Pn	Pn	10 59 10.5	+0.3
TTG	Podgorica	1.32	333	⇓iPg	Pg	10 59 11.0	-0.9
TTG				eSg	Sg	10 59 33.8	+4.4
PVY	Plav	1.34	357	⇓iPg	Pg	10 59 11.3	-1.0
PVY				eSg	Sg	10 59 35.1	+4.9
BUM	Brajici-Budva	1.36	320	⇑iPg	Pg	10 59 11.5	-1.3
BUM				eSg	Sg	10 59 34.7	+3.9
IVA	Berane	1.62	356	⇓iPn	Pg	10 59 16.5	-1.4
IVA				eSn	Sg	10 59 42.5	+3.0
HCY	Herceg Novi	1.67	316	⇑iPn	Pn	10 59 16.1	0.0
HCY				eSn	Sg	10 59 42.5	+1.3
MEV	Metsovon	1.72	149	ePb	Pb	10 59 15.7	-1.9
MEV				eSb	Sb	10 59 40.5	+0.8
IGT	Igoumenitsa	1.74	173	ePb	Pb	10 59 16.2	-1.8
IGT				eSb	Sb	10 59 41.2	+1.0
NKY	Niksic	1.75	333	⇑iPn	Pn	10 59 17.9	+0.7
NKY				eSn	Sg	10 59 45.4	+1.7
BRY	Bratogost	1.99	326	⇓iPn	Pn	10 59 21.5	+0.8
BRY				eSn	Sg	10 59 51.2	-0.9
UPM	Unac-Piva	2.12	337	⇑iPn	Pn	10 59 23.4	+0.8
UPM				eSn	Sg	10 59 55.2	-1.1
PLE	Pljevlja	2.13	347	⇓iPn	Pn	10 59 23.4	+0.7
PLE				eSn	Sg	10 59 55.2	-1.3
KNT	Kendrikon	2.14	92	ePn	Pn	10 59 22.3	-0.5
KNT				eSn	Sn	10 59 50.5	+0.2
LIT	Litokhoron	2.18	121	ePn	Pn	10 59 22.0	-1.4
LIT				eSn	Sn	10 59 51.8	+0.5
NVSS	Nova Varos 2	2.26	353	⇑iPn	Pn	10 59 26.9	+2.3
NVSS				Sn	Sn	10 59 52.7	-0.8

IDC **03** *11:09:50.5±2.0,38.93N×123.64W,mb3.6/1,mb1 3.6/4, mb1mx3.4/22,ML3.5/3,MS2.8/3,Ms1 2.8/3,ms1mx2.4/21, Error ellipse: s-maj=23.2km s-min=10.1km az=55.0*
NEIC **03** *11:09:53.9,39.13N×123.12W,h8^{km},ML3.4(NCEDC), After NCEDC.*
NEIC Felt [IV] at Ukiah and [III] at Potter Valley and Redwood Valley.
ISC 03 11:09:52.0±1.2,**39.09N**±0.05×**123.27W**±0.10,**h11**^{km}±8^{km}, **n36,**σ**1^{s}03**/35,**mb3.3**/1,**MS2.7**/1,**1D,Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	Hopland	0.18	121	⇓iP	Pg	11 09 56.9	+0.8
NSHM	Saint Helena R	0.77	137	eP	Pb	11 10 08.2	+1.2
OHCM	Honcut	1.41	79	eP	Pn	11 10 16.9	-1.0
WDC	Whiskeytown Da	1.59	21	eP	Pn	11 10 20.7	+0.3
SAC	San Andreas	1.65	156	eP	Pn	11 10 20.8	-0.4
LKC	Lake Chabot	1.65	144	eP	Pn	11 10 20.9	-0.3
KHMM	Horse Mountain	1.82	349	eP	Pn	11 10 24.4	+0.8
BEKR	Beckwourth	2.39	70	ePn	Pn	11 10 32.3	+0.5
CMB	Columbia Colle	2.50	114	ePn	Pn	11 10 32.6	-0.7
YBH	Yreka Blue Hor	2.68	9	Pn	Pn	11 10 37.2	+1.3
	3.7nm,0.3s,baz=197,slow=9.5,SNR=75						
YBH				Pg	Pg	11 10 43.8	-1.7
	7.6nm,0.3s,baz=158,slow=7.8,SNR=37						
YBH				Lg		11 11 21.6	
	3.1nm,0.3s,baz=131,slow=11,SNR=5.3						
YBH	Yreka Blue Hor	2.68	9	ePn	Pn	11 10 36.7	+0.9
SAO	San Andreas Ge	2.73	148	ePn	Pn	11 10 35.2	-1.5
WCN	Washoe City	2.74	84	ePn	Pn	11 10 37.5	+0.7
PAHR	Pah Rah Range	3.08	77	ePn	Pn	11 10 42.2	+0.6
KBO	Bosley Butte	3.20	347	ePn	Pn	11 10 43.6	+0.2
LRV	Little Rabbit	3.20	145	ePn	Pn	11 10 42.2	-1.2
HUMO	Hull Mountain	3.52	4	ePn	Pn	11 10 49.0	+1.1
MOD	Modoc	3.61	38	ePn	Pn	11 10 49.8	+0.6
OMM	Old Mammoth Mi	3.67	112	ePn	Pn	11 10 50.2	+0.2
KEBM	Edson Butte	3.87	348	ePn	Pn	11 10 53.0	+0.3
NVAR	Mina Array Bea	3.94	98	Pn	Pn	11 10 55.6	+1.7
	1.4nm,0.3s,baz=277,slow=13,SNR=34						
NVAR				Pg	Pg	11 11 03.5	-7.2
	3.4nm,0.3s,baz=269,slow=18,SNR=26						
NVAR				Lg		11 12 01.9	
	1.2nm,0.3s,baz=294,slow=32,SNR=3.5						
MNV	Mina	4.06	98	ePn	Pn	11 10 56.2	+0.7
MTUM	Tungsten Hills	4.09	114	ePn	Pn	11 10 58.8	+2.7
HSO	Harness Mounta	4.44	2	ePn	Pn	11 11 00.9	0.0
TPH	Tonopah	4.85	100	ePn	Pn	11 11 05.7	-1.1
BMN	Battle Mountai	4.85	72	Pn	Pn	11 11 06.7	-0.1
WVOR	Wild Horse Val	4.85	45	Pn	Pn	11 11 05.2	-1.6
SSOR	Sweet Springs	5.79	6	Pn	Pn	11 11 19.5	-0.6
HLID	Hailey	8.03	53	Pn	P	11 11 47.9	-3.6
MCMT	McKenzie Canyo	9.65	50	Pn	P	11 12 11.6	-2.2
NEW	Newport	10.19	24	LR	LR	11 16 45.0	
	comp=Z,29nm,19.7s,baz=302,slow=40						
BBB	Bella Bella	13.52	347	LR	LR	11 17 52.6	
	comp=Z,54nm,19.9s,baz=229,slow=35						
TXAR	Lajitas Array	18.88	115	P	P	11 14 14.6	-0.1
	0.0nm,0.3s,baz=45,slow=7.1,SNR=2.6						
TXAR	Lajitas Array	18.88	115	P	P	11 14 14.6	-0.1
YKA	Yellowknife Ar	24.02	10	LR	LR	11 24 51.8	
	comp=Z,27nm,19.1s,MS2.7,baz=230,slow=37						
ILAR	Eielson Array	29.19	339	P	P	11 15 55.5	+0.2
	0.5nm,0.7s,mb3.3,baz=137,slow=8.4,SNR=4.6						

ISK **03** *11:24:33.9,36.95N×27.65E,h8^{km},MD3.4*
NEIC **03** *11:24:37.9,36.64N×27.62E,h30^{km},MD3.5(ATH),After ATH.*
ATH **03** *11:24:37.9,36.61N×27.60E,h32^{km}±9^{km},MD3.5/6*
ISC 03 11:24:35.4±0.6,**36.92N**±0.04×**27.65E**±0.05,**h20**^{km}±6^{km}, **n21,**σ**0^{s}84**/26,**4C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.22	311	⇑iP	Pb	11 24 40.8	0.0
BDRM				i S	Sb	11 24 45.3	+0.8
MLSB	Milas	0.38	15	PG	Pb	11 24 42.1	-1.4
NISR	Nisiros	0.52	233	ePB	Pb	11 24 46.5	+0.7
YER	Yerkesik	0.55	67	i PG	Pb	11 24 44.4	-1.8
AYDN	Tasoluk	0.76	14	⇑iP	Pb	11 24 49.2	-0.5
AYDN				i S	Sb	11 24 59.9	+0.2
ARG	Arkhangelos	0.81	151	ePN	Pn	11 24 50.5	-1.1
DNZL	Cakiroluk	1.35	55	⇑iP	Pn	11 24 59.3	-0.1
DNZL				i S	Sb	11 25 18.8	+2.0
DENT	Denizli	1.38	53	PN	Pn	11 24 59.9	+0.1
DENT				SN	Sn	11 25 18.7	+1.1
KARP	Karpathos	1.43	196	ePN	Pn	11 25 00.0	-0.5
KARP	Karpathos	1.43	196	ePn	Pn	11 25 01.0	+0.5
IZM	Izmir	1.50	348	PN	Pn	11 25 01.3	-0.3
KDAG	Bornova	1.51	349	⇑iP	Pn	11 25 01.6	0.0
KDAG				i S	Sn	11 25 20.2	-0.6
APE	Apeiranthos	1.70	275	ePN	Pn	11 25 05.5	+1.1
MANT	Manisa	1.72	24	i P	Pn	11 25 04.5	-0.2
KSL	Kastellorizon	1.74	116	ePB	Pb	11 25 06.0	-0.5
ELL	Elmali	1.82	95	ePN	Pn	11 25 07.0	+0.9
AKS	Akhisar	1.96	4	ePN	Pn	11 25 07.5	-0.5
BCK	Bucak	2.41	76	ePN	Pn	11 25 15.2	+0.7
ISP	Isparta	2.46	67	ePN	Pn	11 25 15.4	+0.2
PRK	Paraskevi	2.56	335	ePB	Pb	11 25 24.7	+4.2
BALB	Balikesir	2.72	4	ePN	Pn	11 25 18.4	-0.5

ISK **03** *11:49:59.8,36.93N×27.72E,h9^{km},MD3.3*
NEIC **03** *11:50:00.7,36.87N×27.68E,h19^{km},MD3.5(ATH),After ATH.*
ATH **03** *11:50:00.8,36.87N×27.67E,h21^{km}±4^{km},MD3.4/5*
ISC 03 11:50:00.8±0.5,**36.88N**±0.04×**27.65E**±0.05,**h21**^{km}**,n19,** σ**1^{s}36**/24,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.25	318	i P	Pb	11 50 06.4	-0.4
BDRM				i S	Sb	11 50 10.9	+0.1
MLSB	Milas	0.43	13	i PG	Pb	11 50 07.7	-1.9
MLSB				SG	Sb	11 50 13.2	-2.5
NISR	Nisiros	0.50	238	ePN	Pn	11 50 11.7	-0.8
YER	Yerkesik	0.56	63	i PG	Pb	11 50 09.7	-2.2
ARG	Arkhangelos	0.76	150	ePN	Pn	11 50 15.0	-1.3
AYDN	Tasoluk	0.80	13	i P	Pb	11 50 14.8	-1.2
AYDN				i S	Sb	11 50 28.6	+2.3
SMG	Samos	1.06	322	ePN	Pn	11 50 21.0	+0.5
DNZL	Cakiroluk	1.38	53	i P	Pn	11 50 24.8	-0.3
DNZL				i S	Sn	11 50 44.9	+2.1
KARP	Karpathos	1.39	197	ePN	Pn	11 50 26.5	+1.3
DENT	Denizli	1.41	51	ePN	Pn	11 50 25.1	-0.4
IZM	Izmir	1.55	349	ePN	Pn	11 50 27.2	-0.4
KDAG	Bornova	1.55	349	i P	Pn	11 50 29.7	+2.1
KDAG				i S	Sn	11 50 55.1	+7.8
APE	Apeiranthos	1.71	277	ePN	Pn	11 50 31.8	+1.9
KSL	Kastellorizon	1.71	114	ePN	Pn	11 50 31.7	+1.8
ELL	Elmali	1.81	93	ePN	Pn	11 50 31.7	+0.4
AKS	Akhisar	2.00	4	ePN	Pn	11 50 33.5	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NPS	Neapolis	2.31	226	ePn	Pn	11 50 35.0	-3.4
BCK	Bucak	2.42	75	ePN	Pn	11 50 39.8	-0.2
HDMB	Hadim	3.87	87	ePN	Pn	11 51 00.9	+0.2

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*ISK **03** 11:53:06.4,36.92N×27.61E,h11^{km},MD3.8,ML3.9*
*IDC **03** 11:53:06.9±1.1,36.86N×27.85E,mb3.7/3,mb1 3.8/8, mb1mx3.6/23,ML3.6/5,MS2.9/3,Ms1 2.9/3,ms1mx2.6/25, Error ellipse: s-maj=23.7km s-min=13.7km az=155.0*
*NEIC **03** 11:53:08.0,36.90N×27.69E,h22^{km},MD3.8(ATH),After ATH.*
*ATH **03** 11:53:08.0,36.90N×27.69E,h22^{km}±4^{km},MD3.8/9*
ISC 03 11:53:07.3±0.6,**36.89N**±0.03×**27.68E**±0.04,**h13**^{km}±5^{km}, **n50,**σ**0^{s}98**/58,**mb3.6**/3,**MS2.8**/2,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	313	⇑iP	Pg	11 53 13.5	+0.5
BDRM				iS	Sg	11 53 18.2	+1.5
MLSB	Milas	0.41	10	iPG	Pg	11 53 14.9	-1.0
MLSB				SG	Sg	11 53 20.9	-0.7
NISR	Nisiros	0.53	238	ePN	Pn	11 53 20.0	-0.2
ARG	Arkhangelos	0.76	152	⇑iPB	Pb	11 53 21.7	-0.2
AYDN	Tasoluk	0.79	11	iP	Pb	11 53 22.0	-0.4
AYDN				iS	Sb	11 53 32.8	+0.1
SMG	Samos	1.06	321	ePN	Pn	11 53 28.5	+0.7
DNZL	Cakiroluk	1.35	53	iP	Pn	11 53 31.8	-0.1
DNZL				iS	Sb	11 53 51.9	+2.9
DENT	Denizli	1.38	51	iPN	Pn	11 53 32.3	-0.1
KARP	Karpathos	1.40	198	ePB	Pb	11 53 33.5	+0.6
IZM	Izmir	1.54	348	PN	Pn	11 53 34.1	-0.6
KDAG	Bornova	1.55	348	iP	Pn	11 53 34.5	-0.3
KDAG				iS	Sb	11 53 55.2	+0.4
KSL	Kastellorizon	1.70	115	ePN	Pn	11 53 39.0	+2.0
APE	Apeiranthos	1.73	277	ePB	Pb	11 53 38.0	-0.6
MANT	Manisa	1.74	23	iP	Pn	11 53 37.3	-0.3
MANT				iS	Sn	11 54 02.1	+2.3
ELL	Elmali	1.79	94	ePN	Pn	11 53 39.2	+0.9
SANT	Santorini	1.86	255	Pn	Pn	11 53 43.1	+3.8
AKS	Akhisar	1.99	3	PN	Pn	11 53 40.7	-0.4
KHL	Karahalli	2.05	45	ePN	Pn	11 53 42.5	+0.6
NPS	Neapolis	2.33	227	ePB	Pb	11 53 48.2	-0.6
BCK	Bucak	2.39	75	ePN	Pn	11 53 47.6	+0.7
ISP	Isparta	2.44	66	ePN	Pn	11 53 47.9	+0.3
XRY	Khrisi	2.58	219	ePB	Pb	11 53 52.0	-1.0
PRK	Paraskevi	2.60	335	ePN	Pn	11 53 50.5	+0.6
BALB	Balikesir	2.75	3	ePN	Pn	11 53 50.9	-1.1
IDI	Anoyia	2.77	236	Pn	Pn	11 53 53.6	+1.4
	3.2nm,0.3s,baz=57,slow=12,SNR=8.0						
IDI				Sn	Sn	11 54 31.1	+5.2
	5.9nm,0.3s,baz=282,slow=19,SNR=4.2						
IDI				Lg		11 54 39.2	
	5.9nm,0.3s,baz=282,slow=19,SNR=4.2						
ALT	Altintas	2.89	41	ePN	Pn	11 53 54.5	+0.5
ULDT	Uludag	3.44	19	iP	Pn	11 54 00.9	-1.0
ULDT				iS	Sn	11 54 45.6	+2.7
LPK	Lapseki	3.55	349	ePN	Pn	11 54 02.5	-0.9
MRMT	Marmara Adasi	3.71	359	ePN	Pn	11 54 04.1	-1.5
MKIT	Kithairon Oros	3.75	292	ePN	Pn	11 54 07.1	+0.9
VLI	Veliai	3.81	269	ePN	Pn	11 54 08.0	+0.9
HDMB	Hadim	3.85	87	ePN	Pn	11 54 08.3	+0.7
KIZT	Kizilcal	3.87	58	ePN	Pn	11 54 08.3	+0.4
IKL	Isikli	4.88	96	ePN	Pn	11 54 22.1	-0.1
CSS	Prodhromos	4.97	111	ePn	Pn	11 54 23.2	-0.3
RZN	Rozhen	5.32	335	iP	Pn	11 54 27.7	-0.7
BRTR	Keskin Array B	5.47	57	Pn	Pn	11 54 30.7	+0.1
	2.2nm,0.3s,baz=234,slow=15,SNR=21						
BRTR				Sn	Sn	11 55 32.8	-1.4
	0.4nm,0.3s,baz=119,slow=28,SNR=3.3						
BRTR	Keskin Array B	5.47	57	Pn	Pn	11 54 30.7	+0.1
BRTR				Sn	Sn	11 55 32.8	-1.4
MMB	Musomiste	5.61	328	iP	Pn	11 54 31.5	-1.0
KKB	Krupnik	6.12	326	iP	Pn	11 54 30.0	-10
MLR	Muntele Rosu	8.69	352	Pn	P	11 55 15.3	-0.5
	0.1nm,0.3s,baz=180,slow=18,SNR=2.2						
ASF	Jabal al Asfar	8.94	119	Pn	P	11 55 16.0	-3.1
	0.8nm,0.3s,baz=179,slow=5.0,SNR=2.8						
ASF				Sn	Sn	11 56 55.8	-4.9
	0.6nm,0.3s,baz=353,slow=13,SNR=2.7						
GNI	Garni	13.75	71	LR	LR	12 01 48.6	
	comp=Z,53nm,21.2s,baz=194,slow=38						
GERES	GERESS Array B	15.71	324	Pn	P	11 56 54.1	+4.2
	0.2nm,0.3s,baz=11,slow=27,SNR=1.8						
KHC	Kasperske Hory	15.97	324	eP	P	11 57 01.5	+8.3
ESDC	Sonseca Array	24.93	286	P	P	11 58 31.6	+0.1
	0.5nm,0.5s,mb3.4,baz=87,slow=9.0,SNR=6.1						
NOA	NORSAR Array B	26.32	342	LR	LR	12 09 11.1	
	comp=Z,13nm,18.6s,MS2.5,baz=215,slow=36						
ARCES	ARCESS Array B	32.73	359	LR	LR	12 12 52.2	
	comp=Z,37nm,20.1s,MS3.1,baz=220,slow=36						
MKAR	Makanchi Array	41.12	58	P	P	12 00 51.1	-1.4
	1.1nm,0.6s,mb3.6,baz=292,slow=6.5,SNR=7.2						
SONM	Songino Array	56.81	52	P	P	12 02 52.5	-1.0
	0.7nm,0.6s,mb3.8,baz=290,slow=5.9,SNR=6.3						

JMA 03 12:02:54.1±0.2,**43.68N**×**147.27E,h35**^{km}**,M3.9,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.16	255	P	P	12 03 14.4	+0.4
NEM2				eS	S	12 03 29.5	+0.7
JRA	Rausu	1.58	280	P	P	12 03 20.5	+0.4
JRA				eS	S	12 03 39.5	0.0
JNK	Nakash	1.85	268	P	P	12 03 24.2	+0.2
JNK				eS	S	12 03 46.3	-0.2
JAK	Akkeshi	2.00	251	P	P	12 03 26.1	0.0
JAK				eS	S	12 03 49.6	-0.5
JTKR	Abashiri--Toko	2.45	278	P	P	12 03 33.0	+0.5
JAR	Ashorobuto	2.58	263	P	P	12 03 35.3	+1.0
JAR				eS	S	12 04 05.7	+0.9
JOB	Onbets	2.63	254	P	P	12 03 35.5	+0.4
JOB				eS	S	12 04 06.0	0.0
JMP	Maruseppu	2.85	278	P	P	12 03 38.7	+0.5
JCH	Churui	3.05	251	P	P	12 03 40.7	-0.4
JCH				eS	S	12 04 15.8	-1.1
JFR	Furan	3.45	263	P	P	12 03 48.0	+1.3
JEM	Erimo	3.45	243	P	P	12 03 48.5	+1.7
JNBK	Urakawa-nobuka	3.60	249	P	P	12 03 48.8	-0.1
JSE	Soyaes	3.60	292	P	P	12 03 48.4	-0.5

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*IDC **03** 12:13:03.1±0.8,63.29S×166.97W,mb4.3/6,mb1 4.6/7, mb1mx4.4/11,ML4.1/1,MS4.6/11,Ms1 4.6/11, ms1mx4.6/12,Error ellipse: s-maj=34.6km s-min=21.9km az=19.0*
*NEIC **03** 12:13:04.5±0.5,63.26S×166.93W,h10^{km},mb4.7/4,Error ellipse: s-maj=15.1km s-min=12.9km az=75.0*
ISC 03 12:13:03.4±0.8,**63.3S**±0.1×**167.0W**±0.3,**h10**^{km}**,n29,** σ**0^{s}60**/16,**mb4.4**/7,**MS4.6**/10,**2C,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	16.72	199	eP	P	12 16 58.9	+0.1
	37nm,0.7s						
VNDA	Vanda	17.28	202	P	P	12 17 06.4	+0.6
	0.7nm,0.3s,baz=56,slow=14,SNR=46						
VNDA				LR	LR	12 22 15.7	
	comp=Z,1µm,20.4s,baz=61,slow=32						
VNDA	Vanda	17.28	202	eP	P	12 17 06.4	+0.6
	91nm,1.4s						
RPZ	Rata Peaks	23.34	317	LR	LR	12 25 14.7	
	comp=Z,2µm,20.7s,MS4.5,baz=84,slow=31						
QSPA	South Pole Qui	26.80	180	eP	P	12 18 45.0	+0.2
	42nm,1.2s,mb4.8						
URZ	Urewera	26.86	331	LR	LR	12 27 34.5	
	comp=Z,823nm,19.4s,MS4.3,baz=173,slow=32						
TBI	Tubuai	41.63	25	eL		12 30 29.3	
	594nm,40.5s						
TBI				eR		12 32 01.5	
	1µm,28.5s,baz=193						
RAR	Rarotonga	42.35	10	LR	LR	12 34 25.7	
	comp=Z,412nm,19.6s,MS4.3,baz=188,slow=30						
MAW	Mawson	44.56	205	P	P	12 21 15.0	-1.4
	2.1nm,0.8s,mb4.0,baz=163,slow=9.1,SNR=2.1						
MAW				LR	LR	12 38 39.3	
	comp=Z,866nm,20.4s,MS4.7,baz=149,slow=34						
SNAA	Sanae	44.86	173	⇑i	P	12 21 18.6	-0.1
STKA	Stephens Creek	44.89	290	LR	LR	12 36 23.5	
	comp=Z,1µm,21.0s,MS4.7,baz=91,slow=31						
VNA1	Neumayer--Stat	45.51	170	⇑i	P	12 21 24.1	+0.3
USHA	Ushuaia	46.46	128	P	P	12 21 31.8	+0.2
	17nm,1.1s,mb4.9,baz=227,slow=7.4,SNR=3.1						
PPT	Papeete	47.25	23	eS	S	12 28 23.0	-7.5
	163nm,25.0s						
PPT				eL		12 32 46.9	
	1µm,26.2s						
PPT				eR		12 34 31.7	
	1µm,25.5s,baz=194						
PLCA	Paso Flores	57.22	116	P	P	12 22 52.4	-0.2
	1.9nm,0.8s,mb4.2,baz=203,slow=4.5,SNR=4.1						
PLCA				LR	LR	12 42 10.6	
	comp=Z,616nm,18.1s,MS4.8,baz=199,slow=30						
PLCA	Paso Flores	57.22	116	P	P	12 22 52.4	-0.2
WB2	Warramunga Arr	58.43	289	eP	P	12 23 02.0	+0.6
WRA	Warramunga Arr	58.44	289	P	P	12 23 01.1	-0.3
	1.7nm,0.6s,mb4.2,baz=158,slow=5.9,SNR=18						
WRA				LR	LR	12 45 37.8	
	comp=Z,590nm,19.1s,MS4.7,baz=155,slow=33						
CPUP	Villa Florida	75.09	119	P	P	12 24 46.0	-0.8
	2.5nm,0.7s,mb4.3,baz=234,slow=7.3,SNR=6.1						
CPUP				LR	LR	12 52 59.0	
	comp=Z,585nm,21.1s,MS4.9,baz=218,slow=32						
LPAZ	La Paz	79.52	105	P	P	12 25 12.5	+0.9
	1.8nm,0.8s,mb4.1,baz=207,slow=3.6,SNR=7.9						
LPAZ	La Paz	79.52	105	eP	P	12 25 12.4	+0.9
	10.0nm,1.3s,mb4.6						
BDFB	Brasilia	88.38	123	LR	LR	13 03 54.9	
	comp=Z,660nm,18.0s,MS5.1,baz=29,slow=34						
ROSC	El Rosal	95.50	90	LR	LR	13 01 29.0	
	comp=Z,173nm,19.3s,MS4.5,baz=233,slow=30						
ILAR	Eielson Array	128.63	11	PKP	PKPdf	12 32 08.3	-4.2
	1.6nm,0.9s,baz=270,slow=2.9,SNR=11						
KURK	Kurchatov	143.83	281	ePKPdf	PKPdf	12 32 36.2	-4.2
BVAR	Borovoye Array	149.11	278	PKPbc	PKPdf	12 32 51.8	+2.6
	2.4nm,0.6s,baz=153,slow=3.3,SNR=13						
BRVK	Borovoye	149.18	278	ePKPbc	PKPdf	12 32 52.4	+3.1
ZRNK	Zerenda	149.68	277	ePKPbc	PKPdf	12 32 53.0	+2.9
BRTR	Keskin Array B	153.38	217	PKPbc	PKPdf	12 33 02.1	+6.2
	1.5nm,0.8s,baz=153,slow=3.2,SNR=3.9						

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*IDC **03** 12:13:47.3±12.0,18.40S×177.87W,h545^{km}±119^{km}, mb3.1/4,mb1 3.3/4,mb1mx3.1/15,Error ellipse: s-maj=130.0km s-min=42.6km az=129.0*
ISC 03 12:13:47.2±3.6,**18.3S**±0.8×**178.0W**±0.7,**h550**^{km}**,n5,** σ**0^{s}53**/4,**mb3.6**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.75	261	P	P	12 19 45.1	+0.3
	1.6nm,0.4s,mb3.9,baz=81,slow=10,SNR=5.5						
STKA	Stephens Creek	38.78	242	P	P	12 20 26.0	+0.1
	1.5nm,0.5s,mb3.8,baz=84,slow=9.4,SNR=5.1						
WRA	Warramunga Arr	44.92	260	P	P	12 21 14.5	-0.4
	0.5nm,0.4s,mb3.4,baz=98,slow=7.0,SNR=5.0						
WRA				PcP	PcP	12 22 44.0	-0.9
	0.2nm,0.3s,baz=90,slow=3.5,SNR=7.1						
ILAR	Eielson Array	86.16	13	P	P	12 25 30.7	0.0
	0.5nm,0.5s,mb3.4,baz=218,slow=4.9,SNR=14						
ARCES	ARCESS Array B	126.73	350	PKP	PKPdf	12 31 48.4	+0.7
	1.3nm,0.7s,slow=0.9,SNR=7.2						

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*MOS **03** 12:29:54.2±1.0,34.63N×139.52E,h51^{km},mb4.7/15,Error ellipse: s-maj=18.0km s-min=9.3km az=89.8*
*NIED **03** 12:30:00,34.70N×139.70E,h98^{km},Mw4.6 Best double couple: $M_0 1.05\times10^{16}$ NP1:ϕ_s178°,δ78°,λ79°. NP2:ϕ_s42°, δ17°,λ133°.*
*BJI **03** 12:30:00.7,34.60N×139.50E,h114^{km},mB4.5,mb4.6*
*JMA **03** 12:30:01.6±0.1,34.69N×139.68E,h106^{km}±1^{km},M4.5 Broadband fault plane solution: P waves. NP1:ϕ_s32°,δ24°, λ99°. NP2:ϕ_s202°,δ66°,λ86°. Principal axes: T Plg69°, Azm104°; N Plg4°, Azm204°; P Plg21°, Azm295°;*
JMA Felt I J1.
*NEIC **03** 12:30:02.8±0.6,34.58N×139.49E,h115^{km}±5^{km},mb4.8/42, MW4.7(NIED) Error ellipse: s-maj=5.7km s-min=4.3km az=133.0*
NEIC Recorded [1 JMA] in Chiba, Kanagawa, Saitama and Tokyo Prefectures. Also recorded [1 JMA] on Hachijo-jima, Mikura-jima and Miyake-jima.
*IDC **03** 12:30:02.3±0.9,34.63N×139.55E,h110^{km}±9^{km},mb4.3/22, mb1 4.4/25,mb1mx4.4/27,MS3.5/3,Ms1 3.5/3, ms1mx2.7/30,Error ellipse: s-maj=13.1km s-min=11.2km az=92.0*
ISC 03 12:30:01.1±0.2,**34.60N**±0.03×**139.49E**±0.04,**h113**^{km}±2^{km}, **n165,**σ**1^{s}02**/175,**mb4.7**/70,**8C-4D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.13	338	⇑P	P	12 30 16.3	-0.5
JIM2				eS	S	12 30 27.8	-0.7
JIZS	Izushimoda	0.52	284	⇑P	P	12 30 19.6	+1.1
JIZS				S	S	12 30 32.9	+1.3
JMY	Miyake jima 2	0.53	178	P	P	12 30 19.4	+0.8
JMY				eS	S	12 30 32.8	+1.0
TATJ	Tateyama 2	0.55	37	⇑P	P	12 30 17.9	-0.8
TATJ				eS	S	12 30 30.4	-1.6
JOD2	Odawara 2	0.74	334	⇑P	P	12 30 20.1	-0.2
JOD2				eS	S	12 30 33.8	-0.9
BSO3	Boso 3	0.86	76	⇓P	P	12 30 20.3	-1.2
JYN	Shimob	1.19	319	⇑P	P	12 30 25.7	+0.8
JYN				eS	S	12 30 45.1	+2.3
BSO1	Boso 1	1.23	87	⇓P	P	12 30 23.2	-2.2
TK04	Tokai 4	1.35	262	⇑P	P	12 30 29.7	+2.9
TK04				eS	S	12 30 51.3	+5.2
JHJ	Hachijo jima 2	1.49	171	P	P	12 30 30.0	+1.6
	3µm,0.3s,baz=64,slow=18,SNR=744						
JHJ				LR	LR	12 30 45.8	
	comp=Z,754nm,20.5s,baz=109,slow=28						
JHJ				S	S	12 30 50.0	+0.9
	2µm,0.3s,baz=252,slow=23,SNR=21						
JRY	Ryogami san	1.50	341	P	P	12 30 28.5	0.0
JRY				S	S	12 30 48.0	-1.1
MAJO	Matsushiro	2.21	332	ePn	P	12 30 37.7	+0.3
MAT	Matsushiro	2.21	332	P	P	12 30 37.7	+0.3
MAT				S	S	12 31 04.1	-0.7
MAT	Matsushiro	2.21	332	eP	P	12 30 38.0	+0.6
MAT				eS	S	12 31 04.0	-0.8
JNU	Nakatsue	7.31	261	P	P	12 31 49.4	+2.7
CBIJ	Chichi jima	7.83	162	P	P	12 31 51.7	-2.0
	29nm,0.3s,baz=291,slow=15,SNR=8.6						
CBIJ				S	S	12 33 11.4	-10
	41nm,0.3s,baz=276,slow=22,SNR=4.7						
ASAJ	Asahikawa	9.81	13	P	P	12 32 14.7	-5.6
	2.1nm,0.3s,baz=236,slow=4.2,SNR=8.7						
ASAJ				S	S	12 33 55.0	-14
	0.3nm,0.3s,baz=271,slow=17,SNR=1.8						
ASAJ				LR	LR	12 37 21.6	
	comp=Z,86nm,18.1s,baz=83,slow=45						
ASAJ	Asahikawa	9.81	13	P	P	12 32 14.7	-5.5
ASAJ				S	S	12 33 55.0	-14
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,86nm,18.1s						
KS15	Wonju Array Si	9.82	290	ePn	P	12 32 22.4	+2.0
JOW	Kunigami	12.36	234	P	P	12 33 05.6	+11
	comp=Z,4.5nm,0.3s,baz=53,slow=13,SNR=24						
YSS	Yuzh-Sakhalins	12.59	10	eP	P	12 32 52.1	-5.0
KLR	Kul'dur	15.70	341	eP	P	12 33 39.2	+2.2
BJI	Beijing	19.30	293	eP	P	12 34 22.8	+3.2
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=N,115nm,18.1s						
BJI				LR	LR		
	comp=E,148nm,20.1s						
BJI				LR	LR		
	comp=Z,142nm,22.4s						
BJI	Beijing	19.30	293	eP	P	12 34 22.8	+3.2
	comp=Z,9.0nm,0.8s						
BJI				S	S	12 38 01.6	+15
SKR	Severo-Kuril's	20.12	32	eP	P	12 34 22.1	-5.9
SKR				e		12 38 03.0	
SKR				pmax	pmax		
	comp=Z,100nm,1.0s						
SKR				pmax	pmax		
	comp=E,20nm,0.8s						
HIA	Hailar	20.66	321	eP	P	12 34 31.6	-1.9
	comp=E,3.9nm,0.5s						
WHN	Wuhan	21.55	266	eP	P	12 34 43.5	+1.0
PET	Petropavlovsk	22.91	31	eP	P	12 34 55.2	-0.3
PET				e		12 35 30.6	
PET				e*SP		12 35 39.8	
PET				eS	S	12 38 53.5	+0.5
PET				e*SS		12 39 38.1	
PET				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
PET				pmax	pmax		
	comp=Z,30nm,12.4s						
PET				pmax	pmax		
	comp=Z,40nm,19.1s						
PET				pmax	pmax		
	comp=E,100nm,16.2s						
PET				MLR	MLR		
	comp=Z,40nm,17.0s						
XAN	Xi'an	25.21	277	P	P	12 35 16.7	-1.1
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.4						
ENH	Enshi	25.64	269	eP	P	12 35 20.9	-1.0
	comp=Z,42nm,0.8s,mb4.9						
MA2	Magadan	26.07	13	eP	P	12 35 24.8	-0.7
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
SONM	Songino Array	27.96	308	P	P	12 35 42.7	-0.1
	comp=Z,2.3nm,0.6s,mb3.9,baz=107,slow=9.0,SNR=19						
SONM				PcP	PcP	12 38 55.7	+0.2
	comp=Z,0.8nm,0.6s,baz=102,slow=2.8,SNR=3.9						
SONM				ScP		12 42 25.2	
	comp=Z,2.4nm,1.1s,baz=117,slow=2.8,SNR=12						
GYA	Guiyang	29.32	263	⇓iP	P	12 35 54.5	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
FX1	Attu Island--F	30.04	42	P	P	12 36 00.8	-0.6
	comp=Z,16nm,1.0s,mb4.6,baz=249,slow=21,SNR=2.9						
FX1	Attu Island--F	30.04	42	P	P	12 36 00.8	-0.6
FX1				pmax	pmax		
	comp=Z,16nm,1.0s						
CD2	Chengdu	30.18	273	P	P	12 36 00.6	-2.2
ZAK	Zakamensk	30.65	312	⇑iP	P	12 36 06.6	-0.2
GTA	Gaotai	31.87	290	eP	P	12 36 16.9	-0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
CMAR	Chiang Mai Arr	39.39	257	P	P	12 37 21.4	+0.1
	comp=Z,2.3nm,0.5s,mb4.3,baz=52,slow=7.0,SNR=13						
CMAR				PcP	PcP	12 39 27.8	-0.3
	comp=Z,6.5nm,1.4s,baz=204,slow=28,SNR=4.3						
CMAR	Chiang Mai Arr	39.39	257	P	P	12 37 21.5	+0.2
CMAR						12 39 27.8	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
NVS	Novosibirsk	43.44	316	iP	P	12 37 53.2	-0.9
NVS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
NVS				pmax	pmax		
	comp=E,10.0nm,0.7s						
MKAR	Makanchi Array	44.13	304	P	P	12 38 00.0	+0.2
	comp=E,28nm,1.1s,mb4.9,baz=97,slow=9.8,SNR=62						
MKAR				ScP		12 43 24.2	
	comp=E,2.2nm,0.8s,baz=90,slow=2.4,SNR=8.1						
MKAR				LR	LR	12 55 16.7	
	comp=E,39nm,20.7s,baz=286,slow=34						
MKAR	Makanchi Array	44.13	304	iP	P	12 38 00.0	+0.2
MKAR				pmax	pmax		
	comp=Z,28nm,1.1s						
KURK	Kurchatov	46.24	310	eP	P	12 38 15.9	-0.6
	comp=Z,22nm,0.7s,mb5.0						
PKI	Pulchoki	46.38	277	eP	P	12 38 16.9	-1.0
	comp=Z,29nm,0.8s,mb5.0						
KKN	Kakani	46.41	277	eP	P	12 38 17.5	-0.6
	comp=Z,42nm,0.8s,mb5.2						
DMN	Daman	46.62	277	eP	P	12 38 18.1	-1.6
	comp=Z,32nm,0.9s,mb5.0						
GKN	Gorkha	46.85	278	eP	P	12 38 20.9	-0.7
	comp=Z,67nm,0.9s,mb5.4						
KAKA	Kakadu	47.51	189	eP	P	12 38 25.4	-1.5
	comp=Z,6.1nm,0.6s,mb4.6						
KOLN	Koldanda	47.79	278	eP	P	12 38 27.3	-1.6
	comp=Z,26nm,0.9s,mb5.1						
SVW	Sparrevohn	48.39	36	eP	P	12 38 34.4	+1.3
	comp=Z,13nm,1.0s,mb4.7						
RSO	Redoubt South	49.78	37	eP	P	12 38 43.6	-0.2
SPU	Mount Spurr	50.12	36	eP	P	12 38 46.0	-0.4
BVAR	Borovoye Array	51.08	314	P	P	12 38 53.1	-0.7
	comp=Z,10.0nm,0.8s,mb4.9,baz=90,slow=7.4,SNR=36						
BRVK	Borovoye	51.14	314	eP	P	12 38 53.6	-0.7
	comp=Z,12nm,0.8s,mb5.0						
PMS	Palmer South	51.32	36	eP	P	12 38 54.2	-1.3
	comp=Z,11nm,0.8s,mb4.9						
PMR	Palmer	51.51	35	eP	P	12 38 55.5	-1.4
	comp=Z,16nm,1.0s,mb5.0						
MCK	McKinley	51.52	33	eP	P	12 38 55.8	-1.2
	comp=Z,4.9nm,0.9s,mb4.5						
SML	Sawmill	51.88	35	eP	P	12 38 58.7	-0.9
ZRNK	Zerenda	51.92	314	eP	P	12 38 59.4	-0.7
	comp=Z,12nm,0.7s,mb5.0						
COLA	College	51.97	31	eP	P	12 39 00.0	-0.3
COLA				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
COLA	College	51.97	31	eP	P	12 39 00.0	-0.3
	comp=Z,12nm,1.3s,mb4.8						
ILAR	Eielson Array	52.39	31	P	P	12 39 01.7	-1.7
	comp=Z,3.7nm,0.8s,mb4.5,baz=275,slow=6.1,SNR=59						
ILAR	Eielson Array	52.39	31	P	P	12 39 01.7	-1.7
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	52.39	31	P	P	12 39 01.7	-1.7
DIV	Divide	53.16	36	eP	P	12 39 06.8	-2.4
	comp=Z,31nm,0.8s,mb5.4						
FITZ	Fitzroy Crossi	54.04	196	⇑iP	P	12 39 15.1	-1.1
	comp=Z,4.2nm,0.6s,mb4.7						
WB2	Warramunga Arr	54.45	186	eP	P	12 39 17.9	-1.3
WB2				eS	S	12 46 49.2	+2.0
WRA	Warramunga Arr	54.45	186	P	P	12 39 18.1	-1.1
	comp=Z,15nm,0.6s,mb5.2,baz=0.7,slow=7.6,SNR=204						
WRA				ScP		12 44 08.7	
	comp=Z,2.3nm,0.9s,baz=360,slow=4.7,SNR=8.6						
CTA	Charters Tower	54.76	172	eP	P	12 39 20.5	-0.9
	comp=Z,8.1nm,1.3s,mb4.6						
CTAO	Charters Tower	54.76	172	eP	P	12 39 19.8	-1.7
	comp=Z,6.5nm,0.6s,mb4.8						
ARU	Arti	57.17	319	⇓iP	P	12 39 36.3	-1.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	Arti	57.17	319	eP	P	12 39 37.1	-1.0
	comp=Z,15nm,1.0s,mb5.0						
ARU				epP	pP	12 40 02.5	-3.0
INK	Inuvik	57.26	26	P	P	12 39 37.6	-1.1
	comp=Z,5.6nm,0.8s,mb4.7,baz=263,slow=4.9,SNR=10						
INK	Inuvik	57.26	26	P	P	12 39 37.6	-1.1
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	Inuvik	57.26	26	eP	P	12 39 37.0	-1.6
	comp=Z,8.9nm,0.9s,mb4.8						
ASPA	Alice Springs	58.18	186	eP	P	12 39 44.7	-1.0
ASPA				eS	S	12 47 35.9	-0.6
DLBC	Dease Lake	61.51	37	eP	P	12 40 08.1	+0.1
KEV	Kevo	65.16	339	ep	P	12 40 30.1	-1.6
	comp=Z,0.3nm,0.4s,mb3.5						
ARCES	ARCESS Array B	65.72	339	P	P	12 40 34.6	-0.8
	comp=Z,1.6nm,0.6s,mb4.1,baz=50,slow=9.5,SNR=8.2						
ARCES	ARCESS Array B	65.72	339	P	P	12 40 34.6	-0.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	66.15	178	eP	P	12 40 37.4	-1.3
	comp=Z,3.7nm,0.5s,mb4.5						
STKA	Stephens Creek	66.15	178	P	P	12 40 38.0	-0.6
	comp=Z,8.0nm,0.8s,mb4.6,baz=331,slow=7.8,SNR=9.5						
STKA				LR	LR	13 07 33.0	
	comp=Z,160nm,21.1s,baz=207,slow=34						
YKA	Yellowknife Ar	66.70	29	P	P	12 40 40.2	-1.3
	comp=Z,4.4nm,0.8s,mb4.3,baz=295,slow=6.3,SNR=11						
YKA	Yellowknife Ar	66.70	29	P	P	12 40 40.2	-1.4
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	Yellowknife Ar	66.70	29	P	P	12 40 40.2	-1.3
CMW	Cultus Mountai	70.04	45	P	P	12 41 02.9	+0.5
FINES	FINESS Array B	70.24	332	P	P	12 41 02.5	-0.8
	comp=Z,3.2nm,0.8s,mb4.2,baz=56,slow=6.9,SNR=14						
FINES	FINESS Array B	70.24	332	iP	P	12 41 02.6	-0.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JCW	Jim Creek	70.27	45	P	P	12 41 04.1	+0.3
NWAO	Narrogin (SRO)	70.34	200	eP	P	12 41 01.2	-3.3
RPW	Rockport	70.38	44	eP	P	12 41 03.9	-0.6

NLW	Nelson Butte	71.24	44	*e*P	P	12 41 09.7	+0.1
KIV	Kislovodsk	71.32	311	*e*P	P	12 41 11.7	+1.5
KIV				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ETW	Entiat	71.49	45	P	P	12 41 11.2	0.0
EBG	Ellensburg	71.71	45	P	P	12 41 12.9	+0.4
DPW	Davenport	72.57	44	*e*P	P	12 41 17.4	0.0
NEW	Newport	72.97	43	*e*P	P	12 41 19.7	-0.1
	comp=Z,12nm,0.8s,mb4.8						
YBH	Yreka Blue Hor	73.08	51	*e*P	P	12 41 21.5	+0.9
	comp=Z,18nm,1.2s,mb4.8						
SUMG	Summit	73.11	359	*e*P	P	12 41 20.8	+0.6
	comp=Z,10nm,0.8s,mb4.7						
LNOR	Lincton Mounta	73.60	45	*e*P	P	12 41 24.6	+1.0
WDC	Whiskeytown Da	73.79	52	*e*P	P	12 41 24.9	+0.1
	comp=Z,19nm,1.2s,mb4.7						
MOD	Modoc	74.52	50	*e*P	P	12 41 29.6	+0.7
	comp=Z,11nm,0.7s,mb4.7						
OHCM	Honcut	75.14	52	*e*P	P	12 41 32.4	-0.1
AKASG	Malin Array Be	75.26	322	P	P	12 41 32.6	-0.3
	comp=Z,2.2nm,0.4s,mb4.2,baz=46,slow=6.0,SNR=28						
AKASG	Malin Array Be	75.26	322	P	P	12 41 32.6	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WVOR	Wild Horse Val	75.27	49	P	P	12 41 33.7	+0.6
MSO	Missoula	75.56	43	*e*P	P	12 41 34.4	-0.4
	comp=Z,1.3nm,0.4s,mb4.0						
BEKR	Beckwourth	75.58	51	*e*P	P	12 41 35.2	+0.2
	comp=Z,17nm,0.7s,mb4.9						
NB2	NORSAR Subarra	75.82	337	P	P	12 41 35.5	-0.4
	comp=Z,3.5nm,0.7s,mb4.2,baz=43,slow=5.6						
NOA	NORSAR Array B	75.82	337	P	P	12 41 35.9	0.0
	comp=Z,2.7nm,0.7s,mb4.1,baz=42,slow=5.9,SNR=14						
NOA	NORSAR Array B	75.82	337	P	P	12 41 35.9	0.0
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PAHR	Pah Rah Range	76.30	51	*e*P	P	12 41 39.5	+0.4
	comp=Z,13nm,0.7s,mb4.8						
CMB	Columbia Colle	76.57	53	*e*P	P	12 41 41.0	+0.4
	comp=Z,18nm,1.0s,mb4.7						
HRY	Holter Researc	76.80	42	*e*P	P	12 41 42.0	+0.2
HLID	Hailey	77.18	46	P	P	12 41 44.7	+0.8
BMN	Battle Mountai	77.27	50	*e*P	P	12 41 45.2	+0.7
	comp=Z,17nm,0.8s,mb4.8						
MCMT	McKenzie Canyo	77.35	44	*e*P	P	12 41 45.1	+0.3
BOZ	Bozeman (W)	77.55	43	*e*P	P	12 41 46.2	+0.3
	comp=Z,10nm,0.9s,mb4.5						
NVAR	Mina Array Bea	77.71	52	P	P	12 41 47.5	+0.6
	comp=Z,7.7nm,0.7s,mb4.5,baz=298,slow=4.4,SNR=54						
QLMT	Earthquake Lak	78.16	43	*e*P	P	12 41 50.0	+0.7
TPH	Tonopah	78.61	52	*e*P	P	12 41 52.8	+1.0
	comp=Z,17nm,1.0s,mb4.8						
HVU	Hansel Valley	79.21	46	*e*P	P	12 41 56.0	+1.0
BRTR	Keskin Array B	79.28	311	P	P	12 41 56.4	+0.9
	comp=Z,2.0nm,0.8s,mb4.0,baz=108,slow=3.9,SNR=5.7						
BRTR	Keskin Array B	79.28	311	P	P	12 41 56.4	+0.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HWUT	Hardware Ranch	80.04	46	*e*P	P	12 42 00.3	+0.8
	comp=Z,19nm,0.9s,mb4.9						
DUG	Dugway	80.14	48	*e*P	P	12 42 00.8	+0.8
	comp=Z,15nm,0.8s,mb4.9						
TCUT	Toone Canyon	80.43	46	*e*P	P	12 42 02.0	+0.4
PDAR	Pinedale Array	80.50	44	P	P	12 42 01.7	-0.2
	comp=Z,3.5nm,0.7s,mb4.3,baz=296,slow=3.6,SNR=35						
DAU	Daniels Canyon	80.95	47	*e*P	P	12 42 05.5	+1.1
MPU	Maple Canyon	80.97	47	*e*P	P	12 42 05.3	+0.8
MVU	Marysvale	81.53	49	*e*P	P	12 42 08.5	+1.0
	comp=Z,16nm,1.1s,mb4.8						
ASF	Jabal al Asfar	81.55	303	P	P	12 42 08.4	+0.7
	comp=Z,2.2nm,0.4s,mb4.4,baz=282,slow=1.7,SNR=4.0						
MSU	Marysvale	81.55	49	*e*P	P	12 42 08.8	+1.2
NEN	Nelson	81.58	52	*e*P	P	12 42 08.2	+0.4
PFO	Pinyon Flat Ob	81.71	55	*e*P	P	12 42 08.5	0.0
	comp=Z,12nm,0.9s,mb4.7						
SRU	San Rafael	82.20	48	*e*P	P	12 42 11.5	+0.6
ULM	Lac du Bonnet	82.40	32	P	P	12 42 10.9	-0.7
	comp=Z,6.3nm,0.8s,mb4.5,baz=325,slow=4.6,SNR=9.1						
ULM	Lac du Bonnet	82.40	32	*e*P	P	12 42 11.0	-0.7
	comp=Z,13nm,0.9s,mb4.8						
CLL	Collm	82.41	329	P	P	12 42 13.0	+1.3
CLL	Collm	82.41	329	*e*P	P	12 42 13.0	+1.3
PRU	Pruhonice	82.72	328	*e*P	P	12 42 14.5	+1.2
MOX	Moxa	83.49	330	*e*P	P	12 42 18.0	+0.8
PV10	Paradox Valley	83.56	47	*e*P	P	12 42 19.1	+1.3
KHC	Kasperske Hory	83.78	328	*e*P	P	12 42 19.5	+0.9
WUAZ	Wupatki	83.90	51	*e*P	P	12 42 20.3	+0.7
	comp=Z,22nm,0.9s,mb5.0						
GERES	GERESS Array B	83.94	327	P	P	12 42 20.3	+0.9
	comp=Z,1.5nm,0.6s,mb4.0,baz=45,slow=3.8,SNR=8.1						
GERES	GERESS Array B	83.94	327	P	P	12 42 20.3	+0.9
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PV01	Paradox Valley	84.00	47	*e*P	P	12 42 21.1	+1.1
RW3	Ridgway	84.46	47	*e*P	P	12 42 23.6	+1.3
ISCO	Idaho Springs	84.68	45	*e*P	P	12 42 24.3	+1.0
	comp=Z,4.5nm,0.6s,mb4.6						
SDCO	Great Sand Dun	86.10	46	*e*P	P	12 42 31.1	+0.8
	comp=Z,9.0nm,1.2s,mb4.6						
TUC	Tucson	86.28	53	*e*P	P	12 42 31.8	+0.4
	comp=Z,3.8nm,0.9s,mb4.3						
SCHQ	Schefferville	88.10	15	P	P	12 42 39.9	+0.3
	comp=Z,6.8nm,0.8s,mb4.8,baz=4.0,slow=7.0,SNR=8.1						
GDL2	Guadalupe Moun	90.49	50	*e*P	P	12 42 51.5	+0.1
LTX	Lajitas	92.86	51	*e*P	P	12 43 03.3	+0.9
	comp=Z,10.0nm,0.9s,mb5.2						
TXAR	Lajitas Array	92.86	51	P	P	12 43 03.0	+0.7
	comp=Z,5.3nm,0.9s,mb4.9,baz=288,slow=4.0,SNR=25						
QSPA	South Pole Qui	124.34	180	*e*P	PKPdf	12 48 47.0	+1.1
DBIC	Dimbokro	126.92	314	PKP	PKPdf	12 48 54.5	+2.1
	comp=Z,2.6nm,0.8s,baz=143,slow=16,SNR=4.9						
DBIC	Dimbokro	126.92	314	PKIKP	PKPdf	12 48 54.5	+2.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SAML	Samuel	147.08	44	*e*PKPbc	PKPdf	12 49 32.4	+3.4
SAML				*e*PKPab	PKPab	12 49 35.2	-0.1
LPAZ	La Paz	149.26	61	PKPbc	PKPdf	12 49 39.5	+7.1
	comp=Z,4.6nm,0.7s,baz=330,slow=1.7,SNR=14						
LPAZ	La Paz	149.26	61	PKP2	PKPab	12 49 39.5	-4.5
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ	La Paz	149.26	61	*e*PKPdf	PKPdf	12 49 35.0	+2.6
LPAZ				*e*PKPbc	PKPdf	12 49 39.4	+6.9
LPAZ				*e*PKPab	PKPab	12 49 44.7	+0.8
LVC	Limon Verde	152.45	72	*e*PKPbc	PKPdf	12 49 46.9	+10
LVC				*e*PKPab	PKPab	12 49 56.6	-0.6

JMA 03 13:06:23.3±0.6,31.43N×142.42E,M3.7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.77	308	P	Pn	13 07 10.1	+0.4
BSO1	Boso 1	3.44	340	P	Pn	13 07 19.3	+0.1
JOD2	Odawara 2	4.73	325	P	Pn	13 07 38.4	+0.8
JHU	Hanno	5.13	330	P	Pn	13 07 44.6	+1.4
JHO	Hitachi	5.39	344	P	Pn	13 07 46.9	0.0
JHO				*e*S	Sn	13 08 48.6	-2.0
JRY	Ryogami san	5.43	328	P	Pn	13 07 48.5	+1.0
JAG	Ashikaga	5.56	334	P	Pn	13 07 49.7	+0.4

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*BJI **03** 13:11:29.4,36.62N×27.21E,h33^{km},mB5.2,mb4.9,Ms4.9, Msz4.6*

*NEIC **03** 13:11:30.3,37.02N×27.72E,h2^{km},mb4.8/87,ML4.8(GII), ML4.6(ATH),After ATH.*

NEIC Felt at Bodrum, Datca, Marmaris and Milas.

*MED_RC **03** 13:11:30.3±0.2,36.75N×27.92E,h15^{km},MW5.2/28, Moment Tensor Solution. Body waves: s28,c43; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-7.53±.12; M$_{\theta\theta}$6.70±.10; M$_{\phi\phi}$0.82±.08; M$_{r\theta}$1.29±.25; M$_{\theta\phi}$2.14±.07; M$_{\phi r}$-1.47±.28; Best double couple: M$_0$7.71×10^{16} NP1:ϕ_s60°,δ43°,λ-108°. NP2:ϕ_s264°,δ49°, λ-73°. Principal axes: T 7.44, Plg3°, Azm343°; N .52, Plg12°, Azm73°; P -7.97, Plg77°, Azm239°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **03** 13:11:30,37.02N×27.72E,h9^{km},Mw5.3/30,Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.86; M$_{\theta\theta}$0.84; M$_{\phi\phi}$0.01; M$_{r\theta}$0.47; M$_{\theta\phi}$0.25; M$_{\phi r}$-0.06; Best double couple: M$_0$1.01×10^{17} NP1:ϕ_s265°,δ59°,λ-79°. NP2:ϕ_s64°,δ33°,λ-108°. Principal axes: T 1.0187, Plg13°, Azm347°; N -.0235, Plg10°, Azm79°; P -.9953, Plg73°, Azm204°;*

*ATH **03** 13:11:30.3,37.02N×27.72E,h2^{km},ML4.6*

*MOS **03** 13:11:30.6±1.5,36.86N×27.80E,h10^{km},mb4.9/15, MS4.4/30,Error ellipse: s-maj=8.9km s-min=3.6km az=101.9*

*ISK **03** 13:11:32.3,37.07N×27.71E,h8^{km},ML5.0*

*NIC **03** 13:11:35.0±0.4,36.95N×27.73E,h40^{km},mb5.0,ML4.7, MW4.0,Earthquake Dodecanese Islands , Greece 57 km NW Rodhos.*

*CSEM **03** 13:11:34.1,36.85N×27.86E,h40^{km},mb4.7*

*IDC **03** 13:11:36.3±1.2,36.96N×27.67E,h42^{km}±10^{km},mb4.4/21, mb1 4.5/31,mb1mx4.5/32,ML4.2/8,MS4.3/12,Ms1 4.4/12, ms1mx4.3/17,Error ellipse: s-maj=10.5km s-min=9.7km az=171.0*

*NSSC **03** 13:11:49.2,36.57N×28.98E,h40^{km}*

*PDG **03** 13:11:51.4±0.3,37.73N×26.58E,h11^{km}±1^{km}*

ISC 03 13:11:31.0±0.1,36.86N±0.01×27.78E±0.01,h10^{km}, (h19^{km}±2.5^{km}:pP-P),n521,σ1^{s}26/620,mb4.8/104, MS4.5/30,33C-18D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.34	308	*i* P	Pg	13 11 38.2	+0.3
BDRM				*i* S	Sg	13 11 43.0	+0.4
MLSB	Milas	0.44	360	PG	Pg	13 11 38.3	-1.6
MLSB	Milas	0.44	360	Pg	Pg	13 11 39.4	-0.5
MLSB				Sg	Sg	13 11 45.4	-0.4
YER	Yerkesik	0.49	55	PG	Pg	13 11 41.6	+0.7
YER	Yerkesik	0.49	55	Pg	Pg	13 11 41.5	+0.6
NISR	Nisiros	0.58	245	*e*PB	Pb	13 11 43.0	+0.3
ARG	Arkhangelos	0.70	156	⇑*i*PG	Pg	13 11 47.0	+1.9
AYDN	Tasoluk	0.81	6	*i* P	Pb	13 11 46.4	-0.2
AYDN				*i* S	Sb	13 12 00.4	+3.1
DNZL	Cakiroluk	1.31	50	*i* P	Pb	13 11 55.5	+0.3
DNZL	Cakiroluk	1.31	50	*i* P	Pb	13 11 56.3	+1.0
DNZL				*i* S	Sb	13 12 16.6	+4.7
DENT	Denizli	1.34	48	*i* PN	Pn	13 11 56.4	+0.6
DENT	Denizli	1.34	48	Pn	Pn	13 11 57.0	+1.1
KARP	Karpathos	1.40	201	*e*PN	Pn	13 11 58.5	+1.8
IZM	Izmir	1.59	345	*i* PN	Pn	13 11 58.6	-0.8
IZM	Izmir	1.59	345	Pn	Pn	13 11 58.7	-0.7
KDAG	Bornova	1.59	345	*i* P	Pn	13 11 58.8	-0.7
KSL	Kastellorizon	1.62	115	*e*PB	Pb	13 12 03.0	+2.5
ELL	Elmali	1.71	93	*i* PN	Pn	13 12 04.6	+3.4
ELL	Elmali	1.71	93	Pn	Pn	13 12 06.1	+4.9
MANT	Manisa	1.74	21	*i* P	Pn	13 12 04.8	+3.2
MANT				*i* S	Sn	13 12 26.3	+2.2
MANT	Manisa	1.74	21	*i* P	Pn	13 12 02.3	+0.7
MANT				*i* S	Sn	13 12 29.9	+5.9
APE	Apeiranthos	1.81	277	⇓*i*PG	Pg	13 12 02.7	-4.5
SANT	Santorini	1.93	256	*e*P	Pn	13 12 04.6	+0.4
SANT				*e*S	Sn	13 12 37.4	+8.6
THR1	Thera Island	1.93	256	*e*P	Pn	13 12 05.8	+1.5
THR4	Thira Island,	1.96	259	*e*P	Pn	13 12 05.3	+0.7
THR3	Thira Island,	1.96	258	*e*P	Pn	13 12 05.3	+0.6
THR6	Thira Island,	1.98	256	*e*P	Pn	13 12 05.9	+0.9
THR5	Thira Island,	2.00	258	*e*P	Pn	13 12 05.5	+0.2
KHL	Karahalli	2.01	43	*i* PN	Pn	13 12 06.4	+0.9
KHL				SN	Sn	13 12 30.7	-0.2
KHL	Karahalli	2.01	43	Pn	Pn	13 12 06.0	+0.5
AKS	Akhisar	2.02	1	*i* PN	Pn	13 12 04.5	-1.0
AKS	Akhisar	2.02	1	Pn	Pn	13 12 04.8	-0.7
ANTB	Antalya	2.31	88	PN	Pn	13 12 11.8	+2.1
BCK	Bucak	2.32	74	PN	Pn	13 12 12.2	+2.3
BCK	Bucak	2.32	74	Pn	Pn	13 12 16.0	+6.1
NPS	Neapolis	2.37	228	*e*PN	Pn	13 12 13.5	+2.9
ISP	Isparta	2.39	65	PN	Pn	13 12 12.5	+1.7
ISP	Isparta	2.39	65	Pn	Pn	13 12 13.4	+2.6
XRY	Khrisi	2.60	221	*e*PB	Pb	13 12 16.5	-0.9
PRK	Paraskevi	2.66	334	*e*PN	Pn	13 12 14.0	-0.8
BALB	Balikesir	2.78	2	PN	Pn	13 12 15.3	-1.1
BALB	Balikesir	2.78	2	Pn	Pn	13 12 16.2	-0.2
IDI	Anoyia	2.82	237	P	Pn	13 12 18.3	+1.3
	20nm,0.3s,baz=43,slow=13,SNR=73						
DST	Dursunbey	2.82	13	PN	Pn	13 12 16.3	-0.7
DST	Dursunbey	2.82	13	Pn	Pn	13 12 16.4	-0.6
ALT	Altintas	2.86	39	PN	Pn	13 12 18.2	+0.6
ALT	Altintas	2.86	39	Pn	Pn	13 12 19.5	+1.9
VAM	Vamos	3.24	244	*e*PB	Pb	13 12 26.5	-1.8
ORLT	Orhaneli	3.30	15	PN	Pn	13 12 23.1	-0.7
ORLT	Orhaneli	3.30	15	Pn	Pn	13 12 23.9	+0.1
PTL	Penteli	3.33	292	*e*PN	Pn	13 12 24.5	+0.2
ATH	Athens Observa	3.42	290	*e*PN	Pn	13 12 26.0	+0.5
MPAR	Parnis Oros	3.46	293	*e*PN	Pn	13 12 26.3	+0.1
EDC	Edincik	3.48	1	*e*PN	Pn	13 12 25.0	-1.4
EDC	Edincik	3.48	1	Pn	Pn	13 12 25.1	-1.3
BNT	Bandirma	3.49	2	PN	Pn	13 12 24.7	-1.9
BNT	Bandirma	3.49	2	Pn	Pn	13 12 24.0	-2.6
NAIG	Nisos Aigina	3.54	286	*e*PN	Pn	13 12 27.2	0.0
NSAL	Nisos Salamina	3.59	288	*e*PN	Pn	13 12 26.8	-1.2
ESKT	Eskisehir	3.59	41	*e*PN	Pn	13 12 28.8	+0.8
ESKT	Eskisehir	3.59	41	Pn	Pn	13 12 29.3	+1.3
LPK	Lapseki	3.60	348	PN	Pn	13 12 26.6	-1.5
LPK	Lapseki	3.60	348	Pn	Pn	13 12 27.8	-0.3
GVD	Gavdhos	3.61	237	*e*P	Pn	13 12 30.5	+2.2
GVD				*e*S	Sn	13 13 14.8	+3.4
LOS	Limnos	3.73	326	*e*P	Pn	13 12 29.9	-0.1
MRMT	Marmara Adasi	3.74	358	*e*PN	Pn	13 12 29.2	-0.9
HDMB	Hadim	3.77	87	*e*PN	Pn	13 12 34.1	+3.6
HDMB	Hadim	3.77	87	Pn	Pn	13 12 34.9	+4.4
KONT	Konya--Tatoy	3.81	72	*e*PN	Pn	13 12 33.2	+2.2
KONT	Konya--Tatoy	3.81	72	Pn	Pn	13 12 35.2	+4.2
KIZT	Kizilcal	3.82	57	*e*PN	Pn	13 12 32.6	+1.4
KIZT	Kizilcal	3.82	57	Pn	Pn	13 12 32.9	+1.7
MKIT	Kithairon Oros	3.83	292	*e*PN	Pn	13 12 31.7	+0.4
AOS	Alonnisos	3.85	308	*e*P	Pn	13 12 31.7	+0.1
KYTH	Kithira	3.86	263	*e*PN	Pn	13 12 32.5	+0.7
VLI	Veliai	3.89	269	*e*PN	Pn	13 12 32.2	0.0
YLV	Yalova	3.91	18	*e*PN	Pn	13 12 32.2	-0.2
YLV	Yalova	3.91	18	Pn	Pn	13 12 33.6	+1.2
AKMC	Akamas	4.12	115	P	Pn	13 12 37.5	+2.0
BADT	Buyukada	4.12	14	*e*PN	Pn	13 12 34.8	-0.7
BADT	Buyukada	4.12	14	Pn	Pn	13 12 33.6	-1.9
PPCY	Paphos	4.20	117	P	Pn	13 12 38.6	+2.0
ALN	Alexandroupoli	4.25	342	*e*P	Pn	13 12 36.2	-1.1
ALFC	Alevga	4.26	112	⇑P	Pn	13 12 38.7	+1.2
	52nm,0.2s						
ALFC				S	Sn	13 13 30.6	+2.7
CTT	Catalca	4.31	7	Pn	Pn	13 12 37.5	-0.7
ISK	Istanbul-Kandi	4.32	13	Pn	Pn	13 12 34.6	-3.7
NEO	Neokhori	4.35	306	*e*PN	Pn	13 12 39.5	+0.8
PAIG	Paliouri	4.45	315	*e*P	Pn	13 12 40.1	0.0
LEF	Lefka	4.49	111	Pn	Pn	13 12 41.9	+1.1
OUR	Ouranopolis	4.57	321	*e*P	Pn	13 12 41.3	-0.5
RDO	Rodhopi	4.62	339	*e*PN	Pn	13 12 41.5	-1.1
SZAC	Souni-Zanaja	4.65	115	⇑P	Pn	13 12 44.1	+1.1
	27nm,0.4s						
SZAC				S	Sn	13 13 39.5	+1.8
ITM	Ithomi	4.69	276	*e*PN	Pn	13 12 45.5	+1.9
MAMC	Mammari	4.72	109	P	Pn	13 12 46.2	+2.2
IKL	Isikli	4.79	96	*e*PN	Pn	13 12 48.0	+2.9
IKL	Isikli	4.79	96	Pn	Pn	13 12 48.4	+3.3
AGG	Agios Georgios	4.82	298	*e*P	Pn	13 12 45.9	+0.5
PLG	Polygyros	4.88	317	*e*PN	Pn	13 12 46.4	+0.1
CSS	Prodhromos	4.89	111	⇑P	Pn	13 12 47.5	+1.1
	17nm,0.4s						
CSS				S	Sn	13 13 44.8	+1.1
CSS	Prodhromos	4.89	111	*e*Pn	Pn	13 12 47.2	+0.8
CSS				*e*S	Sn	13 13 38.9	-4.8
LOD	Lodumlu	4.95	51	Pn	Pn	13 12 48.9	+1.7
ANTO	Ankara	4.96	51	*e*PN	Pn	13 12 47.6	+0.3
ANTO	Ankara	4.96	51	Pn	Pn	13 12 48.3	+1.0
EDRB	Edirne	5.05	351	Pn	Pn	13 12 51.1	+2.5
KDZ	Kurdzhali	5.12	340	*i* P	Pn	13 12 48.5	-1.2
EVR	Evrytania	5.15	295	*e*PN	Pn	13 12 51.0	+0.9
SOH	Sokhos	5.25	320	*e*P	Pn	13 12 51.3	-0.2
LIT	Litokhoron	5.26	310	*e*P	Pn	13 12 51.6	-0.1
KAMT	Kaman	5.31	60	*e*PN	Pn	13 12 52.9	+0.6
KAMT	Kaman	5.31	60	Pn	Pn	13 12 54.8	+2.5
THE	Thessaloniki	5.33	317	*e*P	Pn	13 12 53.3	+0.7
RZN	Rozhen	5.38	335	*i* P	Pn	13 12 52.2	-1.1
PHNC	Paralimni	5.40	108	P	Pn	13 12 56.7	+3.1
BRTR	Keskin Array B	5.42	56	P	Pn	13 12 55.0	+1.0
	13nm,0.3s,baz=231,slow=16,SNR=82						
BRTR				S	Sn	13 13 57.7	+0.5
	2.9nm,0.3s,baz=238,slow=12,SNR=3.1						
BRTR				Lg		13 14 29.2	
	baz=258,slow=23,SNR=1.5						
BRTR	Keskin Array B	5.42	56	P	Pn	13 12 55.0	+1.1
BRTR				S	Sn	13 13 57.7	+0.5
BRTR				pmax	pmax		
	comp=Z,13nm,0.3s						
DIM	Dimitrovgrad	5.47	342	*i* P	Pn	13 12 53.5	-1.0
NIG	Nigde	5.57	75	Pn	Pn	13 12 59.7	+3.7
MMB	Musomiste	5.67	328	⇓*i*P	Pn	13 12 56.0	-1.5
JMB	Yambol	5.68	351	*i* P	Pn	13 12 55.5	-2.0
KNT	Kendrikon	5.74	320	*e*P	Pn	13 12 58.9	+0.5
PLD	Plovdiv	5.75	337	*i* P	Pn	13 12 58.3	-0.3
SAFT	Safranbolu	5.81	40	Pn	Pn	13 13 01.6	+2.3
GRG	Griva	5.86	316	*e*P	Pn	13 13 00.6	+0.5
MEV	Metsovon	5.92	302	*e*P	Pn	13 13 02.3	+1.4
LKD	Levkas	5.94	290	*e*P	Pn	13 13 02.5	+1.3
KKB	Krupnik	6.18	325	*i* P	Pn	13 13 03.7	-1.0
PGB	Panagyurishte	6.33	335	*i* P	Pn	13 13 05.5	-1.2
FNA	Florina	6.35	310	*e*P	Pn	13 13 07.7	+0.7
CEYT	Ceyhan	6.38	86	Pn	Pn	13 13 10.1	+2.6
TOS	Tosya	6.41	47	Pn	Pn	13 13 09.1	+1.3
IGT	Igoumenitsa	6.44	297	*e*P	Pn	13 13 09.8	+1.5
SZH	Strazhica	6.55	348	*i* P	Pn	13 13 08.5	-1.4
PVL	Pavlikeni	6.62	344	*i* P	Pn	13 13 09.0	-1.8
ARNB	Al Arnab	6.69	96	⇓P	Pn	13 13 12.2	+0.4
ARNB				⇓S	Sn	13 14 12.1	-17
VTS	Vitosha	6.72	330	*i* P	Pn	13 13 11.5	-0.7
HTY	Hatay	6.77	94	Pn	Pn	13 13 12.8	-0.2
PSN	Preselentsi	6.82	2	*i* P	Pn	13 13 09.0	-4.7
KEK	Kerkira	6.89	297	*e*PN	Pn	13 13 16.2	+1.6
MATL	Matirih	7.04	116	*e*PN	Pn	13 13 17.0	+0.4
BTCH	Batrach	7.04	94	⇓P	Pn	13 13 16.7	-0.1
BTCH				⇓S	Sn	13 14 22.1	-16
BHL	Bhannes	7.07	112	*e*PN	Pn	13 13 17.1	-0.1
BHL				SN	Sn	13 14 34.2	-4.3
SKO	Skopje	7.08	318	*i* Pn	Pn	13 13 18.5	+1.2
WRDH	Warideh	7.11	98	⇑P	Pn	13 13 18.3	+0.6
WRDH				⇑S	Sn	13 14 23.0	-16
HWQ	Hawqa	7.14	109	*e*PN	Pn	13 13 17.2	-0.8
HWQ				SN	Sn	13 14 37.0	-3.1
DRWC	Darouich	7.14	89	⇑P	Pn	13 13 18.4	+0.3
HNTI	Hanita	7.14	120	P	Pn	13 13 17.7	-0.5
HNTI				S	Sn	13 14 33.9	-6.3
BIDA	Albida	7.17	102	⇑P	Pn	13 13 18.6	+0.1
BIDA				⇑S	Sn	13 14 23.3	-18
HAF	Haifa	7.21	122	P	Pn	13 13 19.4	+0.3
HRI	Mount Hermon	7.44	116	P	Pn	13 13 22.4	+0.1
BARS	Barje	7.51	324	⇓*i*Pn	Pn	13 13 22.3	-1.0
BRBR	Barbar	7.53	115	⇓P	Pn	13 13 23.0	-0.5
BRBR				⇓S	Sn	13 14 32.6	-17
GAZ	Gaziantep	7.55	85	Pn	Pn	13 13 24.4	+0.5
SLTI	Sal’it	7.55	125	P	Pn	13 13 24.5	+0.6
SLTI				S	Sn	13 14 43.6	-6.9
BUC1	Bucharest	7.60	350	⇓*i*P	Pn	13 13 31.1	+6.6
MARH	Ras Al Marh	7.64	109	⇑P	Pn	13 13 25.1	-0.1
KSHT	Keshet	7.65	118	P	Pn	13 13 25.8	+0.6
MMLI	Mount Malkishu	7.69	123	P	Pn	13 13 26.2	+0.4
QASN	Qassioun	7.71	113	⇑P	Pn	13 13 26.7	+0.7
QASN				⇑S	Sn	13 14 36.5	-18
HARR	Harsova	7.83	1	⇑*i*P	Pn	13 13 25.1	-2.6
HMDT	Nahal Hemdat	7.87	123	P	Pn	13 13 28.9	+0.6
TOTH	TOTAH	7.90	114	⇓P	Pn	13 13 29.1	+0.4
TCHB	Talchebab	7.93	119	⇑P	Pn	13 13 29.6	+0.4
KZIT	Kziot	8.09	135	P	P	13 13 30.6	-0.8
KZIT				S	Sn	13 14 56.5	-7.4
RTMM	Retamin	8.15	133	P	P	13 13 30.8	-1.4
SVTA	Shivta	8.20	134	P	P	13 13 31.5	-1.4
DRGI	Dragot	8.20	128	P	P	13 13 32.8	-0.2
MASH	Mash‘abbe Sade	8.25	133	P	P	13 13 33.2	-0.4
PVY	Plav	8.30	316	⇑*i*Pn	P	13 13 36.1	+1.7
PVY				*e*Sn	Sn	13 14 54.7	-14
ISR	Istrita	8.30	354	⇑*i*P	P	13 13 32.6	-1.8
ULC	Ulcinj	8.34	310	⇑*i*Pn	P	13 13 36.4	+1.6
ULC				*e*Sn	Sn	13 14 55.1	-15
MZDA	Masada	8.38	129	P	P	13 13 35.7	+0.3
MZDA				S	Sn	13 15 03.8	-7.2
SALA	Sala	8.45	117	⇑P	P	13 13 37.2	+0.9
IVA	Berane	8.53	317	*e*Pn	P	13 13 39.1	+1.6
IVA				*e*Sn	Sn	13 14 59.5	-15
MALT	Malatya	8.58	77	*e*P	P	13 13 38.0	-0.2
	comp=Z,7.4nm,0.6s						
TTG	Podgorica	8.61	313	⇑*i*Pn	P	13 13 39.6	+1.1
TTG				*e*Sn	Sn	13 15 01.9	-15
MLR	Muntele Rosu	8.73	351	P	P	13 13 38.7	-1.6
	comp=Z,0.5nm,0.3s,baz=196,slow=6.0,SNR=20						
MLR				S	Sn	13 15 23.4	+3.5
	baz=74,slow=22,SNR=1.6						
MLR				Lg		13 16 19.0	
	baz=112,slow=18,SNR=3.1						
MLR				LR	LR	13 17 29.2	
	comp=Z,4µm,21.4s,baz=356,slow=41						
MLR	Muntele Rosu	8.73	351	P	P	13 13 38.7	-1.6
MLR				S	Sn	13 15 23.4	+3.5
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,4µm,21.4s						
MLR	Muntele Rosu	8.73	351	P	P	13 13 38.7	-1.6
MLR				S	Sn	13 15 23.4	+3.5
MLR				Lg		13 16 19.0	
BUM	Brajici-Budva	8.75	311	⇑*i*Pn	P	13 13 42.1	+1.5
BUM				*e*Sn	Sn	13 15 05.1	-15
ZFRI	Zfri	8.80	133	P	P	13 13 40.9	-0.4
PRNI	Paran	8.85	135	P	P	13 13 40.7	-1.3
PRNI				S	Sn	13 15 15.5	-7.3
ASF	Jabal al Asfar	8.86	119	P	P	13 13 42.7	+0.7
	comp=Z,12nm,0.3s,baz=183,slow=5.4,SNR=23						
ASF				S	Sn	13 15 20.4	-2.5
	comp=Z,3.4nm,0.3s,baz=79,slow=23,SNR=3.6						
ASF				LR	LR	13 17 53.3	
	comp=Z,2µm,19.2s,baz=176,slow=42						
KMTI	Karmit	8.89	137	P	P	13 13 40.9	-1.6
KMTI				S	Sn	13 15 15.5	-8.2
NKY	Niksic	9.00	314	⇑*i*Pn	P	13 13 45.9	+1.9
NKY				*e*Sn	Sn	13 15 11.2	-15
TIP	Timpagrande	9.00	288	*e*P	P	13 13 43.2	-0.8
VRI	Vrincioaia	9.04	355	⇑*i*P	P	13 13 45.7	+1.2
NVSS	Nova Varos 2	9.07	320	⇑*i*Pn	P	13 13 43.3	-1.7
HCY	Herceg Novi	9.07	311	⇑*i*Pn	P	13 13 45.7	+0.6
HCY				*e*Sn	Sn	13 15 12.3	-16
PLE	Pljevlja	9.11	318	⇑*i*Pn	P	13 13 46.9	+1.4
PLE				*e*Sn	Sn	13 15 13.7	-16
MBH	Mount Berech	9.23	138	P	P	13 13 45.8	-1.4
UPM	Unac-Piva	9.29	316	⇑*i*Pn	P	13 13 50.2	+2.2
UPM				*e*Sn	Sn	13 15 17.8	-16
BRY	Bratogost	9.31	313	⇑*i*Pn	P	13 13 49.3	+0.9
BRY				*e*Sn	Sn	13 15 17.9	-16
EIL	Elat	9.35	138	P	P	13 13 48.2	-0.6
DIVS	Divcibare	9.35	323	⇓*i*Pn	P	13 13 47.1	-1.7
DIVS				Sn	Sx	13 16 32.0	
AQBJ	Aqaba	9.36	137	P	P	13 13 47.9	-1.0
SIM	Simferopol’	9.39	29	P	P	13 13 49.5	0.0
SIM				pmax	pmax		
	comp=Z,123nm,0.4s						
SIM				MLR	MLR		
	comp=Z,3µm,14.0s						
ALWS	Ilw as Safayha	9.69	139	P	P	13 13 53.5	-0.1
STON	Ston	9.80	311	*i* Pn	P	13 13 55.9	+0.9
STON				*i* Sn	Sn	13 15 44.6	-1.6
HAQS	Haql	9.83	140	P	P	13 13 54.5	-0.9
HAQS				S	Sn	13 15 42.4	-4.5
JMOS	Jabal al Moall	9.83	139	P	P	13 13 54.9	-0.6
KIS	Kishinev	10.16	4	*e*P	P	13 14 00.0	0.0
KIS				MLR	MLR		
	comp=Z,5µm,9.0s						
KIS				MLR	MLR		
	comp=N,4µm,8.0s						
KIS				MLR	MLR		
	comp=E,3µm,8.0s						
KIS				MLR	MLR		
	comp=Z,5µm,8.0s						
BDAS	Al Bad‘	10.42	142	P	P	13 14 01.9	-1.7
JMQS	Jabal Moqyreh	10.46	137	P	P	13 14 04.3	+0.1
VAE	Valguarnera	10.69	277	P	P	13 14 07.0	-0.2
	baz=300,slow=4.3,SNR=3.9						
VAE				S	S	13 16 07.0	-1.0
	comp=Z,6.3nm,0.3s,baz=73,slow=3.1,SNR=2.1						
VAE				LR	LR	13 17 58.8	
	comp=Z,1µm,20.9s,baz=26,slow=36						
ANN	Anapa	10.78	40	*e*P	P	13 14 08.6	+0.1
ANN				*e*S	S	13 16 12.3	+2.0
ANN				pmax	pmax		
	comp=Z,152nm,1.6s						

ANN				MLR	MLR		
	comp=Z,1µm,11.0s						
ANN				MLR	MLR		
	comp=N,2µm,14.0s						
ANN				MLR	MLR		
	comp=E,1µm,12.0s						
CII	Carovilli	11.51	299	P	P	13 14 18.3	-0.1
SISC	Sisak	12.15	319	i Pn	P	13 14 31.5	+4.4
UZH	Uzhgorod	12.43	343	eP	P	13 14 32.0	+1.2
UZH				eS	S	13 16 56.0	+5.5
UZH				MLR	MLR		
	comp=Z,2µm,8.0s						
NVLJ	Novalja	12.45	312	i P	P	13 14 43.4	+12
PSZ	Piszkesteto	12.49	335⇓	esP		13 14 35.8	
PSZ	Piszkesteto	12.49	335	P	P	13 14 28.3	-3.3
	comp=Z,24nm,1.3s						
BOJS	Bojanci	12.78	316	ePn	P	13 14 35.4	-0.1
KECS	Kecovo	12.79	338	ePN	P	13 14 37.5	+1.9
CRES	Cresnjevec ost	12.87	318	ePn	P	13 14 35.8	-0.9
CRVS	Cervenica-Dubn	12.89	341	ePN	P	13 14 38.4	+1.4
VISS	Visnje	13.19	317	ePn	P	13 14 52.1	+11
LVV	L'vov	13.24	349	eP	P	13 14 43.0	+1.5
LVV				eS	S	13 17 15.0	+5.2
KWP	Kalwaria	13.29	346	eP	P	13 14 47.2	+5.0
KWP				MLR	MLR		
	comp=Z,8µm,15.5s						
VYHS	Vyhne	13.35	333	ePN	P	13 14 42.9	-0.1
VYHS				e		13 19 03.0	
VYHS				e		13 20 41.2	
KIV	Kislovodsk	13.38	53c	iP	P	13 14 45.6	+2.2
KIV				S	S	13 17 18.0	+4.7
KIV				pmax	pmax		
	comp=Z,18nm,1.3s						
KIV				MLR	MLR		
	comp=Z,2µm,12.0s						
KIV	Kislovodsk	13.38	53	P	P	13 14 42.0	-1.4
	comp=Z,29nm,1.3s						
KIV				e		13 14 49.2	
LJU	Ljubljana	13.51	317	ePn	P	13 14 43.8	-1.3
SOP	Sopron	13.62	326⇑	esP		13 14 47.5	
SOP				i		13 18 48.9	
GNI	Garni	13.69	71	P	P	13 14 48.7	+1.2
	baz=30,slow=18,SNR=2.0						
GNI				LR	LR	13 20 14.8	
	comp=Z,2µm,20.5s,baz=270,slow=38						
LIKS	Likavka	13.73	335	ePN	P	13 14 44.4	-3.6
ARSA	Arzberg	13.79	323⇓	iP	P	13 14 49.2	+0.4
	comp=Z,18nm,1.4s						
ARSA				i		13 15 04.8	
	comp=Z,22nm,1.0s						
VOY	Vojsko	13.86	316	ePn	P	13 14 47.9	-1.8
VOY				e		13 14 57.0	
AKASG	Malin Array Be	13.88	4	P	P	13 14 50.0	+0.1
	comp=Z,1.0nm,0.3s,baz=183,slow=12,SNR=21						
AKASG				S	S	13 17 23.4	-1.7
	baz=197,slow=25,SNR=3.1						
AKASG				LR	LR	13 20 52.9	
	comp=Z,2µm,18.7s,baz=190,slow=40						
AKASG	Malin Array Be	13.88	4	P	P	13 14 50.0	+0.1
AKASG				S	S	13 17 23.4	-1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,2µm,18.7s						
TI2	Plekhanov	14.01	64	i P	P	13 14 55.4	+3.7
TI2				MLR	MLR		
	comp=N,3µm,10.0s						
TI2				MLR	MLR		
	comp=E,4µm,10.0s						
TI2				MLR	MLR		
	comp=Z,5µm,10.0s						
ROBS	Robic	14.20	316	ePn	P	13 14 57.7	+3.5
OJC	Ojcow	14.54	339	eP	P	13 15 04.9	+6.2
OJC				MLR	MLR		
	comp=Z,2µm,21.2s						
OJC	Ojcow	14.54	339	eP	P	13 15 04.9	+6.2
OJC				eS	S	13 17 51.4	+11
OKC	Ostrava-Krasne	14.73	335	eP	P	13 15 02.8	+1.7
OKC				eS	S	13 17 57.4	+12
OKC				LM		13 21 40.0	
	comp=Z,2.9nm,15.0s						
OKC	Ostrava-Krasne	14.73	335	eP	P	13 15 02.8	+1.7
OKC				MLR	MLR		
	comp=Z,3µm,15.0s						
KBA	Koelnbreinsper	14.79	318⇓	iP	P	13 15 03.0	+1.0
	comp=Z,35nm,1.1s						
KBA				i		13 15 20.8	
	comp=Z,45nm,1.1s						
MOA	Molln	14.82	322⇑	iP	P	13 15 04.3	+2.0
	comp=Z,8.6nm,1.0s						
MOA				i		13 15 23.0	
	comp=Z,18nm,1.3s						
VRAC	Vranov	14.87	330	P	P	13 15 01.1	-1.7
	comp=Z,0.8nm,0.3s,baz=303,slow=4.3,SNR=3.4						
VRAC				S	S	13 17 43.7	-4.8
	comp=Z,0.8nm,0.3s,baz=261,slow=9.7,SNR=2.2						
VRAC				LR	LR	13 21 09.6	
	comp=Z,3µm,19.1s,baz=128,slow=39						
MORC	Moravsky Berou	14.89	333	eP	P	13 15 03.0	-0.1
	comp=Z,12nm,1.0s						
RAC	Raciborz	14.92	335	eP	P	13 15 06.0	+2.4
RAC				eS	S	13 17 57.1	+7.3
RAC				MLR	MLR		
	comp=E,5µm,21.4s						
RAC				MLR	MLR		
	comp=Z,3µm,22.7s						
RAC				MLR	MLR		
	comp=N,5µm,14.3s						
HILS	Ha'il	15.16	125	P	P	13 15 12.0	+5.2
PGF	Pioggiola	15.52	297	eP	P	13 15 12.6	+1.1
	comp=N,95nm,1.1s						
GEC2	GERESS Array S	15.78	324	eP	P	13 15 17.1	+2.3
GEC2				eS	S	13 18 17.2	+7.2
GEC2				MLR	MLR		
	comp=Z,2µm,20.2s						
GERES	GERESS Array B	15.78	324	P	P	13 15 13.0	-1.8
	comp=Z,0.2nm,0.3s,baz=162,slow=31,SNR=3.6						
GERES				S	S	13 18 14.0	+4.0
	baz=113,slow=17,SNR=1.8						
GERES				PcP	PcP	13 20 12.9	-2.4
	comp=Z,0.3nm,0.3s,baz=117,slow=2.2,SNR=4.1						
GERES				ScP		13 23 45.5	
	comp=Z,0.3nm,0.3s,baz=153,slow=2.2,SNR=4.4						
DPC	Dobruska-Polom	15.81	332	eP	P	13 15 16.5	+1.4
DPC				eS	S	13 18 21.0	+10
DPC				LM		13 22 30.0	
	comp=Z,6.3nm,10.7s						
DPC	Dobruska-Polom	15.81	332	eP	P	13 15 16.5	+1.4
DPC				MLR	MLR		
	comp=Z,6µm,10.7s						
WTTA	Wattenberg	15.84	316⇑	iP	P	13 15 19.6	+4.0
	comp=Z,35nm,1.5s						
WTTA				i		13 15 34.9	
	comp=Z,38nm,1.1s						
KHC	Kasperske Hory	16.04	324	eP	P	13 15 20.3	+2.2
KHC				eAP		13 15 26.8	
KHC						13 15 42.0	
KHC				eS	S	13 18 28.4	+12
KHC				LM		13 22 20.0	
	comp=Z,5.6nm,10.7s						
KHC	Kasperske Hory	16.04	324	eP	P	13 15 20.3	+2.2
KHC				MLR	MLR		
	comp=Z,6µm,10.7s						
KHC	Kasperske Hory	16.04	324	eP	P	13 15 20.3	+2.2
KHC				epP		13 15 26.8	
KHC				e		13 15 42.0	
KHC				eS	S	13 18 28.4	+12
KSP	Ksiaz	16.22	333⇑	eP	P	13 15 21.2	+0.8
KSP				eS	S	13 18 28.5	+8.3
KSP	Ksiaz	16.22	333⇑	eP	P	13 15 21.2	+0.8
KSP				ePP	PP	13 15 29.8	-3.9
KSP				eS	S	13 18 28.5	+8.3
PRU	Pruhonice	16.23	328	eP	P	13 15 20.5	-0.1
	comp=Z,28nm,1.0s						
PRU				eAP		13 15 26.5	
PRU				eS	S	13 18 29.8	+9.2
PRU				LM		13 21 40.0	
	comp=Z,2.5nm,8.0s						
PRU	Pruhonice	16.23	328	eP	P	13 15 20.5	-0.1
PRU				eS	S	13 18 29.8	+9.2
MAK	Makhachkala	16.30	62	eP	P	13 15 29.0	+7.5
MAK				pmax	pmax		
	comp=Z,900nm,6.0s						
MAK				MLR	MLR		
	comp=E,2µm,9.0s						
MAK				MLR	MLR		
	comp=Z,3µm,9.0s						
PRA	Prague	16.34	328	P	P	13 15 25.0	+3.0
PRA				LM		13 23 10.0	
WET	Wettzell	16.38	323	eP	P	13 15 24.2	+1.7
WET				eS	S	13 18 32.3	+8.3
WET				MLR	MLR		
	comp=Z,2µm,18.7s						
DAVOX	Davos	16.59	312	P	P	13 15 24.7	-0.4
	comp=Z,0.3nm,0.3s,baz=157,slow=24,SNR=2.3						
DAVOX				S	S	13 18 33.2	+4.4
	comp=Z,0.2nm,0.3s,baz=297,slow=22,SNR=1.6						
PVCC	Panska Ves	16.64	329	eP	P	13 15 26.9	+1.2
PVCC				eAP		13 15 34.1	
PVCC				eS	S	13 18 36.9	+7.1
PVCC				LM		13 23 00.0	
	comp=Z,3.9nm,11.5s						
PVCC	Panska Ves	16.64	329	eP	P	13 15 26.9	+1.2
PVCC				eS	S	13 18 36.9	+7.1
PVCC				MLR	MLR		
	comp=Z,4µm,11.5s						
DAVA	Damuels	16.85	314⇑	iP	P	13 15 31.7	+3.3
	comp=Z,13nm,0.7s						
DAVA				i		13 15 42.9	
	comp=Z,35nm,1.2s						
SAOF	Saorge	16.94	301	eP	P	13 15 31.4	+1.8
SBF	Sospel	16.99	301	eP	P	13 15 30.1	-0.1
	comp=Z,200nm,1.3s						
REVF	Revere	17.00	300	eP	P	13 15 30.7	+0.4
AUTN	L'Aution	17.03	301	eP	P	13 15 33.5	+2.7
AURF	Auriere	17.07	301	eP	P	13 15 33.9	+2.7
BRG	Berggiesshubel	17.16	329⇑	iP	P	13 15 38.8	+6.5
BRG				eS	S	13 18 50.0	+8.2
BRG				pmax	pmax		
	comp=Z,51nm,0.9s						
BRG				MLR	MLR		
	comp=Z,4µm,10.1s						
BRG				MLR	MLR		
	comp=N,3µm,11.3s						
BRG				MLR	MLR		
	comp=E,2µm,11.3s						
BRG	Berggiesshubel	17.16	329⇑	iP	P	13 15 38.8	+6.5
	comp=E,51nm,0.9s						
BRG				eS	S	13 18 50.0	+8.2
MVIF	Mont Vial	17.19	301	eP	P	13 15 31.4	-1.4
CALN	Calern	17.33	300	eP	P	13 15 32.8	-1.7
SUW	Suwalki	17.45	351	eP	P	13 15 35.5	-0.4
SUW				eS	S	13 18 51.3	+2.9
SUW				MLR	MLR		
	comp=Z,2µm,25.5s						
SUW	Suwalki	17.45	351	eP	P	13 15 35.5	-0.4
SUW				ePP	PP	13 15 39.1	-11
SUW				eS	S	13 18 51.3	+2.9
FRF	La Foret Royal	17.45	299	eP	P	13 15 36.0	0.0
	comp=Z,96nm,1.2s						
LMR	La Mourre	17.49	298	eP	P	13 15 36.8	+0.3
	comp=Z,80nm,1.4s						
GRA1	Grafenberg Arr	17.55	322	eP	P	13 15 39.4	+2.2
GRA1				eS	S	13 19 00.0	+9.2
GRF	Grafenberg Arr	17.55	322	eP	P	13 15 39.4	+2.2
GRF				eS	S	13 19 00.0	+9.2
GRF				MLR	MLR		
	comp=Z,2µm,21.0s						
MNK	Minsk	17.64	0	eP	P	13 15 47.0	+8.7
MBDF	Montbardon	17.71	303	eP	P	13 15 39.3	+0.1
	comp=Z,33nm,0.7s						
MIB	Mutribah	17.78	108	eP	P	13 15 40.4	+0.2
MIB				AMb	AMB	13 15 44.1	
	comp=Z,181nm,0.7s						
CLL	Collm	17.87	329	P	P	13 15 43.0	+1.8
CLL				i		13 15 46.3	
CLL				i		13 15 51.2	
CLL				i		13 15 57.4	
CLL				eS	S	13 19 06.0	+7.9
CLL	Collm	17.87	329	eP	P	13 15 43.0	+1.8
CLL				eS	S	13 19 06.0	+7.9
CLL				pmax	pmax		
	comp=Z,69nm,1.0s						
CLL	Collm	17.87	329	eP	P	13 15 43.0	+1.8
	comp=Z,69nm,1.0s						
CLL				i		13 15 46.3	
CLL				i		13 15 51.2	
CLL				eS	S	13 19 06.0	+7.9
TAVF	Tavernes	17.88	299	eP	P	13 15 42.5	+1.2
BNI	Bardonecchia	17.88	304	eP	P	13 15 43.2	+1.9
	comp=Z,19nm,1.0s						
GKP	Gorka Klasztor	17.99	339	eP	P	13 15 39.7	-2.9
GKP				MLR	MLR		
	comp=Z,3µm,19.4s						
GKP	Gorka Klasztor	17.99	339	eP	P	13 15 39.7	-2.9
GKP				ePP	PP	13 15 43.1	-14
LPG	La Plagne	17.99	305	eP	P	13 15 44.4	+1.7
	comp=Z,116nm,1.1s						
MOX	Moxa	18.01	325	i P	P	13 15 44.7	+1.8
	comp=Z,logA/T=1.7						
MOX				i		13 15 52.0	
MOX				S	S	13 19 09.0	+7.9
MOX				L		13 23 03.0	
MOX	Moxa	18.01	325c	eP	P	13 15 44.7	+1.8
MOX				e		13 19 09.0	
MOX				pmax	pmax		
	comp=Z,76nm,1.4s						
MOX				MLR	MLR		
	comp=Z,2µm,16.0s						
MOX	Moxa	18.01	325⇑	eP	P	13 15 44.7	+1.8
	comp=Z,76nm,1.4s						
LPL	La Plagne	18.01	305	eP	P	13 15 44.4	+1.4
	comp=Z,58nm,0.8s						
BERF	Bertagne	18.07	298	eP	P	13 15 45.6	+1.9
PUYF	Puyloubier	18.11	298	eP	P	13 15 45.3	+1.1
RSL	Roselend	18.14	306	eP	P	13 15 45.9	+1.3
VILF	Villemus	18.18	299	eP	P	13 15 46.0	+0.9
UMR	Umm Al-Rimmam	18.19	108	eP	P	13 15 45.2	-0.1
UMR				AMb	AMB	13 15 49.3	
	comp=Z,196nm,0.6s						
FELD	Feldberg	18.24	313	eP	P	13 15 45.9	+0.1
GELF	Grande-Etoile	18.27	298	eP	P	13 15 47.5	+1.3
BFO	Black Forest	18.29	315	eP	P	13 15 48.4	+2.0
BFO				eS	S	13 19 16.4	+8.9
SMRF	Simiane la Rot	18.31	300	eP	P	13 15 46.6	-0.1
	comp=Z,41nm,1.2s						
BBS	Basel-Blauen	18.33	312	eP	P	13 15 47.2	+0.2
AFFS	'Afif	18.37	130	P	P	13 15 50.4	+2.8
RDF	Al-Radifah	18.37	110	eP	P	13 15 46.9	-0.7
RDF				AMb	AMB	13 15 52.3	
	comp=Z,188nm,1.2s						
ORIF	Oris-en-Rattie	18.37	303	eP	P	13 15 47.1	-0.4
	comp=Z,44nm,0.9s						
ORIF				eR			
	comp=Z,3µm,18.5s						
RUE	Ruedersdorf	18.47	332	P	P	13 15 47.5	-1.1
	comp=Z,73nm,1.1s						
RUE				e		13 15 52.5	
PRAF	Pradon	18.55	299	eP	P	13 15 51.2	+1.5
OCF	Saint Nazaire	18.66	301	eP	P	13 15 50.9	-0.2
OG26	St.-Nazaire-De	18.66	301	eP	P	13 15 50.9	-0.2
LOMF	Lomont	18.69	311	eP	P	13 15 51.3	-0.1
MOF	Molkenrain	18.74	312	eP	P	13 15 52.5	+0.5
CABF	La Chapelle	18.84	308	eP	P	13 15 52.5	-0.7
	comp=Z,88nm,1.0s						
WLS	Welschbruch	18.89	314	eP	P	13 15 54.6	+0.9
HINF	Hinteralfeld	18.89	312	eP	P	13 15 54.1	+0.3
	comp=Z,35nm,1.0s						
LANF	Langenberg	18.93	316	eP	P	13 15 55.1	+0.9
CDF	Champ du Feu	18.93	314	eP	P	13 15 55.5	+1.3
	comp=Z,69nm,1.0s						
OG05	Jujurieux	19.03	306	eP	P	13 15 55.4	0.0
VIVF	Saint-Julien-l	19.17	302	eP	P	13 15 56.5	-0.7
	comp=Z,55nm,1.0s						
OBN	Obninsk	19.22	15c	iP	P	13 15 56.2	-1.5
OBN				i S	S	13 19 34.9	+6.2
OBN				pmax	pmax		
	comp=Z,32nm,1.3s						
OBN				MLR	MLR		
	comp=Z,2µm,12.0s						
HAU	Haudompre	19.28	312	eP	P	13 15 58.3	-0.1
	comp=Z,53nm,0.8s						
HAU				eR			
	comp=Z,4µm,22.2s						
CLZ	Clausthal	19.40	326	eP	P	13 16 00.5	+0.8
CLZ				eS	S	13 19 36.6	+4.0
LASF	Ste Croix	19.54	299	eP	P	13 16 00.8	-0.6
	comp=Z,86nm,1.5s						
COLF	Collangettes	20.03	303	eP	P	13 16 04.9	-1.9
WLF	Walferdange	20.21	316	eP	P	13 16 08.7	+0.1
	comp=Z,24nm,1.0s						
PLDF	La Plantade	20.21	304	eP	P	13 16 07.9	-0.8
LBL	Lubilhac	20.25	302	eP	P	13 16 08.6	-0.5
LRDF	Laroque-de-Fa	20.26	295	eP	P	13 16 07.4	-1.8
BSD	Bornholm Skovb	20.27	338	i P	P	13 16 07.4	-1.8
	comp=Z,1µm,15.0s						
MEZF	Maizieres J'vi	20.28	312	eP	P	13 16 09.1	-0.3
SMF	Signal de Mont	20.29	306	eP	P	13 16 08.3	-1.2
	comp=Z,155nm,1.0s						
LOR	Lormes	20.50	308	eP	P	13 16 10.6	-1.1
	comp=Z,108nm,1.1s						
LOR				eR			
	comp=Z,3µm,22.2s						
MTLF	Montolieu	20.55	296	eP	P	13 16 10.6	-1.7
	comp=Z,35nm,1.0s						
PYM	Petit Puy Mans	20.56	303	eP	P	13 16 11.4	-0.9
SSF	Saint Saulge	20.65	307	eP	P	13 16 12.3	-1.0
	comp=Z,194nm,1.1s						
AVF	Avril sur Loir	20.66	306	eP	P	13 16 12.3	-1.0
	comp=Z,137nm,1.0s						
EMIR	Miracle	20.87	292	P	P	13 16 15.1	-0.5
BGF	Bois d'Agland	20.91	305	eP	P	13 16 15.2	-0.7
	comp=Z,108nm,0.9s						
HGN	Heimansgroeve	20.91	319	eP	P	13 16 15.6	-0.4
	comp=Z,14nm,1.4s						
HGN				eS	S	13 20 07.4	+3.3
	comp=Z,1.1nm,42.3s						
BSEG	Bad Segeberg	20.93	330	eP	P	13 16 15.4	-0.6
BSEG				eS	S	13 20 06.8	+2.4
CAF	Calviac	20.98	301	eP	P	13 16 15.9	-0.8
WTSB	Winterswijk	21.16	322	eP	P	13 16 16.9	-1.6
	comp=Z,13nm,0.8s,mb4.3						
WTSB				eS	S	13 20 16.9	+8.0
EPOB	Poblet	21.16	290	P	P	13 16 16.9	-1.6
	comp=Z,24nm,0.9s,mb4.5						
GIVF	Givet	21.17	316	eP	P	13 16 19.9	+1.3
	comp=Z,37nm,0.8s,mb4.4						
TCF	Toulx Ste Croi	21.25	304	eP	P	13 16 20.1	+0.7
	comp=Z,66nm,1.2s,mb4.5						
MLS	Moulis	21.31	295	eP	P	13 16 18.1	-1.9
RJF	Les Rejaudoux	21.45	301	eP	P	13 16 21.4	0.0
RJF				eR			
	comp=Z,1µm,19.8s						
BAIF	Baives	21.49	315	eP	P	13 16 21.3	-0.5
COP	Copenhagen	21.52	336	i P	P	13 16 24.0	+1.9
	comp=Z,35nm,0.9s,mb4.8						
COP				i S	S	13 20 22.0	+6.3
	comp=Z,590nm,18.0s						
EBR	Ebro Roquetas	21.58	289	eP	P	13 16 23.5	+0.7
EGRA	Graus	21.80	293	P	P	13 16 24.5	-0.5
LABF	Labassere	22.06	295	eP	P	13 16 29.4	+1.8
ESAC	San Caprasio	22.35	291	P	P	13 16 30.0	-0.4
	comp=Z,59nm,1.0s,mb5.0						
FDAF	Les Forges d'A	22.50	294	eP	P	13 16 33.4	+1.4
ETSF	Etsaut	22.51	294	eP	P	13 16 33.3	+1.3
	comp=Z,25nm,0.9s,mb4.3						
LARF	Larrau	22.84	295	eP	P	13 16 36.2	+1.0
MFF	Saint Martin d	22.90	304	eP	P	13 16 35.4	-0.4
	comp=Z,67nm,1.2s,mb4.7						
SJPF	Ste Jean	23.02	295	eP	P	13 16 37.1	+0.1
	comp=Z,44nm,0.9s,mb4.6						
ETOB	Tobarra	23.22	283	P	P	13 16 40.9	+1.9
	comp=Z,43nm,1.0s,mb4.8						
EALK	Alkurruntz	23.23	295	P	P	13 16 42.0	+2.9
	comp=Z,5.9nm,0.8s,mb4.1						
MUD	Monsted U'grnd	23.25	333	i P	P	13 16 41.9	+2.8
	comp=Z,38nm,1.1s,mb4.7						
MUD				i S	S	13 20 52.6	+5.5
LDF	La Druitiere	23.48	309	eP	P	13 16 40.9	-0.5
	comp=Z,130nm,1.1s,mb5.0						
ETOR	Torete	23.52	289	P	P	13 16 44.1	+2.2
	comp=Z,12nm,0.8s,mb4.4						
FLN	La Foliniere	23.76	309	eP	P	13 16 43.8	-0.3
	comp=Z,178nm,0.9s,mb5.2						
FLN				eR			
	comp=Z,2µm,22.5s						
GRR	Gorron	23.87	308	eP	P	13 16 44.4	-0.8
	comp=Z,315nm,0.9s,mb5.4						
ECRI	Cripan	23.91	293	P	P	13 16 46.9	+1.2
	comp=Z,35nm,0.9s,mb4.8						
EVIA	Vianos	23.96	284	P	P	13 16 47.4	+1.2
	comp=Z,53nm,1.0s,mb4.9						
EQES	Quesada	24.50	282	P	P	13 16 51.8	+0.3
	comp=Z,35nm,1.0s,mb4.8						
FINES	FINESS Array B	24.63	358	P	P	13 16 51.3	-1.2
	comp=Z,14nm,0.7s,mb4.6,baz=153,slow=8.5,SNR=32						
FINES				PcP	PcP	13 20 28.3	-3.0
	comp=Z,1.7nm,0.6s,baz=180,slow=1.9,SNR=5.6						
FINES				S	S	13 21 13.2	+2.4
	comp=Z,1.2nm,0.8s,baz=158,slow=31,SNR=2.4						
FINES				LR	LR	13 27 39.5	
	comp=Z,523nm,18.7s,MS4.1,baz=351,slow=39						
FINES	FINESS Array B	24.63	358	P	P	13 16 51.3	-1.2
FINES						13 20 28.3	
FINES				S	S	13 21 13.2	+2.4
FINES				pmax	pmax		
	comp=Z,14nm,0.7s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,523nm,18.7s						
ELAN	Lanestosa	24.64	295	P	P	13 16 55.2	+2.5
	comp=Z,130nm,1.8s,mb5.2						
SGMF	Saint Gilles	24.92	307	eP	P	13 16 55.0	-0.4
	comp=Z,143nm,1.2s,mb5.1						
HFS	Hagfors	24.98	343	P	P	13 16 54.4	-1.5
	comp=Z,16nm,0.7s,mb4.7,baz=158,slow=8.0,SNR=26						
HFS				S	S	13 21 13.4	-3.3
	comp=Z,2.8nm,1.0s,baz=144,slow=20,SNR=2.4						
HFS	Hagfors	24.98	343	P	P	13 16 54.4	-1.5
HFS				S	S	13 21 13.4	-3.4
HFS				pmax	pmax		
	comp=Z,17nm,0.7s						
ESDC	Sonseca Array	25.01	286	P	P	13 16 56.1	-0.3
	comp=Z,14nm,0.6s,mb4.7,baz=79,slow=9.2,SNR=56						
ESDC				S	S	13 21 16.9	-0.6
	comp=Z,0.4nm,0.3s,baz=8.5,slow=38,SNR=2.4						
ESDC				LR	LR	13 26 27.3	
	comp=Z,500nm,19.1s,MS4.0,baz=65,slow=36						
ESDC	Sonseca Array	25.01	286	P	P	13 16 56.1	-0.3
	comp=Z,13nm,0.6s,mb4.6						
ESLA	Sonseca Array	25.01	286	eP	P	13 16 56.3	-0.1
	comp=Z,5.3nm,0.8s,mb4.1						
QUIF	Quistinic	25.22	306	eP	P	13 16 56.5	-1.8
	comp=Z,66nm,1.0s,mb4.8						
ROSF	Rostrenen	25.40	307	eP	P	13 16 57.8	-2.1
	comp=Z,66nm,1.0s,mb4.8						
ELUQ	Luque	25.47	281	P	P	13 17 00.3	-0.4
	comp=Z,4.8nm,0.3s,mb4.5						
EADA	Adamuz	25.63	283	P	P	13 17 02.0	-0.2
	comp=Z,6.4nm,0.8s,mb4.2						
KONO	Kongsberg	25.65	339	eP	Px	13 17 34.3	
KONO				AMb	AMB	13 17 53.6	
	comp=Z,44nm,1.3s,mb4.8						
KONO				e		13 22 02.6	
KONO				i		13 22 11.0	
KONO				AMS	AMS	13 29 00.6	
	comp=Z,1µm,15.3s,MS4.5						
NAO01	NORSAR Array S	26.29	341	eP	P	13 17 05.8	-2.3
	comp=Z,14nm,0.8s,mb4.5						
NB2	NORSAR Subarra	26.38	342	P	P	13 17 06.7	-2.2
	comp=Z,4.2nm,0.8s,mb4.0,baz=156,slow=9.3						
NB2	NORSAR Subarra	26.38	342	P	P	13 17 06.7	-2.2
	baz=156,slow=9.3						
NOA	NORSAR Array B	26.38	342	P	P	13 17 06.8	-2.1
	comp=Z,4.9nm,0.8s,mb4.1,baz=143,slow=8.6,SNR=21						
NOA				S	S	13 21 36.2	-3.8
	comp=Z,0.4nm,0.8s,baz=161,slow=5.0,SNR=2.2						
NOA				LR	LR	13 29 04.9	
	comp=Z,379nm,20.4s,MS3.9,baz=145,slow=40						
NOA	NORSAR Array B	26.38	342	P	P	13 17 06.8	-2.1
NOA				S	S	13 21 36.2	-3.7
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,379nm,20.4s						
NOA	NORSAR Array B	26.38	342	P	P	13 17 06.8	-2.1
NOA				S	S	13 21 36.2	-3.8
BLS5	Blasjo	26.46	335	esP	sP	13 17 11.2	-2.7
BLS5				AMb	AMB	13 17 14.6	
	comp=Z,20nm,1.4s,mb4.5						
BLS5	Blasjo	26.46	335	eP	P	13 17 10.3	+0.7
	comp=Z,20nm,1.4s,mb4.5						
KMY	Karmoy	26.71	334	eP	P	13 17 12.0	0.0
KMY				AMb	AMB	13 17 17.8	
	comp=Z,20nm,2.1s,mb4.3						

KMY	**Karmoy**	**26.71**	**334**	*e*P	**P**	**13 17 12.0**	**0.0**
	comp=Z,20nm,2.1s,mb4.3						
ODD1	**Odda**	**26.77**	**336**	*e*P	**P**	**13 17 11.8**	**-0.7**
ODD1				AMb	AMB	13 17 18.1	
	comp=Z,28nm,1.5s,mb4.6						
ODD1	**Odda**	**26.77**	**336**	*e*P	**P**	**13 17 11.8**	**-0.7**
	comp=Z,28nm,1.5s,mb4.6						
ESPR	**Espera**	**26.83**	**280**	P	**P**	**13 17 11.5**	**-1.8**
	comp=Z,12nm,0.6s,mb4.6						
ECAL	**Calabor**	**27.03**	**292**	P	**P**	**13 17 15.7**	**+0.6**
	comp=Z,54nm,0.9s,mb5.1						
PBRG	**Braganca**	**27.04**	**291**	*e*P	**P**	**13 17 14.3**	**-0.9**
EMIN	**Mina Concepcio**	**27.33**	**282**	P	**P**	**13 17 16.7**	**-1.2**
	comp=Z,42nm,1.3s,mb4.8						
ERUA	**La Rua**	**27.33**	**293**	P	**P**	**13 17 20.5**	**+2.7**
EPON	**Pontenova**	**27.35**	**295**	P	**P**	**13 17 20.8**	**+2.8**
	comp=Z,28nm,0.9s,mb4.8						
EBAD	**Badajoz**	**27.46**	**285**	P	**P**	**13 17 17.8**	**-1.2**
	comp=Z,27nm,1.1s,mb4.7						
PCBR	**Castelo Branco**	**27.70**	**287**	*e*P	**P**	**13 17 20.4**	**-0.8**
	comp=Z,25nm,1.5s,mb4.6						
MTE	**Manteigas**	**27.71**	**288**	*e*P	**P**	**13 17 20.7**	**-0.6**
	comp=Z,30nm,0.9s,mb4.9						
MTE				*e*S	**S**	**13 22 04.0**	**+2.2**
MTE	**Manteigas**	**27.71**	**288**	*e*P	**P**	**13 17 20.1**	**-1.1**
	comp=Z,13nm,0.7s,mb4.7						
PVIS	**Viseu**	**27.95**	**289**	*e*P	**P**	**13 17 23.1**	**-0.4**
EKA	**Eskdalemuir Ar**	**27.96**	**321**	P	**P**	**13 17 21.2**	**-2.2**
	comp=Z,5.5nm,0.9s,mb4.2,baz=121,slow=9.7,SNR=17						
EKA				PcP	PcP	13 20 36.9	-2.1
	comp=Z,1.3nm,0.6s,baz=121,slow=1.5,SNR=4.1						
EKA	**Eskdalemuir Ar**	**27.96**	**321**	P	**P**	**13 17 21.3**	**-2.1**
EKA						13 20 36.9	
EKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EGRO	**El Granado**	**28.00**	**282**	P	**P**	**13 17 22.6**	**-1.3**
	comp=Z,40nm,1.0s,mb5.0						
PALC	**Alcoutim**	**28.01**	**282**	*e*P	**P**	**13 17 22.8**	**-1.2**
	comp=Z,40nm,0.9s,mb5.0						
PBEJ	**Beja**	**28.22**	**283**	*e*P	**P**	**13 17 25.1**	**-0.9**
	comp=Z,29nm,1.3s,mb4.8						
SUE	**Sulen**	**28.25**	**336**	*e*P	**P**	**13 17 22.9**	**-3.1**
SUE	**Sulen**	**28.25**	**336**	*e*P	**P**	**13 17 27.6**	**+1.7**
EVO	**Evora**	**28.26**	**284**	*e*P	**P**	**13 17 26.8**	**+0.5**
	comp=Z,10nm,0.8s,mb4.2						
EVO				*e*R			
	comp=Z,485nm,19.5s						
ARU	**Arti**	**28.43**	**37**⇓	*i*P	**P**	**13 17 26.6**	**-1.0**
ARU				*i*		13 18 17.7	
ARU				*i* PPP	PPP	13 18 27.4	-4.2
ARU				*i*		13 20 36.4	
ARU				*e*S	**S**	**13 22 12.7**	**-0.6**
ARU				*e*SS	SS	13 23 35.6	-2.2
ARU				*e*		13 28 07.7	
ARU				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.5						
ARU				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,600nm,20.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,800nm,21.0s,MS4.4						
ARU	**Arti**	**28.43**	**37**	*e*P	**P**	**13 17 26.8**	**-0.8**
	comp=E,30nm,1.3s,mb4.8						
PTEO	**Sao Teotonio**	**28.97**	**283**	*e*P	**P**	**13 17 31.8**	**-0.9**
	comp=E,36nm,1.1s,mb5.0						
NSS	**Namsos**	**29.28**	**346**	*e*	**P**	**13 17 37.4**	**+2.2**
NSS				*e*S	**S**	**13 22 25.0**	**-1.9**
NSS				AMS	AMS	13 31 08.1	
	comp=Z,2µm,17.9s,MS4.8						
SOKR	**Solikamsk**	**29.41**	**30**⇑	*i*P	**P**	**13 17 35.3**	**-1.1**
SOKR				*i* S	**S**	**13 22 38.3**	**+9.4**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
SOKR				MLR	MLR		
	comp=Z,710nm,19.0s,MS4.3						
APA	**Apatity**	**30.93**	**4**⇑	*i*P	**P**	**13 17 48.9**	**-0.9**
APA				*e*S	**S**	**13 22 46.0**	**-6.8**
APA				*e*SS	SS	13 24 55.0	+19
APA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
APA				MLR	MLR		
	comp=Z,2µm,10.0s,MS5.1						
KTK1	**Kautokeino**	**32.31**	**357**	*e*P	**P**	**13 18 01.4**	**-0.5**
KTK1	**Kautokeino**	**32.31**	**357**	*e*P	**P**	**13 18 03.5**	**+1.6**
ARCES	**ARCESS Array B**	**32.76**	**359**	P	**P**	**13 18 03.5**	**-2.3**
	comp=Z,6.8nm,0.8s,mb4.6,baz=180,slow=7.3,SNR=24						
ARCES				LR	LR	13 33 04.9	
	comp=Z,684nm,19.4s,MS4.4,baz=172,slow=40						
ARCES	**ARCESS Array B**	**32.76**	**359**	P	**P**	**13 18 03.5**	**-2.3**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,684nm,19.4s						
ARE0	**ARCESS Array S**	**32.76**	**359**	*e*P	**P**	**13 18 04.1**	**-1.7**
ZRNK	**Zerenda**	**32.80**	**47**	*e*P	**P**	**13 18 06.2**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
KEV	**Kevo**	**32.96**	**360**	*e*p	**P**	**13 18 04.2**	**-3.4**
TRO	**Tromso**	**33.19**	**354**	*e*PP	PP	13 19 20.1	-0.6
TRO				*e*S	**S**	**13 23 26.1**	**-1.9**
TRO				AMS	AMS	13 32 56.4	
	comp=Z,584nm,19.6s,MS4.3						
BRVK	**Borovoye**	**33.58**	**47**	*e*P	**P**	**13 18 12.5**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**33.64**	**48**	P	**P**	**13 18 12.8**	**-0.8**
	comp=Z,3.7nm,1.1s,mb4.2,baz=270,slow=4.4,SNR=11						
EKS2	**Erkin-Say**	**35.49**	**66**	P	**P**	**13 18 29.9**	**+0.2**
	SNR=8.5						
AAK	**Ala-Archa**	**36.02**	**66**	P	**P**	**13 18 34.9**	**+0.8**
	SNR=6.6						
FRU	**Bishkek**	**36.08**	**66**	*e*P	**P**	**13 18 35.2**	**+0.6**
CHMS	**Chumysh**	**36.16**	**65**	P	**P**	**13 18 35.5**	**+0.1**
	SNR=8.2						
TKM2	**Tokmak 2**	**36.79**	**65**	P	**P**	**13 18 40.8**	**+0.2**
	SNR=10						
ULHL	**Ulahol**	**37.35**	**66**	P	**P**	**13 18 46.2**	**+0.9**
	SNR=10.0						
MBAR	**Mbarara**	**37.37**	**175**	*e*P	**P**	**13 18 45.2**	**-0.6**
	comp=Z,7.1nm,1.0s,mb4.5						
KSH	**Kashi**	**37.62**	**71**	*e*P	**P**	**13 18 48.0**	**+0.4**
KSH				*e*AP	pP	13 18 52.4	+1.8
KSH				*e*PP	PP	13 20 16.6	+0.4
KSH				*e*PCP	PcP	13 21 05.8	+0.1
KSH				*e*S	**S**	**13 24 36.7**	**-0.1**
KSH				*e*PCS		13 24 53.5	
KSH				*e*SS	SS	13 27 10.2	-0.2
KSH				*e*SCS	ScS	13 28 58.7	-0.3
KSH				AMB	AMB		
	comp=Z,270nm,3.2s						
KSH				LR	LR		
	comp=N,560nm,7.8s						
KSH				LR	LR		
	comp=E,620nm,5.6s						
BJO	**Bjornoya**	**37.96**	**356**	*e*SS	SS	13 27 25.9	+8.1
BJO				AMS	AMS	13 38 23.1	
	comp=Z,363nm,18.7s,MS4.2						
KURK	**Kurchatov**	**38.46**	**52**	*e*P	**P**	**13 18 54.2**	**-0.4**
	comp=Z,13nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**38.80**	**165**	P	**P**	**13 18 59.8**	**+2.0**
	comp=Z,3.9nm,1.1s,mb4.0,baz=40,slow=18,SNR=5.3						
KMBO				LR	LR	13 35 56.1	
	comp=Z,680nm,19.5s,MS4.5,baz=97,slow=38						
JMIC	**Jan Mayen**	**39.09**	**342**	*e*P	**P**	**13 19 00.6**	**+1.0**
JMIC				*e*PP	PP	13 20 25.4	-7.9
JMIC				AMS	AMS	13 37 22.1	
	comp=Z,339nm,18.8s,MS4.2						
MKAR	**Makanchi Array**	**41.07**	**58**	P	**P**	**13 19 15.8**	**-0.4**
	comp=Z,13nm,0.7s,mb4.7,baz=277,slow=8.4,SNR=34						
MKAR	**Makanchi Array**	**41.07**	**58**	*i* P	**P**	**13 19 16.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
NVS	**Novosibirsk**	**41.39**	**46**	*i* P	**P**	**13 19 18.4**	**-0.3**
NVS				*e*		13 21 01.3	
NVS				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
SPITS	**Spitsbergen Ar**	**41.71**	**356**	P	**P**	**13 19 21.3**	**+0.3**
	comp=E,13nm,1.2s,mb4.4,baz=157,slow=15,SNR=4.3						
DDI	**Dehra Dun**	**41.99**	**84**	*e*	**P**	**13 19 35.1**	**+11**
DBIC	**Dimbokro**	**42.28**	**233**	P	**P**	**13 19 25.0**	**-1.5**
	comp=E,7.8nm,0.5s,mb4.6,baz=22,slow=9.0,SNR=33						
DBIC	**Dimbokro**	**42.28**	**233**	P	**P**	**13 19 25.0**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIC	**Toumodi**	**42.41**	**233**	*e*P	**P**	**13 19 26.3**	**-1.3**
	comp=Z,48nm,0.7s,mb5.2						
KIC	**Kosan Boka**	**42.45**	**232**	*e*P	**P**	**13 19 26.7**	**-1.2**
	comp=Z,41nm,0.6s,mb5.2						
KBS	**Kingsbay**	**42.68**	**356**	*e*P	**P**	**13 19 27.0**	**-2.0**
KBS				*e*sP	sP	13 19 32.6	-0.6
KBS				*e*PP	PP	13 21 10.9	+0.2
KBS				*e*S	**S**	**13 25 53.5**	**+1.5**
KBS				*e*SS	SS	13 29 01.5	+5.3
KBS				AMS	AMS	13 38 47.8	
	comp=Z,340nm,15.9s,MS4.3						
LIC	**Lamto**	**42.73**	**233**	*e*P	**P**	**13 19 29.0**	**-1.2**
	comp=Z,88nm,1.1s,mb5.4						
WMQ	**Urumqi**	**45.32**	**62**⇑	*i*P	**P**	**13 19 51.5**	**+0.7**
WMQ				AP	pP	13 19 56.0	+2.2
WMQ				PCP	PcP	13 21 30.9	0.0
WMQ				PP	PP	13 21 38.5	+0.9
WMQ				S	**S**	**13 26 31.5**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
WMQ				LR	LR		
	comp=N,708nm,23.0s,MS4.6						
WMQ				LR	LR		
	comp=E,534nm,23.2s,MS4.6						
WMQ				LR	LR		
	comp=Z,574nm,23.2s,MS4.4						
KOLN	**Koldanda**	**47.46**	**84**	*e*P	**P**	**13 20 06.8**	**-1.1**
	comp=Z,36nm,0.8s,mb5.3						
SUMG	**Summit**	**48.17**	**338**	*e*P	**P**	**13 20 12.3**	**-0.5**
	comp=Z,17nm,1.0s,mb5.0						
GKN	**Gorkha**	**48.19**	**83**	*e*P	**P**	**13 20 14.5**	**+0.9**
DMN	**Daman**	**48.73**	**84**	*e*P	**P**	**13 20 17.4**	**-0.4**
	comp=Z,51nm,0.9s,mb5.6						
KKN	**Kakani**	**48.79**	**83**	*e*P	**P**	**13 20 19.0**	**+0.8**
	comp=Z,48nm,1.2s,mb5.4						
PKI	**Pulchoki**	**48.99**	**84**	*e*P	**P**	**13 20 19.7**	**-0.1**
LSA	**Lhasa**	**52.61**	**78**	P	**P**	**13 20 47.4**	**+0.1**
ZAK	**Zakamensk**	**54.03**	**50**⇓	*i*P	**P**	**13 20 57.6**	**+0.2**
SHL	**Shillong**	**55.06**	**82**	*e*P	**P**	**13 21 04.0**	**-1.4**
GTA	**Gaotai**	**55.30**	**64**	*e*P	**P**	**13 21 06.1**	**-0.8**
GTA				AP	pP	13 21 12.1	+2.1
GTA				PCP	PcP	13 22 09.7	+2.2
GTA				PP	PP	13 23 08.2	-3.9
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.6						
GTA				AMB	AMB		
	comp=Z,84nm,6.5s						
GTA				LR	LR		
	comp=N,302nm,19.0s,MS4.5						
GTA				LR	LR		
	comp=E,123nm,16.7s,MS4.5						
GTA				LR	LR		
	comp=Z,274nm,19.4s,MS4.3						
SONM	**Songino Array**	**56.77**	**52**	P	**P**	**13 21 16.4**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.8,baz=287,slow=8.8,SNR=28						
TIXI	**Tiksi**	**58.83**	**21**	*e*P	**P**	**13 21 28.6**	**-2.9**
TIXI				*e*S	**S**	**13 29 30.3**	**-4.9**
TIXI				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
LZH	**Lanzhou**	**59.56**	**66**	*e*P	**P**	**13 21 36.5**	**-0.5**
LZH				PP	PP	13 23 49.0	-1.5
LZH				*e*S	**S**	**13 29 44.0**	**-1.1**
LZH				*e*SS	SS	13 33 41.0	-0.9
LZH				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
LZH				LR	LR		
	comp=N,571nm,15.3s						
LZH				LR	LR		
	comp=Z,736nm,18.4s,MS4.8						
LZH	**Lanzhou**	**59.56**	**66**	*e*P	**P**	**13 21 36.5**	**-0.5**
	comp=Z,31nm,1.1s,mb5.2						
LZH				pP	pP	13 21 39.4	-0.7
LZH				sP	sP	13 21 41.2	-0.1
LZH				PP	PP	13 23 49.0	-1.5
LZH				*e*S	**S**	**13 29 44.0**	**-1.1**
LZH				sS		13 29 50.0	
LZH				*e*SS	SS	13 33 41.0	-0.9
LBTB	**Lobatse**	**61.57**	**182**	*e*P	**P**	**13 21 50.8**	**-0.2**
	comp=Z,18nm,1.0s,mb5.2						
CD2	**Chengdu**	**61.82**	**71**	P	**P**	**13 21 51.1**	**-1.4**
CD2				S	**S**	**13 30 08.8**	**-5.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
CD2				LR	LR		
	comp=E,390nm,14.4s						
CD2				LR	LR		
	comp=Z,310nm,22.8s						
BTO	**Baotou**	**61.99**	**59**	*e*P	**P**	**13 21 52.4**	**-1.1**
RES	**Resolute Bay**	**62.57**	**345**	*e*P	**P**	**13 21 53.6**	**-3.4**
	comp=Z,4.7nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**62.94**	**58**	*e*P	**P**	**13 21 59.7**	**-0.1**
HHC				AP	pP	13 22 04.9	+2.0
HHC				PP	PP	13 24 19.5	-0.4
HHC				S	**S**	**13 30 28.4**	**+0.4**
HHC				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,140nm,4.9s						
HHC				LR	LR		
	comp=N,205nm,16.1s,MS4.5						
HHC				LR	LR		
	comp=E,189nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=Z,214nm,22.6s,MS4.3						
SCHQ	**Schefferville**	**63.27**	**320**	P	**P**	**13 21 57.7**	**-4.0**
	comp=Z,6.4nm,0.6s,mb5.0,baz=67,slow=5.8,SNR=17						
SCHQ	**Schefferville**	**63.27**	**320**	*e*P	**P**	**13 21 57.9**	**-3.8**
	comp=Z,13nm,0.8s,mb5.1						
YAK	**Yakutsk**	**63.34**	**31**	*e*P	**P**	**13 22 00.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,263nm,17.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,221nm,16.0s						
KMI	**Kunming**	**63.84**	**77**	*e*P	**P**	**13 22 03.9**	**-2.1**
KMI				AP	pP	13 22 10.8	+1.7
KMI				PP	PP	13 24 26.3	-1.9
KMI				S	**S**	**13 30 35.9**	**-3.7**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,116nm,5.6s						
KMI				LR	LR		
	comp=N,261nm,26.8s,MS4.4						
KMI				LR	LR		
	comp=E,246nm,29.6s,MS4.4						
KMI				LR	LR		
	comp=Z,214nm,29.6s,MS4.2						
KMI	**Kunming**	**63.84**	**77**	*e*P	**P**	**13 22 03.9**	**-2.1**
	comp=Z,15nm,1.1s,mb4.9						
KMI				pP	pP	13 22 10.8	+1.7
KMI				PP	PP	13 24 26.3	-1.9
KMI				S	**S**	**13 30 35.9**	**-3.7**
KMI				sS		13 30 44.2	
KMI				SS	SS	13 34 41.9	-7.5
XAN	**Xi’an**	**64.19**	**66**	P	**P**	**13 22 07.3**	**-0.9**
XAN				AP	pP	13 22 18.4	+7.1
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
CMAR	**Chiang Mai Arr**	**64.30**	**86**	P	**P**	**13 22 07.2**	**-1.9**
	comp=Z,3.9nm,0.7s,mb4.5,baz=302,slow=7.9,SNR=16						
CMAR				LR	LR	13 51 48.2	
	comp=Z,110nm,18.5s,MS4.1,baz=290,slow=38						
CMAR	**Chiang Mai Arr**	**64.30**	**86**	P	**P**	**13 22 07.2**	**-1.8**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,110nm,18.5s						
GYA	**Guiyang**	**66.22**	**74**⇓	*i*P	**P**	**13 22 19.9**	**-1.4**
GYA				AP	pP	13 22 26.2	+1.8
GYA				PP	PP	13 24 51.8	+2.5
GYA				S	S	13 31 08.0	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,250nm,3.8s						
GYA				LR	LR		
	comp=N,140nm,15.3s,MS4.4						
GYA				LR	LR		
	comp=E,130nm,15.0s,MS4.4						
GYA				LR	LR		
	comp=Z,230nm,15.5s,MS4.5						
BJI	**Beijing**	**66.42**	**57**	*e*P	**P**	**13 22 22.2**	**-0.2**
BJI				S	S	13 31 14.0	+2.9
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
BJI				AMB	AMB		
	comp=Z,232nm,6.4s						
BJI				LR	LR		
	comp=N,558nm,19.0s,MS4.9						
BJI				LR	LR		
	comp=E,424nm,21.5s,MS4.9						
BJI				LR	LR		
	comp=Z,400nm,22.7s,MS4.6						
BJI	**Beijing**	**66.42**	**57**	*e*P	**P**	**13 22 22.2**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.6						
BJI				PP	PP	13 24 59.2	+8.4
BJI				S	S	13 31 14.0	+2.9
BJI				SS	SS	13 35 58.1	+29
ENH	**Enshi**	**66.44**	**69**	*e*P	**P**	**13 22 21.7**	**-1.0**
	comp=Z,20nm,1.1s,mb5.0						
CN2	**Changchun**	**70.46**	**50**	*e*P	**P**	**13 22 46.6**	**-0.8**
CN2				*e*S	S	13 31 56.4	-2.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS4.7						
NJ2	**Nanjing**	**72.38**	**63**	*e*P	**P**	**13 22 57.0**	**-2.2**
NJ2				AP	pP	13 23 07.3	+5.0
NJ2				XP	sP	13 23 11.3	+7.9
NJ2				PP	PP	13 25 39.4	-2.6
NJ2				S	S	13 32 19.0	-2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,600nm,18.0s,MS4.9						
NJ2				LR	LR		
	comp=E,210nm,18.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,920nm,21.6s,MS5.0						
INK	**Inuvik**	**74.22**	**353**	*e*P	**P**	**13 23 07.2**	**-1.9**
	comp=Z,13nm,1.0s,mb4.8						
SSE	**Sheshan**	**74.57**	**63**	P	**P**	**13 23 11.2**	**-0.7**
SSE				XP	sP	13 23 20.3	+4.1
SSE				S	S	13 32 49.6	+3.6
SSE				XS		13 33 01.6	
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,53nm,6.0s						
SSE				LR	LR		
	comp=N,232nm,23.9s,MS4.5						
SSE				LR	LR		
	comp=E,214nm,23.8s,MS4.5						
SSE				LR	LR		
	comp=Z,152nm,23.7s,MS4.2						
SSE	**Sheshan**	**74.57**	**63**	P	**P**	**13 23 11.2**	**-0.7**
	comp=Z,36nm,0.7s,mb5.4						
SSE				sP	sP	13 23 20.3	+4.1
SSE				S	S	13 32 49.6	+3.6
SSE				sS		13 33 01.6	
YKW3	**Yellowknife Ar**	**76.41**	**343**	*e*P	**P**	**13 23 20.0**	**-1.8**
YKA	**Yellowknife Ar**	**76.47**	**343**	P	**P**	**13 23 19.7**	**-2.3**
	comp=Z,3.2nm,0.9s,mb4.3,baz=35,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**76.47**	**343**	P	**P**	**13 23 19.7**	**-2.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
IMA	**Indian Mountai**	**77.40**	**1**	*e*P	**P**	**13 23 27.6**	**+0.4**
	comp=Z,150nm,1.5s,mb5.7						
YSS	**Yuzh-Sakhalins**	**78.28**	**39**	*e*P	**P**	**13 23 31.2**	**-1.2**
YSS				*e*		13 23 43.0	
YSS				*e*S	S	13 33 23.0	-3.2
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.8						
COLA	**College**	**78.54**	**358**	*e*P	**P**	**13 23 32.9**	**-0.6**
ILAR	**Eielson Array**	**78.62**	**358**	P	**P**	**13 23 32.6**	**-1.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=352,slow=3.8,SNR=38						
ILAR	**Eielson Array**	**78.62**	**358**	LR	LR	14 01 23.3	
	comp=Z,150nm,19.9s,MS4.3,baz=42,slow=37						
ILAR	**Eielson Array**	**78.62**	**358**	P	**P**	**13 23 32.6**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAWY	**Dawson**	**78.90**	**354**	*e*P	**P**	**13 23 34.6**	**-0.8**
MCK	**McKinley**	**79.71**	**359**	*e*P	**P**	**13 23 38.7**	**-1.2**
	comp=Z,15nm,1.3s,mb4.8						
ULM	**Lac du Bonnet**	**80.06**	**327**	P	**P**	**13 23 39.2**	**-2.8**
	comp=Z,3.9nm,0.8s,mb4.4,baz=46,slow=5.4,SNR=5.3						
ULM	**Lac du Bonnet**	**80.06**	**327**	*e*P	**P**	**13 23 39.3**	**-2.7**
	comp=Z,12nm,1.1s,mb4.7						
PET	**Petropavlovsk**	**80.86**	**28**	*e*P	**P**	**13 23 46.3**	**+0.1**
PET				*e*S	S	13 33 44.1	-9.0
PET				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.6						
SML	**Sawmill**	**81.63**	**358**	P	**P**	**13 23 47.8**	**-2.3**
PMR	**Palmer**	**81.86**	**359**⇑	*e*P	**P**	**13 23 50.8**	**-0.5**
	comp=Z,25nm,1.3s,mb5.0						
SPU	**Mount Spurr**	**82.31**	**360**	*e*P	**P**	**13 23 52.4**	**-1.1**
MGP	**Maguayo**	**83.18**	**287**	*e*P	**P**	**13 24 00.2**	**+1.2**
DLBC	**Dease Lake**	**83.26**	**348**	*e*P	**P**	**13 23 57.1**	**-1.4**
FVM	**French Village**	**86.19**	**316**	*e*P	**P**	**13 24 12.6**	**-1.1**
CCM	**Cathedral Cave**	**86.59**	**316**	*e*P	**P**	**13 24 14.4**	**-1.3**
	comp=Z,12nm,0.6s,mb5.3						
BDFB	**Brasilia**	**88.30**	**249**	P	**P**	**13 24 24.9**	**+0.5**
	comp=Z,8.0nm,0.8s,mb5.0,baz=84,slow=3.9,SNR=10						
BDFB	**Brasilia**	**88.30**	**249**	P	**P**	**13 24 24.9**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MIAR	**Mount Ida**	**90.42**	**315**	*e*P	**P**	**13 24 33.2**	**-0.7**
	comp=Z,16nm,1.0s,mb5.3						
SDV	**Santo Domingo**	**91.39**	**282**	*e*P	**P**	**13 24 37.5**	**-1.4**
	comp=Z,5.5nm,0.9s,mb4.9						
PDAR	**Pinedale Array**	**91.73**	**330**	P	**P**	**13 24 37.8**	**-2.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=56,slow=5.3,SNR=4.2						
BGU	**Big Grassy Mou**	**94.66**	**331**	*e*P	**P**	**13 24 51.8**	**-1.5**
ROSC	**El Rosal**	**96.74**	**281**	LR	LR	14 08 34.2	
	comp=Z,107nm,18.3s,MS4.4,baz=43,slow=34						
NVAR	**Mina Array Bea**	**98.81**	**334**	P	**P**	**13 25 10.8**	**-1.4**
	comp=Z,0.4nm,0.6s,mb4.1,baz=321,slow=1.9,SNR=3.3						
TXAR	**Lajitas Array**	**99.93**	**318**	P	**P**	**13 25 15.7**	**-1.8**
	comp=Z,2.1nm,1.2s,mb4.5,baz=63,slow=5.6,SNR=4.4						
WRA	**Warramunga Arr**	**114.68**	**97**	PKP	PKPdf	13 30 11.8	-3.2
	comp=Z,0.8nm,0.8s,baz=311,slow=2.0,SNR=13						
WRA	**Warramunga Arr**	**114.68**	**97**	PKIKP	PKPdf	13 30 11.8	-3.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**116.27**	**101**	PKP	PKPdf	13 30 14.8	-3.3
	comp=Z,1.0nm,0.7s,baz=305,slow=1.4,SNR=16						
QSPA	**South Pole Qui**	**126.71**	**180**	*e*PKP	PKPdf	13 30 34.6	-2.1

IDC **03** *13:13:29.2±1.9, 37.08N×27.51E, mb4.3/2, mb1 4.3/4,*
mb1mx3.9/20, ML3.8/1, MS4.2/2, Ms1 4.3/2, ms1mx3.7/16,
Error ellipse: s-maj=178.0km s-min=25.0km az=144.0
ATH **03** *13:13:29.8, 36.92N×27.66E, h10^{km}*
NEIC **03** *13:13:30.8, 36.96N×27.54E, h7^{km}, mb4.1/2, After ATH.*
ISK **03** *13:13:32.1, 37.07N×27.81E, h2^{km}, MD3.4*
ISC 03 13:13:29.4±0.6**, 36.87N**±0.05×**27.65E**±0.05**, h2^{km}, n20,**
σ**1^{s}07**/23**, mb4.2**/2**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.44**	**13**	PG	**Pg**	**13 13 37.7**	**-0.5**
NISR	**Nisiros**	**0.49**	**239**	*e*PB	**Pb**	**13 13 40.0**	**-0.5**
YER	**Yerkesik**	**0.57**	**62**	PG	**Pg**	**13 13 40.3**	**-0.5**
DNZL	**Cakiroluk**	**1.38**	**53**	*i* S	**Sb**	**13 14 14.3**	**+0.6**
DENT	**Denizli**	**1.41**	**51**	PN	**Pn**	**13 13 55.8**	**-0.4**
IZM	**Izmir**	**1.56**	**349**	PN	**Pn**	**13 13 59.1**	**+0.8**
IZM				SN	**Sn**	**13 14 19.4**	**0.0**
KSL	**Kastellorizon**	**1.71**	**114**	*e*Pb	**Pb**	**13 14 02.0**	**+0.7**
KSL				*e*Sn	**Sn**	**13 14 31.0**	**+7.8**
APE	**Apeiranthos**	**1.71**	**277**	*e*PN	**Pn**	**13 14 02.0**	**+1.5**
ELL	**Elmali**	**1.81**	**93**	PN	**Pn**	**13 14 04.1**	**+2.2**
SANT	**Santorini**	**1.83**	**255**	Pn	**Pn**	**13 14 10.8**	**+8.6**
AKS	**Akhisar**	**2.01**	**4**	*e*PN	**Pn**	**13 14 05.8**	**+1.0**

BCK	Bucak	2.42	75	ePN	Pn	13 14 11.5	+0.9
IDI	Anoyia	2.74	236	Pn	Pn	13 14 14.6	-0.5
	baz=327,slow=14,SNR=1.3						
BRTR	Keskin Array B	5.50	57	Pn	Pn	13 14 53.1	-1.3
	3.2nm,0.3s,baz=245,slow=17,SNR=5.5						
BRTR				Sn	Sn	13 15 55.1	-4.1
	1.0nm,0.3s,baz=337,slow=16,SNR=3.3						
BRG	Berggiesshubel	17.10	329	P	P	13 17 37.5	+6.5
	8.7nm,0.8s						
BRG	Berggiesshubel	17.10	329	i	P	13 17 37.5	+6.5
CLL	Collm	17.82	329	P	P	13 17 40.0	0.0
	logA/T=0.8						
CLL				i		13 17 44.4	
CLL				e		13 17 54.0	
CLL	Collm	17.82	329	eP	P	13 17 40.0	0.0
	17nm,0.9s						
CLL				i		13 17 44.4	
MKAR	Makanchi Array	41.15	58	P	P	13 21 14.8	-1.8
	2.8nm,0.6s,mb4.1,baz=273,slow=7.2,SNR=5.0						
SONM	Songino Array	56.84	52	P	P	13 23 15.5	-2.1
	2.1nm,0.7s,mb4.3,baz=287,slow=7.9,SNR=3.8						

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*ISK **03** 13:27:42.9,36.94N×27.69E,h8^{km},MD3.4*

*NEIC **03** 13:27:43.0,36.74N×27.49E,h5^{km},MD3.4(ATH),After ATH.*

*ATH **03** 13:27:43.0,36.74N×27.49E,h5^{km},MD3.4/4*

ISC 03 13:27:43.0±1.0**,36.91N**±0.05×**27.68E**±0.05**,h7**^{km}±7^{km}**, n16,**σ**1^{s}00**/22**,2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	309	iP	Pg	13 27 48.5	+0.5
BDRM				iS	Sg	13 27 53.1	+1.7
MLSB	Milas	0.39	11	iPG	Pg	13 27 50.5	-0.4
MLSB				SG	Sg	13 27 56.1	-0.1
YER	Yerkesik	0.53	65	PG	Pg	13 27 53.2	-0.5
AYDN	Tasoluk	0.77	12	iP	Pg	13 27 57.6	-0.7
AYDN				iS	Sg	13 28 08.2	-0.4
ARG	Arkhangelos	0.78	152	ePB	Pb	13 27 57.5	-0.9
SMG	Samos	1.04	320	ePN	Pn	13 28 04.0	+0.1
DNZL	Cakiroluk	1.34	54	⇑iP	Pb	13 28 08.6	+0.7
DNZL				iS	Sb	13 28 26.7	+1.5
DENT	Denizli	1.37	52	PN	Pn	13 28 08.5	0.0
IZM	Izmir	1.52	348	ePN	Pn	13 28 10.3	-0.4
KDAG	Bornova	1.53	348	⇑iP	Pn	13 28 12.4	+1.6
KDAG				iS	Sb	13 28 36.8	+6.2
KSL	Kastellorizon	1.71	116	ePN	Pn	13 28 16.5	+3.1
MANT	Manisa	1.73	24	iP	Pn	13 28 13.0	-0.7
MANT				iS	Sn	13 28 34.1	-1.9
APE	Apeiranthos	1.73	276	ePB	Pb	13 28 13.5	-1.1
ELL	Elmali	1.79	94	ePN	Pn	13 28 15.1	+0.5
AKS	Akhisar	1.97	3	ePN	Pn	13 28 17.4	+0.3
PRK	Paraskevi	2.58	335	ePG	Pg	13 28 33.5	-1.1

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*ISK **03** 13:34:56.8,36.89N×27.59E,h4^{km},MD3.6*

*IDC **03** 13:34:57.6±1.8,36.88N×27.71E,mb3.5/2,mb1 3.6/5, mb1mx3.4/21,ML3.3/3,Error ellipse: s-maj=40.8km s-min=25.0km az=146.0*

*NEIC **03** 13:34:59.3,36.92N×27.63E,h26^{km},MD3.6(ATH),After ATH.*

*ATH **03** 13:34:59.3,36.92N×27.63E,h26^{km}±2^{km},MD3.6/10*

ISC 03 13:34:58.7±0.6**,36.90N**±0.02×**27.65E**±0.03**,h11**^{km}±4^{km}**, n49,**σ**1^{s}08**/61**,mb3.5**/2**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	316	iP	Pg	13 35 04.2	+0.5
BDRM				iS	Sg	13 35 08.6	+1.4
MLSB	Milas	0.41	14	iPG	Pg	13 35 06.1	-1.0
MLSB	Milas	0.41	14	Pg	Pg	13 35 06.6	-0.5
MLSB				Sg	Sg	13 35 12.6	-0.2
NISR	Nisiros	0.51	236	ePN	Pn	13 35 10.0	-1.5
YER	Yerkesik	0.56	65	iPG	Pg	13 35 08.8	-1.2
YER	Yerkesik	0.56	65	Pg	Pg	13 35 09.1	-0.9
ARG	Arkhangelos	0.78	150	ePN	Pn	13 35 13.6	-1.8
ARG				eSN	Sn	13 35 27.0	-0.1
AYDN	Tasoluk	0.79	13	iP	Pb	13 35 13.5	-0.4
AYDN				iS	Sb	13 35 24.2	-0.1
SMG	Samos	1.04	322	ePN	Pn	13 35 19.0	-0.1
DNZL	Cakiroluk	1.37	54	iP	Pn	13 35 24.2	+0.4
DNZL				iS	Sb	13 35 42.7	+1.5
DENT	Denizli	1.40	52	PN	Pn	13 35 24.5	+0.2
DENT				SN	Sn	13 35 44.4	+1.6
DENT	Denizli	1.40	52	Pn	Pn	13 35 24.7	+0.4
KARP	Karpathos	1.40	197	ePB	Pb	13 35 24.5	+0.1
KARP				eSN	Sn	13 35 44.0	+1.1
IZM	Izmir	1.53	349	PN	Pn	13 35 25.5	-0.7
IZM	Izmir	1.53	349	Pn	Pn	13 35 26.7	+0.5
KDAG	Bornova	1.54	349	iP	Pn	13 35 25.4	-0.8
KDAG				iS	Sb	13 35 49.7	+3.6
APE	Apeiranthos	1.71	276	ePN	Pn	13 35 30.0	+1.3
APE				eSN	Sn	13 35 51.5	+0.9
KSL	Kastellorizon	1.73	115	ePN	Pn	13 35 30.5	+1.5
MANT	Manisa	1.75	24	iP	Pn	13 35 28.9	-0.3
MANT				iS	Sn	13 35 49.6	-2.1
ELL	Elmali	1.82	94	ePN	Pn	13 35 30.8	+0.5
ELL	Elmali	1.82	94	Pn	Pn	13 35 31.3	+1.0
SANT	Santorini	1.84	254	ePn	Pn	13 35 34.0	+3.4
AKS	Akhisar	1.98	4	ePN	Pn	13 35 31.4	-1.3
AKS	Akhisar	1.98	4	Pn	Pn	13 35 33.3	+0.6
NPS	Neapolis	2.32	226	ePB	Pb	13 35 40.0	-0.1
BCK	Bucak	2.42	76	ePN	Pn	13 35 39.0	+0.2
BCK	Bucak	2.42	76	Pn	Pn	13 35 40.1	+1.3
ISP	Isparta	2.47	67	iP	Pn	13 35 39.6	0.0
ISP				iS	Sn	13 36 11.4	+1.5
XRY	Khrisi	2.57	219	ePB	Pb	13 35 42.5	-1.9
PRK	Paraskevi	2.59	336	ePN	Pn	13 35 40.5	-0.8
BALB	Balikesir	2.75	4	Pn	Pn	13 35 44.7	+1.1
IDI	Anoyia	2.75	235	Pn	Pn	13 35 43.3	-0.3
	3.9nm,0.3s,baz=11,slow=16,SNR=7.5						
DST	Dursunbey	2.81	16	Pn	Pn	13 35 45.8	+1.3
ALT	Altintas	2.90	41	ePN	Pn	13 35 46.0	+0.2
ALT	Altintas	2.90	41	Pn	Pn	13 35 46.4	+0.6
PTL	Penteli	3.22	292	ePN	Pn	13 35 50.2	-0.1
ULDT	Uludag	3.45	19	iP	Px	13 35 41.1	
ULDT				iS	Sn	13 36 34.4	-0.3
LPK	Lapseki	3.54	349	Pn	Pn	13 35 54.7	-0.2
MKIT	Kithairon Oros	3.72	292	ePN	Pn	13 35 58.0	+0.6
HDMB	Hadim	3.88	88	Pn	Pn	13 36 01.2	+1.6
KIZT	Kizilcal	3.89	58	ePN	Pn	13 35 59.6	-0.2
YLV	Yalova	3.91	20	Pn	Pn	13 36 00.0	0.0
IKL	Isikli	4.90	96	ePN	Pn	13 36 14.7	+0.5
IKL	Isikli	4.90	96	Pn	Pn	13 36 15.1	+0.9
BRTR	Keskin Array B	5.49	57	Pn	Pn	13 36 20.1	-2.4
	0.7nm,0.3s,baz=241,slow=15,SNR=10						
BRTR				Sn	Sn	13 37 24.7	-1.7
	0.2nm,0.3s,baz=204,slow=15,SNR=2.9						
MLR	Muntele Rosu	8.68	352	Pn	P	13 37 06.1	-1.1
	0.1nm,0.3s,baz=207,slow=5.4,SNR=4.5						
ASF	Jabal al Asfar	8.96	119	Sn	Sn	13 38 47.0	-6.1
	baz=193,slow=11,SNR=2.0						
MKAR	Makanchi Array	41.14	58	P	P	13 42 43.1	-1.2
	1.0nm,0.8s,mb3.5,baz=270,slow=8.5,SNR=4.3						
SONM	Songino Array	56.83	52	P	P	13 44 43.8	-1.5
	0.2nm,0.4s,mb3.5,baz=288,slow=7.8,SNR=4.1						

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*ISK **03** 13:58:36.9,36.89N×27.63E,h5^{km},MD3.4*

*NEIC **03** 13:58:39.4,36.94N×27.67E,h25^{km},MD3.5(ATH),After ATH.*

*ATH **03** 13:58:39.4,36.92N×27.62E,h25^{km}±8^{km},MD3.5/7*

ISC 03 13:58:37.4±0.8**,36.86N**±0.03×**27.66E**±0.04**,h2**^{km}±6^{km}**, n24,**σ**1^{s}10**/32**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	320	iP	Pg	13 58 44.0	+1.2
BDRM				iS	Sg	13 58 48.3	+1.9
MLSB	Milas	0.45	12	iPG	Pg	13 58 46.0	-0.4
NISR	Nisiros	0.49	240	ePn	Pn	13 58 50.5	-0.5
NISR				eSn	Sn	13 59 00.0	-0.2
YER	Yerkesik	0.57	61	iPG	Pg	13 58 48.3	-0.5
ARG	Arkhangelos	0.74	149	ePN	Pn	13 58 54.0	-0.6
ARG	Arkhangelos	0.74	149	ePn	Pn	13 58 53.0	-1.6
AYDN	Tasoluk	0.82	12	iP	Pb	13 58 53.0	-1.0
AYDN				iS	Sg	13 59 03.0	-1.8
KARP	Karpathos	1.37	197	ePB	Pb	13 59 04.5	+1.1
DNZL	Cakiroluk	1.38	53	iP	Pb	13 59 03.5	-0.2
DNZL				iS	Sb	13 59 22.1	+0.4
DENT	Denizli	1.42	50	PN	Pn	13 59 04.4	+0.2
DENT				SN	Sn	13 59 23.7	0.0
IZM	Izmir	1.57	349	PN	Pn	13 59 05.8	-0.7
KDAG	Bornova	1.58	349	⇑iP	Pn	13 59 05.3	-1.2
KDAG				iS	Sb	13 59 29.1	+1.8
KSL	Kastellorizon	1.70	114	ePN	Pn	13 59 11.0	+2.7
APE	Apeiranthos	1.72	278	ePB	Pb	13 59 08.5	-0.9
MANT	Manisa	1.78	23	iP	Pn	13 59 10.4	+0.9
MANT				iS	Sn	13 59 34.8	+1.9
ELL	Elmali	1.81	93	ePN	Pn	13 59 10.1	+0.3
AKS	Akhisar	2.02	3	ePN	Pn	13 59 11.6	-1.3
NPS	Neapolis	2.30	227	ePB	Pb	13 59 19.5	+0.2
ISP	Isparta	2.48	66	ePN	Pn	13 59 19.5	+0.1
ISP	Isparta	2.48	66	iP	Pn	13 59 25.4	+6.0
ISP				iS	Sn	13 59 54.7	+4.0
PRK	Paraskevi	2.63	336	ePN	Pn	13 59 21.5	-0.1
ULDT	Uludag	3.48	19	iP	Pn	13 59 44.2	+10
LPK	Lapseki	3.58	349	ePN	Pn	13 59 33.5	-1.7
IKL	Isikli	4.89	95	ePN	Pn	13 59 54.0	+0.3

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*NEIC **03** 13:59:06.0,18.41N×102.29W,h19^{km},MD4.1(MEX),After MEX.*

MEX 03 13:59:06.3±0.9**,18.43N**×**102.28W,h19**^{km}±47^{km}**,MD4.1, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	1.13	137	iP	Pb	13 59 23.9	-3.0
ZIIG				iS	Sb	13 59 36.6	-4.6
ZIIG	Zihuatanejo	1.13	137	iP	Pb	13 59 23.9	-3.0
ZIIG				iS	Sb	13 59 36.6	-4.6
MOIG	Morelia	1.61	39	iP	Pn	13 59 31.7	-2.4
MOIG				iS	Sn	13 59 49.2	-5.2
MOIG	Morelia	1.61	39	iP	Pn	13 59 31.9	-2.1
MOIG				iS	Sn	13 59 49.9	-4.5
CGX	Ciudad Guzman	1.71	317	iP	Pn	13 59 40.0	+4.5
CGX				iS	Sn	13 59 53.0	-4.0
SFJM	Santa Fe	2.17	341	iP	Pn	13 59 39.0	-3.0
SFJM				iS	Sn	14 00 07.0	-1.6
CAIG	El Cayaco	2.36	125	eP	Pn	13 59 42.5	-2.3
CAIG				iS	Sn	14 00 09.9	-3.5
PLIG	Platanillo	2.63	90	eP	Pn	13 59 47.3	-1.4
PLIG				iS	Sn	14 00 16.7	-3.7
CJM	Chamela	2.83	292	iP	Pn	13 59 47.6	-3.9
CJM				iS	Sn	14 00 19.1	-6.2
PPM	Popocatepetl	3.51	79	eP	Pn	14 00 00.6	-0.6
PPM				iS	Sn	14 00 38.6	-4.1

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*NEIC **03** 14:17:50.6,37.03N×27.70E,h5^{km},mb4.2/9,ML4.1(ATH), After ATH.*

*ATH **03** 14:17:50.6,37.03N×27.69E,h5^{km},MD4.0/16,ML4.1*

*MOS **03** 14:17:51.7±3.2,36.82N×27.93E,h10^{km},mb4.2/8,Error ellipse: s-maj=13.5km s-min=5.9km az=103.8*

*ISK **03** 14:17:53.1,37.00N×27.73E,h12^{km},MD4.1,ML4.1*

*THE **03** 14:17:55.8,37.18N×27.84E,h10^{km},ML4.2*

*IDC **03** 14:17:55.8±4.0,36.98N×27.63E,h31^{km}±31^{km},mb3.8/12, mb1 3.8/18,mb1mx3.8/27,ML3.5/6,MS3.4/7,Ms1 3.4/7, ms1mx3.0/31,Error ellipse: s-maj=15.0km s-min=14.3km az=126.0*

*NIC **03** 14:17:55.5±0.2,37.56N×28.09E,h25^{km},mb4.6,ML4.2, MW3.7*

ISC 03 14:17:52.3±0.4**,36.90N**±0.02×**27.70E**±0.02**,h14**^{km}±3^{km}**, n168,**σ**1^{s}15**/186**,mb4.0**/17**,MS3.4**/6**,5C-3D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	310	iP	Pg	14 17 57.6	-0.6
BDRM				iS	Sg	14 18 01.9	-0.2
MLSB	Milas	0.41	9	iPG	Pg	14 18 00.2	-0.6
MLSB	Milas	0.41	9	Pg	Pg	14 18 00.2	-0.6
MLSB				Sg	Sg	14 18 06.2	-0.2
YER	Yerkesik	0.53	63	iPG	Pg	14 18 02.4	-0.7
YER	Yerkesik	0.53	63	Pg	Pg	14 18 02.4	-0.7
YER				Sg	Sg	14 18 10.4	0.0
NISR	Nisiros	0.54	238	ePB	Pb	14 18 03.8	+0.9
NISR	Nisiros	0.54	238	ePb	Pb	14 18 04.0	+1.1
ARG	Arkhangelos	0.76	153	ePG	Pg	14 18 07.0	-0.7
AYDN	Tasoluk	0.78	11	iP	Pb	14 18 07.0	0.0
AYDN				iS	Sb	14 18 17.8	+0.6
DNZL	Cakiroluk	1.34	53	iP	Pn	14 18 17.2	+0.6
DNZL				iS	Sb	14 18 36.8	+3.3
DENT	Denizli	1.37	51	PN	Pn	14 18 18.0	+1.0
DENT	Denizli	1.37	51	Pn	Pn	14 18 17.8	+0.8
KARP	Karpathos	1.41	198	ePG	Pg	14 18 18.5	-2.1
IZM	Izmir	1.54	347	PN	Pn	14 18 19.3	-0.2
IZM				SN	Sn	14 18 39.5	+0.2
IZM	Izmir	1.54	347	Pn	Pn	14 18 20.0	+0.5
KDAG	Bornova	1.54	347	iP	Pn	14 18 19.4	-0.2
KDAG				iS	Sb	14 18 45.6	+6.2
KSL	Kastellorizon	1.69	116	ePN	Pn	14 18 24.0	+2.3
MANT	Manisa	1.73	23	iP	Pn	14 18 22.7	+0.4
MANT				iS	Sn	14 18 43.9	-0.4
APE	Apeiranthos	1.74	276	ePG	Pg	14 18 23.0	-4.2
ELL	Elmali	1.78	94	ePN	Pn	14 18 24.6	+1.6
ELL	Elmali	1.78	94	Pn	Pn	14 18 25.5	+2.5
SANT	Santorini	1.87	254	ePn	Pn	14 18 25.7	+1.4
THR1	Thera Island	1.87	254	ePn	Pn	14 18 29.7	+5.4
THR1				eSn	Sn	14 18 57.6	+10
THR4	Thira Island,	1.90	257	ePn	Pn	14 18 30.9	+6.3
THR4				eSn	Sn	14 18 58.0	+10
THR3	Thira Island,	1.91	256	ePn	Pn	14 18 31.6	+6.9
THR6	Thira Island,	1.93	254	ePn	Pn	14 18 30.8	+5.7
THR6				eSn	Sn	14 18 59.0	+10
THR5	Thira Island,	1.95	257	ePn	Pn	14 18 31.6	+6.3
AKS	Akhisar	1.98	3	PN	Pn	14 18 26.0	+0.2
KHL	Karahalli	2.03	45	PN	Pn	14 18 26.7	+0.1
KHL	Karahalli	2.03	45	Pn	Pn	14 18 27.8	+1.2
NPS	Neapolis	2.35	227	ePN	Pn	14 18 34.0	+3.0
BCK	Bucak	2.38	75	PN	Pn	14 18 32.4	+0.9
BCK	Bucak	2.38	75	Pn	Pn	14 18 35.4	+3.9
ISP	Isparta	2.43	66	ePN	Pn	14 18 33.4	+1.1
ISP	Isparta	2.43	66	Pn	Pn	14 18 34.2	+1.9
XRY	Khrisi	2.59	219	ePN	Pn	14 18 38.5	+4.0
BALB	Balikesir	2.75	3	ePN	Pn	14 18 36.5	-0.2
BALB	Balikesir	2.75	3	Pn	Pn	14 18 37.0	+0.3
IDI	Anoyia	2.78	236	Pn	Pn	14 18 38.4	+1.1
	2.8nm,0.3s,baz=48,slow=17,SNR=18						
DST	Dursunbey	2.80	15	Pn	Pn	14 18 37.1	-0.5
VAM	Vamos	3.20	243	ePG	Pg	14 18 51.5	-4.7
PTL	Penteli	3.26	292	ePB	Pb	14 18 44.6	-4.9
ORLT	Orhaneli	3.28	16	ePN	Pn	14 18 44.2	-0.2
ATH	Athens Observa	3.34	290	ePB	Pb	14 18 46.0	-5.0
MPAR	Parnis Oros	3.39	293	ePN	Pn	14 18 46.8	+0.9
KCT	Karacabey	3.41	9	Pn	Pn	14 18 44.2	-1.9
ULDT	Uludag	3.43	19	iP	Pn	14 18 46.3	-0.3
ULDT				iS	Sn	14 19 30.3	+2.9
BNT	Bandirma	3.46	3	Pn	Pn	14 18 47.1	+0.2
NAIG	Nisos Aigina	3.46	286	ePN	Pn	14 18 47.5	+0.6
NSAL	Nisos Salamina	3.52	288	ePN	Pn	14 18 47.8	+0.1
LPK	Lapseki	3.55	348	ePN	Pn	14 18 47.7	-0.5
LPK	Lapseki	3.55	348	Pn	Pn	14 18 48.5	+0.3
ESKT	Eskisehir	3.61	43	ePN	Pn	14 18 49.5	+0.5
ESKT	Eskisehir	3.61	43	iP	Pn	14 18 49.6	+0.6
ESKT				iS	Px	14 18 57.1	
ESKT	Eskisehir	3.61	43	Pn	Pn	14 18 48.9	-0.1
LOS	Limnos	3.66	327	ePn	Pn	14 18 50.2	+0.4
MKIT	Kithairon Oros	3.75	291	ePN	Pn	14 18 51.9	+0.8
KYTH	Kithira	3.80	262	ePN	Pn	14 18 52.5	+0.8
SART	Tekirdag	3.81	354	iP	Pn	14 18 51.3	-0.6
SART				iS	Px	14 18 53.0	
VLI	Veliai	3.82	269	ePN	Pn	14 18 52.3	+0.2
HDMB	Hadim	3.84	88	ePN	Pn	14 18 54.2	+1.9
HDMB	Hadim	3.84	88	Pn	Pn	14 18 56.4	+4.1
KIZT	Kizilcal	3.86	58	ePN	Pn	14 18 52.6	+0.1
KIZT	Kizilcal	3.86	58	Pn	Pn	14 18 54.1	+1.6
KONT	Konya--Tatoy	3.86	73	ePN	Pn	14 18 53.3	+0.7
KONT	Konya--Tatoy	3.86	73	Pn	Pn	14 18 55.3	+2.7
YLV	Yalova	3.89	19	Pn	Pn	14 18 56.5	+3.4
BADT	Buyukada	4.10	15	Pn	Pn	14 18 54.7	-1.4
AKMC	Akamas	4.20	115	⇑P	Pn	14 18 57.9	+0.5
ALN	Alexandroupoli	4.20	343	ePn	Pn	14 18 56.8	-0.6
PPCY	Paphos	4.27	117	⇑P	Pn	14 18 58.9	+0.4
ISK	Istanbul-Kandi	4.30	14	Pn	Pn	14 19 00.0	+1.2
ALFC	Alevga	4.33	112	⇑P	Pn	14 18 59.4	+0.1
	8.9nm,0.5s						
ALFC				S	Sn	14 19 48.7	-1.5
OUR	Ouranopolis	4.50	321	ePn	Pn	14 19 01.6	-0.1
RDO	Rodhopi	4.57	339	ePN	Pn	14 19 02.0	-0.6
ITM	Ithomi	4.62	275	ePN	Pn	14 19 06.0	+2.5
HENT	Hendek	4.65	32	iP	Pg	14 19 20.8	-4.3
HENT				iS	Sg	14 20 22.6	-4.6
SZAC	Souni-Zanaja	4.72	115	P	Pn	14 19 05.1	+0.2
	8.7nm,0.5s						
SZAC				S	Sn	14 20 00.2	+0.2
AGG	Agios Georgios	4.74	298	ePn	Pn	14 19 06.8	+1.7
MAMC	Mammari	4.79	109	P	Pn	14 19 08.0	+2.2
IKL	Isikli	4.87	96	ePN	Pn	14 19 08.3	+1.4
IKL	Isikli	4.87	96	Pn	Pn	14 19 07.9	+1.0
CSS	Prodhromos	4.96	111	⇑P	Pn	14 19 07.7	-0.5
	5.7nm,0.5s						
CSS				S	Sn	14 20 04.5	-1.5
ANTO	Ankara	4.99	52	ePN	Pn	14 19 08.7	+0.1
ANTO	Ankara	4.99	52	Pn	Pn	14 19 08.2	-0.4
SGKT	Sivrigoynuk	5.01	42	iP	Pn	14 19 09.4	+0.5
EVR	Evrytania	5.08	295	ePN	Pn	14 19 11.0	+1.2
LIT	Litokhoron	5.19	310	ePn	Pn	14 19 12.1	+0.6
RZN	Rozhen	5.32	335	iP	Pn	14 19 12.5	-0.7
BRTR	Keskin Array B	5.46	57	Pn	Pn	14 19 15.9	+0.6
	2.8nm,0.3s,baz=241,slow=15,SNR=76						
BRTR				Sn	Sn	14 20 17.2	-1.3
	1.1nm,0.3s,baz=41,slow=25,SNR=4.0						
BRTR	Keskin Array B	5.46	57	P	Pn	14 19 15.9	+0.6
BRTR						14 20 17.3	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MMB	Musomiste	5.61	328	iP	Pn	14 19 16.5	-0.8
KNT	Kendrikon	5.67	320	ePn	Pn	14 19 19.3	+1.1
ELDT	Eldivan	5.74	50	iP	Pn	14 19 20.0	+0.8
GRG	Griva	5.79	316	ePn	Pn	14 19 20.7	+0.9
MEV	Metsovon	5.84	302	ePn	Pn	14 19 22.3	+1.6
AVNT	Avonos	5.97	69	iP	Pn	14 19 23.4	+0.9
KKB	Krupnik	6.12	326	iP	Pn	14 19 34.5	+10
FNA	Florina	6.28	310	ePn	Pn	14 19 28.6	+1.8
BALT	Daday	6.40	42	iP	Pn	14 19 28.3	-0.3
PVL	Pavlikeni	6.57	345	P	Pn	14 19 29.5	-1.4
VTS	Vitosha	6.66	330	iP	Pn	14 19 32.0	-0.1
CTKT	Corum	6.68	54	iP	Pn	14 19 35.1	+2.7
COBT	Iskenderun	6.89	91	iP	Pn	14 19 36.4	+1.1
COBT				iS	Px	14 19 53.0	
HNTI	Hanita	7.22	120	Pn	Pn	14 19 39.5	-0.5
HNTI				Sn	Sn	14 20 57.6	-4.9
HRI	Mount Hermon	7.52	116	Pn	Pn	14 19 43.3	-0.9
MMLI	Mount Malkishu	7.76	123	Pn	Pn	14 19 47.3	-0.3
HMDT	Nahal Hemdat	7.94	123	Pn	Pn	14 19 49.4	-0.8
KZIT	Kziot	8.16	135	Pn	P	14 19 51.0	-2.2
MLR	Muntele Rosu	8.69	352	Pn	P	14 19 58.3	-2.2
	comp=Z,0.1nm,0.3s,baz=236,slow=7.6,SNR=5.9						
MLR				LR	LR	14 23 48.3	
	comp=Z,195nm,18.7s,baz=183,slow=41						
PRNI	Paran	8.93	135	Pn	P	14 20 00.6	-3.2
TIP	Timpagrande	8.93	288	eP	P	14 20 01.7	-2.1
ASF	Jabal al Asfar	8.93	119	Pn	P	14 20 03.6	-0.3
	comp=Z,1.1nm,0.3s,baz=187,slow=14,SNR=3.8						
ASF				Sn	Sn	14 21 46.2	+0.9
	comp=Z,1.2nm,0.3s,baz=240,slow=22,SNR=4.8						
MBH	Mount Berech	9.30	137	Pn	P	14 20 05.4	-3.6
KIV	Kislovodsk	13.41	54	iP	P	14 21 05.5	+0.9
KIV				pmax	pmax		
	comp=Z,29nm,2.5s						
GNI	Garni	13.74	71	LR	LR	14 27 04.9	
	comp=Z,116nm,18.4s,baz=180,slow=40						
AKASG	Malin Array Be	13.85	4	Pn	P	14 21 08.5	-1.8
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=6.3						
OKC	Ostrava-Krasne	14.66	335	LM		14 28 30.0	
	comp=Z,0.2nm,13.0s						
GERES	GERESS Array B	15.71	324	Pn	P	14 21 34.8	+0.1
	comp=Z,0.1nm,0.3s,baz=242,slow=29,SNR=3.4						
GERES				Sn	S	14 24 23.3	-5.5
	comp=Z,0.9nm,0.3s,baz=2.6,slow=29,SNR=5.8						
DPC	Dobruska-Polom	15.74	332	eP	P	14 21 41.5	+6.4
DPC				e		14 21 49.1	
DPC				LM		14 28 40.0	
	comp=Z,0.3nm,8.7s						
DPC	Dobruska-Polom	15.74	332	eP	P	14 21 41.5	+6.4
DPC				MLR	MLR		
	comp=Z,300nm,8.7s						
KHC	Kasperske Hory	15.97	324	eP	P	14 21 44.1	+6.1
KHC				LM		14 28 40.0	
	comp=Z,0.3nm,10.5s						
PRU	Pruhonice	16.17	328	eP	P	14 21 46.3	+5.8
PRU				LM		14 29 00.0	
	comp=Z,0.2nm,9.0s						
PVCC	Panska Ves	16.57	329	eP	P	14 21 49.1	+3.5
PVCC				LM		14 29 20.0	
	comp=Z,0.4nm,10.0s						
BRG	Berggiesshubel	17.09	329	eP	P	14 21 55.2	+3.0
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRG				MLR	MLR		
	comp=Z,280nm,11.4s						
BRG	Berggiesshubel	17.09	329	eP	P	14 21 55.2	+3.0
	comp=Z,6.8nm,0.8s						
BRG				i		14 21 59.6	
CLL	Collm	17.81	329	⇓i	P	14 22 07.1	+6.0
CLL				e		14 22 28.0	
CLL				eS	S	14 25 30.0	+13
CLL	Collm	17.81	329	⇓iP	P	14 22 07.1	+6.0
CLL				eS	S	14 25 30.0	+13
CLL				pmax	pmax		
	comp=Z,15nm,0.8s						
CLL	Collm	17.81	329	⇓iP	P	14 22 07.1	+6.0
	comp=Z,15nm,0.8s						
CLL				eS	S	14 25 30.0	+13
CABF	La Chapelle	18.77	308	eP	P	14 22 12.4	-0.6
	comp=Z,15nm,0.8s						
OBN	Obninsk	19.21	16	iP	P	14 22 18.3	+0.1
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,10.0s						
LASF	Ste Croix	19.46	299	eP	P	14 22 20.6	-0.6
	comp=Z,30nm,1.3s						
SMF	Signal de Mont	20.22	306	eP	P	14 22 28.1	-1.3
LOR	Lormes	20.43	308	eP	P	14 22 30.3	-1.4
LOR				eR			
	comp=Z,63nm,19.0s						
SSF	Saint Saulge	20.58	307	eP	P	14 22 31.0	-2.2
AVF	Avril sur Loir	20.58	306	eP	P	14 22 32.0	-1.2
	comp=Z,17nm,0.9s						
FLN	La Foliniere	23.68	309	eP	P	14 23 03.4	-0.7
	comp=Z,32nm,1.0s,mb4.4						
FLN				eR			
	comp=Z,46nm,17.5s						
GRR	Gorron	23.80	308	eP	P	14 23 03.7	-1.5
	comp=Z,22nm,0.8s,mb4.3						
FINES	FINESS Array B	24.59	358	P	P	14 23 12.4	-0.4
	comp=Z,3.9nm,1.0s,mb3.9,baz=158,slow=10,SNR=8.3						
FINES	FINESS Array B	24.59	358	iP	P	14 23 12.4	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HFS	Hagfors	24.93	343	P	P	14 23 14.1	-1.9
	comp=Z,2.1nm,0.7s,mb3.8,baz=140,slow=12,SNR=4.3						
HFS	Hagfors	24.93	343	P	P	14 23 14.1	-1.9
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	Sonseca Array	24.94	286	P	P	14 23 16.9	+0.5
	comp=Z,1.3nm,0.6s,mb3.6,baz=75,slow=10.0,SNR=5.7						
NB2	NORSAR Subarra	26.32	342	P	P	14 23 25.9	-3.1
	comp=Z,2.1nm,1.1s,mb3.6,baz=151,slow=10						
NOA	NORSAR Array B	26.32	342	P	P	14 23 27.9	-1.1
	comp=Z,0.5nm,0.9s,mb3.1,baz=138,slow=9.0,SNR=3.6						
NOA				LR	LR	14 35 04.3	
	comp=Z,40nm,19.9s,MS3.0,baz=165,slow=39						
NOA	NORSAR Array B	26.32	342	P	P	14 23 27.9	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,40nm,19.9s						
ARU	Arti	28.44	37	⇑iP	P	14 23 47.6	-0.8
ARU				e		14 24 38.6	
ARU				ePPP	PPP	14 24 47.4	-5.1
ARU				e		14 26 59.2	
ARU				eS	S	14 28 34.8	+1.2
ARU				eSS	SS	14 29 50.4	-8.2
ARU				e		14 34 25.5	
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
ARU				MLR	MLR		
	comp=Z,30nm,19.0s,MS2.9						
ARU				MLR	MLR		

	comp=N,100nm,20.5s,MS3.4						
ARU				MLR	MLR		
	comp=E,30nm,20.0s,MS3.4						
ARCES	ARCESS Array B	32.72	359	P	P	14 24 22.9	-3.2
	comp=E,1.6nm,0.8s,mb4.0,baz=169,slow=6.2,SNR=5.7						
ARCES				LR	LR	14 37 35.3	
	comp=E,69nm,18.2s,MS3.4,baz=268,slow=36						
ARCES	ARCESS Array B	32.72	359	P	P	14 24 22.9	-3.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,69nm,18.2s						
ZRNK	Zerenda	32.83	47	eP	P	14 24 26.5	-0.7
	comp=Z,4.9nm,0.9s,mb4.4						
BVAR	Borovoye Array	33.66	48	P	P	14 24 33.7	-0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=297,slow=3.3,SNR=3.9						
KURK	Kurchatov	38.49	52	eP	P	14 25 14.6	-0.9
	comp=Z,9.6nm,1.1s,mb4.4						
JMIC	Jan Mayen	39.04	342	LR	LR	14 40 15.2	
	comp=Z,46nm,20.3s,MS3.3,baz=87,slow=34						
MKAR	Makanchi Array	41.11	58	P	P	14 25 37.2	0.0
	comp=Z,3.3nm,0.6s,mb4.1,baz=277,slow=7.8,SNR=18						
MKAR	Makanchi Array	41.11	58	iP	P	14 25 37.2	0.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	41.11	58	P	P	14 25 37.2	0.0
NVS	Novosibirsk	41.41	46	iP	P	14 25 38.9	-0.6
DBIC	Dimbokro	42.25	233	P	P	14 25 46.0	-0.9
	comp=Z,2.8nm,0.7s,mb4.0,baz=67,slow=17,SNR=3.2						
DBIC	Dimbokro	42.25	233	P	P	14 25 46.0	-0.9
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TSUM	Tsumeb	56.60	191	P	P	14 27 36.3	-0.9
	comp=Z,1.4nm,0.7s,mb4.1,baz=351,slow=11,SNR=5.1						
SONM	Songino Array	56.80	52	P	P	14 27 37.9	-0.3
	comp=Z,2.0nm,0.7s,mb4.3,baz=291,slow=7.8,SNR=19						
CMAR	Chiang Mai Arr	64.36	86	P	P	14 28 28.1	-1.9
	comp=Z,1.6nm,0.8s,mb4.1,baz=302,slow=8.1,SNR=7.3						
CMAR	Chiang Mai Arr	64.36	86	P	P	14 28 28.2	-1.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	78.58	358	P	P	14 29 53.9	-0.4
	comp=Z,0.5nm,0.7s,mb3.5,baz=347,slow=4.4,SNR=6.1						
ILAR	Eielson Array	78.58	358	P	P	14 29 53.9	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NEW	Newport	89.61	337	LR	LR	15 12 13.2	
	comp=Z,42nm,19.1s,MS3.9,baz=23,slow=36						
PDAR	Pinedale Array	91.67	330	LR	LR	15 12 58.4	
	comp=Z,30nm,18.5s,MS3.8,baz=184,slow=36						
ASAR	Alice Springs	116.34	101	PKP	PKPdf	14 36 35.5	-3.7
	comp=Z,0.2nm,0.6s,baz=312,slow=1.4,SNR=6.3						

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*ISK **03** 14:24:38.5, 36.95N×27.68E, h9^{km}, MD3.4*

*NEIC **03** 14:24:39.2, 36.88N×27.62E, h24^{km}, MD3.4(ATH), After ATH.*

*ATH **03** 14:24:39.2, 36.88N×27.62E, h24^{km}±4^{km}, MD3.4/5*

ISC 03 14:24:38.8±0.7**, 36.90N**±0.03×**27.69E**±0.04**, h11**^{km}±5^{km}**, n23, σ0^{s}78**/31**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	310	iP	Pg	14 24 44.4	+0.1
BDRM				iS	Sg	14 24 48.8	+0.7
MLSB	Milas	0.40	9	iPG	Pg	14 24 46.4	-0.7
YER	Yerkesik	0.53	63	iPG	Pg	14 24 48.7	-0.8
YER				SG	Sg	14 24 56.7	0.0
NISR	Nisiros	0.54	238	ePB	Pb	14 24 50.0	+0.3
ARG	Arkhangelos	0.76	153	ePB	Pb	14 24 53.1	-0.5
ARG				eSN	Sn	14 25 05.5	-1.2
AYDN	Tasoluk	0.78	11	iP	Pb	14 24 53.4	-0.4
AYDN				iS	Sb	14 25 04.3	+0.2
SMG	Samos	1.06	320	ePN	Pn	14 24 59.0	-0.5
DNZL	Cakiroluk	1.34	53	iP	Pb	14 25 03.6	+0.2
DNZL				iS	Sb	14 25 19.1	-1.3
DENT	Denizli	1.37	51	PN	Pn	14 25 04.5	+0.6
KARP	Karpathos	1.41	198	ePN	Pn	14 25 04.5	0.0
IZM	Izmir	1.54	347	PN	Pn	14 25 05.3	-1.0
KDAG	Bornova	1.54	347	⇑iP	Pn	14 25 05.7	-0.7
KDAG				iS	Sb	14 25 26.9	+0.6
KSL	Kastellorizon	1.69	115	ePN	Pn	14 25 10.6	+2.0
MANT	Manisa	1.73	23	iP	Pn	14 25 09.6	+0.5
MANT				iS	Sn	14 25 35.9	+4.5
APE	Apeiranthos	1.74	276	ePN	Pn	14 25 09.0	-0.2
ELL	Elmali	1.78	94	ePN	Pn	14 25 11.1	+1.3
AKS	Akhisar	1.98	3	ePN	Pn	14 25 12.9	+0.2
BCK	Bucak	2.38	75	ePN	Pn	14 25 19.0	+0.6
ISP	Isparta	2.44	66	ePN	Pn	14 25 19.7	+0.6
BALB	Balikesir	2.74	3	ePN	Pn	14 25 22.5	-1.1
ULDT	Uludag	3.43	19	iP	Pn	14 25 29.7	-3.7
ULDT				iS	Sn	14 26 15.2	+0.7
SART	Tekirdag	3.81	354	iP	Pn	14 25 30.8	-7.9
IKL	Isikli	4.87	96	ePN	Pn	14 25 54.0	+0.3

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*NEIC **03** 14:28:18.8±1.0, 26.92S×26.84E, h5^{km}, mb4.4/1, Error ellipse: s-maj=24.7km s-min=12.0km az=86.0*

*PRE **03** 14:28:19.5±2.2, 26.96S×26.79E, h2^{km}, ML3.9*

ISC 03 14:28:17.6±0.5**, 26.95S**±0.03×**26.68E**±0.05**, h10**^{km}**, n17, σ1^{s}35**/25**, mb4.3**/1**, 1C, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	1.10	10	eP	Pb	14 28 40.0	+1.7
KSR				eS	Sb	14 28 53.4	+0.9
KSR				e		14 28 59.2	
	comp=Z,3μm,0.1s						
SEK	Senekal	1.60	149	eP	Pn	14 28 47.8	+1.6
SEK				eS	Sb	14 29 07.2	+0.1
SEK				e		14 29 10.1	
	comp=Z,2μm,0.4s						
SLR	Silverton	1.88	50	eP	Pn	14 28 51.6	+1.5
SLR				eS	Sn	14 29 14.5	+0.4
SLR				e		14 29 17.6	
	comp=Z,1μm,0.3s						
LBTB	Lobatse	2.16	333	ePn	Pn	14 28 57.8	+3.6
LBTB				eSn	Sn	14 29 26.9	+5.7
LBTB				eLg		14 29 37.6	
NWL	Newcastle	3.01	105	eP	Pn	14 28 46.7	-20
NWL				eS	Sn	14 29 03.9	-39
NWL				e		14 29 14.9	
	comp=Z,303nm,0.4s						
BFT	Belfast (SA)	3.27	68	eP	Pn	14 29 09.8	-0.2
BFT				eS	Sn	14 29 47.1	-2.3
BFT				e		14 30 00.4	
	comp=Z,252nm,0.5s						
LEP	Lephalale	3.43	17	eP	Pn	14 29 11.9	-0.3
LEP				eS	Sn	14 29 51.8	-1.5
LEP				e		14 30 07.1	
	comp=Z,454nm,0.3s						
GRM	Grahamstown	6.34	181	eS	Pn	14 29 51.2	-2.2
GRM				e		14 30 17.8	
	comp=Z,32nm,0.7s						
SUR	Sutherland	7.44	222	ePn	Pn	14 30 09.1	+0.3
	comp=Z,19nm,0.6s						
SUR				eSn	Sn	14 31 30.2	-3.9
SUR				eLg		14 31 46.3	
CVNA	Calvinia	7.54	232	eP	Pn	14 30 09.2	-1.1
CVNA				eS	Sn	14 31 30.9	-5.9
CVNA				e		14 31 33.7	
	comp=Z,16nm,0.4s						
CER	Ceres	9.04	223	eP	P	14 30 31.7	+0.6
TSUM	Tsumeb	11.38	311	eP	P	14 31 03.0	-0.4
LSZ	Lusaka	11.70	7	eP	P	14 31 04.7	-3.0
	comp=Z,7.8nm,0.4s						
LSZ				e		14 31 13.8	
LSZ				eS	S	14 33 09.2	-10
LSZ				eLg		14 34 19.8	
SNAA	Sanae	47.67	192	⇑i	P	14 36 56.4	+0.8
QSPA	South Pole Qui	63.24	180	eP	P	14 38 47.6	-0.4
	comp=Z,2.4nm,0.9s,mb4.3						
SBA	Scott Base	72.81	172	eP	P	14 39 49.5	+2.0
TPH	Tonopah	147.79	299	ePKPdf	PKPdf	14 48 06.9	+4.0

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*ISK **03** 14:55:14.5, 36.87N×27.62E, h9^{km}, MD3.1*

*NEIC **03** 14:55:16.2, 36.79N×27.52E, h5^{km}, MD3.2(ATH), After ATH.*

*ATH **03** 14:55:16.2, 36.79N×27.52E, h5^{km}, MD3.2/4*

ISC 03 14:55:15.4±0.7**, 36.85N**±0.04×**27.68E**±0.05**, h5**^{km}**, n17, σ1^{s}01**/25**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	319	⇑iP	Pg	14 55 21.7	+0.6
BDRM				iS	Sg	14 55 25.8	+0.8
MLSB	Milas	0.45	10	iPG	Pg	14 55 23.8	-0.7
MLSB				SG	Sg	14 55 30.2	-0.4
YER	Yerkesik	0.56	59	iPG	Pg	14 55 26.3	-0.4
ARG	Arkhangelos	0.73	150	ePB	Pb	14 55 30.8	+0.6
AYDN	Tasoluk	0.83	11	iP	Pb	14 55 30.9	-0.9
AYDN				iS	Sg	14 55 44.5	+1.5
SMG	Samos	1.09	322	ePB	Pb	14 55 36.5	+0.2
DNZL	Cakiroluk	1.38	52	⇑iP	Pb	14 55 42.1	+0.8
DNZL				iS	Sb	14 55 59.9	+0.8
DENT	Denizli	1.41	50	ePN	Pn	14 55 41.5	-0.3
DENT				eSN	Sn	14 56 00.6	-0.4
IZM	Izmir	1.58	348	ePN	Pn	14 55 42.7	-1.5
KDAG	Bornova	1.58	348	⇑iP	Pn	14 55 44.9	+0.6
KDAG				iS	Sb	14 56 10.1	+5.0
KSL	Kastellorizon	1.69	114	ePN	Pn	14 55 50.0	+4.2
APE	Apeiranthos	1.73	278	ePB	Pb	14 55 47.0	-0.3
MANT	Manisa	1.78	23	iP	Pn	14 55 48.3	+1.2
MANT				iS	Sn	14 56 12.3	+1.9
ELL	Elmali	1.80	93	ePN	Pn	14 55 47.1	-0.2
AKS	Akhisar	2.03	3	ePN	Pn	14 55 49.2	-1.5
ULDT	Uludag	3.48	19	⇑iP	Pg	14 56 21.5	-3.4
ULDT				iS	Sg	14 57 09.7	-1.6
SART	Tekirdag	3.85	354	iP	Pg	14 56 27.2	-5.2

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*NIED **03** 14:56:00, 38.80N×142.90E, h8^{km}, Mw4.0 Best double couple: M$_0$1.01×10^{15} NP1:φ$_s$161°, δ76°, λ-25°. NP2: φ$_s$257°, δ66°, λ-165°.*

*IDC **03** 14:56:00.4±1.1, 38.74N×143.19E, mb3.8/9, mb1 3.9/12, mb1mx3.8/25, ML3.7/3, MS3.2/3, Ms1 3.3/3, ms1mx2.6/26, Error ellipse: s-maj=32.6km s-min=18.9km az=84.0*

*JMA **03** 14:56:01.8±0.1, 38.77N×142.86E, h16^{km}±2^{km}, M4.4*

JMA Felt I J1.

*MOS **03** 14:56:02.9±2.1, 38.59N×143.31E, h33^{km}, mb4.4/3, Error ellipse: s-maj=39.1km s-min=13.3km az=92.3*

*NEIC **03** 14:56:06.2±0.8, 38.74N×143.03E, h40^{km}, mb4.4/2, MW4.0(NIED), Error ellipse: s-maj=16.0km s-min=10.6km az=120.0*

NEIC Recorded [1 JMA] in Iwate Prefecture.

ISC 03 14:56:02.3±0.6**, 38.75N**±0.04×**142.85E**±0.05**, h16**^{km}**, n36, σ0^{s}85**/47**, mb4.0**/11**, MS3.7**/1**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.98	290	P	Pb	14 56 20.2	-0.2
OFUJ				S	Sb	14 56 33.3	+0.4
MIYJ	Miyako 2	1.15	316	P	Pb	14 56 22.4	-0.9
MIYJ				eS	Sb	14 56 37.3	-0.5
JIO	Ouri	1.21	257	P	Pb	14 56 23.9	-0.5
JIO				eS	Sb	14 56 39.1	-0.5
JMK	Ichinoseki	1.29	280	P	Pb	14 56 25.2	-0.5
JMK				eS	Sb	14 56 41.6	-0.2
JOM	Ohasama	1.41	301	P	Pn	14 56 27.0	-0.5
JOM				eS	Sb	14 56 45.1	-0.3
JTH	Tanohata	1.42	328	P	Pn	14 56 26.7	-0.8
JTH				S	Sb	14 56 46.2	+0.7
JOU	Okura	1.76	258	P	Pn	14 56 32.6	+0.2
JANG	Nango	1.92	328	P	Pn	14 56 34.8	0.0
JANG				S	Sn	14 56 59.1	+0.3
JYK	Kaneyama	1.95	276	P	Pn	14 56 36.1	+0.9
MAJO	Matsushiro	4.29	241	ePn	Pn	14 57 10.6	+2.0
MAT	Matsushiro	4.29	241	P	Pn	14 57 10.4	+1.9
MAT				S	Sn	14 58 03.9	+5.1
MAT	Matsushiro	4.29	241	eP	Pn	14 57 10.0	+1.5
MAT				eS	Sn	14 58 09.0	+10
ASAJ	Asahikawa	5.37	358	Pn	Pn	14 57 23.4	-0.3
	2.1nm,0.3s,baz=200,slow=7.5,SNR=11						
ASAJ				Sn	Sn	14 58 21.3	-4.6
	2.0nm,0.3s,baz=55,slow=33,SNR=1.8						
ASAJ				LR	LR	15 00 13.5	
	comp=Z,157nm,18.8s,baz=144,slow=47						
ASAJ	Asahikawa	5.37	358	P	Pn	14 57 23.4	-0.3
ASAJ						14 58 21.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,157nm,18.8s						
YUK	Yuzh-Kuril'sk	5.75	22	eP	Pn	14 57 29.9	+0.8
YUK				eS	Sn	14 58 25.5	-10
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,260nm,0.4s						
YUK				smax			
	comp=E,230nm,0.5s						
JHJ	Hachijo jima 2	6.14	205	Pn	Pn	14 57 29.6	-5.1
	comp=E,11nm,0.3s,baz=240,slow=23,SNR=3.8						
JHJ				Sn	Sn	14 58 39.1	-6.2
	comp=E,19nm,0.3s,baz=79,slow=20,SNR=3.0						
YSS	Yuzh-Sakhalins	8.20	360	eP	P	14 58 04.9	+1.3
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
JNU	Nakatsue	11.21	244	Pn	P	14 58 45.2	+0.3
	comp=Z,0.3nm,0.3s,baz=63,slow=17,SNR=3.8						
JNU				LR	LR	15 02 45.8	
	comp=Z,84nm,19.8s,baz=348,slow=35						
HIA	Hailar	19.59	310	eP	P	15 00 31.6	-0.8
	comp=Z,6.0nm,0.7s						
SONM	Songino Array	27.83	301	P	P	15 01 53.3	+0.6
	comp=Z,1.2nm,0.9s,mb3.5,baz=94,slow=7.5,SNR=6.1						
NVS	Novosibirsk	42.50	312	eP	P	15 04 03.5	+5.4
MKAR	Makanchi Array	44.20	301	P	P	15 04 12.1	+0.1
	comp=Z,4.5nm,0.6s,mb4.4,baz=90,slow=8.5,SNR=24						
MKAR	Makanchi Array	44.20	301	P	P	15 04 12.1	+0.1
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	Makanchi Array	44.20	301	P	P	15 04 12.1	+0.1
KURK	Kurchatov	45.79	307	eP	P	15 04 24.0	-0.7
	comp=Z,30nm,0.9s,mb5.2						
KURK				e	pP	15 04 30.8	+1.3
ILAR	Eielson Array	47.44	33	P	P	15 04 34.2	-3.3
	comp=Z,0.4nm,0.8s,mb3.4,baz=260,slow=6.5,SNR=3.2						
BVAR	Borovoye Array	50.28	312	P	P	15 04 59.7	+0.1
	comp=Z,0.4nm,0.3s,mb3.9,baz=82,slow=10,SNR=4.4						
BRVK	Borovoye	50.33	312	P	P	15 05 03.8	+3.8
	comp=Z,8.7nm,0.9s,mb4.8						
WRA	Warramunga Arr	58.92	189	P	P	15 06 00.9	-2.2
	comp=Z,0.8nm,0.5s,mb4.0,baz=7.4,slow=7.0,SNR=46						
WRA	Warramunga Arr	58.92	189	P	P	15 06 00.9	-2.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	62.65	189	P	P	15 06 27.9	-0.5
	comp=Z,0.7nm,0.8s,mb3.9,baz=14,slow=6.6,SNR=7.3						
FINES	FINESS Array B	67.83	332	P	P	15 07 01.3	+0.1
	comp=Z,1.1nm,0.8s,mb4.0,baz=187,slow=15,SNR=3.9						
FINES	FINESS Array B	67.83	332	P	P	15 07 01.3	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	73.04	338	P	P	15 07 32.7	0.0
	comp=Z,0.2nm,0.5s,mb3.3,baz=339,slow=11,SNR=2.7						
AKASG	Malin Array Be	73.64	323	P	P	15 07 37.0	+0.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=22,slow=5.0,SNR=2.4						
ESDC	Sonseca Array	96.24	335	LR	LR	15 59 06.1	
	comp=Z,29nm,20.6s,MS3.7,baz=200,slow=39						

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*IDC **03** 14:58:33.9±1.6, 36.83N×27.83E, mb3.7/2, mb1 3.6/6, mb1mx3.5/22, ML3.4/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/23, Error ellipse: s-maj=38.9km s-min=20.9km az=146.0*

*THE **03** 14:58:34.7, 36.92N×27.89E, h4^{km}*

*ATH **03** 14:58:34.3, 36.96N×27.67E, h23^{km}±3^{km}, MD3.6/8*

*NEIC **03** 14:58:34.3, 36.96N×27.67E, h23^{km}, MD3.6(ATH), After ATH.*

*ISK **03** 14:58:35.4, 37.04N×27.77E, h12^{km}, MD3.6, ML3.7*

*NIC **03** 14:58:39.5±0.4, 37.19N×28.00E, h25^{km}, ML3.3, MW3.6*

ISC 03 14:58:33.8±0.6**, 36.90N**±0.03×**27.70E**±0.02**, h10**^{km}±4^{km}**, n50, σ1^{s}11**/65**, mb4.0**/3**, MS2.5**/1**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	309	iP	Pg	14 58 38.2	-1.2
BDRM				iS	Sg	14 58 43.9	+0.8
MLSB	Milas	0.40	9	iPG	Pg	14 58 41.5	-0.5
YER	Yerkesik	0.52	63	iPG	Pg	14 58 43.9	-0.5
YER				SG	Sg	14 58 50.7	-0.7
NISR	Nisiros	0.54	238	ePN	Pn	14 58 45.5	-1.8
NISR				eSN	Sn	14 58 54.5	-1.9
ARG	Arkhangelos	0.76	153	ePN	Pn	14 58 49.0	-1.4
ARG				eSN	Sn	14 59 02.5	+0.5
AYDN	Tasoluk	0.77	11	iP	Pb	14 58 48.6	-0.2
AYDN				iS	Sb	14 58 59.8	+0.6
SMG	Samos	1.06	320	ePN	Pn	14 58 53.5	-1.2
DNZL	Cakiroluk	1.33	53	iP	Pb	14 58 59.0	+0.5
DNZL				iS	Sb	14 59 17.6	+2.3
DENT	Denizli	1.36	51	PN	Pn	14 58 59.5	+0.5
KARP	Karpathos	1.42	198	ePB	Pb	14 59 00.0	0.0
IZM	Izmir	1.53	347	ePN	Pn	14 59 00.9	-0.5
KDAG	Bornova	1.54	347	iP	Pn	14 59 01.1	-0.4
KDAG				iS	Sb	14 59 27.1	+5.6
KSL	Kastellorizon	1.69	116	ePN	Pn	14 59 05.5	+1.8
MANT	Manisa	1.73	23	iP	Pn	14 59 04.1	-0.1
MANT				iS	Sn	14 59 30.3	+3.9
APE	Apeiranthos	1.75	276	ePB	Pb	14 59 04.5	-1.0
APE				eSN	Sn	14 59 27.0	+0.1
ELL	Elmali	1.78	94	PN	Pn	14 59 06.5	+1.6
SANT	Santorini	1.88	254	ePn	Pn	14 59 10.1	+3.7
THR1	Thera Island	1.88	254	ePn	Pn	14 59 08.0	+1.6
THR1				eSn	Sn	14 59 34.4	+4.1
THR4	Thira Island,	1.90	257	ePn	Pn	14 59 08.6	+1.9
THR3	Thira Island,	1.91	256	ePn	Pn	14 59 08.8	+2.0
THR6	Thira Island,	1.93	254	ePn	Pn	14 59 09.7	+2.6
AKS	Akhisar	1.98	3	PN	Pn	14 59 07.2	-0.6
NPS	Neapolis	2.35	227	ePB	Pb	14 59 15.0	-0.9
ANTB	Antalya	2.37	89	ePN	Pn	14 59 14.5	+1.1
BCK	Bucak	2.37	76	ePN	Pn	14 59 14.0	+0.6
ISP	Isparta	2.43	66	ePN	Pn	14 59 13.8	-0.4
XRY	Khrisi	2.60	219	ePB	Pb	14 59 19.0	-1.1
BALB	Balikesir	2.74	3	ePN	Pn	14 59 18.4	-0.3
IDI	Anoyia	2.79	236	Pn	Pn	14 59 20.3	+0.9
	2.0nm,0.3s,baz=61,slow=15,SNR=5.6						
IDI				Sn	Sn	14 59 58.0	+4.6
	4.0nm,0.3s,baz=20,slow=20,SNR=3.7						
ULDT	Uludag	3.43	19	iP	Pn	14 59 25.4	-3.0
LOS	Limnos	3.66	327	ePn	Pn	14 59 31.7	-0.1
SART	Tekirdag	3.80	354	iP	Pn	14 59 32.9	-0.9
HDMB	Hadim	3.83	88	ePN	Pn	14 59 35.4	+1.2
YLV	Yalova	3.89	19	ePN	Pn	14 59 34.2	-0.8
ALN	Alexandroupoli	4.19	343	ePn	Pn	14 59 38.5	-0.8
PPCY	Paphos	4.27	117	⇑P	Pn	14 59 41.0	+0.5
PPCY				S	Sn	15 00 31.3	+0.3
ALFC	Alevga	4.33	112	P	Pn	14 59 41.1	-0.2
	2.5nm,0.4s						
ALFC				S	Sn	15 00 29.7	-2.9
SZAC	Souni-Zanaja	4.72	115	P	Pn	14 59 47.1	+0.2
	2.7nm,0.4s						
SZAC				S	Sn	15 00 40.8	-1.6
IKL	Isikli	4.86	96	ePN	Pn	14 59 49.9	+1.1
CSS	Prodhromos	4.96	111	P	Pn	14 59 50.8	+0.6
CSS				S	Sn	15 00 47.0	-1.4
BRTR	Keskin Array B	5.45	57	Pn	Pn	14 59 57.2	+0.1
	0.9nm,0.3s,baz=238,slow=15,SNR=8.2						
BRTR				Sn	Sn	15 01 00.8	0.0
	0.3nm,0.3s,baz=220,slow=24,SNR=3.9						
GRG	Griva	5.79	316	ePn	Pn	15 00 01.8	-0.1
MLR	Muntele Rosu	8.68	352	Pn	P	15 00 43.3	+0.9
	0.1nm,0.3s,baz=257,slow=16,SNR=2.2						
MLR				LR	LR	15 04 30.0	
	comp=Z,87nm,19.3s,baz=246,slow=41						
ASF	Jabal al Asfar	8.93	119	Sn	Sn	15 02 23.4	-4.3
	0.5nm,0.3s,baz=36,slow=13,SNR=2.4						
GERES	GERESS Array B	15.71	324	Pn	P	15 02 22.7	+6.0
	0.1nm,0.3s,baz=135,slow=11,SNR=3.4						
CLL	Collm	17.80	329	e	P	15 02 49.0	+5.8
FINES	FINESS Array B	24.59	358	LR	LR	15 14 58.9	
	comp=Z,16nm,18.2s,MS2.5,baz=164,slow=40						
ZRNK	Zerenda	32.82	47	eP	P	15 05 09.7	+0.3
	7.4nm,0.9s,mb4.6						
MKAR	Makanchi Array	41.10	58	P	P	15 06 18.6	-0.7
	1.0nm,0.7s,mb3.6,baz=288,slow=4.6,SNR=3.8						
SONM	Songino Array	56.79	52	P	P	15 08 19.6	-0.8
	0.5nm,0.7s,mb3.7,baz=286,slow=7.2,SNR=4.5						

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*IDC **03** 15:06:52.0±0.8, 63.30S×166.74W, mb4.3/5, mb1 4.7/6, mb1mx4.5/12, ML3.6/1, MS4.6/11, Ms1 4.6/11, ms1mx4.5/15, Error ellipse: s-maj=50.3km s-min=19.9km az=25.0*

*HRVD **03** 15:06:53.5±0.4, 63.29S×166.27W, h12^{km}, MW5.1/48, Centroid moment Tensor Solution. LP body waves: s28,c39;Mantle waves: s48,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.41±.22; M$_{\theta\theta}$-0.30±.22; M$_{\phi\phi}$0.71±.17; M$_{r\theta}$-0.24±.52; M$_{\theta\phi}$3.86±.15; M$_{\phi r}$-2.86±.42; Best double couple: M$_0$4.82×10^{16} NP1:φ$_s$267°, δ54°, λ-2°. NP2:φ$_s$358°, δ89°, λ-144°. Principal axes: T 5.12, Plg24°, Azm126°; N -.6, Plg54°, Azm360°; P -4.52, Plg26°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 15:06:53.5±0.5, 63.34S×166.77W, h10^{km}, mb4.9/4 Error ellipse: s-maj=15.8km s-min=13.4km az=62.0*

ISC 03 15:06:50.8±0.7**, 63.17S**±0.10×**166.7W**±0.3**, h10**^{km}**, n29, σ1^{s}18**/15**, mb4.5**/7**, MS4.6**/10**, 1C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	16.89	199	eP	P	15 10 46.2	-2.1
	147nm,1.5s						
VNDA	Vanda	17.45	202	P	P	15 10 54.4	-0.9
	0.2nm,0.3s,baz=58,slow=14,SNR=37						
VNDA				LR	LR	15 16 03.1	
	comp=Z,2μm,20.5s,baz=62,slow=32						
VNDA	Vanda	17.45	202	eP	P	15 10 54.7	-0.6
	76nm,1.4s						
RPZ	Rata Peaks	23.32	316	LR	LR	15 18 53.5	
	comp=Z,1μm,20.4s,MS4.4,baz=157,slow=31						
URZ	Urewera	26.79	331	LR	LR	15 20 51.3	
	comp=Z,878nm,21.4s,MS4.3,baz=208,slow=31						
QSPA	South Pole Qui	26.94	180	eP	P	15 12 33.9	+0.5
	27nm,0.9s,mb4.8						
TBI	Tubuai	41.46	24	eL		15 24 18.1	
	403nm,39.2s						
TBI				eR		15 25 52.1	
	1μm,28.2s,baz=194						
MAW	Mawson	44.74	204	LR	LR	15 32 26.5	
	comp=Z,958nm,20.6s,MS4.7,baz=145,slow=34						
STKA	Stephens Creek	44.95	289	LR	LR	15 30 32.9	
	comp=Z,974nm,19.0s,MS4.8,baz=93,slow=32						
SNAA	Sanae	44.98	173	⇑i	P	15 15 07.7	+0.6
RKT	Rikitea	45.32	43	eS	S	15 21 45.5	-4.8
	147nm,28.2s						
RKT				eR		15 27 38.4	
	1μm,26.8s						
VNA1	Neumayer--Stat	45.62	170	⇓i	P	15 15 15.1	+3.0
USHA	Ushuaia	46.46	128	P	P	15 15 18.3	-0.6
	14nm,1.1s,mb4.8,baz=214,slow=4.6,SNR=4.1						
USHA				LR	LR	15 31 14.1	
	comp=Z,478nm,18.6s,MS4.5,baz=175,slow=32						
PPT	Papeete	47.08	23	eS	S	15 22 13.5	-2.0
	169nm,25.2s						
PPT				eL		15 26 26.6	
	666nm,24.2s						
PPT				eR		15 28 22.1	
	958nm,25.2s						
ASAR	Alice Springs	55.41	287	P	P	15 16 28.4	+1.2
	1.3nm,0.8s,mb4.0,baz=148,slow=6.5,SNR=15						
PLCA	Paso Flores	57.18	116	P	P	15 16 41.0	+1.2
	4.6nm,0.9s,mb4.5,baz=207,slow=9.7,SNR=5.5						
PLCA				LR	LR	15 35 29.1	
	comp=Z,576nm,18.7s,MS4.7,baz=183,slow=30						
PLCA	Paso Flores	57.18	116	P	P	15 16 41.0	+1.2
WRA	Warramunga Arr	58.50	289	P	P	15 16 49.1	-0.1
	0.8nm,0.7s,mb3.9,baz=157,slow=5.9,SNR=11						
WRA				LR	LR	15 39 26.7	
	comp=Z,546nm,18.4s,MS4.7,baz=150,slow=33						
TRQA	Tornquist	62.89	121	eP	P	15 17 18.0	-0.9
	22nm,0.9s,mb5.3						
CPUP	Villa Florida	75.06	119	P	P	15 18 34.2	+0.1
	5.3nm,0.8s,mb4.5,baz=234,slow=2.8,SNR=9.3						
CPUP				LR	LR	15 47 16.6	
	comp=Z,496nm,18.7s,MS4.8,baz=211,slow=32						
BDFB	Brasilia	88.36	122	LR	LR	15 57 24.7	
	comp=Z,525nm,18.5s,MS5.0,baz=281,slow=34						
ROSC	El Rosal	95.39	90	LR	LR	15 56 28.0	
	comp=Z,119nm,18.7s,MS4.4,baz=222,slow=31						
ILAR	Eielson Array	128.47	11	PKP	PKPdf	15 25 59.4	-0.1
	1.4nm,0.9s,baz=245,slow=2.3,SNR=8.2						
SONM	Songino Array	129.92	299	PKP	PKPdf	15 26 01.7	-1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.4s,baz=180,slow=2.5,SNR=3.6						
KURK	Kurchatov	143.91	281	*e*PKPdf	PKPdf	15 26 24.1	-3.8
BVAR	Borovoye Array	149.20	278	PKPbc	PKPdf	15 26 40.1	+3.4
	1.9nm,0.7s,baz=135,slow=2.1,SNR=14						
BRVK	Borovoye	149.27	278	*e*PKPbc	PKPdf	15 26 41.0	+4.2
BRVK				*e*PKPab	PKPab	15 26 46.0	+1.2
ZRNK	Zerenda	149.77	277	*e*PKPbc	PKPdf	15 26 41.9	+4.3
BRTR	Keskin Array B	153.55	217	PKPbc	PKPdf	15 26 53.6	+10
	0.8nm,0.7s,baz=141,slow=43,SNR=2.9						

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*IDC **03** 15:16:52.2±1.4, 17.30S×67.40W, mb3.8/2, mb1 4.2/3, mb1mx3.9/16, ML4.4/1, MS3.8/5, Ms1 3.7/5, ms1mx3.5/18, Error ellipse: s-maj=47.9km s-min=17.7km az=78.0*

*NEIC **03** 15:16:56.7±2.0, 17.24S×67.74W, h19^{km}±12^{km}, mb4.4/1, Error ellipse: s-maj=23.7km s-min=11.2km az=93.0*

ISC 03 15:16:56.4±1.7**, 17.28S**±0.09×**67.6W**±0.2**, h37**^{km}±19^{km}**, n13, σ0^{s}96**/9**, mb3.7**/2**, MS4.4**/2**, 1C, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.12	331	Pg	P	15 17 16.4	+0.5
	41nm,0.3s,baz=144,slow=17,SNR=318						
LVC	Limon Verde	5.45	193	Pn	P	15 18 17.3	0.0
	1.1nm,0.3s,baz=31,slow=13,SNR=22						
LVC				Pg	P	15 18 32.9	+16
	4.1nm,0.3s,baz=17,slow=13,SNR=18						
LVC				Lg		15 19 41.5	
	2.3nm,0.3s,baz=49,slow=22,SNR=2.4						
LVC				LR	LR	15 20 26.4	
	comp=Z,695nm,18.3s,baz=357,slow=39						
SAML	Samuel	9.32	28	*e*P	P	15 19 10.8	-0.5
	4.0nm,0.7s						
CPUP	Villa Florida	13.09	135	LR	LR	15 25 45.2	
	comp=Z,210nm,18.5s,baz=338,slow=41						
BDFB	Brasilia	18.82	88	LR	LR	15 29 53.8	
	comp=Z,47nm,20.4s,baz=27,slow=42						
OTAV	Otavalo	20.44	327	P	P	15 21 33.3	-0.2
	23nm,1.2s						
PLCA	Paso Flores	23.51	186	P	P	15 22 02.5	-1.4
	4.4nm,0.8s,mb4.0,baz=349,slow=12,SNR=7.2						
SNAA	Sanae	65.85	162	⇑*i*	P	15 27 42.0	+2.0
NVAR	Mina Array Bea	73.01	321	P	P	15 28 24.3	-0.2
	0.6nm,0.9s,mb3.5,baz=157,slow=6.9,SNR=2.8						
NVAR				LR	LR	16 00 47.6	
	comp=Z,165nm,20.3s,MS4.3,baz=75,slow=36						
NVAR	Mina Array Bea	73.01	321	P	P	15 28 24.3	-0.2
NEW	Newport	78.78	329	LR	LR	16 08 37.1	
	comp=Z,181nm,18.7s,MS4.4,baz=231,slow=39						
WRA	Warramunga Arr	137.21	211	PKP	PKPdf	15 36 19.3	+2.5
	0.3nm,0.8s,baz=166,slow=1.0,SNR=5.5						
SONM	Songino Array	149.13	8	PKPbc	PKPdf	15 36 42.9	+6.3
	1.9nm,0.6s,baz=334,slow=1.7,SNR=10						

PRE 03 15:25:57.0±1.2**, 28.05S×26.80E, h2**^{km}**, ML3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEK	Senekal	0.78	110	*e*P	Pg	15 26 11.2	-1.4
SEK				*e*S	Sg	15 26 20.9	-2.0
KSR	Koster	2.18	2	*e*P	Pn	15 26 33.8	-1.0
KSR				*e*S	Sn	15 27 01.0	-1.7
KSR				*e*		15 27 05.2	
	comp=Z,604nm,0.6s						
SLR	Silverton	2.66	30	*e*P	Pn	15 26 39.4	-2.3
SLR				*e*S	Sn	15 27 12.3	-2.6
SLR				*e*		15 27 26.3	
	comp=Z,222nm,0.4s						
NWL	Newcastle	2.81	84	*e*P	Pn	15 26 42.6	-1.2
NWL				*e*S	Sn	15 27 16.2	-2.6
NWL				*e*		15 27 27.0	
	comp=Z,276nm,0.5s						
GRM	Grahamstown	5.25	182	*e*S	Sx	15 27 14.3	
CVNA	Calvinia	7.00	239	*e*P	Pn	15 27 39.2	-3.9
CVNA				*e*S	Sn	15 28 53.3	-11
CVNA				*e*		15 28 58.6	
	comp=Z,15nm,0.3s						
CER	Ceres	8.35	229	*e*S	Sx	15 29 51.1	

IDC 03 15:33:38.7±11.0**, 68.12N×65.16E, mb3.4**/2**, mb1 3.7**/5**, mb1mx3.4**/20**, ML3.3**/3**, Error ellipse: s-maj=172.0km s-min=49.8km az=66.0, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	14.22	294	Pn	P	15 36 55.8	-7.2
	0.1nm,0.3s,baz=81,slow=12,SNR=5.4						
SPITS	Spitsbergen Ar	16.65	327	Pn	P	15 37 31.6	-2.9
	0.1nm,0.3s,baz=80,slow=10,SNR=2.1						
FINES	FINESS Array B	17.66	267	Pn	P	15 37 41.4	-5.9
	0.1nm,0.3s,baz=53,slow=14,SNR=3.2						
NOA	NORSAR Array B	23.47	279	P	P	15 38 50.8	+0.7
	1.0nm,0.8s,baz=49,slow=12,SNR=4.9						
AKASG	Malin Array Be	24.70	243	P	P	15 39 00.1	-2.0
	0.4nm,0.4s,baz=24,slow=12,SNR=4.7						

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*CASC **03** 15:39:51.6±2.2, 14.66N×91.08W, MD4.0, ML4.5*

*MEX **03** 15:39:53.4±0.7, 14.24N×91.05W, h8^{km}±797^{km}, MD4.3*

*NEIC **03** 15:39:53.4, 13.86N×91.29W, h30^{km}, MD4.3(MEX), After MEX.*

ISC 03 15:39:52.8±0.4**, 14.61N**±0.05×**91.08W**±0.03**, n25, σ1^{s}48**/40**, mb5.0**/1**, 7C-5D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.28	125	⇓*i*P	Pg	15 39 57.0	-1.4
PCG	Pacaya	0.51	115	⇑*e*P	Pg	15 40 01.5	-1.4
PCG				*e*S	Sg	15 40 12.8	+3.2
JAT	Jato	0.61	242	⇑*i*P	Pg	15 40 05.5	+0.5
JAT				*e*S	Sg	15 40 16.5	+3.3
JAT				AML	AML	15 40 17.0	
	comp=E,37μm,0.4s						
NBG	Las Nubes	0.71	92	⇑*e*P	Pg	15 40 05.8	-1.2
NBG				AML	AML	15 40 16.8	
	comp=N,28μm,0.4s						
NBG				*e*S	Sg	15 40 19.0	+2.6
IXG	Ixpaco	0.74	126	⇓*i*P	Pg	15 40 05.3	-2.3
IXG				*e*S	Sg	15 40 19.1	+1.5
IXG				AML	AML	15 40 20.5	
	comp=E,46μm,0.4s						
TPX	Tapachula	1.18	284	*i* P	Pb	15 40 15.0	-0.8
TPX				*i* S	Sb	15 40 31.5	0.0
MRL	Marmol	1.42	71	⇑*e*P	Pb	15 40 18.4	-1.3
MRL				*e*S	Sb	15 40 38.4	+0.1
MRL				AML	AML	15 40 41.6	
	comp=N,2μm,0.4s						
RBDL	Robledal	1.44	110	⇓*e*P	Pn	15 40 18.3	-1.8
RTR	El Retiro	1.56	117	⇓*e*P	Pn	15 40 21.0	-0.9
RTR				*e*S	Sb	15 40 44.0	+1.5
SBLS	San Blas	1.61	118	⇓*e*P	Pn	15 40 20.9	-1.6
SBLS				*e*S	Sb	15 40 46.3	+2.4
SNJE	San Jose	1.61	117	⇑*e*P	Pn	15 40 21.3	-1.3
SNJE				*e*S	Sb	15 40 45.0	+1.1
MTO2	Montecristo 2	1.68	97	⇑*e*P	Pn	15 40 22.4	-1.2
MTO2				*e*S	Sb	15 40 47.6	+1.7
CCIG	Comitan	1.95	329	*i* P	Pn	15 40 28.6	+1.1
CCIG				*i* S	Sn	15 40 55.7	+2.7
BOQS	Boqueron	1.95	116	*e*P	Pn	15 40 26.8	-0.6
LBRS	Las Brisas	2.16	113	*e*P	Pn	15 40 30.3	-0.2
LFRS	El Faro	2.19	116	*e*P	Pn	15 40 30.4	-0.5
LFRS				*e*S	Sn	15 40 59.4	+0.3
LCBS	La Ceiba	2.25	115	⇑*e*P	Pn	15 40 31.7	0.0
LCBS				*e*S	Sn	15 41 03.1	+2.5
SNVI	San Vicente	2.39	114	*e*P	Pn	15 40 32.4	-1.4
SCX	San Cristobal	2.59	325	*e*P	Pn	15 40 38.5	+1.9
CNCH	Conchagua	3.42	112	*e*P	Pn	15 40 46.4	-2.1
CMIG	Matias Romero	4.41	304	*e*P	Pn	15 41 01.0	-1.6
CMIG				*i* S	Sn	15 41 56.6	+1.1
TUIG	Tuzandepetl	4.68	317	*i* P	Pg	15 41 21.2	-4.9
TUIG				*i* S	Sn	15 42 07.5	+5.3
OXX	Oaxaca	5.96	295	*e*P	Pn	15 41 27.5	+3.1
GDL2	Guadalupe Moun	21.30	328	*e*P	P	15 44 42.8	-0.5
LPAZ	La Paz	38.16	143	*e*P	P	15 47 08.8	-7.1
	comp=N,14nm,0.4s,mb5.0						

IDC 03 15:41:57.8±1.7**, 2.29N×122.68E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/16**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.8**/24**, Error ellipse: s-maj=202.0km s-min=26.3km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.88	153	P	P	15 47 21.7	-2.1
	1.1nm,0.5s,baz=330,slow=11,SNR=24						
WB2	Warramunga Arr	24.88	153	*e*P	P	15 47 21.7	-2.2
ASAR	Alice Springs	28.01	158	P	P	15 47 52.5	-0.2
	0.5nm,0.8s,baz=343,slow=8.1,SNR=4.3						
CBIJ	Chichi jima	30.95	35	LR	LR	15 59 27.8	
	comp=Z,118nm,18.7s,baz=139,slow=34						
CTA	Charters Tower	32.08	135	LR	LR	15 59 53.2	
	comp=Z,53nm,20.3s,baz=136,slow=34						
STKA	Stephens Creek	38.43	154	P	P	15 49 20.5	-2.6
	1.5nm,0.8s,baz=333,slow=9.0,SNR=4.0						
MKAR	Makanchi Array	56.52	328	P	P	15 51 42.0	-2.3
	0.6nm,0.6s,baz=141,slow=9.2,SNR=4.0						

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*IDC **03** 15:54:59.6±1.2, 36.79N×27.64E, mb3.7/5, mb1 3.8/10, mb1mx3.7/24, ML3.5/5, Error ellipse: s-maj=23.3km s-min=18.4km az=169.0*

*ISK **03** 15:55:00.3, 36.91N×27.64E, h10^{km}, MD3.5, ML3.6*

*NEIC **03** 15:55:02.7, 36.88N×27.61E, h28^{km}, mb3.6/2, MD3.6(ATH), After ATH.*

*ATH **03** 15:55:02.7, 36.88N×27.61E, h28^{km}±2^{km}, MD3.6/8*

*NIC **03** 15:55:04.5±0.1, 37.07N×27.85E, h25^{km}, mb4.3, ML3.8, MW3.5*

ISC 03 15:55:00.8±0.3**, 36.89N**±0.02×**27.72E**±0.02**, h10**^{km}**, n72, σ1^{s}08**/89**, mb3.6**/5**, 4C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	309	⇑*i*P	Pg	15 55 07.5	+0.9
BDRM				*i* S	Sg	15 55 11.1	+0.5
MLSB	Milas	0.41	7	*i* PG	Pg	15 55 08.9	-0.3
MLSB				SG	Sg	15 55 15.5	+0.7
YER	Yerkesik	0.52	61	*i* PG	Pg	15 55 11.5	+0.2
YER				SG	Sg	15 55 19.5	+1.2
NISR	Nisiros	0.55	240	*e*PB	Pb	15 55 13.5	+1.5
ARG	Arkhangelos	0.75	154	*e*PN	Pn	15 55 16.5	-0.6
ARG				*e*SN	Sn	15 55 30.0	+1.5
AYDN	Tasoluk	0.78	10	⇑*i*P	Pb	15 55 16.2	+0.2
AYDN				*i* S	Sb	15 55 26.3	-0.2
SMG	Samos	1.08	320	*e*PN	Pn	15 55 22.5	+0.6
DNZL	Cakiroluk	1.33	53	*i* P	Pb	15 55 26.5	+1.1
DNZL				*i* S	Sb	15 55 45.5	+3.1
DENT	Denizli	1.36	50	*i* PN	Pn	15 55 27.0	+1.1
DENT				SN	Sn	15 55 45.3	+1.2
KARP	Karpathos	1.41	199	*e*PB	Pb	15 55 27.5	+0.7
KARP				*e*SN	Sn	15 55 46.5	+1.1
IZM	Izmir	1.55	347	*i* PN	Pn	15 55 27.9	-0.7
KDAG	Bornova	1.56	347	⇑*i*P	Pn	15 55 28.5	-0.2
KDAG				*i* S	Sb	15 55 48.3	-0.6
KSL	Kastellorizon	1.68	115	*e*PN	Pn	15 55 33.5	+3.1
MANT	Manisa	1.73	22	⇑*i*P	Pn	15 55 32.0	+0.8
MANT				*i* S	Sn	15 55 52.5	-1.1
APE	Apeiranthos	1.76	277	*e*PB	Pb	15 55 32.0	-0.7
ELL	Elmali	1.77	94	PN	Pn	15 55 33.0	+1.3
SANT	Santorini	1.89	255	*e*Pn	Pn	15 55 34.4	+1.0
THR1	Thera Island	1.89	255	*e*P	Pn	15 55 41.7	+8.2
THR4	Thira Island,	1.91	258	*e*P	Pn	15 55 40.8	+7.0
THR3	Thira Island,	1.92	256	*e*P	Pn	15 55 41.6	+7.6
THR6	Thira Island,	1.94	255	*e*P	Pn	15 55 41.2	+7.0
THR5	Thira Island,	1.96	257	*e*P	Pn	15 55 42.2	+7.7
AKS	Akhisar	1.99	2	PN	Pn	15 55 34.7	-0.2
KHL	Karahalli	2.03	44	*e*PN	Pn	15 55 35.8	+0.3
NPS	Neapolis	2.35	227	*e*PB	Pb	15 55 43.0	+0.1
BCK	Bucak	2.37	75	*e*PN	Pn	15 55 41.0	+0.7
ISP	Isparta	2.42	66	*e*PN	Pn	15 55 42.2	+1.1
BALB	Balikesir	2.75	3	*e*PN	Pn	15 55 45.5	-0.3
IDI	Anoyia	2.79	236	Pn	Pn	15 55 43.1	-3.3
	0.8nm,0.3s,baz=30,slow=16,SNR=3.2						
IDI				Sn	Sn	15 56 19.2	-1.2
	4.3nm,0.3s,baz=306,slow=18,SNR=4.6						
DST	Dursunbey	2.81	15	*e*PN	Pn	15 55 46.0	-0.6
ALT	Altintas	2.88	40	*e*PN	Pn	15 55 48.6	+1.0
ULDT	Uludag	3.44	18	*i* P	Pn	15 55 57.1	+1.6
EDC	Edincik	3.46	2	*e*PN	Pn	15 55 54.8	-1.0
BNT	Bandirma	3.47	3	*e*PN	Pn	15 55 55.0	-1.0
LPK	Lapseki	3.56	348	*e*PN	Pn	15 55 56.7	-0.6
LOS	Limnos	3.68	327	*e*P	Pn	15 55 59.4	+0.4
MKIT	Kithairon Oros	3.77	291	*e*PN	Pn	15 56 01.2	+0.9
SART	Tekirdag	3.82	354	*i* P	Pn	15 56 01.5	+0.5
SART				*i* S	Sn	15 57 00.3	+14
HDMB	Hadim	3.82	87	*e*PN	Pn	15 56 02.3	+1.2
KIZT	Kizilcal	3.85	58	*e*PN	Pn	15 56 02.0	+0.6
ALN	Alexandroupoli	4.21	342	*e*P	Pn	15 56 05.3	-1.3
PPCY	Paphos	4.26	117	P	Pn	15 56 06.8	-0.4
ALFC	Alevga	4.32	112	P	Pn	15 56 07.3	-0.8
	3.6nm,0.3s						
ALFC				S	Sn	15 56 56.5	-2.6
HENT	Hendek	4.65	31	*i* P	Pg	15 56 31.0	-2.6
SZAC	Souni-Zanaja	4.71	115	P	Pn	15 56 12.8	-0.8
	4.4nm,0.3s						
SZAC				S	Sn	15 57 06.6	-2.3
CSS	Prodhromos	4.95	111	⇓P	Pn	15 56 16.0	-1.0
	2.1nm,0.5s						
CSS				S	Sn	15 57 12.3	-2.6
CSS	Prodhromos	4.95	111	*e*Pn	Pn	15 56 18.8	+1.8
	18nm,0.6s						
SGKT	Sivrigoynuk	5.01	41	*i* P	Pn	15 56 18.6	+0.8
KDZ	Kurdzhali	5.08	340	P	Pn	15 56 16.5	-2.4
LIT	Litokhoron	5.21	310	*e*P	Pn	15 56 21.1	+0.5
SRS	Serrai	5.31	324	*e*P	Pn	15 56 21.6	-0.5
BRTR	Keskin Array B	5.45	57	Pn	Pn	15 56 24.6	+0.5
	1.8nm,0.3s,baz=242,slow=15,SNR=15						
BRTR				Sn	Sn	15 57 25.9	-1.8
	0.3nm,0.3s,baz=135,slow=14,SNR=2.7						
MMB	Musomiste	5.62	328	*i* P	Pn	15 56 25.5	-1.0
KNT	Kendrikon	5.68	320	*e*P	Pn	15 56 27.6	+0.2
ELDT	Eldivan	5.74	49	*i* P	Pn	15 56 28.7	+0.5
GRG	Griva	5.80	316	*e*P	Pn	15 56 29.8	+0.8
KKB	Krupnik	6.13	326	*i* P	Pn	15 56 33.0	-0.7
VTS	Vitosha	6.67	330	*i* P	Pn	15 56 40.7	-0.6
MLR	Muntele Rosu	8.70	352	Pn	P	15 57 09.7	+0.1
	0.3nm,0.3s,baz=202,slow=9.7,SNR=2.6						
ASF	Jabal al Asfar	8.91	119	Pn	P	15 57 09.6	-3.0
	0.5nm,0.3s,baz=116,slow=8.2,SNR=2.3						
ASF				Sn	Sn	15 58 53.1	-1.0
	0.7nm,0.3s,baz=360,slow=22,SNR=2.8						
TIP	Timpagrande	8.94	288	*e*P	P	15 57 12.4	-0.6
GERES	GERESS Array B	15.73	324	Pn	P	15 58 49.2	+5.2
	0.1nm,0.3s,baz=129,slow=13,SNR=4.4						
KHC	Kasperske Hory	15.99	324	*e*P	P	15 58 51.5	+4.3
BRG	Berggiesshubel	17.11	329	*e*P	P	15 59 08.7	+7.3
	3.3nm,0.8s						
CLL	Collm	17.82	329	P	P	15 59 12.0	+1.6
CLL				*i*		15 59 15.7	
CLL	Collm	17.82	329	*e*P	P	15 59 12.0	+1.6
	6.0nm,0.9s						
CLL				*i*		15 59 15.7	
FINES	FINESS Array B	24.60	358	P	P	16 00 21.3	-0.7
	1.2nm,0.6s,mb3.6,baz=158,slow=10,SNR=5.5						
FINES	FINESS Array B	24.60	358	P	P	16 00 21.3	-0.7
HFS	Hagfors	24.94	343	P	P	16 00 24.6	-0.7
	1.6nm,0.7s,mb3.6,baz=141,slow=9.2,SNR=3.6						
ESDC	Sonseca Array	24.96	286	P	P	16 00 25.3	-0.3
	1.0nm,0.6s,mb3.6,baz=78,slow=9.1,SNR=4.4						
MKAR	Makanchi Array	41.10	58	P	P	16 02 45.2	-1.0
	1.4nm,0.7s,mb3.7,baz=276,slow=8.1,SNR=7.2						
SONM	Songino Array	56.79	52	P	P	16 04 46.8	-0.6
	0.3nm,0.4s,mb3.6,baz=292,slow=7.1,SNR=6.2						

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*ISK **03** 15:57:02.7, 36.89N×27.69E, h9^{km}, MD3.1*

*NEIC **03** 15:57:04.7, 36.89N×27.65E, h24^{km}, After ATH.*

*ATH **03** 15:57:04.4, 36.86N×27.64E, h17^{km}±6^{km}*

ISC 03 15:57:03.1±0.9**, 36.91N**±0.04×**27.64E**±0.05**, h7**^{km}±6^{km}**, n16, σ1^{s}05**/23**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	Milas	0.41	16	*i* PG	Pg	15 57 11.2	-0.1
NISR	Nisiros	0.50	235	*e*Pn	Pn	15 57 14.5	-1.8
NISR				*e*Sn	Sn	15 57 24.0	-1.3
YER	Yerkesik	0.56	66	*i* PG	Pg	15 57 13.6	-0.8
YER				SG	Sg	15 57 21.7	-0.3
AYDN	Tasoluk	0.78	14	⇑*i*P	Pb	15 57 18.4	-0.2
AYDN				*i* S	Sg	15 57 29.3	+0.2
ARG	Arkhangelos	0.79	150	*e*PB	Pb	15 57 18.0	-0.8
ARG	Arkhangelos	0.79	150	*e*Pb	Pb	15 57 17.5	-1.3
SMG	Samos	1.03	322	*e*PN	Pn	15 57 24.5	+0.7
DNZL	Cakiroluk	1.37	55	*i* P	Pb	15 57 28.7	0.0
DNZL				*i* S	Sb	15 57 48.1	+1.9
DENT	Denizli	1.40	52	PN	Pn	15 57 28.5	-0.6
DENT				SN	Sn	15 57 47.7	-0.3
KARP	Karpathos	1.41	196	*e*PN	Pn	15 57 31.5	+2.2
KARP				*e*SN	Sn	15 57 48.5	+0.2
IZM	Izmir	1.52	349	*e*PN	Pn	15 57 31.4	+0.5
APE	Apeiranthos	1.69	276	*e*PN	Pn	15 57 35.0	+1.6
KSL	Kastellorizon	1.74	115	*e*PN	Pn	15 57 36.0	+2.0
MANT	Manisa	1.74	24	*i* P	Pn	15 57 33.9	-0.2
MANT				*i* S	Sn	15 57 55.2	-1.5
ELL	Elmali	1.83	94	*e*PN	Pn	15 57 34.7	-0.6
AKS	Akhisar	1.98	4	*e*PN	Pn	15 57 37.5	+0.1

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*NEIC **03** 15:57:56.1, 36.94N×27.78E, h34^{km}, MD3.2(ATH), After ATH.*

*ATH **03** 15:57:56.1, 36.94N×27.78E, h34^{km}±3^{km}, MD3.2/5*

*ISK **03** 15:58:00.1, 37.20N×27.93E, h9^{km}, MD2.9*

ISC 03 15:57:56.4±0.5**, 36.88N**±0.03×**27.67E**±0.05**, h10**^{km}**, n15, σ1^{s}07**/22**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	316	⇑*i*P	Pg	15 58 02.1	+0.3
BDRM				*i* S	Sg	15 58 05.6	+0.2
MLSB	Milas	0.42	12	*i* PG	Pg	15 58 03.8	-1.2
NISR	Nisiros	0.51	238	*e*PN	Pn	15 58 09.0	-0.3
YER	Yerkesik	0.55	63	PG	Pg	15 58 06.3	-1.3
ARG	Arkhangelos	0.76	151	*e*PN	Pn	15 58 11.5	-1.4
AYDN	Tasoluk	0.80	12	*i* P	Pb	15 58 10.8	-1.1
AYDN				*i* S	Sb	15 58 21.4	-1.1
SMG	Samos	1.06	322	*e*PN	Pn	15 58 16.5	-0.7
DNZL	Cakiroluk	1.36	53	*i* P	Pb	15 58 21.7	+0.1
DNZL				*i* S	Sb	15 58 40.6	+1.7
KARP	Karpathos	1.39	197	*e*PN	Pn	15 58 22.5	+0.5
KARP				*e*SN	Sn	15 58 41.5	+1.0
DENT	Denizli	1.40	51	*e*PG	Pn	15 58 20.8	-1.2
DENT				*e*SG	Sn	15 58 35.3	-5.3
KDAG	Bornova	1.55	348	*i* P	Pn	15 58 25.5	+1.3
KDAG				*i* S	Sb	15 58 45.7	+1.4
APE	Apeiranthos	1.72	277	*e*PN	Pn	15 58 26.5	-0.2
MANT	Manisa	1.76	23	*i* P	Pn	15 58 26.7	-0.4
MANT				*i* S	Sn	15 58 51.4	+1.7
ELL	Elmali	1.80	94	*e*PN	Pn	15 58 30.0	+2.1
AKS	Akhisar	2.00	3	*e*PN	Pn	15 58 29.9	-0.7

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*PRU **03** 16:04:59.6, 51.49N×16.01E*

WAR 03 16:04:58.8, 51.56N×16.01E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	166	*e*PG	Pg	16 05 12.0	-1.6
KSP				*e*SG	Sg	16 05 22.0	-1.5
DPC	Dobruska-Polom	1.23	171	*e*PG	Pg	16 05 21.3	-2.1
DPC				*e*SG	Sg	16 05 36.9	-2.9
	10.0nm,0.3s						
PVCC	Panska Ves	1.38	222	*e*PG	Pg	16 05 24.6	-1.7
PVCC				*e*SG	Sg	16 05 42.1	-2.6
PRU	Pruhonice	1.83	211	*e*SG	Sg	16 05 55.9	-3.8
	5.6nm,0.4s						
OKC	Ostrava-Krasne	2.20	141	*e*SG	Sg	16 06 07.8	-4.2
KHC	Kasperske Hory	2.89	214	*e*SG	Sg	16 06 29.7	-5.3
KHC	Kasperske Hory	2.89	214	*e*Sg	Sg	16 06 29.7	-5.3

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*NNC **03** 16:06:09.7±6.8, 37.10N×69.67E, mpv4.2, Error ellipse: s-maj=73.0km s-min=51.0km az=114.0*

ISC 03 16:06:00.5±2.2**, 36.2N**±0.1×**70.9E**±0.2**, h121**^{km}±30^{km}**, n16, σ0^{s}75**/19**, 3C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.47	132	*e*P	P	16 07 22.4	+1.5
	45nm,0.4s						
THN				*e*S	S	16 08 23.0	-0.1
DLH	Dalhousie	5.55	129	*e*PG	Px	16 08 10.0	
DLH				*e*SG	S	16 08 24.0	-1.0
AML	Almayashu	6.34	19	P	P	16 07 32.4	-0.3
	SNR=78						
UCH	Uchtor	6.67	24	P	P	16 07 37.3	+0.1
	SNR=12						
EKS2	Erkin-Say	6.86	18	P	P	16 07 39.5	-0.3
	SNR=47						
KK31	Karatay Array	6.93	358	⇓P	P	16 07 39.7	-1.1
	10nm,0.4s,baz=187,slow=14,SNR=88						
KK31				⇑S	S	16 08 51.3	-7.2
	5.3nm,0.6s						
AAK	Ala-Archa	7.03	22	P	P	16 07 42.4	+0.2
	SNR=5.9						
CHMS	Chumysh	7.44	22	P	P	16 07 48.1	+0.3
	SNR=8.9						
USP	Ospenovka	7.61	20	P	P	16 07 49.4	-0.6
	SNR=26						
TKM2	Tokmak 2	7.66	27	P	P	16 07 53.4	+2.7
	SNR=5.1						
KOLN	Koldanda	13.65	124	*e*P	P	16 09 09.8	-0.2
	21nm,1.0s						
GKN	Gorkha	14.21	121	*e*P	P	16 09 17.1	0.0
	17nm,0.6s						
DMN	Daman	14.78	121	*e*P	P	16 09 24.5	+0.1
KKN	Kakani	14.79	120	*e*P	P	16 09 24.8	+0.3
	28nm,1.0s						
PKI	Pulchoki	15.02	121	*e*P	P	16 09 27.2	-0.2
	5.8nm,0.4s						
AB31	Akbulak array	15.33	332	⇑P	P	16 09 31.1	0.0
	0.5nm,0.4s,baz=143,slow=14,SNR=26						
AB31				⇑S	S	16 12 06.8	-11
	0.5nm,0.3s,baz=150,slow=23,SNR=5.5						

WEL 03 16:23:35.5±0.3**, 36.46S×177.53E, h240**^{km}±5^{km}**, ML3.7**/1**, Error ellipse: s-maj=11.8km s-min=9.7km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.83	190	PN	P	16 24 15.5	-0.4
URZ				SN	S	16 24 46.8	-0.4
URZ				SN	S	16 24 47.0	-0.1
MWZ	Matawai	1.87	180	PN	P	16 24 16.3	0.0
MWZ				SN	S	16 24 47.6	-0.3
BKZ	Black Stump Fm	2.82	197	PN	P	16 24 25.7	-0.1
BKZ				SN	S	16 25 05.3	+0.4

DJA 03 16:59:04.1±1.0**, 7.43S×116.70E, h30**^{km}**, MD4.5**/2**, ML4.4**/3**, 5C-2D, Error ellipse: s-maj=38.9km s-min=20.6km az=127.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.20	209	⇓*e*Pn	Pn	16 59 23.6	-1.5
	139nm,0.2s						
KEDI				⇑*i*Sn	Sn	16 59 37.2	-3.2
RATI	Rata	1.73	222	⇓*e*Pn	Pn	16 59 31.6	-1.0
	252nm,0.2s						
RATI				⇑*i*Sn	Sn	16 59 51.1	-2.7
INGI	Ingas	2.07	228	⇑*i*Pn	Pn	16 59 35.3	-2.2
	616nm,0.2s						
INGI	Ingas	2.07	228	⇑*i*P	Pn	16 59 36.8	-0.7
INGI				⇑*i*Sn	Sn	16 59 59.0	-3.5

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*IGIL **03** 17:19:19.4, 36.17N×7.90W, h1^{km}, ML3.5*

*NEIC **03** 17:19:22.4, 36.40N×7.82W, MG4.0(MDD), After MDD.*

*INMG **03** 17:19:23.6±0.9, 36.34N×7.90W, h13^{km}±7^{km}, ML3.0, Error ellipse: s-maj=6.8km s-min=2.2km az=36.0*

*LDG **03** 17:19:23.0±0.2, 36.33N×7.93W, h10^{km}, Ml3.9/4, Error ellipse: s-maj=4.1km s-min=1.9km az=31.0*

*MDD **03** 17:19:24.8±1.0, 36.49N×7.79W, h89^{km}±6^{km}, mb2.9/19, Error ellipse: s-maj=8.7km s-min=3.2km az=31.0, PRXIMO*

ISC 03 17:19:24.9±0.7**, 36.53N**±0.04×**7.75W**±0.04**, h96**^{km}±5^{km}**, n61, σ1^{s}04**/111**, 3C-6D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	0.96	13	*e*P	P	17 19 44.0	-0.8
PALC				*e*S	S	17 19 59.6	0.0
	193nm,0.3s						
PALC	Alcoutim	0.96	13	⇓P	P	17 19 44.0	-0.8

PALC				S	S	17 19 59.6	0.0
	97nm,0.3s						
EGRO	El Granado	1.03	12	⇓P	P	17 19 44.9	-0.7
	10nm,0.1s,SNR=18						
EGRO				S	S	17 20 00.8	-0.2
	102nm,0.3s,SNR=7.9						
PTEO	Sao Teotonio	1.28	323	eS	S	17 20 04.1	-2.3
	141nm,0.7s						
PTEO	Sao Teotonio	1.28	323	S	S	17 20 04.1	-2.3
	70nm,0.7s						
CNIL	Conil	1.38	96	P	P	17 19 40.0	-10
EMIN	Mina Concepcio	1.51	35	⇓P	P	17 19 51.3	-0.1
	1.1nm,0.1s,SNR=18						
EMIN				S	S	17 20 12.4	+1.3
	SNR=7.9						
ESPR	Espera	1.56	77	⇑P	P	17 19 51.1	-1.0
	7.9nm,0.1s,SNR=18						
ESPR				S	S	17 20 12.8	+0.5
	75nm,0.3s,SNR=11						
EJIF	Jimena Fronter	1.84	92	⇓P	P	17 19 54.8	-0.9
	0.5nm,0.1s,SNR=18						
EJIF				S	S	17 20 18.3	-0.1
	SNR=7.9						
LIJA	Lijar	1.93	78	P	P	17 20 00.0	+3.2
LIJA				S	S	17 20 16.0	-4.3
EVO	Evora	2.01	354	ePn	P	17 19 57.5	-0.4
EVO				eSn	S	17 20 23.0	+0.7
	87nm,0.2s						
MOE	Montemor	2.04	347	ePn	P	17 19 58.1	-0.3
MOE				eSn	S	17 20 24.5	+1.3
EBAD	Badajoz	2.30	15	P	P	17 20 02.3	+0.4
	0.7nm,0.0s,SNR=15						
EBAD				S	S	17 20 31.4	+2.0
	40nm,0.4s,SNR=4.8						
EMIJ	Mijas	2.40	88	P	P	17 20 01.4	-1.9
	1.8nm,0.1s,SNR=7.9						
EMIJ				S	S	17 20 31.3	-0.5
	SNR=7.9						
LIS	Lisbon	2.45	334	eP	P	17 20 03.0	-1.0
LIS				eS	S	17 20 34.3	+1.3
LIS				eS	S	17 20 34.4	+1.3
LIS				AML	AML	17 20 37.3	
	comp=E,224nm,0.2s						
PLOU	Loures	2.60	335	ePn	P	17 20 05.3	-0.8
PLOU				eSn	S	17 20 36.5	-0.3
	comp=E,76nm,0.4s						
PLOU	Loures	2.60	335	P	P	17 20 05.3	-0.8
PLOU				S	S	17 20 36.5	-0.3
	comp=E,38nm,0.4s						
ALMR	Almeirim	2.70	346	eP	P	17 20 06.1	-1.4
ALMR				eS	S	17 20 40.7	+1.4
ALMR				eS	S	17 20 40.7	+1.4
ALMR				AML	AML	17 20 41.7	
	comp=E,163nm,0.3s						
ELOJ	Sierra Loja	2.95	77	P	P	17 20 11.6	+0.7
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOJ				S	S	17 20 47.0	+1.4
	comp=E,11nm,0.3s,SNR=10						
ELUQ	Luque	2.97	69	P	P	17 20 11.3	+0.1
	comp=E,3.5nm,0.2s,SNR=6.3						
ELUQ				S	S	17 20 46.7	+0.7
	SNR=7.9						
EADA	Adamuz	3.01	56	P	P	17 20 12.1	+0.4
	comp=E,1.8nm,0.1s,SNR=37						
EADA				S	S	17 20 48.8	+1.8
	comp=E,24nm,0.3s,SNR=10						
PTOM	Tomar	3.13	351	i Pn	P	17 20 13.0	-0.3
PTOM				eSn	S	17 20 50.0	+0.2
	comp=E,71nm,0.3s						
PTOM	Tomar	3.13	351	⇓P	P	17 20 13.0	-0.3
PTOM				S	S	17 20 50.0	+0.2
	comp=E,36nm,0.3s						
ERON	Agron	3.21	80	S	S	17 20 51.4	-0.4
	SNR=7.9						
PCBR	Castelo Branco	3.31	4	ePn	P	17 20 15.9	0.0
PCBR				eSn	S	17 20 55.4	+1.1
	comp=E,33nm,0.4s						
PCBR	Castelo Branco	3.31	4	P	P	17 20 15.9	0.0
PCBR				S	S	17 20 55.4	+1.1
	comp=E,17nm,0.4s						
PCOI	Coimbra	3.67	351	ePn	P	17 20 20.3	-0.4
PCOI				eSn	S	17 21 02.9	-0.1
	comp=E,128nm,0.6s						
PCOI	Coimbra	3.67	351	P	P	17 20 20.3	-0.4
PCOI				S	S	17 21 02.9	-0.1
	comp=E,64nm,0.6s						
MTE	Manteigas	3.87	2	ePn	P	17 20 23.3	-0.2
MTE				eSn	S	17 21 08.4	+0.4
	comp=E,80nm,0.5s						
MTE	Manteigas	3.87	2	P	P	17 20 23.3	-0.2
MTE				S	S	17 21 08.4	+0.4
	comp=E,40nm,0.5s						
MTE	Manteigas	3.87	2	eP	P	17 20 23.2	-0.2
EQES	Quesada	3.95	70	P	P	17 20 24.1	-0.5
	comp=E,3.0nm,0.3s,SNR=12						
EQES				S	S	17 21 11.8	+1.7
	comp=E,22nm,0.3s,SNR=10.0						
PVIS	Viseu	4.18	359	ePn	P	17 20 27.8	0.0
PVIS				eSn	S	17 21 15.7	-0.1
	comp=E,11nm,0.2s						
PVIS	Viseu	4.18	359	P	P	17 20 27.8	0.0
PVIS				S	S	17 21 15.7	-0.1
	comp=E,5.6nm,0.2s						
ESDC	Sonseca Array	4.33	42	⇓P	P	17 20 30.4	+0.5
	comp=E,2.5nm,0.2s,baz=224,slow=13,SNR=18						
EVIA	Vianos	4.67	62	P	P	17 20 34.6	+0.1
	comp=E,6.1nm,0.3s,SNR=8.8						
EVIA				S	S	17 21 27.7	-0.1
	comp=E,15nm,0.3s,SNR=12						
PVRL	Vila Real	4.74	0	ePn	P	17 20 35.1	-0.3
PVRL				eSn	S	17 21 28.9	-0.6
	comp=E,20nm,0.1s						
PVRL	Vila Real	4.74	0	P	P	17 20 35.1	-0.3
PVRL				S	S	17 21 28.9	-0.6
	comp=E,9.9nm,0.1s						
PBRG	Braganca	5.33	8	ePn	P	17 20 43.4	0.0
PBRG				eSn	S	17 21 43.2	-0.8
	comp=E,12nm,0.5s						
PBRG	Braganca	5.33	8	P	P	17 20 43.4	0.0
PBRG				S	S	17 21 43.2	-0.8
	comp=E,6.0nm,0.5s						
ELOB	Lobios	5.34	358	P	P	17 20 43.4	-0.1
	comp=E,5.1nm,0.1s,SNR=18						
ELOB				S	S	17 21 42.9	-1.3
	SNR=7.9						
ETOB	Tobarra	5.36	65	P	P	17 20 43.1	-0.8
	comp=E,0.5nm,0.1s,SNR=4.0						
ETOB				S	S	17 21 43.3	-1.6
	SNR=7.9						
EMUR	La Murta	5.36	74	P	P	17 20 43.9	0.0
	SNR=7.9						
EMUR				S	S	17 21 43.2	-1.7
	SNR=7.9						
ECAL	Calabor	5.46	8	P	P	17 20 45.3	+0.1
	comp=E,7.9nm,0.3s,SNR=19						
ECAL				S	S	17 21 48.0	+0.7
	comp=E,28nm,0.3s,SNR=7.9						
EZAM	Zamans	5.66	353	⇑P	P	17 20 47.9	0.0
	SNR=18						
EZAM				S	S	17 21 50.8	-1.5
	SNR=7.9						
ERUA	La Rua	5.87	4	⇑P	P	17 20 51.1	+0.2
	comp=E,2.0nm,0.2s,SNR=18						
ERUA				S	S	17 21 56.8	-0.7
	SNR=7.9						
ETOR	Torete	6.18	44	P	P	17 20 56.0	+0.9
	comp=E,0.5nm,0.1s,SNR=15						
ETOR				S	S	17 22 03.4	-1.6
	comp=E,13nm,0.4s,SNR=9.2						
EBEN	Beniarda	6.36	68	P	P	17 20 58.0	+0.4
	comp=E,0.4nm,0.1s,SNR=4.0						
EBEN				S	S	17 22 06.6	-2.7
	comp=E,6.4nm,0.4s,SNR=7.9						
EBEN	Beniarda	6.36	68	Pn	P	17 20 58.0	+0.4
EBEN				Sn	S	17 22 06.6	-2.7
EALK	Alkurruntz	8.23	34	P	P	17 21 24.5	+1.4
	comp=E,6.3nm,0.4s,SNR=8.8						
EALK				S	S	17 22 52.5	-2.6
	comp=E,25nm,0.4s,SNR=7.9						
EALK	Alkurruntz	8.23	34	Pn	P	17 21 24.5	+1.4
EALK				Sn	S	17 22 52.5	-2.6
SJPF	Ste Jean	8.27	35	ePn	P	17 21 25.2	+1.4
SJPF				eSn	S	17 22 54.0	-2.3
	comp=E,13nm,0.5s						
ETSF	Etsaut	8.43	39	ePn	P	17 21 27.2	+1.2
ETSF				eSn	S	17 22 57.2	-3.0
	comp=E,5.8nm,0.4s						
EPF	Esparros	8.99	41	ePn	P	17 21 35.2	+1.7
EPF				eSn	S	17 23 12.2	-1.7
	comp=E,7.5nm,0.4s						
LFF	La Frestale	10.58	35	ePn	P	17 21 55.9	+1.0
CAF	Calviac	11.21	39	ePn	P	17 22 04.2	+0.9
RJF	Les Rejaudoux	11.22	36	ePn	P	17 22 03.8	+0.4
QUIF	Quistinic	11.87	15	ePn	P	17 22 12.7	+0.6
ROSF	Rostrenen	12.25	14	ePn	P	17 22 17.7	+0.6
AVF	Avril sur Loir	13.18	35	ePn	P	17 22 30.7	+1.4
SMF	Signal de Mont	13.30	37	ePn	P	17 22 31.5	+0.6

*IDC **03** 17:30:18.4±1.1, 20.01N×121.47E, mb3.8/5, mb1 4.0/6, mb1mx3.8/18, ML4.0/1, MS2.9/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=39.0km s-min=20.6km az=75.0*

*JMA **03** 17:30:23.7±0.5, 20.22N×122.00E, h1^{km}, M4.1*

*NEIC **03** 17:30:26.7±5.0, 20.11N×121.64E, h65^{km}±51^{km}, mb3.9/2, Error ellipse: s-maj=54.0km s-min=8.0km az=64.0*

ISC 03 17:30:25.2±1.6, **20.15N**±0.06×**121.7E**±0.1, **h69**^{km}±16^{km}, **n20**, σ0^{s}**76**/27, **mb3.7**/6, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	4.34	26	P	P	17 31 30.1	-0.2
HATJ				S	S	17 32 19.3	-0.8
YOJ	Yonaguni jima	4.46	15	P	P	17 31 32.5	+0.7
YOJ				S	S	17 32 24.3	+1.4
IRIF	Iriomote-Funau	4.56	24	P	P	17 31 33.3	0.0
IRIF				S	S	17 32 26.0	+0.4
JKRS	Kuro-shima	4.59	27	P	P	17 31 33.7	0.0
JKRS				S	S	17 32 26.9	+0.7
JIJ	Ishigaki jima	4.76	28	P	P	17 31 35.5	-0.5
JIJ				S	S	17 32 28.7	-1.7
JTJ	Tarama	5.25	31	P	P	17 31 42.4	-0.5
JTJ				S	S	17 32 42.6	-0.2
JOGS	Gusukube	5.72	36	P	P	17 31 50.1	+0.8
JOGS				S	S	17 32 52.8	-1.5
JOW	Kunigami	8.97	41	Pn	P	17 32 34.5	+0.3
	3.1nm,0.3s,baz=201,slow=17,SNR=12						
JOW				Sn	S	17 34 16.1	+1.5
	0.5nm,0.3s,baz=253,slow=20,SNR=2.3						
JOW				LR	LR	17 36 21.8	
	comp=Z,81nm,20.6s,baz=118,slow=39						
BJI	Beijing	20.39	348	eP	P	17 34 58.2	-0.5
	7.0nm,0.8s						
CMAR	Chiang Mai Arr	21.56	269	LR	LR	17 43 06.1	
	comp=Z,33nm,21.6s,baz=125,slow=36						
SONM	Songino Array	30.28	339	P	P	17 36 32.0	+0.1
	0.2nm,0.6s,mb2.9,baz=152,slow=9.1,SNR=4.3						
MKAR	Makanchi Array	41.63	319	P	P	17 38 08.3	+0.2
	0.9nm,0.8s,mb3.6,baz=105,slow=9.2,SNR=4.5						
WRA	Warramunga Arr	41.72	162	P	P	17 38 09.1	-0.1
	2.0nm,0.4s,mb4.2,baz=342,slow=9.1,SNR=42						
WB2	Warramunga Arr	41.72	162	eP	P	17 38 09.2	0.0
ASPA	Alice Springs	45.14	164	eP	P	17 38 37.7	+0.8
KURK	Kurchatov	45.53	323	P	P	17 38 39.2	-0.4
	0.6nm,0.6s,mb3.5						
CTAO	Charters Tower	46.65	148	P	P	17 38 49.2	+0.4
STKA	Stephens Creek	55.13	159	P	P	17 39 51.6	-1.2
	3.2nm,1.0s,mb4.3,baz=343,slow=14,SNR=3.5						
ARU	Arti	58.64	325	P	P	17 40 16.8	-0.6
NOA	NORSAR Array B	82.01	333	P	P	17 42 39.5	+0.6
	0.6nm,0.8s,mb3.5,baz=55,slow=5.4,SNR=3.4						

*NEIC **03** 17:31:48.0, 62.51N×151.74W, h101^{km}, mb4.1/2, After AEIC.*

*IDC **03** 17:31:48.3±3.7, 62.73N×151.82W, h107^{km}±29^{km}, mb3.6/10, mb1 3.8/12, mb1mx3.6/21, Error ellipse: s-maj=30.5km s-min=14.8km az=47.0*

ISC 03 17:31:46.2±0.2, **62.51N**±0.02×**151.64W**±0.05, **h111**^{km}±3^{km}, **n106**, σ0^{s}**88**/139, **mb3.9**/12, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKT	Skwentna	0.53	174	P	P	17 32 03.5	0.0
SKT				S	S	17 32 15.2	-1.4
CUT	Chulitna	0.65	99	P	P	17 32 05.0	+0.7
HUR	Hurricane	1.04	62	P	P	17 32 08.8	+0.6
KTH	Kantishna Hill	1.10	17	P	P	17 32 08.9	+0.1
KTH				S	S	17 32 24.7	-1.1
TRF	Thorofare Moun	1.13	33	P	P	17 32 09.6	+0.3
TRF				S	S	17 32 27.5	+1.0
SUA	Susitna One	1.13	158	P	P	17 32 09.5	+0.3
NCG	North Capps Gl	1.14	193	P	P	17 32 09.1	-0.2
NCG				S	S	17 32 26.7	0.0
PWA	Palmer West	1.20	135	P	P	17 32 10.4	+0.4
PWA				S	S	17 32 27.7	-0.1
BGL	Barrier Glacie	1.30	196	P	P	17 32 11.3	+0.1
SPU	Mount Spurr	1.35	189	P	P	17 32 11.3	-0.4
SPU				S	S	17 32 30.4	-0.6
CKL	Chakachamna La	1.36	194	P	P	17 32 11.9	0.0
CKL				S	S	17 32 31.8	+0.6
BKG	Blockade Glaci	1.48	192	P	P	17 32 12.9	-0.4
BKG				S	S	17 32 33.9	+0.3
GHO	Glory Hole Cre	1.48	119	P	P	17 32 14.1	+0.9
GHO				S	S	17 32 32.7	-0.9
PMR	Palmer	1.50	127	P	P	17 32 13.8	+0.3
PMR				S	S	17 32 34.2	+0.1
FIB	Fire Island	1.52	152	P	P	17 32 15.2	+1.5
FIB				S	S	17 32 36.3	+1.9
RND	Reindeer	1.56	54	P	P	17 32 15.0	+0.7
GOU	Gould Hall	1.59	146	P	P	17 32 15.5	+0.9
PMS	Palmer South	1.61	141	P	P	17 32 15.1	+0.2
PMS				S	S	17 32 36.8	+0.5
RC01	Rabbit Creek A	1.69	147	P	P	17 32 16.0	+0.2
RC01				S	S	17 32 38.6	+0.6
SML	Sawmill	1.71	113	P	P	17 32 16.4	+0.4
SML				S	S	17 32 39.9	+1.5
MCK	McKinley	1.74	44	P	P	17 32 17.1	+0.7
MCK				S	S	17 32 39.4	+0.3
KNK	Knik Glacier	1.86	125	P	P	17 32 18.3	+0.3
KNK				S	S	17 32 43.4	+1.6
RDT	Redoubt	1.98	191	P	P	17 32 19.3	-0.1
RDT				S	S	17 32 45.2	+0.9
DHY	Denali Highway	2.04	72	P	P	17 32 21.3	+1.0
DHY				S	S	17 32 47.0	+1.2
TT01	Tatalina	2.06	283	P	P	17 32 19.7	-0.8
REF	Redoubt East F	2.09	195	P	P	17 32 21.3	+0.4
SLKM	Skilak Lake	2.12	161	P	P	17 32 21.6	+0.2
SLKM				S	S	17 32 47.1	-0.6
RSO	Redoubt South	2.12	195	eP	P	17 32 21.5	+0.1
SCM	Sheep Creek Mo	2.13	107	P	P	17 32 21.6	+0.1
CFI	College Fiord	2.27	124	P	P	17 32 23.1	-0.2
PWL	Port Wells	2.29	135	P	P	17 32 22.9	-0.7
MPA	Moose Pass	2.30	151	P	P	17 32 23.4	-0.4
MPA				S	S	17 32 51.3	-0.8
SVW	Sparrevohn	2.36	235	P	P	17 32 24.1	-0.4
NEA	Nenana	2.37	28	P	P	17 32 24.3	-0.5
NEA				S	S	17 32 53.1	-0.5
ILIM	Iliamna	2.52	195	P	P	17 32 26.9	+0.2
ILIM				S	S	17 32 57.9	+0.7
MLY	Manley	2.56	9	P	P	17 32 27.2	-0.1
IVS	Iliamna South	2.60	196	P	P	17 32 28.6	+0.7
SEW	Seward	2.64	155	P	P	17 32 27.9	-0.4
SEW				S	S	17 32 57.4	-2.6
GLI	Glacier Island	2.71	125	P	P	17 32 28.4	-0.9
CCB	Clear Creek Bu	2.75	37	P	P	17 32 29.7	-0.1
BRLK	Bradley Lake	2.78	172	P	P	17 32 30.2	0.0
BRLK				S	S	17 33 03.6	+0.2
JPK	Jack Peak	2.81	119	P	P	17 32 30.1	-0.5
JPK				S	S	17 33 02.2	-1.8
SDG	Sourdough	2.83	87	P	P	17 32 31.8	+0.9
HDA	Harding Lake	2.84	46	P	P	17 32 31.1	+0.1
THY	Trims Highway	2.84	69	eP	P	17 32 32.7	+1.7
VLZ	Valdez	2.87	116	P	P	17 32 30.2	-1.3
VLZ				S	S	17 33 06.2	+0.6
PAX	Paxson	2.88	78	P	P	17 32 32.1	+0.5
PAX				S	S	17 33 07.0	+1.3
KLU	Klutina	2.89	108	P	P	17 32 30.9	-0.8
KLU				S	S	17 33 06.2	+0.3
COLA	College	2.91	34	P	P	17 32 32.1	0.0
CNPM	China Poot	3.00	176	P	P	17 32 32.1	-1.1
FID	Port Fidalgo	3.03	123	P	P	17 32 32.5	-1.2
FID				S	S	17 33 08.1	-1.4
XLV	Seldovia	3.07	181	P	P	17 32 34.6	+0.5
LTI	Latouche	3.08	142	P	P	17 32 32.6	-1.7
IL1	Eielson Array	3.11	41	P	P	17 32 34.5	-0.1
ILAR	Eielson Array	3.11	41	P	P	17 32 34.4	-0.3
	14nm,0.3s,baz=224,slow=14,SNR=483						
ILAR				S	S	17 33 09.9	-1.4
	8.6nm,0.3s,baz=208,slow=18,SNR=15						
DIV	Divide	3.11	114	P	P	17 32 33.5	-1.2
DIV				S	S	17 33 10.0	-1.3
HIN	Hinchinbrook I	3.25	128	P	P	17 32 35.6	-1.0
HIN				S	S	17 33 14.4	-0.4
AGU	Augustine-Summ	3.28	196	P	P	17 32 37.8	+0.8
EYAK	Cordova Ski Ar	3.44	122	P	P	17 32 38.3	-0.9
EYAK				S	S	17 33 20.0	+0.7
IM3	Indian Mountai	3.61	346	P	P	17 32 40.9	-0.5
IMA	Indian Mountai	3.68	347	eP	P	17 32 42.7	+0.3
SGAM	Sherman Glacie	3.68	120	P	P	17 32 43.4	+1.0
BMRM	Bremner River	3.69	112	P	P	17 32 41.1	-1.4
GLB	Gilahina Butte	3.85	103	P	P	17 32 44.0	-0.7
RAGM	Ragged Mountai	3.96	119	P	P	17 32 47.3	+1.1
MID	Middleton Isla	4.03	138	P	P	17 32 47.2	+0.1
PRP	Porcupine Dome	4.04	39	P	P	17 32 48.1	+0.8
KAPH	Katmai Pasha	4.15	200	P	P	17 32 48.6	-0.2
HMT	Hamilton	4.16	118	P	P	17 32 47.9	-1.1
KAHC	Katmai Hardscr	4.21	205	P	P	17 32 49.3	-0.3
KAHG	Katmai Hook Gl	4.28	201	P	P	17 32 50.5	0.0
KAWH	Katmai	4.42	202	P	P	17 32 52.6	+0.1
BCA3	Beaver Creek A	4.56	79	P	P	17 32 53.8	-0.6
BALM	Baldy	4.66	104	P	P	17 32 54.6	-1.0
MGLS	Mageik LS	4.69	205	P	P	17 32 57.2	+1.2
WAX	Waxell Ridge	4.69	112	P	P	17 32 55.6	-0.6
KABR	Katmai Barrier	4.69	202	P	P	17 32 55.6	-0.6
ANCK	Angle Creek	4.73	206	P	P	17 32 57.5	+0.9
CNTC	Contact Creek	4.75	208	P	P	17 32 57.2	+0.3
KDAK	Kodiak Island	4.77	186	P	P	17 32 55.3	-1.9
COLD	Coldfoot	4.78	7	P	P	17 32 57.2	0.0
CAHL	Cahill	4.83	204	P	P	17 32 58.5	+0.5
SNH	Sunshine Point	4.84	115	P	P	17 32 58.0	-0.1
CTGM	Chitina Glacie	5.14	103	P	P	17 33 01.8	-0.4
YAH	Yahtse	5.21	110	P	P	17 33 02.8	-0.4
WRG	White River Gl	5.26	114	P	P	17 33 03.5	-0.2
DAWY	Dawson	5.74	69	P	P	17 33 10.2	-0.2
BM3	Burnt Mountain	5.76	28	P	P	17 33 10.6	0.0
PCA	Pinnacle	6.00	109	P	P	17 33 13.2	-0.5
ANPK	Aniakchak Peak	6.56	213	P	P	17 33 21.7	+0.1
PNL	Peninsula	6.58	110	P	P	17 33 21.9	-0.1
WHY	Whitehorse	8.20	96	P	P	17 33 41.8	-2.1
YKA	Yellowknife Ar	16.96	74	P	P	17 35 38.4	+0.9
	0.2nm,0.3s,baz=286,slow=9.6,SNR=3.5						
PDAR	Pinedale Array	31.47	109	P	P	17 38 00.8	+1.8
	1.3nm,0.6s,mb3.9,baz=314,slow=3.2,SNR=15						
NVAR	Mina Array Bea	31.48	124	P	P	17 38 01.4	+2.2
	1.1nm,0.5s,mb3.8,baz=328,slow=8.5,SNR=12						
DUG	Dugway	32.18	116	P	P	17 38 06.2	+1.0
SDCO	Great Sand Dun	37.36	110	P	P	17 38 50.7	+1.4
	1.4nm,0.6s,mb4.1						
SCHQ	Schefferville	41.69	60	P	P	17 39 26.2	+1.6
	2.3nm,1.0s,mb3.9,baz=355,slow=11,SNR=3.7						
LTX	Lajitas	45.33	114	eP	P	17 39 55.9	+1.4
	2.0nm,0.6s,mb4.0						
TXAR	Lajitas Array	45.33	114	P	P	17 39 56.8	+2.3
	0.9nm,0.5s,mb3.8,baz=335,slow=5.7,SNR=9.1						
ARCES	ARCESS Array B	48.23	1	P	P	17 40 15.7	-0.9
	1.0nm,0.7s,mb3.7,baz=8.1,slow=8.6,SNR=4.2						
SONM	Songino Array	53.86	305	P	P	17 40 59.5	+0.1
	0.6nm,0.8s,mb3.7,baz=45,slow=7.0,SNR=5.2						
HFS	Hagfors	57.17	9	P	P	17 41 20.8	-2.2
	0.5nm,0.5s,mb3.9,baz=45,slow=6.3,SNR=4.8						
EKA	Eskdalemuir Ar	59.94	20	P	P	17 41 41.8	-0.5
	0.5nm,0.6s,mb3.7,baz=321,slow=5.3,SNR=3.7						
MKAR	Makanchi Array	62.88	321	P	P	17 42 00.4	-1.8
	0.5nm,0.3s,mb4.0,baz=45,slow=12,SNR=11						
AKASG	Malin Array Be	67.14	359	P	P	17 42 28.7	-0.6
	1.4nm,0.5s,mb4.1,baz=5.1,slow=6.9,SNR=6.8						

*ISK **03** 17:38:24.8, 37.01N×27.78E, h13^{km}, MD3.4, ML3.5*

*IDC **03** 17:38:24.1±1.4, 36.75N×27.99E, mb3.8/2, mb1 3.6/6, mb1mx3.4/21, ML3.3/4, Error ellipse: s-maj=30.5km s-min=19.8km az=165.0*

*NEIC **03** 17:38:25.0, 36.91N×27.74E, h22^{km}, MD3.5(ATH), After ATH.*

*ATH **03** 17:38:25.0, 36.91N×27.74E, h22^{km}±4^{km}, MD3.5/7*

ISC 03 17:38:24.5±0.5, **36.91N**±0.03×**27.71E**±0.04, **h20**^{km}±5^{km}, **n38**, σ0^{s}**88**/51, **mb3.7**/2, **1C**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	306	i P	Pb	17 38 30.4	-0.3
BDRM				i S	Sb	17 38 35.5	+0.6
MLSB	Milas	0.39	8	i PG	Pb	17 38 31.5	-1.2
YER	Yerkesik	0.51	64	i PG	Pb	17 38 33.3	-1.4
NISR	Nisiros	0.56	238	ePN	Pn	17 38 36.0	-1.2
NISR				eSN	Sn	17 38 46.0	+0.2
AYDN	Tasoluk	0.76	10	i P	Pb	17 38 38.7	-0.3
AYDN				i S	Sb	17 38 49.1	+0.2
ARG	Arkhangelos	0.77	154	ePB	Pb	17 38 38.8	-0.3
ARG				eSN	Sn	17 38 51.0	-0.2
SMG	Samos	1.06	319	ePN	Pn	17 38 45.5	+1.1
DNZL	Cakiroluk	1.32	53	i P	Pn	17 38 47.8	-0.3
DNZL				i S	Sb	17 39 06.6	+1.7
DENT	Denizli	1.35	51	i PN	Pn	17 38 48.7	+0.2
KARP	Karpathos	1.43	198	ePB	Pb	17 38 51.0	+0.6
IZM	Izmir	1.53	347	PN	Pn	17 38 50.4	-0.7
IZM				SN	Sn	17 39 10.5	0.0
KDAG	Bornova	1.53	347	i P	Pn	17 38 51.3	+0.2
KDAG				i S	Sn	17 39 16.4	+5.8
KSL	Kastellorizon	1.69	116	ePN	Pn	17 38 55.5	+2.1
MANT	Manisa	1.71	23	⇑i P	Pn	17 38 53.9	+0.2
MANT				i S	Sn	17 39 17.9	+2.6
APE	Apeiranthos	1.75	276	ePB	Pb	17 38 55.5	-0.4
ELL	Elmali	1.77	95	PN	Pn	17 38 55.5	+1.0
SANT	Santorini	1.89	254	eP	Pn	17 39 00.7	+4.4
AKS	Akhisar	1.97	2	ePN	Pn	17 38 57.2	-0.2
KHL	Karahalli	2.01	45	ePN	Pn	17 38 57.8	-0.2
BCK	Bucak	2.36	76	ePN	Pn	17 39 03.5	+0.5
ISP	Isparta	2.42	66	ePN	Pn	17 39 04.1	+0.3
XRY	Khrisi	2.61	219	ePB	Pb	17 39 10.0	-0.5
BALB	Balikesir	2.73	3	ePN	Pn	17 39 07.5	-0.8
IDI	Anoyia	2.80	236	Pn	Pn	17 39 10.8	+1.5
	1.6nm,0.3s,baz=342,slow=3.0,SNR=8.1						
IDI				Sn	Sn	17 39 49.1	+6.2
	2.8nm,0.3s,baz=119,slow=23,SNR=6.4						
ALT	Altintas	2.86	41	ePN	Pn	17 39 10.3	+0.2
ULDT	Uludag	3.41	19	i P	Pn	17 39 18.1	+0.1
ULDT				i S	Sn	17 40 08.0	+10
ESKT	Eskisehir	3.59	43	ePN	Pn	17 39 20.5	0.0
HDMB	Hadim	3.83	88	ePN	Pn	17 39 24.2	+0.4
KIZT	Kizilcal	3.84	58	ePN	Pn	17 39 23.9	-0.1
YLV	Yalova	3.87	19	ePN	Pn	17 39 24.0	-0.5
HRT	Hereke	4.19	21	ePN	Pn	17 39 28.9	-0.2
IKL	Isikli	4.85	96	ePN	Pn	17 39 38.7	+0.3
BRTR	Keskin Array B	5.44	57	Pn	Pn	17 39 46.9	+0.2
	0.8nm,0.3s,baz=239,slow=14,SNR=9.6						
BRTR				Sn	Sn	17 40 47.2	-2.3
	baz=247,slow=19,SNR=2.5						
BRTR	Keskin Array B	5.44	57	Pn	Pn	17 39 46.9	+0.2
BRTR				Sn	Sn	17 40 47.2	-2.3
ASF	Jabal al Asfar	8.93	119	Pn	P	17 40 32.2	-3.4
	0.2nm,0.3s,baz=321,slow=16,SNR=1.7						
ASF				Sn	Sn	17 42 12.0	-4.6
	0.5nm,0.3s,baz=319,slow=19,SNR=2.7						
GERES	GERESS Array B	15.71	324	Pn	P	17 42 12.7	+6.4
	0.1nm,0.3s,baz=119,slow=10,SNR=2.8						
MKAR	Makanchi Array	41.09	58	P	P	17 46 08.2	-0.3
	1.8nm,0.9s,mb3.7,baz=275,slow=7.6,SNR=5.9						
SONM	Songino Array	56.78	52	P	P	17 48 08.3	-1.2
	0.4nm,0.5s,mb3.7,baz=299,slow=8.3,SNR=4.2						

KRSC 03 17:45:05.7, 53.18N×159.88E, h64^{km}, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.12	134	i P	P	17 45 15.4	+0.1
SPN				i S	S	17 45 22.2	-0.1
NLC	Nalytchevo	0.32	269	i P	P	17 45 16.7	+0.2
NLC				i S	S	17 45 24.7	+0.3
SDLR	Sedlovina	0.61	280	i P	P	17 45 19.4	+0.1
SDLR				eS	S	17 45 29.0	-0.2
UGLR	Uglovaya	0.64	273	i P	P	17 45 20.1	+0.5
UGLR				eS	S	17 45 30.8	+1.0
SMAR	Somma	0.65	278	i P	P	17 45 19.9	+0.1
AVH	Avacha	0.69	278	i P	P	17 45 20.8	+0.6
AVH				eS	S	17 45 31.5	+0.5
KOK	Koryaka	0.76	279	i P	P	17 45 21.3	+0.3

KOK				*e*S	S	17 45 32.6	+0.3
PET	**Petropavlovsk**	0.76	259	*i* P	P	17 45 21.0	0.0
PET				*e*S	S	17 45 32.2	-0.1
KII	**Karymskiy**	0.90	344	*e*P	P	17 45 22.9	+0.2
KII				*e*S	S	17 45 36.0	+0.6
RUS	**Russkaya**	1.12	229	*e*P	P	17 45 25.5	-0.2
RUS				*e*S	S	17 45 40.2	-0.4
GRL	**Gorelyy**	1.26	241	*i* P	P	17 45 28.4	+0.7
GRL				*i* S	S	17 45 45.5	+1.4
GNL	**Ganaly**	1.27	295	*i* P	P	17 45 27.7	-0.1
GNL				*e*S	S	17 45 43.9	-0.3
APC	**Apacha**	1.66	262	*i* P	P	17 45 33.8	+0.6
APC				*i* S	S	17 45 55.2	+1.6
APC				Smax			
	40nm,0.7s						
MKZ	**Mys Kozlova**	1.76	38	*e*P	P	17 45 33.8	-0.8
MKZ				*e*S	S	17 45 54.3	-1.6
TUMR	**Tumrok**	2.11	4	*e*P	P	17 45 39.8	+0.3
TUMR				*i* S	S	17 46 05.7	+1.2
PAU	**Pauzhetka**	2.55	229	*e*P	P	17 45 46.7	+1.1
PAU				*e*S	S	17 46 16.7	+1.2
KMNR	**Kamenistaya**	2.59	4	*e*P	P	17 45 46.0	-0.2
KOZ	**Kozyrevsk**	2.88	360	*e*P	P	17 45 51.4	+1.0
LGNR	**Loginova**	2.95	9	*i* P	P	17 45 52.8	+1.5
LGNR				*e*S	S	17 46 27.1	+1.5
SRDR	**Sredinnyy**	3.15	358	*e*P	P	17 45 55.1	+1.0
KLY	**Klyuchi**	3.17	8	*e*P	P	17 45 56.8	+2.4
KLY				*e*S	S	17 46 32.1	+0.9
KBTR	**Krutoberegovo**	3.48	28	*e*P	P	17 45 59.0	+0.2
KBTR				*e*S	S	17 46 37.6	-1.4
KBG	**Krutoberegovo**	3.49	27	*e*P	P	17 46 03.0	+4.1
KBG				*e*S	S	17 46 40.0	+0.8
KBG				Smax			
	200nm,0.7s						
BKI	**Bering**	4.11	58	*e*S	S	17 46 47.7	-7.2

IDC 03 17:58:53.2±17.0**,23.94S**×**175.12W,mb4.3**/5**,mb1 4.5**/5**, mb1mx4.0**/16**,1D,Error ellipse: s-maj=311.0km s-min=138.3km az=82.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	35.94	268	⇓*i*P	P	18 05 55.9	-1.6
	3.8nm,0.3s						
CTA	**Charters Tower**	35.94	268	P	P	18 05 56.0	-1.6
	7.1nm,0.5s,baz=93,slow=11,SNR=26						
STKA	**Stephens Creek**	38.86	248	P	P	18 06 21.3	-0.7
	2.3nm,0.7s,baz=99,slow=14,SNR=5.5						
ASAR	**Alice Springs**	46.43	259	P	P	18 07 21.4	-2.2
	0.9nm,0.4s,baz=90,slow=7.0,SNR=41						
WB2	**Warramunga Arr**	46.84	265	*e*P	P	18 07 24.1	-2.9
WRA	**Warramunga Arr**	46.85	265	P	P	18 07 24.3	-2.8
	2.0nm,0.3s,baz=106,slow=8.2,SNR=105						
KAKA	**Kakadu**	50.81	273	*e*P	P	18 07 54.4	-3.3
	6.3nm,0.9s						
FITZ	**Fitzroy Crossi**	55.27	264	P	P	18 08 29.0	-2.0
	3.2nm,0.8s,baz=105,slow=4.1,SNR=7.4						

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*ISK **03** 18:15:14.9,36.95N×27.73E,h14^{km},MD3.2*
*NEIC **03** 18:15:15.9,36.81N×27.46E,h5^{km},MD3.2(ATH),After ATH.*
*ATH **03** 18:15:15.9,36.81N×27.46E,h5^{km},MD3.2/4*
ISC 03 18:15:14.4±0.9**,36.87N**±0.04×**27.71E**±0.05**,h2**^{km}±7^{km}**, n15,**σ1^{s}**05**/20**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.29	313	*i* P	**Pg**	**18 15 20.9**	**+0.7**
BDRM				*i* S	**Sg**	**18 15 25.4**	**+1.2**
MLSB	**Milas**	0.43	7	*i* PG	**Pg**	**18 15 22.6**	**-0.4**
YER	**Yerkesik**	0.53	59	*i* PG	**Pg**	**18 15 24.8**	**-0.2**
YER				SG	**Sg**	**18 15 32.2**	**+0.2**
ARG	**Arkhangelos**	0.73	153	*e*PB	**Pb**	**18 15 29.7**	**+0.2**
AYDN	**Tasoluk**	0.80	9	*i* P	**Pb**	**18 15 29.6**	**-1.1**
AYDN				*i* S	**Sg**	**18 15 40.5**	**-0.7**
SMG	**Samos**	1.09	321	*e*PB	**Pb**	**18 15 35.5**	**-0.2**
DNZL	**Cakiroluk**	1.34	52	*i* P	**Pb**	**18 15 40.4**	**+0.5**
DNZL				*i* S	**Sb**	**18 15 59.1**	**+1.6**
DENT	**Denizli**	1.38	50	PN	**Pn**	**18 15 39.5**	**-1.1**
KARP	**Karpathos**	1.39	199	*e*PB	**Pb**	**18 15 40.6**	**-0.2**
IZM	**Izmir**	1.57	347	*e*PN	**Pn**	**18 15 41.8**	**-1.6**
KSL	**Kastellorizon**	1.67	115	*e*PN	**Pn**	**18 15 51.0**	**+6.2**
MANT	**Manisa**	1.75	22	*i* P	**Pn**	**18 15 49.1**	**+3.0**
MANT				*i* S	**Sn**	**18 16 11.1**	**+1.8**
ELL	**Elmali**	1.77	93	*e*PN	**Pn**	**18 15 46.0**	**-0.2**
AKS	**Akhisar**	2.01	2	*e*PN	**Pn**	**18 15 47.9**	**-1.8**
NPS	**Neapolis**	2.34	227	*e*PN	**Pn**	**18 15 55.0**	**+0.6**

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*ISK **03** 18:16:17.5,36.96N×27.75E,h16^{km},MD3.5*
*NEIC **03** 18:16:18.1,36.90N×27.61E,h25^{km},MD3.4(ATH),After ATH.*
*ATH **03** 18:16:18.1,36.90N×27.61E,h25^{km}±4^{km},MD3.4/6*
*IDC **03** 18:16:21.4±3.2,36.95N×27.55E,h39^{km}±45^{km},mb3.4/2, mb1 3.5/6,mb1mx3.3/22,ML3.4/4,Error ellipse: s-maj=39.9km s-min=25.2km az=166.0*
ISC 03 18:16:17.2±0.7**,36.90N**±0.03×**27.72E**±0.04**,h9**^{km}±5^{km}**, n24,**σ**0^{s}98**/34**,mb3.4**/2**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.27	307	*i* P	**Pg**	**18 16 23.2**	**+0.3**
BDRM				*i* S	**Sg**	**18 16 27.3**	**+0.7**
MLSB	**Milas**	0.40	7	*i* PG	**Pg**	**18 16 24.9**	**-0.4**
YER	**Yerkesik**	0.51	63	*i* PG	**Pg**	**18 16 27.3**	**-0.2**
YER				SG	**Sg**	**18 16 34.1**	**-0.2**
NISR	**Nisiros**	0.55	239	*e*PB	**Pb**	**18 16 29.0**	**+0.5**
ARG	**Arkhangelos**	0.76	154	*e*PN	**Pn**	**18 16 32.5**	**-1.3**
ARG				*e*SN	**Sn**	**18 16 45.2**	**-0.1**
AYDN	**Tasoluk**	0.77	10	⇑*i*P	**Pb**	**18 16 31.9**	**-0.3**
AYDN				*i* S	**Sb**	**18 16 42.0**	**-0.6**
SMG	**Samos**	1.07	319	*e*PN	**Pn**	**18 16 37.5**	**-0.7**
DNZL	**Cakiroluk**	1.32	53	*i* P	**Pb**	**18 16 42.5**	**+0.8**
DNZL				*i* S	**Sb**	**18 17 01.1**	**+2.6**
DENT	**Denizli**	1.35	51	PN	**Pn**	**18 16 41.7**	**-0.5**
KARP	**Karpathos**	1.42	199	*e*PN	**Pn**	**18 16 43.5**	**+0.2**
IZM	**Izmir**	1.54	347	PN	**Pn**	**18 16 44.1**	**-0.8**
KDAG	**Bornova**	1.54	347	*i* P	**Pn**	**18 16 45.1**	**+0.1**
KDAG				*i* S	**Sb**	**18 17 07.8**	**+2.9**
KSL	**Kastellorizon**	1.68	116	*e*PN	**Pn**	**18 16 49.5**	**+2.6**
APE	**Apeiranthos**	1.76	276	*e*PN	**Pn**	**18 16 47.5**	**-0.6**
ELL	**Elmali**	1.77	94	*e*PN	**Pn**	**18 16 47.3**	**-0.9**
SANT	**Santorini**	1.89	254	*e*P	**Pn**	**18 16 49.9**	**-0.1**
AKS	**Akhisar**	1.98	2	*e*PN	**Pn**	**18 16 50.3**	**-0.9**
IDI	**Anoyia**	2.80	236	Pn	**Pn**	**18 17 02.4**	**-0.6**
	4.6nm,0.3s,baz=301,slow=13,SNR=6.0						
IDI				Sn	**Sn**	**18 17 40.2**	**+3.1**
	3.2nm,0.3s,baz=49,slow=19,SNR=2.1						
BRTR	**Keskin Array B**	5.44	57	Pn	**Pn**	**18 17 40.8**	**+0.3**
	0.6nm,0.3s,baz=240,slow=16,SNR=7.4						
BRTR				Sn	**Sn**	**18 18 44.2**	**+0.2**
	0.2nm,0.3s,baz=234,slow=26,SNR=2.4						
BRTR	**Keskin Array B**	5.44	57	Pn	**Pn**	**18 17 40.8**	**+0.3**
BRTR				Sn	**Sn**	**18 18 44.2**	**+0.2**
ASF	**Jabal al Asfar**	8.92	119	Pn	**P**	**18 18 30.6**	**+1.4**
	0.5nm,0.3s,baz=231,slow=6.5,SNR=2.2						
ASF				Sn	**Sn**	**18 20 10.5**	**-0.4**
	0.3nm,0.3s,baz=288,slow=20,SNR=3.0						
GERES	**GERESS Array B**	15.72	324	Pn	**P**	**18 20 06.1**	**+5.8**
	0.1nm,0.3s,baz=146,slow=9.6,SNR=4.1						
FINES	**FINESS Array B**	24.59	358	P	**P**	**18 21 37.2**	**-1.1**
	1.3nm,0.9s,mb3.4,baz=153,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	41.09	58	P	**P**	**18 24 01.7**	**-1.0**
	0.5nm,0.6s,mb3.3,baz=276,slow=9.4,SNR=4.4						

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*NEIC **03** 18:17:30.4,37.02N×3.90W,h10^{km},ML3.3(LDG), MN2.6(MDD),After MDD.*
NEIC Felt at Chimeneas, Granada, Santafe and Ventas de Huelma.
*LDG **03** 18:17:32.4±0.2,37.02N×3.87W,h8^{km},Ml3.3/4,Error ellipse: s-maj=4.8km s-min=2.4km az=168.0*
MDD 03 18:17:30.7±0.3**,37.02N**×**3.90W,h7**^{km}±2^{km}**,mbLg2.7**/13**, 5C,Error ellipse: s-maj=3.6km s-min=1.4km az=16.0, PRXIMO,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERON	**Agron**	0.08	92	⇑Pg	Pg	18 17 32.7	0.0
	312nm,0.3s,SNR=18						
ELOJ	**Sierra Loja**	0.24	302	⇑Pg	Pg	18 17 35.0	-0.6
	102nm,0.2s,SNR=18						
ELOJ				Lg		18 17 39.1	
	80nm,0.2s,SNR=7.9						
ELUQ	**Luque**	0.61	332	Pg	Pg	18 17 42.5	-0.5
	40nm,0.2s,SNR=24						
ELUQ				Lg		18 17 51.5	
	33nm,0.2s,SNR=30						
EMIJ	**Mijas**	0.83	237	⇑Pg	Pg	18 17 46.4	-0.9
	SNR=18						
EMIJ				Lg		18 17 58.1	
	47nm,0.2s,SNR=7.9						
EQES	**Quesada**	1.02	40	Pg	Pg	18 17 49.0	-2.2
	145nm,0.3s,SNR=231						
EQES				Lg		18 18 02.5	
	86nm,0.3s,SNR=27						
REAL	**Reales**	1.18	243	Pg	Pg	18 17 57.0	+2.8
LIJA	**Lijar**	1.21	265	Pg	Pg	18 17 56.0	+1.2
EADA	**Adamuz**	1.26	335	Pg	Pg	18 17 53.3	-2.7
	30nm,0.3s,SNR=132						
EADA				Lg		18 18 10.8	
	54nm,0.2s,SNR=21						
ESPR	**Espera**	1.57	265	Pg	Pg	18 18 02.1	0.0
	22nm,0.3s,SNR=12						
ESPR				Lg		18 18 21.2	
	16nm,0.3s,SNR=5.9						
EVIA	**Vianos**	1.96	34	⇑Pn	Pn	18 18 02.6	-2.1
	62nm,0.4s,SNR=18						
EVIA				Sn	Sn	18 18 26.7	-3.1
	83nm,0.4s,SNR=8.3						
EMUR	**La Murta**	2.27	68	Pn	Pn	18 18 08.6	-0.6
	30nm,0.4s,SNR=15						
EMUR				Sn	Sn	18 18 34.3	-3.5
	SNR=4.0						
EMIN	**Mina Concepcio**	2.33	290	Pn	Pn	18 18 08.4	-1.6
	3.2nm,0.4s,SNR=17						
EMIN				Lg		18 18 45.2	
	9.9nm,0.3s,SNR=9.2						
ETOB	**Tobarra**	2.47	48	Pn	Pn	18 18 09.4	-2.7
	20nm,0.3s,SNR=11						
ETOB				Lg		18 18 49.9	
	26nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	2.47	48	Pn	Pn	18 18 08.0	-4.0
ETOB				Lg		18 18 49.9	
ESDC	**Sonseca Array**	2.65	359	Pn	Pn	18 18 12.9	-1.7
	2.9nm,0.2s,baz=179,slow=14,SNR=4.0						
ESDC				Pg	Pg	18 18 18.0	-5.6
	7.7nm,0.3s,baz=180,slow=18,SNR=34						
ESDC				Lg		18 18 54.1	
	baz=179,slow=32,SNR=7.9						
ESLA	**Sonseca Array**	2.65	359	*e*P	Pn	18 18 12.3	-2.3
PALC	**Alcoutim**	2.88	280	*e*Sn	Sn	18 18 49.9	-3.5
	17nm,0.7s						
PALC	**Alcoutim**	2.88	280	Sn	Sn	18 18 49.9	-3.5
	8.4nm,0.7s						
EGRO	**El Granado**	2.90	281	Pn	Pn	18 18 16.6	-1.6
	SNR=7.9						
EGRO				Lg		18 19 04.1	
	6.1nm,0.3s,SNR=5.6						
EBAD	**Badajoz**	3.01	306	Pn	Pn	18 18 17.3	-2.4
	0.7nm,0.3s,SNR=4.0						
EBAD				Sn	Sn	18 18 52.3	-4.2
	5.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	3.01	306	Pn	Pn	18 18 16.8	-2.9
EBAD				Sn	Sn	18 18 52.3	-4.2
EBEN	**Beniarda**	3.36	59	⇑Pn	Pn	18 18 22.7	-2.0
	4.8nm,0.4s,SNR=18						
EBEN				Sn	Sn	18 19 00.5	-4.8
	39nm,1.6s,SNR=7.9						
EVO	**Evora**	3.59	296	*e*Pn	Pn	18 18 27.8	-0.2
EVO				*e*Sn	Sn	18 19 09.4	-1.8
EVO				*e*Sg	Sg	18 19 28.5	-1.7
	30nm,0.4s						
MOE	**Montemor**	3.83	294	*e*Sn	Sn	18 19 12.9	-4.3
ETOR	**Torete**	4.06	20	Pn	Pn	18 18 31.3	-3.4
	3.9nm,0.3s,SNR=20						
ETOR				Pg	Pg	18 18 44.7	-7.0
	16nm,0.4s,SNR=14						
ETOR				Lg		18 19 39.1	
	36nm,0.5s,SNR=6.2						
EMOS	**Mosqueruela**	4.28	38	Pn	Pn	18 18 34.9	-2.9
	SNR=4.0						
EMOS				Pg	Pg	18 18 49.0	-7.2
	18nm,0.7s,SNR=9.0						
EMOS				Lg		18 19 45.9	
	SNR=7.9						
PTOM	**Tomar**	4.39	308	*e*Sn	Sn	18 19 26.2	-5.3
	17nm,0.5s						
PTOM	**Tomar**	4.39	308	Sn	Sn	18 19 26.2	-5.3
	8.5nm,0.5s						
MTE	**Manteigas**	4.42	321	*e*Sg	Sg	18 19 47.6	-10
	23nm,0.6s						
MTE	**Manteigas**	4.42	321	Lg		18 19 47.6	
	11nm,0.6s						
EIBI	**Ibiza**	4.60	63	Pn	Pn	18 18 39.6	-2.7
	14nm,0.7s,SNR=7.1						
PVIS	**Viseu**	4.83	321	*e*Pn	Pn	18 18 43.2	-2.4
PBRG	**Braganca**	5.26	336	*e*Pn	Pn	18 18 48.5	-3.1
ECAL	**Calabor**	5.38	337	Pn	Pn	18 18 49.8	-3.6
	2.0nm,1.8s,SNR=7.9						
ECAL				Lg		18 20 21.4	
	72nm,1.6s,SNR=7.9						
ESAC	**San Caprasio**	5.40	28	Lg		18 20 23.9	
	15nm,0.3s,SNR=7.9						
EPOB	**Poblet**	5.80	40	Pn	Pn	18 18 55.7	-3.6
	4.9nm,0.5s,SNR=4.0						
EPOB				Lg		18 20 34.1	
	SNR=7.9						
ELOB	**Lobios**	5.81	328	Pn	Pn	18 18 56.9	-2.5
	SNR=7.9						
ERUA	**La Rua**	5.92	336	Pn	Pn	18 18 57.4	-3.6
	SNR=7.9						
ERUA				Lg		18 20 41.2	
	2.5nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	6.21	3	Pn	Pn	18 19 01.8	-3.4
	2.3nm,0.3s,SNR=8.6						
ELAN				Lg		18 20 50.1	
	SNR=7.9						
ELAN	**Lanestosa**	6.21	3	Pn	Pn	18 19 01.8	-3.4
ELAN				Lg		18 20 50.1	
ETSF	**Etsaut**	6.41	23	*e*Pn	Pn	18 19 05.1	-2.8
ETSF				*e*Pg	Pg	18 19 32.6	-6.0
ETSF				*e*Sn	Sn	18 20 13.8	-8.3
ETSF				*e*Sg	Sg	18 20 51.5	-13
	3.0nm,0.4s						
SJPF	**Ste Jean**	6.42	18	*e*Pn	Pn	18 19 05.5	-2.6
SJPF				*e*Sn	Sn	18 20 12.9	-10
SJPF				*e*Sg	Sg	18 20 49.3	-15
	5.4nm,0.4s						
EMIR	**Miracle**	6.44	39	Pn	Pn	18 19 04.7	-3.6
	SNR=4.0						
EALK	**Alkurruntz**	6.46	16	Pn	Pn	18 19 05.9	-2.6
	5.5nm,0.5s,SNR=4.0						
EALK				Sn	Sn	18 20 14.0	-9.4
	4.9nm,0.4s,SNR=7.9						
EPF	**Esparros**	6.83	27	*e*Pn	Pn	18 19 10.5	-3.3
EPF				*e*Pg	Pg	18 19 39.0	-8.0
EPF				*e*Sn	Sn	18 20 23.2	-9.4
EPF				*e*Sg	Sg	18 21 05.3	-13
	6.9nm,0.6s						
LFF	**La Frestale**	8.65	22	*e*Pn	P	18 19 35.1	-4.2
RJF	**Les Rejaudoux**	9.23	25	*e*Pn	P	18 19 43.4	-3.8

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*ISK **03** 18:18:35.0,36.99N×27.72E,h13^{km},MD3.1*
*NEIC **03** 18:18:36.0,36.90N×27.60E,h33^{km},MD3.2(ATH),After ATH.*
*ATH **03** 18:18:36.0,36.90N×27.60E,h33^{km}±4^{km},MD3.2/6*
ISC 03 18:18:35.0±0.5**,36.91N**±0.03×**27.71E**±0.04**,h13**^{km}**,n16,** σ**0^{s}88**/23**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.26	307	*i* P	**Pg**	**18 18 40.5**	**-0.1**
BDRM				*i* S	**Sg**	**18 18 44.8**	**+0.3**
MLSB	**Milas**	0.39	8	*i* PG	**Pg**	**18 18 42.0**	**-1.1**
YER	**Yerkesik**	0.51	64	*i* PG	**Pg**	**18 18 44.8**	**-0.7**
YER				SG	**Sg**	**18 18 51.6**	**-0.9**
NISR	**Nisiros**	0.55	238	*e*PB	**Pb**	**18 18 47.0**	**+1.0**
AYDN	**Tasoluk**	0.76	10	*i* P	**Pb**	**18 18 49.2**	**-0.4**
AYDN				*i* S	**Sb**	**18 18 59.6**	**0.0**
ARG	**Arkhangelos**	0.77	154	*e*PN	**Pn**	**18 18 50.1**	**-1.2**
ARG				*e*SN	**Sn**	**18 19 03.0**	**+0.3**
SMG	**Samos**	1.06	319	*e*PN	**Pn**	**18 18 55.0**	**-0.4**
DNZL	**Cakiroluk**	1.32	53	*i* P	**Pb**	**18 18 59.5**	**+0.3**
DNZL				*i* S	**Sb**	**18 19 18.1**	**+2.2**
DENT	**Denizli**	1.35	51	PN	**Pn**	**18 18 59.9**	**+0.2**
KARP	**Karpathos**	1.43	198	*e*PN	**Pn**	**18 19 01.5**	**+0.8**
KARP				*e*SN	**Sn**	**18 19 19.0**	**-0.4**
IZM	**Izmir**	1.53	347	PN	**Pn**	**18 19 01.3**	**-0.9**
KDAG	**Bornova**	1.53	347	*i* P	**Pn**	**18 19 02.0**	**-0.2**
KDAG				*i* S	**Sb**	**18 19 24.1**	**+2.2**
KSL	**Kastellorizon**	1.69	116	*e*PB	**Pb**	**18 19 06.5**	**+1.0**
APE	**Apeiranthos**	1.75	276	*e*PN	**Pn**	**18 19 05.0**	**-0.3**
ELL	**Elmali**	1.77	95	*e*PN	**Pn**	**18 19 06.0**	**+0.3**
AKS	**Akhisar**	1.97	2	*e*PN	**Pn**	**18 19 07.4**	**-1.1**

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*BJI **03** 18:54:52.7,5.27S×145.09E,h54^{km},mB4.8,mb4.9,Ms4.4, Msz4.1*
*MOS **03** 18:54:59.5±1.4,4.69S×144.30E,h51^{km},mb5.2/5, MS4.8/4,Error ellipse: s-maj=22.4km s-min=10.9km az=97.4*
*IDC **03** 18:55:00.5±2.2,4.72S×144.39E,h47^{km}±22^{km},mb4.6/16, mb1 4.7/19,mb1mx4.7/21,ML4.3/3,MS3.9/12,Ms1 3.9/12, ms1mx3.7/19,Error ellipse: s-maj=15.8km s-min=11.9km az=94.0*
*HRVD **03** 18:55:01.2±0.4,4.71S×144.29E,h74^{km}±6^{km},MW4.9/36, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s36,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.18; $M_{\theta\theta}$0.24±.16; $M_{\phi\phi}$1.13±.18; $M_{r\theta}$-1.10±.09; $M_{\theta\phi}$-1.79±.11; $M_{\phi r}$0.03±.14; Best double couple: $M_0$2.42×10^{16} NP1:ϕ_s356°,δ48°,λ-34°. NP2: ϕ_s110°,δ66°,λ-133°. Principal axes: T 2.66, Plg10°, Azm230°; N -.48, Plg38°, Azm131°; P -2.18, Plg50°, Azm332°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **03** 18:55:01.2,4.72S×144.30E,h54^{km},MB4.9*
*NEIC **03** 18:55:01.2±0.9,4.72S×144.30E,h54^{km}±8^{km},mb4.9/30, Error ellipse: s-maj=7.0km s-min=5.3km az=83.0*
ISC 03 18:54:57.4±0.2**,4.70S**±0.03×**144.32E**±0.05**,h33**^{km}**, (h57**^{km}±10.6^{km}**:pP-P),n159,**σ**0^{s}95**/107**,mb5.0**/58**, MS3.9**/14**,6C-7D,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.46	149	P	**P**	**18 56 19.9**	**+1.5**
	29nm,0.3s,baz=359,slow=6.4,SNR=111						
PMG				S	**S**	**18 57 19.5**	**-1.4**
	13nm,0.3s,baz=153,slow=19,SNR=5.5						
PMG				LR	LR	18 58 51.9	
	comp=Z,2μm,19.4s,baz=331,slow=43						
PMG	**Port Moresby**	5.46	149	*e*P	**P**	**18 56 19.9**	**+1.4**
	89nm,0.5s						
KAKA	**Kakadu**	14.20	235	⇑*i*P	**P**	**18 58 16.6**	**-1.8**
	203nm,0.5s						
CTA	**Charters Tower**	15.41	173	*e*P	**P**	**18 58 40.4**	**+6.3**
	15nm,0.5s						
CTA	**Charters Tower**	15.41	173	P	**P**	**18 58 35.4**	**+1.3**
	0.2nm,0.3s,baz=344,slow=14,SNR=4.7						
CTA				LR	LR	19 02 40.7	
	comp=Z,68nm,21.8s,baz=19,slow=30						
CTAO	**Charters Tower**	15.41	173	*e*P	**P**	**18 58 36.1**	**+2.0**
	13nm,0.6s						
WB2	**Warramunga Arr**	17.99	212	*e*P	**P**	**18 59 06.1**	**-0.6**
WRA	**Warramunga Arr**	18.00	212	P	**P**	**18 59 06.2**	**-0.6**
	4.2nm,0.3s,baz=35,slow=13,SNR=190						
WRA				S	**S**	**19 02 28.2**	**+4.6**
	0.5nm,0.3s,baz=24,slow=21,SNR=4.4						
WRA				LR	LR	19 06 29.3	
	comp=Z,691nm,19.8s,baz=40,slow=38						
ASAR	**Alice Springs**	21.36	207	P	**P**	**18 59 44.2**	**+0.1**
	57nm,0.8s,mb4.9,baz=41,slow=5.9,SNR=158						
ASAR				LR	LR	19 08 23.9	
	comp=Z,424nm,18.6s,MS3.9,baz=31,slow=38						
ASPA	**Alice Springs**	21.36	207	*e*P	**P**	**18 59 43.6**	**-0.5**
ASPA				*e*S	**S**	**19 03 37.1**	**+2.6**
FITZ	**Fitzroy Crossi**	22.61	232	*e*P	**P**	**18 59 55.7**	**-0.9**
	36nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	22.61	232	P	**P**	**18 59 56.3**	**-0.3**
	21nm,0.7s,mb4.7,baz=19,slow=9.1,SNR=26						
STKA	**Stephens Creek**	27.15	185	*e*P	**P**	**19 00 41.0**	**+1.2**
	6.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	27.15	185	P	**P**	**19 00 39.5**	**-0.3**
	10nm,0.8s,mb4.4,baz=360,slow=15,SNR=14						
STKA				LR	LR	19 12 30.3	
	comp=Z,423nm,20.9s,MS4.0,baz=15,slow=39						
TGY	**Tagaytay City**	29.79	309	LR	LR	19 14 19.1	
	comp=Z,61nm,19.6s,MS3.2,baz=124,slow=39						
CBIJ	**Chichi jima**	31.68	356	P	**P**	**19 01 19.5**	**-0.7**
	106nm,0.7s,mb5.8,baz=96,slow=23,SNR=5.2						
TATO	**Taipei**	36.92	324	*e*P	**P**	**19 02 04.8**	**-0.4**
	152nm,1.1s,mb5.7						
NWAO	**Narrogin (SRO)**	37.78	219	P	**P**	**19 02 14.3**	**+2.0**
	7.7nm,0.8s,mb4.5,baz=16,slow=6.9,SNR=5.6						
JNU	**Nakatsue**	39.72	342	P	**P**	**19 02 29.1**	**+0.7**
	7.6nm,0.4s,mb4.8,baz=180,slow=1.4,SNR=11						
QIZ	**Qiongzhong**	41.33	306	*e*P	**P**	**19 02 41.8**	**-0.1**
MAJO	**Matsushiro**	41.43	353	*e*P	**P**	**19 02 41.6**	**-0.9**
	5.8nm,0.4s,mb4.6						
MAT	**Matsushiro**	41.43	353	P	**P**	**19 02 42.8**	**+0.3**
MAT	**Matsushiro**	41.43	353	*e*P	**P**	**19 02 43.0**	**+0.5**
	5.2nm,0.8s,mb4.2						
SSE	**Sheshan**	41.89	330	P	**P**	**19 02 48.9**	**+2.4**
SSE				AP	pP	19 02 57.9	+1.5
SSE				S	**S**	**19 09 10.8**	**+8.6**
SSE				AMB	AMB		
	comp=Z,66nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,53nm,7.4s						
SSE				LR	LR		
	comp=N,43nm,20.6s,MS3.4						
SSE				LR	LR		
	comp=E,34nm,20.6s,MS3.4						
SSE				LR	LR		
	comp=Z,95nm,22.7s,MS3.6						
SSE	**Sheshan**	41.89	330	P	**P**	**19 02 48.9**	**+2.4**
	comp=Z,66nm,0.6s,mb5.4						
SSE				pP	pP	19 02 57.9	+1.5
SSE				S	**S**	**19 09 10.8**	**+8.6**
SSE				sS		19 09 24.8	
NJ2	**Nanjing**	43.85	328	*e*P	**P**	**19 03 04.8**	**+2.3**
NJ2				PP	PP	19 04 51.4	+5.2
NJ2				S	**S**	**19 09 29.2**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,10.0nm,4.2s						
KS15	**Wonju Array Si**	44.64	341	*e*P	**P**	**19 03 08.8**	**+0.1**
URZ	**Urewera**	44.78	143	P	**P**	**19 03 11.7**	**+1.9**
	comp=Z,4.3nm,0.4s,mb4.7,baz=252,slow=7.2,SNR=6.9						
INCN	**Inchon**	45.09	340	*e*P	**P**	**19 03 13.1**	**+0.8**
	comp=Z,18nm,0.7s,mb5.0						
WHN	**Wuhan**	45.27	323	*e*P	**P**	**19 03 15.5**	**+1.6**
RPZ	**Rata Peaks**	45.45	153	P	**P**	**19 03 15.5**	**+0.4**
	comp=Z,9.4nm,0.5s,mb4.9,baz=26,slow=12,SNR=10.0						
RPZ				LR	LR	19 18 37.8	
	comp=Z,229nm,19.6s,MS4.1,baz=19,slow=31						
GYA	**Guiyang**	47.84	312	P	**P**	**19 03 34.8**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ENH	**Enshi**	48.17	318	*e*P	**P**	**19 03 36.0**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.8						
ASAJ	**Asahikawa**	48.62	358	P	**P**	**19 03 41.4**	**+1.4**
	comp=Z,6.5nm,0.7s,mb4.8,baz=278,slow=32,SNR=4.9						
NANT	**Nan**	48.90	300	P	**P**	**19 03 43.0**	**+0.6**
SNY	**Shenyang**	50.02	340	⇓P	**P**	**19 03 50.8**	**0.0**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
SNY				LR	LR		
	comp=N,170nm,22.1s						
SNY				LR	LR		
	comp=Z,140nm,16.1s						
KMI	**Kunming**	50.10	308	*e*P	**P**	**19 03 52.8**	**+1.2**
KMI				S	**S**	**19 10 59.8**	**+0.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=Z,96nm,23.9s,MS3.7						
KMI	**Kunming**	50.10	308	*e*P	**P**	**19 03 52.8**	**+1.2**
	comp=Z,7.0nm,1.1s,mb4.6						
KMI				sP	sP	19 04 17.6	+12
KMI				S	**S**	**19 10 59.8**	**+0.3**
CHRT	**Chiangrai**	50.12	301	P	**P**	**19 03 53.0**	**+1.1**
	comp=Z,179nm,0.8s						
CM31	**Chiang Mai Arr**	50.29	299	*e*P	**P**	**19 03 53.4**	**+0.2**
	comp=Z,18nm,0.4s,mb5.5						
CMAR	**Chiang Mai Arr**	50.29	299	P	**P**	**19 03 54.1**	**+1.0**

	comp=Z,14nm,0.5s,mb5.2,baz=122,slow=6.1,SNR=42						
CMAR				LR	LR	19 26 07.1	
	comp=Z,43nm,20.4s,MS3.5,baz=130,slow=37						
CHG	**Chiang Mai**	**50.43**	**299**	P	**P**	**19 03 54.6**	**+0.4**
XAN	**Xi'an**	**51.01**	**322**	P	**P**	**19 03 58.0**	**-0.4**
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
CN2	**Changchun**	**51.19**	**343**	*e*P	**P**	**19 03 59.9**	**+0.2**
CN2				*e*S	**S**	**19 11 15.6**	**+1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,730nm,22.0s,MS4.7						
CN2				LR	LR		
	comp=E,430nm,22.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,23.0s,MS4.1						
YSS	**Yuzh-Sakhalins**	**51.45**	**359**	*e*P	**P**	**19 04 02.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
BJI	**Beijing**	**51.50**	**332**	*e*P	**P**	**19 04 01.7**	**-0.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
BJI				LR	LR		
	comp=N,102nm,21.9s,MS4.0						
BJI				LR	LR		
	comp=E,83nm,19.4s,MS4.0						
BJI				LR	LR		
	comp=Z,91nm,24.7s						
BTO	**Baotou**	**54.97**	**328**	*e*P	**P**	**19 04 26.3**	**-1.4**
LZH	**Lanzhou**	**55.50**	**320**	*e*P	**P**	**19 04 32.2**	**+0.5**
LZH				AP	pP	19 04 49.0	+7.2
LZH				XP	sP	19 04 56.2	+11
LZH				PP	PP	19 06 38.7	+1.5
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
HIA	**Hailar**	**57.85**	**341**	*e*P	**P**	**19 04 47.2**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0						
PET	**Petropavlovsk**	**58.77**	**10**	*e*P	**P**	**19 04 56.7**	**+2.1**
SHL	**Shillong**	**59.08**	**303**	*e*P	**P**	**19 04 57.2**	**+0.1**
GTA	**Gaotai**	**60.05**	**321**	*e*P	**P**	**19 05 03.9**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**61.34**	**307**	P	**P**	**19 05 13.2**	**+0.7**
LSA	**Lhasa**	**61.34**	**307**	*e*P	**P**	**19 05 13.0**	**+0.5**
	comp=Z,2.2nm,0.4s,mb4.6						
SONM	**Songino Array**	**62.00**	**332**	P	**P**	**19 05 16.1**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.5,baz=157,slow=6.9,SNR=16						
FX1	**Attu Island--F**	**62.34**	**19**	*e*P	**P**	**19 05 18.0**	**-0.8**
MA2	**Magadan**	**64.28**	**4**	*e*P	**P**	**19 05 30.6**	**-0.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
PKI	**Pulchoki**	**65.21**	**303**	*e*P	**P**	**19 05 36.9**	**-1.2**
	comp=Z,10nm,0.5s,mb5.1						
ZAK	**Zakamensk**	**65.25**	**332**	*e*P	**P**	**19 05 36.9**	**-1.0**
KKN	**Kakani**	**65.39**	**303**	*e*P	**P**	**19 05 39.0**	**-0.2**
	comp=Z,20nm,0.6s,mb5.3						
DMN	**Daman**	**65.47**	**303**	*e*P	**P**	**19 05 39.0**	**-0.8**
	comp=Z,29nm,0.5s,mb5.5						
GKN	**Gorkha**	**66.00**	**303**	*e*P	**P**	**19 05 42.9**	**-0.2**
	comp=Z,30nm,0.4s,mb5.7						
KOLN	**Koldanda**	**66.78**	**303**	*e*P	**P**	**19 05 48.0**	**-0.1**
	comp=Z,28nm,0.6s,mb5.5						
YAK	**Yakutsk**	**67.49**	**353**	*e*P	**P**	**19 05 51.2**	**-0.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
YAK	**Yakutsk**	**67.49**	**353**	*e*P	**P**	**19 05 50.8**	**-1.2**
	comp=Z,7.9nm,0.6s,mb4.9						
WMQ	**Urumqi**	**70.08**	**320**	⇓P	**P**	**19 06 08.3**	**+0.1**
WMQ				AP	pP	19 06 24.8	+6.3
WMQ				PCP	PcP	19 06 30.3	-0.1
WMQ				XP	sP	19 06 31.8	+10
WMQ				*e*S	S	19 15 13.3	-2.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,11nm,7.4s						
WMQ				LR	LR		
	comp=E,30nm,22.0s						
WMQ				LR	LR		
	comp=Z,33nm,21.5s,MS3.5						
DDI	**Dehra Dun**	**72.18**	**304**	*e*	**P**	**19 06 22.0**	**+0.9**
VNDA	**Vanda**	**73.37**	**176**	P	**P**	**19 06 26.9**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.4,baz=327,slow=6.0,SNR=17						
VNDA				LR	LR	19 39 09.3	
	comp=Z,75nm,20.1s,MS4.0,baz=343,slow=36						
VNDA	**Vanda**	**73.37**	**176**	*e*P	**P**	**19 06 26.6**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**74.81**	**321**	P	**P**	**19 06 36.1**	**-0.1**
	comp=Z,6.0nm,0.4s,mb4.8,baz=108,slow=7.0,SNR=110						
MKAR	**Makanchi Array**	**74.81**	**321**	*i* P	**P**	**19 06 36.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SDN	**Sand Point**	**75.03**	**29**	*e*P	**P**	**19 06 37.9**	**+0.6**
	comp=Z,56nm,0.8s,mb5.5						
TIXI	**Tiksi**	**76.88**	**355**	*e*P	**P**	**19 06 46.0**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
NVS	**Novosibirsk**	**77.74**	**329**	*e*P	**P**	**19 06 51.0**	**-1.6**
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
KURK	**Kurchatov**	**78.59**	**324**	*e*P	**P**	**19 06 56.6**	**-0.8**
	comp=E,9.8nm,0.9s,mb4.7						
KDAK	**Kodiak Island**	**80.05**	**29**	*e*P	**P**	**19 07 05.2**	**+0.1**
	comp=E,32nm,1.3s,mb5.1						
SVW	**Sparrevohn**	**80.19**	**25**	*e*P	**P**	**19 07 07.5**	**+1.7**
	comp=E,14nm,0.7s,mb5.0						
RSO	**Redoubt South**	**81.14**	**27**	*e*P	**P**	**19 07 10.3**	**-0.5**
MAW	**Mawson**	**82.41**	**202**	*e*P	**P**	**19 07 17.2**	**-0.1**
	comp=E,7.7nm,1.0s,mb4.6						
MAW	**Mawson**	**82.41**	**202**	P	**P**	**19 07 17.6**	**+0.2**
	comp=E,3.7nm,0.4s,mb4.6,baz=94,slow=3.9,SNR=16						
MAW				LR	LR	19 39 19.2	
	comp=E,64nm,20.8s,MS4.0,baz=236,slow=32						
PMS	**Palmer South**	**82.89**	**26**	*e*P	**P**	**19 07 19.8**	**0.0**
	comp=E,15nm,0.8s,mb5.1						
PMR	**Palmer**	**83.22**	**26**	*e*P	**P**	**19 07 21.0**	**-0.5**
	comp=E,7.7nm,0.4s,mb5.1						
IMA	**Indian Mountai**	**83.31**	**21**	*e*P	**P**	**19 07 22.6**	**+0.7**
	comp=E,8.0nm,0.9s,mb4.8						
SML	**Sawmill**	**83.65**	**26**	*e*P	**P**	**19 07 23.3**	**-0.4**
MCK	**McKinley**	**84.14**	**24**	*e*P	**P**	**19 07 25.0**	**-1.2**
	comp=E,20nm,0.9s,mb5.2						
BRVK	**Borovoye**	**84.23**	**324**	*e*P	**P**	**19 07 26.4**	**-0.4**
	comp=E,11nm,0.7s,mb5.1						
DIV	**Divide**	**84.55**	**27**	*e*P	**P**	**19 07 28.4**	**+0.1**
	comp=E,86nm,1.0s,mb5.8						
COLA	**College**	**85.01**	**23**	*e*P	**P**	**19 07 29.9**	**-0.6**
COLA				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.4						
COLA	**College**	**85.01**	**23**	*e*P	**P**	**19 07 29.9**	**-0.6**
	comp=Z,18nm,0.6s,mb5.4						
THY	**Trims Highway**	**85.34**	**25**	P	**P**	**19 07 32.3**	**+0.1**
ILAR	**Eielson Array**	**85.36**	**24**	P	**P**	**19 07 30.9**	**-1.2**
	comp=Z,23nm,0.6s,mb5.5,baz=254,slow=5.2,SNR=152						
DAWY	**Dawson**	**88.24**	**25**	*e*P	**P**	**19 07 46.8**	**+0.6**
SYO	**Syowa Base**	**90.88**	**200**	⇑P	**P**	**19 07 57.5**	**-1.1**
SYO	**Syowa Base**	**90.88**	**200**	⇓PcP	PcP	19 08 01.6	+1.8
SYO	**Syowa Base**	**90.88**	**200**	⇓sP	sP	19 08 21.7	+9.1
INK	**Inuvik**	**91.44**	**22**	P	**P**	**19 08 00.8**	**-0.4**
	comp=Z,7.6nm,0.9s,mb5.0,baz=254,slow=9.7,SNR=11						
INK	**Inuvik**	**91.44**	**22**	*e*P	**P**	**19 08 00.1**	**-1.0**
	comp=Z,9.6nm,1.0s,mb5.1						
ARU	**Arti**	**91.53**	**326**	⇓*i*P	**P**	**19 07 59.9**	**-2.0**
ARU				*e*		19 11 40.6	
ARU				*e*SS	SS	19 25 08.2	+1.4
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
HUMO	**Hull Mountain**	**95.16**	**48**	*e*P	**P**	**19 08 19.3**	**+0.6**
WVOR	**Wild Horse Val**	**98.35**	**48**	*e*P	**P**	**19 08 33.4**	**+0.2**
NVAR	**Mina Array Bea**	**98.68**	**52**	P	**P**	**19 08 34.9**	**0.0**
	comp=Z,0.7nm,0.8s,mb4.3,baz=255,slow=9.3,SNR=4.3						
NVAR				LR	LR	19 43 38.2	
	comp=Z,121nm,21.9s,MS4.3,baz=300,slow=30						
YKA	**Yellowknife Ar**	**99.27**	**27**	LR	LR	19 53 43.2	
	comp=Z,48nm,19.2s,MS4.0,baz=330,slow=36						
SNAA	**Sanae**	**100.82**	**190**	⇓*i*		19 13 06.9	
SNAA	**Sanae**	**100.82**	**190**			19 13 40.5	
SNAA	**Sanae**	**100.82**	**190**	⇓*i*		19 13 49.1	
ARCES	**ARCESS Array B**	**104.19**	**341**	Pdiff	Pdif	19 08 57.3	-1.5
	comp=Z,2.0nm,0.7s,baz=63,slow=5.4,SNR=5.5						
ARCES				PKiKP		19 13 15.0	
	comp=Z,0.4nm,0.4s,baz=90,slow=1.2,SNR=5.8						
PDAR	**Pinedale Array**	**105.01**	**47**	Pdiff	Pdif	19 09 02.6	-0.4
	comp=Z,0.4nm,1.0s,baz=243,slow=2.0,SNR=4.4						
FINES	**FINESS Array B**	**107.34**	**334**	Pdiff	Pdif	19 09 10.0	-2.8
	comp=Z,0.7nm,0.8s,baz=117,slow=16,SNR=2.9						
FINES				PKiKP		19 13 21.0	
	comp=Z,0.7nm,0.4s,baz=63,slow=4.3,SNR=6.2						
AKASG	**Malin Array Be**	**109.37**	**322**	PKiKP		19 13 25.1	
	comp=Z,0.4nm,0.3s,baz=53,slow=2.5,SNR=4.9						
NB2	**NORSAR Subarra**	**113.74**	**337**	PKPdf	PKPdf	19 13 32.7	+0.3
	comp=Z,0.3nm,0.5s,baz=45,slow=1.9						
NOA	**NORSAR Array B**	**113.74**	**337**	PKiKP		19 13 33.1	
	comp=Z,0.3nm,0.5s,baz=49,slow=1.9,SNR=3.9						
OKC	**Ostrava-Krasne**	**116.29**	**324**	*e*PKPDF	PKPdf	19 13 33.3	-4.3
OKC				LM		20 04 40.0	
	comp=Z,0.1nm,8.1s						
DPC	**Dobruska-Polom**	**117.11**	**325**	*e*PKPDF	PKPdf	19 13 40.7	+1.5
DPC				LM		20 06 10.0	
	comp=Z,0.1nm,7.8s						
PVCC	**Panska Ves**	**118.00**	**326**	*e*PKPDF	PKPdf	19 13 42.3	+1.4
PVCC				LM		20 00 10.0	
	comp=Z,0.2nm,6.4s						
BRG	**Berggiesshubel**	**118.17**	**327**	*i* PKIKP	PKPdf	19 13 42.4	+1.2
BRG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PRU	**Pruhonice**	**118.28**	**326**	*e*PKPDF	PKPdf	19 13 42.5	+1.1
PRU				LM		20 06 30.0	
CLL	**Collm**	**118.45**	**328**	*e*PKIKP	PKPdf	19 13 43.0	+1.3
KHC	**Kasperske Hory**	**119.25**	**325**	*e*PKPDF	PKPdf	19 13 44.5	+1.1
KHC				LM		20 07 30.0	
	comp=Z,0.1nm,20.9s						
GERES	**GERESS Array B**	**119.33**	**325**	PKP	PKPdf	19 13 44.6	+1.0
	comp=Z,2.8nm,0.6s,baz=100,slow=1.2,SNR=37						
KBA	**Koelnbreinsper**	**120.41**	**323**	⇑*i*P	PKPdf	19 13 46.4	+0.7
WTTA	**Wattenberg**	**121.32**	**324**	⇑*i*P	PKPdf	19 13 48.6	+1.2
MOTA	**Moosalm**	**121.59**	**324**	⇑*i*P	PKPdf	19 13 48.8	+0.9
DAVA	**Damuels**	**122.33**	**325**	⇑*i*P	PKPdf	19 13 50.5	+1.1
CDF	**Champ du Feu**	**123.14**	**327**	*e*PKIKP	PKPdf	19 13 51.8	+0.8
HINF	**Hinteralfeld**	**123.72**	**327**	*e*PKIKP	PKPdf	19 13 52.7	+0.6
	comp=Z,9.7nm,0.6s						
HAU	**Haudompre**	**123.89**	**327**	*e*PKIKP	PKPdf	19 13 53.2	+0.8
	comp=Z,11nm,0.6s						
HAU				*e*R			
	comp=Z,61nm,22.5s						
SCHQ	**Schefferville**	**124.05**	**21**	PKP	PKPdf	19 13 52.5	0.0
	comp=Z,1.9nm,0.6s,baz=293,slow=13,SNR=4.9						
MEZF	**Maizieres J'vi**	**124.27**	**328**	*e*PKIKP	PKPdf	19 13 54.3	+1.2
	comp=Z,8.3nm,0.6s						
PLCA	**Paso Flores**	**124.64**	**148**	PKP	PKPdf	19 13 55.8	+1.7
	comp=Z,2.4nm,0.5s,baz=195,slow=3.0,SNR=11						
CABF	**La Chapelle**	**124.85**	**326**	*e*PKIKP	PKPdf	19 13 55.7	+1.4
	comp=Z,14nm,0.7s						
LPG	**La Plagne**	**125.12**	**325**	*e*PKIKP	PKPdf	19 13 56.3	+1.5
	comp=Z,4.2nm,0.5s						
LPL	**La Plagne**	**125.12**	**325**	*e*PKIKP	PKPdf	19 13 56.2	+1.4
	comp=Z,4.2nm,0.4s						
PGF	**Pioggiola**	**125.35**	**320**	*e*PKIKP	PKPdf	19 13 56.3	+0.9
	comp=Z,10nm,0.5s						
MBDF	**Montbardon**	**125.55**	**324**	*e*PKIKP	PKPdf	19 13 57.0	+1.3
	comp=Z,6.6nm,0.9s						
SBF	**Sospel**	**125.63**	**323**	*e*PKIKP	PKPdf	19 13 56.7	+0.9
LOR	**Lormes**	**125.67**	**328**	*e*PKIKP	PKPdf	19 13 56.9	+1.1
LOR				*e*R			
	comp=Z,75nm,22.8s						
ORIF	**Oris-en-Rattie**	**125.96**	**324**	*e*PKIKP	PKPdf	19 13 57.5	+1.1
	comp=Z,3.0nm,0.5s						
ORIF				*e*R			
	comp=Z,39nm,21.0s						
SSF	**Saint Saulge**	**125.99**	**328**	*e*PKIKP	PKPdf	19 13 57.6	+1.2
	comp=Z,3.9nm,0.6s						
SMF	**Signal de Mont**	**126.07**	**327**	*e*PKIKP	PKPdf	19 13 57.9	+1.3
	comp=Z,5.4nm,0.5s						
AVF	**Avril sur Loir**	**126.24**	**328**	*e*PKIKP	PKPdf	19 13 57.6	+0.6
	comp=Z,1.8nm,0.4s						
FRF	**La Foret Royal**	**126.27**	**323**	*e*PKIKP	PKPdf	19 13 58.1	+1.0
	comp=Z,4.0nm,0.4s						
LMR	**La Mourre**	**126.48**	**322**	*e*PKIKP	PKPdf	19 13 58.5	+0.9
BGF	**Bois d'Agland**	**126.66**	**328**	*e*PKIKP	PKPdf	19 13 58.7	+0.9
SMRF	**Simiane la Rot**	**126.68**	**324**	*e*PKIKP	PKPdf	19 13 59.1	+1.2
	comp=Z,6.4nm,0.5s						
TCF	**Toulx Ste Croi**	**127.17**	**328**	*e*PKIKP	PKPdf	19 13 59.9	+1.1
LASF	**Ste Croix**	**127.62**	**325**	*e*PKIKP	PKPdf	19 14 01.0	+1.3
MFF	**Saint Martin d**	**128.19**	**329**	*e*PKIKP	PKPdf	19 14 01.8	+1.1
MTLF	**Montolieu**	**129.01**	**325**	*e*PKIKP	PKPdf	19 14 03.4	+1.0
	comp=Z,6.8nm,1.0s						
LPAZ	**La Paz**	**141.72**	**124**	PKP	PKPdf	19 14 23.3	-3.3
CPUP	**Villa Florida**	**142.69**	**147**	PKhKP		19 14 24.3	
	comp=Z,1.3nm,0.5s,baz=95,slow=1.4,SNR=5.6						
CPUP	**Villa Florida**	**142.69**	**147**	*e*PKP	PKPdf	19 14 23.6	-4.4
SDV	**Santo Domingo**	**145.06**	**81**	*e*PKP	PKPdf	19 14 32.9	+0.4
SJG	**San Juan**	**147.37**	**63**	PKP	PKPdf	19 14 36.1	-0.1
KIC	**Kosan Boka**	**149.16**	**275**	*e*PKP1	PKPdf	19 14 45.0	+5.7
	comp=Z,28nm,0.3s						
DBIC	**Dimbokro**	**149.27**	**275**	PKPbc	PKPdf	19 14 45.4	+6.0
	comp=Z,23nm,0.5s,baz=76,slow=2.2,SNR=63						
SAML	**Samuel**	**149.41**	**116**	*e*PKPdf	PKPdf	19 14 40.6	+0.9
SAML				*e*PKPbc	PKPdf	19 14 45.1	+5.4
TIC	**Toumodi**	**149.43**	**275**	*e*PKP1	PKPdf	19 14 45.6	+5.9
	comp=Z,61nm,0.4s						
LIC	**Lamto**	**149.45**	**274**	*e*PKP1	PKPdf	19 14 45.1	+5.4
	comp=Z,54nm,0.6s						
LIC	**Lamto**	**149.45**	**274**	*e*PKP1	PKPdf	19 14 45.6	+5.9
	comp=Z,94nm,0.6s						

BER ***03*** *19:00:21.3±2.7, 73.74N×8.30E, h15*^{km}*±92*^{km}*, ML2.0(NAO)*

NAO 03 19:00:23.0±8.4**, 73.94N×9.90E, ML2.0, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**4.54**	**17**	Pn	Pn	19 01 32.9	-1.7
	baz=198,slow=14						
KBS	**Kingsbay**	**5.04**	**4**	Pn	Pn	19 01 37.5	-4.2
ARA0	**ARCESS Array S**	**6.58**	**124**	Pn	Pn	19 01 59.9	-3.5
	baz=318,slow=12						
ARA0				Sn	Sn	19 03 12.8	-7.4
	baz=306,slow=22						

NEIC ***03*** *19:14:19.4±3.4, 22.27S×179.87E, h481*^{km}*±36*^{km}*, mb4.2/5, Error ellipse: s-maj=29.8km s-min=14.4km az=218.0*

IDC ***03*** *19:14:23.1±10.0, 22.43S×179.87E, h529*^{km}*±125*^{km}*, mb3.5/7, mb1 3.7/8, mb1mx3.4/18, Error ellipse: s-maj=57.5km s-min=28.6km az=19.0*

ISC 03 19:14:19.3±5.8**, 22.3S**±0.2×**179.8E**±0.2**, h487**^{km}±62^{km}**, n17, σ0**^{s}**54**/18**, mb4.0**/10**, 2C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.11**	**188**	P	**P**	**19 17 41.1**	**-0.1**
	0.8nm,0.3s,baz=342,slow=11,SNR=3.5						
URZ				S	**S**	**19 20 14.5**	**-10**
	0.9nm,0.3s,baz=101,slow=15,SNR=6.1						
RPZ	**Rata Peaks**	**22.58**	**197**	P	**P**	**19 18 42.8**	**-0.2**
	17nm,1.0s,mb4.4,baz=49,slow=8.0,SNR=3.7						
ARMA	**Armidale**	**26.44**	**246**	*e*P	**P**	**19 19 17.3**	**-0.4**
CTA	**Charters Tower**	**31.29**	**268**	⇑*i*P	**P**	**19 20 01.7**	**+1.8**
	10.0nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.29**	**268**	P	**P**	**19 20 01.8**	**+1.9**
	13nm,0.4s,mb4.7,baz=96,slow=11,SNR=48						
CTAO	**Charters Tower**	**31.29**	**268**	*e*P	**P**	**19 20 01.2**	**+1.3**
	19nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**35.16**	**246**	*e*P	**P**	**19 20 32.1**	**-0.3**
	2.3nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**35.16**	**246**	P	**P**	**19 20 31.9**	**-0.5**
	2.9nm,0.4s,mb4.0,baz=80,slow=12,SNR=13						
ASAR	**Alice Springs**	**42.11**	**259**	P	**P**	**19 21 29.1**	**-0.1**
	3.9nm,0.6s,mb4.0,baz=93,slow=6.2,SNR=36						
ASPA	**Alice Springs**	**42.12**	**259**	*e*P	**P**	**19 21 29.1**	**-0.1**
WB2	**Warramunga Arr**	**42.31**	**264**	⇑*i*P	**P**	**19 21 30.6**	**-0.2**
WRA	**Warramunga Arr**	**42.33**	**264**	P	**P**	**19 21 30.8**	**-0.1**
	1.9nm,0.4s,mb3.9,baz=94,slow=8.2,SNR=120						
KAKA	**Kakadu**	**46.01**	**274**	*e*P	**P**	**19 21 59.5**	**-0.2**
	1.5nm,0.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**50.76**	**264**	P	**P**	**19 22 35.4**	**-0.1**
	2.2nm,0.6s,mb3.7,baz=121,slow=5.4,SNR=10.0						
QSPA	**South Pole Qui**	**67.81**	**180**	*e*P	**P**	**19 24 29.7**	**+0.9**
	2.8nm,0.8s,mb3.9						
SNAA	**Sanae**	**86.30**	**179**	P	**P**	**19 26 08.7**	**-0.3**
	0.8nm,0.6s,mb3.5						
ILAR	**Eielson Array**	**90.50**	**14**	P	**P**	**19 26 28.4**	**-0.2**
	0.7nm,1.0s,mb3.5,baz=239,slow=5.3,SNR=3.6						

TAP ***03*** *19:22:22.1, 24.77N×122.91E, h108*^{km}*, ML3.5*

JMA ***03*** *19:22:22.7±0.2, 24.82N×122.80E, h108*^{km}*±2*^{km}*, M2.3*

ISC 03 19:22:22.2±1.5**, 24.9N**±0.1×**122.81E**±0.09**, h110**^{km}±15^{km}**, n11, σ0**^{s}**70**/21**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.43**	**155**	P	**P**	**19 22 38.7**	**0.0**
YOJ				S	**S**	**19 22 51.0**	**-0.1**
IRIF	**Iriomote-Funau**	**0.98**	**121**	P	**P**	**19 22 43.4**	**0.0**
IRIF				S	**S**	**19 22 59.1**	**-0.3**
HATJ	**Hateruma jima**	**1.20**	**131**	P	**P**	**19 22 46.0**	**+0.1**
HATJ				*e*S	**S**	**19 23 03.5**	**-0.3**
JKRS	**Kuro-shima**	**1.25**	**119**	P	**P**	**19 22 46.7**	**+0.3**
JKRS				S	**S**	**19 23 04.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.30**	**111**	P	**P**	**19 22 46.9**	**-0.2**
JIJ				S	**S**	**19 23 05.2**	**-0.7**
JTJ	**Tarama**	**1.73**	**96**	P	**P**	**19 22 52.9**	**+0.7**
JTJ				*e*S	**S**	**19 23 14.6**	**-0.2**
JMJ	**Miyako jima 2**	**2.26**	**90**	*e*S	**S**	**19 23 26.9**	**+0.2**
JOGS	**Gusukube**	**2.36**	**92**	P	**P**	**19 23 01.4**	**+0.9**
JOGS				*e*S	**S**	**19 23 30.1**	**+0.9**
JKE	**Kume jima 2**	**3.88**	**67**	P	**P**	**19 23 21.3**	**+0.3**
JKE				*e*S	**S**	**19 24 07.2**	**+1.3**
JAGN	**Aguni-jima**	**4.36**	**66**	P	**P**	**19 23 27.8**	**+0.3**
JAGN				*e*S	**S**	**19 24 17.5**	**-0.1**
JOW	**Kunigami**	**5.30**	**67**	P	**P**	**19 23 39.1**	**-1.2**
JOW				*e*S	**S**	**19 24 38.3**	**-2.5**

LDG ***03*** *19:47:18.2±0.1, 47.15N×5.87E, h11*^{km}*, Md2.2/2, Ml2.2/18, Error ellipse: s-maj=1.1km s-min=0.9km az=126.0*

STR ***03*** *19:47:19.7±0.6, 47.24N×5.90E, h5*^{km}*±1*^{km}*, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 03 19:47:16.0±0.3**, 47.13N**±0.02×**5.83E**±0.03**, h11**^{km}±5^{km}**, n20, σ1**^{s}**00**/41**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CABF	**La Chapelle**	**0.55**	**161**	*e*Pg	**Pg**	**19 47 29.1**	**+1.9**
CABF				*e*Sg	**Sg**	**19 47 36.4**	**+1.7**
	4.4nm,0.2s						
LOMF	**Lomont**	**0.71**	**72**	Pg	**Pg**	**19 47 32.0**	**+1.6**
LOMF				Sg	**Sg**	**19 47 41.4**	**+1.3**
HAU	**Haudompre**	**0.94**	**22**	*e*Pn	**Pn**	**19 47 35.2**	**+0.1**
HAU				*e*Pg	**Pg**	**19 47 36.0**	**+1.1**
HAU				*e*Sg	**Sg**	**19 47 47.2**	**-0.4**
	17nm,0.2s						
HINF	**Hinteralfeld**	**0.97**	**45**	*e*Pg	**Pg**	**19 47 35.8**	**+0.2**
HINF				*e*Sg	**Sg**	**19 47 47.9**	**-0.8**
	4.6nm,0.2s						
THEF	**They Montfort**	**1.10**	**5**	Pg	**Pg**	**19 47 38.5**	**+0.4**
THEF				Sg	**Sg**	**19 47 52.0**	**-0.8**
MOF	**Molkenrain**	**1.14**	**50**	Pg	**Pg**	**19 47 39.3**	**+0.4**
MOF				Sg	**Sg**	**19 47 53.7**	**-0.4**
SFTF	**Sexfontaines**	**1.20**	**334**	*e*Pg	**Pg**	**19 47 40.6**	**+0.5**
SFTF				*e*Sg	**Sg**	**19 47 56.1**	**0.0**
	13nm,0.3s						
LOR	**Lormes**	**1.35**	**277**	*e*Pn	**Pn**	**19 47 41.9**	**+0.9**
LOR				*e*Pg	**Pg**	**19 47 43.8**	**+0.7**
LOR				*e*Sn	**Sn**	**19 47 59.1**	**+0.1**
	7.2nm,0.2s						
LOR				*e*Sg	**Sg**	**19 48 02.2**	**+1.1**
SMF	**Signal de Mont**	**1.45**	**251**	*e*Pn	**Pn**	**19 47 43.1**	**+0.7**
SMF				*e*Pg	**Pg**	**19 47 46.6**	**+1.6**
SMF				*e*Sg	**Sg**	**19 48 05.5**	**+1.2**
	3.6nm,0.2s						
MEZF	**Maizieres J'vi**	**1.47**	**339**	*e*Pg	**Pg**	**19 47 45.6**	**+0.2**
MEZF				*e*Sg	**Sg**	**19 48 04.6**	**-0.4**
	6.5nm,0.3s						
RFYF	**Reffroy**	**1.52**	**351**	*e*Sg	**Sg**	**19 48 05.7**	**-0.9**
	7.4nm,0.2s						
SSF	**Saint Saulge**	**1.59**	**268**	*e*Pn	**Pn**	**19 47 44.9**	**+0.5**
SSF				*e*Sn	**Sn**	**19 48 04.3**	**-0.8**
	1.7nm,0.2s						
CDF	**Champ du Feu**	**1.61**	**37**	*e*Pn	**Pn**	**19 47 44.4**	**-0.3**
CDF				*e*Pg	**Pg**	**19 47 47.7**	**-0.6**
CDF				*e*Sg	**Sg**	**19 48 07.7**	**-2.1**
	2.2nm,0.2s						
AVF	**Avril sur Loir**	**1.73**	**260**	*e*Pg	**Pg**	**19 47 51.1**	**+0.5**
AVF				*e*Sg	**Sg**	**19 48 13.2**	**-0.5**
	1.2nm,0.2s						
LPL	**La Plagne**	**1.73**	**158**	*e*Pg	**Pg**	**19 47 50.8**	**+0.1**
LPL				*e*Sg	**Sg**	**19 48 13.0**	**-0.8**
	1.7nm,0.2s						
LPG	**La Plagne**	**1.76**	**158**	*e*Pg	**Pg**	**19 47 51.5**	**+0.4**
LPG				*e*Sg	**Sg**	**19 48 13.2**	**-1.4**
	1.1nm,0.2s						
BGF	**Bois d'Agland**	**2.13**	**255**	*e*Sg	**Sg**	**19 48 25.5**	**-1.4**
	3.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.21**	**179**	*e*Pg	**Pg**	**19 47 59.1**	**-1.2**
ORIF				*e*Sg	**Sg**	**19 48 27.8**	**-2.0**
	2.2nm,0.4s						
VIVF	**Saint-Julien-l**	**2.42**	**200**	*e*Sg	**Sg**	**19 48 35.7**	**-0.8**
	1.0nm,0.3s						
TCF	**Toulx Ste Croi**	**2.63**	**253**	*e*Sg	**Sg**	**19 48 41.6**	**-2.0**
	1.7nm,0.3s						

OTT 03 19:49:20.8±1.1**, 43.47N×99.70W, h18**^{km}**, MN3.1**/5**, South Dakota, Us, South Dakota**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFWS	**Jewell Farm**	**6.93**	**91**	PN	Pn	19 50 59.5	-4.6
JFWS				SN	Sn	19 52 16.4	-6.9
JFWS				LG		19 52 51.5	
JFWS				Trac		19 53 09.2	
	comp=Z,16nm,0.4s						
ULM	**Lac du Bonnet**	**7.27**	**20**	PN	Pn	19 51 04.5	-4.5
ULM				SN	Sn	19 52 23.4	-8.5
ULM				Trac		19 53 11.1	
	comp=Z,7.1nm,0.3s						
EPLO	**Experimental L**	**7.45**	**31**	PN	Pn	19 51 09.0	-2.4
EPLO				SN	Sn	19 52 27.2	-9.0
EPLO				Trac		19 53 09.9	
	comp=Z,6.1nm,0.3s						
ATKO	**Atikokan Iron**	**7.76**	**44**	PN	Pn	19 51 15.4	-0.4
ATKO				SN	Sn	19 52 34.3	-10
ATKO				LG		19 53 21.1	
SOLO	**Sioux Lookout**	**8.38**	**36**	PN	P	19 51 19.2	-5.2
SOLO				SN	Sn	19 52 48.3	-11
SOLO				LG		19 53 41.8	
SOLO				Trac		19 53 50.3	
	comp=Z,1.4nm,0.1s						
RDLO	**Red Lake**	**8.48**	**26**	PN	P	19 51 22.0	-3.7
RDLO				SN	Sn	19 52 52.4	-10
RDLO				Trac		19 53 52.4	
	comp=Z,4.1nm,0.2s						
TBO	**Thunder Bay**	**8.83**	**51**	PN	P	19 51 26.8	-3.8
TBO				SN	Sn	19 52 58.9	-12
PKLO	**Pickle Lake**	**10.22**	**35**	PN	P	19 51 42.8	-6.9
PKLO				SN	S	19 53 32.9	-12
PNPO	**Pukaskwa Natio**	**10.64**	**57**	PN	P	19 51 49.3	-6.1
PNPO				SN	S	19 53 44.6	-11
VIMO	**Victor Mine**	**14.15**	**43**	PN	P	19 52 38.8	-3.5
VIMO				SN	S	19 55 08.5	-11
SILO	**Sutton Inlier**	**14.65**	**36**	PN	P	19 52 37.8	-11
SILO				SN	S	19 55 17.5	-14

ISK ***03*** *20:01:08.7, 36.91N×27.71E, h6*^{km}*, MD3.1*

NEIC ***03*** *20:01:09.8, 36.85N×27.56E, h5*^{km}*, MD3.2(ATH), After ATH.*

ATH ***03*** *20:01:09.8, 36.85N×27.56E, h5*^{km}*, MD3.2/5*

ISC 03 20:01:08.9±0.8**, 36.88N**±0.03×**27.72E**±0.04**, h2**^{km}±6^{km}**, n16, σ0**^{s}**84**/24**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**310**	*i* P	**Pg**	**20 01 15.6**	**+1.0**
BDRM				*i* S	**Sg**	**20 01 20.1**	**+1.6**
MLSB	**Milas**	**0.42**	**6**	*i* PG	**Pg**	**20 01 16.9**	**-0.3**
MLSB				SG	**Sg**	**20 01 22.7**	**0.0**
YER	**Yerkesik**	**0.52**	**60**	*i* PG	**Pg**	**20 01 19.2**	**0.0**
YER				SG	**Sg**	**20 01 26.3**	**+0.2**
ARG	**Arkhangelos**	**0.74**	**154**	*e*PG	**Pg**	**20 01 24.3**	**+0.7**
AYDN	**Tasoluk**	**0.79**	**9**	*i* P	**Pg**	**20 01 23.9**	**-0.7**
AYDN				*i* S	**Sg**	**20 01 34.0**	**-1.2**
SMG	**Samos**	**1.09**	**320**	*e*PB	**Pb**	**20 01 29.5**	**-0.6**
DNZL	**Cakiroluk**	**1.33**	**52**	*i* P	**Pb**	**20 01 34.1**	**-0.2**
DNZL				*i* S	**Sb**	**20 01 53.0**	**+1.4**

DENT	Denizli	1.36	50	PN	Pn	20 01 34.7	-0.3
DENT				SN	Sn	20 01 53.8	0.0
KARP	Karpathos	1.41	199	ePB	Pb	20 01 35.5	0.0
IZM	Izmir	1.56	347	PN	Pn	20 01 36.8	-1.0
KDAG	Bornova	1.56	347	i P	Pn	20 01 36.5	-1.3
KDAG				i S	Sb	20 02 00.0	+1.7
KSL	Kastellorizon	1.67	115	ePN	Pn	20 01 43.5	+4.2
MANT	Manisa	1.74	22	i P	Pn	20 01 40.7	+0.3
MANT				i S	Sn	20 02 03.9	+0.5
ELL	Elmali	1.76	94	ePN	Pn	20 01 40.8	+0.1
APE	Apeiranthos	1.76	277	ePB	Pb	20 01 41.0	-0.7
AKS	Akhisar	2.00	2	ePN	Pn	20 01 42.8	-1.2

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*MDD **03** 21:09:11.7±1.2, 35.26N×4.32W, mb3.5/12, Error ellipse: s-maj=12.7km s-min=6.1km az=19.0, PRXIMO*
*NEIC **03** 21:09:11.3, 35.24N×4.34W, MG3.5(MDD), After MDD.*
*LDG **03** 21:09:13.4±0.5, 35.20N×4.23W, h10^{km}, Ml2.7/2, Error ellipse: s-maj=9.3km s-min=5.8km az=169.0*
ISC 03 21:09:11.4±0.9**, 35.33N**±0.05×**4.29W**±0.04**, h10^{km}, n24, σ1°.31**/43**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	Melilla	1.09	91	P	Pb	21 09 31.9	-0.1
	SNR=6.6						
EMEL				S	Sb	21 09 46.8	+0.7
	118nm,0.1s,SNR=7.9						
EMIJ	Mijas	1.29	343	P	Pb	21 09 34.2	-1.1
	4.0nm,0.2s,SNR=7.9						
EMIJ				S	Sb	21 09 54.0	+2.2
	25nm,0.2s,SNR=7.9						
REAL	Reales	1.37	327	P	Pn	21 09 38.0	+1.3
REAL				S	Sb	21 09 52.0	-2.1
ERON	Agron	1.73	13	P	Pn	21 09 42.5	+0.7
	5.0nm,0.2s,SNR=5.2						
ERON				S	Sn	21 10 04.7	+0.7
	12nm,0.3s,SNR=7.9						
LIJA	Lijar	1.81	331	P	Pn	21 09 45.0	+2.0
LIJA				S	Sn	21 10 12.0	+5.9
ELOJ	Sierra Loja	1.81	4	P	Pn	21 09 43.9	+0.9
	4.2nm,0.3s,SNR=8.0						
ELOJ				S	Sn	21 10 08.3	+2.0
	SNR=7.9						
ESPR	Espera	1.99	321	P	Pn	21 09 45.4	-0.2
	1.4nm,0.2s,SNR=7.9						
ESPR				S	Sn	21 10 11.5	+0.8
	SNR=7.9						
ELUQ	Luque	2.22	1	P	Pn	21 09 50.2	+1.3
	1.5nm,0.2s,SNR=7.9						
ELUQ				S	Sn	21 10 19.7	+3.0
	SNR=7.9						
EQES	Quesada	2.65	21	P	Pn	21 09 56.5	+1.4
	4.6nm,0.2s,SNR=60						
EQES				S	Sn	21 10 29.1	+1.5
	SNR=7.9						
EADA	Adamuz	2.84	355	P	Pn	21 09 58.9	+1.2
	2.2nm,0.2s,SNR=11						
EADA				S	Sn	21 10 33.1	+0.8
	SNR=7.9						
EMIN	Mina Concepcio	3.09	322	P	Pn	21 10 01.4	0.0
	2.2nm,0.4s,SNR=16						
EMIN				S	Sn	21 10 37.6	-1.1
	SNR=7.9						
EMIN	Mina Concepcio	3.09	322	P	Pn	21 10 01.4	0.0
EMIN				S	Sn	21 10 37.6	-1.1
EGRO	El Granado	3.38	311	S	Sn	21 10 43.3	-2.8
	SNR=7.9						
EMUR	La Murta	3.51	44	S	Sn	21 10 47.3	-1.9
	SNR=7.9						
ETOB	Tobarra	3.97	33	P	Pn	21 10 14.1	+0.3
	1.1nm,0.2s,SNR=7.9						
ETOB				S	Sn	21 10 58.6	-2.3
	SNR=7.9						
EBAD	Badajoz	4.05	328	P	Pn	21 10 14.8	-0.1
	0.4nm,0.1s,SNR=5.3						
EBAD				S	Sn	21 11 00.9	-2.0
	SNR=7.9						
ESDC	Sonseca Array	4.34	3	P	Pn	21 10 19.0	0.0
	2.0nm,0.3s,baz=185,slow=12,SNR=6.4						
ESDC				S	Sn	21 11 10.1	-0.2
	0.7nm,0.4s,baz=181,slow=30,SNR=4.3						
EVO	Evora	4.37	318	ePn	Pn	21 10 19.8	+0.4
EVO				eSn	Sn	21 11 11.9	+0.9
	5.3nm,0.3s						
ETOR	Torete	5.75	17	P	Pn	21 10 37.7	-1.3
	1.2nm,0.5s,SNR=7.9						
ETOR				S	Sn	21 11 43.3	-2.6
	SNR=7.9						
ECAL	Calabor	6.87	345	P	Pn	21 10 54.1	-0.6
	SNR=7.9						
ECAL				S	Sn	21 12 07.4	-6.4
	SNR=7.9						
ERUA	La Rua	7.39	343	P	Pn	21 11 00.9	-1.1
	SNR=7.9						
ETSF	Etsaut	8.09	20	ePn	P	21 11 10.7	-1.1
ETSF				eSn	Sn	21 12 37.2	-7.1
	0.5nm,0.5s						
SJPF	Ste Jean	8.12	16	ePn	P	21 11 11.2	-1.1
EALK	Alkurruntz	8.16	14	P	P	21 11 11.7	-1.1
	SNR=7.9						

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*ISK **03** 21:37:40.3, 36.92N×27.57E, h8^{km}, MD3.6, ML3.8*
*IDC **03** 21:37:40.7±1.8, 36.67N×27.83E, mb3.7/2, mb1 3.6/6, mb1mx3.5/20, ML3.2/4, MS2.7/1, Ms1 2.8/1, ms1mx2.1/24, Error ellipse: s-maj=34.4km s-min=25.1km az=164.0*
*NEIC **03** 21:37:42.5, 36.90N×27.61E, h31^{km}, MD3.7(ATH), After ATH.*
*ATH **03** 21:37:42.5, 36.90N×27.61E, h31^{km}±4^{km}, MD3.7/10*
*THE **03** 21:37:46.9, 37.13N×27.80E, h20^{km}*
ISC 03 21:37:41.3±0.6**, 36.89N**±0.02×**27.65E**±0.03**, h10^{km}**±4^{km}**, n58, σ0°.93**/73**, mb3.7**/2**, MS2.5**/1**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	317	i P	Pg	21 37 46.9	+0.5
BDRM				i S	Sg	21 37 51.2	+1.5
MLSB	Milas	0.41	14	i PG	Pg	21 37 49.0	-0.8
MLSB				SG	Sg	21 37 55.3	-0.1
NISR	Nisiros	0.50	236	ePB	Pb	21 37 53.0	+1.2
YER	Yerkesik	0.56	65	i PG	Pg	21 37 51.8	-0.9
ARG	Arkhangelos	0.78	150	⇑iPN	Pn	21 37 56.2	-2.0
ARG				eSN	Sn	21 38 10.0	+0.1
AYDN	Tasoluk	0.79	14	⇑iP	Pb	21 37 56.2	-0.5
AYDN				i S	Sb	21 38 07.9	+0.7
SMG	Samos	1.04	322	ePN	Pn	21 38 01.8	-0.1
DNZL	Cakiroluk	1.37	54	⇑iP	Pb	21 38 06.4	-0.2
DNZL				i S	Sb	21 38 25.6	+1.5
DENT	Denizli	1.40	52	i PN	Pn	21 38 07.3	+0.2
DENT				SN	Sn	21 38 26.8	+1.1
KARP	Karpathos	1.40	196	ePN	Pn	21 38 07.5	+0.4
KARP				eSN	Sn	21 38 26.0	+0.3
IZM	Izmir	1.53	349	PN	Pn	21 38 08.1	-0.9
IZM				SN	Sn	21 38 27.9	-1.2
KDAG	Bornova	1.54	349	i P	Pn	21 38 08.7	-0.3
KDAG				i S	Sb	21 38 34.3	+5.4
APE	Apeiranthos	1.70	277	ePB	Pb	21 38 11.5	-0.9
APE				eSN	Sn	21 38 32.5	-0.9
KSL	Kastellorizon	1.73	115	ePB	Pb	21 38 13.0	+0.2
MANT	Manisa	1.75	24	i P	Pn	21 38 11.5	-0.6
MANT				i S	Sn	21 38 37.5	+2.9
ELL	Elmali	1.82	94	ePN	Pn	21 38 13.9	+0.8
SANT	Santorini	1.84	254	eP	Pn	21 38 16.4	+3.1
THR1	Thera Island	1.84	254	ePn	Pn	21 38 17.9	+4.6
THR1				eSn	Sn	21 38 41.5	+4.7
THR4	Thira Island,	1.86	257	ePn	Pn	21 38 18.1	+4.5
THR3	Thira Island,	1.87	256	ePn	Pn	21 38 18.9	+5.1
THR3				eSn	Sn	21 38 42.0	+4.3
THR6	Thira Island,	1.89	254	ePn	Pn	21 38 19.1	+5.0
THR6				eSn	Sn	21 38 42.8	+4.7
AKS	Akhisar	1.99	4	PN	Pn	21 38 14.9	-0.5
NPS	Neapolis	2.32	226	ePB	Pb	21 38 22.5	-0.3
BCK	Bucak	2.42	76	ePN	Pn	21 38 22.4	+0.8
ISP	Isparta	2.47	67	ePN	Pn	21 38 22.4	0.0
XRY	Khrisi	2.56	219	ePB	Pb	21 38 26.5	-0.6
BALB	Balikesir	2.75	4	ePN	Pn	21 38 26.1	-0.2
IDI	Anoyia	2.75	235	Pn	Pn	21 38 26.2	-0.2
	2.2nm,0.3s,baz=63,slow=15,SNR=12						
IDI				Sn	Sn	21 39 04.7	+4.7
	7.5nm,0.3s,baz=354,slow=16,SNR=4.5						
ALT	Altintas	2.91	41	ePN	Pn	21 38 28.2	-0.4
PTL	Penteli	3.22	292	ePN	Pn	21 38 33.4	+0.3
ORLT	Orhaneli	3.30	17	ePN	Pn	21 38 34.3	+0.2
MPAR	Parnis Oros	3.35	293	ePN	Pn	21 38 34.0	-0.9
KCT	Karacabey	3.41	9	ePN	Pn	21 38 34.6	-1.2
LPK	Lapseki	3.54	349	ePN	Pn	21 38 36.7	-0.9
ESKT	Eskisehir	3.64	43	ePN	Pn	21 38 39.3	+0.3
LOS	Limnos	3.64	327	ePn	Pn	21 38 38.8	-0.3
MRMT	Marmara Adasi	3.70	359	ePN	Pn	21 38 39.3	-0.6
MKIT	Kithairon Oros	3.72	292	ePN	Pn	21 38 40.6	+0.5
HDMB	Hadim	3.88	88	ePN	Pn	21 38 42.9	+0.5
KIZT	Kizilcal	3.89	58	ePN	Pn	21 38 42.9	+0.3
YLV	Yalova	3.91	20	ePN	Pn	21 38 42.7	-0.1
ALN	Alexandroupoli	4.19	343	ePn	Pn	21 38 45.2	-1.6
OUR	Ouranopolis	4.48	321	ePn	Pn	21 38 50.4	-0.5
AGG	Agios Georgios	4.71	298	ePn	Pn	21 38 54.8	+0.6
LIT	Litokhoron	5.16	310	ePn	Pn	21 39 00.5	0.0
SRS	Serrai	5.27	324	ePn	Pn	21 39 01.5	-0.6
SRS				eSn	Sn	21 39 57.7	-6.0
BRTR	Keskin Array B	5.50	57	Pn	Pn	21 39 05.0	-0.3
	0.4nm,0.3s,baz=241,slow=16,SNR=14						
KNT	Kendrikon	5.64	321	ePn	Pn	21 39 07.4	0.0
GRG	Griva	5.76	316	ePn	Pn	21 39 09.3	+0.3
MEV	Metsovon	5.81	302	ePn	Pn	21 39 10.7	+0.9
IGT	Igoumenitsa	6.33	297	ePn	Pn	21 39 18.7	+1.5
MLR	Muntele Rosu	8.68	352	Pn	P	21 39 51.6	+1.6
	0.1nm,0.3s,baz=198,slow=20,SNR=3.4						
TIP	Timpagrande	8.89	288	eP	P	21 39 52.2	-0.7
GERES	GERESS Array B	15.69	324	Pn	P	21 41 28.6	+4.6
	0.1nm,0.3s,baz=153,slow=6.6,SNR=2.4						
KHC	Kasperske Hory	15.95	324	eP	P	21 41 30.0	+2.7
NOA	NORSAR Array B	26.31	342	LR	LR	21 55 02.3	
	comp=Z,15nm,19.0s,MS2.5,baz=25,slow=39						
MKAR	Makanchi Array	41.15	58	P	P	21 45 26.4	-0.8
	1.1nm,0.7s,mb3.6,baz=276,slow=6.1,SNR=4.7						
SONM	Songino Array	56.83	52	P	P	21 47 26.8	-1.4
	0.7nm,0.8s,mb3.8,baz=288,slow=7.8,SNR=3.7						

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*MDD **03** 21:39:13.6±0.9, 37.35N×8.47W, h10^{km}±2^{km}, mbLg1.9/8, Error ellipse: s-maj=8.8km s-min=3.5km az=22.0, PRXIMO*
*INMG **03** 21:39:14.1±1.2, 37.35N×8.48W, h5^{km}±5^{km}, ML1.8, Error ellipse: s-maj=5.1km s-min=3.3km az=24.0*
ISC 03 21:39:10.8±1.5**, 37.25N**±0.08×**8.49W**±0.07**, h13^{km}**±5^{km}**, n15, σ1°.02**/22**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.35	327	ePg	Pg	21 39 19.0	+0.9
PTEO				eSg	Sg	21 39 22.8	-0.2
	48nm,0.3s						
PTEO	Sao Teotonio	0.35	327	Pg	Pg	21 39 19.0	+0.9
PTEO				Lg		21 39 22.8	
	24nm,0.3s						
PALC	Alcoutim	0.83	75	ePg	Pg	21 39 28.7	+1.1
PALC				eSg	Sg	21 39 39.3	+0.5
	52nm,0.2s						
PALC	Alcoutim	0.83	75	Pg	Pg	21 39 28.7	+1.1
PALC				Lg		21 39 39.3	
	26nm,0.2s						
EGRO	El Granado	0.85	70	Pg	Pg	21 39 28.8	+0.9
	2.4nm,0.1s,SNR=7.9						
EGRO				Lg		21 39 39.2	
	5.1nm,0.1s,SNR=7.9						
PBEJ	Beja	0.92	32	eP	Pg	21 39 29.3	0.0
PBEJ				eS	Sb	21 39 40.8	+0.8
	9.5nm,0.1s						
PBEJ	Beja	0.92	32	Pg	Pg	21 39 29.3	0.0
PBEJ				Lg		21 39 40.8	
	4.8nm,0.1s						
MOE	Montemor	1.27	5	eP	Pb	21 39 35.4	+1.2
MOE				eS	Sb	21 39 51.2	+0.9
EMIN	Mina Concepcio	1.53	70	Pg	Pg	21 39 39.0	-2.5
	0.7nm,0.1s,SNR=7.9						
EMIN				Lg		21 39 59.5	
	12nm,0.2s,SNR=7.9						
PLOU	Loures	1.71	342	eSn	Sn	21 40 02.5	-0.1
	11nm,0.3s						
PLOU	Loures	1.71	342	Sn	Sn	21 40 02.5	-0.1
	5.4nm,0.3s						
EBAD	Badajoz	1.90	37	Pn	Pn	21 39 43.4	+0.1
	2.0nm,0.3s,SNR=14						
EBAD				Pg	Pg	21 39 47.4	-1.4
	3.4nm,0.2s,SNR=7.9						
EBAD				Lg		21 40 10.1	
	2.4nm,0.3s,SNR=6.3						
ESPR	Espera	2.14	100	Pg	Pg	21 39 53.8	+0.2
	4.3nm,0.3s,SNR=7.9						
ESPR				Lg		21 40 20.7	
	7.4nm,0.3s,SNR=7.9						
PTOM	Tomar	2.36	1	ePg	Pg	21 39 55.7	-2.3
PTOM				eSn	Sn	21 40 18.4	-0.7
EADA	Adamuz	3.23	72	Pn	Pn	21 40 02.7	+0.3
	SNR=7.9						
EADA				Sn	Sn	21 40 40.0	-1.1
	1.3nm,0.3s,SNR=7.5						
EADA				Lg		21 40 51.5	
	2.9nm,0.5s,SNR=4.6						

IDC 03 21:40:16.6±2.4**, 5.57S**×**131.88E, mb4.1**/2**, mb1 4.2**/4**, mb1mx3.9**/12**, ML3.9**/2**, Error ellipse: s-maj=194.0km s-min=25.7km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.49	171	Pn	P	21 43 41.8	-3.3
	0.6nm,0.3s,baz=350,slow=13,SNR=30						
WRA				Sn	S	21 46 13.0	-15
	1.1nm,0.3s,baz=347,slow=24,SNR=11						
ASAR	Alice Springs	18.10	174	P	P	21 44 29.4	-1.8
	0.7nm,0.3s,baz=1.8,slow=12,SNR=33						
ASAR				S	S	21 47 40.3	-11
	0.3nm,0.3s,baz=196,slow=38,SNR=5.9						
STKA	Stephens Creek	27.71	162	P	P	21 46 07.1	-1.6
	1.9nm,0.7s,baz=336,slow=10.0,SNR=6.1						
MKAR	Makanchi Array	68.08	326	P	P	21 51 18.2	-2.1
	1.1nm,0.6s,baz=136,slow=7.5,SNR=6.8						

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*PRU **03** 21:41:27.9, 50.21N×18.76E*
WAR 03 21:41:24.5, 50.25N×18.98E, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.53	93	ePG	Pg	21 41 35.0	0.0
OJC				eSG	Sg	21 41 43.0	+1.0
RAC	Raciborz	0.53	252	ePG	Pg	21 41 35.0	-0.1
RAC				eSG	Sg	21 41 43.0	+0.8
OKC	Ostrava-Krasne	0.68	233	ePG	Pg	21 41 38.0	0.0
OKC				eSG	Sg	21 41 46.9	-0.1
NIE	Niedzica	1.20	133	ePG	Pg	21 41 47.0	-1.4
NIE				eSG	Sg	21 42 04.0	-0.3
DPC	Dobruska-Polom	1.71	274	ePG	Pg	21 41 56.1	-2.5
DPC				eSG	Sg	21 42 17.4	-3.9
	6.3nm,0.2s						
KSP	Ksiaz	1.81	290	ePG	Pg	21 41 59.0	-1.7
KSP				eSG	Sg	21 42 23.0	-1.9
PVCC	Panska Ves	2.84	277	eSG	Sg	21 42 54.5	-4.5
PRU	Pruhonice	2.87	267	eSG	Sg	21 42 54.4	-5.6
	3.7nm,0.4s						
KHC	Kasperske Hory	3.68	254	eSG	Sg	21 43 21.1	-5.9
KHC	Kasperske Hory	3.68	254	eSg	Sg	21 43 21.1	-5.9
MOA	Molln	3.92	234	i	Pg	21 42 36.6	-6.2
MOA	Molln	3.92	234	i SG	Sg	21 43 27.1	-7.9
	2.6nm,0.4s						
CLL	Collm	3.94	288	i SG	Sg	21 43 30.6	-5.1

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*NEIC **03** 22:00:30.9, 45.02S×167.33E, h28^{km}, ML4.0(WEL), After WEL.*
WEL 03 22:00:32.1±0.3**, 45.06S**×**167.39E, h29^{km}**±2^{km}**, ML3.9**/7**, 1C-2D, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.45	202	⇓P*	Pb	22 00 41.2	-0.5
DCZ				S*	Sb	22 00 48.7	+0.5
DCZ				S*	Sb	22 00 48.8	+0.6
MLZ	Mavora Lakes	0.62	118	⇑P*	Pb	22 00 44.0	-0.5
MLZ				S*	Sb	22 00 52.6	-0.3
MLZ	Mavora Lakes	0.62	118	P	Pb	22 00 44.0	-0.5
MLZ				S	Sb	22 00 53.5	+0.6
WHZ	Wether Hill Ro	0.92	155	PN	Pn	22 00 48.2	-1.0
WHZ				SN	Sn	22 01 01.0	-0.4
WHZ	Wether Hill Ro	0.92	155	P	Pn	22 00 48.2	-1.0
WHZ				S	Sb	22 01 01.0	-0.3
WKZ	Wanaka	1.18	79	PN	Pn	22 00 52.2	-0.7
AXZ	Alexandra	1.39	99	PN	Pn	22 00 55.3	-0.6
AXZ				SN	Sn	22 01 11.9	-1.5
TUZ	Tuapeka	1.81	120	PN	Pn	22 01 00.6	-1.3
TUZ	Tuapeka	1.81	120	eP	Pn	22 01 00.6	-1.3
LBZ	Lake Benmore	2.10	72	PN	Pn	22 01 03.9	-2.2
ODZ	Otahua Downs	2.31	91	⇓PN	Pn	22 01 06.8	-2.2
ODZ				SN	Sn	22 01 32.0	-4.7
ODZ	Otahua Downs	2.31	91	eP	Pn	22 01 06.8	-2.2
RPZ	Rata Peaks	2.95	64	PN	Pn	22 01 15.0	-3.2
RPZ				SN	Sn	22 01 48.7	-4.4
RPZ	Rata Peaks	2.95	64	P	Pn	22 01 15.0	-3.2
WVZ	Waitaha Valley	3.12	52	PN	Pn	22 01 17.2	-3.5
WVZ				SN	Sn	22 01 53.3	-4.1
WVZ	Waitaha Valley	3.12	52	eP	Pn	22 01 17.2	-3.5
MQZ	McQueen's Vall	4.01	72	PN	Pn	22 01 28.7	-4.5
MQZ	McQueen's Vall	4.01	72	eP	Pn	22 01 28.7	-4.5
LTZ	Lake Taylor	4.20	59	PN	Pn	22 01 31.2	-4.8
LTZ	Lake Taylor	4.20	59	eP	Pn	22 01 31.6	-4.3
DSZ	Denniston Nort	4.62	46	ePN	Pn	22 01 38.0	-3.9
THZ	Tophouse	5.20	53	PN	Pn	22 01 45.2	-4.9
THZ	Tophouse	5.20	53	eP	Pn	22 01 45.4	-4.6
QRZ	Quartz Range	5.67	43	PN	Pn	22 01 52.2	-4.5
QRZ	Quartz Range	5.67	43	eP	Pn	22 01 52.2	-4.5
NNZ	Nelson	5.83	51	PN	Pn	22 01 54.5	-4.4
NNZ	Nelson	5.83	51	eP	Pn	22 01 55.1	-3.8

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*IDC **03** 22:16:11.9±0.8, 9.77N×93.68E, h25^{km}±4^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.8/17, MS3.4/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=34.9km s-min=14.2km az=55.0*
*BJI **03** 22:16:13.6, 9.79N×93.14E, h67^{km}, mb4.1, Ms3.6, Msz3.5*
*NEIC **03** 22:16:14.8±4.8, 9.79N×93.64E, h53^{km}±40^{km}, mb3.9/2, Error ellipse: s-maj=39.7km s-min=16.9km az=53.0*
ISC 03 22:16:09.7±7.5**, 9.7N**±0.2×**93.6E**±0.1**, h28^{km}**±51^{km}**, h27^{km}**±.3^{km}**:pP-P, n24, σ1°.23**/21**, mb3.8**/8**, MS3.4**/3**, 1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.11	30	Pn	P	22 18 36.0	-0.4
	baz=210,slow=12,SNR=6.6						
CMAR				LR	LR	22 23 25.6	
	comp=Z,174nm,18.5s,baz=222,slow=43						
SHL	Shillong	15.83	354	⇑eP	P	22 19 54.8	+2.3
KMI	Kunming	17.61	28	eP	P	22 20 17.8	+2.9
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s						
KMI				LR	LR		
	comp=N,162nm,14.1s						
KMI				LR	LR		
	comp=E,130nm,18.3s						
KMI				LR	LR		
	comp=Z,161nm,15.8s						
KMI	Kunming	17.61	28	eP	P	22 20 17.8	+2.9
	comp=Z,9.0nm,1.2s						
PKI	Pulchoki	19.34	338	eP	P	22 20 35.4	-0.6
	comp=Z,17nm,0.8s						
DMN	Daman	19.49	337	eP	P	22 20 37.3	-0.4
	comp=Z,110nm,1.7s						
KKN	Kakani	19.59	338	eP	P	22 20 37.1	-1.7
LSA	Lhasa	19.99	354	P	P	22 20 42.4	-0.8
LSA	Lhasa	19.99	354	eP	P	22 20 42.0	-1.2
	comp=Z,4.1nm,0.6s						
GKN	Gorkha	20.03	336	eP	P	22 20 42.6	-0.9
	comp=Z,15nm,0.4s						
KOLN	Koldanda	20.26	334	eP	P	22 20 47.9	+2.0
	comp=Z,17nm,0.7s						
ENH	Enshi	25.25	34	eP	P	22 21 34.6	-0.7
JOW	Kunigami	36.90	58	LR	LR	22 38 53.8	
	comp=Z,40nm,18.4s,MS3.2,baz=244,slow=37						
MKAR	Makanchi Array	38.16	347	P	P	22 23 28.2	-0.3
	comp=Z,1.1nm,0.7s,mb3.7,baz=170,slow=7.4,SNR=4.4						
MKAR				pP	pP	22 23 36.2	-0.6
	comp=Z,1.6nm,0.7s,baz=169,slow=9.2,SNR=4.8						
SONM	Songino Array	39.49	14	P	P	22 23 39.3	-0.3
	comp=Z,0.8nm,0.7s,mb3.5,baz=196,slow=9.0,SNR=5.3						
SONM				pP	pP	22 23 47.7	-0.2
	comp=Z,0.9nm,0.9s,baz=190,slow=7.5,SNR=4.0						
SONM				PcP	PcP	22 25 47.6	+0.1
	comp=Z,0.3nm,0.6s,baz=197,slow=4.7,SNR=2.4						
SONM				pPcP		22 25 57.0	
	comp=Z,0.6nm,0.7s,baz=270,slow=1.2,SNR=4.0						
JNU	Nakatsue	41.46	50	LR	LR	22 43 45.7	
	comp=Z,39nm,18.1s,MS3.3,baz=214,slow=40						
KURK	Kurchatov	42.68	346	P	P	22 24 06.4	+0.7
BVAR	Borovoye Array	47.06	341	P	P	22 24 38.5	-2.3
	comp=Z,1.1nm,0.9s,mb3.8,baz=227,slow=37,SNR=3.5						
WRA	Warramunga Arr	49.79	126	P	P	22 25 02.3	-0.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=306,slow=8.5,SNR=26						
WRA				pP	pP	22 25 10.3	-0.6
	comp=Z,1.8nm,0.6s,baz=306,slow=8.4,SNR=8.2						
ASAR	Alice Springs	51.53	131	P	P	22 25 15.3	-0.3
	comp=Z,2.2nm,0.9s,mb4.1,baz=306,slow=6.8,SNR=17						
ASAR				pP	pP	22 25 23.4	-0.7
	comp=Z,1.7nm,0.6s,baz=319,slow=8.3,SNR=9.8						
BRTR	Keskin Array B	60.81	310	P	P	22 26 21.9	+0.1
	comp=Z,0.5nm,0.7s,mb3.8,baz=138,slow=5.9,SNR=2.8						
BRTR				pP	pP	22 26 30.6	0.0
	comp=Z,1.1nm,0.7s,baz=126,slow=7.8,SNR=4.7						
FINES	FINESS Array B	70.82	332	pP	pP	22 27 34.0	-0.3
	comp=Z,0.5nm,0.5s,baz=90,slow=3.8,SNR=2.1						
ARCES	ARCESS Array B	73.34	340	P	P	22 27 41.1	+0.7
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=8.1,SNR=5.0						
ARCES				pP	pP	22 27 49.5	+0.4
	comp=Z,1.3nm,0.5s,baz=98,slow=6.4,SNR=3.8						
ARCES				LR	LR	23 01 41.5	
	comp=Z,37nm,19.4s,MS3.7,baz=270,slow=37						
GERES	GERESS Array B	76.08	318	P	P	22 27 59.0	+2.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=104,slow=5.5,SNR=3.8						

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*IDC **03** 22:32:36.8±22.0, 41.30N×139.73E, mb3.9/4, mb1 3.9/4, mb1mx3.6/20, Error ellipse: s-maj=523.0km s-min=76.6km az=161.0*
*JMA **03** 22:33:17.2±0.3, 42.30N×138.15E, h270^{km}±2^{km}, M3.6*
ISC 03 22:33:16.1±0.5**, 42.27N**±0.05×**138.3E**±0.1**, h285^{km}**±7^{km}**, n23, σ0°.78**/31**, mb3.5**/5**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.90	102	P	P	22 33 54.2	-0.4
JOSM				eS	S	22 34 23.4	-1.2
JSH	Shimam	1.34	73	P	P	22 33 57.1	0.0
JYM2	Yakumo 2	1.55	95	P	P	22 33 59.1	+0.7
JSK	Shakotan	1.93	55	P	P	22 34 01.5	+0.3
JSK				eS	S	22 34 35.8	-0.6
JKB	Kayabe	2.07	100	P	P	22 34 02.9	+0.5
JOT	Ohata	2.24	112	P	P	22 34 04.2	+0.3
JHR	Hokuryu	2.91	59	P	P	22 34 11.7	+1.4
JANG	Nango	3.08	127	P	P	22 34 11.7	-0.3
JFR	Furan	3.29	73	P	P	22 34 15.0	+0.7
JNBK	Urakawa-nobuka	3.31	88	P	P	22 34 14.8	+0.3
JNBK				eS	S	22 35 00.5	+0.6
JOM	Ohasama	3.60	140	eS	S	22 35 05.7	+0.1
JKK2	Kamakawa 2	3.63	62	P	P	22 34 19.0	+1.0
JKK2				eS	S	22 35 06.1	-0.1
JYK	Kaneyama	3.70	154	P	P	22 34 19.5	+0.8
JYK				eS	S	22 35 08.3	+0.8
JCH	Churui	3.76	83	P	P	22 34 19.7	+0.3
JCH				eS	S	22 35 07.3	-1.5
JMK	Ichinoseki	3.99	145	P	P	22 34 22.1	+0.1
JAR	Ashorobuto	4.16	74	P	P	22 34 23.9	+0.1
JAR				eS	S	22 35 14.5	-2.1
JTKR	Abashiri--Toko	4.44	66	P	P	22 34 28.2	+1.1
JMM	Marumori	4.80	156	P	P	22 34 30.4	-0.8
JMM				eS	S	22 35 29.0	-1.0
SONM	Songino Array	23.11	295	P	P	22 37 57.8	-0.5
	0.4nm,0.4s,mb3.1,baz=81,slow=9.5,SNR=3.9						
MKAR	Makanchi Array	39.46	296	P	P	22 40 20.2	-0.2
	1.2nm,0.5s,mb3.6,baz=90,slow=7.8,SNR=17						
JOF	Joensuu	60.22	330	ep	P	22 42 54.7	-1.2
	0.4nm,0.3s,mb3.4						
FINES	FINESS Array B	63.07	330	P	P	22 43 14.7	0.0
	1.3nm,0.8s,mb3.6,baz=40,slow=11,SNR=6.6						
AKASG	Malin Array Be	68.72	320	P	P	22 43 50.8	+0.4
	0.9nm,0.4s,mb3.9,baz=46,slow=6.0,SNR=4.5						

WEL 03 22:35:21.0±1.0**, 46.97S**×**166.34E, h33^{km}, ML4.0**/5**, Error**

ellipse: s-maj=10.4km s-min=6.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**1.55**	**47**	PN	Pn	22 35 45.0	-1.7
WHZ				SN	Sn	22 36 04.4	-1.4
DCZ	**Deep Cove**	**1.60**	**21**	PN	Pn	22 35 46.5	-0.9
DCZ				SN	Sn	22 36 05.6	-1.5
MLZ	**Mavora Lakes**	**2.07**	**39**	PN	Pn	22 35 52.8	-1.3
MLZ				SN	Sn	22 36 16.2	-2.8
TUZ	**Tuapeka**	**2.49**	**67**	PN	Pn	22 35 58.4	-1.8
AXZ	**Alexandra**	**2.69**	**52**	PN	Pn	22 36 02.0	-1.1
ODZ	**Otahua Downs**	**3.57**	**59**	PN	Pn	22 36 11.4	-4.1

*TAP **03** 22:37:07.3, 24.27N×122.61E, h30^{km}, ML2.7*
*JMA **03** 22:37:07.2±0.2, 24.44N×122.57E, h50^{km}±2^{km}*
ISC 03 22:37:07.0±2.5, **24.4N**±0.2×**122.6E**±0.1, **h49**^{km}±15^{km}**, n6, σ0^{s}35**/11**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.41**	**82**	P	**P**	**22 37 17.2**	**0.0**
YOJ				*e*S	**S**	**22 37 24.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.07**	**94**	P	**P**	**22 37 25.6**	**-0.2**
IRIF				S	**S**	**22 37 39.8**	**0.0**
HATJ	**Hateruma jima**	**1.19**	**107**	P	**P**	**22 37 27.8**	**+0.3**
HATJ				*e*S	**S**	**22 37 42.6**	**-0.2**
JKRS	**Kuro-shima**	**1.33**	**97**	P	**P**	**22 37 29.9**	**+0.2**
JKRS				*e*S	**S**	**22 37 47.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.44**	**91**	P	**P**	**22 37 30.9**	**-0.3**
JIJ				*e*S	**S**	**22 37 48.4**	**-0.8**
JTJ	**Tarama**	**1.96**	**83**	*e*S	**S**	**22 38 02.3**	**+0.4**

*NEIC **03** 23:04:55.5±0.8, 51.60N×16.20E, h5^{km}, ML2.8(VIE), Error ellipse: s-maj=11.3km s-min=7.3km az=61.0*
*PRU **03** 23:04:57.5, 51.45N×16.10E*
*WAR **03** 23:04:57.3, 51.50N×16.09E, ML2.8, Mining Induced*
ISC 03 23:04:54.5±0.5, **51.50N**±0.03×**16.07E**±0.04**, n18, σ1^{s}20**/39**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**168**	*e*PG	**Pg**	**23 05 10.0**	**+2.1**
KSP				*e*SG	**Sg**	**23 05 18.0**	**+1.2**
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**23 05 09.6**	**+1.7**
KSP				*e*Sg	**Sg**	**23 05 18.5**	**+1.7**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**23 05 18.4**	**+0.7**
DPC				*e*SG	**Sg**	**23 05 33.2**	**+0.1**
	20nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**23 05 22.9**	**+1.3**
PVCC				*e*SG	**Sg**	**23 05 41.3**	**+1.6**
PRU	**Pruhonice**	**1.80**	**213**	PG	**Pg**	**23 05 29.8**	**-0.6**
PRU				*i*		23 05 34.0	
PRU				*e*		23 05 46.8	
PRU				SG	**Sg**	**23 05 53.5**	**-0.9**
	36nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	*e*Pg	**Pg**	**23 05 29.9**	**-0.5**
PRU				*e*Sg	**Sg**	**23 05 53.9**	**-0.5**
GKP	**Gorka Klasztor**	**1.91**	**21**	*e*Pg	**Pg**	**23 05 38.5**	**+5.8**
GKP				*e*Sg	**Sg**	**23 05 58.6**	**+0.4**
CLL	**Collm**	**1.93**	**266**	*e*PN	**Pn**	**23 05 29.0**	**+0.1**
CLL				*i* PG	**Pg**	**23 05 32.8**	**-0.3**
CLL				*i* SG	**Sg**	**23 05 58.4**	**-0.5**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*P	**Pn**	**23 05 30.2**	**+0.9**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PN	**Pn**	**23 05 32.3**	**+0.7**
OKC				*e*PG	**Pg**	**23 05 36.1**	**-0.8**
OKC				*e*SG	**Sg**	**23 06 03.4**	**-1.7**
OJC	**Ojcow**	**2.69**	**117**	*e*PG	**Pg**	**23 05 47.0**	**-1.1**
OJC				*e*SG	**Sg**	**23 06 23.0**	**-0.9**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**23 05 47.4**	**-0.7**
OJC				*e*Sg	**Sg**	**23 06 23.2**	**-0.7**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**23 05 43.7**	**+1.5**
KHC				*e*PG	**Pg**	**23 05 49.8**	**-1.8**
KHC				*e*SN	**Sn**	**23 06 18.1**	**+0.3**
KHC				*e*SG	**Sg**	**23 06 26.9**	**-2.8**
MOX	**Moxa**	**2.94**	**255**	Pn	**Pn**	**23 05 44.8**	**+1.5**
MOX				*i* Pg	**Pg**	**23 05 52.0**	**-1.2**
MOX				*i* Sg	**Sg**	**23 06 32.0**	**-0.4**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**23 05 51.9**	**-2.1**
BSD				*i* S	**Sn**	**23 06 33.1**	**-5.7**
MOA	**Molln**	**3.84**	**199**	⇑*i*PN	**Pn**	**23 05 57.2**	**+1.1**
MOA				*i* SG	**Sg**	**23 07 00.8**	**-1.4**
	6.3nm,0.5s						
ARSA	**Arzberg**	**4.27**	**185**	⇑*i*PN	**Pn**	**23 06 03.7**	**+1.5**
ARSA				*i* SG	**Sg**	**23 07 12.9**	**-3.6**
	3.0nm,0.5s						
KWP	**Kalwaria**	**4.62**	**111**	*e*PN	**Pn**	**23 06 18.0**	**+11**

IDC 03 23:29:49.4±3.6**, 5.70S**×**102.60E, mb3.9**/6**, mb1 4.0**/6**, mb1mx3.8**/15**, Error ellipse: s-maj=152.0km s-min=19.7km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**24.27**	**352**	P	P	23 35 07.7	-1.8
	0.7nm,0.5s,baz=182,slow=9.5,SNR=7.4						
WRA	**Warramunga Arr**	**33.95**	**118**	P	P	23 36 34.7	-2.1
	0.6nm,0.6s,baz=290,slow=9.9,SNR=4.4						
ASAR	**Alice Springs**	**35.02**	**124**	P	P	23 36 43.7	-2.3
	0.6nm,0.5s,baz=296,slow=7.9,SNR=6.4						
STKA	**Stephens Creek**	**44.78**	**131**	P	P	23 38 04.6	-2.2
	8.0nm,1.2s,baz=278,slow=7.1,SNR=3.8						
SONM	**Songino Array**	**53.41**	**3**	P	P	23 39 11.1	-2.1
	1.0nm,0.5s,baz=182,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**55.28**	**343**	P	P	23 39 24.3	-2.6
	1.0nm,0.7s,baz=154,slow=8.3,SNR=7.3						
TXAR	**Lajitas Array**	**145.82**	**43**	PKPbc	PKPbc	23 49 31.9	+0.3
	0.4nm,0.6s,baz=267,slow=0.5,SNR=9.8						

*STR **03** 23:30:30.8±0.1, 42.74N×0.58E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **03** 23:30:31.3±0.4, 42.75N×0.58E, h11^{km}±1^{km}, mbLg1.2/5, Error ellipse: s-maj=4.3km s-min=2.0km az=4.0, PRXIMO*
*LDG **03** 23:30:31.0±0.1, 42.73N×0.58E, h2^{km}, Md1.7/2, Ml1.5/3, Error ellipse: s-maj=3.3km s-min=1.1km az=177.0*
ISC 03 23:30:29.7±0.6, **42.71N**±0.04×**0.57E**±0.03**, h11**^{km}**, n16, σ0^{s}86**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RESF	**Ens**	**0.20**	**301**	Pg	**Pg**	**23 30 35.2**	**+1.1**
RESF				Sg	**Sg**	**23 30 38.2**	**+1.1**
RESF	**Ens**	**0.20**	**301**	Pg	**Pg**	**23 30 35.4**	**+1.2**
RESF				Lg		23 30 38.3	
MELF	**Melles**	**0.22**	**40**	Pg	**Pg**	**23 30 35.1**	**+0.7**
MELF				Sg	**Sg**	**23 30 38.0**	**+0.4**
MELF	**Melles**	**0.22**	**40**	Pg	**Pg**	**23 30 35.2**	**+0.8**
MELF				Lg		23 30 38.0	
EPF	**Esparros**	**0.37**	**333**	*e*Pg	**Pg**	**23 30 37.5**	**+0.2**
EPF				*e*Sg	**Sg**	**23 30 42.2**	**-0.1**
	3.4nm,0.2s						
VIEF	**Viey**	**0.44**	**294**	Pg	**Pg**	**23 30 39.3**	**+0.6**
VIEF				Sg	**Sg**	**23 30 45.2**	**+0.5**
VIEF	**Viey**	**0.44**	**294**	Pg	**Pg**	**23 30 39.3**	**+0.7**
VIEF				Lg		23 30 45.0	
SALF	**Salau**	**0.46**	**83**	Pg	**Pg**	**23 30 39.6**	**+0.6**
SALF				Sg	**Sg**	**23 30 45.7**	**+0.4**
SALF	**Salau**	**0.46**	**83**	Pg	**Pg**	**23 30 39.6**	**+0.6**
SALF				Lg		23 30 45.7	
ETSF	**Etsaut**	**0.85**	**283**	*e*Pg	**Pg**	**23 30 46.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**23 30 57.6**	**-0.7**
	3.9nm,0.3s						
ESAC	**San Caprasio**	**1.25**	**219**	Pg	**Pg**	**23 30 54.7**	**0.0**
	0.9nm,0.3s,SNR=7.9						
ESAC				Lg		23 31 12.4	
	5.2nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.36**	**62**	*e*Pg	**Pg**	**23 30 56.3**	**-0.7**
MTLF				*e*Sg	**Sg**	**23 31 13.7**	**-1.5**
	1.3nm,0.3s						
SJPF	**Ste Jean**	**1.38**	**288**	*e*Pg	**Pg**	**23 30 57.1**	**-0.2**
SJPF				*e*Sg	**Sg**	**23 31 14.4**	**-1.4**
	0.5nm,0.2s						
EPOB	**Poblet**	**1.40**	**164**	Pg	**Pg**	**23 30 57.8**	**0.0**
	1.1nm,0.8s,SNR=7.9						
EPOB				Lg		23 31 16.4	
	8.1nm,1.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.61**	**289**	Pg	**Pg**	**23 30 58.7**	**-3.1**
	0.0nm,0.4s,SNR=7.9						
EALK				Lg		23 31 21.9	
	1.9nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.47**	**25**	*e*Sg	**Sg**	**23 31 47.8**	**-4.1**
	0.3nm,0.2s						

*NEIC **03** 23:35:57.6, 44.51N×8.74E, h0^{km}, ML2.6(GEN), ML2.6(STR), ML2.6(LDG), After GEN.*
*ROM **03** 23:35:57.2±0.1, 44.49N×8.70E, h5^{km}, MD2.5/6, ML1.8/4, Error ellipse: s-maj=1.6km s-min=1.0km az=0.0*
*LDG **03** 23:35:58.5±0.2, 44.42N×8.81E, h2^{km}, Ml2.6/17, Error ellipse: s-maj=3.5km s-min=2.0km az=110.0*
*STR **03** 23:36:00.1±0.4, 44.60N×8.54E, h10^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 03 23:35:57.4±0.4, **44.50N**±0.02×**8.72E**±0.02**, h9**^{km}±3^{km}**, n51, σ1^{s}03**/98**, 2C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIN	**Finale Ligure**	**0.46**	**232**	*e*PG	**Pg**	**23 36 07.4**	**+0.6**
FIN				SG	**Sg**	**23 36 14.1**	**+1.0**
	76nm,0.2s						
BOB	**Bobbio (Coli)**	**0.59**	**62**	*e*PG	**Pg**	**23 36 08.8**	**-0.5**
BOB				SG	**Sg**	**23 36 18.7**	**+1.5**
RORO		**0.60**	**231**	P	**Pg**	**23 36 09.6**	**0.0**
RORO				S	**Sg**	**23 36 18.1**	**+0.3**
MONE	**Monesi**	**0.81**	**239**	P	**Pb**	**23 36 13.5**	**+0.4**
MONE				S	**Sb**	**23 36 24.3**	**+0.5**
CODM		**0.82**	**97**	P	**Pb**	**23 36 12.6**	**-0.7**
CODM				S	**Sb**	**23 36 23.3**	**-0.9**
IMI	**Imperia**	**0.83**	**226**	*e*PG	**Pg**	**23 36 13.7**	**-0.5**
IMI				SG	**Sg**	**23 36 26.1**	**+0.7**
	44nm,0.4s						
GRAM		**0.96**	**90**	P	**Pb**	**23 36 15.5**	**-0.4**
GRAM				S	**Sb**	**23 36 27.4**	**-1.1**
NEGI	**Negi**	**0.97**	**229**	P	**Pb**	**23 36 16.8**	**+0.8**
NEGI				S	**Sb**	**23 36 29.9**	**+1.1**
SAOF	**Saorge**	**0.98**	**239**	Pg	**Pg**	**23 36 17.9**	**+0.9**
SAOF				Sg	**Sg**	**23 36 31.4**	**+1.3**
BACM		**1.00**	**102**	⇑P	**Pb**	**23 36 16.0**	**-0.4**
BACM				S	**Sb**	**23 36 29.0**	**-0.3**
STV2	**Anna di Valdie**	**1.03**	**256**	P	**Pb**	**23 36 17.9**	**+1.0**
STV2				S	**Sb**	**23 36 30.8**	**+0.5**
AUTN	**L’Aution**	**1.05**	**242**	Pg	**Pg**	**23 36 18.9**	**+0.4**
AUTN				Sg	**Sg**	**23 36 32.8**	**+0.2**
VINC	**Vinca**	**1.09**	**108**	P	**Pb**	**23 36 17.6**	**-0.4**
VINC				S	**Sb**	**23 36 31.7**	**-0.4**
VALM		**1.11**	**97**	P	**Pb**	**23 36 17.6**	**-0.7**
VALM				S	**Sb**	**23 36 32.3**	**-0.3**
SBF	**Sospel**	**1.12**	**236**	*e*Pg	**Pg**	**23 36 19.6**	**-0.2**
SBF				*e*Sg	**Sg**	**23 36 33.8**	**-1.0**
	30nm,0.2s						
TOUF	**Mont Tournerai**	**1.16**	**246**	Pg	**Pg**	**23 36 21.5**	**+0.9**
AURF	**Auriere**	**1.17**	**239**	Pg	**Pg**	**23 36 21.0**	**+0.2**
AURF				Sg	**Sg**	**23 36 37.3**	**+0.8**
ERBM	**Eremo**	**1.22**	**93**	⇑*i*PN	**Pn**	**23 36 21.2**	**+0.6**
ERBM				SN	**Sn**	**23 36 38.2**	**+1.0**
TRAV		**1.23**	**326**	P	**Pb**	**23 36 20.9**	**+0.6**
REVF	**Revere**	**1.23**	**233**	Pg	**Pg**	**23 36 23.1**	**+1.0**
REVF				Sg	**Sg**	**23 36 39.7**	**+1.2**
ORO	**Oropa**	**1.25**	**336**	*e*PN	**Pn**	**23 36 21.9**	**+0.9**
ORO				SN	**Sn**	**23 36 38.5**	**+0.6**
	71nm,0.3s						
SARO	**Sassorosso**	**1.25**	**104**	P	**Pb**	**23 36 20.4**	**-0.2**
SARO				S	**Sb**	**23 36 36.4**	**-0.2**
MVIF	**Mont Vial**	**1.27**	**243**	Pg	**Pg**	**23 36 22.4**	**-0.5**
MVIF				Sg	**Sg**	**23 36 40.1**	**+0.1**
FENE	**Fenestrelle**	**1.29**	**295**	P	**Pb**	**23 36 22.0**	**+0.5**
GSCL	**Gusciola**	**1.35**	**96**	*e*PN	**Pn**	**23 36 22.9**	**+0.5**
GSCL				SN	**Sn**	**23 36 41.5**	**+1.0**
MAIM		**1.40**	**114**	P	**Pn**	**23 36 22.9**	**-0.3**
MBDF	**Montbardon**	**1.41**	**280**	*e*Pn	**Pn**	**23 36 23.9**	**+0.6**
MBDF				*e*Sg	**Sg**	**23 36 43.4**	**-1.0**
	6.0nm,0.3s						
BDI	**Bagni Di Lucca**	**1.42**	**107**	*e*PN	**Pn**	**23 36 23.4**	**0.0**
BDI				SN	**Sn**	**23 36 43.4**	**+1.1**
	6.0nm,0.2s						
CALN	**Calern**	**1.51**	**241**	Pg	**Pg**	**23 36 27.7**	**+0.1**
CALN				Sg	**Sg**	**23 36 47.5**	**-0.3**
PII	**Pisa**	**1.52**	**120**	*e*PN	**Pn**	**23 36 25.3**	**+0.5**
	11nm,0.2s						
LPG	**La Plagne**	**1.72**	**306**	*e*Pn	**Pn**	**23 36 29.7**	**+2.0**
LPG				*e*Pg	**Pg**	**23 36 32.7**	**+1.0**
LPG				*e*Sn	**Sn**	**23 36 51.8**	**+1.9**
	7.9nm,0.4s						
LPL	**La Plagne**	**1.74**	**307**	*e*Pn	**Pn**	**23 36 30.0**	**+2.0**
LPL				*e*Pg	**Pg**	**23 36 33.2**	**+1.0**
LPL				*e*Sn	**Sn**	**23 36 51.9**	**+1.4**
	21nm,0.4s						
FRF	**La Foret Royal**	**1.76**	**239**	*e*Pn	**Pn**	**23 36 28.6**	**+0.2**
FRF				*e*Pg	**Pg**	**23 36 31.5**	**-1.1**
FRF				*e*Sg	**Sg**	**23 36 53.7**	**-2.4**
	25nm,0.4s						
PGF	**Pioggiola**	**1.96**	**174**	*e*Pn	**Pn**	**23 36 29.9**	**-1.3**
PGF				*e*Sn	**Sn**	**23 36 52.7**	**-3.3**
	2.1nm,0.2s						
LMR	**La Mourre**	**1.97**	**235**	*e*Pn	**Pn**	**23 36 30.9**	**-0.5**
LMR				*e*Pg	**Pg**	**23 36 34.9**	**-2.0**
LMR				*e*Sg	**Sg**	**23 36 58.7**	**-4.5**
	7.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.07**	**283**	*e*Pn	**Pn**	**23 36 33.5**	**+0.8**
ORIF				*e*Pg	**Pg**	**23 36 35.7**	**-3.0**
ORIF				*e*Sn	**Sn**	**23 36 58.9**	**+0.1**
	15nm,0.5s						
TAVF	**Tavernes**	**2.11**	**246**	Pg	**Pg**	**23 36 38.5**	**-1.1**
TAVF				Sg	**Sg**	**23 37 06.3**	**-1.4**
VILF	**Villemus**	**2.25**	**254**	Pg	**Pg**	**23 36 41.0**	**-1.4**
VILF				Sg	**Sg**	**23 37 11.3**	**-1.2**
SMRF	**Simiane la Rot**	**2.32**	**258**	*e*Pn	**Pn**	**23 36 37.6**	**+1.3**
SMRF				*e*Pg	**Pg**	**23 36 41.8**	**-1.9**
SMRF				*e*Sg	**Sg**	**23 37 10.4**	**-4.2**
	10nm,0.5s						
CABF	**La Chapelle**	**2.81**	**320**	*e*Pn	**Pn**	**23 36 44.3**	**+1.0**
HINF	**Hinteralfeld**	**3.56**	**339**	*e*Pn	**Pn**	**23 36 54.0**	**-0.1**
HAU	**Haudompre**	**3.88**	**336**	*e*Pn	**Pn**	**23 36 58.5**	**0.0**
HAU				*e*Sn	**Sn**	**23 37 44.0**	**-0.6**
	3.4nm,0.3s						
CDF	**Champ du Feu**	**4.04**	**346**	*e*Pn	**Pn**	**23 37 00.3**	**-0.6**
CDF				*e*Sn	**Sn**	**23 37 47.3**	**-1.6**
	1.3nm,0.3s						
SMF	**Signal de Mont**	**4.04**	**304**	*e*Pn	**Pn**	**23 37 01.4**	**+0.5**
SMF				*e*Sn	**Sn**	**23 37 46.2**	**-2.7**
	2.8nm,0.3s						
LOR	**Lormes**	**4.38**	**311**	*e*Pn	**Pn**	**23 37 06.5**	**+0.8**
LOR				*e*Sn	**Sn**	**23 37 55.1**	**-2.3**
	4.8nm,0.4s						
AVF	**Avril sur Loir**	**4.41**	**303**	*e*Pn	**Pn**	**23 37 06.8**	**+0.8**
AVF				*e*Sn	**Sn**	**23 37 55.2**	**-2.9**
	0.7nm,0.2s						
SSF	**Saint Saulge**	**4.46**	**307**	*e*Pn	**Pn**	**23 37 06.5**	**-0.3**
SSF				*e*Sn	**Sn**	**23 37 56.8**	**-2.6**
	1.7nm,0.4s						
BGF	**Bois d’Agland**	**4.61**	**299**	*e*Pn	**Pn**	**23 37 09.0**	**+0.1**
CAF	**Calviac**	**4.76**	**278**	*e*Pn	**Pn**	**23 37 09.9**	**-1.2**
MTLF	**Montolieu**	**4.83**	**258**	*e*Sn	**Sn**	**23 38 03.8**	**-5.1**
	0.9nm,0.4s						
TCF	**Toulx Ste Croi**	**4.92**	**294**	*e*Pn	**Pn**	**23 37 12.5**	**-0.8**
TCF				*e*Sn	**Sn**	**23 38 07.3**	**-3.8**
	0.7nm,0.3s						

*ROM **03** 23:36:55.7±0.2, 44.41N×8.81E, h5^{km}, MD2.3/1, Error ellipse: s-maj=2.8km s-min=2.3km az=0.0*
*LDG **03** 23:36:58.2±0.2, 44.39N×8.71E, h2^{km}, Md2.4/2, Ml2.2/9, Error ellipse: s-maj=4.6km s-min=3.1km az=78.0*
ISC 03 23:36:56.1±0.6, **44.42N**±0.03×**8.74E**±0.04**, h9**^{km}±4^{km}**, n13, σ1^{s}15**/27**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIN	**Finale Ligure**	**0.43**	**242**	*e*PG	**Pg**	**23 37 06.4**	**+1.4**
FIN				SG	**Sg**	**23 37 13.0**	**+2.2**
BOB	**Bobbio (Coli)**	**0.61**	**55**	*e*PG	**Pg**	**23 37 08.1**	**-0.4**
BOB				SG	**Sg**	**23 37 16.4**	**-0.3**
IMI	**Imperia**	**0.80**	**231**	*e*PG	**Pg**	**23 37 12.7**	**+0.6**
IMI				SG	**Sg**	**23 37 25.4**	**+2.7**
SBF	**Sospel**	**1.09**	**240**	*e*Pg	**Pg**	**23 37 18.5**	**+0.5**
SBF				*e*Sg	**Sg**	**23 37 33.0**	**+0.5**
	9.8nm,0.2s						
ORO	**Oropa**	**1.32**	**336**	*e*PN	**Pn**	**23 37 21.6**	**+0.7**
ORO				SN	**Sn**	**23 37 39.2**	**+0.4**
MBDF	**Montbardon**	**1.44**	**283**	*e*Pn	**Pn**	**23 37 23.1**	**+0.5**
MBDF				*e*Sg	**Sg**	**23 37 42.4**	**-1.8**
	2.8nm,0.3s						
FRF	**La Foret Royal**	**1.74**	**241**	*e*Pg	**Pg**	**23 37 30.5**	**-0.3**
FRF				*e*Sg	**Sg**	**23 37 52.9**	**-1.1**
	6.8nm,0.3s						
LPG	**La Plagne**	**1.78**	**308**	*e*Pn	**Pn**	**23 37 28.7**	**+1.3**
LPG				*e*Pg	**Pg**	**23 37 31.9**	**+0.2**
LPG				*e*Sn	**Sn**	**23 37 50.9**	**+0.6**
	2.6nm,0.3s						
LPL	**La Plagne**	**1.80**	**308**	*e*Pg	**Pg**	**23 37 32.2**	**+0.1**
LPL				*e*Sn	**Sn**	**23 37 50.7**	**-0.2**
	8.1nm,0.4s						
PGF	**Pioggiola**	**1.88**	**174**	*e*Pn	**Pn**	**23 37 29.4**	**+0.6**
PGF				*e*Sn	**Sn**	**23 37 51.4**	**-1.5**
	2.1nm,0.4s						
LMR	**La Mourre**	**1.94**	**237**	*e*Pg	**Pg**	**23 37 33.5**	**-1.5**
LMR				*e*Sg	**Sg**	**23 37 57.7**	**-3.2**
	3.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.10**	**285**	*e*Pn	**Pn**	**23 37 32.3**	**+0.3**
ORIF				*e*Pg	**Pg**	**23 37 35.6**	**-2.5**
ORIF				*e*Sn	**Sn**	**23 37 57.8**	**-0.8**
	3.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.32**	**260**	*e*Sg	**Sg**	**23 38 09.4**	**-4.0**
	1.3nm,0.2s						

*BGR **03** 23:38:01.7±0.3, 47.67N×11.98E, h10^{km}, ML2.0/5, Error ellipse: s-maj=4.4km s-min=2.2km az=128.0*
*PRU **03** 23:38:02.6, 47.72N×11.94E*
ISC 03 23:37:59.8±0.4, **47.70N**±0.02×**12.00E**±0.03**, h10**^{km}**, n22, σ0^{s}90**/37**, 7C-2D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.46**	**218**	⇑*i*PG	**Pg**	**23 38 08.5**	**-0.7**
WATA				*i* SG	**Sg**	**23 38 16.4**	**+0.9**
	9.3nm,0.1s						
WTTA	**Wattenberg**	**0.50**	**209**	⇑*i*PG	**Pg**	**23 38 09.6**	**-0.4**
WTTA				*i* SG	**Sg**	**23 38 17.6**	**+0.8**
	6.0nm,0.2s						
WTTA	**Wattenberg**	**0.50**	**209**	*e*Pg	**Pg**	**23 38 10.1**	**+0.1**
	SNR=7.7						
WTTA				*e*Sg	**Sg**	**23 38 17.4**	**+0.6**
	SNR=3.2						
FUR	**Furstenfeldbru**	**0.67**	**314**	*e*Pg	**Pg**	**23 38 14.2**	**+0.9**
	SNR=3.9						
FUR				*e*Sg	**Sg**	**23 38 23.8**	**+1.4**
	SNR=5.8						
MOTA	**Moosalm**	**0.70**	**240**	⇓*i*PG	**Pg**	**23 38 13.4**	**-0.6**
MOTA				*i* SG	**Sg**	**23 38 23.5**	**+0.1**
	7.9nm,0.3s						
SQTA	**Sankt Quirin**	**0.72**	**228**	⇓*i*PG	**Pg**	**23 38 13.6**	**-0.7**
SQTA				*i* SG	**Sg**	**23 38 23.4**	**-0.5**
	11nm,0.2s						
NORI	**Noerdlinger Ri**	**1.37**	**319**	⇑*i*Pg	**Pg**	**23 38 27.3**	**0.0**
NORI				*i* Sg	**Sg**	**23 38 46.4**	**+0.8**
DAVA	**Damuels**	**1.49**	**255**	⇑*i*PG	**Pg**	**23 38 29.1**	**-0.6**
DAVA				*i* SG	**Sg**	**23 38 49.0**	**-0.6**
	5.4nm,0.3s						
DAVA	**Damuels**	**1.49**	**255**	*e*Pg	**Pg**	**23 38 29.4**	**-0.3**
	SNR=8.8						
DAVA				*e*Sg	**Sg**	**23 38 49.0**	**-0.7**
	SNR=3.0						
MOA	**Molln**	**1.54**	**84**	⇑*i*PG	**Pg**	**23 38 31.4**	**+0.8**
MOA				*i* SG	**Sg**	**23 38 51.5**	**+0.4**
	2.3nm,0.2s						
MOA	**Molln**	**1.54**	**84**	*e*Pg	**Pg**	**23 38 31.4**	**+0.8**
	SNR=5.8						
WET	**Wettzell**	**1.56**	**22**	*e*Pn	**Pn**	**23 38 29.6**	**+1.7**
	SNR=3.4						
WET				*e*Pg	**Pg**	**23 38 31.1**	**+0.1**
	SNR=7.9						
WET				*e*Sg	**Sg**	**23 38 52.1**	**+0.2**
	SNR=3.6						
GEC2	**GERESS Array S**	**1.62**	**44**	*e*Sg	**Sg**	**23 38 54.6**	**+0.9**
	SNR=6.3						
KHC	**Kasperske Hory**	**1.78**	**36**	*e*PG	**Pg**	**23 38 35.2**	**-0.2**
KHC				*e*SG	**Sg**	**23 38 59.7**	**+0.6**
OBKA	**Obir**	**2.11**	**123**	⇑*i*PG	**Pg**	**23 38 40.9**	**-1.1**
OBKA				*i* SG	**Sg**	**23 39 10.9**	**+0.7**
	2.9nm,0.5s						
OBKA	**Obir**	**2.11**	**123**	*e*Pg	**Pg**	**23 38 40.9**	**-1.1**
	SNR=4.7						
ARSA	**Arzberg**	**2.43**	**99**	⇑*i*PG	**Pg**	**23 38 47.3**	**-1.2**
ARSA				*i* SG	**Sg**	**23 39 21.5**	**+0.6**
	2.5nm,0.5s						
GUNZ	**Gunzen**	**2.67**	**5**	*e*Sg	**Sg**	**23 39 27.8**	**-1.1**
	SNR=4.6						
PRU	**Pruhonice**	**2.84**	**35**	*e*SG	**Sg**	**23 39 32.8**	**-1.7**
	2.3nm,0.5s						
MOX	**Moxa**	**2.96**	**355**	*i* (Sg)	**Sg**	**23 39 38.3**	**-0.1**
CLL	**Collm**	**3.67**	**10**	*e*SG	**Sg**	**23 39 59.0**	**-3.1**
CLL				*e*		23 40 10.0	
DPC	**Dobruska-Polom**	**3.89**	**45**	*e*SG	**Sg**	**23 40 05.7**	**-3.7**

*NEIC **03** 23:42:44.4, 35.70N×9.97W, h79^{km}, MG2.9(MDD), After MDD.*
*MDD **03** 23:42:46.1±5.3, 36.03N×9.60W, mb3.4/6, Error ellipse: s-maj=54.8km s-min=34.1km az=90.0, PRXIMO*
INMG 03 23:42:45.3±0.8**, 35.71N**×**9.97W, h58**^{km}±25^{km}**, ML1.8, Error ellipse: s-maj=8.0km s-min=4.7km az=90.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.09**	**28**	*e*S	S	23 43 40.6	-2.9
	3.6nm,0.1s						
PTEO	**Sao Teotonio**	**2.09**	**28**	Sn	S	23 43 40.6	-2.9
	1.8nm,0.1s						
PALC	**Alcoutim**	**2.67**	**48**	*e*P	P	23 43 24.8	-2.1
PALC				*e*S	S	23 43 54.5	-3.5
	2.5nm,0.1s						
PALC	**Alcoutim**	**2.67**	**48**	Pn	P	23 43 24.8	-2.1
PALC				Sn	S	23 43 54.5	-3.5
	1.2nm,0.1s						
EGRO	**El Granado**	**2.71**	**47**	Pn	P	23 43 25.3	-2.2
	0.6nm,0.1s,SNR=8.6						
EGRO				Sn	S	23 43 55.3	-3.8
	0.2nm,0.1s,SNR=7.0						
PBEJ	**Beja**	**2.86**	**35**	*e*S	S	23 43 58.9	-4.2
	1.6nm,0.1s						
PBEJ	**Beja**	**2.86**	**35**	Sn	S	23 43 58.9	-4.2
	0.8nm,0.1s						
MOE	**Montemor**	**3.09**	**24**	*e*S	S	23 44 04.3	-4.6
PLOU	**Loures**	**3.24**	**11**	*e*S	S	23 44 07.8	-4.7
	2.8nm,0.2s						
PLOU	**Loures**	**3.24**	**11**	Sn	S	23 44 07.8	-4.7
	1.4nm,0.2s						
EMIN	**Mina Concepcio**	**3.35**	**51**	Pn	P	23 43 34.1	-2.5
	0.6nm,0.1s,SNR=16						
EMIN				Sn	S	23 44 10.1	-5.3
	0.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.52**	**70**	Pn	P	23 43 36.2	-2.7
	0.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.85**	**37**	Pn	P	23 43 40.3	-3.3
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	S	23 44 22.5	-5.4
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.97**	**59**	Pn	P	23 43 55.7	-3.5
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	S	23 44 48.6	-7.4
	0.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.19**	**48**	Pn	P	23 44 13.1	-3.2
	1.1nm,0.1s,baz=236,slow=13,SNR=7.1						

*NEIC **03** 23:57:51.3, 38.92N×20.56E, h5^{km}, MD3.4(ATH), After ATH.*
*ATH **03** 23:57:51.3, 38.92N×20.56E, h5^{km}, MD3.4/5*
*THE **03** 23:57:52.8, 38.94N×20.60E, h10^{km}, ML3.2*
ISC 03 23:57:51.1±0.7, **38.88N**±0.04×**20.52E**±0.06**, h10**^{km}**, n16, σ1^{s}13**/22**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.20**	**150**	*e*Pg	**Pg**	**23 57 57.2**	**+1.7**
IGT	**Igoumenitsa**	**0.66**	**347**	*e*Pg	**Pg**	**23 58 03.7**	**-0.7**
IGT				*e*Sg	**Sg**	**23 58 13.6**	**+0.2**
VLS	**Valsamata**	**0.71**	**175**	*e*PB	**Pb**	**23 58 06.0**	**+1.0**
JAN	**Janina**	**0.81**	**18**	*e*PB	**Pb**	**23 58 06.5**	**-0.3**
KEK	**Kerkira**	**1.00**	**326**	*e*PG	**Pg**	**23 58 10.1**	**-1.0**
EVR	**Evrytania**	**1.01**	**88**	*e*PG	**Pg**	**23 58 09.0**	**-2.3**
MEV	**Metsovon**	**1.05**	**31**	*e*Pg	**Pg**	**23 58 10.1**	**-2.1**
SRN	**Sarande**	**1.07**	**338**	*i* Pn	**Pn**	**23 58 11.4**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SRN				*i* Sn	Sn	23 58 29.3	+2.2
LSK	Leskovik	1.27	3	*e*Pn	Pn	23 58 16.0	+1.1
LSK				*i* Sn	Sn	23 58 37.0	+5.0
AGG	Agios Georgios	1.42	84	*e*Pb	Pb	23 58 16.9	-0.4
AGG				*e*Sb	Sb	23 58 36.8	+1.5
LIT	Litokhoron	1.95	51	*e*Pb	Pb	23 58 26.0	-0.3
LIT				*e*Sb	Sb	23 58 51.2	+0.6
FNA	Florina	2.01	19	*e*Pb	Pb	23 58 26.9	-0.3
ITM	Ithomi	2.03	146	*e*PG	Pg	23 58 29.8	-1.9
GRG	Griva	2.53	34	*e*Pn	Pn	23 58 32.9	0.0
SOH	Sokhos	2.92	48	*e*Pn	Pn	23 58 38.7	+0.3
SOH				*e*Sn	Sn	23 59 13.8	-0.1
KNT	Kendrikon	2.92	38	*e*Pn	Pn	23 58 39.6	+1.1

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*NIED **04** 00:04:00, 43.20N×144.00E, h165^{km}, Mw3.6 Best double couple: M$_0$3.01×10^{14} NP1:φ$_s$61°, δ77°, λ99°. NP2:φ$_s$205°, δ16°, λ55°.*

*JMA **04** 00:04:02.2±0.1, 43.25N×144.00E, h143^{km}±1^{km}, M3.6*

ISC 04 00:04:01.0±1.0**, 43.21N**±0.07×**144.01E**±0.07**, h145**^{km}±6^{km}**, n15,** σ**0^{s}.77**/25**, mb3.4**/1**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAR	Ashorobuto	0.20	296	P	P	00 04 21.9	+0.8
JAR				*e*S	S	00 04 36.4	0.0
JOB	Onbets	0.33	203	P	P	00 04 22.4	+0.8
JOB				*e*S	S	00 04 37.5	+0.2
JAK	Akkeshi	0.55	113	P	P	00 04 23.1	+0.6
JAK				*e*S	S	00 04 38.8	-0.2
JNK	Nakash	0.64	54	P	P	00 04 23.5	+0.5
JNK				*e*S	S	00 04 39.6	-0.3
JTKR	Abashiri--Toko	0.76	354	P	P	00 04 24.2	+0.4
JTKR				*e*S	S	00 04 40.5	-0.7
JCH	Churui	0.76	219	P	P	00 04 24.3	+0.5
JCH				*e*S	S	00 04 40.4	-0.8
JMP	Maruseppu	0.93	330	P	P	00 04 25.3	+0.4
JMP				*e*S	S	00 04 42.5	-0.7
JFR	Furan	1.04	268	P	P	00 04 26.6	+0.8
JFR				*e*S	S	00 04 45.2	+0.3
JRA	Rausu	1.09	48	P	P	00 04 27.2	+0.9
JKK2	Kamakawa 2	1.13	306	P	P	00 04 27.3	+0.6
NEM2	Nemuro 2	1.27	83	P	P	00 04 28.3	+0.1
NEM2				*e*S	S	00 04 47.5	-1.6
JNBK	Urakawa-nobuka	1.31	225	P	P	00 04 29.1	+0.5
JNBK				*e*S	S	00 04 48.9	-0.9
JEW	Eniwo	1.91	260	*e*S	S	00 05 00.2	-1.2
JSE	Soyaes	2.03	330	P	P	00 04 36.6	+0.1
NB2	NORSAR Subarra	69.25	338	P	P	00 14 51.5	-2.1
	0.4nm,0.5s,mb3.4,baz=42,slow=5.8						

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*ISK **04** 00:11:58.4, 36.87N×27.58E, h2^{km}, MD3.4*

*NEIC **04** 00:12:01.7, 36.93N×27.70E, h23^{km}, MD3.5(ATH), After ATH.*

*ATH **04** 00:12:01.7, 36.93N×27.71E, h23^{km}±5^{km}, MD3.5/8*

ISC 04 00:12:00.8±0.6**, 36.88N**±0.03×**27.65E**±0.03**, h10**^{km}±4^{km}**, n32,** σ**0^{s}.85**/42**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.25	319	*i* P	Pg	00 12 06.6	+0.5
BDRM				*i* S	Sg	00 12 11.4	+1.8
MLSB	Milas	0.43	14	*i* PG	Pg	00 12 08.7	-0.9
MLSB				SG	Sg	00 12 15.2	-0.3
NISR	Nisiros	0.49	238	*e*PN	Pn	00 12 12.3	-1.2
NISR				*e*SN	Sn	00 12 22.5	+0.4
NISR	Nisiros	0.49	238	*e*Pn	Pn	00 12 12.0	-1.5
NISR				*e*Sn	Sn	00 12 22.5	+0.4
YER	Yerkesik	0.57	63	*i* PG	Pg	00 12 11.2	-1.1
YER				SG	Sg	00 12 20.8	+0.8
ARG	Arkhangelos	0.76	149	*e*PN	Pn	00 12 15.5	-1.9
ARG				*e*SN	Sn	00 12 29.0	+0.1
AYDN	Tasoluk	0.81	13⇑	*i*P	Pb	00 12 15.6	-0.8
AYDN				*i* S	Sb	00 12 26.7	-0.4
SMG	Samos	1.05	322	*e*PN	Pn	00 12 21.8	+0.3
DNZL	Cakiroluk	1.38	53	*i* P	Pn	00 12 25.9	-0.3
DNZL				*i* S	Sb	00 12 44.3	+0.5
KARP	Karpathos	1.38	197	*e*PB	Pb	00 12 27.0	+0.7
DENT	Denizli	1.41	51	PN	Pn	00 12 27.1	+0.5
DENT				SN	Sn	00 12 47.3	+1.9
IZM	Izmir	1.55	349	*i* PN	Pn	00 12 27.2	-1.4
IZM				SN	Sn	00 12 49.8	+0.8
APE	Apeiranthos	1.71	277	*e*PB	Pb	00 12 31.6	-0.2
KSL	Kastellorizon	1.72	114	*e*PN	Pn	00 12 32.5	+1.4
ELL	Elmali	1.82	93	*e*PN	Pn	00 12 32.7	+0.2
THR4	Thira Island,	1.86	258	*e*P	Pn	00 12 39.9	+6.9
THR3	Thira Island,	1.87	256	*e*P	Pn	00 12 39.6	+6.4
THR6	Thira Island,	1.88	255	*e*P	Pn	00 12 40.2	+6.8
THR5	Thira Island,	1.91	257	*e*P	Pn	00 12 41.6	+7.9
AKS	Akhisar	2.00	4	PN	Pn	00 12 34.4	-0.8
NPS	Neapolis	2.30	226	*e*PB	Pb	00 12 43.0	+0.9
BCK	Bucak	2.42	75	*e*PN	Pn	00 12 42.0	+0.9
ISP	Isparta	2.48	66	PN	Pn	00 12 41.3	-0.6
XRY	Khrisi	2.55	219	*e*PB	Pb	00 12 46.0	-0.3
BALB	Balikesir	2.77	4	*e*PN	Pn	00 12 45.6	-0.4
ORLT	Orhaneli	3.31	17	*e*PN	Pn	00 12 53.4	-0.4
LOS	Limnos	3.66	327	*e*P	Pn	00 12 58.1	-0.6
MRMT	Marmara Adasi	3.72	359	*e*PN	Pn	00 12 59.8	+0.2
HDMB	Hadim	3.88	87	*e*PN	Pn	00 13 01.8	0.0
YLV	Yalova	3.92	20	*e*PN	Pn	00 13 02.3	-0.2
ALN	Alexandroupoli	4.21	343	*e*P	Pn	00 13 06.0	-0.5
IGT	Igoumenitsa	6.34	297	*e*P	Pn	00 13 37.6	+1.0

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*IDC **04** 00:22:16.6±4.3, 23.51S×179.86E, h514^{km}±35^{km}, mb3.4/4, mb1 3.7/4, mb1mx3.4/12, Error ellipse: s-maj=119.0km s-min=28.2km az=161.0*

*NEIC **04** 00:22:21.4±6.2, 23.61S×179.74E, h576^{km}±63^{km}, mb4.5/3, Error ellipse: s-maj=98.0km s-min=19.1km az=152.0*

ISC 04 00:22:14.3±2.0**, 23.6S**±0.6×**179.9E**±0.3**, h500**^{km}**, n10,** σ**0^{s}.65**/9**, mb3.9**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	31.34	270	*e*P	P	00 27 56.1	+1.5
	3.9nm,0.3s,mb4.3						
CTA	Charters Tower	31.34	270	P	P	00 27 56.2	+1.6
	5.6nm,0.4s,mb4.4,baz=96,slow=11,SNR=12						
CTAO	Charters Tower	31.34	270	*e*P	P	00 27 55.9	+1.3
	6.2nm,0.4s,mb4.4						
ASAR	Alice Springs	41.95	260	P	P	00 29 21.5	-0.5
	1.7nm,0.5s,mb3.8,baz=96,slow=7.4,SNR=20						
ASAR				ScP		00 34 07.4	
	0.8nm,0.8s,baz=111,slow=4.7,SNR=5.2						
WB2	Warramunga Arr	42.28	266	*e*P	P	00 29 24.5	-0.2
WRA	Warramunga Arr	42.30	266	P	P	00 29 24.7	0.0
	2.9nm,0.3s,mb4.2,baz=96,slow=8.4,SNR=35						
KAKA	Kakadu	46.20	275	*e*P	P	00 29 54.5	-0.8
	1.5nm,0.2s,mb4.1						
KKH	Kailua Kona	49.05	31	*e*P	P	00 30 16.7	-0.1
TXAR	Lajitas Array	90.41	58	P	P	00 34 23.1	+0.2
	0.4nm,1.0s,mb3.2,baz=225,slow=7.7,SNR=4.2						
BRTR	Keskin Array B	147.32	307	PKPbc	PKPdf	00 41 01.3	+3.7
	0.6nm,0.7s,baz=72,slow=9.1,SNR=2.7						
BRTR				PKPab	PKPab	00 41 05.8	-1.0
	0.5nm,0.5s,baz=56,slow=5.2,SNR=4.0						

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*IDC **04** 00:58:36.6±4.5, 58.03N×156.89W, h126^{km}±41^{km}, mb3.3/6, mb1 3.7/10, mb1mx3.4/24, Error ellipse: s-maj=34.6km s-min=16.8km az=16.0*

*NEIC **04** 00:58:38.7, 57.74N×156.67W, h141^{km}, After AEIC.*

ISC 04 00:58:36.1±0.3**, 57.82N**±0.05×**156.73W**±0.07**, h152**^{km}±3^{km}**, n92,** σ**0^{s}.95**/103**, mb3.5**/6**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNTC	Contact Creek	0.63	45	P	P	00 58 59.3	+0.5
KJL	Kejulik	0.66	69	P	P	00 58 59.3	+0.4
KJL				S	S	00 59 15.9	-0.5
ANCK	Angle Creek	0.76	59	P	P	00 59 00.2	+0.8
ANCK				S	S	00 59 16.4	-1.1
CAHL	Cahill	0.80	72	P	P	00 59 00.1	+0.4
ACHA	Angle Creek He	0.84	62	P	P	00 59 00.9	+0.8
ACHA				S	S	00 59 18.1	-0.4
MGLS	Mageik LS	0.84	62	P	P	00 59 00.9	+0.9
KABR	Katmai Barrier	0.99	71	P	P	00 59 01.5	+0.5
KAWH	Katmai	1.17	60	P	P	00 59 03.4	+0.6
KAWH				S	S	00 59 23.4	0.0
KAHC	Katmai Hardscr	1.23	47	P	P	00 59 04.1	+0.7
KAHC				S	S	00 59 24.7	+0.3
ANPK	Aniakchak Peak	1.24	218	P	P	00 59 03.4	-0.1
KARR	Katmai Rainbow	1.27	57	P	P	00 59 04.6	+0.8
ANPB	Aniakchak Plen	1.32	220	P	P	00 59 04.2	-0.1
KAHG	Katmai Hook Gl	1.34	59	P	P	00 59 05.4	+1.0
KAHG				S	S	00 59 26.0	-0.3
KAPH	Katmai Pasha	1.48	57	P	P	00 59 06.8	+0.8
KAPH				S	S	00 59 28.9	0.0
KDAK	Kodiak Island	2.22	89	P	P	00 59 14.4	+0.1
KDAK				S	S	00 59 41.3	-2.4
AGU	Augustine-Summ	2.32	47	P	P	00 59 16.8	+1.2
AUL	Augustine Lava	2.33	46	P	P	00 59 16.8	+1.1
AUL				S	S	00 59 45.6	-0.5
IVS	Iliamna South	2.90	39	P	P	00 59 23.8	+0.9
ILIM	Iliamna	2.99	39	P	P	00 59 25.1	+1.0
SDN	Sand Point	3.24	222	*e*P	P	00 59 27.1	-0.2
CNPM	China Poot	3.34	57	P	P	00 59 28.9	+0.4
SVW	Sparrevohn	3.35	9	P	P	00 59 29.9	+1.2
RSO	Redoubt South	3.35	36	P	P	00 59 29.7	+1.0
REF	Redoubt East F	3.39	36	P	P	00 59 29.9	+0.7
BRLK	Bradley Lake	3.61	55	P	P	00 59 31.8	-0.3
HAG	Hague Volcano	3.81	231	P	P	00 59 35.3	+0.6
BKG	Blockade Glaci	3.98	33	P	P	00 59 38.1	+1.2
CKL	Chakachamna La	4.06	32	P	P	00 59 39.8	+1.8
SPU	Mount Spurr	4.13	33	*e*P	P	00 59 39.5	+0.6
DRIA	Deer Island	4.20	229	P	P	00 59 39.2	-0.6
SLKM	Skilak Lake	4.30	48	P	P	00 59 41.4	+0.3
SEW	Seward	4.41	56	P	P	00 59 42.1	-0.5
MPA	Moose Pass	4.64	52	P	P	00 59 45.6	0.0
FIB	Fire Island	4.73	42	P	P	00 59 47.6	+0.7
FALS	False Pass	4.76	234	P	P	00 59 47.4	+0.2
RC01	Rabbit Creek A	4.84	44	P	P	00 59 47.8	-0.6
RC01				S	S	01 00 39.2	-4.9
PMS	Palmer South	5.01	44	P	P	00 59 50.1	-0.4
LTI	Latouche	5.11	60	P	P	00 59 51.3	-0.5
TT01	Tatalina	5.12	4	P	P	00 59 52.9	+1.0
PWL	Port Wells	5.27	51	P	P	00 59 53.3	-0.6
PMR	Palmer	5.39	42	P	P	00 59 53.3	-2.3
KNK	Knik Glacier	5.53	46	P	P	00 59 56.2	-1.1
GHO	Glory Hole Cre	5.59	42	P	P	00 59 57.1	-1.0
CUT	Chulitna	5.62	32	P	P	00 59 59.0	+0.4
MID	Middleton Isla	5.66	69	P	P	00 59 58.5	-0.7
CFI	College Fiord	5.67	50	P	P	00 59 59.4	+0.1
GLI	Glacier Island	5.80	54	P	P	01 00 00.1	-1.0
SML	Sawmill	5.82	43	P	P	00 59 59.8	-1.4
HIN	Hinchinbrook I	5.87	60	P	P	01 00 01.6	-0.2
FID	Port Fidalgo	6.02	56	P	P	01 00 02.4	-1.5
SCM	Sheep Creek Mo	6.21	46	P	P	01 00 05.3	-1.2
VLZ	Valdez	6.25	54	P	P	01 00 06.8	-0.2
EYAK	Cordova Ski Ar	6.27	60	P	P	01 00 06.7	-0.6
AKGG	Akutan Green G	6.34	239	P	P	01 00 08.3	+0.1
AKLV	Akutan Long Va	6.34	239	P	P	01 00 08.1	-0.1
KTH	Kantishna Hill	6.42	24	P	P	01 00 09.7	+0.4
TRF	Thorofare Moun	6.47	27	P	P	01 00 09.9	-0.2
DIV	Divide	6.49	55	P	P	01 00 10.0	-0.2
SGAM	Sherman Glacie	6.50	61	P	P	01 00 10.2	-0.3
RAGM	Ragged Mountai	6.72	62	P	P	01 00 12.9	-0.4
UNV	Unalaska Valle	6.79	238	P	P	01 00 13.1	-1.3
HMT	Hamilton	6.90	63	P	P	01 00 15.6	-0.2
BMRM	Bremner River	6.95	58	P	P	01 00 15.8	-0.6
MCK	McKinley	7.05	29	P	P	01 00 17.1	-0.6
SDG	Sourdough	7.30	45	P	P	01 00 21.1	0.0
GLB	Gilahina Butte	7.48	56	P	P	01 00 23.3	-0.3
PAX	Paxson	7.59	42	P	P	01 00 24.0	-1.0
WAX	Waxell Ridge	7.61	64	P	P	01 00 25.2	0.0
BALM	Baldy	8.01	60	P	P	01 00 30.5	0.0
CCB	Clear Creek Bu	8.08	28	P	P	01 00 29.6	-1.9
HDA	Harding Lake	8.12	31	P	P	01 00 30.0	-2.0
COLA	College	8.25	27	*e*P	P	01 00 32.4	-1.4
IM3	Indian Mountai	8.31	8	P	P	01 00 35.5	+1.0
IMA	Indian Mountai	8.40	9	*e*P	P	01 00 37.3	+1.5
IL1	Eielson Array	8.42	30	P	P	01 00 33.8	-2.2
ILAR	Eielson Array	8.42	30	P	P	01 00 34.0	-2.1
	2.4nm,0.3s,baz=218,slow=13,SNR=77						
ILAR				S	S	01 02 03.8	-5.9
	2.5nm,0.3s,baz=208,slow=20,SNR=28						
NIKO	Nikolski	8.43	240	P	P	01 00 34.3	-1.8
PCA	Pinnacle	8.81	68	P	P	01 00 41.4	+0.3
BCA3	Beaver Creek A	9.05	48	P	P	01 00 44.6	+0.3
PNL	Peninsula	9.20	71	P	P	01 00 46.2	-0.1
DAWY	Dawson	10.48	46	*e*P	P	01 01 03.4	+0.5
DLBC	Dease Lake	14.09	76	P	P	01 01 51.6	+2.1
	0.3nm,0.3s,baz=292,slow=15,SNR=7.7						
INK	Inuvik	14.75	35	P	P	01 01 58.7	+1.0
	0.4nm,0.3s,baz=246,slow=11,SNR=4.7						
INK	Inuvik	14.75	35	P	P	01 01 58.7	+1.0
FX1	Attu Island--F	17.73	267	P	P	01 02 33.3	-1.0
	1.4nm,0.3s,baz=235,slow=23,SNR=15						
YKA	Yellowknife Ar	21.18	60	P	P	01 03 11.3	+1.3
	0.5nm,0.3s,mb3.2,baz=283,slow=12,SNR=14						
YKA	Yellowknife Ar	21.18	60	P	P	01 03 11.3	+1.3
PDAR	Pinedale Array	32.92	96	P	P	01 04 59.4	+1.8
	0.7nm,0.4s,mb3.7,baz=318,slow=4.6,SNR=9.8						
ULM	Lac du Bonnet	35.41	75	P	P	01 05 21.5	+2.8
	1.5nm,0.4s,mb4.0,baz=313,slow=6.3,SNR=2.9						
TXAR	Lajitas Array	46.17	105	P	P	01 06 48.8	+1.9
	0.5nm,0.7s,mb3.2,baz=289,slow=6.5,SNR=6.1						
SONM	Songino Array	54.47	305	P	P	01 07 49.5	0.0
	0.7nm,0.6s,mb3.6,baz=342,slow=7.8,SNR=5.7						
BVAR	Borovoye Array	63.05	330	P	P	01 08 48.0	-0.6
	0.3nm,0.5s,mb3.4,baz=9.5,slow=9.0,SNR=5.8						

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*BJI **04** 01:13:50.0, 59.40N×136.30W, h5^{km}, mB4.5, mb4.9, Ms4.4, Msz4.1*

*IDC **04** 01:13:53.5±0.6, 59.44N×136.63W, mb4.2/16, mb1 4.5/23, mb1mx4.4/26, ML4.4/7, MS3.8/12, Ms1 3.8/12, ms1mx3.6/21, Error ellipse: s-maj=15.9km s-min=7.5km az=45.0*

*PGC **04** 01:13:54.3, 59.38N×136.33W, h5^{km}, ML5.1/3*

PGC Southeastern Alaska near British Columbia border. Felt (I) in Whitehorse, Yukon Territory.

*NEIC **04** 01:13:54.0, 59.38N×136.33W, h5^{km}, mb4.6/58, MS4.2/4, ML4.7(AEIC), MW4.8(PGC), After PGC.*

NEIC Felt [IV] at Haines, [III] at Skagway and [II] at Juneau. Also felt at Whitehorse, Yukon Territory.

*MOS **04** 01:13:54.1±0.7, 59.02N×137.63W, h33^{km}, mb4.7/4, Error ellipse: s-maj=40.5km s-min=12.6km az=95.5*

ISC 04 01:13:52.4±0.1**, 59.45N**±0.02×**136.55W**±0.03**, h5**^{km}**, (h14**^{km}±.6^{km}**:pP-P), n267,** σ**1^{s}.12**/268**, mb4.5**/72**, MS3.9**/14**, 2C-2D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESE	Bessie Mountai	1.24	134	P	Pb	01 14 13.6	-2.3
BESE				S	Sb	01 14 29.1	-2.8
PNL	Peninsula	1.47	280	P	Pn	01 14 19.5	-0.1
PNL				S	Sb	01 14 39.4	+0.8
WHY	Whitehorse	1.48	34	Pn	Pn	01 14 20.8	+1.0
WHY				Sg	Sg	01 14 40.5	-1.1
WHY				Trac		01 14 45.4	
	comp=Z,12µm,0.3s						
WHY	Whitehorse	1.48	34	P	Pn	01 14 20.7	+0.9
WHY				S	Sb	01 14 40.5	+1.5
PCA	Pinnacle	1.98	291	P	Pn	01 14 27.9	+0.9
PCA				S	Sn	01 14 56.1	+3.6
CHX	Chaix Hills	2.39	287	P	Pn	01 14 34.5	+1.6
SIT	Sitka	2.48	164	P	Pn	01 14 32.3	-1.9
SIT				S	Sn	01 15 03.5	-1.7
YAH	Yahtse	2.77	292	P	Pn	01 14 39.7	+1.4
CTGM	Chitina Glacie	2.83	305	P	Pn	01 14 39.9	+0.7
WRG	White River Gl	2.84	284	P	Pn	01 14 40.2	+1.0
CYK	Cape Yakataga	3.07	285	P	Pn	01 14 43.0	+0.5
SNH	Sunshine Point	3.26	286	P	Pn	01 14 45.8	+0.5
BALM	Baldy	3.30	301	P	Pn	01 14 45.9	+0.2
WAX	Waxell Ridge	3.33	290	P	Pn	01 14 46.7	+0.6
TGL	Tana Glacier	3.41	295	P	Pn	01 14 48.0	+0.7
DLBC	Dease Lake	3.53	104	Pn	Pn	01 14 47.6	-1.5
	30nm,0.3s,baz=291,slow=12,SNR=136						
DLBC				Pg	Pg	01 14 55.9	-7.0
	126nm,0.3s,baz=284,slow=15,SNR=74						
DLBC				Lg		01 15 41.1	
	192nm,0.3s,baz=225,slow=16,SNR=6.9						
DLBC	Dease Lake	3.53	104	Pn	Pn	01 14 47.8	-1.3
DLBC				Pg	Pg	01 14 55.2	-7.7
DLBC				Sg	Sg	01 15 40.0	-10
DLBC				Trac		01 15 49.4	
	comp=Z,3µm,0.7s						
CRQM	Cirque	3.55	295	P	Pn	01 14 49.1	-0.2
HMT	Hamilton	3.98	286	P	Pn	01 14 56.1	+0.5
KAIM	Kayak Island	4.01	280	P	Pn	01 14 56.0	+0.1
GLB	Gilahina Butte	4.12	302	P	Pn	01 14 57.4	0.0
RAGM	Ragged Mountai	4.20	286	P	Pn	01 14 59.1	+0.6
BMRM	Bremner River	4.30	294	P	Pn	01 14 59.8	-0.2
BCA3	Beaver Creek A	4.42	327	P	Pn	01 15 01.7	-0.1
SGAM	Sherman Glacie	4.48	287	P	Pn	01 15 03.0	+0.6
EYAK	Cordova Ski Ar	4.75	287	P	Pn	01 15 06.2	-0.1
DAWY	Dawson	4.83	345	Pn	Pn	01 15 07.8	+0.3
DAWY				Pg	Pg	01 15 22.9	-5.9
DAWY				Sg	Sg	01 16 27.1	-6.0
DAWY				Trac		01 16 30.9	
	comp=Z,1µm,0.5s						
DAWY	Dawson	4.83	345	P	Pn	01 15 07.7	+0.2
DIV	Divide	4.89	294	P	Pn	01 15 09.7	+1.3
MID	Middleton Isla	5.00	274	P	Pn	01 15 09.7	-0.2
KLU	Klutina	5.07	298	P	Pn	01 15 10.9	0.0
HIN	Hinchinbrook I	5.10	285	P	Pn	01 15 10.6	-0.6
VLZ	Valdez	5.15	293	P	Pn	01 15 12.7	+0.6
PAX	Paxson	5.57	313	P	Pn	01 15 18.1	+0.1
LTI	Latouche	5.75	281	P	Pn	01 15 19.2	-1.2
NDB	Naden	5.85	159	Pn	Pn	01 15 18.9	-3.1
NDB				Trac		01 17 08.1	
	comp=Z,270nm,0.8s						
THY	Trims Highway	5.94	316	P	Pn	01 15 22.1	-1.2
PWL	Port Wells	6.05	289	P	Pn	01 15 24.3	-0.5
RUBB	Prince Rupert	6.18	143	Pn	Pn	01 15 23.2	-3.4
RUBB				Pg	Pg	01 15 42.6	-13
RUBB				Sg	Sg	01 17 03.3	-15
RUBB				Trac		01 17 18.7	
	comp=Z,483nm,0.8s						
KNK	Knik Glacier	6.21	294	P	Pn	01 15 27.4	+0.3
SML	Sawmill	6.26	297	P	Pn	01 15 28.1	+0.3
MPA	Moose Pass	6.52	285	P	Pn	01 15 30.2	-1.1
GHO	Glory Hole Cre	6.52	296	P	Pn	01 15 31.3	0.0
SEW	Seward	6.55	281	P	Pn	01 15 30.3	-1.4
PMR	Palmer	6.57	294	*e*P	Pn	01 15 27.9	-4.2
VIB	Van Inlet	6.60	159	Pn	Pn	01 15 28.9	-3.5
VIB				Trac		01 17 24.4	
	comp=Z,95nm,0.7s						
PMS	Palmer South	6.70	291	*e*P	Pn	01 15 34.0	0.0
RC01	Rabbit Creek A	6.76	290	P	Pn	01 15 34.1	-0.6
MOBC	Moresby Island	6.78	156	Pn	Pn	01 15 31.9	-3.1
MOBC				Sg	Sg	01 17 19.5	-19
MOBC				Trac		01 17 30.9	
	comp=Z,116nm,0.8s						
BNAB	Bonilla	6.81	149	Pn	Pn	01 15 31.6	-3.7
BNAB				Trac		01 17 41.9	
	comp=Z,64nm,0.6s						
PWA	Palmer West	6.93	294	*e*P	Pn	01 15 37.8	+0.6
SLKM	Skilak Lake	6.94	285	*e*Pn	Pn	01 15 35.4	-1.9
FIB	Fire Island	6.98	290	*e*Pn	Pn	01 15 35.8	-2.1
HDA	Harding Lake	6.98	320	P	Pn	01 15 36.2	-1.7
FNBB	Fort Nelson	6.99	89	Pn	Pn	01 15 35.5	-2.4
FNBB				Trac		01 17 35.6	
	comp=Z,252nm,0.8s						
IL1	Eielson Array	7.21	322	P	Pn	01 15 39.2	-1.8
ILAR	Eielson Array	7.21	322	Pn	Pn	01 15 38.7	-2.4
	0.8nm,0.3s,baz=140,slow=13,SNR=39						
ILAR				Lg		01 17 43.9	
	5.2nm,0.3s,baz=126,slow=25,SNR=5.1						
ILAR				LR	LR	01 18 45.8	
	comp=Z,642nm,20.5s,baz=121,slow=41						
MCK	McKinley	7.30	311	P	Pn	01 15 43.9	+1.5
CUT	Chulitna	7.31	300	P	Pn	01 15 43.1	+0.6
BNB	Barry Inlet	7.39	157	Pn	Pn	01 15 39.5	-4.1
BNB				Trac		01 17 50.3	
	comp=Z,85nm,0.8s						
CNPM	China Poot	7.48	277	P	Pn	01 15 43.9	-0.9
COLA	College	7.58	321	*e*Pn	Pn	01 15 41.4	-4.9
TRF	Thorofare Moun	7.70	307	P	Pn	01 15 48.5	+0.5
SPU	Mount Spurr	7.89	289	*e*Pn	Pn	01 15 49.4	-1.2
KTH	Kantishna Hill	8.01	307	P	P	01 15 52.5	+0.3
FSB	Fort Saint Jam	8.33	121	Pn	P	01 15 53.1	-3.6
FSB				Pg	P	01 16 24.0	+27
FSB				Trac		01 18 28.2	
	comp=Z,246nm,0.9s						
BMBC	Bull Mountain	8.43	108	Pn	P	01 15 56.0	-2.1
BMBC				Sg	Sg	01 18 10.5	-23
BMBC				Trac		01 18 27.7	
	comp=Z,397nm,1.1s						
KDAK	Kodiak Island	8.53	266	P	P	01 15 57.4	-2.1
AUL	Augustine Lava	8.61	277	P	P	01 16 00.1	-0.5
BBB	Bella Bella	8.69	143	Pn	P	01 16 00.8	-0.8
	4.1nm,0.3s,baz=319,slow=12,SNR=18						
BBB				Lg		01 18 24.6	
	2.4nm,0.3s,baz=191,slow=6.3,SNR=6.2						
BBB				LR	LR	01 18 59.3	
	comp=Z,620nm,20.5s,baz=306,slow=35						
BBB	Bella Bella	8.69	143	Pn	P	01 15 58.6	-3.1
BBB				Sg	Sg	01 18 21.3	-20
BBB				Trac		01 18 32.6	
	comp=Z,73nm,0.8s						
BBB	Bella Bella	8.69	143	P	P	01 15 58.5	-3.2
BM3	Burnt Mountain	8.77	339	P	P	01 16 02.2	-0.6
INK	Inuvik	8.99	7	Pn	P	01 16 05.4	-0.6
	1.1nm,0.3s,baz=199,slow=13,SNR=15						
INK				LR	LR	01 19 59.9	
	comp=Z,342nm,18.2s,baz=9.6,slow=41						
INK	Inuvik	8.99	7	P	P	01 16 03.5	-2.4
INK				Sg	Sg	01 18 35.6	-16
INK				Trac		01 18 51.3	
	comp=Z,129nm,0.8s						
INK	Inuvik	8.99	7	*e*Pn	P	01 16 04.7	-1.3
SVW	Sparrevohn	9.61	288	P	P	01 16 13.1	-1.2
COLD	Coldfoot	9.90	328	P	P	01 16 18.2	0.0
TT01	Tatalina	10.01	299	P	P	01 16 17.6	-2.1
HOLB	Holberg	10.05	148	P	P	01 16 16.1	-4.3
HOLB				Trac		01 19 23.2	
	comp=Z,104nm,1.2s						
PHC	Port Hardy	10.19	145	P	P	01 16 19.1	-3.1
PHC				Sg	S	01 19 07.0	+49
PHC				Trac		01 19 54.0	
	comp=Z,26nm,0.8s						
IM3	Indian Mountai	10.23	317	P	P	01 16 22.5	-0.3
IMA	Indian Mountai	10.25	318	*e*P	P	01 16 23.6	+0.5
	14nm,1.0s						
MAYB	Maynard	10.54	145	P	P	01 16 18.3	-8.7
MAYB				Trac		01 19 50.2	
	comp=Z,15nm,0.7s						
BPBC	Brooks Peninsu	10.59	148	P	P	01 16 25.2	-2.5
BPBC				Trac		01 19 50.1	
	comp=Z,71nm,1.0s						
NCRB	Newcastle Ridg	10.87	142	Trac		01 19 35.4	
	comp=Z,178nm,1.6s						
WOSB	Woss	10.93	144	Trac		01 19 43.0	
	comp=Z,151nm,1.3s						
EDB	Eliza Dome	11.02	146	P	P	01 16 32.4	-1.3
YKA	Yellowknife Ar	11.07	65	Pn	P	01 16 30.9	-3.4
	4.4nm,0.3s,baz=261,slow=13,SNR=69						
YKA				Lg		01 19 35.7	
	0.2nm,0.3s,baz=256,slow=24,SNR=4.2						
YKA	Yellowknife Ar	11.07	65	Pn	P	01 16 30.9	-3.4
YKA				Lg		01 19 35.7	
YKW3	Yellowknife Ar	11.07	64	P	P	01 16 31.0	-3.3
YKW3				P		01 16 31.1	
YKW3				Sg	S	01 19 35.1	+55
YKW3				Sg	S	01 19 35.3	+56
YKW3				Trac		01 19 44.3	
	comp=Z,395nm,1.5s						
YKW3				Trac		01 19 54.0	
	comp=Z,63nm,0.8s						
YKW3	Yellowknife Ar	11.07	64	*e*P	P	01 16 31.0	-3.3
GDR	Gold River	11.43	143	Trac		01 19 53.3	
	comp=Z,33nm,1.1s						
BTB	Buttle Lake	11.86	143	Trac		01 20 07.0	
	comp=Z,40nm,0.9s						
TXB	Texada	12.01	139	Trac		01 20 13.6	
	comp=Z,148nm,1.3s						
LLLB	Lillooet	12.19	130	P	P	01 16 48.1	-1.4
LLLB				Trac		01 20 42.6	
	comp=Z,30nm,1.0s						
SHB	Sechelt	12.29	138	Trac		01 20 23.2	
	comp=Z,45nm,0.9s						
OZB	Mount Ozzard	12.32	144	Trac		01 20 30.4	
	comp=Z,21nm,1.0s						
WPB	Watts Point	12.47	136	Trac		01 20 45.8	
	comp=Z,174nm,1.5s						
MGB	Mount Grey	12.53	141	Trac		01 20 23.6	
	comp=Z,88nm,1.5s						
SNB	Saturna Island	13.23	138	P	P	01 17 04.5	+1.1
CMW	Cultus Mountai	13.89	136	P	P	01 17 13.6	+1.5
RPW	Rockport	14.09	135	*e*P	P	01 17 15.6	+1.0
PNT	Penticton	14.11	129	Trac		01 21 36.4	
	comp=Z,32nm,1.1s						

JCW	Jim Creek	14.16	136	P	P	01 17 17.6	+2.1
EDM	Edmonton	14.25	106	P	P	01 17 16.1	-0.5
RMW	Rattlesnake Mo	14.83	138	eP	P	01 17 25.3	+1.0
NLW	Nelson Butte	14.83	133	eP	P	01 17 25.6	+1.3
GSM	Grass Mountain	15.05	138	P	P	01 17 28.4	+1.1
BMW	Boistfort Moun	15.23	143	P	P	01 17 30.7	+1.2
FMW	Mount Fremont	15.33	138	P	P	01 17 32.1	+1.2
LON	Longmire	15.44	139	eP	P	01 17 33.0	+0.7
RVW	Rose Valley	15.67	142	P	P	01 17 36.8	+1.6
SHW	Mount Saint He	15.79	141	eP	P	01 17 38.7	+1.8
DPW	Davenport	15.83	129	eP	P	01 17 37.7	+0.5
NEW	Newport	15.95	126	Pn	P	01 17 39.2	+0.4
	0.1nm,0.3s,baz=347,slow=8.2,SNR=14						
NEW				Lg		01 22 16.2	
	0.1nm,0.3s,baz=21,slow=8.9,SNR=5.4						
NEW				LR	LR	01 23 47.1	
	comp=Z,116nm,18.2s,baz=320,slow=37						
NEW	Newport	15.95	126	eP	P	01 17 38.8	-0.1
	30nm,1.3s						
HAWA	Hanford	16.55	135	eP	P	01 17 47.0	+0.5
	27nm,1.5s						
VGB	Gordon Butte	16.87	139	eP	P	01 17 52.0	+1.4
SSOR	Sweet Springs	16.92	143	eP	P	01 17 51.1	-0.1
UNV	Unalaska Valle	17.30	264	eP	P	01 17 52.1	-3.8
	97nm,0.9s						
LNOR	Lincton Mounta	17.45	133	P	P	01 17 58.5	+0.7
HSO	Harness Mounta	17.95	147	eP	P	01 18 04.8	+0.7
MSO	Missoula	18.41	123	eP	P	01 18 09.8	-0.1
	32nm,1.3s						
CHMT	Chamberlain Mo	18.64	122	eP	P	01 18 12.4	-0.3
HUMO	Hull Mountain	18.84	147	eP	P	01 18 15.1	0.0
	15nm,1.4s						
NIKO	Nikolski	18.95	264	eP	P	01 18 16.2	-0.2
FFC	Flin Flon	19.22	89	eP	P	01 18 18.2	-1.3
	30nm,0.8s						
HRY	Holter Researc	19.42	120	eP	P	01 18 21.1	-0.9
KRMB	Red Mountain	19.60	151	eP	P	01 18 20.5	-3.5
YBH	Yreka Blue Hor	19.72	148	P	P	01 18 25.0	-0.3
	0.3nm,0.3s,baz=8.5,slow=12,SNR=5.1						
YBH	Yreka Blue Hor	19.72	148	eP	P	01 18 25.6	+0.2
	54nm,1.9s						
MOD	Modoc	20.26	143	P	P	01 18 28.5	-2.7
	4.2nm,0.5s						
WVOR	Wild Horse Val	20.32	139	eP	P	01 18 29.8	-1.9
	15nm,1.3s						
BOZ	Bozeman (W)	20.34	122	eP	P	01 18 30.8	-1.2
	31nm,1.3s						
MCMT	McKenzie Canyo	20.47	125	eP	P	01 18 32.8	-0.5
HLID	Hailey	20.88	130	eP	P	01 18 37.4	-0.2
	36nm,1.4s						
QLMT	Earthquake Lak	21.07	123	eP	P	01 18 39.3	-0.3
RES	Resolute Bay	21.54	29	Trac		01 18 54.1	
	comp=Z,11nm,0.6s						
RES	Resolute Bay	21.54	29	eP	P	01 18 42.9	-1.2
	17nm,0.7s,mb4.6						
FCC	Fort Churchill	21.55	73	P	P	01 18 44.4	+0.1
FCC	Fort Churchill	21.55	73	eP	P	01 18 42.4	-2.0
	34nm,1.1s,mb4.7						
LAO	LASA Array	22.02	112	eP	P	01 18 48.5	-0.6
	27nm,0.9s,mb4.7						
BEKR	Beckwourth	22.11	145	eP	P	01 18 50.6	+0.6
	6.4nm,1.0s,mb4.0						
REDW	Red Top Meadow	22.50	124	eP	P	01 18 51.9	-2.0
HVU	Hansel Valley	23.03	130	eP	P	01 19 00.4	+1.4
BW06	Boulder Array	23.53	123	eP	P	01 19 05.3	+1.4
	11nm,1.2s,mb4.2						
PDAR	Pinedale Array	23.54	123	P	P	01 19 05.0	+1.0
	7.1nm,1.1s,mb4.0,baz=326,slow=5.3,SNR=29						
PDAR				LR	LR	01 27 54.8	
	comp=Z,205nm,18.2s,MS3.6,baz=343,slow=36						
SPUT	South Promonto	23.56	130	eP	P	01 19 05.3	+1.2
HWUT	Hardware Ranch	23.66	128	eP	P	01 19 07.1	+2.0
	26nm,1.4s,mb4.5						
BGU	Big Grassy Mou	23.66	131	eP	P	01 19 07.3	+2.1
CMB	Columbia Colle	23.81	147	eP	P	01 19 06.9	+0.3
NVAR	Mina Array Bea	24.05	143	P	P	01 19 10.5	+1.5
	3.2nm,0.8s,mb3.8,baz=324,slow=7.8,SNR=11						
MNV	Mina	24.09	143	eP	P	01 19 09.9	+0.5
	26nm,1.4s,mb4.5						
TCUT	Toone Canyon	24.14	128	eP	P	01 19 11.4	+1.7
CTU	Camp Tracy	24.36	129	eP	P	01 19 12.8	+0.8
DUG	Dugway	24.38	132	eP	P	01 19 12.9	+0.7
	28nm,1.0s,mb4.7						
JLU	Jordanelle	24.56	129	eP	P	01 19 14.8	+1.0
TPH	Tonopah	24.71	141	eP	P	01 19 16.0	+0.5
	8.8nm,0.8s,mb4.3						
ULM	Lac du Bonnet	24.79	94	P	P	01 19 17.4	+1.3
	2.4nm,0.7s,mb3.9,baz=312,slow=12,SNR=2.8						
ULM				LR	LR	01 30 04.3	
	comp=Z,85nm,19.0s,MS3.3,baz=317,slow=39						
DAU	Daniels Canyon	24.80	129	eP	P	01 19 18.0	+1.8
MTUM	Tungsten Hills	24.96	144	eP	P	01 19 18.9	+1.1
MPU	Maple Canyon	24.99	130	eP	P	01 19 19.6	+1.6
MVU	Marysvale	26.08	133	eP	P	01 19 28.7	+0.4
	13nm,1.1s,mb4.4						
MSU	Marysvale	26.08	133	eP	P	01 19 28.6	+0.2
NEN	Nelson	27.70	140	eP	P	01 19 43.8	+0.6
FX1	Attu Island--F	28.16	279	LR	LR	01 30 48.5	
	comp=Z,6.6nm,21.8s,baz=232,slow=36						
WUAZ	Wupatki	29.03	134	eP	P	01 19 54.9	-0.2
	8.3nm,1.0s,mb4.4						
CBKS	Cedar Bluff	31.11	115	P	P	01 20 13.3	-0.4
FRB	Frobisher Bay	31.24	53	P	P	01 20 13.7	-0.7
	6.9nm,0.7s,mb4.6,baz=281,slow=6.7,SNR=4.4						
LAZ	Ladron	31.63	129	eP	P	01 20 18.2	0.0
LENM	Lemitar	31.90	129	eP	P	01 20 21.0	+0.4
TUC	Tucson	32.13	136	eP	P	01 20 22.6	0.0
	15nm,1.3s,mb4.7						
GDL2	Guadalupe Moun	34.67	127	eP	P	01 20 44.6	-0.1
WMOK	Wichita Mounta	34.90	118	eP	P	01 20 45.9	-0.7
	9.1nm,0.8s,mb4.8						
PET	Petropavlovsk	35.26	289	eP	P	01 20 44.5	-5.0
PET				eS	S	01 26 13.7	-9.2
PET				MLR	MLR		
	comp=Z,200nm,18.0s,MS3.9						
SCHQ	Schefferville	36.52	66	LR	LR	01 36 16.2	
	comp=Z,261nm,19.0s,MS4.0,baz=288,slow=37						
SCHQ	Schefferville	36.52	66	eP	P	01 20 59.8	-0.3
	comp=Z,7.7nm,1.0s,mb4.5						
SUMG	Summit	37.06	30	eP	P	01 21 05.2	+0.7
	comp=Z,7.8nm,1.0s,mb4.5						
LTX	Lajitas	37.48	129	eP	P	01 21 08.4	0.0
	comp=Z,12nm,1.4s,mb4.5						
TXAR	Lajitas Array	37.48	129	P	P	01 21 09.2	+0.8
	comp=Z,1.4nm,0.8s,mb3.8,baz=329,slow=7.3,SNR=10						
TXAR				LR	LR	01 37 45.1	
	comp=Z,385nm,18.3s,MS4.2,baz=295,slow=38						
DAG	Danmarks Havn	38.60	19	⇓iP	P	01 21 18.0	+0.5
	comp=Z,4.2nm,0.4s,mb4.5						
KEV	Kevo	50.56	7	ep	P	01 22 54.6	+1.6
	comp=Z,0.4nm,0.4s,mb3.7						
ARCES	ARCESS Array B	50.67	8	P	P	01 22 53.9	0.0
	comp=Z,3.2nm,0.7s,mb4.3,slow=7.3,SNR=7.8						
ARCES				LR	LR	01 45 44.1	
	comp=Z,60nm,18.3s,MS3.6,baz=91,slow=38						
ARCES	ARCESS Array B	50.67	8	P	P	01 22 53.9	0.0
ARCES				LR	LR	01 45 44.1	
MDJ	Mudanjiang	54.75	299	P	P	01 23 22.6	-2.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,61nm,3.4s						
MDJ				LR	LR		
	comp=N,124nm,29.1s,MS3.9						
MDJ				LR	LR		
	comp=E,94nm,27.4s,MS3.9						
MDJ				LR	LR		
	comp=Z,50nm,17.7s						
CN2	Changchun	57.22	301	eP	P	01 23 43.1	+0.6
CN2				eAP	pP	01 23 47.0	+3.0
CN2				eS	S	01 31 35.1	-1.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.6						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.3						
NB2	NORSAR Subarra	57.27	18	P	P	01 23 42.0	-0.6
	comp=Z,0.4nm,0.7s,mb3.6,baz=343,slow=7.4						
NOA	NORSAR Array B	57.27	18	P	P	01 23 42.1	-0.5
	comp=Z,2.5nm,0.7s,mb4.3,baz=344,slow=7.2,SNR=17						
JOF	Joensuu	57.61	7	ep	P	01 23 44.8	-0.1
	comp=Z,1.4nm,0.6s,mb4.2						
JOF	Joensuu	57.61	7	eP	P	01 23 44.8	-0.1
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	FINESS Array B	58.70	10	P	P	01 23 52.2	-0.3
	comp=Z,2.3nm,0.8s,mb4.3,slow=5.7,SNR=14						
FINES				LR	LR	01 49 14.3	
	comp=Z,60nm,18.4s,MS3.8,baz=96,slow=36						
FINES	FINESS Array B	58.70	10	P	P	01 23 52.2	-0.3
FINES				LR	LR	01 49 14.3	
ESK	Eskdalemuir	59.68	29	P	P	01 23 59.0	-0.4
	comp=Z,6.1nm,0.8s,mb4.7						
ZAK	Zakamensk	60.26	320	eP	P	01 23 55.3	-8.2
ZAK				e		01 24 03.5	
ZAK				e		01 24 45.2	
SOKR	Solikamsk	60.86	352	⇑iP	P	01 24 07.6	+0.1
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
SONM	Songino Array	61.40	317	P	P	01 24 11.7	+0.4
	comp=Z,1.3nm,0.6s,mb4.2,baz=32,slow=9.1,SNR=7.9						
NVS	Novosibirsk	61.70	335	eP	P	01 24 11.4	-1.8
ARU	Arti	63.85	351	eP	P	01 24 26.6	-0.7
ARU	Arti	63.85	351	eP	P	01 24 26.4	-0.8
	comp=Z,15nm,0.9s,mb5.0						
OBN	Obninsk	65.66	4	eP	P	01 24 38.9	-0.1
OBN				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
BRVK	Borovoye	65.78	343	eP	P	01 24 40.2	+0.3
ROSF	Rostrenen	66.01	32	eP	P	01 24 41.5	+0.1
	comp=Z,7.5nm,0.9s,mb4.4						
ZRNK	Zerenda	66.08	343	eP	P	01 24 40.9	-0.8
	comp=Z,10nm,0.8s,mb4.9						
SGMF	Saint Gilles	66.28	32	eP	P	01 24 42.7	-0.4
BAIF	Baives	66.28	26	eP	P	01 24 43.0	-0.1
	comp=Z,9.0nm,0.9s,mb4.5						
FLN	La Foliniere	66.36	30	eP	P	01 24 43.5	-0.1
FLN				eR			
	comp=Z,159nm,21.8s						
GIVF	Givet	66.38	26	eP	P	01 24 43.4	-0.3
KURK	Kurchatov	66.54	336	eP	P	01 24 42.8	-2.0
	comp=Z,5.8nm,0.9s,mb4.6						
GRR	Gorron	66.60	30	eP	P	01 24 45.2	0.0
	comp=Z,8.4nm,0.7s,mb4.6						
LDF	La Druitiere	66.60	30	eP	P	01 24 45.3	+0.1
CLL	Collm	66.88	20	P	P	01 24 48.0	+1.1
CLL	Collm	66.88	20	eP	P	01 24 48.0	+1.1
MOX	Moxa	67.26	21	i P	pP	01 24 50.3	-0.6
	comp=Z,logA/T=0.8						
MOX				PP		01 25 08.0	
MOX	Moxa	67.26	21	eP	P	01 24 50.3	+1.0
MOX				e		01 25 07.5	
MOX				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
MOX	Moxa	67.26	21	eP	P	01 24 50.3	+1.0
	comp=Z,7.0nm,1.2s,mb4.6						
MOX				e		01 25 07.5	
BRG	Berggiesshubel	67.46	20	eP	P	01 24 51.8	+1.2
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRG	Berggiesshubel	67.46	20	eP	P	01 24 51.8	+1.2
	comp=Z,3.8nm,1.0s,mb4.4						
PVCC	Panska Ves	67.90	19	LM		01 57 50.0	
	comp=Z,0.2nm,6.0s						
DPC	Dobruska-Polom	68.36	18	eP	P	01 24 57.3	+1.1
DPC				LM		01 57 50.0	
	comp=Z,0.2nm,6.9s						
PRU	Pruhonice	68.42	20	eP	P	01 24 58.3	+1.7
PRU				LM		01 55 00.0	
MFF	Saint Martin d	68.44	31	eP	P	01 24 55.8	-1.0
	comp=Z,8.0nm,0.7s,mb4.5						
HAU	Haudompre	68.70	26	eP	P	01 24 58.1	-0.2
	comp=Z,4.4nm,0.7s,mb4.2						
HAU				eR			
	comp=Z,85nm,23.0s						
LOR	Lormes	68.82	28	eP	P	01 24 58.7	-0.4
	comp=Z,5.9nm,0.7s,mb4.3						
LOR				eR			
	comp=Z,143nm,21.8s						
SSF	Saint Saulge	68.93	28	eP	P	01 24 59.5	-0.3
	comp=Z,12nm,1.0s,mb4.5						
HINF	Hinteralfeld	68.99	25	eP	P	01 25 00.0	-0.1
KHC	Kasperske Hory	69.07	21	eP	P	01 25 02.8	+2.2
KHC				LM		01 53 40.0	
	comp=Z,0.1nm,24.5s						
MORC	Moravsky Berou	69.11	18	eP	P	01 25 00.3	-0.6
	comp=Z,1.6nm,0.8s,mb4.0						
OKC	Ostrava-Krasne	69.14	17	eP	P	01 25 01.2	+0.1
OKC				LM		01 54 50.0	
	comp=Z,0.1nm,7.6s						
AVF	Avril sur Loir	69.14	28	eP	P	01 25 01.3	+0.2
	comp=Z,17nm,1.1s,mb4.6						
TCF	Toulx Ste Croi	69.33	29	eP	P	01 25 01.7	-0.6
	comp=Z,11nm,1.0s,mb4.5						
GERES	GERESS Array B	69.37	21	P	P	01 25 02.4	-0.1
	comp=Z,0.9nm,0.8s,mb3.8,baz=333,slow=4.4,SNR=7.7						
SMF	Signal de Mont	69.40	28	eP	P	01 25 02.0	-0.7
	comp=Z,9.4nm,0.9s,mb4.4						
MKAR	Makanchi Array	69.44	333	P	P	01 25 03.0	+0.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=37,slow=5.8,SNR=5.9						
MKAR				LR	LR	01 59 40.0	
	comp=Z,94nm,18.1s,MS4.1,baz=16,slow=40						
SSE	Sheshan	69.59	297	P	P	01 25 04.5	+0.4
SSE				XP	sP	01 25 13.6	+7.3
SSE				S	S	01 34 12.6	+1.2
SSE				XS		01 34 22.0	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,41nm,5.2s						
SSE				LR	LR		
	comp=N,56nm,28.0s,MS3.7						
SSE				LR	LR		
	comp=E,36nm,28.9s,MS3.7						
SSE				LR	LR		
	comp=Z,47nm,19.3s						
SSE	Sheshan	69.59	297	P	P	01 25 04.5	+0.4
	comp=Z,44nm,0.7s,mb5.5						
SSE				sP	sP	01 25 13.6	+7.3
SSE				S	S	01 34 12.6	+1.2
SSE				sS		01 34 22.0	
SSE				LR	LR		
	comp=Z,50nm,19.3s,MS3.8						
AKASG	Malin Array Be	69.60	10	P	P	01 25 03.5	-0.4
	comp=Z,5.3nm,0.6s,mb4.7,baz=353,slow=5.7,SNR=18						
CABF	La Chapelle	69.95	26	eP	P	01 25 05.4	-0.7
	comp=Z,26nm,1.2s,mb4.8						
RJF	Les Rejaudoux	70.07	30	eP	P	01 25 06.2	-0.6
RJF				eR			
	comp=Z,139nm,21.6s						
LFF	La Frestale	70.21	31	eP	P	01 25 07.5	-0.2
	comp=Z,23nm,1.1s,mb4.7						
CAF	Calviac	70.57	30	eP	P	01 25 10.1	+0.3
	comp=Z,18nm,1.2s,mb4.6						
WMQ	Urumqi	70.84	328	⇑P	P	01 25 12.8	+1.3
WMQ				AP	pP	01 25 17.5	+4.4
WMQ				XP	sP	01 25 19.9	+6.3
WMQ				PCP	PcP	01 25 35.2	+2.9
WMQ				eS	S	01 34 21.8	-4.0
WMQ				PS	PS	01 34 49.9	-4.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,13nm,5.6s						
WMQ				LR	LR		
	comp=E,37nm,19.6s						
WMQ				LR	LR		
	comp=Z,73nm,22.0s,MS3.9						
LPL	La Plagne	71.14	26	eP	P	01 25 13.2	-0.1
LPG	La Plagne	71.16	26	eP	P	01 25 13.6	+0.2
	comp=Z,7.6nm,1.0s,mb4.3						
PSZ	Piszkesteto	71.27	16	eP	P	01 25 11.7	-2.4
	comp=Z,12nm,1.2s,mb4.7						
ETSF	Etsaut	71.76	33	eP	P	01 25 17.0	-0.1
	comp=Z,5.7nm,0.7s,mb4.3						
MTLF	Montolieu	72.09	30	eP	P	01 25 18.0	-1.0
	comp=Z,9.0nm,1.0s,mb4.4						
SMRF	Simiane la Rot	72.32	28	eP	P	01 25 20.2	-0.2
	comp=Z,11nm,1.0s,mb4.4						
LZH	Lanzhou	72.56	312	eP	P	01 25 22.1	+0.2
LZH				AP	pP	01 25 26.5	+3.1
LZH				XP	sP	01 25 29.0	+5.0
LZH				PP	PP	01 28 06.5	+1.3
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH	Lanzhou	72.56	312	eP	P	01 25 22.1	+0.2
	comp=Z,18nm,1.0s,mb5.0						
LZH				pP	pP	01 25 26.5	+3.1
LZH				sP	sP	01 25 29.0	+5.0
LZH				PP	PP	01 28 06.5	+1.3
SBF	Sospel	72.86	26	eP	P	01 25 23.3	-0.2
FRF	La Foret Royal	72.97	27	eP	P	01 25 23.7	-0.4
	comp=Z,18nm,1.2s,mb4.6						
EVO	Evora	73.52	40	eP	P	01 25 27.0	-0.4
	comp=Z,12nm,1.1s,mb4.4						
EVO				eR			
	comp=Z,95nm,21.2s						
ESDC	Sonseca Array	73.75	36	P	P	01 25 29.6	+0.8
	comp=Z,2.4nm,0.8s,mb4.2,baz=325,slow=5.4,SNR=10.0						
ESLA	Sonseca Array	73.75	36	eP	P	01 25 29.6	+0.8
	comp=Z,1.5nm,1.0s,mb3.9						
USP	Ospenovka	74.49	337	P	P	01 25 35.0	+2.0
	SNR=9.0						
TKM2	Tokmak 2	74.60	336	P	P	01 25 37.2	+3.6
	SNR=6.0						
CHMS	Chumysh	74.70	337	P	P	01 25 36.4	+2.2
	SNR=6.0						
EKS2	Erkin-Say	75.22	337	P	P	01 25 37.8	+0.6
	SNR=15						
AML	Almayashu	75.75	337	P	P	01 25 41.4	+1.2
	SNR=6.9						
BRTR	Keskin Array B	80.85	8	P	P	01 26 10.0	+1.8
	comp=Z,2.5nm,0.8s,mb4.2,baz=3.9,slow=5.4,SNR=11						
BRTR				LR	LR	02 03 25.9	
	comp=Z,32nm,18.5s,MS3.7,baz=125,slow=37						
MALT	Malatya	82.51	4	eP	P	01 26 18.0	+1.2
	comp=Z,4.8nm,1.1s,mb4.4						
SAML	Samuel	89.33	109	eP	P	01 26 50.7	-0.3
	comp=Z,20nm,1.2s,mb5.3						
CMAR	Chiang Mai Arr	90.24	309	P	P	01 26 56.3	+1.2
	comp=Z,1.6nm,0.6s,mb4.5,baz=9.0,slow=5.0,SNR=9.5						
LPAZ	La Paz	93.39	117	P	P	01 27 11.4	+1.7
	comp=Z,1.1nm,0.6s,mb4.5,baz=11,slow=8.7,SNR=5.4						
QSPA	South Pole Qui	149.26	180	eP	PKPdf	01 33 44.4	+6.3
SNAA	Sanae	158.00	142	⇓iPKPdf	PKPdf	01 33 48.4	-2.1
SNAA				e		01 34 22.0	

JMA 04 01:39:24.1±0.2, 23.89N×121.71E, h81^{km}, M2.7

TAP 04 01:39:26.0, 23.87N×121.61E, h32^{km}, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.41	65	P	Pn	01 39 47.4	-2.4
YOJ				eS	Sn	01 40 04.7	-2.7
IRIF	Iriomote-Funau	1.99	76	P	Pn	01 39 55.2	-2.9
IRIF				eS	Sn	01 40 19.3	-2.9
HATJ	Hateruma jima	2.02	84	P	Pn	01 39 55.4	-3.1
HATJ				S	Sn	01 40 18.8	-4.0
JKRS	Kuro-shima	2.22	80	P	Pn	01 39 58.7	-2.7
JKRS				eS	Sn	01 40 24.5	-3.6
JIJ	Ishigaki jima	2.37	78	P	Pn	01 39 59.9	-3.6
JIJ				S	Sn	01 40 26.8	-4.9
JTJ	Tarama	2.92	74	P	Pn	01 40 07.9	-3.5
JTJ				eS	Sn	01 40 41.1	-4.8

IDC 04 02:09:12.9±0.8, 25.80N×90.12E, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, ML3.7/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=39.1km s-min=15.1km az=51.0

DMN 04 02:09:17.7±0.8, 25.59N×89.57E, h10^{km}, Ml4.8/3, Error ellipse: s-maj=61.9km s-min=15.0km az=32.0

BJI 04 02:09:19.4, 26.03N×90.29E, h41^{km}, mB4.4, mb3.9, ML4.1

MOS 04 02:09:19.8±1.1, 26.04N×89.46E, h33^{km}, mb4.3/4, Error ellipse: s-maj=45.6km s-min=14.5km az=112.8

NEIC 04 02:09:21.3±1.1, 25.92N×90.26E, h62^{km}±10^{km}, mb4.2/3, Error ellipse: s-maj=9.4km s-min=8.9km az=98.0

ISC 04 02:09:12.2±0.4, 25.67N±0.04×90.10E±0.03, h10^{km}, n56, σ1^{s}23/75, mb4.1/15, 2C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	1.61	93	⇑iP	Pn	02 09 41.0	+0.1
SHL				i S	Sn	02 10 00.0	-1.8
SLGI	Shiliguri	1.83	305	⇑iP	Pn	02 09 48.5	+4.4
SLGI				i S	Sn	02 10 13.0	+5.5
CAL	Calcutta	3.51	208	e	Pn	02 10 07.3	-0.7
CAL				eS	Sn	02 10 54.1	+4.1
LSA	Lhasa	4.12	13	P	Pn	02 10 17.2	+0.5
LSA				S	Sn	02 11 05.6	0.0
LSA				Smax			
	comp=N,400nm,0.8s						
LSA				Smax			
	comp=E,600nm,0.7s						
LSA	Lhasa	4.12	13	eP	Pn	02 10 18.6	+1.9
GUN	Gumba	4.39	302	ePn	Pn	02 10 24.3	+3.8
GUN				eSn	Sn	02 11 12.6	+0.3
	comp=E,648nm,0.4s						
PKI	Pulchoki	4.61	295	ePn	Pn	02 10 26.8	+3.2
PKI				eSn	Sn	02 11 18.3	+0.4
	comp=E,366nm,0.5s						
KKN	Kakani	4.80	297	ePn	Pn	02 10 29.1	+2.7
KKN				eSn	Sn	02 11 22.8	0.0
	comp=E,283nm,0.3s						
DMN	Daman	4.87	294	ePn	Pn	02 10 30.0	+2.6
DMN				eSn	Sn	02 11 24.8	+0.3
GKN	Gorkha	5.41	297	ePn	Pn	02 10 37.6	+2.7
GKN				eSn	Sn	02 11 37.0	-1.0
	comp=E,515nm,0.4s						
KOLN	Koldanda	6.18	291	ePn	Pn	02 10 47.3	+1.5
BWNR	Bhubaneshwar	6.65	217	eP	Pn	02 10 56.6	+4.1
BWNR				eS	Sn	02 12 10.6	+1.5
BWNR				AML	AML	02 12 54.5	
	comp=E,344nm,0.4s						
BWNR				AML	AML	02 12 55.8	
	comp=N,288nm,0.4s						
PTH	Pithoragarh	9.58	296	eP	P	02 11 32.7	-0.6
PTH				eS	Sn	02 13 15.2	-7.0
CMAR	Chiang Mai Arr	10.89	129	Pn	P	02 11 49.1	-2.1
	comp=N,0.2nm,0.3s,baz=301,slow=17,SNR=2.9						
CMAR				LR	LR	02 16 35.1	
	comp=N,55nm,18.6s,baz=325,slow=40						
AGRA	Agra	11.01	281	eP	P	02 11 53.0	+0.2
AGRA				eS	S	02 13 48.9	-8.2
NGP	Nagpur	11.10	248	e	S	02 13 54.8	-4.6
DDI	Dehra Dun	11.61	296	eP	P	02 12 02.0	+0.9
BHPL	Bhopal	11.80	261	eP	P	02 12 03.2	-0.5
BHPL				eS	S	02 14 08.2	-8.3
BHPL				AML	AML	02 14 12.9	
	comp=N,38nm,0.5s						
BHPL				AML	AML	02 14 15.8	
	comp=E,40nm,0.6s						
NDI	New Delhi	11.86	288	e	P	02 12 11.5	+7.0
NDI				eS	S	02 14 08.0	-10
SONA	Sohna	11.90	285	eP	P	02 12 04.6	-0.3
SONA				eS	S	02 14 09.9	-8.9
SONA				AML	AML	02 15 47.5	
	comp=N,49nm,0.3s						
SONA				AML	AML	02 15 48.3	
	comp=E,38nm,0.3s						
AYAN	Aya Nagar	11.90	287	eP	P	02 12 03.1	-1.8
AYAN				eS	S	02 14 09.4	-9.5
KLP	Kalpa	11.94	302	eP	P	02 12 03.9	-1.6
KLP				eS	S	02 14 08.9	-11
KLP				AML	AML	02 14 27.0	
	comp=N,44nm,0.9s						
KLP				AML	AML	02 14 27.0	
	comp=E,61nm,0.9s						
KUDL	Kundal	12.40	284	eP	P	02 12 11.4	-0.3
KUDL				e		02 14 23.3	
KHET	Khetri	12.99	284	eS	S	02 14 34.1	-11
KHET				AML	AML	02 14 38.8	
	comp=N,23nm,0.5s						
KHET				AML	AML	02 14 41.8	
	comp=E,28nm,0.4s						
HYB	Hyderabad	13.52	235	i P	P	02 12 34.0	+7.3
HYB				eS	S	02 15 07.0	+9.1
HYB	Hyderabad	13.52	235	eP	P	02 12 34.0	+7.3
HYB				eS	S	02 15 07.0	+9.1
AJM	Ajmer	13.92	277	e	P	02 12 30.8	-1.2
LATR	Latur	14.48	243	e	S	02 15 17.1	-3.7
GYA	Guiyang	14.91	83	P	P	02 12 48.1	+3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
LZH	Lanzhou	15.70	45	eP	P	02 13 03.5	+8.4
	comp=Z,26nm,1.1s						
LZH				pP		02 13 10.5	
LZH				sP		02 13 13.5	

GTA	**Gaotai**	**15.95**	**28**	eP	**P**	**02 12 59.3**	**+1.0**
GTA				AP		02 13 08.1	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s						
ENH	**Enshi**	**17.72**	**71**	eP	**P**	**02 13 20.4**	**-0.3**
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**18.22**	**354**	eP	**P**	**02 13 31.0**	**+4.2**
XAN	**Xi'an**	**18.31**	**58**	P	**P**	**02 13 30.4**	**+2.3**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**21.98**	**346**	P	**P**	**02 14 07.2**	**-0.8**
	comp=Z,7.9nm,0.8s,mb4.2,baz=159,slow=10,SNR=22						
MKAR	**Makanchi Array**	**21.98**	**346**	P	**P**	**02 14 07.1**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**25.59**	**26**	P	**P**	**02 14 42.2**	**-0.7**
	comp=Z,1.1nm,0.3s,mb3.8,baz=217,slow=7.2,SNR=7.0						
KURK	**Kurchatov**	**26.52**	**344**	eP	**P**	**02 14 50.9**	**-0.8**
	comp=Z,2.8nm,0.7s,mb3.9						
ZAK	**Zakamensk**	**26.69**	**19**	eP	**P**	**02 14 57.2**	**+4.1**
VOSK	**Vostochnaya**	**30.62**	**337**	P	**P**	**02 15 28.4**	**-0.1**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**31.08**	**337**	P	**P**	**02 15 31.9**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.8,baz=141,slow=9.6,SNR=6.8						
ZRNK	**Zerenda**	**31.52**	**335**	P	**P**	**02 15 36.0**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
ZRNK	**Zerenda**	**31.52**	**335**	eP	**P**	**02 15 36.3**	**-0.2**
AB31	**Akbulak array**	**33.21**	**323**	eP	**P**	**02 15 51.8**	**+0.6**
BRTR	**Keskin Array B**	**48.80**	**301**	P	**P**	**02 17 59.0**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.9,baz=126,slow=11,SNR=4.6						
AKASG	**Malin Array Be**	**52.28**	**315**	P	**P**	**02 18 24.4**	**-1.4**
	comp=Z,3.5nm,0.7s,mb4.4,baz=82,slow=5.7,SNR=7.1						
JOF	**Joensuu**	**53.34**	**331**	ep	**P**	**02 18 32.6**	**-1.0**
	comp=Z,1.0nm,0.3s,mb4.2						
JOF	**Joensuu**	**53.34**	**331**	eP	**P**	**02 18 32.6**	**-1.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**55.41**	**328**	P	**P**	**02 18 48.3**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=101,slow=9.7,SNR=8.7						
ARCES	**ARCESS Array B**	**57.36**	**338**	P	**P**	**02 19 02.2**	**-0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=107,slow=7.1,SNR=7.1						
ARCES	**ARCESS Array B**	**57.36**	**338**	P	**P**	**02 19 02.2**	**-0.4**
GERES	**GERESS Array B**	**62.38**	**314**	P	**P**	**02 19 37.4**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=73,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**62.47**	**132**	P	**P**	**02 19 39.0**	**+0.7**
	comp=Z,2.0nm,0.4s,mb4.6,baz=323,slow=6.9,SNR=14						
NB2	**NORSAR Subarra**	**62.55**	**327**	P	**P**	**02 19 36.9**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.2,baz=86,slow=6.5						
NOA	**NORSAR Array B**	**62.55**	**327**	P	**P**	**02 19 37.3**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.2,baz=86,slow=6.7,SNR=9.6						
ASAR	**Alice Springs**	**64.83**	**135**	P	**P**	**02 19 54.9**	**+1.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=317,slow=6.3,SNR=14						

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*CASC **04** 02:15:02.4±1.9, 12.46N×88.93W, h14^{km}±7^{km}, MD3.9*

ISC 04 02:14:60.0±1.3**, 12.40N**±0.04×**88.95W**±0.04**, h4**^{km}±9^{km}**,**
n25,σ**0**^{s}**76**/39**, 10C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**1.21**	**5**	⇓eP	**Pb**	**02 15 22.7**	**-0.5**
SNVI				eS	**Sb**	**02 15 40.8**	**+1.6**
VSM	**San Miguel**	**1.22**	**33**	⇑eP	**Pb**	**02 15 23.7**	**+0.4**
VSM				eS	**Sb**	**02 15 39.0**	**-0.3**
LFRS	**El Faro**	**1.23**	**355**	⇑eP	**Pb**	**02 15 22.8**	**-0.6**
LFRS				eS	**Sb**	**02 15 39.6**	**+0.2**
BLLM	**Bellamira**	**1.25**	**34**	⇑eP	**Pb**	**02 15 23.8**	**0.0**
LCBS	**La Ceiba**	**1.25**	**359**	⇑eP	**Pb**	**02 15 23.1**	**-0.8**
LBRS	**Las Brisas**	**1.34**	**356**	⇓eP	**Pb**	**02 15 24.2**	**-1.2**
BOQS	**Boqueron**	**1.37**	**346**	⇑eP	**Pb**	**02 15 25.3**	**-0.6**
BOQS				eS	**Sb**	**02 15 44.0**	**+0.4**
CNCH	**Conchagua**	**1.40**	**51**	⇑eP	**Pb**	**02 15 26.1**	**-0.2**
CNCH				eS	**Sb**	**02 15 43.4**	**-1.0**
CAHU	**Cacacuatique**	**1.54**	**28**	⇓eP	**Pn**	**02 15 28.8**	**+0.3**
CAHU				eS	**Sb**	**02 15 49.4**	**+0.7**
SBLS	**San Blas**	**1.58**	**335**	⇑eP	**Pn**	**02 15 28.3**	**-0.6**
SBLS				eS	**Sb**	**02 15 50.8**	**+1.1**
SNJE	**San Jose**	**1.60**	**336**	⇓eP	**Pn**	**02 15 28.8**	**-0.4**
RTR	**El Retiro**	**1.64**	**336**	⇓eP	**Pn**	**02 15 29.6**	**-0.2**
RTR				eS	**Sb**	**02 15 51.3**	**-0.2**
RBDL	**Robledal**	**1.85**	**337**	⇓eP	**Pn**	**02 15 32.9**	**0.0**
RBDL				eS	**Sn**	**02 15 56.8**	**-0.3**
PYN	**Poneloya**	**1.88**	**90**	⇓eP	**Pn**	**02 15 33.8**	**+0.5**
LEON	**Leon**	**2.01**	**89**	eP	**Pn**	**02 15 35.8**	**+0.7**
TEL3	**Telica 3**	**2.06**	**85**	⇑eP	**Pn**	**02 15 36.0**	**+0.2**
TELN	**Telica**	**2.08**	**84**	⇑eP	**Pn**	**02 15 37.6**	**+1.5**
MIRN	**Miramar**	**2.18**	**89**	eP	**Pn**	**02 15 37.5**	**-0.1**
CNGN	**Cerro Negro**	**2.20**	**87**	eP	**Pn**	**02 15 37.6**	**-0.2**
COPN	**Copaltepe**	**2.31**	**95**	eP	**Pn**	**02 15 38.9**	**-0.5**
MGAN	**Managua**	**2.65**	**95**	eP	**Pn**	**02 15 45.3**	**+1.0**
MGAN				eS	**Sn**	**02 16 15.3**	**-2.0**
TICN	**Ticuantepe**	**2.68**	**97**	eP	**Pn**	**02 15 44.6**	**-0.1**
TICN				eS	**Sn**	**02 16 17.9**	**-0.2**
PRS1	**Puriscal**	**5.14**	**117**	eP	**Pn**	**02 16 19.6**	**-0.1**
PRS1				eS	**Sn**	**02 17 19.8**	**-0.5**
LCR2	**La Lucha 2**	**5.52**	**118**	eP	**Pn**	**02 16 24.8**	**-0.2**
LCR2				eS	**Sn**	**02 17 29.2**	**-0.7**
URSC	**Urasca**	**5.67**	**116**	⇑eP	**Pn**	**02 16 28.6**	**+1.4**
URSC				eS	**Sn**	**02 17 35.3**	**+1.6**

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*BGS **04** 03:00:51.6±1.8, 35.47N×28.91E, h10^{km}, mb5.4*

*PDG **04** 03:00:55.2±0.2, 35.81N×28.17E, h9^{km}±1^{km}*

*BJI **04** 03:01:01.0, 36.75N×27.07E, h10^{km}, mB5.5, mb5.2, Ms5.4, Msz5.1*

*MOS **04** 03:01:05.8±1.1, 36.88N×27.75E, h10^{km}, mb5.4/44, MS4.9/35, Error ellipse: s-maj=6.6km s-min=3.4km az=99.6*

*HRVD **04** 03:01:07.6±0.2, 36.80N×27.88E, h12^{km}, MW5.5/72, Centroid moment Tensor Solution. LP body waves: s61,c115;Mantle waves: s72,c165; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-2.34±.03; M$_{\theta\theta}$2.30±.03; M$_{\phi\phi}$0.04±.03; M$_{r\theta}$0.43±.10; M$_{\theta\phi}$0.49±.03; M$_{\phi r}$-0.06±.10; Best double couple: M$_{0}$2.41×10^{17} NP1: φ$_{s}$75°, δ40°, λ-95°. NP2:φ$_{s}$262°, δ50°, λ-85°. Principal axes: T 2.44, Plg5°, Azm349°; N -.05, Plg3°, Azm79°; P -2.38, Plg84°, Azm204°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MED_RC **04** 03:01:07.6±0.1, 36.76N×27.82E, h15^{km}, MW5.5/40, Moment Tensor Solution. Body waves: s40,c6; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.81±.02; M$_{\theta\theta}$1.56±.02; M$_{\phi\phi}$0.25±.02; M$_{r\theta}$1.45±.05; M$_{\theta\phi}$0.39±.01; M$_{\phi r}$-0.31±.06; Best double couple: M$_{0}$2.27×10^{17} NP1: φ$_{s}$63°, δ28°, λ-115°. NP2:φ$_{s}$271°, δ65°, λ-77°. Principal axes: T 2.13, Plg19°, Azm351°; N .28, Plg11°, Azm86°; P -2.41, Plg67°, Azm204°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **04** 03:01:07, 36.83N×27.82E, h9^{km}, Mw5.6/30, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-2.89; M$_{\theta\theta}$2.82; M$_{\phi\phi}$0.08; M$_{r\theta}$1.40; M$_{\theta\phi}$0.68; M$_{\phi r}$-0.24; Best double couple: M$_{0}$3.26×10^{17} NP1:φ$_{s}$267°, δ58°, λ-79°. NP2:φ$_{s}$67°, δ34°, λ-106°. Principal axes: T 3.26, Plg12°, Azm349°; N .005, Plg9°, Azm81°; P -3.266, Plg75°, Azm207°;*

*NEIC **04** 03:01:07.6±0.2, 36.83N×27.82E, h10^{km}, mb5.1/147, MS5.2/93, MW5.5, ML5.4(ATH) Error ellipse: s-maj=3.1km s-min=2.2km az=199.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.93; M$_{\theta\theta}$1.71; M$_{\phi\phi}$0.22; M$_{r\theta}$0.37; M$_{\theta\phi}$-0.11; M$_{\phi r}$0.25; Best double couple: M$_{0}$1.9×10^{17} NP1:φ$_{s}$101°, δ40°, λ-79°. NP2:φ$_{s}$267°, δ51°, λ-99°. Principal axes: T 1.75, Plg6°, Azm3°; N .25, Plg7°, Azm273°; P -1.99, Plg81°, Azm132°;*

NEIC Fifteen people injured at Bodrum, Turkey. Felt at Akyaka, Datca, Didim, Fethiye, Gocek, Marmaris and Mugla, Turkey. Also felt on Kos and Rhodes.

*ATH **04** 03:01:07.6, 36.92N×27.70E, h20^{km}±2^{km}, MD5.1/12, ML5.4*

*THE **04** 03:01:08.1, 36.90N×27.77E, h10^{km}, ML5.4*

*CSEM **04** 03:01:08.9, 36.84N×27.71E, h30^{km}, mb5.2*

*IGIL **04** 03:01:09.5, 36.80N×27.70E, h30^{km}, MS5.1*

*ISK **04** 03:01:09.0, 37.09N×27.65E, h19^{km}, ML5.4*

*NIC **04** 03:01:10.6±0.4, 36.89N×27.62E, h30^{km}, mb5.6, ML5.5, MW4.5, Earthquake Dodecanese Islands, Greece 65 km NW Rodhos.*

*IDC **04** 03:01:10.6±2.7, 37.02N×27.68E, h32^{km}±20^{km}, mb4.8/22, mb1 4.9/32, mb1mx4.9/33, ML4.1/9, MS5.0/24, Ms1 5.0/24, ms1mx4.9/29, Error ellipse: s-maj=10.8km s-min=10.5km az=89.0*

ISC 04 03:01:05.9±0.1**, 36.84N**±0.01×**27.77E**±0.01**, h10**^{km}**,**
(h16^{km}±1.6^{km}**:pP-P), n831,**σ**1**^{s}**20**/859**, mb5.2**/177**,**
MS5.1/134**, 41C-43D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.35**	**311**	⇑iP	**Pg**	**03 01 14.0**	**+0.9**
BDRM				i S	**Sg**	**03 01 18.9**	**+1.1**
MLSB	**Milas**	**0.46**	**1**	i PG	**Pg**	**03 01 14.9**	**-0.3**
MLSB	**Milas**	**0.46**	**1**	Pg	**Pg**	**03 01 15.1**	**-0.1**
MLSB				Sg	**Sg**	**03 01 19.1**	**-2.4**
NISR	**Nisiros**	**0.56**	**247**	⇑iPN	**Pn**	**03 01 19.2**	**-0.4**
ARG	**Arkhangelos**	**0.68**	**155**	⇑iPB	**Pb**	**03 01 22.0**	**+2.5**
SMG	**Samos**	**1.14**	**320**	ePN	**Pn**	**03 01 28.2**	**+0.2**
DNZL	**Cakiroluk**	**1.33**	**50**	i P	**Pb**	**03 01 31.8**	**+1.3**
DNZL				i S	**Sb**	**03 01 50.8**	**+3.4**
DENT	**Denizli**	**1.36**	**47**	i PN	**Pn**	**03 01 32.1**	**+1.0**
KARP	**Karpathos**	**1.38**	**201**	ePN	**Pn**	**03 01 34.0**	**+2.7**
IZM	**Izmir**	**1.61**	**346**	i PN	**Pn**	**03 01 34.1**	**-0.5**
IZM	**Izmir**	**1.61**	**346**	Pn	**Pn**	**03 01 34.4**	**-0.2**
KDAG	**Bornova**	**1.61**	**346**	i P	**Pn**	**03 01 34.2**	**-0.5**
KDAG				i S	**Sn**	**03 01 54.1**	**-1.5**
KSL	**Kastellorizon**	**1.61**	**115**	⇑iPN	**Pn**	**03 01 38.5**	**+3.8**
ELL	**Elmali**	**1.72**	**92**	i PN	**Pn**	**03 01 40.6**	**+4.4**
ELL				i SN	**Sn**	**03 02 03.1**	**+4.7**
ELL	**Elmali**	**1.72**	**92**	Pn	**Pn**	**03 01 41.0**	**+4.8**
MANT	**Manisa**	**1.77**	**21**	i P	**Pn**	**03 01 36.5**	**-0.3**
MANT				i S	**Sn**	**03 02 02.3**	**+2.7**
APE	**Apeiranthos**	**1.81**	**278**	⇓iPB	**Pb**	**03 01 38.2**	**-0.5**
APE	**Apeiranthos**	**1.81**	**278**	P	**Pn**	**03 01 36.7**	**-0.7**
SANT	**Santorini**	**1.92**	**257**	ePn	**Pn**	**03 01 39.7**	**+0.7**
SANT				eS	**Sn**	**03 01 58.1**	**-5.2**
SANT				eS	**Sn**	**03 02 05.5**	**+2.2**
THR4	**Thira Island,**	**1.94**	**260**	ePb	**Pb**	**03 01 40.6**	**-0.4**
THR3	**Thira Island,**	**1.95**	**258**	ePb	**Pb**	**03 01 40.6**	**-0.6**
THR6	**Thira Island,**	**1.97**	**257**	ePn	**Pn**	**03 01 40.9**	**+1.2**
THR5	**Thira Island,**	**1.99**	**259**	ePn	**Pn**	**03 01 41.2**	**+1.1**
KHL	**Karahalli**	**2.04**	**43**	i PN	**Pn**	**03 01 42.6**	**+1.9**
AKS	**Akhisar**	**2.04**	**1**	i PN	**Pn**	**03 01 40.2**	**-0.6**
BCK	**Bucak**	**2.34**	**74**	i PN	**Pn**	**03 01 48.8**	**+3.7**
NPS	**Neapolis**	**2.35**	**229**	ePN	**Pn**	**03 01 47.5**	**+2.3**
ISP	**Isparta**	**2.41**	**64**	i PN	**Pn**	**03 01 47.9**	**+1.9**
XRY	**Khrisi**	**2.58**	**221**	ePB	**Pb**	**03 01 52.0**	**0.0**
PRK	**Paraskevi**	**2.68**	**334**	ePN	**Pn**	**03 01 50.0**	**+0.1**
IDI	**Anoyia**	**2.80**	**237**	Pn	**Pn**	**03 01 53.1**	**+1.5**
	78nm,0.3s,baz=58,slow=12,SNR=204						
IDI				Sn	**Sn**	**03 02 26.2**	**+0.5**
	80nm,0.3s,baz=28,slow=11,SNR=5.2						
BALB	**Balikesir**	**2.80**	**2**	i PN	**Pn**	**03 01 50.1**	**-1.5**
BALB	**Balikesir**	**2.80**	**2**	Pn	**Pn**	**03 01 51.1**	**-0.5**
DST	**Dursunbey**	**2.85**	**14**	i PN	**Pn**	**03 01 52.0**	**-0.3**
ALT	**Altintas**	**2.89**	**39**	PN	**Pn**	**03 01 54.0**	**+1.1**
ALT	**Altintas**	**2.89**	**39**	Pn	**Pn**	**03 01 54.5**	**+1.6**
EZN	**Ezine**	**3.19**	**340**	PN	**Pn**	**03 01 56.2**	**-1.0**
EZN	**Ezine**	**3.19**	**340**	Pn	**Pn**	**03 01 57.5**	**+0.3**
VAM	**Vamos**	**3.22**	**245**	ePN	**Pn**	**03 01 59.0**	**+1.4**
ORLT	**Orhaneli**	**3.33**	**15**	i PN	**Pn**	**03 01 59.0**	**-0.1**
PTL	**Penteli**	**3.33**	**292**	ePN	**Pn**	**03 02 00.0**	**+0.8**
ATH	**Athens Observa**	**3.42**	**291**	ePN	**Pn**	**03 02 01.4**	**+1.0**
KCT	**Karacabey**	**3.46**	**7**	PN	**Pn**	**03 02 00.0**	**-0.9**
KCT	**Karacabey**	**3.46**	**7**	Pn	**Pn**	**03 02 00.1**	**-0.8**
MPAR	**Parnis Oros**	**3.46**	**293**	ePN	**Pn**	**03 02 02.0**	**+0.9**
EDC	**Edincik**	**3.51**	**1**	i PN	**Pn**	**03 02 00.8**	**-0.9**
BNT	**Bandirma**	**3.52**	**2**	i PN	**Pn**	**03 02 00.7**	**-1.1**
BNT	**Bandirma**	**3.52**	**2**	Pn	**Pn**	**03 02 01.2**	**-0.6**
NAIG	**Nisos Aigina**	**3.53**	**286**	ePN	**Pn**	**03 02 02.5**	**+0.4**
NSAL	**Nisos Salamina**	**3.59**	**289**	ePN	**Pn**	**03 02 03.8**	**+0.9**
GVD	**Gavdhos**	**3.59**	**237**	ePB	**Pb**	**03 02 07.5**	**-1.7**
ESKT	**Eskisehir**	**3.62**	**41**	i PN	**Pn**	**03 02 04.9**	**+1.7**
LIA	**Limnos Island**	**3.67**	**327**	Pn	**Pn**	**03 02 04.0**	**0.0**
LOS	**Limnos**	**3.74**	**327**	ePn	**Pn**	**03 02 05.5**	**+0.4**
MRMT	**Marmara Adasi**	**3.76**	**358**	PN	**Pn**	**03 02 04.2**	**-1.1**
MRMT	**Marmara Adasi**	**3.76**	**358**	Pn	**Pn**	**03 02 05.2**	**-0.1**
HDMB	**Hadim**	**3.78**	**87**	i PN	**Pn**	**03 02 10.1**	**+4.5**
KONT	**Konya--Tatoy**	**3.82**	**72**	i PN	**Pn**	**03 02 09.0**	**+2.9**
MKIT	**Kithairon Oros**	**3.83**	**292**	ePN	**Pn**	**03 02 07.1**	**+0.8**
KIZT	**Kizilcal**	**3.84**	**57**	i PN	**Pn**	**03 02 08.4**	**+2.0**
KYTH	**Kithira**	**3.85**	**263**	⇑iPN	**Pn**	**03 02 08.0**	**+1.4**
VLI	**Veliai**	**3.88**	**270**	ePN	**Pn**	**03 02 08.0**	**+1.0**
YLV	**Yalova**	**3.93**	**18**	PN	**Pn**	**03 02 06.8**	**-0.9**
YLV	**Yalova**	**3.93**	**18**	Pn	**Pn**	**03 02 07.6**	**-0.1**
GPA	**Golpazari**	**3.98**	**29**	PN	**Pn**	**03 02 09.1**	**+0.7**
AKMC	**Akamas**	**4.12**	**115**	⇓P	**Pn**	**03 02 12.3**	**+1.9**
BADT	**Buyukada**	**4.15**	**14**	i PN	**Pn**	**03 02 09.5**	**-1.3**
PPCY	**Paphos**	**4.20**	**116**	P	**Pn**	**03 02 13.0**	**+1.5**
HRT	**Hereke**	**4.25**	**20**	i PN	**Pn**	**03 02 11.4**	**-0.8**
HRT	**Hereke**	**4.25**	**20**	Pn	**Pn**	**03 02 12.0**	**-0.2**
ALFC	**Alevga**	**4.26**	**112**	P	**Pn**	**03 02 13.1**	**+0.7**
	52nm,0.4s						
ALFC				S	**Sn**	**03 03 03.6**	**+0.8**
ALN	**Alexandroupoli**	**4.27**	**342**	ePn	**Pn**	**03 02 11.6**	**-1.0**
CTT	**Catalca**	**4.33**	**7**	PN	**Pn**	**03 02 12.0**	**-1.5**
CTT	**Catalca**	**4.33**	**7**	Pn	**Pn**	**03 02 12.1**	**-1.4**
ISK	**Istanbul-Kandi**	**4.34**	**13**	PN	**Pn**	**03 02 12.3**	**-1.2**
ISK	**Istanbul-Kandi**	**4.34**	**13**	Pn	**Pn**	**03 02 12.1**	**-1.4**
NEO	**Neokhori**	**4.35**	**306**	ePN	**Pn**	**03 02 14.2**	**+0.5**
PAIG	**Paliouri**	**4.45**	**315**	ePn	**Pn**	**03 02 14.9**	**-0.3**
MDU	**Mudurnu**	**4.52**	**36**	PN	**Pn**	**03 02 16.3**	**+0.3**
MDU	**Mudurnu**	**4.52**	**36**	Pn	**Pn**	**03 02 17.4**	**+1.4**
OUR	**Ouranopolis**	**4.58**	**321**	ePn	**Pn**	**03 02 16.6**	**-0.3**
RDO	**Rodhopi**	**4.64**	**339**	ePN	**Pn**	**03 02 17.0**	**-0.8**
SZAC	**Souni-Zanaja**	**4.65**	**115**	P	**Pn**	**03 02 19.3**	**+1.4**
	28nm,0.4s						
SZAC				S	**Sn**	**03 03 12.6**	**0.0**
ITM	**Ithomi**	**4.69**	**276**	ePN	**Pn**	**03 02 20.8**	**+2.3**
MAMC	**Mammari**	**4.72**	**109**	P	**Pn**	**03 02 20.4**	**+1.5**
IKL	**Isikli**	**4.80**	**95**	i PN	**Pn**	**03 02 23.9**	**+3.8**
CSS	**Prodhromos**	**4.89**	**111**	P	**Pn**	**03 02 22.3**	**+1.0**
	32nm,0.5s						
CSS				S	**Sn**	**03 03 19.6**	**+1.0**
CSS	**Prodhromos**	**4.89**	**111**	ePn	**Pn**	**03 02 21.6**	**+0.3**
PLG	**Polygyros**	**4.89**	**318**	ePN	**Pn**	**03 02 21.3**	**-0.1**
LOD	**Lodumlu**	**4.97**	**51**	PN	**Pn**	**03 02 24.1**	**+1.6**
ANTO	**Ankara**	**4.98**	**51**	PN	**Pn**	**03 02 24.1**	**+1.5**
EDRB	**Edirne**	**5.07**	**351**	PN	**Pn**	**03 02 22.5**	**-1.3**
EDRB	**Edirne**	**5.07**	**351**	Pn	**Pn**	**03 02 22.1**	**-1.7**
KDZ	**Kurdzhali**	**5.14**	**340**	i P	**Pn**	**03 02 23.7**	**-1.2**
EVR	**Evrytania**	**5.15**	**296**	⇓iPN	**Pn**	**03 02 26.5**	**+1.5**
SOH	**Sokhos**	**5.26**	**320**	ePn	**Pn**	**03 02 26.6**	**+0.1**
LIT	**Litokhoron**	**5.27**	**310**	ePn	**Pn**	**03 02 26.6**	**0.0**
KAMT	**Kaman**	**5.33**	**60**	i PN	**Pn**	**03 02 29.0**	**+1.5**
THE	**Thessaloniki**	**5.33**	**317**	ePn	**Pn**	**03 02 27.9**	**+0.4**
PHNC	**Paralimni**	**5.40**	**108**	P	**Pn**	**03 02 31.0**	**+2.5**
	73nm,0.8s						
PHNC				S	**Sn**	**03 03 36.0**	**+4.4**
NVR	**Nevrokopi**	**5.43**	**327**	Pn	**Pn**	**03 02 28.9**	**-0.1**
BRTR	**Keskin Array B**	**5.45**	**56**	Pn	**Pn**	**03 02 30.0**	**+0.8**
	26nm,0.3s,baz=241,slow=16,SNR=235						
BRTR				Sn	**Sn**	**03 03 31.3**	**-1.3**
	11nm,0.3s,baz=233,slow=26,SNR=5.0						
BRTR				Lg		03 04 09.5	
	baz=212,slow=23,SNR=3.3						
BRTR	**Keskin Array B**	**5.45**	**56**	P	**Pn**	**03 02 30.0**	**+0.8**
BRTR						03 03 31.3	
BRTR				pmax	pmax		
	comp=Z,26nm,0.3s						
DIM	**Dimitrovgrad**	**5.49**	**342**	i P	**Pn**	**03 02 28.0**	**-1.7**
NIG	**Nigde**	**5.59**	**75**	PN	**Pn**	**03 02 34.0**	**+2.8**
MMB	**Musomiste**	**5.69**	**328**	⇑iP	**Pn**	**03 02 31.7**	**-0.9**
KNT	**Kendrikon**	**5.75**	**320**	ePn	**Pn**	**03 02 33.8**	**+0.3**
PLD	**Plovdiv**	**5.77**	**337**	i P	**Pn**	**03 02 33.5**	**-0.2**
SAFT	**Safranbolu**	**5.83**	**40**	PN	**Pn**	**03 02 36.0**	**+1.4**
KZN	**Kozani**	**5.84**	**308**	ePN	**Pn**	**03 02 35.8**	**+1.1**
VLS	**Valsamata**	**5.86**	**285**	ePN	**Pn**	**03 02 35.5**	**+0.5**
GRG	**Griva**	**5.87**	**316**	ePn	**Pn**	**03 02 35.4**	**+0.3**
CANT	**Cankiri**	**5.92**	**49**	PN	**Pn**	**03 02 37.2**	**+1.3**
MEV	**Metsovon**	**5.92**	**302**	ePn	**Pn**	**03 02 37.3**	**+1.4**
LKD	**Levkas**	**5.94**	**290**	ePn	**Pn**	**03 02 39.0**	**+2.8**
VAY	**Valandovo**	**6.03**	**320**	i Pn	**Pn**	**03 02 39.8**	**+2.4**
VAY				i Sn	**Sn**	**03 03 46.8**	**-0.6**
VAY				i Sb	**Sb**	**03 04 07.1**	**+3.1**
VAY				i Sg	**Sg**	**03 04 20.0**	**-6.8**
JAN	**Janina**	**6.13**	**299**	ePN	**Pn**	**03 02 40.1**	**+1.3**
KKB	**Krupnik**	**6.20**	**326**	⇑iP	**Pn**	**03 02 38.5**	**-1.3**
PGB	**Panagyurishte**	**6.34**	**335**	⇓iP	**Pn**	**03 02 40.5**	**-1.4**
FNA	**Florina**	**6.36**	**310**	ePn	**Pn**	**03 02 42.9**	**+0.8**
CEYT	**Ceyhan**	**6.40**	**86**	PN	**Pn**	**03 02 46.0**	**+3.4**
CEYT	**Ceyhan**	**6.40**	**86**	Pn	**Pn**	**03 02 45.0**	**+2.4**
IGT	**Igoumenitsa**	**6.45**	**297**	ePn	**Pn**	**03 02 45.2**	**+1.9**
LSK	**Leskovik**	**6.52**	**303**	⇑iPn	**Pn**	**03 02 50.4**	**+6.0**
BIA	**Bitola**	**6.53**	**312**	i Pn	**Pn**	**03 02 41.0**	**-3.5**
BIA				i Sn	**Sn**	**03 03 49.0**	**-11**
YOZ	**Yozgat**	**6.57**	**62**	PN	**Pn**	**03 02 47.0**	**+2.0**
YOZ	**Yozgat**	**6.57**	**62**	Pn	**Pn**	**03 02 46.3**	**+1.3**
SZH	**Strazhica**	**6.58**	**348**	i P	**Pn**	**03 02 44.7**	**-0.4**
VTS	**Vitosha**	**6.74**	**330**	i P	**Pn**	**03 02 47.5**	**+0.1**
VTS	**Vitosha**	**6.74**	**330**	P	**Pn**	**03 02 47.3**	**-0.1**
HTY	**Hatay**	**6.78**	**94**	Pn	**Pn**	**03 02 50.1**	**+2.1**
SRN	**Sarande**	**6.82**	**299**	ePn	**Pn**	**03 02 50.4**	**+1.9**
KEK	**Kerkira**	**6.89**	**297**	ePN	**Pn**	**03 02 51.2**	**+1.6**
OHR	**Ohrid**	**6.91**	**310**	⇑iPn	**Pn**	**03 02 54.1**	**+4.4**
OHR				i Sn	**Sn**	**03 04 14.0**	**+4.8**
OHR				i Sb	**Sb**	**03 04 35.0**	**+5.7**
BZK	**Bozkurt**	**7.03**	**41**	PN	**Pn**	**03 02 51.6**	**+0.1**
MATL	**Matirih**	**7.04**	**116**	ePN	**Pn**	**03 02 51.8**	**+0.2**
BHL	**Bhannes**	**7.07**	**112**	ePN	**Pn**	**03 02 51.1**	**-1.0**
BHL				SN	**Sn**	**03 04 08.0**	**-5.4**
SKO	**Skopje**	**7.09**	**318**	⇑iPn	**Pn**	**03 02 53.0**	**+0.6**
	comp=Z,0.1nm,0.5s						
SKO				i Sn	**Sn**	**03 04 19.2**	**+5.4**
SKO				Lm		03 06 30.0	
	comp=E,23nm,6.0s						
HWQ	**Hawqa**	**7.14**	**109**	ePN	**Pn**	**03 02 52.7**	**-0.3**
HWQ				SN	**Sn**	**03 04 10.4**	**-4.6**
BYBT	**Boyabat**	**7.14**	**47**	PN	**Pn**	**03 02 53.5**	**+0.5**
BYBT	**Boyabat**	**7.14**	**47**	Pn	**Pn**	**03 02 54.5**	**+1.5**
HNTI	**Hanita**	**7.14**	**119**	P	**Pn**	**03 02 53.5**	**+0.5**
HNTI				S	**Sn**	**03 04 09.6**	**-5.5**
HAF	**Haifa**	**7.21**	**122**	P	**Pn**	**03 02 53.1**	**-0.9**
HRI	**Mount Hermon**	**7.44**	**116**	P	**Pn**	**03 02 57.1**	**-0.1**
BARS	**Barje**	**7.52**	**324**	⇑iPn	**Pn**	**03 02 57.9**	**-0.5**
SLTI	**Sal'it**	**7.55**	**125**	P	**Pn**	**03 02 58.5**	**-0.3**
SLTI				S	**Sn**	**03 04 19.2**	**-6.1**
GAZ	**Gaziantep**	**7.56**	**85**	PN	**Pn**	**03 03 01.9**	**+2.9**
GAZ	**Gaziantep**	**7.56**	**85**	Pn	**Pn**	**03 03 01.3**	**+2.3**
TIR	**Tirane**	**7.62**	**309**	ePn	**Pn**	**03 03 04.5**	**+4.8**
BUC1	**Bucharest**	**7.62**	**351**	⇓eP	**Pn**	**03 02 59.5**	**-0.2**
KSHT	**Keshet**	**7.64**	**118**	P	**Pn**	**03 03 00.0**	**-0.1**
GLH	**Golan-Tel Qazi**	**7.68**	**120**	P	**Pn**	**03 03 00.4**	**-0.2**
MMLI	**Mount Malkishu**	**7.68**	**123**	P	**Pn**	**03 03 00.3**	**-0.3**
QSH	**Qafa e Shtames**	**7.69**	**310**	ePn	**Pn**	**03 03 04.7**	**+3.9**
HARR	**Harsova**	**7.85**	**1**	⇓iP	**Pn**	**03 03 00.7**	**-2.2**
HMDT	**Nahal Hemdat**	**7.86**	**123**	P	**Pn**	**03 03 02.9**	**-0.3**
KZIT	**Kziot**	**8.08**	**135**	P	**P**	**03 03 05.6**	**-0.6**
KZIT				S	**Sn**	**03 04 32.7**	**-5.9**
BCI	**Bajram Curri**	**8.11**	**315**	ePn	**P**	**03 03 10.1**	**+3.5**
SVTA	**Shivta**	**8.19**	**134**	P	**P**	**03 03 08.1**	**+0.4**
DRGI	**Dragot**	**8.20**	**127**	P	**P**	**03 03 07.6**	**-0.2**
MASH	**Mash'abbe Sade**	**8.24**	**133**	P	**P**	**03 03 08.3**	**-0.1**
BOLS	**Boljevac**	**8.27**	**329**	⇑iPn	**P**	**03 03 07.2**	**-1.7**
BOLS				Sg	**Sg**	**03 05 35.5**	**-5.9**
PVY	**Plav**	**8.31**	**316**	⇓iPn	**P**	**03 03 11.8**	**+2.3**
PVY				eSn	**Sn**	**03 04 53.6**	**+9.3**
ISR	**Istrita**	**8.33**	**354**	⇑iP	**P**	**03 03 08.1**	**-1.5**
LCI	**Lecce**	**8.33**	**298**	P	**P**	**03 03 09.9**	**+0.3**
ULC	**Ulcinj**	**8.35**	**310**	⇓iPn	**P**	**03 03 11.6**	**+1.7**
ULC				eSn	**Sn**	**03 04 53.3**	**+8.1**
MZDA	**Masada**	**8.37**	**129**	P	**P**	**03 03 09.4**	**-0.8**
IVA	**Berane**	**8.54**	**317**	⇓iPn	**P**	**03 03 14.5**	**+1.9**
IVA				eSn	**Sn**	**03 04 59.0**	**+9.0**
MALT	**Malatya**	**8.59**	**77**	ePn	**P**	**03 03 14.9**	**+1.6**
TTG	**Podgorica**	**8.62**	**313**	⇓iPn	**P**	**03 03 15.6**	**+1.9**
TTG				eSn	**Sn**	**03 04 59.8**	**+7.9**
BRD	**Bordesti**	**8.73**	**357**	⇓eP	**P**	**03 03 14.6**	**-0.6**
BRD	**Bordesti**	**8.73**	**357**	⇓eP	**P**	**03 03 14.5**	**-0.7**
BUM	**Brajici-Budva**	**8.75**	**311**	⇓iPn	**P**	**03 03 17.0**	**+1.5**
BUM				eSn	**Sn**	**03 05 03.0**	**+7.7**
MLR	**Muntele Rosu**	**8.76**	**352**	Pn	**P**	**03 03 14.2**	**-1.3**
	comp=E,1.2nm,0.3s,baz=156,slow=6.0,SNR=45						
MLR				Lg		03 06 00.2	
	comp=E,0.2nm,0.3s,baz=102,slow=22,SNR=3.6						
MLR	**Muntele Rosu**	**8.76**	**352**	⇑iP	**P**	**03 03 15.7**	**+0.1**
ZFRI	**Zfri**	**8.79**	**133**	P	**P**	**03 03 15.7**	**-0.4**
PRNI	**Paran**	**8.84**	**135**	P	**P**	**03 03 15.8**	**-1.0**
ASF	**Jabal al Asfar**	**8.85**	**119**	Pn	**P**	**03 03 18.7**	**+1.8**
	comp=E,13nm,0.3s,baz=186,slow=5.0,SNR=26						
ASF				Sn	**Sn**	**03 04 56.9**	**-0.8**
	comp=E,11nm,0.3s,baz=29,slow=21,SNR=5.1						
ASF				LR	LR	03 07 28.5	
	comp=E,5µm,19.3s,baz=175,slow=42						
GRUS	**Gruza**	**8.86**	**325**	⇑iPn	**P**	**03 03 16.1**	**-1.0**
GRUS				Sg	**Sg**	**03 06 00.7**	**-0.2**
KMTI	**Karmit**	**8.88**	**137**	P	**P**	**03 03 16.5**	**-0.7**
KMTI				S	**Sn**	**03 04 52.0**	**-6.4**
SVIS	**Svilajnac**	**8.96**	**328**	⇓iPn	**P**	**03 03 16.8**	**-1.6**
SVIS				Sn	**Sn**	**03 04 52.0**	**-8.4**
TIP	**Timpagrande**	**9.00**	**288**	ePn	**P**	**03 03 18.5**	**-0.4**
NKY	**Niksic**	**9.00**	**314**	⇓iPn	**P**	**03 03 21.6**	**+2.5**
NKY				eSn	**Sn**	**03 05 09.5**	**+8.0**
VRI	**Vrincioaia**	**9.06**	**355**	⇓P	**P**	**03 03 18.1**	**-1.6**
NVSS	**Nova Varos 2**	**9.08**	**320**	⇓iPn	**P**	**03 03 19.0**	**-1.1**
NVSS				Sn	**Sn**	**03 04 57.9**	**-5.5**
HCY	**Herceg Novi**	**9.08**	**311**	⇓iPn	**P**	**03 03 20.9**	**+0.8**
HCY				eSn	**Sn**	**03 05 10.8**	**+7.3**
PLE	**Pljevlja**	**9.12**	**318**	⇓iPn	**P**	**03 03 22.9**	**+2.3**
PLE				eSn	**Sn**	**03 05 13.5**	**+9.1**
BRT	**Bari-Castellan**	**9.17**	**299**	P	**P**	**03 03 21.5**	**+0.1**
GRI	**Girifalco**	**9.20**	**286**	P	**P**	**03 03 21.3**	**-0.4**
MBH	**Mount Berech**	**9.22**	**138**	P	**P**	**03 03 21.5**	**-0.5**
UPM	**Unac-Piva**	**9.30**	**316**	⇓iPn	**P**	**03 03 25.7**	**+2.5**
UPM				eSn	**Sn**	**03 05 17.6**	**+8.7**
BRY	**Bratogost**	**9.32**	**313**	⇓iPn	**P**	**03 03 25.0**	**+1.6**
BRY				eSn	**Sn**	**03 05 16.9**	**+7.5**
EIL	**Elat**	**9.34**	**138**	P	**P**	**03 03 23.3**	**-0.3**
AQBJ	**Aqaba**	**9.35**	**137**	P	**P**	**03 03 23.0**	**-0.7**
DIVS	**Divcibare**	**9.36**	**323**	⇓iPn	**P**	**03 03 22.8**	**-1.2**
DIVS				Sn	**Sn**	**03 05 05.5**	**-4.9**
SOI	**Samo**	**9.40**	**281**	P	**P**	**03 03 23.4**	**-1.0**
SIM	**Simferopol'**	**9.42**	**29**	P	**P**	**03 03 23.5**	**-1.2**
SIM				eS	**Sn**	**03 05 03.0**	**-8.8**
SIM				pmax	pmax		
	comp=Z,60nm,0.7s						
SIM				MLR	MLR		
	comp=Z,9µm,14.0s						
TDS	**Terranova Siba**	**9.42**	**291**	P	**P**	**03 03 25.1**	**+0.3**
ORI	**Oriolo Calabro**	**9.45**	**293**	P	**P**	**03 03 24.9**	**-0.2**
MTTG	**Motta San Giov**	**9.68**	**281**	P	**P**	**03 03 27.2**	**-1.1**
SCLL	**Scilla**	**9.68**	**282**	P	**P**	**03 03 27.8**	**-0.5**
ALWS	**Ilw as Safayha**	**9.68**	**139**	P	**P**	**03 03 27.5**	**-0.9**
MSI	**Messina ING**	**9.80**	**282**	P	**P**	**03 03 30.0**	**0.0**
STON	**Ston**	**9.81**	**311**	i Pn	**P**	**03 03 27.8**	**-2.2**
STON				i Sn	**Sn**	**03 05 15.1**	**-6.2**
HAQS	**Haql**	**9.82**	**140**	P	**P**	**03 03 28.9**	**-1.3**
HAQS				S	**Sn**	**03 05 09.8**	**-12**
JMOS	**Jabal al Moall**	**9.82**	**139**	P	**P**	**03 03 29.6**	**-0.7**
PTRP	**Pietrapertosa**	**9.86**	**295**	P	**P**	**03 03 30.9**	**0.0**
ATN	**Antennamare**	**9.87**	**281**	P	**P**	**03 03 31.4**	**+0.5**
AGST	**Augusta-Monte**	**10.04**	**276**	P	**P**	**03 03 34.2**	**+1.0**
MGR	**Morigerati**	**10.13**	**293**	P	**P**	**03 03 34.0**	**-0.5**
SLCN	**Sala Consilina**	**10.14**	**294**	P	**P**	**03 03 34.7**	**+0.1**
FGMS	**Monte Sant'Ang**	**10.37**	**302**	P	**P**	**03 03 36.5**	**-1.3**
BDAS	**Al Bad'**	**10.41**	**142**	P	**P**	**03 03 37.0**	**-1.4**
SGO	**Sicignano**	**10.42**	**295**	P	**P**	**03 03 38.1**	**-0.4**
MNO	**Monte Soro**	**10.46**	**280**	P	**P**	**03 03 38.9**	**-0.2**
VAE	**Valguarnera**	**10.68**	**277**	Pn	**P**	**03 03 41.0**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=0.2,slow=4.3,SNR=18						
VAE				Sn	**S**	**03 05 40.3**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=299,slow=17,SNR=2.9						
VAE				LR	LR	03 07 33.8	
	comp=Z,5µm,21.1s,baz=26,slow=36						
VAE	**Valguarnera**	**10.68**	**277**	Pn	**P**	**03 03 41.0**	**-1.1**
VAE				Sn	**S**	**03 05 40.3**	**-2.5**
VAE				LR	LR	03 07 33.8	
FG5	**Orsara di Pugl**	**10.68**	**298**	P	**P**	**03 03 41.4**	**-0.7**
CSSN	**Cassano Irpino**	**10.72**	**296**	P	**P**	**03 03 41.7**	**-0.9**
CSLB	**Castelbuono**	**10.97**	**280**	P	**P**	**03 03 44.8**	**-1.1**
CIGN	**Sant'Elia a Pi**	**11.07**	**300**	P	**P**	**03 03 47.3**	**-0.1**
FAVR	**Favara**	**11.28**	**276**	P	**P**	**03 03 51.4**	**+1.2**
MCT	**Mte Cammarata**	**11.30**	**278**	P	**P**	**03 03 50.7**	**+0.2**
TBKS	**Tabuk**	**11.34**	**137**	P	**P**	**03 03 50.2**	**-0.8**
CPI2	**Carpinone**	**11.46**	**299**	P	**P**	**03 03 51.5**	**-1.2**
CII	**Carovilli**	**11.52**	**299**	eP	**P**	**03 03 52.0**	**-1.4**
PKSM	**Moragy**	**11.59**	**327**	P	**P**	**03 03 53.5**	**-0.9**
CLTB	**Caltabellotta**	**11.63**	**278**	P	**P**	**03 03 55.8**	**+0.8**
CRJA	**Costa Raja**	**11.80**	**279**	P	**P**	**03 03 56.0**	**-1.3**
MMGO	**Monte Magaggia**	**11.82**	**278**	P	**P**	**03 03 57.4**	**-0.2**

SDI	**San Donato**	**11.86**	**298**	P	**P**	**03 03 57.8**	**-0.3**
VENT	**Ventotene**	**11.87**	**294**	P	**P**	**03 03 57.1**	**-1.1**
MTGR	**Montagna Grand**	**11.99**	**280**	P	**P**	**03 03 59.4**	**-0.5**
VVLD	**Villa Vallelon**	**12.05**	**299**	P	**P**	**03 04 01.9**	**+1.3**
ERC	**Erice**	**12.13**	**280**	P	**P**	**03 04 01.6**	**-0.1**
SISC	**Sisak**	**12.16**	**319**	*i* P	**P**	**03 04 06.3**	**+4.1**
PTQR	**Pietraquaria**	**12.25**	**299**	P	**P**	**03 04 05.4**	**+2.0**
LVI	**Isola Levanzo**	**12.32**	**280**	P	**P**	**03 04 03.5**	**-0.9**
AQU	**L'Aquila**	**12.37**	**301**	*e*P	**P**	**03 04 03.8**	**-1.2**
NVLJ	**Novalja**	**12.45**	**312**	*i* Pn	**P**	**03 04 04.6**	**-1.5**
NVLJ				*i* Sn	**S**	**03 06 11.4**	**-14**
PSZ	**Piszkesteto**	**12.50**	**335⇑**	*e*P	**P**	**03 04 06.1**	**-0.6**
PSZ	**Piszkesteto**	**12.50**	**335**	*e*P	**P**	**03 04 05.0**	**-1.7**
MTCE	**Montecelio**	**12.71**	**299**	P	**P**	**03 04 11.9**	**+2.3**
NRCA	**Norcia**	**12.75**	**303**	P	**P**	**03 04 09.9**	**-0.1**
BOJS	**Bojanci**	**12.79**	**316**	*e*Pn	**P**	**03 04 11.5**	**+1.0**
KECS	**Kecovo**	**12.80**	**338**	*e*PN	**P**	**03 04 10.4**	**-0.4**
KECS				*e*		03 07 58.6	
CRES	**Cresnjevec ost**	**12.88**	**318**	*e*P	**P**	**03 04 11.3**	**-0.5**
SRO	**Srobarova**	**13.00**	**331**	*e*PN	**P**	**03 04 18.3**	**+5.0**
SRO				*e*		03 08 11.8	
DOBS	**Dobrina**	**13.08**	**319**	P	**P**	**03 04 16.8**	**+2.3**
KWP	**Kalwaria**	**13.30**	**346**	*e*P	**P**	**03 04 17.1**	**-0.3**
KWP				pmax	pmax		
	comp=Z,18nm,1.1s						
KWP	**Kalwaria**	**13.30**	**346**	*e*P	**P**	**03 04 17.1**	**-0.2**
	comp=Z,18nm,1.1s						
KWP				*e*PP	PP	03 04 19.4	-8.5
KWP				*e*S	**S**	**03 06 56.5**	**+10**
VYHS	**Vyhne**	**13.36**	**333**	*e*SN	**S**	**03 06 51.8**	**+4.0**
VYHS				*e*		03 08 27.6	
VYHS	**Vyhne**	**13.36**	**333**	*e*Pn	**P**	**03 04 17.0**	**-1.1**
VYHS				*e*Sn	**S**	**03 06 51.8**	**+4.0**
CEY	**Cerknica**	**13.39**	**316**	*e*Pn	**P**	**03 04 19.8**	**+1.3**
KIV	**Kislovodsk**	**13.40**	**53*c***	*i*P	**P**	**03 04 20.1**	**+1.5**
KIV				*e*S	**S**	**03 06 47.6**	**-1.1**
KIV				pmax	pmax		
	comp=Z,48nm,1.4s						
KIV				MLR	MLR		
	comp=Z,5µm,13.0s						
KIV	**Kislovodsk**	**13.40**	**53**	*e*P	**P**	**03 04 20.5**	**+1.9**
LJU	**Ljubljana**	**13.52**	**317**	*e*Pn	**P**	**03 04 21.5**	**+1.3**
LJU				*e*Sn	S	03 07 13.6	+22
PERS	**Pernice**	**13.59**	**320**	*i* P	**P**	**03 04 22.9**	**+1.8**
SOP	**Sopron**	**13.63**	**326⇑**	*e*P	**P**	**03 04 23.6**	**+1.9**
SOP				*i* SS	SS	03 07 04.1	-6.0
GNI	**Garni**	**13.70**	**71**	Pn	**P**	**03 04 24.8**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=237,slow=7.7,SNR=9.8						
GNI				LR	LR	03 09 50.0	
	comp=Z,5µm,20.8s,baz=269,slow=38						
GNI	**Garni**	**13.70**	**71**	P	**P**	**03 04 24.8**	**+2.2**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,5µm,20.8s						
GNI	**Garni**	**13.70**	**71**	Pn	**P**	**03 04 24.8**	**+2.2**
GNI				LR	LR	03 09 50.0	
ZST	**Bratislava**	**13.79**	**329**	*e*SN	**S**	**03 07 04.0**	**+6.0**
ZST				*e*		03 08 33.6	
ZST	**Bratislava**	**13.79**	**329**	*e*Pn	**P**	**03 04 26.4**	**+2.6**
ZST				*e*Sn	**S**	**03 07 04.0**	**+6.0**
ZST				*e*Lg		03 10 26.4	
OBKA	**Obir**	**13.80**	**319**	P	**P**	**03 04 25.8**	**+1.9**
ARSA	**Arzberg**	**13.80**	**323⇑**	*i*P	**P**	**03 04 24.1**	**+0.2**
	comp=Z,58nm,1.3s						
VOY	**Vojsko**	**13.87**	**316**	*e*Pn	**P**	**03 04 25.3**	**+0.6**
AKASG	**Malin Array Be**	**13.90**	**4**	Pn	**P**	**03 04 22.6**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=183,slow=13,SNR=32						
AKASG				Lg		03 08 37.3	
	comp=Z,0.2nm,0.3s,baz=182,slow=27,SNR=2.8						
AKASG				LR	LR	03 10 28.0	
	comp=Z,5µm,18.5s,baz=185,slow=41						
SMOL	**Smolenice**	**13.91**	**330**	*e*PN	**P**	**03 04 30.8**	**+5.5**
TI2	**Plekhanov**	**14.03**	**64*d***	*i*P	**P**	**03 04 28.0**	**+1.1**
TI2				pmax	pmax		
	comp=Z,2µm,3.0s						
JAVC	**Velka Javorina**	**14.10**	**332**	P	**P**	**03 04 29.5**	**+1.7**
UMJS	**Umm Lajj**	**14.15**	**142**	P	**P**	**03 04 30.0**	**+1.4**
VKA	**Vienna**	**14.18**	**327**	*e*(P)	**P**	**03 04 23.0**	**-5.9**
	comp=Z,896nm,4.0s						
VKA				MLRZ		03 11 00.0	
	comp=Z,12nm,8.0s						
OJC	**Ojcow**	**14.56**	**339**	*e*P	**P**	**03 04 36.2**	**+2.4**
OJC				MLR	MLR		
	comp=Z,5µm,20.5s						
OJC	**Ojcow**	**14.56**	**339**	*e*P	**P**	**03 04 36.2**	**+2.4**
OJC				*e*PP	PP	03 04 47.7	+2.3
OJC				*e*S	**S**	**03 07 26.1**	**+10**
OKC	**Ostrava-Krasne**	**14.74**	**335**	*e*P	**P**	**03 04 37.6**	**+1.4**
OKC				*e*S	**S**	**03 07 28.3**	**+7.8**
OKC				LM		03 11 40.0	
	comp=Z,13nm,11.4s						
KBRS	**Khaybar**	**14.74**	**135**	D		03 04 40.2	
KBA	**Koelnbreinsper**	**14.80**	**318⇑**	*i*P	**P**	**03 04 38.9**	**+1.9**
	comp=Z,108nm,1.0s						
MOA	**Molln**	**14.83**	**322⇓**	*i*P	**P**	**03 04 39.1**	**+1.7**
	comp=Z,42nm,0.9s						
VRAC	**Vranov**	**14.88**	**330**	Pn	**P**	**03 04 36.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=147,slow=11,SNR=6.3						
VRAC				LR	LR	03 10 44.9	
	comp=Z,10µm,20.2s,baz=153,slow=39						
VRAC	**Vranov**	**14.88**	**330**	Pn	**P**	**03 04 36.6**	**-1.4**
VRAC				LR	LR	03 10 44.9	
MORC	**Moravsky Berou**	**14.90**	**333**	*e*P	**P**	**03 04 36.5**	**-1.8**
	comp=Z,30nm,1.0s						
RAC	**Raciborz**	**14.94**	**335**	*e*P	**P**	**03 04 38.4**	**-0.3**
RAC				*e*S	**S**	**03 07 30.1**	**+5.0**
RAC				MLR	MLR		
	comp=E,16µm,21.8s						
RAC				MLR	MLR		
	comp=Z,8µm,23.3s						
RAC				MLR	MLR		
	comp=N,15µm,14.9s						
VLC	**Villacollemand**	**15.10**	**304⇑**	*e*P	**P**	**03 04 41.9**	**+1.0**
	comp=N,48nm,1.0s						
HILS	**Ha'il**	**15.15**	**124**	P	**P**	**03 04 43.7**	**+2.0**
YNBS	**Yanbu' al Bahr**	**15.24**	**142**	D		03 04 46.4	
PGF	**Pioggiola**	**15.52**	**297**	*e*P	**P**	**03 04 45.6**	**-0.9**
	comp=N,252nm,1.2s						
GEC2	**GERESS Array S**	**15.79**	**324**	*e*P	**P**	**03 04 52.5**	**+2.6**
GEC2				pmax	pmax		
	comp=Z,216nm,1.5s						
GEC2				MLR	MLR		
	comp=Z,5µm,20.3s						
GEC2	**GERESS Array S**	**15.79**	**324**	*e*P	**P**	**03 04 52.5**	**+2.6**
	comp=Z,216nm,1.5s						
GERES	**GERESS Array B**	**15.79**	**324**	Pn	**P**	**03 04 49.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=143,slow=13,SNR=23						
GERES				Sn	**S**	**03 07 50.2**	**+5.0**
	baz=162,slow=4.2,SNR=2.0						
DPC	**Dobruska-Polom**	**15.82**	**332**	*e*P	**P**	**03 04 50.4**	**+0.1**
DPC				*e*S	**S**	**03 07 55.5**	**+10**
DPC				LM		03 12 00.0	
	comp=Z,23nm,10.6s						
DPC	**Dobruska-Polom**	**15.82**	**332**	*e*P	**P**	**03 04 50.4**	**+0.1**
DPC				MLR	MLR		
	comp=Z,23µm,10.6s						
WTTA	**Wattenberg**	**15.85**	**316⇑**	*i*P	**P**	**03 04 50.1**	**-0.5**
	comp=Z,119nm,1.4s						
WATA	**Walderalm**	**15.92**	**316⇑**	*i*P	**P**	**03 04 53.4**	**+1.8**
	comp=Z,57nm,1.0s						
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**03 04 56.4**	**+3.2**
KHC				AP		03 05 01.5	
KHC				*e*S	**S**	**03 07 58.4**	**+7.1**
KHC				LM		03 11 50.0	
	comp=Z,20nm,10.7s						
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**03 04 56.4**	**+3.2**
KHC				*e*S	**S**	**03 07 58.4**	**+7.1**
KHC				MLR	MLR		
	comp=Z,20µm,10.7s						
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**03 04 56.4**	**+3.2**
KHC				*e*		03 05 01.5	
KHC				*e*S	**S**	**03 07 58.4**	**+7.1**
SQTA	**Sankt Quirin**	**16.06**	**315⇑**	*i*P	**P**	**03 04 53.3**	**-0.1**
	comp=Z,26nm,0.7s						
WAR	**Warsaw**	**16.12**	**345**	*e*P	**P**	**03 04 57.1**	**+3.0**
WAR				MLR	MLR		
	comp=Z,8µm,30.4s						
MOTA	**Moosalm**	**16.19**	**316⇓**	*i*P	**P**	**03 04 55.6**	**+0.6**
	comp=Z,38nm,1.0s						
KSP	**Ksiaz**	**16.24**	**333⇑**	*e*P	**P**	**03 04 54.8**	**-0.7**
KSP				*e*S	**S**	**03 08 02.0**	**+6.5**
KSP	**Ksiaz**	**16.24**	**333⇑**	*e*P	**P**	**03 04 54.8**	**-0.7**
KSP				*e*PP	PP	03 04 58.2	-11
KSP				*e*		03 05 06.0	
KSP				*e*		03 05 24.7	
KSP				*e*S	**S**	**03 08 02.0**	**+6.5**
PRU	**Pruhonice**	**16.25**	**328**	*e*P	**P**	**03 04 56.3**	**+0.6**
PRU				*e*S	**S**	**03 08 03.7**	**+7.9**
PRU				LM		03 11 10.0	
	comp=Z,9.7nm,10.0s						
MAK	**Makhachkala**	**16.32**	**62**	*e*P	**P**	**03 05 00.5**	**+3.8**
MAK				*e*S	**S**	**03 08 03.0**	**+5.5**
MAK				pmax	pmax		
	comp=N,500nm,6.0s						
MAK				pmax	pmax		
	comp=E,2µm,6.0s						
MAK				pmax	pmax		
	comp=Z,2µm,6.0s						
MAK				pmax	pmax		
	comp=Z,2µm,6.0s						
MAK				pmax	pmax		
	comp=N,700nm,5.0s						
MAK				pmax	pmax		
	comp=E,2µm,5.0s						
MAK				smax			
	comp=N,2µm,6.0s						
MAK				smax			
	comp=E,2µm,6.0s						
MAK				MLR	MLR		
	comp=N,4µm,9.0s						
MAK				MLR	MLR		
	comp=E,6µm,9.0s						
MAK				MLR	MLR		
	comp=Z,8µm,9.0s						
PRA	**Prague**	**16.36**	**328**	P	**P**	**03 05 00.0**	**+2.9**
PRA				LM		03 12 40.0	
WET	**Wettzell**	**16.39**	**323**	*e*P	**P**	**03 04 59.6**	**+2.0**
WET				pmax	pmax		
	comp=Z,128nm,1.4s						
WET				MLR	MLR		
	comp=Z,10µm,15.3s						
WET	**Wettzell**	**16.39**	**323**	*e*P	**P**	**03 04 59.6**	**+2.0**
	comp=Z,128nm,1.4s						
FUR	**Furstenfeldbru**	**16.58**	**318**	*e*P	**P**	**03 05 01.6**	**+1.7**
FUR				*e*S	**S**	**03 08 12.5**	**+9.1**
FUR				pmax	pmax		
	comp=Z,135nm,1.2s						
FUR				MLR	MLR		
	comp=Z,8µm,27.1s						
FUR	**Furstenfeldbru**	**16.58**	**318**	*e*P	**P**	**03 05 01.6**	**+1.7**
	comp=Z,135nm,1.2s						
FUR				*e*S	**S**	**03 08 12.5**	**+9.1**
DAVOX	**Davos**	**16.59**	**312**	Pn	**P**	**03 05 03.0**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=114,slow=11,SNR=28						
DAVOX				Sn	**S**	**03 08 13.5**	**+10**
	comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=1.7						
PVCC	**Panska Ves**	**16.65**	**329**	*e*P	**P**	**03 05 02.6**	**+1.8**
PVCC				*e*S	**S**	**03 08 12.4**	**+7.3**
PVCC				LM		03 12 40.0	
	comp=Z,16nm,11.1s						
DAVA	**Damuels**	**16.86**	**314⇓**	*i*P	**P**	**03 05 06.3**	**+2.9**
	comp=Z,79nm,1.1s						
UBR	**Uberruh**	**16.94**	**315**	*e*P	**P**	**03 05 06.0**	**+1.5**
VOR	**Voronezh**	**16.96**	**25**	P	**P**	**03 05 04.0**	**-0.7**
VOR				pmax	pmax		
	comp=Z,300nm,2.0s						
SBF	**Sospel**	**16.99**	**301**	*e*P	**P**	**03 05 04.8**	**-0.4**
	comp=Z,597nm,1.3s						
REVF	**Revere**	**17.00**	**300**	*e*P	**P**	**03 05 06.4**	**+1.1**
AUTN	**L'Aution**	**17.04**	**301**	*e*P	**P**	**03 05 07.6**	**+1.9**
AURF	**Auriere**	**17.07**	**301**	*e*P	**P**	**03 05 07.5**	**+1.3**
TOUF	**Mont Tournerai**	**17.17**	**301**	*e*P	**P**	**03 05 09.2**	**+1.8**
BRG	**Berggiesshubel**	**17.17**	**329**	*i* P	**P**	**03 05 10.2**	**+2.8**
BRG				*i* S	**S**	**03 08 23.0**	**+6.0**
BRG				pmax	pmax		
	comp=Z,24nm,1.3s						
BRG				MLR	MLR		
	comp=Z,16µm,9.8s						
BRG				MLR	MLR		
	comp=N,11µm,10.6s						
BRG				MLR	MLR		
	comp=E,8µm,10.6s						
BRG	**Berggiesshubel**	**17.17**	**329**	*i* P	**P**	**03 05 10.2**	**+2.8**
	comp=E,24nm,1.3s						
BRG				*i*		03 05 14.0	
BRG				*i* S	**S**	**03 08 23.0**	**+6.0**
MVIF	**Mont Vial**	**17.20**	**301**	*e*P	**P**	**03 05 09.7**	**+2.0**
CALN	**Calern**	**17.34**	**300**	*e*P	**P**	**03 05 11.0**	**+1.5**
HDH	**Heidenheim**	**17.40**	**318**	*e*P	**P**	**03 05 11.8**	**+1.6**
FRF	**La Foret Royal**	**17.45**	**299**	*e*P	**P**	**03 05 09.2**	**-1.8**
	comp=E,332nm,1.4s						
SUW	**Suwalki**	**17.47**	**351**	*e*P	**P**	**03 05 07.1**	**-4.0**
SUW				*e*S	**S**	**03 08 32.2**	**+8.4**
SUW				MLR	MLR		
	comp=Z,6µm,25.4s						
SUW	**Suwalki**	**17.47**	**351**	*e*P	**P**	**03 05 07.1**	**-4.0**
SUW				*e*PP	PP	03 05 13.5	-12
SUW				*e*S	**S**	**03 08 32.2**	**+8.4**
LMR	**La Mourre**	**17.49**	**298**	*e*P	**P**	**03 05 09.5**	**-1.9**
	comp=Z,204nm,1.5s						
GRA1	**Grafenberg Arr**	**17.56**	**322**	*e*P	**P**	**03 05 15.3**	**+3.0**
	comp=Z,132nm,1.2s						
GRA1				*e*S	**S**	**03 08 36.7**	**+11**
GRF	**Grafenberg Arr**	**17.56**	**322**	*e*P	**P**	**03 05 15.3**	**+3.0**
GRF				pmax	pmax		
	comp=Z,132nm,1.2s						
GRF				MLR	MLR		
	comp=Z,5µm,21.1s						
SURF	**Saint Ours**	**17.61**	**302**	*e*P	**P**	**03 05 13.3**	**+0.4**
MNK	**Minsk**	**17.67**	**0**	*e*P	**P**	**03 05 10.0**	**-3.5**
MNK				*e*S	**S**	**03 08 32.0**	**+3.7**
MNK				pmax	pmax		
	comp=Z,420nm,1.5s						
MNK				pmax	pmax		
	comp=N,490nm,1.2s						
MNK				MLR	MLR		
	comp=N,8µm,8.0s						
MNK				MLR	MLR		
	comp=Z,9µm,8.0s						
GUT	**Gutenstein**	**17.71**	**315**	*e*P	**P**	**03 05 15.6**	**+1.5**
GUT	**Gutenstein**	**17.71**	**315**	P	**P**	**03 05 15.9**	**+1.8**
MBDF	**Montbardon**	**17.72**	**303**	*e*P	**P**	**03 05 14.8**	**+0.6**
	comp=Z,85nm,0.8s						
BUCH	**Bad Urach**	**17.79**	**316**	*e*P	**P**	**03 05 15.6**	**+0.5**
BUCH	**Bad Urach**	**17.79**	**316**	P	**P**	**03 05 17.5**	**+2.4**
TAVF	**Tavernes**	**17.88**	**299**	*e*P	**P**	**03 05 18.4**	**+2.1**
BNI	**Bardonecchia**	**17.89**	**304**	*e*P	**P**	**03 05 15.2**	**-1.2**
	comp=Z,128nm,1.2s						
CLL	**Collm**	**17.89**	**329**	P	**P**	**03 05 18.0**	**+1.7**
CLL				*i*		03 05 21.8	
CLL				*e*		03 05 28.0	
CLL				*e*		03 05 42.0	
CLL				*e*		03 08 40.0	
CLL				*e*		03 08 47.0	
CLL				*e*SCP		03 13 27.0	
CLL				*e*SCS	ScS	03 17 06.0	-0.6
CLL	**Collm**	**17.89**	**329**	*e*P	**P**	**03 05 18.0**	**+1.7**
CLL				*e*S	**S**	**03 08 40.0**	**+6.6**
CLL				pmax	pmax		
	comp=Z,198nm,0.8s						
CLL	**Collm**	**17.89**	**329**	*e*P	**P**	**03 05 18.0**	**+1.7**
	comp=Z,198nm,0.8s						
CLL				*i*		03 05 21.8	
CLL				*e*		03 05 28.0	
CLL				*e*S	**S**	**03 08 40.0**	**+6.6**
CLL				*e*ScP		03 13 27.0	
SPAK	**Spaichingen**	**17.91**	**315**	*e*P	**P**	**03 05 18.2**	**+1.5**
SPAK	**Spaichingen**	**17.91**	**315**	*e*P	**P**	**03 05 18.4**	**+1.7**
LPG	**La Plagne**	**18.00**	**305**	*e*P	**P**	**03 05 20.0**	**+2.3**
	comp=Z,278nm,1.1s						
GKP	**Gorka Klasztor**	**18.00**	**339**	*e*P	**P**	**03 05 18.9**	**+1.1**
GKP				MLR	MLR		
	comp=Z,11µm,19.5s						
GKP	**Gorka Klasztor**	**18.00**	**339**	*e*P	**P**	**03 05 18.9**	**+1.1**
GKP				*e*PP	PP	03 05 22.7	-10
GKP				*e*S	S	03 09 04.1	+28
LPL	**La Plagne**	**18.02**	**305**	*e*P	**P**	**03 05 19.8**	**+1.8**
	comp=Z,196nm,0.9s						
MOX	**Moxa**	**18.02**	**325⇓**	*i*P	**P**	**03 05 21.5**	**+3.5**
	comp=Z,logA/T=2.2						
MOX				PP	PP	03 05 29.0	-3.9
MOX				S	**S**	**03 08 49.0**	**+13**
MOX				L		03 13 08.0	
MOX	**Moxa**	**18.02**	**325*c***	*e*P	**P**	**03 05 21.5**	**+3.5**
MOX				pmax	pmax		
	comp=Z,212nm,1.3s						
MOX				MLR	MLR		
	comp=Z,10µm,11.0s						
MOX	**Moxa**	**18.02**	**325**	*e*Pdu		03 05 21.5	
	comp=Z,212nm,1.3s						
MOX				*e*		03 05 29.0	
MOX				*e*		03 08 49.0	
STU	**Stuttgart**	**18.05**	**317⇑**	*e*P	**P**	**03 05 20.3**	**+1.8**
	comp=Z,84nm,1.0s						
BERF	**Bertagne**	**18.07**	**298**	*e*P	**P**	**03 05 20.1**	**+1.5**
PUYF	**Puyloubier**	**18.11**	**298**	*e*P	**P**	**03 05 20.3**	**+1.1**
SIND	**Sindeldorf**	**18.17**	**319**	*e*P	**P**	**03 05 21.1**	**+1.2**
VILF	**Villemus**	**18.18**	**299**	*e*P	**P**	**03 05 20.8**	**+0.7**
UMR	**Umm Al-Rimmam**	**18.19**	**108**	*e*P	**P**	**03 05 20.3**	**+0.1**
UMR				AMb	AMB	03 05 25.0	
	comp=Z,621nm,0.6s						
LBG	**Lerchenberg**	**18.21**	**316**	*e*P	**P**	**03 05 21.3**	**+0.9**
FELD	**Feldberg**	**18.25**	**313**	*e*P	**P**	**03 05 21.2**	**+0.3**
GELF	**Grande-Etoile**	**18.27**	**298**	*e*P	**P**	**03 05 22.2**	**+1.0**
BFO	**Black Forest**	**18.30**	**315**	*e*P	**P**	**03 05 22.5**	**+1.1**
BFO				pmax	pmax		
	comp=Z,70nm,1.2s						
BFO				MLR	MLR		
	comp=Z,6µm,23.5s						
BFO	**Black Forest**	**18.30**	**315**	*e*P	**P**	**03 05 22.5**	**+1.1**
	comp=Z,70nm,1.2s						
BFO				*e*S	**S**	**03 08 52.3**	**+10**
SMRF	**Simiane la Rot**	**18.31**	**300**	*e*P	**P**	**03 05 20.5**	**-1.2**
	comp=Z,355nm,1.7s						
KIZ	**Kirchzarten**	**18.34**	**313**	*e*P	**P**	**03 05 22.1**	**+0.1**
BBS	**Basel-Blauen**	**18.34**	**312**	*e*P	**P**	**03 05 22.5**	**+0.5**
BBS	**Basel-Blauen**	**18.34**	**312**	*e*P	**P**	**03 05 23.1**	**+1.1**
KBD	**Kabd**	**18.36**	**109**	*e*P	**P**	**03 05 22.3**	**0.0**
TREF	**Trevaresse**	**18.36**	**299**	*e*P	**P**	**03 05 19.6**	**-2.7**
ARBF	**Arbois**	**18.36**	**298**	P	**P**	**03 05 23.9**	**+1.6**
RDF	**Al-Radifah**	**18.37**	**110**	*e*P	**P**	**03 05 22.3**	**-0.2**
RDF				AMb	AMB	03 05 28.1	
	comp=Z,415nm,0.9s						
ORIF	**Oris-en-Rattie**	**18.38**	**303**	*e*P	**P**	**03 05 22.0**	**-0.5**
	comp=Z,119nm,1.1s						
ORIF				*e*R			
	comp=Z,8µm,18.2s						
RUE	**Ruedersdorf**	**18.48**	**332**	*e*P	**P**	**03 05 25.6**	**+1.8**
	comp=Z,161nm,0.8s						
PRAF	**Pradon**	**18.55**	**299**	*e*P	**P**	**03 05 25.7**	**+1.1**
GRN	**Grenoble**	**18.57**	**304**	*e*P	**P**	**03 05 25.5**	**+0.6**
LIBD	**Limburg**	**18.62**	**314**	*e*P	**P**	**03 05 25.3**	**-0.1**
LIBD	**Limburg**	**18.62**	**314**	*e*P	**P**	**03 05 27.1**	**+1.7**
LOMF	**Lomont**	**18.70**	**311**	*e*P	**P**	**03 05 27.4**	**+1.0**
QRN	**Al-Qurain**	**18.74**	**110**	*e*P	**P**	**03 05 27.0**	**0.0**
QRN				AMb	AMB	03 05 30.8	
	comp=Z,394nm,0.9s						
TOD	**Tromm**	**18.75**	**319**	*e*P	**P**	**03 05 26.8**	**-0.1**
TOD	**Tromm**	**18.75**	**319**	*e*P	**P**	**03 05 27.8**	**+0.9**
STR	**Strasbourg**	**18.75**	**315**	*e*P	**P**	**03 05 29.2**	**+2.2**
MOF	**Molkenrain**	**18.75**	**312**	*e*P	**P**	**03 05 28.1**	**+1.1**
CABF	**La Chapelle**	**18.85**	**308**	*e*P	**P**	**03 05 27.3**	**-0.9**
	comp=Z,212nm,1.0s						
WLS	**Welschbruch**	**18.90**	**314**	*e*P	**P**	**03 05 28.3**	**-0.4**
HINF	**Hinteralfeld**	**18.90**	**312**	*e*P	**P**	**03 05 29.5**	**+0.7**
	comp=Z,99nm,1.3s						
LANF	**Langenberg**	**18.93**	**316**	*e*P	**P**	**03 05 31.4**	**+2.2**
CDF	**Champ du Feu**	**18.94**	**314**	*e*P	**P**	**03 05 29.6**	**+0.3**
	comp=Z,140nm,1.0s						
VIVF	**Saint-Julien-l**	**19.18**	**302**	*e*P	**P**	**03 05 31.1**	**-1.0**
	comp=Z,123nm,1.0s						
OBN	**Obninsk**	**19.25**	**15*c***	*i*P	**P**	**03 05 30.5**	**-2.4**
OBN				*e*S	**S**	**03 09 05.8**	**+1.6**
OBN				pmax	pmax		
	comp=Z,109nm,1.1s						
OBN				MLR	MLR		
	comp=Z,6µm,13.0s						
OBN	**Obninsk**	**19.25**	**15⇑**	*e*P	**P**	**03 05 29.8**	**-3.1**
	comp=Z,116nm,1.1s						
HAU	**Haudompre**	**19.29**	**312**	*e*P	**P**	**03 05 33.2**	**-0.2**
	comp=Z,145nm,0.9s						
HAU				*e*R			
	comp=Z,12µm,22.2s						
CLZ	**Clausthal**	**19.41**	**326**	*e*P	**P**	**03 05 34.6**	**-0.2**
	comp=Z,158nm,1.3s						
CLZ				*e*S	**S**	**03 09 15.1**	**+7.2**
LASF	**Ste Croix**	**19.54**	**299**	*e*P	**P**	**03 05 35.0**	**-1.3**
	comp=Z,204nm,1.3s						
ABH	**Alteburg**	**19.57**	**318**	*e*P	**P**	**03 05 35.6**	**-1.0**
THEF	**They Montfort**	**19.61**	**312**	*e*P	**P**	**03 05 36.6**	**-0.4**
MZLS	**Mizel**	**19.68**	**126**	P	**P**	**03 05 40.7**	**+2.6**
RUP	**Ruppelstein**	**19.73**	**317**	*e*P	**P**	**03 05 38.0**	**-0.5**
RUP	**Ruppelstein**	**19.73**	**317**	P	**P**	**03 05 39.0**	**+0.5**
LTHS	**Al Lith**	**19.86**	**143**	P	**P**	**03 05 42.5**	**+2.4**
EJON	**La Jonquera**	**19.93**	**294**	P	**P**	**03 05 38.4**	**-2.3**
	comp=Z,48nm,2.0s						
SJAF	**Saint Jean de**	**19.94**	**294**	*e*P	**P**	**03 05 39.3**	**-1.5**
MOS	**Moscow**	**20.06**	**16α**	*i*P	**P**	**03 05 40.7**	**-1.2**
MOS				*e*PPP	PPP	03 06 01.8	-8.6
MOS				*e*S	**S**	**03 09 17.8**	**-3.9**
MOS				*e*SS	SS	03 09 47.3	-3.0
MOS				pmax	pmax		
	comp=Z,767nm,1.6s						
MOS				pmax	pmax		
	comp=N,573nm,1.9s						
MOS				MLR	MLR		
	comp=Z,3µm,11.4s,MS4.9						
MOS				MLR	MLR		
	comp=N,3µm,11.1s						
WLF	**Walferdange**	**20.21**	**316**	*e*P	**P**	**03 05 42.4**	**-1.2**
WLF				pmax	pmax		
	comp=Z,34nm,0.8s						
WLF	**Walferdange**	**20.21**	**316**	*e*P	**P**	**03 05 42.4**	**-1.2**
	comp=Z,34nm,0.8s						
LRDF	**Laroque-de-Fa**	**20.26**	**295**	*e*P	**P**	**03 05 43.1**	**-1.0**
BSD	**Bornholm Skovb**	**20.29**	**338**	*i* P	**P**	**03 05 41.7**	**-2.6**
	comp=Z,59nm,0.9s						
	comp=Z,4µm,16.0s						
MEZF	**Maizieres J'vi**	**20.29**	**312**	*e*P	**P**	**03 05 43.9**	**-0.5**
	comp=Z,119nm,1.1s						
SMF	**Signal de Mont**	**20.30**	**306**	*e*P	**P**	**03 05 43.8**	**-0.7**
	comp=Z,469nm,1.2s						
RGN	**Rugen**	**20.31**	**335**	*e*P	**P**	**03 05 45.0**	**+0.4**
	comp=Z,192nm,1.0s						
LOR	**Lormes**	**20.51**	**308**	*e*P	**P**	**03 05 45.9**	**-0.8**
	comp=Z,233nm,1.1s						
LOR				*e*R			
	comp=Z,9µm,22.5s						
MTLF	**Montolieu**	**20.55**	**296**	*e*P	**P**	**03 05 45.9**	**-1.3**
	comp=Z,223nm,1.5s						
SSF	**Saint Saulge**	**20.66**	**307**	*e*P	**P**	**03 05 47.7**	**-0.6**
	comp=Z,610nm,1.2s						
AVF	**Avril sur Loir**	**20.66**	**306**	*e*P	**P**	**03 05 47.6**	**-0.7**
	comp=Z,521nm,1.3s						
BLJS	**Baljurashi**	**20.78**	**141**	P	**P**	**03 05 53.2**	**+3.5**
EMIR	**Miracle**	**20.87**	**292**	P	**P**	**03 05 50.7**	**+0.1**
	comp=Z,271nm,2.1s						
BGF	**Bois d'Agland**	**20.91**	**305**	*e*P	**P**	**03 05 50.6**	**-0.3**
	comp=Z,526nm,1.3s						
HGN	**Heimansgroeve**	**20.92**	**319**	*e*P	**P**	**03 05 50.9**	**-0.1**
	comp=Z,18nm,2.5s						
HGN				*e*x	x	03 05 58.6	
	comp=Z,39nm,1.3s						
HGN				*e*S	**S**	**03 09 48.8**	**+10**
HGN				*e*x	x	03 11 47.7	
HGN	**Heimansgroeve**	**20.92**	**319**	P	**P**	**03 05 51.2**	**+0.2**
BSEG	**Bad Segeberg**	**20.94**	**330**	*e*P	**P**	**03 05 50.7**	**-0.4**
BSEG				*e*S	**S**	**03 09 46.4**	**+6.8**
BSEG				pmax	pmax		
	comp=Z,932nm,2.7s						
BSEG				MLR	MLR		
	comp=Z,8µm,16.8s,MS5.2						
CAF	**Calviac**	**20.98**	**301**	*e*P	**P**	**03 05 51.4**	**-0.2**
	comp=Z,172nm,1.3s						
EPOB	**Poblet**	**21.16**	**291**	P	**P**	**03 05 52.2**	**-1.3**
	comp=Z,84nm,1.7s,mb4.8						
WTSB	**Winterswijk**	**21.18**	**322**	*e*P	**P**	**03 05 52.7**	**-0.8**
	comp=Z,21nm,1.7s,mb4.2						
WTSB				*i* x	x	03 05 57.6	
	comp=Z,48nm,1.6s						
WTSB	**Winterswijk**	**21.18**	**322**	P	**P**	**03 05 53.4**	**-0.1**
GIVF	**Givet**	**21.18**	**316**	*e*P	**P**	**03 05 55.3**	**+1.7**
TCF	**Toulx Ste Croi**	**21.25**	**304**	*e*P	**P**	**03 05 54.1**	**-0.2**
	comp=Z,373nm,1.6s,mb5.2						
HYF	**Humbligny**	**21.29**	**307**	*e*P	**P**	**03 05 54.6**	**-0.1**
MLS	**Moulis**	**21.31**	**295**	*e*P	**P**	**03 05 54.0**	**-1.0**
BAIF	**Baives**	**21.50**	**315**	*e*P	**P**	**03 05 56.2**	**-0.7**
	comp=Z,430nm,1.5s,mb5.4						
COP	**Copenhagen**	**21.54**	**336⇑**	*i*P	**P**	**03 05 57.6**	**+0.4**
	comp=Z,105nm,0.9s,mb5.3						
COP				*i* S	**S**	**03 09 54.4**	**+3.5**
EBR	**Ebro Roquetas**	**21.58**	**289**	*e*P	**P**	**03 05 58.5**	**+0.8**
VSU	**Vasula**	**21.65**	**359**	P	**P**	**03 05 58.7**	**+0.4**

NAMS	An Nimas	21.68	140	P	P	03 06 02.5	+3.6
WIT	Witteveen	21.76	324	eP	P	03 05 59.6	+0.1
	comp=Z,57nm,1.3s,mb4.8						
WIT				i x	x	03 06 01.8	
	comp=Z,174nm,1.1s						
RESF	Ens	21.84	294	eP	P	03 06 00.6	+0.3
EPF	Esparros	21.87	295	eP	P	03 05 58.7	-1.9
LFF	La Frestale	21.91	300	eP	P	03 05 59.8	-1.1
	comp=Z,210nm,1.3s,mb5.1						
HASS	Wahat al Ahsa’	22.03	116	P	P	03 06 05.7	+3.4
TATS	Tathlith	22.05	137	P	P	03 06 06.1	+3.5
VIEF	Viey	22.08	294	eP	P	03 06 02.3	-0.4
EBEN	Beniarda	22.18	283	P	P	03 06 02.6	-1.1
	comp=Z,196nm,1.9s,mb5.2						
EMOS	Mosqueruela	22.31	288	P	P	03 06 04.5	-0.5
	comp=Z,232nm,1.9s,mb5.3						
ESAC	San Caprasio	22.35	291	P	P	03 06 05.6	+0.3
	comp=Z,163nm,1.6s,mb5.2						
PECR	Pechory	22.37	24	eP	P	03 06 07.4	+1.9
PECR				eS	S	03 10 15.4	+9.0
PECR				eSS	SS	03 11 07.6	+21
PECR				pmax	pmax		
	comp=Z,1µm,7.0s						
PECR				pmax	pmax		
	comp=N,2µm,8.0s						
PECR				smax			
	comp=N,8µm,12.8s						
PECR				MLR	MLR		
	comp=Z,3µm,11.0s,MS5.0						
REYF	Montagne du Re	22.41	295	eP	P	03 06 06.5	+0.6
FDAF	Les Forges d’A	22.51	294	eP	P	03 06 09.7	+2.8
ETSF	Etsaut	22.51	294	eP	P	03 06 07.2	+0.3
	comp=Z,56nm,0.9s,mb4.7						
LARF	Larrau	22.84	295	eP	P	03 06 10.9	+0.8
MFF	Saint Martin d	22.90	304	eP	P	03 06 09.8	-1.0
	comp=Z,205nm,1.4s,mb5.1						
PUL	Pulkovo	23.01	3	ceP	P	03 06 13.2	+1.6
PUL				eS	S	03 10 20.3	+2.7
PUL				pmax	pmax		
	comp=Z,357nm,1.0s,mb5.8						
PUL				pmax	pmax		
	comp=N,994nm,1.3s						
PUL				pmax	pmax		
	comp=E,126nm,0.6s						
PUL				pmax	pmax		
	comp=Z,452nm,1.1s,mb5.8						
PUL				pmax	pmax		
	comp=N,1µm,1.4s						
PUL				pmax	pmax		
	comp=E,95nm,0.5s						
PUL				smax			
	comp=N,7µm,13.7s						
PUL				smax			
	comp=Z,4µm,14.8s						
PUL				smax			
	comp=E,4µm,15.6s						
PUL				MLR	MLR		
	comp=N,3µm,12.0s,MS5.1						
PUL				MLR	MLR		
	comp=E,3µm,12.0s,MS5.1						
PUL				MLR	MLR		
	comp=Z,4µm,12.0s,MS5.0						
SJPF	Ste Jean	23.02	295	eP	P	03 06 12.6	+0.7
	comp=Z,109nm,1.0s,mb4.9						
EMUR	La Murta	23.05	281	P	P	03 06 12.4	+0.1
	comp=Z,103nm,1.7s,mb5.0						
OSSF	Osses	23.06	295	eP	P	03 06 12.6	+0.3
ETOB	Tobarra	23.21	283	P	P	03 06 16.1	+2.3
	comp=Z,46nm,0.9s,mb4.9						
EALK	Alkurruntz	23.23	295	P	P	03 06 14.6	+0.6
	comp=Z,114nm,1.8s,mb5.0						
MUD	Monsted U’grnd	23.27	333⇑	iP	P	03 06 16.8	+2.6
	comp=Z,86nm,0.9s,mb5.2						
MUD				i S	S	03 10 30.8	+8.5
MUD				i		03 25 15.1	
LDF	La Druitiere	23.48	309	eP	P	03 06 16.3	-0.1
	comp=Z,703nm,1.5s,mb5.6						
ETOR	Torete	23.52	289	P	P	03 06 18.2	+1.5
	comp=Z,116nm,1.7s,mb5.0						
DJNS	Zahran al Janu	23.59	140	P	P	03 06 24.9	+7.1
FLN	La Foliniere	23.77	309	eP	P	03 06 18.2	-0.9
	comp=Z,405nm,1.0s,mb5.5						
FLN				eR			
	comp=Z,7µm,22.2s						
GRR	Gorron	23.88	308	eP	P	03 06 20.1	-0.1
	comp=Z,727nm,1.0s,mb5.8						
ECRI	Cripan	23.91	293	P	P	03 06 21.7	+1.0
	comp=Z,79nm,0.8s,mb5.2						
EVIA	Vianos	23.96	284	P	P	03 06 22.0	+0.9
	comp=Z,23nm,1.6s,mb4.4						
EQES	Quesada	24.49	282	P	P	03 06 27.5	+1.1
	comp=Z,115nm,1.6s,mb5.1						
FINES	FINESS Array B	24.65	358	P	P	03 06 26.4	-1.2
	comp=Z,36nm,0.7s,mb5.0,baz=158,slow=10,SNR=107						
FINES				LR	LR	03 17 43.2	
	comp=Z,2µm,19.8s,MS4.5,baz=350,slow=41						
FINES	FINESS Array B	24.65	358	P	P	03 06 26.4	-1.2
FINES				pmax	pmax		
	comp=Z,36nm,0.7s						
FINES				MLR	MLR		
	comp=Z,2µm,19.8s						
FINES	FINESS Array B	24.65	358	P	P	03 06 26.4	-1.2
FINES				LR	LR	03 17 43.2	
JQE	Queens East	24.88	309⇓	eP	P	03 06 28.7	-1.2
JQE				AMb	AMB	03 06 43.7	
	comp=Z,251nm,2.0s,mb5.4						
JRS	Jersey	24.91	309	eP	P	03 06 28.9	-1.3
JRS				AMb	AMB	03 06 46.7	
	comp=Z,152nm,2.0s,mb5.2						
SGMF	Saint Gilles	24.92	307	eP	P	03 06 29.6	-0.8
	comp=Z,210nm,1.0s,mb5.3						
JLP	Les Platons	24.93	309	eP	P	03 06 29.0	-1.4
JLP				AMb	AMB	03 06 47.0	
	comp=Z,228nm,1.7s,mb5.4						
JVM	Valle D.L. Mar	24.99	309	eP	P	03 06 29.6	-1.3
JVM				AMb	AMB	03 06 51.1	
	comp=Z,120nm,1.7s,mb5.2						
HFS	Hagfors	25.00	343	P	P	03 06 29.6	-1.4
	comp=Z,36nm,0.8s,mb5.0,baz=158,slow=8.0,SNR=60						
HFS	Hagfors	25.00	343	P	P	03 06 29.6	-1.4
HFS				pmax	pmax		
	comp=Z,36nm,0.8s						
ESDC	Sonseca Array	25.01	286	P	P	03 06 31.1	-0.2
	comp=Z,36nm,0.8s,mb5.0,baz=81,slow=9.3,SNR=91						
ESDC				LR	LR	03 16 02.2	
	comp=Z,2µm,18.9s,MS4.6,baz=40,slow=36						
ESDC	Sonseca Array	25.01	286	P	P	03 06 30.6	-0.7
	comp=Z,70nm,0.8s,mb5.2						
ERON	Agron	25.18	280	P	P	03 06 33.7	+0.7
	comp=Z,14nm,0.7s,mb4.6						
QUIF	Quistinic	25.23	306	eP	P	03 06 32.2	-1.0
	comp=Z,141nm,1.1s,mb5.1						
ROSF	Rostrenen	25.41	307	eP	P	03 06 33.5	-1.4
	comp=Z,98nm,1.0s,mb5.0						
ELOJ	Sierra Loja	25.44	280	P	P	03 06 34.7	-0.6
	comp=Z,6.1nm,0.6s,mb4.3						
ELUQ	Luque	25.47	281	P	P	03 06 35.2	-0.4
	comp=Z,17nm,0.7s,mb4.7						
EADA	Adamuz	25.63	283	P	P	03 06 36.2	-0.9
	comp=Z,137nm,2.5s,mb5.0						
KONO	Kongsberg	25.66	339	eP	Px	03 07 10.9	
KONO				AMb	AMB	03 07 30.2	
	comp=Z,172nm,2.0s,mb5.2						
KONO				e		03 11 41.8	
KONO				AMS	AMS	03 18 33.4	
	comp=Z,3µm,20.9s,MS4.8						
KONO	Kongsberg	25.66	339	PFAKE		03 06 50.0	+13
KONO				LR	LR		
	comp=Z,619nm,20.0s,MS4.1						
JOF	Joensuu	26.20	4	ep	P	03 06 40.7	-1.5
AB31	Akbulak array	26.38	52	i P	P	03 06 43.6	-0.3
AB31				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.7						
NB2	NORSAR Subarra	26.39	342	P	P	03 06 42.3	-1.7
	comp=Z,34nm,1.2s,mb4.8,baz=145,slow=9.3						
NB2	NORSAR Subarra	26.39	342	P	P	03 06 42.3	-1.7
	baz=145,slow=10						
NOA	NORSAR Array B	26.39	342	P	P	03 06 41.8	-2.2
	comp=Z,6.9nm,0.7s,mb4.3,baz=148,slow=9.7,SNR=31						
NOA				LR	LR	03 18 39.9	
	comp=Z,1µm,20.0s,MS4.4,baz=145,slow=40						
NOA	NORSAR Array B	26.39	342	P	P	03 06 41.8	-2.2
NOA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,1µm,20.0s						
BLS5	Blasjo	26.47	335⇑	iP	P	03 06 44.9	+0.2
BLS5				AMb	AMB	03 06 48.1	
	comp=Z,50nm,1.5s,mb4.8						
BLS5				esP	sP	03 06 49.4	+0.5
BLS5	Blasjo	26.47	335⇑	iP	P	03 06 44.9	+0.2
	comp=Z,50nm,1.5s,mb4.8						
KMY	Karmoy	26.73	334	eP	P	03 06 46.9	-0.1
ODD1	Odda	26.79	336	eP	P	03 06 47.1	-0.5
ODD1				AMb	AMB	03 06 49.6	
	comp=Z,54nm,1.2s,mb4.9						
ODD1	Odda	26.79	336	eP	P	03 06 47.1	-0.5
	comp=Z,54nm,1.3s,mb4.9						
ESPR	Espera	26.83	280	P	P	03 06 49.0	+0.8
	comp=Z,31nm,0.6s,mb5.0						
ECAL	Calabor	27.03	292	P	P	03 06 49.5	-0.5
	comp=Z,71nm,1.2s,mb5.1						
PBRG	Braganca	27.04	291	eP	P	03 06 53.0	+2.9
	comp=Z,67nm,1.0s,mb5.1						
PBRG	Braganca	27.04	291	eP	P	03 06 50.3	+0.2
EMIN	Mina Concepcio	27.32	282	P	P	03 06 51.0	-1.8
	comp=Z,14nm,0.9s,mb4.5						
ERUA	La Rua	27.33	293	P	P	03 06 51.4	-1.3
	comp=Z,23nm,0.8s,mb4.8						
EPON	Pontenova	27.35	295	P	P	03 06 52.1	-0.8
	comp=Z,150nm,2.0s,mb5.2						
EBAD	Badajoz	27.46	285	P	P	03 06 51.8	-2.2
	comp=Z,82nm,1.7s,mb5.0						
EGD	Espegrend	27.52	336	eP	P	03 06 54.7	+0.4
EGD				AMb	AMB	03 07 11.3	
	comp=Z,99nm,1.6s,mb5.2						
CDU1	Dunnerdale	27.53	319	eP	P	03 06 52.8	-1.6
BER	Bergen	27.57	336	eP	P	03 06 54.9	+0.1
BER				AMb	AMB	03 07 10.7	
	comp=Z,72nm,1.4s,mb5.1						
BER	Bergen	27.57	336	eP	P	03 06 55.7	+1.0
	comp=Z,288nm,1.1s,mb5.8						
CSF	Scaffel	27.61	320	eP	P	03 06 53.4	-1.7
ASK	Askoy	27.69	336	eP	P	03 06 56.8	+0.9
ASK				AMb	AMB	03 07 12.0	
	comp=Z,136nm,1.9s,mb5.3						
PCBR	Castelo Branco	27.70	287	eP	P	03 06 55.9	-0.2
	comp=Z,62nm,1.3s,mb5.1						
PCBR	Castelo Branco	27.70	287	eP	P	03 06 55.2	-0.9
MTE	Manteigas	27.71	288	eP	P	03 06 55.6	-0.6
	comp=Z,63nm,0.9s,mb5.2						
MTE				eS	S	03 11 42.1	+5.4
MTE	Manteigas	27.71	288	eP	P	03 06 55.8	-0.4
	comp=Z,43nm,0.8s,mb5.1						
PVRL	Vila Real	27.79	290	eP	P	03 06 56.8	-0.1
	comp=Z,22nm,1.7s,mb4.5						
PVRL	Vila Real	27.79	290	eP	P	03 06 56.7	-0.2
PVIS	Viseu	27.95	289	eP	P	03 06 58.1	-0.3
	comp=Z,48nm,0.9s,mb5.1						
PVIS	Viseu	27.95	289	eP	P	03 06 58.0	-0.4
EKA	Eskdalemuir Ar	27.98	321	P	P	03 06 56.1	-2.4
	comp=Z,8.6nm,0.9s,mb4.4,baz=118,slow=9.5,SNR=27						
EKA	Eskdalemuir Ar	27.98	321	P	P	03 06 56.1	-2.4
EKA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ESK	Eskdalemuir	27.99	321	eP	P	03 06 55.4	-3.2
	comp=Z,20nm,0.8s,mb4.8						
ESK				LR	LR		
	comp=Z,836nm,21.0s,MS4.3						
ESY	Stoneypath	27.99	323	eP	P	03 06 57.1	-1.5
ESY				AMb	AMB	03 07 12.3	
	comp=Z,34nm,1.5s,mb4.7						
EGRO	El Granado	28.00	282	P	P	03 06 56.7	-2.1
	comp=Z,35nm,0.6s,mb5.2						
PALC	Alcoutim	28.00	282	eP	P	03 06 58.3	-0.6
	comp=Z,78nm,0.9s,mb5.3						
PALC				eS	S	03 11 45.6	+4.1
PALC	Alcoutim	28.00	282	eP	P	03 06 57.9	-1.0
EBL	Broad Law	28.13	322	eP	P	03 06 58.0	-1.8
PBEJ	Beja	28.22	283	eP	P	03 07 00.7	-0.1
	comp=Z,72nm,1.3s,mb5.1						
PBEJ	Beja	28.22	283	eP	P	03 06 59.9	-0.9
EVO	Evora	28.26	284	eP	P	03 07 00.7	-0.5
	comp=Z,13nm,0.8s,mb4.3						
EVO				eR			
	comp=Z,2µm,17.2s						
EDI	Edinburgh	28.28	322⇓	eP	P	03 06 59.3	-1.8
EDI				AMb	AMB	03 07 05.5	
	comp=Z,82nm,1.7s,mb5.1						
EAU	Auchinoon	28.37	322	eP	P	03 07 00.5	-1.5
EAU				AMb	AMB	03 07 18.3	
	comp=Z,58nm,1.8s,mb4.9						
STS	Santiago	28.37	294	P	P	03 06 58.1	-4.1
	comp=Z,12nm,1.0s,mb4.5						
PCOI	Coimbra	28.43	288	eP	P	03 07 03.5	+0.8
	comp=Z,177nm,1.1s,mb5.6						
PCOI	Coimbra	28.43	288	eP	P	03 07 03.9	+1.2
PTOM	Tomar	28.44	287	eP	P	03 07 02.2	-0.6
	comp=Z,66nm,1.1s,mb5.2						
PTOM	Tomar	28.44	287	eP	P	03 07 01.3	-1.5
ARU	Arti	28.45	37⇓	iP	P	03 07 02.2	-0.5
ARU				e		03 07 51.2	
ARU				ePPP	PPP	03 07 59.1	-7.7
ARU				i		03 10 12.6	
ARU				eS	S	03 11 48.8	+0.2
ARU				eSS	SS	03 13 10.9	-2.4
ARU				eSSS	SSS	03 13 26.7	-5.5
ARU				e		03 17 44.6	
ARU				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.1						
ARU				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,2µm,20.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,2µm,21.0s,MS4.9						
ARU	Arti	28.45	37⇓	eP	P	03 07 01.7	-1.0
	comp=E,74nm,1.1s,mb5.2						
ARU				LR	LR		
	comp=Z,683nm,21.0s,MS4.2						
EZAM	Zamans	28.49	292	P	P	03 07 03.4	+0.2
	comp=Z,28nm,0.7s,mb5.0						
MOE	Montemor	28.52	284	eP	P	03 07 04.0	+0.4
MOE	Montemor	28.52	284	eP	P	03 07 03.9	+0.3
MOL	Molde	28.63	340	e	P	03 07 10.4	+6.1
MOL				AMb	AMB	03 07 14.4	
	comp=Z,45nm,1.3s,mb5.0						
PTEO	Sao Teotonio	28.97	283	eP	P	03 07 06.8	-0.8
	comp=Z,100nm,1.6s,mb5.3						
PTEO	Sao Teotonio	28.97	283	eP	P	03 07 06.7	-0.9
EAB	Aberfoyle	28.97	322⇓	eP	P	03 07 05.5	-1.9
EAB				AMb	AMB	03 07 17.3	
	comp=Z,59nm,2.1s,mb5.0						
PLOU	Loures	29.10	285	eP	P	03 07 07.9	-0.8
	comp=Z,37nm,1.0s,mb5.1						
LIS	Lisbon	29.12	285	eP	P	03 07 06.9	-2.0
LIS				eS	S	03 11 58.0	-1.4
LIS				eS	S	03 11 58.9	-0.5
LIS				AMS	AMS	03 21 33.8	
	comp=N,3µm,13.9s						
LIS	Lisbon	29.12	285	eP	P	03 07 06.9	-2.0
LIS				eS	S	03 11 58.0	-1.4
NSS	Namsos	29.30	346	eP	P	03 07 08.8	-1.5
NSS				eS	S	03 12 03.5	+1.4
NSS				AMS	AMS	03 21 00.5	
	comp=Z,6µm,17.3s,MS5.3						
SOKR	Solikamsk	29.43	30	d iP	P	03 07 10.4	-1.2
SOKR				i S	S	03 12 05.9	+1.7
SOKR				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.8						
SAN1	Sandwick	29.70	331⇓	eP	P	03 07 13.6	-0.4
LRW	Lerwick	29.75	331⇓	eP	P	03 07 12.3	-2.1
YEL1	Yell	29.98	331	eP	P	03 07 14.6	-1.8
WAL1	Walls	30.00	331⇓	eP	P	03 07 14.8	-1.9
APA	Apatity	30.95	4⇑	eP	P	03 07 22.9	-2.0
APA				e		03 10 19.0	
APA				i S	S	03 12 35.0	+6.9
APA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
APA				MLR	MLR		
	comp=Z,8µm,10.0s,MS5.7						
LVZ	Lovozero	31.35	5	c iP	P	03 07 28.2	-0.3
LVZ				eS	S	03 12 35.9	+1.5
LVZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
LVZ				pmax	pmax		
	comp=N,14nm,1.5s						
LVZ				pmax	pmax		
	comp=E,3.0nm,0.9s						
LVZ				pmax	pmax		
	comp=Z,419nm,3.6s						
LVZ				pmax	pmax		
	comp=N,184nm,2.9s						
LVZ				pmax	pmax		
	comp=E,26nm,2.0s						
LVZ				smax			
	comp=N,2µm,12.0s						
LVZ				smax			
	comp=E,222nm,3.5s						
LVZ				MLR	MLR		
	comp=N,2µm,10.0s,MS5.2						
LVZ				MLR	MLR		
	comp=E,2µm,10.0s,MS5.2						
LVZ				MLR	MLR		
	comp=Z,3µm,10.0s,MS5.2						
KTK1	Kautokeino	32.33	357	eP	P	03 07 35.9	-1.1
ARCES	ARCESS Array B	32.78	359	P	P	03 07 39.2	-1.7
	comp=Z,12nm,0.7s,mb5.0,baz=180,slow=7.3,SNR=52						
ARCES				LR	LR	03 22 40.1	
	comp=Z,2µm,19.1s,MS4.8,baz=180,slow=40						
ARCES	ARCESS Array B	32.78	359	P	P	03 07 39.3	-1.6
ARCES				pmax	pmax		
	comp=Z,12nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,2µm,19.1s						
ZRNK	Zerenda	32.83	47	P	P	03 07 41.5	0.0
ZRNK				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
ZRNK	Zerenda	32.83	47	eP	P	03 07 41.3	-0.2
	comp=Z,36nm,0.9s,mb5.3						
KEV	Kevo	32.98	360	ep	P	03 07 41.3	-1.4
KKAR	Karatay Array	33.07	66	i P	P	03 07 43.3	-0.5
KKAR				pmax	pmax		
	comp=Z,92nm,1.1s,mb5.6						
TRO	Tromso	33.21	354	eP	P	03 07 42.7	-1.9
TRO				ePP	PP	03 08 59.0	+3.2
TRO				eS	S	03 13 01.1	-2.2
TRO				AMS	AMS	03 22 31.3	
	comp=Z,2µm,20.0s,MS4.8						
BRVK	Borovoye	33.60	47	eP	P	03 07 47.0	-1.3
	comp=Z,78nm,1.7s,mb5.4						
BVA0	Borovoye Array	33.66	48	i P	P	03 07 48.7	0.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	33.66	48	P	P	03 07 48.0	-0.8
	comp=Z,3.9nm,0.7s,mb4.5,baz=256,slow=12,SNR=18						
BVAR				LR	LR	03 24 16.0	
	comp=Z,30nm,20.7s,baz=310,slow=41						
VOSK	Vostochnaya	33.95	48	P	P	03 07 50.8	-0.5
VOSK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
AML	Almayashu	35.50	67	P	P	03 08 05.0	+0.3
	SNR=12						
EKS2	Erkin-Say	35.50	66	P	P	03 08 05.3	+0.6
	SNR=47						
USP	Ospenovka	35.97	65	P	P	03 08 08.4	-0.2
	SNR=24						
AAK	Ala-Archa	36.03	66	P	P	03 08 10.0	+0.9
	SNR=22						
UCH	Uchtor	36.10	67	P	P	03 08 10.7	+1.0
	SNR=18						
FRU	Bishkek	36.10	66	i P	P	03 08 11.0	+1.3
FRU				e		03 09 35.0	
FRU				pmax	pmax		
	comp=Z,360nm,1.6s,mb6.0						
CHMS	Chumysh	36.18	65	P	P	03 08 10.7	+0.4
	SNR=29						
KBK	Karagaybulak	36.36	66	P	P	03 08 12.9	+1.0
	SNR=23						
KZA	Kyzart	36.66	67	P	P	03 08 16.0	+1.6
	SNR=31						
TKM2	Tokmak 2	36.80	65	P	P	03 08 16.1	+0.5
	SNR=33						
ULHL	Ulahol	37.37	66	P	P	03 08 21.6	+1.2
	SNR=96						
KSH	Kashi	37.63	71	eP	P	03 08 23.1	+0.4
KSH				eAP	pP	03 08 27.5	+1.9
KSH				eXP	sP	03 08 30.2	+3.3
KSH				ePP	PP	03 09 51.2	-0.1
KSH				ePCP	PcP	03 10 40.9	+0.2
KSH				eS	S	03 14 11.7	-0.2
KSH				eSCP		03 14 26.7	
KSH				ePCS		03 14 28.6	
KSH				eSCS	ScS	03 18 33.5	-0.6
KSH				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.5						
KSH				LR	LR		
	comp=N,2µm,12.4s,MS5.2						
KSH				LR	LR		
	comp=E,2µm,12.7s,MS5.2						
JASL	Jaisalmer	37.67	93	eP	P	03 08 23.4	+0.4
BJO	Bjornoya	37.98	356	eP	P	03 08 25.2	-0.1
BJO				ePP	PP	03 09 50.8	-4.3
BJO				eSS	SS	03 17 04.3	+11
BJO				AMS	AMS	03 27 57.7	
	comp=Z,1µm,17.1s,MS4.7						
CCAN	Las Canadas	38.11	270	P	P	03 08 28.4	+1.7
	comp=Z,34nm,1.0s,mb5.0						
KMBO	Kilima Mbogo	38.78	165	P	P	03 08 35.2	+2.6
	comp=Z,5.9nm,1.0s,mb4.3,baz=7.9,slow=9.8,SNR=6.9						
KMBO				LR	LR	03 25 30.7	
	comp=Z,2µm,18.4s,MS5.0,baz=340,slow=38						
KMBO	Kilima Mbogo	38.78	165	eP	P	03 08 35.5	+2.9
	comp=Z,6.0nm,0.9s,mb4.3						
KMBO				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
JMIC	Jan Mayen	39.11	342	eP	P	03 08 31.9	-2.8
JMIC				ePP	PP	03 10 03.1	-5.2
JMIC				eS	S	03 14 32.3	-1.7
JMIC				AMS	AMS	03 26 57.3	
	comp=Z,1µm,17.2s,MS4.7						
THN	Thein Dam	39.37	82	eP	P	03 08 37.1	-0.2
BORG	Borgarnes	40.13	330	P	P	03 08 44.2	+1.0
	comp=Z,25nm,0.9s,mb5.0,baz=133,slow=11,SNR=5.9						
BHK	Bhakra	40.29	83	e	P	03 08 48.0	+3.1
MKAR	Makanchi Array	41.09	58	P	P	03 08 51.6	+0.3
	comp=Z,32nm,0.7s,mb5.1,baz=281,slow=6.2,SNR=115						
MKAR				LR	LR	03 28 34.8	
	comp=Z,2µm,19.5s,MS4.9,baz=279,slow=40						
MKAR	Makanchi Array	41.09	58	P	P	03 08 51.6	+0.3
MKAR				pmax	pmax		
	comp=Z,32nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,2µm,19.5s						
KHET	Khetri	41.11	88	eP	P	03 08 52.8	+1.1
KHET				e	pP	03 08 56.6	+1.9
	comp=Z,27nm,2.1s						
KKR	Kurukshetra	41.16	85	eP	P	03 08 52.4	+0.4
RTK	Rohtak	41.20	86	eP	P	03 08 52.1	-0.3
RTK				AMb	AMB	03 08 57.0	
	comp=Z,98nm,0.2s,mb6.2						
NVS	Novosibirsk	41.41	46	i P	P	03 08 54.0	+0.2
NVS				i		03 10 28.7	
NVS				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=E,55nm,1.0s						
KUDL	Kundal	41.63	88	eP	P	03 08 55.9	0.0
KUDL				e		03 09 00.9	
	comp=Z,32nm,1.1s						
KLP	Kalpa	41.70	82	eP	P	03 08 56.2	-0.3
KLP				e	pP	03 08 59.8	+0.3
	comp=Z,36nm,0.9s						
KLP				e		03 14 42.7	
SPB4	Spitsbergen Ar	41.73	356	eP	P	03 08 56.4	+0.2
NDI	New Delhi	41.98	86	eP	P	03 08 58.0	-0.8
NDI				e		03 15 22.0	
AYAN	Aya Nagar	42.00	87	eP	P	03 08 59.0	0.0
AYAN				e		03 09 04.7	
	comp=Z,46nm,1.7s						
DDI	Dehra Dun	42.00	84	eP	P	03 09 00.0	+1.0
SONA	Sohna	42.06	87	eP	P	03 08 59.7	+0.2
SONA				e		03 09 04.8	
	comp=Z,32nm,1.5s						
DBIC	Dimbokro	42.26	233	P	P	03 09 00.9	-0.4
	comp=Z,28nm,0.5s,mb5.1,baz=18,slow=8.9,SNR=42						
DBIC				LR	LR	03 29 58.6	
	comp=Z,2µm,18.0s,MS5.1,baz=25,slow=41						
DBIC	Dimbokro	42.26	233	P	P	03 09 00.9	-0.4
DBIC	Dimbokro	42.26	233	eP	P	03 09 01.1	-0.2
	comp=Z,40nm,0.8s,mb5.1						
DBIC				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
TIC	Toumodi	42.39	233	eP	P	03 09 01.7	-0.6
	comp=Z,173nm,0.7s,mb5.8						
KIC	Kosan Boka	42.42	232	eP	P	03 09 02.6	0.0

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      comp=Z,194nm,0.7s,mb5.9
KBS   Kingsbay         42.70 356  ePP    PP     03 10 42.9  -2.9
KBS                               eS     S      03 15 28.4  +1.2
KBS                               eSS    SS     03 18 40.0  +8.5
KBS   Kingsbay         42.70 356  eP     P      03 09 01.6  -2.5
      comp=Z,23nm,1.0s,mb4.9
KBS                                LR    LR
      comp=Z,1µm,20.0s,MS4.9
LIC   Lamto            42.71 233  eP     P      03 09 03.9  -1.1
      comp=Z,169nm,0.8s,mb5.8
LIC   Lamto            42.71 233  eP     P      03 09 04.2  -0.8
      comp=Z,56nm,0.8s,mb5.3
JOSI  Joshimath        43.11  83   AMb   AMB    03 09 09.9
      comp=Z,252nm,1.1s,mb5.9
AGRA  Agra             43.18  88  eP     P      03 09 07.1  -1.6
DAG   Danmarks Havn    44.91 346⇑iP     P      03 09 20.5  -1.5
      comp=Z,5.2nm,0.8s,mb4.4
WMQ   Urumqi           45.34  62 ⇑P     P      03 09 26.3  +0.5
WMQ                                AP    pP     03 09 30.8  +2.0
WMQ                                XP    sP     03 09 33.3  +3.2
WMQ                                PCP   PcP    03 11 06.3  +0.4
WMQ                                PP    PP     03 11 13.3  +0.6
WMQ                                S     S      03 16 05.5  -0.4
WMQ                                AMB   AMB
      comp=Z,71nm,1.1s,mb5.4
WMQ                                LR    LR
      comp=N,2µm,20.6s,MS5.1
WMQ                                LR    LR
      comp=E,2µm,22.0s,MS5.1
WMQ                                LR    LR
      comp=Z,2µm,23.1s,MS4.9
KOLN  Koldanda         47.47  84  eP     P      03 09 42.7  -0.2
      comp=Z,79nm,0.8s,mb5.7
SUMG  Summit           48.19 338  eP     P      03 09 47.4  -0.5
      comp=Z,33nm,0.8s,mb5.4
GKN   Gorkha           48.20  83  eP     P      03 09 47.8  -0.8
      comp=Z,113nm,1.0s,mb5.8
HYB   Hyderabad        48.56  99  eP     P      03 09 52.5  +1.0
DMN   Daman            48.74  84  eP     P      03 09 52.8   0.0
      comp=Z,115nm,0.8s,mb6.0
KKN   Kakani           48.80  83  eP     P      03 09 52.7  -0.5
      comp=Z,50nm,0.8s,mb5.6
PKI   Pulchoki         49.00  83  eP     P      03 09 54.2  -0.6
      comp=Z,86nm,0.9s,mb5.8
GUN   Gumba            49.23  83  eP     P      03 09 55.9  -0.6
      comp=Z,143nm,1.0s,mb6.0
LSZ   Lusaka           51.83 179  eP     P      03 10 16.7  +0.3
      comp=Z,30nm,1.4s,mb5.0
LSZ                                LR    LR
      comp=Z,2µm,19.0s,MS5.1
LSA   Lhasa            52.63  78   P     P      03 10 22.4  +0.1
LSA   Lhasa            52.63  78  eP     P      03 10 22.7  +0.4
LSA                                pmax  pmax
      comp=Z,18nm,1.2s,mb4.9
LSA   Lhasa            52.63  78  eP     P      03 10 22.7  +0.4
      comp=Z,26nm,1.2s,mb5.0
ZAK   Zakamensk        54.05  50  eP     P      03 10 32.9  +0.4
SHL   Shillong         55.07  82  eP     P      03 10 38.7  -1.7
GTA   Gaotai           55.32  64  eP     P      03 10 41.7  -0.3
GTA                                PCP   PcP    03 11 44.3  +1.8
GTA                                PP    PP     03 12 48.1  +0.9
GTA                                SCP          03 15 40.5
GTA                                PCS          03 15 43.0
GTA                                S     S      03 18 24.6  +0.5
GTA                                SCS   ScS    03 20 26.5  -1.4
GTA                                SS    SS     03 22 09.6  +1.1
GTA                                AMB   AMB
      comp=Z,43nm,1.4s,mb5.3
GTA                                AMB   AMB
      comp=Z,445nm,6.1s
GTA                                LR    LR
      comp=N,851nm,18.3s,MS4.9
GTA                                LR    LR
      comp=E,361nm,20.5s,MS4.9
GTA                                LR    LR
      comp=Z,779nm,19.0s,MS4.8
TSUM  Tsumeb           56.56 192   P     P      03 10 50.5  -0.7
      comp=Z,33nm,1.1s,mb5.3,baz=0.1,slow=8.1,SNR=36
TSUM                               LR    LR     03 39 13.1
      comp=Z,2µm,18.1s,MS5.3,baz=5.9,slow=40
TSUM  Tsumeb           56.56 192  eP     P      03 10 50.1  -1.0
      comp=Z,17nm,0.7s,mb5.2
TSUM                               LR    LR
      comp=Z,3µm,19.0s,MS5.4
SONM  Songino Array    56.79  52   P     P      03 10 52.1  -0.3
      comp=Z,28nm,0.9s,mb5.3,baz=288,slow=7.3,SNR=33
ULN   Ulaanbaatar      57.20  52   PFAKE        03 11 10.0   +15
ULN                                LR    LR
      comp=Z,2µm,20.0s,MS5.2
BOD   Bodaibo          57.83  39  eP     P      03 10 57.0  -2.6
TIXI  Tiksi            58.85  21  eP     P      03 11 05.9  -0.7
TIXI                              i             03 13 15.5
TIXI                              eS     S      03 19 11.6  +1.2
TIXI                              eSS    SS     03 23 04.8  -0.8
TIXI                               pmax  pmax
      comp=Z,66nm,1.1s,mb5.6
TIXI  Tiksi            58.85  21   PFAKE        03 11 20.0   +13
TIXI                               LR    LR
      comp=Z,747nm,20.0s,MS4.8
LZH   Lanzhou          59.57  66 ⇓P     P      03 11 12.0  -0.1
LZH                                PP    PP     03 13 24.0  -1.5
LZH                                S     S      03 19 20.0  -0.3
LZH                                AMB   AMB
      comp=Z,97nm,1.5s,mb5.6
LZH                                AMB   AMB
      comp=Z,401nm,5.4s
LZH                                LR    LR
      comp=N,2µm,16.3s
LZH                                LR    LR
      comp=Z,2µm,18.7s,MS5.3
LZH   Lanzhou          59.57  66 ⇓P     P      03 11 12.0  -0.1
      comp=Z,97nm,1.5s,mb5.6
LZH                                pP    pP     03 11 15.1  -0.1
LZH                                sP    sP     03 11 16.7  +0.4
LZH                                PP    PP     03 13 24.0  -1.5
LZH                                S     S      03 19 20.0  -0.3
LZH                                sS           03 19 25.0
LZH                               eSS    SS     03 23 25.1  +8.0
LZH                                LR    LR
      comp=Z,2µm,18.7s,MS5.3
CD2   Chengdu          61.83  71⇓iP     P      03 11 27.0  -0.5
BTO   Baotou           62.01  59  eP     P      03 11 28.1  -0.5
RES   Resolute Bay     62.59 345  eP     P      03 11 31.0  -1.0
RES                                pmax  pmax
      comp=Z,23nm,0.9s,mb5.3
RES   Resolute Bay     62.59 345  eP     P      03 11 31.0  -1.0
      comp=Z,22nm,0.9s,mb5.3
HHC   Hu-ho-hao-te     62.95  58  eP     P      03 11 35.1  +0.3
HHC                                AP    pP     03 11 40.5  +2.6
HHC                                XP    sP     03 11 44.4  +5.3
HHC                                PP    PP     03 13 54.6  -0.3
HHC                                S     S      03 20 03.2   0.0
HHC                                SS    SS     03 24 08.4  -2.3
HHC                                AMB   AMB
      comp=Z,79nm,1.1s,mb5.8
HHC                                LR    LR
      comp=N,589nm,26.2s
HHC                                LR    LR
      comp=E,459nm,20.2s
HHC                                LR    LR
      comp=Z,653nm,20.2s
SCHQ  Schefferville    63.28 320   P     P      03 11 34.1  -2.7
      comp=Z,17nm,0.6s,mb5.3,baz=54,slow=7.4,SNR=28
SCHQ                               LR    LR     03 38 28.6
      comp=Z,1µm,18.9s,MS5.1,baz=71,slow=36
YAK   Yakutsk          63.36  31  eP     P      03 11 35.8  -1.4
YAK                               e*PP   pP     03 11 43.1  +2.8
YAK                               e             03 13 59.3
YAK                               eS     S      03 20 06.0  -2.0
YAK                               e*SS          03 20 39.2
YAK                                pmax  pmax
      comp=Z,39nm,1.0s,mb5.5
YAK                                pmax  pmax
      comp=N,7.0nm,1.5s
YAK                                pmax  pmax
      comp=E,24nm,1.3s
YAK                                pmax  pmax
      comp=Z,5.0nm,0.7s,mb4.8
YAK                                pmax  pmax
      comp=N,7.0nm,0.6s
YAK                                pmax  pmax
      comp=E,9.0nm,1.1s
YAK                                smax
      comp=N,3.0nm,1.0s
YAK                                smax
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      comp=Z,3.0nm,0.7s
YAK                                smax
      comp=E,2.0nm,0.9s
YAK                                MLR   MLR
      comp=Z,800nm,16.0s,MS5.0
YAK                                MLR   MLR
      comp=N,800nm,15.0s,MS5.1
YAK                                MLR   MLR
      comp=E,700nm,16.0s,MS5.1
YAK   Yakutsk          63.36  31  eP     P      03 11 35.6  -1.6
      comp=E,63nm,0.7s,mb5.8
YAK                                LR    LR
      comp=Z,956nm,19.0s,MS5.0
KMI   Kunming          63.86  77  eP     P      03 11 40.0  -1.0
KMI                                S     S      03 20 13.9  -0.8
KMI                                SKS   SKS    03 21 31.1  -4.7
KMI                                SS    SS     03 24 23.5  -1.0
KMI                                SSS   SSS    03 27 12.6  +0.4
KMI                                AMB   AMB
      comp=Z,26nm,1.3s,mb5.1
KMI                                AMB   AMB
      comp=Z,376nm,6.2s
KMI                                LR    LR
      comp=N,531nm,20.9s,MS4.9
KMI                                LR    LR
      comp=E,525nm,20.2s,MS4.9
KMI                                LR    LR
      comp=Z,616nm,23.8s,MS4.7
KMI   Kunming          63.86  77  eP     P      03 11 40.0  -1.0
      comp=Z,26nm,1.3s,mb5.1
KMI                                S     S      03 20 13.9  -0.8
KMI                                SKS   SKS    03 21 31.1  -4.7
KMI                                SS    SS     03 24 23.5  -1.0
KMI                                SSS   SSS    03 27 12.6  +0.4
KMI                                LR    LR
      comp=Z,620nm,23.8s,MS4.7
CHG   Chiang Mai       64.12  85 ⇓P     P      03 11 41.6  -1.2
      comp=Z,29nm,1.1s,mb5.2
XAN   Xi'an            64.21  66   P     P      03 11 42.6  -0.6
XAN                                AP    pP     03 11 51.0  +4.7
XAN                                AMB   AMB
      comp=Z,44nm,1.3s,mb5.3
CHRT  Chiangrai        64.22  84 ⇓P     P      03 11 42.5  -1.0
CM31  Chiang Mai Arr   64.31  86  eP     P      03 11 43.4  -0.7
      comp=Z,46nm,1.0s,mb5.5
CM31                               LR    LR
      comp=Z,4µm,20.0s,MS5.6
CMAR  Chiang Mai Arr   64.31  86   P     P      03 11 43.0  -1.0
      comp=Z,20nm,0.8s,mb5.2,baz=304,slow=7.8,SNR=48
CMAR  Chiang Mai Arr   64.31  86   P     P      03 11 43.0  -1.0
CMAR                               pmax  pmax
      comp=Z,20nm,0.8s
HIA   Hailar           64.35  47  eP     P      03 11 43.8   0.0
HIA                                pmax  pmax
      comp=Z,9.0nm,0.6s
HIA   Hailar           64.35  47  eP     P      03 11 43.8   0.0
      comp=Z,8.7nm,0.6s,mb5.0
NANT  Nan              65.53  84 ⇓P     P      03 11 49.0  -2.9
GYA   Guiyang          66.23  74⇓iP     P      03 11 55.6  -0.7
GYA                                AP    pP     03 12 00.3  +0.9
GYA                                S     S      03 20 44.6  +0.7
GYA                                AMB   AMB
      comp=Z,30nm,1.4s,mb5.1
GYA                                AMB   AMB
      comp=Z,320nm,6.0s
GYA                                LR    LR
      comp=N,810nm,17.4s,MS5.1
GYA                                LR    LR
      comp=E,560nm,18.5s,MS5.1
GYA                                LR    LR
      comp=Z,780nm,18.7s,MS4.9
BJI   Beijing          66.44  57   P     P      03 11 57.2  -0.3
BJI                                S     S      03 20 48.1  +1.9
BJI                                AMB   AMB
      comp=Z,27nm,1.2s,mb5.2
BJI                                LR    LR
      comp=N,1µm,21.6s
BJI                                LR    LR
      comp=E,681nm,16.2s
BJI                                LR    LR
      comp=Z,1µm,22.0s,MS5.1
BJI   Beijing          66.44  57   P     P      03 11 57.2  -0.3
      comp=Z,27nm,1.2s,mb5.2
BJI                                PP    PP     03 14 33.2  +7.3
BJI                                S     S      03 20 48.1  +1.9
BJI                                SS    SS     03 25 28.6   +24
BJI                                LR    LR
      comp=Z,1µm,22.0s,MS5.1
ENH   Enshi            66.46  69  eP     P      03 11 57.3  -0.4
      comp=Z,56nm,1.0s,mb5.5
NST   Nakhon Sawan     66.77  87   P     P      03 11 59.6  -0.3
PQI   Presque Isle     67.84 312   PFAKE        03 12 20.0   +14
PQI                                LR    LR
      comp=Z,4µm,20.0s,MS5.6
EMMW  East Machias     68.50 310   PFAKE        03 12 20.0   +10
EMMW                               LR    LR
      comp=Z,4µm,22.0s,MS5.6
KKTK  Khon Kaen        68.56  85   P     P      03 12 10.0  -1.1
TIA   Tai'an           69.00  60  eP     P      03 12 12.4  -1.2
TIA                                AMB   AMB
      comp=Z,40nm,1.2s,mb5.2
SUR   Sutherland       69.16 186   P     P      03 12 15.9  +1.3
      comp=Z,24nm,0.7s,mb5.2,baz=25,slow=5.2,SNR=25
SUR   Sutherland       69.16 186   P     P      03 12 15.9  +1.3
SUR                                LR    LR
      comp=Z,598nm,20.0s,MS4.8
WHN   Wuhan            69.93  66  eP     P      03 12 19.3  -0.1
WHN                                S     S      03 21 31.0  +3.0
WHN                                AMB   AMB
      comp=Z,379nm,7.0s
WHN                                LR    LR
      comp=N,2µm,18.7s,MS5.4
WHN                                LR    LR
      comp=E,1µm,15.6s,MS5.4
WHN                                LR    LR
      comp=Z,1µm,17.8s,MS5.2
SNY   Shenyang         70.37  52   PR           03 12 20.8
SNY                                S     S      03 21 31.4  -1.5
SNY                                AMB   AMB
      comp=Z,20nm,1.0s,mb5.0
SNY                                LR    LR
      comp=N,650nm,22.1s
SNY                                LR    LR
      comp=E,680nm,15.9s
SNY                                LR    LR
      comp=Z,950nm,19.2s,MS5.1
CN2   Changchun        70.48  50  eP     P      03 12 21.9  -0.6
CN2                               eS     S      03 21 33.0  -1.2
CN2                                AMB   AMB
      comp=Z,10.0nm,0.8s,mb4.8
CN2                                AMB   AMB
      comp=Z,300nm,6.0s
CN2                                LR    LR
      comp=N,1µm,16.0s,MS5.4
CN2                                LR    LR
      comp=E,1µm,16.0s,MS5.4
CN2                                LR    LR
      comp=Z,600nm,19.0s,MS4.9
KLR   Kul'dur          71.11  42  eP     P      03 12 25.7  -0.5
KLR                               e             03 12 26.0
SEY   Seymchan         71.20  23  eP     P      03 12 28.0  +1.5
SEY                                             03 12 46.2
SEY                                             03 15 06.8
SEY                               ePPP   PPP    03 16 49.7  +2.0
SEY                               eS     S      03 21 42.5  +0.3
SEY                               e             03 22 29.7
SEY                                SS    SS     03 26 10.9  -7.0
SEY                                SSS   SSS    03 29 21.8  -2.7
SEY                                pmax  pmax
      comp=N,20nm,1.2s
SEY                                pmax  pmax
      comp=Z,70nm,1.2s,mb5.5
SEY                                pmax  pmax
      comp=E,30nm,1.5s
SEY                                MLR   MLR
      comp=Z,4µm,29.0s,MS5.6
SEY                                MLR   MLR
      comp=N,4µm,24.0s,MS5.8
SEY                                MLR   MLR
      comp=E,4µm,21.0s,MS5.8
HRV   Harvard--Oak R   72.20 310   PFAKE        03 12 40.0  +7.2
HRV                                LR    LR
      comp=Z,1µm,22.0s,MS5.1
NJ2   Nanjing          72.40  63  eP     P      03 12 35.1  +0.9
NJ2                                AP    pP     03 12 39.7  +2.4
NJ2                                XP    sP     03 12 42.1  +3.6
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NJ2                                S     S      03 21 55.0  -1.5
NJ2                                AMB   AMB
      comp=Z,60nm,1.0s,mb5.5
NJ2                                LR    LR
      comp=N,2µm,20.6s,MS5.5
NJ2                                LR    LR
      comp=E,2µm,21.8s,MS5.5
NJ2                                LR    LR
      comp=Z,2µm,22.5s,MS5.3
MDJ   Mudanjiang       72.52  47   P     P      03 12 33.7  -0.9
MDJ                                PP    PP     03 15 13.4  -4.4
MDJ                                S     S      03 21 57.9  +0.3
MDJ                                AMB   AMB
      comp=Z,272nm,5.1s
MDJ                                LR    LR
      comp=N,832nm,17.8s,MS5.2
MDJ                                LR    LR
      comp=E,820nm,21.2s,MS5.2
MDJ                                LR    LR
      comp=Z,1µm,14.4s
QIZ   Qiongzhong       72.66  79  eP     P      03 12 35.6  -0.3
QIZ                               eS     S      03 22 01.1  +1.4
QIZ                                SS    SS     03 26 46.5  +5.2
QIZ                                AMB   AMB
      comp=Z,37nm,1.2s,mb5.2
QIZ                                AMB   AMB
      comp=Z,264nm,6.4s
QIZ                                LR    LR
      comp=N,344nm,21.2s
QIZ                                LR    LR
      comp=E,342nm,27.1s
QIZ                                LR    LR
      comp=Z,424nm,22.7s,MS4.7
RCBR  Riachuelo        72.91 249   PFAKE        03 12 50.0   +12
RCBR                               LR    LR
      comp=Z,1µm,20.0s,MS5.2
ACCN  Adirondack Com   72.99 312  eP     P      03 12 37.4   0.0
MA2   Magadan          73.06  27  eP     P      03 12 37.9  +0.4
MA2                               i             03 15 23.3
MA2                               i PPP  PPP    03 17 06.9  +1.5
MA2                               eS     S      03 22 04.0  +0.6
MA2                               e             03 22 44.5
MA2                                pmax  pmax
      comp=Z,30nm,0.9s,mb5.2
MA2                                pmax  pmax
      comp=N,10.0nm,0.8s
MA2                                pmax  pmax
      comp=E,10.0nm,1.0s
MA2                                MLR   MLR
      comp=Z,2µm,28.0s,MS5.2
MA2   Magadan          73.06  27  eP     P      03 12 38.0  +0.6
      comp=Z,44nm,1.0s,mb5.3
MA2                                LR    LR
      comp=Z,576nm,19.0s,MS4.9
GZH   Guangzhou        73.16  74   P     P      03 12 37.7  -1.1
GZH                                S     S      03 22 06.8  +1.5
GZH                                LR    LR
      comp=N,998nm,21.8s,MS5.1
GZH                                LR    LR
      comp=E,462nm,20.2s,MS5.1
GZH                                LR    LR
      comp=Z,1µm,20.5s,MS5.1
BBSR  BB Station       73.21 298   PFAKE        03 12 50.0   +11
BBSR                               LR    LR
      comp=Z,486nm,19.0s,MS4.8
INK   Inuvik           74.24 353  eP     P      03 12 42.4  -1.8
INK                                pmax  pmax
      comp=Z,57nm,1.2s
INK   Inuvik           74.24 353  eP     P      03 12 42.4  -1.8
      comp=Z,57nm,1.2s,mb5.4
SSE   Sheshan          74.59  63   P     P      03 12 44.3  -2.7
SSE                                S     S      03 22 20.3  -0.9
SSE                                AMB   AMB
      comp=Z,39nm,0.7s,mb5.5
SSE                                AMB   AMB
      comp=Z,248nm,5.0s
SSE                                LR    LR
      comp=N,645nm,23.7s,MS5.0
SSE                                LR    LR
      comp=E,697nm,23.9s,MS5.0
SSE                                LR    LR
      comp=Z,485nm,22.0s,MS4.8
SSE   Sheshan          74.59  63   P     P      03 12 44.3  -2.7
      comp=Z,39nm,0.7s,mb5.5
SSE                                sP    sP     03 12 48.9  -2.3
SSE                                S     S      03 22 20.3  -0.9
SSE                                sS           03 22 27.6
SSE                                LR    LR
      comp=Z,490nm,22.0s,MS4.8
INCN  Inchon           74.73  55   PFAKE        03 13 00.0   +12
INCN                               LR    LR
      comp=Z,1µm,20.0s,MS5.2
BINY  Binghamton       75.06 312  eP     P      03 12 49.2  -0.2
      comp=Z,12nm,0.8s,mb4.9
BINY                               LR    LR
      comp=Z,969nm,19.0s,MS5.1
KS15  Wonju Array Si   75.57  54  eP     P      03 12 52.5   0.0
QZH   Quanzhou         76.12  69  i PR          03 12 52.0
QZH                                S     S      03 22 34.7  -3.5
QZH                                LR    LR
      comp=N,720nm,14.5s
QZH                                LR    LR
      comp=E,2µm,21.9s
QZH                                LR    LR
      comp=Z,950nm,19.2s,MS5.1
YKW3  Yellowknife Ar   76.43 343  eP     P      03 12 54.9  -1.9
YKA   Yellowknife Ar   76.49 343   P     P      03 12 55.4  -1.7
      comp=Z,8.8nm,0.8s,mb4.7,baz=35,slow=5.4,SNR=46
YKA                                LR    LR     03 47 51.2
      comp=Z,1µm,20.4s,MS5.2,baz=25,slow=37
YKA   Yellowknife Ar   76.49 343   P     P      03 12 55.4  -1.7
YKA                                pmax  pmax
      comp=Z,9.0nm,0.8s
YKA                                MLR   MLR
      comp=Z,1µm,20.4s
YKA   Yellowknife Ar   76.49 343   P     P      03 12 55.4  -1.7
YKA                                LR    LR     03 47 51.2
SSPA  Standing Stone   77.14 311  eP     P      03 13 01.2   0.0
      comp=Z,14nm,0.9s,mb4.9
SSPA                               LR    LR
      comp=Z,208nm,22.0s,MS4.4
TNA   Tin City         77.20   7   PFAKE        03 13 10.0  +8.9
TNA                                LR    LR
      comp=Z,616nm,20.0s,MS4.9
IMA   Indian Mountai   77.42   1  eP     P      03 13 02.5  +0.3
IMA                                pmax  pmax
      comp=Z,210nm,1.1s,mb6.0
IMA   Indian Mountai   77.42   1  eP     P      03 13 02.9  +0.7
      comp=Z,22nm,0.8s,mb5.2
ERPA  Erie             77.48 313   PFAKE        03 13 10.0  +6.9
ERPA                               LR    LR
      comp=Z,1µm,22.0s,MS5.2
TATO  Taipei           78.26  68   PFAKE        03 13 20.0   +12
TATO                               LR    LR
      comp=Z,455nm,21.0s,MS4.8
YSS   Yuzh-Sakhalins   78.30  39  eP     P      03 13 08.0  +0.5
YSS                               eS     S      03 23 02.0  +0.6
YSS                                pmax  pmax
      comp=Z,120nm,1.4s,mb5.6
YSS                                pmax  pmax
      comp=Z,900nm,5.0s
YSS                                MLR   MLR
      comp=E,700nm,19.0s
YSS                                MLR   MLR
      comp=Z,1µm,19.0s,MS5.2
YSS   Yuzh-Sakhalins   78.30  39  eP     P      03 13 08.4  +0.9
      comp=Z,21nm,0.7s,mb5.2
YSS                                LR    LR
      comp=Z,1µm,20.0s,MS5.2
CBN   Corbin           78.31 309  eP     P      03 13 06.4  -1.4
      comp=Z,43nm,0.7s,mb5.5
CBN                                LR    LR
      comp=Z,886nm,20.0s,MS5.1
COLA  College          78.56 358  eP     P      03 13 08.6  +0.1
COLA                               pmax  pmax
      comp=Z,47nm,1.5s,mb5.2
COLA  College          78.56 358  eP     P      03 13 08.6  +0.1
      comp=Z,47nm,1.5s,mb5.2
ILAR  Eielson Array    78.64 358   P     P      03 13 08.1  -0.8
      comp=Z,10nm,0.9s,mb4.8,baz=354,slow=4.3,SNR=60
ILAR  Eielson Array    78.64 358   P     P      03 13 08.1  -0.8
ILAR                               pmax  pmax
      comp=Z,11nm,0.9s
DAWY  Dawson           78.92 354  eP     P      03 13 10.2  -0.3
MCWV  Mont Chateau     78.93 311  eP     P      03 13 10.5  -0.6
      comp=Z,48nm,1.2s,mb5.3
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FFC	**Flin Flon**	**79.12**	**333**	*e*P	**P**	**03 13 10.0**	**-1.8**
	comp=Z,12nm,0.9s,mb4.8						
FFC				LR	LR		
	comp=Z,533nm,22.0s,MS4.8						
MCK	**McKinley**	**79.74**	**359**	*e*P	**P**	**03 13 14.3**	**-0.7**
	comp=Z,33nm,1.2s,mb5.1						
MCK				LR	LR		
	comp=Z,317nm,22.0s,MS4.6						
THY	**Trims Highway**	**79.95**	**357**	*e*P	**P**	**03 13 15.8**	**-0.3**
ULM	**Lac du Bonnet**	**80.08**	**327**	P	**P**	**03 13 15.9**	**-1.2**
	comp=Z,12nm,0.7s,mb4.9,baz=40,slow=4.3,SNR=19						
ULM				LR	LR	03 49 33.2	
	comp=Z,2µm,20.0s,MS5.4,baz=57,slow=36						
ULM	**Lac du Bonnet**	**80.08**	**327**	*e*P	**P**	**03 13 14.9**	**-2.1**
	comp=Z,26nm,1.0s,mb5.1						
ULM				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
JNU	**Nakatsue**	**80.10**	**56**	LR	LR	03 55 43.6	
	comp=Z,695nm,18.6s,MS5.0,baz=316,slow=41						
BLA	**Blacksburg**	**80.82**	**310**	PFAKE		03 13 30.0	+8.7
BLA				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
FWV	**Forest Hill**	**80.83**	**310**	*e*P	**P**	**03 13 20.8**	**-0.5**
PET	**Petropavlovsk**	**80.88**	**28**	*e*P	**P**	**03 13 16.7**	**-4.5**
PET				*e*		03 16 23.2	
PET				pmax	pmax		
	comp=Z,200nm,6.1s						
PET				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.2						
PET	**Petropavlovsk**	**80.88**	**28**	PFAKE		03 13 30.0	+8.8
PET				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
SML	**Sawmill**	**81.65**	**358**	*e*P	**P**	**03 13 24.8**	**-0.3**
PMR	**Palmer**	**81.89**	**359**	*e*P	**P**	**03 13 25.8**	**-0.5**
PMR				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.4						
PMR	**Palmer**	**81.89**	**359**	*e*P	**P**	**03 13 26.1**	**-0.2**
	comp=Z,54nm,1.1s,mb5.4						
JOW	**Kunigami**	**82.11**	**62**	LR	LR	03 53 42.4	
	comp=Z,622nm,20.7s,MS5.0,baz=324,slow=38						
DIV	**Divide**	**82.24**	**357**	*e*P	**P**	**03 13 28.4**	**+0.3**
	comp=Z,47nm,1.0s,mb5.4						
SPU	**Mount Spurr**	**82.33**	**360**	*e*P	**P**	**03 13 28.0**	**-0.7**
FIB	**Fire Island**	**82.33**	**359**	*e*P	**P**	**03 13 29.1**	**+0.4**
SVW	**Sparrevohn**	**82.36**	**2**	*e*P	**P**	**03 13 29.3**	**+0.5**
	comp=Z,20nm,0.9s,mb5.0						
SJG	**San Juan**	**82.40**	**287**	PFAKE		03 13 40.0	+10
SJG				LR	LR		
	comp=Z,333nm,21.0s,MS4.7						
MAJO	**Matsushiro**	**82.63**	**50**	*e*P	**P**	**03 13 29.7**	**-1.0**
	comp=Z,10nm,0.8s,mb4.9						
MAJO				LR	LR		
	comp=Z,624nm,20.0s,MS5.0						
MAT	**Matsushiro**	**82.63**	**50**	P	**P**	**03 13 30.7**	**0.0**
MAT				S	S	03 23 47.0	+0.3
MAT	**Matsushiro**	**82.63**	**50**	P	**P**	**03 13 31.0**	**+0.3**
	comp=Z,7.0nm,1.0s,mb4.7						
MAT				*e*S	S	03 23 47.0	+0.3
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS5.0						
JFWS	**Jewell Farm**	**82.64**	**319**	*e*P	**P**	**03 13 29.4**	**-1.2**
JFWS				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
JFWS	**Jewell Farm**	**82.64**	**319**	*e*P	**P**	**03 13 29.4**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0						
JFWS				*e*		03 13 43.6	
JFWS				LR	LR		
	comp=Z,458nm,20.0s,MS4.8						
EYAK	**Cordova Ski Ar**	**82.82**	**357**	*e*P	**P**	**03 13 31.3**	**+0.1**
SLKM	**Skilak Lake**	**82.99**	**359**	*e*P	**P**	**03 13 30.7**	**-1.4**
RSO	**Redoubt South**	**83.05**	**0**	*e*P	**P**	**03 13 30.6**	**-1.8**
BLO	**Bloomington**	**83.17**	**314**	*e*P	**P**	**03 13 33.0**	**-0.4**
BLO				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.5						
BLO	**Bloomington**	**83.17**	**314**	*e*P	**P**	**03 13 33.0**	**-0.4**
	comp=Z,58nm,1.1s,mb5.5						
MGP	**Maguayo**	**83.18**	**287**	*e*P	**P**	**03 13 34.4**	**+0.5**
NHSC	**New Hope**	**83.28**	**306**	PFAKE		03 13 50.0	+16
NHSC				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
DLBC	**Dease Lake**	**83.28**	**348**	*e*P	**P**	**03 13 34.4**	**+0.8**
TGY	**Tagaytay City**	**84.17**	**77**	LR	LR	03 57 30.7	
	comp=Z,418nm,20.6s,MS4.8,baz=256,slow=40						
CPCT	**Cooper Cave**	**84.48**	**311**	*e*P	**P**	**03 13 40.3**	**+0.1**
DGMT	**Dagmar**	**84.92**	**330**	PFAKE		03 13 50.0	+8.0
DGMT				LR	LR		
	comp=Z,954nm,21.0s,MS5.2						
SIT	**Sitka**	**85.38**	**351**	PFAKE		03 14 00.0	+16
SIT				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
SWET	**Sewanee**	**85.49**	**311**	*e*P	**P**	**03 13 44.8**	**-0.4**
SLM	**Saint Louis**	**85.63**	**316**	*e*P	**P**	**03 13 45.8**	**0.0**
SLM				pmax	pmax		
	comp=Z,76nm,1.3s,mb5.8						
SLM	**Saint Louis**	**85.63**	**316**	*e*P	**P**	**03 13 45.8**	**0.0**
	comp=Z,76nm,1.3s,mb5.8						
FX1	**Attu Island--F**	**85.72**	**20**	*e*P	**P**	**03 13 45.7**	**-0.2**
KDAK	**Kodiak Island**	**85.74**	**0**	*e*P	**P**	**03 13 46.3**	**+0.4**
	comp=Z,26nm,0.9s,mb5.5						
KDAK				LR	LR		
	comp=Z,167nm,21.0s,MS4.4						
JHJ	**Hachijo jima 2**	**85.86**	**51**	LR	LR	03 54 21.4	
	comp=Z,510nm,19.5s,MS4.9,baz=288,slow=37						
SMY	**Shemya**	**86.11**	**20**	PFAKE		03 14 00.0	+12
SMY				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
FVM	**French Village**	**86.20**	**316**	*e*P	**P**	**03 13 47.6**	**-1.0**
FVM				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.5						
FVM	**French Village**	**86.20**	**316**	*e*P	**P**	**03 13 47.6**	**-1.1**
	comp=Z,33nm,0.9s,mb5.6						
CCM	**Cathedral Cave**	**86.60**	**316**	*e*P	**P**	**03 13 49.8**	**-0.8**
	comp=Z,40nm,0.8s,mb5.7						
CCM				LR	LR		
	comp=Z,255nm,21.0s,MS4.6						
PLAL	**Pickwick Lake**	**86.93**	**312**	*e*P	**P**	**03 13 49.5**	**-2.9**
	comp=Z,35nm,1.0s,mb5.5						
PLAL				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
LAO	**LASA Array**	**87.17**	**330**	*e*P	**P**	**03 13 53.1**	**-0.1**
	comp=Z,33nm,1.0s,mb5.5						
LAO				LR	LR		
	comp=Z,825nm,19.0s,MS5.2						
LRAL	**Lakeview Retre**	**87.62**	**310**	*e*P	**P**	**03 13 54.1**	**-1.6**
	comp=Z,38nm,0.9s,mb5.6						
LRAL				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
OXF	**Oxford**	**88.05**	**313**	PFAKE		03 14 10.0	+12
OXF				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
BDFB	**Brasilia**	**88.29**	**249**	P	**P**	**03 14 00.8**	**+1.6**
	comp=Z,33nm,0.8s,mb5.6,baz=50,slow=5.2,SNR=39						
BDFB				LR	LR	03 55 56.5	
	comp=Z,2µm,19.0s,MS5.4,baz=61,slow=37						
BDFB	**Brasilia**	**88.29**	**249**	P	**P**	**03 14 00.8**	**+1.6**
BDFB				pmax	pmax		
	comp=Z,33nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,2µm,19.0s						
UNV	**Unalaska Valle**	**88.85**	**8**	PFAKE		03 14 10.0	+9.0
UNV				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
HRY	**Holter Researc**	**89.27**	**334**	*e*P	**P**	**03 14 02.7**	**-0.6**
UALR	**University of**	**89.56**	**315**	P	**P**	**03 14 04.3**	**-0.6**
CHMT	**Chamberlain Mo**	**89.60**	**334**	*e*P	**P**	**03 14 03.9**	**-0.9**
NEW	**Newport**	**89.68**	**337**	*e*P	**P**	**03 14 04.5**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.7						
NEW				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
MSO	**Missoula**	**89.91**	**335**	*e*P	**P**	**03 14 05.5**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.4						
MSO				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
BOZ	**Bozeman (W)**	**90.11**	**333**	*e*P	**P**	**03 14 06.6**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.8						
BOZ				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
DPW	**Davenport**	**90.36**	**338**	*e*P	**P**	**03 14 07.9**	**-0.4**
MIAR	**Mount Ida**	**90.43**	**315**	*e*P	**P**	**03 14 08.6**	**-0.3**
	comp=Z,39nm,1.0s,mb5.7						
MIAR				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
CBKS	**Cedar Bluff**	**90.51**	**322**	PFAKE		03 14 20.0	+11
CBKS				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
YMR	**Madison River**	**90.69**	**332**	P	**P**	**03 14 07.7**	**-2.2**
MCMT	**McKenzie Canyo**	**91.25**	**333**	*e*P	**P**	**03 14 12.5**	**+0.1**
SDV	**Santo Domingo**	**91.39**	**282**	*e*P	**P**	**03 14 13.8**	**0.0**
	comp=Z,22nm,0.9s,mb5.5						
SDV				LR	LR		
	comp=Z,215nm,19.0s,MS4.6						
CBIJ	**Chichi jima**	**91.44**	**54**	LR	LR	03 59 20.6	
	comp=Z,568nm,20.2s,MS5.0,baz=290,slow=38						
BW06	**Boulder Array**	**91.75**	**330**	PFAKE		03 14 30.0	+15
BW06				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
PDAR	**Pinedale Array**	**91.75**	**330**	P	**P**	**03 14 13.4**	**-1.3**
	comp=Z,1.8nm,1.1s,mb4.3,baz=60,slow=5.7,SNR=9.4						
PDAR				LR	LR	03 58 01.6	
	comp=Z,1µm,18.8s,MS5.3,baz=32,slow=37						
HAWA	**Hanford**	**92.09**	**338**	PFAKE		03 14 30.0	+14
HAWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
OCWA	**Octopus Mounta**	**92.14**	**341**	PFAKE		03 14 30.0	+14
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
AHID	**Auburn Hatcher**	**92.36**	**331**	PFAKE		03 14 30.0	+12
AHID				LR	LR		
	comp=Z,553nm,20.0s,MS5.0						
ISCO	**Idaho Springs**	**92.52**	**326**	PFAKE		03 14 30.0	+12
ISCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
HLID	**Hailey**	**92.91**	**333**	P	**P**	**03 14 21.1**	**+1.0**
	comp=Z,0.9nm,0.7s,mb4.3						
HLID				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
NATX	**Nacogdoches**	**93.08**	**314**	PFAKE		03 14 30.0	+8.8
NATX				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
WMOK	**Wichita Mounta**	**93.14**	**319**	*e*P	**P**	**03 14 18.9**	**-2.5**
	comp=Z,10nm,1.0s,mb5.2						
WMOK				LR	LR		
	comp=Z,881nm,20.0s,MS5.2						
HWUT	**Hardware Ranch**	**93.53**	**331**	*e*P	**P**	**03 14 21.5**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.9						
HWUT				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
SDCO	**Great Sand Dun**	**94.13**	**325**	*e*P	**P**	**03 14 24.8**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.7						
SDCO				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
JLU	**Jordanelle**	**94.33**	**330**	*e*P	**P**	**03 14 25.7**	**-1.0**
COR	**Corvallis**	**94.83**	**340**	PFAKE		03 14 40.0	+11
COR				LR	LR		
	comp=Z,210nm,20.0s,MS4.6						
HKT	**Hockley**	**95.10**	**313**	PFAKE		03 14 40.0	+9.5
HKT				LR	LR		
	comp=Z,276nm,22.0s,MS4.7						
DUG	**Dugway**	**95.22**	**331**	PFAKE		03 14 40.0	+9.2
DUG				LR	LR		
	comp=Z,998nm,19.0s,MS5.3						
WVOR	**Wild Horse Val**	**95.36**	**336**	PFAKE		03 14 40.0	+8.6
WVOR				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
SAML	**Samuel**	**96.05**	**263**	*e*P	**P**	**03 14 34.7**	**-0.6**
	comp=Z,3.9nm,1.1s,mb4.8						
MOD	**Modoc**	**96.38**	**337**	PFAKE		03 14 50.0	+14
MOD				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
MVU	**Marysvale**	**96.43**	**329**	PFAKE		03 14 50.0	+14
MVU				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
BMN	**Battle Mountai**	**96.66**	**334**	PFAKE		03 14 50.0	+13
BMN				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
JCT	**Junction City**	**96.95**	**316**	PFAKE		03 14 50.0	+11
JCT				LR	LR		
	comp=Z,849nm,20.0s,MS5.2						
TPH	**Tonopah**	**98.74**	**333**	PFAKE		03 15 00.0	+13
TPH				LR	LR		
	comp=Z,746nm,19.0s,MS5.2						
MNV	**Mina**	**98.77**	**334**	PFAKE		03 15 00.0	+13
MNV				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
HOPS	**Hopland**	**99.90**	**337**	PFAKE		03 15 00.0	+7.9
HOPS				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
CMB	**Columbia Colle**	**99.90**	**335**	PFAKE		03 15 00.0	+7.9
CMB				LR	LR		
	comp=Z,989nm,21.0s,MS5.3						
LTX	**Lajitas**	**99.94**	**318**	PFAKE		03 15 00.0	+7.5
LTX				LR	LR		
	comp=Z,698nm,22.0s,MS5.1						
TXAR	**Lajitas Array**	**99.94**	**318**	P	**P**	**03 14 51.7**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.6,baz=70,slow=3.6,SNR=18						
TXAR				LR	LR	03 59 30.1	
	comp=Z,556nm,21.0s,MS5.0,baz=20,slow=35						
DAC	**Darwin (Calif)**	**100.47**	**332**	PFAKE		03 15 10.0	+15
DAC				LR	LR		
	comp=Z,898nm,19.0s,MS5.3						
TUC	**Tucson**	**101.05**	**325**	PFAKE		03 15 10.0	+13
TUC				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
SAO	**San Andreas Ge**	**101.41**	**335**	PFAKE		03 15 10.0	+11
SAO				LR	LR		
	comp=Z,838nm,19.0s,MS5.3						
JTS	**JuntasAbangare**	**101.48**	**292**	PFAKE		03 15 10.0	+10
JTS				LR	LR		
	comp=Z,120nm,20.0s,MS4.4						
CPUP	**Villa Florida**	**101.64**	**246**	PFAKE		03 15 10.0	+10
CPUP				LR	LR		
	comp=Z,978nm,20.0s,MS5.3						
PFO	**Pinyon Flat Ob**	**102.38**	**330**	PFAKE		03 15 20.0	+17
PFO				LR	LR		
	comp=Z,189nm,19.0s,MS4.6						
LPAZ	**La Paz**	**104.22**	**260**	PFAKE		03 15 20.0	+8.2
LPAZ				LR	LR		
	comp=Z,608nm,19.0s,MS5.2						
NNA	**Nana**	**108.73**	**269**	PFAKE		03 19 50.0	
NNA				LR	LR		
	comp=Z,126nm,19.0s,MS4.5						
MIDW	**Midway**	**111.11**	**24**	PFAKE		03 19 50.0	+7.2
MIDW				LR	LR		
	comp=Z,797nm,20.0s,MS5.3						
WRA	**Warramunga Arr**	**114.69**	**97**	PKP	PKPdf	03 19 47.1	-2.7
	comp=Z,3.7nm,0.8s,baz=309,slow=1.7,SNR=19						
WRA	**Warramunga Arr**	**114.69**	**97**	PKIKP	PKPdf	03 19 47.1	-2.8
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WB2	**Warramunga Arr**	**114.70**	**97**	*e*PKP	PKPdf	03 19 47.5	-2.4
EFI	**East Falkland**	**115.52**	**223**	PFAKE		03 20 00.0	+9.2
EFI				LR	LR		
	comp=Z,287nm,22.0s,MS4.8						
ASPA	**Alice Springs**	**116.27**	**101**	*e*PKP	PKPdf	03 19 49.3	-3.7
ASAR	**Alice Springs**	**116.28**	**101**	PKP	PKPdf	03 19 50.4	-2.6
	comp=Z,4.6nm,0.8s,baz=322,slow=1.5,SNR=32						
PLCA	**Paso Flores**	**118.44**	**239**	PKP	PKPdf	03 19 54.7	-2.1
	comp=Z,3.0nm,0.9s,baz=91,slow=5.5,SNR=4.9						
PLCA	**Paso Flores**	**118.44**	**239**	PKP	PKPdf	03 19 54.7	-2.1
PLCA				LR	LR		
	comp=Z,553nm,20.0s,MS5.2						
PMG	**Port Moresby**	**119.04**	**80**	PFAKE		03 20 10.0	+11
PMG				LR	LR		
	comp=Z,193nm,22.0s,MS4.7						
PMSA	**Palmer Station**	**123.38**	**211**	*e*P	PKPdf	03 20 04.1	-1.6
CTA	**Charters Tower**	**124.30**	**90**	*e*PKP	PKPdf	03 20 06.3	-2.3
	comp=Z,7.5nm,0.8s						
CTA	**Charters Tower**	**124.30**	**90**	PKP	PKPdf	03 20 06.9	-1.7
	comp=Z,9.4nm,0.8s,baz=7.8,slow=2.4,SNR=13						
CTA	**Charters Tower**	**124.30**	**90**	PKIKP	PKPdf	03 20 06.9	-1.7
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**124.30**	**90**	*e*PKPdf	PKPdf	03 20 06.1	-2.5
CTAO				LR	LR		
	comp=Z,371nm,21.0s,MS5.0						
STKA	**Stephens Creek**	**126.12**	**106**	*e*PKP	PKPdf	03 20 09.3	-2.5
	comp=Z,8.6nm,0.9s						
STKA	**Stephens Creek**	**126.12**	**106**	PKP	PKPdf	03 20 09.9	-1.8
	comp=Z,18nm,1.1s,baz=327,slow=5.9,SNR=8.2						
QSPA	**South Pole Qui**	**126.68**	**180**	*e*PKP	PKPdf	03 20 09.5	-2.1
QSPA				LR	LR		
	comp=Z,2µm,21.8s,MS5.8						
SBA	**Scott Base**	**135.37**	**169**	*e*P	PKPdf	03 20 26.1	-2.2
SBA				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
RPZ	**Rata Peaks**	**151.33**	**115**	PKPbc	PKPdf	03 21 01.2	+4.8
	comp=Z,48nm,0.8s,baz=359,slow=1.9,SNR=9.7						
URZ	**Urewera**	**155.70**	**103**	PKPbc	PKPdf	03 21 11.0	+8.5
	comp=Z,6.1nm,0.8s,baz=91,slow=9.0,SNR=3.9						
URZ				PKPab	PKPab	03 21 26.7	-1.7
	comp=Z,16nm,0.8s,baz=237,slow=2.4,SNR=7.4						

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*NEIC **04** 03:17:56.4, 37.07N×27.77E, h5^{km}, mb3.7/14, MD3.8(ATH), After ATH.*
*ATH **04** 03:17:56.4, 37.06N×27.77E, h5^{km}, MD3.8/9*
*IDC **04** 03:17:57.4±1.7, 36.99N×27.66E, mb3.8/4, mb1 3.7/8, mb1mx3.6/23, ML3.4/4, Error ellipse: s-maj=31.2km s-min=20.8km az=158.0*
*ISK **04** 03:18:00.5, 37.15N×27.84E, h13^{km}, MD3.7, ML3.7*
*THE **04** 03:18:02.1, 37.26N×27.94E, h1^{km}*
*NIC **04** 03:18:03.6±0.4, 36.13N×27.47E, h30^{km}, mb4.3, ML3.9*
ISC 04 03:17:59.0±0.5**, 36.96N**±0.03×**27.74E**±0.03**, h22**^{km}±4^{km}**,**
n81, σ1^{s}01/96**, mb3.8**/8**, 5C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**295**	*i* P	**Pb**	**03 18 04.7**	**-0.6**
BDRM				*i* S	**Sb**	**03 18 10.1**	**+0.6**
MLSB	**Milas**	**0.34**	**5**	*i* PG	**Pb**	**03 18 05.5**	**-1.0**
YER	**Yerkesik**	**0.47**	**67**	*i* PG	**Pb**	**03 18 07.3**	**-1.3**
NISR	**Nisiros**	**0.60**	**235**	*e*PB	**Pb**	**03 18 10.0**	**-0.8**
AYDN	**Tasoluk**	**0.71**	**9**	⇑*i*P	**Pb**	**03 18 12.6**	**-0.1**
AYDN				*i* S	**Sb**	**03 18 26.6**	**+4.6**
ARG	**Arkhangelos**	**0.80**	**157**	⇑*i*PG	**Pb**	**03 18 13.0**	**-1.1**
DNZL	**Cakiroluk**	**1.27**	**54**	⇑*i*P	**Pn**	**03 18 22.1**	**+0.4**
DNZL				*i* S	**Sb**	**03 18 41.7**	**+3.6**
DENT	**Denizli**	**1.30**	**52**	*i* PN	**Pn**	**03 18 22.7**	**+0.6**
DENT				SN	**Sn**	**03 18 38.4**	**-0.5**
IZM	**Izmir**	**1.49**	**345**	*i* PN	**Pn**	**03 18 25.0**	**+0.2**
KDAG	**Bornova**	**1.49**	**346**	*i* P	**Pn**	**03 18 24.3**	**-0.5**
KDAG				*i* S	**Sn**	**03 18 42.6**	**-1.2**
MANT	**Manisa**	**1.66**	**23**	*i* P	**Pn**	**03 18 27.0**	**-0.3**
MANT				*i* S	**Sn**	**03 18 50.9**	**+2.8**
KSL	**Kastellorizon**	**1.69**	**118**	*e*PN	**Pn**	**03 18 29.0**	**+1.4**
ELL	**Elmali**	**1.75**	**96**	PN	**Pn**	**03 18 31.0**	**+2.5**
APE	**Apeiranthos**	**1.77**	**274**	*e*PG	**Pn**	**03 18 29.0**	**+0.1**
AKS	**Akhisar**	**1.92**	**2**	*i* PN	**Pn**	**03 18 30.8**	**-0.2**
THR1	**Thera Island**	**1.93**	**253**	*e*Pn	**Pn**	**03 18 38.2**	**+7.2**
THR1				*e*Sn	**Sn**	**03 19 05.8**	**+11**
THR4	**Thira Island,**	**1.95**	**256**	*e*Pn	**Pn**	**03 18 38.6**	**+7.2**
THR4				*e*Sn	**Sn**	**03 19 06.8**	**+11**
THR3	**Thira Island,**	**1.96**	**255**	*e*Pn	**Pn**	**03 18 37.5**	**+6.0**
THR3				*e*Sn	**Sn**	**03 19 05.7**	**+10**
KHL	**Karahalli**	**1.97**	**45**	PN	**Pn**	**03 18 31.3**	**-0.3**
THR6	**Thira Island,**	**1.98**	**253**	*e*Pn	**Pn**	**03 18 37.8**	**+6.0**
THR6				*e*Sn	**Sn**	**03 19 07.8**	**+12**
THR5	**Thira Island,**	**2.00**	**255**	*e*Pn	**Pn**	**03 18 39.3**	**+7.2**
THR5				*e*Sn	**Sn**	**03 19 06.9**	**+10**
BCK	**Bucak**	**2.33**	**77**	PN	**Pn**	**03 18 38.3**	**+1.5**
ISP	**Isparta**	**2.38**	**67**	PN	**Pn**	**03 18 38.9**	**+1.4**
NPS	**Neapolis**	**2.41**	**226**	*e*PN	**Pn**	**03 18 40.0**	**+2.0**
PRK	**Paraskevi**	**2.56**	**334**	*e*PN	**Pn**	**03 18 40.5**	**+0.3**
XRY	**Khrisi**	**2.66**	**219**	*e*PG	**Pn**	**03 18 47.5**	**+6.0**
BALB	**Balikesir**	**2.68**	**2**	*e*PN	**Pn**	**03 18 42.6**	**+0.7**
DST	**Dursunbey**	**2.74**	**14**	PN	**Pn**	**03 18 42.3**	**-0.3**
IDI	**Anoyia**	**2.85**	**235**	Pn	**Pn**	**03 18 44.1**	**-0.1**
	2.1nm,0.3s,baz=54,slow=16,SNR=7.1						
ORLT	**Orhaneli**	**3.22**	**16**	*e*PN	**Pn**	**03 18 49.7**	**+0.3**
VAM	**Vamos**	**3.25**	**243**	*e*PG	**Pn**	**03 18 58.0**	**+8.0**
KCT	**Karacabey**	**3.34**	**8**	*e*PN	**Pn**	**03 18 50.4**	**-0.8**
EDC	**Edincik**	**3.39**	**2**	*e*PN	**Pn**	**03 18 51.1**	**-0.8**
BNT	**Bandirma**	**3.40**	**2**	*e*PN	**Pn**	**03 18 51.3**	**-0.7**
LPK	**Lapseki**	**3.50**	**348**	*e*PN	**Pn**	**03 18 53.4**	**0.0**
ESKT	**Eskisehir**	**3.54**	**43**	*e*PN	**Pn**	**03 18 54.4**	**+0.3**
LOS	**Limnos**	**3.63**	**326**	*e*Pn	**Pn**	**03 18 56.3**	**+0.9**
KIZT	**Kizilcal**	**3.79**	**58**	*e*PN	**Pn**	**03 18 57.7**	**0.0**
HDMB	**Hadim**	**3.80**	**88**	*e*PN	**Pn**	**03 18 59.5**	**+1.8**
KONT	**Konya--Tatoy**	**3.81**	**74**	*e*PN	**Pn**	**03 18 59.4**	**+1.6**
YLV	**Yalova**	**3.83**	**19**	*e*PN	**Pn**	**03 18 58.4**	**+0.3**
KYTH	**Kithira**	**3.84**	**261**	*e*PN	**Pn**	**03 18 59.0**	**+0.6**
VLI	**Veliai**	**3.86**	**268**	*e*PN	**Pn**	**03 19 00.0**	**+1.4**
HRT	**Hereke**	**4.14**	**21**	*e*PN	**Pn**	**03 19 02.2**	**-0.4**
ALN	**Alexandroupoli**	**4.15**	**342**	*e*Pn	**Pn**	**03 19 02.3**	**-0.4**
AKMC	**Akamas**	**4.19**	**116**	⇑P	**Pn**	**03 19 02.9**	**-0.4**
PPCY	**Paphos**	**4.27**	**118**	⇑P	**Pn**	**03 19 04.7**	**+0.3**
ALFC	**Alevga**	**4.33**	**113**	P	**Pn**	**03 19 04.7**	**-0.5**
	2.7nm,0.2s						
ALFC				S	**Sn**	**03 19 53.7**	**-1.9**
MDU	**Mudurnu**	**4.43**	**37**	*e*PN	**Pn**	**03 19 07.0**	**+0.2**
OUR	**Ouranopolis**	**4.48**	**320**	*e*Pn	**Pn**	**03 19 07.5**	**+0.1**
RDO	**Rodhopi**	**4.52**	**338**	*e*PN	**Pn**	**03 19 08.0**	**0.0**
SZAC	**Souni-Zanaja**	**4.72**	**116**	P	**Pn**	**03 19 09.9**	**-0.9**
	2.5nm,0.3s						
SZAC				S	**Sn**	**03 20 02.4**	**-3.1**
CSS	**Prodhromos**	**4.95**	**112**	P	**Pn**	**03 19 15.0**	**+0.9**
	1.3nm,0.5s						
CSS				S	**Sn**	**03 20 09.8**	**-1.6**
EVR	**Evrytania**	**5.08**	**294**	*e*PN	**Pn**	**03 19 18.0**	**+2.1**
BRTR	**Keskin Array B**	**5.40**	**57**	Pn	**Pn**	**03 19 21.0**	**+0.6**
	0.9nm,0.3s,baz=170,slow=20,SNR=15						
BRTR				Sn	**Sn**	**03 20 22.7**	**+0.1**
	baz=140,slow=32,SNR=2.8						
KNT	**Kendrikon**	**5.64**	**320**	*e*Pn	**Pn**	**03 19 24.5**	**+0.7**
MLR	**Muntele Rosu**	**8.63**	**352**	Pn	**P**	**03 20 05.4**	**-0.3**
	0.1nm,0.3s,baz=328,slow=16,SNR=3.7						
TIP	**Timpagrande**	**8.94**	**288**	*e*P	**P**	**03 20 11.0**	**+1.0**
PGF	**Pioggiola**	**15.45**	**297**	*e*P	**P**	**03 21 34.3**	**-2.9**
	16nm,0.9s						
GERES	**GERESS Array B**	**15.69**	**324**	Pn	**P**	**03 21 38.4**	**-1.8**
	0.1nm,0.3s,baz=169,slow=5.0,SNR=3.7						
BRG	**Berggiesshubel**	**17.06**	**329**	*e*P	**P**	**03 22 05.4**	**+7.8**
	4.6nm,0.9s						
MBDF	**Montbardon**	**17.63**	**303**	*e*P	**P**	**03 22 04.3**	**-0.6**
	5.6nm,0.9s						
CLL	**Collm**	**17.78**	**328**	P	**P**	**03 22 05.0**	**-1.6**
CLL				*e*		03 22 12.0	
CLL	**Collm**	**17.78**	**328**	*e*P	**P**	**03 22 05.0**	**-1.6**
CLL				*e*		03 22 12.0	
LPG	**La Plagne**	**17.91**	**305**	*e*P	**P**	**03 22 10.3**	**+2.0**
	3.6nm,0.7s						
LPL	**La Plagne**	**17.93**	**305**	*e*P	**P**	**03 22 10.4**	**+1.9**
	5.1nm,0.8s						
CABF	**La Chapelle**	**18.76**	**308**	*e*P	**P**	**03 22 18.3**	**-0.4**
	3.4nm,0.6s						
HAU	**Haudompre**	**19.19**	**312**	*e*P	**P**	**03 22 23.6**	**-0.3**
	4.4nm,0.7s						
SMF	**Signal de Mont**	**20.21**	**306**	*e*P	**P**	**03 22 34.6**	**-0.5**
	7.4nm,0.8s						
SSF	**Saint Saulge**	**20.57**	**307**	*e*P	**P**	**03 22 37.8**	**-1.0**
	5.2nm,0.7s						
AVF	**Avril sur Loir**	**20.58**	**306**	*e*P	**P**	**03 22 38.4**	**-0.5**
	5.0nm,0.8s						
BGF	**Bois d'Agland**	**20.83**	**305**	*e*P	**P**	**03 22 40.0**	**-1.5**
	8.1nm,0.7s						
LDF	**La Druitiere**	**23.39**	**309**	*e*P	**P**	**03 23 06.5**	**-0.4**
	6.0nm,0.8s,mb3.8						
FLN	**La Foliniere**	**23.67**	**309**	*e*P	**P**	**03 23 08.5**	**-1.1**
	10.0nm,0.8s,mb4.0						
GRR	**Gorron**	**23.79**	**308**	*e*P	**P**	**03 23 10.9**	**+0.1**
	20nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**24.53**	**358**	P	**P**	**03 23 18.6**	**+0.8**
	1.2nm,0.8s,mb3.5,baz=166,slow=17,SNR=3.5						
HFS	**Hagfors**	**24.88**	**343**	P	**P**	**03 23 20.9**	**-0.3**
	2.2nm,1.0s,mb3.7,baz=124,slow=5.3,SNR=3.7						
HFS	**Hagfors**	**24.88**	**343**	P	**P**	**03 23 20.9**	**-0.3**
ESDC	**Sonseca Array**	**24.96**	**286**	P	**P**	**03 23 22.0**	**-0.2**
	1.3nm,0.7s,mb3.5,baz=83,slow=9.4,SNR=4.4						
EVO	**Evora**	**28.21**	**284**	*e*P	**P**	**03 23 51.7**	**-0.4**
	5.4nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**03 25 42.2**	**-0.1**
	3.6nm,1.0s,mb4.0,baz=281,slow=6.2,SNR=6.8						

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*NEIC **04** 03:23:36.7, 36.83N×27.74E, h26^{km}, MD3.4(ATH), After ATH.*
*ATH **04** 03:23:36.7, 36.84N×27.75E, h26^{km}±4^{km}, MD3.4/6*
*ISK **04** 03:23:38.6, 37.29N×27.97E, h3^{km}, MD3.3*
ISC 04 03:23:34.7±0.8**, 36.91N**±0.04×**27.67E**±0.04**, h8**^{km}±6^{km}**,**
n27, σ1^{s}09/35**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**311**	*i* P	**Pg**	**03 23 39.6**	**-0.1**
BDRM				*i* S	**Sg**	**03 23 46.3**	**+3.3**
MLSB	**Milas**	**0.40**	**13**	PG	**Pg**	**03 23 42.7**	**0.0**
NISR	**Nisiros**	**0.52**	**236**	*e*PN	**Pn**	**03 23 47.2**	**-0.8**
NISR				*e*SN	**Sn**	**03 23 57.0**	**-0.1**
NISR	**Nisiros**	**0.52**	**236**	*e*Pn	**Pn**	**03 23 46.5**	**-1.5**
NISR				*e*Sn	**Sn**	**03 23 57.0**	**-0.1**
YER	**Yerkesik**	**0.54**	**65**	PG	**Pg**	**03 23 44.5**	**-1.1**
AYDN	**Tasoluk**	**0.77**	**13**	*i* P	**Pb**	**03 23 49.7**	**-0.2**
AYDN				*i* S	**Sb**	**03 24 00.1**	**-0.1**
ARG	**Arkhangelos**	**0.78**	**152**	*e*PN	**Pn**	**03 23 50.5**	**-1.3**

DNZL	Cakiroluk	1.35	54	⇑iP	Pb	03 23 59.8	0.0
DNZL				i S	Sb	03 24 18.0	+1.0
DENT	Denizli	1.38	52	ePG	Pg	03 23 58.1	-4.1
IZM	Izmir	1.52	348	PN	Pn	03 24 02.1	-0.2
IZM				SN	Sn	03 24 20.8	-1.6
KDAG	Bornova	1.52	348	i P	Pn	03 24 01.3	-1.1
KDAG				i S	Sb	03 24 26.4	+4.3
APE	Apeiranthos	1.72	276	ePN	Pn	03 24 06.0	+0.9
KSL	Kastellorizon	1.72	116	ePN	Pn	03 24 06.0	+0.9
MANT	Manisa	1.73	24	⇑iP	Pn	03 24 04.9	-0.3
MANT				i S	Sn	03 24 30.4	+2.7
ELL	Elmali	1.81	94	ePN	Pn	03 24 09.8	+3.4
AKS	Akhisar	1.97	3	PN	Pn	03 24 08.0	-0.7
KHL	Karahalli	2.04	46	ePN	Pn	03 24 09.2	-0.5
NPS	Neapolis	2.34	226	ePN	Pn	03 24 15.0	+1.0
BCK	Bucak	2.40	76	ePN	Pn	03 24 16.3	+1.4
ISP	Isparta	2.45	67	ePN	Pn	03 24 15.3	-0.3
PRK	Paraskevi	2.58	335	ePN	Pn	03 24 20.5	+3.0
BALB	Balikesir	2.73	3	ePN	Pn	03 24 19.6	0.0
DST	Dursunbey	2.80	15	ePN	Pn	03 24 19.7	-0.8
ALT	Altintas	2.88	41	ePN	Pn	03 24 20.3	-1.5
HDMB	Hadim	3.86	88	ePN	Pn	03 24 36.6	+0.9
KIZT	Kizilcal	3.87	58	ePN	Pn	03 24 35.9	+0.1
YLV	Yalova	3.89	20	ePN	Pn	03 24 35.9	-0.2

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*PRU **04** 03:32:55.7, 50.14N×19.10E*

*WAR **04** 03:32:55.6, 50.20N×19.14E, ML2.6, Mining Induced*

ISC 04 03:32:54.1±0.5**, 50.15N**±0.03×**19.00E**±0.03**, n16,** $\sigma 1^{s}$**17**/29**,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.52	263	ePG	Pg	03 33 08.0	+3.6
RAC				eSG	Sg	03 33 17.0	+5.6
OJC	Ojcow	0.52	82	ePG	Pg	03 33 05.0	+0.5
OJC				i SG	Sg	03 33 11.1	-0.3
OKC	Ostrava-Krasne	0.63	241	ePG	Pg	03 33 09.5	+2.9
OKC				eSG	Sg	03 33 21.6	+6.6
LIKS	Likavka	1.10	176	eSG	Sg	03 33 31.8	+1.1
NIE	Niedzica	1.12	130	ePG	Pg	03 33 17.0	+0.5
NIE				eSG	Sg	03 33 32.0	+0.5
VYHS	Vyhne	1.66	184	ePG	Pg	03 33 26.4	-0.8
VYHS				eSG	Sg	03 33 48.8	-0.5
DPC	Dobruska-Polom	1.73	278	ePG	Pg	03 33 27.3	-1.2
DPC				eSG	Sg	03 33 52.1	+0.5
KSP	Ksiaz	1.86	293	ePN	Pn	03 33 29.0	+1.5
KSP				ePG	Pg	03 33 31.0	-0.2
KSP				e(SG)	Sg	03 33 56.0	0.0
KECS	Kecovo	1.93	149	eSG	Sg	03 33 58.2	-0.2
PSZ	Piszkesteto	2.31	165	eP	Pn	03 33 40.7	+6.8
PSZ				eS	Sn	03 34 03.5	+0.1
KWP	Kalwaria	2.46	101	eP	Pn	03 33 40.0	+4.0
KWP				eSG	Sg	03 34 14.0	-1.8
PVCC	Panska Ves	2.86	279	eSG	Sg	03 34 27.6	-1.7
PRU	Pruhonice	2.87	269	ePG	Pg	03 33 48.0	-3.4
PRU				eSG	Sg	03 34 29.1	-0.6
	7.9nm,0.6s						
KHC	Kasperske Hory	3.67	256	ePN	Pn	03 33 54.0	+0.8
KHC				ePG	Pg	03 34 03.8	-3.4
KHC				eSG	Sg	03 34 54.8	-1.3
CLL	Collm	3.98	289	eSG	Sg	03 35 08.0	+1.4
CLL	Collm	3.98	289	eSg	Sg	03 35 08.0	+1.4

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*BJI **04** 03:46:14.2, 40.72S×43.08E, $h7^{km}$, mB5.5, mb5.5, Ms5.0, Msz5.0*

*MOS **04** 03:46:15.0±1.3, 41.00S×42.55E, $h10^{km}$, mb5.5/11, Error ellipse: s-maj=85.9km s-min=16.6km az=96.9*

*IDC **04** 03:46:15.2±0.4, 40.68S×43.23E, mb5.0/24, mb1 5.1/25, mb1mx5.1/26, ML4.3/1, MS4.7/16, Ms1 4.7/16, ms1mx4.6/23, Error ellipse: s-maj=16.4km s-min=12.1km az=51.0*

*HRVD **04** 03:46:16.9±0.3, 40.60S×43.14E, $h12^{km}$, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s44,c71;Mantle waves: s63,c119; Half duration: $1^{s}1$ Moment tensor: Scale 10^{17}Nm; M_{rr}0.92±.03; $M_{\theta\theta}$-0.89±.03; $M_{\phi\phi}$-0.03±.03; $M_{r\theta}$0.26±.07; $M_{\theta\phi}$-0.22±.02; $M_{\phi r}$-0.22±.08; Best double couple: M_0.99×10^{17} NP1: ϕ_s242°, δ41°, λ67°. NP2: ϕ_s92°, δ53°, λ109°. Principal axes: T 1.02, Plg74°, Azm56°; N -.05, Plg15°, Azm260°; P -.97, Plg6°, Azm168°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **04** 03:46:16.9, 40.78S×43.20E, $h10^{km}$, MB5.3, MS5.0*

*NEIC **04** 03:46:16.9±0.1, 40.78S×43.20E, $h10^{km}$, mb5.3/61, MS5.0/71, Error ellipse: s-maj=7.2km s-min=5.0km az=59.0*

*CSEM **04** 03:46:19.6, 40.88S×43.20E, $h33^{km}$, mb5.6*

ISC 04 03:46:15.5±0.2**, 40.80S**±0.05×**43.24E**±0.07**, h10**^{km}**,**
(h13^{km}±1.6^{km}**:pP-P), n283,** $\sigma 0^{s}$**86**/164**, mb5.3**/92**, MS5.0**/89**,**
23C-6D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	19.84	288	P	P	03 50 46.8	-2.5
	1.1nm,0.3s,baz=123,slow=12,SNR=15						
SUR				LR	LR	03 56 54.3	
	comp=Z,1µm,18.8s,baz=229,slow=32						
SUR	Sutherland	19.84	288	eP	P	03 50 46.8	-2.5
	46nm,0.8s						
LBTB	Lobatse	21.55	312	eP	P	03 51 05.3	-1.8
	114nm,1.1s,mb5.2						
LBTB				e		03 51 12.5	
SYO	Syowa Base	28.34	183	⇓P	P	03 52 09.7	-1.5
SYO	Syowa Base	28.34	183	⇓pP	pP	03 52 12.3	-1.8
SYO	Syowa Base	28.34	183	⇑PP	PP	03 53 16.7	+14
LSZ	Lusaka	28.60	328	eP	P	03 52 12.7	-1.4
	1µm,3.2s						
LSZ				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
MAW	Mawson	28.93	165	P	P	03 52 17.4	+0.8
	comp=Z,4.0nm,1.1s,baz=353,slow=8.3,SNR=5.0						
MAW				LR	LR	04 00 52.1	
	comp=Z,2µm,21.5s,baz=332,slow=30						
TSUM	Tsumeb	30.74	307	P	P	03 52 31.7	-1.4
	comp=Z,35nm,0.9s,mb5.2,baz=130,slow=7.6,SNR=53						
TSUM				LR	LR	04 03 51.2	
	comp=Z,3µm,18.5s,MS5.0,baz=139,slow=34						
TSUM	Tsumeb	30.74	307	eP	P	03 52 31.3	-1.8
	comp=Z,53nm,1.0s,mb5.3						
TSUM				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
NVL	N'lazarevskaya	34.02	198	⇓eP	P	03 52 57.0	-4.3
NVL				eS	PP	03 54 09.0	-6.2
NVL				pmax	pmax		
	comp=Z,604nm,3.8s						
NVL				MLR	MLR		
	comp=Z,755nm,7.0s						
MAIT	Maitri	34.05	198	⇑iP	P	03 53 01.2	-0.3
MAIT				ePcP	PcP	03 55 39.7	+0.3
SNAA	Sanae	38.37	202	e	P	03 53 38.5	+0.4
SNAA	Sanae	38.37	202	e	P	03 53 41.2	+3.1
SNAA	Sanae	38.37	202	⇑iP	P	03 53 37.2	-0.9
SNAA				e	pP	03 53 38.5	-2.6
SNAA				e	pP	03 53 41.2	+0.1
VNA1	Neumayer--Stat	39.54	204	e	P	03 53 51.1	+3.2
VNA1	Neumayer--Stat	39.54	204	e	P	03 53 53.5	+5.6
VNA1	Neumayer--Stat	39.54	204	eP	P	03 53 49.1	+1.2
VNA1				e	pP	03 53 51.1	+0.2
VNA1				e	pP	03 53 53.5	+2.6
KMBO	Kilima Mbogo	39.86	351	P	P	03 53 52.2	+1.1
	comp=Z,5.9nm,0.8s,mb4.3,baz=149,slow=6.9,SNR=13						
KMBO				LR	LR	04 08 09.7	
	comp=Z,2µm,21.0s,MS4.9,baz=136,slow=33						
KMBO	Kilima Mbogo	39.86	351	eP	P	03 53 52.1	+1.0
	comp=Z,12nm,1.1s,mb4.5						
KMBO				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
QSPA	South Pole Qui	49.41	180	eP	P	03 55 06.6	-0.2
	comp=Z,210nm,1.6s,mb5.9						
VNDA	Vanda	56.21	167	P	P	03 55 56.6	-0.8
	comp=Z,4.4nm,1.1s,mb4.4,baz=241,slow=9.3,SNR=12						
VNDA				S	S	04 03 50.1	+4.9
	comp=Z,0.8nm,0.8s,baz=296,slow=16,SNR=6.5						
VNDA				LR	LR	04 21 19.7	
	comp=Z,1µm,18.7s,MS5.0,baz=201,slow=37						
SBA	Scott Base	56.82	168	eP	P	03 56 01.9	+0.1
	comp=Z,74nm,1.6s,mb5.5						
SBA				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
MUN	Mundaring	57.86	106	eP	P	03 56 09.5	-0.2
	comp=Z,14nm,0.8s,mb5.0						
NWAO	Narrogin (SRO)	58.12	108	LR	LR	04 15 18.2	
	comp=Z,453nm,21.1s,MS4.6,baz=33,slow=30						
KLBR	Kellerberrin	59.18	107	eP	P	03 56 17.8	-1.2
	comp=Z,16nm,0.9s,mb5.1						
KIC	Kosan Boka	64.31	305	eP	P	03 56 52.0	-1.7
	comp=Z,292nm,1.8s,mb6.0						
LIC	Lamto	64.39	305	eP	P	03 56 54.3	+0.1
	comp=Z,116nm,1.9s,mb5.6						
DBIC	Dimbokro	64.62	305	P	P	03 56 54.0	-1.7
	comp=Z,17nm,1.0s,mb5.0,baz=113,slow=5.8,SNR=5.1						
DBIC				LR	LR	04 20 40.2	
	comp=Z,869nm,21.7s,MS4.9,baz=208,slow=32						
TIC	Toumodi	64.71	305	eP	P	03 56 54.9	-1.4
	comp=Z,95nm,1.0s,mb5.8						
EFI	East Falkland	65.38	222	PFAKE		03 57 10.0	+10
EFI				LR	LR		
	comp=Z,287nm,22.0s,MS4.4						
HYB	Hyderabad	66.56	37	i P	P	03 57 07.0	-1.0
HYB	Hyderabad	66.56	37	eP	P	03 57 07.0	-1.0
SNG	Songkhla	71.01	62	P	P	03 57 27.0	-8.7
FITZ	Fitzroy Crossi	72.75	99	⇑iP	P	03 57 46.4	+0.4
	comp=Z,16nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	72.75	99	P	P	03 57 46.3	+0.3
	comp=Z,18nm,0.9s,mb5.0,baz=206,slow=5.6,SNR=13						
FITZ				LR	LR	04 24 29.8	
	comp=Z,74nm,18.3s,MS4.0,baz=277,slow=32						
ASF	Jabal al Asfar	72.84	354	P	P	03 57 46.3	0.0
	comp=Z,12nm,1.0s,mb4.8,baz=174,slow=2.6,SNR=5.1						
NNT	Nongplab	74.44	58	P	PcP	03 58 23.0	+12
TOO	Toolangi	74.50	126	eP	P	03 57 56.7	+0.8
	comp=Z,9.7nm,0.9s,mb4.7						
ASPA	Alice Springs	75.42	109	⇑iP	P	03 58 01.1	-0.3
ASAR	Alice Springs	75.42	109	P	P	03 58 01.2	-0.2
	comp=Z,12nm,0.9s,mb4.8,baz=222,slow=5.6,SNR=54						
ASAR				LR	LR	04 26 16.7	
	comp=Z,384nm,18.7s,MS4.7,baz=235,slow=32						
STKA	Stephens Creek	75.63	120	⇑iP	P	03 58 02.7	+0.3
	comp=Z,32nm,0.8s,mb5.3						
STKA	Stephens Creek	75.63	120	P	P	03 58 02.7	+0.3
	comp=Z,42nm,0.8s,mb5.5,baz=232,slow=4.2,SNR=55						
STKA				LR	LR	04 25 34.2	
	comp=Z,554nm,18.4s,MS4.9,baz=220,slow=31						
NDI	New Delhi	75.97	30	e	P	03 58 02.0	-2.4
TRQA	Tornquist	75.98	232	eP	P	03 58 03.3	-1.0
	comp=Z,20nm,1.0s,mb5.0						
NST	Nakhon Sawan	77.01	56	P	P	03 58 11.0	+0.5
KOLN	Koldanda	77.82	36	eP	P	03 58 14.1	-0.6
	comp=Z,182nm,1.2s,mb5.9						
RCBR	Riachuelo	78.00	273	PFAKE		03 58 30.0	+14
RCBR				LR	LR		
	comp=Z,190nm,20.0s,MS4.4						
WRA	Warramunga Arr	78.05	106	P	P	03 58 16.2	0.0
	comp=Z,34nm,0.8s,mb5.3,baz=225,slow=4.6,SNR=188						
WRA				LR	LR	04 27 51.1	
	comp=Z,364nm,18.8s,MS4.7,baz=235,slow=32						
WB2	Warramunga Arr	78.06	106	⇑iP	P	03 58 16.4	+0.2
CNB	Canberra Magne	78.34	127	eP	P	03 58 18.6	+1.2
	comp=Z,19nm,0.9s,mb5.0						
DMN	Daman	78.36	37	eP	P	03 58 17.4	-0.3
	comp=Z,178nm,1.2s,mb5.9						
CM31	Chiang Mai Arr	78.39	53	eP	P	03 58 17.9	-0.1
	comp=Z,40nm,1.0s,mb5.3						
CMAR	Chiang Mai Arr	78.39	53	P	P	03 58 17.4	-0.7
	comp=Z,21nm,0.9s,mb5.1,baz=229,slow=6.5,SNR=58						
CMAR				LR	LR	04 30 09.5	
	comp=Z,216nm,18.4s,MS4.5,baz=240,slow=34						
PKI	Pulchoki	78.47	37	eP	P	03 58 17.9	-0.4
	comp=Z,132nm,1.2s,mb5.7						
GKN	Gorkha	78.48	37	eP	P	03 58 17.8	-0.6
	comp=Z,146nm,1.1s,mb5.8						
KKN	Kakani	78.60	37	eP	P	03 58 18.3	-0.7
	comp=Z,168nm,1.3s,mb5.8						
CHG	Chiang Mai	78.66	53	⇑P	P	03 58 19.1	-0.4
	comp=Z,29nm,1.1s,mb5.1						
THN	Thein Dam	78.80	28	eP	P	03 58 19.2	-0.8
	comp=Z,18nm,1.0s,mb5.0						
MALT	Malatya	78.85	356	eP	P	03 58 21.0	+0.8
	comp=Z,37nm,1.4s,mb5.1						
GUN	Gumba	78.98	38	eP	P	03 58 21.1	0.0
	comp=Z,271nm,1.1s,mb6.1						
PLCA	Paso Flores	79.03	225	P	P	03 58 20.9	-0.2
	comp=Z,13nm,0.9s,mb4.9,baz=125,slow=5.6,SNR=25						
PLCA				LR	LR	04 25 53.7	
	comp=Z,372nm,21.0s,MS4.7,baz=129,slow=30						
PLCA	Paso Flores	79.03	225	eP	P	03 58 20.9	-0.2
	comp=Z,21nm,1.0s,mb5.0						
KKTK	Khon Kaen	79.21	57	P	P	03 58 22.5	-0.1
NANT	Nan	79.72	54	⇑P	P	03 58 23.0	-2.3
	comp=Z,62nm,1.0s,mb5.5						
SHL	Shillong	79.99	44	⇑iP	P	03 58 26.2	-0.4
CPUP	Villa Florida	80.67	243	P	P	03 58 30.1	-0.2
	comp=Z,8.5nm,0.9s,mb4.7,baz=150,slow=4.9,SNR=15						
CPUP				LR	LR	04 26 15.2	
	comp=Z,181nm,19.5s,MS4.4,baz=142,slow=30						
CPUP	Villa Florida	80.67	243	eP	P	03 58 30.0	-0.2
	comp=Z,20nm,1.2s,mb4.9						
BDFB	Brasilia	80.89	257	P	P	03 58 32.5	+1.0
	comp=Z,10nm,1.1s,mb4.7,baz=77,slow=1.4,SNR=8.0						
KAKA	Kakadu	81.20	99	⇑iP	P	03 58 33.4	+0.2
	comp=Z,19nm,0.9s,mb5.0						
VAE	Valguarnera	82.25	337	LR	LR	04 36 24.5	
	comp=Z,2µm,18.0s,MS5.5,baz=338,slow=37						
LSA	Lhasa	83.00	41	P	P	03 58 43.0	+0.7
LSA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
LSA	Lhasa	83.00	41	eP	P	03 58 43.6	+1.4
	comp=Z,51nm,1.0s,mb5.5						
LSA				LR	LR		
	comp=Z,338nm,19.0s,MS4.7						
TIP	Timpagrande	83.18	340	eP	P	03 58 44.7	+1.6
KIV	Kislovodsk	84.37	360	eP	P	03 58 49.0	+0.1
KIV				e		04 02 03.6	
KIV				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.3						
KIV				MLR	MLR		
	comp=Z,500nm,17.0s,MS5.0						
KIV	Kislovodsk	84.37	360	eP	P	03 58 48.9	0.0
	comp=Z,42nm,1.4s,mb5.4						
KIV				LR	LR		
	comp=Z,382nm,20.0s,MS4.8						
SKO	Skopje	84.72	344	i P	P	03 58 51.0	+0.3
KSH	Kashi	85.32	25	eP	P	03 58 55.7	+2.0
KSH				eAP	pP	03 59 00.5	+3.5
KSH				eXP	sP	03 59 03.1	+5.1
KSH				ePP	PP	04 02 17.3	+4.0
KSH				eSKS	SKS	04 09 18.4	-1.9
KSH				eS	S	04 09 27.2	+4.3
KSH				eXS		04 09 34.8	
KSH				AMB	AMB		
	comp=Z,380nm,2.8s,mb6.0						
KMI	Kunming	85.73	52	eP	P	03 58 56.2	+0.1
	comp=Z,14nm,1.5s,mb5.0						
KMI				LR	LR		
	comp=Z,160nm,22.4s,MS4.4						
QIZ	Qiongzhong	85.74	61	P	P	03 58 57.0	+0.7
CII	Carovilli	86.22	339	eP	P	03 58 58.6	+0.4
	comp=Z,44nm,1.2s,mb5.6						
CTA	Charters Tower	86.47	113	eP	P	03 58 59.7	-0.2
	comp=Z,12nm,0.9s,mb5.1						
CTA	Charters Tower	86.47	113	P	P	03 58 59.7	-0.2
	comp=Z,14nm,0.8s,mb5.2,baz=245,slow=5.6,SNR=21						
CTAO	Charters Tower	86.47	113	eP	P	03 58 59.7	-0.2
	comp=Z,18nm,0.9s,mb5.3						
CTAO				LR	LR		
	comp=Z,391nm,19.0s,MS4.8						
AQU	L'Aquila	87.06	338	eP	P	03 59 03.0	+0.7
	comp=Z,45nm,1.1s,mb5.6						
DIVS	Divcibare	87.06	343	⇓iP	P	03 59 02.4	+0.2
MLR	Muntele Rosu	87.29	348	P	P	03 59 03.4	+0.1
	comp=Z,43nm,1.2s,mb5.5,baz=173,slow=4.4,SNR=14						
MLR	Muntele Rosu	87.29	348	P	P	03 59 03.4	+0.1
KIS	Kishinev	88.35	350	eP	P	03 59 06.0	-2.3
KIS				e	pP	03 59 10.0	-1.5
PGF	Pioggiola	88.55	335	eP	P	03 59 09.5	+0.1
	comp=Z,97nm,1.7s,mb5.6						
GYA	Guiyang	89.08	53	⇑iP	P	03 59 13.0	+0.7
GYA				AP	pP	03 59 18.6	+3.1
GYA				XP	sP	03 59 20.7	+4.1
GYA				S	S	04 10 02.8	+4.1
GYA				XS		04 10 10.6	
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.5						
GYA				LR	LR		
	comp=N,200nm,14.7s,MS4.8						
GYA				LR	LR		
	comp=E,250nm,17.4s,MS4.8						
GYA				LR	LR		
	comp=Z,380nm,15.3s,MS4.9						
BOJS	Bojanci	89.50	341	eP	P	03 59 15.1	+1.3
CEY	Cerknica	89.93	340	eP	P	03 59 16.7	+0.9
LMR	La Mourre	90.06	334	eP	P	03 59 16.6	+0.1
	comp=Z,42nm,1.2s,mb5.3						
FRF	La Foret Royal	90.22	334	eP	P	03 59 17.4	+0.2
	comp=Z,42nm,1.3s,mb5.3						
SBF	Sospel	90.23	335	eP	P	03 59 17.7	+0.4
	comp=Z,43nm,1.2s,mb5.3						
PERS	Pernice	90.59	341	eP	P	03 59 19.4	+0.6
OBKA	Obir	90.61	341	⇓iP	P	03 59 20.3	+1.3
	comp=Z,38nm,1.1s,mb5.6						
ROBS	Robic	90.63	340	eP	P	03 59 20.0	+0.9
CD2	Chengdu	90.66	48	P	P	03 59 19.2	-0.4
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.8						
ESDC	Sonseca Array	90.90	326	P	P	03 59 20.8	+0.4
	comp=Z,9.0nm,1.1s,mb5.0,baz=155,slow=4.9,SNR=11						
ESDC				LR	LR	04 41 30.3	
	comp=Z,963nm,20.3s,MS5.2,baz=160,slow=36						
ESLA	Sonseca Array	90.90	326	PFAKE		03 59 30.0	+10
ESLA				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
SMRF	Simiane la Rot	90.94	334	eP	P	03 59 20.8	+0.3
	comp=Z,23nm,1.1s,mb5.1						
ARSA	Arzberg	91.06	342	⇑iP	P	03 59 21.6	+0.6
	comp=Z,21nm,1.2s,mb5.3						
MBDF	Montbardon	91.22	335	eP	P	03 59 23.2	+1.4
PBEJ	Beja	91.31	322	eP	P	03 59 24.0	+1.6
KBA	Koelnbreinsper	91.45	340	⇓iP	P	03 59 26.3	+3.5
	comp=Z,15nm,1.1s,mb5.2						
MTLF	Montolieu	91.56	331	eP	P	03 59 23.5	+0.1
LASF	Ste Croix	91.62	333	eP	P	03 59 24.1	+0.5
	comp=Z,53nm,1.3s,mb5.4						
ORIF	Oris-en-Rattie	91.68	334	eP	P	03 59 24.6	+0.7
	comp=Z,26nm,1.0s,mb5.2						
KWP	Kalwaria	91.84	347	eP	P	03 59 24.5	-0.1
	comp=Z,30nm,1.4s,mb5.4						
LPG	La Plagne	91.91	335	eP	P	03 59 25.4	+0.4
	comp=Z,41nm,1.3s,mb5.3						
MOA	Molln	91.93	341	⇑iP	P	03 59 25.6	+0.6
	comp=Z,25nm,1.1s,mb5.5						
LPL	La Plagne	91.94	335	eP	P	03 59 25.8	+0.7
	comp=Z,25nm,1.0s,mb5.2						
AKASG	Malin Array Be	91.94	351	P	P	03 59 24.1	-0.8
	comp=Z,3.6nm,0.8s,mb4.8,baz=182,slow=4.3,SNR=13						
EPF	Esparros	91.99	330	eP	P	03 59 25.8	+0.4
VIVF	Saint-Julien-l	92.02	334	eP	P	03 59 26.0	+0.5
	comp=Z,24nm,1.2s,mb5.1						
WTTA	Wattenberg	92.07	339	⇑iP	P	03 59 25.6	-0.1
	comp=Z,23nm,1.3s,mb5.3						
DAVOX	Davos	92.12	338	P	P	03 59 25.8	-0.1
	comp=Z,14nm,1.0s,mb5.3,baz=162,slow=8.5,SNR=14						
SQTA	Sankt Quirin	92.15	339	⇑iP	P	03 59 26.2	+0.2
	comp=Z,20nm,1.2s,mb5.3						
ETSF	Etsaut	92.22	329	eP	P	03 59 27.0	+0.5
	comp=Z,16nm,1.0s,mb5.0						
MOTA	Moosalm	92.29	339	⇑iP	P	03 59 26.6	-0.1
	comp=Z,16nm,1.2s,mb5.2						
DAVA	Damuels	92.58	338	⇑iP	P	03 59 27.7	-0.3
	comp=Z,13nm,1.2s,mb5.2						
PCBR	Castelo Branco	92.59	323	eP	P	03 59 28.6	+0.4
VRAC	Vranov	92.75	343	P	P	03 59 29.3	+0.6
	comp=Z,4.6nm,0.3s,mb5.3,baz=7.7,slow=23,SNR=5.2						
OKC	Ostrava-Krasne	92.91	344	eP	P	03 59 29.5	0.0
FUR	Furstenfeldbru	93.00	339	eP	P	03 59 30.8	+0.9
FUR				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.6						
FUR	Furstenfeldbru	93.00	339	eP	P	03 59 30.8	+0.9
	comp=Z,28nm,1.1s,mb5.6						
GEC2	GERESS Array S	93.00	341	eP	P	03 59 29.8	-0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.8						
GEC2	GERESS Array S	93.00	341	eP	P	03 59 29.8	-0.1
	comp=Z,5.0nm,1.2s,mb4.8						
GERES	GERESS Array B	93.00	341	P	P	03 59 29.5	-0.3
	comp=Z,2.6nm,1.0s,mb4.6,baz=169,slow=6.8,SNR=9.5						
GERES				PP	PP	04 03 12.4	-3.1
	comp=Z,0.2nm,0.5s,baz=190,slow=8.1,SNR=4.2						
CABF	La Chapelle	93.11	335	eP	P	03 59 31.0	+0.5
	comp=Z,57nm,1.2s,mb5.6						
WMQ	Urumqi	93.26	31	P	P	03 59 31.3	+0.1
WMQ				AP	pP	03 59 36.0	+1.6
WMQ				XP	sP	03 59 38.3	+2.9
WMQ				PP	PP	04 03 17.8	+0.1
WMQ				eS	S	04 10 35.3	-0.2
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,146nm,8.0s						
WMQ				LR	LR		
	comp=N,125nm,26.5s,MS4.4						
WMQ				LR	LR		
	comp=E,135nm,27.3s,MS4.4						
KHC	Kasperske Hory	93.29	341	eP	P	03 59 30.8	-0.4
WET	Wettzell	93.48	341	eP	P	03 59 31.4	-0.7
WET				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.2						
WET	Wettzell	93.48	341	eP	P	03 59 31.4	-0.7
	comp=Z,13nm,1.4s,mb5.2						
RJF	Les Rejaudoux	93.51	332	eP	P	03 59 32.8	+0.5
ENH	Enshi	93.55	52	PFAKE		03 59 40.0	+7.1
ENH				LR	LR		
	comp=Z,205nm,20.0s,MS4.6						
DPC	Dobruska-Polom	93.79	343	eP	P	03 59 34.1	+0.6
PRU	Pruhonice	93.86	342	eP	P	03 59 33.7	-0.1
SMF	Signal de Mont	93.87	334	eP	P	03 59 33.9	-0.1
	comp=Z,23nm,0.9s,mb5.3						
MKAR	Makanchi Array	93.89	26	P	P	03 59 32.9	-1.1
	comp=Z,5.0nm,0.9s,mb5.0,baz=225,slow=5.1,SNR=7.5						
HINF	Hinteralfeld	93.95	336	eP	P	03 59 34.0	-0.3
BFO	Black Forest	93.97	337	eP	P	03 59 36.3	+1.9
BFO				pmax	pmax		
	comp=Z,16nm,1.5s,mb5.2						
BFO	Black Forest	93.97	337	eP	P	03 59 36.3	+1.9
	comp=Z,16nm,1.5s,mb5.2						
TCF	Toulx Ste Croi	94.12	333	eP	P	03 59 35.3	+0.2
	comp=Z,18nm,1.2s,mb5.1						
BGF	Bois d'Agland	94.13	333	eP	P	03 59 35.6	+0.5
AVF	Avril sur Loir	94.16	334	eP	P	03 59 35.3	0.0
	comp=Z,21nm,0.9s,mb5.2						
HAU	Haudompre	94.27	336	eP	P	03 59 35.5	-0.3
PMG	Port Moresby	94.27	106	PFAKE		03 59 50.0	+13
PMG				LR	LR		
	comp=Z,357nm,22.0s,MS4.8						
SSF	Saint Saulge	94.35	334	eP	P	03 59 36.0	-0.1
CDF	Champ du Feu	94.36	337	eP	P	03 59 35.8	-0.3
GRA1	Grafenberg Arr	94.41	340	eP	P	03 59 36.4	+0.1
	comp=Z,22nm,1.4s,mb5.4						
GRF	Grafenberg Arr	94.41	340	eP	P	03 59 36.4	+0.1
GRF				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.4						
LOR	Lormes	94.41	334	eP	P	03 59 36.6	+0.2
	comp=Z,27nm,0.9s,mb5.4						
LZH	Lanzhou	94.58	45	⇑P	P	03 59 36.8	-0.7
LZH				AP	pP	03 59 39.8	-0.9
LZH				XP	sP	03 59 41.4	-0.3
LZH				PP	PP	04 03 27.0	-0.9
LZH				AMB	AMB		
	comp=Z,45nm,1.7s,mb5.6						
LZH				AMB	AMB		
	comp=Z,191nm,6.2s						
LZH				LR	LR		
	comp=N,172nm,17.6s						
LZH				LR	LR		
	comp=Z,271nm,20.0s,MS4.7						
LZH	Lanzhou	94.58	45	⇑P	P	03 59 36.8	-0.7
	comp=Z,45nm,1.7s,mb5.6						
LZH				pP	pP	03 59 39.8	-0.9
LZH				sP	sP	03 59 41.4	-0.3
LZH				PP	PP	04 03 27.0	-0.9
LZH				LR	LR		
	comp=Z,270nm,20.0s,MS4.7						
BRG	Berggiesshubel	94.82	342	eP	P	03 59 38.5	+0.3
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.9						
BRG	Berggiesshubel	94.82	342	eP	P	03 59 38.5	+0.3
	comp=Z,5.7nm,1.3s,mb4.8						
LPAZ	La Paz	94.84	244	P	P	03 59 39.8	+0.7
	comp=Z,3.9nm,1.0s,mb4.8,baz=104,slow=11,SNR=10						
LPAZ	La Paz	94.84	244	P	P	03 59 39.8	+0.7
LPAZ				LR	LR		
	comp=Z,166nm,19.0s,MS4.5						

GTA	**Gaotai**	**95.02**	**40**	*e*P	**P**	**03 59 39.3**	**-0.1**
GTA				AP	pP	03 59 43.7	+1.1
GTA				S	S	04 10 50.0	-0.8
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb5.2						
GTA				LR	LR		
	comp=N,58nm,11.0s,MS4.5						
GTA				LR	LR		
	comp=E,60nm,11.8s,MS4.5						
GTA				LR	LR		
	comp=Z,113nm,15.2s,MS4.5						
MOX	**Moxa**	**95.18**	**340**	*i* P	**P**	**03 59 39.5**	**-0.4**
MOX	**Moxa**	**95.18**	**340**	*e*P	**P**	**03 59 39.5**	**-0.4**
CLL	**Collm**	**95.45**	**341**	⇑P	**P**	**03 59 40.7**	**-0.4**
	comp=Z,logA/T=1.1,mb5.3						
CLL	**Collm**	**95.45**	**341**	⇑*i*P	**P**	**03 59 40.7**	**-0.4**
CLL				pmax	pmax		
	comp=Z,19nm,1.5s,mb5.3						
CLL	**Collm**	**95.45**	**341**	⇑*i*P	**P**	**03 59 40.7**	**-0.4**
	comp=Z,19nm,1.5s,mb5.3						
OBN	**Obninsk**	**95.71**	**356**	*e*P	**P**	**03 59 42.2**	**0.0**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.1						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.9						
OBN	**Obninsk**	**95.71**	**356**	PFAKE		03 59 50.0	+7.8
OBN				LR	LR		
	comp=Z,325nm,21.0s,MS4.8						
ZRNK	**Zerenda**	**96.00**	**15**	*e*P	**P**	**03 59 41.7**	**-1.9**
	comp=Z,2.7nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**96.35**	**16**	P	**P**	**03 59 44.1**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.9,baz=225,slow=4.2,SNR=14						
BRVK	**Borovoye**	**96.36**	**16**	*e*P	**P**	**03 59 44.1**	**-1.1**
	comp=Z,9.7nm,1.4s,mb5.0						
CLZ	**Clausthal**	**96.59**	**340**	*e*P	**P**	**03 59 48.6**	**+2.3**
	comp=Z,12nm,1.6s,mb5.1						
BAIF	**Baives**	**96.75**	**336**	*e*P	**P**	**03 59 45.8**	**-1.2**
TATO	**Taipei**	**97.64**	**64**	PFAKE		04 00 00.0	+8.4
TATO				LR	LR		
	comp=Z,85nm,19.0s,MS4.2						
ARU	**Arti**	**97.72**	**9**	PFAKE		04 00 00.0	+8.8
ARU				LR	LR		
	comp=Z,263nm,22.0s,MS4.7						
NJ2	**Nanjing**	**100.58**	**57**	*e*P	P	04 00 05.5	+0.7
NJ2				AP		04 00 10.3	
NJ2				LR	LR		
	comp=Z,2µm,22.5s,MS5.5						
SSE	**Sheshan**	**101.45**	**59**	P	P	04 00 09.1	+0.4
	comp=Z,34nm,0.7s						
ESK	**Eskdalemuir**	**103.59**	**335**	PFAKE		04 00 30.0	+12
ESK				LR	LR		
	comp=Z,263nm,21.0s,MS4.7						
KONO	**Kongsberg**	**103.87**	**343**	PFAKE		04 00 30.0	+11
KONO				LR	LR		
	comp=Z,171nm,19.0s,MS4.6						
NAO01	**NORSAR Array S**	**104.68**	**344**	PFAKE		04 00 30.0	+7.7
NAO01				LR	LR		
	comp=Z,957nm,22.0s,MS5.3						
ULN	**Ulaanbaatar**	**104.81**	**39**	PFAKE		04 00 30.0	+6.8
ULN				LR	LR		
	comp=Z,533nm,20.0s,MS5.1						
GUMO	**Guam**	**107.50**	**87**	PFAKE		04 05 00.0	
GUMO				LR	LR		
	comp=Z,853nm,21.0s,MS5.3						
INCN	**Inchon**	**108.96**	**57**	PFAKE		04 05 00.0	
INCN				LR	LR		
	comp=Z,357nm,20.0s,MS4.9						
CN2	**Changchun**	**111.98**	**51**	PDIF	Pdif	04 00 53.5	-1.4
CN2				LR	LR		
	comp=N,400nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS5.0						
HIA	**Hailar**	**112.06**	**43**	PFAKE		04 05 00.0	+6.5
HIA				LR	LR		
	comp=Z,416nm,19.0s,MS5.0						
SDV	**Santo Domingo**	**113.80**	**261**	PFAKE		04 05 10.0	+12
SDV				LR	LR		
	comp=Z,279nm,21.0s,MS4.8						
MDJ	**Mudanjiang**	**114.90**	**52**	PKP	PKPdf	04 04 57.4	-1.8
MDJ				PP	PP	04 05 58.4	-1.5
MDJ				PKS	PKS	04 08 34.8	+3.0
MDJ				SKS	SKS	04 12 10.1	+21
MDJ				SS	SS	04 21 56.0	+4.6
MDJ				LR	LR		
	comp=N,168nm,21.3s						
MDJ				LR	LR		
	comp=E,203nm,26.6s						
MDJ				LR	LR		
	comp=Z,175nm,17.8s,MS4.7						
MDJ	**Mudanjiang**	**114.90**	**52**	PFAKE		04 05 10.0	+11
MDJ				LR	LR		
	comp=Z,247nm,20.0s,MS4.8						
MAJO	**Matsushiro**	**116.03**	**63**	PFAKE		04 05 10.0	+8.3
MAJO				LR	LR		
	comp=Z,250nm,19.0s,MS4.8						
SJG	**San Juan**	**116.16**	**272**	PFAKE		04 05 10.0	+7.6
SJG				LR	LR		
	comp=Z,170nm,20.0s,MS4.7						
KBS	**Kingsbay**	**120.87**	**353**	PFAKE		04 05 20.0	+10
KBS				LR	LR		
	comp=Z,494nm,21.0s,MS5.1						
YAK	**Yakutsk**	**123.49**	**34**	PFAKE		04 05 20.0	+4.5
YAK				LR	LR		
	comp=Z,317nm,21.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**124.06**	**55**	PFAKE		04 05 30.0	+13
YSS				LR	LR		
	comp=Z,297nm,20.0s,MS5.0						
JTS	**JuntasAbangare**	**125.28**	**251**	PFAKE		04 05 30.0	+10
JTS				LR	LR		
	comp=Z,44nm,19.0s,MS4.2						
TIXI	**Tiksi**	**126.80**	**23**	PFAKE		04 05 30.0	+8.6
TIXI				LR	LR		
	comp=Z,231nm,21.0s,MS4.8						
EMMW	**East Machias**	**130.37**	**299**	PFAKE		04 05 40.0	+11
EMMW				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
PQI	**Presque Isle**	**131.41**	**301**	PFAKE		04 05 40.0	+9.0
PQI				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
HRV	**Harvard--Oak R**	**132.35**	**295**	PFAKE		04 05 40.0	+7.0
HRV				LR	LR		
	comp=Z,395nm,19.0s,MS5.1						
MA2	**Magadan**	**132.58**	**41**	PFAKE		04 05 40.0	+7.1
MA2				LR	LR		
	comp=Z,203nm,22.0s,MS4.8						
SCHQ	**Schefferville**	**132.97**	**312**	PFAKE		04 05 40.0	+6.2
SCHQ				LR	LR		
	comp=Z,901nm,20.0s,MS5.5						
NHSC	**New Hope**	**134.81**	**279**	PFAKE		04 05 50.0	+12
NHSC				LR	LR		
	comp=Z,460nm,19.0s,MS5.2						
CBN	**Corbin**	**134.87**	**287**	PFAKE		04 05 50.0	+12
CBN				LR	LR		
	comp=Z,518nm,21.0s,MS5.2						
BINY	**Binghamton**	**135.32**	**293**	PFAKE		04 05 50.0	+12
BINY				LR	LR		
	comp=Z,385nm,19.0s,MS5.1						
PET	**Petropavlovsk**	**135.68**	**51**	*e*PKIKP	PKPdf	04 05 37.9	-0.9
PET				pmax	pmax		
	comp=Z,20nm,0.8s						
PET	**Petropavlovsk**	**135.68**	**51**	PFAKE		04 05 50.0	+11
PET				LR	LR		
	comp=Z,362nm,21.0s,MS5.1						
MCWV	**Mont Chateau**	**137.19**	**288**	PFAKE		04 05 50.0	+8.1
MCWV				LR	LR		
	comp=Z,236nm,19.0s,MS4.9						
ERPA	**Erie**	**138.11**	**291**	PFAKE		04 05 50.0	+6.4
ERPA				LR	LR		
	comp=Z,350nm,20.0s,MS5.1						
LRAL	**Lakeview Retre**	**139.92**	**275**	PFAKE		04 06 00.0	+13
LRAL				LR	LR		
	comp=Z,385nm,19.0s,MS5.2						
PLAL	**Pickwick Lake**	**141.54**	**277**	PFAKE		04 06 00.0	+10
PLAL				LR	LR		
	comp=Z,564nm,22.0s,MS5.3						
OXF	**Oxford**	**142.36**	**276**	PFAKE		04 06 00.0	+8.7
OXF				LR	LR		
	comp=Z,652nm,21.0s,MS5.4						
FVM	**French Village**	**144.40**	**281**	*e*PKPdf	PKPdf	04 05 50.5	-4.2
UALR	**University of**	**144.68**	**275**	*e*PKPdf	PKPdf	04 05 51.9	-3.5
SMY	**Shemya**	**144.96**	**53**	PFAKE		04 06 10.0	+18
SMY				LR	LR		
	comp=Z,531nm,21.0s,MS5.3						
CCM	**Cathedral Cave**	**145.03**	**281**	*e*PKPdf	PKPdf	04 05 53.0	-2.9
CCM				LR	LR		
	comp=Z,457nm,20.0s,MS5.2						
NATX	**Nacogdoches**	**145.16**	**269**	*e*PKPdf	PKPdf	04 05 53.5	-2.7
NATX				LR	LR		
	comp=Z,481nm,22.0s,MS5.2						
HKT	**Hockley**	**145.20**	**265**	*e*PKPdf	PKPdf	04 05 54.2	-2.2
HKT				LR	LR		
	comp=Z,323nm,22.0s,MS5.1						
MIAR	**Mount Ida**	**145.52**	**274**	*e*PKPdf	PKPdf	04 05 54.1	-2.7
MIAR				LR	LR		
	comp=Z,486nm,20.0s,MS5.3						
JFWS	**Jewell Farm**	**145.63**	**289**	*e*PKPdf	PKPdf	04 05 54.8	-1.9
JFWS				LR	LR		
	comp=Z,644nm,20.0s,MS5.4						
FCC	**Fort Churchill**	**147.82**	**318**	*e*PKPbc	PKPdf	04 06 00.5	+0.6
JCT	**Junction City**	**148.46**	**263**	*e*PKPdf	PKPdf	04 06 00.0	-1.7
JCT				LR	LR		
	comp=Z,370nm,22.0s,MS5.1						
WMOK	**Wichita Mounta**	**149.55**	**271**	*e*PKPdf	PKPdf	04 06 02.0	-1.3
WMOK				LR	LR		
	comp=Z,370nm,20.0s,MS5.2						
TNA	**Tin City**	**149.56**	**25**	PFAKE		04 06 10.0	+7.6
TNA				LR	LR		
	comp=Z,187nm,21.0s,MS4.9						
ULM	**Lac du Bonnet**	**150.17**	**302**	PKPbc	PKPdf	04 06 06.6	+2.8
	comp=Z,23nm,0.8s,baz=82,slow=2.1,SNR=33						
ULM	**Lac du Bonnet**	**150.17**	**302**	*e*PKPbc	PKPdf	04 06 06.3	+2.5
ULM				LR	LR		
	comp=Z,841nm,20.0s,MS5.5						
LTX	**Lajitas**	**150.76**	**257**	*e*PKPdf	PKPdf	04 06 04.6	-0.8
LTX				*e*PKPbc	PKPdf	04 06 09.6	+4.2
LTX				LR	LR		
	comp=Z,377nm,21.0s,MS5.2						
TXAR	**Lajitas Array**	**150.76**	**257**	PKP	PKPdf	04 06 04.4	-1.0
	comp=Z,4.7nm,1.1s,baz=143,slow=2.5,SNR=22						
TXAR				PKPbc	PKPdf	04 06 09.5	+4.1
	comp=Z,20nm,0.8s,baz=127,slow=4.5,SNR=105						
CBKS	**Cedar Bluff**	**151.62**	**278**	*e*PKPdf	PKPdf	04 06 05.2	-1.2
CBKS				*e*PKPbc	PKPdf	04 06 11.5	+5.1
CBKS				LR	LR		
	comp=Z,498nm,21.0s,MS5.3						
INK	**Inuvik**	**152.38**	**357**	PKPbc	PKPdf	04 06 11.2	+4.6
	comp=Z,14nm,0.8s,baz=8.3,slow=3.8,SNR=16						
INK	**Inuvik**	**152.38**	**357**	*e*PKPbc	PKPdf	04 06 11.4	+4.8
IMA	**Indian Mountai**	**152.94**	**15**	*e*PKPdf	PKPdf	04 06 06.0	-1.4
IMA				*e*PKPbc	PKPdf	04 06 13.8	+6.4
IMA				*e*PKPab	PKPab	04 06 26.4	+1.0
FFC	**Flin Flon**	**153.11**	**313**	*e*PKPdf	PKPdf	04 06 05.9	-2.1
FFC				*e*PKPbc	PKPdf	04 06 12.9	+4.9
FFC				*e*PKPab	PKPab	04 06 25.3	-1.1
FFC				LR	LR		
	comp=Z,116nm,20.0s,MS4.7						
YKW3	**Yellowknife Ar**	**154.50**	**336**	*e*PKPdf	PKPdf	04 06 05.8	-3.9
YKW3				*e*PKPbc	PKPdf	04 06 14.9	+5.2
YKA	**Yellowknife Ar**	**154.54**	**336**	PKP	PKPdf	04 06 06.2	-3.5
	comp=Z,1.8nm,0.9s,baz=31,slow=1.7,SNR=7.6						
YKA				PKPbc	PKPdf	04 06 16.0	+6.3
	comp=Z,2.5nm,0.9s,baz=33,slow=2.2,SNR=7.1						
YKA				PKPab	PKPab	04 06 30.7	-1.4
	comp=Z,10nm,0.9s,baz=40,slow=4.6,SNR=26						
COLA	**College**	**155.04**	**11**	PFAKE		04 06 20.0	+10
COLA				LR	LR		
	comp=Z,209nm,21.0s,MS4.9						
ILAR	**Eielson Array**	**155.28**	**10**	PKP	PKPdf	04 06 07.6	-3.0
	comp=Z,1.0nm,0.9s,baz=329,slow=3.4,SNR=8.6						
ILAR				PKPbc	PKPdf	04 06 16.8	+6.2
	comp=Z,2.1nm,0.8s,baz=321,slow=2.9,SNR=16						
ILAR				PKPab	PKPab	04 06 33.1	-2.1
	comp=Z,3.1nm,0.8s,baz=318,slow=3.5,SNR=8.1						
ILAR				PP	PP	04 10 09.9	-2.7
	comp=Z,0.1nm,0.5s,baz=39,slow=27,SNR=4.3						
SDCO	**Great Sand Dun**	**155.68**	**273**	*e*PKPdf	PKPdf	04 06 10.1	-1.9
SDCO				*e*PKPab	PKPab	04 06 38.0	+0.2
SDCO				LR	LR		
	comp=Z,545nm,20.0s,MS5.4						
DGMT	**Dagmar**	**155.73**	**299**	PFAKE		04 06 20.0	+8.3
DGMT				LR	LR		
	comp=Z,486nm,21.0s,MS5.3						
LAZ	**Ladron**	**155.75**	**264**	*e*PKPdf	PKPdf	04 06 11.8	-0.3
MCK	**McKinley**	**155.94**	**13**	*e*PKPab	PKPab	04 06 37.0	-1.0
MCK				LR	LR		
	comp=Z,177nm,22.0s,MS4.8						
UNV	**Unalaska Valle**	**156.19**	**47**	PFAKE		04 06 20.0	+7.9
UNV				LR	LR		
	comp=Z,871nm,21.0s,MS5.6						
ISCO	**Idaho Springs**	**156.28**	**278**	PFAKE		04 06 20.0	+7.3
ISCO				LR	LR		
	comp=Z,465nm,20.0s,MS5.3						
DAWY	**Dawson**	**156.64**	**3**	*e*PKPdf	PKPdf	04 06 08.5	-3.9
DAWY				*e*PKPab	PKPab	04 06 38.9	-2.1
LAO	**LASA Array**	**157.26**	**295**	*e*PKPdf	PKPdf	04 06 11.6	-2.2
LAO				LR	LR		
	comp=Z,490nm,19.0s,MS5.4						
TUC	**Tucson**	**157.54**	**256**	PFAKE		04 06 20.0	+5.3
TUC				LR	LR		
	comp=Z,352nm,19.0s,MS5.2						
SML	**Sawmill**	**157.82**	**15**	*e*PKPab	PKPab	04 06 45.6	-0.6
PMR	**Palmer**	**157.86**	**16**	PFAKE		04 06 20.0	+5.9
PMR				LR	LR		
	comp=Z,255nm,20.0s,MS5.0						
FIB	**Fire Island**	**158.01**	**17**	PFAKE		04 06 20.0	+5.7
FIB				LR	LR		
	comp=Z,574nm,20.0s,MS5.4						
WUAZ	**Wupatki**	**159.39**	**263**	*e*PKPdf	PKPdf	04 06 16.5	-0.3
WUAZ				*e*PKPab	PKPab	04 06 54.7	+0.9
BW06	**Boulder Array**	**159.65**	**285**	PFAKE		04 06 30.0	+13
BW06				LR	LR		
	comp=Z,704nm,20.0s,MS5.5						
PDAR	**Pinedale Array**	**159.65**	**285**	PKP	PKPdf	04 06 13.6	-3.2
	comp=Z,2.7nm,0.9s,baz=111,slow=3.4,SNR=16						
SRU	**San Rafael**	**159.84**	**274**	*e*PKPdf	PKPdf	04 06 15.9	-1.3
SRU				*e*PKPab	PKPab	04 06 55.5	-0.2
KDAK	**Kodiak Island**	**160.20**	**26**	PFAKE		04 06 30.0	+13
KDAK				LR	LR		
	comp=Z,91nm,20.0s						
AHID	**Auburn Hatcher**	**160.78**	**284**	PFAKE		04 06 30.0	+12
AHID				LR	LR		
	comp=Z,574nm,20.0s						
MSU	**Marysvale**	**160.95**	**271**	*e*PKPdf	PKPdf	04 06 18.2	-0.1
MSU				*e*PKPab	PKPab	04 07 00.8	+0.3
MVU	**Marysvale**	**160.97**	**271**	*e*PKPdf	PKPdf	04 06 18.5	+0.1
MVU				LR	LR		
	comp=Z,427nm,19.0s						
HWUT	**Hardware Ranch**	**161.04**	**281**	*e*PKPdf	PKPdf	04 06 16.8	-1.5
HWUT				*e*PKPab	PKPab	04 07 01.7	+1.0
HWUT				LR	LR		
	comp=Z,216nm,19.0s						
HRY	**Holter Researc**	**161.09**	**297**	*e*PKPdf	PKPdf	04 06 16.5	-1.7
BOZ	**Bozeman (W)**	**161.09**	**293**	*e*PKPdf	PKPdf	04 06 16.4	-1.7
BOZ				*e*PKPdif		04 06 33.4	
BOZ				LR	LR		
	comp=Z,674nm,22.0s						
DUG	**Dugway**	**161.79**	**276**	*e*PKPdf	PKPdf	04 06 17.9	-1.1
DUG				*e*PKPab	PKPab	04 06 59.9	-4.2
DUG				LR	LR		
	comp=Z,464nm,20.0s						
BGU	**Big Grassy Mou**	**162.06**	**278**	*e*PKPdf	PKPdf	04 06 18.5	-0.8
PFO	**Pinyon Flat Ob**	**162.33**	**253**	PFAKE		04 06 30.0	+10
PFO				LR	LR		
	comp=Z,139nm,19.0s						
MSO	**Missoula**	**162.49**	**298**	PFAKE		04 06 30.0	+10
MSO				LR	LR		
	comp=Z,385nm,22.0s						
HLID	**Hailey**	**163.22**	**287**	PFAKE		04 06 30.0	+10
HLID				LR	LR		
	comp=Z,546nm,20.0s						
SIT	**Sitka**	**163.70**	**357**	PFAKE		04 06 30.0	+10
SIT				LR	LR		
	comp=Z,527nm,20.0s						
NEW	**Newport**	**164.16**	**305**	PFAKE		04 06 30.0	+8.8
NEW				LR	LR		
	comp=Z,526nm,19.0s						
DAC	**Darwin (Calif)**	**164.34**	**259**	PFAKE		04 06 30.0	+8.2
DAC				LR	LR		
	comp=Z,497nm,21.0s						
TPH	**Tonopah**	**164.66**	**266**	*e*PKPdf	PKPdf	04 06 22.2	+0.2
TPH				*e*PKPab	PKPab	04 07 16.1	-0.5
TPH				LR	LR		
	comp=Z,510nm,22.0s						
BMN	**Battle Mountai**	**165.15**	**275**	*e*PKPdf	PKPdf	04 06 23.2	+0.8
BMN				*e*PKPab	PKPab	04 07 18.8	+0.1
BMN				LR	LR		
	comp=Z,581nm,20.0s						
MNV	**Mina**	**165.47**	**267**	*e*PKPdf	PKPdf	04 06 21.6	-1.2
MNV				*e*PKPab	PKPab	04 07 20.4	+0.3
MNV				LR	LR		
	comp=Z,704nm,22.0s						
NVAR	**Mina Array Bea**	**165.58**	**267**	PKP	PKPdf	04 06 22.6	-0.2
	comp=Z,3.6nm,0.9s,baz=141,slow=2.2,SNR=16						
NVAR				PKPab	PKPab	04 07 20.4	-0.2
	comp=Z,1.7nm,0.8s,baz=129,slow=6.0,SNR=5.1						
NVAR	**Mina Array Bea**	**165.58**	**267**	PKP	PKPdf	04 06 22.6	-0.2
NVAR				PKPab	PKPab	04 07 20.4	-0.2
HAWA	**Hanford**	**166.33**	**300**	PFAKE		04 06 30.0	+6.8
HAWA				LR	LR		
	comp=Z,601nm,20.0s						
WVOR	**Wild Horse Val**	**166.34**	**283**	*e*PKPdf	PKPdf	04 06 22.4	-1.0
WVOR				*e*PKPab	PKPab	04 07 24.3	+0.5
WVOR				LR	LR		
	comp=Z,691nm,21.0s						
CMB	**Columbia Colle**	**167.04**	**263**	PFAKE		04 06 30.0	+6.0
CMB				LR	LR		
	comp=Z,570nm,22.0s						
SAO	**San Andreas Ge**	**167.39**	**256**	PFAKE		04 06 30.0	+5.8
SAO				LR	LR		
	comp=Z,496nm,21.0s						
MOD	**Modoc**	**167.58**	**280**	PFAKE		04 06 30.0	+5.8
MOD				LR	LR		
	comp=Z,570nm,21.0s						
OCWA	**Octopus Mounta**	**168.62**	**312**	PFAKE		04 06 30.0	+5.4
OCWA				LR	LR		
	comp=Z,689nm,21.0s						
WDC	**Whiskeytown Da**	**169.20**	**273**	PFAKE		04 06 30.0	+4.8
WDC				LR	LR		
	comp=Z,650nm,20.0s						
HOPS	**Hopland**	**169.33**	**265**	PFAKE		04 06 30.0	+4.7
HOPS				LR	LR		
	comp=Z,524nm,19.0s						
YBH	**Yreka Blue Hor**	**169.38**	**280**	PFAKE		04 06 30.0	+4.7
YBH				LR	LR		
	comp=Z,395nm,20.0s						
COR	**Corvallis**	**169.40**	**295**	PFAKE		04 06 30.0	+4.8
COR				LR	LR		
	comp=Z,513nm,22.0s						
HUMO	**Hull Mountain**	**169.52**	**284**	*e*PKPdf	PKPdf	04 06 23.9	-1.4

ISK 04 03:46:32.0,37.11N×27.75E,h5^{km},ML4.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.43**	**87**	*i* PG	Pg	03 46 41.2	+0.6
DENT	**Denizli**	**1.21**	**58**	*i* PN	Pn	03 46 56.1	+0.6
IZM	**Izmir**	**1.34**	**344**	*i* PN	Pn	03 46 58.9	+1.5
AKS	**Akhisar**	**1.76**	**2**	*i* PN	Pn	03 47 05.0	+1.6
AKS				SN	Sn	03 47 28.6	+2.1
ELL	**Elmali**	**1.77**	**101**	PN	Pn	03 47 04.8	+1.2
KHL	**Karahalli**	**1.86**	**49**	*i* PN	Pn	03 47 06.5	+1.7
BCK	**Bucak**	**2.29**	**80**	PN	Pn	03 47 12.4	+1.3
ISP	**Isparta**	**2.32**	**71**	PN	Pn	03 47 12.1	+0.7
BALB	**Balikesir**	**2.52**	**2**	*e*PN	Pn	03 47 15.3	+1.0
DST	**Dursunbey**	**2.58**	**15**	PN	Pn	03 47 16.6	+1.4
ALT	**Altintas**	**2.69**	**43**	*e*PN	Pn	03 47 17.8	+1.1
ORLT	**Orhaneli**	**3.06**	**17**	*e*PN	Pn	03 47 23.6	+1.6
KCT	**Karacabey**	**3.18**	**8**	PN	Pn	03 47 24.5	+0.8
EDC	**Edincik**	**3.23**	**2**	PN	Pn	03 47 25.3	+0.9
BNT	**Bandirma**	**3.24**	**2**	PN	Pn	03 47 25.1	+0.6
LPK	**Lapseki**	**3.34**	**347**	PN	Pn	03 47 27.5	+1.5
ESKT	**Eskisehir**	**3.42**	**45**	PN	Pn	03 47 29.0	+1.8
MRMT	**Marmara Adasi**	**3.49**	**358**	*e*PN	Pn	03 47 29.1	+1.1
YLV	**Yalova**	**3.67**	**20**	*e*PN	Pn	03 47 31.1	+0.4
KIZT	**Kizilcal**	**3.71**	**60**	PN	Pn	03 47 32.7	+1.5
GPA	**Golpazari**	**3.75**	**32**	*e*PN	Pn	03 47 33.3	+1.5
KONT	**Konya--Tatoy**	**3.76**	**76**	*e*PN	Pn	03 47 33.7	+1.8
HDMB	**Hadim**	**3.80**	**91**	*e*PN	Pn	03 47 34.4	+2.0
BADT	**Buyukada**	**3.88**	**16**	*e*PN	Pn	03 47 34.0	+0.3
HRT	**Hereke**	**3.99**	**21**	*e*PN	Pn	03 47 35.9	+0.7
CTT	**Catalca**	**4.06**	**7**	*e*PN	Pn	03 47 36.5	+0.3
ISK	**Istanbul-Kandi**	**4.08**	**14**	*e*PN	Pn	03 47 37.0	+0.6
EDRB	**Edirne**	**4.79**	**351**	*e*PN	Pn	03 47 47.6	+1.0
ANTO	**Ankara**	**4.82**	**54**	*e*PN	Pn	03 47 48.2	+1.2

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*BJI **04** 03:49:30.0,37.41N×27.20E,h20^{km},mB4.8,mb4.7,Ms4.1,Msz3.7*

*IDC **04** 03:49:30.9±0.9,36.94N×27.68E,mb4.3/14,mb1 4.4/20,mb1mx4.3/28,ML3.8/6,MS3.8/5,Ms1 3.8/5,ms1mx3.3/28,Error ellipse: s-maj=18.7km s-min=14.5km az=3.0*

*MOS **04** 03:49:31.3±2.1,36.88N×28.01E,h10^{km},mb4.5/14,Error ellipse: s-maj=10.5km s-min=4.9km az=103.6*

*THE **04** 03:49:32.8,36.78N×28.07E,h20^{km},ML4.6*

*ISK **04** 03:49:32.0,37.11N×27.74E,h5^{km},ML4.3*

*ZUR_RM **04** 03:49:32,36.79N×27.83E,h9^{km},Mw4.7/22,Moment Tensor Solution. s22 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.93; M$_{\theta\theta}$0.93; M$_{\phi\phi}$-0.01; M$_{r\theta}$0.42; M$_{\theta\phi}$0.20; M$_{\phi r}$-0.01; Best double couple: M$_0$1.04×10^{16} NP1:ϕ_s264°,δ57°,λ-84°. NP2:ϕ_s73°,δ34°,λ-99°. Principal axes: T 1.0608, Plg12°, Azm349°; N -.0387, Plg5°, Azm80°; P -1.022, Plg77°, Azm193°;*

*NEIC **04** 03:49:32.7±0.2,36.79N×27.83E,h10^{km},mb4.4/48,MS3.7/2,MD4.4(ATH) Error ellipse: s-maj=4.2km s-min=2.2km az=212.0*

*ATH **04** 03:49:33.6,36.94N×27.71E,h35^{km},MD4.4/11*

*CSEM **04** 03:49:34.5,36.80N×27.84E,h40^{km},mb4.5*

*NIC **04** 03:49:41.0±0.3,36.60N×27.99E,h30^{km},mb4.8,ML4.5,MW3.9*

ISC 04 03:49:32.1±0.5,**36.88N**±0.02×**27.79E**±0.02,**h19**^{km}±4^{km},**h16**^{km}±1.1^{km}**:pP-P,n267,**σ**1^{s}08**/294,**mb4.5**/47,**MS3.8**/5,**3C-4D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**303**	*i* P	**Pb**	**03 49 38.8**	**-0.5**
BDRM				*i* S	**Sb**	**03 49 43.9**	**-0.1**
YER	**Yerkesik**	**0.47**	**57**	*i* PG	**Pb**	**03 49 41.2**	**-0.3**
AYDN	**Tasoluk**	**0.78**	**5**	*i* P	**Pb**	**03 49 46.7**	**-0.2**
AYDN				*i* S	**Sb**	**03 49 56.9**	**0.0**
DNZL	**Cakiroluk**	**1.28**	**51**	*i* P	**Pn**	**03 49 55.8**	**+0.5**
DENT	**Denizli**	**1.32**	**48**	*i* PN	**Pn**	**03 49 56.1**	**+0.3**
IZM	**Izmir**	**1.57**	**345**	*i* PN	**Pn**	**03 49 58.9**	**-0.5**
KDAG	**Bornova**	**1.57**	**345**	*i* P	**Pn**	**03 49 59.0**	**-0.4**
KSL	**Kastellorizon**	**1.62**	**116**	⇑*i*PN	**Pn**	**03 50 03.0**	**+2.9**
ELL	**Elmali**	**1.71**	**94**	PN	**Pn**	**03 50 04.8**	**+3.5**
MANT	**Manisa**	**1.72**	**21**	*i* P	**Pn**	**03 50 01.1**	**-0.4**
MANT				*i* S	**Sn**	**03 50 26.5**	**+3.4**
APE	**Apeiranthos**	**1.82**	**277**	*e*PB	**Pb**	**03 50 04.0**	**-0.6**
SANT	**Santorini**	**1.94**	**255**	*e*P	**Pn**	**03 50 03.0**	**-1.7**
THR1	**Thera Island**	**1.94**	**255**	*e*Pn	**Pn**	**03 50 05.5**	**+0.7**
THR1				*e*Sn	**Sn**	**03 50 30.1**	**+1.2**
THR4	**Thira Island,**	**1.97**	**258**	*e*Pn	**Pn**	**03 50 05.9**	**+0.8**
THR3	**Thira Island,**	**1.98**	**257**	*e*Pn	**Pn**	**03 50 06.0**	**+0.8**
THR3				*e*Sn	**Sn**	**03 50 30.8**	**+1.0**
KHL	**Karahalli**	**1.99**	**43**	*i* PN	**Pn**	**03 50 06.5**	**+1.1**
AKS	**Akhisar**	**1.99**	**0**	*i* PN	**Pn**	**03 50 05.0**	**-0.4**
AKS				*i* SN	**Sn**	**03 50 28.6**	**-1.5**
THR6	**Thira Island,**	**2.00**	**255**	*e*Pn	**Pn**	**03 50 06.5**	**+1.0**
THR5	**Thira Island,**	**2.02**	**257**	*e*Pn	**Pn**	**03 50 06.6**	**+0.8**
BCK	**Bucak**	**2.31**	**75**	PN	**Pn**	**03 50 12.4**	**+2.5**
ISP	**Isparta**	**2.37**	**65**	PN	**Pn**	**03 50 12.1**	**+1.3**
NPS	**Neapolis**	**2.39**	**228**	*e*PN	**Pn**	**03 50 12.5**	**+1.3**
XRY	**Khrisi**	**2.63**	**221**	*e*PN	**Pn**	**03 50 15.0**	**+0.5**
BALB	**Balikesir**	**2.75**	**1**	*e*PN	**Pn**	**03 50 15.3**	**-1.0**
DST	**Dursunbey**	**2.80**	**13**	PN	**Pn**	**03 50 16.6**	**-0.3**
IDI	**Anoyia**	**2.84**	**237**	Pn	**Pn**	**03 50 18.8**	**+1.3**
	7.8nm,0.3s,baz=52,slow=12,SNR=22						
IDI				Sn	**Sn**	**03 50 53.4**	**+1.9**
	15nm,0.3s,baz=332,slow=16,SNR=7.2						
ALT	**Altintas**	**2.84**	**40**	*e*PN	**Pn**	**03 50 17.8**	**+0.3**
BOZC	**Bozcaada**	**3.25**	**336**	*i* P	**Pn**	**03 50 22.3**	**-1.1**
BOZC				*i* S	**Sn**	**03 51 21.4**	**+19**
VAM	**Vamos**	**3.26**	**244**	*e*PN	**Pn**	**03 50 21.0**	**-2.5**
ORLT	**Orhaneli**	**3.27**	**15**	*e*PN	**Pn**	**03 50 23.6**	**-0.1**
KCT	**Karacabey**	**3.41**	**7**	PN	**Pn**	**03 50 24.5**	**-1.1**
ULDT	**Uludag**	**3.42**	**18**	*i* P	**Pn**	**03 50 25.2**	**-0.6**
ULDT				*i* S	**Sn**	**03 51 23.7**	**+17**
EDC	**Edincik**	**3.46**	**1**	PN	**Pn**	**03 50 25.3**	**-1.0**
MPAR	**Parnis Oros**	**3.46**	**293**	*e*PN	**Pn**	**03 50 27.0**	**+0.6**
BNT	**Bandirma**	**3.47**	**2**	PN	**Pn**	**03 50 25.1**	**-1.4**
NAIG	**Nisos Aigina**	**3.54**	**286**	*e*PN	**Pn**	**03 50 28.5**	**+1.0**
ESKT	**Eskisehir**	**3.57**	**42**	PN	**Pn**	**03 50 29.0**	**+1.1**
LPK	**Lapseki**	**3.58**	**347**	PN	**Pn**	**03 50 27.5**	**-0.5**
NSAL	**Nisos Salamina**	**3.59**	**288**	*e*PN	**Pn**	**03 50 28.6**	**+0.4**
GVD	**Gavdhos**	**3.63**	**237**	*e*P	**Pn**	**03 50 28.5**	**-0.3**

LOS	Limnos	3.72	326	ePn	Pn	03 50 30.3	+0.4
MRMT	Marmara Adasi	3.72	358	ePN	Pn	03 50 29.1	-0.9
HDMB	Hadim	3.76	87	ePN	Pn	03 50 34.4	+3.8
KONT	Konya--Tatoy	3.79	72	ePN	Pn	03 50 33.7	+2.7
KIZT	Kizilcal	3.80	57	PN	Pn	03 50 32.7	+1.5
MKIT	Kithairon Oros	3.83	291	ePN	Pn	03 50 32.5	+0.9
KYTH	Kithira	3.87	262	ePN	Pn	03 50 33.5	+1.3
YLV	Yalova	3.88	18	ePN	Pn	03 50 31.1	-1.2
GPA	Golpazari	3.93	29	ePN	Pn	03 50 33.3	+0.3
BADT	Buyukada	4.10	14	ePN	Pn	03 50 34.0	-1.4
AKMC	Akamas	4.12	115	⇑P	Pn	03 50 37.1	+1.4
HRT	Hereke	4.20	20	ePN	Pn	03 50 35.9	-0.9
PPCY	Paphos	4.20	117	⇓P	Pn	03 50 37.8	+0.9
ALN	Alexandroupoli	4.23	342	ePn	Pn	03 50 36.5	-0.8
CTT	Catalca	4.29	6	ePN	Pn	03 50 36.5	-1.6
ISK	Istanbul-Kandi	4.29	13	ePN	Pn	03 50 37.0	-1.2
NEO	Neokhori	4.34	305	ePN	Pn	03 50 39.5	+0.7
PAIG	Paliouri	4.43	315	ePn	Pn	03 50 40.4	+0.2
OUR	Ouranopolis	4.56	320	ePn	Pn	03 50 41.9	0.0
RDO	Rodhopi	4.60	338	ePN	Pn	03 50 42.0	-0.6
HENT	Hendek	4.62	31	i P	Pn	03 50 44.5	+1.6
SZAC	Souni-Zanaja	4.65	116	⇓P	Pn	03 50 43.7	+0.5
	22nm,0.5s						
SZAC				S	Sn	03 51 33.9	-3.5
ITM	Ithomi	4.70	275	ePB	Pb	03 50 50.5	-3.2
ITM	Ithomi	4.70	275	ePb	Pb	03 50 48.0	-5.7
MAMC	Mammari	4.72	110	P	Pn	03 50 45.6	+1.4
AGG	Agios Georgios	4.81	298	ePn	Pn	03 50 46.5	+1.0
CSS	Prodhromos	4.89	111	P	Pn	03 50 47.4	+0.8
	8.6nm,0.5s						
CSS				S	Sn	03 51 39.9	-3.5
CSS	Prodhromos	4.89	111	eP	Pn	03 50 47.1	+0.5
ANTO	Ankara	4.93	51	ePN	Pn	03 50 48.2	+1.0
SGKT	Sivrigoynuk	4.97	41	i P	Pn	03 50 49.4	+1.6
EDRB	Edirne	5.02	351	ePN	Pn	03 50 47.6	-0.9
KDZ	Kurdzhali	5.10	340	i P	Pn	03 50 49.0	-0.7
EVR	Evrytania	5.15	295	ePB	Pb	03 50 51.5	-10
SOH	Sokhos	5.24	320	ePn	Pn	03 50 52.0	+0.4
LIT	Litokhoron	5.25	309	ePn	Pn	03 50 52.1	+0.3
SRS	Serrai	5.34	324	ePn	Pn	03 50 52.8	-0.2
RZN	Rozhen	5.36	335	i P	Pn	03 50 52.5	-0.7
PHNC	Paralimni	5.40	108	P	Pn	03 50 56.3	+2.5
PHNC				S	Sn	03 51 57.1	+0.9
BRTR	Keskin Array B	5.40	57	Pn	Pn	03 50 54.8	+0.9
	6.0nm,0.3s,baz=241,slow=17,SNR=109						
BRTR				Sn	Sn	03 51 57.2	+0.9
	1.0nm,0.3s,baz=234,slow=24,SNR=3.1						
BRTR	Keskin Array B	5.40	57	P	Pn	03 50 54.8	+0.9
BRTR						03 51 57.2	
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MMB	Musomiste	5.66	327	i P	Pn	03 50 57.0	-0.5
ELDT	Eldivan	5.69	49	i P	Pn	03 50 59.0	+1.0
KNT	Kendrikon	5.72	320	ePn	Pn	03 50 58.9	+0.6
GRG	Griva	5.85	316	ePn	Pn	03 51 00.7	+0.5
AVNT	Avonos	5.90	69	i P	Pn	03 51 01.7	+0.7
KKB	Krupnik	6.17	325	i P	Pn	03 51 04.0	-0.7
FNA	Florina	6.34	310	ePn	Pn	03 51 08.0	+0.9
BALT	Daday	6.36	41	i P	Pn	03 51 07.6	+0.3
CTKT	Corum	6.62	54	i P	Pn	03 51 12.9	+1.9
CTKT				i S	Sx	03 53 05.7	
VTS	Vitosha	6.71	330	i P	Pn	03 51 12.0	-0.2
COBT	Iskenderun	6.81	91	i P	Pn	03 51 15.3	+1.6
COBT				i S	Sn	03 52 32.5	+1.0
SKO	Skopje	7.07	318	i Pn	Pn	03 51 18.0	+0.7
BOYT	Boyabat	7.14	48	i P	Pn	03 51 18.6	+0.1
HNTI	Hanita	7.15	120	Pn	Pn	03 51 16.7	-1.7
HNTI				Sn	Sn	03 52 32.8	-7.2
HAF	Haifa	7.22	122	Pn	Pn	03 51 18.1	-1.3
HRI	Mount Hermon	7.44	117	Pn	Pn	03 51 21.8	-0.8
HRI				Sn	Sn	03 52 41.3	-6.1
SLTI	Sal’it	7.56	126	Pn	Pn	03 51 22.2	-2.0
SLTI				Sn	Sn	03 52 42.6	-7.7
GLH	Golan-Tel Qazi	7.69	120	Pn	Pn	03 51 25.0	-1.0
MMLI	Mount Malkishu	7.69	123	Pn	Pn	03 51 25.5	-0.6
GZT	Gaziantep	7.82	84	i P	Pn	03 51 29.3	+1.4
HMDT	Nahal Hemdat	7.88	124	Pn	Pn	03 51 28.2	-0.4
KZIT	Kziot	8.10	135	Pn	P	03 51 30.3	-1.5
KZIT				Sn	Sn	03 52 56.0	-7.8
DRGI	Dragot	8.21	128	Pn	P	03 51 32.9	-0.4
SVTA	Shivta	8.21	134	Pn	P	03 51 32.1	-1.2
BOLS	Boljevac	8.24	329	⇓iP	P	03 51 32.7	-1.1
MASH	Mash‘abbe Sade	8.26	133	Pn	P	03 51 33.2	-0.8
MZDA	Masada	8.38	129	Pn	P	03 51 34.4	-1.3
MZDA				Sn	Sn	03 53 02.3	-8.6
MALT	Malatya	8.56	77	eP	P	03 51 40.0	+1.8
MLR	Muntele Rosu	8.71	351	Pn	P	03 51 39.4	-0.9
	comp=Z,0.3nm,0.3s,baz=89,slow=3.9,SNR=19						
MLR				LR	LR	03 55 27.3	
	comp=Z,421nm,19.5s,baz=95,slow=41						
ZFRI	Zfri	8.81	134	Pn	P	03 51 40.1	-1.5
ASF	Jabal al Asfar	8.86	119	Pn	P	03 51 43.5	+1.2
	comp=Z,2.8nm,0.3s,baz=186,slow=8.4,SNR=9.4						
ASF				Sn	Sn	03 53 26.1	+3.5
	comp=Z,2.3nm,0.3s,baz=21,slow=21,SNR=5.7						
PRNI	Paran	8.86	135	Pn	P	03 51 40.9	-1.4
PRNI				Sn	Sn	03 53 15.4	-7.3
KMTI	Karmit	8.90	137	Pn	P	03 51 41.6	-1.2
KMTI				Sn	Sn	03 53 15.8	-7.8
TIP	Timpagrande	9.00	288	eP	P	03 51 43.9	-0.4
MBH	Mount Berech	9.24	138	Pn	P	03 51 46.3	-1.3
EIL	Elat	9.36	138	Pn	P	03 51 48.3	-0.9
ALWS	Ilw as Safayha	9.71	139	P	P	03 51 52.9	-1.0
ALWS				S	Sn	03 53 36.0	-7.5
STON	Ston	9.79	311	i Pn	P	03 51 55.9	+0.8
STON				i Sn	Sn	03 53 43.2	-2.4
HAQS	Haql	9.84	140	P	P	03 51 54.5	-1.3
JMOS	Jabal al Moall	9.84	139	P	P	03 51 55.0	-0.9
KIS	Kishinev	10.14	4	eP	P	03 52 03.0	+3.2
KIS				MLR	MLR		
	comp=Z,800nm,8.0s						
BDAS	Al Bad‘	10.44	142	P	P	03 52 02.2	-1.8
JMQS	Jabal Moqyreh	10.47	137	P	P	03 52 04.9	+0.3
AYUS	‘Aynunah	10.72	142	P	P	03 52 06.3	-1.6
CII	Carovilli	11.51	299	eP	P	03 52 19.3	+0.7
	comp=Z,4.3nm,0.6s						
AQU	L’Aquila	12.36	301	P	P	03 52 27.2	-2.9
	comp=Z,5.8nm,0.4s						
PSZ	Piszkesteto	12.47	335	P	P	03 52 30.5	-1.0
VYHS	Vyhne	13.33	333	ePN	P	03 52 43.0	+0.1
VYHS				e		03 57 01.8	
KIV	Kislovodsk	13.36	53	i P	P	03 52 44.4	+1.1
KIV				pmax	pmax		
	comp=Z,17nm,2.1s						
KIV				MLR	MLR		
	comp=Z,400nm,18.0s						
KIV	Kislovodsk	13.36	53	P	P	03 52 45.0	+1.7
GNI	Garni	13.67	71	LR	LR	03 58 41.7	
	comp=Z,196nm,19.4s,baz=271,slow=40						
AKASG	Malin Array Be	13.85	4	Pn	P	03 52 49.2	-0.5
	comp=Z,0.5nm,0.3s,baz=186,slow=13,SNR=8.4						
AKASG	Malin Array Be	13.85	4	P	P	03 52 49.3	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OKC	Ostrava-Krasne	14.71	335	eP	P	03 53 09.6	+8.6
OKC				LM		03 59 40.0	
	comp=Z,0.4nm,13.1s						
MORC	Moravsky Berou	14.87	333	eP	P	03 53 03.3	+0.2
HILS	Ha’il	15.16	125	P	P	03 53 15.6	+8.5
PGF	Pioggiola	15.52	297	eP	P	03 53 10.9	-0.7
	comp=Z,43nm,1.2s						
GEC2	GERESS Array S	15.77	324	eP	P	03 53 20.4	+5.6
GERES	GERESS Array B	15.77	324	Pn	P	03 53 17.9	+3.2
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=14						
DPC	Dobruska-Polom	15.79	332	eP	P	03 53 19.8	+4.8
DPC				LM		04 00 30.0	
	comp=Z,0.8nm,10.4s						
KHC	Kasperske Hory	16.02	324	eP	P	03 53 22.5	+4.4
KHC				LM		04 00 10.0	
	comp=Z,0.6nm,11.3s						
KSP	Ksiaz	16.20	333	eP	P	03 53 19.7	-0.6
KSP				ePP	PP	03 53 30.3	-3.3
PRU	Pruhonice	16.22	328	eP	P	03 53 25.8	+5.3
	comp=Z,16nm,1.0s						
PRU				LM		04 00 40.0	
WET	Wettzell	16.37	323	eP	P	03 53 27.9	+5.5
PVCC	Panska Ves	16.62	329	eP	P	03 53 32.5	+6.9
PVCC				LM		04 00 40.0	
	comp=Z,0.6nm,10.2s						
SBF	Sospel	16.98	301	eP	P	03 53 30.4	+0.2
	comp=Z,91nm,1.3s						
BRG	Berggiesshubel	17.14	329	i P	P	03 53 39.1	+6.9
BRG				pmax	pmax		
	comp=Z,28nm,1.0s						
BRG				MLR	MLR		
	comp=Z,730nm,8.9s						
BRG	Berggiesshubel	17.14	329	i P	P	03 53 39.1	+6.9
	comp=Z,28nm,1.0s						
SUW	Suwalki	17.43	351	eP	P	03 53 36.3	+0.6
	comp=Z,42nm,1.3s						
FRF	La Foret Royal	17.45	299	eP	P	03 53 35.5	-0.6
	comp=Z,21nm,1.1s						
LMR	La Mourre	17.49	298	eP	P	03 53 35.7	-0.8
	comp=Z,46nm,1.5s						
GRA1	Grafenberg Arr	17.54	322	eP	P	03 53 41.5	+4.4
GRA1				eS	S	03 57 03.9	+14
GRF	Grafenberg Arr	17.54	322	eP	P	03 53 41.5	+4.4
MBDF	Montbardon	17.71	303	eP	P	03 53 39.5	+0.2
	comp=Z,21nm,0.9s						
CLL	Collm	17.86	329	P	P	03 53 43.0	+1.9
CLL				i		03 53 46.6	
CLL				e		03 54 09.0	
CLL				eS	S	03 57 06.0	+8.8
CLL	Collm	17.86	329	eP	P	03 53 43.0	+1.9
CLL				eS	S	03 57 06.0	+8.8
CLL				pmax	pmax		
	comp=Z,42nm,0.9s						
CLL				pmax	pmax		
	comp=Z,42nm,0.9s						
CLL	Collm	17.86	329	eP	P	03 53 43.0	+1.9
	comp=Z,42nm,0.9s						
CLL				i		03 53 46.6	
CLL				eS	S	03 57 06.0	+8.8
BNI	Bardonecchia	17.88	304	eP	P	03 53 42.6	+1.3
	comp=Z,16nm,1.1s						
LPG	La Plagne	17.98	305	eP	P	03 53 43.9	+1.2
	comp=Z,41nm,1.0s						
MOX	Moxa	17.99	325	i P	P	03 53 45.9	+3.1
	comp=Z,logA/T=1.6						
MOX				PP	PP	03 54 03.0	+5.4
MOX				L		04 01 10.0	
MOX	Moxa	17.99	325	eP	P	03 53 45.9	+3.1
	comp=Z,53nm,1.4s						
MOX				e		03 54 02.9	
LPL	La Plagne	18.00	305	eP	P	03 53 43.7	+0.7
	comp=Z,38nm,1.2s						
BFO	Black Forest	18.27	315	eP	P	03 53 49.6	+3.2
BFO				eS	S	03 57 18.4	+12
SMRF	Simiane la Rot	18.31	300	eP	P	03 53 45.7	-1.1
	comp=Z,19nm,1.2s						
ORIF	Oris-en-Rattie	18.37	303	eP	P	03 53 48.3	+0.8
	comp=Z,41nm,1.3s						
ORIF				eR			
	comp=Z,314nm,19.8s						
AFFS	‘Afif	18.38	130	P	P	03 53 52.6	+4.9
RUE	Ruedersdorf	18.45	332	eP	P	03 53 49.4	+0.9
	comp=Z,18nm,0.4s						
CABF	La Chapelle	18.83	308	eP	P	03 53 53.1	-0.1
	comp=Z,42nm,1.1s						
HINF	Hinteralfeld	18.88	312	eP	P	03 53 54.5	+0.8
	comp=Z,7.8nm,0.8s						
CDF	Champ du Feu	18.92	314	eP	P	03 53 54.9	+0.7
	comp=Z,30nm,1.1s						
VIVF	Saint-Julien-l	19.17	302	eP	P	03 53 56.9	-0.2
	comp=Z,38nm,1.2s						
OBN	Obninsk	19.20	15	eP	P	03 53 55.4	-2.0
OBN				pmax	pmax		
	comp=Z,15nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
OBN	Obninsk	19.20	15	P	P	03 53 56.1	-1.3
	comp=Z,11nm,0.5s						
HAU	Haudompre	19.27	312	eP	P	03 53 58.9	+0.6
	comp=Z,31nm,0.9s						
HAU				eR			
	comp=Z,345nm,21.8s						
CLZ	Clausthal	19.38	326	eP	P	03 54 02.0	+2.4
LASF	Ste Croix	19.53	299	eP	P	03 54 00.2	-1.1
	comp=Z,56nm,1.5s						
MZLS	Mizel	19.70	126	P	P	03 54 05.4	+2.1
LTHS	Al Lith	19.88	143	P	P	03 54 05.1	-0.3
MOS	Moscow	20.01	16	eP	P	03 54 04.6	-1.9
MOS				pmax	pmax		
	comp=Z,133nm,1.4s						
WLF	Walferdange	20.19	316	eP	P	03 54 10.1	+1.7
	comp=Z,5.7nm,0.8s						
MEZF	Maizieres J’vi	20.27	312	eP	P	03 54 09.8	+0.6
	comp=Z,20nm,0.9s						
SMF	Signal de Mont	20.29	306	eP	P	03 54 08.9	-0.5
	comp=Z,86nm,1.1s						
LOR	Lormes	20.50	308	eP	P	03 54 11.1	-0.5
	comp=Z,56nm,1.1s						
LOR				eR			
	comp=Z,375nm,21.0s						
MTLF	Montolieu	20.55	296	eP	P	03 54 10.9	-1.3
	comp=Z,26nm,1.3s						
SSF	Saint Saulge	20.65	307	eP	P	03 54 12.8	-0.4
	comp=Z,60nm,1.0s						
AVF	Avril sur Loir	20.65	306	eP	P	03 54 12.8	-0.4
	comp=Z,77nm,1.1s						
BLJS	Baljurashi	20.80	141	P	P	03 54 15.8	+0.8
HGN	Heimansgroeve	20.90	318	eP	P	03 54 17.9	+2.2
	comp=Z,3.8nm,1.5s						
BGF	Bois d’Agland	20.90	305	eP	P	03 54 15.6	-0.2
	comp=Z,80nm,1.3s						
CAF	Calviac	20.98	301	eP	P	03 54 16.9	+0.3
	comp=Z,14nm,1.0s						
WTSB	Winterswijk	21.15	322	eP	P	03 54 18.5	+0.2
	comp=Z,6.1nm,1.0s,mb3.9						
GIVF	Givet	21.16	316	eP	P	03 54 20.7	+2.3
TCF	Toulx Ste Croi	21.24	304	eP	P	03 54 20.6	+1.4
	comp=Z,22nm,1.1s,mb4.1						
HYF	Humbligny	21.27	307	eP	P	03 54 19.9	+0.3
BAIF	Baives	21.48	315	eP	P	03 54 21.8	+0.1
NAMS	An Nimas	21.71	140	P	P	03 54 25.8	+1.7
TATS	Tathlith	22.07	137	P	P	03 54 30.8	+3.0
ETSF	Etsaut	22.51	294	eP	P	03 54 32.6	+0.7
	comp=Z,17nm,1.1s,mb4.1						
MFF	Saint Martin d	22.89	304	eP	P	03 54 35.4	-0.3
SJPF	Ste Jean	23.01	295	eP	P	03 54 37.8	+0.9
	comp=Z,24nm,1.1s,mb4.2						
LDF	La Druitiere	23.47	309	eP	P	03 54 41.0	-0.2
	comp=Z,100nm,1.3s,mb4.8						
FLN	La Foliniere	23.75	309	eP	P	03 54 44.0	0.0
	comp=Z,80nm,1.0s,mb4.8						
FLN				eR			
	comp=Z,295nm,20.5s						
GRR	Gorron	23.87	308	eP	P	03 54 44.8	-0.3
	comp=Z,140nm,1.0s,mb5.1						
FINES	FINESS Array B	24.61	358	P	P	03 54 52.2	+0.1
	comp=Z,7.4nm,0.8s,mb4.2,baz=146,slow=14,SNR=25						
FINES	FINESS Array B	24.61	358	P	P	03 54 52.3	+0.1
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SGMF	Saint Gilles	24.91	307	eP	P	03 54 54.6	-0.6
	comp=Z,54nm,1.0s,mb4.7						
HFS	Hagfors	24.96	343	P	P	03 54 55.2	-0.4
	comp=Z,9.2nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=19						
HFS	Hagfors	24.96	343	P	P	03 54 55.2	-0.4
HFS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ESDC	Sonseca Array	25.02	286	P	P	03 54 56.6	+0.3
	comp=Z,5.6nm,0.8s,mb4.1,baz=77,slow=9.1,SNR=18						
ESLA	Sonseca Array	25.02	286	eP	P	03 54 56.9	+0.6
	comp=Z,2.7nm,1.0s,mb3.7						
QUIF	Quistinic	25.22	306	eP	P	03 54 57.4	-0.7
	comp=Z,56nm,1.2s,mb4.7						
ROSF	Rostrenen	25.39	307	eP	P	03 54 58.8	-1.0
	comp=Z,33nm,1.0s,mb4.5						
JOF	Joensuu	26.15	4	ep	P	03 55 03.9	-2.8
	comp=Z,2.5nm,0.7s,mb3.9						
JOF	Joensuu	26.15	4	eP	P	03 55 03.9	-2.8
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
NAO01	NORSAR Array S	26.27	341	eP	P	03 55 07.0	-0.8
	comp=Z,12nm,1.1s,mb4.3						
NB2	NORSAR Subarra	26.36	342	P	P	03 55 07.5	-1.1
	comp=Z,3.9nm,1.1s,mb3.9,baz=145,slow=9.3						
NOA	NORSAR Array B	26.36	342	P	P	03 55 07.5	-1.1
	comp=Z,1.6nm,0.8s,mb3.6,baz=146,slow=8.4,SNR=11						
NOA	NORSAR Array B	26.36	342	P	P	03 55 07.5	-1.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PCBR	Castelo Branco	27.70	287	eP	P	03 55 20.7	-0.4
	comp=Z,14nm,1.1s,mb4.5						
MTE	Manteigas	27.71	288	eP	P	03 55 21.0	-0.2
	comp=Z,16nm,1.3s,mb4.5						
EKA	Eskdalemuir Ar	27.95	321	P	P	03 55 21.4	-1.9
	comp=Z,3.3nm,1.0s,mb3.9,baz=114,slow=8.2,SNR=8.7						
EKA	Eskdalemuir Ar	27.95	321	P	P	03 55 21.4	-1.8
EKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PALC	Alcoutim	28.01	282	eP	P	03 55 23.2	-0.7
	comp=Z,30nm,1.3s,mb4.8						
PBEJ	Beja	28.23	283	eP	P	03 55 25.7	-0.2
	comp=Z,23nm,1.6s,mb4.6						
EVO	Evora	28.27	284	eP	P	03 55 26.0	-0.2
	comp=Z,14nm,1.1s,mb4.2						
ARU	Arti	28.40	37	⇓iP	P	03 55 27.6	+0.3
ARU				e		03 56 16.3	
ARU				ePPP	PPP	03 56 27.1	-4.2
ARU				e		03 58 39.0	
ARU				eS	S	04 00 14.0	+2.1
ARU				eSS	SS	04 01 30.8	-6.0
ARU				e		04 06 18.6	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
ARU				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
ARU				MLR	MLR		
	comp=N,50nm,17.0s,MS3.3						
ARU				MLR	MLR		
	comp=E,50nm,16.0s,MS3.3						
ARU	Arti	28.40	37	eP	P	03 55 27.1	-0.2
	comp=E,16nm,1.5s,mb4.4						
PTOM	Tomar	28.44	287	eP	P	03 55 27.4	-0.4
	comp=E,24nm,1.2s,mb4.7						
ARCES	ARCESS Array B	32.73	359	P	P	03 56 04.9	-0.6
	comp=E,3.6nm,0.9s,mb4.3,baz=180,slow=7.3,SNR=9.7						
ARCES				LR	LR	04 10 55.9	
	comp=E,144nm,18.8s,MS3.7,baz=92,slow=39						
ARCES	ARCESS Array B	32.73	359	P	P	03 56 04.9	-0.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,145nm,18.8s						
ZRNK	Zerenda	32.78	47	P	P	03 56 06.0	0.0
ZRNK				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
ZRNK	Zerenda	32.78	47	eP	P	03 56 05.1	-0.9
	comp=Z,6.1nm,1.0s,mb4.5						
KKAR	Karatay Array	33.04	66	i P	P	03 56 08.2	-0.2
BVAR	Borovoye Array	33.62	48	P	P	03 56 13.4	+0.1
	comp=Z,2.9nm,1.1s,mb4.1,baz=270,slow=5.9,SNR=6.4						
VOSK	Vostochnaya	33.91	48	P	P	03 56 15.3	-0.6
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FRU	Bishkek	36.06	66	eP	P	03 56 35.0	+0.6
FRU				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
KSH	Kashi	37.60	71	eP	P	03 56 48.1	+0.8
KSH				eAP	pP	03 56 52.7	-0.2
KSH				eXP	sP	03 56 55.1	-0.1
BORG	Borgarnes	40.10	330	LR	LR	04 14 56.2	
	comp=Z,112nm,18.6s,MS3.7,baz=266,slow=38						
MKAR	Makanchi Array	41.05	58	P	P	03 57 16.1	+0.2
	comp=Z,8.8nm,0.7s,mb4.5,baz=281,slow=6.2,SNR=62						
MKAR	Makanchi Array	41.05	58	P	P	03 57 16.1	+0.2
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NVS	Novosibirsk	41.36	46	eP	P	03 57 17.6	-0.8
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
LIC	Lamto	42.76	233	eP	P	03 57 29.2	-1.1
	comp=Z,86nm,1.4s,mb5.0						
WMQ	Urumqi	45.30	62	⇑P	P	03 57 51.3	+0.9
WMQ				AP	pP	03 57 55.8	-0.2
WMQ				XP	sP	03 57 58.3	0.0
WMQ				PCP	PcP	03 59 30.9	+0.3
WMQ				LR	LR		
	comp=N,144nm,25.0s,MS3.9						
WMQ				LR	LR		
	comp=E,98nm,23.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,114nm,25.1s,MS3.7						
SUMG	Summit	48.15	338	eP	P	03 58 13.1	+0.6
	comp=Z,8.9nm,0.9s,mb4.8						
ZAK	Zakamensk	54.01	50	eP	P	03 58 57.3	+0.2
GTA	Gaotai	55.28	64	eP	P	03 59 05.7	-0.9
GTA				AP	pP	03 59 09.5	-2.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
TSUM	Tsumeb	56.61	192	LR	LR	04 23 30.3	
	comp=Z,149nm,18.3s,MS4.1,baz=199,slow=36						
SONM	Songino Array	56.75	52	P	P	03 59 17.3	+0.3
	comp=Z,4.8nm,0.7s,mb4.6,baz=293,slow=9.4,SNR=9.3						
HHC	Hu-ho-hao-te	62.91	58	eP	P	03 59 59.8	+0.4
HHC				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,78nm,6.3s						
SCHQ	Schefferville	63.26	320	P	P	03 59 59.2	-2.3
	comp=Z,4.5nm,0.9s,mb4.6,baz=57,slow=7.9,SNR=4.6						
XAN	Xi’an	64.17	66	P	P	04 00 06.6	-1.2
XAN				AP	pP	04 00 12.7	-0.9
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
CMAR	Chiang Mai Arr	64.28	86	P	P	04 00 07.8	-0.9
	comp=Z,5.1nm,1.0s,mb4.5,baz=299,slow=7.8,SNR=6.1						
CMAR	Chiang Mai Arr	64.28	86	P	P	04 00 07.9	-0.9
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CN2	Changchun	70.44	50	eP	P	04 00 47.0	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2	Nanjing	72.36	63	eP	P	04 00 58.2	-0.6
NJ2				AP	pP	04 01 03.0	-1.7
NJ2				XP	sP	04 01 05.2	-1.5
NJ2				PP	PP	04 03 40.4	-1.2
NJ2				S	S	04 10 19.0	-1.0
NJ2				SS	SS	04 14 59.0	-1.5
MDJ	Mudanjiang	72.47	47	P	P	04 00 58.2	-1.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
INK	Inuvik	74.19	353	P	P	04 01 07.5	-1.2
	comp=Z,5.4nm,1.1s,mb4.4,baz=44,slow=6.3,SNR=3.4						
INK	Inuvik	74.19	353	P	P	04 01 07.6	-1.2
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	Inuvik	74.19	353	eP	P	04 01 07.4	-1.4
	comp=Z,6.8nm,1.1s,mb4.5						
SSE	Sheshan	74.55	63	P	P	04 01 11.2	-0.4
SSE				AMB	AMB		
	comp=Z,190nm,8.9s						
SSE	Sheshan	74.55	63	P	P	04 01 11.2	-0.4
	comp=Z,39nm,0.6s,mb5.5						
YKA	Yellowknife Ar	76.45	343	P	P	04 01 20.1	-1.6
	comp=Z,1.1nm,0.8s,mb3.8,baz=36,slow=5.1,SNR=7.2						
YKA	Yellowknife Ar	76.45	343	P	P	04 01 20.1	-1.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
IMA	Indian Mountai	77.37	1	eP	P	04 01 27.7	+0.9
	comp=Z,39nm,1.1s,mb5.2						
ILAR	Eielson Array	78.59	358	P	P	04 01 33.4	-0.1
	comp=Z,1.4nm,0.8s,mb3.9,baz=354,slow=3.8,SNR=14						
ILAR	Eielson Array	78.59	358	P	P	04 01 33.4	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
DAWY	Dawson	78.88	354	eP	P	04 01 35.2	+0.1

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*NEIC **04** 03:54:39.6, 37.64N×28.01E, h10km, MD3.3(ATH), After ATH.*

ATH 04 03:54:38.3, 36.30N×27.09E, h83km, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	Nisiros	0.31	6	eP	P	03 54 51.5	+0.4
NISR				eS	S	03 55 01.2	+0.5
ARG	Arkhangelos	0.84	95	eP	P	03 54 56.5	+0.6
ARG	Arkhangelos	0.84	95	ePb	P	03 55 06.5	+11
APE	Apeiranthos	1.47	302	ePn	P	03 55 16.5	+13
KSL	Kastellorizon	2.02	94	eP	P	03 55 12.0	+0.9
KSL	Kastellorizon	2.02	94	ePn	P	03 55 15.0	+3.9

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*IDC **04** 03:57:02.8±1.5, 36.36N×28.13E, mb4.1/2, mb1 3.9/4, mb1mx3.6/19, ML3.2/2, Error ellipse: s-maj=97.5km s-min=20.0km az=147.0*

*ATH **04** 03:57:02.7, 37.02N×27.74E, h9km, MD3.5/5*

*NEIC **04** 03:57:03.1,37.45N×27.75E,h32^{km},MD3.6(ATH),After ATH.*
ISC 04 03:57:03.3±1.2,**36.82N**±0.06×**27.77E**±0.06,**h14**^{km}±9^{km}, **n22**,σ**0^{s}91**/15,**mb4.2**/3,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.56	248	*e*PB	Pb	03 57 15.5	+1.2
ARG	Arkhangelos	0.67	155	*e*PG	Pn	03 57 18.5	+0.4
ARG	Arkhangelos	0.67	155	*e*Pn	Sn	03 57 27.5	-0.7
KSL	Kastellorizon	1.61	114	*e*PN	Pg	03 57 35.5	0.0
APE	Apeiranthos	1.81	278	*e*PG	Pn	03 57 35.0	+0.6
APE	Apeiranthos	1.81	278	*e*Pb	Pb	03 57 34.5	-1.3
SANT	Santorini	1.92	257	*e*P	Pg	03 57 40.5	-1.2
XRY	Khrisi	2.57	222	*e*PN	Pn	03 57 49.5	+4.2
XRY	Khrisi	2.57	222	*e*Pn	Pn	03 57 50.0	+4.7
IDI	Anoyia	2.79	238	Pn	Pn	03 57 49.7	+1.2
	2.3nm,0.3s,baz=35,slow=11,SNR=8.7						
BRTR	Keskin Array B	5.45	56	Pn	Pn	03 58 27.3	+1.2
	1.2nm,0.3s,baz=240,slow=14,SNR=18						
BRTR				Sn	Sn	03 59 28.8	-0.5
	0.2nm,0.3s,baz=234,slow=26,SNR=2.6						
HNTI	Hanita	7.13	119	S	Sx	04 00 08.4	
KSDI	Kefar Szold	7.41	117	S	Sx	04 00 14.6	
HMDT	Nahal Hemdat	7.85	123	S	Sx	04 00 26.6	
KZIT	Kziot	8.07	135	S	Sx	04 00 30.9	
PRNI	Paran	8.83	135	S	Sx	04 00 48.4	
KMTI	Karmit	8.86	137	S	Sx	04 00 49.7	
MBH	Mount Berech	9.21	138	S	Sx	04 00 58.1	
EIL	Elat	9.32	138	S	Sx	04 00 59.7	
MKAR	Makanchi Array	41.10	58	P	P	04 04 48.0	-0.1
	1.0nm,0.8s,mb3.5,baz=281,slow=6.2,SNR=4.9						
DBIC	Dimbokro	42.26	233	P	P	04 04 57.3	-0.7
	9.9nm,1.1s,mb4.3,baz=23,slow=7.7,SNR=3.4						
BJI	Beijing	66.45	57	*e*P	P	04 07 50.2	-4.0
	6.0nm,0.7s,mb4.7						

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*MOS **04** 04:02:40.0±0.7,36.87N×27.68E,h10^{km},mb4.1/4,Error ellipse: s-maj=22.3km s-min=9.0km az=105.6*
*ISK **04** 04:02:41.6,37.03N×27.78E,h12^{km},MD3.6,ML3.7*
*ATH **04** 04:02:41.0,36.87N×27.69E,h13^{km}±6^{km},MD3.8/9*
*NEIC **04** 04:02:41.0,36.87N×27.69E,h13^{km},mb3.7/13, MD3.8(ATH),After ATH.*
*IDC **04** 04:02:44.1±5.4,36.92N×27.74E,h30^{km}±44^{km},mb3.7/6, mb1 3.7/11,mb1mx3.6/23,ML3.6/5,MS3.1/1,Ms1 3.1/1, ms1mx2.4/23,Error ellipse: s-maj=19.7km s-min=15.9km az=150.0*
*THE **04** 04:02:45.5,37.05N×27.83E,h21^{km}*
ISC 04 04:02:42.0±0.6,**36.99N**±0.03×**27.78E**±0.03,**h18**^{km}±5^{km}, **n95**,σ**1^{s}03**/100,**mb3.8**/8,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.28	287	*i* P	Pb	04 02 47.6	-0.7
MLSB	Milas	0.31	359	*i* PG	Pb	04 02 48.0	-0.8
YER	Yerkesik	0.43	69	*i* PG	Pb	04 02 50.0	-0.8
YER				SG	Sb	04 02 56.7	0.0
NISR	Nisiros	0.64	235	*e*PB	Pb	04 02 52.3	-2.2
NISR	Nisiros	0.64	235	*e*Pb	Pb	04 02 52.5	-2.0
AYDN	Tasoluk	0.68	6	*i* P	Pb	04 02 55.5	+0.4
ARG	Arkhangelos	0.82	160	*e*PB	Pb	04 02 54.0	-3.4
SMG	Samos	1.04	314	*e*PN	Pn	04 03 02.5	+0.7
DNZL	Cakiroluk	1.23	55	*i* P	Pb	04 03 04.6	+0.2
DNZL				*i* S	Sx	04 03 49.6	
DENT	Denizli	1.26	52	*i* PN	Pn	04 03 05.5	+0.6
IZM	Izmir	1.47	344	PN	Pn	04 03 08.1	+0.2
KSL	Kastellorizon	1.67	119	*e*PG	Pn	04 03 13.0	+2.2
ELL	Elmali	1.72	97	*e*PN	Pn	04 03 12.6	+1.1
APE	Apeiranthos	1.81	273	*e*PN	Pn	04 03 12.3	-0.4
APE	Apeiranthos	1.81	273	*e*Pn	Pn	04 03 12.0	-0.7
AKS	Akhisar	1.89	1	PN	Pn	04 03 13.7	-0.2
KHL	Karahalli	1.92	45	*e*PN	Pn	04 03 15.1	+0.7
THR1	Thera Island	1.97	253	*e*Pn	Pn	04 03 17.1	+2.1
THR1				*e*Sn	Sn	04 03 40.8	+1.4
THR4	Thira Island,	1.99	255	*e*Pn	Pn	04 03 17.5	+2.2
THR3	Thira Island,	2.00	254	*e*Pn	Pn	04 03 17.7	+2.2
THR6	Thira Island,	2.02	253	*e*Pn	Pn	04 03 17.7	+1.9
THR5	Thira Island,	2.04	255	*e*Pn	Pn	04 03 18.1	+2.1
BCK	Bucak	2.29	77	*e*PN	Pn	04 03 20.9	+1.3
ISP	Isparta	2.33	68	PN	Pn	04 03 20.2	-0.1
PRK	Paraskevi	2.55	333	*e*PN	Pn	04 03 23.0	-0.4
BALB	Balikesir	2.65	2	*e*PN	Pn	04 03 24.7	-0.1
DST	Dursunbey	2.70	14	*e*PN	Pn	04 03 25.0	-0.5
XRY	Khrisi	2.70	219	*e*PN	Pn	04 03 25.0	-0.6
ALT	Altintas	2.77	41	*e*PN	Pn	04 03 27.0	+0.6
IDI	Anoyia	2.89	235	Pn	Pn	04 03 27.3	-0.9
	2.3nm,0.3s,baz=60,slow=16,SNR=9.4						
IDI				Sn	Sn	04 04 02.0	-0.8
	6.1nm,0.3s,baz=308,slow=19,SNR=3.3						
ORLT	Orhaneli	3.18	16	*e*PN	Pn	04 03 32.9	+0.6
VAM	Vamos	3.30	243	*e*PN	Pn	04 03 32.5	-1.5
KCT	Karacabey	3.31	8	PN	Pn	04 03 33.3	-0.8
NAIG	Nisos Aigina	3.51	284	*e*PN	Pn	04 03 37.5	+0.5
MRMT	Marmara Adasi	3.62	358	*e*PN	Pn	04 03 38.4	-0.1
KIZT	Kizilcal	3.75	58	*e*PN	Pn	04 03 41.7	+1.3
HDMB	Hadim	3.77	89	*e*PN	Pn	04 03 41.7	+1.0
YLV	Yalova	3.79	19	*e*PN	Pn	04 03 40.9	0.0
MKIT	Kithairon Oros	3.79	290	*e*PN	Pn	04 03 41.5	+0.5
BADT	Buyukada	4.00	15	*e*PN	Pn	04 03 43.2	-0.8
ALN	Alexandroupoli	4.13	341	*e*Pn	Pn	04 03 45.6	-0.3
XOR	Xorichti	4.33	305	*e*Pn	Pn	04 03 48.8	+0.1
MDU	Mudurnu	4.39	37	*e*PN	Pn	04 03 50.2	+0.7
OUR	Ouranopolis	4.48	320	*e*Pn	Pn	04 03 50.9	+0.1
RDO	Rodhopi	4.51	338	*e*PN	Pn	04 03 51.5	+0.3
AGG	Agios Georgios	4.76	297	*e*Pn	Pn	04 03 55.5	+0.7
IKL	Isikli	4.81	97	*e*PN	Pn	04 03 56.0	+0.6
KDZ	Kurdzhali	5.01	339	*i* P	Pn	04 03 57.5	-0.8
SOH	Sokhos	5.16	319	*e*Pn	Pn	04 04 00.5	+0.1
LIT	Litokhoron	5.19	308	*e*Pn	Pn	04 04 00.9	+0.1
SRS	Serrai	5.26	323	*e*Pn	Pn	04 04 01.6	-0.2
RZN	Rozhen	5.26	334	*i* P	Pn	04 04 02.0	+0.1
BRTR	Keskin Array B	5.35	57	Pn	Pn	04 04 04.0	+0.9
	2.5nm,0.3s,baz=236,slow=15,SNR=38						
BRTR				Sn	Sn	04 05 04.0	-1.1
	0.3nm,0.3s,baz=239,slow=25,SNR=3.4						
BRTR	Keskin Array B	5.35	57	P	Pn	04 04 04.1	+1.0
BRTR						04 05 04.0	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MMB	Musomiste	5.57	327	*i* P	Pn	04 04 06.0	-0.2
KNT	Kendrikon	5.64	319	*e*Pn	Pn	04 04 07.5	+0.3
KNT				*e*Sn	Sn	04 05 08.4	-3.9
KKB	Krupnik	6.08	325	*i* P	Pn	04 04 14.0	+0.6
VTS	Vitosha	6.61	329	*e*P	Pn	04 04 21.0	+0.1
MLR	Muntele Rosu	8.61	351	Pn	P	04 04 47.9	-0.9
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=3.7						
MLR				LR	LR	04 08 17.2	
	comp=Z,122nm,18.8s,baz=317,slow=38						
ASF	Jabal al Asfar	8.91	120	Pn	P	04 04 50.6	-2.5
	comp=Z,0.5nm,0.3s,baz=315,slow=2.9,SNR=2.7						
ASF				Sn	Sn	04 06 30.7	-3.3
	comp=Z,0.4nm,0.3s,baz=112,slow=19,SNR=3.8						
GERES	GERESS Array B	15.68	324	Pn	P	04 06 24.3	+0.6
	comp=Z,0.1nm,0.3s,baz=117,slow=15,SNR=2.2						
KHC	Kasperske Hory	15.94	324	*e*P	P	04 06 35.0	+8.1
PRU	Pruhonice	16.13	328	*e*P	Px	04 06 54.5	
SBF	Sospel	16.93	300	*e*P	P	04 06 38.8	-0.7
BRG	Berggiesshubel	17.05	329	*e*P	P	04 06 47.1	+6.1
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG	Berggiesshubel	17.05	329	*e*P	P	04 06 47.1	+6.1
	comp=Z,4.4nm,0.8s						
FRF	La Foret Royal	17.39	299	*e*P	P	04 06 43.5	-1.9
GRA1	Grafenberg Arr	17.45	322	*e*PKP	P	04 06 51.8	+5.7
GRF	Grafenberg Arr	17.45	322	*e*P	P	04 06 51.8	+5.7
MBDF	Montbardon	17.65	303	*e*P	P	04 06 48.3	-0.2
	comp=Z,7.2nm,1.1s						
CLL	Collm	17.77	328	P	P	04 06 55.6	+5.6
	comp=Z,logA/T=0.9						
CLL	Collm	17.77	328	*i* P	P	04 06 55.6	+5.6
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	Collm	17.77	328	*i* P	P	04 06 55.6	+5.6
	comp=Z,8.0nm,0.9s						
LPG	La Plagne	17.92	305	*e*P	P	04 06 54.4	+2.5
	comp=Z,3.0nm,0.6s						
LPL	La Plagne	17.94	305	*e*P	P	04 06 54.1	+2.0
	comp=Z,6.4nm,0.9s						
CABF	La Chapelle	18.77	308	*e*P	P	04 07 01.7	-0.6
	comp=Z,6.6nm,0.8s						
CDF	Champ du Feu	18.85	314	*e*P	P	04 07 03.7	+0.4
	comp=Z,3.4nm,0.6s						
HAU	Haudompre	19.20	312	*e*P	P	04 07 07.8	+0.3
	comp=Z,8.0nm,0.8s						
SMF	Signal de Mont	20.22	306	*e*P	P	04 07 18.2	-0.5
	comp=Z,16nm,0.9s						
LOR	Lormes	20.43	308	*e*P	P	04 07 19.9	-1.0
SSF	Saint Saulge	20.58	307	*e*P	P	04 07 22.1	-0.4
	comp=Z,7.3nm,0.6s						
AVF	Avril sur Loir	20.59	306	*e*P	P	04 07 21.4	-1.1
	comp=Z,20nm,1.1s						
FLN	La Foliniere	23.68	309	*e*P	P	04 07 52.9	-0.4
	comp=Z,26nm,1.0s,mb4.3						
GRR	Gorron	23.80	308	*e*P	P	04 07 53.3	-1.1
	comp=Z,22nm,0.8s,mb4.3						
FINES	FINESS Array B	24.50	358	P	P	04 08 00.5	-0.7
	comp=Z,2.1nm,1.0s,mb3.6,baz=153,slow=13,SNR=5.0						
FINES	FINESS Array B	24.50	358	P	P	04 08 00.5	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	Hagfors	24.86	343	P	P	04 08 04.1	-0.5
	comp=Z,3.3nm,0.9s,mb3.9,baz=166,slow=12,SNR=5.4						
HFS	Hagfors	24.86	343	P	P	04 08 04.1	-0.5
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ESDC	Sonseca Array	24.98	286	P	P	04 08 05.2	-0.8
	comp=Z,0.7nm,0.6s,mb3.4,baz=69,slow=8.1,SNR=5.6						
NB2	NORSAR Subarra	26.26	342	P	P	04 08 17.3	-0.4
	comp=Z,1.0nm,1.1s,mb3.3,baz=145,slow=9.3						
NOA	NORSAR Array B	26.26	342	P	P	04 08 17.7	0.0
	comp=Z,0.3nm,0.8s,mb2.9,baz=155,slow=9.2,SNR=3.3						
MKAR	Makanchi Array	41.00	58	P	P	04 10 24.7	-0.8
	comp=Z,1.4nm,0.7s,mb3.7,baz=278,slow=8.6,SNR=12						
MKAR	Makanchi Array	41.00	58	P	P	04 10 24.7	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DBIC	Dimbokro	42.36	233	P	P	04 10 34.5	-2.6
	comp=Z,7.3nm,1.2s,mb4.2,baz=87,slow=17,SNR=5.3						
DBIC	Dimbokro	42.36	233	P	P	04 10 34.5	-2.6
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.2s						

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*IGIL **04** 04:19:45.0,36.80N×27.80E,h30^{km},MS4.5*
*MOS **04** 04:19:46.8±1.3,36.87N×27.82E,h10^{km},mb5.4/25, MS4.4/29,Error ellipse: s-maj=7.5km s-min=3.3km az=99.1*
*BJI **04** 04:19:47.0,36.90N×27.17E,h39^{km},mB5.2,mb5.2,Ms5.2, Msz4.7*
*ATH **04** 04:19:47.9,36.89N×27.66E,h16^{km}±2^{km},MD4.7/21, ML4.8*
*ISK **04** 04:19:48.6,37.13N×27.74E,h3^{km},ML5.0*
*BGS **04** 04:19:48.1±2.0,36.96N×27.78E,h10^{km},mb5.5*
*NEIC **04** 04:19:48.4±0.1,36.84N×27.85E,h10^{km},mb5.2/141, MS4.8/83,ML4.8(ATH),Error ellipse: s-maj=2.3km s-min=1.5km az=200.0*
NEIC Felt at Bodrum, Turkey.
*MED_RC **04** 04:19:48.4±0.2,36.78N×27.71E,h15^{km},MW5.2/33, Moment Tensor Solution. Body waves: s33,c66; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-6.55±.13; M$_{\theta\theta}$5.65±.11; M$_{\phi\phi}$0.91±.08; M$_{r\theta}$5.75±.26; M$_{\theta\phi}$0.93±.07; M$_{\phi r}$1.84±.26; Best double couple: M$_0$8.64×10^{16} NP1:φ$_s$83°,δ23°,λ-83°. NP2:φ$_s$255°,δ67°, λ-93°. Principal axes: T 8.26, Plg22°, Azm347°; N .77, Plg3°, Azm256°; P -9.03, Plg68°, Azm159°; nsta1 refers to waves, cutoff=35s.*
*HRVD **04** 04:19:48.4±0.2,36.82N×27.97E,h12^{km},MW5.2/64, Centroid moment Tensor Solution. LP body waves: s35,c50;Mantle waves: s64,c130; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.68±.02; M$_{\theta\theta}$0.70±.01; M$_{\phi\phi}$-0.03±.02; M$_{r\theta}$0.14±.05; M$_{\theta\phi}$0.07±.01; M$_{\phi r}$-0.16±.06; Best double couple: M$_0$.72×10^{17} NP1:φ$_s$71°, δ42°,λ-111°. NP2:φ$_s$278°,δ52°,λ-73°. Principal axes: T .72, Plg5°, Azm356°; N 0, Plg14°, Azm87°; P -.73, Plg75°, Azm245°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **04** 04:19:48.3,36.84N×27.85E,h10^{km},MB5.2,MS4.8*
*ZUR_RM **04** 04:19:48,36.84N×27.85E,h9^{km},Mw5.3/29,Moment Tensor Solution. s29 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-7.75; M$_{\theta\theta}$8.35; M$_{\phi\phi}$-0.59; M$_{r\theta}$3.38; M$_{\theta\phi}$1.15; M$_{\phi r}$-0.51; Best double couple: M$_0$8.82×10^{16} NP1:φ$_s$269°,δ56°,λ-82°. NP2:φ$_s$76°,δ34°,λ-101°. Principal axes: T 9.136, Plg11°, Azm354°; N -.638, Plg6°, Azm85°; P -8.498, Plg77°, Azm204°;*
*CSEM **04** 04:19:49.2,36.81N×27.79E,h30^{km},mb5.2*
*THE **04** 04:19:50.5,36.85N×27.78E,h13^{km},ML5.1*
*IDC **04** 04:19:51.1±2.1,37.00N×27.67E,h29^{km}±14^{km},mb4.8/24, mb1 4.9/34,mb1mx4.9/35,ML4.2/7,MS4.4/16,Ms1 4.4/16, ms1mx4.4/22,Error ellipse: s-maj=11.7km s-min=10.0km az=93.0*
*NIC **04** 04:19:54.6±0.4,37.25N×28.30E,h25^{km},mb5.1,ML4.9, MW4.3,Earthquake Dodecanese Islands , Greece 58 km NW Rodhos.*
*PDG **04** 04:20:08.1±0.1,37.65N×26.30E,h10^{km}±1^{km}*
ISC 04 04:19:46.6±0.1,**36.83N**±0.01×**27.82E**±0.01,**h10**^{km}, **(h15**^{km}±2.3^{km}**:pP-P),n791**,σ**1^{s}09**/813,**mb5.2**/172, **MS4.7**/107,**54C-58D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.38	308	*i* P	Pg	04 19 54.5	+0.1
BDRM				*i* S	Sg	04 19 59.6	0.0
MLSB	Milas	0.47	356	*i* PG	Pg	04 19 52.9	-3.1
MLSB	Milas	0.47	356	Pg	Pg	04 19 56.2	+0.2
YER	Yerkesik	0.48	51	*i* PG	Pg	04 19 57.3	+1.0
ARG	Arkhangelos	0.66	158	*e*PN	Pn	04 20 02.3	+0.6
AYDN	Tasoluk	0.83	3	*i* P	Pb	04 20 02.2	-0.4
AYDN				*i* S	Sb	04 20 14.2	+0.6
SMG	Samos	1.18	319	*e*PN	Pn	04 20 08.4	-0.6
DNZL	Cakiroluk	1.30	48	*i* P	Pb	04 20 11.5	+0.9
DNZL				*i* S	Sb	04 20 28.6	+1.3
DENT	Denizli	1.34	46	*i* PN	Pn	04 20 12.2	+0.9
DENT	Denizli	1.34	46	Pn	Pn	04 20 12.5	+1.2
KARP	Karpathos	1.39	203	*e*PN	Pn	04 20 14.3	+2.2
KSL	Kastellorizon	1.57	115	*e*PN	Pn	04 20 19.5	+4.7
IZM	Izmir	1.63	344	*i* PN	Pn	04 20 15.1	-0.4
IZM	Izmir	1.63	344	Pn	Pn	04 20 15.3	-0.2
KDAG	Bornova	1.63	345	*i* P	Pn	04 20 14.8	-0.7
KDAG				*i* S	Sn	04 20 38.6	+1.9
ELL	Elmali	1.68	92	*i* PN	Pg	04 20 20.8	+0.7
ELL	Elmali	1.68	92	Pn	Pg	04 20 21.8	+1.7
ELL				Sg	Sg	04 20 44.8	+2.3
MANT	Manisa	1.76	19	*i* P	Pn	04 20 16.9	-0.5
MANT				*i* S	Sn	04 20 43.9	+3.9
APE	Apeiranthos	1.85	278	*e*PN	Pn	04 20 19.0	+0.3
SANT	Santorini	1.95	257	*e*Pn	Pn	04 20 20.6	+0.4
THR1	Thera Island	1.95	257	*e*Pb	Pb	04 20 21.5	-0.3
THR4	Thira Island,	1.98	260	*e*Pb	Pb	04 20 21.6	-0.7
THR3	Thira Island,	1.99	259	*e*Pb	Pb	04 20 21.4	-1.0
THR6	Thira Island,	2.01	257	*e*Pb	Pb	04 20 22.0	-0.7
KHL	Karahalli	2.01	42	*i* PN	Pn	04 20 22.5	+1.5
KHL				SN	Sn	04 20 46.8	+0.3
KHL	Karahalli	2.01	42	Pn	Pn	04 20 22.8	+1.8
THR5	Thira Island,	2.03	259	*e*Pn	Pn	04 20 22.5	+1.2
AKS	Akhisar	2.05	360	*i* PN	Pn	04 20 21.1	-0.4
BCK	Bucak	2.30	73	*i* PN	Pg	04 20 29.2	-3.3
BCK	Bucak	2.30	73	Pn	Pg	04 20 30.6	-1.9
ISP	Isparta	2.37	64	*i* PN	Pn	04 20 28.6	+2.5
NPS	Neapolis	2.38	229	*e*PB	Pb	04 20 28.0	-1.0
XRY	Khrisi	2.60	222	*e*PN	Pn	04 20 30.5	+1.0
PRK	Paraskevi	2.70	334	*e*PN	Pn	04 20 30.7	-0.2
BALB	Balikesir	2.81	1	*i* PN	Pn	04 20 31.9	-0.5
BALB	Balikesir	2.81	1	Pn	Pn	04 20 32.1	-0.3
IDI	Anoyia	2.83	238	Pn	Pn	04 20 33.4	+0.7
	48nm,0.3s,baz=47,slow=9.7,SNR=125						
IDI				Sn	Sn	04 21 07.9	+0.8
	105nm,0.3s,baz=302,slow=12,SNR=7.5						
ALT	Altintas	2.87	38	PN	Pn	04 20 34.4	+1.2
ALT	Altintas	2.87	38	Pn	Pn	04 20 35.2	+2.0
VAM	Vamos	3.26	245	*e*PN	Pn	04 20 40.2	+1.4
ORLT	Orhaneli	3.32	14	*i* PN	Pn	04 20 39.7	0.0
ORLT	Orhaneli	3.32	14	Pn	Pn	04 20 40.4	+0.7
PTL	Penteli	3.37	292	*e*PN	Pn	04 20 40.8	+0.4
ATH	Athens Observa	3.46	290	*e*PN	Pn	04 20 42.2	+0.6
MPAR	Parnis Oros	3.50	293	*e*PN	Pn	04 20 43.0	+0.7
EDC	Edincik	3.51	1	*i* PN	Pn	04 20 41.4	-1.0
EDC	Edincik	3.51	1	Pn	Pn	04 20 41.8	-0.6
BNT	Bandirma	3.52	1	*i* PN	Pn	04 20 41.2	-1.3
BNT	Bandirma	3.52	1	Pn	Pn	04 20 41.9	-0.6
NAIG	Nisos Aigina	3.58	286	*e*PN	Pn	04 20 43.5	+0.2
ESKT	Eskisehir	3.59	41	PN	Pn	04 20 44.9	+1.4
ESKT	Eskisehir	3.59	41	Pn	Pn	04 20 45.7	+2.2
GVD	Gavdhos	3.62	238	*e*Pn	Pn	04 20 47.0	+3.0
NSAL	Nisos Salamina	3.63	289	*e*PN	Pn	04 20 44.8	+0.7
LIA	Limnos Island	3.70	327	*e*PN	Pn	04 20 44.8	-0.2
HDMB	Hadim	3.74	87	*i* PN	Pn	04 20 50.3	+4.6
HDMB	Hadim	3.74	87	Pn	Pn	04 20 50.9	+5.2
MRMT	Marmara Adasi	3.77	357	*i* PN	Pn	04 20 44.9	-1.2
MRMT	Marmara Adasi	3.77	357	Pn	Pn	04 20 42.0	-4.1
LOS	Limnos	3.77	326	*e*Pn	Pn	04 20 46.3	+0.2
KONT	Konya--Tatoy	3.78	72	*i* PN	Pn	04 20 49.7	+3.5
KONT	Konya--Tatoy	3.78	72	Pn	Pn	04 20 50.3	+4.1
KIZT	Kizilcal	3.81	56	*i* PN	Pn	04 20 48.8	+2.2
KIZT	Kizilcal	3.81	56	Pn	Pn	04 20 49.2	+2.6
MKIT	Kithairon Oros	3.87	292	*e*PN	Pn	04 20 48.1	+0.6
KYTH	Kithira	3.89	263	*e*PN	Pn	04 20 49.0	+1.3
VLI	Veliai	3.92	270	*e*PN	Pn	04 20 48.4	+0.2
YLV	Yalova	3.92	18	PN	Pn	04 20 47.7	-0.5
YLV	Yalova	3.92	18	Pn	Pn	04 20 47.5	-0.7
BADT	Buyukada	4.14	14	PN	Pn	04 20 50.9	-0.4
BADT	Buyukada	4.14	14	Pn	Pn	04 20 50.6	-0.7
PPCY	Paphos	4.16	116	⇓P	Pn	04 20 54.0	+2.4
ALFC	Alevga	4.22	112	⇓P	Pn	04 20 54.0	+1.6
	46nm,0.2s						
ALFC				S	Sn	04 21 41.5	-0.9
LKR	Lokris	4.23	297	*e*PN	Pn	04 20 52.8	+0.2
HRT	Hereke	4.24	19	*e*PN	Pn	04 20 52.2	-0.5
HRT	Hereke	4.24	19	Pn	Pn	04 20 52.8	+0.1
ALN	Alexandroupoli	4.29	342	P	Pn	04 20 53.2	-0.2
CTT	Catalca	4.34	6	PN	Pn	04 20 53.1	-1.0
CTT	Catalca	4.34	6	Pn	Pn	04 20 52.7	-1.4
ISK	Istanbul-Kandi	4.34	12	*e*PN	Pn	04 20 53.5	-0.6
ISK	Istanbul-Kandi	4.34	12	Pn	Pn	04 20 53.0	-1.1
NEO	Neokhori	4.39	306	*e*PN	Pn	04 20 54.9	0.0
LEF	Lefka	4.45	111	Pn	Pn	04 20 57.5	+1.7
PAIG	Paliouri	4.49	315	*e*Pn	Pn	04 20 56.0	-0.2
MDU	Mudurnu	4.50	35	*e*PN	Pn	04 20 56.8	+0.4
MDU	Mudurnu	4.50	35	Pn	Pn	04 20 57.6	+1.2
SZAC	Souni-Zanaja	4.61	115	⇓P	Pn	04 20 59.9	+2.0
	29nm,0.3s						
SZAC				S	Sn	04 21 50.9	-1.3
OUR	Ouranopolis	4.61	320	*e*Pn	Pn	04 20 58.0	0.0
RDO	Rodhopi	4.66	338	*e*PN	Pn	04 20 57.9	-0.8
MAMC	Mammari	4.68	109	P	Pn	04 21 00.5	+1.5
ITM	Ithomi	4.73	276	*e*PN	Pn	04 21 01.4	+1.7
CSS	Prodhromos	4.85	111	P	Pn	04 21 02.3	+1.0
	23nm,0.5s						
CSS				S	Sn	04 21 55.6	-2.6
CSS	Prodhromos	4.85	111	*e*Pn	Pn	04 21 01.9	+0.6
AGG	Agios Georgios	4.86	298	P	Pn	04 21 02.0	+0.5
PLG	Polygyros	4.92	317	*e*PN	Pn	04 21 01.8	-0.6
LOD	Lodumlu	4.94	50	*e*PN	Pn	04 21 04.4	+1.7
LOD	Lodumlu	4.94	50	Pn	Pn	04 21 04.0	+1.3
ANTO	Ankara	4.95	51	*i* PN	Pn	04 21 04.9	+2.1
EDRB	Edirne	5.08	351	Pn	Pn	04 21 02.1	-2.5
KDZ	Kurdzhali	5.16	340	⇑*i*P	Pn	04 21 04.7	-1.1
EVR	Evrytania	5.19	295	*e*PN	Pn	04 21 07.4	+1.2
RLS	Riolos of Patr	5.20	286	*e*PN	Pn	04 21 08.0	+1.7
SOH	Sokhos	5.29	320	*e*Pn	Pn	04 21 07.6	0.0
LIT	Litokhoron	5.31	310	*e*Pn	Pn	04 21 08.0	+0.2
PHNC	Paralimni	5.36	108	P	Pn	04 21 12.2	+3.6
THE	Thessaloniki	5.37	316	*e*Pn	Pn	04 21 09.2	+0.5
SRS	Serrai	5.40	324	*e*Pn	Pn	04 21 08.9	-0.2
BRTR	Keskin Array B	5.41	56	Pn	Pn	04 21 11.1	+1.8
	36nm,0.3s,baz=237,slow=16,SNR=267						
BRTR				Sn	Sn	04 22 12.2	-0.2
	14nm,0.3s,baz=330,slow=15,SNR=7.3						
BRTR				Lg		04 22 51.0	
	baz=212,slow=16,SNR=2.4						
BRTR				LR	LR	04 23 48.9	
	comp=Z,2μm,19.2s,baz=240,slow=44						
BRTR	Keskin Array B	5.41	56	P	Pn	04 21 11.1	+1.8
BRTR						04 22 12.3	
BRTR				pmax	pmax		
	comp=Z,36nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,2μm,19.2s						
RZN	Rozhen	5.42	335	⇑*i*P	Pn	04 21 09.0	-0.4
NVR	Nevrokopi	5.46	327	*e*PN	Pn	04 21 09.3	-0.7
DIM	Dimitrovgrad	5.50	342	*i* P	Pn	04 21 10.0	-0.6
MMB	Musomiste	5.72	327	*i* P	Pn	04 21 12.5	-1.1
KNT	Kendrikon	5.78	320	*e*Pn	Pn	04 21 14.6	+0.1
PLD	Plovdiv	5.79	336	*i* P	Pn	04 21 14.0	-0.7
SAFT	Safranbolu	5.81	39	*e*PN	Pn	04 21 15.6	+0.7
SAFT	Safranbolu	5.81	39	Pn	Pn	04 21 14.9	0.0
KZN	Kozani	5.87	308	*e*PN	Pn	04 21 16.4	+0.6
GRG	Griva	5.90	316	*e*Pn	Pn	04 21 16.8	+0.6
VLS	Valsamata	5.90	285	*e*PN	Pn	04 21 17.3	+1.1
MEV	Metsovon	5.96	302	*e*Pn	Pn	04 21 18.5	+1.4
LKD	Levkas	5.98	290	P	Pn	04 21 19.5	+2.2
VAY	Valandovo	6.06	319	*i* Pn	Pn	04 21 18.7	+0.2
VAY				*i* Sn	Sn	04 22 25.5	-3.3
VAY				*i* Sb	Sb	04 22 46.7	+1.1
VAY				*i* Sg	Sg	04 22 58.0	-10
JAN	Janina	6.17	299	*e*PN	Pn	04 21 18.7	-1.3
JAN	Janina	6.17	299	*e*Pn	Pn	04 21 23.8	+3.8
KKB	Krupnik	6.22	325	*i* P	Pn	04 21 20.5	-0.3
PGB	Panagyurishte	6.37	335	*i* P	Pn	04 21 22.0	-0.8
FNA	Florina	6.39	310	*e*Pn	Pn	04 21 23.9	+0.8
IGT	Igoumenitsa	6.49	297	*e*Pn	Pn	04 21 25.9	+1.5
LSK	Leskovik	6.56	303	*e*Pn	Pn	04 21 26.1	+0.6
BIA	Bitola	6.57	312	⇑*i*Pn	Pn	04 21 20.7	-4.9
BIA				*i* Sn	Sn	04 22 35.0	-6.3
SZH	Strazhica	6.59	348	*i* P	Pn	04 21 25.0	-0.9
PVL	Pavlikeni	6.66	344	⇓*i*P	Pn	04 21 25.5	-1.4
VTS	Vitosha	6.76	330	*i* P	Pn	04 21 27.3	-1.1
VTS	Vitosha	6.76	330	P	Pn	04 21 29.0	+0.6
PSN	Preselentsi	6.85	2	*i* P	Pn	04 21 27.0	-2.6
KEK	Kerkira	6.94	297	*e*PN	Pn	04 21 31.8	+1.0
OHR	Ohrid	6.94	310	*i* Pn	Pn	04 21 32.6	+1.7
OHR				*i* Sn	Sn	04 22 54.8	+4.1
OHR				*i* Sb	Sg	04 23 22.5	-15
MATL	Matirih	7.00	116	*e*PN	Pn	04 21 31.6	-0.1
BHL	Bhannes	7.03	112	*e*PN	Pn	04 21 31.1	-1.1
BHL				SN	Sn	04 22 47.9	-5.1
HWQ	Hawqa	7.10	109	*e*PN	Pn	04 21 33.2	+0.1
HWQ				SN	Sn	04 22 51.7	-2.9
HNTI	Hanita	7.10	120	Pn	Pn	04 21 33.7	+0.6
HNTI				Sn	Sn	04 22 49.7	-5.0
SKO	Skopje	7.12	318	⇑*i*Pn	Pn	04 21 34.1	+0.7
	comp=Z,0.1nm,0.4s						
SKO				*i* Sn	Sn	04 22 47.5	-7.8
HAF	Haifa	7.17	122	Pn	Pn	04 21 33.9	-0.2
HRI	Mount Hermon	7.40	116	Pn	Pn	04 21 37.9	+0.6
SLTI	Sal’it	7.51	125	Pn	Pn	04 21 39.1	+0.2
SLTI				Sn	Sn	04 22 58.8	-6.2
BARS	Barje	7.55	324	⇑*i*P	Pn	04 21 39.0	-0.5
BUC1	Bucharest	7.63	350	⇑*i*P	Pn	04 21 41.0	+0.4
GLH	Golan-Tel Qazi	7.64	120	Pn	Pn	04 21 41.1	+0.5
GLH	Golan-Tel Qazi	7.64	120	⇓P	Pn	04 21 41.1	+0.5
MMLI	Mount Malkishu	7.64	123	Pn	Pn	04 21 41.1	+0.4
TIR	Tirane	7.65	309	*e*Pn	Pn	04 21 44.0	+3.1
QSH	Qafa e Shtames	7.73	310	*i* Pn	Pn	04 21 46.2	+4.3
QSH				*i* Sn	Sn	04 23 19.0	+8.6
HMDT	Nahal Hemdat	7.83	123	Pn	Pn	04 21 43.3	0.0
HARR	Harsova	7.85	1	⇓*i*P	Pn	04 21 41.6	-2.0
KZIT	Kziot	8.05	135	Pn	P	04 21 46.2	-0.2
KZIT				Sn	Sn	04 23 12.2	-6.2
RTMM	Retamin	8.11	133	Pn	P	04 21 47.8	+0.6
BCI	Bajram Curri	8.14	315	*e*Pn	P	04 21 50.0	+2.3
SVTA	Shivta	8.16	134	Pn	P	04 21 48.1	+0.2
DRGI	Dragot	8.16	128	Pn	P	04 21 48.1	+0.2
MASH	Mash‘abbe Sade	8.21	133	Pn	P	04 21 48.5	-0.1
BOLS	Boljevac	8.30	329	⇑*i*Pn	P	04 21 48.4	-1.4
BOLS				Sg	Sx	04 24 17.0	
MZDA	Masada	8.33	129	Pn	P	04 21 50.1	-0.2
ISR	Istrita	8.34	354	⇓*i*P	P	04 21 49.3	-1.1
PVY	Plav	8.35	316	⇑*i*Pn	P	04 21 51.7	+1.1
PVY				*e*Sn	Sn	04 23 09.0	-17
LCI	Lecce	8.37	298	P	P	04 21 50.7	-0.1
ULC	Ulcinj	8.38	310	⇑*i*Pn	P	04 21 51.7	+0.7
ULC				*e*Sn	Sn	04 23 09.0	-18
MALT	Malatya	8.55	77	*e*Pn	P	04 21 56.0	+2.6
IVA	Berane	8.57	317	⇑*i*Pn	P	04 21 54.6	+0.9
IVA				*e*Sn	Sn	04 23 14.3	-17
MTUR	Matau	8.64	347	⇓*e*P	P	04 21 54.5	-0.1
TTG	Podgorica	8.65	313	*e*Pn	P	04 21 55.6	+0.8

TTG				eSn	**Sn**	**04 23 15.6**	**-18**
ZFRI	**Zfri**	**8.76**	**133**	Pn	**P**	**04 21 56.0**	**-0.2**
MLR	**Muntele Rosu**	**8.77**	**351**	Pn	**P**	**04 21 53.7**	**-2.7**
	comp=Z,1.1nm,0.3s,baz=180,slow=4.2,SNR=36						
MLR				Lg		04 24 30.4	
	comp=Z,1.2nm,0.3s,baz=259,slow=20,SNR=2.2						
MLR	**Muntele Rosu**	**8.77**	**351**	⇓iP	**P**	**04 21 55.8**	**-0.6**
BUM	**Brajici-Budva**	**8.79**	**311**	⇑iPn	**P**	**04 21 57.1**	**+0.5**
BUM				eSn	**Sn**	**04 23 19.0**	**-18**
PRNI	**Paran**	**8.81**	**135**	Pn	**P**	**04 21 56.9**	**0.0**
ASF	**Jabal al Asfar**	**8.81**	**119**	Pn	**P**	**04 21 58.2**	**+1.2**
	comp=Z,6.7nm,0.3s,baz=196,slow=17,SNR=30						
ASF				Sn	**Sn**	**04 23 39.5**	**+2.0**
	comp=Z,6.9nm,0.3s,baz=229,slow=20,SNR=3.7						
ASF				LR	LR	04 25 57.2	
	comp=Z,2µm,19.4s,baz=164,slow=41						
KMTI	**Karmit**	**8.84**	**137**	Pn	**P**	**04 21 57.0**	**-0.4**
SVIS	**Svilajnac**	**8.99**	**328**	⇑iP	**P**	**04 21 58.3**	**-1.1**
NKY	**Niksic**	**9.04**	**314**	ePn	**P**	**04 22 00.7**	**+0.6**
NKY				eSn	**Sn**	**04 23 25.3**	**-18**
TIP	**Timpagrande**	**9.04**	**288**	⇓ePn	**P**	**04 21 59.1**	**-1.1**
VRI	**Vrincioaia**	**9.07**	**355**	⇑iP	**P**	**04 21 52.6**	**-7.9**
NVSS	**Nova Varos 2**	**9.11**	**320**	⇓iP	**P**	**04 22 00.2**	**-0.9**
HCY	**Herceg Novi**	**9.12**	**311**	⇑iPn	**P**	**04 22 01.7**	**+0.5**
HCY				eSn	**Sn**	**04 23 27.0**	**-18**
PLE	**Pljevlja**	**9.15**	**318**	⇑iPn	**P**	**04 22 02.8**	**+1.1**
PLE				eSn	**Sn**	**04 23 28.7**	**-17**
MBH	**Mount Berech**	**9.19**	**138**	Pn	**P**	**04 22 01.9**	**-0.3**
BRT	**Bari-Castellan**	**9.21**	**299**	P	**P**	**04 22 02.2**	**-0.3**
GRI	**Girifalco**	**9.24**	**286**	P	**P**	**04 22 02.0**	**-0.9**
EIL	**Elat**	**9.30**	**138**	Pn	**P**	**04 22 03.6**	**-0.2**
AQBJ	**Aqaba**	**9.31**	**137**	Pn	**P**	**04 22 03.8**	**-0.1**
UPM	**Unac-Piva**	**9.34**	**316**	⇑iPn	**P**	**04 22 04.9**	**+0.6**
UPM				eSn	**Sn**	**04 23 32.7**	**-18**
BRY	**Bratogost**	**9.36**	**313**	⇑iPn	**P**	**04 22 04.8**	**+0.3**
BRY				eSn	**Sn**	**04 23 32.7**	**-18**
DIVS	**Divcibare**	**9.39**	**323**	⇓iPn	**P**	**04 22 03.8**	**-1.2**
DIVS				Sn	Sx	04 24 51.1	
SIM	**Simferopol'**	**9.40**	**28**	deP	**P**	**04 22 05.6**	**+0.4**
SIM				eS	**Sn**	**04 23 49.0**	**-3.1**
SIM				pmax	pmax		
	comp=Z,46nm,0.7s						
SIM				MLR	MLR		
	comp=Z,2µm,12.0s						
SOI	**Samo**	**9.44**	**281**	P	**P**	**04 22 04.4**	**-1.2**
TDS	**Terranova Siba**	**9.46**	**291**	P	**P**	**04 22 05.7**	**-0.3**
ORI	**Oriolo Calabro**	**9.48**	**293**	P	**P**	**04 22 05.7**	**-0.6**
CEL	**Celeste**	**9.58**	**282**	P	**P**	**04 22 07.0**	**-0.6**
ALWS	**Ilw as Safayha**	**9.65**	**139**	P	**P**	**04 22 08.0**	**-0.6**
SCLL	**Scilla**	**9.72**	**282**	P	**P**	**04 22 08.7**	**-0.8**
HAQS	**Haql**	**9.78**	**140**	P	**P**	**04 22 09.5**	**-0.9**
JMOS	**Jabal al Moall**	**9.79**	**139**	P	**P**	**04 22 09.6**	**-0.8**
PTRP	**Pietrapertosa**	**9.90**	**295**	P	**P**	**04 22 11.8**	**-0.2**
CUC	**Castrocucco**	**9.94**	**292**	P	**P**	**04 22 12.7**	**+0.2**
AGST	**Augusta-Monte**	**10.08**	**276**	P	**P**	**04 22 15.1**	**+0.7**
MGR	**Morigerati**	**10.17**	**293**	P	**P**	**04 22 14.9**	**-0.7**
SLCN	**Sala Consilina**	**10.18**	**294**	P	**P**	**04 22 15.7**	**-0.1**
KIS	**Kishinev**	**10.19**	**4**	eP	**P**	**04 22 17.0**	**+1.1**
KIS				eS	**S**	**04 24 08.0**	**-3.3**
KIS				MLR	MLR		
	comp=N,2µm,8.0s						
KIS				MLR	MLR		
	comp=Z,3µm,8.0s						
KIS				MLR	MLR		
	comp=Z,4µm,8.0s						
BDAS	**Al Bad'**	**10.38**	**142**	P	**P**	**04 22 17.4**	**-1.2**
JMQS	**Jabal Moqyreh**	**10.42**	**137**	P	**P**	**04 22 19.2**	**0.0**
SGO	**Sicignano**	**10.46**	**295**	P	**P**	**04 22 19.1**	**-0.6**
FG4	**Candela**	**10.49**	**298**	P	**P**	**04 22 19.5**	**-0.6**
MNO	**Monte Soro**	**10.50**	**280**	P	**P**	**04 22 19.7**	**-0.6**
AYUS	**'Aynunah**	**10.66**	**142**	P	**P**	**04 22 21.2**	**-1.3**
FG5	**Orsara di Pugl**	**10.72**	**298**	P	**P**	**04 22 22.7**	**-0.6**
VAE	**Valguarnera**	**10.72**	**277**	Pn	**P**	**04 22 21.6**	**-1.7**
	baz=30,slow=3.9,SNR=14						
CSSN	**Cassano Irpino**	**10.76**	**296**	P	**P**	**04 22 22.8**	**-0.9**
ANN	**Anapa**	**10.79**	**39**	c iP	**P**	**04 22 22.5**	**-1.6**
ANN				eS	**S**	**04 24 22.9**	**-3.0**
ANN				pmax	pmax		
	comp=Z,53nm,1.4s						
CSLB	**Castelbuono**	**11.01**	**280**	P	**P**	**04 22 25.8**	**-1.4**
TBKS	**Tabuk**	**11.30**	**137**	D		04 22 31.5	
MCT	**Mte Cammarata**	**11.34**	**278**	P	**P**	**04 22 33.0**	**+1.3**
CPI2	**Carpinone**	**11.50**	**299**	P	**P**	**04 22 33.1**	**-0.7**
CII	**Carovilli**	**11.55**	**299**	eP	**P**	**04 22 33.2**	**-1.3**
PKSM	**Moragy**	**11.62**	**327**	P	**P**	**04 22 35.1**	**-0.3**
CLTB	**Caltabellotta**	**11.67**	**278**	P	**P**	**04 22 35.5**	**-0.7**
CRJA	**Costa Raja**	**11.84**	**279**	P	**P**	**04 22 39.6**	**+1.1**
MMGO	**Monte Magaggia**	**11.86**	**278**	P	**P**	**04 22 37.9**	**-0.9**
SDI	**San Donato**	**11.90**	**298**	P	**P**	**04 22 38.9**	**-0.3**
MTGR	**Montagna Grand**	**12.03**	**280**	P	**P**	**04 22 40.2**	**-0.9**
ERC	**Erice**	**12.17**	**280**	P	**P**	**04 22 42.8**	**-0.1**
SISC	**Sisak**	**12.19**	**319**	i P	**P**	**04 22 46.1**	**+2.9**
PTQR	**Pietraquaria**	**12.29**	**299**	P	**P**	**04 22 44.2**	**-0.3**
LVI	**Isola Levanzo**	**12.37**	**280**	P	**P**	**04 22 44.7**	**-0.9**
AQU	**L'Aquila**	**12.41**	**301**	eP	**P**	**04 22 46.2**	**+0.1**
NVLJ	**Novalja**	**12.49**	**312**	i Pn	**P**	**04 22 48.2**	**+1.0**
NVLJ				i Sn	**S**	**04 24 55.1**	**-12**
PSZ	**Piszkesteto**	**12.53**	**335**	⇑eP	**P**	**04 22 49.0**	**+1.4**
PSZ	**Piszkesteto**	**12.53**	**335**	eP	**P**	**04 22 46.1**	**-1.6**
NRCA	**Norcia**	**12.79**	**302**	P	**P**	**04 22 52.1**	**+0.9**
BOJS	**Bojanci**	**12.82**	**316**	ePn	**P**	**04 22 50.4**	**-1.2**
KECS	**Kecovo**	**12.83**	**338**	ePN	**P**	**04 22 51.2**	**-0.5**
CRES	**Cresnjevec ost**	**12.91**	**318**	P	**P**	**04 22 52.4**	**-0.4**
SRO	**Srobarova**	**13.02**	**330**	ePN	**P**	**04 22 53.4**	**-0.9**
DOBS	**Dobrina**	**13.12**	**319**	P	**P**	**04 22 56.5**	**+1.0**
LVV	**L'vov**	**13.27**	**349**	eP	**P**	**04 22 57.0**	**-0.5**
LVV				eS	**S**	**04 25 30.0**	**+3.8**
KWP	**Kalwaria**	**13.32**	**345**	eP	**P**	**04 22 59.5**	**+1.3**
KWP				eS	S	04 25 57.7	+30
KIV	**Kislovodsk**	**13.37**	**53**	eP	**P**	**04 23 00.9**	**+2.0**
KIV				eS	**S**	**04 25 26.4**	**-2.2**
KIV				pmax	pmax		
	comp=Z,34nm,1.7s						
KIV				MLR	MLR		
	comp=Z,2µm,13.0s						
KIV	**Kislovodsk**	**13.37**	**53**	eP	**P**	**04 22 58.3**	**-0.6**
VYHS	**Vyhne**	**13.39**	**333**	ePN	**P**	**04 23 00.5**	**+1.4**
VYHS				e		04 26 41.1	
CEY	**Cerknica**	**13.43**	**316**	ePn	**P**	**04 23 01.2**	**+1.6**
LJU	**Ljubljana**	**13.55**	**317**	ePn	**P**	**04 23 00.2**	**-1.1**
PERS	**Pernice**	**13.62**	**320**	ePn	**P**	**04 23 02.8**	**+0.7**
SOP	**Sopron**	**13.66**	**326**	⇑eP	**P**	**04 23 03.5**	**+0.8**
SOP				eSS	SS	04 25 44.9	-6.5
GNI	**Garni**	**13.66**	**71**	Pn	**P**	**04 23 02.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=3.0,slow=20,SNR=2.7						
GNI	**Garni**	**13.66**	**71**	P	**P**	**04 23 02.3**	**-0.5**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZST	**Bratislava**	**13.82**	**329**	ePN	**P**	**04 23 04.7**	**-0.1**
ARSA	**Arzberg**	**13.83**	**323**	⇓iP	**P**	**04 23 04.5**	**-0.4**
	comp=Z,40nm,1.2s						
VOY	**Vojsko**	**13.90**	**316**	ePn	**P**	**04 23 04.8**	**-1.0**
VOY				e		04 23 07.3	
AKASG	**Malin Array Be**	**13.90**	**4**	Pn	**P**	**04 23 03.1**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=183,slow=13,SNR=15						
AKASG				Sn	**S**	**04 25 42.5**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=195,slow=24,SNR=11						
AKASG				LR	LR	04 29 15.2	
	comp=Z,953nm,18.9s,baz=185,slow=41						
AKASG				ScP		04 31 58.3	
	comp=Z,0.3nm,0.3s,baz=212,slow=1.2,SNR=5.2						
TI2	**Plekhanov**	**13.99**	**64**	eP	**P**	**04 23 10.0**	**+2.9**
TI2				MLR	MLR		
	comp=N,6µm,10.0s						
TI2				MLR	MLR		
	comp=E,6µm,10.0s						
TI2				MLR	MLR		
	comp=Z,4µm,10.0s						
JAVC	**Velka Javorina**	**14.12**	**332**	P	**P**	**04 23 10.6**	**+1.9**
VKA	**Vienna**	**14.21**	**327**	e(P)	**P**	**04 23 10.0**	**+0.2**
VKA				MLRZ		04 29 30.0	
	comp=Z,4.8nm,8.0s						
ROBS	**Robic**	**14.24**	**316**	ePn	**P**	**04 23 09.7**	**-0.6**
CSNT	**Castellina Chi**	**14.27**	**303**	P	**P**	**04 23 12.9**	**+2.3**
GRFL	**Gerfalco**	**14.36**	**301**	P	**P**	**04 23 14.1**	**+2.2**
OJC	**Ojcow**	**14.58**	**339**	eP	**P**	**04 23 17.1**	**+2.4**
OJC				eS	**S**	**04 26 06.9**	**+10**
OJC				MLR	MLR		
	comp=Z,2µm,19.0s						
OJC	**Ojcow**	**14.58**	**339**	eP	**P**	**04 23 17.1**	**+2.4**
OJC				e		04 23 21.1	
OJC				ePP	PP	04 23 28.4	+2.1
OJC				eS	**S**	**04 26 06.9**	**+10**
KBRS	**Khaybar**	**14.71**	**135**	P	**P**	**04 23 18.6**	**+2.1**
OKC	**Ostrava-Krasne**	**14.77**	**335**	eP	**P**	**04 23 23.9**	**+6.8**
OKC				eS	**S**	**04 26 09.1**	**+7.4**
OKC				LM		04 30 50.0	
	comp=Z,3.1nm,11.2s						
ZCCA	**Zocca**	**14.82**	**306**	P	**P**	**04 23 18.9**	**+1.0**
KBA	**Koelnbreinsper**	**14.84**	**318**	⇑iP	**P**	**04 23 19.2**	**+1.1**
	comp=Z,133nm,1.0s						
FVI	**Forni Avoltri**	**14.86**	**316**	P	**P**	**04 23 19.4**	**+1.1**
MOA	**Molln**	**14.86**	**322**	⇑iP	**P**	**04 23 19.9**	**+1.5**
	comp=Z,31nm,1.0s						
PII	**Pisa**	**14.87**	**303**	P	**P**	**04 23 20.2**	**+1.6**
VRAC	**Vranov**	**14.90**	**330**	Pn	**P**	**04 23 19.1**	**+0.2**
	baz=157,slow=13,SNR=7.7						
VRAC				LR	LR	04 29 24.8	
	comp=Z,2µm,19.2s,baz=33,slow=39						
MORC	**Moravsky Berou**	**14.93**	**333**	eP	**P**	**04 23 18.4**	**-0.8**
	comp=Z,42nm,1.2s						
BDI	**Bagni Di Lucca**	**14.96**	**304**	P	**P**	**04 23 20.9**	**+1.2**
RAC	**Raciborz**	**14.96**	**335**	eP	**P**	**04 23 22.1**	**+2.4**
RAC				eS	**S**	**04 26 07.2**	**+0.9**
RAC				MLR	MLR		
	comp=E,6µm,21.5s						
RAC				MLR	MLR		
	comp=Z,2µm,22.7s						
RAC				MLR	MLR		
	comp=N,3µm,13.3s						
GSCL	**Gusciola**	**15.08**	**305**	P	**P**	**04 23 23.5**	**+2.3**
HILS	**Ha'il**	**15.11**	**125**	P	**P**	**04 23 30.7**	**+8.9**
VLC	**Villacollemand**	**15.13**	**304**	eP	**P**	**04 23 21.9**	**0.0**
	comp=N,62nm,1.1s						
PGF	**Pioggiola**	**15.56**	**297**	eP	**P**	**04 23 27.4**	**-0.2**
	comp=N,206nm,1.2s						
SAL	**Salo**	**15.67**	**309**	P	**P**	**04 23 31.0**	**+2.1**
APPI	**Appiano**	**15.68**	**313**	P	**P**	**04 23 28.4**	**-0.7**
GEC2	**GERESS Array S**	**15.82**	**324**	eP	**P**	**04 23 32.3**	**+1.4**
GEC2				eS	**S**	**04 26 38.9**	**+12**
GERES	**GERESS Array B**	**15.82**	**324**	Pn	**P**	**04 23 31.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=139,slow=12,SNR=35						
GERES				Sn	**S**	**04 26 29.6**	**+3.1**
	comp=N,0.2nm,0.3s,baz=133,slow=17,SNR=2.3						
GERES				PcP	PcP	04 28 29.1	-1.8
	comp=N,0.3nm,0.3s,baz=153,slow=3.0,SNR=8.5						
GERES				pPcP		04 28 36.2	
	comp=N,0.2nm,0.3s,baz=180,slow=1.3,SNR=3.9						
GERES				ScP		04 32 02.0	
	comp=N,0.1nm,0.3s,baz=135,slow=1.9,SNR=12						
DPC	**Dobruska-Polom**	**15.85**	**332**	eP	**P**	**04 23 31.7**	**+0.5**
DPC				eAP		04 23 36.0	
DPC				eS	**S**	**04 26 38.2**	**+11**
DPC				LM		04 30 50.0	
	comp=N,5.0nm,10.3s						
DPC	**Dobruska-Polom**	**15.85**	**332**	eP	**P**	**04 23 31.7**	**+0.5**
DPC				MLR	MLR		
	comp=Z,5µm,10.3s						
WTTA	**Wattenberg**	**15.88**	**316**	⇑iP	**P**	**04 23 32.9**	**+1.2**
	comp=Z,145nm,1.3s						
WATA	**Walderalm**	**15.96**	**316**	⇑iP	**P**	**04 23 33.0**	**+0.4**
	comp=Z,80nm,1.1s						
KHC	**Kasperske Hory**	**16.08**	**324**	eP	**P**	**04 23 35.1**	**+0.9**
KHC				eAP		04 23 38.8	
KHC						04 23 48.0	
KHC				eS	**S**	**04 26 39.0**	**+6.4**
KHC				LM		04 30 20.0	
	comp=Z,5.3nm,10.3s						
KHC	**Kasperske Hory**	**16.08**	**324**	eP	**P**	**04 23 35.1**	**+0.9**
KHC				eS	**S**	**04 26 39.0**	**+6.4**
KHC				MLR	MLR		
	comp=Z,5µm,10.3s						
KHC	**Kasperske Hory**	**16.08**	**324**	ePn	**P**	**04 23 35.1**	**+0.9**
KHC				e		04 23 48.0	
SQTA	**Sankt Quirin**	**16.09**	**315**	⇓iP	**P**	**04 23 34.7**	**+0.3**
	comp=Z,78nm,1.4s						
MOTA	**Moosalm**	**16.22**	**316**	⇓iP	**P**	**04 23 36.9**	**+0.8**
	comp=Z,43nm,1.1s						
KSP	**Ksiaz**	**16.26**	**333**	eP	**P**	**04 23 36.2**	**-0.3**
KSP				eS	**S**	**04 26 45.0**	**+8.3**
KSP	**Ksiaz**	**16.26**	**333**	eP	**P**	**04 23 36.2**	**-0.3**
KSP				ePP	PP	04 23 39.5	-10
KSP				e		04 23 46.6	
KSP				eS	**S**	**04 26 45.0**	**+8.3**
PRU	**Pruhonice**	**16.28**	**328**	eP	**P**	**04 23 37.1**	**+0.4**
PRU				eAP		04 23 41.1	
PRU				eS	**S**	**04 26 44.5**	**+7.4**
PRU				LM		04 30 40.0	
	comp=Z,3.3nm,11.0s						
PRU	**Pruhonice**	**16.28**	**328**	eP	**P**	**04 23 37.1**	**+0.4**
PRU				eS	**S**	**04 26 44.5**	**+7.4**
MAK	**Makhachkala**	**16.29**	**62**	eP	**P**	**04 23 43.0**	**+6.1**
MAK				pmax	pmax		
	comp=Z,1µm,6.0s						
MAK				pmax	pmax		
	comp=N,800nm,2.0s						
MAK				pmax	pmax		
	comp=E,500nm,2.0s						
MAK				MLR	MLR		
	comp=N,3µm,8.0s						
MAK				MLR	MLR		
	comp=E,2µm,8.0s						
MAK				MLR	MLR		
	comp=Z,3µm,8.0s						
PRA	**Prague**	**16.38**	**328**	P	**P**	**04 23 40.0**	**+1.9**
PRA				LM		04 30 30.0	
WET	**Wettzell**	**16.42**	**323**	eP	**P**	**04 23 40.0**	**+1.4**
WET				MLR	MLR		
	comp=E,2µm,21.1s						
WET	**Wettzell**	**16.42**	**323**	eP	**P**	**04 23 40.0**	**+1.4**
WET				eS	**S**	**04 26 55.7**	**+15**
DAVOX	**Davos**	**16.63**	**312**	Pn	**P**	**04 23 43.3**	**+2.1**
	comp=E,0.2nm,0.3s,baz=120,slow=9.1,SNR=43						
DAVOX				Sn	**S**	**04 26 52.9**	**+7.6**
	comp=E,0.3nm,0.3s,baz=316,slow=14,SNR=2.1						
PVCC	**Panska Ves**	**16.68**	**329**	eP	**P**	**04 23 44.3**	**+2.5**
PVCC				eS	**S**	**04 26 55.7**	**+9.4**
PVCC				LM		04 31 00.0	
	comp=E,3.9nm,11.4s						
DAVA	**Damuels**	**16.89**	**314**	⇑iP	**P**	**04 23 46.0**	**+1.5**
	comp=E,52nm,1.1s						
UBR	**Uberruh**	**16.97**	**315**	eP	**P**	**04 23 46.0**	**+0.5**
SBF	**Sospel**	**17.03**	**301**	eP	**P**	**04 23 46.6**	**+0.3**
	comp=E,583nm,1.4s						
REVF	**Revere**	**17.04**	**300**	eP	**P**	**04 23 47.4**	**+1.0**
AUTN	**L'Aution**	**17.08**	**301**	eP	**P**	**04 23 47.5**	**+0.6**
AURF	**Auriere**	**17.11**	**301**	eP	**P**	**04 23 48.6**	**+1.3**
LLS	**Linth-Limmern**	**17.18**	**311**	⇓P	**P**	**04 23 50.1**	**+1.9**
BRG	**Berggiesshubel**	**17.20**	**329**	i P	**P**	**04 23 49.3**	**+1.0**
BRG				eS	**S**	**04 27 03.0**	**+4.7**
BRG				pmax	pmax		
	comp=Z,74nm,1.7s						
BRG				MLR	MLR		
	comp=Z,4µm,10.6s						
BRG				MLR	MLR		
	comp=N,1µm,10.0s						
BRG				MLR	MLR		
	comp=E,3µm,10.0s						
BRG	**Berggiesshubel**	**17.20**	**329**	i P	**P**	**04 23 49.3**	**+1.0**
	comp=E,74nm,1.7s						
BRG				i		04 23 55.2	
BRG				eS	**S**	**04 27 03.0**	**+4.7**
TOUF	**Mont Tournerai**	**17.20**	**301**	eP	**P**	**04 23 48.7**	**+0.2**
MVIF	**Mont Vial**	**17.24**	**301**	eP	**P**	**04 23 48.9**	**0.0**
CALN	**Calern**	**17.38**	**300**	eP	**P**	**04 23 51.9**	**+1.3**
HDH	**Heidenheim**	**17.43**	**318**	eP	**P**	**04 23 51.2**	**-0.1**
HDH	**Heidenheim**	**17.43**	**318**	P	**P**	**04 23 52.0**	**+0.7**
MUO	**Muotathal**	**17.46**	**311**	⇓P	**P**	**04 23 53.6**	**+1.9**
MMK	**Mattmark**	**17.47**	**308**	⇑P	**P**	**04 23 52.7**	**+0.9**
SUW	**Suwalki**	**17.48**	**351**	eP	**P**	**04 23 49.6**	**-2.3**
SUW				eS	**S**	**04 27 13.0**	**+8.3**
SUW	**Suwalki**	**17.48**	**351**	eP	**P**	**04 23 49.6**	**-2.3**
SUW				ePP		04 23 53.0	
SUW				eS	**S**	**04 27 13.0**	**+8.3**
FRF	**La Foret Royal**	**17.49**	**299**	eP	**P**	**04 23 51.8**	**-0.3**
	comp=E,327nm,1.3s						
WILA	**Wila**	**17.52**	**313**	⇑P	**P**	**04 23 54.0**	**+1.6**
LMR	**La Mourre**	**17.53**	**298**	eP	**P**	**04 23 51.6**	**-1.0**
	comp=E,218nm,1.5s						
GRA1	**Grafenberg Arr**	**17.59**	**322**	eP	**P**	**04 23 54.4**	**+1.1**
GRA1				eS	**S**	**04 27 18.6**	**+11**
GRF	**Grafenberg Arr**	**17.59**	**322**	eP	**P**	**04 23 54.4**	**+1.1**
GRF				MLR	MLR		
	comp=Z,2µm,19.9s						
SISB	**Singen-Sch Ber**	**17.63**	**314**	P	**P**	**04 23 55.5**	**+1.7**
SURF	**Saint Ours**	**17.65**	**302**	eP	**P**	**04 23 55.5**	**+1.5**
MNK	**Minsk**	**17.67**	**0**	⇑eP	**P**	**04 23 56.0**	**+1.8**
MNK				pmax	pmax		
	comp=N,990nm,1.0s						
MNK				pmax	pmax		
	comp=Z,410nm,1.0s						
ZUR	**Zurich**	**17.69**	**313**	⇓P	**P**	**04 23 55.8**	**+1.2**
GUT	**Gutenstein**	**17.75**	**315**	eP	**P**	**04 23 55.3**	**+0.1**
GUT	**Gutenstein**	**17.75**	**315**	P	**P**	**04 23 56.0**	**+0.8**
MBDF	**Montbardon**	**17.75**	**303**	eP	**P**	**04 23 54.6**	**-0.7**
	comp=Z,144nm,1.0s						
BUCH	**Bad Urach**	**17.82**	**316**	eP	**P**	**04 23 56.3**	**+0.2**
BUCH	**Bad Urach**	**17.82**	**316**	P	**P**	**04 23 56.9**	**+0.8**
LKBD	**Leukerbad**	**17.82**	**309**	⇓P	**P**	**04 23 58.1**	**+1.9**
DIX	**Grande Dixence**	**17.83**	**308**	⇓P	**P**	**04 23 58.6**	**+2.3**
CLL	**Collm**	**17.91**	**329**	P	**P**	**04 23 59.0**	**+1.7**
CLL				i		04 24 02.9	
CLL				e		04 24 07.0	
CLL				i		04 25 33.3	
CLL				eS	**S**	**04 27 20.0**	**+5.4**
CLL	**Collm**	**17.91**	**329**	eP	**P**	**04 23 59.0**	**+1.7**
CLL				eS	**S**	**04 27 20.0**	**+5.4**
CLL				pmax	pmax		
	comp=Z,242nm,1.0s						
CLL	**Collm**	**17.91**	**329**	eP	**P**	**04 23 59.0**	**+1.7**
	comp=Z,242nm,1.0s						
CLL				i		04 24 02.9	
CLL				e		04 24 07.0	
CLL				eS	**S**	**04 27 20.0**	**+5.4**
TAVF	**Tavernes**	**17.92**	**299**	eP	**P**	**04 23 58.8**	**+1.4**
BNI	**Bardonecchia**	**17.92**	**304**	eP	**P**	**04 23 56.6**	**-0.8**
	comp=Z,116nm,1.2s						
SLE	**Schleitheim**	**17.94**	**314**	⇓P	**P**	**04 23 58.1**	**+0.4**
SPAK	**Spaichingen**	**17.95**	**315**	eP	**P**	**04 23 58.1**	**+0.4**
SPAK	**Spaichingen**	**17.95**	**315**	eP	**P**	**04 23 58.7**	**+1.0**
GKP	**Gorka Klasztor**	**18.02**	**339**	eP	**P**	**04 23 59.1**	**+0.4**
GKP				eS	**S**	**04 27 20.8**	**+3.7**
GKP	**Gorka Klasztor**	**18.02**	**339**	eP	**P**	**04 23 59.1**	**+0.4**
GKP				ePP	PP	04 24 02.8	-11
GKP				eS	**S**	**04 27 20.8**	**+3.7**
LPG	**La Plagne**	**18.03**	**305**	eP	**P**	**04 24 00.9**	**+2.1**
	comp=Z,281nm,1.1s						
SULZ	**Sulz-Cheisache**	**18.05**	**312**	⇓P	**P**	**04 23 59.5**	**+0.5**
MOX	**Moxa**	**18.05**	**325**	i P	**P**	**04 24 00.9**	**+1.9**
	comp=Z,logA/T=2.3						
MOX				PP	PP	04 24 14.0	+0.1
MOX				S	**S**	**04 27 28.0**	**+10**
MOX				L		04 31 48.0	
MOX	**Moxa**	**18.05**	**325**	ceP	**P**	**04 24 00.9**	**+1.9**
MOX				pmax	pmax		
	comp=Z,278nm,1.5s						
MOX				MLR	MLR		
	comp=Z,4µm,12.0s						
MOX	**Moxa**	**18.05**	**325**	⇑eP	**P**	**04 24 00.9**	**+1.9**
	comp=Z,278nm,1.5s						
MOX				e		04 24 13.9	
MOX				e		04 27 28.0	
LPL	**La Plagne**	**18.05**	**305**	eP	**P**	**04 24 00.8**	**+1.7**
	comp=Z,293nm,1.1s						
STU	**Stuttgart**	**18.09**	**317**	eP	**P**	**04 23 59.6**	**+0.1**
	comp=Z,94nm,0.9s						
BERF	**Bertagne**	**18.11**	**298**	eP	**P**	**04 24 00.9**	**+1.1**
EMV	**Vieux Emosson**	**18.15**	**307**	⇓P	**P**	**04 24 01.6**	**+1.3**
PUYF	**Puyloubier**	**18.15**	**298**	eP	**P**	**04 23 59.3**	**-1.0**
SIND	**Sindeldorf**	**18.20**	**319**	eP	**P**	**04 24 00.8**	**-0.1**
SIND	**Sindeldorf**	**18.20**	**319**	P	**P**	**04 24 02.3**	**+1.4**
VILF	**Villemus**	**18.22**	**299**	eP	**P**	**04 24 02.3**	**+1.1**
FELD	**Feldberg**	**18.28**	**313**	⇓eP	**P**	**04 24 01.9**	**0.0**
GELF	**Grande-Etoile**	**18.31**	**298**	eP	**P**	**04 24 03.3**	**+1.0**
BFO	**Black Forest**	**18.33**	**315**	eP	**P**	**04 24 03.2**	**+0.7**
BFO				MLR	MLR		
	comp=Z,2µm,20.2s						
BFO	**Black Forest**	**18.33**	**315**	eP	**P**	**04 24 03.2**	**+0.7**
BFO				eS	**S**	**04 27 37.2**	**+13**
SMRF	**Simiane la Rot**	**18.35**	**300**	eP	**P**	**04 24 03.1**	**+0.3**
	comp=Z,129nm,1.2s						
KIZ	**Kirchzarten**	**18.37**	**313**	eP	**P**	**04 24 02.9**	**-0.1**
KIZ	**Kirchzarten**	**18.37**	**313**	P	**P**	**04 24 03.6**	**+0.6**
BBS	**Basel-Blauen**	**18.38**	**312**	eP	**P**	**04 24 03.4**	**+0.3**
BBS	**Basel-Blauen**	**18.38**	**312**	eP	**P**	**04 24 03.9**	**+0.8**
TREF	**Trevaresse**	**18.40**	**299**	eP	**P**	**04 24 04.2**	**+0.8**
ARBF	**Arbois**	**18.40**	**298**	P	**P**	**04 24 04.7**	**+1.3**
ORIF	**Oris-en-Rattie**	**18.42**	**303**	eP	**P**	**04 24 04.0**	**+0.4**
	comp=Z,149nm,1.2s						
ORIF				eR			
	comp=Z,2µm,18.8s						
RUE	**Ruedersdorf**	**18.51**	**332**	eP	**P**	**04 24 03.8**	**-0.8**
	comp=Z,145nm,0.8s						
PRAF	**Pradon**	**18.59**	**299**	eP	**P**	**04 24 06.6**	**+0.8**
GRN	**Grenoble**	**18.61**	**304**	eP	**P**	**04 24 06.3**	**+0.3**
LIBD	**Limburg**	**18.65**	**314**	eP	**P**	**04 24 06.2**	**-0.3**
LOMF	**Lomont**	**18.74**	**311**	eP	**P**	**04 24 08.5**	**+1.0**
TOD	**Tromm**	**18.78**	**319**	eP	**P**	**04 24 07.5**	**-0.4**
TOD	**Tromm**	**18.78**	**319**	eP	**P**	**04 24 08.6**	**+0.7**
STR	**Strasbourg**	**18.78**	**315**	eP	**P**	**04 24 09.7**	**+1.7**
MOF	**Molkenrain**	**18.78**	**312**	eP	**P**	**04 24 08.8**	**+0.8**
CABF	**La Chapelle**	**18.88**	**308**	eP	**P**	**04 24 09.0**	**-0.2**
	comp=Z,612nm,1.4s						
WLS	**Welschbruch**	**18.93**	**314**	eP	**P**	**04 24 08.8**	**-1.0**
HINF	**Hinteralfeld**	**18.93**	**312**	eP	**P**	**04 24 09.3**	**-0.5**
	comp=Z,145nm,1.3s						
LANF	**Langenberg**	**18.97**	**316**	eP	**P**	**04 24 11.1**	**+0.9**
CDF	**Champ du Feu**	**18.97**	**314**	eP	**P**	**04 24 10.4**	**+0.1**
	comp=Z,154nm,1.0s						
KTD	**Kalmit**	**19.00**	**317**	eP	**P**	**04 24 11.6**	**+1.0**
VIVF	**Saint-Julien-l**	**19.22**	**302**	eP	**P**	**04 24 11.8**	**-1.4**
	comp=Z,343nm,1.3s						
OBN	**Obninsk**	**19.24**	**15**	d iP	**P**	**04 24 12.5**	**-0.9**
OBN				eS	**S**	**04 27 43.9**	**-0.8**
OBN				pmax	pmax		
	comp=Z,76nm,1.0s						
OBN				MLR	MLR		
	comp=Z,700nm,8.0s						
OBN	**Obninsk**	**19.24**	**15**	eP	**P**	**04 24 11.0**	**-2.4**
	comp=Z,63nm,1.1s						
HAU	**Haudompre**	**19.32**	**312**	eP	**P**	**04 24 14.2**	**-0.2**
	comp=Z,218nm,1.0s						
HAU				eR			
	comp=Z,3µm,21.0s						
CLZ	**Clausthal**	**19.44**	**326**	eP	**P**	**04 24 15.3**	**-0.5**
LASF	**Ste Croix**	**19.58**	**299**	eP	**P**	**04 24 15.7**	**-1.7**
	comp=Z,432nm,1.6s						
ABH	**Alteburg**	**19.60**	**318**	eP	**P**	**04 24 16.4**	**-1.2**
ABH	**Alteburg**	**19.60**	**318**	P	**P**	**04 24 17.9**	**+0.3**
THEF	**They Montfort**	**19.64**	**312**	eP	**P**	**04 24 18.2**	**+0.1**
MZLS	**Mizel**	**19.65**	**126**	P	**P**	**04 24 21.5**	**+3.2**
RUP	**Ruppelstein**	**19.77**	**317**	eP	**P**	**04 24 18.6**	**-0.9**
RUP	**Ruppelstein**	**19.77**	**317**	eP	**P**	**04 24 19.3**	**-0.2**
LTHS	**Al Lith**	**19.83**	**143**	P	**P**	**04 24 26.2**	**+5.9**
EJON	**La Jonquera**	**19.97**	**294**	P	**P**	**04 24 20.1**	**-1.6**
	comp=Z,20nm,0.9s						
MOS	**Moscow**	**20.05**	**16**	eP	**P**	**04 24 21.4**	**-1.1**
MOS				ePPP	PPP	04 24 42.3	-8.6
MOS				e		04 24 49.5	
MOS				eS	**S**	**04 28 03.4**	**+1.1**
MOS				eSS	SS	04 28 39.5	+8.7
MOS				eSSS	SSS	04 28 43.4	-0.8
MOS				pmax	pmax		
	comp=Z,475nm,1.0s						
MOS				pmax	pmax		
	comp=N,370nm,1.1s						
MOS				MLR	MLR		
	comp=Z,3µm,20.6s,MS4.6						
FILF	**Fillols**	**20.23**	**294**	eP	**P**	**04 24 22.0**	**-2.4**
WLF	**Walferdange**	**20.25**	**316**	⇓eP	**P**	**04 24 23.6**	**-1.1**
	comp=Z,83nm,1.1s						
PLDF	**La Plantade**	**20.26**	**304**	eP	**P**	**04 24 24.1**	**-0.6**
LBL	**Lubilhac**	**20.29**	**302**	eP	**P**	**04 24 25.3**	**+0.2**
LRDF	**Laroque-de-Fa**	**20.30**	**295**	eP	**P**	**04 24 23.2**	**-2.0**
BSD	**Bornholm Skovb**	**20.31**	**338**	⇓iP	**P**	**04 24 22.2**	**-3.0**
	comp=Z,65nm,0.9s						
BSD				i S	**S**	**04 28 05.3**	**-2.2**
	comp=Z,940nm,17.0s						
MEZF	**Maizieres J'vi**	**20.32**	**312**	eP	**P**	**04 24 24.5**	**-0.9**
	comp=Z,236nm,1.2s						
SMF	**Signal de Mont**	**20.33**	**306**	eP	**P**	**04 24 24.8**	**-0.7**
	comp=Z,832nm,1.2s						
LOR	**Lormes**	**20.55**	**308**	eP	**P**	**04 24 27.1**	**-0.6**
	comp=Z,434nm,1.1s						
LOR				eR			
	comp=Z,2µm,20.8s						
MTLF	**Montolieu**	**20.59**	**296**	eP	**P**	**04 24 27.0**	**-1.3**
	comp=Z,161nm,1.2s						
PYM	**Petit Puy Mans**	**20.60**	**303**	eP	**P**	**04 24 28.8**	**+0.5**
VALF	**Valcebollere**	**20.60**	**294**	eP	**P**	**04 24 27.9**	**-0.5**

AGO	**Saint Agoulin**	20.61	304	*e*P	P	04 24 28.5	+0.1
SSF	**Saint Saulge**	20.70	307	*e*P	P	04 24 28.5	-0.8
	comp=Z,258nm,0.7s						
AVF	**Avril sur Loir**	20.70	306	*e*P	P	04 24 28.9	-0.4
	comp=Z,796nm,1.2s						
EMIR	**Miracle**	20.91	292	P	P	04 24 31.1	-0.5
	comp=Z,46nm,0.8s						
BGF	**Bois d'Agland**	20.95	305	*e*P	P	04 24 31.8	-0.1
	comp=Z,648nm,1.2s						
HGN	**Heimansgroeve**	20.95	319	*e*P	P	04 24 31.4	-0.5
	comp=Z,26nm,1.6s						
HGN				*e*S	S	04 28 27.3	+6.8
HGN				*e*x	x	04 30 30.5	
HGN	**Heimansgroeve**	20.95	319	P	P	04 24 32.0	+0.1
BSEG	**Bad Segeberg**	20.96	330	*e*P	P	04 24 30.4	-1.6
BSEG				*e*S	S	04 28 25.1	+4.4
BSEG				MLR	MLR		
	comp=Z,1µm,21.6s,MS4.2						
EIBI	**Ibiza**	20.98	284	P	P	04 24 31.1	-1.1
	comp=Z,102nm,1.3s						
CAF	**Calviac**	21.02	301	*e*P	P	04 24 32.1	-0.6
	comp=Z,142nm,1.3s,mb4.8						
EPOB	**Poblet**	21.20	291	P	P	04 24 34.0	-0.5
	comp=Z,111nm,1.2s,mb5.1						
WTSB	**Winterswijk**	21.21	322	*e*P	P	04 24 33.4	-1.1
	comp=Z,56nm,1.4s,mb4.7						
WTSB	**Winterswijk**	21.21	322	P	P	04 24 34.5	0.0
GIVF	**Givet**	21.21	316	*e*P	P	04 24 34.4	-0.1
	comp=Z,143nm,1.0s,mb5.0						
SALF	**Salau**	21.25	294	*e*P	P	04 24 34.9	-0.1
TCF	**Toulx Ste Croi**	21.29	304	*e*P	P	04 24 35.0	-0.3
	comp=Z,203nm,1.2s,mb5.0						
HYF	**Humbligny**	21.32	307	*e*P	P	04 24 35.6	-0.1
MLS	**Moulis**	21.35	295	*e*P	P	04 24 34.2	-1.8
BAIF	**Baives**	21.54	315	*e*P	P	04 24 36.2	-1.6
COP	**Copenhagen**	21.56	336⇑	*i*P	P	04 24 40.4	+2.4
	comp=Z,132nm,1.0s,mb5.3						
EBR	**Ebro Roquetas**	21.62	289	*e*P	P	04 24 38.5	-0.3
NAMS	**An Nimas**	21.65	140	P	P	04 24 44.2	+5.0
VSU	**Vasula**	21.66	358	P	P	04 24 39.2	+0.2
RESF	**Ens**	21.88	294	*e*P	P	04 24 41.3	-0.1
EPF	**Esparros**	21.91	295	*e*P	P	04 24 39.4	-2.2
	comp=Z,179nm,1.3s,mb5.0						
LFF	**La Frestale**	21.94	300	*e*P	P	04 24 42.3	+0.3
	comp=Z,286nm,1.6s,mb5.2						
HASS	**Wahat al Ahsa'**	21.99	116	P	P	04 24 46.5	+3.9
TATS	**Tathlith**	22.02	137	P	P	04 24 49.4	+6.6
LABF	**Labassere**	22.10	295	*e*P	P	04 24 43.4	-0.2
VIEF	**Viey**	22.12	294	*e*P	P	04 24 43.5	-0.2
EBEN	**Beniarda**	22.22	283	P	P	04 24 46.0	+1.3
	comp=Z,75nm,1.1s,mb5.0						
EMOS	**Mosqueruela**	22.35	288	P	P	04 24 47.1	+1.0
	comp=Z,31nm,0.8s,mb4.8						
PECR	**Pechory**	22.36	24	*e*P	P	04 24 47.0	+0.9
PECR				*e*S	S	04 28 52.7	+5.9
PECR				*e*SS	SS	04 29 47.0	+20
PECR				smax			
	comp=N,3µm,11.0s						
PECR				MLR	MLR		
	comp=N,2µm,14.0s						
PECR				MLR	MLR		
	comp=N,3µm,13.0s						
PECR				MLR	MLR		
	comp=Z,700nm,10.0s,MS4.4						
ESAC	**San Caprasio**	22.39	291	P	P	04 24 48.0	+1.6
	comp=Z,70nm,0.8s,mb5.1						
FDAF	**Les Forges d'A**	22.55	294	*e*P	P	04 24 48.3	+0.4
ETSF	**Etsaut**	22.55	294	*e*P	P	04 24 48.8	+0.9
	comp=Z,95nm,1.0s,mb4.9						
LARF	**Larrau**	22.88	295	*e*P	P	04 24 51.0	-0.2
MFF	**Saint Martin d**	22.94	304	*e*P	P	04 24 51.8	0.0
	comp=Z,564nm,1.4s,mb5.5						
PUL	**Pulkovo**	23.01	3	c*e*P	P	04 24 54.5	+2.2
PUL				*e*S	S	04 29 00.0	+1.7
PUL				pmax	pmax		
	comp=Z,420nm,1.1s,mb5.8						
PUL				pmax	pmax		
	comp=N,1µm,1.3s						
PUL				pmax	pmax		
	comp=E,145nm,0.7s						
PUL				pmax	pmax		
	comp=Z,400nm,1.1s,mb5.8						
PUL				pmax	pmax		
	comp=N,1µm,1.3s						
PUL				pmax	pmax		
	comp=E,128nm,0.7s						
PUL				smax			
	comp=Z,1µm,15.6s						
PUL				smax			
	comp=N,2µm,13.2s						
PUL				smax			
	comp=E,1µm,15.2s						
PUL				MLR	MLR		
	comp=N,553nm,13.0s,MS4.5						
PUL				MLR	MLR		
	comp=Z,753nm,13.0s,MS4.3						
PUL				MLR	MLR		
	comp=E,1µm,15.0s,MS4.5						
SJPF	**Ste Jean**	23.06	295	*e*P	P	04 24 53.8	+0.9
	comp=E,73nm,0.9s,mb4.8						
EMUR	**La Murta**	23.09	281	P	P	04 24 53.3	-0.1
	comp=E,13nm,0.7s,mb4.5						
OSSF	**Osses**	23.10	295	*e*P	P	04 24 53.4	+0.1
ETOB	**Tobarra**	23.25	283	P	P	04 24 57.6	+2.7
	comp=E,76nm,0.9s,mb5.1						
EALK	**Alkurruntz**	23.27	295	P	P	04 24 56.1	+1.1
	comp=E,65nm,1.2s,mb4.9						
MUD	**Monsted U'grnd**	23.29	333	*i* P	P	04 24 54.7	-0.4
	comp=E,163nm,1.1s,mb5.4						
MUD				*i* S	S	04 29 11.9	+8.5
LDF	**La Druitiere**	23.52	309	*e*P	P	04 24 57.1	-0.3
	comp=E,724nm,1.3s,mb5.7						
ETOR	**Torete**	23.56	289	P	P	04 24 59.9	+2.1
	comp=E,12nm,0.7s,mb4.4						
FLN	**La Foliniere**	23.80	309	*e*P	P	04 24 59.8	-0.3
	comp=E,615nm,1.0s,mb5.7						
FLN				*e*R			
	comp=E,2µm,21.0s						
GRR	**Gorron**	23.92	308	*e*P	P	04 25 00.9	-0.3
	comp=E,1µm,1.0s,mb5.9						
ECRI	**Cripan**	23.96	293	P	P	04 25 01.9	+0.2
	comp=E,109nm,0.9s,mb5.3						
EVIA	**Vianos**	24.00	284	P	P	04 25 02.6	+0.5
	comp=E,204nm,1.2s,mb5.4						
EQES	**Quesada**	24.54	282	P	P	04 25 08.0	+0.6
	comp=E,66nm,1.0s,mb5.1						
FINES	**FINESS Array B**	24.66	358	P	P	04 25 08.2	-0.1
	comp=E,33nm,0.7s,mb5.0,baz=149,slow=11,SNR=153						
FINES				PcP	PcP	04 28 44.7	-2.2
	comp=E,2.3nm,0.9s,baz=117,slow=3.1,SNR=3.4						
FINES				pPcP		04 28 51.8	
	comp=E,2.3nm,0.6s,baz=135,slow=2.7,SNR=5.0						
FINES				LR	LR	04 35 28.2	
	comp=E,541nm,20.1s,MS4.0,baz=350,slow=38						
FINES	**FINESS Array B**	24.66	358	P	P	04 25 08.2	-0.1
FINES						04 28 44.7	
FINES				pmax	pmax		
	comp=Z,33nm,0.7s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,541nm,20.1s						
FINES	**FINESS Array B**	24.66	358	P	P	04 25 08.2	-0.1
FINES				PcP	PcP	04 28 44.7	-2.3
FINES				pPcP		04 28 51.8	
FINES				LR	LR	04 35 28.2	
JQE	**Queens East**	24.91	309	*e*P	P	04 25 10.6	-0.3
JRS	**Jersey**	24.94	309⇑	*e*P	P	04 25 10.2	-1.0
JRS				AMb	AMB	04 25 12.0	
	comp=Z,115nm,1.0s,mb5.4						
SGMF	**Saint Gilles**	24.96	307	*e*P	P	04 25 10.5	-0.8
	comp=Z,395nm,1.1s,mb5.5						
JLP	**Les Platons**	24.97	309⇑	*e*P	P	04 25 10.6	-0.8
JLP				AMb	AMB	04 25 12.3	
	comp=Z,183nm,1.0s,mb5.5						
HFS	**Hagfors**	25.02	343	P	P	04 25 11.4	-0.4
	comp=Z,69nm,0.9s,mb5.2,baz=158,slow=8.0,SNR=101						
HFS	**Hagfors**	25.02	343	P	P	04 25 11.4	-0.4
HFS				pmax	pmax		
	comp=Z,69nm,0.9s						
JVM	**Valle D.L. Mar**	25.02	309⇑	*e*P	P	04 25 11.1	-0.9
ESDC	**Sonseca Array**	25.05	286	P	P	04 25 12.5	+0.2
	comp=Z,27nm,0.7s,mb4.9,baz=80,slow=9.2,SNR=114						
ESLA	**Sonseca Array**	25.05	286⇓	*i*P	P	04 25 12.4	+0.1
	comp=Z,24nm,1.0s,mb4.7						
ESLA				LR	LR		
	comp=Z,3µm,22.0s,MS4.8						
ERON	**Agron**	25.23	280	P	P	04 25 13.5	-0.4
QUIF	**Quistinic**	25.27	306	*e*P	P	04 25 13.1	-1.1
	comp=Z,169nm,1.1s,mb5.2						
ROSF	**Rostrenen**	25.44	307	*e*P	P	04 25 14.5	-1.4
	comp=Z,67nm,0.7s,mb5.0						
ELOJ	**Sierra Loja**	25.48	280	P	P	04 25 15.8	-0.6
	comp=Z,16nm,1.1s,mb4.5						
ELUQ	**Luque**	25.51	281	P	P	04 25 16.0	-0.6
	comp=Z,27nm,0.8s,mb4.8						
EADA	**Adamuz**	25.67	283	P	P	04 25 17.2	-1.0
	comp=Z,18nm,1.0s,mb4.6						
KONO	**Kongsberg**	25.68	339⇓	*i*P	Px	04 25 51.5	
KONO				AMb	AMB	04 25 59.4	
	comp=Z,149nm,1.7s,mb5.2						
KONO	**Kongsberg**	25.68	339	PFAKE		04 25 30.0	+12
KONO				LR	LR		
	comp=Z,171nm,19.0s,MS3.6						
JOF	**Joensuu**	26.20	4	*e*p	P	04 25 17.4	-5.4
	comp=Z,9.8nm,0.7s,mb4.5						
JOF	**Joensuu**	26.20	4	*e*P	P	04 25 17.4	-5.4
JOF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
NAO01	**NORSAR Array S**	26.33	341⇓	*e*P	P	04 25 22.6	-1.4
	comp=Z,82nm,1.0s,mb5.2						
AB31	**Akbulak array**	26.35	52	*i* P	P	04 25 24.2	-0.1
AB31				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
STAV	**Stavanger**	26.39	334	*e*P	P	04 25 24.5	-0.1
STAV				AMb	AMB	04 25 29.2	
	comp=Z,48nm,1.4s,mb4.8						
STAV	**Stavanger**	26.39	334	*e*P	P	04 25 24.5	-0.1
	comp=Z,48nm,1.4s,mb4.8						
NB2	**NORSAR Subarra**	26.41	342	P	P	04 25 22.7	-2.1
	comp=Z,17nm,0.9s,mb4.6,baz=145,slow=9.3						
NB2	**NORSAR Subarra**	26.41	342	P	P	04 25 22.7	-2.1
	baz=145,slow=10						
NOA	**NORSAR Array B**	26.41	342	P	P	04 25 23.3	-1.5
	comp=Z,13nm,0.9s,mb4.5,baz=146,slow=8.4,SNR=54						
NOA				PcP	PcP	04 28 48.0	-2.8
	comp=Z,0.9nm,0.7s,baz=140,slow=3.0,SNR=2.7						
NOA				pPcP		04 28 55.0	
	comp=Z,2.2nm,0.8s,baz=129,slow=2.8,SNR=5.0						
NOA				LR	LR	04 36 35.8	
	comp=Z,508nm,19.4s,MS4.1,baz=145,slow=38						
NOA	**NORSAR Array B**	26.41	342	P	P	04 25 23.3	-1.5
NOA						04 28 48.0	
NOA				pmax	pmax		
	comp=Z,13nm,0.9s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,508nm,19.4s						
NOA	**NORSAR Array B**	26.41	342	P	P	04 25 23.3	-1.5
NOA				PcP	PcP	04 28 48.0	-2.8
NOA				pPcP		04 28 55.0	
NOA				LR	LR	04 36 35.8	
BLS5	**Blasjo**	26.50	335	*e*P	P	04 25 25.9	+0.4
BLS5				AMb	AMB	04 25 27.7	
	comp=Z,40nm,0.9s,mb4.9						
BLS5	**Blasjo**	26.50	335	*e*P	P	04 25 25.9	+0.4
	comp=Z,40nm,0.9s,mb5.0						
LHO	**Holmfirth**	26.50	319	*i* P	P	04 25 18.2	-7.4
KMY	**Karmoy**	26.75	334	*e*P	P	04 25 27.1	-0.8
KMY				AMb	AMB	04 25 30.2	
	comp=Z,69nm,1.4s,mb5.0						
KMY	**Karmoy**	26.75	334	*e*P	P	04 25 27.1	-0.8
	comp=Z,69nm,1.4s,mb5.0						
ODD1	**Odda**	26.81	336⇑	*i*P	P	04 25 27.2	-1.2
ODD1				AMb	AMB	04 25 29.3	
	comp=Z,42nm,0.9s,mb5.0						
ODD1	**Odda**	26.81	336⇑	*i*P	P	04 25 27.2	-1.2
	comp=Z,42nm,0.9s,mb5.0						
ESPR	**Espera**	26.87	280	P	P	04 25 29.0	-0.2
ECAL	**Calabor**	27.07	292	P	P	04 25 32.0	+0.9
PBRG	**Braganca**	27.08	291	*e*P	P	04 25 30.7	-0.4
	comp=Z,129nm,1.1s,mb5.4						
EMIN	**Mina Concepcio**	27.37	282	P	P	04 25 33.1	-0.7
	comp=Z,36nm,0.5s,mb5.2						
ERUA	**La Rua**	27.37	293	P	P	04 25 33.5	-0.3
EPON	**Pontenova**	27.39	295	P	P	04 25 32.9	-1.0
	comp=Z,53nm,1.0s,mb5.0						
EBAD	**Badajoz**	27.50	285	P	P	04 25 34.2	-0.8
	comp=Z,28nm,0.7s,mb4.9						
EGD	**Espegrend**	27.55	336	*e*P	P	04 25 35.3	+0.2
EGD				AMb	AMB	04 25 38.0	
	comp=Z,63nm,1.3s,mb5.1						
EGD	**Espegrend**	27.55	336	*e*P	P	04 25 35.3	+0.2
	comp=Z,298nm,1.9s,mb5.6						
CDU1	**Dunnerdale**	27.56	319	*e*P	P	04 25 33.3	-2.1
CDU1				AMb	AMB	04 25 42.5	
	comp=Z,97nm,1.3s,mb5.3						
BER	**Bergen**	27.59	336	*e*P	P	04 25 35.7	+0.1
BER				AMb	AMB	04 25 41.5	
	comp=Z,50nm,1.4s,mb5.0						
RUND	**Rundenannen**	27.61	336	*e*P	P	04 25 36.9	+1.2
RUND				AMb	AMB	04 25 38.6	
	comp=Z,96nm,1.5s,mb5.2						
CSF	**Scaffel**	27.64	319	*e*P	P	04 25 34.1	-2.0
CSF				AMb	AMB	04 25 43.1	
	comp=Z,75nm,1.5s,mb5.1						
ASK	**Askoy**	27.71	336	*e*P	P	04 25 36.9	+0.2
	comp=Z,367nm,1.5s,mb5.8						
PCBR	**Castelo Branco**	27.74	287	*e*P	P	04 25 36.1	-1.0
	comp=Z,108nm,1.3s,mb5.3						
MTE	**Manteigas**	27.75	288	*e*P	P	04 25 36.4	-0.8
	comp=Z,114nm,1.3s,mb5.3						
MTE	**Manteigas**	27.75	288⇓	*e*P	P	04 25 36.4	-0.8
	comp=Z,88nm,1.0s,mb5.3						
DOMB	**Dombas**	27.81	341	*e*P	P	04 25 36.9	-0.6
DOMB				*e*pP	pP	04 25 40.7	+0.2
DOMB				AMb	AMB	04 25 46.3	
	comp=Z,42nm,1.7s,mb4.8						
DOMB	**Dombas**	27.81	341	*e*P	P	04 25 36.9	-0.6
	comp=Z,42nm,1.7s,mb4.8						
PVRL	**Vila Real**	27.83	290	*e*P	P	04 25 37.3	-0.6
HYA	**Hoyanger**	27.92	338	*e*P	P	04 25 41.0	+2.5
HYA				AMb	AMB	04 25 47.1	
	comp=Z,38nm,1.2s,mb4.9						
HYA	**Hoyanger**	27.92	338	*e*P	P	04 25 41.0	+2.5
	comp=Z,38nm,1.2s,mb4.9						
PVIS	**Viseu**	27.99	289	*e*P	P	04 25 38.9	-0.5
	comp=Z,88nm,1.1s,mb5.3						
EKA	**Eskdalemuir Ar**	28.01	321	P	P	04 25 37.2	-2.2
	comp=Z,23nm,1.0s,mb4.8,baz=117,slow=9.3,SNR=39						
EKA				PcP	PcP	04 28 52.8	-1.8
	comp=Z,0.9nm,0.5s,baz=110,slow=1.7,SNR=3.8						
EKA				pPcP		04 29 00.3	
	comp=Z,1.8nm,0.7s,baz=90,slow=3.3,SNR=5.2						
EKA	**Eskdalemuir Ar**	28.01	321	P	P	04 25 37.2	-2.2
EKA						04 28 52.8	
EKA				pmax	pmax		
	comp=Z,23nm,1.0s						
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESK	**Eskdalemuir**	28.02	321⇓	*i*P	P	04 25 36.8	-2.7
	comp=Z,46nm,1.1s,mb5.0						
ESK				LR	LR		
	comp=Z,263nm,21.0s,MS3.8						
EGRO	**El Granado**	28.04	282	P	P	04 25 39.3	-0.6
	comp=Z,32nm,0.6s,mb5.1						
PALC	**Alcoutim**	28.04	282	*e*P	P	04 25 38.7	-1.2
	comp=Z,120nm,1.4s,mb5.3						
ELOB	**Lobios**	28.06	291	P	P	04 25 40.2	+0.2
	comp=Z,23nm,0.9s,mb4.8						
PBEJ	**Beja**	28.26	283	*e*P	P	04 25 41.1	-0.7
	comp=Z,110nm,1.3s,mb5.3						
SUE	**Sulen**	28.29	336	*e*P	P	04 25 42.4	+0.5
SUE				AMb	AMB	04 25 45.8	
	comp=Z,73nm,1.6s,mb5.0						
SUE	**Sulen**	28.29	336	*e*P	P	04 25 42.8	+0.9
	comp=Z,73nm,1.6s,mb5.1						
EVO	**Evora**	28.30	284	*e*P	P	04 25 40.7	-1.5
	comp=Z,112nm,1.7s,mb4.9						
EVO				*e*R			
	comp=Z,808nm,18.2s						
STS	**Santiago**	28.41	294	P	P	04 25 43.2	+0.1
	comp=Z,34nm,1.1s,mb4.9						
ARU	**Arti**	28.43	37⇓	*i*P	P	04 25 43.0	-0.2
ARU				*e*		04 26 30.7	
ARU				*i* PPP	PPP	04 26 40.0	-7.2
ARU				*e*		04 28 52.5	
ARU				*i* S	S	04 30 29.6	+0.7
ARU				*e*SS	SS	04 31 51.2	-2.2
ARU				*e*SSS	SSS	04 32 07.8	-4.6
ARU				*e*		04 36 23.7	
ARU				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.9						
ARU				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,600nm,18.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,600nm,19.0s,MS4.4						
ARU	**Arti**	28.43	37⇓	*i*P	P	04 25 42.7	-0.5
	comp=E,69nm,1.3s,mb5.1						
ARU				LR	LR		
	comp=Z,263nm,22.0s,MS3.8						
PTOM	**Tomar**	28.48	287	*e*P	P	04 25 43.0	-0.8
	comp=Z,58nm,1.1s,mb5.1						
EZAM	**Zamans**	28.53	292	P	P	04 25 44.4	+0.2
	comp=Z,26nm,0.9s,mb5.0						
MOE	**Montemor**	28.57	284	*e*P	P	04 25 44.5	-0.1
FOO	**Floro**	28.61	337	*e*P	P	04 25 44.5	-0.2
FOO				AMb	AMB	04 25 47.0	
	comp=Z,34nm,1.5s,mb4.8						
FOO	**Floro**	28.61	337	*e*P	P	04 25 44.5	-0.2
	comp=Z,34nm,1.5s,mb4.8						
MOL	**Molde**	28.65	340	*e*	P	04 25 51.5	+6.4
MOL				AMb	AMB	04 25 59.2	
	comp=Z,32nm,1.1s,mb5.0						
PCA1	**Carrot**	28.73	321⇑	*e*P	P	04 25 44.6	-1.3
PCOU	**Corrie**	28.79	322	*e*P	P	04 25 43.9	-2.5
PTEO	**Sao Teotonio**	29.01	283	*e*P	P	04 25 47.8	-0.8
	comp=Z,119nm,1.3s,mb5.5						
LIS	**Lisbon**	29.16	285	*e*P	P	04 25 42.8	-7.1
LIS				*e*S	S	04 30 35.1	-5.6
LIS				*e*S	S	04 30 35.5	-5.2
LIS				AMS	AMS	04 41 12.0	
	comp=N,1µm,18.5s						
SOKR	**Solikamsk**	29.42	30	d *i*P	P	04 25 50.2	-1.9
SOKR				*i* S	S	04 30 50.6	+6.0
SOKR				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,520nm,19.0s,MS4.2						
OST	**Stronsay**	29.71	328⇑	*e*P	P	04 25 53.0	-1.6
SAN1	**Sandwick**	29.73	331⇑	*e*P	P	04 25 53.3	-1.5
LRW	**Lerwick**	29.78	331⇑	*e*P	P	04 25 53.9	-1.4
OHO	**Hoy**	29.86	327	*e*P	P	04 25 54.4	-1.6
ORE	**Reay**	29.93	327⇑	*e*P	P	04 25 54.8	-1.9
ORE				AMb	AMB	04 25 55.8	
	comp=Z,91nm,1.0s,mb5.5						
YEL1	**Yell**	30.00	331⇑	*e*P	P	04 25 56.2	-1.1
WAL1	**Walls**	30.03	331⇑	*e*P	P	04 25 56.0	-1.5
OTO	**Tongue**	30.18	326⇑	*e*P	P	04 25 56.8	-2.1
OTO				AMb	AMB	04 25 57.9	
	comp=Z,68nm,1.1s,mb5.3						
MOR8	**Moi Rana**	30.40	349	*e*P	P	04 25 59.5	-1.2
MOR8				*e*pP	pP	04 26 03.7	0.0
APA	**Apatity**	30.95	4⇑	*i*P	P	04 26 04.5	-1.1
APA				*i*		04 27 06.3	
APA				*e*S	S	04 31 12.0	+3.2
APA				*e*SS	SS	04 33 10.0	+18
APA				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1						
APA				MLR	MLR		
	comp=Z,2µm,10.0s,MS5.0						
LVZ	**Lovozero**	31.36	5	d*e*P	P	04 26 08.2	-0.9
LVZ				*e*S	S	04 31 16.5	+1.4
LVZ				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
LVZ				pmax	pmax		
	comp=N,14nm,1.1s						
LVZ				pmax	pmax		
	comp=E,4.0nm,1.0s						
LVZ				pmax	pmax		
	comp=Z,222nm,3.3s						
LVZ				pmax	pmax		
	comp=N,40nm,1.5s						
LVZ				smax			
	comp=N,366nm,12.4s						
LVZ				smax			
	comp=E,168nm,14.6s						
LVZ				smax			
	comp=N,614nm,11.5s						
LVZ				smax			
	comp=Z,78nm,2.2s						
LVZ				MLR	MLR		
	comp=N,415nm,12.0s,MS4.6						
LVZ				MLR	MLR		
	comp=Z,814nm,12.0s,MS4.6						
LVZ				MLR	MLR		
	comp=E,694nm,13.0s,MS4.6						
KTK1	**Kautokeino**	32.34	357	*e*P	P	04 26 17.8	+0.1
KTK1				AMb	AMB	04 26 24.0	
	comp=Z,41nm,1.6s,mb5.0						
KTK1	**Kautokeino**	32.34	357	*e*P	P	04 26 17.8	+0.1
	comp=Z,41nm,1.5s,mb5.0						
ARE0	**ARCESS Array S**	32.79	358⇑	*e*P	P	04 26 19.0	-2.6
ARCES	**ARCESS Array B**	32.79	358	P	P	04 26 20.0	-1.6
	comp=Z,11nm,0.7s,mb4.9,baz=180,slow=8.5,SNR=49						
ARCES				LR	LR	04 39 56.6	
	comp=Z,962nm,19.6s,MS4.5,baz=182,slow=37						
ARCES	**ARCESS Array B**	32.79	358	P	P	04 26 20.0	-1.6
ARCES				pmax	pmax		
	comp=Z,11nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,962nm,19.6s						
ARCES	**ARCESS Array B**	32.79	358	P	P	04 26 20.0	-1.6
ARCES				LR	LR	04 39 56.6	
ZRNK	**Zerenda**	32.80	47	P	P	04 26 22.4	+0.5
ZRNK				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
ZRNK	**Zerenda**	32.80	47⇓	*i*P	P	04 26 22.0	+0.1
	comp=Z,41nm,0.9s,mb5.4						
KEV	**Kevo**	32.99	359	*e*p	P	04 26 21.2	-2.2
KKAR	**Karatay Array**	33.04	66	*i* P	P	04 26 24.3	+0.2
KKAR				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.4						
TRO	**Tromso**	33.22	354⇓	*i*P	P	04 26 22.5	-2.9
TRO				AMb	AMB	04 26 25.7	
	comp=Z,31nm,1.7s,mb5.0						
TRO	**Tromso**	33.22	354⇓	*i*P	P	04 26 22.5	-2.9
	comp=Z,31nm,1.7s,mb5.0						
BRVK	**Borovoye**	33.58	47⇓	*i*P	P	04 26 28.7	0.0
	comp=Z,13nm,1.1s,mb4.8						
BVA0	**Borovoye Array**	33.63	48	P	P	04 26 29.5	+0.4
BVAR	**Borovoye Array**	33.63	48	P	P	04 26 29.3	+0.1
	comp=Z,4.2nm,0.7s,mb4.5,baz=270,slow=5.9,SNR=32						
VOSK	**Vostochnaya**	33.93	48	P	P	04 26 31.8	+0.1
VOSK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
AML	**Almayashu**	35.47	67	P	P	04 26 46.0	+1.0
	SNR=9.3						
EKS2	**Erkin-Say**	35.47	66	P	P	04 26 46.0	+1.0
	SNR=44						
USP	**Ospenovka**	35.93	65	P	P	04 26 49.2	+0.2
	SNR=19						
AAK	**Ala-Archa**	36.00	66	P	P	04 26 50.9	+1.4
	SNR=28						
UCH	**Uchtor**	36.06	67	P	P	04 26 51.1	+1.1
	SNR=16						
FRU	**Bishkek**	36.06	66	*i* P	P	04 26 51.0	+0.9
FRU				pmax	pmax		
	comp=Z,240nm,1.4s,mb5.9						
CHMS	**Chumysh**	36.14	65	P	P	04 26 51.1	+0.4
	SNR=30						
KBK	**Karagaybulak**	36.33	66	P	P	04 26 53.8	+1.5
	SNR=15						
KZA	**Kyzart**	36.62	67	P	P	04 26 56.5	+1.7
	SNR=43						
TKM2	**Tokmak 2**	36.77	65	P	P	04 26 57.0	+1.0
	SNR=31						
ULHL	**Ulahol**	37.33	66	P	P	04 27 02.4	+1.7
	SNR=72						
KSH	**Kashi**	37.60	71	*e*P	P	04 27 04.0	+1.0
KSH				*e*PP	PP	04 28 32.6	+1.1
KSH				*e*PCP	PcP	04 29 22.2	+1.0
KSH				*e*S	S	04 32 52.9	+0.9
KSH				*e*PCS		04 33 09.1	
KSH				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.6						
KSH				AMB	AMB		
	comp=Z,400nm,3.7s						
KSH				LR	LR		
	comp=N,540nm,4.2s						

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KSH                              LR      LR
      comp=E,660nm,5.1s
CCAN  Las Canadas      38.15 270 P       P       04 27 09.5 +1.7
      comp=E,27nm,0.9s,mb5.0
KMBO  Kilima Mbogo     38.77 165 P       P       04 27 16.3 +3.2
      comp=E,4.2nm,0.9s,mb4.2,baz=344,slow=9.1,SNR=8.3
KMBO                             PcP     PcP     04 29 25.5 +0.4
      comp=E,3.5nm,0.8s,baz=344,slow=5.7,SNR=6.2
KMBO                             LR      LR      04 44 11.1
      comp=E,608nm,18.2s,MS4.5,baz=174,slow=38
KMBO  Kilima Mbogo     38.77 165 eP      P       04 27 15.9 +2.8
      comp=E,5.8nm,1.0s,mb4.3
KMBO                             ePcP    PcP     04 29 26.9 +1.7
KMBO                             LR      LR
      comp=Z,616nm,19.0s,MS4.5
BORG  Borgarnes        40.16 330 P       P       04 27 25.3 +1.3
      comp=Z,55nm,1.0s,mb5.2,baz=115,slow=6.7,SNR=8.7
BORG                             LR      LR      04 45 21.7
      comp=Z,948nm,18.3s,MS4.7,baz=114,slow=38
MKAR  Makanchi Array   41.06  58 P       P       04 27 32.3 +0.7
      comp=Z,53nm,0.7s,mb5.2,baz=281,slow=6.2,SNR=294
MKAR                             PcP     PcP     04 29 31.4 -0.7
      comp=Z,8.6nm,0.9s,baz=270,slow=4.9,SNR=3.6
MKAR                             ScP             04 33 18.8
      comp=Z,1.2nm,0.7s,baz=270,slow=2.4,SNR=4.3
MKAR                             LR      LR      04 47 14.6
      comp=Z,501nm,18.5s,MS4.4,baz=278,slow=40
MKAR  Makanchi Array   41.06  58 P       P       04 27 32.3 +0.6
MKAR                                             04 29 31.4
MKAR                             pmax    pmax
      comp=Z,53nm,0.7s
MKAR                             pmax    pmax
      comp=Z,9.0nm,0.9s
MKAR                             pmax    pmax
      comp=N,1.0nm,0.7s
MKAR                             MLR     MLR
      comp=Z,501nm,18.5s
NVS   Novosibirsk      41.38  46 i P     P       04 27 34.7 +0.5
NVS                              i               04 29 10.8
NVS                              eS      S       04 33 39.3 -9.4
NVS                              pmax    pmax
      comp=Z,67nm,1.1s,mb5.2
NVS                              pmax    pmax
      comp=N,28nm,1.3s
NVS                              pmax    pmax
      comp=E,32nm,1.0s
NVS                              pmax    pmax
      comp=Z,62nm,2.6s,mb4.8
NVS                              pmax    pmax
      comp=N,23nm,2.0s
NVS                              pmax    pmax
      comp=E,62nm,2.8s
NVS                              smax
      comp=N,23nm,2.0s
NVS                              smax
      comp=E,19nm,2.0s
SPITS Spitsbergen Ar   41.74 356 P       P       04 27 36.7 -0.2
      comp=E,6.5nm,0.6s,mb4.5,baz=153,slow=9.0,SNR=14
SPB4  Spitsbergen Ar   41.74 356 eP      P       04 27 35.6 -1.2
NDI   New Delhi        41.95  86 e       P       04 27 44.0 +4.9
DDI   Dehra Dun        41.96  84 e       P       04 27 50.0  +11
DBIC  Dimbokro         42.29 233 P       P       04 27 41.5 -0.7
      comp=E,66nm,1.1s,mb5.2,baz=27,slow=8.5,SNR=44
DBIC                             LR      LR      04 45 49.1
      comp=E,352nm,18.5s,MS4.3,baz=25,slow=37
DBIC  Dimbokro         42.29 233 P       P       04 27 41.5 -0.7
DBIC                             pmax    pmax
      comp=Z,66nm,1.2s
DBIC                             MLR     MLR
      comp=Z,352nm,18.5s
DBIC  Dimbokro         42.29 233 P       P       04 27 41.5 -0.7
DBIC                             LR      LR      04 45 49.1
TIC   Toumodi          42.42 233 eP      P       04 27 42.4 -0.8
      comp=Z,146nm,0.9s,mb5.6
KIC   Kosan Boka       42.45 232 eP      P       04 27 42.4 -1.1
      comp=Z,180nm,0.9s,mb5.7
KBS   Kingsbay         42.71 356 eP      P       04 27 44.5 -0.2
KBS                              epP     pP      04 27 48.4 +0.6
KBS                              AMb     AMB     04 27 51.4
      comp=Z,38nm,1.7s,mb4.8
KBS   Kingsbay         42.71 356 eP      P       04 27 44.5 -0.2
      comp=Z,38nm,1.7s,mb4.8
KBS                              LR      LR
      comp=Z,494nm,21.0s,MS4.4
LIC   Lamto            42.74 233 eP      P       04 27 45.9 +0.1
      comp=Z,189nm,1.0s,mb5.8
LIC   Lamto            42.74 233 eP      P       04 27 45.0 -0.8
      comp=Z,74nm,1.0s,mb5.4
DAG   Danmarks Havn    44.92 346⇓iP      P       04 28 02.2 -0.5
      comp=Z,4.5nm,0.8s,mb4.3
WMQ   Urumqi           45.31  62⇓iP      P       04 28 07.2 +1.0
WMQ                              PP      PP      04 29 53.9 +0.9
WMQ                              AMB     AMB
      comp=Z,42nm,1.0s,mb5.2
WMQ                              LR      LR
      comp=N,650nm,22.6s,MS4.6
WMQ                              LR      LR
      comp=E,572nm,22.0s,MS4.6
WMQ                              LR      LR
      comp=Z,579nm,16.8s
KOLN  Koldanda         47.43  84 eP      P       04 28 22.9 -0.3
      comp=Z,42nm,0.8s,mb5.4
GKN   Gorkha           48.16  83 eP      P       04 28 28.7 -0.2
      comp=Z,81nm,1.1s,mb5.7
SUMG  Summit           48.21 338 eP      P       04 28 27.6 -1.1
      comp=Z,90nm,1.1s,mb5.7
DMN   Daman            48.70  84 eP      P       04 28 33.6 +0.5
      comp=Z,61nm,0.7s,mb5.8
KKN   Kakani           48.77  83 eP      P       04 28 33.5 -0.1
      comp=Z,28nm,0.6s,mb5.4
PKI   Pulchoki         48.96  83 eP      P       04 28 35.0 -0.1
      comp=Z,51nm,0.8s,mb5.6
GUN   Gumba            49.19  83 eP      P       04 28 36.9 +0.1
      comp=Z,110nm,1.1s,mb5.8
LSZ   Lusaka           51.83 180 PFAKE           04 29 10.0  +13
LSZ                              LR      LR
      comp=Z,565nm,21.0s,MS4.6
ZAK   Zakamensk        54.02  50⇑eP      P       04 29 13.1 +0.2
SHL   Shillong         55.03  82 eP      P       04 29 19.2 -1.5
GTA   Gaotai           55.28  64 eP      P       04 29 22.0 -0.3
GTA                              S       S       04 37 00.9 -3.4
GTA                              AMB     AMB
      comp=Z,30nm,1.3s,mb5.2
GTA                              AMB     AMB
      comp=Z,171nm,7.2s
GTA                              LR      LR
      comp=N,251nm,17.5s,MS4.4
GTA                              LR      LR
      comp=E,124nm,19.0s,MS4.4
GTA                              LR      LR
      comp=Z,285nm,19.8s,MS4.3
TSUM  Tsumeb           56.56 192 P       P       04 29 32.2 +0.4
      comp=Z,15nm,0.9s,mb5.0,baz=352,slow=6.7,SNR=20
TSUM  Tsumeb           56.56 192 eP      P       04 29 31.4 -0.3
      comp=Z,24nm,1.0s,mb5.2
TSUM                             LR      LR
      comp=Z,879nm,22.0s,MS4.8
SONM  Songino Array    56.76  52 P       P       04 29 33.0 +0.2
      comp=Z,32nm,0.8s,mb5.4,baz=289,slow=8.4,SNR=46
ULN   Ulaanbaatar      57.17  52 PFAKE           04 29 50.0  +14
ULN                              LR      LR
      comp=Z,533nm,20.0s,MS4.6
BOD   Bodaibo          57.81  39 eP      P       04 29 37.7 -2.4
TIXI  Tiksi            58.84  21 eP      P       04 29 46.9 -0.2
TIXI                             eS      S       04 37 52.3 +1.4
TIXI                             eSS     SS      04 41 44.7 -1.4
TIXI                             pmax    pmax
      comp=Z,67nm,1.1s,mb5.6
TIXI  Tiksi            58.84  21 PFAKE           04 30 00.0  +13
TIXI                             LR      LR
      comp=Z,232nm,21.0s,MS4.3
LZH   Lanzhou          59.54  66⇓P       P       04 29 52.2 -0.3
LZH                              PP      PP      04 32 04.5 -1.4
LZH                              AMB     AMB
      comp=Z,82nm,1.3s,mb5.6
LZH                              AMB     AMB
      comp=Z,250nm,4.0s
LZH                              LR      LR
      comp=N,941nm,16.1s
LZH                              LR      LR
      comp=Z,1µm,18.7s,MS5.0
LZH   Lanzhou          59.54  66⇓P       P       04 29 52.2 -0.3
      comp=Z,82nm,1.3s,mb5.6
LZH                              pP      pP      04 29 55.2 -0.4
LZH                              sP      sP      04 29 56.8 +0.1
LZH                              PP      PP      04 32 04.5 -1.4
LZH                              LR      LR
      comp=Z,1µm,18.7s,MS5.0
LBTB  Lobatse          61.55 182⇓eP      P       04 30 07.3 +1.0
      comp=Z,45nm,0.9s,mb5.6
LBTB                             ePcP    PcP     04 30 48.9 +1.0
CD2   Chengdu          61.80  71⇓iP      P       04 30 06.6 -1.3
CD2                              AMB     AMB
      comp=Z,70nm,1.0s,mb5.8
BTO   Baotou           61.98  59 eP      P       04 30 08.8 -0.2
RES   Resolute Bay     62.60 345⇓iP      P       04 30 11.2 -1.5
      comp=Z,31nm,0.9s,mb5.4
HHC   Hu-ho-hao-te     62.92  58 eP      P       04 30 15.5 +0.3
HHC                              AP      pP      04 30 23.0 +4.6
HHC                              XP      sP      04 30 27.5 +8.0
HHC                              PP      PP      04 32 33.0 -2.3
HHC                              S       S       04 38 41.8 -1.6
HHC                              XS              04 38 58.4
HHC                              SCS     ScS     04 40 03.4 -0.9
HHC                              SS      SS      04 42 51.1 +0.3
HHC                              AMB     AMB
      comp=Z,91nm,1.0s,mb5.9
HHC                              LR      LR
      comp=N,222nm,26.2s
HHC                              LR      LR
      comp=E,187nm,18.2s
HHC                              LR      LR
      comp=Z,192nm,21.4s,MS4.2
SCHQ  Schefferville    63.31 320 P       P       04 30 15.1 -2.5
      comp=Z,26nm,0.8s,mb5.4,baz=60,slow=6.3,SNR=41
SCHQ                             LR      LR      04 57 17.9
      comp=Z,545nm,19.7s,MS4.7,baz=74,slow=36
SCHQ  Schefferville    63.31 320 eP      P       04 30 15.1 -2.5
      comp=Z,33nm,0.7s,mb5.6
SCHQ                             LR      LR
      comp=Z,901nm,20.0s,MS4.9
YAK   Yakutsk          63.35  31 eP      P       04 30 16.3 -1.4
YAK                              pmax    pmax
      comp=Z,25nm,0.8s,mb5.4
YAK                              pmax    pmax
      comp=N,4.0nm,1.0s
YAK                              pmax    pmax
      comp=E,18nm,1.4s
YAK   Yakutsk          63.35  31⇓iP      P       04 30 16.4 -1.3
      comp=E,55nm,0.7s,mb5.8
YAK                              LR      LR
      comp=Z,317nm,21.0s,MS4.5
KMI   Kunming          63.82  77 eP      P       04 30 20.4 -1.0
KMI                              AMB     AMB
      comp=Z,14nm,1.2s,mb4.9
KMI                              LR      LR
      comp=Z,177nm,29.6s,MS4.1
KMI   Kunming          63.82  77 eP      P       04 30 20.4 -1.0
      comp=Z,14nm,1.2s,mb4.9
KMI                              LR      LR
      comp=Z,180nm,29.6s,MS4.1
CHG   Chiang Mai       64.08  85⇑P       P       04 30 22.9 -0.3
      comp=Z,23nm,1.1s,mb5.1
XAN   Xi’an            64.18  66 P       P       04 30 23.2 -0.4
XAN                              AMB     AMB
      comp=Z,31nm,0.9s,mb5.3
CHRT  Chiangrai        64.18  84⇓P       P       04 30 23.0 -0.9
CM31  Chiang Mai Arr   64.27  86 eP      P       04 30 23.6 -0.8
      comp=Z,20nm,0.8s,mb5.2
CMAR  Chiang Mai Arr   64.27  86 P       P       04 30 23.8 -0.6
      comp=Z,16nm,0.8s,mb5.1,baz=300,slow=8.0,SNR=54
CMAR                             LR      LR      05 05 00.6
      comp=Z,81nm,21.4s,MS3.9,baz=290,slow=42
HIA   Hailar           64.32  47 eP      P       04 30 24.2 -0.1
      comp=Z,15nm,0.8s,mb5.1
NANT  Nan              65.49  84⇑P       P       04 30 30.0 -2.3
GYA   Guiyang          66.19  74⇓iP      P       04 30 36.5 -0.2
GYA                              AMB     AMB
      comp=Z,40nm,1.2s,mb5.3
GYA                              AMB     AMB
      comp=Z,140nm,4.6s
GYA                              LR      LR
      comp=N,100nm,18.1s,MS4.2
GYA                              LR      LR
      comp=E,70nm,16.4s,MS4.2
GYA                              LR      LR
      comp=Z,90nm,17.3s,MS4.0
BJI   Beijing          66.41  57 P       P       04 30 38.1 +0.2
BJI                              AMB     AMB
      comp=Z,30nm,1.1s,mb5.2
BJI                              LR      LR
      comp=N,539nm,18.3s,MS4.8
BJI                              LR      LR
      comp=E,206nm,19.7s,MS4.8
BJI                              LR      LR
      comp=Z,397nm,20.4s,MS4.6
BJI   Beijing          66.41  57 P       P       04 30 38.1 +0.2
      comp=Z,30nm,1.1s,mb5.2
BJI                              LR      LR
      comp=Z,400nm,20.4s,MS4.6
ENH   Enshi            66.42  69⇓iP      P       04 30 37.5 -0.6
      comp=Z,43nm,0.9s,mb5.5
NST   Nakhon Sawan     66.73  87 P       P       04 30 40.4 +0.1
PQI   Presque Isle     67.88 312 PFAKE           04 31 00.0  +13
PQI                              LR      LR
      comp=Z,3µm,21.0s,MS5.4
KKTK  Khon Kaen        68.52  85 P       P       04 30 51.0 -0.5
EMMW  East Machias     68.54 310 PFAKE           04 31 00.0 +8.8
EMMW                             LR      LR
      comp=Z,3µm,21.0s,MS5.5
TIA   Tai’an           68.97  60 eP      P       04 30 53.3 -0.7
TIA                              AMB     AMB
      comp=Z,42nm,1.3s,mb5.2
SUR   Sutherland       69.16 186 P       P       04 30 56.8 +1.5
      comp=Z,20nm,0.9s,mb5.0,baz=33,slow=4.6,SNR=8.6
WHN   Wuhan            69.90  66⇑P       P       04 31 00.0 +0.2
CN2   Changchun        70.45  50 eP      P       04 31 02.5 -0.4
CN2                              eS      S       04 40 12.4 -2.1
CN2                              AMB     AMB
      comp=Z,20nm,0.8s,mb5.1
CN2                              AMB     AMB
      comp=Z,200nm,4.0s
CN2                              LR      LR
      comp=N,200nm,22.0s,MS4.5
CN2                              LR      LR
      comp=E,200nm,22.0s,MS4.5
CN2                              LR      LR
      comp=Z,300nm,22.0s,MS4.5
SEY   Seymchan         71.19  23 eP      P       04 31 07.6 +0.6
SEY                              pmax    pmax
      comp=Z,60nm,1.1s,mb5.4
SEY                              pmax    pmax
      comp=N,40nm,1.6s
SEY                              pmax    pmax
      comp=E,8.0nm,0.7s
SNG   Songkhla         71.97  95 P       P       04 31 03.5 -9.1
HRV   Harvard--Oak R   72.23 310 PFAKE           04 31 30.0  +16
HRV                              LR      LR
      comp=Z,395nm,19.0s,MS4.7
NJ2   Nanjing          72.37  63 eP      P       04 31 14.2 -0.4
NJ2                              PP      PP      04 33 56.5 -0.9
NJ2                              AMB     AMB
      comp=Z,60nm,1.0s,mb5.5
NJ2                              LR      LR
      comp=N,1µm,22.6s,MS5.4
NJ2                              LR      LR
      comp=E,2µm,20.8s,MS5.4
NJ2                              LR      LR
      comp=Z,2µm,23.5s,MS5.3
MDJ   Mudanjiang       72.49  47 P       P       04 31 11.4 -3.7
MDJ                              AMB     AMB
      comp=Z,93nm,3.5s
MDJ                              LR      LR
      comp=N,168nm,20.6s,MS4.5
MDJ                              LR      LR
      comp=E,203nm,24.6s,MS4.5
MDJ                              LR      LR
      comp=Z,175nm,17.7s
QIZ   Qiongzhong       72.62  79⇑P       P       04 31 17.0 +0.7
RCBR  Riachuelo        72.95 249 PFAKE           04 31 30.0  +12
RCBR                             LR      LR
      comp=Z,371nm,20.0s,MS4.7
ACCN  Adirondack Com   73.02 312 eP      P       04 31 17.9 -0.3
MA2   Magadan          73.04  27 eP      P       04 31 18.2 +0.2
MA2                              eS      S       04 40 43.0 -0.8
MA2                              ePS     PS      04 41 09.6 -7.7
MA2                              eSS     SS      04 45 29.4 +2.2
MA2                              pmax    pmax
      comp=Z,30nm,1.2s,mb5.1
MA2                              pmax    pmax
      comp=N,10.0nm,1.1s
MA2                              pmax    pmax
      comp=E,10.0nm,1.0s
MA2                              MLR     MLR
      comp=Z,500nm,24.0s,MS4.7
MA2   Magadan          73.04  27 eP      P       04 31 18.8 +0.8
      comp=Z,48nm,1.1s,mb5.3
MA2                              LR      LR
      comp=Z,203nm,22.0s,MS4.4
FCC   Fort Churchill   73.24 332 eP      P       04 31 16.6 -2.6
      comp=Z,23nm,1.0s,mb5.1
INK   Inuvik           74.25 353 P       P       04 31 23.7 -1.1
      comp=Z,38nm,1.2s,mb5.2,baz=20,slow=9.5,SNR=20
INK   Inuvik           74.25 353 P       P       04 31 23.7 -1.2
INK                              pmax    pmax
      comp=Z,38nm,1.2s
INK   Inuvik           74.25 353 eP      P       04 31 23.1 -1.8
      comp=Z,39nm,1.2s,mb5.2
SSE   Sheshan          74.56  63 P       P       04 31 27.9 +0.5
SSE                              AMB     AMB
      comp=Z,22nm,0.8s,mb5.1
SSE                              AMB     AMB
      comp=Z,105nm,7.7s
SSE   Sheshan          74.56  63 P       P       04 31 27.9 +0.5
      comp=Z,22nm,0.8s,mb5.1
INCN  Inchon           74.70  55 PFAKE           04 31 40.0  +12
INCN                             LR      LR
      comp=Z,394nm,20.0s,MS4.7
BINY  Binghamton       75.10 312 eP      P       04 31 29.1 -1.3
      comp=Z,43nm,1.1s,mb5.3
BINY                             e               04 33 29.2
KS15  Wonju Array Si   75.54  54 eP      P       04 31 33.5 +0.6
YKW3  Yellowknife Ar   76.45 343 eP      P       04 31 35.2 -2.3
YKA   Yellowknife Ar   76.50 343 P       P       04 31 36.2 -1.6
      comp=Z,16nm,1.1s,mb4.9,baz=33,slow=5.7,SNR=43
YKA   Yellowknife Ar   76.50 343 P       P       04 31 36.2 -1.6
YKA                              pmax    pmax
      comp=Z,16nm,1.1s
YKA   Yellowknife Ar   76.50 343 P       P       04 31 36.2 -1.7
SSPA  Standing Stone   77.18 311 eP      P       04 31 41.3 -0.8
      comp=Z,42nm,1.3s,mb5.2
SSPA                             LR      LR
      comp=Z,100nm,20.0s,MS4.1
TNA   Tin City         77.21   7 PFAKE           04 31 50.0 +8.3
TNA                              LR      LR
      comp=Z,187nm,21.0s,MS4.4
IMA   Indian Mountai   77.42   1 eP      P       04 31 43.3 +0.4
      comp=Z,46nm,1.1s,mb5.3
ERPA  Erie             77.51 313 eP      P       04 31 43.4 -0.5
      comp=Z,55nm,0.8s,mb5.5
ERPA                             LR      LR
      comp=Z,366nm,20.0s,MS4.7
TATO  Taipei           78.23  68 PFAKE           04 32 00.0  +12
TATO                             LR      LR
      comp=Z,213nm,19.0s,MS4.5
YSS   Yuzh-Sakhalins   78.28  39⇓eP      P       04 31 48.0  0.0
YSS                              pmax    pmax
      comp=Z,110nm,1.6s,mb5.5
YSS   Yuzh-Sakhalins   78.28  39 PFAKE           04 32 00.0  +12
YSS                              LR      LR
      comp=Z,297nm,20.0s,MS4.6
CBN   Corbin           78.35 309 PFAKE           04 32 00.0  +11
CBN                              LR      LR
      comp=Z,525nm,21.0s,MS4.8
COLA  College          78.57 358 eP      P       04 31 49.2  0.0
COLA                             pmax    pmax
      comp=Z,55nm,1.2s,mb5.4
COLA  College          78.57 358 eP      P       04 31 49.2  0.0
      comp=Z,55nm,1.2s,mb5.4
ILAR  Eielson Array    78.65 358 P       P       04 31 48.9 -0.8
      comp=Z,8.8nm,0.9s,mb4.7,baz=355,slow=3.8,SNR=75
ILAR  Eielson Array    78.65 358 P       P       04 31 48.9 -0.7
ILAR                             pmax    pmax
      comp=Z,9.0nm,0.9s
DAWY  Dawson           78.93 354 eP      P       04 31 50.9 -0.3
DAWY                             e               04 33 29.1
FFC   Flin Flon        79.15 333 PFAKE           04 32 00.0 +7.4
FFC                              LR      LR
      comp=Z,116nm,20.0s,MS4.2
MCK   McKinley         79.74 359 eP      P       04 31 55.4 -0.2
      comp=Z,37nm,1.1s,mb5.2
MCK                              LR      LR
      comp=Z,177nm,22.0s,MS4.4
ULM   Lac du Bonnet    80.10 327 P       P       04 31 56.1 -1.7
      comp=Z,15nm,1.1s,mb4.8,baz=40,slow=5.4,SNR=13
ULM                              LR      LR      05 08 41.0
      comp=Z,476nm,20.0s,MS4.8,baz=284,slow=37
ULM   Lac du Bonnet    80.10 327⇓eP      P       04 31 55.6 -2.2
      comp=Z,51nm,1.3s,mb5.3
ULM                              LR      LR
      comp=Z,841nm,20.0s,MS5.1
BLA   Blacksburg       80.86 310 PFAKE           04 32 10.0 +7.9
BLA                              LR      LR
      comp=Z,344nm,19.0s,MS4.7
FWV   Forest Hill      80.86 310 eP      P       04 32 01.4 -0.7
PET   Petropavlovsk    80.87  28 PFAKE           04 32 10.0 +8.2
PET                              LR      LR
      comp=Z,362nm,21.0s,MS4.7
SML   Sawmill          81.66 358 eP      P       04 32 05.3 -0.5
PMR   Palmer           81.89 359 eP      P       04 32 07.1 +0.1
      comp=Z,76nm,1.2s,mb5.5
SPU   Mount Spurr      82.34 360 eP      P       04 32 07.6 -1.7
FIB   Fire Island      82.34 359⇓eP      P       04 32 09.8 +0.5
FIB                              LR      LR
      comp=Z,574nm,20.0s,MS4.9
SVW   Sparrevohn       82.37   2 eP      P       04 32 10.7 +1.3
      comp=Z,24nm,1.0s,mb5.1
SJG   San Juan         82.44 287 PFAKE           04 32 20.0 +9.3
SJG                              LR      LR
      comp=Z,170nm,20.0s,MS4.4
MAJO  Matsushiro       82.60  50 PFAKE           04 32 20.0 +8.8
MAJO                             LR      LR
      comp=Z,250nm,19.0s,MS4.6
JFWS  Jewell Farm      82.67 319 PFAKE           04 32 20.0 +8.6
JFWS                             LR      LR
      comp=Z,655nm,20.0s,MS5.0
EYAK  Cordova Ski Ar   82.83 357⇓eP      P       04 32 11.9 +0.1
SLKM  Skilak Lake      83.00 359 eP      P       04 32 13.0 +0.3
BLO   Bloomington      83.20 314 eP      P       04 32 12.9 -1.3
      comp=Z,58nm,1.0s,mb5.6
DLBC  Dease Lake       83.30 348 eP      P       04 32 14.2 -0.1
NHSC  New Hope         83.32 307 PFAKE           04 32 30.0  +15
NHSC                             LR      LR
      comp=Z,475nm,19.0s,MS4.9
CPCT  Cooper Cave      84.51 311 eP      P       04 32 20.7 -0.3
DGMT  Dagmar           84.95 330 PFAKE           04 32 30.0 +7.2
DGMT                             LR      LR
      comp=Z,494nm,21.0s,MS4.9
SIT   Sitka            85.39 351 PFAKE           04 32 40.0  +15
SIT                              LR      LR
      comp=Z,552nm,22.0s,MS4.9
SWET  Sewanee          85.53 311 eP      P       04 32 25.2 -0.7
SLM   Saint Louis      85.67 316 eP      P       04 32 26.1 -0.5
      comp=Z,100nm,1.1s,mb6.0
FX1   Attu Island--F   85.71  20⇑eP      P       04 32 26.4  0.0
KDAK  Kodiak Island    85.75   0⇓eP      P       04 32 26.1 -0.4
      comp=Z,49nm,1.2s,mb5.6
KDAK                             LR      LR
      comp=Z,82nm,21.0s,MS4.1
SMY   Shemya           86.11  20 PFAKE           04 32 40.0  +12
SMY                              LR      LR
      comp=Z,531nm,21.0s,MS4.9
FVM   French Village   86.23 316 eP      P       04 32 28.9 -0.6
      comp=Z,59nm,1.1s,mb5.7
CCM   Cathedral Cave   86.64 316⇓eP      P       04 32 30.6 -0.8
      comp=Z,35nm,0.8s,mb5.6
CCM                              LR      LR
      comp=Z,115nm,20.0s,MS4.3
PLAL  Pickwick Lake    86.97 312 eP      P       04 32 30.6 -2.6
      comp=Z,51nm,1.0s,mb5.7
PLAL                             LR      LR
      comp=Z,564nm,22.0s,MS4.9
LAO   LASA Array       87.20 330 eP      P       04 32 34.0  0.0
      comp=Z,56nm,1.2s,mb5.7
LAO                              LR      LR
      comp=Z,498nm,19.0s,MS4.9
LRAL  Lakeview Retre   87.65 310 eP      P       04 32 35.9 -0.6
      comp=Z,68nm,1.1s,mb5.8
LRAL                             LR      LR
      comp=Z,394nm,19.0s,MS4.8
OXF   Oxford           88.08 313 eP      P       04 32 37.0 -1.5
      comp=Z,51nm,1.2s,mb5.6
OXF                              LR      LR
      comp=Z,641nm,21.0s,MS5.0
BDFB  Brasilia         88.32 249 P       P       04 32 41.5 +1.5
      comp=Z,21nm,0.8s,mb5.4,baz=60,slow=5.2,SNR=32
BDFB                             LR      LR      05 14 36.5
      comp=Z,475nm,18.9s,MS4.9,baz=94,slow=37
BDFB  Brasilia         88.32 249 P       P       04 32 41.5 +1.5
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BDFB				pmax	pmax		
	comp=Z,21nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,475nm,18.9s						
UNV	**Unalaska Valle**	**88.85**	**8**	PFAKE		04 32 50.0	+8.4
UNV				LR	LR		
	comp=Z,871nm,21.0s,MS5.2						
HRY	**Holter Researc**	**89.30**	**334**	*e*P	**P**	**04 32 43.0**	**-0.9**
NEW	**Newport**	**89.70**	**337**	PFAKE		04 33 00.0	+14
NEW				LR	LR		
	comp=Z,688nm,19.0s,MS5.1						
MSO	**Missoula**	**89.93**	**335**	*e*P	**P**	**04 32 45.8**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.8						
MSO				LR	LR		
	comp=Z,397nm,22.0s,MS4.8						
BOZ	**Bozeman (W)**	**90.13**	**333**	*e*P	**P**	**04 32 47.4**	**-0.5**
	comp=Z,6.7nm,0.8s,mb5.0						
BOZ				*e*PP	PP	04 36 20.8	-2.9
BOZ				LR	LR		
	comp=Z,472nm,20.0s,MS4.9						
DPW	**Davenport**	**90.38**	**338**	*e*P	**P**	**04 32 48.0**	**-1.0**
MIAR	**Mount Ida**	**90.46**	**315**	*e*P	**P**	**04 32 49.2**	**-0.5**
	comp=Z,49nm,1.1s,mb5.8						
MIAR				LR	LR		
	comp=Z,472nm,20.0s,MS4.9						
CBKS	**Cedar Bluff**	**90.55**	**322**	*e*P	**P**	**04 32 49.0**	**-1.0**
	comp=Z,43nm,1.3s,mb5.6						
CBKS				LR	LR		
	comp=Z,485nm,20.0s,MS4.9						
QLMT	**Earthquake Lak**	**90.75**	**332**	*e*P	**P**	**04 32 50.8**	**+0.1**
MCMT	**McKenzie Canyo**	**91.28**	**333**	*e*P	**P**	**04 32 52.8**	**-0.4**
SDV	**Santo Domingo**	**91.43**	**282**	*e*P	**P**	**04 32 54.6**	**0.0**
	comp=Z,22nm,0.9s,mb5.5						
SDV				LR	LR		
	comp=Z,129nm,21.0s,MS4.3						
BW06	**Boulder Array**	**91.78**	**330**	PFAKE		04 33 10.0	+14
BW06				LR	LR		
	comp=Z,718nm,21.0s,MS5.1						
PDAR	**Pinedale Array**	**91.78**	**330**	P	**P**	**04 32 54.2**	**-1.3**
	comp=Z,0.9nm,0.8s,mb4.2,baz=51,slow=5.2,SNR=10						
PDAR				PP	PP	04 36 30.6	-6.4
	comp=Z,4.6nm,1.3s,baz=45,slow=8.4,SNR=6.7						
HAWA	**Hanford**	**92.11**	**338**	PFAKE		04 33 10.0	+13
HAWA				LR	LR		
	comp=Z,588nm,19.0s,MS5.0						
OCWA	**Octopus Mounta**	**92.16**	**342**	PFAKE		04 33 10.0	+13
OCWA				LR	LR		
	comp=Z,689nm,21.0s,MS5.1						
AHID	**Auburn Hatcher**	**92.38**	**331**	PFAKE		04 33 10.0	+12
AHID				LR	LR		
	comp=Z,594nm,20.0s,MS5.0						
ISCO	**Idaho Springs**	**92.55**	**326**	PFAKE		04 33 10.0	+11
ISCO				LR	LR		
	comp=Z,465nm,20.0s,MS4.9						
HLID	**Hailey**	**92.94**	**334**	PFAKE		04 33 10.0	+9.1
HLID				LR	LR		
	comp=Z,546nm,20.0s,MS5.0						
NATX	**Nacogdoches**	**93.12**	**314**	PFAKE		04 33 10.0	+8.0
NATX				LR	LR		
	comp=Z,490nm,22.0s,MS4.9						
WMOK	**Wichita Mounta**	**93.18**	**319**	*e*P	**P**	**04 33 01.5**	**-0.7**
	comp=Z,13nm,1.2s,mb5.2						
WMOK				LR	LR		
	comp=Z,361nm,19.0s,MS4.8						
HWUT	**Hardware Ranch**	**93.55**	**331**	*e*P	**P**	**04 33 02.8**	**-1.0**
	comp=Z,8.4nm,1.0s,mb5.1						
SDCO	**Great Sand Dun**	**94.16**	**325**	PFAKE		04 33 20.0	+13
SDCO				LR	LR		
	comp=Z,542nm,19.0s,MS5.0						
COR	**Corvallis**	**94.85**	**340**	PFAKE		04 33 20.0	+10
COR				LR	LR		
	comp=Z,132nm,22.0s,MS4.4						
HKT	**Hockley**	**95.13**	**314**	PFAKE		04 33 20.0	+8.7
HKT				LR	LR		
	comp=Z,69nm,19.0s,MS4.1						
DUG	**Dugway**	**95.25**	**331**	PFAKE		04 33 20.0	+8.4
DUG				LR	LR		
	comp=Z,464nm,20.0s,MS5.0						
WVOR	**Wild Horse Val**	**95.38**	**336**	PFAKE		04 33 20.0	+7.9
WVOR				LR	LR		
	comp=Z,691nm,21.0s,MS5.1						
MOD	**Modoc**	**96.40**	**337**	PFAKE		04 33 30.0	+13
MOD				LR	LR		
	comp=Z,570nm,21.0s,MS5.0						
MVU	**Marysvale**	**96.45**	**330**	PFAKE		04 33 30.0	+13
MVU				LR	LR		
	comp=Z,427nm,19.0s,MS5.0						
BMN	**Battle Mountai**	**96.68**	**334**	PFAKE		04 33 30.0	+12
BMN				LR	LR		
	comp=Z,581nm,20.0s,MS5.1						
JCT	**Junction City**	**96.98**	**316**	PFAKE		04 33 30.0	+10
JCT				LR	LR		
	comp=Z,372nm,22.0s,MS4.8						
TPH	**Tonopah**	**98.77**	**333**	PFAKE		04 33 40.0	+12
TPH				LR	LR		
	comp=Z,510nm,22.0s,MS5.0						
MNV	**Mina**	**98.79**	**334**	PFAKE		04 33 40.0	+12
MNV				LR	LR		
	comp=Z,704nm,22.0s,MS5.1						
HOPS	**Hopland**	**99.92**	**337**	PFAKE		04 33 40.0	+7.2
HOPS				LR	LR		
	comp=Z,524nm,19.0s,MS5.1						
CMB	**Columbia Colle**	**99.92**	**335**	PFAKE		04 33 40.0	+7.2
CMB				LR	LR		
	comp=Z,570nm,22.0s,MS5.0						
LTX	**Lajitas**	**99.97**	**318**	PFAKE		04 33 50.0	+17
LTX				LR	LR		
	comp=Z,359nm,20.0s,MS4.9						
TXAR	**Lajitas Array**	**99.97**	**318**	P	**P**	**04 33 32.3**	**-1.0**
	comp=Z,1.5nm,0.9s,mb4.4,baz=72,slow=4.0,SNR=14						
TXAR				LR	LR	05 19 09.8	
	comp=Z,248nm,21.8s,MS4.7,baz=110,slow=36						
DAC	**Darwin (Calif)**	**100.50**	**332**	PFAKE		04 33 50.0	+15
DAC				LR	LR		
	comp=Z,497nm,21.0s,MS5.0						
TUC	**Tucson**	**101.08**	**325**	PFAKE		04 33 50.0	+12
TUC				LR	LR		
	comp=Z,352nm,19.0s,MS4.9						
SAO	**San Andreas Ge**	**101.43**	**335**	PFAKE		04 33 50.0	+10
SAO				LR	LR		
	comp=Z,496nm,21.0s,MS5.0						
JTS	**JuntasAbangare**	**101.52**	**292**	PFAKE		04 33 50.0	+9.5
JTS				LR	LR		
	comp=Z,41nm,20.0s,MS3.9						
PFO	**Pinyon Flat Ob**	**102.40**	**330**	PFAKE		04 34 00.0	+16
PFO				LR	LR		
	comp=Z,139nm,19.0s,MS4.5						
GUMO	**Guam**	**102.44**	**62**	PFAKE		04 34 00.0	+15
GUMO				LR	LR		
	comp=Z,808nm,19.0s,MS5.3						
LPAZ	**La Paz**	**104.25**	**260**	PFAKE		04 34 10.0	+17
LPAZ				LR	LR		
	comp=Z,225nm,19.0s,MS4.7						
SYO	**Syowa Base**	**105.89**	**176**	⇑Pdiff	Pdif	04 34 02.4	+3.8
SNAA	**Sanae**	**110.35**	**190**	*e*Pdif	Pdif	04 34 19.5	+1.3
SNAA				*e*		04 38 52.9	
WRA	**Warramunga Arr**	**114.64**	**97**	PKP	PKPdf	04 38 28.1	-2.4
	comp=Z,2.3nm,0.7s,baz=316,slow=1.8,SNR=20						
WRA				PKKPbc		04 49 02.8	
	comp=Z,0.5nm,1.1s,baz=138,slow=0.7,SNR=3.0						
WRAB	**Tennant Creek**	**114.65**	**97**	PFAKE		04 38 40.0	+10
WRAB				LR	LR		
	comp=Z,58nm,20.0s,MS4.2						
WB2	**Warramunga Arr**	**114.66**	**97**	*e*PKP	PKPdf	04 38 28.4	-2.0
ASPA	**Alice Springs**	**116.23**	**101**	*e*PKP	PKPdf	04 38 31.0	-2.5
ASAR	**Alice Springs**	**116.23**	**101**	PKP	PKPdf	04 38 31.4	-2.1
	comp=Z,4.1nm,0.8s,baz=320,slow=1.7,SNR=26						
PLCA	**Paso Flores**	**118.47**	**239**	PKP	PKPdf	04 38 34.8	-2.7
	comp=Z,4.3nm,1.1s,baz=85,slow=8.4,SNR=4.2						
PLCA	**Paso Flores**	**118.47**	**239**	PKIKP	PKPdf	04 38 34.8	-2.7
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CTA	**Charters Tower**	**124.25**	**90**	*e*PKP	PKPdf	04 38 47.7	-1.4
	comp=Z,7.6nm,0.8s						
CTAO	**Charters Tower**	**124.25**	**90**	*e*PKPdf	PKPdf	04 38 47.5	-1.6
STKA	**Stephens Creek**	**126.08**	**106**	PKP	PKPdf	04 38 50.1	-2.3
	comp=Z,6.9nm,0.9s,baz=3.6,slow=7.5,SNR=5.7						
QSPA	**South Pole Qui**	**126.68**	**180**	*e*PKP	PKPdf	04 38 50.3	-1.9
QSPA				LR	LR		
	comp=Z,230nm,22.0s,MS4.8						

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*BJI **04** 04:26:17.8,36.19N×27.12E,h5^{km},mB4.6,mb4.6,Ms4.7, Msz4.4*

*MOS **04** 04:26:21.8±2.0,36.71N×27.91E,h10^{km},mb4.1/9,Error ellipse: s-maj=16.4km s-min=6.7km az=108.1*

*NEIC **04** 04:26:22.3,36.99N×27.72E,h5^{km},mb4.2/27, ML4.1(ATH),After ATH.*

*ATH **04** 04:26:22.2,36.99N×27.71E,h5^{km}±3^{km},MD4.1/14,ML4.1*

*ISK **04** 04:26:25.4,37.07N×27.82E,h10^{km},ML4.1*

*IDC **04** 04:26:28.2±1.9,36.91N×27.73E,h42^{km}±18^{km},mb3.9/15, mb1 4.0/20,mb1mx3.9/26,ML3.7/5,Error ellipse: s-maj=16.6km s-min=12.7km az=151.0*

*NIC **04** 04:26:30.0±0.4,36.76N×27.89E,h25^{km},mb4.5,ML4.1, MW3.7*

ISC 04 04:26:23.6±0.5,**36.86N**±0.02×**27.81E**±0.02,**h13**^{km}±3^{km}, **n188**,σ1^{s}**18**/205,**mb4.3**/28,**MS4.7**/2,**3C**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.36**	**306**	*i* P	**Pg**	**04 26 30.6**	**-0.5**
BDRM				*i* S	**Sg**	**04 26 35.6**	**-0.5**
MLSB	**Milas**	**0.44**	**357**	*i* PG	**Pg**	**04 26 31.2**	**-1.5**
YER	**Yerkesik**	**0.47**	**54**	*i* PG	**Pg**	**04 26 32.8**	**-0.5**
NISR	**Nisiros**	**0.60**	**246**	*e*Pb	**Pb**	**04 26 36.0**	**+0.6**
ARG	**Arkhangelos**	**0.69**	**158**	*e*PB	**Pb**	**04 26 38.3**	**+1.3**
AYDN	**Tasoluk**	**0.81**	**4**	*i* P	**Pb**	**04 26 38.3**	**-0.7**
AYDN				*i* S	**Sb**	**04 26 53.3**	**+3.8**
DNZL	**Cakiroluk**	**1.29**	**50**	*i* P	**Pb**	**04 26 48.5**	**+1.2**
DNZL				*i* S	**Sb**	**04 27 06.3**	**+2.7**
DENT	**Denizli**	**1.33**	**47**	*i* PN	**Pn**	**04 26 48.8**	**+0.9**
KARP	**Karpathos**	**1.41**	**202**	*e*PG	**Pg**	**04 26 50.4**	**-1.4**
KSL	**Kastellorizon**	**1.59**	**116**	*e*PG	**Pg**	**04 26 54.5**	**-1.0**
KSL				*e*SN	**Sn**	**04 27 19.0**	**+6.7**
IZM	**Izmir**	**1.60**	**344**	PN	**Pn**	**04 26 51.4**	**-0.4**
IZM				SN	**Sn**	**04 27 11.0**	**-1.4**
KDAG	**Bornova**	**1.60**	**345**	*i* P	**Pn**	**04 26 50.5**	**-1.4**
KDAG				*i* S	**Sn**	**04 27 12.9**	**+0.5**
ELL	**Elmali**	**1.69**	**93**	PN	**Pn**	**04 26 56.6**	**+3.5**
MANT	**Manisa**	**1.74**	**20**	*i* P	**Pn**	**04 26 53.9**	**+0.1**
MANT				*i* S	**Sn**	**04 27 18.9**	**+2.9**
APE	**Apeiranthos**	**1.84**	**277**	*e*PN	**Pn**	**04 26 55.4**	**+0.2**
SANT	**Santorini**	**1.95**	**256**	*e*P	**Pn**	**04 26 57.0**	**+0.1**
THR1	**Thera Island**	**1.95**	**256**	*e*P	**Pn**	**04 26 58.2**	**+1.4**
THR4	**Thira Island,**	**1.98**	**259**	*e*P	**Pn**	**04 26 58.0**	**+0.8**
THR3	**Thira Island,**	**1.99**	**258**	*e*P	**Pn**	**04 26 58.3**	**+0.9**
KHL	**Karahalli**	**2.00**	**42**	*e*PN	**Pn**	**04 26 58.4**	**+0.8**
THR6	**Thira Island,**	**2.00**	**256**	*e*P	**Pn**	**04 26 58.8**	**+1.3**
AKS	**Akhisar**	**2.02**	**0**	PN	**Pn**	**04 26 57.2**	**-0.6**
THR5	**Thira Island,**	**2.03**	**258**	*e*P	**Pn**	**04 26 58.9**	**+1.0**
BCK	**Bucak**	**2.30**	**74**	*e*PN	**Pn**	**04 27 04.2**	**+2.3**
NPS	**Neapolis**	**2.39**	**229**	*e*PN	**Pn**	**04 27 05.0**	**+1.9**
XRY	**Khrisi**	**2.62**	**222**	*e*PN	**Pn**	**04 27 10.0**	**+3.6**
PRK	**Paraskevi**	**2.68**	**334**	*e*PN	**Pn**	**04 27 06.5**	**-0.7**
BALB	**Balikesir**	**2.78**	**1**	*e*PN	**Pn**	**04 27 07.7**	**-1.0**
IDI	**Anoyia**	**2.83**	**237**	P	**Pn**	**04 27 10.6**	**+1.1**
	7.9nm,0.3s,baz=63,slow=9.6,SNR=10						
ALT	**Altintas**	**2.85**	**39**	*e*PN	**Pn**	**04 27 09.2**	**-0.5**
ORLT	**Orhaneli**	**3.30**	**15**	*e*PN	**Pn**	**04 27 15.8**	**-0.3**
PTL	**Penteli**	**3.36**	**292**	*e*PB	**Pb**	**04 27 17.0**	**-5.6**
KCT	**Karacabey**	**3.43**	**7**	*e*PN	**Pn**	**04 27 16.6**	**-1.4**
ATH	**Athens Observa**	**3.44**	**290**	*e*PB	**Pb**	**04 27 18.5**	**-5.6**
MPAR	**Parnis Oros**	**3.49**	**293**	*e*PB	**Pb**	**04 27 19.5**	**-5.3**
NAIG	**Nisos Aigina**	**3.56**	**286**	*e*PN	**Pn**	**04 27 19.5**	**-0.3**
NSAL	**Nisos Salamina**	**3.62**	**288**	*e*PB	**Pb**	**04 27 21.0**	**-6.0**
LOS	**Limnos**	**3.75**	**326**	*e*P	**Pn**	**04 27 22.5**	**+0.1**
KONT	**Konya--Tatoy**	**3.79**	**72**	*e*PN	**Pn**	**04 27 24.8**	**+1.8**
KIZT	**Kizilcal**	**3.80**	**57**	*e*PN	**Pn**	**04 27 24.6**	**+1.4**
MKIT	**Kithairon Oros**	**3.85**	**292**	*e*PB	**Pb**	**04 27 24.5**	**-6.6**
KYTH	**Kithira**	**3.88**	**263**	*e*PN	**Pn**	**04 27 25.0**	**+0.6**
VLI	**Veliai**	**3.91**	**269**	*e*PN	**Pn**	**04 27 25.0**	**+0.2**
AKMC	**Akamas**	**4.10**	**115**	P	**Pn**	**04 27 28.8**	**+1.4**
BADT	**Buyukada**	**4.12**	**14**	*e*PN	**Pn**	**04 27 26.6**	**-1.1**
PPCY	**Paphos**	**4.18**	**117**	P	**Pn**	**04 27 30.3**	**+1.7**
ALFC	**Alevga**	**4.24**	**112**	⇑P	**Pn**	**04 27 30.6**	**+1.2**
	11nm,0.3s						
ALFC				S	**Sn**	**04 28 18.0**	**-1.3**
ALN	**Alexandroupoli**	**4.26**	**342**	*e*P	**Pn**	**04 27 29.3**	**-0.5**
PAIG	**Paliouri**	**4.46**	**315**	*e*P	**Pn**	**04 27 34.1**	**+1.4**
OUR	**Ouranopolis**	**4.59**	**320**	*e*P	**Pn**	**04 27 35.2**	**+0.8**
SZAC	**Souni-Zanaja**	**4.63**	**115**	⇑P	**Pn**	**04 27 35.8**	**+0.9**
	17nm,0.4s						
SZAC				S	**Sn**	**04 28 27.4**	**-1.8**
RDO	**Rodhopi**	**4.63**	**338**	*e*PN	**Pn**	**04 27 34.5**	**-0.5**
MAMC	**Mammari**	**4.70**	**109**	⇑P	**Pn**	**04 27 39.7**	**+3.8**
AGG	**Agios Georgios**	**4.84**	**298**	*e*P	**Pn**	**04 27 39.0**	**+1.0**
CSS	**Prodhromos**	**4.87**	**111**	P	**Pn**	**04 27 39.1**	**+0.8**
	4.4nm,0.5s						
CSS				S	**Sn**	**04 28 34.6**	**-0.6**
CSS	**Prodhromos**	**4.87**	**111**	*e*P	**Pn**	**04 27 39.9**	**+1.5**
KDZ	**Kurdzhali**	**5.13**	**340**	*i* P	**Pn**	**04 27 41.5**	**-0.6**
EVR	**Evrytania**	**5.17**	**295**	*e*PN	**Pn**	**04 27 43.5**	**+0.9**
SOH	**Sokhos**	**5.27**	**320**	*e*P	**Pn**	**04 27 45.0**	**+1.0**
SRS	**Serrai**	**5.37**	**324**	*e*P	**Pn**	**04 27 45.5**	**+0.1**
PHNC	**Paralimni**	**5.38**	**108**	P	**Pn**	**04 27 48.4**	**+2.9**
RZN	**Rozhen**	**5.39**	**335**	*i* P	**Pn**	**04 27 45.5**	**-0.2**
BRTR	**Keskin Array B**	**5.41**	**56**	P	**Pn**	**04 27 47.1**	**+1.2**
	3.6nm,0.3s,baz=357,slow=16,SNR=29						
BRTR				S	**Sn**	**04 28 47.1**	**-1.6**
	2.8nm,0.3s,baz=333,slow=15,SNR=7.7						
BRTR	**Keskin Array B**	**5.41**	**56**	P	**Pn**	**04 27 47.2**	**+1.2**
BRTR				S	**Sn**	**04 28 47.2**	**-1.6**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MMB	**Musomiste**	**5.69**	**327**	*i* P	**Pn**	**04 27 49.0**	**-0.9**
KNT	**Kendrikon**	**5.75**	**320**	*e*P	**Pn**	**04 27 51.4**	**+0.6**
GRG	**Griva**	**5.88**	**316**	*e*P	**Pn**	**04 27 53.3**	**+0.7**
KKB	**Krupnik**	**6.20**	**325**	*i* P	**Pn**	**04 27 57.0**	**-0.1**
FNA	**Florina**	**6.37**	**310**	*e*P	**Pn**	**04 28 01.6**	**+2.1**
IGT	**Igoumenitsa**	**6.46**	**297**	*e*P	**Pn**	**04 28 02.7**	**+1.8**
VTS	**Vitosha**	**6.74**	**330**	*i* P	**Pn**	**04 28 04.5**	**-0.2**
HNTI	**Hanita**	**7.12**	**120**	Pn	**Pn**	**04 28 12.1**	**+2.0**
HNTI				Sn	**Sn**	**04 29 26.4**	**-5.3**
HRI	**Mount Hermon**	**7.42**	**117**	Pn	**Pn**	**04 28 15.2**	**+0.9**
SLTI	**Sal'it**	**7.54**	**126**	Pn	**Pn**	**04 28 17.0**	**+1.1**
SLTI				Sn	**Sn**	**04 29 34.2**	**-7.8**
GLH	**Golan-Tel Qazi**	**7.66**	**120**	Pn	**Pn**	**04 28 17.9**	**+0.2**
MMLI	**Mount Malkishu**	**7.67**	**123**	Pn	**Pn**	**04 28 18.7**	**+1.0**
HMDT	**Nahal Hemdat**	**7.85**	**124**	Pn	**Pn**	**04 28 20.8**	**+0.5**
KZIT	**Kziot**	**8.07**	**135**	Pn	**P**	**04 28 22.4**	**-1.0**
KZIT				Sn	**Sn**	**04 29 47.5**	**-8.0**
DRGI	**Dragot**	**8.18**	**128**	Pn	**P**	**04 28 24.8**	**-0.2**
DRGI				Sn	**Sn**	**04 29 50.8**	**-7.4**
SVTA	**Shivta**	**8.18**	**134**	Pn	**P**	**04 28 24.0**	**-1.0**
MZDA	**Masada**	**8.36**	**129**	Pn	**P**	**04 28 27.6**	**+0.2**
MALT	**Malatya**	**8.56**	**77**	*e*P	**P**	**04 28 34.5**	**+4.4**
MLR	**Muntele Rosu**	**8.74**	**351**	P	**P**	**04 28 32.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=160,slow=18,SNR=3.2						
ZFRI	**Zfri**	**8.78**	**134**	Pn	**P**	**04 28 31.9**	**-1.4**
ASF	**Jabal al Asfar**	**8.84**	**119**	P	**P**	**04 28 34.4**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=198,slow=17,SNR=3.3						
ASF				S	**Sn**	**04 30 10.3**	**-4.1**
	comp=Z,1.5nm,0.3s,baz=270,slow=20,SNR=2.7						
PRNI	**Paran**	**8.84**	**135**	Pn	**P**	**04 28 32.4**	**-1.6**
KMTI	**Karmit**	**8.87**	**137**	Pn	**P**	**04 28 34.1**	**-0.4**
TIP	**Timpagrande**	**9.02**	**288**	*e*P	**P**	**04 28 35.9**	**-0.7**
MBH	**Mount Berech**	**9.22**	**138**	Pn	**P**	**04 28 38.1**	**-1.2**
EIL	**Elat**	**9.33**	**138**	Pn	**P**	**04 28 40.0**	**-0.9**
ALWS	**Ilw as Safayha**	**9.68**	**139**	P	**P**	**04 28 45.0**	**-0.6**
HAQS	**Haql**	**9.81**	**140**	P	**P**	**04 28 45.8**	**-1.7**
JMOS	**Jabal al Moall**	**9.81**	**139**	P	**P**	**04 28 46.4**	**-1.2**
JMOS				S	**Sn**	**04 30 31.9**	**-6.7**
BDAS	**Al Bad'**	**10.40**	**142**	P	**P**	**04 28 53.8**	**-1.9**
AYUS	**'Aynunah**	**10.69**	**142**	P	**P**	**04 28 57.8**	**-1.8**
AQU	**L'Aquila**	**12.39**	**301**	P	**P**	**04 29 21.6**	**-0.9**
	comp=Z,13nm,1.1s						
PSZ	**Piszkesteto**	**12.50**	**335**	P	**P**	**04 29 27.1**	**+3.1**
PGF	**Pioggiola**	**15.54**	**297**	*e*P	**P**	**04 30 03.5**	**-0.5**
	comp=Z,36nm,1.3s						
GEC2	**GERESS Array S**	**15.80**	**324**	*e*P	**P**	**04 30 15.8**	**+8.5**
GERES	**GERESS Array B**	**15.80**	**324**	P	**P**	**04 30 09.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=127,slow=9.8,SNR=2.8						
DPC	**Dobruska-Polom**	**15.82**	**332**	*e*P	**P**	**04 30 12.8**	**+5.3**
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**04 30 15.0**	**+4.4**
KHC				AP		04 30 19.5	
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**04 30 15.0**	**+4.4**
KHC				*e*		04 30 19.5	
PRU	**Pruhonice**	**16.25**	**328**	*e*P	**P**	**04 30 17.6**	**+4.6**
PVCC	**Panska Ves**	**16.65**	**329**	*e*P	**P**	**04 30 25.8**	**+7.7**
SBF	**Sospel**	**17.01**	**301**	*e*P	**P**	**04 30 22.8**	**+0.1**
FRF	**La Foret Royal**	**17.47**	**299**	*e*P	**P**	**04 30 27.7**	**-0.8**
	comp=Z,26nm,1.0s						
LMR	**La Mourre**	**17.51**	**298**	*e*P	**P**	**04 30 27.8**	**-1.2**
GRA1	**Grafenberg Arr**	**17.57**	**322**	*e*P	**P**	**04 30 33.5**	**+3.9**
	comp=Z,14nm,0.9s						
GRF	**Grafenberg Arr**	**17.57**	**322**	*e*P	**P**	**04 30 33.5**	**+3.9**
GRF				pmax	pmax		
	comp=Z,14nm,0.9s						
MBDF	**Montbardon**	**17.73**	**303**	*e*P	**P**	**04 30 30.6**	**-1.1**
	comp=Z,19nm,1.0s						
CLL	**Collm**	**17.89**	**329**	*i*	**P**	**04 30 37.5**	**+3.9**
CLL				*i*		04 30 39.0	
CLL				*i*		04 30 43.2	
CLL				*e*		04 30 56.0	
CLL	**Collm**	**17.89**	**329**	*i* P	**P**	**04 30 37.5**	**+3.9**
CLL				pmax	pmax		
	comp=Z,18nm,0.8s						
CLL	**Collm**	**17.89**	**329**	*i* P	**P**	**04 30 37.5**	**+3.9**
	comp=Z,18nm,0.8s						
CLL				*i*		04 30 39.0	
CLL				*i*		04 30 43.2	
BNI	**Bardonecchia**	**17.90**	**304**	*e*P	**P**	**04 30 35.2**	**+1.3**
LPG	**La Plagne**	**18.01**	**305**	*e*P	**P**	**04 30 36.8**	**+1.6**
	comp=Z,22nm,0.8s						
MOX	**Moxa**	**18.02**	**325**	*e*P	**P**	**04 30 34.0**	**-1.3**
LPL	**La Plagne**	**18.03**	**305**	*e*P	**P**	**04 30 36.6**	**+1.2**
	comp=Z,18nm,0.9s						
SMRF	**Simiane la Rot**	**18.33**	**300**	*e*P	**P**	**04 30 38.0**	**-1.2**
ORIF	**Oris-en-Rattie**	**18.39**	**303**	*e*P	**P**	**04 30 40.1**	**+0.1**
	comp=Z,18nm,1.1s						
CABF	**La Chapelle**	**18.86**	**308**	*e*P	**P**	**04 30 45.0**	**-0.6**
	comp=Z,20nm,0.7s						
HINF	**Hinteralfeld**	**18.91**	**312**	*e*P	**P**	**04 30 46.6**	**+0.4**
CDF	**Champ du Feu**	**18.95**	**314**	*e*P	**P**	**04 30 47.8**	**+1.1**
	comp=Z,17nm,0.9s						
VIVF	**Saint-Julien-l**	**19.19**	**302**	*e*P	**P**	**04 30 49.2**	**-0.4**
	comp=Z,22nm,1.0s						
HAU	**Haudompre**	**19.30**	**312**	*e*P	**P**	**04 30 51.2**	**+0.4**
	comp=Z,24nm,0.9s						
CLZ	**Clausthal**	**19.41**	**326**	*e*P	**P**	**04 30 54.6**	**+2.5**
	comp=Z,24nm,1.3s						
MEZF	**Maizieres J'vi**	**20.30**	**312**	*e*P	**P**	**04 31 02.3**	**+0.5**
RGN	**Rugen**	**20.31**	**335**	*e*P	**P**	**04 31 03.0**	**+1.2**
SMF	**Signal de Mont**	**20.31**	**306**	*e*P	**P**	**04 31 00.8**	**-1.1**
	comp=Z,69nm,1.1s						
LOR	**Lormes**	**20.52**	**308**	*e*P	**P**	**04 31 03.2**	**-0.9**
	comp=Z,34nm,1.0s						
MTLF	**Montolieu**	**20.57**	**296**	*e*P	**P**	**04 31 03.1**	**-1.6**
SSF	**Saint Saulge**	**20.67**	**307**	*e*P	**P**	**04 31 04.9**	**-0.8**
	comp=Z,39nm,0.7s						
AVF	**Avril sur Loir**	**20.68**	**306**	*e*P	**P**	**04 31 05.1**	**-0.6**
	comp=Z,73nm,1.1s						
BGF	**Bois d'Agland**	**20.93**	**305**	*e*P	**P**	**04 31 07.6**	**-0.7**
	comp=Z,57nm,1.2s						
GIVF	**Givet**	**21.19**	**316**	*e*P	**P**	**04 31 12.9**	**+2.0**
TCF	**Toulx Ste Croi**	**21.27**	**304**	*e*P	**P**	**04 31 12.1**	**+0.4**
	comp=Z,15nm,1.1s,mb4.0						
BAIF	**Baives**	**21.51**	**315**	*e*P	**P**	**04 31 14.5**	**+0.3**
EPF	**Esparros**	**21.89**	**295**	*e*P	**P**	**04 31 18.1**	**+0.1**
ETSF	**Etsaut**	**22.53**	**294**	*e*P	**P**	**04 31 24.3**	**-0.1**
	comp=Z,15nm,1.0s,mb4.1						
MFF	**Saint Martin d**	**22.92**	**304**	*e*P	**P**	**04 31 29.1**	**+0.9**
SJPF	**Ste Jean**	**23.04**	**295**	*e*P	**P**	**04 31 29.6**	**+0.2**
	comp=Z,33nm,1.2s,mb4.3						
LDF	**La Druitiere**	**23.50**	**309**	*e*P	**P**	**04 31 34.0**	**+0.3**
	comp=Z,95nm,1.3s,mb4.8						
FLN	**La Foliniere**	**23.78**	**309**	*e*P	**P**	**04 31 36.6**	**+0.1**
	comp=Z,70nm,1.0s,mb4.8						
GRR	**Gorron**	**23.89**	**308**	*e*P	**P**	**04 31 37.4**	**-0.2**
	comp=Z,118nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**24.63**	**358**	P	**P**	**04 31 44.2**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.0,baz=157,slow=14,SNR=8.9						
FINES	**FINESS Array B**	**24.63**	**358**	P	**P**	**04 31 44.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SGMF	**Saint Gilles**	**24.94**	**307**	*e*P	**P**	**04 31 46.9**	**-0.8**
	comp=Z,43nm,1.0s,mb4.6						
HFS	**Hagfors**	**24.99**	**343**	P	**P**	**04 31 47.2**	**-0.9**
	comp=Z,4.5nm,0.9s,mb4.0,baz=158,slow=8.0,SNR=5.9						
HFS	**Hagfors**	**24.99**	**343**	P	**P**	**04 31 47.2**	**-0.9**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ESDC	**Sonseca Array**	**25.04**	**286**	P	**P**	**04 31 48.2**	**-0.5**
	comp=Z,6.0nm,0.8s,mb4.2,baz=82,slow=9.3,SNR=16						
ESLA	**Sonseca Array**	**25.04**	**286**	*e*P	**P**	**04 31 48.9**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.6						
ROSF	**Rostrenen**	**25.42**	**307**	*e*P	**P**	**04 31 50.3**	**-2.0**
NB2	**NORSAR Subarra**	**26.39**	**342**	P	**P**	**04 31 58.9**	**-2.2**
	comp=Z,1.8nm,1.0s,mb3.6,baz=145,slow=9.3						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**04 31 58.5**	**-2.7**
	comp=Z,1.3nm,0.8s,mb3.5,baz=146,slow=8.8,SNR=5.1						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**04 31 58.5**	**-2.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**27.98**	**321**	P	**P**	**04 32 13.6**	**-2.1**
	comp=Z,1.6nm,0.8s,mb3.7,baz=105,slow=9.5,SNR=3.9						
EKA	**Eskdalemuir Ar**	**27.98**	**321**	P	**P**	**04 32 13.6**	**-2.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**32.76**	**359**	P	**P**	**04 32 55.8**	**-2.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=186,slow=9.1,SNR=3.3						
ARCES	**ARCESS Array B**	**32.76**	**359**	P	**P**	**04 32 55.8**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH	**Kashi**	**37.60**	**71**	*e*P	**P**	**04 33 41.9**	**+2.3**
KSH				*e*AP	pP	04 33 46.6	+3.2
KSH				*e*XP	sP	04 33 49.2	+4.1
KSH				*e*PP	PP	04 35 10.8	+2.6
KSH				*e*PCP	PcP	04 35 59.9	+2.1
KSH				*e*S	**S**	**04 39 30.0**	**+1.7**
KSH				*e*SCP		04 39 45.8	
KSH				*e*PCS		04 39 47.5	
KSH				*e*SCS	ScS	04 43 52.8	+2.1
KSH				LR	LR		
	comp=N,190nm,5.0s						
KSH				LR	LR		
	comp=E,100nm,6.0s						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**04 34 08.0**	**-0.2**
	comp=E,5.1nm,0.8s,mb4.2,baz=280,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**04 34 08.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**04 34 08.0**	**-0.2**
NVS	**Novosibirsk**	**41.37**	**46**	*i* P	**P**	**04 34 08.7**	**-2.0**
SPITS	**Spitsbergen Ar**	**41.71**	**356**	P	**P**	**04 34 12.6**	**-0.6**
	comp=Z,2.8nm,0.8s,mb3.9,baz=104,slow=8.3,SNR=2.9						
DBIC	**Dimbokro**	**42.30**	**233**	P	**P**	**04 34 17.1**	**-1.8**
	comp=Z,12nm,1.2s,mb4.4,baz=30,slow=18,SNR=5.5						
DBIC	**Dimbokro**	**42.30**	**233**	P	**P**	**04 34 17.1**	**-1.7**
DBIC				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ	**Urumqi**	**45.30**	**62**	*e*P	**P**	**04 34 46.5**	**+3.7**
WMQ				AP	pP	04 34 51.0	+4.4
WMQ				XP	sP	04 34 53.5	+5.3
WMQ				PP	PP	04 36 33.5	+4.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**54.01**	**50**	*e*P	**P**	**04 35 50.0**	**+0.6**
TSUM	**Tsumeb**	**56.58**	**192**	P	**P**	**04 36 07.4**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.3,baz=6.3,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**56.75**	**52**	P	**P**	**04 36 08.4**	**-1.0**
	comp=Z,3.2nm,0.7s,mb4.5,baz=297,slow=8.3,SNR=4.4						
LZH	**Lanzhou**	**59.54**	**66**	*e*P	**P**	**04 36 17.2**	**-12**
LZH				pP	pP	04 36 34.0	+1.0
LZH				sP	sP	04 36 35.4	+0.9
LBTB	**Lobatse**	**61.57**	**182**	*e*P	**P**	**04 36 43.7**	**+0.7**
	comp=Z,6.8nm,0.9s,mb4.8						
SCHQ	**Schefferville**	**63.28**	**320**	P	**P**	**04 36 51.4**	**-2.6**
	comp=Z,2.9nm,0.7s,mb4.5,baz=274,slow=15,SNR=4.0						
CMAR	**Chiang Mai Arr**	**64.27**	**86**	P	**P**	**04 36 59.9**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=311,slow=8.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**64.27**	**86**	P	**P**	**04 36 59.9**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GYA	**Guiyang**	**66.19**	**74**	P	**P**	**04 37 12.7**	**-0.6**
GYA				S	S	04 45 58.4	-1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
NJ2	**Nanjing**	**72.36**	**63**	*e*P	**P**	**04 37 54.5**	**+3.3**
MDJ	**Mudanjiang**	**72.48**	**47**	P	**P**	**04 37 52.9**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,56nm,4.0s						
MDJ				LR	LR		
	comp=N,196nm,22.2s,MS4.4						
MDJ				LR	LR		
	comp=E,182nm,25.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,175nm,16.4s						

SSE	**Sheshan**	74.55	63	P	P	04 38 06.2	+2.2
SSE				AMB	AMB		
	comp=Z,51nm,9.9s						
SSE	**Sheshan**	74.55	63	P	P	04 38 06.2	+2.2
	comp=Z,20nm,0.5s,mb5.3						
YKA	**Yellowknife Ar**	76.48	343	P	P	04 38 12.2	-2.1
	comp=Z,0.5nm,0.9s,mb3.4,baz=34,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	76.48	343	P	P	04 38 12.2	-2.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	76.48	343	P	P	04 38 12.2	-2.1
ILAR	**Eielson Array**	78.62	358	P	P	04 38 25.1	-0.9
	comp=Z,1.0nm,1.0s,mb3.7,baz=6.6,slow=4.1,SNR=4.6						
ILAR	**Eielson Array**	78.62	358	P	P	04 38 25.2	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
OTAV	**Otavalo**	102.83	280	PFAKE		04 40 30.0	+6.9
OTAV				LR	LR		
	comp=Z,357nm,19.0s,MS4.9						
ASAR	**Alice Springs**	116.25	101	PKP	PKPdf	04 45 06.5	-3.9
	comp=Z,0.3nm,0.7s,baz=318,slow=1.1,SNR=3.8						

WEL 04 04:37:46.1±0.6**,36.58S**×**177.28E,h220**^{km}±6^{km}**,ML3.6**/2**, Error ellipse: s-maj=8.4km s-min=6.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	1.68	153	PN	P	04 38 23.0	-0.5
PUZ				SN	S	04 38 50.6	-1.7
URZ	**Urewera**	1.68	185	PN	P	04 38 23.5	0.0
URZ				SN	S	04 38 52.5	+0.1
MWZ	**Matawai**	1.76	174	PN	P	04 38 24.3	+0.1
MWZ				SN	S	04 38 53.5	-0.2
KNZ	**Kokohu**	2.46	173	PN	P	04 38 31.3	+0.1
BKZ	**Black Stump Fm**	2.66	193	PN	P	04 38 32.4	-0.9
NGZ	**Ngauruhoe**	2.91	207	PN	P	04 38 36.1	-0.1
CNZ	**Chateau**	2.95	207	PN	P	04 38 36.6	-0.1
FWVZ	**Far West T-bar**	3.00	207	PN	P	04 38 36.5	-0.7
DRZ	**Dome Shelter**	3.01	206	PN	P	04 38 37.5	+0.1
WNVZ	**Wahianoa**	3.05	205	PN	P	04 38 37.1	-0.6
TSZ	**Takapari Road**	3.63	196	PN	P	04 38 42.8	-1.8
TSZ				SN	S	04 39 29.2	-0.8
BFZ	**Birch Farm**	4.17	191	PN	P	04 38 48.9	-2.4
BFZ				SN	S	04 39 36.7	-5.2
MRZ	**Mangatainoka R**	4.29	198	PN	P	04 38 48.9	-3.8
MRZ				SN	S	04 39 41.3	-3.1
KIW	**Kapiti Island**	4.66	203	PN	P	04 38 54.4	-3.0
MTW	**Mount Morrison**	4.78	196	PN	P	04 38 56.2	-2.6

*ISK **04** 04:44:31.1, 36.99N×27.56E, h5^{km}, MD3.3*
*NEIC **04** 04:44:35.4, 36.81N×27.73E, h24^{km}, MD3.4(ATH), After ATH.*
*ATH **04** 04:44:35.4, 36.81N×27.73E, h24^{km}±5^{km}, MD3.4/6*
ISC 04 04:44:33.0±0.6**,36.95N**±0.05×**27.63E**±0.07**,h5**^{km}**,n11,** σ**1**^{s}**01**/13**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	0.53	230	*e*PN	Pn	04 44 46.5	-0.2
YER	**Yerkesik**	0.55	70	PG	Pg	04 44 43.5	-0.5
ARG	**Arkhangelos**	0.83	151	*e*PN	Pn	04 44 48.5	-2.6
DENT	**Denizli**	1.37	54	PN	Pn	04 44 59.0	+0.2
DENT				SN	Sn	04 45 19.0	+1.4
KARP	**Karpathos**	1.45	195	*e*PN	Pn	04 45 00.0	0.0
KARP				*e*SN	Sn	04 45 20.0	+0.4
IZM	**Izmir**	1.47	349	PN	Pn	04 44 58.9	-1.4
APE	**Apeiranthos**	1.69	275	*e*PB	Pb	04 45 05.6	+1.5
KSL	**Kastellorizon**	1.76	116	*e*PN	Pn	04 45 05.0	+0.6
ELL	**Elmali**	1.84	96	*e*PN	Pn	04 45 05.8	+0.3
AKS	**Akhisar**	1.93	4	*e*PN	Pn	04 45 06.1	-0.7
PRK	**Paraskevi**	2.53	335	*e*PN	Pn	04 45 20.0	+4.6

*ISK **04** 04:47:00.5, 36.98N×27.69E, h3^{km}, MD3.3*
*NEIC **04** 04:47:04.7, 36.80N×27.80E, h15^{km}, MD3.2(ATH), After ATH.*
*ATH **04** 04:47:04.7, 36.80N×27.80E, h15^{km}±8^{km}, MD3.2/5*
ISC 04 04:47:01.5±0.5**,36.91N**±0.04×**27.73E**±0.04**,h3**^{km}**,n13,** σ**1**^{s}**15**/19**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.28	304	*i* P	Pg	04 47 07.0	0.0
BDRM				*i* S	Sg	04 47 13.7	+3.0
YER	**Yerkesik**	0.49	63	PG	Pg	04 47 10.5	-0.9
YER				SG	Sg	04 47 18.6	+0.6
NISR	**Nisiros**	0.57	238	*e*PN	Pn	04 47 16.0	-0.1
NISR				*e*SN	Sn	04 47 24.5	-1.6
AYDN	**Tasoluk**	0.76	9	⇑*i*P	Pg	04 47 16.4	-0.2
AYDN				*i* S	Sg	04 47 30.4	+3.7
ARG	**Arkhangelos**	0.77	155	*e*PN	Pn	04 47 17.0	-1.9
DNZL	**Cakiroluk**	1.31	53	*i* P	Pb	04 47 25.9	-0.4
DENT	**Denizli**	1.34	51	PN	Pn	04 47 27.2	+0.1
DENT				SN	Sn	04 47 45.9	+0.3
KARP	**Karpathos**	1.44	199	*e*PN	Pn	04 47 29.5	+1.0
KARP				*e*SN	Sn	04 47 49.0	+0.9
IZM	**Izmir**	1.53	346	PN	Pn	04 47 28.2	-1.6
KSL	**Kastellorizon**	1.68	116	*e*PN	Pn	04 47 34.5	+2.6
ELL	**Elmali**	1.76	95	*e*PN	Pn	04 47 33.3	+0.2
APE	**Apeiranthos**	1.77	276	*e*PN	Pn	04 47 34.0	+0.8
AKS	**Akhisar**	1.96	2	*e*PN	Pn	04 47 35.1	-1.0

KRSC 04 05:33:09.2,52.53N×**159.78E,h38**^{km}**,ML3.7,Off east coast of Kamchatka Peninsula**

ISC 04 05:43:13.6±1.5**,36.93N**±0.10×**27.76E**±0.06**,h19**^{km}±10^{km}**, n7,** σ**1**^{s}**26**/13**,2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.29	297	*i* P	Pb	05 43 19.5	-0.5
BDRM				*i* S	Sb	05 43 24.7	+0.4
YER	**Yerkesik**	0.46	64	*i* PG	Pb	05 43 21.6	-1.3
YER				*i* SG	Sb	05 43 28.7	-0.6
AYDN	**Tasoluk**	0.73	7	⇑*i*P	Pb	05 43 27.5	0.0
AYDN				*i* S	Sb	05 43 37.5	+0.4
DNZL	**Cakiroluk**	1.27	53	*i* P	Pb	05 43 37.5	+0.8
DNZL				*i* S	Sb	05 43 56.3	+3.7
DENT	**Denizli**	1.30	51	PN	Pn	05 43 38.3	+1.3
KDAG	**Bornova**	1.52	345	⇑*i*P	Pn	05 43 38.3	-1.8
KDAG				*i* S	Sn	05 43 59.8	+0.3
MANT	**Manisa**	1.68	22	*i* P	Pn	05 43 45.1	+2.7
MANT				*i* S	Sn	05 44 00.9	-2.7

WEL 04 05:45:25.0±0.4**,37.09S**×**176.70E,h259**^{km}±4^{km}**,ML3.9**/4**, Error ellipse: s-maj=6.6km s-min=6.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	1.21	165	PN	P	05 46 02.0	-0.4
URZ				SN	S	05 46 31.4	-0.3
MXZ	**Matakaoa Point**	1.36	111	PN	P	05 46 03.4	-0.1
MXZ				SN	S	05 46 32.8	-0.7
MWZ	**Matawai**	1.40	152	PN	P	05 46 03.5	-0.2
MWZ				SN	S	05 46 33.0	-0.9
PUZ	**Puketiti**	1.58	129	PN	P	05 46 04.9	-0.1
PUZ				SN	S	05 46 34.8	-1.4
KNZ	**Kokohu**	2.07	159	PN	P	05 46 09.1	0.0
BKZ	**Black Stump Fm**	2.08	184	PN	P	05 46 08.7	-0.5
NGZ	**Ngauruhoe**	2.25	202	PN	P	05 46 10.9	0.0
TUVZ	**Tukino**	2.32	200	PN	P	05 46 11.4	-0.1
FWVZ	**Far West T-bar**	2.34	202	PN	P	05 46 12.0	+0.3
FWVZ				SN	S	05 46 48.7	+0.7
WNVZ	**Wahianoa**	2.40	201	PN	P	05 46 11.9	-0.3
BFZ	**Birch Farm**	3.60	185	PN	P	05 46 24.1	-1.0
MRZ	**Mangatainoka R**	3.67	193	PN	P	05 46 20.7	-5.2
KIW	**Kapiti Island**	4.01	200	PN	P	05 46 27.8	-2.1
CAW	**Cannon Point**	4.21	197	PN	P	05 46 29.6	-2.5
PAWZ	**Paruwai Farm**	4.40	193	SN	S	05 47 25.5	-2.9
MSWZ	**Moikau Station**	4.46	194	PN	P	05 46 32.4	-2.7
TUWZ	**Tuamarina**	4.83	205	PN	P	05 46 36.7	-2.8
TUWZ				SN	S	05 47 33.7	-4.0
NNZ	**Nelson**	4.86	211	PN	P	05 46 36.8	-3.1
QRZ	**Quartz Range**	4.95	220	PN	P	05 46 37.2	-3.7
THZ	**Tophouse**	5.51	211	PN	P	05 46 44.8	-3.0
KHZ	**Kahutara**	5.85	204	PN	P	05 46 48.9	-3.1
LTZ	**Lake Taylor**	6.62	210	PN	P	05 46 57.6	-4.1

MEX 04 05:45:57.9±1.5**,19.02N**×**103.88W,h5**^{km}±21^{km}**,MD3.7, Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGX	**Ciudad Guzman**	0.75	27	*e*P	Pg	05 46 10.0	-2.9
CJM	**Chamela**	1.20	294	*i* P	Pb	05 46 16.8	-4.0
CJM				*i* S	Sb	05 46 33.5	-2.8
SFJM	**Santa Fe**	1.66	28	*i* P	Pn	05 46 25.0	-2.8
SFJM				*i* S	Sb	05 46 44.0	-5.6
MOIG	**Morelia**	2.62	75	*i* P	Pn	05 46 40.1	-1.4
MOIG				*i* S	Sn	05 47 09.2	-5.0
PPM	**Popocatepetl**	4.97	89	*i* P	Pn	05 47 15.6	+0.7

*ATH **04** 05:46:11.8, 37.04N×27.73E, h5^{km}, MD4.0/17, ML4.1*
*BJI **04** 05:46:12.3, 36.90N×27.28E, h31^{km}, mB4.3, mb4.2, Ms4.3, Msz4.1*
*MOS **04** 05:46:12.0±1.0, 36.85N×27.72E, h10^{km}, mb4.1/5, Error ellipse: s-maj=17.4km s-min=7.0km az=105.3*
*ISK **04** 05:46:14.5, 37.14N×27.73E, h5^{km}, MD3.7, ML3.9*
*NEIC **04** 05:46:14.1±0.2, 36.87N×27.85E, h10^{km}, mb3.9/15, ML4.1(ATH), Error ellipse: s-maj=4.7km s-min=3.0km az=214.0*
*IDC **04** 05:46:16.8±3.5, 36.89N×27.75E, h34^{km}±31^{km}, mb3.9/7, mb1 3.9/12, mb1mx3.8/24, ML3.8/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=18.8km s-min=16.1km az=172.0*
ISC 04 05:46:13.9±0.5**,36.92N**±0.02×**27.78E**±0.02**,h20**^{km}±4^{km}**, h13**^{km}±1.4^{km}**:pP-P,n125,** σ**0**^{s}**97**/137**,mb4.2**/12**,1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.31	298	*i* P	Pb	05 46 20.2	-0.6
BDRM				*i* S	Sb	05 46 24.6	-0.7
YER	**Yerkesik**	0.46	62	*i* PG	Pb	05 46 23.4	+0.2
YER				SG	Sb	05 46 30.4	+0.9
NISR	**Nisiros**	0.61	240	*e*PB	Pb	05 46 25.5	-0.3
NISR	**Nisiros**	0.61	240	*e*Pb	Pb	05 46 25.8	0.0
AYDN	**Tasoluk**	0.74	6	*i* P	Pb	05 46 28.0	0.0
AYDN				*i* S	Sb	05 46 37.6	-0.1
ARG	**Arkhangelos**	0.76	158	*e*PG	Pb	05 46 28.5	+0.2
DNZL	**Cakiroluk**	1.27	52	*i* P	Pn	05 46 37.9	+1.2
DNZL				*i* S	Sb	05 46 56.0	+3.1
DENT	**Denizli**	1.30	50	*i* PN	Pn	05 46 38.2	+1.0
KARP	**Karpathos**	1.46	200	*e*PG	Pn	05 46 40.0	+0.5
IZM	**Izmir**	1.53	345	*i* PN	Pn	05 46 40.0	-0.5
KDAG	**Bornova**	1.53	345	*i* P	Pn	05 46 40.3	-0.2
KDAG				*i* S	Sn	05 47 04.2	+4.1
KSL	**Kastellorizon**	1.64	117	*e*PN	Pn	05 46 44.8	+2.7
MANT	**Manisa**	1.68	21	*i* P	Pn	05 46 43.2	+0.5
MANT				*i* S	Sn	05 47 02.7	-1.1
ELL	**Elmali**	1.72	95	PN	Pn	05 46 47.1	+4.0
APE	**Apeiranthos**	1.81	275	*e*PG	Pn	05 46 44.5	0.0
SANT	**Santorini**	1.95	254	*e*P	Pn	05 46 47.5	+1.0
SANT				*e*S	Sn	05 47 19.8	+9.3
AKS	**Akhisar**	1.96	1	*i* PN	Pn	05 46 46.0	-0.6
KHL	**Karahalli**	1.97	44	PN	Pn	05 46 47.8	+1.1
THR4	**Thira Island,**	1.97	257	*e*P	Pn	05 46 52.7	+5.9
THR3	**Thira Island,**	1.98	256	*e*P	Pn	05 46 52.2	+5.3
THR6	**Thira Island,**	2.00	254	*e*P	Pn	05 46 52.7	+5.5
THR5	**Thira Island,**	2.02	256	*e*P	Pn	05 46 53.4	+5.8
BCK	**Bucak**	2.31	76	*e*PN	Pn	05 46 54.1	+2.5
NPS	**Neapolis**	2.41	227	*e*PN	Pn	05 46 55.0	+1.9
PRK	**Paraskevi**	2.61	333	*e*PN	Pn	05 46 55.8	-0.1
XRY	**Khrisi**	2.65	220	*e*PN	Pn	05 46 59.5	+2.9
BALB	**Balikesir**	2.72	2	*e*PN	Pn	05 46 56.8	-0.6
ALT	**Altintas**	2.81	40	*e*PN	Pn	05 46 59.4	+0.5
IDI	**Anoyia**	2.85	236	Pn	Pn	05 46 59.5	+0.1
	4.3nm,0.3s,baz=30,slow=10,SNR=13						
IDI				Sn	Sn	05 47 35.3	+1.8
	17nm,0.3s,baz=63,slow=22,SNR=5.2						
BOZC	**Bozcaada**	3.22	336	*i* P	Pn	05 47 04.1	-0.5
PTL	**Penteli**	3.31	291	*e*PB	Pb	05 47 06.5	-5.4
ULDT	**Uludag**	3.39	18	*i* P	Pn	05 47 06.5	-0.5
ULDT				*i* S	Sn	05 47 56.7	+10
ATH	**Athens Observa**	3.40	289	*e*PN	Pn	05 47 07.5	+0.3
MPAR	**Parnis Oros**	3.44	292	*e*PB	Pb	05 47 08.5	-5.6
NAIG	**Nisos Aigina**	3.52	285	*e*PB	Pb	05 47 11.0	-4.4
NSAL	**Nisos Salamina**	3.58	287	*e*PN	Pn	05 47 10.0	+0.3
NSAL	**Nisos Salamina**	3.58	287	*e*Pb	Pb	05 47 13.0	-3.4
GVD	**Gavdhos**	3.65	236	P	Pn	05 47 10.3	-0.3
LOS	**Limnos**	3.68	326	*e*P	Pn	05 47 11.4	+0.3
HDMB	**Hadim**	3.77	88	*e*PN	Pn	05 47 15.7	+3.3
MKIT	**Kithairon Oros**	3.81	291	*e*PN	Pn	05 47 13.5	+0.6
KYTH	**Kithira**	3.87	262	*e*PN	Pn	05 47 14.0	+0.2
ALN	**Alexandroupoli**	4.20	342	*e*P	Pn	05 47 17.6	-0.9
OUR	**Ouranopolis**	4.52	320	*e*P	Pn	05 47 22.7	-0.4
RDO	**Rodhopi**	4.57	338	*e*PN	Pn	05 47 23.0	-0.7
CSS	**Prodhromos**	4.91	112	⇓*e*P	Pn	05 47 28.5	0.0
CSS				*e*S	Sn	05 48 18.7	-6.8
EVR	**Evrytania**	5.12	295	*e*PN	Pn	05 47 31.5	-0.1
SRS	**Serrai**	5.31	323	*e*P	Pn	05 47 34.0	-0.2
RZN	**Rozhen**	5.32	334	*i* P	Pn	05 47 33.8	-0.6
BRTR	**Keskin Array B**	5.39	57	Pn	Pn	05 47 36.0	+0.7
	1.7nm,0.3s,baz=238,slow=15,SNR=14						
BRTR				Sn	Sn	05 48 36.7	-0.9
	0.2nm,0.3s,baz=239,slow=17,SNR=3.6						
BRTR	**Keskin Array B**	5.39	57	P	Pn	05 47 36.1	+0.7
BRTR						05 48 36.7	
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DIM	**Dimitrovgrad**	5.41	342	*i* P	Pn	05 47 34.5	-1.1
MMB	**Musomiste**	5.62	327	*i* P	Pn	05 47 37.5	-1.1
KKB	**Krupnik**	6.13	325	*i* P	Pn	05 47 45.5	-0.4
PGB	**Panagyurishte**	6.27	335	*i* P	Pn	05 47 46.5	-1.3
VTS	**Vitosha**	6.67	330	*i* P	Pn	05 47 53.0	-0.4
KSHT	**Keshet**	7.67	118	P	Pn	05 48 06.0	-1.5
GLH	**Golan-Tel Qazi**	7.71	121	P	Pn	05 48 07.3	-0.7
MMLI	**Mount Malkishu**	7.72	123	P	Pn	05 48 08.1	0.0
HMDT	**Nahal Hemdat**	7.90	124	P	Pn	05 48 11.2	+0.5
KZIT	**Kziot**	8.14	136	P	P	05 48 12.2	-1.7
DRGI	**Dragot**	8.24	128	P	P	05 48 14.5	-0.9
MZDA	**Masada**	8.41	129	P	P	05 48 17.6	-0.2
MALT	**Malatya**	8.56	77	P	P	05 48 19.2	-0.7
MLR	**Muntele Rosu**	8.67	351	Pn	P	05 48 21.5	+0.2
	comp=Z,0.5nm,0.3s,baz=228,slow=11,SNR=5.5						
MLR				LR	LR	05 52 01.3	
	comp=Z,68nm,20.9s,baz=132,slow=40						
MLR	**Muntele Rosu**	8.67	351	P	P	05 48 21.5	+0.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,68nm,20.9s						
ASF	**Jabal al Asfar**	8.88	120	Pn	P	05 48 22.3	-2.0
	comp=Z,0.8nm,0.3s,baz=260,slow=2.3,SNR=5.6						
ASF				Sn	Sn	05 50 03.9	-0.9
	comp=Z,0.5nm,0.3s,baz=144,slow=19,SNR=2.6						
PRNI	**Paran**	8.90	135	P	P	05 48 22.6	-1.9
KMTI	**Karmit**	8.93	138	P	P	05 48 22.1	-2.9
TIP	**Timpagrande**	8.98	288	*e*P	P	05 48 26.3	+0.6
GNI	**Garni**	13.66	71	LR	LR	05 55 12.6	
	comp=Z,59nm,18.7s,baz=288,slow=39						
OKC	**Ostrava-Krasne**	14.67	335	*e*P	P	05 49 49.7	+7.6
OKC				LM		05 56 30.0	
	comp=Z,0.2nm,14.7s						
PGF	**Pioggiola**	15.49	297	*e*P	P	05 49 52.2	-0.7
	comp=Z,25nm,1.1s						
GERES	**GERESS Array B**	15.73	324	Pn	P	05 49 57.0	+1.0
	comp=Z,0.2nm,0.3s,baz=150,slow=7.9,SNR=4.1						
DPC	**Dobruska-Polom**	15.75	332	*e*P	P	05 50 02.4	+6.2
DPC				LM		05 57 10.0	
	comp=Z,0.3nm,9.0s						
KHC	**Kasperske Hory**	15.99	324	*e*P	P	05 50 03.7	+4.4
KHC						05 50 14.0	
KHC				LM		05 57 00.0	
	comp=Z,0.2nm,14.6s						
KHC	**Kasperske Hory**	15.99	324	*e*P	P	05 50 03.7	+4.4
KHC				MLR	MLR		
	comp=Z,200nm,14.6s						
KHC	**Kasperske Hory**	15.99	324	*e*P	P	05 50 03.7	+4.4
KHC				*e*		05 50 14.0	
PRU	**Pruhonice**	16.18	328	*e*P	P	05 50 06.0	+4.3
PRU				LM		05 57 10.0	
PVCC	**Panska Ves**	16.58	329	*e*P	P	05 50 07.9	+1.1
PVCC				MLR	MLR		
	comp=Z,100nm,17.2s						
SBF	**Sospel**	16.96	300	*e*P	P	05 50 11.4	-0.2
	comp=Z,18nm,0.9s						
BRG	**Berggiesshubel**	17.10	329	*e*P	P	05 50 15.6	+2.3
BRG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRG	**Berggiesshubel**	17.10	329	*e*P	P	05 50 15.6	+2.3
	comp=Z,2.3nm,0.6s						
BRG				*i*		05 50 20.8	
MBDF	**Montbardon**	17.68	303	*e*P	P	05 50 20.5	-0.1
	comp=Z,5.0nm,0.7s						
CLL	**Collm**	17.82	328	P	P	05 50 27.8	+5.5
	comp=Z,logA/T=1.1						
CLL				*i*		05 50 32.4	
CLL	**Collm**	17.82	328	*i* P	P	05 50 27.8	+5.5
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	17.82	328	*i* P	P	05 50 27.8	+5.5
	comp=Z,9.0nm,0.8s						
CLL				*i*		05 50 32.4	
MOX	**Moxa**	17.96	325	*e*P	P	05 50 28.0	+4.0
CABF	**La Chapelle**	18.80	308	*e*P	P	05 50 34.4	0.0
	comp=Z,9.5nm,0.8s						
HINF	**Hinteralfeld**	18.85	312	*e*P	P	05 50 36.4	+1.4
	comp=Z,4.4nm,0.7s						
CDF	**Champ du Feu**	18.89	314	*e*P	P	05 50 36.5	+1.1
OBN	**Obninsk**	19.16	16	*e*P	P	05 50 39.4	+0.8
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HAU	**Haudompre**	19.24	312	*e*P	P	05 50 39.7	+0.1
	comp=Z,8.0nm,0.7s						
SMF	**Signal de Mont**	20.26	306	*e*P	P	05 50 50.3	-0.5
	comp=Z,15nm,0.9s						
LOR	**Lormes**	20.47	308	*e*P	P	05 50 52.7	-0.2
SSF	**Saint Saulge**	20.62	307	*e*P	P	05 50 54.3	-0.2
	comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	20.62	306	*e*P	P	05 50 53.5	-1.0
	comp=Z,18nm,0.9s						
BGF	**Bois d’Agland**	20.87	305	*e*P	P	05 50 56.9	-0.2
LDF	**La Druitiere**	23.44	309	*e*P	P	05 51 22.5	-0.1
FLN	**La Foliniere**	23.72	309	*e*P	P	05 51 25.1	-0.2
	comp=Z,23nm,1.0s,mb4.3						
GRR	**Gorron**	23.84	308	*e*P	P	05 51 26.6	+0.2
	comp=Z,24nm,0.8s,mb4.4						
FINES	**FINESS Array B**	24.57	358	P	P	05 51 33.0	-0.4
	comp=Z,1.1nm,0.6s,mb3.6,baz=168,slow=18,SNR=6.5						
FINES	**FINESS Array B**	24.57	358	P	P	05 51 33.0	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	24.93	343	P	P	05 51 36.7	-0.1
	comp=Z,3.9nm,0.9s,mb3.9,baz=169,slow=7.6,SNR=6.4						
HFS	**Hagfors**	24.93	343	P	P	05 51 36.7	-0.1
HFS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ESDC	**Sonseca Array**	25.00	286	P	P	05 51 37.5	-0.3
	comp=Z,2.4nm,0.6s,mb3.9,baz=80,slow=10,SNR=6.7						
NB2	**NORSAR Subarra**	26.32	342	P	P	05 51 49.5	-0.3
	comp=Z,0.6nm,0.8s,mb3.2,baz=145,slow=9.3						
NOA	**NORSAR Array B**	26.32	342	P	P	05 51 49.8	-0.1
	comp=Z,2.2nm,1.1s,mb3.6,baz=172,slow=10.0,SNR=3.8						
NOA	**NORSAR Array B**	26.32	342	P	P	05 51 49.8	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	**Arti**	28.38	37	P	P	05 52 10.8	+2.2
	comp=Z,1.5nm,0.4s,mb4.0						
ZRNK	**Zerenda**	32.76	47	*e*P	P	05 52 47.7	+0.2
KSH	**Kashi**	37.60	71	*e*P	P	05 53 30.1	+1.2
KSH				*e*AP	pP	05 53 34.6	-0.4
KSH				*e*XP	sP	05 53 37.3	-0.2
KSH				*e*PP	PP	05 54 58.6	+1.0
KSH				*e*PCP	PcP	05 55 47.7	+0.7
KSH				*e*S	S	05 59 08.7	-8.2
KSH				*e*SS	SS	06 01 52.1	+1.2
KSH				LR	LR		
	comp=N,120nm,4.2s						
KSH				LR	LR		
	comp=E,150nm,7.4s						
MKAR	**Makanchi Array**	41.04	58	P	P	05 53 57.1	-0.2
	comp=E,2.9nm,0.8s,mb4.0,baz=270,slow=3.6,SNR=12						
MKAR	**Makanchi Array**	41.04	58	P	P	05 53 57.2	-0.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	42.32	233	P	P	05 54 07.0	-1.3
	comp=Z,8.9nm,1.1s,mb4.3,baz=70,slow=9.4,SNR=5.9						
DBIC	**Dimbokro**	42.32	233	P	P	05 54 07.1	-1.2
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PICO	**Pico**	43.90	290	*e*S	S	06 01 00.1	+10
WMQ	**Urumqi**	45.29	62	*e*P	P	05 54 33.1	+1.1
WMQ				AP	pP	05 54 37.6	-0.5
WMQ				PP	PP	05 56 19.6	+0.9
ZAK	**Zakamensk**	53.99	50	*e*P	P	05 55 38.7	+0.2
LZH	**Lanzhou**	59.53	66	*e*P	P	05 56 17.2	-1.0
	comp=Z,25nm,1.5s,mb5.0						
LZH				pP	pP	05 56 20.4	-4.2
LZH				sP	sP	05 56 21.9	-5.0
CMAR	**Chiang Mai Arr**	64.29	86	P	P	05 56 49.1	-1.3
	comp=Z,0.7nm,0.5s,mb4.0,baz=305,slow=6.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	64.29	86	P	P	05 56 49.1	-1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CN2	**Changchun**	70.42	50	*e*P	P	05 57 29.0	+0.5
NJ2	**Nanjing**	72.35	63	*e*P	P	05 57 40.1	-0.3
SSE	**Sheshan**	74.54	63	P	P	05 57 53.8	+0.7
	comp=Z,45nm,0.6s,mb5.6						

*JMA **04** 06:26:51.7±0.2, 23.02N×121.57E, h53^{km}, M2.9*
TAP 04 06:26:51.1,23.11N×**121.34E,h18**^{km}**,ML3.5,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	2.04	48	P	Pn	06 27 23.3	-1.8
YOJ				*e*S	Sn	06 27 46.7	-3.6
HATJ	**Hateruma jima**	2.45	67	*e*S	Sn	06 27 55.0	-5.8
JKRS	**Kuro-shima**	2.69	65	P	Pn	06 27 31.9	-2.6
JKRS				*e*S	Sn	06 28 01.8	-5.1
JIJ	**Ishigaki jima**	2.85	64	P	Pn	06 27 33.7	-3.1
JIJ				*e*S	Sn	06 28 05.3	-5.8
JTJ	**Tarama**	3.43	63	P	Pn	06 27 42.3	-2.7
JTJ				*e*S	Sn	06 28 20.2	-5.5

*IDC **04** 06:28:01.8±9.4, 19.59N×94.43E, h43^{km}±79^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.3/18, ML4.0/1, Error ellipse: s-maj=134.0km s-min=25.6km az=59.0*
ISC 04 06:28:05.2±2.4**,20.0N**±0.2×**95.0E**±0.2**,h88**^{km}±23^{km}**,n8,** σ**0**^{s}**69**/10**,mb3.5**/3**,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	3.90	106	PG	P	06 29 05.2	+1.0
CHG				SG	S	06 29 48.4	-0.7
CMAR	**Chiang Mai Arr**	4.02	111	P	P	06 29 06.2	+0.4
	1.8nm,0.3s,baz=284,slow=13,SNR=14						
CHRT	**Chiangrai**	4.51	90	P	P	06 29 13.0	+0.4
	105nm,0.8s						
BDT	**Bhumibol Dam**	4.67	125	P	P	06 29 14.0	-0.8
	22nm,0.6s						
SHL	**Shillong**	6.27	333	*e*PG	P	06 29 41.2	+4.3
SHL				*e*SG	S	06 30 47.3	-0.5
MKAR	**Makanchi Array**	28.71	342	P	P	06 33 56.5	+0.3
	0.5nm,0.5s,mb3.4,baz=168,slow=7.1,SNR=5.3						
WRA	**Warramunga Arr**	55.30	133	P	P	06 37 31.4	-0.9
	0.4nm,0.6s,mb3.7,baz=317,slow=7.6,SNR=13						
ASAR	**Alice Springs**	57.61	137	P	P	06 37 49.4	+0.6
	0.2nm,0.5s,mb3.4,baz=308,slow=6.9,SNR=4.2						

*NEIC **04** 06:45:44.7, 36.91N×27.71E, h23^{km}, MD3.7(ATH), After ATH.*
*ATH **04** 06:45:44.7, 36.91N×27.71E, h23^{km}±8^{km}, MD3.7/6*
*ISK **04** 06:45:45.7, 37.19N×27.84E, h5^{km}, MD3.7, ML3.8*
*IDC **04** 06:45:48.0±4.1, 37.02N×27.64E, h36^{km}±46^{km}, mb3.7/2, mb1 3.6/5, mb1mx3.4/21, ML3.5/3, MS2.6/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=38.7km s-min=25.9km az=162.0*
ISC 04 06:45:44.8±0.6**,36.92N**±0.03×**27.74E**±0.04**,h17**^{km}±6^{km}**, n32,** σ**0**^{s}**91**/40**,mb3.7**/2**,MS2.5**/1**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.28	302	*i* P	Pb	06 45 51.1	+0.2

BDRM				*i* S	Sb	06 45 56.3	+1.2
YER	Yerkesik	0.49	63	*i* PG	Pb	06 45 53.5	-1.0
YER				SG	Sb	06 46 00.4	-0.7
NISR	Nisiros	0.58	238	*e*PN	Pn	06 45 56.8	-1.2
AYDN	Tasoluk	0.75	9	*i* P	Pb	06 45 59.1	0.0
AYDN				*i* S	Sb	06 46 09.1	+0.4
ARG	Arkhangelos	0.77	156	*e*PB	Pb	06 45 58.6	-0.7
DNZL	Cakiroluk	1.30	53	*i* P	Pn	06 46 08.1	-0.2
DNZL				*i* S	Sb	06 46 24.3	-0.3
DENT	Denizli	1.33	51	*i* PN	Pn	06 46 08.1	-0.6
KARP	Karpathos	1.45	199	*e*PN	Pn	06 46 11.0	+0.6
IZM	Izmir	1.52	346	PN	Pn	06 46 11.9	+0.4
KDAG	Bornova	1.53	346	*i* P	Pn	06 46 11.4	-0.2
KDAG				*i* S	Sn	06 46 31.1	-0.1
KSL	Kastellorizon	1.67	117	*e*PN	Pn	06 46 15.5	+1.9
MANT	Manisa	1.70	22	*i* P	Pn	06 46 14.3	+0.2
MANT				*i* S	Sn	06 46 38.1	+2.6
ELL	Elmali	1.75	95	PN	Pn	06 46 18.2	+3.5
APE	Apeiranthos	1.77	276	*e*PB	Pb	06 46 15.5	-1.0
AKS	Akhisar	1.96	2	*i* PN	Pn	06 46 17.6	-0.2
KHL	Karahalli	1.99	45	PN	Pn	06 46 18.1	-0.2
BCK	Bucak	2.34	76	*e*PN	Pn	06 46 24.4	+1.2
PRK	Paraskevi	2.60	334	*e*PN	Pn	06 46 27.5	+0.6
BALB	Balikesir	2.72	2	*e*PN	Pn	06 46 28.4	-0.2
IDI	Anoyia	2.82	236	Pn	Pn	06 46 30.7	+0.6
	2.2nm,0.3s,baz=45,slow=14,SNR=9.6						
ORLT	Orhaneli	3.25	16	*e*PN	Pn	06 46 35.9	-0.3
ULDT	Uludag	3.40	18	*i* P	Pn	06 46 38.4	+0.1
ULDT				*i* S	Sn	06 47 25.1	+6.5
LPK	Lapseki	3.53	348	*e*PN	Pn	06 46 40.1	-0.1
HDMB	Hadim	3.80	88	*e*PN	Pn	06 46 46.9	+2.9
KIZT	Kizilcal	3.82	58	*e*PN	Pn	06 46 44.8	+0.6
BRTR	Keskin Array B	5.42	57	Pn	Pn	06 47 06.7	-0.2
	0.9nm,0.3s,baz=238,slow=16,SNR=15						
BRTR				Sn	Sn	06 48 08.6	-1.1
	0.4nm,0.3s,baz=236,slow=24,SNR=7.3						
BRTR	Keskin Array B	5.42	57	Pn	Pn	06 47 06.7	-0.2
BRTR				Sn	Sn	06 48 08.6	-1.1
GERES	GERESS Array B	15.71	324	Pn	P	06 49 26.0	-0.9
	0.1nm,0.3s,baz=128,slow=11,SNR=2.2						
FINES	FINESS Array B	24.57	358	P	P	06 51 03.0	-1.7
	1.4nm,0.8s,mb3.6,baz=158,slow=10,SNR=4.3						
NOA	NORSAR Array B	26.31	342	LR	LR	07 02 34.3	
	comp=Z,14nm,20.4s,MS2.5,baz=220,slow=38						
MKAR	Makanchi Array	41.07	58	P	P	06 53 28.2	-0.8
	2.0nm,0.7s,mb3.9,baz=267,slow=4.5,SNR=19						
MKAR	Makanchi Array	41.07	58	P	P	06 53 28.2	-0.8

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*IDC **04** 06:58:40.9±1.1, 69.72S×169.03W, mb4.0/3, mb1 4.4/4, mb1mx4.1/11, ML4.3/1, Error ellipse: s-maj=49.7km s-min=27.2km az=23.0*

NEIC 04 06:58:42.6±0.8**, 69.73S×169.31W, h10**^{km}**, Error ellipse: s-maj=21.8km s-min=15.4km az=99.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	10.42	208	*e*P	P	07 01 10.8	-4.1
	9.9nm,0.3s						
VNDA	Vanda	11.11	213	Pn	P	07 01 20.9	-3.5
	2.2nm,0.3s,baz=74,slow=17,SNR=98						
VNDA				Sn	S	07 03 18.8	-11
	0.2nm,0.3s,baz=35,slow=12,SNR=3.5						
QSPA	South Pole Qui	20.35	180	*e*P	P	07 03 20.7	-0.7
ASAR	Alice Springs	56.69	293	P	P	07 08 26.5	-1.8
	0.9nm,0.6s,baz=156,slow=7.0,SNR=13						
WRA	Warramunga Arr	60.03	295	P	P	07 08 49.6	-2.1
	0.9nm,0.7s,baz=158,slow=6.2,SNR=8.9						
LPAZ	La Paz	78.68	106	P	P	07 10 44.8	-1.4
	1.1nm,0.6s,baz=205,slow=6.4,SNR=8.3						
BVAR	Borovoye Array	148.56	269	PKPbc	PKPdf	07 18 28.1	+0.7
	0.7nm,0.6s,baz=180,slow=5.8,SNR=3.5						
ESDC	Sonseca Array	148.90	158	PKPbc	PKPdf	07 18 29.0	+0.6
	0.5nm,0.4s,baz=164,slow=2.2,SNR=5.7						

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*ISK **04** 06:59:15.4, 37.07N×27.65E, h5^{km}, MD3.2*

*NEIC **04** 06:59:16.3, 36.92N×27.61E, h29^{km}, MD3.4(ATH), After ATH.*

*ATH **04** 06:59:16.3, 36.92N×27.61E, h29^{km}±1^{km}, MD3.4/6*

ISC 04 06:59:16.4±0.6**, 36.92N**±0.03×**27.64E**±0.05**, h16**^{km}±8^{km}**, n20, σ0.**^{s}**89**/28**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.22	313	*i* P	Pb	06 59 21.3	-0.2
BDRM				*i* S	Sb	06 59 25.8	+0.8
NISR	Nisiros	0.51	234	*e*PB	Pb	06 59 26.8	+0.3
YER	Yerkesik	0.56	67	*i* PG	Pb	06 59 25.8	-1.5
YER				SG	Sb	06 59 34.6	-0.2
AYDN	Tasoluk	0.77	14	*i* P	Pb	06 59 30.5	-0.3
AYDN				*i* S	Sb	06 59 41.4	+0.5
ARG	Arkhangelos	0.80	151	*e*PN	Pn	06 59 30.5	-2.4
ARG				*e*SN	Sn	06 59 44.5	+0.1
DNZL	Cakiroluk	1.36	55	⇑*i*P	Pn	06 59 40.8	-0.1
DNZL				*i* S	Sb	07 00 03.7	+5.7
DENT	Denizli	1.39	53	PN	Pn	06 59 41.8	+0.5
KARP	Karpathos	1.42	196	*e*PB	Pb	06 59 41.2	-0.8
KARP				*e*SN	Sn	07 00 01.0	+0.8
IZM	Izmir	1.51	349	PN	Pn	06 59 42.5	-0.5
KDAG	Bornova	1.51	349	*i* P	Pn	06 59 42.5	-0.6
KDAG				*i* S	Sb	07 00 03.7	+1.2
APE	Apeiranthos	1.70	276	*e*PN	Pn	06 59 46.0	+0.3
MANT	Manisa	1.73	25	*i* P	Pn	06 59 45.9	-0.3
MANT				*i* S	Sn	07 00 13.1	+5.0
KSL	Kastellorizon	1.74	115	*e*PN	Pn	06 59 47.0	+0.7
ELL	Elmali	1.83	95	PN	Pn	06 59 49.7	+2.1
AKS	Akhisar	1.96	4	PN	Pn	06 59 48.7	-0.8
PRK	Paraskevi	2.56	335	*e*PN	Pn	06 59 58.0	-0.1
BALB	Balikesir	2.73	4	*e*PN	Pn	06 59 59.8	-0.6
LPK	Lapseki	3.52	349	*e*PN	Pn	07 00 10.9	-0.8
HDMB	Hadim	3.88	88	*e*PN	Pn	07 00 18.6	+1.8
KIZT	Kizilcal	3.88	58	*e*PN	Pn	07 00 17.0	+0.1

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*ISK **04** 07:04:59.7, 36.91N×27.61E, h5^{km}, ML3.0*

*NEIC **04** 07:05:04.5, 36.83N×27.83E, h10^{km}, MD3.3(ATH), After ATH.*

*ATH **04** 07:05:04.5, 36.83N×27.83E, h10^{km}±6^{km}, MD3.3/6*

ISC 04 07:05:03.5±0.5**, 36.93N**±0.03×**27.76E**±0.04**, h10**^{km}**, n17, σ1.**^{s}**29**/24**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.29	298	*i* P	Pg	07 05 09.5	0.0
BDRM				*i* S	Sg	07 05 14.8	+1.2
MLSB	Milas	0.36	2	PG	Pg	07 05 08.1	-2.9
MLSB				SG	Sg	07 05 16.1	+0.1
YER	Yerkesik	0.46	64	*i* PG	Pg	07 05 11.9	-1.0
NISR	Nisiros	0.60	238	*e*PB	Pb	07 05 15.0	-0.6
NISR				*e*SB	Sb	07 05 25.0	+1.1
ARG	Arkhangelos	0.77	158	*e*PB	Pb	07 05 17.5	-1.0
DNZL	Cakiroluk	1.27	53	⇑*i*P	Pb	07 05 27.6	+0.5
DNZL				*i* S	Sb	07 05 45.2	+1.9
DENT	Denizli	1.30	50	PN	Pn	07 05 27.8	0.0
KARP	Karpathos	1.46	200	*e*PG	Pg	07 05 30.0	-2.8
KARP				*e*SB	Sb	07 05 50.0	+1.1
IZM	Izmir	1.52	345	*e*PN	Pn	07 05 28.4	-2.5
KDAG	Bornova	1.52	345	⇑*i*P	Pn	07 05 30.3	-0.7
KDAG				*i* S	Sb	07 05 50.0	-0.7
KSL	Kastellorizon	1.66	117	*e*PB	Pb	07 05 34.0	+0.3
MANT	Manisa	1.68	22	*i* P	Pn	07 05 35.9	+2.7
MANT				*i* S	Sn	07 05 58.6	+3.7
ELL	Elmali	1.73	95	*e*PN	Pn	07 05 33.8	-0.1
APE	Apeiranthos	1.79	275	*e*PN	Pn	07 05 38.5	+3.7
AKS	Akhisar	1.95	1	PN	Pn	07 05 36.1	-0.9
PRK	Paraskevi	2.59	333	*e*PN	Pn	07 05 50.5	+4.2
HDMB	Hadim	3.78	88	*e*PN	Pn	07 06 03.7	+0.5

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*ISK **04** 07:18:39.6, 37.42N×28.07E, h12^{km}, MD3.0*

*NEIC **04** 07:18:39.9, 36.69N×27.54E, h25^{km}, MD3.2(ATH), After ATH.*

*ATH **04** 07:18:39.9, 36.69N×27.54E, h25^{km}±18^{km}, MD3.2/5*

ISC 04 07:18:36.3±1.0**, 36.86N**±0.04×**27.73E**±0.05**, h5**^{km}±8^{km}**, n15, σ0.**^{s}**91**/20**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	312	*i* P	Pg	07 18 43.0	+0.5
BDRM				*i* S	Sg	07 18 47.8	+1.2
MLSB	Milas	0.43	5	PG	Pg	07 18 44.6	-0.4
MLSB				SG	Sg	07 18 50.5	-0.4
YER	Yerkesik	0.52	59	*i* PG	Pg	07 18 46.6	-0.2
NISR	Nisiros	0.54	243	*e*PB	Pb	07 18 47.5	-0.4
ARG	Arkhangelos	0.72	153	*e*PN	Pn	07 18 53.0	+0.1
AYDN	Tasoluk	0.81	9	*i* P	Pb	07 18 51.7	-0.8
AYDN				*i* S	Sg	07 19 02.6	-0.6
DNZL	Cakiroluk	1.34	52	*i* P	Pb	07 19 02.5	+0.9
DNZL				*i* S	Sb	07 19 19.0	0.0
DENT	Denizli	1.37	49	*e*PG	Pg	07 18 56.8	-6.9
KARP	Karpathos	1.39	199	*e*PN	Pn	07 19 03.0	+0.5
IZM	Izmir	1.58	347	PN	Pn	07 19 02.5	-2.7
KDAG	Bornova	1.58	347	*i* P	Pn	07 19 05.5	+0.3
KDAG				*i* S	Sb	07 19 27.3	+1.4
ELL	Elmali	1.76	93	*e*PN	Pn	07 19 08.7	+1.0
APE	Apeiranthos	1.77	277	*e*PN	Pn	07 19 06.5	-1.4
AKS	Akhisar	2.01	2	*e*PN	Pn	07 19 06.2	-5.2
PRK	Paraskevi	2.64	335	*e*PN	Pn	07 19 25.5	+5.1

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*NEIC **04** 07:21:46.0, 36.80N×27.60E, h5^{km}, MD3.2(ATH), After ATH.*

*ATH **04** 07:21:46.0, 36.79N×27.59E, h5^{km}, MD3.2/4*

*ISK **04** 07:21:47.4, 37.17N×28.02E, h17^{km}, MD3.1*

ISC 04 07:21:43.6±0.6**, 36.93N**±0.03×**27.72E**±0.07**, h5**^{km}**, n13, σ1.**^{s}**13**/17**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	302	*i* P	Pg	07 21 48.1	-0.8
BDRM				*i* S	Pg	07 21 48.1	-0.8
MLSB	Milas	0.37	7	PG	Pg	07 21 53.1	+2.1
MLSB				SG	Sg	07 21 57.1	+1.1
YER	Yerkesik	0.49	65	*i* PG	Pg	07 21 52.7	-0.8
NISR	Nisiros	0.57	237	*e*PG	Pg	07 21 53.5	-1.5
AYDN	Tasoluk	0.74	10	*i* P	Pg	07 21 57.7	-0.8
AYDN				*i* S	Sg	07 22 07.9	-0.4
ARG	Arkhangelos	0.78	155	*e*PB	Pb	07 21 59.0	-0.3
ARG				*e*SB	Sb	07 22 10.5	+0.6
DENT	Denizli	1.33	51	*e*PG	Pg	07 22 07.4	-2.8
KARP	Karpathos	1.45	198	*e*PB	Pb	07 22 12.0	+1.3
KARP	Karpathos	1.45	198	*e*Pb	Pb	07 22 12.5	+1.8
IZM	Izmir	1.51	346	*i* PN	Pn	07 22 12.1	+0.7
ELL	Elmali	1.76	95	*e*PN	Pn	07 22 15.4	+0.4
AKS	Akhisar	1.95	2	*e*PN	Pn	07 22 17.9	+0.2
PRK	Paraskevi	2.58	334	*e*PN	Pn	07 22 33.0	+6.2

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*IDC **04** 07:30:12.9±19.0, 29.11N×67.64E, mb3.6/4, mb1 3.7/4, mb1mx3.4/21, Error ellipse: s-maj=358.0km s-min=55.2km az=161.0*

ISC 04 07:30:13.2±1.4**, 28.7N**±0.2×**67.48E**±0.09**, h33**^{km}**, n11, σ1.**^{s}**11**/13**, mb3.6**/4**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NDI	New Delhi	8.55	88	*e*P	P	07 32 21.0	+3.4
NDI				*e*S	S	07 33 52.0	-2.0
SMLA	Simla	8.74	72	*i* P	P	07 32 28.8	+8.6
SMLA				*i* S	S	07 34 00.3	+1.7
	468nm,0.4s						
KOLN	Koldanda	14.24	90	*e*P	P	07 33 34.3	-0.4
	20nm,0.9s						
GKN	Gorkha	15.13	89	*e*P	P	07 33 46.4	+0.2
	8.7nm,0.4s						
KKN	Kakani	15.72	89	*e*P	P	07 33 53.7	-0.1
PKI	Pulchoki	15.86	90	*e*P	P	07 33 56.1	+0.4
GUN	Gumba	16.23	88	*e*P	P	07 34 00.4	+0.1
	23nm,0.4s						
MKAR	Makanchi Array	21.43	29	P	P	07 34 58.4	-2.1
	4.6nm,0.9s,mb3.8,baz=200,slow=9.1,SNR=14						
BVAR	Borovoye Array	24.36	4	P	P	07 35 28.9	-0.3
	0.7nm,0.7s,mb3.2,baz=180,slow=14,SNR=4.2						
ARCES	ARCESS Array B	47.37	341	P	P	07 38 46.0	+0.4
	0.7nm,0.8s,mb3.6,baz=108,slow=8.6,SNR=3.3						
NOA	NORSAR Array B	49.07	328	P	P	07 38 59.4	+0.5
	0.6nm,0.7s,mb3.7,baz=106,slow=7.9,SNR=3.4						

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*IDC **04** 07:38:31.1±1.2, 10.31S×161.08E, mb3.9/7, mb1 4.1/8, mb1mx4.0/15, ML4.0/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/16, Error ellipse: s-maj=59.6km s-min=22.4km az=133.0*

*NEIC **04** 07:38:40.1±4.5, 10.30S×160.94E, h66^{km}±38^{km}, mb4.1/2, Error ellipse: s-maj=31.8km s-min=19.7km az=115.0*

ISC 04 07:38:35.1±0.8**, 10.3S**±0.2×**161.0E**±0.2**, h33**^{km}**, n12, σ0.**^{s}**79**/10**, mb3.8**/8**, MS3.6**/3**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	13.62	272	LR	LR	07 46 43.6	
	comp=Z,208nm,18.7s,baz=234,slow=36						
CTA	Charters Tower	17.20	234	P	P	07 42 35.9	+1.4
	0.3nm,0.3s,baz=56,slow=13,SNR=14						
CTA				LR	LR	07 46 58.4	
	comp=Z,61nm,19.8s,baz=226,slow=29						
CTAO	Charters Tower	17.20	234	*e*P	P	07 42 36.4	+1.9
	10nm,0.9s						
WRA	Warramunga Arr	27.39	246	P	P	07 44 19.2	-0.6
	0.6nm,0.6s,mb3.3,baz=75,slow=8.8,SNR=3.1						
STKA	Stephens Creek	27.98	217	P	P	07 44 23.9	-1.1
	6.3nm,1.1s,mb4.1,baz=69,slow=8.6,SNR=2.5						
STKA				LR	LR	07 54 33.6	
	comp=Z,106nm,18.7s,MS3.5,baz=22,slow=34						
ASAR	Alice Springs	29.02	239	P	P	07 44 33.5	-0.9
	0.4nm,0.7s,mb3.3,baz=59,slow=11,SNR=2.4						
ASAR				LR	LR	07 55 55.2	
	comp=Z,112nm,19.8s,MS3.5,baz=20,slow=36						
QSPA	South Pole Qui	79.72	180	*e*P	P	07 50 41.2	+0.5
	3.1nm,1.0s,mb4.2						
MAW	Mawson	83.64	202	P	P	07 51 01.4	+0.2
	1.9nm,0.8s,mb4.3,baz=92,slow=4.2,SNR=4.2						
ILAR	Eielson Array	84.34	20	P	P	07 51 04.7	-0.1
	0.3nm,0.5s,mb3.7,baz=244,slow=5.3,SNR=5.9						
NVAR	Mina Array Bea	89.16	51	P	P	07 51 28.8	-0.1
	0.5nm,0.6s,mb4.0,baz=237,slow=10.0,SNR=5.3						
MKAR	Makanchi Array	89.77	318	P	P	07 51 32.1	+0.5
	0.2nm,0.5s,mb3.7,baz=117,slow=3.2,SNR=4.2						
TXAR	Lajitas Array	99.61	62	LR	LR	08 30 48.3	
	comp=Z,33nm,19.0s,MS3.9,baz=200,slow=32						

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*ISK **04** 08:00:59.4, 36.96N×27.73E, h6^{km}, MD3.3*

*ATH **04** 08:01:01.7, 36.87N×27.68E, h28^{km}±4^{km}, MD3.2/5*

ISC 04 08:01:00.0±0.8**, 36.90N**±0.03×**27.75E**±0.05**, h7**^{km}±6^{km}**, n17, σ1.**^{s}**07**/25**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	304	*i* P	Pg	08 01 07.1	+1.0
BDRM				*i* S	Sg	08 01 11.9	+1.7
MLSB	Milas	0.40	3	PG	Pg	08 01 07.1	-0.9
YER	Yerkesik	0.48	61	*i* PG	Pg	08 01 08.7	-1.1
NISR	Nisiros	0.58	240	*e*PN	Pn	08 01 13.0	-1.3
ARG	Arkhangelos	0.74	156	*e*PB	Pb	08 01 15.0	+0.1
ARG				*e*SN	Sn	08 01 28.0	-0.2
AYDN	Tasoluk	0.77	7	⇑*i*P	Pb	08 01 14.5	-0.7
AYDN				*i* S	Sb	08 01 24.5	-1.1
DNZL	Cakiroluk	1.30	52	⇑*i*P	Pb	08 01 23.9	-0.4
DNZL				*i* S	Sb	08 01 42.8	+1.8
DENT	Denizli	1.33	50	PN	Pn	08 01 24.8	-0.2
DENT				SN	Sn	08 01 43.1	0.0
KARP	Karpathos	1.43	200	*e*PN	Pn	08 01 26.8	+0.3
KARP				*e*SN	Sn	08 01 45.5	-0.2
IZM	Izmir	1.55	346	PN	Pn	08 01 26.8	-1.3
KDAG	Bornova	1.55	346	⇑*i*P	Pn	08 01 27.3	-0.9
KDAG				*i* S	Sb	08 01 49.5	+1.1
KSL	Kastellorizon	1.65	116	*e*PN	Pn	08 01 32.0	+2.4
MANT	Manisa	1.71	22	*i* P	Pn	08 01 29.1	-1.3
MANT				*i* S	Sn	08 01 55.2	+2.4
ELL	Elmali	1.74	94	PN	Pn	08 01 31.4	+0.6
APE	Apeiranthos	1.79	276	*e*PN	Pn	08 01 32.0	+0.4
AKS	Akhisar	1.98	1	*e*PN	Pn	08 01 33.1	-1.2
ISP	Isparta	2.39	66	*e*PN	Pn	08 01 40.6	+0.4

IDC 04 08:28:14.6±3.3**, 18.65S×177.39W, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=382.0km s-min=34.3km az=160.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.45	260	P	P	08 36 35.3	-2.1
	0.3nm,0.8s,baz=97,slow=7.3,SNR=3.6						
ASAR	Alice Springs	45.52	255	P	P	08 36 36.5	-1.4
	0.7nm,0.6s,baz=89,slow=7.6,SNR=5.2						
TXAR	Lajitas Array	85.58	57	P	P	08 40 55.3	-1.1
	0.3nm,0.7s,baz=219,slow=5.8,SNR=4.3						

TRN 04 08:30:18.7, 12.58N×58.10W, h20^{km}**, MD4.0, Md4.2**(FDF)**, 3C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSV	Crater Summit	3.10	284	⇑*i*P	Pn	08 31 07.8	+0.1
SSV				*e*S	Sn	08 31 41.5	-3.1
SVB	Belmont	3.15	283	*e*P	Pn	08 31 08.3	0.0
SVB				*e*S	Sn	08 31 43.6	-2.1
GRCU	Cariacou	3.27	268	*e*P	Pn	08 31 09.1	-1.0
GRCU				*e*S	Sn	08 31 46.3	-2.6
MVM	Montagne Vaucl	3.35	306	*e*P	Pn	08 31 10.0	-1.2
BIM	Bigot	3.47	304	⇑*e*P	Pn	08 31 11.6	-1.3
GRHS	Sauteurs	3.47	265	*e*P	Pn	08 31 12.0	-1.0
GRHS				*e*S	Sn	08 31 49.9	-4.2
GRHS				*e*S	Sn	08 31 54.8	+0.8
CRM	Caravelle	3.48	309	⇑*e*P	Pn	08 31 11.9	-1.2
CRM				*e*S	Sn	08 31 50.5	-3.8
GRW	Mount Saint Ca	3.50	264	*e*P	Pn	08 31 12.7	-0.7
GRW				*e*S	Sn	08 31 53.0	-1.7
FDF	Fort de France	3.65	306	*e*P	Pn	08 31 14.0	-1.6
FDF				*e*S	Sn	08 31 53.7	-4.9
TRN	Trinidad (W)	3.76	240	*e*P	Pn	08 31 14.0	-3.0
TRN				*e*S	Sn	08 31 57.6	-3.6
DSTT	Stowe	4.08	311	*e*P	Pn	08 31 21.4	-0.2
DSTT				*e*S	Sn	08 32 06.1	-3.4

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*PRU **04** 08:31:30.7, 51.55N×16.08E*

WAR 04 08:31:31.2, 51.55N×16.05E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	168	*e*PG	Pg	08 31 44.0	-1.7
KSP				*e*SG	Sg	08 31 54.0	-1.3
DPC	Dobruska-Polom	1.21	172	*e*PG	Pg	08 31 53.3	-2.1
DPC				*e*SG	Sg	08 32 09.4	-2.2
PVCC	Panska Ves	1.39	223	*e*PG	Pg	08 31 57.1	-1.8
PVCC				*e*SG	Sg	08 32 16.4	-0.9
PRU	Pruhonice	1.83	212	*e*PG	Pg	08 32 05.2	-2.6
PRU				*e*SG	Sg	08 32 29.3	-2.9
	4.6nm,0.3s						
CLL	Collm	1.92	264	*e*PG	Pg	08 32 06.0	-3.6
CLL				*e*SG	Sg	08 32 32.0	-3.2
OKC	Ostrava-Krasne	2.17	141	*e*SG	Sg	08 32 39.9	-3.6
KHC	Kasperske Hory	2.89	214	*e*PG	Pg	08 32 23.7	-5.3
KHC				*e*SG	Sg	08 33 02.5	-5.0

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*IDC **04** 08:40:07.9±1.8, 16.04S×177.34W, mb4.0/6, mb1 4.3/6, mb1mx4.0/16, Error ellipse: s-maj=102.0km s-min=25.5km az=148.0*

*NEIC **04** 08:40:09.5±1.0, 16.06S×177.35W, h10^{km}, mb4.6/1, Error ellipse: s-maj=56.7km s-min=14.1km az=150.0*

ISC 04 08:40:08.2±1.5**, 16.0S**±0.5×**177.4W**±0.3**, h10**^{km}**, n10, σ0.**^{s}**25**/10**, mb4.1**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.38	239	P	P	08 47 48.3	+0.1
	4.6nm,1.1s,mb4.1,baz=99,slow=12,SNR=9.2						
STKA	Stephens Creek	40.38	239	*e*P	P	08 47 47.8	-0.3
WB2	Warramunga Arr	45.91	258	*e*P	P	08 48 33.4	+0.2
WRA	Warramunga Arr	45.92	258	P	P	08 48 33.3	0.0
	0.5nm,0.3s,mb3.9,baz=94,slow=8.0,SNR=53						
ASAR	Alice Springs	46.23	252	P	P	08 48 35.5	-0.2
	6.5nm,0.4s,mb4.9,baz=88,slow=8.1,SNR=118						
ASPA	Alice Springs	46.23	252	*e*P	P	08 48 35.4	-0.3
KAKA	Kakadu	48.62	267	*e*P	P	08 48 54.9	+0.4
	3.2nm,0.5s,mb4.6						
FITZ	Fitzroy Crossi	54.28	259	P	P	08 49 37.1	0.0
	1.9nm,0.8s,mb4.1,baz=121,slow=5.9,SNR=7.8						
ILAR	Eielson Array	83.82	13	P	P	08 52 38.5	-0.3
	0.2nm,0.4s,mb3.6,baz=232,slow=5.1,SNR=4.2						
TXAR	Lajitas Array	84.19	57	P	P	08 52 41.8	+0.2
	0.2nm,0.6s,mb3.4,baz=210,slow=7.3,SNR=3.5						

IDC 04 08:42:43.9±10.0**, 12.08N×93.23E, h54**^{km}±87^{km}**, mb4.0**/4**, mb1 4.2**/5**, mb1mx3.7**/19**, ML4.5**/1**, MS2.8**/1**, Ms1 3.0**/1**, ms1mx2.6**/21**, 1C, Error ellipse: s-maj=100.0km s-min=52.4km az=64.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.40	40	P	P	08 44 43.0	-2.5
	1.7nm,0.3s,baz=234,slow=15,SNR=36						
CMAR				LR	LR	08 48 24.1	
	comp=Z,62nm,18.2s,baz=190,slow=40						
MKAR	Makanchi Array	35.81	347	pP	pP	08 49 49.8	-4.2
	0.5nm,0.5s,baz=183,slow=8.2,SNR=4.2						
FITZ	Fitzroy Crossi	43.84	133	⇑*i*P	P	08 50 44.9	-1.9
	2.5nm,0.3s						
FITZ	Fitzroy Crossi	43.84	133	P	P	08 50 44.7	-2.2
	2.8nm,0.3s,baz=350,slow=9.5,SNR=19						
NWAO	Narrogin (SRO)	50.28	154	P	P	08 51 35.6	-1.5
	3.3nm,0.6s,baz=286,slow=7.4,SNR=4.6						
WRA	Warramunga Arr	51.48	128	P	P	08 51 44.0	-2.3
	1.0nm,0.4s,baz=300,slow=10.0,SNR=29						
WRA				PcP	PcP	08 52 57.6	-2.6
	0.6nm,0.7s,baz=321,slow=3.0,SNR=8.9						
WB2	Warramunga Arr	51.49	128	*e*P	P	08 51 43.9	-2.5
ASAR	Alice Springs	53.33	132	P	P	08 51 57.9	-2.3
	1.1nm,0.4s,baz=309,slow=7.0,SNR=19						

CASC 04 08:46:14.9±2.3**, 10.25N×86.28W, MD3.8, 5C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.65	101	⇑*e*P	Pg	08 46 29.2	+1.3
JCR	Jicaral	1.22	109	⇓*e*P	Pb	08 46 37.5	-1.0
CONN	Concepcion	1.46	26	*e*P	Pn	08 46 41.5	-1.1
FORC	Fortuna	1.60	82	⇓*e*P	Pn	08 46 44.3	-0.3
TICN	Ticuantepe	1.77	1	*e*P	Pn	08 46 46.6	-0.4
CGA2	Cerro Gallo 2	1.80	97	*e*P	Pn	08 46 47.1	-0.4
MGAN	Managua	1.89	1	*e*P	Pn	08 46 47.9	-0.8
MGAN				*e*S	Sn	08 47 16.7	+3.2
COPN	Copaltepe	1.94	351	*e*P	Pn	08 46 48.8	-0.7
PRS1	Puriscal	1.95	98	*e*P	Pn	08 46 48.8	-0.9
VPS2	Volcan Poas 2	2.01	91	⇑*e*P	Pn	08 46 50.4	-0.1
LAJ	Bijagual	2.16	100	*e*P	Pn	08 46 47.5	-5.1
SJS	Escuela Geolog	2.21	98	*e*P	Pn	08 46 55.0	+1.6
SJS				*e*S	Sn	08 47 21.9	+0.1
LEON	Leon	2.24	344	*e*P	Pn	08 46 52.9	-0.8
PYN	Poneloya	2.24	341	*e*P	Pn	08 46 53.6	-0.2
LCR2	La Lucha 2	2.30	102	⇑*e*P	Pn	08 46 54.0	-0.5
LCR2				*e*S	Sn	08 47 27.0	+3.0
TEL3	Telica 3	2.38	347	*e*P	Pn	08 46 54.7	-1.0
URSC	Urasca	2.50	99	⇑*e*P	Pn	08 46 57.8	+0.4
TRTC	Tortuguero	2.54	82	⇑*e*P	Pn	08 46 56.2	-1.9
BUS	Buena Vista	2.58	105	*e*P	Pn	08 46 58.3	-0.2

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*NIED **04** 08:53:00, 39.00N×144.40E, h5^{km}, Mw3.7 Best double couple: $M_0$4.59×10^{14} NP1:ϕ_s157°, δ63°, λ-99°. NP2: ϕ_s356°, δ28°, λ-73°.*

*IDC **04** 08:53:12.9±1.5, 38.85N×144.87E, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, Error ellipse: s-maj=42.3km s-min=33.1km az=93.0*

*NEIC **04** 08:53:16.5±7.0, 38.87N×144.87E, h23^{km}±50^{km}, Error ellipse: s-maj=25.1km s-min=20.9km az=86.0*

*JMA **04** 08:53:19.6±0.2, 39.01N×144.36E, h45^{km}, M3.9*

ISC 04 08:53:17.5±1.0**, 39.06N**±0.05×**144.52E**±0.07**, h36**^{km}±10^{km}**, n27, σ1.**^{s}**23**/40**, mb3.6**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyako 2	2.16	285	P	P	08 53 52.7	+0.9
MIYJ				*e*S	S	08 54 17.2	-0.3
OFUJ	Ofunato	2.22	272	P	P	08 53 53.4	+0.7
OFUJ				S	S	08 54 18.4	-0.8
JTH	Tanohata	2.24	294	P	P	08 53 53.7	+0.8

JTH				eS	S	08 54 19.5	-0.1
JOM	Ohasama	2.54	280	P	P	08 53 58.2	+0.9
JOM				eS	S	08 54 26.9	-0.4
JMK	Ichinoseki	2.57	269	P	P	08 53 58.6	+0.8
JMK				eS	S	08 54 27.7	-0.5
JANG	Nango	2.67	301	P	P	08 53 59.4	+0.3
JMM	Marumori	3.16	249	P	P	08 54 06.3	+0.2
JMM				eS	S	08 54 40.1	-2.9
JYK	Kaneyama	3.25	269	P	P	08 54 08.0	+0.7
JOT	Ohata	3.53	312	eS	S	08 54 51.4	-1.1
JCH	Churui	3.66	346	P	P	08 54 13.3	+0.1
JCH				eS	S	08 54 53.5	-2.3
JKB	Kayabe	3.88	318	P	P	08 54 18.7	+2.3
NEM2	Nemuro 2	4.40	12	P	P	08 54 21.6	-2.1
NEM2				eS	S	08 55 09.1	-5.4
JOSM	Okushiri--Mats	4.89	310	P	P	08 54 32.4	+1.8
JTKR	Abashiri--Toko	4.93	355	P	P	08 54 30.3	-0.9
JTKR				eS	S	08 55 23.7	-4.1
JHR	Hokuryu	5.13	337	P	P	08 54 35.6	+1.6
JHR				eS	S	08 55 32.2	-0.7
BSO1	Boso 1	5.23	214	P	P	08 54 31.6	-3.8
JRY	Ryogami san	5.40	238	P	P	08 54 36.1	-1.6
JRY				eS	S	08 55 33.5	-6.0
MAJO	Matsushiro	5.59	245	eP	P	08 54 40.2	-0.3
	14nm,0.5s						
MAT	Matsushiro	5.59	245	P	P	08 54 40.9	+0.4
MAT				eS	S	08 55 44.4	-0.1
MAT	Matsushiro	5.59	245	eP	P	08 54 41.0	+0.5
	8.4nm,0.5s						
MAT				S	S	08 55 44.0	-0.5
JOD2	Odawara 2	5.76	231	eS	S	08 55 41.2	-7.4
MKAR	Makanchi Array	45.16	301	P	P	09 01 33.1	+0.9
	1.0nm,0.7s,mb3.7,baz=98,slow=8.6,SNR=4.3						
ILAR	Eielson Array	46.47	33	P	P	09 01 41.3	-1.1
	0.4nm,0.7s,mb3.5,baz=261,slow=6.4,SNR=4.8						
KURK	Kurchatov	46.65	307	eP	P	09 01 45.9	+1.9
BVAR	Borovoye Array	51.05	312	P	P	09 02 19.8	+1.9
	1.1nm,0.8s,mb3.8,baz=80,slow=9.0,SNR=4.2						
ZRNK	Zerenda	51.87	312	eP	P	09 02 24.5	+0.4
WRA	Warramunga Arr	59.46	191	P	P	09 03 16.6	-2.7
	0.4nm,0.7s,mb3.6,baz=9.4,slow=6.8,SNR=4.7						

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*MDD **04** 08:56:43.4±0.3, 43.12N×0.72W, h10^{km}±1^{km}, mbLg1.3/6, Error ellipse: s-maj=3.5km s-min=1.6km az=20.0, PRXIMO*
*STR **04** 08:56:43.2±0.1, 43.10N×0.71W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 08:56:43.4±0.1, 43.11N×0.71W, h2^{km}, Md1.9/2, Error ellipse: s-maj=3.1km s-min=1.4km az=16.0*
ISC 04 08:56:42.9±0.6, **43.12N**±0.04×**0.70W**±0.03, **h5^{km}, n16, σ0^{s}78**/24, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORDF	Ordiarp	0.19	299	Pg	Pg	08 56 47.5	+0.6
ORDF				Sg	Sg	08 56 50.5	+1.0
ORDF	Ordiarp	0.19	299	Pg	Pg	08 56 47.4	+0.5
ORDF				Lg		08 56 50.4	
LARF	Larrau	0.22	249	Pg	Pg	08 56 47.7	+0.3
LARF				Sg	Sg	08 56 51.2	+0.7
LARF	Larrau	0.22	249	Pg	Pg	08 56 47.8	+0.4
LARF				Lg		08 56 51.2	
REYF	Montagne du Re	0.23	102	Pg	Pg	08 56 48.3	+0.6
REYF				Sg	Sg	08 56 52.3	+1.5
REYF	Montagne du Re	0.23	102	Pg	Pg	08 56 48.4	+0.7
REYF				Lg		08 56 52.3	
ETSF	Etsaut	0.24	154	ePg	Pg	08 56 48.3	+0.4
ETSF				eSg	Sg	08 56 51.6	+0.4
	24nm,0.2s						
FDAF	Les Forges d'A	0.32	161	Pg	Pg	08 56 49.4	+0.1
FDAF				Sg	Sg	08 56 53.9	+0.4
FDAF	Les Forges d'A	0.32	161	Pg	Pg	08 56 49.5	+0.2
FDAF				Lg		08 56 53.9	
SJPF	Ste Jean	0.38	269	ePg	Pg	08 56 50.3	-0.3
SJPF				eSg	Sg	08 56 55.6	-0.1
	12nm,0.2s						
VIEF	Viey	0.58	114	Pg	Pg	08 56 54.2	-0.4
VIEF				Sg	Sg	08 57 02.2	-0.2
VIEF	Viey	0.58	114	Pg	Pg	08 56 54.4	-0.2
VIEF				Lg		08 57 01.9	
EALK	Alkurruntz	0.60	280	Pg	Pg	08 56 53.7	-1.2
	5.2nm,0.6s,SNR=10						
EALK				Lg		08 57 00.8	
	4.4nm,0.2s						
EPF	Esparros	0.77	96	ePg	Pg	08 56 58.2	-0.1
EPF				eSg	Sg	08 57 07.2	-1.4
	2.4nm,0.2s						
ESAC	San Caprasio	1.41	173	Pg	Pg	08 57 09.8	-1.2
	0.3nm,0.2s,SNR=7.9						
ESAC				Lg		08 57 28.1	
	13nm,0.5s,SNR=7.9						
ECRI	Cripan	1.42	250	Pg	Pg	08 57 09.9	-1.4
	0.1nm,0.2s,SNR=7.9						
ECRI				Lg		08 57 29.7	
	6.8nm,0.4s,SNR=7.9						

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*THE **04** 09:01:54.7, 35.95N×21.53E, h20^{km}, ML4.2*
*NEIC **04** 09:01:54.4, 36.09N×21.40E, h17^{km}, ML4.0(ATH), After ATH.*
*ATH **04** 09:01:54.2, 36.08N×21.39E, h16^{km}±4^{km}, MD4.1/13, ML4.0*
*MOS **04** 09:01:56.7±0.8, 36.18N×21.47E, h33^{km}, mb3.9/4, Error ellipse: s-maj=27.7km s-min=9.3km az=80.5*
*IDC **04** 09:02:01.1±1.5, 36.21N×21.58E, h67^{km}±22^{km}, mb3.5/5, mb1 3.5/11, mb1mx3.4/27, Error ellipse: s-maj=35.6km s-min=10.4km az=19.0*
ISC 04 09:01:59.2±0.7, **36.25N**±0.06×**21.56E**±0.05, **h62^{km}**±8^{km}, **n45, σ0^{s}99**/48, **mb3.6**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	Ithomi	0.97	18	ePN	P	09 02 16.5	-0.7
KYTH	Kithira	1.20	88	ePN	P	09 02 20.0	-0.2
VLI	Veliai	1.20	67	ePN	P	09 02 20.4	+0.1
VLS	Valsamata	2.07	338	ePN	P	09 02 32.0	-0.4
NAIG	Nisos Aigina	2.15	45	ePN	P	09 02 35.5	+1.9
NAIG	Nisos Aigina	2.15	45	ePn	P	09 02 36.5	+2.9
NSAL	Nisos Salamina	2.25	42	ePN	P	09 02 35.5	+0.6
VAM	Vamos	2.31	111	ePN	P	09 02 35.0	-0.8
MKIT	Kithairon Oros	2.36	35	ePN	P	09 02 37.0	+0.5
ATH	Athens Observa	2.43	45	ePB	P	09 02 39.5	+2.0
PTL	Penteli	2.57	45	ePN	P	09 02 39.2	-0.3
MPAR	Parnis Oros	2.57	42	ePn	P	09 02 38.5	-1.0
EVR	Evrytania	2.67	4	ePB	P	09 02 42.8	+2.0
AGG	Agios Georgios	2.83	12	ePn	P	09 02 44.3	+1.1
AGG				eSn	S	09 03 18.7	+2.5
IDI	Anoyia	2.88	109	P	P	09 02 43.3	-0.5
	2.3nm,0.3s,baz=298,slow=16,SNR=14						
IDI				S	S	09 03 18.1	+0.7
	13nm,0.3s,baz=354,slow=22,SNR=8.3						
XOR	Xorichti	3.37	22	ePn	P	09 02 49.7	-1.0
JAN	Janina	3.44	351	ePN	P	09 02 52.0	+0.2
KEK	Kerkira	3.72	339	ePN	P	09 02 55.0	-0.7
LIT	Litokhoron	3.91	11	ePn	P	09 02 58.5	+0.2
FNA	Florina	4.53	358	ePn	P	09 03 06.1	-0.8
GRG	Griva	4.74	8	ePn	P	09 03 09.0	-1.0
SOH	Sokhos	4.77	17	ePn	P	09 03 09.7	-0.7
TIP	Timpagrande	4.80	309	eP	P	09 03 08.9	-1.9
KNT	Kendrikon	5.01	12	ePn	P	09 03 13.5	-0.3
SRS	Serrai	5.11	18	ePn	P	09 03 14.4	-0.7
MMB	Musomiste	5.59	17	i P	P	09 03 21.0	-0.7
SKO	Skopje	5.71	359	ePn	P	09 03 21.0	-2.4
KKB	Krupnik	5.73	11	i P	P	09 03 23.0	-0.6
VAE	Valguarnera	5.86	284	P	P	09 03 27.4	+2.0
	5.8nm,0.3s,baz=230,slow=2.8,SNR=3.5						
VAE				S	S	09 04 33.4	+1.3
	9.4nm,0.3s,baz=221,slow=20,SNR=3.8						
VTS	Vitosha	6.46	11	eP	P	09 03 34.0	+0.2
CII	Carovilli	7.85	316	eP	P	09 03 52.4	-0.8
	12nm,0.4s						
MLR	Muntele Rosu	9.80	18	P	P	09 04 20.2	+0.3
	0.3nm,0.3s,baz=202,slow=17,SNR=2.2						
BRTR	Keskin Array B	10.14	66	P	P	09 04 25.1	+0.6
	0.1nm,0.3s,baz=248,slow=13,SNR=2.7						
GERES	GERESS Array B	13.84	338	P	P	09 05 14.2	+0.5
	0.2nm,0.3s,baz=151,slow=12,SNR=2.0						
AKASG	Malin Array Be	15.46	19	P	P	09 05 34.1	-0.6
	1.4nm,0.3s,baz=212,slow=12,SNR=6.5						
AKASG	Malin Array Be	15.46	19	P	P	09 05 34.1	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	24.43	350	P	P	09 07 13.7	+0.8
	comp=Z,0.9nm,0.4s,mb3.5,baz=169,slow=15,SNR=7.3						
HFS	Hagfors	24.43	350	P	P	09 07 13.7	+0.8
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	25.37	5	P	P	09 07 22.0	+0.1
	comp=Z,0.9nm,0.5s,mb3.5,baz=151,slow=12,SNR=8.1						
FINES	FINESS Array B	25.37	5	P	P	09 07 22.0	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	25.66	348	P	P	09 07 24.9	+0.2
	comp=Z,0.4nm,0.5s,mb3.2,baz=156,slow=8.8,SNR=4.0						
ARCES	ARCESS Array B	33.41	3	P	P	09 08 33.3	-0.3
	comp=Z,0.8nm,0.6s,mb3.9,baz=188,slow=8.6,SNR=9.9						
ARCES	ARCESS Array B	33.41	3	P	P	09 08 33.3	-0.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	45.63	57	P	P	09 10 14.7	-0.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=266,slow=7.7,SNR=11						
MKAR	Makanchi Array	45.63	57	P	P	09 10 14.7	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 04 09:23:12.2±4.2, **25.27N**×**95.24E, h99^{km}**±45^{km}, **mb3.0**/2, **mb1 3.4**/3, **mb1mx3.1**/19, **Error ellipse: s-maj=87.7km s-min=27.2km az=59.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	3.04	276	ePN	P	09 23 52.5	-7.1
SHL				eSN	S	09 24 23.5	-12
CMAR	Chiang Mai Arr	7.60	152	P	P	09 25 00.4	-1.6
	0.7nm,0.3s,baz=329,slow=13,SNR=26						
CMAR				Lg		09 27 11.3	
	0.3nm,0.3s,baz=321,slow=31,SNR=3.9						
MKAR	Makanchi Array	23.83	338	P	P	09 28 16.1	-0.7
	0.3nm,0.4s,baz=153,slow=8.8,SNR=4.8						
WRA	Warramunga Arr	58.87	136	P	P	09 33 00.8	-2.3
	0.2nm,0.4s,baz=323,slow=7.3,SNR=5.3						

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*NIED **04** 09:39:00, 43.80N×139.00E, h260^{km}, Mw4.5 Best double couple: M$_0$6.07×10^{15} NP1:φ$_s$177°, δ60°, λ-40°. NP2: φ$_s$290°, δ56°, λ-143°.*
*SKHL **04** 09:39:21.4±0.8, 43.74N×138.88E, h270^{km}±10^{km}, mb5.5/2, msh5.2/3*
*BJI **04** 09:39:21.9, 43.94N×139.01E, h266^{km}, mB4.3, mb4.5*
*MOS **04** 09:39:22.4±1.1, 43.95N×138.87E, h248^{km}, mb4.0/10, Error ellipse: s-maj=14.2km s-min=11.7km az=73.3*
*NEIC **04** 09:39:23.8±0.5, 43.85N×138.86E, h245^{km}±4^{km}, mb4.2/19, Error ellipse: s-maj=5.4km s-min=3.9km az=127.0*
*JMA **04** 09:39:23.3±0.3, 43.77N×138.96E, h257^{km}±3^{km}, M4.0*
*IDC **04** 09:39:23.8±0.9, 43.85N×138.86E, h244^{km}±9^{km}, mb3.8/19, mb1 4.0/22, mb1mx4.0/26, Error ellipse: s-maj=10.4km s-min=9.5km az=123.0*
ISC 04 09:39:22.7±0.2, **43.83N**±0.03×**138.86E**±0.03, **h250^{km}**±2^{km}, **n141, σ0^{s}94**/152, **mb4.2**/39, **8C-5D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSK	Shakotan	1.26	111	P	P	09 40 00.1	+0.6
JSK				eS	S	09 40 28.1	-0.1
JSH	Shimam	1.46	143	P	P	09 40 01.4	+0.4
JOSM	Okushiri--Mats	1.80	165	P	P	09 40 04.5	+0.9
JOSM				eS	S	09 40 36.2	+0.8
JYG	Yagishiri	1.94	71	P	P	09 40 04.9	+0.1
JYG				eS	S	09 40 37.8	+0.2
TEY	Ternei	2.02	308	i P	P	09 40 05.5	-0.1
TEY				AMB	AMB	09 40 06.0	
	530nm,0.5s						
TEY				AMB	AMB	09 40 06.0	
	330nm,0.6s						
TEY				i S	S	09 40 38.0	-0.8
TEY				A		09 40 39.0	
	2µm,3.0s						
TEY				A		09 40 39.0	
	310nm,1.0s						
JHR	Hokuryu	2.08	91	P	P	09 40 06.7	+0.6
JHR				eS	S	09 40 41.5	+1.8
JEW	Eniwo	2.13	117	P	P	09 40 07.4	+0.8
JEW				eS	S	09 40 42.0	+1.3
JKB	Kayabe	2.51	140	P	P	09 40 10.2	-0.2
JWK2	Keihoku	2.63	54	P	P	09 40 12.9	+1.3
JWK2				eS	S	09 40 50.8	+1.2
ASAJ	Asahikawa	2.71	83	P	P	09 40 12.6	+0.1
	144nm,0.3s,baz=248,slow=8.2,SNR=229						
ASAJ				S	S	09 40 51.7	+0.6
	3.3nm,0.3s,baz=104,slow=26,SNR=7.3						
ASAJ	Asahikawa	2.71	83	P	P	09 40 12.6	+0.1
ASAJ				S	S	09 40 51.7	+0.6
ASAJ				pmax	pmax		
	comp=Z,144nm,0.3s						
JFR	Furan	2.79	102	P	P	09 40 13.4	+0.1
JFR				eS	S	09 40 52.9	+0.2
JKK2	Kamakawa 2	2.81	88	P	P	09 40 13.9	+0.4
JKK2				eS	S	09 40 53.7	+0.7
JSE	Soyaes	2.90	66	P	P	09 40 14.9	+0.5
JSE				eS	S	09 40 56.2	+1.6
JOT	Ohata	2.93	146	P	P	09 40 14.1	-0.6
JNBK	Urakawa-nobuka	3.24	117	P	P	09 40 17.6	-0.6
JCH	Churui	3.50	109	P	P	09 40 19.4	-1.8
JCH				eS	S	09 41 02.3	-4.4
JAR	Ashorobuto	3.61	97	P	P	09 40 22.1	-0.3
JAR				eS	S	09 41 07.7	-1.1
JTKR	Abashiri--Toko	3.65	86	P	P	09 40 22.9	0.0
JTKR				eS	S	09 41 08.8	-0.9
JANG	Nango	3.97	149	P	P	09 40 25.1	-1.6
JANG				eS	S	09 41 11.2	-5.2
YSS	Yuzh-Sakhalins	4.16	40	⇑iP	P	09 40 28.8	0.0
YSS				⇑iP		09 40 28.8	
YSS				AMB	AMB	09 40 30.0	
	comp=Z,900nm,2.0s						
YSS				AMB	AMB	09 40 30.2	
	comp=Z,430nm,1.0s						
YSS				AMB	AMB	09 40 30.2	
	comp=Z,590nm,1.0s						
YSS				i S	S	09 41 20.0	-0.3
YSS				A		09 41 22.0	
	comp=Z,700nm,2.0s						
YSS				A		09 41 23.0	
	comp=Z,250nm,1.0s						
YSS	Yuzh-Sakhalins	4.16	40	α iP	P	09 40 28.8	0.0
YSS				i S	S	09 41 20.0	-0.3
YSS				pmax	pmax		
	comp=Z,900nm,2.0s						
YSS				pmax	pmax		
	comp=N,430nm,1.0s						
YSS				pmax	pmax		
	comp=Z,590nm,1.0s						
YSS				smax			
	comp=E,700nm,2.0s						
YSS				smax			
	comp=N,250nm,1.0s						
YSS				smax			
	comp=E,250nm,1.0s						
YSS	Yuzh-Sakhalins	4.16	40	eP	P	09 40 28.8	-0.1
NEM2	Nemuro 2	5.02	93	P	P	09 40 36.7	-2.5
NEM2				eS	S	09 41 32.2	-6.7
YUK	Yuzh-Kuril'sk	5.06	85	⇑iP	P	09 40 38.5	-1.2
YUK				AMB	AMB	09 40 39.1	
	comp=E,230nm,0.5s						
YUK				AMB	AMB	09 40 39.1	
	comp=E,140nm,0.5s						
YUK				AMB	AMB	09 40 39.1	
	comp=E,380nm,0.5s						
YUK				AMB	AMB	09 40 40.3	
	comp=E,1µm,1.0s						
YUK				eS	S	09 41 39.5	-0.3
YUK				A		09 41 42.0	
	comp=E,2µm,2.3s						
YUK				A		09 41 42.0	
	comp=E,2µm,2.3s						
YUK				A		09 41 52.1	
	comp=E,350nm,0.4s						
YUK				A		09 41 52.1	
	comp=E,190nm,0.4s						
YUK	Yuzh-Kuril'sk	5.06	85	⇑iP	P	09 40 38.5	-1.2
YUK				eS	S	09 41 39.5	-0.3
YUK				pmax	pmax		
	comp=N,230nm,0.5s						
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				pmax	pmax		
	comp=E,140nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1µm,1.0s						
YUK				smax			
	comp=N,2µm,2.0s						
YUK				smax			
	comp=E,2µm,2.5s						
YUK				smax			
	comp=N,350nm,0.4s						
YUK				smax			
	comp=E,190nm,0.4s						
JMK	Ichinoseki	5.18	159	P	P	09 40 39.9	-1.3
JMK				eS	S	09 41 37.7	-4.8
UGL	Uglegorsk	5.70	22	eP	P	09 40 47.0	-0.6
UGL				AMB	AMB	09 40 48.0	
	comp=E,84nm,0.8s						
KUR	Kuril'sk	6.59	75	⇑iP	P	09 40 56.7	-2.1
KUR				AMB	AMB	09 40 57.2	
	comp=E,204nm,0.8s						
KUR				eS	S	09 42 12.5	-1.5
KUR				A		09 42 20.4	
	comp=E,91nm,0.6s						
KUR				A		09 42 20.4	
	comp=E,99nm,0.6s						
KUR	Kuril'sk	6.59	75	⇑iP	P	09 40 56.7	-2.1
KUR				eS	S	09 42 12.5	-1.5
KUR				pmax	pmax		
	comp=Z,200nm,0.8s						
KUR				smax			
	comp=N,90nm,0.6s						
KUR				smax			
	comp=E,100nm,0.6s						
MDJ	Mudanjiang	6.71	280	P	P	09 41 01.1	+0.8
MDJ				AMB	AMB		
	comp=Z,52nm,1.0s						
MDJ	Mudanjiang	6.71	280	eP	P	09 41 01.2	+0.9
	comp=Z,80nm,1.3s						
MAJO	Matsushiro	7.29	184	eP	P	09 41 07.7	0.0
	comp=Z,19nm,0.8s						
MAT	Matsushiro	7.29	184	P	P	09 41 07.6	-0.1
MAT				S	S	09 42 28.8	-1.2
MAT	Matsushiro	7.29	184	eP	P	09 41 08.0	+0.3
	comp=Z,13nm,0.8s						
MAT				eS	S	09 42 29.0	-1.0
KLR	Kul'dur	7.30	320	eP	P	09 41 06.2	-1.5
KLR				e		09 42 31.8	
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
TYV	Tymovskoe	7.50	19	eP	P	09 41 10.2	-0.1
CN2	Changchun	9.70	274	eP	P	09 41 38.7	+0.5
CN2				eS	S	09 43 23.3	-1.3
CN2				AMB	AMB		
	comp=Z,40nm,0.8s						
CN2				AMB	AMB		
	comp=Z,130nm,3.0s						
KS15	Wonju Array Si	10.49	236	eP	P	09 41 49.5	+1.3
SNY	Shenyang	11.40	265	⇓P	P	09 42 01.7	+2.0
SNY				AMB	AMB		
	comp=Z,30nm,0.8s						
JNU	Nakatsue	12.38	213	P	P	09 42 12.8	+0.9
	comp=Z,2.1nm,0.3s,baz=28,slow=7.2,SNR=12						
ZEA	Zeya	12.51	327	eP	P	09 42 12.3	-1.1
ZEA				AMB	AMB	09 42 13.3	
	comp=Z,17nm,1.0s						
SKR	Severo-Kuril's	13.56	54	eP	P	09 42 23.9	-2.4
SKR				AMB	AMB	09 42 25.5	
	comp=Z,90nm,0.5s						
SKR				AMB	AMB	09 42 25.5	
	comp=Z,40nm,0.5s						
SKR				AMB	AMB	09 42 25.5	
	comp=Z,230nm,0.5s						
CBIJ	Chichi jima	16.91	170	P	P	09 43 04.3	-1.6
	comp=Z,8.4nm,0.3s,baz=293,slow=13,SNR=4.1						
BJI	Beijing	17.29	265	eP	P	09 43 08.9	-0.9
BJI				AMB	AMB		
	comp=Z,29nm,0.8s						
BJI	Beijing	17.29	265	eP	P	09 43 08.9	-0.9
	comp=Z,29nm,0.8s						
BJT	Baijiatuau	17.30	265	eP	P	09 43 09.0	-1.0
	comp=Z,25nm,0.8s						
MA2	Magadan	17.37	21	eP	P	09 43 08.2	-2.3
MA2				pmax	pmax		
	comp=N,20nm,0.6s						
MA2				pmax	pmax		
	comp=E,10.0nm,0.6s						
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
MA2	Magadan	17.37	21	eP	P	09 43 08.0	-2.6
	comp=Z,61nm,0.7s						
TIA	Tai'an	18.27	253	eP	P	09 43 18.7	-1.3
SONM	Songino Array	22.88	292	P	P	09 44 06.3	+0.9
	comp=Z,1.0nm,0.5s,mb3.6,baz=98,slow=8.7,SNR=4.5						
FX1	Attu Island--F	24.32	56	P	P	09 44 20.1	+1.3
	comp=Z,54nm,0.5s,mb5.5,baz=266,slow=1.7,SNR=40						
FX1	Attu Island--F	24.32	56	P	P	09 44 20.1	+1.3
FX1				pmax	pmax		
	comp=Z,54nm,0.5s						
FX1	Attu Island--F	24.32	56	eP	P	09 44 19.9	+1.1
ZAK	Zakamensk	24.91	298	eP	P	09 44 23.7	-0.6
MKAR	Makanchi Array	39.17	295	P	P	09 46 28.2	+0.6
	comp=Z,2.6nm,0.9s,mb3.8,baz=83,slow=9.9,SNR=12						
MKAR	Makanchi Array	39.17	295	P	P	09 46 28.2	+0.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	40.45	302	eP	P	09 46 38.6	+0.5
CMAR	Chiang Mai Arr	41.92	246	P	P	09 46 51.2	+0.7
	comp=Z,1.8nm,0.4s,mb3.9,baz=49,slow=7.7,SNR=6.9						
CMAR	Chiang Mai Arr	41.92	246	P	P	09 46 51.2	+0.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
IMA	Indian Mountai	42.00	34	eP	P	09 46 50.0	-0.4
	comp=Z,32nm,1.2s,mb4.6						
MCK	McKinley	44.24	37	eP	P	09 47 08.6	+0.1
PMR	Palmer	44.53	40	eP	P	09 47 10.3	-0.4
	comp=Z,2.2nm,0.6s,mb3.7						
COLA	College	44.53	36	eP	P	09 47 10.3	-0.4
	comp=Z,8.7nm,0.9s,mb4.1						
BVAR	Borovoye Array	44.74	307	P	P	09 47 12.9	+0.4
	comp=Z,5.3nm,0.5s,mb4.1,baz=80,slow=9.1,SNR=32						
BRVK	Borovoye	44.79	307	eP	P	09 47 11.6	-1.3
SML	Sawmill	44.86	40	eP	P	09 47 13.8	+0.5
ILAR	Eielson Array	44.96	36	P	P	09 47 13.4	-0.6
	comp=Z,3.4nm,0.7s,mb3.8,baz=286,slow=7.7,SNR=54						
ILAR	Eielson Array	44.96	36	P	P	09 47 13.5	-0.6
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GUN	Gumba	45.01	268	eP	P	09 47 16.0	+1.0
	comp=Z,51nm,0.7s,mb5.0						
KKN	Kakani	45.52	268	eP	P	09 47 19.3	+0.3
	comp=Z,21nm,0.6s,mb4.6						
PKI	Pulchoki	45.55	267	eP	P	09 47 18.6	-0.7
	comp=Z,17nm,0.6s,mb4.6						
ZRNK	Zerenda	45.56	307	eP	P	09 47 19.6	+0.7
DMN	Daman	45.75	268	eP	P	09 47 21.1	+0.3
	comp=Z,23nm,0.8s,mb4.5						
GKN	Gorkha	45.86	269	eP	P	09 47 22.3	+0.6
	comp=Z,31nm,0.6s,mb4.8						
KOLN	Koldanda	46.74	269	eP	P	09 47 29.8	+1.2
	comp=Z,26nm,0.5s,mb4.8						
DAWY	Dawson	48.28	36	eP	P	09 47 39.8	-0.2
INK	Inuvik	49.33	29	eP	P	09 47 47.2	-0.6
	comp=Z,5.9nm,0.6s,mb4.1						
KEV	Kevo	56.42	337	ep	P	09 48 34.7	-4.9
RES	Resolute Bay	56.53	15	P	P	09 48 38.9	-1.4
	comp=Z,1.9nm,0.4s,mb4.1						
KAKA	Kakadu	56.56	188	⇓iP	P	09 48 41.0	-0.3
	comp=Z,13nm,0.6s,mb4.7						
ARCES	ARCESS Array B	56.97	337	P	P	09 48 43.0	-0.5
	comp=Z,2.3nm,0.6s,mb4.0,baz=52,slow=7.7,SNR=22						
ARCES	ARCESS Array B	56.97	337	P	P	09 48 43.0	-0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	56.97	337	P	P	09 48 43.0	-0.5
YKA	Yellowknife Ar	58.97	31	P	P	09 48 57.5	+0.1
	comp=Z,1.3nm,0.4s,mb3.9,baz=308,slow=6.3,SNR=8.4						
YKA	Yellowknife Ar	58.97	31	P	P	09 48 57.5	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	58.97	31	P	P	09 48 57.5	+0.1
JOF	Joensuu	59.09	329	ep	P	09 48 55.4	-2.9
	comp=Z,2.5nm,0.3s,mb4.3						
JOF	Joensuu	59.09	329	eP	P	09 48 55.4	-2.9
JOF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.4						

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FINES FINESS Array B   61.94 330  P       P           09 49 16.6 -0.8
      comp=Z,3.0nm,0.4s,mb4.2,baz=64,slow=7.4,SNR=27
FINES FINESS Array B   61.94 330  P       P           09 49 16.7 -0.7
FINES                             pmax    pmax
      comp=Z,3.0nm,0.4s
FITZ  Fitzroy Crossi   62.80 194 eP       P           09 49 23.5 -0.2
      comp=Z,3.9nm,0.9s,mb4.0
WB2   Warramunga Arr   63.59 185⇓iP       P           09 49 27.9 -0.9
WRA   Warramunga Arr   63.59 185  P       P           09 49 28.0 -0.8
      comp=Z,6.0nm,0.4s,mb4.5,baz=2.1,slow=6.9,SNR=210
WRA   Warramunga Arr   63.59 185  P       P           09 49 28.0 -0.8
WRA                               pmax    pmax
      comp=Z,6.0nm,0.4s
CTA   Charters Tower   63.96 172 eP       P           09 49 30.8 -0.4
      comp=Z,3.5nm,0.9s,mb4.0
HAWA  Hanford          66.59  48 eP       P           09 49 47.9 +0.4
NB2   NORSAR Subarra   67.19 335  P       P           09 49 50.2 -0.8
      comp=Z,2.1nm,0.6s,mb3.9,baz=38,slow=6.2
NOA   NORSAR Array B   67.19 335  P       P           09 49 50.6 -0.4
      comp=Z,2.5nm,0.7s,mb4.0,baz=39,slow=6.3,SNR=14
NOA   NORSAR Array B   67.19 335  P       P           09 49 50.6 -0.4
NOA                               pmax    pmax
      comp=Z,3.0nm,0.7s
ASAR  Alice Springs    67.31 185  P       P           09 49 52.6 +0.2
      comp=Z,7.9nm,0.7s,mb4.5,baz=5.9,slow=4.8,SNR=76
ASPA  Alice Springs    67.31 185 eP       P           09 49 52.5 +0.1
AKASG Malin Array Be   67.80 320  P       P           09 49 54.9 -0.1
      comp=Z,4.0nm,0.6s,mb4.2,baz=43,slow=6.3,SNR=10
AKASG Malin Array Be   67.80 320  P       P           09 49 54.9 -0.1
AKASG                             pmax    pmax
      comp=Z,4.0nm,0.6s
FCC   Fort Churchill   68.80  26  P       P           09 49 55.5 -5.5
HRY   Holter Researc   70.37  44 eP       P           09 50 11.8 +1.1
NVAR  Mina Array Bea   72.49  53  P       P           09 50 24.5 +0.9
      comp=Z,4.0nm,0.7s,mb4.2,baz=297,slow=6.1,SNR=46
MNV   Mina             72.58  53 eP       P           09 50 24.9 +0.8
      comp=Z,3.7nm,0.9s,mb4.0
BRTR  Keskin Array B   72.98 309  P       P           09 50 27.1 +0.8
      comp=Z,0.5nm,0.5s,mb3.4,baz=90,slow=2.5,SNR=3.6
BRTR  Keskin Array B   72.98 309  P       P           09 50 27.2 +0.8
BRTR                              pmax    pmax
      comp=Z,1.0nm,0.5s
PDAR  Pinedale Array   74.29  45  P       P           09 50 34.5 +0.6
      comp=Z,3.8nm,0.6s,mb4.2,baz=331,slow=1.9,SNR=45
DUG   Dugway           74.38  49 eP       P           09 50 35.3 +0.9
      comp=Z,3.2nm,0.9s,mb4.0
ULM   Lac du Bonnet    74.88  33  P       P           09 50 36.9 -0.2
      comp=Z,4.1nm,0.6s,mb4.3,baz=321,slow=6.6,SNR=11
ULM   Lac du Bonnet    74.88  33  P       P           09 50 36.9 -0.2
STKA  Stephens Creek   75.38 178 eP       P           09 50 41.2 +0.9
      comp=Z,4.2nm,0.8s,mb4.1
STKA  Stephens Creek   75.38 178  P       P           09 50 41.3 +1.0
      comp=Z,5.5nm,0.7s,mb4.3,baz=311,slow=23,SNR=10
MVU   Marysvale        75.90  50 eP       P           09 50 44.3 +1.3
      comp=Z,5.0nm,1.4s,mb4.0
MSU   Marysvale        75.91  50 eP       P           09 50 44.0 +0.8
GERES GERESS Array B   75.95 326  P       P           09 50 43.7 +0.5
      comp=Z,0.8nm,0.6s,mb3.5,baz=18,slow=4.2,SNR=5.0
GERES GERESS Array B   75.95 326  P       P           09 50 43.7 +0.6
GERES                             pmax    pmax
      comp=Z,1.0nm,0.6s
SRU   San Rafael       76.39  49 eP       P           09 50 46.3 +0.5
NEN   Nelson           76.41  54 eP       P           09 50 47.1 +1.1
TUC   Tucson           81.15  53 eP       P           09 51 12.2 +0.7
      comp=Z,0.8nm,0.6s,mb3.5
GDL2  Guadalupe Moun   84.86  49 eP       P           09 51 31.6 +1.3
TXAR  Lajitas Array    87.43  51  P       P           09 51 44.1 +1.3
      comp=Z,0.5nm,0.4s,mb3.6,baz=278,slow=2.6,SNR=14
VNDA  Vanda           121.91 174  PKP     PKPdf       09 57 47.0 +0.9
      comp=Z,0.9nm,0.5s,baz=304,slow=4.9,SNR=6.1
VNDA  Vanda           121.91 174  PKIKP   PKPdf       09 57 47.0 +1.0
VNDA                              pmax    pmax
      comp=Z,1.0nm,0.5s
SBA   Scott Base      122.61 173 eP       PKPdf       09 57 49.0 +1.7
MAW   Mawson          124.77 207  PKP     PKPdf       09 57 52.7 +1.2
      comp=Z,2.1nm,0.6s,baz=14,slow=3.8,SNR=5.5
MAW   Mawson          124.77 207  PKIKP   PKPdf       09 57 52.7 +1.1
MAW                               pmax    pmax
      comp=Z,2.0nm,0.6s
QSPA  South Pole Qui  133.56 180 eP       PKPdf       09 58 09.4 +1.4
LPAZ  La Paz          144.26  48  PKP     PKPdf       09 58 29.7 +0.9
      comp=Z,0.6nm,0.4s,baz=342,slow=7.8,SNR=5.9
LPAZ  La Paz          144.26  48  PKIKP   PKPdf       09 58 29.7 +0.9
LPAZ                              pmax    pmax
      comp=Z,1.0nm,0.4s
LPAZ  La Paz          144.26  48 ePKPdf   PKPdf       09 58 29.5 +0.7
SNAA  Sanae           146.54 201 e        PKPdf       09 58 37.2 +6.0
SNAA  Sanae           146.54 201⇓iP       PKPdf       09 58 32.7 +1.5
SNAA                             e                    09 58 37.2
VNA1  Neumayer--Stat  148.56 200 e        PKPdf       09 58 42.7 +8.3
VNA1  Neumayer--Stat  148.56 200 e        PKPdf       09 58 47.7  +13
VNA1  Neumayer--Stat  148.56 200⇓iP       PKPdf       09 58 39.6 +5.2
VNA1                             e                    09 58 42.7
VNA1                             e                    09 58 47.7
BDFB  Brasilia        151.30  14  PKPbc   PKPdf       09 58 48.5 +8.4
      comp=Z,4.7nm,0.5s,baz=284,slow=0.4,SNR=8.1
BDFB  Brasilia        151.30  14  PKIKP   PKPdf       09 58 48.5 +8.3
BDFB                              pmax    pmax
      comp=Z,5.0nm,0.5s
```

IDC 04 09:43:24.6±41.0**, 14.60S**×**170.44W, mb4.3**/3**, mb1 4.5**/3**,**
mb1mx4.0/17**, Error ellipse: s-maj=822.0km**
s-min=178.4km az=78.0, Samoa Islands

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Code  Station Name      Δ°   AZ°    Phase ID              Time     Res
                                  Op      ISC          h  m  s     ISC
STKA  Stephens Creek   46.91 240  P       P           09 51 56.8 -2.0
      2.4nm,0.5s,baz=86,slow=10,SNR=5.9
WB2   Warramunga Arr   52.80 256 eP       P           09 52 41.7 -2.5
WRA   Warramunga Arr   52.81 256  P       P           09 52 42.1 -2.1
      1.1nm,0.5s,baz=92,slow=6.8,SNR=25
ASAR  Alice Springs    53.08 251  P       P           09 52 44.1 -2.1
      3.8nm,0.4s,baz=89,slow=8.1,SNR=56
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*MOS **04** 09:48:25.0±1.4, 52.02N×159.55E, $h10^{km}$, mb5.3/49,*
MS5.0/21, Error ellipse: s-maj=8.6km s-min=4.6km
az=89.8
MOS Felt (III) at Petropavlovsk-Kamchatsky.
*IDC **04** 09:48:26.0±0.5, 52.28N×159.52E, mb4.8/23, mb1 5.0/25,*
mb1mx5.0/27, ML4.9/2, MS4.6/18, Ms1 4.6/18,
ms1mx4.5/24, Error ellipse: s-maj=15.9km s-min=10.1km
az=172.0
*KRSC **04** 09:48:29.5, 52.22N×159.92E, $h11^{km}$, Mc5.5, ML5.7*
*BJI **04** 09:48:30.2, 52.49N×159.71E, $h57^{km}$, mB5.0, mb5.2,*
Ms5.2, Msz5.0
*HRVD **04** 09:48:33.5±0.2, 52.14N×160.01E, $h27^{km}$, MW5.2/64,*
Centroid moment Tensor Solution. LP body waves:
s64,c110;Mantle waves: s64,c125; Half duration: 1^{s}0
Moment tensor: Scale 10^{17}Nm; M_{rr}0.58±.02;
$M_{\theta\theta}$-0.14±.01; $M_{\phi\phi}$-0.44±.01; $M_{r\theta}$0.42±.03; $M_{\theta\phi}$-0.33±.01;
$M_{\phi r}$0.54±.02; Best double couple: M_0.92×10^{17} NP1:ϕ_s207°,
δ21°, λ81°. NP2:ϕ_s37°, δ69°, λ93°. Principal axes: T .89,
Plg66°, Azm312°; N .07, Plg3°, Azm215°; P -.95, Plg24°,
Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2
refers to surface waves, cutoff=50s.
*NEIC **04** 09:48:33.5±0.7, 52.27N×159.58E, $h51^{km}$±6^{km}, mb5.1/133,*
MS4.8/14 Error ellipse: s-maj=4.9km s-min=2.9km
az=173.0
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
*SYO **04** 09:48:33.4, 52.27N×159.58E, $h51^{km}$, MB5.1, MS4.8*

ISC 04 09:48:32.1±0.4**, 52.22N**±0.03×**159.65E**±0.03**, $h55^{km}$**±2^{km}**,**
$h46^{km}$±1.9^{km}**:pP-P, n551,** σ**1^{s}05**/555**, mb5.0**/190**, MS4.9**/60**,**
42C-25D, Off east coast of Kamchatka Peninsula

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Code  Station Name      Δ°   AZ°    Phase ID              Time     Res
                                  Op      ISC          h  m  s     ISC
RUS   Russkaya          0.73 287 i P      P           09 48 46.3 -0.1
SPN   Mys Shipunski     0.91  14  P       P           09 48 47.3 -1.5
SPN   Mys Shipunski     0.91  14 eP       P           09 48 47.4 -1.4
NLC   Nalytchevo        0.97 349  P       P           09 48 49.0 -0.7
NLC   Nalytchevo        0.97 349 eP       P           09 48 48.9 -0.8
PET   Petropavlovsk     1.01 323  P       P           09 48 50.3 +0.1
PET   Petropavlovsk     1.01 323 i P      P           09 48 50.4 +0.2
PET   Petropavlovsk     1.01 323κ iPN     P           09 48 50.4 +0.2
PET                              eS       S           09 49 03.7  0.0
PET                               pmax    pmax
      comp=N,8µm,0.6s
PET                               pmax    pmax
      comp=E,8µm,0.5s
PET                               pmax    pmax
      comp=Z,16µm,0.5s
PET                               smax
      comp=E,34µm,0.6s
PET   Petropavlovsk     1.01 323 eP       P           09 48 50.1 -0.2
GRL   Gorelyy           1.02 290 eP       P           09 48 51.7 +1.3
UGLR  Uglovaya          1.11 333 i P      P           09 48 52.1 +0.4
SDLR  Sedlovina         1.16 337 i P      P           09 48 52.3  0.0
SMAR  Somma             1.16 334 i P      P           09 48 52.7 +0.3
SMAR                             eS       S           09 49 10.9 +3.4
AVH   Avacha            1.18 332 i P      P           09 48 53.3 +0.7
KOK   Koryaka           1.24 331 eP       P           09 48 53.9 +0.5
APC   Apacha            1.68 296 i P      P           09 49 01.4 +1.8
APC                              eS       S           09 49 26.9 +6.9
APC                               Smax
      comp=E,17µm,0.7s
MIPR  Malaya Ipel'ka    1.78 273 eP       P           09 49 02.8 +1.8
GNL   Ganaly            1.80 326 eP       P           09 49 02.8 +1.4
KII   Karymskiy         1.82 356  P       P           09 49 02.3 +0.7
KII   Karymskiy         1.82 356 eP       P           09 49 02.2 +0.6
PAU   Pauzhetka         1.92 248 i P      P           09 49 03.4 +0.5
PAU                              eS       S           09 49 28.9 +3.1
PAU                               Smax
      comp=E,12µm,1.0s
MKZ   Mys Kozlova       2.65  27  P       P           09 49 10.8 -2.6
MKZ                               S       S           09 49 41.3 -3.1
MKZ   Mys Kozlova       2.65  27 eP       P           09 49 10.6 -2.8
MKZ                              eS       S           09 49 41.2 -3.2
SKR   Severo-Kuril's    2.69 236 i P      P           09 49 10.3 -3.7
SKR                              eS       S           09 49 43.5 -2.0
SKR   Severo-Kuril's    2.69 236α iPN     P           09 49 10.3 -3.7
SKR                              i S      S           09 49 43.5 -2.0
SKR                               pmax    pmax
      comp=N,1µm,4.0s
SKR                               pmax    pmax
      comp=E,2µm,4.0s
SKR                               pmax    pmax
      comp=Z,2µm,4.0s
SKR                               pmax    pmax
      comp=N,190nm,0.5s
SKR                               pmax    pmax
      comp=E,420nm,0.5s
SKR                               pmax    pmax
      comp=Z,960nm,0.5s
SKR                               smax
      comp=N,7µm,0.6s
SKR                               smax
      comp=E,4µm,0.6s
SKR                               smax
      comp=N,26µm,2.0s
SKR                               smax
      comp=E,31µm,2.0s
SKR                               MLR     MLR
      comp=N,24µm,14.0s
SKR                               MLR     MLR
      comp=E,24µm,14.0s
SKR                               MLR     MLR
      comp=Z,20µm,14.0s
TUMR  Tumrok            3.08   5 i P      P           09 49 19.9 +0.4
TUMR                             eS       S           09 49 54.0 -1.4
KMNR  Kamenistaya       3.56   5 eP       P           09 49 26.8 +0.6
KMNR                             eS       S           09 50 09.0 +1.6
ESO   Esso              3.75 352 i P      P           09 49 29.2 +0.2
ESO                              eS       S           09 50 13.2 +0.9
ESO                               Smax
      comp=Z,2µm,1.0s
KOZ   Kozyrevsk         3.85   2  P       P           09 49 31.9 +1.6
KOZ   Kozyrevsk         3.85   2 eP       P           09 49 30.5 +0.2
KOZR  Kozyr             3.85   2  PN      P           09 49 31.9 +1.5
LGNR  Loginova          3.92   9 eP       P           09 49 32.2 +0.9
LGNR                             eS       S           09 50 14.7 -1.7
CIRR  Tsirk             3.96   9 eP       P           09 49 33.0 +1.2
KRSR  Krestovskiy       4.04   7 eP       P           09 49 33.8 +0.8
SRDR  Sredinnyy         4.10   1 eP       P           09 49 34.2 +0.3
KLY   Klyuchi           4.14   8  P       P           09 49 35.5 +1.1
KLY   Klyuchi           4.14   8 eP       P           09 49 35.6 +1.2
KLY                              eS       S           09 50 22.3 +0.2
KBTR  Krutoberegovo     4.41  24  P       P           09 49 36.2 -2.0
KBTR  Krutoberegovo     4.41  24 eP       P           09 49 36.4 -1.8
KBG   Krutoberegovo     4.42  23 eP       P           09 49 37.2 -1.2
KBG                              eS       S           09 50 27.2 -1.9
KBG                               Smax
      comp=Z,12µm,0.9s
BKI   Bering            4.80  49 i P      P           09 49 39.2 -4.5
BKI                              i S      S           09 50 28.2  -10
BKI                               Smax
      comp=Z,1µm,0.5s
OSSR  Ossora            7.30  14  P       P           09 50 17.0 -1.6
OSSR                              Smax
      comp=Z,140nm,0.8s
FX1   Attu Island--F    8.27  80  Pn      P           09 50 26.1 -5.7
      comp=Z,83nm,0.3s,baz=301,slow=5.6,SNR=157
FX1                               Sn      S           09 51 52.5  -12
      comp=Z,283nm,0.3s,baz=108,slow=22,SNR=20
FX1   Attu Island--F    8.27  80 eP       P           09 50 25.8 -6.1
SMY   Shemya            8.84  81 eP       P           09 50 34.5 -5.2
MA2   Magadan           8.89 329 ePN      P           09 50 41.0 +0.5
MA2                              e                    09 52 24.0
MA2                               pmax    pmax
      comp=N,4.0nm,0.6s
MA2                               pmax    pmax
      comp=E,7.0nm,0.6s
MA2                               pmax    pmax
      comp=Z,10.0nm,0.6s
MA2   Magadan           8.89 329 eP       P           09 50 40.6 +0.1
      comp=Z,23nm,0.8s
TYV   Tymovskoe        10.67 269 ePN      P           09 51 02.8 -1.9
TYV                               MLR     MLR
      comp=Z,6µm,15.0s
TYV                               MLR     MLR
      comp=N,4µm,16.0s
TYV                               MLR     MLR
      comp=E,5µm,16.0s
KAMR  Kamenskoye       10.85  16 eP       P           09 51 05.5 -1.5
SEY   Seymchan         11.41 343 ePN      P           09 51 17.3 +2.6
SEY                               pmax    pmax
      comp=N,30nm,0.9s
SEY                               pmax    pmax
      comp=Z,40nm,0.9s
SEY                               pmax    pmax
      comp=E,10.0nm,0.8s
UGL   Uglegorsk        11.59 261 ePN      P           09 51 19.6 +2.5
UGL                               pmax    pmax
      comp=Z,1µm,2.0s
UGL                               pmax    pmax
      comp=Z,69nm,0.7s
YSS   Yuzh-Sakhalins   12.15 251 ePN      P           09 51 25.0 +0.3
YSS                              eS       S           09 53 42.0 +2.5
YSS                               MLR     MLR
      comp=Z,4µm,16.0s
YSS                               MLR     MLR
      comp=N,4µm,14.0s
YSS                               MLR     MLR
      comp=E,2µm,18.0s
YSS   Yuzh-Sakhalins   12.15 251 eP       P           09 51 25.2 +0.5
      comp=E,35nm,0.8s
YUK   Yuzh-Kuril'sk    12.31 234 ePN      P           09 51 23.0 -3.8
YUK                               S       S           09 53 43.0 -0.2
YUK                               pmax    pmax
      comp=Z,200nm,0.5s
YUK                               pmax    pmax
      comp=Z,2µm,1.5s
YUK                               smax
      comp=E,2µm,2.8s
YUK                               MLR     MLR
      comp=Z,5µm,16.0s
YUK                               MLR     MLR
      comp=N,5µm,15.0s
YUK                               MLR     MLR
      comp=E,4µm,17.0s
ASAJ  Asahikawa        13.95 241  Pn      P           09 51 48.2  0.0
      comp=E,4.4nm,0.3s,baz=51,slow=8.1,SNR=10
ASAJ                              LR      LR          09 56 40.4
      comp=E,1µm,20.5s,baz=54,slow=36
ASAJ  Asahikawa        13.95 241  P       P           09 51 48.2  0.0
ASAJ                              pmax    pmax
      comp=Z,4.0nm,0.3s
ASAJ                              MLR     MLR
      comp=Z,1µm,20.5s
KLR   Kul'dur          17.87 271d iP      P           09 52 38.5 +0.4
KLR                               pmax    pmax
      comp=N,150nm,2.4s
KLR                               pmax    pmax
      comp=Z,220nm,2.4s
KLR                               pmax    pmax
      comp=E,700nm,7.5s
KLR                               pmax    pmax
      comp=Z,1µm,7.5s
KLR                               MLR     MLR
      comp=N,1µm,15.0s
KLR                               MLR     MLR
      comp=E,2µm,15.0s
KLR                               MLR     MLR
      comp=Z,3µm,15.0s
YAK   Yakutsk          18.82 313 eP       P           09 52 47.9 -1.6
YAK                               pmax    pmax
      comp=Z,23nm,0.7s
YAK                               pmax    pmax
      comp=N,9.0nm,1.4s
YAK                               pmax    pmax
      comp=E,22nm,1.2s
YAK                               MLR     MLR
      comp=Z,1µm,14.0s
YAK                               MLR     MLR
      comp=N,2µm,15.0s
YAK                               MLR     MLR
      comp=E,400nm,11.0s
YAK   Yakutsk          18.82 313 eP       P           09 52 46.9 -2.6
      comp=E,154nm,0.8s
NIKO  Nikolski         19.07  75 eP       P           09 52 49.8 -2.6
UNV   Unalaska Valle   20.31  72⇑iP       P           09 53 03.9 -1.8
      comp=E,184nm,1.0s
CLNS  Chul'man         20.54 297 eP       P           09 53 05.6 -2.5
CLNS                             e                    09 53 34.4
CLNS                             e                    09 56 51.7
CLNS                              pmax    pmax
      comp=N,13nm,0.8s
CLNS                              pmax    pmax
      comp=E,23nm,0.8s
CLNS                              pmax    pmax
      comp=Z,25nm,0.8s
CLNS                              MLR     MLR
      comp=Z,5µm,14.0s,MS5.0
CLNS                              MLR     MLR
      comp=N,1µm,12.0s,MS4.5
CLNS                              MLR     MLR
      comp=E,700nm,13.0s,MS4.5
MDJ   Mudanjiang       21.23 261  P       P           09 53 13.3 -1.9
MDJ                               AP                  09 53 24.9
MDJ                               XP                  09 53 31.5
MDJ                               AMB     AMB
      comp=Z,105nm,3.6s
MDJ                               LR      LR
      comp=N,603nm,14.8s,MS4.7
MDJ                               LR      LR
      comp=E,2µm,16.1s,MS4.7
MDJ                               LR      LR
      comp=Z,3µm,17.3s,MS4.7
MDJ   Mudanjiang       21.23 261 eP       P           09 53 13.6 -1.6
      comp=Z,16nm,0.8s,mb4.4
MAJO  Matsushiro       21.80 232  P       P           09 53 20.8  0.0
MAJO                              pmax    pmax
      comp=Z,71nm,0.7s,mb5.2
MAJO  Matsushiro       21.80 232⇑eP       P           09 53 21.0 +0.1
      comp=Z,71nm,0.7s,mb5.2
MAT   Matsushiro       21.80 232  P       P           09 53 21.5 +0.7
MAT                               S       S           09 57 18.0 +4.6
MAT   Matsushiro       21.80 232 eP       P           09 53 22.0 +1.2
      comp=Z,367nm,1.6s,mb5.6
MAT                              eS       Sx          09 55 55.0
MAT                               LR      LR
      comp=Z,2µm,22.0s,MS4.5
JHJ   Hachijo jima 2   23.90 225  LR      LR          10 02 10.1
      comp=Z,549nm,21.1s,MS4.0,baz=110,slow=34
CN2   Changchun        24.19 263 eP       P           09 53 42.9 -1.2
CN2                              eAP                  09 53 57.1
CN2                              eXP                  09 54 02.4
CN2                               AMB     AMB
      comp=Z,30nm,0.8s,mb4.8
CN2                               AMB     AMB
      comp=Z,300nm,3.0s
CN2                               LR      LR
      comp=N,1µm,13.0s,MS5.0
CN2                               LR      LR
      comp=E,3µm,13.0s,MS5.0
CN2                               LR      LR
      comp=Z,4µm,14.0s,MS5.0
HIA   Hailar           25.20 279 eP       P           09 53 52.4 -1.3
      comp=Z,66nm,0.7s,mb5.3
SVW   Sparrevohn       25.66  52 eP       P           09 53 58.2 +0.3
      comp=Z,6.1nm,0.8s,mb4.2
BOD   Bodaibo          26.34 300 eP       P           09 54 00.3 -4.0
SNY   Shenyang         26.43 261 ⇓P       P           09 54 05.6 +0.3
SNY                               AMB     AMB
      comp=Z,80nm,1.2s,mb5.1
SNY                               LR      LR
      comp=N,2µm,16.5s,MS4.8
SNY                               LR      LR
      comp=E,2µm,20.0s,MS4.8
SNY                               LR      LR
      comp=Z,2µm,20.1s,MS4.7
KS15  Wonju Array Si   26.67 249 eP       P           09 54 07.4 -0.1
IMA   Indian Mountai   26.88  41  P       P           09 54 01.6 -7.5
IMA                               pmax    pmax
      comp=Z,55nm,1.0s,mb5.0
IMA   Indian Mountai   26.88  41 eP       P           09 54 08.0 -1.1
      comp=Z,55nm,1.0s,mb5.0
RSO   Redoubt South    27.08  53 eP       P           09 54 08.6 -2.5
SPU   Mount Spurr      27.38  52 eP       P           09 54 15.1 +1.2
KDAK  Kodiak Island    27.48  59 eP       P           09 54 12.5 -2.2
      comp=Z,7.9nm,0.6s,mb4.4
JNU   Nakatsue         28.20 239  P       P           09 54 22.4 +0.8
      comp=Z,33nm,0.8s,mb5.0,baz=47,slow=7.4,SNR=18
JNU                               LR      LR          10 07 17.5
      comp=Z,542nm,18.6s,MS4.2,baz=39,slow=40
MCK   McKinley         28.75  46  P       P           09 54 25.8 -0.2
MCK                               pmax    pmax
      comp=Z,4.0nm,0.9s,mb4.2
MCK   McKinley         28.75  46 eP       P           09 54 24.0 -2.0
      comp=Z,3.9nm,0.9s,mb4.1
SML   Sawmill          29.12  50  P       P           09 54 27.4 -2.0
SML   Sawmill          29.12  50⇓eP       P           09 54 28.4 -1.0
COLA  College          29.21  44 eP       P           09 54 29.4 -0.8
COLA                              pmax    pmax
      comp=Z,9.0nm,0.6s,mb4.7
COLA  College          29.21  44 eP       P           09 54 29.4 -0.8
      comp=Z,8.8nm,0.6s,mb4.7
ILAR  Eielson Array    29.63  44  P       P           09 54 32.1 -1.8
      comp=Z,2.7nm,0.8s,mb4.0,baz=251,slow=8.0,SNR=31
ILAR                              PcP     PcP         09 57 35.5 -2.0
      comp=Z,1.2nm,0.4s,baz=288,slow=3.2,SNR=8.4
ILAR                              LR      LR          10 07 55.4
      comp=Z,986nm,18.2s,MS4.5,baz=286,slow=39
ILAR  Eielson Array    29.63  44  P       P           09 54 32.1 -1.8
ILAR                                                  09 57 35.6
ILAR                              pmax    pmax
      comp=Z,3.0nm,0.8s
ILAR                              MLR     MLR
      comp=Z,986nm,18.2s
DIV   Divide           30.42  51 eP       P           09 54 40.3 -0.6
      comp=Z,16nm,0.5s,mb5.0
EYAK  Cordova Ski Ar   30.52  52 eP       P           09 54 40.8 -1.1
BJI   Beijing          32.01 265 eP       P           09 54 54.1 -1.1
BJI                               AMB     AMB
      comp=Z,8.0nm,0.7s,mb4.7
BJI                               LR      LR
      comp=N,3µm,19.3s,MS5.0
BJI                               LR      LR
      comp=E,2µm,17.3s,MS5.0
BJI                               LR      LR
      comp=Z,3µm,20.7s,MS4.9
DAWY  Dawson           32.93  45 eP       P           09 55 01.3 -1.5
IRK   Irkutsk          33.21 293 eP       P           09 55 00.4 -5.0
IRK                              e                    09 56 25.4
IRK                              e                    09 57 48.0
SONM  Songino Array    33.84 284  P       P           09 55 09.7 -1.3
      comp=Z,2.7nm,0.4s,mb4.6,baz=57,slow=9.0,SNR=15
SONM                              PcP     PcP         09 57 47.4 -1.6
      comp=Z,4.9nm,0.9s,baz=80,slow=1.9,SNR=6.0
TIA   Tai'an           33.86 259 eP       P           09 55 10.9 -0.3
TIA                               AMB     AMB
      comp=Z,46nm,1.2s,mb5.3
ZAK   Zakamensk        34.54 290⇑eP       P           09 55 15.8 -1.0
INK   Inuvik           34.73  37  P       P           09 55 17.6 -0.8
      comp=Z,13nm,0.6s,mb5.1,baz=276,slow=6.6,SNR=29
INK   Inuvik           34.73  37  P       P           09 55 17.6 -0.7
INK                               pmax    pmax
      comp=Z,13nm,0.6s
INK   Inuvik           34.73  37⇑iP       P           09 55 17.3 -1.0
      comp=Z,20nm,0.8s,mb5.1
SSE   Sheshan          35.08 248  P       P           09 55 18.9 -2.8
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SSE				AP	pP	09 55 32.0	-3.8
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,107nm,4.8s						
SSE				LR	LR		
	comp=N,528nm,18.6s,MS4.3						
SSE				LR	LR		
	comp=E,243nm,19.0s,MS4.3						
SSE				LR	LR		
	comp=Z,468nm,21.2s,MS4.2						
SSE	**Sheshan**	**35.08**	**248**	P	**P**	**09 55 18.9**	**-2.8**
	comp=Z,33nm,0.7s,mb5.4						
SSE				pP	pP	09 55 32.0	-3.8
SSE				S	**S**	**10 00 53.1**	**+3.7**
SSE				sS		10 01 15.2	
SSE				PcS		10 01 32.7	
SSE				LR	LR		
	comp=Z,470nm,21.2s,MS4.2						
BTO	**Baotou**	**35.46**	**271**	*e*P	**P**	**09 55 21.5**	**-3.3**
DLBC	**Dease Lake**	**38.79**	**52**	P	**P**	**09 55 53.7**	**+1.2**
	comp=Z,7.2nm,0.8s,mb4.5,baz=292,slow=9.8,SNR=22						
DLBC	**Dease Lake**	**38.79**	**52**	*e*P	**P**	**09 55 53.5**	**+0.9**
WHN	**Wuhan**	**39.47**	**255**	*e*P	**P**	**09 55 58.5**	**0.0**
WHN				*e*S	**S**	**10 01 54.0**	**-2.3**
WHN				LR	LR		
	comp=N,980nm,15.2s,MS5.2						
WHN				LR	LR		
	comp=E,3µm,19.8s,MS5.2						
WHN				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
QZH	**Quanzhou**	**41.26**	**245**	⇑*i*P	**P**	**09 56 13.1**	**-0.2**
QZH				AP	pP	09 56 28.8	+1.2
QZH				S	**S**	**10 02 30.3**	**+7.3**
QZH				AMB	AMB		
	comp=Z,480nm,4.8s						
QZH				LR	LR		
	comp=N,340nm,11.7s,MS4.9						
QZH				LR	LR		
	comp=E,890nm,12.9s,MS4.9						
QZH				LR	LR		
	comp=Z,1µm,17.6s,MS4.8						
LZH	**Lanzhou**	**42.06**	**270**	*e*P	**P**	**09 56 19.2**	**-0.6**
LZH				AP	pP	09 56 33.6	-0.5
LZH				XP	sP	09 56 39.2	-1.4
LZH				PP	PP	09 57 59.5	-1.3
LZH				*e*S	**S**	**10 02 34.0**	**-0.8**
LZH				XS		10 02 58.0	
LZH				SS	SS	10 05 35.1	-2.8
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,212nm,4.8s						
LZH				LR	LR		
	comp=E,2µm,13.9s						
LZH				LR	LR		
	comp=Z,2µm,17.1s,MS5.2						
LZH	**Lanzhou**	**42.06**	**270**	*e*P	**P**	**09 56 19.2**	**-0.6**
	comp=Z,83nm,1.5s,mb5.1						
LZH				pP	pP	09 56 33.6	-0.5
LZH				sP	sP	09 56 39.2	-1.4
LZH				PP	PP	09 57 59.5	-1.3
LZH				*e*S	**S**	**10 02 34.0**	**-0.8**
LZH				sS		10 02 58.0	
LZH				SS	SS	10 05 35.1	-2.8
LZH				LR	LR		
	comp=Z,2µm,17.1s,MS5.1						
GTA	**Gaotai**	**42.44**	**277**	*e*P	**P**	**09 56 21.9**	**-0.9**
GTA				AP	pP	09 56 37.3	+0.2
GTA				XP	sP	09 56 42.1	-1.5
GTA				PP	PP	09 58 07.3	+2.9
GTA				SCP		10 02 01.7	
GTA				S	**S**	**10 02 35.0**	**-5.2**
GTA				SS	SS	10 05 47.7	+3.0
GTA				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.4						
GTA				AMB	AMB		
	comp=Z,104nm,7.6s						
GTA				LR	LR		
	comp=N,889nm,17.5s,MS4.8						
GTA				LR	LR		
	comp=E,793nm,17.9s,MS4.8						
GTA				LR	LR		
	comp=Z,1µm,17.1s,MS4.8						
ENH	**Enshi**	**42.58**	**259**	*e*P	**P**	**09 56 23.0**	**-1.1**
	comp=Z,15nm,0.5s,mb5.0						
NVS	**Novosibirsk**	**43.39**	**305**	*i* P	**P**	**09 56 26.9**	**-3.4**
NVS				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,28nm,1.7s						
NVS				pmax	pmax		
	comp=E,18nm,0.8s						
YKW3	**Yellowknife Ar**	**43.96**	**42**	*e*P	**P**	**09 56 34.5**	**-0.3**
YKA	**Yellowknife Ar**	**43.99**	**42**	P	**P**	**09 56 34.6**	**-0.5**
	comp=E,6.5nm,0.6s,mb4.5,baz=300,slow=8.1,SNR=21						
YKA	**Yellowknife Ar**	**43.99**	**42**	P	**P**	**09 56 34.6**	**-0.5**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RES	**Resolute Bay**	**44.24**	**22**	P	**P**	**09 56 38.1**	**+1.2**
RES				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
RES	**Resolute Bay**	**44.24**	**22**	*e*P	**P**	**09 56 36.8**	**-0.1**
	comp=Z,11nm,0.7s,mb4.7						
CD2	**Chengdu**	**45.61**	**265**	*e*P	**P**	**09 56 47.8**	**-0.7**
CD2				PP	PP	09 58 34.2	-2.1
CD2				S	**S**	**10 03 25.7**	**-0.6**
CD2				SS	SS	10 06 36.5	-6.0
CD2				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,190nm,8.3s						
CD2				LR	LR		
	comp=E,1µm,14.4s						
CD2				LR	LR		
	comp=Z,1µm,18.0s,MS4.9						
GZH	**Guangzhou**	**45.67**	**249**	P	**P**	**09 56 44.9**	**-4.2**
GZH				S	**S**	**10 03 20.9**	**-6.4**
GZH				AMB	AMB		
	comp=Z,39nm,1.6s,mb5.1						
GZH				LR	LR		
	comp=N,741nm,19.9s,MS4.8						
GZH				LR	LR		
	comp=E,705nm,18.0s,MS4.8						
GZH				LR	LR		
	comp=Z,1µm,20.8s,MS4.8						
WMQ	**Urumqi**	**47.01**	**290**	⇑P	**P**	**09 56 58.5**	**-0.8**
WMQ				AP	pP	09 57 11.0	-2.7
WMQ				XP	sP	09 57 16.5	-3.6
WMQ				PCP	PcP	09 58 31.1	-0.1
WMQ				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,109nm,10.1s						
WMQ				LR	LR		
	comp=N,712nm,15.6s,MS5.1						
WMQ				LR	LR		
	comp=E,2µm,15.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,2µm,15.6s,MS5.2						
GYA	**Guiyang**	**47.05**	**258**	⇑*i*P	**P**	**09 56 59.4**	**-0.5**
GYA				AP	pP	09 57 15.6	+1.3
GYA				XP	sP	09 57 22.8	+2.1
GYA				PP	PP	09 58 49.4	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,250nm,5.9s						
GYA				LR	LR		
	comp=N,200nm,18.4s,MS4.2						
GYA				LR	LR		
	comp=E,120nm,17.6s,MS4.2						
GYA				LR	LR		
	comp=Z,210nm,16.5s,MS4.2						
KBS	**Kingsbay**	**47.70**	**352**	*e*P	**P**	**09 57 04.1**	**-0.3**
KBS				AMb	AMB	09 57 06.9	
	comp=Z,76nm,1.3s,mb5.6						
KBS				*e*PP	PP	09 58 55.5	-0.2
KBS				*e*S	**S**	**10 03 55.1**	**-0.2**
KBS				AMS	AMS	10 17 42.0	
	comp=Z,609nm,20.7s,MS4.6						
KBS	**Kingsbay**	**47.70**	**352**	P	**P**	**09 57 04.6**	**+0.2**
KBS				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
KBS	**Kingsbay**	**47.70**	**352**	*e*P	**P**	**09 57 04.1**	**-0.3**
	comp=Z,76nm,1.3s,mb5.6						
KBS				LR	LR		
	comp=Z,609µm,20.7s,MS7.6						
SPB4	**Spitsbergen Ar**	**47.95**	**350**	*e*P	**P**	**09 57 06.1**	**-0.2**
KURK	**Kurchatov**	**47.97**	**302**	*e*P	**P**	**09 57 04.3**	**-2.5**
	comp=Z,27nm,0.6s,mb5.5						
KURK				*e*PcP	PcP	09 58 34.3	-0.3
RPW	**Rockport**	**48.12**	**61**	*e*P	**P**	**09 57 07.8**	**-0.2**
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**09 57 07.0**	**-2.3**
	comp=Z,12nm,0.5s,mb5.2,baz=57,slow=7.1,SNR=77						
MKAR				LR	LR	10 18 51.3	
	comp=Z,2µm,18.4s,MS5.1,baz=28,slow=38						
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**09 57 06.9**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**09 57 07.0**	**-2.3**
MKAR				LR	LR	10 18 51.3	
RMW	**Rattlesnake Mo**	**48.55**	**63**	P	**P**	**09 57 12.5**	**+1.2**
RMW	**Rattlesnake Mo**	**48.55**	**63**	*e*P	**P**	**09 57 12.0**	**+0.7**
NLW	**Nelson Butte**	**48.98**	**61**	*e*P	**P**	**09 57 15.2**	**+0.7**
HSO	**Harness Mounta**	**50.23**	**67**	P	**P**	**09 57 34.2**	**+10**
DPW	**Davenport**	**50.25**	**60**	P	**P**	**09 57 24.3**	**0.0**
DPW	**Davenport**	**50.25**	**60**	*e*P	**P**	**09 57 23.3**	**-1.1**
KMI	**Kunming**	**50.41**	**260**	*e*P	**P**	**09 57 25.5**	**-0.3**
KMI				AP	pP	09 57 39.6	-0.8
KMI				XP	sP	09 57 45.0	-1.7
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=N,1µm,18.5s,MS5.1						
KMI				LR	LR		
	comp=E,791nm,17.0s,MS5.1						
KMI				LR	LR		
	comp=Z,1µm,25.2s						
KMI	**Kunming**	**50.41**	**260**	*e*P	**P**	**09 57 25.5**	**-0.3**
	comp=Z,9.0nm,0.9s,mb4.8						
KMI				pP	pP	09 57 39.6	-0.8
KMI				sP	sP	09 57 45.0	-1.7
KMI				PP	PP	09 59 22.0	-0.6
KMI				S	**S**	**10 04 34.0**	**+0.3**
KMI				SS	SS	10 08 00.9	-4.2
KMI				LR	LR		
	comp=Z,1µm,25.2s,MS4.8						
HAWA	**Hanford**	**50.44**	**62**	*e*P	**P**	**09 57 25.7**	**-0.1**
	comp=Z,14nm,1.5s,mb4.8						
NEW	**Newport**	**50.58**	**59**	P	**P**	**09 57 26.9**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=259,slow=10,SNR=4.9						
NEW	**Newport**	**50.58**	**59**	P	**P**	**09 57 27.3**	**+0.4**
NEW				pmax	pmax		
	comp=Z,29nm,1.8s						
NEW	**Newport**	**50.58**	**59**	*e*P	**P**	**09 57 27.1**	**+0.3**
	comp=Z,29nm,1.8s,mb4.9						
VOSK	**Vostochnaya**	**50.62**	**308**	P	**P**	**09 57 24.2**	**-2.9**
VOSK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
BVA0	**Borovoye Array**	**50.72**	**309**	*i* P	**P**	**09 57 25.2**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**09 57 25.2**	**-2.7**
	comp=Z,16nm,0.5s,mb5.2,baz=59,slow=8.4,SNR=82						
BVAR				PcP	PcP	09 58 43.8	-0.8
	comp=Z,4.8nm,0.5s,baz=45,slow=2.0,SNR=3.9						
BRVK	**Borovoye**	**50.75**	**309**	P	**P**	**09 57 25.6**	**-2.5**
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**09 57 25.7**	**-2.4**
	comp=Z,24nm,0.7s,mb5.2						
BRVK				*e*PcP	PcP	09 58 44.6	-0.1
BJO	**Bjornoya**	**50.81**	**347**	*e*	PP	09 59 18.7	-6.9
QIZ	**Qiongzhong**	**50.87**	**249**	P	**P**	**09 57 32.0**	**+2.6**
QIZ				AP	pP	09 57 43.1	-0.9
QIZ				XP	sP	09 57 50.6	+0.3
QIZ				S	**S**	**10 04 48.2**	**+8.1**
QIZ				XS		10 05 09.2	
QIZ				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,176nm,5.7s						
QIZ				LR	LR		
	comp=N,634nm,15.6s,MS4.8						
QIZ				LR	LR		
	comp=E,391nm,16.0s,MS4.8						
HUMO	**Hull Mountain**	**50.89**	**68**	*e*P	**P**	**09 57 29.3**	**0.0**
	comp=E,9.7nm,1.4s,mb4.5						
DAG	**Danmarks Havn**	**51.28**	**359**	⇓*i*P	**P**	**09 57 30.3**	**-1.5**
	comp=E,29nm,0.8s,mb5.3						
DAG	**Danmarks Havn**	**51.28**	**359**	⇓*e*P	**P**	**09 57 30.3**	**-1.5**
	comp=E,29nm,0.8s,mb5.3						
ZRNK	**Zerenda**	**51.43**	**309**	P	**P**	**09 57 30.5**	**-2.7**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**51.43**	**309**	*e*P	**P**	**09 57 30.4**	**-2.8**
	comp=Z,20nm,0.8s,mb5.1						
ZRNK				*e*PcP	PcP	09 58 46.0	-1.2
YBH	**Yreka Blue Hor**	**51.59**	**69**	P	**P**	**09 57 35.4**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.1,baz=341,slow=5.2,SNR=7.8						
YBH	**Yreka Blue Hor**	**51.59**	**69**	P	**P**	**09 57 35.4**	**+0.9**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MOD	**Modoc**	**52.85**	**67**	*e*P	**P**	**09 57 44.4**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.4						
MSO	**Missoula**	**53.16**	**59**	*e*P	**P**	**09 57 45.8**	**-0.4**
	comp=Z,18nm,1.7s,mb4.7						
LVZ	**Lovozero**	**53.40**	**337**	*de*P	**P**	**09 57 46.6**	**-1.1**
LVZ				*i*		09 58 53.7	
LVZ				*i*		09 59 47.5	
LVZ				*e*S	**S**	**10 05 13.5**	**-0.6**
LVZ				*i*		10 05 32.7	
LVZ				*i* SS	SS	10 08 56.3	+2.3
LVZ				pmax	pmax		
	comp=N,5.0nm,0.8s						
LVZ				pmax	pmax		
	comp=E,3.0nm,0.8s						
LVZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
LVZ				smax			
	comp=N,35nm,10.4s						
LVZ				smax			
	comp=Z,22nm,10.4s						
LVZ				smax			
	comp=E,12nm,7.7s						
LVZ				MLR	MLR		
	comp=N,1µm,19.0s,MS5.1						
LVZ				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.1						
LVZ				MLR	MLR		
	comp=E,838nm,17.0s,MS5.1						
WVOR	**Wild Horse Val**	**53.44**	**66**	P	**P**	**09 57 48.8**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.0						
WVOR	**Wild Horse Val**	**53.44**	**66**	*e*P	**P**	**09 57 48.7**	**+0.3**
	comp=Z,33nm,1.8s,mb5.0						
WVOR				LR	LR		
	comp=Z,654nm,22.0s,MS4.6						
CHMT	**Chamberlain Mo**	**53.47**	**58**	*e*P	**P**	**09 57 47.1**	**-1.4**
KEV	**Kevo**	**53.56**	**341**	*e*p	**P**	**09 57 46.2**	**-2.7**
	comp=Z,3.3nm,0.3s,mb4.7						
KEV	**Kevo**	**53.56**	**341**	*e*P	**P**	**09 57 46.2**	**-2.7**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.7						
FFC	**Flin Flon**	**53.83**	**45**	*e*P	**P**	**09 57 50.1**	**-1.0**
	comp=Z,12nm,0.8s,mb4.9						
ARU	**Arti**	**53.86**	**318**	*e*P	**P**	**09 57 48.9**	**-2.4**
OHCM	**Honcut**	**53.86**	**70**	*e*P	**P**	**09 57 50.4**	**-1.1**
APA	**Apatity**	**53.95**	**337**	⇓*i*P	**P**	**09 57 51.3**	**-0.5**
APA				*e*S	**S**	**10 05 18.0**	**-3.6**
APA				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
APA				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.0						
ARCES	**ARCESS Array B**	**54.03**	**342**	P	**P**	**09 57 50.5**	**-1.9**
	comp=Z,16nm,0.8s,mb5.0,baz=45,slow=8.8,SNR=76						
ARCES				PcP	PcP	09 58 56.7	0.0
	comp=Z,5.2nm,0.7s,baz=45,slow=3.4,SNR=5.6						
ARCES				LR	LR	10 23 51.2	
	comp=Z,787nm,20.5s,MS4.8,baz=30,slow=39						
ARCES	**ARCESS Array B**	**54.03**	**342**	P	**P**	**09 57 50.5**	**-1.9**
ARCES						09 58 56.7	
ARCES				pmax	pmax		
	comp=Z,16nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,787nm,20.5s						
ARCES	**ARCESS Array B**	**54.03**	**342**	P	**P**	**09 57 50.5**	**-1.9**
ARCES				PcP	PcP	09 58 56.7	0.0
ARCES				LR	LR	10 23 51.1	
ARE0	**ARCESS Array S**	**54.03**	**342**	*e*P	**P**	**09 57 50.2**	**-2.1**
LSA	**Lhasa**	**54.21**	**274**	*e*P	**P**	**09 57 54.3**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0						
FCC	**Fort Churchill**	**54.34**	**38**	P	**P**	**09 57 53.8**	**-0.9**
FCC				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
FCC	**Fort Churchill**	**54.34**	**38**	*e*P	**P**	**09 57 53.7**	**-1.0**
HRY	**Holter Researc**	**54.34**	**58**	*e*P	**P**	**09 57 54.1**	**-0.8**
TKM2	**Tokmak 2**	**54.42**	**296**	P	**P**	**09 57 54.0**	**-1.6**
	SNR=14						
ULHL	**Ulahol**	**54.51**	**295**	P	**P**	**09 57 55.5**	**-0.7**
	SNR=5.8						
USP	**Ospenovka**	**54.80**	**297**	P	**P**	**09 57 56.6**	**-1.7**
	SNR=20						
CHMS	**Chumysh**	**54.84**	**297**	P	**P**	**09 57 57.5**	**-1.1**
	SNR=7.0						
SUMG	**Summit**	**54.86**	**7**	*e*P	**P**	**09 57 57.8**	**-0.6**
	comp=Z,72nm,0.9s,mb5.7						
WCN	**Washoe City**	**54.88**	**69**	P	**P**	**09 57 59.6**	**+0.7**
WCN				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.1						
WCN	**Washoe City**	**54.88**	**69**	*e*P	**P**	**09 57 59.1**	**+0.2**
	comp=Z,29nm,1.7s,mb5.0						
KTK1	**Kautokeino**	**54.91**	**342**	⇑*i*P	**P**	**09 57 57.9**	**-0.9**
KTK1				*e*pP	pP	09 58 11.3	-2.2
KTK1				*e*sP	sP	09 58 18.6	-1.2
KBK	**Karagaybulak**	**54.96**	**296**	P	**P**	**09 57 58.0**	**-1.5**
	SNR=6.4						
FRU	**Bishkek**	**55.02**	**297**	*e*P	**P**	**09 57 58.0**	**-1.9**
FRU				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.5						
HLID	**Hailey**	**55.04**	**62**	*e*P	**P**	**09 58 00.4**	**+0.4**
	comp=Z,22nm,1.9s,mb4.8						
HLID				LR	LR		
	comp=Z,638nm,21.0s,MS4.7						
MCMT	**McKenzie Canyo**	**55.04**	**60**	*e*P	**P**	**09 57 59.3**	**-0.8**
TRO	**Tromso**	**55.13**	**344**	*e*P	**P**	**09 57 56.1**	**-4.2**
TRO				*e*S	**S**	**10 05 38.1**	**+0.8**
TRO				*e*		10 11 18.5	
TRO				AMS	AMS	10 28 07.8	
	comp=Z,582nm,18.4s,MS4.7						
BOZ	**Bozeman (W)**	**55.15**	**59**	P	**P**	**09 58 00.8**	**0.0**
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
BOZ	**Bozeman (W)**	**55.15**	**59**	*e*P	**P**	**09 58 00.8**	**+0.1**
	comp=Z,11nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**55.22**	**296**	P	**P**	**09 58 00.6**	**-0.8**
	SNR=11						
CMB	**Columbia Colle**	**55.36**	**71**	P	**P**	**09 58 03.4**	**+0.9**
CMB				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
CMB	**Columbia Colle**	**55.36**	**71**	*e*P	**P**	**09 58 03.5**	**+1.0**
	comp=Z,18nm,1.6s,mb4.8						
BMN	**Battle Mountai**	**55.57**	**67**	P	**P**	**09 58 04.7**	**+0.8**
BMN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
BMN	**Battle Mountai**	**55.57**	**67**	*e*P	**P**	**09 58 04.7**	**+0.7**
	comp=Z,12nm,1.1s,mb4.8						
EKS2	**Erkin-Say**	**55.60**	**297**	P	**P**	**09 58 03.4**	**-0.7**
	SNR=11						
QLMT	**Earthquake Lak**	**55.80**	**59**	*e*P	**P**	**09 58 05.8**	**+0.3**
AML	**Almayashu**	**56.00**	**296**	P	**P**	**09 58 06.2**	**-0.8**
	SNR=6.9						
CHRT	**Chiangrai**	**56.15**	**259**	⇑P	**P**	**09 58 17.8**	**+9.5**
	comp=Z,505nm,0.9s						
YMR	**Madison River**	**56.15**	**59**	*e*P	**P**	**09 58 09.5**	**+1.4**
NVAR	**Mina Array Bea**	**56.30**	**69**	P	**P**	**09 58 09.3**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=298,slow=7.9,SNR=32						
MNV	**Mina**	**56.39**	**69**	P	**P**	**09 58 10.3**	**+0.5**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MNV	**Mina**	**56.39**	**69**	*e*P	**P**	**09 58 10.2**	**+0.3**
	comp=Z,6.0nm,1.2s,mb4.5						
NANT	**Nan**	**56.42**	**257**	⇑P	**P**	**09 58 08.0**	**-2.3**
	comp=Z,15nm,0.5s,mb5.3						
KSH	**Kashi**	**56.49**	**293**	*e*P	**P**	**09 58 08.8**	**-1.8**
KSH				*e*AP	pP	09 58 24.6	-0.8
KSH				*e*XP	sP	09 58 31.6	-0.1
KSH				*e*PCP	PcP	09 59 05.7	-0.9
KSH				*e*PP	PP	10 00 15.5	-2.6
KSH				LR	LR		
	comp=N,3µm,15.2s,MS5.6						
KSH				LR	LR		
	comp=E,1µm,10.8s,MS5.6						
SHL	**Shillong**	**56.73**	**270**	*e*P	**P**	**09 58 11.0**	**-1.4**
JMIC	**Jan Mayen**	**56.80**	**355**	*e*P	**P**	**09 58 06.8**	**-5.6**
JMIC				*e*S	**S**	**10 05 59.6**	**-0.1**
JMIC				*e*		10 11 48.1	
JMIC				AMS	AMS	10 21 36.4	
	comp=Z,254nm,20.1s,MS4.3						
MTUM	**Tungsten Hills**	**56.89**	**70**	P	**P**	**09 58 14.5**	**+1.1**
MOOW	**Moose Ponds**	**56.89**	**60**	*e*P	**P**	**09 58 26.2**	**+13**
MOOW				*e*		09 58 35.5	
KKTK	**Khon Kaen**	**57.07**	**253**	P	**P**	**09 58 16.0**	**+1.0**
KKAR	**Karatay Array**	**57.07**	**299**	*e*P	**P**	**09 58 12.0**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
REDW	**Red Top Meadow**	**57.09**	**60**	*e*P	**P**	**09 58 16.6**	**+1.8**
HVU	**Hansel Valley**	**57.13**	**63**	P	**P**	**09 58 16.6**	**+1.5**
HVU	**Hansel Valley**	**57.13**	**63**	P	**P**	**09 58 16.4**	**+1.3**
TPH	**Tonopah**	**57.16**	**69**	P	**P**	**09 58 11.8**	**-3.6**
TPH				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TPH	**Tonopah**	**57.16**	**69**	*e*P	**P**	**09 58 15.0**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.3						
LAO	**LASA Array**	**57.23**	**55**	*e*P	**P**	**09 58 15.6**	**-0.1**
LOF	**Lofoten**	**57.34**	**346**	⇑*i*P	**P**	**09 58 16.6**	**+0.4**
LOF				AMb	AMB	09 58 19.1	
	comp=Z,141nm,1.2s,mb5.9						
LOF				*e*pP	pP	09 58 29.8	-1.3
LOF	**Lofoten**	**57.34**	**346**	⇑*i*P	**P**	**09 58 16.6**	**+0.4**
	comp=Z,141nm,1.2s,mb5.9						
AHID	**Auburn Hatcher**	**57.37**	**61**	*e*P	**P**	**09 58 17.5**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.6						
BGU	**Big Grassy Mou**	**57.57**	**64**	*e*P	**P**	**09 58 19.5**	**+1.3**
CM31	**Chiang Mai Arr**	**57.74**	**258**	*e*P	**P**	**09 58 20.5**	**+0.9**
	comp=Z,18nm,0.6s,mb5.3						
CMAR	**Chiang Mai Arr**	**57.74**	**258**	P	**P**	**09 58 20.0**	**+0.4**
	comp=Z,116nm,0.6s,mb6.1,baz=29,slow=7.1,SNR=5.0						
CMAR				LR	LR	10 25 42.4	
	comp=Z,420nm,19.1s,MS4.6,baz=75,slow=39						
CMAR	**Chiang Mai Arr**	**57.74**	**258**	P	**P**	**09 58 20.0**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,116nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,420nm,19.1s						
HWUT	**Hardware Ranch**	**57.91**	**62**	*e*P	**P**	**09 58 20.5**	**0.0**
	comp=Z,32nm,1.6s,mb5.1						
AB31	**Akbulak array**	**58.15**	**311**	*i* P	**P**	**09 58 19.3**	**-2.8**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
PDAR	**Pinedale Array**	**58.19**	**60**	P	**P**	**09 58 22.9**	**+0.5**
	comp=Z,2.5nm,0.5s,mb4.5,baz=352,slow=2.4,SNR=30						
PDAR				LR	LR	10 20 13.1	
	comp=Z,308nm,21.6s,MS4.4,baz=112,slow=33						
DUG	**Dugway**	**58.19**	**64**	P	**P**	**09 58 22.4**	**-0.1**
DUG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
DUG	**Dugway**	**58.19**	**64**	*e*P	**P**	**09 58 22.6**	**+0.1**
	comp=Z,11nm,1.2s,mb4.8						
JOF	**Joensuu**	**58.24**	**335**	*e*p	**P**	**09 58 20.2**	**-2.4**
	comp=Z,16nm,0.5s,mb5.3						
JOF	**Joensuu**	**58.24**	**335**	*e*P	**P**	**09 58 20.2**	**-2.4**
JOF				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.3						
CTU	**Camp Tracy**	**58.44**	**63**	*e*P	**P**	**09 58 24.4**	**+0.2**
BDT	**Bhumibol Dam**	**58.64**	**257**	P	**P**	**09 58 27.0**	**+1.1**
JLU	**Jordanelle**	**58.66**	**63**	*e*P	**P**	**09 58 26.1**	**+0.2**
GUN	**Gumba**	**58.72**	**276**	*e*P	**P**	**09 58 25.7**	**-0.6**
	comp=Z,26nm,0.4s,mb5.6						
MPU	**Maple Canyon**	**58.97**	**64**	*e*P	**P**	**09 58 29.6**	**+1.7**
MOR8	**Moi Rana**	**58.99**	**344**	⇑*i*P	**P**	**09 58 24.9**	**-2.8**
MOR8				AMb	AMB	09 58 27.4	
	comp=Z,68nm,1.1s,mb5.6						
MOR8	**Moi Rana**	**58.99**	**344**	⇑*i*P	**P**	**09 58 24.9**	**-2.8**
	comp=Z,68nm,1.1s,mb5.6						
KKN	**Kakani**	**59.17**	**276**	*e*P	**P**	**09 58 28.3**	**-1.2**
	comp=Z,69nm,0.5s,mb5.9						
PKI	**Pulchoki**	**59.25**	**276**	*e*P	**P**	**09 58 29.4**	**-0.6**
	comp=Z,24nm,0.5s,mb5.5						
DMN	**Daman**	**59.41**	**276**	*e*P	**P**	**09 58 30.3**	**-0.8**
	comp=Z,69nm,0.6s,mb5.9						
GKN	**Gorkha**	**59.41**	**277**	*e*P	**P**	**09 58 29.5**	**-1.6**
	comp=Z,48nm,0.7s,mb5.7						
ULM	**Lac du Bonnet**	**59.62**	**46**	P	**P**	**09 58 31.3**	**-1.0**
	comp=Z,9.1nm,0.5s,mb5.1,baz=317,slow=7.0,SNR=23						
ULM				LR	LR	10 26 35.2	
	comp=Z,840nm,19.9s,MS4.9,baz=315,slow=38						

ULM	**Lac du Bonnet**	**59.62**	**46**	*e*P	**P**	**09 58 31.1**	**-1.2**
	comp=Z,20nm,0.8s,mb5.2						
ULM				*e*	pP	09 58 41.8	-5.4
MVU	**Marysvale**	**59.70**	**65**	*e*P	**P**	**09 58 33.8**	**+0.8**
	comp=Z,15nm,1.7s,mb4.8						
MSU	**Marysvale**	**59.72**	**65**	P	**P**	**09 58 34.1**	**+1.0**
MSU	**Marysvale**	**59.72**	**65**	*e*P	**P**	**09 58 34.8**	**+1.7**
KOLN	**Koldanda**	**60.21**	**278**	*e*P	**P**	**09 58 35.1**	**-1.5**
	comp=Z,19nm,0.3s,mb5.5						
SRU	**San Rafael**	**60.22**	**64**	P	**P**	**09 58 37.1**	**+0.6**
SRU	**San Rafael**	**60.22**	**64**	*e*P	**P**	**09 58 36.4**	**-0.1**
NEN	**Nelson**	**60.22**	**69**	*e*P	**P**	**09 58 36.7**	**+0.1**
LDFC	**Landfair**	**60.47**	**70**	*e*P	**P**	**09 58 37.7**	**-0.6**
FINES	**FINESS Array B**	**60.81**	**336**	P	**P**	**09 58 38.8**	**-1.5**
	comp=Z,33nm,0.9s,mb5.5,baz=45,slow=8.1,SNR=87						
FINES				LR	LR	10 28 53.5	
	comp=Z,1µm,20.2s,MS5.0,baz=33,slow=40						
FINES	**FINESS Array B**	**60.81**	**336**	P	**P**	**09 58 38.8**	**-1.5**
FINES				pmax	pmax		
	comp=Z,33nm,0.9s						
FINES				MLR	MLR		
	comp=Z,1µm,20.2s						
MOS	**Moscow**	**62.24**	**327**	*e*P	**P**	**09 58 45.9**	**-4.1**
MOS				*e*		09 59 24.4	
MOS				pmax	pmax		
	comp=Z,107nm,0.5s						
MOS				MLR	MLR		
	comp=Z,2µm,16.1s						
WUAZ	**Wupatki**	**62.30**	**67**	*e*P	**P**	**09 58 51.3**	**+0.7**
	comp=Z,5.4nm,1.0s,mb4.6						
ISCO	**Idaho Springs**	**62.39**	**60**	P	**P**	**09 58 52.3**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
ISCO	**Idaho Springs**	**62.39**	**60**	*e*P	**P**	**09 58 51.9**	**+0.8**
	comp=Z,15nm,1.2s,mb5.0						
OBN	**Obninsk**	**63.10**	**327**	*d* *i*P	**P**	**09 58 55.0**	**-0.7**
OBN				*e*		09 59 32.8	
OBN				*e*		10 07 30.4	
OBN				pmax	pmax		
	comp=Z,57nm,1.5s,mb5.5						
OBN				MLR	MLR		
	comp=Z,800nm,16.0s,MS5.0						
MOL	**Molde**	**63.45**	**346**	*e*P	**P**	**09 58 59.1**	**+1.2**
MOL				AMb	AMB	09 59 01.3	
	comp=Z,70nm,1.1s,mb5.7						
MOL				*e*pP	pP	09 59 11.8	-1.2
MOL	**Molde**	**63.45**	**346**	*e*P	**P**	**09 58 59.1**	**+1.2**
	comp=Z,70nm,1.1s,mb5.7						
DOMB	**Dombas**	**63.72**	**345**	*e*P	**P**	**09 58 59.1**	**-0.4**
DOMB				AMb	AMB	09 59 01.0	
	comp=Z,60nm,0.9s,mb5.6						
DOMB	**Dombas**	**63.72**	**345**	*e*P	**P**	**09 58 59.1**	**-0.4**
	comp=Z,60nm,0.9s,mb5.6						
SDCO	**Great Sand Dun**	**63.94**	**62**	*e*P	**P**	**09 59 03.0**	**+1.7**
	comp=Z,31nm,1.8s,mb5.0						
SDCO				LR	LR		
	comp=Z,436nm,20.0s,MS4.6						
NB2	**NORSAR Subarra**	**64.30**	**344**	P	**P**	**09 59 02.1**	**-1.2**
	comp=Z,29nm,0.6s,mb5.5,baz=23,slow=6.5						
NB2	**NORSAR Subarra**	**64.30**	**344**	P	**P**	**09 59 02.1**	**-1.2**
	baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.30**	**344**	P	**P**	**09 59 02.8**	**-0.5**
	comp=Z,23nm,0.5s,mb5.5,baz=23,slow=6.7,SNR=151						
NOA				LR	LR	10 33 03.1	
	comp=Z,524nm,18.5s,MS4.8,baz=10.0,slow=42						
NAO01	**NORSAR Array S**	**64.55**	**344**	*e*P	**P**	**09 59 03.7**	**-1.2**
	comp=Z,8.7nm,0.4s,mb5.1						
LAZ	**Ladron**	**65.49**	**65**	*e*P	**P**	**09 59 11.9**	**+0.5**
SNG	**Songkhla**	**65.67**	**249**	P	**P**	**09 59 03.0**	**-10**
RUND	**Rundenannen**	**65.83**	**346**	*e*P	**P**	**09 59 13.6**	**+0.4**
RUND				AMb	AMB	09 59 15.5	
	comp=Z,93nm,1.0s,mb5.8						
LPM	**Los Pinos Moun**	**65.84**	**65**	*e*P	**P**	**09 59 13.3**	**-0.4**
KONO	**Kongsberg**	**65.89**	**344**	AMS	AMS	10 34 50.5	
	comp=Z,471nm,16.0s,MS4.8						
CBKS	**Cedar Bluff**	**66.20**	**57**	P	**P**	**09 59 15.5**	**-0.3**
CBKS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3						
CBKS	**Cedar Bluff**	**66.20**	**57**	*e*P	**P**	**09 59 15.3**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0						
MNK	**Minsk**	**66.35**	**332⇓**	*e*P	**P**	**09 59 13.0**	**-3.5**
MNK				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.1						
SCHQ	**Schefferville**	**66.55**	**27**	LR	LR	10 29 51.6	
	comp=Z,336nm,21.7s,MS4.5,baz=114,slow=37						
SCHQ	**Schefferville**	**66.55**	**27**	*e*P	**P**	**09 59 17.0**	**-0.8**
	comp=Z,16nm,0.8s,mb5.1						
BLS5	**Blasjo**	**66.62**	**345**	*e*P	**P**	**09 59 19.1**	**+1.0**
BLS5				AMb	AMB	09 59 21.1	
	comp=Z,23nm,1.2s,mb5.1						
BLS5				*e*pP	pP	09 59 31.0	-2.3
BLS5	**Blasjo**	**66.62**	**345**	*e*P	**P**	**09 59 19.1**	**+1.0**
	comp=Z,23nm,1.2s,mb5.1						
IPM	**Ipoh**	**67.55**	**247⇓**	*e*P	**P**	**09 59 26.2**	**+1.4**
SUW	**Suwalki**	**68.09**	**334**	*e*P	**P**	**09 59 26.3**	**-1.1**
SUW				MLR	MLR		
	comp=Z,2µm,19.7s,MS5.4						
GDL2	**Guadalupe Moun**	**68.67**	**65**	*e*P	**P**	**09 59 31.8**	**+0.3**
KAKA	**Kakadu**	**68.81**	**209**	*e*P	**P**	**09 59 32.2**	**-0.3**
	comp=Z,18nm,1.1s,mb4.9						
KAKA				*e*	pP	09 59 45.3	-2.5
MUD	**Monsted U'grnd**	**68.99**	**343**	*i* P	**P**	**09 59 33.9**	**+0.9**
	comp=Z,12nm,0.5s,mb5.1						
MUD				*i*		09 59 41.3	
MUD	**Monsted U'grnd**	**68.99**	**343**	*e*P	**P**	**09 59 33.9**	**+0.9**
	comp=Z,12nm,0.5s,mb5.1						
MUD				*i*		09 59 41.3	
COP	**Copenhagen**	**69.09**	**341**	*i* P	**P**	**09 59 35.0**	**+1.4**
	comp=Z,24nm,0.6s,mb5.3						
BSD	**Bornholm Skovb**	**69.10**	**339⇑**	*i*P	**P**	**09 59 32.9**	**-0.8**
	comp=Z,15nm,0.6s,mb5.1						
	comp=Z,700nm,19.0s						
AKASG	**Malin Array Be**	**69.22**	**329**	P	**P**	**09 59 32.6**	**-1.9**
	comp=Z,46nm,0.4s,mb5.8,baz=30,slow=6.7,SNR=106						
AKASG	**Malin Array Be**	**69.22**	**329**	P	**P**	**09 59 32.6**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,46nm,0.4s						
WMOK	**Wichita Mounta**	**69.78**	**59**	P	**P**	**09 59 37.8**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
WMOK	**Wichita Mounta**	**69.78**	**59**	*e*P	**P**	**09 59 37.7**	**-0.5**
	comp=Z,21nm,0.9s,mb5.1						
WMOK				LR	LR		
	comp=Z,431nm,21.0s,MS4.7						
KIV	**Kislovodsk**	**69.89**	**317**	*c* *i*P	**P**	**09 59 38.6**	**-0.1**
KIV				*e*		10 00 02.8	
KIV				*e*		10 02 16.0	
KIV				*e*		10 08 52.0	
KIV				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
KIV				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0						
KIV	**Kislovodsk**	**69.89**	**317**	*e*P	**P**	**09 59 37.9**	**-0.8**
	comp=Z,19nm,0.6s,mb5.2						
RGN	**Rugen**	**69.97**	**340**	*e*P	**P**	**09 59 40.2**	**+1.2**
GKP	**Gorka Klasztor**	**70.27**	**337**	*e*P	**P**	**09 59 40.7**	**-0.2**
GKP				MLR	MLR		
	comp=Z,1µm,24.2s,MS5.0						
CCM	**Cathedral Cave**	**71.04**	**52**	P	**P**	**09 59 44.8**	**-0.9**
CCM				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
CCM	**Cathedral Cave**	**71.04**	**52**	*e*P	**P**	**09 59 44.9**	**-0.8**
	comp=Z,15nm,0.9s,mb4.9						
SLM	**Saint Louis**	**71.06**	**51**	P	**P**	**09 59 45.3**	**-0.6**
SLM	**Saint Louis**	**71.06**	**51**	*e*P	**P**	**09 59 44.9**	**-1.0**
SLM				*e*	pP	09 59 58.0	-3.2
BSEG	**Bad Segeberg**	**71.16**	**341**	*e*P	**P**	**09 59 46.4**	**+0.2**
BSEG				pmax	pmax		
	comp=Z,106nm,1.8s,mb5.5						
LTX	**Lajitas**	**71.23**	**66**	P	**P**	**09 59 47.9**	**+0.8**
LTX				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LTX	**Lajitas**	**71.23**	**66**	*e*P	**P**	**09 59 47.6**	**+0.6**
	comp=Z,7.8nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**71.23**	**66**	P	**P**	**09 59 47.1**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.5,baz=299,slow=4.8,SNR=127						
FVM	**French Village**	**71.49**	**52**	P	**P**	**09 59 47.3**	**-1.2**
FVM				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
FVM	**French Village**	**71.49**	**52**	*e*P	**P**	**09 59 47.1**	**-1.3**
	comp=Z,24nm,0.9s,mb5.1						
FVM				*e*	pP	09 59 59.2	-4.6
ESK	**Eskdalemuir**	**71.89**	**350**	P	**P**	**09 59 50.1**	**-0.4**
ESK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
ESK	**Eskdalemuir**	**71.89**	**350**	*e*P	**P**	**09 59 50.0**	**-0.5**
	comp=Z,7.9nm,0.6s,mb4.8						
KWP	**Kalwaria**	**72.14**	**332**	*e*P	**P**	**09 59 52.2**	**+0.1**
KWP				MLR	MLR		
	comp=Z,1µm,21.4s,MS5.2						
BLO	**Bloomington**	**72.38**	**48**	P	**P**	**09 59 53.2**	**-0.5**
BLO	**Bloomington**	**72.38**	**48**	P	**P**	**09 59 51.7**	**-2.0**
OJC	**Ojcow**	**72.42**	**334⇑**	*e*P	**P**	**09 59 53.7**	**0.0**
OJC				*e*S	S	10 09 06.7	-5.3
OJC				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.4						
SIM	**Simferopol'**	**72.47**	**323**	*c*P	**P**	**09 59 55.0**	**+0.9**
SIM				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
SIM				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.4						
JCT	**Junction City**	**72.50**	**63**	P	**P**	**09 59 54.6**	**0.0**
JCT				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
JCT	**Junction City**	**72.50**	**63**	*e*P	**P**	**09 59 54.2**	**-0.3**
	comp=Z,18nm,1.1s,mb4.9						
JCT				LR	LR		
	comp=Z,327nm,22.0s,MS4.6						
KIS	**Kishinev**	**72.58**	**327**	*e*P	**P**	**09 59 52.0**	**-2.6**
KIS				*e*		10 09 20.0	
KIS				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.2						
KIS				MLR	MLR		
	comp=N,1µm,18.0s,MS5.3						
KIS				MLR	MLR		
	comp=E,1µm,20.0s,MS5.3						
KIS				MLR	MLR		
	comp=Z,1µm,16.0s						
MIAR	**Mount Ida**	**72.64**	**56**	P	**P**	**09 59 55.1**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
MIAR	**Mount Ida**	**72.64**	**56**	*e*P	**P**	**09 59 55.1**	**-0.2**
	comp=Z,14nm,0.6s,mb5.0						
MIAR				*e*	pP	10 00 05.5	-5.1
KSP	**Ksiaz**	**72.74**	**337⇑**	*e*P	**P**	**09 59 55.5**	**0.0**
KSP				*e*S	S	10 09 24.0	+8.4
KSP				MLR	MLR		
	comp=Z,2µm,22.6s,MS5.3						
KSP	**Ksiaz**	**72.74**	**337⇑**	*e*P	**P**	**09 59 55.5**	**0.0**
KSP				*e*S	S	10 09 24.0	+8.4
KSP				*e*SS	SS	10 14 30.0	+32
KSP				LR	LR		
	comp=Z,2µm,22.6s,MS5.3						
USIN	**University of**	**72.82**	**50**	*e*P	**P**	**09 59 55.6**	**-0.6**
USIN				*e*	pP	10 00 08.9	-2.8
CTA	**Charters Tower**	**72.94**	**193**	*e*P	**P**	**09 59 56.6**	**-0.7**
	comp=Z,2.3nm,0.4s,mb4.5						
CTA				*e*	pP	10 00 09.3	-3.4
CTA				*e*		10 02 30.2	
CTA	**Charters Tower**	**72.94**	**193**	LR	LR	10 30 42.5	
	comp=Z,172nm,19.8s,MS4.3,baz=38,slow=35						
CTAO	**Charters Tower**	**72.94**	**193**	*e*P	**P**	**09 59 56.6**	**-0.7**
	comp=Z,29nm,1.5s,mb5.0						
CTAO				*e*		10 00 07.0	
CTAO				*e*		10 00 18.7	
CLL	**Collm**	**73.07**	**339**	⇑P	**P**	**09 59 56.9**	**-0.5**
	comp=Z,logA/T=1.6,mb5.3						
CLL				*i* *PP	pP	10 00 08.3	-4.5
CLL				*i* *SP	sP	10 00 13.6	-5.1
CLL				*e*S	S	10 09 30.0	+11
CLL	**Collm**	**73.07**	**339⇑**	*i*P	**P**	**09 59 56.9**	**-0.5**
	comp=Z,62nm,1.5s,mb5.3						
CLL				*i* pP	pP	10 00 08.3	-4.5
CLL				*e*S	S	10 09 30.0	+11
CLZ	**Clausthal**	**73.13**	**341**	*e*P	**P**	**09 59 58.4**	**+0.6**
	comp=Z,92nm,1.6s,mb5.5						
DPC	**Dobruska-Polom**	**73.19**	**336**	*e*P	**P**	**09 59 58.7**	**+0.6**
DPC				*e*S	S	10 09 38.7	+18
DPC				*e*SS		10 15 19.5	
DPC				LM		10 36 00.0	
	comp=Z,1.0nm,17.7s						
OKC	**Ostrava-Krasne**	**73.20**	**335**	*e*P	**P**	**09 59 58.4**	**+0.2**
OKC				*e*		10 09 38.7	
OKC				*e*		10 15 17.4	
OKC				LM		10 35 40.0	
	comp=Z,1.7nm,18.6s						
BRG	**Berggiesshubel**	**73.27**	**338**	*e*P	**P**	**09 59 58.4**	**-0.2**
	comp=Z,47nm,1.9s,mb5.1						
BRG				*e*S	S	10 09 27.0	+5.5
BRG				LR	LR		
	comp=Z,860nm,14.8s,MS5.2						
MORC	**Moravsky Berou**	**73.41**	**335**	*e*P	**P**	**09 59 59.8**	**+0.4**
	comp=Z,25nm,0.9s,mb5.2						
MORC				*e*		10 00 09.9	
PVCC	**Panska Ves**	**73.44**	**338**	*e*P	**P**	**09 59 59.9**	**+0.3**
PVCC				*e*S	S	10 09 26.8	+3.3
PVCC				*e*		10 15 29.0	
PVCC				LM		10 37 20.0	
	comp=Z,1.0nm,15.9s						
NCB	**Newcomb**	**73.53**	**37**	*e*P	**P**	**10 00 01.6**	**+1.3**
WTSB	**Winterswijk**	**73.70**	**343**	*e*P	**P**	**10 00 01.8**	**+0.7**
	comp=Z,25nm,1.2s,mb5.0						
ERZM	**Erzurum**	**73.77**	**315**	*i* P	**P**	**10 00 03.1**	**+1.3**
KECS	**Kecovo**	**73.81**	**333**	*e*P	**P**	**10 00 02.8**	**+1.0**
PRU	**Pruhonice**	**73.95**	**337**	*e*P	**P**	**10 00 02.9**	**+0.3**
	comp=Z,46nm,1.5s,mb5.2						
PRU				*e*S	S	10 09 33.9	+4.8
PRU				*e*		10 14 58.9	
PRU				LM		10 34 50.0	
	comp=Z,0.9nm,15.0s						
MOX	**Moxa**	**74.00**	**339**	*i* P	**P**	**10 00 04.2**	**+1.3**
	comp=Z,logA/T=1.7,mb5.4						
MOX				S	S	10 09 42.0	+12
MOX				SS		10 15 30.0	
MOX				L		10 38 55.0	
MOX	**Moxa**	**74.00**	**339**	*e*P	**P**	**10 00 04.2**	**+1.3**
MOX				pmax	pmax		
	comp=Z,100nm,2.2s,mb5.4						
MOX				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.0						
MOX	**Moxa**	**74.00**	**339**	*e*P	**P**	**10 00 04.2**	**+1.3**
	comp=Z,100nm,2.2s,mb5.4						
MOX				LR	LR		
	comp=Z,700nm,18.0s,MS5.0						
DCN	**Croghan**	**74.24**	**352**	*e*P	**P**	**10 00 05.0**	**+0.8**
VYHS	**Vyhne**	**74.25**	**334**	*e*P	**P**	**10 00 04.8**	**+0.4**
VYHS				*e*PcP	PcP	10 00 21.0	+1.7
VYHS				*e*PP	PP	10 02 38.1	-14
VYHS				*e*S	S	10 09 13.6	-19
VYHS				*e*		10 24 45.5	
NATX	**Nacogdoches**	**74.26**	**58**	*e*P	**P**	**10 00 05.4**	**+0.6**
	comp=Z,36nm,0.7s,mb5.4						
KELT	**Kelkit**	**74.47**	**317**	*i* P	**P**	**10 00 09.1**	**+3.2**
PSZ	**Piszkesteto**	**74.48**	**333⇑**	*e*	**P**	**10 00 06.3**	**+0.5**
PSZ	**Piszkesteto**	**74.48**	**333**	P	**P**	**10 00 06.2**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
PSZ	**Piszkesteto**	**74.48**	**333**	*e*P	**P**	**10 00 06.3**	**+0.6**
	comp=Z,28nm,0.9s,mb5.2						
OXF	**Oxford**	**74.75**	**53**	P	**P**	**10 00 07.4**	**-0.2**
OXF				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
OXF	**Oxford**	**74.75**	**53**	*e*P	**P**	**10 00 07.4**	**-0.1**
	comp=Z,46nm,0.9s,mb5.4						
MCWV	**Mont Chateau**	**74.93**	**44**	*e*P	**P**	**10 00 09.4**	**+0.9**
	comp=Z,10nm,0.6s,mb4.9						
KHC	**Kasperske Hory**	**74.98**	**338**	*e*P	**P**	**10 00 09.0**	**+0.4**
KHC				AP	pP	10 00 20.0	-4.0
KHC				*e*S	S	10 09 46.0	+5.4
KHC				*e*SS	SS	10 14 53.9	+22
KHC				LM		10 38 10.0	
	comp=Z,1.1nm,16.3s						
KHC	**Kasperske Hory**	**74.98**	**338**	*e*P	**P**	**10 00 09.0**	**+0.4**
KHC				*e*	pP	10 00 20.0	-4.0
KHC				*e*S	S	10 09 46.0	+5.4
KHC				MLR	MLR		
	comp=Z,1µm,16.3s,MS5.2						
KHC	**Kasperske Hory**	**74.98**	**338**	*e*P	**P**	**10 00 09.0**	**+0.4**
KHC				*e*	pP	10 00 20.0	-4.0
KHC				*e*S	S	10 09 46.0	+5.4
KHC				*e*SS	SS	10 14 53.9	+22
KHC				LR	LR		
	comp=Z,1µm,16.3s,MS5.2						
GRA1	**Grafenberg Arr**	**74.98**	**339**	*e*P	**P**	**10 00 09.1**	**+0.5**
	comp=Z,111nm,1.7s,mb5.5						
GRA1				LR	LR		
	comp=Z,900nm,18.2s,MS5.1						
GRF	**Grafenberg Arr**	**74.98**	**339**	*e*P	**P**	**10 00 09.1**	**+0.5**
GRF				pmax	pmax		
	comp=Z,111nm,1.7s,mb5.5						
HGN	**Heimansgroeve**	**75.01**	**343**	*e*P	**P**	**10 00 08.8**	**+0.1**
	comp=Z,18nm,1.0s,mb4.9						
HGN				*e*x	x	10 00 20.1	
HGN				*e*S	S	10 09 55.8	+15
HGN				*e*SS	SS	10 14 45.3	+13
SRO	**Srobarova**	**75.01**	**334**	*e*P	**P**	**10 00 08.0**	**-0.8**
PLAL	**Pickwick Lake**	**75.02**	**52**	*e*P	**P**	**10 00 07.5**	**-1.6**
	comp=Z,21nm,0.9s,mb5.1						
WET	**Wettzell**	**75.13**	**338**	*e*P	**P**	**10 00 10.1**	**+0.7**
WET				pmax	pmax		
	comp=Z,67nm,1.7s,mb5.3						
WET	**Wettzell**	**75.13**	**338**	*e*P	**P**	**10 00 10.1**	**+0.7**
	comp=Z,67nm,1.7s,mb5.3						
WB2	**Warramunga Arr**	**75.17**	**205⇑**	*i*P	**P**	**10 00 09.6**	**-0.6**
WB2				*e*		10 02 42.7	
BOYT	**Boyabat**	**75.17**	**320**	*i* P	**P**	**10 00 10.6**	**+0.7**
WRA	**Warramunga Arr**	**75.17**	**205**	P	**P**	**10 00 09.8**	**-0.4**
	comp=Z,8.4nm,1.0s,mb4.6,baz=18,slow=6.0,SNR=26						
WRA	**Warramunga Arr**	**75.17**	**205**	P	**P**	**10 00 09.8**	**-0.5**
WRA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GEC2	**GERESS Array S**	**75.22**	**338**	*e*P	**P**	**10 00 10.1**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.1						
GEC2	**GERESS Array S**	**75.22**	**338**	*e*P	**P**	**10 00 10.1**	**+0.2**
	comp=Z,38nm,1.6s,mb5.1						
GERES	**GERESS Array B**	**75.22**	**338**	P	**P**	**10 00 10.2**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.6,baz=38,slow=6.0,SNR=31						
GERES	**GERESS Array B**	**75.22**	**338**	P	**P**	**10 00 10.2**	**+0.3**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TOD	**Tromm**	**75.57**	**341**	*e*P	**P**	**10 00 12.1**	**+0.2**
BALT	**Daday**	**75.67**	**321**	*i* P	**P**	**10 00 13.2**	**+0.5**
RUP	**Ruppelstein**	**75.82**	**342**	*e*P	**P**	**10 00 13.3**	**0.0**
GIVF	**Givet**	**75.84**	**344**	*e*P	**P**	**10 00 13.7**	**+0.2**
SWET	**Sewanee**	**75.86**	**50**	*e*P	**P**	**10 00 12.9**	**-1.0**
CTKT	**Corum**	**75.90**	**320**	*i* P	**P**	**10 00 14.4**	**+0.4**
ELZG	**Elazig**	**75.96**	**316**	*i* P	**P**	**10 00 15.5**	**+1.1**
KTD	**Kalmit**	**75.98**	**341**	*e*P	**P**	**10 00 14.0**	**-0.3**
BAIF	**Baives**	**75.99**	**344**	*e*P	**P**	**10 00 14.6**	**+0.3**
	comp=Z,18nm,0.8s,mb4.7						
MOA	**Molln**	**76.01**	**337⇑**	*i*P	**P**	**10 00 14.9**	**+0.4**
	comp=Z,95nm,2.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**76.02**	**213⇑**	*i*P	**P**	**10 00 15.4**	**+0.3**
	comp=Z,9.3nm,0.9s,mb4.7						
FITZ				*e*	pP	10 00 29.3	-1.3
ARSA	**Arzberg**	**76.26**	**336⇑**	*i*P	**P**	**10 00 16.7**	**+0.8**
	comp=Z,74nm,1.7s,mb5.3						
CPCT	**Cooper Cave**	**76.33**	**49**	*e*P	**P**	**10 00 16.1**	**-0.5**
CPCT				*e*	pP	10 00 28.9	-3.1
MALT	**Malatya**	**76.36**	**316**	*e*P	**P**	**10 00 17.3**	**+0.6**
	comp=Z,31nm,1.0s,mb5.2						
LANF	**Langenberg**	**76.36**	**341**	*e*P	**P**	**10 00 16.5**	**0.0**
FUR	**Furstenfeldbru**	**76.41**	**339**	*e*P	**P**	**10 00 17.4**	**+0.7**
FUR				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
FUR	**Furstenfeldbru**	**76.41**	**339**	*e*P	**P**	**10 00 17.4**	**+0.7**
	comp=Z,50nm,1.3s,mb5.3						
ELDT	**Eldivan**	**76.55**	**321**	*i* P	**P**	**10 00 18.3**	**+0.6**
BFO	**Black Forest**	**76.88**	**341**	*e*P	**P**	**10 00 19.6**	**+0.2**
PERS	**Pernice**	**76.93**	**336**	*e*P	**P**	**10 00 20.2**	**+0.5**
KBA	**Koelnbreinsper**	**76.96**	**337⇑**	*i*P	**P**	**10 00 21.0**	**+1.2**
	comp=Z,163nm,2.0s,mb5.6						
WLS	**Welschbruch**	**77.00**	**341**	*e*P	**P**	**10 00 20.2**	**+0.2**
SGKT	**Sivrigoynuk**	**77.00**	**322**	*i* P	**P**	**10 00 20.8**	**+0.6**
SPAK	**Spaichingen**	**77.00**	**340**	*e*P	**P**	**10 00 20.6**	**+0.5**
CDF	**Champ du Feu**	**77.01**	**342**	*e*P	**P**	**10 00 20.2**	**+0.1**
	comp=Z,48nm,1.0s,mb5.1						
BRTR	**Keskin Array B**	**77.12**	**320**	P	**P**	**10 00 20.8**	**-0.2**
	comp=Z,13nm,0.5s,mb5.1,baz=44,slow=3.6,SNR=40						
BRTR	**Keskin Array B**	**77.12**	**320**	P	**P**	**10 00 20.8**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,13nm,0.5s						
LRAL	**Lakeview Retre**	**77.12**	**52**	*e*P	**P**	**10 00 19.8**	**-1.2**
	comp=Z,11nm,0.7s,mb4.9						
WATA	**Walderalm**	**77.13**	**338⇑**	*i*P	**P**	**10 00 22.2**	**+1.4**
	comp=Z,37nm,1.4s,mb5.1						
WTTA	**Wattenberg**	**77.18**	**338⇑**	*i*P	**P**	**10 00 22.1**	**+1.0**
	comp=Z,176nm,2.0s,mb5.6						
OBKA	**Obir**	**77.19**	**336⇑**	*i*P	**P**	**10 00 21.7**	**+0.5**
	comp=Z,184nm,2.2s,mb5.6						
LIBD	**Limburg**	**77.20**	**341**	*e*P	**P**	**10 00 21.7**	**+0.5**
HENT	**Hendek**	**77.22**	**323**	*i* P	**P**	**10 00 21.4**	**-0.1**
MOTA	**Moosalm**	**77.22**	**339⇑**	*i*P	**P**	**10 00 22.5**	**+1.2**
	comp=Z,17nm,1.2s,mb4.8						
SQTA	**Sankt Quirin**	**77.32**	**339⇓**	*i*P	**P**	**10 00 23.2**	**+1.3**
	comp=Z,21nm,1.0s,mb5.0						
MEZF	**Maizieres J'vi**	**77.34**	**343**	*e*P	**P**	**10 00 22.4**	**+0.4**
	comp=Z,16nm,0.5s,mb4.9						
THEF	**They Montfort**	**77.44**	**342**	*e*P	**P**	**10 00 22.6**	**+0.1**
DAVA	**Damuels**	**77.55**	**339⇓**	*i*P	**P**	**10 00 23.9**	**+0.8**
	comp=Z,94nm,2.3s,mb5.3						
HAU	**Haudompre**	**77.58**	**342**	*e*P	**P**	**10 00 23.4**	**+0.1**
	comp=Z,51nm,1.0s,mb5.1						
HAU				*e*R			
	comp=Z,702nm,21.0s						
KAHT	**Ahir Dag**	**77.59**	**317**	*i* P	**P**	**10 00 24.4**	**+0.8**
LJU	**Ljubljana**	**77.63**	**336**	*e*P	**P**	**10 00 23.5**	**-0.1**
HINF	**Hinteralfeld**	**77.66**	**342**	*e*P	**P**	**10 00 23.7**	**0.0**
	comp=Z,19nm,0.9s,mb4.8						
CEY	**Cerknica**	**77.94**	**336**	*e*P	**P**	**10 00 24.7**	**-0.6**
BOJS	**Bojanci**	**77.95**	**335**	*e*P	**P**	**10 00 25.4**	**+0.1**
FLN	**La Foliniere**	**77.98**	**347**	*e*P	**P**	**10 00 25.4**	**0.0**
	comp=Z,14nm,0.6s,mb4.8						
FLN				*e*R			
	comp=Z,747nm,19.0s						
PGB	**Panagyurishte**	**78.05**	**328**	*i* P	**P**	**10 00 27.0**	**+1.0**
LDF	**La Druitiere**	**78.09**	**346**	*e*P	**P**	**10 00 26.5**	**+0.4**
	comp=Z,9.8nm,0.6s,mb4.6						
LOMF	**Lomont**	**78.11**	**341**	*e*P	**P**	**10 00 24.9**	**-1.3**
VTS	**Vitosha**	**78.32**	**329**	*i* P	**P**	**10 00 27.5**	**0.0**
ESKT	**Eskisehir**	**78.37**	**322**	*i* P	**P**	**10 00 27.8**	**0.0**
GRR	**Gorron**	**78.40**	**347**	*e*P	**P**	**10 00 27.8**	**0.0**
	comp=Z,45nm,0.9s,mb5.1						
ULDT	**Uludag**	**78.47**	**324**	*i* P	**P**	**10 00 28.5**	**+0.2**
RZN	**Rozhen**	**78.64**	**327**	*i* P	**P**	**10 00 29.5**	**+0.2**
SART	**Tekirdag**	**78.69**	**325**	*i* P	**P**	**10 00 29.8**	**+0.2**
LOR	**Lormes**	**78.75**	**343**	*e*P	**P**	**10 00 30.1**	**+0.4**
	comp=Z,26nm,0.8s,mb4.9						
LOR				*e*R			
	comp=Z,963nm,21.2s						
SGMF	**Saint Gilles**	**78.76**	**348**	*e*P	**P**	**10 00 30.1**	**+0.4**
	comp=Z,43nm,0.9s,mb5.1						
ROSF	**Rostrenen**	**78.77**	**348**	*e*P	**P**	**10 00 30.0**	**+0.2**
	comp=Z,58nm,1.0s,mb5.2						
COBT	**Iskenderun**	**78.79**	**317**	*i* P	**P**	**10 00 31.0**	**+0.9**
PLE	**Pljevlja**	**78.82**	**332⇓**	*i*P	**P**	**10 00 30.9**	**+0.7**
ASAR	**Alice Springs**	**78.85**	**204**	P	**P**	**10 00 31.2**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.5,baz=16,slow=4.9,SNR=48						
CABF	**La Chapelle**	**78.97**	**342**	*e*P	**P**	**10 00 31.0**	**+0.1**
	comp=Z,57nm,1.1s,mb5.1						
SSF	**Saint Saulge**	**79.01**	**344**	*e*P	**P**	**10 00 32.0**	**+0.9**
	comp=Z,13nm,0.5s,mb4.8						
KKB	**Krupnik**	**79.02**	**328**	*i* P	**P**	**10 00 32.0**	**+0.7**
MMB	**Musomiste**	**79.06**	**328**	*i* P	**P**	**10 00 31.5**	**0.0**
UPM	**Unac-Piva**	**79.08**	**332**	*e*P	**P**	**10 00 30.9**	**-0.7**
IVA	**Berane**	**79.09**	**331⇓**	*i*P	**P**	**10 00 31.4**	**-0.3**
QUIF	**Quistinic**	**79.17**	**348**	*e*P	**P**	**10 00 32.0**	**0.0**
	comp=Z,23nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**79.30**	**344**	*e*P	**P**	**10 00 33.0**	**+0.3**
	comp=Z,51nm,1.0s,mb5.1						
PVY	**Plav**	**79.32**	**331⇓**	*i*P	**P**	**10 00 32.3**	**-0.7**
SMF	**Signal de Mont**	**79.35**	**343**	*e*P	**P**	**10 00 33.4**	**+0.4**
NKY	**Niksic**	**79.41**	**332⇓**	*i*P	**P**	**10 00 33.2**	**-0.2**
SKO	**Skopje**	**79.44**	**330**	*e*P	**P**	**10 00 34.5**	**+0.9**
BRY	**Bratogost**	**79.46**	**332**	*e*P	**P**	**10 00 32.5**	**-1.2**
BGF	**Bois d'Agland**	**79.61**	**344**	*e*P	**P**	**10 00 34.7**	**+0.3**
	comp=Z,13nm,0.6s,mb4.8						
TTG	**Podgorica**	**79.68**	**331⇓**	*i*P	**P**	**10 00 34.7**	**-0.2**
HCY	**Herceg Novi**	**79.89**	**332⇓**	*i*P	**P**	**10 00 35.4**	**-0.7**
LPL	**La Plagne**	**79.89**	**341**	*e*P	**P**	**10 00 37.1**	**+1.1**
	comp=Z,52nm,1.0s,mb5.1						
LPG	**La Plagne**	**79.91**	**341**	*e*P	**P**	**10 00 37.2**	**+1.2**
	comp=Z,58nm,1.0s,mb5.2						
BUM	**Brajici-Budva**	**79.91**	**332⇓**	*i*P	**P**	**10 00 35.4**	**-0.7**
TCF	**Toulx Ste Croi**	**79.98**	**344**	*e*P	**P**	**10 00 36.4**	**0.0**
	comp=Z,16nm,0.7s,mb4.8						
MFF	**Saint Martin d**	**80.04**	**346**	*e*P	**P**	**10 00 37.0**	**+0.3**
	comp=Z,14nm,0.5s,mb4.8						
PLDF	**La Plantade**	**80.04**	**343**	*e*P	**P**	**10 00 41.6**	**+4.8**
AGO	**Saint Agoulin**	**80.05**	**344**	*e*P	**P**	**10 00 42.8**	**+6.0**
ULC	**Ulcinj**	**80.11**	**331⇓**	*i*P	**P**	**10 00 37.4**	**+0.1**
BNI	**Bardonecchia**	**80.35**	**341**	P	**P**	**10 00 40.2**	**+1.8**
BNI	**Bardonecchia**	**80.35**	**341**	*e*P	**P**	**10 00 40.1**	**+1.7**
	comp=Z,10nm,1.0s,mb4.7						

PYM	Petit Puy Mans	80.36	344	*e*P	P	10 00 42.2	+3.7
ORIF	Oris-en-Rattie	80.64	341	*e*P	P	10 00 41.1	+1.2
	comp=Z,42nm,1.0s,mb5.0						
ORIF				*e*R			
	comp=Z,395nm,19.8s						
MBDF	Montbardon	80.64	341	*e*P	P	10 00 40.4	+0.4
	comp=Z,27nm,0.8s,mb4.9						
DNZL	Cakiroluk	80.66	322	*i* P	P	10 00 40.8	+0.6
LBL	Lubilhac	80.82	343	*e*P	P	10 00 46.3	+5.4
VIVF	Saint-Julien-l	80.93	342	*e*P	P	10 00 41.7	+0.2
	comp=Z,55nm,1.0s,mb5.2						
RJF	Les Rejaudoux	81.05	345	*e*P	P	10 00 42.7	+0.6
	comp=Z,21nm,0.9s,mb4.8						
SAOF	Saorge	81.19	340	*e*P	P	10 00 43.9	+1.0
AUTN	L'Aution	81.21	340	*e*P	P	10 00 40.8	-2.2
RAR	Rarotonga	81.24	142	LR	LR	10 30 27.1	
	comp=Z,393nm,20.9s,MS4.7,baz=287,slow=31						
CAF	Calviac	81.32	344	*e*P	P	10 00 44.2	+0.7
	comp=Z,78nm,1.3s,mb5.2						
SBF	Sospel	81.33	340	*e*P	P	10 00 43.9	+0.3
	comp=Z,58nm,0.9s,mb5.2						
CSS	Prodhromos	81.35	318	⇑P	P	10 00 43.7	-0.2
	comp=Z,1.4nm,0.7s,mb4.0						
CSS	Prodhromos	81.35	318	*e*P	P	10 00 43.5	-0.3
	comp=Z,46nm,0.7s,mb5.5						
MVIF	Mont Vial	81.36	340	*e*P	P	10 00 42.4	-1.4
AQU	L'Aquila	81.37	335	P	P	10 00 45.3	+1.5
AQU	L'Aquila	81.37	335	*e*P	P	10 00 42.1	-1.7
	comp=Z,27nm,0.8s,mb5.2						
REVF	Revere	81.46	340	*e*P	P	10 00 42.0	-2.3
REVF	Revere	81.46	340	*e*P	P	10 00 43.9	-0.4
REVF	Revere	81.46	340	*e*P	P	10 00 43.9	-0.4
ALFC	Alevga	81.48	319	⇑P	P	10 00 44.1	-0.5
	comp=Z,1.2nm,0.5s,mb4.1						
LFF	La Frestale	81.53	345	*e*P	P	10 00 44.6	0.0
SZAC	Souni-Zanaja	81.71	318	P	P	10 00 46.5	+0.7
CII	Carovilli	81.73	335	*e*P	P	10 00 47.8	+2.1
	comp=Z,6.7nm,0.6s,mb4.8						
HASS	Wahat al Ahsa'	81.75	301	P	P	10 00 45.1	-1.1
LASF	Ste Croix	81.83	343	*e*P	P	10 00 46.4	+0.2
PGF	Pioggiola	82.25	339	*e*P	P	10 00 48.2	-0.2
	comp=Z,19nm,0.8s,mb4.8						
PPT	Papeete	82.27	132	*e*S	S	10 10 42.8	-16
	comp=Z,100nm,27.5s						
PPT				*e*SS	SS	10 16 03.9	-19
	comp=Z,107nm,24.0s						
PPT				*e*R		10 26 19.4	
	comp=Z,827nm,23.0s,baz=333						
MMLI	Mount Malkishu	82.63	315	P	P	10 00 51.2	+0.6
OFRI	'Ofer	82.66	316	P	P	10 00 51.0	+0.3
HMDT	Nahal Hemdat	82.74	315	P	P	10 00 51.7	+0.6
HMDT	Nahal Hemdat	82.74	315	⇑P	P	10 00 51.7	+0.6
MTLF	Montolieu	82.84	344	*e*P	P	10 00 51.4	0.0
	comp=Z,40nm,1.0s,mb5.1						
DRGI	Dragot	83.37	315	P	P	10 00 54.7	+0.4
MLS	Moulis	83.40	344	*e*P	P	10 00 55.5	+1.3
TIP	Timpagrande	83.41	332	*e*P	P	10 00 55.2	+0.8
EPF	Esparros	83.45	345	*e*P	P	10 00 54.8	+0.3
	comp=Z,48nm,1.0s,mb5.2						
SJPF	Ste Jean	83.61	346	*e*P	P	10 00 56.8	+1.6
	comp=Z,24nm,0.7s,mb5.1						
MZDA	Masada	83.62	315	P	P	10 00 56.0	+0.4
LARF	Larrau	83.65	346	*e*P	P	10 00 56.6	+1.2
ETSF	Etsaut	83.72	346	*e*P	P	10 00 57.5	+1.7
	comp=Z,56nm,0.9s,mb5.4						
HILS	Ha'il	83.97	308	P	P	10 00 58.3	+0.9
ZFRI	Zfri	84.35	314	P	P	10 00 59.7	+0.5
KZIT	Kziot	84.39	315	P	P	10 00 59.8	+0.4
ARSS	Ar Rass	84.51	306	P	P	10 01 00.2	+0.1
PRNI	Paran	84.60	314	P	P	10 01 01.1	+0.6
PRNI	Paran	84.60	314	⇑P	P	10 01 01.1	+0.6
KMTI	Karmit	84.94	314	P	P	10 01 02.4	+0.2
MZLS	Mizel	85.04	303	P	P	10 01 03.1	+0.3
AQBJ	Aqaba	85.12	314	P	P	10 01 03.8	+0.7
MBH	Mount Berech	85.12	314	P	P	10 01 03.6	+0.5
MBH	Mount Berech	85.12	314	⇑P	P	10 01 03.6	+0.5
EIL	Elat	85.21	314	P	P	10 01 04.0	+0.5
EIL	Elat	85.21	314	⇑P	P	10 01 04.0	+0.5
STKA	Stephens Creek	85.22	195	P	P	10 01 04.6	+1.1
	comp=Z,7.0nm,1.1s,mb4.7,baz=315,slow=19,SNR=4.2						
STKA				LR	LR	10 35 56.2	
	comp=Z,223nm,19.0s,MS4.6,baz=23,slow=33						
ALWS	Ilw as Safayha	85.47	314	P	P	10 01 05.7	+0.9
JMQS	Jabal Moqyreh	85.47	313	P	P	10 01 05.8	+0.9
JMOS	Jabal al Moall	85.57	314	P	P	10 01 06.0	+0.6
PBRG	Braganca	85.61	350	*e*P	P	10 01 06.9	+1.7
	comp=Z,17nm,1.6s,mb5.0						
TBKS	Tabuk	85.73	312	P	P	10 01 08.0	+1.9
HAQS	Haql	85.75	314	P	P	10 01 06.9	+0.7
BDAS	Al Bad'	86.21	313	P	P	10 01 09.0	+0.6
PVRL	Vila Real	86.24	350	*e*P	P	10 01 10.2	+1.9
	comp=Z,31nm,0.7s,mb5.7						
AFFS	'Afif	86.25	305	P	P	10 01 09.0	+0.3
KBRS	Khaybar	86.53	309	P	P	10 01 11.3	+1.3
PVIS	Viseu	86.81	351	*e*P	P	10 01 13.6	+2.5
	comp=Z,29nm,1.0s,mb5.5						
MTE	Manteigas	87.09	350	*e*P	P	10 01 13.9	+1.4
	comp=Z,21nm,1.0s,mb5.3						
MTE				*e*LQ		10 37 42.5	
MTE				*e*LR	LR	10 40 31.3	
	comp=Z,231nm,20.2s						
ESDC	Sonseca Array	87.38	347	P	P	10 01 14.5	+0.6
	comp=Z,5.7nm,0.6s,mb5.0,baz=2.4,slow=4.4,SNR=15						
ESLA	Sonseca Array	87.38	347	*e*P	P	10 01 14.2	+0.4
	comp=Z,2.1nm,0.8s,mb4.4						
PCBR	Castelo Branco	87.63	350	*e*P	P	10 01 16.7	+1.6
TATS	Tathlith	89.64	302	P	P	10 01 25.4	+0.3
BLJS	Baljurashi	90.33	304	P	P	10 01 29.0	+0.7
NAMS	An Nimas	90.61	303	P	P	10 01 30.7	+1.0
URZ	Urewera	91.39	166	LR	LR	10 32 52.9	
	comp=Z,286nm,21.8s,MS4.7,baz=107,slow=29						
RPZ	Rata Peaks	96.06	172	LR	LR	10 37 43.0	
	comp=Z,520nm,21.1s,MS5.0,baz=332,slow=31						
JTS	JuntasAbangare	96.88	64	LR	LR	10 49 27.3	
	comp=Z,131nm,18.4s,MS4.5,baz=140,slow=38						
DBIC	Dimbokro	119.86	342	PKP	PKPdf	10 07 18.1	+1.6
	comp=Z,2.5nm,0.5s,baz=16,slow=2.0,SNR=7.9						
DBIC	Dimbokro	119.86	342	PKIKP	PKPdf	10 07 18.1	+1.7
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LPAZ	La Paz	128.08	65	PKP	PKPdf	10 07 34.7	+2.5
	comp=Z,1.0nm,0.7s,baz=5.9,slow=6.7,SNR=6.8						
LPAZ	La Paz	128.08	65	PKIKP	PKPdf	10 07 34.7	+2.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	La Paz	128.08	65	PKP	PKPdf	10 07 34.7	+2.5
QSPA	South Pole Qui	141.96	180	*e*PKPdf	PKPdf	10 07 51.3	-4.8
CPUP	Villa Florida	142.08	61	PKhKP		10 07 54.5	
	comp=Z,1.4nm,0.8s,baz=346,slow=3.1,SNR=3.5						
CPUP	Villa Florida	142.08	61	P	PKPdf	10 07 54.5	-3.3
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PLCA	Paso Flores	144.26	92	PKP	PKPdf	10 08 01.4	+0.3
	comp=Z,7.2nm,0.7s,baz=304,slow=4.6,SNR=16						
PLCA	Paso Flores	144.26	92	PKIKP	PKPdf	10 08 01.4	+0.3
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PLCA	Paso Flores	144.26	92	P	PKPbc	10 08 01.4	+0.8
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SUR	Sutherland	144.30	287	PKP	PKPdf	10 08 02.8	+1.4
	comp=Z,11nm,0.7s,baz=215,slow=3.5,SNR=9.6						
CAM4	Nova Friburgo	145.63	38	*e*P	PKPdf	10 08 05.4	+1.4
CAM4				*i*		10 08 06.2	
CAM4				*i*		10 08 14.0	
CAM4				*i*		10 08 17.9	
CAM4				*i*		10 08 28.1	
CAM4				*i*		10 08 33.2	
SYO	Syowa Base	147.83	216	⇓PKPdf	PKPdf	10 08 10.1	+3.9
SYO	Syowa Base	147.83	216	⇓PKPbc	PKPdf	10 08 14.3	+8.1
SYO	Syowa Base	147.83	216	⇑pPKPdf		10 08 23.1	
SYO	Syowa Base	147.83	216	⇓pPKiKP		10 08 32.6	
TRQA	Tornquist	147.88	81	*e*P	PKPdf	10 08 10.3	+3.0
USHA	Ushuaia	151.74	115	PKP	PKPdf	10 08 13.0	+0.3
	comp=Z,7.8nm,0.9s,baz=262,slow=2.9,SNR=3.3						
USHA				PKPbc	PKPdf	10 08 20.5	+7.8
	comp=Z,7.9nm,0.7s,baz=231,slow=1.9,SNR=12						
SNAA	Sanae	158.99	195	⇑*i*P	PKPab	10 08 58.8	-2.1

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*IDC **04** 09:50:59.7±0.7, 52.28N×159.57E, mb4.5/16, mb1 4.7/17, mb1mx4.6/22, ML4.8/1, MS4.5/2, Ms1 4.5/2, ms1mx3.9/27, Error ellipse: s-maj=21.3km s-min=13.4km az=175.0*

*MOS **04** 09:51:00.0±1.3, 52.00N×159.97E, h21^{km}, mb4.6/9, Error ellipse: s-maj=17.4km s-min=8.1km az=91.8*

*BJI **04** 09:51:04.0, 52.46N×159.68E, h56^{km}, mB4.7, mb4.8, Ms4.9, Msz4.7*

*KRSC **04** 09:51:04.5, 52.29N×159.96E, h11^{km}, ML5.4*

*NEIC **04** 09:51:06.6±1.3, 52.29N×159.61E, h52^{km}±11^{km}, mb4.7/29, Error ellipse: s-maj=10.4km s-min=5.4km az=166.0*

ISC 04 09:51:04.9±0.6, **52.11N**±0.04×**159.84E**±0.05, **h55**^{km}±4^{km}, **h47**^{km}±2.3^{km}**:pP-P, n140,** σ**1**^{s}**34**/157, **mb4.6**/49, **MS4.6**/7, **1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.88	292	*e*P	P	09 51 19.6	-1.7
SPN	Mys Shipunski	1.00	6	*e*P	P	09 51 20.7	-2.3
NLC	Nalytchevo	1.11	344	P	P	09 51 22.9	-1.6
NLC	Nalytchevo	1.11	344	*e*P	P	09 51 23.0	-1.5
PET	Petropavlovsk	1.17	322	P	P	09 51 24.4	-0.9
PET				S	S	09 51 40.1	-0.4
PET	Petropavlovsk	1.17	322	*e*P	P	09 51 24.2	-1.1
PET				*e*S	S	09 51 39.3	-1.2
PET	Petropavlovsk	1.17	322	⇓*i*PN	P	09 51 24.5	-0.8
PET				*e*S	S	09 51 38.0	-2.5
PET				smax			
	comp=N,10µm,0.7s						
PET	Petropavlovsk	1.17	322	*e*P	P	09 51 24.4	-1.0
GRL	Gorelyy	1.17	293	*e*P	P	09 51 25.1	-0.3
GRL				*i* S	S	09 51 43.7	+3.1
UGLR	Uglovaya	1.27	331	*e*P	P	09 51 26.8	+0.1
SDLR	Sedlovina	1.31	334	*e*P	P	09 51 26.1	-1.4
SMAR	Somma	1.32	332	*e*P	P	09 51 26.9	-0.7
AVH	Avacha	1.34	330	*e*P	P	09 51 27.3	-0.6
KOK	Koryaka	1.40	329	*e*P	P	09 51 28.7	+0.1
KOK				*e*S	S	09 51 49.6	+3.4
APC	Apacha	1.83	298	*e*P	P	09 51 36.3	+1.6
APC				*i* S	S	09 51 59.9	+3.2
APC				Smax			
	comp=N,6µm,0.5s						
MIPR	Malaya Ipel'ka	1.91	276	*e*P	P	09 51 37.1	+1.4
MIPR				*e*S	S	09 52 03.3	+4.8
KII	Karymskiy	1.95	353	*e*P	P	09 51 36.4	+0.1
GNL	Ganaly	1.96	325	*e*P	P	09 51 36.8	+0.3
GNL				*e*S	S	09 52 03.3	+3.4
PAU	Pauzhetka	1.99	252	P	P	09 51 38.3	+1.4
PAU				*e*S	S	09 52 03.5	+2.9
PAU				Smax			
	comp=N,4µm,1.2s						
MKZ	Mys Kozlova	2.70	24	P	P	09 51 44.8	-2.2
MKZ				S	S	09 52 14.2	-4.4
MKZ	Mys Kozlova	2.70	24	*e*P	P	09 51 44.8	-2.2
MKZ				*e*S	S	09 52 14.1	-4.5
SKR	Severo-Kuril's	2.74	240	*i* P	P	09 51 47.9	+0.4
SKR				*i* S	S	09 52 20.3	+0.8
SKR	Severo-Kuril's	2.74	240	PN	P	09 51 45.0	-2.5
SKR				*i* S	S	09 52 17.4	-2.1
SKR				pmax	pmax		
	comp=Z,800nm,0.9s						
SKR				smax			
	comp=N,880nm,0.5s						
SKR				smax			
	comp=E,2µm,0.5s						
TUMR	Tumrok	3.19	3	*e*P	P	09 51 55.9	+2.0
TUMR				*e*S	S	09 52 31.6	+0.7
KMNR	Kamenistaya	3.66	3	*e*P	P	09 52 02.2	+1.6
ESO	Esso	3.88	350	P	P	09 52 05.0	+1.3
ESO				*e*S	S	09 52 49.5	+1.0
ESO				Smax			
	comp=E,540nm,1.0s						
LGNR	Loginova	4.01	7	*e*P	P	09 52 07.6	+2.1
KLY	Klyuchi	4.24	6	*e*P	P	09 52 10.5	+1.8
KLY				*e*S	S	09 52 57.3	-0.1
KBTR	Krutoberegovo	4.46	22	P	P	09 52 09.9	-1.9
KBTR				S	S	09 52 59.0	-4.1
KBTR	Krutoberegovo	4.46	22	*e*P	P	09 52 09.8	-2.0
KBTR				*e*S	S	09 52 58.9	-4.2
FX1	Attu Island--F	8.17	79	Pn	P	09 52 59.8	-3.6
	comp=E,38nm,0.3s,baz=280,slow=2.1,SNR=2.5						
FX1				Sn	S	09 54 22.6	-13
	comp=E,24nm,0.3s,baz=101,slow=21,SNR=9.3						
FX1	Attu Island--F	8.17	79	*e*P	P	09 52 59.2	-4.1
SMY	Shemya	8.74	80	*e*P	P	09 53 08.0	-3.2
	comp=E,354nm,0.8s						
NIKO	Nikolski	18.99	75	*e*P	P	09 55 22.6	-1.7
UNV	Unalaska Valle	20.23	72	*e*P	P	09 55 37.4	-0.4
	comp=E,94nm,1.1s						
MDJ	Mudanjiang	21.34	261	P	P	09 55 46.4	-2.7
MDJ				AP		09 55 58.1	
MDJ				XP		09 56 04.5	
MDJ				S	S	09 59 36.9	-0.8
MDJ				XS		09 59 58.6	
MDJ				SCP		10 03 23.0	
MDJ				PCS		10 03 28.7	
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,109nm,5.1s						
MDJ				LR	LR		
	comp=N,603nm,14.6s,MS4.7						
MDJ				LR	LR		
	comp=E,2µm,15.6s,MS4.7						
MDJ				LR	LR		
	comp=Z,2µm,16.7s,MS4.6						
MAJO	Matsushiro	21.82	233	*e*P	P	09 55 55.3	+1.3
	comp=Z,53nm,1.0s,mb4.9						
CN2	Changchun	24.30	264	*e*P	P	09 56 16.7	-1.3
CN2				*e*AP		09 56 27.1	
CN2				*e*XP		09 56 37.7	
CN2				*e*S	S	10 00 28.3	-2.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1µm,13.0s,MS5.0						
CN2				LR	LR		
	comp=E,3µm,13.0s,MS5.0						
CN2				LR	LR		
	comp=Z,4µm,14.0s,MS5.0						
HIA	Hailar	25.34	280	*e*P	P	09 56 26.4	-1.6
	comp=Z,32nm,0.9s,mb4.9						
IMA	Indian Mountai	26.88	41	P	P	09 56 40.4	-1.6
MCK	McKinley	28.74	46	P	P	09 56 58.5	-0.3
	comp=Z,3.1nm,0.8s,mb4.1						
SML	Sawmill	29.10	50	*e*P	P	09 57 01.1	-0.9
COLA	College	29.21	44	*e*P	P	09 57 00.9	-2.1
	comp=Z,14nm,1.3s,mb4.5						
DIV	Divide	30.40	51	*e*P	P	09 57 12.6	-1.0
	comp=Z,16nm,0.7s,mb4.9						
EYAK	Cordova Ski Ar	30.49	52	*e*P	P	09 57 14.0	-0.4
SONM	Songino Array	33.99	284	PcP	PcP	10 00 22.8	+0.6
	comp=Z,3.3nm,1.0s,baz=90,slow=2.9,SNR=3.9						
ZAK	Zakamensk	34.69	290	*e*P	P	09 57 51.0	0.0
INK	Inuvik	34.75	37	P	P	09 57 51.0	-0.4
	comp=Z,2.4nm,0.4s,mb4.5,baz=284,slow=12,SNR=4.5						
INK	Inuvik	34.75	37	P	P	09 57 51.0	-0.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	34.75	37	*e*P	P	09 57 49.7	-1.6
	comp=Z,2.7nm,0.5s,mb4.4						
SSE	Sheshan	35.15	249	P	P	09 57 53.8	-1.3
SSE				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,78nm,9.0s						
SSE	Sheshan	35.15	249	P	P	09 57 53.8	-1.3
	comp=Z,19nm,0.6s,mb5.2						
DLBC	Dease Lake	38.76	52	*e*P	P	09 58 27.4	+2.2
LZH	Lanzhou	42.19	270	*e*P	P	09 58 44.3	-9.3
	comp=Z,42nm,1.5s,mb4.8						
LZH				pP	pP	09 58 57.8	-10
LZH				sP	sP	09 59 04.3	-10
LZH				LR	LR		
	comp=Z,710nm,18.0s,MS4.6						
ENH	Enshi	42.67	259	P	P	09 58 56.4	-1.3
	comp=Z,23nm,0.7s,mb5.0						
YKA	Yellowknife Ar	44.00	42	P	P	09 59 08.5	+0.5
	comp=Z,3.3nm,0.9s,mb4.1,baz=300,slow=8.5,SNR=4.5						
YKA	Yellowknife Ar	44.00	42	P	P	09 59 08.5	+0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GYA	Guiyang	47.14	258	P	P	09 59 32.6	-0.9
GYA				AP	pP	09 59 48.8	+0.9
GYA				S	S	10 06 18.6	-2.3
GYA				XS		10 06 44.4	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,240nm,16.2s,MS4.3						
GYA				LR	LR		
	comp=E,140nm,17.8s,MS4.3						
GYA				LR	LR		
	comp=Z,250nm,18.2s,MS4.2						
WMQ	Urumqi	47.16	290	P	P	09 59 33.0	-0.3
WMQ				AP	pP	09 59 45.5	-2.3
WMQ				XP	sP	09 59 50.5	-3.7
WMQ				PCP	PcP	10 01 05.5	+0.8
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
WMQ				LR	LR		
	comp=N,489nm,15.6s,MS4.7						
WMQ				LR	LR		
	comp=E,435nm,13.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,146nm,16.2s,MS4.0						
KBS	Kingsbay	47.83	352	*e*P	P	09 59 37.6	-0.7
	comp=Z,22nm,1.1s,mb5.1						
SPB4	Spitsbergen Ar	48.09	351	*e*P	P	09 59 39.6	-0.5
KURK	Kurchatov	48.13	302	*e*P	P	09 59 37.8	-3.1
	comp=Z,4.3nm,0.4s,mb4.8						
MKAR	Makanchi Array	48.45	296	P	P	09 59 41.0	-2.4
	comp=Z,0.8nm,0.3s,mb4.3,baz=32,slow=6.0,SNR=6.8						
MKAR	Makanchi Array	48.45	296	P	P	09 59 41.0	-2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMI	Kunming	50.51	261	*e*P	P	09 59 58.8	-0.7
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
KMI	Kunming	50.51	261	*e*P	P	09 59 58.8	-0.7
	comp=Z,7.0nm,1.3s,mb4.4						
BVAR	Borovoye Array	50.89	309	P	P	09 59 58.9	-3.1
	comp=Z,5.9nm,0.8s,mb4.6,baz=45,slow=10,SNR=5.2						
BRVK	Borovoye	50.92	309	*e*P	P	09 59 59.4	-2.8
MOD	Modoc	52.78	67	P	P	10 00 17.3	+1.0
OHCM	Honcut	53.78	70	*e*P	P	10 00 24.2	+0.5
OHCM				*e*	pP	10 00 36.3	-2.3
ARCES	ARCESS Array B	54.18	342	P	P	10 00 24.5	-1.8
	comp=Z,4.5nm,0.8s,mb4.4,baz=36,slow=8.3,SNR=7.5						
ARCES	ARCESS Array B	54.18	342	P	P	10 00 24.5	-1.8
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	ARCESS Array B	54.18	342	P	P	10 00 24.5	-1.8
FCC	Fort Churchill	54.35	38	*e*P	P	10 00 25.1	-2.6
	comp=Z,3.6nm,0.6s,mb4.5						
WCN	Washoe City	54.80	69	P	P	10 00 30.1	-1.1
SUMG	Summit	54.96	7	*e*P	P	10 00 32.5	+0.6
BOZ	Bozeman (W)	55.10	59	*e*P	P	10 00 33.8	+0.5
	comp=Z,2.1nm,0.7s,mb4.3						
CMB	Columbia Colle	55.29	71	*e*P	P	10 00 34.9	+0.1
CMB				*e*	pP	10 00 48.8	-0.9
BMN	Battle Mountai	55.50	67	*e*P	P	10 00 38.1	+1.8
	comp=Z,8.5nm,1.1s,mb4.7						
QLMT	Earthquake Lak	55.75	59	*e*P	P	10 00 39.4	+1.4
YMR	Madison River	56.10	59	P	P	10 00 43.1	+2.5
NVAR	Mina Array Bea	56.23	69	P	P	10 00 42.8	+1.3
	comp=Z,2.3nm,0.7s,mb4.3,baz=291,slow=7.7,SNR=5.4						
KSH	Kashi	56.65	293	*e*P	P	10 00 41.5	-3.0
KSH				*e*AP	pP	10 00 57.7	-1.7
KSH				*e*XP	sP	10 01 04.3	-1.4
KSH				*e*PCP	PcP	10 01 38.0	-2.1
KSH				*e*PP	PP	10 02 48.6	-3.8
KSH				*e*SCP		10 05 31.7	
KSH				*e*PCS		10 05 37.2	
KSH				*e*S	S	10 08 23.8	-7.0
KSH				*e*XS		10 08 51.0	
KSH				*e*SCS	ScS	10 10 21.3	-3.8
KSH				*e*SS	SS	10 12 11.2	-8.7
KSH				LR	LR		
	comp=N,310nm,3.8s						
KSH				LR	LR		
	comp=E,200nm,6.3s						
TPH	Tonopah	57.09	69	*e*P	P	10 00 47.4	-0.3
	comp=E,7.1nm,1.2s,mb4.6						
AHID	Auburn Hatcher	57.31	61	*e*P	P	10 00 48.4	-0.8
	comp=E,12nm,1.4s,mb4.7						
CMAR	Chiang Mai Arr	57.83	258	P	P	10 00 53.2	+0.1
	comp=E,100nm,0.4s,baz=19,slow=7.1,SNR=2.3						
CMAR	Chiang Mai Arr	57.83	258	P	P	10 00 53.3	+0.2
CMAR				pmax	pmax		
	comp=Z,100nm,0.4s						
HWUT	Hardware Ranch	57.85	62	*e*P	P	10 00 54.5	+1.5
	comp=Z,2.4nm,0.8s,mb4.3						
DUG	Dugway	58.13	64	*e*P	P	10 00 55.9	+0.9
	comp=Z,4.4nm,0.9s,mb4.5						
PDAR	Pinedale Array	58.14	60	P	P	10 00 55.5	+0.5
	comp=Z,3.0nm,0.8s,mb4.4,baz=314,slow=2.2,SNR=4.3						
JOF	Joensuu	58.40	335	*e*p	P	10 00 53.8	-2.7
	comp=Z,0.5nm,0.3s,mb4.0						
JOF	Joensuu	58.40	335	*e*P	P	10 00 53.8	-2.7
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ULM	Lac du Bonnet	59.61	46	P	P	10 01 05.2	+0.2
	comp=Z,3.6nm,0.5s,mb4.7,baz=319,slow=6.0,SNR=3.9						
ULM	Lac du Bonnet	59.61	46	*e*P	P	10 01 04.3	-0.7
MVU	Marysvale	59.64	65	P	P	10 01 07.0	+1.5
MVU				*e*	pP	10 01 18.9	-1.6
SRU	San Rafael	60.16	64	*e*P	P	10 01 10.2	+1.2
LDFC	Landfair	60.40	70	*e*P	P	10 01 11.4	+0.8
FINES	FINESS Array B	60.97	337	P	P	10 01 12.8	-1.4
	comp=Z,11nm,0.9s,mb5.0,baz=27,slow=8.5,SNR=5.8						
FINES	FINESS Array B	60.97	337	P	P	10 01 12.8	-1.4
FINES				pmax	pmax		
	comp=Z,11nm,1.0s						
FINES	FINESS Array B	60.97	337	P	P	10 01 12.8	-1.4
ISCO	Idaho Springs	62.34	60	*e*P	P	10 01 25.2	+1.5
	comp=Z,8.2nm,1.1s,mb4.8						
ISCO				*e*	pP	10 01 39.0	+0.2
SDCO	Great Sand Dun	63.89	62	*e*P	P	10 01 35.6	+1.8
	comp=Z,5.4nm,1.2s,mb4.5						
NOA	NORSAR Array B	64.45	344	P	P	10 01 36.4	-0.7
	comp=Z,2.0nm,0.5s,mb4.4,baz=23,slow=5.8,SNR=5.0						
NOA	NORSAR Array B	64.45	344	P	P	10 01 36.4	-0.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LAZ	Ladron	65.43	65	*e*P	P	10 01 45.7	+1.8
AKASG	Malin Array Be	69.38	329	P	P	10 02 07.0	-1.4
	comp=Z,4.4nm,0.3s,mb4.8,baz=31,slow=6.7,SNR=8.7						
AKASG	Malin Array Be	69.38	329	P	P	10 02 07.0	-1.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WMOK	Wichita Mounta	69.74	59	*e*P	P	10 02 11.3	+0.5
WMOK				*e*	pP	10 02 23.1	-3.1
CCM	Cathedral Cave	71.01	52	*e*P	P	10 02 18.7	+0.3
LTX	Lajitas	71.17	66	*e*P	P	10 02 20.4	+0.8
	comp=Z,8.1nm,1.0s,mb4.6						
TXAR	Lajitas Array	71.17	66	P	P	10 02 20.9	+1.4
	comp=Z,2.3nm,0.5s,mb4.4,baz=298,slow=5.2,SNR=5.8						
TXAR				LR	LR	10 33 26.2	
	comp=Z,369nm,20.9s,MS4.6,baz=10.0,slow=36						
JCT	Junction City	72.45	63	*e*P	P	10 02 26.6	-0.6
MIAR	Mount Ida	72.60	56	*e*P	P	10 02 28.4	+0.5
	comp=Z,4.9nm,0.7s,mb4.5						
USIN	University of	72.80	50	*e*P	P	10 02 28.9	-0.1
	comp=Z,20nm,0.8s,mb5.1						
CTAO	Charters Tower	72.86	193	*e*P	P	10 02 30.3	+0.7
	comp=Z,20nm,1.6s,mb4.8						
CLL	Collm	73.22	339	P	P	10 02 31.0	-0.2
	comp=Z,logA/T=1.1,mb4.8						
CLL				*e**PP	pP	10 02 43.0	-3.6
MORC	Moravsky Berou	73.56	336	*e*P	P	10 02 33.5	+0.3
	comp=Z,7.5nm,1.0s,mb4.6						
MORC				*e*		10 02 43.4	
MORC				*e*	pP	10 02 48.5	-0.2
OXF	Oxford	74.72	53	*e*P	P	10 02 39.8	-0.5
	comp=Z,16nm,0.9s,mb4.9						
PLAL	Pickwick Lake	75.00	52	*e*P	P	10 02 40.6	-1.2
	comp=Z,9.0nm,0.9s,mb4.7						
WRA	Warramunga Arr	75.12	205	P	P	10 02 43.6	+0.8
	comp=Z,5.5nm,0.9s,mb4.5,baz=19,slow=6.1,SNR=6.5						
WRA	Warramunga Arr	75.12	205	P	P	10 02 43.6	+0.8
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SWET	Sewanee	75.84	50	*e*P	P	10 02 46.6	0.0
SWET				*e*		10 02 56.6	
CPCT	Cooper Cave	76.31	49	*e*P	P	10 02 49.7	+0.4
CPCT				*e*		10 02 59.4	
CPCT				*e*	pP	10 03 02.2	-2.6

MALT	Malatya	76.52	316	eP	P	10 02 50.8	+0.3
LRAL	Lakeview Retre	77.09	52	eP	P	10 02 53.4	-0.3
BRTR	Keskin Array B	77.28	320	P	P	10 02 54.9	+0.2
	comp=Z,7.2nm,1.1s,mb4.5,baz=45,slow=3.5,SNR=6.1						
BRTR	Keskin Array B	77.28	320	P	P	10 02 54.9	+0.2
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ASAR	Alice Springs	78.79	204	P	P	10 03 04.9	+1.6
	comp=Z,3.8nm,0.9s,mb4.3,baz=17,slow=4.9,SNR=5.2						
HILS	Ha'il	84.13	308	P	P	10 03 31.9	+0.9
ARSS	Ar Rass	84.67	306	P	P	10 03 34.3	+0.5
ALWS	Ilw as Safayha	85.64	314	P	P	10 03 39.5	+1.0
JMQS	Jabal Moqyreh	85.64	313	P	P	10 03 39.5	+1.0
JMOS	Jabal al Moall	85.74	314	P	P	10 03 40.0	+1.0
HAQS	Haql	85.92	314	P	P	10 03 41.4	+1.5
ESDC	Sonseca Array	87.51	348	P	P	10 03 48.1	+0.8
	comp=Z,2.5nm,0.8s,mb4.5,baz=4.1,slow=5.1,SNR=4.6						
SJG	San Juan	99.46	44	LR	LR	10 53 02.3	
	comp=Z,229nm,21.4s,MS4.7,baz=143,slow=37						
PLCA	Paso Flores	144.14	92	PKP	PKPdf	10 10 35.1	+1.4
	comp=Z,4.1nm,1.0s,baz=302,slow=4.7,SNR=4.9						
PLCA	Paso Flores	144.14	92	PKIKP	PKPdf	10 10 35.1	+1.4
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PLCA	Paso Flores	144.14	92	eP	PKPbc	10 10 35.0	+1.9
TRQA	Tornquist	147.78	81	eP	PKPdf	10 10 41.5	+1.6

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*KRSC **04** 09:53:07.1,52.27N×159.90E,h19^{km},ML4.7*
*MOS **04** 09:53:07.1±1.2,52.27N×159.90E,h19^{km},mb4.6/1,Error ellipse: s-maj=34.9km s-min=13.1km az=93.8*
ISC 04 09:53:05.3±1.0**,52.13N**±0.05×**160.05E**±0.08**,h19^{km},n24,σ1^{s}11**/35**,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.97	359	P	Pb	09 53 23.0	-0.3
SPN	Mys Shipunski	0.97	359	eP	Pb	09 53 23.1	-0.2
SPN				eS	Sb	09 53 34.7	-1.0
RUS	Russkaya	0.99	289	P	Pb	09 53 23.0	-0.7
RUS	Russkaya	0.99	289	i P	Pb	09 53 22.9	-0.8
RUS				i S	Sb	09 53 32.8	-3.5
NLC	Nalytchevo	1.13	338	P	Pb	09 53 27.0	+1.0
NLC				S	Sb	09 53 40.4	+0.1
NLC	Nalytchevo	1.13	338	eP	Pb	09 53 26.2	+0.2
NLC				i S	Sb	09 53 40.3	0.0
PET	Petropavlovsk	1.24	317	eP	Pn	09 53 27.2	-0.6
PET				eS	Sb	09 53 40.9	-2.5
PET	Petropavlovsk	1.24	317	ePN	Pn	09 53 27.3	-0.5
PET				eS	Sb	09 53 41.3	-2.1
PET				pmax	pmax		
	comp=Z,408nm,0.5s						
PET				smax			
	comp=N,1µm,0.6s						
GRL	Gorelyy	1.28	290	i P	Pn	09 53 28.4	-0.1
UGLR	Uglovaya	1.31	326	eP	Pn	09 53 29.7	+0.8
SDLR	Sedlovina	1.35	329	eP	Pn	09 53 29.1	-0.4
SMAR	Somma	1.37	327	eP	Pn	09 53 29.9	+0.2
AVH	Avacha	1.39	326	eP	Pn	09 53 30.5	+0.5
KOK	Koryaka	1.45	324	eP	Pn	09 53 31.6	+0.8
APC	Apacha	1.94	295	eP	Pn	09 53 38.7	+0.9
APC				i S	Sn	09 54 02.9	+1.1
KII	Karymskiy	1.95	350	eP	Pn	09 53 40.0	+2.1
KII				eS	Sn	09 54 04.8	+2.8
GNL	Ganaly	2.02	322	eP	Pn	09 53 39.6	+0.5
GNL				eS	Sn	09 54 03.7	-0.3
MIPR	Malaya Ipel'ka	2.03	275	eP	Pn	09 53 39.6	+0.4
PAU	Pauzhetka	2.12	253	eP	Pn	09 53 40.8	+0.4
PAU				eS	Sn	09 54 05.3	-1.1
PAU				Smax			
	comp=N,900nm,1.2s						
MKZ	Mys Kozlova	2.63	22	P	Pn	09 53 47.3	-0.5
MKZ				S	Sn	09 54 15.8	-3.7
SKR	Severo-Kuril's	2.85	241	i S	Sn	09 54 21.6	-3.5
KBTR	Krutoberegovo	4.40	21	P	Pn	09 54 13.3	+0.4
KBTR	Krutoberegovo	4.40	21	eP	Pn	09 54 13.0	+0.1
BKI	Bering	4.68	46	eS	Sn	09 55 08.4	-2.9

DJA 04 09:53:49.2±0.7**,7.67S**×**115.20E,h33^{km},ML3.6**/4**,4D, Error ellipse: s-maj=17.4km s-min=8.0km az=6.0,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	0.88	232	⇓ePg	P	09 54 03.4	-1.7
	43nm,0.2s						
KELI				eSg	S	09 54 16.1	-0.9
RATI	Rata	1.09	162	⇓ePg	P	09 54 08.2	0.0
	104nm,0.2s						
RATI				eSg	S	09 54 19.3	-3.1
INGI	Ingas	1.14	183	⇓ePg	P	09 54 07.9	-0.9
	129nm,0.2s						
INGI				eSg	S	09 54 20.7	-2.8
KEDI	Kedomdong	1.22	132	⇓ePg	P	09 54 08.3	-1.6
	86nm,0.2s						
KEDI				eSg	S	09 54 21.6	-3.9

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*NEIC **04** 10:17:51.6,28.57S×71.03W,h71^{km},After GUC.*
GUC 04 10:17:51.6±1.1**,28.57S**×**71.03W,h71^{km}**±12^{km}**,ML3.7, 3C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.24	91	⇓iP	P	10 18 02.1	-0.5
VACH				i S	S	10 18 11.4	+0.7
VACH				AMP		10 18 13.0	
	comp=E,20µm,0.0s						
LSCH	La Serena	1.35	188	eP	P	10 18 16.5	+1.4
LSCH				i S	S	10 18 34.5	+2.1
LSCH				AMP		10 18 36.4	
	comp=E,403nm,0.3s						
CPCH	Copiapo	1.35	27	⇑iP	P	10 18 15.3	+0.2
CPCH				i S	S	10 18 32.5	0.0
CPCH				AMP		10 18 33.5	
	comp=E,6µm,0.1s						
TLL	Tololo Astrono	1.60	173	⇑iP	P	10 18 19.3	+0.8
TLL				i S	S	10 18 39.6	+1.2
TLL				AMP		10 18 43.6	
	comp=N,519nm,0.5s						
CMCH	Combarbala	2.59	179	⇑iP	P	10 18 31.8	-0.5
CMCH				i S	S	10 19 02.5	-0.1
CMCH				AMP		10 19 21.4	
	comp=N,510nm,0.7s						

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*JMA **04** 10:27:54.3±0.2,28.99N×140.02E,h479^{km},M3.5*
ISC 04 10:27:56.7±2.6**,29.2N**±0.2×**140.3E**±0.5**,h455^{km}**±34^{km}**,n6,σ0^{s}81**/9**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.71	141	P	P	10 29 02.0	-0.6
CBIJ				eS	S	10 29 55.0	+0.4
JHHJ	Haha-jima-NKT	3.08	146	P	P	10 29 04.0	-1.3
JHHJ				S	S	10 30 00.0	+0.6
JIE	Ise	5.98	331	P	P	10 29 32.2	+0.2
JRY	Ryogami san	6.88	351	P	P	10 29 42.1	+0.7
JAG	Ashikaga	7.23	355	P	P	10 29 44.6	-0.5
JAG				eS	S	10 31 09.8	-1.0
JHO	Hitachi	7.39	2	P	P	10 29 48.1	+1.3

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*NEIC **04** 10:28:05.9±5.5,16.31S×177.74W,h449^{km}±60^{km},mb4.1/3, Error ellipse: s-maj=29.4km s-min=20.2km az=189.0*
*IDC **04** 10:28:08.6±6.9,16.56S×177.69W,h480^{km}±78^{km},mb3.4/9, mb1 3.6/9,mb1mx3.4/17,Error ellipse: s-maj=42.7km s-min=22.0km az=2.0*
ISC 04 10:28:05.1±0.7**,16.3S**±0.2×**177.9W**±0.1**,h450^{km},n22, σ0^{s}95**/17**,mb3.9**/11**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	22.30	190	P	P	10 32 27.2	-1.4
	2.7nm,0.3s,mb4.2,baz=349,slow=3.0,SNR=7.1						
CTA	Charters Tower	34.25	258	P	P	10 34 15.9	+2.6
	2.4nm,0.7s,mb3.8,baz=93,slow=12,SNR=6.9						
CTAO	Charters Tower	34.25	258	eP	P	10 34 16.0	+2.7
	1.5nm,0.5s,mb3.7						
STKA	Stephens Creek	39.87	240	P	P	10 34 59.2	-0.4
	1.9nm,0.5s,mb3.8,baz=87,slow=16,SNR=6.0						
STKA	Stephens Creek	39.87	240	P	P	10 34 59.2	-0.4
WB2	Warramunga Arr	45.44	258	eP	P	10 35 43.5	-0.6
WRA	Warramunga Arr	45.45	258	P	P	10 35 43.9	-0.3
	1.6nm,0.3s,mb3.9,baz=82,slow=6.1,SNR=125						
ASAR	Alice Springs	45.74	253	P	P	10 35 46.6	+0.2
	11nm,0.5s,mb4.6,baz=85,slow=7.7,SNR=221						
ASPA	Alice Springs	45.75	253	eP	P	10 35 46.4	0.0
KAKA	Kakadu	48.20	267	eP	P	10 36 04.8	-0.5
	6.7nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	53.82	259	P	P	10 36 46.4	-0.2
	0.9nm,0.4s,mb3.5,baz=85,slow=5.7,SNR=7.7						
NWAO	Narrogin (SRO)	60.42	241	P	P	10 37 31.8	+0.1
	5.6nm,1.0s,mb4.0,baz=123,slow=6.9,SNR=3.3						
QSPA	South Pole Qui	73.72	180	eP	P	10 38 54.8	+2.0
	3.6nm,0.8s,mb4.0						
MCMT	McKenzie Canyo	84.70	40	eP	P	10 39 51.5	+0.1
TXAR	Lajitas Array	84.71	58	P	P	10 39 52.4	+0.6
	1.9nm,0.9s,mb3.7,baz=218,slow=6.7,SNR=22						
TXAR	Lajitas Array	84.71	58	P	P	10 39 52.4	+0.6
PDAR	Pinedale Array	85.85	43	P	P	10 39 55.9	-1.1
	0.5nm,0.4s,mb3.5,baz=224,slow=2.3,SNR=6.5						
ARCES	ARCESS Array B	124.86	350	PKP	PKPdf	10 46 12.6	+0.3
	0.7nm,0.5s,baz=45,slow=1.7,SNR=9.3						
ARCES	ARCESS Array B	124.86	350	PKP	PKPdf	10 46 12.6	+0.3
BRTR	Keskin Array B	144.02	317	PKP	PKPdf	10 46 49.1	+0.8
	3.2nm,0.8s,baz=90,slow=2.5,SNR=11						
MLR	Muntele Rosu	144.74	331	PKPbc	PKPbc	10 46 51.3	+1.5
	1.7nm,0.5s,baz=127,slow=19,SNR=3.9						
GERES	GERESS Array B	146.22	346	PKPbc	PKPbc	10 46 54.9	+1.4
	0.2nm,0.3s,baz=45,slow=3.8,SNR=4.2						

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*NEIC **04** 10:38:34.8±0.7,6.82N×72.90W,h165^{km}±7^{km},mb4.1/3, Error ellipse: s-maj=10.8km s-min=8.4km az=116.0*
*IDC **04** 10:38:34.1±1.7,6.75N×72.97W,h158^{km}±16^{km},mb3.6/10, mb1 3.9/12,mb1mx3.7/22,Error ellipse: s-maj=23.5km s-min=15.5km az=74.0*
ISC 04 10:38:34.3±0.7**,6.78N**±0.05×**72.94W**±0.08**,h173^{km}**±8^{km}**, n33,σ1^{s}13**/30**,mb4.0**/12**,3C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.37	216	P	P	10 39 15.6	+0.1
	164nm,0.3s,baz=132,slow=15,SNR=254						
ROSC				S	S	10 39 44.5	-2.8
	170nm,0.3s,baz=139,slow=18,SNR=11						
SDV	Santo Domingo	3.09	47	eP	P	10 39 24.6	+0.2
OTAV	Otavalo	8.52	220	eP	P	10 40 35.8	+0.5
PCJ	Portland Cotta	11.64	340	eS	S	10 43 20.6	-2.7
STH	Stony Hill	11.84	342	⇑eP	P	10 41 19.6	+0.8
STH				eS	S	10 43 17.4	-11
BNJ	Bonny Gate	12.12	342	⇑eP	P	10 41 23.6	+1.3
BBJ	Bamboo Saint A	12.28	340	⇑eP	P	10 41 26.3	+2.0
JTS	JuntasAbangare	12.38	287	P	P	10 41 31.8	+6.1
	1.9nm,0.3s,baz=117,slow=1.7,SNR=14						
JTS	JuntasAbangare	12.38	287	eP	P	10 41 26.8	+1.1
MTP	Monte Pirata	13.35	32	P	P	10 41 34.6	-3.3
SAML	Samuel	18.41	148	eP	P	10 42 38.4	-0.5
	7.6nm,1.1s						
LPAZ	La Paz	23.41	168	P	P	10 43 30.6	+1.8
	1.1nm,0.8s,mb3.3,baz=330,slow=22,SNR=5.8						
LPAZ	La Paz	23.41	168	eP	P	10 43 30.1	+1.2
	2.6nm,1.1s,mb3.6						
TXAR	Lajitas Array	36.62	312	P	P	10 45 25.6	-0.2
	0.7nm,0.5s,mb3.5,baz=126,slow=9.4,SNR=18						
TXAR				PcP	PcP	10 47 46.6	+1.2
	0.2nm,0.5s,baz=137,slow=5.1,SNR=4.9						
ULM	Lac du Bonnet	47.38	340	P	P	10 46 51.3	-1.4
	2.4nm,0.5s,mb4.1,baz=157,slow=11,SNR=6.3						
SCHQ	Schefferville	48.16	5	P	P	10 46 59.1	+0.4
	8.8nm,0.5s,mb4.6,baz=187,slow=6.0,SNR=21						
PDAR	Pinedale Array	48.22	324	P	P	10 46 59.4	+0.1
	0.4nm,0.7s,mb3.2,baz=127,slow=7.4,SNR=4.0						
PDAR				PcP	PcP	10 48 24.1	+0.1
	0.3nm,0.4s,baz=115,slow=5.5,SNR=4.9						
YKA	Yellowknife Ar	63.36	340	P	P	10 48 46.0	-1.1
	2.7nm,0.6s,mb4.2,baz=133,slow=6.8,SNR=10						
YKA	Yellowknife Ar	63.36	340	P	P	10 48 46.0	-1.1
TIC	Toumodi	67.39	86	eP	P	10 49 15.1	+1.5
	198nm,1.5s						
LIC	Lamto	67.42	86	eP	P	10 49 12.6	-1.2
	83nm,1.6s						
DBIC	Dimbokro	67.55	86	P	P	10 49 13.6	-1.0
	5.2nm,0.8s,mb4.3,baz=231,slow=7.8,SNR=5.5						
KIC	Kosan Boka	67.69	86	eP	P	10 49 15.1	-0.4
	34nm,0.7s,mb5.2						
SUMG	Summit	68.99	11	eP	P	10 49 22.7	+0.2
	18nm,0.8s,mb4.8						
ILAR	Eielson Array	77.07	335	P	P	10 50 09.5	-0.1
	0.5nm,0.8s,mb3.2,baz=99,slow=4.7,SNR=7.5						
NB2	NORSAR Subarra	81.27	29	P	P	10 50 32.6	+0.3
	0.6nm,0.5s,mb3.5,baz=267,slow=5.3						
NOA	NORSAR Array B	81.27	29	P	P	10 50 32.5	+0.2
	0.8nm,0.6s,mb3.5,baz=268,slow=5.3,SNR=5.2						
ARCES	ARCESS Array B	86.64	20	P	P	10 50 59.5	+0.6
	1.0nm,0.6s,mb3.8,baz=288,slow=3.8,SNR=6.2						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	10 57 10.0	+1.2
	0.6nm,0.4s,baz=312,slow=2.5,SNR=11						
ASAR	Alice Springs	149.24	234	PKPbc	PKPdf	10 58 04.2	+5.6
	1.2nm,0.6s,baz=117,slow=3.8,SNR=21						
WB2	Warramunga Arr	150.47	241	eP	PKPdf	10 58 07.2	+6.7
WRA	Warramunga Arr	150.48	241	PKPbc	PKPdf	10 58 06.8	+6.3
	1.0nm,0.5s,baz=109,slow=2.5,SNR=35						
CMAR	Chiang Mai Arr	153.67	18	PKPbc	PKPdf	10 58 15.6	+10
	1.8nm,0.6s,baz=327,slow=3.2,SNR=7.1						

WEL 04 10:43:29.8±0.2**,42.83S**×**172.42E,h9^{km}**±1^{km}**,ML3.6**/9**, 3C-2D,Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LTZ	Lake Taylor	0.12	294	⇓PG	Pg	10 43 32.4	-0.2
LTZ				SG	Sg	10 43 34.9	+0.3
CRLZ	Canterbury Las	0.76	169	⇑P*	Pb	10 43 44.5	-0.1
CRLZ				S*	Sb	10 43 54.8	-0.1
MQZ	McQueen's Vall	0.89	169	⇑P*	Pb	10 43 46.0	-1.0
MQZ				S*	Sb	10 43 58.8	+0.1
KHZ	Kahutara	0.93	64	⇓P*	Pb	10 43 46.8	-0.8
KHZ				S*	Sb	10 43 59.6	-0.1
THZ	Tophouse	1.13	19	P*	Pb	10 43 49.4	-1.6
DSZ	Denniston Nort	1.18	337	P*	Pb	10 43 51.8	0.0
DSZ				S*	Sb	10 44 06.2	-0.8
WVZ	Waitaha Valley	1.26	258	P*	Pb	10 43 53.4	+0.2
RPZ	Rata Peaks	1.33	228	⇑PN	Pn	10 43 53.4	-1.2
RPZ				S*	Sb	10 44 11.2	-0.3
BSWZ	Blackbirch Sta	1.56	45	PN	Pn	10 43 57.1	-0.7
BSWZ				SN	Sn	10 44 17.7	-0.5
TUWZ	Tuamarina	1.80	40	PN	Pn	10 44 00.4	-0.9
TUWZ				SN	Sn	10 44 22.8	-1.6
QRZ	Quartz Range	2.00	2	PN	Pn	10 44 03.4	-0.8
LBZ	Lake Benmore	2.25	225	PN	Pn	10 44 05.8	-1.9
SNZO	South Karori	2.28	49	PN	Pn	10 44 05.8	-2.4
MRW	Makara Radio	2.33	47	PN	Pn	10 44 06.5	-2.4
ODZ	Otahua Downs	2.56	209	PN	Pn	10 44 09.5	-2.6
CAW	Cannon Point	2.62	50	PN	Pn	10 44 10.1	-2.9
KIW	Kapiti Island	2.71	44	PN	Pn	10 44 12.5	-1.8
WKZ	Wanaka	3.17	230	PN	Pn	10 44 17.8	-3.0
MRZ	Mangatainoka R	3.21	49	PN	Pn	10 44 17.6	-3.8
AXZ	Alexandra	3.30	221	PN	Pn	10 44 19.3	-3.4
TUZ	Tuapeka	3.71	212	PN	Pn	10 44 25.4	-3.1
MLZ	Mavora Lakes	3.96	229	PN	Pn	10 44 28.8	-3.2
VRZ	Vera Road	4.10	26	PN	Pn	10 44 33.7	-0.4
HIZ	Hauiti	4.69	24	PN	Pn	10 44 41.3	-1.2

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*ISK **04** 10:57:31.7,36.93N×27.74E,h14^{km},MD3.2*
*NEIC **04** 10:57:34.0,36.82N×27.72E,h6^{km},MD3.2(ATH),After ATH.*
*ATH **04** 10:57:34.0,36.82N×27.72E,h6^{km}±2^{km},MD3.2/5*
ISC 04 10:57:31.9±0.8**,36.89N**±0.03×**27.76E**±0.05**,h0^{km}**±7^{km}**, n16,σ1^{s}02**/23**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	306	i P	Pg	10 57 38.5	+0.6
BDRM				i S	Sg	10 57 43.2	+1.2
MLSB	Milas	0.41	2	i PG	Pg	10 57 39.6	-0.4
MLSB				SG	Sg	10 57 45.4	-0.1
YER	Yerkesik	0.49	60	i PG	Pg	10 57 41.7	0.0
NISR	Nisiros	0.57	242	ePB	Pb	10 57 44.0	-0.4
ARG	Arkhangelos	0.73	156	ePG	Pg	10 57 47.0	+0.5
AYDN	Tasoluk	0.78	7	i P	Pg	10 57 46.7	-0.8
AYDN				i S	Sg	10 57 57.8	0.0
DNZL	Cakiroluk	1.30	52	⇑iP	Pb	10 57 56.4	-0.6
DNZL				i S	Sb	10 58 15.1	+1.0
DENT	Denizli	1.34	49	i PN	Pn	10 57 56.3	-1.5
KARP	Karpathos	1.42	200	ePN	Pn	10 57 58.5	-0.5
KARP				eSB	Sb	10 58 18.0	+0.5
IZM	Izmir	1.56	346	ePN	Pn	10 57 59.2	-1.7
KDAG	Bornova	1.56	346	i P	Pn	10 58 01.1	+0.1
KDAG				i S	Sb	10 58 22.0	+0.4
KSL	Kastellorizon	1.65	116	ePB	Pb	10 58 04.8	+2.0
MANT	Manisa	1.72	21	i P	Pn	10 58 03.8	+0.5
MANT				i S	Sb	10 58 28.1	+1.8
ELL	Elmali	1.73	94	ePN	Pn	10 58 02.6	-0.9
AKS	Akhisar	1.99	1	ePN	Pn	10 58 04.8	-2.3
PRK	Paraskevi	2.63	334	ePN	Pn	10 58 20.0	+3.7

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*ISK **04** 11:03:01.3,36.88N×27.75E,h6^{km},MD3.3*
*ATH **04** 11:03:01.6,36.96N×27.80E,h26^{km}±2^{km},MD3.1/3*
ISC 04 11:03:02.3±0.7**,36.90N**±0.03×**27.72E**±0.05**,h14^{km}**±5^{km}**, n13,σ0^{s}95**/22**,3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	307	i P	Pg	11 03 08.9	+0.5
BDRM				i S	Sg	11 03 13.8	+1.3
MLSB	Milas	0.40	6	i PG	Pg	11 03 09.8	-0.8
MLSB				SG	Sg	11 03 16.2	0.0
YER	Yerkesik	0.51	62	i PG	Pg	11 03 11.5	-1.2
NISR	Nisiros	0.56	239	ePN	Pn	11 03 14.5	-1.0
NISR				eSN	Sn	11 03 24.0	-0.4
ARG	Arkhangelos	0.75	154	ePN	Pn	11 03 17.5	-0.8
ARG				eSN	Sn	11 03 28.5	-0.9
AYDN	Tasoluk	0.77	9	⇑iP	Pb	11 03 17.0	0.0
AYDN				i S	Sb	11 03 26.1	-1.0
DNZL	Cakiroluk	1.32	53	⇑iP	Pb	11 03 26.9	+0.6
DNZL				i S	Sb	11 03 43.5	+0.6
DENT	Denizli	1.35	50	PN	Pn	11 03 28.0	+1.2
DENT				SN	Sn	11 03 46.0	+1.4
KARP	Karpathos	1.42	199	ePB	Pb	11 03 28.0	-0.1
KARP				eSN	Sn	11 03 49.0	+2.6
IZM	Izmir	1.54	346	ePN	Pn	11 03 30.1	+0.5
KDAG	Bornova	1.55	347	⇑iP	Pn	11 03 29.5	-0.1
KDAG				i S	Sb	11 03 47.8	-1.8
ELL	Elmali	1.76	94	ePN	Pn	11 03 32.4	-0.3
AKS	Akhisar	1.98	2	ePN	Pn	11 03 36.5	+0.7

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*MOS **04** 11:03:25.1±1.1,51.91N×159.44E,h6^{km},mb5.3/55, MS5.2/34,Error ellipse: s-maj=8.8km s-min=4.4km az=93.3*
MOS Felt (III-IV) at Petropavlovsk-Kamchatsky.
*IDC **04** 11:03:27.5±0.5,52.32N×159.58E,mb4.9/26,mb1 5.1/27, mb1mx5.1/28,ML4.2/1,MS4.8/19,Ms1 4.9/19, ms1mx4.8/24,Error ellipse: s-maj=14.6km s-min=9.9km az=159.0*
*BJI **04** 11:03:31.0,52.46N×159.54E,h44^{km},mB5.4,mb5.3, Ms5.3,Msz5.3*
*KRSC **04** 11:03:31.0,52.24N×159.84E,h5^{km},Mc5.6,ML5.8*
*HRVD **04** 11:03:34.3±0.2,52.13N×160.12E,h29^{km},MW5.4/64, Centroid moment Tensor Solution. LP body waves: s64,c129;Mantle waves: s63,c132; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.04±.02; $M_{\theta\theta}$-0.12±.02; $M_{\phi\phi}$-0.92±.02; $M_{r\theta}$0.52±.04; $M_{\theta\phi}$-0.54±.01; $M_{\phi r}$1.03±.03; Best double couple: $M_0$1.61×10^{17} NP1: ϕ_s207°,δ22°,λ90°. NP2:ϕ_s27°,δ68°,λ90°. Principal axes: T 1.53, Plg67°, Azm297°; N .15, Plg0°, Azm207°; P -1.68, Plg23°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **04** 11:03:34.3,52.23N×159.65E,h48^{km},MB5.3,MS5.1*
*NEIC **04** 11:03:34.3±0.7,52.23N×159.65E,h48^{km}±6^{km},mb5.3/136, MS5.1/11,Error ellipse: s-maj=4.3km s-min=2.6km az=176.0*
NEIC Felt [IV] at Petropavlovsk-Kamchatskiy.
*CSEM **04** 11:03:35.5,52.48N×159.52E,h60^{km},mb5.6*
ISC 04 11:03:32.8±0.4**,52.16N**±0.02×**159.70E**±0.03**,h51^{km}**±2^{km}**, h50^{km}**±1.5^{km}**:pP-P,n661,σ1^{s}00**/701**,mb5.2**/194**,MS5.1**/69**, 95C-17D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	0.78	291	P	P	11 03 47.8	+0.1
RUS	Russkaya	0.78	291	i P	P	11 03 47.7	0.0
SPN	Mys Shipunski	0.96	12	eP	P	11 03 48.8	-1.4
SPN				eS	S	11 04 01.3	-1.8
NLC	Nalytchevo	1.04	348	i P	P	11 03 50.3	-1.0
NLC				eS	S	11 04 04.6	-0.4
GRL	Gorelyy	1.07	292	i P	P	11 03 53.0	+1.2
GRL				eS	S	11 04 07.7	+1.8
PET	Petropavlovsk	1.08	324	P	P	11 03 51.7	-0.2
PET	Petropavlovsk	1.08	324	i P	P	11 03 51.8	-0.1
PET				eS	S	11 04 06.8	+0.8
PET	Petropavlovsk	1.08	324	κ iPN	P	11 03 51.8	-0.1
PET				eS	S	11 04 04.7	-1.3
PET				pmax	pmax		
	comp=N,5µm,0.5s						
PET				pmax	pmax		
	comp=E,4µm,0.5s						
PET				pmax	pmax		
	comp=Z,10µm,0.5s						
PET	Petropavlovsk	1.08	324	⇓iP	P	11 03 51.8	-0.1
PET				eS	S	11 04 05.8	-0.2
UGLR	Uglovaya	1.18	333	i P	P	11 03 53.3	0.0
SDLR	Sedlovina	1.23	336	i P	P	11 03 53.6	-0.4
SMAR	Somma	1.24	334	eP	P	11 03 53.9	-0.2
SMAR				eS	S	11 04 12.4	+2.5
AVH	Avacha	1.25	332	i P	P	11 03 54.5	+0.1
AVH				eS	S	11 04 12.8	+2.4
KOK	Koryaka	1.31	331	i P	P	11 03 55.3	+0.1
KOK				eS	S	11 04 13.4	+1.6
APC	Apacha	1.73	297	i P	P	11 04 03.0	+1.9
APC				eS	S	11 04 27.7	+5.6
APC				Smax			
	comp=Z,13µm,1.1s						
MIPR	Malaya Ipel'ka	1.82	275	eP	P	11 04 04.1	+1.8
GNL	Ganaly	1.87	326	eP	P	11 04 03.9	+0.8
KII	Karymskiy	1.89	355	P	P	11 04 03.4	+0.1
KII	Karymskiy	1.89	355	eP	P	11 04 03.5	+0.2
PAU	Pauzhetka	1.92	250	i P	P	11 04 05.0	+1.2
PAU				eS	S	11 04 30.0	+3.2
PAU				Smax			
	comp=Z,8µm,0.7s						
SKR	Severo-Kuril's	2.69	238	eP	P	11 04 13.4	-1.3
SKR				i S	S	11 04 45.5	-0.6
SKR	Severo-Kuril's	2.69	238	ePN	P	11 04 11.5	-3.2
SKR				i S	S	11 04 45.5	-0.6
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,270nm,0.5s						
SKR				pmax	pmax		
	comp=Z,460nm,0.5s						
SKR				pmax	pmax		
	comp=N,2µm,4.0s						
SKR				pmax	pmax		
	comp=E,2µm,4.0s						
SKR				pmax	pmax		
	comp=Z,3µm,4.0s						
SKR				smax			
	comp=N,4µm,0.6s						
SKR				smax			
	comp=E,3µm,0.6s						
SKR				smax			
	comp=N,18µm,4.0s						
SKR				smax			
	comp=E,21µm,4.0s						
SKR				MLR	MLR		
	comp=N,37µm,14.0s						
SKR				MLR	MLR		
	comp=E,41µm,14.0s						
SKR				MLR	MLR		
	comp=Z,32µm,14.0s						
MKZ	Mys Kozlova	2.69	26	P	P	11 04 12.0	-2.7
MKZ				S	S	11 04 42.2	-4.1
MKZ	Mys Kozlova	2.69	26	i P	P	11 04 11.9	-2.8
MKZ				eS	S	11 04 42.1	-4.2
ALID	Alaid	2.90	245	eP	P	11 04 19.4	+1.7
ALID				eS	S	11 04 55.5	+4.0
TUMR	Tumrok	3.14	5	eP	P	11 04 21.3	+0.2
TUMR				eS	S	11 04 59.9	+2.2

KMNR	**Kamenistaya**	**3.62**	**5**	*e*P	**P**	**11 04 28.1**	**+0.3**
KMNR				*e*S	**S**	**11 05 11.9**	**+2.2**
ESO	**Esso**	**3.82**	**351**	*i* P	**P**	**11 04 30.6**	**-0.1**
ESO				*e*S	**S**	**11 05 14.1**	**-0.7**
KOZ	**Kozyrevsk**	**3.91**	**1**	P	**P**	**11 04 33.0**	**+1.1**
KOZ	**Kozyrevsk**	**3.91**	**1**	*e*P	**P**	**11 04 31.7**	**-0.2**
KOZ				*e*S	**S**	**11 05 19.0**	**+2.0**
KOZR	**Kozyr**	**3.92**	**2**	PN	**P**	**11 04 33.0**	**+1.0**
LGNR	**Loginova**	**3.98**	**8**	*e*P	**P**	**11 04 33.2**	**+0.4**
LGNR				*e*S	**S**	**11 05 17.8**	**-0.9**
CIRR	**Tsirk**	**4.01**	**8**	*e*P	**P**	**11 04 33.4**	**0.0**
KRSR	**Krestovskiy**	**4.10**	**7**	*e*P	**P**	**11 04 33.8**	**-0.8**
KRSR				*e*S	**S**	**11 05 21.1**	**-0.7**
SRDR	**Sredinnyy**	**4.17**	**0**	*e*P	**P**	**11 04 35.1**	**-0.5**
SRDR				*e*S	**S**	**11 05 24.4**	**+0.9**
KLY	**Klyuchi**	**4.20**	**7**	P	**P**	**11 04 37.1**	**+1.1**
KLY	**Klyuchi**	**4.20**	**7**	*e*P	**P**	**11 04 35.5**	**-0.5**
KLY				*e*S	**S**	**11 05 24.2**	**-0.2**
KBTR	**Krutoberegovo**	**4.45**	**23**	P	**P**	**11 04 38.2**	**-1.4**
KBTR				S	**S**	**11 05 28.6**	**-2.1**
KBTR	**Krutoberegovo**	**4.45**	**23**	*e*P	**P**	**11 04 36.6**	**-3.0**
KBTR				*e*S	**S**	**11 05 25.6**	**-5.1**
KBG	**Krutoberegovo**	**4.47**	**22**	*e*P	**P**	**11 04 38.3**	**-1.5**
KBG				*e*S	**S**	**11 05 27.8**	**-3.3**
SVLR	**Shiveluch**	**4.52**	**11**	*e*P	**P**	**11 04 40.3**	**-0.2**
BKI	**Bering**	**4.82**	**48**	*i* P	**P**	**11 04 40.4**	**-4.3**
BKI				*i* S	**S**	**11 05 29.1**	**-11**
BKI				Smax			
	comp=Z,2µm,1.1s						
OSSR	**Ossora**	**7.36**	**14**	P	**P**	**11 05 20.4**	**+0.3**
OSSR				*e*S	**S**	**11 06 40.4**	**-2.7**
OSSR				Smax			
	comp=Z,330nm,0.9s						
FX1	**Attu Island--F**	**8.24**	**80**	Pn	**P**	**11 05 27.0**	**-5.4**
FX1				Sn	**S**	**11 06 49.9**	**-15**
	comp=Z,4.4nm,0.3s,baz=107,slow=21,SNR=5.8						
FX1				LR	LR	11 08 27.7	
	comp=Z,430nm,21.2s,baz=304,slow=36						
SMY	**Shemya**	**8.82**	**81**	⇓*i*PN	**P**	**11 05 35.4**	**-4.9**
SMY	**Shemya**	**8.82**	**81**	*e*P	**P**	**11 05 34.7**	**-5.6**
MA2	**Magadan**	**8.96**	**330**	*e*PN	**P**	**11 05 40.8**	**-1.5**
MA2				pmax	pmax		
	comp=Z,80nm,2.2s						
MA2				pmax	pmax		
	comp=N,50nm,2.3s						
MA2				pmax	pmax		
	comp=E,20nm,1.1s						
MA2				MLR	MLR		
	comp=Z,10µm,10.0s						
MA2	**Magadan**	**8.96**	**330**	*e*P	**P**	**11 05 41.4**	**-0.9**
	comp=Z,190nm,1.8s						
TYV	**Tymovskoe**	**10.71**	**270**	*e*PN	**P**	**11 06 06.9**	**+0.8**
TYV				pmax	pmax		
	comp=Z,2µm,4.0s						
TYV				pmax	pmax		
	comp=Z,557nm,1.8s						
TYV				MLR	MLR		
	comp=Z,14µm,18.0s						
TYV				MLR	MLR		
	comp=E,14µm,20.0s						
KAMR	**Kamenskoye**	**10.90**	**16**	*e*P	**P**	**11 06 07.7**	**-0.9**
KAMR				*e*S	**S**	**11 08 06.5**	**-3.6**
KAMR				Smax			
	comp=E,130nm,1.4s						
SEY	**Seymchan**	**11.49**	**343**	*e*PN	**P**	**11 06 17.3**	**+0.8**
SEY				*e*S	**S**	**11 08 33.3**	**+9.0**
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,30nm,1.0s						
SEY				pmax	pmax		
	comp=Z,60nm,1.0s						
SEY				smax			
	comp=N,3µm,10.0s						
SEY				smax			
	comp=E,140nm,8.7s						
SEY				MLR	MLR		
	comp=N,18µm,16.0s						
SEY				MLR	MLR		
	comp=Z,20µm,16.0s						
SEY				MLR	MLR		
	comp=E,16µm,17.0s						
UGL	**Uglegorsk**	**11.62**	**262**	*e*PN	**P**	**11 06 18.5**	**+0.1**
UGL				pmax	pmax		
	comp=E,2µm,2.5s						
UGL				pmax	pmax		
	comp=Z,2µm,2.5s						
UGL				pmax	pmax		
	comp=Z,980nm,2.0s						
UGL				MLR	MLR		
	comp=Z,10µm,17.0s						
UGL				MLR	MLR		
	comp=N,6µm,16.0s						
UGL				MLR	MLR		
	comp=E,8µm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.17**	**251**	*j* *i*PN	**P**	**11 06 26.0**	**+0.3**
YSS				*e*S	**S**	**11 08 45.0**	**+4.3**
YSS				pmax	pmax		
	comp=Z,70nm,1.3s						
YSS				pmax	pmax		
	comp=Z,1µm,4.0s						
YSS				MLR	MLR		
	comp=Z,9µm,16.0s						
YSS				MLR	MLR		
	comp=N,6µm,14.0s						
YSS				MLR	MLR		
	comp=E,6µm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.17**	**251**	⇑*e*P	**P**	**11 06 27.0**	**+1.3**
	comp=E,319nm,1.6s						
YUK	**Yuzh-Kuril'sk**	**12.30**	**234**	*e*PN	**P**	**11 06 28.0**	**+0.5**
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2µm,1.7s						
YUK				pmax	pmax		
	comp=N,2µm,2.0s						
YUK				pmax	pmax		
	comp=E,2µm,2.0s						
YUK				MLR	MLR		
	comp=N,7µm,15.0s						
YUK				MLR	MLR		
	comp=E,6µm,17.0s						
YUK				MLR	MLR		
	comp=Z,8µm,17.0s						
ASAJ	**Asahikawa**	**13.95**	**242**	Pn	**P**	**11 06 47.2**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=53,slow=15,SNR=9.2						
ASAJ				LR	LR	11 11 43.3	
	comp=Z,3µm,20.8s,baz=56,slow=36						
ASAJ	**Asahikawa**	**13.95**	**242**	P	**P**	**11 06 47.3**	**-1.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3µm,20.8s						
KLR	**Kul'dur**	**17.90**	**272**	*e*P	**P**	**11 07 40.0**	**+0.5**
KLR				pmax	pmax		
	comp=N,280nm,2.4s						
KLR				pmax	pmax		
	comp=Z,370nm,2.4s						
KLR				pmax	pmax		
	comp=E,1µm,7.5s						
KLR				pmax	pmax		
	comp=Z,2µm,7.5s						
KLR				MLR	MLR		
	comp=E,5µm,16.0s						
KLR				MLR	MLR		
	comp=Z,7µm,16.0s						
YAK	**Yakutsk**	**18.89**	**313**	*e*P	**P**	**11 07 47.9**	**-3.4**
YAK				pmax	pmax		
	comp=N,16nm,1.1s						
YAK				pmax	pmax		
	comp=Z,57nm,1.1s						
YAK				pmax	pmax		
	comp=E,57nm,1.2s						
YAK				MLR	MLR		
	comp=Z,2µm,13.0s						
YAK				MLR	MLR		
	comp=N,3µm,15.0s						
YAK				MLR	MLR		
	comp=E,1µm,14.0s						
YAK	**Yakutsk**	**18.89**	**313**	*e*P	**P**	**11 07 44.8**	**-6.5**
	comp=E,140nm,0.9s						
NIKO	**Nikolski**	**19.06**	**75**	*e*P	**P**	**11 07 49.4**	**-3.9**
UNV	**Unalaska Valle**	**20.30**	**72**	*e*P	**P**	**11 08 03.9**	**-2.8**
	comp=E,942nm,1.1s						
CLNS	**Chul'man**	**20.60**	**297**	*e*P	**P**	**11 08 08.1**	**-1.6**
CLNS				*e**PP		11 08 12.6	
CLNS				*e*		11 08 27.1	
CLNS				*e*S	**S**	**11 11 53.4**	**+1.2**
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,77nm,1.1s						
CLNS				pmax	pmax		
	comp=N,37nm,1.0s						
CLNS				pmax	pmax		
	comp=E,66nm,1.0s						
CLNS				smax			
	comp=N,519nm,13.5s						
CLNS				smax			
	comp=Z,616nm,13.5s						
CLNS				smax			
	comp=E,108nm,12.0s						
CLNS				MLR	MLR		
	comp=N,2µm,12.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,1µm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,10µm,15.0s,MS5.3						
MDJ	**Mudanjiang**	**21.26**	**261**	P	**P**	**11 08 15.7**	**-0.8**
MDJ				AP		11 08 27.2	
MDJ				XP		11 08 33.7	
MDJ				S	**S**	**11 12 08.8**	**+4.1**
MDJ				SCP		11 15 52.1	
MDJ				PCS		11 15 57.8	
MDJ				SCS	ScS	11 19 35.7	+1.7
MDJ				AMB	AMB		
	comp=Z,479nm,6.0s						
MDJ				LR	LR		
	comp=N,4µm,17.4s,MS4.9						
MDJ				LR	LR		
	comp=E,2µm,19.6s,MS4.9						
MDJ				LR	LR		
	comp=Z,5µm,18.5s,MS4.9						
MDJ	**Mudanjiang**	**21.26**	**261**	*e*P	**P**	**11 08 16.3**	**-0.2**
	comp=Z,99nm,1.5s,mb4.9						
MAJO	**Matsushiro**	**21.78**	**233**	⇑*i*P	**P**	**11 08 22.6**	**+0.8**
MAJO				*e*		11 12 21.5	
MAJO				pmax	pmax		
	comp=Z,420nm,1.6s,mb5.6						
MAJO	**Matsushiro**	**21.78**	**233**	⇑*i*P	**P**	**11 08 22.6**	**+0.7**
	comp=Z,419nm,1.6s,mb5.6						
MAJO				*e*		11 12 21.5	
MAT	**Matsushiro**	**21.78**	**233**	P	**P**	**11 08 22.3**	**+0.5**
MAT				S	**S**	**11 12 25.0**	**+10**
MAT	**Matsushiro**	**21.78**	**233**	*e*P	**P**	**11 08 22.0**	**+0.2**
	comp=Z,222nm,1.5s,mb5.4						
MAT				*e*S	**S**	**11 12 26.0**	**+11**
MAT				LR	LR		
	comp=Z,4µm,20.0s,MS4.8						
TIXI	**Tiksi**	**23.84**	**336**	*e*P	**P**	**11 08 40.4**	**-1.1**
TIXI				*e*S	**S**	**11 12 50.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,174nm,1.0s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.1						
CN2	**Changchun**	**24.22**	**263**	*e*P	**P**	**11 08 43.2**	**-2.2**
CN2				*e*AP		11 08 58.4	
CN2				*e*XP		11 09 04.5	
CN2				*e*S	**S**	**11 12 55.1**	**-2.3**
CN2				AMB	AMB		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=N,5µm,16.0s,MS5.2						
CN2				LR	LR		
	comp=E,3µm,16.0s,MS5.2						
CN2				LR	LR		
	comp=Z,7µm,14.0s,MS5.3						
HIA	**Hailar**	**25.25**	**279**	⇑*i*P	**P**	**11 08 53.3**	**-2.0**
HIA				pmax	pmax		
	comp=Z,91nm,1.0s						
HIA	**Hailar**	**25.25**	**279**	⇑*i*P	**P**	**11 08 53.3**	**-2.0**
	comp=Z,91nm,0.9s,mb5.3						
SVW	**Sparrevohn**	**25.67**	**52**	*e*P	**P**	**11 08 59.2**	**+0.1**
BOD	**Bodaibo**	**26.41**	**301**	*e*P	**P**	**11 09 02.0**	**-4.0**
SNY	**Shenyang**	**26.46**	**261**	⇓P	**P**	**11 09 06.7**	**0.0**
SNY				S	**S**	**11 13 29.3**	**-5.5**
SNY				LR	LR		
	comp=E,4µm,19.6s						
SNY				LR	LR		
	comp=Z,4µm,17.8s,MS5.0						
IMA	**Indian Mountai**	**26.90**	**41**	*e*P	**P**	**11 09 10.9**	**+0.4**
IMA				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
IMA	**Indian Mountai**	**26.90**	**41**	*e*P	**P**	**11 09 10.7**	**+0.2**
RSO	**Redoubt South**	**27.09**	**53**	*e*P	**P**	**11 09 12.2**	**0.0**
SPU	**Mount Spurr**	**27.40**	**52**	⇑*e*P	**P**	**11 09 15.0**	**-0.1**
KDAK	**Kodiak Island**	**27.48**	**59**	*e*P	**P**	**11 09 13.4**	**-2.5**
	comp=Z,25nm,1.1s,mb4.7						
JNU	**Nakatsue**	**28.20**	**239**	P	**P**	**11 09 22.2**	**-0.4**
	comp=Z,27nm,0.9s,mb4.9,baz=74,slow=9.1						
JNU				LR	LR	11 22 19.1	
	comp=Z,1µm,18.7s,MS4.5,baz=41,slow=40						
CBIJ	**Chichi jima**	**28.29**	**214**	LR	LR	11 19 42.1	
	comp=Z,686nm,21.5s,MS4.2,baz=344,slow=34						
MCK	**McKinley**	**28.77**	**46**	*e*P	**P**	**11 09 27.9**	**+0.6**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
MCK	**McKinley**	**28.77**	**46**	*e*P	**P**	**11 09 27.9**	**+0.6**
	comp=Z,6.6nm,1.0s,mb4.3						
SML	**Sawmill**	**29.14**	**50**	*e*P	**P**	**11 09 29.1**	**-1.5**
COLA	**College**	**29.24**	**44**	*e*P	**P**	**11 09 33.9**	**+2.4**
ILAR	**Eielson Array**	**29.65**	**44**	LR	LR	11 22 55.7	
	comp=Z,2µm,18.1s,MS4.7,baz=284,slow=40						
DIV	**Divide**	**30.43**	**51**	*e*P	**P**	**11 09 41.3**	**-0.9**
BJI	**Beijing**	**32.04**	**265**	*e*P	**P**	**11 09 55.4**	**-1.1**
BJI				S	**S**	**11 15 08.2**	**+4.5**
BJI				AMB	AMB		
	comp=Z,278nm,3.2s						
BJI				LR	LR		
	comp=N,5µm,20.3s,MS5.3						
BJI				LR	LR		
	comp=E,3µm,18.5s,MS5.3						
BJI				LR	LR		
	comp=Z,5µm,20.3s,MS5.2						
DAWY	**Dawson**	**32.95**	**45**	*e*P	**P**	**11 10 03.0**	**-1.1**
DAWY				*e*	pP	11 10 14.4	-3.0
IRK	**Irkutsk**	**33.27**	**293**	*e*P	**P**	**11 10 05.0**	**-2.0**
IRK				*e*		11 11 26.8	
IRK				*e*		11 12 43.9	
TIA	**Tai'an**	**33.88**	**259**	P	**P**	**11 10 11.0**	**-1.5**
TIA				LR	LR		
	comp=N,1µm,18.1s,MS5.0						
TIA				LR	LR		
	comp=E,2µm,17.7s,MS5.0						
SONM	**Songino Array**	**33.89**	**284**	P	**P**	**11 10 09.8**	**-2.7**
	comp=E,1.7nm,0.4s,mb4.3,baz=60,slow=7.2,SNR=9.0						
SONM				PcP	PcP	11 12 50.6	+0.3
	comp=E,6.4nm,0.9s,baz=63,slow=2.8,SNR=6.8						
SONM				ScP		11 16 33.8	
	comp=E,1.6nm,0.8s,baz=55,slow=1.5,SNR=8.1						
HHC	**Hu-ho-hao-te**	**34.40**	**270**	*e*P	**P**	**11 10 14.7**	**-2.2**
HHC				AP	pP	11 10 26.8	-3.5
HHC				XP	sP	11 10 31.3	-5.4
HHC				AMB	AMB		
	comp=Z,98nm,4.3s						
HHC				LR	LR		
	comp=N,2µm,15.7s,MS5.0						
HHC				LR	LR		
	comp=E,2µm,17.8s,MS5.0						
HHC				LR	LR		
	comp=Z,2µm,16.7s,MS5.0						
JOW	**Kunigami**	**34.58**	**235**	P	**P**	**11 10 19.1**	**+0.6**
	comp=Z,28nm,0.5s,mb5.5,baz=49,slow=8.5,SNR=26						
ZAK	**Zakamensk**	**34.59**	**290**	⇑*i*P	**P**	**11 10 17.1**	**-1.3**
ZAK				*e*		11 11 33.2	
INK	**Inuvik**	**34.76**	**37**	P	**P**	**11 10 18.8**	**-0.9**
	comp=Z,4.7nm,0.7s,mb4.5,baz=279,slow=7.4,SNR=10						
INK	**Inuvik**	**34.76**	**37**	P	**P**	**11 10 18.8**	**-0.9**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**34.76**	**37**	*e*P	**P**	**11 10 18.6**	**-1.1**
	comp=Z,28nm,1.3s,mb5.0						
SSE	**Sheshan**	**35.08**	**248**	P	**P**	**11 10 22.9**	**0.0**
SSE				XP	sP	11 10 42.0	-0.6
SSE				S	**S**	**11 15 49.6**	**-1.3**
SSE				XS		11 16 10.8	
SSE				PCS		11 16 41.4	
SSE				AMB	AMB		
	comp=Z,29nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,293nm,5.5s						
SSE				LR	LR		
	comp=N,922nm,19.0s,MS4.6						
SSE				LR	LR		
	comp=E,413nm,19.4s,MS4.6						
SSE				LR	LR		
	comp=Z,951nm,19.1s,MS4.6						
SSE	**Sheshan**	**35.08**	**248**	P	**P**	**11 10 22.9**	**0.0**
	comp=Z,29nm,0.6s,mb5.4						
SSE				sP	sP	11 10 42.0	-0.6
SSE				S	**S**	**11 15 49.6**	**-1.3**
SSE				sS		11 16 10.8	
SSE				PcS		11 16 41.4	
SSE				LR	LR		
	comp=Z,950nm,19.1s,MS4.6						
BTO	**Baotou**	**35.49**	**271**	*e*P	**P**	**11 10 21.1**	**-5.2**
NJ2	**Nanjing**	**35.74**	**252**	*e*P	**P**	**11 10 27.7**	**-0.7**
NJ2				AP	pP	11 10 43.5	+1.7
NJ2				PP	PP	11 11 50.6	+0.2
NJ2				S	**S**	**11 16 00.0**	**-1.0**
NJ2				XS		11 16 25.0	
NJ2				SS	SS	11 18 22.0	-1.6
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,530nm,7.0s						
NJ2				LR	LR		
	comp=N,6µm,20.2s,MS5.4						
NJ2				LR	LR		
	comp=E,3µm,17.3s,MS5.4						
NJ2				LR	LR		
	comp=Z,4µm,17.2s,MS5.3						
TIY	**Taiyuan**	**35.77**	**265**	⇑P	**P**	**11 10 28.0**	**-0.7**
TIY				LR	LR		
	comp=N,2µm,13.0s						
TIY				LR	LR		
	comp=Z,2µm,14.0s,MS4.9						
DLBC	**Dease Lake**	**38.80**	**52**	P	**P**	**11 10 55.0**	**+1.2**
	comp=Z,9.5nm,0.8s,mb4.6,baz=287,slow=9.2,SNR=31						
DLBC	**Dease Lake**	**38.80**	**52**	*e*P	**P**	**11 10 54.9**	**+1.2**
WHN	**Wuhan**	**39.48**	**255**	*e*P	**P**	**11 10 59.4**	**-0.3**
WHN				*e*S	**S**	**11 17 03.0**	**+5.0**
WHN				LR	LR		
	comp=N,1µm,16.5s,MS5.5						
WHN				LR	LR		
	comp=E,6µm,19.0s,MS5.5						
WHN				LR	LR		
	comp=Z,4µm,15.2s,MS5.3						
XAN	**Xi'an**	**40.33**	**264**	P	**P**	**11 11 05.0**	**-1.7**
XAN				AP	pP	11 11 15.8	-4.4
XAN				AMB	AMB		
	comp=Z,145nm,9.5s						
XAN				LR	LR		
	comp=N,2µm,17.8s,MS5.2						
XAN				LR	LR		
	comp=E,2µm,17.1s,MS5.2						
XAN				LR	LR		
	comp=Z,4µm,17.1s,MS5.4						
QZH	**Quanzhou**	**41.26**	**245**	⇑*i*P	**P**	**11 11 14.7**	**+0.2**
QZH				AP	pP	11 11 29.1	+1.1
QZH				S	**S**	**11 17 25.0**	**+0.5**
QZH				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
QZH				LR	LR		
	comp=N,1µm,20.0s						
QZH				LR	LR		
	comp=E,2µm,14.0s						
QZH				LR	LR		
	comp=Z,2µm,17.7s,MS5.0						
LZH	**Lanzhou**	**42.10**	**270**	⇑P	**P**	**11 11 21.0**	**-0.2**
LZH				AP	pP	11 11 36.2	+1.5
LZH				PP	PP	11 13 01.0	-1.1
LZH				*e*S	**S**	**11 17 34.3**	**-2.5**
LZH				XS		11 17 59.3	
LZH				SS	SS	11 20 35.1	-4.8
LZH				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,286nm,4.0s						
LZH				LR	LR		
	comp=E,3µm,13.9s						
LZH				LR	LR		
	comp=Z,5µm,17.4s,MS5.5						
LZH	**Lanzhou**	**42.10**	**270**	⇑P	**P**	**11 11 21.0**	**-0.2**
	comp=Z,100nm,1.6s,mb5.2						
LZH				pP	pP	11 11 36.2	+1.5
LZH				sP	sP	11 11 43.2	+2.3
LZH				PP	PP	11 13 01.0	-1.1
LZH				ScP		11 17 06.0	
LZH				*e*S	**S**	**11 17 34.3**	**-2.5**
LZH				sS		11 17 59.3	
LZH				SS	SS	11 20 35.1	-4.8
LZH				LR	LR		
	comp=Z,5µm,17.4s,MS5.5						
GTA	**Gaotai**	**42.48**	**277**	P	**P**	**11 11 23.4**	**-0.9**
GTA				AP	pP	11 11 38.2	+0.4
GTA				PP	PP	11 13 09.0	+3.1
GTA				PCP	PcP	11 13 17.3	+0.3
GTA				PPP	PPP	11 13 41.0	+1.4
GTA				SCP		11 17 05.8	
GTA				S	**S**	**11 17 37.9**	**-4.4**
GTA				XS		11 18 04.5	
GTA				SCS	ScS	11 21 20.3	+1.4
GTA				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.6						
GTA				AMB	AMB		
	comp=Z,263nm,7.2s						
GTA				LR	LR		
	comp=N,2µm,16.7s,MS5.2						
GTA				LR	LR		
	comp=E,2µm,17.9s,MS5.2						
GTA				LR	LR		
	comp=Z,2µm,19.4s,MS5.1						
ENH	**Enshi**	**42.60**	**259**	⇑*i*P	**P**	**11 11 24.3**	**-1.0**
	comp=Z,50nm,1.1s,mb5.2						
NVS	**Novosibirsk**	**43.45**	**305**	*i* P	**P**	**11 11 28.4**	**-3.6**
NVS				*i*		11 13 16.2	
NVS				*e*S	**S**	**11 17 50.2**	**-6.1**
NVS				*e*		11 21 25.9	
NVS				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.2						
NVS				pmax	pmax		
	comp=N,55nm,1.7s						
NVS				pmax	pmax		
	comp=E,52nm,1.5s						
NVS				pmax	pmax		
	comp=N,51nm,1.8s						
NVS				pmax	pmax		
	comp=Z,45nm,1.8s,mb4.9						
NVS				pmax	pmax		
	comp=E,69nm,2.3s						
NVS				smax			
	comp=N,30nm,1.5s						
NVS				smax			
	comp=E,38nm,1.7s						
YKA	**Yellowknife Ar**	**44.02**	**42**	P	**P**	**11 11 36.2**	**-0.2**
	comp=E,4.9nm,0.9s,mb4.2,baz=300,slow=8.3,SNR=10						
YKA				LR	LR	11 32 50.1	
	comp=E,1µm,19.1s,MS4.9,baz=310,slow=40						
YKA	**Yellowknife Ar**	**44.02**	**42**	P	**P**	**11 11 36.2**	**-0.2**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,1µm,19.1s						
YKA	**Yellowknife Ar**	**44.02**	**42**	P	**P**	**11 11 36.2**	**-0.2**
YKA				LR	LR	11 32 50.1	
RES	**Resolute Bay**	**44.28**	**22**	*e*P	**P**	**11 11 38.9**	**+0.5**
RES	**Resolute Bay**	**44.28**	**22**	*e*P	**P**	**11 11 35.5**	**-2.9**
CD2	**Chengdu**	**45.64**	**265**	⇑*i*P	**P**	**11 11 48.8**	**-1.1**
CD2				AP	pP	11 12 05.7	+2.2
CD2				PP	PP	11 13 35.6	-2.0
CD2				S	**S**	**11 18 20.9**	**-7.2**
CD2				XS		11 18 44.9	
CD2				SCS	ScS	11 21 38.2	-0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CD2				AMB	AMB		
	comp=Z,280nm,8.8s						
CD2				LR	LR		
	comp=E,3µm,15.6s						
CD2				LR	LR		
	comp=Z,3µm,15.6s,MS5.4						

GZH	Guangzhou	45.68	249	P	P	11 11 46.6	-3.7
GZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
GZH				LR	LR		
	comp=N,1µm,20.8s,MS5.0						
GZH				LR	LR		
	comp=E,1µm,19.0s,MS5.0						
GZH				LR	LR		
	comp=Z,2µm,19.3s,MS5.0						
WMQ	Urumqi	47.06	290	⇑iP	P	11 12 00.5	-0.3
WMQ				AP	pP	11 12 13.5	-1.0
WMQ				XP	sP	11 12 19.5	-1.0
WMQ				PCP	PcP	11 13 32.6	0.0
WMQ				S	S	11 18 47.6	-0.5
WMQ				XS		11 19 08.9	
WMQ				SCS	ScS	11 21 48.5	+0.7
WMQ				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,103nm,8.6s						
WMQ				LR	LR		
	comp=Z,3µm,15.6s,MS5.4						
KBS	Kingsbay	47.77	352	eP	P	11 12 02.1	-3.9
KBS				eP		11 12 05.5	
KBS				AMb	AMB	11 12 07.9	
	comp=Z,120nm,1.1s,mb5.9						
KBS				ePP	PP	11 13 55.4	-2.0
KBS				eS	S	11 18 54.4	-3.3
KBS				AMS	AMS	11 32 44.2	
	comp=Z,1µm,19.9s,MS4.8						
KBS	Kingsbay	47.77	352	⇑iP	P	11 12 05.1	-0.9
KBS	Kingsbay	47.77	352	eP	P	11 12 05.5	-0.5
	comp=Z,120nm,1.0s						
KBS				e		11 18 54.3	
KBS				LR	LR		
	comp=Z,1017µm,19.9s						
SPITS	Spitsbergen Ar	48.02	350	P	P	11 12 06.6	-1.3
	comp=Z,458nm,1.3s,baz=90,slow=4.0,SNR=116						
SPITS				LR	LR	11 31 54.7	
	comp=Z,34nm,20.5s,baz=94,slow=36						
KURK	Kurchatov	48.03	302	⇑iP	P	11 12 05.6	-2.8
	comp=Z,64nm,1.2s,mb5.5						
BMW	Boistfort Moun	48.35	64	eP	P	11 12 08.3	-2.6
MKAR	Makanchi Array	48.35	296	P	P	11 12 08.3	-2.5
	comp=Z,5.0nm,0.5s,mb4.8,baz=58,slow=7.4,SNR=65						
MKAR				LR	LR	11 33 52.9	
	comp=Z,3µm,18.3s,MS5.4,baz=32,slow=38						
MKAR	Makanchi Array	48.35	296	P	P	11 12 08.3	-2.6
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
RMW	Rattlesnake Mo	48.55	63	P	P	11 12 12.8	+0.4
RMW	Rattlesnake Mo	48.55	63	eP	P	11 12 12.7	+0.3
LON	Longmire	48.97	63	eP	P	11 12 13.5	-2.1
NLW	Nelson Butte	48.98	61	eP	P	11 12 15.7	0.0
HSO	Harness Mounta	50.23	67	eP	P	11 12 26.0	+0.6
HSO				e	pP	11 12 38.3	-0.8
DPW	Davenport	50.25	60	eP	P	11 12 25.0	-0.5
KMI	Kunming	50.43	260	eP	P	11 12 26.6	-0.6
KMI				AP	pP	11 12 40.0	-0.9
KMI				PP	PP	11 14 24.6	+0.7
KMI				PPP	PPP	11 15 23.3	+1.2
KMI				S	S	11 19 34.1	-1.4
KMI				SCS	ScS	11 22 12.2	+1.8
KMI				SS	SS	11 23 03.9	-3.0
KMI				AMB	AMB		
	comp=Z,321nm,5.1s						
KMI				LR	LR		
	comp=N,3µm,18.8s,MS5.3						
KMI				LR	LR		
	comp=E,2µm,21.3s,MS5.3						
KMI				LR	LR		
	comp=Z,2µm,25.6s,MS5.0						
KMI	Kunming	50.43	260	eP	P	11 12 26.6	-0.6
	comp=Z,20nm,2.0s,mb4.8						
KMI				pP	pP	11 12 40.0	-0.9
KMI				PP	PP	11 14 24.6	+0.7
KMI				PPP	PPP	11 15 23.3	+1.2
KMI				S	S	11 19 34.1	-1.4
KMI				ScS	ScS	11 22 12.2	+1.8
KMI				SS	SS	11 23 03.9	-3.0
KMI				LR	LR		
	comp=Z,2µm,25.6s,MS5.0						
HAWA	Hanford	50.43	62	eP	P	11 12 25.6	-1.3
NEW	Newport	50.59	59	P	P	11 12 27.2	-0.8
	comp=Z,4.6nm,1.0s,mb4.4,baz=301,slow=7.8,SNR=7.5						
NEW	Newport	50.59	59	P	P	11 12 28.1	+0.1
NEW				pmax	pmax		
	comp=Z,23nm,1.6s						
NEW	Newport	50.59	59	eP	P	11 12 27.4	-0.6
	comp=Z,23nm,1.7s,mb4.8						
VOSK	Vostochnaya	50.69	308	P	P	11 12 25.5	-3.2
VOSK				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
BVA0	Borovoye Array	50.79	309	i P	P	11 12 26.5	-3.0
BVAR	Borovoye Array	50.79	309	P	P	11 12 26.6	-2.9
	comp=Z,9.8nm,0.5s,mb5.0,baz=59,slow=8.6,SNR=76						
BVAR				PcP	PcP	11 13 45.5	-0.6
	comp=Z,6.5nm,0.8s,baz=108,slow=4.7,SNR=4.4						
BVAR				ScP		11 17 40.6	
	comp=Z,4.8nm,1.1s,baz=90,slow=4.4,SNR=4.3						
BRVK	Borovoye	50.82	309	eP	P	11 12 27.0	-2.7
	comp=Z,27nm,0.9s,mb5.2						
QIZ	Qiongzhong	50.88	249	P	P	11 12 32.8	+2.2
QIZ				AP	pP	11 12 47.0	+2.6
QIZ				S	S	11 19 46.9	+5.2
QIZ				AMB	AMB		
	comp=Z,52nm,1.9s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,357nm,5.5s						
QIZ				LR	LR		
	comp=N,913nm,16.3s,MS5.1						
QIZ				LR	LR		
	comp=E,1µm,14.5s,MS5.1						
QIZ				LR	LR		
	comp=Z,982nm,16.1s,MS4.9						
QIZ	Qiongzhong	50.88	249	eP	P	11 12 32.3	+1.7
QIZ				e	pP	11 12 47.2	+2.8
HUMO	Hull Mountain	50.88	68	eP	P	11 12 29.6	-0.7
	comp=Z,15nm,1.4s,mb4.7						
BJO	Bjornoya	50.88	347	AMS	AMS	11 37 53.0	
	comp=Z,726nm,19.6s,MS4.7						
DAG	Danmarks Havn	51.34	360	⇓iP	P	11 12 32.0	-1.4
	comp=Z,57nm,1.0s,mb5.5						
LNOR	Lincton Mounta	51.44	62	eP	P	11 12 34.2	-0.3
ZRNK	Zerenda	51.49	309	⇑iP	P	11 12 31.7	-3.1
	comp=Z,29nm,1.1s,mb5.1						
ZRNK				ePcP	PcP	11 13 47.0	-1.7
YBH	Yreka Blue Hor	51.58	69	eP	P	11 12 36.0	+0.4
YBH				pmax	pmax		
	comp=Z,16nm,1.3s						
YBH	Yreka Blue Hor	51.58	69	eP	P	11 12 36.0	+0.4
	comp=Z,16nm,1.3s,mb4.8						
SOKR	Solikamsk	52.56	321	⇓iP	P	11 12 39.1	-3.6
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
SOKR				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
MOD	Modoc	52.84	67	eP	P	11 12 45.2	+0.1
	comp=Z,39nm,1.5s,mb5.1						
MSO	Missoula	53.16	59	eP	P	11 12 47.0	-0.4
	comp=Z,18nm,1.4s,mb4.8						
WVOR	Wild Horse Val	53.44	66	eP	P	11 12 49.4	-0.1
WVOR				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
WVOR	Wild Horse Val	53.44	66	eP	P	11 12 49.4	-0.1
	comp=Z,28nm,1.5s,mb5.0						
CHMT	Chamberlain Mo	53.47	58	eP	P	11 12 49.1	-0.6
LVZ	Lovozero	53.47	337	c iP	P	11 12 46.8	-2.6
LVZ				eS	S	11 20 13.1	-3.5
LVZ				i		11 22 30.6	
LVZ				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
LVZ				pmax	pmax		
	comp=N,17nm,1.3s						
LVZ				pmax	pmax		
	comp=E,13nm,1.7s						
LVZ				pmax	pmax		
	comp=N,70nm,1.9s						
LVZ				pmax	pmax		
	comp=Z,146nm,1.9s,mb5.6						
LVZ				pmax	pmax		
	comp=E,75nm,2.1s						
LVZ				smax			
	comp=N,130nm,17.4s						
LVZ				smax			
	comp=E,86nm,10.6s						
LVZ				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.4						
LVZ				MLR	MLR		
	comp=N,2µm,19.0s,MS5.3						
LVZ				MLR	MLR		
	comp=E,1µm,17.0s,MS5.3						
LVZ	Lovozero	53.47	337	⇑iP	P	11 12 46.8	-2.6
KEV	Kevo	53.63	341	ep	P	11 12 46.2	-4.3
	comp=E,1.7nm,0.3s,mb4.5						
KEV	Kevo	53.63	341	eP	P	11 12 46.2	-4.3
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
OHCM	Honcut	53.84	70	eP	P	11 12 51.3	-1.2
FFC	Flin Flon	53.85	45	eP	P	11 12 52.0	-0.4
FFC				e		11 12 59.7	
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
FFC	Flin Flon	53.85	45	eP	P	11 12 52.0	-0.3
	comp=Z,8.5nm,0.9s,mb4.7						
FFC				e		11 12 59.7	
ARU	Arti	53.93	318	⇑iP	P	11 12 50.0	-2.9
ARU				i		11 13 54.8	
ARU				i		11 14 50.7	
ARU				eS	S	11 20 20.2	-2.7
ARU				e		11 22 34.9	
ARU				eSS	SS	11 24 09.9	+5.9
ARU				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
ARU				MLR	MLR		
	comp=N,1µm,17.0s,MS5.3						
ARU				MLR	MLR		
	comp=E,2µm,17.0s,MS5.3						
ARU				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.3						
ARU	Arti	53.93	318	⇑eP	P	11 12 50.2	-2.7
	comp=Z,21nm,0.8s,mb5.1						
APA	Apatity	54.03	338	⇓iP	P	11 12 50.7	-2.8
APA				e		11 14 58.0	
APA				ePPP	PPP	11 16 03.0	-4.3
APA				eS	S	11 20 35.0	+11
APA				pmax	pmax		
	comp=Z,92nm,1.6s,mb5.5						
APA				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
ARCES	ARCESS Array B	54.10	342	P	P	11 12 51.5	-2.5
	comp=Z,21nm,0.9s,mb5.1,baz=31,slow=7.1,SNR=45						
ARCES				LR	LR	11 38 52.6	
	comp=Z,2µm,20.4s,MS5.1,baz=30,slow=39						
ARCES	ARCESS Array B	54.10	342	P	P	11 12 51.5	-2.5
ARCES				pmax	pmax		
	comp=Z,21nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,2µm,20.4s						
ARE0	ARCESS Array S	54.10	342	P	P	11 12 52.7	-1.3
BEKR	Beckwourth	54.14	69	eP	P	11 12 55.0	+0.2
	comp=Z,25nm,1.4s,mb5.0						
LSA	Lhasa	54.25	274	P	P	11 12 55.4	-0.2
LSA	Lhasa	54.25	274	eP	P	11 12 54.4	-1.2
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	Lhasa	54.25	274	eP	P	11 12 54.4	-1.2
	comp=Z,8.2nm,0.8s,mb4.7						
HRY	Holter Researc	54.34	58	eP	P	11 12 55.1	-1.0
FCC	Fort Churchill	54.36	38	eP	P	11 12 55.2	-0.9
FCC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
FCC	Fort Churchill	54.36	38	eP	P	11 12 55.2	-0.8
	comp=Z,10nm,0.9s,mb4.8						
FCC				e	pP	11 13 04.7	-5.3
TKM2	Tokmak 2	54.48	296	P	P	11 12 55.2	-2.0
	SNR=7.5						
USP	Ospenovka	54.86	297	P	P	11 12 57.9	-2.0
	SNR=14						
WCN	Washoe City	54.87	69	eP	P	11 13 00.4	+0.4
WCN				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
WCN	Washoe City	54.87	69	eP	P	11 13 00.4	+0.4
	comp=Z,40nm,1.7s,mb5.2						
SUMG	Summit	54.92	7	eP	P	11 12 59.1	-0.9
	comp=Z,77nm,1.0s,mb5.7						
HLID	Hailey	55.04	62	eP	P	11 13 01.0	-0.2
	comp=Z,6.2nm,1.2s,mb4.5						
MCMT	McKenzie Canyo	55.04	60	eP	P	11 13 00.7	-0.5
FRU	Bishkek	55.08	297	eP	P	11 12 59.0	-2.5
FRU				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.5						
FRU				MLR	MLR		
	comp=Z,5µm,16.0s,MS5.7						
BOZ	Bozeman (W)	55.15	59	eP	P	11 13 02.1	+0.1
BOZ				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
BOZ	Bozeman (W)	55.15	59	eP	P	11 13 02.1	+0.1
	comp=Z,20nm,1.4s,mb4.9						
TRO	Tromso	55.20	344	AMS	AMS	11 43 19.5	
	comp=Z,1µm,18.6s,MS5.0						
AAK	Ala-Archa	55.28	297	P	P	11 13 01.6	-1.3
	SNR=7.6						
CMB	Columbia Colle	55.35	71	eP	P	11 13 03.6	+0.1
CMB				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
CMB	Columbia Colle	55.35	71	eP	P	11 13 03.6	0.0
	comp=Z,8.6nm,1.1s,mb4.7						
BMN	Battle Mountai	55.56	67	eP	P	11 13 05.8	+0.8
BMN				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
BMN	Battle Mountai	55.56	67	eP	P	11 13 05.8	+0.8
	comp=Z,19nm,1.1s,mb5.0						
EKS2	Erkin-Say	55.66	297	P	P	11 13 03.7	-2.0
	SNR=6.2						
QLMT	Earthquake Lak	55.80	59	eP	P	11 13 07.0	+0.3
AML	Almayashu	56.06	297	P	P	11 13 07.8	-0.7
	SNR=7.2						
YMR	Madison River	56.15	59	eP	P	11 13 09.8	+0.6
MNV	Mina	56.38	69	eP	P	11 13 11.0	+0.1
MNV				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
MNV	Mina	56.38	69	eP	P	11 13 11.0	+0.1
	comp=Z,16nm,1.3s,mb4.9						
NANT	Nan	56.44	257	⇑P	P	11 13 09.5	-2.1
OMM	Old Mammoth Mi	56.45	70	eP	P	11 13 12.3	+0.9
KSH	Kashi	56.55	293	eP	P	11 13 10.7	-1.4
KSH				eAP	pP	11 13 26.5	+0.3
KSH				eXP	sP	11 13 33.4	+1.4
KSH				ePCP	PcP	11 14 07.7	-0.3
KSH				ePP	PP	11 15 17.4	-2.3
KSH				eSCP		11 18 00.7	
KSH				ePCS		11 18 06.7	
KSH				eS	S	11 20 53.1	-5.0
KSH				eXS		11 21 20.4	
KSH				eSCS	ScS	11 22 50.6	-2.5
KSH				eSS	SS	11 24 39.6	-7.1
SHL	Shillong	56.76	270	eP	P	11 13 13.0	-0.8
JMIC	Jan Mayen	56.87	355	eP	P	11 13 07.0	-7.0
JMIC				eS	S	11 21 04.0	+2.1
JMIC				AMS	AMS	11 36 47.7	
	comp=Z,375nm,19.2s,MS4.5						
MTUM	Tungsten Hills	56.88	70	eP	P	11 13 15.0	+0.6
MOOW	Moose Ponds	56.89	60	eP	P	11 13 27.5	+13
DGMT	Dagmar	57.02	52	eP	P	11 13 16.0	+0.6
KKTK	Khon Kaen	57.09	253	P	P	11 13 16.5	+0.3
REDW	Red Top Meadow	57.09	60	eP	P	11 13 16.6	+0.7
HVU	Hansel Valley	57.13	63	eP	P	11 13 16.5	+0.3
KKAR	Karatay Array	57.13	299	i P	P	11 13 13.5	-2.7
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TPH	Tonopah	57.16	69	eP	P	11 13 16.7	+0.2
TPH				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
TPH	Tonopah	57.16	69	eP	P	11 13 16.7	+0.2
	comp=Z,27nm,1.3s,mb5.1						
LAO	LASA Array	57.23	55	P	P	11 13 17.2	+0.3
	comp=Z,32nm,1.2s,mb5.2						
AHID	Auburn Hatcher	57.37	61	eP	P	11 13 18.6	+0.8
	comp=Z,16nm,1.0s,mb5.0						
LOF	Lofoten	57.41	346	⇑iP	P	11 13 18.0	+0.1
LOF				AMb	AMB	11 13 20.2	
	comp=Z,220nm,1.2s,mb6.0						
LOF				epP	pP	11 13 30.5	-1.4
LOF	Lofoten	57.41	346	⇑iP	P	11 13 18.0	+0.1
	comp=Z,220nm,1.2s,mb6.1						
CHG	Chiang Mai	57.48	259	⇑P	P	11 13 19.2	+0.2
	comp=Z,36nm,1.1s,mb5.3						
BGU	Big Grassy Mou	57.57	64	eP	P	11 13 19.7	+0.4
CMAR	Chiang Mai Arr	57.76	258	P	P	11 13 21.4	+0.4
	comp=Z,12nm,0.8s,mb5.0,baz=26,slow=7.1,SNR=45						
CMAR				LR	LR	11 40 25.6	
	comp=Z,829nm,19.5s,MS4.8,baz=55,slow=38						
CMAR	Chiang Mai Arr	57.76	258	P	P	11 13 21.4	+0.5
CMAR				pmax	pmax		
	comp=Z,12nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,829nm,19.5s						
HWUT	Hardware Ranch	57.91	62	eP	P	11 13 21.9	+0.2
	comp=Z,25nm,1.4s,mb5.1						
DUG	Dugway	58.19	64	eP	P	11 13 23.3	-0.4
DUG				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
DUG	Dugway	58.19	64	eP	P	11 13 23.3	-0.4
	comp=Z,13nm,1.1s,mb4.9						
PDAR	Pinedale Array	58.19	60	P	P	11 13 23.6	0.0
	comp=Z,10nm,1.1s,mb4.8,baz=315,slow=4.2,SNR=48						
PDAR				LR	LR	11 36 19.9	
	comp=Z,623nm,21.9s,MS4.7,baz=337,slow=34						
AB31	Akbulak array	58.22	311	P	P	11 13 20.6	-3.1
AB31				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
JOF	Joensuu	58.32	335	ep	P	11 13 19.9	-4.3
	comp=Z,2.3nm,0.4s,mb4.6						
JOF	Joensuu	58.32	335	eP	P	11 13 19.9	-4.3
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
CTU	Camp Tracy	58.44	63	eP	P	11 13 25.8	+0.5
BDT	Bhumibol Dam	58.66	257	P	P	11 13 28.0	+0.8
JLU	Jordanelle	58.66	63	eP	P	11 13 27.6	+0.7
DAU	Daniels Canyon	58.90	63	P	P	11 13 36.8	+8.2
DAU	Daniels Canyon	58.90	63	P	P	11 13 28.6	0.0
MPU	Maple Canyon	58.97	64	eP	P	11 13 29.6	+0.5
MOR8	Moi Rana	59.06	344	⇑iP	P	11 13 26.2	-3.1
MOR8				AMb	AMB	11 13 28.4	
	comp=Z,101nm,1.2s,mb5.7						
MOR8	Moi Rana	59.06	344	⇑iP	P	11 13 26.2	-3.1
	comp=Z,101nm,1.2s,mb5.7						
KKN	Kakani	59.21	277	eP	P	11 13 29.8	-1.1
	comp=Z,31nm,0.6s,mb5.5						
PKI	Pulchoki	59.29	276	eP	P	11 13 30.1	-1.4
	comp=Z,30nm,0.7s,mb5.5						
MWC	Mount Wilson	59.34	73	eP	P	11 13 31.4	-0.3
DMN	Daman	59.45	277	eP	P	11 13 31.5	-1.1
	comp=Z,47nm,0.7s,mb5.6						
GKN	Gorkha	59.45	277	eP	P	11 13 31.1	-1.5
	comp=Z,52nm,0.8s,mb5.6						
PECR	Pechory	59.62	324	eP	P	11 13 31.0	-2.4
PECR				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.3						
PECR				MLR	MLR		
	comp=N,2µm,16.0s						
ULM	Lac du Bonnet	59.64	46	P	P	11 13 32.4	-1.1
	comp=N,8.3nm,0.9s,mb4.8,baz=303,slow=6.2,SNR=9.4						
ULM				LR	LR	11 41 44.9	
	comp=N,2µm,19.3s,MS5.2,baz=318,slow=39						
ULM	Lac du Bonnet	59.64	46	eP	P	11 13 33.1	-0.4
	comp=N,8.8nm,0.9s,mb4.8						
MVU	Marysvale	59.70	65	eP	P	11 13 35.1	+0.9
	comp=N,14nm,1.3s,mb4.8						
MVU				e		11 13 42.8	
MSU	Marysvale	59.71	65	eP	P	11 13 34.5	+0.2
NEN	Nelson	60.21	69	eP	P	11 13 37.8	+0.1
SRU	San Rafael	60.21	64	eP	P	11 13 37.7	0.0
KOLN	Koldanda	60.25	278	eP	P	11 13 36.6	-1.5
	comp=N,34nm,0.7s,mb5.5						
LDFC	Landfair	60.46	70	eP	P	11 13 39.2	-0.2
FINES	FINESS Array B	60.89	337	P	P	11 13 40.1	-1.8
	comp=N,49nm,1.0s,mb5.6,baz=45,slow=8.1,SNR=102						
FINES				LR	LR	11 44 36.7	
	comp=N,2µm,18.2s,MS5.3,baz=31,slow=41						
FINES	FINESS Array B	60.89	337	P	P	11 13 40.1	-1.8
FINES				pmax	pmax		
	comp=Z,49nm,1.0s						
FINES				MLR	MLR		
	comp=Z,2µm,18.2s						
NSS	Namsos	60.99	345	eP	P	11 13 38.6	-4.0
NSS				AMS	AMS	11 43 01.8	
	comp=Z,1µm,20.6s,MS5.0						
DDI	Dehra Dun	61.77	284	e	P	11 13 45.0	-3.3
WUAZ	Wupatki	62.29	67	eP	P	11 13 52.1	+0.4
	comp=Z,15nm,1.3s,mb5.0						
MOS	Moscow	62.32	327	eP	P	11 13 49.4	-2.2
MOS				pmax	pmax		
	comp=Z,134nm,0.7s,mb6.2						
MOS				pmax	pmax		
	comp=N,126nm,0.9s						
MOS				pmax	pmax		
	comp=E,121nm,0.6s						
MOS				MLR	MLR		
	comp=Z,2µm,15.1s,MS5.5						
ISCO	Idaho Springs	62.39	60	eP	P	11 13 53.2	+0.9
ISCO				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
ISCO	Idaho Springs	62.39	60	eP	P	11 13 53.2	+0.9
	comp=Z,21nm,1.3s,mb5.1						
OBN	Obninsk	63.18	327	c iP	P	11 13 55.2	-2.2
OBN				i		11 14 31.9	
OBN				e		11 16 13.2	
OBN				eS	S	11 22 18.2	-5.0
OBN				pmax	pmax		
	comp=Z,103nm,1.6s,mb5.7						
OBN				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
OBN	Obninsk	63.18	327	eP	P	11 13 55.8	-1.6
VSU	Vasula	63.30	334	⇑iP	P	11 13 56.6	-1.5
MOL	Molde	63.52	346	eP	P	11 13 59.9	+0.5
MOL				AMb	AMB	11 14 02.3	
	comp=Z,101nm,1.6s,mb5.6						
MOL				epP	pP	11 14 12.6	-1.1
MOL	Molde	63.52	346	eP	P	11 13 59.9	+0.5
	comp=Z,101nm,1.6s,mb5.6						
SDCO	Great Sand Dun	63.94	62	eP	P	11 14 03.1	+0.6
	comp=Z,42nm,1.8s,mb5.2						
NB2	NORSAR Subarra	64.38	344	P	P	11 14 03.9	-1.0
	comp=Z,42nm,0.8s,mb5.5,baz=22,slow=6.5						
NB2	NORSAR Subarra	64.38	344	P	P	11 14 03.9	-1.0
	baz=22,slow=6.9						
NOA	NORSAR Array B	64.38	344	P	P	11 14 03.5	-1.4
	comp=Z,17nm,0.6s,mb5.2,baz=22,slow=6.7,SNR=73						
NOA				LR	LR	11 48 03.9	
	comp=Z,904nm,18.5s,MS5.0,baz=15,slow=42						
TUC	Tucson	64.95	69	eP	P	11 14 09.3	+0.2
TUC				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
TUC	Tucson	64.95	69	eP	P	11 14 09.3	+0.2
	comp=Z,7.9nm,1.4s,mb4.5						
ANMO	Albuquerque	65.46	64	⇑eP	P	11 14 13.3	+0.9
LAZ	Ladron	65.48	65	eP	P	11 14 13.6	+1.1
SNG	Songkhla	65.68	249	P	P	11 14 08.0	-6.1
LENM	Lemitar	65.75	65	eP	P	11 14 15.2	+0.9
LPM	Los Pinos Moun	65.83	65	eP	P	11 14 15.5	+0.8
RUND	Rundenannen	65.90	346	eP	P	11 14 14.4	-0.4
RUND				AMb	AMB	11 14 16.5	
	comp=Z,158nm,1.1s,mb6.0						
RUND				epP	pP	11 14 28.0	-1.1
KONO	Kongsberg	65.96	344	⇑iP	PcP	11 14 49.0	+3.6
KONO				AMb	AMB	11 14 51.9	
	comp=Z,81nm,1.8s,mb5.5						
KONO				AMS	AMS	11 50 12.0	
	comp=Z,924nm,17.2s,MS5.0						
SCHQ	Schefferville	66.59	27	P	P	11 14 18.0	-1.2
	comp=Z,10nm,0.9s,mb4.9,baz=354,slow=7.8,SNR=8.7						
SCHQ				LR	LR	11 44 41.7	
	comp=Z,493nm,21.6s,MS4.7,baz=113,slow=37						
SCHQ	Schefferville	66.59	27	eP	P	11 14 17.9	-1.3
	comp=Z,15nm,0.9s,mb5.0						
IPM	Ipoh	67.56	247	⇓eP	P	11 14 27.0	+1.0
JFWS	Jewell Farm	67.71	48	eP	P	11 14 25.4	-1.0
SUW	Suwalki	68.16	334	eP	P	11 14 27.6	-1.4
SUW				MLR	MLR		
	comp=Z,4µm,19.7s,MS5.6						
SUW	Suwalki	68.16	334	eP	P	11 14 27.6	-1.5
	comp=Z,136nm,1.0s,mb5.9						
GDL2	Guadalupe Moun	68.67	65	eP	P	11 14 33.0	+0.3
KAKA	Kakadu	68.77	209	eP	P	11 14 33.2	-0.3
	comp=Z,58nm,1.5s,mb5.3						
MUD	Monsted U’grnd	69.06	343	i P	P	11 14 34.7	+0.1
	comp=Z,29nm,1.2s,mb5.1						
MUD	Monsted U’grnd	69.06	343	eP	P	11 14 34.7	+0.1
	comp=Z,29nm,1.2s,mb5.1						
COP	Copenhagen	69.16	341	⇑iP	P	11 14 35.2	0.0
	comp=Z,72nm,1.3s,mb5.4						
COP				i S	S	11 23 37.4	+1.7
COP				i		11 23 59.3	
	comp=Z,570nm,18.0s						

BSD	**Bornholm Skovb**	**69.17**	**339**	⇑*i*P	**P**	**11 14 34.0**	**-1.3**
	comp=Z,45nm,1.0s,mb5.3						
AKASG	**Malin Array Be**	**69.29**	**329**	P	**P**	**11 14 34.5**	**-1.6**
	comp=Z,21nm,0.4s,mb5.4,baz=29,slow=6.1,SNR=132						
AKASG				LR	LR	11 49 23.3	
	comp=Z,1µm,18.4s,MS5.2,baz=15,slow=40						
AKASG	**Malin Array Be**	**69.29**	**329**	P	**P**	**11 14 34.5**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,21nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,1µm,18.4s						
WMOK	**Wichita Mounta**	**69.79**	**59**	*e*P	**P**	**11 14 39.4**	**0.0**
WMOK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
WMOK	**Wichita Mounta**	**69.79**	**59**	*e*P	**P**	**11 14 39.4**	**0.0**
	comp=Z,14nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**69.96**	**317**	*c* *i*P	**P**	**11 14 39.1**	**-1.2**
KIV				*e*		11 15 00.2	
KIV				*e*		11 17 14.9	
KIV				*e*S	S	11 23 41.2	-4.1
KIV				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
KIV				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
KIV	**Kislovodsk**	**69.96**	**317**	⇑*i*P	**P**	**11 14 39.1**	**-1.2**
RGN	**Rugen**	**70.04**	**340**	*e*P	**P**	**11 14 41.3**	**+0.7**
	comp=Z,309nm,1.6s,mb6.0						
RGN				*e*	pP	11 14 53.2	-1.9
GKP	**Gorka Klasztor**	**70.35**	**337**	*e*P	**P**	**11 14 41.6**	**-0.9**
	comp=Z,0.3nm,2.0s						
GKP				LR	LR		
	comp=Z,2µm,24.3s						
HYB	**Hyderabad**	**71.05**	**274**	*i* P	**P**	**11 14 46.0**	**-1.3**
HYB				*e*pP	pP	11 15 02.8	+1.0
HYB	**Hyderabad**	**71.05**	**274**	*e*P	**P**	**11 14 46.0**	**-1.3**
CCM	**Cathedral Cave**	**71.05**	**52**	*e*P	**P**	**11 14 46.3**	**-0.7**
CCM				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CCM	**Cathedral Cave**	**71.05**	**52**	*e*P	**P**	**11 14 46.3**	**-0.7**
	comp=Z,12nm,1.0s,mb4.8						
CCM				*e*	pP	11 14 56.2	-5.3
LTX	**Lajitas**	**71.23**	**66**	*e*P	**P**	**11 14 48.9**	**+0.7**
LTX				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
LTX	**Lajitas**	**71.23**	**66**	*e*P	**P**	**11 14 48.9**	**+0.6**
	comp=Z,16nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**71.23**	**66**	P	**P**	**11 14 48.5**	**+0.3**
	comp=Z,36nm,1.3s,mb5.1,baz=298,slow=4.6,SNR=48						
BSEG	**Bad Segeberg**	**71.23**	**341**	*e*P	**P**	**11 14 48.0**	**+0.2**
BSEG				pmax	pmax		
	comp=Z,170nm,1.7s,mb5.7						
FVM	**French Village**	**71.50**	**52**	*e*P	**P**	**11 14 49.0**	**-0.7**
FVM				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
FVM	**French Village**	**71.50**	**52**	*e*P	**P**	**11 14 49.0**	**-0.7**
	comp=Z,32nm,1.4s,mb5.0						
ESK	**Eskdalemuir**	**71.96**	**350**	*e*P	**P**	**11 14 51.9**	**-0.2**
ESK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ESK	**Eskdalemuir**	**71.96**	**350**	*e*P	**P**	**11 14 51.9**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8						
GNI	**Garni**	**72.14**	**313**	P	**P**	**11 14 53.5**	**0.0**
	comp=Z,2.8nm,0.3s,mb4.7,baz=159,slow=13,SNR=7.5						
GNI	**Garni**	**72.14**	**313**	P	**P**	**11 14 53.5**	**0.0**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KWP	**Kalwaria**	**72.21**	**332**	*e*P	**P**	**11 14 53.7**	**0.0**
KWP				*e**PP	pP	11 15 04.7	-3.5
KWP				MLR	MLR		
	comp=Z,2µm,23.8s,MS5.3						
OJC	**Ojcow**	**72.49**	**334**	⇑*i*P	**P**	**11 14 55.0**	**-0.3**
OJC				*e**SP	sP	11 15 08.7	-6.6
OJC				*e*		11 17 36.4	
OJC				*e*S	S	11 24 10.7	-3.6
OJC				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.6						
JCT	**Junction City**	**72.50**	**63**	*e*P	**P**	**11 14 56.2**	**+0.5**
JCT				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
JCT	**Junction City**	**72.50**	**63**	*e*P	**P**	**11 14 56.1**	**+0.4**
	comp=Z,26nm,1.4s,mb5.0						
SIM	**Simferopol’**	**72.54**	**323**	*c*P	**P**	**11 14 54.7**	**-0.9**
SIM				*e**PP	pP	11 15 16.0	+5.8
SIM				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
SIM				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.8						
KIS	**Kishinev**	**72.65**	**327**	α*i*P	**P**	**11 14 53.5**	**-2.7**
KIS				*e*	pP	11 15 08.0	-2.8
KIS				*e*		11 17 38.0	
KIS				*e*		11 19 20.0	
KIS				*e*		11 24 17.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
KIS				MLR	MLR		
	comp=N,2µm,17.0s,MS5.6						
KIS				MLR	MLR		
	comp=E,1µm,17.0s,MS5.6						
KIS				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.6						
KIS				MLR	MLR		
	comp=Z,2µm,20.0s						
KSP	**Ksiaz**	**72.81**	**337**	⇑*e*P	**P**	**11 14 56.5**	**-0.6**
KSP				*e**PP	pP	11 15 08.1	-3.5
KSP				*e*S	S	11 24 17.0	-0.9
KSP				MLR	MLR		
	comp=Z,3µm,23.8s,MS5.5						
KSP	**Ksiaz**	**72.81**	**337**	⇑*e*P	**P**	**11 14 56.5**	**-0.6**
KSP				*e*PP	pP	11 15 08.1	-3.5
KSP				*e*S	S	11 24 17.0	-0.9
KSP				*e*SS	SS	11 29 20.0	+19
KSP				LR	LR		
	comp=Z,3µm,23.8s,MS5.5						
CTA	**Charters Tower**	**72.89**	**193**	*e*P	**P**	**11 14 58.0**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3						
CTA				*e*	pP	11 15 11.6	-1.1
WIT	**Witteveen**	**72.98**	**343**	*e*P	**P**	**11 14 59.1**	**+1.0**
	comp=Z,232nm,1.3s,mb6.0						
RAC	**Raciborz**	**73.03**	**335**	*e*P	**P**	**11 14 58.9**	**+0.5**
RAC				MLR	MLR		
	comp=Z,4µm,19.2s,MS5.7						
CLL	**Collm**	**73.14**	**339**	⇑P	**P**	**11 14 58.6**	**-0.4**
	comp=Z,logA/T=1.8,mb5.5						
CLL				*i* *PP	pP	11 15 12.9	-0.7
CLL				*e*		11 15 36.0	
CLL				*e*S	S	11 24 23.0	+1.4
CLL	**Collm**	**73.14**	**339**	⇑*i*P	**P**	**11 14 58.6**	**-0.4**
CLL				*i* *PP	pP	11 15 12.9	-0.7
CLL				*e*S	S	11 24 23.0	+1.4
CLL				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.5						
CLL	**Collm**	**73.14**	**339**	⇑*i*P	**P**	**11 14 58.6**	**-0.4**
	comp=Z,96nm,1.4s,mb5.5						
CLL				*i* pP	pP	11 15 12.9	-0.7
CLL				*e*S	S	11 24 23.0	+1.4
CUD	**Cuddapah**	**73.16**	**272**	*e*P	**P**	**11 15 00.0**	**+0.2**
CUD				*e*		11 15 36.3	
CLZ	**Clausthal**	**73.20**	**341**	*e*P	**P**	**11 14 59.8**	**+0.4**
	comp=Z,154nm,1.5s,mb5.7						
UZH	**Uzhgorod**	**73.23**	**332**	*i* P	**P**	**11 15 00.0**	**+0.4**
DPC	**Dobruska-Polom**	**73.26**	**336**	*e*P	**P**	**11 15 00.1**	**+0.4**
DPC				*e*AP	pP	11 15 14.1	-0.2
DPC				*e*S	S	11 24 25.2	+2.3
DPC				*e*		11 30 16.5	
DPC				LM		11 51 10.0	
	comp=Z,1.6nm,16.6s						
DPC	**Dobruska-Polom**	**73.26**	**336**	*e*P	**P**	**11 15 00.1**	**+0.4**
DPC				*e**PP	pP	11 15 14.1	-0.2
DPC				*e*S	S	11 24 25.2	+2.3
DPC				MLR	MLR		
	comp=Z,2µm,16.6s,MS5.4						
OKC	**Ostrava-Krasne**	**73.27**	**335**	*e*P	**P**	**11 14 59.8**	**0.0**
OKC				*e*AP	pP	11 15 13.5	-0.9
OKC				*e*		11 15 28.7	
OKC				*e*S	S	11 24 47.8	+25
OKC				*e*		11 29 23.5	
OKC				LM		11 50 50.0	
	comp=Z,3.2nm,18.7s						
OKC	**Ostrava-Krasne**	**73.27**	**335**	*e*P	**P**	**11 14 59.8**	**0.0**
OKC				*e**PP	pP	11 15 13.5	-0.9
OKC				MLR	MLR		
	comp=Z,3µm,18.7s,MS5.6						
BRG	**Berggiesshubel**	**73.34**	**338**	⇑*i*P	**P**	**11 14 59.9**	**-0.3**
BRG				*e*	pP	11 15 14.5	-0.2
BRG				*i* S	S	11 24 26.0	+2.2
BRG				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.2						
BRG				MLR	MLR		
	comp=Z,2µm,17.4s,MS5.4						
BRG				MLR	MLR		
	comp=N,1µm,18.9s,MS5.4						
BRG				MLR	MLR		
	comp=E,2µm,18.9s,MS5.4						
BRG	**Berggiesshubel**	**73.34**	**338**	⇑*i*P	**P**	**11 14 59.9**	**-0.3**
	comp=E,41nm,1.3s,mb5.2						
BRG				*e*	pP	11 15 14.5	-0.2
BRG				*i* S	S	11 24 26.0	+2.2
BRG				LR	LR		
	comp=Z,2µm,17.4s,MS5.4						
MORC	**Moravsky Berou**	**73.48**	**335**	*e*P	**P**	**11 15 01.1**	**0.0**
	comp=Z,61nm,1.3s,mb5.4						
PVCC	**Panska Ves**	**73.52**	**338**	⇑*e*P	**P**	**11 15 01.4**	**+0.2**
PVCC				*e*AP	pP	11 15 15.8	0.0
PVCC				*e*S	S	11 24 29.3	+3.5
PVCC				*e*		11 30 23.6	
PVCC				LM		11 52 20.0	
	comp=Z,2.1nm,16.4s						
PVCC	**Panska Ves**	**73.52**	**338**	*e*P	**P**	**11 15 01.4**	**+0.2**
PVCC				*e**PP	pP	11 15 15.8	0.0
PVCC				*e*S	S	11 24 29.3	+3.5
PVCC				MLR	MLR		
	comp=Z,2µm,16.4s,MS5.5						
WTSB	**Winterswijk**	**73.77**	**343**	⇑*e*P	**P**	**11 15 02.7**	**+0.1**
	comp=Z,28nm,2.1s,mb4.8						
WTSB				*e*x	x	11 15 15.0	
ERZM	**Erzurum**	**73.84**	**315**	*i* P	**P**	**11 15 03.8**	**+0.5**
KECS	**Kecovo**	**73.88**	**333**	*e*P	**P**	**11 15 03.8**	**+0.4**
PRU	**Pruhonice**	**74.02**	**337**	⇑*i*P	**P**	**11 15 04.1**	**-0.1**
	comp=Z,62nm,1.4s,mb5.3						
PRU				*e*AP	pP	11 15 18.5	-0.3
PRU				LM		11 49 40.0	
MOX	**Moxa**	**74.07**	**340**	*i* P	**P**	**11 15 04.9**	**+0.4**
	comp=Z,logA/T=1.7,mb5.4						
MOX				pP	pP	11 15 21.0	+2.0
MOX				S	S	11 24 42.0	+10
MOX				SS		11 30 30.0	
MOX				L		11 53 02.0	
MOX	**Moxa**	**74.07**	**340**	*e*P	**P**	**11 15 04.9**	**+0.4**
MOX				*e*	pP	11 15 20.7	+1.7
MOX				pmax	pmax		
	comp=Z,102nm,2.0s,mb5.4						
MOX				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.1						
MOX	**Moxa**	**74.07**	**340**	*e*P	**P**	**11 15 04.9**	**+0.4**
	comp=Z,102nm,2.0s,mb5.4						
MOX				*e*	pP	11 15 20.7	+1.7
MOX				LR	LR		
	comp=Z,900nm,19.0s,MS5.1						
VRAC	**Vranov**	**74.16**	**336**	P	**P**	**11 15 06.1**	**+1.1**
ACCN	**Adirondack Com**	**74.27**	**37**	P	**P**	**11 15 04.3**	**-1.4**
ACCN				*e*	pP	11 15 16.0	-4.4
NATX	**Nacogdoches**	**74.27**	**58**	*e*P	**P**	**11 15 06.5**	**+0.5**
JAVC	**Velka Javorina**	**74.29**	**335**	P	**P**	**11 15 07.1**	**+1.3**
VYHS	**Vyhne**	**74.32**	**334**	*i* P	**P**	**11 15 06.0**	**0.0**
VYHS				*e*	pP	11 15 22.2	+1.7
VYHS				*e*		11 15 37.3	
VYHS				*e*pS		11 24 56.6	
KRUC	**Moravsky**	**74.43**	**336**	P	**P**	**11 15 07.6**	**+1.0**
PSZ	**Piszkesteto**	**74.56**	**333**	⇑*i*P	**P**	**11 15 07.7**	**+0.4**
PSZ	**Piszkesteto**	**74.56**	**333**	*e*P	**P**	**11 15 07.2**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,130nm,1.6s,mb5.6						
PSZ	**Piszkesteto**	**74.56**	**333**	*e*P	**P**	**11 15 07.2**	**-0.2**
	comp=Z,136nm,1.6s,mb5.6						
OXF	**Oxford**	**74.76**	**53**	*e*P	**P**	**11 15 09.0**	**+0.2**
OXF				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
OXF	**Oxford**	**74.76**	**53**	*e*P	**P**	**11 15 09.0**	**+0.2**
	comp=Z,102nm,1.5s,mb5.5						
MLR	**Muntele Rosu**	**74.92**	**328**	P	**P**	**11 15 09.1**	**-0.4**
	comp=Z,26nm,0.8s,mb5.2,baz=2.2,slow=7.1,SNR=30						
MLR	**Muntele Rosu**	**74.92**	**328**	P	**P**	**11 15 09.1**	**-0.4**
MLR				pmax	pmax		
	comp=Z,26nm,0.8s						
SSPA	**Standing Stone**	**74.95**	**42**	*e*P	**P**	**11 15 09.5**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9						
MCWV	**Mont Chateau**	**74.95**	**44**	P	**P**	**11 15 09.3**	**-0.4**
	comp=Z,137nm,1.6s,mb5.6						
PLAL	**Pickwick Lake**	**75.03**	**52**	*e*P	**P**	**11 15 08.5**	**-1.9**
	comp=Z,14nm,0.9s,mb4.9						
KHC	**Kasperske Hory**	**75.05**	**338**	*e*P	**P**	**11 15 10.4**	**+0.3**
KHC				*e*AP	pP	11 15 24.7	0.0
KHC				*e*		11 15 36.8	
KHC				*e*S	S	11 24 46.6	+3.7
KHC				*e*		11 29 52.1	
KHC				LM		11 53 10.0	
KHC	**Kasperske Hory**	**75.05**	**338**	*e*P	**P**	**11 15 10.4**	**+0.3**
KHC				*e**PP	pP	11 15 24.7	0.0
KHC				*e*S	S	11 24 46.6	+3.7
ZST	**Bratislava**	**75.05**	**335**	*i* P	**P**	**11 15 11.2**	**+1.0**
ZST				*e*	pP	11 15 26.2	+1.5
ZST				*e*		11 25 06.6	
GRA1	**Grafenberg Arr**	**75.05**	**339**	*i* P	**P**	**11 15 10.7**	**+0.5**
	comp=Z,153nm,1.7s,mb5.7						
GRA1				*e*pP	pP	11 15 24.6	-0.1
GRA1				LR	LR		
	comp=Z,2µm,18.5s,MS5.4						
GRF	**Grafenberg Arr**	**75.05**	**339**	*i* P	**P**	**11 15 10.7**	**+0.5**
GRF				*e**PP	pP	11 15 24.6	-0.1
GRF				pmax	pmax		
	comp=Z,153nm,1.7s,mb5.7						
HKT	**Hockley**	**75.06**	**60**	*e*P	**P**	**11 15 11.0**	**+0.4**
HGN	**Heimansgroeve**	**75.08**	**343**	⇑*e*P	**P**	**11 15 10.2**	**-0.1**
	comp=Z,25nm,1.3s,mb5.0						
HGN				*e*x	x	11 15 22.4	
HGN				*e*S	S	11 24 48.1	+4.9
HGN				*e*SS	SS	11 29 34.1	-1.0
HGN	**Heimansgroeve**	**75.08**	**343**	P	**P**	**11 15 11.0**	**+0.7**
SRO	**Srobarova**	**75.08**	**334**	*e*P	**P**	**11 15 11.2**	**+0.8**
WB2	**Warramunga Arr**	**75.13**	**205**	⇓*i*P	**P**	**11 15 11.6**	**+0.4**
WB2				*e*	pP	11 15 28.5	+2.8
WRA	**Warramunga Arr**	**75.13**	**205**	P	**P**	**11 15 11.4**	**+0.2**
	comp=Z,9.6nm,1.1s,mb4.7,baz=18,slow=6.1,SNR=25						
WRA				LR	LR	11 49 13.0	
	comp=Z,198nm,19.4s,MS4.4,baz=20,slow=36						
WRA	**Warramunga Arr**	**75.13**	**205**	P	**P**	**11 15 11.4**	**+0.2**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRA				MLR	MLR		
	comp=Z,198nm,19.4s						
BUD	**Budapest**	**75.19**	**334**	⇑*e*P	**P**	**11 15 12.7**	**+1.7**
WET	**Wettzell**	**75.20**	**338**	*e*P	**P**	**11 15 11.5**	**+0.5**
WET				pmax	pmax		
	comp=Z,95nm,1.6s,mb5.5						
WET	**Wettzell**	**75.20**	**338**	*e*P	**P**	**11 15 11.5**	**+0.5**
	comp=Z,95nm,1.6s,mb5.5						
BOYT	**Boyabat**	**75.24**	**320**	*i* P	**P**	**11 15 10.3**	**-1.1**
GEC2	**GERESS Array S**	**75.29**	**338**	*e*P	**P**	**11 15 11.6**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.2						
GEC2	**GERESS Array S**	**75.29**	**338**	*e*P	**P**	**11 15 11.6**	**+0.1**
	comp=Z,49nm,1.5s,mb5.2						
GERES	**GERESS Array B**	**75.29**	**338**	P	**P**	**11 15 11.5**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.5,baz=45,slow=3.8,SNR=30						
GERES	**GERESS Array B**	**75.29**	**338**	P	**P**	**11 15 11.5**	**0.0**
GERES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EMMW	**East Machias**	**75.31**	**33**	*e*P	**P**	**11 15 09.6**	**-2.1**
	comp=Z,500nm,1.8s,mb6.1						
BEST	**Besiri**	**75.54**	**314**	*i* P	**P**	**11 15 13.0**	**-0.2**
TOD	**Tromm**	**75.64**	**341**	*e*P	**P**	**11 15 13.5**	**0.0**
SOP	**Sopron**	**75.67**	**335**	⇑*e*P	**P**	**11 15 14.6**	**+0.9**
BALT	**Daday**	**75.74**	**321**	*i* P	**P**	**11 15 14.0**	**-0.2**
PSN	**Preselentsi**	**75.77**	**326**	*i* P	**P**	**11 15 15.0**	**+0.6**
HRV	**Harvard--Oak R**	**75.81**	**37**	P	**P**	**11 15 25.7**	**+11**
SWET	**Sewanee**	**75.87**	**50**	*e*P	**P**	**11 15 14.3**	**-0.9**
RUP	**Ruppelstein**	**75.89**	**342**	*e*P	**P**	**11 15 15.1**	**+0.2**
GIVF	**Givet**	**75.91**	**344**	*e*P	**P**	**11 15 14.8**	**-0.2**
CTKT	**Corum**	**75.97**	**320**	*i* P	**P**	**11 15 15.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**75.99**	**213**	*e*P	**P**	**11 15 16.8**	**+0.7**
	comp=Z,10nm,1.0s,mb4.7						
FITZ				*e*	pP	11 15 33.9	+3.2
ELZG	**Elazig**	**76.03**	**316**	*i* P	**P**	**11 15 16.9**	**+0.9**
KTD	**Kalmit**	**76.06**	**341**	*e*P	**P**	**11 15 16.5**	**+0.6**
BAIF	**Baives**	**76.06**	**344**	*e*P	**P**	**11 15 15.5**	**-0.4**
MOA	**Molln**	**76.08**	**337**	⇓*i*P	**P**	**11 15 16.3**	**+0.2**
	comp=Z,334nm,4.3s						
WLF	**Walferdange**	**76.09**	**343**	*e*P	**P**	**11 15 18.0**	**+1.9**
WLF				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
WLF	**Walferdange**	**76.09**	**343**	*e*P	**P**	**11 15 18.0**	**+1.9**
	comp=Z,37nm,1.4s,mb5.1						
PAL	**Palisades**	**76.22**	**39**	P	**P**	**11 15 17.3**	**+0.3**
PAL				*e*		11 15 25.9	
PAL				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3						
PAL	**Palisades**	**76.22**	**39**	P	**P**	**11 15 17.2**	**+0.3**
	comp=Z,41nm,1.1s,mb5.3						
PAL				*e*		11 15 25.9	
ARSA	**Arzberg**	**76.33**	**336**	⇑*i*P	**P**	**11 15 18.0**	**+0.5**
	comp=Z,225nm,2.2s,mb5.7						
CPCT	**Cooper Cave**	**76.34**	**49**	*e*P	**P**	**11 15 17.2**	**-0.6**
MALT	**Malatya**	**76.43**	**316**	⇑*i*P	**P**	**11 15 18.7**	**+0.5**
	comp=Z,70nm,1.1s,mb5.5						
LANF	**Langenberg**	**76.44**	**341**	*e*P	**P**	**11 15 18.2**	**+0.2**
PRD	**Provadia**	**76.46**	**326**	*i* P	**P**	**11 15 19.0**	**+0.7**
PKSM	**Moragy**	**76.47**	**333**	P	**P**	**11 15 18.2**	**-0.1**
FUR	**Furstenfeldbru**	**76.48**	**339**	*e*P	**P**	**11 15 18.6**	**+0.3**
FUR				pmax	pmax		
	comp=Z,203nm,1.9s,mb5.7						
FUR	**Furstenfeldbru**	**76.48**	**339**	*e*P	**P**	**11 15 18.6**	**+0.3**
	comp=Z,203nm,1.9s,mb5.7						
ELDT	**Eldivan**	**76.62**	**321**	*i* P	**P**	**11 15 19.3**	**0.0**
SZH	**Strazhica**	**76.90**	**327**	*i* P	**P**	**11 15 21.0**	**+0.2**
BFO	**Black Forest**	**76.95**	**341**	*e*P	**P**	**11 15 21.0**	**0.0**
BFO				pmax	pmax		
	comp=Z,92nm,2.0s,mb5.4						
BFO	**Black Forest**	**76.95**	**341**	*e*P	**P**	**11 15 21.0**	**0.0**
	comp=Z,92nm,2.0s,mb5.4						
PERS	**Pernice**	**77.01**	**336**	⇑*e*P	**P**	**11 15 21.5**	**+0.2**
PERS	**Pernice**	**77.01**	**336**	*i* P	**P**	**11 15 21.6**	**+0.3**
KBA	**Koelnbreinsper**	**77.03**	**337**	⇑*i*P	**P**	**11 15 22.5**	**+1.1**
	comp=Z,283nm,1.9s,mb5.9						
WLS	**Welschbruch**	**77.07**	**342**	*e*P	**P**	**11 15 21.7**	**+0.1**
GROS	**Grobnik**	**77.07**	**335**	*e*P	**P**	**11 15 21.7**	**+0.1**
SGKT	**Sivrigoynuk**	**77.07**	**322**	*i* P	**P**	**11 15 22.1**	**+0.2**
SPAK	**Spaichingen**	**77.08**	**340**	*e*P	**P**	**11 15 21.9**	**+0.2**
CDF	**Champ du Feu**	**77.08**	**342**	*e*P	**P**	**11 15 21.7**	**0.0**
	comp=Z,95nm,1.4s,mb5.2						
LRAL	**Lakeview Retre**	**77.13**	**52**	*e*P	**P**	**11 15 22.0**	**-0.3**
	comp=Z,5.3nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**77.19**	**320**	P	**P**	**11 15 22.2**	**-0.2**
	comp=Z,41nm,1.1s,mb5.3,baz=63,slow=2.8,SNR=64						
BRTR				LR	LR	11 55 34.2	
	comp=Z,774nm,21.6s,MS5.0,baz=335,slow=41						
WATA	**Walderalm**	**77.20**	**338**	⇑*i*P	**P**	**11 15 23.2**	**+0.8**
	comp=Z,114nm,1.8s,mb5.5						
WTTA	**Wattenberg**	**77.25**	**338**	⇑*i*P	**P**	**11 15 23.4**	**+0.7**
	comp=Z,377nm,2.2s,mb5.9						
OBKA	**Obir**	**77.27**	**336**	⇑*i*P	**P**	**11 15 23.2**	**+0.4**
	comp=Z,262nm,2.1s,mb5.8						
LIBD	**Limburg**	**77.27**	**341**	*e*P	**P**	**11 15 22.9**	**+0.2**
HENT	**Hendek**	**77.29**	**323**	*i* P	**P**	**11 15 21.5**	**-1.5**
MOTA	**Moosalm**	**77.30**	**339**	⇑*i*P	**P**	**11 15 23.4**	**+0.5**
	comp=Z,42nm,1.4s,mb5.2						
SQTA	**Sankt Quirin**	**77.39**	**339**	⇑*i*P	**P**	**11 15 24.4**	**+1.0**
	comp=Z,153nm,1.9s,mb5.6						
MEZF	**Maizieres J’vi**	**77.41**	**343**	*e*P	**P**	**11 15 23.5**	**0.0**
FELD	**Feldberg**	**77.45**	**341**	*e*P	**P**	**11 15 23.6**	**-0.2**
SLE	**Schleitheim**	**77.46**	**341**	⇑P	**P**	**11 15 23.1**	**-0.7**
SVIS	**Svilajnac**	**77.47**	**331**	⇑*i*P	**P**	**11 15 23.2**	**-0.7**
THEF	**They Montfort**	**77.51**	**342**	*e*P	**P**	**11 15 24.1**	**0.0**
AVNT	**Avonos**	**77.52**	**319**	*i* P	**P**	**11 15 23.7**	**-0.6**
GCIS	**Gornji Cirnik**	**77.60**	**335**	*i* P	**P**	**11 15 24.5**	**-0.1**
GZT	**Gaziantep**	**77.60**	**316**	*i* P	**P**	**11 15 24.8**	**0.0**
SEST	**Monte Rota**	**77.60**	**338**	P	**P**	**11 15 25.1**	**+0.5**
DAVA	**Damuels**	**77.62**	**339**	⇑*i*P	**P**	**11 15 25.1**	**+0.4**
	comp=Z,176nm,2.6s,mb5.5						
MOF	**Molkenrain**	**77.65**	**341**	*e*P	**P**	**11 15 24.6**	**-0.2**
HAU	**Haudompre**	**77.65**	**342**	*e*P	**P**	**11 15 24.6**	**-0.2**
	comp=Z,74nm,1.3s,mb5.2						
HAU				*e*R			
	comp=Z,1µm,20.5s						
PTCC	**Patocco-Chiusa**	**77.66**	**337**	P	**P**	**11 15 24.6**	**-0.3**
KAHT	**Ahir Dag**	**77.66**	**317**	*i* P	**P**	**11 15 25.4**	**+0.3**
BOLS	**Boljevac**	**77.67**	**330**	⇑*i*P	**P**	**11 15 23.2**	**-1.8**
WILA	**Wila**	**77.70**	**340**	⇑P	**P**	**11 15 25.5**	**+0.3**
LJU	**Ljubljana**	**77.71**	**336**	⇑*e*P	**P**	**11 15 24.9**	**-0.2**
HINF	**Hinteralfeld**	**77.73**	**342**	*e*P	**P**	**11 15 24.9**	**-0.4**
SULZ	**Sulz-Cheisache**	**77.76**	**341**	⇑P	**P**	**11 15 26.0**	**+0.5**
SISC	**Sisak**	**77.76**	**335**	*i* P	**P**	**11 15 28.2**	**+2.7**
ROBS	**Robic**	**77.77**	**337**	⇑*e*P	**P**	**11 15 24.6**	**-0.9**
GMNA	**Gemona**	**77.81**	**337**	P	**P**	**11 15 25.6**	**-0.1**
ZUR	**Zurich**	**77.82**	**340**	⇑P	**P**	**11 15 26.4**	**+0.6**
VISS	**Visnje**	**77.85**	**336**	⇑*e*P	**P**	**11 15 25.3**	**-0.7**
GRUS	**Gruza**	**77.99**	**331**	⇓*i*P	**P**	**11 15 26.3**	**-0.5**
DIVS	**Divcibare**	**78.02**	**332**	⇓*i*P	**P**	**11 15 26.4**	**-0.5**
CEY	**Cerknica**	**78.02**	**336**	⇑*e*P	**P**	**11 15 26.4**	**-0.4**
BOJS	**Bojanci**	**78.03**	**335**	⇑*e*P	**P**	**11 15 26.5**	**-0.4**
FLN	**La Foliniere**	**78.05**	**347**	*e*P	**P**	**11 15 26.5**	**-0.5**
	comp=Z,82nm,1.4s,mb5.2						
FLN				*e*R			
	comp=Z,1µm,19.0s						
DIM	**Dimitrovgrad**	**78.12**	**327**	*i* P	**P**	**11 15 27.5**	**0.0**
PGB	**Panagyurishte**	**78.12**	**328**	*i* P	**P**	**11 15 27.0**	**-0.6**
LDF	**La Druitiere**	**78.16**	**346**	*e*P	**P**	**11 15 27.1**	**-0.5**
LOMF	**Lomont**	**78.19**	**342**	*e*P	**P**	**11 15 27.9**	**+0.1**
MUO	**Muotathal**	**78.19**	**340**	⇑P	**P**	**11 15 28.6**	**+0.8**
LLS	**Linth-Limmern**	**78.22**	**340**	⇑P	**P**	**11 15 28.6**	**+0.6**
KNDS	**Knezji Dol**	**78.22**	**336**	*i* P	**P**	**11 15 27.9**	**-0.1**
BRMO	**Bormio**	**78.28**	**339**	P	**P**	**11 15 29.5**	**+1.2**
PLD	**Plovdiv**	**78.35**	**328**	*e*P	**P**	**11 15 29.0**	**+0.2**
VTS	**Vitosha**	**78.39**	**329**	*i* P	**P**	**11 15 28.5**	**-0.5**
CTI	**Castel Tesino**	**78.40**	**338**	P	**P**	**11 15 28.9**	**-0.1**
ESKT	**Eskisehir**	**78.45**	**322**	*i* P	**P**	**11 15 28.7**	**-0.7**
GRR	**Gorron**	**78.47**	**347**	*e*P	**P**	**11 15 29.1**	**-0.2**
	comp=Z,86nm,1.2s,mb5.3						
ULDT	**Uludag**	**78.54**	**324**	*i* P	**P**	**11 15 29.2**	**-0.7**
NVSS	**Nova Varos 2**	**78.64**	**332**	⇓*i*P	**P**	**11 15 30.7**	**+0.4**
RZN	**Rozhen**	**78.72**	**327**	*i* P	**P**	**11 15 31.5**	**+0.7**
SART	**Tekirdag**	**78.76**	**325**	*i* P	**P**	**11 15 30.5**	**-0.6**
ASAR	**Alice Springs**	**78.80**	**204**	P	**P**	**11 15 32.6**	**+0.9**
	comp=Z,5.7nm,1.0s,mb4.5,baz=13,slow=5.3,SNR=27						
ASAR				LR	LR	11 47 04.5	
	comp=Z,370nm,21.6s,MS4.7,baz=10,slow=33						
ASPA	**Alice Springs**	**78.81**	**204**	*e*P	**P**	**11 15 32.5**	**+0.8**
LOR	**Lormes**	**78.82**	**343**	*e*P	**P**	**11 15 31.1**	**-0.2**
	comp=Z,96nm,1.3s,mb5.3						
LOR				*e*R			
	comp=Z,2µm,20.8s						
SGMF	**Saint Gilles**	**78.83**	**348**	*e*P	**P**	**11 15 31.0**	**-0.3**
	comp=Z,102nm,1.1s,mb5.3						
ROSF	**Rostrenen**	**78.83**	**349**	*e*P	**P**	**11 15 31.1**	**-0.2**
	comp=Z,147nm,1.3s,mb5.5						
COBT	**Iskenderun**	**78.86**	**317**	*i* P	**P**	**11 15 31.8**	**+0.1**
LKBD	**Leukerbad**	**78.95**	**341**	⇑P	**P**	**11 15 32.8**	**+0.8**
HYF	**Humbligny**	**79.02**	**344**	*e*P	**P**	**11 15 32.6**	**+0.2**
CABF	**La Chapelle**	**79.04**	**342**	*e*P	**P**	**11 15 32.6**	**+0.1**
	comp=Z,185nm,1.7s,mb5.4						
SSF	**Saint Saulge**	**79.08**	**344**	*e*P	**P**	**11 15 32.6**	**-0.1**
	comp=Z,68nm,1.4s,mb5.1						
KKB	**Krupnik**	**79.09**	**329**	*i* P	**P**	**11 15 33.0**	**+0.1**
MMB	**Musomiste**	**79.13**	**328**	*i* P	**P**	**11 15 33.0**	**-0.1**
MMK	**Mattmark**	**79.20**	**340**	⇑P	**P**	**11 15 34.5**	**+1.1**
QUIF	**Quistinic**	**79.23**	**348**	*e*P	**P**	**11 15 33.3**	**-0.2**
DIX	**Grande Dixence**	**79.29**	**341**	⇑P	**P**	**11 15 35.1**	**+1.2**
AVF	**Avril sur Loir**	**79.37**	**344**	*e*P	**P**	**11 15 34.3**	**0.0**
	comp=Z,79nm,1.2s,mb5.2						
EMV	**Vieux Emosson**	**79.41**	**341**	⇑P	**P**	**11 15 35.6**	**+1.1**
SMF	**Signal de Mont**	**79.42**	**343**	*e*P	**P**	**11 15 34.4**	**-0.2**
	comp=Z,120nm,1.4s,mb5.3						
SKO	**Skopje**	**79.51**	**330**	*i* P	**P**	**11 15 35.0**	**-0.2**
ORO	**Oropa**	**79.60**	**340**	P	**P**	**11 15 36.5**	**+0.9**
BGF	**Bois d’Agland**	**79.68**	**344**	*e*P	**P**	**11 15 35.9**	**-0.1**
STON	**Ston**	**79.80**	**333**	⇑*i*P	**P**	**11 15 35.2**	**-1.5**
LPL	**La Plagne**	**79.96**	**341**	*e*P	**P**	**11 15 38.5**	**+1.0**
	comp=Z,62nm,1.1s,mb5.2						
LPG	**La Plagne**	**79.98**	**341**	*e*P	**P**	**11 15 38.7**	**+1.1**
	comp=Z,124nm,1.3s,mb5.4						
ISP	**Isparta**	**80.04**	**321**	P	**P**	**11 15 39.3**	**+1.2**
TCF	**Toulx Ste Croi**	**80.05**	**344**	*e*P	**P**	**11 15 38.1**	**+0.2**
	comp=Z,40nm,1.1s,mb5.0						
MFF	**Saint Martin d**	**80.11**	**346**	*e*P	**P**	**11 15 38.5**	**+0.2**
	comp=Z,72nm,1.5s,mb5.1						
PLDF	**La Plantade**	**80.11**	**343**	*e*P	**P**	**11 15 39.4**	**+1.1**
AGO	**Saint Agoulin**	**80.12**	**344**	*e*P	**P**	**11 15 42.2**	**+3.9**
ZCCA	**Zocca**	**80.16**	**338**	P	**P**	**11 15 39.8**	**+1.2**
RSM	**Repubblica di**	**80.20**	**337**	P	**P**	**11 15 40.3**	**+1.5**
GSCL	**Gusciola**	**80.25**	**338**	P	**P**	**11 15 40.6**	**+1.5**
FSSB	**Fossombrone**	**80.34**	**336**	P	**P**	**11 15 40.5**	**+0.9**
SEI	**Scarperia**	**80.35**	**337**	P	**P**	**11 15 41.1**	**+1.5**
SFI	**Santa Sofia**	**80.37**	**337**	P	**P**	**11 15 41.0**	**+1.3**

VMG	Vicchio	80.39	337	P	P	11 15 41.9	+2.1
BNI	Bardonecchia	80.42	341	P	P	11 15 41.0	+1.0
	comp=Z,27nm,1.3s,mb5.0						
GRN	Grenoble	80.42	342	eP	P	11 15 41.5	+1.5
PGD	Poggio Sodo	80.43	337	P	P	11 15 41.7	+1.7
PYM	Petit Puy Mans	80.43	344	eP	P	11 15 40.8	+0.8
VLC	Villacollemand	80.47	338	eP	P	11 15 40.8	+0.5
	comp=Z,17nm,0.9s,mb5.0						
ARV	Arcevia	80.49	336	P	P	11 15 41.3	+0.9
BDI	Bagni Di Lucca	80.52	338	P	P	11 15 41.9	+1.4
COLF	Collangettes	80.54	343	eP	P	11 15 41.5	+0.9
ORIF	Oris-en-Rattie	80.71	341	eP	P	11 15 42.3	+0.8
	comp=Z,132nm,1.5s,mb5.3						
ORIF				eR			
	comp=Z,808nm,19.8s						
MBDF	Montbardon	80.71	341	eP	P	11 15 42.1	+0.6
LBL	Lubilhac	80.89	343	eP	P	11 15 43.1	+0.6
SURF	Saint Ours	80.94	341	eP	P	11 15 43.4	+0.7
VIVF	Saint-Julien-l	81.00	342	eP	P	11 15 43.7	+0.7
	comp=Z,66nm,1.0s,mb5.2						
NRCA	Norcia	81.07	336	P	P	11 15 44.3	+0.9
SAOF	Saorge	81.26	340	eP	P	11 15 44.6	+0.2
AUTN	L'Aution	81.28	340	eP	P	11 15 44.5	0.0
GRFL	Gerfalco	81.29	337	P	P	11 15 45.2	+0.6
CAF	Calviac	81.39	344	eP	P	11 15 46.0	+0.9
	comp=Z,156nm,1.5s,mb5.4						
SBF	Sospel	81.40	340	eP	P	11 15 46.0	+0.8
CSS	Prodhromos	81.42	318	eP	P	11 15 45.5	+0.1
	comp=Z,58nm,1.1s,mb5.4						
MVIF	Mont Vial	81.43	340	eP	P	11 15 45.7	+0.4
AQU	L'Aquila	81.44	335	P	P	11 15 47.7	+2.3
RGNG	Rignano Grg	81.50	334	P	P	11 15 46.0	+0.3
REVF	Revere	81.54	340	eP	P	11 15 45.8	-0.1
MNS	Montasola	81.60	336	P	P	11 15 46.3	+0.1
LFF	La Frestale	81.60	345	eP	P	11 15 47.0	+0.9
	comp=Z,131nm,1.3s,mb5.4						
SMRF	Simiane la Rot	81.67	341	eP	P	11 15 47.6	+1.0
	comp=Z,118nm,1.6s,mb5.3						
CIGN	Sant'Elia a Pi	81.70	334	P	P	11 15 47.6	+0.8
PTQR	Pietraquaria	81.75	335	P	P	11 15 47.9	+0.9
VILF	Villemus	81.76	341	eP	P	11 15 48.4	+1.4
HASS	Wahat al Ahsa'	81.81	301	P	P	11 15 47.5	-0.2
VVLD	Villa Vallelon	81.84	335	P	P	11 15 47.2	-0.3
FRF	La Foret Royal	81.86	341	eP	P	11 15 47.8	+0.3
SALA	Sala	81.89	314	⇑P	P	11 15 34.9	-13
LASF	Ste Croix	81.90	343	eP	P	11 15 48.8	+1.1
	comp=Z,44nm,1.1s,mb5.0						
PRAF	Pradon	81.92	342	eP	P	11 15 48.6	+0.8
TAVF	Tavernes	81.92	341	eP	P	11 15 48.2	+0.3
FG5	Orsara di Pugl	81.95	334	P	P	11 15 49.0	+0.9
FG4	Candela	82.02	333	P	P	11 15 48.8	+0.4
PUYF	Puyloubier	82.08	341	eP	P	11 15 48.6	0.0
KEK	Kerkira	82.08	330	P	P	11 15 49.6	+0.8
LMR	La Mourre	82.10	341	eP	P	11 15 49.2	+0.4
PPT	Papeete	82.20	132	eS	S	11 25 43.8	-16
	comp=Z,176nm,26.5s						
PPT				eSS	SS	11 31 05.5	-18
	comp=Z,176nm,25.0s						
PPT				eL		11 37 52.7	
	comp=Z,469nm,32.5s						
PPT				eR		11 41 04.6	
	comp=Z,1µm,22.8s,baz=330						
HNTI	Hanita	82.26	316	P	P	11 15 50.1	+0.3
HNTI	Hanita	82.26	316	⇑P	P	11 15 50.1	+0.3
GELF	Grande-Etoile	82.27	341	eP	P	11 15 51.2	+1.5
ASF	Jabal al Asfar	82.28	314	P	P	11 15 50.3	+0.3
	comp=Z,80nm,1.0s,mb5.6,baz=248,slow=1.7,SNR=47						
BERF	Bertagne	82.29	341	eP	P	11 15 47.0	-2.7
PGF	Pioggiola	82.32	339	eP	P	11 15 50.1	+0.2
PTRP	Pietrapertosa	82.44	333	P	P	11 15 51.6	+1.0
SGO	Sicignano	82.61	333	P	P	11 15 51.7	+0.2
SLCN	Sala Consilina	82.68	333	P	P	11 15 52.4	+0.6
MMLI	Mount Malkishu	82.70	315	P	P	11 15 52.4	+0.3
MMLI	Mount Malkishu	82.70	315	⇑P	P	11 15 52.4	+0.3
OFRI	'Ofer	82.73	316	P	P	11 15 52.1	-0.1
OFRI	'Ofer	82.73	316	⇑P	P	11 15 52.1	-0.1
QURS	Qurayyt al Mil	82.76	313	P	P	11 15 53.9	+1.5
HMDT	Nahal Hemdat	82.81	315	P	P	11 15 52.9	+0.2
HMDT	Nahal Hemdat	82.81	315	⇑P	P	11 15 52.9	+0.2
MTLF	Montolieu	82.91	344	eP	P	11 15 53.8	+0.9
	comp=Z,112nm,1.3s,mb5.4						
CUC	Castrocucco	83.00	333	P	P	11 15 53.2	-0.2
DRGI	Dragot	83.44	315	P	P	11 15 55.9	+0.1
DRGI	Dragot	83.44	315	⇑P	P	11 15 55.9	+0.1
MLS	Moulis	83.47	344	eP	P	11 15 57.0	+1.2
TIP	Timpagrande	83.49	332	eP	P	11 15 56.3	+0.4
EPF	Esparros	83.52	345	eP	P	11 15 56.4	+0.5
	comp=Z,115nm,1.4s,mb5.5						
EALK	Alkurruntz	83.62	346	P	P	11 15 56.8	+0.4
	comp=Z,136nm,1.5s,mb5.9						
SJPF	Ste Jean	83.68	346	eP	P	11 15 58.1	+1.4
MZDA	Masada	83.69	315	P	P	11 15 57.2	+0.1
MZDA	Masada	83.69	315	⇑P	P	11 15 57.2	+0.1
ITM	Ithomi	83.71	327	P	P	11 15 57.6	+0.6
VIEF	Viey	83.72	345	eP	P	11 15 58.5	+1.6
RESF	Ens	83.74	345	eP	P	11 15 58.8	+1.8
ETSF	Etsaut	83.79	346	eP	P	11 15 58.5	+1.2
ELAN	Lanestosa	83.88	348	P	P	11 15 57.0	-0.7
	comp=Z,151nm,1.2s,mb6.0						
GRI	Girifalco	83.91	332	P	P	11 15 58.6	+0.6
HILS	Ha'il	84.03	308	P	P	11 15 59.7	+0.8
EPON	Pontenova	84.22	350	P	P	11 15 59.6	+0.1
	comp=Z,210nm,1.4s,mb6.1						
EGRA	Graus	84.34	345	P	P	11 16 01.2	+1.2
	comp=Z,57nm,1.4s,mb5.5						
SVTA	Shivta	84.34	315	P	P	11 16 00.4	0.0
SVTA	Shivta	84.34	315	⇑P	P	11 16 00.4	0.0
ECRI	Cripan	84.36	347	P	P	11 16 00.4	+0.3
	comp=Z,74nm,1.7s,mb5.5						
ZFRI	Zfri	84.42	314	P	P	11 16 00.9	+0.1
KZIT	Kziot	84.46	315	P	P	11 16 00.9	-0.1
KZIT	Kziot	84.46	315	⇑P	P	11 16 00.9	-0.1
ARSS	Ar Rass	84.57	306	P	P	11 16 01.6	0.0
PRNI	Paran	84.67	314	P	P	11 16 02.3	+0.3
PRNI	Paran	84.67	314	⇑P	P	11 16 02.3	+0.3
STS	Santiago	84.79	351	P	P	11 16 02.0	-0.3
	comp=Z,49nm,1.0s,mb5.6						
ERUA	La Rua	85.14	350	P	P	11 16 04.8	+0.7
	comp=Z,36nm,1.1s,mb5.4						
STKA	Stephens Creek	85.17	195	P	P	11 16 04.7	+0.2
	comp=Z,9.3nm,1.1s,mb4.8,baz=346,slow=5.0,SNR=4.3						
STKA				LR	LR	11 55 12.6	
	comp=Z,358nm,19.6s,MS4.8,baz=18,slow=36						
AQBJ	Aqaba	85.19	314	P	P	11 16 04.9	+0.3
MBH	Mount Berech	85.19	314	P	P	11 16 04.7	+0.1
MBH	Mount Berech	85.19	314	⇑P	P	11 16 04.7	+0.1
EIL	Elat	85.28	314	P	P	11 16 05.2	+0.1
EIL	Elat	85.28	314	⇑P	P	11 16 05.2	+0.1
EZAM	Zamans	85.53	351	P	P	11 16 07.2	+1.2
	comp=Z,30nm,1.0s,mb5.5						
ALWS	Ilw as Safayha	85.54	314	P	P	11 16 06.7	+0.4
JMQS	Jabal Moqyreh	85.54	313	P	P	11 16 07.2	+0.8
ECAL	Calabor	85.54	350	P	P	11 16 06.9	+0.9
	comp=Z,65nm,1.4s,mb5.7						
JMOS	Jabal al Moall	85.64	314	P	P	11 16 07.4	+0.6
PBRG	Braganca	85.68	350	eP	P	11 16 08.2	+1.5
	comp=Z,48nm,1.6s,mb5.5						
ERC	Erice	85.71	335	P	P	11 16 08.6	+1.6
AGST	Augusta-Monte	85.71	332	P	P	11 16 06.7	-0.3
ELOB	Lobios	85.75	351	P	P	11 16 06.7	-0.4
	comp=Z,62nm,1.4s,mb5.7						
MTGR	Montagna Grand	85.80	334	P	P	11 16 08.2	+0.8
TBKS	Tabuk	85.80	312	P	P	11 16 08.8	+1.2
HAQS	Haql	85.82	314	P	P	11 16 08.2	+0.5
MMGO	Monte Magaggia	85.96	334	P	P	11 16 08.9	+0.7
ETOR	Torete	86.05	346	P	P	11 16 07.0	-1.5
	comp=Z,39nm,1.2s,mb5.5						
EMOS	Mosqueruela	86.26	345	P	P	11 16 10.3	+0.7
	comp=Z,111nm,2.1s,mb5.7						
BDAS	Al Bad'	86.28	313	P	P	11 16 10.7	+0.8
PVRL	Vila Real	86.31	351	eP	P	11 16 10.6	+0.8
AFFS	'Afif	86.31	305	P	P	11 16 10.4	+0.1
AYUS	'Aynunah	86.41	313	P	P	11 16 11.6	+1.0
KBRS	Khaybar	86.59	309	P	P	11 16 12.2	+0.7
PVIS	Viseu	86.88	351	eP	P	11 16 13.5	+0.9
MTE	Manteigas	87.16	350	eP	P	11 16 15.3	+1.3
	comp=Z,31nm,1.3s,mb5.4						
	comp=Z,477nm,14.7s						
MTE	Manteigas	87.16	350	eP	P	11 16 14.4	+0.4
MTE				e	pP	11 16 31.3	+2.4
TBI	Tubuai	87.30	134	eSS	SS	11 32 26.1	-12
	comp=Z,161nm,27.2s						
TBI				eL		11 39 50.8	
	comp=Z,264nm,27.8s						
TBI				eR		11 43 28.5	
	comp=Z,1µm,23.5s,baz=330						
ESDC	Sonseca Array	87.44	347	P	P	11 16 15.2	-0.2
	comp=Z,27nm,1.1s,mb5.4,baz=2.3,slow=4.9,SNR=28						
ESDC				LR	LR	12 03 24.8	
	comp=Z,995nm,18.9s,MS5.2,baz=40,slow=41						
ESDC	Sonseca Array	87.44	347	P	P	11 16 15.0	-0.4
	comp=Z,16nm,1.1s,mb5.2						
PCBR	Castelo Branco	87.70	350	eP	P	11 16 16.6	0.0
ETOB	Tobarra	88.11	345	P	P	11 16 18.6	0.0
	comp=Z,49nm,1.3s,mb5.6						
EVO	Evora	89.05	350	eP	P	11 16 23.0	-0.1
EVO				eR			
	comp=Z,946nm,21.8s						
EMIN	Mina Concepcio	89.66	349	P	P	11 16 23.8	-2.2
	comp=Z,25nm,1.5s,mb5.3						
TATS	Tathlith	89.71	302	P	P	11 16 26.6	+0.1
ELOJ	Sierra Loja	89.95	347	P	P	11 16 25.8	-1.6
	comp=Z,37nm,1.6s,mb5.5						
EGRO	El Granado	89.98	350	P	P	11 16 25.6	-1.8
	comp=Z,30nm,1.6s,mb5.4						
BLJS	Baljurashi	90.39	304	P	P	11 16 30.8	+1.0
NAMS	An Nimas	90.67	303	P	P	11 16 32.2	+1.1
LPAZ	La Paz	128.08	65	PKP	PKPdf	11 22 35.4	+2.0
	comp=Z,1.0nm,0.9s,baz=315,slow=1.4,SNR=3.3						
QSPA	South Pole Qui	141.90	180	ePKP	PKPdf	11 22 53.1	-4.0
QSPA				LR	LR		
	comp=Z,200nm,21.3s,MS4.8						
CPUP	Villa Florida	142.08	62	PKhKP		11 22 55.5	
	comp=Z,1.1nm,1.0s,baz=78,slow=9.2,SNR=2.9						
PLCA	Paso Flores	144.23	92	PKP	PKPdf	11 23 03.0	+0.8
	comp=Z,7.0nm,0.9s,baz=290,slow=5.6,SNR=9.9						
PLCA	Paso Flores	144.23	92	PKIKP	PKPdf	11 23 03.0	+0.8
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SUR	Sutherland	144.35	287	PKP	PKPdf	11 23 03.2	+0.4
	comp=Z,26nm,1.2s,baz=167,slow=4.5,SNR=3.2						
SUR	Sutherland	144.35	287	PKP	PKPdf	11 23 03.1	+0.4
CAM4	Nova Friburgo	145.66	38	eP	PKPdf	11 23 06.4	+1.2
CAM4				i		11 23 22.7	
CAM4				i		11 23 26.6	
CAM4				i		11 23 28.5	
SYO	Syowa Base	147.79	216	⇓PKPdf	PKPdf	11 23 11.1	+3.7
SYO	Syowa Base	147.79	216	⇓PKPab	PKPab	11 23 20.1	+5.1
SYO	Syowa Base	147.79	216	⇑sPKPbc		11 23 40.6	
SNAA	Sanae	158.93	195	⇑iPKPdf	PKPdf	11 23 24.0	+0.9
SNAA				e		11 24 01.1	
VNA1	Neumayer--Stat	160.65	192	⇑iP	PKPdf	11 23 34.3	+9.4
VNA1	Neumayer--Stat	160.65	192	e	PKPab	11 24 11.8	+2.6
VNA1	Neumayer--Stat	160.65	192	PKPdf	PKPdf	11 23 34.3	+9.4
VNA1				e		11 24 11.8	

DJA 04 11:17:42.9±0.9,7.85S×120.10E,h126^{km}±69^{km},MD4.8/4, ML4.9/3,Error ellipse: s-maj=98.9km s-min=24.6km az=175.0

IDC 04 11:17:48.4±3.3,8.10S×120.47E,h216^{km}±23^{km},mb3.6/2, mb1 3.5/3,mb1mx3.2/14,Error ellipse: s-maj=102.0km s-min=26.1km az=46.0

ISC 04 11:17:43.6±1.4,8.4S±0.1×120.0E±0.1,h190^{km}±20^{km},n10, σ1^{s}09/19,mb4.2/1,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	3.81	268	ePn	P	11 18 43.5	+0.2
	144nm,0.3s						
KEDI				eSn	S	11 19 28.8	-0.7
RATI	Rata	4.40	265	ePn	P	11 18 52.2	+1.5
	176nm,0.2s						
RATI				eSn	S	11 19 43.1	+0.4
INGI	Ingas	4.79	265	ePn	P	11 18 57.0	+1.3
	333nm,0.2s						
INGI				eSn	S	11 19 50.6	-1.0
KELI	Kelakatan	5.42	272	ePn	P	11 19 05.3	+1.4
KELI				eSn	S	11 20 04.8	-1.5
FITZ	Fitzroy Crossi	11.11	151	eP	P	11 20 18.6	+0.4
	8.5nm,1.3s						
FITZ				eS	S	11 22 19.3	-0.2
KAKA	Kakadu	12.95	110	eP	P	11 20 40.6	-1.0
	5.6nm,0.4s						
KAKA				eS	S	11 22 54.4	-7.5
WRA	Warramunga Arr	18.03	131	P	P	11 21 41.8	-1.1
	0.5nm,0.3s,baz=312,slow=10,SNR=54						
WRA				S	S	11 24 57.3	+2.5
	0.5nm,0.3s,baz=309,slow=24,SNR=7.6						
WB2	Warramunga Arr	18.04	131	eP	P	11 21 41.8	-1.3
WB2				eS	S	11 24 53.9	-1.1
ASAR	Alice Springs	20.22	140	P	P	11 22 06.0	+0.7
	1.8nm,0.3s,baz=326,slow=13,SNR=74						
ASAR				S	S	11 25 41.0	+4.6
	2.6nm,0.9s,baz=320,slow=21,SNR=13						
ASAR				ScP		11 29 27.1	
	0.7nm,0.6s,baz=335,slow=2.4,SNR=6.9						
STKA	Stephens Creek	30.82	142	P	P	11 23 44.1	+0.3
	4.3nm,0.9s,mb4.2,baz=321,slow=5.3,SNR=6.2						

NNC 04 11:27:10.8±4.2,47.88N×82.82E,mpv3.3,11C-1D,Error ellipse: s-maj=55.8km s-min=12.8km az=87.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	Makanchi Array	1.14	199	P	Pb	11 27 31.5	-1.6
	9.7nm,0.2s,baz=341,slow=12,SNR=912						
MK31				⇑S	Sb	11 27 48.4	+0.2
	99nm,0.4s,baz=38,slow=17,SNR=40						
KURK	Kurchatov	3.96	318	⇑Pn	Pn	11 28 12.7	-1.3
	2.4nm,0.4s,baz=145,slow=8.0,SNR=27						
KURK				⇑Lg		11 29 19.1	
	23nm,0.4s,baz=301,slow=18,SNR=24						
VOSK	Vostochnaya	9.00	307	⇑Pn	P	11 29 22.0	-2.9
	0.5nm,0.3s						
VOSK				⇑Sn	Sn	11 31 03.6	-4.5
	1.7nm,0.3s						
VOSK				⇑Lg		11 31 57.4	
	12nm,1.2s						
BVA0	Borovoye Array	9.46	308	⇓Pn	P	11 29 29.7	-1.6
	slow=0.1,SNR=4.0						
BVA0				⇑Sn	Sn	11 31 16.1	-3.4
	0.3nm,0.4s,baz=114,slow=24,SNR=6.6						
BVA0				⇑Lg		11 32 14.6	
	2.0nm,0.9s,baz=115,slow=33,SNR=4.6						
KK31	Karatay Array	9.87	246	⇑Pn	P	11 29 37.6	+0.7
	0.7nm,0.4s,baz=55,slow=13,SNR=7.7						
ZRNK	Zerenda	10.17	305	⇑Pn	P	11 29 38.1	-2.9
	2.5nm,1.1s						
ZRNK				⇑Sn	S	11 31 31.1	-6.0
	2.2nm,0.7s						

ATH 04 11:53:07.5,36.87N×27.84E,h29^{km}±1^{km},MD2.9/3

ISK 04 11:53:08.0,37.10N×28.10E,h7^{km},MD3.0

ISC 04 11:53:05.5±0.5,36.88N±0.03×27.86E±0.04,h7^{km},n12, σ1^{s}18/19,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.38	299	i P	Pg	11 53 12.0	-1.2
BDRM				i S	Sg	11 53 18.7	+0.3
MLSB	Milas	0.42	351	PG	Pg	11 53 14.9	+0.9
MLSB				SG	Sg	11 53 19.9	+0.2
YER	Yerkesik	0.42	53	i PG	Pg	11 53 11.6	-2.4
NISR	Nisiros	0.65	246	ePN	Pn	11 53 20.5	-0.2
NISR				eSN	Sn	11 53 29.5	-1.7
ARG	Arkhangelos	0.69	162	ePN	Pn	11 53 21.5	+0.1
ARG				eSN	Sn	11 53 32.0	-0.4
AYDN	Tasoluk	0.78	1	i P	Pb	11 53 16.5	-4.5
AYDN				i S	Sb	11 53 21.0	-11
DNZL	Cakiroluk	1.25	49	⇑iP	Pb	11 53 30.7	+1.8
DNZL				i S	Sb	11 53 45.0	0.0
DENT	Denizli	1.28	47	ePG	Pg	11 53 28.4	-2.7
KARP	Karpathos	1.44	203	ePN	Pn	11 53 33.0	+0.9
KARP				eSN	Sn	11 53 52.5	+1.0
IZM	Izmir	1.59	343	ePN	Pn	11 53 35.8	+1.6
ELL	Elmali	1.65	94	PN	Pn	11 53 35.8	+0.7
AKS	Akhisar	2.00	359	ePN	Pn	11 53 39.7	-0.3

ISK 04 11:56:36.4,36.93N×27.75E,h4^{km},MD3.2

NEIC 04 11:56:39.7,36.80N×27.66E,h32^{km},MD3.3(ATH),After ATH.

ATH 04 11:56:39.7,36.80N×27.66E,h32^{km}±6^{km},MD3.3/6

ISC 04 11:56:37.0±0.4,36.88N±0.03×27.75E±0.04,h4^{km},n15, σ1^{s}08/22,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.30	307	i P	Pg	11 56 43.1	+0.1
BDRM				i S	Sg	11 56 47.9	+0.8
MLSB	Milas	0.41	3	i PG	Pg	11 56 44.3	-0.9
MLSB				SG	Sg	11 56 50.1	-0.6
YER	Yerkesik	0.50	60	i PG	Pg	11 56 46.3	-0.6
NISR	Nisiros	0.57	242	ePB	Pb	11 56 49.2	+0.1
NISR				eSB	Sb	11 56 58.5	+1.3
ARG	Arkhangelos	0.73	155	ePB	Pb	11 56 52.0	+0.1
ARG				eSN	Sn	11 57 05.5	0.0
AYDN	Tasoluk	0.78	8	i P	Pg	11 56 51.0	-1.6
AYDN				i S	Sg	11 57 04.2	+1.2
DNZL	Cakiroluk	1.31	52	⇑iP	Pb	11 57 00.3	-1.5
DNZL				i S	Sb	11 57 20.9	+2.0
DENT	Denizli	1.34	49	PN	Pn	11 57 02.3	-0.2
KARP	Karpathos	1.42	200	ePB	Pb	11 57 03.0	-0.6
KARP				eSN	Sn	11 57 22.0	-0.8
IZM	Izmir	1.56	346	ePN	Pn	11 57 05.1	-0.5
KSL	Kastellorizon	1.65	116	ePN	Pn	11 57 09.0	+2.1
ELL	Elmali	1.74	94	ePN	Pn	11 57 08.6	+0.4
APE	Apeiranthos	1.79	277	ePN	Pn	11 57 07.5	-1.3
AKS	Akhisar	1.99	1	PN	Pn	11 57 11.2	-0.6
PRK	Paraskevi	2.63	334	ePN	Pn	11 57 23.5	+2.6

ISK 04 11:59:37.6,36.93N×27.72E,h15^{km},MD3.4,ML3.4

NEIC 04 11:59:39.4,36.97N×27.65E,h28^{km},MD3.5(ATH),After ATH.

ATH 04 11:59:39.4,36.97N×27.65E,h28^{km}±3^{km},MD3.5/7

ISC 04 11:59:38.6±0.6,36.95N±0.03×27.72E±0.04,h16^{km}±7^{km}, n24,σ0^{s}78/32,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.25	298	i P	Pb	11 59 44.7	+0.4
BDRM				i S	Sb	11 59 48.7	+0.5
MLSB	Milas	0.35	7	i PG	Pb	11 59 45.6	-0.4
MLSB				SG	Sb	11 59 51.6	+0.6
YER	Yerkesik	0.48	67	i PG	Pb	11 59 47.7	-0.6
NISR	Nisiros	0.58	235	ePN	Pn	11 59 50.4	-1.6
NISR				eSN	Sn	12 00 00.0	-1.1
AYDN	Tasoluk	0.72	10	i P	Pb	11 59 52.5	+0.1
AYDN				i S	Sb	12 00 02.3	+0.5
ARG	Arkhangelos	0.80	156	ePN	Pn	11 59 53.5	-1.5
ARG				eSN	Sn	12 00 08.0	+1.5
DNZL	Cakiroluk	1.29	55	⇑iP	Pb	12 00 01.9	-0.1
DNZL				i S	Sb	12 00 18.3	+0.2
DENT	Denizli	1.32	52	PN	Pn	12 00 03.0	+0.5
KARP	Karpathos	1.47	198	ePB	Pb	12 00 05.0	-0.1
KARP				eSN	Sn	12 00 25.0	+1.4
IZM	Izmir	1.49	346	PN	Pn	12 00 05.0	0.0
KSL	Kastellorizon	1.70	117	ePN	Pn	12 00 10.5	+2.6
APE	Apeiranthos	1.76	275	ePN	Pn	12 00 09.5	+0.7
APE				eSN	Sn	12 00 31.5	+0.6
ELL	Elmali	1.76	96	ePN	Pn	12 00 08.7	-0.1
AKS	Akhisar	1.93	2	PN	Pn	12 00 10.8	-0.4
KHL	Karahalli	1.98	46	ePN	Pn	12 00 12.2	+0.2
BCK	Bucak	2.34	77	ePN	Pn	12 00 16.8	-0.4
PRK	Paraskevi	2.56	334	ePN	Pn	12 00 20.5	+0.2
XRY	Khrisi	2.64	219	ePB	Pb	12 00 24.5	-0.6
BALB	Balikesir	2.69	3	PN	Pn	12 00 22.0	-0.1
DST	Dursunbey	2.75	15	PN	Pn	12 00 22.2	-0.7
LPK	Lapseki	3.50	348	ePN	Pn	12 00 33.5	-0.1
KIZT	Kizilcal	3.81	58	ePN	Pn	12 00 37.1	-0.9
HDMB	Hadim	3.81	88	ePN	Pn	12 00 37.7	-0.4
IKL	Isikli	4.85	97	ePN	Pn	12 00 52.9	+0.1

NEIC 04 12:21:14.4,34.39S×70.43W,h111^{km},MD3.5(GUC),After GUC.

GUC 04 12:21:14.4±0.6,34.39S×70.43W,h111^{km}±4^{km},MD3.5, ML3.4,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	Cipreses	0.07	4	⇑iP	P	12 21 29.9	0.0
CICH				i S	S	12 21 42.1	+0.8
CACH	El Canelo	0.31	332	⇑iP	P	12 21 30.8	+0.3
CACH				i S	S	12 21 43.7	+1.1
CHCH	Chadas Angostu	0.49	338	eP	P	12 21 31.4	-0.1
CHCH				i S	S	12 21 44.2	-0.2
LMEL	Las Melosas	0.57	19	⇓iP	P	12 21 32.5	+0.4
LMEL				i S	S	12 21 46.0	+0.7
ANTU	Antumapu	0.84	348	i P	P	12 21 34.6	+0.2
ANTU				i S	S	12 21 49.8	+0.5
ANTU				AMP		12 21 50.4	
	comp=E,1µm,0.2s						
PUEX	Pudahuel	0.99	344	i S	S	12 21 53.0	+1.1
PEL	Peldehue	1.26	350	eP	P	12 21 39.0	+0.1
PEL				i S	S	12 21 57.2	-0.2
PEL				AMP		12 21 58.8	
	comp=N,741nm,0.4s						

NEIC 04 12:29:01.8,44.44N×6.78E,h5^{km},ML2.6(LDG), ML2.6(GEN),ML2.3(STR),After STR.

STR 04 12:29:01.8±0.1,44.44N×6.78E,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 04 12:29:01.6±0.1,44.45N×6.75E,h2^{km},Md2.5/3,Ml2.6/7, Error ellipse: s-maj=1.8km s-min=1.0km az=59.0

ISC 04 12:29:00.7±0.3,44.43N±0.01×6.73E±0.02,h10^{km}±2^{km}, n34,σ0^{s}69/65,3C,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	Saint Ours	0.08	48	Pg	Pg	12 29 03.3	+0.2
SURF				Sg	Sg	12 29 04.8	+0.2
PZZ	Prazzo	0.27	74	P	Pg	12 29 06.9	+0.4
PZZ				S	Sg	12 29 10.8	+0.5
MBDF	Montbardon	0.30	5	ePg	Pg	12 29 07.3	+0.3
MBDF				eSg	Sg	12 29 11.6	+0.5
	29nm,0.2s						
STV	Sta Anna Valdi	0.46	113	P	Pg	12 29 10.1	0.0
STV				S	Sg	12 29 15.7	-0.7
STV2	Anna di Valdie	0.46	113	⇑P	Pg	12 29 10.0	-0.1
STV2				S	Sg	12 29 15.6	-0.8
RRL	Cesana Torines	0.49	4	⇑P	Pg	12 29 11.2	+0.5
RRL				S	Sg	12 29 18.7	+1.3
ENR	Entracque	0.53	112	⇑P	Pg	12 29 11.3	-0.2
ENR				S	Sg	12 29 17.9	-0.8
TOUF	Mont Tournerai	0.56	138	Pg	Pg	12 29 11.9	-0.1
TOUF				Sg	Sg	12 29 19.9	+0.4
BHB	Bricherasio	0.56	42	P	Pg	12 29 12.0	0.0
BHB				S	Sg	12 29 19.3	-0.3
MVIF	Mont Vial	0.61	150	Pg	Pg	12 29 13.6	+0.5
MVIF				Sg	Sg	12 29 21.8	+0.4
FENE	Fenestrelle	0.64	21	P	Pb	12 29 13.9	+0.2
FENE				S	Sg	12 29 22.4	0.0
AUTN	L'Aution	0.66	131	Pg	Pg	12 29 14.3	+0.2
AUTN				Sg	Sg	12 29 22.8	-0.2
CALN	Calern	0.69	171	Pg	Pg	12 29 14.9	+0.3
AURF	Auriere	0.69	142	Pg	Pg	12 29 14.8	+0.1
AURF				Sg	Sg	12 29 24.2	+0.3
SBF	Sospel	0.76	138	ePg	Pg	12 29 15.6	-0.4
SBF				eSg	Sg	12 29 26.1	-0.1
	72nm,0.4s						
ORIF	Oris-en-Rattie	0.78	309	ePg	Pg	12 29 16.5	+0.1
ORIF				eSg	Sg	12 29 27.2	+0.3
	11nm,0.3s						
RSP	Reno Superiore	0.81	27	P	Pb	12 29 17.1	+0.6
RSP				S	Sb	12 29 27.7	+0.4
MONE	Monesi	0.81	115	P	Pb	12 29 16.4	-0.1
MONE				S	Sb	12 29 27.1	-0.2
ROB	Roburent	0.83	99	P	Pb	12 29 16.9	+0.1
FRF	La Foret Royal	0.87	184	ePg	Pg	12 29 18.0	-0.2
FRF				eSn	Sn	12 29 33.1	+1.4
	22nm,0.2s						
NEGI	Negi	0.91	129	P	Pb	12 29 18.6	+0.4
NEGI				S	Sb	12 29 30.6	+0.5
SMRF	Simiane la Rot	0.95	242	ePg	Pg	12 29 21.2	+1.4
SMRF				eSn	Sn	12 29 34.8	+1.2
	25nm,0.3s						
IMI	Imperia	0.98	122	P	Pb	12 29 19.6	+0.3
IMI				S	Sb	12 29 32.3	+0.1
RORO		1.01	108	P	Pb	12 29 19.8	-0.1
RORO				S	Sb	12 29 32.7	-0.3
LPG	La Plagne	1.07	1	ePg	Pg	12 29 20.7	-1.4

LPG				eSg	Sg	12 29 35.8	-0.6
	7.1nm,0.3s						
LSD	**Ceresole Reale**	**1.07**	**16**	P	**Pb**	**12 29 22.3**	**+1.3**
LSD				S	**Sb**	**12 29 35.7**	**+1.0**
FIN	**Finale Ligure**	**1.08**	**101**	P	**Pb**	**12 29 21.2**	**+0.1**
FIN				S	**Sb**	**12 29 34.9**	**-0.2**
LPL	**La Plagne**	**1.09**	**360**	ePg	**Pg**	**12 29 21.7**	**-0.8**
LMR	**La Mourre**	**1.11**	**188**	ePg	**Pg**	**12 29 22.9**	**0.0**
LMR				eSn	**Sn**	**12 29 38.0**	**+0.3**
	28nm,0.2s						
TRAV		**1.30**	**33**	P	**Pb**	**12 29 23.8**	**-1.0**
TRAV				S	**Sb**	**12 29 40.4**	**-1.1**
PCP	**Pian Castagno**	**1.30**	**84**	P	**Pb**	**12 29 25.2**	**+0.3**
PCP				S	**Sb**	**12 29 41.8**	**+0.3**
VIVF	**Saint-Julien-l**	**1.53**	**287**	ePg	**Pg**	**12 29 30.1**	**-1.3**
VIVF				eSg	**Sg**	**12 29 50.5**	**-1.3**
	5.9nm,0.3s						
LASF	**Ste Croix**	**2.10**	**261**	ePn	**Pn**	**12 29 35.9**	**-0.5**
LASF				eSn	**Sn**	**12 30 00.1**	**-2.7**
	1.7nm,0.2s						
PGF	**Pioggiola**	**2.50**	**138**	ePn	**Pn**	**12 29 42.0**	**-0.2**
PGF				eSn	**Sn**	**12 30 11.4**	**-1.7**
	5.5nm,0.4s						

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*MAN **04** 12:56:12.8, 10.16N×125.86E, h26^{km}, mb4.8, ML3.7, MS3.7*
*IDC **04** 12:56:12.7±2.4, 8.94N×125.49E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, Error ellipse: s-maj=212.0km s-min=24.5km az=64.0*
ISC 04 12:56:11.7±1.1, 10.19N±0.03×125.95E±0.06, h28^{km}±8^{km}, n21, σ0^{s}78/30, mb3.7/4, 4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.60**	**229**	⇓iP	**Pb**	**12 56 23.7**	**0.0**
SCPH				i S	**Sb**	**12 56 32.3**	**+0.4**
MSLP	**Maasin**	**1.07**	**267**	eP	**Pn**	**12 56 31.0**	**0.0**
MSLP				eS	**Sn**	**12 56 46.2**	**+1.1**
BUTP	**Butuan**	**1.25**	**195**	eP	**Pn**	**12 56 33.9**	**+0.3**
BUTP				eS	**Sn**	**12 56 49.5**	**-0.1**
BESP	**Borongan**	**1.49**	**340**	eP	**Pn**	**12 56 37.7**	**+0.6**
BESP				eS	**Sn**	**12 56 57.2**	**+1.4**
OCLP	**Ormoc**	**1.57**	**303**	eP	**Pn**	**12 56 38.8**	**+0.6**
LLP	**Lapu-Lapu**	**1.96**	**274**	⇓iP	**Pn**	**12 56 42.9**	**-0.8**
LLP				eS	**Sn**	**12 57 02.9**	**-4.6**
BIPH	**Bislig**	**2.03**	**168**	⇓eP	**Pn**	**12 56 44.6**	**-0.1**
BIPH				i S	**Sn**	**12 57 09.3**	**-0.1**
TBP	**Tagbilaran**	**2.11**	**257**	eP	**Pn**	**12 56 45.6**	**-0.3**
TBP				i S	**Sn**	**12 57 11.8**	**+0.2**
CGP	**Cagayan de Oro**	**2.12**	**216**	⇓eP	**Pn**	**12 56 45.7**	**-0.3**
CGP				eS	**Sn**	**12 57 11.0**	**-0.7**
BUKP	**Musuan**	**2.45**	**201**	eP	**Pn**	**12 56 51.3**	**+0.6**
BUKP				eS	**Sn**	**12 57 19.9**	**-0.2**
CNP	**Catarman**	**2.63**	**332**	eP	**Pn**	**12 56 53.3**	**-0.1**
MATI	**Mati**	**3.23**	**175**	eP	**Pn**	**12 57 03.4**	**+1.6**
GUIM	**Jordan**	**3.33**	**278**	eP	**Pn**	**12 57 02.7**	**-0.6**
PAGZ	**Pagadian**	**3.44**	**228**	eP	**Pn**	**12 57 04.6**	**-0.1**
PVCP	**Virac**	**3.82**	**333**	eP	**Pn**	**12 57 08.7**	**-1.4**
IPIL	**Ipil**	**4.10**	**235**	eP	**Pn**	**12 57 13.8**	**-0.4**
CAUP	**Cauayan**	**7.82**	**330**	eP	**Pn**	**12 58 04.0**	**-2.7**
WRA	**Warramunga Arr**	**31.06**	**165**	P	**P**	**13 02 23.2**	**-6.6**
	0.2nm,0.6s,mb3.1,baz=342,slow=9.4,SNR=7.7						
ASAR	**Alice Springs**	**34.53**	**167**	P	**P**	**13 02 53.6**	**-6.4**
	0.4nm,0.4s,mb3.7,baz=352,slow=6.9,SNR=27						
STKA	**Stephens Creek**	**44.42**	**161**	P	**P**	**13 04 17.1**	**-5.1**
	6.8nm,1.1s,mb4.3,baz=330,slow=8.1,SNR=2.3						
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**13 05 28.5**	**+8.4**
	0.7nm,0.5s,mb3.9,baz=121,slow=9.0,SNR=7.7						

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*IDC **04** 13:01:36.0±2.4, 7.03N×91.37E, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, ML3.9/1, Error ellipse: s-maj=71.8km s-min=28.3km az=61.0*
ISC 04 13:01:39.5±1.8, 7.1N±0.2×91.5E±0.3, h33^{km}, n5, σ0^{s}97/5, mb3.7/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.38**	**32**	Pn	**P**	**13 04 49.1**	**-0.5**
	0.2nm,0.3s,baz=226,slow=14,SNR=9.7						
MKAR	**Makanchi Array**	**40.32**	**350**	P	**P**	**13 09 15.8**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=172,slow=8.6,SNR=7.8						
SONM	**Songino Array**	**42.50**	**15**	P	**P**	**13 09 34.5**	**+1.1**
	1.6nm,0.7s,mb3.9,baz=199,slow=8.8,SNR=13						
BVAR	**Borovoye Array**	**48.91**	**343**	P	**P**	**13 10 23.3**	**-0.9**
	0.6nm,0.6s,mb3.8,baz=135,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**49.96**	**123**	P	**P**	**13 10 32.7**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=300,slow=11,SNR=6.8						

SKHL 04 13:13:45.6±0.3, 53.61N×125.45E, h8^{km}±1^{km}, mb3.6/5, 1C-1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**1.08**	**82**	ePg	Pg	13 14 05.4	-1.8
ZEA				AMB	AMB	13 14 05.9	
	21nm,0.2s						
ZEA				AMB	AMB	13 14 05.9	
	37nm,0.2s						
ZEA				eSg	Sg	13 14 20.2	-1.4
ZEA				A		13 14 21.2	
	63nm,0.4s						
ZEA				A		13 14 21.2	
	58nm,0.4s						
KROS	**Kirovskiy**	**1.22**	**47**	⇓iPg	Pg	13 14 08.2	-1.8
KROS				AMB	AMB	13 14 08.8	
	15nm,0.3s						
KROS				AMB	AMB	13 14 08.8	
	16nm,0.3s						
KROS				AMB	AMB	13 14 08.8	
	21nm,0.3s						
KROS				pPg		13 14 11.0	
KROS				i Sg	Sg	13 14 24.2	-2.0
KROS				A		13 14 25.0	
	68nm,0.4s						
KROS				A		13 14 25.0	
	84nm,0.4s						
KROS				A		13 14 25.0	
	64nm,0.4s						
YASR	**Yasnyy**	**1.55**	**101**	⇑ePg	Pg	13 14 13.3	-3.2
YASR				AMB	AMB	13 14 14.2	
	4.0nm,0.4s						
YASR				AMB	AMB	13 14 14.2	
	13nm,0.4s						
YASR				AMB	AMB	13 14 14.2	
	14nm,0.4s						
YASR				pPg		13 14 16.0	
YASR				i Sg	Sg	13 14 33.7	-3.5
YASR				A		13 14 39.3	
	30nm,0.6s						
YASR				A		13 14 39.3	
	90nm,0.6s						
YASR				A		13 14 39.3	
	20nm,0.6s						
BMKR	**Bomnak**	**2.28**	**60**	ePn	Pn	13 14 24.7	+0.6
BMKR				ePg	Pg	13 14 26.3	-4.8
BMKR				AMB	AMB	13 14 27.3	
	10.0nm,0.5s						
BMKR				pPg		13 14 28.6	
BMKR				eSg	Sg	13 14 56.0	-5.5
BMKR				A		13 14 56.9	
	30nm,0.5s						
BMKR				A		13 14 56.9	
	47nm,0.4s						
TUP	**Tupik**	**3.34**	**286**	ePn	Pn	13 14 38.9	-0.4
TUP				ePg	Pg	13 14 46.4	-6.0
TUP				AMB	AMB	13 14 50.9	
	3.0nm,0.3s						
TUP				eSn	Sn	13 15 17.9	-1.7
TUP				eSg	Sg	13 15 29.6	-7.3
TUP				A		13 15 31.7	
	22nm,0.4s						
EKMR	**Ekimchan**	**4.53**	**94**	ePg	Pg	13 15 07.6	-8.4
EKMR				eSg	Sg	13 16 05.8	-11
EKMR				A		13 16 11.2	
	14nm,0.8s						

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*PRU **04** 13:32:24.1, 51.41N×16.11E*
WAR 04 13:32:23.9, 51.45N×16.09E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**168**	ePG	Pg	13 32 35.0	-1.3
KSP				eSG	Sg	13 32 43.0	-1.6
DPC	**Dobruska-Polom**	**1.11**	**172**	ePG	Pg	13 32 44.0	-2.1
DPC				eSG	Sg	13 32 58.5	-2.4
PVCC	**Panska Ves**	**1.33**	**227**	ePG	Pg	13 32 48.5	-2.0
PVCC				eSG	Sg	13 33 06.7	-1.5
PRU	**Pruhonice**	**1.76**	**214**	eSG	Sg	13 33 20.7	-1.9
KHC	**Kasperske Hory**	**2.82**	**216**	ePN	Pn	13 33 09.5	-1.6
KHC				ePG	Pg	13 33 15.1	-5.2
KHC				eSG	Sg	13 33 53.1	-4.8

KRSC 04 13:34:43.6, 55.69N×162.59E, h44^{km}, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.54**	**14**	eP	P	13 34 55.0	0.0
KBTR				eS	S	13 35 03.5	+0.4
KBG	**Krutoberegovo**	**0.57**	**6**	i P	P	13 34 55.7	+0.3
KBG				i S	S	13 35 04.7	+0.8
KBG				Smax			
	3µm,0.9s						
CIRR	**Tsirk**	**1.12**	**293**	eP	P	13 35 03.4	+0.3
LGNR	**Loginova**	**1.14**	**291**	eP	P	13 35 04.0	+0.7
LGNR				eS	S	13 35 18.7	+0.6
MKZ	**Mys Kozlova**	**1.24**	**204**	eP	P	13 35 05.2	+0.4
MKZ				eS	S	13 35 21.0	+0.4
KLY	**Klyuchi**	**1.25**	**301**	eP	P	13 35 03.6	-1.4
KLY				i S	S	13 35 18.7	-2.3
KMNR	**Kamenistaya**	**1.33**	**274**	eP	P	13 35 07.4	+1.2
KMNR				eS	S	13 35 24.9	+1.9
TUMR	**Tumrok**	**1.45**	**255**	i P	P	13 35 09.4	+1.6
TUMR				i S	S	13 35 28.9	+3.0
KOZ	**Kozyrevsk**	**1.57**	**285**	eP	P	13 35 11.1	+1.5
KOZ				eS	S	13 35 31.4	+2.5
SRDR	**Sredinnyy**	**1.73**	**292**	eP	P	13 35 13.2	+1.4
BKI	**Bering**	**1.99**	**103**	eP	P	13 35 17.0	+1.6
BKI				Smax			
	60nm,0.6s						
ESO	**Esso**	**2.21**	**278**	eP	P	13 35 18.5	-0.1
ESO				eS	S	13 35 44.5	-0.3
ESO				Smax			
	80nm,0.7s						
KII	**Karymskiy**	**2.46**	**229**	eP	P	13 35 23.5	+1.3
KII				eS	S	13 35 53.1	+1.9
SPN	**Mys Shipunski**	**3.00**	**211**	eP	P	13 35 29.6	-0.3
SPN				eS	S	13 36 04.0	-0.9
NLC	**Nalytchevo**	**3.16**	**218**	eP	P	13 35 32.5	+0.4
NLC				eS	S	13 36 08.7	-0.2
SDLR	**Sedlovina**	**3.24**	**223**	eP	P	13 35 34.4	+1.1
SDLR				eS	S	13 36 11.1	0.0
SMAR	**Somma**	**3.29**	**224**	eP	P	13 35 34.9	+1.0
SMAR				eS	S	13 36 13.6	+1.4
AVH	**Avacha**	**3.31**	**224**	eP	P	13 35 37.1	+2.8
AVH				eS	S	13 36 16.1	+3.3
UGLR	**Uglovaya**	**3.32**	**223**	eP	P	13 35 35.0	+0.6
UGLR				eS	S	13 36 11.4	-1.6
KOK	**Koryaka**	**3.33**	**225**	eP	P	13 35 35.8	+1.3
KOK				eS	S	13 36 13.7	+0.4
GNL	**Ganaly**	**3.36**	**235**	eP	P	13 35 36.0	+1.1
PET	**Petropavlovsk**	**3.53**	**222**	eP	P	13 35 38.0	+0.7
PET				eS	S	13 36 17.9	-0.4
RUS	**Russkaya**	**4.05**	**218**	eP	P	13 35 45.0	+0.3
RUS				eS	S	13 36 28.8	-2.7

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*NEIC **04** 13:38:27.4, 31.11S×71.74W, h26^{km}, ML3.5(GUC), After GUC.*
GUC 04 13:38:27.4±0.7, 31.11S×71.74W, h26^{km}±4^{km}, MD4.1, ML3.5, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.64**	**96**	⇑iP	Pb	13 38 40.0	+0.2
CMCH				i S	Sb	13 38 49.1	+0.8
CMCH				AMP		13 38 50.4	
	comp=E,6µm,0.7s						
OVCH	**Ovalle**	**0.68**	**43**	i P	Pb	13 38 40.3	-0.3
OVCH				i S	Sb	13 38 49.9	+0.2
OVCH				AMP		13 38 54.0	
	comp=N,2µm,0.2s						
ILCH	**Illapel**	**0.71**	**137**	⇑iP	Pb	13 38 40.9	-0.2
ILCH				i S	Sb	13 38 50.5	0.0
ILCH				AMP		13 38 52.4	
	comp=N,4µm,0.3s						
TLL	**Tololo Astrono**	**1.24**	**41**	⇓iP	Pn	13 38 49.4	+0.1
TLL				i S	Sn	13 39 05.8	+0.6
TLL				AMP		13 39 10.9	
	comp=N,1µm,0.3s						
LSCH	**La Serena**	**1.27**	**20**	eP	Pn	13 38 49.5	-0.3
LSCH				i S	Sn	13 39 06.3	+0.2
LSCH				AMP		13 39 10.8	
	comp=N,1µm,0.6s						
PEL	**Peldehue**	**2.21**	**156**	eP	Pn	13 39 03.8	+0.5
PEL				i S	Sn	13 39 31.6	+1.6
CHCH	**Chadas Angostu**	**2.96**	**162**	eP	Pn	13 39 13.9	0.0
CHCH				i S	Sn	13 39 49.3	+0.4
LMEL	**Las Melosas**	**3.02**	**155**	eP	Pn	13 39 15.2	+0.5
LMEL				i S	Sn	13 39 51.6	+1.2
LMEL				AMP		13 40 01.5	
	comp=N,429nm,0.3s						
CACH	**El Canelo**	**3.15**	**163**	⇓iP	Pn	13 39 17.1	+0.6
CICH	**Cipreses**	**3.39**	**161**	⇓iP	Pn	13 39 20.2	+0.3

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*IDC **04** 14:06:14.9±1.2, 16.52S×178.66W, mb4.2/5, mb1 4.4/5, mb1mx4.1/15, Error ellipse: s-maj=52.5km s-min=25.9km az=141.0*
ISC 04 14:06:18.7±1.1, 16.6S±0.2×178.7W±0.3, h33^{km}, n5, σ0^{s}46/5, mb4.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.89**	**189**	P	**P**	**14 11 10.4**	**-0.1**
	2.7nm,0.3s,mb4.1,baz=16,slow=7.4,SNR=5.7						
STKA	**Stephens Creek**	**39.02**	**240**	P	**P**	**14 13 44.4**	**+0.4**
	1.7nm,0.4s,mb4.2,baz=92,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**44.88**	**253**	P	**P**	**14 14 31.9**	**-0.3**
	2.3nm,0.4s,mb4.4,baz=91,slow=7.8,SNR=63						
TXAR	**Lajitas Array**	**85.54**	**58**	P	**P**	**14 18 55.6**	**+0.4**
	0.4nm,0.3s,mb4.1,baz=225,slow=6.4,SNR=3.9						
PDAR	**Pinedale Array**	**86.61**	**44**	P	**P**	**14 18 59.6**	**-0.4**
	0.5nm,0.4s,mb4.1,baz=207,slow=2.0,SNR=6.1						

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*MEX **04** 14:07:01.8±0.4, 14.20N×92.46W, h25^{km}±96^{km}, MD4.1*
*CASC **04** 14:07:02.9±1.7, 14.56N×92.22W, h70^{km}±10^{km}, MD3.9, ML4.4*
ISC 04 14:06:59.9±1.1, 14.26N±0.09×92.43W±0.07, h78^{km}±11^{km}, n15, σ0^{s}72/25, 1C-4D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPX	**Tapachula**	**0.66**	**14**	i P	**P**	**14 07 13.5**	**-1.8**
TPX				i S	**S**	**14 07 27.5**	**+0.9**
JAT	**Jato**	**0.77**	**86**	⇓eP	**P**	**14 07 16.6**	**+0.2**
JAT				eS	**S**	**14 07 28.8**	**+0.2**
JAT				AML	AML	14 07 29.0	
	comp=N,93µm,0.2s						
JAT				AML	AML	14 07 29.3	
	comp=E,52µm,0.3s						
FUG	**Fuego 3**	**1.55**	**83**	⇓eP	**P**	**14 07 25.6**	**-0.8**
PCG	**Pacaya**	**1.77**	**85**	eP	**P**	**14 07 29.4**	**+0.2**
PCG				eS	**S**	**14 07 49.3**	**-1.5**
IXG	**Ixpaco**	**1.91**	**92**	⇑eP	**P**	**14 07 31.4**	**+0.2**
IXG				eS	**S**	**14 07 54.6**	**+0.4**
IXG				AML	AML	14 07 55.0	
	comp=E,9µm,0.4s						
CCIG	**Comitan**	**2.03**	**8**	i P	**P**	**14 07 33.2**	**+0.4**
CCIG				i S	**S**	**14 07 57.9**	**+0.9**
NBG	**Las Nubes**	**2.04**	**81**	⇓eP	**P**	**14 07 33.5**	**+0.6**
NBG				eS	**S**	**14 07 56.9**	**-0.4**
NBG				AML	AML	14 08 06.8	
	comp=E,2µm,0.4s						
RBDL	**Robledal**	**2.66**	**93**	eP	**P**	**14 07 42.7**	**+1.1**
RTR	**El Retiro**	**2.72**	**97**	eP	**P**	**14 07 43.0**	**+0.5**
RTR				eS	**S**	**14 08 14.1**	**-0.2**
SBLS	**San Blas**	**2.75**	**98**	eP	**P**	**14 07 43.4**	**+0.5**
SBLS				eS	**S**	**14 08 14.6**	**-0.5**
SNJE	**San Jose**	**2.76**	**98**	eP	**P**	**14 07 43.5**	**+0.4**
SNJE				eS	**S**	**14 08 14.6**	**-0.8**
MRL	**Marmol**	**2.77**	**73**	⇓eP	**P**	**14 07 42.6**	**-0.5**
MRL				AML	AML	14 08 34.2	
	comp=N,192nm,0.7s						
BOQS	**Boqueron**	**3.10**	**99**	eP	**P**	**14 07 48.1**	**+0.3**
LCBS	**La Ceiba**	**3.40**	**100**	eP	**P**	**14 07 52.5**	**+0.5**
CMIG	**Matias Romero**	**3.68**	**320**	eP	**P**	**14 07 55.9**	**+0.1**
CMIG				i S	**S**	**14 08 37.0**	**-1.2**

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*IDC **04** 14:09:06.5±3.4, 8.05S×155.82E, mb4.1/4, mb1 4.1/5, mb1mx4.0/12, ML3.3/1, MS3.4/4, Ms1 3.4/4, ms1mx3.4/10, Error ellipse: s-maj=97.7km s-min=26.9km az=114.0*
*NEIC **04** 14:09:10.8±5.5, 8.42S×156.32E, h50^{km}±43^{km}, mb4.3/1, Error ellipse: s-maj=41.4km s-min=25.4km az=87.0*
ISC 04 14:09:07.2±1.6, 8.3S±0.2×156.4E±0.3, h33^{km}, n9, σ0^{s}15/8, mb4.0/5, MS3.3/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.23**	**219**	Pn	**P**	**14 12 41.7**	**0.0**
	0.1nm,0.3s,baz=45,slow=14,SNR=2.9						
CTA				LR	LR	14 17 34.3	
	comp=Z,185nm,21.7s,baz=49,slow=34						
CTA	**Charters Tower**	**15.23**	**219**	Pn	**P**	**14 12 41.7**	**0.0**
CTA				LR	LR	14 17 34.3	
WB2	**Warramunga Arr**	**24.22**	**239**	eP	**P**	**14 14 22.4**	**+0.2**
WRA	**Warramunga Arr**	**24.23**	**239**	P	**P**	**14 14 22.3**	**0.0**
	2.4nm,0.6s,mb3.8,baz=63,slow=9.5,SNR=45						
WRA				LR	LR	14 22 52.4	
	comp=Z,86nm,21.1s,MS3.2,baz=70,slow=34						
ASAR	**Alice Springs**	**26.35**	**232**	P	**P**	**14 14 42.1**	**-0.3**
	1.2nm,0.8s,mb3.5,baz=75,slow=8.6,SNR=4.9						
ASAR				LR	LR	14 23 31.7	
	comp=Z,84nm,21.9s,MS3.2,baz=349,slow=33						
STKA	**Stephens Creek**	**27.15**	**208**	LR	LR	14 24 46.5	
	comp=Z,100nm,21.5s,MS3.4,baz=30,slow=35						
SONM	**Songino Array**	**71.18**	**327**	P	**P**	**14 20 24.6**	**-0.1**
	2.1nm,0.9s,mb4.1,baz=133,slow=5.2,SNR=13						
QSPA	**South Pole Qui**	**81.65**	**180**	eP	**P**	**14 21 23.1**	**0.0**
	3.3nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**85.29**	**318**	P	**P**	**14 21 42.3**	**+0.2**
	2.4nm,0.7s,mb4.4,baz=101,slow=6.2,SNR=20						

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*ATH **04** 14:18:47.7, 36.98N×27.69E, h5^{km}±4^{km}, MD4.8/24, ML5.1*
*BGS **04** 14:18:48.2±2.8, 36.70N×27.80E, h10^{km}*
*BJI **04** 14:18:48.3, 36.69N×27.34E, h32^{km}, mB5.3, mb5.0, Ms5.2, Msz4.7*
*MOS **04** 14:18:48.7±1.3, 36.93N×27.85E, h10^{km}, mb4.8/21, MS4.6/29, Error ellipse: s-maj=8.5km s-min=3.7km az=99.2*
*PDG **04** 14:18:49.0±0.4, 36.84N×27.84E, h12^{km}±2^{km}*
*HRVD **04** 14:18:50.2±0.2, 36.81N×27.91E, h12^{km}, MW5.3/65, Centroid moment Tensor Solution. LP body waves: s49,c88;Mantle waves: s65,c138; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08±.02; $M_{\theta\theta}$1.04±.02; $M_{\phi\phi}$0.04±.02; $M_{r\theta}$0.17±.05; $M_{\theta\phi}$0.24±.02; $M_{\phi r}$-0.01±.06; Best double couple: $M_0$1.1×10^{17} NP1:ϕ_s75°, δ41°, λ-94°. NP2:ϕ_s260°, δ49°, λ-87°. Principal axes: T 1.11, Plg4°, Azm348°; N -.02, Plg3°, Azm78°; P -1.09, Plg85°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MED_RC **04** 14:18:50.2±0.2, 36.72N×27.88E, h15^{km}, MW5.3/28, Moment Tensor Solution. Body waves: s28,c41; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.15±.01; $M_{\theta\theta}$0.98±.01; $M_{\phi\phi}$0.17±.01; $M_{r\theta}$0.41±.04; $M_{\theta\phi}$0.27±.01; $M_{\phi r}$-0.02±.05; Best double couple: $M_0$1.18×10^{17} NP1:ϕ_s68°, δ36°, λ-100°. NP2:ϕ_s259°, δ55°, λ-83°. Principal axes: T 1.13, Plg10°, Azm345°; N .1, Plg6°, Azm76°; P -1.23, Plg79°, Azm195°; nsta1 refers to waves, cutoff=35s.*
*NEIC **04** 14:18:50.2±0.1, 36.83N×27.83E, h10^{km}, mb4.9/77, MS4.8/4, ML5.1(ATH), ML5.0(THE) Error ellipse: s-maj=2.7km s-min=1.8km az=202.0*
*CSEM **04** 14:18:50.3, 36.73N×27.79E, h25^{km}, mb5.0*
*ZUR_RM **04** 14:18:50, 36.83N×27.83E, h9^{km}, Mw5.4/30, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.31; $M_{\theta\theta}$1.31; $M_{\phi\phi}$-0.00; $M_{r\theta}$0.59; $M_{\theta\phi}$0.34; $M_{\phi r}$-0.15; Best double couple: $M_0$1.48×10^{17} NP1:ϕ_s268°, δ57°, λ-77°. NP2:ϕ_s65°, δ35°, λ-109°. Principal axes: T 1.494, Plg11°, Azm348°; N -.028, Plg11°, Azm81°; P -1.466, Plg74°, Azm213°;*
*IDC **04** 14:18:51.4±2.5, 36.95N×27.66E, h20^{km}±15^{km}, mb4.5/19, mb1 4.6/29, mb1mx4.6/31, ML4.3/9, MS4.6/20, Ms1 4.6/20, ms1mx4.6/22 Error ellipse: s-maj=13.0km s-min=12.5km az=151.0*
*THE **04** 14:18:52.0, 36.86N×27.72E, h7^{km}, ML5.2*
*ISK **04** 14:18:53.3, 37.26N×27.90E, h14^{km}, MD5.0, ML4.8*
*NIC **04** 14:18:55.1±0.5, 36.96N×27.96E, h25^{km}, mb5.1, ML4.8, MW4.1, Earthquake Dodecanese Islands, Greece 52 km NW Rodhos.*
*NSSC **04** 14:19:05.9, 36.54N×28.89E, h40^{km}*
ISC 04 14:18:48.6±0.1, 36.84N±0.01×27.78E±0.01, h10^{km}, (h29^{km}±2.9^{km}:pP-P), n604, σ1^{s}18/680, mb4.9/94, MS4.7/30, 46C-35D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.35**	**309**	i P	**Pg**	**14 18 56.2**	**+0.4**
BDRM				i S	**Sg**	**14 19 01.3**	**+0.7**
MLSB	**Milas**	**0.45**	**360**	i PG	**Pg**	**14 18 57.0**	**-0.8**
YER	**Yerkesik**	**0.50**	**54**	PG	**Pg**	**14 19 00.5**	**+1.8**
YER	**Yerkesik**	**0.50**	**54**	Pg	**Pg**	**14 18 58.4**	**-0.3**
NISR	**Nisiros**	**0.57**	**246**	⇓iPb	**Pb**	**14 19 01.5**	**+1.2**
ARG	**Arkhangelos**	**0.69**	**156**	ePG	**Pg**	**14 19 03.7**	**+1.3**
AYDN	**Tasoluk**	**0.82**	**5**	i P	**Pb**	**14 19 04.2**	**-0.2**
AYDN				i S	**Sb**	**14 19 15.9**	**+0.5**
SMG	**Samos**	**1.15**	**319**	Pn	**Pn**	**14 19 11.0**	**+0.3**
DNZL	**Cakiroluk**	**1.32**	**50**	i P	**Pb**	**14 19 14.3**	**+1.3**
DNZL				i S	**Sb**	**14 19 34.1**	**+4.3**
DENT	**Denizli**	**1.35**	**47**	PN	**Pn**	**14 19 13.0**	**-0.6**
DENT	**Denizli**	**1.35**	**47**	Pn	**Pn**	**14 19 14.8**	**+1.2**
KARP	**Karpathos**	**1.39**	**201**	ePB	**Pb**	**14 19 15.8**	**+1.6**
IZM	**Izmir**	**1.60**	**345**	i PN	**Pn**	**14 19 16.7**	**-0.5**
IZM	**Izmir**	**1.60**	**345**	Pn	**Pn**	**14 19 17.7**	**+0.5**
KDAG	**Bornova**	**1.61**	**345**	i P	**Pn**	**14 19 17.0**	**-0.2**
KSL	**Kastellorizon**	**1.61**	**115**	ePN	**Pn**	**14 19 20.6**	**+3.3**
ELL	**Elmali**	**1.71**	**93**	PN	**Pn**	**14 19 22.5**	**+3.8**
ELL				SN	**Sn**	**14 19 44.4**	**+3.6**
ELL	**Elmali**	**1.71**	**93**	Pn	**Pn**	**14 19 23.6**	**+4.9**
MANT	**Manisa**	**1.76**	**20**	i P	**Pn**	**14 19 20.1**	**+0.7**
MANT				i S	**Sn**	**14 19 42.0**	**0.0**
APE	**Apeiranthos**	**1.82**	**278**	ePN	**Pn**	**14 19 20.6**	**+0.4**
THR1	**Thera Island**	**1.93**	**257**	ePb	**Pb**	**14 19 22.6**	**-0.8**
THR4	**Thira Island,**	**1.96**	**259**	ePb	**Pb**	**14 19 22.5**	**-1.4**
THR3	**Thira Island,**	**1.96**	**258**	ePb	**Pb**	**14 19 23.0**	**-1.0**
THR6	**Thira Island,**	**1.98**	**256**	ePb	**Pb**	**14 19 22.9**	**-1.4**
THR5	**Thira Island,**	**2.00**	**258**	ePb	**Pb**	**14 19 21.6**	**-3.1**
KHL	**Karahalli**	**2.02**	**43**	PN	**Pn**	**14 19 23.5**	**+0.3**
KHL	**Karahalli**	**2.02**	**43**	Pn	**Pn**	**14 19 25.4**	**+2.2**
AKS	**Akhisar**	**2.03**	**1**	PN	**Pn**	**14 19 21.9**	**-1.4**
AKS	**Akhisar**	**2.03**	**1**	Pn	**Pn**	**14 19 23.3**	**0.0**
ANTB	**Antalya**	**2.30**	**88**	PN	**Pn**	**14 19 31.5**	**+4.3**
BCK	**Bucak**	**2.33**	**74**	PN	**Pn**	**14 19 29.8**	**+2.2**
BCK	**Bucak**	**2.33**	**74**	Pn	**Pn**	**14 19 33.8**	**+6.2**
NPS	**Neapolis**	**2.36**	**229**	ePN	**Pn**	**14 19 30.5**	**+2.4**
ISP	**Isparta**	**2.39**	**65**	ePN	**Pn**	**14 19 29.8**	**+1.3**
ISP	**Isparta**	**2.39**	**65**	Pn	**Pn**	**14 19 30.5**	**+2.0**
XRY	**Khrisi**	**2.59**	**221**	ePN	**Pn**	**14 19 34.5**	**+3.1**
PRK	**Paraskevi**	**2.68**	**334**	ePN	**Pn**	**14 19 32.3**	**-0.3**
BALB	**Balikesir**	**2.79**	**2**	PN	**Pn**	**14 19 33.1**	**-1.1**
BALB	**Balikesir**	**2.79**	**2**	Pn	**Pn**	**14 19 34.2**	**0.0**
IDI	**Anoyia**	**2.81**	**237**	Pn	**Pn**	**14 19 35.1**	**+0.6**
	35nm,0.3s,baz=50,slow=15,SNR=42						
IDI				Sn	**Sn**	**14 20 09.3**	**+0.5**
	101nm,0.3s,baz=170,slow=15,SNR=8.1						
DST	**Dursunbey**	**2.84**	**13**	PN	**Pn**	**14 19 33.9**	**-0.9**
DST	**Dursunbey**	**2.84**	**13**	Pn	**Pn**	**14 19 34.6**	**-0.2**
ALT	**Altintas**	**2.88**	**39**	PN	**Pn**	**14 19 34.6**	**-0.8**
ALT	**Altintas**	**2.88**	**39**	Pn	**Pn**	**14 19 36.9**	**+1.5**
VAM	**Vamos**	**3.23**	**245**	ePB	**Pb**	**14 19 41.3**	**-4.5**
BOZC	**Bozcaada**	**3.29**	**336**	i P	**Pn**	**14 19 41.4**	**+0.1**
BOZC				i S	**Sn**	**14 20 35.3**	**+14**

ORLT	Orhaneli	3.31	15	ePN	Pn	14 19 40.4	-1.2
ORLT	Orhaneli	3.31	15	Pn	Pn	14 19 42.6	+1.0
PTL	Penteli	3.34	292	ePB	Pb	14 19 42.2	-5.4
ATH	Athens Observa	3.43	290	ePB	Pb	14 19 43.6	-5.5
ULDT	Uludag	3.46	17	iP	Pn	14 19 43.0	-0.7
ULDT				iS	Sn	14 20 37.5	+12
MPAR	Parnis Oros	3.47	293	ePN	Pn	14 19 44.0	+0.1
EDC	Edincik	3.50	1	ePN	Pn	14 19 42.8	-1.4
EDC	Edincik	3.50	1	Pn	Pn	14 19 43.7	-0.5
BNT	Bandirma	3.51	2	ePN	Pn	14 19 42.7	-1.7
BNT	Bandirma	3.51	2	Pn	Pn	14 19 43.9	-0.5
NAIG	Nisos Aigina	3.54	286	ePN	Pn	14 19 44.5	-0.4
NSAL	Nisos Salamina	3.60	288	ePN	Pn	14 19 46.0	+0.3
ESKT	Eskisehir	3.60	41	ePN	Pn	14 19 45.9	+0.2
ESKT	Eskisehir	3.60	41	iP	Pn	14 19 47.0	+1.3
ESKT	Eskisehir	3.60	41	Pn	Pn	14 19 45.7	0.0
LPK	Lapseki	3.61	348	ePN	Pn	14 19 44.9	-1.0
LPK	Lapseki	3.61	348	Pn	Pn	14 19 46.2	+0.3
LIA	Limnos Island	3.67	327	ePN	Pn	14 19 46.3	-0.4
MRMT	Marmara Adasi	3.76	358	ePN	Pn	14 19 47.0	-0.9
MRMT	Marmara Adasi	3.76	358	Pn	Pn	14 19 46.5	-1.4
HDMB	Hadim	3.77	87	PN	Pn	14 19 51.5	+3.4
HDMB	Hadim	3.77	87	Pn	Pn	14 19 52.3	+4.2
KONT	Konya--Tatoy	3.81	72	ePN	Pn	14 19 51.2	+2.5
KONT	Konya--Tatoy	3.81	72	Pn	Pn	14 19 52.9	+4.2
KIZT	Kizilcal	3.83	57	PN	Pn	14 19 49.6	+0.7
KIZT	Kizilcal	3.83	57	Pn	Pn	14 19 51.0	+2.1
MKIT	Kithairon Oros	3.84	292	ePN	Pn	14 19 49.5	+0.5
KYTH	Kithira	3.86	263	ePN	Pn	14 19 50.0	+0.6
SART	Tekirdag	3.87	353	iP	Pn	14 19 48.5	-1.0
VLI	Veliai	3.89	270	ePN	Pn	14 19 49.9	+0.1
YLV	Yalova	3.92	18	ePN	Pn	14 19 48.8	-1.4
YLV	Yalova	3.92	18	Pn	Pn	14 19 49.3	-0.9
GPA	Golpazari	3.97	29	ePN	Pn	14 19 50.4	-0.5
GPA	Golpazari	3.97	29	Pn	Pn	14 19 49.9	-1.0
AKMC	Akamas	4.11	115	⇓P	Pn	14 19 54.9	+1.9
BADT	Buyukada	4.14	14	iPN	Pn	14 19 51.8	-1.5
BADT	Buyukada	4.14	14	Pn	Pn	14 19 52.8	-0.5
PPCY	Paphos	4.19	116	⇓P	Pn	14 19 55.6	+1.5
LKR	Lokris	4.20	297	ePN	Pn	14 19 54.0	-0.2
ALFC	Alevga	4.25	112	P	Pn	14 19 55.8	+0.8
	47nm,0.3s						
ALFC				S	Sn	14 20 44.7	-0.6
ALN	Alexandroupoli	4.27	342	ePn	Pn	14 19 53.6	-1.6
CTT	Catalca	4.33	7	ePN	Pn	14 19 54.1	-1.9
CTT	Catalca	4.33	7	Pn	Pn	14 19 55.2	-0.8
ISK	Istanbul-Kandi	4.33	13	ePN	Pn	14 19 54.9	-1.2
ISK	Istanbul-Kandi	4.33	13	Pn	Pn	14 19 55.3	-0.8
NEO	Neokhori	4.36	306	ePN	Pn	14 19 56.3	-0.1
PAIG	Paliouri	4.46	315	ePn	Pn	14 19 57.2	-0.7
LEF	Lefka	4.49	111	Pn	Pn	14 19 59.4	+1.1
MDU	Mudurnu	4.50	36	ePN	Pn	14 19 58.6	+0.1
MDU	Mudurnu	4.50	36	Pn	Pn	14 20 01.4	+2.9
OUR	Ouranopolis	4.58	321	ePn	Pn	14 19 59.1	-0.6
RDO	Rodhopi	4.64	339	ePN	Pn	14 19 59.5	-0.9
SZAC	Souni-Zanaja	4.64	115	⇓P	Pn	14 20 01.5	+1.0
	30nm,0.3s						
SZAC				S	Sn	14 20 53.5	-1.6
HENT	Hendek	4.66	31	iP	Pn	14 20 02.2	+1.5
HENT				iS	Sn	14 21 09.5	+14
ITM	Ithomi	4.70	276	ePB	Pn	14 20 03.9	+2.6
MAMC	Mammari	4.71	109	P	Pn	14 20 02.9	+1.4
AGG	Agios Georgios	4.83	298	ePn	Pn	14 20 03.6	+0.5
CSS	Prodhromos	4.88	111	⇑P	Pn	14 20 04.1	+0.2
	23nm,0.5s						
CSS				S	Sn	14 20 59.5	-1.6
PLG	Polygyros	4.89	317	ePN	Pn	14 20 03.5	-0.6
LOD	Lodumlu	4.96	51	ePN	Pn	14 20 05.1	+0.1
LOD	Lodumlu	4.96	51	Pn	Pn	14 20 06.7	+1.7
ANTO	Ankara	4.96	51	ePN	Pn	14 20 05.9	+0.9
ANTO	Ankara	4.96	51	Pn	Pn	14 20 06.7	+1.7
SGKT	Sivrigoynuk	5.00	41	iP	Pn	14 20 07.1	+1.5
EDRB	Edirne	5.06	351	Pn	Pn	14 20 01.9	-4.5
KDZ	Kurdzhali	5.14	340	iP	Pn	14 20 06.5	-1.0
EVR	Evrytania	5.16	295	ePN	Pn	14 20 08.8	+1.0
RLS	Riolos of Patr	5.17	285	ePN	Pn	14 20 09.2	+1.3
SOH	Sokhos	5.26	320	ePn	Pn	14 20 08.7	-0.6
LIT	Litokhoron	5.27	310	ePn	Pn	14 20 09.1	-0.3
THE	Thessaloniki	5.34	317	ePn	Pn	14 20 10.2	-0.1
RZN	Rozhen	5.39	335	iP	Pn	14 20 10.5	-0.6
PHNC	Paralimni	5.39	108	P	Pn	14 20 13.5	+2.4
BRTR	Keskin Array B	5.43	56	Pn	Pn	14 20 12.6	+0.9
	21nm,0.3s,baz=233,slow=12,SNR=124						
BRTR				Sn	Sn	14 21 14.9	-0.1
	0.2nm,0.3s,baz=243,slow=17,SNR=3.8						
BRTR	Keskin Array B	5.43	56	P	Pn	14 20 12.6	+1.0
BRTR						14 21 14.9	
BRTR				pmax	pmax		
	comp=Z,21nm,0.3s						
NVR	Nevrokopi	5.43	327	ePN	Pn	14 20 10.8	-0.9
MMB	Musomiste	5.69	328	iP	Pn	14 20 14.0	-1.3
MMB	Musomiste	5.69	328	⇓iP	Pn	14 20 14.0	-1.3
ELDT	Eldivan	5.72	49	iP	Pn	14 20 16.7	+1.0
KNT	Kendrikon	5.75	320	ePn	Pn	14 20 16.1	0.0
PLD	Plovdiv	5.77	337	iP	Pn	14 20 11.5	-4.9
KZN	Kozani	5.84	308	ePN	Pn	14 20 18.8	+1.4
VLS	Valsamata	5.87	285	ePN	Pn	14 20 19.4	+1.6
GRG	Griva	5.87	316	ePn	Pn	14 20 17.2	-0.7
AVNT	Avonos	5.92	69	iP	Pn	14 20 19.2	+0.6
AVNT				iS	Sn	14 22 13.9	+47
MEV	Metsovon	5.93	302	ePn	Pn	14 20 19.2	+0.6
LKD	Levkas	5.95	290	ePn	Pn	14 20 21.8	+2.9
VAY	Valandovo	6.03	319	iPn	Pn	14 20 21.2	+1.1
VAY				iPg	Pg	14 20 45.0	-4.1
VAY				iSn	Sn	14 21 29.0	-1.1
VAY				iSb	Sb	14 21 48.6	+1.9
VAY				iSg	Sg	14 22 01.0	-8.5
JAN	Janina	6.13	299	ePB	Pn	14 20 25.0	+3.4
KKB	Krupnik	6.20	325	iP	Pn	14 20 22.0	-0.4
PGB	Panagyurishte	6.34	335	iP	Pn	14 20 23.0	-1.5
PRD	Provadia	6.36	357	iP	Pn	14 20 25.0	+0.3
FNA	Florina	6.36	310	ePn	Pn	14 20 24.6	-0.1
IGT	Igoumenitsa	6.45	297	ePn	Pn	14 20 27.6	+1.5
SZH	Strazhica	6.57	348	iP	Pn	14 20 26.5	-1.2
CTKT	Corum	6.65	53	iP	Pn	14 20 30.3	+1.5
ARNB	Al Arnab	6.68	96	⇑P	Pn	14 20 30.4	+1.1
ARNB				⇑S	Sn	14 21 31.0	-15
VTS	Vitosha	6.74	330	iP	Pn	14 20 30.0	0.0
VTS	Vitosha	6.74	330	P	Pn	14 20 30.4	+0.4
COBT	Iskenderun	6.82	90	iP	Pn	14 20 33.2	+2.0
COBT				iS	Sn	14 22 05.0	+15
PSN	Preselentsi	6.84	2	iP	Pn	14 20 28.5	-3.0
KEK	Kerkira	6.90	297	ePN	Pn	14 20 32.3	-0.1
OHR	Ohrid	6.91	310	iPn	Pn	14 20 33.9	+1.4
OHR				iSn	Sn	14 21 55.8	+3.9
SLNF	Slenfeh	6.94	98	⇓P	Pn	14 20 33.5	+0.6
BTCH	Batrach	7.04	94	⇓P	Pn	14 20 34.6	+0.2
SKO	Skopje	7.09	318	iPn	Pn	14 20 35.0	-0.1
SKO				i		14 20 38.0	
HNTI	Hanita	7.13	120	Pn	Pn	14 20 34.6	-1.0
HNTI				Sn	Sn	14 21 50.5	-7.1
DRWC	Darouich	7.14	89	⇑P	Pn	14 20 36.4	+0.7
BIDA	Albida	7.17	102	⇓P	Pn	14 20 36.0	0.0
BIDA				⇓S	Sn	14 21 41.8	-17
BOYT	Boyabat	7.18	48	iP	Pn	14 20 36.4	+0.2
HAF	Haifa	7.21	122	Pn	Pn	14 20 35.9	-0.7
OFRI	‘Ofer	7.27	123	Pn	Pn	14 20 37.5	-0.1
KAHT	Ahir Dag	7.30	81	iP	Pn	14 20 42.0	+4.1
HRI	Mount Hermon	7.43	116	Pn	Pn	14 20 39.8	0.0
BRBR	Barbar	7.52	115	⇑P	Pn	14 20 40.9	-0.1
BARS	Barje	7.52	324	⇑iPn	Pn	14 20 40.4	-0.6
SLTI	Sal’it	7.54	125	Pn	Pn	14 20 40.4	-1.0
SLTI				Sn	Sn	14 22 00.8	-7.1
BUC1	Bucharest	7.61	350	⇑iP	Pn	14 20 44.5	+2.2
BUC1	Bucharest	7.61	350	⇓iP	Pn	14 20 45.4	+3.0
KSHT	Keshet	7.64	118	Pn	Pn	14 20 42.5	-0.2
MARH	Ras Al Marh	7.64	109	⇓P	Pn	14 20 43.3	+0.6
MMLI	Mount Malkishu	7.68	123	Pn	Pn	14 20 42.4	-0.8
QSH	Qafa e Shtames	7.70	310	iPn	Pn	14 20 45.5	+2.0
QSH				iSn	Sn	14 22 19.5	+7.9
QASN	Qassioun	7.70	113	⇑P	Pn	14 20 43.9	+0.4
QASN				⇑S	Sn	14 21 54.6	-17
GZT	Gaziantep	7.83	83	iP	Pn	14 20 46.5	+1.1
HARR	Harsova	7.84	1	⇓iP	Pn	14 20 43.4	-2.1
HARR	Harsova	7.84	1	⇓iP	Pn	14 20 43.4	-2.1
HMDT	Nahal Hemdat	7.86	123	Pn	Pn	14 20 44.7	-1.1
TOTH	TOTAH	7.89	114	⇓P	Pn	14 20 46.2	-0.1
TOTH				⇓S	Sn	14 21 60.0	-17
TCHB	Talchebab	7.92	119	⇑P	Pn	14 20 46.7	+0.1
RABH	Abou Rabah	8.04	105	⇓P	P	14 20 48.1	-0.2
KZIT	Kziot	8.08	135	Pn	P	14 20 47.5	-1.4
KZIT				Sn	Sn	14 22 13.2	-8.0
BCI	Bajram Curri	8.11	315	ePn	P	14 20 51.0	+1.7
RTMM	Retamin	8.14	133	Pn	P	14 20 49.0	-0.7
SVTA	Shivta	8.19	134	Pn	P	14 20 49.4	-1.0
DRGI	Dragot	8.19	128	Pn	P	14 20 49.4	-1.0
MASH	Mash‘abbe Sade	8.24	133	Pn	P	14 20 50.8	-0.2
BOLS	Boljevac	8.27	329	⇑iPn	P	14 20 49.8	-1.7
BOLS				Sn	Sn	14 22 33.5	+7.5
PVY	Plav	8.31	316	⇑iPn	P	14 20 52.1	0.0
PVY				eSn	Sn	14 22 23.9	-3.2
ISR	Istrita	8.32	354	⇓iP	P	14 20 52.8	+0.6
ISR	Istrita	8.32	354	⇓iP	P	14 20 52.8	+0.6
ULC	Ulcinj	8.35	310	⇑iPn	P	14 20 52.8	+0.2
ULC				eSn	Sn	14 22 25.1	-2.9
MZDA	Masada	8.37	129	Pn	P	14 20 51.6	-1.2
MZDA				Sn	Sn	14 22 20.3	-8.0
MZDA	Masada	8.37	129	⇓P	P	14 20 51.6	-1.2
MZDA				S	Sn	14 22 20.3	-8.0
SALA	Sala	8.44	117	⇑P	P	14 20 54.0	+0.2
IVA	Berane	8.54	317	⇑iPn	P	14 20 55.5	+0.2
IVA				eSn	Sn	14 22 30.0	-2.7
TTG	Podgorica	8.62	313	⇑iPn	P	14 20 56.7	+0.4
TTG				eSn	Sn	14 22 31.4	-3.3
MLR	Muntele Rosu	8.75	351	Pn	P	14 20 56.5	-1.7
	comp=Z,0.8nm,0.3s,baz=192,slow=4.8,SNR=33						
MLR	Muntele Rosu	8.75	351	P	P	14 20 56.5	-1.7
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BUM	Brajici-Budva	8.76	311	⇑iPn	P	14 20 58.1	-0.2
BUM				eSn	Sn	14 22 35.0	-3.1
ZFRI	Zfri	8.79	133	Pn	P	14 20 57.7	-1.0
PRNI	Paran	8.84	135	Pn	P	14 20 57.8	-1.6
PRNI				Sn	Sn	14 22 32.9	-7.3
ASF	Jabal al Asfar	8.85	119	Pn	P	14 21 00.6	+1.1
	comp=Z,8.4nm,0.3s,baz=184,slow=5.7,SNR=18						
ASF				Sn	Sn	14 22 32.8	-7.5
	comp=Z,4.3nm,0.3s,baz=101,slow=3.7,SNR=3.8						
ASF				LR	LR	14 25 00.8	
	comp=Z,3µm,18.4s,baz=174,slow=41						
KMTI	Karmit	8.88	137	Pn	P	14 20 58.4	-1.5
SVIS	Svilajnac	8.96	328	eP	P	14 20 59.9	-1.1
NKY	Niksic	9.01	314	⇑iPn	P	14 21 01.1	-0.6
NKY				eSn	Sn	14 22 41.2	-3.0
TIP	Timpagrande	9.01	288	P	P	14 21 01.1	-0.6
ELZG	Elazig	9.04	76	iP	P	14 21 07.7	+5.6
VRI	Vrincioaia	9.05	355	⇑iP	P	14 21 00.9	-1.4
VRI	Vrincioaia	9.05	355	⇓iP	P	14 21 01.0	-1.3
HCY	Herceg Novi	9.08	311	⇑iPn	P	14 21 02.5	-0.3
HCY				eSn	Sn	14 22 42.6	-3.6
PLE	Pljevlja	9.12	318	⇑iPn	P	14 21 02.8	-0.5
PLE				eSn	Sn	14 22 43.6	-3.5
BRT	Bari-Castellan	9.18	299	P	P	14 21 03.9	-0.2
GRI	Girifalco	9.20	286	P	P	14 21 04.0	-0.4
MBH	Mount Berech	9.22	138	Pn	P	14 21 04.4	-0.3
UPM	Unac-Piva	9.30	316	⇑iPn	P	14 21 06.4	+0.6
UPM				eSn	Sn	14 22 48.4	-3.3
BRY	Bratogost	9.32	313	⇑iPn	P	14 21 06.1	0.0
BRY				eSn	Sn	14 22 48.4	-3.8
EIL	Elat	9.34	138	Pn	P	14 21 05.3	-1.0
AQBJ	Aqaba	9.34	137	Pn	P	14 21 05.3	-1.1
DIVS	Divcibare	9.36	323	⇓iPn	P	14 21 05.3	-1.3
DIVS				Sn	Sn	14 22 50.1	-2.9
SIM	Simferopol’	9.41	29	cP	P	14 21 06.5	-0.8
SIM				eS	Sn	14 22 46.0	-8.2
SIM				pmax	pmax		
	comp=Z,37nm,0.9s						
SIM				MLR	MLR		
	comp=Z,3µm,16.0s						
TDS	Terranova Siba	9.43	291	P	P	14 21 07.7	+0.1
CEL	Celeste	9.55	282	P	P	14 21 08.8	-0.4
MTTG	Motta San Giov	9.69	280	P	P	14 21 11.0	-0.1
SCLL	Scilla	9.69	282	P	P	14 21 10.1	-1.0
STON	Ston	9.81	311	iPn	P	14 21 10.7	-2.0
STON				iSn	Sn	14 22 59.0	-5.0
ATN	Antennamare	9.88	281	P	P	14 21 13.9	+0.2
CUC	Castrocucco	9.90	292	P	P	14 21 14.1	+0.1
SLCN	Sala Consilina	10.14	294	P	P	14 21 17.1	-0.3
KIS	Kishinev	10.18	4	eP	P	14 21 14.0	-3.8
KIS				eS	S	14 23 14.0	+1.0
KIS				MLR	MLR		
	comp=N,4µm,8.0s						
KIS				MLR	MLR		
	comp=Z,5µm,8.0s						
KIS				MLR	MLR		
	comp=E,4µm,7.0s						
KIS				MLR	MLR		
	comp=Z,7µm,7.0s						
FG4	Candela	10.46	298	P	P	14 21 21.9	+0.2
MNO	Monte Soro	10.47	280	P	P	14 21 23.2	+1.3
RGNG	Rignano Grg	10.61	301	P	P	14 21 24.1	+0.3
VAE	Valguarnera	10.69	277	Pn	P	14 21 25.0	+0.1
	comp=Z,17nm,0.3s,baz=359,slow=5.2,SNR=6.4						
VAE				Sn	S	14 23 20.3	-5.4
	comp=Z,13nm,0.3s,baz=336,slow=19,SNR=2.2						
VAE				LR	LR	14 25 16.5	
	comp=Z,2µm,21.5s,baz=24,slow=36						
VAE	Valguarnera	10.69	277	Pn	P	14 21 25.0	+0.1
VAE				Sn	S	14 23 20.3	-5.4
VAE				LR	LR	14 25 16.5	
CSSN	Cassano Irpino	10.72	296	P	P	14 21 25.1	-0.2
ANN	Anapa	10.79	40	d iP	P	14 21 18.5	-7.8
ANN				pmax	pmax		
	comp=Z,44nm,1.0s						
ANN				MLR	MLR		
	comp=Z,2µm,11.0s						
ANN				MLR	MLR		
	comp=N,3µm,12.0s						
ANN				MLR	MLR		
	comp=E,2µm,12.0s						
GIB	Gibilmanna	11.00	280	P	P	14 21 28.4	-0.7
MCT	Mte Cammarata	11.31	278	P	P	14 21 34.4	+1.1
PKSM	Moragy	11.59	327	P	P	14 21 37.9	+0.8
SDI	San Donato	11.86	298	P	P	14 21 42.4	+1.6
MTGR	Montagna Grand	12.00	280	P	P	14 21 42.2	-0.5
VVLD	Villa Vallelon	12.05	299	P	P	14 21 44.2	+0.8
SISC	Sisak	12.16	319	iPn	P	14 21 47.8	+2.9
LVI	Isola Levanzo	12.33	280	P	P	14 21 47.2	0.0
UZH	Uzhgorod	12.45	343	eP	P	14 21 50.0	+1.4
UZH				eS	S	14 24 13.0	+4.6
UZH				MLR	MLR		
	comp=Z,530nm,8.0s						
PSZ	Piszkesteto	12.50	335	⇑iP	P	14 21 48.6	-0.8
PSZ	Piszkesteto	12.50	335	P	P	14 21 51.0	+1.6
NRCA	Norcia	12.76	302	P	P	14 21 52.3	-0.5
BOJS	Bojanci	12.79	316	ePn	P	14 21 52.4	-0.9
KECS	Kecovo	12.80	338	ePN	P	14 21 54.7	+1.3
KECS				e		14 25 52.1	
CRES	Cresnjevec ost	12.88	318	P	P	14 21 55.2	+0.7
ASS	Assisi	13.16	303	P	P	14 21 59.4	+1.3
LVV	L’vov	13.25	349	eP	P	14 21 58.0	-1.3
LVV				eS	S	14 24 24.0	-3.8
KWP	Kalwaria	13.30	346	eP	P	14 22 12.4	+12
VYHS	Vyhne	13.36	333	iPN	P	14 22 00.0	-0.8
VYHS				e		14 22 16.2	
VYHS				e		14 23 07.6	
VYHS	Vyhne	13.36	333	eSN	S	14 24 40.0	+10
VYHS				e		14 26 21.9	
KIV	Kislovodsk	13.39	53	c iP	P	14 22 03.5	+2.3
KIV				eS	S	14 24 29.4	-1.6
KIV				pmax	pmax		
	comp=Z,24nm,1.2s						
KIV				MLR	MLR		
	comp=Z,2µm,12.0s						
CEY	Cerknica	13.39	316	ePn	P	14 22 00.1	-1.2
LJU	Ljubljana	13.52	317	ePn	P	14 22 01.6	-1.2
PERS	Pernice	13.59	320	ePn	P	14 22 07.1	+3.4
SOP	Sopron	13.64	326	⇑eP	P	14 22 03.0	-1.4
GNI	Garni	13.69	71	Pn	P	14 22 06.2	+1.1
	comp=Z,2.0nm,0.3s,baz=170,slow=16,SNR=2.3						
GNI				LR	LR	14 27 50.0	
	comp=Z,2µm,20.4s,baz=270,slow=39						
GNI	Garni	13.69	71	P	P	14 22 06.2	+1.1
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,2µm,20.4s						
ZST	Bratislava	13.79	329	eSN	S	14 24 39.9	-0.8
ZST				e		14 26 18.4	
OBKA	Obir	13.80	319	⇑iP	P	14 22 01.1	-5.5
	comp=Z,0.0nm,0.1s						
ARSA	Arzberg	13.80	323	⇑iP	P	14 22 05.2	-1.4
	comp=Z,36nm,1.6s						
VOY	Vojsko	13.87	316	ePn	P	14 22 05.8	-1.6
VOY				e		14 22 16.5	
AKASG	Malin Array Be	13.89	4	Pn	P	14 22 06.5	-1.2
	comp=Z,0.6nm,0.3s,baz=184,slow=13,SNR=13						
AKASG				Sn	S	14 24 44.5	+1.5
	comp=Z,0.6nm,0.3s,baz=191,slow=24,SNR=3.4						
AKASG				LR	LR	14 27 48.6	
	comp=Z,3µm,18.8s,baz=185,slow=39						
AKASG				ScP		14 31 01.4	
	comp=Z,0.4nm,0.3s,baz=225,slow=1.3,SNR=5.4						
AKASG	Malin Array Be	13.89	4	P	P	14 22 06.5	-1.2
AKASG						14 24 44.5	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,3µm,18.8s						
TI2	Plekhanov	14.02	64	eP	P	14 22 15.0	+5.6
TI2				MLR	MLR		
	comp=N,5µm,9.0s						
TI2				MLR	MLR		
	comp=E,5µm,9.0s						
TI2				MLR	MLR		
	comp=Z,4µm,9.0s						
JAVC	Velka Javorina	14.10	332	P	P	14 22 13.1	+2.7
ROBS	Robic	14.21	316	ePn	P	14 22 10.4	-1.5
VMG	Vicchio	14.26	305	P	P	14 22 13.0	+0.4
OJC	Ojcow	14.56	339	eP	P	14 22 17.0	+0.6
OJC				MLR	MLR		
	comp=Z,3µm,19.0s						
OJC	Ojcow	14.56	339	eP	P	14 22 17.0	+0.6
OJC				e		14 22 19.6	
OJC				eS	S	14 25 08.3	+10
DGI	Dorgali Grotta	14.63	289	P	P	14 22 19.3	+1.8
OKC	Ostrava-Krasne	14.74	335	eP	P	14 22 21.6	+2.8
OKC				eS	S	14 25 24.1	+21
OKC				LM		14 29 50.0	
	comp=Z,3.3nm,7.4s						
OKC	Ostrava-Krasne	14.74	335	eP	P	14 22 21.6	+2.8
OKC				MLR	MLR		
	comp=Z,3µm,7.4s						
KBA	Koelnbreinsper	14.80	318	⇓iP	P	14 22 19.8	+0.1
	comp=Z,99nm,1.1s						
MOA	Molln	14.84	322	⇓iP	P	14 22 20.9	+0.8
	comp=Z,28nm,1.4s						
VRAC	Vranov	14.88	330	Pn	P	14 22 20.1	-0.5
	comp=Z,0.5nm,0.3s,baz=139,slow=16,SNR=8.8						
VRAC				LR	LR	14 28 36.5	
	comp=Z,5µm,19.8s,baz=139,slow=40						
MORC	Moravsky Berou	14.90	333	P	P	14 22 22.5	+1.6
BDI	Bagni Di Lucca	14.92	304	P	P	14 22 22.5	+1.2
RAC	Raciborz	14.93	335	eP	P	14 22 24.2	+2.8
RAC				eS	S	14 25 10.2	+2.5
RAC				MLR	MLR		
	comp=E,7µm,21.7s						
RAC				MLR	MLR		
	comp=Z,4µm,23.4s						
RAC				MLR	MLR		
	comp=N,8µm,15.9s						
MAIM		14.94	304	P	P	14 22 27.0	+5.5
CTI	Castel Tesino	15.17	312	P	P	14 22 24.1	-0.4
VINC	Vinca	15.25	304	P	P	14 22 30.7	+5.2
BACM		15.36	304	P	P	14 22 28.1	+1.2
PGF	Pioggiola	15.53	297	eP	P	14 22 29.1	-0.1
	comp=N,113nm,1.2s						
CODM		15.54	305	P	P	14 22 33.8	+4.4
APPI	Appiano	15.65	313	P	P	14 22 31.0	+0.3
GEC2	GERESS Array S	15.79	324	eP	P	14 22 33.5	+0.9
GEC2				eS	S	14 25 37.5	+10
GEC2				pmax	pmax		
	comp=Z,100nm,1.4s						
GEC2	GERESS Array S	15.79	324	eP	P	14 22 33.5	+0.9
	comp=Z,100nm,1.4s						
GEC2				eS	S	14 25 37.5	+10
GERES	GERESS Array B	15.79	324	Pn	P	14 22 31.8	-0.7
	comp=Z,0.3nm,0.3s,baz=170,slow=11,SNR=3.7						
GERES				Sn	S	14 25 34.2	+6.2
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=2.0						
GERES				ScP		14 31 04.3	
	comp=Z,0.2nm,0.3s,baz=153,slow=3.0,SNR=7.2						
DPC	Dobruska-Polom	15.82	332	eP	P	14 22 32.5	-0.4
DPC				eS	S	14 25 38.2	+10
DPC				LM		14 29 50.0	
	comp=Z,6.6nm,10.4s						
DPC	Dobruska-Polom	15.82	332	eP	P	14 22 32.5	-0.4
DPC				MLR	MLR		
	comp=Z,7µm,10.4s						
WTTA	Wattenberg	15.85	316	⇑iP	P	14 22 35.1	+1.8
	comp=Z,46nm,1.2s						
WATA	Walderalm	15.92	316	⇑iP	P	14 22 37.1	+2.8
	comp=Z,109nm,1.5s						
KHC	Kasperske Hory	16.05	324	eP	P	14 22 40.0	+4.1
KHC				eAP		14 22 44.0	
KHC				eS	S	14 25 46.2	+12
KHC				LM		14 29 40.0	
SQTA	Sankt Quirin	16.06	315	⇓iP	P	14 22 38.1	+2.0
	comp=Z,44nm,1.2s						
MOTA	Moosalm	16.19	316	⇑iP	P	14 22 37.9	+0.2
	comp=Z,26nm,1.2s						
KSP	Ksiaz	16.23	333	⇓eP	P	14 22 36.0	-2.2
KSP				eS	S	14 25 43.0	+4.8
KSP	Ksiaz	16.23	333	⇓eP	P	14 22 36.0	-2.2
KSP				ePP	PP	14 22 44.9	-6.6
KSP				eS	S	14 25 43.0	+4.8
PRU	Pruhonice	16.25	328	eP	P	14 22 37.0	-1.4
MAK	Makhachkala	16.31	62	eP	P	14 22 42.0	+2.8
MAK				eS	S	14 25 44.0	+4.1
MAK				pmax	pmax		
	comp=Z,800nm,7.0s						
MAK				pmax	pmax		
	comp=Z,900nm,6.0s						
MAK				smax			
	comp=N,1µm,6.0s						
MAK				smax			
	comp=E,500nm,6.0s						
MAK				MLR	MLR		
	comp=N,2µm,10.0s						
MAK				MLR	MLR		
	comp=Z,3µm,10.0s						
PRA	Prague	16.36	328	P	P	14 22 42.0	+2.2
PRA				LM		14 29 30.0	
WET	Wettzell	16.39	323	eP	P	14 22 42.1	+1.9
WET				pmax	pmax		
	comp=Z,109nm,1.6s						
WET	Wettzell	16.39	323	eP	P	14 22 42.1	+1.9
	comp=Z,109nm,1.6s						
WET				eS	S	14 25 52.7	+11
FIN	Finale Ligure	16.58	302	P	P	14 22 41.6	-1.1
FUR	Furstenfeldbru	16.58	318	eP	P	14 22 44.5	+1.9
DAVOX	Davos	16.60	312	Pn	P	14 22 46.3	+3.5
	comp=Z,0.3nm,0.3s,baz=125,slow=9.9,SNR=30						
RORO		16.64	302	P	P	14 22 43.8	+0.4
PVCC	Panska Ves	16.65	329	eP	P	14 22 46.3	+2.8
PVCC				eS	S	14 26 00.3	+13
PVCC				LM		14 29 50.0	
	comp=Z,3.5nm,8.7s						
PVCC	Panska Ves	16.65	329	eP	P	14 22 46.3	+2.8
PVCC				MLR	MLR		
	comp=Z,4µm,8.7s						
IMI	Imperia	16.70	301	P	P	14 22 41.4	-2.8
NEGI	Negi	16.81	301	P	P	14 22 44.3	-1.2
ROB	Roburent	16.84	302	P	P	14 22 44.5	-1.4
MONE	Monesi	16.84	302	P	P	14 22 44.5	-1.5
DAVA	Damuels	16.86	314	P	P	14 22 49.4	+3.3
VOR	Voronezh	16.95	25	eP	P	14 22 46.0	-1.2
VOR				pmax	pmax		
	comp=Z,180nm,1.8s						
SAOF	Saorge	16.95	301	eP	P	14 22 47.0	-0.3
SBF	Sospel	17.00	301	eP	P	14 22 48.1	+0.2
	comp=Z,98nm,0.9s						
REVF	Revere	17.01	300	eP	P	14 22 48.6	+0.6
AUTN	L’Aution	17.04	301	eP	P	14 22 50.1	+1.6
AURF	Auriere	17.08	301	eP	P	14 22 50.0	+1.1
ENR	Entracque	17.12	302	P	P	14 22 49.7	+0.3
LLS	Linth-Limmern	17.15	311	⇑P	P	14 22 52.4	+2.6
BRG	Berggiesshubel	17.17	329	eP	P	14 22 52.1	+2.1
BRG				eS	S	14 26 08.0	+8.3
BRG				pmax	pmax		
	comp=Z,66nm,1.9s						
BRG				MLR	MLR		
	comp=Z,4µm,11.8s						
BRG				MLR	MLR		
	comp=N,3µm,10.0s						

BRG				MLR	MLR		
	comp=E,4µm,10.0s						
BRG	**Berggiesshubel**	**17.17**	**329**	*e*P	**P**	**14 22 52.1**	**+2.1**
	comp=E,66nm,1.9s						
BRG				*i*		14 22 57.0	
BRG				*e*S	**S**	**14 26 08.0**	**+8.3**
TOUF	**Mont Tournerai**	**17.17**	**301**	*e*P	**P**	**14 22 51.7**	**+1.6**
STV	**Sta Anna Valdi**	**17.19**	**302**	P	**P**	**14 22 50.2**	**-0.1**
STV2	**Anna di Valdie**	**17.19**	**302**	P	**P**	**14 22 48.8**	**-1.5**
MVIF	**Mont Vial**	**17.20**	**301**	*e*P	**P**	**14 22 51.7**	**+1.2**
CALN	**Calern**	**17.34**	**300**	*e*P	**P**	**14 22 53.5**	**+1.2**
TRAV		**17.36**	**306**	P	**P**	**14 22 52.2**	**-0.2**
PZZ	**Prazzo**	**17.43**	**302**	P	**P**	**14 22 53.0**	**-0.3**
BHB	**Bricherasio**	**17.43**	**304**	P	**P**	**14 22 55.6**	**+2.3**
FRF	**La Foret Royal**	**17.46**	**299**	*e*P	**P**	**14 22 53.5**	**-0.2**
	comp=E,203nm,1.4s						
SUW	**Suwalki**	**17.46**	**351**	*e*P	**P**	**14 22 52.1**	**-1.6**
SUW				*e*S	**S**	**14 26 14.3**	**+7.9**
WILA	**Wila**	**17.49**	**313**	⇑P	**P**	**14 22 57.3**	**+3.2**
LMR	**La Mourre**	**17.50**	**298**	*e*P	**P**	**14 22 53.9**	**-0.3**
	comp=E,90nm,1.2s						
RSP	**Reno Superiore**	**17.54**	**305**	P	**P**	**14 22 59.2**	**+4.5**
GRA1	**Grafenberg Arr**	**17.57**	**322**	*e*P	**P**	**14 22 56.3**	**+1.3**
	comp=E,43nm,1.0s						
GRA1				*e*S	**S**	**14 26 23.1**	**+14**
GRF	**Grafenberg Arr**	**17.57**	**322**	*e*P	**P**	**14 22 56.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,43nm,1.0s						
GRF				MLR	MLR		
	comp=Z,5µm,13.8s						
FENE	**Fenestrelle**	**17.63**	**304**	P	**P**	**14 22 57.1**	**+1.3**
MNK	**Minsk**	**17.66**	**0**	⇓*e*P	**P**	**14 22 53.0**	**-3.1**
MNK				pmax	pmax		
	comp=N,590nm,1.0s						
MNK				pmax	pmax		
	comp=Z,280nm,1.0s						
ZUR	**Zurich**	**17.66**	**313**	⇑P	**P**	**14 22 58.2**	**+2.0**
GUT	**Gutenstein**	**17.71**	**315**	*e*P	**P**	**14 22 58.3**	**+1.4**
GUT	**Gutenstein**	**17.71**	**315**	P	**P**	**14 22 59.3**	**+2.5**
LSD	**Ceresole Reale**	**17.72**	**305**	P	**P**	**14 22 57.4**	**+0.4**
MBDF	**Montbardon**	**17.72**	**303**	*e*P	**P**	**14 22 57.0**	**0.0**
	comp=Z,49nm,1.0s						
RRL	**Cesana Torines**	**17.78**	**304**	P	**P**	**14 22 59.6**	**+2.0**
BUCH	**Bad Urach**	**17.79**	**316**	*e*P	**P**	**14 22 59.0**	**+1.2**
BUCH	**Bad Urach**	**17.79**	**316**	P	**P**	**14 22 59.7**	**+1.9**
LKBD	**Leukerbad**	**17.79**	**309**	⇑P	**P**	**14 23 00.1**	**+2.3**
DIX	**Grande Dixence**	**17.80**	**308**	⇑P	**P**	**14 22 59.6**	**+1.7**
CLL	**Collm**	**17.89**	**329**	P	**P**	**14 23 01.2**	**+2.2**
	comp=Z,logA/T=1.7						
CLL				*i*		14 23 04.7	
CLL				*e*		14 26 22.0	
CLL				*e*		14 26 29.0	
CLL	**Collm**	**17.89**	**329**	*i* P	**P**	**14 23 01.2**	**+2.2**
CLL				*e*S	**S**	**14 26 22.0**	**+6.0**
CLL				pmax	pmax		
	comp=Z,50nm,0.8s						
CLL	**Collm**	**17.89**	**329**	*i* P	**P**	**14 23 01.2**	**+2.2**
	comp=Z,50nm,0.8s						
CLL				*i*		14 23 04.7	
CLL				*e*S	**S**	**14 26 22.0**	**+6.0**
TAVF	**Tavernes**	**17.89**	**299**	*e*P	**P**	**14 23 00.7**	**+1.7**
SLE	**Schleitheim**	**17.91**	**314**	⇓P	**P**	**14 22 59.6**	**+0.3**
SPAK	**Spaichingen**	**17.92**	**315**	*e*P	**P**	**14 23 01.1**	**+1.7**
SPAK	**Spaichingen**	**17.92**	**315**	*e*P	**P**	**14 23 00.4**	**+1.0**
LPG	**La Plagne**	**18.00**	**305**	*e*P	**P**	**14 23 01.3**	**+0.9**
	comp=Z,105nm,1.1s						
GKP	**Gorka Klasztor**	**18.00**	**339**	*e*P	**P**	**14 23 01.2**	**+0.8**
GKP				*e*S	**S**	**14 26 25.6**	**+7.0**
SULZ	**Sulz-Cheisache**	**18.02**	**312**	⇓P	**P**	**14 23 01.1**	**+0.5**
MOX	**Moxa**	**18.02**	**325**	⇓*i*P	**P**	**14 23 02.3**	**+1.7**
	comp=Z,logA/T=1.9						
MOX				PP	PP	14 23 17.0	+1.5
MOX				S	S	14 26 46.0	+27
MOX				L		14 30 20.0	
MOX	**Moxa**	**18.02**	**325**	*ce*P	**P**	**14 23 02.3**	**+1.7**
MOX				pmax	pmax		
	comp=Z,133nm,1.7s						
MOX				MLR	MLR		
	comp=Z,4µm,16.0s						
MOX	**Moxa**	**18.02**	**325**	⇑*e*P	**P**	**14 23 02.3**	**+1.7**
	comp=Z,133nm,1.7s						
MOX				*e*		14 23 16.8	
MOX				*e*		14 26 46.9	
LPL	**La Plagne**	**18.02**	**305**	*e*P	**P**	**14 23 01.4**	**+0.7**
	comp=Z,54nm,0.7s						
BERF	**Bertagne**	**18.07**	**298**	*e*P	**P**	**14 23 04.0**	**+2.6**
PUYF	**Puyloubier**	**18.12**	**298**	*e*P	**P**	**14 23 04.7**	**+2.8**
EMV	**Vieux Emosson**	**18.12**	**307**	⇑P	**P**	**14 23 01.8**	**-0.1**
SIND	**Sindeldorf**	**18.17**	**319**	*e*P	**P**	**14 23 03.6**	**+1.0**
FELD	**Feldberg**	**18.25**	**313**	*e*P	**P**	**14 23 03.3**	**-0.3**
GELF	**Grande-Etoile**	**18.28**	**298**	*e*P	**P**	**14 23 06.1**	**+2.2**
BFO	**Black Forest**	**18.30**	**315**	*e*P	**P**	**14 23 05.2**	**+1.1**
BFO				*e*S	**S**	**14 26 33.2**	**+7.8**
SMRF	**Simiane la Rot**	**18.32**	**300**	*e*P	**P**	**14 23 03.6**	**-0.8**
	comp=Z,99nm,1.4s						
KIZ	**Kirchzarten**	**18.34**	**313**	*e*P	**P**	**14 23 04.3**	**-0.4**
KIZ	**Kirchzarten**	**18.34**	**313**	P	**P**	**14 23 06.3**	**+1.6**
BBS	**Basel-Blauen**	**18.34**	**312**	*e*P	**P**	**14 23 04.5**	**-0.2**
BBS	**Basel-Blauen**	**18.34**	**312**	*e*P	**P**	**14 23 05.0**	**+0.3**
TREF	**Trevaresse**	**18.36**	**299**	*e*P	**P**	**14 23 07.5**	**+2.5**
ORIF	**Oris-en-Rattie**	**18.38**	**303**	*e*P	**P**	**14 23 05.3**	**+0.1**
	comp=Z,24nm,0.8s						
ORIF				*e*R			
	comp=Z,4µm,18.2s						
PRAF	**Pradon**	**18.56**	**299**	*e*P	**P**	**14 23 08.3**	**+0.9**
GRN	**Grenoble**	**18.58**	**304**	*e*P	**P**	**14 23 08.5**	**+0.9**
LIBD	**Limburg**	**18.62**	**314**	*e*P	**P**	**14 23 08.2**	**+0.1**
LIBD	**Limburg**	**18.62**	**314**	*e*P	**P**	**14 23 08.8**	**+0.7**
LOMF	**Lomont**	**18.70**	**311**	*e*P	**P**	**14 23 09.9**	**+0.8**
TOD	**Tromm**	**18.75**	**319**	*e*P	**P**	**14 23 08.9**	**-0.7**
MOF	**Molkenrain**	**18.75**	**312**	*e*P	**P**	**14 23 10.2**	**+0.5**
CABF	**La Chapelle**	**18.85**	**308**	*e*P	**P**	**14 23 09.1**	**-1.8**
	comp=Z,311nm,1.4s						
WLS	**Welschbruch**	**18.90**	**314**	*e*P	**P**	**14 23 12.5**	**+1.0**
HINF	**Hinteralfeld**	**18.90**	**312**	*e*P	**P**	**14 23 11.4**	**-0.1**
LANF	**Langenberg**	**18.94**	**316**	*e*P	**P**	**14 23 12.3**	**+0.4**
CDF	**Champ du Feu**	**18.94**	**314**	*e*P	**P**	**14 23 12.1**	**+0.1**
	comp=Z,53nm,0.9s						
VIVF	**Saint-Julien-l**	**19.18**	**302**	*e*P	**P**	**14 23 14.0**	**-0.9**
	comp=Z,92nm,1.1s						
OBN	**Obninsk**	**19.24**	**15**	*c i*P	**P**	**14 23 13.4**	**-2.0**
OBN				*i* S	**S**	**14 26 48.6**	**+2.0**
OBN				pmax	pmax		
	comp=Z,130nm,1.7s						
OBN				MLR	MLR		
	comp=Z,1µm,9.0s						
OBN	**Obninsk**	**19.24**	**15**	*e*P	**P**	**14 23 14.2**	**-1.2**
	comp=Z,24nm,0.6s						
HAU	**Haudompre**	**19.29**	**312**	*e*P	**P**	**14 23 16.0**	**-0.1**
	comp=Z,67nm,1.0s						
HAU				*e*R			
	comp=Z,6µm,22.2s						
CLZ	**Clausthal**	**19.41**	**326**	*e*P	**P**	**14 23 18.0**	**+0.5**
LASF	**Ste Croix**	**19.54**	**299**	*e*P	**P**	**14 23 18.5**	**-0.6**
ABH	**Alteburg**	**19.57**	**318**	*e*P	**P**	**14 23 19.5**	**+0.2**
THEF	**They Montfort**	**19.61**	**312**	*e*P	**P**	**14 23 19.8**	**+0.1**
MZLS	**Mizel**	**19.68**	**126**	P	**P**	**14 23 23.3**	**+2.6**
RUP	**Ruppelstein**	**19.74**	**317**	*e*P	**P**	**14 23 20.1**	**-1.1**
RUP	**Ruppelstein**	**19.74**	**317**	P	**P**	**14 23 22.1**	**+0.9**
LTHS	**Al Lith**	**19.86**	**143**	P	**P**	**14 23 26.9**	**+4.2**
EJON	**La Jonquera**	**19.94**	**294**	P	**P**	**14 23 23.2**	**-0.3**
	comp=Z,496nm,4.5s						
COLF	**Collangettes**	**20.04**	**303**	*e*P	**P**	**14 23 22.2**	**-2.3**
MOS	**Moscow**	**20.05**	**16**	*e*P	**P**	**14 23 23.4**	**-1.1**
MOS				*e*S	**S**	**14 27 04.5**	**+0.3**
MOS				pmax	pmax		
	comp=Z,351nm,1.9s						
MOS				pmax	pmax		
	comp=N,292nm,1.7s						
MOS				MLR	MLR		
	comp=Z,2µm,12.4s,MS4.6						
MOS				MLR	MLR		
	comp=N,2µm,11.3s						
FILF	**Fillols**	**20.19**	**294**	*e*P	**P**	**14 23 25.3**	**-0.8**
PLDF	**La Plantade**	**20.22**	**304**	*e*P	**P**	**14 23 25.3**	**-1.1**
LBL	**Lubilhac**	**20.26**	**302**	*e*P	**P**	**14 23 26.7**	**-0.1**
LRDF	**Laroque-de-Fa**	**20.26**	**295**	*e*P	**P**	**14 23 25.3**	**-1.6**
BSD	**Bornholm Skovb**	**20.28**	**338**	⇑*i*P	**P**	**14 23 24.7**	**-2.3**
	comp=N,29nm,1.2s						
BSD				*i* S	**S**	**14 27 08.1**	**-1.0**
	comp=Z,2µm,16.0s						
SMF	**Signal de Mont**	**20.30**	**306**	*e*P	**P**	**14 23 26.2**	**-1.0**
	comp=Z,383nm,1.3s						
LOR	**Lormes**	**20.51**	**308**	*e*P	**P**	**14 23 28.6**	**-0.9**
	comp=Z,192nm,1.2s						
LOR				*e*R			
	comp=Z,786nm,21.2s						
MTLF	**Montolieu**	**20.56**	**296**	*e*P	**P**	**14 23 28.6**	**-1.4**
	comp=Z,58nm,1.1s						
PYM	**Petit Puy Mans**	**20.57**	**303**	*e*P	**P**	**14 23 30.2**	**+0.2**
VALF	**Valcebollere**	**20.57**	**294**	*e*P	**P**	**14 23 28.8**	**-1.3**
AGO	**Saint Agoulin**	**20.57**	**304**	*e*P	**P**	**14 23 29.7**	**-0.4**
SSF	**Saint Saulge**	**20.66**	**307**	*e*P	**P**	**14 23 30.2**	**-0.8**
	comp=Z,450nm,1.5s						
AVF	**Avril sur Loir**	**20.67**	**306**	*e*P	**P**	**14 23 30.3**	**-0.7**
	comp=Z,537nm,1.5s						
BLJS	**Baljurashi**	**20.78**	**141**	P	**P**	**14 23 37.7**	**+5.4**
EMIR	**Miracle**	**20.88**	**292**	P	**P**	**14 23 33.0**	**-0.2**
	comp=Z,180nm,2.1s						
BGF	**Bois d'Agland**	**20.92**	**305**	*e*P	**P**	**14 23 33.2**	**-0.4**
	comp=Z,404nm,1.4s						
HGN	**Heimansgroeve**	**20.93**	**319**	*e*P	**P**	**14 23 33.4**	**-0.3**
	comp=Z,26nm,1.4s						
HGN				*e*S	**S**	**14 27 26.7**	**+4.7**
HGN				*e*x	x	14 29 50.6	
HGN	**Heimansgroeve**	**20.93**	**319**	P	**P**	**14 23 34.7**	**+1.0**
BSEG	**Bad Segeberg**	**20.94**	**330**	*e*P	**P**	**14 23 34.1**	**+0.3**
BSEG				pmax	pmax		
	comp=Z,419nm,2.3s						
CAF	**Calviac**	**20.99**	**301**	*e*P	**P**	**14 23 34.0**	**-0.4**
EPOB	**Poblet**	**21.17**	**290**	P	**P**	**14 23 34.9**	**-1.3**
	comp=Z,288nm,2.0s,mb5.3						
WTSB	**Winterswijk**	**21.18**	**322**	*e*P	**P**	**14 23 35.7**	**-0.6**
	comp=Z,26nm,1.3s,mb4.4						
WTSB	**Winterswijk**	**21.18**	**322**	P	**P**	**14 23 38.0**	**+1.8**
GIVF	**Givet**	**21.18**	**316**	*e*P	**P**	**14 23 36.0**	**-0.3**
TCF	**Toulx Ste Croi**	**21.25**	**304**	*e*P	**P**	**14 23 36.8**	**-0.3**
	comp=Z,121nm,1.4s,mb4.7						
HYF	**Humbligny**	**21.29**	**307**	*e*P	**P**	**14 23 37.9**	**+0.5**
RJF	**Les Rejaudoux**	**21.46**	**301**	*e*P	**P**	**14 23 38.8**	**-0.3**
BAIF	**Baives**	**21.50**	**315**	*e*P	**P**	**14 23 38.8**	**-0.8**
COP	**Copenhagen**	**21.54**	**336**	*i* P	**P**	**14 23 39.1**	**-0.7**
	comp=Z,51nm,1.1s,mb4.9						
EBR	**Ebro Roquetas**	**21.59**	**289**	*e*P	**P**	**14 23 41.5**	**+1.0**
VSU	**Vasula**	**21.64**	**359**	P	**P**	**14 23 40.9**	**0.0**
NAMS	**An Nimas**	**21.68**	**140**	P	**P**	**14 23 45.2**	**+3.6**
LFF	**La Frestale**	**21.91**	**300**	*e*P	**P**	**14 23 43.9**	**+0.2**
HASS	**Wahat al Ahsa'**	**22.03**	**116**	P	**P**	**14 23 47.4**	**+2.4**
TATS	**Tathlith**	**22.05**	**137**	P	**P**	**14 23 49.0**	**+3.8**
EMOS	**Mosqueruela**	**22.32**	**288**	P	**P**	**14 23 48.9**	**+1.2**
	comp=Z,336nm,2.6s,mb5.3						
ESAC	**San Caprasio**	**22.35**	**291**	P	**P**	**14 23 50.8**	**+2.7**
	comp=Z,127nm,1.4s,mb5.2						
PECR	**Pechory**	**22.36**	**24**	*e*P	**P**	**14 23 48.0**	**-0.1**
PECR				*e*		14 24 22.0	
PECR				pmax	pmax		
	comp=Z,600nm,8.0s						
PECR				MLR	MLR		
	comp=Z,14µm,13.0s,MS5.6						
PECR				MLR	MLR		
	comp=N,4µm,14.0s,MS5.1						
PECR				MLR	MLR		
	comp=E,3µm,14.0s,MS5.1						
ETSF	**Etsaut**	**22.52**	**294**	*e*P	**P**	**14 23 49.2**	**-0.5**
MFF	**Saint Martin d**	**22.91**	**304**	*e*P	**P**	**14 23 54.0**	**+0.5**
	comp=E,323nm,1.7s,mb5.2						
PUL	**Pulkovo**	**23.00**	**3**	*e*P	**P**	**14 23 55.2**	**+1.0**
PUL				*e*S	**S**	**14 28 03.6**	**+3.4**
PUL				pmax	pmax		
	comp=N,334nm,1.1s						
PUL				pmax	pmax		
	comp=Z,206nm,1.1s,mb5.5						
PUL				pmax	pmax		
	comp=E,46nm,0.6s						
PUL				smax			
	comp=Z,2µm,14.5s						
PUL				smax			
	comp=N,3µm,13.3s						
PUL				smax			
	comp=E,2µm,15.4s						
PUL				MLR	MLR		
	comp=Z,1µm,11.0s,MS4.6						
PUL				MLR	MLR		
	comp=N,1µm,15.0s,MS4.7						
PUL				MLR	MLR		
	comp=E,1µm,11.0s,MS4.7						
SJPF	**Ste Jean**	**23.02**	**295**	*e*P	**P**	**14 23 54.3**	**-0.4**
	comp=E,83nm,1.2s,mb4.8						
EMUR	**La Murta**	**23.06**	**281**	P	**P**	**14 23 55.9**	**+0.8**
ETOB	**Tobarra**	**23.22**	**283**	P	**P**	**14 23 57.6**	**+1.0**
EALK	**Alkurruntz**	**23.24**	**295**	P	**P**	**14 23 58.7**	**+2.0**
	comp=E,826nm,5.0s						
MUD	**Monsted U'grnd**	**23.27**	**333**	⇓*i*P	**P**	**14 23 59.9**	**+3.0**
	comp=E,44nm,1.1s,mb4.8						
MUD				*i* S	**S**	**14 28 14.9**	**+10**
LDF	**La Druitiere**	**23.49**	**309**	*e*P	**P**	**14 23 59.0**	**-0.1**
	comp=E,331nm,1.4s,mb5.3						
FLN	**La Foliniere**	**23.77**	**309**	*e*P	**P**	**14 24 01.2**	**-0.6**
	comp=E,113nm,0.8s,mb5.1						
FLN				*e*R			
	comp=E,3µm,22.2s						
GRR	**Gorron**	**23.88**	**308**	*e*P	**P**	**14 24 02.0**	**-0.9**
	comp=E,214nm,1.0s,mb5.2						
ECRI	**Cripan**	**23.92**	**293**	P	**P**	**14 24 05.3**	**+1.9**
	comp=E,40nm,0.9s,mb4.8						
EVIA	**Vianos**	**23.97**	**284**	P	**P**	**14 24 05.1**	**+1.3**
	comp=E,232nm,1.8s,mb5.3						
EQES	**Quesada**	**24.50**	**282**	P	**P**	**14 24 08.9**	**-0.2**
	comp=E,15nm,0.7s,mb4.6						
ELAN	**Lanestosa**	**24.64**	**295**	P	**P**	**14 24 10.8**	**+0.4**
	comp=E,410nm,2.5s,mb5.5						
FINES	**FINESS Array B**	**24.65**	**358**	P	**P**	**14 24 09.6**	**-0.7**
	comp=E,15nm,0.8s,mb4.6,baz=149,slow=11,SNR=57						
FINES				S	**S**	**14 28 35.2**	**+6.6**
	comp=E,0.8nm,0.8s,baz=194,slow=29,SNR=1.9						
FINES				LR	LR	14 34 30.4	
	comp=E,1µm,18.8s,MS4.5,baz=350,slow=38						
FINES	**FINESS Array B**	**24.65**	**358**	P	**P**	**14 24 09.6**	**-0.6**
FINES				S	**S**	**14 28 35.2**	**+6.6**
FINES				pmax	pmax		
	comp=Z,15nm,0.8s						
FINES				MLR	MLR		
	comp=Z,1µm,18.8s						
FINES	**FINESS Array B**	**24.65**	**358**	P	**P**	**14 24 09.6**	**-0.7**
FINES				S	**S**	**14 28 35.2**	**+6.6**
FINES				LR	LR	14 34 30.4	
SGMF	**Saint Gilles**	**24.93**	**307**	*e*P	**P**	**14 24 12.9**	**-0.2**
	comp=Z,56nm,0.8s,mb4.8						
HFS	**Hagfors**	**25.00**	**343**	P	**P**	**14 24 12.7**	**-0.9**
	comp=Z,26nm,0.9s,mb4.8,baz=158,slow=8.0,SNR=39						
HFS	**Hagfors**	**25.00**	**343**	P	**P**	**14 24 12.7**	**-0.9**
HFS				pmax	pmax		
	comp=Z,26nm,0.9s						
ESDC	**Sonseca Array**	**25.02**	**286**	P	**P**	**14 24 13.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.5,baz=81,slow=9.5,SNR=22						
ESDC				LR	LR	14 33 44.7	
	comp=Z,701nm,18.9s,MS4.2,baz=45,slow=36						
ESDC	**Sonseca Array**	**25.02**	**286**	P	**P**	**14 24 13.9**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.4						
QUIF	**Quistinic**	**25.23**	**306**	*e*P	**P**	**14 24 14.3**	**-1.7**
	comp=Z,77nm,1.0s,mb4.9						
ROSF	**Rostrenen**	**25.41**	**307**	*e*P	**P**	**14 24 15.6**	**-2.0**
	comp=Z,41nm,0.9s,mb4.7						
EADA	**Adamuz**	**25.64**	**283**	P	**P**	**14 24 19.4**	**-0.5**
	comp=Z,541nm,3.8s						
JOF	**Joensuu**	**26.19**	**4**	*e*p	**P**	**14 24 23.4**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.3						
JOF	**Joensuu**	**26.19**	**4**	*e*P	**P**	**14 24 23.4**	**-1.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
AB31	**Akbulak array**	**26.36**	**52**	*i* P	**P**	**14 24 26.4**	**-0.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
NB2	**NORSAR Subarra**	**26.39**	**342**	P	**P**	**14 24 24.3**	**-2.3**
	comp=Z,10nm,0.9s,mb4.4,baz=147,slow=10						
NB2	**NORSAR Subarra**	**26.39**	**342**	P	**P**	**14 24 24.3**	**-2.3**
	baz=147,slow=10						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**14 24 25.0**	**-1.6**
	comp=Z,5.1nm,0.8s,mb4.1,baz=145,slow=8.7,SNR=24						
NOA				LR	LR	14 35 04.8	
	comp=Z,575nm,20.9s,MS4.1,baz=140,slow=37						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**14 24 25.0**	**-1.6**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,575nm,20.9s						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**14 24 25.0**	**-1.6**
NOA				LR	LR	14 35 04.8	
ESPR	**Espera**	**26.84**	**280**	P	**P**	**14 24 30.3**	**-0.7**
	comp=Z,14nm,0.7s,mb4.6						
ECAL	**Calabor**	**27.04**	**292**	P	**P**	**14 24 32.4**	**-0.4**
	comp=Z,198nm,2.0s,mb5.3						
PBRG	**Braganca**	**27.05**	**291**	*e*P	**P**	**14 24 31.8**	**-1.0**
	comp=Z,60nm,1.6s,mb4.9						
EMIN	**Mina Concepcio**	**27.33**	**282**	P	**P**	**14 24 35.0**	**-0.5**
	comp=Z,185nm,2.2s,mb5.2						
ERUA	**La Rua**	**27.34**	**293**	P	**P**	**14 24 34.5**	**-1.0**
EPON	**Pontenova**	**27.36**	**295**	P	**P**	**14 24 34.0**	**-1.6**
	comp=Z,58nm,1.3s,mb5.0						
EBAD	**Badajoz**	**27.46**	**285**	P	**P**	**14 24 35.6**	**-1.1**
	comp=Z,6.5nm,0.7s,mb4.3						
PCBR	**Castelo Branco**	**27.71**	**287**	*e*P	**P**	**14 24 37.2**	**-1.7**
	comp=Z,46nm,1.6s,mb4.9						
MTE	**Manteigas**	**27.71**	**288**	*e*P	**P**	**14 24 37.4**	**-1.5**
	comp=Z,32nm,1.1s,mb4.9						
EKA	**Eskdalemuir Ar**	**27.98**	**321**	P	**P**	**14 24 39.2**	**-2.0**
	comp=Z,9.9nm,1.0s,mb4.4,baz=112,slow=9.0,SNR=16						
EKA	**Eskdalemuir Ar**	**27.98**	**321**	P	**P**	**14 24 39.2**	**-2.0**
EKA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EGRO	**El Granado**	**28.00**	**282**	P	**P**	**14 24 41.0**	**-0.6**
	comp=Z,6.9nm,0.5s,mb4.5						
PALC	**Alcoutim**	**28.01**	**282**	*e*P	**P**	**14 24 40.2**	**-1.5**
	comp=Z,31nm,1.9s,mb4.6						
EVO	**Evora**	**28.27**	**284**	*e*P	**P**	**14 24 44.1**	**+0.1**
	comp=Z,9.1nm,0.7s,mb4.2						
EVO				*e*R			
	comp=Z,973nm,17.0s						
ARU	**Arti**	**28.44**	**37**	⇓*i*P	**P**	**14 24 44.3**	**-1.0**
ARU				*i*		14 25 33.1	
ARU				*e*PPP	PPP	14 25 44.8	-4.5
ARU				*i*		14 27 54.5	
ARU				*e*S	**S**	**14 29 30.4**	**-0.6**
ARU				*e*SS	SS	14 30 52.0	-3.7
ARU				*e*SSS	SSS	14 31 07.6	-7.0
ARU				*e*		14 35 24.3	
ARU				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.5						
ARU				MLR	MLR		
	comp=N,900nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=Z,900nm,19.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,1µm,20.0s,MS4.5						
ARU	**Arti**	**28.44**	**37**	*e*P	**P**	**14 24 44.7**	**-0.6**
	comp=E,27nm,1.4s,mb4.7						
PTOM	**Tomar**	**28.45**	**287**	*e*P	**P**	**14 24 44.6**	**-0.9**
	comp=E,36nm,2.1s,mb4.6						
PTEO	**Sao Teotonio**	**28.98**	**283**	*e*P	**P**	**14 24 49.6**	**-0.7**
	comp=E,73nm,1.9s,mb5.1						
SAN1	**Sandwick**	**29.70**	**331**	⇑*e*P	**P**	**14 24 54.8**	**-1.8**
LRW	**Lerwick**	**29.75**	**331**	⇑*e*P	**P**	**14 24 55.5**	**-1.6**
YEL1	**Yell**	**29.98**	**331**	⇑*e*P	**P**	**14 24 58.0**	**-1.1**
WAL1	**Walls**	**30.00**	**331**	⇑*e*P	**P**	**14 24 58.1**	**-1.2**
APA	**Apatity**	**30.94**	**4**	⇑*i*P	**P**	**14 25 06.8**	**-0.7**
APA				*e*S	**S**	**14 30 13.0**	**+2.3**
APA				*e*SS	SS	14 31 46.0	-8.0
APA				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.8						
APA				MLR	MLR		
	comp=Z,3µm,11.0s,MS5.2						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**14 25 22.5**	**-1.0**
	comp=Z,3.6nm,0.6s,mb4.5,baz=180,slow=7.3,SNR=16						
ARCES				LR	LR	14 38 58.6	
	comp=Z,1µm,21.2s,MS4.6,baz=180,slow=37						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**14 25 22.5**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,1µm,21.2s						
ZRNK	**Zerenda**	**32.81**	**47**	P	**P**	**14 25 23.5**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
KEV	**Kevo**	**32.97**	**360**	*e*p	**P**	**14 25 26.6**	**+1.3**
	comp=Z,1.4nm,0.6s,mb4.1						
KEV	**Kevo**	**32.97**	**360**	*e*P	**P**	**14 25 26.6**	**+1.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KKAR	**Karatay Array**	**33.06**	**66**	*i* P	**P**	**14 25 26.4**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**33.59**	**47**	*e*P	**P**	**14 25 25.5**	**-5.3**
	comp=Z,6.8nm,1.2s,mb4.5						
BVA0	**Borovoye Array**	**33.65**	**48**	*i* P	**P**	**14 25 31.1**	**-0.2**
BVAR	**Borovoye Array**	**33.65**	**48**	P	**P**	**14 25 31.0**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=270,slow=7.4,SNR=14						
VOSK	**Vostochnaya**	**33.94**	**48**	P	**P**	**14 25 32.9**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**35.49**	**66**	P	**P**	**14 25 47.5**	**+0.3**
	SNR=19						
USP	**Ospenovka**	**35.95**	**65**	P	**P**	**14 25 50.4**	**-0.8**
	SNR=11						
AAK	**Ala-Archa**	**36.02**	**66**	P	**P**	**14 25 52.3**	**+0.6**
	SNR=16						
UCH	**Uchtor**	**36.08**	**67**	P	**P**	**14 25 53.2**	**+0.9**
	SNR=11						
FRU	**Bishkek**	**36.09**	**66**	*e*P	**P**	**14 25 53.0**	**+0.7**
FRU				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.6						
CHMS	**Chumysh**	**36.17**	**65**	P	**P**	**14 25 53.7**	**+0.8**
	SNR=12						
KBK	**Karagaybulak**	**36.35**	**66**	P	**P**	**14 25 55.6**	**+1.1**
	SNR=7.9						
TKM2	**Tokmak 2**	**36.79**	**65**	P	**P**	**14 25 58.7**	**+0.5**
	SNR=17						
ULHL	**Ulahol**	**37.35**	**66**	P	**P**	**14 26 04.3**	**+1.3**
	SNR=18						
KSH	**Kashi**	**37.62**	**71**	*e*P	**P**	**14 26 05.9**	**+0.7**
KSH				*e*AP	pP	14 26 15.3	+7.1
KSH				*e*XP	sP	14 26 19.9	+10
KURK	**Kurchatov**	**38.47**	**52**	*e*P	**P**	**14 26 12.0**	**-0.2**
	comp=Z,15nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**38.79**	**165**	P	**P**	**14 26 17.7**	**+2.4**
	comp=Z,1.9nm,0.8s,mb3.9,baz=47,slow=22,SNR=5.3						
KMBO				LR	LR	14 43 12.6	
	comp=Z,1µm,18.8s,MS4.7,baz=288,slow=38						
SDNR	**Sundarnagar**	**40.69**	**83**	*e*P	**P**	**14 26 30.0**	**-0.8**
MKAR	**Makanchi Array**	**41.08**	**58**	P	**P**	**14 26 33.7**	**-0.2**
	comp=Z,22nm,0.7s,mb4.9,baz=283,slow=6.6,SNR=83						
MKAR				ScP		14 32 21.8	
	comp=Z,0.6nm,0.5s,baz=266,slow=3.3,SNR=4.4						
MKAR				LR	LR	14 46 16.6	
	comp=Z,688nm,19.2s,MS4.5,baz=280,slow=40						
MKAR	**Makanchi Array**	**41.08**	**58**	P	**P**	**14 26 33.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,22nm,0.7s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,688nm,19.2s						
NVS	**Novosibirsk**	**41.40**	**46**	*i* P	**P**	**14 26 35.9**	**-0.5**
NVS				*i*		14 28 12.4	
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
DBIC	**Dimbokro**	**42.27**	**233**	P	**P**	**14 26 43.2**	**-0.8**
	comp=E,12nm,0.8s,mb4.6,baz=27,slow=9.3,SNR=8.8						
DBIC				LR	LR	14 47 40.7	
	comp=E,984nm,18.4s,MS4.7,baz=25,slow=41						
DBIC	**Dimbokro**	**42.27**	**233**	P	**P**	**14 26 43.3**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,12nm,0.8s						
DBIC				MLR	MLR		
	comp=Z,984nm,18.4s						
TIC	**Toumodi**	**42.40**	**233**	*e*P	**P**	**14 26 44.2**	**-0.9**
	comp=Z,72nm,0.7s,mb5.4						
KIC	**Kosan Boka**	**42.44**	**232**	*e*P	**P**	**14 26 45.3**	**-0.1**
	comp=Z,83nm,0.8s,mb5.4						
LIC	**Lamto**	**42.72**	**233**	*e*P	**P**	**14 26 47.6**	**-0.2**
	comp=Z,61nm,0.8s,mb5.4						
LIC	**Lamto**	**42.72**	**233**	*e*P	**P**	**14 26 47.4**	**-0.4**
	comp=Z,20nm,0.8s,mb4.9						
WMQ	**Urumqi**	**45.33**	**62**	P	**P**	**14 27 09.0**	**+0.6**
WMQ				AP	pP	14 27 17.2	+5.8
WMQ				XP	sP	14 27 22.4	+10
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=N,785nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=E,836nm,21.0s,MS4.8						

WMQ				LR	LR		
	comp=Z,836nm,25.0s,MS4.6						
KOLN	**Koldanda**	47.46	84	*e*P	P	14 27 25.8	+0.3
	comp=Z,27nm,0.5s,mb5.4						
GKN	**Gorkha**	48.19	83	*e*P	P	14 27 30.2	-1.0
	comp=Z,64nm,1.1s,mb5.5						
DMN	**Daman**	48.73	84	*e*P	P	14 27 33.9	-1.5
	comp=Z,84nm,1.1s,mb5.7						
KKN	**Kakani**	48.79	83	*e*P	P	14 27 34.5	-1.3
	comp=Z,34nm,0.9s,mb5.4						
PKI	**Pulchoki**	48.99	83	*e*P	P	14 27 36.3	-1.1
	comp=Z,54nm,1.2s,mb5.4						
LSA	**Lhasa**	52.62	78	P	P	14 28 05.8	+0.9
ZAK	**Zakamensk**	54.04	50	⇑*i*P	P	14 28 14.4	-0.7
IRK	**Irkutsk**	54.12	48	*e*P	P	14 28 15.1	-0.5
SHL	**Shillong**	55.06	82	*e*P	P	14 28 18.0	-5.0
GTA	**Gaotai**	55.30	64	*e*P	P	14 28 24.5	0.0
GTA				AP	pP	14 28 29.6	+2.0
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,50nm,4.2s						
GTA				LR	LR		
	comp=N,383nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=E,203nm,17.1s,MS4.6						
GTA				LR	LR		
	comp=Z,352nm,18.3s,MS4.5						
SONM	**Songino Array**	56.78	52	P	P	14 28 34.3	-0.7
	comp=Z,8.8nm,0.6s,mb5.0,baz=289,slow=7.8,SNR=80						
BOD	**Bodaibo**	57.82	39	*e*P	P	14 28 30.8	-11
TIXI	**Tiksi**	58.84	21	*e*P	P	14 28 48.8	-0.4
TIXI				*e*S	S	14 36 54.8	+1.9
TIXI				*e*SS	SS	14 40 48.2	+0.1
TIXI				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
LZH	**Lanzhou**	59.56	66	*e*P	P	14 28 54.5	-0.2
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,191nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,16.6s						
LZH				LR	LR		
	comp=Z,1μm,18.7s,MS5.1						
LZH	**Lanzhou**	59.56	66	*e*P	P	14 28 54.5	-0.2
	comp=Z,38nm,1.0s,mb5.4						
LZH				pP	pP	14 29 11.4	+14
LZH				sP	sP	14 29 17.6	+19
LZH				LR	LR		
	comp=Z,1μm,18.7s,MS5.1						
CD2	**Chengdu**	61.82	71	*e*P	P	14 29 09.2	-0.9
HHC	**Hu-ho-hao-te**	62.94	58	*e*P	P	14 29 17.8	+0.4
HHC				S	S	14 37 51.1	+5.4
HHC				XS		14 37 58.5	
HHC				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.4						
HHC				AMB	AMB		
	comp=Z,145nm,4.1s						
HHC				LR	LR		
	comp=N,286nm,23.8s,MS4.5						
HHC				LR	LR		
	comp=E,204nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=Z,266nm,23.8s,MS4.3						
SCHQ	**Schefferville**	63.28	320	P	P	14 29 16.8	-2.7
	comp=Z,7.5nm,0.7s,mb5.0,baz=69,slow=4.3,SNR=10						
SCHQ				LR	LR	14 56 11.1	
	comp=Z,727nm,19.1s,MS4.9,baz=310,slow=36						
KMI	**Kunming**	63.84	77	*e*P	P	14 29 22.0	-1.6
KMI				AP	pP	14 29 32.0	+5.3
KMI				S	S	14 37 53.6	-3.6
KMI				SKS	SKS	14 39 12.7	-5.7
KMI				SS	SS	14 42 07.7	+0.7
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=N,303nm,24.4s,MS4.5						
KMI				LR	LR		
	comp=E,306nm,24.2s,MS4.5						
KMI				LR	LR		
	comp=Z,345nm,21.5s,MS4.5						
KMI	**Kunming**	63.84	77	*e*P	P	14 29 22.0	-1.6
	comp=Z,9.0nm,0.9s,mb4.8						
KMI				pP	pP	14 29 32.0	+5.3
KMI				S	S	14 37 53.6	-3.6
KMI				SKS	SKS	14 39 12.7	-5.7
KMI				SS	SS	14 42 07.7	+0.7
KMI				LR	LR		
	comp=Z,350nm,21.5s,MS4.5						
XAN	**Xi'an**	64.20	66	P	P	14 29 24.7	-1.1
XAN				AP	pP	14 29 32.2	+3.3
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.1						
CMAR	**Chiang Mai Arr**	64.29	86	P	P	14 29 25.4	-1.2
	comp=Z,7.5nm,0.9s,mb4.7,baz=299,slow=8.0,SNR=28						
CMAR				LR	LR	15 01 03.5	
	comp=Z,157nm,21.3s,MS4.2,baz=86,slow=39						
CMAR	**Chiang Mai Arr**	64.29	86	P	P	14 29 25.4	-1.2
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,157nm,21.3s						
HIA	**Hailar**	64.33	47	*e*P	P	14 29 26.5	+0.1
	comp=Z,5.6nm,0.9s,mb4.6						
GYA	**Guiyang**	66.22	74	⇑*i*P	P	14 29 38.3	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,240nm,5.0s						
BJI	**Beijing**	66.43	57	*e*P	P	14 29 40.1	+0.1
BJI				S	S	14 38 30.0	+1.2
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,720nm,18.7s,MS5.0						
BJI				LR	LR		
	comp=E,505nm,22.7s,MS5.0						
BJI				LR	LR		
	comp=Z,564nm,23.6s,MS4.7						
BJI	**Beijing**	66.43	57	*e*P	P	14 29 40.1	+0.1
	comp=Z,16nm,1.0s,mb5.0						
BJI				PP	PP	14 32 14.8	+6.4
BJI				S	S	14 38 30.0	+1.2
BJI				SS	SS	14 43 10.2	+23
BJI				LR	LR		
	comp=Z,560nm,23.6s,MS4.7						
ENH	**Enshi**	66.45	69	*e*P	P	14 29 38.4	-1.9
	comp=Z,26nm,1.1s,mb5.2						
WHN	**Wuhan**	69.92	66	⇑P	P	14 30 01.6	-0.4
SEY	**Seymchan**	71.19	23	*e*P	P	14 30 09.9	+0.8
SEY				*e*		14 39 31.1	
SEY				pmax	pmax		
	comp=N,20nm,1.6s						
SEY				pmax	pmax		
	comp=E,30nm,1.6s						
SEY				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.4						
NJ2	**Nanjing**	72.39	63	*e*P	P	14 30 15.9	-0.9
NJ2				AP	pP	14 30 27.7	+7.8
NJ2				XP	sP	14 30 33.3	+12
NJ2				PP	PP	14 32 57.1	-2.5
NJ2				S	S	14 39 33.0	-6.1
NJ2				XS		14 39 55.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				LR	LR		
	comp=N,620nm,22.9s,MS5.0						
NJ2				LR	LR		
	comp=E,800nm,21.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,570nm,21.2s,MS4.8						
INK	**Inuvik**	74.23	353	P	P	14 30 25.4	-1.5
	comp=Z,8.8nm,1.0s,mb4.6,baz=43,slow=7.2,SNR=7.4						
INK	**Inuvik**	74.23	353	P	P	14 30 25.4	-1.4
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	**Inuvik**	74.23	353	*e*P	P	14 30 22.7	-4.1
	comp=Z,13nm,1.1s,mb4.8						
SSE	**Sheshan**	74.58	63	P	P	14 30 31.9	+2.3
SSE				XP	sP	14 30 45.1	+11
SSE				S	S	14 40 03.6	-0.1
SSE				XS		14 40 15.9	
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,63nm,5.1s						
SSE				LR	LR		
	comp=N,352nm,18.2s,MS4.7						
SSE				LR	LR		
	comp=E,104nm,18.3s,MS4.7						
SSE				LR	LR		
	comp=Z,199nm,17.1s,MS4.5						
SSE	**Sheshan**	74.58	63	P	P	14 30 31.9	+2.3
	comp=Z,16nm,0.7s,mb5.1						
SSE				sP	sP	14 30 45.1	+11
SSE				S	S	14 40 03.6	-0.1
SSE				sS		14 40 15.9	
SSE				LR	LR		
	comp=Z,200nm,17.1s,MS4.5						
KS15	**Wonju Array Si**	75.56	54	*e*P	P	14 30 35.2	+0.1
YKA	**Yellowknife Ar**	76.48	343	P	P	14 30 37.9	-1.9
	comp=Z,6.4nm,1.1s,mb4.5,baz=37,slow=5.7,SNR=6.4						
YKA				LR	LR	15 05 33.1	
	comp=Z,475nm,20.5s,MS4.8,baz=20,slow=37						
YKA	**Yellowknife Ar**	76.48	343	P	P	14 30 37.9	-1.9
YKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YKA				MLR	MLR		
	comp=Z,475nm,20.5s						
IMA	**Indian Mountai**	77.41	1	*e*P	P	14 30 45.4	+0.5
	comp=Z,9.1nm,0.8s,mb4.8						
COLA	**College**	78.56	358	*e*P	P	14 30 49.1	-2.1
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
COLA	**College**	78.56	358	*e*P	P	14 30 49.1	-2.1
	comp=Z,7.4nm,0.6s,mb4.8						
ILAR	**Eielson Array**	78.63	358	P	P	14 30 51.1	-0.5
	comp=Z,2.8nm,0.8s,mb4.2,baz=351,slow=3.4,SNR=27						
ILAR				LR	LR	15 08 40.2	
	comp=Z,250nm,20.5s,MS4.5,baz=49,slow=38						
ILAR	**Eielson Array**	78.63	358	P	P	14 30 51.1	-0.5
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,250nm,20.5s						
DAWY	**Dawson**	78.92	354	*e*P	P	14 30 52.4	-0.8
MCK	**McKinley**	79.73	359	*e*P	P	14 30 56.8	-0.7
	comp=Z,14nm,1.4s,mb4.7						
ULM	**Lac du Bonnet**	80.08	327	P	P	14 30 58.3	-1.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=29,slow=8.0,SNR=2.8						
ULM				LR	LR	15 07 14.7	
	comp=Z,939nm,19.9s,MS5.1,baz=37,slow=36						
PET	**Petropavlovsk**	80.87	28	*e*P	P	14 31 01.9	-1.9
PET				*e*S	S	14 41 06.3	-4.6
PET				pmax	pmax		
	comp=Z,200nm,5.4s						
PET				smax			
	comp=N,100nm,24.6s						
PET				MLR	MLR		
	comp=Z,500nm,24.0s,MS4.8						
PET				MLR	MLR		
	comp=Z,600nm,21.0s						
SML	**Sawmill**	81.64	358	*e*P	P	14 31 07.2	-0.6
PMR	**Palmer**	81.88	359	*e*P	P	14 31 08.5	-0.4
	comp=Z,32nm,1.3s,mb5.1						
DIV	**Divide**	82.23	357	P	P	14 31 09.8	-1.0
	comp=Z,30nm,1.0s,mb5.2						
SVW	**Sparrevohn**	82.36	2	*e*P	P	14 31 12.0	+0.6
	comp=Z,5.5nm,0.8s,mb4.5						
CCM	**Cathedral Cave**	86.61	316	*e*P	P	14 31 32.6	-0.7
	comp=Z,11nm,0.9s,mb5.1						
BDFB	**Brasilia**	88.30	249	P	P	14 31 42.3	+0.4
	comp=Z,11nm,0.9s,mb5.1,baz=78,slow=4.5,SNR=10						
BDFB				LR	LR	15 13 48.2	
	comp=Z,670nm,19.7s,MS5.1,baz=251,slow=37						
BDFB	**Brasilia**	88.30	249	P	P	14 31 42.3	+0.4
BDFB				pmax	pmax		
	comp=Z,11nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,670nm,19.7s						
BOZ	**Bozeman (W)**	90.11	333	*e*P	P	14 31 49.4	-0.5
	comp=Z,6.0nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	91.75	330	P	P	14 31 56.3	-1.2
	comp=Z,0.7nm,0.7s,mb4.1,baz=63,slow=4.4,SNR=7.4						
PDAR				LR	LR	15 17 00.6	
	comp=Z,472nm,18.5s,MS5.0,baz=32,slow=38						
TXAR	**Lajitas Array**	99.94	318	LR	LR	15 17 32.8	
	comp=Z,266nm,19.5s,MS4.8,baz=60,slow=35						
SNAA	**Sanae**	110.36	190	⇑*i*	PKPdf	14 37 18.3	-4.7
SNAA	**Sanae**	110.36	190	⇑*i*	PKPdf	14 37 28.2	+5.2
SNAA	**Sanae**	110.36	190	⇓*i*	PKPdf	14 37 31.9	+8.9
VNA2	**Neumayer--Watz**	110.38	192	⇓*i*	PKPdf	14 37 17.8	-5.2
VNA2	**Neumayer--Watz**	110.38	192	⇑*i*	PKPdf	14 37 28.3	+5.3
VNA2	**Neumayer--Watz**	110.38	192	⇑*i*	PP	14 37 58.0	-1.9
WRA	**Warramunga Arr**	114.68	97	PKP	PKPdf	14 37 29.7	-2.8
	comp=Z,1.1nm,0.8s,baz=318,slow=1.7,SNR=9.4						
WRA	**Warramunga Arr**	114.68	97	PKIKP	PKPdf	14 37 29.7	-2.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	116.27	101	PKP	PKPdf	14 37 32.6	-3.0
	comp=Z,1.4nm,0.7s,baz=337,slow=1.5,SNR=18						
QSPA	**South Pole Qui**	126.69	180	*e*P	PKPdf	14 37 52.1	-2.2
QSPA				LR	LR		
	comp=Z,380nm,21.8s,MS5.0						

NAO ***04*** *14:28:57.9±2.6,60.22N×10.90E,ML2.0*

BER 04 14:29:00.2±1.2,**60.27N×11.02E,MD2.1,ML1.6,**
ML2.0(NAO),**Suspected explosion,Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NC6	**NORSAR Subarra**	0.52	24	Pg	Pg	14 29 09.2	-1.5
NC6				Lg		14 29 16.2	
NB2	**NORSAR Subarra**	0.77	7	Pg	Pg	14 29 13.9	-1.7
NB2				Lg		14 29 23.8	
HFS	**Hagfors**	1.34	95	Pn	Pn	14 29 24.4	-1.7
	baz=276,slow=22						
HFS				Lg		14 29 41.9	
	baz=270,slow=28						
MOL	**Molde**	2.84	326	*e*Pg	Pg	14 29 51.5	-5.5
MOL				*e*Sg	Sg	14 30 29.1	-5.9
MOL				AML	AML	14 30 30.0	
	comp=Z,5.6nm,0.5s						

IDC 04 14:36:16.4±49.0,**13.62S×168.51E,mb4.0**/3,**mb1 4.2**/3,
mb1mx3.7/13,**Error ellipse: s-maj=835.0km**
s-min=111.1km az=65.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	8.63	193	*e*P	P	14 38 28.6	+3.0
DZM				*e*S	Sn	14 39 44.8	-20
STKA	**Stephens Creek**	30.62	229	P	P	14 42 32.4	-2.3
	2.4nm,0.7s,baz=69,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	33.27	254	P	P	14 42 56.1	-1.8
	0.5nm,0.6s,baz=85,slow=9.0,SNR=11						
ASAR	**Alice Springs**	34.20	248	P	P	14 43 03.7	-2.2
	1.2nm,0.4s,baz=79,slow=9.0,SNR=43						

ISK ***04*** *14:47:42.2,36.93N×27.69E,h12^{km},MD3.5*
NEIC ***04*** *14:47:43.0,36.94N×27.65E,h24^{km},MD3.6(ATH),After ATH.*
ATH ***04*** *14:47:43.0,36.94N×27.65E,h24^{km}±3^{km},MD3.6/13*
IDC ***04*** *14:47:46.1±4.0,36.79N×27.72E,h37^{km}±39^{km},mb3.5/3,*
mb1 3.6/6,mb1mx3.4/20,ML3.2/3,Error ellipse:
s-maj=49.4km s-min=18.8km az=138.0
THE ***04*** *14:47:47.5,37.19N×27.76E,h15^{km}*

ISC 04 14:47:42.0±0.7,**36.89N**±0.03×**27.66E**±0.03,**h11**^{km}±5^{km},
n51,$\sigma 0\overset{s}{.}$**82**/62,**mb3.6**/3,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.25	316	*i* P	Pg	14 47 48.1	+0.8
MLSB	**Milas**	0.42	13	*i* PG	Pg	14 47 50.3	-0.3
MLSB				SG	Sg	14 47 56.4	+0.1
NISR	**Nisiros**	0.51	237	*e*PN	Pn	14 47 53.2	-1.6
YER	**Yerkesik**	0.56	64	*i* PG	Pg	14 47 52.9	-0.4
YER				SG	Sg	14 48 00.1	-0.8
ARG	**Arkhangelos**	0.77	150	*e*PN	Pn	14 47 57.5	-1.1
ARG				*e*SN	Sn	14 48 11.0	+0.9
AYDN	**Tasoluk**	0.79	13	*i* P	Pb	14 47 57.4	0.0
AYDN				*i* S	Sb	14 48 07.3	-0.5
SMG	**Samos**	1.05	322	*e*PN	Pn	14 48 03.0	+0.4
DNZL	**Cakiroluk**	1.37	54	*i* P	Pn	14 48 07.7	+0.5
DNZL				*i* S	Sb	14 48 29.0	+4.5
DENT	**Denizli**	1.40	51	*i* PN	Pn	14 48 07.9	+0.3
DENT				SN	Sn	14 48 26.0	-0.1
IZM	**Izmir**	1.54	348	*i* PN	Pn	14 48 09.4	-0.2
KDAG	**Bornova**	1.54	349	⇑*i*P	Pn	14 48 09.5	-0.1
KDAG				*i* S	Sb	14 48 29.9	+0.2
APE	**Apeiranthos**	1.71	277	*e*PB	Pb	14 48 12.4	-0.7
KSL	**Kastellorizon**	1.72	115	*e*PN	Pn	14 48 14.2	+2.1
MANT	**Manisa**	1.75	24	*i* P	Pn	14 48 14.4	+1.8
ELL	**Elmali**	1.81	94	PN	Pn	14 48 14.1	+0.6
THR1	**Thera Island**	1.84	254	*e*Pn	Pn	14 48 19.8	+5.9
THR1				*e*Sn	Sn	14 48 43.8	+6.5
THR4	**Thira Island,**	1.87	257	*e*Pn	Pn	14 48 19.5	+5.3
THR4				*e*Sn	Sn	14 48 44.0	+6.0
THR3	**Thira Island,**	1.88	256	*e*Pn	Pn	14 48 20.0	+5.6
THR3				*e*Sn	Sn	14 48 44.2	+6.0
THR6	**Thira Island,**	1.89	254	*e*Pn	Pn	14 48 20.5	+5.9
THR5	**Thira Island,**	1.92	257	*e*Pn	Pn	14 48 20.8	+5.8
AKS	**Akhisar**	1.99	4	PN	Pn	14 48 15.7	-0.4
KHL	**Karahalli**	2.06	45	*e*PN	Pn	14 48 17.3	+0.2
NPS	**Neapolis**	2.32	226	*e*PB	Pb	14 48 23.0	-0.4
ISP	**Isparta**	2.46	66	*e*PN	Pn	14 48 23.2	+0.4
XRY	**Khrisi**	2.56	219	*e*PB	Pb	14 48 27.0	-0.6
PRK	**Paraskevi**	2.60	336	*e*PN	Pn	14 48 24.5	-0.2
IDI	**Anoyia**	2.75	235	Pn	Pn	14 48 27.8	+0.9
	6.5nm,0.3s,baz=30,slow=1.9,SNR=26						
BALB	**Balikesir**	2.75	4	*e*PN	Pn	14 48 26.7	-0.3
DST	**Dursunbey**	2.82	15	*e*PN	Pn	14 48 28.3	+0.4
PTL	**Penteli**	3.23	292	*e*PN	Pn	14 48 34.2	+0.4
MPAR	**Parnis Oros**	3.36	293	⇑*i*PN	Pn	14 48 36.0	+0.4
BNT	**Bandirma**	3.47	3	*e*PN	Pn	14 48 37.3	+0.2
NSAL	**Nisos Salamina**	3.49	288	*e*PN	Pn	14 48 37.5	+0.1
LPK	**Lapseki**	3.55	349	*e*PN	Pn	14 48 38.3	0.0
MKIT	**Kithairon Oros**	3.73	292	*e*PN	Pn	14 48 41.5	+0.7
VLI	**Veliai**	3.79	269	*e*PN	Pn	14 48 42.0	+0.3
SART	**Tekirdag**	3.81	355	*i* P	Pn	14 48 39.9	-2.1
HDMB	**Hadim**	3.87	87	*e*PN	Pn	14 48 43.2	+0.4
KIZT	**Kizilcal**	3.89	58	*e*PN	Pn	14 48 43.6	+0.5
YLV	**Yalova**	3.91	20	*e*PN	Pn	14 48 42.8	-0.6
ALN	**Alexandroupoli**	4.20	343	*e*Pn	Pn	14 48 45.6	-1.9
ALN				*e*Sn	Sn	14 49 30.4	-6.7
OUR	**Ouranopolis**	4.49	321	*e*Pn	Pn	14 48 51.4	-0.2
AGG	**Agios Georgios**	4.72	298	*e*Pn	Pn	14 48 55.5	+0.7
LIT	**Litokhoron**	5.17	310	*e*Pn	Pn	14 49 01.9	+0.6
BRTR	**Keskin Array B**	5.49	57	Pn	Pn	14 49 05.3	-0.4
	1.0nm,0.3s,baz=239,slow=16,SNR=10						
KNT	**Kendrikon**	5.65	321	*e*Pn	Pn	14 49 08.3	+0.2
GRG	**Griva**	5.77	316	*e*Pn	Pn	14 49 10.6	+0.9
MLR	**Muntele Rosu**	8.69	352	Pn	P	14 49 51.9	+1.3
	0.1nm,0.3s,baz=132,slow=15,SNR=2.4						
MKAR	**Makanchi Array**	41.14	58	P	P	14 55 26.6	-1.0
	0.6nm,0.5s,mb3.5,baz=274,slow=7.7,SNR=6.1						
DBIC	**Dimbokro**	42.22	233	P	P	14 55 35.4	-1.6
	2.1nm,0.9s,mb3.7,baz=41,slow=11,SNR=3.1						
SONM	**Songino Array**	56.83	52	P	P	14 57 27.0	-1.6
	0.3nm,0.4s,mb3.7,baz=301,slow=8.4,SNR=3.1						

NIED ***04*** *15:43:00,23.90N×122.50E,h20^{km},Mw3.9 Best double couple: $M_0 9.2\times10^{14}$ NP1:ϕ_s57°,δ76°,λ59°. NP2:ϕ_s305°, δ34°,λ155°.*
IDC ***04*** *15:43:26.7±0.9,23.97N×122.56E,mb3.8/7,mb1 3.8/8,*
mb1mx3.7/21,ML3.4/1,Error ellipse: s-maj=31.7km
s-min=18.9km az=62.0
BJI ***04*** *15:43:27.8,23.71N×122.61E,h37^{km},mb3.7,ML4.0*
TAP ***04*** *15:43:29.3,23.78N×122.43E,h15^{km}±1^{km},ML4.2*
JMA ***04*** *15:43:30.8±0.3,23.88N×122.51E,h23^{km},M3.7*
NEIC ***04*** *15:43:32.1±1.5,23.97N×122.61E,h37^{km}±15^{km},Error*
ellipse: s-maj=19.4km s-min=10.9km az=221.0

ISC 04 15:43:30.6±0.9,**23.97N**±0.09×**122.43E**±0.04,**h40**^{km}±10^{km},
n22,$\sigma 1\overset{s}{.}$**21**/32,**mb3.7**/7,**1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.73	47	P	P	15 43 44.8	+0.4
YOJ				S	S	15 43 54.3	-0.2
IRIF	**Iriomote-Funau**	1.25	73	P	P	15 43 52.3	+0.5
IRIF				S	S	15 44 08.4	+0.7
HATJ	**Hateruma jima**	1.27	86	P	P	15 43 52.0	0.0
HATJ				S	S	15 44 07.5	-0.6
TATO	**Taipei**	1.32	320	*e*P	P	15 43 55.4	+2.6
JKRS	**Kuro-shima**	1.47	79	P	P	15 43 55.4	+0.3
JKRS				*e*S	S	15 44 13.7	+0.4
JIJ	**Ishigaki jima**	1.62	76	P	P	15 43 56.9	-0.2
JIJ				*e*S	S	15 44 18.7	+1.8
JTJ	**Tarama**	2.18	72	P	P	15 44 05.9	+0.7
JTJ				*e*S	S	15 44 31.5	+0.3
JOGS	**Gusukube**	2.83	73	P	P	15 44 14.8	+0.4
QZH	**Quanzhou**	3.62	286	⇑*i*P	P	15 44 25.6	-0.1
QZH				S	S	15 45 05.7	-2.1
QZH				Smax			
	comp=N,200nm,1.0s						
QZH				Smax			
	comp=E,100nm,0.6s						
JKE	**Kume jima 2**	4.60	58	P	P	15 44 38.3	-1.2
JOW	**Kunigami**	6.01	60	Pn	P	15 44 56.6	-2.6
	comp=E,2.2nm,0.3s,baz=174,slow=17,SNR=11						
JOW				Sn	S	15 46 04.5	-3.3
	comp=E,0.7nm,0.3s,baz=199,slow=18,SNR=2.4						
JOW	**Kunigami**	6.01	60	P	P	15 44 56.5	-2.7
JOW				*e*S	S	15 46 04.2	-3.6
JTK	**Tokunoshima**	7.00	56	P	P	15 45 10.0	-3.2
JTK				*e*S	S	15 46 28.7	-3.7
JAM	**Amami Oshima**	7.82	54	P	P	15 45 20.7	-3.9
SONM	**Songino Array**	27.02	336	P	P	15 49 11.0	+0.2
	comp=E,0.8nm,0.5s,mb3.5,baz=150,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	39.28	316	P	P	15 50 58.2	+1.1
	comp=E,8.3nm,1.2s,mb4.3,baz=111,slow=10,SNR=14						
MKAR	**Makanchi Array**	39.28	316	P	P	15 50 58.2	+1.1
WRA	**Warramunga Arr**	45.16	164	P	P	15 51 44.4	-1.1
	comp=E,0.7nm,0.7s,mb3.6,baz=346,slow=8.9,SNR=6.6						
BVAR	**Borovoye Array**	48.56	321	P	P	15 52 12.1	+0.4
	comp=E,0.6nm,0.5s,mb3.9,baz=113,slow=11,SNR=5.2						
ASAR	**Alice Springs**	48.64	166	P	P	15 52 12.7	-0.1
	comp=E,0.5nm,0.6s,mb3.7,baz=354,slow=14,SNR=8.8						
FINES	**FINESS Array B**	72.20	330	P	P	15 54 52.8	-0.2
	comp=E,0.3nm,0.5s,mb3.5,baz=76,slow=7.9,SNR=5.8						
BRTR	**Keskin Array B**	74.21	307	P	P	15 55 07.0	+1.9
	comp=E,0.3nm,0.4s,mb3.6,baz=79,slow=7.3,SNR=3.6						

FUNV ***04*** *15:57:30.7,11.26N×60.99W,h6^{km},MW2.6*
TRN ***04*** *15:57:31.8,11.00N×60.97W,h20^{km},MD3.3*

ISC 04 15:57:33.8±0.7,**11.07N**±0.05×**60.99W**±0.04,**h20**^{km}**,n10,**
$\sigma 1\overset{s}{.}$**23**/20,**2D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOT	**Bacolet**	0.28	70	⇓*i*P	Pb	15 57 40.6	+0.4
BOT				*e*S	Sb	15 57 44.7	+0.1
TRN	**Trinidad (W)**	0.58	224	⇓*i*P	Pb	15 57 45.6	+0.4
TRN				*e*S	Sb	15 57 54.1	+1.1
TBH	**Brigand Hill**	0.59	188	*e*P	Pb	15 57 44.9	-0.4
TBH				*e*S	Sb	15 57 51.8	-1.3
TCE	**Chacachacare**	0.84	244	*e*P	Pb	15 57 50.7	+1.2
TCE				*e*S	Sb	15 58 03.7	+3.4
TPP	**Pointe-a-Pierr**	0.88	211	*e*P	Pb	15 57 54.3	+4.1
TPP				*e*S	Sb	15 58 04.6	+3.2
GRW	**Mount Saint Ca**	1.27	329	*e*P	Pn	15 57 57.4	+0.8
GRW				*e*S	Sb	15 58 17.2	+4.5
GUIV	**Guiria**	1.28	251	*e*P	Pn	15 57 55.6	-1.2
GUIV				*e*S	Sb	15 58 13.5	+0.3
GUNV	**Guanoco**	2.12	245	*e*P	Pn	15 58 07.5	-1.4
GUNV				*e*S	Sn	15 58 34.2	-0.6
ITEV	**Isla Los Testi**	2.12	278	*e*P	Pn	15 58 05.0	-3.8
ITEV				*e*S	Sn	15 58 31.5	-3.4
IBAV	**Isla La Blanqu**	3.60	282	*e*P	Pn	15 58 25.4	-4.5
IBAV				*e*S	Sn	15 59 06.0	-6.2

BJI ***04*** *15:59:38.7,37.40N×26.88E,h31^{km},mb4.0*
NEIC ***04*** *15:59:39.5,36.93N×27.73E,h13^{km},mb4.1/17,*
ML4.1(ATH),After ATH.
MOS ***04*** *15:59:39.4±1.1,36.87N×27.67E,h18^{km},mb4.3/8,Error*
ellipse: s-maj=14.4km s-min=6.8km az=98.7
ATH ***04*** *15:59:39.5,36.93N×27.73E,h13^{km}±3^{km},MD4.1/20,*
ML4.1
ISK ***04*** *15:59:41.0,37.14N×27.74E,h9^{km},MD4.0,ML4.3*
THE ***04*** *15:59:42.6,37.09N×27.97E,h10^{km},ML4.3*
IDC ***04*** *15:59:43.6±2.3,36.84N×27.71E,h38^{km}±21^{km},mb3.7/10,*
mb1 3.9/14,mb1mx3.8/24,ML3.9/4,MS3.7/7,Ms1 3.7/7,
ms1mx3.4/28,Error ellipse: s-maj=17.8km s-min=15.3km

az=2.0
*NIC **04** 15:59:44.6±0.3,37.19N×28.13E,h57^{km},mb4.8,ML4.4,MW3.9*
*NSSC **04** 15:59:56.1,36.51N×28.93E,h40^{km}*
ISC 04 15:59:39.2±0.5**,36.88N**±0.02×**27.80E**±0.02**,h12**^{km}±4^{km}**,n201,**σ**1^{s}12**/226**,mb4.0**/17**,MS3.7**/8**,9C-6D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.34	304	i P	Pg	15 59 46.6	+0.3
MLSB	Milas	0.42	358	i PG	Pg	15 59 46.7	-1.1
YER	Yerkesik	0.47	56	i PG	Pg	15 59 49.4	+0.6
NISR	Nisiros	0.60	244	ePB	Pb	15 59 51.5	+0.3
ARG	Arkhangelos	0.71	158	⇑iPB	Pb	15 59 54.5	+1.4
AYDN	Tasoluk	0.79	5	i P	Pb	15 59 55.2	+0.8
SMG	Samos	1.13	318	ePN	Pn	16 00 00.0	-0.9
DNZL	Cakiroluk	1.28	50	i P	Pb	16 00 04.1	+1.2
DNZL				i S	Sb	16 00 22.0	+2.8
DNZL	Cakiroluk	1.28	50	i P	Pg	16 00 14.1	+9.2
DENT	Denizli	1.32	48	i PN	Pn	16 00 04.2	+0.6
KARP	Karpathos	1.42	201	ePN	Pn	16 00 06.0	+0.9
IZM	Izmir	1.58	345	i PN	Pn	16 00 05.4	-1.9
KDAG	Bornova	1.58	345	i P	Pn	16 00 06.1	-1.2
KDAG				i S	Sn	16 00 34.9	+7.1
KSL	Kastellorizon	1.61	116	ePG	Pg	16 00 11.0	-0.5
ELL	Elmali	1.70	94	i PN	Pn	16 00 13.4	+4.4
MANT	Manisa	1.72	20	i P	Pn	16 00 09.1	-0.3
MANT				i S	Sn	16 00 32.2	+0.8
APE	Apeiranthos	1.82	277	ePB	Pb	16 00 10.5	-1.6
SANT	Santorini	1.95	256	eP	Pn	16 00 13.5	+1.0
THR1	Thera Island	1.95	256	ePn	Pn	16 00 16.9	+4.3
THR4	Thira Island,	1.97	259	ePn	Pn	16 00 17.5	+4.6
THR3	Thira Island,	1.98	257	ePn	Pn	16 00 17.3	+4.3
KHL	Karahalli	1.99	43	PN	Pn	16 00 14.1	+0.9
KHL				SN	Sn	16 00 37.2	-1.0
AKS	Akhisar	2.00	0	i PN	Pn	16 00 12.5	-0.8
THR6	Thira Island,	2.00	256	ePn	Pn	16 00 17.2	+3.9
THR5	Thira Island,	2.02	258	ePn	Pn	16 00 17.9	+4.3
ANTB	Antalya	2.29	89	ePN	Pn	16 00 20.9	+3.4
BCK	Bucak	2.31	75	PN	Pn	16 00 20.3	+2.6
ISP	Isparta	2.37	65	PN	Pn	16 00 20.0	+1.4
NPS	Neapolis	2.39	228	ePN	Pn	16 00 21.0	+2.1
XRY	Khrisi	2.63	221	ePN	Pn	16 00 25.2	+2.9
PRK	Paraskevi	2.65	333	ePB	Pb	16 00 22.0	-4.3
BALB	Balikesir	2.76	1	ePN	Pn	16 00 23.0	-1.2
DST	Dursunbey	2.80	13	PN	Pn	16 00 24.1	-0.7
IDI	Anoyia	2.84	237	Pn	Pn	16 00 25.9	+0.6
	baz=252,slow=20						
ALT	Altintas	2.84	39	ePN	Pn	16 00 25.6	+0.3
VAM	Vamos	3.26	244	ePB	Pb	16 00 34.5	-2.2
ORLT	Orhaneli	3.28	15	ePN	Pn	16 00 29.9	-1.7
PTL	Penteli	3.34	292	ePN	Pn	16 00 32.0	-0.4
KCT	Karacabey	3.41	7	ePN	Pn	16 00 32.1	-1.3
ULDT	Uludag	3.42	17	i P	Pn	16 00 31.8	-1.8
ULDT				i S	Sn	16 01 27.2	+13
ATH	Athens Observa	3.43	290	ePN	Pn	16 00 33.5	-0.2
MPAR	Parnis Oros	3.47	293	ePN	Pn	16 00 34.5	+0.2
NAIG	Nisos Aigina	3.54	286	ePB	Pb	16 00 37.5	-4.1
ESKT	Eskisehir	3.57	41	ePN	Pn	16 00 36.6	+0.9
ESKT	Eskisehir	3.57	41	i P	Pn	16 00 36.3	+0.6
ESKT				i S	Sn	16 01 30.1	+12
LPK	Lapseki	3.58	347	ePN	Pn	16 00 34.0	-1.9
NSAL	Nisos Salamina	3.60	288	ePB	Pb	16 00 38.0	-4.5
LOS	Limnos	3.72	326	ePn	Pn	16 00 37.9	0.0
MRMT	Marmara Adasi	3.72	358	ePN	Pn	16 00 36.1	-1.8
HDMB	Hadim	3.76	87	ePN	Pn	16 00 41.5	+3.1
KIZT	Kizilcal	3.80	57	ePN	Pn	16 00 40.7	+1.8
MKIT	Kithairon Oros	3.83	291	ePN	Pn	16 00 40.0	+0.5
SART	Tekirdag	3.84	353	i P	Pn	16 00 38.2	-1.3
KYTH	Kithira	3.88	263	ePN	Pn	16 00 40.5	+0.4
VLI	Veliai	3.90	269	ePN	Pn	16 00 41.0	+0.6
AKMC	Akamas	4.12	115	P	Pn	16 00 44.5	+1.1
PPCY	Paphos	4.19	117	⇑P	Pn	16 00 46.1	+1.5
ALN	Alexandroupoli	4.24	342	ePn	Pn	16 00 43.9	-1.4
ALN				eSn	Sn	16 01 29.7	-5.6
ALFC	Alevga	4.25	112	⇑P	Pn	16 00 46.4	+1.0
	16nm,0.3s						
ALFC				S	Sn	16 01 35.5	-0.1
OUR	Ouranopolis	4.56	320	ePn	Pn	16 00 49.2	-0.6
HENT	Hendek	4.62	31	i P	Pn	16 00 50.7	0.0
SZAC	Souni-Zanaja	4.64	116	⇑P	Pn	16 00 51.9	+1.0
	18nm,0.4s						
SZAC				S	Sn	16 01 44.6	-0.8
ITM	Ithomi	4.71	275	ePN	Pn	16 00 54.5	+2.7
MAMC	Mammari	4.71	110	P	Pn	16 00 53.5	+1.6
IKL	Isikli	4.78	96	ePN	Pn	16 00 55.7	+2.8
AGG	Agios Georgios	4.82	298	ePn	Pn	16 00 54.6	+1.1
CSS	Prodhromos	4.88	111	P	Pn	16 00 54.9	+0.6
	7.9nm,0.5s						
CSS				S	Sn	16 01 49.3	-2.1
CSS	Prodhromos	4.88	111	eP	Pn	16 00 54.2	-0.1
ANTO	Ankara	4.93	51	ePN	Pn	16 00 55.7	+0.7
KDZ	Kurdzhali	5.11	340	i P	Pn	16 00 56.0	-1.6
EVR	Evrytania	5.16	295	ePN	Pn	16 00 59.0	+0.8
LIT	Litokhoron	5.26	309	ePn	Pn	16 00 60.0	+0.3
KAMT	Kaman	5.29	60	ePN	Pn	16 01 01.0	+1.0
RZN	Rozhen	5.37	335	i P	Pn	16 00 58.0	-3.1
PHNC	Paralimni	5.39	108	⇑P	Pn	16 01 04.3	+2.8
PHNC				S	Sn	16 02 05.9	+1.6
BRTR	Keskin Array B	5.40	56	Pn	Pn	16 01 03.0	+1.3
	5.7nm,0.3s,baz=239,slow=17,SNR=54						
BRTR				Sn	Sn	16 02 03.7	-0.9
	2.9nm,0.3s,baz=134,slow=14,SNR=5.4						
BRTR	Keskin Array B	5.40	56	P	Pn	16 01 03.0	+1.3
BRTR						16 02 03.7	
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
DIM	Dimitrovgrad	5.46	342	i P	Pn	16 01 01.0	-1.4
MMB	Musomiste	5.67	327	i P	Pn	16 01 04.0	-1.4
ELDT	Eldivan	5.69	49	i P	Pn	16 01 07.1	+1.3
ELDT				i S	Sg	16 02 47.5	-1.3
KNT	Kendrikon	5.73	320	ePn	Pn	16 01 05.9	-0.4
GRG	Griva	5.86	316	ePn	Pn	16 01 08.0	-0.1
AVNT	Avonos	5.90	69	i P	Pn	16 01 09.7	+1.0
KKB	Krupnik	6.18	325	i P	Pn	16 01 12.0	-0.6
PGB	Panagyurishte	6.32	335	i P	Pn	16 01 13.0	-1.6
FNA	Florina	6.35	310	ePn	Pn	16 01 15.3	+0.3
BALT	Daday	6.36	41	i P	Pn	16 01 15.6	+0.5
CTKT	Corum	6.62	53	i P	Pn	16 01 21.0	+2.1
ARNB	Al Arnab	6.67	96	⇑P	Pn	16 01 19.8	+0.2
VTS	Vitosha	6.71	330	i P	Pn	16 01 20.0	-0.1
COBT	Iskenderun	6.81	90	i P	Pn	16 01 23.6	+2.1
SLNF	Slenfeh	6.93	98	⇑P	Pn	16 01 22.1	-1.1
BTCH	Batrach	7.03	94	⇑P	Pn	16 01 24.6	0.0
SKO	Skopje	7.08	318	ePn	Pn	16 01 27.0	+1.7
DRWC	Darouich	7.13	89	⇑P	Pn	16 01 26.2	+0.3
HNTI	Hanita	7.14	120	Pn	Pn	16 01 25.3	-0.8
HNTI				Sn	Sn	16 02 41.4	-6.6
BOYT	Boyabat	7.15	48	i P	Pn	16 01 26.5	+0.3
BIDA	Albida	7.16	103	⇓P	Pn	16 01 25.2	-1.2
BIDA				⇓S	Sn	16 02 31.4	-17
HAF	Haifa	7.21	122	Pn	Pn	16 01 26.4	-0.8
OFRI	‘Ofer	7.28	124	Pn	Pn	16 01 28.0	-0.1
KSDI	Kefar Szold	7.42	117	Pn	Pn	16 01 29.6	-0.5
HRI	Mount Hermon	7.44	117	Pn	Pn	16 01 30.1	-0.2
BRBR	Barbar	7.52	115	⇓P	Pn	16 01 31.3	-0.2
BRBR				⇓S	Sn	16 02 39.8	-18
SLTI	Sal’it	7.55	126	Pn	Pn	16 01 32.3	+0.4
KSHT	Keshet	7.64	118	Pn	Pn	16 01 33.4	+0.2
MMLI	Mount Malkishu	7.69	123	Pn	Pn	16 01 33.4	-0.4
QASN	Qassioun	7.70	113	⇑P	Pn	16 01 33.2	-0.8
QASN				⇑S	Sn	16 02 44.7	-17
GZT	Gaziantep	7.82	84	i P	Pn	16 01 35.5	-0.2
HMDT	Nahal Hemdat	7.87	124	Pn	Pn	16 01 35.7	-0.6
TOTH	TOTAH	7.89	114	⇑P	Pn	16 01 36.4	-0.3
TCHB	Talchebab	7.92	120	⇑P	Pn	16 01 36.6	-0.5
TCHB				⇑S	Sn	16 02 48.9	-19
KZIT	Kziot	8.10	135	Pn	P	16 01 39.0	-0.5
KZIT				Sn	Sn	16 03 04.4	-7.5
RTMM	Retamin	8.15	133	Pn	P	16 01 39.8	-0.5
DRGI	Dragot	8.20	128	Pn	P	16 01 40.8	-0.2
SVTA	Shivta	8.20	134	Pn	P	16 01 40.9	-0.1
MASH	Mash‘abbe Sade	8.25	133	Pn	P	16 01 41.0	-0.7
MZDA	Masada	8.38	129	Pn	P	16 01 43.0	-0.4
MZDA				Sn	Sn	16 03 10.5	-8.4
MALT	Malatya	8.56	77	eP	P	16 01 41.6	-4.3
MLR	Muntele Rosu	8.72	351	Pn	P	16 01 47.6	-0.6
	comp=Z,0.3nm,0.3s,baz=276,slow=5.8,SNR=6.1						
ASF	Jabal al Asfar	8.85	119	Pn	P	16 01 49.9	-0.1
	comp=Z,4.7nm,0.3s,baz=198,slow=5.7,SNR=15						
ASF				Sn	Sn	16 03 27.2	-3.5
	comp=Z,1.8nm,0.3s,baz=221,slow=20,SNR=3.3						
PRNI	Paran	8.86	135	Pn	P	16 01 48.6	-1.5
PRNI				Sn	Sn	16 03 23.3	-7.5
TIP	Timpagrande	9.01	288	eP	P	16 01 51.9	-0.3
MBH	Mount Berech	9.24	138	Pn	P	16 01 54.7	-0.6
EIL	Elat	9.35	138	Pn	P	16 01 57.0	+0.1
AQBJ	Aqaba	9.36	138	Pn	P	16 01 56.8	-0.2
HAQS	Haql	9.83	140	P	P	16 02 01.7	-1.8
HAQS				S	Sn	16 03 46.2	-8.7
JMOS	Jabal al Moall	9.83	139	P	P	16 02 01.7	-1.9
BDAS	Al Bad‘	10.43	142	P	P	16 02 09.2	-2.6
JMQS	Jabal Moqyreh	10.47	137	P	P	16 02 12.7	+0.4
AYUS	‘Aynunah	10.71	142	P	P	16 02 13.1	-2.5
ANN	Anapa	10.76	40	d iP	P	16 02 22.0	+5.8
ANN				pmax	pmax		
	comp=Z,42nm,1.8s						
ANN				MLR	MLR		
	comp=Z,146nm,12.0s						
ANN				MLR	MLR		
	comp=N,80nm,9.0s						
ANN				MLR	MLR		
	comp=E,153nm,11.0s						
PSZ	Piszkesteto	12.47	335	P	P	16 02 39.6	+0.1
KIV	Kislovodsk	13.36	53	eP	P	16 02 52.0	+0.8
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,200nm,11.0s						
OKC	Ostrava-Krasne	14.72	335	eP	P	16 03 18.5	+10
OKC				LM		16 10 10.0	
	comp=Z,0.3nm,13.7s						
PGF	Pioggiola	15.53	297	eP	P	16 03 20.1	+0.5
	comp=Z,17nm,1.1s						
GERES	GERESS Array B	15.78	324	Pn	P	16 03 25.6	+2.9
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=9.5						
DPC	Dobruska-Polom	15.80	332	eP	P	16 03 26.2	+3.2
DPC				eS	S	16 06 32.3	+14
DPC				LM		16 10 40.0	
	comp=Z,0.6nm,10.8s						
DPC	Dobruska-Polom	15.80	332	eP	P	16 03 26.2	+3.2
DPC				MLR	MLR		
	comp=Z,600nm,10.8s						
KHC	Kasperske Hory	16.03	324	eP	P	16 03 33.3	+7.2
KHC				AP		16 03 35.5	
KHC				eS	S	16 06 38.1	+14
KHC				LM		16 10 30.0	
	comp=Z,0.5nm,10.4s						
KHC	Kasperske Hory	16.03	324	eP	P	16 03 33.3	+7.2
KHC				MLR	MLR		
	comp=Z,500nm,10.4s						
KHC	Kasperske Hory	16.03	324	eP	P	16 03 33.3	+7.2
KHC				e		16 03 35.5	
KHC				eS	S	16 06 38.1	+14
PRU	Pruhonice	16.23	328	eP	P	16 03 32.8	+4.3
PVCC	Panska Ves	16.63	329	eP	P	16 03 35.0	+1.4
PVCC				LM		16 10 10.0	
	comp=Z,0.3nm,11.4s						
BRG	Berggiesshubel	17.15	329	eP	P	16 03 42.7	+2.5
BRG				i S	S	16 06 57.0	+7.6
BRG				pmax	pmax		
	comp=Z,33nm,2.0s						
BRG	Berggiesshubel	17.15	329	eP	P	16 03 42.7	+2.5
	comp=Z,33nm,2.0s						
BRG				i		16 03 47.1	
BRG				i S	S	16 06 57.0	+7.6
LMR	La Mourre	17.49	298	eP	P	16 03 44.9	+0.4
	comp=Z,32nm,1.0s						
MBDF	Montbardon	17.71	303	eP	P	16 03 48.4	+1.1
	comp=Z,16nm,1.0s						
CLL	Collm	17.87	329	⇑i	P	16 03 53.5	+4.4
CLL				i		16 03 58.6	
CLL				eS	S	16 07 13.0	+7.2
CLL	Collm	17.87	329	⇑iP	P	16 03 53.5	+4.4
CLL				pmax	pmax		
	comp=Z,12nm,1.2s						
CLL	Collm	17.87	329	⇑iP	P	16 03 53.5	+4.4
	comp=Z,12nm,1.2s						
CLL				i		16 03 58.6	
MOX	Moxa	18.00	325	i P	P	16 03 55.9	+5.1
	comp=Z,logA/T=1.0						
MOX				S	S	16 07 26.0	+17
MOX				L		16 11 12.0	
MOX	Moxa	18.00	325	eP	P	16 03 55.9	+5.1
MOX				pmax	pmax		
	comp=Z,15nm,1.5s						
MOX				MLR	MLR		
	comp=Z,200nm,15.0s						
MOX	Moxa	18.00	325	eP	P	16 03 55.9	+5.1
	comp=Z,15nm,1.5s						
MOX				e		16 07 26.0	
SMRF	Simiane la Rot	18.31	300	eP	P	16 03 55.3	+0.5
ORIF	Oris-en-Rattie	18.38	303	eP	P	16 03 56.1	+0.6
ORIF				eR			
	comp=Z,234nm,18.5s						
CABF	La Chapelle	18.84	308	eP	P	16 04 02.1	+0.9
	comp=Z,12nm,0.9s						
CDF	Champ du Feu	18.93	314	eP	P	16 04 02.8	+0.6
VIVF	Saint-Julien-l	19.18	302	eP	P	16 04 05.5	+0.3
OBN	Obninsk	19.20	15	d iP	P	16 04 07.1	+1.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,8.0s						
LASF	Ste Croix	19.54	299	eP	P	16 04 09.0	-0.4
	comp=Z,30nm,1.2s						
SMF	Signal de Mont	20.29	306	eP	P	16 04 17.6	+0.1
	comp=Z,32nm,1.2s						
LOR	Lormes	20.50	308	eP	P	16 04 20.0	+0.3
	comp=Z,6.6nm,0.7s						
LOR				eR			
	comp=Z,246nm,20.5s						
SSF	Saint Saulge	20.65	307	eP	P	16 04 21.5	+0.2
	comp=Z,26nm,1.0s						
AVF	Avril sur Loir	20.66	306	eP	P	16 04 21.3	0.0
	comp=Z,9.1nm,0.8s						
MFF	Saint Martin d	22.90	304	eP	P	16 04 43.4	-0.4
LDF	La Druitiere	23.48	309	eP	P	16 04 50.2	+0.8
	comp=Z,14nm,0.9s,mb4.1						
FLN	La Foliniere	23.76	309	eP	P	16 04 52.3	+0.2
	comp=Z,27nm,1.1s,mb4.3						
FLN				eR			
	comp=Z,204nm,21.2s						
GRR	Gorron	23.87	308	eP	P	16 04 53.4	+0.2
	comp=Z,23nm,0.9s,mb4.3						
FINES	FINESS Array B	24.61	358	P	P	16 04 59.7	-0.6
	comp=Z,1.8nm,0.6s,mb3.8,baz=158,slow=10,SNR=11						
FINES	FINESS Array B	24.61	358	P	P	16 04 59.7	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	24.61	358	P	P	16 04 59.7	-0.6
SGMF	Saint Gilles	24.92	307	eP	P	16 05 02.9	-0.5
HFS	Hagfors	24.97	343	P	P	16 05 04.2	+0.5
	comp=Z,2.4nm,0.7s,mb3.8,baz=175,slow=16,SNR=6.2						
HFS	Hagfors	24.97	343	P	P	16 05 04.2	+0.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	Sonseca Array	25.02	286	P	P	16 05 02.2	-2.3
	comp=Z,1.4nm,0.7s,mb3.6,baz=68,slow=8.0,SNR=3.6						
NB2	NORSAR Subarra	26.36	342	P	P	16 05 17.2	+0.5
	comp=Z,2.2nm,1.2s,mb3.6,baz=145,slow=9.3						
NOA	NORSAR Array B	26.36	342	P	P	16 05 15.9	-0.9
	comp=Z,0.2nm,0.5s,mb2.9,baz=155,slow=9.6,SNR=4.2						
NOA				LR	LR	16 17 06.8	
	comp=Z,50nm,18.3s,MS3.1,baz=165,slow=40						
ARU	Arti	28.41	37	⇑iP	P	16 05 35.2	-0.2
ARU				e		16 06 23.4	
ARU				i		16 08 42.4	
ARU				eS	S	16 10 22.8	+2.1
ARU				eSS	SS	16 11 46.2	+1.0
ARU				e		16 16 14.1	
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.0						
ARU				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
ARU				MLR	MLR		
	comp=N,100nm,18.5s,MS3.5						
ARU				MLR	MLR		
	comp=E,50nm,20.0s,MS3.5						
ARCES	ARCESS Array B	32.74	359	P	P	16 06 12.7	-1.0
	comp=E,1.2nm,0.7s,mb3.9,baz=180,slow=8.1,SNR=4.6						
ARCES				LR	LR	16 20 54.1	
	comp=E,50nm,21.7s,MS3.2,baz=273,slow=39						
ARCES	ARCESS Array B	32.74	359	P	P	16 06 12.7	-0.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,50nm,21.7s						
ZRNK	Zerenda	32.78	47	eP	P	16 06 13.7	-0.4
	comp=Z,3.1nm,1.0s,mb4.2						
BRVK	Borovoye	33.56	48	eP	P	16 06 20.3	-0.6
BVAR	Borovoye Array	33.62	48	P	P	16 06 21.3	-0.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=239,slow=8.6,SNR=4.7						
KURK	Kurchatov	38.44	52	eP	P	16 07 02.6	+0.2
	comp=Z,9.8nm,1.5s,mb4.3						
MKAR	Makanchi Array	41.05	58	P	P	16 07 24.1	+0.1
	comp=Z,4.3nm,0.7s,mb4.2,baz=280,slow=6.7,SNR=26						
MKAR				LR	LR	16 26 57.6	
	comp=Z,59nm,20.8s,MS3.4,baz=13,slow=40						
MKAR	Makanchi Array	41.05	58	P	P	16 07 24.1	+0.1
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,59nm,20.8s						
NVS	Novosibirsk	41.36	46	i P	P	16 07 25.8	-0.7
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
DBIC	Dimbokro	42.31	233	P	P	16 07 33.8	-0.9
	comp=Z,11nm,1.1s,mb4.4,baz=328,slow=2.6,SNR=3.2						
DBIC	Dimbokro	42.31	233	P	P	16 07 33.8	-0.9
DBIC				pmax	pmax		
	comp=Z,11nm,1.1s						
LIC	Lamto	42.76	233	eP	P	16 07 32.8	-5.6
ZAK	Zakamensk	54.01	50	eP	P	16 09 04.5	-0.7
SONM	Songino Array	56.75	52	P	P	16 09 25.1	-0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=290,slow=7.8,SNR=16						
CMAR	Chiang Mai Arr	64.28	86	P	P	16 10 14.9	-2.0
	comp=Z,2.1nm,1.0s,mb4.1,baz=297,slow=9.2,SNR=6.6						
CMAR	Chiang Mai Arr	64.28	86	P	P	16 10 14.9	-2.0
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NJ2	Nanjing	72.36	63	eP	P	16 11 07.0	0.0
YKA	Yellowknife Ar	76.45	343	LR	LR	16 46 25.5	
	comp=Z,63nm,19.7s,MS3.9,baz=195,slow=37						
BDFB	Brasilia	88.32	249	LR	LR	16 54 55.4	
	comp=Z,84nm,19.5s,MS4.2,baz=250,slow=38						
BBB	Bella Bella	88.85	345	LR	LR	16 56 25.9	
	comp=Z,67nm,18.4s,MS4.1,baz=197,slow=38						
PDAR	Pinedale Array	91.72	330	LR	LR	16 56 47.2	
	comp=Z,58nm,20.5s,MS4.0,baz=15,slow=37						
WRA	Warramunga Arr	114.67	97	PKP	PKPdf	16 18 19.5	-3.5
	comp=Z,0.3nm,0.9s,baz=289,slow=1.6,SNR=5.7						
ASAR	Alice Springs	116.26	101	PKP	PKPdf	16 18 23.1	-3.1
	comp=Z,0.2nm,0.4s,baz=315,slow=0.8,SNR=4.6						

OTT 04 16:00:11.8±0.2**,52.76N**×**67.27W,MN2.8**/6**,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	Schefferville	2.09	7	PN	Pn	16 00 47.9	-0.5
SCHQ				SG	Sg	16 01 16.2	-5.2
SCHQ				Trac		16 01 17.4	
	comp=Z,24nm,0.2s						
MNQ	Manicouagan	2.42	203	PN	Pn	16 00 52.3	-0.9
MNQ				Trac		16 01 32.3	
	comp=Z,22nm,0.2s						
SMQ	Clarke City	2.57	172	PN	Pn	16 00 53.4	-2.0
SMQ				SN	Sn	16 01 25.0	-2.7
SMQ				Trac		16 01 29.7	
	comp=Z,12nm,0.2s						
ICQ	Pointe Anglais	3.25	180	PN	Pn	16 01 03.0	-1.9
ICQ				SN	Sn	16 01 40.6	-4.3
ICQ				Trac		16 01 59.1	
	comp=Z,8.4nm,0.2s						
CNQ	Baie Comeau	3.50	189	PN	Pn	16 01 07.5	-1.1
CNQ				SN	Sn	16 01 48.5	-2.9
CNQ				Trac		16 02 00.0	
	comp=Z,9.9nm,0.2s						
GSQ	Grosses Roches	3.86	178	PN	Pn	16 01 12.2	-1.5
GSQ				SN	Sn	16 01 59.7	-0.7
GSQ				Trac		16 02 15.3	
	comp=Z,0.9nm,0.0s						
LG4Q	La Grande 4	4.20	285	PN	Pn	16 01 16.1	-2.4
LG4Q				SN	Sn	16 02 03.7	-5.3
DAQ	Lac Daran	5.44	209	PN	Pn	16 01 31.8	-4.3
LMQ	La Malbaie	5.58	202	PN	Pn	16 01 34.3	-3.8
DRLN	Deer Lake	7.09	116	PN	Pn	16 01 54.1	-5.2
LMN	Caledonia Moun	7.10	166	PN	Pn	16 01 55.2	-4.3
VIMO	Victor Mine	9.99	277	PN	P	16 02 25.1	-14
SILO	Sutton Inlier	10.62	286	PN	P	16 02 41.1	-7.1

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*IDC **04** 16:04:17.8±7.0,8.48S×123.66E,h49^{km}±76^{km},mb3.6/2,mb1 3.7/5,mb1mx3.5/13,ML3.6/3,Error ellipse: s-maj=154.0km s-min=33.6km az=53.0*
*NEIC **04** 16:04:19.8±2.7,8.70S×123.45E,h70^{km}±24^{km},mb4.1/1,Error ellipse: s-maj=30.6km s-min=22.1km az=67.0*
ISC 04 16:04:25.1±3.7**,9.1S**±0.2×**123.7E**±0.1**,h99**^{km}±30^{km}**,n9,**σ**0^{s}88**/15**,mb3.7**/3**,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	9.10	168	eP	P	16 06 35.2	+0.1
	1.3nm,0.4s						
FITZ				eS	S	16 08 15.4	-1.2
FITZ	Fitzroy Crossi	9.10	168	P	P	16 06 35.3	+0.2
	0.7nm,0.3s,baz=11,slow=10,SNR=21						
FITZ				S	S	16 08 16.2	-0.3
	2.5nm,0.3s,baz=182,slow=8.1,SNR=17						
KAKA	Kakadu	9.24	113	eP	P	16 06 36.6	-0.5
	4.3nm,0.2s						
KAKA				eS	S	16 08 19.7	-0.3
WRA	Warramunga Arr	14.87	137	P	P	16 07 51.4	0.0
	0.2nm,0.3s,baz=313,slow=12,SNR=25						
WRA				S	S	16 10 29.6	-4.2
	0.4nm,0.3s,baz=311,slow=24,SNR=6.6						
WB2	Warramunga Arr	14.87	137	eP	P	16 07 51.4	-0.1
WB2				eS	S	16 10 29.3	-4.7
ASAR	Alice Springs	17.43	147	P	P	16 08 25.4	+1.9
	0.2nm,0.3s,baz=324,slow=12,SNR=26						
ASAR				S	S	16 11 36.5	+4.5
	0.1nm,0.3s,baz=312,slow=21,SNR=7.2						
STKA	Stephens Creek	28.06	146	P	P	16 10 09.7	+0.3
	1.9nm,0.9s,mb3.6,baz=329,slow=12,SNR=2.9						
MKAR	Makanchi Array	66.79	330	P	P	16 15 00.4	-7.9
	0.4nm,0.6s,mb3.5,baz=149,slow=8.4,SNR=4.4						
QSPA	South Pole Qui	80.85	180	eP	P	16 16 28.2	-0.9
	1.4nm,0.5s,mb4.0						

OTT 04 16:17:55.8±0.9**,44.73N**×**56.31W,h18**^{km}**,ML3.3**/7**, Laurentian Slope Seismic Zone. 267km south from Grand Bank, Nl,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRLN	Deer Lake	4.60	350	PN	Pn	16 19 03.9	-2.4
DRLN				SN	Sn	16 19 54.9	-4.9
DRLN				Trac		16 19 56.8	
	comp=Z,7.7nm,0.2s						
HAL	Halifax	5.19	272	PN	Pn	16 19 12.4	-2.2
HAL				SN	Sn	16 20 07.7	-7.0
HAL				Trac		16 20 10.7	
	comp=Z,4.2nm,0.0s						
LMN	Caledonia Moun	6.09	284	PN	Pn	16 19 24.8	-2.6
LMN				SN	Sn	16 20 30.6	-6.8
LMN				Trac		16 20 35.4	
	comp=Z,2.3nm,0.1s						
GGN	Saint George	7.48	277	PN	Pn	16 19 42.8	-4.1
GGN				SN	Sn	16 21 02.1	-10
GGN				Trac		16 21 06.0	
	comp=Z,3.6nm,0.1s						
GSQ	Grosses Roches	8.50	303	PN	P	16 19 54.9	-6.1
GSQ				SN	Sn	16 21 28.4	-9.0
ICQ	Pointe Anglais	8.87	307	PN	P	16 20 02.6	-3.6
ICQ				SN	Sn	16 21 35.8	-11
ICQ				Trac		16 21 43.0	
	comp=Z,3.8nm,0.3s						
SMQ	Clarke City	8.92	312	PN	P	16 20 01.6	-5.3
SMQ				SN	Sn	16 21 35.4	-13
SMQ				Trac		16 21 40.6	
	comp=Z,2.2nm,0.1s						
CNQ	Baie Comeau	9.24	304	SN	Sn	16 21 45.6	-10
LMQ	La Malbaie	10.13	291	PN	P	16 20 18.1	-5.3
LMQ				SN	S	16 22 07.2	-10

LMQ				Trac		16 22 13.8	
	comp=Z,3.2nm,0.2s						
MNQ	Manicouagan	10.21	309	SN	S	16 22 08.6	-11
SCHQ	Schefferville	12.17	330	PN	P	16 20 45.0	-6.2
SCHQ				SN	S	16 22 54.5	-13

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*GCG **04** 16:28:54.1, 14.19N×93.47W, h63^{km}, MD4.9, ML5.1*
*MEX **04** 16:28:57.4±1.4, 13.90N×93.21W, h70^{km}±57^{km}, MD4.5*
*BJI **04** 16:29:03.5, 14.20N×92.80W, h53^{km}, Ms4.5, Msz4.3*
*NEIC **04** 16:29:03.6±1.1, 14.25N×92.83W, h53^{km}±9^{km}, mb4.2/11, MD4.6(MEX), Error ellipse: s-maj=15.7km s-min=6.7km az=221.0*
*IDC **04** 16:29:06.3±3.7, 14.37N×92.69W, h74^{km}±31^{km}, mb3.9/9, mb1 4.1/11, mb1mx3.9/20, MS3.7/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=32.3km s-min=19.3km az=51.0*
ISC 04 16:29:01.4±0.8, **14.29N**±0.07×**92.87W**±0.05, **h46**^{km}±7^{km}, **n67**, σ**1^{s}13**/68, **mb4.2**/17, **MS3.8**/7, **1C-1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPX	Tapachula	0.85	43	i P	P	16 29 18.5	+1.4
TPX				i S	S	16 29 37.0	+8.4
JAT	Jato	1.19	88	⇑eP	P	16 29 22.8	+1.0
JAT				eS	S	16 29 39.0	+1.8
JAT				AML	AML	16 29 48.2	
	comp=E,15µm,0.4s						
CCIG	Comitan	2.10	19	eP	P	16 29 35.7	+0.8
CCIG				i S	S	16 30 05.5	+5.6
IXG	Ixpaco	2.34	92	⇓eP	P	16 29 39.4	+1.1
IXG				eS	S	16 30 04.8	-1.2
IXG				AML	AML	16 30 18.4	
	comp=E,7µm,0.5s						
NBG	Las Nubes	2.46	83	eP	P	16 29 41.4	+1.5
RBDL	Robledal	3.09	93	eP	P	16 29 48.8	-0.1
RTR	El Retiro	3.15	97	eP	P	16 29 49.3	-0.5
MRL	Marmol	3.17	75	eP	P	16 29 51.0	+1.0
SBLS	San Blas	3.18	98	eP	P	16 29 49.6	-0.6
SNJE	San Jose	3.19	97	eP	P	16 29 50.3	-0.1
MTO2	Montecristo 2	3.40	88	eP	P	16 29 54.8	+1.5
CMIG	Matias Romero	3.40	325	i P	P	16 29 51.1	-2.2
CMIG				i S	S	16 30 28.6	-4.3
CMIG	Matias Romero	3.40	325	i P	P	16 29 51.1	-2.2
CMIG				i S	S	16 30 32.3	-0.6
LFRS	El Faro	3.75	100	eP	P	16 29 57.0	-1.3
LCBS	La Ceiba	3.83	99	eP	P	16 29 58.4	-0.9
SNVI	San Vicente	3.97	99	eS	S	16 30 46.1	-1.0
TUIG	Tuzandepetl	4.01	338	i P	P	16 30 00.4	-1.6
TUIG				i S	S	16 30 48.5	+0.1
TUIG	Tuzandepetl	4.01	338	i P	P	16 29 54.7	-7.4
TUIG				i S	S	16 30 43.9	-4.5
OXX	Oaxaca	4.64	307	eP	P	16 30 09.0	-1.9
CNCH	Conchagua	4.99	101	eP	P	16 30 13.9	-1.9
PPM	Popocatepetl	7.29	312	i P	P	16 30 43.1	-4.8
PPM				eP		16 30 47.5	
PPM				i S	S	16 32 03.5	-6.7
PPM	Popocatepetl	7.29	312	eP	P	16 30 47.5	-0.4
PPM				i S	S	16 32 09.9	-0.2
TEIG	Tepich	7.36	36	P	P	16 30 48.6	-0.2
	comp=E,0.0nm,0.3s,baz=219,slow=20,SNR=5.2						
TEIG				S	S	16 32 09.8	-2.0
	comp=E,0.0nm,0.3s,baz=17,slow=19,SNR=2.0						
JTS	JuntasAbangare	8.69	116	P	P	16 31 07.9	+0.6
	comp=E,0.5nm,0.3s,baz=328,slow=19,SNR=2.4						
JTS	JuntasAbangare	8.69	116	eP	P	16 31 06.2	-1.1
HKT	Hockley	15.83	351	eP	P	16 32 43.8	+1.0
	comp=E,4.1nm,0.7s						
LTX	Lajitas	18.00	328	eP	P	16 33 12.4	+2.4
	comp=E,20nm,1.2s						
TXAR	Lajitas Array	18.00	328	P	P	16 33 11.8	+1.8
	comp=E,0.2nm,0.3s,baz=156,slow=12,SNR=14						
TXAR				LR	LR	16 41 02.1	
	comp=E,93nm,18.0s,baz=10.0,slow=40						
MIAR	Mount Ida	20.18	358	eP	P	16 33 33.8	-1.0
	comp=E,21nm,1.0s						
ROSC	El Rosal	20.52	115	P	P	16 33 38.2	-0.3
	comp=E,12nm,0.4s,baz=133,slow=19,SNR=3.7						
SDV	Santo Domingo	22.42	101	eP	P	16 33 59.3	+1.7
	comp=E,13nm,0.9s,mb4.4						
TUC	Tucson	24.28	321	eP	P	16 34 18.2	+2.6
	comp=E,5.7nm,1.1s,mb3.9						
SDCO	Great Sand Dun	25.92	337	eP	P	16 34 31.9	+0.8
	comp=E,16nm,1.2s,mb4.4						
HWUT	Hardware Ranch	31.69	333	eP	P	16 35 23.2	+0.3
	comp=E,1.6nm,0.8s,mb3.9						
PDAR	Pinedale Array	31.82	336	P	P	16 35 23.6	-0.4
	comp=E,0.9nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=6.4						
SADO	Sadowa	32.55	18	LR	LR	16 49 55.9	
	comp=E,140nm,19.4s,MS3.7,baz=13,slow=38						
REDW	Red Top Meadow	32.83	335	eP	P	16 35 32.8	0.0
NVAR	Mina Array Bea	32.92	322	P	P	16 35 34.9	+1.2
	comp=E,3.7nm,0.7s,mb4.4,baz=129,slow=9.4,SNR=25						
NVAR	Mina Array Bea	32.92	322	P	P	16 35 34.9	+1.2
HLID	Hailey	34.52	332	eP	P	16 35 47.3	-0.1
	comp=E,3.3nm,1.0s,mb4.2						
MCMT	McKenzie Canyo	34.85	335	eP	P	16 35 51.6	+1.4
BOZ	Bozeman (W)	35.05	337	eP	P	16 35 51.8	-0.1
	comp=E,0.8nm,0.4s,mb4.0						
WVOR	Wild Horse Val	35.79	327	eP	P	16 35 57.6	-0.6
	comp=E,11nm,1.4s,mb4.6						
ULM	Lac du Bonnet	35.95	357	P	P	16 35 57.5	-2.0
	comp=E,2.2nm,0.5s,mb4.3,baz=167,slow=8.5,SNR=5.4						
ULM				LR	LR	16 54 48.8	
	comp=E,71nm,18.4s,MS3.5,baz=43,slow=43						
ULM	Lac du Bonnet	35.95	357	P	P	16 35 57.5	-2.0
ULM				LR	LR	16 54 48.8	
CHMT	Chamberlain Mo	36.73	336	eP	P	16 36 06.0	-0.1
SCHQ	Schefferville	45.25	21	LR	LR	16 57 09.0	
	comp=E,124nm,20.3s,MS3.8,baz=136,slow=37						
YKA	Yellowknife Ar	50.56	347	P	P	16 37 56.7	-0.6
	comp=E,7.5nm,0.8s,mb4.7,baz=149,slow=7.6,SNR=20						
YKA	Yellowknife Ar	50.56	347	P	P	16 37 56.7	-0.6
DLBC	Dease Lake	52.05	336	P	P	16 38 09.0	+0.4
	comp=E,1.7nm,0.5s,mb4.3,baz=131,slow=6.9						
DLBC	Dease Lake	52.05	336	eP	P	16 38 09.1	+0.5
PTCN	Pitcairn Islan	53.37	223	P	P	16 38 27.1	+8.3
	comp=E,60nm,0.3s						
INK	Inuvik	59.93	344	eP	P	16 39 04.0	-0.9
	comp=E,14nm,1.2s,mb4.8						
ILAR	Eielson Array	62.25	337	P	P	16 39 19.6	-1.0
	comp=E,1.6nm,0.8s,mb4.2,baz=133,slow=4.4,SNR=14						
RAR	Rarotonga	74.54	243	LR	LR	17 04 11.0	
	comp=E,158nm,20.1s,MS4.3,baz=268,slow=28						
NB2	NORSAR Subarra	84.29	28	P	P	16 41 28.7	-0.7
	comp=E,1.5nm,0.8s,mb4.2,baz=287,slow=4.8						
NOA	NORSAR Array B	84.29	28	P	P	16 41 29.2	-0.3
	comp=E,1.0nm,0.8s,mb4.0,baz=291,slow=4.7,SNR=4.8						
NOA				LR	LR	17 17 15.4	
	comp=E,34nm,21.9s,MS3.7,baz=285,slow=34						
NOA	NORSAR Array B	84.29	28	P	P	16 41 29.2	-0.3
NOA				LR	LR	17 17 15.4	
ARCES	ARCESS Array B	86.13	18	P	P	16 41 39.0	+0.6
	comp=E,1.0nm,0.6s,mb4.2,baz=297,slow=8.1,SNR=4.5						
ARCES				LR	LR	17 21 21.7	
	comp=E,44nm,18.0s,MS3.9,baz=269,slow=36						
FINES	FINESS Array B	90.59	25	P	P	16 41 59.6	-0.2
	comp=E,0.5nm,0.5s,mb4.1,baz=333,slow=3.1,SNR=6.4						
FINES				LR	LR	17 25 22.4	
	comp=E,37nm,18.2s,MS3.9,baz=280,slow=37						
CN2	Changchun	112.44	331	ePKP	PKPdf	16 47 34.7	+2.1
WMQ	Urumqi	122.17	360	ePKP	PKPdf	16 47 53.6	+2.1
WMQ				ePP	PP	16 49 32.6	+1.2
LZH	Lanzhou	127.47	343	ePKP	PKPdf	16 48 03.5	+1.5
LZH				sPKP		16 48 43.0	
WRA	Warramunga Arr	134.65	256	PKP	PKPdf	16 48 16.1	+0.1
	comp=E,0.3nm,0.7s,baz=89,slow=3.0,SNR=7.6						
ASAR	Alice Springs	134.97	251	PKP	PKPdf	16 48 16.1	-0.4
	comp=E,0.3nm,0.9s,baz=72,slow=1.7,SNR=4.8						
CM31	Chiang Mai Arr	145.44	340	ePKPdf	PKPdf	16 48 36.3	+1.0
CMAR	Chiang Mai Arr	145.44	340	PKPbc	PKPbc	16 48 36.4	+0.5
	comp=E,4.0nm,0.8s,baz=337,slow=3.3,SNR=25						

IDC 04 16:39:33.5±4.0, **18.81S**×**176.42W, mb3.6**/3, **mb1 3.9**/3, **mb1mx3.7**/14, **Error ellipse: s-maj=294.0km s-min=34.8km az=154.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.33	260	P	P	16 48 01.7	-1.6
	0.3nm,0.7s,baz=96,slow=7.7,SNR=19						
ASAR	Alice Springs	46.37	255	P	P	16 48 01.6	-2.0
	0.4nm,0.4s,baz=96,slow=7.3,SNR=16						
PDAR	Pinedale Array	86.72	43	P	P	16 52 19.6	-1.0
	0.5nm,0.6s,baz=194,slow=7.4,SNR=4.3						

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*IDC **04** 16:46:29.4±3.8, 17.89S×178.57W, h534^{km}±43^{km}, mb3.7/16, mb1 3.8/16, mb1mx3.8/21, Error ellipse: s-maj=21.0km s-min=17.5km az=13.0*
*BJI **04** 16:46:31.5, 17.80S×178.70W, h557^{km}, mB4.8, mb4.5*
*NEIC **04** 16:46:31.5±2.2, 17.79S×178.71W, h557^{km}±24^{km}, mb4.4/15, Error ellipse: s-maj=13.2km s-min=12.5km az=131.0*
ISC 04 16:46:32.2±1.5, **17.74S**±0.08×**178.87W**±0.07, **h571**^{km}±19^{km}, **n128**, σ**0^{s}98**/61, **mb4.2**/30, **11C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.47	250	eP	P	16 49 34.8	-0.8
MTAZ	Motutapu	19.75	195	P	P	16 50 27.1	+1.1
KAAZ	Kauri Point	19.84	195	P	P	16 50 27.2	+0.4
WTAZ	Waiatarua	19.98	196	P	P	16 50 28.7	+0.6
MKAZ	Moumakai	20.00	194	P	P	16 50 28.5	+0.2
URZ	Urewera	20.75	189	P	P	16 50 31.2	-3.9
	12nm,0.3s,baz=308,slow=1.8,SNR=24						
THZ	Tophouse	24.96	195	P	P	16 51 10.3	-2.7
LTZ	Lake Taylor	26.08	195	P	P	16 51 19.2	-3.6
RPZ	Rata Peaks	27.26	196	P	P	16 51 29.7	-3.5
	17nm,0.6s,mb4.9,baz=46,slow=3.0,SNR=19						
AXZ	Alexandra	29.16	197	P	P	16 51 47.2	-2.4
ARMA	Armidale	29.65	239	eP	P	16 51 54.4	+0.5
CTA	Charters Tower	33.04	260	P	P	16 52 22.6	-0.1
	3.8nm,0.8s,mb4.0,baz=72,slow=11,SNR=7.4						
CTAO	Charters Tower	33.04	260	eP	P	16 52 22.9	+0.2
	3.1nm,0.7s,mb4.0						
CNB	Canberra Magne	33.19	232	eP	P	16 52 23.9	+0.2
	18nm,0.5s,mb4.9						
PMG	Port Moresby	34.00	280	P	P	16 52 31.4	+0.7
	13nm,0.8s,mb4.5,baz=42,slow=4.1,SNR=7.1						
TOO	Toolangi	36.94	230	eP	P	16 52 55.2	+0.5
	21nm,0.8s,mb4.7						
STKA	Stephens Creek	38.33	241	⇓iP	P	16 53 06.9	+0.8
	8.8nm,0.6s,mb4.5						
STKA	Stephens Creek	38.33	241	P	P	16 53 07.0	+0.8
	8.3nm,0.4s,mb4.6,baz=94,slow=10,SNR=65						
STKA	Stephens Creek	38.33	241	eP	P	16 53 06.4	+0.3
WRA	Warramunga Arr	44.23	259	P	P	16 53 54.6	+1.3
	1.0nm,0.3s,mb3.8,baz=91,slow=6.9,SNR=2.8						
WRA				S	S	16 59 42.6	-3.6
	1.1nm,0.7s,baz=94,slow=13,SNR=7.4						
ASAR	Alice Springs	44.42	254	P	P	16 53 54.2	-0.4
	9.7nm,0.6s,mb4.5,baz=90,slow=7.7,SNR=375						
ASAR				PcP	PcP	16 55 25.9	-0.3
	1.6nm,0.4s,baz=107,slow=3.8,SNR=4.8						
ASAR				S	S	16 59 47.9	-0.9
	3.7nm,1.0s,baz=92,slow=16,SNR=13						
ASPA	Alice Springs	44.42	254	⇓iP	P	16 53 54.4	-0.2
ASPA				i		16 54 03.3	
ASPA				eS	S	16 59 47.4	-1.4
KAKA	Kakadu	47.19	269	eP	P	16 54 14.9	-1.0
	6.1nm,0.2s,mb4.8						
KAKA				eS	S	17 00 27.2	-0.2
FITZ	Fitzroy Crossi	52.63	261	eP	P	16 54 55.4	-0.4
	2.5nm,0.9s,mb3.5						
SBA	Scott Base	60.56	183	eP	P	16 55 50.1	+0.9
	3.5nm,0.7s,mb3.8						
MAT	Matsushiro	67.51	324	P	P	16 56 32.9	-0.8
MAT	Matsushiro	67.51	324	eP	P	16 56 33.0	-0.7
	11nm,0.6s,mb4.5						
QSPA	South Pole Qui	72.31	180	eP	P	16 57 01.6	+0.2
	7.4nm,0.6s,mb4.3						
PET	Petropavlovsk	73.11	346	eP	P	16 57 04.7	-1.5
	6.6nm,0.5s,mb4.3						
MDJ	Mudanjiang	77.80	325	P	P	16 57 33.0	+0.8
MDJ				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,71nm,4.5s						
MDJ	Mudanjiang	77.80	325	eP	P	16 57 33.0	+0.9
	comp=Z,18nm,0.9s,mb4.4						
MTUM	Tungsten Hills	78.86	45	eP	P	16 57 38.3	+0.3
CN2	Changchun	79.62	323	eP	P	16 57 42.6	+0.8
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.4						
BBB	Bella Bella	82.38	29	P	P	16 57 55.4	-0.3
	comp=Z,4.2nm,0.7s,mb4.0,baz=326,slow=12,SNR=4.5						
RMW	Rattlesnake Mo	82.58	35	eP	P	16 57 56.9	+0.1
BJI	Beijing	83.36	316	eP	P	16 58 01.5	+0.6
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
BJI	Beijing	83.36	316	eP	P	16 58 01.5	+0.6
	comp=Z,10.0nm,0.8s,mb4.4						
MSU	Marysvale	83.80	46	eP	P	16 58 03.5	+0.4
ENH	Enshi	83.82	304	eP	P	16 58 04.5	+1.1
	comp=Z,17nm,0.8s,mb4.6						
MAW	Mawson	83.87	200	P	P	16 58 03.0	+0.3
	comp=Z,1.1nm,0.6s,mb3.6,baz=118,slow=3.3,SNR=4.2						
MCK	McKinley	84.47	13	eP	P	16 58 04.6	-1.2
	comp=Z,3.3nm,0.8s,mb3.9						
HLID	Hailey	84.79	41	eP	P	16 58 08.3	+0.4
	comp=Z,3.2nm,0.8s,mb3.9						
ILAR	Eielson Array	85.82	13	P	P	16 58 10.8	-1.4
	comp=Z,2.0nm,0.5s,mb4.0,baz=271,slow=1.9,SNR=14						
DLBC	Dease Lake	85.85	23	P	P	16 58 12.9	+0.3
	comp=Z,1.0nm,0.2s,mb4.0,baz=239,slow=6.0,SNR=6.2						
TXAR	Lajitas Array	86.27	58	P	P	16 58 16.1	+0.7
	comp=Z,1.7nm,0.5s,mb4.0,baz=221,slow=6.0,SNR=15						
MCMT	McKenzie Canyo	86.39	41	eP	P	16 58 15.9	+0.4
CHMT	Chamberlain Mo	87.18	39	eP	P	16 58 17.4	-1.7
KMI	Kunming	87.37	297	eP	P	16 58 21.3	+0.8
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
KMI	Kunming	87.37	297	eP	P	16 58 21.3	+0.8
	comp=Z,6.0nm,0.9s,mb4.2						
PDAR	Pinedale Array	87.53	44	P	P	16 58 20.9	0.0
	comp=Z,2.1nm,0.5s,mb4.1,baz=218,slow=3.1,SNR=21						
CMAR	Chiang Mai Arr	88.42	290	P	P	16 58 27.3	+1.7
	comp=Z,3.0nm,0.8s,mb4.0,baz=108,slow=2.8,SNR=18						
SNAA	Sanae	90.78	179	⇑i	P	16 58 34.6	-0.7
SNAA	Sanae	90.78	179	⇑i	P	16 58 43.2	+7.9
VNA2	Neumayer--Watz	91.37	177	⇑i	P	16 58 40.9	+2.9
VNA2	Neumayer--Watz	91.37	177	⇓i	P	16 58 49.5	+11
INK	Inuvik	91.84	15	P	P	16 58 39.1	-1.1
	comp=Z,1.1nm,0.4s,mb4.2,baz=156,slow=6.5,SNR=3.7						
SONM	Songino Array	93.14	319	P	P	16 58 46.8	+0.2
	comp=Z,0.4nm,0.7s,mb3.6,baz=129,slow=5.0,SNR=5.6						
SONM				PP	PP	17 02 42.1	+0.3
	comp=Z,0.5nm,0.7s,baz=153,slow=3.2,SNR=3.7						
MKAR	Makanchi Array	108.71	314	PKiKP		17 03 56.8	
	comp=Z,1.8nm,0.7s,baz=143,slow=1.3,SNR=25						
KURK	Kurchatov	111.41	318	eP	PKPdf	17 04 01.7	+0.3
ZRNK	Zerenda	117.28	321	eP	PKPdf	17 04 13.1	+0.3
ARU	Arti	122.47	326	eP	PKPdf	17 04 23.1	+0.4
KEV	Kevo	125.62	349	ep	PKPdf	17 04 26.7	-1.7
ARCES	ARCESS Array B	126.07	350	PKP	PKPdf	17 04 29.6	+0.3
	comp=Z,1.1nm,0.5s,baz=18,slow=1.2,SNR=12						
JOF	Joensuu	130.27	342	ep	PKPdf	17 04 36.0	-1.5
	comp=Z,0.6nm,0.4s						
JOF	Joensuu	130.27	342	ep		17 07 07.9	
FINES	FINESS Array B	132.91	344	PKP	PKPdf	17 04 41.2	-1.3
	comp=Z,1.2nm,0.5s,baz=57,slow=3.1,SNR=9.4						
FINES				PP	PP	17 07 20.6	+2.0
	comp=Z,1.5nm,0.8s,baz=18,slow=4.4,SNR=7.4						
NB2	NORSAR Subarra	136.16	353	PKP		17 04 39.0	
	comp=Z,0.4nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	136.16	353	PKhKP		17 04 38.4	
	comp=Z,0.6nm,0.9s,baz=37,slow=2.2,SNR=4.1						
NOA				PKP	PKPdf	17 04 49.7	+1.2
	comp=Z,0.9nm,0.8s,baz=13,slow=4.0,SNR=5.0						
NOA	NORSAR Array B	136.16	353	PKP	PKPdf	17 04 38.4	-10
NOA				PKP	PKPdf	17 04 49.7	+1.2
BSEG	Bad Segeberg	143.18	351	ePKPbc	PKPbc	17 05 00.3	+0.4
KWP	Kalwaria	143.74	336	eP	PKPbc	17 05 02.9	+1.2
KBRS	Khaybar	143.79	290	P	PKPbc	17 05 04.9	+2.2
DCN	Croghan	143.87	9	eP	PKPbc	17 05 02.0	0.0
OJC	Ojcow	144.30	339	⇑iPKP	PKPdf	17 05 04.5	+1.3
BRTR	Keskin Array B	144.35	315	PKP	PKPdf	17 05 05.1	+1.5
	comp=Z,5.5nm,0.6s,baz=117,slow=2.8,SNR=29						
KSP	Ksiaz	144.83	343	ePKP	PKPdf	17 05 06.2	+2.2
OKC	Ostrava-Krasne	145.17	341	ePKP	PKPdf	17 05 07.2	+2.5
CLZ	Clausthal	145.20	350	ePKPbc	PKPbc	17 05 07.2	+1.5
CLL	Collm	145.20	347	⇑iPKP1	PKPbc	17 05 07.2	+1.5
DPC	Dobruska-Polom	145.26	343	ePKP	PKPdf	17 05 07.9	+3.1
BRG	Berggiesshubel	145.40	346	⇑iP	PKPdf	17 05 07.8	+2.8
MORC	Moravsky Berou	145.41	341	eP	PKPbc	17 05 07.1	+0.8
	comp=Z,4.6nm,0.8s						
PVCC	Panska Ves	145.56	345	eP	PKPdf	17 05 08.6	+3.3
TBKS	Tabuk	145.88	294	P	PKPdf	17 05 10.7	+4.2
PRU	Pruhonice	146.07	344	ePKP	PKPdf	17 05 09.8	+3.6
VYHS	Vyhne	146.11	339	i PKP	PKPdf	17 05 10.0	+3.7
MOX	Moxa	146.12	348	i P	PKPdf	17 05 09.7	+3.4
PSZ	Piszkesteto	146.21	337	eP	PKPdf	17 05 10.0	+3.5
BDAS	Al Bad‘	147.09	295	P	PKPdf	17 05 13.5	+4.9
KHC	Kasperske Hory	147.10	345	ePKP	PKPdf	17 05 12.7	+4.8
KHC				e		17 05 16.3	
GRA1	Grafenberg Arr	147.10	348	ePKPbc	PKPdf	17 05 12.9	+5.0
GRA1				ePKPab	PKPab	17 05 15.7	-1.5
GEC2	GERESS Array S	147.34	345	ePKPbc	PKPdf	17 05 13.3	+5.0
GERES	GERESS Array B	147.34	345	PKPbc	PKPdf	17 05 13.3	+5.0
	comp=Z,6.4nm,0.5s,baz=23,slow=2.9,SNR=71						
GIVF	Givet	147.58	356	ePKP1	PKPdf	17 05 13.6	+4.9
	comp=Z,26nm,0.7s						
BAIF	Baives	147.66	356	ePKP1	PKPdf	17 05 13.9	+5.1
	comp=Z,18nm,0.6s						
WLF	Walferdange	147.90	354	eP	PKPdf	17 05 14.9	+5.7
MOA	Molln	148.10	343	⇑iP	PKPdf	17 05 15.1	+5.5
FUR	Furstenfeldbru	148.54	347	ePKPbc	PKPdf	17 05 16.1	+5.9
FUR				ePKPab	PKPab	17 05 22.2	-0.7
BFO	Black Forest	148.93	351	ePKPbc	PKPdf	17 05 17.1	+6.3
BFO				ePKPab	PKPab	17 05 23.1	-1.4
CDF	Champ du Feu	149.00	352	ePKP1	PKPdf	17 05 17.3	+6.4
	comp=Z,14nm,0.5s						
FLN	La Foliniere	149.03	2	ePKP1	PKPdf	17 05 16.9	+5.9
	comp=Z,25nm,0.7s						
KBA	Koelnbreinsper	149.06	344	⇓iP	PKPdf	17 05 16.9	+5.8
MEZF	Maizieres J’vi	149.15	355	ePKP1	PKPdf	17 05 17.8	+6.6
LDF	La Druitiere	149.21	2	ePKP1	PKPdf	17 05 17.2	+5.9
	comp=Z,15nm,0.4s						
WATA	Walderalm	149.26	346	⇑iP	PKPdf	17 05 17.8	+6.4
ROSF	Rostrenen	149.27	6	ePKP1	PKPdf	17 05 17.2	+5.8
WTTA	Wattenberg	149.31	346	⇑iP	PKPdf	17 05 18.2	+6.7
MOTA	Moosalm	149.36	347	⇑iP	PKPdf	17 05 18.0	+6.4
GRR	Gorron	149.39	3	ePKP1	PKPdf	17 05 17.9	+6.3
	comp=Z,13nm,0.4s						
SGMF	Saint Gilles	149.42	5	ePKP1	PKPdf	17 05 17.7	+6.1
SQTA	Sankt Quirin	149.45	346	⇑iP	PKPdf	17 05 18.4	+6.7
HAU	Haudompre	149.51	353	ePKP1	PKPdf	17 05 18.4	+6.6
	comp=Z,13nm,0.5s						
HINF	Hinteralfeld	149.64	352	ePKP1	PKPdf	17 05 18.5	+6.5
	comp=Z,6.9nm,0.5s						
DAVA	Damuels	149.67	348	⇓iP	PKPdf	17 05 18.9	+6.8
QUIF	Quistinic	149.70	6	ePKP1	PKPdf	17 05 18.4	+6.3
LOR	Lormes	150.47	356	ePKP1	PKPdf	17 05 20.7	+7.4
	comp=Z,27nm,0.5s						
SSF	Saint Saulge	150.69	357	ePKP1	PKPdf	17 05 21.3	+7.7
	comp=Z,22nm,0.5s						
CABF	La Chapelle	150.92	353	ePKP1	PKPdf	17 05 22.3	+8.3
	comp=Z,20nm,0.8s						
AVF	Avril sur Loir	150.97	357	ePKP1	PKPdf	17 05 21.5	+7.4
	comp=Z,7.2nm,0.6s						
MFF	Saint Martin d	151.20	2	ePKP1	PKPdf	17 05 22.1	+7.7
	comp=Z,15nm,0.5s						
BGF	Bois d’Agland	151.23	358	ePKP1	PKPdf	17 05 22.4	+8.0
TCF	Toulx Ste Croi	151.52	358	ePKP1	PKPdf	17 05 22.9	+8.1
	comp=Z,9.7nm,0.7s						
LPL	La Plagne	151.91	352	ePKP1	PKPdf	17 05 24.9	+9.5
	comp=Z,9.2nm,0.9s						
LPG	La Plagne	151.93	352	ePKP1	PKPdf	17 05 25.0	+10
ORIF	Oris-en-Rattie	152.61	353	ePKP1	PKPdf	17 05 25.7	+9.3
MBDF	Montbardon	152.68	351	ePKP1	PKPdf	17 05 26.2	+10
	comp=Z,9.4nm,0.6s						
VIVF	Saint-Julien-l	152.80	354	ePKP1	PKPdf	17 05 26.2	+10
CAF	Calviac	152.88	359	ePKP1	PKPdf	17 05 26.2	+9.4
	comp=Z,5.8nm,0.5s						

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*ISK **04** 16:54:20.1, 36.96N×27.78E, h5^{km}, MD3.1*
*ATH **04** 16:54:20.5, 36.78N×27.48E, h5^{km}, MD3.5/5*
*NEIC **04** 16:54:21.0, 36.78N×27.52E, h5^{km}, MD3.4(ATH), After ATH.*
ISC 04 16:54:18.9±0.5, **36.86N**±0.03×**27.70E**±0.05, **h5**^{km}, **n16**, σ**0^{s}93**/21, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.28	315	i P	Pg	16 54 24.9	+0.2
BDRM				i S	Sg	16 54 29.5	+1.0
MLSB	Milas	0.43	8	i PG	Pg	16 54 27.3	-0.4
MLSB				SG	Sg	16 54 33.9	+0.4
NISR	Nisiros	0.52	241	ePb	Pb	16 54 30.5	+0.3
YER	Yerkesik	0.54	60	i PG	Pg	16 54 29.9	+0.1
ARG	Arkhangelos	0.73	152	ePB	Pb	16 54 34.0	+0.2
AYDN	Tasoluk	0.81	10	⇑iP	Pb	16 54 34.2	-0.9
AYDN				i S	Sg	16 54 45.4	-0.5
SMG	Samos	1.09	321	ePG	Pg	16 54 40.5	-0.2
DNZL	Cakiroluk	1.35	52	i P	Pb	16 54 42.7	-1.7
DNZL				i S	Sb	16 55 01.9	0.0
KARP	Karpathos	1.38	198	ePB	Pb	16 54 44.5	-0.4
KARP				eSB	Sb	16 55 02.5	-0.3
DENT	Denizli	1.39	50	i PN	Pn	16 54 45.1	+0.1
IZM	Izmir	1.57	347	i PN	Pn	16 54 49.2	+1.6
KSL	Kastellorizon	1.68	115	ePN	Pn	16 54 55.0	+5.8
APE	Apeiranthos	1.75	277	ePB	Pb	16 54 50.5	-0.7
ELL	Elmali	1.78	93	ePN	Pn	16 54 52.5	+1.9
AKS	Akhisar	2.01	3	ePN	Pn	16 54 55.1	+1.1
PRK	Paraskevi	2.63	335	ePG	Pg	16 55 09.0	-2.5

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*NEIC **04** 17:01:44.8, 36.92N×27.80E, h30^{km}, MD2.9(ATH), After ATH.*
ATH 04 17:01:44.8, 36.92N×**27.80E, h30**^{km}±5^{km}, **MD2.9**/4, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.62	240	ePN	Pn	17 01 57.5	0.0
AYDN	Tasoluk	0.74	5	i P	Pb	17 01 59.2	+0.1
AYDN				i S	Sb	17 02 09.3	+0.3
ARG	Arkhangelos	0.75	159	ePB	Pb	17 01 58.5	-0.8
ARG				eSN	Sn	17 02 12.0	+2.3
SMG	Samos	1.10	316	ePN	Pn	17 02 06.0	+1.6
DNZL	Cakiroluk	1.26	52	i P	Pn	17 02 09.3	+2.7
DNZL				i S	Sn	17 02 27.5	+4.9
KARP	Karpathos	1.46	201	ePB	Pb	17 02 10.5	-0.8
KARP				eSN	Sn	17 02 30.5	+2.6

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*ISK **04** 17:05:34.7, 36.95N×27.75E, h5^{km}, MD3.3*
*NEIC **04** 17:05:35.5, 36.86N×27.53E, h22^{km}, MD3.2(ATH), After ATH.*
*ATH **04** 17:05:35.5, 36.86N×27.53E, h22^{km}±5^{km}, MD3.2/6*
ISC 04 17:05:33.7±0.9, **36.86N**±0.04×**27.67E**±0.04, **h2**^{km}±8^{km}, **n15**, σ**1^{s}15**/22, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.27	318	i P	Pg	17 05 39.7	+0.5
BDRM				i S	Sg	17 05 43.8	+1.1
MLSB	Milas	0.44	11	i PG	Pg	17 05 42.6	+0.1
MLSB				SG	Sg	17 05 48.9	+0.5
NISR	Nisiros	0.50	240	ePB	Pb	17 05 44.8	-0.1
YER	Yerkesik	0.56	61	PG	Pg	17 05 44.9	0.0
YER				SG	Sg	17 05 52.2	-0.2
ARG	Arkhangelos	0.74	150	ePN	Pn	17 05 49.5	-1.4
ARG				eSN	Sn	17 06 02.0	-0.9
AYDN	Tasoluk	0.81	12	⇑iP	Pb	17 05 47.9	-2.3
AYDN				i S	Sg	17 05 59.4	-1.4
SMG	Samos	1.07	322	ePN	Pn	17 05 55.0	-0.7
DNZL	Cakiroluk	1.37	53	i P	Pb	17 05 58.8	-1.0
DNZL				i S	Sb	17 06 19.0	+1.3
KARP	Karpathos	1.38	198	ePB	Pb	17 06 00.0	+0.1
KARP				eSN	Sn	17 06 20.5	+1.5
DENT	Denizli	1.40	50	ePN	Pn	17 06 00.5	+0.1
IZM	Izmir	1.57	348	PN	Pn	17 06 03.4	+0.7
KSL	Kastellorizon	1.70	114	ePN	Pn	17 06 08.0	+3.4
APE	Apeiranthos	1.73	277	ePB	Pb	17 06 04.0	-1.9
ELL	Elmali	1.80	93	PN	Pn	17 06 07.7	+1.6
AKS	Akhisar	2.02	3	ePN	Pn	17 06 10.4	+1.3

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*ISK **04** 17:08:31.2, 36.90N×27.73E, h7^{km}, MD3.2*
*ATH **04** 17:08:31.2, 36.84N×27.68E, h30^{km}, MD3.0/4*
ISC 04 17:08:29.8±1.1, **36.82N**±0.05×**27.69E**±0.05, **h2**^{km}±8^{km}, **n13**, σ**0^{s}94**/19, **Dodecanese Islands**

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

BDRM	Kayabasi	0.32	322	*i* P	Pg	17 08 37.0	+0.9
BDRM				*i* S	Sg	17 08 41.5	+1.2
MLSB	Milas	0.48	8	*i* PG	Pg	17 08 39.2	-0.2
MLSB				SG	Sg	17 08 45.8	0.0
NISR	Nisiros	0.50	246	*e*PN	Pn	17 08 42.0	-1.5
YER	Yerkesik	0.57	56	*i* PG	Pg	17 08 41.6	+0.4
YER				SG	Sg	17 08 48.9	+0.1
ARG	Arkhangelos	0.70	150	*e*PN	Pn	17 08 45.8	-0.6
AYDN	Tasoluk	0.85	10	*i* P	Pg	17 08 45.6	-1.2
AYDN				*i* S	Sg	17 08 55.5	-2.8
SMG	Samos	1.12	323	*e*PN	Pn	17 08 52.0	-0.4
KARP	Karpathos	1.34	199	*e*PN	Pn	17 08 56.0	+0.4
DNZL	Cakiroluk	1.39	51	*i* P	Pb	17 08 56.4	+0.1
DNZL				*i* S	Sb	17 09 17.7	+3.4
DENT	Denizli	1.42	49	PN	Pn	17 08 56.8	0.0
DENT				SN	Sn	17 09 15.7	-0.6
IZM	Izmir	1.61	348	*e*PN	Pn	17 08 59.9	+0.4
ELL	Elmali	1.78	92	*e*PN	Pn	17 09 03.1	+1.2
AKS	Akhisar	2.06	3	*e*PN	Pn	17 09 06.5	+0.6

MOS ***04*** *17:10:52.1±1.9, 51.85N×159.97E, h10^{km}, mb4.1/5, Error ellipse: s-maj=19.8km s-min=8.8km az=94.5*

IDC ***04*** *17:10:54.8±1.0, 52.37N×159.56E, mb3.7/7, mb1 3.9/8, mb1mx3.7/22, ML4.0/1, Error ellipse: s-maj=30.4km s-min=15.4km az=2.0*

KRSC ***04*** *17:10:59.1, 52.28N×159.84E, h11^{km}, ML4.2*

NEIC ***04*** *17:11:04.0±2.9, 52.40N×159.30E, h62^{km}±16^{km}, Error ellipse: s-maj=53.0km s-min=24.2km az=101.0*

ISC 04 17:10:58.7±0.7**, 52.11N**±0.04×**159.95E**±0.07**, h52**^{km}±7^{km}**, n47, σ1^{s}37**/72**, mb3.8**/7**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.94	291	*i* P	P	17 11 14.9	-0.9
RUS				*e*S	S	17 11 26.1	-2.4
SPN	Mys Shipunski	0.99	3	P	P	17 11 16.4	-0.1
SPN				S	S	17 11 29.1	-0.6
SPN	Mys Shipunski	0.99	3	*e*P	P	17 11 16.4	-0.1
SPN				*e*S	S	17 11 29.0	-0.7
NLC	Nalytchevo	1.12	341	P	P	17 11 17.6	-0.7
NLC				S	S	17 11 30.7	-2.2
NLC	Nalytchevo	1.12	341	*e*P	P	17 11 17.7	-0.6
NLC				*e*S	S	17 11 30.7	-2.2
PET	Petropavlovsk	1.21	320	P	P	17 11 18.9	-0.6
PET				S	S	17 11 33.6	-1.4
PET	Petropavlovsk	1.21	320	*i* P	P	17 11 19.0	-0.5
PET				*e*S	S	17 11 32.9	-2.1
PET	Petropavlovsk	1.21	320	*e*P	P	17 11 18.7	-0.7
GRL	Gorelyy	1.23	292	*i* P	P	17 11 20.2	+0.3
GRL				*e*S	S	17 11 34.8	-0.8
UGLR	Uglovaya	1.29	329	*e*P	P	17 11 20.7	-0.1
UGLR				*e*S	S	17 11 39.7	+2.5
SDLR	Sedlovina	1.33	331	*i* P	P	17 11 20.9	-0.6
SDLR				*e*S	S	17 11 37.7	-0.6
SMAR	Somma	1.35	329	*e*P	P	17 11 20.9	-0.7
AVH	Avacha	1.37	328	*e*P	P	17 11 22.1	+0.2
AVH				*e*S	S	17 11 39.3	+0.1
KOK	Koryaka	1.42	327	*e*P	P	17 11 23.0	+0.3
APC	Apacha	1.89	297	*e*P	P	17 11 30.3	+1.2
APC				*e*S	S	17 11 54.2	+2.5
APC				Smax			
	460nm,0.7s						
KII	Karymskiy	1.95	351	P	P	17 11 30.9	+0.9
KII	Karymskiy	1.95	351	*e*P	P	17 11 31.1	+1.1
KII				*e*S	S	17 11 56.3	+3.0
MIPR	Malaya Ipel'ka	1.97	276	*e*P	P	17 11 31.4	+1.1
MIPR				*e*S	S	17 11 56.9	+3.2
GNL	Ganaly	2.00	323	*i* P	P	17 11 31.2	+0.6
GNL				*e*S	S	17 11 54.5	+0.1
PAU	Pauzhetka	2.05	253	*i* P	P	17 11 32.2	+0.8
PAU				*e*S	S	17 11 56.2	+0.4
PAU				Smax			
	460nm,1.0s						
MKZ	Mys Kozlova	2.67	23	P	P	17 11 39.8	-0.5
MKZ				S	S	17 12 09.0	-2.6
MKZ	Mys Kozlova	2.67	23	*e*P	P	17 11 39.8	-0.5
SKR	Severo-Kuril's	2.79	241	*e*PN	P	17 11 39.0	-3.0
SKR				*e*S	S	17 12 11.6	-3.1
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
TUMR	Tumrok	3.18	2	*i* P	P	17 11 48.6	+1.1
TUMR				*e*S	S	17 12 24.4	0.0
KMNR	Kamenistaya	3.65	3	*e*P	P	17 11 56.0	+1.8
KMNR				*e*S	S	17 12 35.5	-0.9
ESO	Esso	3.89	350	*e*P	P	17 11 58.0	+0.5
ESO				*e*S	S	17 12 40.5	-1.9
ESO				Smax			
	comp=Z,40nm,0.7s						
KOZ	Kozyrevsk	3.95	359	*e*P	P	17 12 02.6	+4.2
LGNR	Loginova	4.00	6	*e*P	P	17 12 01.9	+2.8
LGNR				*e*S	S	17 12 48.4	+3.2
CIRR	Tsirk	4.04	6	*e*P	P	17 12 02.4	+2.8
SRDR	Sredinnyy	4.21	358	*e*P	P	17 12 03.1	+1.0
KLY	Klyuchi	4.23	5	*e*P	P	17 12 07.1	+4.8
KLY				*e*S	S	17 12 53.3	+2.4
KBTR	Krutoberegovo	4.44	21	*e*P	P	17 12 05.8	+0.6
KBTR				*e*S	S	17 12 55.4	-0.7
BKI	Bering	4.74	47	*e*S	S	17 12 57.6	-6.1
BKI				Smax			
	comp=Z,40nm,0.3s						
FX1	Attu Island--F	8.11	79	Pn	P	17 12 55.3	-1.0
	comp=Z,7.2nm,0.3s,baz=290,slow=3.2,SNR=58						
FX1				Sn	S	17 14 19.0	-8.5
	comp=Z,9.3nm,0.3s,baz=262,slow=23,SNR=12						
MKAR	Makanchi Array	48.50	296	P	P	17 19 35.4	-2.4
	comp=Z,0.3nm,0.5s,mb3.6,baz=52,slow=6.1,SNR=8.0						
ARCES	ARCESS Array B	54.19	342	P	P	17 20 19.2	-1.2
	comp=Z,1.2nm,0.8s,mb3.9,baz=29,slow=9.3,SNR=3.3						
ARCES	ARCESS Array B	54.19	342	P	P	17 20 19.2	-1.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	Chiang Mai Arr	57.89	259	P	P	17 20 48.2	+0.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=19,slow=5.7,SNR=4.2						
CMAR	Chiang Mai Arr	57.89	259	P	P	17 20 48.2	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	60.99	337	P	P	17 21 07.6	-0.8
	comp=Z,0.5nm,0.7s,mb3.8,baz=16,slow=10,SNR=5.9						
FINES	FINESS Array B	60.99	337	P	P	17 21 07.6	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	64.46	344	P	P	17 21 30.9	-0.3
	comp=Z,0.6nm,0.5s,mb3.9,baz=22,slow=6.5						
NOA	NORSAR Array B	64.46	344	P	P	17 21 31.1	0.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=22,slow=6.7,SNR=6.7						
NOA	NORSAR Array B	64.46	344	P	P	17 21 31.2	0.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	69.41	329	P	P	17 22 01.3	-1.3
	comp=Z,0.7nm,0.3s,mb4.0,baz=32,slow=6.5,SNR=5.8						
AKASG	Malin Array Be	69.41	329	P	P	17 22 01.3	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	Alice Springs	78.83	204	P	P	17 23 00.0	+2.5
	comp=Z,0.3nm,0.8s,mb3.3,baz=17,slow=4.7,SNR=3.8						

ZUR ***04*** *17:12:04.9, 46.60N×7.01E, h12^{km}, ML1.8/10*

STR ***04*** *17:12:05.8±0.3, 46.63N×6.99E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***04*** *17:12:06.4±0.1, 46.66N×6.92E, h2^{km}, Md2.2/2, Ml2.3/15, Error ellipse: s-maj=1.7km s-min=1.1km az=106.0*

ISC 04 17:12:04.4±0.3**, 46.64N**±0.01×**6.82E**±0.03**, h4**^{km}±5^{km}**, n29, σ1^{s}13**/52**, 2C-1D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORNY	Torny	0.17	35	*e*Pg	Pg	17 12 09.1	+1.2
	30nm,0.4s						
TORNY				*i* Sg	Sg	17 12 11.9	+1.8
	30nm,0.4s						
AIGLE	Aigle	0.31	162	⇑*i*Pg	Pg	17 12 10.5	-0.2
	8.9nm,0.5s						
AIGLE				*i* Sg	Sg	17 12 14.5	-0.3
	8.9nm,0.5s						
BRANT	Les Verrieres	0.38	322	⇓*i*Pg	Pg	17 12 14.9	+2.8
	1.7nm,0.8s						
GIMEL	Gimel	0.40	255	*e*Pg	Pg	17 12 15.4	+3.0
	2.6nm,0.7s						
SENIN	Lac Senin	0.43	129	*e*Pg	Pg	17 12 11.6	-1.5
	3.5nm,0.3s						
GRYON	Gryon	0.44	152	*e*Pg	Pg	17 12 12.2	-1.0
	1.1nm,0.2s						
GRYON				*i* Sg	Sg	17 12 17.4	-1.6
	1.1nm,0.2s						
CABF	La Chapelle	0.50	267	*e*Pg	Pg	17 12 17.7	+3.2
CABF				*e*Sg	Sg	17 12 25.1	+3.8
	7.9nm,0.3s						
SALAN	Lac Salanfe	0.50	168	⇑*i*Pg	Pg	17 12 13.9	-0.6
	0.9nm,0.2s						
EMV	Vieux Emosson	0.58	174	*e*Pg	Pg	17 12 15.4	-0.6
	0.6nm,0.2s						
LOMF	Lomont	0.71	1	Pg	Pg	17 12 20.1	+1.4
BOURR	Bourrignon	0.81	20	*e*Pg	Pg	17 12 21.0	+0.4
	2.0nm,0.7s						
BALST	Balsthal	0.92	40	*e*Pg	Pg	17 12 21.9	-1.0
	1.6nm,0.2s						
OG05	Jujurieux	1.11	238	Pg	Pg	17 12 28.7	+2.0
OG05				Sg	Sg	17 12 45.7	+4.1
LPL	La Plagne	1.12	183	*e*Pn	Pn	17 12 26.1	-0.8
LPL				*e*Pg	Pg	17 12 28.2	+1.3
LPL				*e*Sg	Sg	17 12 43.0	+1.2
	5.8nm,0.3s						
LPG	La Plagne	1.14	182	*e*Pn	Pn	17 12 26.9	-0.2
LPG				*e*Pg	Pg	17 12 28.8	+1.6
LPG				*e*Sg	Sg	17 12 42.9	+0.5
	5.7nm,0.2s						
HINF	Hinteralfeld	1.18	1	*e*Pg	Pg	17 12 28.2	+0.2
HINF				*e*Sg	Sg	17 12 43.6	-0.2
	8.5nm,0.2s						
MOF	Molkenrain	1.23	10	Pg	Pg	17 12 29.2	+0.1
MOF				Sg	Sg	17 12 45.7	+0.2
HAU	Haudompre	1.41	347	*e*Pg	Pg	17 12 32.5	0.0
HAU				*e*Sg	Sg	17 12 50.7	-0.6
	15nm,0.2s						
SLE	Schleitheim	1.61	45	*e*Pg	Pg	17 12 34.5	-2.0
	0.6nm,0.3s						
CDF	Champ du Feu	1.80	10	*e*Pg	Pg	17 12 39.3	-1.1
CDF				*e*Sg	Sg	17 13 02.1	-2.4
	3.8nm,0.3s						
ORIF	Oris-en-Rattie	1.84	201	*e*Pn	Pn	17 12 39.0	+1.9
ORIF				*e*Sg	Sg	17 13 04.7	-1.0
	3.1nm,0.3s						
MBDF	Montbardon	1.91	181	*e*Pn	Pn	17 12 39.2	+1.1
MBDF				*e*Pg	Pg	17 12 43.3	+0.7
MBDF				*e*Sg	Sg	17 13 06.8	-1.3
	2.0nm,0.4s						
SMF	Signal de Mont	2.05	271	*e*Pg	Pg	17 12 45.7	+0.3
SMF				*e*Sg	Sg	17 13 12.4	-0.3
	3.3nm,0.2s						
LOR	Lormes	2.12	288	*e*Pg	Pg	17 12 47.1	+0.3
LOR				*e*Sg	Sg	17 13 14.5	-0.6
	4.6nm,0.2s						
MEZF	Maizieres J'vi	2.22	328	*e*Pn	Pn	17 12 42.8	+0.3
SSF	Saint Saulge	2.31	282	*e*Pg	Pg	17 12 50.8	+0.2
SSF				*e*Sg	Sg	17 13 20.4	-1.0
	2.0nm,0.2s						
VIVF	Saint-Julien-l	2.33	221	*e*Pn	Pn	17 12 44.6	+0.4
VIVF				*e*Sg	Sg	17 13 21.5	-0.5
	1.4nm,0.2s						
AVF	Avril sur Loir	2.39	275	*e*Pn	Pn	17 12 45.8	+0.8
AVF				*e*Sg	Sg	17 13 23.0	-1.0
	1.2nm,0.2s						
BGF	Bois d'Agland	2.74	270	*e*Pn	Pn	17 12 50.2	+0.2
BGF				*e*Sn	Sn	17 13 22.5	-1.5
BGF				*e*Sg	Sg	17 13 34.4	-1.2
	6.0nm,0.4s						

NEIC ***04*** *17:24:01.9, 13.00N×89.44W, h58^{km}, MD3.5(SNET), After SNET.*

NEIC Felt [II] at San Salvador.

CASC ***04*** *17:24:02.1±1.7, 13.01N×89.47W, h59^{km}±21^{km}, MD3.9, ML4.2*

ISC 04 17:24:01.1±0.8**, 12.88N**±0.05×**89.51W**±0.04**, h36**^{km}±35^{km}**, n34, σ0^{s}61**/58**, 14C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	Serv Nac Est T	0.84	18	⇑*e*P	P	17 24 16.6	+0.2
SNET				*e*S	S	17 24 28.2	+0.4
SNET				*i*		17 24 30.9	
	comp=Z,8μm,0.1s						
SNET	Serv Nac Est T	0.84	18	*i* P	P	17 24 30.9	+14
LFRS	El Faro	0.85	30	⇓*i*P	P	17 24 16.7	+0.1
BOQS	Boqueron	0.87	15	⇑*i*P	P	17 24 17.2	+0.3
LCBS	La Ceiba	0.92	34	⇓*e*P	P	17 24 17.4	-0.3
SBLS	San Blas	0.96	353	⇑*i*P	P	17 24 18.4	+0.3
SBLS				*e*S	S	17 24 31.2	+0.4
SBLS	San Blas	0.96	353	*e*P	P	17 24 18.5	+0.4
LBRS	Las Brisas	0.96	28	⇑*e*P	P	17 24 18.7	+0.5
LBRS				*e*S	S	17 24 29.6	-1.2
SNVI	San Vicente	0.97	42	⇑*e*P	P	17 24 18.3	0.0
SNVI				*e*S	S	17 24 30.5	-0.7
SNVI	San Vicente	0.97	42	*e*P	P	17 24 18.5	+0.1
SNVI				*e*S	S	17 24 30.6	-0.5
SNVI				*e*S	S	17 24 31.0	-0.2
SNJE	San Jose	0.98	354	⇑*i*P	P	17 24 18.8	+0.2
SNJE				*e*S	S	17 24 31.5	0.0
SNJE	San Jose	0.98	354	*e*P	P	17 24 18.8	+0.3
RTR	El Retiro	1.02	352	⇑*i*P	P	17 24 19.3	+0.3
RTR				*e*S	S	17 24 33.4	+1.2
RTR	El Retiro	1.02	352	*e*P	P	17 24 19.4	+0.4
RBDL	Robledal	1.23	352	⇑*e*P	P	17 24 22.3	+0.3
RBDL				*e*S	S	17 24 38.0	+0.2
RBDL	Robledal	1.23	352	*e*P	P	17 24 22.4	+0.3
VSM	San Miguel	1.31	66	⇑*i*P	P	17 24 23.6	+0.2
VSM				*e*S	S	17 24 40.4	+0.5
VSM	San Miguel	1.31	66	*e*P	P	17 24 23.5	+0.2
VSM				*e*S	S	17 24 40.3	+0.4
BLLM	Bellamira	1.35	66	⇑*e*P	P	17 24 23.8	-0.1
BLLM				*e*S	S	17 24 40.4	-0.4
BLLM	Bellamira	1.35	66	*e*P	P	17 24 23.8	-0.1
BLLM				*e*S	S	17 24 40.7	-0.1
MTO2	Montecristo 2	1.51	5	⇑*i*P	P	17 24 25.9	-0.2
MTO2				*e*S	S	17 24 44.7	-0.1
MTO2	Montecristo 2	1.51	5	*e*P	P	17 24 25.8	-0.3
MTO2				*e*S	S	17 24 44.7	-0.1
IXG	Ixpaco	1.58	324	⇑*e*P	P	17 24 26.4	-0.6
IXG				*e*S	S	17 24 45.4	-1.1
IXG				AML	AML	17 24 49.6	
	comp=N,7μm,0.4s						
CNCH	Conchagua	1.68	76	⇓*e*P	P	17 24 27.8	-0.6
CNCH				*e*S	S	17 24 48.8	-0.1
CNCH	Conchagua	1.68	76	*e*P	P	17 24 27.9	-0.6
CNCH				*e*S	S	17 24 48.6	-0.3
FUG	Fuego 3	2.03	320	*e*P	P	17 24 33.3	-0.1
FUG				*e*S	S	17 24 57.4	-0.4
MRL	Marmol	2.18	355	⇑*e*P	P	17 24 35.4	-0.2
JAT	Jato	2.52	305	⇓*e*P	P	17 24 40.3	-0.1
JAT				*e*S	S	17 25 10.7	+0.5
JAT				AML	AML	17 25 14.8	
	comp=N,858nm,0.2s						
CRZC	La Cruz	4.28	116	*e*P	P	17 25 05.5	-0.1
CRZC				*e*S	S	17 25 54.8	-0.2
JCR	Jicaral	5.26	125	*e*P	P	17 25 20.0	+0.7
JCR				*e*S	S	17 26 18.7	-0.9
CGA2	Cerro Gallo 2	5.70	119	*e*P	P	17 25 25.5	0.0
PRS1	Puriscal	5.85	119	*e*P	P	17 25 27.1	-0.5
LAJ	Bijagual	6.07	119	⇑*e*P	P	17 25 27.5	-3.3
LAJ				*e*S	S	17 26 34.6	-5.4
URSC	Urasca	6.38	118	*e*P	P	17 25 35.9	+0.8
URSC				*e*S	S	17 26 49.3	+1.6

IDC 04 17:24:54.9±21.0**, 5.35S**×**106.47E, h285**^{km}±212^{km}**, mb3.1**/6**, mb1 3.3**/6**, mb1mx3.1**/16**, MS3.2**/1**, Ms1 3.4**/1**, ms1mx2.6**/20**, Error ellipse: s-maj=210.0km s-min=16.8km az=56.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.61	126	P	P	17 29 31.2	-1.6
	2.5nm,0.9s,baz=323,slow=5.1,SNR=2.7						
CMAR	Chiang Mai Arr	24.79	343	P	P	17 29 51.7	-1.3
	0.5nm,0.6s,baz=166,slow=7.4,SNR=3.3						
CMAR				LR	LR	17 39 50.2	
	comp=Z,50nm,18.4s,baz=200,slow=36						
WRA	Warramunga Arr	30.74	121	P	P	17 30 44.4	-1.7
	0.8nm,0.8s,baz=311,slow=8.9,SNR=5.6						
ASAR	Alice Springs	32.09	127	P	P	17 30 56.1	-1.6
	1.0nm,1.1s,baz=300,slow=8.3,SNR=10						
STKA	Stephens Creek	42.14	133	P	P	17 32 19.8	-1.6
	3.7nm,0.4s,baz=309,slow=8.9,SNR=16						
MKAR	Makanchi Array	56.16	340	P	P	17 34 05.1	-2.1
	0.3nm,0.6s,baz=158,slow=8.9,SNR=4.0						

ISK ***04*** *17:26:16.7, 37.02N×27.77E, h5^{km}, MD3.1*

NEIC ***04*** *17:26:19.3, 36.79N×27.85E, h3^{km}, MD3.1(ATH), After ATH.*

ATH ***04*** *17:26:19.3, 36.79N×27.85E, h3^{km}, MD3.1/4*

ISC 04 17:26:17.0±0.6**, 36.95N**±0.04×**27.82E**±0.04**, h8**^{km}±6^{km}**, n11, σ0^{s}91**/17**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.32	291	*i* P	Pg	17 26 22.8	-0.7
BDRM				*i* S	Sg	17 26 28.5	+0.6
YER	Yerkesik	0.42	63	*i* PG	Pg	17 26 25.5	+0.1
YER				SG	Sg	17 26 31.9	+0.8
NISR	Nisiros	0.65	239	*e*PG	Pg	17 26 30.0	+0.1
NISR				*e*SG	Sg	17 26 40.0	+1.4
AYDN	Tasoluk	0.71	4	*i* P	Pb	17 26 30.4	-0.8
AYDN				*i* S	Sg	17 26 40.6	-0.2
ARG	Arkhangelos	0.77	161	*e*PG	Pg	17 26 31.0	-1.4
DNZL	Cakiroluk	1.23	53	*i* P	Pb	17 26 39.2	-0.8
DNZL				*i* S	Sb	17 26 57.9	+2.0
DENT	Denizli	1.26	50	*e*PN	Pn	17 26 40.9	+0.1
KARP	Karpathos	1.50	201	*e*PB	Pb	17 26 43.5	-1.1
KARP				*e*SB	Sb	17 27 04.5	+0.9
IZM	Izmir	1.51	343	PN	Pn	17 26 43.8	-0.6
AKS	Akhisar	1.93	360	*e*PN	Pn	17 26 50.1	-0.3
PRK	Paraskevi	2.60	332	*e*PB	Pb	17 27 07.5	+4.1

IDC ***04*** *17:26:32.5±1.0, 27.40N×96.54E, mb3.5/7, mb1 3.8/7, mb1mx3.6/18, Error ellipse: s-maj=53.3km s-min=18.3km az=58.0*

BJI ***04*** *17:26:37.6, 27.37N×96.30E, h33^{km}, ML3.5*

NEIC ***04*** *17:26:38.0±1.2, 27.41N×96.42E, h37^{km}±12^{km}, Error ellipse: s-maj=18.3km s-min=9.1km az=212.0*

ISC 04 17:26:36.2±0.8**, 27.23N**±0.09×**96.23E**±0.06**, h47**^{km}±9^{km}**, n19, σ1^{s}08**/20**, mb3.6**/7**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKP	Lekhapani	0.18	304	*e*	P	17 26 44.5	+0.6
SHL	Shillong	4.24	248	*e*PN	P	17 27 42.2	+2.3
SHL				*e*SN	S	17 28 28.2	-0.6
LSA	Lhasa	5.10	300	P	P	17 27 54.0	+1.9
LSA	Lhasa	5.10	300	*e*P	P	17 27 52.7	+0.6
	3.0nm,0.4s						
KMI	Kunming	6.21	108	*e*P	P	17 28 07.2	-0.4
	3.0nm,0.7s						
PKI	Pulchoki	9.62	274	*e*P	P	17 28 54.2	-0.8
	14nm,0.5s						
KKN	Kakani	9.74	276	*e*P	P	17 28 55.7	-0.8
	33nm,0.5s						
DMN	Daman	9.89	275	*e*P	P	17 28 58.3	-0.3
	11nm,0.5s						
GKN	Gorkha	10.31	277	*e*P	P	17 29 03.0	-1.4
	11nm,0.3s						
KOLN	Koldanda	11.23	276	*e*P	P	17 29 16.0	-0.8
	4.8nm,0.3s						
ENH	Enshi	12.02	72	P	P	17 29 23.4	-4.0
SONM	Songino Array	22.05	18	P	P	17 31 26.3	-1.9
	0.3nm,0.5s,mb3.0,baz=196,slow=12,SNR=3.5						
MKAR	Makanchi Array	22.41	334	P	P	17 31 32.5	+0.6
	0.6nm,0.4s,mb3.4,baz=143,slow=9.1,SNR=11						
FINES	FINESS Array B	57.01	327	P	P	17 36 19.8	+0.5
	0.3nm,0.5s,mb3.6,baz=117,slow=6.2,SNR=3.6						
FINES	FINESS Array B	57.01	327	P	P	17 36 19.8	+0.5
WRA	Warramunga Arr	59.68	138	P	P	17 36 38.4	0.0
	1.3nm,0.5s,mb4.2,baz=328,slow=7.5,SNR=24						
ASAR	Alice Springs	62.32	141	P	P	17 36 56.6	+0.4
	0.5nm,0.8s,mb3.7,baz=321,slow=6.3,SNR=8.5						
NOA	NORSAR Array B	64.20	327	P	P	17 37 08.4	+0.4
	0.4nm,0.8s,mb3.5,baz=108,slow=7.0,SNR=2.7						
GERES	GERESS Array B	65.28	314	P	P	17 37 17.1	+1.9
	0.3nm,0.3s,mb3.8,baz=117,slow=6.6,SNR=5.0						

IDC ***04*** *17:37:38.3±1.0, 63.28S×166.72W, mb3.9/6, mb1 4.1/7, mb1mx4.1/10, ML3.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.9/15, Error ellipse: s-maj=38.7km s-min=23.7km az=24.0*

NEIC ***04*** *17:37:39.9±0.7, 63.31S×166.74W, h10^{km}, mb4.1/2, Error ellipse: s-maj=19.3km s-min=14.7km az=73.0*

ISC 04 17:37:38.5±0.9**, 63.3S**±0.1×**166.9W**±0.3**, h10**^{km}**, n26, σ1^{s}23**/15**, mb3.9**/7**, MS4.1**/8**, 3C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	Scott Base	16.75	199	*e*P	P	17 41 32.8	-1.5
	11nm,0.8s						
VNDA	Vanda	17.31	202	P	P	17 41 40.9	-0.4
	0.1nm,0.3s,baz=56,slow=14,SNR=17						
VNDA				LR	LR	17 46 59.0	
	comp=Z,449nm,18.1s,baz=62,slow=32						
VNDA	Vanda	17.31	202	*e*P	P	17 41 41.9	+0.6
VNDA				LR	LR	17 46 59.0	
RPZ	Rata Peaks	23.34	317	LR	LR	17 49 34.9	
	comp=Z,319nm,20.7s,MS3.8,baz=226,slow=31						
QSPA	South Pole Qui	26.83	180	*e*P	P	17 43 21.0	+0.9
	6.2nm,1.0s,mb4.1						
TBI	Tubuai	41.59	25	*e*L		17 54 39.1	
	121nm,34.8s						
TBI				*e*R		17 56 20.1	
	274nm,28.8s,baz=198						
MAW	Mawson	44.60	205	P	P	17 45 52.0	+0.2
	1.3nm,0.7s,mb3.9,baz=124,slow=15,SNR=2.6						
MAW				LR	LR	18 03 34.5	
	comp=Z,219nm,18.4s,MS4.1,baz=329,slow=35						
SNAA	Sanae	44.88	173	⇑*i*	P	17 45 50.9	-3.1
SNAA	Sanae	44.88	173	⇓*i*	P	17 45 52.7	-1.3
STKA	Stephens Creek	44.91	289	P	P	17 45 56.4	+1.7
	3.0nm,0.8s,mb4.2,baz=110,slow=10,SNR=3.7						
STKA				LR	LR	18 01 26.2	
	comp=Z,275nm,18.9s,MS4.2,baz=73,slow=32						
VNA2	Neumayer--Watz	45.32	171	⇑*i*	P	17 45 58.8	+1.3
VNA1	Neumayer--Stat	45.53	170	⇑*i*	P	17 46 02.2	+3.1
PPT	Papeete	47.21	23	*e*L		17 56 58.3	
	192nm,26.5s						
PPT				*e*R		17 58 54.6	
	216nm,25.0s						
NWAO	Narrogin (SRO)	54.86	266	LR	LR	18 05 11.5	
	comp=Z,107nm,20.5s,MS3.9,baz=28,slow=30						
ASAR	Alice Springs	55.36	287	P	P	17 47 13.9	-0.7
	1.0nm,0.9s,mb3.8,baz=142,slow=6.8,SNR=7.7						
ASAR				LR	LR	18 07 10.7	
	comp=Z,138nm,21.9s,MS4.0,baz=197,slow=32						
ASAR	Alice Springs	55.36	287	P	P	17 47 13.9	-0.7
ASAR				LR	LR	18 07 10.7	
PLCA	Paso Flores	57.20	116	P	P	17 47 26.4	-1.2
	1.3nm,0.8s,mb4.0,baz=238,slow=11,SNR=3.3						
PLCA				LR	LR	18 06 55.5	
	comp=Z,169nm,18.9s,MS4.2,baz=184,slow=31						
WRA	Warramunga Arr	58.46	289	P	P	17 47 35.7	-1.0
	0.5nm,0.7s,mb3.7,baz=152,slow=6.2,SNR=6.8						
FITZ	Fitzroy Crossi	63.87	282	LR	LR	18 12 19.8	
	comp=Z,62nm,18.5s,MS3.8,baz=173,slow=32						
LPAZ	La Paz	79.50	105	P	P	17 49 46.8	+0.2
	0.9nm,0.7s,mb3.8,baz=179,slow=5.7,SNR=1.7						
BDFB	Brasilia	88.37	122	LR	LR	18 28 20.6	
	comp=Z,171nm,18.6s,MS4.5,baz=308,slow=34						
ILAR	Eielson Array	128.60	11	PKP	PKPdf	17 56 45.1	-2.3
	0.3nm,0.6s,baz=305,slow=2.2,SNR=2.9						
KURK	Kurchatov	143.85	281	*e*P	PKPbc	17 57 14.1	+2.5
BRVK	Borovoye	149.20	278	*e*P	PKPdf	17 57 25.9	+1.5
ZRNK	Zerenda	149.70	277	*e*P	PKPdf	17 57 28.9	+3.7
BRTR	Keskin Array B	153.41	217	PKPbc	PKPdf	17 57 37.2	+6.1
	1.0nm,1.1s,baz=194,slow=5.1,SNR=2.5						

IDC 04 17:41:14.4±1.7**, 3.43N**×**123.74E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/16**, Error ellipse: s-maj=190.0km s-min=23.8km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.45	156	P	P	17 46 43.8	-2.0
	0.5nm,0.3s,baz=333,slow=11,SNR=16						
ASAR	Alice Springs	28.69	160	P	P	17 47 13.9	-1.5
	0.1nm,0.4s,baz=343,slow=7.3,SNR=8.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**56.14**	**327**	P	P	17 50 55.8	-2.3
	0.6nm,0.4s,baz=118,slow=7.6,SNR=15						

DJA 04 17:41:39.7±0.9,**8.39S**×**114.15E,h116**^{km}±5^{km}**,MD5.1**/4, **ML4.2**/3,**8C-3D,Error ellipse: s-maj=18.1km s-min=13.8km az=43.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.38**	**63**	⇓*e*Pn	P	17 41 56.7	0.0
	495nm,0.3s						
KELI	**Kelakatan**	**0.38**	**63**	⇓*e*P	P	17 41 57.4	+0.7
KELI				⇑*e*Sn	S	17 42 09.4	0.0
INGI	**Ingas**	**1.07**	**113**	⇑*e*Pn	P	17 42 01.7	-0.7
	291nm,0.2s						
INGI	**Ingas**	**1.07**	**113**	⇓*e*P	P	17 42 02.3	-0.1
INGI				⇑*e*Sn	S	17 42 17.5	-1.9
RATI	**Rata**	**1.40**	**104**	⇑*e*Pn	P	17 42 06.2	0.0
	410nm,0.2s						
RATI				⇑*e*Sn	S	17 42 25.4	-0.8
KEDI	**Kedomdong**	**1.94**	**93**	⇑*e*Pn	P	17 42 12.2	-0.5
	101nm,0.2s						
KEDI	**Kedomdong**	**1.94**	**93**	⇑*e*P	P	17 42 12.5	-0.2
KEDI				⇑*e*Sn	S	17 42 36.4	-1.1

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*ISK **04** 17:42:35.6,37.07N×27.75E,h10^{km},MD2.9*

*NEIC **04** 17:42:35.2,36.92N×27.64E,h34^{km},MD2.9(ATH),After ATH.*

*ATH **04** 17:42:35.2,36.92N×27.64E,h34^{km}±6^{km},MD2.9/4*

ISC 04 17:42:34.5±0.7,**36.92N**±0.04×**27.65E**±0.05,**h16**^{km}±8^{km}, **n11,**σ**0**^{s}**.53**/17,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**312**	*i* P	**Pb**	**17 42 39.3**	**-0.3**
BDRM				*i* S	**Sb**	**17 42 43.7**	**+0.6**
NISR	**Nisiros**	**0.52**	**234**	*e*PN	**Pn**	**17 42 46.0**	**-0.9**
NISR				*e*SN	**Sn**	**17 42 54.5**	**-0.8**
YER	**Yerkesik**	**0.55**	**67**	PG	**Pb**	**17 42 44.5**	**-0.8**
AYDN	**Tasoluk**	**0.76**	**14**	*i* P	**Pb**	**17 42 48.4**	**-0.4**
AYDN				*i* S	**Sb**	**17 42 58.7**	**0.0**
ARG	**Arkhangelos**	**0.80**	**151**	*e*PB	**Pb**	**17 42 50.0**	**+0.4**
ARG				*e*SN	**Sn**	**17 43 03.0**	**+0.5**
SMG	**Samos**	**1.02**	**321**	*e*PN	**Pn**	**17 42 54.5**	**+0.4**
DNZL	**Cakiroluk**	**1.35**	**55**	*i* P	**Pn**	**17 42 59.1**	**+0.2**
DNZL				*i* S	**Sb**	**17 43 15.6**	**-0.3**
DENT	**Denizli**	**1.38**	**53**	*e*PN	**Pn**	**17 42 59.9**	**+0.6**
DENT				SN	**Sn**	**17 43 16.8**	**-0.5**
KARP	**Karpathos**	**1.43**	**196**	*e*PN	**Pn**	**17 43 00.5**	**+0.6**
IZM	**Izmir**	**1.51**	**348**	PN	**Pn**	**17 43 01.4**	**+0.3**
AKS	**Akhisar**	**1.96**	**4**	*e*PN	**Pn**	**17 43 07.9**	**+0.4**

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*NEIC **04** 17:47:54.5,36.93N×27.69E,h33^{km},MD2.9(ATH),After ATH.*

*ATH **04** 17:47:54.5,36.93N×27.69E,h33^{km}±2^{km},MD2.9/4*

*ISK **04** 17:47:56.3,37.37N×28.04E,h5^{km},MD3.1*

ISC 04 17:47:53.5±0.6,**36.96N**±0.04×**27.72E**±0.04,**h18**^{km}±8^{km}, **n12,**σ**0**^{s}**.74**/20,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**296**	*i* P	**Pb**	**17 47 58.8**	**-0.5**
BDRM				*i* S	**Sb**	**17 48 03.0**	**0.0**
MLSB	**Milas**	**0.34**	**8**	*i* PG	**Pb**	**17 48 00.8**	**0.0**
MLSB				SG	**Sb**	**17 48 06.4**	**+0.7**
YER	**Yerkesik**	**0.49**	**69**	*i* PG	**Pb**	**17 48 03.2**	**-0.1**
YER				SG	**Sb**	**17 48 09.0**	**-0.9**
NISR	**Nisiros**	**0.59**	**234**	*e*PN	**Pn**	**17 48 06.0**	**-0.7**
NISR				*e*SN	**Sn**	**17 48 14.8**	**-1.0**
AYDN	**Tasoluk**	**0.71**	**10**	*i* P	**Pb**	**17 48 07.1**	**0.0**
AYDN				*i* S	**Sb**	**17 48 16.1**	**-0.3**
ARG	**Arkhangelos**	**0.81**	**156**	*e*PB	**Pb**	**17 48 09.2**	**+0.4**
ARG				*e*SN	**Sn**	**17 48 22.0**	**+0.5**
SMG	**Samos**	**1.03**	**317**	*e*PN	**Pn**	**17 48 14.0**	**+1.0**
DNZL	**Cakiroluk**	**1.29**	**55**	*i* P	**Pn**	**17 48 16.0**	**-0.8**
DNZL				*i* S	**Sb**	**17 48 33.9**	**+0.9**
DENT	**Denizli**	**1.31**	**52**	*e*PG	**Pn**	**17 48 14.2**	**-3.0**
KARP	**Karpathos**	**1.48**	**198**	*e*PN	**Pn**	**17 48 20.0**	**+0.5**
KARP				*e*SN	**Sn**	**17 48 39.0**	**+0.6**
IZM	**Izmir**	**1.48**	**346**	*e*PN	**Pn**	**17 48 20.2**	**+0.6**
AKS	**Akhisar**	**1.92**	**2**	*e*PN	**Pn**	**17 48 26.2**	**+0.4**

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*NEIC **04** 18:01:55.9±0.8,43.92N×105.55W,ML3.2,Error ellipse: s-maj=11.5km s-min=9.6km az=105.0,Suspected Mining explosion.*

NEIC 40 km [25 miles] S of Gillette.

*IDC **04** 18:01:57.5±2.2,43.97N×105.71W,mb3.9/1,mb1 4.1/3, mb1mx3.5/19,ML3.7/2,Error ellipse: s-maj=77.2km s-min=8.5km az=148.0*

ISC 04 18:01:54.0±0.7,**43.97N**±0.06×**105.45W**±0.09,**n21,** σ**1**^{s}**.37**/22,**mb4.1**/1,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAO	**LASA Array**	**2.78**	**349**	*e*Pn	**Pn**	**18 02 39.7**	**-0.8**
BW06	**Boulder Array**	**3.23**	**250**	Pn	**Pn**	**18 02 45.6**	**-1.3**
PDAR	**Pinedale Array**	**3.23**	**250**	Pn	**Pn**	**18 02 50.6**	**+3.7**
	7.7nm,0.3s,baz=73,slow=12,SNR=29						
PDAR				Lg		18 03 32.5	
	14nm,0.3s,baz=75,slow=17,SNR=8.4						
MOOW	**Moose Ponds**	**3.83**	**269**	Pn	**Pn**	**18 02 53.6**	**-2.0**
MOOW				*e*Pg	**Pg**	**18 03 12.2**	**+1.6**
REDW	**Red Top Meadow**	**3.96**	**263**	*e*Pn	**Pn**	**18 03 02.1**	**+4.7**
ISCO	**Idaho Springs**	**4.17**	**182**	*e*Pn	**Pn**	**18 03 00.0**	**-0.3**
AHID	**Auburn Hatcher**	**4.29**	**256**	*e*Pg	**Pg**	**18 03 18.1**	**-1.6**
QLMT	**Earthquake Lak**	**4.37**	**283**	*e*Pg	**Pg**	**18 03 20.3**	**-1.0**
BOZ	**Bozeman (W)**	**4.71**	**293**	*e*Pn	**Pn**	**18 03 08.2**	**+0.2**
HWUT	**Hardware Ranch**	**5.08**	**244**	*e*Pn	**Pn**	**18 03 13.8**	**+0.6**
TCUT	**Toone Canyon**	**5.24**	**239**	*e*P	**Pn**	**18 03 17.6**	**+2.1**
HRY	**Holter Researc**	**5.27**	**304**	*e*Pn	**Pn**	**18 03 16.7**	**+0.8**
MCMT	**McKenzie Canyo**	**5.37**	**282**	Pn	**Pn**	**18 03 17.1**	**-0.3**
HVU	**Hansel Valley**	**5.81**	**250**	*e*Pn	**Pn**	**18 03 25.7**	**+2.2**
SDCO	**Great Sand Dun**	**6.21**	**180**	*e*Pn	**Pn**	**18 03 28.2**	**-1.1**
	1.7nm,0.4s						
CHMT	**Chamberlain Mo**	**6.23**	**301**	*e*Pn	**Pn**	**18 03 28.8**	**-0.7**
BGU	**Big Grassy Mou**	**6.38**	**244**	*e*Pn	**Pn**	**18 03 34.3**	**+2.8**
DUG	**Dugway**	**6.65**	**238**	*e*P	**Pn**	**18 03 33.5**	**-1.9**
ULM	**Lac du Bonnet**	**9.06**	**43**	Pn	**P**	**18 04 08.9**	**-0.1**
	2.3nm,0.3s,baz=230,slow=13,SNR=12						
ULM				Lg		18 06 40.7	
	0.4nm,0.3s,baz=144,slow=12,SNR=2.0						
ULM	**Lac du Bonnet**	**9.06**	**43**	Pn	**P**	**18 04 08.9**	**-0.1**
ULM				Lg		18 06 40.7	
ARCES	**ARCESS Array B**	**61.24**	**18**	P	**P**	**18 12 14.1**	**+1.5**
	1.2nm,0.8s,mb4.1,baz=333,slow=5.4,SNR=5.2						

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*NEIC **04** 18:15:18.9±1.3,6.88S×129.31E,h137^{km}±12^{km},mb4.4/12, Error ellipse: s-maj=11.4km s-min=8.3km az=61.0*

*IDC **04** 18:15:20.4±2.5,6.90S×129.34E,h150^{km}±22^{km},mb4.0/8, mb1 4.2/12,mb1mx4.2/16,Error ellipse: s-maj=22.6km s-min=12.5km az=64.0*

ISC 04 18:15:16.4±1.5,**6.89S**±0.06×**129.40E**±0.07,**h135**^{km}±15^{km}, **n36,**σ**1**^{s}**.22**/39,**mb4.3**/13,**1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.48**	**153**	*e*P	**P**	**18 16 52.5**	**+2.0**
	120nm,0.3s						
KAKA				*e*S	**S**	**18 18 01.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**11.73**	**198**	*e*P	**P**	**18 18 00.7**	**+0.3**
	23nm,0.3s						
FITZ				*e*S	**S**	**18 20 02.2**	**-6.8**
FITZ	**Fitzroy Crossi**	**11.73**	**198**	P	**P**	**18 18 01.0**	**+0.6**
	10nm,0.3s,baz=17,slow=9.0,SNR=105						
FITZ				S	**S**	**18 20 03.0**	**-6.0**
	8.0nm,0.3s,baz=49,slow=5.7,SNR=6.3						
WRAB	**Tennant Creek**	**13.82**	**160**	*e*P	**P**	**18 18 26.1**	**-1.6**
	5.9nm,0.9s						
WRA	**Warramunga Arr**	**13.83**	**160**	P	**P**	**18 18 26.1**	**-1.7**
	3.1nm,0.3s,baz=345,slow=13,SNR=52						
WRA				S	**S**	**18 20 54.2**	**-4.1**
	6.4nm,0.3s,baz=331,slow=22,SNR=14						
WB2	**Warramunga Arr**	**13.83**	**160**	⇑*i*P	**P**	**18 18 26.3**	**-1.5**
WB2				*e*S	**S**	**18 20 51.6**	**-6.8**
ASAR	**Alice Springs**	**17.23**	**166**	P	**P**	**18 19 11.8**	**+1.5**
	2.6nm,0.3s,baz=341,slow=10,SNR=142						
ASAR				S	**S**	**18 22 16.0**	**+0.4**
	2.7nm,0.3s,baz=328,slow=14,SNR=11						
ASAR				ScP		18 27 05.2	
	0.1nm,0.3s,baz=9.8,slow=2.1,SNR=4.8						
ASPA	**Alice Springs**	**17.23**	**166**	*e*P	**P**	**18 19 12.0**	**+1.7**
ASPA				*e*S	**S**	**18 22 13.4**	**-2.2**
PMG	**Port Moresby**	**17.76**	**99**	P	**P**	**18 19 18.0**	**+1.3**
	3.5nm,0.3s,baz=283,slow=5.9,SNR=25						
PMG				S	**S**	**18 22 27.0**	**-0.4**
	2.0nm,0.3s,baz=234,slow=21,SNR=6.8						
CTA	**Charters Tower**	**20.96**	**130**	*e*P	**P**	**18 19 51.8**	**+1.6**
	14nm,0.8s						
CTA	**Charters Tower**	**20.96**	**130**	P	**P**	**18 19 51.9**	**+1.6**
	20nm,0.9s,baz=312,slow=12,SNR=16						
CTAO	**Charters Tower**	**20.96**	**130**	*e*P	**P**	**18 19 51.9**	**+1.6**
	20nm,0.8s						
FORT	**Forrest**	**23.80**	**183**	*e*P	**P**	**18 20 19.4**	**+1.6**
	44nm,0.6s,mb5.2						
FORT				*e*S	S	18 24 44.8	+25
KLBR	**Kellerberrin**	**26.87**	**202**	*e*P	**P**	**18 20 46.9**	**+0.4**
	14nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**27.34**	**157**	*e*P	**P**	**18 20 51.3**	**+0.5**
	3.3nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.34**	**157**	P	**P**	**18 20 51.4**	**+0.6**
	3.4nm,0.6s,mb4.2,baz=336,slow=11,SNR=11						
NWAO	**Narrogin (SRO)**	**28.26**	**202**	P	**P**	**18 20 59.8**	**+0.6**
	7.3nm,0.5s,mb4.7,baz=27,slow=7.2,SNR=21						
CMAR	**Chiang Mai Arr**	**39.20**	**310**	P	**P**	**18 22 34.1**	**+1.1**
	3.8nm,0.6s,mb4.2,baz=140,slow=7.7,SNR=26						
CMAR				PcP	PcP	18 24 40.1	-0.1
	1.1nm,0.9s,baz=162,slow=3.0,SNR=5.1						
LSA	**Lhasa**	**51.71**	**317**	*e*P	**P**	**18 24 13.3**	**+1.2**
	4.2nm,0.8s,mb4.1						
PKI	**Pulchoki**	**54.60**	**311**	*e*P	**P**	**18 24 31.6**	**-1.8**
KKN	**Kakani**	**54.81**	**311**	*e*P	**P**	**18 24 33.6**	**-1.3**
DMN	**Daman**	**54.85**	**311**	*e*P	**P**	**18 24 34.7**	**-0.5**
GKN	**Gorkha**	**55.41**	**311**	*e*P	**P**	**18 24 38.3**	**-0.9**
SONM	**Songino Array**	**58.15**	**342**	P	**P**	**18 24 58.1**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=156,slow=5.7,SNR=6.5						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**18 26 01.6**	**-0.3**
	4.6nm,0.6s,mb4.4,baz=125,slow=8.2,SNR=44						
KURK	**Kurchatov**	**72.11**	**329**	*e*P	**P**	**18 26 27.2**	**-0.7**
	5.8nm,0.9s,mb4.3						
VNDA	**Vanda**	**72.62**	**173**	P	**P**	**18 26 29.8**	**-0.6**
	0.4nm,0.3s,mb3.6,baz=309,slow=9.7,SNR=6.1						
MAW	**Mawson**	**74.83**	**201**	*e*P	**P**	**18 26 44.4**	**+1.1**
	4.3nm,0.6s,mb4.3						
MAW	**Mawson**	**74.83**	**201**	P	**P**	**18 26 44.7**	**+1.4**
	5.9nm,0.7s,mb4.4,baz=71,slow=6.2,SNR=18						
ZRNK	**Zerenda**	**78.35**	**328**	*e*P	**P**	**18 27 02.4**	**-0.9**
	5.1nm,1.2s,mb4.0						
QSPA	**South Pole Qui**	**83.08**	**180**	*e*P	**P**	**18 27 28.5**	**+0.8**
	2.5nm,0.6s,mb4.1						
GERES	**GERESS Array B**	**111.96**	**320**	PKiKP		18 33 36.5	
	0.5nm,0.6s,slow=1.3,SNR=4.1						
PLCA	**Paso Flores**	**129.18**	**160**	PKP	PKPdf	18 34 11.9	+2.9
	2.8nm,1.2s,baz=322,slow=15,SNR=3.0						
LVC	**Limon Verde**	**145.63**	**149**	PKPbc	PKPbc	18 34 43.4	+3.1
	2.5nm,0.7s,baz=272,slow=7.7,SNR=3.6						
JTS	**JuntasAbangare**	**145.88**	**82**	PKPbc	PKPbc	18 34 43.7	+2.5
	2.2nm,0.5s,baz=11,slow=5.2,SNR=3.7						
LPAZ	**La Paz**	**151.17**	**143**	PKPbc	PKPdf	18 34 58.0	+10
	0.6nm,0.4s,baz=71,slow=3.0,SNR=3.8						

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*ISK **04** 18:49:01.0,37.07N×27.67E,h8^{km},MD3.5*

*NEIC **04** 18:49:02.0,36.94N×27.57E,h29^{km},MD3.5(ATH),After ATH.*

*ATH **04** 18:49:02.0,36.94N×27.57E,h29^{km}±4^{km},MD3.5/11*

*IDC **04** 18:49:04.3±5.5,36.91N×27.61E,h33^{km}±52^{km},mb3.3/3, mb1 3.4/6,mb1mx3.2/20,ML3.5/3,Error ellipse: s-maj=38.5km s-min=26.6km az=160.0*

ISC 04 18:49:01.3±0.5,**36.95N**±0.03×**27.66E**±0.03,**h17**^{km}±5^{km}, **n41,**σ**1**^{s}**.11**/50,**mb3.3**/3,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.21**	**304**	*i* P	**Pb**	**18 49 06.2**	**-0.1**
BDRM				*i* S	**Sb**	**18 49 10.0**	**+0.3**
MLSB	**Milas**	**0.36**	**15**	PG	**Pb**	**18 49 06.9**	**-1.9**
YER	**Yerkesik**	**0.53**	**69**	*i* PG	**Pb**	**18 49 10.6**	**-1.2**
YER				SG	**Sb**	**18 49 18.6**	**-0.4**
NISR	**Nisiros**	**0.54**	**232**	*e*PB	**Pb**	**18 49 11.8**	**-0.2**
NISR				*e*SB	**Sb**	**18 49 21.0**	**+1.8**
AYDN	**Tasoluk**	**0.73**	**14**	⇑*i*P	**Pb**	**18 49 15.2**	**0.0**
AYDN				*i* S	**Sb**	**18 49 25.7**	**+1.0**
ARG	**Arkhangelos**	**0.82**	**153**	*e*PN	**Pn**	**18 49 16.5**	**-1.5**
SMG	**Samos**	**1.00**	**319**	*e*PN	**Pn**	**18 49 21.0**	**+0.4**
DNZL	**Cakiroluk**	**1.33**	**56**	*i* P	**Pn**	**18 49 26.0**	**+0.7**
DNZL				*i* S	**Sb**	**18 49 44.5**	**+2.4**
DENT	**Denizli**	**1.36**	**53**	PN	**Pn**	**18 49 26.1**	**+0.4**
KARP	**Karpathos**	**1.46**	**196**	*e*PB	**Pb**	**18 49 26.4**	**-1.1**
KARP				*e*SN	**Sn**	**18 49 46.0**	**+0.2**
IZM	**Izmir**	**1.48**	**348**	PN	**Pn**	**18 49 27.3**	**-0.1**
KDAG	**Bornova**	**1.48**	**348**	⇑*i*P	**Pn**	**18 49 27.1**	**-0.4**
KDAG				*i* S	**Sb**	**18 49 49.6**	**+3.2**
MANT	**Manisa**	**1.70**	**25**	*i* P	**Pn**	**18 49 30.5**	**0.0**
MANT				*i* S	**Sn**	**18 49 56.8**	**+4.9**
APE	**Apeiranthos**	**1.71**	**275**	*e*PB	**Pb**	**18 49 30.5**	**-1.3**
KSL	**Kastellorizon**	**1.74**	**117**	*e*PN	**Pn**	**18 49 33.8**	**+2.6**
ELL	**Elmali**	**1.82**	**96**	PN	**Pn**	**18 49 34.0**	**+1.8**
SANT	**Santorini**	**1.86**	**253**	*e*P	**Pn**	**18 49 36.7**	**+3.9**
THR1	**Thera Island**	**1.86**	**253**	*e*P	**Pn**	**18 49 38.1**	**+5.3**
THR4	**Thira Island,**	**1.88**	**256**	*e*P	**Pn**	**18 49 40.3**	**+7.1**
THR3	**Thira Island,**	**1.89**	**254**	*e*P	**Pn**	**18 49 36.7**	**+3.3**
THR6	**Thira Island,**	**1.91**	**253**	*e*P	**Pn**	**18 49 39.5**	**+5.9**
AKS	**Akhisar**	**1.93**	**4**	PN	**Pn**	**18 49 32.6**	**-1.3**
THR5	**Thira Island,**	**1.93**	**255**	*e*P	**Pn**	**18 49 38.6**	**+4.7**
NPS	**Neapolis**	**2.36**	**225**	*e*PN	**Pn**	**18 49 40.5**	**+0.5**
BCK	**Bucak**	**2.40**	**77**	*e*PN	**Pn**	**18 49 41.4**	**+0.9**
ISP	**Isparta**	**2.44**	**68**	*e*PN	**Pn**	**18 49 41.2**	**0.0**
PRK	**Paraskevi**	**2.54**	**335**	*e*PN	**Pn**	**18 49 42.2**	**-0.4**
XRY	**Khrisi**	**2.61**	**218**	*e*PB	**Pb**	**18 49 45.5**	**-1.8**
BALB	**Balikesir**	**2.69**	**4**	*e*PN	**Pn**	**18 49 44.0**	**-0.8**
IDI	**Anoyia**	**2.79**	**234**	Pn	**Pn**	**18 49 45.6**	**-0.5**
	3.6nm,0.3s,baz=56,slow=11,SNR=11						
PTL	**Penteli**	**3.21**	**291**	*e*PN	**Pn**	**18 49 52.5**	**+0.4**
LPK	**Lapseki**	**3.49**	**349**	*e*PN	**Pn**	**18 49 54.9**	**-1.2**
MKIT	**Kithairon Oros**	**3.71**	**291**	*e*PN	**Pn**	**18 50 00.0**	**+0.8**
YLV	**Yalova**	**3.85**	**20**	*e*PN	**Pn**	**18 50 00.4**	**-0.8**
KIZT	**Kizilcal**	**3.85**	**59**	*e*PN	**Pn**	**18 50 01.1**	**-0.2**
HDMB	**Hadim**	**3.87**	**88**	*e*PN	**Pn**	**18 50 02.8**	**+1.4**
BRTR	**Keskin Array B**	**5.46**	**58**	Pn	**Pn**	**18 50 24.2**	**+0.2**
	0.8nm,0.3s,baz=242,slow=16,SNR=16						
BRTR				Sn	**Sn**	**18 51 25.8**	**-1.3**
	0.3nm,0.3s,baz=336,slow=16,SNR=4.4						
GERES	**GERESS Array B**	**15.65**	**324**	Pn	**P**	**18 52 44.1**	**+1.5**
	0.1nm,0.3s,baz=126,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**24.54**	**358**	P	**P**	**18 54 20.4**	**-0.5**
	0.7nm,0.7s,mb3.3,baz=166,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**41.11**	**58**	P	**P**	**18 56 45.2**	**-0.6**
	0.4nm,0.5s,mb3.3,baz=270,slow=11,SNR=5.8						
SONM	**Songino Array**	**56.79**	**52**	P	**P**	**18 58 46.0**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=292,slow=7.8,SNR=3.0						

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*PRU **04** 19:00:08.9,50.42N×18.85E*

*WAR **04** 19:00:08.2,50.32N×18.88E,ML2.5,Mining Induced*

ISC 04 19:00:07.2±0.8,**50.38N**±0.08×**18.84E**±0.05,**n7,**σ**1**^{s}**.11**/15, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**104**	*e*PG	**Pg**	**19 00 20.0**	**+0.1**
OJC				*e*SG	**Sg**	**19 00 29.0**	**+0.6**
OKC	**Ostrava-Krasne**	**0.70**	**220**	*e*PG	**Pg**	**19 00 22.9**	**+1.7**
OKC				*e*SG	**Sg**	**19 00 34.3**	**+3.7**
NIE	**Niedzica**	**1.35**	**135**	*e*PG	**Pg**	**19 00 33.0**	**-1.2**
NIE				*e*SG	**Sg**	**19 00 52.0**	**-0.2**
DPC	**Dobruska-Polom**	**1.61**	**270**	*e*PG	**Pg**	**19 00 38.6**	**-0.8**
DPC				*e*SG	**Sg**	**19 01 01.1**	**+0.2**
	5.5nm,0.2s						
KSP	**Ksiaz**	**1.69**	**287**	*e*PG	**Pg**	**19 00 40.0**	**-0.9**
KSP				*e*(SG)	**Sg**	**19 01 05.0**	**+1.6**
PRU	**Pruhonice**	**2.79**	**264**	*e*PG	**Pg**	**19 01 02.9**	**0.0**
PRU				*e*SG	**Sg**	**19 01 39.6**	**-0.5**
KHC	**Kasperske Hory**	**3.63**	**252**	*e*PN	**Pn**	**19 01 06.6**	**+0.7**
KHC				*e*PG	**Pg**	**19 01 15.6**	**-4.2**
KHC				*e*SG	**Sg**	**19 02 05.3**	**-2.9**

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*ISK **04** 19:21:23.0,37.05N×27.71E,h5^{km},MD3.3*

*ATH **04** 19:21:26.0,36.71N×27.62E,h5^{km},MD3.3/4*

ISC 04 19:21:23.2±0.6,**36.87N**±0.04×**27.70E**±0.05,**h5**^{km}**,n13,** σ**1**^{s}**.05**/18,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**313**	*i* P	**Pg**	**19 21 29.0**	**0.0**
BDRM				*i* S	**Sg**	**19 21 33.6**	**+0.8**
NISR	**Nisiros**	**0.53**	**241**	*e*PB	**Pb**	**19 21 34.0**	**-0.6**
YER	**Yerkesik**	**0.53**	**60**	*i* PG	**Pg**	**19 21 33.2**	**-0.7**
ARG	**Arkhangelos**	**0.74**	**152**	*e*PB	**Pb**	**19 21 38.5**	**+0.4**
AYDN	**Tasoluk**	**0.80**	**10**	*i* P	**Pb**	**19 21 38.5**	**-0.7**
AYDN				*i* S	**Sg**	**19 21 49.3**	**-0.7**
DNZL	**Cakiroluk**	**1.35**	**52**	⇑*i*P	**Pb**	**19 21 48.3**	**-0.3**
DNZL				*i* S	**Sb**	**19 22 08.1**	**+2.1**
DENT	**Denizli**	**1.38**	**50**	PN	**Pn**	**19 21 48.4**	**-0.8**
DENT				SN	**Sn**	**19 22 07.1**	**-0.9**
KARP	**Karpathos**	**1.39**	**199**	*e*PB	**Pb**	**19 21 49.5**	**+0.2**
IZM	**Izmir**	**1.56**	**347**	PN	**Pn**	**19 21 50.4**	**-1.4**
KDAG	**Bornova**	**1.57**	**347**	⇑*i*P	**Pn**	**19 21 52.4**	**+0.5**
KDAG				*i* S	**Sb**	**19 22 14.9**	**+2.5**
ELL	**Elmali**	**1.77**	**93**	*e*PN	**Pn**	**19 21 56.7**	**+1.9**
AKS	**Akhisar**	**2.01**	**2**	*e*PN	**Pn**	**19 21 57.3**	**-0.9**
PRK	**Paraskevi**	**2.63**	**335**	*e*PN	**Pn**	**19 22 14.0**	**+7.0**

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*ISK **04** 19:26:31.2,36.92N×27.70E,h11^{km},MD3.2*

*NEIC **04** 19:26:33.1,36.88N×27.70E,h25^{km},MD3.0(ATH),After ATH.*

*ATH **04** 19:26:33.1,36.88N×27.70E,h25^{km}±4^{km},MD3.0/4*

ISC 04 19:26:32.3±0.7,**36.91N**±0.04×**27.69E**±0.04,**h16**^{km}±8^{km}, **n14,**σ**0**^{s}**.95**/23,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.25**	**309**	*i* P	**Pb**	**19 26 38.0**	**-0.1**
BDRM				*i* S	**Sb**	**19 26 42.6**	**+0.8**
MLSB	**Milas**	**0.39**	**10**	*i* PG	**Pb**	**19 26 39.6**	**-0.8**
YER	**Yerkesik**	**0.53**	**64**	*i* PG	**Pb**	**19 26 41.7**	**-1.0**
YER				SG	**Sb**	**19 26 49.1**	**-0.7**
NISR	**Nisiros**	**0.54**	**237**	*e*PN	**Pn**	**19 26 43.0**	**-2.1**
NISR				*e*SN	**Sn**	**19 26 52.5**	**-1.2**
AYDN	**Tasoluk**	**0.77**	**11**	*i* P	**Pb**	**19 26 46.7**	**-0.1**
AYDN				*i* S	**Sb**	**19 26 57.4**	**+0.6**
ARG	**Arkhangelos**	**0.78**	**153**	*e*PB	**Pb**	**19 26 47.0**	**0.0**
ARG				*e*SN	**Sn**	**19 26 59.5**	**-0.2**
SMG	**Samos**	**1.05**	**320**	*e*PN	**Pn**	**19 26 54.0**	**+1.6**
DNZL	**Cakiroluk**	**1.33**	**54**	*i* P	**Pn**	**19 26 56.9**	**+0.5**
DNZL				*i* S	**Sb**	**19 27 14.3**	**+1.1**
DENT	**Denizli**	**1.36**	**51**	PN	**Pn**	**19 26 56.7**	**-0.2**
DENT				SN	**Sn**	**19 27 15.2**	**+0.5**
KARP	**Karpathos**	**1.42**	**198**	*e*PN	**Pn**	**19 27 00.0**	**+2.3**
KARP				*e*SN	**Sn**	**19 27 17.5**	**+1.3**
IZM	**Izmir**	**1.52**	**347**	PN	**Pn**	**19 26 58.2**	**-1.0**
KDAG	**Bornova**	**1.53**	**347**	⇑*i*P	**Pn**	**19 26 59.0**	**-0.3**
KDAG				*i* S	**Sb**	**19 27 24.0**	**+5.1**
ELL	**Elmali**	**1.79**	**94**	*e*PN	**Pn**	**19 27 02.7**	**-0.3**
AKS	**Akhisar**	**1.97**	**3**	*e*PN	**Pn**	**19 27 05.1**	**-0.5**

JMA 04 19:45:33.1±0.2,**43.71N**×**147.98E,M3.8,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.66**	**259**	P	Pn	19 46 03.9	+0.2
NEM2				*e*S	Sb	19 46 26.3	+0.5
JRA	**Rausu**	**2.08**	**277**	P	Pn	19 46 09.9	+0.2
JRA				*e*S	Sn	19 46 37.1	+0.4
JNK	**Nakash**	**2.37**	**268**	P	Pn	19 46 13.7	-0.1
JNK				*e*S	Sn	19 46 43.1	-0.9
JAK	**Akkeshi**	**2.50**	**255**	P	Pn	19 46 15.7	+0.1
JAK				*e*S	Sn	19 46 46.4	-0.9
JTKR	**Abashiri--Toko**	**2.96**	**276**	P	Pn	19 46 22.1	-0.1
JTKR				*e*S	Sn	19 46 59.0	+0.1
JAR	**Ashorobuto**	**3.09**	**264**	P	Pn	19 46 24.6	+0.5
JAR				*e*S	Sn	19 47 01.7	-0.6
JOB	**Onbets**	**3.13**	**257**	P	Pn	19 46 24.7	0.0
JOB				*e*S	Sn	19 47 02.8	-0.5
JCH	**Churui**	**3.55**	**254**	P	Pn	19 46 31.3	+0.7
JCH				*e*S	Sn	19 47 13.3	-0.6
JFR	**Furan**	**3.96**	**264**	P	Pn	19 46 37.1	+0.7
JFR				*e*S	Sn	19 47 24.4	+0.1
JNBK	**Urakawa-nobuka**	**4.09**	**251**	P	Pn	19 46 37.5	-0.8
JNBK				*e*S	Sn	19 47 25.3	-2.3

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*ISK **04** 19:59:37.7,37.03N×27.71E,h7^{km},MD3.4*

*NEIC **04** 19:59:38.3,36.88N×27.68E,h35^{km},MD3.4(ATH),After ATH.*

*ATH **04** 19:59:38.3,36.88N×27.68E,h35^{km}±5^{km},MD3.4/6*

ISC 04 19:59:37.2±0.8,**36.88N**±0.03×**27.68E**±0.04,**h10**^{km}±5^{km}, **n17,**σ**1**^{s}**.02**/25,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.27**	**315**	*i* P	**Pg**	**19 59 43.1**	**+0.3**
BDRM				*i* S	**Sg**	**19 59 47.6**	**+1.0**
NISR	**Nisiros**	**0.52**	**239**	*e*PN	**Pn**	**19 59 49.2**	**-1.0**
NISR				*e*SN	**Sn**	**19 59 58.0**	**-1.0**
YER	**Yerkesik**	**0.55**	**62**	*i* PG	**Pg**	**19 59 46.6**	**-1.6**
YER				SG	**Sg**	**19 59 54.8**	**-0.8**
ARG	**Arkhangelos**	**0.75**	**151**	*e*PB	**Pb**	**19 59 52.0**	**+0.2**
ARG				*e*SN	**Sn**	**20 00 05.0**	**+0.1**
AYDN	**Tasoluk**	**0.80**	**11**	*i* P	**Pb**	**19 59 52.0**	**-0.7**
DNZL	**Cakiroluk**	**1.36**	**53**	⇑*i*P	**Pb**	**20 00 02.0**	**-0.2**
DNZL				*i* S	**Sb**	**20 00 20.7**	**+1.3**
DENT	**Denizli**	**1.39**	**50**	*i* PN	**Pn**	**20 00 03.1**	**+0.5**
DENT				SN	**Sn**	**20 00 20.4**	**-0.7**
KARP	**Karpathos**	**1.39**	**198**	*e*PN	**Pn**	**20 00 03.0**	**+0.3**
IZM	**Izmir**	**1.55**	**348**	PN	**Pn**	**20 00 04.4**	**-0.6**
KDAG	**Bornova**	**1.56**	**348**	*i* P	**Pn**	**20 00 08.2**	**+3.1**
KDAG				*i* S	**Sb**	**20 00 29.0**	**+3.7**
KSL	**Kastellorizon**	**1.69**	**115**	*e*PN	**Pn**	**20 00 07.5**	**+0.5**
APE	**Apeiranthos**	**1.73**	**277**	*e*PN	**Pn**	**20 00 08.0**	**+0.4**
MANT	**Manisa**	**1.75**	**23**	⇑*i*P	**Pn**	**20 00 04.8**	**-3.1**
MANT				*i* S	**Sn**	**20 00 30.2**	**-0.2**
ELL	**Elmali**	**1.79**	**93**	*e*PN	**Pn**	**20 00 10.2**	**+1.8**
AKS	**Akhisar**	**2.00**	**3**	*e*PN	**Pn**	**20 00 10.4**	**-1.0**
PRK	**Paraskevi**	**2.61**	**335**	*e*PN	**Pn**	**20 00 20.5**	**+0.3**
HDMB	**Hadim**	**3.85**	**87**	*e*PN	**Pn**	**20 00 38.7**	**+0.9**

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*IDC **04** 20:02:42.3±1.4,1.35N×126.13E,mb4.1/4,mb1 4.2/5, mb1mx3.8/16,ML4.0/1,Error ellipse: s-maj=100.0km s-min=21.0km az=67.0*

*NEIC **04** 20:02:46.5±8.8,1.30N×126.17E,h27^{km}±65^{km},mb4.2/4, Error ellipse: s-maj=55.8km s-min=16.4km az=66.0*

ISC 04 20:02:45.5±0.9,**1.2N**±0.2×**125.9E**±0.4,**h33**^{km}**,n12,** σ**0**^{s}**.35**/12,**mb4.2**/7,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.25**	**155**	*e*P	**P**	**20 06 20.2**	**-0.1**
	6.5nm,1.2s						
KAKA				*i*		20 06 25.7	
FITZ	**Fitzroy Crossi**	**19.19**	**181**	*e*P	**P**	**20 07 09.3**	**-0.1**
	1.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.19**	**181**	P	**P**	**20 07 09.5**	**+0.1**
	0.4nm,0.3s,baz=2.4,slow=8.5,SNR=12						
WRAB	**Tennant Creek**	**22.59**	**159**	*e*P	**P**	**20 07 45.1**	**+0.5**
	5.5nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**22.59**	**159**	P	**P**	**20 07 44.5**	**-0.1**
	4.3nm,0.3s,mb4.3,baz=337,slow=11,SNR=113						
WB2	**Warramunga Arr**	**22.60**	**159**	*e*P	**P**	**20 07 44.0**	**-0.7**
ASAR	**Alice Springs**	**25.92**	**163**	P	**P**	**20 08 17.1**	**+0.4**
	1.0nm,0.4s,mb3.7,baz=346,slow=7.1,SNR=22						
ASAR				PcP	PcP	20 11 45.4	-0.1
	0.8nm,1.0s,baz=358,slow=2.0,SNR=5.1						
STKA	**Stephens Creek**	**36.11**	**157**	P	**P**	**20 09 46.5**	**0.0**
	1.1nm,0.4s,mb4.1,baz=327,slow=9.8,SNR=6.0						
STKA	**Stephens Creek**	**36.11**	**157**	*e*P	**P**	**20 09 46.8**	**+0.2**
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**20 12 45.1**	**-0.5**
	1.0nm,0.4s,mb4.2,baz=126,slow=8.2,SNR=13						
KURK	**Kurchatov**	**63.42**	**329**	*e*P	**P**	**20 13 14.4**	**+0.1**
	4.4nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**69.69**	**327**	*e*P	**P**	**20 13 54.2**	**+0.3**
	0.6nm,0.5s,mb3.8						

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*MOS **04** 20:05:09.2±1.2,51.67N×159.75E,h14^{km},mb5.0/24,Error ellipse: s-maj=15.9km s-min=5.3km az=98.1*

MOS Felt (II-III) at Petropavlovsk-Kamchatsky.

*IDC **04** 20:05:13.2±0.5,52.36N×159.58E,mb4.7/31,mb1 4.8/33,*

mb1mx4.8/35,ML4.7/2,MS3.8/18,Ms1 3.8/18,
ms1mx3.7/27,Error ellipse: s-maj=14.2km s-min=9.6km
az=161.0
*BJI **04** 20:05:15.9,52.83N×159.28E,h24^{km},mB5.0,mb4.9,*
Ms4.4,Msz4.3
*KRSC **04** 20:05:15.3,52.17N×159.84E,h5^{km},Mc5.0,ML5.4*
*NEIC **04** 20:05:19.5±1.1,52.29N×159.55E,h44^{km}±9^{km},mb4.8/69,*
MS4.2/6,Error ellipse: s-maj=6.5km s-min=4.6km
az=154.0
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
ISC 04 20:05:18.7±0.5,**52.18N**±0.03×**159.71E**±0.05,**h56**^{km}±3^{km},
h43^{km}±3.0^{km}**:pP-P,n276,**σ**1**^{s}**17**/306,**mb4.8**/118,**MS3.9**/31,
21C-4D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.78**	**289**	P	**P**	**20 05 32.9**	**-0.8**
RUS	**Russkaya**	**0.78**	**289**	*i* P	**P**	**20 05 33.0**	**-0.7**
SPN	**Mys Shipunski**	**0.94**	**12**	*e*P	**P**	**20 05 34.3**	**-1.6**
SPN				*e*S	**S**	**20 05 47.1**	**-1.6**
NLC	**Nalytchevo**	**1.02**	**348**	*e*P	**P**	**20 05 35.6**	**-1.4**
NLC				*e*S	**S**	**20 05 49.5**	**-1.1**
PET	**Petropavlovsk**	**1.06**	**323**	P	**P**	**20 05 37.1**	**-0.5**
PET				S	**S**	**20 05 52.3**	**+0.6**
PET	**Petropavlovsk**	**1.06**	**323**	*i* P	**P**	**20 05 37.0**	**-0.6**
PET				*e*S	**S**	**20 05 52.2**	**+0.5**
PET	**Petropavlovsk**	**1.06**	**323**	⇓*i*P	**P**	**20 05 36.9**	**-0.7**
PET				*e*S	**S**	**20 05 55.8**	**+4.1**
GRL	**Gorelyy**	**1.07**	**291**	*i* P	**P**	**20 05 38.3**	**+0.6**
GRL				*e*S	**S**	**20 05 55.6**	**+3.7**
UGLR	**Uglovaya**	**1.16**	**333**	*e*P	**P**	**20 05 38.8**	**-0.2**
SDLR	**Sedlovina**	**1.21**	**336**	*i* P	**P**	**20 05 39.0**	**-0.6**
SDLR				*e*S	**S**	**20 05 56.4**	**+1.2**
SMAR	**Somma**	**1.22**	**333**	*e*P	**P**	**20 05 39.2**	**-0.5**
SMAR				*e*S	**S**	**20 05 55.1**	**-0.3**
AVH	**Avacha**	**1.24**	**332**	*i* P	**P**	**20 05 39.9**	**-0.1**
KOK	**Koryaka**	**1.29**	**330**	*e*P	**P**	**20 05 40.7**	**-0.1**
KOK				*e*S	**S**	**20 05 59.9**	**+2.6**
APC	**Apacha**	**1.73**	**297**	*i* P	**P**	**20 05 48.1**	**+1.2**
APC				*e*S	**S**	**20 06 09.0**	**+1.2**
APC				Smax			
	10µm,0.8s						
MIPR	**Malaya Ipel'ka**	**1.82**	**274**	*e*P	**P**	**20 05 49.5**	**+1.3**
MIPR				*e*S	**S**	**20 06 14.4**	**+4.3**
GNL	**Ganaly**	**1.86**	**326**	*e*P	**P**	**20 05 49.1**	**+0.4**
GNL				*e*S	**S**	**20 06 14.3**	**+3.3**
KII	**Karymskiy**	**1.86**	**355**	*e*P	**P**	**20 05 48.8**	**0.0**
PAU	**Pauzhetka**	**1.94**	**249**	*i* P	**P**	**20 05 50.5**	**+0.7**
PAU				*i* S	**S**	**20 06 15.5**	**+2.6**
PAU				Smax			
	6µm,0.7s						
MKZ	**Mys Kozlova**	**2.67**	**26**	P	**P**	**20 05 57.9**	**-2.4**
MKZ				S	**S**	**20 06 28.0**	**-3.5**
MKZ	**Mys Kozlova**	**2.67**	**26**	*e*P	**P**	**20 05 57.7**	**-2.6**
MKZ				*i* S	**S**	**20 06 28.1**	**-3.4**
SKR	**Severo-Kuril's**	**2.70**	**238**	*e*PN	**P**	**20 05 58.0**	**-2.7**
SKR				*i* S	**S**	**20 06 30.9**	**-1.5**
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
SKR				smax			
	comp=N,6µm,2.0s						
SKR				smax			
	comp=E,4µm,2.0s						
SKR				smax			
	comp=N,2µm,0.5s						
SKR				smax			
	comp=E,3µm,0.5s						
SKR				MLR	MLR		
	comp=Z,4µm,16.0s						
SKR				MLR	MLR		
	comp=N,5µm,14.0s						
SKR				MLR	MLR		
	comp=E,5µm,14.0s						
TUMR	**Tumrok**	**3.12**	**5**	*e*P	**P**	**20 06 06.5**	**-0.1**
TUMR				*e*S	**S**	**20 06 45.3**	**+2.4**
KMNR	**Kamenistaya**	**3.60**	**5**	*e*P	**P**	**20 06 13.5**	**+0.2**
KMNR				*e*S	**S**	**20 06 58.3**	**+3.4**
ESO	**Esso**	**3.80**	**351**	*i* P	**P**	**20 06 16.0**	**-0.2**
ESO				*e*S	**S**	**20 06 59.5**	**-0.5**
ESO				Smax			
	comp=E,1µm,1.0s						
KOZ	**Kozyrevsk**	**3.89**	**1**	*e*P	**P**	**20 06 19.8**	**+2.4**
KOZR	**Kozyr**	**3.89**	**2**	PN	**P**	**20 06 19.8**	**+2.3**
LGNR	**Loginova**	**3.95**	**8**	*e*P	**P**	**20 06 19.0**	**+0.7**
LGNR				*e*S	**S**	**20 07 05.6**	**+1.7**
CIRR	**Tsirk**	**3.99**	**8**	*e*P	**P**	**20 06 19.8**	**+0.9**
KRSR	**Krestovskiy**	**4.08**	**7**	*e*P	**P**	**20 06 21.6**	**+1.5**
SRDR	**Sredinnyy**	**4.14**	**0**	*e*P	**P**	**20 06 20.6**	**-0.4**
KLY	**Klyuchi**	**4.18**	**7**	P	**P**	**20 06 23.0**	**+1.5**
KLY				S	**S**	**20 07 13.1**	**+3.6**
KLY	**Klyuchi**	**4.18**	**7**	*e*P	**P**	**20 06 22.9**	**+1.4**
KLY				*e*S	**S**	**20 07 13.0**	**+3.5**
KBTR	**Krutoberegovo**	**4.43**	**23**	P	**P**	**20 06 23.5**	**-1.5**
KBTR				S	**S**	**20 07 14.1**	**-1.8**
KBTR	**Krutoberegovo**	**4.43**	**23**	*e*P	**P**	**20 06 23.4**	**-1.6**
KBTR				*e*S	**S**	**20 07 14.1**	**-1.8**
KBG	**Krutoberegovo**	**4.44**	**22**	*e*P	**P**	**20 06 23.9**	**-1.4**
KBG				Smax			
	comp=E,4µm,1.1s						
SVLR	**Shiveluch**	**4.49**	**11**	*e*P	**P**	**20 06 27.8**	**+1.9**
BKI	**Bering**	**4.80**	**48**	*e*P	**P**	**20 06 25.8**	**-4.4**
BKI				*e*S	**S**	**20 07 14.9**	**-10**
BKI				Smax			
	comp=E,410nm,0.7s						
FX1	**Attu Island--F**	**8.24**	**80**	Pn	**P**	**20 07 12.5**	**-5.5**
	comp=E,40nm,0.3s,baz=305,slow=5.8,SNR=106						
FX1				Sn	**S**	**20 08 35.5**	**-15**
	comp=E,42nm,0.3s,baz=111,slow=21,SNR=10						
FX1				LR	LR	20 10 13.2	
	comp=E,36nm,21.4s,baz=307,slow=36						
SMY	**Shemya**	**8.81**	**81**	*e*P	**P**	**20 07 22.2**	**-3.7**
SEY	**Seymchan**	**11.46**	**343**	*e*PN	**P**	**20 08 02.1**	**+0.2**
SEY				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**12.18**	**251**	⇑*e*PN	**P**	**20 08 13.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ASAJ	**Asahikawa**	**13.96**	**241**	Pn	**P**	**20 08 35.6**	**+0.7**
	comp=Z,3.9nm,0.3s,baz=69,slow=11,SNR=16						
ASAJ				LR	LR	20 13 27.6	
	comp=Z,224nm,20.6s,baz=343,slow=35						
ASAJ	**Asahikawa**	**13.96**	**241**	P	**P**	**20 08 35.6**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,224nm,20.6s						
YAK	**Yakutsk**	**18.88**	**313**	*e*P	**P**	**20 09 33.6**	**-3.0**
	comp=Z,42nm,0.7s						
UNV	**Unalaska Valle**	**20.29**	**72**	*e*P	**P**	**20 09 50.2**	**-1.8**
	comp=Z,102nm,0.9s						
MDJ	**Mudanjiang**	**21.26**	**261**	P	**P**	**20 09 58.0**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,89nm,4.2s						
MDJ				LR	LR		
	comp=N,282nm,26.8s,MS3.6						
MDJ				LR	LR		
	comp=E,54nm,22.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,283nm,20.1s,MS3.6						
MAJO	**Matsushiro**	**21.80**	**233**	*e*P	**P**	**20 10 08.4**	**+1.0**
	comp=Z,75nm,0.9s,mb5.1						
MAT	**Matsushiro**	**21.80**	**233**	P	**P**	**20 10 08.8**	**+1.4**
MAT				*e*S	**S**	**20 14 08.0**	**+8.1**
MAT	**Matsushiro**	**21.80**	**233**	*e*P	**P**	**20 10 09.0**	**+1.6**
	comp=Z,34nm,0.7s,mb4.9						
MAT				S	Sx	20 14 29.0	
TIXI	**Tiksi**	**23.82**	**336**	*e*P	**P**	**20 10 25.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,378nm,16.0s,MS4.0						
CN2	**Changchun**	**24.22**	**263**	*e*P	**P**	**20 10 29.6**	**-1.3**
CN2				*e*AP		20 10 40.5	
CN2				*e*S	**S**	**20 14 41.5**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s,MS4.2						
CN2				LR	LR		
	comp=E,400nm,13.0s,MS4.2						
CN2				LR	LR		
	comp=Z,500nm,14.0s,MS4.2						
HIA	**Hailar**	**25.25**	**279**	*e*P	**P**	**20 10 38.9**	**-1.7**
	comp=Z,54nm,0.9s,mb5.1						
BOD	**Bodaibo**	**26.40**	**301**	*e*P	**P**	**20 10 46.1**	**-5.2**
JNU	**Nakatsue**	**28.21**	**239**	P	**P**	**20 11 09.2**	**+1.1**
	comp=Z,27nm,0.8s,mb5.0,baz=71,slow=9.7,SNR=17						
JNU				LR	LR	20 22 06.2	
	comp=Z,205nm,21.1s,MS3.7,baz=235,slow=36						
CBIJ	**Chichi jima**	**28.31**	**214**	LR	LR	20 21 22.7	
	comp=Z,71nm,21.6s,MS3.2,baz=87,slow=34						
MCK	**McKinley**	**28.75**	**46**	P	**P**	**20 11 12.0**	**-0.5**
	comp=Z,3.4nm,1.4s,mb3.9						
SML	**Sawmill**	**29.12**	**50**	*e*P	**P**	**20 11 15.0**	**-0.8**
SML				*e*	pP	20 11 27.3	-2.5
COLA	**College**	**29.22**	**44**	*e*P	**P**	**20 11 23.0**	**+6.3**
ILAR	**Eielson Array**	**29.63**	**44**	P	**P**	**20 11 18.4**	**-1.9**
	comp=Z,0.8nm,0.7s,mb3.6,baz=254,slow=7.4,SNR=12						
ILAR				LR	LR	20 24 32.3	
	comp=Z,108nm,18.8s,MS3.5,baz=23,slow=39						
ILAR	**Eielson Array**	**29.63**	**44**	P	**P**	**20 11 18.5**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,108nm,18.8s						
BJI	**Beijing**	**32.05**	**265**	*e*P	**P**	**20 11 39.8**	**-2.1**
BJI				S	**S**	**20 16 50.3**	**+1.6**
BJI				LR	LR		
	comp=N,321nm,18.4s,MS4.2						
BJI				LR	LR		
	comp=E,353nm,21.3s,MS4.2						
BJI				LR	LR		
	comp=Z,430nm,19.4s,MS4.2						
SONM	**Songino Array**	**33.89**	**284**	P	**P**	**20 11 56.5**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=68,slow=6.5,SNR=17						
SONM				PcP	PcP	20 14 35.6	0.0
	comp=Z,3.8nm,0.9s,baz=61,slow=2.0,SNR=12						
ZAK	**Zakamensk**	**34.59**	**290**	*e*P	**P**	**20 12 01.7**	**-2.0**
JOW	**Kunigami**	**34.59**	**235**	P	**P**	**20 12 04.3**	**+0.3**
	comp=Z,30nm,0.5s,mb5.5,baz=20,slow=8.0,SNR=31						
JOW				LR	LR	20 27 04.8	
	comp=Z,108nm,18.2s,MS3.6,baz=28,slow=38						
INK	**Inuvik**	**34.74**	**37**	P	**P**	**20 12 04.2**	**-0.7**
	comp=Z,2.0nm,0.3s,mb4.5,baz=304,slow=6.4,SNR=5.6						
INK	**Inuvik**	**34.74**	**37**	P	**P**	**20 12 04.2**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**34.74**	**37**	P	**P**	**20 12 04.7**	**-0.2**
SSE	**Sheshan**	**35.10**	**248**	P	**P**	**20 12 12.9**	**+4.6**
SSE				S	**S**	**20 17 45.7**	**+10**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,48nm,4.3s						
SSE				LR	LR		
	comp=N,53nm,21.7s,MS3.4						
SSE				LR	LR		
	comp=E,46nm,21.7s,MS3.4						
SSE				LR	LR		
	comp=Z,72nm,19.5s,MS3.4						
SSE	**Sheshan**	**35.10**	**248**	P	**P**	**20 12 12.9**	**+4.6**
	comp=Z,35nm,0.7s,mb5.4						
SSE				sP	sP	20 12 30.2	+0.6
SSE				S	**S**	**20 17 45.7**	**+10**
SSE				sS		20 18 08.7	
SSE				LR	LR		
	comp=Z,70nm,19.5s,MS3.4						
NJ2	**Nanjing**	**35.75**	**252**	*e*P	**P**	**20 12 13.6**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
DLBC	**Dease Lake**	**38.78**	**52**	P	**P**	**20 12 40.5**	**+1.6**
	comp=Z,2.7nm,0.8s,mb4.1,baz=263,slow=6.7,SNR=6.6						
WHN	**Wuhan**	**39.49**	**255**	*e*P	**P**	**20 12 45.7**	**+0.6**
LZH	**Lanzhou**	**42.10**	**270**	*e*P	**P**	**20 13 06.0**	**-0.5**
LZH				AP	pP	20 13 19.0	-2.1
LZH				PP	PP	20 14 48.0	+0.4
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,79nm,4.0s						
LZH				LR	LR		
	comp=E,320nm,12.7s						
LZH				LR	LR		
	comp=Z,373nm,16.8s,MS4.3						
LZH	**Lanzhou**	**42.10**	**270**	*e*P	**P**	**20 13 06.0**	**-0.5**
	comp=Z,37nm,1.3s,mb4.8						
LZH				pP	pP	20 13 19.0	-2.1
LZH				sP	sP	20 13 25.3	-2.4
LZH				PP	PP	20 14 48.0	+0.4
LZH				LR	LR		
	comp=Z,370nm,16.8s,MS4.3						
GTA	**Gaotai**	**42.48**	**277**	*e*P	**P**	**20 13 08.9**	**-0.7**
GTA				PCP	PcP	20 15 02.5	+0.3
GTA				S	**S**	**20 19 23.5**	**-3.7**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,53nm,4.2s						
GTA				LR	LR		
	comp=N,103nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,157nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=Z,179nm,18.6s,MS4.0						
ENH	**Enshi**	**42.60**	**259**	*e*P	**P**	**20 13 09.7**	**-1.1**
	comp=Z,13nm,0.8s,mb4.7						
NVS	**Novosibirsk**	**43.44**	**305**	*i* P	**P**	**20 13 14.5**	**-2.7**
NVS				*e*S	**S**	**20 19 36.0**	**-5.0**
NVS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				smax			
	comp=E,10.0nm,2.0s						
YKA	**Yellowknife Ar**	**44.00**	**42**	P	**P**	**20 13 21.5**	**-0.1**
	comp=E,2.0nm,0.7s,mb4.0,baz=301,slow=8.2,SNR=8.5						
YKA				LR	LR	20 34 26.2	
	comp=E,117nm,20.7s,MS3.8,baz=250,slow=40						
YKA	**Yellowknife Ar**	**44.00**	**42**	P	**P**	**20 13 21.5**	**-0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,117nm,20.7s						
RES	**Resolute Bay**	**44.26**	**22**	*e*P	**P**	**20 13 23.9**	**+0.3**
WMQ	**Urumqi**	**47.06**	**290**	⇑P	**P**	**20 13 45.5**	**-0.6**
WMQ				AP	pP	20 13 58.2	-2.6
WMQ				PCP	PcP	20 15 17.7	-0.2
WMQ				S	**S**	**20 20 33.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,24nm,10.0s						
WMQ				LR	LR		
	comp=E,183nm,15.6s						
WMQ				LR	LR		
	comp=Z,271nm,15.6s,MS4.3						
GYA	**Guiyang**	**47.08**	**258**	⇑*i*P	**P**	**20 13 46.2**	**-0.3**
GYA				PP	PP	20 15 36.4	-0.9
GYA				S	**S**	**20 20 33.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,5.4s						
GYA				LR	LR		
	comp=N,130nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=E,240nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=Z,280nm,16.8s,MS4.3						
KBS	**Kingsbay**	**47.75**	**352**	*e*P	**P**	**20 13 51.1**	**0.0**
	comp=Z,11nm,0.8s,mb4.9						
KBS				*e*	pP	20 14 04.3	-1.6
KURK	**Kurchatov**	**48.02**	**302**	*e*P	**P**	**20 13 51.0**	**-2.6**
	comp=Z,13nm,0.8s,mb5.0						
KURK				*e*PcP	PcP	20 15 20.8	-0.5
MKAR	**Makanchi Array**	**48.34**	**296**	P	**P**	**20 13 53.6**	**-2.5**
	comp=Z,4.0nm,0.5s,mb4.7,baz=55,slow=6.8,SNR=36						
MKAR				PcP	PcP	20 15 22.1	-0.4
	comp=Z,1.4nm,0.7s,baz=45,slow=6.1,SNR=2.8						
MKAR				LR	LR	20 35 37.3	
	comp=Z,270nm,18.2s,MS4.3,baz=27,slow=38						
MKAR	**Makanchi Array**	**48.34**	**296**	P	**P**	**20 13 53.6**	**-2.5**
MKAR						20 15 22.1	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,270nm,18.3s						
TGY	**Tagaytay City**	**48.96**	**234**	LR	LR	20 35 58.4	
	comp=Z,37nm,18.4s,MS3.4,baz=104,slow=38						
KMI	**Kunming**	**50.44**	**260**	*e*P	**P**	**20 14 10.9**	**-1.6**
KMI				AP	pP	20 14 19.2	-8.1
KMI				S	**S**	**20 21 23.3**	**+2.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=N,228nm,20.1s,MS4.3						
KMI				LR	LR		
	comp=E,256nm,23.0s,MS4.3						
KMI				LR	LR		
	comp=Z,240nm,23.0s,MS4.2						
KMI	**Kunming**	**50.44**	**260**	*e*P	**P**	**20 14 10.9**	**-1.6**
	comp=Z,6.0nm,0.9s,mb4.6						
KMI				pP	pP	20 14 19.2	-8.1
KMI				S	**S**	**20 21 23.3**	**+2.8**
KMI				LR	LR		
	comp=Z,240nm,23.0s,MS4.2						
VOSK	**Vostochnaya**	**50.67**	**308**	P	**P**	**20 14 10.9**	**-3.1**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**50.78**	**309**	*i* P	**P**	**20 14 11.8**	**-2.9**
BVAR	**Borovoye Array**	**50.78**	**309**	P	**P**	**20 14 11.9**	**-2.9**
	comp=Z,9.9nm,0.7s,mb4.9,baz=59,slow=8.6,SNR=52						
BVAR				PcP	PcP	20 15 30.5	-0.7
	comp=Z,3.9nm,0.7s,baz=90,slow=1.5,SNR=7.5						
BRVK	**Borovoye**	**50.81**	**309**	*e*P	**P**	**20 14 12.3**	**-2.6**
	comp=Z,13nm,0.8s,mb4.9						
DAG	**Danmarks Havn**	**51.32**	**360**	⇑*i*P	**P**	**20 14 17.9**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**51.48**	**309**	P	**P**	**20 14 17.0**	**-3.1**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**51.48**	**309**	*e*P	**P**	**20 14 17.0**	**-3.1**
	comp=Z,7.4nm,0.8s,mb4.7						
LVZ	**Lovozero**	**53.45**	**337**	*e*P	**P**	**20 14 32.1**	**-2.5**
LVZ				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
LVZ				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.3						
KEV	**Kevo**	**53.61**	**341**	*e*p	**P**	**20 14 30.9**	**-4.8**
ARU	**Arti**	**53.91**	**318**	⇓*i*P	**P**	**20 14 34.7**	**-3.4**
ARU				*i*		20 15 39.2	
ARU				*i*		20 16 35.7	
ARU				*e*S	**S**	**20 22 06.6**	**-0.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.2						
ARU	**Arti**	**53.91**	**318**	*e*P	**P**	**20 14 35.2**	**-2.9**
	comp=Z,6.8nm,0.5s,mb4.8						
ARU				*e*		20 15 41.7	
ARCES	**ARCESS Array B**	**54.08**	**342**	P	**P**	**20 14 37.3**	**-1.9**
	comp=Z,4.6nm,0.7s,mb4.5,baz=45,slow=10,SNR=23						
ARCES				LR	LR	20 40 36.4	
	comp=Z,127nm,20.3s,MS4.0,baz=245,slow=39						
ARCES	**ARCESS Array B**	**54.08**	**342**	P	**P**	**20 14 37.3**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,127nm,20.3s						
LSA	**Lhasa**	**54.25**	**274**	P	**P**	**20 14 44.6**	**+3.6**
LSA	**Lhasa**	**54.25**	**274**	*e*P	**P**	**20 14 40.8**	**-0.2**
	comp=Z,7.0nm,0.9s,mb4.6						
SUMG	**Summit**	**54.90**	**7**	*e*P	**P**	**20 14 44.6**	**-0.5**
	comp=Z,27nm,0.9s,mb5.3						
KTK1	**Kautokeino**	**54.96**	**342**	*e*P	**P**	**20 14 44.5**	**-1.1**
KTK1				AMb	AMB	20 14 46.7	
	comp=Z,25nm,1.4s,mb5.1						
KTK1	**Kautokeino**	**54.96**	**342**	*e*P	**P**	**20 14 44.5**	**-1.1**
	comp=Z,25nm,1.4s,mb5.0						
TRO	**Tromso**	**55.18**	**344**	*e*P	**P**	**20 14 44.7**	**-2.4**
NVAR	**Mina Array Bea**	**56.28**	**69**	P	**P**	**20 14 56.8**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=308,slow=5.8,SNR=6.7						
NVAR				LR	LR	20 36 05.0	
	comp=Z,44nm,20.1s,MS3.5,baz=310,slow=33						
MNV	**Mina**	**56.37**	**69**	P	**P**	**20 14 57.4**	**+1.3**
	comp=Z,2.6nm,1.0s,mb4.2						
NANT	**Nan**	**56.45**	**257**	⇑P	**P**	**20 14 52.0**	**-4.9**
	comp=Z,88nm,1.0s,mb5.7						
KSH	**Kashi**	**56.54**	**293**	*e*P	**P**	**20 14 55.1**	**-2.3**
KSH				*e*PCP	PcP	20 15 51.8	-1.4
KSH				*e*PP	PP	20 17 01.9	-3.2
KSH				*e*S	**S**	**20 22 37.3**	**-5.6**
KSH				*e*SCS	ScS	20 24 35.7	-2.1
KSH				*e*SS	SS	20 26 24.0	-7.6
KSH				AMB	AMB		
	comp=Z,380nm,5.2s						
KSH				LR	LR		
	comp=E,280nm,5.1s						
KKTK	**Khon Kaen**	**57.10**	**253**	P	**P**	**20 15 02.0**	**+0.4**
KKAR	**Karatay Array**	**57.13**	**299**	*e*P	**P**	**20 14 58.8**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
TPH	**Tonopah**	**57.14**	**69**	*e*P	**P**	**20 15 02.7**	**+1.0**
	comp=Z,1.7nm,0.7s,mb4.2						
LOF	**Lofoten**	**57.39**	**346**	*e*P	**P**	**20 15 03.4**	**+0.4**
LOF				AMb	AMB	20 15 05.1	
	comp=Z,68nm,0.9s,mb5.7						
LOF				*e*pP	pP	20 15 14.7	-3.4
LOF	**Lofoten**	**57.39**	**346**	*e*P	**P**	**20 15 03.4**	**+0.4**
	comp=Z,68nm,0.9s,mb5.7						
CM31	**Chiang Mai Arr**	**57.77**	**258**	*e*P	**P**	**20 15 07.2**	**+1.0**
	comp=Z,6.1nm,0.6s,mb4.8						
CM31				*e*	pP	20 15 19.9	-1.5
CMAR	**Chiang Mai Arr**	**57.77**	**258**	P	**P**	**20 15 06.8**	**+0.5**
	comp=Z,9.2nm,0.7s,mb4.9,baz=28,slow=6.8,SNR=56						
CMAR				LR	LR	20 42 30.7	
	comp=Z,85nm,21.0s,MS3.8,baz=50,slow=39						
CMAR	**Chiang Mai Arr**	**57.77**	**258**	P	**P**	**20 15 06.8**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,85nm,21.0s						
HWUT	**Hardware Ranch**	**57.89**	**62**	*e*P	**P**	**20 15 08.4**	**+1.5**
	comp=Z,3.3nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**58.18**	**60**	P	**P**	**20 15 09.4**	**+0.6**
	comp=Z,4.3nm,1.2s,mb4.4,baz=315,slow=2.1,SNR=12						
PDAR				LR	LR	20 37 33.0	
	comp=Z,69nm,21.9s,MS3.7,baz=124,slow=33						
AB31	**Akbulak array**	**58.21**	**311**	P	**P**	**20 15 06.1**	**-2.9**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
JOF	**Joensuu**	**58.30**	**335**	*e*p	**P**	**20 15 03.8**	**-5.6**
	comp=Z,4.2nm,0.5s,mb4.7						
JOF	**Joensuu**	**58.30**	**335**	*e*P	**P**	**20 15 03.8**	**-5.6**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
MOR8	**Moi Rana**	**59.04**	**344**	⇑*i*P	**P**	**20 15 11.3**	**-3.2**
MOR8				AMb	AMB	20 15 12.5	
	comp=Z,29nm,0.6s,mb5.5						
MOR8	**Moi Rana**	**59.04**	**344**	⇑*i*P	**P**	**20 15 11.3**	**-3.2**
	comp=Z,29nm,0.6s,mb5.5						
KKN	**Kakani**	**59.21**	**277**	*e*P	**P**	**20 15 14.8**	**-1.4**
	comp=Z,28nm,0.6s,mb5.5						
PKI	**Pulchoki**	**59.29**	**276**	*e*P	**P**	**20 15 14.6**	**-2.2**
	comp=Z,24nm,0.8s,mb5.3						
DMN	**Daman**	**59.45**	**277**	*e*P	**P**	**20 15 15.8**	**-2.1**
	comp=Z,30nm,0.6s,mb5.5						
GKN	**Gorkha**	**59.45**	**277**	*e*P	**P**	**20 15 16.4**	**-1.5**
	comp=Z,26nm,0.7s,mb5.3						
ULM	**Lac du Bonnet**	**59.62**	**46**	P	**P**	**20 15 18.0**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.4,baz=303,slow=11,SNR=3.9						
ULM				LR	LR	20 43 30.8	
	comp=Z,113nm,18.7s,MS4.0,baz=14,slow=39						
FINES	**FINESS Array B**	**60.87**	**337**	P	**P**	**20 15 25.5**	**-1.6**
	comp=Z,12nm,0.8s,mb5.1,baz=37,slow=9.5,SNR=55						
FINES				LR	LR	20 46 21.5	
	comp=Z,174nm,18.5s,MS4.2,baz=176,slow=41						
FINES	**FINESS Array B**	**60.87**	**337**	P	**P**	**20 15 25.5**	**-1.6**
FINES				pmax	pmax		
	comp=Z,12nm,0.8s						
FINES				MLR	MLR		
	comp=Z,175nm,18.5s						
NSS	**Namsos**	**60.97**	**345**	*e*P	**P**	**20 15 25.4**	**-2.3**

NSS				AMb	AMB	20 15 27.0	
	comp=Z,25nm,1.3s,mb5.2						
NSS	Namsos	60.97	345	eP	P	20 15 25.4	-2.3
	comp=Z,25nm,1.3s,mb5.2						
PV10	Paradox Valley	61.54	63	eP	P	20 15 32.9	+1.0
OBN	Obninsk	63.16	327	c iP	P	20 15 40.4	-2.1
OBN				e		20 16 17.5	
OBN				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.2						
MOL	Molde	63.50	346	eP	P	20 15 44.9	+0.4
MOL				AMb	AMB	20 15 46.7	
	comp=Z,20nm,0.6s,mb5.3						
MOL				epP	pP	20 15 56.8	-3.1
MOL	Molde	63.50	346	eP	P	20 15 44.9	+0.4
	comp=Z,20nm,0.6s,mb5.3						
NB2	NORSAR Subarra	64.35	344	P	P	20 15 49.0	-1.0
	comp=Z,14nm,0.6s,mb5.2,baz=22,slow=6.5						
NB2	NORSAR Subarra	64.35	344	P	P	20 15 49.0	-1.0
	baz=22,slow=6.9						
NOA	NORSAR Array B	64.35	344	P	P	20 15 48.8	-1.2
	comp=Z,12nm,0.6s,mb5.1,baz=21,slow=6.6,SNR=107						
NOA				LR	LR	20 47 19.4	
	comp=Z,73nm,21.0s,MS3.8,slow=39						
NOA	NORSAR Array B	64.35	344	P	P	20 15 48.8	-1.2
NOA				pmax	pmax		
	comp=Z,12nm,0.6s						
NOA				MLR	MLR		
	comp=Z,73nm,21.0s						
HFS	Hagfors	64.75	342	P	P	20 15 51.8	-0.8
	comp=Z,15nm,0.6s,mb5.2,baz=34,slow=5.3,SNR=112						
HFS	Hagfors	64.75	342	P	P	20 15 51.8	-0.8
HFS				pmax	pmax		
	comp=Z,15nm,0.6s						
ANMO	Albuquerque	65.45	64	eP	P	20 16 05.4	+7.8
SNG	Songkhla	65.69	249	P	P	20 15 54.0	-5.5
SCHQ	Schefferville	66.57	27	P	P	20 16 03.6	-0.8
	comp=Z,4.6nm,0.7s,mb4.6,baz=335,slow=7.5,SNR=4.1						
SCHQ				LR	LR	20 46 46.5	
	comp=Z,71nm,19.3s,MS3.9,baz=296,slow=38						
SUW	Suwalki	68.14	334	eP	P	20 16 12.6	-1.5
	comp=Z,49nm,1.1s,mb5.5						
GDL2	Guadalupe Moun	68.66	65	eP	P	20 16 18.4	+0.6
MUD	Monsted U'grnd	69.04	343	⇓iP	P	20 16 20.5	+0.8
	comp=Z,5.2nm,0.5s,mb4.7						
COP	Copenhagen	69.14	341	i P	P	20 16 19.8	-0.6
	comp=Z,21nm,0.7s,mb5.2						
BSD	Bornholm Skovb	69.15	339	⇑iP	P	20 16 19.8	-0.7
	comp=Z,16nm,0.8s,mb5.0						
AKASG	Malin Array Be	69.28	329	P	P	20 16 19.7	-1.6
	comp=Z,15nm,0.5s,mb5.2,baz=29,slow=6.0,SNR=63						
AKASG	Malin Array Be	69.28	329	P	P	20 16 19.7	-1.6
AKASG				pmax	pmax		
	comp=Z,15nm,0.5s						
WMOK	Wichita Mounta	69.77	59	eP	P	20 16 24.9	+0.3
	comp=Z,6.8nm,0.9s,mb4.6						
KIV	Kislovodsk	69.94	317	eP	P	20 16 23.6	-1.9
KIV				i		20 16 45.5	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
KIV	Kislovodsk	69.94	317	eP	P	20 16 26.1	+0.6
	comp=Z,9.9nm,0.8s,mb4.8						
BSEG	Bad Segeberg	71.21	341	eP	P	20 16 33.0	+0.1
BSEG				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
TXAR	Lajitas Array	71.22	66	P	P	20 16 34.5	+1.1
	comp=Z,1.4nm,0.6s,mb4.1,baz=315,slow=5.3,SNR=8.5						
RUE	Ruedersdorf	71.86	339	P	P	20 16 36.7	-0.1
KWP	Kalwaria	72.19	332	eP	P	20 16 38.9	0.0
	comp=Z,69nm,0.9s,mb5.6						
OJC	Ojcow	72.47	334	⇑eP	P	20 16 40.3	-0.2
KSP	Ksiaz	72.79	337	eP	P	20 16 41.9	-0.3
CLL	Collm	73.12	339	⇑P	P	20 16 43.9	-0.3
	comp=Z,logA/T=1.1,mb4.8						
CLL				e*PP	pP	20 16 52.0	-7.9
CLL				i *SP	sP	20 17 01.0	-4.9
CLL	Collm	73.12	339	⇑iP	P	20 16 43.9	-0.3
CLL				e		20 16 52.0	
CLL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
CLL	Collm	73.12	339	⇑iP	P	20 16 43.9	-0.3
	comp=Z,15nm,1.1s,mb4.8						
CLL				e		20 16 52.0	
CLZ	Clausthal	73.18	341	eP	P	20 16 44.9	+0.4
	comp=Z,16nm,1.2s,mb4.8						
CRVS	Cervenica-Dubn	73.21	333	i P	P	20 16 45.0	+0.3
CRVS				ePP	PP	20 19 24.1	-6.2
DPC	Dobruska-Polom	73.24	336	eP	P	20 16 45.1	+0.2
DPC				LM		20 52 50.0	
	comp=Z,0.2nm,18.7s						
OKC	Ostrava-Krasne	73.25	335	eP	P	20 16 44.6	-0.4
OKC				LM		20 52 10.0	
	comp=Z,0.2nm,19.2s						
BRG	Berggiesshubel	73.32	338	eP	P	20 16 44.6	-0.7
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BRG	Berggiesshubel	73.32	338	eP	P	20 16 44.6	-0.7
	comp=Z,6.4nm,1.2s,mb4.4						
MORC	Moravsky Berou	73.46	335	eP	P	20 16 47.0	+0.8
	comp=Z,12nm,0.8s,mb4.9						
MORC				e	pP	20 16 60.0	-1.9
PVCC	Panska Ves	73.50	338	eP	P	20 16 46.4	0.0
PVCC				LM		20 51 00.0	
	comp=Z,0.2nm,20.0s						
PRU	Pruhonice	74.00	337	eP	P	20 16 49.7	+0.3
MOX	Moxa	74.05	340	i P	P	20 16 50.0	+0.4
MOX	Moxa	74.05	340	eP	P	20 16 50.0	+0.4
VRAC	Vranov	74.14	336	P	P	20 16 50.2	+0.1
	comp=Z,9.3nm,0.9s,mb4.7,baz=28,slow=7.7,SNR=15						
VYHS	Vyhne	74.30	334	i P	P	20 16 51.5	+0.4
PSZ	Piszkesteto	74.54	333	eP	P	20 16 53.2	+0.7
	comp=Z,7.3nm,0.8s,mb4.7						
SMOL	Smolenice	74.65	335	eP	P	20 16 54.0	+0.8
MLR	Muntele Rosu	74.90	328	P	P	20 16 55.2	+0.6
	comp=Z,25nm,0.9s,mb5.1,baz=187,slow=3.9,SNR=44						
MLR	Muntele Rosu	74.90	328	P	P	20 16 55.2	+0.6
MLR				pmax	pmax		
	comp=Z,25nm,0.9s						
PLAL	Pickwick Lake	75.02	52	eP	P	20 16 53.9	-1.6
PLAL				e	pP	20 17 07.1	-4.1
KHC	Kasperske Hory	75.03	338	eP	P	20 16 55.9	+0.6
KHC				eAP	pP	20 17 04.8	-6.2
KHC				LM		20 55 00.0	
	comp=Z,0.2nm,17.0s						
ZST	Bratislava	75.03	335	eP	P	20 16 56.5	+1.2
GRA1	Grafenberg Arr	75.03	339	eP	P	20 16 55.4	+0.1
	comp=Z,33nm,1.6s,mb5.0						
GRF	Grafenberg Arr	75.03	339	eP	P	20 16 55.4	+0.1
GRF				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
WB2	Warramunga Arr	75.15	205	eP	P	20 16 55.8	-0.8
WRA	Warramunga Arr	75.15	205	P	P	20 16 56.9	+0.3
	comp=Z,4.7nm,0.8s,mb4.5,baz=17,slow=6.1,SNR=22						
WRA	Warramunga Arr	75.15	205	P	P	20 16 56.9	+0.3
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WET	Wettzell	75.18	338	eP	P	20 16 56.6	+0.4
WET				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
WET	Wettzell	75.18	338	eP	P	20 16 56.6	+0.4
	comp=Z,9.0nm,1.0s,mb4.7						
GEC2	GERESS Array S	75.27	338	eP	P	20 16 56.4	-0.3
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
GEC2	GERESS Array S	75.27	338	eP	P	20 16 56.4	-0.3
	comp=Z,8.0nm,1.4s,mb4.5						
GERES	GERESS Array B	75.27	338	P	P	20 16 56.6	0.0
	comp=Z,1.6nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=22						
GERES	GERESS Array B	75.27	338	P	P	20 16 56.6	-0.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TOD	Tromm	75.62	341	eP	P	20 16 58.7	0.0
RUP	Ruppelstein	75.87	342	eP	P	20 17 00.8	+0.7
FITZ	Fitzroy Crossi	76.01	213	eP	P	20 17 02.0	+0.5
	comp=Z,5.6nm,0.9s,mb4.5						
FITZ				i	pP	20 17 19.2	+2.0
FITZ	Fitzroy Crossi	76.01	213	P	P	20 17 02.5	+1.0
	comp=Z,7.1nm,0.9s,mb4.6,baz=357,slow=4.6,SNR=8.5						
MOA	Molln	76.06	337	⇑iP	P	20 17 01.8	+0.6
	comp=Z,3.3nm,0.7s,mb4.4						
ARSA	Arzberg	76.31	336	⇑iP	P	20 17 03.2	+0.6
	comp=Z,5.6nm,0.7s,mb4.6						
MALT	Malatya	76.41	316	eP	P	20 17 04.2	+0.8
	comp=Z,16nm,1.0s,mb4.9						
KBA	Koelnbreinsper	77.01	337	⇑iP	P	20 17 08.0	+1.4
	comp=Z,22nm,0.7s,mb5.2						
WLS	Welschbruch	77.05	342	eP	P	20 17 06.7	-0.1
CDF	Champ du Feu	77.06	342	eP	P	20 17 06.9	+0.1
	comp=Z,14nm,1.0s,mb4.5						
BRTR	Keskin Array B	77.17	320	P	P	20 17 07.5	-0.1
	comp=Z,6.4nm,0.7s,mb4.7,baz=45,slow=3.5,SNR=34						
BRTR				LR	LR	20 57 07.9	
	comp=Z,63nm,20.1s,MS3.9,baz=205,slow=40						
BRTR	Keskin Array B	77.17	320	P	P	20 17 07.6	-0.1
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,63nm,20.1s						
WTTA	Wattenberg	77.23	338	⇑iP	P	20 17 09.1	+1.3
	comp=Z,8.2nm,1.0s,mb4.6						
OBKA	Obir	77.25	336	⇑iP	P	20 17 08.7	+0.8
	comp=Z,6.4nm,0.7s,mb4.7						
SQTA	Sankt Quirin	77.37	339	⇑iP	P	20 17 10.2	+1.6
	comp=Z,3.7nm,0.6s,mb4.5						
MEZF	Maizieres J'vi	77.39	343	eP	P	20 17 09.0	+0.3
FELD	Feldberg	77.43	341	eP	P	20 17 09.0	+0.1
THEF	They Montfort	77.48	342	eP	P	20 17 09.5	+0.3
MOF	Molkenrain	77.63	341	eP	P	20 17 09.9	-0.1
HAU	Haudompre	77.63	342	eP	P	20 17 09.8	-0.2
HAU				eR			
	comp=Z,107nm,21.5s						
HINF	Hinteralfeld	77.71	342	eP	P	20 17 10.2	-0.3
DIVS	Divcibare	78.00	332	⇓iP	P	20 17 11.8	-0.3
FLN	La Foliniere	78.03	347	eP	P	20 17 12.0	-0.1
FLN				eR			
	comp=Z,93nm,18.2s						
DAVOX	Davos	78.08	339	P	P	20 17 13.3	+0.8
	comp=Z,4.2nm,0.9s,mb4.4,baz=338,slow=12,SNR=6.5						
GRR	Gorron	78.45	347	eP	P	20 17 14.3	-0.2
	comp=Z,10.0nm,0.7s,mb4.5						
LOR	Lormes	78.79	343	eP	P	20 17 16.5	+0.1
	comp=Z,17nm,1.0s,mb4.6						
LOR				eR			
	comp=Z,135nm,22.2s						
SGMF	Saint Gilles	78.80	348	eP	P	20 17 16.3	-0.1
	comp=Z,60nm,1.3s,mb5.1						
ROSF	Rostrenen	78.81	349	eP	P	20 17 16.4	-0.1
	comp=Z,25nm,1.0s,mb4.8						
ASAR	Alice Springs	78.83	204	P	P	20 17 18.3	+1.2
	comp=Z,2.9nm,0.7s,mb4.3,baz=16,slow=5.7,SNR=29						
ASAR				LR	LR	20 48 09.0	
	comp=Z,40nm,20.2s,MS3.8,baz=204,slow=33						
CABF	La Chapelle	79.02	342	eP	P	20 17 18.2	+0.5
	comp=Z,27nm,1.1s,mb4.8						
QUIF	Quistinic	79.21	348	eP	P	20 17 18.6	-0.1
AVF	Avril sur Loir	79.34	344	eP	P	20 17 19.5	+0.1
	comp=Z,24nm,1.1s,mb4.7						
SMF	Signal de Mont	79.40	343	eP	P	20 17 19.9	+0.2
LPL	La Plagne	79.94	341	eP	P	20 17 23.9	+1.2
	comp=Z,17nm,0.9s,mb4.7						
LPG	La Plagne	79.96	341	eP	P	20 17 24.1	+1.4
	comp=Z,16nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	80.03	344	eP	P	20 17 23.4	+0.3
	comp=Z,8.2nm,0.8s,mb4.4						
MFF	Saint Martin d	80.09	346	eP	P	20 17 23.7	+0.3
PLDF	La Plantade	80.09	343	eP	P	20 17 24.3	+0.8
AGO	Saint Agoulin	80.10	344	eP	P	20 17 24.8	+1.3
PYM	Petit Puy Mans	80.41	344	eP	P	20 17 25.0	-0.2
ORIF	Oris-en-Rattie	80.69	341	eP	P	20 17 27.7	+1.1
	comp=Z,20nm,1.1s,mb4.7						
ORIF				eR			
	comp=Z,92nm,22.0s						
VIVF	Saint-Julien-l	80.98	342	eP	P	20 17 28.9	+0.7
	comp=Z,17nm,0.9s,mb4.7						
CAF	Calviac	81.37	344	eP	P	20 17 31.3	+1.1
	comp=Z,20nm,1.0s,mb4.7						
SBF	Sospel	81.38	340	eP	P	20 17 31.0	+0.7
	comp=Z,18nm,0.8s,mb4.8						
CSS	Prodhromos	81.40	318	eP	P	20 17 30.5	-0.1
	comp=Z,20nm,0.7s,mb5.2						
LFF	La Frestale	81.58	345	eP	P	20 17 32.3	+1.0
	comp=Z,20nm,1.0s,mb4.7						
HASS	Wahat al Ahsa'	81.80	301	P	P	20 17 32.2	-0.7
LASF	Ste Croix	81.88	343	eP	P	20 17 34.1	+1.2
	comp=Z,29nm,1.2s,mb4.8						
LMR	La Mourre	82.08	341	eP	P	20 17 34.3	+0.4
ASF	Jabal al Asfar	82.27	314	P	P	20 17 35.8	+0.7
	comp=Z,26nm,0.8s,mb5.2,baz=264,slow=2.3,SNR=42						
PGF	Pioggiola	82.30	339	eP	P	20 17 35.8	+0.7
MTLF	Montolieu	82.89	344	eP	P	20 17 39.1	+1.1
	comp=Z,24nm,1.1s,mb4.8						
TIP	Timpagrande	83.47	332	eP	P	20 17 42.2	+1.1
TIP				e	pP	20 17 56.6	-0.4
EPF	Esparros	83.50	345	eP	P	20 17 41.6	+0.5
	comp=Z,27nm,1.2s,mb5.0						
SJPF	Ste Jean	83.66	346	eP	P	20 17 42.8	+0.9
	comp=Z,46nm,1.3s,mb5.2						
ETSF	Etsaut	83.77	346	eP	P	20 17 43.8	+1.4
	comp=Z,26nm,1.1s,mb5.0						
HILS	Ha'il	84.02	308	P	P	20 17 45.0	+0.9
IDI	Anoyia	84.37	324	P	P	20 17 44.1	-1.6
	comp=Z,7.7nm,0.6s,mb5.0,baz=26,slow=12,SNR=13						
ARSS	Ar Rass	84.56	306	P	P	20 17 46.9	+0.1
ALWS	Ilw as Safayha	85.52	314	P	P	20 17 52.4	+0.9
JMQS	Jabal Moqyreh	85.52	313	P	P	20 17 52.6	+1.1
JMOS	Jabal al Moall	85.63	314	P	P	20 17 53.1	+1.1
TBKS	Tabuk	85.78	312	P	P	20 17 53.9	+1.1
HAQS	Haql	85.80	314	P	P	20 17 53.6	+0.7
BDAS	Al Bad'	86.26	313	P	P	20 17 56.0	+0.9
AFFS	'Afif	86.30	305	P	P	20 17 56.1	+0.7
AYUS	'Aynunah	86.39	313	P	P	20 17 56.7	+0.9
KBRS	Khaybar	86.58	309	P	P	20 17 58.2	+1.4
ESDC	Sonseca Array	87.42	347	P	P	20 18 00.7	+0.1
	comp=Z,4.2nm,0.9s,mb4.7,baz=4.4,slow=4.1,SNR=12						
TATS	Tathlith	89.70	302	P	P	20 18 12.5	+0.7
QSPA	South Pole Qui	141.92	180	ePKP	PKPdf	20 24 39.4	-3.0
PLCA	Paso Flores	144.22	92	PKP	PKPdf	20 24 48.4	+0.9
	comp=Z,3.5nm,0.7s,baz=358,slow=2.7,SNR=7.5						
PLCA	Paso Flores	144.22	92	PKIKP	PKPdf	20 24 48.4	+1.0
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CAM4	Nova Friburgo	145.64	38	eP	PKPdf	20 24 51.4	+1.0
CAM4				i		20 24 53.1	
CAM4				i		20 25 06.7	
CAM4				i		20 25 08.2	
CAM4				i		20 25 11.4	
PMSA	Palmer Station	154.49	137	eP	PKPdf	20 25 03.6	+1.0
VNA2	Neumayer--Watz	160.30	193	⇑i	PKPdf	20 25 09.4	-0.4
VNA2	Neumayer--Watz	160.30	193	⇑iP	PKPdf	20 25 09.4	-0.4
VNA2				e		20 25 25.0	

JMA ***04*** *20:25:17.8±0.1,24.58N×123.02E,h53^{km}±2^{km},M1.8*
TAP ***04*** *20:25:38.3,24.58N×121.86E,h12^{km},ML1.0*
ISC 04 20:25:17.8±2.4**,24.6N**±0.3×**123.0E**±0.1**,h51**^{km}±21^{km}**,n5,**
σ**0^{s}17**/10**,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.17	188	P	P	20 25 25.9	0.0
YOJ				S	S	20 25 31.9	0.0
IRIF	Iriomote-Funau	0.70	115	P	P	20 25 31.4	-0.1
IRIF				S	S	20 25 41.6	-0.1
JKRS	Kuro-shima	0.97	114	P	P	20 25 35.4	+0.2
JKRS				S	S	20 25 48.0	-0.2
JIJ	Ishigaki jima	1.04	105	P	P	20 25 36.5	+0.2
JIJ				S	S	20 25 50.3	+0.3
JTJ	Tarama	1.51	89	P	P	20 25 42.8	-0.2
JTJ				S	S	20 26 01.7	0.0

KRSC 04 20:37:12.2±1.9**,53.31N**×**157.28E,h300**^{km}±10^{km}**,ML3.9,**
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNL	Ganaly	0.55	45	eP	P	20 37 51.1	-0.1
RUS	Russkaya	1.15	139	eP	P	20 37 53.0	-0.6
RUS				eS	S	20 38 24.4	-1.5
NLC	Nalytchevo	1.25	96	eP	P	20 37 54.3	+0.2
NLC				eS	S	20 38 26.2	-0.7
SPN	Mys Shipunski	1.66	96	i P	P	20 37 56.4	-0.3
SPN				eS	S	20 38 28.6	-2.9
MKZ	Mys Kozlova	2.91	63	i P	P	20 38 07.3	-0.2
MKZ				eS	S	20 38 46.2	-4.4
KBTR	Krutoberegovo	4.33	46	eP	P	20 38 23.1	+0.6
KBTR				eS	S	20 39 13.6	-4.0

WEL 04 20:44:22.4±0.1**,40.53S**×**174.37E,h18**^{km}±1^{km}**,ML3.7**/10**,**
1D,Error ellipse: s-maj=0.9km s-min=0.6km az=90.0,
Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	Kapiti Island	0.53	129	⇓P*	Pb	20 44 32.8	-0.1
KIW				S*	Sb	20 44 40.1	0.0
MRW	Makara Radio	0.75	160	P*	Pb	20 44 36.6	0.0
MRW				S*	Sb	20 44 46.3	0.0
WEL	Wellington	0.82	158	P*	Pb	20 44 38.0	+0.2
WEL				S*	Sb	20 44 48.5	+0.1
SNZO	South Karori	0.82	162	P*	Pb	20 44 37.7	-0.3
SNZO				S*	Sb	20 44 48.7	+0.2
WAZ	Wanganui	0.90	32	P*	Pb	20 44 38.7	-0.5
WAZ				S*	Sb	20 44 50.9	+0.1
MRZ	Mangatainoka R	0.93	99	P*	Pb	20 44 39.6	-0.1
MRZ				S*	Sb	20 44 52.0	+0.2
TUWZ	Tuamarina	0.96	199	P*	Pb	20 44 39.2	-1.0
TUWZ				S*	Sb	20 44 53.9	+1.5
BHW	Baring Head	0.96	157	P*	Pb	20 44 40.6	+0.3
BHW				S*	Sb	20 44 52.8	+0.3
NNZ	Nelson	1.02	227	P*	Pb	20 44 40.3	-0.9
NNZ				S*	Sb	20 44 55.1	+0.9
MTW	Mount Morrison	1.07	127	P*	Pb	20 44 41.8	-0.3
MTW				S*	Sb	20 44 56.2	+0.6
MSWZ	Moikau Station	1.11	143	PN	Pn	20 44 42.7	-0.4
MSWZ				SN	Sn	20 44 58.9	+0.9
PAWZ	Paruwai Farm	1.17	137	PN	Pn	20 44 43.5	-0.5
PAWZ				SN	Sn	20 44 59.1	-0.5
DFE	Dawson Falls	1.21	350	PN	Pn	20 44 44.0	-0.6
NRZ	Ngariki Road	1.23	344	PN	Pn	20 44 44.6	-0.2
RAEZ	Rainy Point	1.24	1	PN	Pn	20 44 44.3	-0.6
BSWZ	Blackbirch Sta	1.25	197	PN	Pn	20 44 44.3	-0.7
NEZ	North Egmont	1.27	351	PN	Pn	20 44 44.7	-0.7
NWEZ	Newall Road	1.31	343	PN	Pn	20 44 45.6	-0.3
TSZ	Takapari Road	1.31	70	PN	Pn	20 44 45.2	-0.7
PKE	Pukeiti	1.36	348	PN	Pn	20 44 46.5	-0.2
QRZ	Quartz Range	1.43	257	PN	Pn	20 44 47.1	-0.6
VRZ	Vera Road	1.43	12	PN	Pn	20 44 46.7	-0.9
BFZ	Birch Farm	1.44	97	PN	Pn	20 44 46.7	-1.2
WNVZ	Wahianoa	1.52	39	PN	Pn	20 44 47.8	-1.2
MOVZ	Moawhango	1.54	44	PN	Pn	20 44 47.5	-1.8
DRZ	Dome Shelter	1.55	37	PN	Pn	20 44 48.3	-1.1
DRZ				PN	Pn	20 44 49.2	-0.2
FWVZ	Far West T-bar	1.56	36	PN	Pn	20 44 48.2	-1.4
TUVZ	Tukino	1.60	39	PN	Pn	20 44 48.9	-1.2
TUVZ				PN	Pn	20 44 49.0	-1.1
WPVZ	Whakapapa	1.60	35	PN	Pn	20 44 49.0	-1.1
CNZ	Chateau	1.61	35	PN	Pn	20 44 49.0	-1.2
NGZ	Ngauruhoe	1.65	36	PN	Pn	20 44 49.6	-1.3
THZ	Tophouse	1.66	221	PN	Pn	20 44 50.2	-0.8
TWVZ	Taurewa	1.67	30	PN	Pn	20 44 49.6	-1.5
WTVZ	West Tongariro	1.69	34	PN	Pn	20 44 50.2	-1.3
KAVZ	Karewarewa	1.73	35	PN	Pn	20 44 50.8	-1.3
KATZ	Kakaramea	1.85	34	PN	Pn	20 44 52.4	-1.3
KHZ	Kahutara	1.99	198	ePN	Pn	20 44 56.0	+0.3
HIZ	Hauiti	2.04	11	PN	Pn	20 44 55.5	-1.0
WATZ	Wairara	2.10	31	PN	Pn	20 44 56.5	-0.7
BKZ	Black Stump Fm	2.13	51	ePN	Pn	20 44 56.8	-0.8
BKZ				SN	Sn	20 45 25.3	+1.5
LTZ	Lake Taylor	2.75	214	PN	Pn	20 45 05.6	-0.9
TOZ	Tahuroa Road	2.93	18	PN	Pn	20 45 07.9	-1.2
WCZ	Waipu Caves	4.58	360	PN	Pn	20 45 30.1	-2.4

MEX 04 21:15:14.3±0.4**,17.38N**×**94.57W,h140**^{km}±6^{km}**,MD4.0,**
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.42	227	i P	P	21 15 32.8	-1.9
CMIG				i S	S	21 15 47.2	-3.0
OXX	Oaxaca	2.08	262	i P	P	21 15 48.5	-1.7
OXX				i S	S	21 16 15.5	-2.3
CCIG	Comitan	2.57	115	i P	P	21 15 54.8	-1.7
CCIG				i S	S	21 16 27.0	-1.6
PPM	Popocatepetl	4.21	294	i P	P	21 16 17.4	-0.6
PPM				i P		21 16 17.5	
PPM				i S	S	21 17 05.2	-1.7

MOS ***04*** *21:15:09.6±1.0,52.30N×159.46E,h10^{km},mb5.4/63, MS5.3/44,Error ellipse: s-maj=7.9km s-min=4.9km az=87.5*
MOS Felt (III-IV) at Petropavlovsk-Kamchatsky.
KRSC ***04*** *21:15:11.2,52.15N×159.86E,h4^{km},Mc5.6,ML5.8*
BJI ***04*** *21:15:12.0,52.47N×159.54E,h33^{km},mB5.4,mb5.1, Ms5.5,Msz5.4*
IDC ***04*** *21:15:12.9±2.3,52.41N×159.59E,h18^{km}±13^{km},mb4.9/23, mb1 5.1/24,mb1mx5.1/25,ML5.1/2,MS5.1/25,Ms1 5.1/25, ms1mx5.0/31,Error ellipse: s-maj=14.1km s-min=8.5km az=150.0*
HRVD ***04*** *21:15:15.6±0.2,52.19N×159.99E,h30^{km},MW5.6/74, Centroid moment Tensor Solution. LP body waves: s71,c152;Mantle waves: s74,c160; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.10±.04; $M_{\theta\theta}$-0.30±.04; $M_{\phi\phi}$-1.79±.03; $M_{r\theta}$1.14±.07; $M_{\theta\phi}$-1.23±.03; $M_{\phi r}$1.84±.05; Best double couple: $M_0$3.15×10^{17} NP1: ϕ_s207°,δ23°,λ86°. NP2:ϕ_s31°,δ67°,λ92°. Principal axes: T 2.96, Plg68°, Azm304°; N .39, Plg2°, Azm211°; P -3.34, Plg22°, Azm120°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *21:15:15.6±0.7,52.32N×159.56E,h36^{km}±6^{km},mb5.3/170, MS5.2/21,MW5.5 Error ellipse: s-maj=4.1km s-min=2.7km az=171.0,Moment Tensor Solution. s41 Moment tensor: Scale 10^{17}Nm; M_{rr}1.46; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.35; $M_{r\theta}$0.46; $M_{\theta\phi}$-0.24; $M_{\phi r}$1.28; Best double couple: $M_0$2×10^{17} NP1: ϕ_s185°,δ24°,λ80°. NP2:ϕ_s17°,δ67°,λ94°. Principal axes: T 2.01, Plg68°, Azm295°; N -.09, Plg4°, Azm195°; P -1.93, Plg22°, Azm103°;*
NEIC Felt [IV] at Petropavlovsk-Kamchatskiy.
SYO ***04*** *21:15:15.5,52.32N×159.56E,h36^{km},MB5.3,MS5.2*
INMG ***04*** *21:15:17.2,52.35N×159.47E,h54^{km},Mb5.1*
BGS ***04*** *21:15:18.7±2.9,52.35N×159.47E,h55^{km}*
ORF ***04*** *21:15:19.1,52.30N×158.18E,h30^{km},mb5.5*
ISC 04 21:15:15.6±0.3**,52.19N**±0.02×**159.62E**±0.03**,h56**^{km}±2^{km}**,**
h50^{km}±2.8^{km}**:pP-P,n797,**σ**1^{s}08**/831**,mb5.3**/236**,MS5.3**/87**,**
92C-23D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.72	291	P	P	21 15 29.4	-0.5
RUS	Russkaya	0.72	291	i P	P	21 15 29.5	-0.4
SPN	Mys Shipunski	0.95	15	P	P	21 15 31.2	-1.8
SPN	Mys Shipunski	0.95	15	eP	P	21 15 31.1	-1.9
NLC	Nalytchevo	1.00	351	P	P	21 15 32.5	-1.2
NLC	Nalytchevo	1.00	351	i P	P	21 15 32.2	-1.5
GRL	Gorelyy	1.01	292	eP	P	21 15 34.8	+0.9
GRL				eS	S	21 15 50.8	+3.3
PET	Petropavlovsk	1.02	325	eP	P	21 15 33.6	-0.5
PET				eS	S	21 15 49.4	+1.7
PET	Petropavlovsk	1.02	325	eP	P	21 15 33.5	-0.6
UGLR	Uglovaya	1.13	335	i P	P	21 15 35.3	-0.2
SDLR	Sedlovina	1.18	338	eP	P	21 15 35.5	-0.7
SMAR	Somma	1.19	336	eP	P	21 15 35.8	-0.5
SMAR				eS	S	21 15 55.0	+3.3
AVH	Avacha	1.21	334	eP	P	21 15 36.4	-0.1
KOK	Koryaka	1.26	332	eP	P	21 15 37.1	-0.2
KOK				eS	S	21 15 57.1	+3.6
APC	Apacha	1.67	297	eP	P	21 15 44.7	+1.6
APC				eS	S	21 16 09.2	+5.7
APC				Smax			
	60µm,1.1s						
MIPR	Malaya Ipel'ka	1.76	274	i P	P	21 15 46.1	+1.8
GNL	Ganaly	1.82	327	eP	P	21 15 45.7	+0.5
KII	Karymskiy	1.86	357	P	P	21 15 45.6	-0.1
KII	Karymskiy	1.86	357	eP	P	21 15 45.5	-0.2
PAU	Pauzhetka	1.88	249	i P	P	21 15 46.8	+0.7
PAU				eS	S	21 16 12.8	+4.2
PAU				Smax			
	26µm,1.0s						
SKR	Severo-Kuril's	2.66	237	ePN	P	21 15 54.9	-2.1
SKR				i S	S	21 16 27.5	-0.7
SKR				pmax	pmax		
	comp=Z,1µm,0.5s						

SKR				pmax	pmax		
	comp=N,450nm,0.3s						
SKR				pmax	pmax		
	comp=E,430nm,0.5s						
SKR				pmax	pmax		
	comp=N,2µm,2.0s						
SKR				pmax	pmax		
	comp=Z,3µm,2.0s						
SKR				smax			
	comp=N,61µm,2.0s						
SKR				smax			
	comp=E,34µm,2.0s						
SKR				MLR	MLR		
	comp=N,53µm,14.0s						
SKR				MLR	MLR		
	comp=Z,53µm,14.0s						
SKR				MLR	MLR		
	comp=E,59µm,18.0s						
MKZ	**Mys Kozlova**	**2.69**	**27**	P	**P**	**21 15 54.5**	**-3.0**
MKZ				S	**S**	**21 16 25.6**	**-3.4**
MKZ	**Mys Kozlova**	**2.69**	**27**	*e*P	**P**	**21 15 54.6**	**-2.9**
MKZ				*e*S	**S**	**21 16 25.3**	**-3.7**
ALID	**Alaid**	**2.86**	**244**	*e*P	**P**	**21 16 01.5**	**+1.6**
TUMR	**Tumrok**	**3.12**	**6**	*e*P	**P**	**21 16 03.4**	**-0.2**
TUMR				*e*S	**S**	**21 16 42.1**	**+2.3**
KMNR	**Kamenistaya**	**3.60**	**6**	*e*P	**P**	**21 16 10.2**	**-0.1**
KMNR				*e*S	**S**	**21 16 53.6**	**+1.7**
ESO	**Esso**	**3.79**	**352**	*i* P	**P**	**21 16 12.5**	**-0.4**
ESO				Smax			
	comp=E,3µm,1.1s						
KOZ	**Kozyrevsk**	**3.88**	**2**	P	**P**	**21 16 16.4**	**+2.1**
KOZ	**Kozyrevsk**	**3.88**	**2**	*e*P	**P**	**21 16 13.9**	**-0.4**
KOZ				*e*S	**S**	**21 17 00.9**	**+1.8**
KOZR	**Kozyr**	**3.89**	**2**	PN	**P**	**21 16 16.4**	**+2.0**
LGNR	**Loginova**	**3.96**	**9**	*e*P	**P**	**21 16 15.6**	**+0.3**
LGNR				*e*S	**S**	**21 17 01.7**	**+0.8**
CIRR	**Tsirk**	**3.99**	**9**	*e*P	**P**	**21 16 16.0**	**+0.1**
KRSR	**Krestovskiy**	**4.08**	**7**	P	**P**	**21 16 16.2**	**-0.9**
KRSR				*e*S	**S**	**21 17 04.1**	**+0.1**
SRDR	**Sredinnyy**	**4.14**	**1**	*e*P	**P**	**21 16 17.9**	**0.0**
SRDR				*e*S	**S**	**21 17 07.4**	**+1.8**
KLY	**Klyuchi**	**4.18**	**8**	P	**P**	**21 16 20.3**	**+1.8**
KLY				S	**S**	**21 17 11.2**	**+4.6**
KLY	**Klyuchi**	**4.18**	**8**	*e*P	**P**	**21 16 20.1**	**+1.6**
KLY				*e*S	**S**	**21 17 09.8**	**+3.2**
KBTR	**Krutoberegovo**	**4.45**	**24**	P	**P**	**21 16 20.2**	**-2.1**
KBTR				S	**S**	**21 17 11.4**	**-1.9**
KBTR	**Krutoberegovo**	**4.45**	**24**	*e*P	**P**	**21 16 19.8**	**-2.5**
KBTR				*e*S	**S**	**21 17 11.4**	**-1.9**
KBG	**Krutoberegovo**	**4.46**	**23**	*e*P	**P**	**21 16 20.7**	**-1.8**
KBG				Smax			
	comp=E,18µm,0.9s						
SVLR	**Shiveluch**	**4.50**	**11**	*e*P	**P**	**21 16 24.3**	**+1.3**
SVLR				*e*S	**S**	**21 17 17.1**	**+2.5**
BKI	**Bering**	**4.84**	**49**	*i* P	**P**	**21 16 22.8**	**-4.9**
BKI				*e*S	**S**	**21 17 12.2**	**-11**
BKI				Smax			
	comp=E,1µm,0.6s						
OSSR	**Ossora**	**7.34**	**14**	P	**P**	**21 17 02.5**	**-0.1**
OSSR				*e*S	**S**	**21 18 22.5**	**-2.9**
OSSR				Smax			
	comp=E,400nm,1.0s						
FX1	**Attu Island--F**	**8.29**	**80**	Pn	**P**	**21 17 10.5**	**-5.2**
	comp=E,300nm,0.3s,baz=292,slow=3.5,SNR=424						
FX1				Sn	**S**	**21 18 34.7**	**-14**
	comp=E,57nm,0.3s,baz=97,slow=21,SNR=4.9						
FX1				LR	LR	21 20 12.5	
	comp=E,744nm,21.5s,baz=303,slow=36						
FX1	**Attu Island--F**	**8.29**	**80**	*e*P	**P**	**21 17 10.3**	**-5.5**
SMY	**Shemya**	**8.86**	**81**	*e*PN	**P**	**21 17 18.5**	**-5.1**
SMY	**Shemya**	**8.86**	**81**	*e*P	**P**	**21 17 18.9**	**-4.7**
MA2	**Magadan**	**8.91**	**330**	*e*PN	**P**	**21 17 28.6**	**+4.3**
MA2				*e*S	**S**	**21 19 10.2**	**+5.9**
MA2				pmax	pmax		
	comp=N,10.0nm,1.1s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.1s						
MA2				pmax	pmax		
	comp=Z,50nm,1.1s						
MA2				MLR	MLR		
	comp=Z,15µm,13.5s						
MA2	**Magadan**	**8.91**	**330**	P	**P**	**21 17 20.6**	**-3.7**
TYV	**Tymovskoe**	**10.65**	**270**	*e*PN	**P**	**21 17 51.0**	**+3.1**
TYV				pmax	pmax		
	comp=Z,295nm,1.2s						
TYV				MLR	MLR		
	comp=Z,21µm,18.0s						
KAMR	**Kamenskoye**	**10.89**	**16**	*e*P	**P**	**21 17 50.3**	**-0.8**
KAMR				Smax			
	comp=Z,80nm,1.7s						
SEY	**Seymchan**	**11.44**	**343**	*e*PN	**P**	**21 18 11.8**	**+13**
SEY				pmax	pmax		
	comp=N,70nm,0.9s						
SEY				pmax	pmax		
	comp=Z,140nm,0.9s						
SEY				pmax	pmax		
	comp=E,50nm,1.0s						
SEY				MLR	MLR		
	comp=N,21µm,16.0s						
SEY				MLR	MLR		
	comp=Z,41µm,16.0s						
SEY				MLR	MLR		
	comp=E,27µm,17.0s						
UGL	**Uglegorsk**	**11.57**	**261**	*e*PN	**P**	**21 18 04.0**	**+3.7**
UGL				pmax	pmax		
	comp=Z,280nm,1.0s						
UGL				MLR	MLR		
	comp=N,10µm,17.0s						
UGL				MLR	MLR		
	comp=E,9µm,17.0s						
UGL				MLR	MLR		
	comp=Z,16µm,17.0s						
YSS	**Yuzh-Sakhalins**	**12.12**	**251**	⇓*i*PN	**P**	**21 18 09.5**	**+1.7**
YSS				*e*S	**S**	**21 20 24.0**	**+1.8**
YSS				pmax	pmax		
	comp=Z,190nm,1.2s						
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=E,160nm,1.0s						
YSS				MLR	MLR		
	comp=N,11µm,16.0s						
YSS				MLR	MLR		
	comp=E,12µm,18.0s						
YSS				MLR	MLR		
	comp=Z,22µm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.12**	**251**	*e*P	**P**	**21 18 07.3**	**-0.5**
	comp=Z,279nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**12.27**	**234**	PN	**P**	**21 18 07.0**	**-2.8**
YUK				S	**S**	**21 20 34.1**	**+8.3**
YUK				pmax	pmax		
	comp=Z,460nm,0.4s						
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=N,5µm,5.0s						
YUK				pmax	pmax		
	comp=Z,2µm,5.0s						
YUK				smax			
	comp=N,480nm,0.8s						
YUK				smax			
	comp=E,470nm,0.9s						
YUK				smax			
	comp=N,2µm,3.0s						
YUK				smax			
	comp=E,2µm,3.0s						
YUK				MLR	MLR		
	comp=Z,14µm,16.0s						
YUK				MLR	MLR		
	comp=N,13µm,15.0s						
YUK				MLR	MLR		
	comp=E,6µm,15.0s						
ASAJ	**Asahikawa**	**13.91**	**241**	Pn	**P**	**21 18 31.6**	**+0.3**
	comp=E,3.4nm,0.3s,baz=49,slow=5.2,SNR=19						
ASAJ				LR	LR	21 23 24.6	
	comp=E,4µm,20.2s,baz=54,slow=35						
YAK	**Yakutsk**	**18.83**	**313**	*e*P	**P**	**21 19 30.9**	**-2.2**
YAK				pmax	pmax		
	comp=N,31nm,1.0s						
YAK				pmax	pmax		
	comp=Z,80nm,1.0s						
YAK				pmax	pmax		
	comp=E,76nm,1.3s						
YAK				MLR	MLR		
	comp=N,4µm,15.0s						
YAK				MLR	MLR		
	comp=E,2µm,13.0s						
YAK				MLR	MLR		
	comp=Z,2µm,13.0s						
YAK	**Yakutsk**	**18.83**	**313**	*e*P	**P**	**21 19 30.1**	**-3.0**
	comp=Z,184nm,0.8s						
NIKO	**Nikolski**	**19.10**	**75**	*e*P	**P**	**21 19 33.9**	**-2.3**
UNV	**Unalaska Valle**	**20.34**	**72**	*e*P	**P**	**21 19 47.4**	**-2.1**
	comp=Z,438nm,0.9s						
CLNS	**Chul'man**	**20.54**	**297**	*e*P	**P**	**21 19 52.4**	**+0.9**
CLNS				*e**PP		21 19 57.9	
CLNS				pmax	pmax		
	comp=E,73nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,97nm,1.2s						
CLNS				pmax	pmax		
	comp=N,51nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,16µm,15.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,3µm,12.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,3µm,14.0s,MS5.0						
TNA	**Tin City**	**21.14**	**38**	P	**P**	**21 19 59.3**	**+1.8**
	comp=E,94nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**21.21**	**261**	P	**P**	**21 19 56.7**	**-1.7**
MDJ				AP		21 20 07.9	
MDJ				XP		21 20 15.7	
MDJ				S	**S**	**21 23 51.5**	**+5.6**
MDJ				SCP		21 27 31.4	
MDJ				PCS		21 27 38.6	
MDJ				SCS	ScS	21 31 15.5	-0.1
MDJ				AMB	AMB		
	comp=Z,56nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,784nm,8.6s						
MDJ				LR	LR		
	comp=N,6µm,15.9s,MS5.1						
MDJ				LR	LR		
	comp=E,2µm,14.6s,MS5.1						
MDJ				LR	LR		
	comp=Z,8µm,19.5s,MS5.1						
MDJ	**Mudanjiang**	**21.21**	**261**	*e*P	**P**	**21 19 56.7**	**-1.7**
	comp=Z,70nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**21.76**	**232**	*e*P	**P**	**21 20 04.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,430nm,1.0s,mb5.8						
MAJO	**Matsushiro**	**21.76**	**232**	*e*P	**P**	**21 20 04.4**	**+0.5**
	comp=Z,427nm,1.0s,mb5.8						
MAT	**Matsushiro**	**21.76**	**232**	P	**P**	**21 20 05.7**	**+1.8**
MAT				S	**S**	**21 24 08.0**	**+12**
MAT	**Matsushiro**	**21.76**	**232**	*e*P	**P**	**21 20 06.0**	**+2.1**
	comp=Z,833nm,1.5s,mb5.9						
MAT				*e*S	**S**	**21 24 09.0**	**+13**
MAT				LR	LR		
	comp=Z,7µm,20.0s,MS5.1						
ANM	**Nome**	**21.80**	**42**	*e*P	**P**	**21 20 08.3**	**+4.2**
TIXI	**Tiksi**	**23.79**	**336**	⇓*i*P	**P**	**21 20 22.3**	**-1.0**
TIXI				*e*S	**S**	**21 24 31.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,168nm,1.2s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,7µm,15.0s,MS5.3						
TIXI	**Tiksi**	**23.79**	**336**	⇓*e*P	**P**	**21 20 22.5**	**-0.8**
JHJ	**Hachijo jima 2**	**23.86**	**225**	LR	LR	21 29 43.4	
	comp=Z,1µm,18.8s,MS4.5,baz=112,slow=36						
CN2	**Changchun**	**24.17**	**263**	*e*P	**P**	**21 20 26.4**	**-0.9**
CN2				*e*S	**S**	**21 24 35.9**	**-2.7**
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=N,4µm,14.0s,MS5.4						
CN2				LR	LR		
	comp=E,8µm,14.0s,MS5.4						
CN2				LR	LR		
	comp=Z,11µm,15.0s,MS5.5						
HIA	**Hailar**	**25.19**	**279**	*e*P	**P**	**21 20 35.3**	**-1.8**
HIA				pmax	pmax		
	comp=Z,200nm,1.0s						
HIA	**Hailar**	**25.19**	**279**	*e*P	**P**	**21 20 35.3**	**-1.8**
	comp=Z,195nm,0.9s,mb5.6						
SVW	**Sparrevohn**	**25.69**	**52**	*e*P	**P**	**21 20 42.5**	**+0.8**
	comp=Z,15nm,1.1s,mb4.4						
BOD	**Bodaibo**	**26.35**	**300**	*e*P	**P**	**21 20 45.1**	**-2.7**
SNY	**Shenyang**	**26.41**	**261**	⇑P	**P**	**21 20 47.5**	**-1.0**
SNY				S	**S**	**21 25 10.7**	**-5.3**
SNY				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
SNY				LR	LR		
	comp=N,8µm,21.0s						
SNY				LR	LR		
	comp=Z,6µm,20.6s,MS5.2						
IMA	**Indian Mountai**	**26.91**	**41**	*e*P	**P**	**21 20 52.0**	**-0.9**
IMA				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.2						
IMA	**Indian Mountai**	**26.91**	**41**	*e*P	**P**	**21 20 53.4**	**+0.5**
	comp=Z,18nm,1.1s,mb4.5						
INCN	**Inchon**	**27.34**	**251**	*e*P	**P**	**21 20 57.1**	**+0.1**
	comp=Z,89nm,1.1s,mb5.2						
SPU	**Mount Spurr**	**27.42**	**52**	*e*P	**P**	**21 20 57.9**	**+0.3**
KDAK	**Kodiak Island**	**27.51**	**59**	*e*P	**P**	**21 20 56.7**	**-1.7**
	comp=Z,26nm,1.1s,mb4.8						
JNU	**Nakatsue**	**28.17**	**239**	P	**P**	**21 21 05.5**	**+0.9**
	comp=Z,102nm,0.9s,mb5.5,baz=67,slow=9.8,SNR=51						
JNU				LR	LR	21 34 50.9	
	comp=Z,2µm,18.1s,MS4.8,baz=40,slow=42						
MCK	**McKinley**	**28.79**	**46**	*e*P	**P**	**21 21 08.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MCK	**McKinley**	**28.79**	**46**	*e*P	**P**	**21 21 08.9**	**-0.9**
	comp=Z,10nm,1.1s,mb4.5						
PMR	**Palmer**	**28.80**	**51**	P	**P**	**21 21 08.8**	**-1.1**
PMR				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.1						
SML	**Sawmill**	**29.16**	**50**	*e*P	**P**	**21 21 12.2**	**-0.9**
SML	**Sawmill**	**29.16**	**50**	*e*P	**P**	**21 21 11.2**	**-2.0**
COLA	**College**	**29.25**	**44**	*e*P	**P**	**21 21 12.7**	**-1.3**
COLA				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.2						
COLA				MLR	MLR		
	comp=Z,3µm,19.0s,MS4.9						
COLA	**College**	**29.25**	**44**	*e*P	**P**	**21 21 12.7**	**-1.3**
	comp=Z,70nm,1.5s,mb5.2						
COLA				LR	LR		
	comp=Z,3µm,19.0s,MS4.9						
DL2	**Dalian**	**29.37**	**258**	P	**P**	**21 21 14.2**	**-1.1**
DL2				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1						
DL2				LR	LR		
	comp=N,2µm,14.0s,MS5.4						
DL2				LR	LR		
	comp=E,8µm,18.0s,MS5.4						
ILAR	**Eielson Array**	**29.67**	**44**	P	**P**	**21 21 15.6**	**-2.1**
	comp=E,3.8nm,0.9s,baz=266,slow=8.7,SNR=19						
ILAR				S	**S**	**21 26 08.8**	**+0.7**
	comp=E,1.1nm,1.0s,baz=253,slow=12,SNR=2.8						
ILAR				LR	LR	21 34 57.8	
	comp=E,2µm,18.1s,baz=285,slow=40						
ILAR	**Eielson Array**	**29.67**	**44**	P	**P**	**21 21 15.6**	**-2.0**
ILAR				S	**S**	**21 26 08.8**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,2µm,18.1s						
THY	**Trims Highway**	**30.22**	**47**	P	**P**	**21 21 21.9**	**-0.7**
BJI	**Beijing**	**31.99**	**265**	*e*P	**P**	**21 21 36.7**	**-1.7**
BJI				PP	PP	21 22 48.5	+2.7
BJI				S	**S**	**21 26 40.2**	**-4.6**
BJI				SCS	ScS	21 32 07.5	+5.5
BJI				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9						
BJI				AMB	AMB		
	comp=Z,361nm,5.0s						
BJI				LR	LR		
	comp=N,7µm,17.6s,MS5.5						
BJI				LR	LR		
	comp=E,7µm,20.8s,MS5.5						
BJI				LR	LR		
	comp=Z,9µm,21.2s,MS5.4						
BJI	**Beijing**	**31.99**	**265**	*e*P	**P**	**21 21 36.7**	**-1.7**
	comp=Z,23nm,1.2s,mb4.9						
BJI				PP	PP	21 22 48.5	+2.7
BJI				S	**S**	**21 26 40.2**	**-4.6**
BJI				SS	SS	21 28 59.9	+20
BJI				ScS	ScS	21 32 07.5	+5.5
BJI				LR	LR		
	comp=Z,9µm,21.2s,MS5.4						
BJT	**Baijiatuau**	**32.01**	**265**	*e*P	**P**	**21 21 36.5**	**-2.1**
BJT				pmax	pmax		
	comp=Z,30nm,1.1s						
BJT	**Baijiatuau**	**32.01**	**265**	*e*P	**P**	**21 21 36.5**	**-2.1**
	comp=Z,30nm,1.1s,mb5.0						
DAWY	**Dawson**	**32.96**	**45**	*e*P	**P**	**21 21 44.9**	**-1.8**
IRK	**Irkutsk**	**33.21**	**293**	*e*P	**P**	**21 21 47.2**	**-1.6**
IRK				*e*		21 23 20.6	
IRK				*e*		21 24 31.2	
SONM	**Songino Array**	**33.84**	**284**	P	**P**	**21 21 52.8**	**-1.5**
	comp=Z,4.3nm,0.6s,mb4.5,baz=62,slow=8.1,SNR=11						
SONM				PcP	PcP	21 24 32.9	+0.5
	comp=Z,17nm,0.9s,baz=90,slow=2.5,SNR=11						
SONM				ScP		21 28 15.4	
	comp=Z,7.5nm,1.2s,baz=45,slow=1.7,SNR=7.2						
TIA	**Tai'an**	**33.84**	**259**	P	**P**	**21 21 53.2**	**-1.2**
TIA				AMB	AMB		
	comp=Z,112nm,1.2s,mb5.7						
TIA				LR	LR		
	comp=N,1µm,19.6s,MS5.0						
TIA				LR	LR		
	comp=E,3µm,17.4s,MS5.0						
HHC	**Hu-ho-hao-te**	**34.35**	**270**	*e*P	**P**	**21 21 55.2**	**-3.6**
HHC				AP	pP	21 22 10.7	-2.3
HHC				XP	sP	21 22 15.5	-4.5
HHC				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,226nm,7.4s						
HHC				LR	LR		
	comp=N,3µm,16.7s,MS5.2						
HHC				LR	LR		
	comp=E,2µm,16.6s,MS5.2						
HHC				LR	LR		
	comp=Z,3µm,19.0s,MS5.0						
ZAK	**Zakamensk**	**34.53**	**290**	⇑*i*P	**P**	**21 21 58.9**	**-1.3**
ZAK				*e*		21 24 35.3	
JOW	**Kunigami**	**34.55**	**235**	P	**P**	**21 22 01.2**	**+0.6**
	comp=Z,251nm,1.0s,mb6.1,baz=78,slow=10						
JOW				S	**S**	**21 27 32.1**	**+7.5**
	comp=Z,9.2nm,1.0s,baz=65,slow=29,SNR=3.6						
INK	**Inuvik**	**34.77**	**37**	P	**P**	**21 22 01.1**	**-1.0**
	comp=Z,4.5nm,0.4s,mb4.8,baz=287,slow=4.5,SNR=12						
INK	**Inuvik**	**34.77**	**37**	*e*P	**P**	**21 22 00.8**	**-1.3**
INK				pmax	pmax		
	comp=Z,28nm,1.2s						
INK	**Inuvik**	**34.77**	**37**	*e*P	**P**	**21 22 00.8**	**-1.3**
	comp=Z,28nm,1.3s,mb5.0						
SSE	**Sheshan**	**35.05**	**248**	P	**P**	**21 22 05.4**	**+0.6**
SSE				S	**S**	**21 27 32.6**	**+0.3**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,377nm,5.8s						
SSE				LR	LR		
	comp=N,996nm,17.8s,MS4.8						
SSE				LR	LR		
	comp=E,1µm,17.7s,MS4.8						
SSE				LR	LR		
	comp=Z,2µm,18.7s,MS4.9						
SSE	**Sheshan**	**35.05**	**248**	P	**P**	**21 22 05.4**	**+0.6**
	comp=Z,37nm,0.7s,mb5.4						
SSE				sP	sP	21 22 24.7	-1.4
SSE				S	**S**	**21 27 32.6**	**+0.3**
SSE				sS		21 27 59.7	
SSE				LR	LR		
	comp=Z,2µm,18.7s,MS4.9						
BTO	**Baotou**	**35.44**	**271**	*e*P	**P**	**21 22 05.9**	**-2.2**
NJ2	**Nanjing**	**35.69**	**252**	*e*P	**P**	**21 22 10.2**	**-0.2**
NJ2				AP	pP	21 22 15.2	-9.5
NJ2				S	**S**	**21 27 38.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,190nm,1.1s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,860nm,10.3s						
NJ2				LR	LR		
	comp=Z,7µm,17.5s,MS5.5						
TIY	**Taiyuan**	**35.72**	**265**	⇑P	**P**	**21 22 10.0**	**-0.5**
TIY				LR	LR		
	comp=N,5µm,14.0s						
TIY				LR	LR		
	comp=Z,3µm,14.0s,MS5.2						
DLBC	**Dease Lake**	**38.83**	**52**	*e*P	**P**	**21 22 37.0**	**+0.7**
WHN	**Wuhan**	**39.44**	**255**	⇓P	**P**	**21 22 41.2**	**-0.5**
WHN				PP	PP	21 24 13.0	-3.7
WHN				*e*S	**S**	**21 28 37.5**	**-1.8**
WHN				AMB	AMB		
	comp=Z,322nm,7.0s						
WHN				LR	LR		
	comp=Z,5µm,14.3s,MS5.5						
XAN	**Xi'an**	**40.28**	**264**	P	**P**	**21 22 46.9**	**-1.7**
XAN				AP	pP	21 22 57.8	-5.3
XAN				PP	PP	21 24 25.6	+0.2
XAN				S	**S**	**21 28 53.2**	**+1.4**
XAN				LR	LR		
	comp=N,2µm,21.7s,MS5.2						
XAN				LR	LR		
	comp=E,3µm,22.6s,MS5.2						
XAN				LR	LR		
	comp=Z,6µm,18.9s,MS5.4						
QZH	**Quanzhou**	**41.22**	**245**	⇑*i*P	**P**	**21 22 57.0**	**+0.5**
QZH				AP	pP	21 23 11.3	+0.4
QZH				S	**S**	**21 29 05.5**	**-0.4**
QZH				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.5						
QZH				LR	LR		
	comp=N,790nm,12.0s,MS5.2						
QZH				LR	LR		
	comp=E,2µm,13.6s,MS5.2						
QZH				LR	LR		
	comp=Z,3µm,16.1s,MS5.3						
LZH	**Lanzhou**	**42.05**	**270**	⇑P	**P**	**21 23 03.1**	**+0.1**
LZH				AP	pP	21 23 17.4	-0.1
LZH				PP	PP	21 24 44.0	0.0
LZH				SCP		21 28 47.0	
LZH				S	**S**	**21 29 16.0**	**-1.9**
LZH				XS		21 29 41.0	
LZH				SS	SS	21 32 19.0	-2.0
LZH				AMB	AMB		
	comp=Z,112nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,333nm,4.8s						
LZH				LR	LR		
	comp=E,4µm,13.5s						
LZH				LR	LR		
	comp=Z,5µm,17.1s,MS5.5						
LZH	**Lanzhou**	**42.05**	**270**	⇑P	**P**	**21 23 03.1**	**+0.1**
	comp=Z,112nm,1.2s,mb5.4						
LZH				pP	pP	21 23 17.4	-0.1
LZH				sP	sP	21 23 23.3	-0.9
LZH				PP	PP	21 24 44.0	0.0
LZH				ScP		21 28 47.0	
LZH				S	**S**	**21 29 16.0**	**-1.9**
LZH				sS		21 29 41.0	
LZH				SS	SS	21 32 19.0	-2.0
LZH				LR	LR		
	comp=Z,5µm,17.1s,MS5.5						
GTA	**Gaotai**	**42.42**	**277**	P	**P**	**21 23 05.8**	**-0.3**
GTA				AP	pP	21 23 19.2	-1.4
GTA				PP	PP	21 24 45.4	-2.4
GTA				PCP	PcP	21 24 59.0	0.0
GTA				PPP	PPP	21 25 19.2	-2.2
GTA				SCP		21 28 42.4	
GTA				PCS		21 28 49.0	
GTA				S	**S**	**21 29 23.3**	**-0.1**
GTA				AMB	AMB		
	comp=Z,45nm,1.3s,mb4.9						
GTA				AMB	AMB		
	comp=Z,241nm,7.6s						
GTA				LR	LR		
	comp=N,3µm,16.7s,MS5.3						
GTA				LR	LR		
	comp=E,2µm,21.7s,MS5.3						
GTA				LR	LR		
	comp=Z,3µm,18.6s,MS5.3						
ENH	**Enshi**	**42.55**	**259**	P	**P**	**21 23 06.6**	**-0.6**
ENH				SnSn		21 33 06.6	
ENH				ScS	ScS	21 33 28.6	+27
ENH	**Enshi**	**42.55**	**259**	*e*P	**P**	**21 23 06.4**	**-0.9**
	comp=Z,88nm,1.1s,mb5.4						

NVS	**Novosibirsk**	**43.40**	**305**	*i* P	**P**	**21 23 10.5**	**-3.3**
NVS				*i*		21 24 59.9	
NVS				*i* S	**S**	**21 29 32.8**	**-4.5**
NVS				*e*		21 33 07.0	
NVS				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.2						
NVS				pmax	pmax		
	comp=N,27nm,1.5s						
NVS				pmax	pmax		
	comp=E,49nm,1.4s						
NVS				smax			
	comp=N,40nm,1.5s						
NVS				smax			
	comp=E,23nm,1.5s						
YKW3	**Yellowknife Ar**	**44.00**	**42**	*e*P	**P**	**21 23 17.6**	**-1.0**
YKA	**Yellowknife Ar**	**44.03**	**42**	P	**P**	**21 23 18.2**	**-0.7**
	comp=E,8.4nm,0.9s,mb4.5,baz=298,slow=8.1,SNR=20						
YKA				LR	LR	21 44 34.6	
	comp=E,2µm,19.4s,MS5.1,baz=300,slow=40						
YKA	**Yellowknife Ar**	**44.03**	**42**	P	**P**	**21 23 18.2**	**-0.6**
YKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,2µm,19.4s						
YKA	**Yellowknife Ar**	**44.03**	**42**	P	**P**	**21 23 18.2**	**-0.7**
YKA				LR	LR	21 44 34.5	
RES	**Resolute Bay**	**44.28**	**22**	*e*P	**P**	**21 23 19.2**	**-1.5**
RES				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
RES	**Resolute Bay**	**44.28**	**22**	*e*P	**P**	**21 23 19.1**	**-1.5**
	comp=Z,14nm,0.8s,mb4.7						
CD2	**Chengdu**	**45.59**	**265**⇑	*i*P	**P**	**21 23 31.2**	**-0.6**
CD2				S	**S**	**21 30 05.8**	**-3.5**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CD2				LR	LR		
	comp=E,4µm,14.4s						
CD2				LR	LR		
	comp=Z,5µm,18.0s,MS5.5						
GZH	**Guangzhou**	**45.64**	**249**	P	**P**	**21 23 27.2**	**-5.1**
GZH				AMB	AMB		
	comp=Z,98nm,1.1s,mb5.7						
GZH				LR	LR		
	comp=N,2µm,20.8s,MS5.2						
GZH				LR	LR		
	comp=E,2µm,18.3s,MS5.2						
GZH				LR	LR		
	comp=Z,3µm,20.2s,MS5.2						
WMQ	**Urumqi**	**47.00**	**290**⇑	*i*P	**P**	**21 23 42.3**	**-0.4**
WMQ				AP	pP	21 23 56.3	-1.0
WMQ				PCP	PcP	21 25 14.8	+0.2
WMQ				S	**S**	**21 30 28.3**	**-0.9**
WMQ				SCS	ScS	21 33 29.3	+0.1
WMQ				AMB	AMB		
	comp=Z,73nm,1.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,342nm,11.0s						
WMQ				LR	LR		
	comp=N,2µm,15.1s,MS5.5						
WMQ				LR	LR		
	comp=E,4µm,15.4s,MS5.5						
WMQ				LR	LR		
	comp=Z,6µm,15.2s,MS5.7						
GYA	**Guiyang**	**47.02**	**258**⇑	*i*P	**P**	**21 23 43.0**	**-0.1**
GYA				PP	PP	21 25 33.6	-0.1
GYA				S	**S**	**21 30 29.9**	**+0.2**
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,400nm,7.2s						
GYA				LR	LR		
	comp=N,3µm,21.2s,MS5.4						
GYA				LR	LR		
	comp=E,2µm,19.4s,MS5.4						
GYA				LR	LR		
	comp=Z,2µm,23.3s,MS5.1						
KBS	**Kingsbay**	**47.74**	**352**	*e*P	**P**	**21 23 44.5**	**-3.5**
KBS				*e*P		21 23 48.2	
KBS				AMb	AMB	21 23 49.9	
	comp=Z,115nm,1.5s,mb5.7						
KBS				*e*PP	PP	21 25 38.7	-0.7
KBS				*e*S	**S**	**21 30 38.5**	**-0.7**
KBS				AMS	AMS	21 44 08.5	
	comp=Z,2µm,15.0s,MS5.2						
KBS	**Kingsbay**	**47.74**	**352**	*e*P	**P**	**21 23 47.4**	**-0.7**
KBS				pmax	pmax		
	comp=Z,93nm,1.1s,mb5.7						
KBS	**Kingsbay**	**47.74**	**352**	*e*P	**P**	**21 23 48.2**	**+0.2**
	comp=Z,115nm,1.5s,mb5.7						
KURK	**Kurchatov**	**47.97**	**302**	*e*P	**P**	**21 23 47.4**	**-2.8**
	comp=Z,67nm,0.9s,mb5.7						
RPW	**Rockport**	**48.16**	**61**	*e*P	**P**	**21 23 52.2**	**+0.5**
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**21 23 50.6**	**-2.1**
	comp=Z,11nm,0.6s,mb5.1,baz=59,slow=6.6,SNR=91						
MKAR				LR	LR	21 45 34.7	
	comp=Z,6µm,18.2s,MS5.6,baz=31,slow=38						
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**21 23 50.6**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,6µm,18.2s						
BMW	**Boistfort Moun**	**48.38**	**64**	P	**P**	**21 23 54.5**	**+1.1**
RMW	**Rattlesnake Mo**	**48.58**	**62**	P	**P**	**21 23 55.4**	**+0.4**
TGY	**Tagaytay City**	**48.92**	**234**	P	**P**	**21 23 59.2**	**+1.2**
	comp=Z,187nm,0.5s,baz=234,slow=2.5,SNR=3.2						
TGY	**Tagaytay City**	**48.92**	**234**	P	**P**	**21 23 59.2**	**+1.2**
TGY				pmax	pmax		
	comp=Z,187nm,0.5s						
LON	**Longmire**	**49.00**	**63**	P	**P**	**21 24 01.8**	**+3.6**
NLW	**Nelson Butte**	**49.01**	**61**	*e*P	**P**	**21 23 57.8**	**-0.5**
SSOR	**Sweet Springs**	**49.80**	**66**	*e*P	**P**	**21 24 05.3**	**+1.0**
HSO	**Harness Mounta**	**50.26**	**67**	P	**P**	**21 24 09.5**	**+1.6**
DPW	**Davenport**	**50.28**	**60**	*e*P	**P**	**21 24 08.0**	**0.0**
VGB	**Gordon Butte**	**50.33**	**64**	P	**P**	**21 24 09.6**	**+1.2**
KMI	**Kunming**	**50.38**	**260**	*e*P	**P**	**21 24 08.6**	**-0.5**
KMI				AP	pP	21 24 16.3	-7.5
KMI				PCP	PcP	21 25 27.5	+0.4
KMI				PP	PP	21 26 01.5	-4.3
KMI				SCP		21 29 22.0	
KMI				S	**S**	**21 31 14.1**	**-2.6**
KMI				SS	SS	21 34 45.6	-2.4
KMI				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,437nm,6.8s						
KMI				LR	LR		
	comp=N,4µm,18.5s,MS5.5						
KMI				LR	LR		
	comp=E,1µm,15.8s,MS5.5						
KMI				LR	LR		
	comp=Z,4µm,24.8s						
KMI	**Kunming**	**50.38**	**260**	*e*P	**P**	**21 24 08.6**	**-0.5**
	comp=Z,25nm,1.1s,mb5.2						
KMI				pP	pP	21 24 16.3	-7.5
KMI				PcP	PcP	21 25 27.5	+0.4
KMI				PP	PP	21 26 01.5	-4.3
KMI				ScP		21 29 22.0	
KMI				S	**S**	**21 31 14.1**	**-2.6**
KMI				sS		21 31 30.2	
KMI				SS	SS	21 34 45.6	-2.4
KMI				LR	LR		
	comp=Z,4µm,24.8s,MS5.3						
HAWA	**Hanford**	**50.47**	**62**	*e*P	**P**	**21 24 09.8**	**+0.4**
	comp=Z,19nm,1.4s,mb4.9						
NEW	**Newport**	**50.62**	**59**	*e*P	**P**	**21 24 10.7**	**+0.1**
NEW				pmax	pmax		
	comp=Z,15nm,1.3s						
NEW				MLR	MLR		
	comp=Z,2µm,22.0s						
NEW	**Newport**	**50.62**	**59**	*e*P	**P**	**21 24 10.7**	**+0.1**
	comp=Z,15nm,1.4s,mb4.7						
NEW				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
VOSK	**Vostochnaya**	**50.63**	**308**	P	**P**	**21 24 07.3**	**-3.3**
VOSK				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
VOSK	**Vostochnaya**	**50.63**	**308**	*i* P	**P**	**21 24 07.4**	**-3.2**
BVA0	**Borovoye Array**	**50.73**	**309**	P	**P**	**21 24 08.4**	**-2.9**
BVAR	**Borovoye Array**	**50.73**	**309**	LR	LR	21 47 44.6	
	comp=Z,100nm,19.8s,baz=195,slow=39						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	**P**	**21 24 08.7**	**-2.9**
	comp=Z,37nm,1.0s,mb5.3						
BRVK				*e*PcP	PcP	21 25 27.3	-0.8
QIZ	**Qiongzhong**	**50.84**	**249**	P	**P**	**21 24 14.4**	**+1.8**
QIZ				S	**S**	**21 31 29.2**	**+6.1**
QIZ				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.5						
QIZ				AMB	AMB		
	comp=Z,598nm,7.7s						
QIZ				LR	LR		
	comp=N,1µm,16.1s,MS5.3						
QIZ				LR	LR		
	comp=E,2µm,14.9s,MS5.3						
QIZ				LR	LR		
	comp=Z,1µm,16.8s,MS5.0						
QIZ	**Qiongzhong**	**50.84**	**249**	P	**P**	**21 24 14.7**	**+2.1**
QIZ	**Qiongzhong**	**50.84**	**249**	*e*P	**P**	**21 24 13.3**	**+0.7**
	comp=Z,130nm,1.2s,mb5.7						
BJO	**Bjornoya**	**50.85**	**347**	AMS	AMS	21 49 41.7	
	comp=Z,1µm,19.7s,MS4.8						
HUMO	**Hull Mountain**	**50.92**	**68**	*e*P	**P**	**21 24 12.1**	**-0.8**
	comp=Z,5.8nm,1.0s,mb4.5						
DAG	**Danmarks Havn**	**51.31**	**359**⇓	*i*P	**P**	**21 24 13.9**	**-1.6**
	comp=Z,103nm,1.3s,mb5.6						
DAG	**Danmarks Havn**	**51.31**	**359**⇓	*e*P	**P**	**21 24 13.9**	**-1.6**
	comp=Z,104nm,1.3s,mb5.6						
ZRNK	**Zerenda**	**51.44**	**309**	P	**P**	**21 24 13.7**	**-3.0**
ZRNK				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
ZRNK	**Zerenda**	**51.44**	**309**	*i* P	**P**	**21 24 13.8**	**-2.9**
LNOR	**Lincton Mounta**	**51.47**	**62**	*e*P	**P**	**21 24 17.6**	**+0.5**
YBH	**Yreka Blue Hor**	**51.62**	**69**	*e*P	**P**	**21 24 19.0**	**+0.8**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	**Yreka Blue Hor**	**51.62**	**69**	*e*P	**P**	**21 24 18.9**	**+0.8**
	comp=Z,8.3nm,1.0s,mb4.6						
WDC	**Whiskeytown Da**	**52.46**	**70**	*e*P	**P**	**21 24 24.9**	**+0.4**
WDC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
WDC	**Whiskeytown Da**	**52.46**	**70**	*e*P	**P**	**21 24 24.9**	**+0.4**
	comp=Z,4.2nm,0.9s,mb4.4						
SOKR	**Solikamsk**	**52.51**	**321**⇓	*i*P	**P**	**21 24 21.4**	**-3.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
SOKR				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.4						
LVZ	**Lovozero**	**53.43**	**337***c*	*i*P	**P**	**21 24 28.6**	**-2.8**
LVZ				*i*		21 25 35.8	
LVZ				*i*		21 26 30.5	
LVZ				*e*S	**S**	**21 31 54.8**	**-3.0**
LVZ				*i* SS	SS	21 35 37.3	-0.5
LVZ				*i* SSS	SSS	21 37 32.0	+1.4
LVZ				pmax	pmax		
	comp=E,9.0nm,1.4s						
LVZ				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
LVZ				pmax	pmax		
	comp=N,18nm,1.3s						
LVZ				pmax	pmax		
	comp=E,28nm,1.7s						
LVZ				pmax	pmax		
	comp=Z,142nm,1.7s,mb5.6						
LVZ				pmax	pmax		
	comp=N,55nm,1.6s						
LVZ				smax			
	comp=Z,88nm,17.4s						
LVZ				smax			
	comp=N,77nm,4.1s						
LVZ				smax			
	comp=E,184nm,6.8s						
LVZ				MLR	MLR		
	comp=Z,5µm,19.0s,MS5.6						
LVZ				MLR	MLR		
	comp=N,4µm,20.0s,MS5.6						
LVZ				MLR	MLR		
	comp=E,2µm,17.0s,MS5.6						
LVZ	**Lovozero**	**53.43**	**337**⇑	*i*P	**P**	**21 24 29.2**	**-2.2**
WVOR	**Wild Horse Val**	**53.48**	**66**	*e*P	**P**	**21 24 31.8**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WVOR				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.1						
WVOR	**Wild Horse Val**	**53.48**	**66**	*e*P	**P**	**21 24 31.8**	**-0.3**
	comp=Z,10nm,1.1s,mb4.7						
WVOR				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
CHMT	**Chamberlain Mo**	**53.50**	**58**	*e*P	**P**	**21 24 30.8**	**-1.4**
KEV	**Kevo**	**53.59**	**341**	*e*p	**P**	**21 24 28.4**	**-4.1**
FFC	**Flin Flon**	**53.87**	**45**	*e*P	**P**	**21 24 33.7**	**-1.1**
FFC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
FFC	**Flin Flon**	**53.87**	**45**	*e*P	**P**	**21 24 33.6**	**-1.1**
	comp=Z,16nm,1.0s,mb4.9						
ARU	**Arti**	**53.87**	**318**⇑	*i*P	**P**	**21 24 32.1**	**-2.7**
ARU				*i*		21 25 36.2	
ARU				*i*		21 26 31.3	
ARU				*e*S	**S**	**21 32 02.7**	**-1.3**
ARU				*e*		21 34 12.9	
ARU				*e*SS	SS	21 35 50.6	+5.6
ARU				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
ARU				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.4						
ARU	**Arti**	**53.87**	**318**	*e*P	**P**	**21 24 31.5**	**-3.3**
	comp=Z,14nm,0.4s,mb5.2						
OHCM	**Honcut**	**53.89**	**70**	*e*P	**P**	**21 24 35.0**	**-0.1**
APA	**Apatity**	**53.98**	**337**⇑	*i*P	**P**	**21 24 34.8**	**-0.6**
APA				*e*S	**S**	**21 32 05.0**	**-0.3**
APA				*e*PS	PS	21 32 23.0	-1.4
APA				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
APA				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.5						
APA				MLR	MLR		
	comp=N,3µm,19.0s,MS5.5						
APA				MLR	MLR		
	comp=E,2µm,19.0s,MS5.5						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**21 24 34.2**	**-1.8**
	comp=E,24nm,0.9s,mb5.1,baz=38,slow=7.0,SNR=68						
ARCES				LR	LR	21 50 24.8	
	comp=E,2µm,20.4s,MS5.2,baz=29,slow=39						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**21 24 34.2**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,24nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,2µm,20.4s						
ARE0	**ARCESS Array S**	**54.06**	**342**	*e*P	**P**	**21 24 33.8**	**-2.2**
BEKR	**Beckwourth**	**54.18**	**69**	*e*P	**P**	**21 24 38.2**	**+0.9**
	comp=Z,11nm,1.0s,mb4.7						
LSA	**Lhasa**	**54.19**	**274**	P	**P**	**21 24 37.2**	**-0.3**
LSA				AP	pP	21 24 45.1	-7.4
LSA				XP	sP	21 24 49.3	-10
LSA				SCS	ScS	21 34 23.1	+4.9
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LSA				LR	LR		
	comp=N,2µm,18.2s,MS5.5						
LSA				LR	LR		
	comp=E,4µm,20.0s,MS5.5						
LSA				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
LSA	**Lhasa**	**54.19**	**274**	*e*P	**P**	**21 24 37.4**	**-0.1**
LSA				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
LSA	**Lhasa**	**54.19**	**274**	*e*P	**P**	**21 24 37.4**	**-0.1**
	comp=Z,26nm,1.0s,mb5.1						
FCC	**Fort Churchill**	**54.38**	**38**	*e*P	**P**	**21 24 37.1**	**-1.3**
FCC				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
FCC	**Fort Churchill**	**54.38**	**38**	*e*P	**P**	**21 24 37.1**	**-1.3**
	comp=Z,18nm,0.9s,mb5.0						
HRY	**Holter Researc**	**54.38**	**58**	*e*P	**P**	**21 24 38.2**	**-0.4**
TKM2	**Tokmak 2**	**54.42**	**296**	P	**P**	**21 24 37.6**	**-1.4**
	SNR=14						
ULHL	**Ulahol**	**54.51**	**295**	P	**P**	**21 24 38.4**	**-1.2**
	SNR=8.6						
USP	**Ospenovka**	**54.80**	**297**	P	**P**	**21 24 39.9**	**-1.9**
	SNR=36						
CHMS	**Chumysh**	**54.84**	**297**	P	**P**	**21 24 40.1**	**-1.9**
	SNR=13						
SUMG	**Summit**	**54.90**	**7**	*e*P	**P**	**21 24 41.2**	**-0.9**
	comp=Z,99nm,1.0s,mb5.8						
WCN	**Washoe City**	**54.91**	**69**	P	**P**	**21 24 43.6**	**+1.0**
WCN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WCN	**Washoe City**	**54.91**	**69**	P	**P**	**21 24 43.6**	**+1.1**
	comp=Z,3.9nm,0.6s,mb4.6						
KTK1	**Kautokeino**	**54.94**	**342**⇑	*i*P	**P**	**21 24 41.2**	**-1.2**
KTK1				AMb	AMB	21 24 45.4	
	comp=Z,151nm,1.6s,mb5.8						
KTK1	**Kautokeino**	**54.94**	**342**⇑	*i*P	**P**	**21 24 41.2**	**-1.2**
	comp=Z,151nm,1.6s,mb5.8						
KBK	**Karagaybulak**	**54.96**	**296**	P	**P**	**21 24 41.4**	**-1.5**
	SNR=13						
FRU	**Bishkek**	**55.02**	**297**	*e*P	**P**	**21 24 42.0**	**-1.4**
FRU				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.5						
FRU				MLR	MLR		
	comp=Z,8µm,16.0s,MS5.9						
HLID	**Hailey**	**55.07**	**62**	*e*P	**P**	**21 24 43.9**	**+0.2**
	comp=Z,8.6nm,1.2s,mb4.7						
HLID				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
MCMT	**McKenzie Canyo**	**55.08**	**60**	*e*P	**P**	**21 24 44.0**	**+0.3**
TRO	**Tromso**	**55.16**	**344**	*e*P	**P**	**21 24 41.6**	**-2.4**
TRO				*e*S	**S**	**21 32 23.5**	**+2.4**
TRO				AMS	AMS	21 54 56.1	
	comp=Z,2µm,17.5s,MS5.2						
BOZ	**Bozeman (W)**	**55.18**	**59**	*e*P	**P**	**21 24 44.0**	**-0.5**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
BOZ	**Bozeman (W)**	**55.18**	**59**	*e*P	**P**	**21 24 44.0**	**-0.5**
	comp=Z,10nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**55.22**	**296**	P	**P**	**21 24 43.3**	**-1.5**
	SNR=11						
CMB	**Columbia Colle**	**55.39**	**71**	*e*P	**P**	**21 24 46.3**	**+0.2**
CMB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
CMB				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.1						
CMB	**Columbia Colle**	**55.39**	**71**	*e*P	**P**	**21 24 46.3**	**+0.1**
	comp=Z,11nm,1.1s,mb4.8						
CMB				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
UCH	**Uchtor**	**55.48**	**296**	P	**P**	**21 24 43.4**	**-3.3**
	SNR=8.5						
BMN	**Battle Mountai**	**55.60**	**67**	*e*P	**P**	**21 24 47.7**	**+0.1**
BMN				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
BMN	**Battle Mountai**	**55.60**	**67**	*e*P	**P**	**21 24 47.7**	**+0.2**
	comp=Z,14nm,0.9s,mb5.0						
EKS2	**Erkin-Say**	**55.60**	**297**	P	**P**	**21 24 46.2**	**-1.4**
	SNR=9.2						
QLMT	**Earthquake Lak**	**55.83**	**59**	*e*P	**P**	**21 24 49.0**	**-0.2**
AML	**Almayashu**	**56.00**	**296**	P	**P**	**21 24 49.4**	**-1.1**
	SNR=12						
CHRT	**Chiangrai**	**56.12**	**259**	⇑P	**P**	**21 24 52.0**	**+0.4**
	comp=Z,134nm,1.0s,mb5.9						
YMR	**Madison River**	**56.18**	**59**	*e*P	**P**	**21 24 48.7**	**-3.0**
NVAR	**Mina Array Bea**	**56.33**	**69**	P	**P**	**21 24 53.0**	**+0.1**
	comp=Z,8.4nm,0.9s,mb4.8,baz=305,slow=5.4,SNR=26						
NVAR				LR	LR	21 47 10.6	
	comp=Z,992nm,21.1s,MS4.9,baz=15,slow=34						
NANT	**Nan**	**56.39**	**257**	⇑P	**P**	**21 24 52.0**	**-1.5**
	comp=Z,88nm,1.0s,mb5.7						
MNV	**Mina**	**56.42**	**69**	*e*P	**P**	**21 24 53.1**	**-0.4**
MNV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
MNV				MLR	MLR		
	comp=Z,1µm,22.0s,MS4.9						
MNV	**Mina**	**56.42**	**69**	*e*P	**P**	**21 24 53.0**	**-0.4**
	comp=Z,11nm,1.0s,mb4.8						
MNV				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
OMM	**Old Mammoth Mi**	**56.49**	**70**	*e*P	**P**	**21 24 55.1**	**+1.2**
KSH	**Kashi**	**56.49**	**293**	*e*P	**P**	**21 24 52.4**	**-1.6**
KSH				*e*PCP	PcP	21 25 49.2	-0.8
KSH				*e*PP	PP	21 26 59.2	-2.4
KSH				*e*SCP		21 29 42.0	
KSH				*e*PCS		21 29 48.8	
KSH				*e*S	**S**	**21 32 35.0**	**-4.2**
KSH				*e*PS	PS	21 32 55.8	-3.9
KSH				*e*XS		21 33 02.1	
KSH				*e*SCS	ScS	21 34 32.7	-1.7
KSH				*e*SS	SS	21 36 22.1	-5.6
KSH				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
KSH				AMB	AMB		
	comp=Z,430nm,4.6s						
SHL	**Shillong**	**56.71**	**270**⇑	*e*P	**P**	**21 24 55.0**	**-0.7**
SHL				*e*S	**S**	**21 32 56.0**	**+14**
JMIC	**Jan Mayen**	**56.84**	**355**	LR	LR	21 48 07.9	
	comp=Z,950nm,20.6s,MS4.9,baz=51,slow=35						
JMIC	**Jan Mayen**	**56.84**	**355**	*e*P	**P**	**21 24 56.2**	**+0.2**
JMIC				*e*S	**S**	**21 32 44.9**	**+1.5**
JMIC				AMS	AMS	22 01 01.7	
	comp=Z,630nm,12.8s,MS4.9						
MTUM	**Tungsten Hills**	**56.91**	**70**	*e*P	**P**	**21 24 58.1**	**+1.1**
KKTK	**Khon Kaen**	**57.04**	**253**	P	**P**	**21 24 59.0**	**+0.8**
KKAR	**Karatay Array**	**57.08**	**299**	*e*P	**P**	**21 24 55.6**	**-2.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
REDW	**Red Top Meadow**	**57.13**	**60**	*e*P	**P**	**21 24 58.7**	**+0.3**
HVU	**Hansel Valley**	**57.16**	**63**	*e*P	**P**	**21 24 59.4**	**+0.7**
TPH	**Tonopah**	**57.20**	**69**	*e*P	**P**	**21 24 59.9**	**+0.9**
TPH				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
TPH	**Tonopah**	**57.20**	**69**	*e*P	**P**	**21 24 59.9**	**+0.8**
	comp=Z,14nm,0.9s,mb5.0						
LAO	**LASA Array**	**57.26**	**55**	*e*P	**P**	**21 24 58.7**	**-0.7**
LOF	**Lofoten**	**57.37**	**346**	*e*P	**P**	**21 24 59.8**	**0.0**
LOF				AMb	AMB	21 25 02.4	
	comp=Z,257nm,1.2s,mb6.2						
LOF	**Lofoten**	**57.37**	**346**	*e*P	**P**	**21 24 59.8**	**0.0**
	comp=Z,257nm,1.2s,mb6.1						
AHID	**Auburn Hatcher**	**57.40**	**61**	*e*P	**P**	**21 25 00.6**	**+0.2**
	comp=Z,16nm,0.9s,mb5.0						
CHG	**Chiang Mai**	**57.44**	**258**	⇑P	**P**	**21 25 01.4**	**+0.4**
	comp=Z,73nm,0.8s,mb5.8						
CHG				S	**S**	**21 32 32.3**	**-20**
BGU	**Big Grassy Mou**	**57.60**	**64**	*e*P	**P**	**21 25 02.1**	**+0.2**
SPUT	**South Promonto**	**57.66**	**63**	*e*P	**P**	**21 25 03.1**	**+0.8**
CM31	**Chiang Mai Arr**	**57.71**	**258**	*e*P	**P**	**21 25 03.3**	**+0.4**
	comp=Z,49nm,0.9s,mb5.5						
CMAR	**Chiang Mai Arr**	**57.71**	**258**	P	**P**	**21 25 03.4**	**+0.5**
	comp=Z,50nm,1.1s,mb5.5,baz=24,slow=7.2,SNR=101						
CMAR				ScP		21 29 54.5	
	comp=Z,3.1nm,1.2s,baz=15,slow=2.9,SNR=6.1						
CMAR				LR	LR	21 52 17.0	
	comp=Z,1µm,21.0s,MS5.1,baz=60,slow=38						
HWUT	**Hardware Ranch**	**57.94**	**62**	*e*P	**P**	**21 25 04.1**	**-0.1**
	comp=Z,21nm,1.1s,mb5.1						
AB31	**Akbulak array**	**58.16**	**311**	*i* P	**P**	**21 25 03.0**	**-2.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KKM	**Kota Kinabalu**	**58.18**	**234**⇑	*e*P	**P**	**21 25 08.9**	**+2.7**
DAC	**Darwin (Calif)**	**58.22**	**71**	P	**P**	**21 25 07.2**	**+1.0**
BW06	**Boulder Array**	**58.23**	**60**	*e*P	**P**	**21 25 06.0**	**-0.2**
	comp=Z,21nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**58.23**	**60**	P	**P**	**21 25 06.3**	**+0.2**
	comp=Z,20nm,1.2s,mb5.0,baz=315,slow=4.2,SNR=44						
PDAR				LR	LR	21 48 04.9	
	comp=Z,1µm,21.9s,MS4.9,baz=108,slow=34						
DUG	**Dugway**	**58.23**	**64**	*e*P	**P**	**21 25 06.5**	**+0.3**
DUG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
DUG				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.0						
DUG	**Dugway**	**58.23**	**64**	*e*P	**P**	**21 25 06.5**	**+0.3**
	comp=Z,15nm,1.1s,mb4.9						
DUG				LR	LR		
	comp=Z,1µm,21.0s,MS5.0						
JOF	**Joensuu**	**58.27**	**335**	*e*p	**P**	**21 25 00.4**	**-5.8**
	comp=Z,3.3nm,0.3s,mb4.8						
JOF	**Joensuu**	**58.27**	**335**	*e*P	**P**	**21 25 00.4**	**-5.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
FRB	**Frobisher Bay**	**58.46**	**23**	LR	LR	21 55 17.4	
	comp=Z,987nm,19.1s,MS5.0,baz=312,slow=41						
CTU	**Camp Tracy**	**58.47**	**63**	P	**P**	**21 25 05.9**	**-2.0**
BDT	**Bhumibol Dam**	**58.61**	**257**	P	**P**	**21 25 11.0**	**+1.9**
JLU	**Jordanelle**	**58.70**	**63**	P	**P**	**21 25 08.4**	**-1.1**
DAU	**Daniels Canyon**	**58.94**	**63**	P	**P**	**21 25 11.7**	**+0.6**
MPU	**Maple Canyon**	**59.00**	**64**	*e*P	**P**	**21 25 11.3**	**-0.3**
MOR8	**Moi Rana**	**59.02**	**344**⇑	*i*P	**P**	**21 25 08.3**	**-3.0**
MOR8				AMb	AMB	21 25 10.5	
	comp=Z,110nm,1.3s,mb5.7						
MOR8	**Moi Rana**	**59.02**	**344**⇑	*i*P	**P**	**21 25 08.3**	**-3.0**
	comp=Z,110nm,1.3s,mb5.7						
KKN	**Kakani**	**59.16**	**276**	*e*P	**P**	**21 25 11.9**	**-0.9**
	comp=Z,113nm,1.0s,mb5.9						
NST	**Nakhon Sawan**	**59.16**	**255**	P	**P**	**21 25 15.0**	**+2.1**
PKI	**Pulchoki**	**59.23**	**276**	*e*P	**P**	**21 25 11.9**	**-1.5**
	comp=Z,109nm,1.0s,mb5.8						
MWC	**Mount Wilson**	**59.38**	**73**	P	**P**	**21 25 15.5**	**+1.2**
DMN	**Daman**	**59.39**	**276**	*e*P	**P**	**21 25 13.3**	**-1.1**
	comp=Z,203nm,1.1s,mb6.1						

GKN	**Gorkha**	59.40	277	eP	P	21 25 13.3	-1.2
	comp=Z,96nm,0.9s,mb5.8						
PECR	**Pechory**	59.57	324	eP	P	21 25 13.0	-2.3
PECR				pmax	pmax		
	comp=Z,300nm,7.0s						
PECR				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.5						
PECR				MLR	MLR		
	comp=N,3µm,17.0s,MS5.7						
PECR				MLR	MLR		
	comp=E,4µm,15.0s,MS5.7						
ULM	**Lac du Bonnet**	59.66	46	P	P	21 25 15.1	-0.9
	comp=E,9.0nm,0.8s,mb4.8,baz=312,slow=7.7,SNR=8.8						
ULM				LR	LR	21 53 19.7	
	comp=E,3µm,20.1s,MS5.4,baz=202,slow=38						
ULM	**Lac du Bonnet**	59.66	46	eP	P	21 25 14.5	-1.4
	comp=E,23nm,1.1s,mb5.1						
MVU	**Marysvale**	59.74	65	P	P	21 25 17.9	+1.2
	comp=E,16nm,1.1s,mb5.0						
KOLN	**Koldanda**	60.20	278	eP	P	21 25 18.8	-1.2
	comp=E,74nm,0.6s,mb5.9						
SRU	**San Rafael**	60.25	64	P	P	21 25 20.4	+0.2
NEN	**Nelson**	60.25	69	eP	P	21 25 21.0	+0.8
PFO	**Pinyon Flat Ob**	60.76	72	P	P	21 25 21.9	-1.8
FINES	**FINESS Array B**	60.84	336	P	P	21 25 22.0	-1.9
	comp=E,25nm,0.7s,mb5.5,baz=34,slow=6.9,SNR=110						
FINES				LR	LR	21 56 19.5	
	comp=E,3µm,18.4s,MS5.5,baz=31,slow=41						
FINES	**FINESS Array B**	60.84	336	P	P	21 25 22.0	-1.9
FINES				pmax	pmax		
	comp=Z,25nm,0.7s						
FINES				MLR	MLR		
	comp=Z,3µm,18.4s						
FINES	**FINESS Array B**	60.84	336	P	P	21 25 22.0	-1.9
FINES				LR	LR	21 56 19.5	
NSS	**Namsos**	60.95	345	AMS	AMS	21 54 58.2	
	comp=Z,2µm,18.8s,MS5.2						
SDNR	**Sundarnagar**	61.51	285	eP	P	21 25 27.4	-1.4
DDI	**Dehra Dun**	61.71	284	e	P	21 25 28.1	-2.1
NNT	**Nongplab**	61.82	253	P	P	21 25 33.5	+2.4
PV01	**Paradox Valley**	62.02	63	P	P	21 25 31.3	-0.8
MOS	**Moscow**	62.27	327	eP	P	21 25 31.9	-1.6
MOS				e		21 26 13.5	
MOS				e		21 27 53.8	
MOS				e		21 29 28.5	
MOS				eS	S	21 33 47.9	-5.7
MOS				e		21 35 15.8	
MOS				pmax	pmax		
	comp=N,175nm,1.5s						
MOS				pmax	pmax		
	comp=Z,194nm,1.5s,mb6.0						
MOS				MLR	MLR		
	comp=Z,4µm,15.8s,MS5.7						
MOS				MLR	MLR		
	comp=N,3µm,15.3s,MS5.7						
MOS				MLR	MLR		
	comp=E,2µm,15.1s,MS5.7						
PMG	**Port Moresby**	62.27	194	eP	P	21 25 33.7	-0.4
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
PMG	**Port Moresby**	62.27	194	eP	P	21 25 33.7	-0.5
	comp=Z,18nm,0.8s,mb5.2						
ISCO	**Idaho Springs**	62.42	60	eP	P	21 25 35.3	+0.5
ISCO				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
ISCO				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.2						
ISCO	**Idaho Springs**	62.42	60	eP	P	21 25 35.3	+0.5
	comp=Z,30nm,1.3s,mb5.3						
ISCO				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
OBN	**Obninsk**	63.12	327c	iP	P	21 25 37.0	-2.3
OBN				i		21 26 14.7	
OBN				eS	S	21 34 00.2	-4.2
OBN				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.7						
OBN				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.4						
OBN	**Obninsk**	63.12	327	eP	P	21 25 37.1	-2.2
	comp=Z,90nm,1.3s,mb5.7						
VSU	**Vasula**	63.25	334⇑	iP	P	21 25 38.7	-1.3
MOL	**Molde**	63.48	346	eP	P	21 25 41.8	+0.3
MOL				AMb	AMB	21 25 44.6	
	comp=Z,118nm,1.1s,mb5.9						
MOL	**Molde**	63.48	346	eP	P	21 25 41.8	+0.3
	comp=Z,118nm,1.1s,mb5.9						
DOMB	**Dombas**	63.75	345	eP	P	21 25 41.5	-1.6
SDCO	**Great Sand Dun**	63.97	62	eP	P	21 25 45.3	+0.3
	comp=Z,23nm,1.4s,mb5.0						
NB2	**NORSAR Subarra**	64.33	344	P	P	21 25 46.2	-0.7
	comp=Z,131nm,1.2s,mb5.8,baz=22,slow=6.5						
NB2	**NORSAR Subarra**	64.33	344	P	P	21 25 46.2	-0.7
	baz=22,slow=6.9						
NOA	**NORSAR Array B**	64.33	344	P	P	21 25 45.8	-1.1
	comp=Z,12nm,0.4s,mb5.2,baz=22,slow=6.7,SNR=158						
NOA				LR	LR	21 57 27.8	
	comp=Z,1µm,20.7s,MS5.1,baz=20,slow=40						
NOA	**NORSAR Array B**	64.33	344	P	P	21 25 45.8	-1.1
NOA				pmax	pmax		
	comp=Z,12nm,0.4s						
NOA				MLR	MLR		
	comp=Z,1µm,20.7s						
NAO01	**NORSAR Array S**	64.57	344	eP	P	21 25 47.3	-1.1
	comp=Z,19nm,0.8s,mb5.2						
FOO	**Floro**	64.77	347	eP	P	21 25 49.8	+0.1
FOO				AMb	AMB	21 25 51.1	
	comp=Z,52nm,1.3s,mb5.4						
FOO	**Floro**	64.77	347	eP	P	21 25 49.8	+0.1
	comp=Z,52nm,1.3s,mb5.4						
VOR	**Voronezh**	64.96	324	eP	P	21 25 49.5	-1.6
VOR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
ANMO	**Albuquerque**	65.50	64⇑	iP	P	21 25 55.3	+0.4
SNG	**Songkhla**	65.64	249	P	P	21 25 50.0	-6.1
	comp=Z,220nm,1.0s,mb6.1						
ASK	**Askoy**	65.82	346	eP	P	21 25 56.1	-0.4
ASK				AMb	AMB	21 25 58.2	
	comp=Z,138nm,1.4s,mb5.8						
ASK				epP	pP	21 26 07.4	-4.5
ASK	**Askoy**	65.82	346	eP	P	21 25 56.1	-0.4
	comp=Z,544nm,1.5s						
RUND	**Rundenannen**	65.86	346	eP	P	21 25 56.2	-0.5
RUND				AMb	AMB	21 25 59.8	
	comp=Z,163nm,1.2s,mb5.9						
BER	**Bergen**	65.90	346	eP	P	21 25 56.8	-0.2
BER				AMb	AMB	21 25 58.5	
	comp=Z,77nm,1.3s,mb5.6						
BER	**Bergen**	65.90	346	eP	P	21 25 56.8	-0.2
	comp=Z,303nm,1.4s,mb6.1						
KONO	**Kongsberg**	65.92	344⇑	iP	PcP	21 26 31.1	+3.6
KONO				AMb	AMB	21 26 35.4	
	comp=Z,83nm,1.4s,mb5.6						
KONO				e		21 35 10.1	
KONO				AMS	AMS	22 01 41.9	
	comp=Z,1µm,11.8s,MS5.3						
EGD	**Espegrend**	66.02	346	eP	P	21 25 57.5	-0.2
EGD				AMb	AMB	21 25 59.5	
	comp=Z,103nm,1.4s,mb5.7						
EGD				epP	pP	21 26 08.6	-4.5
EGD	**Espegrend**	66.02	346	eP	P	21 25 57.5	-0.2
	comp=Z,412nm,1.4s,mb6.3						
MNK	**Minsk**	66.37	332⇓	eP	P	21 25 59.0	-1.1
MNK				pmax	pmax		
	comp=Z,400nm,1.0s						
MNK				MLR	MLR		
	comp=Z,6µm,20.0s						
YEL1	**Yell**	66.55	350⇑	eP	P	21 26 01.1	0.0
SCHQ	**Schefferville**	66.59	27	P	P	21 26 00.8	-0.7
	comp=Z,21nm,1.0s,mb5.1,baz=1.7,slow=4.5,SNR=10						
SCHQ				LR	LR	21 56 36.0	
	comp=Z,1µm,21.2s,MS5.0,baz=102,slow=37						
SCHQ	**Schefferville**	66.59	27	eP	P	21 25 59.6	-1.8
	comp=Z,28nm,1.0s,mb5.2						
BLS5	**Blasjo**	66.65	345	eP	P	21 26 00.8	-1.0
BLS5				AMb	AMB	21 26 04.9	
	comp=Z,39nm,1.7s,mb5.2						
BLS5	**Blasjo**	66.65	345	eP	P	21 26 00.8	-1.0
	comp=Z,39nm,1.7s,mb5.2						
WAL1	**Walls**	66.90	350⇑	eP	P	21 26 02.7	-0.6
LRW	**Lerwick**	66.97	350⇑	eP	P	21 26 03.1	-0.7
SAN1	**Sandwick**	67.09	350⇑	eP	P	21 26 04.8	+0.3
IPM	**Ipoh**	67.52	247⇓	eP	P	21 26 09.5	+1.5
	comp=Z,43nm,0.8s,mb5.5						
SUW	**Suwalki**	68.11	334	eP	P	21 26 09.6	-1.4
SUW				MLR	MLR		
	comp=Z,6µm,19.6s,MS5.8						
KGM	**Kluang**	68.35	243⇑	eP	P	21 26 15.1	+1.9
GDL2	**Guadalupe Moun**	68.71	65	eP	P	21 26 14.7	-0.4
KAKA	**Kakadu**	68.77	209	eP	P	21 26 15.0	-0.7
	comp=Z,33nm,0.9s,mb5.3						
MUD	**Monsted U'grnd**	69.02	343⇑	iP	P	21 26 16.1	-0.5
	comp=Z,35nm,1.1s,mb5.2						
COP	**Copenhagen**	69.12	341⇑	iP	P	21 26 17.2	0.0
	comp=Z,84nm,1.4s,mb5.5						
COP				i S	S	21 35 10.1	-7.0
COP				i		21 35 40.0	
	comp=Z,820nm,18.0s						
BSD	**Bornholm Skovb**	69.13	339⇑	iP	P	21 26 16.4	-0.9
	comp=Z,46nm,0.8s,mb5.5						
BSD				i S	S	21 35 16.6	-0.6
	comp=Z,2µm,19.0s						
AKASG	**Malin Array Be**	69.24	329	P	P	21 26 16.1	-1.9
	comp=Z,13nm,0.3s,mb5.3,baz=29,slow=6.2,SNR=113						
AKASG				LR	LR	22 00 36.3	
	comp=Z,2µm,20.8s,MS5.3,baz=35,slow=39						
AKASG	**Malin Array Be**	69.24	329	P	P	21 26 16.2	-1.9
AKASG				pmax	pmax		
	comp=Z,13nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,2µm,20.8s						
WMOK	**Wichita Mounta**	69.82	59	eP	P	21 26 21.4	-0.5
WMOK				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
WMOK				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.1						
WMOK	**Wichita Mounta**	69.82	59	eP	P	21 26 21.4	-0.4
	comp=Z,32nm,1.1s,mb5.2						
WMOK				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
KIV	**Kislovodsk**	69.90	317c	iP	P	21 26 21.2	-1.0
KIV				i		21 26 43.8	
KIV				e		21 28 53.2	
KIV				eS	S	21 35 23.1	-3.4
KIV				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.1						
KIV				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5						
KIV	**Kislovodsk**	69.90	317	eP	P	21 26 21.7	-0.5
	comp=Z,13nm,0.6s,mb5.0						
GKP	**Gorka Klasztor**	70.30	337	eP	P	21 26 23.8	-0.6
GKP				MLR	MLR		
	comp=Z,4µm,24.9s,MS5.5						
TI2	**Plekhanov**	70.81	314	eP	P	21 26 27.0	-0.7
TI2				MLR	MLR		
	comp=N,2µm,17.0s,MS5.5						
TI2				MLR	MLR		
	comp=E,2µm,17.0s,MS5.5						
TI2				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5						
HYB	**Hyderabad**	70.99	274	i P	P	21 26 29.0	-0.2
HYB				ePcP	PcP	21 26 51.6	+2.1
HYB	**Hyderabad**	70.99	274	eP	P	21 26 29.0	-0.2
SADO	**Sadowa**	71.00	40	LR	LR	22 01 03.2	
	comp=Z,1µm,19.2s,MS5.1,baz=343,slow=39						
CCM	**Cathedral Cave**	71.07	52	eP	P	21 26 28.9	-0.5
CCM				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
CCM	**Cathedral Cave**	71.07	52	eP	P	21 26 28.2	-1.2
	comp=Z,20nm,1.0s,mb5.0						
SLM	**Saint Louis**	71.10	51	P	P	21 26 28.4	-1.2
SLM				pmax	pmax		
	comp=Z,21nm,0.4s,mb5.4						
SLM	**Saint Louis**	71.10	51	P	P	21 26 28.4	-1.2
	comp=Z,20nm,0.3s,mb5.5						
BSEG	**Bad Segeberg**	71.19	341	eP	P	21 26 30.3	+0.5
BSEG				pmax	pmax		
	comp=Z,94nm,1.4s,mb5.5						
LTX	**Lajitas**	71.27	66	eP	P	21 26 30.7	0.0
LTX				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
LTX	**Lajitas**	71.27	66	eP	P	21 26 30.7	0.0
	comp=Z,29nm,1.2s,mb5.1						
TXAR	**Lajitas Array**	71.27	66	P	P	21 26 31.1	+0.4
	comp=Z,9.9nm,0.8s,mb4.8,baz=297,slow=2.8,SNR=31						
FVM	**French Village**	71.53	52	eP	P	21 26 31.6	-0.5
FVM				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
FVM	**French Village**	71.53	52	eP	P	21 26 31.1	-1.1
	comp=Z,26nm,1.2s,mb5.0						
ESK	**Eskdalemuir**	71.92	350	eP	P	21 26 33.3	-0.8
ESK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ESK	**Eskdalemuir**	71.92	350	eP	P	21 26 33.3	-0.9
	comp=Z,15nm,1.0s,mb4.9						
GNI	**Garni**	72.09	313	LR	LR	22 03 05.2	
	comp=Z,4µm,19.8s,MS5.7,baz=23,slow=40						
KWP	**Kalwaria**	72.16	332	eP	P	21 26 35.7	0.0
KWP				pmax	pmax		
	comp=Z,270nm,1.1s,mb6.1						
KWP	**Kalwaria**	72.16	332	eP	P	21 26 35.4	-0.3
OJC	**Ojcow**	72.44	334⇑	iP	P	21 26 37.0	-0.3
OJC				eS	S	21 35 58.5	+2.9
OJC				LR	LR		
	comp=Z,6µm,20.0s,MS5.8						
MSNY	**Massena**	72.45	37	P	P	21 26 38.1	+0.7
SIM	**Simferopol'**	72.49	323c	eP	P	21 26 36.6	-1.1
SIM				e*PP	pP	21 26 51.0	-2.3
SIM				eS	S	21 35 59.0	+2.7
JCT	**Junction City**	72.54	63	eP	P	21 26 38.5	+0.3
JCT				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
JCT	**Junction City**	72.54	63	eP	P	21 26 37.7	-0.4
	comp=Z,46nm,1.3s,mb5.2						
KIS	**Kishinev**	72.60	327	eP	P	21 26 36.0	-2.2
KIS				e		21 29 23.0	
KIS				e		21 31 04.0	
KIS				pmax	pmax		
	comp=Z,300nm,1.0s,mb6.2						
KIS				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.7						
KIS				MLR	MLR		
	comp=N,3µm,17.0s,MS5.7						
KIS				MLR	MLR		
	comp=E,2µm,17.0s,MS5.7						
KSP	**Ksiaz**	72.76	337⇑	eP	P	21 26 39.1	0.0
KSP				e*PP	pP	21 26 50.5	-4.2
KSP				eS	S	21 35 59.0	-0.2
KSP				MLR	MLR		
	comp=Z,6µm,24.9s,MS5.8						
KSP	**Ksiaz**	72.76	337⇑	eP	P	21 26 39.1	0.0
KSP				ePP	pP	21 26 50.5	-4.2
KSP				ePP	PP	21 29 15.0	-8.5
KSP				eS	S	21 35 59.0	-0.2
KSP				eSS	SS	21 40 54.0	+12
KSP				LR	LR		
	comp=Z,6µm,24.9s,MS5.8						
USIN	**University of**	72.85	50	eP	P	21 26 39.6	-0.3
	comp=Z,61nm,0.7s,mb5.6						
ERPA	**Erie**	72.86	42	P	P	21 26 37.8	-2.0
CTA	**Charters Tower**	72.90	193	eP	P	21 26 40.8	+0.3
	comp=Z,16nm,1.1s,mb4.9						
CTAO	**Charters Tower**	72.90	193	eP	P	21 26 40.2	-0.3
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CTAO	**Charters Tower**	72.90	193	eP	P	21 26 40.2	-0.3
	comp=Z,12nm,0.9s,mb4.8						
WIT	**Witteveen**	72.94	343⇓	eP	P	21 26 41.9	+1.8
	comp=Z,206nm,1.3s,mb5.9						
RAC	**Raciborz**	72.99	335	eP	P	21 26 39.6	-0.8
RAC				eS	S	21 35 59.0	-2.7
RAC				MLR	MLR		
	comp=N,6µm,20.2s						
RAC				MLR	MLR		
	comp=Z,6µm,20.0s,MS5.9						
CLL	**Collm**	73.10	339	⇑P	P	21 26 40.7	-0.3
	comp=Z,logA/T=1.8,mb5.5						
CLL				e		21 26 48.0	
CLL				i *SP	sP	21 26 56.6	-6.0
CLL				ePP	PP	21 29 22.0	-4.4
CLL				eS	S	21 36 05.0	+2.0
CLL				e*SS		21 36 26.0	
CLL				ePS	PS	21 36 54.0	+11
CLL	**Collm**	73.10	339⇑	iP	P	21 26 40.7	-0.3
CLL				e		21 26 48.0	
CLL				i	pP	21 26 56.6	-0.1
CLL				eS	S	21 36 05.0	+2.0
CLL				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.5						
CLL	**Collm**	73.10	339⇑	iP	P	21 26 40.7	-0.3
	comp=Z,92nm,1.3s,mb5.5						
CLL				e		21 26 48.0	
CLL				i	pP	21 26 56.6	-0.1
CLL				eS	S	21 36 05.0	+2.0
CUD	**Cuddapah**	73.11	272⇑	eP	P	21 26 42.0	+0.2
CUD				esP	sP	21 27 05.0	+1.6
CUD				e		21 27 29.2	
CUD				e		21 33 49.9	
CUD				eS	S	21 36 24.3	+21
CUD				e		21 41 58.6	
CUD				e		21 51 05.1	
CLZ	**Clausthal**	73.16	341	eP	P	21 26 42.1	+0.7
	comp=Z,121nm,1.3s,mb5.7						
CRVS	**Cervenica-Dubn**	73.18	333	eP	P	21 26 41.4	-0.1
CRVS				e		21 26 46.1	
ALLY	**Alegheny Colle**	73.18	43	eP	P	21 26 39.6	-2.1
DPC	**Dobruska-Polom**	73.21	336	eP	P	21 26 42.1	+0.4
DPC				eAP	pP	21 27 01.2	+3.9
DPC				ePP	PP	21 29 25.7	-1.6
DPC				eS	S	21 36 07.8	+3.5
DPC				e		21 42 07.0	
DPC				LM		22 02 50.0	
	comp=Z,2.9nm,17.4s						
DPC	**Dobruska-Polom**	73.21	336	eP	P	21 26 42.1	+0.4
DPC				e*PP	pP	21 27 01.2	+3.9
DPC				e		21 29 25.7	
DPC				eS	S	21 36 07.8	+3.5
DPC				MLR	MLR		
	comp=Z,3µm,17.4s,MS5.6						
OKC	**Ostrava-Krasne**	73.22	335	eP	P	21 26 41.9	+0.1
OKC				eAP	pP	21 26 57.3	-0.1
OKC				eS	S	21 36 07.0	+2.6
OKC				e		21 42 01.2	
OKC				LM		22 02 20.0	
	comp=Z,5.2nm,19.1s						
OKC	**Ostrava-Krasne**	73.22	335	eP	P	21 26 41.9	+0.1
OKC				e*PP	pP	21 26 57.3	-0.1
OKC				eS	S	21 36 07.0	+2.6
OKC				MLR	MLR		
	comp=Z,5µm,19.1s,MS5.8						
BRG	**Berggiesshubel**	73.29	338⇑	iP	P	21 26 42.0	-0.2
BRG						21 29 27.0	
BRG				S	S	21 36 09.0	+3.9
BRG				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.2						
BRG				MLR	MLR		
	comp=Z,3µm,16.6s,MS5.6						
BRG				MLR	MLR		
	comp=N,3µm,18.8s,MS5.7						
BRG				MLR	MLR		
	comp=E,3µm,18.8s,MS5.7						
BRG	**Berggiesshubel**	73.29	338⇑	iP	P	21 26 42.0	-0.2
	comp=E,43nm,1.3s,mb5.2						
BRG				PP	PP	21 29 27.0	-1.0
BRG				S	S	21 36 09.0	+3.9
BRG				SS	SS	21 41 49.0	+59
BRG				LR	LR		
	comp=Z,3µm,16.6s,MS5.6						
MORC	**Moravsky Berou**	73.44	335	eP	P	21 26 42.6	-0.4
	comp=Z,64nm,1.1s,mb5.5						
PVCC	**Panska Ves**	73.47	338	eP	P	21 26 43.2	0.0
PVCC				eAP	pP	21 26 59.9	+1.1
PVCC				ePP	PP	21 29 27.6	-1.8
PVCC				eS	S	21 36 11.5	+4.4
PVCC				e		21 42 16.9	
PVCC				LM		22 01 10.0	
	comp=Z,3.2nm,22.7s						
PVCC	**Panska Ves**	73.47	338	eP	P	21 26 43.2	0.0
PVCC				e*PP	pP	21 26 59.9	+1.1
PVCC				e		21 29 27.6	
PVCC				eS	S	21 36 11.5	+4.4
PVCC				MLR	MLR		
	comp=Z,3µm,22.7s,MS5.5						
NCB	**Newcomb**	73.57	37	eP	P	21 26 42.9	-1.0
	comp=Z,16nm,1.2s,mb4.8						
DMUB	**Kingscourt**	73.69	352	eP	P	21 26 46.5	+2.1
LIKS	**Likavka**	73.69	334	eP	P	21 26 46.0	+1.5
WTSB	**Winterswijk**	73.73	343⇑	eP	P	21 26 44.9	+0.2
	comp=Z,28nm,1.7s,mb4.9						
ERZM	**Erzurum**	73.78	315	i P	P	21 26 45.3	+0.1
EZM	**Erzurum**	73.78	315	P	P	21 26 47.3	+2.0
KECS	**Kecovo**	73.83	333	eP	P	21 26 45.4	0.0
PRU	**Pruhonice**	73.98	337	eP	P	21 26 46.6	+0.4
PRU				e		21 26 53.3	
TVAN	**Van**	74.01	313	i P	P	21 26 47.5	+0.9
MOX	**Moxa**	74.03	339⇑	iP	P	21 26 46.9	+0.4
	comp=Z,logA/T=1.5,mb5.2						
MOX				PP	PP	21 29 34.0	+0.2
MOX				PS	x	21 36 22.0	
MOX				SSS	tx	21 42 13.0	
MOX				LQ		21 46 00.0	
MOX				L		22 05 38.0	
MOX	**Moxa**	74.03	339c	eP	P	21 26 46.9	+0.4
MOX				e		21 29 34.0	
MOX				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.2						
MOX	**Moxa**	74.03	339⇑	eP	P	21 26 46.9	+0.4
	comp=Z,48nm,1.6s,mb5.2						
MOX				e		21 29 34.0	
MOX				LR	LR		
	comp=Z,2µm,18.0s,MS5.5						
GUMT	**Gumushane**	74.13	317	i P	P	21 26 47.6	+0.3
DCN	**Croghan**	74.27	352	eP	P	21 26 48.8	+1.0
VYHS	**Vyhne**	74.27	334	eP	P	21 26 48.3	+0.4
VYHS				epP	pP	21 26 59.5	-4.1
ACCN	**Adirondack Com**	74.28	37	eP	P	21 26 47.9	-0.2
NATX	**Nacogdoches**	74.30	58	eP	P	21 26 48.9	+0.5
PSZ	**Piszkesteto**	74.51	333⇑	iP	P	21 26 50.0	+0.7
PSZ	**Piszkesteto**	74.51	333	eP	P	21 26 49.4	+0.1
PSZ				pmax	pmax		
	comp=Z,67nm,1.3s,mb5.4						
PSZ	**Piszkesteto**	74.51	333	eP	P	21 26 49.4	+0.1
	comp=Z,72nm,1.3s,mb5.4						
SMOL	**Smolenice**	74.63	335	eP	P	21 26 50.7	+0.7
SMOL				e		21 26 59.2	
OXF	**Oxford**	74.79	53	eP	P	21 26 50.7	-0.5
OXF				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.6						
OXF	**Oxford**	74.79	53	eP	P	21 26 50.7	-0.5
	comp=Z,72nm,1.1s,mb5.5						
MLR	**Muntele Rosu**	74.87	328	P	P	21 26 51.4	0.0
	comp=Z,42nm,0.7s,mb5.5,baz=343,slow=6.0,SNR=78						
MLR	**Muntele Rosu**	74.87	328	P	P	21 26 51.4	0.0
MLR				pmax	pmax		
	comp=Z,42nm,0.7s						
MLR	**Muntele Rosu**	74.87	328	P	P	21 26 51.4	0.0
SSPA	**Standing Stone**	74.96	42	eP	P	21 26 51.1	-1.0
	comp=Z,14nm,1.1s,mb4.8						
SSPA				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
ZST	**Bratislava**	75.00	335	eP	P	21 26 52.8	+0.7
ZST				e	pP	21 27 07.3	-0.5
ZST				e		21 27 23.3	
KHC	**Kasperske Hory**	75.00	338	eP	P	21 26 52.6	+0.5
KHC						21 26 59.5	
KHC				eAP	pP	21 27 08.4	+0.6
KHC				ePP	PP	21 29 46.3	+3.6
KHC				eS	S	21 36 29.2	+4.9
KHC				e		21 42 53.0	
KHC				LM		22 04 50.0	
	comp=Z,3.2nm,16.9s						
KHC	**Kasperske Hory**	75.00	338	eP	P	21 26 52.6	+0.5
KHC				e		21 26 59.5	
KHC				e*PP	pP	21 27 08.4	+0.6
KHC				e		21 29 46.3	
KHC				eS	S	21 36 29.2	+4.9
KHC				MLR	MLR		
	comp=Z,3µm,16.9s,MS5.7						
KHC	**Kasperske Hory**	75.00	338	eP	P	21 26 52.6	+0.5
KHC				e		21 26 59.5	
KHC				epP	pP	21 27 08.4	+0.6
KHC				eS	S	21 36 29.2	+4.9
KHC				e		21 42 53.0	
KHC				LR	LR		
	comp=Z,3µm,16.9s,MS5.7						
GRA1	**Grafenberg Arr**	75.01	339	i P	P	21 26 53.0	+0.9
	comp=Z,67nm,1.1s,mb5.5						
GRA1				eS	S	21 36 22.7	-1.6
GRA1				LR	LR		
	comp=Z,2µm,19.2s,MS5.5						
GRF	**Grafenberg Arr**	75.01	339	i P	P	21 26 53.0	+0.9
GRF				eS	S	21 36 22.7	-1.6
GRF				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.5						
GRF				MLR	MLR		

	comp=Z,2µm,19.2s,MS5.5						
HGN	**Heimansgroeve**	**75.04**	**343**	*e*P	**P**	**21 26 52.4**	**+0.1**
	comp=Z,29nm,1.2s,mb5.1						
HGN				*e*PP	PP	21 29 45.7	+2.9
HGN				*e*S	S	21 36 32.3	+7.7
HGN				*e*SS	SS	21 41 18.5	+2.1
SRO	**Srobarova**	**75.04**	**334**	*e*P	**P**	**21 26 53.3**	**+1.0**
SRO				*e*		21 26 59.4	
PLAL	**Pickwick Lake**	**75.06**	**52**	*e*P	**P**	**21 26 50.6**	**-2.1**
	comp=Z,25nm,1.1s,mb5.1						
BZK	**Bozkurt**	**75.08**	**321**	*e*P	**P**	**21 26 52.9**	**+0.2**
HKT	**Hockley**	**75.10**	**60**	*e*P	**P**	**21 26 52.6**	**-0.5**
HKT				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
HKT	**Hockley**	**75.10**	**60**	*e*P	**P**	**21 26 52.6**	**-0.5**
	comp=Z,14nm,1.3s,mb4.7						
WRAB	**Tennant Creek**	**75.12**	**205**	*e*P	**P**	**21 26 53.1**	**-0.3**
	comp=Z,40nm,1.0s,mb5.3						
WRAB				*e*	pP	21 27 06.7	-2.4
WB2	**Warramunga Arr**	**75.13**	**205**	⇑*i*P	**P**	**21 26 53.7**	**+0.3**
WRA	**Warramunga Arr**	**75.13**	**205**	P	**P**	**21 26 53.8**	**+0.4**
	comp=Z,26nm,0.9s,mb5.1,baz=17,slow=6.1,SNR=98						
WRA				LR	LR	21 57 16.6	
	comp=Z,422nm,22.0s,MS4.7,baz=60,slow=34						
WRA	**Warramunga Arr**	**75.13**	**205**	P	**P**	**21 26 53.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,26nm,1.0s						
WRA				MLR	MLR		
	comp=Z,422nm,22.0s						
BTMT	**Batman**	**75.14**	**314**	*e*P	**P**	**21 26 54.0**	**+0.9**
WET	**Wettzell**	**75.16**	**338**	*e*P	**P**	**21 26 53.7**	**+0.7**
WET				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.4						
WET	**Wettzell**	**75.16**	**338**	*e*P	**P**	**21 26 53.7**	**+0.7**
	comp=Z,62nm,1.3s,mb5.4						
BOYT	**Boyabat**	**75.19**	**320**	*i* P	**P**	**21 26 50.6**	**-2.8**
BYBT	**Boyabat**	**75.20**	**320**	*e*P	**P**	**21 26 54.0**	**+0.6**
GEC2	**GERESS Array S**	**75.24**	**337**	*e*P	**P**	**21 26 53.8**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
GEC2	**GERESS Array S**	**75.24**	**337**	*e*P	**P**	**21 26 53.8**	**+0.3**
	comp=Z,32nm,1.2s,mb5.1						
GERES	**GERESS Array B**	**75.24**	**337**	P	**P**	**21 26 53.4**	**-0.1**
	comp=Z,5.2nm,0.6s,mb4.7,baz=45,slow=3.8,SNR=70						
GERES	**GERESS Array B**	**75.24**	**337**	P	**P**	**21 26 53.4**	**-0.1**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ABH	**Alteburg**	**75.58**	**342**	*e*P	**P**	**21 26 55.5**	**+0.1**
ABH	**Alteburg**	**75.58**	**342**	*e*P	**P**	**21 26 55.4**	**0.0**
TOD	**Tromm**	**75.60**	**341**	*e*P	**P**	**21 26 55.9**	**+0.4**
TOD	**Tromm**	**75.60**	**341**	*e*P	**P**	**21 26 55.7**	**+0.2**
SVSK	**Karacayir**	**75.62**	**318**	*e*P	**P**	**21 26 54.0**	**-1.8**
SIND	**Sindeldorf**	**75.68**	**340**	*e*P	**P**	**21 26 56.0**	**0.0**
BALT	**Daday**	**75.68**	**321**	*i* P	**P**	**21 26 56.3**	**+0.1**
PSN	**Preselentsi**	**75.72**	**326**	*i* P	**P**	**21 26 57.0**	**+0.7**
SWS	**Schriesheim**	**75.73**	**341**	*e*P	**P**	**21 26 56.5**	**+0.2**
SVST	**Sivas**	**75.76**	**318**	*i* P	**P**	**21 26 57.6**	**+0.9**
RUP	**Ruppelstein**	**75.85**	**342**	*e*P	**P**	**21 26 57.2**	**+0.3**
RUP	**Ruppelstein**	**75.85**	**342**	*e*P	**P**	**21 26 57.1**	**+0.2**
TOS	**Tosya**	**75.86**	**321**	*e*P	**P**	**21 26 58.4**	**+1.2**
GIVF	**Givet**	**75.87**	**344**	*e*P	**P**	**21 26 56.7**	**-0.3**
SWET	**Sewanee**	**75.89**	**50**	P	**P**	**21 26 57.2**	**-0.3**
CTKT	**Corum**	**75.91**	**320**	*i* P	**P**	**21 26 58.2**	**+0.7**
ELZG	**Elazig**	**75.98**	**316**	*i* P	**P**	**21 26 59.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**75.98**	**213**	⇑*i*P	**P**	**21 26 59.4**	**+1.1**
	comp=Z,25nm,0.9s,mb5.2						
FITZ				*i*	pP	21 27 16.2	+2.2
KTD	**Kalmit**	**76.01**	**341**	*e*P	**P**	**21 26 58.2**	**+0.3**
KTD	**Kalmit**	**76.01**	**341**	*e*P	**P**	**21 26 58.7**	**+0.8**
BAIF	**Baives**	**76.02**	**344**	*e*P	**P**	**21 26 57.7**	**-0.2**
	comp=Z,58nm,1.1s,mb5.1						
MOA	**Molln**	**76.04**	**337**	⇑*i*P	**P**	**21 26 58.5**	**+0.4**
	comp=Z,167nm,2.5s,mb5.5						
WLF	**Walferdange**	**76.05**	**343**	*e*P	**P**	**21 26 58.5**	**+0.4**
WLF				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
WLF	**Walferdange**	**76.05**	**343**	*e*P	**P**	**21 26 58.5**	**+0.4**
	comp=Z,144nm,2.0s,mb5.6						
SAFT	**Safranbolu**	**76.20**	**322**	*i* P	**P**	**21 27 00.1**	**+1.0**
PAL	**Palisades**	**76.23**	**39**	*e*P	**P**	**21 26 58.1**	**-1.2**
PAL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
PAL	**Palisades**	**76.23**	**39**	*e*P	**P**	**21 26 58.1**	**-1.2**
	comp=Z,5.8nm,0.8s,mb4.6						
HDH	**Heidenheim**	**76.28**	**340**	*e*P	**P**	**21 26 59.5**	**+0.1**
ARSA	**Arzberg**	**76.28**	**336**	⇑*i*P	**P**	**21 27 00.2**	**+0.7**
	comp=Z,193nm,2.4s,mb5.6						
MYA	**Malataya**	**76.36**	**316**	*e*P	**P**	**21 27 01.5**	**+1.4**
MALT	**Malatya**	**76.37**	**316**	*e*P	**P**	**21 27 01.3**	**+1.2**
MALT	**Malatya**	**76.37**	**316**	*e*P	**P**	**21 27 00.4**	**+0.2**
	comp=Z,93nm,1.1s,mb5.6						
CANT	**Cankiri**	**76.39**	**321**	*e*P	**P**	**21 27 01.1**	**+0.9**
LANF	**Langenberg**	**76.39**	**341**	*e*P	**P**	**21 26 58.9**	**-1.1**
PRD	**Provadia**	**76.41**	**326**	*i* P	**P**	**21 27 00.5**	**+0.2**
FUR	**Furstenfeldbru**	**76.44**	**339**	*e*P	**P**	**21 27 00.9**	**+0.6**
FUR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
FUR	**Furstenfeldbru**	**76.44**	**339**	*e*P	**P**	**21 27 00.9**	**+0.6**
	comp=Z,40nm,1.0s,mb5.3						
LBG	**Lerchenberg**	**76.49**	**341**	*e*P	**P**	**21 27 00.8**	**+0.2**
ELDT	**Eldivan**	**76.56**	**321**	*i* P	**P**	**21 27 01.9**	**+0.7**
BUCH	**Bad Urach**	**76.58**	**340**	*e*P	**P**	**21 27 01.6**	**+0.5**
STR	**Strasbourg**	**76.78**	**341**	*e*P	**P**	**21 27 02.9**	**+0.7**
SZH	**Strazhica**	**76.85**	**327**	*i* P	**P**	**21 27 03.0**	**+0.3**
BFO	**Black Forest**	**76.91**	**341**	*e*P	**P**	**21 27 03.3**	**+0.3**
BFO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
BFO	**Black Forest**	**76.91**	**341**	*e*P	**P**	**21 27 03.3**	**+0.3**
	comp=Z,21nm,1.1s,mb5.0						
PERS	**Pernice**	**76.96**	**336**	⇑*e*P	**P**	**21 27 03.7**	**+0.4**
KBA	**Koelnbreinsper**	**76.98**	**337**	⇑*i*P	**P**	**21 27 04.7**	**+1.3**
	comp=Z,260nm,2.0s,mb5.8						
GUT	**Gutenstein**	**76.99**	**340**	*e*P	**P**	**21 27 03.5**	**0.0**
SGKT	**Sivrigoynuk**	**77.02**	**322**	*i* P	**P**	**21 27 04.0**	**+0.2**
GROS	**Grobnik**	**77.02**	**335**	*e*P	**P**	**21 27 03.9**	**+0.3**
WLS	**Welschbruch**	**77.02**	**341**	*e*P	**P**	**21 27 03.6**	**0.0**
SPAK	**Spaichingen**	**77.03**	**340**	*e*P	**P**	**21 27 04.0**	**+0.3**
SPAK	**Spaichingen**	**77.03**	**340**	*e*P	**P**	**21 27 03.9**	**+0.2**
CDF	**Champ du Feu**	**77.04**	**341**	*e*P	**P**	**21 27 03.7**	**0.0**
	comp=Z,106nm,1.2s,mb5.3						
BRTR	**Keskin Array B**	**77.14**	**320**	P	**P**	**21 27 04.3**	**-0.1**
	comp=Z,43nm,1.1s,mb5.3,baz=63,slow=2.8,SNR=106						
BRTR				LR	LR	22 07 16.6	
	comp=Z,1µm,21.4s,MS5.3,baz=210,slow=41						
BRTR	**Keskin Array B**	**77.14**	**320**	P	**P**	**21 27 04.4**	**0.0**
BRTR				pmax	pmax		
	comp=Z,43nm,1.1s						
BRTR				MLR	MLR		
	comp=Z,1µm,21.4s						
UBR	**Uberruh**	**77.15**	**339**	*e*P	**P**	**21 27 04.8**	**+0.5**
WATA	**Walderalm**	**77.15**	**338**	⇓*i*P	**P**	**21 27 05.1**	**+0.7**
	comp=Z,54nm,1.4s,mb5.3						
WTTA	**Wattenberg**	**77.21**	**338**	⇑*i*P	**P**	**21 27 05.7**	**+1.0**
	comp=Z,260nm,2.1s,mb5.8						
OBKA	**Obir**	**77.22**	**336**	⇑*i*P	**P**	**21 27 05.4**	**+0.7**
	comp=Z,167nm,1.8s,mb5.7						
LIBD	**Limburg**	**77.23**	**341**	*e*P	**P**	**21 27 05.1**	**+0.4**
LIBD	**Limburg**	**77.23**	**341**	*e*P	**P**	**21 27 04.8**	**+0.1**
HENT	**Hendek**	**77.24**	**323**	*i* P	**P**	**21 27 04.5**	**-0.5**
MOTA	**Moosalm**	**77.25**	**339**	⇑*i*P	**P**	**21 27 05.5**	**+0.6**
	comp=Z,37nm,1.2s,mb5.2						
DOBS	**Dobrina**	**77.32**	**335**	*e*P	**P**	**21 27 05.2**	**-0.1**
LOD	**Lodumlu**	**77.34**	**321**	*e*P	**P**	**21 27 06.4**	**+0.9**
ANTO	**Ankara**	**77.34**	**321**	*e*P	**P**	**21 27 05.9**	**+0.3**
SQTA	**Sankt Quirin**	**77.34**	**339**	⇓*i*P	**P**	**21 27 06.3**	**+0.9**
	comp=Z,58nm,1.4s,mb5.3						
KIZ	**Kirchzarten**	**77.35**	**341**	*e*P	**P**	**21 27 05.4**	**0.0**
MEZF	**Maizieres J'vi**	**77.37**	**343**	*e*P	**P**	**21 27 05.7**	**+0.2**
	comp=Z,115nm,1.3s,mb5.4						
FELD	**Feldberg**	**77.41**	**341**	⇑*e*P	**P**	**21 27 05.8**	**0.0**
KAMT	**Kaman**	**77.41**	**320**	*i* P	**P**	**21 27 06.4**	**+0.4**
SVIS	**Svilajnac**	**77.42**	**331**	⇑*i*P	**P**	**21 27 05.3**	**-0.6**
MDU	**Mudurnu**	**77.43**	**322**	*i* P	**P**	**21 27 06.7**	**+0.6**
AVNT	**Avonos**	**77.46**	**319**	*i* P	**P**	**21 27 06.0**	**-0.2**
THEF	**They Montfort**	**77.46**	**342**	*e*P	**P**	**21 27 06.4**	**+0.3**
GZT	**Gaziantep**	**77.54**	**316**	*i* P	**P**	**21 27 07.6**	**+0.9**
DAVA	**Damuels**	**77.58**	**339**	⇑*i*P	**P**	**21 27 07.1**	**+0.4**
	comp=Z,154nm,2.7s,mb5.5						
MOF	**Molkenrain**	**77.60**	**341**	*e*P	**P**	**21 27 06.7**	**-0.1**
HAU	**Haudompre**	**77.61**	**342**	*e*P	**P**	**21 27 06.8**	**-0.1**
	comp=Z,87nm,1.3s,mb5.2						
HAU				*e*R			
	comp=Z,2µm,21.2s						
BOLS	**Boljevac**	**77.62**	**330**	⇓*i*P	**P**	**21 27 05.9**	**-1.1**
LJU	**Ljubljana**	**77.66**	**336**	⇑*e*P	**P**	**21 27 06.8**	**-0.4**
HINF	**Hinteralfeld**	**77.69**	**342**	*e*P	**P**	**21 27 07.0**	**-0.3**
HRT	**Hereke**	**77.70**	**323**	*i* P	**P**	**21 27 08.1**	**+0.6**
ISK	**Istanbul-Kandi**	**77.70**	**324**	*e*P	**P**	**21 27 07.2**	**-0.3**
ROBS	**Robic**	**77.72**	**337**	⇑*e*P	**P**	**21 27 06.7**	**-0.9**
VOY	**Vojsko**	**77.83**	**336**	*e*P	**P**	**21 27 07.4**	**-0.7**
EDRB	**Edirne**	**77.83**	**326**	*e*P	**P**	**21 27 07.7**	**-0.5**
GAZ	**Gaziantep**	**77.85**	**316**	*e*P	**P**	**21 27 09.4**	**+1.0**
CTT	**Catalca**	**77.86**	**324**	*e*P	**P**	**21 27 08.5**	**+0.1**
GPA	**Golpazari**	**77.92**	**323**	*e*P	**P**	**21 27 08.2**	**-0.6**
DIVS	**Divcibare**	**77.97**	**331**	⇓*i*P	**P**	**21 27 08.6**	**-0.3**
CEY	**Cerknica**	**77.97**	**336**	⇑*e*P	**P**	**21 27 08.6**	**-0.3**
CEY	**Cerknica**	**77.97**	**336**	*e*P	**P**	**21 27 08.7**	**-0.2**
BOJS	**Bojanci**	**77.98**	**335**	⇑*e*P	**P**	**21 27 08.7**	**-0.2**
FLN	**La Foliniere**	**78.01**	**347**	*e*P	**P**	**21 27 08.6**	**-0.4**
FLN				*e*R			
	comp=Z,2µm,18.2s						
YLV	**Yalova**	**78.03**	**324**	*e*P	**P**	**21 27 08.5**	**-0.8**
DIM	**Dimitrovgrad**	**78.07**	**327**	*i* P	**P**	**21 27 10.5**	**+1.0**
PGB	**Panagyurishte**	**78.07**	**328**	*i* P	**P**	**21 27 10.5**	**+1.0**
LDF	**La Druitiere**	**78.12**	**346**	*e*P	**P**	**21 27 09.3**	**-0.4**
	comp=Z,45nm,1.1s,mb5.0						
NIG	**Nigde**	**78.13**	**319**	*i* P	**P**	**21 27 11.2**	**+1.3**
LOMF	**Lomont**	**78.14**	**341**	*e*P	**P**	**21 27 10.4**	**+0.6**
PLD	**Plovdiv**	**78.29**	**327**	*i* P	**P**	**21 27 11.5**	**+0.8**
VTS	**Vitosha**	**78.34**	**329**	*i* P	**P**	**21 27 11.0**	**0.0**
ESKT	**Eskisehir**	**78.39**	**322**	*i* P	**P**	**21 27 11.8**	**+0.5**
ESKT	**Eskisehir**	**78.39**	**322**	*i* P	**P**	**21 27 11.1**	**-0.3**
GRR	**Gorron**	**78.43**	**347**	*e*P	**P**	**21 27 11.0**	**-0.3**
	comp=Z,91nm,1.2s,mb5.3						
KDZ	**Kurdzhali**	**78.46**	**327**	*i* P	**P**	**21 27 13.0**	**+1.3**
ULDT	**Uludag**	**78.49**	**323**	*i* P	**P**	**21 27 12.0**	**+0.2**
KIZT	**Kizilcal**	**78.55**	**321**	*i* P	**P**	**21 27 12.7**	**+0.5**
NVSS	**Nova Varos 2**	**78.59**	**331**	⇓*i*P	**P**	**21 27 13.6**	**+1.3**
CEYT	**Ceyhan**	**78.60**	**317**	*e*P	**P**	**21 27 14.0**	**+1.5**
RZN	**Rozhen**	**78.66**	**327**	*i* P	**P**	**21 27 13.0**	**+0.2**
SART	**Tekirdag**	**78.71**	**325**	*i* P	**P**	**21 27 13.4**	**+0.4**
LOR	**Lormes**	**78.77**	**343**	*e*P	**P**	**21 27 13.2**	**-0.1**
	comp=Z,138nm,1.3s,mb5.4						
LOR				*e*R			
	comp=Z,3µm,21.2s						
SGMF	**Saint Gilles**	**78.79**	**348**	*e*P	**P**	**21 27 13.1**	**-0.2**
	comp=Z,52nm,0.9s,mb5.2						
ROSF	**Rostrenen**	**78.80**	**348**	*e*P	**P**	**21 27 13.5**	**+0.1**
	comp=Z,118nm,1.2s,mb5.4						
COBT	**Iskenderun**	**78.81**	**317**	*i* P	**P**	**21 27 14.7**	**+1.0**
ASAR	**Alice Springs**	**78.81**	**204**	P	**P**	**21 27 15.2**	**+1.2**
	comp=Z,15nm,0.9s,mb4.9,baz=15,slow=5.0,SNR=90						
ASAR				LR	LR	21 58 59.0	
	comp=Z,593nm,21.3s,MS4.9,baz=12,slow=33						
ASPA	**Alice Springs**	**78.81**	**204**	*e*P	**P**	**21 27 15.0**	**+1.0**
PLE	**Pljevlja**	**78.84**	**332**	⇑*i*P	**P**	**21 27 14.0**	**+0.2**
ALN	**Alexandroupoli**	**78.92**	**326**	*e*P	**P**	**21 27 13.4**	**-0.8**
NVLJ	**Novalja**	**78.95**	**335**	*i* P	**P**	**21 27 13.5**	**-0.8**
HYF	**Humbligny**	**78.98**	**344**	*e*P	**P**	**21 27 14.8**	**+0.4**
CABF	**La Chapelle**	**79.00**	**342**	*e*P	**P**	**21 27 14.8**	**+0.3**
	comp=Z,91nm,1.2s,mb5.3						
SSF	**Saint Saulge**	**79.03**	**344**	*e*P	**P**	**21 27 14.7**	**0.0**
	comp=Z,20nm,0.7s,mb4.9						
KKB	**Krupnik**	**79.04**	**328**	*i* P	**P**	**21 27 16.0**	**+1.2**
ALT	**Altintas**	**79.08**	**322**	*e*P	**P**	**21 27 15.5**	**+0.4**
MMB	**Musomiste**	**79.08**	**328**	*i* P	**P**	**21 27 15.5**	**+0.4**
MMB	**Musomiste**	**79.08**	**328**	⇓*i*P	**P**	**21 27 15.5**	**+0.4**
UPM	**Unac-Piva**	**79.10**	**332**	*e*P	**P**	**21 27 14.7**	**-0.5**
IVA	**Berane**	**79.11**	**331**	⇑*i*P	**P**	**21 27 14.9**	**-0.3**
QUIF	**Quistinic**	**79.20**	**348**	*e*P	**P**	**21 27 15.3**	**-0.3**
	comp=Z,90nm,1.4s,mb5.2						
AVF	**Avril sur Loir**	**79.32**	**344**	*e*P	**P**	**21 27 16.4**	**+0.1**
	comp=Z,144nm,1.2s,mb5.5						
PVY	**Plav**	**79.34**	**331**	⇑*i*P	**P**	**21 27 16.1**	**-0.4**
SMF	**Signal de Mont**	**79.38**	**343**	*e*P	**P**	**21 27 16.7**	**+0.1**
	comp=Z,113nm,1.1s,mb5.4						
NKY	**Niksic**	**79.43**	**332**	⇑*i*P	**P**	**21 27 15.6**	**-1.4**
SKO	**Skopje**	**79.46**	**330**	*i* P	**P**	**21 27 17.2**	**0.0**
BRY	**Bratogost**	**79.48**	**332**	⇑*i*P	**P**	**21 27 16.2**	**-1.0**
SRS	**Serrai**	**79.55**	**328**	*e*P	**P**	**21 27 16.9**	**-0.7**
BGF	**Bois d'Agland**	**79.64**	**344**	*e*P	**P**	**21 27 17.9**	**-0.1**
TTG	**Podgorica**	**79.71**	**331**	⇑*i*P	**P**	**21 27 16.5**	**-2.0**
TRAV		**79.72**	**340**	P	**P**	**21 27 18.8**	**+0.4**
KNT	**Kendrikon**	**79.73**	**328**	*e*P	**P**	**21 27 19.0**	**+0.4**
STON	**Ston**	**79.75**	**333**	*i* Pg	**P**	**21 27 17.1**	**-1.6**
LSD	**Ceresole Reale**	**79.89**	**341**	P	**P**	**21 27 20.6**	**+1.3**
SOH	**Sokhos**	**79.89**	**328**	*e*P	**P**	**21 27 18.8**	**-0.7**
HCY	**Herceg Novi**	**79.91**	**332**	⇑*i*P	**P**	**21 27 18.6**	**-1.0**
LPL	**La Plagne**	**79.92**	**341**	*e*P	**P**	**21 27 20.7**	**+1.2**
	comp=Z,121nm,1.1s,mb5.4						
BUM	**Brajici-Budva**	**79.93**	**332**	⇑*i*P	**P**	**21 27 19.4**	**-0.2**
LPG	**La Plagne**	**79.94**	**341**	*e*P	**P**	**21 27 20.8**	**+1.2**
	comp=Z,200nm,1.2s,mb5.6						
ISP	**Isparta**	**79.98**	**321**	*e*P	**P**	**21 27 16.6**	**-3.4**
ISP	**Isparta**	**79.98**	**321**	⇑*i*P	**P**	**21 27 19.4**	**-0.6**
TCF	**Toulx Ste Croi**	**80.01**	**344**	*e*P	**P**	**21 27 20.1**	**+0.1**
	comp=Z,45nm,1.0s,mb5.1						
PLDF	**La Plantade**	**80.07**	**343**	*e*P	**P**	**21 27 21.5**	**+1.2**
MFF	**Saint Martin d**	**80.07**	**346**	*e*P	**P**	**21 27 19.6**	**-0.7**
	comp=Z,39nm,0.9s,mb5.0						
AGO	**Saint Agoulin**	**80.08**	**344**	*e*P	**P**	**21 27 21.7**	**+1.3**
GRG	**Griva**	**80.08**	**329**	*e*P	**P**	**21 27 21.0**	**+0.5**
AKS	**Akhisar**	**80.08**	**324**	*e*P	**P**	**21 27 20.0**	**-0.5**
OUR	**Ouranopolis**	**80.12**	**327**	*e*P	**P**	**21 27 20.5**	**-0.2**
ULC	**Ulcinj**	**80.14**	**331**	⇑*i*P	**P**	**21 27 19.6**	**-1.1**
MANT	**Manisa**	**80.15**	**323**	*i* P	**P**	**21 27 20.8**	**-0.1**
RSP	**Reno Superiore**	**80.16**	**341**	P	**P**	**21 27 22.0**	**+1.1**
GRAM		**80.19**	**338**	P	**P**	**21 27 21.4**	**+0.4**
VALM		**80.28**	**338**	P	**P**	**21 27 22.3**	**+0.8**
PRK	**Paraskevi**	**80.31**	**325**	*e*P	**P**	**21 27 22.0**	**+0.3**
FENE	**Fenestrelle**	**80.32**	**341**	P	**P**	**21 27 22.6**	**+0.9**
BNI	**Bardonecchia**	**80.38**	**341**	*e*P	**P**	**21 27 21.3**	**-0.6**
	comp=Z,29nm,1.2s,mb5.1						
GRN	**Grenoble**	**80.38**	**342**	*e*P	**P**	**21 27 24.0**	**+2.0**
BACM		**80.39**	**338**	P	**P**	**21 27 22.4**	**+0.4**
PYM	**Petit Puy Mans**	**80.39**	**344**	*e*P	**P**	**21 27 23.1**	**+1.1**
VLC	**Villacollemand**	**80.43**	**338**	*e*P	**P**	**21 27 21.9**	**-0.3**
	comp=Z,46nm,1.1s,mb5.3						
RRL	**Cesana Torines**	**80.48**	**341**	P	**P**	**21 27 24.4**	**+1.9**
COLF	**Collangettes**	**80.50**	**343**	*e*P	**P**	**21 27 23.6**	**+1.0**
VINC	**Vinca**	**80.50**	**338**	P	**P**	**21 27 22.1**	**-0.5**
GENL	**Genova Univers**	**80.51**	**339**	P	**P**	**21 27 21.4**	**-1.3**
FNA	**Florina**	**80.56**	**329**	*e*P	**P**	**21 27 22.2**	**-0.8**
PAIG	**Paliouri**	**80.59**	**327**	*e*P	**P**	**21 27 22.1**	**-1.2**
DENT	**Denizli**	**80.62**	**322**	*e*P	**P**	**21 27 24.0**	**+0.6**
MAIM		**80.64**	**338**	P	**P**	**21 27 22.0**	**-1.4**
ORIF	**Oris-en-Rattie**	**80.66**	**341**	*e*P	**P**	**21 27 24.6**	**+1.1**
	comp=Z,120nm,1.2s,mb5.4						
ORIF				*e*R			
	comp=Z,1µm,20.5s						
MBDF	**Montbardon**	**80.67**	**341**	*e*P	**P**	**21 27 24.0**	**+0.5**
	comp=Z,23nm,0.7s,mb4.9						
KDAG	**Bornova**	**80.70**	**324**	*i* P	**P**	**21 27 23.5**	**-0.3**
PZZ	**Prazzo**	**80.81**	**340**	P	**P**	**21 27 24.2**	**-0.1**
LIT	**Litokhoron**	**80.82**	**328**	*e*P	**P**	**21 27 23.8**	**-0.6**
LBL	**Lubilhac**	**80.85**	**343**	*e*P	**P**	**21 27 20.8**	**-3.7**
ROB	**Roburent**	**80.86**	**340**	P	**P**	**21 27 23.9**	**-0.6**
FIN	**Finale Ligure**	**80.86**	**340**	P	**P**	**21 27 23.3**	**-1.2**
SURF	**Saint Ours**	**80.90**	**341**	*e*P	**P**	**21 27 26.4**	**+1.7**
VIVF	**Saint-Julien-l**	**80.95**	**342**	*e*P	**P**	**21 27 25.7**	**+0.7**
	comp=Z,119nm,1.2s,mb5.4						
RORO		**80.99**	**340**	P	**P**	**21 27 22.1**	**-3.1**
ENR	**Entracque**	**81.02**	**340**	P	**P**	**21 27 23.5**	**-1.9**
STV2	**Anna di Valdie**	**81.02**	**340**	P	**P**	**21 27 22.6**	**-2.8**
STV	**Sta Anna Valdi**	**81.02**	**340**	P	**P**	**21 27 22.7**	**-2.6**
MONE	**Monesi**	**81.08**	**340**	P	**P**	**21 27 23.8**	**-1.9**
OCF	**Saint Nazaire**	**81.10**	**342**	*e*P	**P**	**21 27 27.3**	**+1.5**
OG26	**St.-Nazaire-De**	**81.10**	**342**	*e*P	**P**	**21 27 27.3**	**+1.5**
ELL	**Elmali**	**81.17**	**321**	P	**P**	**21 27 26.3**	**-0.1**
SAOF	**Saorge**	**81.22**	**340**	*e*P	**P**	**21 27 26.6**	**+0.2**
IMI	**Imperia**	**81.22**	**340**	P	**P**	**21 27 25.7**	**-0.7**
MAMC	**Mammari**	**81.23**	**318**	P	**P**	**21 27 26.1**	**-0.6**
AUTN	**L'Aution**	**81.23**	**340**	*e*P	**P**	**21 27 27.7**	**+1.2**
TOUF	**Mont Tournerai**	**81.25**	**340**	*e*P	**P**	**21 27 23.0**	**-3.6**
NEO	**Neokhori**	**81.30**	**327**	*e*P	**P**	**21 27 27.0**	**0.0**
NEGI	**Negi**	**81.32**	**340**	P	**P**	**21 27 23.3**	**-3.6**
CAF	**Calviac**	**81.35**	**344**	*e*P	**P**	**21 27 28.1**	**+1.0**
	comp=Z,71nm,1.0s,mb5.3						
SBF	**Sospel**	**81.36**	**340**	*e*P	**P**	**21 27 27.1**	**-0.1**
	comp=Z,100nm,1.0s,mb5.4						
CSS	**Prodhromos**	**81.36**	**318**	⇑P	**P**	**21 27 26.8**	**-0.6**
	comp=Z,1.2nm,1.2s						
MVIF	**Mont Vial**	**81.39**	**340**	*e*P	**P**	**21 27 28.1**	**+0.8**
AQU	**L'Aquila**	**81.40**	**335**	*e*P	**P**	**21 27 28.0**	**+0.6**
	comp=Z,41nm,0.9s,mb5.4						
ALFC	**Alevga**	**81.49**	**319**	⇑P	**P**	**21 27 27.1**	**-1.0**
	comp=Z,1.4nm,0.3s,mb4.3						
REVF	**Revere**	**81.49**	**340**	*e*P	**P**	**21 27 27.7**	**-0.2**
MEV	**Metsovon**	**81.52**	**329**	*e*P	**P**	**21 27 29.9**	**+1.8**
LFF	**La Frestale**	**81.56**	**345**	*e*P	**P**	**21 27 29.1**	**+0.9**
	comp=Z,154nm,1.3s,mb5.5						
CALN	**Calern**	**81.58**	**340**	*e*P	**P**	**21 27 27.5**	**-0.8**
SMRF	**Simiane la Rot**	**81.63**	**341**	*e*P	**P**	**21 27 28.5**	**-0.1**
	comp=Z,103nm,1.4s,mb5.3						
VILF	**Villemus**	**81.72**	**341**	*e*P	**P**	**21 27 25.5**	**-3.6**
SZAC	**Souni-Zanaja**	**81.72**	**318**	P	**P**	**21 27 29.3**	**0.0**
CII	**Carovilli**	**81.75**	**335**	*e*P	**P**	**21 27 29.3**	**+0.1**
	comp=Z,57nm,1.4s,mb5.3						
HASS	**Wahat al Ahsa'**	**81.75**	**301**	P	**P**	**21 27 29.4**	**-0.2**
JAN	**Janina**	**81.75**	**329**	*e*P	**P**	**21 27 30.0**	**+0.7**
HRI	**Mount Hermon**	**81.80**	**315**	P	**P**	**21 27 30.2**	**+0.5**
FRF	**La Foret Royal**	**81.81**	**341**	*e*P	**P**	**21 27 29.6**	**+0.1**
	comp=Z,56nm,1.2s,mb5.1						
LASF	**Ste Croix**	**81.86**	**343**	*e*P	**P**	**21 27 30.9**	**+1.1**
	comp=Z,62nm,1.2s,mb5.1						
TREF	**Trevaresse**	**82.01**	**341**	*e*P	**P**	**21 27 23.1**	**-7.4**
KSHT	**Keshet**	**82.01**	**315**	P	**P**	**21 27 31.3**	**+0.5**
KEK	**Kerkira**	**82.03**	**330**	*e*P	**P**	**21 27 30.5**	**-0.2**
LMR	**La Mourre**	**82.06**	**341**	*e*P	**P**	**21 27 30.7**	**-0.1**
	comp=Z,78nm,1.2s,mb5.2						
EVR	**Evrytania**	**82.12**	**328**	*e*P	**P**	**21 27 31.0**	**-0.2**
MPAR	**Parnis Oros**	**82.17**	**326**	*e*P	**P**	**21 27 31.0**	**-0.5**
HNTI	**Hanita**	**82.20**	**316**	P	**P**	**21 27 32.3**	**+0.5**
ASF	**Jabal al Asfar**	**82.22**	**314**	LR	LR	22 08 09.0	
	comp=Z,1µm,21.6s,MS5.3,baz=237,slow=39						
PPT	**Papeete**	**82.25**	**132**	*e*S	S	21 37 26.7	-15
	comp=Z,294nm,26.0s						
PPT				*e*SS	SS	21 42 48.8	-17
	comp=Z,406nm,25.0s						
PPT				*e*R		21 53 04.6	
	comp=Z,3µm,23.0s,baz=328						
PGF	**Pioggiola**	**82.27**	**339**	*e*P	**P**	**21 27 31.7**	**-0.2**
	comp=Z,65nm,1.2s,mb5.1						
MKIT	**Kithairon Oros**	**82.30**	**327**	*e*P	**P**	**21 27 31.5**	**-0.7**
ARG	**Arkhangelos**	**82.32**	**322**	*e*P	**P**	**21 27 32.0**	**-0.3**
APE	**Apeiranthos**	**82.51**	**325**	⇑*i*P	**P**	**21 27 31.5**	**-1.8**
HAF	**Haifa**	**82.52**	**316**	P	**P**	**21 27 33.7**	**+0.3**
MMLI	**Mount Malkishu**	**82.64**	**315**	P	**P**	**21 27 34.9**	**+0.9**
MMLI	**Mount Malkishu**	**82.64**	**315**	⇑P	**P**	**21 27 34.9**	**+0.9**
OFRI	**'Ofer**	**82.68**	**316**	P	**P**	**21 27 34.6**	**+0.4**
LKD	**Levkas**	**82.68**	**329**	*e*P	**P**	**21 27 33.8**	**-0.3**
QURS	**Qurayyt al Mil**	**82.70**	**313**	P	**P**	**21 27 35.9**	**+1.5**
HMDT	**Nahal Hemdat**	**82.76**	**315**	P	**P**	**21 27 35.4**	**+0.8**
HMDT	**Nahal Hemdat**	**82.76**	**315**	⇑P	**P**	**21 27 35.4**	**+0.8**
MTLF	**Montolieu**	**82.87**	**344**	*e*P	**P**	**21 27 35.8**	**+0.9**
	comp=Z,99nm,1.2s,mb5.4						
SLTI	**Sal'it**	**82.98**	**315**	P	**P**	**21 27 36.4**	**+0.7**
SLTI	**Sal'it**	**82.98**	**315**	⇑P	**P**	**21 27 36.4**	**+0.7**
OSPF	**L'Ospedale**	**83.07**	**338**	*e*P	**P**	**21 27 36.8**	**+0.8**
VLS	**Valsamata**	**83.19**	**329**	*e*P	**P**	**21 27 36.5**	**-0.2**
LRDF	**Laroque-de-Fa**	**83.20**	**343**	*e*P	**P**	**21 27 38.2**	**+1.6**
DRGI	**Dragot**	**83.38**	**315**	P	**P**	**21 27 38.4**	**+0.6**
DRGI	**Dragot**	**83.38**	**315**	⇑P	**P**	**21 27 38.4**	**+0.6**
MLS	**Moulis**	**83.43**	**344**	*e*P	**P**	**21 27 38.8**	**+1.0**
TIP	**Timpagrande**	**83.44**	**332**	*e*P	**P**	**21 27 38.0**	**+0.1**
EPF	**Esparros**	**83.48**	**345**	*e*P	**P**	**21 27 38.5**	**+0.4**
	comp=Z,121nm,1.3s,mb5.5						
FILF	**Fillols**	**83.56**	**343**	*e*P	**P**	**21 27 39.3**	**+0.9**
EALK	**Alkurruntz**	**83.58**	**346**	P	**P**	**21 27 39.5**	**+1.1**
	comp=Z,116nm,1.3s,mb5.8						
MZDA	**Masada**	**83.64**	**315**	P	**P**	**21 27 39.7**	**+0.7**
MZDA	**Masada**	**83.64**	**315**	⇑P	**P**	**21 27 39.7**	**+0.7**
SJPF	**Ste Jean**	**83.64**	**346**	*e*P	**P**	**21 27 38.0**	**-0.8**
	comp=Z,58nm,0.9s,mb5.4						
ITM	**Ithomi**	**83.66**	**327**	*e*P	**P**	**21 27 38.5**	**-0.5**
VIEF	**Viey**	**83.68**	**345**	*e*P	**P**	**21 27 40.8**	**+1.9**
LARF	**Larrau**	**83.68**	**346**	*e*P	**P**	**21 27 40.0**	**+1.0**
RESF	**Ens**	**83.70**	**345**	*e*P	**P**	**21 27 41.4**	**+2.3**
VLI	**Veliai**	**83.73**	**326**	*e*P	**P**	**21 27 38.5**	**-0.9**
ETSF	**Etsaut**	**83.75**	**345**	*e*P	**P**	**21 27 39.7**	**+0.4**
	comp=Z,62nm,0.9s,mb5.4						
FDAF	**Les Forges d'A**	**83.83**	**345**	*e*P	**P**	**21 27 41.6**	**+1.9**
ELAN	**Lanestosa**	**83.84**	**348**	P	**P**	**21 27 40.9**	**+1.1**
	comp=Z,189nm,1.2s,mb6.1						
HILS	**Ha'il**	**83.97**	**308**	P	**P**	**21 27 41.7**	**+0.9**
NPS	**Neapolis**	**84.10**	**324**	*e*P	**P**	**21 27 40.0**	**-1.3**
MASH	**Mash'abbe Sade**	**84.16**	**315**	P	**P**	**21 27 42.2**	**+0.5**
RYDS	**Riyadh**	**84.17**	**302**	P	**P**	**21 27 39.9**	**-2.0**
EPON	**Pontenova**	**84.18**	**350**	P	**P**	**21 27 42.5**	**+1.0**
	comp=Z,164nm,1.3s,mb6.0						
SVTA	**Shivta**	**84.29**	**315**	P	**P**	**21 27 42.9**	**+0.6**
ECRI	**Cripan**	**84.32**	**347**	P	**P**	**21 27 44.7**	**+2.5**
	comp=Z,74nm,1.4s,mb5.6						
ZFRI	**Zfri**	**84.36**	**314**	P	**P**	**21 27 43.4**	**+0.7**
ZFRI	**Zfri**	**84.36**	**314**	⇑P	**P**	**21 27 43.4**	**+0.7**
KZIT	**Kziot**	**84.40**	**315**	P	**P**	**21 27 43.4**	**+0.5**
KZIT	**Kziot**	**84.40**	**315**	⇑P	**P**	**21 27 43.4**	**+0.5**
XRY	**Khrisi**	**84.41**	**323**	*e*P	**P**	**21 27 42.0**	**-0.9**
VAM	**Vamos**	**84.47**	**325**	*e*P	**P**	**21 27 43.0**	**-0.2**
ARSS	**Ar Rass**	**84.51**	**306**	P	**P**	**21 27 43.7**	**+0.1**
PRNI	**Paran**	**84.61**	**314**	P	**P**	**21 27 44.8**	**+0.8**
PRNI	**Paran**	**84.61**	**314**	⇑P	**P**	**21 27 44.8**	**+0.8**
STS	**Santiago**	**84.75**	**351**	P	**P**	**21 27 45.5**	**+1.1**
	comp=Z,53nm,1.0s,mb5.6						
ESAC	**San Caprasio**	**84.89**	**345**	P	**P**	**21 27 46.6**	**+1.6**
	comp=Z,98nm,1.4s,mb5.8						
KMTI	**Karmit**	**84.95**	**314**	P	**P**	**21 27 46.1**	**+0.5**
MZLS	**Mizel**	**85.04**	**303**	P	**P**	**21 27 46.5**	**+0.2**
ERUA	**La Rua**	**85.11**	**350**	P	**P**	**21 27 47.9**	**+1.8**
	comp=Z,57nm,1.2s,mb5.6						
AQBJ	**Aqaba**	**85.13**	**314**	P	**P**	**21 27 47.4**	**+0.9**
MBH	**Mount Berech**	**85.13**	**314**	P	**P**	**21 27 47.3**	**+0.7**
MBH	**Mount Berech**	**85.13**	**314**	⇑P	**P**	**21 27 47.3**	**+0.7**
STKA	**Stephens Creek**	**85.18**	**195**	*e*P	**P**	**21 27 47.9**	**+1.1**
	comp=Z,21nm,1.9s,mb4.9						
STKA	**Stephens Creek**	**85.18**	**195**	P	**P**	**21 27 48.1**	**+1.3**
	comp=Z,10nm,1.0s,mb4.9,baz=356,slow=9.0,SNR=9.0						
STKA				LR	LR	22 02 07.7	
	comp=Z,729nm,21.9s,MS5.0,baz=14,slow=33						
EIL	**Elat**	**85.22**	**314**	P	**P**	**21 27 47.8**	**+0.8**
EIL	**Elat**	**85.22**	**314**	⇑P	**P**	**21 27 47.8**	**+0.8**
RAYN	**Ar Rayn**	**85.31**	**303**	P	**P**	**21 27 47.3**	**-0.2**
	comp=Z,597nm,1.0s,SNR=95						
ALWS	**Ilw as Safayha**	**85.48**	**314**	P	**P**	**21 27 49.3**	**+1.0**
JMQS	**Jabal Moqyreh**	**85.48**	**313**	P	**P**	**21 27 49.3**	**+1.0**
EZAM	**Zamans**	**85.50**	**351**	P	**P**	**21 27 50.7**	**+2.6**
	comp=Z,55nm,1.2s,mb5.6						
ECAL	**Calabor**	**85.51**	**350**	P	**P**	**21 27 49.1**	**+1.0**
	comp=Z,41nm,1.2s,mb5.5						
JMOS	**Jabal al Moall**	**85.58**	**314**	P	**P**	**21 27 49.9**	**+1.1**
PBRG	**Braganca**	**85.64**	**350**	*e*P	**P**	**21 27 50.9**	**+2.1**
	comp=Z,36nm,1.2s,mb5.5						
ELOB	**Lobios**	**85.72**	**351**	P	**P**	**21 27 51.1**	**+2.0**
	comp=Z,39nm,1.2s,mb5.5						
TBKS	**Tabuk**	**85.74**	**312**	P	**P**	**21 27 51.0**	**+1.4**
HAQS	**Haql**	**85.76**	**314**	P	**P**	**21 27 50.6**	**+0.9**
ETOR	**Torete**	**86.01**	**346**	P	**P**	**21 27 52.5**	**+1.9**
	comp=Z,39nm,1.2s,mb5.5						
BDAS	**Al Bad'**	**86.22**	**313**	P	**P**	**21 27 52.9**	**+1.0**
AFFS	**'Afif**	**86.25**	**305**	P	**P**	**21 27 52.5**	**+0.3**
PVRL	**Vila Real**	**86.27**	**350**	*e*P	**P**	**21 27 53.7**	**+1.9**
	comp=Z,62nm,1.0s,mb5.8						
AYUS	**'Aynunah**	**86.35**	**313**	P	**P**	**21 27 53.7**	**+1.1**
KBRS	**Khaybar**	**86.53**	**309**	P	**P**	**21 27 54.2**	**+0.7**
PVIS	**Viseu**	**86.84**	**351**	*e*P	**P**	**21 27 56.3**	**+1.6**
	comp=Z,40nm,1.1s,mb5.6						
FORT	**Forrest**	**87.12**	**207**	*e*P	**P**	**21 27 57.6**	**+1.3**
	comp=Z,86nm,0.7s,mb6.1						
MTE	**Manteigas**	**87.12**	**350**	*e*P	**P**	**21 27 57.8**	**+1.8**
	comp=Z,44nm,1.2s,mb5.6						
ESDC	**Sonseca Array**	**87.41**	**347**	P	**P**	**21 27 57.4**	**0.0**
	comp=Z,15nm,0.9s,mb5.2,baz=4.4,slow=4.6,SNR=35						
ESDC				LR	LR	22 14 07.1	
	comp=Z,2µm,19.9s,MS5.4,baz=35,slow=40						
ESDC	**Sonseca Array**	**87.41**	**347**	P	**P**	**21 27 58.3**	**+0.9**
	comp=Z,23nm,1.0s,mb5.4						
ESLA	**Sonseca Array**	**87.41**	**347**	*e*P	**P**	**21 27 57.5**	**+0.1**
	comp=Z,7.6nm,1.1s,mb4.8						
PCBR	**Castelo Branco**	**87.67**	**350**	*e*P	**P**	**21 27 59.9**	**+1.2**
	comp=Z,41nm,1.3s,mb5.5						
UMJS	**Umm Lajj**	**87.93**	**310**	P	**P**	**21 28 01.2**	**+0.9**
EVIA	**Vianos**	**88.22**	**346**	P	**P**	**21 28 03.3**	**+1.9**
	comp=Z,14nm,0.8s,mb5.2						
KAMS	**Al Khamasin**	**88.44**	**302**	P	**P**	**21 28 02.8**	**+0.1**
EBAD	**Badajoz**	**88.69**	**350**	P	**P**	**21 28 04.2**	**+0.7**
	comp=Z,11nm,1.3s,mb5.0						
EADA	**Adamuz**	**88.97**	**348**	P	**P**	**21 28 06.4**	**+1.4**
	comp=Z,15nm,1.0s,mb5.3						
EVO	**Evora**	**89.02**	**350**	*e*P	**P**	**21 28 05.0**	**-0.1**
	comp=Z,17nm,1.2s,mb5.0						

EVO				eR			
	comp=Z,2µm,22.2s						
EQES	Quesada	89.12	346	P	P	21 28 06.7	+1.0
	comp=Z,17nm,1.1s,mb5.3						
EMIN	Mina Concepcio	89.62	349	P	P	21 28 10.3	+2.3
	comp=Z,28nm,1.3s,mb5.4						
TATS	Tathlith	89.65	302	P	P	21 28 09.3	+0.8
ELOJ	Sierra Loja	89.92	347	P	P	21 28 10.6	+1.2
	comp=Z,7.6nm,0.9s,mb5.0						
BLJS	Baljurashi	90.33	304	P	P	21 28 12.9	+1.2
ESPR	Espera	90.41	348	P	P	21 28 12.1	+0.3
	comp=Z,24nm,1.4s,mb5.3						
LTHS	Al Lith	90.61	305	P	P	21 28 13.9	+0.9
LBTB	Lobatse	136.02	290	PKIKP	PKPdf	21 34 33.2	+2.9
PLCA	Paso Flores	144.28	92	PKP	PKPdf	21 34 45.3	+0.8
	comp=Z,17nm,1.0s,baz=289,slow=4.1,SNR=25						
PLCA	Paso Flores	144.28	92	PKIKP	PKPdf	21 34 45.3	+0.8
PLCA				pmax	pmax		
	comp=Z,17nm,1.0s						
SUR	Sutherland	144.29	287	PKP	PKPdf	21 34 47.2	+2.4
	comp=Z,31nm,1.1s,baz=219,slow=3.3,SNR=4.9						
SYO	Syowa Base	147.79	216	⇓PKPdf	PKPdf	21 34 53.9	+4.3
SYO	Syowa Base	147.79	216	⇓PKPbc	PKPdf	21 34 54.9	+5.3
SYO	Syowa Base	147.79	216	⇓PKiKP		21 34 58.0	
SYO	Syowa Base	147.79	216	⇓pPKPbc		21 35 15.7	
SYO	Syowa Base	147.79	216	⇓P	PKPab	21 35 29.3	+32
TRQA	Tornquist	147.91	81	ePKPbc	PKPdf	21 34 55.2	+4.5
USHA	Ushuaia	151.74	115	PKPbc	PKPdf	21 35 05.3	+9.1
	comp=Z,16nm,0.9s,baz=298,slow=5.7,SNR=5.9						
SNAA	Sanae	158.95	195	⇑iP	PKPdf	21 35 05.8	+0.5
SNAA	Sanae	158.95	195	⇑i		21 35 24.2	
SNAA	Sanae	158.95	195	⇓i	PKPab	21 35 43.8	-0.3
SNAA	Sanae	158.95	195	PKIKP	PKPdf	21 35 07.2	+1.9
VNA2	Neumayer--Watz	160.29	193	⇑iP	PKPdf	21 35 11.3	+4.6
VNA2	Neumayer--Watz	160.29	193	⇓i		21 35 31.2	
VNA2	Neumayer--Watz	160.29	193	PKPdf	PKPdf	21 35 11.3	+4.6
VNA2				e		21 42 44.0	
VNA1	Neumayer--Stat	160.66	192	⇑iP	PKPab	21 35 55.1	+3.6

CASC ***04*** *21:19:20.1±1.9, 12.07N×88.68W, h36^{km}±67^{km}, MD3.9*

ISC 04 21:19:18.8±0.8**, 11.98N**±0.06×**88.71W**±0.04**, h43**^{km}±45^{km}**, n22,** σ**0^{s}82**/36**, 4C-8D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	1.50	16	⇓eP	P	21 19 43.5	-0.3
BLLM	Bellamira	1.52	18	eP	P	21 19 43.0	-1.1
BLLM				eS	S	21 20 01.2	-1.6
CNCH	Conchagua	1.55	34	⇓eP	P	21 19 43.3	-1.1
SNVI	San Vicente	1.63	356	⇓eP	P	21 19 45.2	-0.3
SNVI				eP		21 19 45.3	
LFRS	El Faro	1.67	348	eP	P	21 19 45.9	-0.2
LFRS				eS	S	21 20 07.2	+0.8
LCBS	La Ceiba	1.68	351	⇓eP	P	21 19 45.8	-0.5
LCBS				eS	S	21 20 07.3	+0.5
PYN	Poneloya	1.70	76	⇓eP	P	21 19 46.6	+0.1
PYN				eS	S	21 20 08.0	+0.8
BOQS	Boqueron	1.83	342	⇓eP	P	21 19 48.8	+0.4
TEL3	Telica 3	1.92	72	eP	P	21 19 50.0	+0.4
TEL3				eS	S	21 20 12.9	+0.3
MIRN	Miramar	2.01	77	eP	P	21 19 51.9	+1.0
MIRN				eS	S	21 20 15.5	+0.6
SBLS	San Blas	2.05	334	⇑eP	P	21 19 52.0	+0.5
SNJE	San Jose	2.07	335	eP	P	21 19 51.0	-0.7
SNJE				eS	S	21 20 17.2	+0.7
COPN	Copaltepe	2.08	84	⇑eP	P	21 19 52.1	+0.2
COPN				eS	S	21 20 16.5	-0.3
RTR	El Retiro	2.11	335	⇑eP	P	21 19 52.1	-0.3
MOMJ	Momotombo	2.16	78	eP	P	21 19 53.7	+0.6
MOMJ				eS	S	21 20 18.9	+0.1
RBDL	Robledal	2.32	336	⇓eP	P	21 19 54.9	-0.5
MGAN	Managua	2.42	86	eS	S	21 20 24.7	-0.6
TICN	Ticuantepe	2.43	89	⇑eP	P	21 19 58.3	+1.4
TICN				eS	S	21 20 26.2	+0.6
CONN	Concepcion	3.05	97	⇓eP	P	21 20 06.2	+0.5
CONN				eS	S	21 20 40.2	-1.1
JCR	Jicaral	4.12	121	eP	P	21 20 22.3	+1.4
JCR				eS	S	21 21 06.7	-1.8
LAJ	Bijagual	4.97	115	eP	P	21 20 31.6	-1.3
LAJ				eS	S	21 21 19.4	-11
URSC	Urasca	5.29	113	eP	P	21 20 38.7	+1.3
URSC				eS	S	21 21 37.3	-0.7

IDC ***04*** *21:31:57.5±1.9, 18.69S×69.43W, h111^{km}±18^{km}, mb3.8/2, mb1 4.2/4, mb1mx3.7/15, Error ellipse: s-maj=41.1km s-min=9.8km az=99.0*

NEIC ***04*** *21:31:58.0±0.9, 18.67S×69.53W, h126^{km}±13^{km}, mb4.0/2, Error ellipse: s-maj=18.0km s-min=12.5km az=70.0*

ISC 04 21:31:57.1±0.7**, 18.70S**±0.05×**69.45W**±0.09**, h126**^{km}±10^{km}**, n12,** σ**0^{s}93**/14**, mb3.7**/2**, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	2.71	28	P	P	21 32 40.9	+0.4
	82nm,0.3s,baz=215,slow=6.9,SNR=1511						
LPAZ				S	S	21 33 12.8	-0.7
	baz=75,slow=20,SNR=1.8						
LPAZ	La Paz	2.71	28	P	P	21 32 40.9	+0.4
LPAZ				S	S	21 33 12.8	-0.7
ARE	Arequipa	2.96	318	⇑iP	P	21 32 44.4	+0.5
ARE				i S	S	21 33 20.0	+0.6
LVC	Limon Verde	3.93	173	P	P	21 32 58.2	+1.4
	41nm,0.3s,baz=357,slow=10,SNR=271						
LVC				S	S	21 33 41.7	-0.7
	189nm,0.3s,baz=110,slow=22,SNR=50						
NNA	Nana	9.77	312	eP	P	21 34 13.2	-2.3
SAML	Samuel	11.44	33	eP	P	21 34 32.0	-5.6
	5.6nm,0.5s						
BDFB	Brasilia	20.70	85	P	P	21 36 29.3	+0.3
	5.7nm,0.4s,baz=252,slow=6.8,SNR=7.7						
PLCA	Paso Flores	21.98	182	eP	P	21 36 40.9	-0.6
	1.3nm,0.6s,mb3.4						
ULM	Lac du Bonnet	72.51	343	pP	pP	21 43 41.9	-1.4
	2.4nm,0.5s,baz=212,slow=3.5,SNR=2.9						
NVAR	Mina Array Bea	72.99	322	pP	pP	21 43 46.7	+0.3
	0.3nm,0.3s,baz=140,slow=7.5,SNR=3.0						
YKA	Yellowknife Ar	88.39	341	P	P	21 44 36.2	+0.7
	0.6nm,0.5s,mb3.9,baz=130,slow=4.8,SNR=7.4						
YKA	Yellowknife Ar	88.39	341	P	P	21 44 36.2	+0.7

IDC ***04*** *22:03:00.9±8.4, 8.39N×126.59E, h123^{km}±86^{km}, mb3.5/8, mb1 3.6/9, mb1mx3.4/21, ML4.1/1, Error ellipse: s-maj=66.5km s-min=14.5km az=82.0*

ISC 04 22:02:50.4±0.6**, 8.44N**±0.04×**126.93E**±0.05**, h33**^{km}**, n26,** σ**1^{s}18**/33**, mb3.8**/8**, 1C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.62	246	⇓iP	P	22 03 00.3	-2.3
BIPH				i S	S	22 03 06.0	-5.5
BUTP	Butuan	1.40	292	eP	P	22 03 13.6	-0.2
BUTP				eS	S	22 03 29.1	-2.2
MATI	Mati	1.62	204	eP	P	22 03 16.6	-0.4
BUKP	Musuan	1.93	254	eP	P	22 03 22.1	+0.7
CGP	Cagayan de Oro	2.21	271	eP	P	22 03 25.9	+0.5
CGP				eS	S	22 03 52.4	+0.4
KCP	Kidapawan	2.31	232	⇓eP	P	22 03 28.0	+1.2
KCP				i S	S	22 03 55.5	+1.0
MSLP	Maasin	2.65	310	eP	P	22 03 33.2	+1.5
CTBH	Cotabato--PC H	2.92	246	⇓eP	P	22 03 35.4	-0.2
CTBH				i S	S	22 04 09.1	-0.9
GSPH	General Santos	3.05	220	eP	P	22 03 45.0	+7.5
TBP	Tagbilaran	3.28	293	⇓iP	P	22 03 41.1	+0.4
TBP				eS	S	22 04 19.0	0.0
BESP	Borongan	3.47	335	eP	P	22 03 44.8	+1.4
LLP	Lapu-Lapu	3.47	303	⇑iP	P	22 03 44.0	+0.6
LLP				eS	S	22 04 22.0	-2.0
PAGZ	Pagadian	3.56	261	eP	P	22 03 46.4	+1.7
CNP	Catarman	4.62	331	eP	P	22 04 00.2	+0.5
GUIM	Jordan	4.81	297	eP	P	22 04 03.9	+1.6
RCP	Roxas	5.16	307	eP	P	22 04 08.3	+0.9
JOW	Kunigami	18.34	4	P	P	22 07 07.9	+3.8
	0.9nm,0.3s,baz=224,slow=11,SNR=5.0						
JNU	Nakatsue	24.84	8	P	P	22 08 11.9	+0.7
	1.9nm,0.3s,mb4.0,baz=167,slow=7.1,SNR=3.6						
FITZ	Fitzroy Crossi	26.40	183	eP	P	22 08 24.9	-1.1
	1.6nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	26.40	183	P	P	22 08 25.3	-0.8
	6.2nm,0.9s,mb4.1,baz=12,slow=4.2,SNR=11						
WRA	Warramunga Arr	29.13	166	P	P	22 08 50.6	-0.1
	0.3nm,0.7s,mb3.1,baz=344,slow=9.5,SNR=5.7						
ASAR	Alice Springs	32.62	168	P	P	22 09 21.9	+0.4
	0.4nm,0.5s,mb3.6,baz=354,slow=7.4,SNR=5.6						
SONM	Songino Array	42.95	340	P	P	22 10 46.5	-1.5
	0.5nm,0.4s,mb3.6,baz=154,slow=8.7,SNR=2.5						
MKAR	Makanchi Array	53.88	323	P	P	22 12 10.3	-2.4
	0.5nm,0.4s,mb3.8,baz=129,slow=7.9,SNR=15						
ARCES	ARCESS Array B	86.13	340	P	P	22 15 28.1	-0.8
	1.0nm,0.6s,mb4.2,baz=82,slow=6.4,SNR=4.2						
FINES	FINESS Array B	87.81	332	P	P	22 15 35.4	-1.8
	0.5nm,0.6s,mb3.9,baz=62,slow=5.0,SNR=7.8						

LDG ***04*** *22:04:31.6±0.1, 44.44N×6.76E, h2^{km}, Md2.2/3, Ml2.1/7, Error ellipse: s-maj=1.3km s-min=0.7km az=68.0*

STR ***04*** *22:04:32.1±0.1, 44.44N×6.83E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 22:04:30.6±0.3**, 44.44N**±0.02×**6.74E**±0.04**, h11**^{km}±4^{km}**, n19,** σ**0^{s}65**/36**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	50	Pg	Pg	22 04 33.4	+0.4
SURF				Sg	Sg	22 04 34.8	+0.2
MBDF	Montbardon	0.29	4	ePg	Pg	22 04 37.2	+0.5
MBDF				eSg	Sg	22 04 41.5	+0.7
	17nm,0.4s						
OG22	Abries	0.41	21	Pg	Pg	22 04 39.8	+0.7
OG22				Sg	Sg	22 04 45.4	+0.7
TOUF	Mont Tournerai	0.56	139	Pg	Pg	22 04 42.0	0.0
TOUF				Sg	Sg	22 04 49.8	+0.3
MVIF	Mont Vial	0.62	151	Pg	Pg	22 04 43.1	0.0
MVIF				Sg	Sg	22 04 51.9	+0.5
AUTN	L’Aution	0.66	132	Pg	Pg	22 04 44.0	0.0
AUTN				Sg	Sg	22 04 52.3	-0.6
AURF	Auriere	0.69	142	Pg	Pg	22 04 44.8	+0.2
AURF				Sg	Sg	22 04 54.4	+0.5
CALN	Calern	0.69	171	Pg	Pg	22 04 45.0	+0.4
SAOF	Saorge	0.74	127	Pg	Pg	22 04 45.2	-0.3
SAOF				Sg	Sg	22 04 54.6	-0.8
SBF	Sospel	0.76	139	ePg	Pg	22 04 45.8	-0.1
SBF				eSg	Sg	22 04 55.9	-0.3
	32nm,0.4s						
ORIF	Oris-en-Rattie	0.78	308	ePg	Pg	22 04 46.6	+0.3
ORIF				eSg	Sg	22 04 56.5	-0.3
	15nm,0.6s						
REVF	Revere	0.83	147	Pg	Pg	22 04 48.1	+0.8
FRF	La Foret Royal	0.88	185	ePg	Pg	22 04 47.9	-0.4
FRF				eSg	Sg	22 05 00.0	-0.1
	5.3nm,0.2s						
SMRF	Simiane la Rot	0.96	242	ePn	Pn	22 04 51.3	+1.5
SMRF				eSn	Sn	22 05 04.8	+1.3
	9.7nm,0.3s						
LPG	La Plagne	1.06	0	ePg	Pg	22 04 51.6	-0.3
LPG				eSg	Sg	22 05 05.8	-0.2
	1.4nm,0.2s						
LPL	La Plagne	1.08	360	ePg	Pg	22 04 52.0	-0.2
LPL				eSg	Sg	22 05 05.8	-0.9
	4.3nm,0.4s						
LMR	La Mourre	1.12	189	ePg	Pg	22 04 52.7	-0.3
LMR				eSn	Sn	22 05 07.9	+0.4
	10nm,0.2s						
VIVF	Saint-Julien-l	1.54	287	ePg	Pg	22 05 00.3	-1.0
VIVF				eSg	Sg	22 05 20.2	-1.6
	4.4nm,0.5s						
PGF	Pioggiola	2.50	138	ePn	Pn	22 05 11.6	-0.4
PGF				eSn	Sn	22 05 41.3	-1.4
	1.9nm,0.3s						

STR ***04*** *22:11:31.7±0.1, 42.85N×0.25W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***04*** *22:11:32.5±0.4, 42.84N×0.25W, mbLg0.8/4, Error ellipse: s-maj=4.6km s-min=1.7km az=174.0, PRXIMO*

LDG ***04*** *22:11:32.1±0.1, 42.84N×0.25W, h2^{km}, Md1.8/2, Ml1.7/1, Error ellipse: s-maj=2.5km s-min=0.8km az=174.0*

ISC 04 22:11:31.0±0.8**, 42.79N**±0.06×**0.23W**±0.03**, h5**^{km}**, n14,** σ**0^{s}83**/21**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	Viey	0.21	64	Pg	Pg	22 11 36.3	+1.1
VIEF				Sg	Sg	22 11 39.1	+1.1
VIEF	Viey	0.21	64	Pg	Pg	22 11 36.4	+1.2
VIEF				Lg		22 11 39.1	
FDAF	Les Forges d’A	0.25	276	Pg	Pg	22 11 36.7	+0.6
FDAF				Sg	Sg	22 11 40.2	+0.7
FDAF	Les Forges d’A	0.25	276	Pg	Pg	22 11 36.8	+0.8
FDAF				Lg		22 11 40.1	
ETSF	Etsaut	0.27	294	ePg	Pg	22 11 36.7	+0.3
ETSF				eSg	Sg	22 11 40.0	+0.1
	10.0nm,0.2s						
REYF	Montagne du Re	0.30	337	Pg	Pg	22 11 37.0	-0.1
REYF				Sg	Sg	22 11 40.6	-0.5
REYF	Montagne du Re	0.30	337	Pg	Pg	22 11 37.1	0.0
REYF				Lg		22 11 40.7	
LABF	Labassere	0.34	41	Pg	Pg	22 11 38.3	+0.5
LABF				Sg	Sg	22 11 42.6	+0.3
LABF	Labassere	0.34	41	Pg	Pg	22 11 38.5	+0.7
LABF				Lg		22 11 42.8	
EPF	Esparros	0.48	60	ePg	Pg	22 11 41.3	+0.7
EPF				eSg	Sg	22 11 47.0	-0.1
	4.2nm,0.3s						
SJPF	Ste Jean	0.80	294	ePg	Pg	22 11 46.7	-0.3
SJPF				eSg	Sg	22 11 57.1	-0.5
	2.8nm,0.2s						
EALK	Alkurruntz	1.03	295	Pg	Pg	22 11 49.9	-1.6
	0.1nm,0.5s,SNR=7.9						
EALK				Lg		22 12 03.3	
	6.8nm,0.7s,SNR=7.9						
MTLF	Montolieu	1.88	72	eSg	Sg	22 12 31.7	-1.7
	1.1nm,0.3s						
EJON	La Jonquera	2.33	97	Sn	Sn	22 12 38.7	-1.1
	0.4nm,1.6s,SNR=7.9						

NEIC ***04*** *22:12:09.0, 26.79S×69.92W, h87^{km}, MD4.0(GUC), After GUC.*

GUC 04 22:12:09.0±1.0**, 26.79S×69.92W, h87**^{km}±14^{km}**, MD3.6, ML4.3, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	0.68	214	⇑iP	P	22 12 25.4	0.0
CPCH				i S	S	22 12 37.6	+0.2
CPCH				AMP		22 12 38.0	
	comp=N,40µm,0.1s						
VACH	Vallenar	1.93	202	i P	P	22 12 40.4	-0.2
VACH				i S	S	22 13 04.6	+0.6
VACH				AMP		22 13 13.3	
	comp=E,2µm,0.3s						
CPN1	Cerro Paranal	2.20	349	i P	P	22 12 39.0	-5.4
CPN1				i S	S	22 13 05.8	-4.9
CPN1				AMP		22 13 09.2	
	comp=E,2µm,0.4s						
ANCH	Antofagasta	3.13	352	i P	P	22 12 55.4	-2.0
ANCH				i S	S	22 13 32.1	-1.6
ANCH				AMP		22 13 37.9	
	comp=N,343nm,0.4s						
TLL	Tololo Astrono	3.45	193	i P	P	22 13 01.9	+0.1
TLL				i S	S	22 13 41.9	+0.2
TLL				AMP		22 14 10.0	
	comp=N,320nm,0.6s						
LVC	Limon Verde	4.26	13	eP	P	22 13 12.4	-0.5

IDC ***04*** *22:18:40.8±1.9, 12.37N×126.15E, mb4.1/6, mb1 4.3/6, mb1mx3.9/19, Error ellipse: s-maj=76.7km s-min=19.3km az=57.0*

NEIC ***04*** *22:18:40.3±0.8, 12.68N×126.64E, h10^{km}, mb4.3/1, Error ellipse: s-maj=31.7km s-min=14.1km az=66.0*

ISC 04 22:18:38.4±0.8**, 12.6N**±0.1×**126.45E**±0.09**, h10**^{km}**, n13,** σ**0^{s}81**/14**, mb4.1**/7**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	1.42	224	eP	Pn	22 19 04.0	-0.4
CNP	Catarman	1.75	267	eP	Pn	22 19 08.7	-0.4
PVCP	Virac	2.44	294	eP	Pn	22 19 18.2	-0.8
PVCP				eS	Sn	22 19 40.4	-8.7
RCP	Roxas	3.77	254	eP	Pn	22 19 38.4	+0.4
CMAR	Chiang Mai Arr	27.11	286	P	P	22 24 24.0	+0.3
	1.6nm,0.7s,mb3.7,baz=94,slow=7.9,SNR=13						
FITZ	Fitzroy Crossi	30.54	182	P	P	22 24 54.6	+0.2
	2.2nm,0.6s,mb4.2,baz=2.5,slow=12,SNR=8.4						
WRAB	Tennant Creek	33.27	166	eP	P	22 25 17.9	-0.4
	4.2nm,1.0s,mb4.3						
WRA	Warramunga Arr	33.27	166	P	P	22 25 17.8	-0.7
	2.1nm,1.0s,mb4.0,baz=343,slow=9.8,SNR=8.1						
ASAR	Alice Springs	36.79	169	P	P	22 25 49.1	+0.7
	2.4nm,0.8s,mb4.1,baz=340,slow=6.6,SNR=18						
STKA	Stephens Creek	46.56	162	P	P	22 27 09.1	+0.6
	4.1nm,0.9s,mb4.4,baz=340,slow=8.5,SNR=5.8						
MKAR	Makanchi Array	50.29	322	P	P	22 27 39.0	+1.8
	1.2nm,0.7s,mb4.0,baz=108,slow=12,SNR=10						
MKAR	Makanchi Array	50.29	322	P	P	22 27 39.0	+1.8
SML	Sawmill	76.72	29	eP	P	22 30 29.9	-1.4

ISK ***04*** *22:20:06.8, 36.91N×27.69E, h5^{km}, MD3.2*

NEIC ***04*** *22:20:09.9, 36.86N×27.59E, h22^{km}, MD3.0(ATH), After ATH.*

ATH ***04*** *22:20:09.9, 36.86N×27.59E, h22^{km}±3^{km}, MD3.0/5*

ISC 04 22:20:08.5±0.7**, 36.90N**±0.03×**27.69E**±0.04**, h9**^{km}±5^{km}**, n16,** σ**0^{s}97**/25**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	309	i P	Pg	22 20 13.7	-0.2
BDRM				i S	Sg	22 20 18.0	+0.5
MLSB	Milas	0.40	10	i PG	Pg	22 20 15.7	-0.9
MLSB				SG	Sg	22 20 22.4	+0.4
YER	Yerkesik	0.52	64	i PG	Pg	22 20 18.0	-1.1
YER				SG	Sg	22 20 26.4	+0.2
NISR	Nisiros	0.54	237	ePB	Pb	22 20 19.5	-0.2
ARG	Arkhangelos	0.77	153	ePB	Pb	22 20 24.0	+0.3
ARG				eSN	Sn	22 20 36.0	-1.1
AYDN	Tasoluk	0.77	11	i P	Pb	22 20 23.0	-0.7
AYDN				i S	Sb	22 20 33.5	-0.5
SMG	Samos	1.05	320	ePN	Pn	22 20 29.5	+0.1
DNZL	Cakiroluk	1.33	54	i P	Pb	22 20 33.7	+0.4
DNZL				i S	Sb	22 20 53.6	+3.3
DENT	Denizli	1.36	51	PN	Pn	22 20 34.8	+0.9
KARP	Karpathos	1.42	198	ePB	Pb	22 20 34.5	-0.3
KARP				eSN	Sn	22 20 54.0	+0.4
IZM	Izmir	1.53	347	PN	Pn	22 20 35.8	-0.4
KDAG	Bornova	1.53	347	⇑iP	Pn	22 20 37.0	+0.7
KDAG				i S	Sb	22 20 59.2	+3.0
KSL	Kastellorizon	1.70	116	ePN	Pn	22 20 41.5	+2.9
MANT	Manisa	1.73	23	i P	Pn	22 20 38.1	-1.0
MANT				i S	Sn	22 20 59.7	-1.7
ELL	Elmali	1.78	94	ePN	Pn	22 20 40.4	+0.5
AKS	Akhisar	1.97	3	ePN	Pn	22 20 42.5	-0.1

IDC ***04*** *22:22:18.0±0.5, 15.10N×147.08E, mb4.5/20, mb1 4.6/20, mb1mx4.5/27, MS3.9/7, Ms1 3.9/7, ms1mx3.6/29, Error ellipse: s-maj=19.4km s-min=12.9km az=98.0*

MOS ***04*** *22:22:20.3±0.9, 15.19N×147.16E, h33^{km}, mb5.2/5, Error ellipse: s-maj=30.3km s-min=12.9km az=117.3*

BJI ***04*** *22:22:22.4, 15.43N×147.26E, h44^{km}, mB5.0, mb5.0, Ms4.4, Msz4.0*

NEIC ***04*** *22:22:24.3±1.0, 15.06N×147.01E, h44^{km}±8^{km}, mb4.8/17, Error ellipse: s-maj=9.3km s-min=5.8km az=92.0*

ISC 04 22:22:24.1±1.0**, 15.07N**±0.05×**146.96E**±0.07**, h58**^{km}±8^{km}**, h38**^{km}±5.2^{km}**:pP-P, n105,** σ**0^{s}92**/94**, mb4.7**/57**, MS4.0**/8**, 14C-3D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.18	277	⇑eP	P	22 22 45.6	+0.9
ANA2	Anatahan	1.75	317	⇑iP	P	22 22 53.0	+0.3
ANA2				eS	S	22 23 17.6	+3.7
ANAT	Anatahan	1.80	316	eP	P	22 22 53.0	-0.3
SARN	Sarigan	1.99	325	⇑eP	P	22 22 55.3	-0.8
GUMO	Guam	2.50	234	eP	P	22 23 02.6	-0.8
CBIJ	Chichi jima	12.77	340	LR	LR	22 30 13.8	
	comp=Z,436nm,18.1s,baz=141,slow=37						
JOW	Kunigami	20.98	307	P	P	22 27 04.3	-0.5
	19nm,0.7s,baz=133,slow=15,SNR=7.9						
JOW				LR	LR	22 35 05.9	
	comp=Z,507nm,19.1s,MS3.9,baz=115,slow=36						
MAT	Matsushiro	22.77	342	P	P	22 27 18.6	-3.9
MAT	Matsushiro	22.77	342	P	P	22 27 19.0	-3.5
	14nm,1.2s,mb4.3						
JNU	Nakatsue	23.16	324	P	P	22 27 26.4	+0.1
	25nm,1.1s,mb4.6,baz=103,slow=10,SNR=7.3						
JNU				LR	LR	22 34 55.1	
	comp=Z,171nm,20.5s,MS3.5,baz=241,slow=33						
PMG	Port Moresby	24.31	180	P	P	22 27 37.9	+0.3
	16nm,0.8s,mb4.5,baz=331,slow=7.5,SNR=7.1						
TGY	Tagaytay City	25.20	271	LR	LR	22 35 21.8	
	comp=Z,288nm,21.4s,MS3.8,baz=332,slow=31						
KS15	Wonju Array Si	27.99	326	eP	P	22 28 11.7	+0.1
ASAJ	Asahikawa	29.19	354	P	P	22 28 21.9	-0.4
	19nm,1.0s,mb4.8,baz=234,slow=18,SNR=3.7						
KAKA	Kakadu	31.13	208	eP	P	22 28 38.4	-1.3
	36nm,1.6s,mb5.0						
WHN	Wuhan	33.63	303	eP	P	22 29 00.4	-0.9
BJT	Baijiatuau	36.61	319	eP	P	22 29 26.8	+0.2
BJI	Beijing	36.62	319	eP	P	22 29 26.3	-0.4
BJI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
BJI	Beijing	36.62	319	eP	P	22 29 26.3	-0.4
	comp=Z,15nm,1.2s,mb4.7						
WRAB	Tennant Creek	36.92	200	eP	P	22 29 29.0	-0.4
	comp=Z,21nm,1.0s,mb4.9						
WB2	Warramunga Arr	36.93	200	⇑iP	P	22 29 29.2	-0.3
WRA	Warramunga Arr	36.94	200	P	P	22 29 29.3	-0.2
	comp=Z,18nm,1.0s,mb4.8,baz=22,slow=9.2,SNR=48						
ENH	Enshi	37.55	300	eP	P	22 29 35.3	+0.7
	comp=Z,42nm,1.0s,mb5.1						
FITZ	Fitzroy Crossi	39.09	213	eP	P	22 29 47.4	-0.1
	comp=Z,8.1nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	39.09	213	P	P	22 29 47.7	+0.2
	comp=Z,4.5nm,0.9s,mb4.2,baz=23,slow=12,SNR=7.4						
XAN	Xi’an	39.13	306	P	P	22 29 47.7	0.0
XAN				AMB	AMB		
	comp=Z,13nm,1.9s,mb4.3						
GYA	Guiyang	39.20	293	⇑iP	P	22 29 50.0	+1.7
GYA				PCP	PcP	22 31 58.9	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
ASAR	Alice Springs	40.55	199	P	P	22 29 59.4	-0.3
	comp=Z,2.2nm,0.8s,mb3.8,baz=32,slow=7.1,SNR=13						
ASPA	Alice Springs	40.56	199	eP	P	22 29 59.5	-0.1
HIA	Hailar	40.72	333	eP	P	22 30 00.2	-0.5
	comp=Z,8.5nm,0.8s,mb4.4						
BTO	Baotou	40.95	316	eP	P	22 30 01.7	-1.0
KKTK	Khon Kaen	42.45	278	P	P	22 30 16.0	+0.7
CD2	Chengdu	42.50	299	⇑iP	P	22 30 16.1	+0.5
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
KMI	Kunming	42.55	291	eP	P	22 30 17.7	+1.6
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
KMI	Kunming	42.55	291	eP	P	22 30 17.7	+1.6
	comp=Z,16nm,1.3s,mb4.6						
LZH	Lanzhou	43.73	307	⇑P	P	22 30 26.6	+1.1
LZH				AP	pP	22 30 37.8	-2.7
LZH				XP	sP	22 30 42.6	-4.7
LZH				AMB	AMB		
	comp=Z,93nm,1.3s,mb5.3						
LZH	Lanzhou	43.73	307	⇑P	P	22 30 26.6	+1.1
	comp=Z,93nm,1.3s,mb5.3						
LZH				pP	pP	22 30 37.8	-2.7
LZH				sP	sP	22 30 42.6	-4.7
CHG	Chiang Mai	45.98	282	⇑P	P	22 30 44.5	+0.8
CM31	Chiang Mai Arr	46.00	281	eP	P	22 30 45.4	+1.5
	comp=Z,28nm,1.0s,mb5.2						
CMAR	Chiang Mai Arr	46.00	281	P	P	22 30 45.1	+1.2
	comp=Z,17nm,1.0s,mb4.9,baz=77,slow=6.3,SNR=62						
CMAR				PcP	PcP	22 32 21.9	+1.7
	comp=Z,1.8nm,0.8s,baz=104,slow=1.9,SNR=4.2						
CMAR				LR	LR	22 48 19.4	
	comp=Z,93nm,19.6s,MS3.7,baz=291,slow=34						
SONM	Songino Array	46.74	323	P	P	22 30 49.6	+0.3
	comp=Z,5.2nm,0.8s,mb4.5,baz=135,slow=8.7,SNR=18						
STKA	Stephens Creek	46.95	186	P	P	22 30 51.1	-0.1
	comp=Z,1.8nm,0.8s,mb4.0,baz=356,slow=13,SNR=2.6						
GTA	Gaotai	47.75	310	eP	P	22 30 58.1	+0.7
GTA				AP	pP	22 31 08.7	-3.8
GTA				XP	sP	22 31 13.8	-5.4
GTA				PCP	PcP	22 32 26.8	+0.7
GTA				AMB	AMB		

	comp=Z,19nm,1.3s,mb5.0						
GTA				AMB	AMB		
	comp=Z,192nm,8.8s						
GTA				LR	LR		
	comp=N,112nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=E,225nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=Z,103nm,12.9s,MS4.0						
ZAK	**Zakamensk**	**49.78**	**325**⇑	*i*P	**P**	**22 31 11.8**	**-1.1**
SHL	**Shillong**	**52.39**	**291**⇓	*e*P	**P**	**22 31 33.0**	**+0.1**
LSA	**Lhasa**	**53.16**	**296**	P	**P**	**22 31 40.4**	**+1.7**
LSA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
LSA	**Lhasa**	**53.16**	**296**	*e*P	**P**	**22 31 40.1**	**+1.4**
	comp=Z,10nm,0.6s,mb4.9						
TIXI	**Tiksi**	**57.60**	**353**	*e*P	**P**	**22 31 58.2**	**-12**
TIXI				*e*		22 32 08.5	
TIXI				*e*	pP	22 32 15.7	-10
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WMQ	**Urumqi**	**57.62**	**313**⇑	*i*P	**P**	**22 32 11.0**	**+0.3**
WMQ				AP	pP	22 32 20.7	-5.5
WMQ				XP	sP	22 32 25.6	-7.2
WMQ				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.3						
PKI	**Pulchoki**	**58.17**	**293**	*e*P	**P**	**22 32 14.6**	**-0.1**
	comp=Z,37nm,0.9s,mb5.4						
KKN	**Kakani**	**58.28**	**294**	*e*P	**P**	**22 32 15.1**	**-0.4**
	comp=Z,28nm,0.9s,mb5.3						
DMN	**Daman**	**58.44**	**293**	*e*P	**P**	**22 32 16.4**	**-0.2**
	comp=Z,19nm,0.5s,mb5.3						
GKN	**Gorkha**	**58.84**	**294**	*e*P	**P**	**22 32 19.1**	**-0.3**
	comp=Z,126nm,1.1s,mb5.8						
KOLN	**Koldanda**	**59.77**	**294**	*e*P	**P**	**22 32 25.5**	**-0.3**
	comp=Z,32nm,0.9s,mb5.3						
MKAR	**Makanchi Array**	**61.86**	**315**	P	**P**	**22 32 39.5**	**-0.2**
	comp=Z,9.5nm,0.6s,mb5.1,baz=91,slow=8.0,SNR=66						
MKAR				LR	LR	22 58 20.5	
	comp=Z,116nm,19.7s,MS4.0,baz=217,slow=35						
MKAR	**Makanchi Array**	**61.86**	**315**	*i*P	**P**	**22 32 39.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVS	**Novosibirsk**	**62.74**	**324**	*i*P	**P**	**22 32 43.4**	**-2.1**
NVS				*e*		22 33 15.4	
NVS				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.3						
NVS				pmax	pmax		
	comp=N,17nm,1.6s						
NVS				pmax	pmax		
	comp=E,21nm,1.2s						
KURK	**Kurchatov**	**64.78**	**319**	*e*P	**P**	**22 32 58.0**	**-0.8**
	comp=E,53nm,1.3s,mb5.4						
SML	**Sawmill**	**64.95**	**28**	*e*P	**P**	**22 32 59.1**	**-0.6**
TKM2	**Tokmak 2**	**66.30**	**311**	P	**P**	**22 33 09.2**	**+0.5**
	SNR=7.4						
ILAR	**Eielson Array**	**66.37**	**25**	P	**P**	**22 33 06.5**	**-2.3**
	comp=E,5.5nm,1.0s,mb4.5,baz=257,slow=4.7,SNR=22						
CHMS	**Chumysh**	**66.92**	**311**	P	**P**	**22 33 12.8**	**+0.2**
	SNR=5.1						
UCH	**Uchtor**	**67.09**	**310**	P	**P**	**22 33 15.1**	**+1.4**
	SNR=14						
USP	**Ospenovka**	**67.11**	**311**	P	**P**	**22 33 13.8**	**0.0**
	SNR=8.6						
AML	**Almayashu**	**67.70**	**310**	P	**P**	**22 33 18.7**	**+1.2**
	SNR=9.9						
DAWY	**Dawson**	**69.42**	**27**	*e*P	**P**	**22 33 29.9**	**+2.2**
VOSK	**Vostochnaya**	**69.68**	**321**	P	**P**	**22 33 28.2**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
KKAR	**Karatay Array**	**70.03**	**311**	*i*P	**P**	**22 33 31.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BVA0	**Borovoye Array**	**70.04**	**321**	*i*P	**P**	**22 33 31.2**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BRVK	**Borovoye**	**70.11**	**321**	*e*P	**P**	**22 33 32.0**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**70.88**	**321**	P	**P**	**22 33 35.9**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
INK	**Inuvik**	**72.23**	**23**	P	**P**	**22 33 44.5**	**-0.1**
	comp=Z,8.3nm,1.1s,mb4.6,baz=258,slow=11,SNR=6.6						
DLBC	**Dease Lake**	**73.65**	**33**	P	**P**	**22 33 53.7**	**+0.6**
	comp=Z,3.6nm,1.0s,mb4.2,baz=269,slow=6.9,SNR=5.5						
DLBC	**Dease Lake**	**73.65**	**33**	P	**P**	**22 33 53.7**	**+0.6**
BBB	**Bella Bella**	**75.16**	**39**	LR	LR	23 00 31.3	
	comp=Z,136nm,19.5s,MS4.3,baz=168,slow=31						
ARU	**Arti**	**76.72**	**325**⇑	*i*P	**P**	**22 34 10.3**	**-0.4**
ARU				*i*		22 34 19.3	
ARU				*i*		22 37 06.8	
ARU				*i*PPP	PPP	22 38 57.0	+3.9
ARU				*e*S	S	22 44 02.9	+11
ARU				*e*SS	SS	22 48 53.3	+2.1
ARU				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
ARU	**Arti**	**76.72**	**325**	*e*P	**P**	**22 34 10.1**	**-0.6**
	comp=Z,23nm,1.1s,mb5.0						
AB31	**Akbulak array**	**76.82**	**318**	*i*P	**P**	**22 34 10.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SOKR	**Solikamsk**	**77.24**	**329**⇓	*i*P	**P**	**22 34 10.8**	**-2.8**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YBH	**Yreka Blue Hor**	**80.38**	**49**	P	**P**	**22 34 31.8**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=237,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**80.62**	**28**	P	**P**	**22 34 32.6**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=287,slow=5.6,SNR=3.8						
DPW	**Davenport**	**82.17**	**43**	*e*P	**P**	**22 34 40.0**	**-0.2**
CMB	**Columbia Colle**	**82.92**	**53**	*e*P	**P**	**22 34 46.0**	**+1.7**
	comp=Z,8.1nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**83.18**	**48**	*e*P	**P**	**22 34 46.0**	**+0.5**
	comp=Z,4.2nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**84.42**	**52**	P	**P**	**22 34 52.7**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.5,baz=256,slow=8.8,SNR=11						
NVAR	**Mina Array Bea**	**84.42**	**52**	P	**P**	**22 34 52.7**	**+0.8**
APA	**Apatity**	**84.82**	**339**⇑	*e*P	**P**	**22 34 52.3**	**-0.9**
APA				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
ARCES	**ARCESS Array B**	**86.30**	**343**	P	**P**	**22 35 00.8**	**+0.4**
	comp=Z,2.8nm,1.0s,mb4.5,baz=117,slow=11,SNR=7.8						
MCMT	**McKenzie Canyo**	**86.57**	**45**	*e*P	**P**	**22 35 02.3**	**0.0**
JOF	**Joensuu**	**87.81**	**336**	*e*p	**P**	**22 35 06.0**	**-1.9**
	comp=Z,0.4nm,0.4s,mb4.0						
DUG	**Dugway**	**88.01**	**49**	*e*P	**P**	**22 35 10.0**	**+0.6**
	comp=Z,3.8nm,0.9s,mb4.6						
OBN	**Obninsk**	**88.97**	**327**	*e*P	**P**	**22 35 11.9**	**-1.7**
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
MSU	**Marysvale**	**89.00**	**50**	*e*P	**P**	**22 35 16.5**	**+2.4**
KIV	**Kislovodsk**	**89.62**	**316**	*e*P	**P**	**22 35 16.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
FINES	**FINESS Array B**	**90.67**	**336**	P	**P**	**22 35 20.4**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.3,baz=73,slow=4.4,SNR=12						
BRTR	**Keskin Array B**	**97.50**	**314**	P	**P**	**22 35 53.3**	**+0.1**
	comp=Z,0.6nm,0.5s,mb4.4,baz=243,slow=2.8,SNR=6.8						
BRTR				PP	PP	22 39 50.6	-3.1
	comp=Z,1.3nm,1.1s,baz=82,slow=10,SNR=4.0						
KHC	**Kasperske Hory**	**103.95**	**331**	*e*PP	PP	22 40 39.0	-3.1
SNAA	**Sanae**	**120.61**	**191**⇑	*i*	PKPdf	22 41 18.1	+9.0
VNA2	**Neumayer--Watz**	**122.02**	**190**⇓	*i*	PKPdf	22 41 16.8	+5.0
DBIC	**Dimbokro**	**144.69**	**306**	PKP	PKPdf	22 41 56.5	+1.1
	comp=Z,10nm,0.7s,baz=61,slow=4.5,SNR=19						
KIC	**Kosan Boka**	**144.79**	**305**	*e*PKP1	PKPbc	22 41 56.6	+1.0
	comp=Z,87nm,1.0s						
TIC	**Toumodi**	**144.84**	**306**	*e*PKP1	PKPbc	22 41 56.6	+0.9
	comp=Z,95nm,0.9s						
LIC	**Lamto**	**145.10**	**305**	*e*PKP1	PKPbc	22 41 57.3	+0.9
	comp=Z,135nm,1.1s						
LPAZ	**La Paz**	**146.21**	**97**	PKPbc	PKPbc	22 42 01.7	+2.7
	comp=Z,1.3nm,0.5s,baz=359,slow=3.2,SNR=7.2						
SAML	**Samuel**	**149.91**	**82**	*e*P	PKPdf	22 42 06.1	+2.2

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*MOS **04** 22:56:00.2±1.2, 51.66N×159.64E, h16^{km}, mb4.9/21, Error ellipse: s-maj=15.8km s-min=6.0km az=98.8*

*IDC **04** 22:56:03.7±0.5, 52.37N×159.45E, mb4.4/22, mb1 4.6/24, mb1mx4.6/28, ML4.4/2, MS3.7/4, Ms1 3.8/4, ms1mx3.3/32, Error ellipse: s-maj=16.4km s-min=10.3km az=164.0*

*BJI **04** 22:56:04.6, 52.58N×159.89E, h48^{km}, mB5.0, mb4.7, Ms4.3, Msz4.1*

*KRSC **04** 22:56:06.8, 52.18N×159.77E, h5^{km}, Mc4.8, ML5.3*

*NEIC **04** 22:56:08.8±2.1, 52.27N×159.55E, h35^{km}±15^{km}, mb4.7/52, Error ellipse: s-maj=7.1km s-min=5.0km az=147.0*

ISC 04 22:56:09.0±0.6, **52.14N**±0.03×**159.64E**±0.06, **h56**^{km}±3^{km}, **n238**, σ1^{s}**17**/260, **mb4.6**/89, **MS4.1**/14, **25C-5D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.76**	**294**	*i*P	**P**	**22 56 23.0**	**-0.8**
SPN	**Mys Shipunski**	**0.99**	**13**	P	**P**	**22 56 25.6**	**-1.4**
SPN	**Mys Shipunski**	**0.99**	**13**	*e*P	**P**	**22 56 25.1**	**-1.9**
SPN				*e*S	**S**	**22 56 38.6**	**-1.7**
GRL	**Gorelyy**	**1.05**	**294**	*i*P	**P**	**22 56 28.4**	**+0.6**
GRL				*i*S	**S**	**22 56 44.3**	**+2.6**
NLC	**Nalytchevo**	**1.05**	**350**	*i*P	**P**	**22 56 26.0**	**-1.8**
NLC				*e*S	**S**	**22 56 40.5**	**-1.3**
PET	**Petropavlovsk**	**1.08**	**326**	P	**P**	**22 56 27.2**	**-1.0**
PET	**Petropavlovsk**	**1.08**	**326**	*e*S	**S**	**22 56 41.8**	**-0.6**
PET	**Petropavlovsk**	**1.08**	**326**⇓	*i*PN	**P**	**22 56 27.3**	**-0.9**
PET				pmax	pmax		
	comp=Z,5µm,1.7s						
PET				pmax	pmax		
	comp=Z,3µm,0.5s						
PET	**Petropavlovsk**	**1.08**	**326**⇓	*e*P	**P**	**22 56 27.0**	**-1.1**
UGLR	**Uglovaya**	**1.19**	**335**	*i*P	**P**	**22 56 29.0**	**-0.6**
UGLR				*e*S	**S**	**22 56 45.6**	**+0.6**
SDLR	**Sedlovina**	**1.23**	**338**	*i*P	**P**	**22 56 29.3**	**-1.0**
SDLR				*i*S	**S**	**22 56 47.9**	**+1.7**
SMAR	**Somma**	**1.24**	**336**	*i*P	**P**	**22 56 29.7**	**-0.7**
SMAR				*e*S	**S**	**22 56 47.6**	**+1.2**
AVH	**Avacha**	**1.26**	**334**	*i*P	**P**	**22 56 30.1**	**-0.6**
AVH				*e*S	**S**	**22 56 47.3**	**+0.5**
KOK	**Koryaka**	**1.31**	**333**	*i*P	**P**	**22 56 30.8**	**-0.7**
KOK				*e*S	**S**	**22 56 48.0**	**-0.3**
APC	**Apacha**	**1.71**	**299**	*i*P	**P**	**22 56 38.3**	**+1.3**
APC				*i*S	**S**	**22 57 01.9**	**+4.1**
APC				Smax			
	comp=Z,15µm,0.8s						
MIPR	**Malaya Ipel'ka**	**1.78**	**276**	*e*P	**P**	**22 56 39.5**	**+1.5**
MIPR				*e*S	**S**	**22 57 05.6**	**+6.1**
GNL	**Ganaly**	**1.87**	**327**	*i*P	**P**	**22 56 39.4**	**+0.1**
GNL				*e*S	**S**	**22 57 06.4**	**+4.7**
KII	**Karymskiy**	**1.91**	**357**	P	**P**	**22 56 40.0**	**+0.2**
KII	**Karymskiy**	**1.91**	**357**	*i*P	**P**	**22 56 39.7**	**-0.1**
SKR	**Severo-Kuril's**	**2.64**	**238**	*e*P	**P**	**22 56 50.3**	**+0.1**
SKR	**Severo-Kuril's**	**2.64**	**238**	*e*PN	**P**	**22 56 47.5**	**-2.7**
SKR				*i*S	**S**	**22 57 19.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,800nm,2.0s						
SKR				pmax	pmax		
	comp=Z,420nm,0.5s						
SKR				pmax	pmax		
	comp=N,220nm,0.3s						
SKR				pmax	pmax		
	comp=E,260nm,0.5s						
SKR				smax			
	comp=N,7µm,2.0s						
SKR				smax			
	comp=E,6µm,2.0s						
SKR				smax			
	comp=E,3770µm,0.5s						
SKR				smax			
	comp=E,420nm,0.5s						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s						
SKR				MLR	MLR		
	comp=N,3µm,12.0s						
SKR				MLR	MLR		
	comp=E,2µm,16.0s						
MKZ	**Mys Kozlova**	**2.73**	**26**	P	**P**	**22 56 48.5**	**-2.9**
MKZ				S	**S**	**22 57 23.4**	**+0.1**
MKZ	**Mys Kozlova**	**2.73**	**26**	*e*P	**P**	**22 56 48.5**	**-2.9**
MKZ				*e*S	**S**	**22 57 19.4**	**-3.9**
ALID	**Alaid**	**2.85**	**245**	*e*P	**P**	**22 56 54.0**	**+0.8**
ALID				*e*S	**S**	**22 57 29.5**	**+3.0**
TUMR	**Tumrok**	**3.17**	**5**	*e*P	**P**	**22 56 57.0**	**-0.6**
TUMR				*i*S	**S**	**22 57 36.4**	**+2.0**
KMNR	**Kamenistaya**	**3.65**	**5**	*e*P	**P**	**22 57 04.1**	**-0.2**
ESO	**Esso**	**3.84**	**352**	*i*P	**P**	**22 57 06.5**	**-0.5**
ESO				*e*S	**S**	**22 57 53.0**	**+1.7**
ESO				Smax			
	comp=E,490nm,1.0s						
KOZ	**Kozyrevsk**	**3.93**	**2**	P	**P**	**22 57 09.7**	**+1.3**
KOZ	**Kozyrevsk**	**3.93**	**2**	*e*P	**P**	**22 57 10.4**	**+2.0**
KOZR	**Kozyr**	**3.94**	**2**	PN	**P**	**22 57 09.7**	**+1.2**
LGNR	**Loginova**	**4.00**	**8**	*e*P	**P**	**22 57 09.7**	**+0.3**
LGNR				*e*S	**S**	**22 57 56.1**	**+0.6**
CIRR	**Tsirk**	**4.04**	**9**	*e*P	**P**	**22 57 11.5**	**+1.6**
CIRR				*e*S	**S**	**22 57 58.1**	**+1.7**
KRSR	**Krestovskiy**	**4.13**	**7**	*e*P	**P**	**22 57 13.0**	**+1.9**
SRDR	**Sredinnyy**	**4.19**	**1**	*e*P	**P**	**22 57 11.9**	**-0.1**
KLY	**Klyuchi**	**4.23**	**8**	*e*P	**P**	**22 57 14.3**	**+1.8**
KLY				*e*S	**S**	**22 58 01.9**	**+0.8**
KBTR	**Krutoberegovo**	**4.49**	**23**	P	**P**	**22 57 13.6**	**-2.6**
KBTR				S	**S**	**22 58 06.3**	**-1.3**
KBTR	**Krutoberegovo**	**4.49**	**23**	*e*P	**P**	**22 57 14.0**	**-2.2**
KBTR				*e*S	**S**	**22 58 04.4**	**-3.2**
KBG	**Krutoberegovo**	**4.50**	**22**	*e*P	**P**	**22 57 17.5**	**+1.1**
KBG				Smax			
	comp=E,4µm,1.0s						
BKI	**Bering**	**4.86**	**48**	*e*P	**P**	**22 57 17.0**	**-4.4**
BKI				*e*S	**S**	**22 58 06.8**	**-10**
BKI				Smax			
	comp=E,150nm,1.1s						
FX1	**Attu Island--F**	**8.29**	**79**	Pn	**P**	**22 58 04.4**	**-4.5**
	comp=E,28nm,0.3s,baz=312,slow=4.2,SNR=47						
FX1				Sn	**S**	**22 59 31.0**	**-11**
	comp=E,34nm,0.3s,baz=103,slow=21,SNR=15						
FX1	**Attu Island--F**	**8.29**	**79**	*e*P	**P**	**22 58 04.3**	**-4.7**
YSS	**Yuzh-Sakhalins**	**12.12**	**251**	PN	**P**	**22 59 03.8**	**+2.7**
YSS				*e*S	**S**	**23 01 22.0**	**+6.5**
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
ASAJ	**Asahikawa**	**13.90**	**241**	Pn	**P**	**22 59 25.6**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=17,slow=11,SNR=4.7						
ASAJ	**Asahikawa**	**13.90**	**241**	P	**P**	**22 59 25.6**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**18.88**	**313**	*e*P	**P**	**23 00 24.1**	**-2.8**
	comp=Z,83nm,1.0s						
UNV	**Unalaska Valle**	**20.34**	**72**	*e*P	**P**	**23 00 41.7**	**-1.1**
	comp=Z,108nm,1.0s						
MDJ	**Mudanjiang**	**21.22**	**261**	P	**P**	**23 00 50.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,135nm,7.7s						
MAJO	**Matsushiro**	**21.74**	**233**	*e*P	**P**	**23 00 58.2**	**+1.1**
	comp=Z,32nm,0.7s,mb4.9						
MAT	**Matsushiro**	**21.74**	**233**	P	**P**	**23 00 58.6**	**+1.5**
MAT	**Matsushiro**	**21.74**	**233**	*e*P	**P**	**23 00 59.0**	**+1.9**
CN2	**Changchun**	**24.18**	**263**	*e*P	**P**	**23 01 19.1**	**-1.6**
CN2				*e*S	**S**	**23 05 40.2**	**+8.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.0						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.0						
HIA	**Hailar**	**25.21**	**279**	*e*P	**P**	**23 01 29.6**	**-1.0**
	comp=Z,47nm,0.7s,mb5.1						
BOD	**Bodaibo**	**26.39**	**301**	*e*P	**P**	**23 01 38.6**	**-2.8**
JNU	**Nakatsue**	**28.16**	**239**	P	**P**	**23 01 59.1**	**+1.3**
	comp=Z,18nm,0.7s,mb4.8,baz=46,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**29.69**	**44**	P	**P**	**23 02 11.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=272,slow=8.8,SNR=7.8						
ILAR				LR	LR	23 14 53.5	
	comp=Z,100nm,18.1s,baz=290,slow=38						
ILAR	**Eielson Array**	**29.69**	**44**	P	**P**	**23 02 11.6**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,100nm,18.2s						
BJI	**Beijing**	**32.00**	**265**	*e*P	**P**	**23 02 31.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,287nm,17.8s,MS4.1						
BJI				LR	LR		
	comp=E,313nm,21.6s,MS4.1						
BJI				LR	LR		
	comp=Z,256nm,18.6s,MS3.9						
BJI	**Beijing**	**32.00**	**265**	*e*P	**P**	**23 02 31.8**	**0.0**
	comp=Z,7.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,260nm,18.6s,MS3.9						
SONM	**Songino Array**	**33.86**	**284**	P	**P**	**23 02 47.9**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=101,slow=6.3,SNR=3.8						
SONM				PcP	PcP	23 05 26.1	+0.4
	comp=Z,3.9nm,1.0s,baz=90,slow=1.2,SNR=7.4						
JOW	**Kunigami**	**34.53**	**235**	P	**P**	**23 02 54.5**	**+0.7**
	comp=Z,29nm,0.6s,mb5.4,baz=28,slow=8.4,SNR=4.5						
ZAK	**Zakamensk**	**34.56**	**290**⇑	*e*P	**P**	**23 02 52.1**	**-1.7**
ZAK				*e*		23 05 27.9	
INK	**Inuvik**	**34.80**	**37**	P	**P**	**23 02 54.5**	**-1.1**
	comp=Z,0.9nm,0.3s,mb4.1,baz=284,slow=7.3,SNR=5.2						
INK	**Inuvik**	**34.80**	**37**	P	**P**	**23 02 54.5**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**34.80**	**37**	*e*P	**P**	**23 02 54.7**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.3						
DLBC	**Dease Lake**	**38.84**	**52**	P	**P**	**23 03 31.2**	**+1.5**
	comp=Z,1.6nm,0.8s,mb3.8,baz=294,slow=8.9,SNR=4.7						
DLBC	**Dease Lake**	**38.84**	**52**	*e*P	**P**	**23 03 31.6**	**+1.9**
WHN	**Wuhan**	**39.44**	**255**	*e*P	**P**	**23 03 34.2**	**-0.8**
LZH	**Lanzhou**	**42.06**	**270**	*e*P	**P**	**23 03 51.0**	**-5.5**
LZH				AP	pP	23 04 06.8	-4.3
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,154nm,6.0s						
LZH				LR	LR		
	comp=E,293nm,14.4s						
LZH				LR	LR		
	comp=Z,324nm,17.9s,MS4.2						
LZH	**Lanzhou**	**42.06**	**270**	*e*P	**P**	**23 03 51.0**	**-5.5**
	comp=Z,28nm,1.0s,mb4.8						
LZH				pP	pP	23 04 06.8	-4.3
LZH				sP	sP	23 04 14.4	-3.4
LZH				LR	LR		
	comp=Z,320nm,17.9s,MS4.2						
GTA	**Gaotai**	**42.45**	**277**	*e*P	**P**	**23 03 59.2**	**-0.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
ENH	**Enshi**	**42.56**	**259**	*e*P	**P**	**23 03 59.6**	**-1.0**
	comp=Z,11nm,0.7s,mb4.7						
NVS	**Novosibirsk**	**43.44**	**305**	*i*P	**P**	**23 04 04.7**	**-2.8**
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**44.06**	**42**	P	**P**	**23 04 12.2**	**-0.1**
	comp=Z,2.1nm,0.8s,mb3.9,baz=299,slow=8.0,SNR=6.9						
YKA	**Yellowknife Ar**	**44.06**	**42**	P	**P**	**23 04 12.2**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**44.06**	**42**	P	**P**	**23 04 12.2**	**-0.1**
RES	**Resolute Bay**	**44.32**	**22**	*e*P	**P**	**23 04 14.4**	**+0.1**
GYA	**Guiyang**	**47.03**	**258**⇑	*i*P	**P**	**23 04 36.3**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi**	**47.03**	**290**	⇑P	**P**	**23 04 33.8**	**-2.4**
WMQ				AP	pP	23 04 43.8	-7.2
WMQ				XP	sP	23 04 46.9	-11
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
KURK	**Kurchatov**	**48.01**	**302**	*e*P	**P**	**23 04 41.0**	**-2.8**
	comp=Z,11nm,0.8s,mb4.9						
SPB4	**Spitsbergen Ar**	**48.04**	**350**	*e*P	**P**	**23 04 42.9**	**-0.8**
MKAR	**Makanchi Array**	**48.33**	**296**	P	**P**	**23 04 44.0**	**-2.3**
	comp=Z,2.4nm,0.5s,mb4.5,baz=54,slow=6.7,SNR=24						
MKAR				LR	LR	23 26 07.0	
	comp=Z,142nm,18.6s,MS4.0,baz=5.4,slow=38						
MKAR	**Makanchi Array**	**48.33**	**296**	*i*P	**P**	**23 04 43.7**	**-2.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.33**	**296**	P	**P**	**23 04 44.0**	**-2.3**
MKAR				LR	LR	23 26 07.0	
KMI	**Kunming**	**50.39**	**260**	*e*P	**P**	**23 05 01.1**	**-1.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.8						
KMI				LR	LR		
	comp=Z,132nm,22.8s,MS3.9						
KMI	**Kunming**	**50.39**	**260**	*e*P	**P**	**23 05 01.1**	**-1.4**
	comp=Z,7.0nm,0.7s,mb4.8						
KMI				LR	LR		
	comp=Z,130nm,22.8s,MS3.9						
NEW	**Newport**	**50.63**	**59**	LR	LR	23 24 51.1	
	comp=Z,81nm,18.6s,MS3.8,baz=342,slow=34						
VOSK	**Vostochnaya**	**50.67**	**308**	P	**P**	**23 05 01.0**	**-3.2**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BVA0	**Borovoye Array**	**50.77**	**309**	*i*P	**P**	**23 05 02.1**	**-2.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**23 05 02.4**	**-2.6**
	comp=Z,6.5nm,0.7s,mb4.7,baz=53,slow=7.4,SNR=58						
BVAR				PcP	PcP	23 06 20.6	-0.8
	comp=Z,5.0nm,1.0s,baz=90,slow=3.0,SNR=5.9						
BRVK	**Borovoye**	**50.80**	**309**	*e*P	**P**	**23 05 02.3**	**-2.9**
	comp=Z,9.5nm,0.8s,mb4.8						
DAG	**Danmarks Havn**	**51.36**	**359**⇑	*i*P	**P**	**23 05 08.1**	**-1.1**
	comp=Z,9.0nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**51.48**	**309**	P	**P**	**23 05 07.4**	**-2.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LVZ	**Lovozero**	**53.48**	**337**⇑	*e*P	**P**	**23 05 23.4**	**-1.7**
LVZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LVZ				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.2						
ARU	**Arti**	**53.92**	**318**⇑	*i*P	**P**	**23 05 25.6**	**-2.8**
ARU				*e*		23 06 29.0	
ARU				*i*		23 07 31.2	
ARU				*e*S	**S**	**23 12 59.7**	**+1.8**
ARU				*e*SS	SS	23 16 51.0	+12
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
ARU				MLR	MLR		
	comp=N,50nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS4.0						
ARU	**Arti**	**53.92**	**318**	*e*P	**P**	**23 05 25.3**	**-3.1**
	comp=E,4.6nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**54.12**	**342**	P	**P**	**23 05 27.1**	**-2.6**
	comp=E,14nm,1.1s,mb4.8,baz=38,slow=7.2,SNR=14						
ARCES				PcP	PcP	23 06 33.1	-0.7
	comp=E,5.3nm,1.0s,baz=59,slow=7.1,SNR=5.0						
ARCES	**ARCESS Array B**	**54.12**	**342**	P	**P**	**23 05 27.1**	**-2.6**
ARCES						23 06 33.1	
ARCES				pmax	pmax		
	comp=Z,14nm,1.1s						
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSA	**Lhasa**	**54.21**	**274**	P	**P**	**23 05 31.0**	**0.0**
LSA	**Lhasa**	**54.21**	**274**	*e*P	**P**	**23 05 31.0**	**0.0**
	comp=Z,6.4nm,0.8s,mb4.6						
KTK1	**Kautokeino**	**54.99**	**342**	*e*P	**P**	**23 05 35.9**	**-0.2**
KTK1				AMb	AMB	23 05 38.7	
	comp=Z,23nm,1.1s,mb5.1						
KTK1	**Kautokeino**	**54.99**	**342**	*e*P	**P**	**23 05 35.9**	**-0.2**
	comp=Z,23nm,1.1s,mb5.1						
TRO	**Tromso**	**55.21**	**344**	*e*P	**P**	**23 05 35.6**	**-2.1**
NVAR	**Mina Array Bea**	**56.33**	**69**	P	**P**	**23 05 47.0**	**+0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=311,slow=4.4,SNR=6.4						
KKAR	**Karatay Array**	**57.11**	**299**	*e*P	**P**	**23 05 49.0**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
LOF	**Lofoten**	**57.42**	**346**	*e*P	**P**	**23 05 53.7**	**+0.2**
LOF				AMb	AMB	23 05 55.4	
	comp=Z,40nm,1.2s,mb5.3						
LOF				*e*sP	sP	23 06 07.7	-7.5
LOF	**Lofoten**	**57.42**	**346**	*e*P	**P**	**23 05 53.7**	**+0.2**
	comp=Z,40nm,1.2s,mb5.3						
CM31	**Chiang Mai Arr**	**57.72**	**258**	*e*P	**P**	**23 05 57.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**57.72**	**258**	P	**P**	**23 05 56.8**	**+0.6**
	comp=Z,9.2nm,0.7s,mb4.9,baz=28,slow=6.8,SNR=48						
CMAR				LR	LR	23 35 27.9	
	comp=Z,48nm,18.3s,MS3.6,baz=230,slow=41						
CMAR	**Chiang Mai Arr**	**57.72**	**258**	P	**P**	**23 05 56.8**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						

CMAR				MLR	MLR		
	comp=Z,48nm,18.3s						
AB31	Akbulak array	58.21	311	*i* P	P	23 05 56.1	-3.1
AB31	Akbulak array	58.21	311	⇑P	P	23 05 56.2	-3.1
	comp=Z,1.1nm,0.3s,mb4.3,baz=45,slow=7.6,SNR=32						
DUG	Dugway	58.23	64	*e*P	P	23 06 00.2	+0.6
	comp=Z,1.0nm,0.6s,mb4.0						
PDAR	Pinedale Array	58.24	60	P	P	23 06 00.5	+0.9
	comp=Z,1.3nm,0.7s,mb4.1,baz=180,slow=1.5,SNR=8.3						
JOF	Joensuu	58.32	335	*e*p	P	23 05 55.4	-4.4
	comp=Z,0.9nm,0.4s,mb4.2						
JOF	Joensuu	58.32	335	*e*P	P	23 05 55.4	-4.4
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MOR8	Moi Rana	59.08	344	*e*P	P	23 06 02.0	-3.1
MOR8				AMb	AMB	23 06 02.8	
	comp=Z,22nm,0.7s,mb5.3						
MOR8	Moi Rana	59.08	344	*e*P	P	23 06 02.0	-3.1
	comp=Z,22nm,0.7s,mb5.3						
KKN	Kakani	59.18	277	*e*P	P	23 06 05.2	-1.1
	comp=Z,34nm,0.9s,mb5.4						
PKI	Pulchoki	59.26	276	*e*P	P	23 06 05.1	-1.7
	comp=Z,23nm,0.8s,mb5.3						
DMN	Daman	59.41	277	*e*P	P	23 06 06.5	-1.4
	comp=Z,27nm,0.7s,mb5.4						
GKN	Gorkha	59.42	277	*e*P	P	23 06 05.8	-2.1
	comp=Z,37nm,0.9s,mb5.4						
KOLN	Koldanda	60.22	278	*e*P	P	23 06 05.3	-8.1
FINES	FINESS Array B	60.89	337	P	P	23 06 15.8	-1.8
	comp=Z,8.4nm,0.8s,mb4.9,baz=45,slow=8.1,SNR=44						
FINES	FINESS Array B	60.89	337	P	P	23 06 15.8	-1.7
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	FINESS Array B	60.89	337	P	P	23 06 15.8	-1.8
OBN	Obninsk	63.18	327	⇓*e*P	P	23 06 30.9	-2.0
OBN				*e*		23 07 08.3	
OBN				*i*		23 15 05.8	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
NB2	NORSAR Subarra	64.39	344	P	P	23 06 39.6	-0.9
	comp=Z,8.8nm,0.7s,mb4.9,baz=22,slow=6.5						
NB2	NORSAR Subarra	64.39	344	P	P	23 06 39.6	-0.9
	baz=22,slow=6.9						
NOA	NORSAR Array B	64.39	344	P	P	23 06 39.3	-1.2
	comp=Z,6.3nm,0.6s,mb4.8,baz=21,slow=6.7,SNR=63						
NOA	NORSAR Array B	64.39	344	P	P	23 06 39.3	-1.2
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NAO01	NORSAR Array S	64.63	344	*e*P	P	23 06 41.0	-1.1
	comp=Z,3.0nm,0.7s,mb4.4						
MUD	Monsted U’grnd	69.07	343	*i* P	P	23 07 10.5	+0.3
	comp=Z,6.8nm,1.0s,mb4.5						
BSD	Bornholm Skovb	69.18	339	⇓*i*P	P	23 07 10.5	-0.4
	comp=Z,12nm,0.8s,mb4.9						
AKASG	Malin Array Be	69.29	329	P	P	23 07 10.1	-1.6
	comp=Z,10nm,0.6s,mb4.9,baz=28,slow=6.2,SNR=40						
AKASG	Malin Array Be	69.29	329	P	P	23 07 10.1	-1.6
AKASG				pmax	pmax		
	comp=Z,11nm,0.6s						
WMOK	Wichita Mounta	69.83	59	*e*P	P	23 07 14.8	-0.4
	comp=Z,7.2nm,1.1s,mb4.5						
KIV	Kislovodsk	69.95	317	*e*P	P	23 07 13.7	-2.1
KIV				*e*		23 09 47.8	
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
BSEG	Bad Segeberg	71.24	341	*e*P	P	23 07 23.5	+0.1
BSEG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
TXAR	Lajitas Array	71.27	66	P	P	23 07 25.3	+1.2
	comp=Z,1.8nm,0.6s,mb4.2,baz=284,slow=5.2,SNR=9.6						
TXAR	Lajitas Array	71.27	66	P	P	23 07 25.3	+1.2
OJC	Ojcow	72.49	334	⇑*e*P	P	23 07 30.5	-0.4
CLL	Collm	73.15	339	⇑P	P	23 07 34.3	-0.3
	comp=Z,logA/T=1.0,mb4.7						
CLL				*e*		23 07 56.0	
CLL	Collm	73.15	339	⇑*i*P	P	23 07 34.3	-0.3
CLL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
CLL	Collm	73.15	339	⇑*i*P	P	23 07 34.3	-0.3
	comp=Z,13nm,1.2s,mb4.7						
CLZ	Clausthal	73.21	341	*e*P	P	23 07 35.3	+0.3
	comp=Z,19nm,1.5s,mb4.8						
CRVS	Cervenica-Dubn	73.23	333	*e*P	P	23 07 34.7	-0.4
DPC	Dobruska-Polom	73.27	336	⇑*i*P	P	23 07 35.7	+0.4
DPC				*e*		23 22 34.0	
DPC				LM		23 40 20.0	
	comp=Z,0.1nm,17.8s						
DPC	Dobruska-Polom	73.27	336	⇑*i*P	P	23 07 35.7	+0.4
DPC				MLR	MLR		
	comp=Z,100nm,17.8s,MS4.2						
OKC	Ostrava-Krasne	73.28	335	⇑*i*P	P	23 07 35.5	+0.1
OKC				LM		23 43 20.0	
	comp=Z,0.2nm,19.4s						
BRG	Berggiesshubel	73.35	338	*e*P	P	23 07 35.5	-0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
BRG	Berggiesshubel	73.35	338	*e*P	P	23 07 35.5	-0.3
	comp=Z,6.8nm,1.4s,mb4.4						
PVCC	Panska Ves	73.52	338	⇑*e*P	P	23 07 36.7	-0.1
PVCC				*e*		23 22 44.1	
PVCC				LM		23 42 00.0	
	comp=Z,0.2nm,19.2s						
PVCC	Panska Ves	73.52	338	*e*P	P	23 07 36.7	-0.1
PVCC				MLR	MLR		
	comp=Z,200nm,19.2s,MS4.4						
PRU	Pruhonice	74.03	337	⇑*e*P	P	23 07 39.9	+0.1
MOX	Moxa	74.08	339	*e*P	P	23 07 40.0	-0.1
VYHS	Vyhne	74.33	334	*i* P	P	23 07 41.8	+0.3
VYHS				*e*		23 07 50.0	
SMOL	Smolenice	74.68	335	*e*P	P	23 07 44.6	+1.0
ZST	Bratislava	75.06	335	*e*P	P	23 07 45.5	-0.3
KHC	Kasperske Hory	75.06	338	⇑*i*P	P	23 07 46.2	+0.5
KHC				*e*		23 23 33.6	
KHC				LM		23 42 50.0	
	comp=Z,0.2nm,23.1s						
KHC	Kasperske Hory	75.06	338	⇑*i*P	P	23 07 46.2	+0.5
KHC				MLR	MLR		
	comp=Z,200nm,23.1s,MS4.3						
GRA1	Grafenberg Arr	75.06	339	*e*P	P	23 07 46.2	+0.5
	comp=Z,19nm,1.5s,mb4.8						
GRF	Grafenberg Arr	75.06	339	*e*P	P	23 07 46.2	+0.5
GRF				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
WB2	Warramunga Arr	75.09	205	*e*P	P	23 07 46.8	+0.3
WRA	Warramunga Arr	75.09	205	P	P	23 07 47.0	+0.4
	comp=Z,3.5nm,0.8s,mb4.3,baz=17,slow=6.1,SNR=16						
WRA	Warramunga Arr	75.09	205	P	P	23 07 47.0	+0.5
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WET	Wettzell	75.21	338	*e*P	P	23 07 46.8	+0.2
WET				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
WET	Wettzell	75.21	338	*e*P	P	23 07 46.8	+0.2
	comp=Z,11nm,1.4s,mb4.6						
GEC2	GERESS Array S	75.30	338	*e*P	P	23 07 47.2	+0.1
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
GEC2	GERESS Array S	75.30	338	*e*P	P	23 07 47.2	+0.1
	comp=Z,8.0nm,1.4s,mb4.5						
GERES	GERESS Array B	75.30	338	P	P	23 07 47.2	+0.1
	comp=Z,2.5nm,0.8s,mb4.2,baz=40,slow=5.5,SNR=20						
GERES	GERESS Array B	75.30	338	P	P	23 07 47.2	+0.1
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FITZ	Fitzroy Crossi	75.95	213	*e*P	P	23 07 52.4	+1.0
	comp=Z,4.7nm,0.9s,mb4.4						
BAIF	Baives	76.07	344	*e*P	P	23 07 51.8	+0.3
MOA	Molln	76.09	337	⇑*i*P	P	23 07 52.0	+0.3
	comp=Z,3.9nm,1.0s,mb4.3						
ARSA	Arzberg	76.34	336	⇑*i*P	P	23 07 54.0	+0.9
	comp=Z,4.0nm,0.7s,mb4.5						
FUR	Furstenfeldbru	76.49	339	*e*P	P	23 07 54.2	+0.3
BFO	Black Forest	76.96	341	*e*P	P	23 07 55.6	-1.0
BFO				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BFO	Black Forest	76.96	341	*e*P	P	23 07 55.6	-1.0
	comp=Z,6.0nm,1.1s,mb4.4						
KBA	Koelnbreinsper	77.03	337	⇑*i*P	P	23 07 58.4	+1.4
	comp=Z,17nm,0.7s,mb5.1						
CDF	Champ du Feu	77.09	342	*e*P	P	23 07 57.5	+0.2
	comp=Z,10.0nm,0.9s,mb4.4						
BRTR	Keskin Array B	77.19	320	P	P	23 07 57.6	-0.4
	comp=Z,4.7nm,0.8s,mb4.5,baz=45,slow=3.5,SNR=24						
BRTR	Keskin Array B	77.19	320	P	P	23 07 57.7	-0.3
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WTTA	Wattenberg	77.26	338	⇑*i*P	P	23 07 58.8	+0.5
	comp=Z,11nm,1.2s,mb4.7						
MEZF	Maizieres J’vi	77.42	343	*e*P	P	23 07 59.7	+0.6
DAVA	Damuels	77.63	339	⇑*i*P	P	23 07 59.2	-1.1
	comp=Z,4.3nm,0.9s,mb4.4						
HAU	Haudompre	77.66	342	*e*P	P	23 08 00.3	-0.1
	comp=Z,6.4nm,0.8s,mb4.3						
HINF	Hinteralfeld	77.75	342	*e*P	P	23 08 00.8	-0.1
LDF	La Druitiere	78.18	346	*e*P	P	23 08 03.3	+0.1
GRR	Gorron	78.48	347	*e*P	P	23 08 05.7	+0.8
ASAR	Alice Springs	78.77	204	P	P	23 08 08.5	+1.5
	comp=Z,2.0nm,0.7s,mb4.2,baz=13,slow=4.9,SNR=15						
LOR	Lormes	78.83	343	*e*P	P	23 08 06.8	-0.1
	comp=Z,8.4nm,0.7s,mb4.5						
SGMF	Saint Gilles	78.84	348	*e*P	P	23 08 07.1	+0.2
	comp=Z,33nm,1.2s,mb4.8						
ROSF	Rostrenen	78.85	348	*e*P	P	23 08 06.3	-0.7
	comp=Z,40nm,1.2s,mb4.9						
CABF	La Chapelle	79.05	342	*e*P	P	23 08 09.0	+0.9
SSF	Saint Saulge	79.09	344	*e*P	P	23 08 08.2	-0.1
	comp=Z,7.5nm,0.8s,mb4.4						
AVF	Avril sur Loir	79.38	344	*e*P	P	23 08 10.1	+0.2
	comp=Z,21nm,1.0s,mb4.7						
SMF	Signal de Mont	79.43	343	*e*P	P	23 08 11.2	+1.0
	comp=Z,22nm,1.1s,mb4.7						
BGF	Bois d’Agland	79.69	344	*e*P	P	23 08 12.2	+0.6
LPL	La Plagne	79.97	341	*e*P	P	23 08 14.3	+1.2
	comp=Z,16nm,0.9s,mb4.6						
LPG	La Plagne	79.99	341	*e*P	P	23 08 14.6	+1.4
	comp=Z,23nm,1.0s,mb4.8						
MFF	Saint Martin d	80.12	346	*e*P	P	23 08 14.1	+0.2
	comp=Z,14nm,1.1s,mb4.5						
ORIF	Oris-en-Rattie	80.72	341	*e*P	P	23 08 17.8	+0.7
	comp=Z,16nm,0.9s,mb4.6						
VIVF	Saint-Julien-l	81.01	342	*e*P	P	23 08 19.5	+0.9
	comp=Z,16nm,0.9s,mb4.7						
CAF	Calviac	81.41	344	*e*P	P	23 08 21.4	+0.7
	comp=Z,8.6nm,0.8s,mb4.5						
SBF	Sospel	81.41	340	*e*P	P	23 08 21.4	+0.6
HASS	Wahat al Ahsa’	81.79	301	P	P	23 08 22.5	-0.6
MMLI	Mount Malkishu	82.69	315	P	P	23 08 28.3	+0.7
OFRI	‘Ofer	82.72	316	P	P	23 08 28.0	+0.3
QURS	Qurayyt al Mil	82.75	313	P	P	23 08 28.8	+0.9
HMDT	Nahal Hemdat	82.80	315	P	P	23 08 28.8	+0.6
MTLF	Montolieu	82.92	344	*e*P	P	23 08 28.7	+0.2
	comp=Z,18nm,1.0s,mb4.7						
SJPF	Ste Jean	83.70	346	*e*P	P	23 08 33.3	+1.0
	comp=Z,39nm,1.2s,mb5.1						
ETSF	Etsaut	83.81	346	*e*P	P	23 08 33.9	+1.0
	comp=Z,15nm,0.8s,mb4.9						
HILS	Ha’il	84.02	308	P	P	23 08 35.2	+0.8
ZFRI	Zfri	84.41	314	P	P	23 08 36.8	+0.6
KZIT	Kziot	84.45	315	P	P	23 08 36.9	+0.5
ARSS	Ar Rass	84.56	306	P	P	23 08 37.2	+0.1
PRNI	Paran	84.66	314	P	P	23 08 38.2	+0.7
PRNI	Paran	84.66	314	⇑P	P	23 08 38.2	+0.7
MZLS	Mizel	85.08	303	P	P	23 08 40.0	+0.2
MBH	Mount Berech	85.18	314	P	P	23 08 40.7	+0.6
EIL	Elat	85.27	314	P	P	23 08 41.2	+0.7
RAYN	Ar Rayn	85.35	303	P	P	23 08 41.2	+0.1
	comp=Z,141nm,0.7s,SNR=14						
ALWS	Ilw as Safayha	85.53	314	P	P	23 08 42.9	+1.1
JMQS	Jabal Moqyreh	85.53	313	P	P	23 08 42.8	+1.0
JMOS	Jabal al Moall	85.63	314	P	P	23 08 43.5	+1.1
TBKS	Tabuk	85.79	312	P	P	23 08 44.3	+1.2
HAQS	Haql	85.81	314	P	P	23 08 44.0	+0.8
BDAS	Al Bad‘	86.27	313	P	P	23 08 46.0	+0.6
AFFS	‘Afif	86.29	305	P	P	23 08 46.1	+0.4
AYUS	‘Aynunah	86.40	313	P	P	23 08 47.0	+1.0
KBRS	Khaybar	86.58	309	P	P	23 08 48.4	+1.4
ESDC	Sonseca Array	87.46	347	P	P	23 08 50.9	-0.1
	comp=Z,2.7nm,0.8s,mb4.6,baz=3.5,slow=4.5,SNR=13						
ESLA	Sonseca Array	87.46	347	*e*P	P	23 08 51.1	+0.1
QSPA	South Pole Qui	141.88	180	*e*P		23 15 47.5	
SNAA	Sanae	158.90	195	⇑*i*	PKPdf	23 15 59.3	+0.8
VNA2	Neumayer--Watz	160.25	193		PKPdf	23 15 50.6	-9.4
VNA2	Neumayer--Watz	160.25	193	⇓*i*	PKPdf	23 15 55.7	-4.3

NNC 04 23:07:32.3±8.2, 37.13N×69.95E, mpv3.3, Error ellipse: s-maj=169.5km s-min=65.9km az=93.0

ISC 04 23:07:35.0±3.5, 36.9N±0.2×70.1E±0.3, h218^{km}±31^{km}, n11, σ0^{s}74/12, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.96	27	P	P	23 09 02.8	+0.1
	SNR=15						
KK31	Karatay Array	6.26	3	Pn	P	23 09 06.7	+0.2
	1.1nm,0.3s,baz=199,slow=16,SNR=50						
KK31				⇑Sn	S	23 10 17.6	-0.3
	1.6nm,0.3s,baz=190,slow=23,SNR=6.0						
UCH	Uchtor	6.36	31	P	P	23 09 08.2	+0.4
	SNR=5.5						
EKS2	Erkin-Say	6.46	25	P	P	23 09 09.4	+0.3
	SNR=7.5						
ULHL	Ulahol	7.18	39	P	P	23 09 18.2	-0.2
	SNR=5.9						
USP	Ospenovka	7.24	26	P	P	23 09 19.3	+0.1
	SNR=5.0						
MK31	Makanchi Array	13.45	39	⇑P	P	23 10 37.3	-1.0
	0.7nm,0.5s,baz=222,slow=14,SNR=18						
AB31				P	P	23 10 49.7	-0.7
	0.3nm,0.3s,baz=146,slow=11,SNR=13						
VOSK	Vostochnaya	15.89	2	⇓P	P	23 11 08.1	0.0
ZRNK	Zerenda	16.12	358	⇓P	P	23 11 10.5	-0.5
BVA0	Borovoye Array	16.18	1	⇓P	P	23 11 14.1	+2.4
	0.2nm,0.5s,baz=166,slow=11,SNR=15						

IDC 04 23:08:23.7±1.6, 0.47N×126.43E, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, Error ellipse: s-maj=154.0km s-min=23.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.72	160	P	P	23 13 15.5	-3.1
	2.1nm,0.5s,baz=338,slow=11,SNR=28						
WB2	Warramunga Arr	21.72	159	*e*P	P	23 13 15.9	-2.7
ASAR	Alice Springs	25.07	164	P	P	23 13 50.9	-0.6
	1.1nm,0.4s,baz=347,slow=12,SNR=17						
ASAR				PcP	PcP	23 17 24.6	-2.6
	0.5nm,0.6s,baz=353,slow=2.1,SNR=6.0						
MKAR	Makanchi Array	60.06	326	P	P	23 18 32.5	-2.4
	0.5nm,0.4s,baz=124,slow=8.5,SNR=12						

HEL 04 23:17:54.8±0.1, 67.85N×20.17E, ML2.2, ML2.3(UPP), ML2.1(BER), Explosion

NAO 04 23:17:55.0±2.9, 67.84N×20.24E, ML2.2

IDC 04 23:17:55.5±1.3, 67.84N×20.39E, mb1 2.5/3, mb1mx2.5/19, ML2.5/3, Error ellipse: s-maj=19.1km s-min=9.0km az=115.0

BER 04 23:17:57.1±4.9, 67.92N×20.08E, ML2.1, ML2.2(NAO), Suspected explosion

ISC 04 23:17:53.1±0.4, 67.80N±0.02×20.14E±0.06, n31, σ0^{s}86/48, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.17	25	*i* P	Pg	23 17 56.7	+0.1
KUA				*i* S	Sg	23 17 58.6	-0.2
NIKU	Nikkaluokta	0.43	280	*i* P	Pg	23 18 02.3	+0.7
DUNU	Dundret	0.70	166	*i* P	Pg	23 18 08.1	+1.0
SALU	Saltoluokta	0.76	237	*i* P	Pg	23 18 09.1	+0.9
MASU	Masugnsbyn	0.79	115	*i* P	Pg	23 18 09.1	+0.3
KIF	Kilpisjarvi	1.24	11	*e*P	Pb	23 18 17.0	0.0
KIF				*e*S	Sb	23 18 32.7	-0.7
PAJU	Pajala	1.39	123	*e*P	Pb	23 18 19.7	+0.1
ERTU	Ertsjaerv	1.48	147	*e*P	Pn	23 18 21.8	+0.7
KTK1	Kautokeino	1.67	42	*e*P	Pn	23 18 24.8	+0.9
KTK1				*e*SN	Sn	23 18 48.2	+2.0
TRO	Tromso	1.90	347	*e*P	Pn	23 18 26.7	-0.4
TRO				*e*S	Sn	23 18 51.2	-0.8
TRO				AML	AML	23 18 54.4	
	comp=Z,22nm,0.4s						
SGF	Sodankyl	2.47	95	*e*P	Pn	23 18 36.1	+0.9
SGF				*e*S	Sn	23 19 06.7	+0.1
SGF				MSG		23 19 14.3	
	comp=Z,5.4nm,0.2s						
LOF	Lofoten	2.51	281	*e*	Sg	23 19 16.6	-0.2
LOF	Lofoten	2.51	281	*e*Sg	Sg	23 19 16.6	-0.2
ARA0	ARCESS Array S	2.62	46	Pn	Pn	23 18 37.7	+0.2
	baz=224,slow=16						
ARA0				Sn	Sn	23 19 09.8	-0.7
	baz=228,slow=28						
ARA0	ARCESS Array S	2.62	46	*e*P	Pn	23 18 37.7	+0.2
ARA0				*e*S	Sn	23 19 09.8	-0.7
ARCES	ARCESS Array B	2.62	46	Pn	Pn	23 18 37.7	+0.2
	comp=Z,1.0nm,0.3s,baz=228,slow=15,SNR=40						
ARCES				Sn	Sn	23 19 11.4	+1.0
	comp=Z,2.7nm,0.3s,baz=227,slow=24,SNR=15						
MOR8	Moi Rana	2.77	237	*e*SG	Sg	23 19 17.1	-8.3
MOR8				AML	AML	23 19 20.6	
	comp=Z,22nm,0.3s						
STOK	Stokkvaagen	3.15	246	*e*	Sg	23 19 37.8	-0.3
STOK	Stokkvaagen	3.15	246	*e*Sg	Sg	23 19 37.8	-0.3
KEV	Kevo	3.18	49	*e*P	Pn	23 18 45.1	-0.3
KEV				*e*S	Sn	23 19 23.2	-1.3
KEV				MSG		23 19 44.1	
	comp=Z,6.2nm,0.3s						
OUL	Oulu	3.57	137	*e*P	Pn	23 18 51.8	+0.9
OUL				*e*S	Sn	23 19 34.4	0.0
OUL				MSG		23 19 57.0	
	comp=Z,5.1nm,0.3s						
MSF	Maaselka	3.99	114	*e*P	Pn	23 18 57.6	+0.7
MSF				*e*S	Sn	23 19 43.7	-1.3
MSF				MSG		23 20 08.4	
	comp=Z,6.7nm,0.4s						
NSS	Namsos	4.67	229	*e*SG	Sg	23 20 21.1	-7.3
APA0	Apatity Array	4.90	86	Pn	Pn	23 19 08.4	-1.4
	baz=292,slow=10						
APA0				Sn	Sn	23 20 03.3	-4.8
	baz=295,slow=37						
APA0	Apatity Array	4.90	86	*e*P	Pn	23 19 08.4	-1.4
APA0				*e*S	Sn	23 20 03.3	-4.8
FIA0	FINESS Array S	6.87	155	Pn	Pn	23 19 37.2	-0.3
	baz=353,slow=16						
FIA0				Sn	Sn	23 20 54.9	-2.5
	baz=352,slow=28						
FIA0				Lg		23 21 33.1	
	baz=345,slow=28						
FIA0	FINESS Array S	6.87	155	*e*P	Pn	23 19 37.2	-0.3
FIA0				*e*S	Sn	23 20 54.9	-2.5
FIA0				*e*		23 21 33.1	
FINES	FINESS Array B	6.87	155	Pn	Pn	23 19 37.6	+0.1
	comp=Z,0.1nm,0.3s,baz=350,slow=16,SNR=4.8						
FINES				Sn	Sn	23 20 54.8	-2.7
	comp=Z,0.2nm,0.3s,baz=351,slow=23,SNR=3.8						
FINES				Lg		23 21 31.0	
	comp=Z,0.3nm,0.3s,baz=339,slow=27,SNR=5.8						
NOA	NORSAR Array B	7.80	214	Pn	Pn	23 19 49.7	-0.9
	comp=Z,0.1nm,0.3s,baz=14,slow=12,SNR=2.8						
NOA				Sn	Sn	23 21 15.8	-4.9
	comp=Z,0.1nm,0.3s,baz=1.7,slow=17,SNR=2.7						
NOA				Lg		23 21 56.5	
	comp=Z,0.4nm,0.3s,baz=136,slow=25,SNR=6.1						
HFS	Hagfors	8.20	203	*e*S	Sn	23 21 26.0	-4.6
HFS				*e*		23 22 15.0	
HFS	Hagfors	8.20	203	Sn	Sn	23 21 26.0	-4.6
	baz=41,slow=28						
HFS				Lg		23 22 15.0	
	baz=6.5,slow=28						

ISK 04 23:32:59.8, 37.04N×27.78E, h17^{km}, MD3.2

NEIC 04 23:32:59.3, 36.95N×27.74E, h34^{km}, MD3.3(ATH), After ATH.

ATH 04 23:32:59.3, 36.95N×27.74E, h34^{km}±4^{km}, MD3.3/6

ISC 04 23:32:59.2±0.5, 36.95N±0.03×27.70E±0.04, h19^{km}±6^{km}, n17, σ0^{s}67/27, 4C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.23	299	*i* P	Pb	23 33 04.7	-0.2
BDRM				*i* S	Sb	23 33 09.4	+0.8
MLSB	Milas	0.35	10	*i* PG	Pb	23 33 06.2	-0.5
YER	Yerkesik	0.50	68	*i* PG	Pb	23 33 08.4	-0.8
YER				SG	Sb	23 33 14.9	-1.1
NISR	Nisiros	0.57	234	*e*PN	Pn	23 33 11.0	-1.1
NISR				*e*SN	Sn	23 33 21.0	+0.1
AYDN	Tasoluk	0.72	11	⇑*i*P	Pb	23 33 13.2	+0.2
AYDN				*i* S	Sb	23 33 22.5	+0.2
ARG	Arkhangelos	0.81	155	*e*PB	Pb	23 33 14.4	-0.1
ARG				*e*SN	Sn	23 33 27.5	+0.5
SMG	Samos	1.02	318	*e*PN	Pn	23 33 19.5	+0.9
DNZL	Cakiroluk	1.30	55	⇑*i*P	Pn	23 33 23.0	+0.5
DNZL				*i* S	Sb	23 33 40.6	+1.5
DENT	Denizli	1.33	53	PN	Pn	23 33 23.4	+0.4
DENT				SN	Sn	23 33 39.3	-0.9
KARP	Karpathos	1.47	197	*e*PB	Pb	23 33 25.0	-0.7
KARP				*e*SB	Sb	23 33 44.5	+0.6
IZM	Izmir	1.49	347	PN	Pn	23 33 24.8	-0.4
KDAG	Bornova	1.49	347	⇑*i*P	Pn	23 33 24.8	-0.5
KDAG				*i* S	Sn	23 33 51.0	+6.8
MANT	Manisa	1.68	24	⇑*i*P	Pn	23 33 28.1	+0.1
MANT				*i* S	Sn	23 33 53.1	+4.0
APE	Apeiranthos	1.74	275	*e*PB	Pb	23 33 30.0	-0.3
ELL	Elmali	1.78	96	*e*PN	Pn	23 33 30.3	+0.9
AKS	Akhisar	1.93	3	*e*PN	Pn	23 33 31.2	-0.3
PRK	Paraskevi	2.55	334	*e*PN	Pn	23 33 40.5	0.0

IDC 04 23:34:44.3±2.2, 21.24N×144.57E, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=108.0km s-min=22.7km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	Asahikawa	22.87	356	LR	LR	23 48 09.2	
	comp=Z,42nm,19.0s,baz=13,slow=35						
WRA	Warramunga Arr	42.13	194	P	P	23 42 38.4	-1.9
	1.2nm,0.5s,baz=13,slow=8.7,SNR=17						
ASAR	Alice Springs	45.83	194	P	P	23 43 08.2	-1.9
	0.8nm,0.6s,baz=16,slow=9.2,SNR=11						
MKAR	Makanchi Array	55.95	313	P	P	23 44 24.8	-1.7
	0.8nm,0.6s,baz=94,slow=9.8,SNR=9.1						
ARCES	ARCESS Array B	79.76	342	P	P	23 46 54.4	-0.8
	1.0nm,0.7s,baz=74,slow=8.8,SNR=5.3						
FINES	FINESS Array B	84.14	335	P	P	23 47 16.0	-2.1
	0.4nm,0.5s,baz=69,slow=4.6,SNR=7.9						

NEIC 04 23:55:26.6, 43.69N×78.25W, h5^{km}, MD3.0(LDO), MW3.2(SLM), After LDO.

OTT 04 23:55:26.2±0.1, 43.68N×78.24W, h4^{km}, MN3.8/29, 6C-7D, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLVO	Wesleyville	0.27	335	⇑PG	Pg	23 55 31.5	-0.2
WLVO				SG	Sg	23 55 35.1	-0.2
WLVO				Trac		23 55 35.9	
	comp=Z,2µm,0.1s						
MEDO	Medina	0.54	197	⇓PG	Pg	23 55 36.1	-0.8
MEDO				SG	Sg	23 55 42.9	-1.1
MEDO				Trac		23 55 45.1	
	comp=Z,376nm,0.1s						
PKRO	Pickering	0.67	296	PG	Pg	23 55 38.5	-1.0
PKRO				SG	Sg	23 55 46.9	-1.6
PKRO				Trac		23 55 48.5	
	comp=Z,1µm,0.2s						
LINO	Lindsay	0.78	330	⇑PG	Pg	23 55 40.6	-1.2
LINO				SG	Sg	23 55 50.5	-1.7
LINO				Trac		23 55 52.5	
	comp=Z,167nm,0.0s						
STCO	Saint Catharin	0.82	236	⇑PG	Pg	23 55 41.4	-1.2
STCO				SG	Sg	23 55 50.9	-2.7
STCO				Trac		23 55 56.1	
	comp=Z,151nm,0.1s						
BUF	Buffalo	0.88	211	P	Pb	23 55 43.1	-0.4
BUF				S	Sg	23 55 53.2	-2.1
PECO	Prince Edward	0.94	74	⇓PG	Pg	23 55 43.0	-1.9
PECO				SG	Sg	23 55 55.6	-1.8
PECO				Trac		23 55 58.6	
	comp=Z,206nm,0.1s						
DELO	Deloro Mine	0.95	28	PG	Pg	23 55 43.6	-1.6
DELO				SG	Sg	23 55 56.0	-1.8
DELO				Trac		23 55 57.0	
	comp=Z,424nm,0.1s						
RD04	Stoney Creek	1.19	244	PG	Pg	23 55 47.5	-2.3
RD04				SG	Sg	23 56 03.2	-2.5
RD04				Trac		23 56 08.1	

	comp=Z,98nm,0.1s						
RD01	**Burlington**	**1.19**	**258**	PG	Pg	23 55 47.7	-2.3
RD01				SG	Sg	23 56 03.3	-2.6
RD01				Trac		23 56 09.1	
	comp=Z,299nm,0.1s						
SADO	**Sadowa**	**1.27**	**330**	⇑PG	Pg	23 55 49.2	-2.4
SADO				SG	Sg	23 56 05.6	-2.9
SADO				Trac		23 56 10.2	
	comp=Z,729nm,0.2s						
TYNO	**Tyneside**	**1.32**	**244**	⇓PG	Pg	23 55 49.9	-2.8
TYNO				SG	Sg	23 56 07.5	-2.8
TYNO				Trac		23 56 13.5	
	comp=Z,427nm,0.1s						
ACTO	**Acton**	**1.32**	**268**	⇓PG	Pg	23 55 50.0	-2.7
ACTO				SG	Sg	23 56 07.0	-3.3
ACTO				Trac		23 56 11.9	
	comp=Z,160nm,0.1s						
RD03	**Mount Hope**	**1.34**	**249**	PG	Pg	23 55 50.1	-2.7
RD03				SG	Sg	23 56 07.5	-3.2
RD03				Trac		23 56 17.7	
	comp=Z,306nm,0.0s						
BANO	**Bancroft**	**1.36**	**9**	⇑PG	Pg	23 55 50.6	-2.8
BANO				SG	Sg	23 56 08.3	-3.2
BANO				Trac		23 56 13.7	
	comp=Z,479nm,0.0s						
KGNO	**Kingston**	**1.38**	**66**	PG	Pg	23 55 50.8	-2.9
KGNO				SG	Sg	23 56 08.7	-3.3
KGNO				Trac		23 56 13.2	
	comp=Z,405nm,0.1s						
HGVO	**Hagersville**	**1.55**	**243**	⇓PG	Pg	23 55 53.7	-3.5
HGVO				Trac		23 56 17.9	
	comp=Z,86nm,0.1s						
ELGO	**Elora Gorge**	**1.59**	**271**	⇓PG	Pg	23 55 54.7	-3.3
ELGO				SG	Sg	23 56 15.3	-4.0
ELGO				Trac		23 56 18.1	
	comp=Z,377nm,0.2s						
PLVO	**Plevna**	**1.60**	**31**	⇑PG	Pg	23 55 54.9	-3.1
PLVO				SG	Sg	23 56 15.0	-4.4
PLVO				Trac		23 56 18.4	
	comp=Z,536nm,0.1s						
CLWO	**Collingwood**	**1.68**	**298**	PN	Pn	23 55 56.2	-0.3
CLWO				SN	Sn	23 56 17.6	-1.1
CLWO				Trac		23 56 22.4	
	comp=Z,715nm,0.1s						
MPPO	**Murphy's Point**	**1.79**	**52**	⇓PN	Pn	23 55 57.6	-0.5
MPPO				SN	Sn	23 56 20.1	-1.4
MPPO				Trac		23 56 23.3	
	comp=Z,379nm,0.2s						
BUKO	**Buck Lake**	**1.95**	**335**	PN	Pn	23 55 59.7	-0.7
BUKO				SN	Sn	23 56 25.1	-0.5
BUKO				Trac		23 56 28.4	
	comp=Z,233nm,0.1s						
ERPA	**Erie**	**2.02**	**220**	*e*Pn	Pn	23 56 00.7	-0.7
ERPA				*e*S	Sn	23 56 27.0	-0.5
PEMO	**Pembroke**	**2.12**	**19**	PN	Pn	23 56 02.3	-0.6
PEMO				SN	Sn	23 56 28.1	-1.9
PEMO				SG	Sg	23 56 30.9	-5.9
PEMO				Trac		23 56 34.0	
	comp=Z,294nm,0.1s						
KLBO	**Killbear Provi**	**2.19**	**321**	PN	Pn	23 56 02.5	-1.4
KLBO				SN	Sn	23 56 29.6	-2.3
KLBO				SG	Sg	23 56 33.0	-6.2
KLBO				Trac		23 56 34.3	
	comp=Z,432nm,0.2s						
BINY	**Binghamton**	**2.22**	**131**	PN	Pn	23 56 04.6	+0.4
BINY				SN	Sn	23 56 34.0	+1.5
BINY				Trac		23 56 37.3	
	comp=Z,168nm,0.2s						
BINY	**Binghamton**	**2.22**	**131**	*e*Pn	Pn	23 56 04.9	+0.7
LDN	**London (Ont)**	**2.24**	**254**	PG	Pg	23 56 05.9	-5.0
LDN				SG	Sg	23 56 35.5	-5.2
LDN				Trac		23 56 38.6	
	comp=Z,60nm,0.1s						
ALGO	**Algonquin Park**	**2.28**	**3**	PN	Pn	23 56 04.4	-0.7
ALGO				SN	Sn	23 56 35.3	+1.3
ALGO				Trac		23 56 39.2	
	comp=Z,784nm,0.1s						
BRCO	**Bruce Peninsul**	**2.38**	**285**	PN	Pn	23 56 06.1	-0.5
BRCO				SN	Sn	23 56 33.8	-2.8
BRCO				SG	Sg	23 56 38.1	-7.3
BRCO				Trac		23 56 43.6	
	comp=Z,767nm,0.2s						
CRLO	**Chalk River**	**2.44**	**14**	PN	Pn	23 56 06.2	-1.2
CRLO				SN	Sn	23 56 38.7	+0.6
CRLO				Trac		23 56 43.7	
	comp=Z,156nm,0.1s						
ALLY	**Alegheny Colle**	**2.47**	**215**	*e*Pn	Pn	23 56 08.2	+0.4
ALLY				*e*S	Sn	23 56 40.2	+1.4
OTT	**Ottawa**	**2.49**	**46**	PN	Pn	23 56 07.5	-0.6
OTT				SN	Sn	23 56 38.7	-0.6
OTT				SG	Sg	23 56 41.8	-7.3
OTT				Trac		23 56 45.9	
	comp=Z,256nm,0.2s						
OTT				Trac		23 56 46.0	
	comp=Z,224nm,0.2s						
WBO	**Williamsburg**	**2.50**	**57**	PN	Pn	23 56 07.0	-1.3
WBO				SN	Sn	23 56 37.6	-2.1
WBO				SG	Sg	23 56 43.9	-5.6
WBO				Trac		23 56 49.4	
	comp=Z,92nm,0.1s						
PTN	**Potsdam (NY)**	**2.51**	**68**	PN	Pn	23 56 08.1	-0.3
PTN				SN	Sn	23 56 38.6	-1.3
PTN	**Potsdam (NY)**	**2.51**	**68**	*e*Pn	Pn	23 56 07.5	-1.0
MSNY	**Massena**	**2.76**	**60**	PN	Pn	23 56 10.2	-1.8
MSNY				SN	Sn	23 56 43.3	-2.9
MSNY	**Massena**	**2.76**	**60**	*e*Pn	Pn	23 56 10.4	-1.6
MSNY				*e*S	Sn	23 56 43.3	-2.9
TOBO	**Tobermory, Bru**	**2.82**	**304**	PN	Pn	23 56 12.0	-0.8
TOBO				SN	Sn	23 56 45.5	-2.2
TOBO				Trac		23 56 55.0	
	comp=Z,301nm,0.3s						
GAC	**Glen Almond**	**2.83**	**43**	PN	Pn	23 56 11.1	-1.8
GAC				PG	Pg	23 56 15.1	-7.5
GAC				SN	Sn	23 56 44.4	-3.4
GAC				SG	Sg	23 56 51.5	-8.7
GAC				Trac		23 56 52.6	
	comp=Z,181nm,0.2s						
GAC				Trac		23 56 52.7	
	comp=Z,155nm,0.2s						
NCB	**Newcomb**	**2.92**	**83**	*e*Pn	Pn	23 56 12.6	-1.7
BGR	**Bangor (NY)**	**3.01**	**66**	PN	Pn	23 56 10.7	-4.8
BGR				SN	Sn	23 56 51.3	-1.1
EEO	**Eldee**	**3.02**	**349**	PN	Pn	23 56 16.2	+0.5
EEO				SN	Sn	23 56 54.1	+1.2
EEO				SG	Sg	23 56 59.9	-6.9
EEO				Trac		23 57 04.7	
	comp=Z,72nm,0.1s						
SSPA	**Standing Stone**	**3.05**	**175**	*e*Pn	Pn	23 56 15.8	-0.4
SSPA				*e*S	Sn	23 56 56.7	+3.1
ALFO	**Alfred**	**3.09**	**50**	PN	Pn	23 56 14.9	-1.8
ALFO				PG	Pg	23 56 20.2	-7.7
ALFO				SN	Sn	23 56 51.3	-3.2
ALFO				SG	Sg	23 56 58.8	-10
ALFO				Trac		23 57 03.5	
	comp=Z,98nm,0.1s						
ACCN	**Adirondack Com**	**3.34**	**93**	*e*Pn	Pn	23 56 18.0	-2.2
GRQ	**Grand Remous**	**3.38**	**29**	PN	Pn	23 56 19.2	-1.6
GRQ				SN	Sn	23 57 01.1	-0.8
GRQ				SG	Sg	23 57 08.0	-11
GRQ				Trac		23 57 18.4	
	comp=Z,42nm,0.1s						
TRQ	**Mont Tremblant**	**3.65**	**45**	PN	Pn	23 56 23.3	-1.4
TRQ				PG	Pg	23 56 28.6	-10
TRQ				SN	Sn	23 57 06.8	-1.9
TRQ				SG	Sg	23 57 16.9	-11
TRQ				Trac		23 57 23.8	
	comp=Z,46nm,0.1s						
SUNO	**Sudbury Onapin**	**3.69**	**325**	PN	Pn	23 56 23.4	-1.8
SUNO				SN	Sn	23 57 06.0	-3.8
SUNO				SG	Sg	23 57 15.0	-14
SUNO				Trac		23 57 22.0	
	comp=Z,114nm,0.2s						
PLIO	**Pelee Island,**	**3.76**	**241**	PN	Pn	23 56 24.3	-2.0
PLIO				SN	Sn	23 57 09.7	-1.9
PLIO				SG	Sg	23 57 23.3	-8.2
PLIO				Trac		23 57 26.9	
	comp=Z,45nm,0.1s						
MNT	**Montreal**	**3.77**	**59**	PN	Pn	23 56 24.2	-2.2
MNT				SN	Sn	23 57 07.8	-3.9
MNT				SG	Sg	23 57 20.6	-11
MNT				Trac		23 57 25.5	
	comp=Z,43nm,0.1s						
PAL	**Palisades**	**4.17**	**128**	*e*Pn	Pn	23 56 31.0	-1.1
MCWV	**Mont Chateau**	**4.19**	**197**	Pn	Pn	23 56 31.4	-1.0
VLDQ	**Val d'Or**	**4.47**	**7**	PN	Pn	23 56 35.1	-1.2
VLDQ				SN	Sn	23 57 25.1	-4.4
VLDQ				SG	Sg	23 57 39.9	-15
VLDQ				Trac		23 57 46.8	
	comp=Z,184nm,0.5s						
MOQ	**Mont Orford**	**4.58**	**67**	PN	Pn	23 56 35.9	-2.1
MOQ				PG	Pg	23 56 42.6	-15
MOQ				SN	Sn	23 57 29.8	-2.6
MOQ				SG	Sg	23 57 44.9	-14
MOQ				Trac		23 57 47.5	
	comp=Z,52nm,0.2s						
DPQ	**Saint Jean**	**4.89**	**50**	PN	Pn	23 56 40.5	-1.8
DPQ				PG	Pg	23 56 49.6	-14
DPQ				SN	Sn	23 57 34.8	-5.3
DPQ				SG	Sg	23 57 53.2	-16
DPQ				Trac		23 58 01.8	
	comp=Z,38nm,0.2s						
KILO	**Kirkland Lake**	**4.93**	**348**	PN	Pn	23 56 40.9	-1.9
KILO				SN	Sn	23 57 38.7	-2.4
KILO				SG	Sg	23 57 54.3	-16
KILO				Trac		23 57 57.6	
	comp=Z,31nm,0.2s						
ACSO	**Alum Creek Sta**	**4.94**	**227**	Pn	Pn	23 56 42.8	-0.1
HRV	**Harvard--Oak R**	**5.03**	**101**	Pn	Pn	23 56 41.8	-2.5
BRYW	**Bryant College**	**5.23**	**107**	Pn	Pn	23 56 45.6	-1.6
CBN	**Corbin**	**5.51**	**173**	Pn	Pn	23 56 50.9	-0.1
	46nm,0.5s						
QCQ	**Quebec**	**5.81**	**55**	PN	Pn	23 56 49.5	-5.8
QCQ				SG	Sg	23 58 19.9	-20
QCQ				Trac		23 58 33.2	
	comp=Z,13nm,0.1s						
MALO	**McAlpine Lake**	**6.43**	**351**	PN	Pn	23 57 00.9	-3.2
MALO				SN	Sn	23 58 09.2	-10
MALO				SG	Sg	23 58 40.9	-20
MALO				Trac		23 58 46.5	
	comp=Z,19nm,0.3s						
KAPO	**Kapuskasing**	**6.48**	**335**	PN	Pn	23 57 01.2	-3.5
KAPO				SN	Sn	23 58 12.1	-7.9
KAPO				Trac		23 58 50.8	
	comp=Z,35nm,0.4s						
DAQ	**Lac Daran**	**6.50**	**46**	PN	Pn	23 57 01.4	-3.6
DAQ				PG	Pg	23 57 16.8	-19
DAQ				SN	Sn	23 58 14.2	-6.3
DAQ				SG	Sg	23 58 40.5	-22
DAQ				Trac		23 58 50.2	
	comp=Z,49nm,0.4s						
BLA	**Blacksburg**	**6.67**	**195**	Pn	Pn	23 57 05.7	-1.6
ELN	**Prospectdale**	**6.72**	**197**	Pn	Pn	23 57 05.9	-2.2
LMQ	**La Malbaie**	**6.76**	**52**	PN	Pn	23 57 04.8	-3.9
LMQ				SN	Sn	23 58 22.1	-5.0
LMQ				SG	Sg	23 58 49.0	-22
LMQ				Trac		23 59 00.2	
	comp=Z,41nm,0.4s						
PNPO	**Pukaskwa Natio**	**7.44**	**314**	PN	Pn	23 57 13.4	-4.8
PNPO				SN	Sn	23 58 34.5	-10
PNPO				LG		23 59 08.4	
PNPO				Trac		23 59 18.8	
	comp=Z,36nm,0.4s						
BLO	**Bloomington**	**7.68**	**237**	P	Pn	23 57 21.5	-0.1
GGN	**Saint George**	**8.29**	**76**	SN	Sn	23 59 11.2	+6.0
GGN				SG	Sg	23 59 41.8	-20
GGN				Trac		23 59 57.5	
	comp=Z,26nm,0.6s						
CNQ	**Baie Comeau**	**8.99**	**48**	PN	P	23 57 33.6	-6.1
CNQ				SN	Sn	23 59 12.7	-10
CNQ				LG		23 59 54.0	
CNQ				Trac		00 00 07.2	
	comp=Z,25nm,0.4s						
TBO	**Thunder Bay**	**9.20**	**307**	PN	P	23 57 38.3	-4.4
TBO				SN	Sn	23 59 16.2	-12
TBO				LG		00 00 05.3	
TBO				Trac		00 00 13.2	
	comp=Z,8.5nm,0.4s						
GSQ	**Grosses Roches**	**9.31**	**52**	PN	P	23 57 37.4	-6.8
GSQ				SN	Sn	23 59 21.7	-8.8
GSQ				LG		00 00 13.6	
MNQ	**Manicouagan**	**9.41**	**40**	PN	P	23 57 40.3	-5.3
MNQ				SN	Sn	23 59 22.3	-11
MNQ				LG		00 00 17.0	
MNQ				Trac		00 00 24.9	
	comp=Z,27nm,0.4s						
ICQ	**Pointe Anglais**	**9.54**	**48**	PN	P	23 57 41.9	-5.4
ICQ				SN	Sn	23 59 24.6	-12
ICQ				SG	Sg	00 00 13.4	-30
ICQ				Trac		00 00 18.0	
	comp=Z,39nm,0.7s						
LDIO	**Lac des Isle M**	**9.57**	**309**	SN	Sn	23 59 25.2	-12
LMN	**Caledonia Moun**	**9.80**	**73**	PN	P	23 57 46.8	-4.1
LMN				SN	Sn	23 59 49.2	+6.6
LMN				SG	Sg	00 00 26.5	-26
LMN				Trac		00 00 51.8	
	comp=Z,11nm,0.8s						
VIMO	**Victor Mine**	**9.85**	**340**	PN	P	23 57 46.0	-5.6
VIMO				SN	Sn	23 59 29.0	-15
SMQ	**Clarke City**	**10.24**	**46**	PN	P	23 57 51.9	-5.1
SMQ				SN	S	23 59 43.1	-10
SMQ				SG	S	00 00 40.6	+47
SMQ				Trac		00 01 00.6	
	comp=Z,14nm,0.3s						
LG4Q	**La Grande 4**	**10.32**	**14**	PN	P	23 57 52.8	-5.3
LG4Q				SN	S	23 59 38.7	-17
LG4Q				LG		00 00 40.1	
LG4Q				Trac		00 00 53.9	
	comp=Z,14nm,0.3s						
ATKO	**Atikokan Iron**	**10.58**	**304**	PN	P	23 57 55.8	-5.8
ATKO				SN	S	23 59 48.8	-13
PKLO	**Pickle Lake**	**11.31**	**318**	PN	P	23 58 04.5	-7.0
PKLO				SN	S	00 00 06.1	-13
PKLO				Trac		00 01 21.5	
	comp=Z,12nm,0.4s						
CCM	**Cathedral Cave**	**11.33**	**245**	P	P	23 58 11.4	-0.5
SOLO	**Sioux Lookout**	**11.40**	**309**	SN	S	00 00 08.2	-13
SOLO				SG	S	00 01 16.1	+54
SOLO				Trac		00 01 28.7	
	comp=Z,2.2nm,0.2s						
SILO	**Sutton Inlier**	**11.66**	**340**	PN	P	23 58 10.2	-6.0
SILO				SN	S	00 00 15.2	-13
SILO				Trac		00 01 37.1	
	comp=Z,6.8nm,0.5s						
EPLO	**Experimental L**	**12.20**	**305**	PN	P	23 58 17.2	-6.4
EPLO				SN	S	00 00 25.1	-16
RDLO	**Red Lake**	**12.88**	**310**	PN	P	23 58 24.9	-7.9
RDLO				SN	S	00 00 35.6	-22
RDLO				LG		00 02 00.9	
SCHQ	**Schefferville**	**13.40**	**30**	PN	P	23 58 32.8	-6.8
SCHQ				SN	S	00 00 50.1	-20
SCHQ				Trac		00 02 16.4	
	comp=Z,19nm,0.7s						
SCHQ				LG		00 02 16.5	
ULM	**Lac du Bonnet**	**13.71**	**305**	PN	P	23 58 34.4	-9.1
ULM				SN	S	00 00 55.2	-22
ULM				LG		00 02 29.6	
ULM				Trac		00 02 52.6	
	comp=Z,2.6nm,0.4s						

MOS ***04*** *23:56:36.2±1.2, 51.91N×160.02E, h17km, mb4.5/1, Error ellipse: s-maj=26.8km s-min=10.2km az=96.2*

IDC ***04*** *23:56:36.1±3.0, 52.13N×159.54E, mb3.8/9, mb1 4.1/10, mb1mx3.8/22, ML4.2/1, Error ellipse: s-maj=88.2km s-min=15.2km az=10.0*

NEIC ***04*** *23:56:36.4±1.1, 51.87N×159.60E, h10km, mb4.0/1, Error ellipse: s-maj=27.8km s-min=10.1km az=192.0*

KRSC ***04*** *23:56:41.2, 52.22N×159.94E, h6km, ML4.7*

ISC 04 23:56:39.4±0.8**, 51.97N**±0.05×**160.04E**±0.07**, h47km**±6km**, n52, σ1ˢ32**/71**, mb3.9**/12**, 1C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.04**	**297**	P	**P**	**23 56 57.3**	**-0.5**
RUS				S	**S**	**23 57 10.5**	**-1.0**
RUS	**Russkaya**	**1.04**	**297**	*i* P	**P**	**23 56 57.5**	**-0.3**
RUS				*e*S	**S**	**23 57 10.5**	**-1.0**
SPN	**Mys Shipunski**	**1.13**	**360**	P	**P**	**23 56 58.3**	**-0.7**
SPN				S	**S**	**23 57 12.3**	**-1.3**
SPN	**Mys Shipunski**	**1.13**	**360**	*i* P	**P**	**23 56 58.1**	**-0.9**
SPN				*e*S	**S**	**23 57 12.3**	**-1.3**
NLC	**Nalytchevo**	**1.27**	**341**	P	**P**	**23 57 00.4**	**-0.7**
NLC	**Nalytchevo**	**1.27**	**341**	*i* P	**P**	**23 57 00.1**	**-1.0**
GRL	**Gorelyy**	**1.34**	**296**	*i* P	**P**	**23 57 02.8**	**+0.7**
PET	**Petropavlovsk**	**1.35**	**322**	*i* P	**P**	**23 57 01.4**	**-0.9**
PET				*e*S	**S**	**23 57 17.0**	**-2.3**
PET	**Petropavlovsk**	**1.35**	**322**	*e*P	**P**	**23 57 01.3**	**-1.0**
UGLR	**Uglovaya**	**1.44**	**330**	*i* P	**P**	**23 57 03.2**	**-0.4**
UGLR				*e*S	**S**	**23 57 23.7**	**+2.2**
SDLR	**Sedlovina**	**1.48**	**332**	*i* P	**P**	**23 57 03.4**	**-0.8**
SDLR				*e*S	**S**	**23 57 22.8**	**+0.3**
SMAR	**Somma**	**1.50**	**330**	*e*P	**P**	**23 57 03.6**	**-0.7**
AVH	**Avacha**	**1.52**	**329**	*e*P	**P**	**23 57 04.4**	**-0.2**
AVH				*e*S	**S**	**23 57 23.4**	**+0.1**
KOK	**Koryaka**	**1.57**	**328**	*e*P	**P**	**23 57 05.2**	**-0.2**
APC	**Apacha**	**2.00**	**300**	*i* P	**P**	**23 57 12.8**	**+1.4**
APC				*i* S	**S**	**23 57 37.2**	**+1.9**
APC				Smax			
	900nm,0.7s						
MIPR	**Malaya Ipel'ka**	**2.04**	**280**	*e*P	**P**	**23 57 14.3**	**+2.3**
KII	**Karymskiy**	**2.10**	**351**	P	**P**	**23 57 13.0**	**+0.2**
KII				S	**S**	**23 57 39.3**	**+1.6**
KII	**Karymskiy**	**2.10**	**351**	*e*P	**P**	**23 57 13.0**	**+0.2**
KII				*e*S	**S**	**23 57 39.2**	**+1.5**
GNL	**Ganaly**	**2.14**	**324**	*i* P	**P**	**23 57 13.6**	**+0.2**
GNL				*e*S	**S**	**23 57 41.7**	**+2.8**
SKR	**Severo-Kuril's**	**2.78**	**244**	*e*P	**P**	**23 57 21.5**	**-1.0**
SKR				*e*S	**S**	**23 57 54.3**	**-0.7**
MKZ	**Mys Kozlova**	**2.78**	**21**	P	**P**	**23 57 21.6**	**-0.9**
MKZ				S	**S**	**23 57 52.1**	**-3.0**
MKZ	**Mys Kozlova**	**2.78**	**21**	*i* P	**P**	**23 57 21.4**	**-1.1**
MKZ				*i* S	**S**	**23 57 52.0**	**-3.1**
TUMR	**Tumrok**	**3.32**	**1**	*e*P	**P**	**23 57 30.7**	**+0.6**
KMNR	**Kamenistaya**	**3.79**	**2**	*e*P	**P**	**23 57 40.1**	**+3.2**
ESO	**Esso**	**4.04**	**349**	*i* P	**P**	**23 57 40.3**	**0.0**
ESO				*e*S	**S**	**23 58 23.9**	**-3.0**
ESO				Smax			
	100nm,0.8s						
KOZ	**Kozyrevsk**	**4.09**	**359**	*e*P	**P**	**23 57 41.4**	**+0.3**
LGNR	**Loginova**	**4.14**	**5**	*e*P	**P**	**23 57 43.6**	**+1.9**
CIRR	**Tsirk**	**4.17**	**5**	*e*P	**P**	**23 57 44.8**	**+2.6**
SRDR	**Sredinnyy**	**4.36**	**358**	*e*P	**P**	**23 57 44.6**	**-0.2**
KLY	**Klyuchi**	**4.37**	**5**	*e*P	**P**	**23 57 46.2**	**+1.3**
KBTR	**Krutoberegovo**	**4.55**	**20**	P	**P**	**23 57 46.8**	**-0.7**
KBTR				S	**S**	**23 58 37.2**	**-2.6**
KBTR	**Krutoberegovo**	**4.55**	**20**	*e*P	**P**	**23 57 46.5**	**-1.0**
KBTR				*e*S	**S**	**23 58 37.1**	**-2.7**
SVLR	**Shiveluch**	**4.67**	**8**	*e*P	**P**	**23 57 51.5**	**+2.3**
BKI	**Bering**	**4.79**	**45**	*e*S	**S**	**23 58 37.6**	**-8.3**
FX1	**Attu Island--F**	**8.08**	**78**	Pn	**P**	**23 58 37.2**	**+0.4**
	10nm,0.3s,baz=226,slow=1.9,SNR=36						
FX1				Sn	**S**	**23 59 60.0**	**-7.8**
	19nm,0.3s,baz=105,slow=22,SNR=12						
FX1	**Attu Island--F**	**8.08**	**78**	*e*P	**P**	**23 58 36.6**	**-0.2**
TIXI	**Tiksi**	**24.09**	**336**	⇑*i*P	**P**	**00 01 50.4**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
INK	**Inuvik**	**34.79**	**37**	*e*P	**P**	**00 03 28.3**	**+1.4**
	comp=Z,2.1nm,1.0s,mb4.0						
KURK	**Kurchatov**	**48.30**	**303**	*e*P	**P**	**00 05 15.9**	**-1.6**
MKAR	**Makanchi Array**	**48.62**	**297**	P	**P**	**00 05 18.4**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.5,baz=45,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**54.34**	**342**	P	**P**	**00 06 01.4**	**-1.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=42,slow=9.3,SNR=5.4						
PDAR	**Pinedale Array**	**58.11**	**60**	P	**P**	**00 06 32.9**	**+2.9**
	comp=Z,0.5nm,0.8s,mb3.6,slow=2.7,SNR=3.2						
JOF	**Joensuu**	**58.57**	**335**	*e*p	**P**	**00 06 32.2**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.6						
ULM	**Lac du Bonnet**	**59.62**	**46**	P	**P**	**00 06 42.2**	**+1.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=320,slow=7.9,SNR=3.0						
ULM	**Lac du Bonnet**	**59.62**	**46**	P	**P**	**00 06 42.2**	**+1.7**
FINES	**FINESS Array B**	**61.14**	**337**	P	**P**	**00 06 49.9**	**-0.8**
	comp=Z,0.8nm,0.6s,mb4.1,baz=36,slow=6.6,SNR=11						
NB2	**NORSAR Subarra**	**64.61**	**344**	P	**P**	**00 07 13.1**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**64.61**	**344**	P	**P**	**00 07 13.7**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.1,baz=21,slow=6.7,SNR=12						
AKASG	**Malin Array Be**	**69.56**	**329**	P	**P**	**00 07 44.1**	**-0.6**
	comp=Z,1.5nm,0.4s,mb4.3,baz=28,slow=6.0,SNR=5.9						
TXAR	**Lajitas Array**	**71.11**	**67**	P	**P**	**00 07 57.9**	**+3.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=301,slow=4.6,SNR=4.4						
TXAR	**Lajitas Array**	**71.11**	**67**	P	**P**	**00 07 57.9**	**+3.3**
BRTR	**Keskin Array B**	**77.47**	**321**	P	**P**	**00 08 31.7**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=54,slow=5.7,SNR=3.2						

NEIC ***05*** *00:14:10.1, 28.81S×71.44W, h39km, MD3.6(GUC), After GUC.*

GUC 05 00:14:10.1±0.5**, 28.81S**×**71.44W, h39km**±2km**, MD3.6, ML3.2, 4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.64**	**69**	⇑*i*P	P	00 14 19.5	-3.2
VACH				*i* S	S	00 14 29.1	-2.9
VACH				AMP		00 14 29.7	
	comp=E,8µm,0.1s						
LSCH	**La Serena**	**1.11**	**171**	⇑*i*P	P	00 14 29.7	+0.4
LSCH				*i* S	S	00 14 45.0	+1.3
LSCH				AMP		00 14 46.6	
	comp=E,340nm,0.4s						
TLL	**Tololo Astrono**	**1.47**	**158**	⇑*i*P	P	00 14 36.1	+1.6
TLL				*i* S	S	00 14 55.5	+2.8
TLL				AMP		00 14 56.4	
	comp=E,211nm,0.3s						
CMCH	**Combarbala**	**2.39**	**171**	⇑*i*P	P	00 14 48.1	+0.5
CMCH				*i* S	S	00 15 16.9	+0.9
CMCH				AMP		00 15 35.4	
	comp=E,242nm,0.6s						

MOS ***05*** *00:23:58.6±0.9, 51.49N×160.30E, h4km, mb4.2/2, Error ellipse: s-maj=37.0km s-min=10.5km az=99.0*

IDC ***05*** *00:24:04.9±3.3, 51.98N×159.55E, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, Error ellipse: s-maj=102.0km s-min=34.4km az=11.0*

KRSC ***05*** *00:24:12.2, 52.30N×159.87E, h11km, ML4.1*

ISC 05 00:24:10.2±1.0**, 52.10N**±0.06×**160.07E**±0.08**, h49km**±9km**, n36, σ1ˢ29**/57**, mb3.7**/5**, 1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**359**	P	**P**	**00 24 28.0**	**-0.1**
SPN				S	**S**	**00 24 39.9**	**-1.5**
SPN	**Mys Shipunski**	**1.00**	**359**	*e*P	**P**	**00 24 27.7**	**-0.4**
SPN				*e*S	**S**	**00 24 39.8**	**-1.6**
RUS	**Russkaya**	**1.01**	**290**	P	**P**	**00 24 26.9**	**-1.4**
RUS				S	**S**	**00 24 38.4**	**-3.2**
RUS	**Russkaya**	**1.01**	**290**	*i* P	**P**	**00 24 27.0**	**-1.3**
RUS				*i* S	**S**	**00 24 37.6**	**-4.0**
NLC	**Nalytchevo**	**1.16**	**338**	*i* P	**P**	**00 24 29.6**	**-0.7**
NLC				*i* S	**S**	**00 24 44.9**	**-0.4**
PET	**Petropavlovsk**	**1.27**	**318**	P	**P**	**00 24 31.2**	**-0.7**
PET				S	**S**	**00 24 46.3**	**-1.7**
PET	**Petropavlovsk**	**1.27**	**318**	*e*P	**P**	**00 24 31.2**	**-0.7**
PET				*e*S	**S**	**00 24 46.2**	**-1.8**
PET	**Petropavlovsk**	**1.27**	**318**	⇓*i*PN	**P**	**00 24 31.0**	**-0.9**
PET				pmax	pmax		
	comp=Z,449nm,0.6s						
GRL	**Gorelyy**	**1.30**	**291**	*e*P	**P**	**00 24 32.2**	**-0.3**
GRL				*e*S	**S**	**00 24 48.3**	**-0.8**
UGLR	**Uglovaya**	**1.35**	**326**	*i* P	**P**	**00 24 32.7**	**-0.4**
UGLR				*e*S	**S**	**00 24 50.6**	**+0.5**
SDLR	**Sedlovina**	**1.39**	**329**	*i* P	**P**	**00 24 33.0**	**-0.6**
SDLR				*e*S	**S**	**00 24 50.7**	**-0.3**
SMAR	**Somma**	**1.40**	**327**	*e*P	**P**	**00 24 33.0**	**-0.8**
AVH	**Avacha**	**1.42**	**326**	*e*P	**P**	**00 24 33.9**	**-0.2**
AVH				*e*S	**S**	**00 24 52.3**	**+0.4**
KOK	**Koryaka**	**1.48**	**325**	*e*P	**P**	**00 24 35.0**	**+0.1**
KOK				*e*S	**S**	**00 24 54.5**	**+1.2**
APC	**Apacha**	**1.96**	**296**	*i* P	**P**	**00 24 42.5**	**+0.8**
APC				*i* S	**S**	**00 25 07.9**	**+2.8**
APC				Smax			
	comp=Z,320nm,0.7s						
KII	**Karymskiy**	**1.98**	**349**	P	**P**	**00 24 42.9**	**+1.0**
KII				S	**S**	**00 25 09.2**	**+3.7**
KII	**Karymskiy**	**1.98**	**349**	*e*P	**P**	**00 24 42.6**	**+0.7**
KII				*e*S	**S**	**00 25 09.1**	**+3.6**
MIPR	**Malaya Ipel'ka**	**2.04**	**276**	*e*P	**P**	**00 24 44.1**	**+1.2**
MIPR				*e*S	**S**	**00 25 10.9**	**+3.7**
GNL	**Ganaly**	**2.05**	**322**	*e*P	**P**	**00 24 43.3**	**+0.3**
GNL				*e*S	**S**	**00 25 10.6**	**+3.2**
MKZ	**Mys Kozlova**	**2.66**	**21**	P	**P**	**00 24 50.9**	**-0.7**
MKZ				S	**S**	**00 25 21.1**	**-1.7**

MKZ	Mys Kozlova	2.66	21	eP	P	00 24 50.9	-0.7
MKZ				iS	S	00 25 21.8	-1.0
TUMR	Tumrok	3.19	1	iP	P	00 25 00.3	+1.1
TUMR				eS	S	00 25 40.6	+4.3
KMNR	Kamenistaya	3.67	2	eP	P	00 25 08.9	+3.0
ESO	Esso	3.92	349	eP	P	00 25 10.0	+0.5
ESO				eS	S	00 25 53.4	-1.3
ESO				Smax			
	comp=Z,40nm,0.7s						
LGNR	Loginova	4.01	5	eP	P	00 25 12.6	+1.9
CIRR	Tsirk	4.05	5	eP	P	00 25 14.1	+2.9
KBTR	Krutoberegovo	4.43	20	P	P	00 25 16.3	-0.3
KBTR	Krutoberegovo	4.43	20	eP	P	00 25 16.6	0.0
MKAR	Makanchi Array	48.58	296	P	P	00 32 48.0	-2.3
	comp=Z,0.2nm,0.3s,mb3.6,baz=60,slow=6.5,SNR=3.9						
FINES	FINESS Array B	61.03	337	P	P	00 34 19.6	-1.0
	comp=Z,0.5nm,0.6s,mb3.8,baz=45,slow=3.9,SNR=5.8						
FINES	FINESS Array B	61.03	337	P	P	00 34 19.6	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	64.50	344	P	P	00 34 43.2	-0.1
	comp=Z,0.3nm,0.5s,mb3.6,baz=22,slow=7.0						
NOA	NORSAR Array B	64.50	344	P	P	00 34 43.2	-0.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=22,slow=6.7,SNR=6.0						
AKASG	Malin Array Be	69.46	329	P	P	00 35 13.8	-1.0
	comp=Z,0.9nm,0.4s,mb4.1,baz=31,slow=6.4,SNR=4.1						
AKASG	Malin Array Be	69.46	329	P	P	00 35 13.8	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	71.05	67	P	P	00 35 26.9	+2.1
	comp=Z,0.2nm,0.4s,mb3.4,baz=288,slow=4.6,SNR=6.2						

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*ISK **05** 00:34:44.4, 36.92N×27.74E, h8^{km}, MD3.3*
*NEIC **05** 00:34:45.7, 36.87N×27.63E, h14^{km}, MD3.2(ATH), After ATH.*
*ATH **05** 00:34:45.7, 36.87N×27.63E, h14^{km}±3^{km}, MD3.2/7*
ISC 05 00:34:45.0±0.4, **36.92N**±0.03×**27.71E**±0.04, **h8^{km}, n19, σ0^{s}98**/29, **2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	303	iP	Pg	00 34 49.9	-0.5
BDRM				iS	Sg	00 34 54.1	+0.2
BDRM	Kayabasi	0.26	303	iP	Pg	00 34 49.9	-0.5
BDRM				iS	Sg	00 34 54.1	+0.2
MLSB	Milas	0.38	8	iPG	Pg	00 34 52.2	-0.4
MLSB				SG	Sg	00 34 58.7	+1.0
YER	Yerkesik	0.50	65	iPG	Pg	00 34 54.4	-0.8
YER				SG	Sg	00 35 01.3	-0.6
NISR	Nisiros	0.56	237	ePB	Pb	00 34 55.5	-1.2
AYDN	Tasoluk	0.75	10	⇑iP	Pb	00 34 58.6	-1.3
AYDN				iS	Sb	00 35 09.9	-0.1
AYDN	Tasoluk	0.75	10	⇑iP	Pb	00 34 58.6	-1.3
AYDN				iS	Sb	00 35 09.9	-0.1
ARG	Arkhangelos	0.78	155	ePB	Pb	00 34 59.2	-1.2
ARG				eSB	Sb	00 35 12.0	+1.1
SMG	Samos	1.05	319	ePB	Pb	00 35 05.5	+0.5
DNZL	Cakiroluk	1.31	54	iP	Pb	00 35 09.6	+0.1
DNZL				iS	Sb	00 35 30.1	+3.8
DNZL	Cakiroluk	1.31	54	iP	Pb	00 35 09.6	+0.1
DNZL				iS	Sb	00 35 30.1	+3.8
DENT	Denizli	1.34	51	PN	Pn	00 35 10.4	+0.3
KARP	Karpathos	1.44	198	ePN	Pn	00 35 10.5	-1.1
KARP				eSB	Sb	00 35 30.5	+0.3
IZM	Izmir	1.51	346	PN	Pn	00 35 12.2	-0.4
KSL	Kastellorizon	1.69	117	ePN	Pn	00 35 17.5	+2.4
APE	Apeiranthos	1.75	275	ePN	Pn	00 35 17.0	+1.0
ELL	Elmali	1.77	95	ePN	Pn	00 35 16.3	+0.1
AKS	Akhisar	1.95	2	ePN	Pn	00 35 17.9	-1.0
PRK	Paraskevi	2.58	334	ePN	Pn	00 35 30.0	+2.1

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*ISK **05** 00:44:54.5, 37.16N×27.78E, h8^{km}, MD3.1*
*ATH **05** 00:44:56.3, 36.79N×27.56E, h5^{km}, MD3.2/5*
*NEIC **05** 00:44:57.8, 36.73N×27.65E, h27^{km}, MD3.2(ATH), After ATH.*
ISC 05 00:44:54.4±0.5, **36.98N**±0.03×**27.73E**±0.04, **h24^{km}**±6^{km}, **n16, σ1^{s}06**/28, **2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	290	iP	Pb	00 45 01.9	+1.4
BDRM				iS	Sb	00 45 04.3	-0.4
BDRM	Kayabasi	0.24	290	iP	Pb	00 45 01.9	+1.4
BDRM				iS	Sb	00 45 04.3	-0.4
YER	Yerkesik	0.47	71	iPG	Pb	00 45 03.1	-0.9
YER				SG	Sb	00 45 08.8	-1.8
NISR	Nisiros	0.61	233	ePb	Pb	00 45 05.5	-0.8
NISR				eSb	Sb	00 45 16.0	+1.6
AYDN	Tasoluk	0.69	10	⇑iP	Pb	00 45 08.0	+0.3
AYDN				iS	Sb	00 45 17.6	+0.8
AYDN	Tasoluk	0.69	10	⇑iP	Pb	00 45 08.0	+0.3
AYDN				iS	Sb	00 45 17.6	+0.8
ARG	Arkhangelos	0.83	157	ePB	Pb	00 45 09.0	-1.0
ARG				eSB	Sb	00 45 22.0	+1.3
DNZL	Cakiroluk	1.27	56	iP	Pn	00 45 16.8	0.0
DNZL				iS	Sb	00 45 36.0	+2.6
DNZL	Cakiroluk	1.27	56	iP	Pn	00 45 16.8	0.0
DNZL				iS	Sb	00 45 36.0	+2.6
DENT	Denizli	1.29	53	PN	Pn	00 45 16.5	-0.7
DENT				SN	Sn	00 45 33.9	0.0
IZM	Izmir	1.46	345	ePN	Pn	00 45 19.1	-0.5
IZM				SN	Sn	00 45 38.0	-0.1
KARP	Karpathos	1.50	198	ePG	Pn	00 45 20.0	-0.2
KARP				eSB	Sb	00 45 39.5	-0.7
APE	Apeiranthos	1.76	274	ePB	Pb	00 45 24.5	-1.4
ELL	Elmali	1.76	97	ePN	Pn	00 45 26.0	+2.1
AKS	Akhisar	1.90	2	ePN	Pn	00 45 26.0	+0.2
PRK	Paraskevi	2.54	334	ePN	Pn	00 45 44.0	+9.0

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*PRU **05** 00:56:35.1, 50.35N×19.04E*
*WAR **05** 00:56:35.1, 50.22N×19.08E, ML2.6, Mining Induced*
*IDC **05** 00:56:36.0±2.1, 50.01N×19.10E, mb1 3.3/5, mb1mx3.2/19, ML2.9/5, Error ellipse: s-maj=34.0km s-min=8.0km az=131.0*
ISC 05 00:56:33.7±0.5, **50.32N**±0.04×**18.95E**±0.03, **n23, σ1^{s}46**/39, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.54	245	ePG	Pg	00 56 48.0	+3.5
RAC				e(SG)	Sg	00 56 56.0	+4.3
OJC	Ojcow	0.55	100	ePG	Pg	00 56 45.0	+0.3
OJC				eSG	Sg	00 56 51.0	-1.1
OKC	Ostrava-Krasne	0.71	228	ePG	Pg	00 56 49.2	+1.4
OKC				eSG	Sg	00 56 59.2	+2.0
NIE	Niedzica	1.26	135	ePG	Pg	00 56 57.0	-1.8
NIE				eSG	Sg	00 57 12.0	-3.6
DPC	Dobruska-Polom	1.69	272	ePG	Pg	00 57 06.4	-1.0
DPC				eSG	Sg	00 57 30.3	+0.5
	13nm,0.3s						
KSP	Ksiaz	1.77	288	ePG	Pg	00 57 11.0	+1.9
KSP				eSG	Sg	00 57 36.0	+3.2
VYHS	Vyhne	1.82	182	ePN	Pn	00 57 05.9	-0.7
VYHS				eSN	Sn	00 57 29.5	-1.3
VRAC	Vranov	1.83	237	Pn	Pn	00 57 08.1	+1.4
	6.0nm,0.3s,baz=62,slow=14,SNR=45						
VRAC				Lg		00 57 33.6	
	3.3nm,0.3s,baz=143,slow=22,SNR=14						
CRVS	Cervenica-Dubn	2.16	130	ePN	Pn	00 57 14.1	+2.7
CRVS				eSN	Sn	00 57 40.5	+1.2
PSZ	Piszkesteto	2.48	165	eP	Pn	00 57 21.0	+5.0
KWP	Kalwaria	2.52	104	eP	Pn	00 57 19.0	+2.5
KWP				ePG	Pg	00 57 24.0	0.0
KWP				eS	Sn	00 58 00.0	+12
PVCC	Panska Ves	2.81	276	ePG	Pg	00 57 25.7	-4.1
PVCC				eSG	Sg	00 58 06.5	-0.8
PRU	Pruhonice	2.86	265	ePG	Pg	00 57 29.8	-0.9
PRU				eSG	Sg	00 58 08.0	-0.8
GKP	Gorka Klasztor	3.14	341	ePN	Pn	00 57 28.0	+2.5
KHC	Kasperske Hory	3.68	253	ePN	Pn	00 57 32.9	-0.2
KHC				ePG	Pg	00 57 48.0	+0.8
KHC				eSG	Sg	00 58 33.9	-2.4
GERES	GERESS Array B	3.72	249	Pn	Pn	00 57 34.1	+0.4
	0.3nm,0.3s,baz=67,slow=13,SNR=10						
GERES				Pg	Pg	00 57 41.9	-6.1
	0.5nm,0.3s,baz=66,slow=18,SNR=12						
GERES				Lg		00 58 31.4	
	1.4nm,0.3s,baz=70,slow=26,SNR=12						
CLL	Collm	3.90	287	eSG	Sg	00 58 44.0	+0.4
MOA	Molln	3.95	233	i	Pn	00 57 36.4	-0.4
MOA	Molln	3.95	233	iSG	Sg	00 58 43.1	-2.0
	2.7nm,0.4s						
HFS	Hagfors	10.28	345	Pn	P	00 59 04.9	-0.5
	0.0nm,0.3s,baz=180,slow=40,SNR=4.7						
NOA	NORSAR Array B	11.59	341	Pn	P	00 59 19.9	-3.4
	0.1nm,0.3s,baz=147,slow=13,SNR=2.2						
FINES	FINESS Array B	11.84	17	Pn	P	00 59 23.1	-3.6
	0.2nm,0.3s,baz=200,slow=13,SNR=10						
FINES				Sn	S	01 01 33.8	-7.0
	0.1nm,0.3s,baz=203,slow=21,SNR=3.4						
FINES				Lg		01 02 57.4	
	0.0nm,0.3s,baz=185,slow=29,SNR=2.2						
ARCES	ARCESS Array B	19.54	7	Pn	P	01 01 04.0	-1.1
	0.1nm,0.3s,baz=200,slow=13,SNR=2.9						

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*IDC **05** 00:59:25.3±3.1, 17.66S×178.75W, h603^{km}±38^{km}, mb3.1/7, mb1 3.5/7, mb1mx3.3/15, Error ellipse: s-maj=77.3km s-min=13.9km az=153.0*
ISC 05 00:59:23.8±3.9, **17.5S**±0.6×**178.9W**±0.3, **h595^{km}**±53^{km}, **n13, σ0^{s}46**/9, **mb3.7**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.45	241	P	P	01 05 57.6	+0.2
	3.2nm,0.7s,mb4.0,baz=86,slow=10.0,SNR=4.3						
WB2	Warramunga Arr	44.27	259	eP	P	01 06 43.7	+0.1
WRA	Warramunga Arr	44.28	259	P	P	01 06 43.9	+0.2
	0.5nm,0.3s,mb3.5,baz=97,slow=7.6,SNR=20						
WRA				PcP	PcP	01 08 13.8	-1.3
	0.2nm,0.4s,baz=89,slow=3.5,SNR=3.1						
ASAR	Alice Springs	44.48	254	P	P	01 06 44.8	-0.5
	2.6nm,0.6s,mb4.0,baz=83,slow=9.2,SNR=37						
ASAR				PcP	PcP	01 08 14.4	-1.4
	0.6nm,0.7s,baz=100,slow=4.7,SNR=4.4						
ASAR				S	S	01 12 38.7	+0.1
	0.5nm,0.6s,baz=84,slow=16,SNR=3.9						
NVAR	Mina Array Bea	79.42	44	P	P	01 10 31.4	+0.8
	0.1nm,0.3s,baz=207,slow=7.2,SNR=3.5						
ILAR	Eielson Array	85.57	13	P	P	01 11 00.7	0.0
	0.6nm,0.5s,mb3.5,baz=235,slow=6.1,SNR=7.8						
TXAR	Lajitas Array	86.14	58	P	P	01 11 04.3	0.0
	1.4nm,1.1s,mb3.5,baz=217,slow=5.3,SNR=6.8						
PDAR	Pinedale Array	87.34	44	P	P	01 11 08.7	-0.9
	16nm,0.3s,baz=243,slow=2.0,SNR=2.7						
ARCES	ARCESS Array B	125.81	350	PKP	PKPdf	01 17 18.5	+0.3
	1.2nm,0.8s,slow=1.2,SNR=4.0						
FINES	FINESS Array B	132.65	344	PKP	PKPdf	01 17 32.7	+1.4
	0.2nm,0.5s,baz=338,slow=10,SNR=3.8						
BRTR	Keskin Array B	144.16	315	PKP	PKPdf	01 17 54.1	+1.5
	1.2nm,0.9s,baz=27,slow=2.8,SNR=4.5						
CLL	Collm	144.95	347	P	PKPdf	01 17 56.2	+2.7
	logA/T=1.1						
GERES	GERESS Array B	147.08	345	PKPbc	PKPdf	01 18 02.2	+4.9
	1.4nm,0.6s,baz=23,slow=3.0,SNR=16						

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*ISK **05** 01:03:03.2, 36.88N×27.78E, h7^{km}, MD3.1*
*NEIC **05** 01:03:04.7, 36.94N×27.83E, h29^{km}, MD2.9(ATH), After ATH.*
*ATH **05** 01:03:04.7, 36.94N×27.83E, h29^{km}±5^{km}, MD2.9/4*
ISC 05 01:03:04.2±0.7, **36.90N**±0.03×**27.78E**±0.04, **h10^{km}**±5^{km}, **n16, σ0^{s}76**/27, **2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	302	iP	Pg	01 03 10.7	0.0
BDRM				iS	Sg	01 03 16.1	+1.0
BDRM	Kayabasi	0.31	302	iP	Pg	01 03 10.7	0.0
BDRM				iS	Sg	01 03 16.1	+1.0
MLSB	Milas	0.40	360	iPG	Pg	01 03 11.8	-0.5
MLSB				SG	Sg	01 03 18.5	+0.8
YER	Yerkesik	0.47	60	iPG	Pg	01 03 13.0	-0.7
YER				SG	Sg	01 03 19.9	-0.1
NISR	Nisiros	0.60	241	ePN	Pn	01 03 18.5	0.0
NISR				eSN	Sn	01 03 27.0	-1.2
ARG	Arkhangelos	0.74	158	ePB	Pb	01 03 18.5	-0.2
ARG				eSN	Sn	01 03 32.0	+0.2
AYDN	Tasoluk	0.76	6	⇑iP	Pb	01 03 18.6	-0.6
AYDN				iS	Sb	01 03 28.9	-0.5
AYDN	Tasoluk	0.76	6	⇑iP	Pb	01 03 18.6	-0.6
AYDN				iS	Sb	01 03 28.9	-0.5
SMG	Samos	1.10	317	ePN	Pn	01 03 26.0	+0.3
DNZL	Cakiroluk	1.28	52	iP	Pb	01 03 27.5	-0.6
DNZL				iS	Sb	01 03 46.0	+1.6
DNZL	Cakiroluk	1.28	52	iP	Pb	01 03 27.5	-0.6
DNZL				iS	Sb	01 03 46.0	+1.6
DENT	Denizli	1.31	49	PN	Pn	01 03 29.4	+0.7
KARP	Karpathos	1.44	200	ePB	Pb	01 03 30.0	-0.7
KARP				eSN	Sn	01 03 51.5	+1.9
IZM	Izmir	1.55	345	PN	Pn	01 03 31.9	-0.2
ELL	Elmali	1.72	94	ePN	Pn	01 03 34.4	-0.1
AKS	Akhisar	1.98	1	ePN	Pn	01 03 37.4	-0.8

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*FUNV **05** 01:13:16.2, 11.18N×62.21W, h128^{km}, MW2.9*
*TRN **05** 01:13:16.5, 11.25N×62.14W, h125^{km}, MD3.7*
ISC 05 01:13:14.5±0.8, **11.21N**±0.04×**62.28W**±0.03, **h128^{km}**±6^{km}, **n19, σ1^{s}11**/36, **4C-2D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.56	174	⇑iP	P	01 13 35.2	+1.4
GUIV				eS	S	01 13 48.3	-0.2
TCE	Chacachacare	0.72	134	⇑eP	P	01 13 36.1	+1.2
TCE				eS	S	01 13 49.9	-0.7
ITEV	Isla Los Testi	0.85	280	⇓iP	P	01 13 37.2	+1.3
ITEV				eS	S	01 13 53.8	+1.4
TRN	Trinidad (W)	1.02	123	⇑iP	P	01 13 38.5	+0.8
TRN				eS	S	01 13 54.1	-1.1
CRUV	Carupano	1.08	241	⇓iP	P	01 13 40.0	+1.7
CRUV				eS	S	01 13 57.3	+1.1
GRW	Mount Saint Ca	1.13	33	eP	P	01 13 38.7	0.0
GRW				eS	S	01 13 56.1	-0.9
GRHS	Sauteurs	1.19	32	eP	P	01 13 39.9	+0.5
GRHS				eS	S	01 13 57.2	-1.0
TPP	Pointe-a-Pierr	1.20	137	eP	P	01 13 41.2	+1.6
TPP				eS	S	01 13 58.2	-0.3
GUNV	Guanoco	1.23	212	eP	P	01 13 41.6	+1.9
GUNV				eS	S	01 13 58.7	-0.2
TBH	Brigand Hill	1.39	121	eP	P	01 13 42.4	+0.7
TBH				eS	S	01 14 02.6	+0.3
GRCU	Cariacou	1.50	33	eP	P	01 13 42.6	-0.2
GRCU				eS	S	01 14 03.0	-1.4
BOT	Bacolet	1.53	91	⇑iP	P	01 13 42.4	-0.8
IBAV	Isla La Blanqu	2.33	285	eP	P	01 13 53.8	+0.7
IBAV				eS	S	01 14 22.0	-0.4
ORIV	Oritupano	2.40	208	eS	S	01 14 22.2	-1.7
PCRV	Puerto La Cruz	2.53	246	eP	P	01 13 56.2	+0.5
PCRV				eS	S	01 14 24.9	-2.1
RIOV	Rio Grande	3.15	172	eP	P	01 14 03.1	-0.8
RIOV				eS	S	01 14 37.5	-3.9
CUPV	Cœpira	3.63	252	eP	P	01 14 11.2	+0.9
CUPV				eS	S	01 14 51.1	-1.8
MERV	Las Mercedes	4.41	244	eP	P	01 14 20.0	-0.6
MERV				eS	S	01 15 07.7	-3.7
CAOV	Caicara del Or	5.55	226	eP	P	01 14 35.1	-0.9
CAOV				eS	S	01 15 34.2	-4.8

SVSA 05 01:14:20.9±0.4, **39.71N×29.45W, h5^{km}, MD3.6, Error ellipse: s-maj=10.6km s-min=4.0km az=62.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	1.27	153	eP	Pb	01 14 40.5	-4.4
CALA				eS	Sb	01 14 55.4	-6.0
ROSA	Rosais	1.36	136	eS	Sb	01 14 57.3	-6.9
PICO	Pico	1.45	146	iP	Pn	01 14 42.9	-4.9
PICO				eS	Sb	01 14 59.3	-7.3
PID	Ribeirinha	1.64	140	eP	Pn	01 14 45.7	-4.8

DJA 05 01:19:23.5±0.9, **9.94S×115.86E, h33^{km}, ML3.7**/3, **5C-3D, Error ellipse: s-maj=18.9km s-min=14.2km az=172.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	1.25	345	⇓ePg	P	01 19 43.0	-1.7
	85nm,0.2s						
RATI				⇑eSg	S	01 19 57.9	-2.7
INGI	Ingas	1.32	328	⇓ePg	P	01 19 44.1	-1.6
INGI				⇑eSg	S	01 20 00.2	-2.1
KEDI	Kedomdong	1.46	10	⇓ePg	P	01 19 46.9	-0.9
	59nm,0.1s						
KEDI				⇑eSg	S	01 20 04.2	-1.8
KELI	Kelakatan	2.18	322	⇑ePn	Pn	01 19 57.6	-0.7
	39nm,0.2s						
KELI				⇑eSn	Sn	01 20 21.1	-3.3

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*IDC **05** 01:24:15.0±0.8, 12.61N×88.29W, mb4.4/15, mb1 4.6/17, mb1mx4.5/23, ML3.2/2, MS3.8/11, Ms1 3.8/11, ms1mx3.8/20, Error ellipse: s-maj=29.9km s-min=13.7km az=52.0*
*CASC **05** 01:24:18.2±2.2, 12.19N×88.60W, h36^{km}±999^{km}, MD4.4, ML4.7, mb4.7(NEIC)*
*BJI **05** 01:24:20.3, 12.30N×88.40W, h48^{km}, mB4.2, Ms5.5, Msz5.4*
*NEIC **05** 01:24:20.3±0.7, 12.32N×88.38W, h48^{km}±7^{km}, mb4.7/36, Error ellipse: s-maj=9.8km s-min=5.0km az=221.0*
ISC 05 01:24:18.0±0.5, **12.19N**±0.04×**88.56W**±0.03, **h48^{km}**±3^{km}, **n135, σ1^{s}11**/139, **mb4.6**/41, **MS4.0**/10, **28C-8D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	1.26	13	⇑eP	P	01 24 39.8	+0.3
BLLM	Bellamira	1.28	14	⇑eP	P	01 24 40.0	+0.1
BLLM				eS	S	01 24 57.6	+1.4
CNCH	Conchagua	1.29	33	⇑eP	P	01 24 39.7	-0.3
SNVI	San Vicente	1.44	349	⇑eP	P	01 24 41.6	-0.5
LFRS	El Faro	1.50	341	⇑iP	P	01 24 42.1	-0.9
LCBS	La Ceiba	1.51	344	⇑iP	P	01 24 42.2	-0.9
PYN	Poneloya	1.52	83	⇑eP	P	01 24 43.6	+0.4
CAHU	Cacacuatique	1.61	12	⇑eP	P	01 24 45.0	+0.5
CAHU				eS	S	01 25 06.0	+1.9
LBRS	Las Brisas	1.61	343	⇑eP	P	01 24 44.0	-0.5
SNET	Serv Nac Est T	1.62	336	⇑eP	P	01 24 44.0	-0.7
SNET				eS	S	01 25 04.2	-0.4
SNET				i		01 25 13.9	
	comp=Z,4μm,0.5s						
LEON	Leon	1.65	82	⇑eP	P	01 24 44.9	-0.2
BOQS	Boqueron	1.69	336	⇑eP	P	01 24 45.0	-0.6
TEL3	Telica 3	1.72	77	⇑eP	P	01 24 46.4	+0.3
TELN	Telica	1.74	76	⇑eP	P	01 24 46.5	+0.1
MIRN	Miramar	1.83	82	⇑eP	P	01 24 47.8	+0.2
CNGN	Cerro Negro	1.85	80	⇑eP	P	01 24 47.6	-0.2
COPN	Copaltepe	1.93	90	⇓eP	P	01 24 49.2	+0.3
SBLS	San Blas	1.94	328	⇑eP	P	01 24 48.7	-0.4
SNJE	San Jose	1.95	329	⇑eP	P	01 24 49.0	-0.4
SNJE				eS	S	01 25 13.3	+0.7
MOMJ	Momotombo	1.99	84	⇑eP	P	01 24 49.9	+0.1
RTR	El Retiro	2.00	328	⇑eP	P	01 24 49.7	-0.3
XAVN	Gruta Xavier	2.19	91	eP	P	01 24 50.8	-2.0
RBDL	Robledal	2.20	330	⇑iP	P	01 24 52.9	0.0
MGAN	Managua	2.27	91	⇓eP	P	01 24 54.3	+0.5
MGAN				eS	S	01 25 21.6	+1.0
TICN	Ticuantepe	2.29	94	⇓eP	P	01 24 55.1	+1.0
TICN				eS	S	01 25 23.7	+2.5
WILN	Americas 2	2.32	91	⇑eP	P	01 24 54.5	-0.1
MTO2	Montecristo 2	2.33	341	⇑eP	P	01 24 54.6	-0.1
COFN	Cofrada	2.40	91	⇑eP	P	01 24 55.9	+0.2
APON	Apoyo	2.46	96	⇓eP	P	01 24 57.0	+0.4
PYTN	Playitas	2.47	82	⇑eP	P	01 24 56.8	0.0
IXG	Ixpaco	2.70	317	⇓eP	P	01 24 58.7	-1.3
IXG				eS	S	01 25 31.8	+0.2
IXG				AML	AML	01 25 42.2	
	comp=E,15μm,0.5s						
CONN	Concepcion	2.94	102	⇑eP	P	01 25 02.9	-0.6
NBG	Las Nubes	2.95	324	⇓eP	P	01 25 04.7	+1.2
NBG				AML	AML	01 25 55.1	
	comp=N,7μm,0.5s						
MRL	Marmol	3.06	339	⇑eP	P	01 25 05.3	+0.2
FUG	Fuego 3	3.15	316	eP	P	01 25 05.8	-0.7
FUG				eS	S	01 25 41.8	-1.4
JAT	Jato	3.66	306	eP	P	01 25 13.0	-0.6
JTS	JuntasAbangare	4.01	118	Pn	P	01 25 19.1	+0.5
	comp=N,8.9nm,0.3s,baz=314,slow=15,SNR=38						
JTS				Sn	S	01 26 03.5	-1.4
	comp=N,13nm,0.3s,baz=291,slow=22,SNR=4.1						
JTS				LR	LR	01 26 37.1	
	comp=N,248nm,21.7s,baz=84,slow=36						
JTS	JuntasAbangare	4.01	118	ePn	P	01 25 19.1	+0.5
JCR	Jicaral	4.11	124	⇓eP	P	01 25 19.6	-0.3
TPX	Tapachula	4.49	307	eP	P	01 25 28.0	+2.6
CGA2	Cerro Gallo 2	4.57	118	eP	P	01 25 27.2	+0.8
PRS1	Puriscal	4.71	117	eP	P	01 25 29.3	+0.8
PRS1				eS	S	01 26 20.6	-1.9
LAJ	Bijagual	4.94	118	eP	P	01 25 27.6	-4.0
CMIG	Matias Romero	7.82	309	iP	P	01 26 10.3	-1.4
CMIG				iS	S	01 27 32.9	-6.9
CMIG				iS	S	01 27 40.5	+0.7
OXX	Oaxaca	9.27	303	eP	P	01 26 33.0	+1.2
PPM	Popocatepetl	11.86	306	eP	P	01 27 06.5	-0.6
OTAV	Otavalo	15.55	139	P	P	01 27 55.4	-0.4
	comp=N,29nm,1.4s						
ROSC	El Rosal	15.84	116	Pn	P	01 28 02.6	+3.1
	comp=N,0.5nm,0.3s,baz=104,slow=19,SNR=4.4						
ROSC				Sn	S	01 30 42.4	-11
	comp=N,1.2nm,0.3s,baz=109,slow=21,SNR=2.4						
ROSC				LR	LR	01 35 19.3	
	comp=N,342nm,18.5s,baz=66,slow=42						
ZAIG	Zacatecas	16.99	310	iP	P	01 28 17.4	+3.6
SDV	Santo Domingo	17.93	99	eP	P	01 28 24.4	-1.3
	comp=N,11nm,0.9s						
HKT	Hockley	18.91	340	eP	P	01 28 36.8	-0.7
	comp=N,17nm,1.0s						
NATX	Nacogdoches	20.27	345	eP	P	01 28 51.7	-0.5
	comp=N,94nm,0.7s						
LRAL	Lakeview Retre	20.80	4	eP	P	01 28 57.4	-0.2
	comp=N,44nm,1.1s						
JCT	Junction City	20.96	332	⇓eP	P	01 28 58.3	-1.1
	comp=N,110nm,0.8s						
LTX	Lajitas	22.10	323	eP	P	01 29 12.0	+1.2
	comp=N,35nm,0.8s,mb4.8						
TXAR	Lajitas Array	22.10	323	P	P	01 29 11.7	+0.9
	comp=N,21nm,0.7s,mb4.7,baz=146,slow=10,SNR=212						
TXAR				LR	LR	01 39 44.2	
	comp=N,142nm,20.0s,MS3.4,baz=275,slow=42						
NHSC	New Hope	22.19	19	eP	P	01 29 12.1	+0.5
	comp=N,128nm,1.3s,mb5.2						
TWB	Tillmans-White	22.22	19	eP	P	01 29 13.7	+1.8
OXF	Oxford	22.23	358	eP	P	01 29 11.8	-0.2
	comp=N,40nm,0.8s,mb4.9						
OXF				epP		01 29 27.3	
SJG	San Juan	22.41	72	P	P	01 29 13.3	-0.5
	comp=N,12nm,0.8s,mb4.4,baz=356,slow=21,SNR=2.7						
PLAL	Pickwick Lake	22.69	1	eP	P	01 29 14.7	-1.9
	comp=N,16nm,0.9s,mb4.5						
UALR	University of	22.74	352	eP	P	01 29 17.6	+0.5
	comp=N,25nm,0.6s,mb4.8						
JSC	Jenkinsville	22.97	16	eP	P	01 29 19.8	+0.4
SWET	Sewanee	23.05	6	eP	P	01 29 19.1	-0.9
CPCT	Cooper Cave	23.44	8	eP	P	01 29 24.3	+0.4
WMOK	Wichita Mounta	24.29	339	eP	P	01 29 31.5	-0.6
	comp=N,25nm,0.9s,mb4.6						
CLNB	Carlsbad	24.44	327	eP	P	01 29 35.3	+1.7
GDL2	Guadalupe Moun	24.65	326	eP	P	01 29 37.1	+1.4
CCM	Cathedral Cave	25.87	355	⇑eP	P	01 29 45.6	-1.5
	comp=N,57nm,0.8s,mb5.2						
CCM				ePcP	PcP	01 33 16.6	+0.7
ELN	Prospectdale	25.90	14	eP	P	01 29 47.5	+0.1
ELN				e		01 30 12.8	
BLA	Blacksburg	25.96	15	eP	P	01 29 47.8	-0.2
	comp=N,12nm,0.7s,mb4.5						
FWV	Forest Hill	26.22	14	eP	P	01 29 49.4	-1.0
LENM	Lemitar	27.56	326	eP	P	01 30 04.2	+1.5
TUC	Tucson	28.59	318	eP	P	01 30 16.8	+4.8
	comp=N,6.4nm,0.9s,mb4.3						
SDCO	Great Sand Dun	29.61	332	eP	P	01 30 21.6	+0.6
	comp=N,14nm,0.9s,mb4.7						
SSPA	Standing Stone	29.85	16	eP	P	01 30 21.4	-1.7
	comp=N,3.7nm,0.6s,mb4.3						
RW3	Ridgway	31.05	330	eP	P	01 30 40.4	+6.6
ISCO	Idaho Springs	31.36	334	eP	P	01 30 37.7	+1.2
	comp=N,12nm,0.9s,mb4.7						
PV10	Paradox Valley	31.82	329	eP	P	01 30 41.7	+1.2
SAML	Samuel	32.83	129	eP	P	01 30 48.6	-0.9
	comp=N,8.8nm,1.0s,mb4.6						
SAML				ePcP	PcP	01 33 37.1	+3.4

SRU	San Rafael	33.14	328	*e*P	P	01 30 53.3	+1.3
SRU				*e*	pP	01 31 06.8	+2.3
NEN	Nelson	33.30	319	*e*P	P	01 30 54.7	+1.3
SADO	Sadowa	33.45	12	P	P	01 30 52.2	-2.4
	comp=N,10nm,0.6s,mb4.9,baz=219,slow=7.3,SNR=13						
MSU	Marysvale	33.60	325	*e*P	P	01 30 57.7	+1.8
LPAZ	La Paz	34.77	144	P	P	01 31 09.7	+3.5
	comp=N,0.7nm,0.8s,mb3.6,baz=289,slow=8.9,SNR=2.3						
LPAZ				LR	LR	01 46 02.6	
	comp=N,106nm,19.6s,MS3.6,baz=275,slow=37						
DUG	Dugway	35.14	327	*e*P	P	01 31 09.3	+0.2
	comp=N,4.5nm,0.8s,mb4.5						
PDAR	Pinedale Array	35.49	333	P	P	01 31 11.9	-0.3
	comp=N,2.2nm,0.7s,mb4.2,baz=143,slow=7.4,SNR=15						
PDAR				PcP	PcP	01 33 40.7	-0.3
	comp=N,1.3nm,0.7s,baz=135,slow=4.2,SNR=5.3						
PDAR				LR	LR	01 49 10.5	
	comp=N,118nm,21.1s,MS3.6,baz=18,slow=42						
PDAR	Pinedale Array	35.49	333	P	P	01 31 11.9	-0.3
PDAR				PcP	PcP	01 33 40.7	-0.4
PDAR				LR	LR	01 49 10.4	
HWUT	Hardware Ranch	35.54	330	*e*P	P	01 31 12.7	+0.2
	comp=N,5.4nm,0.7s,mb4.6						
AHID	Auburn Hatcher	36.20	331	*e*P	P	01 31 18.5	+0.4
	comp=N,11nm,0.7s,mb4.9						
REDW	Red Top Meadow	36.55	332	*e*P	P	01 31 19.5	-1.5
NVAR	Mina Array Bea	37.19	320	P	P	01 31 28.2	+1.8
	comp=N,4.2nm,0.8s,mb4.3,baz=117,slow=7.9,SNR=13						
NVAR				PcP	PcP	01 33 47.7	+1.6
	comp=N,1.8nm,0.6s,baz=123,slow=4.9,SNR=7.0						
NVAR				ScP		01 37 38.0	
	comp=N,1.0nm,0.8s,baz=129,slow=5.8,SNR=4.6						
NVAR				LR	LR	01 49 28.3	
	comp=N,181nm,18.8s,MS3.9,baz=145,slow=41						
NVAR	Mina Array Bea	37.19	320	P	P	01 31 28.2	+1.8
NVAR				PcP	PcP	01 33 47.7	+1.5
NVAR				ScP		01 37 38.0	
NVAR				LR	LR	01 49 28.3	
YMR	Madison River	37.62	334	*e*P	P	01 31 31.6	+1.6
HLID	Hailey	38.40	329	*e*P	P	01 31 36.9	+0.5
	comp=N,2.5nm,0.7s,mb4.0						
HLID				*e*PcP	PcP	01 33 52.2	+2.4
ULM	Lac du Bonnet	38.42	352	P	P	01 31 34.5	-2.0
	comp=N,29nm,0.7s,mb5.1,baz=168,slow=8.5,SNR=50						
ULM				LR	LR	01 48 57.4	
	comp=N,140nm,21.0s,MS3.8,baz=190,slow=39						
ULM	Lac du Bonnet	38.42	352	*e*P	P	01 31 34.3	-2.3
	comp=N,38nm,0.7s,mb5.2						
DGMT	Dagmar	38.44	343	*e*P	P	01 31 37.0	+0.2
	comp=N,48nm,0.6s,mb5.4						
MCMT	McKenzie Canyo	38.59	332	*e*P	P	01 31 39.4	+1.3
BOZ	Bozeman (W)	38.69	334	*e*P	P	01 31 39.2	+0.4
	comp=N,8.1nm,0.6s,mb4.6						
HRY	Holter Researc	39.62	335	*e*P	P	01 31 49.4	+2.9
WVOR	Wild Horse Val	39.87	325	*e*P	P	01 31 49.4	+0.6
	comp=N,8.4nm,1.2s,mb4.3						
MSO	Missoula	40.61	333	*e*P	P	01 31 54.6	-0.2
	comp=N,4.5nm,1.4s,mb3.9						
MSO				*e*pP	pP	01 32 07.5	-0.2
MSO				*e*PcP	PcP	01 33 57.5	+0.7
DPW	Davenport	43.34	331	*e*P	P	01 32 18.6	+1.5
FFC	Flin Flon	43.73	349	*e*P	P	01 32 19.0	-1.2
	comp=N,9.9nm,0.9s,mb4.5						
RPW	Rockport	45.35	329	*e*P	P	01 32 33.8	+0.5
SCHQ	Schefferville	45.84	17	P	P	01 32 34.9	-2.3
	comp=N,24nm,0.8s,mb5.2,baz=204,slow=5.5,SNR=18						
SCHQ				LR	LR	01 53 17.4	
	comp=N,385nm,18.2s,MS4.4,baz=97,slow=38						
SCHQ	Schefferville	45.84	17	*e*P	P	01 32 34.8	-2.3
	comp=N,34nm,0.8s,mb5.3						
FCC	Fort Churchill	46.66	356	*e*P	P	01 32 41.8	-1.8
	comp=N,18nm,0.6s,mb5.2						
BDFB	Brasilia	48.73	124	P	P	01 33 01.3	+1.0
	comp=N,3.0nm,0.5s,mb4.6,baz=294,slow=8.6,SNR=4.8						
BDFB				LR	LR	01 54 52.0	
	comp=N,163nm,18.1s,MS4.1,baz=316,slow=38						
CPUP	Villa Florida	48.88	142	P	P	01 33 04.4	+3.2
	comp=N,1.9nm,0.8s,mb4.2,baz=347,slow=4.6,SNR=5.3						
CPUP				LR	LR	01 54 28.0	
	comp=N,96nm,19.2s,MS3.8,baz=243,slow=37						
CPUP	Villa Florida	48.88	142	*e*P	P	01 33 01.2	-0.1
	comp=N,9.5nm,1.2s,mb4.7						
CPUP				LR	LR	01 54 28.0	
YKA	Yellowknife Ar	53.58	345	P	P	01 33 34.5	-1.8
	comp=N,10nm,1.0s,mb4.7,baz=142,slow=7.4,SNR=22						
YKA	Yellowknife Ar	53.58	345	P	P	01 33 34.5	-1.8
YKW3	Yellowknife Ar	53.64	345	*e*P	P	01 33 34.6	-2.2
PLCA	Paso Flores	55.24	163	P	P	01 33 49.4	+0.7
	comp=N,1.9nm,0.8s,mb4.2,baz=319,slow=11,SNR=4.1						
PLCA	Paso Flores	55.24	163	*e*P	P	01 33 49.0	+0.3
	comp=N,2.8nm,0.8s,mb4.3						
DLBC	Dease Lake	55.68	335	*e*P	P	01 33 51.5	-0.2
RES	Resolute Bay	62.58	358	*e*P	P	01 34 37.0	-2.2
	comp=N,5.3nm,0.6s,mb4.8						
INK	Inuvik	63.13	343	LR	LR	02 09 00.9	
	comp=N,245nm,18.1s,MS4.4,baz=320,slow=43						
INK	Inuvik	63.13	343	*e*P	P	01 34 41.2	-1.7
	comp=N,13nm,1.1s,mb5.0						
ILAR	Eielson Array	65.82	336	P	P	01 34 58.8	-1.5
	comp=N,3.8nm,1.0s,mb4.4,baz=124,slow=4.0,SNR=25						
ILAR				PP	PP	01 37 20.8	-7.0
	comp=N,0.6nm,0.9s,baz=106,slow=6.6,SNR=3.6						
KBS	Kingsbay	80.13	11	*e*P	P	01 36 28.3	+4.2
	comp=N,15nm,0.6s,mb5.1						
NOA	NORSAR Array B	84.12	29	P	P	01 36 43.4	-1.5
	comp=N,1.2nm,1.1s,mb3.9,baz=286,slow=5.0,SNR=2.8						
NOA	NORSAR Array B	84.12	29	P	P	01 36 43.4	-1.5
ARCES	ARCESS Array B	86.78	19	P	P	01 36 59.7	+1.8
	comp=N,0.7nm,0.6s,mb4.1,baz=292,slow=4.9,SNR=4.7						
ARCES	ARCESS Array B	86.78	19	P	P	01 36 59.7	+1.8
CN2	Changchun	116.24	333	*e*PKP	PKPdf	01 42 57.0	+0.6
CN2				XPKP		01 43 17.0	
CN2				PP	PP	01 44 07.0	-0.3
CN2				LR	LR		
	comp=N,500nm,20.0s,MS5.2						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS5.2						
CN2				LR	LR		
	comp=Z,600nm,20.0s,MS5.2						
SONM	Songino Array	118.78	349	PKP	PKPdf	01 43 03.7	+2.5
	comp=Z,1.4nm,0.9s,baz=15,slow=2.3,SNR=7.7						
WMQ	Urumqi	124.15	3	*e*PKP	PKPdf	01 43 15.7	+3.9
NJ2	Nanjing	128.77	330	*e*PKP	PKPdf	01 43 23.6	+2.6
LZH	Lanzhou	130.57	347	*e*PKP	PKPdf	01 43 23.2	-1.1
LZH				XPKP		01 43 48.0	
WRA	Warramunga Arr	138.15	254	PKhKP		01 43 36.5	
	comp=Z,0.3nm,0.6s,baz=100,slow=3.4,SNR=4.7						
WRA				PKP	PKPdf	01 43 43.8	+5.0
	comp=Z,1.1nm,1.0s,baz=93,slow=2.7,SNR=5.1						
ASAR	Alice Springs	138.16	248	PKP	PKPdf	01 43 45.2	+6.5
	comp=Z,1.3nm,0.7s,baz=108,slow=2.9,SNR=12						
CMAR	Chiang Mai Arr	148.66	346	PKP	PKPdf	01 43 59.9	+2.9
	comp=Z,7.3nm,0.7s,baz=327,slow=2.2,SNR=9.5						
CMAR				PKPbc	PKPdf	01 44 03.9	+6.9
	comp=Z,6.7nm,0.7s,baz=335,slow=4.3,SNR=24						

CASC 05 01:34:49.9±2.0, 12.11N×88.65W, h36^{km}±999^{km}, MD4.0, 6C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	1.36	16⇓	*e*P	P	01 35 13.2	+0.3
BLLM	Bellamira	1.39	17⇓	*e*P	P	01 35 13.7	+0.5
BLLM				*e*S	S	01 35 31.2	+0.7
CNCH	Conchagua	1.41	34	*e*P	P	01 35 13.5	0.0
SNVI	San Vicente	1.51	353	*e*P	P	01 35 15.1	+0.2
LFRS	El Faro	1.56	345⇓	*e*P	P	01 35 15.4	-0.2
LCBS	La Ceiba	1.57	348⇑	*e*P	P	01 35 15.4	-0.4
PYN	Poneloya	1.61	80⇑	*e*P	P	01 35 14.7	-1.7
PYN				*e*S	S	01 35 37.7	+1.5
CAHU	Cacacuatique	1.71	14	*e*P	P	01 35 18.8	+1.1
BOQS	Boqueron	1.73	339⇑	*e*P	P	01 35 18.2	+0.2
BOQS				*e*S	S	01 35 38.8	-0.3
LEON	Leon	1.75	80	*e*P	P	01 35 16.9	-1.4
TEL3	Telica 3	1.82	75⇓	*e*P	P	01 35 18.3	-1.0
TEL3				*e*S	S	01 35 40.9	-0.6
MIRN	Miramar	1.92	80⇓	*e*P	P	01 35 20.1	-0.7
CNGN	Cerro Negro	1.95	78	*e*P	P	01 35 21.5	+0.3
SBLS	San Blas	1.97	331	*e*P	P	01 35 21.7	+0.3
SBLS				*e*S	S	01 35 45.0	-0.1
SNJE	San Jose	1.98	332⇑	*e*P	P	01 35 22.1	+0.4
SNJE				*e*S	S	01 35 45.2	-0.3
COPN	Copaltepe	2.01	88⇑	*e*P	P	01 35 21.4	-0.7
RTR	El Retiro	2.03	332⇓	*e*P	P	01 35 23.0	+0.7
RTR				*e*S	S	01 35 45.9	-0.7
MOMJ	Momotombo	2.08	82	*e*P	P	01 35 22.2	-0.8
RBDL	Robledal	2.23	333⇑	*e*P	P	01 35 26.0	+0.7
MGAN	Managua	2.35	89	*e*P	P	01 35 26.6	-0.3
MGAN				*e*S	S	01 35 53.4	-1.5
TICN	Ticuantepe	2.37	92	*e*P	P	01 35 27.0	-0.1
TICN				*e*S	S	01 35 55.3	0.0
CONN	Concepcion	3.01	100	*e*P	P	01 35 34.5	-1.8

KRSC 05 01:44:02.6, 52.24N×159.95E, h11^{km}, ML3.6, Off east coast of Kamchatka Peninsula

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MOS ***05*** *01:46:46.3±1.3, 14.05N×146.38E, h33^{km}, mb5.6/20, MS5.3/16, Error ellipse: s-maj=17.9km s-min=8.5km az=110.7*

BJI ***05*** *01:46:47.8, 14.28N×146.67E, h45^{km}, mB5.5, mb5.3, Ms5.3, Msz5.2*

IDC ***05*** *01:46:48.4±1.3, 13.93N×146.60E, h40^{km}±9^{km}, mb4.8/24, mb1 4.9/24, mb1mx4.9/25, MS5.1/20, Ms1 5.1/20, ms1mx5.0/24, Error ellipse: s-maj=11.9km s-min=7.7km az=84.0*

HRVD ***05*** *01:46:50.1±0.1, 13.84N×146.73E, h12^{km}, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s66,c131;Mantle waves: s71,c159; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.43±.03; $M_{\theta\theta}$0.18±.03; $M_{\phi\phi}$-1.61±.02; $M_{r\theta}$-0.18±.07; $M_{\theta\phi}$-0.24±.02; $M_{\phi r}$1.39±.06; Best double couple: $M_0$2.08×10^{17} NP1:ϕ_s200°,δ25°,λ111°. NP2:ϕ_s357°,δ66°,λ80°. Principal axes: T 2.01, Plg67°, Azm249°; N .15, Plg9°, Azm1°; P -2.16, Plg21°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *01:46:50.1±0.7, 13.97N×146.37E, h46^{km}±6^{km}, mb5.2/62, MS5.2/90 Error ellipse: s-maj=5.6km s-min=3.8km az=115.0*

ISC 05 01:46:47.7±0.6, 13.96N±0.03×146.38E±0.03, h38^{km}±4^{km}, h39^{km}±3.2^{km}:pP-P, n341, σ1^{s}12/292, mb5.2/121, MS5.2/141, 30C-14D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.38	334⇑	*i*P	P	01 47 13.1	+2.1
GUMO	Guam	1.51	256⇑	*i*P	P	01 47 15.2	+2.4
ANA2	Anatahan	2.45	345	*e*P	P	01 47 27.7	+1.5
ANAT	Anatahan	2.48	344	*e*P	P	01 47 27.6	+1.1
SARN	Sarigan	2.78	348⇑	*e*P	P	01 47 31.7	+0.8
CBIJ	Chichi jima	13.64	344	LR	LR	01 55 08.2	
	comp=Z,8µm,19.2s,baz=357,slow=36						
JHJ	Hachijo jima 2	19.99	344	S	S	01 55 02.0	+4.5
	60nm,0.6s,baz=61,slow=22,SNR=2.3						
JHJ				LR	LR	01 58 12.6	
	comp=Z,6µm,18.2s,baz=313,slow=34						
JOW	Kunigami	21.22	310	P	P	01 51 32.2	-0.3
	341nm,0.9s,mb5.7,baz=147,slow=12,SNR=82						
JOW				S	S	01 55 29.6	+8.4
	3.6nm,0.6s,baz=130,slow=25,SNR=2.2						
JOW				LR	LR	01 59 47.6	
	comp=Z,6µm,18.3s,MS5.0,baz=321,slow=36						
DAV	Davao City (W)	21.55	254	*e*P	P	01 51 38.0	+2.1
TBP	Tagbilaran	22.44	262	*e*P	P	01 51 45.0	+0.2
TBP	Tagbilaran	22.44	262	*e*P	P	01 51 45.0	+0.2
PMG	Port Moresby	23.23	178	P	P	01 51 52.0	-0.6
	79nm,0.9s,mb5.2,baz=0.7,slow=9.8,SNR=28						
PMG				S	S	01 55 59.3	+1.2
	3.9nm,0.5s,baz=34,slow=18,SNR=1.9						
PMG	Port Moresby	23.23	178⇓	*e*P	P	01 51 51.8	-0.8
	114nm,0.9s,mb5.3						
PMG				*e*S	S	01 56 06.9	+8.8
PMG				LR	LR		
	comp=Z,3µm,19.0s,MS4.7						
MAJO	Matsushiro	23.64	343⇑	*i*P	P	01 51 54.0	-2.5
	comp=Z,50nm,1.0s,mb4.9						
MAJO				LR	LR		
	comp=Z,5µm,19.0s,MS5.0						
MAT	Matsushiro	23.64	343	P	P	01 51 53.3	-3.1
MAT				S	S	01 56 03.0	-2.1
MAT	Matsushiro	23.64	343	*e*P	P	01 51 53.0	-3.4
	comp=Z,56nm,1.2s,mb4.9						
MAT				*e*S	S	01 56 04.0	-1.1
MAT				LR	LR		
	comp=Z,7µm,19.0s,MS5.1						
JNU	Nakatsue	23.73	326	P	P	01 51 57.8	+0.6
	comp=Z,227nm,1.0s,mb5.6,baz=120,slow=11,SNR=67						
JNU				S	S	01 56 14.8	+8.3
	comp=Z,5.7nm,0.4s,baz=279,slow=17,SNR=3.3						
JNU				LR	LR	02 00 45.4	
	comp=Z,3µm,19.1s,MS4.8,baz=333,slow=35						
TGY	Tagaytay City	24.68	273	P	P	01 52 07.7	+1.1
	comp=Z,182nm,0.6s,mb5.8,baz=210,slow=3.1,SNR=5.3						
TGY				LR	LR	02 01 27.0	
	comp=Z,5µm,18.0s,MS5.0,baz=178,slow=35						
QZH	Quanzhou	28.32	297	P	P	01 52 38.8	-1.5
QZH				AMB	AMB		
	comp=Z,1µm,10.2s						
QZH				LR	LR		
	comp=N,4µm,18.6s,MS5.2						
QZH				LR	LR		
	comp=E,5µm,16.4s,MS5.2						
QZH				LR	LR		
	comp=Z,6µm,17.0s,MS5.3						
KS15	Wonju Array Si	28.60	328	*e*P	P	01 52 41.0	-1.6
KS15				*e*		01 52 56.5	
SSE	Sheshan	28.74	311	P	P	01 52 41.7	-2.2
SSE				S	S	01 57 36.3	+7.2
SSE				AMB	AMB		
	comp=Z,71nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,460nm,10.7s						
SSE				LR	LR		
	comp=N,2µm,16.6s,MS5.0						
SSE				LR	LR		
	comp=E,2µm,16.6s,MS5.0						
SSE				LR	LR		
	comp=Z,4µm,20.4s,MS5.0						
INCN	Inchon	29.29	327	PFAKE		01 53 00.0	+11
INCN				LR	LR		
	comp=Z,3µm,19.0s,MS4.9						
KAKA	Kakadu	29.89	208⇓	*i*P	P	01 52 53.2	-1.1
	comp=Z,22nm,0.6s,mb5.1						
ASAJ	Asahikawa	30.22	355	P	P	01 52 54.5	-2.5
	comp=Z,3.5nm,0.3s,mb4.6,baz=327,slow=32,SNR=2.3						
NJ2	Nanjing	30.94	310	*e*P	P	01 53 02.8	-0.6
NJ2				PP	PP	01 54 01.7	-4.1
NJ2				S	S	01 58 01.0	-2.9
NJ2				PCS		01 59 41.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
NJ2				LR	LR		
	comp=N,3µm,17.2s,MS5.1						
NJ2				LR	LR		
	comp=E,3µm,22.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,9µm,19.3s,MS5.4						
VLA	Vladivostok	31.62	340⇓	*i*P	P	01 52 53.0	-16
VLA				*i*		01 54 08.0	
VLA				*i* PPP	PPP	01 54 28.0	-1.6
VLA				*i* S	S	01 58 10.0	-4.5
VLA				*i* SS	SS	02 00 05.0	-0.1
VLA				pmax	pmax		
	comp=Z,500nm,6.0s						
VLA				pmax	pmax		
	comp=N,300nm,5.0s						
VLA				pmax	pmax		
	comp=N,600nm,10.0s						
VLA				pmax	pmax		
	comp=Z,300nm,10.0s						
VLA				pmax	pmax		
	comp=N,500nm,5.0s						
VLA				smax			
	comp=E,500nm,7.0s						
VLA				smax			
	comp=N,500nm,8.0s						
VLA				smax			
	comp=E,500nm,7.0s						
VLA				MLR	MLR		
	comp=N,900nm,16.0s,MS5.1						
VLA				MLR	MLR		
	comp=E,3µm,16.0s,MS5.1						
VLA				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.2						
GZH	Guangzhou	32.54	291	P	P	01 53 16.5	-1.1
GZH				S	S	01 58 31.9	+2.7
GZH				LR	LR		
	comp=N,2µm,18.3s,MS5.1						
GZH				LR	LR		
	comp=E,3µm,19.6s,MS5.1						
GZH				LR	LR		
	comp=Z,5µm,19.6s,MS5.2						
YSS	Yuzh-Sakhalins	33.03	355	P	P	01 53 14.0	-7.6
YSS				*e*		01 53 27.8	
YSS				*e*PPP	PPP	01 54 45.0	-3.9
YSS				*e*S	S	01 58 25.0	-11
YSS				smax			
	comp=N,500nm,15.0s						
YSS				smax			
	comp=E,500nm,17.0s						
YSS				MLR	MLR		
	comp=N,2µm,16.0s						
YSS				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.0						
DL2	Dalian	33.08	323	⇑P	P	01 53 22.6	+0.5
DL2				AMB	AMB		
	comp=Z,118nm,1.2s,mb5.7						
DL2				AMB	AMB		
	comp=Z,880nm,10.0s						
DL2				LR	LR		
	comp=E,4µm,15.0s						
MDJ	Mudanjiang	33.73	338	P	P	01 53 26.9	-0.7
MDJ				PP	PP	01 54 42.6	+1.4
MDJ				S	S	01 58 46.3	-1.1
MDJ				AMB	AMB		
	comp=Z,265nm,7.6s						
MDJ				LR	LR		
	comp=N,3µm,17.0s,MS5.0						
MDJ				LR	LR		
	comp=E,1µm,21.1s,MS5.0						
MDJ				LR	LR		
	comp=Z,4µm,18.5s,MS5.1						
MDJ	Mudanjiang	33.73	338	PFAKE		01 53 40.0	+12
MDJ				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
WHN	Wuhan	33.76	305	⇓P	P	01 53 28.5	+0.4
WHN				PP	PP	01 54 42.0	+0.2
WHN				S	S	01 58 49.0	+1.0
WHN				AMB	AMB		
	comp=Z,67nm,1.4s,mb5.4						
WHN				AMB	AMB		
	comp=Z,670nm,7.3s						
WHN				LR	LR		
	comp=N,3µm,15.5s,MS5.4						
WHN				LR	LR		
	comp=E,6µm,17.8s,MS5.4						
WHN				LR	LR		
	comp=Z,6µm,18.8s,MS5.4						
CTA	Charters Tower	33.84	180	*e*P	P	01 53 29.4	+0.6
	comp=Z,4.9nm,0.9s,mb4.4						
CTA				*e*S	S	01 58 48.5	-0.8
CTAO	Charters Tower	33.84	180	*e*P	P	01 53 29.3	+0.5
	comp=Z,61nm,1.7s,mb5.2						
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
SNY	Shenyang	34.09	329	⇑P	P	01 53 29.3	-1.4
SNY				S	S	01 58 57.2	+4.3
SNY				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8						
SNY				LR	LR		
	comp=N,2µm,14.4s,MS5.2						
SNY				LR	LR		
	comp=E,2µm,15.3s,MS5.2						
SNY				LR	LR		
	comp=Z,4µm,17.1s,MS5.2						
TIA	Tai'an	34.31	315	P	P	01 53 32.2	-0.5
TIA				S	S	01 59 04.1	+7.7
TIA				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
TIA				LR	LR		
	comp=N,1µm,14.2s						
TIA				LR	LR		
	comp=E,2µm,20.6s						
CN2	Changchun	34.72	333	*e*P	P	01 53 34.8	-1.3
CN2				PP	PP	01 54 52.8	-1.0
CN2				PPP	PPP	01 55 10.6	-1.3
CN2				*e*S	S	01 59 01.7	-1.0
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CN2				AMB	AMB		
	comp=Z,500nm,6.0s						
CN2				LR	LR		
	comp=N,4µm,15.0s,MS5.3						
CN2				LR	LR		
	comp=E,2µm,15.0s,MS5.3						
CN2				LR	LR		
	comp=Z,3µm,14.0s,MS5.2						
QIZ	Qiongzhong	35.35	283	*e*P	P	01 53 42.4	+0.7
QIZ				S	S	01 59 12.3	-0.3
QIZ				SCS	ScS	02 03 56.6	+0.6
QIZ				AMB	AMB		
	comp=Z,38nm,1.9s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,513nm,9.3s						
QIZ				LR	LR		
	comp=E,3µm,19.4s						
QIZ				LR	LR		
	comp=Z,4µm,19.4s,MS5.2						
QIZ	Qiongzhong	35.35	283	*e*P	P	01 53 43.1	+1.4
	comp=Z,52nm,1.2s,mb5.3						
WRAB	Tennant Creek	35.70	200	*e*P	P	01 53 42.8	-1.9
	comp=Z,51nm,0.8s,mb5.5						
WB2	Warramunga Arr	35.71	200⇑	*i*P	P	01 53 43.7	-1.1
WB2				*e*S	S	01 59 21.3	+3.1
WRA	Warramunga Arr	35.71	200	P	P	01 53 43.8	-1.0
	comp=Z,40nm,1.0s,mb5.3,baz=21,slow=9.4,SNR=96						
WRA				PcP	PcP	01 56 12.6	-0.1
	comp=Z,8.0nm,0.9s,baz=16,slow=3.0,SNR=6.7						
WRA				S	S	01 59 17.3	-1.0
	comp=Z,0.6nm,1.0s,baz=51,slow=12,SNR=4.7						
WRA				ScP		01 59 56.5	
	comp=Z,5.0nm,1.1s,baz=18,slow=3.8,SNR=5.9						
WRA				LR	LR	02 09 48.8	
	comp=Z,1µm,18.5s,MS4.7,baz=30,slow=39						
MIDW	Midway	36.52	61	PFAKE		01 54 00.0	+8.4
MIDW				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
BJT	Baijiatuau	37.07	320	*e*P	P	01 53 55.5	-0.6
	comp=Z,244nm,1.3s,mb5.9						
BJT				*e*	pP	01 54 07.1	+0.2
BJT				LR	LR		
	comp=Z,5µm,19.0s,MS5.3						
BJI	Beijing	37.08	320	P	P	01 53 55.9	-0.3
BJI				PP	PP	01 55 20.5	-2.9
BJI				S	S	01 59 39.8	+0.7
BJI				AMB	AMB		
	comp=Z,112nm,1.3s,mb5.5						
BJI				LR	LR		
	comp=N,4µm,17.3s,MS5.3						
BJI				LR	LR		
	comp=E,2µm,17.3s,MS5.3						
BJI				LR	LR		
	comp=Z,3µm,18.7s,MS5.2						
BJI	Beijing	37.08	320	P	P	01 53 55.9	-0.3
	comp=Z,112nm,1.3s,mb5.5						
BJI				PP	PP	01 55 20.5	-2.9
BJI				S	S	01 59 39.8	+0.7
ENH	Enshi	37.63	302	*e*P	P	01 54 01.6	+0.7
	comp=Z,144nm,1.1s,mb5.6						
ENH				*e*	pP	01 54 09.7	-2.0
ENH				*e*S	S	01 59 50.5	+3.0
FITZ	Fitzroy Crossi	37.86	213⇑	*i*P	P	01 54 02.7	-0.2
	comp=Z,13nm,0.9s,mb4.7						
FITZ				*e*S	S	02 00 01.1	+10
TIY	Taiyuan	38.30	314	⇑P	P	01 54 07.0	+0.6
TIY				S	S	02 00 02.0	+4.4
TIY				LR	LR		
	comp=N,3µm,15.0s						
TIY				LR	LR		
	comp=Z,4µm,18.0s,MS5.3						
GYA	Guiyang	39.13	295⇑	*i*P	P	01 54 15.1	+1.7
GYA				S	S	02 00 17.4	+7.1
GYA				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
GYA				AMB	AMB		
	comp=Z,810nm,9.3s						
GYA				LR	LR		
	comp=N,3µm,17.1s,MS5.3						
GYA				LR	LR		
	comp=E,3µm,17.7s,MS5.3						
GYA				LR	LR		

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       comp=Z,3μm,17.4s,MS5.2
XAN   Xi'an             39.33 307  P        P      01 54 14.4  -0.5
XAN                                AMB      AMB
       comp=Z,35nm,1.6s,mb4.8
XAN                                AMB      AMB
       comp=Z,570nm,9.4s
XAN                                LR       LR
       comp=N,1μm,19.7s,MS5.0
XAN                                LR       LR
       comp=E,1μm,16.1s,MS5.0
XAN                                LR       LR
       comp=Z,3μm,18.6s,MS5.1
ASAR  Alice Springs     39.34 198  P        P      01 54 14.6  -0.5
       comp=Z,12nm,0.9s,mb4.7,baz=19,slow=6.2,SNR=67
ASAR                               PP       PP     01 55 44.8  -4.8
       comp=Z,5.8nm,0.8s,baz=21,slow=7.7,SNR=1.9
ASAR                               S        S      02 00 13.3  -0.1
       comp=Z,0.2nm,0.4s,baz=215,slow=38,SNR=2.4
ASAR                               LR       LR     02 10 02.8
       comp=Z,1μm,18.6s,MS4.8,baz=14,slow=35
ASPA  Alice Springs     39.34 198⇑iP     P      01 54 14.6  -0.6
ASPA                               ePP      PP     01 55 47.6  -2.0
ASPA                               eS       S      02 00 14.0  +0.5
PET   Petropavlovsk     40.17  11  eP       P      01 54 19.7  -2.1
PET                                i S      S      02 00 26.7  +1.0
PET                                eSS      SS     02 03 19.7  +1.0
PET                                e               02 04 22.6
PET                                pmax     pmax
       comp=Z,30nm,1.3s,mb4.9
PET                                pmax     pmax
       comp=Z,100nm,17.1s
PET                                pmax     pmax
       comp=Z,300nm,6.3s
PET                                smax
       comp=E,2μm,10.0s
PET                                smax
       comp=E,2μm,17.7s
PET                                smax
       comp=N,700nm,16.3s
PET                                MLR      MLR
       comp=Z,2μm,20.0s,MS5.0
PET   Petropavlovsk     40.17  11  PFAKE           01 54 30.0  +8.2
PET                                LR       LR
       comp=Z,2μm,20.0s,MS4.9
HHC   Hu-ho-hao-te      40.46 318  eP       P      01 54 24.7  +0.4
HHC                                AP       pP     01 54 34.5  -0.7
HHC                                S        S      02 00 30.2  +0.1
HHC                                SS       SS     02 03 24.9  -0.1
HHC                                SCS      ScS    02 04 20.8  -4.1
HHC                                AMB      AMB
       comp=Z,89nm,1.5s,mb5.3
HHC                                AMB      AMB
       comp=Z,477nm,3.9s
HHC                                LR       LR
       comp=N,733nm,17.8s,MS4.8
HHC                                LR       LR
       comp=E,943nm,19.0s,MS4.8
HHC                                LR       LR
       comp=Z,1μm,19.0s,MS4.8
DZM   Mont Dzumac       40.86 151  eP       P      01 54 27.0  -0.8
BTO   Baotou            41.35 317  eP       P      01 54 32.2  +0.6
BTO                                LR       LR
       comp=N,4μm,19.1s,MS5.5
BTO                                LR       LR
       comp=E,6μm,20.2s,MS5.5
HIA   Hailar            41.44 334  eP       P      01 54 32.0  -0.3
       comp=E,23nm,0.9s,mb4.8
KKTK  Khon Kaen         42.05 279  P        P      01 54 39.0  +1.3
       comp=E,309nm,0.7s,mb6.0
KMI   Kunming           42.43 292  eP       P      01 54 41.7  +1.0
KMI                                AP       pP     01 54 57.0  +5.3
KMI                                PP       PP     01 56 20.3  -1.6
KMI                                PCP      PcP    01 56 34.8  +0.9
KMI                                S        S      02 00 59.4   0.0
KMI                                SS       SS     02 04 08.7  +5.3
KMI                                SCS      ScS    02 04 38.0  +1.1
KMI                                AMB      AMB
       comp=Z,16nm,1.4s,mb4.5
KMI                                LR       LR
       comp=N,1μm,18.6s,MS5.1
KMI                                LR       LR
       comp=E,2μm,19.4s,MS5.1
KMI                                LR       LR
       comp=Z,2μm,18.6s,MS5.1
KMI   Kunming           42.43 292  eP       P      01 54 41.7  +1.0
       comp=Z,16nm,1.4s,mb4.5
KMI                                pP       pP     01 54 57.0  +5.3
KMI                                PP       PP     01 56 20.3  -1.6
KMI                                PcP      PcP    01 56 34.8  +0.9
KMI                                S        S      02 00 59.4   0.0
KMI                                SS       SS     02 04 08.7  +5.3
KMI                                ScS      ScS    02 04 38.0  +1.1
KMI                                LR       LR
       comp=Z,2μm,18.6s,MS5.1
CD2   Chengdu           42.56 301⇑iP     P      01 54 42.0  +0.3
CD2                                PP       PP     01 56 23.4  +0.2
CD2                                S        S      02 01 03.8  +2.5
CD2                                SS       SS     02 04 08.4  +2.6
CD2                                AMB      AMB
       comp=Z,40nm,0.8s,mb5.2
CD2                                AMB      AMB
       comp=Z,860nm,10.4s
CD2                                LR       LR
       comp=E,4μm,17.4s
CD2                                LR       LR
       comp=Z,5μm,18.6s,MS5.4
LZH   Lanzhou           43.94 308 ⇑P        P      01 54 53.9  +1.0
LZH                                PP       PP     01 56 38.1  +1.2
LZH                                S        S      02 01 24.1  +2.8
LZH                                SS       SS     02 04 31.0  +0.6
LZH                                LR       LR
       comp=E,2μm,14.6s
LZH                                LR       LR
       comp=Z,2μm,16.1s,MS5.2
LZH   Lanzhou           43.94 308 ⇑P        P      01 54 53.9  +1.0
       comp=Z,313nm,1.3s,mb5.9
LZH                                pP       pP     01 54 57.6  -6.2
LZH                                sP       sP     01 54 58.8   -10
LZH                                PP       PP     01 56 38.1  +1.2
LZH                                S        S      02 01 24.1  +2.8
LZH                                sS              02 01 29.1
LZH                                SS       SS     02 04 31.0  +0.6
LZH                                LR       LR
       comp=Z,2μm,16.1s,MS5.2
NANT  Nan               44.00 283 ⇑P        P      01 54 52.0  -1.6
KGM   Kluang            44.17 258⇑eP     P      01 54 55.0   0.0
FX1   Attu Island--F    44.28  23  P        P      01 54 55.9  +0.5
       comp=Z,33nm,0.9s,mb5.0,baz=254,slow=11,SNR=8.3
FX1                                S        S      02 01 27.4  +1.4
       comp=Z,3.0nm,0.7s,baz=46,slow=22,SNR=1.6
FX1   Attu Island--F    44.28  23  eP       P      01 54 55.5  +0.1
SMY   Shemya            44.52  24  PFAKE           01 55 10.0   +13
SMY                                LR       LR
       comp=Z,5μm,21.0s,MS5.4
NST   Nakhon Sawan      44.67 278  P        P      01 55 00.0  +1.0
CHRT  Chiangrai         44.85 284 ⇓P        P      01 55 02.5  +2.1
       comp=Z,145nm,0.7s,mb5.9
BDT   Bhumibol Dam      45.66 281  P        P      01 55 08.0  +1.1
CM31  Chiang Mai Arr    45.67 282  eP       P      01 55 08.0  +1.0
       comp=Z,43nm,0.9s,mb5.4
CM31                               LR       LR
       comp=Z,2μm,20.0s,MS5.1
CMAR  Chiang Mai Arr    45.67 282  P        P      01 55 07.8  +0.8
       comp=Z,29nm,0.9s,mb5.2,baz=83,slow=6.1,SNR=78
CMAR                               ScP             02 00 38.2
       comp=Z,1.3nm,0.3s,baz=79,slow=4.6,SNR=4.2
CMAR                               LR       LR     02 13 52.0
       comp=Z,1μm,20.6s,MS4.8,baz=85,slow=35
STKA  Stephens Creek    45.81 186⇓iP     P      01 55 06.6  -1.3
       comp=Z,6.9nm,0.6s,mb4.8
STKA                               eS       S      02 01 48.4  +0.2
STKA  Stephens Creek    45.81 186  P        P      01 55 06.6  -1.3
       comp=Z,8.8nm,0.6s,mb4.8,baz=360,slow=9.6,SNR=16
STKA                               LR       LR     02 14 52.1
       comp=Z,3μm,18.6s,MS5.3,baz=129,slow=37
CLNS  Chul'man          45.83 344  eP       P      01 55 01.3  -6.4
CLNS                               pmax     pmax
       comp=Z,14nm,0.8s,mb4.9
CLNS                               pmax     pmax
       comp=N,13nm,1.5s
CLNS                               pmax     pmax
       comp=E,9.0nm,1.3s
SONM  Songino Array     47.28 324  P        P      01 55 19.1  -0.2
       comp=E,16nm,0.8s,mb5.0,baz=135,slow=8.7,SNR=81
SONM                               ScP             02 00 42.2
       comp=E,3.8nm,1.1s,baz=128,slow=2.4,SNR=5.2
SONM                               S        S      02 02 11.2  +2.2
       comp=E,1.7nm,1.2s,baz=90,slow=1.2,SNR=3.3
SONM                               ScS      ScS    02 05 10.0  +2.7
       comp=E,0.2nm,0.4s,baz=85,slow=28,SNR=3.6
FORT  Forrest           47.85 201⇓iP     P      01 55 24.1  +0.2
       comp=E,89nm,0.6s,mb6.0
FORT                               eS       S      02 02 16.4  -0.8
GTA   Gaotai            48.03 311 ⇑P        P      01 55 25.8  +0.5
GTA                                AP       pP     01 55 38.2  +2.0
GTA                                XP       sP     01 55 44.2  +3.3
GTA                                PCP      PcP    01 56 54.3  +1.2
GTA                                PP       PP     01 57 17.4  +0.7
GTA                                PPP      PPP    01 58 00.8  -7.1
GTA                                SCP             02 00 43.0
GTA                                PCS             02 00 48.5
GTA                                S        S      02 02 20.8  +1.1
GTA                                AMB      AMB
       comp=Z,56nm,1.2s,mb5.5
GTA                                AMB      AMB
       comp=Z,460nm,7.6s
GTA                                LR       LR
       comp=N,600nm,16.7s,MS5.0
GTA                                LR       LR
       comp=E,1μm,17.1s,MS5.0
GTA                                LR       LR
       comp=Z,2μm,17.5s,MS5.1
SEY   Seymchan          49.09   4  eP       P      01 55 32.9  -0.2
SEY                                                01 56 51.6
SEY                                pmax     pmax
       comp=Z,100nm,1.3s,mb5.7
SEY                                MLR      MLR
       comp=N,4μm,19.0s,MS5.5
SEY                                MLR      MLR
       comp=Z,5μm,19.0s,MS5.5
SEY                                MLR      MLR
       comp=E,1μm,15.0s,MS5.5
YAK   Yakutsk           49.47 350  eP       P      01 55 34.4  -1.6
YAK                                e*PP     pP     01 55 44.3  -2.7
YAK                                e               01 56 59.4
YAK                                e               01 57 26.8
YAK                                ePPP     PPP    01 58 19.7  -6.1
YAK                                eS       S      02 02 38.2  -1.3
YAK                                i               02 05 23.8
YAK                                eSS      SS     02 06 10.4  +2.8
YAK                                eSSS     SSS    02 07 28.4  -5.9
YAK                                pmax     pmax
       comp=Z,20nm,0.7s,mb5.3
YAK                                pmax     pmax
       comp=N,8.0nm,1.1s
YAK                                pmax     pmax
       comp=E,5.0nm,0.9s
YAK                                pmax     pmax
       comp=Z,6.0nm,0.8s,mb4.7
YAK                                pmax     pmax
       comp=N,6.0nm,1.3s
YAK                                pmax     pmax
       comp=E,4.0nm,1.0s
YAK                                smax
       comp=E,165nm,11.3s
YAK                                MLR      MLR
       comp=N,981nm,16.0s,MS5.0
YAK                                MLR      MLR
       comp=E,575nm,16.0s,MS5.0
YAK                                MLR      MLR
       comp=Z,2μm,16.0s,MS5.1
BOD   Bodaibo           50.11 338  eP       P      01 55 37.8  -3.2
ZAK   Zakamensk         50.35 325⇓eP     P      01 55 41.7  -1.3
TOO   Toolangi          51.27 181  eP       P      01 55 49.8  -0.2
       comp=Z,12nm,1.6s,mb4.6
TOO                                eS       S      02 03 06.0  +1.3
SHL   Shillong          52.25 292⇑eP     P      01 55 57.5  -0.1
KLBR  Kellerberrin      52.97 211⇓iP     P      01 56 01.9  -1.0
       comp=Z,49nm,1.3s,mb5.3
LSA   Lhasa             53.13 297  P        P      01 56 05.1  +0.9
LSA                                AP       pP     01 56 15.4  +0.1
LSA                                PCP      PcP    01 57 09.4  -2.6
LSA                                PP       PP     01 58 06.0  +0.3
LSA                                SCP             02 01 03.4
LSA                                PCS             02 01 08.5
LSA                                S        S      02 03 32.6  +2.3
LSA                                XS              02 03 58.3
LSA                                SCS      ScS    02 05 48.8  +1.7
LSA                                AMB      AMB
       comp=Z,30nm,1.1s,mb5.1
LSA                                AMB      AMB
       comp=Z,480nm,10.5s
LSA                                LR       LR
       comp=N,670nm,16.8s,MS4.9
LSA                                LR       LR
       comp=E,790nm,21.3s,MS4.9
LSA                                LR       LR
       comp=Z,810nm,17.4s,MS4.8
LSA   Lhasa             53.13 297  eP       P      01 56 05.6  +1.5
       comp=Z,46nm,1.0s,mb5.4
KIP   Kipapa            53.27  74  PFAKE           01 56 20.0   +15
KIP                                LR       LR
       comp=Z,2μm,20.0s,MS5.1
MUN   Mundaring         54.06 212⇑iP     P      01 56 10.4  -0.6
       comp=Z,17nm,1.3s,mb4.8
UNV   Unalaska Valle    54.23  32  eP       P      01 56 10.3  -1.5
       comp=Z,135nm,1.1s,mb5.8
TAU   Tasmania Unive    56.60 179  PFAKE           01 56 40.0   +11
TAU                                LR       LR
       comp=Z,676nm,19.0s,MS4.8
GUN   Gumba             57.67 294  eP       P      01 56 37.2  +0.2
       comp=Z,77nm,0.8s,mb5.8
WMQ   Urumqi            57.95 313⇑iP     P      01 56 38.9  +0.2
WMQ                                PCP      PcP    01 57 30.7  +0.3
WMQ                                PP       PP     01 58 49.1  +0.3
WMQ                                S        S      02 04 37.3  +3.0
WMQ                                PS       PS     02 04 51.9  -1.0
WMQ                                AMB      AMB
       comp=Z,90nm,1.1s,mb5.7
WMQ                                AMB      AMB
       comp=Z,165nm,8.8s
WMQ                                LR       LR
       comp=N,878nm,19.0s,MS5.2
WMQ                                LR       LR
       comp=E,2μm,19.4s,MS5.2
WMQ                                LR       LR
       comp=Z,2μm,19.4s,MS5.2
SDN   Sand Point        58.02  33  eP       P      01 56 38.6  -0.4
       comp=Z,62nm,0.9s,mb5.6
PKI   Pulchoki          58.09 294  eP       P      01 56 39.0  -0.9
       comp=Z,58nm,1.1s,mb5.5
KKN   Kakani            58.20 294  eP       P      01 56 40.3  -0.4
       comp=Z,51nm,1.0s,mb5.5
DMN   Daman             58.36 294  eP       P      01 56 41.3  -0.5
       comp=Z,60nm,1.0s,mb5.6
TIXI  Tiksi             58.62 354  eP       P      01 56 39.7  -3.3
TIXI                               eS       S      02 04 41.2  -1.6
TIXI                               eSSS     SSS    02 11 02.1  +0.9
TIXI                               pmax     pmax
       comp=Z,14nm,1.2s,mb4.9
TIXI                               MLR      MLR
       comp=Z,765nm,15.0s,MS4.9
GKN   Gorkha            58.77 294  eP       P      01 56 44.2  -0.5
       comp=Z,162nm,1.1s,mb6.0
KOLN  Koldanda          59.69 294  eP       P      01 56 50.2  -0.8
       comp=Z,73nm,1.0s,mb5.7
SNZO  South Karori      60.91 156  PFAKE           01 57 10.0   +11
SNZO                               LR       LR
       comp=Z,3μm,20.0s,MS5.4
MKAR  Makanchi Array    62.24 316  P        P      01 57 07.7  -0.3
       comp=Z,44nm,0.9s,mb5.6,baz=98,slow=8.6,SNR=143
MKAR                               S        S      02 05 31.3  +1.8
       comp=Z,1.1nm,0.9s,baz=96,slow=11,SNR=5.4
MKAR                               LR       LR     02 24 39.6
       comp=Z,748nm,19.2s,MS4.9,baz=99,slow=36
MKAR                               PKP2bc          02 26 19.6
       comp=Z,0.7nm,0.8s,baz=315,slow=2.0,SNR=4.3
MKAR  Makanchi Array    62.24 316  i P      P      01 57 07.8  -0.2
MKAR                               pmax     pmax
       comp=Z,106nm,1.2s
MKAR  Makanchi Array    62.24 316  P        P      01 57 07.7  -0.3
MKAR                               S        S      02 05 31.3  +1.8
MKAR                               LR       LR     02 24 39.6
MKAR                             ⇑e                02 26 19.6
SVW   Sparrevohn        62.65  28  eP       P      01 57 10.4  -0.1
       comp=Z,9.3nm,1.1s,mb4.8
KDAK  Kodiak Island     62.98  32  eP       P      01 57 11.1  -1.7
       comp=Z,22nm,0.9s,mb5.3
KDAK                               LR       LR
       comp=Z,606nm,20.0s,MS4.8
NVS   Novosibirsk       63.30 325  i P      P      01 57 13.1  -1.9
NVS                                i               01 57 48.1
NVS                                i S      S      02 05 41.8  -0.8
NVS                                e               02 06 56.4
NVS                                pmax     pmax
       comp=N,52nm,1.4s
NVS                                pmax     pmax
       comp=Z,150nm,1.4s,mb5.9
NVS                                pmax     pmax
       comp=E,80nm,1.3s
NVS                                smax
       comp=N,99nm,2.3s
NVS                                smax
       comp=E,51nm,2.2s
RSO   Redoubt South     63.74  29  eP       P      01 57 16.2  -1.5
DDI   Dehra Dun         64.50 297  eP       P      01 57 24.0  +0.9
SLKM  Skilak Lake       64.95  29  eP       P      01 57 24.1  -1.4
HYB   Hyderabad         65.09 283  i P      P      01 57 27.0  -0.2
HYB   Hyderabad         65.09 283  eP       P      01 57 27.0  -0.2
FIB   Fire Island       65.16  29  PFAKE           01 57 40.0   +13
FIB                                LR       LR
       comp=Z,2μm,20.0s,MS5.3
KURK  Kurchatov         65.25 320  i P      P      01 57 26.6  -1.0
KURK                               pmax     pmax
       comp=Z,103nm,1.2s,mb5.7
KURK  Kurchatov         65.25 320⇑iP     P      01 57 26.7  -0.9
       comp=Z,335nm,1.4s,mb6.2
IMA   Indian Mountai    65.34  23  eP       P      01 57 28.4  +0.4
       comp=Z,21nm,1.5s,mb4.9
SDNR  Sundarnagar       65.40 298  eP       P      01 57 29.0  +0.1
PMR   Palmer            65.76  28  eP       P      01 57 30.4  -0.3
       comp=Z,66nm,1.4s,mb5.5
ULHL  Ulahol            66.07 310  P        P      01 57 33.7  +0.6
       SNR=19
KSH   Kashi             66.18 307  eP       P      01 57 35.0  +1.2
KSH                                ePCP     PcP    01 58 05.4  +1.6
KSH                                ePP      PP     02 00 03.3  +1.4
KSH                                ePCS            02 02 08.5
KSH                                eS       S      02 06 22.4  +4.1
KSH                                eSS      SS     02 10 38.8  +2.9
SML   Sawmill           66.19  28  eP       P      01 57 31.7  -1.7
MCK   McKinley          66.46  26⇓eP     P      01 57 34.2  -0.9
       comp=Z,40nm,1.4s,mb5.2
MCK                                e        pP     01 57 48.6  +2.0
MCK                                LR       LR
       comp=Z,682nm,21.0s,MS4.8
TKM2  Tokmak 2          66.58 311  P        P      01 57 36.5  +0.2
       SNR=39
KBK   Karagaybulak      67.05 311  P        P      01 57 39.6  +0.4
       SNR=18
EYAK  Cordova Ski Ar    67.10  30  eP       P      01 57 38.7  -0.5
CHMS  Chumysh           67.20 311  P        P      01 57 40.6  +0.5
       SNR=14
DIV   Divide            67.22  29  eP       P      01 57 39.6  -0.3
       comp=Z,105nm,1.1s,mb5.8
DIV                                LR       LR
       comp=Z,5μm,20.0s,MS5.7
COLA  College           67.24  25  eP       P      01 57 39.6  -0.4
COLA                               pmax     pmax
       comp=Z,87nm,1.9s,mb5.5
COLA  College           67.24  25  eP       P      01 57 39.6  -0.4
       comp=Z,87nm,1.9s,mb5.5
FRU   Bishkek           67.30 311⇑eP     P      01 57 41.0  +0.3
FRU                                pmax     pmax
       comp=Z,80nm,1.7s,mb5.5
FRU                                MLR      MLR
       comp=Z,1μm,17.0s,MS5.1
UCH   Uchtor            67.36 310  P        P      01 57 42.4  +1.3
       SNR=58
AAK   Ala-Archa         67.38 311  P        P      01 57 41.7  +0.4
       SNR=7.8
USP   Ospenovka         67.40 311  P        P      01 57 41.5  +0.2
       SNR=20
ILAR  Eielson Array     67.61  25  P        P      01 57 40.1  -2.2
       comp=Z,9.0nm,0.9s,mb4.8,baz=255,slow=4.9,SNR=31
ILAR                               S        S      02 06 31.2  -3.8
       comp=Z,0.6nm,1.1s,baz=246,slow=7.7,SNR=4.3
ILAR                               LR       LR     02 25 21.0
       comp=Z,1μm,20.6s,MS5.0,baz=287,slow=34
ILAR                               PKP2bc          02 26 04.2
       comp=Z,2.8nm,1.4s,baz=90,slow=1.8,SNR=4.6
ILAR  Eielson Array     67.61  25  P        P      01 57 40.1  -2.2
ILAR                               S        S      02 06 31.2  -3.8
ILAR                               LR       LR     02 25 21.0
ILAR                             ⇑e                02 26 04.2
AJM   Ajmer             67.72 293  eP       P      01 57 42.0  -1.7
THY   Trims Highway     67.75  27  eP       P      01 57 43.1  -0.1
EKS2  Erkin-Say         67.91 311  P        P      01 57 44.7  +0.1
       SNR=22
AML   Almayashu         67.96 310  P        P      01 57 46.0  +1.0
       SNR=42
VOSK  Vostochnaya       70.17 321  P        P      01 57 57.1  -1.2
VOSK                               pmax     pmax
       comp=Z,94nm,1.8s,mb5.4
KKAR  Karatay Array     70.31 311  i P      P      01 57 59.0  -0.4
KKAR                               pmax     pmax
       comp=Z,38nm,0.8s,mb5.4
PPT   Papeete           70.53 115  eS       S      02 06 47.5   -23
       comp=Z,461nm,22.8s
PPT                                eSS      SS     02 11 01.0   -43
       comp=Z,204nm,25.8s
PPT                                eL              02 15 40.1
       comp=Z,841nm,28.8s
PPT                                eR              02 18 33.3
       comp=Z,3μm,25.2s,baz=293
BVA0  Borovoye Array    70.55 322  i P      P      01 58 00.0  -0.6
BVA0                               pmax     pmax
       comp=Z,4.0nm,0.8s,mb4.4
BRVK  Borovoye          70.61 322  P        P      01 58 00.4  -0.6
BRVK                               pmax     pmax
       comp=Z,64nm,1.3s,mb5.4
BRVK  Borovoye          70.61 322⇑eP     P      01 58 00.5  -0.5
       comp=Z,77nm,1.0s,mb5.6
BRVK                               e               02 00 36.7
DAWY  Dawson            70.65  27  eP       P      01 58 00.7  -0.3
ZRNK  Zerenda           71.38 321  P        P      01 58 04.9  -0.7
ZRNK                               pmax     pmax
       comp=Z,80nm,1.2s,mb5.5
SIT   Sitka             72.04  34  PFAKE           01 58 20.0   +11
SIT                                LR       LR
       comp=Z,1μm,19.0s,MS5.2
INK   Inuvik            73.46  22  P        P      01 58 16.4  -1.3
       comp=Z,17nm,0.8s,mb5.0,baz=268,slow=5.8,SNR=14
INK                                S        S      02 07 42.6  -0.5
       comp=Z,0.7nm,0.9s,baz=328,slow=33,SNR=4.1
INK   Inuvik            73.46  22  eP       P      01 58 16.4  -1.3
       comp=Z,41nm,1.1s,mb5.3
DLBC  Dease Lake        74.88  33  eP       P      01 58 26.2  +0.2
AB31  Akbulak array     77.25 318  i P      P      01 58 38.7  -1.0
AB31                               pmax     pmax
       comp=Z,13nm,0.7s,mb5.0
ARU   Arti              77.30 325⇑iP     P      01 58 39.4  -0.4
ARU                                i        pP     01 58 49.0  -2.4
ARU                                i               02 01 34.1
ARU                                ePPP     PPP    02 03 18.1  -5.9
ARU                                i S      S      02 08 23.4  -2.2
ARU                                i               02 08 54.3
ARU                                eSS      SS     02 13 27.4  +0.4
ARU                                pmax     pmax
       comp=Z,79nm,2.1s,mb5.3
ARU                                MLR      MLR
       comp=N,200nm,18.0s,MS5.5
ARU                                MLR      MLR
       comp=Z,3μm,18.0s,MS5.6
ARU                                MLR      MLR
       comp=E,2μm,18.5s,MS5.5
ARU   Arti              77.30 325  eP       P      01 58 39.4  -0.5
       comp=E,41nm,0.9s,mb5.4
ARU                                LR       LR
       comp=Z,806nm,19.0s,MS5.1
SOKR  Solikamsk         77.88 329⇓eP     P      01 58 41.6  -1.4
SOKR                               pmax     pmax
       comp=Z,20nm,1.0s,mb5.0
OCWA  Octopus Mounta    79.44  43  PFAKE           01 59 00.0  +8.2
OCWA                               LR       LR
       comp=Z,1μm,19.0s,MS5.3
BMW   Boistfort Moun    80.29  45  eP       P      01 58 57.2  +0.9
BMW                                e        pP     01 59 11.1  +3.1
GNW   Green Mountain    80.37  43  eP       P      01 58 57.2  +0.5
COR   Corvallis         80.57  46  PFAKE           01 59 10.0   +12
COR                                LR       LR
       comp=Z,2μm,20.0s,MS5.4
SHW   Mount Saint He    81.02  45  eP       P      01 59 00.1   0.0
RMW   Rattlesnake Mo    81.07  43  eP       P      01 59 01.3  +0.9
RPW   Rockport          81.08  42  eP       P      01 59 00.1  -0.4
SSOR  Sweet Springs     81.11  46  eP       P      01 59 01.4  +0.7
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HUMO	**Hull Mountain**	**81.18**	**48**	*e*P	**P**	**01 59 02.2**	**+1.1**
	comp=Z,25nm,1.3s,mb5.0						
LON	**Longmire**	**81.20**	**44**	*e*P	**P**	**01 59 01.3**	**+0.1**
LON				*e*	pP	01 59 15.0	+2.2
YBH	**Yreka Blue Hor**	**81.52**	**49**	*e*P	**P**	**01 59 03.8**	**+0.9**
	comp=Z,36nm,1.3s,mb5.1						
HOPS	**Hopland**	**81.78**	**52**	PFAKE		01 59 20.0	+16
HOPS				LR	LR		
	comp=Z,682nm,20.0s,MS5.0						
YKA	**Yellowknife Ar**	**81.85**	**28**	P	**P**	**01 59 02.8**	**-1.4**
	comp=Z,6.3nm,0.9s,mb4.5,baz=287,slow=5.3,SNR=10						
YKA				S	S	02 09 11.3	-2.1
	comp=Z,1.0nm,0.9s,baz=77,slow=35,SNR=2.7						
YKA				LR	LR	02 36 55.2	
	comp=Z,1µm,19.8s,MS5.2,baz=285,slow=37						
WDC	**Whiskeytown Da**	**81.87**	**50**⇓	*e*P	**P**	**01 59 05.2**	**+0.5**
	comp=Z,32nm,1.4s,mb5.1						
NLW	**Nelson Butte**	**81.92**	**43**	*e*P	**P**	**01 59 05.4**	**+0.6**
NLW				*e*		01 59 25.9	
VGB	**Gordon Butte**	**82.15**	**45**	*e*P	**P**	**01 59 07.0**	**+1.0**
HAWA	**Hanford**	**82.81**	**44**	*e*P	**P**	**01 59 09.8**	**+0.3**
	comp=Z,8.9nm,0.8s,mb4.8						
HAWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
MOD	**Modoc**	**83.25**	**49**	*e*P	**P**	**01 59 12.5**	**+0.7**
	comp=Z,9.6nm,0.8s,mb4.9						
MOD				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
DPW	**Davenport**	**83.36**	**42**	*e*P	**P**	**01 59 12.6**	**+0.3**
SAO	**San Andreas Ge**	**83.50**	**54**	PFAKE		01 59 20.0	+6.9
SAO				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
BEKR	**Beckwourth**	**83.65**	**51**	*e*P	**P**	**01 59 14.4**	**+0.5**
	comp=Z,24nm,1.1s,mb5.2						
LNOR	**Lincton Mounta**	**83.78**	**44**	*e*P	**P**	**01 59 14.8**	**+0.4**
RES	**Resolute Bay**	**83.85**	**14**	*e*P	**P**	**01 59 14.5**	**+0.4**
	comp=Z,19nm,0.9s,mb5.2						
SPB4	**Spitsbergen Ar**	**83.92**	**351**	*e*P	**P**	**01 59 14.3**	**-0.1**
NEW	**Newport**	**83.98**	**42**	*e*P	**P**	**01 59 15.8**	**+0.4**
	comp=Z,8.9nm,0.9s,mb4.9						
NEW				*e*		01 59 34.7	
CMB	**Columbia Colle**	**84.04**	**52**	*e*P	**P**	**01 59 15.7**	**-0.3**
	comp=Z,31nm,1.1s,mb5.3						
CMB				LR	LR		
	comp=Z,489nm,19.0s,MS4.9						
KBS	**Kingsbay**	**84.04**	**352**	*e*P	**P**	**01 59 11.3**	**-3.8**
KBS				*e*S	S	02 09 34.3	-0.8
KBS				AMS	AMS	02 40 01.3	
	comp=Z,863nm,15.3s,MS5.2						
KBS	**Kingsbay**	**84.04**	**352**	*e*P	**P**	**01 59 12.4**	**-2.6**
KBS				*e*		02 09 30.1	
KBS				LR	LR		
	comp=Z,863µm,15.3s						
WCN	**Washoe City**	**84.23**	**51**	*e*P	**P**	**01 59 18.3**	**+1.4**
	comp=Z,34nm,1.4s,mb5.3						
WVOR	**Wild Horse Val**	**84.33**	**48**	*e*P	**P**	**01 59 17.6**	**+0.3**
	comp=Z,10nm,0.9s,mb5.0						
WVOR				*e*		01 59 37.4	
LVZ	**Lovozero**	**85.07**	**339***c*	*i*P	**P**	**01 59 19.0**	**-1.3**
LVZ				*i*		02 02 35.7	
LVZ				*i*		02 09 40.1	
LVZ				*e*S	S	02 09 46.9	+1.5
LVZ				*i* SS	SS	02 15 20.2	-2.2
LVZ				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.2						
LVZ				pmax	pmax		
	comp=N,5.0nm,1.2s						
LVZ				pmax	pmax		
	comp=E,4.0nm,1.2s						
LVZ				smax			
	comp=Z,184nm,13.0s						
LVZ				smax			
	comp=N,395nm,12.1s						
LVZ				smax			
	comp=E,601nm,15.7s						
OMM	**Old Mammoth Mi**	**85.21**	**53**	*e*P	**P**	**01 59 22.3**	**+0.5**
OMM				*e*		01 59 39.1	
NVAR	**Mina Array Bea**	**85.54**	**52**	P	**P**	**01 59 23.9**	**+0.5**
	comp=E,7.7nm,0.7s,mb5.0,baz=264,slow=4.5,SNR=47						
NVAR				S	S	02 09 47.9	-2.9
	comp=E,0.3nm,0.7s,baz=300,slow=18,SNR=2.1						
MTUM	**Tungsten Hills**	**85.61**	**53**	*e*P	**P**	**01 59 25.0**	**+1.3**
APA	**Apatity**	**85.64**	**339**⇑	*i*P	**P**	**01 59 21.9**	**-1.3**
APA				*e*		02 09 42.0	
APA				*e*S	S	02 10 44.0	+53
APA				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.5						
APA				pmax	pmax		
	comp=Z,500nm,3.0s						
APA				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.2						
MNV	**Mina**	**85.66**	**52**	*e*P	**P**	**01 59 24.5**	**+0.6**
	comp=Z,20nm,1.2s,mb5.2						
MNV				LR	LR		
	comp=Z,634nm,19.0s,MS5.0						
BJO	**Bjornoya**	**85.80**	**348**	AMS	AMS	02 41 07.4	
	comp=Z,685nm,17.8s,MS5.1						
BMN	**Battle Mountai**	**85.86**	**50**	*e*P	**P**	**01 59 25.8**	**+0.9**
	comp=Z,6.7nm,0.7s,mb5.0						
BMN				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
MSO	**Missoula**	**86.43**	**43**	*e*P	**P**	**01 59 27.2**	**-0.4**
	comp=Z,4.7nm,1.0s,mb4.7						
TPH	**Tonopah**	**86.45**	**52**	*e*P	**P**	**01 59 28.5**	**+0.6**
	comp=Z,23nm,1.1s,mb5.3						
TPH				*e*		01 59 45.0	
TPH				LR	LR		
	comp=Z,765nm,19.0s,MS5.1						
KEV	**Kevo**	**86.62**	**342**	*e*p	**P**	**01 59 24.6**	**-3.3**
	comp=Z,6.6nm,0.6s,mb5.0						
KEV	**Kevo**	**86.62**	**342**	*e*P	**P**	**01 59 24.6**	**-3.3**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1						
DAC	**Darwin (Calif)**	**86.63**	**54**	PFAKE		01 59 40.0	+11
DAC				LR	LR		
	comp=Z,994nm,19.0s,MS5.2						
MWC	**Mount Wilson**	**86.78**	**56**	*e*P	**P**	**01 59 30.7**	**+1.2**
CHMT	**Chamberlain Mo**	**86.86**	**42**	*e*P	**P**	**01 59 28.8**	**-0.8**
MAK	**Makhachkala**	**86.97**	**313**	*e*P	**P**	**01 59 32.0**	**+1.8**
MAK				*e*	pP	01 59 42.0	-0.1
MAK				*e*		02 02 50.0	
MAK				*i*		02 09 57.5	
MAK				*i* S	S	02 10 05.0	+0.7
MAK				*e*PS	PS	02 11 08.0	-3.2
MAK				pmax	pmax		
	comp=Z,1µm,12.0s						
MAK				smax			
	comp=N,1µm,6.0s						
MAK				smax			
	comp=E,1µm,6.0s						
HLID	**Hailey**	**87.04**	**46**	*e*P	**P**	**01 59 31.4**	**+0.9**
	comp=E,16nm,1.0s,mb5.2						
ARCES	**ARCESS Array B**	**87.18**	**342**	P	**P**	**01 59 30.0**	**-0.6**
	comp=E,16nm,0.8s,mb5.3,baz=45,slow=6.9,SNR=39						
ARCES				LR	LR	02 43 10.7	
	comp=E,2µm,19.2s,MS5.5,baz=59,slow=39						
ARCES	**ARCESS Array B**	**87.18**	**342**	P	**P**	**01 59 30.0**	**-0.6**
ARCES				LR	LR	02 43 10.7	
ARE0	**ARCESS Array S**	**87.18**	**342**	*e*P	**P**	**01 59 29.3**	**-1.4**
MCMT	**McKenzie Canyo**	**87.75**	**44**	*e*P	**P**	**01 59 35.0**	**+1.0**
HRY	**Holter Researc**	**87.85**	**42**	*e*P	**P**	**01 59 34.7**	**+0.3**
PFO	**Pinyon Flat Ob**	**88.22**	**56**	*e*P	**P**	**01 59 36.9**	**+0.4**
	comp=E,22nm,1.2s,mb5.3						
PFO				LR	LR		
	comp=Z,249nm,19.0s,MS4.7						
BAR	**Barrett**	**88.30**	**57**	*e*P	**P**	**01 59 38.5**	**+1.6**
BAR				*e*		01 59 53.9	
BOZ	**Bozeman (W)**	**88.32**	**43**	*e*P	**P**	**01 59 37.5**	**+0.9**
	comp=Z,33nm,1.3s,mb5.4						
BOZ				LR	LR		
	comp=Z,728nm,19.0s,MS5.1						
JOF	**Joensuu**	**88.57**	**335**	*e*p	**P**	**01 59 33.5**	**-3.9**
	comp=Z,1.4nm,0.4s,mb4.6						
JOF	**Joensuu**	**88.57**	**335**	*e*P	**P**	**01 59 33.5**	**-3.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5						
QLMT	**Earthquake Lak**	**88.71**	**44**	*e*P	**P**	**01 59 40.0**	**+1.5**
HVU	**Hansel Valley**	**88.71**	**47**	*e*P	**P**	**01 59 39.8**	**+1.2**
MOS	**Moscow**	**88.78**	**328**	*e*P	**P**	**01 59 37.3**	**-1.3**
MOS				*e*		02 03 09.2	
MOS				*e*PPP	PPP	02 05 01.5	-7.6
MOS				*e*		02 10 02.1	
MOS				*e*S	S	02 10 20.7	-0.3
MOS				pmax	pmax		
	comp=Z,156nm,1.8s,mb6.0						
MOS				MLR	MLR		
	comp=Z,5µm,18.4s,MS6.0						
MOS				MLR	MLR		
	comp=N,2µm,16.8s						
NEN	**Nelson**	**88.94**	**54**	*e*P	**P**	**01 59 41.0**	**+1.1**
NEN				*e*		01 59 57.0	
TRO	**Tromso**	**88.97**	**344**	*e*P	**P**	**01 59 37.6**	**-1.6**
TRO				*e*S	S	02 10 04.7	-18
TRO				AMS	AMS	02 45 29.0	
	comp=Z,674nm,17.5s,MS5.1						
DAG	**Danmarks Havn**	**89.01**	**357**⇓	*i*P	**P**	**01 59 38.0**	**-1.3**
	comp=Z,8.0nm,1.0s,mb5.0						
DAG	**Danmarks Havn**	**89.01**	**357**⇓	*e*P	**P**	**01 59 38.0**	**-1.3**
	comp=Z,8.0nm,1.0s,mb5.0						
YMR	**Madison River**	**89.07**	**44**	*e*P	**P**	**01 59 42.3**	**+2.0**
SPUT	**South Promonto**	**89.09**	**48**	*e*P	**P**	**01 59 41.5**	**+1.0**
DUG	**Dugway**	**89.16**	**49**	*e*P	**P**	**01 59 41.8**	**+0.9**
	comp=Z,15nm,0.7s,mb5.4						
DUG				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
TI2	**Plekhanov**	**89.28**	**313**	*e*P	**P**	**01 59 48.0**	**+6.7**
TI2				*i*		02 10 10.0	
VOR	**Voronezh**	**89.46**	**324**	*e*P	**P**	**01 59 41.0**	**-0.9**
VOR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.9						
REDW	**Red Top Meadow**	**89.57**	**45**	*e*P	**P**	**01 59 44.5**	**+1.9**
OBN	**Obninsk**	**89.59**	**327***c*	*i*P	**P**	**01 59 40.9**	**-1.5**
OBN				*e*		02 03 10.8	
OBN				*i* S	S	02 10 08.2	-20
OBN				*e*PS	PS	02 11 33.5	-8.1
OBN				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.6						
OBN				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.7						
OBN	**Obninsk**	**89.59**	**327**	*e*P	**P**	**01 59 41.9**	**-0.6**
	comp=Z,28nm,1.0s,mb5.5						
OBN				*e*		02 03 15.6	
OBN				LR	LR		
	comp=Z,603nm,19.0s,MS5.0						
AHID	**Auburn Hatcher**	**89.59**	**46**	*e*P	**P**	**01 59 43.0**	**+0.3**
	comp=Z,17nm,0.9s,mb5.4						
AHID				LR	LR		
	comp=Z,929nm,20.0s,MS5.2						
HWUT	**Hardware Ranch**	**89.63**	**47**	*e*P	**P**	**01 59 43.8**	**+0.8**
	comp=Z,12nm,0.9s,mb5.2						
HWUT				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
TCUT	**Toone Canyon**	**89.89**	**48**	*e*P	**P**	**01 59 44.0**	**-0.3**
KIV	**Kislovodsk**	**90.01**	**315***c*	*i*P	**P**	**01 59 44.0**	**-0.7**
KIV				*i*		02 03 16.1	
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.3						
KIV				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3						
KIV	**Kislovodsk**	**90.01**	**315**	PFAKE		02 00 00.0	+15
KIV				LR	LR		
	comp=Z,303nm,20.0s,MS4.7						
JLU	**Jordanelle**	**90.03**	**48**	*e*P	**P**	**01 59 45.8**	**+1.0**
JLU				*e*		02 00 05.1	
MPU	**Maple Canyon**	**90.08**	**49**	*e*P	**P**	**01 59 46.2**	**+1.1**
MPU				*e*		02 00 03.1	
MVU	**Marysvale**	**90.12**	**50**	*e*P	**P**	**01 59 46.4**	**+1.0**
	comp=Z,12nm,1.1s,mb5.1						
MVU				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
MSU	**Marysvale**	**90.14**	**50**	*e*P	**P**	**01 59 47.0**	**+1.5**
DAU	**Daniels Canyon**	**90.22**	**48**	P	**P**	**01 59 44.8**	**-1.0**
BW06	**Boulder Array**	**90.66**	**46**	PFAKE		02 00 00.0	+12
BW06				LR	LR		
	comp=Z,920nm,19.0s,MS5.2						
PDAR	**Pinedale Array**	**90.66**	**46**	P	**P**	**01 59 48.0**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.4,baz=268,slow=1.6,SNR=9.3						
PDAR				LR	LR	02 38 57.2	
	comp=Z,764nm,18.8s,MS5.2,baz=298,slow=35						
SRU	**San Rafael**	**91.18**	**49**	*e*P	**P**	**01 59 51.2**	**+0.9**
FINES	**FINESS Array B**	**91.44**	**335**	P	**P**	**01 59 49.2**	**-1.7**
	comp=Z,8.6nm,0.5s,mb5.3,baz=76,slow=5.1,SNR=104						
FINES				S	S	02 10 18.9	-26
	comp=Z,0.6nm,0.8s,baz=190,slow=12,SNR=2.1						
FINES				LR	LR	02 46 03.0	
	comp=Z,940nm,18.3s,MS5.3,baz=155,slow=39						
LAO	**LASA Array**	**91.49**	**41**	PFAKE		02 00 00.0	+8.5
LAO				LR	LR		
	comp=Z,679nm,20.0s,MS5.1						
VNDA	**Vanda**	**91.75**	**177**	P	**P**	**01 59 51.0**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.6,baz=322,slow=4.6,SNR=12						
DGMT	**Dagmar**	**92.06**	**39**	PFAKE		02 00 10.0	+16
DGMT				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
SBA	**Scott Base**	**92.38**	**176**	PFAKE		02 00 10.0	+15
SBA				LR	LR		
	comp=Z,555nm,20.0s,MS5.0						
PV10	**Paradox Valley**	**92.52**	**50**	*e*P	**P**	**01 59 57.4**	**+0.9**
PV01	**Paradox Valley**	**92.95**	**50**	*e*P	**P**	**01 59 59.2**	**+0.7**
TUC	**Tucson**	**93.16**	**56**	*e*P	**P**	**02 00 01.3**	**+1.7**
	comp=Z,12nm,1.3s,mb5.2						
TUC				*e*		02 00 17.2	
ANN	**Anapa**	**93.21**	**318**	*e*P	**P**	**02 00 02.4**	**+2.9**
ANN				*e*		02 10 33.4	
ANN				pmax	pmax		
	comp=Z,66nm,1.2s,mb5.9						
ANN				MLR	MLR		
	comp=Z,1µm,20.5s,MS5.4						
ANN				MLR	MLR		
	comp=N,580nm,17.6s,MS5.4						
ANN				MLR	MLR		
	comp=E,930nm,17.7s,MS5.4						
JMIC	**Jan Mayen**	**93.53**	**352**	*e*	**P**	**02 00 04.7**	**+4.4**
JMIC				*e*PP	PP	02 03 43.8	-4.2
JMIC				AMS	AMS	02 45 47.4	
	comp=Z,240nm,17.8s,MS4.7						
RW3	**Ridgway**	**93.56**	**49**	*e*P	**P**	**02 00 02.9**	**+1.6**
NSS	**Namsos**	**94.45**	**342**	AMS	AMS	02 47 08.0	
	comp=Z,1µm,20.6s,MS5.4						
SDCO	**Great Sand Dun**	**95.35**	**49**	PFAKE		02 00 20.0	+11
SDCO				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
AKASG	**Malin Array Be**	**95.55**	**325**	P	**P**	**02 00 08.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=48,slow=4.5,SNR=7.8						
AKASG				PP	PP	02 03 59.0	-4.5
	comp=Z,0.2nm,0.4s,baz=53,slow=4.6,SNR=3.2						
AKASG				LR	LR	02 49 35.7	
	comp=Z,761nm,18.1s,baz=70,slow=39						
ANMO	**Albuquerque**	**95.66**	**52**⇑	*e*P	**P**	**02 00 12.3**	**+1.4**
KAMS	**Al Khamasin**	**95.94**	**293**	P	**P**	**02 00 12.6**	**+0.2**
ULM	**Lac du Bonnet**	**96.11**	**35**	P	**P**	**02 00 10.0**	**-2.5**
	comp=Z,1.6nm,0.5s,mb4.7,baz=173,slow=1.7,SNR=3.7						
ULM				LR	LR	02 46 28.0	
	comp=Z,1µm,18.2s,MS5.5,baz=82,slow=37						
HILS	**Ha’il**	**96.18**	**300**	P	**P**	**02 00 14.0**	**+0.6**
SUW	**Suwalki**	**96.90**	**330**	*e*P	**P**	**02 00 13.2**	**-2.8**
TATS	**Tathlith**	**97.16**	**292**	P	**P**	**02 00 19.9**	**+1.8**
NB2	**NORSAR Subarra**	**97.22**	**340**	P	**P**	**02 00 15.2**	**-2.1**
	comp=Z,7.0nm,1.0s,mb5.0,baz=53,slow=4.8						
NOA	**NORSAR Array B**	**97.22**	**340**	P	**P**	**02 00 15.8**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.7,baz=45,slow=4.4,SNR=21						
NOA				LR	LR	02 47 21.8	
	comp=Z,532nm,18.5s,MS5.1,baz=25,slow=37						
NAO01	**NORSAR Array S**	**97.47**	**340**	PFAKE		02 00 30.0	+12
NAO01				LR	LR		
	comp=Z,589nm,19.0s,MS5.1						
KIS	**Kishinev**	**97.62**	**322**	*e*P	**P**	**02 00 16.0**	**-3.5**
KIS				*e*		02 04 20.0	
KIS				*e*		02 10 54.0	
KIS				*e*		02 11 40.0	
KIS				*e*		02 13 42.0	
KIS				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.7						
KIS				MLR	MLR		
	comp=N,1µm,17.0s,MS5.5						
KIS				MLR	MLR		
	comp=E,1µm,18.0s,MS5.5						
KIS				MLR	MLR		
	comp=Z,2µm,16.0s						
BRTR	**Keskin Array B**	**97.86**	**314**	P	**P**	**02 00 19.6**	**-1.1**
	comp=Z,5.0nm,1.0s,mb5.0,baz=90,slow=2.5,SNR=22						
BRTR				PP	PP	02 04 10.1	-12
	comp=Z,2.4nm,1.2s,baz=68,slow=7.8,SNR=2.7						
BRTR				LR	LR	02 52 54.2	
	comp=Z,393nm,19.1s,MS4.9,baz=140,slow=40						
KONO	**Kongsberg**	**98.78**	**339**	*e*		02 00 57.6	
KONO				*e*PP	PP	02 04 25.1	-3.3
KONO				*e*		02 11 33.4	
KONO				*e*SS	SS	02 18 38.8	+0.3
KONO				AMS	AMS	02 49 11.4	
	comp=Z,784nm,24.6s,MS5.1						
KONO	**Kongsberg**	**98.78**	**339**	PFAKE		02 00 40.0	+16
KONO				LR	LR		
	comp=Z,102nm,20.0s,MS4.3						
KBRS	**Khaybar**	**98.85**	**299**	P	**P**	**02 00 27.1**	**+1.5**
CBKS	**Cedar Bluff**	**99.06**	**46**	PFAKE		02 00 40.0	+14
CBKS				LR	LR		
	comp=Z,659nm,19.0s,MS5.2						
TXAR	**Lajitas Array**	**99.93**	**56**	P	**P**	**02 00 29.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=270,slow=3.8,SNR=3.5						
TXAR				LR	LR	02 42 28.7	
	comp=Z,964nm,18.5s,MS5.3,baz=325,slow=34						
JMQS	**Jabal Moqyreh**	**100.54**	**303**	P	P	02 00 33.2	0.0
COP	**Copenhagen**	**100.60**	**335**	*i* P	P	02 00 29.9	-2.9
COP				*e*		02 04 12.3	
COP				*i*		02 09 55.1	
COP				*i*		02 11 11.9	
COP				*i*		02 13 41.4	
COP				*i*		02 19 26.3	
	comp=Z,360nm,18.0s						
COP	**Copenhagen**	**100.60**	**335**	*e*P	P	02 00 29.9	-2.9
COP				*e*		02 04 12.3	
COP				*i*		02 09 55.1	
COP				*i*		02 11 11.9	
COP				*i*		02 13 41.4	
COP				*i*		02 19 26.3	
COP				LR	LR		
	comp=Z,370nm,18.0s,MS4.9						
OJC	**Ojcow**	**100.83**	**328**	*e*P	P	02 00 37.3	+3.4
OJC				*e*		02 04 43.5	
OJC				MLR	MLR		
	comp=Z,3µm,18.7s,MS5.8						
OJC	**Ojcow**	**100.83**	**328**	*e*P	P	02 00 37.3	+3.4
OJC				*e*PP	PP	02 04 43.5	-1.3
OJC				*e*SKS	SKS	02 11 18.5	+10
OJC				LR	LR		
	comp=Z,3µm,18.7s,MS5.8						
JMOS	**Jabal al Moall**	**101.05**	**304**	P	P	02 00 36.4	+0.9
AYUS	**‘Aynunah**	**101.30**	**303**	P	P	02 00 36.4	-0.2
BDAS	**Al Bad‘**	**101.34**	**303**	P	P	02 00 36.7	-0.1
WMOK	**Wichita Mounta**	**101.53**	**50**	PFAKE		02 00 50.0	+13
WMOK				LR	LR		
	comp=Z,726nm,19.0s,MS5.2						
OKC	**Ostrava-Krasne**	**101.90**	**329**	*e*PP	PP	02 04 51.8	-0.7
OKC				*e*SKS	SKS	02 11 17.5	+3.8
OKC				LM		02 49 40.0	
	comp=Z,2.2nm,19.5s						
DPC	**Dobruska-Polom**	**102.48**	**330**	*e*PDIF	Pdif	02 00 40.8	-0.5
DPC				*e*PP	PP	02 04 56.8	-0.2
DPC				*e*SKS	SKS	02 11 18.9	+2.5
DPC				LM		02 51 30.0	
	comp=Z,1.2nm,19.0s						
DPC	**Dobruska-Polom**	**102.48**	**330**	*i* P	Pdif	02 00 40.8	-0.5
DPC				*e*		02 04 56.8	
DPC				*e*		02 11 18.9	
DPC				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.4						
JCT	**Junction City**	**102.56**	**54**	PFAKE		02 00 50.0	+7.8
JCT				LR	LR		
	comp=Z,515nm,19.0s,MS5.1						
PVCC				*e*SKS	SKS	02 11 23.8	+4.0
PVCC				LM		02 55 30.0	
	comp=Z,1.0nm,16.9s						
JFWS	**Jewell Farm**	**103.28**	**39**	PFAKE		02 01 00.0	+15
JFWS				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
CLL	**Collm**	**103.41**	**332**	*i* *PP		02 00 57.5	
CLL				*e*PP	PP	02 04 59.0	-5.0
CLL				*i* *PPP		02 05 11.2	
CLL				*e*		02 11 25.0	
CLL				*e*S	S	02 12 31.0	+4.4
CLL				*e*PS	PS	02 14 06.0	-5.4
CLL	**Collm**	**103.41**	**332**	*i* P	Pdif	02 00 57.5	+12
CLL				*e*PP	PP	02 04 59.0	-5.0
CLL				*e*SKS	SKS	02 11 25.0	+4.3
CLL				*e*S	S	02 12 31.0	+4.4
CLL				LR	LR		
	comp=Z,1µm,17.6s,MS5.5						
PRU	**Pruhonice**	**103.58**	**330**	*e*PP	PP	02 05 06.0	+0.8
QSPA	**South Pole Qui**	**103.80**	**180**	PFAKE		02 01 00.0	+14
QSPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
KHC						02 05 03.5	
KHC				*e*PP		02 05 17.5	
KHC				*e*SKS	SKS	02 11 32.2	+5.9
KHC				LM		02 51 40.0	
	comp=Z,1.3nm,17.7s						
GERES	**GERESS Array B**	**104.76**	**330**	PP	PP	02 05 05.6	-8.7
	comp=Z,0.1nm,0.3s,baz=40,slow=7.7,SNR=2.9						
CCM	**Cathedral Cave**	**105.26**	**44**	PFAKE		02 05 20.0	
CCM				LR	LR		
	comp=Z,633nm,19.0s,MS5.2						
GRA1	**Grafenberg Arr**	**105.35**	**332**	*e*Pdif	Pdif	02 00 55.4	+1.5
GRA1				*e*PP	PP	02 05 20.3	+1.7
GRA1				LR	LR		
	comp=Z,1µm,19.2s,MS5.5						
GRF	**Grafenberg Arr**	**105.35**	**332**	*e*P	Pdif	02 00 55.4	+1.5
GRF				*e*		02 05 20.3	
MIAR	**Mount Ida**	**105.42**	**48**	PFAKE		02 05 20.0	
MIAR				LR	LR		
	comp=Z,905nm,20.0s,MS5.3						
HKT	**Hockley**	**105.89**	**53**	PFAKE		02 05 20.0	
HKT				LR	LR		
	comp=Z,757nm,19.0s,MS5.3						
SCHQ	**Schefferville**	**105.92**	**19**	PFAKE		02 05 20.0	
SCHQ				LR	LR		
	comp=Z,745nm,20.0s,MS5.2						
NATX	**Nacogdoches**	**105.95**	**51**	PFAKE		02 05 20.0	
NATX				LR	LR		
	comp=Z,931nm,19.0s,MS5.3						
ESK	**Eskdalemuir**	**106.37**	**342**	PFAKE		02 05 20.0	
ESK				LR	LR		
	comp=Z,193nm,19.0s,MS4.7						
OXF	**Oxford**	**108.39**	**46**	PFAKE		02 05 30.0	
OXF				LR	LR		
	comp=Z,903nm,20.0s,MS5.3						
KMBO	**Kilima Mbogo**	**108.83**	**274**	PFAKE		02 05 30.0	
KMBO				LR	LR		
	comp=Z,587nm,20.0s,MS5.2						
PLAL	**Pickwick Lake**	**109.06**	**45**	PFAKE		02 05 30.0	
PLAL				LR	LR		
	comp=Z,719nm,19.0s,MS5.3						
ACSO	**Alum Creek Sta**	**109.26**	**38**	PFAKE		02 05 30.0	
ACSO				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
ERPA	**Erie**	**109.77**	**35**	PFAKE		02 05 30.0	
ERPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
LRAL	**Lakeview Retre**	**110.88**	**46**	PFAKE		02 05 30.0	+13
LRAL				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
NCB	**Newcomb**	**111.49**	**30**	PFAKE		02 05 30.0	+12
NCB				LR	LR		
	comp=Z,881nm,20.0s,MS5.3						
SSPA	**Standing Stone**	**111.94**	**35**	PFAKE		02 05 30.0	+11
SSPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
PQI	**Presque Isle**	**112.20**	**25**	PFAKE		02 05 30.0	+11
PQI				LR	LR		
	comp=Z,5µm,22.0s,MS6.1						
BLA	**Blacksburg**	**112.72**	**39**	PFAKE		02 05 30.0	+9.4
BLA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
HRV	**Harvard--Oak R**	**113.88**	**30**	PFAKE		02 05 40.0	+17
HRV				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
CBN	**Corbin**	**113.88**	**37**	PFAKE		02 05 40.0	+17
CBN				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
EMMW	**East Machias**	**114.01**	**26**	PFAKE		02 05 40.0	+17
EMMW				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
NHSC	**New Hope**	**115.47**	**42**	PFAKE		02 05 40.0	+14
NHSC				LR	LR		
	comp=Z,850nm,20.0s,MS5.3						
DWPF	**Disney**	**117.62**	**48**	PFAKE		02 05 40.0	+10
DWPF				LR	LR		
	comp=Z,705nm,20.0s,MS5.3						
SNAA	**Sanae**	**119.43**	**191**⇑	*i*Pdif	Pdif	02 01 56.2	+0.8
SNAA				*e*		02 05 32.3	
SNAA				*e*		02 05 35.8	
SNAA				*e*		02 06 53.5	
ESDC	**Sonseca Array**	**119.91**	**334**	PP	PP	02 06 56.1	-6.8
	comp=Z,5.7nm,1.2s,baz=19,slow=6.4,SNR=4.6						

LSZ	Lusaka	120.36	260	PFAKE		02 05 50.0	+14
LSZ				LR	LR		
	comp=Z,474nm,19.0s,MS5.2						
VNA1	Neumayer--Stat	121.23	190	eP	PKPdf	02 05 41.2	+4.9
VNA1				e		02 06 59.9	
PAYG	Puerto Ayora	122.43	82	PFAKE		02 05 50.0	+10
PAYG				LR	LR		
	comp=Z,525nm,19.0s,MS5.2						
LBTB	Lobatse	123.47	249	PFAKE		02 05 50.0	+8.2
LBTB				LR	LR		
	comp=Z,320nm,19.0s,MS5.0						
JTS	JuntasAbangare	123.67	67	PFAKE		02 06 00.0	+18
JTS				LR	LR		
	comp=Z,151nm,19.0s,MS4.7						
BBSR	BB Station	125.16	32	PFAKE		02 06 00.0	+15
BBSR				LR	LR		
	comp=Z,652nm,19.0s,MS5.3						
TSUM	Tsumeb	130.78	257	PFAKE		02 06 10.0	+14
TSUM				LR	LR		
	comp=Z,385nm,19.0s,MS5.1						
SJG	San Juan	134.78	46	PFAKE		02 06 20.0	+16
SJG				LR	LR		
	comp=Z,615nm,19.0s,MS5.3						
SDV	Santo Domingo	136.82	60	ePKP	PKPdf	02 06 09.3	+1.9
SDV				LR	LR		
	comp=Z,347nm,19.0s,MS5.1						
PLCA	Paso Flores	138.21	137	PKP	PKPdf	02 06 12.0	+2.7
	comp=Z,3.8nm,1.1s,baz=186,slow=16,SNR=1.8						
DBIC	Dimbokro	144.85	304	PKPbc	PKPbc	02 06 22.7	+0.9
	comp=Z,92nm,0.7s,baz=39,slow=3.7,SNR=106						
DBIC	Dimbokro	144.85	304	PKPbc	PKPbc	02 06 22.7	+0.9
DBIC				LR	LR		
	comp=Z,489nm,20.0s,MS5.3						
KIC	Kosan Boka	144.94	303	ePKP1	PKPbc	02 06 23.1	+1.1
	comp=Z,876nm,1.0s						
TIC	Toumodi	145.00	304	ePKP1	PKPbc	02 06 23.1	+0.9
	comp=Z,806nm,1.1s						
LIC	Lamto	145.25	303	ePKP1	PKPbc	02 06 24.0	+1.2
	comp=Z,714nm,1.1s						
LVC	Limon Verde	145.48	110	eP	PKPdf	02 06 24.7	+2.2
LVC				e		02 06 38.3	
LVC				e		02 06 42.9	
LVC				LR	LR		
	comp=Z,863nm,21.0s,MS5.5						
LPAZ	La Paz	146.63	98	PKPbc	PKPbc	02 06 26.6	+0.6
	comp=Z,5.0nm,0.6s,baz=277,slow=2.8,SNR=22						
LPAZ	La Paz	146.63	98	ePKP	PKPdf	02 06 26.6	+1.9
LPAZ				LR	LR		
	comp=Z,672nm,20.0s,MS5.4						
SAML	Samuel	150.62	83	ePKPdf	PKPdf	02 06 32.9	+1.8
SAML				ePKPbc	PKPdf	02 06 37.8	+6.6
CPUP	Villa Florida	154.62	123	PKPbc	PKPdf	02 06 43.6	+7.1
	comp=Z,3.8nm,1.2s,baz=169,slow=3.8,SNR=3.6						
CPUP				PKPab	PKPab	02 06 59.0	-3.2
	comp=Z,3.7nm,1.0s,baz=336,slow=1.3,SNR=3.7						
CPUP	Villa Florida	154.62	123	PKPbc	PKPdf	02 06 43.6	+7.1
CPUP				PKPab	PKPab	02 06 59.0	-3.2
CPUP				LR	LR		
	comp=Z,398nm,20.0s,MS5.2						
RCBR	Riachuelo	171.61	16	PFAKE		02 07 10.0	+17
RCBR				LR	LR		
	comp=Z,565nm,19.0s						

KRSC 05 01:55:22.1,53.04N×160.21E,h44^{km},ML3.7,Near east coast of Kamchatka Peninsula

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*IDC **05** 02:25:57.5±1.7,23.87S×66.78W,h197^{km}±12^{km},mb3.3/2, mb1 3.3/6,mb1mx3.2/16,Error ellipse: s-maj=32.0km s-min=18.3km az=24.0*

ISC 05 02:25:56.4±1.2,**24.0S**±0.1×**66.9W**±0.1,**h211**^{km}±11^{km},**n7, σ1$\overset{s}{.}$07**/8,**mb3.4**/2,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.34	306	P	P	02 26 39.9	+0.2
	4.4nm,0.3s,baz=124,slow=7.1,SNR=98						
LVC				S	S	02 27 12.6	-0.6
	5.9nm,0.3s,baz=237,slow=23,SNR=3.8						
LPAZ	La Paz	7.77	351	P	P	02 27 47.7	+0.2
	0.6nm,0.3s,baz=161,slow=5.0,SNR=15						
LPAZ				S	S	02 29 14.7	+0.4
	0.1nm,0.3s,baz=27,slow=18,SNR=2.8						
CPUP	Villa Florida	8.94	107	P	P	02 28 03.4	+0.9
	0.1nm,0.3s,baz=283,slow=14,SNR=2.5						
BDFB	Brasilia	19.57	68	P	P	02 30 08.2	-1.8
	0.2nm,0.3s,baz=236,slow=11,SNR=3.6						
TXAR	Lajitas Array	63.76	324	P	P	02 36 08.2	+0.1
	0.4nm,0.9s,mb3.0,baz=162,slow=7.9,SNR=3.6						
ULM	Lac du Bonnet	78.28	341	P	P	02 37 34.6	+0.4
	0.9nm,0.4s,mb3.8,baz=153,slow=2.3,SNR=2.8						
MKAR	Makanchi Array	146.45	40	PKPbc	PKPbc	02 45 14.6	+2.5
	0.8nm,0.6s,baz=315,slow=1.7,SNR=5.5						

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*BJI **05** 02:49:51.7,7.38S×155.51E,h136^{km},mB5.2,mb4.8*

*IDC **05** 02:49:58.6±4.6,6.67S×155.63E,h115^{km}±39^{km},mb4.0/11, mb1 4.1/13,mb1mx4.1/17,MS3.6/1,Ms1 3.6/1, ms1mx2.8/18,Error ellipse: s-maj=26.0km s-min=15.3km az=62.0*

*NEIC **05** 02:49:58.2±2.2,6.60S×155.58E,h115^{km}±19^{km},mb4.7/10, Error ellipse: s-maj=15.1km s-min=10.5km az=85.0*

ISC 05 02:49:56.6±3.0,**6.53S**±0.08×**155.5E**±0.1,**h117**^{km}±26^{km}, **n33,σ1$\overset{s}{.}$14**/31,**mb4.4**/22,**1C-3D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.78	250	P	P	02 52 02.2	+0.2
	0.7nm,0.3s,baz=55,slow=10,SNR=3.1						
PMG	Port Moresby	8.78	250	eP	P	02 52 02.0	0.0
	12nm,0.7s						
CTA	Charters Tower	16.22	213	P	P	02 53 39.8	+0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=4.7						
CTA				LR	LR	02 58 16.7	
	comp=Z,222nm,18.8s,baz=50,slow=31						
CTAO	Charters Tower	16.22	213	eP	P	02 53 40.1	+1.1
	7.5nm,0.8s						
KAKA	Kakadu	23.62	253	⇓iP	P	02 54 59.7	+1.7
	7.5nm,0.5s,mb4.3						
WB2	Warramunga Arr	24.52	235	⇑iP	P	02 55 07.3	+0.6
WRA	Warramunga Arr	24.53	235	P	P	02 55 07.4	+0.6
	14nm,0.7s,mb4.5,baz=58,slow=9.4,SNR=77						
WRA				PcP	PcP	02 58 42.0	-1.1
	0.4nm,0.6s,baz=58,slow=3.0,SNR=5.9						
ASAR	Alice Springs	26.89	228	P	P	02 55 27.6	-1.0
	5.0nm,0.6s,mb4.2,baz=61,slow=8.7,SNR=41						
ASAR				PcP	PcP	02 58 48.3	0.0
	0.8nm,0.7s,baz=66,slow=2.5,SNR=6.8						
ASPA	Alice Springs	26.89	228	⇓iP	P	02 55 27.9	-0.8
STKA	Stephens Creek	28.39	206	P	P	02 55 41.0	-1.1
	9.2nm,1.2s,mb4.2,baz=12,slow=14,SNR=4.0						
STKA				PcP	PcP	02 58 51.5	-0.4
	2.2nm,0.8s,baz=59,slow=5.9,SNR=2.9						
STKA	Stephens Creek	28.39	206	P	P	02 55 41.4	-0.7
FITZ	Fitzroy Crossi	31.34	246	⇓iP	P	02 56 07.6	-0.8
	6.4nm,0.8s,mb4.4						
FORT	Forrest	35.30	223	eP	P	02 56 41.7	-0.6
	59nm,0.8s,mb5.5						
URZ	Urewera	37.15	151	P	P	02 56 57.2	-0.6
	7.9nm,0.7s,mb4.8,baz=140,slow=15,SNR=3.8						
RPZ	Rata Peaks	39.47	162	P	P	02 57 17.2	+0.2
	12nm,0.6s,mb4.9,baz=325,slow=4.5,SNR=9.8						
KLBR	Kellerberrin	43.20	230	eP	P	02 57 46.8	-1.0
	19nm,1.1s,mb4.7						
NJ2	Nanjing	51.91	320	eP	P	02 58 52.6	-3.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
MDJ	Mudanjiang	56.01	338	P	P	02 59 23.7	-1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,177nm,7.3s						
CN2	Changchun	57.01	334	eP	P	02 59 31.9	-0.6
CMAR	Chiang Mai Arr	61.08	295	P	P	03 00 02.9	+1.9
	comp=Z,1.8nm,0.5s,mb4.3,baz=127,slow=5.7,SNR=10						
LZH	Lanzhou	64.37	315	eP	P	03 00 21.0	-1.5
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
MA2	Magadan	66.00	357	P	P	03 00 31.1	-1.5
	comp=Z,54nm,0.9s,mb5.4						
SONM	Songino Array	69.24	327	P	P	03 00 54.9	+1.9
	comp=Z,1.4nm,0.5s,mb4.1,baz=135,slow=6.1,SNR=10						
VNDA	Vanda	71.03	179	P	P	03 01 02.4	-0.9
	comp=Z,1.6nm,0.8s,mb3.9,baz=352,slow=4.9,SNR=7.5						
SBA	Scott Base	71.53	178	eP	P	03 01 06.6	+0.4
	comp=Z,0.4nm,0.5s,mb3.5						
MCK	McKinley	81.42	22	eP	P	03 02 02.4	+0.7
	comp=Z,3.4nm,1.1s,mb4.1						
COLA	College	82.45	21	P	P	03 02 08.7	+1.6
ILAR	Eielson Array	82.74	21	P	P	03 02 08.7	+0.2
	comp=Z,1.0nm,1.0s,mb3.6,baz=248,slow=4.9,SNR=6.9						
MKAR	Makanchi Array	83.42	319	P	P	03 02 13.8	+1.5
	comp=Z,1.6nm,0.7s,mb4.0,baz=112,slow=6.5,SNR=14						
QSPA	South Pole Qui	83.44	180	eP	P	03 02 12.5	+0.7
	comp=Z,9.4nm,0.7s,mb4.7						
MAW	Mawson	85.03	203	P	P	03 02 20.7	+0.8
	comp=Z,1.6nm,0.8s,mb4.0,baz=98,slow=7.7,SNR=7.2						
GERES	GERESS Array B	126.94	329	PKP	PKPdf	03 08 50.1	+3.2
	comp=Z,0.3nm,0.6s,baz=34,slow=3.5,SNR=3.7						
BDFB	Brasilia	147.91	134	PKPbc	PKPdf	03 09 29.2	+3.3
	comp=Z,1.3nm,0.5s,baz=183,slow=13,SNR=2.8						

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*IDC **05** 03:15:54.5±0.8,2.09N×76.97E,mb4.1/15,mb1 4.2/15, mb1mx4.1/21,MS3.8/4,Ms1 3.8/4,ms1mx3.3/29,Error ellipse: s-maj=26.9km s-min=16.9km az=32.0*

*NEIC **05** 03:15:55.5±0.5,2.02N×76.86E,h10^{km},mb4.7/5,Error ellipse: s-maj=12.1km s-min=10.7km az=97.0*

ISC 05 03:15:53.0±0.5,**1.90N**±0.06×**76.89E**±0.10,**h10**^{km},**n39, σ1$\overset{s}{.}$14**/39,**mb4.2**/21,**MS3.8**/4,**Maldive Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	Diego Garcia	10.26	206	eP	P	03 18 24.6	+1.1
DGAR				eS	S	03 20 15.4	-4.2
HYB	Hyderabad	15.51	6	i P	P	03 19 28.0	-5.6
HYB				esP		03 19 38.0	
HYB				eS	S	03 22 25.7	-0.3
DMN	Daman	26.75	16	eP	P	03 21 34.6	-0.3
	46nm,1.1s,mb4.9						
PKI	Pulchoki	26.80	17	eP	P	03 21 33.1	-2.3
KKN	Kakani	26.97	17	eP	P	03 21 33.8	-3.1
GKN	Gorkha	26.99	15	eP	P	03 21 37.5	+0.3
CM31	Chiang Mai Arr	27.18	51	P	P	03 21 40.0	+1.1
CMAR	Chiang Mai Arr	27.18	51	P	P	03 21 39.2	+0.3
	2.7nm,0.9s,mb3.8,baz=246,slow=10,SNR=9.4						
CMAR				LR	LR	03 31 20.1	
	comp=Z,53nm,19.0s,MS3.1,baz=42,slow=34						
GUN	Gumba	27.26	18	eP	P	03 21 32.1	-7.5
KMBO	Kilima Mbogo	39.74	266	P	P	03 23 32.0	+4.1
	0.5nm,0.6s,mb3.5,baz=40,slow=18,SNR=2.4						
AML	Almayashu	40.15	356	P	P	03 23 33.0	+2.0
	SNR=6.0						
UCH	Uchtor	40.20	357	P	P	03 23 33.3	+1.9
	SNR=9.9						
EKS2	Erkin-Say	40.68	356	P	P	03 23 37.3	+2.0
	SNR=7.5						
TKM2	Tokmak 2	40.86	359	P	P	03 23 38.1	+1.3
	SNR=5.8						
USP	Ospenovka	41.24	357	P	P	03 23 40.8	+0.9
	SNR=5.2						
ENH	Enshi	41.85	44	eP	P	03 23 44.1	-1.0
	11nm,0.8s,mb4.5						
MKAR	Makanchi Array	44.96	5	P	P	03 24 09.9	-0.2
	1.8nm,0.8s,mb4.0,baz=196,slow=8.8,SNR=12						
MKAR				PcP	PcP	03 25 53.3	+1.4
	0.4nm,0.5s,baz=166,slow=5.9,SNR=2.3						
MKAR				LR	LR	03 44 28.2	
	comp=Z,113nm,18.5s,MS3.8,baz=80,slow=38						
KURK	Kurchatov	48.66	1	eP	P	03 24 38.4	-0.9
	2.5nm,0.8s,mb4.3						
BVAR	Borovoye Array	51.24	355	P	P	03 24 58.2	-0.7
	1.5nm,0.7s,mb4.0,baz=162,slow=9.4,SNR=8.1						
SONM	Songino Array	52.38	25	P	P	03 25 08.4	+0.7
	0.9nm,0.6s,mb3.9,baz=209,slow=8.9,SNR=5.0						
BRTR	Keskin Array B	54.38	319	P	P	03 25 23.4	+0.9
	2.3nm,0.8s,mb4.2,baz=140,slow=8.6,SNR=12						
ARU	Arti	56.32	348	eP	P	03 25 35.6	-0.8
	16nm,0.8s,mb5.1						
WRA	Warramunga Arr	60.35	114	P	P	03 26 05.5	+0.5
	4.9nm,0.8s,mb4.6,baz=293,slow=6.7,SNR=20						
ASAR	Alice Springs	60.94	118	P	P	03 26 09.4	+0.4
	2.2nm,0.9s,mb4.3,baz=283,slow=6.6,SNR=17						
MLR	Muntele Rosu	62.20	322	P	P	03 26 18.3	+1.1
	2.9nm,1.1s,mb4.3,baz=280,slow=20,SNR=3.1						
AKASG	Malin Array Be	63.03	328	P	P	03 26 21.6	-1.0
	0.7nm,0.6s,mb4.0,baz=130,slow=5.4,SNR=5.3						
VAE	Valguarnera	67.20	310	LR	LR	03 54 16.1	
	comp=Z,165nm,19.0s,MS4.3,baz=312,slow=34						
JOF	Joensuu	69.54	340	ep	P	03 27 02.4	-1.5
	0.4nm,0.4s,mb3.7						
FINES	FINESS Array B	70.59	337	P	P	03 27 09.4	-0.9
	2.4nm,0.9s,mb4.1,baz=117,slow=8.5,SNR=9.0						
FINES				LR	LR	04 00 43.8	
	comp=Z,70nm,18.2s,MS4.0,baz=36,slow=38						
KHC	Kasperske Hory	71.35	322	eP	P	03 27 14.5	-0.6
KHC						03 27 24.5	
KHC	Kasperske Hory	71.35	322	eP	P	03 27 14.5	-0.6
KHC				e		03 27 24.5	
CASY	Casey	72.16	166	P	P	03 27 17.1	-2.6
	18nm,0.7s,mb5.1						
DAVOX	Davos	73.01	319	P	P	03 27 24.6	-0.4
	2.4nm,0.7s,mb4.2,baz=155,slow=8.1,SNR=4.4						
HFS	Hagfors	75.28	332	P	P	03 27 37.8	-0.1
	1.6nm,0.5s,mb4.2,baz=127,slow=7.4,SNR=11						
HFS	Hagfors	75.28	332	P	P	03 27 37.8	-0.1
ARCES	ARCESS Array B	75.51	344	P	P	03 27 39.3	+0.2
	0.6nm,0.6s,mb3.7,baz=127,slow=6.1,SNR=4.9						
NB2	NORSAR Subarra	76.75	333	P	P	03 27 45.1	-1.1
	0.4nm,0.6s,mb3.5,baz=106,slow=5.8						
NOA	NORSAR Array B	76.75	333	P	P	03 27 45.9	-0.3
	0.5nm,0.7s,mb3.6,baz=107,slow=6.0,SNR=3.8						
TXAR	Lajitas Array	148.94	1	PKPbc	PKPdf	03 35 45.1	+4.3
	3.4nm,1.1s,baz=80,slow=1.0,SNR=10.0						

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*ISK **05** 03:16:51.9,37.03N×27.79E,h8^{km},MD3.2*

*NEIC **05** 03:16:52.4,36.88N×27.72E,h22^{km},MD3.2(ATH),After ATH.*

*ATH **05** 03:16:52.4,36.87N×27.70E,h23^{km}±8^{km},MD3.2/7*

ISC 05 03:16:51.3±0.8,**36.90N**±0.04×**27.77E**±0.04,**h8**^{km}±6^{km}, **n19,σ1$\overset{s}{.}$06**/26,**3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	303	i P	Pg	03 16 58.4	+0.7
BDRM				i S	Sg	03 17 03.5	+1.6
YER	Yerkesik	0.48	60	i PG	Pg	03 17 00.1	-0.8
YER				SG	Sg	03 17 06.3	-1.0
NISR	Nisiros	0.59	241	ePN	Pn	03 17 04.5	-1.0
NISR	Nisiros	0.59	241	ePn	Pn	03 17 05.0	-0.5
ARG	Arkhangelos	0.74	157	ePB	Pb	03 17 05.3	-0.6
ARG	Arkhangelos	0.74	157	ePb	Pb	03 17 05.0	-0.9
AYDN	Tasoluk	0.77	7	⇑iP	Pb	03 17 05.8	-0.6
AYDN				i S	Sb	03 17 15.7	-1.1
SMG	Samos	1.10	318	ePN	Pn	03 17 13.0	+0.1
DNZL	Cakiroluk	1.29	52	⇑iP	Pb	03 17 15.8	+0.4
DNZL				i S	Sb	03 17 33.7	+1.8
DENT	Denizli	1.32	49	PN	Pn	03 17 16.1	0.0
DENT				SN	Sn	03 17 33.3	-0.7
KARP	Karpathos	1.43	200	ePN	Pn	03 17 18.0	+0.4
IZM	Izmir	1.55	345	PN	Pn	03 17 18.7	-0.6
KDAG	Bornova	1.56	345	i P	Pn	03 17 18.3	-1.1
KDAG				i S	Sb	03 17 40.3	+0.7
KSL	Kastellorizon	1.64	116	ePN	Pn	03 17 23.5	+2.9
MANT	Manisa	1.71	21	⇑iP	Pn	03 17 21.7	+0.1
MANT				i S	Sn	03 17 46.8	+3.0
ELL	Elmali	1.72	94	ePN	Pn	03 17 23.3	+1.5
APE	Apeiranthos	1.80	276	ePB	Pb	03 17 23.0	-1.1
AKS	Akhisar	1.98	1	ePN	Pn	03 17 24.0	-1.5
PRK	Paraskevi	2.63	334	ePN	Pn	03 17 35.0	+0.3

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*MOS **05** 03:23:52.8±1.9,51.90N×159.95E,h14^{km},mb4.1/8,Error ellipse: s-maj=21.7km s-min=8.1km az=95.9*

*IDC **05** 03:23:54.1±0.9,52.19N×159.58E,mb3.9/13,mb1 4.0/14, mb1mx3.8/26,ML3.7/1,Error ellipse: s-maj=25.8km s-min=14.1km az=7.0*

*NEIC **05** 03:23:57.3±2.6,51.92N×159.73E,h38^{km}±15^{km},mb4.2/3, Error ellipse: s-maj=40.4km s-min=12.7km az=194.0*

*KRSC **05** 03:23:58.7,52.26N×159.91E,h11^{km},ML4.3*

ISC 05 03:23:59.0±0.7,**52.15N**±0.04×**160.04E**±0.06,**h53**^{km}±6^{km}, **n63,σ1$\overset{s}{.}$18**/88,**mb3.9**/16,**1D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.95	360	P	P	03 24 16.0	-0.2
SPN				S	S	03 24 29.5	+0.4
SPN	Mys Shipunski	0.95	360	i P	P	03 24 15.9	-0.3
SPN				eS	S	03 24 29.5	+0.4
RUS	Russkaya	0.98	287	P	P	03 24 15.1	-1.6
RUS				S	S	03 24 27.9	-1.9
RUS	Russkaya	0.98	287	i P	P	03 24 15.1	-1.6
RUS				eS	S	03 24 27.8	-2.0
NLC	Nalytchevo	1.10	338	P	P	03 24 18.0	-0.5
NLC				S	S	03 24 32.2	-0.7
NLC	Nalytchevo	1.10	338	eP	P	03 24 17.8	-0.7
NLC				eS	S	03 24 32.2	-0.7
PET	Petropavlovsk	1.22	317	P	P	03 24 19.5	-0.5
PET				S	S	03 24 34.4	-1.2
PET	Petropavlovsk	1.22	317	eP	P	03 24 19.0	-1.0
PET				eS	S	03 24 34.4	-1.2
PET	Petropavlovsk	1.22	317	⇓iPN	P	03 24 19.1	-0.9
PET				eS	S	03 24 35.0	-0.6
PET				pmax	pmax		
	comp=Z,612nm,0.6s						
PET				smax			
	comp=N,1µm,0.5s						
PET				smax			
	comp=E,1µm,0.7s						
PET	Petropavlovsk	1.22	317	ePn	P	03 24 18.9	-1.1
PET				eS	S	03 24 31.6	-4.0
GRL	Gorelyy	1.27	289	i P	P	03 24 20.5	-0.3
GRL				eS	S	03 24 35.8	-1.2
UGLR	Uglovaya	1.29	326	i P	P	03 24 20.9	-0.2
UGLR				eS	S	03 24 38.2	+0.7
SDLR	Sedlovina	1.33	329	eP	P	03 24 21.1	-0.6
SDLR				eS	S	03 24 37.4	-1.2
SMAR	Somma	1.34	326	eP	P	03 24 21.9	0.0
SMAR				eS	S	03 24 40.1	+1.2
AVH	Avacha	1.37	325	eP	P	03 24 22.3	+0.1
AVH				eS	S	03 24 40.0	+0.5
KOK	Koryaka	1.43	324	eP	P	03 24 23.2	+0.2
KOK				eS	S	03 24 41.1	+0.2
APC	Apacha	1.92	295	i P	P	03 24 30.7	+0.8
APC				eS	S	03 24 55.2	+2.3
APC				Smax			
	comp=E,540nm,0.7s						
KII	Karymskiy	1.92	350	P	P	03 24 30.7	+0.8
KII	Karymskiy	1.92	350	eP	P	03 24 30.6	+0.7
GNL	Ganaly	2.00	321	eP	P	03 24 31.4	+0.4
GNL				eS	S	03 24 56.1	+1.3
MIPR	Malaya Ipel’ka	2.02	275	eP	P	03 24 31.7	+0.4
MIPR				eS	S	03 24 57.2	+1.8
PAU	Pauzhetka	2.12	252	eP	P	03 24 32.3	-0.4
PAU				eS	S	03 24 57.3	-0.5
PAU				Smax			
	comp=E,580nm,0.8s						
MKZ	Mys Kozlova	2.61	22	P	P	03 24 39.2	-0.6
MKZ				S	S	03 25 08.5	-1.9
MKZ	Mys Kozlova	2.61	22	eP	P	03 24 39.0	-0.8
MKZ				eS	S	03 25 08.9	-1.5
SKR	Severo-Kuril’s	2.86	241	eP	P	03 24 42.8	-0.5
SKR				eS	S	03 25 18.0	+1.3
TUMR	Tumrok	3.14	1	i P	P	03 24 48.3	+1.1
TUMR				eS	S	03 25 23.1	-0.6
KMNR	Kamenistaya	3.61	2	eP	P	03 24 56.1	+2.2
ESO	Esso	3.86	349	eP	P	03 24 57.8	+0.4
ESO				Smax			
	comp=E,40nm,0.9s						
LGNR	Loginova	3.96	5	i P	P	03 25 03.0	+4.3
CIRR	Tsirk	3.99	6	i P	P	03 25 02.1	+2.9
SRDR	Sredinnyy	4.18	358	eP	P	03 25 03.3	+1.4
KBTR	Krutoberegovo	4.38	21	P	P	03 25 04.7	0.0
KBTR	Krutoberegovo	4.38	21	i P	P	03 25 04.8	+0.1
BKI	Bering	4.67	47	eS	S	03 25 56.4	-5.9
FX1	Attu Island--F	8.04	80	Pn	P	03 25 54.6	-1.2
	comp=E,3.2nm,0.3s,baz=149,slow=4.1,SNR=40						
FX1				Sn	S	03 27 18.6	-7.6
	comp=E,26nm,0.3s,baz=89,slow=20,SNR=18						
FX1	Attu Island--F	8.04	80	ePn	P	03 25 54.5	-1.2
TIXI	Tiksi	23.93	336	eP	P	03 29 05.8	-2.5
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
INK	Inuvik	34.64	37	P	P	03 30 46.0	+1.3
	comp=Z,0.7nm,0.4s,mb4.0,baz=278,slow=3.3,SNR=4.8						
INK	Inuvik	34.64	37	P	P	03 30 46.0	+1.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	34.64	37	P	P	03 30 45.2	+0.5
	comp=Z,0.9nm,0.5s,mb4.0						
RES	Resolute Bay	44.21	22	P	P	03 32 03.4	-0.4
	comp=Z,3.1nm,0.8s,mb4.1						
SPITS	Spitsbergen Ar	48.06	351	P	P	03 32 34.5	+0.3
	comp=Z,11nm,1.1s,mb4.8,baz=59,slow=6.5,SNR=9.2						
MKAR	Makanchi Array	48.54	296	P	P	03 32 36.0	-2.3
	comp=Z,0.3nm,0.5s,mb3.6,baz=47,slow=5.7,SNR=2.9						
BVAR	Borovoye Array	50.95	309	P	P	03 32 54.1	-2.6
	comp=Z,0.7nm,0.6s,mb3.8,baz=72,slow=9.1,SNR=3.2						
ARCES	ARCESS Array B	54.17	342	P	P	03 33 19.3	-1.2
	comp=Z,1.6nm,0.9s,mb4.0,baz=40,slow=8.0,SNR=5.7						
ARCES	ARCESS Array B	54.17	342	P	P	03 33 19.3	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	54.17	342	P	P	03 33 19.3	-1.2
PDAR	Pinedale Array	58.02	60	P	P	03 33 50.9	+2.5
	comp=Z,0.3nm,0.5s,mb3.6,baz=315,slow=6.3,SNR=3.5						
FINES	FINESS Array B	60.97	337	P	P	03 34 07.3	-1.1
	comp=Z,0.6nm,0.6s,mb3.9,baz=45,slow=5.4,SNR=7.1						
FINES	FINESS Array B	60.97	337	P	P	03 34 07.3	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PV01	Paradox Valley	61.80	63	eP	P	03 34 13.0	-1.3
PV01				e		03 34 41.2	
NB2	NORSAR Subarra	64.44	344	P	P	03 34 30.8	-0.4
	comp=Z,0.5nm,0.5s,mb3.8,baz=22,slow=6.5						
NOA	NORSAR Array B	64.44	344	P	P	03 34 31.5	+0.2
	comp=Z,0.6nm,0.5s,mb3.9,baz=23,slow=6.7,SNR=6.8						
NOA	NORSAR Array B	64.44	344	P	P	03 34 31.5	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	64.84	342	P	P	03 34 33.5	-0.3
	comp=Z,1.1nm,0.5s,mb4.2,baz=34,slow=5.3,SNR=14						
HFS	Hagfors	64.84	342	P	P	03 34 33.5	-0.3
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	69.41	329	P	P	03 35 01.6	-1.1
	comp=Z,0.8nm,0.3s,mb4.1,baz=32,slow=5.8,SNR=4.5						
AKASG	Malin Array Be	69.41	329	P	P	03 35 01.6	-1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMOK	Wichita Mounta	69.61	60	eP	P	03 35 06.0	+1.7
	comp=Z,2.7nm,1.0s,mb4.1						
TXAR	Lajitas Array	71.04	67	P	P	03 35 15.5	+2.5
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=4.9,SNR=5.5						
WRA	Warramunga Arr	75.21	205	P	P	03 35 38.1	+0.6
	comp=Z,0.1nm,0.3s,mb3.2,baz=24,slow=6.4,SNR=8.6						
BRTR	Keskin Array B	77.33	320	P	P	03 35 50.7	+1.6
	comp=Z,0.5nm,0.5s,mb3.7,baz=27,slow=3.2,SNR=3.0						
BRTR	Keskin Array B	77.33	320	P	P	03 35 50.7	+1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NNC **05** 03:53:26.7±4.9,43.78N×81.45E,h33^{km}±17^{km},mpv2.9, Error ellipse: s-maj=50.7km s-min=22.1km az=122.0*

BJI 05 03:53:23.6,43.59N×81.96E,h12^{km},ML3.5,4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	3.21	4	⇓Pn	Pn	03 54 15.5	+0.5
	0.4nm,0.2s,baz=199,slow=15,SNR=61						
MK31				⇓Pg	Pg	03 54 25.3	-2.5
	4.0nm,0.3s,baz=293,slow=24,SNR=4.7						
MK31				⇑Sn	Sn	03 54 54.5	+0.9
	17nm,0.2s,baz=184,slow=27,SNR=6.3						
MK31				⇑Lg		03 55 04.8	
	37nm,0.6s,baz=183,slow=30,SNR=15						
WMQ	Urumqi	4.17	85	eP	Pn	03 54 28.5	0.0
WMQ				S	Sn	03 55 17.3	-0.3
WMQ				SG	Sg	03 55 32.2	-10
WMQ				Smax			
	comp=N,12nm,0.8s						
WMQ				Smax			
	comp=E,22nm,0.7s						
KURK	Kurchatov	7.48	343	⇑Sn	Sn	03 56 33.3	-7.6
	comp=E,1.2nm,0.6s,baz=80,slow=16,SNR=4.8						

KK31	Karatay Array	8.36	271	⇑Lg		03 57 40.9	
	comp=E,2.1nm,0.6s,baz=84,slow=27,SNR=4.6						

DJA 05 03:55:17.8±1.0**,7.75S×113.39E,h192**^{km}±9^{km}**,MD4.9**/3**,ML4.2**/3**,2C-4D,Error ellipse: s-maj=106.1km s-min=25.6km az=15.0,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	1.19	113	⇑*e*Pn	P	03 55 48.3	-0.1
	146nm,0.2s						
KELI				⇓*e*Sn	S	03 56 10.6	-1.5
RATI	Rata	2.34	115	⇑*e*Pn	P	03 55 59.7	-0.1
	362nm,0.2s						
RATI				⇓*e*Sn	S	03 56 31.0	-1.2
KEDI	Kedomdong	2.80	105	⇓*e*Pn	P	03 56 05.2	0.0
	58nm,0.1s						
KEDI				⇓*e*Sn	S	03 56 39.1	-2.6

IDC 05 04:24:38.7±4.2**,10.34N×90.83E,mb3.5**/4**,mb1 3.8**/4**,mb1mx3.4**/17**,Error ellipse: s-maj=355.0km s-min=26.5km az=50.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	52.34	125	P	P	04 33 53.2	-1.8
	0.1nm,0.3s,baz=309,slow=9.0,SNR=6.0						
ASAR	Alice Springs	53.99	129	P	P	04 34 04.5	-2.6
	0.3nm,0.4s,baz=295,slow=7.5,SNR=4.1						
ARCES	ARCESS Array B	71.86	340	P	P	04 36 02.3	-2.8
	0.4nm,0.5s,baz=117,slow=8.1,SNR=4.7						
NOA	NORSAR Array B	75.99	330	P	P	04 36 28.8	-0.4
	0.4nm,0.8s,baz=100,slow=9.6,SNR=2.2						

*IDC **05** 04:35:06.0±2.4,44.88S×166.79E,mb3.6/1,mb1 4.2/3,mb1mx3.8/11,ML4.1/2,MS3.3/1,Ms1 3.3/1,ms1mx2.9/15,Error ellipse: s-maj=89.9km s-min=24.2km az=171.0*
*WEL **05** 04:35:07.7±0.5,45.21S×166.97E,h12^{km},ML4.7/14,Error ellipse: s-maj=4.5km s-min=1.7km az=90.0*
WEL Felt in the Fiordland region, maximum reported intensity MM 4.
*BJI **05** 04:35:07.4,45.20S×167.00E,h12^{km},mb4.9*
*NEIC **05** 04:35:07.4,45.22S×166.96E,h12^{km},mb4.4/1,ML4.7(WEL),After WEL.*
NEIC Felt at Te Anau.
ISC 05 04:35:06.2±1.4**,45.13S**±0.03×**166.92E**±0.07**,h15**^{km}±11^{km}**,n40,σ1$\overset{s}{.}$13**/53**,mb4.2**/3**,4C-9D,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.39	154	⇓P*	Pb	04 35 13.8	-0.4
DCZ				S*	Sb	04 35 17.3	-2.3
MLZ	Mavora Lakes	0.92	104	⇓P*	Pb	04 35 23.0	-0.3
MLZ				S*	Sb	04 35 34.6	-0.4
MLZ	Mavora Lakes	0.92	104	⇓P	Pb	04 35 23.0	-0.3
MLZ				S	Sb	04 35 34.8	-0.2
WHZ	Wether Hill Ro	1.05	137	⇓P*	Pb	04 35 25.0	-0.7
WHZ				S*	Sb	04 35 37.8	-1.2
WHZ	Wether Hill Ro	1.05	137	⇓P	Pb	04 35 25.0	-0.6
WHZ				S	Sb	04 35 38.1	-0.9
WKZ	Wanaka	1.52	79	⇑PN	Pn	04 35 34.0	+0.9
JCZ	Jackson Bay	1.69	52	⇑*e*PN	Pn	04 35 36.4	+0.9
JCZ				SN	Sn	04 36 02.2	+5.3
AXZ	Alexandra	1.71	95	⇓PN	Pn	04 35 36.3	+0.5
AXZ				SN	Sn	04 35 58.0	+0.5
TUZ	Tuapeka	2.08	114	⇓PN	Pn	04 35 40.5	-0.6
TUZ				SN	Sn	04 36 06.1	-0.7
TUZ	Tuapeka	2.08	114	⇓P	Pn	04 35 40.5	-0.6
LBZ	Lake Benmore	2.44	73	PN	Pn	04 35 46.2	-0.1
ODZ	Otahua Downs	2.64	89	⇓PN	Pn	04 35 48.3	-0.8
ODZ				SN	Sn	04 36 21.5	+0.3
ODZ	Otahua Downs	2.64	89	⇑P	Pn	04 35 48.3	-0.8
RPZ	Rata Peaks	3.29	66	Pn	Pn	04 35 59.0	+0.7
	78nm,0.3s,baz=232,slow=5.5,SNR=82						
RPZ				LR	LR	04 36 36.5	
	comp=Z,423nm,19.7s,baz=244,slow=28						
RPZ				Sn	Sn	04 36 39.7	+2.3
	50nm,0.3s,baz=187,slow=11,SNR=3.8						
RPZ	Rata Peaks	3.29	66	PN	Pn	04 35 58.8	+0.5
RPZ				SN	Sn	04 36 38.2	+0.8
RPZ	Rata Peaks	3.29	66	⇑P	Pn	04 35 59.0	+0.7
WVZ	Waitaha Valley	3.43	55	PN	Pn	04 35 59.6	-0.7
WVZ	Waitaha Valley	3.43	55	*e*P	Pn	04 35 59.8	-0.6
MQZ	McQueen's Vall	4.35	73	PN	Pn	04 36 12.7	-0.7
MQZ				SN	Sn	04 37 01.7	-2.7
MQZ	McQueen's Vall	4.35	73	*e*P	Pn	04 36 12.7	-0.7
LTZ	Lake Taylor	4.52	61	PN	Pn	04 36 14.7	-1.1
LTZ				SN	Sn	04 37 08.9	+0.1
LTZ	Lake Taylor	4.52	61	*e*P	Pn	04 36 14.7	-1.1
DSZ	Denniston Nort	4.91	48	SN	Sn	04 37 14.6	-3.9
DSZ	Denniston Nort	4.91	48	P	Pn	04 36 20.1	-1.2
THZ	Tophouse	5.51	54	PN	Pn	04 36 29.0	-0.7
THZ	Tophouse	5.51	54	*e*P	Pn	04 36 29.0	-0.7
KHZ	Kahutara	5.51	63	PN	Pn	04 36 30.0	+0.3
KHZ				SN	Sn	04 37 31.4	-2.2
KHZ	Kahutara	5.51	63	*e*P	Pn	04 36 30.1	+0.3
QRZ	Quartz Range	5.95	46	PN	Pn	04 36 34.0	-2.0
QRZ	Quartz Range	5.95	46	P	Pn	04 36 34.4	-1.6
NNZ	Nelson	6.13	53	SN	Sn	04 37 46.3	-2.8
NNZ	Nelson	6.13	53	*e*P	Pn	04 36 38.0	-0.6
URZ	Urewera	10.25	52	Pn	P	04 37 33.8	-2.1
	0.5nm,0.3s,baz=124,slow=22,SNR=2.5						
URZ				Sn	S	04 39 23.9	-7.6
	1.9nm,0.3s,baz=33,slow=20,SNR=7.0						
WRA	Warramunga Arr	36.81	302	P	P	04 42 14.0	-1.3
	0.6nm,0.7s,mb3.5,baz=136,slow=8.1,SNR=9.1						
QSPA	South Pole Qui	45.00	180	*e*P	P	04 43 22.0	0.0
	5.7nm,1.1s,mb4.3						
NJ2	Nanjing	88.35	321	*e*P	P	04 48 02.6	+4.1
KMI	Kunming	91.07	305	*e*P	P	04 48 15.4	+4.1
MDJ	Mudanjiang	95.30	334	P	P	04 48 33.1	+2.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.7						
BRTR	Keskin Array B	145.47	278	PKPbc	PKPbc	04 54 46.2	+2.4
	comp=Z,0.9nm,0.5s,baz=143,slow=6.2,SNR=5.3						
FINES	FINESS Array B	152.03	320	PKPbc	PKPdf	04 54 59.3	+2.7
	comp=Z,0.6nm,0.6s,baz=56,slow=6.9,SNR=4.6						

*NEIC **05** 05:04:10.6,16.05N×98.42W,h5^{km},MD4.1(MEX),After MEX.*
MEX 05 05:04:11.0±0.6**,16.06N×98.40W,h5**^{km}±8^{km}**,MD4.1,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.42	38	*i* P	Pg	05 04 18.7	-0.8
PNIG				*i* S	Sg	05 04 25.1	-0.1
OXX	Oaxaca	1.90	57	*i* P	Pn	05 04 42.0	-2.4
PLIG	Platanillo	2.55	336	*i* P	Pn	05 04 51.3	-2.5
PLIG				*i* S	Sn	05 05 20.6	-4.9
PLIG	Platanillo	2.55	336	*i* P	Pn	05 04 52.7	-1.0
PLIG				*i* S	Sn	05 05 20.6	-4.9
YAIG	Yautepec	2.86	347	*i* P	Pn	05 04 56.4	-1.8
YAIG				*i* S	Sn	05 05 28.0	-5.4
PPM	Popocatepetl	3.00	356	*e*P	Pn	05 04 55.5	-4.6
PPM				*e*P		05 04 55.8	
PPM				*i* S	Sn	05 05 32.1	-4.9
PPM	Popocatepetl	3.00	356	*e*P	Pn	05 04 55.5	-4.6
PPM				*i* S	Sn	05 05 32.1	-4.9
CMIG	Matias Romero	3.52	73	*i* P	Pn	05 05 03.7	-3.8
CMIG				*i* S	Sn	05 05 44.0	-6.1

*ISK **05** 05:12:01.4,39.94N×40.74E,h4^{km},MD3.5*
ISC 05 05:12:01.8±0.7**,39.98N**±0.06×**40.74E**±0.06**,h4**^{km}**,n25,σ0$\overset{s}{.}$92**/27**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZM	Erzurum	0.48	98	*i* PG	Pg	05 12 10.9	-0.6
ERZM	Erzurum	0.49	98	*i* P	Pg	05 12 10.9	-0.7
EZC	Erzincan	0.75	252	*i* PN	Pn	05 12 22.6	+3.8
GUMT	Gumushane	1.08	297	*i* PN	Pn	05 12 23.2	-0.4
GUMT				SN	Sn	05 12 38.4	-0.7
BINT	Bingol	1.12	190	*i* PN	Pn	05 12 22.1	-2.0
BINT				SN	Sn	05 12 37.6	-2.5
KELT	Kelkit	1.15	279	*i* P	Pb	05 12 24.2	+0.3
BTMT	Batman	1.88	162	*i* PN	Pn	05 12 35.5	+0.5
ELZG	Elazig	2.01	223	*i* P	Pn	05 12 37.5	+0.6
DIY	Diyarbakir	2.12	191	PN	Pn	05 12 38.7	+0.3
BEST	Besiri	2.12	169	*i* P	Pn	05 12 40.0	+1.5
MYA	Malataya	2.44	228	*i* PN	Pn	05 12 43.3	+0.2
MALT	Malatya	2.45	228	*i* PN	Pn	05 12 43.1	-0.1
VANB	Van	2.48	123	*e*PN	Pn	05 12 44.3	+0.7
TVAN	Van	2.53	124	*i* P	Pn	05 12 48.3	+4.0
SVSK	Karacayir	2.88	270	*e*PN	Pn	05 12 49.4	+0.1
SVST	Sivas	2.92	267	*i* P	Pn	05 12 56.6	+6.7
GZT	Gaziantep	3.61	225	*i* P	Pn	05 12 59.8	+0.1
KVT	Kavak	3.74	289	*e*PN	Pn	05 13 01.6	0.0
KAHT	Ahir Dag	3.82	233	*i* P	Pn	05 13 03.2	+0.4
CTKT	Corum	4.60	280	*i* P	Pn	05 13 24.2	+10
BOYT	Boyabat	4.67	290	*i* P	Pn	05 13 24.2	+9.5
AVNT	Avonos	4.71	257	*i* P	Pn	05 13 27.2	+12
COBT	Iskenderun	4.94	227	*i* P	Pn	05 13 13.3	-5.2
ELDT	Eldivan	5.62	278	*i* P	Pn	05 13 40.7	+13
BALT	Daday	5.80	288	*i* P	Pg	05 13 52.1	-5.4

*IDC **05** 05:17:47.1±2.7,9.11N×127.00E,mb3.6/4,mb1 3.8/4,mb1mx3.6/19,MS2.6/2,Ms1 2.6/2,ms1mx2.3/30,Error ellipse: s-maj=152.0km s-min=27.5km az=69.0*
*MAN **05** 05:17:56.2,8.69N×126.27E,h14^{km},mb4.3,ML3.2,MS3.0*
ISC 05 05:17:55.9±1.2**,8.70N**±0.06×**126.31E**±0.09**,h14**^{km}**,n17,σ0$\overset{s}{.}$82**/19**,mb3.5**/4**,MS2.4**/1**,4C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	0.51	174	⇑*i*P	Pb	05 18 05.7	-0.4
BIPH				*i* S	Sb	05 18 13.3	+0.2
BIPH	Bislig	0.51	174	⇑*i*P	Pb	05 18 05.7	-0.4
BIPH				*i* S	Sb	05 18 13.3	+0.2
BUTP	Butuan	0.73	292	*e*P	Pb	05 18 09.8	0.0
BUKP	Musuan	1.47	237	*e*P	Pn	05 18 22.8	+0.7
CGP	Cagayan de Oro	1.61	262	⇑*e*P	Pn	05 18 23.3	-0.8
CGP				*e*S	Sn	05 18 43.9	-0.8
CGP	Cagayan de Oro	1.61	262	⇑*e*P	Pn	05 18 23.3	-0.8
CGP				*e*S	Sn	05 18 43.9	-0.8
MATI	Mati	1.74	182	*e*P	Pn	05 18 25.3	-0.7
KCP	Kidapawan	2.06	216	⇓*e*P	Pn	05 18 30.7	+0.1
KCP	Kidapawan	2.06	216	⇓*e*P	Pn	05 18 30.7	+0.1
BESP	Borongan	3.01	344	*e*P	Pn	05 18 44.0	-0.1
PAGZ	Pagadian	3.01	254	*e*P	Pn	05 18 46.6	+2.4
TGY	Tagaytay City	7.52	316	LR	LR	05 23 22.7	
	comp=Z,79nm,20.1s,baz=356,slow=43						
FITZ	Fitzroy Crossi	26.64	181	P	P	05 23 30.8	-5.4
	2.0nm,0.8s,mb3.7,baz=18,slow=6.4,SNR=5.0						
WRA	Warramunga Arr	29.54	165	P	P	05 23 56.2	-6.2
	0.4nm,0.8s,mb3.2,baz=348,slow=9.5,SNR=4.1						
ASAR	Alice Springs	33.01	167	P	P	05 24 26.3	-6.6
	0.2nm,0.4s,mb3.4,baz=360,slow=8.1,SNR=4.6						
MKAR	Makanchi Array	53.30	323	P	P	05 27 08.4	-8.2
	0.4nm,0.6s,mb3.5,baz=127,slow=6.1,SNR=3.8						
FX1	Attu Island--F	58.05	31	LR	LR	05 49 55.6	
	comp=Z,3.3nm,21.2s,MS2.4,baz=62,slow=34						

*IDC **05** 05:19:56.5±1.4,24.05S×66.90W,h182^{km}±11^{km},mb3.2/2,mb1 3.4/7,mb1mx3.3/17,MS2.5/1,Ms1 2.7/1,ms1mx2.0/6,Error ellipse: s-maj=24.1km s-min=16.8km az=33.0*
ISC 05 05:19:55.7±0.9**,24.11S**±0.08×**66.9W**±0.1**,h191**^{km}±11^{km}**,n9,σ0$\overset{s}{.}$68**/9**,mb3.4**/2**,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.38	309	P	P	05 20 38.3	+0.2
	34nm,0.3s,baz=132,slow=5.3,SNR=261						
LVC				S	S	05 21 09.8	-1.0
	26nm,0.3s,baz=14,slow=21,SNR=13						
LPAZ	La Paz	7.87	351	P	P	05 21 49.0	+0.9
	1.0nm,0.3s,baz=174,slow=8.7,SNR=31						
LPAZ				S	S	05 23 16.5	+0.7
	0.2nm,0.3s,baz=246,slow=20,SNR=3.1						
LPAZ				LR	LR	05 24 53.5	
	comp=Z,38nm,20.3s,baz=150,slow=38						
CPUP	Villa Florida	8.95	106	P	P	05 22 01.8	-0.3
	0.1nm,0.3s,baz=286,slow=1.0,SNR=2.6						
PLCA	Paso Flores	16.85	190	P	P	05 23 42.9	+1.0
	0.0nm,0.3s,baz=25,slow=14,SNR=2.4						
BDFB	Brasilia	19.64	68	P	P	05 24 11.0	-0.6
	0.4nm,0.3s,baz=272,slow=5.8,SNR=5.1						
TXAR	Lajitas Array	63.82	324	P	P	05 30 09.3	-0.6
	0.3nm,0.9s,mb3.1,baz=130,slow=7.0,SNR=2.8						
ULM	Lac du Bonnet	78.36	341	P	P	05 31 35.8	-0.3
	1.1nm,0.5s,mb3.7,baz=170,slow=6.1,SNR=2.7						
WRA	Warramunga Arr	131.57	207	PKP	PKPdf	05 38 47.3	+0.9
	0.2nm,0.4s,baz=160,slow=1.8,SNR=6.3						
MKAR	Makanchi Array	146.55	40	PKPbc	PKPbc	05 39 16.2	+2.2
	0.8nm,0.4s,baz=297,slow=5.4,SNR=7.0						

*NNC **05** 05:27:14.7±4.6,44.77N×78.73E,h18^{km}±32^{km},mpv3.3,Error ellipse: s-maj=29.3km s-min=14.8km az=143.0*
ISC 05 05:27:16.0±0.7**,45.03N**±0.06×**78.47E**±0.09**,h10**^{km}**,n13,σ1$\overset{s}{.}$21**/14**,8C-5D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	Tokmak 2	2.96	226	P	Pn	05 28 03.4	-0.5
	SNR=45						
MK31	Makanchi Array	3.20	55	⇑Pn	Pn	05 28 06.6	-0.7
	5.2nm,0.4s,baz=224,slow=13,SNR=493						
MK31				⇑Pg	Pg	05 28 14.5	-5.3
	8.6nm,0.3s,baz=220,slow=14,SNR=37						
MK31				⇑Sn	Sn	05 28 45.5	-0.4
	8.4nm,0.4s,baz=227,slow=23,SNR=6.3						
MK31				⇑Lg		05 28 54.1	
	5.5nm,0.2s,baz=247,slow=68,SNR=4.8						
ULHL	Ulahol	3.22	211	P	Pn	05 28 07.0	-0.7
	SNR=20						
USP	Ospenovka	3.36	240	P	Pn	05 28 18.7	+9.1
	SNR=25						
CHMS	Chumysh	3.37	234	P	Pn	05 28 17.0	+7.3
	SNR=20						
KBK	Karagaybulak	3.48	228	P	Pn	05 28 11.7	+0.3
	SNR=6.7						
UCH	Uchtor	4.01	227	P	Pn	05 28 20.2	+1.3
	SNR=7.4						
KURK	Kurchatov	5.69	1	⇓Pn	Pn	05 28 44.8	+2.2
	2.8nm,1.9s,baz=226,slow=9.3,SNR=3.5						
KURK				⇓Lg		05 30 23.1	
	27nm,0.9s						
KK31	Karatay Array	6.05	254	Pn	Pn	05 28 47.3	-0.5
	0.4nm,0.2s,baz=73,slow=13,SNR=14						
KK31				⇓Lg		05 30 28.8	
	14nm,0.5s						
VOSK	Vostochnaya	9.14	330	⇓Lg		05 32 13.9	
	11nm,1.4s						
BVA0	Borovoye Array	9.60	329	⇓Lg		05 32 27.8	
	0.9nm,0.8s,baz=143,slow=20,SNR=4.9						
ZRNK	Zerenda	10.07	325	⇑Pn	P	05 29 45.5	+1.9
	0.7nm,0.4s						
ZRNK				⇑Sn	S	05 31 35.0	-2.7
	1.1nm,0.7s						
ZRNK				⇑Lg		05 32 42.5	
	7.8nm,0.8s						
AB31	Akbulak array	13.30	295	⇑Pn	P	05 30 26.5	-0.8
	0.2nm,0.1s,baz=111,slow=9.0,SNR=3.4						

IDC 05 05:28:07.3±1.4**,1.29N×126.87E,mb3.4**/4**,mb1 3.6**/5**,mb1mx3.5**/16**,ML3.4**/1**,Error ellipse: s-maj=104.0km s-min=19.8km az=72.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.31	184	P	P	05 32 35.1	-1.6
	0.1nm,0.3s,baz=5.7,slow=10,SNR=2.8						
WRA	Warramunga Arr	22.34	161	P	P	05 33 05.7	-2.7
	0.5nm,0.5s,baz=338,slow=11,SNR=14						
ASAR	Alice Springs	25.73	165	P	P	05 33 40.2	-1.2
	0.3nm,0.5s,baz=345,slow=7.4,SNR=3.9						
SONM	Songino Array	49.64	342	P	P	05 37 00.7	-1.9
	0.2nm,0.5s,baz=157,slow=7.9,SNR=4.2						
MKAR	Makanchi Array	59.63	326	P	P	05 38 13.3	-2.4
	0.7nm,0.4s,baz=121,slow=7.1,SNR=8.5						

*NIED **05** 05:33:00,33.90N×141.80E,h5^{km},Mw4.1 Best double couple: M$_0$1.68×10^{15} NP1:ϕ_s355°,δ60°,λ60°. NP2:ϕ_s225°,δ42°,λ131°.*
*IDC **05** 05:33:34.1±0.7,33.87N×141.65E,mb3.8/10,mb1 4.0/12,mb1mx3.9/23,ML4.0/2,MS3.5/2,Ms1 3.6/2,ms1mx2.8/33,Error ellipse: s-maj=22.5km s-min=14.9km az=103.0*
*JMA **05** 05:33:35.1±0.4,33.87N×141.75E,h93^{km}±4^{km},M3.5*
ISC 05 05:33:35.1±1.8**,33.87N**±0.04×**141.76E**±0.06**,h23**^{km}±13^{km}**,n31,σ1$\overset{s}{.}$00**/35**,mb3.7**/10**,MS3.5**/1**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.01	320	P	Pn	05 33 55.3	+1.4
BSO1				*e*S	Sb	05 34 10.8	+4.1
BSO3	Boso 3	1.39	312	P	Pn	05 33 59.5	+0.2
BSO3				*e*S	Sn	05 34 20.2	+3.1
BSO4	Boso 4	1.62	314	P	Pn	05 34 03.3	+0.7
JHJ2	Mitsune	1.79	245	P	Pn	05 34 05.7	+0.6
JHJ	Hachijo jima 2	1.82	246	Pn	Pn	05 34 05.7	+0.3
	62nm,0.3s,baz=82,slow=23,SNR=25						
JHJ				Sn	Sn	05 34 27.6	-0.3
	223nm,0.3s,baz=57,slow=21,SNR=15						
JIM2	Oshima 3	2.10	294	P	Pn	05 34 09.1	-0.5
JIZS	Izushimoda	2.53	290	P	Pn	05 34 15.3	-0.4
JIZS				*e*S	Sn	05 34 44.7	-1.4
JOD2	Odawara 2	2.60	303	P	Pn	05 34 15.9	-0.8
JYN	Shimob	3.11	302	P	Pn	05 34 23.4	-0.4
SHZ3	Shizuoka 3	3.17	293	P	Pn	05 34 25.1	+0.4
JAG	Ashikaga	3.17	324	P	Pn	05 34 24.5	-0.3
JRY	Ryogami san	3.18	313	P	Pn	05 34 24.9	+0.1
MAT	Matsushiro	3.94	313	P	Pn	05 34 36.4	+0.7
MAT				S	Sn	05 35 20.7	-1.1
MAT	Matsushiro	3.94	313	P	Pn	05 34 37.0	+1.3
JMM	Marumori	4.06	349	P	Pn	05 34 36.1	-1.3
CBIJ	Chichi jima	6.77	177	Pn	Pn	05 35 13.7	-2.0
	7.8nm,0.3s,baz=199,slow=20,SNR=8.9						
CBIJ				Sn	Sn	05 36 26.1	-6.7
	7.4nm,0.3s,baz=251,slow=22,SNR=2.7						
ASAJ	Asahikawa	10.25	3	Pn	P	05 36 03.2	-0.7
	1.5nm,0.3s,baz=30,slow=30,SNR=2.9						
ASAJ				Sn	S	05 37 57.5	-1.7
	2.1nm,0.3s,baz=88,slow=33,SNR=2.5						
JOW	Kunigami	13.59	242	LR	LR	05 41 51.2	
	comp=Z,178nm,18.0s,baz=91,slow=37						
SONM	Songino Array	29.88	308	P	P	05 39 43.8	+0.8
	0.5nm,0.9s,mb3.2,baz=98,slow=8.7,SNR=4.6						
CMAR	Chiang Mai Arr	41.08	259	LR	LR	06 01 17.3	
	comp=Z,58nm,18.8s,MS3.5,baz=305,slow=41						
MKAR	Makanchi Array	46.09	305	P	P	05 41 59.3	+0.3
	0.4nm,0.6s,mb3.6,baz=90,slow=7.2,SNR=4.1						
ILAR	Eielson Array	52.03	31	P	P	05 42 45.1	+0.6
	1.1nm,1.0s,mb3.7,baz=262,slow=6.4,SNR=4.6						
FITZ	Fitzroy Crossi	53.92	199	P	P	05 42 58.7	-0.5
	1.9nm,0.6s,mb4.2,baz=9.9,slow=4.8,SNR=7.5						
WRA	Warramunga Arr	53.98	189	P	P	05 42 58.6	-1.0
	0.8nm,0.4s,mb4.0,baz=3.4,slow=7.6,SNR=19						
ASAR	Alice Springs	57.71	189	P	P	05 43 27.7	+1.2
	0.4nm,0.5s,mb3.7,baz=358,slow=6.0,SNR=7.4						
FINES	FINESS Array B	71.74	333	P	P	05 44 57.2	+0.2
	1.0nm,0.8s,mb3.8,baz=79,slow=9.7,SNR=5.3						
NB2	NORSAR Subarra	77.21	338	P	P	05 45 28.1	-0.2
	0.4nm,0.5s,mb3.6,baz=40,slow=5.6						
NOA	NORSAR Array B	77.21	338	P	P	05 45 28.3	0.0
	0.6nm,0.5s,mb3.8,baz=40,slow=5.6,SNR=4.3						
PDAR	Pinedale Array	79.68	45	P	P	05 45 43.5	+1.2
	0.2nm,0.4s,mb3.4,baz=288,slow=2.9,SNR=3.4						
BRTR	Keskin Array B	81.17	312	P	P	05 45 51.5	+1.4
	0.5nm,0.4s,mb3.8,baz=72,slow=4.6,SNR=3.3						
LPAZ	La Paz	147.93	64	PKPbc	PKPdf	05 53 24.6	+4.3
	0.6nm,0.7s,baz=9.3,slow=11,SNR=3.0						

*ISK **05** 05:36:38.5,36.90N×27.79E,h13^{km},MD3.4*
*NEIC **05** 05:36:42.6,36.61N×27.80E,h27^{km},MD3.5(ATH),After ATH.*
*ATH **05** 05:36:42.3,36.60N×27.74E,h29^{km}±14^{km},MD3.5/6*
ISC 05 05:36:39.3±0.7**,36.87N**±0.04×**27.79E**±0.04**,h10**^{km}±5^{km}**,n19,σ0$\overset{s}{.}$85**/26**,2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.34	305	*i* P	Pg	05 36 46.5	+0.3
BDRM				*i* S	Sg	05 36 51.8	+0.9
MLSB	Milas	0.42	359	*i* PG	Pg	05 36 47.0	-0.9
YER	Yerkesik	0.47	56	*i* PG	Pg	05 36 48.0	-0.9
YER				SG	Sg	05 36 55.2	-0.1
NISR	Nisiros	0.59	244	*e*PB	Pb	05 36 52.2	+0.9
NISR	Nisiros	0.59	244	*e*Pn	Pn	05 36 51.8	-1.6
NISR				*e*Sn	Sn	05 37 02.5	-0.6
ARG	Arkhangelos	0.71	158	*e*PB	Pb	05 36 53.5	+0.2
AYDN	Tasoluk	0.79	5	⇑*i*P	Pb	05 36 54.0	-0.6
AYDN				*i* S	Sb	05 37 04.5	-0.5
DNZL	Cakiroluk	1.29	51	*i* P	Pb	05 37 03.7	+0.5
DNZL				*i* S	Sb	05 37 21.8	+2.1
DENT	Denizli	1.32	48	PN	Pn	05 37 03.1	-0.8
KARP	Karpathos	1.42	201	*e*PN	Pn	05 37 05.7	+0.5
KARP	Karpathos	1.42	201	*e*Pn	Pn	05 37 06.0	+0.8
KDAG	Bornova	1.58	345	⇑*i*P	Pn	05 37 09.0	+1.4
KDAG				*i* S	Sb	05 37 33.4	+5.3
KSL	Kastellorizon	1.61	116	*e*PB	Pb	05 37 09.0	+0.2
ELL	Elmali	1.71	94	*e*PN	Pn	05 37 08.9	-0.4
MANT	Manisa	1.73	20	*i* P	Pn	05 37 10.1	+0.5
MANT				*i* S	Sn	05 37 31.5	-0.3
APE	Apeiranthos	1.82	277	*e*PN	Pn	05 37 11.0	0.0
AKS	Akhisar	2.00	1	*e*PN	Pn	05 37 12.5	-1.1
PRK	Paraskevi	2.65	334	*e*PB	Pb	05 37 30.8	+4.3
ULDT	Uludag	3.43	18	*i* P	Pn	05 37 42.2	+8.3

*IDC **05** 05:41:36.2±1.3,3.24S×140.25E,mb3.7/5,mb1 4.0/6,mb1mx3.9/13,ML4.4/1,MS2.6/1,Ms1 2.6/1,ms1mx2.3/18,Error ellipse: s-maj=49.2km s-min=22.8km az=85.0*
*NEIC **05** 05:41:38.2±7.4,3.24S×140.57E,h22^{km}±54^{km},mb4.1/1,Error ellipse: s-maj=24.7km s-min=18.0km az=165.0*
ISC 05 05:41:36.6±3.9**,3.26S**±0.09×**140.7E**±0.1**,h26**^{km}±30^{km}**,n13,σ1$\overset{s}{.}$05**/14**,mb3.6**/4**,2D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.87	134	*e*Pn	P	05 43 46.0	-0.2
KAKA	Kakadu	12.46	221	*e*P	P	05 44 34.2	-1.1
	12nm,0.6s						
KAKA				*e*S	S	05 46 57.4	+3.2
WRAB	Tennant Creek	17.69	200	*e*P	P	05 45 43.6	+0.6
	9.2nm,0.6s						
WB2	Warramunga Arr	17.69	200	⇓*i*P	P	05 45 43.6	+0.5
WB2				*i*		05 45 46.1	
WRA	Warramunga Arr	17.70	200	P	P	05 45 44.2	+1.0
	1.4nm,0.3s,baz=22,slow=12,SNR=42						
WRA				S	S	05 48 56.3	-0.9
	0.1nm,0.3s,baz=15,slow=22,SNR=3.7						
WRA				LR	LR	05 51 17.7	
	comp=Z,24nm,21.7s,slow=33						
FITZ	Fitzroy Crossi	20.85	224	P	P	05 46 16.1	-3.2
	2.2nm,1.1s,baz=22,slow=16,SNR=3.0						
ASAR	Alice Springs	21.32	197	P	P	05 46 23.5	-0.4
	2.5nm,0.4s,mb3.9,baz=28,slow=11,SNR=26						
ASPA	Alice Springs	21.32	197	⇓*i*P	P	05 46 23.1	-0.8
ASPA				*i*		05 46 24.0	
STKA	Stephens Creek	28.48	178	P	P	05 47 33.2	+1.3
	0.8nm,0.4s,mb3.7,baz=342,slow=9.6,SNR=2.5						
STKA	Stephens Creek	28.48	178	P	P	05 47 33.2	+1.3
MKAR	Makanchi Array	71.43	322	P	P	05 52 57.5	+0.6
	0.2nm,0.5s,mb3.4,baz=101,slow=7.3,SNR=2.6						
BVAR	Borovoye Array	80.89	325	P	P	05 53 49.6	-0.4
	0.3nm,0.4s,mb3.6,baz=98,slow=10,SNR=2.7						
LPAZ	La Paz	145.52	125	PKPbc	PKPbc	06 01 19.1	+5.0
	2.4nm,1.1s,baz=270,slow=4.0,SNR=6.2						

*ISK **05** 05:42:51.7,36.92N×27.73E,h9^{km},MD3.0*
*NEIC **05** 05:42:51.1,36.99N×27.81E,h29^{km},MD3.1(ATH),After ATH.*
*ATH **05** 05:42:51.1,36.99N×27.81E,h29^{km},MD3.1/3*
ISC 05 05:42:52.3±0.8**,36.90N**±0.04×**27.71E**±0.06**,h10**^{km}±6^{km}**,n12,σ1$\overset{s}{.}$21**/19**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.27	307	*i* P	Pg	05 42 58.7	+0.8
BDRM				*i* S	Sg	05 43 03.4	+1.6
MLSB	Milas	0.40	8	PG	Pg	05 42 59.7	-0.7
MLSB				SG	Sg	05 43 05.5	-0.3
YER	Yerkesik	0.51	63	*i* PG	Pg	05 43 01.8	-0.9
NISR	Nisiros	0.55	238	*e*PN	Pn	05 43 04.5	-1.3
NISR				*e*SN	Sn	05 43 14.5	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ARG	**Arkhangelos**	0.76	154	*e*PN	Pn	05 43 07.3	-1.5
AYDN	**Tasoluk**	0.77	10	*i* P	Pb	05 43 06.9	-0.3
AYDN				*i* S	Sb	05 43 15.7	-1.8
DNZL	**Cakiroluk**	1.32	53	*i* P	Pb	05 43 16.9	+0.2
DNZL				*i* S	Sb	05 43 35.4	+1.9
DENT	**Denizli**	1.35	51	*e*PN	Pn	05 43 17.4	+0.1
KARP	**Karpathos**	1.42	198	*e*PN	Pn	05 43 19.0	+0.7
KARP				*e*SN	Sn	05 43 38.5	+1.4
MANT	**Manisa**	1.72	23	*i* P	Pn	05 43 23.9	+1.4
MANT				*i* S	Sn	05 43 47.2	+2.5
AKS	**Akhisar**	1.98	2	*e*PN	Pn	05 43 25.7	-0.4
PRK	**Paraskevi**	2.60	335	*e*PN	Pn	05 43 33.0	-2.1

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*ATH **05** 05:44:15.5, 37.01N×27.71E, h22^{km}±3^{km}, MD3.0/3*

*ISK **05** 05:44:20.3, 37.34N×28.01E, h5^{km}, MD3.0*

ISC 05 05:44:16.4±0.8**, 36.87N**±0.04×**27.71E**±0.05**, h12**^{km}±6^{km}**, n9, σ0^{s}98**/14**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.29	313	*i* P	Pg	05 44 22.9	+0.3
BDRM				*i* S	Sg	05 44 27.7	+1.0
MLSB	**Milas**	0.43	7	PG	Pg	05 44 25.2	-0.1
NISR	**Nisiros**	0.53	241	*e*PN	Pn	05 44 28.0	-1.4
NISR				*e*SN	Sn	05 44 36.5	-1.7
YER	**Yerkesik**	0.53	60	*i* PG	Pg	05 44 26.6	-0.7
YER				*i* SG	Sg	05 44 33.3	-1.2
ARG	**Arkhangelos**	0.73	152	*e*PN	Pn	05 44 32.0	-0.3
ARG				*e*SN	Sn	05 44 44.5	+1.1
AYDN	**Tasoluk**	0.81	10	*i* P	Pb	05 44 31.8	0.0
AYDN				*i* S	Sb	05 44 42.7	+0.3
DNZL	**Cakiroluk**	1.35	52	*i* P	Pb	05 44 42.1	+1.0
KARP	**Karpathos**	1.39	199	*e*PN	Pn	05 44 43.5	+1.8
AKS	**Akhisar**	2.01	2	*e*PN	Pn	05 44 50.4	-0.2

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*NEIC **05** 05:54:00.2±6.4, 2.95S×136.23E, h29^{km}±49^{km}, mb4.1/3, Error ellipse: s-maj=16.4km s-min=14.2km az=164.0*

*IDC **05** 05:54:11.4±4.5, 3.18S×136.26E, h145^{km}±45^{km}, mb3.7/5, mb1 3.8/8, mb1mx3.6/14, MS3.5/2, Ms1 3.5/2, ms1mx2.8/19, Error ellipse: s-maj=41.0km s-min=12.1km az=82.0*

ISC 05 05:53:58.3±2.5**, 3.14S**±0.08×**136.1E**±0.1**, h33**^{km}±26^{km}**, n15, σ1^{s}51**/21**, mb3.9**/4**, MS3.5**/1**, 4D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	10.19	201	⇓*i*P	P	05 56 27.1	+1.7
	35nm,0.6s						
KAKA				*e*S	S	05 58 19.4	-0.3
PMG	**Port Moresby**	12.60	120	P	P	05 56 57.7	-0.4
WRAB	**Tennant Creek**	16.78	186	*e*P	P	05 57 50.1	-2.4
	24nm,0.9s						
WB2	**Warramunga Arr**	16.79	186	⇓*i*P	P	05 57 51.3	-1.3
WB2				*e*S	S	06 00 50.6	-6.4
WRA	**Warramunga Arr**	16.79	186	P	P	05 57 50.4	-2.1
	0.5nm,0.3s,baz=5.7,slow=13,SNR=25						
WRA				S	S	06 00 50.0	-7.0
	0.5nm,0.3s,baz=7.5,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	18.08	214	⇓*i*P	P	05 58 12.4	+3.7
	6.7nm,1.0s						
FITZ				*e*S	S	06 01 25.6	-0.7
FITZ	**Fitzroy Crossi**	18.08	214	P	P	05 58 11.6	+2.8
	0.8nm,0.3s,baz=20,slow=10,SNR=20						
FITZ				S	S	06 01 24.7	-1.6
	0.5nm,0.3s,baz=194,slow=13,SNR=4.2						
CTA	**Charters Tower**	19.53	150	P	P	05 58 27.6	+1.7
	0.2nm,0.3s,baz=337,slow=14,SNR=3.6						
CTA				LR	LR	06 06 35.2	
	comp=Z,88nm,18.6s,baz=229,slow=38						
CTAO	**Charters Tower**	19.53	150	*e*P	P	05 58 27.0	+1.2
	10nm,0.9s						
ASAR	**Alice Springs**	20.52	186	P	P	05 58 37.8	+1.4
	39nm,0.8s,baz=12,slow=11,SNR=230						
ASAR				S	S	06 02 20.6	+1.4
	2.4nm,0.8s,baz=11,slow=28,SNR=4.4						
ASAR				LR	LR	06 07 15.8	
	comp=Z,180nm,18.3s,MS3.5,baz=21,slow=38						
ASPA	**Alice Springs**	20.52	186	⇓*i*P	P	05 58 38.3	+1.9
CMAR	**Chiang Mai Arr**	42.45	302	P	P	06 01 53.8	+1.7
	4.8nm,1.1s,mb4.0,baz=127,slow=7.2,SNR=9.3						
SONM	**Songino Array**	57.05	337	P	P	06 03 42.3	-1.2
	0.6nm,0.6s,mb3.8,baz=159,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	68.58	323	P	P	06 04 59.5	-0.3
	0.9nm,0.7s,mb3.8,baz=106,slow=8.8,SNR=5.7						
BVAR	**Borovoye Array**	78.20	326	P	P	06 05 55.3	-0.8
	1.1nm,0.8s,mb3.8,baz=108,slow=4.7,SNR=5.0						

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*ISK **05** 06:01:15.5, 36.88N×27.72E, h5^{km}, MD3.3*

*IDC **05** 06:01:15.6±4.3, 36.85N×27.72E, mb3.5/3, mb1 3.5/4, mb1mx3.3/19, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/16, Error ellipse: s-maj=80.7km s-min=44.3km az=11.0*

*NEIC **05** 06:01:16.7, 36.99N×27.80E, h23^{km}, MD3.5(ATH), After ATH.*

*ATH **05** 06:01:16.8, 36.99N×27.78E, h25^{km}±3^{km}, MD3.5/6*

ISC 05 06:01:17.4±0.7**, 36.92N**±0.03×**27.76E**±0.05**, h17**^{km}±7^{km}**, n22, σ0^{s}89**/31**, mb3.4**/3**, MS3.0**/1**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.29	300	*i* P	Pb	06 01 23.6	-0.2
BDRM				*i* S	Sb	06 01 29.0	+1.0
MLSB	**Milas**	0.38	3	*i* PG	Pb	06 01 24.4	-0.8
MLSB				SG	Sb	06 01 30.7	+0.2
YER	**Yerkesik**	0.47	63	*i* PG	Pb	06 01 25.6	-1.2
NISR	**Nisiros**	0.59	239	*e*PN	Pn	06 01 30.0	-0.7
NISR				*e*SN	Sn	06 01 39.5	-0.4
AYDN	**Tasoluk**	0.75	8	*i* P	Pb	06 01 31.4	0.0
AYDN				*i* S	Sb	06 01 41.9	+0.7
ARG	**Arkhangelos**	0.76	157	*e*PN	Pn	06 01 30.5	-2.7
ARG				*e*SN	Sn	06 01 44.0	-0.3
DNZL	**Cakiroluk**	1.28	53	*i* P	Pn	06 01 40.9	+0.2
DNZL				*i* S	Sb	06 02 02.3	+5.5
DENT	**Denizli**	1.31	50	*i* PN	Pn	06 01 42.1	+1.0
KARP	**Karpathos**	1.45	200	*e*PB	Pb	06 01 43.4	-0.1
KARP				*e*SN	Sn	06 02 04.5	+2.7
KDAG	**Bornova**	1.53	345	*i* P	Pn	06 01 43.3	-0.9
KSL	**Kastellorizon**	1.66	117	*e*PN	Pn	06 01 47.2	+1.2
MANT	**Manisa**	1.69	22	*i* P	Pn	06 01 46.0	-0.5
MANT				*i* S	Sn	06 02 12.6	+4.8
ELL	**Elmali**	1.74	95	*e*PN	Pn	06 01 47.6	+0.5
APE	**Apeiranthos**	1.79	275	*e*PN	Pn	06 01 48.5	+0.7
APE	**Apeiranthos**	1.79	275	*e*Pn	Pn	06 01 50.0	+2.2
AKS	**Akhisar**	1.96	1	PN	Pn	06 01 49.9	-0.4
PRK	**Paraskevi**	2.60	334	*e*PN	Pn	06 01 58.5	-1.0
HDMB	**Hadim**	3.79	88	*e*PN	Pn	06 02 17.1	+0.7
BRTR	**Keskin Array B**	5.41	57	Pn	Pn	06 02 39.1	-0.1
	0.5nm,0.3s,baz=239,slow=16,SNR=6.2						
BRTR				Sn	Sn	06 03 42.6	+0.8
	0.2nm,0.3s,baz=315,slow=14,SNR=3.0						
FINES	**FINESS Array B**	24.57	358	P	P	06 06 37.5	+0.3
	0.8nm,0.7s,mb3.4,baz=150,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	41.06	58	P	P	06 09 01.0	-0.4
	0.6nm,0.6s,mb3.4,baz=286,slow=6.4,SNR=5.3						
MKAR				LR	LR	06 29 54.8	
	comp=Z,21nm,18.9s,MS3.0,baz=353,slow=42						
SONM	**Songino Array**	56.75	52	P	P	06 11 01.8	-0.7
	0.3nm,0.6s,mb3.5,baz=294,slow=8.6,SNR=3.9						

IDC 05 06:14:28.3±12.0**, 17.35S**×**178.99W, h591**^{km}±157^{km}**, mb3.2**/10**, mb1 3.4**/10**, mb1mx3.3**/18**, 1D, Error ellipse: s-maj=72.0km s-min=43.1km az=160.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	33.00	260	P	P	06 20 16.3	-1.1
	2.0nm,0.6s,baz=35,slow=11,SNR=3.3						
STKA	**Stephens Creek**	38.42	240	*e*P	P	06 21 00.1	-1.8
	3.9nm,0.6s						
STKA	**Stephens Creek**	38.42	240	P	P	06 21 00.5	-1.5
	4.8nm,0.5s,baz=97,slow=9.1,SNR=20						
WB2	**Warramunga Arr**	44.19	259	*e*P	P	06 21 45.5	-2.3
WRA	**Warramunga Arr**	44.20	259	P	P	06 21 46.0	-1.9
	2.0nm,0.8s,baz=91,slow=6.9,SNR=37						
ASAR	**Alice Springs**	44.42	254	P	P	06 21 47.9	-1.6
	18nm,0.5s,baz=89,slow=8.3,SNR=209						
ASPA	**Alice Springs**	44.42	254	⇓*i*P	P	06 21 47.8	-1.8
KAKA	**Kakadu**	47.09	269	*e*P	P	06 22 08.7	-1.3
	2.5nm,0.4s						
FITZ	**Fitzroy Crossi**	52.58	260	P	P	06 22 48.9	-1.3
	0.9nm,0.6s,baz=196,slow=17,SNR=5.6						
YBH	**Yreka Blue Hor**	78.44	39	P	P	06 25 29.4	-0.8
	0.6nm,0.5s,baz=243,slow=4.5,SNR=3.7						
NVAR	**Mina Array Bea**	79.40	44	P	P	06 25 34.5	-0.8
	1.2nm,1.0s,baz=221,slow=6.7,SNR=6.1						
ILAR	**Eielson Array**	85.47	13	P	P	06 26 03.8	-1.3
	0.2nm,0.4s,baz=218,slow=5.4,SNR=6.7						
TXAR	**Lajitas Array**	86.16	58	P	P	06 26 08.5	-0.7
	0.7nm,0.6s,baz=217,slow=5.7,SNR=12						
PDAR	**Pinedale Array**	87.33	44	P	P	06 26 13.2	-1.2
	0.5nm,0.5s,baz=212,slow=3.4,SNR=6.3						

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*NEIC **05** 06:16:58.0, 45.05S×167.28E, h97^{km}, ML3.9(WEL), After WEL.*

WEL 05 06:16:58.5±0.2**, 45.06S**×**167.34E, h95**^{km}±2^{km}**, ML4.0**/6**, 5C, Error ellipse: s-maj=2.1km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.44	197	PN	P	06 17 13.0	-0.5
DCZ				SN	S	06 17 23.9	-0.8
DCZ				SN	S	06 17 24.0	-0.7
MLZ	**Mavora Lakes**	0.66	117	⇑PN	P	06 17 15.0	-0.3
MLZ				SN	S	06 17 27.7	0.0
MLZ	**Mavora Lakes**	0.66	117	P	P	06 17 15.0	-0.2
MLZ				S	S	06 17 27.6	-0.1
WHZ	**Wether Hill Ro**	0.94	153	PN	P	06 17 17.6	-0.5
WHZ				SN	S	06 17 32.1	-0.7
WHZ	**Wether Hill Ro**	0.94	153	P	P	06 17 17.6	-0.5
WHZ				S	S	06 17 32.1	-0.7
WKZ	**Wanaka**	1.21	80	⇑PN	P	06 17 21.1	-0.3
WKZ				SN	S	06 17 37.4	-1.1
JCZ	**Jackson Bay**	1.41	46	⇑PN	P	06 17 23.2	-0.6
JCZ				SN	S	06 17 40.9	-1.6
AXZ	**Alexandra**	1.42	99	PN	P	06 17 23.4	-0.5
AXZ				SN	S	06 17 41.4	-1.4
TUZ	**Tuapeka**	1.84	120	PN	P	06 17 28.3	-1.0
TUZ				SN	S	06 17 49.5	-2.5
TUZ	**Tuapeka**	1.84	120	*e*P	P	06 17 28.4	-0.9
TUZ				S	S	06 17 49.5	-2.5
LBZ	**Lake Benmore**	2.13	73	⇑PN	P	06 17 31.1	-2.1
LBZ				SN	S	06 17 56.1	-2.8
ODZ	**Otahua Downs**	2.34	91	⇑PN	P	06 17 34.1	-2.0
ODZ				SN	S	06 18 00.1	-3.9
ODZ	**Otahua Downs**	2.34	91	P	P	06 17 34.1	-1.9
ODZ				S	S	06 18 00.1	-3.9
WVZ	**Waitaha Valley**	3.15	52	PN	P	06 17 43.8	-3.4
WVZ				SN	S	06 18 18.9	-4.9
WVZ	**Waitaha Valley**	3.15	52	*e*P	P	06 17 43.8	-3.4
WVZ				S	S	06 18 19.2	-4.6
MQZ	**McQueen’s Vall**	4.04	72	PN	P	06 17 56.5	-2.9
MQZ				SN	S	06 18 37.7	-8.1
MQZ	**McQueen’s Vall**	4.04	72	*e*P	P	06 17 56.5	-2.9
MQZ				S	S	06 18 37.7	-8.1
LTZ	**Lake Taylor**	4.22	59	PN	P	06 17 57.4	-4.5
LTZ				SN	S	06 18 45.3	-5.0
LTZ	**Lake Taylor**	4.22	59	*e*P	P	06 17 57.4	-4.5
LTZ				S	S	06 18 45.3	-5.1
DSZ	**Denniston Nort**	4.64	46	PN	P	06 18 04.0	-3.6
DSZ				SN	S	06 18 53.7	-6.9
DSZ	**Denniston Nort**	4.64	46	P	P	06 18 04.0	-3.6
DSZ				S	S	06 18 53.7	-6.9
THZ	**Tophouse**	5.22	53	PN	P	06 18 10.8	-4.7
THZ				SN	S	06 19 08.6	-6.3
THZ	**Tophouse**	5.22	53	*e*P	P	06 18 10.8	-4.7
THZ				S	S	06 19 08.6	-6.4
QRZ	**Quartz Range**	5.69	44	PN	P	06 18 18.7	-3.2
QRZ	**Quartz Range**	5.69	44	*e*P	P	06 18 18.7	-3.2
QRZ				S	S	06 19 20.2	-6.3
NNZ	**Nelson**	5.85	51	PN	P	06 18 22.5	-1.6

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*ISK **05** 06:29:30.9, 36.17N×30.34E, h10^{km}, MD3.4*

*ATH **05** 06:29:38.4, 35.85N×29.55E, h10^{km}, MD3.4/3*

ISC 05 06:29:32.1±1.0**, 36.17N**±0.06×**30.29E**±0.05**, h21**^{km}±7^{km}**, n22, σ0^{s}94**/29**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	0.57	268	*e*PB	Pb	06 29 44.5	+1.1
ELL	**Elmali**	0.65	332	*i* PG	Pb	06 29 44.1	-0.6
ELL				SG	Sb	06 29 53.5	+0.2
ANTB	**Antalya**	0.78	22	*e*PG	Pb	06 29 45.8	-1.1
ANTB				SG	Sb	06 29 57.8	+0.7
BCK	**Bucak**	1.31	11	PN	Pn	06 29 55.8	+0.4
ISP	**Isparta**	1.68	6	*e*PN	Pn	06 30 00.9	+0.2
ARG	**Arkhangelos**	1.75	272	*e*PB	Pb	06 30 01.5	-1.9
DNZL	**Cakiroluk**	1.81	327	*i* P	Pn	06 30 04.1	+1.5
DNZL				*i* S	Sn	06 30 25.6	+0.4
DENT	**Denizli**	1.87	328	PN	Pn	06 30 04.8	+1.3
YER	**Yerkesik**	1.88	301	PN	Pn	06 30 05.2	+1.6
HDMB	**Hadim**	1.94	65	*e*PN	Pn	06 30 04.0	-0.4
KHL	**Karahalli**	2.23	344	PN	Pn	06 30 08.7	+0.1
MLSB	**Milas**	2.31	300	*e*PN	Pn	06 30 10.3	+0.6
KONT	**Konya--Tatoy**	2.42	43	*e*PN	Pn	06 30 11.2	-0.2
AYDN	**Tasoluk**	2.44	308	⇑*i*P	Pn	06 30 11.9	+0.4
AYDN				*i* S	Sn	06 30 36.6	-4.4
BDRM	**Kayabasi**	2.46	292	*i* P	Pn	06 30 11.8	0.0
BDRM				*i* S	Sn	06 30 40.9	-0.6
KARP	**Karpathos**	2.62	257	*e*PN	Pn	06 30 14.0	-0.1
MANT	**Manisa**	2.69	330	*i* P	Pn	06 30 15.8	+0.6
MANT				*i* S	Sn	06 30 44.9	-2.6
IKL	**Isikli**	2.75	88	*e*PN	Pn	06 30 15.9	-0.1
ALT	**Altintas**	2.88	357	*i* PN	Pn	06 30 17.7	-0.2
KIZT	**Kizilcal**	2.98	25	PN	Pn	06 30 19.3	-0.1
KDAG	**Bornova**	3.28	314	*i* P	Pn	06 30 21.7	-1.9
KDAG				*i* S	Sn	06 30 49.8	-13
ESKT	**Eskisehir**	3.37	7	PN	Pn	06 30 24.4	-0.4

KRSC 05 06:59:12.1±0.4**, 54.77N**×**160.84E, h96**^{km}±3^{km}**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	0.56	112	*i* P	P	06 59 28.4	+0.3
MKZ				*i* S	S	06 59 40.4	+0.4
TUMR	**Tumrok**	0.65	322	*i* P	P	06 59 29.9	+1.0
TUMR				*i* S	S	06 59 42.8	+1.3
KMNR	**Kamenistaya**	1.05	341	*e*P	P	06 59 33.4	+0.4
KMNR				*e*S	S	06 59 48.2	-0.5
LGNR	**Loginova**	1.32	356	*e*P	P	06 59 37.4	+1.1
LGNR				*i* S	S	06 59 56.2	+1.9
KOZ	**Kozyrevsk**	1.40	337	*e*P	P	06 59 37.5	+0.1
ESO	**Esso**	1.68	314	*i* P	P	06 59 41.0	+0.1
ESO				*e*S	S	07 00 02.0	-0.2
SPN	**Mys Shipunski**	1.74	196	*e*P	P	06 59 42.3	+0.6
SPN				*e*S	S	07 00 04.0	+0.5
KBG	**Krutoberegovo**	1.83	35	*e*S	S	07 00 07.5	+2.1
KBG				Smax			
	360nm,0.8s						
KBTR	**Krutoberegovo**	1.83	37	*e*P	P	06 59 43.7	+0.9
KBTR				*e*S	S	07 00 06.8	+1.4
NLC	**Nalytchevo**	1.83	209	*e*P	P	06 59 43.1	+0.3
NLC				*e*S	S	07 00 05.7	+0.3
GNL	**Ganaly**	2.01	239	*e*P	P	06 59 47.0	+1.8
RUS	**Russkaya**	2.72	212	*e*P	P	06 59 56.3	+1.3

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*BJI **05** 07:00:43.6, 49.70S×163.90E, h15^{km}, mB5.2, mb5.3, Ms4.8, Msz4.5*

*IDC **05** 07:00:43.9±0.8, 49.64S×163.77E, mb4.4/9, mb1 4.6/11, mb1mx4.5/14, ML4.2/2, MS4.6/15, Ms1 4.6/15, ms1mx4.6/17, Error ellipse: s-maj=35.1km s-min=20.9km az=72.0*

*HRVD **05** 07:00:45.6±0.3, 49.73S×163.47E, h19^{km}±1^{km}, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s53,c85;Mantle waves: s67,c114; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.02±.03; $M_{\theta\theta}$1.01±.03; $M_{\phi\phi}$-0.99±.03; $M_{r\theta}$0.37±.07; $M_{\theta\phi}$-0.20±.02; $M_{\phi r}$-0.18±.06; Best double couple: $M_0$1.09×10^{17} NP1: ϕ_s49°, δ71°, λ173°. NP2: ϕ_s142°, δ83°, λ19°. Principal axes: T 1.16, Plg18°, Azm7°; N -.12, Plg70°, Azm160°; P -1.03, Plg8°, Azm274°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **05** 07:00:45.6, 49.66S×163.87E, h15^{km}, MB4.9*

*NEIC **05** 07:00:45.6±4.6, 49.66S×163.87E, h15^{km}±29^{km}, mb4.9/12, Error ellipse: s-maj=12.5km s-min=9.8km az=209.0*

ISC 05 07:00:44.1±1.7**, 49.63S**±0.06×**164.06E**±0.08**, h16**^{km}±13^{km}**, n107, σ1^{s}25**/84**, mb4.7**/19**, MS4.5**/16**, 3C-3D, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	4.56	37	P	Pn	07 01 55.1	+0.9
WHZ				S	Sn	07 02 47.0	-0.5
WHZ	**Wether Hill Ro**	4.56	37	P	Pn	07 01 55.1	+0.9
WHZ				S	Sn	07 02 47.6	+0.1
DCZ	**Deep Cove**	4.65	28	P	Pn	07 01 55.7	+0.2
MLZ	**Mavora Lakes**	5.11	35	P	Pn	07 02 02.4	+0.5
MLZ				S	Sn	07 03 00.8	-0.5
TUZ	**Tuapeka**	5.25	48	P	Pn	07 02 04.8	+0.8
TUZ				S	Sn	07 03 03.3	-1.6
TUZ	**Tuapeka**	5.25	48	P	Pn	07 02 04.9	+0.9
TUZ				S	Sn	07 03 04.4	-0.5
AXZ	**Alexandra**	5.64	41	P	Pn	07 02 09.3	-0.1
WKZ	**Wanaka**	5.87	37	P	Pn	07 02 13.5	+0.8
WKZ				S	Sn	07 03 20.6	+0.3
ODZ	**Otahua Downs**	6.41	47	P	Pn	07 02 19.3	-0.9
ODZ				S	Sn	07 03 32.4	-1.3
ODZ	**Otahua Downs**	6.41	47	P	Pn	07 02 19.5	-0.7
ODZ				S	Sn	07 03 34.0	+0.3
JCZ	**Jackson Bay**	6.42	32	P	Pn	07 02 21.1	+0.7
LBZ	**Lake Benmore**	6.71	41	P	Pn	07 02 22.5	-2.0
LBZ				S	Sn	07 03 41.0	-0.3
RPZ	**Rata Peaks**	7.62	42	Pn	Pn	07 02 34.1	-3.2
	3.9nm,0.3s,baz=239,slow=8.4,SNR=33						
RPZ				Sn	Sn	07 03 58.3	-5.8
	4.6nm,0.3s,baz=4.2,slow=11,SNR=3.3						
RPZ				LR	LR	07 06 00.5	
	comp=Z,12µm,18.2s,baz=210,slow=41						
RPZ	**Rata Peaks**	7.62	42	*e*P	Pn	07 02 34.1	-3.2
WVZ	**Waitaha Valley**	8.01	38	P	P	07 02 43.9	+1.1
WVZ	**Waitaha Valley**	8.01	38	*e*P	P	07 02 43.9	+1.1
MQZ	**McQueen’s Vall**	8.36	48	P	P	07 02 46.3	-1.3
MQZ	**McQueen’s Vall**	8.36	48	*e*P	P	07 02 46.3	-1.3
LTZ	**Lake Taylor**	8.90	43	P	P	07 02 52.0	-3.1
LTZ	**Lake Taylor**	8.90	43	*e*P	P	07 02 52.1	-3.0
DSZ	**Denniston Nort**	9.56	37	P	P	07 03 02.8	-1.3
KHZ	**Kahutara**	9.77	46	P	P	07 03 08.4	+1.5
KHZ	**Kahutara**	9.77	46	*e*P	P	07 03 08.4	+1.5
THZ	**Tophouse**	10.00	41	P	P	07 03 09.2	-1.0
THZ	**Tophouse**	10.00	41	*e*P	P	07 03 09.2	-1.0
QRZ	**Quartz Range**	10.63	37	P	P	07 03 16.8	-2.0
QRZ	**Quartz Range**	10.63	37	*e*P	P	07 03 16.8	-2.0
SNZO	**South Karori**	11.17	46	*e*P	P	07 03 28.1	+1.9
CAW	**Cannon Point**	11.50	46	P	P	07 03 31.8	+1.1
MTW	**Mount Morrison**	11.67	48	P	P	07 03 34.2	+1.2
MRZ	**Mangatainoka R**	12.09	46	P	P	07 03 38.7	0.0
MRZ	**Mangatainoka R**	12.09	46	*e*P	P	07 03 38.7	0.0
BFZ	**Birch Farm**	12.40	48	*e*P	P	07 03 43.5	+0.7
TAU	**Tasmania Unive**	13.37	294	*e*Pn	P	07 03 50.7	-5.0
URZ	**Urewera**	14.72	44	Pn	P	07 04 14.1	+0.7
	0.8nm,0.3s,baz=174,slow=7.8,SNR=4.0						
URZ				LR	LR	07 10 32.7	
	comp=Z,10µm,18.7s,baz=41,slow=40						
CNB	**Canberra Magne**	17.90	318	*e*P	P	07 04 56.3	+2.4
	208nm,2.0s						
CNB				*e*T		07 21 50.6	
TOO	**Toolangi**	18.00	305	*e*P	P	07 04 55.3	+0.2
	22nm,0.9s						
TOO				*e*S	S	07 08 04.1	-8.7
TOO				*e*T		07 22 15.9	
RIV	**Riverview**	18.45	324	*e*P	P	07 04 54.1	-6.6
RIV				*e*T		07 23 51.8	
ARMA	**Armidale**	21.36	329	*e*P	P	07 05 33.5	+0.7
STKA	**Stephens Creek**	24.42	308	*e*P	P	07 06 03.8	+0.9
	11nm,1.1s,mb4.2						
STKA				*e*S	S	07 10 22.1	+3.0
STKA	**Stephens Creek**	24.42	308	P	P	07 06 02.6	-0.3
	2.9nm,0.7s,mb3.8,baz=164,slow=7.0,SNR=7.8						
STKA				LR	LR	07 14 27.5	
	comp=Z,1µm,18.7s,MS4.3,baz=315,slow=34						
DZM	**Mont Dzumac**	27.56	5	*e*P	P	07 06 34.6	+2.4
VNDA	**Vanda**	28.01	181	P	P	07 06 34.8	-0.9
	4.9nm,1.1s,mb4.0,baz=347,slow=8.3,SNR=6.9						
VNDA				LR	LR	07 15 08.8	
	comp=Z,728nm,19.5s,MS4.3,baz=36,slow=31						
SBA	**Scott Base**	28.35	179	*e*P	P	07 06 38.5	-0.4
	34nm,1.5s,mb4.8						
CTAO	**Charters Tower**	32.72	328	*e*P	P	07 07 17.8	-0.3
	18nm,0.9s,mb5.0						
ASAR	**Alice Springs**	35.04	307	P	P	07 07 36.9	-1.2
	6.0nm,0.8s,mb4.6,baz=145,slow=8.7,SNR=44						
ASAR				PcP	PcP	07 10 17.1	+6.8
	2.9nm,1.0s,baz=149,slow=3.4,SNR=4.8						
ASAR				LR	LR	07 21 24.9	
	comp=Z,679nm,18.8s,MS4.4,baz=149,slow=36						
ASPA	**Alice Springs**	35.04	307	⇑*i*P	P	07 07 36.8	-1.3
WB2	**Warramunga Arr**	37.91	311	*e*P	P	07 08 00.6	-1.7
WRA	**Warramunga Arr**	37.92	311	P	P	07 08 00.4	-2.0
	4.2nm,0.7s,mb4.3,baz=142,slow=7.8,SNR=28						
WRA				PcP	PcP	07 10 17.5	-1.4
	2.1nm,1.1s,baz=142,slow=2.6,SNR=3.0						
WRA				LR	LR	07 23 13.8	
	comp=Z,853nm,18.9s,MS4.6,baz=150,slow=36						
WRAB	**Tennant Creek**	37.92	311	*e*P	P	07 08 01.4	-1.0
	26nm,1.0s,mb4.9						
WRAB				*e*		07 10 25.4	
NWAO	**Narrogin (SRO)**	38.26	278	LR	LR	07 20 14.9	
	comp=Z,775nm,20.0s,MS4.5,baz=133,slow=31						
RAR	**Rarotonga**	40.26	58	LR	LR	07 24 08.7	
	comp=Z,610nm,18.4s,MS4.5,baz=217,slow=35						
PMG	**Port Moresby**	42.50	335	P	P	07 08 41.3	+0.9
	17nm,0.9s,mb4.7,baz=161,slow=0.6,SNR=7.2						
PMG				LR	LR	07 23 04.3	
	comp=Z,1µm,19.4s,MS4.8,baz=325,slow=32						
PMG	**Port Moresby**	42.50	335	*e*P	P	07 08 37.6	-2.7
	21nm,0.8s,mb4.8						
PMG				LR	LR	07 23 04.3	
FITZ	**Fitzroy Crossi**	44.01	302	*e*P	P	07 08 51.2	-1.4
	6.1nm,0.8s,mb4.4						
FITZ				*e*S	SS	07 18 42.4	+10
FITZ	**Fitzroy Crossi**	44.01	302	LR	LR	07 25 05.7	
	comp=Z,382nm,21.9s,MS4.3,baz=133,slow=33						
KAKA	**Kakadu**	45.08	314	*e*P	P	07 08 59.3	-1.9
	29nm,1.5s,mb4.9						
PPT	**Papeete**	49.01	66	*e*S	S	07 16 44.4	+10
	328nm,27.8s						
PPT				*e*R		07 23 31.5	
	878nm,23.2s,baz=219						
TIAR	**Tiarei**	49.15	66	*e*P	P	07 09 43.3	+10
	97nm,0.9s,mb5.8						
MAW	**Mawson**	49.21	210	*e*P	P	07 09 37.7	+4.8
	3.6nm,1.1s,mb4.3						
MAW	**Mawson**	49.21	210	P	P	07 09 33.8	+0.9
	3.5nm,0.9s,mb4.4,baz=65,slow=14,SNR=2.4						
MAW				LR	LR	07 28 33.5	
	comp=Z,640nm,19.2s,MS4.6,baz=296,slow=34						
PMOR	**Pomariorio Ree**	52.01	66	*e*P	P	07 10 05.1	+10
	52nm,1.0s,mb5.4						
RKT	**Rikitea**	54.05	84	*e*L		07 23 50.0	
RKT				*e*R		07 25 54.7	
	781nm,31.0s						
SYO	**Syowa Base**	54.83	201	⇓P	P	07 10 14.8	-0.3
SYO	**Syowa Base**	54.83	201	⇓pP	pP	07 10 19.0	-0.9
SYO	**Syowa Base**	54.83	201	⇑PcP	PcP	07 11 13.6	-3.6
SNAA	**Sanae**	58.65	185	*e*	P	07 10 46.7	+4.5
SNAA	**Sanae**	58.65	185	⇑*i*P	P	07 10 39.1	-3.1
SNAA				*e*		07 10 46.7	
VNA1	**Neumayer--Stat**	59.91	183	*e*	P	07 10 59.2	+8.2
VNA1	**Neumayer--Stat**	59.91	183	⇓*i*P	P	07 10 51.6	+0.7
VNA1				*e*		07 10 59.2	
PLCA	**Paso Flores**	78.02	141	P	P	07 12 50.0	+7.1
	1.2nm,0.7s,mb4.0,baz=194,slow=4.2,SNR=2.9						
PLCA				LR	LR	07 38 55.2	
	comp=Z,342nm,21.8s,MS4.6,baz=209,slow=29						
JNU	**Nakatsue**	87.50	333	P	P	07 13 32.7	+0.7
	4.8nm,0.4s,mb5.1,baz=203,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	88.82	301	P	P	07 13 39.9	+1.3
	0.9nm,0.4s,mb4.5,baz=153,slow=4.0,SNR=5.1						
CMAR				LR	LR	07 53 09.9	
	comp=Z,153nm,19.9s,MS4.4,baz=135,slow=36						
NJ2	**Nanjing**	90.69	323	*e*P	P	07 13 47.8	+0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.3						
SUR	**Sutherland**	92.06	210	LR	LR	07 48 33.0	
	comp=Z,252nm,19.5s,MS4.7,baz=202,slow=31						
KMI	**Kunming**	92.17	307	*e*P	P	07 13 55.4	+1.4
KMI				AP	pP	07 14 01.2	+2.1
KMI				S	S	07 24 54.4	+1.2
KMI				AMB	AMB		

	comp=Z,6.0nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,50nm,3.6s						
KMI				LR	LR		
	comp=N,153nm,23.1s,MS4.5						
KMI				LR	LR		
	comp=E,116nm,19.7s,MS4.5						
KMI				LR	LR		
	comp=Z,218nm,29.2s						
KMI	Kunming	92.17	307	eP	P	07 13 55.4	+1.4
	comp=Z,6.0nm,0.8s,mb5.0						
KMI				pP	pP	07 14 01.2	+2.1
KMI				PP	PP	07 17 35.3	-1.6
KMI				S	S	07 24 54.4	+1.2
KMI				sS		07 25 04.2	
KMI				SS	SS	07 31 07.7	+1.0
KMI				LR	LR		
	comp=Z,220nm,29.2s,MS4.4						
CPUP	Villa Florida	95.89	143	LR	LR	07 51 21.9	
	comp=Z,285nm,18.8s,MS4.8,baz=226,slow=32						
MDJ	Mudanjiang	98.56	336	P	P	07 14 24.5	+1.8
MDJ				S	S	07 25 50.8	+3.6
MDJ				SS	SS	07 32 42.1	+5.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb5.0						
MDJ				LR	LR		
	comp=N,52nm,57.3s						
MDJ				LR	LR		
	comp=E,164nm,48.0s						
MDJ				LR	LR		
	comp=Z,111nm,38.6s						
CN2	Changchun	98.98	333	eP	P	07 14 27.3	+2.7
CN2				eS	S	07 25 54.6	+3.8
CN2				LR	LR		
	comp=N,300nm,20.0s,MS4.9						
CN2				LR	LR		
	comp=E,200nm,20.0s,MS4.9						
CN2				LR	LR		
	comp=Z,200nm,20.0s,MS4.6						
LZH	Lanzhou	100.59	314	eP	P	07 14 35.0	+2.8
LZH				AP		07 14 38.2	
LZH				AMB	AMB		
	comp=Z,18nm,1.0s						
LZH	Lanzhou	100.59	314	eP	P	07 14 35.0	+2.8
	comp=Z,18nm,1.0s						
LZH				pP		07 14 38.2	
LZH				sP		07 14 39.8	
WMQ	Urumqi	114.41	309	ePKP	PKPdf	07 19 20.1	-6.3
WMQ				XPKP		07 19 27.2	
WMQ				LR	LR		
	comp=N,169nm,26.0s,MS4.7						
WMQ				LR	LR		
	comp=E,152nm,26.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,83nm,25.0s,MS4.2						
RW3	Ridgway	116.92	62	PKP	PKPdf	07 19 35.7	+4.3
MKAR	Makanchi Array	119.21	309	PKP	PKPdf	07 19 34.1	-1.5
	comp=Z,0.3nm,0.6s,baz=324,slow=21,SNR=3.0						
ILAR	Eielson Array	120.25	22	PKP	PKPdf	07 19 34.6	-2.6
	comp=Z,0.6nm,0.8s,baz=273,slow=3.3,SNR=6.7						
DLBC	Dease Lake	120.43	34	PKP	PKPdf	07 19 41.5	+3.8
INK	Inuvik	126.39	24	PKP	PKPdf	07 19 53.3	+4.5
	comp=Z,3.1nm,0.8s,baz=300,slow=8.7,SNR=3.4						
PLAL	Pickwick Lake	126.68	77	PKP	PKPdf	07 19 53.7	+3.5
YKA	Yellowknife Ar	128.85	36	PKP	PKPdf	07 19 60.0	+6.3
	comp=Z,0.7nm,0.7s,baz=270,slow=1.4,SNR=4.1						
YKA	Yellowknife Ar	128.85	36	PKP	PKPdf	07 19 60.0	+6.2
BVAR	Borovoye Array	129.09	309	PKP	PKPdf	07 19 56.4	+2.0
	comp=Z,2.3nm,1.1s,baz=153,slow=3.3,SNR=5.7						
ULM	Lac du Bonnet	130.95	57	PKP	PKPdf	07 20 00.1	+2.0
	comp=Z,2.4nm,0.9s,baz=327,slow=3.3,SNR=2.6						
BRTR	Keskin Array B	143.97	273	PKhKP		07 20 17.3	
	comp=Z,0.5nm,0.6s,baz=117,slow=3.2,SNR=3.1						
IDI	Anoyia	147.08	260	PKPbc	PKPdf	07 20 26.9	-0.4
	comp=Z,5.3nm,0.8s,baz=58,slow=12,SNR=3.9						
FRB	Frobisher Bay	148.88	43	PKPbc	PKPdf	07 20 35.4	+6.1
	comp=Z,6.7nm,0.9s,baz=302,slow=0.7,SNR=3.8						
FRB	Frobisher Bay	148.88	43	PKPbc	PKPdf	07 20 35.4	+6.1
SPITS	Spitsbergen Ar	148.95	348	PKP	PKPdf	07 20 28.1	-1.0
	comp=Z,10nm,0.8s,baz=85,slow=22,SNR=9.5						
SPITS				PKPbc	PKPdf	07 20 31.7	+2.5
	comp=Z,14nm,0.9s,baz=108,slow=6.3,SNR=10						
SPB4	Spitsbergen Ar	148.95	348	ePKPbc	PKPdf	07 20 31.4	+2.3
AKASG	Malin Array Be	151.38	290	PKPbc	PKPdf	07 20 39.1	+5.5
	comp=Z,0.3nm,0.4s,baz=78,slow=2.1,SNR=5.0						
MLR	Muntele Rosu	151.70	278	PKPbc	PKPdf	07 20 39.4	+5.1
	comp=Z,4.9nm,0.9s,baz=180,slow=6.1,SNR=3.9						
ARCES	ARCESS Array B	151.96	330	PKPbc	PKPdf	07 20 38.9	+5.0
	comp=Z,3.2nm,0.7s,baz=72,slow=3.8,SNR=6.7						
FINES	FINESS Array B	153.95	313	PKPbc	PKPdf	07 20 42.6	+5.6
	comp=Z,0.6nm,0.6s,baz=120,slow=11,SNR=2.5						
GERES	GERESS Array B	160.68	279	PKPab	PKPab	07 21 24.5	-1.7
	comp=Z,1.0nm,0.7s,baz=169,slow=6.8,SNR=6.2						
NB2	NORSAR Subarra	160.95	317	P	PKPab	07 21 25.5	-1.5
	comp=Z,2.2nm,0.9s,baz=67,slow=4.5						
NB2	NORSAR Subarra	160.95	317	P	PKPab	07 21 25.5	-1.5
	baz=67,slow=4.4						
NOA	NORSAR Array B	160.95	317	PKPab	PKPab	07 21 27.0	0.0
	comp=Z,0.7nm,1.0s,baz=76,slow=4.4,SNR=2.5						

*NEIC **05** 07:11:13.2, 36.85N×27.72E, h5^{km}, MD3.7(ATH), After ATH.*
*ATH **05** 07:11:13.5, 37.87N×27.71E, h13^{km}±10^{km}, MD3.7/8*
*ISK **05** 07:11:15.9, 37.20N×27.88E, h14^{km}, MD3.7, ML3.8*
ISC 05 07:11:13.1±0.7**, 36.99N**±0.03×**27.76E**±0.04**, h11**^{km}±6^{km}**, n35, σ1^{s}15**/42**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	286	iP	Pg	07 11 19.9	+1.2
BDRM				iS	Sg	07 11 24.0	+1.5
MLSB	Milas	0.30	2	iPG	Pg	07 11 20.1	+0.7
YER	Yerkesik	0.44	71	iPG	Pg	07 11 22.3	+0.2
NISR	Nisiros	0.63	234	⇑iPB	Pb	07 11 25.3	-0.4
AYDN	Tasoluk	0.68	8	iP	Pg	07 11 26.8	+0.1
AYDN				iS	Pg	07 11 26.8	+0.1
ARG	Arkhangelos	0.83	159	⇑iPB	Pb	07 11 28.0	-1.0
SMG	Samos	1.03	314	ePB	Pb	07 11 33.3	+0.8
DNZL	Cakiroluk	1.24	55	iP	Pb	07 11 36.7	+0.6
DNZL				iS	Sb	07 11 52.8	+0.9
DENT	Denizli	1.27	53	iPG	Pg	07 11 37.1	-1.4
DENT				SG	Sg	07 11 52.4	-3.0
KDAG	Bornova	1.46	345	⇑iP	Pn	07 11 39.0	-0.6
KDAG				iS	Sb	07 12 02.7	+4.2
KARP	Karpathos	1.52	199	ePG	Pg	07 11 39.0	-4.5
KARP				eSB	Sb	07 11 58.5	-1.6
MANT	Manisa	1.62	23	iP	Pn	07 11 41.9	-0.1
MANT				iS	Sb	07 12 07.6	+4.5
KSL	Kastellorizon	1.69	119	ePB	Pb	07 11 44.3	+0.5
ELL	Elmali	1.74	97	PN	Pn	07 11 46.0	+2.4
APE	Apeiranthos	1.79	273	ePN	Pn	07 11 43.4	-0.9
AKS	Akhisar	1.89	1	PN	Pn	07 11 44.8	-0.9
KHL	Karahalli	1.93	46	PN	Pn	07 11 46.3	0.0
THR1	Thera Island	1.95	252	eP	Pn	07 11 52.9	+6.3
THR4	Thira Island,	1.97	255	eP	Pn	07 11 52.5	+5.6
THR3	Thira Island,	1.98	254	eP	Pn	07 11 52.3	+5.2
THR6	Thira Island,	2.00	252	eP	Pn	07 11 52.2	+4.9
THR5	Thira Island,	2.02	254	eP	Pn	07 11 53.7	+6.0
BCK	Bucak	2.31	77	PN	Pn	07 11 53.6	+1.9
ISP	Isparta	2.35	68	PN	Pn	07 11 52.8	+0.5
NPS	Neapolis	2.45	226	ePN	Pn	07 11 53.5	-0.2
PRK	Paraskevi	2.54	333	ePG	Pg	07 12 02.1	-1.7
BALB	Balikesir	2.65	2	ePN	Pn	07 11 55.9	-0.7
XRY	Khrisi	2.70	219	ePN	Pn	07 11 58.5	+1.2
DST	Dursunbey	2.70	14	PN	Pn	07 11 56.7	-0.6
KCT	Karacabey	3.30	8	ePN	Pn	07 12 04.9	-1.0
BNT	Bandirma	3.36	2	ePN	Pn	07 12 06.1	-0.6
MRMT	Marmara Adasi	3.61	358	ePN	Pn	07 12 10.0	-0.2
KIZT	Kizilcal	3.76	59	ePN	Pn	07 12 12.7	+0.3
HDMB	Hadim	3.78	89	ePN	Pn	07 12 14.3	+1.6
YLV	Yalova	3.79	19	ePN	Pn	07 12 12.1	-0.6

*MOS **05** 07:13:35.5±0.7, 36.87N×27.64E, h10^{km}, mb4.0/4, Error ellipse: s-maj=19.5km s-min=7.7km az=103.3*
*ATH **05** 07:13:36.3, 37.01N×27.72E, h17^{km}±4^{km}, MD4.0/16, ML4.1*
*NEIC **05** 07:13:38.8, 37.12N×27.59E, h24^{km}, mb4.1/9, ML4.0(ATH), ML4.0(NIC), After ISK.*
*IDC **05** 07:13:39.7±2.8, 36.86N×27.71E, h26^{km}±21^{km}, mb3.7/10, mb1 3.9/16, mb1mx3.8/26, ML3.7/6, MS2.9/2, Ms1 3.0/2, ms1mx2.6/21, Error ellipse: s-maj=16.3km s-min=13.6km az=130.0*
*NIC **05** 07:13:40.5±0.3, 37.59N×28.22E, h25^{km}, mb4.4, ML4.0*
*ISK **05** 07:13:41.3, 37.31N×27.88E, h15^{km}, MD4.0, ML4.2*
ISC 05 07:13:36.6±0.4**, 36.90N**±0.02×**27.75E**±0.02**, h18**^{km}±4^{km}**, n125, σ0^{s}91**/140**, mb3.8**/13**, MS2.8**/1**, 3C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	304	iP	Pb	07 13 43.2	+0.1
BDRM				iS	Sb	07 13 47.8	+0.2
MLSB	Milas	0.39	3	iPG	Pb	07 13 44.6	-0.2
MLSB	Milas	0.39	3	Pg	Pb	07 13 44.6	-0.2
MLSB				Sg	Sb	07 13 50.6	+0.3
NISR	Nisiros	0.58	240	ePN	Pn	07 13 49.0	-0.8
ARG	Arkhangelos	0.75	156	ePB	Pb	07 13 52.2	+1.4
AYDN	Tasoluk	0.77	8	iP	Pb	07 13 51.3	+0.2
AYDN				iS	Sb	07 14 01.5	+0.5
SMG	Samos	1.09	318	⇑iPN	Pn	07 13 56.4	-0.6
DNZL	Cakiroluk	1.30	52	iP	Pn	07 14 01.1	+1.1
DNZL				iS	Sb	07 14 16.4	-0.1
DENT	Denizli	1.33	50	iPG	Pn	07 14 01.4	+0.9
KARP	Karpathos	1.43	200	ePB	Pb	07 14 03.5	+1.0
KDAG	Bornova	1.55	346	iP	Pn	07 14 03.4	-0.2
KDAG				iS	Sn	07 14 28.2	+4.9
KSL	Kastellorizon	1.65	116	ePN	Pn	07 14 08.0	+2.9
MANT	Manisa	1.71	22	iP	Pn	07 14 06.5	+0.6
MANT				iS	Sn	07 14 31.3	+3.8
ELL	Elmali	1.74	94	PN	Pn	07 14 11.2	+4.9
ELL				SN	Sn	07 14 33.2	+5.1
APE	Apeiranthos	1.79	276	ePB	Pb	07 14 06.6	-1.9
THR1	Thera Island	1.92	255	eP	Pn	07 14 15.6	+6.6
THR3	Thira Island,	1.95	256	eP	Pn	07 14 15.3	+5.9
THR6	Thira Island,	1.97	255	eP	Pn	07 14 16.2	+6.5
AKS	Akhisar	1.98	1	iPN	Pn	07 14 09.4	-0.3
THR5	Thira Island,	1.99	257	eP	Pn	07 14 15.4	+5.4
KHL	Karahalli	2.00	44	PN	Pn	07 14 11.3	+1.2
KHL	Karahalli	2.00	44	Pn	Pn	07 14 11.4	+1.3
ANTB	Antalya	2.33	89	PN	Pn	07 14 19.4	+4.6
BCK	Bucak	2.33	75	PN	Pn	07 14 17.3	+2.4
NPS	Neapolis	2.38	227	ePB	Pb	07 14 18.0	-0.7
ISP	Isparta	2.39	66	PN	Pn	07 14 17.4	+1.7
PRK	Paraskevi	2.62	334	ePN	Pn	07 14 17.9	-1.0
XRY	Khrisi	2.62	220	ePB	Pb	07 14 22.0	-0.8
BALB	Balikesir	2.74	2	PN	Pn	07 14 20.2	-0.4
DST	Dursunbey	2.79	14	PN	Pn	07 14 21.0	-0.3
IDI	Anoyia	2.82	236	Pn	Pn	07 14 23.2	+1.3
	11nm,0.3s,baz=58,slow=14,SNR=7.0						
IDI				Pg	Pn	07 14 31.6	+10
	17nm,0.3s,baz=49,slow=13,SNR=7.6						
IDI				Lg		07 15 06.0	
	11nm,0.3s,baz=307,slow=20,SNR=3.7						
ALT	Altintas	2.84	40	ePN	Pn	07 14 22.8	+0.6
VAM	Vamos	3.24	244	ePB	Pb	07 14 32.5	-0.8
ORLT	Orhaneli	3.27	16	ePN	Pn	07 14 28.0	-0.1
PTL	Penteli	3.30	291	ePN	Pn	07 14 29.2	+0.6
ATH	Athens Observa	3.39	290	ePN	Pn	07 14 30.4	+0.6
KCT	Karacabey	3.39	8	ePN	Pn	07 14 28.7	-1.2
MPAR	Parnis Oros	3.43	293	ePN	Pn	07 14 31.4	+0.9
EDC	Edincik	3.44	1	ePN	Pn	07 14 29.7	-0.9
BNT	Bandirma	3.45	2	ePN	Pn	07 14 29.9	-0.9
BNT	Bandirma	3.45	2	Pn	Pn	07 14 29.0	-1.8
NAIG	Nisos Aigina	3.50	285	ePN	Pn	07 14 33.0	+1.5
NSAL	Nisos Salamina	3.56	288	ePN	Pn	07 14 33.0	+0.7
LOS	Limnos	3.68	326	eP	Pn	07 14 34.8	+0.7
HDMB	Hadim	3.79	88	ePN	Pn	07 14 39.7	+4.1
MKIT	Kithairon Oros	3.79	291	ePN	Pn	07 14 36.5	+0.9
KIZT	Kizilcal	3.82	58	ePN	Pn	07 14 37.6	+1.6
KYTH	Kithira	3.85	262	ePN	Pn	07 14 37.0	+0.6
VLI	Veliai	3.87	269	ePN	Pn	07 14 37.0	+0.3
YLV	Yalova	3.87	19	ePN	Pn	07 14 35.8	-1.0
BADT	Buyukada	4.09	15	ePN	Pn	07 14 38.6	-1.2
AKMC	Akamas	4.16	115	P	Pn	07 14 42.0	+1.2
CTT	Catalca	4.27	7	ePN	Pn	07 14 41.0	-1.5
CTT	Catalca	4.27	7	Pn	Pn	07 14 40.7	-1.8
ISK	Istanbul-Kandi	4.28	13	ePN	Pn	07 14 41.0	-1.6
ISK	Istanbul-Kandi	4.28	13	Pn	Pn	07 14 41.1	-1.5
ALFC	Alevga	4.30	112	⇓P	Pn	07 14 43.1	+0.3
	8.9nm,0.2s						
ALFC				S	Sn	07 15 32.3	-0.7
ALFC	Alevga	4.30	112	⇓eP	Pn	07 14 43.1	+0.3
ALFC				S	Sn	07 15 32.3	-0.7
OUR	Ouranopolis	4.52	320	eP	Pn	07 14 45.9	-0.2
RDO	Rodhopi	4.58	339	ePN	Pn	07 14 46.5	-0.3
SZAC	Souni-Zanaja	4.69	116	⇑P	Pn	07 14 49.1	+0.8
	6.3nm,0.2s						
SZAC				S	Sn	07 15 43.3	+0.4
SZAC	Souni-Zanaja	4.69	116	⇑iP	Pn	07 14 49.1	+0.8
SZAC				S	Sn	07 15 43.3	+0.4
CSS	Prodhromos	4.92	111	P	Pn	07 14 51.1	-0.6
	2.3nm,0.3s						
CSS				S	Sn	07 15 47.2	-1.6
KDZ	Kurdzhali	5.08	340	iP	Pn	07 14 53.0	-0.8
EVR	Evrytania	5.11	295	ePN	Pn	07 14 56.0	+1.7
SRS	Serrai	5.31	324	eP	Pn	07 14 56.6	-0.6
RZN	Rozhen	5.33	335	iP	Pn	07 14 57.0	-0.4
BRTR	Keskin Array B	5.42	57	Pn	Pn	07 14 59.8	+1.1
	2.8nm,0.3s,baz=239,slow=15,SNR=14						
BRTR				Sn	Sn	07 16 01.1	-0.3
	1.4nm,0.3s,baz=331,slow=14,SNR=5.3						
BRTR	Keskin Array B	5.42	57	P	Pn	07 14 59.8	+1.1
BRTR						07 16 01.1	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PHNC	Paralimni	5.43	109	P	Pn	07 14 58.5	-0.4
MMB	Musomiste	5.63	328	iP	Pn	07 15 01.0	-0.6
KKB	Krupnik	6.14	325	iP	Pn	07 15 09.0	+0.2
PGB	Panagyurishte	6.28	335	iP	Pn	07 15 10.0	-0.8
VTS	Vitosha	6.67	330	iP	Pn	07 15 16.5	+0.1
SKO	Skopje	7.04	318	ePn	Pn	07 15 22.0	+0.6
HNTI	Hanita	7.18	120	Pn	Pn	07 15 23.2	-0.3
HAF	Haifa	7.25	122	Pn	Pn	07 15 23.1	-1.4
HRI	Mount Hermon	7.48	117	Pn	Pn	07 15 26.7	-1.0
MMLI	Mount Malkishu	7.73	123	Pn	Pn	07 15 31.3	+0.2
HMDT	Nahal Hemdat	7.91	124	Pn	Pn	07 15 33.6	-0.1
KZIT	Kziot	8.14	135	Pn	P	07 15 35.1	-1.7
DRGI	Dragot	8.25	128	Pn	P	07 15 38.1	-0.2
MLR	Muntele Rosu	8.69	352	Pn	P	07 15 44.3	-0.2
	comp=Z,0.5nm,0.3s,baz=182,slow=9.4,SNR=3.6						
MLR				Lg		07 18 19.6	
	comp=Z,0.1nm,0.3s,baz=272,slow=23,SNR=3.3						
MLR				LR	LR	07 19 25.3	
	comp=Z,76nm,20.4s,baz=249,slow=40						
ASF	Jabal al Asfar	8.89	119	Pn	P	07 15 47.4	0.0
	comp=Z,1.7nm,0.3s,baz=348,slow=9.3,SNR=6.3						
ASF				Sn	Sn	07 17 28.6	+0.5
	comp=Z,1.0nm,0.3s,baz=31,slow=20,SNR=3.3						
PRNI	Paran	8.90	135	Pn	P	07 15 46.4	-1.0
KMTI	Karmit	8.93	137	Pn	P	07 15 47.1	-0.8
KIV	Kislovodsk	13.37	54	P	P	07 16 46.6	-1.4
AKASG	Malin Array Be	13.84	4	Pn	P	07 16 53.6	-0.5
	comp=Z,0.3nm,0.3s,baz=185,slow=13,SNR=4.9						
GEC2	GERESS Array S	15.73	324	eP	P	07 17 26.1	+7.2
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GERES	GERESS Array B	15.73	324	Pn	P	07 17 21.8	+2.9
	comp=Z,0.1nm,0.3s,baz=156,slow=9.7,SNR=3.5						
KHC	Kasperske Hory	15.99	324	eP	P	07 17 28.0	+5.8
BRG	Berggiesshubel	17.11	329	eP	P	07 17 43.9	+7.6
BRG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MBDF	Montbardon	17.67	303	eP	P	07 17 44.1	+0.7
	comp=Z,16nm,1.1s						
CLL	Collm	17.83	329	i	P	07 17 51.0	+5.7
CLL				i		07 17 55.6	
CLL	Collm	17.83	329	iP	P	07 17 51.0	+5.7
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	Collm	17.83	329	P	P	07 17 51.0	+5.7
	comp=Z,8.0nm,0.9s						
CLL				i		07 17 55.6	
MOX	Moxa	17.96	325	iP	P	07 17 50.6	+3.7
CABF	La Chapelle	18.80	308	eP	P	07 17 57.3	0.0
SMF	Signal de Mont	20.25	306	eP	P	07 18 13.1	-0.6
	comp=Z,20nm,0.9s						
LOR	Lormes	20.46	308	eP	P	07 18 15.7	-0.1
LOR				eR			
	comp=Z,39nm,20.7s						
SSF	Saint Saulge	20.61	307	eP	P	07 18 17.4	0.0
	comp=Z,14nm,0.8s						
BGF	Bois d'Agland	20.87	305	eP	P	07 18 20.3	+0.3
	comp=Z,10.0nm,0.7s						
LDF	La Druitiere	23.43	309	eP	P	07 18 45.0	-0.5
FLN	La Foliniere	23.71	309	eP	P	07 18 47.5	-0.7
	comp=Z,8.9nm,0.7s,mb4.0						
FLN				eR			
	comp=Z,44nm,20.8s						
GRR	Gorron	23.83	308	eP	P	07 18 49.6	+0.3
	comp=Z,16nm,0.7s,mb4.3						
FINES	FINESS Array B	24.59	358	P	P	07 18 57.9	+1.3
	comp=Z,1.2nm,0.8s,mb3.5,baz=135,slow=9.8,SNR=8.1						
FINES	FINESS Array B	24.59	358	P	P	07 18 57.9	+1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SGMF	Saint Gilles	24.88	307	eP	P	07 18 58.9	-0.6
HFS	Hagfors	24.94	343	P	P	07 18 59.8	-0.1
	comp=Z,2.6nm,0.8s,mb3.8,baz=150,slow=12,SNR=8.0						
HFS	Hagfors	24.94	343	P	P	07 18 59.8	-0.1
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ESDC	Sonseca Array	24.98	286	P	P	07 19 01.3	+0.7
	comp=Z,1.7nm,0.6s,mb3.7,baz=84,slow=9.3,SNR=6.5						
NOA	NORSAR Array B	26.33	342	P	P	07 19 13.4	+0.5
	comp=Z,0.2nm,0.4s,mb3.0,baz=139,slow=9.6,SNR=3.2						
NOA				LR	LR	07 29 32.4	
	comp=Z,27nm,20.2s,MS2.8,baz=190,slow=36						
EKA	Eskdalemuir Ar	27.92	321	P	P	07 19 27.7	+0.2
	comp=Z,0.5nm,0.6s,mb3.3,baz=138,slow=12,SNR=2.8						
EKA	Eskdalemuir Ar	27.92	321	P	P	07 19 27.7	+0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	41.07	58	P	P	07 21 20.5	-0.1
	comp=Z,2.5nm,0.8s,mb3.9,baz=297,slow=5.4,SNR=6.9						
MKAR	Makanchi Array	41.07	58	P	P	07 21 20.5	-0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	41.07	58	P	P	07 21 20.5	-0.1
DBIC	Dimbokro	42.29	233	P	P	07 21 29.9	-1.1
	comp=Z,20nm,1.4s,mb4.6,baz=94,slow=6.8,SNR=6.1						
DBIC	Dimbokro	42.29	233	P	P	07 21 29.9	-1.2
DBIC				pmax	pmax		
	comp=Z,20nm,1.4s						
DBIC	Dimbokro	42.29	233	eP	P	07 21 28.1	-3.0
	comp=Z,1.3nm,0.4s,mb3.9						
SONM	Songino Array	56.76	52	P	P	07 23 21.9	+0.2
	comp=Z,0.7nm,0.5s,mb4.0,baz=290,slow=7.3,SNR=8.5						
LBTB	Lobatse	61.62	182	eP	P	07 23 55.8	+0.2
	comp=Z,3.0nm,0.5s,mb4.7						
CMAR	Chiang Mai Arr	64.31	86	P	P	07 24 13.2	-0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=302,slow=8.5,SNR=3.2						
CMAR	Chiang Mai Arr	64.31	86	P	P	07 24 13.2	-0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	78.58	358	P	P	07 25 39.7	+1.7
	comp=Z,0.4nm,0.9s,mb3.4,slow=2.7,SNR=3.7						

IDC 05 07:13:43.9±15.0**, 21.75S**×**179.98W, mb4.3**/4**, mb1 4.5**/5**, mb1mx4.0**/16**, ML4.3**/1**, 1D, Error ellipse: s-maj=290.0km s-min=57.2km az=65.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	16.65	188	Pn	P	07 17 39.1	-1.1
	1.1nm,0.3s,baz=3.5,slow=19,SNR=4.9						
STKA	Stephens Creek	35.59	245	P	P	07 20 41.8	-3.4
	1.2nm,0.4s,baz=100,slow=12,SNR=4.2						
ASAR	Alice Springs	42.44	258	P	P	07 21 41.0	-1.4
	2.3nm,0.4s,baz=96,slow=7.5,SNR=33						
ASPA	Alice Springs	42.45	258	eP	P	07 21 40.8	-1.6
WB2	Warramunga Arr	42.60	264	⇓iP	P	07 21 43.0	-0.7
WRA	Warramunga Arr	42.61	264	P	P	07 21 43.3	-0.5
	3.2nm,0.4s,baz=96,slow=8.4,SNR=211						
FITZ	Fitzroy Crossi	51.04	264	P	P	07 22 47.6	-2.6
	1.6nm,0.6s,baz=111,slow=5.9,SNR=10						

*TIF **05** 07:46:20.8, 42.42N×46.37E, h12^{km}, Mpv4.1*
*IDC **05** 07:46:20.0±5.6, 43.01N×45.83E, h63^{km}±57^{km}, mb3.6/9, mb1 3.8/12, mb1mx3.6/21, ML4.1/3, Error ellipse: s-maj=42.4km s-min=17.7km az=19.0*
*MOS **05** 07:46:21.0±1.1, 43.32N×45.78E, h69^{km}, mb4.0/8, Error ellipse: s-maj=15.9km s-min=9.2km az=128.5*
*NEIC **05** 07:46:21.5±1.5, 43.16N×45.91E, h73^{km}±15^{km}, Error ellipse: s-maj=19.3km s-min=9.0km az=182.0*
*NNC **05** 07:46:32.8±5.0, 43.46N×46.98E, h109^{km}±55^{km}, Error ellipse: s-maj=39.2km s-min=31.8km az=178.0*
ISC 05 07:46:20.9±0.3**, 43.23N**±0.05×**45.84E**±0.04**, h86**^{km}±5^{km}**, n49, σ1^{s}24**/70**, mb3.7**/11**, 7C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBC	Dubki	0.75	105	⇓iP	P	07 46 38.2	+0.4
DBC				iS	S	07 46 50.0	-0.4
DBC				pmax	pmax		
	comp=Z,1µm,0.2s						
KRNR	Karanay	0.88	117	⇓iP	P	07 46 38.0	-1.1
KRNR				iS	S	07 46 51.0	-1.8
KRNR				pmax	pmax		
	comp=Z,425nm,0.2s						
BUJR	Buynaksk	1.01	113	⇑iP	P	07 46 42.7	+2.0
BUJR				eS	S	07 46 57.4	+1.8
BUJR				pmax	pmax		
	comp=Z,1µm,0.2s						
MAK	Makhachkala	1.25	102	eP	P	07 46 45.7	+2.1
MAK				i		07 47 02.0	
MAK				pmax	pmax		
	comp=Z,600nm,0.2s						
MAK				pmax	pmax		
	comp=N,610nm,0.4s						
MAK				pmax	pmax		
	comp=E,1µm,0.4s						
MAK				smax			
	comp=N,5µm,0.4s						
MAK				smax			
	comp=N,5µm,0.6s						
MAK				smax			
	comp=E,3µm,0.6s						
DUS	Dusheti	1.41	217	⇑iP	P	07 46 46.6	+0.8
DUS				iS	S	07 47 05.9	+1.7
KMKR	Kumukh	1.44	139	⇓iP	P	07 46 46.5	+0.4
KMKR				iS	S	07 47 05.0	+0.3
KMKR				pmax	pmax		
	comp=Z,1µm,0.2s						
ZEI	Tsey	1.50	253	eP	P	07 46 46.0	-0.8
ZEI				eS	S	07 47 04.0	-2.0
ZEI				pmax	pmax		
	comp=Z,200nm,1.2s						
TBLG	Delisi	1.70	209	⇑iP	P	07 46 49.3	-0.2
TBLG				iS	S	07 47 10.2	-0.4
MTA	Mtatsminda	1.71	207	⇑iP	P	07 46 49.6	-0.1
MTA				iS	S	07 47 10.6	-0.3
AKT	Akhty	2.24	141	iP	P	07 46 53.0	-3.8
AKT				eS	S	07 47 18.0	-5.4
KIV	Kislovodsk	2.40	289	d iP	P	07 47 00.1	+1.0
KIV				iS	S	07 47 27.9	+0.3
KIV				pmax	pmax		
	comp=Z,57nm,0.7s						
KIV	Kislovodsk	2.40	289	ePn	P	07 47 00.0	+0.9
STE	Stepanavan	2.47	206	eP	P	07 46 58.0	-2.0
STE				S	S	07 47 24.0	-5.2
AKH	Akhalkalaki	2.51	225	iS	S	07 47 35.4	+5.1
AB31	Akbulak array	11.47	53	⇓P	P	07 49 02.1	-0.9
	comp=Z,1.6nm,0.3s,baz=243,slow=11,SNR=92						
AB31				⇑S	S	07 51 02.7	-7.2
	comp=Z,5.5nm,0.3s,baz=241,slow=14,SNR=7.3						
OBN	Obninsk	13.34	336	eP	P	07 49 26.7	-1.0
OBN				eS	S	07 51 51.3	-3.0
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,9.0s						
AKASG	Malin Array Be	13.57	309	P	P	07 49 29.7	-1.0
	comp=Z,0.7nm,0.3s,baz=108,slow=13,SNR=3.2						
AKASG				S	S	07 51 52.7	-7.0
	comp=Z,2.2nm,0.3s,baz=236,slow=22,SNR=5.2						
AKASG	Malin Array Be	13.57	309	P	P	07 49 29.7	-0.9
AKASG				S	S	07 51 52.7	-7.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKS	Akhisar	14.28	258	ePN	P	07 49 38.8	-1.1
MLR	Muntele Rosu	14.41	286	P	P	07 49 42.4	+0.8
	comp=Z,0.1nm,0.3s,baz=74,slow=7.7,SNR=4.3						
ARU	Arti	15.52	27	⇑iP	P	07 49 56.5	+0.8
ARU				eS	S	07 52 46.5	+1.3

ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	Arti	15.52	27	P	P	07 49 56.3	+0.5
	comp=Z,3.9nm,0.6s						
KK31	Karatay Array	17.99	82	P	P	07 50 25.2	-1.3
	comp=Z,6.7nm,0.8s,baz=316,slow=9.8,SNR=33						
KK31				⇑S	S	07 53 36.4	-4.5
	comp=Z,1.5nm,0.5s,baz=275,slow=25,SNR=5.1						
ZRNK	Zerenda	18.20	50	P	P	07 50 26.8	-2.2
ZRNK				S	S	07 53 42.7	-3.1
BRVK	Borovoye	18.96	50	*e*Pn	P	07 50 37.2	-0.4
	comp=Z,2.2nm,0.5s						
BVAR	Borovoye Array	19.01	50	P	P	07 50 38.1	0.0
	comp=Z,0.5nm,0.3s,baz=261,slow=12,SNR=11						
BVAR				S	S	07 54 02.1	-1.4
	comp=Z,0.4nm,0.3s,baz=251,slow=26,SNR=4.2						
VOSK	Vostochnaya	19.24	52	P	P	07 50 41.5	+0.9
DPC	Dobruska-Polom	21.33	300	*e*P	P	07 51 08.3	+6.1
JOF	Joensuu	21.47	342	*e*p	P	07 51 03.1	-0.4
	comp=Z,2.1nm,0.3s,mb4.0						
JOF	Joensuu	21.47	342	*e*P	P	07 51 03.1	-0.4
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
FINES	FINESS Array B	21.72	334	P	P	07 51 07.8	+1.8
	comp=Z,2.8nm,0.6s,mb3.8,baz=144,slow=13,SNR=21						
FINES				S	S	07 55 02.8	+6.9
	comp=Z,0.9nm,0.6s,baz=144,slow=26,SNR=3.6						
FINES	FINESS Array B	21.72	334	P	P	07 51 07.8	+1.8
FINES				S	S	07 55 02.8	+6.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	GERESS Array B	22.90	295	P	P	07 51 20.2	+2.7
	comp=Z,0.8nm,0.5s,mb3.3,baz=90,slow=8.0,SNR=5.1						
GERES	GERESS Array B	22.90	295	P	P	07 51 20.2	+2.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	25.77	322	P	P	07 51 45.3	+0.4
	comp=Z,2.2nm,0.3s,mb4.0,baz=135,slow=8.2,SNR=20						
HFS	Hagfors	25.77	322	P	P	07 51 45.3	+0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	Makanchi Array	25.87	69	P	P	07 51 46.6	+0.7
	comp=Z,0.7nm,0.2s,mb3.6,baz=265,slow=6.1,SNR=10.0						
MKAR	Makanchi Array	25.87	69	P	P	07 51 46.3	+0.4
	comp=Z,0.5nm,0.3s,mb3.4,baz=265,slow=6.5,SNR=11						
MKAR	Makanchi Array	25.87	69	P	P	07 51 46.3	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	NORSAR Subarra	27.27	323	P	P	07 51 57.9	-0.8
	comp=Z,0.5nm,0.6s,mb3.2,baz=116,slow=9.3						
NOA	NORSAR Array B	27.27	323	P	P	07 51 58.5	-0.2
	comp=Z,0.7nm,0.8s,mb3.3,baz=118,slow=8.4,SNR=3.8						
NOA	NORSAR Array B	27.27	323	P	P	07 51 58.5	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	28.37	345	P	P	07 52 09.6	+1.0
	comp=Z,0.8nm,0.6s,mb3.4,baz=153,slow=11,SNR=6.6						
ARCES	ARCESS Array B	28.37	345	P	P	07 52 09.6	+1.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SPITS	Spitsbergen Ar	36.97	350	P	P	07 53 25.5	+2.5
	comp=Z,12nm,1.1s,mb4.7,baz=148,slow=12,SNR=9.6						
SONM	Songino Array	41.72	62	P	P	07 54 03.0	+0.5
	comp=Z,0.4nm,0.6s,mb3.3,baz=285,slow=9.9,SNR=3.6						
CMAR	Chiang Mai Arr	50.85	102	P	P	07 55 14.2	-0.8
	comp=Z,0.9nm,0.4s,mb4.1,baz=300,slow=8.0,SNR=5.3						
CMAR	Chiang Mai Arr	50.85	102	P	P	07 55 14.2	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SSE	Sheshan	59.38	75	P	P	07 56 20.7	+4.3
	comp=Z,32nm,0.6s						

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*ISK **05** 07:47:11.9, 36.94N×27.72E, h8^{km}, MD3.1*
*NEIC **05** 07:47:14.4, 36.76N×27.70E, h5^{km}, MD3.2(ATH), After ATH.*
*ATH **05** 07:47:14.4, 36.76N×27.70E, h5^{km}±4^{km}, MD3.2/3*
ISC 05 07:47:11.7±0.5**, 36.89N**±0.03×**27.73E**±0.05**, h5^{km}, n14, σ0^{s}99**/21**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.29	308	*i* P	Pg	07 47 18.1	+0.5
BDRM				*i* S	Sg	07 47 22.1	+0.7
MLSB	Milas	0.41	5	*i* PG	Pg	07 47 19.5	-0.4
MLSB				SG	Sg	07 47 25.2	-0.2
YER	Yerkesik	0.51	61	*i* PG	Pg	07 47 21.8	-0.1
NISR	Nisiros	0.56	241	*e*PB	Pb	07 47 24.0	+0.5
ARG	Arkhangelos	0.74	154	*e*PB	Pb	07 47 27.0	+0.3
AYDN	Tasoluk	0.78	9	*i* P	Pg	07 47 26.4	-0.9
AYDN				*i* S	Sg	07 47 36.9	-0.8
DNZL	Cakiroluk	1.32	52	⇑*i*P	Pb	07 47 36.1	-0.5
DNZL				*i* S	Sb	07 47 54.4	+0.7
DENT	Denizli	1.35	50	PN	Pn	07 47 37.5	+0.2
KARP	Karpathos	1.41	199	*e*PG	Pg	07 47 38.5	-1.4
KARP				*e*SB	Sb	07 47 57.0	+0.6
KDAG	Bornova	1.56	346	⇑*i*P	Pn	07 47 38.4	-1.8
KDAG				*i* S	Sb	07 48 03.6	+3.0
MANT	Manisa	1.73	22	*i* P	Pn	07 47 41.9	-0.8
MANT				*i* S	Sn	07 48 07.4	+2.0
ELL	Elmali	1.75	94	*e*PN	Pn	07 47 44.1	+1.1
AKS	Akhisar	1.99	2	*e*PN	Pn	07 47 45.5	-0.9
PRK	Paraskevi	2.62	334	*e*PN	Pn	07 48 02.0	+6.6

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*ISK **05** 07:49:05.0, 36.92N×27.71E, h8^{km}, MD3.0*
*NEIC **05** 07:49:08.1, 36.75N×27.64E, h14^{km}, MD3.3(ATH), After ATH.*
*ATH **05** 07:49:08.1, 36.75N×27.64E, h14^{km}, MD3.3/5*
ISC 05 07:49:05.0±0.8**, 36.89N**±0.03×**27.72E**±0.05**, h1^{km}**±7^{km}**, n14, σ0^{s}87**/21**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	310	*i* P	Pg	07 49 10.9	+0.3
BDRM				*i* S	Sg	07 49 15.2	+0.8
MLSB	Milas	0.41	7	*i* PG	Pg	07 49 13.0	-0.2
MLSB				SG	Sg	07 49 19.0	+0.3
YER	Yerkesik	0.52	61	*i* PG	Pg	07 49 15.2	-0.1
NISR	Nisiros	0.55	240	*e*PB	Pb	07 49 16.5	-0.5
ARG	Arkhangelos	0.75	154	*e*PG	Pg	07 49 20.5	+0.6
AYDN	Tasoluk	0.79	10	*i* P	Pg	07 49 19.8	-0.9
AYDN				*i* S	Sg	07 49 30.8	-0.4
DNZL	Cakiroluk	1.33	53	⇑*i*P	Pb	07 49 30.6	+0.1
DNZL				*i* S	Sb	07 49 48.3	+0.4
DENT	Denizli	1.36	50	PN	Pn	07 49 30.8	-0.4
KARP	Karpathos	1.41	199	*e*PB	Pb	07 49 32.5	+0.7
KARP				*e*SB	Sb	07 49 50.0	-0.2
KDAG	Bornova	1.56	347	⇑*i*P	Pn	07 49 31.7	-2.2
KDAG				*i* S	Sb	07 50 00.8	+6.4
MANT	Manisa	1.74	22	⇑*i*P	Pn	07 49 35.4	-1.1
MANT				*i* S	Sn	07 50 00.7	+1.1
APE	Apeiranthos	1.76	277	*e*PN	Pn	07 49 36.0	-0.8
ELL	Elmali	1.77	94	*e*PN	Pn	07 49 37.3	+0.4
PRK	Paraskevi	2.62	335	*e*PB	Pb	07 49 55.0	+2.5

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*NEIC **05** 08:04:59.9, 17.38N×101.73W, h11^{km}, MD4.1(MEX), After MEX.*
MEX 05 08:04:59.9±0.5**, 17.38N×101.73W, h12^{km}**±5^{km}**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.34	48	*i* P	Pg	08 05 06.2	-0.8
ZIIG				*i* S	Sg	08 05 11.4	-0.3
CAIG	El Cayaco	1.43	103	*i* P	Pn	08 05 22.4	-3.5
CAIG				*i* S	Sb	08 05 39.2	-5.0
MOIG	Morelia	2.34	12	*i* P	Pn	08 05 35.8	-3.1
MOIG				*i* S	Sn	08 06 02.6	-5.2
PLIG	Platanillo	2.35	64	*i* P	Pn	08 05 37.0	-1.9
PLIG				*i* S	Sn	08 06 03.4	-4.6
PPM	Popocatepetl	3.39	60	*i* P	Pn	08 05 50.4	-3.4
PPM				*e*P		08 05 54.5	
PPM				*i* S	Sn	08 06 28.9	-5.5
PPM	Popocatepetl	3.39	60	*i* P	Pn	08 05 50.4	-3.4
PPM				*i* S	Sn	08 06 27.1	-7.3

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*IDC **05** 08:15:47.9±0.7, 0.08S×124.63E, mb3.9/10, mb1 4.0/11, mb1mx3.9/16, ML4.0/1, MS3.6/2, Ms1 3.7/2, ms1mx2.9/21, Error ellipse: s-maj=55.7km s-min=15.6km az=70.0*
*NEIC **05** 08:15:53.6±2.7, 0.22S×124.63E, h38^{km}±26^{km}, mb4.5/2, Error ellipse: s-maj=37.0km s-min=13.0km az=70.0*
ISC 05 08:15:48.2±9.3**, 0.2S**±0.1×**124.6E**±0.2**, h11^{km}**±59^{km}**, n18, σ1^{s}06**/17**, mb4.1**/13**, MS3.6**/2**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	14.64	149	*e*P	P	08 19 18.6	+1.2
	8.1nm,0.6s						
FITZ	Fitzroy Crossi	17.85	177	P	P	08 19 57.1	-1.2
	0.4nm,0.3s,baz=332,slow=0.5,SNR=3.5						
WRAB	Tennant Creek	21.83	155	*e*P	P	08 20 41.2	-1.4
	11nm,1.1s,mb4.2						
WRA	Warramunga Arr	21.83	155	P	P	08 20 42.3	-0.4
	1.0nm,0.5s,mb3.5,baz=328,slow=11,SNR=14						
WRA				PcP	PcP	08 24 42.7	-0.4
	0.2nm,0.4s,baz=326,slow=2.1,SNR=5.3						
WB2	Warramunga Arr	21.84	155	*e*P	P	08 20 43.0	+0.3
ASAR	Alice Springs	25.03	160	P	P	08 21 15.3	+1.3
	0.4nm,0.5s,mb3.2,baz=352,slow=15,SNR=9.7						
ASAR				PcP	PcP	08 24 49.6	-0.2
	0.8nm,0.4s,baz=351,slow=2.2,SNR=14						
CMAR	Chiang Mai Arr	31.30	308	LR	LR	08 36 09.1	
	comp=Z,48nm,19.1s,MS3.2,baz=314,slow=39						
ENH	Enshi	33.53	336	*e*P	P	08 22 31.6	+1.4
	6.0nm,0.5s,mb4.8						
STKA	Stephens Creek	35.38	155	P	P	08 22 46.2	+0.1
	1.0nm,0.6s,mb3.9,baz=330,slow=12,SNR=2.3						
SONM	Songino Array	50.38	344	P	P	08 24 46.9	-0.6
	1.6nm,0.5s,mb4.3,baz=159,slow=8.5,SNR=14						
SONM				PcP	PcP	08 26 05.0	-1.3
	0.3nm,0.5s,baz=225,slow=1.7,SNR=2.8						
MKAR	Makanchi Array	59.62	328	P	P	08 25 53.0	-1.7
	3.7nm,0.7s,mb4.6,baz=118,slow=8.3,SNR=23						
MKAR				PcP	PcP	08 26 40.4	-1.2
	1.5nm,0.6s,baz=117,slow=5.4,SNR=6.0						
MKAR	Makanchi Array	59.62	328	P	P	08 25 53.0	-1.7
MKAR				PcP	PcP	08 26 40.4	-1.2
VNDA	Vanda	79.86	172	P	P	08 27 58.2	+0.2
	0.6nm,0.7s,mb3.7,baz=298,slow=5.0,SNR=3.7						
KMBO	Kilima Mbogo	87.37	269	P	P	08 28 38.3	+0.7
	1.6nm,0.8s,mb4.3,baz=52,slow=12,SNR=3.4						
ILAR	Eielson Array	89.50	25	P	P	08 28 45.9	-0.7
	0.3nm,0.4s,mb4.0,baz=262,slow=4.1,SNR=6.9						
ILAR				LR	LR	09 08 43.7	
	comp=Z,49nm,19.0s,MS4.0,baz=239,slow=36						
ARCES	ARCESS Array B	93.35	340	P	P	08 29 03.5	-0.7
	0.3nm,0.5s,mb4.0,baz=106,slow=8.8,SNR=5.0						
SPITS	Spitsbergen Ar	93.87	349	P	P	08 29 06.1	-0.3
	8.0nm,1.1s,mb5.1,baz=76,slow=7.4,SNR=3.8						
FINES	FINESS Array B	94.25	332	P	P	08 29 10.8	+2.3
	0.2nm,0.5s,mb3.8,baz=53,slow=9.5,SNR=3.5						

MEX 05 08:23:11.3±0.4**, 13.84N×94.22W, h33^{km}**±94^{km}**, MD4.4, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPX	Tapachula	2.17	61	*i* P	P	08 23 43.5	-2.3
TPX				*i* S	S	08 24 08.5	-3.3
CCIG	Comitan	3.15	39	*e*P	P	08 23 57.7	-2.1
CCIG				*i* S	S	08 24 31.8	-4.9
CMIG	Matias Romero	3.30	349	*i* P	P	08 24 00.0	-1.8
CMIG				*i* S	S	08 24 36.6	-3.7
OXX	Oaxaca	4.03	324	*e*P	P	08 24 08.0	-4.2

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*ISK **05** 09:04:58.7, 36.89N×27.78E, h16^{km}, MD3.0*
*NEIC **05** 09:05:02.0, 36.74N×27.73E, h5^{km}, MD3.2(ATH), After ATH.*
*ATH **05** 09:05:02.1, 36.71N×27.71E, h5^{km}, MD3.2/5*
ISC 05 09:05:00.2±0.6**, 36.95N**±0.04×**27.77E**±0.09**, h23^{km}**±9^{km}**, n10, σ0^{s}84**/12**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.34	2	*i* PG	Pb	09 05 07.3	-0.4
MLSB				SG	Sb	09 05 13.5	+0.6
YER	Yerkesik	0.45	66	*i* PG	Pb	09 05 08.6	-0.9
NISR	Nisiros	0.61	237	*e*PB	Pb	09 05 11.5	-0.7
ARG	Arkhangelos	0.79	158	*e*PB	Pb	09 05 14.2	-0.9
DENT	Denizli	1.29	51	*e*PN	Pn	09 05 23.2	+0.1
KARP	Karpathos	1.48	199	*e*Pg	Pn	09 05 26.0	+0.2
KARP				*e*Sb	Sb	09 05 46.0	+0.6
KSL	Kastellorizon	1.67	118	*e*PB	Pb	09 05 32.3	+2.2
ELL	Elmali	1.73	96	*e*PN	Pn	09 05 28.6	-0.8
AKS	Akhisar	1.93	1	*e*PN	Pn	09 05 32.5	+0.4
PRK	Paraskevi	2.58	333	*e*PN	Pn	09 05 50.5	+9.0

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*IDC **05** 09:05:34.5±5.8, 38.32S×73.71W, mb3.5/1, mb1 3.8/3, mb1mx3.7/14, ML3.7/2, Error ellipse: s-maj=105.0km s-min=19.5km az=65.0*
*NEIC **05** 09:05:37.3±2.4, 38.66S×74.29W, h88^{km}±20^{km}, mb3.6/1, Error ellipse: s-maj=37.6km s-min=18.5km az=88.0*
ISC 05 09:05:38.4±2.1**, 38.69S**±0.07×**74.0W**±0.3**, h105^{km}**±13^{km}**, n9, σ0^{s}74**/16**, mb3.5**/1**, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMCH	Temuco	1.10	93	⇑*i*P	P	09 05 54.6	-6.1
TMCH				*i* S	S	09 06 10.2	-7.2
VLCH	Valdivia	1.27	152	⇑*i*P	P	09 06 01.5	-1.1
VLCH				*i* S	S	09 06 21.7	+0.9
CCHI	Chillan	2.60	37	*i* P	P	09 06 19.0	-0.8
CCHI				*i* S	S	09 06 51.3	+0.5
PLCA	Paso Flores	3.37	128	Pn	P	09 06 30.9	+0.6
	1.0nm,0.3s,baz=306,slow=14,SNR=17						
PLCA				Pg	P	09 06 37.0	+6.7
	8.2nm,0.3s,baz=298,slow=13,SNR=58						
PLCA				Lg		09 07 21.6	
	7.5nm,0.3s,baz=43,slow=20,SNR=6.2						
PLCA	Paso Flores	3.37	128	*e*Pn	P	09 06 30.6	+0.3
PLCA				Pn	P	09 06 30.9	+0.6
PLCA				Pg	P	09 06 37.0	+6.7
PLCA				*e*Sn	S	09 07 21.1	+12
PLCA				Lg		09 07 21.6	
TRQA	Tornquist	9.48	90	*e*Pn	P	09 07 52.7	-0.7
CPUP	Villa Florida	18.68	54	P	P	09 09 50.9	+0.1
	0.1nm,0.3s,baz=238,slow=13,SNR=3.4						
LPAZ	La Paz	22.91	15	P	P	09 10 35.1	+1.2
	1.3nm,0.6s,mb3.4,baz=205,slow=10.0,SNR=7.8						
LPAZ	La Paz	22.91	15	*e*P	P	09 10 34.2	+0.3
	1.7nm,0.7s,mb3.5						

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*CASC **05** 09:08:30.9±1.8, 14.55N×94.38W, h31^{km}, MD4.8, ML5.2, mb4.8(NEIC)*
*MEX **05** 09:08:44.6±0.6, 14.24N×93.41W, h9^{km}±14^{km}, MD5.0*
*BJI **05** 09:08:44.1, 14.40N×93.10W, h30^{km}, mB5.3, Ms4.6, Msz4.6*
*NEIC **05** 09:08:46.1±1.8, 14.39N×93.07W, h31^{km}±12^{km}, mb4.8/43, MD5.0(MEX), Error ellipse: s-maj=8.1km s-min=5.1km az=198.0*
*IDC **05** 09:08:52.2±2.8, 14.58N×92.91W, h80^{km}±23^{km}, mb4.1/19, mb1 4.3/21, mb1mx4.3/24, MS4.1/16, Ms1 4.1/16, ms1mx4.0/25, Error ellipse: s-maj=22.4km s-min=12.3km az=64.0*
ISC 05 09:08:44.8±1.0**, 14.49N**±0.04×**93.21W**±0.03**, h28^{km}**±8^{km}**, n167, σ1^{s}25**/181**, mb4.6**/48**, MS4.3**/18**, 7C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPX	Tapachula	1.01	66	*i* P	Pn	09 09 05.0	+1.8
TPX				*i* S	Sb	09 09 23.0	+6.6
JAT	Jato	1.53	96	⇑*e*P	Pn	09 09 11.8	+1.1
JAT				*e*S	Sn	09 09 44.6	+15
FUG	Fuego 3	2.29	91	⇑*e*P	Pn	09 09 21.6	0.0
PCG	Pacaya	2.52	92	*e*P	Pn	09 09 26.9	+2.0
GCG	Guatemala City	2.59	88	*e*P	Pn	09 09 27.2	+1.3
IXG	Ixpaco	2.69	96	⇓*e*P	Pn	09 09 27.4	+0.1
IXG				*e*S	Sn	09 10 12.2	+13
IXG				AML	AML	09 10 17.0	
	comp=N,30µm,0.4s						
NBG	Las Nubes	2.77	88	⇑*e*P	Pn	09 09 30.1	+1.6
NBG				*e*S	Sn	09 10 13.7	+12
NBG				AML	AML	09 10 17.1	
	comp=N,13µm,0.5s						
CMIG	Matias Romero	3.05	328	*i* P	Pn	09 09 32.2	-0.2
CMIG				*i* S	Sn	09 10 08.5	+0.2
HUIG	Huatulco	3.08	295	*i* P	Pn	09 09 29.8	-3.0
HUIG				*i* S	Sn	09 10 04.7	-4.3
RBDL	Robledal	3.44	96	⇓*e*P	Pn	09 09 38.1	+0.3
MRL	Marmol	3.45	80	⇑*e*P	Pn	09 09 39.3	+1.2
MRL				*e*S	Sn	09 10 31.8	+13
RTR	El Retiro	3.51	99	⇑*e*P	Pn	09 09 39.1	+0.2
RTR				*e*S	Sn	09 10 33.4	+13
SBLS	San Blas	3.54	100	⇑*e*P	Pn	09 09 39.1	-0.3
SNJE	San Jose	3.55	100	⇑*e*P	Pn	09 09 39.5	0.0
TUIG	Tuzandepetl	3.71	342	*i* P	Pn	09 09 42.4	+0.6
TUIG				*i* S	Sn	09 10 29.6	+4.4
MTO2	Montecristo 2	3.73	91	*e*P	Pn	09 09 45.0	+3.0
BOQS	Boqueron	3.88	101	⇓*e*P	Pn	09 09 44.0	-0.3
LBRS	Las Brisas	4.11	100	*e*P	Pn	09 09 47.4	-0.1
LFRS	El Faro	4.12	102	*e*P	Pn	09 09 47.5	-0.1
LFRS				*e*S	Sn	09 10 49.3	+14
LCBS	La Ceiba	4.19	101	*e*P	Pn	09 09 48.2	-0.4
OXX	Oaxaca	4.25	308	*i* P	Pn	09 09 49.5	0.0
SNVI	San Vicente	4.33	101	*e*P	Pn	09 09 51.2	+0.6
EVV	El Vigia	4.45	333	*e*P	Pn	09 09 56.0	+3.7
BLLM	Bellamira	4.94	102	*e*P	Pn	09 10 02.3	+3.1
PNIG	Pinotepa	5.11	292	*i* S	Sn	09 10 55.6	-4.7
CNCH	Conchagua	5.36	102	*e*P	Pn	09 10 05.6	+0.4
LVIG	Laguna Verde	6.04	330	*i* P	Pn	09 10 12.6	-2.2
LVIG				*i* S	Sn	09 11 22.0	-1.8
PYN	Poneloya	6.37	108	*e*P	Pn	09 10 20.1	+0.6
TEL3	Telica 3	6.48	106	*e*P	Pn	09 10 19.9	-1.0
TEL3				*e*S	Sn	09 11 44.2	+10
TELN	Telica	6.48	106	*e*P	Pn	09 10 20.4	-0.5
LEON	Leon	6.48	108	*e*P	Pn	09 10 20.9	0.0
CNGN	Cerro Negro	6.63	107	*e*P	Pn	09 10 22.6	-0.5
MIRN	Miramar	6.64	107	*e*P	Pn	09 10 21.4	-1.8
MOMJ	Momotombo	6.81	107	*e*P	Pn	09 10 25.6	-0.1
COPN	Copaltepe	6.84	109	*e*P	Pn	09 10 24.8	-1.2
PPM	Popocatepetl	6.90	312	*e*P	Pn	09 10 26.0	-0.9
PPM				*i* P		09 10 28.5	
PPM				*i* S	Sn	09 11 44.4	-0.8
XAVN	Gruta Xavier	7.09	108	*e*P	Pn	09 10 29.1	-0.5
YAIG	Yautepec	7.10	309	*i* P	Pn	09 10 27.5	-2.2
YAIG				*i* S	Sn	09 11 46.6	-3.6
MGAN	Managua	7.17	108	*e*P	Pn	09 10 29.6	-1.0
MGAN				*e*S	Sn	09 12 03.0	+11
PLIG	Platanillo	7.18	304	*i* P	Pn	09 10 27.7	-3.0
PLIG				*i* S	Sn	09 11 49.6	-2.6
WILN	Americas 2	7.22	108	*e*S	Sn	09 12 02.6	+9.4
WILN				*i*		09 12 13.1	
	comp=E,489nm,1.0s						
TICN	Ticuantepe	7.22	109	*e*P	Pn	09 10 29.7	-1.6
TEIG	Tepich	7.40	39	P	Pn	09 10 33.4	-0.5
	comp=E,0.0nm,0.3s,baz=230,slow=24,SNR=17						
TEIG				S	Sn	09 11 56.9	-0.8
	comp=E,0.0nm,0.3s,baz=347,slow=24,SNR=4.0						
UNM	Universidad Na	7.47	311	*e*P	Pn	09 10 40.0	+5.2
UNM				*i* S	Sn	09 11 54.0	-5.4
ZIIG	Zihuatanejo	8.52	292	*i* P	P	09 10 48.1	-1.4
JTS	JuntasAbangare	9.08	116	P	P	09 10 57.5	+0.3
	comp=E,1.3nm,0.3s,baz=316,slow=20,SNR=7.5						
JTS	JuntasAbangare	9.08	116	*e*Pn	P	09 10 58.3	+1.0
	comp=E,34nm,0.9s						
JTS				*e*Sn	Sn	09 12 54.2	+15
MOIG	Morelia	9.21	305	*i* P	P	09 10 56.5	-2.4
SFJM	Santa Fe	11.11	304	*e*P	P	09 11 26.0	+0.8
SOR	Soroa	12.71	48	*e*P	P	09 11 44.6	-2.1
	baz=262						
SOR				*e*S	S	09 14 08.5	+0.3
	comp=N,4µm,0.0s comp=E,5µm,0.0s						
HKT	Hockley	15.58	351	⇓*e*P	P	09 12 25.0	+0.7
	comp=E,208nm,1.8s						
HKT				*e*S	S	09 15 15.1	-1.2
JCT	Junction City	17.03	340	*e*P	P	09 12 43.6	+0.8
	comp=E,77nm,0.9s						
JCT				S	S	09 15 56.6	+6.7
NATX	Nacogdoches	17.24	356	*e*P	P	09 12 46.2	+0.8
	comp=E,136nm,1.6s						
NATX				*e*S	S	09 15 47.8	-6.8
DWPF	Disney	17.42	37	*e*P	P	09 12 46.0	-1.7
	comp=E,150nm,1.2s						
LTX	Lajitas	17.66	328	*e*P	P	09 12 53.1	+2.5
	comp=E,164nm,1.5s						
TXAR	Lajitas Array	17.66	328	P	P	09 12 52.4	+1.8
	comp=E,0.3nm,0.3s,baz=152,slow=10,SNR=61						
TXAR				LR	LR	09 20 04.7	
	comp=E,284nm,19.9s,baz=195,slow=38						
TXAR	Lajitas Array	17.66	328	P	P	09 12 52.4	+1.8
LRAL	Lakeview Retre	19.31	16	*e*P	P	09 13 10.1	-0.6
	comp=E,23nm,0.9s						
LRAL				*e*		09 13 28.2	
CLNB	Carlsbad	20.20	333	*e*P	P	09 13 21.4	+1.0
UALR	University of	20.21	2	*e*P	P	09 13 18.5	-2.0
	comp=E,56nm,1.3s						
UALR				*e*S	S	09 16 53.1	-7.5
OXF	Oxford	20.23	9	*e*P	P	09 13 18.2	-2.5
	comp=E,43nm,0.9s						
OXF				*e*S	S	09 17 02.5	+1.5
OTAV	Otavalo	20.34	133	*e*P	P	09 13 26.0	+4.1
	comp=E,8.6nm,1.0s						
GDL2	Guadalupe Moun	20.36	332	*e*P	P	09 13 22.5	+0.5
WMOK	Wichita Mounta	20.78	347	*e*P	P	09 13 25.4	-0.9
	comp=E,17nm,0.8s						
WMOK				*e*S	S	09 17 08.3	-3.6
ROSC	El Rosal	20.91	115	P	P	09 13 29.2	+1.4
	comp=E,31nm,0.8s,baz=118,slow=1.9,SNR=18						
PLAL	Pickwick Lake	20.92	12	*e*P	P	09 13 26.2	-1.6
	comp=E,33nm,1.0s						
PLAL				*e*S	S	09 17 18.1	+3.4
SWET	Sewanee	21.65	16	*e*P	P	09 13 34.9	-0.3
SWET				*e*S	S	09 17 38.1	+10
CSU	Charleston Sou	21.95	31	*e*P	P	09 13 38.1	-0.1
GLAT	Glass	21.97	8	P	P	09 13 35.4	-2.9
GLAT				*e*		09 13 51.1	
NHSC	New Hope	22.00	30	*e*P	P	09 13 39.0	+0.4
	comp=E,324nm,1.3s,mb5.6						
TWB	Tillmans-White	22.04	30	*e*P	P	09 13 39.5	+0.4
CPCT	Cooper Cave	22.29	19	*e*P	P	09 13 41.6	+0.1
CPCT				*e*		09 13 55.0	
CPCT				*e*		09 17 37.0	
SDV	Santo Domingo	22.79	102	*e*P	P	09 13 46.9	+0.2
	comp=E,24nm,0.8s,mb4.7						
BNM	Barren Site	23.03	331	*e*P	P	09 13 50.8	+1.9
LPM	Los Pinos Moun	23.17	331	*e*P	P	09 13 52.2	+2.0
LENM	Lemitar	23.21	330	*e*P	P	09 13 52.8	+2.2
LAZ	Ladron	23.48	330	*e*P	P	09 13 55.7	+2.4
FVM	French Village	23.53	6	*e*P	P	09 13 53.1	-0.5
	comp=E,12nm,0.9s,mb4.3						
CCM	Cathedral Cave	23.54	4	*e*P	P	09 13 52.1	-1.6
	comp=E,49nm,0.9s,mb4.9						
TUC	Tucson	23.91	321	*e*P	P	09 13 59.4	+2.0
	comp=E,30nm,1.1s,mb4.6						
SLM	Saint Louis	24.20	6	*e*P	P	09 13 59.2	-1.0
	comp=E,49nm,0.8s,mb5.0						
CBKS	Cedar Bluff	24.91	348	*e*P	P	09 14 07.5	+0.5
	comp=E,53nm,0.8s,mb5.1						
ELN	Prospectdale	25.22	24	*e*P	P	09 14 09.2	-0.7
FWV	Forest Hill	25.50	23	*e*P	P	09 14 11.8	-0.9
FWV				*e*		09 14 27.5	
SDCO	Great Sand Dun	25.61	337	*e*P	P	09 14 15.0	+1.4
	comp=E,47nm,1.2s,mb4.9						
SDCO				*e*		09 14 27.2	
RW3	Ridgway	26.91	334	*e*P	P	09 14 26.9	+1.2
PV01	Paradox Valley	27.20	333	*e*P	P	09 14 29.6	+1.3
PV01				*e*		09 14 44.8	
ISCO	Idaho Springs	27.46	339	*e*P	P	09 14 31.0	+0.3
	comp=E,16nm,1.2s,mb4.4						
PV10	Paradox Valley	27.61	332	*e*P	P	09 14 32.2	+0.2
LDFC	Landfair	28.44	320	*e*P	P	09 14 41.5	+2.0
LDFC				*e*		09 14 54.0	
NEN	Nelson	28.65	321	*e*P	P	09 14 42.7	+1.4
SRU	San Rafael	28.88	331	*e*P	P	09 14 44.9	+1.4
MSU	Marysvale	29.21	329	*e*P	P	09 14 47.6	+1.1
MVU	Marysvale	29.23	328	*e*P	P	09 14 47.8	+1.2
	comp=E,6.4nm,1.1s,mb4.3						
HWUT	Hardware Ranch	31.36	333	*e*P	P	09 15 05.9	+0.4
	comp=E,9.4nm,1.1s,mb4.5						
HWUT				*e*PcP	PcP	09 17 58.6	-0.4
PDAR	Pinedale Array	31.50	337	P	P	09 15 06.8	+0.2
	comp=E,5.9nm,1.1s,mb4.3,baz=137,slow=7.0,SNR=17						
PDAR				PcP	PcP	09 17 57.6	-1.7
	comp=E,0.9nm,0.8s,baz=149,slow=5.3,SNR=2.8						
TPH	Tonopah	31.68	322	*e*P	P	09 15 09.4	+1.1
	comp=E,4.7nm,0.9s,mb4.3						
HVU	Hansel Valley	32.04	332	*e*P	P	09 15 12.5	+1.1
AHID	Auburn Hatcher	32.11	335	*e*P	P	09 15 12.6	+0.6
	comp=E,28nm,1.3s,mb4.9						

SADO	Sadowa	32.46	19	P	P	09 15 14.4	-0.6
	comp=E,6.4nm,0.9s,mb4.5,baz=176,slow=3.7,SNR=3.3						
MNV	Mina	32.47	322	eP	P	09 15 16.6	+1.4
	comp=E,14nm,0.9s,mb4.8						
MNV				ePcP	PcP	09 18 01.8	-0.2
REDW	Red Top Meadow	32.51	336	eP	P	09 15 16.1	+0.6
NVAR	Mina Array Bea	32.56	322	P	P	09 15 17.6	+1.6
	comp=E,11nm,0.8s,mb4.8,baz=129,slow=9.2,SNR=82						
NVAR				PcP	PcP	09 18 01.9	-0.3
	comp=E,2.2nm,0.8s,baz=122,slow=4.9,SNR=6.2						
NVAR				LR	LR	09 29 49.6	
	comp=E,272nm,18.0s,MS4.0,baz=270,slow=38						
NVAR	Mina Array Bea	32.56	322	P	P	09 15 17.6	+1.6
NVAR				PcP	PcP	09 18 01.9	-0.3
BMN	Battle Mountai	33.28	326	eP	P	09 15 23.9	+1.7
	comp=E,8.9nm,1.0s,mb4.7						
CMB	Columbia Colle	33.60	319	eP	P	09 15 25.5	+0.5
	comp=E,7.3nm,1.1s,mb4.5						
CMB				e		09 15 31.4	
YMR	Madison River	33.65	337	eP	P	09 15 26.6	+1.2
LAO	LASA Array	33.90	344	eP	P	09 15 26.5	-1.0
	comp=E,22nm,1.1s,mb5.0						
QLMT	Earthquake Lak	33.97	337	eP	P	09 15 30.1	+2.0
HLID	Hailey	34.19	332	eP	P	09 15 30.9	+0.8
	comp=E,10.0nm,0.9s,mb4.8						
MCMT	McKenzie Canyo	34.53	335	eP	P	09 15 34.9	+2.0
BOZ	Bozeman (W)	34.73	337	eP	P	09 15 34.8	+0.2
	comp=E,14nm,1.1s,mb4.8						
WVOR	Wild Horse Val	35.44	327	eP	P	09 15 42.0	+1.3
	comp=E,21nm,1.2s,mb5.0						
WVOR				ePcP	PcP	09 18 11.0	+0.6
HRY	Holter Researc	35.71	338	eP	P	09 15 43.8	+0.8
HRY				e		09 15 56.4	
ULM	Lac du Bonnet	35.73	357	P	P	09 15 41.0	-2.1
	comp=E,12nm,0.9s,mb4.8,baz=182,slow=8.2,SNR=13						
ULM				PcP	PcP	09 18 10.2	-0.9
	comp=E,5.1nm,0.9s,baz=195,slow=3.6,SNR=3.2						
ULM				LR	LR	09 32 23.8	
	comp=E,235nm,21.7s,MS3.9,baz=201,slow=40						
ULM	Lac du Bonnet	35.73	357	eP	P	09 15 39.5	-3.7
	comp=E,18nm,1.0s,mb5.0						
MOD	Modoc	35.99	325	eP	P	09 15 45.8	+0.4
	comp=E,13nm,1.1s,mb4.8						
CHMT	Chamberlain Mo	36.41	337	eP	P	09 15 49.1	+0.2
CHMT				ePP	PP	09 17 14.4	+1.6
MSO	Missoula	36.61	336	eP	P	09 15 51.0	+0.4
	comp=E,6.3nm,0.9s,mb4.5						
LNOR	Lincton Mounta	37.74	331	eP	P	09 15 59.5	-0.6
SAML	Samuel	37.80	126	eP	P	09 15 57.4	-3.5
	comp=E,3.3nm,0.8s,mb4.1						
KBO	Bosley Butte	38.45	322	eP	P	09 16 08.1	+2.0
NEW	Newport	39.05	335	P	P	09 16 11.0	0.0
	comp=E,4.1nm,0.9s,mb4.2						
DPW	Davenport	39.20	333	eP	P	09 16 12.9	+0.6
LPAZ	La Paz	39.36	140	P	P	09 16 12.3	-1.5
	comp=E,0.9nm,0.7s,mb3.6,baz=332,slow=12,SNR=2.5						
LPAZ				LR	LR	09 30 53.9	
	comp=E,222nm,20.2s,MS4.0,baz=76,slow=34						
LON	Longmire	40.07	329	eP	P	09 16 20.2	+0.8
FFC	Flin Flon	40.73	352	eP	P	09 16 23.8	-1.0
	comp=E,8.4nm,1.0s,mb4.3						
RPW	Rockport	41.12	331	eP	P	09 16 28.6	+0.5
SCHQ	Schefferville	45.18	21	PcP	PcP	09 18 39.6	-1.8
	comp=E,2.6nm,0.5s,baz=239,slow=4.6,SNR=6.7						
SCHQ				LR	LR	09 37 20.5	
	comp=E,743nm,18.3s,MS4.7,baz=111,slow=38						
YKA	Yellowknife Ar	50.29	347	P	P	09 17 40.1	-0.6
	comp=E,22nm,0.7s,mb5.3,baz=150,slow=7.5,SNR=75						
YKW3	Yellowknife Ar	50.35	347	eP	P	09 17 40.8	-0.4
DLBC	Dease Lake	51.73	336	eP	P	09 17 53.1	+1.3
DLBC				ePcP	PcP	09 19 08.8	+3.8
CPUP	Villa Florida	53.51	139	P	P	09 18 04.2	-1.3
	comp=E,1.9nm,0.9s,mb4.0,baz=342,slow=6.4,SNR=2.5						
CPUP				LR	LR	09 40 43.1	
	comp=E,140nm,21.0s,MS4.0,baz=339,slow=36						
BDFB	Brasilia	53.77	122	P	P	09 18 05.2	-2.2
	comp=E,3.4nm,0.5s,mb4.5,baz=283,slow=7.2,SNR=4.9						
BDFB				LR	LR	09 42 13.6	
	comp=E,137nm,20.8s,MS4.0,baz=129,slow=37						
DAWY	Dawson	58.79	338	eP	P	09 18 41.9	-0.9
PLCA	Paso Flores	58.83	160	P	P	09 18 43.5	+0.1
	comp=E,1.9nm,0.7s,mb4.2,baz=298,slow=8.9,SNR=5.8						
PLCA				LR	LR	09 38 42.2	
	comp=E,202nm,19.5s,MS4.2,baz=187,slow=30						
PLCA	Paso Flores	58.83	160	P	P	09 18 43.5	+0.1
INK	Inuvik	59.64	344	eP	P	09 18 47.8	-0.9
	comp=E,21nm,1.1s,mb5.1						
RES	Resolute Bay	60.20	359	eP	P	09 18 50.2	-2.2
	comp=E,15nm,0.8s,mb5.1						
SML	Sawmill	61.20	334	eP	P	09 18 59.1	-0.1
PMR	Palmer	61.45	333	eP	P	09 19 00.6	-0.4
	comp=E,8.3nm,0.8s,mb4.9						
ILAR	Eielson Array	61.93	337	P	P	09 19 03.2	-1.0
	comp=E,6.8nm,0.8s,mb4.8,baz=135,slow=4.4,SNR=56						
ILAR				LR	LR	09 48 40.9	
	comp=E,174nm,18.8s,MS4.2,baz=149,slow=38						
MCK	McKinley	62.27	335	eP	P	09 19 06.0	-0.5
	comp=E,9.7nm,1.1s,mb4.8						
COLA	College	62.34	337	eP	P	09 19 06.3	-0.7
	comp=E,12nm,1.0s,mb5.0						
SPU	Mount Spurr	62.59	332	eP	P	09 19 07.8	-0.9
JMIC	Jan Mayen	74.68	20	LR	LR	09 53 47.6	
	comp=E,319nm,20.2s,MS4.6,baz=272,slow=36						
EKA	Eskdalemuir Ar	78.25	36	P	P	09 20 40.8	-2.8
	comp=E,2.1nm,0.7s,mb4.2,baz=277,slow=5.7,SNR=10						
SPITS	Spitsbergen Ar	79.84	11	P	P	09 20 50.2	-1.6
	comp=E,3.0nm,0.7s,mb4.3,baz=153,slow=4.5,SNR=4.8						
SPITS				LR	LR	09 57 51.8	
	comp=E,16nm,18.9s,MS3.4,baz=285,slow=37						
ESDC	Sonseca Array	80.33	52	P	P	09 20 52.6	-2.6
	comp=E,0.7nm,0.5s,mb3.9,baz=290,slow=5.7,SNR=7.9						
ESDC				LR	LR	09 51 23.8	
	comp=E,138nm,21.6s,MS4.3,baz=215,slow=32						
NB2	NORSAR Subarra	84.28	28	P	P	09 21 14.8	-0.3
	comp=E,8.6nm,1.4s,mb4.7,baz=292,slow=5.3						
NOA	NORSAR Array B	84.28	28	P	P	09 21 14.8	-0.2
	comp=E,1.8nm,0.6s,mb4.3,baz=290,slow=5.2,SNR=3.4						
NOA				LR	LR	09 57 21.0	
	comp=E,145nm,20.8s,MS4.3,baz=280,slow=35						
HFS	Hagfors	85.74	29	P	P	09 21 21.2	-1.2
	comp=E,2.5nm,0.8s,mb4.5,baz=233,slow=7.2,SNR=5.8						
ARCES	ARCESS Array B	86.04	18	P	P	09 21 23.6	-0.2
	comp=E,3.1nm,0.7s,mb4.7,baz=288,slow=3.8,SNR=12						
ARCES				LR	LR	10 00 21.3	
	comp=E,191nm,18.6s,MS4.5,baz=280,slow=36						
GERES	GERESS Array B	89.97	39	P	P	09 21 42.1	-0.9
	comp=E,0.5nm,0.3s,mb4.3,baz=284,slow=4.0,SNR=3.7						
FINES	FINESS Array B	90.55	25	P	P	09 21 44.0	-1.4
	comp=E,1.3nm,0.7s,mb4.4,baz=333,slow=4.3,SNR=6.4						
FINES				LR	LR	10 04 16.3	
	comp=E,121nm,18.3s,MS4.4,baz=40,slow=37						
AKASG	Malin Array Be	97.96	33	LR	LR	10 11 09.4	
	comp=E,87nm,18.8s,MS4.3,baz=255,slow=38						
MKAR	Makanchi Array	118.87	4	PKP	PKPdf	09 27 30.9	-4.9
	comp=E,0.8nm,0.6s,slow=4.9,SNR=7.6						
SSE	Sheshan	123.91	324	PKP	PKPdf	09 27 36.2	-10
SSE				LR	LR		
	comp=N,34nm,17.9s,MS4.2						
SSE				LR	LR		
	comp=E,25nm,17.9s,MS4.2						
SSE				LR	LR		
	comp=Z,25nm,21.0s,MS3.9						
NJ2	Nanjing	124.45	327	ePKP	PKPdf	09 27 38.0	-9.0
NJ2				XPKP		09 27 52.1	
NJ2				PP	PP	09 29 31.0	-1.8
NJ2				PPP	PPP	09 32 10.0	-1.7
NJ2				SKS	SKS	09 34 53.0	+2.9
NJ2				LR	LR		
	comp=N,290nm,17.3s,MS5.3						
NJ2				LR	LR		
	comp=E,580nm,22.0s,MS5.3						
MAW	Mawson	124.68	169	PKP	PKPdf	09 27 41.3	-5.2
	comp=E,1.0nm,0.6s,baz=325,slow=7.3,SNR=3.6						
LZH	Lanzhou	127.18	343	ePKP	PKPdf	09 27 48.8	-3.4
LZH				sPKP		09 28 14.1	
STKA	Stephens Creek	127.27	241	PKP	PKPdf	09 27 48.0	-4.4
	comp=E,1.4nm,0.8s,baz=354,slow=21,SNR=2.6						
WRA	Warramunga Arr	134.37	256	PKP	PKPdf	09 28 01.6	-4.6
	comp=E,0.7nm,0.7s,baz=78,slow=1.9,SNR=9.4						
ASAR	Alice Springs	134.72	251	PKP	PKPdf	09 28 03.0	-3.8
	comp=E,0.4nm,0.6s,baz=109,slow=2.2,SNR=5.6						
KMI	Kunming	137.67	338	ePKP	PKPdf	09 28 08.3	-3.9
KMI				LR	LR		
	comp=Z,102nm,20.0s,MS4.6						
CMAR	Chiang Mai Arr	145.14	340	PKPbc	PKPbc	09 28 21.0	0.0
	comp=Z,7.7nm,0.7s,baz=346,slow=3.5,SNR=32						
HYB	Hyderabad	147.27	15	iPKP	PKPdf	09 28 23.1	-6.1

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*BJI **05** 09:17:02.6, 24.30S×67.00W, h159^{km}, mB4.8*
*NEIC **05** 09:17:02.6±0.6, 24.31S×66.96W, h160^{km}±5^{km}, mb4.4/25, Error ellipse: s-maj=8.2km s-min=5.3km az=68.0*
*SYO **05** 09:17:02.6, 24.31S×66.96W, h160^{km}, MB4.4*
*IDC **05** 09:17:03.6±1.1, 24.25S×66.92W, h165^{km}±9^{km}, mb4.0/12, mb1 4.1/17, mb1mx4.1/19, Error ellipse: s-maj=16.0km s-min=10.6km az=64.0*
*GUC **05** 09:17:05.3±0.9, 24.61S×67.51W, h200^{km}, ML5.2*
ISC 05 09:17:01.9±0.6, **24.33S**±0.04×**67.03W**±0.06, **h166**^{km}±5^{km}, **n86**, σ1§**12**/79, **mb4.3**/32, **1C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.43	314	P	P	09 17 45.8	+2.3
	123nm,0.3s,baz=139,slow=6.5,SNR=1397						
LVC				S	S	09 18 17.3	+1.8
	216nm,0.3s,baz=282,slow=22,SNR=52						
LVC	Limon Verde	2.43	314	ePn	P	09 17 45.9	+2.4
CPN1	Cerro Paranal	3.09	264	eP	P	09 17 52.6	+0.9
CPN1				iS	S	09 18 28.1	-1.8
CPN1				AMP		09 18 31.0	
	comp=E,4µm,0.5s						
ANCH	Antofagasta	3.16	281	⇑iP	P	09 17 53.3	+0.8
ANCH				iS	S	09 18 29.5	-1.9
ANCH				AMP		09 18 32.0	
	comp=N,6µm,0.5s						
CPCH	Copiapo	4.25	224	⇓iP	P	09 18 04.8	-1.8
CPCH				iS	S	09 18 50.9	-5.6
VACH	Vallenar	5.39	218	iS	S	09 19 16.4	-6.8
TLL	Tololo Astrono	6.72	209	iS	S	09 19 50.0	-4.7
LPAZ	La Paz	8.07	352	P	P	09 18 58.4	+1.4
	comp=N,3.3nm,0.3s,baz=162,slow=5.9,SNR=60						
LPAZ				S	S	09 20 27.1	+0.3
	comp=N,0.6nm,0.3s,baz=331,slow=23,SNR=3.7						
LPAZ	La Paz	8.07	352	ePn	P	09 18 57.8	+0.8
ARE	Arequipa	8.87	331	eP	P	09 19 06.5	-1.1
ARE				eS	S	09 20 40.3	-5.7
CPUP	Villa Florida	9.00	105	P	P	09 19 09.5	+0.2
	comp=N,0.5nm,0.3s,baz=305,slow=12,SNR=12						
CPUP	Villa Florida	9.00	105	ePn	P	09 19 09.2	-0.1
	comp=N,15nm,0.6s						
CPUP				e		09 19 18.7	
TRQA	Tornquist	14.35	164	eP	P	09 20 18.1	-0.2
	comp=N,23nm,0.8s						
SAML	Samuel	15.73	14	eP	P	09 20 34.3	-1.5
	comp=N,2.9nm,0.6s						
PLCA	Paso Flores	16.62	189	P	P	09 20 47.3	+0.7
	comp=N,0.2nm,0.3s,baz=11,slow=15,SNR=7.6						
PLCA				S	S	09 24 03.5	+19
	comp=N,0.1nm,0.3s,baz=250,slow=15,SNR=2.6						
PLCA	Paso Flores	16.62	189	eP	P	09 20 47.0	+0.5
	comp=N,16nm,0.8s						
PLCA				e		09 20 54.5	
BDFB	Brasilia	19.83	68	P	P	09 21 20.6	-1.1
	comp=N,3.7nm,0.3s,baz=244,slow=10.0,SNR=30						
OTAV	Otavalo	26.82	334	P	P	09 22 30.7	+2.0
	comp=N,1.9nm,0.7s,mb3.8						
ROSC	El Rosal	29.87	345	P	P	09 22 57.5	+1.4
	comp=N,3.3nm,0.4s,mb4.4,baz=147,slow=22,SNR=2.8						
USHA	Ushuaia	30.48	182	P	P	09 23 01.0	-0.1
	comp=N,14nm,1.1s,mb4.6,baz=14,slow=12,SNR=2.2						
RCBR	Riachuelo	35.09	63	P	P	09 23 40.3	-0.8
	comp=N,3.1nm,0.6s,mb4.1						
JTS	JuntasAbangare	38.60	331	P	P	09 24 12.0	+1.4
	comp=N,6.7nm,1.0s,mb4.2,baz=296,slow=22,SNR=2.9						
VNA1	Neumayer--Stat	57.05	160	e	pP	09 27 10.0	-0.8
VNA1	Neumayer--Stat	57.05	160	e	sP	09 27 31.0	+2.0
VNA1	Neumayer--Stat	57.05	160	⇓iPKPdf	P	09 26 34.4	+2.1
VNA1				e	pP	09 27 10.0	-0.8
VNA1				e		09 27 31.0	
SNAA	Sanae	59.05	161	e	pP	09 27 21.0	-4.1
SNAA	Sanae	59.05	161	e	sP	09 27 41.6	-1.6
SNAA	Sanae	59.05	161	⇓iPKPdf	P	09 26 45.0	-1.3
SNAA				e	pP	09 27 21.0	-4.1
SNAA				e		09 27 41.6	
SWET	Sewanee	61.87	342	eP	P	09 27 03.3	-2.6
OXF	Oxford	62.26	339	eP	P	09 27 05.5	-2.9
	comp=N,14nm,0.9s,mb4.8						
BLA	Blacksburg	62.50	348	eP	P	09 27 08.8	-1.2
	comp=N,5.8nm,0.6s,mb4.6						
ELN	Prospectdale	62.58	348	eP	P	09 27 09.4	-1.1
JCT	Junction City	62.91	328	eP	P	09 27 11.4	-1.4
	comp=N,8.2nm,0.7s,mb4.7						
MIAR	Mount Ida	63.74	336	eP	P	09 27 16.7	-1.6
	comp=N,3.3nm,0.5s,mb4.4						
TXAR	Lajitas Array	63.93	325	P	P	09 27 18.6	-0.9
	comp=N,1.2nm,0.8s,mb3.8,baz=153,slow=8.5,SNR=18						
TXAR				PcP	PcP	09 27 53.3	-0.1
	comp=N,0.3nm,0.6s,baz=141,slow=5.8,SNR=3.8						
WMOK	Wichita Mounta	66.02	332	eP	P	09 27 30.8	-2.1
	comp=N,1.6nm,0.8s,mb3.9						
GDL2	Guadalupe Moun	66.57	326	eP	P	09 27 35.6	-0.8
DBIC	Dimbokro	67.93	71	P	P	09 27 43.2	-1.9
	comp=N,4.2nm,1.0s,mb4.1,baz=116,slow=7.1,SNR=5.2						
DBIC	Dimbokro	67.93	71	P	P	09 27 43.2	-1.9
BNM	Barren Site	69.27	326	eP	P	09 27 53.2	+0.2
LAZ	Ladron	69.73	325	eP	P	09 27 56.3	+0.5
TUC	Tucson	70.12	321	eP	P	09 27 58.2	-0.1
	comp=N,5.4nm,1.1s,mb4.2						
SDCO	Great Sand Dun	71.55	329	eP	P	09 28 07.1	+0.4
	comp=N,6.3nm,0.9s,mb4.3						
RW3	Ridgway	73.00	328	eP	P	09 28 15.8	+0.5
ISCO	Idaho Springs	73.25	330	eP	P	09 28 17.1	+0.4
	comp=N,6.7nm,0.9s,mb4.4						
SYO	Syowa Base	73.25	159	⇓P	P	09 28 16.6	+0.5
SYO	Syowa Base	73.25	159	⇓PcP	PcP	09 28 26.3	-5.5
PV01	Paradox Valley	73.35	327	eP	P	09 28 18.0	+0.8
SBA	Scott Base	73.37	190	eP	P	09 28 18.2	+1.6
	comp=N,9.8nm,1.3s,mb4.4						
VNDA	Vanda	74.37	190	P	P	09 28 24.2	+1.7
	comp=N,3.4nm,1.0s,mb4.0,baz=123,slow=4.1,SNR=11						
VNDA	Vanda	74.37	190	P	P	09 28 24.2	+1.7
NEN	Nelson	74.86	321	eP	P	09 28 26.2	+0.2
SRU	San Rafael	75.08	326	eP	P	09 28 27.4	+0.3
MSU	Marysvale	75.48	325	eP	P	09 28 30.3	+0.9
JLU	Jordanelle	76.67	327	eP	P	09 28 36.8	+0.7
PDAR	Pinedale Array	77.42	329	P	P	09 28 40.2	+0.1
	comp=N,1.3nm,0.8s,mb3.6,baz=124,slow=7.0,SNR=9.5						
HWUT	Hardware Ranch	77.49	327	eP	P	09 28 40.8	+0.3
	comp=N,5.1nm,0.8s,mb4.2						
TPH	Tonopah	77.92	322	eP	P	09 28 43.6	+0.6
	comp=N,6.0nm,1.0s,mb4.2						
REDW	Red Top Meadow	78.48	329	eP	P	09 28 46.2	+0.3
ULM	Lac du Bonnet	78.53	342	P	P	09 28 45.1	-0.9
	comp=N,7.7nm,0.8s,mb4.4,baz=156,slow=6.9,SNR=11						
OMM	Old Mammoth Mi	78.62	320	eP	P	09 28 47.2	+0.4
NVAR	Mina Array Bea	78.78	321	P	P	09 28 48.5	+0.8
	comp=N,1.4nm,0.7s,mb3.7,baz=138,slow=6.7,SNR=13						
SCHQ	Schefferville	78.83	0	P	P	09 28 47.0	-0.5
	comp=N,2.0nm,0.7s,mb3.9,baz=212,slow=14,SNR=4.7						
HLID	Hailey	80.35	327	eP	P	09 28 57.0	+1.0
	comp=N,9.8nm,0.8s,mb4.5						
MCMT	McKenzie Canyo	80.53	329	eP	P	09 28 57.8	+0.9
BOZ	Bozeman (W)	80.58	330	eP	P	09 28 56.4	-0.7
	comp=N,7.5nm,1.3s,mb4.2						
MAW	Mawson	81.13	163	eP	P	09 29 00.2	+0.6
	comp=N,4.9nm,0.6s,mb4.3						
MAW	Mawson	81.13	163	P	P	09 29 00.7	+1.1
	comp=N,7.6nm,0.8s,mb4.4,baz=205,slow=6.4,SNR=16						
HRY	Holter Researc	81.48	331	eP	P	09 29 02.1	+0.3
MOD	Modoc	82.26	323	eP	P	09 29 06.4	+0.4
	comp=N,7.8nm,1.1s,mb4.2						
LBTB	Lobatse	82.28	114	eP	P	09 29 05.5	-0.9
	comp=N,4.5nm,0.7s,mb4.2						
DPW	Davenport	85.29	328	eP	P	09 29 20.9	-0.1
FCC	Fort Churchill	85.77	346	eP	P	09 29 22.7	-0.4
	comp=N,20nm,0.8s,mb4.9						
RMW	Rattlesnake Mo	86.78	326	eP	P	09 29 27.2	-1.0
LSZ	Lusaka	88.44	106	eP	P	09 29 38.9	+2.0
	comp=N,4.2nm,0.8s,mb4.3						
CASY	Casey	89.66	179	eP	P	09 29 40.8	-0.6
	comp=N,12nm,0.8s,mb4.9						
YKA	Yellowknife Ar	94.42	340	P	P	09 30 03.3	-0.1
	comp=N,2.2nm,0.6s,mb4.5,baz=133,slow=4.5,SNR=8.3						
ASAR	Alice Springs	128.15	205	PKP	PKPdf	09 35 49.6	+0.6
	comp=N,2.3nm,0.7s,baz=145,slow=2.1,SNR=21						
WRA	Warramunga Arr	131.32	207	PKP	PKPdf	09 35 56.3	+1.2
	comp=N,1.3nm,0.5s,baz=162,slow=1.7,SNR=44						
FITZ	Fitzroy Crossi	136.06	197	PKP	PKPdf	09 36 05.3	+1.4
	comp=N,1.1nm,0.8s,baz=189,slow=10,SNR=3.7						
MKAR	Makanchi Array	146.79	40	PKP	PKPdf	09 36 23.9	+1.9
	comp=N,12nm,0.7s,baz=315,slow=1.7,SNR=67						
MKAR				PKPbc	PKPbc	09 36 25.4	+1.7
	comp=N,11nm,0.7s,baz=308,slow=3.5,SNR=64						
WMQ	Urumqi	151.61	41	ePKP	PKPdf	09 36 31.0	+1.3
MDJ	Mudanjiang	155.65	330	PKP	PKPdf	09 36 36.8	+1.6
SONM	Songino Array	155.97	11	PKP	PKPdf	09 36 37.9	+2.5
	comp=N,0.3nm,0.4s,baz=326,slow=4.5,SNR=4.2						
SONM				PKPbc	PKPdf	09 36 47.4	+12
	comp=N,0.3nm,0.6s,baz=12,slow=0.6,SNR=3.8						
SONM				PKPab	PKPab	09 37 04.7	-1.3
	comp=N,0.8nm,0.5s,baz=308,slow=4.8,SNR=6.4						
CN2	Changchun	158.05	335	ePKP	PKPdf	09 36 40.2	+1.8
LZH	Lanzhou	165.88	32	ePKP	PKPdf	09 36 49.0	+2.4
LZH				APKP		09 37 32.7	
LZH				XPKP		09 37 48.7	

WEL 05 09:20:31.9±0.2, **36.98S**×**176.52E**, **h291**^{km}±3^{km}, **ML3.5**/1, **Error ellipse: s-maj=5.8km s-min=4.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	1.36	160	PN	P	09 21 13.3	-0.3
URZ				SN	S	09 21 45.6	-0.6
MWZ	Matawai	1.57	150	PN	P	09 21 14.9	0.0
MWZ				SN	S	09 21 48.1	-0.5
PUZ	Puketiti	1.76	129	PN	P	09 21 16.2	-0.1
PUZ				SN	S	09 21 50.4	-0.5
BKZ	Black Stump Fm	2.18	181	PN	P	09 21 19.6	-0.1
BKZ				SN	S	09 21 56.7	-0.3
KNZ	Kokohu	2.23	156	PN	P	09 21 19.7	-0.5
PKE	Pukeiti	2.98	221	SN	S	09 22 09.9	-0.4
MRZ	Mangatainoka R	3.75	191	PN	P	09 21 33.5	-1.8
MRZ				SN	S	09 22 22.8	-2.0
KIW	Kapiti Island	4.07	197	PN	P	09 21 36.9	-2.0
TUWZ	Tuamarina	4.87	203	PN	P	09 21 45.8	-2.3
TUWZ				SN	S	09 22 44.3	-3.4
NNZ	Nelson	4.88	209	PN	P	09 21 45.9	-2.4
NNZ				SN	S	09 22 45.1	-2.9
THZ	Tophouse	5.53	209	PN	P	09 21 53.3	-2.6
KHZ	Kahutara	5.89	202	PN	P	09 21 58.0	-2.3
MQZ	McQueen’s Vall	7.34	203	SN	S	09 23 35.9	-5.2

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*CASC **05** 09:33:44.2±2.3, 14.14N×93.31W, h87^{km}±55^{km}, MD4.3, ML4.9, mb4.0(NEIC)*
*MEX **05** 09:33:44.2±1.4, 14.12N×93.39W, h70^{km}±90^{km}, MD4.6*
*NEIC **05** 09:33:47.1±3.9, 14.37N×93.26W, h33^{km}±25^{km}, mb4.0/8, Error ellipse: s-maj=25.8km s-min=11.5km az=206.0*
*IDC **05** 09:33:52.9±3.7, 14.83N×92.91W, h74^{km}±33^{km}, mb3.8/8, mb1 4.0/10, mb1mx3.8/21, MS3.7/2, Ms1 3.7/2, ms1mx3.0/29, Error ellipse: s-maj=33.6km s-min=20.8km az=52.0*
ISC 05 09:33:42.5±1.5, **14.20N**±0.06×**93.34W**±0.03, **h18**^{km}±13^{km}, **n58**, σ1§**32**/67, **mb4.1**/12, **MS3.7**/2, **4C-1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPX	Tapachula	1.26	56	iP	Pn	09 34 05.0	-0.3
TPX				iS	Sn	09 34 23.0	+1.2
JAT	Jato	1.65	86	⇑eP	Pn	09 34 11.9	+1.0
JAT				eS	Sn	09 34 34.1	+2.3
JAT				AML	AML	09 34 38.5	
	comp=N,11µm,0.3s						
CCIG	Comitan	2.38	29	iP	Pn	09 34 22.3	+1.1
CCIG				iS	Sn	09 34 48.9	-1.3
FUG	Fuego 3	2.43	84	eP	Pn	09 34 21.7	-0.4
FUG				eS	Sn	09 34 49.9	-1.8
GCG	Guatemala City	2.75	82	eP	Pn	09 34 28.4	+1.8
IXG	Ixpaco	2.80	90	⇑eP	Pn	09 34 26.9	-0.3
IXG				eS	Sn	09 35 01.1	+0.3
IXG				AML	AML	09 35 12.2	
	comp=N,11µm,0.5s						
NBG	Las Nubes	2.92	82	⇑eP	Pn	09 34 30.2	+1.1
NBG				eS	Sn	09 35 05.8	+1.7
CMIG	Matias Romero	3.24	333	iP	Pn	09 34 31.9	-1.6
CMIG				iS	Sn	09 35 11.6	-0.5
CMIG	Matias Romero	3.24	333	iP	Pn	09 34 32.4	-1.2
CMIG				iS	Sn	09 35 11.6	-0.5
RBDL	Robledal	3.54	91	⇓eP	Pn	09 34 38.3	+0.4
RBDL				eS	Sn	09 35 18.9	-0.8
RTR	El Retiro	3.59	94	eP	Pn	09 34 39.4	+0.8
MRL	Marmol	3.63	76	⇑eP	Pn	09 34 39.2	+0.1
SNJE	San Jose	3.64	95	eP	Pn	09 34 37.7	-1.5
SNJE				eS	Sn	09 35 20.9	-1.2
MTO2	Montecristo 2	3.86	87	eP	Pn	09 34 42.7	+0.4
TUIG	Tuzandepetl	3.96	345	iP	Pn	09 34 41.3	-2.5
TUIG				iS	Sn	09 35 24.9	-5.3
BOQS	Boqueron	3.97	96	eP	Pn	09 34 43.1	-0.8
LFRS	El Faro	4.19	97	eP	Pn	09 34 46.1	-1.0
LCBS	La Ceiba	4.27	97	eP	Pn	09 34 46.2	-2.0
OXX	Oaxaca	4.34	312	eP	Pn	09 34 50.0	+0.7
SNVI	San Vicente	4.41	97	eP	Pn	09 34 49.6	-0.6
VSM	San Miguel	4.98	98	eP	Pn	09 34 56.7	-1.5
PPM	Popocatepetl	7.01	314	eP	Pn	09 35 25.0	-1.9
PPM				eP		09 35 27.0	
PPM				iS	Sn	09 36 44.6	-2.3
PPM	Popocatepetl	7.01	314	eP	Pn	09 35 25.0	-1.9
PPM				iS	Sn	09 36 44.6	-2.3
TEIG	Tepich	7.70	38	P	Pn	09 35 33.2	-3.4
	comp=N,0.0nm,0.3s,baz=39,slow=24,SNR=11						
TEIG				S	Sn	09 36 49.7	-15
	comp=N,0.0nm,0.3s,baz=360,slow=24,SNR=2.4						
JTS	JuntasAbangare	9.07	114	P	P	09 35 59.0	+3.4
	comp=N,1.5nm,0.3s,baz=309,slow=19,SNR=7.6						
JTS	JuntasAbangare	9.07	114	ePn	P	09 36 02.7	+7.2
JCT	Junction City	17.27	341	eP	P	09 37 45.5	+1.1
	comp=N,13nm,0.8s						
LTX	Lajitas	17.84	329	eP	P	09 37 53.5	+2.0
	comp=N,6.9nm,0.9s						
TXAR	Lajitas Array	17.84	329	P	P	09 37 52.3	+0.7
	comp=N,0.1nm,0.3s,baz=150,slow=12,SNR=16						
LRAL	Lakeview Retre	19.62	16	eP	P	09 38 13.7	+0.7
	comp=N,2.7nm,0.5s						
CLNB	Carlsbad	20.40	334	eP	P	09 38 20.5	-0.7
GDL2	Guadalupe Moun	20.56	333	eP	P	09 38 23.5	+0.5
ROSC	El Rosal	20.90	115	P	P	09 38 29.5	+3.0
	comp=N,12nm,0.4s,baz=319,slow=14,SNR=2.7						
WMOK	Wichita Mounta	21.04	347	eP	P	09 38 28.9	+1.2
	comp=N,4.5nm,0.8s,mb3.9						
PLAL	Pickwick Lake	21.23	12	eP	P	09 38 30.4	+0.6
	comp=N,6.2nm,0.7s,mb4.0						
JSC	Jenkinsville	22.79	27	eP	P	09 38 48.9	+3.6
BNM	Barren Site	23.23	331	eP	P	09 38 51.7	+2.1
LENM	Lemitar	23.40	331	eP	P	09 38 52.9	+1.5
LAZ	Ladron	23.68	331	eP	P	09 38 56.1	+2.1
TUC	Tucson	24.06	321	eP	P	09 38 59.3	+1.6
	comp=N,3.6nm,0.8s,mb3.9						
SDCO	Great Sand Dun	25.83	337	eP	P	09 39 15.0	+0.5
	comp=N,7.4nm,1.1s,mb4.1						
PV01	Paradox Valley	27.40	333	eP	P	09 39 28.4	-0.6
PDAR	Pinedale Array	31.72	337	P	P	09 40 06.8	-0.7
	comp=N,0.8nm,0.8s,mb3.6,baz=135,slow=6.3,SNR=5.9						
NVAR	Mina Array Bea	32.71	322	P	P	09 40 17.0	+0.8
	comp=N,2.6nm,0.9s,mb4.2,baz=129,slow=9.4,SNR=12						
REDW	Red Top Meadow	32.72	336	eP	P	09 40 16.6	+0.4
SADO	Sadowa	32.78	19	LR	LR	09 53 36.0	
	comp=N,117nm,18.3s,MS3.6,baz=81,slow=37						
MCMT	McKenzie Canyo	34.74	335	eP	P	09 40 34.7	+1.0
ULM	Lac du Bonnet	36.01	357	P	P	09 40 40.6	-3.8
	comp=N,3.2nm,0.7s,mb4.4,baz=177,slow=9.1,SNR=3.9						
YKA	Yellowknife Ar	50.55	347	P	P	09 42 39.6	-2.1
	comp=N,3.8nm,0.6s,mb4.5,baz=149,slow=7.4,SNR=15						
INK	Inuvik	59.89	344	eP	P	09 43 47.5	-1.8
	comp=N,2.9nm,0.7s,mb4.4						
ILAR	Eielson Array	62.15	337	P	P	09 44 02.7	-2.0
	comp=N,1.1nm,0.8s,mb4.0,baz=155,slow=3.9,SNR=9.1						
JMIC	Jan Mayen	74.99	20	LR	LR	10 18 05.0	
	comp=N,48nm,18.5s,MS3.8,baz=279,slow=36						
NOA	NORSAR Array B	84.59	28	P	P	09 46 15.1	-0.6
	comp=N,0.5nm,0.7s,mb3.7,baz=292,slow=4.9,SNR=2.9						
NOA	NORSAR Array B	84.59	28	P	P	09 46 15.1	-0.7
ARCES	ARCESS Array B	86.36	18	P	P	09 46 23.4	-0.9
	comp=N,1.1nm,0.7s,mb4.2,baz=288,slow=7.7,SNR=4.5						
CTAO	Charters Tower	123.00	255	PKPdf	PKPdf	09 52 41.0	-1.5
LZH	Lanzhou	127.42	342	ePKP	PKPdf	09 52 48.0	-2.8
LZH				sPKP		09 53 20.6	
CMAR	Chiang Mai Arr	145.37	339	PKP	PKPdf	09 53 20.9	-3.3
	comp=N,1.6nm,0.6s,baz=343,slow=3.8,SNR=7.3						

MEX ***05*** *09:44:21.0±0.9, 14.13N×93.35W, h58^{km}±82^{km}, MD4.6*
NEIC ***05*** *09:44:22.7±3.4, 14.45N×93.21W, h27^{km}±28^{km}, mb4.2/1, MD4.6(MEX), Error ellipse: s-maj=22.9km s-min=9.2km az=209.0*
CASC ***05*** *09:44:23.1±1.8, 14.39N×93.10W, h108^{km}±25^{km}, MD4.4, ML4.6, mb4.0(NEIC)*
IDC ***05*** *09:44:28.4±4.8, 14.65N×92.78W, h74^{km}±49^{km}, mb3.5/5, mb1 3.7/7, mb1mx3.5/21, ML3.5/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/24, Error ellipse: s-maj=43.2km s-min=23.7km az=64.0*
ISC 05 09:44:20.9±0.9**, 14.25N**±0.06×**93.30W**±0.05**, h42**^{km}±10^{km}**, n34,** σ**1**^{s}**09**/43**, mb3.8**/5**, MS3.6**/5**, 6C-3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPX	**Tapachula**	**1.19**	**57**	*i* P	**P**	**09 44 41.5**	**+0.1**
TPX				*i* S	**S**	**09 44 57.5**	**+0.8**
JAT	**Jato**	**1.61**	**88**	⇑*e*P	**P**	**09 44 48.5**	**+1.1**
JAT				*e*S	**S**	**09 45 10.4**	**+3.3**
JAT				AML	AML	09 45 16.7	
	comp=E,7µm,0.3s						
CCIG	**Comitan**	**2.31**	**29**	*i* P	**P**	**09 44 57.9**	**+0.6**
CCIG				*i* S	**S**	**09 45 25.8**	**+1.2**
FUG	**Fuego 3**	**2.39**	**85**	⇑*e*P	**P**	**09 44 58.4**	**0.0**
FUG				*e*S	**S**	**09 45 27.2**	**+0.6**
IXG	**Ixpaco**	**2.76**	**91**	⇑*e*P	**P**	**09 45 03.6**	**-0.1**
IXG				*e*S	**S**	**09 45 36.1**	**+0.1**
IXG				AML	AML	09 45 51.2	
	comp=E,5µm,0.5s						
NBG	**Las Nubes**	**2.88**	**83**	⇓*e*P	**P**	**09 45 06.9**	**+1.5**
CMIG	**Matias Romero**	**3.21**	**332**	*i* P	**P**	**09 45 08.2**	**-2.0**
CMIG				*i* S	**S**	**09 45 45.6**	**-1.9**
RBDL	**Robledal**	**3.50**	**92**	⇓*e*P	**P**	**09 45 14.7**	**+0.4**
RTR	**El Retiro**	**3.56**	**95**	⇓*e*P	**P**	**09 45 15.9**	**+0.8**
RTR				*e*S	**S**	**09 45 54.9**	**-1.5**
MRL	**Marmol**	**3.58**	**77**	⇑*e*P	**P**	**09 45 15.8**	**+0.4**
SBLS	**San Blas**	**3.59**	**96**	⇑*e*P	**P**	**09 45 15.7**	**+0.2**
SBLS				*e*S	**S**	**09 45 56.5**	**-0.7**
SNJE	**San Jose**	**3.60**	**96**	⇑*e*P	**P**	**09 45 15.8**	**+0.1**
BOQS	**Boqueron**	**3.93**	**97**	*e*P	**P**	**09 45 20.8**	**+0.4**
BOQS				*e*S	**S**	**09 46 05.4**	**-0.5**
LFRS	**El Faro**	**4.16**	**98**	*e*P	**P**	**09 45 23.5**	**-0.1**
LFRS				*e*S	**S**	**09 46 09.8**	**-1.8**
LCBS	**La Ceiba**	**4.23**	**98**	*e*P	**P**	**09 45 24.4**	**-0.2**
LCBS				*e*S	**S**	**09 46 11.4**	**-2.1**
OXX	**Oaxaca**	**4.34**	**311**	*i* P	**P**	**09 45 26.5**	**+0.4**
PPM	**Popocatepetl**	**7.00**	**314**	*e*P	**P**	**09 46 03.0**	**-0.5**
TEIG	**Tepich**	**7.63**	**38**	P	**P**	**09 46 09.8**	**-2.5**
	comp=E,0.0nm,0.3s,baz=321,slow=24,SNR=3.5						
TEIG				S	**S**	**09 47 26.8**	**-12**
	comp=E,0.0nm,0.3s,baz=223,slow=24,SNR=2.2						
JTS	**JuntasAbangare**	**9.05**	**115**	P	**P**	**09 46 32.7**	**+0.7**
	comp=E,0.3nm,0.3s,baz=320,slow=22,SNR=3.2						
JTS				S	**S**	**09 48 19.6**	**+5.9**
	comp=E,0.3nm,0.3s,baz=348,slow=21,SNR=1.9						
JTS	**JuntasAbangare**	**9.05**	**115**	P	**P**	**09 46 32.6**	**+0.7**
JTS				S	**S**	**09 48 19.6**	**+5.9**
TXAR	**Lajitas Array**	**17.81**	**329**	P	**P**	**09 48 30.6**	**+3.3**
	comp=E,0.1nm,0.3s,baz=148,slow=12,SNR=12						
CLNB	**Carlsbad**	**20.37**	**333**	P	**P**	**09 48 57.6**	**+1.0**
GDL2	**Guadalupe Moun**	**20.53**	**332**	*e*P	**P**	**09 48 57.3**	**-1.0**
ROSC	**El Rosal**	**20.89**	**115**	P	**P**	**09 49 02.1**	**0.0**
	comp=E,4.4nm,0.4s,baz=313,slow=23,SNR=2.1						
SDCO	**Great Sand Dun**	**25.79**	**337**	*e*P	**P**	**09 49 48.5**	**-1.3**
	comp=E,10.0nm,1.5s,mb4.1						
PDAR	**Pinedale Array**	**31.68**	**337**	P	**P**	**09 50 42.1**	**-0.6**
	comp=E,0.2nm,0.6s,mb3.1,baz=162,slow=5.7,SNR=3.6						
NVAR	**Mina Array Bea**	**32.69**	**322**	P	**P**	**09 50 53.9**	**+2.3**
	comp=E,0.6nm,0.7s,mb3.6,baz=132,slow=8.8,SNR=5.5						
SADO	**Sadowa**	**32.71**	**19**	LR	LR	10 05 23.6	
	comp=E,97nm,18.4s,MS3.5,baz=248,slow=39						
ULM	**Lac du Bonnet**	**35.96**	**357**	LR	LR	10 07 50.0	
	comp=E,73nm,19.3s,MS3.5,baz=85,slow=39						
LPAZ	**La Paz**	**39.23**	**140**	LR	LR	10 05 54.9	
	comp=E,64nm,19.4s,MS3.5,baz=279,slow=33						
SCHQ	**Schefferville**	**45.43**	**21**	LR	LR	10 12 47.8	
	comp=E,136nm,18.6s,MS3.9,baz=72,slow=38						
YKA	**Yellowknife Ar**	**50.50**	**347**	P	**P**	**09 53 17.0**	**+0.3**
	comp=E,1.6nm,0.6s,mb4.3,baz=155,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**62.11**	**337**	P	**P**	**09 54 40.6**	**+1.0**
	comp=E,0.3nm,0.6s,mb3.6,baz=145,slow=5.6,SNR=6.3						
NOA	**NORSAR Array B**	**84.52**	**28**	LR	LR	10 33 08.2	
	comp=E,31nm,19.2s,MS3.7,baz=175,slow=35						

ATH ***05*** *09:48:12.9, 37.11N×27.73E, h30^{km}±3^{km}, MD3.0/3*
ISK ***05*** *09:48:19.5, 37.28N×27.96E, h7^{km}, MD3.0*
ISC 05 09:48:15.9±0.7**, 36.95N**±0.05×**27.70E**±0.05**, h18**^{km}±10^{km}**, n11,** σ**1**^{s}**05**/18**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.23**	**299**	*i* P	**Pb**	**09 48 21.8**	**+0.4**
BDRM				*i* S	**Sb**	**09 48 25.6**	**+0.6**
MLSB	**Milas**	**0.35**	**11**	*i* PG	**Pb**	**09 48 23.1**	**-0.1**
YER	**Yerkesik**	**0.50**	**69**	*i* PG	**Pb**	**09 48 25.4**	**-0.5**
YER				SG	**Sb**	**09 48 30.8**	**-1.9**
NISR	**Nisiros**	**0.57**	**233**	*e*PN	**Pn**	**09 48 27.0**	**-1.9**
NISR				*e*SN	**Sn**	**09 48 36.8**	**-1.0**
AYDN	**Tasoluk**	**0.72**	**12**	*i* P	**Pb**	**09 48 29.7**	**+0.1**
AYDN				*i* S	**Sb**	**09 48 38.9**	**-0.1**
ARG	**Arkhangelos**	**0.81**	**155**	*e*PN	**Pn**	**09 48 31.0**	**-1.4**
ARG				*e*SN	**Sn**	**09 48 45.0**	**+1.0**
DNZL	**Cakiroluk**	**1.30**	**55**	*i* P	**Pn**	**09 48 39.7**	**+0.3**
DNZL				*i* S	**Sb**	**09 48 57.0**	**+1.2**
DENT	**Denizli**	**1.33**	**53**	*e*PG	**Pn**	**09 48 39.2**	**-0.6**
KARP	**Karpathos**	**1.47**	**197**	*e*PN	**Pn**	**09 48 42.0**	**+0.2**
KARP				*e*SN	**Sn**	**09 49 02.0**	**+1.4**
ELL	**Elmali**	**1.79**	**96**	*e*PN	**Pn**	**09 48 49.3**	**+3.0**
AKS	**Akhisar**	**1.92**	**3**	PN	**Pn**	**09 48 48.8**	**+0.5**

IDC ***05*** *09:50:44.1±0.8, 2.96S×142.08E, mb4.1/9, mb1 4.2/11, mb1mx4.2/15, ML4.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/19, Error ellipse: s-maj=33.6km s-min=17.1km az=88.0*
BJI ***05*** *09:50:48.0, 3.10S×142.00E, h35^{km}, mb4.8*
NEIC ***05*** *09:50:50.0±1.5, 3.07S×141.96E, h35^{km}±12^{km}, mb4.3/7, Error ellipse: s-maj=11.9km s-min=10.1km az=74.0*
ISC 05 09:50:47.7±4.1**, 3.07S**±0.08×**141.93E**±0.10**, h32**^{km}±30^{km}**, n31,** σ**0**^{s}**92**/26**, mb4.2**/12**, MS3.5**/3**, 1C, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.16**	**141**	Pn	**P**	**09 52 45.7**	**-1.3**
	0.3nm,0.3s,baz=71,slow=19,SNR=2.0						
PMG	**Port Moresby**	**8.16**	**141**	Pn	**P**	**09 52 45.7**	**-1.3**
PMG				*e*P		09 52 52.0	
KAKA	**Kakadu**	**13.43**	**224**	*e*P	**P**	**09 53 57.3**	**-1.4**
	21nm,0.5s						
KAKA				*e*S	**S**	**09 56 26.6**	**-1.2**
CTAO	**Charters Tower**	**17.43**	**166**	P	**P**	**09 54 51.7**	**+1.4**
	10nm,1.3s						
WRAB	**Tennant Creek**	**18.32**	**203**	*e*P	**P**	**09 55 02.0**	**+0.6**
	11nm,0.7s						
WB2	**Warramunga Arr**	**18.32**	**203**	*e*P	**P**	**09 55 02.1**	**+0.6**
WRA	**Warramunga Arr**	**18.33**	**203**	P	**P**	**09 55 01.9**	**+0.4**
	0.9nm,0.3s,baz=10,slow=12,SNR=41						
WRA				LR	LR	10 02 31.8	
	comp=Z,150nm,18.5s,baz=275,slow=38						
FITZ	**Fitzroy Crossi**	**21.86**	**226**	*e*P	**P**	**09 55 40.5**	**+0.8**
	12nm,1.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.86**	**226**	P	**P**	**09 55 40.0**	**+0.2**
	5.4nm,0.7s,mb4.1,baz=42,slow=4.6,SNR=9.6						
FITZ				LR	LR	10 05 08.2	
	comp=Z,130nm,19.1s,MS3.4,baz=124,slow=39						
ASAR	**Alice Springs**	**21.89**	**200**	P	**P**	**09 55 40.1**	**+0.1**
	2.4nm,0.6s,mb3.8,baz=28,slow=11,SNR=30						
ASAR				LR	LR	10 04 36.6	
	comp=Z,115nm,20.8s,MS3.3,baz=22,slow=38						
ASPA	**Alice Springs**	**21.89**	**200**	*e*P	**P**	**09 55 39.8**	**-0.3**
STKA	**Stephens Creek**	**28.65**	**181**	*e*P	**P**	**09 56 43.3**	**-0.5**
	4.0nm,2.0s,mb3.8						
STKA	**Stephens Creek**	**28.65**	**181**	P	**P**	**09 56 43.5**	**-0.4**
	2.3nm,0.7s,mb4.0,baz=7.9,slow=4.3,SNR=5.4						
FORT	**Forrest**	**30.51**	**204**	⇑*i*P	**P**	**09 57 01.0**	**+0.5**
	44nm,0.6s						
LZH	**Lanzhou**	**52.74**	**321**	*e*P	**P**	**10 00 03.5**	**+1.5**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH	**Lanzhou**	**52.74**	**321**	*e*P	**P**	**10 00 03.5**	**+1.5**
	comp=Z,28nm,1.5s,mb5.0						
LZH				pP	pP	10 00 07.5	-4.3
LZH				sP	sP	10 00 11.5	-4.1
GTA	**Gaotai**	**57.30**	**322**	*e*P	**P**	**10 00 35.4**	**+0.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
SONM	**Songino Array**	**59.46**	**333**	P	**P**	**10 00 49.0**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=146,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**72.05**	**321**	P	**P**	**10 02 10.7**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=108,slow=7.7,SNR=12						
VNDA	**Vanda**	**75.16**	**176**	P	**P**	**10 02 27.6**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=292,slow=5.4,SNR=4.0						
BVAR	**Borovoye Array**	**81.46**	**325**	P	**P**	**10 03 03.4**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.3,baz=104,slow=6.1,SNR=7.8						
MAW	**Mawson**	**83.00**	**202**	P	**P**	**10 03 12.2**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.4,baz=58,slow=4.7,SNR=7.2						
MAW	**Mawson**	**83.00**	**202**	*e*P	**P**	**10 03 11.9**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**84.84**	**24**	P	**P**	**10 03 18.1**	**-2.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=267,slow=5.6,SNR=7.6						
QSPA	**South Pole Qui**	**86.88**	**180**	*e*P	**P**	**10 03 30.8**	**+0.8**
	comp=Z,9.8nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**98.93**	**27**	LR	LR	10 43 30.3	
	comp=Z,34nm,20.9s,MS3.8,baz=35,slow=32						
ROSC	**El Rosal**	**143.79**	**86**	PKP	PKPdf	10 10 23.5	-2.6
	comp=Z,7.3nm,0.5s,baz=158,slow=20,SNR=2.7						
LPAZ	**La Paz**	**144.61**	**124**	PKP	PKPdf	10 10 24.1	-3.3
	comp=Z,1.9nm,0.7s,baz=257,slow=2.7,SNR=9.5						
LPAZ	**La Paz**	**144.61**	**124**	*e*PKPdf	PKPdf	10 10 23.5	-3.9
CPUP	**Villa Florida**	**145.34**	**149**	PKPbc	PKPbc	10 10 24.4	+0.7
	comp=Z,1.3nm,0.6s,baz=237,slow=16,SNR=3.3						
DBIC	**Dimbokro**	**146.72**	**277**	PKPbc	PKPbc	10 10 29.1	+1.8
	comp=Z,2.2nm,0.6s,baz=50,slow=2.4,SNR=5.0						

ISK ***05*** *09:57:26.8, 36.90N×27.70E, h8^{km}, MD3.1*
NEIC ***05*** *09:57:30.2, 36.76N×27.72E, h5^{km}, MD3.1(ATH), After ATH.*
ATH ***05*** *09:57:30.2, 36.76N×27.72E, h5^{km}±4^{km}, MD3.1/4*
ISC 05 09:57:27.4±0.5**, 36.91N**±0.03×**27.76E**±0.05**, h5**^{km}**, n12,** σ**0**^{s}**70**/17**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.30**	**302**	*i* P	**Pg**	**09 57 33.7**	**+0.2**
BDRM				*i* S	**Sg**	**09 57 38.3**	**+0.8**
MLSB	**Milas**	**0.39**	**2**	*i* PG	**Pg**	**09 57 35.2**	**0.0**
MLSB				SG	**Sg**	**09 57 41.2**	**+0.8**
YER	**Yerkesik**	**0.47**	**61**	PG	**Pg**	**09 57 37.3**	**+0.4**
NISR	**Nisiros**	**0.59**	**240**	*e*PB	**Pb**	**09 57 40.0**	**+0.2**
ARG	**Arkhangelos**	**0.75**	**157**	*e*PB	**Pb**	**09 57 42.8**	**+0.3**
AYDN	**Tasoluk**	**0.76**	**7**	*i* P	**Pg**	**09 57 41.8**	**-0.8**
AYDN				*i* S	**Sg**	**09 57 51.7**	**-1.0**
DNZL	**Cakiroluk**	**1.29**	**52**	*i* P	**Pb**	**09 57 51.8**	**+0.1**
DNZL				*i* S	**Sb**	**09 58 09.1**	**+0.6**
DENT	**Denizli**	**1.32**	**50**	*e*PN	**Pn**	**09 57 52.7**	**+0.2**
KARP	**Karpathos**	**1.44**	**200**	*e*PG	**Pg**	**09 57 54.5**	**-1.7**
KARP				*e*SB	**Sb**	**09 58 13.5**	**+0.6**
ELL	**Elmali**	**1.73**	**95**	*e*PN	**Pn**	**09 57 58.8**	**+0.4**
AKS	**Akhisar**	**1.97**	**1**	*e*PN	**Pn**	**09 58 00.8**	**-1.0**
PRK	**Paraskevi**	**2.62**	**334**	*e*PN	**Pn**	**09 58 18.0**	**+6.9**

STR ***05*** *10:09:47.9±0.4, 44.48N×6.88E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *10:09:47.9±0.1, 44.44N×6.75E, h2^{km}, Md2.4/3, Ml2.3/6, Error ellipse: s-maj=1.6km s-min=1.0km az=61.0*
ISC 05 10:09:46.8±0.4**, 44.43N**±0.02×**6.72E**±0.04**, h11**^{km}±5^{km}**, n15,** σ**0**^{s}**58**/28**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.08**	**55**	Pg	**Pg**	**10 09 49.7**	**+0.3**
SURF				Sg	**Sg**	**10 09 51.0**	**-0.1**
MBDF	**Montbardon**	**0.30**	**7**	*e*Pg	**Pg**	**10 09 53.5**	**+0.5**
MBDF				*e*Sg	**Sg**	**10 09 57.7**	**+0.5**
	11nm,0.2s						
TOUF	**Mont Tournerai**	**0.57**	**138**	Pg	**Pg**	**10 09 58.3**	**+0.1**
TOUF				Sg	**Sg**	**10 10 06.1**	**+0.2**
MVIF	**Mont Vial**	**0.62**	**150**	Pg	**Pg**	**10 09 59.1**	**-0.2**
MVIF				Sg	**Sg**	**10 10 08.2**	**+0.5**
AUTN	**L'Aution**	**0.67**	**130**	Pg	**Pg**	**10 09 59.3**	**-1.0**
AUTN				Sg	**Sg**	**10 10 09.0**	**-0.4**
AURF	**Auriere**	**0.70**	**141**	Pg	**Pg**	**10 10 01.1**	**+0.2**
AURF				Sg	**Sg**	**10 10 09.8**	**-0.5**
SBF	**Sospel**	**0.77**	**138**	*e*Pg	**Pg**	**10 10 02.1**	**-0.1**
SBF				*e*Sg	**Sg**	**10 10 12.9**	**+0.3**
	30nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.77**	**309**	*e*Pg	**Pg**	**10 10 02.9**	**+0.6**
ORIF				*e*Sg	**Sg**	**10 10 12.7**	**+0.1**
	5.0nm,0.3s						
FRF	**La Foret Royal**	**0.87**	**183**	*e*Pg	**Pg**	**10 10 04.3**	**0.0**
FRF				*e*Pn	**Pn**	**10 10 05.7**	**+0.9**
FRF				*e*Sn	**Sn**	**10 10 18.5**	**+1.0**
	9.5nm,0.2s						
SMRF	**Simiane la Rot**	**0.94**	**241**	*e*Pg	**Pg**	**10 10 06.3**	**+0.6**
LPG	**La Plagne**	**1.06**	**1**	*e*Sg	**Sg**	**10 10 22.0**	**-0.4**
	2.8nm,0.2s						
LPL	**La Plagne**	**1.08**	**0**	*e*Sg	**Sg**	**10 10 23.0**	**0.0**
	3.3nm,0.3s						
LMR	**La Mourre**	**1.11**	**188**	*e*Pg	**Pg**	**10 10 08.9**	**-0.1**
LMR				*e*Sg	**Sg**	**10 10 23.7**	**-0.2**
	28nm,0.3s						
VIVF	**Saint-Julien-l**	**1.52**	**287**	*e*Pg	**Pg**	**10 10 16.3**	**-0.9**
VIVF				*e*Sg	**Sg**	**10 10 36.4**	**-1.1**
	2.7nm,0.3s						
PGF	**Pioggiola**	**2.51**	**138**	*e*Pn	**Pn**	**10 10 28.5**	**+0.3**
PGF				*e*Sn	**Sn**	**10 10 57.6**	**-1.4**
	1.3nm,0.2s						

ISK ***05*** *10:30:04.9, 36.91N×27.62E, h10^{km}, MD3.8, ML3.9*
MOS ***05*** *10:30:05.6±2.3, 36.87N×27.98E, h10^{km}, mb4.3/11, Error ellipse: s-maj=13.5km s-min=5.2km az=107.2*
NEIC ***05*** *10:30:06.9±0.7, 36.88N×27.76E, h10^{km}±5^{km}, mb4.2/28, ML4.3(THE), ML4.2(ATH), ML4.1(ISK), Error ellipse: s-maj=4.3km s-min=3.4km az=158.0*
THE ***05*** *10:30:07.8, 36.88N×27.91E, h15^{km}, ML4.4*
ATH ***05*** *10:30:07.1, 36.96N×27.71E, h24^{km}±2^{km}, MD4.1/18, ML4.2*
IDC ***05*** *10:30:10.9±1.7, 36.94N×27.74E, h42^{km}±17^{km}, mb3.9/13, mb1 4.0/21, mb1mx3.9/28, ML3.6/8, MS3.4/6, Ms1 3.4/6, ms1mx2.9/27, Error ellipse: s-maj=15.8km s-min=13.2km az=12.0*
ISC 05 10:30:07.2±0.4**, 36.96N**±0.02×**27.74E**±0.02**, h20**^{km}±3^{km}**, n167,** σ**0**^{s}**92**/184**, mb4.1**/23**, MS3.4**/5**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**295**	*i* P	**Pb**	**10 30 13.2**	**-0.1**
BDRM				*i* S	**Sb**	**10 30 17.5**	**+0.1**
MLSB	**Milas**	**0.34**	**5**	*i* PG	**Pb**	**10 30 14.0**	**-0.5**
MLSB				SG	**Sb**	**10 30 19.6**	**+0.1**
MLSB	**Milas**	**0.34**	**5**	Pg	**Pb**	**10 30 14.1**	**-0.4**
MLSB				Sg	**Sb**	**10 30 19.1**	**-0.4**
YER	**Yerkesik**	**0.47**	**67**	*i* PG	**Pb**	**10 30 16.2**	**-0.4**
NISR	**Nisiros**	**0.60**	**235**	*e*PN	**Pn**	**10 30 18.8**	**-1.6**
AYDN	**Tasoluk**	**0.71**	**9**	*i* P	**Pb**	**10 30 20.9**	**+0.1**
AYDN				*i* S	**Sb**	**10 30 34.4**	**+4.3**
ARG	**Arkhangelos**	**0.80**	**157**	⇑*i*PN	**Pn**	**10 30 22.0**	**-1.2**
ARG				*e*SN	**Sn**	**10 30 35.0**	**+0.4**
SMG	**Samos**	**1.04**	**317**	*e*PN	**Pn**	**10 30 27.2**	**+0.5**
DNZL	**Cakiroluk**	**1.27**	**54**	*i* P	**Pn**	**10 30 30.9**	**+0.9**
DNZL				*i* S	**Sb**	**10 30 49.9**	**+3.6**
DENT	**Denizli**	**1.30**	**52**	*i* PN	**Pn**	**10 30 31.4**	**+1.0**
DENT	**Denizli**	**1.30**	**52**	Pn	**Pn**	**10 30 31.5**	**+1.1**
KARP	**Karpathos**	**1.48**	**199**	*e*PB	**Pb**	**10 30 33.0**	**-0.8**
KARP				*e*SN	**Sn**	**10 30 54.0**	**+2.1**
KDAG	**Bornova**	**1.49**	**346**	*i* P	**Pn**	**10 30 33.0**	**-0.1**
KDAG				*i* S	**Sn**	**10 30 56.1**	**+3.9**
MANT	**Manisa**	**1.67**	**23**	*i* P	**Pn**	**10 30 36.2**	**+0.6**
MANT				*i* S	**Sn**	**10 31 01.0**	**+4.5**
KSL	**Kastellorizon**	**1.69**	**118**	*e*PN	**Pn**	**10 30 37.8**	**+1.9**
ELL	**Elmali**	**1.75**	**96**	*e*PN	**Pn**	**10 30 37.6**	**+0.8**
APE	**Apeiranthos**	**1.77**	**274**	*e*PB	**Pb**	**10 30 37.7**	**-1.1**
AKS	**Akhisar**	**1.92**	**2**	*i* PN	**Pn**	**10 30 39.1**	**-0.2**
AKS	**Akhisar**	**1.92**	**2**	Pn	**Pn**	**10 30 39.2**	**-0.1**
THR1	**Thera Island**	**1.93**	**253**	*e*Pn	**Pn**	**10 30 40.3**	**+1.0**
THR1				*e*Sn	**Sn**	**10 31 04.5**	**+1.4**
THR4	**Thira Island,**	**1.95**	**256**	*e*Pn	**Pn**	**10 30 40.5**	**+0.9**
THR3	**Thira Island,**	**1.96**	**255**	*e*Pn	**Pn**	**10 30 40.2**	**+0.4**
THR3				*e*Sn	**Sn**	**10 31 05.3**	**+1.3**
KHL	**Karahalli**	**1.97**	**45**	PN	**Pn**	**10 30 40.7**	**+0.8**
THR6	**Thira Island,**	**1.98**	**253**	*e*Pn	**Pn**	**10 30 40.7**	**+0.6**
THR5	**Thira Island,**	**2.00**	**255**	*e*Pn	**Pn**	**10 30 40.7**	**+0.4**
BCK	**Bucak**	**2.33**	**77**	*e*PN	**Pn**	**10 30 46.1**	**+1.0**
BCK	**Bucak**	**2.33**	**77**	Pn	**Pn**	**10 30 45.7**	**+0.6**
ISP	**Isparta**	**2.38**	**67**	PN	**Pn**	**10 30 46.6**	**+0.8**
NPS	**Neapolis**	**2.41**	**226**	*e*PB	**Pb**	**10 30 48.5**	**-1.2**
PRK	**Paraskevi**	**2.56**	**334**	*e*PN	**Pn**	**10 30 48.7**	**+0.2**
XRY	**Khrisi**	**2.66**	**219**	*e*PB	**Pb**	**10 30 52.0**	**-1.9**
BALB	**Balikesir**	**2.68**	**2**	*e*PN	**Pn**	**10 30 49.7**	**-0.5**
DST	**Dursunbey**	**2.74**	**15**	PN	**Pn**	**10 30 50.6**	**-0.4**
ALT	**Altintas**	**2.81**	**41**	PN	**Pn**	**10 30 53.0**	**+1.0**
IDI	**Anoyia**	**2.84**	**235**	P	**Pn**	**10 30 52.9**	**+0.4**
	4.4nm,0.3s,baz=63,slow=11,SNR=25						
VAM	**Vamos**	**3.25**	**243**	*e*PB	**Pb**	**10 31 02.5**	**-1.6**
VAM	**Vamos**	**3.25**	**243**	*e*Pb	**Pb**	**10 31 04.5**	**+0.4**
PTL	**Penteli**	**3.27**	**291**	*e*PN	**Pn**	**10 30 58.5**	**0.0**
ATH	**Athens Observa**	**3.36**	**289**	*e*PN	**Pn**	**10 31 00.0**	**+0.2**
EDC	**Edincik**	**3.39**	**2**	PN	**Pn**	**10 30 59.8**	**-0.4**
MPAR	**Parnis Oros**	**3.40**	**292**	*e*PN	**Pn**	**10 31 01.0**	**+0.6**
NAIG	**Nisos Aigina**	**3.48**	**285**	*e*PN	**Pn**	**10 31 01.5**	**0.0**
LPK	**Lapseki**	**3.50**	**348**	PN	**Pn**	**10 31 01.6**	**-0.2**
NSAL	**Nisos Salamina**	**3.54**	**287**	*e*PN	**Pn**	**10 31 02.0**	**-0.3**
ESKT	**Eskisehir**	**3.54**	**43**	PN	**Pn**	**10 31 03.6**	**+1.2**
LIA	**Limnos Island**	**3.56**	**326**	*e*PN	**Pn**	**10 31 02.8**	**+0.2**
LOS	**Limnos**	**3.63**	**326**	*e*Pn	**Pn**	**10 31 04.3**	**+0.6**
MKIT	**Kithairon Oros**	**3.77**	**290**	*e*PN	**Pn**	**10 31 06.5**	**+0.9**
KIZT	**Kizilcal**	**3.80**	**58**	*e*PN	**Pn**	**10 31 06.9**	**+0.9**
HDMB	**Hadim**	**3.80**	**88**	*e*PN	**Pn**	**10 31 06.7**	**+0.6**
YLV	**Yalova**	**3.83**	**19**	*e*PN	**Pn**	**10 31 07.0**	**+0.6**
KYTH	**Kithira**	**3.84**	**261**	*e*PN	**Pn**	**10 31 07.5**	**+0.8**
VLI	**Veliai**	**3.86**	**268**	*e*PN	**Pn**	**10 31 07.5**	**+0.6**
ALN	**Alexandroupoli**	**4.15**	**342**	*e*Pn	**Pn**	**10 31 10.7**	**-0.4**
ALN				*e*Sn	**Sn**	**10 31 58.4**	**-1.2**
NEO	**Neokhori**	**4.27**	**305**	*e*PN	**Pn**	**10 31 13.0**	**+0.3**
PAIG	**Paliouri**	**4.36**	**314**	*e*Pn	**Pn**	**10 31 14.0**	**0.0**
OUR	**Ouranopolis**	**4.48**	**320**	*e*Pn	**Pn**	**10 31 15.8**	**+0.1**
KDZ	**Kurdzhali**	**5.02**	**340**	*e*P	**Pn**	**10 31 21.5**	**-1.9**
EVR	**Evrytania**	**5.08**	**294**	*e*PN	**Pn**	**10 31 25.5**	**+1.3**
SOH	**Sokhos**	**5.16**	**320**	*e*Pn	**Pn**	**10 31 25.6**	**+0.3**
LIT	**Litokhoron**	**5.18**	**309**	*e*Pn	**Pn**	**10 31 25.9**	**+0.3**
LIT				*e*Sn	**Sn**	**10 32 24.1**	**-1.3**
RZN	**Rozhen**	**5.28**	**335**	*i* P	**Pn**	**10 31 27.0**	**0.0**
DIM	**Dimitrovgrad**	**5.37**	**342**	*e*P	**Pn**	**10 31 28.0**	**-0.2**
BRTR	**Keskin Array B**	**5.40**	**57**	P	**Pn**	**10 31 29.0**	**+0.3**
	2.6nm,0.3s,baz=239,slow=14,SNR=32						
BRTR				S	**Sn**	**10 32 24.4**	**-6.7**
	1.6nm,0.3s,baz=218,slow=36,SNR=4.8						
BRTR	**Keskin Array B**	**5.40**	**57**	P	**Pn**	**10 31 29.0**	**+0.3**
BRTR				S	**Sn**	**10 32 24.4**	**-6.6**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MMB	**Musomiste**	**5.58**	**327**	*i* P	**Pn**	**10 31 31.0**	**-0.2**
KNT	**Kendrikon**	**5.64**	**320**	*e*Pn	**Pn**	**10 31 32.6**	**+0.5**
KNT				*e*Sn	**Sn**	**10 32 35.5**	**-1.6**
GRG	**Griva**	**5.77**	**315**	*e*Pn	**Pn**	**10 31 34.6**	**+0.7**
MEV	**Metsovon**	**5.84**	**301**	*e*Pn	**Pn**	**10 31 35.7**	**+0.7**
KKB	**Krupnik**	**6.09**	**325**	*i* P	**Pn**	**10 31 39.0**	**+0.6**
PGB	**Panagyurishte**	**6.23**	**335**	*e*P	**Pn**	**10 31 39.0**	**-1.4**
PRD	**Provadia**	**6.24**	**358**	*e*P	**Pn**	**10 31 52.0**	**+11**
FNA	**Florina**	**6.27**	**310**	*e*Pn	**Pn**	**10 31 41.3**	**+0.4**
VTS	**Vitosha**	**6.62**	**330**	*i* P	**Pn**	**10 31 47.0**	**+1.0**
SKO	**Skopje**	**6.99**	**318**	*e*Pn	**Pn**	**10 31 48.5**	**-2.6**
KSHT	**Keshet**	**7.72**	**119**	S	**Pn**	**10 32 00.0**	**-1.3**
MMLI	**Mount Malkishu**	**7.76**	**123**	S	**Pn**	**10 32 01.4**	**-0.5**
KZIT	**Kziot**	**8.18**	**136**	S	**P**	**10 32 06.1**	**-1.7**
DRGI	**Dragot**	**8.29**	**128**	S	**P**	**10 32 10.0**	**+0.8**
MLR	**Muntele Rosu**	**8.63**	**352**	P	**P**	**10 32 13.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=145,slow=5.8,SNR=9.6						
MLR				S	**Sn**	**10 33 41.0**	**-11**
	comp=Z,0.2nm,0.3s,baz=269,slow=19,SNR=3.4						
MLR				Lg		10 34 53.4	
	comp=Z,0.1nm,0.3s,baz=304,slow=8.7,SNR=2.6						
MLR				LR	LR	10 35 32.4	
	comp=Z,98nm,19.2s,baz=130,slow=37						
ASF	**Jabal al Asfar**	**8.93**	**120**	P	**P**	**10 32 17.3**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=208,slow=7.0,SNR=5.8						
ASF				S	**Sn**	**10 33 55.6**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=207,slow=22,SNR=2.5						
PRNI	**Paran**	**8.94**	**135**	S	**P**	**10 32 18.1**	**-0.2**
AKASG	**Malin Array Be**	**13.78**	**4**	P	**P**	**10 33 24.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=180,slow=12,SNR=4.3						
OKC	**Ostrava-Krasne**	**14.63**	**335**	LM		10 40 10.0	
	comp=Z,0.2nm,15.5s						
VRAC	**Vranov**	**14.77**	**330**	P	**P**	**10 33 38.7**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=283,slow=20,SNR=1.8						
GEC2	**GERESS Array S**	**15.69**	**324**	*e*P	**P**	**10 33 53.5**	**+4.9**
GEC2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GEC2	**GERESS Array S**	**15.69**	**324**	*e*P	**P**	**10 33 53.5**	**+4.9**
	comp=Z,10.0nm,1.0s						
GERES	**GERESS Array B**	**15.69**	**324**	P	**P**	**10 33 50.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=6.5						
DPC	**Dobruska-Polom**	**15.71**	**332**	*e*P	**P**	**10 33 53.7**	**+4.9**
DPC				MLR	MLR		
	comp=Z,300nm,10.9s						
DPC				MLR	MLR		
	comp=Z,300nm,31.4s						
KHC	**Kasperske Hory**	**15.94**	**324**	*e*P	**P**	**10 33 57.0**	**+5.1**
KHC				*e*S	**S**	**10 37 07.5**	**+19**
KHC				LM		10 40 50.0	
	comp=Z,0.4nm,11.4s						
KHC	**Kasperske Hory**	**15.94**	**324**	*e*P	**P**	**10 33 57.0**	**+5.1**
KHC				MLR	MLR		
	comp=Z,400nm,11.4s						
PRU	**Pruhonice**	**16.14**	**328**	*e*P	**P**	**10 34 03.6**	**+9.3**
WET	**Wettzell**	**16.29**	**323**	*e*P	**P**	**10 34 02.1**	**+5.9**
WET				pmax	pmax		
	comp=Z,16nm,1.5s						
WET	**Wettzell**	**16.29**	**323**	*e*P	**P**	**10 34 02.1**	**+5.9**
	comp=Z,16nm,1.5s						
DAVOX	**Davos**	**16.50**	**312**	P	**P**	**10 33 59.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=188,slow=22,SNR=2.1						
PVCC	**Panska Ves**	**16.54**	**329**	*e*P	**P**	**10 34 05.5**	**+6.1**
PVCC				LM		10 41 30.0	
	comp=Z,0.3nm,11.9s						
BRG	**Berggiesshubel**	**17.06**	**329**	*i* P	**P**	**10 34 13.7**	**+7.7**
BRG				pmax	pmax		
	comp=Z,14nm,0.9s						
BRG				MLR	MLR		
	comp=Z,300nm,10.5s						
BRG	**Berggiesshubel**	**17.06**	**329**	*i* P	**P**	**10 34 13.7**	**+7.7**
	comp=Z,14nm,0.9s						
BRG				*e*		10 34 26.8	
GRA1	**Grafenberg Arr**	**17.46**	**322**	*e*P	**P**	**10 34 17.1**	**+6.1**
	comp=Z,9.0nm,0.8s						
GRF	**Grafenberg Arr**	**17.46**	**322**	*e*P	**P**	**10 34 17.1**	**+6.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MBDF	**Montbardon**	**17.63**	**303**	*e*P	**P**	**10 34 14.2**	**+1.0**
	comp=Z,12nm,0.7s						
CLL	**Collm**	**17.78**	**328**	⇑*i*	**P**	**10 34 20.7**	**+5.8**
CLL				*e*		10 34 31.0	
LPG	**La Plagne**	**17.91**	**305**	*e*P	**P**	**10 34 17.9**	**+1.3**
	comp=Z,18nm,0.9s						
MOX	**Moxa**	**17.91**	**325**	*i* P	**P**	**10 34 21.1**	**+4.5**
MOX				PP	PP	10 34 36.0	+4.6
MOX				S	**S**	**10 37 51.0**	**+18**
MOX				L		10 42 15.0	
MOX	**Moxa**	**17.91**	**325**	*e*P	**P**	**10 34 21.1**	**+4.5**
MOX	**Moxa**	**17.91**	**325**	P	**P**	**10 34 21.1**	**+4.5**
MOX				*e*		10 34 26.4	
LPL	**La Plagne**	**17.93**	**305**	*e*P	**P**	**10 34 17.9**	**+1.0**
	comp=Z,15nm,0.8s						
ORIF	**Oris-en-Rattie**	**18.30**	**303**	*e*P	**P**	**10 34 21.8**	**+0.3**
	comp=Z,33nm,1.4s						
ORIF				*e*R			
	comp=Z,113nm,21.2s						
CABF	**La Chapelle**	**18.76**	**308**	*e*P	**P**	**10 34 27.3**	**+0.2**
	comp=Z,20nm,0.8s						
CDF	**Champ du Feu**	**18.84**	**314**	*e*P	**P**	**10 34 28.3**	**+0.2**
	comp=Z,19nm,1.0s						
VIVF	**Saint-Julien-l**	**19.10**	**302**	*e*P	**P**	**10 34 31.0**	**-0.1**
	comp=Z,15nm,0.9s						
OBN	**Obninsk**	**19.14**	**16**	*e*P	**P**	**10 34 31.9**	**+0.3**
OBN				*e*S	**S**	**10 38 07.6**	**+6.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HAU	**Haudompre**	**19.19**	**312**	*e*P	**P**	**10 34 33.1**	**+0.9**
	comp=Z,16nm,0.7s						
HAU				*e*R			
	comp=Z,140nm,19.5s						
SMF	**Signal de Mont**	**20.21**	**306**	*e*P	**P**	**10 34 42.5**	**-1.0**

	comp=Z,40nm,0.8s						
LOR	**Lormes**	**20.42**	**308**	*e*P	**P**	**10 34 44.8**	**-0.9**
	comp=Z,26nm,1.0s						
LOR				*e*R			
	comp=Z,83nm,19.8s						
MTLF	**Montolieu**	**20.48**	**296**	*e*P	**P**	**10 34 46.1**	**-0.2**
SSF	**Saint Saulge**	**20.57**	**307**	*e*P	**P**	**10 34 46.5**	**-0.7**
	comp=Z,27nm,0.7s						
AVF	**Avril sur Loir**	**20.58**	**306**	*e*P	**P**	**10 34 46.6**	**-0.7**
	comp=Z,38nm,0.9s						
BGF	**Bois d'Agland**	**20.83**	**305**	*e*P	**P**	**10 34 49.5**	**-0.4**
	comp=Z,51nm,1.2s						
TCF	**Toulx Ste Croi**	**21.17**	**304**	*e*P	**P**	**10 34 53.4**	**+0.1**
	comp=Z,15nm,1.2s,mb3.9						
BAIF	**Baives**	**21.40**	**315**	*e*P	**P**	**10 34 55.8**	**+0.1**
EPF	**Esparros**	**21.80**	**295**	*e*P	**P**	**10 34 59.1**	**-0.6**
ETSF	**Etsaut**	**22.44**	**294**	*e*P	**P**	**10 35 05.4**	**-0.7**
SJPF	**Ste Jean**	**22.95**	**295**	*e*P	**P**	**10 35 11.0**	**-0.1**
LDF	**La Druitiere**	**23.39**	**309**	*e*P	**P**	**10 35 15.3**	**0.0**
	comp=Z,39nm,1.1s,mb4.4						
FLN	**La Foliniere**	**23.67**	**309**	*e*P	**P**	**10 35 18.0**	**0.0**
	comp=Z,36nm,0.9s,mb4.5						
FLN				*e*R			
	comp=Z,70nm,18.2s						
GRR	**Gorron**	**23.79**	**308**	*e*P	**P**	**10 35 19.2**	**0.0**
	comp=Z,68nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**24.53**	**358**	P	**P**	**10 35 26.1**	**-0.1**
	comp=Z,4.1nm,0.7s,mb4.1,baz=149,slow=11,SNR=20						
FINES	**FINESS Array B**	**24.53**	**358**	P	**P**	**10 35 26.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SGMF	**Saint Gilles**	**24.84**	**307**	*e*P	**P**	**10 35 29.4**	**+0.1**
	comp=Z,26nm,0.9s,mb4.5						
HFS	**Hagfors**	**24.88**	**343**	P	**P**	**10 35 29.5**	**-0.2**
	comp=Z,5.5nm,0.8s,mb4.1,baz=158,slow=8.0,SNR=13						
HFS	**Hagfors**	**24.88**	**343**	P	**P**	**10 35 29.5**	**-0.1**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ESDC	**Sonseca Array**	**24.96**	**286**	P	**P**	**10 35 30.8**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.0,baz=84,slow=9.0,SNR=13						
ESLA	**Sonseca Array**	**24.96**	**286**	*e*P	**P**	**10 35 30.9**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.5						
ROSF	**Rostrenen**	**25.32**	**306**	*e*P	**P**	**10 35 32.1**	**-1.8**
	comp=Z,17nm,0.8s,mb4.3						
JOF	**Joensuu**	**26.09**	**4**	*e*p	**P**	**10 35 38.9**	**-2.0**
NAO01	**NORSAR Array S**	**26.19**	**341**	*e*P	**P**	**10 35 41.4**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.2						
NB2	**NORSAR Subarra**	**26.27**	**342**	P	**P**	**10 35 42.0**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.5,baz=154,slow=10						
NOA	**NORSAR Array B**	**26.27**	**342**	P	**P**	**10 35 41.6**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.5,baz=153,slow=10,SNR=5.5						
NOA				LR	LR	10 47 33.3	
	comp=Z,36nm,19.8s,MS2.9,baz=160,slow=40						
NOA	**NORSAR Array B**	**26.27**	**342**	P	**P**	**10 35 41.7**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,36nm,19.8s						
EKA	**Eskdalemuir Ar**	**27.87**	**321**	P	**P**	**10 35 55.6**	**-1.7**
	comp=Z,1.2nm,0.7s,mb3.6,baz=126,slow=12,SNR=3.9						
EKA	**Eskdalemuir Ar**	**27.87**	**321**	P	**P**	**10 35 55.6**	**-1.7**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ESK	**Eskdalemuir**	**27.89**	**321**	*e*P	**P**	**10 35 59.4**	**+1.9**
	comp=Z,8.9nm,1.0s,mb4.3						
ARU	**Arti**	**28.37**	**37**	⇑*i*P	**P**	**10 36 01.5**	**-0.3**
ARU				*e*		10 36 52.3	
ARU				*i* PPP	PPP	10 36 59.2	-6.4
ARU				*e*		10 39 10.5	
ARU				*e*S	**S**	**10 40 49.7**	**+3.7**
ARU				*e*SS	SS	10 42 07.8	-2.9
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ARU	**Arti**	**28.37**	**37**	*e*P	**P**	**10 36 02.8**	**+1.0**
	comp=Z,7.8nm,1.1s,mb4.2						
ARCES	**ARCESS Array B**	**32.66**	**359**	P	**P**	**10 36 38.2**	**-1.4**
	comp=Z,1.9nm,0.8s,mb4.0,baz=191,slow=6.2,SNR=8.2						
ARCES				LR	LR	10 51 41.6	
	comp=Z,48nm,19.9s,MS3.2,baz=88,slow=40						
ARCES	**ARCESS Array B**	**32.66**	**359**	P	**P**	**10 36 38.2**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,49nm,19.9s						
ARE0	**ARCESS Array S**	**32.66**	**359**	*e*P	**P**	**10 36 39.0**	**-0.6**
JMIC	**Jan Mayen**	**38.99**	**342**	LR	LR	10 55 32.3	
	comp=Z,44nm,18.8s,MS3.3,baz=117,slow=39						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**10 37 50.5**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.1,baz=281,slow=6.2,SNR=30						
MKAR	**Makanchi Array**	**41.05**	**58**	P	**P**	**10 37 50.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NVS	**Novosibirsk**	**41.34**	**46**	*e*P	**P**	**10 37 53.0**	**0.0**
DBIC	**Dimbokro**	**42.32**	**233**	P	**P**	**10 38 00.6**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.0,baz=63,slow=9.0,SNR=2.4						
DBIC	**Dimbokro**	**42.32**	**233**	P	**P**	**10 38 00.6**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAK	**Zakamensk**	**53.99**	**50**	*e*P	**P**	**10 39 31.9**	**+0.2**
SONM	**Songino Array**	**56.73**	**52**	P	**P**	**10 39 51.4**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.2,baz=289,slow=7.7,SNR=12						
SCHQ	**Schefferville**	**63.17**	**320**	P	**P**	**10 40 33.5**	**-2.3**
	comp=Z,2.6nm,0.8s,mb4.4,baz=73,slow=4.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**64.32**	**86**	P	**P**	**10 40 41.8**	**-2.0**
	comp=Z,1.9nm,0.9s,mb4.1,baz=301,slow=8.6,SNR=6.5						
CMAR	**Chiang Mai Arr**	**64.32**	**86**	P	**P**	**10 40 41.8**	**-2.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SUR	**Sutherland**	**69.28**	**186**	LR	LR	11 12 13.0	
	comp=Z,124nm,18.0s,MS4.2,baz=201,slow=36						
YKA	**Yellowknife Ar**	**76.37**	**343**	LR	LR	11 14 30.0	
	comp=Z,18nm,20.6s,MS3.4,baz=85,slow=35						
ILAR	**Eielson Array**	**78.52**	**358**	P	**P**	**10 42 06.8**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=345,slow=3.0,SNR=12						
ILAR	**Eielson Array**	**78.52**	**358**	P	**P**	**10 42 06.9**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	**Dawson**	**78.80**	**354**	*e*P	**P**	**10 42 09.1**	**-0.3**
BDFB	**Brasilia**	**88.31**	**249**	P	**P**	**10 42 59.9**	**+1.0**
	comp=Z,1.2nm,0.4s,mb4.5,baz=60,slow=0.5,SNR=3.4						
BDFB	**Brasilia**	**88.31**	**249**	P	**P**	**10 42 59.9**	**+1.0**
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**116.32**	**101**	PKP	PKPdf	10 48 49.8	-4.0
	comp=Z,0.3nm,0.7s,baz=11,slow=0.8,SNR=4.0						

MEX 05 10:58:53.5±1.3**, 20.29N**×**105.22W, h45**^{km}**, MD3.8, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.80**	**168**	*i* P	P	10 59 06.3	-2.2
CJM				*i* S	S	10 59 17.9	-1.6
SFJM	**Santa Fe**	**2.06**	**84**	*i* P	P	10 59 25.0	-1.3
SFJM				*i* S	S	10 59 47.0	-3.8
ZAIG	**Zacatecas**	**3.50**	**45**	*i* P	P	10 59 51.6	+4.8
ZAIG				*i* S	S	11 00 27.9	+0.5

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*NEIC **05** 11:06:31.1, 35.11S×178.81E, h284^{km}, After WEL.*

WEL 05 11:06:33.4±0.3**, 35.30S**×**178.93E, h279**^{km}±8^{km}**, ML4.1**/4**, Error ellipse: s-maj=10.8km s-min=9.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.82**	**191**	PN	P	11 07 26.0	-0.3
PUZ				SN	S	11 08 06.5	-1.0
PUZ	**Puketiti**	**2.82**	**191**	*e*P	P	11 07 26.0	-0.3
MWZ	**Matawai**	**3.23**	**200**	PN	P	11 07 30.6	0.0
MWZ				SN	S	11 08 15.0	-0.1
MWZ	**Matawai**	**3.23**	**200**	P	P	11 07 30.6	0.0
MWZ				S	S	11 08 15.3	+0.2
URZ	**Urewera**	**3.30**	**206**	PN	P	11 07 30.5	-0.8
URZ				SN	S	11 08 15.1	-1.2
URZ	**Urewera**	**3.30**	**206**	P	P	11 07 30.4	-0.9
KNZ	**Kokohu**	**3.85**	**195**	PN	P	11 07 36.9	-0.5
KNZ	**Kokohu**	**3.85**	**195**	*e*P	P	11 07 36.9	-0.4
BKZ	**Black Stump Fm**	**4.32**	**206**	PN	P	11 07 41.9	-0.9
BKZ				SN	S	11 08 34.8	-2.1
BKZ	**Black Stump Fm**	**4.32**	**206**	*e*P	P	11 07 42.3	-0.4
BKZ				S	S	11 08 38.7	+1.8
FWVZ	**Far West T-bar**	**4.78**	**213**	PN	P	11 07 47.3	-0.7
FWVZ	**Far West T-bar**	**4.78**	**213**	*e*P	P	11 07 47.5	-0.6
MOVZ	**Moawhango**	**4.82**	**211**	PN	P	11 07 47.2	-1.3
PWZ	**Pawanui**	**5.00**	**199**	PN	P	11 07 49.8	-0.8
PWZ	**Pawanui**	**5.00**	**199**	*e*P	P	11 07 49.8	-0.8
PWZ				S	S	11 08 51.3	+0.2
TSZ	**Takapari Road**	**5.30**	**205**	PN	P	11 07 52.8	-1.5
TSZ	**Takapari Road**	**5.30**	**205**	P	P	11 07 53.0	-1.3
WAZ	**Wanganui**	**5.44**	**214**	PN	P	11 07 54.8	-1.2
WAZ	**Wanganui**	**5.44**	**214**	*e*P	P	11 07 55.1	-0.8
BFZ	**Birch Farm**	**5.78**	**201**	PN	P	11 07 58.8	-1.2
BFZ				SN	S	11 09 06.6	-1.3
BFZ	**Birch Farm**	**5.78**	**201**	*e*P	P	11 07 58.9	-1.1
BFZ				S	S	11 09 10.1	+2.2
MRZ	**Mangatainoka R**	**5.97**	**205**	PN	P	11 08 00.2	-2.2
MRZ				SN	S	11 09 09.0	-3.2
MRZ	**Mangatainoka R**	**5.97**	**205**	*e*P	P	11 08 00.7	-1.7
MRZ				S	S	11 09 10.0	-2.1
KIW	**Kapiti Island**	**6.39**	**209**	PN	P	11 08 05.4	-2.1
KIW	**Kapiti Island**	**6.39**	**209**	P	P	11 08 05.4	-2.2
MTW	**Mount Morrison**	**6.44**	**204**	PN	P	11 08 06.2	-2.0
MTW	**Mount Morrison**	**6.44**	**204**	P	P	11 08 06.2	-2.0
CAW	**Cannon Point**	**6.55**	**207**	PN	P	11 08 07.1	-2.4
CAW	**Cannon Point**	**6.55**	**207**	P	P	11 08 07.1	-2.4
PAWZ	**Paruwai Farm**	**6.67**	**203**	PN	P	11 08 09.0	-2.0
MSWZ	**Moikau Station**	**6.76**	**204**	PN	P	11 08 09.8	-2.3
MRW	**Makara Radio**	**6.79**	**208**	PN	P	11 08 09.8	-2.7
MRW	**Makara Radio**	**6.79**	**208**	P	P	11 08 09.8	-2.7
SNZO	**South Karori**	**6.86**	**208**	PN	P	11 08 10.6	-2.7
SNZO				SN	S	11 09 28.5	-3.3
SNZO	**South Karori**	**6.86**	**208**	P	P	11 08 10.7	-2.6
TUWZ	**Tuamarina**	**7.27**	**211**	PN	P	11 08 15.2	-3.2
NNZ	**Nelson**	**7.35**	**215**	PN	P	11 08 15.9	-3.6
THZ	**Tophouse**	**8.00**	**214**	*e*P	P	11 08 25.6	-1.9
KHZ	**Kahutara**	**8.26**	**209**	PN	P	11 08 28.1	-2.7
KHZ	**Kahutara**	**8.26**	**209**	*e*P	P	11 08 28.1	-2.7
LTZ	**Lake Taylor**	**9.09**	**213**	PN	P	11 08 38.1	-3.0
LTZ	**Lake Taylor**	**9.09**	**213**	*e*P	P	11 08 38.1	-3.0
MQZ	**McQueen's Vall**	**9.70**	**208**	PN	P	11 08 45.2	-3.4
MQZ				SN	S	11 10 30.8	-4.4

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*ISK **05** 11:08:29.2, 36.88N×27.66E, h8^{km}, MD3.4*

*NEIC **05** 11:08:32.5, 36.80N×27.63E, h19^{km}, MD3.5(ATH), After ATH.*

*ATH **05** 11:08:32.5, 36.80N×27.63E, h19^{km}±5^{km}, MD3.5/8*

ISC 05 11:08:30.0±0.8**, 36.86N**±0.03×**27.71E**±0.04**, h7**^{km}±6^{km}**, n18, σ0^{s}89**/26**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**314**	*i* P	**Pg**	**11 08 36.1**	**+0.1**
BDRM				*i* S	**Sg**	**11 08 40.6**	**+0.7**
MLSB	**Milas**	**0.43**	**7**	*i* PG	**Pg**	**11 08 38.1**	**-0.7**
MLSB				SG	**Sg**	**11 08 44.7**	**+0.1**
NISR	**Nisiros**	**0.53**	**242**	*e*PB	**Pb**	**11 08 41.5**	**+0.3**
NISR				*e*SB	**Sb**	**11 08 49.0**	**+0.2**
YER	**Yerkesik**	**0.54**	**59**	*i* PG	**Pg**	**11 08 40.4**	**-0.4**
ARG	**Arkhangelos**	**0.73**	**152**	*e*PB	**Pb**	**11 08 45.0**	**+0.4**
ARG				*e*SN	**Sn**	**11 08 57.5**	**-0.4**
AYDN	**Tasoluk**	**0.81**	**10**	⇑*i*P	**Pb**	**11 08 45.2**	**-0.7**
AYDN				*i* S	**Sb**	**11 08 56.4**	**-0.5**
DNZL	**Cakiroluk**	**1.35**	**52**	⇑*i*P	**Pb**	**11 08 55.5**	**+0.2**
DNZL				*i* S	**Sb**	**11 09 14.2**	**+1.6**
DENT	**Denizli**	**1.38**	**50**	PN	**Pn**	**11 08 55.7**	**-0.1**
KARP	**Karpathos**	**1.39**	**199**	*e*PB	**Pb**	**11 08 56.0**	**+0.1**
KDAG	**Bornova**	**1.58**	**347**	*i* P	**Pn**	**11 08 58.5**	**-0.1**
KDAG				*i* S	**Sb**	**11 09 20.6**	**+1.4**
KSL	**Kastellorizon**	**1.67**	**115**	*e*PN	**Pn**	**11 09 03.5**	**+3.5**
APE	**Apeiranthos**	**1.75**	**277**	*e*PN	**Pn**	**11 09 00.0**	**-1.1**
MANT	**Manisa**	**1.76**	**22**	*i* P	**Pn**	**11 09 00.5**	**-0.7**
MANT				*i* S	**Sn**	**11 09 23.4**	**-0.7**
ELL	**Elmali**	**1.77**	**93**	*e*PN	**Pn**	**11 09 02.0**	**+0.6**
AKS	**Akhisar**	**2.01**	**2**	*e*PN	**Pn**	**11 09 03.3**	**-1.6**
NPS	**Neapolis**	**2.33**	**227**	*e*PN	**Pn**	**11 09 10.5**	**+1.1**
XRY	**Khrisi**	**2.57**	**220**	*e*PB	**Pb**	**11 09 15.0**	**-1.1**
PRK	**Paraskevi**	**2.63**	**335**	*e*PN	**Pn**	**11 09 17.0**	**+3.3**

IDC 05 11:10:37.8±1.2**, 19.90N**×**146.73E, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/20**, MS3.5**/1**, Ms1 3.7**/1**, ms1mx2.8**/13**, Error ellipse: s-maj=46.7km s-min=30.2km az=99.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.41**	**198**	P	P	11 18 26.0	-1.8
	0.2nm,0.5s,baz=15,slow=8.0,SNR=8.2						
CMAR	**Chiang Mai Arr**	**45.04**	**277**	LR	LR	11 36 55.7	
	comp=Z,52nm,20.7s,baz=226,slow=35						
MKAR	**Makanchi Array**	**58.35**	**313**	P	P	11 20 35.5	-1.6
	0.2nm,0.5s,baz=90,slow=8.5,SNR=3.3						
ILAR	**Eielson Array**	**62.14**	**26**	P	P	11 21 00.1	-2.6
	0.3nm,0.7s,baz=269,slow=5.5,SNR=4.9						
LPAZ	**La Paz**	**146.70**	**90**	PKPbc	PKPbc	11 30 22.0	-0.1
	1.3nm,0.3s,baz=291,slow=5.0,SNR=8.8						

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*MEX **05** 11:26:24.1±0.3, 13.91N×92.05W, h88^{km}±32^{km}, MD4.4*

*CASC **05** 11:26:29.5±1.6, 14.37N×92.13W, h68^{km}±10^{km}, MD3.9, ML4.2*

ISC 05 11:26:27.7±1.1**, 14.14N**±0.09×**92.26W**±0.07**, h65**^{km}±13^{km}**, n13, σ0^{s}77**/23**, 1C-5D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.63**	**73**	⇓*e*P	**P**	**11 26 41.7**	**+0.2**
JAT				*e*S	**S**	**11 26 52.2**	**+0.4**
JAT				AML	AML	11 26 52.7	
	comp=E,13μm,0.3s						
TPX	**Tapachula**	**0.77**	**360**	*i* P	**P**	**11 26 42.5**	**-0.6**
FUG	**Fuego 3**	**1.41**	**77**	⇓*e*P	**P**	**11 26 50.7**	**-1.1**
IXG	**Ixpaco**	**1.75**	**89**	⇑*e*P	**P**	**11 26 56.1**	**-0.3**
IXG				*e*S	**S**	**11 27 17.5**	**-0.2**
IXG				AML	AML	11 27 22.2	
	comp=E,5μm,0.4s						
NBG	**Las Nubes**	**1.91**	**76**	⇓*e*P	**P**	**11 26 59.0**	**+0.4**
NBG				*e*S	**S**	**11 27 21.6**	**+0.2**
NBG				AML	AML	11 27 27.6	
	comp=E,1μm,0.4s						
CCIG	**Comitan**	**2.14**	**3**	*e*P	**P**	**11 26 59.7**	**-2.1**
CCIG				*i* S	**S**	**11 27 28.1**	**+0.9**
RTR	**El Retiro**	**2.55**	**95**	⇓*e*P	**P**	**11 27 08.3**	**+0.6**
RTR				*e*S	**S**	**11 27 37.6**	**+0.1**
SBLS	**San Blas**	**2.58**	**96**	*e*P	**P**	**11 27 08.5**	**+0.5**
SBLS				*e*S	**S**	**11 27 38.5**	**+0.3**
SNJE	**San Jose**	**2.59**	**96**	*e*P	**P**	**11 27 08.9**	**+0.7**
SNJE				*e*S	**S**	**11 27 38.9**	**+0.4**
MRL	**Marmol**	**2.65**	**69**	⇓*e*P	**P**	**11 27 08.1**	**-1.0**
LFRS	**El Faro**	**3.15**	**99**	*e*P	**P**	**11 27 16.7**	**+0.6**
LFRS				*e*S	**S**	**11 27 51.8**	**-0.8**
LCBS	**La Ceiba**	**3.22**	**98**	*e*P	**P**	**11 27 17.8**	**+0.7**
LCBS				*e*S	**S**	**11 27 53.8**	**-0.7**
CMIG	**Matias Romero**	**3.88**	**320**	*i* P	**P**	**11 27 25.4**	**-0.9**
CMIG				*i* S	**S**	**11 28 12.2**	**+1.2**

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*NEIC **05** 11:33:57.4±4.8, 18.54S×177.79W, h559^{km}±61^{km}, mb4.0/7, Error ellipse: s-maj=24.3km s-min=15.3km az=201.0*

*IDC **05** 11:34:01.6±3.5, 18.76S×177.78W, h615^{km}±50^{km}, mb3.2/9, mb1 3.5/10, mb1mx3.3/18, Error ellipse: s-maj=35.6km s-min=13.4km az=157.0*

ISC 05 11:33:58.1±3.0**, 18.6S**±0.2×**177.9W**±0.1**, h582**^{km}±40^{km}**, n20, σ0^{s}78**/21**, mb3.7**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.07**	**192**	P	**P**	**11 37 53.0**	**-1.4**
	0.7nm,0.3s,baz=144,slow=14,SNR=3.3						
RPZ	**Rata Peaks**	**26.72**	**198**	P	**P**	**11 38 53.7**	**-0.1**
	46nm,1.2s,mb5.0,baz=17,slow=20,SNR=3.0						
CTA	**Charters Tower**	**33.84**	**261**	*e*P	**P**	**11 39 55.4**	**+0.8**
	2.5nm,0.8s,mb3.9						
CTAO	**Charters Tower**	**33.84**	**261**	*e*P	**P**	**11 39 55.3**	**+0.7**
	3.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**38.75**	**242**	*e*P	**P**	**11 40 36.2**	**+1.4**
	4.6nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**11 40 36.2**	**+1.4**
	1.9nm,0.3s,mb4.1,baz=97,slow=8.4,SNR=16						
WB2	**Warramunga Arr**	**44.99**	**260**	*e*P	**P**	**11 41 23.6**	**-0.7**
WRAB	**Tennant Creek**	**45.00**	**260**	*e*P	**P**	**11 41 24.1**	**-0.3**
	2.8nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**45.01**	**260**	P	**P**	**11 41 24.5**	**0.0**
	2.4nm,0.4s,mb4.1,baz=99,slow=6.7,SNR=206						
ASAR	**Alice Springs**	**45.09**	**255**	P	**P**	**11 41 25.4**	**+0.3**
	3.0nm,0.4s,mb4.1,baz=95,slow=7.2,SNR=64						
ASAR				S	**S**	**11 47 22.1**	**-0.8**
	0.4nm,0.7s,baz=90,slow=14,SNR=5.3						
ASPA	**Alice Springs**	**45.10**	**255**	*e*P	**P**	**11 41 25.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.41**	**261**	*e*P	**P**	**11 42 26.5**	**0.0**
	2.2nm,1.7s,mb3.2						
QSPA	**South Pole Qui**	**71.46**	**180**	*e*P	**P**	**11 44 22.1**	**+0.7**
	1.0nm,0.5s,mb3.6						
YBH	**Yreka Blue Hor**	**78.74**	**39**	P	**P**	**11 45 03.1**	**+0.8**
	0.7nm,0.5s,mb3.2,baz=224,slow=2.4,SNR=3.2						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**11 45 06.7**	**0.0**
	0.4nm,0.6s,mb2.9,baz=210,slow=8.0,SNR=5.2						
BGU	**Big Grassy Mou**	**84.34**	**44**	*e*P	**P**	**11 45 24.4**	**-6.2**
TXAR	**Lajitas Array**	**85.94**	**57**	P	**P**	**11 45 39.4**	**+0.7**
	1.0nm,0.7s,mb3.6,baz=194,slow=3.7,SNR=2.3						
COLA	**College**	**86.34**	**12**	*e*P	**P**	**11 45 38.3**	**-1.4**
	3.4nm,1.1s,mb3.9						
ILAR	**Eielson Array**	**86.44**	**13**	P	**P**	**11 45 39.1**	**-1.1**
	0.3nm,0.4s,mb3.2,baz=219,slow=4.7,SNR=14						
PDAR	**Pinedale Array**	**87.51**	**43**	P	**P**	**11 45 46.2**	**+0.5**
	0.6nm,1.1s,mb3.2,baz=180,slow=1.5,SNR=3.7						

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*HEL **05** 11:34:26.0±0.1, 60.91N×29.04E, ML1.8, ML2.4(NAO), Explosion*

*NAO **05** 11:34:26.1±2.8, 61.11N×28.96E, ML2.4*

*BER **05** 11:34:26.4±4.2, 61.01N×28.96E, ML2.4(NAO), Suspected explosion*

ISC 05 11:34:24.5±1.1**, 60.90N**±0.05×**29.0E**±0.1**, n10, σ0^{s}87**/18**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.81**	**244**	*e*P	**Pg**	**11 34 40.8**	**+0.2**
VJF				*e*S	**Sg**	**11 34 51.5**	**+0.1**
FIA0	**FINESS Array S**	**1.53**	**292**	*e*P	**Pn**	**11 34 52.7**	**-0.4**
FIA0				*e*S	**Sb**	**11 35 13.3**	**+0.1**
FIA0	**FINESS Array S**	**1.53**	**292**	Pn	**Pn**	**11 34 52.3**	**-0.8**
	baz=112,slow=18						
FIA0				Lg		11 35 12.9	
	baz=108,slow=28						
FIA0				Rg		11 35 20.4	
	baz=118,slow=56						
PVF	**Pernaja**	**1.59**	**258**	*e*P	**Pn**	**11 34 54.3**	**+0.2**
PVF				*e*S	**Sb**	**11 35 15.0**	**-0.1**
SUF	**Sumiainen**	**2.28**	**324**	*e*P	**Pn**	**11 35 05.0**	**+1.2**
SUF				*e*S	**Sn**	**11 35 33.1**	**+0.1**
JOF	**Joensuu**	**2.29**	**27**	*e*P	**Pn**	**11 35 04.8**	**+0.8**
JOF				*e*S	**Sn**	**11 35 32.9**	**-0.6**
KEF	**Keuruu**	**2.36**	**304**	*e*P	**Pn**	**11 35 06.2**	**+1.2**
KEF				*e*S	**Sn**	**11 35 35.4**	**+0.4**
KEF				*e*SB	**Sb**	**11 35 36.9**	**-0.4**
KEF				MSG		11 35 39.0	
	comp=Z,3.5nm,0.3s						
KJN	**Kajaani**	**3.25**	**350**	*e*S	**Sn**	**11 35 57.5**	**-0.2**
HFS	**Hagfors**	**7.60**	**271**	Pn	**Pn**	**11 36 16.5**	**-2.7**
	baz=95,slow=22						
HFS				Lg		11 38 19.1	
	baz=65,slow=28						
ARA0	**ARCESS Array S**	**8.79**	**352**	Pn	**P**	**11 36 32.2**	**-3.6**
	baz=171,slow=12						
ARA0				Sn	**Sn**	**11 38 06.5**	**-10**
	baz=166,slow=28						
ARA0				Lg		11 38 51.0	
	baz=155,slow=37						

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*ATH **05** 11:48:38.6, 36.19N×25.31E, h34^{km}±14^{km}, MD3.3/6*

*THE **05** 11:48:40.9, 36.29N×25.37E, h2^{km}*

*NEIC **05** 11:48:40.9, 36.29N×25.37E, h2^{km}, MD3.3(ATH), After THE.*

ISC 05 11:48:38.1±0.7**, 36.21N**±0.05×**25.35E**±0.08**, h14**^{km}±5^{km}**, n11, σ0^{s}51**/18**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THR6	**Thira Island,**	**0.15**	**16**	*e*Pg	**Pg**	**11 48 42.6**	**+0.6**
THR6				*e*Sg	**Sg**	**11 48 43.6**	**-1.0**
THR1	**Thera Island**	**0.19**	**30**	*e*Pg	**Pg**	**11 48 43.0**	**+0.4**
THR1				*e*Sg	**Sg**	**11 48 45.4**	**-0.1**
THR3	**Thira Island,**	**0.21**	**13**	*e*Pg	**Pg**	**11 48 43.6**	**+0.7**
THR3				*e*Sg	**Sg**	**11 48 45.5**	**-0.6**
THR5	**Thira Island,**	**0.21**	**1**	*e*Pg	**Pg**	**11 48 43.8**	**+0.9**
THR5				*e*Sg	**Sg**	**11 48 45.9**	**-0.2**
THR4	**Thira Island,**	**0.26**	**10**	*e*Pg	**Pg**	**11 48 44.2**	**+0.5**
THR4				*e*Sg	**Sg**	**11 48 47.1**	**-0.4**
APE	**Apeiranthos**	**0.87**	**10**	*e*PN	**Pn**	**11 48 56.5**	**+0.7**
APE				*e*SN	**Sn**	**11 49 08.0**	**-0.2**
VAM	**Vamos**	**1.23**	**230**	*e*PN	**Pn**	**11 49 00.5**	**-0.4**
VAM				*e*SN	**Sn**	**11 49 17.0**	**-0.2**
XRY	**Khrisi**	**1.36**	**168**	*e*PB	**Pb**	**11 49 02.5**	**-0.3**
KARP	**Karpathos**	**1.62**	**114**	*e*PB	**Pb**	**11 49 07.0**	**-0.2**
KYTH	**Kithira**	**1.87**	**273**	*e*PN	**Pn**	**11 49 10.0**	**0.0**
VLI	**Veliai**	**2.01**	**285**	*e*PN	**Pn**	**11 49 12.0**	**0.0**

MEX 05 11:51:37.4±0.7**, 14.14N**×**93.35W, h18**^{km}±53^{km}**, MD4.2, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPX	**Tapachula**	**1.30**	**54**	*i* P	Pn	11 51 57.0	-3.8
TPX				*i* S	Sb	11 52 12.0	-5.1
CCIG	**Comitan**	**2.43**	**29**	*i* P	Pn	11 52 14.2	-2.8
CCIG				*i* S	Sn	11 52 41.8	-4.7
CMIG	**Matias Romero**	**3.29**	**333**	*i* P	Pn	11 52 24.1	-5.2
CMIG				*i* S	Sn	11 53 02.3	-5.9

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*NIED **05** 11:53:00, 35.50N×134.00E, h11^{km}, Mw3.5 Best double couple: $M_0 2.19\times10^{14}$ NP1:ϕ_s320°, δ88°, λ14°. NP2:ϕ_s230°, δ76°, λ178°.*

*JMA **05** 11:53:15.3, 35.54N×133.96E, h13^{km}, M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s60°, δ70°, λ-160°. NP2:ϕ_s323°, δ71°, λ-21°. Principal axes: T Plg1°, Azm12°; N Plg62°, Azm104°; P Plg28°, Azm281°;*

JMA Felt II J1.

ISC 05 11:53:15.1±0.8**, 35.53N**±0.04×**133.97E**±0.03**, h12**^{km}±6^{km}**, n9, σ0^{s}32**/18**, 2C-4D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKR	**Kurayoshi**	**0.19**	**219**	⇑P	**Pg**	**11 53 19.6**	**+0.1**
JKR				S	**Sg**	**11 53 22.5**	**+0.1**
JKSM	**Kasumi**	**0.57**	**84**	⇓P	**Pb**	**11 53 26.2**	**-0.4**
JKSM				S	**Sb**	**11 53 34.0**	**-0.4**
JAD	**Aida**	**0.61**	**164**	⇑P	**Pb**	**11 53 27.1**	**-0.1**
JAD				S	**Sb**	**11 53 35.3**	**-0.1**
JNM	**Ikuma**	**0.77**	**268**	⇓P	**Pb**	**11 53 29.7**	**-0.2**
JNM				*e*S	**Sb**	**11 53 40.1**	**+0.1**
SAI	**Saigo**	**0.85**	**323**	P	**Pb**	**11 53 31.2**	**-0.1**
SAI				*e*S	**Sb**	**11 53 42.7**	**+0.3**
JHS	**Saijyo**	**0.87**	**233**	P	**Pb**	**11 53 31.4**	**-0.3**
JHS				S	**Sb**	**11 53 43.1**	**0.0**
JKS	**Kasai**	**0.90**	**127**	⇓P	**Pb**	**11 53 32.2**	**0.0**
JKS				S	**Sb**	**11 53 44.4**	**+0.5**
JKY	**Yasaka**	**0.93**	**83**	⇓P	**Pb**	**11 53 32.6**	**-0.2**
JKY				S	**Sb**	**11 53 45.2**	**+0.3**
MAT	**Matsushiro**	**3.58**	**72**	P	**Pn**	**11 54 11.8**	**0.0**
MAT				*e*S	**Sn**	**11 54 58.5**	**+4.0**

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*ISK **05** 12:01:51.1, 36.93N×27.76E, h9^{km}, MD3.4, ML3.3*

*NEIC **05** 12:01:52.9, 36.86N×27.70E, h29^{km}, MD3.4(ATH), After ATH.*

*ATH **05** 12:01:53.0, 36.85N×27.68E, h31^{km}±3^{km}, MD3.4/7*

ISC 05 12:01:51.0±0.7**, 36.89N**±0.03×**27.70E**±0.04**, h9**^{km}±5^{km}**, n26, σ0^{s}79**/35**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.27**	**310**	*i* P	**Pg**	**12 01 57.5**	**+0.8**
BDRM				*i* S	**Sg**	**12 02 01.8**	**+1.3**
MLSB	**Milas**	**0.41**	**8**	*i* PG	**Pg**	**12 01 58.8**	**-0.5**
MLSB				SG	**Sg**	**12 02 04.8**	**-0.1**
YER	**Yerkesik**	**0.52**	**62**	*i* PG	**Pg**	**12 02 00.8**	**-0.8**
YER				SG	**Sg**	**12 02 07.6**	**-1.1**
NISR	**Nisiros**	**0.54**	**239**	*e*PN	**Pn**	**12 02 03.5**	**-1.0**
NISR				*e*SN	**Sn**	**12 02 12.5**	**-1.1**
ARG	**Arkhangelos**	**0.75**	**153**	*e*PB	**Pb**	**12 02 06.0**	**+0.2**
ARG				*e*SN	**Sn**	**12 02 19.0**	**0.0**
AYDN	**Tasoluk**	**0.78**	**10**	⇑*i*P	**Pb**	**12 02 06.0**	**-0.3**

AYDN				iS	Sb	12 02 16.8	0.0
DNZL	Cakiroluk	1.34	53	iP	Pb	12 02 15.8	0.0
DNZL				iS	Sb	12 02 34.4	+1.6
DENT	Denizli	1.37	50	PN	Pn	12 02 16.2	-0.1
KARP	Karpathos	1.41	198	ePB	Pb	12 02 17.0	0.0
KARP				eSN	Sn	12 02 36.5	+0.8
KDAG	Bornova	1.55	347	iP	Pn	12 02 18.6	-0.4
KSL	Kastellorizon	1.68	115	ePN	Pn	12 02 22.5	+1.7
MANT	Manisa	1.74	23	iP	Pn	12 02 21.7	+0.1
MANT				iS	Sn	12 02 43.5	-0.6
APE	Apeiranthos	1.75	277	ePB	Pb	12 02 22.0	-0.9
ELL	Elmali	1.77	94	ePN	Pn	12 02 22.1	0.0
THR1	Thera Island	1.88	255	eP	Pn	12 02 17.1	-6.6
THR4	Thira Island,	1.90	258	eP	Pn	12 02 18.4	-5.5
THR3	Thira Island,	1.91	256	eP	Pn	12 02 17.7	-6.4
THR6	Thira Island,	1.93	255	eP	Pn	12 02 17.0	-7.4
THR5	Thira Island,	1.95	257	eP	Pn	12 02 17.9	-6.8
AKS	Akhisar	1.99	2	PN	Pn	12 02 24.3	-0.9
ISP	Isparta	2.43	66	ePN	Pn	12 02 31.3	-0.2
XRY	Khrisi	2.59	220	ePB	Pb	12 02 37.0	-0.2
PRK	Paraskevi	2.61	335	ePN	Pn	12 02 36.0	+1.9
VAM	Vamos	3.20	243	ePn	Pn	12 02 36.5	-6.0
ULDT	Uludag	3.44	19	iP	Pn	12 02 56.6	+11
HDMB	Hadim	3.83	87	ePN	Pn	12 02 51.8	+0.3

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*BGR **05** 12:47:02.8±0.2,50.17N×7.48E,h10^{km},ML2.1/4,Error ellipse: s-maj=2.2km s-min=2.2km az=101.0*
*LDG **05** 12:47:03.6±0.2,50.12N×7.39E,h2^{km},Ml2.9/11,Error ellipse: s-maj=3.1km s-min=1.9km az=17.0*
*BNS **05** 12:47:04.6±1.2,50.26N×7.41E,h5^{km}±28^{km},ML1.8*
*STR **05** 12:47:05.1±0.6,50.04N×7.44E,h10^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **05** 12:47:05.1,50.04N×7.44E,h10^{km},ML2.9(LDG), ML2.4(STR),After STR.*
ISC 05 12:47:01.4±0.3,50.14N±0.02×7.43E±0.03,h10^{km},n38, σ1^{s}46/67,1C-4D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGG	Burgeitz	0.09	318	⇓iPg	Pg	12 47 06.3	+2.4
BGG				eSg	Sg	12 47 07.9	+2.4
	2µm,0.1s						
ABH	Alteburg	0.27	163	ePg	Pg	12 47 09.8	+2.6
ABH				eSg	Sg	12 47 12.7	+1.7
ABH	Alteburg	0.27	163	⇓iP	Pg	12 47 09.8	+2.7
ABH				S	Sg	12 47 13.3	+2.3
KOE	Koppel	0.34	35	⇓iPg	Pg	12 47 09.6	+1.1
KOE				eSg	Sg	12 47 13.3	+0.1
	199nm,0.2s						
RUP	Ruppelstein	0.50	208	ePg	Pg	12 47 13.4	+1.8
RUP				iP*	Pb	12 47 13.6	+1.7
RUP				eSg	Sg	12 47 20.1	+1.7
RUP	Ruppelstein	0.50	208	⇑iP	Pg	12 47 13.5	+1.9
STB	Steinbach	0.59	321	⇓ePg	Pg	12 47 14.8	+1.5
STB				eSg	Sg	12 47 21.1	-0.1
	52nm,0.1s						
BNS	Bensberg	0.84	349	eSg	Sg	12 47 28.8	-0.6
KLL	Kalltalsperre	0.87	306	ePg	Pg	12 47 20.4	+1.5
KLL				eSg	Sg	12 47 31.8	+1.1
	20nm,0.8s						
WLF	Walferdange	0.95	240	ePg	Pg	12 47 21.1	+0.6
	SNR=7.1						
WLF				eSg	Sg	12 47 35.3	+2.0
	SNR=4.5						
TOD	Tromm	1.04	121	Pg	Pg	12 47 23.5	+1.2
TOD	Tromm	1.04	121	Pg	Pg	12 47 23.7	+1.4
TOD				Sg	Sg	12 47 37.0	+0.8
SWS	Schriesheim	1.06	128	Pg	Pg	12 47 23.2	+0.6
SWS				Sg	Sg	12 47 37.5	+0.7
HGN	Heimansgroeve	1.14	304	ePn	Pn	12 47 23.6	+0.2
	SNR=0.8						
HGN				ePg	Pg	12 47 24.8	+0.6
	SNR=37						
HGN				eSg	Sg	12 47 39.5	+0.1
	SNR=3.9						
HGN	Heimansgroeve	1.14	304	ePg	Pg	12 47 24.8	+0.6
	15nm,0.1s,baz=90						
HGN				eSg	Sg	12 47 39.5	0.0
LANF	Langenberg	1.19	168	Pg	Pg	12 47 25.3	+0.1
LANF				eSg	Sg	12 47 40.6	-0.6
LANF	Langenberg	1.19	168	Pg	Pg	12 47 26.1	+0.9
LANF				Sg	Sg	12 47 41.2	+0.1
BUG	Bochum--Univer	1.30	356	eSg	Sg	12 47 43.6	-1.3
	SNR=3.5						
SIND	Sindeldorf	1.62	118	Pg	Pg	12 47 32.1	-1.7
GIVF	Givet	1.68	270	ePg	Pg	12 47 34.5	-0.4
GIVF				eSn	Sn	12 47 52.2	-0.5
GIVF				eSg	Sg	12 47 55.7	-1.5
	21nm,0.2s						
WLS	Welschbruch	1.73	182	Pn	Pn	12 47 33.9	+2.1
CDF	Champ du Feu	1.73	183	ePn	Pn	12 47 32.7	+0.8
CDF				ePg	Pg	12 47 35.8	-0.3
CDF				eSg	Sg	12 47 56.6	-2.6
	11nm,0.2s						
WTSB	Winterswijk	1.87	348	eSg	Sg	12 48 00.9	-2.8
	SNR=5.2						
BFO	Black Forest	1.91	162	eSg	Sg	12 48 03.7	-1.3
	SNR=4.1						
RFYF	Reffroy	1.98	221	ePg	Pg	12 47 40.3	-0.7
RFYF				eSg	Sg	12 48 07.5	+0.1
	16nm,0.2s						
BAIF	Baives	2.07	269	eSg	Sg	12 48 08.1	-2.4
	17nm,0.3s						
THEF	They Montfort	2.14	207	Pg	Pg	12 47 42.0	-2.1
THEF	They Montfort	2.14	207	Pn	Pn	12 47 38.4	+0.7
THEF				Pg	Pg	12 47 42.5	-1.6
HAU	Haudompre	2.25	199	ePn	Pn	12 47 39.9	+0.6
HAU				ePg	Pg	12 47 44.3	-2.1
HAU				eSg	Sg	12 48 14.0	-2.5
	6.6nm,0.2s						
FELD	Feldberg	2.30	170	Pn	Pn	12 47 40.2	+0.2
HINF	Hinteralfeld	2.36	189	ePg	Pg	12 47 47.1	-1.4
HINF				eSg	Sg	12 48 17.0	-3.0
	11nm,0.3s						
CLZ	Clausthal	2.52	46	ePg	Pg	12 47 48.7	-3.1
	SNR=4.4						
CLZ				eSg	Sg	12 48 21.7	-3.7
	SNR=2.3						
MOX	Moxa	2.73	78	eSg	Sg	12 48 28.1	-4.2
	SNR=1.6						
GUNZ	Gunzen	3.16	84	eSg	Sg	12 48 42.0	-4.5
	SNR=1.4						
CABF	La Chapelle	3.65	195	ePn	Pn	12 47 58.8	-0.3
LOR	Lormes	3.72	221	ePn	Pn	12 47 59.1	-1.1
LOR				eSn	Sn	12 48 41.1	-3.5
	4.4nm,0.3s						
LOR				eSg	Sg	12 48 59.9	-5.4
SSF	Saint Saulge	4.03	222	eSg	Sg	12 49 09.0	-6.7
	3.5nm,0.4s						
SMF	Signal de Mont	4.24	216	ePn	Pn	12 48 06.2	-1.3
SMF				eSn	Sn	12 48 53.5	-4.2
	1.8nm,0.2s						

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*ATH **05** 12:56:03.3,37.05N×27.86E,h33^{km}±5^{km},MD2.9/3*
*ISK **05** 12:56:08.1,37.15N×27.97E,h17^{km},MD2.9*
ISC 05 12:56:04.0±0.8,36.87N±0.04×27.82E±0.04,h1^{km}±7^{km}, n11,σ1^{s}02/20,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.36	304	iP	Pg	12 56 12.1	+0.9
BDRM				iS	Sg	12 56 17.4	+1.4
MLSB	Milas	0.43	356	PG	Pg	12 56 12.7	+0.1
MLSB				SG	Sg	12 56 18.2	-0.1
YER	Yerkesik	0.46	54	iPG	Pg	12 56 13.5	+0.3
YER				SG	Sg	12 56 19.3	0.0
NISR	Nisiros	0.61	246	ePN	Pn	12 56 18.5	-0.9
NISR				eSN	Sn	12 56 28.5	-1.5
ARG	Arkhangelos	0.69	159	ePN	Pn	12 56 19.8	-0.8
ARG				eSN	Sn	12 56 32.7	+0.5
AYDN	Tasoluk	0.79	4	iP	Pg	12 56 19.3	-0.6
AYDN				iS	Sg	12 56 29.6	-0.9
DNZL	Cakiroluk	1.28	50	iP	Pb	12 56 29.9	+1.3
DNZL				iS	Sb	12 56 48.3	+2.9
DENT	Denizli	1.31	47	PG	Pg	12 56 28.6	-1.6
KARP	Karpathos	1.42	202	ePN	Pn	12 56 31.5	+0.5
KARP				eSN	Sn	12 56 51.5	+0.9
MANT	Manisa	1.73	20	iP	Pn	12 56 35.3	0.0
MANT				iS	Sn	12 56 59.5	+1.2
AKS	Akhisar	2.01	360	ePN	Pn	12 56 37.9	-1.5

NNC 05 13:01:06.9±5.4,36.71N×68.70E,h100^{km}±100^{km},mpv3.9, 3C-1D,Error ellipse: s-maj=65.0km s-min=50.7km az=77.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.53	12	⇓P	P	13 02 40.3	-1.7
	5.1nm,0.5s,baz=200,slow=15,SNR=48						
KK31				⇑S	S	13 03 54.7	-0.9
	1.2nm,0.3s,baz=192,slow=22,SNR=5.2						
AB31	Akbulak array	14.06	336	P	P	13 04 22.1	-0.4
	0.7nm,0.3s,baz=160,slow=12,SNR=54						
AB31				⇑S	S	13 06 54.2	-2.2
	0.6nm,0.5s,baz=156,slow=23,SNR=4.4						
MK31	Makanchi Array	14.27	41	⇑P	P	13 04 22.6	-2.6
	0.4nm,0.5s,baz=213,slow=10,SNR=7.2						

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*IDC **05** 13:23:17.5±1.2,18.83S×66.17W,mb4.4/2,mb1 4.5/4, mb1mx4.1/15,ML3.4/1,MS3.6/3,Ms1 3.6/3,ms1mx3.1/19, Error ellipse: s-maj=41.1km s-min=21.8km az=102.0*
*NEIC **05** 13:23:22.3±3.4,18.27S×69.84W,h28^{km}±26^{km},mb4.3/3, Error ellipse: s-maj=24.8km s-min=12.4km az=77.0*
NEIC Felt [IV] at Arica and Camarones; [III] at Putre; [II] at Iquique. Also felt [III] at Tacna, Peru.
ISC 05 13:23:21.5±0.7,18.85S±0.05×69.98W±0.10,h10^{km},n17, σ1^{s}12/16,mb4.2/3,MS3.8/2,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	2.77	328	eP	Pn	13 24 00.0	-6.9
ARE				iS	Sn	13 24 40.1	-0.7
LPAZ	La Paz	3.09	35	Pn	Pn	13 24 09.2	-2.2
	3.5nm,0.3s,baz=220,slow=9.1,SNR=104						
LPAZ				Sn	Sn	13 24 49.6	+0.8
	10.0nm,0.3s,baz=156,slow=20,SNR=2.6						
LPAZ				LR	LR	13 25 31.3	
	comp=Z,420nm,20.5s,baz=227,slow=42						
LVC	Limon Verde	3.88	165	Pn	Pn	13 24 29.0	+6.5
	9.0nm,0.3s,baz=321,slow=8.0,SNR=118						
LVC				Pg	Pg	13 24 39.2	+0.2
	78nm,0.3s,baz=333,slow=9.7,SNR=57						
LVC				Sn	Sg	13 25 24.9	-5.8
	25nm,0.3s,baz=190,slow=19,SNR=9.0						
LVC				Lg		13 25 36.9	
	100nm,0.3s,baz=106,slow=16,SNR=11						
LVC	Limon Verde	3.88	165	ePn	Pn	13 24 28.6	+6.1
LVC				Pg	Pg	13 24 39.2	+0.2
LVC				Sn	Sg	13 25 24.9	-5.8
LVC				Lg		13 25 36.9	
SAML	Samuel	11.84	35	eP	P	13 26 02.2	-11
	1.1nm,0.5s						
TRQA	Tornquist	20.37	162	eP	P	13 28 00.4	-0.7
	12nm,0.9s						
OTAV	Otavalo	20.71	335	eP	P	13 28 09.6	+4.9
SADO	Sadowa	63.85	353	LR	LR	14 03 54.5	
	comp=Z,25nm,18.4s,MS3.4,baz=105,slow=38						
QSPA	South Pole Qui	71.33	180	eP	P	13 34 42.5	-0.5
	1.8nm,0.7s,mb4.1						
ULM	Lac du Bonnet	72.50	343	P	P	13 34 52.0	+1.7
	1.2nm,0.3s,mb4.2,baz=107,slow=4.0,SNR=3.7						
YKA	Yellowknife Ar	88.36	341	P	P	13 36 15.6	+1.1
	1.6nm,0.7s,mb4.4,baz=137,slow=4.9,SNR=4.6						
RPZ	Rata Peaks	96.40	220	LR	LR	14 11 48.6	
	comp=Z,93nm,20.5s,MS4.2,baz=89,slow=30						
ASAR	Alice Springs	131.75	210	PKP	PKPdf	13 42 36.5	-2.4
	0.3nm,0.9s,baz=143,slow=1.8,SNR=4.3						
ASAR	Alice Springs	131.75	210	PKP	PKPdf	13 42 36.5	-2.4
WRA	Warramunga Arr	134.67	213	PKP	PKPdf	13 42 40.6	-3.8
	0.4nm,0.8s,baz=142,slow=1.8,SNR=7.8						
MKAR	Makanchi Array	144.02	33	PKP	PKPdf	13 42 51.1	-9.3
	0.5nm,0.9s,baz=270,slow=2.9,SNR=3.0						
SONM	Songino Array	150.93	5	PKPbc	PKPdf	13 43 11.1	-0.6
	1.7nm,0.8s,baz=310,slow=1.5,SNR=12						
SONM				PKPab	PKPab	13 43 18.4	-5.7
	1.0nm,0.8s,baz=332,slow=2.1,SNR=4.8						

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*ISK **05** 13:23:39.9,36.87N×27.70E,h9^{km},MD3.0*
*NEIC **05** 13:23:43.7,36.80N×27.69E,h5^{km},MD3.3(ATH),After ATH.*
*ATH **05** 13:23:43.6,36.79N×27.61E,h5^{km},MD3.3/4*
ISC 05 13:23:41.0±0.5,36.91N±0.02×27.72E±0.04,h5^{km},n14, σ1^{s}05/23,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	306	iP	Pg	13 23 46.8	+0.3
BDRM				iS	Sg	13 23 51.2	+1.1
MLSB	Milas	0.39	7	iPG	Pg	13 23 48.7	-0.2
MLSB				SG	Sg	13 23 55.1	+0.9
YER	Yerkesik	0.51	63	iPG	Pg	13 23 50.8	-0.4
NISR	Nisiros	0.56	239	ePb	Pb	13 23 51.8	-1.1
NISR				eSb	Sb	13 24 02.0	+1.2
ARG	Arkhangelos	0.76	154	ePB	Pb	13 23 56.5	+0.2
ARG				eSB	Sb	13 24 08.0	+1.2
AYDN	Tasoluk	0.77	10	⇑iP	Pg	13 23 55.5	-0.9
AYDN				iS	Sg	13 24 06.6	0.0
DNZL	Cakiroluk	1.32	53	iP	Pb	13 24 06.0	+0.2
DNZL				iS	Sb	13 24 25.4	+2.5
DENT	Denizli	1.35	51	PN	Pn	13 24 06.4	-0.1
KARP	Karpathos	1.43	199	ePG	Pg	13 24 07.5	-2.0
KARP				eSB	Sb	13 24 27.0	+0.9
KDAG	Bornova	1.54	347	iP	Pn	13 24 09.8	+0.6
KDAG				iS	Sb	13 24 34.9	+5.6
MANT	Manisa	1.72	23	iP	Pn	13 24 15.8	+4.0
MANT				iS	Sn	13 24 34.5	+0.2
ELL	Elmali	1.76	94	ePN	Pn	13 24 11.0	-1.5
AKS	Akhisar	1.97	2	ePN	Pn	13 24 14.5	-1.0
PRK	Paraskevi	2.60	334	ePN	Pg	13 24 31.0	-2.0

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*IDC **05** 14:08:40.8±0.8,37.08S×96.38W,mb4.5/12,mb1 4.7/12, mb1mx4.6/16,MS4.8/15,Ms1 4.8/15,ms1mx4.7/16,Error ellipse: s-maj=22.6km s-min=21.4km az=93.0*
*BJI **05** 14:08:42.0,37.10S×96.30W,h10^{km},mB5.1,Ms5.0, Msz4.9*
*NEIC **05** 14:08:42.0±0.4,37.06S×96.34W,h10^{km},mb4.7/17,Error ellipse: s-maj=15.2km s-min=9.8km az=78.0*
*SYO **05** 14:08:42.0,37.06S×96.34W,h10^{km},MB4.7*
ISC 05 14:08:40.3±0.4,37.09S±0.07×96.3W±0.1,h10^{km},n74, σ1^{s}24/53,mb4.5/28,MS4.8/19,11C-5D,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USHA	Ushuaia	26.03	142	LR	LR	14 22 12.9	
	comp=Z,4µm,20.4s,MS5.0,baz=289,slow=31						
TRQA	Tornquist	27.16	103	eP	P	14 14 24.9	-0.8
	6.9nm,0.9s,mb4.2						
LVC	Limon Verde	27.70	66	P	P	14 14 32.4	+1.7
	19nm,0.8s,mb4.8,baz=242,slow=8.2,SNR=11						
LVC				LR	LR	14 22 48.9	
	comp=Z,3µm,18.0s,MS4.9,baz=226,slow=31						
LVC	Limon Verde	27.70	66	P	P	14 14 26.9	-3.7
LPAZ	La Paz	32.42	58	P	P	14 15 14.1	+1.3
	44nm,0.9s,mb5.3,baz=209,slow=6.2,SNR=77						
CPUP	Villa Florida	34.66	83	P	P	14 15 30.9	-1.1
	4.7nm,0.9s,mb4.4,baz=270,slow=11,SNR=9.9						
CPUP				LR	LR	14 27 35.2	
	comp=Z,869nm,18.1s,MS4.5,baz=269,slow=33						
RKT	Rikitea	35.95	282	eL		14 23 42.5	
	3µm,28.8s						
RKT				eR		14 25 24.4	
	799nm,30.0s						
OTAV	Otavalo	40.66	28	eP	P	14 16 23.8	+1.3
	22nm,1.2s,mb4.7						
SAML	Samuel	41.04	55	eP	P	14 16 24.8	-0.8
	29nm,1.5s,mb4.7						
ROSC	El Rosal	46.51	31	P	P	14 17 09.8	0.0
	5.8nm,0.3s,mb4.9,baz=158,slow=18,SNR=5.4						
ROSC				LR	LR	14 34 12.2	
	comp=Z,2µm,18.6s,MS5.1,baz=43,slow=33						
TBI	Tubuai	47.34	271	eS	S	14 24 04.3	-4.7
	615nm,28.8s						
TBI				eL		14 28 36.7	
	949nm,23.2s						
TBI				eR		14 30 16.4	
	993nm,30.2s,baz=117						
BDFB	Brasilia	47.69	77	P	P	14 17 19.3	+0.1
	2.6nm,0.6s,mb4.5,baz=247,slow=6.2,SNR=5.5						
BDFB				LR	LR	14 36 16.6	
	comp=Z,1µm,19.9s,MS4.8,baz=241,slow=35						
JTS	JuntasAbangare	48.32	15	LR	LR	14 32 33.6	
	comp=Z,2µm,21.7s,MS5.1,baz=107,slow=30						
JTS	JuntasAbangare	48.32	15	P	P	14 17 29.7	+5.6
PPT	Papeete	50.45	278	eS	S	14 24 45.5	-7.2
	877nm,26.5s						
PPT				eL		14 31 48.3	
	595nm,24.0s						
PPT				eR		14 31 48.7	
	545nm,23.0s,baz=130						
QSPA	South Pole Qui	53.13	180	eP	P	14 18 00.5	+0.7
	6.8nm,0.9s,mb4.6						
VNA1	Neumayer--Stat	54.90	156	⇑iP	P	14 18 14.4	+1.5
VNA1	Neumayer--Stat	54.90	156	⇑i	P	14 18 17.6	+4.7
VNA1	Neumayer--Stat	54.90	156	⇑i	P	14 18 18.8	+5.9
VNA2	Neumayer--Watz	55.12	156	⇑iP	P	14 18 15.7	+1.2
VNA2	Neumayer--Watz	55.12	156	⇑i	P	14 18 18.6	+4.1
VNA2	Neumayer--Watz	55.12	156	⇑i	P	14 18 19.4	+4.9
VNA2	Neumayer--Watz	55.12	156	⇑i	P	14 18 24.0	+9.5
VNA2	Neumayer--Watz	55.12	156	⇑iS	S	14 26 00.2	+4.7
SBA	Scott Base	55.50	195	eP	P	14 18 15.4	-1.8
	7.1nm,1.1s,mb4.6						
SNAA	Sanae	56.35	158	⇓iP	P	14 18 21.9	-1.4
SNAA	Sanae	56.35	158	⇓i	P	14 18 24.3	+1.0
SNAA	Sanae	56.35	158	⇑i	P	14 18 25.9	+2.6
VNDA	Vanda	56.60	195	P	P	14 18 23.4	-1.7
	1.2nm,0.8s,mb4.0,baz=99,slow=6.6,SNR=5.8						
VNDA				LR	LR	14 37 01.8	
	comp=Z,570nm,20.7s,MS4.7,baz=109,slow=30						
TXAR	Lajitas Array	66.43	353	P	P	14 19 32.9	+1.0
	3.1nm,1.1s,mb4.3,baz=187,slow=10,SNR=8.2						
TXAR				LR	LR	14 42 41.7	
	comp=Z,368nm,18.6s,MS4.6,baz=205,slow=31						
JCT	Junction City	67.29	357	eP	P	14 19 37.0	-0.4
	29nm,1.7s,mb5.0						
SYO	Syowa Base	69.33	164	⇓P	P	14 19 49.3	-0.1
SYO	Syowa Base	69.33	164	⇑P	P	14 19 55.6	+6.2
SYO	Syowa Base	69.33	164	⇓PcP	PcP	14 20 08.8	-4.3
SYO	Syowa Base	69.33	164	⇓PKiKP		14 26 05.5	
LRAL	Lakeview Retre	70.30	8	eP	P	14 19 55.6	-0.3
	3.5nm,0.6s,mb4.5						
TUC	Tucson	70.34	347	eP	P	14 19 56.9	+0.7
	10nm,1.2s,mb4.6						
MIAR	Mount Ida	71.31	2	eP	P	14 20 01.1	-1.0
	20nm,1.3s,mb4.9						
WMOK	Wichita Mounta	71.49	358	P	P	14 20 01.5	-1.6
	3.5nm,0.8s,mb4.3						
LAZ	Ladron	71.83	351	eP	P	14 20 07.5	+2.3
JSC	Jenkinsville	72.38	13	eP	P	14 20 07.1	-1.3
LDFC	Landfair	73.89	344	eP	P	14 20 17.6	+0.4
MAW	Mawson	74.45	172	P	P	14 20 22.1	+2.3
	2.6nm,0.7s,mb4.3,baz=217,slow=5.1,SNR=5.5						
MAW				LR	LR	14 52 25.2	
	comp=Z,597nm,18.1s,MS4.9,baz=197,slow=35						
CCM	Cathedral Cave	74.92	4	eP	P	14 20 21.6	-1.5
	12nm,1.0s,mb4.8						
SDCO	Great Sand Dun	74.94	352	eP	P	14 20 21.8	-1.5
	6.5nm,1.3s,mb4.4						
RW3	Ridgway	75.69	351	eP	P	14 20 22.3	-5.2
PV01	Paradox Valley	75.69	350	eP	P	14 20 25.3	-2.3
PV10	Paradox Valley	76.00	350	eP	P	14 20 26.6	-2.6
TPH	Tonopah	77.24	343	eP	P	14 20 36.9	+0.7
	4.0nm,0.7s,mb4.5						
MNV	Mina	77.80	343	eP	P	14 20 40.7	+1.4
	12nm,1.2s,mb4.7						
NVAR	Mina Array Bea	77.83	343	P	P	14 20 40.1	+0.6
	3.8nm,0.7s,mb4.4,baz=191,slow=6.4,SNR=19						
DAU	Daniels Canyon	78.33	348	eP	P	14 20 43.4	+1.2
BW06	Boulder Array	80.38	350	eP	P	14 20 52.6	-0.6
	4.0nm,0.7s,mb4.5						
PDAR	Pinedale Array	80.38	350	P	P	14 20 53.5	+0.2
	3.1nm,0.6s,mb4.4,baz=155,slow=5.1,SNR=18						
PDAR				LR	LR	14 51 11.7	
	comp=Z,133nm,21.8s,MS4.2,baz=4.6,slow=32						
HLID	Hailey	81.93	347	eP	P	14 21 01.9	+0.5
	4.0nm,0.8s,mb4.4						
YBH	Yreka Blue Hor	82.06	340	P	P	14 21 02.6	+0.5
	1.2nm,0.6s,mb4.0,baz=135,slow=2.9,SNR=4.7						
YBH	Yreka Blue Hor	82.06	340	eP	P	14 21 03.2	+1.2
	2.9nm,0.8s,mb4.3						
ULM	Lac du Bonnet	86.96	0	P	P	14 21 27.1	+0.7
	0.9nm,0.4s,mb4.4,baz=207,slow=4.5,SNR=2.8						
ULM				LR	LR	14 57 51.3	
	comp=Z,303nm,19.7s,MS4.7,baz=34,slow=34						
STKA	Stephens Creek	92.62	226	LR	LR	14 54 37.8	
	comp=Z,631nm,19.5s,MS5.1,baz=101,slow=30						
SCHQ	Schefferville	94.99	17	LR	LR	15 01 57.5	
	comp=Z,454nm,18.1s,MS5.0,baz=282,slow=34						
DBIC	Dimbokro	95.15	86	LR	LR	15 01 28.4	
	comp=Z,437nm,20.8s,MS4.9,baz=211,slow=33						
CTA	Charters Tower	98.10	237	LR	LR	14 57 52.6	
	comp=Z,553nm,21.1s,MS5.0,baz=127,slow=30						
KHC	Kasperske Hory	129.17	53	eSS	SS	14 47 53.5	+35
KHC				LM		15 14 00.0	
	0.2nm,28.8s						
PVCC	Panska Ves	130.12	51	eSS	SS	14 47 37.9	+8.1
PVCC				LM		15 13 40.0	
	0.3nm,26.1s						
DPC	Dobruska-Polom	131.18	52	eSS	SS	14 47 46.9	+4.2
DPC				LM		15 14 50.0	
	0.3nm,31.4s						
OKC	Ostrava-Krasne	132.24	53	LM		15 25 10.0	
	0.2nm,24.6s						
MDJ	Mudanjiang	144.84	297	PKP	PKPdf	14 28 17.3	-2.9
CN2	Changchun	147.76	295	ePKP	PKPdf	14 28 19.8	-5.3
CN2				LR	LR		
	comp=Z,200nm,22.0s,MS4.9						
SSE	Sheshan	148.50	270	PKP	PKPdf	14 28 28.8	+2.1
SSE				LR	LR		
	comp=N,64nm,29.4s,MS4.4						
SSE				LR	LR		
	comp=E,70nm,29.6s,MS4.4						
SSE				LR	LR		
	comp=Z,71nm,23.1s						
NJ2	Nanjing	150.70	271	ePKP	PKPdf	14 28 24.6	-5.5
NJ2				PKS	PKS	14 31 57.0	-3.6
NJ2				PP	PP	14 32 11.0	-2.0
BJI	Beijing	154.48	287	PKP	PKPdf	14 28 38.1	+2.8
BJI				PP	PP	14 32 40.1	+6.1
BJI				LR	LR		
	comp=N,207nm,20.7s						
BJI				LR	LR		
	comp=Z,225nm,21.6s,MS5.0						
KMI	Kunming	159.82	239	ePKP	PKPdf	14 28 38.3	-4.2
KMI				SS	SS	14 53 14.1	+5.1
KMI				LR	LR		
	comp=Z,182nm,33.6s,MS4.7						
LZH	Lanzhou	163.75	273	⇑PKP	PKPdf	14 28 39.0	-7.1
LZH				LR	LR		
	comp=N,134nm,18.0s						
LZH				LR	LR		
	comp=Z,186nm,20.0s						
WMQ	Urumqi	172.60	337	ePKP	PKPdf	14 28 48.0	-4.0
WMQ				LR	LR		
	comp=N,222nm,29.0s						
WMQ				LR	LR		
	comp=E,63nm,29.0s						
WMQ				LR	LR		
	comp=Z,255nm,27.0s						

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*ISK **05** 14:12:36.2,36.97N×27.75E,h3^{km},MD3.0*
*ATH **05** 14:12:38.9,36.89N×27.66E,h27^{km}±3^{km},MD2.9/3*
ISC 05 14:12:37.2±0.6,36.97N±0.03×27.73E±0.05,h14^{km}±4^{km}, n13,σ0^{s}85/22,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.25	292	iP	Pg	14 12 42.3	-0.4
BDRM				iS	Sg	14 12 46.9	+0.5
MLSB	Milas	0.32	6	PG	Pg	14 12 43.6	-0.5
MLSB				SG	Sg	14 12 48.8	+0.1
YER	Yerkesik	0.47	70	iPG	Pg	14 12 45.9	-1.0
YER				SG	Sg	14 12 53.3	-0.1
NISR	Nisiros	0.60	233	ePN	Pn	14 12 49.5	-1.5
AYDN	Tasoluk	0.70	10	iP	Pb	14 12 50.6	+0.1
AYDN				iS	Sb	14 13 00.0	+0.3
ARG	Arkhangelos	0.82	157	ePN	Pn	14 12 54.0	-0.1
ARG				eSN	Sn	14 13 05.5	-0.5
DNZL	Cakiroluk	1.27	55	iP	Pb	14 13 01.2	+0.9
DNZL				iS	Sb	14 13 21.2	+4.9
DENT	Denizli	1.30	53	PN	Pn	14 13 01.6	+0.7
KDAG	Bornova	1.47	346	iP	Pn	14 13 03.6	+0.2
KDAG				iS	Sb	14 13 27.1	+4.8
KARP	Karpathos	1.50	198	ePN	Pn	14 13 05.0	+1.2
KARP				eSN	Sn	14 13 23.0	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANT	Manisa	1.65	23	eP	Pn	14 13 04.7	-1.2
MANT				eS	Sn	14 13 25.5	-1.6
ELL	Elmali	1.76	97	ePN	Pn	14 13 08.8	+1.3
AKS	Akhisar	1.90	2	ePN	Pn	14 13 11.0	+1.4

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*IDC **05** 14:21:00.9±1.6,38.02N×139.59E,h122^{km}±15^{km}, mb3.4/14,mb1 3.5/16,mb1mx3.5/25,Error ellipse: s-maj=18.5km s-min=10.6km az=93.0*

*JMA **05** 14:21:03.6±0.1,37.97N×139.64E,h143^{km}±1^{km},M3.3*

*NEIC **05** 14:21:03.6±0.6,38.02N×139.57E,h148^{km}±6^{km},mb4.5/3, Error ellipse: s-maj=11.2km s-min=8.0km az=112.0*

ISC 05 14:21:02.2±0.3**,38.01N**±0.04×**139.61E**±0.06**,h151**^{km}±2^{km}**, n40,**σ**0$\overset{s}{.}$82**/52**,mb3.7**/17**,1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNS	Sasagawa	0.30	232	P	P	14 21 23.4	+0.1
JNS				eS	S	14 21 38.2	-1.2
JYS	Shirataka	0.42	59	P	P	14 21 24.1	+0.3
JYS				S	S	14 21 39.6	-0.6
JAW	Awa shima	0.53	328	P	P	14 21 24.7	+0.4
JAW				eS	S	14 21 40.2	-1.0
JYA	Atsumi	0.59	8	P	P	14 21 25.2	+0.6
JYA				eS	S	14 21 40.8	-0.9
JFY	Yanaizu	0.60	173	P	P	14 21 24.9	+0.3
JFY				eS	S	14 21 40.8	-1.0
JFT	Otama	0.75	130	P	P	14 21 25.7	+0.2
JOU	Okura	0.90	66	P	P	14 21 27.1	+0.6
JMM	Marumori	0.94	98	P	P	14 21 27.0	+0.2
JSD	Sado	1.07	272	P	P	14 21 28.5	+0.6
JSD				eS	S	14 21 47.2	-0.4
JYK	Kaneyama	1.08	32	P	P	14 21 28.7	+0.7
JYK				eS	S	14 21 48.1	+0.3
JMK	Ichinoseki	1.57	53	P	P	14 21 33.2	+0.2
JAG	Ashikaga	1.58	185	P	P	14 21 33.6	+0.5
MAJO	Matsushiro	1.84	218	⇓iP	P	14 21 36.9	+1.0
MAT	Matsushiro	1.84	218	P	P	14 21 37.0	+1.1
MAT				S	S	14 22 01.9	+0.1
MAT	Matsushiro	1.84	218	P	P	14 21 36.9	+1.0
MAT	Matsushiro	1.84	218	eP	P	14 21 37.0	+1.1
MAT				eS	S	14 22 02.0	+0.2
JSZ	Suzu	1.87	253	P	P	14 21 36.9	+0.7
JOM	Ohasama	1.97	41	P	P	14 21 38.3	+1.0
JRY	Ryogami san	2.06	196	P	P	14 21 39.3	+0.8
JRY				eS	S	14 22 06.7	+0.3
JHG	Hegura jima	2.14	267	P	P	14 21 40.4	+1.0
JHJ	Hachijo jima 2	4.88	178	P	P	14 22 14.1	-0.8
	14nm,0.3s,baz=78,slow=23,SNR=9.5						
JHJ				S	S	14 23 08.1	-2.9
	28nm,0.3s,baz=87,slow=23,SNR=6.9						
ASAJ	Asahikawa	6.51	19	P	P	14 22 34.6	-2.0
	2.7nm,0.3s,baz=239,slow=10.0,SNR=17						
ASAJ				S	S	14 23 45.0	-5.0
	0.8nm,0.3s,baz=110,slow=20,SNR=4.1						
YSS	Yuzh-Sakhalins	9.24	14	eP	P	14 23 12.6	-0.4
ENH	Enshi	26.02	262	eP	P	14 26 22.6	-0.4
	6.3nm,0.6s,mb4.4						
SONM	Songino Array	26.06	303	P	P	14 26 22.8	-0.3
	1.8nm,0.5s,mb3.9,baz=106,slow=9.2,SNR=20						
MKAR	Makanchi Array	42.39	301	P	P	14 28 43.3	+0.3
	0.6nm,0.4s,mb3.6,baz=88,slow=9.9,SNR=8.2						
KURK	Kurchatov	44.21	307	eP	P	14 28 57.4	-0.2
	6.2nm,0.6s,mb4.4						
BVAR	Borovoye Array	48.86	311	P	P	14 29 33.1	-0.9
	0.4nm,0.3s,mb3.6,baz=82,slow=7.9,SNR=5.2						
ILAR	Eielson Array	49.45	33	P	P	14 29 38.6	+0.3
	0.4nm,0.7s,mb3.2,baz=287,slow=7.0,SNR=7.3						
ARU	Arti	54.68	318	eP	P	14 30 16.6	-0.9
	5.2nm,0.5s,mb4.5						
WRA	Warramunga Arr	57.85	186	P	P	14 30 39.1	-1.3
	0.4nm,0.7s,mb3.4,baz=0.3,slow=7.4,SNR=6.2						
ASAR	Alice Springs	61.58	186	P	P	14 31 05.0	-0.9
	0.3nm,0.8s,mb3.2,baz=6.3,slow=8.2,SNR=2.8						
ARCES	ARCESS Array B	62.58	339	P	P	14 31 10.9	-1.1
	0.3nm,0.4s,mb3.5,baz=50,slow=9.5,SNR=5.2						
FINES	FINESS Array B	67.28	331	P	P	14 31 41.3	-0.9
	0.5nm,0.3s,mb3.8,baz=63,slow=6.2,SNR=5.0						
AKASG	Malin Array Be	72.65	321	P	P	14 32 15.0	+0.3
	0.9nm,0.6s,mb3.7,baz=50,slow=5.4,SNR=3.5						
NOA	NORSAR Array B	72.73	336	P	P	14 32 15.2	+0.2
	0.8nm,0.7s,mb3.5,baz=39,slow=5.8,SNR=5.4						
NVAR	Mina Array Bea	75.54	52	P	P	14 32 32.6	+1.0
	0.3nm,0.5s,mb3.2,baz=293,slow=6.9,SNR=3.1						
BRTR	Keskin Array B	77.14	310	P	P	14 32 41.8	+1.4
	0.4nm,0.4s,mb3.4,baz=77,slow=4.9,SNR=3.3						
PDAR	Pinedale Array	78.00	45	P	P	14 32 46.5	+1.4
	0.3nm,0.5s,mb3.2,baz=345,slow=1.6,SNR=4.1						
IDI	Anoyia	85.28	312	P	P	14 33 23.3	+0.2
	1.6nm,0.4s,mb4.1,baz=32,slow=9.5,SNR=5.1						

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*NAO **05** 14:28:49.9±3.1,60.22N×25.16E,ML2.1*

*BER **05** 14:28:49.4±4.4,60.15N×25.42E,ML2.1(NAO), Suspected explosion*

*HEL **05** 14:28:50.2±0.2,60.17N×25.23E,ML1.9,ML2.0(UPP), ML2.1(NAO),Explosion*

*IDC **05** 14:28:50.5±1.6,60.23N×25.31E,mb1 2.8/3, mb1mx2.7/19,ML2.7/3,Error ellipse: s-maj=17.2km s-min=6.7km az=145.0*

ISC 05 14:28:48.6±0.6**,60.17N**±0.04×**25.24E**±0.06**,n23,**σ**1$\overset{s}{.}$12**/37**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NUR	Nurmij rvi	0.45	319	eP	Pg	14 28 57.5	-0.1
NUR				eS	Sg	14 29 03.4	-0.2
PVF	Pernaja	0.48	39	eP	Pg	14 28 58.6	+0.3
PVF				eS	Sg	14 29 05.2	+0.4
VJF	Virojoki	1.21	71	eP	Pb	14 29 11.4	-0.6
VJF				eS	Sb	14 29 27.9	-0.1
FIA0	FINESS Array S	1.34	17	eP	Pb	14 29 14.2	-0.2
FIA0				eS	Sb	14 29 31.8	-0.1
FIA0	FINESS Array S	1.34	17	Pn	Pn	14 29 14.2	-0.5
	baz=181,slow=18						
FIA0				Lg		14 29 31.4	
	baz=188,slow=28						
FINES	FINESS Array B	1.34	17	Pg	Pg	14 29 14.0	-1.4
	4.3nm,0.3s,baz=194,slow=12,SNR=116						
FINES				Pn	Pn	14 29 16.5	+1.9
	4.3nm,0.3s,baz=201,slow=12,SNR=120						
FINES				Lg		14 29 31.2	
	8.8nm,0.3s,baz=200,slow=28,SNR=20						
FINES				Sn	Sn	14 29 35.8	+2.4
	8.9nm,0.3s,baz=197,slow=23,SNR=25						
FINES				Rg		14 29 38.9	
	24nm,0.7s,baz=190,slow=31,SNR=44						
KEF	Keuruu	2.01	355	eP	Pn	14 29 26.0	+1.8
KEF				eS	Sn	14 29 50.6	+0.2
KEF				eSG	Sg	14 29 52.5	-3.1
KEF				MSG		14 29 55.3	
	comp=Z,5.0nm,0.2s						
SUF	Sumiainen	2.59	9	eP	Pn	14 29 34.5	+1.9
SUF				eS	Sn	14 30 06.2	+1.0
SUF				eSB	Sb	14 30 08.4	+0.1
SUF				MSG		14 30 10.6	
	comp=Z,4.0nm,0.2s						
AAL	Aland	2.62	272	eP	Pn	14 29 33.9	+0.9
GRAU	Graesoe	3.34	276	eP	Pn	14 29 43.0	-0.3
NRTU	Norrtaelje	3.37	264	eP	Pn	14 29 44.3	+0.7
FLYU	Flymyra	3.68	272	eP	Pn	14 29 48.5	+0.5
NYNU	Nynaeshamn	3.86	255	eP	Pn	14 29 51.4	+0.8
JOF	Joensuu	4.00	44	eP	Pn	14 29 52.3	-0.3
JOF				eS	Sn	14 30 39.5	-1.4
BACU	Backbrunna	4.10	269	eP	Pn	14 29 54.2	+0.3
ESKU	Eskilstuna	4.58	262	eP	Pn	14 30 00.7	-0.2
NRAU	Nora	5.18	268	eP	Pn	14 30 09.3	+0.1
ASKU	Askersund	5.45	261	eP	Pn	14 30 12.6	-0.5
HFS	Hagfors	5.77	275	Pn	Pn	14 30 16.1	-1.4
	baz=111,slow=12						
HFS				Sn	Sn	14 31 21.4	-4.1
	baz=85,slow=28						
HFS				Lg		14 31 47.6	
	baz=85,slow=28						
HFS	Hagfors	5.77	275	Pn	Pn	14 30 16.6	-1.0
	comp=Z,0.0nm,0.3s,baz=90,slow=14,SNR=6.6						
HFS				Sn	Sn	14 31 22.2	-3.3
	comp=Z,0.1nm,0.3s,baz=82,slow=29,SNR=7.4						
HFS				Lg		14 31 49.9	
	comp=Z,0.1nm,0.3s,baz=82,slow=32,SNR=4.0						
NOA	NORSAR Array B	6.96	283	Pn	Pn	14 30 30.9	-3.5
	comp=Z,0.1nm,0.3s,baz=74,slow=20,SNR=2.6						
NOA				Sn	Sn	14 31 48.7	-6.6
	comp=Z,0.2nm,0.3s,baz=337,slow=6.0,SNR=2.9						
NOA				Lg		14 32 24.7	
	comp=Z,0.3nm,0.3s,baz=98,slow=19,SNR=3.0						
ARA0	ARCESS Array S	9.40	1	Pn	P	14 31 05.1	-3.3
	baz=179,slow=14						
ARA0				Lg		14 33 38.3	
	baz=178,slow=37						
ARCES	ARCESS Array B	9.40	1	Pn	P	14 31 05.1	-3.3
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=8.8						

IDC 05 14:40:15.8±3.2**,4.90S**×**133.45E,mb3.4**/1**,mb1 3.8**/4**, mb1mx3.6**/12**,ML3.5**/3**,Error ellipse: s-maj=129.0km s-min=30.8km az=81.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.98	177	Pn	P	14 43 47.3	-3.6
	0.2nm,0.3s,baz=357,slow=13,SNR=9.3						
WRA				Sn	S	14 46 27.8	-11
	0.2nm,0.3s,baz=357,slow=24,SNR=5.9						
FITZ	Fitzroy Crossi	15.19	210	Pn	P	14 43 51.3	-2.2
	0.3nm,0.3s,baz=24,slow=10.0,SNR=18						
FITZ				Sn	S	14 46 35.8	-7.6
	0.3nm,0.3s,baz=180,slow=20,SNR=5.7						
ASAR	Alice Springs	18.67	179	P	P	14 44 36.4	-1.1
	0.2nm,0.3s,baz=4.0,slow=10,SNR=18						
MKAR	Makanchi Array	68.42	325	P	P	14 51 19.6	-2.1
	0.2nm,0.4s,baz=143,slow=7.2,SNR=3.6						

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*JMA **05** 15:00:06.7±0.1,24.82N×122.74E,h88^{km}±2^{km}*

*TAP **05** 15:00:09.1,24.49N×122.65E,h77^{km}±1^{km},ML2.5*

ISC 05 15:00:06.8±3.4**,24.8N**±0.3×**122.8E**±0.2**,h88**^{km}±28^{km}**,n6,** σ**0$\overset{s}{.}$18**/9**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.41	145	P	P	15 00 20.8	0.0
YOJ				eS	S	15 00 31.3	0.0
IRIF	Iriomote-Funau	1.01	117	P	P	15 00 26.7	0.0
IRIF				eS	S	15 00 41.7	+0.1
HATJ	Hateruma jima	1.22	127	eS	S	15 00 46.3	+0.2
JKRS	Kuro-shima	1.28	116	P	P	15 00 30.0	-0.1
JKRS				eS	S	15 00 47.4	-0.1
JIJ	Ishigaki jima	1.34	109	eS	S	15 00 48.4	-0.4
JTJ	Tarama	1.78	95	eS	S	15 00 58.8	+0.3

DJA 05 15:06:00.2±1.0**,9.55S**×**116.58E,h15**^{km}**,MD5.1**/4**, ML4.4**/3**,7C,Error ellipse: s-maj=21.5km s-min=18.5km az=137.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	1.15	336	⇑ePn	Pn	15 06 19.6	-2.2
	333nm,0.2s						
KEDI				⇑eSn	Sn	15 06 33.5	-3.7
RATI	Rata	1.32	308	⇑ePn	Pn	15 06 21.5	-2.7
	443nm,0.2s						
RATI				⇑eSn	Sn	15 06 37.5	-4.0
INGI	Ingas	1.59	297	⇑ePn	Pn	15 06 25.4	-2.7
	577nm,0.2s						
INGI				⇑eSn	Sn	15 06 44.0	-4.4
KELI	Kelakatan	2.45	302	⇑ePn	Pn	15 06 38.0	-2.4

IDC 05 15:12:27.5±16.0**,0.30S**×**123.14E,h172**^{km}±174^{km}**, mb3.1**/5**,mb1 3.2**/6**,mb1mx3.2**/16**,ML3.6**/1**,Error ellipse: s-maj=85.4km s-min=21.7km az=52.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	17.86	172	P	P	15 16 23.1	-3.2
	0.2nm,0.3s,baz=353,slow=17,SNR=4.9						
WRA	Warramunga Arr	22.39	151	P	P	15 17 11.7	-0.5
	0.5nm,0.5s,baz=330,slow=11,SNR=8.3						
ASAR	Alice Springs	25.47	157	P	P	15 17 40.2	-1.2
	0.5nm,0.7s,baz=334,slow=8.8,SNR=8.6						
CMAR	Chiang Mai Arr	30.21	309	P	P	15 18 22.1	-2.2
	0.6nm,0.9s,baz=113,slow=6.9,SNR=3.4						
SONM	Songino Array	50.11	345	P	P	15 21 05.4	-1.5
	0.9nm,0.9s,baz=155,slow=8.0,SNR=7.1						
MKAR	Makanchi Array	58.94	328	P	P	15 22 08.2	-2.7
	0.5nm,0.3s,baz=126,slow=9.0,SNR=12						

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*BJI **05** 15:14:24.2,14.11N×146.74E,h58^{km},mb4.9*

*NEIC **05** 15:14:26.6±2.1,13.96N×146.45E,h53^{km}±18^{km},mb4.5/5, Error ellipse: s-maj=16.3km s-min=8.3km az=83.0*

*IDC **05** 15:14:29.0±7.0,13.97N×146.41E,h74^{km}±64^{km},mb3.8/17, mb1 4.0/17,mb1mx3.9/25,Error ellipse: s-maj=26.0km s-min=13.4km az=76.0*

ISC 05 15:14:28.6±2.0**,13.93N**±0.07×**146.4E**±0.1**,h86**^{km}±17^{km}**, n38,**σ**1$\overset{s}{.}$06**/32**,mb4.1**/25**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.50	257	eP	P	15 14 51.5	-3.1
GUMO				eS	S	15 15 14.4	+0.5
JOW	Kunigami	21.24	310	P	P	15 19 09.8	+0.6
	15nm,0.7s,mb4.4,baz=120,slow=16,SNR=3.6						
PMG	Port Moresby	23.20	178	P	P	15 19 30.7	+2.1
	8.5nm,0.8s,mb4.1,baz=336,slow=8.4,SNR=2.7						
MAJO	Matsushiro	23.68	343	P	P	15 19 34.6	+1.6
	4.5nm,0.7s,mb3.9						
JNU	Nakatsue	23.75	326	P	P	15 19 33.6	-0.2
	8.3nm,0.6s,mb4.2,baz=157,slow=3.6,SNR=7.1						
WRAB	Tennant Creek	35.67	200	eP	P	15 21 19.9	-0.6
	5.2nm,0.8s,mb4.5						
WRAB				e		15 21 31.6	
WB2	Warramunga Arr	35.68	200	eP	P	15 21 19.8	-0.7
WRA	Warramunga Arr	35.68	200	P	P	15 21 19.9	-0.6
	4.7nm,0.9s,mb4.4,baz=21,slow=9.5,SNR=17						
FITZ	Fitzroy Crossi	37.83	213	P	P	15 21 38.8	+0.2
	2.3nm,0.8s,mb4.1,baz=29,slow=11,SNR=4.1						
ASAR	Alice Springs	39.30	198	P	P	15 21 50.8	0.0
	1.6nm,0.7s,mb3.9,baz=16,slow=9.9,SNR=7.5						
LZH	Lanzhou	43.96	308	eP	P	15 22 30.0	+1.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.7						
CMAR	Chiang Mai Arr	45.67	282	P	P	15 22 44.6	+1.9
	comp=Z,1.1nm,0.6s,mb3.8,baz=83,slow=5.8,SNR=8.8						
STKA	Stephens Creek	45.77	186	P	P	15 22 43.1	-0.2
	comp=Z,1.6nm,0.7s,mb3.9,baz=349,slow=12,SNR=3.9						
SONM	Songino Array	47.31	324	P	P	15 22 55.4	+0.1
	comp=Z,1.8nm,0.8s,mb3.9,baz=132,slow=6.9,SNR=12						
GTA	Gaotai	48.05	311	eP	P	15 23 00.5	-0.7
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.8						
WMQ	Urumqi	57.97	313	eP	P	15 24 14.2	-0.2
WMQ				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.3						
MKAR	Makanchi Array	62.27	316	P	P	15 24 43.5	-0.2
	comp=Z,0.8nm,0.4s,mb4.1,baz=92,slow=9.2,SNR=16						
KURK	Kurchatov	65.27	320	eP	P	15 25 02.2	-1.1
	comp=Z,6.8nm,0.8s,mb4.5						
SML	Sawmill	66.22	28	eP	P	15 25 07.3	-1.9
ILAR	Eielson Array	67.64	25	P	P	15 25 15.8	-2.1
	comp=Z,0.7nm,0.8s,mb3.5,baz=248,slow=5.9,SNR=4.2						
BVAR	Borovoye Array	70.57	322	P	P	15 25 35.7	-0.4
	comp=Z,2.1nm,0.5s,mb4.2,baz=103,slow=7.8,SNR=23						
BRVK	Borovoye	70.63	322	eP	P	15 25 36.0	-0.5
	comp=Z,4.4nm,0.9s,mb4.3						
INK	Inuvik	73.50	22	P	P	15 25 54.5	+1.3
	comp=Z,0.8nm,0.3s,mb4.0,baz=27,slow=21,SNR=2.7						
INK	Inuvik	73.50	22	P	P	15 25 54.5	+1.3
DLBC	Dease Lake	74.91	33	eP	P	15 26 02.2	+0.7
NVAR	Mina Array Bea	85.56	52	P	P	15 26 59.7	+1.0
	comp=Z,1.2nm,0.8s,mb3.9,baz=270,slow=3.6,SNR=9.6						
NVAR	Mina Array Bea	85.56	52	P	P	15 26 59.7	+1.0
ARCES	ARCESS Array B	87.21	342	P	P	15 27 06.4	+0.5
	comp=Z,2.3nm,0.9s,mb4.1,baz=45,slow=6.9,SNR=6.6						
JOF	Joensuu	88.60	335	ep	P	15 27 11.6	-1.1
	comp=Z,0.3nm,0.4s,mb3.7						
PDAR	Pinedale Array	90.69	46	P	P	15 27 24.2	+1.2
	comp=Z,0.2nm,0.6s,mb3.4,baz=288,slow=2.9,SNR=2.3						
FINES	FINESS Array B	91.47	335	P	P	15 27 24.9	-1.3
	comp=Z,0.7nm,0.4s,mb4.1,baz=72,slow=5.7,SNR=16						
DBIC	Dimbokro	144.87	304	PKP	PKPdf	15 33 58.8	+2.3
	comp=Z,4.5nm,0.5s,baz=29,slow=3.5,SNR=7.0						
KIC	Kosan Boka	144.95	303	ePKIKP	PKPdf	15 33 59.4	+2.7
	comp=Z,75nm,1.1s						
TIC	Toumodi	145.01	304	ePKIKP	PKPdf	15 33 58.8	+2.0
	comp=Z,64nm,1.0s						
LIC	Lamto	145.26	303	ePKIKP	PKPdf	15 33 59.5	+2.3
	comp=Z,62nm,1.2s						
LVC	Limon Verde	145.47	110	PKPbc	PKPbc	15 34 00.3	+2.3
	comp=Z,2.3nm,0.7s,baz=276,slow=9.2,SNR=2.1						
LVC	Limon Verde	145.47	110	PKPbc	PKPbc	15 34 00.3	+2.3
LPAZ	La Paz	146.63	98	PKPbc	PKPbc	15 34 03.8	+2.9
	comp=Z,0.4nm,0.4s,baz=270,slow=5.1,SNR=2.5						

IDC 05 15:44:59.9±2.0**,4.48N**×**128.13E,mb3.5**/4**,mb1 3.7**/4**, mb1mx3.5**/18**,Error ellipse: s-maj=111.0km s-min=23.6km az=71.0,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.57	186	P	P	15 50 03.2	-0.2
	1.8nm,1.0s,baz=3.2,slow=18,SNR=2.7						
WRA	Warramunga Arr	25.02	166	P	P	15 50 25.7	-1.6
	0.3nm,0.4s,baz=344,slow=9.7,SNR=9.2						
ASAR	Alice Springs	28.53	169	P	P	15 50 56.7	-2.8
	0.3nm,0.6s,baz=353,slow=8.0,SNR=7.7						
MKAR	Makanchi Array	57.76	324	P	P	15 54 52.9	-2.3
	0.3nm,0.4s,baz=117,slow=8.9,SNR=8.8						

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*BJI **05** 15:58:36.7,31.49N×45.72E,h31^{km},mb4.5,Msz4.5*

*IDC **05** 15:58:37.0±1.2,31.60N×46.25E,mb4.1/16,mb1 4.2/19, mb1mx4.1/26,ML3.7/3,MS3.4/5,Ms1 3.5/5,ms1mx3.0/22, Error ellipse: s-maj=27.6km s-min=14.6km az=1.0*

*NEIC **05** 15:58:38.8±0.8,31.64N×46.25E,h10^{km},mb4.4/7,Error ellipse: s-maj=17.6km s-min=8.3km az=182.0*

*MOS **05** 15:58:40.0±1.2,31.65N×46.22E,h33^{km},mb4.4/9,Error ellipse: s-maj=23.3km s-min=11.7km az=108.9*

ISC 05 15:58:36.9±0.3**,31.62N**±0.05×**46.21E**±0.06**,h10**^{km}**,n53,** σ**1$\overset{s}{.}$04**/54**,mb4.2**/25**,MS3.4**/5**,1D,Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HILS	Ha’il	5.71	223	P	Pn	16 00 04.7	+0.8
HILS				S	Sg	16 01 40.5	-6.7
HASS	Wahat al Ahsa’	7.11	154	P	Pn	16 00 25.2	+1.6
MZLS	Mizel	7.62	187	P	Pn	16 00 31.1	+0.4
ASF	Jabal al Asfar	7.94	276	Pn	Pn	16 00 34.3	-0.9
	1.3nm,0.3s,baz=303,slow=6.1,SNR=7.0						
ASF				Sn	Sn	16 01 59.7	-6.2
	3.4nm,0.3s,baz=189,slow=18,SNR=3.9						
ASF				Lg		16 02 47.6	
	3.9nm,0.3s,baz=206,slow=23,SNR=3.2						
RAYN	Ar Rayn	8.09	185	Pn	P	16 00 36.1	-1.3
	106nm,0.4s,SNR=27						
AFFS	‘Afif	8.18	201	P	P	16 00 36.9	-1.6
BRTR	Keskin Array B	13.02	312	Pn	P	16 01 45.4	+0.8
	0.2nm,0.3s,baz=135,slow=14,SNR=13						
IDI	Anoyia	18.16	287	P	P	16 02 51.6	+0.8
	0.3nm,0.3s,baz=108,slow=8.9,SNR=7.2						
MLR	Muntele Rosu	20.96	317	P	P	16 03 23.1	+0.6
	3.1nm,0.8s,baz=146,slow=4.0,SNR=5.3						
MLR				LR	LR	16 12 44.7	
	comp=Z,78nm,18.9s,MS3.1,baz=285,slow=40						
MLR	Muntele Rosu	20.96	317	P	P	16 03 23.1	+0.6
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR				MLR	MLR		
	comp=Z,78nm,18.9s						
MLR	Muntele Rosu	20.96	317	P	P	16 03 23.1	+0.6
MLR				LR	LR	16 12 44.7	
AKASG	Malin Array Be	22.85	331	P	P	16 03 40.9	-0.4
	comp=Z,0.8nm,0.3s,mb3.6,baz=140,slow=10,SNR=9.7						
AKASG	Malin Array Be	22.85	331	P	P	16 03 40.9	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	Obninsk	24.46	347	deP	P	16 03 57.6	+0.8
OBN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4						
OBN	Obninsk	24.46	347	eP	P	16 03 56.0	-0.9
	comp=Z,12nm,0.6s,mb4.5						
ARU	Arti	26.26	16	eP	P	16 04 12.0	-1.8
ARU	Arti	26.26	16	eP	P	16 04 13.1	-0.7
	comp=Z,4.7nm,0.8s,mb4.1						
BRVK	Borovoye	27.61	32	eP	P	16 04 26.4	+0.2
	comp=Z,5.2nm,1.0s,mb4.1						
BVAR	Borovoye Array	27.64	32	P	P	16 04 25.9	-0.6
	comp=Z,1.8nm,0.6s,mb3.9,baz=219,slow=9.5,SNR=13						
VRAC	Vranov	28.37	317	P	P	16 04 33.0	-0.1
	comp=Z,1.8nm,0.4s,mb4.0,baz=190,slow=18,SNR=2.5						
KURK	Kurchatov	30.62	42	eP	P	16 04 53.8	+0.6
	comp=Z,4.7nm,1.2s,mb4.2						
MKAR	Makanchi Array	31.48	51	P	P	16 05 00.8	0.0
	comp=Z,4.1nm,0.8s,mb4.3,baz=248,slow=6.5,SNR=23						
MKAR	Makanchi Array	31.48	51	P	P	16 05 00.9	0.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	32.60	342	P	P	16 05 09.5	-1.0
	comp=Z,2.3nm,0.8s,mb4.2,baz=135,slow=8.1,SNR=10						
FINES	FINESS Array B	32.60	342	P	P	16 05 09.5	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JOF	Joensuu	32.73	347	ep	P	16 05 09.1	-2.5
	comp=Z,3.5nm,0.7s,mb4.4						
JOF	Joensuu	32.73	347	eP	P	16 05 09.1	-2.5
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KMBO	Kilima Mbogo	33.66	196	LR	LR	16 18 34.7	
	comp=Z,40nm,19.9s,MS3.1,baz=112,slow=36						
HFS	Hagfors	35.73	333	P	P	16 05 36.7	-0.8
	comp=Z,3.4nm,0.5s,mb4.5,baz=140,slow=11,SNR=20						
HFS	Hagfors	35.73	333	P	P	16 05 36.7	-0.8
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HFS	Hagfors	35.73	333	P	P	16 05 36.7	-0.8
NOA	NORSAR Array B	37.26	333	P	P	16 05 49.8	-0.5
	comp=Z,0.7nm,0.7s,mb3.6,baz=127,slow=8.6,SNR=4.9						
NOA				LR	LR	16 23 05.6	
	comp=Z,47nm,18.4s,MS3.3,baz=135,slow=39						
NOA	NORSAR Array B	37.26	333	P	P	16 05 49.8	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,47nm,18.5s						
LSA	Lhasa	38.50	81	P	P	16 06 03.6	+2.5
	comp=Z,2.1nm,0.7s,mb4.0						
ARCES	ARCESS Array B	39.73	349	P	P	16 06 11.0	+0.1
	comp=Z,1.9nm,0.9s,mb3.8,baz=156,slow=9.6,SNR=7.0						
ARCES				LR	LR	16 24 10.4	
	comp=Z,95nm,21.2s,MS3.6,baz=189,slow=39						
ARCES	ARCESS Array B	39.73	349	P	P	16 06 11.0	+0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,95nm,21.2s						
ARCES	ARCESS Array B	39.73	349	P	P	16 06 11.0	+0.1
ESDC	Sonseca Array	41.11	296	P	P	16 06 24.0	+1.4
	comp=Z,0.3nm,0.3s,mb3.4,baz=91,slow=11,SNR=5.2						
GTA	Gaotai	43.78	64	eP	P	16 06 44.2	-0.2
GTA				AP	pP	16 06 53.4	+6.0
GTA				AMB	AMB		
	comp=Z,6.0nm,2.1s,mb4.0						
SONM	Songino Array	47.83	52	P	P	16 07 17.2	+0.6
	comp=Z,0.7nm,0.7s,mb3.8,baz=285,slow=10.0,SNR=6.1						
SPITS	Spitsbergen Ar	48.46	352	P	P	16 07 21.8	+0.8
	comp=Z,6.7nm,0.9s,mb4.7,baz=144,slow=10,SNR=7.6						
CMAR	Chiang Mai Arr	49.12	92	P	P	16 07 24.9	-1.9
	comp=Z,1.0nm,0.7s,mb4.0,baz=293,slow=8.7,SNR=5.3						
CMAR	Chiang Mai Arr	49.12	92	P	P	16 07 24.9	-1.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GYA	Guiyang	52.53	79	P	P	16 07 53.1	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
ENH	Enshi	53.59	74	eP	P	16 07 58.3	-2.2
	comp=Z,6.7nm,0.7s,mb4.7						
DBIC	Dimbokro	53.65	254	P	P	16 08 00.9	-0.2
	comp=Z,5.0nm,0.9s,mb4.4,baz=50,slow=5.3,SNR=2.9						
DBIC	Dimbokro	53.65	254	P	P	16 08 00.9	-0.2
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
COLA	College	83.19	6	P	P	16 11 04.6	+0.5
	comp=Z,3.8nm,0.5s,mb4.7						
ILAR	Eielson Array	83.38	6	P	P	16 11 06.0	+0.9
	comp=Z,1.4nm,0.8s,mb4.0,baz=326,slow=3.7,SNR=11						
ILAR				LR	LR	16 50 04.6	
	comp=Z,31nm,18.5s,MS3.7,baz=223,slow=37						
ILAR	Eielson Array	83.38	6	P	P	16 11 06.0	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ILAR				MLR	MLR		
	comp=Z,31nm,18.5s						
FX1	**Attu Island--F**	84.02	29	P	P	16 11 08.8	+0.3
	comp=Z,8.7nm,0.6s,mb5.1,baz=112,slow=23,SNR=2.6						
FX1	**Attu Island--F**	84.02	29	P	P	16 11 08.8	+0.3
FX1				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SML	**Sawmill**	86.16	7	*e*P	P	16 11 20.2	+1.2

NEIC ***05*** *15:59:47.1,37.09N×27.92E,h41^{km},MD2.9(ATH),After ATH.*

ATH ***05*** *15:59:47.1,37.09N×27.92E,h41^{km}±16^{km},MD2.9/3*

ISC 05 15:59:51.5±1.1,**36.95N**±0.05×**27.73E**±0.10,**h45**^{km}±17^{km},**n7,**σ**1^{s}25**/13,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.26	297	*i* P	P	16 00 00.2	+0.5
BDRM				*i* S	S	16 00 05.9	+0.4
NISR	**Nisiros**	0.59	235	*e*P	P	16 00 03.0	-0.6
AYDN	**Tasoluk**	0.72	10	*i* P	P	16 00 03.3	-2.0
AYDN				*i* S	S	16 00 12.3	-3.2
ARG	**Arkhangelos**	0.80	156	*e*P	P	16 00 04.2	-2.2
ARG				*e*S	S	16 00 17.5	+0.1
DNZL	**Cakiroluk**	1.28	54	*i* P	P	16 00 13.6	+0.3
DNZL				*i* S	S	16 00 30.3	+0.6
KARP	**Karpathos**	1.47	198	*e*P	P	16 00 16.0	0.0
KARP				*e*S	S	16 00 35.5	+1.2
MANT	**Manisa**	1.67	23	*i* P	P	16 00 20.0	+1.1
MANT				*i* S	S	16 00 42.4	+3.2

IDC ***05*** *16:01:57.0±3.0,31.77N×46.24E,mb3.8/11,mb1 3.9/12, mb1mx3.8/22,Error ellipse: s-maj=68.3km s-min=20.9km az=23.0*

NEIC ***05*** *16:01:57.8±1.2,31.62N×46.24E,h10^{km},mb4.0/3,Error ellipse: s-maj=24.8km s-min=9.3km az=204.0*

MOS ***05*** *16:01:58.5±0.8,31.48N×45.95E,h33^{km},mb4.0/6,Error ellipse: s-maj=44.1km s-min=27.4km az=115.3*

ISC 05 16:01:55.6±8.9,**31.7N**±0.2×**46.2E**±0.1,**h5**^{km}±53^{km},**n26,** σ**0^{s}74**/26,**mb3.9**/13,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	12.55	348	P	P	16 04 58.4	+0.7
BRTR	**Keskin Array B**	12.98	312	Pn	P	16 05 03.0	-0.4
	baz=140,slow=9.6,SNR=3.9						
MLR	**Muntele Rosu**	20.92	317	P	P	16 06 42.5	+1.1
	0.6nm,0.4s,baz=104,slow=17,SNR=2.3						
MLR	**Muntele Rosu**	20.92	317	P	P	16 06 42.5	+1.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	22.79	331	P	P	16 06 59.1	-1.0
	comp=Z,0.3nm,0.3s,mb3.2,baz=137,slow=9.3,SNR=4.9						
OBN	**Obninsk**	24.39	347	P	P	16 07 16.6	+1.0
ARU	**Arti**	26.19	16	P	P	16 07 31.9	-0.7
	comp=Z,1.9nm,0.6s,mb3.8						
BRVK	**Borovoye**	27.54	32	*e*P	P	16 07 44.8	-0.2
BVAR	**Borovoye Array**	27.57	32	P	P	16 07 44.9	-0.3
	comp=Z,2.0nm,0.9s,mb3.8,baz=219,slow=9.5,SNR=6.9						
KURK	**Kurchatov**	30.55	42	*e*P	P	16 08 12.6	+0.5
	comp=Z,2.7nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	31.43	51	P	P	16 08 19.9	+0.1
	comp=Z,2.0nm,0.8s,mb4.0,baz=252,slow=7.7,SNR=7.5						
MKAR	**Makanchi Array**	31.43	51	P	P	16 08 19.9	+0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	32.53	342	P	P	16 08 28.1	-1.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=153,slow=13,SNR=4.3						
FINES	**FINESS Array B**	32.53	342	P	P	16 08 28.2	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	35.67	333	P	P	16 08 55.1	-1.3
	comp=Z,0.6nm,0.3s,mb4.0,baz=135,slow=12,SNR=7.1						
HFS	**Hagfors**	35.67	333	P	P	16 08 55.1	-1.3
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	38.48	81	P	P	16 09 20.0	-0.3
	comp=Z,3.1nm,0.9s,mb4.0						
ARCES	**ARCESS Array B**	39.66	349	P	P	16 09 30.7	+0.9
	comp=Z,1.5nm,0.9s,mb3.7,baz=168,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	39.66	349	P	P	16 09 30.7	+0.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	47.78	52	P	P	16 10 35.1	-0.4
	comp=Z,0.2nm,0.3s,mb3.6,baz=270,slow=11,SNR=3.6						
SPITS	**Spitsbergen Ar**	48.39	352	P	P	16 10 40.0	0.0
	comp=Z,13nm,1.1s,mb4.9,baz=151,slow=6.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	49.11	92	P	P	16 10 46.5	+0.3
	comp=Z,1.2nm,0.8s,mb4.0,baz=280,slow=8.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	49.11	92	P	P	16 10 46.5	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	83.31	6	P	P	16 14 24.4	+0.2
	comp=Z,0.6nm,1.0s,mb3.6,baz=342,slow=5.2,SNR=6.2						
ILAR	**Eielson Array**	83.31	6	P	P	16 14 24.4	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SML	**Sawmill**	86.08	7	*e*P	P	16 14 39.3	+1.2

IDC ***05*** *16:20:44.8±10.0,1.02N×120.99E,h77^{km}±104^{km},mb3.5/6, mb1 3.6/7,mb1mx3.5/17,ML3.7/1,MS2.8/1,Ms1 2.8/1, ms1mx2.5/21,Error ellipse: s-maj=110.0km s-min=20.8km az=67.0*

NEIC ***05*** *16:20:44.5±5.8,1.07N×121.12E,h74^{km}±57^{km},mb4.4/4, Error ellipse: s-maj=46.5km s-min=11.7km az=68.0*

ISC 05 16:20:38.0±0.7,**1.1N**±0.2×**121.0E**±0.4,**h33**^{km},**n13,** σ**0^{s}48**/12,**mb4.0**/10,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	12.92	360	LR	LR	16 29 32.7	
	comp=Z,47nm,20.4s,baz=14,slow=41						
FITZ	**Fitzroy Crossi**	19.62	167	P	P	16 25 06.1	-0.6
	0.2nm,0.3s,baz=358,slow=9.4,SNR=5.7						
WRAB	**Tennant Creek**	24.67	149	P	P	16 25 57.5	+0.1
	5.1nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	24.67	149	P	P	16 25 57.8	+0.4
	0.8nm,0.4s,mb3.6,baz=337,slow=9.4,SNR=24						
ASAR	**Alice Springs**	27.63	154	P	P	16 26 25.1	+0.2
	1.0nm,0.6s,mb3.6,baz=345,slow=14,SNR=25						
ENH	**Enshi**	31.01	340	P	P	16 26 48.4	-6.5
	10.0nm,1.1s,mb4.6						
STKA	**Stephens Creek**	38.17	151	P	P	16 27 56.7	+0.4
	1.8nm,0.7s,mb3.9,baz=325,slow=12,SNR=4.1						
STKA	**Stephens Creek**	38.17	151	P	P	16 27 56.7	+0.4
SONM	**Songino Array**	48.25	347	P	P	16 29 18.1	+0.4
	0.7nm,0.9s,mb3.7,baz=153,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	56.64	329	P	P	16 30 20.8	+0.5
	0.2nm,0.3s,mb3.6,baz=123,slow=9.9,SNR=4.4						
KURK	**Kurchatov**	61.03	331	*e*P	P	16 30 50.9	+0.1
	3.7nm,1.1s,mb4.4						
YAK	**Yakutsk**	61.14	5	*e*P	P	16 30 50.4	-0.9
	4.4nm,0.6s,mb4.8						
VNDA	**Vanda**	81.61	172	P	P	16 32 53.1	-0.6
	0.7nm,0.6s,mb3.8,baz=316,slow=5.6,SNR=3.6						

NEIC ***05*** *16:25:21.3±0.6,28.86N×57.22E,h10^{km},mb4.1/2,Error ellipse: s-maj=15.6km s-min=12.1km az=186.0*

IDC ***05*** *16:25:23.2±0.9,28.85N×57.18E,h22^{km}±4^{km},mb3.7/14, mb1 3.8/15,mb1mx3.8/23,ML3.9/1,MS3.0/1,Ms1 3.0/1, ms1mx2.3/27,Error ellipse: s-maj=18.9km s-min=15.4km az=28.0*

ISC 05 16:25:21.0±0.6,**28.77N**±0.09×**57.09E**±0.08,**h22**^{km}, **(h23**^{km}±1.1^{km}**:pP-P),n22,** σ**1^{s}22**/21,**mb3.7**/15,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HASS	**Wahat al Ahsa’**	7.50	243	P	Pn	16 27 13.3	+1.4
MZLS	**Mizel**	11.65	249	P	P	16 28 07.0	-2.1
AFFS	**‘Afif**	13.52	252	P	P	16 28 32.3	-1.8
HILS	**Ha’il**	13.58	268	P	P	16 28 33.3	-1.5
GNI	**Garni**	15.23	321	LR	LR	16 35 19.6	
	comp=Z,52nm,18.1s,baz=348,slow=39						
ASF	**Jabal al Asfar**	17.73	286	P	P	16 29 29.8	+1.6
	0.4nm,0.3s,baz=29,slow=4.2,SNR=2.7						
BRTR	**Keskin Array B**	22.19	306	P	P	16 30 18.5	+1.3
	2.4nm,1.1s,mb3.5,baz=131,slow=11,SNR=5.2						
BRTR				pP		16 30 25.1	
	2.1nm,0.6s,baz=117,slow=11,SNR=6.8						
BVAR	**Borovoye Array**	26.14	18	P	P	16 30 55.8	+0.6
	3.6nm,0.6s,mb4.1,baz=202,slow=8.0,SNR=20						
BVAR				pP	pP	16 31 01.8	0.0
	5.4nm,0.7s,baz=211,slow=8.6,SNR=14						
BVAR				PcP	PcP	16 34 21.5	-1.2
	0.9nm,0.4s,baz=203,slow=1.5,SNR=5.5						
MKAR	**Makanchi Array**	26.66	41	P	P	16 31 00.4	+0.4
	0.5nm,0.6s,mb3.2,baz=214,slow=8.7,SNR=3.8						
KURK	**Kurchatov**	27.28	31	*e*P	P	16 31 03.5	-2.1
	3.2nm,1.0s,mb3.8						
IDI	**Anoyia**	27.98	292	P	P	16 31 13.3	+1.2
	4.5nm,0.9s,mb4.1,baz=263,slow=7.5,SNR=3.5						
KMBO	**Kilima Mbogo**	35.28	216	P	P	16 32 19.1	+2.6
	2.6nm,0.8s,mb4.2,baz=40,slow=12,SNR=6.1						
KMBO	**Kilima Mbogo**	35.28	216	*e*P	P	16 32 19.3	+2.8
	3.5nm,0.9s,mb4.3						
FINES	**FINESS Array B**	38.60	337	P	P	16 32 43.6	-0.3
	0.6nm,0.5s,mb3.6,baz=135,slow=8.1,SNR=7.6						
FINES				pP	pP	16 32 50.2	-0.5
	0.7nm,0.7s,baz=127,slow=9.5,SNR=2.9						
GERES	**GERESS Array B**	38.65	313	P	P	16 32 44.4	-0.1
	0.4nm,0.6s,mb3.3,baz=121,slow=7.8,SNR=4.5						
SONM	**Songino Array**	42.31	49	P	P	16 33 15.7	+1.0
	0.3nm,0.7s,mb3.0,baz=256,slow=5.9,SNR=2.5						
NOA	**NORSAR Array B**	44.29	330	P	P	16 33 29.6	-0.9
	1.6nm,1.1s,mb3.7,baz=116,slow=7.9,SNR=3.9						
ARCES	**ARCESS Array B**	44.66	345	P	P	16 33 33.5	+0.1
	0.8nm,0.8s,mb3.6,baz=150,slow=7.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	80.94	116	P	P	16 37 36.2	+0.6
	2.1nm,0.9s,mb4.1,baz=333,slow=5.4,SNR=3.2						
FITZ				pP	pP	16 37 44.4	+1.7
	1.3nm,0.7s,baz=213,slow=9.4,SNR=1.9						
ILAR	**Eielson Array**	84.90	10	P	P	16 37 54.2	-0.7
	0.7nm,0.8s,mb3.8,baz=321,slow=4.1,SNR=5.1						
ILAR				pP	pP	16 38 01.4	-0.6
	0.2nm,0.5s,baz=269,slow=3.1,SNR=3.3						
WRA	**Warramunga Arr**	88.86	113	P	P	16 38 14.4	-0.9
	0.4nm,0.8s,mb3.8,baz=316,slow=4.1,SNR=6.0						
ASAR	**Alice Springs**	90.43	117	P	P	16 38 22.1	-0.5
	0.4nm,0.6s,mb3.9,baz=304,slow=4.9,SNR=6.7						

MEX 05 16:39:07.5±0.9,**16.21N**×**98.40W,h4**^{km}±17^{km},**MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.32	54	*i* P	Pg	16 39 13.2	-0.7
PNIG				*i* S	Sg	16 39 18.1	-0.1
OXX	**Oaxaca**	1.82	61	*e*P	Pn	16 39 38.5	-1.4
OXX				*i* S	Sn	16 40 02.0	-1.8
PPM	**Popocatepetl**	2.85	356	*i* P	Pn	16 39 48.5	-6.2
PPM				*i* S	Sn	16 40 25.2	-4.7
CMIG	**Matias Romero**	3.48	75	*i* P	Pn	16 40 00.2	-3.3
CMIG				*i* S	Sn	16 40 38.5	-7.3

IDC ***05*** *16:59:51.5±0.9,22.39S×68.18W,h109^{km}±12^{km},mb4.0/3, mb1 3.8/5,mb1mx3.6/14,Error ellipse: s-maj=40.2km s-min=21.3km az=121.0*

NEIC ***05*** *16:59:52.0±0.8,22.28S×68.38W,h120^{km}±9^{km},mb4.3/4, Error ellipse: s-maj=18.4km s-min=10.1km az=95.0*

ISC 05 16:59:51.1±0.7,**22.32S**±0.08×**68.2W**±0.2,**h122**^{km}±11^{km}, **n19,** σ**1^{s}24**/19,**mb4.4**/4,**2C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.71	246	P	P	17 00 11.3	+0.5
	624nm,0.3s,baz=42,slow=7.6,SNR=6021						
LVC				S	S	17 00 25.4	-0.4
	1μm,0.3s,baz=279,slow=18,SNR=112						
LPAZ	**La Paz**	6.00	1	P	P	17 01 19.2	+0.5
	0.8nm,0.3s,baz=191,slow=9.2,SNR=20						
LPAZ				S	S	17 02 14.5	-12
	0.7nm,0.3s,baz=211,slow=8.1,SNR=3.0						
LPAZ	**La Paz**	6.00	1	P	P	17 01 19.2	+0.5
LPAZ				S	S	17 02 14.5	-12
ARE	**Arequipa**	6.60	331	*e*P	P	17 01 30.6	+3.7
NNA	**Nana**	13.17	320	P	P	17 02 51.2	-3.2
SAML	**Samuel**	14.14	21	*e*P	P	17 03 08.5	+1.5
	1.7nm,0.6s						
SAML				*e*		17 03 23.1	
TRQA	**Tornquist**	16.58	163	*e*P	P	17 03 37.7	+0.2
	7.6nm,0.8s						
PLCA	**Paso Flores**	18.46	186	P	P	17 03 58.9	-1.0
	0.2nm,0.3s,baz=10,slow=8.8,SNR=6.4						
PLCA	**Paso Flores**	18.46	186	P	P	17 03 58.9	-1.0
BDFB	**Brasilia**	20.21	74	P	P	17 04 17.7	-0.7
	4.8nm,0.4s,baz=239,slow=12,SNR=6.2						
RCBR	**Riachuelo**	35.24	67	*e*P	P	17 06 32.4	-3.5
	7.1nm,0.7s,mb4.6						
VNA2	**Neumayer--Watz**	59.67	161	⇑*i*	P	17 09 47.1	+2.6
SNAA	**Sanae**	61.30	161	⇑*i*	P	17 09 55.5	-0.1
QSPA	**South Pole Qui**	67.88	180	*e*P	P	17 10 38.4	+0.5
	5.1nm,0.5s,mb4.6						
DBIC	**Dimbokro**	68.35	73	P	P	17 10 40.8	-1.1
	11nm,1.2s,mb4.6,baz=217,slow=8.2,SNR=3.6						
MAW	**Mawson**	83.36	163	P	P	17 12 06.1	+0.8
	1.1nm,0.5s,mb3.9,baz=164,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	129.48	207	PKP	PKPdf	17 18 46.5	+0.3
	0.6nm,0.6s,baz=150,slow=1.8,SNR=7.7						
WRA	**Warramunga Arr**	132.57	209	PKP	PKPdf	17 18 53.2	+1.1
	0.4nm,0.4s,baz=156,slow=1.8,SNR=13						
MKAR	**Makanchi Array**	145.90	37	PKPbc	PKPbc	17 19 19.5	+3.2
	0.3nm,0.6s,baz=329,slow=1.1,SNR=3.8						

NAO ***05*** *17:18:30.9±3.2,67.77N×20.93E,ML2.2*

BER 05 17:18:30.8±3.5,**67.87N**×**20.27E,ML1.7,ML2.2**(NAO), **Suspected explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	1.59	42	*e*P	Pn	17 19 00.1	-0.2
KTK1				*e*Sg	Sg	17 19 22.1	-1.5
KTK1				AML	AML	17 19 27.1	
	comp=Z,10nm,0.4s						
TRO	**Tromso**	1.83	345	*e*Sg	Sg	17 19 26.3	-5.6
TRO				AML	AML	17 19 29.5	
	comp=Z,15nm,0.3s						
ARA0	**ARCESS Array S**	2.54	46	Pn	Pn	17 19 12.2	-1.7
	baz=228,slow=14						
ARA0				Lg		17 19 46.7	
	baz=230,slow=28						
LOF	**Lofoten**	2.54	279	*e*Sg	Sg	17 19 51.2	-4.3
LOF				AML	AML	17 19 56.1	
	comp=Z,6.3nm,0.4s						
MOR8	**Moi Rana**	2.85	236	*e*Sg	Sg	17 19 52.8	-13
MOR8				AML	AML	17 19 56.8	
	comp=Z,12nm,0.4s						
FIA0	**FINESS Array S**	6.92	156	Sn	Sn	17 21 26.1	-10
	baz=339,slow=37						
FIA0				Lg		17 22 02.7	
	baz=341,slow=37						
HFS	**Hagfors**	8.28	203	Lg		17 22 47.8	
	baz=16,slow=37						
HFS	**Hagfors**	8.28	203	Lg		17 22 47.8	
	baz=16,slow=37						

IDC ***05*** *17:20:48.6±0.8,0.34S×133.13E,mb4.0/8,mb1 4.2/10, mb1mx4.0/18,ML3.8/2,Error ellipse: s-maj=37.6km s-min=13.3km az=75.0*

NEIC ***05*** *17:20:55.2±0.5,0.54S×132.84E,h45^{km},mb4.1/7,Error ellipse: s-maj=20.5km s-min=7.3km az=75.0*

ISC 05 17:20:52.6±2.7,**0.60S**±0.06×**132.7E**±0.2,**h36**^{km}±25^{km}, **n23,** σ**0^{s}99**/29,**mb4.2**/11,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	12.03	182	*e*P	P	17 23 43.2	-1.3
	13nm,0.6s						
KAKA				*e*S	S	17 25 52.9	-5.5
FITZ	**Fitzroy Crossi**	18.73	201	*e*P	P	17 25 10.8	-0.1
	3.8nm,0.5s						
FITZ				*e*S	S	17 28 29.2	-5.9
FITZ	**Fitzroy Crossi**	18.73	201	P	P	17 25 11.3	+0.4
	0.3nm,0.3s,baz=24,slow=7.5,SNR=10						
FITZ				S	S	17 28 34.3	-0.8
	0.3nm,0.3s,baz=18,slow=24,SNR=4.9						
WRAB	**Tennant Creek**	19.28	175	*e*P	P	17 25 17.0	-0.2
	6.5nm,1.0s						
WRAB				*e*S	S	17 28 40.4	-6.9
WRA	**Warramunga Arr**	19.29	175	P	P	17 25 17.6	+0.3
	0.2nm,0.3s,baz=354,slow=11,SNR=27						
WRA				S	S	17 28 47.4	-0.2
	0.2nm,0.3s,baz=5.2,slow=22,SNR=5.6						
WB2	**Warramunga Arr**	19.29	175	*e*P	P	17 25 17.1	-0.2
WB2				*e*S	S	17 28 46.5	-1.1
ASAR	**Alice Springs**	22.96	177	P	P	17 25 56.9	+1.9
	6.0nm,0.8s,mb4.1,baz=3.4,slow=10,SNR=33						
ASAR				S	S	17 30 12.7	+14
	1.8nm,1.0s,baz=360,slow=24,SNR=6.7						
ASPA	**Alice Springs**	22.96	177	*e*P	P	17 25 57.1	+2.1
ASPA				*e*S	S	17 30 12.4	+14
CTA	**Charters Tower**	23.46	146	*e*P	P	17 26 00.8	+0.9
	2.8nm,0.7s,mb3.8						
CTA	**Charters Tower**	23.46	146	P	P	17 26 00.3	+0.4
	4.4nm,1.0s,mb3.9,baz=317,slow=13,SNR=5.5						
CTAO	**Charters Tower**	23.46	146	*e*P	P	17 26 00.7	+0.8
	4.3nm,0.8s,mb3.9						
STKA	**Stephens Creek**	32.22	166	P	P	17 27 19.5	-0.3
	1.9nm,0.6s,mb4.1,baz=356,slow=9.7,SNR=3.2						
CMAR	**Chiang Mai Arr**	38.22	301	P	P	17 28 12.3	+1.2
	1.6nm,0.9s,mb3.8,baz=126,slow=7.6,SNR=8.5						
LSA	**Lhasa**	49.78	311	*e*P	P	17 29 43.0	-1.0
	4.4nm,0.6s,mb4.7						
YAK	**Yakutsk**	62.51	358	P	P	17 31 14.2	-0.5
	9.7nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	64.53	324	P	P	17 31 28.0	-0.2
	1.0nm,0.6s,mb4.0,baz=113,slow=8.9,SNR=6.9						
MKAR	**Makanchi Array**	64.53	324	P	P	17 31 28.0	-0.2
BVAR	**Borovoye Array**	74.21	326	P	P	17 32 27.8	+0.3
	2.0nm,0.6s,mb4.2,baz=117,slow=9.9,SNR=8.5						
BRVK	**Borovoye**	74.28	326	*e*P	P	17 32 27.8	-0.1
	3.4nm,0.8s,mb4.3						
VNDA	**Vanda**	78.45	174	P	P	17 32 52.0	+1.0
	0.7nm,0.8s,mb3.6,baz=305,slow=3.4,SNR=3.2						
ILAR	**Eielson Array**	86.44	25	P	P	17 33 30.2	-2.1
	1.1nm,1.1s,mb4.0,baz=270,slow=4.5,SNR=3.7						
CPUP	**Villa Florida**	151.52	161	PKPbc	PKPdf	17 40 46.0	+8.6
	0.8nm,0.5s,baz=226,slow=15,SNR=2.7						
CPUP	**Villa Florida**	151.52	161	PKPbc	PKPdf	17 40 46.0	+8.6

NEIC ***05*** *17:28:42.7±1.7,5.42S×147.01E,h186^{km}±15^{km},mb4.3/4, Error ellipse: s-maj=17.9km s-min=15.6km az=96.0*

IDC ***05*** *17:28:43.3±1.6,5.55S×146.98E,h188^{km}±16^{km},mb3.5/6, mb1 3.7/9,mb1mx3.6/14,Error ellipse: s-maj=30.4km s-min=12.8km az=105.0*

ISC 05 17:28:39.6±1.6,**5.34S**±0.10×**147.0E**±0.2,**h169**^{km}±15^{km}, **n16,** σ**0^{s}89**/18,**mb3.7**/6,**1C,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.05	178	P	P	17 29 43.0	+1.3
	12nm,0.3s,baz=17,slow=5.0,SNR=51						
PMG				S	S	17 30 28.3	-1.2
	8.6nm,0.3s,baz=213,slow=19,SNR=8.8						
CTA	**Charters Tower**	14.68	183	*e*P	P	17 32 01.6	+1.3
	2.8nm,0.9s						
CTA	**Charters Tower**	14.68	183	P	P	17 32 01.7	+1.4
	0.2nm,0.3s,baz=359,slow=14,SNR=4.9						
KAKA	**Kakadu**	16.17	242	*e*P	P	17 32 18.5	-0.3
	5.8nm,0.2s						
WRAB	**Tennant Creek**	19.03	219	*e*P	P	17 32 50.5	-0.5
	6.4nm,0.6s						
WB2	**Warramunga Arr**	19.04	219	⇑*i*P	P	17 32 50.2	-0.8
WRA	**Warramunga Arr**	19.05	219	P	P	17 32 50.6	-0.5
	1.5nm,0.3s,baz=56,slow=10,SNR=32						
WRA				S	S	17 36 13.3	-0.1
	0.1nm,0.3s,baz=39,slow=21,SNR=7.1						
ASAR	**Alice Springs**	22.17	213	P	P	17 33 23.4	+1.0
	4.0nm,0.6s,mb4.0,baz=46,slow=7.7,SNR=27						
ASAR				S	S	17 37 12.2	+1.8
	3.3nm,0.7s,baz=31,slow=14,SNR=7.4						
ASPA	**Alice Springs**	22.17	213	*e*P	P	17 33 23.0	+0.6
FITZ	**Fitzroy Crossi**	24.43	237	*e*P	P	17 33 43.3	-0.8
	3.5nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	24.43	237	P	P	17 33 44.1	0.0
	5.9nm,0.5s,mb4.3,baz=38,slow=5.9,SNR=31						
STKA	**Stephens Creek**	26.89	190	P	P	17 34 06.8	0.0
	2.3nm,0.9s,mb3.8,baz=32,slow=13,SNR=2.8						
SONM	**Songino Array**	63.83	331	P	P	17 38 56.3	+0.3
	0.5nm,0.6s,mb3.5,baz=150,slow=5.4,SNR=5.6						
VNDA	**Vanda**	72.57	177	P	P	17 39 47.8	-1.7
	0.8nm,0.6s,mb3.7,baz=327,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	76.99	320	P	P	17 40 15.2	0.0
	0.4nm,0.7s,mb3.2,baz=93,slow=8.8,SNR=3.8						
CPUP	**Villa Florida**	140.66	144	PKP	PKPdf	17 47 49.9	+0.1
	0.8nm,0.6s,baz=164,slow=7.4,SNR=2.8						

ISK ***05*** *17:28:58.4,37.12N×27.73E,h5^{km},MD3.0*

NEIC ***05*** *17:29:00.0,36.80N×27.83E,h16^{km},MD3.3(ATH),After ATH.*

ATH ***05*** *17:29:00.5,36.74N×27.80E,h23^{km}±5^{km},MD3.3/5*

ISC 05 17:28:57.9±0.9,**36.92N**±0.04×**27.73E**±0.04,**h9**^{km}±7^{km}, **n16,** σ**1^{s}23**/25,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.27	303	⇑*i*P	Pg	17 29 04.2	+0.8
BDRM				*i* S	Sg	17 29 08.8	+1.6
YER	**Yerkesik**	0.49	64	*i* PG	Pg	17 29 07.3	-0.6
YER				SG	Sg	17 29 14.3	-0.3
NISR	**Nisiros**	0.57	237	*e*PN	Pn	17 29 10.5	-1.4
NISR				*e*SN	Sn	17 29 20.0	-1.4
AYDN	**Tasoluk**	0.75	9	*i* P	Pg	17 29 12.1	-0.8
AYDN				*i* S	Sg	17 29 21.6	-1.3
ARG	**Arkhangelos**	0.78	155	*e*PN	Pn	17 29 13.5	-1.3
DNZL	**Cakiroluk**	1.30	54	*i* P	Pb	17 29 22.0	-0.1
DNZL				*i* S	Sb	17 29 39.6	+0.7
DENT	**Denizli**	1.33	51	*i* PN	Pn	17 29 22.4	-0.4
KARP	**Karpathos**	1.45	199	*e*PN	Pn	17 29 24.8	+0.4
KARP				*e*SN	Sn	17 29 43.5	-0.1
KARP	**Karpathos**	1.45	199	*e*Pn	Pn	17 29 24.8	+0.4
KARP				*e*Sn	Sn	17 29 45.5	+1.9
KDAG	**Bornova**	1.52	346	*i* P	Pn	17 29 25.4	-0.1
KDAG				*i* S	Sb	17 29 49.6	+4.4
KSL	**Kastellorizon**	1.68	117	*e*PN	Pn	17 29 28.5	+0.7
MANT	**Manisa**	1.70	23	*i* P	Pn	17 29 27.2	-0.8
MANT				*i* S	Sn	17 29 47.1	-3.0
ELL	**Elmali**	1.76	95	PN	Pn	17 29 30.7	+1.8
AKS	**Akhisar**	1.96	2	*i* PN	Pn	17 29 30.2	-1.5
PRK	**Paraskevi**	2.59	334	*e*PN	Pn	17 29 46.5	+5.8
HDMB	**Hadim**	3.81	88	*e*PN	Pn	17 29 59.8	+1.6

NEIC ***05*** *17:39:15.2,26.96N×34.26E,h10^{km},ML4.0(GII),After GII.*

SNSN ***05*** *17:39:25.3,27.74N×34.40E,h13^{km},Ml3.1*

HLW ***05*** *17:39:25.0,27.63N×34.32E,h12^{km},Mb3.7*

ISC 05 17:39:24.4±0.6,**27.63N**±0.03×**34.33E**±0.03,**h20**^{km}±5^{km}, **n46,** σ**0^{s}46**/53,**8C-12D,Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHRM		0.32	327	⇑*i*P	Pb	17 39 31.8	+0.4
SHRM				S	Sb	17 39 35.7	-0.4
TR1		0.51	319	⇓*i*P	Pb	17 39 34.8	+0.3
TR1				S	Sb	17 39 41.3	0.0
ZEIT		0.74	289	⇑P	Pb	17 39 38.5	0.0
TR2		0.93	325	⇑P	Pb	17 39 42.3	+0.6
HKAT	**Jabal Katrina**	0.94	342	⇓P	Pb	17 39 42.5	+0.6
AYUS	**‘Aynunah**	1.00	56	P	Pb	17 39 43.0	0.0
AYUS				S	Sb	17 39 54.7	-1.0
BDAS	**Al Bad‘**	1.05	40	P	Pb	17 39 43.2	-0.6
HSFG		1.11	199	⇓P	Pb	17 39 44.7	-0.1
HRDS	**Abu Rudays**	1.41	320	P	Pn	17 39 49.5	+0.1
GRB	**Gharib**	1.51	296	⇓P	Pn	17 39 49.7	-0.9
HAQS	**Haql**	1.52	20	P	Pn	17 39 50.1	-0.7
JMOS	**Jabal al Moall**	1.68	24	P	Pn	17 39 52.6	-0.6
ALWS	**Ilw as Safayha**	1.80	21	P	Pn	17 39 54.3	-0.5
JMQS	**Jabal Moqyreh**	1.86	47	P	Pn	17 39 55.8	+0.2
JMQS				S	Sn	17 40 17.9	-0.8
QEN		1.92	224	⇑P	Pn	17 39 56.6	+0.1
TBKS	**Tabuk**	2.05	73	P	Pn	17 39 59.5	+1.0
EIL	**Elat**	2.11	15	Pn	Pn	17 39 59.7	+0.4
ZNM		2.16	324	⇓P	Pn	17 40 00.3	+0.3
AQBJ	**Aqaba**	2.19	17	Pn	Pn	17 40 01.0	+0.6
MBH	**Mount Berech**	2.22	13	Pn	Pn	17 40 01.2	+0.4
ZAF		2.27	317	⇓P	Pn	17 40 01.4	-0.2
HADB		2.28	173	P	Pn	17 40 02.1	+0.4
ASUT		2.47	265	⇑P	Pn	17 40 03.9	-0.5
KMTI	**Karmit**	2.49	8	Pn	Pn	17 40 04.9	+0.1
KMTI				Sn	Sn	17 40 42.3	+7.4
SUZ		2.57	330	⇓P	Pn	17 40 06.1	+0.3

EMRS	**Mersa Alam**	**2.64**	**170**	⇓P	**Pn**	**17 40 06.6**	**-0.3**
PRNI	**Paran**	**2.78**	**12**	Pn	**Pn**	**17 40 08.7**	**-0.2**
PRNI				Sn	**Sn**	**17 40 51.1**	**+8.9**
ZFRI	**Zfri**	**3.01**	**14**	Pn	**Pn**	**17 40 13.0**	**+0.9**
GLL	**Jalalah**	**3.02**	**311**	⇑P	**Pn**	**17 40 12.1**	**-0.1**
HHAG	**Hagoal**	**3.03**	**320**	⇓P	**Pn**	**17 40 12.2**	**-0.2**
HSAF	**As Saff**	**3.15**	**310**	⇑P	**Pn**	**17 40 13.9**	**-0.2**
AMAG	**Maghara**	**3.16**	**342**	⇓P	**Pn**	**17 40 13.9**	**-0.4**
KOT	**Kottamia**	**3.17**	**317**	⇑P	**Pn**	**17 40 13.8**	**-0.6**
KZIT	**Kziot**	**3.27**	**1**	Pn	**Pn**	**17 40 15.7**	**-0.1**
KZIT				Sn	**Sn**	**17 41 04.4**	**+10**
HAGS	**Hagol**	**3.29**	**169**	⇓P	**Pn**	**17 40 15.9**	**-0.1**
SVTA	**Shivta**	**3.30**	**4**	Pn	**Pn**	**17 40 16.8**	**+0.5**
HRSH	**Kfar Ka’horesh**	**3.37**	**351**	P	**Pn**	**17 40 17.1**	**0.0**
MASH	**Mash‘abbe Sade**	**3.38**	**7**	Pn	**Pn**	**17 40 17.1**	**-0.3**
RTMM	**Retamin**	**3.43**	**5**	Pn	**Pn**	**17 40 18.5**	**+0.5**
UMJS	**Umm Lajj**	**3.58**	**131**	P	**Pn**	**17 40 20.1**	**-0.2**
MZDA	**Masada**	**3.78**	**14**	Pn	**Pn**	**17 40 22.9**	**-0.2**
GTR	**Jabal at Tayr**	**3.98**	**239**	⇓P	**Pn**	**17 40 25.5**	**-0.4**
DRGI	**Dragot**	**4.06**	**13**	Pn	**Pn**	**17 40 27.3**	**+0.3**
SLTI	**Sal’it**	**4.64**	**7**	Pn	**Pn**	**17 40 35.7**	**+0.4**
YNBS	**Yanbu‘ al Bahr**	**4.64**	**134**	P	**Pn**	**17 40 36.0**	**+0.6**
HMDT	**Nahal Hemdat**	**4.73**	**12**	Pn	**Pn**	**17 40 37.0**	**+0.5**

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*NNC **05** 17:51:14.1±10.0,44.49N×86.10E,mpv2.7,Error ellipse: s-maj=259.8km s-min=63.8km az=46.0*

BJI 05 17:51:20.1,44.17N×85.30E,h11^{km},ML2.9,1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.76**	**101**	⇑*i*PG	Pg	17 51 51.6	-3.8
WMQ				SG	Sg	17 52 16.2	-2.7
WMQ				Smax			
	comp=N,85nm,0.4s						
WMQ				Smax			
	comp=E,71nm,0.5s						
MK31	**Makanchi Array**	**3.37**	**322**	⇓Pn	Pn	17 52 12.9	-0.9
	comp=E,0.8nm,0.3s,baz=106,slow=18,SNR=42						
MK31				⇓Lg		17 53 04.6	
	comp=E,3.3nm,0.3s,baz=136,slow=30,SNR=10						
KURK	**Kurchatov**	**7.96**	**328**	⇓Lg		17 55 29.5	
	comp=E,1.9nm,0.8s,baz=98,slow=17,SNR=4.3						

IDC 05 18:01:24.0±66.0,**21.86S**×**178.59W**,**mb3.6**/3,**mb1 3.8**/3, **mb1mx3.6**/13,**Error ellipse: s-maj=1191.0km s-min=166.3km az=85.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.72**	**246**	P	P	18 08 31.8	-3.0
	0.8nm,0.5s,baz=98,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**43.69**	**258**	P	P	18 09 31.0	-1.6
	0.2nm,0.4s,baz=93,slow=7.1,SNR=8.3						
WRA	**Warramunga Arr**	**43.89**	**264**	P	P	18 09 33.2	-1.0
	0.6nm,0.5s,baz=96,slow=8.4,SNR=12						

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*NIED **05** 18:23:00,35.60N×140.10E,h71^{km},Mw4.7 Best double couple: M$_0$1.27×10^{16} NP1:ϕ_s1°,δ68°,λ102°. NP2:ϕ_s152°, δ25°,λ63°.*

*BJI **05** 18:23:25.2,35.40N×140.63E,h85^{km},mB4.8,mb4.7, Ms4.0,Msz3.5*

*MOS **05** 18:23:28.9±0.9,35.98N×139.84E,h43^{km},mb5.1/26,Error ellipse: s-maj=13.6km s-min=6.7km az=103.7*

*IDC **05** 18:23:29.9±0.5,35.58N×139.89E,h56^{km}±3^{km},mb4.2/25, mb1 4.4/30,mb1mx4.4/33,MS3.5/10,Ms1 3.6/10, ms1mx3.3/25,Error ellipse: s-maj=14.0km s-min=6.8km az=91.0*

*JMA **05** 18:23:30.4±0.2,35.62N×140.06E,h75^{km}±2^{km},M4.6 Broadband fault plane solution: P waves. NP1:ϕ_s180°, δ21°,λ89°. NP2:ϕ_s1°,δ69°,λ90°. Principal axes: T Plg66°, Azm272°; N Plg0°, Azm1°; P Plg24°, Azm91°;*

JMA Felt IV J1.

*NEIC **05** 18:23:32.9±0.6,35.52N×139.84E,h86^{km}±5^{km},mb4.8/53, MW4.7(NIED) Error ellipse: s-maj=4.8km s-min=4.1km az=95.0*

NEIC Felt in Kanagawa, Saitama, Tokyo and Yokohama Prefectures. Recorded [4 JMA] in Kanagawa, Saitama and Tokyo; [3 JMA] in Chiba; 2 JMA] in Gumma, Ibaraki, Shizuoka and Yamanashi; [1 JMA] in Fukushima and Nagano Prefectures. Also recorded [1 JMA] on Miyake-jima and O-shima.

ISC 05 18:23:30.6±0.3,**35.52N**±0.03×**139.96E**±0.03,**h77**^{km}±2^{km}, **h82**^{km}±5.0^{km}**:pP-P,n250,**σ**0**^{s}**98**/267,**mb4.7**/92,**14C-12D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.22**	**116**	⇑P	**P**	**18 23 42.5**	**+0.3**
JCN				S	**S**	**18 23 51.4**	**+0.5**
TOK	**Tokyo**	**0.23**	**316**	⇓P	**P**	**18 23 42.6**	**+0.3**
TOK				S	**S**	**18 23 51.0**	**0.0**
JOD2	**Odawara 2**	**0.75**	**251**	⇓P	**P**	**18 23 47.4**	**+0.5**
JOD2				S	**S**	**18 23 59.1**	**+0.2**
BSO3	**Boso 3**	**0.85**	**147**	⇑P	**P**	**18 23 47.6**	**-0.3**
JIM2	**Oshima 3**	**0.91**	**208**	⇓P	**P**	**18 23 48.8**	**+0.2**
JIM2				S	**S**	**18 24 02.6**	**+0.5**
JRY	**Ryogami san**	**0.99**	**300**	⇓P	**P**	**18 23 50.2**	**+0.6**
JAG	**Ashikaga**	**0.99**	**336**	⇓P	**P**	**18 23 48.9**	**-0.8**
JAG				S	**S**	**18 24 01.7**	**-2.3**
JYN	**Shimob**	**1.15**	**269**	⇓P	**P**	**18 23 52.4**	**+0.7**
JYN				S	**S**	**18 24 08.6**	**+1.2**
JIZS	**Izushimoda**	**1.19**	**228**	⇓P	**P**	**18 23 53.0**	**+0.8**
JIZS				S	**S**	**18 24 09.2**	**+0.9**
BSO1	**Boso 1**	**1.20**	**136**	⇑P	**P**	**18 23 51.3**	**-1.0**
JKT	**Katashina**	**1.37**	**336**	⇓P	**P**	**18 23 53.7**	**-1.0**
JKT				S	**S**	**18 24 10.7**	**-1.8**
JMY	**Miyake jima 2**	**1.49**	**194**	P	**P**	**18 23 56.1**	**-0.2**
MAJO	**Matsushiro**	**1.75**	**306**	*e*Pn	**P**	**18 23 59.8**	**+0.2**
MAJO				*e*S	**S**	**18 24 18.5**	**-2.5**
MAT	**Matsushiro**	**1.75**	**306**	P	**P**	**18 24 00.1**	**+0.5**
MAT				S	**S**	**18 24 22.4**	**+1.4**
MAT	**Matsushiro**	**1.75**	**306**	*e*P	**P**	**18 24 00.0**	**+0.4**
MAT				*e*S	**S**	**18 24 22.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.40**	**183**	P	**P**	**18 24 08.9**	**+0.3**
	634nm,0.3s,baz=114,slow=0.5,SNR=139						
JHJ				S	**S**	**18 24 37.1**	**+0.2**
	2µm,0.3s,baz=260,slow=23,SNR=14						
JNU	**Nakatsue**	**7.88**	**255**	P	**P**	**18 25 24.8**	**+0.2**
	4.8nm,0.3s,baz=72,slow=14,SNR=24						
CBIJ	**Chichi jima**	**8.61**	**167**	P	**P**	**18 25 30.4**	**-4.1**
	126nm,0.3s,baz=343,slow=7.1,SNR=73						
CBIJ				S	**S**	**18 27 00.6**	**-10**
	65nm,0.3s,baz=306,slow=21,SNR=5.6						
ASAJ	**Asahikawa**	**8.82**	**12**	P	**P**	**18 25 32.5**	**-5.0**
	7.3nm,0.3s,baz=209,slow=12,SNR=24						
ASAJ				S	**S**	**18 27 06.9**	**-9.3**
	2.4nm,0.3s,baz=297,slow=27,SNR=4.4						
ASAJ	**Asahikawa**	**8.82**	**12**	P	**P**	**18 25 32.5**	**-4.9**
ASAJ				S	**S**	**18 27 06.9**	**-9.3**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YUK	**Yuzh-Kuril’sk**	**9.64**	**26**	P	**P**	**18 25 41.0**	**-7.5**
YUK				*i* S	**S**	**18 27 21.5**	**-14**
YUK				smax			
	comp=N,210nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,1µm,1.0s						
YUK				smax			
	comp=E,2µm,1.0s						
KUR	**Kuril’sk**	**11.42**	**29**	*i* P	**P**	**18 26 06.5**	**-6.0**
KUR				*i* S	**S**	**18 28 04.5**	**-14**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				smax			
	comp=N,70nm,0.6s						
KUR				smax			
	comp=E,90nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.62**	**10**	P	**P**	**18 26 09.9**	**-5.2**
YSS				*e*S	**S**	**18 28 15.0**	**-8.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax			
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**11.62**	**10**	*e*P	**P**	**18 26 10.6**	**-4.6**
MDJ	**Mudanjiang**	**12.06**	**322**	P	**P**	**18 26 23.2**	**+2.2**
MDJ				PP	PP	18 26 33.5	+2.1
MDJ				S	**S**	**18 28 37.6**	**+3.4**
MDJ				SS	SS	18 28 52.5	+1.7
MDJ				AMB	AMB		
	comp=Z,38nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,65nm,5.4s						
MDJ				LR	LR		
	comp=N,258nm,21.2s						
MDJ				LR	LR		
	comp=E,123nm,15.0s						
MDJ				LR	LR		
	comp=Z,177nm,22.5s						
MDJ	**Mudanjiang**	**12.06**	**322**	*e*P	**P**	**18 26 22.1**	**+1.1**
JOW	**Kunigami**	**13.22**	**232**	P	**P**	**18 26 40.1**	**+3.8**
	comp=Z,3.5nm,0.3s,baz=46,slow=5.8,SNR=11						
JOW				LR	LR	18 31 39.6	
	comp=Z,108nm,18.8s,baz=307,slow=37						
CN2	**Changchun**	**13.89**	**311**	*e*P	**P**	**18 26 48.1**	**+3.1**
CN2				*e*S	**S**	**18 29 23.4**	**+5.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,22.0s						
SNY	**Shenyang**	**14.25**	**301**	⇓P	**P**	**18 26 54.9**	**+5.1**
SNY				S	**S**	**18 29 27.9**	**+1.6**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s						
SNY				LR	LR		
	comp=N,180nm,15.3s						
SNY				LR	LR		
	comp=E,210nm,18.0s						
SNY				LR	LR		
	comp=Z,290nm,20.4s						
NJ2	**Nanjing**	**17.88**	**265**	*e*P	**P**	**18 27 37.1**	**+1.6**
NJ2				PP	PP	18 27 53.0	+1.8
NJ2				S	**S**	**18 30 51.0**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,2µm,6.2s						
NJ2				LR	LR		
	comp=N,390nm,12.6s						
NJ2				LR	LR		
	comp=E,660nm,16.1s						
BJI	**Beijing**	**19.31**	**291**	P	**P**	**18 27 50.5**	**-1.5**
BJI				AP		18 28 08.3	
BJI				XP		18 28 19.9	
BJI				AMB	AMB		
	comp=Z,11nm,1.5s						
BJI				AMB	AMB		
	comp=Z,83nm,4.2s						
BJI	**Beijing**	**19.31**	**291**	P	**P**	**18 27 50.5**	**-1.5**
	comp=Z,11nm,1.5s						
BJI				pP		18 28 08.3	
BJI				sP		18 28 19.9	
BJI				S	**S**	**18 31 39.3**	**+18**
BJT	**Baijiatuau**	**19.32**	**291**	*e*P	**P**	**18 27 50.3**	**-1.7**
	comp=Z,51nm,1.3s						
BJT				*e*		18 28 08.8	
HIA	**Hailar**	**20.20**	**319**	*e*P	**P**	**18 27 57.9**	**-3.4**
	comp=Z,16nm,0.8s						
WHN	**Wuhan**	**22.01**	**264**	*e*P	**P**	**18 28 19.5**	**-0.1**
CLNS	**Chul’man**	**23.63**	**339**	*e*P	**P**	**18 28 29.3**	**-5.8**
CLNS				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,17nm,0.7s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
XAN	**Xi’an**	**25.48**	**276**	P	**P**	**18 28 52.4**	**-0.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.1						
ENH	**Enshi**	**26.05**	**267**	*e*P	**P**	**18 28 57.2**	**-1.2**
	comp=Z,33nm,0.9s,mb4.8						
YAK	**Yakutsk**	**27.32**	**349**	*e*P	**P**	**18 29 07.7**	**-2.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK	**Yakutsk**	**27.32**	**349**	*e*P	**P**	**18 29 07.3**	**-2.4**
	comp=E,28nm,0.8s,mb4.8						
SONM	**Songino Array**	**27.70**	**307**	P	**P**	**18 29 11.7**	**-1.7**
	comp=E,3.7nm,0.5s,mb4.1,baz=107,slow=8.5,SNR=28						
SONM				sP	sP	18 29 31.8	-8.7
	comp=E,1.4nm,0.5s,baz=113,slow=9.4,SNR=2.7						
SONM				ScP		18 36 02.4	
	comp=E,0.4nm,0.7s,baz=45,slow=3.5,SNR=3.6						
BOD	**Bodaibo**	**28.22**	**330**	*e*P	**P**	**18 29 16.1**	**-1.8**
LZH	**Lanzhou**	**29.19**	**282**	⇑P	**P**	**18 29 27.0**	**+0.2**
LZH				AP	pP	18 29 42.2	-2.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,71nm,4.1s						
LZH				LR	LR		
	comp=E,162nm,12.3s						
LZH				LR	LR		
	comp=Z,271nm,15.5s						
LZH	**Lanzhou**	**29.19**	**282**	⇑P	**P**	**18 29 27.0**	**+0.2**
	comp=Z,25nm,1.0s,mb4.8						
LZH				pP	pP	18 29 42.2	-2.7
LZH				sP	sP	18 29 49.5	-4.6
LZH				LR	LR		
	comp=Z,270nm,15.5s						
GYA	**Guiyang**	**29.82**	**262**	P	**P**	**18 29 30.5**	**-2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**30.32**	**311**	*e*P	**P**	**18 29 34.7**	**-2.0**
GTA	**Gaotai**	**31.91**	**289**	*e*P	**P**	**18 29 50.7**	**-0.1**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
KMI	**Kunming**	**33.58**	**262**	*e*P	**P**	**18 30 03.6**	**-1.8**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=Z,104nm,35.6s						
TIXI	**Tiksi**	**36.66**	**354**	*e*P	**P**	**18 30 29.3**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**39.98**	**256**	P	**P**	**18 30 58.8**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.0,baz=47,slow=7.6,SNR=10						
CMAR				PcP	PcP	18 33 04.2	+0.5
	comp=Z,2.9nm,1.0s,baz=6.1,slow=2.1,SNR=7.4						
CMAR				LR	LR	18 49 05.4	
	comp=Z,63nm,21.1s,baz=70,slow=38						
CMAR	**Chiang Mai Arr**	**39.98**	**256**	P	**P**	**18 30 58.8**	**-0.4**
CMAR						18 33 04.3	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,63nm,21.2s						
WMQ	**Urumqi**	**40.49**	**298**	⇓P	**P**	**18 31 04.4**	**+1.2**
WMQ				AP	pP	18 31 22.9	+0.8
WMQ				XP	sP	18 31 32.4	+1.2
WMQ				PP	PP	18 32 42.4	+1.4
WMQ				*e*S	**S**	**18 37 07.4**	**+1.3**
WMQ				XS		18 37 38.4	
WMQ				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.0						
WMQ				LR	LR		
	comp=N,70nm,13.8s						
WMQ				LR	LR		
	comp=E,54nm,13.0s						
LSA	**Lhasa**	**41.19**	**276**	P	**P**	**18 31 09.6**	**+0.6**
LSA	**Lhasa**	**41.19**	**276**	*e*P	**P**	**18 31 09.8**	**+0.8**
	comp=E,8.9nm,0.9s,mb4.6						
NVS	**Novosibirsk**	**43.05**	**315**	*i* P	**P**	**18 31 22.7**	**-1.3**
NVS				pmax	pmax		
	comp=E,27nm,1.1s						
NVS				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**43.94**	**303**	P	**P**	**18 31 31.4**	**+0.1**
	comp=Z,23nm,0.7s,mb5.0,baz=91,slow=10,SNR=188						
MKAR				LR	LR	18 50 20.9	
	comp=Z,100nm,19.7s,baz=98,slow=37						
MKAR	**Makanchi Array**	**43.94**	**303**	P	**P**	**18 31 31.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,23nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,100nm,19.7s						
KURK	**Kurchatov**	**45.96**	**309**	*i* P	**P**	**18 31 46.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.0						
KURK	**Kurchatov**	**45.96**	**309**	*e*P	**P**	**18 31 46.6**	**-0.7**
	comp=Z,80nm,0.9s,mb5.5						
KURK				*e*	pP	18 32 08.9	+2.5
PKI	**Pulchoki**	**46.66**	**276**	*e*P	**P**	**18 31 52.5**	**-0.7**
	comp=Z,26nm,0.8s,mb5.0						
KKN	**Kakani**	**46.68**	**276**	*e*P	**P**	**18 31 52.9**	**-0.4**
	comp=Z,31nm,0.8s,mb5.1						
DMN	**Daman**	**46.89**	**276**	*e*P	**P**	**18 31 54.7**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9						
GKN	**Gorkha**	**47.11**	**277**	*e*P	**P**	**18 31 56.5**	**-0.2**
	comp=Z,75nm,0.8s,mb5.5						
KOLN	**Koldanda**	**48.05**	**277**	*e*P	**P**	**18 32 03.9**	**-0.1**
	comp=Z,20nm,0.7s,mb5.1						
KAKA	**Kakadu**	**48.48**	**190**	*e*P	**P**	**18 32 06.5**	**-1.1**
	comp=Z,44nm,1.2s,mb5.2						
RSO	**Redoubt South**	**48.82**	**37**	*e*P	**P**	**18 32 09.8**	**+0.3**
TKM2	**Tokmak 2**	**49.33**	**299**	P	**P**	**18 32 14.6**	**+0.8**
	SNR=29						
KBK	**Karagaybulak**	**49.86**	**299**	P	**P**	**18 32 18.3**	**+0.6**
	SNR=19						
CHMS	**Chumysh**	**49.91**	**299**	P	**P**	**18 32 18.6**	**+0.4**
	SNR=8.8						
KSH	**Kashi**	**49.96**	**295**	*e*P	**P**	**18 32 19.0**	**+0.4**
KSH				AMB	AMB		
	comp=Z,350nm,3.3s						
USP	**Ospenovka**	**50.02**	**300**	P	**P**	**18 32 19.1**	**+0.1**
	SNR=15						
FRU	**Bishkek**	**50.05**	**299**	*e*P	**P**	**18 32 20.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
AAK	**Ala-Archa**	**50.19**	**299**	P	**P**	**18 32 20.7**	**+0.4**
	SNR=5.3						
UCH	**Uchtor**	**50.28**	**299**	P	**P**	**18 32 22.0**	**+1.0**
	SNR=8.2						
VOSK	**Vostochnaya**	**50.43**	**313**	P	**P**	**18 32 20.7**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**50.69**	**299**	P	**P**	**18 32 24.2**	**+0.1**
	SNR=8.9						
BRVK	**Borovoye**	**50.79**	**313**	P	**P**	**18 32 24.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**50.79**	**313**	*e*P	**P**	**18 32 24.2**	**-0.5**
	comp=Z,9.7nm,0.8s,mb4.9						
AML	**Almayashu**	**50.89**	**299**	P	**P**	**18 32 26.8**	**+1.1**
	SNR=38						
SML	**Sawmill**	**50.91**	**36**	*e*P	**P**	**18 32 25.1**	**-0.4**
COLA	**College**	**50.99**	**32**	*e*P	**P**	**18 32 27.6**	**+1.5**
ILAR	**Eielson Array**	**51.40**	**32**	P	**P**	**18 32 28.4**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.3,baz=272,slow=6.3,SNR=26						
ILAR	**Eielson Array**	**51.40**	**32**	P	**P**	**18 32 28.5**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DDI	**Dehra Dun**	**51.48**	**283**	*e*	**P**	**18 32 29.1**	**-1.2**
ZRNK	**Zerenda**	**51.57**	**313**	P	**P**	**18 32 29.7**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SDNR	**Sundarnagar**	**51.89**	**285**	*e*P	**P**	**18 32 32.0**	**-1.3**
NDI	**New Delhi**	**52.81**	**281**	*e*P	**P**	**18 32 37.0**	**-3.3**
	comp=Z,47nm,0.6s,mb5.7						
KKAR	**Karatay Array**	**52.87**	**301**	*i* P	**P**	**18 32 40.2**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.03**	**197**	*e*P	**P**	**18 32 55.7**	**-0.9**
	comp=Z,16nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**55.40**	**186**	*e*P	**P**	**18 32 57.7**	**-1.6**
	comp=Z,16nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**55.41**	**186**	⇑*i*P	**P**	**18 32 57.8**	**-1.6**
WRA	**Warramunga Arr**	**55.41**	**186**	P	**P**	**18 32 57.7**	**-1.7**
	comp=Z,9.3nm,0.4s,mb5.2,baz=0.5,slow=7.7,SNR=199						
WRA	**Warramunga Arr**	**55.41**	**186**	P	**P**	**18 32 57.7**	**-1.7**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CTA	**Charters Tower**	**55.62**	**173**	*e*P	**P**	**18 32 59.6**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**55.62**	**173**	*e*P	**P**	**18 32 59.6**	**-1.2**
	comp=Z,7.7nm,1.1s,mb4.7						
INK	**Inuvik**	**56.27**	**27**	P	**P**	**18 33 04.4**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=94,slow=4.0,SNR=3.9						
INK				sP	sP	18 33 24.4	-9.0
	comp=Z,3.5nm,0.6s,baz=298,slow=5.9,SNR=4.7						
INK	**Inuvik**	**56.27**	**27**	P	**P**	**18 33 03.9**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.6						
ARU	**Arti**	**56.72**	**319**	⇑*i*P	**P**	**18 33 07.1**	**-1.2**
ARU				*i*		18 34 06.3	
ARU				*e*		18 35 08.7	
ARU				*e*S	**S**	**18 40 49.6**	**-3.5**
ARU				*e*SS	SS	18 44 45.7	+2.9
ARU				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
ARU	**Arti**	**56.72**	**319**	*e*P	**P**	**18 33 07.0**	**-1.2**
	comp=Z,22nm,0.6s,mb5.4						
HYB	**Hyderabad**	**56.99**	**269**	*i* P	**P**	**18 33 10.0**	**-0.7**
HYB	**Hyderabad**	**56.99**	**269**	*e*P	**P**	**18 33 10.0**	**-0.7**
ASAR	**Alice Springs**	**59.14**	**186**	P	**P**	**18 33 24.1**	**-1.4**
	comp=Z,7.8nm,0.9s,mb4.7,baz=359,slow=6.5,SNR=94						
ASAR				LR	LR	18 56 50.6	
	comp=Z,56nm,21.5s,baz=22,slow=34						
ASPA	**Alice Springs**	**59.14**	**186**	*e*P	**P**	**18 33 24.0**	**-1.6**
DLBC	**Dease Lake**	**60.54**	**37**	P	**P**	**18 33 35.3**	**+0.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=53,slow=25,SNR=2.5						
DLBC				LR	LR	18 59 46.2	
	comp=Z,42nm,18.4s,baz=285,slow=36						
RES	**Resolute Bay**	**64.36**	**14**	P	**P**	**18 33 58.7**	**-1.1**
	comp=Z,4.4nm,0.6s,mb4.5						
KEV	**Kevo**	**64.44**	**339**	*e*p	**P**	**18 33 57.8**	**-2.6**
	comp=Z,0.8nm,0.3s,mb4.0						
KEV	**Kevo**	**64.44**	**339**	*e*P	**P**	**18 33 57.8**	**-2.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**65.00**	**339**	P	**P**	**18 34 03.2**	**-0.8**
	comp=Z,5.3nm,0.6s,mb4.6,baz=60,slow=7.6,SNR=30						
ARCES				pP	pP	18 34 20.1	-4.2
	comp=Z,1.9nm,0.6s,baz=56,slow=8.7,SNR=2.9						
ARCES				LR	LR	19 04 19.2	
	comp=Z,39nm,18.1s,baz=45,slow=38						
ARCES	**ARCESS Array B**	**65.00**	**339**	P	**P**	**18 34 03.2**	**-0.8**
ARCES				*PP	pP	18 34 20.1	-4.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,39nm,18.1s						
ARCES	**ARCESS Array B**	**65.00**	**339**	P	**P**	**18 34 03.2**	**-0.8**
ARCES				pP	pP	18 34 20.1	-4.1
ARCES				LR	LR	19 04 19.2	
JOF	**Joensuu**	**66.74**	**332**	*e*p	**P**	**18 34 12.0**	**-3.2**
	comp=Z,3.2nm,0.4s,mb4.5						
JOF	**Joensuu**	**66.74**	**332**	*e*P	**P**	**18 34 12.0**	**-3.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
FORT	**Forrest**	**66.89**	**191**	*e*P	**P**	**18 34 15.7**	**-1.0**
	comp=Z,98nm,0.5s						
STKA	**Stephens Creek**	**67.06**	**178**	⇑*i*P	**P**	**18 34 16.7**	**-1.0**
	comp=Z,4.8nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**67.06**	**178**	P	**P**	**18 34 17.1**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.4,baz=328,slow=8.5,SNR=10						
DAG	**Danmarks Havn**	**67.18**	**355**	⇓*i*P	**P**	**18 34 16.9**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.5						
MOS	**Moscow**	**67.76**	**323**	*e*P	**P**	**18 34 18.8**	**-2.9**
MOS				*e*	pP	18 34 38.0	-4.1
MOS				*e*		18 36 46.1	
MOS				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.6						
OBN	**Obninsk**	**68.60**	**323***c*	*i*P	**P**	**18 34 26.0**	**-0.9**
OBN				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
OBN	**Obninsk**	**68.60**	**323**	*e*P	**P**	**18 34 25.9**	**-1.0**
	comp=Z,18nm,0.7s,mb5.0						
FINES	**FINESS Array B**	**69.60**	**332**	P	**P**	**18 34 32.0**	**-0.9**
	comp=Z,33nm,1.1s,mb5.1,baz=76,slow=7.9,SNR=87						
FINES				sP	sP	18 34 54.5	-7.2
	comp=Z,7.1nm,0.8s,baz=90,slow=7.6,SNR=5.7						
FINES				LR	LR	19 10 10.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,26nm,19.2s,baz=274,slow=40						
FINES	FINESS Array B	69.60	332	P	P	18 34 32.1	-0.8
FINES				*SP	sP	18 34 54.5	-7.2
FINES				pmax	pmax		
	comp=Z,33nm,1.1s						
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,26nm,19.2s						
KLBR	Kellerberrin	69.94	200	eP	P	18 34 34.3	-1.2
	comp=Z,34nm,1.3s,mb5.0						
KIV	Kislovodsk	71.01	311	d iP	P	18 34 42.1	+0.4
KIV				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
KIV	Kislovodsk	71.01	311	eP	P	18 34 42.1	+0.4
	comp=Z,34nm,1.0s,mb5.1						
DPW	Davenport	71.64	44	eP	P	18 34 45.6	+0.1
NEW	Newport	72.04	43	P	P	18 34 48.0	+0.2
	comp=Z,2.1nm,0.3s,mb4.5,baz=2.6,slow=7.3,SNR=3.2						
NEW	Newport	72.04	43	P	P	18 34 48.0	+0.2
NEW				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YBH	Yreka Blue Hor	72.21	51	P	P	18 34 49.9	+0.9
	comp=Z,2.0nm,0.9s,mb4.0,baz=260,slow=2.2,SNR=4.6						
YBH	Yreka Blue Hor	72.21	51	P	P	18 34 49.9	+1.0
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BEKR	Beckwourth	74.72	52	eP	P	18 35 03.7	+0.2
	comp=Z,2.7nm,0.6s,mb4.2						
BEKR				e	pP	18 35 21.3	-3.0
AKASG	Malin Array Be	74.77	322	P	P	18 35 02.9	-0.7
	comp=Z,9.3nm,0.7s,mb4.6,baz=45,slow=6.0,SNR=36						
AKASG				sP	sP	18 35 24.6	-8.1
	comp=Z,3.2nm,0.6s,baz=49,slow=5.7,SNR=3.4						
AKASG				LR	LR	19 10 40.6	
	comp=Z,35nm,18.4s,baz=260,slow=38						
AKASG	Malin Array Be	74.77	322	P	P	18 35 02.9	-0.7
AKASG				*SP	sP	18 35 24.6	-8.1
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,35nm,18.4s						
NB2	NORSAR Subarra	75.12	337	P	P	18 35 04.8	-0.6
	comp=Z,8.9nm,0.7s,mb4.6,baz=42,slow=5.8						
NOA	NORSAR Array B	75.12	337	P	P	18 35 05.0	-0.4
	comp=Z,8.9nm,0.8s,mb4.6,baz=40,slow=5.8,SNR=65						
NOA				LR	LR	19 10 10.4	
	comp=Z,23nm,21.6s,baz=15,slow=37						
NOA	NORSAR Array B	75.12	337	P	P	18 35 05.1	-0.3
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,23nm,21.6s						
SUW	Suwalki	75.52	327	eP	P	18 35 07.3	-0.5
HLID	Hailey	76.27	46	eP	P	18 35 13.4	+1.1
	comp=Z,2.1nm,0.7s,mb4.0						
BSD	Bornholm Skovb	78.21	331	⇑iP	P	18 35 22.1	-0.7
	comp=Z,30nm,0.9s,mb5.0						
TPAW	Teton Pass	78.32	45	eP	P	18 35 25.2	+1.5
COP	Copenhagen	78.74	333	i P	P	18 35 25.6	-0.1
	comp=Z,16nm,0.7s,mb5.0						
COP	Copenhagen	78.74	333	eP	P	18 35 25.6	-0.1
	comp=Z,16nm,0.7s,mb5.0						
BRTR	Keskin Array B	78.97	311	P	P	18 35 28.0	+0.7
	comp=Z,2.6nm,0.8s,mb4.1,baz=108,slow=3.9,SNR=14						
BRTR	Keskin Array B	78.97	311	P	P	18 35 28.0	+0.7
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HWUT	Hardware Ranch	79.12	46	eP	P	18 35 29.2	+1.1
	comp=Z,4.9nm,0.8s,mb4.4						
DUG	Dugway	79.24	48	eP	P	18 35 29.4	+0.6
	comp=Z,4.2nm,0.6s,mb4.5						
DUG				e	pP	18 35 47.6	-2.1
MUD	Monsted U'grnd	79.33	335	i P	P	18 35 18.3	-11
	comp=Z,5.4nm,0.4s,mb4.7						
PDAR	Pinedale Array	79.57	45	P	P	18 35 30.4	-0.2
	comp=Z,2.4nm,0.6s,mb4.2,baz=293,slow=3.1,SNR=16						
PDAR				pP	pP	18 35 48.3	-3.1
	comp=Z,1.4nm,0.7s,baz=320,slow=2.4,SNR=3.3						
OJC	Ojcow	79.63	326	⇑eP	P	18 35 31.0	+0.3
DAU	Daniels Canyon	80.05	47	eP	P	18 35 34.5	+1.4
MZLS	Mizel	80.07	292	P	P	18 35 33.9	+0.3
RAYN	Ar Rayn	80.13	292	P	P	18 35 34.9	+1.0
	comp=Z,93nm,0.5s,SNR=9.7						
MVU	Marysvale	80.64	49	eP	P	18 35 37.9	+1.6
	comp=Z,4.8nm,1.0s,mb4.3						
MVU				e	pP	18 35 54.7	-2.6
OKC	Ostrava-Krasne	80.66	326	eP	P	18 35 36.3	+0.1
OKC				eAP	pP	18 36 01.4	+4.3
HILS	Ha'il	80.70	297	P	P	18 35 37.3	+0.4
KSP	Ksiaz	80.76	328	eP	P	18 35 36.0	-0.7
BSEG	Bad Segeberg	80.87	333	eP	P	18 35 37.5	+0.3
BSEG				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.8						
DPC	Dobruska-Polom	81.11	327	eP	P	18 35 39.1	+0.6
DPC				eAP	pP	18 36 05.9	+6.4
VYHS	Vyhne	81.29	325	eP	P	18 35 40.4	+0.8
VYHS				e		18 35 44.3	
VYHS				e		18 35 49.9	
VYHS				e	pP	18 36 05.6	+5.1
VYHS	Vyhne	81.29	325	eP	P	18 35 40.4	+0.8
VYHS				e		18 35 49.9	
SRU	San Rafael	81.30	48	eP	P	18 35 40.7	+0.9
ASF	Jabal al Asfar	81.36	303	P	P	18 35 40.9	+0.7
	comp=Z,2.6nm,0.5s,mb4.3,baz=284,slow=8.8,SNR=6.8						
ULM	Lac du Bonnet	81.41	32	P	P	18 35 40.0	-0.1
	comp=Z,3.3nm,0.8s,mb4.2,baz=311,slow=3.9,SNR=5.8						
PVCC	Panska Ves	81.74	328	eP	P	18 35 42.1	+0.3
PVCC				eAP	pP	18 36 07.5	+4.7
BRG	Berggiesshubel	81.75	329	i P	P	18 35 41.9	0.0
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
BRG	Berggiesshubel	81.75	329	i P	P	18 35 41.9	0.0
	comp=Z,9.6nm,1.1s,mb4.5						
BRG				e		18 36 07.9	
CLL	Collm	81.81	330	⇑P	P	18 35 42.1	-0.1
	comp=Z,logA/T=1.3,mb4.9						
CLL				i *PP	pP	18 36 07.1	+3.9
CLL	Collm	81.81	330	⇑iP	P	18 35 42.1	-0.1
CLL				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
CLL	Collm	81.81	330	⇑iP	P	18 35 42.1	-0.1
	comp=Z,18nm,0.9s,mb4.9						
CLL				i	pP	18 36 07.1	+3.9
SMOL	Smolenice	81.94	326	eP	P	18 35 44.4	+1.5
PRU	Pruhonice	82.15	328	eP	P	18 35 45.0	+1.0
PRU				eAP	pP	18 36 10.2	+5.2
CLZ	Clausthal	82.47	331	eP	P	18 35 46.1	+0.6
	comp=Z,15nm,1.1s,mb4.7						
PV10	Paradox Valley	82.66	48	eP	P	18 35 48.5	+1.7
MOX	Moxa	82.89	330	eP	P	18 35 48.0	+0.3
MOX				pP	pP	18 36 12.0	+3.2
RZN	Rozhen	82.95	317	i P	P	18 35 49.5	+1.3
PV01	Paradox Valley	83.10	48	eP	P	18 35 50.3	+1.2
VTS	Vitosha	83.17	318	i P	P	18 35 51.0	+1.7
KHC	Kasperske Hory	83.21	328	eP	P	18 35 49.9	+0.5
KHC				eAP	pP	18 36 15.7	+5.3
GEC2	GERESS Array S	83.37	328	eP	P	18 35 50.3	+0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
GEC2	GERESS Array S	83.37	328	eP	P	18 35 50.3	+0.1
	comp=Z,5.0nm,1.1s,mb4.3						
GERES	GERESS Array B	83.37	328	P	P	18 35 50.5	+0.3
	comp=Z,2.2nm,0.8s,mb4.0,baz=45,slow=3.8,SNR=19						
GERES	GERESS Array B	83.37	328	P	P	18 35 50.5	+0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WET	Wettzell	83.50	328	eP	P	18 35 51.8	+1.0
WET				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
WET	Wettzell	83.50	328	eP	P	18 35 51.8	+1.0
	comp=Z,10.0nm,1.3s,mb4.5						
RW3	Ridgway	83.55	47	eP	P	18 35 53.0	+1.7
MMB	Musomiste	83.57	317	i P	P	18 35 52.0	+0.7
KKB	Krupnik	83.73	318	i P	P	18 35 54.0	+1.9
GRA1	Grafenberg Arr	83.78	329	eP	P	18 35 52.9	+0.7
	comp=Z,23nm,1.1s,mb4.9						
GRF	Grafenberg Arr	83.78	329	eP	P	18 35 52.9	+0.7
GRF				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
TATS	Tathlith	83.94	290	P	P	18 35 54.6	+0.9
TBKS	Tabuk	83.96	300	P	P	18 35 54.7	+1.1
JMQS	Jabal Moqyreh	84.03	301	P	P	18 35 54.7	+0.8
EKA	Eskdalemuir Ar	84.16	340	P	P	18 35 54.3	+0.4
	comp=Z,1.9nm,0.7s,mb4.0,baz=39,slow=5.0,SNR=5.3						
EKA	Eskdalemuir Ar	84.16	340	P	P	18 35 54.3	+0.4
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PERS	Pernice	84.38	325	i P	P	18 35 55.5	+0.3
JMOS	Jabal al Moall	84.40	302	P	P	18 35 56.1	+0.4
SKO	Skopje	84.55	319	eP	P	18 35 55.0	-1.2
HAQS	Haql	84.59	302	P	P	18 35 57.3	+0.5
GOLS	Golise	84.60	325	i P	P	18 35 56.2	-0.2
BDAS	Al Bad'	84.85	301	P	P	18 35 58.5	+0.4
AYUS	'Aynunah	84.88	301	P	P	18 35 58.6	+0.4
VISS	Visnje	85.12	325	i P	P	18 35 58.7	-0.3
NAMS	An Nimas	85.13	290	P	P	18 36 01.1	+1.5
BOJS	Bojanci	85.15	325	i P	P	18 35 59.2	+0.1
SDCO	Great Sand Dun	85.19	46	eP	P	18 36 00.9	+1.5
	comp=Z,4.4nm,0.9s,mb4.4						
BLJS	Baljurashi	85.19	291	P	P	18 36 01.1	+1.2
UMJS	Umm Lajj	85.21	298	P	P	18 36 00.9	+1.0
CEY	Cerknica	85.36	325	i P	P	18 35 59.8	-0.3
BFO	Black Forest	86.04	330	eP	P	18 36 03.7	+0.3
BFO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BFO	Black Forest	86.04	330	eP	P	18 36 03.7	+0.3
	comp=Z,10.0nm,1.0s,mb4.7						
BAIF	Baives	86.24	333	eP	P	18 36 04.1	-0.2
	comp=Z,14nm,1.0s,mb4.5						
CDF	Champ du Feu	86.40	331	eP	P	18 36 05.0	-0.1
	comp=Z,21nm,1.0s,mb4.7						
LAZ	Ladron	86.40	50	eP	P	18 36 06.8	+1.3
DAVOX	Davos	86.61	328	P	P	18 36 06.5	+0.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=352,slow=20,SNR=3.2						
LENM	Lemitar	86.66	50	eP	P	18 35 53.0	-14
BNM	Barren Site	86.89	50	eP	P	18 36 14.9	+7.0
BNM				e		18 37 04.5	
HINF	Hinteralfeld	87.05	330	eP	P	18 36 07.8	-0.5
HAU	Haudompre	87.09	331	eP	P	18 36 07.9	-0.7
HAU				eR			
	comp=Z,47nm,21.2s						
SCHQ	Schefferville	87.11	15	P	P	18 36 09.4	+0.9
	comp=Z,6.5nm,1.2s,mb4.4,baz=304,slow=5.3,SNR=4.9						
IDI	Anoyia	87.14	312	P	P	18 36 09.1	0.0
	comp=Z,1.9nm,0.4s,mb4.3,baz=35,slow=5.6,SNR=5.7						
MEZF	Maizieres J'vi	87.20	332	eP	P	18 36 09.3	+0.2
LOR	Lormes	88.67	332	eP	P	18 36 15.8	-0.3
LOR				eR			
	comp=Z,44nm,21.8s						
LPL	La Plagne	88.94	329	eP	P	18 36 17.5	+0.1
	comp=Z,4.1nm,0.7s,mb4.3						
LPG	La Plagne	88.95	329	eP	P	18 36 17.5	0.0
	comp=Z,5.1nm,0.7s,mb4.3						
SSF	Saint Saulge	88.98	332	eP	P	18 36 17.2	-0.3
FLN	La Foliniere	89.00	335	eP	P	18 36 17.3	-0.3
FLN				eR			
	comp=Z,46nm,21.0s						
LDF	La Druitiere	89.02	335	eP	P	18 36 17.3	-0.4
	comp=Z,12nm,0.8s,mb4.7						
AVF	Avril sur Loir	89.26	332	eP	P	18 36 18.7	-0.2
	comp=Z,10.0nm,0.8s,mb4.6						
GRR	Gorron	89.45	335	eP	P	18 36 19.6	-0.1
	comp=Z,17nm,0.9s,mb4.8						
SBF	Sospel	89.97	328	eP	P	18 36 21.5	-0.8
	comp=Z,36nm,1.1s,mb5.1						
TCF	Toulx Ste Croi	90.12	332	eP	P	18 36 22.7	-0.2
SGMF	Saint Gilles	90.14	336	eP	P	18 36 23.1	+0.1
ROSF	Rostrenen	90.30	336	eP	P	18 36 23.9	+0.2
	comp=Z,49nm,1.1s,mb5.2						
PGF	Pioggiola	90.31	326	eP	P	18 36 23.5	-0.5
VIVF	Saint-Julien-l	90.33	330	eP	P	18 36 23.9	-0.1
MFF	Saint Martin d	90.72	334	eP	P	18 36 26.0	+0.2
	comp=Z,16nm,0.9s,mb4.9						
LMR	La Mourre	90.80	328	eP	P	18 36 24.6	-1.6
	comp=Z,36nm,1.2s,mb5.1						
RJF	Les Rejaudoux	91.20	332	eP	P	18 36 28.3	+0.2
	comp=Z,12nm,0.9s,mb4.8						
RJF				eR			
	comp=Z,41nm,20.8s						
CAF	Calviac	91.31	332	eP	P	18 36 29.2	+0.6
	comp=Z,10nm,1.0s,mb4.6						
LFF	La Frestale	91.81	332	eP	P	18 36 31.3	+0.5
TXAR	Lajitas Array	91.98	52	P	P	18 36 33.0	+1.0
	comp=Z,1.1nm,0.6s,mb4.3,baz=315,slow=1.8,SNR=4.3						
TXAR				pP	pP	18 36 48.6	-4.8
	comp=Z,0.8nm,0.5s,baz=288,slow=4.0,SNR=2.4						
TXAR				LR	LR	19 15 51.8	
	comp=Z,44nm,19.3s,baz=25,slow=34						
MTLF	Montolieu	92.58	331	eP	P	18 36 34.6	+0.2
	comp=Z,9.1nm,0.8s,mb4.8						
EPF	Esparros	93.58	332	eP	P	18 36 38.8	-0.2
QSPA	South Pole Qui	125.26	180	eP	PKPdf	18 42 22.7	+1.4
QSPA				e		18 47 41.9	
QSPA				e		18 48 30.4	
DBIC	Dimbokro	126.55	315	PKP	PKPdf	18 42 26.9	+1.4
	comp=Z,2.2nm,0.4s,baz=180,slow=6.3,SNR=7.2						
DBIC	Dimbokro	126.55	315	PKIKP	PKPdf	18 42 26.9	+1.4
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SAML	Samuel	146.15	44	ePKPdf	PKPdf	18 43 03.0	+1.7
SAML				e		18 43 27.8	
LPAZ	La Paz	148.47	60	PKPbc	PKPdf	18 43 11.5	+6.5
	comp=Z,3.6nm,0.7s,baz=331,slow=3.2,SNR=9.0						
LPAZ	La Paz	148.47	60	PKP2	PKPab	18 43 11.5	-2.9
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPAZ	La Paz	148.47	60	PKPbc	PKPdf	18 43 11.5	+6.5
LVC	Limon Verde	151.79	71	PKPbc	PKPdf	18 43 19.5	+9.4
	comp=Z,5.9nm,0.6s,baz=292,slow=5.4,SNR=4.6						

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*ISK **05** 18:29:23.8, 36.98N×27.72E, h5^{km}, MD3.2*

*ATH **05** 18:29:23.0, 37.04N×27.63E, h37^{km}±4^{km}, MD3.1/3*

ISC 05 18:29:25.0±0.6**, 37.03N**±0.04×**27.49E**±0.07**, h37^{km}, n12, σ1^{s}54**/21**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.06	316	i P	P	18 29 28.9	-2.0
BDRM				i S	S	18 29 33.2	-2.1
MLSB	Milas	0.35	40	i PG	P	18 29 31.0	-2.7
MLSB				SG	S	18 29 36.9	-2.8
NISR	Nisiros	0.51	215	ePN	P	18 29 35.5	-0.2
NISR				eSN	S	18 29 44.5	+1.2
YER	Yerkesik	0.64	80	i PG	P	18 29 34.1	-3.5
YER				SG	S	18 29 41.7	-5.0
AYDN	Tasoluk	0.70	26	i P	P	18 29 38.3	-0.2
AYDN				i S	S	18 29 48.6	+0.3
ARG	Arkhangelos	0.96	148	ePN	P	18 29 40.5	-1.6
ARG				eSN	S	18 29 54.0	-0.7
KDAG	Bornova	1.39	353	i P	P	18 29 52.0	+3.7
KDAG				i S	S	18 30 13.7	+8.1
DNZL	Cakiroluk	1.41	61	i P	P	18 29 48.8	+0.3
DNZL				i S	S	18 30 08.2	+2.2
DENT	Denizli	1.43	59	PN	P	18 29 50.2	+1.4
KARP	Karpathos	1.50	190	ePB	P	18 29 51.0	+1.1
KARP				eSN	S	18 30 09.0	+0.6
AKS	Akhisar	1.87	8	PN	P	18 29 58.1	+3.0
ELL	Elmali	1.96	97	PN	P	18 29 57.0	+0.6

IDC 05 18:37:21.5±14.0**, 29.78S**×**60.37E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/18**, Error ellipse: s-maj=501.0km s-min=45.1km az=54.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	64.96	104	P	P	18 48 03.5	-2.1
	0.8nm,0.6s,baz=246,slow=5.9,SNR=17						
WRA	Warramunga Arr	66.83	100	P	P	18 48 15.5	-2.0
	0.7nm,0.6s,baz=246,slow=6.1,SNR=7.9						
MKAR	Makanchi Array	78.75	15	P	P	18 49 25.6	-1.6
	0.5nm,0.8s,baz=214,slow=4.4,SNR=5.4						

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*IDC **05** 18:38:02.6±1.2, 24.09S×66.86W, h179^{km}±11^{km}, mb3.3/3, mb1 3.6/8, mb1mx3.6/16, Error ellipse: s-maj=21.4km s-min=15.3km az=40.0*

*NEIC **05** 18:38:03.2±0.8, 24.11S×66.82W, h186^{km}±9^{km}, mb3.8/2, Error ellipse: s-maj=13.7km s-min=9.3km az=70.0*

ISC 05 18:38:01.9±0.8**, 24.11S**±0.07×**66.9W**±0.1**, h186^{km}**±10^{km}**, n13, σ1^{s}00**/14**, mb3.5**/3**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.40	308	P	P	18 38 45.5	+1.2
	24nm,0.3s,baz=125,slow=6.2,SNR=86						
LVC				S	S	18 39 16.9	-0.1
	35nm,0.3s,baz=121,slow=4.9,SNR=28						
LVC	Limon Verde	2.40	308	ePn	P	18 38 45.3	+1.0
LVC				eSn	S	18 39 15.1	-1.9
LPAZ	La Paz	7.88	351	P	P	18 39 56.4	+2.0
	0.3nm,0.3s,baz=164,slow=7.0,SNR=8.9						
LPAZ				S	S	18 41 21.6	-0.6
	0.1nm,0.3s,baz=326,slow=19,SNR=3.8						
CPUP	Villa Florida	8.91	106	P	P	18 40 07.2	-0.8
	0.1nm,0.3s,baz=306,slow=13,SNR=4.1						
TRQA	Tornquist	14.51	164	eP	P	18 41 21.0	+1.3
	12nm,1.0s						
SAML	Samuel	15.48	14	eP	P	18 41 31.5	-0.4
	1.6nm,0.8s						
PLCA	Paso Flores	16.86	190	P	P	18 41 47.0	-1.5
	0.1nm,0.3s,baz=35,slow=11,SNR=5.0						
BDFB	Brasilia	19.61	68	P	P	18 42 17.9	-0.1
	1.0nm,0.3s,baz=256,slow=10,SNR=16						
TXAR	Lajitas Array	63.84	324	P	P	18 48 16.3	-0.6
	0.3nm,0.3s,mb3.6,baz=159,slow=7.7,SNR=3.1						
PDAR	Pinedale Array	77.31	329	P	P	18 49 37.8	+0.4
	0.3nm,0.4s,mb3.3,baz=135,slow=2.6,SNR=3.4						
MAW	Mawson	81.29	163	P	P	18 49 58.7	+0.4
	0.9nm,0.7s,mb3.5,baz=267,slow=12,SNR=3.0						
MKAR	Makanchi Array	146.53	40	PKPbc	PKPbc	18 57 21.0	+0.2
	1.2nm,0.6s,baz=315,slow=2.6,SNR=14						
MKAR	Makanchi Array	146.53	40	PKPbc	PKPbc	18 57 21.0	+0.2

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*TAP **05** 18:40:57.6, 23.89N×121.91E, h34^{km}, ML2.5*

JMA 05 18:40:56.4±0.5**, 23.95N**×**122.00E, h61^{km}, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.05	61	P	P	18 41 15.4	-0.1
YOJ				eS	S	18 41 29.2	-0.4
IRIF	Iriomote-Funau	1.63	76	P	P	18 41 23.4	0.0
IRIF				eS	S	18 41 43.5	+0.2
HATJ	Hateruma jima	1.65	86	P	P	18 41 23.5	-0.3
JKRS	Kuro-shima	1.86	81	P	P	18 41 27.0	+0.4
JKRS				eS	S	18 41 50.2	+1.3
JIJ	Ishigaki jima	2.00	78	P	P	18 41 27.9	-0.6
JIJ				eS	S	18 41 51.5	-0.8

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*IDC **05** 18:48:19.4±1.8, 22.54S×176.09W, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, ML4.2/2, Error ellipse: s-maj=38.5km s-min=34.9km az=150.0*

*NEIC **05** 18:48:23.9±0.6, 22.56S×175.98W, h35^{km}, mb4.5/6, Error ellipse: s-maj=14.7km s-min=11.1km az=183.0*

ISC 05 18:48:22.1±0.8**, 22.73S**±0.09×**176.0W**±0.1**, h33^{km}, n15, σ1^{s}25**/16**, mb4.3**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	15.14	87	Pn	P	18 51 54.7	-0.6
	1.1nm,0.3s,baz=218,slow=17,SNR=2.1						
RAR				Sn	S	18 54 25.1	-17
	1.1nm,0.3s,baz=105,slow=17,SNR=2.4						
URZ	Urewera	16.57	199	Pn	P	18 52 14.9	+1.4
	0.7nm,0.3s,baz=158,slow=15,SNR=3.9						
URZ				Sn	S	18 55 13.0	-2.6
	0.3nm,0.3s,baz=212,slow=3.2,SNR=3.4						
RPZ	Rata Peaks	23.51	204	P	P	18 53 32.1	+2.2
	14nm,0.8s,mb4.4,baz=137,slow=22,SNR=2.6						
CTA	Charters Tower	35.17	267	eP	P	18 55 16.0	+0.9
	2.8nm,0.4s,mb4.5						
CTAO	Charters Tower	35.17	267	eP	P	18 55 15.9	+0.7
	4.1nm,0.6s,mb4.5						
PMG	Port Moresby	37.67	285	P	P	18 55 36.7	+0.5
	19nm,1.0s,mb4.8						
STKA	Stephens Creek	38.56	247	P	P	18 55 44.7	+1.2
	0.8nm,0.5s,mb3.7,baz=108,slow=15,SNR=3.3						
ASAR	Alice Springs	45.85	259	P	P	18 56 43.0	-0.3
	1.3nm,0.6s,mb4.0,baz=97,slow=6.6,SNR=21						
WB2	Warramunga Arr	46.15	264	eP	P	18 56 44.6	-1.1
WRAB	Tennant Creek	46.15	264	eP	P	18 56 45.0	-0.7
	2.7nm,0.6s,mb4.3						
WRA	Warramunga Arr	46.16	264	P	P	18 56 45.3	-0.5
	1.9nm,0.8s,mb4.1,baz=94,slow=8.2,SNR=120						
FITZ	Fitzroy Crossi	54.59	263	P	P	18 57 49.9	0.0
	1.4nm,0.5s,mb4.3,baz=112,slow=4.5,SNR=9.0						
SBA	Scott Base	55.79	184	eP	P	18 57 59.5	+1.6
	2.2nm,0.9s,mb4.2						
YSS	Yuzh-Sakhalins	78.71	333	P	P	19 00 21.2	-1.6
	7.0nm,0.9s,mb4.6						
AKASG	Malin Array Be	145.85	331	PKPbc	PKPbc	19 07 59.7	+1.6
	0.5nm,0.4s,baz=40,slow=4.5,SNR=5.5						

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*NEIC **05** 18:56:38.9±11.0, 10.38S×123.99E, h18^{km}±74^{km}, mb4.4/1, Error ellipse: s-maj=36.8km s-min=22.1km az=83.0*

*IDC **05** 18:56:46.9±8.1, 10.84S×123.86E, h111^{km}±96^{km}, mb3.4/2, mb1 3.5/5, mb1mx3.3/13, ML3.6/3, Error ellipse: s-maj=66.1km s-min=47.1km az=28.0*

ISC 05 18:56:44.4±1.9**, 10.78S**±0.08×**123.82E**±0.09**, h101^{km}**±21^{km}**, n11, σ1^{s}35**/18**, mb3.9**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.49	167	eP	P	18 58 32.1	-0.5
	2.3nm,0.3s						
FITZ				eS	S	18 59 56.5	0.0
FITZ	Fitzroy Crossi	7.49	167	P	P	18 58 32.4	-0.2
	0.7nm,0.3s,baz=2.8,slow=10,SNR=39						
FITZ				S	S	18 59 56.5	0.0
	3.1nm,0.3s,baz=182,slow=19,SNR=8.4						
KAKA	Kakadu	8.62	104	eP	P	18 58 48.9	+1.1
	4.8nm,0.4s						
KAKA				eS	S	19 00 24.6	+0.6
WRA	Warramunga Arr	13.63	133	P	P	18 59 53.4	-1.2
	0.4nm,0.3s,baz=308,slow=15,SNR=24						
WRA				S	S	19 02 22.3	-1.5
	1.1nm,0.3s,baz=314,slow=23,SNR=9.9						
WRAB	Tennant Creek	13.63	133	eP	P	18 59 52.7	-1.9
	6.5nm,1.1s						
WB2	Warramunga Arr	13.64	133	eP	P	18 59 53.8	-0.9
WB2				eS	S	19 02 21.7	-2.3
ASPA	Alice Springs	16.02	144	eP	P	19 00 27.6	+2.6
ASPA				eS	S	19 03 20.5	+1.3
ASAR	Alice Springs	16.02	144	P	P	19 00 26.6	+1.5
	0.3nm,0.3s,baz=313,slow=11,SNR=26						
ASAR				S	S	19 03 23.1	+3.9
	0.2nm,0.3s,baz=314,slow=21,SNR=9.9						
SONM	Songino Array	60.37	347	P	P	19 06 45.1	0.0
	0.3nm,0.6s,mb3.5,baz=164,slow=6.3,SNR=3.1						
MKAR	Makanchi Array	68.26	331	P	P	19 07 36.0	-0.3
	1.1nm,0.6s,mb3.9,baz=142,slow=7.2,SNR=11						
QSPA	South Pole Qui	79.23	180	eP	P	19 08 44.8	+5.5
	5.8nm,1.3s,mb4.2						

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*NIED **05** 19:04:00, 32.90N×141.00E, h50^{km}, Mw3.7 Best double couple: $M_0$3.9×10^{14} NP1:ϕ_s36°, δ63°, λ115°. NP2:ϕ_s170°, δ36°, λ50°.*

*JMA **05** 19:04:29.4±0.2, 32.92N×141.01E, h47^{km}, M3.8*

*IDC **05** 19:04:30.6±0.9, 32.74N×140.84E, h53^{km}±6^{km}, mb3.6/10, mb1 3.7/12, mb1mx3.6/23, MS2.3/1, Ms1 2.3/1, ms1mx1.8/26, Error ellipse: s-maj=16.6km s-min=9.2km az=44.0*

*NEIC **05** 19:04:32.1±1.5, 32.88N×141.00E, h69^{km}±11^{km}, mb3.9/2, Error ellipse: s-maj=17.6km s-min=10.6km az=91.0*

ISC 05 19:04:29.0±0.8**, 32.87N**±0.04×**140.99E**±0.07**, h58^{km}**±7^{km}**, n35, σ0^{s}93**/49**, mb3.8**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.02	284	P	P	19 04 47.8	+0.4
JHJ	Hachijo jima 2	1.05	284	P	P	19 04 47.5	-0.4
	1μm,0.3s,baz=131,slow=6.2,SNR=702						
JHJ				S	S	19 05 00.5	-1.4
	1μm,0.3s,baz=49,slow=19,SNR=12						
JMY	Miyake jima 2	1.72	314	P	P	19 04 57.7	+0.5
JMY				S	S	19 05 17.9	-0.1
BSO1	Boso 1	1.78	360	P	P	19 04 57.4	-0.6
BSO1				S	S	19 05 20.1	+0.6
BSO3	Boso 3	1.97	348	P	P	19 05 00.2	-0.5
BSO3				eS	S	19 05 24.4	+0.3
JKO	Kozu shima	2.03	311	P	P	19 05 02.4	+0.8
JKO				eS	S	19 05 25.8	+0.1
NJJJ	Nii jima 2	2.09	317	P	P	19 05 03.4	+1.0
NJJJ				eS	S	19 05 27.5	+0.3
JIM2	Oshima 3	2.26	325	P	P	19 05 04.8	+0.1

JIM2				eS	S	19 05 29.4	-2.0
JIZS	Izushimoda	2.55	317	P	P	19 05 09.0	+0.1
JIZS				eS	S	19 05 38.2	-0.6
JOD2	Odawara 2	2.87	327	P	P	19 05 13.4	0.0
JOD2				eS	S	19 05 44.2	-2.6
TK04	Tokai 4	3.01	301	eS	S	19 05 50.8	+0.4
SHZ3	Shizuoka 3	3.19	314	P	P	19 05 19.4	+1.5
JYN	Shimob	3.32	323	P	P	19 05 20.9	+1.2
JYN				eS	S	19 05 59.1	+0.9
JRY	Ryogami san	3.58	332	P	P	19 05 24.4	+0.9
JRY				eS	S	19 06 02.1	-2.8
JAG	Ashikaga	3.77	341	P	P	19 05 25.5	-0.6
JAG				eS	S	19 06 08.3	-1.3
JIE	Ise	3.89	294	P	P	19 05 28.1	+0.4
MAJO	Matsushiro	4.33	329	ePn	P	19 05 35.1	+1.2
MAJO				eSn	S	19 06 04.1	-19
MAT	Matsushiro	4.33	329	P	P	19 05 35.1	+1.2
MAT				S	S	19 06 23.2	-0.3
MAT	Matsushiro	4.33	329	eP	P	19 05 35.0	+1.1
MAT				eS	S	19 06 23.0	-0.5
CBIJ	Chichi jima	5.85	170	P	P	19 05 53.1	-1.9
	6.0nm,0.3s,baz=310,slow=14,SNR=6.3						
CBIJ				S	S	19 06 54.8	-6.8
	4.5nm,0.3s,baz=329,slow=18,SNR=2.8						
JNU	Nakatsue	8.50	274	P	P	19 06 33.0	+1.1
	0.2nm,0.3s,baz=106,slow=8.8,SNR=2.7						
JOW	Kunigami	12.57	245	LR	LR	19 11 37.1	
	comp=Z,17nm,21.7s,baz=135,slow=34						
SONM	Songino Array	30.02	310	P	P	19 10 35.0	+0.8
	0.2nm,0.7s,mb3.0,baz=113,slow=9.3,SNR=2.7						
MKAR	Makanchi Array	46.15	305	P	P	19 12 49.3	0.0
	0.5nm,0.7s,mb3.5,baz=95,slow=10,SNR=4.7						
MKAR				pP	pP	19 13 04.9	+0.4
	0.3nm,0.6s,baz=90,slow=8.5,SNR=2.6						
KURK	Kurchatov	48.32	311	P	P	19 13 05.0	-1.3
	1.1nm,0.7s,mb4.0						
WRA	Warramunga Arr	52.90	188	P	P	19 13 40.3	-1.2
	1.3nm,0.3s,mb4.3,baz=5.0,slow=7.6,SNR=19						
BVAR	Borovoye Array	53.18	315	P	P	19 13 43.4	+0.2
	0.3nm,0.4s,mb3.6,baz=101,slow=7.6,SNR=4.1						
BVAR				sP	sP	19 14 02.8	-2.3
	0.4nm,0.3s,baz=89,slow=7.5,SNR=3.4						
BVAR				PcP	PcP	19 14 50.5	+0.1
	0.5nm,0.5s,baz=90,slow=4.4,SNR=4.0						
ILAR	Eielson Array	53.22	31	P	P	19 13 43.5	+0.2
	1.2nm,0.9s,mb3.8,baz=263,slow=6.5,SNR=6.0						
ASAR	Alice Springs	56.62	188	P	P	19 14 08.5	0.0
	0.4nm,0.4s,mb3.8,baz=2.3,slow=7.2,SNR=7.4						
NWAO	Narrogin (SRO)	69.17	201	P	P	19 15 31.3	-0.1
	8.6nm,1.1s,mb4.6,baz=147,slow=16,SNR=2.4						
FINES	FINESS Array B	72.34	333	P	P	19 15 49.7	-0.3
	0.3nm,0.5s,mb3.5,baz=76,slow=7.9,SNR=5.4						
NB2	NORSAR Subarra	77.89	338	P	P	19 16 21.8	+0.2
	1.4nm,1.0s,mb3.9,baz=42,slow=5.6						
NOA	NORSAR Array B	77.89	338	P	P	19 16 21.9	+0.3
	2.1nm,1.2s,mb4.0,baz=42,slow=5.4,SNR=3.4						
NOA				pP	pP	19 16 39.4	+1.5
	0.6nm,0.8s,baz=36,slow=6.1,SNR=4.1						
BRTR	Keskin Array B	81.36	312	P	P	19 16 41.9	+1.1
	1.1nm,0.8s,mb3.9,baz=90,slow=2.9,SNR=3.8						
LPAZ	La Paz	148.94	65	PKPbc	PKPdf	19 24 13.8	+7.1
	1.0nm,0.5s,baz=350,slow=6.1,SNR=4.6						

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*NIED **05** 19:05:00, 42.50N×145.50E, h26^{km}, Mw3.7 Best double couple: M$_0$3.69×10^{14} NP1:ϕ_s249°, δ77°, λ-94°. NP2:ϕ_s87°, δ14°, λ-72°.*

*JMA **05** 19:05:16.5±0.1, 42.53N×145.50E, h52^{km}±2^{km}, M3.9*

ISC 05 19:05:17.3±1.5**, 42.57N**±0.08×**145.5E**±0.1**, h48**^{km}±26^{km}**, n9, σ0^{s}.48**/16**, 6C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	Akkeshi	0.71	307	⇑P	P	19 05 31.2	+0.1
JAK				eS	S	19 05 41.9	+0.6
NEM2	Nemuro 2	0.82	14	⇑P	P	19 05 32.7	0.0
NEM2				eS	S	19 05 43.8	-0.2
JNK	Nakash	1.15	332	⇑P	P	19 05 37.0	-0.3
JNK				eS	S	19 05 51.5	-0.7
JOB	Onbets	1.25	286	⇑P	P	19 05 38.7	+0.1
JRA	Rausu	1.39	350	P	P	19 05 40.6	-0.2
JRA				eS	S	19 05 58.4	+0.2
JAR	Ashorobuto	1.44	301	⇑P	P	19 05 41.0	-0.5
JAR				eS	S	19 05 59.2	-0.2
JCH	Churui	1.55	272	P	P	19 05 43.1	+0.1
JCH				eS	S	19 06 01.2	-0.9
JEM	Erimo	1.80	253	P	P	19 05 47.2	+0.7
JTKR	Abashiri--Toko	1.80	321	⇑P	P	19 05 46.7	+0.2
JTKR				eS	S	19 06 09.3	+1.0

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*IDC **05** 19:09:09.2±3.8, 6.44S×125.58E, h458^{km}±53^{km}, mb3.1/5, mb1 3.1/8, mb1mx3.0/17, Error ellipse: s-maj=47.9km s-min=19.3km az=73.0*

*NEIC **05** 19:09:10.7±2.1, 6.50S×125.53E, h480^{km}±33^{km}, mb3.8/4, Error ellipse: s-maj=37.5km s-min=16.5km az=63.0*

ISC 05 19:09:08.7±4.1**, 6.5S**±0.2×**125.4E**±0.3**, h466**^{km}±60^{km}**, n14, σ0^{s}.84**/14**, mb3.4**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	179	eP	P	19 11 43.9	-0.6
	0.7nm,0.2s						
FITZ	Fitzroy Crossi	11.58	179	P	P	19 11 43.4	-1.0
	0.3nm,0.3s,baz=0.1,slow=14,SNR=27						
WRAB	Tennant Creek	15.97	148	eP	P	19 12 31.1	+0.8
	9.5nm,1.3s						
WRA	Warramunga Arr	15.97	148	P	P	19 12 30.6	+0.3
	0.7nm,0.3s,baz=327,slow=10,SNR=52						
WB2	Warramunga Arr	15.98	148	eP	P	19 12 31.3	+0.9
ASPA	Alice Springs	18.97	155	eP	P	19 12 59.9	0.0
ASAR	Alice Springs	18.97	155	P	P	19 12 60.0	0.0
	0.8nm,0.3s,baz=327,slow=7.6,SNR=88						
STKA	Stephens Creek	29.47	151	eP	P	19 14 33.7	-1.4
	2.4nm,0.6s,mb3.8						
STKA	Stephens Creek	29.47	151	P	P	19 14 33.6	-1.5
	2.6nm,0.4s,mb4.0,baz=338,slow=9.5,SNR=24						
JNU	Nakatsue	39.70	7	P	P	19 15 59.2	-1.4
	2.2nm,0.4s,mb3.9,baz=297,slow=26,SNR=3.8						
LSA	Lhasa	48.73	319	eP	P	19 17 12.1	+0.7
	2.3nm,0.6s,mb3.7						
SONM	Songino Array	56.59	345	P	P	19 18 09.2	+1.3
	0.2nm,0.6s,mb2.6,baz=169,slow=9.3,SNR=2.7						
MKAR	Makanchi Array	65.33	329	P	P	19 19 05.0	-0.5
	0.6nm,0.5s,mb3.5,baz=135,slow=8.2,SNR=5.6						
BVAR	Borovoye Array	75.21	329	P	P	19 20 03.7	-0.1
	0.4nm,0.7s,mb3.1,baz=124,slow=5.2,SNR=3.2						

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*LDG **05** 19:16:14.9±0.1, 42.94N×1.11E, h15^{km}, Md2.5/2, Ml2.5/17, Error ellipse: s-maj=2.0km s-min=1.0km az=155.0*

*NEIC **05** 19:16:14.9, 42.94N×1.11E, h15^{km}, ML2.5(LDG), After LDG.*

*STR **05** 19:16:15.4±0.1, 42.85N×1.08E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 05 19:16:14.8±0.4**, 42.88N×1.15E, h16**^{km}±3^{km}**, mbLg2.0**/11**, Error ellipse: s-maj=3.3km s-min=1.7km az=23.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLS	Moulis	0.09	332	Pg	Pb	19 16 17.8	-0.4
MLS				Sg	Sb	19 16 20.5	+0.1
MLS	Moulis	0.09	332	Pg	Pb	19 16 18.0	-0.1
MLS				Lg		19 16 20.6	
SALF	Salau	0.12	167	Pg	Pb	19 16 18.3	-0.2
SALF				Sg	Sb	19 16 20.7	-0.3
SALF	Salau	0.12	167	Pg	Pb	19 16 18.4	-0.1
SALF				Lg		19 16 21.1	
GRBF	Gourbit	0.28	97	Pg	Pb	19 16 20.6	-0.5
GRBF				Lg		19 16 24.6	
MELF	Melles	0.29	269	Pg	Pb	19 16 20.2	-0.9
MELF				Sg	Sb	19 16 24.5	-0.9
MELF	Melles	0.29	269	Pg	Pb	19 16 20.2	-0.9
MELF				Lg		19 16 24.5	
PAND	Andorre	0.46	141	Pg	Pb	19 16 23.4	-0.7
PAND				Lg		19 16 29.8	
CSOR	Sort	0.50	182	Pg	Pb	19 16 24.4	-0.4
CSOR				Lg		19 16 31.1	
	46nm,0.2s						
RESF	Ens	0.60	264	Pg	Pb	19 16 26.2	-0.3
RESF				Sg	Sb	19 16 33.2	-1.3
RESF	Ens	0.60	264	Pg	Pb	19 16 26.3	-0.2
RESF				Lg		19 16 33.3	
EPF	Esparros	0.61	285	ePg	Pb	19 16 26.0	-0.7
EPF				eSg	Sb	19 16 34.1	-0.7
	7.4nm,0.2s						
CORG	Organya	0.66	169	Pg	Pb	19 16 27.1	-0.3
CORG				Lg		19 16 35.9	
	2.0nm,0.0s						
CLLI	Llivia	0.73	123	Pg	Pb	19 16 27.7	-0.9
CLLI				Lg		19 16 36.9	
	6.8nm,0.1s						
VALF	Valcebollere	0.80	126	Pg	Pb	19 16 29.0	-0.8
VALF				Lg		19 16 39.6	
LABF	Labassere	0.81	282	Pg	Pb	19 16 29.7	-0.3
LABF				Lg		19 16 40.1	
VIEF	Viey	0.83	271	Pg	Pb	19 16 29.9	-0.5
VIEF	Viey	0.83	271	Pg	Pb	19 16 29.9	-0.5
VIEF				Lg		19 16 40.0	
MTLF	Montolieu	0.91	59	ePg	Pb	19 16 31.9	+0.2
MTLF				eSg	Sb	19 16 44.2	+0.9
	34nm,0.2s						
CBRU	Bruguera	0.96	128	Pg	Pb	19 16 32.1	-0.5
CBRU				Lg		19 16 45.0	
	1.6nm,0.1s						
EMIR	Miracle	1.00	164	Pg	Pb	19 16 33.3	0.0
	2.6nm,0.1s,SNR=8.5						
EMIR				Lg		19 16 46.8	
	4.7nm,0.1s,SNR=6.5						
CAVN	Les Avellanes	1.04	197	Pg	Pb	19 16 34.0	+0.1
CAVN				Lg		19 16 47.7	
	16nm,0.1s						
ETSF	Etsaut	1.26	272	ePg	Pb	19 16 37.8	+0.1
ETSF				eSg	Sb	19 16 54.0	+0.6
	2.3nm,0.2s						
EJON	La Jonquera	1.35	108	Pg	Pn	19 16 38.8	-0.3
	0.1nm,0.0s,SNR=7.9						
EJON				Lg		19 16 56.7	
	2.2nm,0.2s,SNR=7.9						
CFON	Fontmartina	1.47	139	Pg	Pn	19 16 41.7	+0.9
CFON				Lg		19 17 00.1	
	6.9nm,0.1s						
EPOB	Poblet	1.53	182	Pg	Pn	19 16 42.6	+0.9
	1.8nm,0.1s,SNR=12						
EPOB				Lg		19 17 01.8	
	12nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.67	227	Pn	Pn	19 16 43.5	-0.2
	1.8nm,0.1s,SNR=7.9						
ESAC				Pg	Pn	19 16 46.1	+2.4
	4.1nm,0.1s,SNR=6.4						
ESAC				Sn	Sn	19 17 03.7	-1.1
	11nm,0.2s,SNR=7.9						
ESAC				Lg		19 17 07.2	
	23nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.67	227	Pn	Pn	19 16 44.0	+0.3
ESAC				Pg	Pn	19 16 46.1	+2.4
ESAC				Sn	Sn	19 17 04.5	-0.3
ESAC				Lg		19 17 07.2	
SJPF	Ste Jean	1.76	278	ePn	Pn	19 16 42.9	-2.1
SJPF				ePg	Pn	19 16 46.7	+1.7
SJPF				eSg	Sn	19 17 09.4	+2.2
	1.2nm,0.3s						
EALK	Alkurruntz	1.98	281	Pg	Pn	19 16 50.6	+2.5
	0.3nm,0.1s,SNR=7.9						
EALK				Lg		19 17 16.8	
	1.9nm,0.3s,SNR=7.9						
EALK	Alkurruntz	1.98	281	Pg	Pn	19 16 53.0	+4.9
EALK				Lg		19 17 20.1	
LFF	La Frestale	2.08	352	ePn	Pn	19 16 47.1	-2.5
LFF				ePg	Pn	19 16 52.8	+3.2
LFF				eSg	Sn	19 17 18.2	+2.8
	18nm,0.3s						
EBR	Ebro Roquetas	2.11	194	eS*	Sb	19 17 22.0	+3.7
CAF	Calviac	2.15	18	ePn	Pn	19 16 47.8	-2.8
CAF				eSg	Sn	19 17 18.8	+1.7
	11nm,0.2s						
LASF	Ste Croix	2.30	58	ePg	Pn	19 16 58.2	+5.4
LASF				eSg	Sn	19 17 27.2	+6.2
	5.4nm,0.3s						
RJF	Les Rejaudoux	2.44	6	ePn	Pn	19 16 51.7	-3.0
RJF				ePg	Pn	19 16 59.1	+4.4
RJF				eSn	Sn	19 17 19.5	-4.9
RJF				eSg	Sn	19 17 29.8	+5.4
	6.3nm,0.2s						
EMOS	Mosqueruela	2.79	206	Lg		19 17 40.8	
	0.6nm,0.2s,SNR=7.9						
ETOR	Torete	3.16	230	Pg	Pn	19 17 13.4	+8.4
	0.6nm,0.3s,SNR=4.0						
ETOR				Sn	Sn	19 17 40.1	-2.6
	0.2nm,0.1s,SNR=7.9						
ETOR				Lg		19 17 54.4	
	0.2nm,0.1s,SNR=7.9						
VIVF	Saint-Julien-l	3.22	51	ePn	Pn	19 17 03.2	-2.7
VIVF				ePg	Pn	19 17 14.6	+8.7
VIVF				eSg	Sn	19 17 56.2	+12
	2.6nm,0.3s						
TCF	Toulx Ste Croi	3.49	12	ePn	Pn	19 17 05.7	-4.0
TCF				ePg	Pn	19 17 18.7	+9.0
TCF				eSg	Sn	19 18 02.8	+12
	1.8nm,0.2s						
MFF	Saint Martin d	3.84	347	ePn	Pn	19 17 11.0	-3.6
MFF				ePg	Pn	19 17 24.7	+10
MFF				eSn	Sn	19 17 52.0	-7.8
	1.8nm,0.2s						
MFF				eSg	Sn	19 18 12.7	+13
	1.8nm,0.2s						
BGF	Bois d'Agland	3.87	18	ePn	Pn	19 17 11.3	-3.8
BGF				eSg	Sn	19 18 15.1	+14
	8.6nm,0.4s						
AVF	Avril sur Loir	4.21	21	ePn	Pn	19 17 15.8	-4.1
AVF				eSg	Sn	19 18 25.4	+16
	1.1nm,0.3s						
SMF	Signal de Mont	4.22	26	eSg	Sn	19 18 25.6	+16
	1.1nm,0.3s						
SSF	Saint Saulge	4.50	21	eSg	Sn	19 18 34.8	+18
	1.7nm,0.4s						
LOR	Lormes	4.79	23	eSn	Sn	19 18 15.9	-8.0
LOR				eSg	Sn	19 18 43.8	+20
	1.3nm,0.3s						

IDC 05 19:17:24.1±7.3**, 9.91S×125.96E, h60**^{km}±63^{km}**, mb1 3.6**/3**, mb1mx3.2**/13**, ML3.4**/3**, Error ellipse: s-maj=54.7km s-min=49.5km az=138.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.15	182	eP	P	19 19 20.0	-2.1
	0.9nm,0.4s						
FITZ				eS	S	19 20 52.6	-1.0
FITZ	Fitzroy Crossi	8.15	182	P	P	19 19 20.2	-1.9
	0.5nm,0.3s,baz=10.0,slow=13,SNR=15						
FITZ				S	S	19 20 52.4	-1.2
	0.9nm,0.3s,baz=354,slow=21,SNR=7.1						
WRA	Warramunga Arr	12.84	142	P	P	19 20 22.2	-3.6
	0.2nm,0.3s,baz=317,slow=15,SNR=26						
WRA				S	S	19 22 44.8	-2.9
	0.3nm,0.3s,baz=317,slow=26,SNR=7.6						
WB2	Warramunga Arr	12.85	142	eP	P	19 20 22.0	-3.9
WB2				eS	S	19 22 42.0	-5.9
ASAR	Alice Springs	15.64	152	P	P	19 21 01.6	-0.6
	0.2nm,0.3s,baz=320,slow=11,SNR=13						
ASAR				S	S	19 23 52.9	-0.9
	0.1nm,0.3s,baz=325,slow=25,SNR=4.5						
CPUP	Villa Florida	143.84	175	PKP	PKPdf	19 36 52.8	-0.5
	1.3nm,0.3s,baz=354,slow=2.2,SNR=3.7						

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*STR **05** 19:41:57.8±0.2, 45.36N×6.44E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **05** 19:41:58.4±0.1, 45.35N×6.44E, h2^{km}, Md2.4/2, Ml2.3/16, Error ellipse: s-maj=2.1km s-min=1.6km az=78.0*

*NEIC **05** 19:41:58.4, 45.35N×6.44E, h2^{km}, ML2.5(STR), ML2.3(LDG), ML2.0(GEN), After LDG.*

ISC 05 19:41:56.3±0.3**, 45.38N**±0.01×**6.35E**±0.02**, h1**^{km}±4^{km}**, n32, σ1^{s}.22**/71**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	La Plagne	0.30	63	ePg	Pg	19 42 03.2	+0.9
LPL				eSg	Sg	19 42 06.8	+0.4
	37nm,0.2s						
LPG	La Plagne	0.31	68	ePg	Pg	19 42 03.3	+0.9
LPG				eSg	Sg	19 42 07.4	+0.9
	58nm,0.3s						
RSL	Roselend	0.36	32	Pg	Pg	19 42 04.8	+1.3
RSL				Sg	Sg	19 42 09.4	+1.0
GRN	Grenoble	0.45	252	Pg	Pg	19 42 07.9	+2.7
GRN				Sg	Sg	19 42 13.7	+2.6
RRL	Cesana Torines	0.56	146	P	Pg	19 42 07.9	+0.6
RRL				S	Sg	19 42 15.6	+0.8
ORIF	Oris-en-Rattie	0.57	216	ePg	Pg	19 42 08.7	+1.1
ORIF				eSg	Sg	19 42 16.2	+1.0
	26nm,0.3s						
LSD	Ceresole Reale	0.57	82	P	Pg	19 42 07.5	-0.2
FENE	Fenestrelle	0.62	124	P	Pg	19 42 08.4	-0.1
FENE				S	Sg	19 42 16.8	0.0
RSP	Reno Superiore	0.68	109	P	Pg	19 42 09.8	-0.1
RSP				S	Sg	19 42 18.9	-0.1
OG22	Abries	0.70	143	Pg	Pg	19 42 10.2	-0.1
OG22				Sg	Sg	19 42 19.2	-0.4
MBDF	Montbardon	0.72	155	ePg	Pg	19 42 10.5	-0.1
MBDF				ePn	Pn	19 42 13.2	-0.1
MBDF				eSg	Sg	19 42 20.3	+0.1
	13nm,0.4s						
BHB	Bricherasio	0.84	129	P	Pg	19 42 12.8	-0.3
BHB				S	Sg	19 42 23.7	-0.7
OG05	Jujurieux	0.91	317	Pg	Pg	19 42 16.9	+2.5
OG05				Sg	Sg	19 42 29.8	+3.4
TRAV		0.99	82	P	Pb	19 42 15.3	-0.7
TRAV				S	Sb	19 42 27.8	-1.7
PZZ	Prazzo	1.03	148	P	Pb	19 42 16.2	-0.3
PZZ				S	Sb	19 42 30.2	-0.1
CABF	La Chapelle	1.24	352	ePn	Pn	19 42 22.1	+1.3
CABF				ePg	Pg	19 42 23.4	+2.3
CABF				eSg	Sg	19 42 40.7	+3.0
	6.5nm,0.2s						
VIVF	Saint-Julien-l	1.30	247	ePg	Pg	19 42 23.6	+1.5
VIVF				eSg	Sg	19 42 40.0	+0.6
	12nm,0.4s						
SMRF	Simiane la Rot	1.51	202	ePg	Pg	19 42 27.6	+1.2
SMRF				eSg	Sg	19 42 47.1	+0.6
	1.6nm,0.3s						
SBF	Sospel	1.71	153	ePn	Pn	19 42 28.6	+1.2
SBF				ePg	Pg	19 42 31.5	+1.2
SBF				eSg	Sg	19 42 51.1	-1.9
	5.5nm,0.3s						
FRF	La Foret Royal	1.83	173	ePn	Pn	19 42 28.3	-0.9
FRF				ePg	Pg	19 42 32.6	-0.3
FRF				eSg	Sg	19 42 54.1	-3.2
	2.9nm,0.2s						
LMR	La Mourre	2.05	177	ePn	Pn	19 42 31.4	-0.9
LMR				ePg	Pg	19 42 35.6	-1.6
LMR				eSg	Sg	19 43 01.6	-2.9
	1.0nm,0.3s						
SMF	Signal de Mont	2.16	307	ePn	Pn	19 42 36.6	+2.8
SMF				ePg	Pg	19 42 39.0	-0.3
SMF				eSg	Sg	19 43 07.3	-0.7
	4.7nm,0.2s						
LASF	Ste Croix	2.20	235	ePg	Pg	19 42 40.0	-0.2
LASF				eSg	Sg	19 43 08.8	-0.8
	0.7nm,0.2s						
HINF	Hinteralfeld	2.46	8	eSg	Sg	19 43 16.0	-2.2
	2.9nm,0.3s						
AVF	Avril sur Loir	2.52	305	ePn	Pn	19 42 38.8	-0.2
AVF				ePg	Pg	19 42 46.4	-0.1
AVF				eSg	Sg	19 43 19.8	-0.2
	5.3nm,0.3s						
LOR	Lormes	2.56	318	ePg	Pg	19 42 46.9	-0.4
LOR				eSg	Sg	19 43 19.2	-2.2
	2.9nm,0.3s						
SSF	Saint Saulge	2.59	311	ePn	Pn	19 42 41.3	+1.2
SSF				ePg	Pg	19 42 47.4	-0.6
SSF				eSg	Sg	19 43 20.6	-1.9
	1.8nm,0.3s						
HAU	Haudompre	2.62	0	ePn	Pn	19 42 41.7	+1.1
HAU				ePg	Pg	19 42 47.4	-1.3
HAU				eSg	Sg	19 43 21.6	-2.1
	3.6nm,0.3s						
BGF	Bois d'Agland	2.71	297	ePn	Pn	19 42 43.0	+1.2
BGF				ePg	Pg	19 42 50.8	+0.4
BGF				eSg	Sg	19 43 25.3	-1.2
	8.3nm,0.3s						
TCF	Toulx Ste Croi	3.03	289	ePg	Pg	19 42 55.7	-1.1
TCF				eSn	Sn	19 43 22.9	-0.9
TCF				eSg	Sg	19 43 35.4	-1.8
	1.1nm,0.2s						
HYF	Humbligny	3.19	308	ePg	Pg	19 42 59.0	-0.9
MEZF	Maizieres J'vi	3.25	345	ePg	Pg	19 42 59.4	-1.6

CASC 05 20:29:07.3±2.5**, 15.71N×88.77W, MD3.6, ML3.2, 3C-3D, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRL	Marmol	1.10	235	⇓eP	Pb	20 29 29.0	+0.2
MRL				eS	Sb	20 29 45.3	+1.8
MRL				AML	AML	20 29 47.6	
	comp=N,316nm,0.6s						
MTO2	Montecristo 2	1.42	204	⇑eP	Pb	20 29 33.8	-0.6
MTO2				eS	Sb	20 29 54.9	+2.0
RBDL	Robledal	1.82	209	⇑eP	Pn	20 29 40.4	+0.3
NBG	Las Nubes	1.89	234	⇓eP	Pn	20 29 42.1	+1.0
NBG				eS	Sn	20 30 07.1	+1.1
NBG				AML	AML	20 30 23.4	
	comp=E,506nm,0.4s						
RTR	El Retiro	1.99	205	eP	Pn	20 29 42.9	+0.4
RTR				eS	Sn	20 30 08.3	-0.2
SNJE	San Jose	2.00	204	eP	Pn	20 29 42.2	-0.5
LCBS	La Ceiba	2.05	186	⇑eP	Pn	20 29 42.9	-0.5
LCBS				eS	Sn	20 30 10.9	+0.8
SNVI	San Vicente	2.08	182	⇓eP	Pn	20 29 44.3	+0.5
SNVI				eS	Sn	20 30 12.2	+1.3
LFRS	El Faro	2.09	188	eP	Pn	20 29 44.0	0.0
IXG	Ixpaco	2.23	227	eP	Pn	20 29 43.0	-3.0
IXG				eS	Sn	20 30 17.3	+2.6

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*NIED **05** 20:32:00, 35.90N×127.30E, h38^{km}, Mw3.6 Best double couple: M$_0$2.41×10^{14} NP1:ϕ_s323°, δ88°, λ65°. NP2:ϕ_s229°, δ25°, λ176°.*

*KMA **05** 20:32:53.2±0.2, 35.85N×127.32E, h11^{km}±1^{km}, ML3.3, Error ellipse: s-maj=2.7km s-min=1.4km az=139.0*

ISC 05 20:32:53.3±0.7**, 35.85N**±0.03×**127.30E**±0.06**, h12**^{km}±6^{km}**, n20, σ0^{s}.32**/24**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSCHO	Jeonju	0.13	254	P	Pg	20 32 56.8	+0.2
KSCHO				S	Sg	20 32 58.9	+0.1
KSKUS	Gunsan	0.41	293	P	Pg	20 33 01.9	0.0
KSKUS				S	Sg	20 33 07.6	+0.1
KSJEU	Jeongeup	0.47	220	P	Pg	20 33 02.7	-0.2
KSJEU				S	Sg	20 33 09.0	-0.4
KSKWJ	Gwangju	0.74	200	P	Pb	20 33 07.4	-0.1
KSKWJ				S	Sb	20 33 17.2	-0.2
KSSES	Seosan	1.16	324	P	Pb	20 33 15.2	+0.4
KSMOP	Mokpo	1.29	216	P	Pb	20 33 17.1	+0.1
KSDAG	Daegu	1.30	93	P	Pb	20 33 16.9	-0.3
KSAND	Andong	1.34	57	P	Pb	20 33 17.9	0.0
KSSWO	Suwon	1.44	349	P	Pn	20 33 19.3	0.0
KSICN	Icheon	1.44	4	P	Pn	20 33 19.1	-0.2
KSWAN	Wando	1.54	199	P	Pn	20 33 21.2	+0.5
KSBUS	Busan	1.59	112	P	Pn	20 33 21.8	+0.3
KSYOW	Yeongwol	1.61	35	P	Pn	20 33 22.7	+1.0
KSSEO	Seoul	1.66	349	P	Pn	20 33 22.3	-0.2
KSULJ	Uljin	1.90	63	P	Pn	20 33 25.7	-0.2
KSHUK	Heuksando	1.91	233	P	Pn	20 33 26.0	-0.1
KSCHC	Chuncheon	1.96	12	P	Pn	20 33 26.3	-0.5
KSMUS	Musan	2.08	348	P	Pn	20 33 28.1	-0.4
KSDGY	Daegwallycong	2.14	31	P	Pn	20 33 29.1	-0.2
KSJJU	Jeju	2.50	195	P	Pn	20 33 34.7	+0.3

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*IDC **05** 20:41:42.5±0.9, 31.75N×46.14E, mb4.2/21, mb1 4.3/24, mb1mx4.3/27, ML3.8/3, MS4.1/20, Ms1 4.1/20, ms1mx4.0/25, Error ellipse: s-maj=24.2km s-min=13.4km az=8.0*

*KISR **05** 20:41:43.5±1.0, 32.00N×46.32E, h32^{km}±999^{km}, MD4.5, ML4.2*

*BJI **05** 20:41:45.6, 31.80N×46.10E, h36^{km}, mB5.1, mb4.9, Ms4.7, Msz4.3*

*MOS **05** 20:41:45.5±1.0, 31.74N×46.13E, h33^{km}, mb4.5/17, Error ellipse: s-maj=10.9km s-min=5.7km az=111.4*

*ZUR_RM **05** 20:41:47, 31.79N×46.13E, h15^{km}, Mw5.0/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16}Nm;*

M_{rr}3.46; $M_{\theta\theta}$-2.88; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.38; $M_{\theta\phi}$0.77; $M_{\phi r}$-0.83;
Best double couple: $M_0$3.39×10^{16} NP1:ϕ_s274°,δ47°,λ73°.
NP2:ϕ_s119°,δ45°,λ108°. Principal axes: T 3.669, Plg77°,
Azm112°; N -.555, Plg13°, Azm286°; P -3.114, Plg1°,
Azm17°;
NEIC ***05*** *20:41:47.6±1.8, 31.79N×46.13E, h36^{km}±17^{km}, mb4.6/30*
Error ellipse: s-maj=13.6km s-min=5.9km az=187.0
SNSN ***05*** *20:41:48.1, 31.25N×46.02E, Ml5.3*
ISC 05 20:41:45.2±0.2**, 31.64N**±0.02×**46.02E**±0.03**, h36^{km},**
h36^{km}±2.1^{km}**:pP-P, n185,** σ1^s**20**/200**, mb4.5**/61**, MS4.2**/31**,**
1C, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIB	**Mutribah**	**2.15**	**148**	*e*P	**P**	**20 42 22.3**	**+3.0**
MIB				AML	AML	20 42 59.0	
	comp=Z,1µm,0.4s						
UMR	**Umm Al-Rimmam**	**2.54**	**144**	*e*P	**P**	**20 42 27.4**	**+2.5**
UMR				*e*S	**S**	**20 42 58.9**	**+4.0**
KBD	**Kabd**	**2.84**	**149**	*e*P	**P**	**20 42 31.5**	**+2.3**
RDF	**Al-Radifah**	**3.01**	**154**	*e*P	**P**	**20 42 33.6**	**+2.0**
RDF				*e*S	**S**	**20 43 12.1**	**+5.4**
RDF				AML	AML	20 43 23.3	
	comp=Z,432nm,0.4s						
QRN	**Al-Qurain**	**3.31**	**150**	*e*P	**P**	**20 42 38.2**	**+2.3**
QRN				AML	AML	20 43 18.4	
	comp=Z,448nm,0.3s						
HILS	**Ha'il**	**5.62**	**222**	P	**P**	**20 43 09.3**	**+0.9**
HILS				S	**S**	**20 44 13.9**	**+1.2**
HASS	**Wahat al Ahsa'**	**7.19**	**152**	P	**P**	**20 43 30.1**	**-0.4**
HASS				S	**S**	**20 44 51.0**	**-0.8**
TVAN	**Van**	**7.20**	**343**	*i* P	**P**	**20 43 29.2**	**-1.6**
BEST	**Besiri**	**7.36**	**329**	*i* P	**P**	**20 43 31.1**	**-1.9**
MZLS	**Mizel**	**7.61**	**186**	P	**P**	**20 43 35.3**	**-1.1**
MZLS				S	**S**	**20 44 59.9**	**-2.5**
ASF	**Jabal al Asfar**	**7.78**	**276**	Pn	**P**	**20 43 38.3**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=310,slow=5.8,SNR=17						
ASF				Sn	**S**	**20 45 04.7**	**-1.9**
	comp=Z,8.9nm,0.3s,baz=5.8,slow=3.4,SNR=5.4						
ASF				Lg		20 45 54.0	
	comp=Z,9.6nm,0.3s,baz=147,slow=24,SNR=3.6						
ASF				LR	LR	20 46 26.8	
	comp=Z,253nm,20.6s,baz=322,slow=36						
RAYN	**Ar Rayn**	**8.09**	**183**	Pn	**P**	**20 43 41.7**	**-1.4**
	comp=Z,204nm,0.6s,SNR=25						
AFFS	**'Afif**	**8.13**	**200**	P	**P**	**20 43 41.9**	**-1.8**
AFFS				S	**S**	**20 45 12.5**	**-2.8**
GNI	**Garni**	**8.56**	**353**	LR	LR	20 47 38.1	
	comp=Z,2µm,22.0s,baz=162,slow=42						
ELZG	**Elazig**	**8.95**	**322**	*i* P	**P**	**20 43 53.9**	**-1.1**
GZT	**Gaziantep**	**9.01**	**312**	*i* P	**P**	**20 43 53.9**	**-2.0**
COBT	**Iskenderun**	**9.45**	**304**	*i* P	**P**	**20 44 09.6**	**+7.6**
TI2	**Plekhanov**	**10.13**	**355**	*e*P	**P**	**20 44 15.0**	**+3.7**
TI2				*e*		20 45 56.0	
TI2				MLR	MLR		
	comp=N,4µm,8.0s						
TI2				MLR	MLR		
	comp=E,2µm,8.0s						
TI2				MLR	MLR		
	comp=Z,5µm,8.0s						
MAK	**Makhachkala**	**11.37**	**6**	*e*P	**P**	**20 44 30.2**	**+2.1**
MAK				*i* S	**S**	**20 46 38.0**	**+3.1**
MAK				pmax	pmax		
	comp=N,300nm,6.0s						
MAK				pmax	pmax		
	comp=E,500nm,6.0s						
MAK				pmax	pmax		
	comp=Z,1µm,6.0s						
MAK				smax			
	comp=N,600nm,10.0s						
MAK				smax			
	comp=E,2µm,10.0s						
MAK				MLR	MLR		
	comp=N,4µm,8.0s						
MAK				MLR	MLR		
	comp=E,700nm,8.0s						
MAK				MLR	MLR		
	comp=Z,5µm,8.0s						
KIV	**Kislovodsk**	**12.58**	**349**	*e*P	**P**	**20 44 44.8**	**+0.4**
KIV				*e*S	**S**	**20 47 09.7**	**+5.5**
KIV				pmax	pmax		
	comp=Z,23nm,1.6s						
KIV				MLR	MLR		
	comp=Z,2µm,18.0s						
KIV	**Kislovodsk**	**12.58**	**349**	P	**P**	**20 44 46.2**	**+1.8**
BRTR	**Keskin Array B**	**12.89**	**312**	Pn	**P**	**20 44 49.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=135,slow=14,SNR=32						
BRTR				LR	LR	20 50 15.1	
	comp=Z,749nm,19.7s,baz=260,slow=40						
SOC	**Sochi**	**12.93**	**339**	*e*P	**P**	**20 44 49.3**	**+0.2**
SOC				*e*S	**S**	**20 47 12.5**	**-0.1**
SOC				pmax	pmax		
	comp=Z,41nm,0.9s						
SOC				pmax	pmax		
	comp=N,44nm,1.1s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,1µm,13.0s						
SOC				MLR	MLR		
	comp=N,1µm,14.0s						
SOC				MLR	MLR		
	comp=E,831nm,12.0s						
SIM	**Simferopol'**	**16.22**	**328**	*e*P	**P**	**20 45 34.0**	**+2.1**
SIM				*e*S	**S**	**20 48 36.0**	**+5.7**
SIM				pmax	pmax		
	comp=Z,80nm,10.7s						
SIM				pmax	pmax		
	comp=Z,20nm,1.0s						
IDI	**Anoyia**	**18.00**	**287**	P	**P**	**20 45 57.7**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=104,slow=9.1,SNR=11						
ALN	**Alexandroupoli**	**18.54**	**305**	*e*P	**P**	**20 46 02.0**	**+1.1**
RZN	**Rozhen**	**19.77**	**306**	*i* P	**P**	**20 46 16.5**	**+1.5**
KIS	**Kishinev**	**20.24**	**324**	*e*P	**P**	**20 46 18.0**	**-1.9**
KIS				*e*		20 46 40.0	
KIS				*e*S	**S**	**20 50 05.0**	**+4.9**
KIS				MLR	MLR		
	comp=Z,500nm,17.0s,MS3.9						
KIS				MLR	MLR		
	comp=E,400nm,15.0s						
KIS				MLR	MLR		
	comp=Z,500nm,15.0s						
SOH	**Sokhos**	**20.41**	**303**	*e*P	**P**	**20 46 22.8**	**+1.1**
MMB	**Musomiste**	**20.42**	**305**	*i* P	**P**	**20 46 22.5**	**+0.7**
PGB	**Panagyurishte**	**20.50**	**308**	*i* P	**P**	**20 46 24.0**	**+1.3**
AGG	**Agios Georgios**	**20.65**	**297**	*e*P	**P**	**20 46 25.3**	**+1.0**
VOR	**Voronezh**	**20.70**	**348**	*e*P	**P**	**20 46 23.0**	**-1.6**
VOR				pmax	pmax		
	comp=Z,200nm,1.6s						
LIT	**Litokhoron**	**20.82**	**300**	*e*P	**P**	**20 46 27.2**	**+1.3**
MLR	**Muntele Rosu**	**20.85**	**317**	P	**P**	**20 46 27.0**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=73,slow=3.2,SNR=11						
MLR				LR	LR	20 55 48.5	
	comp=Z,852nm,20.3s,MS4.1,baz=281,slow=41						
MLR	**Muntele Rosu**	**20.85**	**317**	P	**P**	**20 46 27.0**	**+0.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MLR				MLR	MLR		
	comp=Z,852nm,20.3s						
KNT	**Kendrikon**	**20.85**	**304**	*e*P	**P**	**20 46 28.0**	**+1.7**
KKB	**Krupnik**	**20.97**	**306**	*i* P	**P**	**20 46 28.0**	**+0.5**
VTS	**Vitosha**	**21.16**	**308**	*e*P	**P**	**20 46 35.0**	**+5.6**
FNA	**Florina**	**21.82**	**302**	*e*P	**P**	**20 46 38.5**	**+2.4**
KKAR	**Karatay Array**	**22.50**	**53**	*i* P	**P**	**20 46 41.7**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**22.77**	**332**	P	**P**	**20 46 44.6**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.1,baz=141,slow=10,SNR=20						
AKASG	**Malin Array Be**	**22.77**	**332**	P	**P**	**20 46 44.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AML	**Almayashu**	**24.39**	**57**	P	**P**	**20 47 03.0**	**+1.8**
	SNR=12						
OBN	**Obninsk**	**24.41**	**347**	*e*P	**P**	**20 47 02.0**	**+0.7**
OBN				*e*		20 47 37.9	
OBN				*e*S	**S**	**20 51 22.2**	**+6.4**
OBN				pmax	pmax		
	comp=Z,76nm,1.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,900nm,19.0s,MS4.3						
OBN	**Obninsk**	**24.41**	**347**	*e*P	**P**	**20 47 00.2**	**-1.0**
	comp=Z,27nm,0.8s,mb4.7						
EKS2	**Erkin-Say**	**24.60**	**56**	P	**P**	**20 47 04.2**	**+0.9**
	SNR=5.5						
MOS	**Moscow**	**24.81**	**349**	*e*P	**P**	**20 47 05.1**	**0.0**
MOS				*e*		20 47 39.8	
MOS				*e*S	**S**	**20 51 27.2**	**+4.5**
MOS				pmax	pmax		
	comp=Z,112nm,0.8s,mb5.5						
MOS				MLR	MLR		
	comp=Z,2µm,20.5s,MS4.6						
MOS				MLR	MLR		
	comp=N,1µm,22.1s						
USP	**Ospenovka**	**25.29**	**55**	P	**P**	**20 47 10.2**	**+0.4**
	SNR=8.6						
CRVS	**Cervenica-Dubn**	**25.30**	**320**	*e*P	**P**	**20 47 13.7**	**+3.9**
CRVS				*e*pP	pP	20 47 23.0	+3.3
TDS	**Terranova Siba**	**25.33**	**297**	*e*P	**P**	**20 47 15.1**	**+4.9**
CHMS	**Chumysh**	**25.39**	**55**	P	**P**	**20 47 11.3**	**+0.6**
	SNR=12						
KBK	**Karagaybulak**	**25.43**	**56**	P	**P**	**20 47 12.4**	**+1.3**
	SNR=15						
KSH	**Kashi**	**25.51**	**64**	*e*P	**P**	**20 47 12.8**	**+0.8**
KSH				*e*AP	pP	20 47 23.0	+1.2
KSH				*e*XP	sP	20 47 28.7	+2.7
KSH				AMB	AMB		
	comp=Z,450nm,4.6s						
KSH				LR	LR		
	comp=N,4µm,13.4s						
KSH				LR	LR		
	comp=E,870nm,8.9s						
KECS	**Kecovo**	**25.61**	**318**	*e*P	**P**	**20 47 15.9**	**+3.1**
KECS				*e*pP	pP	20 47 33.9	+11
TKM2	**Tokmak 2**	**25.96**	**56**	P	**P**	**20 47 16.5**	**+0.4**
	SNR=23						
MGR	**Morigerati**	**26.01**	**298**	*e*P	**P**	**20 47 18.3**	**+1.8**
SGO	**Sicignano**	**26.26**	**298**	*e*P	**P**	**20 47 21.0**	**+2.0**
MNK	**Minsk**	**26.28**	**336**	*e*P	**P**	**20 47 18.0**	**-0.9**
ARU	**Arti**	**26.29**	**16**	⇑*i*P	**P**	**20 47 18.4**	**-0.6**
ARU				*i*		20 47 56.8	
ARU				*i* PPP	PPP	20 48 08.4	-5.6
ARU				*i*		20 50 40.6	
ARU				*e*S	**S**	**20 51 47.2**	**+0.1**
ARU				*e*SSS	SSS	20 52 56.6	-18
ARU				*i*		20 58 04.9	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,300nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,200nm,17.0s,MS4.0						
ARU	**Arti**	**26.29**	**16**	*e*P	**P**	**20 47 17.8**	**-1.2**
	comp=E,5.3nm,0.6s,mb4.2						
VYHS	**Vyhne**	**26.56**	**317**	*e*P	**P**	**20 47 22.4**	**+0.8**
VYHS				*e*pP	pP	20 47 31.5	0.0
VYHS				*e*		20 50 34.3	
VYHS				*e*		20 50 50.4	
VYHS				*e*S	**S**	**20 52 03.9**	**+12**
VYHS				*e*		20 53 39.4	
VYHS				*e*		20 58 53.0	
VYHS	**Vyhne**	**26.56**	**317**	*e*P	**P**	**20 47 22.4**	**+0.8**
VYHS				*e*	pP	20 47 31.5	0.0
VYHS				*e*		20 50 50.4	
VAE	**Valguarnera**	**26.60**	**291**	P	**P**	**20 47 28.5**	**+6.5**
	comp=E,8.3nm,0.7s,mb4.4,baz=150,slow=10,SNR=3.1						
OJC	**Ojcow**	**26.93**	**321**	*e*P	**P**	**20 47 29.6**	**+4.6**
OJC				*e*S	**S**	**20 52 06.3**	**+8.6**
OJC				MLR	MLR		
	comp=Z,400nm,18.2s,MS4.0						
ZRNK	**Zerenda**	**27.04**	**31**	P	**P**	**20 47 25.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
CII	**Carovilli**	**27.22**	**301**	*e*P	**P**	**20 47 29.5**	**+1.8**
ZST	**Bratislava**	**27.45**	**315**	*e*P	**P**	**20 47 29.1**	**-0.6**
ZST				*e*		20 52 24.1	
ZST				*e*		20 53 42.8	
ZST				*e*		20 59 37.1	
ZST	**Bratislava**	**27.45**	**315**	*e*P	**P**	**20 47 29.1**	**-0.6**
ZST				*e*		20 53 42.8	
OKC	**Ostrava-Krasne**	**27.63**	**319**	*e*P	**P**	**20 47 36.9**	**+5.6**
OKC				*e*S	**S**	**20 52 18.4**	**+9.5**
OKC				LM		21 00 10.0	
	comp=Z,0.4nm,14.1s						
BRVK	**Borovoye**	**27.68**	**32**	*e*P	**P**	**20 47 28.1**	**-3.7**
	comp=Z,3.1nm,0.6s,mb4.1						
BVA0	**Borovoye Array**	**27.71**	**32**	*i* P	**P**	**20 47 31.3**	**-0.7**
BVAR	**Borovoye Array**	**27.71**	**32**	P	**P**	**20 47 31.2**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.4,baz=222,slow=9.0,SNR=46						
BVAR				LR	LR	21 00 32.0	
	comp=Z,7.1nm,19.6s,baz=25,slow=41						
VOSK	**Vostochnaya**	**27.79**	**33**	P	**P**	**20 47 31.6**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
VRAC	**Vranov**	**28.25**	**317**	P	**P**	**20 47 37.5**	**+0.5**
	comp=Z,2.5nm,1.0s,mb3.8,baz=100,slow=10,SNR=5.9						
DPC	**Dobruska-Polom**	**28.90**	**319**	*e*P	**P**	**20 47 43.2**	**+0.5**
DPC				*e*S	**S**	**20 52 35.8**	**+6.5**
DPC				LM		21 00 50.0	
	comp=Z,0.3nm,17.4s						
PRU	**Pruhonice**	**29.75**	**317**	*e*P	**P**	**20 47 50.0**	**-0.3**
GERES	**GERESS Array B**	**29.77**	**315**	P	**P**	**20 47 50.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=97,slow=11,SNR=3.9						
KHC	**Kasperske Hory**	**29.96**	**315**	*e*P	**P**	**20 47 52.6**	**+0.5**
KHC				*e*S	**S**	**20 52 50.1**	**+4.0**
KHC				LM		21 00 40.0	
	comp=Z,0.2nm,17.2s						
PVCC	**Panska Ves**	**29.98**	**318**	LM		21 01 50.0	
	comp=Z,0.4nm,12.8s						
WET	**Wettzell**	**30.39**	**315**	*e*P	**P**	**20 47 55.7**	**-0.3**
WET				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.3						
WET	**Wettzell**	**30.39**	**315**	*e*P	**P**	**20 47 55.7**	**-0.3**
	comp=Z,12nm,1.9s,mb4.3						
KURK	**Kurchatov**	**30.71**	**42**	*i* P	**P**	**20 47 57.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
KURK	**Kurchatov**	**30.71**	**42**	*e*P	**P**	**20 47 55.4**	**-3.5**
	comp=Z,5.1nm,0.9s,mb4.3						
FUR	**Furstenfeldbru**	**31.03**	**312**	*e*P	**P**	**20 48 01.8**	**+0.2**
FUR				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0						
FUR	**Furstenfeldbru**	**31.03**	**312**	*e*P	**P**	**20 48 01.8**	**+0.2**
	comp=Z,14nm,0.5s,mb5.0						
CLL	**Collm**	**31.21**	**319**	P	**P**	**20 48 03.0**	**-0.3**
PGF	**Pioggiola**	**31.25**	**301**	*e*P	**P**	**20 48 02.9**	**-0.8**
	comp=Z,40nm,1.1s,mb4.8						
DAVOX	**Davos**	**31.51**	**309**	P	**P**	**20 48 06.9**	**+1.0**
	comp=Z,1.3nm,0.4s,mb4.1,baz=153,slow=19,SNR=4.6						
GRA1	**Grafenberg Arr**	**31.60**	**315**	*e*P	**P**	**20 48 07.3**	**+0.7**
	comp=Z,18nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**31.60**	**315**	*e*P	**P**	**20 48 07.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**31.60**	**51**	P	**P**	**20 48 05.9**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.6,baz=243,slow=8.1,SNR=46						
MKAR				LR	LR	21 02 42.8	
	comp=Z,386nm,19.7s,MS4.1,baz=254,slow=40						
MKAR	**Makanchi Array**	**31.60**	**51**	P	**P**	**20 48 05.9**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,386nm,19.7s						
MOX	**Moxa**	**31.73**	**317**	*e*P	**P**	**20 48 10.0**	**+2.2**
MOX				S	S	20 53 42.0	+28
MOX				SSS	SSS	20 56 21.0	+53
MOX				LR	LR	20 57 48.0	
MOX				L		21 02 17.0	
VAI	**Varese**	**32.03**	**307**	*e*P	**P**	**20 48 10.6**	**+0.1**
FINES	**FINESS Array B**	**32.54**	**342**	P	**P**	**20 48 13.9**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.3,baz=151,slow=8.7,SNR=14						
FINES				LR	LR	21 03 19.3	
	comp=Z,262nm,18.5s,MS4.0,baz=135,slow=40						
FINES	**FINESS Array B**	**32.54**	**342**	P	**P**	**20 48 14.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,262nm,18.5s						
SBF	**Sospel**	**32.58**	**303**	*e*P	**P**	**20 48 15.0**	**-0.3**
	comp=Z,58nm,1.0s,mb5.2						
JOF	**Joensuu**	**32.68**	**348**	*e*p	**P**	**20 48 13.9**	**-2.1**
	comp=Z,0.9nm,0.3s,mb4.2						
JOF	**Joensuu**	**32.68**	**348**	*e*P	**P**	**20 48 13.9**	**-2.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
CLZ	**Clausthal**	**32.93**	**318**	*e*P	**P**	**20 48 18.8**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.5						
MBDF	**Montbardon**	**33.19**	**305**	*e*P	**P**	**20 48 20.4**	**-0.1**
	comp=Z,14nm,0.7s,mb4.7						
LPG	**La Plagne**	**33.34**	**306**	*e*P	**P**	**20 48 21.6**	**-0.2**
	comp=Z,11nm,0.7s,mb4.6						
LPL	**La Plagne**	**33.35**	**306**	*e*P	**P**	**20 48 21.6**	**-0.4**
	comp=Z,17nm,0.8s,mb4.7						
GKN	**Gorkha**	**33.58**	**86**	*e*P	**P**	**20 48 24.1**	**0.0**
	comp=Z,18nm,0.7s,mb5.1						
KMBO	**Kilima Mbogo**	**33.63**	**196**	LR	LR	21 02 14.5	
	comp=Z,424nm,18.9s,MS4.2,baz=275,slow=36						
CDF	**Champ du Feu**	**33.65**	**311**	*e*P	**P**	**20 48 23.6**	**-0.9**
HINF	**Hinteralfeld**	**33.77**	**310**	*e*P	**P**	**20 48 24.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**33.84**	**305**	*e*P	**P**	**20 48 25.9**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.2						
ORIF				*e*R			
	comp=Z,146nm,18.2s						
CABF	**La Chapelle**	**34.01**	**308**	*e*P	**P**	**20 48 27.4**	**-0.2**
	comp=Z,24nm,0.7s,mb5.0						
DMN	**Daman**	**34.09**	**87**	*e*P	**P**	**20 48 27.8**	**-0.7**
	comp=Z,19nm,0.8s,mb5.0						
HAU	**Haudompre**	**34.14**	**310**	*e*P	**P**	**20 48 27.9**	**-0.9**
HAU				*e*R			
	comp=Z,216nm,18.2s						
KKN	**Kakani**	**34.19**	**86**	*e*P	**P**	**20 48 29.1**	**-0.2**
	comp=Z,51nm,1.1s,mb5.4						
PKI	**Pulchoki**	**34.36**	**86**	*e*P	**P**	**20 48 30.6**	**-0.2**
	comp=Z,22nm,0.8s,mb5.2						
GUN	**Gumba**	**34.66**	**86**	*e*P	**P**	**20 48 33.6**	**+0.2**
VIVF	**Saint-Julien-l**	**34.68**	**304**	*e*P	**P**	**20 48 32.4**	**-1.0**
WMQ	**Urumqi**	**34.78**	**58**	*e*P	**P**	**20 48 33.4**	**-0.9**
WMQ				PP	PP	20 49 48.9	-3.2
WMQ				*e*S	**S**	**20 54 00.4**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
WMQ				LR	LR		
	comp=N,207nm,12.0s,MS4.3						
WMQ				LR	LR		
	comp=E,244nm,13.1s,MS4.3						
WMQ				LR	LR		
	comp=Z,302nm,12.6s,MS4.2						
NVS	**Novosibirsk**	**35.04**	**38**	*e*P	**P**	**20 48 34.2**	**-2.2**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,16nm,1.5s						
MEZF	**Maizieres J'vi**	**35.10**	**311**	*e*P	**P**	**20 48 36.5**	**-0.5**
LASF	**Ste Croix**	**35.17**	**303**	*e*P	**P**	**20 48 37.1**	**-0.5**
SMF	**Signal de Mont**	**35.53**	**307**	*e*P	**P**	**20 48 39.8**	**-0.9**
	comp=N,8.6nm,0.6s,mb4.5						
LOR	**Lormes**	**35.63**	**308**	*e*P	**P**	**20 48 40.6**	**-0.9**
	comp=N,11nm,0.9s,mb4.5						
LOR				*e*R			
	comp=N,219nm,20.0s						
SSF	**Saint Saulge**	**35.83**	**308**	*e*P	**P**	**20 48 42.5**	**-0.7**
	comp=N,9.9nm,0.7s,mb4.6						
AVF	**Avril sur Loir**	**35.89**	**307**	*e*P	**P**	**20 48 42.9**	**-0.8**
	comp=N,6.6nm,0.9s,mb4.3						
BAIF	**Baives**	**36.02**	**313**	*e*P	**P**	**20 48 44.0**	**-0.7**
BGF	**Bois d'Agland**	**36.20**	**307**	*e*P	**P**	**20 48 45.4**	**-0.9**
KONO	**Kongsberg**	**37.04**	**330**	AMS	AMS	21 08 42.9	
	comp=Z,124nm,18.5s,MS3.7						
NB2	**NORSAR Subarra**	**37.17**	**333**	P	**P**	**20 48 53.4**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=125,slow=8.6						
NOA	**NORSAR Array B**	**37.17**	**333**	P	**P**	**20 48 53.5**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.8,baz=126,slow=8.5,SNR=6.4						
NOA				LR	LR	21 06 19.0	
	comp=Z,398nm,18.1s,MS4.2,baz=150,slow=40						
NOA	**NORSAR Array B**	**37.17**	**333**	P	**P**	**20 48 53.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,398nm,18.1s						
LFF	**La Frestale**	**37.47**	**304**	*e*P	**P**	**20 48 56.1**	**-0.9**
	comp=Z,7.0nm,0.6s,mb4.4						
ETSF	**Etsaut**	**38.30**	**301**	*e*P	**P**	**20 49 03.2**	**-0.7**
LSA	**Lhasa**	**38.66**	**81**	P	**P**	**20 49 08.4**	**+1.4**
LSA	**Lhasa**	**38.66**	**81**	*e*P	**P**	**20 49 07.7**	**+0.7**
	comp=Z,3.9nm,0.6s,mb4.3						
SJPF	**Ste Jean**	**38.79**	**301**	*e*P	**P**	**20 49 08.2**	**+0.2**
	comp=Z,11nm,0.8s,mb4.4						
KEV	**Kevo**	**39.65**	**350**	*e*p	**P**	**20 49 14.2**	**-0.6**
	comp=Z,0.7nm,0.3s,mb3.9						
KEV	**Kevo**	**39.65**	**350**	*e*P	**P**	**20 49 14.2**	**-0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ARCES	**ARCESS Array B**	**39.69**	**349**	P	**P**	**20 49 14.9**	**-0.2**
	comp=Z,4.5nm,1.0s,mb4.2,baz=153,slow=8.1,SNR=12						
ARCES				LR	LR	21 07 24.9	
	comp=Z,868nm,19.3s,MS4.6,baz=4.1,slow=39						
ARCES	**ARCESS Array B**	**39.69**	**349**	P	**P**	**20 49 14.9**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,869nm,19.3s						
SGMF	**Saint Gilles**	**40.06**	**309**	*e*P	**P**	**20 49 17.5**	**-1.0**
SHL	**Shillong**	**40.49**	**87**	*e*P	**P**	**20 49 22.0**	**-0.3**
ROSF	**Rostrenen**	**40.54**	**309**	*e*P	**P**	**20 49 21.5**	**-1.0**
ESDC	**Sonseca Array**	**40.96**	**296**	P	**P**	**20 49 27.4**	**+1.4**
	comp=Z,0.8nm,0.4s,mb3.7,baz=81,slow=7.9,SNR=7.7						
ESDC				LR	LR	21 09 14.7	
	comp=Z,53nm,18.7s,MS3.4,baz=115,slow=40						
TRO	**Tromso**	**40.99**	**346**	*e*P	**P**	**20 49 25.3**	**-0.7**
TRO				*e*PP	PP	20 50 57.1	-6.5
TRO				*e*S	**S**	**20 55 34.1**	**-1.5**
TRO				AMS	AMS	21 08 13.6	
	comp=Z,296nm,17.6s,MS4.2						
EKA	**Eskdalemuir Ar**	**41.67**	**319**	P	**P**	**20 49 31.8**	**+0.1**
	comp=Z,1.1nm,0.3s,mb3.9,baz=101,slow=7.2,SNR=11						
EKA	**Eskdalemuir Ar**	**41.67**	**319**	P	**P**	**20 49 31.8**	**+0.1**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**43.91**	**64**	*e*P	**P**	**20 49 51.0**	**+0.8**
GTA				AP	pP	20 50 01.4	+0.8
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
GTA				LR	LR		
	comp=N,186nm,24.3s						
GTA				LR	LR		
	comp=E,114nm,17.9s						
GTA				LR	LR		
	comp=Z,89nm,20.9s,MS3.7						
ZAK	**Zakamensk**	**45.87**	**49**	*e*P	**P**	**20 50 06.6**	**+0.9**
LZH	**Lanzhou**	**47.62**	**68**	*e*P	**P**	**20 50 20.4**	**+0.7**
LZH				AP	pP	20 50 31.8	+1.7
LZH				XP	sP	20 50 37.5	+3.0
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,111nm,4.8s						
LZH				LR	LR		
	comp=N,581nm,14.7s						
LZH				LR	LR		
	comp=Z,793nm,17.6s,MS4.7						
LZH	**Lanzhou**	**47.62**	**68**	*e*P	**P**	**20 50 20.4**	**+0.7**
	comp=Z,23nm,1.1s,mb5.1						
LZH				pP	pP	20 50 31.8	+1.7
LZH				sP	sP	20 50 37.5	+3.0
SONM	**Songino Array**	**47.95**	**52**	P	**P**	**20 50 21.7**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=280,slow=8.8,SNR=34						
SONM				PcP	PcP	20 51 50.4	0.0
	comp=Z,0.8nm,0.7s,baz=234,slow=3.9,SNR=3.7						
JMIC	**Jan Mayen**	**49.06**	**339**	*e*P	**P**	**20 50 27.9**	**-2.5**
JMIC				*e*PP	PP	20 52 22.4	-1.7
JMIC				*e*S	**S**	**20 57 29.8**	**-1.6**
JMIC				*e*SS	SS	21 01 02.6	+4.3
JMIC				AMS	AMS	21 12 49.1	
	comp=Z,159nm,17.2s,MS4.1						
CMAR	**Chiang Mai Arr**	**49.28**	**92**	P	**P**	**20 50 32.6**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=291,slow=8.5,SNR=11						
CMAR				LR	LR	21 14 30.3	
	comp=Z,65nm,19.0s,MS3.6,baz=335,slow=40						
CMAR	**Chiang Mai Arr**	**49.28**	**92**	P	**P**	**20 50 32.6**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,65nm,19.0s						
KBS	**Kingsbay**	**49.56**	**352**	*e*PP	PP	20 52 26.5	-2.5
KBS				*e*SS	SS	21 01 11.6	+4.9
KBS				AMS	AMS	21 13 54.9	
	comp=Z,255nm,21.9s,MS4.2						
KMI	**Kunming**	**49.86**	**82**	*e*P	**P**	**20 50 36.7**	**-0.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**49.86**	**82**	*e*P	**P**	**20 50 36.7**	**-0.4**
	comp=Z,9.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**52.26**	**39**	*e*P	**P**	**20 50 53.0**	**-1.8**
GYA	**Guiyang**	**52.69**	**79**	P	**P**	**20 50 57.2**	**-1.2**

GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
DBIC	Dimbokro	53.50	253	P	P	20 51 05.5	+0.8
	comp=Z,1.3nm,0.5s,mb4.2,baz=80,slow=21,SNR=3.6						
DBIC				LR	LR	21 13 01.1	
	comp=Z,317nm,18.5s,MS4.4,baz=30,slow=35						
DBIC	Dimbokro	53.50	253	P	P	20 51 05.5	+0.9
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DBIC				MLR	MLR		
	comp=Z,317nm,18.5s						
ENH	Enshi	53.74	74	P	P	20 51 02.4	-3.8
BJI	Beijing	56.17	60	P	P	20 51 23.3	-0.4
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
BJI				AMB	AMB		
	comp=Z,107nm,5.0s						
BJI				LR	LR		
	comp=N,389nm,19.7s,MS4.5						
BJI				LR	LR		
	comp=E,158nm,19.7s,MS4.5						
BJI				LR	LR		
	comp=Z,200nm,24.0s,MS4.1						
BJI	Beijing	56.17	60	P	P	20 51 23.3	-0.4
	comp=Z,12nm,0.7s,mb5.0						
BJI				S	Sx	20 59 55.9	
BJT	Baijiatuau	56.17	60	*e*P	P	20 51 23.1	-0.6
	comp=Z,12nm,0.7s,mb5.0						
HIA	Hailar	56.56	49	*e*P	P	20 51 26.0	-0.4
	comp=Z,8.4nm,0.7s,mb4.9						
SSE	Sheshan	62.90	69	P	P	20 52 09.8	-0.4
SSE				XP	sP	20 52 29.7	+4.6
SSE				S	S	21 00 33.4	-2.3
SSE				XS		21 00 57.5	
SSE				AMB	AMB		
	comp=Z,42nm,0.7s						
SSE				AMB	AMB		
	comp=Z,90nm,7.7s						
SSE				LR	LR		
	comp=N,326nm,21.4s,MS4.5						
SSE				LR	LR		
	comp=E,164nm,22.0s,MS4.5						
SSE				LR	LR		
	comp=Z,127nm,11.2s						
SSE	Sheshan	62.90	69	P	P	20 52 09.8	-0.4
	comp=Z,42nm,0.7s						
SSE				sP	sP	20 52 29.7	+4.6
SSE				S	S	21 00 33.4	-2.3
SSE				sS		21 00 57.5	
JNU	Nakatsue	69.63	63	LR	LR	21 25 25.0	
	comp=Z,118nm,19.1s,MS4.2,baz=74,slow=38						
JOW	Kunigami	70.30	70	LR	LR	21 28 26.7	
	comp=Z,108nm,20.1s,MS4.1,baz=9.2,slow=40						
SCHQ	Schefferville	76.47	327	P	P	20 53 33.8	+1.1
	comp=Z,4.6nm,0.9s,mb4.4,baz=53,slow=15,SNR=3.3						
SCHQ				LR	LR	21 29 25.1	
	comp=Z,116nm,20.2s,MS4.2,baz=39,slow=38						
INK	Inuvik	80.36	360	P	P	20 53 54.1	+0.4
	comp=Z,2.3nm,0.9s,mb4.1,baz=30,slow=15,SNR=4.1						
INK				LR	LR	21 32 28.6	
	comp=Z,126nm,21.0s,MS4.2,baz=176,slow=38						
INK	Inuvik	80.36	360	P	P	20 53 54.2	+0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK				MLR	MLR		
	comp=Z,126nm,21.0s						
INK	Inuvik	80.36	360	P	P	20 53 48.8	-5.0
	comp=Z,2.4nm,0.8s,mb4.2						
ILAR	Eielson Array	83.38	6	P	P	20 54 11.1	+1.6
	comp=Z,2.1nm,0.7s,mb4.3,baz=322,slow=4.1,SNR=20						
ILAR				LR	LR	21 34 41.5	
	comp=Z,108nm,20.3s,MS4.2,baz=0.6,slow=38						
ILAR	Eielson Array	83.38	6	P	P	20 54 11.1	+1.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,108nm,20.3s						
DAWY	Dawson	84.53	2	P	P	20 54 12.0	-3.1
YKA	Yellowknife Ar	84.91	351	P	P	20 54 18.8	+1.6
	comp=Z,0.8nm,0.6s,mb4.1,baz=27,slow=5.7,SNR=5.8						
YKA				LR	LR	21 35 33.5	
	comp=Z,109nm,21.3s,MS4.2,baz=15,slow=38						
YKA	Yellowknife Ar	84.91	351	P	P	20 54 18.8	+1.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,109nm,21.3s						
SML	Sawmill	86.16	7	*e*P	P	20 54 24.9	+1.6
DIV	Divide	87.07	6	*e*P	P	20 54 30.5	+2.7
	comp=Z,21nm,0.6s,mb5.5						
ULM	Lac du Bonnet	91.76	337	LR	LR	21 36 41.6	
	comp=Z,95nm,19.6s,MS4.2,baz=2.2,slow=36						
WRA	Warramunga Arr	98.82	108	P	P	20 55 24.3	+1.3
	comp=Z,0.3nm,0.7s,mb3.9,baz=311,slow=4.0,SNR=4.0						
MAW	Mawson	99.75	174	LR	LR	21 36 45.2	
	comp=Z,189nm,20.6s,MS4.6,baz=230,slow=33						
ASAR	Alice Springs	100.34	111	P	P	20 55 30.4	+0.6
	comp=Z,0.3nm,0.8s,baz=281,slow=4.6,SNR=2.5						

*NEIC **05** 21:05:55.7±0.3, 16.71S×173.80W, h15^{km}, mb4.3/7, Error ellipse: s-maj=18.0km s-min=8.2km az=135.0*

*IDC **05** 21:06:03.5±0.8, 16.91S×173.78W, h80^{km}±5^{km}, mb4.0/10, mb1 4.2/11, mb1mx4.0/19, Error ellipse: s-maj=36.3km s-min=15.8km az=136.0*

ISC 05 21:06:01.6±0.5**, 16.7S**±0.1×**173.9W**±0.1**, h75**^{km}**,**
h75^{km}±2.3^{km}**:pP-P, n43,** σ**0^{s}61**/21**, mb4.2**/17**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.10	111	P	P	21 09 08.1	-11
	2.5nm,0.3s,baz=279,slow=13,SNR=3.7						
RAR	Rarotonga	14.10	111	*e*P	P	21 09 07.9	-11
URZ	Urewera	22.90	198	P	P	21 10 58.0	-1.5
	24nm,0.5s,mb4.8,baz=69,slow=3.8,SNR=27						
RPZ	Rata Peaks	29.82	202	P	P	21 12 05.2	+1.6
	10nm,0.5s,mb4.7,baz=25,slow=20,SNR=12						
STKA	Stephens Creek	42.99	241	P	P	21 13 55.4	+0.2
	4.2nm,1.0s,mb4.1,baz=106,slow=10,SNR=5.3						
WB2	Warramunga Arr	49.09	258	*e*P	P	21 14 43.4	-0.2
WRAB	Tennant Creek	49.09	258	*e*P	P	21 14 43.4	-0.2
	3.5nm,0.8s,mb4.3						
WRAB				*e*		21 14 51.0	
WRA	Warramunga Arr	49.10	258	P	P	21 14 43.6	-0.1
	1.1nm,0.5s,mb4.0,baz=96,slow=7.1,SNR=36						
WRA				pP	pP	21 15 01.8	-0.7
	0.6nm,0.5s,baz=97,slow=7.5,SNR=3.4						
ASAR	Alice Springs	49.27	253	P	P	21 14 44.9	0.0
	6.8nm,0.6s,mb4.8,baz=86,slow=8.7,SNR=95						
ASAR				pP	pP	21 15 03.1	-0.7
	4.0nm,0.6s,baz=90,slow=8.1,SNR=5.9						
ASPA	Alice Springs	49.27	253	*e*P	P	21 14 44.8	-0.2
SBA	Scott Base	61.94	185	P	P	21 16 15.4	0.0
	2.5nm,0.7s,mb4.3						
VNDA	Vanda	62.06	186	P	P	21 16 22.3	+6.2
	0.8nm,0.6s,mb4.0,baz=27,slow=7.1,SNR=3.8						
CMB	Columbia Colle	74.04	41	*e*P	P	21 17 30.7	-0.5
	2.2nm,0.7s,mb4.0						
YBH	Yreka Blue Hor	74.90	37	P	P	21 17 36.9	+0.8
	2.3nm,0.9s,mb3.9,baz=256,slow=2.2,SNR=4.2						
TPH	Tonopah	76.09	43	*e*P	P	21 17 42.7	-0.3
	6.4nm,1.1s,mb4.3						
HLID	Hailey	80.92	39	*e*P	P	21 18 09.1	-0.1
	2.0nm,0.8s,mb4.0						
MCK	McKinley	82.47	11	*e*P	P	21 18 17.5	+0.7
	1.9nm,0.8s,mb4.0						
PDAR	Pinedale Array	83.53	42	P	P	21 18 22.4	-0.2
	1.6nm,0.8s,mb3.9,baz=211,slow=2.8,SNR=11						
PDAR				pP	pP	21 18 44.2	+0.9
	0.5nm,0.7s,baz=225,slow=2.1,SNR=2.9						
ILAR	Eielson Array	83.79	11	P	P	21 18 23.4	0.0
	0.9nm,1.0s,mb3.5,baz=229,slow=7.1,SNR=4.0						
SDCO	Great Sand Dun	83.92	48	P	P	21 18 24.4	-0.4
	1.8nm,1.0s,mb3.9						
MAW	Mawson	86.43	199	P	P	21 18 36.9	+0.5
	1.2nm,0.7s,mb3.9,baz=306,slow=18,SNR=2.6						
CLL	Collm	145.02	352	*i* PKIKP	PKPdf	21 25 31.2	+1.2
	logA/T=0.9						
CLL	Collm	145.02	352	P	PKPdf	21 25 54.1	+24
CLL	Collm	145.02	352	*i* P	PKPdf	21 25 31.2	+1.2
CLL				*i*		21 25 54.1	
BRG	Berggiesshubel	145.32	351	P	PKPdf	21 25 33.4	+2.9
DPC	Dobruska-Polom	145.42	348	*e*PKP	PKPdf	21 25 34.5	+3.8
DPC				*e*		21 25 56.0	
OKC	Ostrava-Krasne	145.52	346	*e*PKP	PKPdf	21 25 34.7	+3.8
OKC				*e*		21 25 55.4	
PVCC	Panska Ves	145.56	350	*e*PKP	PKPdf	21 25 34.5	+3.6
PVCC				*e*		21 25 56.4	
MOX	Moxa	145.83	354	*e*P	PKPdf	21 25 34.0	+2.6
BRTR	Keskin Array B	146.83	319	PKPbc	PKPbc	21 25 36.9	+1.9
	1.2nm,1.1s,baz=90,slow=1.4,SNR=3.1						
BRTR				pPKPbc		21 26 00.1	
	4.3nm,0.7s,baz=135,slow=1.7,SNR=17						
KHC	Kasperske Hory	147.07	351	*e*PKP	PKPdf	21 25 39.6	+6.0
KHC				*e*		21 26 00.6	
GERES	GERESS Array B	147.33	351	PKPbc	PKPdf	21 25 39.0	+5.1
	0.6nm,0.8s,baz=45,slow=1.9,SNR=7.1						
GERES				pPKPbc		21 26 01.1	
	0.8nm,0.8s,baz=315,slow=3.8,SNR=3.8						
FLN	La Foliniere	147.56	8	*e*PKP1	PKPdf	21 25 39.5	+5.2
SGMF	Saint Gilles	147.72	11	*e*PKP1	PKPdf	21 25 39.1	+4.5
	11nm,0.8s						
LDF	La Druitiere	147.77	8	*e*PKP1	PKPdf	21 25 40.0	+5.3
GRR	Gorron	147.87	9	*e*PKP1	PKPdf	21 25 39.9	+5.0
HAU	Haudompre	148.76	360	*e*PKP1	PKPdf	21 25 41.6	+5.3
LOR	Lormes	149.45	3	*e*PKP1	PKPdf	21 25 44.3	+6.9
SSF	Saint Saulge	149.63	4	*e*PKP1	PKPdf	21 25 44.9	+7.2
	21nm,1.3s						
AVF	Avril sur Loir	149.89	4	*e*PKP1	PKPdf	21 25 44.1	+5.9
SMF	Signal de Mont	150.07	3	*e*PKP1	PKPdf	21 25 43.9	+5.5
BGF	Bois d'Agland	150.09	5	*e*PKP1	PKPdf	21 25 45.8	+7.3
TCF	Toulx Ste Croi	150.31	5	*e*PKP1	PKPdf	21 25 46.1	+7.3

*NEIC **05** 21:06:20.3±0.6, 11.43N×141.29E, h30^{km}, mb4.5/5, Error ellipse: s-maj=17.9km s-min=12.0km az=96.0*

*IDC **05** 21:06:27.5±8.5, 11.40N×140.95E, h83^{km}±77^{km}, mb3.8/10, mb1 4.0/11, mb1mx3.8/19, ML4.4/1, Error ellipse: s-maj=35.5km s-min=14.5km az=76.0*

ISC 05 21:06:19.6±0.5**, 11.35N**±0.07×**141.07E**±0.08**, h33**^{km}**, n21,**
σ**0^{s}92**/21**, mb4.2**/15**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.33	59	Pn	Pn	21 07 18.8	-6.1
GUMO				*e*S	S	21 08 14.6	-0.1
JOW	Kunigami	19.55	324	P	P	21 10 48.9	+1.5
	1.9nm,0.3s,baz=166,slow=12,SNR=5.0						
MAJO	Matsushiro	25.22	355	*e*P	P	21 11 45.3	+1.3
	3.0nm,0.7s,mb3.9						
WRAB	Tennant Creek	31.78	192	*e*P	P	21 12 41.5	-1.8
	3.4nm,0.7s,mb4.3						
WB2	Warramunga Arr	31.79	192	*e*P	P	21 12 43.2	-0.3
WRA	Warramunga Arr	31.79	192	P	P	21 12 43.7	+0.2
	3.0nm,0.7s,mb4.2,baz=13,slow=9.8,SNR=22						
ENH	Enshi	34.83	308	*e*P	P	21 13 08.5	-1.1
	9.2nm,0.9s,mb4.7						
ASAR	Alice Springs	35.50	191	P	P	21 13 16.5	+1.1
	1.9nm,0.6s,mb4.2,baz=19,slow=12,SNR=23						
CMAR	Chiang Mai Arr	41.24	285	P	P	21 14 04.2	+0.8
	1.5nm,0.6s,mb3.8,baz=85,slow=6.3,SNR=12						
STKA	Stephens Creek	42.98	179	P	P	21 14 19.0	+1.4
	2.3nm,0.8s,mb4.0,baz=4.8,slow=12,SNR=3.0						
STKA	Stephens Creek	42.98	179	P	P	21 14 19.0	+1.4
SONM	Songino Array	46.54	328	P	P	21 14 46.2	+0.3
	1.0nm,0.5s,mb4.0,baz=140,slow=7.4,SNR=14						
LSA	Lhasa	49.77	299	*e*P	P	21 15 11.2	0.0
	2.6nm,0.7s,mb4.4						
MKAR	Makanchi Array	60.57	318	P	P	21 16 28.6	-0.7
	5.0nm,1.0s,mb4.6,baz=98,slow=8.6,SNR=19						
KURK	Kurchatov	63.94	321	*e*P	P	21 16 50.6	-1.0
	11nm,0.8s,mb4.9						
BRVK	Borovoye	69.47	323	P	P	21 17 26.0	-0.5
ILAR	Eielson Array	72.17	25	P	P	21 17 42.1	-0.4
	0.5nm,0.6s,mb3.6,baz=241,slow=6.8,SNR=5.7						
INK	Inuvik	77.84	22	P	P	21 18 15.7	+0.6
	0.9nm,0.8s,mb3.7,baz=101,slow=19,SNR=2.9						
ARCES	ARCESS Array B	88.04	341	P	P	21 19 07.3	0.0
	1.8nm,1.0s,mb4.3,baz=45,slow=6.9,SNR=5.3						
FINES	FINESS Array B	91.58	334	P	P	21 19 22.9	-1.3
	0.7nm,0.4s,mb4.3,baz=68,slow=5.5,SNR=20						
LPAZ	La Paz	151.24	103	PKPbc	PKPdf	21 26 15.4	+11
	3.1nm,0.6s,baz=254,slow=2.7,SNR=14						

*ISK **05** 21:08:40.8, 36.93N×27.79E, h11^{km}, MD3.2*

*NEIC **05** 21:08:43.3, 36.75N×27.72E, h5^{km}, MD3.2(ATH), After ATH.*

*ATH **05** 21:08:43.3, 36.75N×27.72E, h5^{km}, MD3.2/4*

ISC 05 21:08:40.7±0.7**, 36.90N**±0.03×**27.77E**±0.04**, h10**^{km}±5^{km}**,**
n14, σ**0^{s}93**/22**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	302	⇑*i*P	Pg	21 08 47.2	+0.2
BDRM				*i* S	Sg	21 08 51.9	+0.6
MLSB	Milas	0.39	1	*i* PG	Pg	21 08 48.5	-0.2
MLSB				SG	Sg	21 08 54.4	+0.4
YER	Yerkesik	0.47	61	*i* PG	Pg	21 08 50.2	-0.1
YER				SG	Sg	21 08 56.7	0.0
NISR	Nisiros	0.59	241	*e*PB	Pb	21 08 53.0	+0.4
ARG	Arkhangelos	0.74	157	*e*PB	Pb	21 08 55.5	+0.2
AYDN	Tasoluk	0.76	7	*i* P	Pb	21 08 55.4	-0.2
AYDN				*i* S	Sb	21 09 05.2	-0.5
DNZL	Cakiroluk	1.29	52	⇑*i*P	Pb	21 09 05.0	+0.5
DNZL				*i* S	Sb	21 09 22.5	+1.6
DENT	Denizli	1.32	50	PN	Pn	21 09 05.6	+0.4
KARP	Karpathos	1.44	200	*e*PG	Pg	21 09 07.0	-2.4
KARP				*e*SB	Sb	21 09 26.5	+1.1
KDAG	Bornova	1.55	345	⇑*i*P	Pn	21 09 06.6	-2.0
KDAG				*i* S	Sb	21 09 30.1	+1.5
MANT	Manisa	1.70	21	⇑*i*P	Pn	21 09 10.3	-0.5
MANT				*i* S	Sn	21 09 31.1	-1.6
ELL	Elmali	1.72	94	*e*PN	Pn	21 09 11.2	+0.2
AKS	Akhisar	1.97	1	PN	Pn	21 09 14.0	-0.6
PRK	Paraskevi	2.62	334	*e*PN	Pn	21 09 31.4	+7.6

*NEIC **05** 21:21:22.7, 38.35S×175.86E, h212^{km}, After WEL.*

WEL 05 21:21:26.6±0.5**, 38.43S×175.94E, h179**^{km}±4^{km}**, ML4.0**/7**,**
2C-1D, Error ellipse: s-maj=4.2km s-min=3.1km az=0.0,
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.76	211	PN	P	21 21 52.5	-0.3
NGZ	Ngauruhoe	0.80	199	PN	P	21 21 53.0	0.0
NGZ	Ngauruhoe	0.80	199	P	P	21 21 53.0	0.0
CNZ	Chateau	0.83	201	⇓PN	P	21 21 53.1	-0.2
CNZ	Chateau	0.83	201	P	P	21 21 53.1	-0.1
BKZ	Black Stump Fm	0.86	150	PN	P	21 21 53.4	0.0
BKZ				SN	S	21 22 14.0	-0.2
BKZ	Black Stump Fm	0.86	150	*e*P	P	21 21 53.4	0.0
TUVZ	Tukino	0.87	195	PN	P	21 21 53.4	-0.1
URZ	Urewera	0.94	80	⇑PN	P	21 21 53.2	-0.7
URZ				SN	S	21 22 14.2	-0.8
URZ	Urewera	0.94	80	P	P	21 21 53.2	-0.7
WNVZ	Wahianoa	0.94	196	⇑PN	P	21 21 53.8	-0.1
MOVZ	Moawhango	0.99	188	PN	P	21 21 53.8	-0.5
MOVZ				SN	S	21 22 14.6	-1.1
MWZ	Matawai	1.25	86	PN	P	21 21 56.1	-0.5
MWZ				SN	S	21 22 18.6	-1.1
MWZ	Matawai	1.25	86	*e*P	P	21 21 56.1	-0.4
KNZ	Kokohu	1.48	114	PN	P	21 21 58.6	0.0
KNZ	Kokohu	1.48	114	*e*P	P	21 21 58.6	-0.1
WAZ	Wanganui	1.52	209	PN	P	21 21 57.9	-1.1
WAZ	Wanganui	1.52	209	P	P	21 21 58.0	-1.0
WAZ				S	S	21 22 24.5	+0.4
TSZ	Takapari Road	1.63	179	PN	P	21 21 59.3	-0.8
TSZ	Takapari Road	1.63	179	P	P	21 21 59.3	-0.8
PUZ	Puketiti	1.86	80	PN	P	21 22 01.5	-1.0
PUZ				SN	S	21 22 27.7	-2.4
PUZ	Puketiti	1.86	80	*e*P	P	21 22 01.5	-0.9
MRZ	Mangatainoka R	2.25	187	PN	P	21 22 04.9	-1.9
MRZ				SN	S	21 22 34.6	-3.2
MRZ	Mangatainoka R	2.25	187	P	P	21 22 04.9	-1.9
BFZ	Birch Farm	2.27	174	PN	P	21 22 05.4	-1.5
BFZ	Birch Farm	2.27	174	*e*P	P	21 22 05.4	-1.6
KIW	Kapiti Island	2.56	198	PN	P	21 22 07.6	-2.9
KIW				SN	S	21 22 40.0	-4.2
KIW	Kapiti Island	2.56	198	P	P	21 22 07.6	-2.8
KIW				S	S	21 22 40.1	-4.1
MTW	Mount Morrison	2.75	187	PN	P	21 22 09.5	-3.2
MTW				SN	S	21 22 43.9	-4.3
MTW	Mount Morrison	2.75	187	P	P	21 22 09.6	-3.1
CAW	Cannon Point	2.76	194	PN	P	21 22 10.0	-2.9
CAW	Cannon Point	2.76	194	P	P	21 22 10.0	-2.9
MRW	Makara Radio	2.96	198	PN	P	21 22 11.9	-3.3
MRW				SN	S	21 22 48.4	-4.3
MRW	Makara Radio	2.96	198	P	P	21 22 12.0	-3.2
PAWZ	Paruwai Farm	2.98	187	PN	P	21 22 12.0	-3.5
PAWZ				SN	S	21 22 48.3	-4.8
MSWZ	Moikau Station	3.03	190	PN	P	21 22 12.7	-3.5
MSWZ				SN	S	21 22 49.5	-4.8
SNZO	South Karori	3.03	198	PN	P	21 22 12.6	-3.5
SNZO				SN	S	21 22 49.6	-4.7
SNZO	South Karori	3.03	198	P	P	21 22 12.6	-3.5
SNZO				S	S	21 22 50.7	-3.6
BHW	Baring Head	3.09	195	PN	P	21 22 13.3	-3.6
BHW	Baring Head	3.09	195	P	P	21 22 13.3	-3.6
BHW				S	S	21 22 50.5	-5.1
TUWZ	Tuamarina	3.37	206	PN	P	21 22 16.2	-4.1
NNZ	Nelson	3.41	214	*e*P	P	21 22 16.4	-4.5
QRZ	Quartz Range	3.56	227	PN	P	21 22 17.3	-5.4
QRZ				SN	S	21 22 59.9	-6.2
QRZ	Quartz Range	3.56	227	*e*P	P	21 22 17.3	-5.5
QRZ				S	S	21 22 59.9	-6.2
THZ	Tophouse	4.07	214	SN	S	21 23 11.4	-6.1
THZ	Tophouse	4.07	214	*e*P	P	21 22 24.7	-4.5
THZ				S	S	21 23 11.8	-5.7
KHZ	Kahutara	4.39	204	PN	P	21 22 29.1	-4.3
KHZ	Kahutara	4.39	204	P	P	21 22 29.1	-4.2
DSZ	Denniston Nort	4.59	222	SN	S	21 23 21.3	-8.2
DSZ	Denniston Nort	4.59	222	P	P	21 22 31.3	-4.6
DSZ				S	S	21 23 21.8	-7.7
LTZ	Lake Taylor	5.17	211	*e*P	P	21 22 37.7	-5.8
MQZ	McQueen's Vall	5.83	204	PN	P	21 22 45.6	-6.5
MQZ	McQueen's Vall	5.83	204	*e*P	P	21 22 45.6	-6.5
MQZ				S	S	21 23 48.9	-10
ODZ	Otahua Downs	7.71	209	PN	P	21 23 10.6	-6.3
ODZ				SN	S	21 24 32.5	-10
ODZ	Otahua Downs	7.71	209	*e*P	P	21 23 11.0	-5.8

*JMA **05** 21:36:56.9±0.3, 23.07N×121.51E, h64^{km}*

TAP 05 21:36:58.0, 23.13N×121.38E, h20^{km}**, ML3.1, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.00	48	P	Pn	21 37 28.4	-2.8
YOJ				*e*S	Sn	21 37 51.6	-4.3
HATJ	Hateruma jima	2.41	67	P	Pn	21 37 33.3	-3.8
HATJ				S	Sn	21 38 01.3	-5.0
IRIF	Iriomote-Funau	2.46	60	P	Pn	21 37 34.8	-3.1
IRIF				S	Sn	21 38 03.3	-4.5
JKRS	Kuro-shima	2.65	65	P	Pn	21 37 37.2	-3.4
JKRS				*e*S	Sn	21 38 07.9	-4.6
JIJ	Ishigaki jima	2.81	64	P	Pn	21 37 39.1	-3.8
JIJ				S	Sn	21 38 10.2	-6.4
JTJ	Tarama	3.39	63	P	Pn	21 37 47.1	-4.0
JTJ				*e*S	Sn	21 38 24.6	-6.7

*IDC **05** 21:39:55.2±0.8, 37.78N×106.16E, mb4.0/8, mb1 4.2/10, mb1mx4.0/19, ML4.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/25, Error ellipse: s-maj=34.2km s-min=15.1km az=71.0*

*MOS **05** 21:39:57.2±2.9, 37.96N×106.21E, h33^{km}, mb4.3/5, Error ellipse: s-maj=76.9km s-min=23.5km az=94.8*

*BJI **05** 21:39:58.0, 37.73N×106.18E, h33^{km}, mb4.5, ML4.4, Ms4.1, Msz3.6*

*NEIC **05** 21:40:02.8±1.2, 37.77N×105.83E, h59^{km}±13^{km}, mb4.1/3, Error ellipse: s-maj=15.2km s-min=9.7km az=93.0*

ISC 05 21:39:57.3±0.4**, 37.76N**±0.04×**106.10E**±0.06**, h33**^{km}**, n40,**
σ**1^{s}27**/50**, mb4.0**/9**, MS2.9**/3**, 1C, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	Lanzhou	2.46	228	⇑P	P	21 40 38.9	+3.0
LZH				PG	P	21 40 42.5	+6.6
LZH				SG	S	21 41 13.1	+8.0
LZH				Smax			
	comp=N,2μm,0.7s						
LZH				Smax			
	comp=E,2μm,0.8s						
BTO	Baotou	4.17	46	*e*P	P	21 41 00.1	-0.1
BTO				*e*PG	P	21 41 11.3	+11
BTO				S	S	21 41 48.1	-0.3
BTO				SG	S	21 42 01.9	+13
BTO				Smax			
	comp=N,2μm,0.4s						
BTO				Smax			
	comp=E,2μm,0.4s						
XAN	Xi'an	4.36	147	P	P	21 41 02.5	-0.5
XAN				PG	P	21 41 13.3	+10
XAN				S	S	21 41 53.6	+0.2
XAN				SG	S	21 42 08.1	+15
XAN				Smax			
	comp=N,774nm,0.5s						
XAN				Smax			
	comp=E,435nm,0.9s						
GTA	Gaotai	5.19	290	P	P	21 41 15.4	+0.7
GTA				PG	P	21 41 30.8	+16
GTA				SG	S	21 42 39.0	+25
GTA				Smax			
	comp=N,445nm,0.8s						
GTA				Smax			
	comp=E,338nm,0.6s						
GTA				LR	LR		
	comp=N,1μm,5.3s						
GTA				LR	LR		
	comp=E,445nm,9.1s						
HHC	Hu-ho-hao-te	5.24	52	*e*P	P	21 41 15.9	+0.5
HHC				PG	P	21 41 29.8	+14
HHC				S	S	21 42 14.5	-1.0
HHC				SG	S	21 42 34.8	+19
HHC				Smax			
	comp=N,1μm,0.4s						
HHC				Smax			
	comp=E,1μm,0.4s						
ENH	Enshi	7.98	158	*e*Pn	P	21 41 52.0	-1.7
ENH				*e*S	S	21 43 52.3	+28
SONM	Songino Array	10.07	1	Pn	P	21 42 22.4	-0.2
	comp=E,1.5nm,0.3s,baz=185,slow=14,SNR=52						
SONM				Lg		21 45 16.3	
	comp=E,0.9nm,0.3s,baz=183,slow=24,SNR=2.8						
GYA	Guiyang	11.28	177	P	P	21 42 37.2	-2.0
GYA				LR	LR		
	comp=N,150nm,4.3s						
GYA				LR	LR		
	comp=E,250nm,4.9s						
GYA				LR	LR		
	comp=Z,130nm,5.2s						
ZAK	Zakamensk	12.78	352	*e*P	P	21 42 52.4	-6.9
ZAK				*e*		21 45 19.2	
KMI	Kunming	12.92	194	*e*P	P	21 43 04.4	+3.2
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s						
KMI	Kunming	12.92	194	*e*P	P	21 43 04.4	+3.2
	comp=Z,4.0nm,1.2s						
LSA	Lhasa	14.80	241	*e*P	P	21 43 25.3	-0.6
	comp=Z,11nm,1.0s						
HIA	Hailar	15.15	36	*e*P	P	21 43 36.0	+5.7
	comp=Z,9.8nm,0.8s						
WMQ	Urumqi	15.19	299	*e*P	P	21 43 35.3	+4.4
MKAR	Makanchi Array	19.73	305	P	P	21 44 26.5	-0.3
	comp=Z,0.2nm,0.3s,baz=107,slow=13,SNR=25						
MKAR	Makanchi Array	19.73	305	P	P	21 44 26.5	-0.3
KKN	Kakani	20.09	246	*e*P	P	21 44 30.0	-0.8
	comp=Z,9.4nm,0.4s						
PKI	Pulchoki	20.12	246	*e*P	P	21 44 30.5	-0.7
	comp=Z,11nm,0.5s						
CMAR	Chiang Mai Arr	20.23	200	P	P	21 44 33.4	+1.2
	comp=Z,7.7nm,0.7s,baz=7.3,slow=9.6,SNR=48						
CMAR				LR	LR	21 53 09.8	
	comp=Z,48nm,20.6s,MS2.8,baz=260,slow=39						
CMAR	Chiang Mai Arr	20.23	200	P	P	21 44 33.4	+1.1
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,48nm,20.6s						
DMN	Daman	20.32	246	*e*P	P	21 44 33.1	-0.1
GKN	Gorkha	20.44	248	*e*P	P	21 44 32.6	-1.9
	comp=Z,4.9nm,0.3s						
JNU	Nakatsue	20.69	95	LR	LR	21 53 28.2	
	comp=Z,53nm,20.9s,MS2.9,baz=51,slow=39						
KOLN	Koldanda	21.34	249	*e*P	P	21 44 43.5	-0.1
JOW	Kunigami	21.63	114	LR	LR	21 53 05.7	
	comp=Z,50nm,21.8s,MS2.9,baz=89,slow=37						
KURK	Kurchatov	23.41	312	P	P	21 45 05.1	+1.2
	comp=Z,7.8nm,0.9s,mb4.1						

ARU	Arti	36.46	316	*e*P	P	21 46 58.1	-2.6
	comp=Z,2.1nm,0.8s,mb4.1						
ARCES	ARCESS Array B	51.95	334	P	P	21 49 06.1	+1.5
	comp=Z,0.6nm,0.6s,mb3.7,baz=72,slow=7.7,SNR=4.5						
ARCES	ARCESS Array B	51.95	334	P	P	21 49 06.1	+1.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	53.08	324	P	P	21 49 13.7	+0.5
	comp=Z,1.8nm,1.1s,mb3.9,baz=90,slow=5.7,SNR=5.6						
FINES	FINESS Array B	53.08	324	P	P	21 49 13.7	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NB2	NORSAR Subarra	60.01	326	P	P	21 50 02.2	-0.5
	comp=Z,1.5nm,0.6s,mb4.2,baz=65,slow=7.0						
NOA	NORSAR Array B	60.01	326	P	P	21 50 02.6	-0.1
	comp=Z,1.5nm,0.5s,mb4.2,baz=65,slow=6.7,SNR=13						
NOA	NORSAR Array B	60.01	326	P	P	21 50 02.6	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	Eielson Array	63.16	27	P	P	21 50 24.1	+0.3
	comp=Z,0.4nm,0.4s,mb3.9,baz=288,slow=5.5,SNR=5.1						
WRA	Warramunga Arr	63.25	150	P	P	21 50 24.7	-0.3
	comp=Z,1.9nm,0.6s,mb4.4,baz=343,slow=6.4,SNR=28						
WRA	Warramunga Arr	63.25	150	P	P	21 50 24.7	-0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WB2	Warramunga Arr	63.25	150	*e*P	P	21 50 24.4	-0.6
ASAR	Alice Springs	66.46	152	P	P	21 50 46.0	+0.4
	comp=Z,1.0nm,0.5s,mb4.1,baz=344,slow=6.9,SNR=9.7						
STKA	Stephens Creek	76.79	150	P	P	21 51 50.0	+2.7
	comp=Z,1.0nm,0.6s,mb3.9,baz=304,slow=7.3,SNR=3.3						

NEIC ***05*** *21:45:16.8, 17.11N×95.20W, h125^{km}, MD3.9(MEX), After MEX.*

MEX 05 21:45:16.6±1.2**, 17.14N×95.23W, h128^{km}**±11^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.33	99	*i* P	P	21 45 33.4	-1.3
CMIG				*i* S	S	21 45 45.4	-3.1
TUIG	Tuzandepetl	1.17	41	*i* P	P	21 45 40.0	-1.4
TUIG				*i* S	S	21 45 54.9	-5.2
OXX	Oaxaca	1.43	268	*i* P	P	21 45 43.0	-1.2
OXX				*i* S	S	21 46 03.5	-1.7
HUIG	Huatulco	1.60	212	*i* P	P	21 45 43.8	-2.4
HUIG				*i* S	S	21 46 05.7	-3.0
CCIG	Comitan	3.08	106	*i* P	P	21 46 04.8	-0.3
CCIG				*i* S	S	21 46 38.6	-3.4
PPM	Popocatepetl	3.76	301	*i* P	P	21 46 13.6	-0.5
PPM				*e*P		21 46 15.0	
PPM				*i* S	S	21 46 55.5	-2.5
PPM	Popocatepetl	3.76	301	*i* P	P	21 46 13.6	-0.5
PPM				*i* S	S	21 46 55.5	-2.5

IDC ***05*** *21:51:17.8±0.5, 23.74N×44.99W, mb4.7/28, mb1 4.8/28, mb1mx4.8/28, MS4.6/18, Ms1 4.6/18, ms1mx4.6/19, Error ellipse: s-maj=14.6km s-min=11.1km az=126.0*

BGS ***05*** *21:51:18.6±2.8, 23.66N×44.93W, h10^{km}*

BJI ***05*** *21:51:18.7, 23.74N×44.95W, h17^{km}, mB5.3, mb5.1, Ms5.2, Msz4.7*

HRVD ***05*** *21:51:19.4±0.2, 23.79N×45.02W, h12^{km}, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s50,c80;Mantle waves: s72,c135; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.01±.02; M$_{\theta\theta}$-0.35±.02; M$_{\phi\phi}$0.34±.02; M$_{r\theta}$0.43±.05; M$_{\theta\phi}$-1.10±.02; M$_{\phi r}$0.09±.05; Best double couple: M$_0$1.23×10^{17} NP1: ϕ_s188°,δ71°,λ-6°. NP2:ϕ_s279°,δ85°,λ-161°. Principal axes: T 1.18, Plg9°, Azm52°; N .1, Plg70°, Azm295°; P -1.28, Plg17°, Azm145°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *21:51:19.4±0.1, 23.71N×44.94W, h10^{km}, mb5.2/136, MS4.7/26 Error ellipse: s-maj=4.5km s-min=1.8km az=170.0*

MOS ***05*** *21:51:21.7±0.5, 24.55N×44.94W, h10^{km}, mb5.4/16, MS4.7/16, Error ellipse: s-maj=29.6km s-min=7.3km az=49.2*

ISC 05 21:51:17.8±0.2**, 23.77N**±0.04×**44.96W**±0.02**, h10^{km}, (h29^{km}**±1.9^{km}**:pP-P), n463,** $\sigma 0^{s}86$/473**, mb5.1**/183**,**
MS4.7/59**, 96C-15D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	16.91	252	*e*P	P	21 55 14.2	-2.0
BPA	Boggy Peak	17.18	250	*e*P	P	21 55 20.4	+0.7
MGG	Marie-Galante	17.24	246	*e*P	P	21 55 18.9	-1.5
DLVT	Layou Valley	17.55	245	*e*P	P	21 55 24.2	-0.1
BBL	Barber's Block	17.56	245	*e*P	P	21 55 23.4	-1.1
BBL	Barber's Block	17.56	245	*e*P	P	21 55 24.9	+0.5
DSTT	Stowe	17.57	244	*e*P	P	21 55 25.9	+1.3
MDN	Morne-Daniel	17.60	244	*e*P	P	21 55 28.4	+3.4
BBSR	BB Station	19.39	301	P	P	21 55 44.6	-2.0
	53nm,1.0s						
GRW	Mount Saint Ca	19.61	237	*e*P	P	21 55 49.0	-0.3
MTP	Monte Pirata	20.04	258	*e*P	P	21 55 53.8	-0.2
TRN	Trinidad (W)	20.39	233	*e*P	P	21 56 01.0	+3.3
SJG	San Juan	20.56	258	P	P	21 55 58.9	-0.5
	70nm,1.1s,baz=20,slow=10,SNR=4.7						
SJG				LR	LR	22 01 54.8	
	comp=Z,2μm,19.9s,MS4.5,baz=75,slow=31						
SJG	San Juan	20.56	258	*e*P	P	21 55 58.0	-1.5
	82nm,1.1s						
SJG				LR	LR		
	comp=Z,803nm,21.0s,MS4.1						
TCE	Chacachacare	20.61	234	*e*P	P	21 56 02.7	+2.7
TPP	Pointe-a-Pierr	20.64	232	*e*P	P	21 56 01.9	+1.6
ADH	Angra Heroismo	21.16	41	*i* LR	LR	22 01 17.5	
MGP	Maguayo	21.44	259	*e*P	P	21 56 07.8	-0.6
EMMW	East Machias	27.80	324	PFAKE		21 57 20.0	+11
EMMW				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
SDV	Santo Domingo	28.66	243	*e*P	P	21 57 17.1	0.0
	comp=Z,63nm,1.3s,mb5.2						
SDV				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
HRV	Harvard--Oak R	28.88	317	PFAKE		21 57 30.0	+11
HRV				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
PQI	Presque Isle	29.41	327	PFAKE		21 57 40.0	+16
PQI				LR	LR		
	comp=Z,7μm,22.0s,MS5.2						
RCBR	Riachuelo	30.72	162	PFAKE		21 57 50.0	+15
RCBR				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
CBN	Corbin	31.11	305	PFAKE		21 57 50.0	+11
CBN				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
NCB	Newcomb	31.31	317	*e*P	P	21 57 41.0	+0.7
	comp=Z,28nm,0.9s,mb5.1						
BINY	Binghamton	31.61	313	*e*P	P	21 57 41.5	-1.5
	comp=Z,16nm,0.9s,mb4.9						
NHSC	New Hope	32.21	295	PFAKE		21 58 00.0	+12
NHSC				LR	LR		
	comp=Z,935nm,22.0s,MS4.4						
MSNY	Massena	32.23	318	*e*P	P	21 57 46.4	-2.0
SSPA	Standing Stone	32.30	309	PFAKE		21 58 00.0	+11
SSPA				LR	LR		
	comp=Z,172nm,20.0s,MS3.7						
BLA	Blacksburg	33.16	302	*e*P	P	21 57 58.0	+1.4
	comp=Z,111nm,1.2s,mb5.7						
BLA				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
ROSC	El Rosal	33.97	241	P	P	21 58 03.1	-0.7
	comp=Z,9.2nm,0.7s,mb4.8,baz=44,slow=22,SNR=3.2						
ROSC				LR	LR	22 10 11.4	
	comp=Z,1μm,21.4s,MS4.6,baz=249,slow=33						
ROSC	El Rosal	33.97	241	P	P	21 58 03.1	-0.8
ROSC				LR	LR	22 10 11.4	
ERPA	Erie	34.31	311	PFAKE		21 58 20.0	+13
ERPA				LR	LR		
	comp=Z,938nm,20.0s,MS4.5						
PTOM	Tomar	34.61	54	*e*P	P	21 58 08.8	-0.4
PBEJ	Beja	34.62	57	*e*P	P	21 58 08.2	-1.0
	comp=Z,41nm,1.5s,mb5.1						
EVO	Evora	34.63	56	*e*P	P	21 58 07.5	-1.8
	comp=Z,91nm,1.7s,mb5.1						
EVO				*e*R			
	comp=Z,2μm,20.5s						
PALC	Alcoutim	34.80	58	*e*P	P	21 58 10.6	-0.1
	comp=Z,50nm,1.5s,mb5.2						
SADO	Sadowa	34.80	315	P	P	21 58 10.2	-0.5
	comp=Z,3.6nm,0.6s,mb4.5,baz=138,slow=12,SNR=3.7						
EGRO	El Granado	34.81	58	⇑P	P	21 58 10.7	-0.1
	comp=Z,112nm,1.5s,mb5.6						
SCHQ	Schefferville	35.03	338	P	P	21 58 12.2	-0.3
	comp=Z,8.4nm,0.8s,mb4.7,baz=137,slow=8.4,SNR=5.8						
SCHQ				LR	LR	22 10 53.3	
	comp=Z,934nm,19.6s,MS4.5,baz=116,slow=34						
PVIS	Viseu	35.31	52	*e*P	P	21 58 16.0	+0.9
PCBR	Castelo Branco	35.37	54	*e*P	P	21 58 15.3	-0.3
	comp=Z,20nm,1.7s,mb4.8						
EBAD	Badajoz	35.44	56	⇑P	P	21 58 16.1	-0.1
	comp=Z,114nm,1.9s,mb5.5						
MTE	Manteigas	35.47	53	*e*P	P	21 58 15.7	-0.8
	comp=Z,50nm,1.0s,mb5.4						
EMIN	Mina Concepcio	35.48	58	⇑P	P	21 58 16.3	-0.3
	comp=Z,88nm,1.8s,mb5.4						
ELOB	Lobios	35.54	50	P	P	21 58 16.7	-0.3
STS	Santiago	35.55	49	P	P	21 58 16.0	-1.1
PVRL	Vila Real	35.60	52	*e*P	P	21 58 16.2	-1.4
	comp=Z,33nm,1.6s,mb5.0						
MYNC	Murphy	35.72	297	*e*P	P	21 58 19.2	+0.6
	comp=Z,56nm,1.0s,mb5.5						
MYNC				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
ACSO	Alum Creek Sta	35.86	306	*e*P	P	21 58 20.4	+0.6
	comp=Z,25nm,0.8s,mb5.2						
ACSO				LR	LR		
	comp=Z,706nm,22.0s,MS4.4						
ESPR	Espera	35.95	60	⇑P	P	21 58 20.7	+0.1
	comp=Z,98nm,1.5s,mb5.5						
CPCT	Cooper Cave	36.09	298	*e*P	P	21 58 21.8	0.0
ERUA	La Rua	36.36	50	⇑P	P	21 58 24.3	+0.4
	comp=Z,26nm,1.4s,mb5.0						
PBRG	Braganca	36.46	51	*e*P	P	21 58 25.2	+0.4
	comp=Z,28nm,1.7s,mb4.9						
ECAL	Calabor	36.50	51	⇑P	P	21 58 25.0	-0.2
	comp=Z,139nm,2.2s,mb5.4						
SAML	Samuel	37.07	211	⇑*e*P	P	21 58 28.7	-1.5
	comp=Z,31nm,1.3s,mb5.0						
EADA	Adamuz	37.19	58	⇑P	P	21 58 31.0	+0.1
	comp=Z,63nm,1.8s,mb5.2						
SWET	Sewanee	37.20	297	*e*P	P	21 58 31.6	+0.5
ELUQ	Luque	37.32	59	⇓P	P	21 58 32.8	+0.7
	comp=Z,3.4nm,0.7s,mb4.3						
ELOJ	Sierra Loja	37.34	59	P	P	21 58 33.0	+0.7
	comp=Z,26nm,1.2s,mb4.9						
ERON	Agron	37.59	60	P	P	21 58 35.8	+1.4
	comp=Z,1.4nm,0.2s,mb4.3						
LRAL	Lakeview Retre	37.90	294	*e*P	P	21 58 37.6	+0.6
	comp=Z,17nm,0.9s,mb4.8						
LRAL				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
ESDC	Sonseca Array	37.96	55	P	P	21 58 37.1	-0.3
	comp=Z,3.5nm,0.9s,mb4.1,baz=253,slow=8.2,SNR=15						
ESDC				LR	LR	22 11 09.2	
	comp=Z,905nm,19.0s,MS4.6,baz=240,slow=31						
ESDC	Sonseca Array	37.96	55	P	P	21 58 37.1	-0.2
	comp=Z,3.0nm,0.8s,mb4.1						
BLO	Bloomington	38.28	304	*e*P	P	21 58 40.6	+0.5
	comp=Z,39nm,0.9s,mb5.1						
EQES	Quesada	38.30	59	⇑P	P	21 58 40.3	+0.1
	comp=Z,193nm,4.2s						
EVIA	Vianos	38.87	57	P	P	21 58 45.7	+0.6
	comp=Z,5.9nm,0.8s,mb4.4						
ELAN	Lanestosa	39.21	50	⇑P	P	21 58 48.2	+0.3
	comp=Z,116nm,1.5s,mb5.4						
BDFB	Brasilia	39.28	185	P	P	21 58 48.9	+0.2
	comp=Z,3.9nm,0.7s,mb4.2,baz=44,slow=5.5,SNR=3.5						
BDFB				LR	LR	22 14 32.7	
	comp=Z,1μm,18.9s,MS4.7,baz=2.5,slow=36						
ETOB	Tobarra	39.61	58	P	P	21 58 52.0	+0.7
	comp=Z,129nm,1.9s,mb5.3						
ETOR	Torete	39.62	54	⇑P	P	21 58 51.9	+0.6
	comp=Z,224nm,2.6s,mb5.4						
ECRI	Cripan	39.70	51	⇑P	P	21 58 52.6	+0.6
	comp=Z,23nm,0.9s,mb4.9						
EMUR	La Murta	39.73	59	⇑P	P	21 58 52.2	0.0
	comp=Z,108nm,1.7s,mb5.3						
OTAV	Otavalo	40.03	239	⇓*e*P	P	21 58 54.7	-0.2
	comp=Z,19nm,1.0s,mb4.8						
TEIG	Tepich	40.20	274	*e*P	P	21 58 58.3	+2.0
	comp=Z,0.1nm,0.6s						
SJPF	Ste Jean	40.74	51	*e*P	P	21 59 00.9	+0.4
	comp=Z,152nm,1.7s,mb5.0						
QUIF	Quistinic	40.89	43	*e*P	P	21 59 01.2	-0.4
	comp=Z,90nm,1.6s,mb4.8						
LARF	Larrau	40.89	51	⇑*e*P	P	21 59 02.4	+0.7
ROSF	Rostrenen	40.97	43	*e*P	P	21 59 02.2	-0.1
	comp=Z,151nm,1.8s,mb5.0						
ESAC	San Caprasio	40.98	53	P	P	21 59 04.0	+1.5
	comp=Z,12nm,0.7s,mb4.6						
SLM	Saint Louis	41.05	302	*e*P	P	21 59 03.4	+0.4
FVM	French Village	41.12	301	*e*P	P	21 59 04.3	+0.7
	comp=Z,28nm,0.9s,mb4.9						
FDAF	Les Forges d'A	41.14	51	⇑*e*P	P	21 59 04.8	+1.0
ETSF	Etsaut	41.17	51	*e*P	P	21 59 04.4	+0.4
	comp=Z,147nm,1.6s,mb5.0						
REYF	Montagne du Re	41.33	51	⇑*e*P	P	21 59 05.8	+0.5
SGMF	Saint Gilles	41.39	43	*e*P	P	21 59 06.1	+0.3
	comp=Z,288nm,1.8s,mb5.3						
CCM	Cathedral Cave	41.77	301	*e*P	P	21 59 09.4	+0.4
	comp=Z,39nm,0.8s,mb5.1						
RESF	Ens	41.79	52	⇑*e*P	P	21 59 09.8	+0.7
EPF	Esparros	41.84	51	*e*P	P	21 59 09.9	+0.4
	comp=Z,98nm,1.6s,mb4.9						
TIC	Toumodi	41.94	107	*e*P	P	21 59 09.8	-0.9
	comp=Z,227nm,1.7s,mb5.5						
DBIC	Dimbokro	42.07	107	P	P	21 59 10.8	-1.0
	comp=Z,6.7nm,0.7s,mb4.4,baz=274,slow=8.8,SNR=4.4						
MELF	Melles	42.11	52	⇑*e*P	P	21 59 12.6	+0.9
LIC	Lamto	42.13	108	*e*P	P	21 59 11.5	-0.8
	comp=Z,132nm,1.9s,mb5.2						
LIC	Lamto	42.13	108	*e*P	P	21 59 13.1	+0.8
	comp=Z,57nm,1.5s,mb5.0						
KIC	Kosan Boka	42.32	108	*e*P	P	21 59 13.3	-0.5
	comp=Z,88nm,1.0s,mb5.3						
SALF	Salau	42.40	52	⇑*e*P	P	21 59 15.2	+1.1
MFF	Saint Martin d	42.41	46	*e*P	P	21 59 14.3	+0.2
	comp=Z,277nm,1.6s,mb5.3						
UALR	University of	42.42	296	*e*P	P	21 59 14.7	+0.3
	comp=Z,43nm,1.0s,mb5.0						
EMIR	Miracle	42.48	53	P	P	21 59 16.1	+1.4
	comp=Z,28nm,1.1s,mb4.8						
GRR	Gorron	42.50	43	*e*P	P	21 59 14.9	0.0
	comp=Z,95nm,1.5s,mb5.0						
LFF	La Frestale	42.56	49	*e*P	P	21 59 15.2	-0.2
	comp=Z,111nm,1.4s,mb5.1						
FLN	La Foliniere	42.86	43	*e*P	P	21 59 17.8	0.0
	comp=Z,87nm,1.4s,mb5.0						
FLN				*e*R			
	comp=Z,2μm,21.0s						
FRB	Frobisher Bay	42.91	345	P	P	21 59 17.9	-0.1
	comp=Z,9.5nm,0.9s,mb4.5,baz=127,slow=5.4,SNR=4.3						
LDF	La Druitiere	43.03	43	*e*P	P	21 59 19.0	-0.2
	comp=Z,104nm,1.6s,mb5.0						
RJF	Les Rejaudoux	43.18	48	*e*P	P	21 59 20.0	-0.5
RJF				*e*R			
	comp=Z,2μm,19.0s						
MTLF	Montolieu	43.25	51	*e*P	P	21 59 20.6	-0.4
	comp=Z,103nm,1.5s,mb5.0						
CAF	Calviac	43.47	49	*e*P	P	21 59 22.3	-0.5
	comp=Z,86nm,1.5s,mb5.0						
EJON	La Jonquera	43.57	53	P	P	21 59 25.0	+1.4
	comp=Z,18nm,1.2s,mb4.7						
TCF	Toulx Ste Croi	43.89	47	*e*P	P	21 59 26.2	0.0
	comp=Z,160nm,1.5s,mb5.2						
PYM	Petit Puy Mans	44.31	48	⇑*e*P	P	21 59 29.9	+0.3
LBL	Lubilhac	44.36	49	⇑*e*P	P	21 59 30.3	+0.3
NATX	Nacogdoches	44.38	292	*e*P	P	21 59 31.4	+1.0
	comp=Z,76nm,1.1s,mb5.3						
BGF	Bois d'Agland	44.39	47	*e*P	P	21 59 30.2	0.0
	comp=Z,128nm,1.5s,mb5.1						
HYF	Humbligny	44.43	46	*e*P	P	21 59 31.0	+0.5
AGO	Saint Agoulin	44.46	48	⇑*e*P	P	21 59 31.3	+0.5
LASF	Ste Croix	44.55	51	*e*P	P	21 59 31.7	+0.1
	comp=Z,98nm,1.5s,mb5.1						
PLDF	La Plantade	44.77	48	⇑*e*P	P	21 59 33.6	+0.2
AVF	Avril sur Loir	44.78	47	*e*P	P	21 59 33.3	-0.1
	comp=Z,146nm,1.4s,mb5.3						
SSF	Saint Saulge	44.95	46	*e*P	P	21 59 34.3	-0.4
	comp=Z,134nm,1.4s,mb5.3						
MENF	Mencas	45.06	41	*e*P	P	21 59 35.8	+0.2
SMF	Signal de Mont	45.07	47	*e*P	P	21 59 35.7	0.0
	comp=Z,242nm,1.7s,mb5.4						
LOR	Lormes	45.23	46	*e*P	P	21 59 36.7	-0.3
	comp=Z,149nm,1.7s,mb5.2						
LOR				*e*R			
	comp=Z,1μm,20.0s						
VIVF	Saint-Julien-l	45.27	50	*e*P	P	21 59 37.9	+0.6
	comp=Z,111nm,1.7s,mb5.1						
HKT	Hockley	45.50	289	*e*P	P	21 59 39.8	+0.4
	comp=Z,13nm,1.1s,mb4.8						
SMRF	Simiane la Rot	45.76	51	*e*P	P	21 59 41.0	-0.2
	comp=Z,70nm,1.4s,mb5.1						
LPAZ	La Paz	45.80	212	P	P	21 59 41.7	-0.1
	comp=Z,8.4nm,0.8s,mb4.7,baz=6.7,slow=7.4,SNR=23						
LPAZ				LR	LR	22 17 43.2	
	comp=Z,1μm,21.2s,MS4.8,baz=236,slow=35						
ORIF	Oris-en-Rattie	46.13	50	*e*P	P	21 59 43.7	-0.4
ORIF				*e*R			
	comp=Z,1μm,21.0s						
BAIF	Baives	46.17	43	*e*P	P	21 59 43.9	-0.5
	comp=Z,118nm,1.6s,mb5.3						
MEZF	Maizieres J'vi	46.30	45	*e*P	P	21 59 45.3	-0.1
	comp=Z,261nm,1.4s,mb5.7						
LMR	La Mourre	46.34	52	*e*P	P	21 59 45.7	-0.1
FRF	La Foret Royal	46.47	52	*e*P	P	21 59 45.2	-1.6
	comp=Z,127nm,1.7s,mb5.3						
GIVF	Givet	46.57	43	*e*P	P	21 59 47.1	-0.4
CABF	La Chapelle	46.58	48	*e*P	P	21 59 47.9	+0.3
	comp=Z,247nm,1.6s,mb5.6						
MBDF	Montbardon	46.72	50	*e*P	P	21 59 49.9	+1.1
	comp=Z,145nm,1.4s,mb5.4						
RRL	Cesana Torines	46.76	50	P	P	21 59 49.7	+0.6
LPL	La Plagne	46.82	49	*e*P	P	21 59 50.5	+0.9
	comp=Z,101nm,1.6s,mb5.2						
LPG	La Plagne	46.83	49	*e*P	P	21 59 50.8	+1.1
	comp=Z,81nm,1.4s,mb5.2						
THEF	They Montfort	46.85	45	⇑*e*P	P	21 59 49.5	-0.2
PZZ	Prazzo	46.92	51	P	P	21 59 51.2	+0.8
FENE	Fenestrelle	46.98	50	P	P	21 59 51.5	+0.7
HAU	Haudompre	47.04	46	*e*P	P	21 59 50.7	-0.5
	comp=Z,79nm,1.3s,mb5.2						
HAU				*e*R			
	comp=Z,1μm,23.0s						
STV	Sta Anna Valdi	47.05	51	P	P	21 59 51.7	+0.4
STV2	Anna di Valdie	47.05	51	P	P	21 59 52.2	+0.8
BHB	Bricherasio	47.09	50	P	P	21 59 52.1	+0.4
LSD	Ceresole Reale	47.11	49	P	P	21 59 53.0	+1.2
ENR	Entracque	47.11	51	P	P	21 59 52.6	+0.8
RSP	Reno Superiore	47.13	50	P	P	21 59 53.2	+1.2
WAL1	Walls	47.19	28	⇑*e*P	P	21 59 51.9	-0.4
LOMF	Lomont	47.22	47	⇑*e*P	P	21 59 52.7	0.0
SAN1	Sandwick	47.23	28	⇑*e*P	P	21 59 52.1	-0.5
ULM	Lac du Bonnet	47.30	317	P	P	21 59 52.7	-0.6
	comp=Z,41nm,1.1s,mb5.3,baz=96,slow=7.3,SNR=28						
ULM				LR	LR	22 17 23.9	
	comp=Z,916nm,20.4s,MS4.7,baz=284,slow=33						
ULM	Lac du Bonnet	47.30	317	P	P	21 59 52.7	-0.6
ULM				LR	LR	22 17 23.9	
LRW	Lerwick	47.31	28	⇑*e*P	P	21 59 52.2	-1.0
HINF	Hinteralfeld	47.33	46	*e*P	P	21 59 53.0	-0.6
MONE	Monesi	47.33	51	P	P	21 59 54.1	+0.5
IMI	Imperia	47.40	52	P	P	21 59 54.0	-0.2
HGN	Heimansgroeve	47.42	42	⇑*e*P	P	21 59 54.1	-0.1
	comp=Z,12nm,1.6s,mb4.6						
HGN				*e*x	x	22 00 02.9	
	comp=Z,9.7nm,1.6s						
ROB	Roburent	47.44	51	P	P	21 59 54.5	0.0
MOF	Molkenrain	47.52	46	*e*P	P	21 59 52.9	-2.2
TRAV		47.53	49	P	P	21 59 55.2	0.0
RORO		47.56	51	P	P	21 59 55.3	-0.1
YEL1	Yell	47.57	28	⇑*e*P	P	21 59 54.8	-0.5
FIN	Finale Ligure	47.67	51	P	P	21 59 55.5	-0.8
BBS	Basel-Blauen	47.70	47	*e*P	P	21 59 56.2	-0.3
WMOK	Wichita Mounta	47.72	296	⇓*i*P	P	21 59 56.6	-0.2
	comp=Z,51nm,1.1s,mb5.5						
CDF	Champ du Feu	47.73	45	*e*P	P	21 59 56.1	-0.6
	comp=Z,146nm,1.6s,mb5.5						
MCGN	Macugnaga	47.76	49	⇑*i*P	P	21 59 58.4	+1.4
WLS	Welschbruch	47.78	45	⇑*e*P	P	21 59 56.6	-0.5
RUP	Ruppelstein	47.87	44	*e*P	P	21 59 58.3	+0.5
RUP	Ruppelstein	47.87	44	⇑*e*P	P	21 59 57.9	+0.1
LIBD	Limburg	47.89	46	*e*P	P	21 59 57.5	-0.5
KIZ	Kirchzarten	48.06	46	*e*P	P	21 59 58.5	-0.8
PGF	Pioggiola	48.06	53	*e*P	P	21 59 59.0	-0.4
	comp=Z,116nm,1.3s,mb5.4						
STR	Strasbourg	48.08	45	⇑*e*P	P	21 59 59.4	-0.1
FELD	Feldberg	48.10	46	*e*P	P	21 59 59.2	-0.4
ABH	Alteburg	48.22	44	*e*P	P	22 00 00.9	+0.4
WTSB	Winterswijk	48.27	41	⇑*e*P	P	22 00 00.5	-0.3
	comp=Z,14nm,1.7s,mb4.7						
WTSB				*e*x	x	22 00 10.7	
	comp=Z,12nm,1.5s						
VAI	Varese	48.29	49	⇑*i*P	P	22 00 01.3	+0.2
BFO	Black Forest	48.40	46	*e*P	P	22 00 01.8	-0.1
BFO				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.4						
BFO	Black Forest	48.40	46	*e*P	P	22 00 01.8	-0.1
	comp=Z,55nm,1.4s,mb5.4						
WIT	Witteveen	48.42	40	*e*P	P	22 00 03.4	+1.4
	comp=Z,83nm,1.5s,mb5.5						
KTD	Kalmit	48.44	44	*e*P	P	22 00 02.2	0.0
CBKS	Cedar Bluff	48.47	302	*e*P	P	22 00 02.6	+0.1
	comp=Z,21nm,0.8s,mb5.2						
SPAK	Spaichingen	48.66	46	⇑*e*P	P	22 00 04.0	+0.1
LBG	Lerchenberg	48.77	45	*e*P	P	22 00 04.2	-0.5
CODM		48.86	51	P	P	22 00 04.5	-1.0
SWS	Schriesheim	48.87	44	*e*P	P	22 00 05.0	-0.5
JCT	Junction City	48.87	290	*e*P	P	22 00 04.7	-1.1
	comp=Z,22nm,1.1s,mb5.1						
GUT	Gutenstein	48.87	46	*e*P	P	22 00 05.2	-0.3
TOD	Tromm	48.95	44	*e*P	P	22 00 05.8	-0.4
TOD	Tromm	48.95	44	⇑*e*P	P	22 00 05.9	-0.3
BACM		49.01	51	P	P	22 00 05.9	-0.7
BUCH	Bad Urach	49.09	46	*e*P	P	22 00 06.8	-0.4
FCC	Fort Churchill	49.12	329	*e*P	P	22 00 06.8	-0.5
	comp=Z,68nm,0.9s,mb5.7						
DAVA	Damuels	49.26	47	⇑*i*P	P	22 00 09.1	+0.6
	comp=Z,122nm,1.6s,mb5.7						
MAIM		49.27	52	P	P	22 00 07.5	-1.2
GSCL	Gusciola	49.38	51	⇑*i*P	P	22 00 10.0	+0.5
SIND	Sindeldorf	49.42	45	*e*P	P	22 00 09.4	-0.3
UBR	Uberruh	49.47	47	*e*P	P	22 00 09.9	-0.2
BRMO	Bormio	49.48	48	⇑*i*P	P	22 00 10.6	+0.3
ZCCA	Zocca	49.66	51	*e*P	P	22 00 12.4	+0.7
HDH	Heidenheim	49.68	46	*e*P	P	22 00 11.3	-0.4
MOTA	Moosalm	50.09	47	⇑*i*P	P	22 00 14.9	0.0
	comp=Z,40nm,1.4s,mb5.3						
SQTA	Sankt Quirin	50.14	48	⇑*i*P	P	22 00 15.7	+0.4
	comp=Z,60nm,1.3s,mb5.5						
PGD	Poggio Sodo	50.16	52	⇓*i*P	P	22 00 14.9	-0.5
SFI	Santa Sofia	50.25	52	*i* P	P	22 00 15.2	-1.0
CTI	Castel Tesino	50.30	49	⇑*i*P	P	22 00 16.0	-0.6
FUR	Furstenfeldbru	50.32	46	*e*P	P	22 00 16.6	0.0
FUR				pmax	pmax		
	comp=Z,69nm,1.8s,mb5.4						
FUR	Furstenfeldbru	50.32	46	*e*P	P	22 00 16.6	0.0
	comp=Z,69nm,1.8s,mb5.4						
CLZ	Clausthal	50.39	41	*e*P	P	22 00 17.2	+0.1
	comp=Z,32nm,1.4s,mb5.2						
WATA	Walderalm	50.41	47	⇑*i*P	P	22 00 17.2	-0.1
	comp=Z,41nm,1.3s,mb5.3						
WTTA	Wattenberg	50.44	48	⇑*i*P	P	22 00 17.4	-0.2
	comp=Z,140nm,1.8s,mb5.7						
BLS5	Blasjo	50.47	31	*e*P	P	22 00 18.0	+0.4
BLS5				AMb	AMB	22 00 30.3	
	comp=Z,33nm,1.9s,mb5.0						
BLS5	Blasjo	50.47	31	*e*P	P	22 00 18.0	+0.4
	comp=Z,33nm,1.9s,mb5.0						
GRA1	Grafenberg Arr	50.52	44	*e*P	P	22 00 17.9	-0.2
	comp=Z,65nm,1.5s,mb5.3						
GRA1				*e*		22 00 32.3	
GRA1				*e*S	S	22 07 38.5	+7.7
GRA1				LR	LR		
	comp=Z,500nm,20.8s,MS4.5						
GRF	Grafenberg Arr	50.52	44	*e*P	P	22 00 17.9	-0.2
GRF				*e*S	S	22 07 38.5	+7.7
GRF				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.3						
RSM	Repubblica di	50.69	52	⇑*i*P	P	22 00 18.3	-1.2
FOO	Floro	50.69	28	*e*P	P	22 00 18.7	-0.6
FOO				AMb	AMB	22 00 24.7	
	comp=Z,26nm,1.3s,mb5.0						
FOO	Floro	50.69	28	*e*P	P	22 00 18.7	-0.6
	comp=Z,26nm,1.3s,mb5.0						
ODD1	Odda	50.73	31	*e*P	P	22 00 18.6	-1.0
ODD1				AMb	AMB	22 00 21.2	
	comp=Z,30nm,1.7s,mb5.0						
ODD1	Odda	50.73	31	*e*P	P	22 00 18.6	-1.0

	comp=Z,30nm,1.7s,mb5.0						
BSEG	**Bad Segeberg**	**50.82**	**39**	*e*P	**P**	**22 00 20.5**	**+0.1**
BSEG				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.5						
FSSB	**Fossombrone**	**50.91**	**52⇑**	*i*P	**P**	**22 00 19.7**	**-1.5**
MOX	**Moxa**	**50.93**	**43**	*i* P	**P**	**22 00 21.0**	**-0.2**
	comp=Z,logA/T=1.4,mb5.1						
MOX				pP	pP	22 00 31.0	+6.7
MOX				S	**S**	**22 07 45.0**	**+8.6**
MOX				LQ		22 13 06.0	
MOX				L		22 18 56.0	
MOX	**Moxa**	**50.93**	**43**	*e*P	**P**	**22 00 21.0**	**-0.2**
MOX				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.1						
MOX				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.7						
MOX	**Moxa**	**50.93**	**43**	*e*P	**P**	**22 00 21.0**	**-0.2**
	comp=Z,35nm,1.5s,mb5.1						
MOX				*e*		22 00 30.9	
MOX				LR	LR		
	comp=Z,800nm,20.0s,MS4.7						
ARV	**Arcevia**	**51.02**	**52⇓**	*i*P	**P**	**22 00 21.0**	**-1.0**
HYA	**Hoyanger**	**51.02**	**29**	*e*P	**P**	**22 00 23.2**	**+1.5**
HYA				AMb	AMB	22 00 36.0	
	comp=Z,61nm,2.0s,mb5.2						
HYA	**Hoyanger**	**51.02**	**29**	*e*P	**P**	**22 00 23.2**	**+1.5**
	comp=Z,61nm,2.0s,mb5.2						
NRCA	**Norcia**	**51.11**	**53⇑**	*i*P	**P**	**22 00 21.4**	**-1.4**
FVI	**Forni Avoltri**	**51.14**	**48⇑**	*i*P	**P**	**22 00 22.0**	**-0.9**
CPUP	**Villa Florida**	**51.22**	**194**	P	**P**	**22 00 21.8**	**-2.0**
	comp=Z,5.5nm,0.9s,mb4.5,baz=25,slow=6.3,SNR=4.9						
CPUP				LR	LR	22 20 25.1	
	comp=Z,591nm,21.6s,MS4.6,baz=35,slow=34						
CPUP	**Villa Florida**	**51.22**	**194**	P	**P**	**22 00 21.8**	**-2.0**
CPUP				LR	LR	22 20 25.1	
PTQR	**Pietraquaria**	**51.29**	**54⇑**	*i*P	**P**	**22 00 24.0**	**-0.2**
AQU	**L'Aquila**	**51.30**	**54**	*e*P	**P**	**22 00 24.6**	**+0.4**
GMNA	**Gemona**	**51.42**	**49**	*e*P	**P**	**22 00 24.1**	**-1.0**
WET	**Wettzell**	**51.50**	**45**	*e*P	**P**	**22 00 24.7**	**-0.9**
WET				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.1						
WET	**Wettzell**	**51.50**	**45**	*e*P	**P**	**22 00 24.7**	**-0.9**
	comp=Z,35nm,1.5s,mb5.1						
KBA	**Koelnbreinsper**	**51.57**	**48⇑**	*i*P	**P**	**22 00 25.6**	**-0.6**
	comp=Z,74nm,1.6s,mb5.4						
SDI	**San Donato**	**51.59**	**55**	*e*P	**P**	**22 00 26.5**	**+0.1**
ROBS	**Robic**	**51.61**	**49⇑**	*e*P	**P**	**22 00 25.5**	**-1.0**
ROBS				*e*		22 00 34.7	
LVC	**Limon Verde**	**51.65**	**209**	P	**P**	**22 00 26.2**	**-0.9**
	comp=Z,6.0nm,0.7s,mb4.7,baz=30,slow=8.3,SNR=6.6						
LVC	**Limon Verde**	**51.65**	**209**	*e*P	**P**	**22 00 25.5**	**-1.5**
	comp=Z,36nm,1.3s,mb5.2						
JMIC	**Jan Mayen**	**51.67**	**14**	P	**P**	**22 00 27.1**	**+0.5**
	comp=Z,14nm,0.6s,mb5.1,baz=226,slow=3.2,SNR=2.5						
JMIC	**Jan Mayen**	**51.67**	**14**	*e*P	**P**	**22 00 28.9**	**+2.3**
JMIC				*e*S	**S**	**22 07 46.9**	**+0.4**
JMIC				*e*SS	SS	22 11 25.7	+4.8
JMIC				AMS	AMS	22 21 55.9	
	comp=Z,163nm,17.1s,MS4.1						
VOY	**Vojsko**	**51.86**	**49**	*e*P	**P**	**22 00 27.9**	**-0.5**
VOY				*e*		22 00 35.7	
VOY				*e*		22 00 51.7	
CLL	**Collm**	**51.90**	**43**	⇑P	**P**	**22 00 28.3**	**-0.3**
	comp=Z,logA/T=1.5,mb5.2						
CLL				*i*		22 00 37.9	
CLL				*e*		22 03 40.0	
CLL				*e*S	**S**	**22 07 55.0**	**+5.1**
CLL				*e*		22 13 24.0	
CLL	**Collm**	**51.90**	**43⇑**	*i*P	**P**	**22 00 28.3**	**-0.3**
CLL				*e*S	**S**	**22 07 55.0**	**+5.1**
CLL				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
CLL				MLR	MLR		
	comp=Z,1µm,18.2s,MS4.9						
CLL	**Collm**	**51.90**	**43⇑**	*i*P	**P**	**22 00 28.3**	**-0.3**
	comp=Z,43nm,1.5s,mb5.2						
CLL				*i*		22 00 37.9	
CLL				*e*S	**S**	**22 07 55.0**	**+5.1**
CLL				LR	LR		
	comp=Z,1µm,18.2s,MS4.9						
KHC	**Kasperske Hory**	**51.96**	**45⇑**	*i*P	**P**	**22 00 28.4**	**-0.7**
KHC				*e*		22 00 37.8	
KHC				*e*PP	PP	22 02 27.4	-0.5
KHC				*e*S	**S**	**22 07 53.3**	**+2.6**
KHC				LM		22 24 20.0	
	comp=Z,0.5nm,15.9s						
KHC	**Kasperske Hory**	**51.96**	**45⇑**	*i*P	**P**	**22 00 28.4**	**-0.7**
KHC				*e*		22 02 27.4	
KHC				*e*S	**S**	**22 07 53.3**	**+2.6**
KHC				MLR	MLR		
	comp=Z,500nm,15.9s,MS4.7						
CII	**Carovilli**	**51.96**	**55⇓**	*i*P	**P**	**22 00 29.9**	**+0.7**
CPI2	**Carpinone**	**51.97**	**55⇓**	*i*P	**P**	**22 00 30.0**	**+0.7**
FFC	**Flin Flon**	**51.99**	**322**	*e*P	**P**	**22 00 28.7**	**-0.5**
	comp=Z,44nm,1.1s,mb5.3						
GEC2	**GERESS Array S**	**52.00**	**46**	*e*P	**P**	**22 00 28.9**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3						
GEC2	**GERESS Array S**	**52.00**	**46**	*e*P	**P**	**22 00 28.9**	**-0.5**
	comp=Z,56nm,1.4s,mb5.3						
GERES	**GERESS Array B**	**52.00**	**46**	P	**P**	**22 00 28.8**	**-0.7**
	comp=Z,20nm,1.2s,mb4.9,baz=256,slow=5.5,SNR=54						
SGG	**Gregorio Mates**	**52.01**	**55⇑**	*i*P	**P**	**22 00 30.8**	**+1.2**
KONO	**Kongsberg**	**52.05**	**32⇑**	*i*P	Px	22 01 04.0	
KONO				AMb	AMB	22 01 07.0	
	comp=Z,36nm,1.5s,mb5.1						
KONO				*e*		22 08 27.4	
KONO				AMS	AMS	22 19 42.3	
	comp=Z,1µm,18.9s,MS4.9						
CLNB	**Carlsbad**	**52.15**	**293**	*e*P	**P**	**22 00 30.5**	**-0.2**
MOL	**Molde**	**52.16**	**28⇑**	*i*P	**P**	**22 00 32.3**	**+1.8**
MOL				AMb	AMB	22 00 34.7	
	comp=Z,57nm,1.4s,mb5.3						
MOL	**Molde**	**52.16**	**28⇑**	*i*P	**P**	**22 00 32.3**	**+1.8**
	comp=Z,57nm,1.4s,mb5.3						
CEY	**Cerknica**	**52.21**	**50⇑**	*e*P	**P**	**22 00 30.4**	**-0.6**
CEY				*e*		22 00 39.4	
MOA	**Molln**	**52.27**	**47⇑**	*i*P	**P**	**22 00 30.8**	**-0.7**
	comp=Z,72nm,1.8s,mb5.3						
LJU	**Ljubljana**	**52.30**	**49⇑**	*e*P	**P**	**22 00 31.3**	**-0.4**
LJU				*e*		22 00 39.1	
LJU				*e*S	**S**	**22 08 01.1**	**+5.7**
DGMT	**Dagmar**	**52.34**	**314**	*e*P	**P**	**22 00 31.5**	**-0.5**
	comp=Z,47nm,1.2s,mb5.3						
LTX	**Lajitas**	**52.34**	**290**	*e*P	**P**	**22 00 31.8**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**52.34**	**290**	P	**P**	**22 00 31.6**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4,baz=98,slow=8.8,SNR=14						
TXAR				LR	LR	22 21 24.3	
	comp=Z,291nm,20.6s,MS4.3,baz=110,slow=34						
OBKA	**Obir**	**52.35**	**49⇑**	*i*P	**P**	**22 00 31.5**	**-0.6**
	comp=Z,159nm,1.8s,mb5.7						
COP	**Copenhagen**	**52.42**	**37**	*i* P	**P**	**22 00 31.7**	**-0.8**
COP				*i* S	**S**	**22 08 03.4**	**+6.5**
	comp=Z,390nm,20.0s						
BRG	**Berggiesshubel**	**52.42**	**43⇑**	*i*P	**P**	**22 00 32.2**	**-0.4**
BRG				*i*		22 08 05.0	
BRG				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
BRG				MLR	MLR		
	comp=Z,1µm,21.8s,MS4.8						
BRG				MLR	MLR		
	comp=N,260nm,20.0s,MS4.7						
BRG				MLR	MLR		
	comp=E,710nm,20.0s,MS4.7						
BRG	**Berggiesshubel**	**52.42**	**43⇑**	*i*P	**P**	**22 00 32.2**	**-0.4**
	comp=E,28nm,1.3s,mb5.0						
BRG				*e*		22 00 42.1	
BRG				*e*		22 02 22.0	
BRG				*i*		22 08 05.0	
BRG				LR	LR		
	comp=Z,1µm,21.8s,MS4.8						
CSSN	**Cassano Irpino**	**52.50**	**56⇓**	*i*P	**P**	**22 00 33.5**	**+0.2**
GDL2	**Guadalupe Moun**	**52.56**	**293**	*e*P	**P**	**22 00 33.7**	**-0.1**
GDL2				*e*		22 00 42.2	
PRU	**Pruhonice**	**52.69**	**44⇑**	*e*P	**P**	**22 00 34.3**	**-0.2**
PRU				*e*		22 00 44.9	
PRU				*e*		22 02 07.5	
SGO	**Sicignano**	**52.72**	**56⇑**	*i*P	**P**	**22 00 34.7**	**-0.3**
PERS	**Pernice**	**52.75**	**49⇑**	*e*P	**P**	**22 00 32.9**	**-2.2**
PERS				*e*		22 00 43.3	
PVCC	**Panska Ves**	**52.77**	**44⇑**	*i*P	**P**	**22 00 34.8**	**-0.4**
PVCC				*e*		22 00 44.3	
PVCC				*e*S	**S**	**22 08 07.0**	**+5.3**
PVCC				LM		22 17 30.0	
	comp=Z,0.7nm,22.1s						
PVCC	**Panska Ves**	**52.77**	**44⇑**	*i*P	**P**	**22 00 34.8**	**-0.4**
PVCC				*e*S	**S**	**22 08 07.0**	**+5.3**
PVCC				MLR	MLR		
	comp=Z,700nm,22.1s,MS4.7						
BOJS	**Bojanci**	**52.77**	**50⇑**	*e*P	**P**	**22 00 34.4**	**-0.8**
BOJS				*e*		22 00 43.6	
MRLC	**Muro Lucano**	**52.85**	**56**	*e*P	**P**	**22 00 35.8**	**-0.1**
MGR	**Morigerati**	**52.91**	**57⇑**	*i*P	**P**	**22 00 35.7**	**-0.7**
SDCO	**Great Sand Dun**	**53.02**	**300**	*e*P	**P**	**22 00 37.2**	**0.0**
	comp=Z,22nm,1.4s,mb4.9						
ISCO	**Idaho Springs**	**53.02**	**303⇓**	*e*P	**P**	**22 00 37.9**	**+0.6**
	comp=Z,6.7nm,0.7s,mb4.7						
ARSA	**Arzberg**	**53.07**	**48⇑**	*i*P	**P**	**22 00 36.1**	**-1.3**
	comp=Z,135nm,1.8s,mb5.6						
NB2	**NORSAR Subarra**	**53.25**	**30**	P	**P**	**22 00 38.2**	**-0.4**
	comp=Z,40nm,1.2s,mb5.2,baz=251,slow=7.4						
NB2	**NORSAR Subarra**	**53.25**	**30**	P	**P**	**22 00 38.2**	**-0.4**
	baz=250,slow=7.9						
NOA	**NORSAR Array B**	**53.25**	**30**	P	**P**	**22 00 38.5**	**-0.1**
	comp=Z,9.1nm,0.9s,mb4.7,baz=251,slow=7.7,SNR=32						
TDS	**Terranova Siba**	**53.53**	**57⇓**	*i*P	**P**	**22 00 41.4**	**+0.4**
BSD	**Bornholm Skovb**	**53.69**	**38**	*i* P	**P**	**22 00 39.5**	**-2.4**
	comp=Z,14nm,0.9s,mb4.9						
BSD				*i* S	**S**	**22 08 17.6**	**+3.5**
	comp=Z,1µm,19.0s						
DPC	**Dobruska-Polom**	**53.86**	**44⇑**	*i*P	**P**	**22 00 42.7**	**-0.5**
DPC				*e*		22 00 52.1	
DPC				*e*PP	PP	22 02 43.6	-2.4
DPC				*e*S	**S**	**22 08 19.9**	**+3.3**
DPC				LM		22 25 50.0	
	comp=Z,0.6nm,15.3s						
DPC	**Dobruska-Polom**	**53.86**	**44⇑**	*i*P	**P**	**22 00 42.7**	**-0.5**
DPC				*e*		22 02 43.6	
DPC				*e*S	**S**	**22 08 19.9**	**+3.3**
DPC				MLR	MLR		
	comp=Z,600nm,15.3s,MS4.8						
KSP	**Ksiaz**	**53.90**	**43**	*e*P	**P**	**22 00 42.8**	**-0.6**
KSP				*e*S	**S**	**22 08 18.5**	**+1.5**
KSP				MLR	MLR		
	comp=Z,2µm,21.2s,MS5.1						
KSP	**Ksiaz**	**53.90**	**43**	*e*P	**P**	**22 00 42.8**	**-0.6**
KSP				*e*PP	pP	22 00 52.5	+6.0
KSP				*e*S	**S**	**22 08 18.5**	**+1.5**
KSP				LR	LR		
	comp=Z,2µm,21.2s,MS5.1						
ANMO	**Albuquerque**	**54.01**	**297**	*de*P	**P**	**22 00 45.4**	**+1.0**
ZST	**Bratislava**	**54.20**	**47**	*i* P	**P**	**22 00 45.5**	**-0.2**
ZST				*e*pP	pP	22 00 54.3	+5.6
ZST				*e*S	**S**	**22 08 23.5**	**+2.4**
ZST				*e*		22 24 49.0	
LPM	**Los Pinos Moun**	**54.21**	**296**	*e*P	**P**	**22 00 46.7**	**+0.7**
BNM	**Barren Site**	**54.23**	**296**	*e*P	**P**	**22 00 46.7**	**+0.6**
LENM	**Lemitar**	**54.51**	**296**	*e*P	**P**	**22 00 48.9**	**+0.7**
DAG	**Danmarks Havn**	**54.61**	**7⇑**	*i*P	**P**	**22 00 48.3**	**-0.1**
	comp=Z,4.9nm,0.5s,mb4.8						
LAZ	**Ladron**	**54.62**	**296**	*e*P	**P**	**22 00 49.7**	**+0.7**
RW3	**Ridgway**	**54.71**	**301**	*e*P	**P**	**22 00 51.0**	**+1.4**
NSS	**Namsos**	**54.72**	**26**	*e*P	**P**	**22 00 47.9**	**-1.5**
OKC	**Ostrava-Krasne**	**54.99**	**45⇑**	*i*P	**P**	**22 00 51.0**	**-0.5**
OKC				*e*		22 01 00.8	
OKC				*e*S	**S**	**22 08 36.3**	**+4.6**
OKC				LM		22 25 30.0	
	comp=Z,0.4nm,16.7s						
OKC	**Ostrava-Krasne**	**54.99**	**45⇑**	*i*P	**P**	**22 00 51.0**	**-0.5**
OKC				*e*S	**S**	**22 08 36.3**	**+4.6**
OKC				MLR	MLR		
	comp=Z,400nm,16.7s,MS4.6						
RAC	**Raciborz**	**55.04**	**45**	*e*P	**P**	**22 00 51.4**	**-0.5**
RAC				*e*S	**S**	**22 08 30.9**	**-1.4**
RAC				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.6						
VYHS	**Vyhne**	**55.37**	**47**	*i* P	**P**	**22 00 53.8**	**-0.5**
VYHS				*e*S	**S**	**22 08 39.8**	**+3.0**
VYHS	**Vyhne**	**55.37**	**47**	*i* P	**P**	**22 00 53.8**	**-0.5**
VYHS				*e*pP	pP	22 01 03.3	+6.0
VYHS				*e*S	**S**	**22 08 39.8**	**+3.0**
VYHS				*e*		22 25 18.5	
PV01	**Paradox Valley**	**55.42**	**301**	*e*P	**P**	**22 00 55.3**	**+0.5**
PV10	**Paradox Valley**	**55.76**	**301**	*e*P	**P**	**22 00 58.1**	**+0.9**
PDAR	**Pinedale Array**	**55.90**	**307**	P	**P**	**22 00 57.9**	**-0.3**
	comp=Z,32nm,1.1s,mb5.3,baz=90,slow=8.9,SNR=100						
PDAR				LR	LR	22 22 50.7	
	comp=Z,552nm,19.9s,MS4.6,baz=92,slow=34						
PSZ	**Piszkesteto**	**56.06**	**47⇓**	*e*	**P**	**22 00 59.3**	**+0.1**
OJC	**Ojcow**	**56.08**	**44⇑**	*i*P	**P**	**22 00 59.1**	**-0.2**
OJC				*i* S	**S**	**22 08 47.0**	**+0.8**
OJC				MLR	MLR		
	comp=Z,500nm,17.3s,MS4.7						
MOR8	**Moi Rana**	**56.24**	**25⇑**	*i*P	**P**	**22 01 00.8**	**+0.4**
MOR8				AMb	AMB	22 01 03.0	
	comp=Z,32nm,1.3s,mb5.2						
MOR8	**Moi Rana**	**56.24**	**25⇑**	*i*P	**P**	**22 01 00.8**	**+0.4**
	comp=Z,32nm,1.3s,mb5.2						
LOF	**Lofoten**	**56.57**	**23**	*e*P	**P**	**22 01 04.8**	**+2.1**
LOF				AMb	AMB	22 01 16.2	
	comp=Z,34nm,1.4s,mb5.2						
LOF	**Lofoten**	**56.57**	**23**	*e*P	**P**	**22 01 04.8**	**+2.1**
	comp=Z,34nm,1.4s,mb5.2						
REDW	**Red Top Meadow**	**56.83**	**307**	*e*P	**P**	**22 01 04.8**	**-0.1**
YMR	**Madison River**	**56.86**	**309**	*e*P	**P**	**22 01 06.3**	**+1.2**
TPAW	**Teton Pass**	**56.89**	**307**	*e*P	**P**	**22 01 05.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**57.12**	**46**	*i* P	**P**	**22 01 07.4**	**+0.6**
SKO	**Skopje**	**57.28**	**54**	*i* P	**P**	**22 01 08.0**	**-0.1**
BOZ	**Bozeman (W)**	**57.30**	**310**	*e*P	**P**	**22 01 07.5**	**-0.6**
	comp=Z,29nm,1.1s,mb5.2						
DAU	**Daniels Canyon**	**57.31**	**304**	*e*P	**P**	**22 01 08.3**	**0.0**
TCUT	**Toone Canyon**	**57.37**	**305**	*e*P	**P**	**22 01 08.1**	**-0.7**
JLU	**Jordanelle**	**57.44**	**304**	*e*P	**P**	**22 01 09.2**	**-0.1**
HWUT	**Hardware Ranch**	**57.45**	**305**	*e*P	**P**	**22 01 08.5**	**-0.8**
	comp=Z,24nm,0.8s,mb5.3						
BARS	**Barje**	**57.52**	**53⇑**	*i*P	**P**	**22 01 09.4**	**-0.3**
BOLS	**Boljevac**	**57.56**	**52**	*e*P	**P**	**22 01 09.5**	**-0.5**
MPU	**Maple Canyon**	**57.63**	**303**	*e*P	**P**	**22 01 10.1**	**-0.4**
UZH	**Uzhgorod**	**57.67**	**46**	*d i*P	**P**	**22 01 11.0**	**+0.3**
SPUT	**South Promonto**	**58.14**	**305**	*e*P	**P**	**22 01 14.1**	**+0.1**
SPUT				*e*		22 01 22.1	
MSU	**Marysvale**	**58.20**	**302**	*e*P	**P**	**22 01 15.3**	**+0.7**
HVU	**Hansel Valley**	**58.34**	**306**	*e*P	**P**	**22 01 15.1**	**-0.5**
SUW	**Suwalki**	**58.34**	**40**	*e*P	**P**	**22 01 14.0**	**-1.3**
SUW				*e*S	**S**	**22 09 15.0**	**-1.1**
SUW				MLR	MLR		
	comp=Z,1µm,27.0s,MS4.8						
SUW	**Suwalki**	**58.34**	**40**	*e*P	**P**	**22 01 14.0**	**-1.3**
SUW				*e*PP	pP	22 01 23.5	+5.1
SUW				*e*S	**S**	**22 09 15.0**	**-1.1**
KKB	**Krupnik**	**58.51**	**54**	*i* P	**P**	**22 01 18.0**	**+1.3**
DUG	**Dugway**	**58.52**	**304**	*e*P	**P**	**22 01 16.6**	**-0.1**
	comp=Z,43nm,0.8s,mb5.5						
VTS	**Vitosha**	**58.55**	**53**	*e*P	**P**	**22 01 18.0**	**+1.1**
BGU	**Big Grassy Mou**	**58.61**	**305**	*e*P	**P**	**22 01 17.2**	**-0.1**
BGU				*e*		22 01 25.4	
LVV	**L'vov**	**58.80**	**45**	*i* P	**P**	**22 01 18.2**	**-0.4**
LVV				*e*S	**S**	**22 09 20.0**	**-2.1**
TRO	**Tromso**	**58.90**	**22**	*e*P	**P**	**22 01 15.7**	**-3.3**
TRO				*e*S	**S**	**22 09 22.0**	**-1.1**
TRO				*e*SS	SS	22 13 17.1	-1.3
TRO				AMS	AMS	22 20 21.6	
	comp=Z,250nm,19.1s,MS4.4						
MMB	**Musomiste**	**59.02**	**55**	*i* P	**P**	**22 01 11.0**	**-9.2**
MMB	**Musomiste**	**59.02**	**55⇓**	*i*P	**P**	**22 01 11.0**	**-9.2**
PGB	**Panagyurishte**	**59.26**	**53**	*i* P	**P**	**22 01 23.0**	**+1.1**
HLID	**Hailey**	**59.40**	**308**	*e*P	**P**	**22 01 22.9**	**0.0**
	comp=Z,25nm,0.9s,mb5.2						
HLID				*e*		22 01 31.3	
RZN	**Rozhen**	**59.75**	**54**	*i* P	**P**	**22 01 26.0**	**+0.8**
YKA	**Yellowknife Ar**	**59.81**	**330**	P	**P**	**22 01 23.7**	**-1.7**
	comp=Z,7.9nm,1.0s,mb4.7,baz=97,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**59.81**	**330**	P	**P**	**22 01 23.7**	**-1.7**
KTK1	**Kautokeino**	**60.24**	**23⇑**	*i*P	**P**	**22 01 28.3**	**+0.1**
KTK1				AMb	AMB	22 01 40.6	
	comp=Z,50nm,1.4s,mb5.3						
KTK1	**Kautokeino**	**60.24**	**23⇑**	*i*P	**P**	**22 01 28.3**	**+0.1**
	comp=Z,50nm,1.4s,mb5.4						
FINES	**FINESS Array B**	**60.36**	**32**	P	**P**	**22 01 27.6**	**-1.6**
	comp=Z,7.3nm,0.9s,mb4.7,baz=243,slow=4.3,SNR=35						
FINES				LR	LR	22 22 55.0	
	comp=Z,980nm,21.9s,MS4.9,baz=261,slow=31						
KBS	**Kingsbay**	**60.66**	**11**	*e*P	**P**	**22 01 31.4**	**+0.4**
KBS				*e*S	**S**	**22 09 41.6**	**-4.2**
KBS				AMS	AMS	22 24 38.3	
	comp=Z,153nm,14.0s,MS4.3						
NEN	**Nelson**	**60.71**	**299**	*e*P	**P**	**22 01 32.4**	**+0.5**
NEN				*e*		22 01 39.9	
NEW	**Newport**	**60.94**	**313**	*e*P	**P**	**22 01 33.1**	**-0.2**
	comp=Z,54nm,0.9s,mb5.7						
NEW				*e*		22 01 41.3	
MNK	**Minsk**	**61.08**	**40**	*e*P	**P**	**22 01 31.0**	**-3.1**
ARCES	**ARCESS Array B**	**61.13**	**22**	P	**P**	**22 01 33.4**	**-0.9**
	comp=Z,20nm,0.9s,mb5.2,baz=270,slow=7.3,SNR=45						
ARCES				LR	LR	22 23 02.7	
	comp=Z,511nm,21.4s,MS4.6,baz=267,slow=31						
KEV	**Kevo**	**61.68**	**22**	*e*p	**P**	**22 01 35.6**	**-2.4**
	comp=Z,11nm,0.9s,mb5.0						
KEV	**Kevo**	**61.68**	**22**	*e*P	**P**	**22 01 35.6**	**-2.4**
KEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
DPW	**Davenport**	**61.69**	**313**	*e*P	**P**	**22 01 37.9**	**-0.6**
DPW				*e*		22 01 46.0	
BMN	**Battle Mountai**	**61.84**	**304**	*e*P	**P**	**22 01 39.3**	**-0.1**
	comp=Z,13nm,0.9s,mb5.1						
BMN				*e*		22 01 47.0	
LNOR	**Lincton Mounta**	**61.94**	**311**	*e*P	**P**	**22 01 39.5**	**-0.5**
LNOR				*e*		22 01 48.1	
AKASG	**Malin Array Be**	**62.09**	**44**	P	**P**	**22 01 39.8**	**-1.3**
	comp=Z,18nm,1.0s,mb5.1,baz=272,slow=6.2,SNR=20						
AKASG				LR	LR	22 24 58.1	
	comp=Z,238nm,20.4s,MS4.3,baz=240,slow=32						
KIS	**Kishinev**	**62.14**	**48α**	*i*P	**P**	**22 01 38.0**	**-3.4**
KIS				*e*		22 04 05.0	
KIS				*e*S	**S**	**22 10 10.0**	**+5.1**
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
KIS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7						
KIS				MLR	MLR		
	comp=Z,400nm,16.0s						
TPH	**Tonopah**	**62.20**	**302**	*e*P	**P**	**22 01 41.9**	**-0.1**
	comp=Z,17nm,1.0s,mb5.1						
TPH				*e*		22 01 49.8	
PFO	**Pinyon Flat Ob**	**62.38**	**297**	*e*P	**P**	**22 01 44.0**	**+0.7**
	comp=Z,20nm,1.2s,mb5.1						
WVOR	**Wild Horse Val**	**62.61**	**307**	*e*P	**P**	**22 01 44.2**	**-0.4**
	comp=Z,17nm,1.1s,mb5.1						
WVOR				*e*		22 01 51.8	
WAH2	**Wahluke Slope**	**62.72**	**312**	P	**P**	**22 01 45.5**	**+0.2**
HAWA	**Hanford**	**62.74**	**311**	*e*P	**P**	**22 01 45.0**	**-0.5**
	comp=Z,51nm,1.0s,mb5.6						
HAWA				*e*		22 01 53.3	
DAC	**Darwin (Calif)**	**62.80**	**300**	*e*P	**P**	**22 01 46.8**	**+0.8**
	comp=Z,29nm,0.9s,mb5.4						
JOF	**Joensuu**	**62.88**	**30**	*e*p	**P**	**22 01 40.1**	**-6.0**
	comp=Z,0.4nm,0.4s						
WTV	**Waterville**	**62.88**	**313**	P	**P**	**22 01 45.8**	**-0.5**
NLW	**Nelson Butte**	**63.10**	**313**	*e*P	**P**	**22 01 47.5**	**-0.2**
ULDT	**Uludag**	**63.27**	**56**	*i* P	**P**	**22 01 48.6**	**-0.4**
MTUM	**Tungsten Hills**	**63.37**	**301**	*e*P	**P**	**22 01 50.6**	**+0.9**
MTUM				*e*		22 01 59.0	
EBG	**Ellensburg**	**63.39**	**312**	P	**P**	**22 01 49.8**	**+0.1**
LTY	**Liberty**	**63.42**	**312**	P	**P**	**22 01 49.1**	**-0.7**
OMM	**Old Mammoth Mi**	**63.66**	**302**	*e*P	**P**	**22 01 52.9**	**+1.3**
OMM				*e*		22 02 00.9	
VGB	**Gordon Butte**	**63.72**	**311**	*e*P	**P**	**22 01 52.1**	**+0.3**
VGB				*e*		22 02 00.2	
APA	**Apatity**	**63.84**	**25⇑**	*i*P	**P**	**22 01 52.2**	**-0.1**
APA				*i*		22 02 01.4	
APA				*e*S	**S**	**22 10 28.0**	**+2.2**
APA				*e*SS	SS	22 14 26.0	-10
APA				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.3						
APA				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
RPW	**Rockport**	**63.84**	**314**	*e*P	**P**	**22 01 51.2**	**-1.4**
MOD	**Modoc**	**63.91**	**306**	*e*P	**P**	**22 01 53.3**	**+0.1**
	comp=Z,52nm,1.3s,mb5.4						
MOD				*e*		22 02 01.8	
BEKR	**Beckwourth**	**64.30**	**304**	*e*P	**P**	**22 01 55.6**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.5						
CMB	**Columbia Colle**	**64.66**	**302**	*e*P	**P**	**22 01 58.7**	**+0.5**
	comp=Z,20nm,1.1s,mb5.1						
ESKT	**Eskisehir**	**64.68**	**56**	*i* P	**P**	**22 01 58.0**	**-0.2**
OHCM	**Honcut**	**65.25**	**304**	*e*P	**P**	**22 02 01.4**	**-0.5**
OHCM				*e*		22 02 10.8	
SGKT	**Sivrigoynuk**	**65.39**	**55**	*i* P	**P**	**22 02 02.6**	**-0.3**
LRV	**Little Rabbit**	**65.48**	**301**	*e*P	**P**	**22 02 04.6**	**+1.2**
LRV				*e*		22 02 12.5	
HSO	**Harness Mounta**	**65.66**	**309**	*e*P	**P**	**22 02 04.1**	**-0.4**
YBH	**Yreka Blue Hor**	**65.71**	**307**	*e*P	**P**	**22 02 03.9**	**-1.0**
	comp=Z,17nm,0.9s,mb5.1						
YBH				*e*		22 02 12.7	
HUMO	**Hull Mountain**	**65.73**	**308**	*e*P	**P**	**22 02 03.6**	**-1.3**
	comp=Z,13nm,0.8s,mb5.0						
HUMO				*e*		22 02 12.1	
WDC	**Whiskeytown Da**	**65.81**	**305**	*e*P	**P**	**22 02 03.5**	**-1.9**
	comp=Z,6.1nm,0.8s,mb4.7						
OBN	**Obninsk**	**66.08**	**38**	*c i*P	**P**	**22 02 06.8**	**-0.1**
OBN				*e*		22 04 31.7	
OBN				pmax	pmax		
	comp=Z,127nm,1.4s,mb5.8						
OBN	**Obninsk**	**66.08**	**38⇑**	*e*P	**P**	**22 02 06.5**	**-0.5**
	comp=Z,126nm,1.3s,mb5.8						
SIM	**Simferopol'**	**66.08**	**50**	*e*P	**P**	**22 02 07.0**	**-0.2**
SIM				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
SIM				MLR	MLR		
	comp=Z,460nm,18.4s,MS4.7						
BALT	**Daday**	**66.19**	**53**	*i* P	**P**	**22 02 08.3**	**+0.4**
ELDT	**Eldivan**	**66.43**	**55**	*i* P	**P**	**22 02 09.6**	**+0.1**
HOPS	**Hopland**	**66.53**	**304**	*e*P	**P**	**22 02 11.2**	**+1.1**
	comp=Z,82nm,1.2s,mb5.6						
HOPS				*e*		22 02 19.6	
MOS	**Moscow**	**66.59**	**38**	*e*P	**P**	**22 02 10.4**	**+0.2**
MOS				*e*		22 02 38.8	
MOS				*e*		22 04 36.8	
MOS				*e*S	S	22 11 02.9	+3.1
MOS				pmax	pmax		
	comp=Z,183nm,1.2s,mb6.0						
KRMB	**Red Mountain**	**66.63**	**307**	*e*P	**P**	**22 02 10.7**	**0.0**
KRMB				*e*		22 02 19.3	
KHMM	**Horse Mountain**	**66.64**	**306**	*e*P	**P**	**22 02 11.1**	**+0.4**
KEBM	**Edson Butte**	**66.68**	**308**	*e*P	**P**	**22 02 11.5**	**+0.5**
BRTR	**Keskin Array B**	**66.75**	**55**	P	**P**	**22 02 11.8**	**+0.3**
	comp=Z,8.2nm,1.0s,mb4.7,baz=270,slow=4.9,SNR=44						
BRTR				LR	LR	22 31 07.6	
	comp=Z,178nm,18.5s,MS4.3,baz=80,slow=36						
BOYT	**Boyabat**	**67.33**	**53**	*i* P	**P**	**22 02 15.4**	**+0.2**
DLBC	**Dease Lake**	**67.52**	**325**	*e*P	**P**	**22 02 16.7**	**+0.6**
INK	**Inuvik**	**67.63**	**336**	*e*P	**P**	**22 02 15.8**	**-0.8**
	comp=Z,14nm,1.1s,mb4.9						
AVNT	**Avonos**	**67.88**	**56**	*i* P	**P**	**22 02 18.1**	**-0.6**
VOR	**Voronezh**	**68.18**	**42**	*e*P	**P**	**22 02 20.3**	**0.0**
VOR				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
PLCA	**Paso Flores**	**68.44**	**201**	P	**P**	**22 02 21.6**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.5,baz=23,slow=6.5,SNR=13						
PLCA				LR	LR	22 31 12.6	
	comp=Z,432nm,21.7s,MS4.7,baz=190,slow=35						
COBT	**Iskenderun**	**69.51**	**58**	*i* P	**P**	**22 02 26.6**	**-2.2**
GZT	**Gaziantep**	**70.30**	**57**	*i* P	**P**	**22 02 33.8**	**+0.2**
SOC	**Sochi**	**70.30**	**50**	*e*P	**P**	**22 02 34.1**	**+0.6**
SOC				*e*		22 05 15.9	
SOC				*e*PPP	PPP	22 06 49.8	-1.6
SOC				*e*S	S	22 11 46.1	+1.9
SOC				*e*		22 12 11.3	
SOC				*e*SSS	SSS	22 19 20.2	-1.4
SOC				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.4						
SOC				pmax	pmax		
	comp=N,21nm,0.8s						
SOC				pmax	pmax		
	comp=E,13nm,0.8s						
SOC				pmax	pmax		
	comp=Z,106nm,1.3s,mb5.6						
SOC				pmax	pmax		
	comp=N,21nm,0.8s						
SOC				MLR	MLR		
	comp=Z,310nm,17.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,242nm,19.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,204nm,20.0s,MS4.6						
BDAS	**Al Bad'**	**70.79**	**67**	P	**P**	**22 02 37.4**	**+0.7**
DAWY	**Dawson**	**70.80**	**332**	*e*P	**P**	**22 02 35.6**	**-0.5**
AYUS	**'Aynunah**	**71.00**	**67**	P	**P**	**22 02 38.7**	**+0.6**

ELZG	**Elazig**	71.08	56	*i* P	P	22 02 37.7	-0.6
ASF	**Jabal al Asfar**	71.19	62	P	P	22 02 40.4	+1.3
	comp=E,9.4nm,1.1s,mb4.6,baz=123,slow=1.7,SNR=13						
JMQS	**Jabal Moqyreh**	71.31	66	P	P	22 02 41.0	+1.1
TBKS	**Tabuk**	72.07	67	P	P	22 02 45.7	+1.2
KIV	**Kislovodsk**	72.28	49	*c* *i*P	P	22 02 46.3	+0.9
KIV				*e*S	S	22 11 57.9	-9.2
KIV				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.3						
KIV				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
KIV	**Kislovodsk**	72.28	49	*e*P	P	22 02 46.4	+1.0
	comp=Z,58nm,1.3s,mb5.3						
ERZM	**Erzurum**	72.47	54	*i* P	P	22 02 48.0	+1.4
ILAR	**Eielson Array**	73.68	334	P	P	22 02 53.5	+0.3
	comp=Z,8.6nm,0.8s,mb4.7,baz=68,slow=4.5,SNR=48						
ILAR				LR	LR	22 35 26.6	
	comp=Z,929nm,18.4s,MS5.1,baz=78,slow=36						
COLA	**College**	74.03	334	*e*P	P	22 02 56.2	+1.0
COLA	**College**	74.03	334	*e*P	P	22 02 56.1	+0.9
	comp=Z,22nm,1.2s,mb5.0						
YNBS	**Yanbu‘ al Bahr**	74.53	70	P	P	22 03 00.7	+1.8
KBRS	**Khaybar**	75.14	68	P	P	22 03 03.9	+1.5
SOKR	**Solikamsk**	75.53	31⇓	*e*P	P	22 03 03.1	-0.8
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
IMA	**Indian Mountai**	75.76	337	*e*P	P	22 03 05.3	+0.2
	comp=Z,10nm,1.3s,mb4.6						
PMR	**Palmer**	75.83	331	*e*P	P	22 03 05.7	+0.1
	comp=Z,26nm,1.3s,mb5.0						
PMS	**Palmer South**	76.16	331	*e*P	P	22 03 10.1	+2.6
	comp=Z,3.3nm,0.5s,mb4.5						
HILS	**Ha’il**	76.73	66	P	P	22 03 12.8	+1.4
SPU	**Mount Spurr**	77.28	332	*e*P	P	22 03 13.8	+0.1
ARU	**Arti**	77.63	34⇑	*i*P	P	22 03 16.6	+0.9
ARU				*i*		22 03 26.2	
ARU				*i*		22 06 11.8	
ARU				*e*S	S	22 13 06.8	+0.7
ARU				*e*		22 13 34.8	
ARU				*e*SS	SS	22 18 02.8	-5.9
ARU				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
ARU	**Arti**	77.63	34	*e*P	P	22 03 16.0	+0.2
	comp=Z,116nm,1.9s,mb5.5						
AFFS	**‘Afif**	78.97	69	P	P	22 03 25.9	+2.2
NAMS	**An Nimas**	80.01	73	P	P	22 03 32.1	+2.6
MZLS	**Mizel**	80.81	68	P	P	22 03 35.3	+1.7
TATS	**Tathlith**	80.98	73	P	P	22 03 37.1	+2.5
LSZ	**Lusaka**	81.30	111	P	P	22 03 34.3	-2.0
	comp=Z,11nm,1.3s,mb4.6						
KMBO	**Kilima Mbogo**	83.33	94	P	P	22 03 50.0	+3.1
	comp=Z,8.4nm,1.2s,mb4.6,baz=298,slow=8.2,SNR=7.1						
KMBO				LR	LR	22 40 10.3	
	comp=Z,457nm,18.4s,MS4.9,baz=96,slow=35						
KMBO	**Kilima Mbogo**	83.33	94	*e*P	P	22 03 46.5	-0.5
	comp=Z,23nm,1.5s,mb5.0						
KMBO				LR	LR	22 40 10.3	
TIXI	**Tiksi**	84.75	2	*e*P	P	22 03 53.4	+0.6
TIXI				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.1						
BRVK	**Borovoye**	85.20	33	*e*P	P	22 03 56.4	+0.9
	comp=Z,8.6nm,0.9s,mb4.9						
BRVK				*e*		22 04 07.2	
BVAR	**Borovoye Array**	85.27	33	P	P	22 03 57.6	+1.7
	comp=Z,3.7nm,0.9s,mb4.5,baz=297,slow=3.3,SNR=20						
NVS	**Novosibirsk**	90.05	27	*i* P	P	22 04 19.4	+0.6
NVS				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.3						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
KURK	**Kurchatov**	90.74	32	*e*P	P	22 04 23.1	+0.9
	comp=N,14nm,1.2s,mb5.2						
KURK				*e*		22 04 33.1	
MKAR	**Makanchi Array**	95.16	33	P	P	22 04 43.7	+1.2
	comp=N,0.9nm,1.0s,mb4.2,baz=236,slow=4.4,SNR=5.5						
MKAR				LR	LR	22 45 29.2	
	comp=N,489nm,21.2s,MS5.0,baz=317,slow=34						
KSH	**Kashi**	96.34	42	*e*P	P	22 04 50.0	+1.9
KSH				*e*AP	pP	22 04 59.8	+8.4
KSH				*e*XP	sP	22 05 04.2	+12
SNAA	**Sanae**	99.51	168⇑	*i*P	P	22 05 00.2	-1.5
SNAA	**Sanae**	99.51	168⇑	*i*		22 09 33.0	
WMQ	**Urumqi**	99.95	33	*e*P	P	22 05 04.1	-0.3
WMQ				AP	pP	22 05 09.1	+1.5
WMQ				XP	sP	22 05 11.1	+2.5
WMQ				PP	PP	22 09 11.7	-0.3
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.8						
WMQ				LR	LR		
	comp=N,495nm,25.0s,MS5.0						
WMQ				LR	LR		
	comp=E,417nm,26.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,567nm,29.0s,MS4.9						
SONM	**Songino Array**	104.22	19	PP	PP	22 09 44.8	+0.8
	comp=Z,2.2nm,1.4s,baz=315,slow=3.5,SNR=4.1						
CN2	**Changchun**	112.19	7	PDIF	Pdif	22 05 55.3	-3.2
CN2				*e*PKP	PKPdf	22 09 50.4	-6.2
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=Z,200nm,20.0s,MS4.7						
LZH	**Lanzhou**	113.57	27	PKP	PKPdf	22 09 50.0	-10
LZH				sPKP		22 09 55.0	
LZH				PP	PP	22 10 47.4	-6.1
LZH				*e*SKS	SKS	22 16 57.0	+10
LZH				*e*SKKS		22 17 35.0	
LZH				SS	SS	22 26 25.0	-12
LZH				LR	LR		
	comp=Z,580nm,20.0s,MS5.2						
BJI	**Beijing**	114.13	16	PKP	PKPdf	22 10 01.5	+0.9
BJI				SS	SS	22 26 42.1	-2.1
BJI				LR	LR		
	comp=N,246nm,18.5s,MS5.0						
BJI				LR	LR		
	comp=E,226nm,18.5s,MS5.0						
BJI				LR	LR		
	comp=Z,261nm,19.0s,MS4.8						
KMI	**Kunming**	122.20	35	*e*PKP	PKPdf	22 10 15.6	-1.0
KMI				PP	PP	22 11 52.2	-1.0
KMI				SKS	SKS	22 17 23.0	+5.4
KMI				SKKS		22 18 43.2	
KMI				SS	SS	22 28 29.1	-0.3
KMI				PP	PP		
	comp=Z,81nm,8.2s						
KMI				LR	LR		
	comp=N,230nm,22.7s,MS4.9						
KMI				LR	LR		
	comp=E,209nm,18.6s,MS4.9						
KMI				LR	LR		
	comp=Z,276nm,29.5s						
NJ2	**Nanjing**	122.38	16	*e*PKP	PKPdf	22 10 13.0	-3.7
NJ2				PP	PP	22 11 54.0	-0.3
NJ2				PKS	PKS	22 13 48.0	-1.4
NJ2				LR	LR		
	comp=N,330nm,20.6s,MS5.2						
NJ2				LR	LR		
	comp=E,430nm,18.2s,MS5.2						
SSE	**Sheshan**	123.86	14	PKP	PKPdf	22 10 20.2	+0.5
SSE				SS	SS	22 28 51.9	+1.8
SSE				LR	LR		
	comp=N,109nm,19.6s,MS4.7						
SSE				LR	LR		
	comp=E,102nm,19.6s,MS4.7						
SSE				LR	LR		
	comp=Z,174nm,19.9s,MS4.7						
VNDA	**Vanda**	124.68	187	PKP	PKPdf	22 10 18.4	-1.8
	comp=Z,1.0nm,1.0s,baz=330,slow=5.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	125.21	43	PKP	PKPdf	22 10 21.4	-1.3
	comp=Z,0.8nm,0.4s,baz=306,slow=2.9,SNR=4.3						
WRA	**Warramunga Arr**	176.14	10	PKPab	PKPab	22 13 10.7	+0.2
	comp=Z,2.6nm,1.0s,baz=352,slow=5.2,SNR=5.5						
ASAR	**Alice Springs**	178.96	85	PKP	PKPdf	22 11 30.4	-1.6
	comp=Z,1.1nm,0.9s,baz=119,slow=0.9,SNR=5.8						
ASAR				PKPab	PKPab	22 13 23.2	+0.3
	comp=Z,3.6nm,1.1s,baz=303,slow=3.2,SNR=8.2						

IDC 05 22:16:49.6±5.4,25.57S×68.66W,h91^{km}±44^{km},mb3.5/1, mb1 3.5/3,mb1mx3.4/14,Error ellipse: s-maj=56.2km s-min=40.7km az=40.0,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	9.25	3	P	P	22 19 00.7	-1.1
	0.2nm,0.3s,baz=214,slow=15,SNR=4.0						
CPUP	**Villa Florida**	10.22	97	P	P	22 19 14.2	-0.8
	0.1nm,0.3s,baz=295,slow=14,SNR=4.6						
BDFB	**Brasilia**	21.67	67	P	P	22 21 32.2	-2.0
	1.7nm,0.4s,baz=251,slow=9.8,SNR=3.1						
ASAR	**Alice Springs**	126.40	206	PKP	PKPdf	22 35 42.0	-0.5
	0.8nm,0.9s,baz=164,slow=2.0,SNR=6.3						
WRA	**Warramunga Arr**	129.54	208	PKP	PKPdf	22 35 48.0	-0.6
	0.2nm,0.4s,baz=153,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	148.69	40	PKPbc	PKPdf	22 36 26.2	+4.2
	2.8nm,0.8s,baz=313,slow=3.5,SNR=20						

NEIC 05 22:22:59.5±0.8,11.97N×94.43E,h10^{km},mb4.2/3,Error ellipse: s-maj=22.5km s-min=12.6km az=66.0

IDC 05 22:23:01.6±0.9,12.19N×94.74E,h20^{km}±5^{km},mb3.7/7, mb1 3.8/8,mb1mx3.6/18,ML3.6/1,Error ellipse: s-maj=46.5km s-min=17.9km az=54.0

ISC 05 22:22:59.2±0.8,12.0N±0.1×94.5E±0.2,h21^{km}, h21^{km}±.5^{km}:pP-P,n12,σ0^{s}.81/12,mb4.0/9,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	7.72	33	Pn	Pn	22 24 54.5	+1.0
	0.2nm,0.3s,baz=224,slow=15,SNR=4.5						
LSA	**Lhasa**	17.90	350	*e*P	P	22 27 08.9	+0.2
	4.6nm,0.8s						
LZH	**Lanzhou**	25.43	18	*e*P	P	22 28 31.8	+4.5
	40nm,1.3s,mb4.8						
LZH				pP	pP	22 28 49.5	+16
LZH				sP	sP	22 28 58.5	+22
MKAR	**Makanchi Array**	36.19	346	P	P	22 30 01.3	-1.1
	0.6nm,0.7s,mb3.6,baz=170,slow=8.8,SNR=4.8						
MKAR				pP	pP	22 30 07.8	-0.7
	2.2nm,0.8s,baz=157,slow=9.2,SNR=13						
SONM	**Songino Array**	37.09	13	P	P	22 30 08.8	-1.2
	0.3nm,0.3s,mb3.6,baz=225,slow=6.1,SNR=3.2						
KURK	**Kurchatov**	40.75	345	*e*P	P	22 30 39.9	-0.4
	5.3nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	50.44	129	P	P	22 31 57.3	-0.5
	1.6nm,0.7s,mb4.2,baz=308,slow=8.3,SNR=13						
ASAR	**Alice Springs**	52.35	133	P	P	22 32 12.1	-0.2
	0.9nm,0.7s,mb3.8,baz=313,slow=6.8,SNR=8.7						
BRTR	**Keskin Array B**	60.08	309	P	P	22 33 07.9	+0.4
	0.7nm,0.6s,mb3.9,baz=120,slow=8.4,SNR=5.5						
BRTR				pP	pP	22 33 14.2	+0.3
	1.1nm,0.8s,baz=128,slow=7.9,SNR=5.1						
STKA	**Stephens Creek**	62.72	135	P	P	22 33 26.0	+0.6
	1.0nm,0.7s,mb4.0,baz=352,slow=19,SNR=2.5						
STKA	**Stephens Creek**	62.72	135	P	P	22 33 26.0	+0.6
GERES	**GERESS Array B**	75.03	318	P	P	22 34 42.5	+1.2
	0.6nm,0.7s,mb3.7,baz=72,slow=4.2,SNR=6.2						
GERES				pP	pP	22 34 48.8	+1.0
	0.7nm,0.7s,baz=76,slow=5.5,SNR=5.7						

JMA 05 22:47:15.0±0.2,23.36N×121.67E,h80^{km},M2.8

TAP 05 22:47:14.6,23.33N×121.62E,h24^{km},ML3.4,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	1.70	48	P	Pn	22 47 42.6	-0.7
YOJ				S	Sn	22 48 03.3	-1.1
HATJ	**Hateruma jima**	2.13	70	P	Pn	22 47 48.4	-1.0
HATJ				S	Sn	22 48 13.1	-2.3
IRIF	**Iriomote-Funau**	2.18	62	P	Pn	22 47 49.3	-0.8
IRIF				S	Sn	22 48 15.8	-0.8
JKRS	**Kuro-shima**	2.37	67	P	Pn	22 47 51.9	-0.9
JKRS				S	Sn	22 48 19.4	-2.0
JIJ	**Ishigaki jima**	2.53	65	P	Pn	22 47 53.7	-1.4
JIJ				S	Sn	22 48 22.7	-2.8
JTJ	**Tarama**	3.11	65	P	Pn	22 48 01.8	-1.5
JTJ				S	Sn	22 48 37.4	-2.7

BER 05 22:52:44.2±4.1,67.86N×20.14E,ML1.3,Suspected explosion

HEL 05 22:52:43.5±0.3,67.90N×20.21E,ML1.6,ML1.3(BER), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	1.13	11	*e*P	Pb	22 53 04.4	-1.2
KIF				*e*S	Sb	22 53 22.0	+1.4
KTK1	**Kautokeino**	1.58	44	*e*P	Pn	22 53 11.3	-1.5
KTK1				*e*SN	Sn	22 53 36.8	+2.5
KTK1				AML	AML	22 53 39.8	
	comp=Z,3.8nm,0.5s						
TRO	**Tromso**	1.80	346	*e*P	Pn	22 53 14.5	-1.5
TRO				*e*SN	Sn	22 53 39.4	-0.5
TRO				AML	AML	22 53 42.6	
	comp=Z,2.8nm,0.4s						
SGF	**Sodankyl**	2.46	98	*e*P	Pn	22 53 24.8	-0.7
SGF				*e*S	Sn	22 53 55.1	-1.5
LOF	**Lofoten**	2.52	278	*e*SG	Sg	22 54 04.5	-2.9
MOR8	**Moi Rana**	2.85	235	*e*SG	Sg	22 54 06.5	-12
MOR8				AML	AML	22 54 07.4	
	comp=Z,5.2nm,0.4s						
KEV	**Kevo**	3.09	50	*e*S	Sn	22 54 10.7	-1.9
KEV				*e*SG	Sg	22 54 17.5	-8.9
KEV				MSG		22 54 19.4	
	comp=Z,1.5nm,0.3s						
NSS	**Namsos**	4.75	228	*e*SG	Sg	22 55 09.6	-12
NSS				AML	AML	22 55 10.6	
	comp=Z,1.1nm,0.5s						

NEIC 05 22:55:33.1,54.09N×164.17W,h12^{km},ML3.8(AEIC), After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	0.45	327	P	Pg	22 55 42.1	-0.2
WESS	**West Dahl Sout**	0.50	320	P	Pg	22 55 42.9	-0.4
WESS				S	Sg	22 55 51.0	+0.8
WESN	**West Dahl Nort**	0.53	333	P	Pb	22 55 43.7	-0.1
SSLW	**Shishaldin Wes**	0.68	2	P	Pb	22 55 45.7	-0.7
WTUG	**Tugumak**	0.77	351	P	Pb	22 55 47.2	-0.7
FALS	**False Pass**	0.88	30	P	Pb	22 55 48.6	-1.2
FALS				S	Sb	22 56 00.8	-0.5
AKLV	**Akutan Long Va**	1.05	274	P	Pb	22 55 51.2	-1.5
AKLV				S	Sb	22 56 05.5	-0.8
AKGG	**Akutan Green G**	1.08	276	P	Pb	22 55 51.7	-1.4
AKGG				S	Sb	22 56 06.5	-0.5
BALA	**Baldy Mountain**	1.36	36	P	Pn	22 55 57.8	-0.2
UNV	**Unalaska Valle**	1.40	261	P	Pn	22 55 55.7	-2.9
DRIA	**Deer Island**	1.41	51	P	Pn	22 55 56.7	-2.1
MTBL	**Makushin Table**	1.48	266	P	Pn	22 55 58.1	-1.7
MNAT	**Makushin Natee**	1.50	263	P	Pn	22 55 57.4	-2.5
DTNA	**Dutton South F**	1.54	46	P	Pn	22 55 58.9	-1.6
MCIR	**Makushin Cirqu**	1.61	266	P	Pn	22 55 59.8	-1.8
MGOD	**Makushin Gods**	1.62	260	P	Pn	22 55 59.7	-2.0
HAG	**Hague Volcano**	1.80	46	P	Pn	22 56 03.7	-0.6
PN7A	**Pavlof North-7**	1.84	42	P	Pn	22 56 04.4	-0.4
PVV	**Pavlof Volcano**	1.89	46	P	Pn	22 56 04.3	-1.1
BLHA	**Black Hill**	2.02	36	P	Pn	22 56 06.9	-0.5
OKER	**East Rim**	2.39	256	P	Pn	22 56 12.1	-0.7
SDN	**Sand Point**	2.47	58	*e*P	Pn	22 56 13.6	-0.3
NIKO	**Nikolski**	3.01	250	P	Pn	22 56 18.2	-3.4
PMS	**Palmer South**	10.59	42	*e*P	P	22 58 08.3	+0.7
	1.9nm,0.3s						

ISK 05 23:14:58.5,36.96N×27.72E,h12^{km},MD3.3

ATH 05 23:15:00.7,36.80N×27.52E,h28^{km}±5^{km},MD3.3/7

NEIC 05 23:15:01.0,36.82N×27.57E,h33^{km},MD3.3(ATH),After ATH.

ISC 05 23:14:58.6±0.4,36.93N±0.03×27.71E±0.04,h12^{km},n18, σ1^{s}.02/30,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.25	303	*i* P	Pg	23 15 03.6	-0.5
BDRM				*i* S	Sg	23 15 07.6	-0.1
MLSB	**Milas**	0.37	9	*i* PG	Pg	23 15 05.6	-0.7
MLSB				SG	Sg	23 15 11.3	-0.2
YER	**Yerkesik**	0.51	66	*i* PG	Pg	23 15 08.5	-0.4
YER				SG	Sg	23 15 15.4	-0.4
NISR	**Nisiros**	0.56	236	*e*Pb	Pb	23 15 10.0	+0.1
NISR				*e*Sb	Sb	23 15 19.0	+1.5
AYDN	**Tasoluk**	0.74	11	*i* P	Pb	23 15 12.7	-0.3
AYDN				*i* S	Sb	23 15 21.8	-1.0
ARG	**Arkhangelos**	0.79	154	*e*PB	Pb	23 15 13.5	-0.2
ARG				*e*SN	Sn	23 15 27.5	+0.6
SMG	**Samos**	1.04	319	*e*PN	Pn	23 15 18.5	-0.5
SMG				*e*SN	Sn	23 15 36.5	+3.0
DNZL	**Cakiroluk**	1.31	54⇑	*i*P	Pb	23 15 23.0	+0.3
DNZL				*i* S	Sb	23 15 43.7	+4.4
DENT	**Denizli**	1.34	52	*i* PN	Pn	23 15 23.5	+0.3
KARP	**Karpathos**	1.45	198	*e*PN	Pn	23 15 24.5	-0.2
KARP				*e*SN	Sn	23 15 42.5	-1.2
KDAG	**Bornova**	1.51	347	*i* P	Pn	23 15 24.7	-1.0
KDAG				*i* S	Sb	23 15 50.2	+5.0
KSL	**Kastellorizon**	1.70	117	*e*PN	Pn	23 15 32.0	+3.7
MANT	**Manisa**	1.70	23	*i* P	Pn	23 15 27.9	-0.5
MANT				*i* S	Sn	23 15 53.2	+3.1
APE	**Apeiranthos**	1.75	275	*e*PB	Pb	23 15 28.5	-1.7
ELL	**Elmali**	1.77	95	*e*PN	Pn	23 15 29.9	+0.5
AKS	**Akhisar**	1.95	2	PN	Pn	23 15 31.3	-0.6
PRK	**Paraskevi**	2.58	334	*e*PB	Pb	23 15 46.5	+2.2
ULDT	**Uludag**	3.40	19	*i* P	Pb	23 15 59.5	+1.0
ULDT				*i* S	Sb	23 16 44.6	+4.7

HEL 05 23:18:07.7±0.1,67.84N×20.19E,ML1.9,ML2.3(UPP), ML2.0(BER),Explosion

NAO 05 23:18:07.3±2.7,67.89N×20.25E,ML2.3

BER 05 23:18:08.9±3.0,67.88N×20.16E,ML2.0,ML2.3(NAO), Suspected explosion

ISC 05 23:18:06.2±0.5,67.82N±0.03×20.19E±0.08,n17,σ0^{s}.68/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.15	22	*i* P	Pg	23 18 09.9	+0.7
KUA				*i* S	Sg	23 18 11.8	+0.7
NIKU	**Nikkaluokta**	0.44	277	*i* P	Pg	23 18 15.5	+0.5
DUNU	**Dundret**	0.71	168	*i* P	Pg	23 18 20.4	0.0
DUNU				*i* S	Sg	23 18 30.4	+0.4
MASU	**Masugnsbyn**	0.78	117	*i* P	Pg	23 18 21.9	+0.1
KIF	**Kilpisjarvi**	1.22	10	*e*P	Pb	23 18 30.1	+0.3
KIF				*e*S	Sb	23 18 46.1	+0.2
KTK1	**Kautokeino**	1.65	42	*e*P	Pn	23 18 37.5	+1.0
KTK1				*e*SN	Sn	23 18 59.3	+0.6
TRO	**Tromso**	1.88	346	*e*P	Pn	23 18 40.1	+0.2
TRO				*e*S	Sn	23 19 04.4	-0.2
TRO				AML	AML	23 19 07.4	
	comp=Z,16nm,0.3s						
SGF	**Sodankyl**	2.45	96	*e*P	Pn	23 18 48.9	+0.9
SGF				*e*S	Sn	23 19 18.6	-0.6
LOF	**Lofoten**	2.53	280	*e*SG	Sg	23 19 29.1	-1.1
LOF				AML	AML	23 19 30.6	
	comp=Z,8.8nm,0.4s						
ARA0	**ARCESS Array S**	2.60	46	*e*P	Pn	23 18 49.7	-0.4
ARA0				*e*SB	Sb	23 19 25.9	-0.1
ARA0	**ARCESS Array S**	2.60	46	Pn	Pn	23 18 49.7	-0.4
	baz=223,slow=18						
ARA0				Lg		23 19 25.9	
	baz=233,slow=22						
MOR8	**Moi Rana**	2.80	236	*e*SG	Sg	23 19 30.6	-8.8
MOR8				AML	AML	23 19 31.7	
	comp=Z,21nm,0.5s						
KEV	**Kevo**	3.15	49	*e*P	Pn	23 18 58.1	+0.1
KEV				*e*S	Sn	23 19 35.5	-1.4
KEV				*e*SB	Sb	23 19 40.7	-1.4
KEV				MSG		23 19 42.0	
	comp=Z,2.9nm,0.3s						
MSF	**Maaselka**	3.98	115	*e*P	Pn	23 19 10.4	+0.5
MSF				*e*S	Sn	23 19 57.6	-0.3
NSS	**Namsos**	4.69	229	*e*SG	Sg	23 20 33.8	-8.5
NSS				AML	AML	23 20 34.9	
	comp=Z,6.9nm,0.3s						
FIA0	**FINESS Array S**	6.88	156	Pn	Pn	23 19 50.0	-0.7
FIA0				Sn	Sn	23 21 06.2	-4.5
	baz=349,slow=22						
FIA0				Lg		23 21 42.9	
	baz=342,slow=28						
HFS	**Hagfors**	8.22	203	Sn	Sn	23 21 37.9	-6.3
	baz=18,slow=28						
HFS				Lg		23 22 24.0	
	baz=17,slow=37						

JMA 05 23:36:57.7±0.3,23.81N×121.75E,h86^{km},M2.5

TAP 05 23:36:58.4,23.68N×121.80E,h11^{km}±1^{km},ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	1.35	55	P	Pb	23 37 21.4	-1.9
YOJ				S	Sb	23 37 38.8	-1.7
HATJ	**Hateruma jima**	1.87	78	S	Sn	23 37 51.7	-2.9
IRIF	**Iriomote-Funau**	1.88	69	P	Pn	23 37 28.6	-2.3
IRIF				S	Sn	23 37 52.7	-2.1
JKRS	**Kuro-shima**	2.10	74	P	Pn	23 37 32.1	-1.9
JKRS				S	Sn	23 37 58.6	-1.6
JIJ	**Ishigaki jima**	2.25	72	P	Pn	23 37 33.5	-2.6
JIJ				S	Sn	23 38 00.6	-3.5
JTJ	**Tarama**	2.82	70	P	Pn	23 37 41.6	-2.7

MOS 05 23:53:25.3±0.8,36.14N×70.38E,h120^{km},mb4.0/2,Error ellipse: s-maj=50.3km s-min=27.3km az=101.1

IDC 05 23:53:27.2±24.0,36.23N×70.59E,h120^{km}±208^{km}, mb3.2/5,mb1 3.3/7,mb1mx3.1/21,ML3.4/2,Error ellipse: s-maj=166.0km s-min=24.6km az=35.0

NNC 05 23:53:34.9±3.0,37.17N×69.46E,mpv3.9,Error ellipse: s-maj=38.4km s-min=30.0km az=77.0

ISC 05 23:53:29.3±2.4,36.5N±0.1×70.7E±0.2,h145^{km}±25^{km},n23, σ0^{s}.84/25,mb3.4/5,2C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	6.14	22	P	P	23 54 58.6	-0.2
	SNR=32						
UCH	**Uchtor**	6.50	26	P	P	23 55 03.4	-0.2
	SNR=10						
KK31	**Karatay Array**	6.65	359	⇑P	P	23 55 04.6	-1.0
	3.0nm,0.2s,baz=169,slow=9.7,SNR=360						
KK31				⇑S	S	23 56 15.3	-5.1
	9.8nm,0.5s,baz=179,slow=19,SNR=16						
EKS2	**Erkin-Say**	6.66	20	P	P	23 55 06.7	+0.9
	SNR=13						
AAK	**Ala-Archa**	6.85	24	P	P	23 55 08.4	+0.1
	SNR=5.9						
USP	**Ospenovka**	7.42	22	P	P	23 55 15.5	-0.5
	SNR=6.2						
TKM2	**Tokmak 2**	7.50	29	P	P	23 55 16.5	-0.5
	SNR=5.2						
MKAR	**Makanchi Array**	13.50	36	P	P	23 56 35.8	+0.1
	0.1nm,0.3s,baz=225,slow=10,SNR=3.2						
KOLN	**Koldanda**	13.96	125	*e*P	P	23 56 44.1	+2.4
GKN	**Gorkha**	14.51	122	*e*P	P	23 56 48.3	-0.4
	21nm,0.4s						
AB31	**Akbulak array**	15.00	332	P	P	23 56 54.6	0.0
	0.8nm,0.3s,baz=156,slow=12,SNR=63						
AB31				S	S	23 59 28.9	-8.1
	0.7nm,0.5s,baz=158,slow=23,SNR=6.1						
DMN	**Daman**	15.08	122	*e*P	P	23 56 54.2	-1.7
	12nm,0.6s						
KKN	**Kakani**	15.09	121	*e*P	P	23 56 56.4	+0.5
	50nm,0.5s						
PKI	**Pulchoki**	15.31	121	*e*P	P	23 56 58.9	+0.1
	34nm,0.6s						
BVAR	**Borovoye Array**	16.58	359	P	P	23 57 16.0	+1.8
	0.2nm,0.3s,baz=169,slow=15,SNR=4.8						
FINES	**FINESS Array B**	37.37	326	P	P	00 00 29.1	0.0
	0.4nm,0.4s,mb3.4,baz=127,slow=9.0,SNR=8.6						
ARCES	**ARCESS Array B**	41.09	338	P	P	00 01 00.1	+0.4
	0.5nm,0.4s,mb3.5,baz=108,slow=7.7,SNR=7.2						
ARCES	**ARCESS Array B**	41.09	338	P	P	00 01 00.1	+0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	42.94	322	P	P	00 01 14.8	0.0
	comp=Z,1.3nm,0.7s,mb3.7,baz=98,slow=10,SNR=8.7						
HFS	**Hagfors**	42.94	322	P	P	00 01 14.8	0.0
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	44.26	323	P	P	00 01 24.9	-0.5
	comp=Z,0.3nm,0.4s,mb3.3,baz=100,slow=7.4						
NOA	**NORSAR Array B**	44.26	323	P	P	00 01 25.0	-0.4
	comp=Z,0.3nm,0.4s,mb3.2,baz=97,slow=7.8,SNR=6.7						

WRA	Warramunga Arr	82.20	122	P	P	00 05 34.8	-0.8
	comp=Z,0.4nm,0.8s,mb3.1,baz=326,slow=4.8,SNR=3.6						

ROM ***05*** *23:57:50.3±0.2, 38.45N×13.17E, h7^{km}±2^{km}, MD3.4/5, ML3.0/17, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0*

NEIC ***05*** *23:57:50.3, 38.45N×13.17E, h7^{km}, MD3.4(ROM), After ROM.*

LDG ***05*** *23:57:52.2±0.6, 38.17N×12.81E, h10^{km}, Ml3.2/6, Error ellipse: s-maj=14.9km s-min=12.9km az=49.0*

IDC ***05*** *23:57:53.4±3.3, 38.47N×12.99E, h15^{km}±29^{km}, mb3.3/5, mb1 3.4/9, mb1mx3.4/24, ML3.6/4, Error ellipse: s-maj=39.0km s-min=20.5km az=43.0*

ISC 05 23:57:50.8±0.4, **38.51N**±0.03×**13.07E**±0.03, **h27**^{km}±5^{km}, **n87**, σ**1^{s}17**/106, **mb3.4**/5, **14C-1D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USI	Ustica	0.21	23	⇑*i*PG	Pb	23 57 56.6	-0.2
USI	Ustica	0.21	23	⇑*i*Pg	Pb	23 57 56.6	-0.3
MPG	Monte Pellegri	0.41	147	*e*PG	Pb	23 57 57.3	-2.4
	357nm,0.3s						
MPG	Monte Pellegri	0.41	147	*e*Pg	Pb	23 57 57.4	-2.3
ERC	Erice	0.61	219	*e*PG	Pb	23 58 02.3	-0.5
ERC	Erice	0.61	219	*e*Pg	Pb	23 58 02.3	-0.5
MTGR	Montagna Grand	0.66	202	*e*PG	Pb	23 58 04.0	+0.3
MTGR				SG	Sb	23 58 12.6	0.0
MTGR	Montagna Grand	0.66	202	*e*Pg	Pb	23 58 04.0	+0.3
MTGR				*e*Sg	Sb	23 58 12.6	+0.1
CRJA	Costa Raja	0.71	184	*e*PG	Pb	23 58 05.2	+0.7
CRJA	Costa Raja	0.71	184	*e*Pg	Pb	23 58 05.2	+0.8
MFNL	Monte Finestre	0.73	189	*e*PG	Pb	23 58 05.1	+0.4
MFNL	Monte Finestre	0.73	189	*e*Pg	Pb	23 58 05.1	+0.3
LVI	Isola Levanzo	0.78	228	*e*PG	Pb	23 58 05.6	0.0
LVI				SG	Sb	23 58 18.0	+2.2
LVI	Isola Levanzo	0.78	228	*e*Pg	Pb	23 58 05.5	-0.1
LVI				*e*Sg	Sb	23 58 18.0	+2.1
MMGO	Monte Magaggia	0.85	185	*e*PG	Pb	23 58 07.0	+0.2
MMGO				SG	Sb	23 58 18.6	+0.8
MMGO	Monte Magaggia	0.85	185	*e*Pg	Pb	23 58 07.0	+0.2
MMGO				*e*Sg	Sb	23 58 18.6	+0.7
CAVT	Castelvetrano	0.87	197	⇑*i*PG	Pb	23 58 07.7	+0.6
CAVT	Castelvetrano	0.87	197	⇑*i*Pg	Pb	23 58 07.7	+0.7
GIB	Gibilmanna	0.91	124	*e*PG	Pb	23 58 06.7	-1.2
GIB				SG	Sb	23 58 20.1	+0.5
	892nm,0.5s						
GIB	Gibilmanna	0.91	124	*e*Pg	Pb	23 58 06.7	-1.1
GIB				*e*Sg	Sb	23 58 20.1	+0.5
CLTB	Caltabellotta	0.94	173	*e*PG	Pn	23 58 09.2	+1.0
	836nm,0.3s						
CLTB	Caltabellotta	0.94	173	*e*Pg	Pn	23 58 09.2	+1.0
CSLB	Castelbuono	0.96	126	*e*PG	Pn	23 58 07.4	-1.2
CSLB				SG	Sb	23 58 20.1	-1.0
CSLB	Castelbuono	0.96	126	*e*Pg	Pn	23 58 07.4	-1.2
CSLB				*e*Sg	Sb	23 58 20.1	-0.9
MCT	Mte Cammarata	0.98	153	*e*PG	Pn	23 58 08.8	-0.1
MCT	Mte Cammarata	0.98	153	*e*Pn	Pn	23 58 08.8	-0.1
PLLN	Pollina	0.99	121	⇓*i*PG	Pn	23 58 07.7	-1.3
PLLN				SG	Sb	23 58 21.5	-0.3
FAVR	Favara	1.33	159	⇑*i*PN	Pn	23 58 14.3	+0.5
FAVR	Favara	1.33	159	⇑*i*Pn	Pn	23 58 14.3	+0.5
SLNA	Salina	1.38	87	*e*PN	Pn	23 58 13.2	-1.4
	1µm,0.4s						
SLNA	Salina	1.38	87	*e*Pg	Pn	23 58 13.2	-1.3
MNO	Monte Soro	1.40	114	*e*PN	Pn	23 58 14.8	-0.1
MNO	Monte Soro	1.40	114	*e*Pn	Pn	23 58 14.8	-0.1
VAE	Valguarnera	1.48	134	Pg	Pn	23 58 19.0	+3.0
	24nm,0.3s,baz=96,slow=6.4,SNR=104						
VAE				Lg		23 58 42.1	
	54nm,0.3s,baz=112,slow=18,SNR=13						
VAE	Valguarnera	1.48	134	Pg	Pn	23 58 19.0	+3.0
VAE				Lg		23 58 42.1	
PTS	Pantelleria	1.90	207	⇑*i*PN	Pn	23 58 21.7	-0.3
	116nm,0.2s						
PTS	Pantelleria	1.90	207	⇑*i*Pn	Pn	23 58 21.7	-0.2
ATN	Antennamare	1.91	100	*e*PN	Pn	23 58 23.2	+1.0
	62nm,0.4s						
PZI	Palazzolo	2.08	134	*e*PN	Pn	23 58 25.0	+0.5
	331nm,0.4s						
PZI	Palazzolo	2.08	134	*e*Pn	Pn	23 58 25.0	+0.5
SCLL	Scilla	2.09	96	*e*PN	Pn	23 58 22.8	-1.9
	59nm,0.5s						
AGST	Augusta-Monte	2.11	126	⇑*i*PN	Pn	23 58 25.1	0.0
AGST				SN	Sn	23 58 50.4	-0.3
	285nm,0.5s						
AGST	Augusta-Monte	2.11	126	⇑*i*Pn	Pn	23 58 25.1	0.0
AGST				*e*Sn	Sn	23 58 50.4	-0.3
MTTG	Motta San Giov	2.12	103	⇑*i*PN	Pn	23 58 24.8	-0.4
	219nm,0.5s						
MTTG	Motta San Giov	2.12	103	⇑*i*Pn	Pn	23 58 24.8	-0.4
ISOR	Termini	2.29	25	*e*PN	Pn	23 58 28.5	+0.9
SOI	Samo	2.39	100	*e*PN	Pn	23 58 27.8	-1.2
	164nm,0.7s						
SOI	Samo	2.39	100	*e*Pn	Pn	23 58 27.8	-1.2
MGR	Morigerati	2.52	49	*e*PN	Pn	23 58 30.9	0.0
	11nm,0.4s						
MGR	Morigerati	2.52	49	*e*Pn	Pn	23 58 30.9	+0.1
GRI	Girifalco	2.64	82	*e*PN	Pn	23 58 31.4	-1.2
	63nm,0.3s						
GRI	Girifalco	2.64	82	*e*Pn	Pn	23 58 31.4	-1.2
SGO	Sicignano	2.68	39	*e*PN	Pn	23 58 33.7	+0.6
SGO	Sicignano	2.68	39	*e*Pn	Pn	23 58 33.7	+0.5
TDS	Terranova Siba	2.79	65	⇑*i*PN	Pn	23 58 34.2	-0.5
	37nm,0.4s						
TDS	Terranova Siba	2.79	65	⇑*i*Pn	Pn	23 58 34.2	-0.5
CSSN	Cassano Irpino	2.79	32	*e*PN	Pn	23 58 36.3	+1.6
	7.0nm,0.4s						
CSSN	Cassano Irpino	2.79	32	*e*Pn	Pn	23 58 36.3	+1.5
ORI	Oriolo Calabro	3.04	58	*e*PN	Pn	23 58 39.2	+0.9
	40nm,0.4s						
ORI	Oriolo Calabro	3.04	58	*e*Pn	Pn	23 58 39.2	+0.9
CPI2	Carpinone	3.22	17	*e*PN	Pn	23 58 42.6	+1.8
SDI	San Donato	3.25	10	*e*PN	Pn	23 58 42.6	+1.4
	12nm,0.4s						
SDI	San Donato	3.25	10	*e*Pn	Pn	23 58 42.6	+1.4
PGF	Pioggiola	5.09	324	*e*Pn	Pn	23 59 08.6	+1.3
PGF				*e*Sn	Sn	00 00 05.5	-0.5
	11nm,0.4s						
SBF	Sospel	6.83	323	*e*Pn	Pn	23 59 31.4	-0.5
SBF				*e*Sn	Sn	00 00 44.5	-5.0
	1.7nm,0.3s						
LMR	La Mourre	6.92	316	*e*Pn	Pn	23 59 31.5	-1.7
LMR				*e*Sn	Sn	00 00 47.1	-4.7
	2.5nm,0.3s						
FRF	La Foret Royal	7.00	318	*e*Pn	Pn	23 59 32.8	-1.5
FRF				*e*Sn	Sn	00 00 51.4	-2.5
	1.0nm,0.3s						
MBDF	Montbardon	7.80	325	*e*Pn	Pn	23 59 45.6	+0.2
SMRF	Simiane la Rot	7.86	316	*e*Pn	Pn	23 59 45.8	-0.4
ORIF	Oris-en-Rattie	8.36	322	*e*Pn	P	23 59 53.7	+0.5
LPG	La Plagne	8.42	328	*e*Pn	P	23 59 54.9	+0.9
LPL	La Plagne	8.44	328	*e*Pn	P	23 59 55.0	+0.6
DAVOX	Davos	8.59	345	Pn	P	23 59 57.7	+1.2
	0.2nm,0.3s,baz=160,slow=20,SNR=2.5						
LASF	Ste Croix	8.89	312	*e*Pn	P	23 59 58.5	-2.0
LASF				*e*Sn	Sn	00 01 34.2	-6.6
	1.7nm,0.4s						
VIVF	Saint-Julien-l	8.93	318	*e*Pn	P	00 00 00.8	-0.2
MTLF	Montolieu	9.53	304	*e*Pn	P	00 00 06.4	-2.9
MTLF				*e*Sn	Sn	00 01 48.8	-7.7
	1.6nm,0.6s						
GERES	GERESS Array B	10.34	2	Pn	P	00 00 21.2	+0.7
	0.1nm,0.3s,baz=180,slow=12,SNR=6.0						
ETSF	Etsaut	11.24	297	*e*Pn	P	00 00 30.1	-2.6
SJPF	Ste Jean	11.77	298	*e*Pn	P	00 00 37.4	-2.5
MLR	Muntele Rosu	11.84	50	Pn	P	00 00 43.1	+2.2
	0.1nm,0.3s,baz=208,slow=6.6,SNR=3.3						
ESDC	Sonseca Array	13.29	280	Pn	P	00 01 01.3	+1.1
	0.2nm,0.3s,baz=91,slow=14,SNR=3.7						
HFS	Hagfors	21.65	1	P	P	00 02 44.2	+3.4
	0.9nm,0.7s,mb3.3,baz=188,slow=10,SNR=3.3						
NB2	NORSAR Subarra	22.59	358	P	P	00 02 50.8	+0.8
	0.6nm,0.7s,mb3.1,baz=170,slow=10						
NOA	NORSAR Array B	22.59	358	P	P	00 02 52.3	+2.3
	0.5nm,0.8s,mb3.0,baz=176,slow=8.9,SNR=3.0						
FINES	FINESS Array B	24.34	15	P	P	00 03 12.2	+5.0
	0.9nm,0.7s,mb3.3,baz=190,slow=8.5,SNR=5.8						
BVAR	Borovoye Array	41.40	50	P	P	00 05 40.8	+4.7
	0.5nm,0.7s,mb3.3,baz=307,slow=7.2,SNR=4.3						
MKAR	Makanchi Array	50.07	57	P	P	00 06 46.0	+0.9
	1.0nm,0.6s,mb4.0,baz=282,slow=8.1,SNR=8.4						

JMA ***06*** *00:04:40.7±0.1, 43.26N×143.11E, h132^{km}±1^{km}, M2.9*

IDC ***06*** *00:04:51.0±15.0, 42.99N×143.13E, h256^{km}±266^{km}, mb3.0/5, mb1 3.1/5, mb1mx2.8/21, Error ellipse: s-maj=425.0km s-min=27.7km az=169.0*

ISC 06 00:04:39.5±0.5, **43.25N**±0.05×**143.14E**±0.05, **h136**^{km}±4^{km}, **n24**, σ**0^{s}70**/37, **mb3.4**/5, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFR	Furan	0.41	259	P	P	00 04 59.7	+0.4
JFR				*e*S	S	00 05 13.4	-1.0
JAR	Ashorobuto	0.46	83	P	P	00 05 00.0	+0.4
JAR				*e*S	S	00 05 14.1	-0.8
JOB	Onbets	0.61	124	P	P	00 05 01.2	+0.8
JOB				S	S	00 05 16.9	+0.5
JCH	Churui	0.65	165	P	P	00 05 00.8	+0.2
JCH				S	S	00 05 15.5	-1.3
JKK2	Kamakawa 2	0.69	336	P	P	00 05 01.0	+0.1
JAB	Ashibetsu	0.72	292	P	P	00 05 01.4	+0.4
JBT2	Biratori 2	0.73	231	P	P	00 05 01.6	+0.4
JBT2				S	S	00 05 17.3	-0.4
JMP	Maruseppu	0.78	12	P	P	00 05 01.7	+0.3
JMP				S	S	00 05 17.4	-0.9
JTKR	Abashiri--Toko	0.92	37	P	P	00 05 03.1	+0.7
JTKR				*e*S	S	00 05 19.7	-0.3
JNBK	Urakawa-nobuka	1.00	197	P	P	00 05 04.0	+0.9
JNBK				*e*S	S	00 05 21.5	+0.2
JHR	Hokuryu	1.14	296	P	P	00 05 05.1	+0.5
JHR				*e*S	S	00 05 23.8	0.0
JAK	Akkeshi	1.17	102	P	P	00 05 05.5	+0.7
JAK				*e*S	S	00 05 24.3	+0.1
JEW	Eniwo	1.30	252	P	P	00 05 06.9	+0.7
JEW				*e*S	S	00 05 26.9	+0.2
JRA	Rausu	1.60	64	P	P	00 05 10.7	+1.2
JYG	Yagishiri	1.71	314	P	P	00 05 11.1	+0.3
JSE	Soyaes	1.76	347	P	P	00 05 11.6	+0.3
NEM2	Nemuro 2	1.91	85	P	P	00 05 12.8	-0.2
NEM2				*e*S	S	00 05 37.2	-1.4
JSK	Shakotan	1.95	274	P	P	00 05 13.5	0.0
JKB	Kayabe	2.06	230	P	P	00 05 15.5	+0.5
JKB				*e*S	S	00 05 40.7	-1.3
SONM	Songino Array	25.98	293	P	P	00 10 01.1	+0.1
	0.6nm,0.5s,mb3.5,baz=79,slow=7.9,SNR=6.1						
MKAR	Makanchi Array	42.22	297	P	P	00 12 19.8	-0.4
	0.8nm,0.5s,mb3.6,baz=84,slow=11,SNR=8.5						
ILAR	Eielson Array	43.61	36	P	P	00 12 31.4	+0.2
	0.3nm,0.5s,mb3.2,baz=277,slow=6.4,SNR=4.6						
BVAR	Borovoye Array	47.55	309	P	P	00 13 02.1	-0.4
	0.6nm,0.4s,mb3.6,baz=72,slow=9.4,SNR=5.5						
FINES	FINESS Array B	63.96	332	P	P	00 14 57.8	-2.0
	0.2nm,0.5s,mb3.2,baz=53,slow=9.5,SNR=4.9						

TIR ***06*** *00:13:54.1, 41.83N×20.27E, h11^{km}*

PDG ***06*** *00:13:56.8±0.3, 41.86N×20.15E, h6^{km}±1^{km}*

ISC 06 00:13:54.9±0.6, **41.83N**±0.03×**20.25E**±0.04, **h6**^{km}, **n15**, σ**1^{s}15**/30, **4C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	Peshkopia	0.20	135	*i* Pg	Pg	00 13 58.0	-1.1
PHP				*i* Sg	Sg	00 14 04.0	+2.1
PUK	Puka	0.34	309	*i* Pg	Pg	00 14 01.0	-0.8
PUK				*i* Sg	Sg	00 14 06.8	+0.4
LACI	Lac	0.45	245	*i* Pg	Pg	00 14 04.3	+0.4
LACI				*i* Sg	Sg	00 14 11.0	+1.1
BCI	Bajram Curri	0.55	346	*i* Pg	Pg	00 14 06.3	+0.3
BCI				*i* Sg	Sg	00 14 13.1	-0.3
SDA	Shkodra	0.60	292	*i* Pg	Pg	00 14 06.7	-0.3
SDA				*i* Sg	Sg	00 14 15.2	+0.2
ULC	Ulcinj	0.76	281	⇑*i*Pg	Pg	00 14 09.4	-0.6
ULC				*e*Sg	Sg	00 14 20.3	+0.2
PVY	Plav	0.79	345	⇑*i*Pg	Pg	00 14 10.2	-0.5
PVY				*e*Sg	Sg	00 14 22.4	+1.0
TTG	Podgorica	0.95	310	⇑*i*Pg	Pg	00 14 11.9	-2.0
TTG				*e*Sg	Sg	00 14 26.4	-0.2
IVA	Berane	1.07	346	*e*Pg	Pg	00 14 15.0	-1.4
IVA				*e*Sg	Sg	00 14 32.4	+1.7
BUM	Brajici-Budva	1.11	296	⇓*i*Pg	Pg	00 14 15.8	-1.3
BUM				*e*Sg	Sg	00 14 32.2	+0.3
NKY	Niksic	1.35	317	*e*Pg	Pg	00 14 20.5	-1.4
NKY				*e*Sg	Sg	00 14 40.8	+0.9
HCY	Herceg Novi	1.44	296	⇓*i*Pg	Pg	00 14 21.0	-2.6
HCY				*e*Sg	Sg	00 14 42.9	0.0
PLE	Pljevlja	1.63	338	*e*Pg	Pg	00 14 26.1	-1.3
PLE				*e*Sg	Sg	00 14 49.3	+0.2
BRY	Bratogost	1.66	311	⇑*i*Pn	Pn	00 14 26.1	+1.4
BRY				*e*Sn	Sn	00 14 50.0	+3.5
UPM	Unac-Piva	1.69	325	*e*Pn	Pn	00 14 27.0	+1.8
UPM				*e*Sn	Sn	00 14 51.0	+3.6

MOS ***06*** *00:19:23.3±1.4, 51.74N×159.97E, h18^{km}, mb4.2/7, Error ellipse: s-maj=21.9km s-min=8.3km az=96.9*

IDC ***06*** *00:19:24.7±2.4, 52.05N×159.50E, mb4.0/10, mb1 4.1/11, mb1mx3.9/24, ML4.2/1, Error ellipse: s-maj=69.3km s-min=15.1km az=7.0*

KRSC ***06*** *00:19:29.2, 52.21N×159.86E, h11^{km}, ML4.4*

BJI ***06*** *00:19:39.9, 52.90N×158.50E, h65^{km}, mB4.4, mb4.5*

NEIC ***06*** *00:19:40.0±1.9, 52.87N×158.46E, h65^{km}, Error ellipse: s-maj=48.3km s-min=22.3km az=167.0*

ISC 06 00:19:29.3±0.7, **52.09N**±0.04×**160.04E**±0.06, **h51**^{km}±6^{km}, **n56**, σ**1^{s}18**/81, **mb4.2**/13, **1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	1.00	291	P	P	00 19 46.1	-1.1
RUS				S	S	00 19 57.8	-2.7
RUS	Russkaya	1.00	291	*i* P	P	00 19 46.2	-1.0
RUS				*e*S	S	00 19 57.8	-2.7
SPN	Mys Shipunski	1.01	359	P	P	00 19 47.3	0.0
SPN				S	S	00 19 59.8	-0.9
SPN	Mys Shipunski	1.01	359	*e*P	P	00 19 47.2	-0.1
SPN				*e*S	S	00 19 59.7	-1.0
NLC	Nalytchevo	1.16	339	P	P	00 19 49.4	0.0
NLC				S	S	00 20 03.8	-0.7
NLC	Nalytchevo	1.16	339	*e*P	P	00 19 48.8	-0.6
NLC				*e*S	S	00 20 02.6	-1.9
PET	Petropavlovsk	1.26	318	P	P	00 19 50.5	-0.4
PET				S	S	00 20 05.7	-1.3
PET	Petropavlovsk	1.26	318	*i* P	P	00 19 50.2	-0.7
PET				*e*S	S	00 20 05.7	-1.3
PET	Petropavlovsk	1.26	318	⇓*i*PN	P	00 19 50.2	-0.7
PET				pmax	pmax		
	comp=Z,934nm,0.6s						
PET	Petropavlovsk	1.26	318	*e*Pn	P	00 19 49.9	-1.0
GRL	Gorelyy	1.29	292	*i* P	P	00 19 51.5	+0.1
GRL				*e*S	S	00 20 07.5	-0.3
UGLR	Uglovaya	1.34	327	*e*P	P	00 19 51.8	-0.4
UGLR				*e*S	S	00 20 09.8	+0.7
SDLR	Sedlovina	1.38	330	*e*P	P	00 19 52.1	-0.6
SDLR				*i* S	S	00 20 09.6	-0.4
SMAR	Somma	1.40	328	*e*P	P	00 19 52.6	-0.3
AVH	Avacha	1.42	326	*e*P	P	00 19 53.2	0.0
AVH				*e*S	S	00 20 11.0	+0.1
KOK	Koryaka	1.48	325	*e*P	P	00 19 54.1	+0.1
KOK				*e*S	S	00 20 13.1	+0.8
APC	Apacha	1.95	296	*i* P	P	00 20 01.5	+0.9
APC				*e*S	S	00 20 26.9	+3.0
APC				Smax			
	comp=Z,610nm,0.6s						
KII	Karymskiy	1.98	350	*e*P	P	00 20 02.1	+1.1
KII				*e*S	S	00 20 26.2	+1.6
MIPR	Malaya Ipel'ka	2.03	276	*i* P	P	00 20 02.7	+1.0
GNL	Ganaly	2.05	322	*e*P	P	00 20 02.3	+0.3
GNL				*e*S	S	00 20 26.8	+0.4
PAU	Pauzhetka	2.10	254	*i* P	P	00 20 04.0	+1.2
PAU				*e*S	S	00 20 29.0	+1.2
PAU				Smax			
	comp=Z,800nm,0.7s						
MKZ	Mys Kozlova	2.67	22	P	P	00 20 10.8	0.0
MKZ				S	S	00 20 39.9	-2.2
MKZ	Mys Kozlova	2.67	22	*e*P	P	00 20 10.7	-0.1
MKZ				*e*S	S	00 20 39.9	-2.2
SKR	Severo-Kuril's	2.83	242	*i* P	P	00 20 10.5	-2.7
SKR				*i* S	S	00 20 43.1	-3.3
ALID	Alaid	3.06	248	*e*P	P	00 20 16.9	+0.4
TUMR	Tumrok	3.20	1	*i* P	P	00 20 19.7	+1.4
KMNR	Kamenistaya	3.67	2	*e*P	P	00 20 28.4	+3.4
ESO	Esso	3.92	349	*e*P	P	00 20 29.1	+0.6
ESO				*e*S	S	00 21 12.6	-1.2
ESO				Smax			
	comp=Z,60nm,1.0s						
LGNR	Loginova	4.02	5	*e*P	P	00 20 33.9	+4.0
LGNR				*e*S	S	00 21 18.3	+2.1
CIRR	Tsirk	4.05	6	*e*P	P	00 20 34.4	+4.0
KBTR	Krutoberegovo	4.43	20	*e*P	P	00 20 36.1	+0.3
KBTR				*e*S	S	00 21 27.0	+0.3
BKI	Bering	4.71	46	*e*S	S	00 21 27.8	-5.8
BKI				Smax			
	comp=Z,80nm,1.2s						
FX1	Attu Island--F	8.05	79	Pn	P	00 21 26.3	+0.1
	comp=Z,11nm,0.3s,baz=262,slow=20,SNR=51						
FX1				Sn	S	00 22 50.3	-6.5
	comp=Z,17nm,0.3s,baz=82,slow=21,SNR=13						
YAK	Yakutsk	19.09	313	*e*P	P	00 23 51.6	+1.6
YAK				pmax	pmax		
	comp=Z,33nm,0.6s						
COLA	College	29.14	44	*e*P	P	00 25 26.6	-0.5
SSE	Sheshan	35.26	249	P	P	00 26 27.6	+6.8
SSE				S	S	00 31 57.0	+6.9
SSE				XS		00 32 12.7	
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
NJ2	Nanjing	35.91	252	*e*P	P	00 26 33.2	+6.8
SPITS	Spitsbergen Ar	48.12	351	P	P	00 28 05.7	+0.4
	comp=Z,10nm,1.0s,mb4.8,baz=45,slow=8.5,SNR=8.1						
KURK	Kurchatov	48.24	303	*e*P	P	00 28 04.5	-2.0
	comp=Z,1.2nm,0.4s,mb4.3						
MKAR	Makanchi Array	48.57	296	P	P	00 28 07.0	-2.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=54,slow=7.3,SNR=9.1						
MKAR	Makanchi Array	48.57	296	P	P	00 28 07.0	-2.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	50.99	309	P	P	00 28 25.5	-2.0
	comp=Z,0.9nm,0.5s,mb3.9,baz=76,slow=13,SNR=4.5						
ARCES	ARCESS Array B	54.23	342	P	P	00 28 50.1	-1.3
	comp=Z,1.3nm,0.9s,mb3.9,baz=51,slow=7.8,SNR=3.7						
ARCES	ARCESS Array B	54.23	342	P	P	00 28 50.1	-1.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	61.03	337	P	P	00 29 38.8	-0.6
	comp=Z,1.4nm,0.9s,mb4.1,baz=27,slow=4.3,SNR=7.6						
FINES	FINESS Array B	61.03	337	P	P	00 29 38.8	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	64.50	344	P	P	00 30 02.2	0.0
	comp=Z,0.8nm,0.5s,mb4.0,baz=22,slow=6.5						
NOA	NORSAR Array B	64.50	344	P	P	00 30 02.5	+0.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=21,slow=6.7,SNR=11						
NOA	NORSAR Array B	64.50	344	P	P	00 30 02.5	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	69.46	329	P	P	00 30 32.9	-0.7
	comp=Z,1.8nm,0.4s,mb4.3,baz=28,slow=6.4,SNR=7.0						
AKASG	Malin Array Be	69.46	329	P	P	00 30 32.9	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIV	Kislovodsk	70.15	317	*e*P	P	00 30 41.7	+3.8
KIV				*e*		00 31 03.7	
KIV				*e*		00 33 15.1	
KIV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
GERES	GERESS Array B	75.43	338	P	P	00 31 11.2	+2.4
	comp=Z,0.2nm,0.6s,mb3.2,baz=16,slow=7.1,SNR=3.8						
BRTR	Keskin Array B	77.38	320	P	P	00 31 20.1	+0.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=59,slow=3.8,SNR=5.0						
BRTR	Keskin Array B	77.38	320	P	P	00 31 20.1	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASF	Jabal al Asfar	82.48	314	P	P	00 31 48.8	+1.3
	comp=Z,2.9nm,0.9s,mb4.2,baz=335,slow=2.7,SNR=5.8						

ISK ***06*** *00:20:27.0, 40.56N×36.59E, h5^{km}, MD3.6*

ISC 06 00:20:27.7±0.4, **40.56N**±0.03×**36.59E**±0.04, **h5**^{km}, **n30**, σ**0^{s}69**/43, **7C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOKT	Tokat	0.24	189	*i* PG	Pg	00 20 32.7	+0.1
KVT	Kavak	0.67	322	*i* PG	Pg	00 20 39.9	-1.2
KVT				SG	Sg	00 20 49.7	-0.4
SVSK	Karacayir	0.71	154	*i* PG	Pg	00 20 40.9	-1.0
SVSK				SG	Sg	00 20 51.2	-0.2
SVST	Sivas	0.83	161	⇑*i*P	Pb	00 20 43.4	-0.9
SVST				*i* S	Sg	00 20 56.5	+1.1
YOZ	Yozgat	1.34	227	*i* PN	Pn	00 20 52.8	-0.3
CTKT	Corum	1.38	273	⇑*i*P	Pb	00 20 52.9	-0.7
CTKT				*i* S	Sb	00 21 13.3	+2.0
BOYT	Boyabat	1.54	305	⇑*i*P	Pn	00 20 56.3	+0.2
BOYT				*i* S	Sb	00 21 17.7	+1.5
BYBT	Boyabat	1.66	304	*i* PN	Pn	00 20 57.8	+0.1
TOS	Tosya	2.01	285	PN	Pn	00 21 02.4	-0.3
KELT	Kelkit	2.07	100	*i* P	Pn	00 21 04.0	+0.3
KELT				*i* S	Sn	00 21 33.5	+3.4
GUMT	Gumushane	2.20	92	PN	Pn	00 21 05.6	+0.1
AVNT	Avonos	2.23	218	⇑*i*P	Pn	00 21 05.9	+0.1
AVNT				*i* S	Sn	00 21 38.6	+4.7
CANT	Cankiri	2.27	272	PN	Pn	00 21 06.7	+0.3
BZK	Bozkurt	2.40	307	PN	Pn	00 21 07.7	-0.7
ELDT	Eldivan	2.42	269	⇑*i*P	Pn	00 21 08.7	+0.1
ELDT				*i* S	Sn	00 21 38.9	+0.1
KAMT	Kaman	2.51	243	PN	Pn	00 21 09.8	-0.1
BALT	Daday	2.62	293	⇑*i*P	Pn	00 21 11.3	-0.1
BALT				*i* S	Sn	00 21 49.1	+5.2
MYA	Malataya	2.64	147	*e*PN	Pn	00 21 12.0	+0.3
MALT	Malatya	2.65	147	*e*PN	Pn	00 21 11.5	-0.4
ELZG	Elazig	2.76	137	⇑*i*P	Pn	00 21 13.8	+0.3
ELZG				*i* S	Sn	00 21 56.7	+9.0
NIG	Nigde	2.89	213	*e*PN	Pn	00 21 15.2	-0.1
ANTO	Ankara	2.99	258	*e*PN	Pn	00 21 16.5	-0.2
LOD	Lodumlu	3.01	258	*e*PN	Pn	00 21 16.3	-0.7
SAFT	Safranbolu	3.04	284	PN	Pn	00 21 17.4	0.0
GZT	Gaziantep	3.28	166	*i* P	Pn	00 21 29.4	+8.5
GZT				*i* S	Sn	00 22 19.2	+18
GAZ	Gaziantep	3.41	172	*e*PN	Pn	00 21 22.4	-0.3
SGKT	Sivrigoynuk	3.46	272	*i* P	Pn	00 21 23.7	+0.3
SGKT				*i* S	Sn	00 22 05.2	0.0
EZM	Erzurum	3.71	99	*e*PN	Pn	00 21 27.0	+0.1
ERZM	Erzurum	3.71	99	*i* P	Pn	00 21 38.0	+11
ERZM				*i* S	Sn	00 22 27.4	+16
KIZT	Kizilcal	4.00	247	*e*PN	Pn	00 21 30.9	-0.2

IDC 06 00:21:36.5±2.3, **2.78S**×**127.96E**, **mb3.6**/2, **mb1 4.0**/3, **mb1mx3.7**/15, **ML3.8**/1, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.7**/19, **1C, Error ellipse: s-maj=188.0km s-min=27.2km az=67.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.16	160	P	P	00 25 50.8	-1.2
	0.3nm,0.3s,baz=343,slow=12,SNR=11						
WB2	Warramunga Arr	18.17	160	⇑*i*P	P	00 25 50.8	-1.2
ASPA	Alice Springs	21.55	165	*e*P	P	00 26 27.7	-2.0
ASAR	Alice Springs	21.55	165	P	P	00 26 27.4	-2.2
	2.1nm,0.7s,baz=335,slow=8.9,SNR=19						
ASAJ	Asahikawa	48.49	14	LR	LR	00 50 10.5	
	comp=Z,48nm,18.1s,baz=332,slow=35						
MKAR	Makanchi Array	63.60	327	P	P	00 32 09.2	-2.3
	0.6nm,0.7s,baz=121,slow=6.9,SNR=4.5						

IDC ***06*** *00:24:55.7±1.1, 2.72N×126.61E, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, MS3.3/3, Ms1 3.4/3, ms1mx3.1/21, Error ellipse: s-maj=90.6km s-min=15.6km az=70.0*

NEIC ***06*** *00:25:04.8±0.7, 2.81N×126.96E, h75^{km}, mb4.5/5, Error ellipse: s-maj=61.9km s-min=9.0km az=69.0*

ISC 06 00:25:07.0±3.0, **2.7N**±0.2×**126.6E**±0.5, **h112**^{km}±29^{km}, **n18**, σ**0^{s}88**/16, **mb4.1**/9, **4C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	12.68	334	LR	LR	00 34 03.0	
	comp=Z,111nm,21.9s,baz=109,slow=43						
KAKA	Kakadu	16.30	159	⇑*i*P	P	00 28 51.2	+0.5
	8.8nm,0.6s						
FITZ	Fitzroy Crossi	20.64	183	⇑*i*P	P	00 29 39.9	+0.3
	2.3nm,0.6s						
FITZ	Fitzroy Crossi	20.64	183	P	P	00 29 37.8	-1.8
	2.7nm,0.6s,baz=7.3,slow=7.7,SNR=9.2						

WRAB	Tennant Creek	23.70	162	*e*P	P	00 30 09.4	-0.1
	16nm,1.1s,mb4.3						
WRA	Warramunga Arr	23.70	162	P	P	00 30 09.7	+0.1
	6.7nm,0.7s,mb4.1,baz=339,slow=10,SNR=32						
WB2	Warramunga Arr	23.70	162	⇑*i*P	P	00 30 09.6	-0.1
WB2				*e*S	S	00 34 13.0	-0.2
ASAR	Alice Springs	27.11	165	P	P	00 30 41.4	-0.2
	0.7nm,0.4s,mb3.5,baz=344,slow=6.8,SNR=9.1						
ASPA	Alice Springs	27.11	165	⇑*i*P	P	00 30 46.5	+5.0
CTA	Charters Tower	29.71	140	LR	LR	00 41 59.3	
	comp=Z,100nm,21.7s,baz=234,slow=34						
CMAR	Chiang Mai Arr	31.32	302	LR	LR	00 43 21.1	
	comp=Z,64nm,20.5s,baz=130,slow=35						
STKA	Stephens Creek	37.17	159	*e*P	P	00 32 09.3	+0.4
	4.7nm,0.7s,mb4.5						
STKA	Stephens Creek	37.17	159	P	P	00 32 09.0	+0.1
	3.5nm,0.5s,mb4.6,baz=319,slow=9.1,SNR=17						
SONM	Songino Array	48.28	342	P	P	00 33 36.6	-2.0
	1.3nm,0.8s,mb3.8,baz=169,slow=5.9,SNR=9.3						
MKAR	Makanchi Array	58.37	326	P	P	00 34 52.8	-0.1
	2.4nm,0.6s,mb4.4,baz=119,slow=8.3,SNR=20						
KURK	Kurchatov	62.58	328	*e*P	P	00 35 20.9	-0.5
	3.0nm,0.6s,mb4.4						
BVAR	Borovoye Array	68.15	327	P	P	00 35 58.3	+1.2
	0.8nm,0.5s,mb3.8,baz=143,slow=14,SNR=4.3						
ARU	Arti	75.78	328	*e*P	P	00 36 43.7	+1.6
	3.7nm,0.6s,mb4.3						

*ISK **06** 00:25:49.5,36.90N×27.74E,h9^{km},MD3.3*
*NEIC **06** 00:25:51.2,36.95N×27.80E,h36^{km},MD3.2(ATH),After ATH.*
*ATH **06** 00:25:51.2,36.95N×27.80E,h36^{km}±4^{km},MD3.2/6*
ISC 06 00:25:51.0±0.6,**36.94N**±0.03×**27.77E**±0.04,**h15**^{km}±4^{km},
n20,σ**0**^{s}**67**/31,**4C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.29	297	⇑*i*P	Pg	00 25 57.6	+0.3
BDRM				*i* S	Sg	00 26 02.5	+0.9
MLSB	Milas	0.36	1	*i* PG	Pg	00 25 57.8	-0.8
MLSB				SG	Sg	00 26 04.1	+0.4
YER	Yerkesik	0.46	64	*i* PG	Pg	00 25 59.7	-0.8
YER				SG	Sg	00 26 06.8	-0.1
NISR	Nisiros	0.60	238	*e*PN	Pn	00 26 03.5	-1.3
NISR				*e*SN	Sn	00 26 14.5	+0.3
AYDN	Tasoluk	0.73	7	*i* P	Pb	00 26 05.2	+0.3
AYDN				*i* S	Sb	00 26 14.8	+0.4
ARG	Arkhangelos	0.77	158	*e*PB	Pb	00 26 05.5	-0.1
ARG				*e*SN	Sn	00 26 19.0	+0.5
SMG	Samos	1.07	316	*e*PN	Pn	00 26 11.8	+0.4
DNZL	Cakiroluk	1.27	53	⇑*i*P	Pb	00 26 14.4	+0.3
DNZL				*i* S	Sb	00 26 33.1	+3.0
DENT	Denizli	1.30	51	*i* PN	Pn	00 26 15.2	+0.5
KARP	Karpathos	1.47	200	*e*PB	Pb	00 26 17.0	-0.5
KARP				*e*SN	Sn	00 26 36.5	+0.4
KDAG	Bornova	1.52	345	⇑*i*P	Pn	00 26 17.4	-0.4
KDAG				*i* S	Sb	00 26 42.0	+4.7
MANT	Manisa	1.68	22	⇑*i*P	Pn	00 26 20.1	0.0
MANT				*i* S	Sn	00 26 40.0	-1.3
ELL	Elmali	1.73	96	PN	Pn	00 26 21.1	+0.3
APE	Apeiranthos	1.79	275	*e*PN	Pn	00 26 22.0	+0.2
AKS	Akhisar	1.94	1	PN	Pn	00 26 23.4	-0.5
BCK	Bucak	2.31	76	*e*PN	Pn	00 26 29.3	+0.1
PRK	Paraskevi	2.59	333	*e*PN	Pn	00 26 33.0	-0.2
BALB	Balikesir	2.70	2	*e*PN	Pn	00 26 34.3	-0.5
ULDT	Uludag	3.38	18	*i* P	Pn	00 26 44.2	-0.1
ULDT				*i* S	Sn	00 27 34.7	+10
ESKT	Eskisehir	3.54	42	*i* P	Pn	00 26 57.8	+11

*ISK **06** 00:42:18.8,36.92N×27.80E,h10^{km},MD3.2*
*NEIC **06** 00:42:20.8,36.75N×26.40E,h22^{km},MD2.9(ATH),After ATH.*
*ATH **06** 00:42:20.4,36.74N×26.34E,h18^{km},MD2.9/4*
ISC 06 00:42:18.9±3.2,**36.95N**±0.07×**27.74E**±0.09,**h10**^{km}±25^{km},
n8,σ**0**^{s}**80**/11,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.59	236	*e*PB	Pb	00 42 31.5	+0.6
NISR				*e*SN	Sn	00 42 42.5	-0.3
SMG	Samos	1.05	317	*e*PN	Pn	00 42 40.5	+0.9
DENT	Denizli	1.31	52	PN	Pn	00 42 43.9	+0.6
KARP	Karpathos	1.47	199	*e*PN	Pn	00 42 46.0	+0.3
KARP				*e*SN	Sn	00 43 05.5	+0.4
KDAG	Bornova	1.50	346	*i* P	Pn	00 42 46.2	+0.2
KDAG				*i* S	Sb	00 43 12.7	+7.3
ELL	Elmali	1.75	96	*e*PN	Pn	00 42 48.6	-1.0
APE				*e*Sn	Pn	00 42 48.0	-2.0
AKS	Akhisar	1.93	2	*e*PN	Pn	00 42 52.1	-0.1

*BGS **06** 00:59:13.2±2.5,22.70S×173.50E,h33^{km}*
*LDG **06** 00:59:21.9±0.3,15.67S×167.12E,h10^{km},Mb5.2/2, Ms4.1/7,Error ellipse: s-maj=34.1km s-min=8.1km az=88.0*
*IDC **06** 00:59:24.9±3.1,16.10S×167.95E,h49^{km}±25^{km},mb4.6/11, mb1 4.8/11,mb1mx4.6/15,MS3.9/12,Ms1 3.9/12, ms1mx3.9/14,Error ellipse: s-maj=23.9km s-min=20.8km az=100.0*
*MOS **06** 00:59:28.4±1.2,16.11S×167.69E,h80^{km},mb5.9/4,Error ellipse: s-maj=19.9km s-min=15.6km az=44.0*
*NEIC **06** 00:59:28.8±0.2,16.12S×167.77E,mb5.1/24,Error ellipse: s-maj=9.5km s-min=7.2km az=133.0*
*SYO **06** 00:59:28.7,16.12S×167.77E,h80^{km},MB5.1*
*BJI **06** 00:59:33.1,15.69S×168.08E,h128^{km},mB5.0,mb5.1*
*HRVD **06** 00:59:35.5±0.4,16.16S×167.52E,h89^{km}±2^{km},MW5.1/60, Centroid moment Tensor Solution. LP body waves: s45,c65;Mantle waves: s60,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.45±.17; $M_{\theta\theta}$-4.85±.16; $M_{\phi\phi}$1.40±.17; $M_{r\theta}$0.59±.15; $M_{\theta\phi}$-2.03±.21; $M_{\phi r}$1.27±.11; Best double couple: $M_0$4.81×10^{16} NP1: ϕ_s279°,δ45°,λ129°. NP2:ϕ_s50°,δ56°,λ58°. Principal axes: T 4.07, Plg63°, Azm264°; N 1.48, Plg27°, Azm70°; P -5.55, Plg6°, Azm163°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 00:59:26.5±1.4,**16.17S**±0.06×**167.67E**±0.08,**h69**^{km}±12^{km},
h80^{km}±3.2^{km}**:pP-P,n330**,σ**0**^{s}**92**/74,**mb5.0**/46,**56C-21D,**
Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	1.59	160	⇓*i*P	P	00 59 54.1	+0.9
DZM	Mont Dzumac	5.99	191	*e*P	P	01 00 54.9	+0.5
DZM				*e*S	S	01 02 00.2	-2.1
CTA	Charters Tower	20.72	256	⇑*i*P	P	01 04 05.3	+1.8
	35nm,0.9s						
CTA				*i*		01 04 47.3	
CTA	Charters Tower	20.72	256	P	P	01 04 05.5	+1.9
	43nm,0.8s,baz=82,slow=12,SNR=42						
CTAO	Charters Tower	20.72	256	*e*P	P	01 04 05.0	+1.5
	50nm,0.9s						
CTAO				*e*		01 04 47.0	
PMG	Port Moresby	21.09	286	P	P	01 04 09.1	+1.8
	21nm,0.8s,mb4.5,baz=131,slow=6.7,SNR=8.9						
PMG				LR	LR	01 09 59.6	
	comp=Z,329nm,19.5s,baz=268,slow=30						
PMG	Port Moresby	21.09	286	*e*P	P	01 04 08.9	+1.6
	46nm,1.1s,mb4.7						
URZ	Urewera	23.53	161	LR	LR	01 12 38.9	
	comp=Z,460nm,18.7s,baz=336,slow=34						
CNB	Canberra Magne	25.13	217	⇑*i*P	P	01 04 47.8	+1.2
	38nm,1.2s,mb4.7						
RPZ	Rata Peaks	27.61	175	LR	LR	01 14 31.8	
	comp=Z,513nm,20.9s,baz=3.4,slow=33						
STKA	Stephens Creek	28.38	232	⇑*i*P	P	01 05 17.3	+0.8
	19nm,1.0s,mb4.6						
STKA	Stephens Creek	28.38	232	P	P	01 05 17.4	+0.9
	19nm,0.9s,mb4.6,baz=58,slow=7.7,SNR=27						
STKA				PcP	PcP	01 08 27.0	-0.7
	4.2nm,0.9s,baz=339,slow=2.8,SNR=3.5						
STKA				LR	LR	01 14 56.8	
	comp=Z,244nm,19.1s,baz=45,slow=32						
WB2	Warramunga Arr	31.87	258	⇑*i*P	P	01 05 46.5	-0.9
WRAB	Tennant Creek	31.87	258	*e*P	P	01 05 46.3	-1.2
	11nm,0.8s,mb4.7						
WRAB				*e*		01 08 30.4	
WRA	Warramunga Arr	31.88	258	P	P	01 05 46.6	-0.9
	12nm,0.8s,mb4.7,baz=87,slow=8.6,SNR=76						
WRA				PcP	PcP	01 08 35.8	-1.1
	4.2nm,0.8s,baz=85,slow=3.0,SNR=10.0						
WRA				PKiKP		01 16 02.6	
	1.1nm,0.8s,baz=9.7,slow=0.8,SNR=6.9						
ASAR	Alice Springs	32.55	251	P	P	01 05 53.0	-0.3
	66nm,0.9s,mb5.5,baz=81,slow=9.0,SNR=285						
ASAR				PcP	PcP	01 08 37.6	-1.0
	4.1nm,0.8s,baz=100,slow=2.8,SNR=7.9						
ASAR				PKiKP		01 16 03.5	
	0.9nm,1.0s,baz=180,slow=0.9,SNR=5.3						
ASAR				LR	LR	01 20 08.9	
	comp=Z,96nm,19.4s,baz=49,slow=38						
ASPA	Alice Springs	32.55	251	⇑*i*P	P	01 05 53.2	-0.2
ASPA				*i*		01 09 32.1	
KAKA	Kakadu	34.30	271	⇑*i*P	P	01 06 07.1	-1.4
	31nm,1.1s,mb5.0						
FORT	Forrest	38.92	241	⇑*i*P	P	01 06 48.1	+0.9
	238nm,0.9s,mb6.0						
FITZ	Fitzroy Crossi	40.15	261	⇑*i*P	P	01 06 58.0	+0.5
	48nm,0.9s,mb5.3						
KLBR	Kellerberrin	47.75	242	⇑*i*P	P	01 07 58.4	-0.3
	32nm,0.7s,mb5.3						
MUN	Mundaring	49.10	242	⇓*i*P	P	01 08 08.0	-1.2
	35nm,1.0s,mb5.2						
MAJO	Matsushiro	59.35	333	*e*P	P	01 09 22.0	-1.9
	35nm,1.1s,mb5.3						
MAT	Matsushiro	59.35	333	P	P	01 09 22.3	-1.6
MAT	Matsushiro	59.35	333	*e*P	P	01 09 22.0	-1.9
	32nm,1.1s,mb5.3						
VNDA	Vanda	61.44	181	P	P	01 09 37.2	-0.4
	3.4nm,1.1s,mb4.3,baz=9.2,slow=4.9,SNR=6.9						
VNDA				LR	LR	01 33 14.5	
	comp=Z,90nm,18.3s,baz=15,slow=33						
VNDA	Vanda	61.44	181	P	P	01 09 37.2	-0.4
VNDA				LR	LR	01 33 14.5	
SBA	Scott Base	61.71	180	*e*P	P	01 09 40.1	+0.6
	13nm,1.1s,mb4.9						
CASY	Casey	62.35	203	*e*P	P	01 09 43.1	-0.8
	11nm,0.7s,mb5.0						
SSE	Sheshan	64.82	317	P	P	01 10 02.4	+1.8
SSE				S	S	01 18 35.6	+1.1
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,44nm,6.3s						
YSS	Yuzh-Sakhalins	66.70	342	⇑*i*P	P	01 10 12.0	-0.3
YSS				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.7						
YSS				pmax	pmax		
	comp=N,20nm,0.6s						
YSS	Yuzh-Sakhalins	66.70	342	*e*P	P	01 10 12.1	-0.2
	comp=N,92nm,0.8s,mb5.7						
QIZ	Qiongzhong	66.77	299	*e*P	P	01 10 13.2	+0.1
WHN	Wuhan	69.19	312	⇑P	P	01 10 27.5	-0.6
WHN				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.1						
MDJ	Mudanjiang	69.72	332	P	P	01 10 31.0	-0.1
MDJ				AMB	AMB		
	comp=Z,71nm,1.2s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,99nm,4.7s						
MDJ	Mudanjiang	69.72	332	*e*P	P	01 10 30.8	-0.3
	comp=Z,75nm,1.0s,mb5.5						
CN2	Changchun	71.07	329	⇑*i*P	P	01 10 39.0	-0.2
CN2				*e*S	S	01 19 40.2	-8.6
CN2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.5						
KLR	Kul'dur	72.47	336	⇓*i*P	P	01 10 47.2	-0.2
KLR				pmax	pmax		
	comp=N,30nm,1.6s						
KLR				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.3						
ENH	Enshi	72.57	310	*e*P	P	01 10 47.2	-1.2
	comp=Z,35nm,1.0s,mb5.1						
GYA	Guiyang	72.84	305	⇑*i*P	P	01 10 50.4	+0.3
GYA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
BJT	Baijiatuau	73.61	321	*e*P	P	01 10 54.0	-0.3
	comp=Z,28nm,0.8s,mb5.0						
BJI	Beijing	73.62	321	P	P	01 10 54.2	-0.2
BJI				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.2						
QSPA	South Pole Qui	73.87	180	*e*P	P	01 10 55.5	+0.4
	comp=Z,17nm,0.9s,mb4.8						
QSPA				*e*	pP	01 11 15.1	+1.3
QSPA				LR	LR		
	comp=Z,100nm,18.8s						
XAN	Xi'an	74.94	313	P	P	01 11 02.1	0.0
XAN				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.1						
KMI	Kunming	75.39	302	⇑*i*P	P	01 11 06.2	+1.3
KMI				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
KMI				AMB	AMB		
	comp=Z,253nm,4.8s						
CMAR	Chiang Mai Arr	75.88	294	P	P	01 11 08.8	+0.9
	comp=Z,12nm,0.9s,mb4.6,baz=124,slow=4.7,SNR=40						
CMAR				LR	LR	01 41 28.3	
	comp=Z,41nm,19.8s,baz=120,slow=33						
MA2	Magadan	76.72	351	*e*P	P	01 11 11.8	+0.1
	comp=Z,14nm,0.8s,mb4.7						
HHC	Hu-ho-hao-te	76.92	320	*i* P	P	01 11 13.7	+0.4
HHC				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,127nm,4.3s						
CD2	Chengdu	77.18	308	*e*P	P	01 11 15.1	+0.2
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
HIA	Hailar	77.72	330	*e*P	P	01 11 17.1	-0.4
	comp=Z,53nm,1.3s,mb5.1						
BTO	Baotou	77.75	319	*e*P	P	01 11 16.9	-0.9
LZH	Lanzhou	79.56	312	⇑P	P	01 11 29.0	+1.1
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.2						
MAW	Mawson	80.70	202	⇑*i*P	P	01 11 33.7	+0.4
	comp=Z,11nm,1.0s,mb4.6						
MAW	Mawson	80.70	202	P	P	01 11 33.9	+0.6
	comp=Z,12nm,0.9s,mb4.7,baz=110,slow=5.9,SNR=21						
MAW				LR	LR	01 42 02.7	
	comp=Z,142nm,19.9s,baz=77,slow=32						
CLNS	Chul'man	81.00	338	*e*P	P	01 11 35.1	+0.1
CLNS				pmax	pmax		
	comp=N,24nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.5						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
YAK	Yakutsk	83.51	343	*e*P	P	01 11 47.5	-0.3
YAK				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,19nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.6s						
YAK	Yakutsk	83.51	343	⇑*i*P	P	01 11 47.5	-0.3
ULN	Ulaanbaatar	83.52	324	*i* P	P	01 11 48.8	+0.6
SONM	Songino Array	83.87	324	P	P	01 11 50.2	+0.2
	comp=E,11nm,0.8s,mb4.8,baz=155,slow=8.4,SNR=81						
GTA	Gaotai	83.93	314	P	P	01 11 51.3	+0.8
GTA				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.0						
SHL	Shillong	84.58	298	*e*P	P	01 11 54.5	+0.4
BOD	Bodaibo	85.93	334	*e*P	P	01 11 58.3	-1.6
LSA	Lhasa	86.64	302	*e*P	P	01 12 05.1	+1.0
	comp=Z,14nm,0.8s,mb4.9						
ZAK	Zakamensk	86.94	325	⇑*i*P	P	01 12 04.9	-0.1
SYO	Syowa Base	87.45	196	⇓P	P	01 12 06.9	-0.2
SYO	Syowa Base	87.45	196	⇓PcP	PcP	01 12 09.5	+0.1
COLA	College	87.56	17	*e*P	P	01 12 07.3	-0.4
ILAR	Eielson Array	87.77	18	P	P	01 12 07.0	-1.7
	comp=Z,3.3nm,0.7s,mb4.5,baz=238,slow=5.0,SNR=20						
ILAR				LR	LR	01 46 47.7	
	comp=Z,72nm,19.4s,baz=251,slow=32						
WVOR	Wild Horse Val	89.22	45	*e*P	P	01 12 17.8	+1.7
	comp=Z,3.6nm,1.0s,mb4.4						
PMSA	Palmer Station	90.29	160	*e*P	P	01 12 20.4	-0.2
	comp=Z,23nm,0.8s,mb5.3						
SNAA	Sanae	92.14	183	⇓*i*P	P	01 12 28.3	-0.8
SNAA				*e*	pP	01 12 51.5	+3.1
SNAA				*e*		01 13 01.0	
VNA1	Neumayer--Stat	93.36	181	⇑*i*P	P	01 12 36.3	+1.6
VNA1				*e*	pP	01 12 59.1	+5.0
VNA1				*e*		01 13 09.2	
WMQ	Urumqi	94.00	314	⇑P	P	01 12 38.0	-0.1
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.2						
PDAR	Pinedale Array	95.64	47	LR	LR	01 52 20.2	
	comp=Z,32nm,19.1s,baz=244,slow=33						
TXAR	Lajitas Array	96.62	61	LR	LR	01 51 49.3	
	comp=Z,35nm,18.4s,slow=33						
MKAR	Makanchi Array	98.50	316	P	P	01 12 58.5	-0.1
	comp=Z,1.8nm,0.7s,mb4.7,baz=100,slow=7.4,SNR=16						
MKAR				PKiKP		01 17 29.6	
	comp=Z,0.7nm,0.6s,baz=210,slow=0.8,SNR=5.0						
MKAR				PKKPbc		01 29 26.9	
	comp=Z,0.5nm,0.7s,baz=243,slow=2.7,SNR=4.1						
MKAR	Makanchi Array	98.50	316	P	P	01 12 58.5	-0.1
YKA	Yellowknife Ar	98.64	27	LR	LR	02 00 16.2	
	comp=Z,37nm,18.4s,baz=240,slow=37						
PLCA	Paso Flores	101.82	139	PKKPbc		01 29 20.6	
	comp=Z,1.1nm,0.8s,baz=88,slow=6.7,SNR=3.3						
ARU	Arti	113.88	325	*i* PKIKP	PKPdf	01 17 57.8	+0.6
ARU				*e*		01 24 35.4	
ARU				*e*PS	PS	01 28 32.1	+3.3
ARU	Arti	113.88	325	⇑*i*PKP	PKPdf	01 17 57.9	+0.7
CPUP	Villa Florida	119.19	133	PKP	PKPdf	01 18 08.3	0.0
	comp=Z,4.1nm,1.1s,baz=261,slow=5.5,SNR=4.8						
CPUP	Villa Florida	119.19	133	PKP	PKPdf	01 18 08.3	0.0
KEV	Kevo	121.20	345	*e*p	PKPdf	01 18 10.3	-0.9
	comp=Z,2.6nm,0.6s						
KEV	Kevo	121.20	345	*e*PKIKP	PKPdf	01 18 10.3	-0.9
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	ARCESS Array B	121.73	345	PKP	PKPdf	01 18 12.6	+0.4
	comp=Z,7.2nm,0.6s,baz=66,slow=1.2,SNR=95						
MOS	Moscow	125.30	328	*e*PKIKP	PKPdf	01 18 19.1	-0.2
MOS				*e*		01 20 14.0	
MOS				*e*PPP	PPP	01 23 00.3	+4.8
MOS				pmax	pmax		
	comp=Z,98nm,1.1s						
MZLS	Mizel	125.71	288	P	PKPdf	01 18 22.8	+1.7
KIV	Kislovodsk	126.11	313	*d* *i*PKIKP	PKPdf	01 18 22.8	+1.6
KIV				*i*		01 20 18.5	
KIV				*i*		01 25 29.1	
KIV				*i* PS	PS	01 30 23.8	+4.6
KIV				*e*SS	SS	01 37 19.0	+5.3
KIV				*i*		01 41 57.0	
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV	Kislovodsk	126.11	313	*e*PKPr		01 18 22.8	
OBN	Obninsk	126.11	328	*d* *i*PKIKP	PKPdf	01 18 21.9	+1.0
OBN				*e*		01 20 20.4	
OBN				pmax	pmax		
	comp=Z,23nm,0.9s						
OBN	Obninsk	126.11	328	*i* PKPr		01 18 21.9	
KAF	Kangasniemi	126.67	339	*e*p	PKPdf	01 18 20.3	-1.5
	comp=Z,0.5nm,0.4s						
KAF	Kangasniemi	126.67	339	*e*PKIKP	PKPdf	01 18 20.3	-1.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TATS	Tathlith	126.96	282	P	PKPdf	01 18 26.1	+2.6
FINES	FINESS Array B	127.19	338	PKP	PKPdf	01 18 23.3	+0.5
	comp=Z,8.3nm,1.0s,baz=90,slow=1.9,SNR=36						
ARSS	Ar Rass	127.56	290	P	PKPdf	01 18 26.1	+1.6
AFFS	'Afif	127.72	288	P	PKPdf	01 18 26.6	+1.7
NAMS	An Nimas	128.12	282	P	PKPdf	01 18 28.9	+3.1
KMBO	Kilima Mbogo	128.13	255	PKP	PKPdf	01 18 28.6	+2.6
	comp=Z,3.5nm,1.2s,baz=72,slow=3.2,SNR=3.8						
BLJS	Baljurashi	128.75	283	P	PKPdf	01 18 29.9	+2.9
HILS	Ha'il	128.85	292	P	PKPdf	01 18 29.7	+2.7
KBRS	Khaybar	131.14	290	P	PKPdf	01 18 34.3	+2.9
SIM	Simferopol'	131.68	316	*e*PKIKP	PKPdf	01 18 34.1	+2.2
NB2	NORSAR Subarra	132.10	345	PKP		01 18 33.3	
	comp=Z,1.5nm,0.7s,baz=40,slow=2.9						
NOA	NORSAR Array B	132.10	345	PKP	PKPdf	01 18 33.6	+1.4
	comp=Z,1.2nm,0.6s,baz=32,slow=1.9,SNR=13						
NOA				PP	PP	01 20 57.2	-1.6
	comp=Z,1.4nm,0.9s,baz=33,slow=6.4,SNR=4.5						
NOA	NORSAR Array B	132.10	345	PKP	PKPdf	01 18 33.6	+1.4
NOA				PP	PP	01 20 57.2	-1.6
AKASG	Malin Array Be	132.13	325	PKP	PKPdf	01 18 33.3	+0.7
	comp=Z,5.6nm,0.6s,baz=50,slow=2.1,SNR=25						
AKASG				PP	PP	01 20 53.7	-5.5
	comp=Z,0.1nm,0.3s,baz=45,slow=6.4,SNR=4.1						
AKASG				SKPbc		01 21 55.3	
	comp=Z,3.4nm,0.8s,baz=41,slow=4.5,SNR=8.7						
BDFB	Brasilia	132.68	130	PKP	PKPdf	01 18 34.8	+0.3
	comp=Z,4.3nm,0.7s,baz=51,slow=1.5,SNR=6.1						
ASF	Jabal al Asfar	132.75	299	PKP	PKPdf	01 18 36.0	+1.7
	comp=Z,3.8nm,0.5s,baz=267,slow=2.4,SNR=9.8						
UMJS	Umm Lajj	132.91	290	P	PKPdf	01 18 37.1	+2.3
BRTR	Keskin Array B	133.73	310	PKP	PKPdf	01 18 36.7	+0.8
	comp=Z,3.3nm,0.7s,baz=133,slow=3.4,SNR=17						
KIS	Kishinev	134.19	321	*e*PKIKP	PKPdf	01 18 38.0	+1.5
AYUS	'Aynunah	134.59	294	P	PKPdf	01 18 39.9	+2.1
BDAS	Al Bad'	134.71	294	P	PKPdf	01 18 39.7	+1.7
HAQS	Haql	134.80	295	P	PKPdf	01 18 39.8	+1.6
MLR	Muntele Rosu	136.66	321	PKP	PKPdf	01 18 41.5	+0.5
	comp=Z,4.1nm,0.7s,baz=55,slow=0.2,SNR=12						
OJC	Ojcow	137.29	330	*e*PKIKP	PKPdf	01 18 43.3	+1.2
CRVS	Cervenica-Dubn	137.30	327	*e*PKP	PKPdf	01 18 44.2	+2.0
OKC	Ostrava-Krasne	138.34	330	*e*PKIKP	PKPdf	01 18 43.6	-0.5
OKC				*e*		01 18 47.3	
KSP	Ksiaz	138.48	333	*e*PKIKP	PKPdf	01 18 45.5	+1.2
PSZ	Piszkesteto	138.73	327	*e*PKP/D		01 18 46.1	
DPC	Dobruska-Polom	138.82	332	*e*PKIKP	PKPdf	01 18 45.2	+0.3
VYHS	Vyhne	138.90	328	*e*PKP	PKPdf	01 18 48.2	+3.1
PVCC	Panska Ves	139.46	334	*e*PKIKP	PKPdf	01 18 47.7	+1.6
BRG	Berggiesshubel	139.47	334	*i* PKHKP		01 18 39.8	
BRG				*i*		01 18 47.5	
BRG				pmax	pmax		
	comp=Z,13nm,1.0s						
BRG	Berggiesshubel	139.47	334	*i* P	PKPdf	01 18 39.8	-6.3
BRG				*e*		01 18 41.8	
BRG				*i*		01 18 47.5	
CLL	Collm	139.51	336	*i* PKIKP	PKPdf	01 18 48.2	+2.1
	comp=Z,logA/T=1.2						
CLL	Collm	139.51	336	*i* PKIKP	PKPdf	01 18 48.2	+2.1
CLL				pmax	pmax		
	comp=Z,14nm,0.8s						
PRU	Pruhonice	139.87	333	*e*PKHKP		01 18 43.1	
PRU				*e*PKIKP	PKPdf	01 18 48.2	+1.4
PRU				*e*		01 18 50.9	
KHC	Kasperske Hory	140.93	333	*e*PKHKP		01 18 44.1	
KHC				*e*PKIKP	PKPdf	01 18 49.6	+0.8
GERES	GERESS Array B	141.09	333	PKhKP		01 18 44.5	
	comp=Z,1.4nm,0.6s,baz=34,slow=4.8,SNR=15						
GERES				PKP	PKPdf	01 18 51.4	+2.4
	comp=Z,6.4nm,0.8s,slow=1.0,SNR=22						
SKO	Skopje	141.26	319	*i* P	PKPdf	01 18 45.0	-4.6
GRA1	Grafenberg Arr	141.49	335	*e*PKP	PKPdf	01 18 47.2	-2.5
GRF	Grafenberg Arr	141.49	335	*e*PKIKP	PKPdf	01 18 47.2	-2.5
MOA	Molln	141.56	331	⇓*i*P	PKPdf	01 18 45.5	-4.4
DMUB	Kingscourt	142.11	355	*e*P	PKPdf	01 18 46.0	-4.6
SIND	Sindeldorf	142.40	336	*e*P	PKPdf	01 18 48.6	-2.6
KBA	Koelnbreinsper	142.55	331	⇑*i*P	PKPdf	01 18 48.5	-3.1
DCN	Croghan	142.69	355	*e*P	PKPdf	01 18 49.1	-2.5
ABH	Alteburg	142.71	339	⇑*e*P	PKPdf	01 18 50.7	-1.1
LJU	Ljubljana	142.72	329	*i* PKPdf	PKPdf	01 18 49.9	-2.0
LJU				*i* PKiKP		01 18 53.2	
LJU				*i* pPKPdf		01 18 56.1	
BOJS	Bojanci	142.72	327	*i* PKPdf	PKPdf	01 18 50.0	-1.9
BOJS				*i* PKiKP		01 18 53.2	
BOJS				*i* pPKPdf		01 18 56.5	
HDH	Heidenheim	142.77	335	*e*P	PKPdf	01 18 49.5	-2.4
RUP	Ruppelstein	143.03	339	⇑*e*P	PKPbc	01 18 51.4	+1.1
PTCC	Patocco-Chiusa	143.04	330	⇓*i*PKP	PKPdf	01 18 50.0	-2.4
VOY	Vojsko	143.04	329	*e*PKPdf	PKPdf	01 18 50.2	-2.2
ROBS	Robic	143.08	330	*i* PKPdf	PKPdf	01 18 50.0	-2.5
WATA	Walderalm	143.16	333	⇓*i*P	PKPbc	01 18 50.9	+0.1
FVI	Forni Avoltri	143.17	331	⇓*i*PKP	PKPdf	01 18 50.2	-2.4
WTTA	Wattenberg	143.19	332	⇓*i*P	PKPbc	01 18 50.9	0.0
BUCH	Bad Urach	143.22	336	*e*P	PKPbc	01 18 51.6	+0.7
LBG	Lerchenberg	143.26	336	*e*P	PKPbc	01 18 51.8	+0.7
MOTA	Moosalm	143.37	333	⇑*i*P	PKPbc	01 18 51.3	-0.1
SQTA	Sankt Quirin	143.41	333	⇑*i*P	PKPbc	01 18 51.9	+0.3
UBR	Uberruh	143.53	334	*e*P	PKPbc	01 18 52.5	+0.6
GUT	Gutenstein	143.62	336	*e*P	PKPbc	01 18 52.4	+0.2
BAIF	Baives	143.64	342	*e*PKP1	PKPbc	01 18 53.7	+1.6
	comp=Z,10.0nm,0.7s						
SPAK	Spaichingen	143.73	336	*e*P	PKPbc	01 18 53.7	+1.2
SPAK	Spaichingen	143.73	336	PKP	PKPdf	01 18 53.8	+0.3
DAVA	Damuels	143.93	334	⇑*i*P	PKPbc	01 18 53.9	+0.8
WLS	Welschbruch	144.01	338	PKP	PKPdf	01 18 53.1	-0.9
CDF	Champ du Feu	144.04	338	*e*PKP1	PKPbc	01 18 53.3	-0.1
	comp=Z,37nm,0.6s						
CTI	Castel Tesino	144.10	331	⇑*i*PKP	PKPdf	01 18 53.6	-0.6
LIBD	Limburg	144.14	337	*e*P	PKPbc	01 18 54.9	+1.2
KIZ	Kirchzarten	144.18	337	*e*P	PKPbc	01 18 53.6	-0.2

FELD	Feldberg	144.22	336	ePKP	PKPbc	01 18 53.7	-0.2
DAVOX	Davos	144.33	334	PKP	PKPdf	01 18 55.5	+0.8
	comp=Z,78nm,0.8s,baz=44,slow=1.5,SNR=141						
DAVOX	Davos	144.33	334	PKP	PKPdf	01 18 55.5	+0.8
BRMO	Bormio	144.35	333	⇑iPKP	PKPdf	01 18 55.4	+0.7
MOF	Molkenrain	144.56	337	PKP	PKPdf	01 18 55.5	+0.5
MABI	Malga Bissina	144.62	332	ePKP	PKPdf	01 18 55.7	+0.5
THEF	They Montfort	144.66	339	PKP	PKPdf	01 18 55.3	+0.1
HINF	Hinteralfeld	144.70	337	ePKP1	PKPbc	01 18 55.2	-0.1
	comp=Z,23nm,0.5s						
HAU	Haudompre	144.72	338	ePKP1	PKPbc	01 18 55.6	+0.3
	comp=Z,204nm,1.0s						
HAU				eR			
	comp=Z,91nm,21.8s						
MEZF	Maizieres J’vi	144.74	340	ePKP1	PKPbc	01 18 56.0	+0.6
	comp=Z,130nm,0.9s						
BBS	Basel-Blauen	144.74	336	eP	PKPdf	01 18 55.8	+0.4
FGMS	Monte Sant’Ang	144.79	322	ePKP	PKPdf	01 18 55.9	+0.2
SAL	Salo	144.95	332	⇑iPKP	PKPdf	01 18 56.3	+0.5
RGNG	Rignano Grg	145.03	322	⇑iPKP	PKPdf	01 18 56.8	+0.7
LOMF	Lomont	145.10	337	PKP	PKPdf	01 18 57.3	+1.3
CING	Cingoli	145.25	327	⇑iPKP	PKPdf	01 18 58.6	+2.2
RSM	Repubblica di	145.25	328	⇑iPKP	PKPdf	01 18 58.8	+2.4
CSA1	St Austell	145.37	352	⇓eP	PKPdf	01 18 57.3	+0.9
CSA1				AMb	AMB	01 18 59.1	
	comp=Z,134nm,1.2s						
ORI	Oriolo Calabro	145.47	319	ePKP	PKPdf	01 18 59.1	+2.3
VAI	Varese	145.53	334	⇓iPKP	PKPdf	01 18 57.4	+0.6
SFI	Santa Sofia	145.57	328	⇑iPKP	PKPdf	01 18 59.7	+2.8
CCA1	Carnmenellis	145.58	352	⇓eP	PKPdf	01 18 58.4	+1.6
CCA1				AMb	AMB	01 18 59.9	
	comp=Z,102nm,1.2s						
CRQ2	Rosemanowes 2	145.59	352	⇓eP	PKPdf	01 18 58.3	+1.6
CRQ2				AMb	AMB	01 18 59.4	
	comp=Z,104nm,1.1s						
CPZ	Penzance	145.66	352	⇓eP	PKPdf	01 18 58.5	+1.7
CPZ				AMb	AMB	01 18 59.5	
	comp=Z,81nm,1.4s						
PGD	Poggio Sodo	145.66	328	⇑iPKP	PKPdf	01 18 59.7	+2.6
CGW	Gweek	145.67	352	⇓eP	PKPdf	01 18 58.7	+1.9
CMA1	Manaccan	145.67	352	⇓eP	PKPdf	01 18 58.8	+1.9
CMA1				AMb	AMB	01 18 59.7	
	comp=Z,128nm,1.1s						
MURB	Monte Urbino	145.68	327	⇑iPKP	PKPdf	01 18 59.8	+2.7
VMG	Vicchio	145.69	329	⇑iPKP	PKPdf	01 18 59.8	+2.6
CGH1	Goonhilly	145.71	352	⇓eP	PKPdf	01 18 59.0	+2.0
CGH1				AMb	AMB	01 18 59.9	
	comp=Z,136nm,1.2s						
SEI	Scarperia	145.71	329	⇑iPKP	PKPdf	01 18 59.7	+2.5
CRE	Caprese Michel	145.73	328	⇑iPKP	PKPdf	01 18 59.0	+1.8
MRB1	Monte Rocchett	145.73	322	ePKP	PKPdf	01 19 00.2	+2.9
CII	Carovilli	145.74	323	ePKP	PKPdf	01 18 59.1	+1.8
ASS	Assisi	145.75	327	ePKP	PKPdf	01 18 58.7	+1.4
TDS	Terranova Siba	145.77	319	⇑iPKP	PKPdf	01 18 59.8	+2.4
INTR	Introdacqua	145.78	324	ePKP	PKPdf	01 18 59.7	+2.4
SLCN	Sala Consilina	145.78	320	ePKP	PKPdf	01 18 56.1	-1.3
CPI2	Carpinone	145.82	323	ePKP	PKPdf	01 18 59.9	+2.4
AQU	L’Aquila	145.83	325	ePKP	PKPdf	01 18 58.7	+1.3
CSSN	Cassano Irpino	145.86	322	ePKP	PKPdf	01 18 58.9	+1.4
GSCL	Gusciola	145.87	330	⇑iPKP	PKPdf	01 19 00.1	+2.7
SGO	Sicignano	145.87	321	⇑iPKP	PKPdf	01 18 59.4	+1.9
ERBM	Eremo	145.90	330	⇑iPKP	PKPdf	01 19 00.5	+3.0
SGG	Gregorio Mates	145.91	323	ePKP	PKPdf	01 18 59.0	+1.4
CABF	La Chapelle	145.99	337	ePKP1	PKPbc	01 19 00.4	+1.8
	comp=Z,438nm,1.1s						
SDI	San Donato	146.03	324	⇑iPKP	PKPdf	01 18 59.6	+1.8
ORO	Oropa	146.05	334	⇑iPKP	PKPdf	01 18 59.2	+1.5
PTQR	Pietraquaria	146.05	325	⇑iPKP	PKPdf	01 19 00.2	+2.4
FLN	La Foliniere	146.07	346	ePKP1	PKPbc	01 18 59.7	+1.0
	comp=Z,270nm,1.0s						
FLN				eR			
	comp=Z,57nm,19.8s						
BDI	Bagni Di Lucca	146.08	330	⇑iPKP	PKPdf	01 18 59.3	+1.5
BOB	Bobbio (Coli)	146.09	332	⇑iPKP	PKPdf	01 19 00.3	+2.5
LDF	La Druitiere	146.15	345	ePKP1	PKPbc	01 18 59.9	+1.0
	comp=Z,158nm,0.9s						
CSNT	Castellina Chi	146.17	328	⇑iPKP	PKPdf	01 18 59.1	+1.2
BACM		146.17	331	P	PKPdf	01 18 59.8	+1.9
CODM		146.19	331	P	PKPdf	01 18 60.0	+2.0
GRI	Girifalco	146.19	318	ePKP	PKPdf	01 18 60.0	+1.8
LOR	Lormes	146.21	340	ePKP1	PKPbc	01 19 00.6	+1.5
	comp=Z,194nm,0.8s						
LOR				eR			
	comp=Z,73nm,21.8s						
VINC	Vinca	146.23	330	P	PKPdf	01 18 59.7	+1.7
MAIM		146.24	330	P	PKPdf	01 18 59.6	+1.5
TRAV		146.24	334	P	PKPdf	01 18 59.8	+1.7
MSC	Monte Massico	146.27	323	ePKP	PKPdf	01 19 00.1	+1.8
CERT	Cerreto	146.33	325	⇑iPKP	PKPdf	01 19 01.6	+3.3
PII	Pisa	146.36	329	⇑iPKP	PKPdf	01 18 59.7	+1.4
SSF	Saint Saulge	146.51	340	ePKP1	PKPbc	01 19 01.6	+1.8
	comp=Z,266nm,0.7s						
GRR	Gorron	146.51	346	ePKP1	PKPbc	01 19 01.3	+1.5
	comp=Z,163nm,0.8s						
LSD	Ceresole Reale	146.53	335	P	PKPdf	01 19 02.2	+3.7
GENL	Genova Univers	146.58	332	P	PKPdf	01 19 00.3	+1.6
HYF	Humbligny	146.60	341	ePKP1	PKPbc	01 19 02.1	+2.1
MA9	Marino	146.63	325	⇑iPKP	PKPdf	01 19 01.5	+2.7
LPL	La Plagne	146.65	335	ePKP1	PKPbc	01 19 02.6	+2.4
	comp=Z,141nm,0.8s						
LPG	La Plagne	146.66	335	ePKP1	PKPbc	01 19 02.6	+2.4
	comp=Z,188nm,0.9s						
PCP	Pian Castagno	146.67	332	P	PKPdf	01 19 00.1	+1.3
RSP	Reno Superiore	146.74	334	P	PKPdf	01 19 01.5	+2.6
SMF	Signal de Mont	146.76	340	ePKP1	PKPbc	01 19 02.0	+1.6
	comp=Z,166nm,1.1s						
TOLF	Tolfa	146.79	326	i PKP	PKPdf	01 19 02.8	+3.7
AVF	Avril sur Loir	146.80	340	ePKP1	PKPbc	01 19 02.0	+1.5
	comp=Z,85nm,0.9s						
SOI	Samo	146.84	317	⇑iPKP	PKPdf	01 19 02.9	+3.6
FENE	Fenestrelle	146.91	334	P	PKPdf	01 19 02.5	+3.3
SCLL	Scilla	146.96	317	⇑iPKP	PKPdf	01 19 02.0	+2.5
BHB	Bricherasio	146.98	334	P	PKPdf	01 19 01.0	+1.7
SGMF	Saint Gilles	147.01	348	ePKP1	PKPdf	01 19 02.5	+3.3
	comp=Z,159nm,0.8s						
ROSF	Rostrenen	147.07	349	ePKP1	PKPdf	01 19 02.4	+3.1
	comp=Z,126nm,1.1s						
FIN	Finale Ligure	147.08	332	P	PKPdf	01 19 02.0	+2.5
MTTG	Motta San Giov	147.12	317	⇑iPKP	PKPdf	01 19 03.3	+3.6
RRL	Cesana Torines	147.12	335	P	PKPdf	01 19 03.4	+3.8
GDM	Grand’Maison	147.16	336	PKP	PKPdf	01 19 03.8	+4.2
ROB	Roburent	147.16	333	P	PKPdf	01 19 02.5	+2.9
BGF	Bois d’Agland	147.17	341	ePKP1	PKPdf	01 19 03.3	+3.8
	comp=Z,218nm,0.7s						
RORO		147.22	332	P	PKPdf	01 19 02.7	+3.0
BST	Brest	147.24	350	PKP	PKPdf	01 19 02.2	+2.6
GRN	Grenoble	147.27	336	PKP	PKPdf	01 19 04.3	+4.6
MBDF	Montbardon	147.28	334	ePKP1	PKPdf	01 19 03.5	+3.7
	comp=Z,80nm,0.6s						
PZZ	Prazzo	147.32	334	P	PKPdf	01 19 02.8	+2.9
MONE	Monesi	147.38	333	P	PKPdf	01 19 03.4	+3.4
ENR	Entracque	147.41	333	P	PKPdf	01 19 02.1	+2.1
PLDF	La Plantade	147.43	339	PKP	PKPdf	01 19 04.4	+4.4
STV2	Anna di Valdie	147.44	333	P	PKPdf	01 19 02.4	+2.3
STV	Sta Anna Valdi	147.44	333	P	PKPdf	01 19 02.2	+2.2
QUIF	Quistinic	147.45	349	ePKP1	PKPdf	01 19 03.5	+3.6
	comp=Z,26nm,0.7s						
IMI	Imperia	147.45	332	⇑iPKP	PKPdf	01 19 03.8	+3.7
SURF	Saint Ours	147.46	334	PKP	PKPdf	01 19 04.9	+4.8
ORIF	Oris-en-Rattie	147.49	336	ePKP1	PKPdf	01 19 04.5	+4.4
	comp=Z,162nm,0.8s						
ORIF				eR			
	comp=Z,61nm,21.5s						
AGO	Saint Agoulin	147.52	340	PKP	PKPdf	01 19 04.2	+4.1
SAOF	Saorge	147.54	333	PKP	PKPdf	01 19 04.2	+4.0
AUTN	L’Aution	147.59	333	PKP	PKPdf	01 19 04.5	+4.2
TCF	Toulx Ste Croi	147.61	341	ePKP1	PKPdf	01 19 04.5	+4.2
TOUF	Mont Tournerai	147.65	333	PKP	PKPdf	01 19 04.7	+4.3
SBF	Sospel	147.69	333	ePKP1	PKPdf	01 19 04.4	+3.9
	comp=Z,285nm,0.9s						
AURF	Auriere	147.72	333	PKP	PKPdf	01 19 04.7	+4.2
MVIF	Mont Vial	147.79	333	PKP	PKPdf	01 19 05.0	+4.4
COLF	Collangettes	147.79	339	PKP	PKPdf	01 19 05.4	+4.8
REVF	Revere	147.82	333	PKP	PKPdf	01 19 04.4	+3.7
PYM	Petit Puy Mans	147.83	340	PKP	PKPdf	01 19 05.3	+4.7
AGST	Augusta-Monte	147.84	316	ePKP	PKPdf	01 19 04.9	+4.0
PGF	Pioggiola	147.98	330	ePKP1	PKPdf	01 19 05.6	+4.6
	comp=Z,397nm,0.8s						
OG26	St.-Nazaire-De	148.00	336	PKP	PKPdf	01 19 05.8	+4.9
MFF	Saint Martin d	148.00	344	ePKP1	PKPdf	01 19 05.4	+4.5
	comp=Z,228nm,0.9s						
VIVF	Saint-Julien-l	148.01	337	ePKP1	PKPdf	01 19 05.7	+4.8
	comp=Z,67nm,0.8s						
CALN	Calern	148.02	333	PKP	PKPdf	01 19 05.7	+4.7
PZI	Palazzolo	148.13	316	ePKP	PKPdf	01 19 05.8	+4.4
LBL	Lubilhac	148.20	339	PKP	PKPdf	01 19 06.9	+5.7
FRF	La Foret Royal	148.28	333	ePKP1	PKPdf	01 19 06.1	+4.7
	comp=Z,212nm,0.9s						
USI	Ustica	148.31	320	ePKP	PKPdf	01 19 06.0	+4.4
LRYF	La Roche-sur-Y	148.37	346	PKP	PKPdf	01 19 06.2	+4.7
SMRF	Simiane la Rot	148.39	335	ePKP1	PKPdf	01 19 07.0	+5.4
	comp=Z,180nm,0.9s						
LMR	La Mourre	148.52	333	ePKP1	PKPdf	01 19 06.7	+4.9
	comp=Z,217nm,0.9s						
RJF	Les Rejaudoux	148.70	341	ePKP1	PKPdf	01 19 07.2	+5.2
RJF				eR			
	comp=Z,67nm,22.8s						
LASF	Ste Croix	148.98	337	ePKP1	PKPdf	01 19 08.3	+5.8
	comp=Z,184nm,0.9s						
LFF	La Frestale	149.27	342	ePKP1	PKPdf	01 19 08.8	+5.8
	comp=Z,127nm,0.9s						
MTLF	Montolieu	150.21	338	ePKP1	PKPdf	01 19 11.2	+6.7
	comp=Z,144nm,1.0s						
LRDF	Laroque-de-Fa	150.44	338	PKP	PKPdf	01 19 11.8	+6.9
LPEF	Le Peyrat	150.66	338	PKP	PKPdf	01 19 12.1	+6.9
EJON	La Jonquera	150.73	337	PKP	PKPdf	01 19 11.6	+6.3
FILF	Fillols	150.76	337	PKP	PKPdf	01 19 12.3	+6.9
MLS	Moulis	150.94	339	PKP	PKPdf	01 19 12.5	+6.9
EPF	Esparros	151.12	341	ePKP1	PKPdf	01 19 13.3	+7.4
MELF	Melles	151.12	340	PKP	PKPdf	01 19 14.0	+8.1
LABF	Labassere	151.19	341	PKP	PKPdf	01 19 13.6	+7.6
RESF	Ens	151.32	340	PKP	PKPdf	01 19 14.8	+8.6
VIEF	Viey	151.35	341	PKP	PKPdf	01 19 14.7	+8.5
OSSF	Osses	151.40	343	PKP	PKPdf	01 19 13.3	+7.0
EALK	Alkurruntz	151.50	343	PKP	PKPdf	01 19 14.0	+7.6
SJPF	Ste Jean	151.52	343	ePKP1	PKPdf	01 19 14.3	+7.8
	comp=Z,45nm,1.0s						
LARF	Larrau	151.52	342	PKP	PKPdf	01 19 14.8	+8.3
ETSF	Etsaut	151.52	342	ePKP1	PKPdf	01 19 14.7	+8.2
	comp=Z,47nm,0.8s						
FDAF	Les Forges d’A	151.59	342	PKP	PKPdf	01 19 14.8	+8.2
EMIR	Miracle	151.70	338	PKP	PKPdf	01 19 14.1	+7.3
ELAN	Lanestosa	151.97	346	PKP	PKPdf	01 19 15.6	+8.5
ECRI	Cripan	152.34	344	PKP	PKPdf	01 19 17.1	+9.4
ECRI				pPKP		01 19 27.0	
EPOB	Poblet	152.36	338	PKP	PKPdf	01 19 16.3	+8.5
ESAC	San Caprasio	152.56	340	PKP	PKPdf	01 19 17.1	+9.0
ESAC				pPKP		01 19 28.2	
EPON	Pontenova	152.57	352	PKP	PKPdf	01 19 16.7	+8.7
EPON				pPKP		01 19 27.0	
STS	Santiago	153.17	354	PKP	PKPdf	01 19 18.0	+9.2
EMOS	Mosqueruela	153.78	339	PKP	PKPdf	01 19 19.9	+10
EMOS				pPKP		01 19 33.3	
ETOR	Torete	153.87	342	PKP	PKPdf	01 19 19.2	+9.4
ESDC	Sonseca Array	155.47	344	PKPab	PKPab	01 19 39.7	-0.8
	comp=Z,1.8nm,0.6s,baz=12,slow=4.7,SNR=6.5						
ESDC	Sonseca Array	155.47	344	PKP	PKPdf	01 19 24.1	+12
ESDC				pPKP		01 19 39.5	
ESDC				PKPab	PKPab	01 19 39.7	-0.8
EVO	Evora	157.40	351	ePKIKP	PKPdf	01 19 15.2	+0.6
	comp=Z,20nm,1.1s						
EVO				eR			
	comp=Z,83nm,21.5s						
KIC	Kosan Boka	167.74	218	ePKIKP	PKPdf	01 19 26.0	+0.6
	comp=Z,87nm,1.1s						
LIC	Lamto	167.80	217	ePKIKP	PKPdf	01 19 26.0	+0.5
	comp=Z,63nm,1.2s						
LIC	Lamto	167.80	217	ePKIKP	PKPdf	01 19 25.9	+0.4
	comp=Z,69nm,1.2s						
DBIC	Dimbokro	168.06	219	PKP	PKPdf	01 19 25.1	-0.5
	comp=Z,8.6nm,1.0s,baz=172,slow=7.4,SNR=5.7						
DBIC				PKPab	PKPab	01 20 34.6	-1.1
	comp=Z,6.4nm,1.1s,baz=138,slow=10,SNR=4.9						
TIC	Toumodi	168.13	218	ePKIKP	PKPdf	01 19 26.2	+0.5
	comp=Z,95nm,1.2s						

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*IDC **06** 01:35:44.3±3.9, 4.65S×101.85E, mb3.8/6, mb1 3.9/6, mb1mx3.7/16, Error ellipse: s-maj=152.0km s-min=18.5km az=56.0*

ISC 06 01:35:46.2±4.0, **4.8S**±0.6×**101.6E**±0.9, **h33**^{km}, **n7**, σ**0^{s}42**/6, **mb3.8**/6, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	23.26	354	P	P	01 40 52.1	+0.2
	1.5nm,0.6s,mb3.6,baz=183,slow=8.1,SNR=6.4						
FITZ	Fitzroy Crossi	26.93	121	P	P	01 41 26.5	-0.2
	1.5nm,0.8s,mb3.5,baz=302,slow=9.5,SNR=4.5						
WRA	Warramunga Arr	35.20	118	P	P	01 42 39.2	-0.3
	0.3nm,0.4s,mb3.6,baz=302,slow=9.3,SNR=4.1						
ASAR	Alice Springs	36.31	124	P	P	01 42 49.5	+0.5
	0.5nm,0.7s,mb3.5,baz=300,slow=7.3,SNR=3.7						
SONM	Songino Array	52.58	4	P	P	01 44 58.7	-0.1
	2.4nm,0.6s,mb4.3,baz=185,slow=9.5,SNR=27						
MKAR	Makanchi Array	54.15	344	P	P	01 45 10.3	-0.2
	1.0nm,0.5s,mb4.0,baz=166,slow=8.2,SNR=11						
TXAR	Lajitas Array	145.81	42	PKPbc	PKPbc	01 55 25.4	+2.4
	1.6nm,0.6s,baz=292,slow=1.2,SNR=26						

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*JMA **06** 01:52:28.4±0.2, 23.90N×121.75E, h89^{km}, M2.5*

TAP 06 01:52:28.6, 23.70N×121.75E, h11^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.38	56	P	Pn	01 52 51.6	-2.2
YOJ				S	Sb	01 53 09.2	-2.2
HATJ	Hateruma jima	1.91	79	eS	Sn	01 53 22.7	-3.0
IRIF	Iriomote-Funau	1.92	70	P	Pn	01 52 59.2	-2.3
IRIF				eS	Sn	01 53 22.1	-3.7
JKRS	Kuro-shima	2.13	75	P	Pn	01 53 02.6	-2.0
JKRS				eS	Sn	01 53 27.8	-3.5
JIJ	Ishigaki jima	2.29	73	P	Pn	01 53 04.0	-2.8
JIJ				S	Sn	01 53 31.0	-4.1

WEL 06 02:04:08.4±0.3, **40.17S**×**173.77E**, **h147**^{km}±3^{km}, **ML3.5**/3, **3C-1D, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	Wanganui	1.02	66	PN	P	02 04 33.7	+0.4
WAZ				SN	S	02 04 51.7	-0.6
NNZ	Nelson	1.09	196	⇑PN	P	02 04 33.7	-0.1
NNZ				SN	S	02 04 52.7	-0.8
KIW	Kapiti Island	1.11	129	PN	P	02 04 34.1	0.0
KIW				SN	S	02 04 52.4	-1.4
QRZ	Quartz Range	1.15	235	⇑PN	P	02 04 34.0	-0.5
QRZ				SN	S	02 04 52.8	-1.8
TUWZ	Tuamarina	1.27	174	PN	P	02 04 35.2	-0.4
TUWZ				SN	S	02 04 55.3	-1.3
MRW	Makara Radio	1.27	147	PN	P	02 04 35.6	-0.1
MRW				SN	S	02 04 55.6	-1.1
VRZ	Vera Road	1.29	36	PN	P	02 04 35.1	-0.8
VRZ				SN	S	02 04 56.3	-0.8
SNZO	South Karori	1.34	148	PN	P	02 04 36.1	-0.3
SNZO				SN	S	02 04 56.5	-1.5
CAW	Cannon Point	1.36	134	PN	P	02 04 36.3	-0.2
MRZ	Mangatainoka R	1.47	110	SN	S	02 04 58.3	-2.0
BHW	Baring Head	1.49	146	⇑PN	P	02 04 37.5	-0.5
BHW				SN	S	02 04 58.5	-2.2
CMWZ	Cape Campbell	1.61	168	SN	S	02 04 59.5	-3.6
MTW	Mount Morrison	1.65	127	⇓PN	P	02 04 39.2	-0.5
MTW				SN	S	02 05 01.6	-2.1
CNZ	Chateau	1.68	55	PN	P	02 04 39.1	-0.9
TSZ	Takapari Road	1.68	87	PN	P	02 04 39.3	-0.8
TSZ				SN	S	02 05 02.7	-1.7
MOVZ	Moawhango	1.71	64	PN	P	02 04 39.1	-1.1
MOVZ				SN	S	02 05 02.8	-2.1
THZ	Tophouse	1.72	202	PN	P	02 04 39.4	-1.1
THZ				SN	S	02 05 02.7	-2.5
NGZ	Ngauruhoe	1.73	55	PN	P	02 04 39.8	-0.8
PAWZ	Paruwai Farm	1.75	134	PN	P	02 04 40.2	-0.5
PAWZ				SN	S	02 05 03.5	-2.1
DSZ	Denniston Nort	2.17	223	SN	S	02 05 11.0	-3.4
KHZ	Kahutara	2.25	184	PN	P	02 04 45.7	-1.1
KHZ				SN	S	02 05 12.6	-3.6
LTZ	Lake Taylor	2.84	203	PN	P	02 04 51.9	-2.4
LTZ				SN	S	02 05 24.1	-5.3
MQZ	McQueen’s Vall	3.63	193	SN	S	02 05 39.7	-8.0
WVZ	Waitaha Valley	3.69	217	SN	S	02 05 41.9	-7.0

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*JMA **06** 02:05:43.1±0.2, 24.52N×122.33E, h77^{km}, M2.3*

*TAP **06** 02:05:44.6, 24.57N×122.26E, h68^{km}±1^{km}, ML3.2*

ISC 06 02:05:42.9±2.5, **24.6N**±0.3×**122.3E**±0.1, **h76**^{km}±18^{km}, **n6**, σ**0^{s}37**/11, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.63	99	P	P	02 05 57.9	+0.2
YOJ				S	S	02 06 08.8	+0.1
IRIF	Iriomote-Funau	1.30	100	P	P	02 06 05.6	-0.4
IRIF				S	S	02 06 22.6	-0.5
HATJ	Hateruma jima	1.44	110	eS	S	02 06 26.7	+0.5
JKRS	Kuro-shima	1.57	101	P	P	02 06 09.5	0.0
JKRS				S	S	02 06 29.4	+0.3
JIJ	Ishigaki jima	1.67	96	P	P	02 06 10.7	-0.1
JIJ				S	S	02 06 30.7	-0.7
JTJ	Tarama	2.17	87	P	P	02 06 18.0	+0.4
JTJ				S	S	02 06 43.7	+0.4

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*STR **06** 02:21:18.5±0.1, 42.84N×0.29W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **06** 02:21:18.8±0.1, 42.83N×0.30W, h2^{km}, Md1.9/2, Ml1.9/4, Error ellipse: s-maj=2.5km s-min=1.0km az=178.0*

*MDD **06** 02:21:19.4±0.2, 42.86N×0.30W, mbLg1.3/11, Error ellipse: s-maj=2.7km s-min=1.3km az=3.0, PRXIMO*

ISC 06 02:21:18.0±0.4, **42.89N**±0.03×**0.28W**±0.02, **h12**^{km}±5^{km}, **n30**, σ**1^{s}07**/41, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	Montagne du Re	0.20	334	Pg	Pg	02 21 23.4	+0.9
REYF				Sg	Sg	02 21 26.8	+1.3
REYF	Montagne du Re	0.20	334	Pg	Pg	02 21 23.4	+1.0
REYF				Lg		02 21 26.9	
ETSF	Etsaut	0.21	271	ePg	Pg	02 21 22.6	-0.1
ETSF				eSg	Sg	02 21 25.2	-0.6
	63nm,0.3s						
VIEF	Viey	0.22	93	Pg	Pg	02 21 23.7	+0.8
VIEF				Sg	Sg	02 21 26.8	+0.6
VIEF	Viey	0.22	93	Pg	Pg	02 21 23.8	+0.8
VIEF				Lg		02 21 27.0	
FDAF	Les Forges d’A	0.23	251	Pg	Pg	02 21 22.7	-0.3
FDAF				Sg	Sg	02 21 25.7	-0.7
FDAF	Les Forges d’A	0.23	251	Pg	Pg	02 21 22.8	-0.3
FDAF				Lg		02 21 25.7	
LABF	Labassere	0.30	59	Pg	Pg	02 21 25.2	+0.8
LABF				Sg	Sg	02 21 30.2	+1.6
LABF	Labassere	0.30	59	Pg	Pg	02 21 25.6	+1.3
LABF				Lg		02 21 30.3	
RESF	Ens	0.46	101	Pg	Pg	02 21 27.1	-0.3
RESF				Sg	Sg	02 21 34.2	+0.5
RESF	Ens	0.46	101	Pg	Pg	02 21 27.7	+0.3
RESF				Lg		02 21 34.3	
EPF	Esparros	0.47	73	ePg	Pg	02 21 28.6	+0.9
EPF				eSg	Sg	02 21 35.3	+1.2
	6.7nm,0.2s						
LARF	Larrau	0.54	286	Pg	Pg	02 21 29.3	+0.3
LARF				Sg	Sg	02 21 36.8	+0.4
LARF	Larrau	0.54	286	Pg	Pg	02 21 29.4	+0.4
LARF				Lg		02 21 36.4	
ORDF	Ordiarp	0.58	304	Pg	Pg	02 21 30.5	+0.7
ORDF				Sg	Sg	02 21 38.4	+0.7
ORDF	Ordiarp	0.58	304	Pg	Pg	02 21 30.4	+0.6
ORDF				Lg		02 21 38.4	
SJPF	Ste Jean	0.73	288	ePg	Pg	02 21 33.4	+0.7
SJPF				eSg	Sg	02 21 42.1	-0.5
	5.7nm,0.2s						
MELF	Melles	0.76	91	Lg		02 21 43.6	
EALK	Alkurruntz	0.96	290	Pg	Pg	02 21 37.2	-0.1
	1.0nm,0.3s,SNR=6.7						
EALK				Lg		02 21 49.3	
	6.3nm,0.5s,SNR=5.0						
SALF	Salau	1.09	97	Lg		02 21 54.0	
ESAC	San Caprasio	1.18	187	Pg	Pg	02 21 41.6	0.0
	11nm,0.2s,SNR=8.4						
ESAC				Lg		02 21 56.9	
	25nm,0.2s,SNR=7.9						
EMIR	Miracle	1.66	126	Pg	Pg	02 21 50.6	-0.5
	0.9nm,0.1s,SNR=7.0						
EMIR				Lg		02 22 13.5	
	1.0nm,0.1s,SNR=5.0						
EPOB	Poblet	1.84	146	Pg	Pg	02 21 52.6	-2.2
	0.3nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	02 22 14.9	+1.8
	SNR=7.9						
MTLF	Montolieu	1.88	75	ePg	Pg	02 21 54.8	-0.8
MTLF				eSg	Sg	02 22 18.9	-1.8
	1.5nm,0.3s						
LFF	La Frestale	2.17	19	ePg	Pg	02 21 59.7	-1.7
LFF				eSg	Sg	02 22 29.9	-0.5
	3.0nm,0.4s						
EJON	La Jonquera	2.38	100	Lg		02 22 35.8	
	2.2nm,0.3s,SNR=7.9						
ETOR	Torete	2.46	213	Sn	Sn	02 22 29.9	+1.0
	0.5nm,0.3s,SNR=7.9						
ETOR				Lg		02 22 38.5	
	0.7nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.53	183	Pg	Pg	02 22 06.4	-2.2
	0.2nm,0.2s,SNR=4.0						
EMOS				Lg		02 22 39.8	
	0.3nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	2.73	28	ePg	Pg	02 22 11.1	-1.5
RJF				eSg	Sg	02 22 47.0	-2.1
	1.5nm,0.3s						
MFF	Saint Martin d	3.71	1	eSg	Sg	02 23 16.8	-4.8
	0.6nm,0.3s						

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*IDC **06** 02:41:47.8±9.6, 19.65S×178.00W, h338^{km}±92^{km}, mb3.3/8, mb1 3.6/8, mb1mx3.5/14, Error ellipse: s-maj=36.6km s-min=28.3km az=170.0*

*NEIC **06** 02:41:48.4±0.6, 19.66S×177.93W, h345^{km}, mb3.7/4, Error ellipse: s-maj=26.3km s-min=12.7km az=154.0*

ISC 06 02:41:42.8±0.8, **19.7S**±0.2×**177.9W**±0.1, **h300**^{km}, **n17**, σ**0^{s}60**/14, **mb3.6**/12, **1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAO	Charters Tower	33.68	263	eP	P	02 47 59.1	+1.1
	2.2nm,0.6s,mb3.9						
STKA	Stephens Creek	38.23	243	P	P	02 48 35.2	-0.7
	2.0nm,1.1s,mb3.5,baz=95,slow=11,SNR=3.2						
STKA	Stephens Creek	38.23	243	P	P	02 48 35.2	-0.7
ASAR	Alice Springs	44.80	256	P	P	02 49 28.8	-0.5
	3.3nm,0.7s,mb3.7,baz=88,slow=8.0,SNR=26						
ASAR				PcP	PcP	02 51 02.6	-3.4
	0.6nm,0.5s,baz=102,slow=3.4,SNR=5.3						
WB2	Warramunga Arr	44.81	261	eP	P	02 49 29.3	0.0
WRAB	Tennant Creek	44.81	261	eP	P	02 49 28.5	-0.9
	5.9nm,1.1s,mb3.7						
WRA	Warramunga Arr	44.82	261	P	P	02 49 28.8	-0.6
	0.7nm,0.3s,mb3.3,baz=96,slow=6.8,SNR=25						
KAKA	Kakadu	48.11	270	⇑iP	P	02 49 55.2	+0.2
	4.8nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	53.24	262	eP	P	02 50 33.9	+0.9
	0.8nm,0.3s,mb3.5						
VNDA	Vanda	58.70	185	P	P	02 51 11.2	+0.4
	2.7nm,0.8s,mb3.7,baz=112,slow=5.7,SNR=3.5						
TXAR	Lajitas Array	86.55	57	P	P	02 53 54.0	+0.3
	0.5nm,0.6s,mb3.5,baz=211,slow=6.5,SNR=9.2						
ILAR	Eielson Array	87.53	13	P	P	02 53 57.5	0.0
	0.2nm,0.4s,mb3.3,baz=227,slow=5.9,SNR=5.1						
PDAR	Pinedale Array	88.32	43	P	P	02 54 01.2	-0.6
	0.5nm,0.7s,mb3.5,baz=243,slow=3.3,SNR=4.5						
CMAR	Chiang Mai Arr	89.95	290	P	P	02 54 10.4	+0.5
	0.7nm,0.4s,mb3.9,baz=106,slow=1.9,SNR=4.0						
AKASG	Malin Array Be	142.38	332	PKhKP		03 00 35.8	
	0.8nm,0.5s,baz=35,slow=4.8,SNR=4.2						
AKASG				PKP	PKPdf	03 00 40.9	+1.4
	0.3nm,0.3s,baz=119,slow=2.4,SNR=2.8						
BRTR	Keskin Array B	146.38	313	PKPbc	PKPbc	03 00 48.8	+0.4
	0.6nm,0.4s,baz=153,slow=2.8,SNR=4.8						
GERES	GERESS Array B	149.47	345	PKPbc	PKPdf	03 00 56.6	+5.2
	0.3nm,0.7s,baz=18,slow=4.2,SNR=4.1						

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*IDC **06** 02:54:12.9±3.8, 22.03S×169.92E, mb3.8/2, mb1 4.0/2, mb1mx3.6/12, Error ellipse: s-maj=135.0km s-min=51.8km az=142.0*

ISC 06 02:54:15.1±2.1, **22.2S**±0.2×**170.1E**±0.2, **h33**^{km}, **n5**, σ**0^{s}72**/5, **mb3.6**/2, **Southeast of Loyalty Islands**

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

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.35**	**271**	*e*P	**P**	**02 55 07.4**	**+1.0**
DZM				*e*S	**S**	**02 55 45.3**	**-0.3**
BKM	**Butte a Klehm**	**4.80**	**339**	*i* P	**P**	**02 55 27.0**	**-0.1**
STKA	**Stephens Creek**	**27.06**	**243**	P	**P**	**02 59 56.6**	**-0.1**
	2.3nm,0.8s,mb3.8,baz=99,slow=8.2,SNR=4.4						
WRA	**Warramunga Arr**	**33.36**	**267**	P	**P**	**03 00 52.1**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=99,slow=8.5,SNR=9.6						
GERES	**GERESS Array B**	**147.43**	**331**	PKPbc	PKPdf	03 13 57.6	+4.6
	0.5nm,0.5s,baz=53,slow=6.7,SNR=6.4						

ECX 06 03:22:26.1±0.6**,30.74N**×**114.50W,h4^{km},ML3.5,3C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dowling**	**1.72**	**314**	*e*S	Sn	03 23 19.1	-0.6
RDX				⇓*e*		03 23 20.1	
	comp=E,451nm,0.3s						
RDX				⇑*e*		03 23 22.1	
	comp=N,790nm,0.5s						
ECNX	**Esteban Cantu**	**2.02**	**297**	*e*S	Sn	03 23 27.7	+0.4
PGX	**Piedras Gordas**	**2.06**	**307**	*e*S	Sn	03 23 28.5	+0.1
PBX	**Punta Banda**	**2.15**	**298**	*e*S	Sn	03 23 31.1	+0.3
PBX				⇑*e*		03 23 39.3	
	comp=E,169nm,0.4s						
ENX	**Ensenada**	**2.18**	**302**	*e*S	Sn	03 23 31.4	0.0
ENX				⇑*e*		03 23 41.1	
	comp=E,346nm,0.8s						
ENX				⇓*e*		03 23 45.7	
	comp=N,263nm,0.8s						
RMX	**La Rumorosa**	**2.29**	**324**	*e*S	Sn	03 23 34.7	+0.4
CBX	**Cerro Bola**	**2.43**	**311**	*e*P	Pn	03 23 06.9	-0.3
CBX				*e*S	Sn	03 23 37.8	+0.1

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*ISK **06** 03:25:53.8,36.91N×27.80E,h16^{km},MD3.1*
*NEIC **06** 03:25:55.3,36.74N×26.38E,h5^{km},MD3.0(ATH),After ATH.*
*ATH **06** 03:25:55.3,36.74N×26.38E,h5^{km},MD3.0/4*
ISC 06 03:25:53.5±1.0**,36.87N**±0.04×**27.81E**±0.05**,h1**^{km}±8^{km}**, n13,**σ**0^{s}85**/20**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.35**	**303**	*i* P	**Pg**	**03 26 00.5**	**-0.1**
BDRM				*i* S	**Sg**	**03 26 05.6**	**+0.3**
MLSB	**Milas**	**0.42**	**356**	*i* PG	**Pg**	**03 26 02.2**	**+0.2**
MLSB				SG	**Sg**	**03 26 08.1**	**+0.5**
YER	**Yerkesik**	**0.46**	**55**	*i* PG	**Pg**	**03 26 03.2**	**+0.5**
NISR	**Nisiros**	**0.61**	**245**	*e*PB	**Pb**	**03 26 06.5**	**-0.1**
NISR				*e*SB	**Sb**	**03 26 16.0**	**+0.6**
AYDN	**Tasoluk**	**0.79**	**4**	*i* P	**Pg**	**03 26 08.8**	**-0.5**
AYDN				*i* S	**Sg**	**03 26 19.4**	**-0.4**
SMG	**Samos**	**1.14**	**317**	*e*PN	**Pn**	**03 26 15.5**	**-1.0**
DNZL	**Cakiroluk**	**1.28**	**50**	⇑*i*P	**Pb**	**03 26 18.9**	**+0.8**
DNZL				*i* S	**Sb**	**03 26 38.6**	**+3.8**
DENT	**Denizli**	**1.31**	**48**	*e*PN	**Pn**	**03 26 18.0**	**-0.9**
KARP	**Karpathos**	**1.42**	**202**	*e*PB	**Pb**	**03 26 21.5**	**+1.0**
KDAG	**Bornova**	**1.59**	**344**	*i* P	**Pn**	**03 26 21.4**	**-1.5**
KDAG				*i* S	**Sb**	**03 26 44.2**	**+0.4**
ELL	**Elmali**	**1.69**	**94**	*e*PN	**Pn**	**03 26 23.5**	**-0.8**
MANT	**Manisa**	**1.72**	**20**	*i* P	**Pn**	**03 26 25.2**	**+0.5**
MANT				*i* S	**Sb**	**03 26 49.3**	**+1.6**
AKS	**Akhisar**	**2.00**	**0**	PN	**Pn**	**03 26 27.3**	**-1.5**

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*IDC **06** 03:44:58.3±3.3,81.38N×2.56W,mb3.3/6,mb1 3.5/8, mb1mx3.4/22,ML3.1/2,MS3.4/2,Ms1 3.5/2,ms1mx2.5/18, Error ellipse: s-maj=60.7km s-min=26.4km az=100.0*
ISC 06 03:44:59.7±2.1**,81.2N**±0.2× ± **,h10^{km},n12,**σ**0^{s}31**/9**, mb3.3**/5**,MS3.3**/2**,1C,North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**4.35**	**126**	Pn	**Pn**	**03 46 07.5**	**+0.1**
	3.1nm,0.3s,baz=354,slow=9.1,SNR=116						
DAG	**Danmarks Havn**	**5.57**	**226**	⇑*i*P	Px	03 47 15.2	
	8.5nm,0.4s						
ARCES	**ARCESS Array B**	**13.27**	**137**	Pn	**P**	**03 48 10.2**	**-0.2**
	0.1nm,0.3s,baz=348,slow=13,SNR=4.7						
NB2	**NORSAR Subarra**	**20.57**	**163**	P	**P**	**03 49 40.1**	**-0.7**
	0.5nm,0.6s,baz=2.0,slow=11						
NOA	**NORSAR Array B**	**20.57**	**163**	P	**P**	**03 49 40.3**	**-0.5**
	0.6nm,0.7s,baz=345,slow=9.7,SNR=5.1						
FINES	**FINESS Array B**	**21.21**	**143**	P	**P**	**03 49 47.6**	**+0.3**
	1.0nm,0.9s,mb3.2,baz=350,slow=12,SNR=4.4						
HFS	**Hagfors**	**21.60**	**160**	P	**P**	**03 49 51.4**	**+0.2**
	1.1nm,0.8s,mb3.3,baz=349,slow=7.3,SNR=3.7						
FRB	**Frobisher Bay**	**24.34**	**266**	LR	LR	03 59 37.5	
	comp=Z,47nm,18.8s,MS3.0,baz=171,slow=36						
GERES	**GERESS Array B**	**32.87**	**162**	P	**P**	**03 51 35.6**	**+0.3**
	0.7nm,0.9s,mb3.6,baz=9.5,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**43.09**	**87**	P	**P**	**03 53 01.1**	**+0.2**
	0.5nm,0.8s,mb3.3,slow=8.6,SNR=3.5						
SONM	**Songino Array**	**45.64**	**64**	P	**P**	**03 53 21.1**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=338,slow=7.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**73.40**	**77**	LR	LR	04 37 08.1	
	comp=Z,32nm,18.3s,MS3.6,baz=160,slow=42						

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*MOS **06** 03:58:27.7±2.9,51.29N×97.87E,h10^{km},mb4.4/1,Error ellipse: s-maj=28.2km s-min=13.5km az=151.9*
*IDC **06** 03:58:27.7±1.8,50.79N×98.10E,mb3.4/1,mb1 3.2/4, mb1mx3.1/22,ML2.9/3,Error ellipse: s-maj=40.3km s-min=19.0km az=13.0*
ISC 06 03:58:26.2±0.8**,51.3N**±0.1×**97.86E**±0.09**,h10^{km},n15,** σ**1^{s}22**/18**,mb3.4**/1**,Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.73**	**43**	*e*PN	**Pn**	**03 58 55.3**	**-1.3**
ORL				*e*		03 59 19.1	
ORL				pmax	pmax		
	comp=Z,102nm,0.5s						
ORL				smax			
	comp=E,437nm,0.9s						
MOY	**Mondy**	**1.99**	**78**	*e*PN	**Pn**	**03 59 01.2**	**+0.8**
MOY				*e*		03 59 27.0	
MOY				pmax	pmax		
	comp=Z,148nm,0.4s						
MOY				smax			
	comp=E,854nm,0.4s						
ARS	**Arshan**	**2.91**	**76**	*e*PN	**Pn**	**03 59 16.7**	**+3.2**
ARS				*e*		03 59 54.9	
ARS				pmax	pmax		
	comp=Z,91nm,0.5s						
ARS				smax			
	comp=E,683nm,0.7s						
ZAK	**Zakamensk**	**3.56**	**103**	*e*PN	**Pn**	**03 59 21.6**	**-1.1**
ZAK				*e*S	**Sn**	**04 00 10.8**	**+5.6**
ZAK				pmax	pmax		
	comp=Z,60nm,0.8s						
ZAK				smax			
	comp=N,248nm,1.2s						
TLY	**Talaya**	**3.63**	**82**	*e*PN	**Pn**	**03 59 28.3**	**+4.5**
TLY				*e*		04 00 15.9	
TLY				pmax	pmax		
	comp=Z,34nm,0.5s						
TLY				smax			
	comp=E,206nm,0.6s						
IRK	**Irkutsk**	**4.09**	**74**	*e*PN	**Pn**	**03 59 37.2**	**+6.9**
IRK				*e*		04 00 30.5	
IRK				pmax	pmax		
	comp=Z,182nm,0.1s						
IRK				smax			
	comp=N,684nm,1.2s						
CERR	**Cheremushki**	**4.27**	**294**	*e*PN	**Pg**	**03 59 48.1**	**-3.4**
KAB	**Kabansk**	**5.52**	**79**	*e*PN	**Pb**	**04 00 02.9**	**+0.4**
KAB				*e*		04 01 15.1	
KAB				pmax	pmax		
	comp=Z,159nm,0.3s						
KAB				smax			
	comp=E,291nm,0.8s						
OGRR	**Ongureny**	**6.39**	**65**	*e*PN	**Pb**	**04 00 22.7**	**+5.3**
OGRR				pmax	pmax		
	comp=Z,15nm,0.6s						
SONM	**Songino Array**	**6.54**	**119**	Pn	**Pn**	**04 00 04.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=302,slow=15,SNR=2.4						
SONM				Pg	**Pb**	**04 00 19.7**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=307,slow=17,SNR=46						
SONM				Lg		04 01 44.5	
	comp=Z,5.6nm,0.3s,baz=304,slow=27,SNR=17						
AKAR	**Aktash**	**6.57**	**265**	*e*PN	**Pn**	**04 00 09.9**	**+4.6**
AKAR				*e*PG	**Pg**	**04 00 28.6**	**-8.7**
NIZ	**Nizh Angarsk**	**8.27**	**53**	*e*P	**P**	**04 00 28.3**	**-0.8**
NIZ				pmax	pmax		
	comp=Z,53nm,0.5s						
MKAR	**Makanchi Array**	**11.17**	**252**	Pn	**P**	**04 01 08.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=2.4						
MKAR				Lg		04 04 22.5	
	comp=Z,0.0nm,0.3s,baz=70,slow=29,SNR=4.3						
BVAR	**Borovoye Array**	**16.91**	**287**	Pn	**P**	**04 02 25.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=2.1						
NOA	**NORSAR Array B**	**45.75**	**317**	P	**P**	**04 06 54.4**	**+5.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=62,slow=7.6,SNR=3.7						

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*IDC **06** 03:59:00.6±1.1,22.64S×68.51W,h87^{km}±20^{km},mb3.7/1, mb1 3.5/3,mb1mx3.3/14,MS2.6/1,Ms1 2.7/1,ms1mx2.6/14, Error ellipse: s-maj=52.5km s-min=29.0km az=113.0*
*NEIC **06** 03:59:00.8±0.9,22.63S×68.53W,h96^{km}±13^{km},Error ellipse: s-maj=33.6km s-min=14.5km az=107.0*
ISC 06 03:58:59.6±1.0**,22.7S**±0.1×**68.5W**±0.4**,h105**^{km}±21^{km}**,n6,** σ**0^{s}44**/7**,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.35**	**277**	P	**P**	**03 59 15.9**	**+0.7**
	428nm,0.3s,baz=57,slow=4.4,SNR=5453						
LVC				S	**S**	**03 59 26.5**	**-0.3**
	1μm,0.3s,baz=204,slow=20,SNR=303						
LVC	**Limon Verde**	**0.35**	**277**	*e*Pn	**P**	**03 59 15.5**	**+0.4**
LVC				*e*Sn	**S**	**03 59 26.3**	**-0.4**
LPAZ	**La Paz**	**6.34**	**4**	P	**P**	**04 00 32.0**	**0.0**
	0.5nm,0.3s,baz=185,slow=11,SNR=16						
LPAZ				LR	LR	04 03 16.2	
	comp=Z,51nm,18.6s,baz=161,slow=40						
PLCA	**Paso Flores**	**18.10**	**185**	P	**P**	**04 03 05.5**	**-0.1**
	0.1nm,0.3s,baz=360,slow=11,SNR=4.7						
BDFB	**Brasilia**	**20.59**	**74**	P	**P**	**04 03 32.2**	**-0.1**
	4.9nm,0.7s,baz=256,slow=8.8,SNR=8.9						
MKAR	**Makanchi Array**	**146.35**	**37**	PKPbc	PKPbc	04 18 30.2	+2.2
	0.3nm,0.5s,baz=270,slow=2.9,SNR=2.9						

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*ISK **06** 04:01:36.7,36.93N×27.77E,h5^{km},MD3.2*
*NEIC **06** 04:01:38.7,36.75N×26.38E,h23^{km},MD3.1(ATH),After ATH.*
*ATH **06** 04:01:38.7,36.75N×26.38E,h23^{km}±8^{km},MD3.1/4*
ISC 06 04:01:37.4±0.8**,36.92N**±0.03×**27.77E**±0.04**,h9**^{km}±5^{km}**, n14,**σ**0^{s}74**/22**,4C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.30**	**300**	*i* P	**Pg**	**04 01 43.8**	**+0.2**
BDRM				*i* S	**Sg**	**04 01 49.0**	**+1.3**
MLSB	**Milas**	**0.38**	**1**	*i* PG	**Pg**	**04 01 44.6**	**-0.6**
MLSB				SG	**Sg**	**04 01 50.2**	**-0.1**
YER	**Yerkesik**	**0.47**	**62**	*i* PG	**Pg**	**04 01 46.0**	**-0.9**
YER				SG	**Sg**	**04 01 53.3**	**+0.1**
NISR	**Nisiros**	**0.59**	**240**	*e*PB	**Pb**	**04 01 50.5**	**+1.0**
NISR				*e*SN	**Sn**	**04 02 00.5**	**-1.0**
AYDN	**Tasoluk**	**0.75**	**7**	⇑*i*P	**Pb**	**04 01 51.5**	**-0.7**
AYDN				*i* S	**Sb**	**04 02 01.4**	**-0.9**
SMG	**Samos**	**1.08**	**317**	*e*PN	**Pn**	**04 01 58.5**	**-0.2**
DNZL	**Cakiroluk**	**1.28**	**52**	⇑*i*P	**Pb**	**04 02 01.5**	**+0.2**
DNZL				*i* S	**Sb**	**04 02 18.5**	**+0.8**
DENT	**Denizli**	**1.31**	**50**	PN	**Pn**	**04 02 02.4**	**+0.4**
KARP	**Karpathos**	**1.45**	**200**	*e*PN	**Pn**	**04 02 03.5**	**-0.4**
KARP				*e*SN	**Sn**	**04 02 23.5**	**+0.3**
KDAG	**Bornova**	**1.54**	**345**	⇑*i*P	**Pn**	**04 02 04.4**	**-0.8**
KDAG				*i* S	**Sb**	**04 02 24.7**	**-0.4**
MANT	**Manisa**	**1.69**	**22**	⇑*i*P	**Pn**	**04 02 07.1**	**-0.3**
MANT				*i* S	**Sn**	**04 02 31.5**	**+2.1**
ELL	**Elmali**	**1.73**	**95**	*e*PN	**Pn**	**04 02 08.0**	**+0.1**
APE	**Apeiranthos**	**1.80**	**276**	*e*PB	Px	04 01 52.0	
APE				*e*SN	Sx	04 02 05.5	
AKS	**Akhisar**	**1.96**	**1**	*e*PN	**Pn**	**04 02 11.3**	**+0.1**

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*LDG **06** 04:22:00.8±0.5,38.02N×106.63E,h10^{km},Mb4.7/15, Ms3.0/1,Error ellipse: s-maj=22.5km s-min=8.7km az=100.0*
*IDC **06** 04:22:03.4±0.6,38.09N×106.31E,mb4.3/15,mb1 4.4/17, mb1mx4.3/22,ML4.4/2,MS3.4/3,Ms1 3.5/3,ms1mx2.9/25, Error ellipse: s-maj=23.8km s-min=12.9km az=57.0*
*BJI **06** 04:22:06.6,38.12N×106.36E,h35^{km},mB4.6,mb4.4, ML4.4,Ms4.4,Msz4.1*
*MOS **06** 04:22:06.5±1.4,38.11N×106.08E,h33^{km},mb4.2/13,Error ellipse: s-maj=23.4km s-min=10.9km az=110.0*
*NEIC **06** 04:22:08.4±0.9,38.06N×106.28E,h36^{km}±9^{km},mb4.5/25, Error ellipse: s-maj=8.3km s-min=5.3km az=57.0*
ISC 06 04:22:03.3±1.6**,38.07N**±0.03×**106.24E**±0.04**,h15**^{km}±11^{km}**, n91,**σ**0^{s}96**/98**,mb4.4**/39**,MS3.5**/4**,4C,Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**2.76**	**225**	P	**Pn**	**04 22 54.6**	**+6.8**
LZH				S	**Sn**	**04 23 31.7**	**+11**
LZH				Smax			
	comp=N,2μm,0.6s						
LZH				Smax			
	comp=E,2μm,0.6s						
BTO	**Baotou**	**3.87**	**48**	*e*P	**Pn**	**04 23 03.6**	**-0.1**
BTO				Smax			
	comp=N,505nm,0.3s						
BTO				Smax			
	comp=E,687nm,0.3s						
XAN	**Xi'an**	**4.57**	**151**	P	**Pn**	**04 23 14.7**	**+1.1**
XAN				Smax			
	comp=N,407nm,1.0s						
XAN				Smax			
	comp=E,353nm,0.7s						
TIY	**Taiyuan**	**4.91**	**92**	*e*P	**Pn**	**04 23 18.6**	**+0.2**
TIY				S	**Sn**	**04 24 16.2**	**+0.6**
TIY				Smax			
	comp=N,1μm,0.5s						
TIY				Smax			
	comp=E,1μm,0.5s						
HHC	**Hu-ho-hao-te**	**4.97**	**54**	*e*P	**Pn**	**04 23 19.4**	**+0.2**
HHC				S	**Sn**	**04 24 14.8**	**-2.2**
GTA	**Gaotai**	**5.20**	**287**	P	**Pn**	**04 23 23.8**	**+1.3**
GTA				S	**Sn**	**04 24 23.4**	**+0.6**
GTA				Smax			
	comp=N,405nm,0.8s						
GTA				Smax			
	comp=E,382nm,0.8s						
GTA				LR	LR		
	comp=N,1μm,7.6s						
GTA				LR	LR		
	comp=E,808nm,8.4s						
ENH	**Enshi**	**8.23**	**160**	*e*Pn	**P**	**04 24 03.2**	**-1.9**
	comp=E,24nm,0.6s						
SONM	**Songino Array**	**9.76**	**1**	Pn	**P**	**04 24 26.4**	**+0.2**
	comp=E,1.3nm,0.3s,baz=182,slow=15,SNR=26						
WHN	**Wuhan**	**10.06**	**136**	*e*P	**P**	**04 24 36.0**	**+5.6**
WHN				*e*S	**S**	**04 26 29.3**	**+5.3**
WHN				LR	LR		
	comp=N,1μm,9.0s						
WHN				LR	LR		
	comp=E,1μm,10.1s						
WHN				LR	LR		
	comp=Z,1μm,13.8s						
GYA	**Guiyang**	**11.58**	**178**	⇑*i*P	**P**	**04 24 51.2**	**0.0**
GYA				S	**S**	**04 26 53.4**	**-7.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				LR	LR		
	comp=N,200nm,6.0s						
GYA				LR	LR		
	comp=E,440nm,9.9s						
ZAK	**Zakamensk**	**12.49**	**351**	*e*P	**P**	**04 25 02.1**	**-1.2**
SNY	**Shenyang**	**13.82**	**69**	⇑P	**P**	**04 25 22.5**	**+1.6**
SNY				AP		04 25 27.1	
SNY				XP		04 25 29.2	
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**15.05**	**241**	P	**P**	**04 25 40.9**	**+3.9**
	comp=Z,9.4nm,0.7s						
WMQ	**Urumqi**	**15.14**	**298**	*e*P	**P**	**04 25 37.1**	**-1.0**
WMQ				AP		04 25 46.0	
WMQ				PP	PP	04 25 49.5	-0.8
WMQ				S	**S**	**04 28 26.1**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s						
QIZ	**Qiongzhong**	**19.23**	**170**	P	**P**	**04 26 31.8**	**+2.2**
QIZ				*e*S	**S**	**04 30 00.7**	**+0.4**
QIZ				LR	LR		
	comp=E,366nm,14.5s						
MKAR	**Makanchi Array**	**19.65**	**304**	P	**P**	**04 26 34.5**	**+0.3**
	comp=E,0.7nm,0.3s,baz=105,slow=13,SNR=20						
MKAR	**Makanchi Array**	**19.65**	**304**	*i* P	**P**	**04 26 34.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GUN	**Gumba**	**19.82**	**245**	*e*P	**P**	**04 26 36.3**	**0.0**
	comp=Z,80nm,0.9s						
KKN	**Kakani**	**20.32**	**246**	*e*P	**P**	**04 26 42.2**	**+0.7**
	comp=Z,52nm,0.8s						
PKI	**Pulchoki**	**20.36**	**245**	*e*P	**P**	**04 26 41.3**	**-0.6**
	comp=Z,33nm,0.9s						
DMN	**Daman**	**20.55**	**246**	*e*P	**P**	**04 26 43.3**	**-0.6**
	comp=Z,44nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.56**	**200**	P	**P**	**04 26 45.3**	**+1.3**
	comp=Z,4.7nm,0.6s,baz=6.8,slow=9.2,SNR=17						
CMAR	**Chiang Mai Arr**	**20.56**	**200**	P	**P**	**04 26 45.3**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JNU	**Nakatsue**	**20.61**	**96**	P	**P**	**04 26 44.6**	**+0.1**
	comp=Z,8.7nm,0.8s,baz=187,slow=8.1,SNR=4.5						
GKN	**Gorkha**	**20.66**	**247**	*e*P	**P**	**04 26 45.5**	**+0.4**
	comp=Z,45nm,0.9s						
KLR	**Kul'dur**	**21.46**	**51**	*e*P	**P**	**04 26 56.3**	**+3.2**
KOLN	**Koldanda**	**21.55**	**248**	*e*P	**P**	**04 26 55.3**	**+1.1**
	comp=Z,30nm,0.8s,mb4.8						
JOW	**Kunigami**	**21.66**	**115**	LR	LR	04 35 59.9	
	comp=Z,63nm,19.0s,MS3.0,baz=138,slow=39						
NVS	**Novosibirsk**	**22.91**	**324**	*e*P	**P**	**04 27 09.1**	**+1.8**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.0						
KURK	**Kurchatov**	**23.28**	**312**	P	**P**	**04 27 12.4**	**+1.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**23.28**	**312**	*e*Pn	**P**	**04 27 11.6**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**28.86**	**313**	P	**P**	**04 28 04.0**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.0,baz=96,slow=13,SNR=7.8						
BRVK	**Borovoye**	**28.93**	**313**	*e*P	**P**	**04 28 04.9**	**+1.2**
	comp=Z,2.3nm,0.6s,mb4.1						
ARU	**Arti**	**36.31**	**316**	*e*P	**P**	**04 29 09.2**	**+1.2**
	comp=Z,6.7nm,0.6s,mb4.8						
GNI	**Garni**	**46.92**	**293**	LR	LR	04 53 03.8	
	comp=Z,47nm,21.5s,MS3.4,baz=351,slow=40						
KIV	**Kislovodsk**	**47.27**	**298**	⇑*i*P	**P**	**04 30 42.1**	**+4.5**
KIV				*e*		04 32 11.8	
KIV				*e*		04 32 33.6	
KIV				*i* S	**S**	**04 37 37.3**	**+8.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
KEV	**Kevo**	**51.17**	**334**	*e*p	**P**	**04 31 06.6**	**-0.7**
	comp=Z,0.8nm,0.4s,mb4.0						
KEV	**Kevo**	**51.17**	**334**	*e*P	**P**	**04 31 06.6**	**-0.7**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**51.72**	**334**	P	**P**	**04 31 12.7**	**+1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=70,slow=8.3,SNR=14						
ARCES				PcP	PcP	04 32 25.2	+0.2
	comp=Z,1.1nm,0.8s,baz=90,slow=3.6,SNR=6.6						
ARCES	**ARCESS Array B**	**51.72**	**334**	P	**P**	**04 31 12.7**	**+1.2**
ARCES						04 32 25.2	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAF	**Kangasniemi**	**52.64**	**324**	*e*p	**P**	**04 31 16.6**	**-1.9**
	comp=Z,0.3nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**52.89**	**324**	P	**P**	**04 31 20.7**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.1,slow=2.8,SNR=5.7						
FINES	**FINESS Array B**	**52.89**	**324**	P	**P**	**04 31 20.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**52.89**	**324**	P	**P**	**04 31 20.7**	**+0.3**
AKASG	**Malin Array Be**	**54.08**	**310**	P	**P**	**04 31 29.6**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=60,slow=7.0,SNR=6.2						
AKASG	**Malin Array Be**	**54.08**	**310**	P	**P**	**04 31 29.6**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**55.05**	**296**	P	**P**	**04 31 36.8**	**+0.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=97,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**55.05**	**296**	P	**P**	**04 31 36.8**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.77**	**158**	*e*P	**P**	**04 32 01.4**	**-1.9**
	comp=Z,4.1nm,1.1s,mb4.4						
HFS	**Hagfors**	**59.07**	**324**	P	**P**	**04 32 04.4**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.6,baz=79,slow=7.3,SNR=6.2						
HFS	**Hagfors**	**59.07**	**324**	P	**P**	**04 32 04.4**	**-0.4**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NB2	**NORSAR Subarra**	**59.82**	**326**	P	**P**	**04 32 09.5**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=65,slow=7.0						
NOA	**NORSAR Array B**	**59.82**	**326**	P	**P**	**04 32 09.6**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.6,baz=65,slow=6.8,SNR=21						
NOA				LR	LR	05 00 09.7	
	comp=Z,47nm,18.3s,MS3.7,baz=75,slow=38						
NOA	**NORSAR Array B**	**59.82**	**326**	P	**P**	**04 32 09.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,47nm,18.3s						
ILAR	**Eielson Array**	**62.83**	**27**	P	**P**	**04 32 29.9**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.4,baz=293,slow=4.7,SNR=36						
ILAR	**Eielson Array**	**62.83**	**27**	P	**P**	**04 32 29.9**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**63.26**	**315**	P	**P**	**04 32 33.0**	**-0.2**
CLL				*i*	pP	04 32 37.2	-0.7
WRAB	**Tennant Creek**	**63.46**	**150**	*e*P	**P**	**04 32 34.2**	**-0.8**
	comp=Z,11nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**63.46**	**150**	P	**P**	**04 32 34.8**	**-0.2**
	comp=Z,8.0nm,0.7s,mb5.0,baz=338,slow=6.7,SNR=52						
WRA	**Warramunga Arr**	**63.46**	**150**	P	**P**	**04 32 34.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WB2	**Warramunga Arr**	**63.47**	**150**	*e*P	**P**	**04 32 34.7**	**-0.3**
WB2				*i*	pP	04 32 38.5	-1.2
GERES	**GERESS Array B**	**64.03**	**313**	P	**P**	**04 32 39.3**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=68,slow=7.2,SNR=6.8						
GERES	**GERESS Array B**	**64.03**	**313**	P	**P**	**04 32 39.3**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**65.02**	**21**	*e*P	**P**	**04 32 44.8**	**+0.4**
	comp=Z,4.9nm,0.6s,mb4.7						
DAWY	**Dawson**	**65.90**	**26**	*e*P	**P**	**04 32 50.1**	**0.0**
ASPA	**Alice Springs**	**66.68**	**152**	⇑*i*P	**P**	**04 32 56.0**	**+0.2**
ASAR	**Alice Springs**	**66.68**	**152**	P	**P**	**04 32 55.8**	**0.0**
	comp=Z,5.7nm,0.6s,mb4.8,baz=342,slow=6.9,SNR=29						
LPG	**La Plagne**	**69.82**	**312**	*e*P	**P**	**04 33 16.1**	**+1.2**
	comp=Z,13nm,1.0s,mb4.5						
LPL	**La Plagne**	**69.82**	**312**	*e*P	**P**	**04 33 16.1**	**+1.2**
PGF	**Pioggiola**	**70.11**	**309**	*e*P	**P**	**04 33 17.4**	**+0.6**
	comp=Z,19nm,0.9s,mb4.7						
MBDF	**Montbardon**	**70.24**	**312**	*e*P	**P**	**04 33 18.3**	**+0.8**
	comp=Z,7.2nm,0.7s,mb4.4						
SBF	**Sospel**	**70.33**	**311**	*e*P	**P**	**04 33 17.6**	**-0.5**
	comp=Z,25nm,0.7s,mb5.0						
LOR	**Lormes**	**70.47**	**315**	*e*P	**P**	**04 33 17.8**	**-1.0**
	comp=Z,4.7nm,0.5s,mb4.4						
ORIF	**Oris-en-Rattie**	**70.66**	**312**	*e*P	**P**	**04 33 19.8**	**-0.2**
	comp=Z,8.4nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**70.78**	**315**	*e*P	**P**	**04 33 20.6**	**-0.2**
SMF	**Signal de Mont**	**70.83**	**315**	*e*P	**P**	**04 33 21.0**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**71.02**	**315**	*e*P	**P**	**04 33 22.3**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.2						
TCF	**Toulx Ste Croi**	**71.96**	**315**	*e*P	**P**	**04 33 28.2**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.2						
GRR	**Gorron**	**72.36**	**318**	*e*P	**P**	**04 33 29.5**	**-0.7**
	comp=Z,12nm,0.8s,mb4.6						
DLBC	**Dease Lake**	**73.04**	**27**	*e*P	**P**	**04 33 35.4**	**+1.5**
MFF	**Saint Martin d**	**73.07**	**316**	*e*P	**P**	**04 33 35.2**	**+0.9**
	comp=Z,13nm,0.7s,mb4.7						
SGMF	**Saint Gilles**	**73.33**	**319**	*e*P	**P**	**04 33 36.5**	**+0.7**
	comp=Z,6.6nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**74.54**	**18**	P	**P**	**04 33 43.5**	**+1.0**
	comp=Z,2.1nm,0.6s,mb4.2,baz=328,slow=5.0,SNR=8.3						
YKA	**Yellowknife Ar**	**74.54**	**18**	P	**P**	**04 33 43.5**	**+1.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

YKA	Yellowknife Ar	74.54	18	P	P	04 33 43.5	+1.0
STKA	Stephens Creek	77.00	150	P	P	04 33 57.8	+0.6
	comp=Z,3.0nm,0.4s,mb4.5,baz=325,slow=4.8,SNR=13						
CHMT	Chamberlain Mo	88.31	26	eP	P	04 34 56.9	+1.7
BOZ	Bozeman (W)	89.97	26	eP	P	04 35 05.0	+2.0
	comp=Z,1.0nm,0.6s,mb4.3						
MCMT	McKenzie Canyo	90.26	27	eP	P	04 35 06.1	+1.7
HLID	Hailey	90.78	28	eP	P	04 35 09.0	+2.1
	comp=Z,1.2nm,0.8s,mb4.3						
BW06	Boulder Array	93.21	26	eP	P	04 35 18.9	+0.9
	comp=Z,3.5nm,0.8s,mb4.8						

ISK 06 04:44:24.5,38.86N×26.37E,h5^{km},MD3.3
ATH 06 04:44:27.0,38.72N×26.29E,h21^{km},MD3.3/3
ISC 06 04:44:25.8±0.9,38.77N±0.03×26.43E±0.06,h9^{km}±6^{km}, n23,σ0^{s}99/34,2C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.50	345	ePN	Pn	04 44 37.5	-1.1
PRK				eSN	Sn	04 44 45.5	-1.8
KDAG	Bornova	0.75	119	iP	Pg	04 44 40.3	-0.4
KDAG				iS	Sg	04 44 50.6	-0.2
EZN	Ezine	1.06	355	iPG	Pg	04 44 42.6	-4.5
AKS	Akhisar	1.08	84	iPN	Pn	04 44 46.7	-0.3
AKS				SN	Sn	04 45 02.6	+0.4
SMG	Samos	1.10	163	ePN	Pn	04 44 48.0	+0.7
BOZC	Bozcaada	1.11	345	iP	Pg	04 44 49.0	+0.9
BOZC				iS	Sg	04 45 04.3	+1.2
BALB	Balikesir	1.42	52	PN	Pn	04 44 51.8	-0.1
BALB				SN	Sn	04 45 11.0	+0.2
AYDN	Tasoluk	1.58	134	iP	Pn	04 44 54.5	+0.3
AYDN				iS	Sb	04 45 14.0	-0.8
LPK	Lapseki	1.62	9	PN	Pn	04 44 54.2	-0.6
MANT	Manisa	1.69	99	iP	Pn	04 44 55.2	-0.4
MANT				iS	Sn	04 45 18.0	+0.5
APE	Apeiranthos	1.84	203	ePN	Pn	04 44 58.5	+0.7
DST	Dursunbey	1.90	63	ePN	Pn	04 44 58.2	-0.5
EDC	Edincik	1.93	35	ePN	Pn	04 44 58.2	-0.9
BNT	Bandirma	1.96	35	PN	Pn	04 44 58.7	-0.9
SART	Tekirdag	2.01	16	⇑iP	Pn	04 45 01.5	+1.3
SART				iS	Sn	04 45 27.9	+2.3
KCT	Karacabey	2.11	44	PN	Pn	04 45 01.8	+0.1
YER	Yerkesik	2.19	138	ePN	Pn	04 45 03.5	+0.7
ORLT	Orhaneli	2.30	55	ePN	Pn	04 45 04.0	-0.4
DNZL	Cakiroluk	2.32	117	iP	Pn	04 45 04.8	+0.1
DNZL				iS	Sn	04 45 38.0	+4.4
ULDT	Uludag	2.50	56	⇑iP	Pn	04 45 09.7	+2.3
ULDT				iS	Sn	04 45 42.9	+4.6
CTT	Catalca	2.83	32	ePN	Pn	04 45 11.0	-1.0
EDRB	Edirne	3.09	4	ePN	Pn	04 45 14.8	-0.9
ESKT	Eskisehir	3.52	76	iP	Pg	04 45 31.8	-4.2
ESKT				iS	Sg	04 46 15.8	-7.0

JMA 06 04:44:46.6±0.3,23.76N×121.74E,h77^{km},M2.6
TAP 06 04:44:45.5,23.69N×121.76E,h15^{km},ML3.5,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.38	56	P	Pn	04 45 10.2	-0.1
YOJ				S	Sb	04 45 27.7	+0.1
HATJ	Hateruma jima	1.91	79	eS	Sn	04 45 40.8	-0.9
IRIF	Iriomote-Funau	1.91	70	P	Pn	04 45 17.7	-0.2
IRIF				eS	Sn	04 45 41.7	-0.1
JKRS	Kuro-shima	2.13	75	P	Pn	04 45 20.8	-0.2
JKRS				S	Sn	04 45 46.7	-0.6
JIJ	Ishigaki jima	2.28	72	P	Pn	04 45 22.9	-0.3
JIJ				S	Sn	04 45 49.7	-1.5
JTJ	Tarama	2.85	70	eS	Sn	04 46 05.3	-0.3

IDC 06 04:55:48.5±3.4,28.38S×177.82W,mb3.9/3,mb1 4.1/3, mb1mx3.8/12,Error ellipse: s-maj=185.0km s-min=36.5km az=155.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.13	254	P	P	05 02 44.9	-0.9
	1.5nm,0.7s,baz=100,slow=6.1,SNR=2.2						
ASAR	Alice Springs	43.41	265	P	P	05 03 53.2	-1.5
	0.6nm,0.5s,baz=96,slow=6.7,SNR=13						
WRA	Warramunga Arr	44.22	270	P	P	05 03 58.8	-2.5
	0.6nm,0.4s,baz=109,slow=7.9,SNR=26						
WRA				PcP	PcP	05 05 42.9	-3.7
	0.4nm,0.4s,baz=105,slow=4.0,SNR=5.9						
FINES	FINESS Array B	143.30	341	PKP	PKPdf	05 15 21.2	-4.6
	0.8nm,0.4s,baz=45,slow=3.9,SNR=14						
NOA	NORSAR Array B	146.78	352	PKPbc	PKPbc	05 15 32.5	+1.1
	1.3nm,0.9s,baz=14,slow=4.4,SNR=5.1						
AKASG	Malin Array Be	149.76	325	PKPbc	PKPdf	05 15 39.6	+2.6
	2.3nm,0.4s,baz=43,slow=3.3,SNR=15						

ISK 06 05:21:23.8,36.84N×27.65E,h6^{km},MD3.3
ATH 06 05:21:26.6,36.82N×27.45E,h5^{km},MD3.3/5
NEIC 06 05:21:27.0,36.82N×27.49E,h5^{km},MD3.3(ATH),After ATH.
ISC 06 05:21:25.2±0.8,36.88N±0.04×27.68E±0.05,h10^{km}±7^{km}, n14,σ0^{s}91/19,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	314	iP	Pg	05 21 30.9	+0.1
BDRM				iS	Sg	05 21 35.7	+1.2
MLSB	Milas	0.42	10	iPG	Pg	05 21 33.3	-0.5
MLSB				SG	Sg	05 21 40.3	+0.8
NISR	Nisiros	0.52	239	ePb	Pb	05 21 36.5	+0.5
YER	Yerkesik	0.55	62	iPG	Pg	05 21 35.6	-0.6
ARG	Arkhangelos	0.75	151	ePB	Pb	05 21 40.7	+0.7
ARG				eSB	Sb	05 21 54.6	+4.5
AYDN	Tasoluk	0.80	11	⇑iP	Pb	05 21 39.2	-1.6
AYDN				iS	Sb	05 21 51.1	-0.2
SMG	Samos	1.07	321	ePB	Pb	05 21 46.0	+0.6
DNZL	Cakiroluk	1.36	53	iP	Pb	05 21 49.8	-0.5
DNZL				iS	Sb	05 22 10.2	+2.5
DENT	Denizli	1.39	51	PN	Pn	05 21 51.2	+0.4
KARP	Karpathos	1.40	198	ePB	Pb	05 21 51.2	+0.2
APE	Apeiranthos	1.73	277	ePB	Pb	05 21 56.0	-0.8
ELL	Elmali	1.79	94	ePN	Pn	05 21 55.8	-0.8
AKS	Akhisar	2.00	3	ePN	Pn	05 21 59.5	0.0
PRK	Paraskevi	2.61	335	ePG	Pg	05 22 16.0	-1.4

THE 06 05:48:28.8,42.12N×21.41E,h23^{km},ML2.9
PDG 06 05:48:30.1±0.4,42.12N×21.27E,h5^{km}±1^{km}
ISC 06 05:48:27.6±0.4,42.07N±0.03×21.48E±0.03,h5^{km},n19, σ1^{s}23/36,5C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKO	Skopje	0.10	196	⇑iPg	Pg	05 48 30.1	+0.2
SKO				⇑iSg	Sg	05 48 31.7	+0.4
SKO				⇓iSg	Sg	05 48 31.8	+0.5
SKO				Smax		05 48 32.0	
	comp=E,19nm,0.2s						
BARS	Barje	0.79	19	⇑iPg	Pg	05 48 42.5	-1.0
BARS				Sg	Sg	05 48 52.8	-1.2
BIA	Bitola	1.06	186	⇓iPg	Pg	05 48 40.6	-8.1
BIA				iSg	Sg	05 48 54.7	-8.1
PVY	Plav	1.23	296	ePg	Pg	05 48 50.1	-2.1
PVY				eSg	Sg	05 49 07.3	-1.3
FNA	Florina	1.29	183	ePb	Pb	05 48 51.2	-0.7
GRG	Griva	1.31	148	ePb	Pb	05 48 52.4	0.0
GRG				eSb	Sb	05 49 09.9	+0.6
KNT	Kendrikon	1.40	130	ePb	Pb	05 48 53.1	-0.7
KNT				eSb	Sb	05 49 12.3	+0.3
IVA	Berane	1.42	305	ePg	Pg	05 48 53.3	-2.6
IVA				eSg	Sg	05 49 13.1	-1.7
ULC	Ulcinj	1.66	267	⇓iPg	Pg	05 48 57.8	-3.1
ULC				eSg	Sg	05 49 21.9	-1.2
TTG	Podgorica	1.69	283	⇑iPg	Pg	05 48 57.3	-3.9
TTG				eSg	Sg	05 49 22.4	-1.3
BOLS	Boljevac	1.79	11	⇓iPn	Pn	05 49 00.9	+1.4
BOLS				Sn	Sn	05 49 24.5	+1.6
BUM	Brajici-Budva	1.93	278	⇑iPn	Pn	05 49 02.4	+1.0
BUM				eSn	Sn	05 49 28.3	+1.9
NKY	Niksic	1.98	293	ePn	Pn	05 49 02.2	+0.1
NKY				eSn	Sn	05 49 28.5	+0.9
PLE	Pljevlja	1.98	310	ePn	Pn	05 49 03.9	+1.6
PLE				eSn	Sn	05 49 29.0	+1.2
UPM	Unac-Piva	2.21	302	⇓iPn	Pn	05 49 05.1	-0.4
UPM				eSn	Sn	05 49 34.2	+0.7
HCY	Herceg Novi	2.24	281	ePn	Pn	05 49 07.4	+1.5
HCY				eSn	Sn	05 49 36.0	+1.6
BRY	Bratogost	2.32	292	ePn	Pn	05 49 07.9	+0.8
BRY				eSn	Sn	05 49 37.4	+1.0
OUR	Ouranopolis	2.56	132	ePn	Pn	05 49 09.4	-1.1
PAIG	Paliouri	2.71	141	ePn	Pn	05 49 11.9	-0.8

LDG 06 06:04:08.8±0.2,43.14N×0.45W,h2^{km},Md1.8/3,Error ellipse: s-maj=4.6km s-min=2.3km az=178.0
MDD 06 06:04:09.6±0.4,43.05N×0.35W,mbLg1.5/2,Error ellipse: s-maj=4.0km s-min=2.5km az=11.0,PRXIMO
STR 06 06:04:09.0±0.1,43.07N×0.34W,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 06 06:04:08.3±0.8,43.12N±0.05×0.39W±0.03,n14,σ1^{s}01/20, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.05	182	Pg	Pg	06 04 10.5	+1.1
REYF				Lg		06 04 11.5	
ETSF	Etsaut	0.26	209	ePg	Pg	06 04 13.8	+0.4
ETSF				eSg	Sg	06 04 16.7	-0.1
	6.9nm,0.2s						
FDAF	Les Forges d'A	0.33	203	Pg	Pg	06 04 15.1	+0.2
FDAF				Sg	Sg	06 04 19.6	+0.3
FDAF	Les Forges d'A	0.33	203	Pg	Pg	06 04 15.1	+0.2
FDAF				Lg		06 04 19.7	
LABF	Labassere	0.35	102	Pg	Pg	06 04 14.9	-0.3
LABF				Sg	Sg	06 04 19.7	-0.2
LABF	Labassere	0.35	102	Pg	Pg	06 04 14.8	-0.5
LABF				Lg		06 04 19.7	
VIEF	Viey	0.39	128	Pg	Pg	06 04 15.6	-0.4
VIEF				Sg	Sg	06 04 20.3	-0.9
VIEF	Viey	0.39	128	Pg	Pg	06 04 15.7	-0.3
VIEF				Lg		06 04 20.1	
LARF	Larrau	0.45	259	Pg	Pg	06 04 18.1	+0.9
LARF				Sg	Sg	06 04 25.0	+1.9
LARF	Larrau	0.45	259	Pg	Pg	06 04 18.1	+1.0
LARF				Lg		06 04 25.6	
EPF	Esparros	0.54	99	ePg	Pg	06 04 20.1	+1.0
EPF				eSg	Sg	06 04 27.2	+0.8
	5.6nm,0.4s						
SJPF	Ste Jean	0.61	269	ePg	Pg	06 04 19.4	-1.1
SJPF				eSg	Sg	06 04 26.8	-1.9
	1.5nm,0.3s						
EALK	Alkurruntz	0.82	277	Lg		06 04 37.5	
	2.2nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.40	182	Pg	Pg	06 04 34.2	-2.1
	5.3nm,0.4s,SNR=7.9						
ESAC				Lg		06 04 51.7	
	13nm,0.4s,SNR=7.9						

IDC 06 06:35:09.7±1.2,19.85N×145.71E,mb3.7/5,mb1 3.9/5, mb1mx3.7/20,MS3.0/3,Ms1 3.0/3,ms1mx2.6/29,Error ellipse: s-maj=41.9km s-min=28.7km az=99.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	14.24	339	LR	LR	06 43 19.1	
	comp=Z,38nm,21.7s,baz=249,slow=34						
ASAJ	Asahikawa	24.34	355	LR	LR	06 48 48.4	
	comp=Z,20nm,20.4s,baz=166,slow=34						
CTA	Charters Tower	39.69	179	LR	LR	06 55 38.3	
	comp=Z,65nm,21.8s,baz=314,slow=31						
WRA	Warramunga Arr	41.08	196	P	P	06 42 55.0	-2.0
	0.7nm,0.7s,baz=20,slow=8.7,SNR=4.5						
MKAR	Makanchi Array	57.68	313	P	P	06 45 02.7	-1.6
	0.5nm,0.7s,baz=90,slow=10,SNR=3.6						
ILAR	Eielson Array	62.62	26	P	P	06 45 34.6	-3.3
	0.8nm,1.0s,baz=254,slow=6.1,SNR=5.5						
BVAR	Borovoye Array	65.60	320	P	P	06 45 54.8	-2.6
	1.3nm,0.7s,baz=98,slow=10,SNR=6.0						
PDAR	Pinedale Array	87.02	45	P	P	06 47 59.0	+0.6
	0.3nm,0.8s,baz=301,slow=5.3,SNR=3.8						

IDC 06 06:35:47.3±2.5,23.38N×94.05E,mb3.8/2,mb1 3.7/3, mb1mx3.4/18,ML4.0/1,MS3.8/2,Ms1 3.8/2,ms1mx2.7/27, Error ellipse: s-maj=64.4km s-min=22.6km az=57.0
ISC 06 06:35:52.2±1.1,23.1N±0.1×93.9E±0.1,h80^{km}±16^{km},n13, σ0^{s}93/12,mb3.5/2,1C,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	1.70	0	⇑eP	P	06 36 21.0	+0.4
SHL	Shillong	3.10	323	ePN	P	06 36 42.0	+1.9
SHL				eSN	S	06 37 14.0	-2.2
CMAR	Chiang Mai Arr	6.56	134	Pn	P	06 37 27.4	-0.7
	0.8nm,0.3s,baz=314,slow=13,SNR=6.5						
CMAR				Lg		06 39 19.8	
	0.2nm,0.3s,baz=312,slow=29,SNR=4.4						
GUN	Gumba	8.72	305	eP	P	06 37 58.5	+0.9
	20nm,0.3s						
PKI	Pulchoki	8.91	302	eP	P	06 38 00.5	+0.3
	14nm,0.4s						
KKN	Kakani	9.12	303	eP	P	06 38 02.7	-0.3
DMN	Daman	9.17	301	eP	P	06 38 03.1	-0.5
	4.9nm,0.2s						
GKN	Gorkha	9.72	302	eP	P	06 38 11.7	+0.5
	38nm,0.3s						
KOLN	Koldanda	10.44	299	eP	P	06 38 20.2	-0.7
	16nm,0.2s						
MKAR	Makanchi Array	25.46	341	P	P	06 41 14.7	+0.5
	2.5nm,0.6s,mb3.9,baz=146,slow=9.5,SNR=9.2						
SONM	Songino Array	26.64	19	P	P	06 41 24.8	-0.3
	0.5nm,0.8s,mb3.1,baz=194,slow=12,SNR=3.7						
TGY	Tagaytay City	27.07	104	LR	LR	06 53 30.2	
	comp=Z,301nm,21.4s,baz=159,slow=39						
ASAR	Alice Springs	60.56	137	LR	LR	07 17 55.5	
	comp=Z,63nm,20.6s,baz=28,slow=42						

IDC 06 06:39:11.1±1.1,8.66S×110.52E,h72^{km}±7^{km},mb3.9/8, mb1 4.0/9,mb1mx3.8/16,MS3.1/2,Ms1 3.2/2,ms1mx2.8/19, Error ellipse: s-maj=60.3km s-min=12.6km az=48.0
ISC 06 06:39:09.5±1.2,8.6S±0.3×110.6E±0.3,h73^{km}, h73^{km}±1.2^{km}:pP-P,n12,σ0^{s}67/13,mb4.0/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.39	125	eP	P	06 43 07.3	-1.6
	5.0nm,0.9s						
FITZ				eS	S	06 46 04.6	-13
FITZ	Fitzroy Crossi	17.39	125	P	P	06 43 07.6	-1.3
	0.5nm,0.3s,baz=336,slow=5.7,SNR=18						
FITZ				S	S	06 46 06.2	-12
	0.6nm,0.3s,baz=181,slow=23,SNR=5.8						
FITZ				LR	LR	06 48 40.9	
	comp=Z,38nm,18.0s,baz=316,slow=33						
WRA	Warramunga Arr	25.56	119	P	P	06 44 33.9	+0.4
	1.6nm,0.5s,mb3.7,baz=288,slow=12,SNR=17						
WRA				pP	pP	06 44 51.4	+1.0
	1.4nm,0.6s,baz=292,slow=11,SNR=4.9						
WRA				PcP	PcP	06 48 03.5	-0.1
	0.4nm,0.5s,baz=307,slow=2.1,SNR=4.6						
WB2	Warramunga Arr	25.57	119	eP	P	06 44 34.4	+0.8
ASAR	Alice Springs	26.86	127	P	P	06 44 45.6	+0.2
	1.1nm,0.5s,mb3.6,baz=301,slow=9.1,SNR=10						
ASAR				pP	pP	06 45 02.6	+0.2
	1.3nm,0.6s,baz=303,slow=9.2,SNR=5.6						
ASAR				PcP	PcP	06 48 06.5	-0.1
	0.8nm,0.6s,baz=302,slow=1.6,SNR=5.7						
CMAR	Chiang Mai Arr	29.22	337	P	P	06 45 06.6	-0.2
	0.6nm,0.3s,mb3.6,baz=171,slow=9.1,SNR=4.4						
CMAR				LR	LR	06 59 01.2	
	comp=Z,42nm,18.4s,baz=160,slow=41						
STKA	Stephens Creek	36.94	133	P	P	06 46 13.5	+0.2
	2.6nm,0.7s,mb4.3,baz=288,slow=13,SNR=5.1						
SONM	Songino Array	56.27	357	P	P	06 48 45.5	+0.7
	1.0nm,0.5s,mb4.1,baz=177,slow=8.6,SNR=8.3						
SONM				PcP	PcP	06 49 42.3	+1.0
	0.5nm,0.6s,baz=180,slow=2.9,SNR=3.1						
MKAR	Makanchi Array	60.62	338	P	P	06 49 14.4	-0.7
	3.3nm,0.5s,mb4.6,baz=146,slow=7.6,SNR=28						
MKAR				pP	pP	06 49 32.8	-1.4
	0.9nm,0.4s,baz=152,slow=8.0,SNR=3.1						
BVAR	Borovoye Array	70.24	335	P	P	06 50 16.1	-0.6
	4.1nm,0.9s,mb4.3,baz=141,slow=9.5,SNR=7.9						
BRTR	Keskin Array B	85.56	311	P	P	06 51 41.6	+0.5
	1.8nm,0.7s,mb4.1,baz=131,slow=6.0,SNR=9.2						
BRTR				pP	pP	06 52 02.0	+0.7
	1.1nm,0.6s,baz=131,slow=7.5,SNR=3.4						
TXAR	Lajitas Array	141.76	53	PKhKP		06 58 30.6	
	0.3nm,0.6s,baz=294,slow=1.4,SNR=4.5						
TXAR				PKP	PKPdf	06 58 34.7	+1.3
	0.2nm,0.6s,baz=333,slow=4.0,SNR=3.7						

KISR 06 06:41:41.7±1.1,31.74N×45.43E,ML3.5
MOS 06 06:41:47.9±0.5,31.42N×45.84E,h33^{km},mb4.0/7,Error ellipse: s-maj=44.5km s-min=23.8km az=103.8
IDC 06 06:41:47.0±2.1,31.79N×46.18E,mb3.8/8,mb1 3.9/10, mb1mx3.8/20,ML3.7/2,MS2.9/1,Ms1 2.9/1,ms1mx2.1/22, Error ellipse: s-maj=46.5km s-min=20.1km az=9.0
ISC 06 06:41:47.1±0.5,31.85N±0.07×45.92E±0.08,h10^{km},n21, σ1^{s}17/23,mb3.8/8,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIB	Mutribah	2.37	149	eP	Pn	06 42 26.4	-0.3
MIB				eS	Sn	06 42 59.9	+3.8
MIB				AML	AML	06 43 03.6	
	comp=Z,262nm,0.4s						
UMR	Umm Al-Rimmam	2.76	145	eP	Pn	06 42 32.7	+0.5
UMR				AML	AML	06 43 09.0	
	comp=Z,144nm,0.3s						
UMR				eS	Sn	06 43 10.4	+4.5
RDF	Al-Radifah	3.23	154	eP	Pn	06 42 38.4	-0.5
RDF				AML	AML	06 43 25.5	
	comp=Z,96nm,0.3s						
ASF	Jabal al Asfar	7.67	275	Pn	Pn	06 43 43.1	+1.4
	comp=Z,1.1nm,0.3s,baz=186,slow=2.6,SNR=5.4						
ASF				Sn	Sn	06 45 07.5	-2.0
	comp=Z,1.6nm,0.3s,baz=348,slow=7.2,SNR=5.6						
ASF				Lg		06 46 01.0	
	comp=Z,3.5nm,0.3s,baz=174,slow=18,SNR=3.3						
GNI	Garni	8.34	354	LR	LR	06 47 41.7	
	comp=Z,81nm,20.5s,baz=335,slow=42						
BRTR	Keskin Array B	12.69	312	Pn	P	06 44 54.9	+4.5
	comp=Z,0.4nm,0.3s,baz=127,slow=12,SNR=8.0						
AKASG	Malin Array Be	22.54	332	P	P	06 46 49.6	+1.2
	comp=Z,1.2nm,0.6s,mb3.5,baz=144,slow=11,SNR=7.3						
AKASG	Malin Array Be	22.54	332	P	P	06 46 49.6	+1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	27.58	33	P	P	06 47 35.6	-0.5
	comp=Z,2.2nm,0.9s,mb3.8,baz=236,slow=5.3,SNR=4.8						
MKAR	Makanchi Array	31.53	51	P	P	06 48 10.4	-1.0
	comp=Z,3.9nm,1.1s,mb4.2,baz=247,slow=9.2,SNR=8.2						
MKAR	Makanchi Array	31.53	51	P	P	06 48 10.4	-1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	FINESS Array B	32.31	342	P	P	06 48 19.0	+0.8
	comp=Z,0.8nm,0.6s,mb3.7,baz=153,slow=8.5,SNR=4.7						
FINES	FINESS Array B	32.31	342	P	P	06 48 19.0	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	36.95	333	P	P	06 48 58.4	+0.6
	comp=Z,0.7nm,0.8s,mb3.5,baz=116,slow=15,SNR=2.2						
NOA	NORSAR Array B	36.95	333	P	P	06 48 58.4	+0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	39.46	349	P	P	06 49 18.9	0.0
	comp=Z,1.7nm,1.0s,mb3.7,baz=176,slow=12,SNR=3.5						
ARCES	ARCESS Array B	39.46	349	P	P	06 49 18.9	0.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	Chiang Mai Arr	49.37	92	P	P	06 50 36.5	-2.5
	comp=Z,0.9nm,0.4s,mb4.2,baz=307,slow=9.5,SNR=4.1						
CMAR	Chiang Mai Arr	49.37	92	P	P	06 50 36.5	-2.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	Eielson Array	83.18	5	P	P	06 54 14.5	+0.3
	comp=Z,0.6nm,0.8s,mb3.7,baz=336,slow=4.1,SNR=7.7						
ILAR	Eielson Array	83.18	5	P	P	06 54 14.5	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 06 06:46:52.9±1.1,19.89N×146.47E,mb3.7/9,mb1 3.8/9, mb1mx3.8/21,MS3.4/4,Ms1 3.4/4,ms1mx2.9/23,Error ellipse: s-maj=44.7km s-min=18.2km az=93.0
NEIC 06 06:47:04.1±0.8,19.80N×146.50E,h90^{km},Error ellipse: s-maj=31.3km s-min=12.3km az=90.0
ISC 06 06:47:03.3±1.0,19.8N±0.1×146.5E±0.3,h100^{km},n14, σ0^{s}59/11,mb3.6/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	14.54	337	LR	LR	06 55 13.5	
	comp=Z,102nm,20.1s,baz=124,slow=35						
WRA	Warramunga Arr	41.27	197	P	P	06 54 41.2	+0.8
	0.7nm,0.6s,mb3.6,baz=21,slow=8.8,SNR=12						
SONM	Songino Array	42.75	320	P	P	06 54 52.5	+0.2
	0.3nm,0.4s,mb3.4,baz=132,slow=7.0,SNR=5.7						
FITZ	Fitzroy Crossi	42.89	210	P	P	06 54 53.3	-0.5
	0.8nm,0.5s,mb3.7,slow=15,SNR=5.0						
ASAR	Alice Springs	44.93	196	P	P	06 55 09.9	-0.3
	0.2nm,0.7s,mb2.9,slow=5.4,SNR=2.9						
ASAR	Alice Springs	44.93	196	P	P	06 55 09.9	-0.3
MKAR	Makanchi Array	58.24	313	P	P	06 56 48.6	-0.9
	0.9nm,0.8s,mb3.8,baz=97,slow=7.6,SNR=5.5						
ILAR	Eielson Array	62.31	26	P	P	06 57 16.8	-0.3
	0.7nm,1.1s,mb3.6,baz=270,slow=4.5,SNR=4.0						
ILAR				LR	LR	07 20 56.1	
	comp=Z,24nm,19.4s,baz=168,slow=33						
BVAR	Borovoye Array	66.10	320	P	P	06 57 41.7	-0.1
	1.8nm,0.6s,mb4.1,baz=101,slow=7.6,SNR=11						
BRVK	Borovoye	66.16	320	P	P	06 57 43.1	+0.9
YKA	Yellowknife Ar	76.65	28	LR	LR	07 30 09.6	
	comp=Z,30nm,20.8s,baz=285,slow=34						
FINES	FINESS Array B	86.18	335	P	P	06 59 34.9	+0.7
	0.2nm,0.3s,mb3.5,baz=17,slow=14,SNR=4.8						
AKASG	Malin Array Be	90.81	326	P	P	06 59 56.0	-0.5
	0.3nm,0.3s,mb3.9,baz=241,slow=4.9,SNR=4.6						
NOA	NORSAR Array B	91.78	340	LR	LR	07 41 40.0	
	comp=Z,18nm,19.7s,baz=10.0,slow=36						

JMA 06 06:48:16.5±0.2,43.65N×146.77E,h55^{km}±3^{km},M3.5
ISC 06 06:48:16.5±1.9,43.7N±0.1×146.8E±0.1,h55^{km}±23^{km},n9, σ0^{s}28/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.79	249	P	P	06 48 31.9	+0.2
NEM2				S	S	06 48 43.0	+0.1
JRA	Rausu	1.22	284	P	P	06 48 37.6	0.0
JRA				eS	S	06 48 53.2	-0.1
JNK	Nakash	1.48	268	P	P	06 48 41.0	-0.4
JNK				eS	S	06 48 59.4	-0.4
JAK	Akkeshi	1.64	247	P	P	06 48 43.4	-0.1
JAK				eS	S	06 49 03.5	0.0
JTKR	Abashiri--Toko	2.09	280	P	P	06 48 49.8	0.0
JAR	Ashorobuto	2.20	262	P	P	06 48 51.8	+0.4
JAR				eS	S	06 49 17.9	+0.4
JOB	Onbets	2.26	252	P	P	06 48 52.5	+0.2
JOB				eS	S	06 49 19.3	+0.4
JMP	Maruseppu	2.48	279	P	P	06 48 55.6	+0.1
JCH	Churui	2.69	249	P	P	06 48 58.0	-0.4
JCH				eS	S	06 49 29.4	-0.5

CASC 06 07:07:30.0±2.0,12.43N×87.93W,h42^{km}±121^{km},MD4.1, ML4.2
IDC 06 07:07:31.5±4.0,12.77N×87.49W,h65^{km}±61^{km},mb3.4/3, mb1 3.7/4,mb1mx3.3/19,ML3.0/1,Error ellipse: s-maj=65.5km s-min=27.6km az=36.0
ISC 06 07:07:29.3±0.5,12.43N±0.07×87.92W±0.05,h66^{km}±10^{km}, n42,σ0^{s}70/58,mb3.6/3,19C-12D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.85	5	⇑eP	P	07 07 46.2	+0.3
CNCH				eS	S	07 07 58.3	+0.1
PYN	Poneloya	0.87	93	⇓eP	P	07 07 46.2	0.0
CRIN	San Cristobal	0.89	72	⇑eP	P	07 07 47.3	+0.9
LEON	Leon	1.00	90	⇓eP	P	07 07 47.5	-0.3
TEL3	Telica 3	1.06	82	⇓eP	P	07 07 48.6	0.0
VSM	San Miguel	1.06	341	⇑eP	P	07 07 49.3	+0.7
VSM				eS	S	07 08 03.6	+0.7
BLLM	Bellamira	1.06	343	⇑eP	P	07 07 49.1	+0.5
BLLM				eS	S	07 08 02.2	-0.7

TELN	**Telica**	**1.07**	**80**	⇓eP	**P**	**07 07 49.0**	**+0.2**
TELN				eS	**S**	**07 08 03.2**	**0.0**
MIRN	**Miramar**	**1.18**	**89**	⇓eP	**P**	**07 07 50.2**	**0.0**
CNGN	**Cerro Negro**	**1.19**	**86**	⇑eP	**P**	**07 07 50.4**	**0.0**
COPN	**Copaltepe**	**1.32**	**101**	⇑eP	**P**	**07 07 52.0**	**-0.2**
COPN				eS	**S**	**07 08 07.3**	**-1.9**
MOMJ	**Momotombo**	**1.34**	**91**	⇑eP	**P**	**07 07 52.5**	**-0.1**
MOMJ				eS	**S**	**07 08 09.2**	**-0.6**
CAHU	**Cacacuatique**	**1.37**	**348**	⇑eP	**P**	**07 07 53.6**	**+0.7**
SNVI	**San Vicente**	**1.48**	**323**	⇑eP	**P**	**07 07 54.5**	**0.0**
SNVI				eS	**S**	**07 08 13.2**	**+0.2**
XAVN	**Gruta Xavier**	**1.58**	**100**	⇑eP	**P**	**07 07 56.0**	**+0.2**
LCBS	**La Ceiba**	**1.60**	**320**	⇑eP	**P**	**07 07 55.9**	**-0.2**
LCBS				eS	**S**	**07 08 14.6**	**-1.2**
LFRS	**El Faro**	**1.63**	**317**	⇑eP	**P**	**07 07 56.2**	**-0.3**
LFRS				eS	**S**	**07 08 15.6**	**-0.9**
MGAN	**Managua**	**1.65**	**99**	⇑eP	**P**	**07 07 56.8**	**0.0**
MGAN				eS	**S**	**07 08 16.4**	**-0.7**
MGAN				i		07 08 18.3	
	comp=E,4μm,0.3s						
TICN	**Ticuantepe**	**1.69**	**103**	⇑eP	**P**	**07 07 57.7**	**+0.5**
TICN				eS	**S**	**07 08 18.3**	**+0.4**
LBRS	**Las Brisas**	**1.71**	**320**	⇓eP	**P**	**07 07 57.8**	**+0.3**
WILN	**Americas 2**	**1.71**	**99**	⇑eP	**P**	**07 07 57.7**	**+0.2**
WILN				eS	**S**	**07 08 18.5**	**+0.1**
MASN	**Masaya**	**1.78**	**104**	⇓eP	**P**	**07 07 58.9**	**+0.4**
COFN	**Cofrada**	**1.79**	**99**	⇓eP	**P**	**07 07 58.8**	**+0.3**
SNET	**Serv Nac Est T**	**1.79**	**315**	eP	**P**	**07 07 58.9**	**+0.2**
SNET				eS	**S**	**07 08 19.3**	**-1.1**
SNET				i		07 08 22.4	
	comp=Z,2μm,0.2s						
PYTN	**Playitas**	**1.82**	**86**	⇑eP	**P**	**07 07 58.8**	**-0.2**
BOQS	**Boqueron**	**1.86**	**315**	⇓eP	**P**	**07 07 59.8**	**+0.2**
BOQS				eS	**S**	**07 08 21.4**	**-0.6**
APON	**Apoyo**	**1.88**	**105**	eP	**P**	**07 08 00.6**	**+0.8**
SBLS	**San Blas**	**2.18**	**310**	⇓eP	**P**	**07 08 04.9**	**+0.9**
SNJE	**San Jose**	**2.18**	**311**	eP	**P**	**07 08 04.3**	**+0.2**
RTR	**El Retiro**	**2.23**	**311**	eP	**P**	**07 08 05.4**	**+0.6**
CONN	**Concepcion**	**2.40**	**111**	eP	**P**	**07 08 08.0**	**+0.8**
CONN				eS	**S**	**07 08 34.8**	**-0.6**
RBDL	**Robledal**	**2.41**	**314**	⇓eP	**P**	**07 08 08.0**	**+0.7**
MTO2	**Montecristo 2**	**2.42**	**325**	⇑eP	**P**	**07 08 07.5**	**+0.1**
IXG	**Ixpaco**	**3.02**	**305**	⇑eP	**P**	**07 08 16.1**	**+0.1**
IXG				eS	**S**	**07 08 49.5**	**-1.6**
MRL	**Marmol**	**3.14**	**327**	⇑eP	**P**	**07 08 17.9**	**+0.3**
NBG	**Las Nubes**	**3.19**	**313**	⇓eP	**P**	**07 08 20.1**	**+1.7**
JTS	**JuntasAbangare**	**3.60**	**126**	P	**P**	**07 08 24.3**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=323,slow=21,SNR=20						
JTS				S	**S**	**07 09 04.2**	**-1.3**
	comp=Z,4.2nm,0.3s,baz=294,slow=20,SNR=3.1						
JAT	**Jato**	**4.08**	**298**	eS	**S**	**07 09 16.4**	**-1.3**
TXAR	**Lajitas Array**	**22.31**	**321**	P	**P**	**07 12 23.3**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.4,baz=143,slow=9.0,SNR=17						
PDAR	**Pinedale Array**	**35.58**	**332**	P	**P**	**07 14 22.5**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=124,slow=9.1,SNR=4.7						
SCHQ	**Schefferville**	**45.43**	**17**	P	**P**	**07 15 40.2**	**-3.1**
	comp=Z,2.2nm,0.8s,mb3.9,baz=214,slow=6.9,SNR=5.5						
WRA	**Warramunga Arr**	**138.82**	**254**	PKP	PKPdf	07 26 50.9	+1.9
	comp=Z,0.6nm,1.0s,baz=87,slow=2.6,SNR=6.5						

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*IDC **06** 07:08:30.3±4.0,23.07N×93.61E,h302^{km}±33^{km},mb3.5/4, mb1 3.5/5,mb1mx3.1/19,Error ellipse: s-maj=119.0km s-min=15.8km az=60.0*

ISC 06 07:08:12.5±1.7**,23.3N**±0.2×**94.6E**±0.2**,h119**^{km}±20^{km}**,n12,** σ**0**^{s}**36**/13**,mb4.1**/4**,1C,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.56**	**338**	eP	**P**	**07 08 41.0**	**-0.1**
SHL	**Shillong**	**3.31**	**313**	⇑ePN	**P**	**07 09 04.0**	**+0.1**
SHL				eSN	**S**	**07 09 38.0**	**-5.0**
CMAR	**Chiang Mai Arr**	**6.34**	**139**	P	**P**	**07 10 09.2**	**+24**
	0.3nm,0.3s,baz=309,slow=18,SNR=5.9						
PKI	**Pulchoki**	**9.30**	**299**	eP	**P**	**07 10 25.3**	**+0.6**
	23nm,0.3s						
KKN	**Kakani**	**9.49**	**300**	eP	**P**	**07 10 27.8**	**+0.5**
	28nm,0.2s						
DMN	**Daman**	**9.56**	**298**	eP	**P**	**07 10 28.1**	**-0.1**
GKN	**Gorkha**	**10.10**	**300**	eP	**P**	**07 10 34.9**	**-0.5**
	47nm,0.3s						
KOLN	**Koldanda**	**10.85**	**296**	eP	**P**	**07 10 44.8**	**-0.6**
	14nm,0.2s						
MKAR	**Makanchi Array**	**25.42**	**340**	P	**P**	**07 13 30.5**	**0.0**
	3.4nm,0.5s,mb4.0,baz=146,slow=12,SNR=28						
FITZ	**Fitzroy Crossi**	**51.15**	**141**	P	**P**	**07 17 05.6**	**0.0**
	0.4nm,0.4s,mb3.8,baz=356,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**57.91**	**135**	P	**P**	**07 17 54.5**	**-0.2**
	1.5nm,0.5s,mb4.3,baz=321,slow=7.5,SNR=55						
ASAR	**Alice Springs**	**60.34**	**138**	P	**P**	**07 18 11.6**	**+0.2**
	1.3nm,0.5s,mb4.2,baz=322,slow=6.9,SNR=28						

IDC 06 07:52:58.5±2.3**,24.95S**×**177.38W,mb4.2**/4**,mb1 4.3**/4**, mb1mx3.9**/14**,Error ellipse: s-maj=62.9km s-min=45.3km az=26.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.87**	**271**	P	P	07 59 44.5	-0.5
	2.1nm,0.5s,baz=100,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**44.23**	**261**	P	P	08 01 10.1	-1.3
	0.9nm,0.5s,baz=92,slow=6.1,SNR=14						
WB2	**Warramunga Arr**	**44.71**	**266**	eP	P	08 01 12.8	-2.5
WRA	**Warramunga Arr**	**44.72**	**266**	P	P	08 01 12.0	-3.5
	1.6nm,0.5s,baz=102,slow=7.7,SNR=64						
MAW	**Mawson**	**77.59**	**200**	P	P	08 04 55.6	-2.0
	1.5nm,0.5s,baz=84,slow=9.2,SNR=5.6						
AKASG	**Malin Array Be**	**147.13**	**328**	PKPbc	PKPdf	08 12 43.3	+0.5
	0.6nm,0.4s,baz=38,slow=4.0,SNR=4.9						

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*STR **06** 07:54:26.8±0.3,45.41N×3.59E,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 07:54:26.7±0.1,45.41N×3.61E,h2^{km},Md2.2/3,Ml2.4/14, Error ellipse: s-maj=1.3km s-min=1.0km az=94.0*

ISC 06 07:54:24.8±0.4**,45.41N**±0.02×**3.62E**±0.03**,h10**^{km}±6^{km}**, n17,**σ**1**^{s}**20**/37**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBL	**Lubilhac**	**0.32**	**236**	Pg	**Pg**	**07 54 33.0**	**+1.5**
LBL				Sg	**Sg**	**07 54 37.0**	**+1.1**
PYM	**Petit Puy Mans**	**0.55**	**308**	Pg	**Pg**	**07 54 37.5**	**+1.6**
PYM				Sg	**Sg**	**07 54 44.5**	**+1.3**
PLDF	**La Plantade**	**0.56**	**0**	Pg	**Pg**	**07 54 37.5**	**+1.4**
PLDF				Sg	**Sg**	**07 54 45.0**	**+1.4**
AGO	**Saint Agoulin**	**0.72**	**332**	Pg	**Pg**	**07 54 40.8**	**+1.4**
AGO				Sg	**Sg**	**07 54 50.4**	**+1.3**
VIVF	**Saint-Julien-l**	**0.93**	**126**	ePg	**Pg**	**07 54 44.6**	**+1.1**
VIVF				eSg	**Sg**	**07 54 56.5**	**+0.5**
	15nm,0.2s						
CAF	**Calviac**	**1.20**	**247**	ePg	**Pg**	**07 54 49.1**	**+0.2**
CAF				eSg	**Sg**	**07 55 05.0**	**0.0**
	4.0nm,0.2s						
SMF	**Signal de Mont**	**1.24**	**7**	ePn	**Pn**	**07 54 49.3**	**+1.1**
SMF				ePg	**Pg**	**07 54 50.3**	**+0.6**
SMF				eSg	**Sg**	**07 55 05.8**	**-0.5**
	4.8nm,0.2s						
BGF	**Bois d'Agland**	**1.27**	**335**	ePg	**Pg**	**07 54 50.6**	**+0.5**
BGF				eSg	**Sg**	**07 55 05.3**	**-1.7**
	7.1nm,0.2s						
TCF	**Toulx Ste Croi**	**1.32**	**312**	ePn	**Pn**	**07 54 50.4**	**+1.1**
TCF				ePg	**Pg**	**07 54 51.3**	**+0.1**
TCF				eSn	**Sn**	**07 55 07.4**	**+0.4**
	2.9nm,0.2s						
LASF	**Ste Croix**	**1.35**	**173**	ePg	**Pg**	**07 54 51.8**	**0.0**
LASF				eSg	**Sg**	**07 55 09.3**	**-0.5**
	4.9nm,0.2s						
AVF	**Avril sur Loir**	**1.39**	**352**	ePg	**Pg**	**07 54 52.6**	**0.0**
AVF				eSg	**Sg**	**07 55 09.7**	**-1.5**
	4.2nm,0.2s						
RJF	**Les Rejaudoux**	**1.49**	**267**	ePg	**Pg**	**07 54 54.1**	**-0.5**
RJF				eSg	**Sg**	**07 55 13.2**	**-1.2**
	7.8nm,0.3s						
SSF	**Saint Saulge**	**1.65**	**357**	ePg	**Pg**	**07 54 57.4**	**-0.4**
SSF				eSg	**Sg**	**07 55 17.8**	**-2.0**
	3.3nm,0.3s						
LOR	**Lormes**	**1.86**	**5**	ePn	**Pn**	**07 54 56.7**	**-0.4**
LOR				ePg	**Pg**	**07 55 01.8**	**-0.2**
LOR				eSg	**Sg**	**07 55 23.4**	**-3.5**
	5.4nm,0.2s						
CABF	**La Chapelle**	**2.10**	**54**	ePg	**Pg**	**07 55 06.9**	**+0.2**
CABF				eSg	**Sg**	**07 55 33.2**	**-1.4**
	2.2nm,0.3s						
MTLF	**Montolieu**	**2.30**	**206**	ePg	**Pg**	**07 55 08.8**	**-2.0**
MTLF				eSg	**Sg**	**07 55 38.9**	**-2.7**
	4.5nm,0.3s						
MFF	**Saint Martin d**	**2.88**	**296**	ePg	**Pg**	**07 55 20.2**	**-2.2**
MFF				eSg	**Sg**	**07 55 57.3**	**-3.5**
	3.5nm,0.4s						

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*ISK **06** 08:04:56.9,36.90N×27.65E,h15^{km},MD3.2*
*ATH **06** 08:05:00.8,36.74N×27.57E,h12^{km},MD3.1/6*
*NEIC **06** 08:05:01.4,36.68N×27.64E,h30^{km},MD3.1(ATH),After ATH.*

ISC 06 08:04:58.2±0.6**,36.89N**±0.03×**27.72E**±0.04**,h10**^{km}**,n17,** σ**1**^{s}**28**/25**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**308**	i P	**Pg**	**08 05 03.9**	**-0.2**
BDRM				i S	**Sg**	**08 05 08.2**	**+0.1**
MLSB	**Milas**	**0.41**	**6**	i PG	**Pg**	**08 05 05.8**	**-0.7**
MLSB				SG	**Sg**	**08 05 11.8**	**-0.3**
YER	**Yerkesik**	**0.51**	**61**	i PG	**Pg**	**08 05 08.4**	**-0.2**
NISR	**Nisiros**	**0.55**	**240**	ePb	**Pb**	**08 05 09.6**	**+0.1**
NISR				eSb	**Sb**	**08 05 19.1**	**+1.9**
ARG	**Arkhangelos**	**0.75**	**154**	ePB	**Pb**	**08 05 14.0**	**+1.1**
AYDN	**Tasoluk**	**0.78**	**9**	⇑iP	**Pb**	**08 05 13.0**	**-0.4**
AYDN				i S	**Sb**	**08 05 23.2**	**-0.6**
SMG	**Samos**	**1.08**	**319**	ePB	**Pb**	**08 05 20.5**	**+2.0**
DNZL	**Cakiroluk**	**1.32**	**53**	i P	**Pb**	**08 05 23.9**	**+1.2**
DNZL				i S	**Sb**	**08 05 42.3**	**+2.7**
DENT	**Denizli**	**1.35**	**50**	PN	**Pn**	**08 05 23.0**	**-0.3**
KARP	**Karpathos**	**1.42**	**199**	ePG	**Pg**	**08 05 24.0**	**-2.5**
KDAG	**Bornova**	**1.55**	**347**	i P	**Pn**	**08 05 27.6**	**+1.6**
KDAG				i S	**Sb**	**08 05 50.0**	**+3.8**
MANT	**Manisa**	**1.73**	**22**	i P	**Pn**	**08 05 28.2**	**-0.4**
MANT				i S	**Sn**	**08 05 54.1**	**+3.2**
ELL	**Elmali**	**1.76**	**94**	ePN	**Pn**	**08 05 27.9**	**-1.2**
APE	**Apeiranthos**	**1.76**	**276**	ePB	**Pb**	**08 05 28.1**	**-2.1**
AKS	**Akhisar**	**1.99**	**2**	PN	**Pn**	**08 05 30.7**	**-1.6**
PRK	**Paraskevi**	**2.62**	**335**	ePN	**Pn**	**08 05 47.5**	**+6.2**
ULDT	**Uludag**	**3.43**	**18**	i P	**Pg**	**08 06 05.7**	**-1.1**
ULDT				i S	**Sg**	**08 06 52.3**	**-0.2**

MAN 06 08:24:06,12.32N×**121.02E,h27**^{km}**,mb3.7,ML2.4,MS1.9, 2C,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.17**	**35**	eP	Pb	08 24 12.4	+0.8
BUSP	**Coron**	**0.86**	**249**	eP	Pb	08 24 22.5	+0.3
OTRP	**Odiongan**	**0.98**	**87**	eP	Pn	08 24 24.7	+0.6
OTRP				eS	Sb	08 24 37.5	+0.6
KALP	**Kalibo**	**1.44**	**116**	⇑eP	Sn	08 24 50.4	+1.6
CUYO	**Cuyo Island**	**1.46**	**180**	eP	Pn	08 24 29.6	-1.4
ENPP	**El Nido**	**1.91**	**235**	eP	Pn	08 24 37.3	-0.1
AAP	**Anini-y**	**2.09**	**154**	⇑eP	Pn	08 24 40.3	+0.2

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*NIED **06** 08:26:00,33.80N×141.70E,h17^{km},Mw4.4 Best double couple: M$_0$4.19×10^{15} NP1:ϕ_s145°,δ55°,λ-56°. NP2: ϕ_s275°,δ48°,λ-129°.*
*IDC **06** 08:26:13.8±0.5,33.89N×141.54E,mb4.5/16,mb1 4.6/19, mb1mx4.6/22,ML4.0/3,MS3.5/5,Ms1 3.6/5,ms1mx3.1/33, Error ellipse: s-maj=17.0km s-min=12.4km az=112.0*
*JMA **06** 08:26:16.3±0.4,33.82N×141.67E,h26^{km},M4.3*
*BJI **06** 08:26:19.0,33.84N×141.40E,h50^{km},mB4.6,mb4.6, Ms4.3,Msz4.3*
*MOS **06** 08:26:21.5±1.0,34.55N×141.30E,h33^{km},mb4.8/21,Error ellipse: s-maj=20.9km s-min=8.4km az=106.4*
*NEIC **06** 08:26:21.4±1.0,33.81N×141.41E,h53^{km}±8^{km},mb4.7/32, MW4.4(NIED),Error ellipse: s-maj=7.1km s-min=6.1km az=114.0*

ISC 06 08:26:18.7±0.6**,33.79N**±0.04×**141.48E**±0.04**,h42**^{km}±4^{km}**, h49**^{km}±2.2^{km}**:pP-P,n157,**σ**1**^{s}**08**/172**,mb4.6**/67**,MS4.0**/8**, 3C-5D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.96**	**334**	P	**P**	**08 26 34.7**	**-1.1**
BSO3	**Boso 3**	**1.29**	**322**	P	**P**	**08 26 40.9**	**+0.4**
BSO4	**Boso 4**	**1.52**	**322**	P	**P**	**08 26 44.5**	**+0.6**
JHJ2	**Mitsune**	**1.55**	**244**	P	**P**	**08 26 45.4**	**+1.1**
JHJ2				S	**S**	**08 27 08.1**	**+4.7**
JHJ	**Hachijo jima 2**	**1.57**	**245**	Pn	**P**	**08 26 45.2**	**+0.7**
	564nm,0.3s,baz=125,slow=0.8,SNR=201						
JHJ				Sn	**S**	**08 27 06.9**	**+3.0**
	494nm,0.3s,baz=239,slow=23,SNR=10						
JMY	**Miyake jima 2**	**1.66**	**280**	P	**P**	**08 26 46.5**	**+0.7**
KTR	**Katsuura**	**1.66**	**325**	P	**P**	**08 26 46.1**	**+0.2**
JIM2	**Oshima 3**	**1.93**	**299**	P	**P**	**08 26 49.3**	**-0.4**
JIZS	**Izushimoda**	**2.35**	**294**	P	**P**	**08 26 55.7**	**+0.1**
JIZS				S	**S**	**08 27 25.5**	**+2.1**
JOD2	**Odawara 2**	**2.46**	**307**	P	**P**	**08 26 56.4**	**-0.9**
JYN	**Shimob**	**2.96**	**306**	P	**P**	**08 27 04.3**	**-0.1**
JYN				S	**S**	**08 27 43.2**	**+4.2**
SHZ3	**Shizuoka 3**	**2.99**	**296**	P	**P**	**08 27 05.6**	**+0.8**
JRY	**Ryogami san**	**3.07**	**317**	P	**P**	**08 27 05.0**	**-0.9**
JRY				S	**S**	**08 27 44.0**	**+2.2**
JAG	**Ashikaga**	**3.11**	**328**	P	**P**	**08 27 05.7**	**-0.8**
JAG				S	**S**	**08 27 42.8**	**0.0**
MAJO	**Matsushiro**	**3.84**	**317**	ePn	**P**	**08 27 16.7**	**-0.1**
MAT	**Matsushiro**	**3.84**	**317**	P	**P**	**08 27 15.0**	**-1.8**
MAT				S	**S**	**08 28 01.0**	**-0.2**
MAT	**Matsushiro**	**3.84**	**317**	eP	**P**	**08 27 17.0**	**+0.2**
MAT				eS	**S**	**08 28 01.0**	**-0.2**
CBIJ	**Chichi jima**	**6.70**	**175**	Pn	**P**	**08 27 54.2**	**-2.9**
	13nm,0.3s,baz=268,slow=23,SNR=21						
CBIJ				Sn	**S**	**08 29 06.5**	**-6.5**
	15nm,0.3s,baz=254,slow=20,SNR=2.6						
JNU	**Nakatsue**	**8.89**	**269**	Pn	**P**	**08 28 27.9**	**+0.5**
	1.1nm,0.3s,baz=90,slow=15,SNR=7.7						
JNU				LR	LR	08 30 52.6	
	comp=Z,57nm,18.9s,baz=82,slow=31						
ASAJ	**Asahikawa**	**10.35**	**4**	Pn	**P**	**08 28 41.2**	**-6.2**
	0.9nm,0.3s,baz=200,slow=10,SNR=9.6						
ASAJ				Sn	**S**	**08 30 31.8**	**-11**
	0.8nm,0.3s,baz=58,slow=19,SNR=4.2						
ASAJ	**Asahikawa**	**10.35**	**4**	P	**P**	**08 28 41.3**	**-6.1**
ASAJ						08 30 31.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KUR	**Kuril'sk**	**12.44**	**21**	eP	**P**	**08 29 22.0**	**+6.3**
KUR				eS	**S**	**08 31 20.0**	**-14**
KUR				pmax	pmax		
	comp=Z,100nm,0.9s						
KUR				smax			
	comp=E,90nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.18**	**4**	eP	**P**	**08 29 18.2**	**-7.4**
YSS	**Yuzh-Sakhalins**	**13.18**	**4**	ePn	**P**	**08 29 19.5**	**-6.1**
	comp=E,19nm,0.9s						
JOW	**Kunigami**	**13.35**	**242**	LR	LR	08 34 23.4	
	comp=E,441nm,19.6s,baz=107,slow=36						
MDJ	**Mudanjiang**	**14.19**	**323**	P	**P**	**08 29 36.1**	**-2.6**
MDJ				PP	PP	08 29 51.0	+1.0
MDJ				S	**S**	**08 32 13.5**	**-2.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,61nm,5.4s						
CN2	**Changchun**	**15.98**	**313**	eP	**P**	**08 30 02.4**	**+0.5**
CN2				eXP		08 30 17.2	
CN2				eS	**S**	**08 32 58.0**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2	**Nanjing**	**19.07**	**271**	eP	**P**	**08 30 41.5**	**+1.2**
NJ2				AP		08 30 55.0	
NJ2				PP	PP	08 30 59.9	+2.6
NJ2				S	**S**	**08 34 08.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,14.0s						
NJ2				LR	LR		
	comp=E,590nm,19.9s						
NJ2				LR	LR		
	comp=Z,2μm,12.9s						
PET	**Petropavlovsk**	**22.81**	**27**	eP	**P**	**08 31 23.4**	**+4.9**
WHN	**Wuhan**	**23.17**	**269**	eP	**P**	**08 31 22.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**24.73**	**295**	eP	**P**	**08 31 38.3**	**+0.9**
HHC				PP	PP	08 32 13.3	-1.4
HHC				S	**S**	**08 35 54.3**	**+0.5**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,80nm,5.1s						
MA2	**Magadan**	**26.52**	**11**	eP	**P**	**08 31 52.9**	**-1.0**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
MA2	**Magadan**	**26.52**	**11**	eP	**P**	**08 31 53.3**	**-0.5**
	comp=Z,21nm,0.9s,mb4.7						
ENH	**Enshi**	**27.29**	**271**	eP	**P**	**08 31 58.9**	**-2.4**
	comp=Z,16nm,0.7s,mb4.7						
SONM	**Songino Array**	**29.75**	**309**	P	**P**	**08 32 22.5**	**-0.6**
	comp=Z,5.9nm,0.6s,mb4.5,baz=112,slow=8.0,SNR=24						
BOD	**Bodaibo**	**30.34**	**331**	eP	**P**	**08 32 26.0**	**-2.3**
GYA	**Guiyang**	**30.88**	**266**	P	**P**	**08 32 30.2**	**-3.2**
GYA				PP	PP	08 33 32.6	-3.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,200nm,12.6s,MS4.2						
GYA				LR	LR		
	comp=E,280nm,13.2s,MS4.2						
GYA				LR	LR		
	comp=Z,550nm,12.6s,MS4.4						
CD2	**Chengdu**	**31.89**	**275**	eP	**P**	**08 32 39.8**	**-2.4**
CD2				S	**S**	**08 37 48.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
CD2				AMB	AMB		
	comp=Z,140nm,5.5s						
CD2				LR	LR		
	comp=E,360nm,10.8s						
CD2				LR	LR		
	comp=Z,410nm,13.5s,MS4.3						
ZAK	**Zakamensk**	**32.41**	**312**	eP	**P**	**08 32 46.3**	**-0.2**
GTA	**Gaotai**	**33.70**	**292**	eP	**P**	**08 32 57.5**	**-0.3**
GTA				AP	pP	08 33 09.5	+0.2
GTA				PP	PP	08 34 10.2	-1.2
GTA				S	**S**	**08 38 13.9**	**-3.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,48nm,5.7s						
KMI	**Kunming**	**34.66**	**266**	eP	**P**	**08 33 05.9**	**-0.3**
KMI				AP	pP	08 33 20.6	+2.8
KMI				S	**S**	**08 38 33.3**	**+1.2**
KMI				XS		08 38 54.9	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,96nm,4.1s						
KMI				LR	LR		
	comp=N,150nm,14.1s,MS4.2						
KMI				LR	LR		
	comp=E,281nm,13.6s,MS4.2						
KMI				LR	LR		
	comp=Z,314nm,14.6s,MS4.2						
CMAR	**Chiang Mai Arr**	**40.83**	**259**	P	**P**	**08 33 57.1**	**-0.9**
	comp=Z,7.1nm,1.0s,mb4.2,baz=49,slow=7.4,SNR=16						
CMAR				LR	LR	08 51 57.0	
	comp=Z,70nm,19.1s,MS3.5,baz=286,slow=38						
CMAR	**Chiang Mai Arr**	**40.83**	**259**	P	**P**	**08 33 57.1**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,70nm,19.1s						
WMQ	**Urumqi**	**42.43**	**300**	⇑P	**P**	**08 34 11.5**	**+0.7**
WMQ				AP	pP	08 34 24.0	+1.4
WMQ				XP	sP	08 34 29.5	+1.8
WMQ				PP	PP	08 35 53.2	+1.1
WMQ				eS	**S**	**08 40 29.3**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**45.16**	**316**	eP	**P**	**08 34 31.8**	**-0.9**
NVS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**45.95**	**305**	P	**P**	**08 34 38.8**	**-0.3**
	comp=Z,5.4nm,0.6s,mb4.7,baz=90,slow=10.0,SNR=35						
MKAR	**Makanchi Array**	**45.95**	**305**	P	**P**	**08 34 38.8**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**48.02**	**310**	eP	**P**	**08 34 54.9**	**-0.5**
	comp=Z,15nm,0.7s,mb5.1						
PKI	**Pulchoki**	**48.13**	**278**	eP	**P**	**08 34 55.4**	**-1.1**
	comp=Z,28nm,0.8s,mb5.3						
KKN	**Kakani**	**48.15**	**279**	eP	**P**	**08 34 56.1**	**-0.6**
	comp=Z,33nm,0.8s,mb5.4						
DMN	**Daman**	**48.36**	**279**	eP	**P**	**08 34 56.8**	**-1.5**
	comp=Z,11nm,0.6s,mb5.1						
GKN	**Gorkha**	**48.60**	**279**	eP	**P**	**08 34 59.5**	**-0.6**
	comp=Z,34nm,0.8s,mb5.5						
KOLN	**Koldanda**	**49.54**	**279**	eP	**P**	**08 35 06.7**	**-0.7**
	comp=Z,16nm,0.7s,mb5.1						
PMR	**Palmer**	**51.22**	**35**	eP	**P**	**08 35 18.4**	**-1.3**
	comp=Z,3.3nm,0.8s,mb4.3						
COLA	**College**	**51.81**	**31**	ceP	**P**	**08 35 24.2**	**+0.2**
COLA	**College**	**51.81**	**31**	eP	**P**	**08 35 24.1**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**52.22**	**31**	P	**P**	**08 35 25.3**	**-1.8**
	comp=Z,5.5nm,0.8s,mb4.5,baz=267,slow=6.3,SNR=79						
ILAR	**Eielson Array**	**52.22**	**31**	P	**P**	**08 35 25.3**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**52.89**	**314**	eP	**P**	**08 35 31.9**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.5						
SDNR	**Sundarnagar**	**53.56**	**287**	eP	**P**	**08 35 36.0**	**-1.6**
CTA	**Charters Tower**	**53.77**	**174**	LR	LR	08 54 49.1	
	comp=Z,42nm,20.0s,MS3.5,baz=349,slow=32						
FITZ	**Fitzroy Crossi**	**53.77**	**199**	eP	**P**	**08 35 38.2**	**-1.1**
	comp=Z,10nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.77**	**199**	P	**P**	**08 35 38.8**	**-0.5**
	baz=20,slow=7.6						
WRAB	**Tennant Creek**	**53.85**	**188**	eP	**P**	**08 35 38.4**	**-1.5**
	comp=Z,19nm,1.4s,mb4.8						
WB2	**Warramunga Arr**	**53.86**	**188**	eP	**P**	**08 35 38.0**	**-2.0**
WRA	**Warramunga Arr**	**53.87**	**188**	P	**P**	**08 35 38.5**	**-1.5**
	comp=Z,2.4nm,0.4s,mb4.5,baz=3.6,slow=7.5,SNR=26						
KKAR	**Karatay Array**	**54.85**	**302**	i P	**P**	**08 35 46.7**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**57.59**	**188**	P	**P**	**08 36 07.0**	**+0.3**
	comp=Z,149nm,0.3s,baz=1.7,slow=6.8,SNR=5.7						
ASPA	**Alice Springs**	**57.59**	**188**	eP	**P**	**08 36 07.2**	**+0.4**
ARU	**Arti**	**58.85**	**320**	⇓iP	**P**	**08 36 14.2**	**-0.9**
ARU				e		08 37 04.2	
ARU				e		08 38 24.7	
ARU				eS	**S**	**08 44 12.6**	**-3.3**
ARU				eSS	SS	08 48 00.8	-11
ARU				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
ARU				MLR	MLR		
	comp=N,40nm,17.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS4.0						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
ARU	**Arti**	**58.85**	**320**	eP	**P**	**08 36 14.2**	**-0.9**
	comp=Z,30nm,0.6s,mb5.5						
AB31	**Akbulak array**	**60.10**	**312**	P	**P**	**08 36 22.6**	**-1.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
DLBC	**Dease Lake**	**61.16**	**37**	P	**P**	**08 36 30.8**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.5,baz=347,slow=9.2,SNR=11						
DLBC	**Dease Lake**	**61.16**	**37**	eP	**P**	**08 36 30.8**	**-0.1**
STKA	**Stephens Creek**	**65.32**	**180**	P	**P**	**08 36 57.7**	**-0.9**
	comp=Z,2.3nm,0.8s,mb4.3,baz=30,slow=16,SNR=3.9						
STKA	**Stephens Creek**	**65.32**	**180**	P	**P**	**08 36 57.7**	**-0.9**
APA	**Apatity**	**65.67**	**336**	⇓iP	**P**	**08 36 58.8**	**-1.5**
APA				i		08 37 04.3	
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KEV	**Kevo**	**66.49**	**340**	ep	**P**	**08 37 03.4**	**-2.1**
	comp=Z,2.3nm,0.7s,mb4.3						
KEV	**Kevo**	**66.49**	**340**	eP	**P**	**08 37 03.4**	**-2.1**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**66.59**	**29**	P	**P**	**08 37 04.5**	**-1.7**
	comp=Z,1.1nm,0.8s,mb4.0,baz=295,slow=6.3,SNR=4.0						
YKA	**Yellowknife Ar**	**66.59**	**29**	P	**P**	**08 37 04.5**	**-1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.59**	**29**	P	**P**	**08 37 04.5**	**-1.7**
ARCES	**ARCESS Array B**	**67.05**	**340**	P	**P**	**08 37 07.8**	**-1.2**

	comp=Z,4.5nm,0.8s,mb4.5,baz=51,slow=7.8,SNR=14						
ARCES	ARCESS Array B	67.05	340	P	P	08 37 07.8	-1.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	Obninsk	70.73	324	deP	P	08 37 31.3	-0.7
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
KAF	Kangasniemi	71.22	333	ep	P	08 37 33.5	-1.2
	comp=Z,5.8nm,0.6s,mb4.7,baz=50,slow=5.7						
KAF	Kangasniemi	71.22	333	eP	P	08 37 33.5	-1.2
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
FINES	FINESS Array B	71.71	333	P	P	08 37 36.6	-1.1
	comp=Z,8.4nm,0.8s,mb4.7,baz=76,slow=7.9,SNR=41						
FINES	FINESS Array B	71.71	333	P	P	08 37 36.6	-1.1
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DPW	Davenport	72.01	44	eP	P	08 37 40.1	+0.5
NEW	Newport	72.43	43	eP	P	08 37 42.5	+0.3
	comp=Z,1.9nm,0.7s,mb4.1						
KIV	Kislovodsk	73.09	312	c iP	P	08 37 46.6	+0.5
KIV				e		08 37 53.7	
KIV				e	pP	08 38 01.3	+2.7
KIV				e		08 40 27.8	
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
GNI	Garni	73.70	308	LR	LR	09 13 13.9	
	comp=Z,79nm,18.1s,MS4.0,baz=67,slow=38						
WVOR	Wild Horse Val	74.55	49	eP	P	08 37 55.4	+0.7
FFC	Flin Flon	76.40	32	eP	P	08 38 04.6	-0.4
	comp=Z,6.1nm,1.0s,mb4.5						
HLID	Hailey	76.55	46	eP	P	08 38 07.0	+1.0
	comp=Z,1.4nm,0.9s,mb3.9						
AKASG	Malin Array Be	76.90	323	P	P	08 38 06.4	-1.5
	comp=Z,7.6nm,0.6s,mb4.8,baz=48,slow=5.9,SNR=28						
AKASG	Malin Array Be	76.90	323	P	P	08 38 06.4	-1.5
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BOZ	Bozeman (W)	77.01	44	eP	P	08 38 09.4	+0.7
	comp=Z,2.8nm,0.9s,mb4.2						
NB2	NORSAR Subarra	77.20	338	P	P	08 38 09.3	0.0
	comp=Z,6.6nm,0.8s,mb4.6,baz=40,slow=5.6						
NOA	NORSAR Array B	77.20	338	P	P	08 38 08.7	-0.6
	comp=Z,4.7nm,0.7s,mb4.5,baz=40,slow=5.6,SNR=26						
NOA	NORSAR Array B	77.20	338	P	P	08 38 08.7	-0.6
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TPAW	Teton Pass	78.66	45	eP	P	08 38 19.4	+1.6
HWUT	Hardware Ranch	79.39	47	eP	P	08 38 22.9	+1.1
	comp=Z,4.2nm,1.0s,mb4.3						
DUG	Dugway	79.44	49	eP	P	08 38 23.0	+0.9
	comp=Z,5.3nm,1.2s,mb4.3						
BW06	Boulder Array	79.91	45	eP	P	08 38 24.9	+0.3
	comp=Z,1.2nm,0.7s,mb3.9						
PDAR	Pinedale Array	79.91	45	P	P	08 38 24.2	-0.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=300,slow=3.4,SNR=14						
MVU	Marysvale	80.81	50	eP	P	08 38 30.1	+0.7
	comp=Z,1.5nm,0.7s,mb4.0						
MSU	Marysvale	80.82	50	eP	P	08 38 31.1	+1.6
BRTR	Keskin Array B	81.05	312	P	P	08 38 30.8	+0.1
	comp=Z,2.3nm,0.6s,mb4.3,baz=108,slow=3.9,SNR=9.6						
BRTR	Keskin Array B	81.05	312	P	P	08 38 30.8	+0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OJC	Ojcow	81.76	326	eP	P	08 38 35.3	+1.1
RAYN	Ar Rayn	81.95	293	P	P	08 38 36.0	+0.3
	comp=Z,64nm,0.7s,mb5.7,SNR=8.6						
HILS	Ha'il	82.61	298	P	P	08 38 39.9	+0.9
PV10	Paradox Valley	82.88	48	eP	P	08 38 41.7	+1.6
DPC	Dobruska-Polom	83.23	328	eP	P	08 38 43.2	+1.5
PV01	Paradox Valley	83.32	48	eP	P	08 38 43.5	+1.1
VYHS	Vyhne	83.42	326	eP	P	08 38 43.6	+0.9
VYHS				e	pP	08 38 57.2	+1.8
RW3	Ridgway	83.79	48	eP	P	08 38 46.8	+2.0
PVCC	Panska Ves	83.86	329	eP	P	08 38 46.3	+1.5
BRG	Berggiesshubel	83.87	330	eP	P	08 38 45.8	+1.0
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
BRG	Berggiesshubel	83.87	330	P	P	08 38 45.8	+1.0
	comp=Z,4.5nm,0.7s,mb4.7						
CLL	Collm	83.94	330	⇓P	P	08 38 45.4	+0.2
	comp=Z,logA/T=1.0,mb4.9						
CLL	Collm	83.94	330	⇓iP	P	08 38 45.4	+0.2
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
ISCO	Idaho Springs	84.07	46	eP	P	08 38 47.4	+1.2
PRU	Pruhonice	84.28	329	eP	P	08 38 48.0	+1.1
	comp=Z,7.1nm,0.9s,mb4.8						
CLZ	Clausthal	84.58	332	eP	P	08 38 49.2	+0.8
	comp=Z,15nm,1.2s,mb5.0						
MOX	Moxa	85.01	331	eP	P	08 38 51.0	+0.5
KHC	Kasperske Hory	85.33	329	eP	P	08 38 53.1	+0.9
KBRS	Khaybar	85.38	298	P	P	08 38 54.3	+1.3
GEC2	GERESS Array S	85.50	328	eP	P	08 38 53.4	+0.4
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
GEC2	GERESS Array S	85.50	328	eP	P	08 38 53.4	+0.4
	comp=Z,5.0nm,1.0s,mb4.6						
GERES	GERESS Array B	85.50	328	P	P	08 38 52.7	-0.3
	comp=Z,3.0nm,0.7s,mb4.5,baz=34,slow=4.8,SNR=22						
GERES	GERESS Array B	85.50	328	P	P	08 38 52.7	-0.3
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WET	Wettzell	85.62	329	eP	P	08 38 54.8	+1.2
WET				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
WET	Wettzell	85.62	329	eP	P	08 38 54.8	+1.2
	comp=Z,3.0nm,0.8s,mb4.6						
TATS	Tathlith	85.72	291	P	P	08 38 56.3	+1.6
GRA1	Grafenberg Arr	85.90	330	eP	P	08 38 56.7	+1.7
	comp=Z,18nm,0.6s,mb5.5						
GRF	Grafenberg Arr	85.90	330	eP	P	08 38 56.7	+1.7
GRF				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.5						
JMQS	Jabal Moqyreh	86.01	302	P	P	08 38 57.8	+1.8
JMOS	Jabal al Moall	86.38	303	P	P	08 38 58.8	+1.0
HAQS	Haql	86.58	303	P	P	08 39 00.3	+1.6
BDAS	Al Bad‘	86.83	302	P	P	08 39 01.2	+1.1
CABF	La Chapelle	90.44	331	eP	P	08 39 15.8	-1.0
LOR	Lormes	90.78	333	eP	P	08 39 18.3	0.0
	comp=Z,2.9nm,0.5s,mb4.6						
LPL	La Plagne	91.06	330	eP	P	08 39 19.8	+0.1
LPG	La Plagne	91.07	330	eP	P	08 39 19.9	+0.1
SMF	Signal de Mont	91.30	332	eP	P	08 39 21.1	+0.3
	comp=Z,4.0nm,0.6s,mb4.6						
AVF	Avril sur Loir	91.37	333	eP	P	08 39 20.9	-0.2
	comp=Z,12nm,0.9s,mb4.9						
MBDF	Montbardon	91.69	330	eP	P	08 39 22.7	+0.1
	comp=Z,5.0nm,0.5s,mb4.8						
ORIF	Oris-en-Rattie	91.90	330	eP	P	08 39 23.4	-0.2
	comp=Z,5.0nm,0.7s,mb4.6						
TXAR	Lajitas Array	92.05	52	P	P	08 39 24.3	-0.4
	comp=Z,0.9nm,0.8s,mb4.1,baz=264,slow=2.7,SNR=8.8						
SBF	Sospel	92.09	329	eP	P	08 39 24.3	-0.2
	comp=Z,12nm,0.6s,mb5.1						
TCF	Toulx Ste Croi	92.22	333	eP	P	08 39 25.1	+0.1
	comp=Z,8.1nm,0.8s,mb4.8						
VIVF	Saint-Julien-l	92.45	331	eP	P	08 39 26.2	+0.1
	comp=Z,9.7nm,0.9s,mb4.8						
LPAZ	La Paz	148.17	64	PKPbc	PKPdf	08 46 02.5	+5.4
	comp=Z,3.6nm,0.9s,baz=356,slow=2.6,SNR=14						
LPAZ	La Paz	148.17	64	PKIKP	PKPdf	08 46 02.5	+5.4
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						

IDC 06 08:36:50.8±1.6**, 2.22S×139.65E, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.7**/10**, ML3.5**/1**, Error ellipse: s-maj=75.1km s-min=26.6km az=97.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.37	196	P	P	08 41 05.7	-3.1
	0.2nm,0.3s,baz=17,slow=12,SNR=8.7						
ASAR	Alice Springs	22.04	194	P	P	08 41 48.2	-0.6
	134nm,0.3s,baz=28,slow=11,SNR=3.3						
MKAR	Makanchi Array	69.98	322	P	P	08 48 04.0	-2.2
	0.6nm,0.5s,baz=131,slow=7.5,SNR=5.5						
ILAR	Eielson Array	85.00	24	P	P	08 49 28.1	-1.0
	0.4nm,0.9s,baz=248,slow=4.9,SNR=4.3						

NIED ***06*** *08:50:00, 33.90N×141.50E, $h17^{km}$, Mw4.3 Best double couple: $M_0 3.75\times10^{15}$ NP1:ϕ_s144°,δ61°,λ-65°. NP2: ϕ_s281°,δ37°,λ-127°.*

IDC ***06*** *08:50:30.4±0.5, 33.84N×141.54E, mb4.5/26, mb1 4.6/28, mb1mx4.6/31, ML4.2/2, MS3.8/7, Ms1 3.8/7, ms1mx3.3/27, Error ellipse: s-maj=15.4km s-min=11.7km az=113.0*

JMA ***06*** *08:50:34.8±0.5, 33.87N×141.52E, $h33^{km}$, M4.1*

BJI ***06*** *08:50:36.6, 33.80N×141.50E, $h42^{km}$, mB4.6, mb4.5, Ms4.2*

NEIC ***06*** *08:50:36.6±1.0, 33.77N×141.46E, $h42^{km}\pm8^{km}$, mb4.6/18, MW4.4(NIED), Error ellipse: s-maj=6.9km s-min=5.2km az=99.0*

MOS ***06*** *08:50:38.4±0.7, 34.51N×141.58E, $h44^{km}$, mb4.7/22, Error ellipse: s-maj=20.2km s-min=8.8km az=105.9*

ISC 06 08:50:33.3±1.4**, 33.75N**±0.04×**141.57E**±0.05**, h30**$^{km}\pm9^{km}$**, n146, σ**$1^{s}11$/150**, mb4.6**/56**, MS4.0**/8**, 3C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.03	331	⇑P	Pn	08 50 51.4	-0.5
BSO3	Boso 3	1.37	320	P	Pn	08 50 56.2	-0.6
JHJ2	Mitsune	1.60	247	P	Pn	08 51 02.1	+2.0
BSO4	Boso 4	1.61	321	⇑P	Pn	08 51 01.1	+1.0
JHJ	Hachijo jima 2	1.62	248	Pn	Pn	08 51 01.5	+1.1
	405nm,0.3s,baz=150,slow=8.2,SNR=111						
JHJ				Sn	Sn	08 51 23.8	+3.4
	437nm,0.3s,baz=45,slow=22,SNR=7.1						
JMY	Miyake jima 2	1.74	281	P	Pn	08 51 04.3	+2.3
JIM2	Oshima 3	2.02	299	P	Pn	08 51 05.7	-0.4
JIZS	Izushimoda	2.43	294	P	Pn	08 51 12.1	+0.1
JIZS				eS	Sn	08 51 42.3	+1.3
JOD2	Odawara 2	2.55	307	P	Pn	08 51 13.0	-0.6
JOD2				eS	Sn	08 51 43.7	-0.2
JYN	Shimob	3.05	306	P	Pn	08 51 20.6	-0.1
SHZ3	Shizuoka 3	3.08	296	P	Pn	08 51 22.0	+0.9
JRY	Ryogami san	3.15	317	P	Pn	08 51 21.5	-0.7
JAG	Ashikaga	3.19	328	P	Pn	08 51 22.2	-0.5
MAJO	Matsushiro	3.92	316	ePn	Pn	08 51 33.1	0.0
MAT	Matsushiro	3.92	316	P	Pn	08 51 33.4	+0.3
MAT				S	Sn	08 52 17.4	-1.3
MAT	Matsushiro	3.92	316	eP	Pn	08 51 33.0	-0.1
MAT				eS	Sn	08 52 17.0	-1.7
CBIJ	Chichi jima	6.65	175	Pn	Pn	08 52 10.3	-1.4
	20nm,0.3s,baz=318,slow=9.3,SNR=10						
CBIJ				Sn	Sn	08 53 19.2	-8.0
	4.6nm,0.3s,baz=287,slow=20,SNR=2.2						
JNU	Nakatsue	8.96	269	Pn	P	08 52 43.5	-0.3
	baz=80,slow=6.1						
JNU				LR	LR	08 55 53.0	
	comp=Z,162nm,21.6s,baz=84,slow=36						
ASAJ	Asahikawa	10.38	4	Pn	P	08 52 58.3	-5.1
	1.5nm,0.3s,baz=155,slow=17,SNR=8.5						
ASAJ				Sn	S	08 54 48.8	-11
	0.5nm,0.3s,baz=328,slow=19,SNR=1.9						
ASAJ	Asahikawa	10.38	4	P	P	08 52 58.3	-5.1
ASAJ						08 54 48.8	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	Yuzh-Sakhalins	13.22	4	eP	P	08 53 35.0	-6.6
YSS	Yuzh-Sakhalins	13.22	4	ePn	P	08 53 36.4	-5.1
JOW	Kunigami	13.39	243	LR	LR	08 58 30.8	
	comp=Z,444nm,20.3s,baz=146,slow=36						
MDJ	Mudanjiang	14.27	323	P	P	08 53 52.5	-2.8
MDJ				AP		08 54 00.4	
MDJ				S	S	08 56 33.5	+0.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,95nm,9.7s						
CN2	Changchun	16.06	313	eP	P	08 54 23.7	+5.1
CN2				XP		08 54 34.0	
CN2				eS	S	08 57 19.0	+3.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
KLR	Kul'dur	17.11	338	eP	P	08 54 33.8	+2.1
SSE	Sheshan	17.41	267	P	P	08 54 38.6	+2.8
SSE				XP		08 54 51.4	
SSE				S	S	08 57 53.8	+7.2
SSE				AMB	AMB		
	comp=Z,46nm,0.7s						
SSE				AMB	AMB		
	comp=Z,74nm,6.4s						
SSE				LR	LR		
	comp=N,326nm,11.4s						
SSE				LR	LR		
	comp=E,444nm,11.4s						
NJ2	Nanjing	19.15	271	eP	P	08 54 58.1	+1.1
NJ2				AP		08 55 06.0	
NJ2				XP		08 55 10.6	
NJ2				PP	PP	08 55 14.1	+0.3
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,50nm,3.6s						
HIA	Hailar	22.41	320	eP	P	08 55 30.9	+0.2
	comp=Z,3.9nm,0.5s,mb4.1						
WHN	Wuhan	23.25	270	eP	P	08 55 39.0	0.0
ENH	Enshi	27.37	272	eP	P	08 56 15.4	-2.5
	comp=Z,12nm,0.8s,mb4.5						
SONM	Songino Array	29.84	309	P	P	08 56 39.5	-0.5
	comp=Z,5.9nm,0.9s,mb4.3,baz=106,slow=9.0,SNR=30						
BOD	Bodaibo	30.41	331	eP	P	08 56 38.6	-6.4
BOD				e	pP	08 56 46.0	-7.9
ZAK	Zakamensk	32.49	312	eP	P	08 57 03.3	0.0
GTA	Gaotai	33.78	292	eP	P	08 57 13.8	-0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
CMAR	Chiang Mai Arr	40.90	259	P	P	08 58 12.6	-2.0
	comp=Z,3.6nm,0.7s,mb4.1,baz=52,slow=7.1,SNR=17						
CMAR				LR	LR	09 18 24.0	
	comp=Z,104nm,18.2s,MS3.7,baz=60,slow=41						
CMAR	Chiang Mai Arr	40.90	259	P	P	08 58 12.6	-2.0
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,104nm,18.2s						
WMQ	Urumqi	42.52	300	P	P	08 58 29.0	+1.4
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.5						
NVS	Novosibirsk	45.25	316	eP	P	08 58 48.2	-1.3
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
MKAR	Makanchi Array	46.04	305	P	P	08 58 55.0	-0.9
	comp=Z,3.7nm,0.5s,mb4.5,baz=89,slow=10,SNR=22						
MKAR	Makanchi Array	46.04	305	P	P	08 58 55.0	-0.9
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAKA	Kakadu	47.01	192	eP	P	08 59 03.6	-0.4
	comp=Z,8.3nm,0.7s,mb4.8						
GUN	Gumba	47.70	279	eP	P	08 59 09.4	+0.1
KURK	Kurchatov	48.11	310	P	P	08 59 11.1	-1.0
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KURK	Kurchatov	48.11	310	eP	P	08 59 11.0	-1.1
	comp=Z,9.5nm,0.8s,mb4.9						
PKI	Pulchoki	48.21	279	eP	P	08 59 12.0	-1.2
	comp=Z,16nm,0.9s,mb5.0						
KKN	Kakani	48.23	279	eP	P	08 59 12.3	-1.1
	comp=Z,30nm,0.8s,mb5.4						
DMN	Daman	48.44	279	eP	P	08 59 14.5	-0.5
	comp=Z,66nm,1.4s,mb5.5						
GKN	Gorkha	48.69	279	eP	P	08 59 15.5	-1.4
	comp=Z,35nm,0.9s,mb5.4						
KOLN	Koldanda	49.62	280	eP	P	08 59 22.6	-1.5
	comp=Z,20nm,0.9s,mb5.1						
COLA	College	51.80	31	eP	P	08 59 38.8	-1.4
ILAR	Eielson Array	52.22	31	P	P	08 59 41.4	-1.9
	comp=Z,5.1nm,0.7s,mb4.6,baz=262,slow=6.0,SNR=70						
ILAR	Eielson Array	52.22	31	P	P	08 59 41.4	-1.9
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVA0	Borovoye Array	52.91	314	i P	P	08 59 48.1	-0.6
BVAR	Borovoye Array	52.91	314	P	P	08 59 47.0	-1.7
	comp=Z,4.8nm,0.9s,mb4.4,baz=90,slow=7.4,SNR=17						
BRVK	Borovoye	52.97	314	eP	P	08 59 48.4	-0.7
	comp=Z,8.7nm,1.0s,mb4.6						
CTAO	Charters Tower	53.72	175	P	P	08 59 55.5	+0.5
	comp=Z,3.4nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	53.75	199	⇓iP	P	08 59 55.5	+0.2
	comp=Z,6.8nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	53.75	199	P	P	08 59 55.6	+0.3
	comp=Z,8.9nm,0.6s,mb4.9,baz=12,slow=5.6,SNR=30						
WRAB	Tennant Creek	53.82	188	eP	P	08 59 54.9	-0.9
	comp=Z,6.1nm,0.8s,mb4.6						
WB2	Warramunga Arr	53.83	188	eP	P	08 59 54.9	-0.9
WRA	Warramunga Arr	53.83	188	P	P	08 59 55.1	-0.8
	comp=Z,4.7nm,0.5s,mb4.7,baz=4.6,slow=7.6,SNR=90						
WRA	Warramunga Arr	53.83	188	P	P	08 59 55.1	-0.7
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KKAR	Karatay Array	54.93	302	i P	P	09 00 02.9	-0.8
DAWY	Dawson	55.51	32	eP	P	09 00 06.0	-1.5
INK	Inuvik	57.26	26	P	P	09 00 18.2	-1.8
	comp=Z,1.8nm,0.7s,mb4.2,baz=310,slow=5.1,SNR=3.4						
INK	Inuvik	57.26	26	P	P	09 00 18.3	-1.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	57.56	188	P	P	09 00 21.9	-0.8
	comp=Z,59nm,0.5s,baz=357,slow=6.3,SNR=2.9						
ARU	Arti	58.93	320	⇓iP	P	09 00 30.7	-1.1
ARU				e		09 01 18.9	
ARU				e		09 02 42.3	
ARU				eS	S	09 08 33.1	-1.0
ARU				e		09 10 10.6	
ARU				eSS	SS	09 12 22.5	-7.1
ARU				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
ARU				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,50nm,18.0s						
ARU	Arti	58.93	320	eP	P	09 00 30.7	-1.1
	comp=N,17nm,0.6s,mb5.3						
AB31	Akbulak array	60.19	312	P	P	09 00 39.4	-1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
DLBC	Dease Lake	61.15	37	P	P	09 00 47.1	+0.2
	comp=Z,3.4nm,0.8s,mb4.5,baz=312,slow=7.1,SNR=12						
DLBC	Dease Lake	61.15	37	eP	P	09 00 47.7	+0.8
STKA	Stephens Creek	65.27	180	eP	P	09 01 13.3	-1.3
	comp=Z,2.9nm,0.9s,mb4.3						
STKA	Stephens Creek	65.27	180	P	P	09 01 14.0	-0.6
	comp=Z,2.3nm,0.6s,mb4.4,baz=341,slow=6.7,SNR=3.6						
FORT	Forrest	65.44	193	eP	P	09 01 15.4	-0.2
	comp=Z,32nm,0.6s,mb5.5						
APA	Apatity	65.74	336	⇑iP	P	09 01 15.9	-1.0
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
APA				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
YKA	Yellowknife Ar	66.59	29	P	P	09 01 21.1	-1.3
	comp=Z,1.6nm,0.8s,mb4.1,baz=292,slow=6.1,SNR=5.1						
YKA	Yellowknife Ar	66.59	29	P	P	09 01 21.1	-1.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	67.12	340	P	P	09 01 25.1	-0.6
	comp=Z,3.6nm,0.7s,mb4.5,baz=56,slow=8.7,SNR=12						
ARCES	ARCESS Array B	67.12	340	P	P	09 01 25.1	-0.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NWAO	Narrogin (SRO)	70.17	202	eP	P	09 01 43.8	-1.4
	comp=Z,70nm,0.7s,mb5.7						
OBN	Obninsk	70.81	324	eP	P	09 01 47.9	-0.8
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
FINES	FINESS Array B	71.78	333	P	P	09 01 53.4	-1.1
	comp=Z,5.2nm,0.7s,mb4.6,baz=72,slow=6.0,SNR=28						
FINES				LR	LR	09 38 08.5	
	comp=Z,68nm,18.3s,MS4.0,baz=20,slow=40						
FINES	FINESS Array B	71.78	333	P	P	09 01 53.4	-1.1
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,68nm,18.3s						
DPW	Davenport	71.98	44	eP	P	09 01 56.6	+0.7
NEW	Newport	72.41	43	P	P	09 01 57.8	-0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=294,slow=9.5,SNR=3.6						
NEW	Newport	72.41	43	P	P	09 01 57.8	-0.6
NEW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NEW	Newport	72.41	43	eP	P	09 01 58.4	0.0
	comp=Z,2.5nm,0.9s,mb4.1						
KIV	Kislovodsk	73.17	312	eP	P	09 02 02.5	-0.4
KIV				i		09 02 19.2	
KIV				e		09 04 44.6	
KIV				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
GNI	Garni	73.79	308	LR	LR	09 39 58.1	
	comp=Z,80nm,18.3s,MS4.0,baz=143,slow=40						
HLID	Hailey	76.52	46	eP	P	09 02 23.4	+1.2
	comp=Z,4.2nm,1.3s,mb4.2						
AKASG	Malin Array Be	76.98	323	P	P	09 02 24.2	-0.3
	comp=Z,4.0nm,0.5s,mb4.6,baz=48,slow=5.8,SNR=18						
AKASG	Malin Array Be	76.98	323	P	P	09 02 24.2	-0.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BOZ	Bozeman (W)	76.99	44	eP	P	09 02 25.4	+0.7
	comp=Z,2.3nm,0.8s,mb4.2						
HFS	Hagfors	77.14	336	P	P	09 02 24.7	-0.5
	comp=Z,2.9nm,0.7s,mb4.3,baz=90,slow=3.0,SNR=9.4						
HFS	Hagfors	77.14	336	P	P	09 02 24.7	-0.5
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	77.27	338	P	P	09 02 25.6	-0.3
	comp=Z,24nm,1.4s,mb4.9,baz=40,slow=5.6						
NB2	NORSAR Subarra	77.27	338	P	P	09 02 25.6	-0.3
	baz=40,slow=5.6						
NOA	NORSAR Array B	77.27	338	P	P	09 02 25.7	-0.2
	comp=Z,4.3nm,0.7s,mb4.5,baz=40,slow=5.7,SNR=22						
NOA				LR	LR	09 39 49.6	
	comp=Z,106nm,19.5s,MS4.2,baz=25,slow=38						
NOA	NORSAR Array B	77.27	338	P	P	09 02 25.7	-0.2
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,106nm,19.5s						
TPAW	Teton Pass	78.63	45	eP	P	09 02 35.5	+1.8
HWUT	Hardware Ranch	79.36	47	eP	P	09 02 39.0	+1.2
	comp=Z,7.5nm,1.3s,mb4.5						
DUG	Dugway	79.41	49	eP	P	09 02 38.6	+0.5
	comp=Z,4.1nm,1.2s,mb4.2						
BW06	Boulder Array	79.88	45	eP	P	09 02 41.1	+0.5
	comp=Z,1.1nm,0.6s,mb4.0						
PDAR	Pinedale Array	79.88	45	P	P	09 02 41.2	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=291,slow=3.3,SNR=13						
MSU	Marysvale	80.79	50	eP	P	09 02 47.4	+1.9
BRTR	Keskin Array B	81.14	312	P	P	09 02 48.0	+0.7
	comp=Z,2.7nm,0.7s,mb4.3,baz=108,slow=3.9,SNR=14						
BRTR	Keskin Array B	81.14	312	P	P	09 02 48.0	+0.7
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OJC	Ojcow	81.84	327	eP	P	09 02 51.4	+0.7
MLR	Muntele Rosu	81.98	320	P	P	09 02 52.4	+0.9
	comp=Z,1.8nm,0.8s,mb4.0,baz=84,slow=3.5,SNR=3.9						
MLR	Muntele Rosu	81.98	320	P	P	09 02 52.4	+0.9
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	Lac du Bonnet	82.17	33	LR	LR	09 37 19.3	
	comp=Z,46nm,19.0s,MS3.9,baz=160,slow=34						
HILS	Ha'il	82.70	298	P	P	09 02 56.5	+0.9
PV10	Paradox Valley	82.85	48	eP	P	09 02 57.9	+1.7
WUAZ	Wupatki	83.08	52	eP	P	09 02 57.7	+0.3
PV01	Paradox Valley	83.29	48	eP	P	09 02 59.6	+1.1
DPC	Dobruska-Polom	83.31	328	eP	P	09 02 59.3	+1.0
ASF	Jabal al Asfar	83.45	304	P	P	09 02 59.8	+0.3
	comp=Z,8.6nm,0.8s,mb4.8,baz=266,slow=5.7,SNR=12						
VYHS	Vyhne	83.50	326	eP	P	09 03 00.7	+1.4
AFFS	‘Afif	83.72	294	P	P	09 03 04.7	+3.7
RW3	Ridgway	83.77	48	eP	P	09 03 02.7	+1.8
PVCC	Panska Ves	83.94	329	eP	P	09 03 02.4	+1.0
BRG	Berggiesshubel	83.95	330	eP	P	09 03 02.1	+0.6
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
VRAC	Vranov	83.95	327	P	P	09 03 01.2	-0.3
	comp=Z,6.2nm,0.8s,mb4.8,baz=14,slow=5.7,SNR=9.5						
CLL	Collm	84.01	330	⇓P	P	09 03 02.2	+0.4
	comp=Z,logA/T=1.0,mb4.9						
CLL				i pP	P	09 03 02.2	+0.4
PRU	Pruhonice	84.35	329	eP	P	09 03 04.2	+0.7
MOX	Moxa	85.08	331	eP	P	09 03 10.0	+2.8
MOX				L		09 46 27.0	
KHC	Kasperske Hory	85.41	329	eP	P	09 03 09.1	+0.3
KBRS	Khaybar	85.46	298	P	P	09 03 10.8	+1.1
GERES	GERESS Array B	85.57	328	P	P	09 03 09.5	-0.2

	comp=Z,1.8nm,0.6s,mb4.5,baz=34,slow=4.8,SNR=13						
GERES	GERESS Array B	85.57	328	P	P	09 03 09.5	-0.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TATS	Tathlith	85.80	291	P	P	09 03 12.9	+1.4
GRA1	Grafenberg Arr	85.98	330	*e*P	P	09 03 13.0	+1.3
	comp=Z,9.0nm,1.0s,mb5.0						
GRF	Grafenberg Arr	85.98	330	*e*P	P	09 03 13.0	+1.3
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
TBKS	Tabuk	86.01	301	P	P	09 03 16.4	+4.0
JMQS	Jabal Moqyreh	86.10	302	P	P	09 03 13.0	+0.3
EKA	Eskdalemuir Ar	86.27	341	P	P	09 03 12.9	0.0
	comp=Z,7.4nm,1.2s,mb4.8,baz=34,slow=3.0,SNR=6.4						
EKA	Eskdalemuir Ar	86.27	341	P	P	09 03 13.0	+0.1
EKA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BDAS	Al Bad‘	86.92	302	N		09 03 17.2	
DAVOX	Davos	88.81	329	P	P	09 03 25.8	+0.4
	comp=Z,0.9nm,0.4s,mb4.5,baz=0.8,slow=22,SNR=3.1						
TXAR	Lajitas Array	92.02	53	P	P	09 03 42.1	+1.4
	comp=Z,0.6nm,0.6s,mb4.1,baz=297,slow=3.0,SNR=9.5						
QSPA	South Pole Qui	123.50	180	*e*P	PKPdf	09 09 28.2	-3.9
LPAZ	La Paz	148.12	64	PKPbc	PKPdf	09 10 19.9	+1.5
	comp=Z,3.2nm,0.7s,baz=3.4,slow=7.6,SNR=17						
LPAZ	La Paz	148.12	64	PKP2	PKPab	09 10 20.0	-1.5
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						

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*HEL **06** 09:00:41.5±0.4, 64.71N×30.90E, ML2.0, ML1.5(BER), ML2.1(NAO), Explosion*

*NAO **06** 09:00:42.1±1.8, 64.76N×30.37E, ML2.1*

*IDC **06** 09:00:43.3±2.1, 64.69N×30.25E, mb1 3.2/4, mb1mx3.1/19, ML2.7/4, Error ellipse: s-maj=28.1km s-min=7.7km az=102.0*

*BER **06** 09:00:44.2±5.0, 64.74N×30.62E, ML1.5, ML2.1(NAO), Suspected explosion*

ISC 06 09:00:41.1±0.9**, 64.78N**±0.04×**30.2E**±0.2**, n18,** σ**1^{s}41**/34**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	Maaselka	1.24	337	*e*P	Pb	09 01 06.9	+1.8
MSF				*e*S	Sb	09 01 25.2	+3.8
KJN	Kajaani	1.30	238	*e*P	Pb	09 01 07.2	+1.1
KJN				*e*S	Sb	09 01 29.3	+6.1
OUL	Oulu	1.87	281	*e*P	Pn	09 01 18.5	+3.9
OUL				*e*S	Sn	09 01 46.3	+7.0
SUF	Sumiainen	2.75	223	*e*P	Pn	09 01 29.6	+2.3
SUF				*e*SG	Sg	09 02 11.1	-1.6
SUF				MSG		09 02 11.9	
	comp=Z,4.2nm,0.1s						
APA0	Apatity Array	3.05	20	Pn	Pn	09 01 31.1	-0.4
	baz=189,slow=14						
APA0				Sn	Sn	09 02 08.5	-0.8
	baz=207,slow=28						
APA0	Apatity Array	3.05	20	*e*P	Pn	09 01 31.1	-0.4
APA0				*e*S	Sn	09 02 08.5	-0.8
KAF	Kangasniemi	3.21	215	*e*P	Pn	09 01 34.9	+1.2
KAF				MSG		09 02 25.2	
	comp=Z,3.0nm,0.2s						
FIA0	FINESS Array S	3.84	211	Pn	Pn	09 01 42.0	-0.8
	baz=43,slow=12						
FIA0				Sn	Sn	09 02 28.7	-0.7
	baz=40,slow=22						
FIA0				Lg		09 02 42.3	
	baz=39,slow=28						
FIA0	FINESS Array S	3.84	211	*e*P	Pn	09 01 42.0	-0.8
FIA0				*e*S	Sn	09 02 28.7	-0.7
FIA0				*e*SG	Sg	09 02 42.3	-6.8
FINES	FINESS Array B	3.84	211	Pn	Pn	09 01 42.2	-0.6
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=6.0						
FINES				Sn	Sn	09 02 28.8	-0.6
	comp=Z,0.2nm,0.3s,baz=31,slow=24,SNR=2.8						
FINES				Lg		09 02 41.2	
	comp=Z,1.1nm,0.3s,baz=34,slow=25,SNR=11						
KTK1	Kautokeino	5.06	330	*e*P	Pn	09 02 03.2	+3.2
KTK1				AML	AML	09 03 07.7	
	comp=Z,1.3nm,0.3s						
ARA0	ARCESS Array S	5.11	341	Pn	Pn	09 02 00.8	-0.1
	baz=154,slow=14						
ARA0				Sn	Sn	09 02 59.7	-1.8
	baz=140,slow=28						
ARA0				Lg		09 03 21.0	
	baz=153,slow=37						
ARA0	ARCESS Array S	5.11	341	*e*P	Pn	09 02 00.8	-0.1
ARA0				*e*S	Sn	09 02 59.7	-1.8
ARA0				*e*SG	Sg	09 03 21.0	-10
ARCES	ARCESS Array B	5.11	341	Pn	Pn	09 02 01.0	+0.2
	comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=16						
ARCES				Sn	Sn	09 03 00.2	-1.3
	comp=Z,0.3nm,0.3s,baz=156,slow=23,SNR=6.1						
ARCES				Lg		09 03 22.9	
	comp=Z,0.4nm,0.3s,baz=152,slow=25,SNR=6.7						
HFS	Hagfors	8.95	246	*e*P	P	09 02 53.3	-1.4
HFS				*e*SG	Sg	09 05 25.1	-14
HFS	Hagfors	8.95	246	Pn	P	09 02 47.7	-7.0
	comp=Z,0.1nm,0.3s,baz=59,slow=8.4,SNR=4.8						
HFS				Sn	Sn	09 04 28.1	-9.3
	comp=Z,0.1nm,0.3s,baz=45,slow=20,SNR=3.2						
HFS	Hagfors	8.95	246	P	P	09 02 53.3	-1.4
	baz=46,slow=14						
HFS				Lg		09 05 25.1	
	baz=74,slow=28						
NOA	NORSAR Array B	9.43	255	Pn	P	09 02 56.7	-4.6
	comp=Z,0.3nm,0.3s,baz=65,slow=7.9,SNR=3.5						

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*MOS **06** 09:31:49.4±0.7, 52.00N×151.71E, h501^{km}, mb3.8/3, Error ellipse: s-maj=56.6km s-min=32.4km az=109.0*

*NEIC **06** 09:31:50.7±1.0, 51.95N×151.77E, h492^{km}±12^{km}, Error ellipse: s-maj=17.1km s-min=14.5km az=212.0*

*IDC **06** 09:31:53.4±16.0, 51.97N×151.69E, h524^{km}±193^{km}, mb2.9/9, mb1 3.1/9, mb1mx2.9/20, Error ellipse: s-maj=39.1km s-min=18.3km az=125.0*

ISC 06 09:31:49.9±0.7**, 52.0N**±0.1×**151.7E**±0.2**, h495**^{km}±11^{km}**, n16,** σ**0^{s}56**/18**, mb3.3**/9**, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril’s	3.04	114	*e*P	P	09 33 01.2	-0.1
SKR				*e*S	S	09 33 57.9	+0.1
PET	Petropavlovsk	4.36	73	*e*P	P	09 33 11.9	+0.3
PET				*e*S	S	09 34 16.3	0.0
PET				pmax	pmax		
	comp=Z,24nm,0.5s						
PET				smax			
	comp=E,81nm,0.6s						
PET	Petropavlovsk	4.36	73	*e*Pn	P	09 33 11.2	-0.3
KURK	Kurchatov	43.88	299	*e*P	P	09 39 13.2	+0.8
MKAR	Makanchi Array	43.93	292	P	P	09 39 13.3	+0.4
	comp=E,0.8nm,0.3s,mb3.6,baz=62,slow=7.3,SNR=9.6						
MKAR	Makanchi Array	43.93	292	P	P	09 39 13.3	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	46.97	305	P	P	09 39 36.7	+0.4
	comp=Z,0.8nm,0.3s,mb3.6,baz=44,slow=9.1,SNR=4.5						
ARCES	ARCESS Array B	52.63	339	P	P	09 40 16.8	-1.3
	comp=Z,2.0nm,1.0s,mb3.4,baz=39,slow=7.8,SNR=3.5						
ARCES	ARCESS Array B	52.63	339	P	P	09 40 16.8	-1.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	58.94	333	P	P	09 41 01.7	-0.3
	comp=Z,0.5nm,0.5s,mb3.1,baz=63,slow=9.3,SNR=5.4						
PDAR	Pinedale Array	62.44	55	P	P	09 41 25.4	+0.1
	comp=Z,0.3nm,0.6s,mb2.9,baz=328,slow=3.6,SNR=4.3						
NOA	NORSAR Array B	62.99	340	P	P	09 41 28.1	-0.4
	comp=Z,0.5nm,0.6s,mb3.3,baz=26,slow=6.4,SNR=3.6						
NOA	NORSAR Array B	62.99	340	P	P	09 41 28.2	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	73.21	197	P	P	09 42 30.2	-0.8
	comp=Z,0.3nm,0.7s,mb3.0,baz=12,slow=6.1,SNR=7.1						
TXAR	Lajitas Array	75.71	61	P	P	09 42 45.8	+1.0
	comp=Z,0.2nm,0.5s,mb2.9,baz=306,slow=5.6,SNR=6.3						
ASAR	Alice Springs	76.92	197	P	P	09 42 51.7	+0.1
	comp=Z,1.1nm,0.5s,mb3.7,baz=10,slow=5.4,SNR=21						

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*INMG **06** 09:34:03.2±0.8, 37.37N×13.61W, h10^{km}, ML2.4, Error ellipse: s-maj=6.8km s-min=6.2km az=144.0*

MDD 06 09:34:05.9±4.2**, 37.66N**×**12.72W, mb4.0**/4**, Error ellipse: s-maj=37.2km s-min=32.8km az=46.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOU	Loures	3.06	65	*e*Pn	Pn	09 34 56.4	-0.1
PLOU				*e*Sn	Sn	09 35 36.1	+1.7
	14nm,0.3s						
PLOU	Loures	3.06	65	Pn	Pn	09 34 56.4	-0.1
PLOU				Sn	Sn	09 35 36.1	+1.7
	7.0nm,0.3s						
PTEO	Sao Teotonio	3.18	91	*e*Pn	Pn	09 34 56.7	-1.4
PTEO				*e*Sn	Sn	09 35 37.0	-0.3
	7.9nm,0.3s						
	5.3nm,0.2s						
PTEO	Sao Teotonio	3.18	91	Pn	Pn	09 34 56.7	-1.4
PTEO				Sn	Sn	09 35 37.0	-0.3
	4.0nm,0.3s						
MOE	Montemor	3.55	75	*e*Pn	Pn	09 35 02.7	-0.8
MOE				*e*Sn	Sn	09 35 47.4	+0.6
PBEJ	Beja	3.86	83	*e*Sn	Sn	09 35 54.9	+0.3
PTOM	Tomar	3.90	59	*e*Sn	Sn	09 35 55.8	+0.3
	7.2nm,0.1s						
PTOM	Tomar	3.90	59	Sn	Sn	09 35 55.8	+0.3
	3.6nm,0.1s						
EGRO	El Granado	4.16	90	Pn	Pn	09 35 10.7	-1.5
	1.0nm,0.1s,SNR=4.7						
EGRO				Sn	Sn	09 36 00.8	-1.4
	4.5nm,0.1s						
PALC	Alcoutim	4.17	91	*e*Sn	Sn	09 36 01.2	-1.3
	4.8nm,0.1s						
PALC	Alcoutim	4.17	91	Sn	Sn	09 36 01.2	-1.3
	2.4nm,0.1s						
EBAD	Badajoz	4.62	75	Pn	Pn	09 35 17.7	-1.0
	1.6nm,0.1s,SNR=7.6						
EBAD				Sn	Sn	09 36 12.8	-1.2
	0.9nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	4.64	60	*e*Sn	Sn	09 36 13.7	-0.6
	2.0nm,0.2s						
PCBR	Castelo Branco	4.64	60	Sn	Sn	09 36 13.7	-0.6
	1.0nm,0.2s						
EMIN	Mina Concepcio	4.80	87	Pn	Pn	09 35 19.3	-1.8
	0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	09 36 16.8	-1.5
	0.7nm,0.1s,SNR=7.9						
ELOB	Lobios	5.52	39	Pn	Pn	09 35 30.0	-1.4
	0.5nm,0.1s,SNR=4.0						
ELOB				Sn	Sn	09 36 32.1	-4.5
	2.2nm,0.1s						
ESPR	Espera	5.53	96	Pn	Pn	09 35 29.0	-2.5
	1.2nm,0.2s,SNR=4.0						
ESPR				Sn	Sn	09 36 33.0	-3.8
	4.6nm,0.3s,SNR=4.0						
ECAL	Calabor	6.28	45	Pn	Pn	09 35 39.2	-2.9
	1.2nm,0.2s,SNR=4.6						
ECAL				Sn	Sn	09 36 51.1	-4.4
	1.1nm,0.1s,SNR=5.2						
EADA	Adamuz	6.46	83	Pn	Pn	09 35 42.2	-2.4
	0.7nm,0.2s,SNR=7.9						
EADA				Sn	Sn	09 36 55.7	-4.3
	0.4nm,0.1s,SNR=7.9						

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*NEIC **06** 09:53:08.1, 38.98S×175.10E, h212^{km}, After WEL.*

WEL 06 09:53:07.7±0.4**, 38.99S**×**175.09E, h215**^{km}±2^{km}**, ML3.8**/6**, Error ellipse: s-maj=2.7km s-min=2.3km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	Vera Road	0.29	242	PN	P	09 53 35.3	-1.0
VRZ				SN	S	09 53 57.4	-1.0
VRZ	Vera Road	0.29	242	P	P	09 53 35.3	-0.9
WTVZ	West Tongariro	0.41	109	PN	P	09 53 36.0	-0.5
WTVZ				SN	S	09 53 58.3	-0.6
CNZ	Chateau	0.41	121	PN	P	09 53 36.2	-0.4
NGZ	Ngauruhoe	0.44	116	PN	P	09 53 36.3	-0.3
NGZ	Ngauruhoe	0.44	116	P	P	09 53 36.3	-0.3
KAVZ	Karewarewa	0.45	105	PN	P	09 53 36.1	-0.5
KAVZ	Karewarewa	0.45	105	P	P	09 53 36.0	-0.6
DRZ	Dome Shelter	0.47	128	PN	P	09 53 37.0	+0.3
TUVZ	Tukino	0.52	123	PN	P	09 53 36.3	-0.5
WNVZ	Wahianoa	0.52	131	PN	P	09 53 36.8	-0.1
RAEZ	Rainy Point	0.62	241	PN	P	09 53 36.6	-0.7
RAEZ	Rainy Point	0.62	241	P	P	09 53 36.8	-0.5
MOVZ	Moawhango	0.66	130	PN	P	09 53 36.8	-0.6
MOVZ				SN	S	09 53 58.7	-1.8
WAZ	Wanganui	0.77	186	PN	P	09 53 37.9	0.0
WAZ				SN	S	09 53 55.6	-5.8
WAZ	Wanganui	0.77	186	P	P	09 53 38.1	+0.2
WAZ				S	S	09 53 56.8	-4.6
NEZ	North Egmont	0.82	249	PN	P	09 53 38.0	-0.2
NEZ	North Egmont	0.82	249	P	P	09 53 38.0	-0.2
DFE	Dawson Falls	0.84	246	PN	P	09 53 38.1	-0.2
DFE	Dawson Falls	0.84	246	P	P	09 53 38.1	-0.1
NRZ	Ngariki Road	0.97	248	PN	P	09 53 38.5	-0.5
NWEZ	Newall Road	0.99	253	PN	P	09 53 38.8	-0.3
NWEZ	Newall Road	0.99	253	*e*P	P	09 53 38.9	-0.2
TSZ	Takapari Road	1.27	148	PN	P	09 53 40.9	-0.2
TSZ				SN	S	09 54 06.0	-1.0
TSZ	Takapari Road	1.27	148	P	P	09 53 41.2	0.0
TSZ				S	S	09 54 06.9	-0.2
MRZ	Mangatainoka R	1.71	168	PN	P	09 53 44.5	-0.5
MRZ				SN	S	09 54 13.0	-0.8
MRZ	Mangatainoka R	1.71	168	P	P	09 53 44.5	-0.5
MRZ				S	S	09 54 13.0	-0.8
PWZ	Pawanui	1.72	128	PN	P	09 53 44.4	-0.7
PWZ				SN	S	09 54 13.4	-0.5
PWZ	Pawanui	1.72	128	P	P	09 53 44.5	-0.5
URZ	Urewera	1.74	66	PN	P	09 53 42.2	-3.0
URZ				SN	S	09 54 08.6	-5.6
URZ	Urewera	1.74	66	*e*P	P	09 53 42.4	-2.8
KIW	Kapiti Island	1.88	184	PN	P	09 53 45.8	-0.7
KIW	Kapiti Island	1.88	184	P	P	09 53 45.9	-0.6
BFZ	Birch Farm	1.91	153	PN	P	09 53 46.1	-0.7
BFZ				SN	S	09 54 14.8	-2.2
BFZ	Birch Farm	1.91	153	*e*P	P	09 53 46.2	-0.6
KNZ	Kokohu	2.01	92	PN	P	09 53 46.2	-1.6
KNZ	Kokohu	2.01	92	*e*P	P	09 53 46.4	-1.4
MWZ	Matawai	2.02	72	PN	P	09 53 45.3	-2.5
MWZ				SN	S	09 54 13.5	-5.2
MWZ	Matawai	2.02	72	*e*P	P	09 53 45.4	-2.4
MWZ				S	S	09 54 13.8	-4.9
CAW	Cannon Point	2.12	180	PN	P	09 53 48.1	-0.8
CAW				SN	S	09 54 19.1	-1.6
CAW	Cannon Point	2.12	180	P	P	09 53 48.1	-0.8
CAW				S	S	09 54 19.7	-1.0
MRW	Makara Radio	2.26	188	PN	P	09 53 49.4	-1.0
MRW				SN	S	09 54 21.6	-1.8
MRW	Makara Radio	2.26	188	P	P	09 53 49.4	-1.0
MRW				S	S	09 54 22.4	-1.0
SNZO	South Karori	2.34	187	PN	P	09 53 50.0	-1.3
SNZO				SN	S	09 54 22.5	-2.4
SNZO	South Karori	2.34	187	P	P	09 53 50.1	-1.1
BHW	Baring Head	2.43	184	PN	P	09 53 50.8	-1.4
BHW	Baring Head	2.43	184	P	P	09 53 51.0	-1.1
MSWZ	Moikau Station	2.43	177	PN	P	09 53 51.0	-1.2
MSWZ				SN	S	09 54 25.2	-1.5
NNZ	Nelson	2.59	210	PN	P	09 53 52.2	-1.8
NNZ				SN	S	09 54 27.5	-2.2
NNZ	Nelson	2.59	210	P	P	09 53 52.3	-1.6
TUWZ	Tuamarina	2.59	199	PN	P	09 53 52.8	-1.2
TUWZ				SN	S	09 54 27.6	-2.3
PUZ	Puketiti	2.65	71	PN	P	09 53 52.2	-2.3
PUZ	Puketiti	2.65	71	*e*P	P	09 53 52.0	-2.5
PUZ				S	S	09 54 24.7	-6.1
QRZ	Quartz Range	2.69	226	PN	P	09 53 52.6	-2.5
QRZ	Quartz Range	2.69	226	P	P	09 53 52.6	-2.5
BSWZ	Blackbirch Sta	2.88	198	PN	P	09 53 56.1	-1.0
THZ	Tophouse	3.24	210	PN	P	09 53 59.1	-2.2
THZ				SN	S	09 54 40.1	-2.9
THZ	Tophouse	3.24	210	*e*P	P	09 53 59.2	-2.2
KHZ	Kahutara	3.62	198	PN	P	09 54 03.9	-2.1
KHZ	Kahutara	3.62	198	P	P	09 54 04.3	-1.7
DSZ	Denniston Nort	3.73	221	PN	P	09 54 04.1	-3.1
DSZ	Denniston Nort	3.73	221	P	P	09 54 04.3	-3.0
LTZ	Lake Taylor	4.35	209	PN	P	09 54 12.3	-2.7
LTZ	Lake Taylor	4.35	209	*e*P	P	09 54 12.3	-2.7
MQZ	McQueen’s Vall	5.06	200	PN	P	09 54 19.9	-4.0
MQZ	McQueen’s Vall	5.06	200	*e*P	P	09 54 19.9	-3.9
WVZ	Waitaha Valley	5.25	217	PN	P	09 54 22.4	-3.8
WVZ	Waitaha Valley	5.25	217	*e*P	P	09 54 22.7	-3.5

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*IDC **06** 10:01:17.4±0.9, 34.10S×14.65W, mb4.2/7, mb1 4.2/7, mb1mx4.0/16, MS3.9/13, Ms1 3.9/13, ms1mx3.8/18, Error ellipse: s-maj=31.2km s-min=19.1km az=4.0*

*NEIC **06** 10:01:19.2±0.5, 34.01S×14.69W, h10^{km}, mb4.5/3, Error ellipse: s-maj=17.5km s-min=13.1km az=179.0*

ISC 06 10:01:17.6±0.6**, 34.1S**±0.1×**14.7W**±0.1**, h10**^{km}**, n21,** σ**0^{s}97**/15**, mb4.5**/13**, MS4.0**/13**, Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	Sutherland	29.64	97	P	P	10 07 24.2	-1.3
	5.2nm,0.8s,mb4.3,baz=238,slow=12,SNR=2.5						
SUR				LR	LR	10 17 22.0	
	comp=Z,245nm,18.0s,MS3.9,baz=230,slow=33						
TSUM	Tsumeb	32.25	71	P	P	10 07 48.1	-0.4
	3.0nm,0.8s,mb4.2,baz=225,slow=5.4,SNR=4.0						
TSUM				LR	LR	10 17 24.4	
	comp=Z,195nm,18.8s,MS3.8,baz=125,slow=30						
BDFB	Brasilia	35.16	293	P	P	10 08 12.4	-1.3
	9.0nm,1.1s,mb4.6,baz=106,slow=8.9,SNR=5.7						
BDFB				LR	LR	10 19 51.6	
	comp=Z,459nm,20.5s,MS4.2,baz=77,slow=32						
CPUP	Villa Florida	37.45	270	LR	LR	10 20 35.8	
	comp=Z,270nm,18.8s,MS4.1,baz=143,slow=31						
LIC	Lamto	41.11	15	*e*P	P	10 09 03.8	+0.3
	148nm,2.2s,mb5.2						
KIC	Kosan Boka	41.30	15	*e*P	P	10 09 05.6	+0.6
	347nm,1.9s						
TIC	Toumodi	41.52	15	*e*P	P	10 09 02.5	-4.4
	178nm,1.4s,mb5.5						
DBIC	Dimbokro	41.58	15	P	P	10 09 07.1	-0.3
	3.3nm,0.8s,mb4.0,baz=163,slow=7.4,SNR=4.1						
DBIC				LR	LR	10 20 42.7	
	comp=Z,35nm,18.7s,MS3.2,baz=125,slow=28						
LSZ	Lusaka	42.84	75	*e*P	P	10 09 18.8	+1.1
	7.7nm,1.0s,mb4.4						
PLCA	Paso Flores	44.25	244	P	P	10 09 28.9	+0.1
	1.2nm,0.7s,mb3.8,baz=113,slow=8.4,SNR=5.1						
PLCA				LR	LR	10 26 23.3	
	comp=Z,158nm,19.2s,MS4.0,baz=293,slow=34						
PLCA	Paso Flores	44.25	244	P	P	10 09 28.9	+0.1
PLCA				LR	LR	10 26 23.3	
LPAZ	La Paz	50.94	276	P	P	10 10 20.6	-0.9
	1.2nm,1.0s,mb3.8,baz=127,slow=15,SNR=4.7						
LPAZ				LR	LR	10 31 25.7	
	comp=Z,142nm,20.2s,MS4.0,baz=223,slow=36						
MAW	Mawson	54.29	153	P	P	10 10 44.7	-1.0
	0.7nm,0.3s,mb4.0,baz=259,slow=7.3,SNR=4.3						
MAW				LR	LR	10 28 47.5	
	comp=Z,190nm,20.2s,MS4.2,baz=114,slow=30						
QSPA	South Pole Qui	56.17	180	*e*P	P	10 10 59.5	+0.2
	4.5nm,0.9s,mb4.5						
ROSC	El Rosal	68.23	292	P	P	10 12 22.3	+1.4
	16nm,0.4s,mb5.4,baz=108,slow=19,SNR=2.3						
ROSC				LR	LR	10 40 58.9	
	comp=Z,348nm,18.5s,MS4.6,baz=70,slow=35						
SBA	Scott Base	68.33	180	*e*P	P	10 12 22.2	+1.7
	5.4nm,1.1s,mb4.5						
ESDC	Sonseca Array	74.05	9	LR	LR	10 43 36.0	
	comp=Z,43nm,18.4s,MS3.8,baz=270,slow=34						
MLR	Muntele Rosu	87.32	27	LR	LR	10 50 38.0	
	comp=Z,62nm,18.8s,MS4.0,baz=67,slow=34						
GNI	Garni	91.97	41	LR	LR	10 51 38.2	
	comp=Z,41nm,18.8s,MS3.9,baz=165,slow=33						
NOA	NORSAR Array B	97.11	12	LR	LR	10 54 46.0	
	comp=Z,30nm,21.8s,MS3.7,baz=15,slow=33						
ILAR	Eielson Array	137.98	332	PKP	PKPdf	10 20 42.8	-2.2
	0.4nm,0.8s,baz=10,slow=1.4,SNR=5.7						

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*MOS **06** 10:09:22.0±1.4, 1.73S×146.08E, h33^{km}, mb4.9/13, Error ellipse: s-maj=27.5km s-min=10.6km az=91.2*

*BJI **06** 10:09:23.6, 1.70S×146.22E, h50^{km}, mB4.8, mb4.9, Ms4.5, Msz4.1*

*HRVD **06** 10:09:25.0±0.3, 1.55S×146.09E, h15^{km}±2^{km}, MW4.9/53, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s53,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.32±.16; $M_{\theta\theta}$-3.02±.15; $M_{\phi\phi}$3.34±.16; $M_{r\theta}$-0.10±.26; $M_{\theta\phi}$-0.03±.13; $M_{\phi r}$0.05±.30; Best double couple: $M_0$3.18×10^{16} NP1:ϕ_s45°,δ88°,λ-1°. NP2:ϕ_s135°,δ89°,λ-178°. Principal axes: T 3.34, Plg1°, Azm270°; N -.32, Plg88°, Azm159°; P -3.02, Plg2°, Azm360°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 10:09:25.0±1.8, 1.69S×146.09E, h47^{km}±16^{km}, mb4.9/19, MS4.5/1 Error ellipse: s-maj=12.6km s-min=8.2km az=90.0*

*IDC **06** 10:09:25.5±3.0, 1.67S×146.19E, h54^{km}±28^{km}, mb4.5/14, mb1 4.6/16, mb1mx4.5/18, ML3.5/2, MS4.1/14, Ms1 4.1/14, ms1mx4.0/20, Error ellipse: s-maj=23.5km s-min=11.0km az=101.0*

ISC 06 10:09:22.3±0.3**, 1.74S**±0.04×**146.10E**±0.08**, h33**^{km}**, (h38**^{km}±5.2^{km}**:pP-P), n92,** σ**1^{s}16**/86**, mb4.9**/43**, MS4.1**/26**, 6C-3D, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.69	172	P	P	10 11 14.9	+0.2
	2.8nm,0.3s,baz=330,slow=7.7,SNR=16						
PMG				S	S	10 12 45.9	+4.4
	baz=61,slow=7.5,SNR=2.0						
PMG	Port Moresby	7.69	172	P	P	10 11 14.9	+0.2
PMG				S	S	10 12 45.9	+4.3
PMG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMG	Port Moresby	7.69	172	*e*Pn	Pn	10 11 14.9	0.0
PMG				S	S	10 12 46.0	+4.4
KAKA	Kakadu	17.40	231	*e*P	P	10 13 23.9	-0.4
	comp=Z,22nm,0.6s						
CTA	Charters Tower	18.24	180	⇓*i*P	P	10 13 36.3	+1.5
	comp=Z,13nm,0.9s						
CTA	Charters Tower	18.24	180	P	P	10 13 36.0	+1.3
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=12						
CTA				LR	LR	10 20 15.3	
	comp=Z,622nm,21.4s,baz=358,slow=36						
CTAO	Charters Tower	18.24	180	*e*P	P	10 13 36.3	+1.5
	comp=Z,101nm,1.6s						
WRAB	Tennant Creek	21.42	212	*e*P	P	10 14 09.2	-0.4
	comp=Z,258nm,1.4s,mb5.4						
WB2	Warramunga Arr	21.43	212	*e*P	P	10 14 08.8	-1.0
WB2				*e*S	S	10 18 06.6	+5.9
WRA	Warramunga Arr	21.44	212	P	P	10 14 09.4	-0.4
	comp=Z,55nm,1.0s,mb4.8,baz=33,slow=11,SNR=273						
WRA				S	S	10 18 07.7	+6.9
	comp=Z,7.1nm,1.2s,baz=31,slow=17,SNR=4.8						
WRA				LR	LR	10 23 10.4	
	comp=Z,1µm,19.4s,MS4.3,baz=15,slow=38						
WRA	Warramunga Arr	21.44	212	P	P	10 14 09.4	-0.4
WRA				S	S	10 18 07.7	+6.9
WRA				pmax	pmax		
	comp=Z,55nm,1.0s						
WRA				smax			
	comp=Z,7.0nm,1.2s						
WRA				MLR	MLR		
	comp=Z,1µm,19.4s						
ASAR	Alice Springs	24.79	208	P	P	10 14 43.6	+0.8
	comp=Z,58nm,0.7s,mb5.2,baz=36,slow=8.3,SNR=25						
ASAR				LR	LR	10 25 12.0	
	comp=Z,599nm,21.0s,MS4.1,baz=29,slow=38						
ASPA	Alice Springs	24.80	208	*e*P	P	10 14 43.6	+0.7
ASPA				*e*S	S	10 19 11.7	+11
FITZ	Fitzroy Crossi	25.84	230	⇑*i*P	P	10 14 51.9	-0.9
	comp=Z,19nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	25.84	230	P	P	10 14 52.1	-0.6
	comp=Z,11nm,0.6s,mb4.6,baz=45,slow=4.7,SNR=24						
FITZ				LR	LR	10 25 37.5	
	comp=Z,380nm,20.7s,MS3.9,baz=72,slow=38						
CBIJ	Chichi jima	28.91	353	LR	LR	10 24 53.7	
	comp=Z,466nm,21.2s,MS4.1,baz=127,slow=32						
ARMA	Armidale	29.00	170	⇑*i*P	P	10 15 21.7	+0.3
STKA	Stephens Creek	30.28	188	⇑*i*P	P	10 15 32.1	-0.6
	comp=Z,6.0nm,0.9s,mb4.3						
STKA	Stephens Creek	30.28	188	P	P	10 15 31.4	-1.3
	comp=Z,4.8nm,0.8s,mb4.3,baz=8.2,slow=11,SNR=6.4						
STKA				LR	LR	10 28 13.6	
	comp=Z,626nm,21.7s,MS4.2,baz=6.7,slow=37						
CNB	Canberra Magne	33.54	175	*e*P	P	10 16 00.1	-1.2
	comp=Z,16nm,0.7s,mb5.1						
FORT	Forrest	33.56	209	*e*P	P	10 16 01.3	-0.2
	comp=Z,93nm,0.6s,mb5.9						
TOO	Toolangi	35.66	181	*e*P	P	10 16 19.9	+0.5
	comp=Z,4.9nm,0.7s,mb4.5						

JNU	Nakatsue	37.53	339	P	P	10 16 34.0	-1.2
	comp=Z,5.5nm,0.4s,mb4.6,baz=168,slow=16,SNR=3.3						
JNU				LR	LR	10 29 11.1	
	comp=Z,172nm,20.0s,MS3.9,baz=169,slow=32						
SSE	Sheshan	40.34	326	P	P	10 16 57.0	-1.6
SSE				S	S	10 23 09.1	+5.0
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,66nm,5.7s						
SSE				LR	LR		
	comp=N,220nm,16.1s,MS4.3						
SSE				LR	LR		
	comp=E,255nm,16.3s,MS4.3						
SSE				LR	LR		
	comp=Z,203nm,10.9s						
QIZ	Qiongzhong	41.17	302	*e*P	P	10 17 05.4	-0.2
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
QIZ				LR	LR		
	comp=N,254nm,22.3s						
QIZ				LR	LR		
	comp=Z,274nm,21.1s,MS4.1						
NJ2	Nanjing	42.38	325	*e*P	P	10 17 14.3	-1.2
NJ2				PP	PP	10 18 55.5	-0.9
NJ2				S	S	10 23 34.0	-0.3
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,20nm,5.4s						
NJ2				LR	LR		
	comp=N,440nm,23.6s						
NJ2				LR	LR		
	comp=E,570nm,14.8s						
NJ2				LR	LR		
	comp=Z,650nm,18.2s						
ASAJ	Asahikawa	45.76	356	P	P	10 17 41.5	-1.0
	comp=Z,4.8nm,0.7s,mb4.5,baz=227,slow=15,SNR=4.9						
ASAJ				LR	LR	10 34 08.3	
	comp=Z,108nm,21.8s,MS3.8,baz=184,slow=32						
URZ	Urewera	46.13	146	LR	LR	10 34 47.2	
	comp=Z,382nm,20.7s,MS4.3,baz=279,slow=33						
ENH	Enshi	47.24	315	P	P	10 17 53.5	-0.9
	comp=Z,13nm,0.9s,mb4.9						
MDJ	Mudanjiang	48.45	344	P	P	10 18 07.6	+4.0
MDJ				AP	pP	10 18 16.8	+3.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,53nm,6.1s						
MDJ				LR	LR		
	comp=N,65nm,28.7s,MS3.9						
MDJ				LR	LR		
	comp=E,143nm,27.1s,MS3.9						
MDJ				LR	LR		
	comp=Z,143nm,30.4s,MS3.8						
YSS	Yuzh-Sakhalins	48.58	357	⇓*e*P	P	10 18 04.0	-0.6
YSS				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9						
KMI	Kunming	49.76	305	*e*P	P	10 18 17.3	+3.3
KMI				AP	pP	10 18 30.8	+6.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,96nm,4.1s						
KMI				LR	LR		
	comp=N,275nm,20.1s,MS4.3						
KMI				LR	LR		
	comp=E,194nm,21.7s,MS4.3						
CMAR	Chiang Mai Arr	50.53	296	P	P	10 18 19.4	-0.5
	comp=E,10nm,1.0s,mb4.7,baz=112,slow=6.0,SNR=15						
CMAR				LR	LR	10 41 07.3	
	comp=E,84nm,19.0s,MS3.8,baz=100,slow=38						
CMAR	Chiang Mai Arr	50.53	296	P	P	10 18 19.5	-0.4
CMAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,84nm,19.0s						
KLR	Kul'dur	52.26	348	*e*P	P	10 18 32.2	-0.4
HHC	Hu-ho-hao-te	52.77	327	*e*P	P	10 18 35.4	-1.1
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,38nm,6.1s						
HHC				LR	LR		
	comp=N,87nm,7.1s						
HHC				LR	LR		
	comp=E,120nm,17.4s						
HHC				LR	LR		
	comp=Z,132nm,17.5s,MS4.0						
BTO	Baotou	53.45	326	*e*P	P	10 18 36.9	-4.7
LZH	Lanzhou	54.44	318	*e*P	P	10 18 51.5	+2.6
LZH				AP	pP	10 19 02.0	+3.0
LZH				AMB	AMB		
	comp=Z,42nm,1.4s,mb5.2						
PET	Petropavlovsk	55.58	9	*e*P	P	10 18 57.7	+0.8
PET				*e*S	S	10 26 54.8	+16
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
GTA	Gaotai	58.93	319	*e*P	P	10 19 18.6	-2.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,58nm,3.8s						
GTA				LR	LR		
	comp=N,78nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=E,76nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,80nm,14.4s,MS4.0						
SHL	Shillong	59.01	301	*e*P	P	10 19 22.0	+0.4
ULN	Ulaanbaatar	59.97	331	*e*P	P	10 19 30.0	+2.1
MA2	Magadan	61.24	3	*e*P	P	10 19 38.3	+1.9
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
YAK	Yakutsk	64.82	352	*e*P	P	10 20 00.3	+0.4
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
PPT	Papeete	65.03	108	*e*L		10 36 00.3	
	comp=Z,256nm,25.5s						
PPT				*e*R		10 39 29.0	
	comp=Z,393nm,31.2s						
PKI	Pulchoki	65.14	301	*e*P	P	10 20 04.5	+1.9
KKN	Kakani	65.31	302	*e*P	P	10 20 05.7	+2.0
	comp=Z,28nm,0.9s,mb5.3						
DMN	Daman	65.40	301	*e*P	P	10 20 05.8	+1.5
	comp=Z,51nm,1.0s,mb5.5						
TBI	Tubuai	65.91	115	*e*L		10 38 21.6	
	comp=Z,303nm,38.0s						
TBI				*e*R		10 41 06.7	
	comp=Z,481nm,33.0s,baz=278						
GKN	Gorkha	65.91	302	*e*P	P	10 20 10.0	+2.5
KOLN	Koldanda	66.73	301	*e*P	P	10 20 13.1	+0.4
	comp=Z,17nm,0.9s,mb5.1						
WMQ	Urumqi	69.01	319	*e*P	P	10 20 27.5	+0.8
CASY	Casey	69.11	195	*e*P	P	10 20 26.4	-0.5
	comp=Z,47nm,1.4s,mb5.2						
MKAR	Makanchi Array	73.67	320	P	P	10 20 54.8	+0.2
	comp=Z,14nm,1.1s,mb4.8,baz=108,slow=7.7,SNR=20						
MKAR	Makanchi Array	73.67	320	P	P	10 20 54.8	+0.2
MKAR				pmax	pmax		
	comp=Z,14nm,1.1s						
VNDA	Vanda	76.19	177	P	P	10 21 08.1	-0.4
	comp=Z,7.1nm,0.9s,mb4.6,baz=323,slow=6.0,SNR=25						
VNDA				LR	LR	10 54 13.0	
	comp=Z,128nm,21.0s,MS4.2,baz=345,slow=35						
VNDA	Vanda	76.19	177	P	P	10 21 08.1	-0.4
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,128nm,21.0s						
SBA	Scott Base	76.84	176	*e*P	P	10 21 12.8	+0.5
	comp=Z,32nm,1.7s,mb5.0						
KURK	Kurchatov	77.28	323	*e*P	P	10 21 14.8	-0.4
	comp=Z,20nm,1.1s,mb5.0						
SLKM	Skilak Lake	78.87	27	*e*P	P	10 21 22.4	-1.2
PMR	Palmer	79.79	26	*e*P	P	10 21 31.3	+2.7
	comp=Z,23nm,1.2s,mb5.0						
IMA	Indian Mountai	79.92	21	P	P	10 21 29.5	+0.2
	comp=Z,32nm,1.2s,mb5.1						
COLA	College	81.61	23	⇑*e*P	P	10 21 40.9	+2.7
COLA	College	81.61	23	⇑*e*P	P	10 21 40.9	+2.7
COLA	College	81.61	23	*e*P	P	10 21 40.6	+2.4
	comp=Z,6.9nm,1.0s,mb4.5						
ILAR	Eielson Array	81.95	23	P	P	10 21 38.2	-1.8
	comp=Z,3.1nm,0.7s,mb4.3,baz=257,slow=5.5,SNR=15						
ILAR				LR	LR	10 56 38.1	
	comp=Z,73nm,19.2s,MS4.1,baz=261,slow=35						
BVAR	Borovoye Array	82.82	324	P	P	10 21 43.5	-1.2
	comp=Z,6.4nm,0.9s,mb4.7,baz=104,slow=6.1,SNR=16						
BRVK	Borovoye	82.89	324	*e*P	P	10 21 44.8	-0.2
	comp=Z,24nm,1.4s,mb5.0						
DAWY	Dawson	84.82	25	*e*P	P	10 21 54.9	+0.4
MAW	Mawson	85.81	202	P	P	10 21 59.8	+0.5
	comp=Z,2.6nm,0.7s,mb4.5,baz=115,slow=3.4,SNR=5.8						
MAW				LR	LR	10 59 21.5	
	comp=Z,220nm,20.1s,MS4.5,baz=232,slow=35						
MAW	Mawson	85.81	202	P	P	10 21 59.8	+0.5
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,220nm,20.1s						
VIB	Van Inlet	86.21	37	T		11 57 25.8	
	SNR=14						
INK	Inuvik	88.05	22	P	P	10 22 10.2	+0.1
	comp=Z,4.9nm,1.0s,mb4.7,baz=287,slow=2.8,SNR=2.5						
INK	Inuvik	88.05	22	P	P	10 22 10.2	+0.1
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	Inuvik	88.05	22	*e*P	P	10 22 10.6	+0.5
	comp=Z,16nm,1.2s,mb5.1						
QSPA	South Pole Qui	88.20	180	*e*P	P	10 22 09.8	-0.9
	comp=Z,3.4nm,0.8s,mb4.6						
QSPA				LR	LR		
	comp=Z,180nm,18.1s,MS4.5						
DLBC	Dease Lake	88.25	32	*e*P	P	10 22 11.7	+0.4
ARU	Arti	90.07	326	⇓*i*P	P	10 22 18.4	-1.6
ARU				*e*	PP	10 25 51.3	-4.5
ARU				*e*S	SKS	10 32 46.0	-0.4
ARU				*e*SS	SS	10 39 08.1	-3.1
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
ARU				MLR	MLR		
	comp=Z,60nm,19.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,60nm,21.0s						
NEW	Newport	95.81	42	*e*P	P	10 22 46.3	-0.2
	comp=E,3.3nm,1.1s,mb4.7						
YKA	Yellowknife Ar	95.83	27	P	P	10 22 43.9	-2.4
	comp=E,1.4nm,1.1s,mb4.3,baz=262,slow=4.4,SNR=2.8						
YKA				LR	LR	11 05 46.2	
	comp=E,133nm,19.9s,MS4.4,slow=35						
YKA	Yellowknife Ar	95.83	27	P	P	10 22 43.9	-2.4
YKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA				MLR	MLR		
	comp=Z,133nm,19.9s						
KIV	Kislovodsk	100.85	314	*ce*P	P	10 23 09.4	-0.1
KIV				*e*		10 27 15.1	
KIV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.3						
OBN	Obninsk	102.51	326	*e*P	Pdif	10 23 10.5	-6.2
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.4						
LPAZ	La Paz	141.74	119	PKhKP		10 28 49.3	
	comp=Z,1.7nm,1.0s,baz=285,slow=2.0,SNR=4.7						
LPAZ	La Paz	141.74	119	PKIKP	PKPdf	10 28 49.3	-2.3
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CPUP	Villa Florida	144.07	143	PKP	PKPdf	10 28 53.6	-1.7
	comp=Z,3.6nm,1.1s,baz=229,slow=11,SNR=3.5						
CPUP	Villa Florida	144.07	143	PKIKP	PKPdf	10 28 53.6	-1.8
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIC	Kosan Boka	150.56	280	*e*PKIKP	PKPdf	10 29 13.4	+7.0
	comp=Z,106nm,1.2s						
DBIC	Dimbokro	150.63	280	PKPbc	PKPdf	10 29 13.2	+6.7
	comp=Z,8.7nm,0.9s,baz=89,slow=3.5,SNR=4.8						
DBIC	Dimbokro	150.63	280	PKIKP	PKPdf	10 29 13.2	+6.7
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TIC	Toumodi	150.80	280	*e*PKIKP	PKPdf	10 29 13.8	+7.0
	comp=Z,24nm,0.5s						
LIC	Lamto	150.86	280	*e*PKIKP	PKPdf	10 29 13.9	+7.0
	comp=Z,97nm,1.6s						

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*ISK **06** 10:13:02.1, 36.87N×27.65E, h22^{km}, MD3.2*
*NEIC **06** 10:13:05.6, 36.78N×27.64E, h5^{km}, MD3.1(ATH), After ATH.*
*ATH **06** 10:13:05.6, 36.78N×27.64E, h5^{km}, MD3.1/5*
ISC 06 10:13:03.4±0.8**, 36.86N**±0.03×**27.76E**±0.06**, h7**^{km}±6^{km}**,**
n15, σ0^{s}96/21**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.32	309	*i* P	Pg	10 13 09.0	-1.0
BDRM				*i* S	Sg	10 13 14.2	-0.1
MLSB	Milas	0.43	2	*i* PG	Pg	10 13 11.8	-0.3
MLSB				SG	Sg	10 13 18.6	+0.7
YER	Yerkesik	0.50	57	*i* PG	Pg	10 13 14.0	+0.5
NISR	Nisiros	0.56	244	*e*PB	Pb	10 13 15.0	-0.2
ARG	Arkhangelos	0.71	155	*e*PB	Pb	10 13 19.1	+1.4
AYDN	Tasoluk	0.80	7	⇑*i*P	Pb	10 13 18.9	-0.3
AYDN				*i* S	Sb	10 13 30.7	+0.7
SMG	Samos	1.12	319	*e*PB	Pb	10 13 24.9	+0.2
DNZL	Cakiroluk	1.32	51	*i* P	Pb	10 13 29.1	+0.9
DNZL				*i* S	Sb	10 13 49.3	+4.2
DENT	Denizli	1.35	48	PN	Pn	10 13 27.6	-1.2
KARP	Karpathos	1.40	200	*e*PB	Pb	10 13 30.0	+0.5
KDAG	Bornova	1.58	346	*i* P	Pn	10 13 33.1	+1.0
KDAG				*i* S	Sb	10 13 53.7	+0.9
ELL	Elmali	1.73	93	*e*PN	Pn	10 13 32.4	-1.8
MANT	Manisa	1.74	21	*i* P	Pn	10 13 34.2	-0.1
MANT				*i* S	Sn	10 13 56.3	-0.7
AKS	Akhisar	2.01	1	PN	Pn	10 13 35.5	-2.7
PRK	Paraskevi	2.65	334	*e*PN	Pn	10 13 53.5	+6.1

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*IDC **06** 10:13:10.6±1.4, 54.88N×109.19E, mb3.7/6, mb1 3.8/8, mb1mx3.7/22, ML4.2/2, Error ellipse: s-maj=34.7km s-min=19.3km az=73.0*
*NEIC **06** 10:13:11.2±0.6, 54.95N×109.28E, h10^{km}, mb4.3/2, Error ellipse: s-maj=14.1km s-min=11.9km az=193.0*
*MOS **06** 10:13:13.0±1.7, 54.94N×108.55E, h10^{km}, mb3.9/3, Error ellipse: s-maj=15.7km s-min=7.9km az=64.2*
*BYKL **06** 10:13:16.5±0.3, 54.78N×108.87E, h33^{km}±11^{km}, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 35.00 84.00 97.00 17 0 IEC + 165.00 9.00 40.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 313.00 50.00 215.00 7.00 119.00 39.00 IEC + 9.71 5.00 2.00 0.58 7.51 5.03*
ISC 06 10:13:12.3±0.3**, 54.79N**±0.02×**108.80E**±0.04**, h10**^{km}**, n64,**
σ1^{s}44/127**, mb3.9**/9**, 5C-19D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIZ	Nizh Angarsk	1.07	23	⇓*i*Pg	Pg	10 13 35.4	+1.5
	135nm,0.6s						
NIZ				⇓*i*Pg	Pg	10 13 35.4	+1.5
	111nm,0.6s						
NIZ				⇓*i*Pg	Pg	10 13 35.4	+1.5
	364nm,0.6s						
NIZ				Pmax		10 13 35.8	
	482nm,0.4s						
NIZ				*i* Sg	Sg	10 13 49.7	+1.5
NIZ				Smax		10 13 50.5	
	8µm,0.6s						
NIZ	Nizh Angarsk	1.07	23	*e*PG	Pg	10 13 35.7	+1.8
NIZ				*e*		10 13 49.5	
NIZ				pmax	pmax		
	comp=Z,485nm,0.3s						
NIZ				smax			
	comp=N,8µm,0.6s						
SYVR	Suvo	1.33	148	*e*Pg	Pg	10 13 39.4	+0.4
SYVR				⇓*i*		10 13 39.9	
	comp=N,248nm,0.4s						
SYVR				⇑*i*		10 13 39.9	
	comp=N,8µm,0.4s						
SYVR				⇑*i*		10 13 39.9	
	comp=N,8µm,0.4s						
SYVR				max		10 13 41.1	
	comp=N,774nm,0.2s						
SYVR				*i* Sg	Sg	10 13 57.6	+0.7
SYVR				Smax		10 13 58.3	
	comp=N,9µm,0.6s						
SYVR	Suvo	1.33	148	*e*PG	Pg	10 13 39.4	+0.4
SYVR				*e*		10 13 56.2	
SYVR				pmax	pmax		
	comp=Z,858nm,0.2s						
SYVR				smax			
	comp=N,6µm,0.4s						
OGRR	Ongureny	1.35	212	⇓*i*Pg	Pg	10 13 40.1	+0.8
	comp=N,46nm,0.2s						
OGRR				⇓*i*Pg	Pg	10 13 40.1	+0.8
	comp=N,23nm,0.2s						
OGRR				⇑*i*Pg	Pg	10 13 40.1	+0.8
	comp=N,69nm,0.2s						
OGRR				*e*Pb	Pb	10 13 41.5	+4.3
OGRR				max		10 13 42.8	
	comp=N,361nm,0.2s						
OGRR				*e*Sg	Sg	10 13 59.4	+2.1
OGRR				Smax		10 14 00.5	
	comp=N,3µm,0.2s						
OGRR	Ongureny	1.35	212	*e*PG	Pg	10 13 40.1	+0.8
OGRR				*e*		10 13 57.1	
OGRR				pmax	pmax		
	comp=Z,399nm,0.3s						
OGRR				smax			
	comp=E,3µm,0.3s						
YLYR	Ulyunkhan	1.37	85	⇓*i*Pg	Pg	10 13 39.5	-0.2
YLYR				Pmax		10 13 39.9	
	comp=E,604nm,0.4s						
YLYR				*i* Sg	Sg	10 13 58.0	0.0
YLYR				Smax		10 13 58.3	
	comp=E,8µm,0.4s						
YLYR	Ulyunkhan	1.37	85	⇓*i*PG	Pg	10 13 39.4	-0.3
YLYR				*e*		10 13 57.1	
YLYR				pmax	pmax		
	comp=Z,611nm,0.4s						
YLYR				smax			
	comp=E,8µm,0.3s						
KMO	Kumora	1.76	50	⇓*i*Pn	Pn	10 13 45.1	+2.0
KMO				Pmax		10 13 52.9	
	comp=E,370nm,0.4s						
KMO				*e*Sn	Sn	10 14 07.8	+2.1
KMO				*e*Sg	Sg	10 14 09.6	-1.3
KMO				Smax		10 14 14.5	
	comp=E,2µm,1.2s						
KMO	Kumora	1.76	50	*e*PN	Pn	10 13 45.1	+2.0
KMO				*e*		10 13 45.9	
KMO				*e*S	Sn	10 14 07.8	+2.1
KMO				*e*		10 14 09.5	
KMO				pmax	pmax		
	comp=Z,329nm,0.3s						
KMO				smax			
	comp=N,2µm,1.1s						
YOA	Uoyan	2.14	50	*e*Pn	Pn	10 13 50.7	+2.1
YOA				*e*		10 13 51.6	
YOA				*e*		10 14 03.2	
	comp=N,710nm,0.4s						
YOA				*e*Sg	Sg	10 14 22.5	-1.2
YOA				Smax		10 14 29.0	
	comp=N,3µm,1.1s						
YOA	Uoyan	2.14	50	⇓*i*PN	Pn	10 13 50.7	+2.1
ZRHB	Zarechye	2.44	204	*e*Pn	Pn	10 13 55.7	+2.7
ZRHB				*e*Pg	Pg	10 14 01.1	-0.1
ZRHB				Pmax		10 14 13.4	
	comp=N,561nm,0.5s						
ZRHB				*e*Sg	Sg	10 14 34.1	+0.3
ZRHB				Smax		10 14 47.6	
	comp=N,5µm,0.8s						
TRG	Tyrgan	2.50	217	⇓*i*Pn	Pn	10 13 56.4	+2.6
	comp=N,24nm,0.4s						
TRG				⇓*i*Pn	Pn	10 13 56.4	+2.6
	comp=N,27nm,0.4s						
TRG				⇑*i*Pn	Pn	10 13 56.4	+2.6
	comp=N,46nm,0.4s						
TRG				*i* Pn	Pn	10 14 12.1	+18
	comp=N,176nm,0.3s						
TRG				*e*Sg	Sg	10 14 34.6	-1.0
TRG				Smax		10 14 40.7	
	comp=N,2µm,0.3s						
TRG	Tyrgan	2.50	217	*e*PN	Pn	10 13 56.3	+2.5
TRG				*e*		10 14 00.1	
TRG				*e*S	Sn	10 14 28.1	+3.5
TRG				*e*		10 14 34.5	
TRG				pmax	pmax		
	comp=Z,221nm,0.2s						
TRG				smax			
	comp=N,2µm,0.2s						
TRTB	Turuntaevo	2.66	196	*e*Pn	Pn	10 13 58.5	+2.5
TRTB				*e*Pg	Pg	10 14 04.2	-1.2
TRTB				Pmax		10 14 09.2	
	comp=N,87nm,0.6s						
TRTB				*e*Sn	Sn	10 14 33.5	+4.9
TRTB				*e*Sg	Sg	10 14 38.7	-2.2
TRTB				Smax		10 14 42.5	
	comp=N,586nm,0.6s						
UKT	Uakit	2.86	74	⇓*i*Pn	Pn	10 14 00.1	+1.2
	comp=N,10.0nm,0.4s						
UKT				⇓*i*Pn	Pn	10 14 00.1	+1.2
	comp=N,76nm,0.4s						
UKT				⇓*i*Pn	Pn	10 14 00.1	+1.2
	comp=N,115nm,0.4s						
UKT				*e*Pg	Pg	10 14 06.6	-2.8
UKT				Pmax		10 14 25.3	
	comp=N,280nm,0.5s						
UKT				*e*Sn	Sn	10 14 33.6	-0.1
UKT				*e*Sg	Sg	10 14 43.2	-4.3
UKT				Smax		10 14 50.5	
	comp=N,888nm,0.7s						
UKT	Uakit	2.86	74	*e*PN	Pn	10 14 04.7	+5.8
UKT				*e*		10 14 42.3	
UKT				pmax	pmax		
	comp=Z,237nm,0.5s						
UKT				smax			
	comp=N,611nm,0.4s						
STDB	Stepnoy Dvoret	3.00	210	*e*Pg	Pg	10 14 12.5	+0.2
STDB				Pmax		10 14 29.4	
	comp=N,219nm,0.4s						
STDB				*e*Sg	Sg	10 14 53.1	+0.8
STDB				Smax		10 14 57.9	
	comp=N,3µm,0.8s						
SVKR	Severomuysk	3.02	62	*e*Pn	Pn	10 14 03.1	+1.9
SVKR				*e*Pg	Pg	10 14 10.9	-1.7
SVKR				Pmax		10 14 12.8	
	comp=N,393nm,0.5s						
SVKR				*e*Sg	Sg	10 14 50.4	-2.5
SVKR				Smax		10 14 55.4	
	comp=N,2µm,0.9s						
SVKR	Severomuysk	3.02	62	*e*PN	Pn	10 14 03.0	+1.8
HRMR	Khuramsha	3.36	200	*e*Pn	Pn	10 14 07.8	+1.9
HRMR				*e*Pg	Pg	10 14 15.4	-3.9
HRMR				Pmax		10 14 28.4	
	comp=N,260nm,0.4s						
HRMR				*e*Sg	Sg	10 14 59.4	-4.7
HRMR				Smax		10 15 08.1	
	comp=N,2µm,0.6s						
BTMB	Babushkin	3.57	211	*e*Pn	Pn	10 14 10.5	+1.5
BTMB				*e*Pg	Pg	10 14 20.9	-2.7
BTMB				Pmax		10 14 33.9	
	comp=N,76nm,0.4s						
BTMB				*e*Sg	Sg	10 15 08.9	-2.4
BTMB				Smax		10 15 21.1	
	comp=N,619nm,0.8s						
IRK	Irkutsk	3.72	228	*e*	Sn	10 14 53.5	-1.9
IRK				*e*Sg	Sg	10 15 13.0	-3.1
IRK				Smax		10 15 18.9	
	comp=N,2µm,0.3s						
IRK	Irkutsk	3.72	228	*e*PN	Pn	10 14 22.6	+12
IRK				*e*		10 15 11.2	
IRK				pmax	pmax		
	comp=Z,104nm,0.2s						
IRK				smax			
	comp=E,2µm,0.4s						
LSTR	Listvyanka	3.77	221	*e*Pn	Pn	10 14 13.2	+1.4
LSTR				*e*Pg	Pg	10 14 22.6	-5.0
LSTR				Pmax		10 14 29.6	
	comp=E,59nm,0.3s						
LSTR				*e*Sn	Sn	10 14 56.8	0.0
LSTR				*e*Sg	Sg	10 15 12.0	-5.9
LSTR				Smax		10 15 17.3	
	comp=E,533nm,0.8s						
LSTR	Listvyanka	3.77	221	*e*PN	Pn	10 14 13.0	+1.2
LSTR				*e*		10 14 21.4	

LSTR				*e*S	Sn	10 14 55.5	-1.3
LSTR				*e*		10 15 11.6	
LSTR				pmax	pmax		
	comp=Z,21nm,0.4s						
LSTR				smax			
	comp=N,562nm,1.2s						
CIT	Chita	3.97	132	*e*Pn	Pn	10 14 14.8	+0.1
CIT				*e*Pg	Pg	10 14 26.2	-5.4
CIT				*e*		10 14 36.3	
CIT				max		10 14 36.8	
	comp=N,161nm,0.5s						
CIT				*e*Sg	Sg	10 15 19.5	-5.1
CIT				Smax		10 15 28.1	
	comp=N,299nm,1.1s						
BOD	Bodaibo	4.20	42	⇓*i*Pn	Pn	10 14 18.1	+0.2
	comp=N,43nm,0.3s						
BOD				⇓*i*Pn	Pn	10 14 18.1	+0.2
	comp=N,53nm,0.3s						
BOD				⇓*i*Pn	Pn	10 14 18.1	+0.2
	comp=N,68nm,0.3s						
BOD				*i* Pn	Pn	10 14 18.4	+0.5
	comp=N,69nm,0.3s						
BOD				*e*Sg	Sg	10 15 24.4	-7.7
BOD				Smax		10 15 26.9	
	comp=N,377nm,1.0s						
NLYR	Nelyaty	4.27	64	⇓*i*Pn	Pn	10 14 19.0	+0.1
NLYR				*e*		10 14 44.3	
NLYR				*e*		10 14 45.9	
	comp=N,144nm,0.7s						
NLYR				*e*Sg	Sg	10 15 29.4	-5.0
NLYR				Smax		10 15 40.7	
	comp=N,599nm,0.8s						
TLY	Talaya	4.39	227	*e*Pn	Pn	10 14 21.4	+0.7
TLY				*e*Pg	Pg	10 14 35.5	-4.5
TLY				Pmax		10 14 39.8	
	comp=N,57nm,0.4s						
TLY				*e*Sg	Sg	10 15 32.8	-5.8
TLY				Smax		10 15 48.9	
	comp=N,543nm,0.5s						
TLY	Talaya	4.39	227	*e*PN	Pn	10 14 33.0	+12
TLY				*e*S	Sn	10 15 13.2	+0.7
TLY				*e*		10 15 31.8	
TLY				pmax	pmax		
	comp=Z,53nm,0.3s						
TLY				smax			
	comp=E,584nm,0.8s						
ARS	Arshan	4.78	236	Pn	Pn	10 14 27.1	+0.9
ARS				*e*Pg	Pg	10 14 42.5	-5.2
ARS				Pmax		10 14 56.8	
	comp=E,130nm,0.5s						
ARS				*e*Sg	Sg	10 15 44.1	-7.4
ARS				Smax		10 15 53.8	
	comp=E,2μm,0.8s						
KPC	Khapcheranga	5.55	155	*e*	Pn	10 14 36.1	-0.9
KPC				*e*Pg	Pg	10 14 55.1	-8.0
KPC				Pmax		10 15 06.7	
	comp=E,40nm,0.8s						
KPC				*e*		10 15 34.4	
KPC				*e*Sg	Sg	10 16 07.1	-10
KPC				Smax		10 16 15.5	
	comp=E,242nm,1.3s						
KPC	Khapcheranga	5.55	155	*e*PN	Pn	10 14 53.6	+17
KPC				*e*		10 16 07.4	
KPC				pmax	pmax		
	comp=Z,30nm,0.4s						
KPC				smax			
	comp=E,25nm,1.1s						
ZAK	Zakamensk	5.55	220	*e*Pn	Pn	10 14 37.4	+0.4
ZAK				*e*Pg	Pg	10 14 56.8	-6.3
ZAK				Pmax		10 15 04.4	
	comp=E,18nm,0.5s						
ZAK				*e*Sg	Sg	10 16 09.4	-7.7
ZAK				Smax		10 16 15.0	
	comp=E,432nm,1.0s						
ZAK	Zakamensk	5.55	220	*e*PN	Pn	10 14 38.3	+1.3
ZAK				*e*		10 14 54.5	
ZAK				*e*S	Sn	10 16 07.0	+25
ZAK				pmax	pmax		
	comp=Z,19nm,0.5s						
ZAK				smax			
	comp=E,445nm,1.0s						
MOY	Mondy	5.63	239	*e*Pn	Pn	10 14 40.1	+1.9
MOY				*e*Pn	Pn	10 15 12.1	+34
	comp=E,48nm,0.6s						
MOY				*e*Sn	Sn	10 15 42.4	-1.4
MOY				*e*Sg	Sg	10 16 12.0	-8.0
MOY				Smax		10 16 25.2	
	comp=E,478nm,1.1s						
MOY	Mondy	5.63	239	*e*PN	Pn	10 14 39.9	+1.7
MOY				*e*		10 14 57.2	
MOY				*e*S	Sn	10 15 41.0	-2.8
MOY				*e*		10 16 11.7	
MOY				pmax	pmax		
	comp=Z,19nm,0.2s						
MOY				smax			
	comp=E,499nm,1.6s						
CRS	Chara	5.74	65	*e*Pn	Pn	10 14 40.4	+0.7
CRS				*e*Pg	Pg	10 15 00.1	-6.8
CRS				Pmax		10 15 22.0	
	comp=E,103nm,0.9s						
CRS				*e*Sg	Sg	10 16 15.1	-8.3
CRS				Smax		10 16 22.3	
	comp=E,455nm,1.3s						
CRS	Chara	5.74	65	*e*PN	Pn	10 14 39.7	0.0
CRS				*e*		10 14 57.8	
CRS				*e*		10 16 12.5	
CRS				pmax	pmax		
	comp=Z,106nm,1.4s						
CRS				smax			
	comp=E,455nm,1.3s						
TUP	Tupik	6.49	89	⇑*i*Pn	Pn	10 14 48.8	-1.5
TUP				*e*Pg	Pg	10 15 11.8	-10
TUP				Pmax		10 15 21.6	
	comp=E,35nm,0.6s						
TUP				*e*Sg	Sg	10 16 35.8	-13
TUP				Smax		10 16 43.3	
	comp=E,352nm,0.9s						
ULN	Ulaanbaatar	7.02	190	*e*PG	Pg	10 15 26.8	-5.7
SONM	Songino Array	7.12	193	Pn	Pn	10 14 59.9	+0.7
	comp=E,0.5nm,0.3s,baz=8.3,slow=14,SNR=15						
SONM				Lg		10 17 01.5	
	comp=E,5.8nm,0.3s,baz=7.9,slow=25,SNR=10.0						
TDJR	Todzha	7.93	258	*e*Sg	Sg	10 17 22.7	-14
ARDR	Aradan	9.38	263	*e*Sg	Sg	10 18 10.2	-15
YAK	Yakutsk	13.08	48	*e*P	P	10 16 19.5	-1.2
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVS	Novosibirsk	14.71	281	*i* P	P	10 16 47.7	+5.6
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	Makanchi Array	18.48	255	P	P	10 17 29.6	-0.4
	comp=Z,1.4nm,0.3s,baz=72,slow=11,SNR=44						
MKAR	Makanchi Array	18.48	255	P	P	10 17 29.6	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	Kurchatov	18.64	270	*e*P	P	10 17 30.5	-1.4
	comp=Z,6.2nm,0.5s						
BVAR	Borovoye Array	22.51	281	P	P	10 18 12.7	-0.3
	comp=Z,14nm,0.7s,mb4.5,baz=74,slow=12,SNR=35						
BRVK	Borovoye	22.56	282	*e*P	P	10 18 13.3	-0.2
	comp=Z,15nm,0.8s,mb4.5						
YSS	Yuzh-Sakhalins	22.64	96	*e*P	P	10 18 08.0	-6.4
	comp=Z,17nm,0.9s,mb4.5						
CD2	Chengdu	24.14	191	*e*P	P	10 18 30.0	+0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
ARCES	ARCESS Array B	38.10	326	P	P	10 20 31.1	-1.3
	comp=Z,0.9nm,0.8s,mb3.6,baz=75,slow=10,SNR=4.7						
ARCES	ARCESS Array B	38.10	326	P	P	10 20 31.2	-1.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	41.39	314	P	P	10 20 57.9	-1.9
	comp=Z,0.3nm,0.4s,mb3.3,baz=63,slow=8.5,SNR=4.7						
FINES	FINESS Array B	41.39	314	P	P	10 20 57.9	-1.9
AKASG	Malin Array Be	45.91	299	P	P	10 21 37.3	+1.0
	comp=Z,0.2nm,0.3s,mb3.6,baz=47,slow=9.0,SNR=5.1						
NOA	NORSAR Array B	47.55	319	P	P	10 21 48.0	-1.2
	comp=Z,0.5nm,0.7s,mb3.7,baz=54,slow=6.9,SNR=2.8						
NOA	NORSAR Array B	47.55	319	P	P	10 21 48.0	-1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	77.57	155	P	P	10 25 07.7	-2.3
	comp=Z,0.5nm,0.6s,mb3.7,baz=348,slow=6.1,SNR=8.7						
WRA	Warramunga Arr	77.57	155	P	P	10 25 07.7	-2.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*NEIC **06** 10:16:44.1, 35.10N×23.16E, h5^{km}, MD3.5(ATH), After ATH.*

ATH 06 10:16:44.0, 35.00N×23.22E, h35^{km}±12^{km}**, MD3.5**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
GVD	Gavdhos	0.73	102	*e*PN	P	10 16 59.0	+1.2
VAM	Vamos	0.90	63	*e*PN	P	10 17 01.1	+0.9
VAM				*e*SN	S	10 17 14.6	+2.4
VAM	Vamos	0.90	63	*e*Pg	P	10 17 01.0	+0.8
VLI	Veliai	1.73	352	*e*PN	P	10 17 13.6	+1.5
VLI	Veliai	1.73	352	*e*Pb	P	10 17 14.5	+2.4
NPS	Neapolis	1.98	82	*e*PB	P	10 17 18.0	+2.3
NPS	Neapolis	1.98	82	*e*Pg	P	10 17 23.2	+7.5
XRY	Khrisi	2.04	93	*e*PN	P	10 17 17.2	+0.7
XRY	Khrisi	2.04	93	*e*Pg	P	10 17 24.0	+7.5

IDC 06 10:25:02.7±2.9**, 24.25S×174.93W, mb4.1**/7**, mb1 4.4**/7**, mb1mx4.1**/15**, Error ellipse: s-maj=183.0km s-min=21.3km az=159.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
CTA	Charters Tower	36.11	269	P	P	10 32 07.3	-1.2
	4.4nm,0.8s,baz=89,slow=15,SNR=3.7						
ASAR	Alice Springs	46.54	260	P	P	10 33 33.0	-1.2
	45nm,0.3s,baz=92,slow=9.1,SNR=1.6						
WB2	Warramunga Arr	46.99	265	*e*P	P	10 33 35.1	-2.6
WRA	Warramunga Arr	47.00	265	P	P	10 33 34.8	-2.9
	1.1nm,0.3s,baz=96,slow=8.4,SNR=199						
FITZ	Fitzroy Crossi	55.41	264	*e*P	P	10 34 39.7	-1.8
	1.8nm,1.0s						
FITZ	Fitzroy Crossi	55.41	264	P	P	10 34 39.0	-2.5
	1.6nm,0.6s,baz=180,slow=4.3,SNR=5.7						
YBH	Yreka Blue Hor	81.50	37	P	P	10 37 22.0	-1.4
	1.1nm,0.6s,baz=22,slow=1.7,SNR=6.1						
TXAR	Lajitas Array	86.73	56	P	P	10 37 49.3	-0.9
	0.6nm,0.9s,baz=211,slow=7.3,SNR=6.7						
PDAR	Pinedale Array	89.78	42	P	P	10 38 03.1	-1.4
	0.7nm,0.9s,baz=180,slow=3.0,SNR=5.9						
CMAR	Chiang Mai Arr	94.02	288	P	P	10 38 23.9	-0.5
	0.7nm,0.7s,baz=135,slow=5.1,SNR=3.8						
AKASG	Malin Array Be	147.65	331	PKPbc	PKPdf	10 44 47.9	-0.1
	0.4nm,0.4s,baz=38,slow=4.1,SNR=4.4						

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*LDG **06** 10:26:08.2±1.1, 42.67N×0.23W, h2^{km}, Md1.6/2, Ml1.6/1, Error ellipse: s-maj=29.2km s-min=5.7km az=179.0*

*MDD **06** 10:26:10.8±0.5, 43.08N×0.24W, mbLg1.5/2, Error ellipse: s-maj=7.2km s-min=2.4km az=4.0, PRXIMO*

ISC 06 10:26:10.0±0.7**, 43.07N**±0.07×**0.24W**±0.04**, n9,** $\sigma 0^{s}$**96**/12**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.11	268	Pg	Pg	10 26 13.3	+1.0
REYF				Lg		10 26 15.4	
LABF	Labassere	0.23	96	Pg	Pg	10 26 14.8	+0.1
LABF				Lg		10 26 18.2	
VIEF	Viey	0.27	134	Pg	Pg	10 26 16.5	+1.1
VIEF				Lg		10 26 20.3	
ETSF	Etsaut	0.29	233	*e*Pg	Pg	10 26 14.3	-1.6
ETSF				*e*Sg	Sg	10 26 20.3	+0.6
	7.2nm,0.2s						
EPF	Esparros	0.43	96	*e*Pg	Pg	10 26 18.4	-0.2
EPF				*e*Sg	Sg	10 26 25.8	+1.5
	3.2nm,0.3s						
SJPF	Ste Jean	0.72	274	*e*Pg	Pg	10 26 24.8	+0.4
SJPF				*e*Sg	Sg	10 26 34.3	+0.3
	2.5nm,0.4s						
EALK	Alkurruntz	0.94	279	Pg	Pg	10 26 28.2	-0.5
	0.1nm,0.3s,SNR=7.9						
EALK				Lg		10 26 41.5	
	7.0nm,1.0s,SNR=7.9						
ESAC	San Caprasio	1.36	187	Pg	Pg	10 26 35.9	-1.3
	1.5nm,0.7s,SNR=7.9						
ESAC				Lg		10 26 55.8	
	21nm,0.5s,SNR=7.9						
MTLF	Montolieu	1.82	81	*e*Sg	Sg	10 27 09.2	-1.4

IGQ 06 10:31:32.7, 0.98S×80.38W, h16^{km}±6^{km}**, mb4.0, 2C-1D, Error ellipse: s-maj=5.7km s-min=4.9km az=52.6, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.18	248	⇑P	Pb	10 31 36.9	-0.4
QIL1	Quilotoa	1.45	85	P	Pn	10 31 58.6	+0.1
IGUA	Igualata	1.81	106	⇑P	Pn	10 32 05.1	+1.4
JUA2	San Juan 2	1.93	67	P	Pn	10 32 07.3	+2.0
JUA2				S	Sn	10 32 33.6	+4.2
NAS1	Nasa	1.93	80	P	Pn	10 32 07.3	+1.9
CGGP	Crater GGP	1.94	66	P	Pn	10 32 08.9	+3.3
PINO	Pino	1.95	65	P	Pn	10 32 07.9	+2.3
RETU	Refugio	1.99	104	P	Pn	10 32 09.9	+3.7
ARRY	Arrayan	1.99	105	P	Pn	10 32 07.7	+1.5
ARRY				S	Sn	10 32 35.7	+4.7
YANA	Yana	2.00	65	P	Pn	10 32 07.9	+1.5
VC1	Cotopaxi 1	2.00	80	P	Pn	10 32 10.6	+4.2
PATA	Patacocha	2.01	105	P	Pn	10 32 08.5	+2.0
RUN2	Runtun	2.01	103	P	Pn	10 32 08.4	+1.8
TAMB	Tambo	2.03	82	P	Pn	10 32 10.9	+4.1
ANTI	Antisana	2.28	77	P	Pn	10 32 14.8	+4.4
ANTI				S	Sn	10 32 46.1	+7.8
COTA	Cotacachi	2.42	57	P	Pn	10 32 14.4	+2.0
CAYR	Refugio Cayamb	2.57	67	⇓P	Pn	10 32 19.1	+4.6
CAYA	Cayambe	2.61	66	P	Pn	10 32 19.1	+4.0

IDC 06 11:00:05.5±4.2**, 22.44S×176.08W, mb4.1**/4**, mb1 4.3**/4**, mb1mx4.0**/15**, Error ellipse: s-maj=203.0km s-min=26.6km az=152.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
CTA	Charters Tower	35.12	267	P	P	11 07 02.2	-0.7
	1.4nm,0.3s,baz=93,slow=8.7,SNR=5.6						
ASAR	Alice Springs	45.84	258	P	P	11 08 29.1	-2.2
	44nm,0.4s,baz=96,slow=7.1,SNR=1.0						
WRA	Warramunga Arr	46.13	263	P	P	11 08 30.8	-2.9
	1.3nm,0.3s,baz=95,slow=8.4,SNR=88						
YBH	Yreka Blue Hor	80.71	37	P	P	11 12 19.1	-3.0
	1.8nm,0.9s,baz=255,slow=3.3,SNR=3.9						
ILAR	Eielson Array	89.81	12	P	P	11 13 07.2	+0.4
	0.3nm,0.8s,baz=220,slow=5.8,SNR=5.5						
AKASG	Malin Array Be	145.56	331	PKPbc	PKPbc	11 19 45.3	-0.7
	0.3nm,0.3s,baz=32,slow=3.7,SNR=4.0						

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*IDC **06** 11:05:23.1±5.1, 8.22S×117.52E, h22^{km}±32^{km}, mb4.3/10, mb1 4.5/11, mb1mx4.3/18, ML4.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=32.0km s-min=12.1km az=59.0*

*NEIC **06** 11:05:24.5±2.2, 8.36S×117.42E, h31^{km}±18^{km}, Error ellipse: s-maj=8.0km s-min=6.7km az=212.0*

*DJA **06** 11:05:26.3±0.8, 8.17S×117.34E, h30^{km}±4^{km}, MD4.9/7, ML5.1/6, Error ellipse: s-maj=46.9km s-min=4.7km az=143.0*

ISC 06 11:05:23.6±0.4**, 8.38S**±0.05×**117.56E**±0.04**, h33**^{km}**, n47,** $\sigma 1^{s}$**16**/51**, mb4.7**/15**, MS3.5**/5**, 7C-4D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.43	266	⇓*e*Pn	Pn	11 05 46.5	-1.1
	3μm,0.1s						
KEDI	Kedomdong	1.43	266	*e*P	P	11 05 47.9	+0.5
RATI	Rata	2.03	260	⇓*e*Pn	Pn	11 05 54.9	-1.3
RATI	Rata	2.03	260	*e*P	P	11 05 57.3	+1.3
INGI	Ingas	2.42	259	⇑*i*Pn	Pn	11 06 01.0	-0.8
	4μm,0.1s						
KELI	Kelakatan	3.04	273	⇑*i*Pn	Pn	11 06 09.1	-1.4
	737nm,0.1s						
NINI	Niniconang	4.50	29	⇓*i*Pn	Pn	11 06 32.1	+0.8
	452nm,0.2s						
TANI	Tanete Lipujan	5.24	20	⇑*i*Pn	Pn	11 06 41.0	-0.7
	104nm,0.1s						
BUNI	Buntu Taipa	5.44	31	⇑*i*Pn	Pn	11 06 45.2	+0.6
	87nm,0.2s						
FITZ	Fitzroy Crossi	12.46	142	*e*P	P	11 08 19.8	-1.6
	16nm,0.6s						
FITZ				*e*S	S	11 10 33.7	-6.3
FITZ	Fitzroy Crossi	12.46	142	Pn	P	11 08 19.8	-1.6
	1.6nm,0.3s,baz=347,slow=7.3,SNR=41						
FITZ				Sn	S	11 10 34.6	-5.4
	3.6nm,0.3s,baz=193,slow=19,SNR=9.5						
FITZ				LR	LR	11 13 50.4	
	comp=Z,175nm,20.1s,baz=284,slow=40						
KAKA	Kakadu	15.21	108	⇑*i*P	P	11 08 58.4	+0.6
	20nm,0.4s						
KAKA				*e*S	S	11 11 45.1	-0.5
WRA	Warramunga Arr	19.90	127	P	P	11 09 54.3	-0.9
	17nm,0.5s,baz=299,slow=12,SNR=90						
WRA				S	S	11 13 31.9	-0.4
	4.3nm,0.8s,baz=303,slow=23,SNR=4.7						
WRAB	Tennant Creek	19.90	127	*e*P	P	11 09 54.7	-0.6
	19nm,0.8s						
WB2	Warramunga Arr	19.91	127	⇑*i*P	P	11 09 54.5	-0.8
WB2				*e*S	S	11 13 31.5	-1.0
ASPA	Alice Springs	21.82	136	*e*P	P	11 10 15.2	+0.3
ASPA				*e*S	S	11 14 17.4	+8.2
ASAR	Alice Springs	21.82	136	P	P	11 10 15.3	+0.4
	49nm,0.4s,mb5.3,baz=312,slow=9.7,SNR=2.3						
ASAR				S	S	11 14 17.9	+8.7
	108nm,0.4s,baz=313,slow=21,SNR=3.5						
ASAR				LR	LR	11 19 32.2	
	comp=Z,127nm,18.6s,MS3.4,baz=309,slow=39						
KLBR	Kellerberrin	23.09	180	*e*P	P	11 10 27.9	+0.4
	22nm,0.4s,mb4.9						
KLBR				*e*S	S	11 14 37.0	+4.7
MUN	Mundaring	23.51	183	*e*P	P	11 10 33.3	+1.7
	26nm,0.4s,mb5.0						
MUN				*e*S	S	11 14 44.0	+4.4
FORT	Forrest	24.35	158	*e*P	P	11 10 40.5	+0.8
	183nm,0.6s,mb5.7						
NWAO	Narrogin (SRO)	24.43	181	P	P	11 10 41.0	+0.6
	9.8nm,0.5s,mb4.5,baz=358,slow=6.6,SNR=28						
NWAO	Narrogin (SRO)	24.43	181	*e*P	P	11 10 41.1	+0.6
	21nm,0.4s,mb4.9						
NWAO				*e*		11 10 58.8	
CTA	Charters Tower	30.09	116	LR	LR	11 25 04.2	
	comp=Z,153nm,21.6s,MS3.6,baz=118,slow=39						
CTAO	Charters Tower	30.09	116	P	P	11 11 33.2	+0.7
STKA	Stephens Creek	32.34	140	⇑*i*P	P	11 11 52.3	+0.1
	5.9nm,0.4s,mb4.8						
STKA	Stephens Creek	32.34	140	P	P	11 11 52.5	+0.3
	5.9nm,0.5s,mb4.7,baz=310,slow=9.3,SNR=43						
STKA				LR	LR	11 26 26.8	
	comp=Z,103nm,20.4s,MS3.5,baz=269,slow=39						
CMAR	Chiang Mai Arr	32.38	326	P	P	11 11 51.6	-1.0
	2.7nm,1.0s,mb4.0,baz=154,slow=6.8,SNR=7.3						
CMAR				LR	LR	11 26 19.4	
	comp=Z,141nm,18.9s,MS3.7,baz=155,slow=39						
ARMA	Armidale	38.65	129	*e*P	P	11 12 48.8	+3.0
GUN	Gumba	47.33	321	*e*P	P	11 14 01.1	+4.7
	33nm,0.7s,mb5.3						
PKI	Pulchoki	47.39	320	*e*P	P	11 14 02.9	+6.1
DMN	Daman	47.61	320	*e*P	P	11 14 03.9	+5.3
	27nm,0.9s,mb5.3						
KKN	Kakani	47.62	320	*e*P	P	11 14 04.8	+6.1
GKN	Gorkha	48.18	320	*e*P	P	11 14 08.5	+5.5
KOLN	Koldanda	48.69	319	*e*P	P	11 14 09.5	+2.6
	22nm,1.1s,mb5.1						
POO	Poona	50.73	302	*e*	P	11 14 26.0	+3.3
SONM	Songino Array	56.84	351	P	P	11 15 05.5	-1.8
	1.4nm,0.7s,mb4.1,baz=170,slow=8.0,SNR=11						
MKAR	Makanchi Array	63.27	334	P	P	11 15 48.0	-3.3
	0.7nm,0.4s,mb4.1,baz=156,slow=6.8,SNR=12						
MKAR				LR	LR	11 49 55.6	
	comp=Z,30nm,18.5s,MS3.5,baz=304,slow=42						
MKAR	Makanchi Array	63.27	334	P	P	11 15 48.0	-3.3
MKAR				LR	LR	11 49 55.6	
MAW	Mawson	69.33	200	P	P	11 16 29.2	-0.3
	2.1nm,0.5s,mb4.3,baz=86,slow=6.1,SNR=10.0						
VNDA	Vanda	72.82	171	P	P	11 16 51.0	+0.7
	1.4nm,0.4s,mb4.2,baz=314,slow=8.1,SNR=21						
BVAR	Borovoye Array	73.08	332	P	P	11 16 48.9	-3.4
	0.7nm,0.7s,mb3.7,baz=149,slow=8.6,SNR=4.4						
SNAA	Sanae	91.20	196	⇓*i*	P	11 18 22.0	-4.2
SNAA	Sanae	91.20	196	*e*	P	11 18 27.2	+1.0
CPUP	Villa Florida	145.14	188	PKPbc	PKPbc	11 24 59.7	+0.9
	3.6nm,0.5s,baz=204,slow=3.0,SNR=14						
LVC	Limon Verde	148.55	168	PKPbc	PKPdf	11 25 10.3	+6.1
	3.4nm,0.6s,baz=289,slow=8.3,SNR=6.2						
BDFB	Brasilia	152.18	211	PKPbc	PKPdf	11 25 16.9	+6.9
	2.7nm,0.5s,baz=289,slow=1.1,SNR=4.6						
LPAZ	La Paz	154.85	167	PKPab	PKPab	11 25 41.3	+1.4
	1.4nm,0.5s,baz=173,slow=6.2,SNR=8.6						

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*IDC **06** 11:09:13.7±4.8, 25.29N×109.54W, mb3.6/3, mb1 3.9/5, mb1mx3.7/19, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=76.8km s-min=23.6km az=163.0*

*NEIC **06** 11:09:16.2±1.4, 25.44N×109.45W, h10^{km}, mb4.0/7, Error ellipse: s-maj=19.8km s-min=10.0km az=17.0*

ISC 06 11:09:14.5±1.2**, 25.4N**±0.1×**109.43W**±0.06**, h10**^{km}**, n40,** $\sigma 1^{s}$**32**/42**, mb3.8**/4**, MS3.0**/1**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
LTX	Lajitas	6.43	52	P	Pn	11 10 53.0	+1.4
TXAR	Lajitas Array	6.43	52	Pn	Pn	11 10 51.5	0.0
	0.2nm,0.3s,baz=229,slow=14,SNR=20						
TXAR				Pg	Pg	11 11 18.6	-4.2
	0.5nm,0.3s,baz=230,slow=15,SNR=11						
TXAR				Sn	Sn	11 12 07.3	+1.5
	0.7nm,0.3s,baz=232,slow=22,SNR=3.5						
TXAR				Lg		11 12 42.8	
	0.8nm,0.3s,baz=229,slow=30,SNR=4.3						
TUC	Tucson	6.95	350	*e*P	Pn	11 10 56.4	-2.5
GDL2	Guadalupe Moun	8.07	32	*e*P	P	11 11 12.6	-1.9
BNM	Barren Site	9.01	15	*e*P	P	11 11 26.5	-1.2
LAZ	Ladron	9.15	12	*e*P	P	11 11 30.6	+1.0
LPM	Los Pinos Moun	9.17	15	P	P	11 11 29.9	0.0
WUAZ	Wupatki	10.18	351	*e*P	P	11 11 39.8	-4.1
LDFC	Landfair	10.78	334	P	P	11 11 49.8	-2.3
NEN	Nelson	11.19	337	*e*P	P	11 11 56.0	-1.6
RW3	Ridgway	12.86	6	P	P	11 12 25.2	+5.1
WMOK	Wichita Mounta	13.06	42	*e*P	P	11 12 19.9	-2.9
MVU	Marysvale	13.23	350	P	P	11 12 29.9	+4.8
MSU	Marysvale	13.24	351	P	P	11 12 25.9	+0.8
TPH	Tonopah	14.22	334	P	P	11 12 39.6	+1.5
	14nm,1.5s						
MNV	Mina	14.91	332	P	P	11 12 45.3	-1.7
	0.9nm,0.6s						
JLU	Jordanelle	15.21	354	*e*P	P	11 12 50.8	-0.3
HWUT	Hardware Ranch	16.22	354	*e*P	P	11 13 02.6	-1.4
	22nm,1.6s						
BMN	Battle Mountai	16.30	338	P	P	11 13 06.4	+1.2
	26nm,1.5s						
WCN	Washoe City	16.32	330	*e*P	P	11 13 05.6	+0.2
BEKR	Beckwourth	17.05	330	*e*P	P	11 13 15.4	+0.8
	18nm,1.3s						
OHCM	Honcut	17.17	327	P	P	11 13 16.5	+0.5
BW06	Boulder Array	17.28	360	*e*P	P	11 13 18.7	+1.2
	6.1nm,1.1s						
PDAR	Pinedale Array	17.28	360	P	P	11 13 18.4	+0.9
	0.1nm,0.3s,baz=162,slow=11,SNR=12						
TPAW	Teton Pass	18.05	356	*e*P	P	11 13 26.9	-0.1
HLID	Hailey	18.53	349	*e*P	P	11 13 35.2	+2.2
	3.4nm,1.2s						
QLMT	Earthquake Lak	19.41	356	*e*P	P	11 13 42.0	-1.6
CCM	Cathedral Cave	19.89	46	P	P	11 13 47.9	-1.1
BOZ	Bozeman (W)	20.24	356	*e*P	P	11 13 51.1	-1.5
	8.7nm,1.3s						
LAO	LASA Array	21.36	6	*e*P	P	11 14 04.6	+0.6
	22nm,1.2s,mb4.4						
LNOR	Lincton Mounta	21.59	343	*e*P	P	11 14 07.9	+1.5
CHMT	Chamberlain Mo	21.64	353	P	P	11 14 07.5	+0.5
DPW	Davenport	23.43	345	*e*P	P	11 14 25.9	+1.3
NEW	Newport	23.57	347	P	P	11 14 27.6	+1.7
	1.2nm,0.4s,mb3.7,baz=170,slow=12,SNR=3.7						
NLW	Nelson Butte	24.18	342	*e*P	P	11 14 33.1	+1.3
DLBC	Dease Lake	36.05	342	P	P	11 16 15.7	-2.1
YKA	Yellowknife Ar	37.20	356	P	P	11 16 26.9	-0.5
	0.9nm,0.8s,mb3.7,baz=179,slow=8.4,SNR=3.9						
YKA				LR	LR	11 31 38.2	
	comp=Z,25nm,20.6s,MS3.0,baz=180,slow=36						
YKA	Yellowknife Ar	37.20	356	P	P	11 16 26.9	-0.6
YKA				LR	LR	11 31 38.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	40.37	107	P	P	11 16 54.2	-0.2
ILAR	**Eielson Array**	46.08	339	P	P	11 17 40.4	+0.3
	0.4nm,0.7s,mb3.4,baz=153,slow=7.0,SNR=6.3						

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*ISK **06** 11:10:07.5,36.99N×27.63E,h5^{km},MD3.3*
*NEIC **06** 11:10:09.6,36.87N×27.66E,h21^{km},MD3.3(ATH),After ATH.*
*ATH **06** 11:10:09.6,36.87N×27.66E,h21^{km}±5^{km},MD3.3/6*
ISC 06 11:10:09.2±0.7,**36.89N**±0.04×**27.64E**±0.04,**h12**^{km}±5^{km}, **n17,**σ**1^{s}05**/23,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.24	318	*i* P	Pg	11 10 14.7	+0.3
BDRM				*i* S	Sg	11 10 19.2	+1.3
NISR	**Nisiros**	0.50	236	*e*PN	Pn	11 10 20.1	-1.7
YER	**Yerkesik**	0.57	64	*i* PG	Pg	11 10 19.0	-1.7
YER				SG	Sg	11 10 27.9	-0.5
ARG	**Arkhangelos**	0.78	150	*e*PN	Pn	11 10 23.6	-2.2
AYDN	**Tasoluk**	0.79	14	*i* P	Pb	11 10 23.9	-0.6
AYDN				*i* S	Sb	11 10 34.4	-0.6
SMG	**Samos**	1.04	322	*e*PN	Pn	11 10 30.0	+0.4
DNZL	**Cakiroluk**	1.38	54	*i* P	Pn	11 10 34.1	-0.2
DNZL				*i* S	Sb	11 10 52.0	+0.1
KARP	**Karpathos**	1.39	196	*e*PN	Pn	11 10 36.0	+1.4
DENT	**Denizli**	1.40	52	PN	Pn	11 10 34.8	0.0
DENT				SN	Sn	11 10 54.5	+1.2
KDAG	**Bornova**	1.54	349	*i* P	Pn	11 10 36.5	-0.3
APE	**Apeiranthos**	1.70	277	*e*PB	Pb	11 10 39.5	-0.5
KSL	**Kastellorizon**	1.73	115	*e*PN	Pn	11 10 40.5	+1.1
MANT	**Manisa**	1.76	24	*i* P	Pn	11 10 42.7	+2.9
MANT				*i* S	Sn	11 11 01.5	-0.7
ELL	**Elmali**	1.82	94	*e*PN	Pn	11 10 41.6	+0.8
AKS	**Akhisar**	1.99	4	PN	Pn	11 10 42.2	-1.0
HDMB	**Hadim**	3.88	87	*e*PN	Pn	11 11 11.0	+0.9
IKL	**Isikli**	4.91	96	*e*PN	Pn	11 11 25.2	+0.5

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*TAP **06** 11:21:32.4,24.04N×121.53E,h20^{km},ML3.8*
TAP Felt III J at Chiawan, III J at Hualien, IV J at Shilin, II J at Hehuanshan, II J at Nanshan, II J at Nanau, I J at Hungye, I J at Nioudou.
*JMA **06** 11:21:32.9±0.3,24.40N×121.49E,h84^{km},M2.9*
ISC 06 11:21:33.3±0.2,**24.02N**±0.01×**121.61E**±0.02,**h19**^{km}±3^{km}, **n56,**σ**0^{s}97**/103,**5C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	0.04	185	⇑*i*P	Pb	11 21 37.2	+0.5
HWA				S	Sb	11 21 40.4	+1.4
TWD	**Chiawan**	0.06	348	⇓*i*P	Pb	11 21 36.8	0.0
TWD				S	Sb	11 21 39.3	+0.1
ESL	**Shilin**	0.26	218	⇓*i*P	Pb	11 21 38.4	-0.9
ESL				S	Sb	11 21 42.2	-1.1
WHF	**Hehuan Shan**	0.34	292	⇓*i*P	Pb	11 21 39.2	-1.3
WHF				S	Sb	11 21 43.4	-2.0
ENA	**Nanau**	0.42	16	⇓*i*P	Pb	11 21 41.7	-0.2
ENA				S	Sb	11 21 47.6	-0.2
NNS	**Nan Shan**	0.47	333	⇑*i*P	Pb	11 21 42.0	-0.8
NNS				S	Sb	11 21 47.8	-1.4
EHY	**Hungye**	0.58	207	*e*P	Pb	11 21 42.9	-1.7
EHY				S	Sb	11 21 51.2	-1.0
ENTT	**Nioudou**	0.62	356	*e*P	Pb	11 21 44.7	-0.5
ENTT				S	Sb	11 21 53.0	-0.5
TWC	**Suao**	0.62	20	*e*P	Pb	11 21 45.2	-0.2
TWC				S	Sb	11 21 53.8	+0.1
SMLT	**Sun Moon Lake**	0.66	258	⇑*i*P	Pb	11 21 44.9	-1.1
SMLT				S	Sb	11 21 52.9	-1.9
NSK	**Sanguang**	0.69	341	P	Pb	11 21 45.7	-0.8
NSK				S	Sb	11 21 54.4	-1.1
TYC	**Yuchr**	0.70	261	⇑*i*P	Pb	11 21 45.3	-1.3
TYC				S	Sb	11 21 53.3	-2.4
TWE	**Neicheng**	0.70	4	*e*P	Pb	11 21 46.2	-0.4
TWE				S	Sb	11 21 55.8	0.0
NSTT	**Nanjuang**	0.82	318	*e*P	Pb	11 21 48.1	-0.6
NSTT				S	Sb	11 21 58.2	-1.1
TWQ1	**Liyutan**	0.83	293	⇑P	Pb	11 21 48.5	-0.3
TWQ1				S	Sb	11 21 59.4	-0.1
WNT	**Mingjian**	0.86	261	*e*P	Pb	11 21 49.3	0.0
WNT				S	Sb	11 22 00.9	+0.5
TCU	**Taichung**	0.86	279	*e*P	Pb	11 21 49.4	0.0
TCU				S	Sb	11 22 01.3	+0.8
NSY	**Sanyi**	0.87	297	*e*P	Pb	11 21 49.7	+0.2
NSY				S	Sb	11 22 01.1	+0.4
ALS	**Alishan**	0.90	236	*e*P	Pb	11 21 49.6	-0.3
ALS				S	Sb	11 22 01.2	-0.3
CHKT	**Chengkung**	0.94	194	*e*P	Pb	11 21 49.5	-1.2
CHKT				S	Sb	11 22 02.3	-0.6
CHN5	**Tsauling**	0.95	244	*e*P	Pb	11 21 50.9	0.0
CHN5				S	Sb	11 22 04.3	+1.2
HSN	**Hsinchu**	0.97	323	*e*P	Pb	11 21 51.9	+0.6
HSN				S	Sb	11 22 06.0	+2.4
ELDTW	**Lidau**	0.99	213	*e*P	Pb	11 21 49.4	-2.2
ELDTW				S	Sb	11 22 03.6	-0.6
WGK	**Gukeng**	1.01	251	*e*P	Pb	11 21 51.8	-0.2
WGK				S	Sb	11 22 06.0	+1.0
TAP1	**Taipei**	1.02	356	*e*P	Pb	11 21 52.4	+0.4
TAP1				S	Sb	11 22 05.0	+0.1
TAP	**Taipei**	1.02	355	*e*P	Pb	11 21 52.6	+0.6
NCU	**National Centr**	1.02	338	*e*P	Pb	11 21 52.8	+0.7
NCU				S	Sb	11 22 07.0	+2.0
TWB1	**Santiao Chiao**	1.04	19	*e*P	Pb	11 21 52.3	-0.1
TWB1				S	Sb	11 22 06.6	+0.9
NWF	**Wu-fen Shan**	1.06	8	*e*P	Pb	11 21 52.3	-0.4
NWF				S	Sb	11 22 06.3	+0.2
TWS1	**Kuangyinshan**	1.09	351	*e*P	Pb	11 21 53.5	+0.2
TWS1				S	Sb	11 22 09.2	+2.1
CHN4	**Tsaushan**	1.15	235	*e*P	Pb	11 21 54.8	+0.6
CHN4				S	Sb	11 22 10.2	+1.6
CHN2	**Minshiung**	1.15	245	*e*P	Pb	11 21 55.0	+0.7
CHN2				S	Sb	11 22 10.1	+1.4
STYT	**Tauyuan**	1.16	223	*e*P	Pb	11 21 54.0	-0.4
STYT				S	Sb	11 22 09.2	+0.2
WTP	**Ta-pu**	1.20	230	*e*P	Pb	11 21 54.9	-0.1
WTP				S	Sb	11 22 11.2	+1.1
CHY	**Chiayi**	1.20	245	*e*P	Pb	11 21 55.6	+0.4
CHY				S	Sb	11 22 11.3	+0.9
WTCT	**Ta-ch'eng**	1.23	263	*e*P	Pn	11 21 55.6	+0.1
TWY	**Chenhua**	1.25	360	*e*P	Pn	11 21 56.5	+0.6
TWK	**Hsinying**	1.27	234	*e*P	Pn	11 21 56.7	+0.5
TWK				S	Sb	11 22 14.2	+1.9
TWG	**Pinlang**	1.29	203	*e*P	Pn	11 21 53.3	-3.2
CHN1	**Nanshi**	1.29	230	*e*P	Pn	11 21 56.8	+0.3
CHN1				S	Sb	11 22 14.7	+1.7
WSF	**Szhu**	1.33	254	*e*P	Pn	11 21 56.7	-0.3
WSF				S	Sb	11 22 14.6	+0.7
SGST	**Jiashian**	1.33	225	*e*P	Pn	11 21 57.6	+0.7
SGST				S	Sb	11 22 15.5	+1.6
YOJ	**Yonaguni jima**	1.35	71	P	Pn	11 21 57.2	-0.1
YOJ				*e*S	Sb	11 22 15.5	+0.8
CHN8	**Yiju**	1.45	243	*e*P	Pn	11 21 58.9	+0.3
CHN8				S	Sn	11 22 18.5	+1.3
SSD	**Sandimen**	1.55	215	*e*P	Pn	11 22 00.1	-0.1
PCYT	**Pengchaiyu**	1.66	15	*e*P	Pn	11 22 01.5	-0.2
EAST	**Anshuo**	1.77	203	*e*P	Pn	11 22 04.5	+1.2
SCZT	**Fangliau**	1.88	209	*e*P	Pn	11 22 06.5	+1.7
PNG	**Penghu**	1.94	257	*e*P	Pn	11 22 04.2	-1.5
PNG				S	Sn	11 22 28.3	-1.3
WDGT	**Dungji**	1.94	247	*e*P	Pn	11 22 05.0	-0.8
WDGT				S	Sn	11 22 29.0	-0.8
IRIF	**Iriomote-Funau**	1.96	80	P	Pn	11 22 05.8	-0.2
IRIF				*e*S	Sn	11 22 31.5	+1.2
LAY	**Lan-yu**	1.97	182	*e*P	Pn	11 22 04.8	-1.4
HATJ	**Hateruma jima**	2.01	89	P	Pn	11 22 07.6	+0.9
HATJ				*e*S	Sn	11 22 31.9	+0.4
JKRS	**Kuro-shima**	2.20	84	P	Pn	11 22 09.6	+0.1
JKRS				S	Sn	11 22 37.8	+1.3
JIJ	**Ishigaki jima**	2.34	81	P	Pn	11 22 10.8	-0.6
JIJ				S	Sn	11 22 39.1	-0.8
JTJ	**Tarama**	2.89	77	P	Pn	11 22 18.2	-1.1
JTJ				*e*S	Sn	11 22 53.2	-0.6

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*IDC **06** 11:32:01.3±1.2,40.43S×45.20E,mb4.4/6,mb1 4.5/6, mb1mx4.0/20,MS3.8/2,Ms1 3.7/2,ms1mx3.1/26,Error ellipse: s-maj=169.0km s-min=25.8km az=14.0*
*NEIC **06** 11:32:02.7±0.7,40.07S×45.27E,h10^{km},mb4.4/1,Error ellipse: s-maj=35.6km s-min=15.2km az=194.0*
ISC 06 11:32:00.7±0.9,**40.0S**±0.3×**45.2E**±0.2,**h10**^{km}**,n11,** σ**0^{s}42**/8,**mb4.3**/7,**MS3.8**/2,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	**Sutherland**	21.07	284	P	P	11 36 47.3	0.0
	13nm,1.1s,mb4.2,baz=129,slow=16,SNR=3.6						
SUR	**Sutherland**	21.07	284	P	P	11 36 47.3	0.0
MAW	**Mawson**	29.30	166	LR	LR	11 46 40.9	
	comp=Z,121nm,20.5s,MS3.5,baz=233,slow=30						
QSPA	**South Pole Qui**	50.17	180	*e*P	P	11 40 57.9	+0.1
	5.4nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	71.38	98	P	P	11 43 22.9	-0.1
	2.3nm,0.8s,mb4.2,baz=222,slow=4.8,SNR=5.0						
ASAR	**Alice Springs**	74.23	108	P	P	11 43 39.4	-0.3
	1.9nm,0.7s,mb4.1,baz=226,slow=5.5,SNR=18						
STKA	**Stephens Creek**	74.69	119	P	P	11 43 41.5	-0.7
	3.2nm,0.7s,mb4.4,baz=214,slow=4.8,SNR=6.0						
WRA	**Warramunga Arr**	76.81	105	P	P	11 43 55.2	+0.7
	2.9nm,0.8s,mb4.3,baz=227,slow=4.7,SNR=24						
GNI	**Garni**	79.80	360	LR	LR	12 19 38.7	
	comp=Z,77nm,18.2s,MS4.1,baz=199,slow=36						
CTA	**Charters Tower**	85.38	112	P	P	11 44 40.0	+0.3
	3.0nm,0.8s,mb4.5,baz=237,slow=6.7,SNR=4.8						
TXAR	**Lajitas Array**	152.40	257	PKPbc	PKPdf	11 52 00.4	+7.4
	0.5nm,0.7s,baz=135,slow=5.1,SNR=5.3						

IDC 06 11:40:18.7±1.2,**34.50S**×**110.95W,mb3.9**/3,**mb1 4.1**/3, **mb1mx3.8**/17,**MS3.8**/2,**Ms1 3.8**/2,**ms1mx3.3**/23,**Error ellipse: s-maj=61.1km s-min=38.2km az=150.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	38.52	83	LR	LR	11 59 58.2	
	comp=Z,134nm,18.6s,baz=159,slow=31						
LPAZ	**La Paz**	42.36	76	P	P	11 48 15.8	-0.5
	0.2nm,0.3s,baz=216,slow=18,SNR=1.6						
CPUP	**Villa Florida**	46.50	95	LR	LR	12 06 14.5	
	comp=Z,100nm,20.0s,baz=74,slow=34						
PDAR	**Pinedale Array**	76.91	1	P	P	11 52 12.8	-1.5
	1.1nm,0.8s,baz=154,slow=4.3,SNR=8.3						
ASAR	**Alice Springs**	95.55	237	P	P	11 53 47.7	+0.5
	1.1nm,1.1s,baz=121,slow=5.3,SNR=4.0						
IDI	**Anoyia**	143.99	76	PKP	PKPdf	11 59 54.5	-3.5
	12nm,1.1s,baz=271,slow=4.5,SNR=7.6						
CMAR	**Chiang Mai Arr**	148.99	247	PKPbc	PKPdf	12 00 07.2	+0.4
	2.2nm,1.0s,baz=172,slow=3.1,SNR=9.0						
SONM	**Songino Array**	149.21	307	PKP	PKPdf	12 00 03.3	-3.0
	0.4nm,0.9s,baz=90,slow=3.4,SNR=3.4						
SONM				PKPbc	PKPdf	12 00 09.3	+3.0
	1.0nm,0.8s,baz=96,slow=3.1,SNR=6.6						

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*NAO **06** 12:00:24.0±7.0,57.52N×24.21E,ML2.1*
*BER **06** 12:00:30.4±3.5,57.66N×24.01E,ML2.1(NAO), Suspected explosion*
HEL 06 12:00:44.1±5.3,**58.13N**×**23.71E,ML2.1**(NAO), **Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUR	**Nurmij rvi**	2.43	11	*e*SG	Sg	12 02 00.1	-5.0
PVF	**Pernaja**	2.66	24	*e*S	Sn	12 02 01.7	-0.7
FIA0	**FINESS Array S**	3.53	19	Pn	Pn	12 01 31.6	-10
	baz=181,slow=18						
FIA0				Lg		12 02 31.2	
	baz=190,slow=28						
FIA0	**FINESS Array S**	3.53	19	*e*SG	Sg	12 02 30.9	-11
KEF	**Keuruu**	4.09	8	*e*SG	Sg	12 02 51.2	-9.1
KAF	**Kangasniemi**	4.20	17	*e*SG	Sg	12 02 51.0	-13
SUF	**Sumiainen**	4.76	14	*e*SG	Sg	12 03 08.1	-14
HFS	**Hagfors**	5.53	295	*e*	Sn	12 02 59.1	-16
HFS				*e*SG	Sg	12 03 33.5	-15
HFS	**Hagfors**	5.53	295	Sn	Sn	12 02 59.1	-16
	baz=114,slow=28						
HFS				Lg		12 03 33.5	
	baz=101,slow=28						
ARA0	**ARCESS Array S**	11.47	3	Lg		12 06 39.1	
	baz=184,slow=37						
ARA0	**ARCESS Array S**	11.47	3	*e*SG		12 06 39.1	
ARA0	**ARCESS Array S**	11.47	3	Lg		12 06 39.1	
	baz=184,slow=37						

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*ISK **06** 12:01:39.8,36.94N×27.74E,h17^{km},MD3.1*
*ATH **06** 12:01:41.7,36.86N×27.74E,h30^{km}±6^{km},MD3.2/6*
*NEIC **06** 12:01:43.0,36.76N×27.72E,h30^{km},MD3.2(ATH),After ATH.*
ISC 06 12:01:40.7±0.7,**36.93N**±0.05×**27.74E**±0.05,**h22**^{km}±7^{km}, **n18,**σ**0^{s}85**/23,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.27	299	*i* P	Pb	12 01 46.7	-0.4
BDRM				*i* S	Sb	12 01 51.0	-0.3
MLSB	**Milas**	0.36	5	*i* PG	Pb	12 01 47.6	-0.9
MLSB				SG	Sb	12 01 53.2	-0.6
YER	**Yerkesik**	0.48	65	*i* PG	Pb	12 01 49.7	-0.7
NISR	**Nisiros**	0.58	237	*e*PN	Pn	12 01 53.1	-0.5
NISR				*e*SN	Sn	12 02 02.0	-0.5
AYDN	**Tasoluk**	0.74	9	⇑*i*P	Pb	12 01 54.5	-0.2
AYDN				*i* S	Sb	12 02 04.0	-0.4
ARG	**Arkhangelos**	0.78	156	*e*PN	Pn	12 01 56.0	-0.4
SMG	**Samos**	1.06	317	*e*PB	Pb	12 02 02.0	+1.8
SMG	**Samos**	1.06	317	*e*Pn	Pn	12 02 01.2	+0.8
DNZL	**Cakiroluk**	1.29	54	⇑*i*P	Pn	12 02 04.4	+0.7
DNZL				*i* S	Sb	12 02 23.0	+2.7
DENT	**Denizli**	1.32	51	PN	Pn	12 02 04.0	-0.1
KARP	**Karpathos**	1.46	199	*e*PN	Pn	12 02 06.9	+0.8
MANT	**Manisa**	1.69	22	*i* P	Pn	12 02 09.6	+0.2
MANT				*i* S	Sn	12 02 29.3	-1.2
ELL	**Elmali**	1.75	95	*e*PN	Pn	12 02 10.0	-0.3
APE	**Apeiranthos**	1.77	275	*e*PB	Pb	12 02 12.5	+0.1
AKS	**Akhisar**	1.94	2	PN	Pn	12 02 12.7	-0.4
PRK	**Paraskevi**	2.58	334	*e*PB	Pb	12 02 27.5	+1.3
ULDT	**Uludag**	3.39	18	*i* P	Pn	12 02 45.9	+12
HDMB	**Hadim**	3.80	88	SN	Sx	12 09 58.0	

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*NEIC **06** 12:03:22.8,36.89S×71.39W,h35^{km},ML2.9(GUC),After GUC.*
GUC 06 12:03:22.8±0.7,**36.89S**×**71.39W,h35**^{km}±9^{km}**,MD3.8, ML2.9,1D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	**Chillan**	0.62	297	⇓*i*P	P	12 03 34.6	-0.4
CCHI				*i* S	S	12 03 44.3	+0.4
CCHI				AMP		12 03 51.3	
	comp=N,505nm,0.3s						
TALC	**Talca**	1.50	352	*e*P	P	12 03 48.7	+1.1
TALC				*i* S	S	12 04 07.5	+1.4
CICH	**Cipreses**	2.68	17	*e*P	P	12 04 05.2	+0.6
CACH	**El Canelo**	2.84	13	*e*P	P	12 04 07.4	+0.6
CHCH	**Chadas Angostu**	3.01	12	*e*P	P	12 04 07.6	-1.6
CHCH				*i* S	S	12 04 43.5	-0.9
LMEL	**Las Melosas**	3.18	18	*e*P	P	12 04 12.1	+0.4
LMEL				*i* S	S	12 04 49.5	+0.6
LMEL				AMP		12 05 10.0	
	comp=N,67nm,0.4s						

IDC 06 12:05:06.4±1.7,**8.23S**×**80.57W,mb4.0**/2,**mb1 4.1**/3, **mb1mx3.8**/18,**ML3.8**/1,**MS3.5**/3,**Ms1 3.4**/3,**ms1mx3.1**/19, **Error ellipse: s-maj=99.8km s-min=43.5km az=58.0,Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	14.41	26	LR	LR	12 14 04.9	
	comp=Z,167nm,18.3s,baz=87,slow=37						
LPAZ	**La Paz**	14.55	125	Pn	P	12 08 34.0	-1.7
	0.2nm,0.3s,baz=297,slow=12,SNR=7.8						
CPUP	**Villa Florida**	28.48	132	LR	LR	12 23 01.3	
	comp=Z,64nm,21.0s,baz=81,slow=38						
BDFB	**Brasilia**	32.66	106	LR	LR	12 25 42.6	
	comp=Z,119nm,21.7s,baz=72,slow=38						
ULM	**Lac du Bonnet**	59.74	349	P	P	12 15 12.7	-2.6
	1.4nm,0.5s,baz=149,slow=5.9,SNR=2.9						
ILAR	**Eielson Array**	87.59	337	P	P	12 17 56.3	-1.1
	0.4nm,0.7s,baz=148,slow=4.3,SNR=6.7						
ASAR	**Alice Springs**	133.75	226	PKP	PKPdf	12 24 26.1	-1.8
	0.2nm,0.8s,baz=133,slow=1.5,SNR=3.8						
WRA	**Warramunga Arr**	135.69	230	PKP	PKPdf	12 24 29.2	-2.5
	0.4nm,1.1s,baz=123,slow=2.1,SNR=4.9						

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*IDC **06** 12:06:58.3±0.5,54.15S×133.90W,mb4.4/11,mb1 4.5/11, mb1mx4.5/14,MS4.3/19,Ms1 4.3/19,ms1mx4.3/20,Error ellipse: s-maj=27.5km s-min=15.6km az=155.0*
*HRVD **06** 12:07:00.5±0.3,54.44S×133.81W,h12^{km},MW5.1/51, Centroid moment Tensor Solution. LP body waves: s36,c50;Mantle waves: s51,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.60±.14; $M_{\theta\theta}$5.01±.14; $M_{\phi\phi}$-0.41±.14; $M_{r\theta}$2.23±.36; $M_{\theta\phi}$-0.08±.12; $M_{\phi r}$0.85±.41; Best double couple: $M_0$5.37×10^{16} NP1:ϕ_s101°,δ34°,λ-73°. NP2:ϕ_s261°,δ58°,λ-101°. Principal axes: T 5.5, Plg13°, Azm359°; N -.26, Plg10°, Azm267°; P -5.24, Plg74°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 12:07:00.5±0.3,54.20S×133.95W,h10^{km},mb5.0/12, MS4.6/6 Error ellipse: s-maj=12.3km s-min=9.2km az=135.0*
ISC 06 12:06:59.2±0.3,**54.25S**±0.07×**134.1W**±0.1,**h10**^{km}**,n96,** σ**1^{s}02**/39,**mb4.6**/21,**MS4.4**/23,**3C-3D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	**Rikitea**	31.09	358	*e*L		12 20 00.2	
	312nm,47.5s						
RKT				*e*R		12 21 04.8	
	2μm,30.0s,baz=178						
VNDA	**Vanda**	32.21	202	P	P	12 13 29.9	+0.9
	1.4nm,1.1s,mb3.7,baz=93,slow=4.1,SNR=4.9						
VNDA				LR	LR	12 23 18.1	
	comp=Z,700nm,20.6s,MS4.3,baz=94,slow=30						
TBI	**Tubuai**	32.96	333	*e*S	S	12 18 53.0	0.0
TBI				*e*L		12 20 52.2	
	345nm,31.8s						
TBI				*e*R		12 21 49.9	
	2μm,29.0s,baz=165						
QSPA	**South Pole Qui**	35.92	180	*e*P	P	12 14 02.9	+1.9
	92nm,2.0s,mb5.4						
QSPA				LR	LR		
	comp=Z,743nm,21.0s,MS4.4						
URZ	**Urewera**	36.54	276	LR	LR	12 25 40.5	
	comp=Z,564nm,20.9s,MS4.3,baz=93,slow=31						
RPZ	**Rata Peaks**	36.65	264	LR	LR	12 25 25.5	
	comp=Z,413nm,20.9s,MS4.2,baz=123,slow=30						
RAR	**Rarotonga**	38.32	319	LR	LR	12 27 19.5	
	comp=Z,494nm,18.7s,MS4.3,baz=151,slow=32						
PPT	**Papeete**	38.53	336	*e*S	S	12 20 16.0	-2.7
	comp=Z,206nm,25.0s						
PPT				*e*L		12 23 07.3	
	comp=Z,334nm,26.5s						
PPT				*e*R		12 24 24.3	
	comp=Z,2μm,26.2s,baz=168						
PLCA	**Paso Flores**	43.51	99	P	P	12 15 04.1	0.0
	comp=Z,2.3nm,1.0s,mb3.9,baz=250,slow=9.3,SNR=3.6						
PLCA				LR	LR	12 28 37.2	
	comp=Z,423nm,21.7s,MS4.3,baz=227,slow=30						
PLCA	**Paso Flores**	43.51	99	P	P	12 15 04.1	-0.1
PLCA				LR	LR	12 28 37.2	
VNA2	**Neumayer--Watz**	49.50	160	⇑*i*	P	12 15 53.3	+2.3
VNA1	**Neumayer--Stat**	49.54	159	⇓*i*	P	12 15 56.5	+5.2
SNAA	**Sanae**	49.78	162	⇑*i*	P	12 15 51.7	-1.5
TRQA	**Tornquist**	50.24	102	P	P	12 15 55.4	-1.7
	comp=Z,25nm,1.5s,mb5.0						
CASY	**Casey**	50.31	208	*e*P	P	12 15 58.0	+0.8
	comp=Z,4.4nm,0.8s,mb4.5						
MAW	**Mawson**	57.81	188	*e*P	P	12 16 51.6	-0.8
	comp=Z,2.9nm,0.9s,mb4.3						
MAW	**Mawson**	57.81	188	P	P	12 16 51.8	-0.5
	comp=Z,2.0nm,0.9s,mb4.1,baz=134,slow=11,SNR=4.4						
MAW				LR	LR	12 41 41.1	
	comp=Z,237nm,18.9s,MS4.3,baz=195,slow=36						
CPUP	**Villa Florida**	61.44	96	P	P	12 17 15.0	-2.9
	comp=Z,1.7nm,0.6s,mb4.3,baz=243,slow=8.4,SNR=3.8						
CPUP				LR	LR	12 39 08.3	
	comp=Z,233nm,20.9s,MS4.3,baz=226,slow=32						
STKA	**Stephens Creek**	61.66	254	P	P	12 17 19.2	-0.1
	comp=Z,3.4nm,0.9s,mb4.5,baz=194,slow=3.7,SNR=5.2						
STKA				LR	LR	12 39 58.0	
	comp=Z,205nm,21.6s,MS4.2,baz=203,slow=32						
LPAZ	**La Paz**	62.90	80	P	P	12 17 26.6	-1.1
	comp=Z,5.1nm,1.1s,mb4.6,baz=214,slow=6.1,SNR=9.0						
LPAZ				LR	LR	12 37 59.3	
	comp=Z,98nm,21.3s,MS4.0,baz=94,slow=30						
CTA	**Charters Tower**	67.97	266	*e*P	P	12 18 00.9	+0.6
	comp=Z,7.3nm,1.5s,mb4.5						
CTA	**Charters Tower**	67.97	266	LR	LR	12 42 38.5	
	comp=Z,190nm,21.5s,MS4.3,baz=319,slow=31						
CTAO	**Charters Tower**	67.97	266	*e*P	P	12 18 00.8	+0.4
	comp=Z,28nm,1.5s,mb5.1						
ASAR	**Alice Springs**	72.30	254	P	P	12 18 25.7	-1.0
	comp=Z,6.1nm,0.8s,mb4.6,baz=138,slow=7.0,SNR=53						
ASAR				LR	LR	12 45 02.6	
	comp=Z,227nm,21.1s,MS4.4,baz=180,slow=32						
ASPA	**Alice Springs**	72.30	254	⇓*i*P	P	12 18 25.7	-1.0
NWAO	**Narrogin (SRO)**	73.76	236	LR	LR	12 44 42.0	
	comp=Z,234nm,21.2s,MS4.4,baz=314,slow=31						
WB2	**Warramunga Arr**	74.98	257	⇓*i*P	P	12 18 41.6	-0.7
WRA	**Warramunga Arr**	74.98	257	P	P	12 18 41.8	-0.6
	comp=Z,5.4nm,0.7s,mb4.6,baz=140,slow=5.4,SNR=67						
WRA				LR	LR	12 48 31.4	
	comp=Z,283nm,20.9s,MS4.5,baz=100,slow=33						
WRAB	**Tennant Creek**	74.99	257	*e*P	P	12 18 41.5	-0.9
	comp=Z,31nm,1.5s,mb5.0						
BDFB	**Brasilia**	75.17	96	LR	LR	12 48 19.2	
	comp=Z,290nm,18.8s,MS4.6,baz=295,slow=33						
ROSC	**El Rosal**	76.90	62	P	P	12 18 52.2	-1.0
	comp=Z,5.1nm,0.4s,mb4.8,baz=311,slow=20,SNR=6.3						
ROSC				LR	LR	12 45 37.1	
	comp=Z,130nm,19.7s,MS4.2,baz=189,slow=30						
FITZ	**Fitzroy Crossi**	81.36	251	*e*P	P	12 19 17.1	-0.2
	comp=Z,4.3nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	81.36	251	LR	LR	12 53 10.9	
	comp=Z,119nm,21.5s,MS4.2,baz=139,slow=34						
TXAR	**Lajitas Array**	87.28	26	P	P	12 19 47.4	+0.4
	comp=Z,1.4nm,0.9s,mb4.2,baz=190,slow=7.6,SNR=9.9						
TXAR				LR	LR	12 50 29.6	
	comp=Z,130nm,20.8s,MS4.3,baz=270,slow=30						
TUC	**Tucson**	88.52	20	*e*P	P	12 19 53.5	+0.6
	comp=Z,16nm,1.5s,mb5.1						
TUC				LR	LR		
	comp=Z,294nm,21.0s,MS4.7						
JCT	**Junction City**	89.42	29	*e*P	P	12 19 57.0	-0.1
	comp=Z,29nm,1.4s,mb5.4						
JCT				LR	LR		
	comp=Z,138nm,20.0s,MS4.4						
GDL2	**Guadalupe Moun**	89.84	25	*e*P	P	12 19 58.9	-0.1
LDFC	**Landfair**	90.46	15	*e*P	P	12 20 03.2	+1.4
NEN	**Nelson**	91.06	16	*e*P	P	12 20 05.8	+1.2
BNM	**Barren Site**	91.17	22	*e*P	P	12 20 05.8	+0.6
LAZ	**Ladron**	91.30	22	*e*P	P	12 20 06.1	+0.4
LPM	**Los Pinos Moun**	91.33	22	*e*P	P	12 20 06.7	+0.8
WUAZ	**Wupatki**	91.52	18	*e*P	P	12 20 07.3	+0.6
	comp=Z,14nm,1.4s,mb5.1						
NVAR	**Mina Array Bea**	93.30	12	P	P	12 20 15.6	+0.7
	comp=Z,3.1nm,1.3s,mb4.6,baz=200,slow=6.4,SNR=5.8						
NVAR				LR	LR	12 53 19.9	
	comp=Z,206nm,19.4s,MS4.6,baz=250,slow=30						
NVAR	**Mina Array Bea**	93.30	12	P	P	12 20 15.6	+0.7
NVAR				LR	LR	12 53 19.9	
WMOK	**Wichita Mounta**	93.71	28	*e*P	P	12 20 16.3	-0.5
	comp=Z,6.1nm,1.4s,mb4.8						
WMOK				LR	LR		
	comp=Z,334nm,22.0s,MS4.8						
MSU	**Marysvale**	94.29	17	*e*P	P	12 20 20.2	+0.8
PDAR	**Pinedale Array**	98.89	18	LR	LR	12 58 00.6	
	comp=Z,224nm,18.9s,MS4.7,baz=221,slow=31						
VIB	**Van Inlet**	107.14	1	T		14 20 40.2	
	SNR=7.9						
ILAR	**Eielson Array**	119.10	354	PKP	PKPdf	12 25 47.0	-3.2
	comp=Z,1.6nm,0.8s,baz=213,slow=2.1,SNR=30						
SONM	**Songino Array**	142.50	286	PKhKP		12 26 28.2	
	comp=Z,1.3nm,0.6s,baz=120,slow=1.3,SNR=14						
SONM				PKP	PKPdf	12 26 32.9	-1.4
	comp=Z,1.3nm,0.7s,baz=128,slow=1.5,SNR=8.0						
SONM	**Songino Array**	142.50	286	PKP	PKPdf	12 26 28.2	-6.1
SONM				PKP	PKPdf	12 26 32.9	-1.4
ESDC	**Sonseca Array**	143.76	93	PKP	PKPdf	12 26 32.5	-4.2
	comp=Z,0.1nm,0.3s,baz=225,slow=2.1,SNR=4.9						
SJPF	**Ste Jean**	147.52	90	*e*PKP1	PKPdf	12 26 43.4	+0.3
	comp=Z,63nm,1.2s						
DAG	**Danmarks Havn**	147.77	23	⇑*i*P	PKPdf	12 26 42.3	-0.2

	comp=Z,12nm,1.3s						
ETSF	**Etsaut**	147.78	91	*e*PKP1	PKPdf	12 26 44.1	+0.6
	comp=Z,68nm,1.4s						
EPF	**Esparros**	148.39	92	*e*PKP1	PKPdf	12 26 44.0	-0.4
	comp=Z,54nm,1.3s						
QUIF	**Quistinic**	149.04	81	*e*PKP1	PKPdf	12 26 46.5	+1.2
ROSF	**Rostrenen**	149.19	81	*e*PKP1	PKPdf	12 26 46.7	+1.1
	comp=Z,53nm,1.3s						
SGMF	**Saint Gilles**	149.56	81	*e*PKP1	PKPdf	12 26 47.5	+1.3
	comp=Z,49nm,1.2s						
MTLF	**Montolieu**	149.67	93	*e*PKP1	PKPdf	12 26 47.9	+1.4
	comp=Z,56nm,1.4s						
LFF	**La Frestale**	149.73	89	*e*PKP1	PKPdf	12 26 48.4	+1.9
MFF	**Saint Martin d**	150.12	86	*e*PKP1	PKPdf	12 26 49.3	+2.2
	comp=Z,62nm,1.4s						
RJF	**Les Rejaudoux**	150.39	89	*e*PKP1	PKPdf	12 26 49.7	+2.1
RJF				*e*R			
	comp=Z,124nm,23.0s						
CAF	**Calviac**	150.50	90	*e*PKP1	PKPdf	12 26 50.4	+2.7
GRR	**Gorron**	150.62	82	*e*PKP1	PKPdf	12 26 50.1	+2.3
FLN	**La Foliniere**	151.02	82	*e*PKP1	PKPdf	12 26 51.0	+2.6
FLN				*e*R			
	comp=Z,108nm,21.5s						
LASF	**Ste Croix**	151.07	93	*e*PKP1	PKPdf	12 26 51.6	+3.0
	comp=Z,48nm,1.3s						
TCF	**Toulx Ste Croi**	151.33	88	*e*PKP1	PKPdf	12 26 51.8	+2.9
	comp=Z,26nm,1.2s						
BGF	**Bois d'Agland**	151.85	88	*e*PKP1	PKPdf	12 26 53.1	+3.4
	comp=Z,23nm,0.9s						
VIVF	**Saint-Julien-l**	151.99	92	*e*PKP1	PKPdf	12 26 53.5	+3.5
SMRF	**Simiane la Rot**	152.01	95	*e*PKP1	PKPdf	12 26 54.2	+4.2
EKA	**Eskdalemuir Ar**	152.13	68	PKPbc	PKPdf	12 26 54.1	+4.3
	comp=Z,3.6nm,0.7s,baz=258,slow=2.7,SNR=10						
EKA				PKPab	PKPab	12 27 01.4	-4.1
	comp=Z,4.0nm,0.9s,baz=270,slow=2.5,SNR=7.1						
LMR	**La Mourre**	152.18	97	*e*PKP1	PKPdf	12 26 55.2	+4.9
	comp=Z,43nm,1.1s						
AVF	**Avril sur Loir**	152.27	88	*e*PKP1	PKPdf	12 26 53.6	+3.3
FRF	**La Foret Royal**	152.39	97	*e*PKP1	PKPdf	12 26 54.4	+3.8
SMF	**Signal de Mont**	152.48	89	*e*PKP1	PKPdf	12 26 54.2	+3.6
SSF	**Saint Saulge**	152.50	88	*e*PKP1	PKPdf	12 26 54.1	+3.5
VAE	**Valguarnera**	152.69	115	PKPbc	PKPdf	12 26 57.0	+5.8
	comp=Z,13nm,0.3s,baz=28,slow=8.3,SNR=3.2						
ORIF	**Oris-en-Rattie**	152.74	93	*e*PKP1	PKPdf	12 26 55.3	+4.3
ORIF				*e*R			
	comp=Z,137nm,22.2s						
LOR	**Lormes**	152.81	87	*e*PKP1	PKPdf	12 26 55.1	+4.1
LOR				*e*R			
	comp=Z,117nm,19.2s						
SBF	**Sospel**	153.03	97	*e*PKP1	PKPdf	12 26 55.7	+4.3
MBDF	**Montbardon**	153.15	95	*e*PKP1	PKPdf	12 26 56.3	+4.7
	comp=Z,22nm,1.4s						
LPG	**La Plagne**	153.57	93	*e*PKP1	PKPdf	12 26 57.6	+5.5
SPITS	**Spitsbergen Ar**	153.84	13	PKPbc	PKPdf	12 26 56.7	+5.1
	comp=Z,8.5nm,1.1s,baz=256,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	155.93	267	PKP	PKPdf	12 26 53.6	-1.6
	comp=Z,0.8nm,1.0s,baz=63,slow=11,SNR=2.9						
MKAR				PKPbc	PKPdf	12 27 02.4	+7.2
	comp=Z,1.7nm,1.1s,baz=169,slow=6.2,SNR=7.0						
MKAR				PKPab	PKPab	12 27 20.9	-0.9
	comp=Z,3.7nm,0.8s,baz=124,slow=4.5,SNR=20						
MKAR	**Makanchi Array**	155.93	267	PKP	PKPdf	12 26 53.6	-1.6
MKAR				PKPbc	PKPdf	12 27 02.4	+7.2
MKAR				PKPab	PKPab	12 27 20.9	-0.9
DAVOX	**Davos**	156.09	93	PKP	PKPdf	12 26 54.1	-1.3
	comp=Z,2.9nm,0.7s,baz=251,slow=6.9,SNR=8.1						
GRA1	**Grafenberg Arr**	158.27	88	*e*PKP	PKPdf	12 26 56.9	-1.3
GERES	**GERESS Array B**	159.35	92	PKP	PKPdf	12 26 57.3	-2.2
	comp=Z,0.8nm,0.8s,slow=1.3,SNR=4.4						
NOA	**NORSAR Array B**	160.40	56	PKP	PKPdf	12 26 57.0	-3.2
	comp=Z,0.8nm,1.0s,baz=226,slow=14,SNR=2.2						
NOA				PKPab	PKPab	12 27 39.1	-1.5
	comp=Z,0.3nm,0.6s,baz=277,slow=4.3,SNR=2.5						
HFS	**Hagfors**	161.69	58	PKPab	PKPab	12 27 42.3	-3.9
	comp=Z,1.6nm,0.9s,baz=243,slow=3.3,SNR=5.2						
ARCES	**ARCESS Array B**	162.06	23	PKPab	PKPab	12 27 46.1	-1.4
	comp=Z,2.7nm,1.0s,baz=342,slow=3.8,SNR=5.3						
BRTR	**Keskin Array B**	163.26	145	PKP	PKPdf	12 27 01.8	-2.0
	comp=Z,0.3nm,0.3s,baz=135,slow=3.5,SNR=3.4						
BRTR				PKPab	PKPab	12 27 51.0	-2.7
	comp=Z,0.4nm,0.4s,baz=180,slow=6.2,SNR=4.1						
FINES	**FINESS Array B**	167.24	48	PKPab	PKPab	12 28 07.4	-2.8
	comp=Z,1.3nm,0.8s,baz=288,slow=6.0,SNR=8.4						
AKASG	**Malin Array Be**	169.20	102	PKP	PKPdf	12 27 04.7	-3.4
	comp=Z,0.7nm,0.6s,baz=299,slow=1.5,SNR=9.9						

*MOS **06** 12:08:08.8±1.8, 34.90N×24.87E, h33^{km}, mb4.1/6, Error ellipse: s-maj=19.1km s-min=10.0km az=85.7*

*NEIC **06** 12:08:09.4, 34.81N×24.80E, h28^{km}, MD4.0(ATH), ML4.2(GII), ML4.2(NIC), ML4.1(THE), After ATH.*

*ATH **06** 12:08:09.4, 34.81N×24.80E, h28^{km}±3^{km}, MD4.0/19*

*IDC **06** 12:08:10.3±2.4, 34.86N×24.93E, h38^{km}±18^{km}, mb3.6/11, mb1 3.8/18, mb1mx3.7/28, ML3.8/5, MS3.0/2, Ms1 3.0/2, ms1mx2.4/31, Error ellipse: s-maj=19.3km s-min=15.9km az=17.0*

*THE **06** 12:08:12.8, 34.84N×24.81E, h20^{km}, ML4.1*

*NIC **06** 12:08:15.0±0.4, 34.88N×25.39E, h25^{km}, mb4.7, ML4.2, MW3.2*

ISC 06 12:08:07.3±0.4**, 34.63N**±0.03×**24.90E**±0.03**, h33^{km}, n102, σ1^{s}32**/119**, mb3.7**/11**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDI	**Anoyia**	0.65	359	Pn	**Pn**	**12 08 20.2**	**0.0**
	956nm,0.3s,baz=184,slow=16,SNR=3675						
IDI				Sn	**Sn**	**12 08 28.0**	**-1.4**
	3µm,0.3s,baz=16,slow=20,SNR=172						
XRY	**Khrisi**	0.70	70	*e*PN	**Pn**	**12 08 24.0**	**+3.2**
GVD	**Gavdhos**	0.70	287	*e*PN	**Pn**	**12 08 21.0**	**+0.1**
NPS	**Neapolis**	0.86	43	*e*PN	**Pn**	**12 08 25.5**	**+2.4**
VAM	**Vamos**	0.96	323	*e*PN	**Pn**	**12 08 24.5**	**-0.1**
THR6	**Thira Island,**	1.77	13	*e*Pb	**Pb**	**12 08 38.3**	**-0.6**
THR6				*e*Sb	**Sb**	**12 08 57.1**	**-3.6**
THR1	**Thera Island**	1.79	15	*e*Pb	**Pb**	**12 08 38.4**	**-0.9**
THR1				*e*Sb	**Sb**	**12 08 58.2**	**-3.4**
THR5	**Thira Island,**	1.82	11	*e*Pb	**Pb**	**12 08 38.7**	**-1.1**
THR5				*e*Sb	**Sb**	**12 08 58.0**	**-4.3**
THR3	**Thira Island,**	1.82	13	*e*Pb	**Pb**	**12 08 39.1**	**-0.7**
THR4	**Thira Island,**	1.87	12	*e*Pb	**Pb**	**12 08 39.7**	**-0.9**
KARP	**Karpathos**	2.07	63	*e*PB	**Pb**	**12 08 45.5**	**+1.5**
KYTH	**Kithira**	2.24	318	*e*PB	**Pb**	**12 08 45.1**	**-1.8**
APE	**Apeiranthos**	2.48	12	*e*PN	**Pn**	**12 08 47.0**	**+0.6**
VLI	**Veliai**	2.62	323	*e*PN	**Pn**	**12 08 49.1**	**+0.7**
ARG	**Arkhangelos**	3.07	58	*e*PN	**Pn**	**12 08 58.0**	**+3.3**
NAIG	**Nisos Aigina**	3.32	340	*e*PB	**Pb**	**12 09 02.0**	**-3.3**
SMG	**Samos**	3.44	26	*e*PN	**Pn**	**12 09 02.0**	**+2.0**
ITM	**Ithomi**	3.50	317	*e*PB	**Pb**	**12 09 06.5**	**-1.9**
PTL	**Penteli**	3.51	347	*e*PN	**Pn**	**12 09 00.5**	**-0.4**
MPAR	**Parnis Oros**	3.63	345	*e*PN	**Pn**	**12 09 03.5**	**+0.8**
YER	**Yerkesik**	3.71	47	*i* PN	**Pn**	**12 09 07.0**	**+3.2**
YER	**Yerkesik**	3.71	47	*i* PN	**Pn**	**12 09 06.9**	**+3.1**
MKIT	**Kithairon Oros**	3.78	340	*e*PN	**Pn**	**12 09 05.0**	**+0.2**
KSL	**Kastellorizon**	4.11	67	*e*PN	**Pn**	**12 09 11.1**	**+1.6**
KDAG	**Bornova**	4.22	26	*i* P	**P**	**12 09 13.1**	**+2.3**
DNZL	**Cakiroluk**	4.53	47	*i* P	**P**	**12 09 17.7**	**+2.3**
ELL	**Elmali**	4.59	61	PN	**Pn**	**12 09 18.6**	**+2.3**
ELL	**Elmali**	4.59	61	*i* PN	**Pn**	**12 09 18.7**	**+2.4**
ELL	**Elmali**	4.59	61	SN	**Sn**	**12 10 09.7**	**+0.5**
PRK	**Paraskevi**	4.73	13	*e*PN	**Pn**	**12 09 20.5**	**+2.2**
AGG	**Agios Georgios**	4.84	336	*e*Pn	**Pn**	**12 09 20.8**	**+0.9**
AGG				*e*Sn	**Sn**	**12 10 11.2**	**-4.3**
VLS	**Valsamata**	4.96	317	*e*PN	**Pn**	**12 09 23.0**	**+1.5**
BCK	**Bucak**	5.40	57	*e*PN	**Pn**	**12 09 29.5**	**+1.7**
LIT	**Litokhoron**	5.78	341	*e*Pn	**Pn**	**12 09 33.5**	**+0.4**
LIT				*e*Sn	**Sn**	**12 10 34.5**	**-4.7**
PPCY	**Paphos**	6.13	86	P	**P**	**12 09 38.4**	**+0.5**
ALN	**Alexandroupoli**	6.32	8	*e*Pn	**Pn**	**12 09 41.5**	**+0.8**
ALFC	**Alevga**	6.35	83	P	**P**	**12 09 40.3**	**-0.6**
	4.4nm,0.2s						
ALFC				S	**S**	**12 10 47.8**	**-5.3**
KEK	**Kerkira**	6.50	323	*e*PN	**Pn**	**12 09 40.5**	**-2.8**
SZAC	**Souni-Zanaja**	6.58	87	P	**P**	**12 09 43.9**	**-0.2**
	3.3nm,0.2s						
SZAC				S	**S**	**12 10 53.5**	**-5.3**
LEF	**Lefka**	6.59	84	*e*PN	**Pn**	**12 09 43.6**	**-0.8**
HDMB	**Hadim**	6.59	67	PN	**Pn**	**12 09 46.3**	**+1.8**
GRG	**Griva**	6.61	343	*e*Pn	**Pn**	**12 09 45.0**	**+0.2**
FNA	**Florina**	6.74	337	*e*Pn	**Pn**	**12 09 47.0**	**+0.4**
FNA				*e*Sn	**Sn**	**12 10 58.2**	**-4.9**
ESKT	**Eskisehir**	6.81	43	*i* P	**P**	**12 09 50.4**	**+3.0**
CSS	**Prodhromos**	6.94	85	P	**P**	**12 09 48.9**	**-0.4**
	1.2nm,0.3s						
CSS				S	**S**	**12 11 03.4**	**-4.6**
KIZT	**Kizilcal**	7.02	51	PN	**Pn**	**12 09 51.2**	**+0.6**
IKL	**Isikli**	7.35	75	PN	**Pn**	**12 09 55.2**	**+0.1**
SGKT	**Sivrigoynuk**	8.21	42	*i* P	**P**	**12 10 10.0**	**+3.2**
BRTR	**Keskin Array B**	8.63	51	Pn	**P**	**12 10 11.1**	**-1.6**
	0.2nm,0.3s,baz=221,slow=13,SNR=4.2						
BRTR				Sn	**Sn**	**12 11 45.6**	**-4.5**
	0.2nm,0.3s,baz=243,slow=23,SNR=3.0						
BRTR	**Keskin Array B**	8.63	51	Pn	**P**	**12 10 11.1**	**-1.6**
BRTR				Sn	**Sn**	**12 11 45.6**	**-4.5**
OFRI	**'Ofer**	8.65	101	Pn	**P**	**12 10 11.6**	**-1.4**
HNTI	**Hanita**	8.68	97	Pn	**P**	**12 10 13.4**	**-0.1**
SLTI	**Sal'it**	8.80	103	Pn	**P**	**12 10 13.7**	**-1.5**
KZIT	**Kziot**	8.82	112	Pn	**P**	**12 10 14.6**	**-0.7**
KZIT				Sn	**Sn**	**12 11 46.5**	**-8.3**
VAE	**Valguarnera**	8.95	291	LR	LR	12 14 32.0	
	comp=Z,68nm,18.3s,baz=115,slow=43						
SVTA	**Shivta**	8.98	112	Pn	**P**	**12 10 17.0**	**-0.6**
MMLI	**Mount Malkishu**	9.05	101	Pn	**P**	**12 10 17.5**	**-1.1**
HMDT	**Nahal Hemdat**	9.19	102	Pn	**P**	**12 10 18.6**	**-1.9**
DRGI	**Dragot**	9.31	106	Pn	**P**	**12 10 21.1**	**-1.0**
MZDA	**Masada**	9.39	108	Pn	**P**	**12 10 22.7**	**-0.6**
MZDA				Sn	**Sn**	**12 12 01.4**	**-7.6**
COBT	**Iskenderun**	9.44	75	*i* P	**P**	**12 10 23.7**	**-0.2**
KMTI	**Karmit**	9.46	116	Pn	**P**	**12 10 24.1**	**-0.1**
KMTI				Sn	**Sn**	**12 12 02.7**	**-7.8**
PRNI	**Paran**	9.54	114	Pn	**P**	**12 10 25.1**	**-0.3**
PRNI				Sn	**Sn**	**12 12 03.9**	**-8.8**
BALT	**Daday**	9.60	42	*i* P	**P**	**12 10 29.4**	**+3.3**
BALT	**Daday**	9.60	42	*i* P	**P**	**12 10 29.4**	**+3.3**
MBH	**Mount Berech**	9.76	117	Pn	**P**	**12 10 28.4**	**0.0**
EIL	**Elat**	9.85	117	Pn	**P**	**12 10 29.8**	**+0.2**
AQBJ	**Aqaba**	9.89	117	Pn	**P**	**12 10 30.8**	**+0.6**
ALWS	**Ilw as Safayha**	10.13	119	P	**P**	**12 10 33.8**	**+0.3**
HAQS	**Haql**	10.18	120	P	**P**	**12 10 33.9**	**-0.3**
HAQS				S	**S**	**12 12 23.0**	**-5.3**
JMOS	**Jabal al Moall**	10.24	119	P	**P**	**12 10 35.1**	**0.0**
ASF	**Jabal al Asfar**	10.32	100	Pn	**P**	**12 10 34.3**	**-1.9**
	1.1nm,0.3s,baz=160,slow=7.1,SNR=5.5						
ASF				Sn	**S**	**12 12 31.1**	**-0.7**
	0.5nm,0.3s,baz=189,slow=20,SNR=3.2						
BOYT	**Boyabat**	10.39	46	*i* P	**P**	**12 10 45.5**	**+8.5**
BDAS	**Al Bad'**	10.67	123	P	**P**	**12 10 40.0**	**-0.9**
MLR	**Muntele Rosu**	10.87	4	Pn	**P**	**12 10 39.7**	**-3.9**
	0.1nm,0.3s,baz=228,slow=17,SNR=2.2						
MLR				LR	LR	12 15 05.8	
	comp=Z,88nm,20.1s,baz=185,slow=39						
JMQS	**Jabal Moqyreh**	10.96	119	P	**P**	**12 10 45.0**	**+0.2**
TBKS	**Tabuk**	11.82	120	P	**P**	**12 10 56.7**	**+0.2**
AKASG	**Malin Array Be**	16.36	10	Pn	**P**	**12 11 54.6**	**-1.3**
	3.5nm,0.3s,baz=202,slow=11,SNR=13						
AKASG	**Malin Array Be**	16.36	10	P	**P**	**12 11 54.6**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GERES	**GERESS Array B**	16.45	333	Pn	**P**	**12 11 57.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=10						
DAVOX	**Davos**	16.61	321	Pn	**P**	**12 11 59.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=348,slow=18,SNR=1.9						
GNI	**Garni**	16.69	65	Pn	**P**	**12 12 02.0**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=354,slow=22,SNR=3.3						
GNI	**Garni**	16.69	65	P	**P**	**12 12 02.0**	**+1.9**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KHC	**Kasperske Hory**	16.73	333	*e*P	**P**	**12 12 02.5**	**+2.0**
KHC				*e*		12 12 37.0	
ESDC	**Sonseca Array**	23.50	291	P	**P**	**12 13 16.8**	**+2.0**
	comp=Z,0.3nm,0.3s,mb3.2,baz=100,slow=9.0,SNR=4.0						
HFS	**Hagfors**	26.54	347	P	**P**	**12 13 41.2**	**-2.4**
	comp=Z,0.9nm,0.4s,mb3.6,baz=162,slow=9.4,SNR=8.0						
HFS	**Hagfors**	26.54	347	P	**P**	**12 13 41.2**	**-2.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	26.84	1	P	**P**	**12 13 43.3**	**-3.0**
	comp=Z,0.5nm,0.4s,mb3.4,baz=161,slow=14,SNR=6.5						
FINES	**FINESS Array B**	26.84	1	P	**P**	**12 13 43.3**	**-3.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	27.85	346	P	**P**	**12 13 52.8**	**-2.8**
	comp=Z,0.4nm,0.6s,mb3.3,baz=147,slow=8.5,SNR=3.0						
EKA	**Eskdalemuir Ar**	28.35	326	P	**P**	**12 13 59.4**	**-0.7**
	comp=Z,0.9nm,0.4s,mb3.7,baz=122,slow=8.9,SNR=8.1						
EKA	**Eskdalemuir Ar**	28.35	326	P	**P**	**12 13 59.4**	**-0.7**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	34.96	0	P	**P**	**12 14 55.0**	**-2.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=173,slow=9.8,SNR=6.8						
DBIC	**Dimbokro**	39.07	231	P	**P**	**12 15 34.9**	**+1.9**
	comp=Z,1.9nm,0.6s,mb4.0,baz=74,slow=14,SNR=6.4						
DBIC	**Dimbokro**	39.07	231	P	**P**	**12 15 34.9**	**+1.9**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	44.24	56	P	**P**	**12 16 15.6**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.2,baz=275,slow=6.6,SNR=26						
MKAR	**Makanchi Array**	44.24	56	P	**P**	**12 16 15.6**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAK	**Zakamensk**	57.25	48	*e*P	**P**	**12 17 54.4**	**+0.8**
SONM	**Songino Array**	59.98	50	P	**P**	**12 18 12.6**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=292,slow=8.0,SNR=6.6						
SCHQ	**Schefferville**	63.45	320	P	**P**	**12 18 35.5**	**-0.4**
	comp=Z,6.4nm,1.1s,mb4.7,baz=40,slow=17,SNR=4.7						
ILAR	**Eielson Array**	80.71	356	P	**P**	**12 20 18.6**	**+0.5**
	comp=Z,0.5nm,1.1s,mb3.4,baz=348,slow=4.6,SNR=4.6						
ILAR	**Eielson Array**	80.71	356	P	**P**	**12 20 18.6**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						

*IDC **06** 12:34:49.0±2.5, 8.99S×113.37E, mb3.5/4, mb1 3.6/5, mb1mx3.5/15, ML3.5/1, Error ellipse: s-maj=122.0km s-min=21.2km az=50.0*

*DJA **06** 12:34:51.8±0.8, 9.78S×113.06E, h160^{km}, MD4.7/4, ML4.8/3, Error ellipse: s-maj=23.1km s-min=18.1km az=177.0*

ISC 06 12:34:56.4±2.4**, 9.7S**±0.1×**113.2E**±0.2**, h116^{km}**±20^{km}**, n12, σ1^{s}02**/15**, mb4.0**/2**, 7C-4D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	1.97	41	⇓*i*Pn	**P**	**12 35 28.8**	**-0.8**
	2µm,0.3s						
KELI	**Kelakatan**	1.97	41	⇓*i*P	**P**	**12 35 29.1**	**-0.5**
KELI				⇑*i*Sn	**S**	**12 35 56.7**	**+2.0**
INGI	**Ingas**	2.12	65	⇑*i*Pn	**P**	**12 35 31.0**	**-0.7**
	152nm,0.3s						
INGI	**Ingas**	2.12	65	⇑*i*P	**P**	**12 35 31.5**	**-0.2**
INGI				⇓*i*Sn	**S**	**12 35 59.5**	**+1.2**
RATI	**Rata**	2.51	67	⇑*e*Pn	**P**	**12 35 35.1**	**-1.8**
	510nm,0.2s						
RATI	**Rata**	2.51	67	⇑*i*P	**P**	**12 35 35.8**	**-1.1**
RATI				⇑*i*Sn	**S**	**12 36 07.3**	**-0.1**
KEDI	**Kedomdong**	3.13	67	⇑*i*Pn	**P**	**12 35 44.1**	**-1.1**
KEDI				⇓*i*Sn	**S**	**12 36 21.1**	**-1.1**
FITZ	**Fitzroy Crossi**	14.66	126	Pn	**P**	**12 38 20.5**	**+1.2**
	0.2nm,0.3s,baz=306,slow=11,SNR=8.7						
FITZ				Sn	**S**	**12 40 59.1**	**+0.2**
	0.1nm,0.3s,baz=182,slow=2.5,SNR=4.4						
WRA	**Warramunga Arr**	22.79	119	P		12 39 56.7	
	0.3nm,0.9s,baz=298,slow=11,SNR=5.1						
ASAR	**Alice Springs**	24.15	128	P		12 40 09.3	
	0.5nm,0.6s,baz=306,slow=8.7,SNR=9.4						
SONM	**Songino Array**	57.62	355	P	**P**	**12 44 37.3**	**+0.7**
	0.5nm,0.5s,mb3.8,baz=166,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	62.66	337	P	**P**	**12 45 10.8**	**-0.3**
	1.4nm,0.4s,mb4.2,baz=152,slow=7.5,SNR=20						

IDC 06 12:36:39.9±2.3**, 7.58N**×**125.40E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/18**, 1D, Error ellipse: s-maj=206.0km s-min=24.6km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	28.73	162	P	P	12 42 39.9	-1.5
	0.7nm,0.3s,baz=342,slow=9.1,SNR=42						
WB2	**Warramunga Arr**	28.73	162	⇓*i*P	P	12 42 40.1	-1.3
ASAR	**Alice Springs**	32.15	165	P	P	12 43 09.5	-2.1
	0.4nm,0.3s,baz=340,slow=7.2,SNR=9.4						
STKA	**Stephens Creek**	42.18	159	P	P	12 44 33.4	-2.8
	0.7nm,0.4s,baz=357,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	53.66	324	P	P	12 46 03.4	-2.2
	0.6nm,0.3s,baz=122,slow=8.0,SNR=7.3						

MAN 06 12:44:06.4, 17.75N×122.61E, h21^{km}, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALP	**Palanan**	0.70	194	*e*P	Pb	12 44 20.0	+0.1
SGCP	**Mt. Cagua**	0.72	313	*e*P	Pb	12 44 20.2	0.0
CVP	**Callao Caves**	0.75	267	⇓*i*P	Pb	12 44 21.7	+1.1
CVP				*i* S	Sb	12 44 32.3	+1.9
CAUP	**Cauayan**	1.10	223	*e*P	Pb	12 44 27.4	+0.9
APYP	**Conner**	1.30	275	*e*P	Pn	12 44 29.1	-0.5
APYP				*e*S	Sb	12 44 46.5	+0.1
ABRA	**Dolores**	1.81	267	*e*P	Pn	12 44 36.7	-0.2
BALP	**Baler**	2.23	206	*e*P	Pn	12 44 42.2	-0.7

*IDC **06** 12:54:00.5±0.7, 51.63N×176.16W, mb3.9/11, mb1 4.2/11, mb1mx3.9/24, MS3.8/3, Ms1 3.8/3, ms1mx3.0/32, Error ellipse: s-maj=31.5km s-min=15.9km az=165.0*

*MOS **06** 12:54:01.5±1.4, 51.89N×176.25W, h10^{km}, mb4.2/7, Error ellipse: s-maj=28.3km s-min=19.6km az=88.4*

*NEIC **06** 12:54:06.8±0.8, 51.49N×176.18W, h44^{km}±6^{km}, mb3.9/2, ML3.9(AEIC), Error ellipse: s-maj=13.2km s-min=4.9km az=168.0*

ISC 06 12:54:06.4±0.9**, 51.6N**±0.1×**176.13W**±0.07**, h58^{km}**±5^{km}**, n50, σ0^{s}77**/44**, mb3.9**/12**, MS3.8**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	0.34	330	P	**P**	**12 54 15.9**	**-0.8**
GSIG	**Igitkin Island**	0.44	17	P	**P**	**12 54 17.5**	**-0.2**
GSCK	**Great Sitkin C**	0.45	358	P	**P**	**12 54 18.0**	**+0.2**
GSCK				S	**S**	**12 54 26.6**	**+0.6**
GSMY	**Great Sitkin M**	0.48	6	P	**P**	**12 54 18.4**	**+0.3**
GSTD	**Great Sitkin T**	0.49	359	P	**P**	**12 54 18.6**	**+0.4**
ADAG	**Mount Adagdak**	0.51	325	P	**P**	**12 54 18.7**	**+0.3**
GSSP	**Great Sitkin S**	0.53	357	P	**P**	**12 54 19.1**	**+0.5**
GSTR	**Great Sitkin T**	0.53	5	P	**P**	**12 54 19.4**	**+0.7**
KIRH	**Kanaga Island**	0.69	300	P	**P**	**12 54 20.4**	**0.0**
KIWB	**Kanaga Island**	0.70	295	P	**P**	**12 54 20.3**	**-0.3**
KIMD	**Kanaga Island**	0.71	286	P	**P**	**12 54 20.2**	**-0.6**
KIKV	**Kanaga Island**	0.72	296	P	**P**	**12 54 20.7**	**-0.2**
KINC	**Kanaga Island**	0.72	301	P	**P**	**12 54 20.8**	**-0.1**
ATKA	**Atka Island**	1.36	61	P	**P**	**12 54 29.1**	**-0.6**
ATKA				S	**S**	**12 54 45.9**	**-1.1**
NIKO	**Nikolski**	4.69	70	P	**P**	**12 55 16.2**	**-0.2**
SPIA	**Saint Paul Isl**	6.59	29	P	**P**	**12 55 43.2**	**+0.3**
IMA	**Indian Mountai**	18.44	30	*e*P	**P**	**12 58 20.4**	**+1.3**
	11nm,0.9s						
COLA	**College**	19.75	37	*e*P	**P**	**12 58 33.9**	**+0.1**
	1.9nm,0.4s						
ILAR	**Eielson Array**	20.06	38	P	**P**	**12 58 34.4**	**-2.8**
	1.7nm,0.4s,baz=241,slow=9.9,SNR=48						
ILAR				PcP	PcP	13 02 49.5	-1.2
	0.4nm,0.6s,baz=271,slow=3.1,SNR=4.9						
DAWY	**Dawson**	22.83	43	*e*P	**P**	**12 59 06.0**	**+1.2**
INK	**Inuvik**	26.35	35	P	**P**	**12 59 36.9**	**-1.5**
	0.9nm,0.4s,mb3.7,baz=246,slow=3.1,SNR=15						
INK				PcP	PcP	13 03 02.9	-0.5
	0.9nm,0.5s,baz=291,slow=8.4,SNR=5.5						
INK	**Inuvik**	26.35	35	P	**P**	**12 59 36.9**	**-1.5**
INK						13 03 02.9	
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	26.35	35	P	**P**	**12 59 36.9**	**-1.5**
INK				PcP	PcP	13 03 02.9	-0.5
ASAJ	**Asahikawa**	28.37	271	P	**P**	**12 59 57.2**	**+0.3**
	comp=Z,0.8nm,0.3s,mb3.8,baz=157,slow=4.6,SNR=3.7						
ASAJ	**Asahikawa**	28.37	271	P	**P**	**12 59 57.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	33.89	47	PcP	PcP	13 03 22.6	-0.3
	comp=Z,0.2nm,0.3s,baz=277,slow=2.9,SNR=4.8						
NEW	**Newport**	37.25	71	P	**P**	**13 01 14.4**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.0,baz=48,slow=20,SNR=2.4						
NEW	**Newport**	37.25	71	P	**P**	**13 01 14.4**	**+0.5**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MCMT	**McKenzie Canyo**	41.53	73	*e*P	**P**	**13 01 50.4**	**+1.1**
PDAR	**Pinedale Array**	44.66	74	P	**P**	**13 02 15.3**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.2,baz=314,slow=4.3,SNR=19						
SONM	**Songino Array**	48.05	298	P	**P**	**13 02 42.0**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=47,slow=6.8,SNR=2.7						
SONM				PcP	PcP	13 04 09.0	+0.1
	comp=Z,0.9nm,0.6s,baz=83,slow=3.2,SNR=7.8						
TXAR	**Lajitas Array**	56.98	83	P	**P**	**13 03 47.7**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.9,baz=297,slow=6.0,SNR=2.8						
JMIC	**Jan Mayen**	57.43	5	LR	LR	13 27 34.0	
	comp=Z,94nm,20.7s,MS3.9,baz=266,slow=35						
MKAR	**Makanchi Array**	61.21	310	P	**P**	**13 04 15.4**	**-1.8**
	comp=Z,0.8nm,0.3s,mb4.3,baz=49,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	61.21	310	P	**P**	**13 04 15.5**	**-1.7**
VOSK	**Vostochnaya**	61.80	321	P	**P**	**13 04 20.5**	**-0.6**
BVA0	**Borovoye Array**	61.81	321	P	**P**	**13 04 20.5**	**-0.6**
ZRNK	**Zerenda**	62.41	322	P	**P**	**13 04 24.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	65.95	349	LR	LR	13 38 47.4	
	comp=Z,80nm,18.4s,MS4.0,baz=162,slow=41						
NOA	**NORSAR Array B**	67.59	356	LR	LR	13 36 12.5	
	comp=Z,46nm,20.4s,MS3.7,baz=325,slow=38						
AB31	**Akbulak array**	68.78	324	P	**P**	**13 05 06.9**	**+1.1**
KKAR	**Karatay Array**	69.47	314	*e*P	**P**	**13 05 09.6**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CMAR	**Chiang Mai Arr**	72.65	278	P	**P**	**13 05 30.4**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=30,slow=6.5,SNR=6.4						
CMAR	**Chiang Mai Arr**	72.65	278	P	**P**	**13 05 30.4**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	83.33	226	P	**P**	**13 06 28.1**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=36,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	86.77	225	P	**P**	**13 06 46.0**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.8,baz=28,slow=4.0,SNR=5.3						
DBIC	**Dimbokro**	121.51	10	PKP	PKPdf	13 12 55.6	+2.0
	comp=Z,0.9nm,0.5s,baz=351,slow=15,SNR=4.6						
DBIC	**Dimbokro**	121.51	10	PKIKP	PKPdf	13 12 55.6	+2.0
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	147.65	218	PKPbc	PKPdf	13 13 45.2	+5.2
	comp=Z,0.6nm,0.2s,baz=79,slow=4.7,SNR=4.8						
MAW	**Mawson**	147.65	218	PKP2	PKPab	13 13 45.2	-2.1
MAW				pmax	pmax		
	comp=Z,1.0nm,0.3s						

NDI 06 12:54:10.4±1.8**, 31.06N**×**78.48E, h26^{km}**±153^{km}**, MD3.3, ML3.6, 1D, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	0.82	207	*e*P	Pb	12 54 26.8	+0.8
DDI				*e*S	Sb	12 54 36.8	+0.2
SMLA	**Simla**	1.13	274	⇓*i*	Pn	12 54 37.0	+6.2
SMLA				*i* S	Sb	12 54 47.2	+1.6
	1µm,0.3s						
SDNR	**Sundarnagar**	1.37	289	*e*P	Pn	12 54 33.8	-0.4
SDNR				*e*S	Sn	12 54 51.4	-0.2

IDC 06 12:59:47.6±12.0**, 55.38S**×**127.67W, mb4.0**/2**, mb1 4.2**/2**, mb1mx3.8**/14**, 3C, Error ellipse: s-maj=690.0km s-min=123.5km az=134.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	47.09	157	⇑*i*	P	13 08 23.4	+1.1
VNA1	**Neumayer--Stat**	47.10	157	⇑*i*	P	13 08 23.8	+1.5
SNAA	**Sanae**	47.48	159	⇑*i*	P	13 08 20.9	-4.5
ASAR	**Alice Springs**	75.46	250	P	P	13 11 33.7	-1.4
	0.7nm,0.6s,baz=144,slow=6.2,SNR=14						
WRA	**Warramunga Arr**	78.25	252	P	P	13 11 49.2	-1.4
	1.1nm,0.7s,baz=144,slow=5.4,SNR=11						
SONM	**Songino Array**	146.35	280	PKPbc	PKPbc	13 19 28.5	-0.6
	0.7nm,0.6s,baz=152,slow=3.3,SNR=5.2						

CASC 06 13:01:20.6±1.5**, 11.97N**×**88.77W, h24^{km}**±20^{km}**, MD3.6, 4C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	1.52	19	⇓*e*P	Pn	13 01 46.0	-0.8

VSM				*e*S	Sn	13 02 08.2	+2.2
BLLM	**Bellamira**	**1.55**	**20**	*e*P	Pn	13 01 46.1	-1.1
LCBS	**La Ceiba**	**1.68**	**353**	⇑*e*P	Pn	13 01 47.7	-1.4
PYN	**Poneloya**	**1.76**	**76**	*e*P	Pn	13 01 49.2	-0.9
PYN				*e*S	Sn	13 02 12.6	+0.6
LEON	**Leon**	**1.89**	**76**	*e*P	Pn	13 01 51.0	-1.1
LEON				*e*S	Sn	13 02 14.8	-0.5
TEL3	**Telica 3**	**1.98**	**72**	⇑*e*P	Pn	13 01 53.0	-0.2
SNJE	**San Jose**	**2.05**	**337**	*e*P	Pn	13 01 54.3	0.0
MIRN	**Miramar**	**2.07**	**77**	*e*P	Pn	13 01 54.3	-0.3
RTR	**El Retiro**	**2.09**	**336**	*e*P	Pn	13 01 54.5	-0.4
RTR				*e*S	Sn	13 02 21.1	+0.6
CNGN	**Cerro Negro**	**2.09**	**75**	*e*P	Pn	13 01 54.7	-0.2
COPN	**Copaltepe**	**2.14**	**84**	⇑*e*P	Pn	13 01 55.2	-0.5
COPN				*e*S	Sn	13 02 21.2	-0.6
MOMJ	**Momotombo**	**2.23**	**79**	*e*P	Pn	13 01 55.9	-0.9
MGAN	**Managua**	**2.48**	**86**	*e*S	Sn	13 02 28.6	-1.6
TICN	**Ticuantepe**	**2.49**	**88**	⇑*e*P	Pn	13 02 00.5	-0.1
WILN	**Americas 2**	**2.54**	**86**	⇓*e*P	Pn	13 02 00.6	-0.7

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*NEIC **06** 13:08:30.1, 31.54S×72.32W, h37^{km}, MD4.0(GUC), After GUC.*

GUC 06 13:08:30.1±0.8**, 31.54S×72.32W, h37**^{km}±5^{km}**, MD4.0, ML4.1, 4C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.99**	**96**	*i* P	P	13 08 48.0	+0.4
ILCH				*i* S	S	13 09 02.0	+1.4
ILCH				AMP		13 09 04.1	
	comp=N,3μm,0.2s						
CMCH	**Combarbala**	**1.18**	**73**	*i* P	P	13 08 50.7	+0.3
CMCH				*i* S	S	13 09 07.4	+1.8
CMCH				AMP		13 09 08.8	
	comp=N,12μm,0.7s						
JACH	**Jahuel**	**1.86**	**128**	*i* P	P	13 09 01.1	+1.0
JACH				*e*S	S	13 09 24.7	+2.1
TLL	**Tololo Astrono**	**1.89**	**44**	⇓*i*P	P	13 08 59.9	-0.6
TLL				*i* S	S	13 09 24.3	+1.0
TLL				AMP		13 09 25.5	
	comp=E,766nm,0.4s						
DSCH	**Colegio Aleman**	**2.38**	**142**	*i* S	S	13 09 36.4	+0.7
DSCH				AMP		13 09 42.7	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**2.39**	**141**	⇑*i*P	P	13 09 08.7	+1.0
CLCH				*i* S	S	13 09 37.2	+1.1
CLCH				AMP		13 09 42.9	
	comp=E,1μm,0.2s						
ANTU	**Antumapu**	**2.48**	**145**	*i* S	S	13 09 39.5	+1.2
ANTU				AMP		13 09 41.8	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**2.48**	**137**	*i* P	P	13 09 10.3	+1.4
FCH				*i* S	S	13 09 40.3	+2.0
PCH	**Pirque**	**2.58**	**144**	*i* P	P	13 09 11.0	+0.6
PCH				*i* S	S	13 09 42.2	+1.3
CHCH	**Chadas Angostu**	**2.77**	**150**	*i* P	P	13 09 13.5	+0.3
CHCH				*i* S	S	13 09 46.7	+0.9
LMEL	**Las Melosas**	**2.92**	**143**	⇑*i*P	P	13 09 15.8	+0.6
LMEL				*i* S	S	13 09 50.1	+0.7
LMEL				AMP		13 09 53.5	
	comp=N,1μm,0.1s						
CACH	**El Canelo**	**2.95**	**151**	⇑*i*P	P	13 09 16.6	+0.9
CACH				*i* S	S	13 09 51.9	+1.5
CICH	**Cipreses**	**3.20**	**151**	⇑*i*P	P	13 09 19.7	+0.4
CICH				*i* S	S	13 09 56.8	+0.1

IDC 06 13:17:01.0±5.5**, 6.91S×154.61E, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.5**/13**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.7**/16**, Error ellipse: s-maj=164.0km s-min=41.3km az=113.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.78**	**251**	LR	LR	13 21 41.0	
	comp=Z,73nm,20.6s,baz=136,slow=36						
CTA	**Charters Tower**	**15.40**	**211**	LR	LR	13 25 33.0	
	comp=Z,64nm,20.2s,baz=56,slow=33						
WRA	**Warramunga Arr**	**23.55**	**235**	P	P	13 22 12.9	-1.1
	0.5nm,0.6s,baz=58,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**25.94**	**228**	P	P	13 22 35.1	-1.8
	0.3nm,0.7s,baz=63,slow=8.8,SNR=4.9						
MKAR	**Makanchi Array**	**83.09**	**319**	P	P	13 29 29.2	-0.8
	0.8nm,0.7s,baz=109,slow=4.0,SNR=4.2						

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*IDC **06** 13:22:28.8±0.9, 57.16S×25.39W, mb4.3/3, mb1 4.5/3, mb1mx4.0/13, Error ellipse: s-maj=50.0km s-min=27.2km az=58.0*

*NEIC **06** 13:22:36.6±0.6, 57.19S×25.67W, h55^{km}, mb4.7/2, Error ellipse: s-maj=35.9km s-min=10.1km az=64.0*

ISC 06 13:22:37.8±4.5**, 57.2S**±0.3×**25.5W**±0.9**, h86**^{km}±45^{km}**, n14, σ0^{s}64**/9**, mb4.3**/6**, 2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**15.80**	**158**	⇑*i*	**P**	**13 26 17.1**	**+1.1**
SNAA	**Sanae**	**17.34**	**156**	⇑*i*	**P**	**13 26 34.2**	**-1.0**
QSPA	**South Pole Qui**	**33.08**	**180**	*e*P	**P**	**13 29 06.2**	**-0.5**
	10.0nm,0.5s,mb4.9						
SBA	**Scott Base**	**45.03**	**184**	P	**P**	**13 30 45.6**	**-0.1**
	1.3nm,0.4s,mb4.0						
VNDA	**Vanda**	**45.50**	**182**	P	**P**	**13 30 49.6**	**+0.2**
	3.6nm,0.7s,mb4.2,baz=184,slow=6.9,SNR=18						
LPAZ	**La Paz**	**51.78**	**304**	P	**P**	**13 31 39.2**	**+0.6**
	2.1nm,0.5s,mb4.5,baz=117,slow=7.1,SNR=21						
LPAZ	**La Paz**	**51.78**	**304**	P	**P**	**13 31 39.2**	**+0.6**
SAML	**Samuel**	**56.25**	**313**	*e*P	**P**	**13 32 10.8**	**-0.6**
	2.9nm,0.5s,mb4.6						
ASAR	**Alice Springs**	**97.64**	**161**	P	**P**	**13 36 03.9**	**+0.3**
	0.5nm,1.1s,mb4.0,baz=194,slow=3.7,SNR=3.0						
YKA	**Yellowknife Ar**	**137.62**	**316**	PKP	PKPdf	13 41 53.0	+2.6
	0.7nm,0.5s,baz=124,slow=2.4,SNR=5.4						
YKA	**Yellowknife Ar**	**137.62**	**316**	PKP	PKPdf	13 41 53.0	+2.6
INK	**Inuvik**	**147.26**	**319**	PKPbc	PKPdf	13 42 12.3	+5.4
	1.1nm,0.4s,baz=145,slow=9.4,SNR=6.5						
SONM	**Songino Array**	**149.86**	**87**	PKPbc	PKPdf	13 42 19.4	+7.7
	1.1nm,0.7s,baz=238,slow=2.8,SNR=8.5						
SONM				PKPab	PKPab	13 42 25.4	+0.8
	0.3nm,0.3s,baz=228,slow=3.5,SNR=3.5						
ILAR	**Eielson Array**	**151.55**	**310**	PKPbc	PKPdf	13 42 22.8	+9.0
	1.5nm,0.5s,baz=136,slow=1.9,SNR=33						
ILAR				PKPab	PKPab	13 42 31.2	0.0
	0.3nm,0.6s,baz=115,slow=4.1,SNR=6.1						

IDC 06 13:30:53.7±1.7**, 3.40N×127.29E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/17**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/13**, Error ellipse: s-maj=144.0km s-min=27.4km az=73.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.21**	**164**	P	P	13 36 12.1	-1.0
	0.6nm,0.4s,baz=344,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.66**	**167**	P	P	13 36 43.8	-1.7
	0.2nm,0.7s,baz=346,slow=7.3,SNR=4.0						
JHJ	**Hachijo jima 2**	**31.79**	**20**	LR	LR	13 47 39.8	
	comp=Z,38nm,21.8s,baz=212,slow=32						
SONM	**Songino Array**	**47.79**	**341**	P	P	13 39 32.7	-2.0
	0.2nm,0.4s,baz=140,slow=9.6,SNR=3.6						

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*ISK **06** 13:58:13.9, 36.91N×27.68E, h5^{km}, MD3.1*

*NEIC **06** 13:58:15.4, 36.90N×27.75E, h30^{km}, MD3.1(ATH), After ATH.*

*ATH **06** 13:58:15.4, 36.90N×27.75E, h30^{km}±3^{km}, MD3.1/5*

ISC 06 13:58:15.0±0.9**, 36.87N**±0.04×**27.69E**±0.05**, h6**^{km}±7^{km}**, n13, σ0^{s}90**/18**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**315**	*i* P	**Pg**	**13 58 21.0**	**+0.3**
BDRM				*i* S	**Sg**	**13 58 25.7**	**+1.2**
MLSB	**Milas**	**0.43**	**9**	*i* PG	**Pg**	**13 58 23.0**	**-0.7**
MLSB				SG	**Sg**	**13 58 29.5**	**0.0**
NISR	**Nisiros**	**0.52**	**241**	*e*PN	**Pn**	**13 58 27.2**	**-1.3**
YER	**Yerkesik**	**0.55**	**60**	PG	**Pg**	**13 58 25.3**	**-0.6**
ARG	**Arkhangelos**	**0.74**	**151**	*e*PN	**Pn**	**13 58 30.6**	**-1.0**
AYDN	**Tasoluk**	**0.81**	**11**	*i* P	**Pb**	**13 58 30.1**	**-0.8**
AYDN				*i* S	**Sb**	**13 58 40.9**	**-1.0**
SMG	**Samos**	**1.08**	**321**	*e*PN	**Pn**	**13 58 35.6**	**-0.9**
DNZL	**Cakiroluk**	**1.36**	**52**	*i* P	**Pb**	**13 58 40.7**	**+0.3**
DNZL				*i* S	**Sb**	**13 58 59.8**	**+1.9**
KARP	**Karpathos**	**1.39**	**198**	*e*PN	**Pn**	**13 58 41.1**	**+0.2**
KARP				*e*SN	**Sn**	**13 59 00.0**	**+0.4**
DENT	**Denizli**	**1.39**	**50**	PN	**Pn**	**13 58 41.4**	**+0.5**
APE	**Apeiranthos**	**1.74**	**277**	*e*PN	**Pn**	**13 58 47.5**	**+1.5**
ELL	**Elmali**	**1.79**	**93**	*e*PN	**Pn**	**13 58 47.4**	**+0.8**
AKS	**Akhisar**	**2.01**	**3**	*e*PN	**Pn**	**13 58 49.3**	**-0.5**

MAN 06 14:04:45.3, 15.43N×121.24E, h1^{km}**, mb3.8, ML2.5, MS2.1, 3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	**Baler**	**0.45**	**46**	*e*P	Pg	14 04 54.1	-0.2
BALP				*e*S	Sg	14 04 57.7	-2.6
POLP	**Polilio Island**	**0.97**	**136**	*e*P	Pb	14 05 03.2	-1.3
BCPH	**Baguio City Da**	**1.14**	**327**	⇓*i*P	Pb	14 05 07.5	0.0
BCPH				*i* S	Sb	14 05 23.7	+1.1
LQP	**Lukban**	**1.34**	**167**	*e*P	Pb	14 05 10.6	-0.2
TGY	**Tagaytay City**	**1.35**	**192**	⇓*e*P	Pb	14 05 11.1	+0.1
CAUP	**Cauayan**	**1.61**	**20**	*e*P	Pn	14 05 13.4	-1.6
GQP	**Guinayangan**	**1.91**	**142**	⇓*e*P	Pn	14 05 19.1	-0.2
GQP				*e*S	Sn	14 05 44.9	+0.5
LUBP	**Lubang**	**1.94**	**210**	*e*P	Pn	14 05 19.9	+0.2
PALP	**Palanan**	**1.99**	**35**	*e*P	Pn	14 05 21.1	+0.7
ABRA	**Dolores**	**2.27**	**347**	*e*P	Pn	14 05 25.1	+0.7
APYP	**Conner**	**2.42**	**0**	*e*P	Pn	14 05 28.0	+1.4

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*ATH **06** 14:31:42.3, 40.27N×19.54E, h8^{km}±1^{km}, MD3.5/6*

*THE **06** 14:31:46.3, 40.20N×19.74E, h10^{km}, ML3.4*

*NEIC **06** 14:31:46.3, 40.20N×19.74E, h10^{km}, MD3.5(ATH), MD2.9(PDG), ML3.4(THE), After THE.*

*PDG **06** 14:31:48.0±0.2, 40.33N×19.62E, h10^{km}±1^{km}*

ISC 06 14:31:46.2±0.7**, 40.22N**±0.03×**19.78E**±0.05**, h5**^{km}±6^{km}**, n32, σ0^{s}90**/55**, 7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.33**	**319**	*i* Pg	**Pg**	**14 31 53.4**	**+0.5**
VLO				*i* Sg	**Sg**	**14 32 01.6**	**+4.2**
KEK	**Kerkira**	**0.50**	**178**	*e*PG	**Pg**	**14 31 53.6**	**-2.7**
KEK				*e*SB	**Sb**	**14 32 02.0**	**-2.4**
IGT	**Igoumenitsa**	**0.81**	**148**	*e*Sg	**Sg**	**14 32 12.7**	**-0.3**
JAN	**Janina**	**1.00**	**124**	*e*PB	**Pb**	**14 32 04.5**	**-1.0**
JAN				*e*SB	**Sb**	**14 32 20.5**	**+1.8**
TIR	**Tirane**	**1.13**	**3**	*e*Pg	**Pg**	**14 32 09.5**	**+0.7**
TIR				*i* Sg	**Sg**	**14 32 28.2**	**+4.3**
OHR	**Ohrid**	**1.18**	**41**	*i* Pn	**Pn**	**14 32 08.5**	**-0.8**
OHR				*i* Sg	**Sg**	**14 32 29.1**	**+3.5**
LCI	**Lecce**	**1.28**	**276**	*e*Pn	**Pg**	**14 32 17.7**	**+5.9**
LCI				*e*Sn	**Sg**	**14 32 37.6**	**+8.8**
QSH	**Qafa e Shtames**	**1.31**	**4**	*i* Pn	**Pn**	**14 32 10.6**	**-0.5**
QSH				*i* Sn	**Sn**	**14 32 36.6**	**+7.6**
FNA	**Florina**	**1.34**	**65**	*e*Pb	**Pb**	**14 32 11.3**	**-0.1**
FNA				*e*Sb	**Sb**	**14 32 32.8**	**+4.0**
BIA	**Bitola**	**1.42**	**55**	*i* Pn	**Pn**	**14 32 06.0**	**-6.7**
BIA				*i* Sg	**Sg**	**14 32 27.6**	**-6.0**
KZN	**Kozani**	**1.53**	**86**	*e*PN	**Pn**	**14 32 14.5**	**+0.3**
LKD	**Levkas**	**1.65**	**156**	*e*Pb	**Pb**	**14 32 16.2**	**-0.5**
LKD				*e*Sb	**Sb**	**14 32 39.1**	**+1.3**
ULC	**Ulcinj**	**1.79**	**347**	⇓*i*Pn	**Pn**	**14 32 17.4**	**-0.6**
ULC				*e*Sn	**Sn**	**14 32 41.6**	**+0.3**
EVR	**Evrytania**	**2.04**	**129**	*e*PN	**Pn**	**14 32 21.4**	**-0.1**
BRT	**Bari-Castellan**	**2.07**	**289**	*e*Pn	**Pg**	**14 32 27.6**	**0.0**
BRT				*e*Sn	**Sg**	**14 32 56.6**	**+1.5**
LIT	**Litokhoron**	**2.08**	**92**	*e*Pn	**Pn**	**14 32 21.8**	**-0.4**
VLS	**Valsamata**	**2.13**	**163**	*e*PN	**Pn**	**14 32 22.5**	**-0.4**
SKO	**Skopje**	**2.16**	**35**	*i* Pn	**Pn**	**14 32 24.0**	**+0.8**
BUM	**Brajici-Budva**	**2.19**	**343**	⇓*i*Pn	**Pn**	**14 32 23.6**	**-0.1**
BUM				*e*Sn	**Sn**	**14 32 51.7**	**+0.3**
TTG	**Podgorica**	**2.25**	**350**	*e*Pn	**Pn**	**14 32 25.1**	**+0.6**
TTG				*e*Sn	**Sn**	**14 32 53.1**	**+0.2**
AGG	**Agios Georgios**	**2.30**	**120**	*e*Pn	**Pn**	**14 32 25.2**	**-0.2**
AGG				*e*Sn	**Sn**	**14 32 54.6**	**+0.3**
PVY	**Plav**	**2.38**	**3**	*e*Pn	**Pn**	**14 32 26.7**	**+0.2**
PVY				*e*Sn	**Sn**	**14 32 57.2**	**+0.9**
HCY	**Herceg Novi**	**2.43**	**337**	⇓*i*Pn	**Pn**	**14 32 26.8**	**-0.3**
HCY				*e*Sn	**Sn**	**14 32 57.2**	**-0.3**
ORI	**Oriolo Calabro**	**2.56**	**268**	⇓*i*Pn	**Pg**	**14 32 34.7**	**-2.6**
ORI				*e*Sn	**Sg**	**14 33 09.7**	**-1.6**
IVA	**Berane**	**2.65**	**2**	*e*Pn	**Pn**	**14 32 30.6**	**+0.3**
IVA				*e*Sn	**Sn**	**14 33 03.7**	**+0.4**
NKY	**Niksic**	**2.66**	**348**	⇓*i*Pn	**Pn**	**14 32 29.6**	**-0.8**
NKY				*e*Sn	**Sn**	**14 33 03.2**	**-0.2**
BRY	**Bratogost**	**2.84**	**341**	⇓*i*Pn	**Pn**	**14 32 32.6**	**-0.3**
BRY				*e*Sn	**Sn**	**14 33 06.7**	**-1.2**
UPM	**Unac-Piva**	**3.05**	**348**	⇓*i*Pn	**Pn**	**14 32 36.0**	**-0.1**
UPM				*e*Sn	**Sn**	**14 33 12.5**	**-0.9**
MGR	**Morigerati**	**3.24**	**270**	*e*Pn	**Pn**	**14 32 46.0**	**+7.3**
MRLC	**Muro Lucano**	**3.32**	**281**	*e*Pn	**Pn**	**14 32 47.5**	**+7.8**
MRLC				*e*Sn	**Sn**	**14 33 26.4**	**+6.4**
SGO	**Sicignano**	**3.43**	**277**	*e*Pn	**Pn**	**14 32 48.0**	**+6.6**
ITM	**Ithomi**	**3.47**	**150**	*e*PG	**Pn**	**14 32 49.5**	**+7.6**

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*MDD **06** 14:34:37.4±0.7, 38.92N×7.71W, mbLg1.5/7, Error ellipse: s-maj=5.8km s-min=5.4km az=68.0, PRXIMO*

*INMG **06** 14:34:38.1±1.0, 38.91N×7.69W, h2^{km}±6^{km}, ML1.5, Error ellipse: s-maj=2.6km s-min=1.7km az=92.0*

ISC 06 14:34:36.7±0.9**, 38.90N**±0.04×**7.68W**±0.06**, h4**^{km}±11^{km}**, n13, σ0^{s}36**/16**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBAD	**Badajoz**	**0.54**	**106**	Pg	**Pg**	**14 34 48.2**	**+0.7**
	1.1nm,0.3s,SNR=15						
EBAD				Lg		14 34 56.0	
	8.1nm,0.2s,SNR=11						
MOE	**Montemor**	**0.65**	**234**	*e*Pg	**Pg**	**14 34 49.5**	**-0.2**
MOE				*e*Sg	**Sg**	**14 34 58.5**	**+0.1**
PBEJ	**Beja**	**0.89**	**190**	*e*Pg	**Pg**	**14 34 54.3**	**-0.2**
PBEJ				*e*Sg	**Sg**	**14 35 06.7**	**+0.4**
	5.2nm,0.2s						
PBEJ	**Beja**	**0.89**	**190**	Pg	**Pg**	**14 34 54.3**	**-0.2**
PBEJ				Lg		14 35 06.7	
	2.6nm,0.2s						
PTOM	**Tomar**	**0.91**	**322**	*e*P	**Pb**	**14 34 54.7**	**0.0**
PTOM				*e*S	**Sb**	**14 35 07.2**	**+0.2**
	9.0nm,0.2s						
PTOM	**Tomar**	**0.91**	**322**	Pg	**Pb**	**14 34 54.7**	**0.0**
PTOM				Lg		14 35 07.2	
	4.5nm,0.2s						
PCBR	**Castelo Branco**	**0.95**	**9**	*e*P	**Pb**	**14 34 54.8**	**-0.5**
PCBR				*e*S	**Sb**	**14 35 08.2**	**+0.2**
	6.7nm,0.3s						
PCBR	**Castelo Branco**	**0.95**	**9**	Pg	**Pb**	**14 34 54.8**	**-0.5**
PCBR				Lg		14 35 08.2	
	3.3nm,0.3s						
EGRO	**El Granado**	**1.38**	**174**	Pg	**Pg**	**14 35 04.1**	**-0.1**
	4.4nm,0.3s,SNR=6.0						
EGRO				Lg		14 35 23.2	
	4.6nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.38**	**145**	Pg	**Pg**	**14 35 03.6**	**-0.7**
	2.1nm,0.3s,SNR=11						
EMIN				Lg		14 35 23.1	
	2.1nm,0.2s,SNR=5.0						
PTEO	**Sao Teotonio**	**1.59**	**212**	*e*S	**Sb**	**14 35 26.5**	**0.0**
	7.6nm,0.3s						
PTEO	**Sao Teotonio**	**1.59**	**212**	Sn	**Sb**	**14 35 26.5**	**0.0**
	3.8nm,0.3s						
EADA	**Adamuz**	**2.54**	**106**	Lg		14 36 00.1	
	1.8nm,0.3s,SNR=7.9						

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*MOS **06** 14:34:46.7±0.7, 12.35N×94.97E, h10^{km}, mb5.0/14, Error ellipse: s-maj=17.4km s-min=7.7km az=113.6*

*BJI **06** 14:34:50.0, 12.04N×94.99E, h48^{km}, mB5.3, mb4.7, Ms5.1, Msz4.9*

*IDC **06** 14:34:50.0±0.4, 12.36N×94.95E, h20^{km}±2^{km}, mb4.3/25, mb1 4.3/26, mb1mx4.3/28, ML3.5/1, Error ellipse: s-maj=17.0km s-min=9.8km az=52.0*

*NEIC **06** 14:34:50.9±0.1, 12.37N×94.97E, h25^{km}, mb4.9/39, Error ellipse: s-maj=4.9km s-min=3.4km az=55.0*

ISC 06 14:34:46.9±0.2**, 12.31N**±0.04×**95.06E**±0.03**, h10**^{km}**, (h20**^{km}±1.1^{km}**: pP-P), n173, σ0^{s}87**/167**, mb4.7**/70**, MS5.4**/2**, 8C-5D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.36**	**254**	*e*P	**Pn**	**14 35 28.5**	**+2.1**
PBA				*e*S	**Sn**	**14 36 02.5**	**+6.9**
NNT	**Nongplab**	**4.57**	**86**	P	**Pg**	**14 36 16.8**	**-1.5**
BDT	**Bhumibol Dam**	**6.21**	**37**	PG	**Pn**	**14 36 21.0**	**0.0**
CMAR	**Chiang Mai Arr**	**7.17**	**31**	Pn	**Pn**	**14 36 34.5**	**+0.1**
	0.2nm,0.3s,baz=222,slow=15,SNR=4.8						
CMAR				Sn	**Sn**	**14 37 57.1**	**+0.4**
	1.5nm,0.3s,baz=229,slow=14,SNR=5.9						
CMAR	**Chiang Mai Arr**	**7.17**	**31**	P	**Pn**	**14 36 34.5**	**+0.1**
CMAR						14 37 57.1	
CMAR				smax			
	comp=Z,2.0nm,0.3s						
NANT	**Nan**	**8.43**	**39**	P	**P**	**14 36 58.0**	**+5.9**
KKTK	**Khon Kaen**	**8.52**	**61**	PN	**P**	**14 36 54.0**	**+0.7**
CHRT	**Chiangrai**	**8.78**	**31**	P	**P**	**14 37 06.5**	**+10**
	comp=Z,279nm,0.9s						
IPM	**Ipoh**	**9.69**	**142**	⇑*e*P	**P**	**14 37 15.5**	**+5.9**
BWNR	**Bhubaneshwar**	**11.91**	**313**	*e*P	**P**	**14 37 38.8**	**-1.1**
BWNR				AMb	AMB	14 38 23.9	
	comp=Z,526nm,1.6s						
BWNR				*e*		14 40 16.8	
VIS	**Vishakhapatnam**	**12.54**	**297**	*e*P	**P**	**14 37 48.0**	**-0.4**
VIS				*e*		14 40 33.0	
SHL	**Shillong**	**13.52**	**348**	*e*P	**P**	**14 38 02.5**	**+1.0**
SHL				*e*		14 41 00.0	
MDRS	**Chennai**	**14.47**	**275**	*e*P	**P**	**14 38 17.8**	**+3.7**
MDRS				AMb	AMB	14 38 27.2	
	comp=Z,54nm,0.2s						
PALK	**Pallekele**	**15.01**	**252**	P	**P**	**14 38 25.8**	**+4.7**
HYB	**Hyderabad**	**16.74**	**290**	*e*P	**P**	**14 38 48.0**	**+4.7**
NGP	**Nagpur**	**17.66**	**302**	*e*P	**P**	**14 38 57.6**	**+2.8**
PKI	**Pulchoki**	**17.67**	**331**	*e*P	**P**	**14 38 56.2**	**+1.3**
	comp=Z,197nm,1.1s						
LSA	**Lhasa**	**17.68**	**349**	*e*P	**P**	**14 38 55.4**	**+0.4**
	comp=Z,102nm,1.3s						
GYA	**Guiyang**	**17.81**	**36**	P	**P**	**14 38 57.1**	**+0.5**
DMN	**Daman**	**17.85**	**330**	*e*P	**P**	**14 38 58.6**	**+1.5**
	comp=Z,124nm,1.1s						
KKN	**Kakani**	**17.91**	**331**	*e*P	**P**	**14 38 58.6**	**+0.7**
	comp=Z,31nm,0.7s						
GKN	**Gorkha**	**18.40**	**330**	*e*P	**P**	**14 39 04.4**	**+0.3**
	comp=Z,54nm,0.7s						
KOLN	**Koldanda**	**18.75**	**327**	*e*P	**P**	**14 39 08.8**	**+0.5**
	comp=Z,59nm,0.7s						
BHPL	**Bhopal**	**19.98**	**305**	*e*P	**P**	**14 39 23.2**	**+0.7**
CD2	**Chengdu**	**20.18**	**22**	⇑*i*P	**P**	**14 39 24.3**	**-0.2**
CD2				AMB	AMB		
	comp=Z,30nm,1.2s						
KAD	**Karad**	**20.78**	**286**	*e*P	**P**	**14 39 31.6**	**+0.8**
POO	**Poona**	**21.35**	**289**	*e*P	**P**	**14 39 38.0**	**+1.3**
	comp=Z,100nm,1.0s,mb5.1						
POO				*e*		14 44 05.0	
KKM	**Kota Kinabalu**	**21.78**	**105**	⇓*e*P	**P**	**14 39 47.3**	**+6.2**
LGTI	**Lohaghat**	**21.92**	**323**	⇓*i*P	**P**	**14 39 45.5**	**+3.2**
PTH	**Pithoragarh**	**22.01**	**323**	*e*P	**P**	**14 39 46.0**	**+2.7**
PTH				*e*		14 44 24.0	
ENH	**Enshi**	**22.32**	**35**	*e*P	**P**	**14 39 47.2**	**+0.9**
BOM	**Bombay**	**22.39**	**290**	*e*	**P**	**14 39 60.0**	**+13**
NDI	**New Delhi**	**23.28**	**317**	*e*P	**P**	**14 39 58.1**	**+2.2**
PPR	**Puerto Princes**	**23.37**	**94**	*e*P	**P**	**14 40 03.4**	**+6.6**
AJM	**Ajmer**	**23.81**	**309**	*e*P	**P**	**14 40 04.1**	**+3.1**
AJM				AMb	AMB	14 40 12.6	
	comp=Z,65nm,1.5s,mb4.8						
DDI	**Dehra Dun**	**23.86**	**321**	*e*P	**P**	**14 40 04.0**	**+2.6**
SMLA	**Simla**	**24.97**	**321**	*i*	**P**	**14 40 21.8**	**+10**
SMLA				*i*		14 41 02.6	
	comp=Z,1μm,1.5s						
XAN	**Xi’an**	**25.05**	**28**	P	**P**	**14 40 17.3**	**+4.4**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
SDNR	**Sundarnagar**	**25.35**	**322**	*e*P	**P**	**14 40 17.0**	**+1.2**
GTA	**Gaotai**	**27.32**	**8**	P	**P**	**14 40 35.2**	**+1.3**
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.2						
WMQ	**Urumqi**	**32.03**	**350**	⇑P	**P**	**14 41 16.2**	**+0.3**
WMQ				XP	sP	14 41 30.2	+10
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
FRU	**Bishkek**	**35.20**	**334**	*e*P	**P**	**14 41 43.5**	**+0.2**
FRU				MLR	MLR		
	comp=N,6μm,20.0s						
FRU				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.4						
MKAR	**Makanchi Array**	**36.02**	**345**	P	**P**	**14 41 49.6**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.7,baz=157,slow=9.2,SNR=30						
MKAR	**Makanchi Array**	**36.02**	**345**	*i* P	**P**	**14 41 50.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,176nm,1.1s						
SONM	**Songino Array**	**36.66**	**13**	P	**P**	**14 41 55.9**	**+0.3**
	comp=Z,4.6nm,1.0s,mb4.2,baz=190,slow=7.5,SNR=19						
KKAR	**Karatay Array**	**37.31**	**330**	*i* P	**P**	**14 42 00.8**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,146nm,1.4s,mb5.6						
ZAK	**Zakamensk**	**38.55**	**8**	⇓*i*P	**P**	**14 42 11.7**	**+0.2**
JNU	**Nakatsue**	**38.72**	**52**	P	**P**	**14 42 12.8**	**-0.3**
	comp=Z,12nm,1.2s,mb4.5,baz=178,slow=5.5,SNR=3.2						
KURK	**Kurchatov**	**40.58**	**344**	*e*P	**P**	**14 42 28.3**	**0.0**
	comp=Z,24nm,1.3s,mb4.7						
CN2	**Changchun**	**40.84**	**34**	*e*P	**P**	**14 42 30.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,3μm,12.0s,MS5.4						
HIA	**Hailar**	**42.12**	**24**	*e*P	**P**	**14 42 41.3**	**+0.4**
	comp=Z,7.0nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**42.71**	**134**	P	**P**	**14 42 46.5**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=222,slow=12,SNR=2.8						
NVS	**Novosibirsk**	**43.44**	**350**	*e*P	**P**	**14 42 50.1**	**-1.5**
VOSK	**Vostochnaya**	**44.69**	**339**	P	**P**	**14 43 01.5**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.5						
BVA0	**Borovoye Array**	**45.15**	**339**	P	**P**	**14 43 04.8**	**-0.6**
BVAR	**Borovoye Array**	**45.15**	**339**	P	**P**	**14 43 04.4**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=12						
BRVK	**Borovoye**	**45.21**	**339**	*e*P	**P**	**14 43 05.5**	**-0.4**
	comp=Z,8.9nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**45.58**	**338**	P	**P**	**14 43 08.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.4						
MAJO	**Matsushiro**	**45.59**	**50**	*e*P	**P**	**14 43 09.4**	**+0.2**
	comp=Z,18nm,1.2s,mb4.9						
MAT	**Matsushiro**	**45.59**	**50**	P	**P**	**14 43 09.6**	**+0.5**
MAT	**Matsushiro**	**45.59**	**50**	*e*P	**P**	**14 43 10.0**	**+0.9**
	comp=Z,22nm,1.5s,mb4.9						
AB31	**Akbulak array**	**46.85**	**329**	P	**P**	**14 43 18.8**	**-0.2**
AB31				pmax	pmax		
	comp=Z,235nm,1.3s						
MUN	**Mundaring**	**48.48**	**156**	*e*P	**P**	**14 43 33.1**	**+1.2**
	comp=Z,19nm,1.1s,mb5.0						
MUN				*i*		14 43 39.1	
KLBR	**Kellerberrin**	**48.78**	**154**	*e*P	**P**	**14 43 34.9**	**+0.6**
	comp=Z,31nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**49.72**	**155**	P	**P**	**14 43 42.2**	**+0.7**
	comp=Z,29nm,1.1s,mb5.2,baz=320,slow=9.1,SNR=4.5						
NWAO	**Narrogin (SRO)**	**49.72**	**155**	P	**P**	**14 43 42.2**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,29nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.72**	**155**	*e*P	**P**	**14 43 42.5**	**+1.0**
	comp=Z,55nm,1.3s,mb5.4						
WRA	**Warramunga Arr**	**50.22**	**129**	P	**P**	**14 43 46.0**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.4,baz=312,slow=8.5,SNR=24						
WRA				pP	pP	14 43 51.5	+2.9
	comp=Z,9.6nm,0.8s,baz=307,slow=8.3,SNR=34						
WRA	**Warramunga Arr**	**50.22**	**129**	P	**P**	**14 43 46.0**	**+0.5**
WRA				*PP	pP	14 43 51.5	+3.0
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**50.22**	**129**	*e*P	**P**	**14 43 46.3**	**+0.8**
	comp=Z,14nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**50.23**	**129**	*e*P	**P**	**14 43 46.0**	**+0.4**
WB2				*i*		14 43 51.7	
ASAJ	**Asahikawa**	**51.52**	**43**	P	**P**	**14 43 56.1**	**+1.0**
	baz=270,slow=14						
GNI	**Garni**	**52.09**	**312**	P	**P**	**14 43 59.0**	**-0.4**
	comp=Z,4.8nm,0.4s,mb4.8,baz=38,slow=12,SNR=4.7						
GNI	**Garni**	**52.09**	**312**	P	**P**	**14 43 59.0**	**-0.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ASPA	**Alice Springs**	**52.17**	**133**	*e*P	**P**	**14 44 05.9**	**+5.7**

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ASAR  Alice Springs     52.17 133    P       P        14 44 00.5 +0.2
      comp=Z,2.2nm,0.9s,mb4.1,baz=311,slow=6.7,SNR=18
ASAR                                 pP      pP       14 44 06.0 +2.7
      comp=Z,4.9nm,0.8s,baz=309,slow=6.9,SNR=22
ASAR  Alice Springs     52.17 133    P       P        14 44 00.5 +0.2
ASAR                                 pP      pP       14 44 06.0 +2.7
ARU   Arti              52.22 335⇓iP         P        14 43 59.4 -0.8
ARU                                  pmax    pmax
      comp=Z,17nm,1.5s,mb4.8
ARU   Arti              52.22 335  eP        P        14 43 59.4 -0.8
      comp=Z,26nm,1.4s,mb5.0
FORT  Forrest           53.31 144  eP        P        14 44 07.7 -0.9
      comp=Z,34nm,0.9s,mb5.3
KIV   Kislovodsk        54.73 316d iP        P        14 44 18.5 -0.4
KIV                                e                  14 47 38.7
KIV                                  pmax    pmax
      comp=Z,13nm,0.7s,mb5.1
ASF   Jabal al Asfar    56.67 300    P       P        14 44 32.3 -0.7
      comp=Z,3.7nm,0.7s,mb4.5,baz=335,slow=5.8,SNR=5.4
KMBO  Kilima Mbogo      58.91 261    P       P        14 44 48.4 -0.6
      comp=Z,1.8nm,1.0s,mb4.1,baz=29,slow=22,SNR=3.6
CTA   Charters Tower    59.78 122  eP        P        14 45 00.9 +5.9
      comp=Z,3.9nm,1.0s,mb4.4
BRTR  Keskin Array B    60.30 309    P       P        14 44 56.5 -1.7
      comp=Z,5.8nm,0.6s,mb4.8,baz=122,slow=7.5,SNR=18
BRTR  Keskin Array B    60.30 309    P       P        14 44 56.6 -1.7
BRTR                                 pmax    pmax
      comp=Z,6.0nm,0.6s
MOS   Moscow            61.82 327  eP        P        14 45 07.2 -1.2
MOS                                  pmax    pmax
      comp=Z,139nm,1.4s
STKA  Stephens Creek    62.57 136⇑iP         P        14 45 14.4 +0.7
      comp=Z,9.5nm,0.9s,mb4.9
STKA  Stephens Creek    62.57 136    P       P        14 45 14.1 +0.3
      comp=Z,9.5nm,0.8s,mb5.0,baz=312,slow=10,SNR=9.7
STKA                                 pP      pP       14 45 20.1 +3.2
      comp=Z,10nm,0.8s,baz=312,slow=6.8,SNR=12
AKASG Malin Array Be    65.30 320    P       P        14 45 29.7 -1.6
      comp=Z,0.3nm,0.3s,mb3.8,baz=88,slow=4.5,SNR=15
IDI   Anoyia            66.85 303    P       P        14 45 39.9 -1.6
      comp=Z,6.6nm,1.1s,mb4.6,baz=46,slow=7.3,SNR=3.2
MNK   Minsk             66.87 324  eP        P        14 45 38.0 -3.3
FINES FINESS Array B    69.25 331    P       P        14 45 54.9 -1.1
      comp=Z,1.1nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=14
FINES                                pP      pP       14 46 01.6 +2.4
      comp=Z,3.6nm,1.1s,baz=85,slow=5.5,SNR=4.5
FINES FINESS Array B    69.25 331    P       P        14 45 54.9 -1.1
FINES                                *PP     pP       14 46 01.6 +2.5
FINES                                pmax    pmax
      comp=Z,1.0nm,0.5s
FINES                                pmax    pmax
      comp=Z,4.0nm,1.1s
KAF   Kangasniemi       69.30 332  ep        P        14 45 54.5 -1.8
CRVS  Cervenica-Dubn    70.04 318  eP        P        14 46 01.1 +0.1
OJC   Ojcow             71.21 319  eP        P        14 46 07.8 -0.3
ARCES ARCESS Array B    71.43 340    P       P        14 46 08.7 -0.4
      comp=Z,1.2nm,0.8s,mb3.9,baz=135,slow=6.4,SNR=2.6
ARCES ARCESS Array B    71.43 340    P       P        14 46 08.7 -0.4
ARCES                                pmax    pmax
      comp=Z,1.0nm,0.8s
VYHS  Vyhne             71.76 317  eP        P        14 46 10.9 -0.5
KSP   Ksiaz             73.47 320  eP        P        14 46 21.1 -0.4
BRG   Berggiesshubel    74.96 320  i P       P        14 46 29.9 -0.2
BRG                                  pmax    pmax
      comp=Z,10.0nm,0.9s,mb4.8
BRG   Berggiesshubel    74.96 320  i P       P        14 46 29.9 -0.2
      comp=Z,9.5nm,0.9s,mb4.7
GEC2  GERESS Array S    75.16 317  eP        P        14 46 31.0 -0.3
GEC2                                 pmax    pmax
      comp=Z,10.0nm,0.9s,mb4.8
GEC2  GERESS Array S    75.16 317  eP        P        14 46 31.0 -0.3
      comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B    75.16 317    P       P        14 46 30.6 -0.7
      comp=Z,5.9nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=52
GERES                                pP      pP       14 46 36.9 +2.4
      comp=Z,3.8nm,0.7s,baz=90,slow=5.3,SNR=11
GERES GERESS Array B    75.16 317    P       P        14 46 30.6 -0.7
GERES                                *PP     pP       14 46 36.9 +2.4
GERES                                pmax    pmax
      comp=Z,6.0nm,0.7s
GERES                                pmax    pmax
      comp=Z,4.0nm,0.7s
CLL   Collm             75.54 320  ⇑P        P        14 46 33.1 -0.3
      comp=Z,logA/T=1.0,mb4.7
CLL   Collm             75.54 320⇑iP         P        14 46 33.1 -0.3
CLL                                  pmax    pmax
      comp=Z,13nm,1.2s,mb4.7
CLL   Collm             75.54 320⇑iP         P        14 46 33.1 -0.3
      comp=Z,13nm,1.2s,mb4.7
WET   Wettzell          75.69 318  eP        P        14 46 33.7 -0.6
WET                                  pmax    pmax
      comp=Z,10.0nm,1.1s,mb4.7
WET   Wettzell          75.69 318  eP        P        14 46 33.7 -0.6
      comp=Z,10.0nm,1.1s,mb4.7
SPITS Spitsbergen Ar    75.71 348    P       P        14 46 33.5 -0.5
      comp=Z,8.9nm,1.0s,mb4.7,baz=90,slow=4.0,SNR=3.2
NB2   NORSAR Subarra    76.34 330    P       P        14 46 36.8 -1.0
      comp=Z,2.7nm,0.9s,mb4.2,baz=89,slow=5.8
NOA   NORSAR Array B    76.34 330    P       P        14 46 37.1 -0.6
      comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=5.7,SNR=4.8
NOA   NORSAR Array B    76.34 330    P       P        14 46 37.1 -0.7
NOA                                  pmax    pmax
      comp=Z,1.0nm,0.8s
MOX   Moxa              76.44 319  eP        P        14 46 38.0 -0.5
MOX                                e                  14 46 44.0
GRA1  Grafenberg Arr    76.75 318  eP        P        14 46 40.4 +0.2
      comp=Z,10.0nm,1.0s,mb4.7
GRF   Grafenberg Arr    76.75 318  eP        P        14 46 40.4 +0.2
GRF                                  pmax    pmax
      comp=Z,10.0nm,1.0s,mb4.7
PGD   Poggio Sodo       76.80 312⇑iP         P        14 46 41.3 +0.6
BSEG  Bad Segeberg      77.07 323  eP        P        14 46 42.2 +0.3
BSEG                                 pmax    pmax
      comp=Z,21nm,1.1s,mb5.0
CLZ   Clausthal         77.16 321  eP        P        14 46 42.4 -0.1
      comp=Z,17nm,1.1s,mb4.9
GSCL  Gusciola          77.58 313  eP        P        14 46 45.6 +0.7
PGF   Pioggiola         78.91 311  eP        P        14 46 51.4 -0.9
CASY  Casey             79.21 174  eP        P        14 46 54.6 +1.2
      comp=Z,11nm,0.6s,mb5.0
CDF   Champ du Feu      79.44 317  eP        P        14 46 54.3 -0.8
HINF  Hinteralfeld      79.80 317  eP        P        14 46 56.2 -0.8
      comp=Z,3.8nm,0.6s,mb4.2
SBF   Sospel            79.89 313  eP        P        14 46 57.0 -0.6
HAU   Haudompre         80.11 317  eP        P        14 46 57.8 -0.9
LPG   La Plagne         80.16 314  eP        P        14 46 58.9 -0.1
      comp=Z,25nm,0.8s,mb4.9
LPL   La Plagne         80.17 314  eP        P        14 46 59.0 -0.1
      comp=Z,27nm,0.8s,mb4.9
MBDF  Montbardon        80.25 314  eP        P        14 46 58.4 -1.1
CABF  La Chapelle       80.47 316  eP        P        14 47 00.3 -0.3
      comp=Z,7.8nm,0.7s,mb4.5
FRF   La Foret Royal    80.49 313  eP        P        14 47 00.4 -0.4
GIVF  Givet             80.82 319  eP        P        14 47 02.1 -0.3
SMRF  Simiane la Rot    81.20 313  eP        P        14 47 04.6 +0.1
BAIF  Baives            81.22 319  eP        P        14 47 04.4 -0.1
      comp=Z,23nm,0.8s,mb4.8
VIVF  Saint-Julien-l    81.71 314  eP        P        14 47 06.7 -0.4
      comp=Z,22nm,1.2s,mb4.7
LOR   Lormes            81.88 317  eP        P        14 47 07.4 -0.6
      comp=Z,15nm,0.9s,mb4.6
SSF   Saint Saulge      82.15 316  eP        P        14 47 09.0 -0.4
AVF   Avril sur Loir    82.30 316  eP        P        14 47 09.6 -0.6
LASF  Ste Croix         82.41 313  eP        P        14 47 10.8  0.0
TSUM  Tsumeb            82.47 249  eP        P        14 47 11.3 -0.3
      comp=Z,4.5nm,1.0s,mb4.3
MAW   Mawson            83.04 192    P       P        14 47 13.1 -0.5
      comp=Z,1.5nm,0.7s,mb4.2,baz=32,slow=9.5,SNR=3.8
MAW   Mawson            83.04 192    P       P        14 47 13.1 -0.5
MAW                                  pmax    pmax
      comp=Z,2.0nm,0.7s
TCF   Toulx Ste Croi    83.17 316  eP        P        14 47 14.6 -0.1
      comp=Z,17nm,1.1s,mb4.7
CAF   Calviac           83.52 314  eP        P        14 47 16.6 +0.1
      comp=Z,10nm,0.9s,mb4.7
SUR   Sutherland        83.59 235  eP        P        14 47 19.0 +1.7
      comp=Z,22nm,1.1s,mb5.2
MTLF  Montolieu         83.71 313  eP        P        14 47 17.4 -0.2
RJF   Les Rejaudoux     83.83 315  eP        P        14 47 18.2 +0.1
      comp=Z,10nm,0.7s,mb4.8
LDF   La Druitiere      84.27 318  eP        P        14 47 20.0 -0.2
      comp=Z,15nm,0.7s,mb4.9
FLN   La Foliniere      84.47 319  eP        P        14 47 21.1 -0.1
EKA   Eskdalemuir Ar    84.60 325    P       P        14 47 21.0 -0.7
      comp=Z,7.1nm,1.2s,mb4.7,baz=97,slow=6.7,SNR=5.1
EKA                                  pP      pP       14 47 28.7 +3.7
      comp=Z,3.5nm,1.0s,baz=84,slow=7.6,SNR=5.1
EKA   Eskdalemuir Ar    84.60 325    P       P        14 47 21.0 -0.7
EKA                                  *PP     pP       14 47 28.7 +3.8
EKA                                  pmax    pmax
      comp=Z,7.0nm,1.3s
EKA                                  pmax    pmax
      comp=Z,4.0nm,1.0s
MFF   Saint Martin d    84.70 316  eP        P        14 47 22.2 -0.3
      comp=Z,15nm,0.9s,mb4.8
ETSF  Etsaut            85.79 313  eP        P        14 47 28.2 +0.2
      comp=Z,22nm,0.9s,mb5.1
SJPF  Ste Jean          86.22 313  eP        P        14 47 30.2 +0.1
ROSF  Rostrenen         86.37 319  eP        P        14 47 30.5 -0.2
      comp=Z,14nm,0.9s,mb4.9
IMA   Indian Mountai    87.20  22  eP        P        14 47 35.4 +1.1
      comp=Z,15nm,0.6s,mb5.4
ESDC  Sonseca Array     89.06 310    P       P        14 47 43.5 -0.4
      comp=Z,0.3nm,0.3s,mb4.1,baz=72,slow=4.6,SNR=4.7
ESDC                                 pP      pP       14 47 49.4 +2.3
      comp=Z,0.3nm,0.3s,baz=88,slow=2.5,SNR=1.6
ILAR  Eielson Array     90.32  22    P       P        14 47 48.6 -0.6
      comp=Z,0.9nm,0.7s,mb4.2,baz=294,slow=4.2,SNR=11
ILAR  Eielson Array     90.32  22    P       P        14 47 48.6 -0.6
ILAR                                 pmax    pmax
      comp=Z,1.0nm,0.7s
PMR   Palmer            91.00  26  eP        P        14 47 52.7 +0.3
      comp=Z,2.1nm,0.4s,mb4.8
INK   Inuvik            92.50  16    P       P        14 47 57.8 -1.3
      comp=Z,4.0nm,1.0s,mb4.8,baz=258,slow=6.5,SNR=3.8
INK   Inuvik            92.50  16    P       P        14 47 57.8 -1.3
INK                                  pmax    pmax
      comp=Z,4.0nm,1.0s
NVAR  Mina Array Bea   120.66  30    PKP     PKPdf    14 53 40.9 -1.7
      comp=Z,0.6nm,0.8s,baz=326,slow=3.3,SNR=4.0
NVAR  Mina Array Bea   120.66  30    PKP     PKPdf    14 53 40.9 -1.7
BDFB  Brasilia         144.04 260    PKP     PKPdf    14 54 24.8 -2.0
      comp=Z,4.2nm,0.9s,baz=143,slow=18,SNR=3.1
BDFB  Brasilia         144.04 260    PKIKP   PKPdf    14 54 24.8 -2.0
BDFB                                 pmax    pmax
      comp=Z,4.0nm,0.9s
PLCA  Paso Flores      148.99 202    PKPbc   PKPdf    14 54 37.1 +2.7
      comp=Z,1.8nm,0.7s,baz=192,slow=8.3,SNR=6.3
PLCA                                 pPKPbc           14 54 44.1
      comp=Z,4.8nm,0.9s,baz=112,slow=5.1,SNR=7.1
PLCA  Paso Flores      148.99 202    PKP2    PKPab    14 54 37.2 -4.6
PLCA                                 pmax    pmax
      comp=Z,2.0nm,0.7s
PLCA                                 pmax    pmax
      comp=Z,5.0nm,0.9s
CPUP  Villa Florida    150.53 238    PKPbc   PKPdf    14 54 41.2 +3.9
      comp=Z,6.2nm,1.0s,baz=207,slow=1.6,SNR=6.9
CPUP                                 pPKPbc           14 54 47.4
      comp=Z,4.7nm,0.9s,baz=73,slow=0.8,SNR=4.6
CPUP  Villa Florida    150.53 238    PKIKP   PKPdf    14 54 41.2 +3.9
CPUP                                                  14 54 47.4
CPUP                                 pmax    pmax
      comp=Z,6.0nm,1.0s
CPUP                                 pmax    pmax
      comp=Z,5.0nm,0.9s
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MOS ***06*** *14:35:23.6±1.0, 12.52N×94.97E, h10^{km}, mb5.7/37, MS5.2/25, Error ellipse: s-maj=10.0km s-min=6.1km az=117.3*

BJI ***06*** *14:35:25.3, 12.08N×94.91E, h43^{km}, mB5.5, mb5.4, Ms5.6, Msz5.4*

IDC ***06*** *14:35:26.6±0.4, 12.43N×94.95E, h21^{km}±2^{km}, mb4.8/26, mb1 4.9/27, mb1mx4.8/29, ML4.1/1, MS4.5/1, Ms1 4.7/1, ms1mx3.9/5, Error ellipse: s-maj=15.0km s-min=9.3km az=49.0*

HRVD ***06*** *14:35:27.0±0.2, 12.30N×95.09E, h12^{km}, MW5.6/70, Centroid moment Tensor Solution. LP body waves: s52,c100;Mantle waves: s70,c134; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.63±.05; M$_{\theta\theta}$0.96±.04; M$_{\phi\phi}$0.67±.04; M$_{r\theta}$1.48±.12; M$_{\theta\phi}$1.63±.04; M$_{\phi r}$-0.82±.12; Best double couple: M$_0$2.72×10^{17} NP1: φ$_s$17°, δ48°, λ-143°. NP2: φ$_s$260°, δ63°, λ-49°. Principal axes: T 2.53, Plg9°, Azm322°; N .38, Plg36°, Azm58°; P -2.91, Plg52°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***06*** *14:35:27.0, 12.43N×95.00E, h24^{km}, MB5.7, MS5.2*

NEIC ***06*** *14:35:27.0±0.1, 12.43N×95.00E, mb5.7/120, MS5.2/93, MW5.6, Error ellipse: s-maj=4.9km s-min=3.1km az=38.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17} Nm; M$_{rr}$-2.24; M$_{\theta\theta}$0.39; M$_{\phi\phi}$1.85; M$_{r\theta}$0.36; M$_{\theta\phi}$1.12; M$_{\phi r}$-0.99; Best double couple: M$_0$2.6×10^{17} NP1: φ$_s$226°, δ40°, λ-62°. NP2: φ$_s$11°, δ56°, λ-111°. Principal axes: T 2.56, Plg9°, Azm116°; N .04, Plg18°, Azm23°; P -2.6, Plg70°, Azm231°;*

BGS ***06*** *14:35:28.3±2.4, 12.44N×95.02E, h24^{km}, mb5.8*

ISC 06 14:35:24.2±0.9**, 12.38N**±0.03×**95.01E**±0.02**, h15**^{km}±5^{km}**, h23**^{km}±.5^{km}**:pP-P, n543,** σ**0**^{s}**97**/477**, mb5.5**/173**, MS5.2**/126**, 39C-23D, Andaman Islands region**

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Code  Station Name         Δ°   AZ°    Phase ID          Time      Res
                                     Op      ISC       h  m  s    ISC
BDT   Bhumibol Dam       6.19  38    SG      Pn       14 36 57.0 -0.3
CMAR  Chiang Mai Arr     7.13  32    Pn      Pn       14 37 08.2 -2.4
      0.9nm,0.3s,baz=219,slow=15,SNR=5.5
CMAR                                 Sn      Sn       14 38 33.2 +1.1
      0.5nm,0.3s,baz=206,slow=15,SNR=4.8
CMAR                                 LR      LR       14 39 53.1
      comp=Z,4μm,20.4s,baz=218,slow=37
CMAR  Chiang Mai Arr     7.13  32    P       Pn       14 37 08.2 -2.4
CMAR                                                  14 38 33.2
CMAR                                 pmax    pmax
      comp=Z,1.0nm,0.3s
CMAR                                 smax
      comp=Z,1.0nm,0.3s
CMAR                                 MLR     MLR
      comp=Z,4μm,20.4s
KKTK  Khon Kaen          8.53  62    SG      P        14 37 30.0 -0.2
IMP   Imphal            12.38 355  e         P        14 38 24.0 +1.2
KGM   Kluang            13.19 141⇑eP         P        14 38 34.9 +1.2
BOK   Bokaro            14.27 324  i                  14 38 58.0
KMI   Kunming           14.63  29  eP        P        14 38 54.9 +2.2
KMI                                  AP               14 39 00.2
KMI                                  PP      PP       14 39 07.8 +3.4
KMI                                  S       S        14 41 36.0 +0.7
KMI                                  SS      SS       14 41 54.0 +1.4
KMI                                  LR      LR
      comp=N,16μm,13.6s
KMI                                  LR      LR
      comp=E,13μm,15.1s
KMI                                  LR      LR
      comp=Z,15μm,11.9s
PALK  Pallekele         14.98 252    P       P        14 39 04.1 +6.8
      comp=Z,598nm,1.1s,SNR=9.0
PALK  Pallekele         14.98 252    P       P        14 38 59.4 +2.1
      comp=Z,176nm,1.3s
QIZ   Qiongzhong        15.73  63    P       P        14 39 05.7 -1.4
QIZ                                  PP      PP       14 39 19.5 -0.4
QIZ                                  S       S        14 41 59.8 -1.6
QIZ                                  SS      SS       14 42 19.0 -1.2
QIZ                                  LR      LR
      comp=N,15μm,16.8s
QIZ                                  LR      LR
      comp=E,6μm,18.8s
QIZ                                  LR      LR
      comp=Z,9μm,11.5s
QIZ   Qiongzhong        15.73  63    P       P        14 39 08.0 +0.9
      comp=Z,67nm,1.0s
QIZ                                epP                14 39 12.6
CUD   Cuddapah          15.93 279  eP        P        14 39 11.5 +1.8
CUD                                e                  14 42 06.9
HYB   Hyderabad         16.66 289  i P       P        14 39 24.0 +5.0
      comp=Z,180nm,1.0s
HYB                                eS        S        14 42 16.0 -7.0
HYB                                ePcP      PcP      14 44 10.0 +0.6
HYB                                  LR      LR       14 45 00.0
      comp=Z,7.3nm,22.0s
HYB   Hyderabad         16.66 289  eP        P        14 39 24.0 +5.0
      comp=Z,180nm,1.0s
HYB                                eS        S        14 42 16.0 -7.0
LSA   Lhasa             17.60 349  eP        P        14 39 31.4 +0.8
      comp=Z,88nm,0.6s
GYA   Guiyang           17.78  36⇑iP         P        14 39 34.6 +1.7
GYA                                  PP      PP       14 39 49.2 +1.5
GYA                                  S       S        14 42 54.4 +5.9
GYA                                  SS      SS       14 43 17.8 +6.5
GYA                                  LR      LR
      comp=N,9μm,11.1s
GYA                                  LR      LR
      comp=E,11μm,11.4s
GYA                                  LR      LR
      comp=Z,14μm,12.3s
JBP   Jabalpur          17.86 309⇑e          P        14 39 36.2 +2.3
JBP                                e                  14 42 46.4
LATR  Latur             18.76 291  e         P        14 39 40.3 -4.8
LATR                               e                  14 43 06.4
CD2   Chengdu           20.13  22⇑iP         P        14 39 59.3 -1.3
CD2                                  S       S        14 43 41.8 +1.1
CD2                                  SS      SS       14 44 10.3 +0.5
CD2                                  AMB     AMB
      comp=Z,730nm,6.1s
CD2                                  LR      LR
      comp=E,12μm,10.2s
CD2                                  LR      LR
      comp=Z,8μm,11.4s,MS5.3
HKC   Hong Kong         20.76  59    P       P        14 40 12.0 +4.8
HKC                                i S       S        14 44 10.0  +16
ENH   Enshi             22.29  35    P       P        14 40 18.2 -4.4
      comp=Z,66nm,1.2s,mb4.9
ENH                                  LR      LR
      comp=Z,7μm,21.0s,MS5.1
LZH   Lanzhou           24.91  17  eP        P        14 40 50.2 +2.1
LZH                                  AP               14 40 57.4
LZH                                  XP               14 41 02.1
LZH                                  XS               14 45 32.1
LZH                                  AMB     AMB
      comp=Z,240nm,1.0s,mb5.7
LZH                                  AMB     AMB
      comp=Z,1μm,4.0s
XAN   Xi'an             25.01  28    P       P        14 40 49.1  0.0
XAN                                  S       S        14 45 09.2 -0.4
XAN                                  LR      LR
      comp=N,2μm,11.9s,MS5.5
XAN                                  LR      LR
      comp=E,8μm,11.2s,MS5.5
XAN                                  LR      LR
      comp=Z,7μm,11.0s,MS5.4
TGY   Tagaytay City     25.30  83    P       P        14 40 53.4 +1.4
      comp=Z,255nm,0.4s,mb6.1,baz=214,slow=7.7,SNR=2.0
TGY   Tagaytay City     25.30  83    P       P        14 40 53.4 +1.5
TGY                                  pmax    pmax
      comp=Z,255nm,0.4s
WHN   Wuhan             25.43  42  ⇓P        P        14 40 53.0 -0.1
WHN                                  S       S        14 45 21.6 +4.9
BHK   Bhakra            25.54 321  e         P        14 41 08.2  +14
QZH   Quanzhou          25.55  57⇑iP         P        14 40 54.0 -0.2
QZH                                  S       S        14 45 22.0 +3.3
QZH                                  AMB     AMB
      comp=Z,250nm,1.2s,mb5.6
QZH                                  AMB     AMB
      comp=Z,1μm,8.0s
QZH                                  LR      LR
      comp=N,3μm,11.0s,MS5.6
QZH                                  LR      LR
      comp=E,10μm,12.8s,MS5.6
QZH                                  LR      LR
      comp=Z,10μm,12.6s,MS5.5
PONG  Pong              26.20 321  e         P        14 41 00.0 -0.2
THN   Thein Dam         26.67 322  e         P        14 41 09.8 +5.2
      comp=Z,48nm,0.8s,mb5.1
GTA   Gaotai            27.25   8    P       P        14 41 10.7 +0.9
GTA                                  AP      pP       14 41 17.7 +3.5
GTA                                  PP      PP       14 41 55.6 -1.2
GTA                                  S       S        14 45 41.4 -5.2
GTA                                  AMB     AMB
      comp=Z,331nm,4.6s
GTA                                  LR      LR
      comp=N,1μm,13.7s,MS5.0
GTA                                  LR      LR
      comp=E,2μm,11.4s,MS5.0
GTA                                  LR      LR
      comp=Z,2μm,11.8s,MS4.8
TATO  Taipei            27.98  60    PFAKE            14 41 30.0  +14
TATO                                 LR      LR
      comp=Z,3μm,20.0s,MS4.9
NJ2   Nanjing           29.38  44  eP        P        14 41 29.3 +0.2
NJ2                                  AP      pP       14 41 36.8 +3.3
NJ2                                  PP      PP       14 42 25.3 +0.7
NJ2                                  S       S        14 46 22.0 +1.1
NJ2                                  SS      SS       14 47 54.0 +1.1
NJ2                                  AMB     AMB
      comp=Z,70nm,1.0s,mb5.3
NJ2                                  AMB     AMB
      comp=Z,680nm,6.4s
NJ2                                  LR      LR
      comp=Z,12μm,16.4s,MS5.6
SSE   Sheshan           30.50  48    P       P        14 41 39.4 +0.4
SSE                                  AP      pP       14 41 47.5 +4.1
SSE                                  PP      PP       14 42 43.6 +4.5
SSE                                  PCP     PcP      14 44 37.7 -0.5
SSE                                  S       S        14 46 42.9 +4.4
SSE                                  XS               14 46 57.9
SSE                                  AMB     AMB
      comp=Z,30nm,0.6s,mb5.2
SSE                                  LR      LR
      comp=N,7μm,14.9s,MS5.5
SSE                                  LR      LR
      comp=E,4μm,15.0s,MS5.5
SSE                                  LR      LR
      comp=Z,4μm,10.6s,MS5.4
DAV   Davao City (W)    30.58  97    P       P        14 41 38.0 -1.9
TIA   Tai'an            30.98  36  eP        P        14 41 43.0 -0.2
TIA                                  S       S        14 46 52.5 +6.4
TIA                                  LR      LR
      comp=N,7μm,12.0s,MS5.6
TIA                                  LR      LR
      comp=E,5μm,12.0s,MS5.6
KSH   Kashi             31.84 331  eP        P        14 41 51.5 +0.7
KSH                                eAP       pP       14 41 59.6 +4.4
KSH                                eXP       sP       14 42 02.7 +5.6
KSH                                ePP       PP       14 42 58.1 +1.6
KSH                                ePPP      PPP      14 43 11.5  0.0
KSH                                ePCP      PcP      14 44 42.5 +0.8
KSH                                eS        S        14 46 59.5  0.0
KSH                                ePS                14 47 20.6
KSH                                eSCP               14 48 21.5
KSH                                eSS       SS       14 48 49.5 -1.3
KSH                                eSCS      ScS      14 52 18.1 -2.1
KSH                                  AMB     AMB
      comp=Z,60nm,0.9s,mb5.4
KSH                                  AMB     AMB
      comp=Z,670nm,6.2s
KSH                                  LR      LR
      comp=N,9μm,18.8s,MS5.6
KSH                                  LR      LR
      comp=E,5μm,14.7s,MS5.6
HHC   Hu-ho-hao-te      31.87  24  eP        P        14 41 52.1 +1.1
HHC                                  XP      sP       14 42 03.1 +5.8
HHC                                  S       S        14 47 04.0 +4.1
HHC                                  LR      LR
      comp=N,3μm,14.3s,MS5.4
HHC                                  LR      LR
      comp=E,5μm,12.7s,MS5.4
HHC                                  LR      LR
      comp=Z,2μm,16.7s,MS4.9
WMQ   Urumqi            31.95 350⇑iP         P        14 41 52.2 +0.5
WMQ                                  AP      pP       14 41 59.2 +3.1
WMQ                                  PP      PP       14 42 57.7 -0.1
WMQ                                  PCP     PcP      14 44 42.8 +0.9
WMQ                                  S       S        14 47 00.5 -0.7
WMQ                                  AMB     AMB
      comp=Z,69nm,1.1s,mb5.4
WMQ                                  LR      LR
      comp=N,3μm,14.4s,MS5.3
WMQ                                  LR      LR
      comp=E,3μm,12.4s,MS5.3
WMQ                                  LR      LR
      comp=Z,3μm,13.9s,MS5.1
BJT   Baijiatuau        33.26  30    PFAKE            14 42 10.0 +6.9
BJT                                  LR      LR
      comp=Z,3μm,19.0s,MS5.0
BJI   Beijing           33.28  30    P       P        14 42 02.4 -0.9
BJI                                  S       S        14 47 27.7 +5.8
BJI                                  LR      LR
      comp=N,6μm,11.8s,MS5.6
BJI                                  LR      LR
      comp=E,6μm,16.2s,MS5.6
BJI                                  LR      LR
      comp=Z,2μm,15.3s,MS5.0
TKM2  Tokmak 2          34.77 335    P       P        14 42 19.1 +3.1
      SNR=6.8
KBK   Karagaybulak      34.83 334    P       P        14 42 18.2 +1.6
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	SNR=6.2						
AML	**Almayashu**	**34.97**	**332**	P	**P**	**14 42 19.2**	**+1.4**
	SNR=8.9						
AAK	**Ala-Archa**	**35.00**	**333**	P	**P**	**14 42 19.6**	**+1.5**
	SNR=8.2						
CHMS	**Chumysh**	**35.19**	**334**	P	**P**	**14 42 21.3**	**+1.6**
	SNR=9.6						
EKS2	**Erkin-Say**	**35.35**	**333**	P	**P**	**14 42 22.4**	**+1.3**
	SNR=6.5						
DL2	**Dalian**	**35.44**	**37**	*e*P	**P**	**14 42 22.0**	**+0.2**
DL2				S	**S**	**14 47 54.0**	**-1.3**
DL2				LR	LR		
	comp=N,3µm,11.0s,MS5.6						
DL2				LR	LR		
	comp=E,5µm,11.0s,MS5.6						
USP	**Ospenovka**	**35.51**	**334**	P	**P**	**14 42 19.6**	**-2.8**
	SNR=12						
MKAR	**Makanchi Array**	**35.94**	**345**	P	**P**	**14 42 25.6**	**-0.4**
	comp=E,27nm,0.8s,mb5.2,baz=157,slow=9.2,SNR=16						
MKAR	**Makanchi Array**	**35.94**	**345**	P	**P**	**14 42 25.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,27nm,0.8s						
SONM	**Songino Array**	**36.60**	**13**	P	**P**	**14 42 32.0**	**+0.4**
	comp=Z,15nm,1.1s,mb4.8,baz=196,slow=9.0,SNR=16						
ULN	**Ulaanbaatar**	**36.78**	**14**	*e*P	**P**	**14 42 24.7**	**-8.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN	**Ulaanbaatar**	**36.78**	**14**	PFAKE		14 42 40.0	+6.9
ULN				LR	LR		
	comp=Z,5µm,20.0s,MS5.3						
INCN	**Inchon**	**37.73**	**43**	PFAKE		14 42 50.0	+8.8
INCN				LR	LR		
	comp=Z,3µm,19.0s,MS5.0						
SNY	**Shenyang**	**38.48**	**35**	⇑P	**P**	**14 42 45.4**	**-2.0**
SNY				PP	PP	14 44 17.8	-1.3
SNY				S	**S**	**14 48 41.6**	**-0.2**
SNY				XS		14 48 59.6	
SNY				LR	LR		
	comp=E,4µm,12.5s						
SNY				LR	LR		
	comp=Z,4µm,12.4s,MS5.5						
ZAK	**Zakamensk**	**38.49**	**9**	*e*P	**P**	**14 42 48.0**	**+0.5**
JNU	**Nakatsue**	**38.72**	**52**	P	**P**	**14 42 49.0**	**-0.5**
	comp=Z,27nm,0.8s,mb5.0,baz=305,slow=0.8						
KURK	**Kurchatov**	**40.50**	**344**	*e*P	**P**	**14 43 03.6**	**-0.5**
CN2	**Changchun**	**40.81**	**34**	*e*P	**P**	**14 43 07.0**	**+0.3**
CN2				*e*AP	pP	14 43 14.5	+3.3
CN2				*e*XP	sP	14 43 19.3	+6.2
CN2				PP	PP	14 44 43.1	-1.0
CN2				PCP	PcP	14 45 07.9	-0.5
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,3µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=E,3µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=Z,3µm,15.0s,MS5.3						
HIA	**Hailar**	**42.07**	**24**	*e*P	**P**	**14 43 16.2**	**-0.8**
	comp=Z,79nm,1.5s,mb5.1						
HIA				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**42.80**	**134**	*e*P	**P**	**14 43 22.1**	**-1.2**
	comp=Z,5.8nm,0.6s,mb4.5						
FITZ				*e*S	**S**	**14 49 48.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**42.80**	**134**	P	**P**	**14 43 23.2**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=342,slow=7.9,SNR=6.0						
FITZ				pP	pP	14 43 29.7	+1.9
	comp=Z,9.4nm,0.8s,baz=337,slow=5.9,SNR=7.8						
NVS	**Novosibirsk**	**43.36**	**350**	*e*P	**P**	**14 43 28.7**	**+1.3**
NVS				*i* S	**S**	**14 49 53.5**	**-0.7**
NVS				pmax	pmax		
	comp=N,48nm,1.1s						
NVS				pmax	pmax		
	comp=E,26nm,1.1s						
NVS				pmax	pmax		
	comp=Z,93nm,1.1s,mb5.4						
NVS				smax			
	comp=N,34nm,1.8s						
NVS				smax			
	comp=E,65nm,1.8s						
MDJ	**Mudanjiang**	**43.65**	**36**	P	**P**	**14 43 28.7**	**-1.2**
MDJ				S	**S**	**14 50 03.4**	**+4.9**
MDJ				XS		14 50 16.6	
MDJ				LR	LR		
	comp=N,2µm,14.4s,MS5.3						
MDJ				LR	LR		
	comp=E,2µm,14.8s,MS5.3						
MDJ				LR	LR		
	comp=Z,3µm,12.7s,MS5.5						
MDJ	**Mudanjiang**	**43.65**	**36**	PFAKE		14 43 40.0	+10
MDJ				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
KAKA	**Kakadu**	**44.69**	**123**	*e*P	**P**	**14 43 37.2**	**-1.6**
	comp=Z,22nm,1.1s,mb4.9						
BVAR	**Borovoye Array**	**45.06**	**339**	P	**P**	**14 43 40.9**	**-0.3**
	comp=Z,6.7nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=10						
BRVK	**Borovoye**	**45.12**	**339**	*e*P	**P**	**14 43 41.1**	**-0.6**
MAJO	**Matsushiro**	**45.58**	**51**	*e*P	**P**	**14 43 45.0**	**-0.6**
	comp=Z,90nm,1.4s,mb5.5						
MAJO				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
MAT	**Matsushiro**	**45.58**	**51**	*e*P	**P**	**14 43 45.0**	**-0.6**
	comp=Z,36nm,1.2s,mb5.2						
MAT				*e*S	**S**	**14 50 26.0**	**-0.6**
MAT				LR	LR		
	comp=Z,350nm,19.0s,MS4.3						
KLR	**Kul’dur**	**47.61**	**32**	*e*P	**P**	**14 44 02.2**	**+0.7**
KLR				*e*S	**S**	**14 51 05.0**	**+10**
KLR				pmax	pmax		
	comp=Z,700nm,7.0s						
KLR				MLR	MLR		
	comp=E,2µm,12.0s						
KLR				MLR	MLR		
	comp=Z,6µm,12.0s,MS5.8						
MUN	**Mundaring**	**48.56**	**156**	*e*P	**P**	**14 44 09.5**	**+0.5**
	comp=Z,74nm,1.2s,mb5.6						
MUN				*i* pP	pP	14 44 16.6	+3.0
KLBR	**Kellerberrin**	**48.87**	**154**	*e*P	**P**	**14 44 11.0**	**-0.4**
	comp=Z,46nm,1.0s,mb5.5						
KLBR				*i* pP	pP	14 44 18.2	+2.2
NWAO	**Narrogin (SRO)**	**49.81**	**155**	P	**P**	**14 44 19.4**	**+0.7**
	comp=Z,64nm,1.0s,mb5.6,baz=318,slow=7.9,SNR=10						
NWAO	**Narrogin (SRO)**	**49.81**	**155**	P	**P**	**14 44 19.4**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,64nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.81**	**155**	*e*P	**P**	**14 44 18.0**	**-0.6**
	comp=Z,270nm,1.3s,mb6.1						
CLNS	**Chul’man**	**49.94**	**21**	*e*P	**P**	**14 44 25.2**	**+5.9**
CLNS				*e**PP	pP	14 44 32.6	+8.7
CLNS				*e*		14 46 14.0	
CLNS				*e*PPP	PPP	14 47 02.3	-8.3
CLNS				*e*S	**S**	**14 51 24.6**	**-3.2**
CLNS				*e*SS	SS	14 55 02.8	+5.3
CLNS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
CLNS				pmax	pmax		
	comp=N,29nm,1.2s						
CLNS				pmax	pmax		
	comp=E,23nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,1.1s						
CLNS				smax			
	comp=N,222nm,12.0s						
CLNS				smax			
	comp=Z,122nm,12.2s						
CLNS				smax			
	comp=E,46nm,13.5s						
CLNS				MLR	MLR		
	comp=Z,4µm,12.0s,MS5.6						
CLNS				MLR	MLR		
	comp=N,4µm,13.0s,MS5.5						
CLNS				MLR	MLR		
	comp=E,300nm,14.0s,MS5.5						
WRA	**Warramunga Arr**	**50.30**	**129**	P	**P**	**14 44 22.0**	**-0.6**
	comp=E,30nm,1.0s,mb5.3,baz=311,slow=8.6,SNR=19						
WRA	**Warramunga Arr**	**50.30**	**129**	P	**P**	**14 44 22.0**	**-0.6**
WRA				pmax	pmax		
	comp=Z,30nm,1.0s						
WRAB	**Tennant Creek**	**50.31**	**129**	*e*P	**P**	**14 44 21.3**	**-1.4**
	comp=Z,39nm,0.9s,mb5.4						
WB2	**Warramunga Arr**	**50.31**	**129**	*e*P	**P**	**14 44 21.7**	**-1.0**
WB2				*e*S	**S**	**14 51 34.9**	**+1.4**
MAK	**Makhachkala**	**51.01**	**316**	*e*P	**P**	**14 44 24.0**	**-3.6**
MAK				*e*		14 46 25.0	
MAK				*e*S	**S**	**14 51 46.0**	**+3.3**
MAK				*e*PS	PS	14 51 59.0	+6.0
MAK				pmax	pmax		
	comp=Z,1µm,8.0s						
MAK				pmax	pmax		
	comp=Z,1µm,10.0s						
MAK				smax			
	comp=N,500nm,6.0s						
ASAJ	**Asahikawa**	**51.51**	**43**	P	**P**	**14 44 31.7**	**+0.3**
	comp=N,19nm,0.8s,mb5.1,baz=248,slow=13,SNR=4.4						
ASAJ	**Asahikawa**	**51.51**	**43**	P	**P**	**14 44 31.7**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.8s						
GNI	**Garni**	**52.00**	**312**	P	**P**	**14 44 35.9**	**+0.6**
	comp=Z,70nm,0.9s,mb5.6,baz=242,slow=4.7,SNR=8.5						
GNI	**Garni**	**52.00**	**312**	P	**P**	**14 44 35.9**	**+0.7**
GNI				pmax	pmax		
	comp=Z,70nm,0.9s						
ARU	**Arti**	**52.13**	**335**	⇓*i*P	**P**	**14 44 35.0**	**-1.0**
ARU				*i*		14 44 42.2	
ARU				*i*		14 45 45.6	
ARU				*i*		14 46 34.8	
ARU				*i* S	**S**	**14 51 56.4**	**-1.7**
ARU				*i*		14 54 22.3	
ARU				*e*SS	SS	14 55 27.6	-6.2
ARU				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
ARU				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.3						
ARU				MLR	MLR		
	comp=N,3µm,20.5s,MS5.3						
ARU				MLR	MLR		
	comp=E,1µm,20.5s,MS5.3						
ARU	**Arti**	**52.13**	**335**	*e*P	**P**	**14 44 34.8**	**-1.2**
	comp=E,149nm,1.2s,mb5.8						
ARU				*e*pP	pP	14 44 41.5	+1.0
ASPA	**Alice Springs**	**52.25**	**133**	*e*P	**P**	**14 44 36.3**	**-1.0**
ASAR	**Alice Springs**	**52.26**	**133**	P	**P**	**14 44 36.6**	**-0.7**
	comp=E,15nm,1.1s,mb4.8,baz=308,slow=7.1,SNR=14						
TI2	**Plekhanov**	**52.49**	**313**	*i* P	**P**	**14 44 35.6**	**-3.3**
TI2				MLR	MLR		
	comp=N,500nm,18.0s,MS5.0						
TI2				MLR	MLR		
	comp=E,1µm,18.0s,MS5.0						
TI2				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**52.75**	**40**	*e*P	**P**	**14 44 40.0**	**-0.8**
YSS				*e*	pP	14 44 44.0	-1.3
YSS				*e*S	**S**	**14 52 12.0**	**+5.4**
YSS				*e*		14 54 26.0	
YSS				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.3						
YSS				MLR	MLR		
	comp=N,2µm,13.0s,MS5.6						
YSS				MLR	MLR		
	comp=E,2µm,14.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**52.75**	**40**	*e*P	**P**	**14 44 39.9**	**-0.8**
	comp=E,19nm,0.9s,mb5.0						
YSS				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
FORT	**Forrest**	**53.39**	**144**	⇑*i*P	**P**	**14 44 46.1**	**+0.4**
	comp=Z,86nm,1.0s,mb5.6						
YUK	**Yuzh-Kuril’sk**	**53.67**	**44**	P	**P**	**14 44 54.0**	**+6.5**
YUK				*e*PPP	PPP	14 47 51.7	-6.5
YUK				S	**S**	**14 52 30.0**	**+11**
YUK				pmax	pmax		
	comp=Z,1µm,1.8s						
KBRS	**Khaybar**	**53.98**	**293**	P	**P**	**14 44 56.6**	**+6.6**
KIV	**Kislovodsk**	**54.64**	**316**	*di*P	**P**	**14 44 54.0**	**-0.7**
KIV				*e*		14 45 57.9	
KIV				*e*		14 46 54.2	
KIV				*e*		14 48 03.4	
KIV				*i* S	**S**	**14 52 28.1**	**-4.1**
KIV				pmax	pmax		
	comp=Z,95nm,1.3s,mb5.7						
KIV				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.2						
KIV	**Kislovodsk**	**54.64**	**316**	*e*P	**P**	**14 44 54.2**	**-0.5**
	comp=Z,183nm,1.1s,mb6.0						
KIV				*e*pP	pP	14 45 00.7	+1.5
GOF	**Gofitskoye**	**54.77**	**317**	⇓*i*P	**P**	**14 44 55.5**	**-0.1**
GOF				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.3						
GOF				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.5						
GOF				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
YAK	**Yakutsk**	**55.48**	**19**	*e*P	**P**	**14 45 00.4**	**-0.1**
YAK				*e*		14 46 06.4	
YAK				*e*		14 47 04.9	
YAK				*e*S	**S**	**14 52 45.7**	**+2.6**
YAK				*e*		14 54 52.6	
YAK				*e*SS	SS	14 56 33.4	+5.3
YAK				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.4						
YAK				pmax	pmax		
	comp=N,40nm,1.4s						
YAK				pmax	pmax		
	comp=E,51nm,1.3s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
YAK				smax			
	comp=N,366nm,11.5s						
YAK				smax			
	comp=Z,86nm,8.7s						
YAK				smax			
	comp=E,171nm,11.1s						
YAK				MLR	MLR		
	comp=N,2µm,12.0s,MS5.6						
YAK				MLR	MLR		
	comp=Z,3µm,12.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,2µm,14.0s,MS5.6						
YAK	**Yakutsk**	**55.48**	**19**	*e*P	**P**	**14 44 59.2**	**-1.4**
	comp=E,99nm,1.4s,mb5.7						
YAK				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
PMG	**Port Moresby**	**56.16**	**110**	P	**P**	**14 45 05.8**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.7,baz=253,slow=23,SNR=2.8						
PMG	**Port Moresby**	**56.16**	**110**	P	**P**	**14 45 05.9**	**-0.2**
	comp=Z,69nm,1.3s,mb5.5						
PMG				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
TBKS	**Tabuk**	**56.55**	**296**	P	**P**	**14 45 09.5**	**+0.8**
SOC	**Sochi**	**56.59**	**314**	*i* P	**P**	**14 45 06.5**	**-2.3**
SOC				*e*		14 47 16.1	
SOC				pmax	pmax		
	comp=Z,102nm,0.9s,mb5.8						
SOC				pmax	pmax		
	comp=N,61nm,1.2s						
SOC				pmax	pmax		
	comp=E,40nm,1.8s						
SOC				pmax	pmax		
	comp=Z,228nm,1.3s,mb6.0						
SOC				pmax	pmax		
	comp=N,41nm,0.9s						
SOC				pmax	pmax		
	comp=E,46nm,1.1s						
SOC				MLR	MLR		
	comp=Z,1µm,24.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,1µm,22.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,906nm,20.0s,MS5.0						
ASF	**Jabal al Asfar**	**56.59**	**300**	P	**P**	**14 45 09.5**	**+0.6**
	comp=E,9.0nm,0.8s,mb4.9,baz=332,slow=6.7,SNR=9.1						
JMQS	**Jabal Moqyreh**	**57.18**	**296**	P	**P**	**14 45 13.7**	**+0.5**
HMDT	**Nahal Hemdat**	**57.75**	**300**	P	**P**	**14 45 16.6**	**-0.6**
DRGI	**Dragot**	**57.80**	**300**	P	**P**	**14 45 17.2**	**-0.3**
MMLI	**Mount Malkishu**	**57.86**	**301**	P	**P**	**14 45 17.3**	**-0.6**
JMOS	**Jabal al Moall**	**57.87**	**297**	P	**P**	**14 45 17.8**	**-0.2**
ZFRI	**Zfri**	**57.90**	**298**	P	**P**	**14 45 17.5**	**-0.7**
HAQS	**Haql**	**58.02**	**297**	P	**P**	**14 45 18.9**	**-0.1**
EIL	**Elat**	**58.03**	**297**	P	**P**	**14 45 17.3**	**-1.9**
PRNI	**Paran**	**58.03**	**298**	P	**P**	**14 45 18.2**	**-1.0**
MBH	**Mount Berech**	**58.07**	**297**	P	**P**	**14 45 19.3**	**-0.1**
SLTI	**Sal’it**	**58.16**	**300**	P	**P**	**14 45 19.4**	**-0.6**
KMTI	**Karmit**	**58.26**	**298**	P	**P**	**14 45 19.8**	**-0.9**
ANN	**Anapa**	**58.49**	**315**	*e*P	**P**	**14 45 21.2**	**-0.9**
ANN				*e*S	**S**	**14 53 22.3**	**-0.9**
ANN				*e*SSS	SSS	14 59 34.5	-4.8
ANN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5						
ANN				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.1						
ANN				MLR	MLR		
	comp=N,1µm,21.0s,MS5.3						
ANN				MLR	MLR		
	comp=E,1µm,17.0s,MS5.3						
KMBO	**Kilima Mbogo**	**58.87**	**261**	*e*P	**P**	**14 45 25.6**	**+0.4**
	comp=E,17nm,1.1s,mb5.0						
KMBO				*e*pP	pP	14 45 31.7	+1.9
KMBO				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
VOR	**Voronezh**	**59.45**	**323**	*e*P	**P**	**14 45 27.5**	**-1.2**
VOR				*e*	pP	14 45 33.0	-0.4
VOR				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.7						
VOR				pmax	pmax		
	comp=N,30nm,1.4s						
VOR				pmax	pmax		
	comp=E,130nm,1.3s						
CTA	**Charters Tower**	**59.86**	**122**	⇑*i*P	**P**	**14 45 32.2**	**+0.2**
	comp=E,16nm,1.1s,mb5.0						
CTA	**Charters Tower**	**59.86**	**122**	P	**P**	**14 45 31.9**	**-0.1**
	comp=E,12nm,1.1s,mb4.9,baz=305,slow=8.5,SNR=5.9						
CTA	**Charters Tower**	**59.86**	**122**	P	**P**	**14 45 31.9**	**-0.1**
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**59.86**	**122**	*e*P	**P**	**14 45 31.7**	**-0.3**
	comp=Z,31nm,1.1s,mb5.2						
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
BRTR	**Keskin Array B**	**60.22**	**309**	P	**P**	**14 45 31.6**	**-2.5**
	comp=Z,17nm,0.7s,mb5.2,baz=123,slow=7.5,SNR=18						
BRTR				pP	pP	14 45 39.1	+0.3
	comp=Z,44nm,0.9s,baz=127,slow=6.2,SNR=14						
BRTR	**Keskin Array B**	**60.22**	**309**	P	**P**	**14 45 31.7**	**-2.4**
BRTR				*PP	pP	14 45 39.1	+0.3
BRTR				pmax	pmax		
	comp=Z,17nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,44nm,1.0s						
SIM	**Simferopol’**	**60.82**	**315**	⇑*e*P	**P**	**14 45 38.7**	**+0.5**
SIM				PPP	PPP	14 49 24.0	+2.0
SIM				*e*S	**S**	**14 53 53.0**	**-0.2**
SIM				PS	PS	14 54 13.0	+2.5
SIM				pmax	pmax		
	comp=Z,121nm,1.8s,mb5.7						
SIM				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.1						
MOS	**Moscow**	**61.73**	**327**	*e*P	**P**	**14 45 42.6**	**-1.6**
MOS				*e*		14 46 22.7	
MOS				*e*		14 47 59.7	
MOS				*e*S	**S**	**14 54 05.6**	**+0.9**
MOS				pmax	pmax		
	comp=E,275nm,1.5s						
MOS				pmax	pmax		
	comp=Z,246nm,1.5s,mb6.1						
MOS				MLR	MLR		
	comp=Z,3µm,20.2s,MS5.4						
MOS				MLR	MLR		
	comp=E,2µm,18.1s						
OBN	**Obninsk**	**62.08**	**326**	⇑*e*P	**P**	**14 45 45.8**	**-0.8**
OBN				*i*		14 45 52.7	
OBN				*i* S	**S**	**14 54 08.8**	**-0.3**
OBN				pmax	pmax		
	comp=Z,97nm,1.3s,mb5.8						
OBN				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
OBN	**Obninsk**	**62.08**	**326**	PFAKE		14 46 00.0	+13
OBN				LR	LR		
	comp=Z,489nm,20.0s,MS4.7						
STKA	**Stephens Creek**	**62.66**	**136**	⇓*i*P	**P**	**14 45 50.6**	**-0.1**
	comp=Z,24nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**62.66**	**136**	P	**P**	**14 45 50.1**	**-0.6**
	comp=Z,30nm,1.1s,mb5.4,baz=322,slow=6.7,SNR=12						
TIXI	**Tiksi**	**62.67**	**11**	*e*P	**P**	**14 45 48.4**	**-1.9**
TIXI				*e*S	**S**	**14 54 13.0**	**-3.3**
TIXI				*e*SS	SS	14 58 27.8	+4.7
TIXI				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,1µm,11.0s,MS5.4						
TIXI	**Tiksi**	**62.67**	**11**	PFAKE		14 46 00.0	+10
TIXI				LR	LR		
	comp=Z,588nm,20.0s,MS4.8						
PET	**Petropavlovsk**	**64.42**	**37**	P	**P**	**14 46 01.2**	**-0.8**
	comp=Z,16nm,1.0s,mb5.0						
PET				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
SEY	**Seymchan**	**64.50**	**25**	*e*P	**P**	**14 46 10.9**	**+8.5**
SEY						14 46 42.4	
SEY				*e*S	**S**	**14 54 51.0**	**+12**
SEY				pmax	pmax		
	comp=N,80nm,1.4s						
SEY				pmax	pmax		
	comp=N,40nm,1.8s						
SEY				pmax	pmax		
	comp=E,60nm,2.3s						
SEY				MLR	MLR		
	comp=Z,8µm,21.0s,MS5.9						
SEY				MLR	MLR		
	comp=N,700nm,16.0s,MS5.4						
SEY				MLR	MLR		
	comp=E,2µm,19.0s,MS5.4						
KIS	**Kishinev**	**64.83**	**316**	*e*P	**P**	**14 46 03.0**	**-1.7**
KIS				*e*		14 46 10.0	
KIS				*e*PPP	PP	14 48 25.0	-4.4
KIS				*e*S	**S**	**14 54 38.0**	**-5.5**
KIS				*e*		14 55 00.0	
KIS				*e*		14 55 12.0	
KIS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.8						
KIS				MLR	MLR		
	comp=E,600nm,20.0s						
KIS				MLR	MLR		
	comp=Z,500nm,20.0s						
MBAR	**Mbarara**	**65.04**	**263**	*e*P	**P**	**14 46 04.5**	**-2.2**
	comp=Z,17nm,1.1s,mb5.0						
MBAR				LR	LR		
	comp=Z,249nm,19.0s,MS4.4						
AKASG	**Malin Array Be**	**65.21**	**320**	P	**P**	**14 46 05.5**	**-1.6**
	comp=Z,5.1nm,0.7s,mb4.7,baz=83,slow=4.5,SNR=21						
AKASG	**Malin Array Be**	**65.21**	**320**	P	**P**	**14 46 05.5**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VRI	**Vrincioaia**	**66.10**	**315**	⇓*i*P	**P**	**14 46 13.1**	**+0.2**
VRI	**Vrincioaia**	**66.10**	**315**	⇓*i*P	**P**	**14 46 13.1**	**+0.2**
ISR	**Istrita**	**66.14**	**314**	⇑*i*P	**P**	**14 46 06.6**	**-6.6**
ISR	**Istrita**	**66.14**	**314**	⇑*i*P	**P**	**14 46 06.6**	**-6.6**
BUC1	**Bucharest**	**66.43**	**313**	⇑*i*P	**P**	**14 46 15.2**	**+0.2**
BUC1	**Bucharest**	**66.43**	**313**	⇑*i*P	**P**	**14 46 15.2**	**+0.1**
PUL	**Pulkovo**	**66.72**	**330**	*e*P	**P**	**14 46 23.0**	**+6.3**
PUL				*i*		14 48 49.6	
PUL				*e*S	S	14 55 11.1	+4.7
PUL				*i* SS	SS	14 59 30.1	+4.1
PUL				*i* SSS	SSS	15 02 28.2	+5.8
PUL				pmax	pmax		
	comp=Z,264nm,1.3s,mb6.1						
PUL				pmax	pmax		
	comp=N,97nm,0.7s						
PUL				pmax	pmax		
	comp=E,390nm,1.5s						
PUL				pmax	pmax		
	comp=Z,395nm,1.3s,mb6.3						
PUL				pmax	pmax		
	comp=N,97nm,0.7s						
PUL				pmax	pmax		
	comp=E,545nm,1.6s						
PUL				smax			
	comp=Z,252nm,19.2s						
PUL				smax			
	comp=N,608nm,17.4s						
PUL				smax			
	comp=E,308nm,14.0s						
IDI	**Anoyia**	**66.77**	**303**	P	**P**	**14 46 15.8**	**-1.6**
	comp=E,16nm,0.9s,mb5.0,baz=114,slow=8.7,SNR=7.2						
IDI				pP	pP	14 46 23.1	+1.0
	comp=E,22nm,0.8s,baz=101,slow=8.7,SNR=8.8						
LVZ	**Lovozero**	**67.66**	**339**	*de*P	**P**	**14 46 20.9**	**-1.6**
LVZ				*i*		14 48 52.5	
LVZ				*e*S	S	14 55 13.2	-4.3
LVZ				*e*SS	SS	14 59 34.4	-5.8
LVZ				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
LVZ				pmax	pmax		
	comp=N,1.0nm,0.7s						

LVZ				pmax	pmax		
	comp=E,9.0nm,1.3s						
LVZ				smax			
	comp=Z,133nm,16.5s						
LVZ				smax			
	comp=N,546nm,13.0s						
LVZ				smax			
	comp=E,124nm,9.9s						
LVZ				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.4						
LVZ				MLR	MLR		
	comp=N,753nm,18.0s,MS5.4						
LVZ				MLR	MLR		
	comp=E,2µm,17.0s,MS5.4						
APA	**Apatity**	**67.97**	**339**	⇑*i*P	**P**	**14 46 20.5**	**-3.9**
APA				*i*		14 46 51.8	
APA				*e*		14 48 58.0	
APA				*e*PPP	PPP	14 50 36.0	+2.6
APA				*e*S	S	14 55 24.0	+2.7
APA				*e*PS	PS	14 55 50.0	+2.2
APA				*e*SS	SS	14 59 49.0	+4.2
APA				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.4						
APA				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.3						
TOO	**Toolangi**	**68.62**	**139**	*e*P	**P**	**14 46 30.6**	**+1.6**
	comp=Z,29nm,1.3s,mb5.0						
VAY	**Valandovo**	**68.76**	**310**	*i* P	**P**	**14 46 28.2**	**-1.6**
FINES	**FINESS Array B**	**69.17**	**331**	P	**P**	**14 46 29.9**	**-2.0**
	comp=Z,5.0nm,0.6s,mb4.7,baz=109,slow=7.5,SNR=16						
FINES				pP	pP	14 46 37.7	+1.1
	comp=Z,25nm,1.0s,baz=90,slow=5.7,SNR=12						
FINES	**FINESS Array B**	**69.17**	**331**	P	**P**	**14 46 29.9**	**-2.0**
FINES				*PP	pP	14 46 37.7	+1.1
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,25nm,1.0s						
FINES	**FINESS Array B**	**69.17**	**331**	P	**P**	**14 46 29.9**	**-2.0**
FINES				pP	pP	14 46 37.7	+1.1
KWP	**Kalwaria**	**69.20**	**318**	*e*P	**P**	**14 46 31.4**	**-0.9**
KWP				*e**PP	pP	14 46 39.1	+2.1
KWP				*e*S	S	14 55 36.9	+0.7
KWP				MLR	MLR		
	comp=Z,800nm,31.6s,MS4.8						
KWP	**Kalwaria**	**69.20**	**318**	*e*P	**P**	**14 46 31.4**	**-0.9**
KWP				*e*pP	pP	14 46 39.1	+2.1
KWP				*e*S	S	14 55 36.9	+0.7
KWP				*e*SS		14 55 45.7	
BOLS	**Boljevac**	**69.31**	**312**	⇓*i*P	**P**	**14 46 31.9**	**-1.2**
SUW	**Suwalki**	**69.40**	**323**	*e*P	**P**	**14 46 32.1**	**-1.4**
SUW				*e**PP	pP	14 46 39.4	+1.3
SUW				*e*S	S	14 55 38.6	+0.2
SUW				MLR	MLR		
	comp=Z,2µm,21.7s,MS5.3						
SUW	**Suwalki**	**69.40**	**323**	*e*P	**P**	**14 46 32.1**	**-1.4**
SUW				*e*pP	pP	14 46 39.4	+1.3
SUW				*e*S	S	14 55 38.6	+0.2
SUW				*e*SS		14 55 49.3	
SKO	**Skopje**	**69.63**	**310**	*i* P	**P**	**14 46 27.7**	**-7.4**
CNB	**Canberra Magne**	**69.94**	**135**	*e*P	**P**	**14 46 37.9**	**+0.8**
	comp=Z,49nm,1.3s,mb5.3						
CRVS	**Cervenica-Dubn**	**69.96**	**318**	*e*P	**P**	**14 46 37.1**	**+0.2**
CRVS				*e*pP	pP	14 46 44.2	+2.6
CRVS				*e*		14 46 55.1	
WAR	**Warsaw**	**70.50**	**321**	*e*P	**P**	**14 46 38.4**	**-1.8**
WAR				*e*pP	pP	14 46 45.8	+0.9
WAR				*e*PcP	PcP	14 46 59.8	-1.9
WAR				*e*PP	PP	14 49 14.4	-4.0
WAR				*e*S	S	14 55 50.3	-1.1
WAR				LR	LR		
	comp=Z,1µm,32.0s,MS5.0						
DIVS	**Divcibare**	**70.74**	**313**	⇓*i*P	**P**	**14 46 40.5**	**-1.4**
PSZ	**Piszkesteto**	**70.94**	**317**	*e*PcP	**P**	**14 46 42.6**	**-0.4**
OJC	**Ojcow**	**71.12**	**319**	*e*P	**P**	**14 46 43.2**	**-0.8**
OJC				*e*		14 46 50.6	
OJC				*e*PcP	PcP	14 47 03.6	-0.7
OJC				*e*PP	PP	14 49 21.9	-2.0
OJC				*e*S	S	14 56 00.7	+2.0
OJC				LR	LR		
	comp=Z,800nm,20.2s,MS5.0						
ARCES	**ARCESS Array B**	**71.35**	**340**	pP	pP	14 46 51.2	+1.4
	comp=Z,18nm,1.1s,baz=101,slow=4.6,SNR=6.8						
LSZ	**Lusaka**	**71.61**	**249**	*e*P	**P**	**14 46 47.6**	**0.0**
	comp=Z,30nm,1.3s,mb5.1						
LSZ				LR	LR		
	comp=Z,763nm,20.0s,MS5.0						
VYHS	**Vyhne**	**71.67**	**317**	*e*P	**P**	**14 46 47.4**	**+0.1**
VYHS				*e*pP	pP	14 46 54.4	+2.4
VYHS				*e*		14 47 00.2	
VYHS				*e*		14 47 14.7	
VYHS				*e*S	S	14 56 04.0	-1.1
VYHS	**Vyhne**	**71.67**	**317**	*e*P	**P**	**14 46 47.4**	**+0.1**
VYHS				*e*		14 46 54.4	
VYHS				*e*		14 47 00.2	
VYHS				*e*S	S	14 56 04.0	-1.1
SRO	**Srobarova**	**72.00**	**316**	*e*P	**P**	**14 46 50.4**	**+1.1**
SRO				*e*pP	pP	14 46 57.1	+3.1
RAC	**Raciborz**	**72.15**	**319**	*e*P	**P**	**14 46 50.1**	**-0.1**
RAC				*e*S	S	14 56 12.1	+1.6
OKC	**Ostrava-Krasne**	**72.17**	**319**	*e*P	**P**	**14 46 49.6**	**-0.7**
OKC				*e*AP	pP	14 46 56.6	+1.6
OKC				*e*		14 51 15.1	
OKC				LM		15 22 20.0	
	comp=Z,0.5nm,18.6s						
ZST	**Bratislava**	**72.82**	**317**	*e*P	**P**	**14 46 54.3**	**+0.1**
ZST				*e*		14 47 01.9	
ZST				*e*		14 47 08.5	
ZST				*e*S	S	14 56 16.9	-1.3
GKP	**Gorka Klasztor**	**72.86**	**322**	*e*P	**P**	**14 46 53.4**	**-0.9**
GKP				*e*S	S	14 56 18.7	+0.2
GKP				*e*SS		14 56 28.8	
GKP				LR	LR		
	comp=Z,1µm,21.7s,MS5.1						
TAU	**Tasmania Unive**	**72.89**	**143**	PFAKE		14 47 10.0	+15
TAU				LR	LR		
	comp=Z,577nm,22.0s,MS4.8						
FX1	**Attu Island--F**	**73.08**	**38**	P	**P**	**14 46 54.5**	**-1.1**
	comp=Z,22nm,0.5s,mb5.3,baz=332,slow=3.6,SNR=7.7						
FX1	**Attu Island--F**	**73.08**	**38**	P	**P**	**14 46 54.5**	**-1.1**
FX1				pmax	pmax		
	comp=Z,22nm,0.5s						
SISC	**Sisak**	**73.33**	**314**	*i* P	**P**	**14 47 01.1**	**+3.9**
DPC	**Dobruska-Polom**	**73.36**	**319**	*e*PP	Px	14 51 36.3	
DPC				*e*S	S	14 56 24.8	+0.6
DPC				LM		15 22 50.0	
	comp=Z,1.1nm,21.8s						
KSP	**Ksiaz**	**73.38**	**320**	*e*P	**P**	**14 46 56.7**	**-0.7**
KSP				*e**PP	pP	14 47 03.5	+1.4
KSP				*e*PPP	PPP	14 51 23.0	-3.7
KSP				*e*S	S	14 56 21.0	-3.4
KSP				MLR	MLR		
	comp=Z,3µm,21.9s,MS5.5						
GRI	**Girifalco**	**73.50**	**307**	⇑*i*P	**P**	**14 46 58.6**	**+0.3**
TDS	**Terranova Siba**	**73.52**	**308**	*e*P	**P**	**14 46 58.9**	**+0.5**
TRO	**Tromso**	**73.63**	**339**	*e*P	**P**	**14 46 55.1**	**-3.4**
TRO				*e*P	pP	14 46 57.9	-5.3
TRO				*e*PP	PP	14 49 41.9	-2.7
TRO				*e*S	S	14 56 22.9	-4.0
TRO				*e*SS	SS	15 01 08.5	-4.1
TRO				AMS	AMS	15 22 15.2	
	comp=Z,1µm,20.2s,MS5.2						
SOI	**Samo**	**73.82**	**306**	*e*P	**P**	**14 47 00.5**	**+0.3**
ARSA	**Arzberg**	**73.89**	**316**	⇓*i*P	**P**	**14 46 59.8**	**-0.6**
	comp=Z,210nm,2.0s,mb5.7						
BOJS	**Bojanci**	**74.11**	**314**	*e*P	**P**	**14 47 00.8**	**-0.9**
BOJS				*e*pP	pP	14 47 08.9	+2.5
PERS	**Pernice**	**74.18**	**315**	*e*P	**P**	**14 47 01.5**	**-0.6**
PERS				*e*pP	pP	14 47 09.6	+2.8
BSD	**Bornholm Skovb**	**74.28**	**324**	*i* P	**P**	**14 47 02.5**	**0.0**
	comp=Z,55nm,1.2s,mb5.4						
BSD				*i*		15 05 04.9	
BJO	**Bjornoya**	**74.36**	**344**	AMS	AMS	15 27 11.6	
	comp=Z,990nm,20.0s,MS5.1						
PVCC	**Panska Ves**	**74.48**	**319**	*e*P	**P**	**14 47 04.2**	**+0.5**
PVCC				*e*AP	pP	14 47 10.7	+2.2
PVCC				LM		15 23 30.0	
	comp=Z,1.3nm,20.9s						
PRU	**Pruhonice**	**74.50**	**319**	*e*P	**P**	**14 47 03.6**	**-0.3**
	comp=Z,60nm,1.2s,mb5.4						
PRU				*e*AP	pP	14 47 11.0	+2.4
PRU				*e*S	S	14 56 36.4	-0.6
PRU				LM		15 24 10.0	
	comp=Z,1.1nm,20.0s						
OBKA	**Obir**	**74.58**	**315**	⇑*i*P	**P**	**14 47 04.0**	**-0.4**
	comp=Z,204nm,1.6s,mb5.8						
LJU	**Ljubljana**	**74.61**	**315**	*e*P	**P**	**14 47 04.1**	**-0.5**
LJU				*e*pP	pP	14 47 12.1	+2.7
MOA	**Molln**	**74.73**	**316**	⇓*i*P	**P**	**14 47 04.4**	**-0.9**
	comp=Z,120nm,1.5s,mb5.6						
BRG	**Berggiesshubel**	**74.87**	**320**	*i* P	**P**	**14 47 05.8**	**-0.2**
BRG				*e*	pP	14 47 12.3	+1.6
BRG				S	S	14 56 44.0	+2.9
BRG				pmax	pmax		
	comp=Z,138nm,1.4s,mb5.7						
BRG				MLR	MLR		
	comp=Z,1µm,21.1s,MS5.2						
BRG				MLR	MLR		
	comp=N,500nm,21.0s,MS5.1						
BRG				MLR	MLR		
	comp=E,960nm,21.0s,MS5.1						
BRG	**Berggiesshubel**	**74.87**	**320**	*i* P	**P**	**14 47 05.8**	**-0.2**
	comp=E,138nm,1.4s,mb5.7						
BRG				*e*	pP	14 47 12.3	+1.6
BRG				S	S	14 56 44.0	+2.9
BRG				LR	LR		
	comp=Z,1µm,21.1s,MS5.2						
GEC2	**GERESS Array S**	**75.08**	**317**	*e*P	**P**	**14 47 06.5**	**-0.7**
GEC2				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.6						
GEC2	**GERESS Array S**	**75.08**	**317**	*e*P	**P**	**14 47 06.5**	**-0.7**
	comp=Z,84nm,1.0s,mb5.6						
GERES	**GERESS Array B**	**75.08**	**317**	P	**P**	**14 47 06.3**	**-0.9**
	comp=Z,21nm,0.7s,mb5.2,baz=90,slow=5.3,SNR=29						
GERES				pP	pP	14 47 13.6	+1.6
	comp=Z,52nm,1.0s,baz=90,slow=5.3,SNR=17						
GERES	**GERESS Array B**	**75.08**	**317**	P	**P**	**14 47 06.3**	**-0.9**
GERES				*PP	pP	14 47 13.6	+1.6
GERES				pmax	pmax		
	comp=Z,21nm,0.7s						
GERES				pmax	pmax		
	comp=Z,52nm,1.0s						
KHC	**Kasperske Hory**	**75.15**	**318**	*e*P	**P**	**14 47 06.9**	**-0.7**
KHC				*e*AP	pP	14 47 14.2	+1.8
KHC				*e*S	S	14 56 43.8	-0.4
KHC				LM		15 25 10.0	
	comp=Z,0.6nm,20.9s						
ROBS	**Robic**	**75.31**	**315**	*e*P	**P**	**14 47 07.3**	**-1.3**
ROBS				*e*pP	pP	14 47 15.5	+2.2
KBA	**Koelnbreinsper**	**75.38**	**316**	⇓*i*P	**P**	**14 47 07.9**	**-1.1**
	comp=Z,78nm,1.6s,mb5.4						
CLL	**Collm**	**75.45**	**320**	P	**P**	**14 47 08.4**	**-0.9**
	comp=Z,logA/T=1.5,mb5.2						
CLL				*i* *PP	pP	14 47 16.6	+2.5
CLL				*i*		14 47 27.7	
CLL				*e*PPP	PPP	14 51 42.0	-4.4
CLL				*e*S	S	14 56 46.0	-1.5
CLL				*e*SS	SS	15 01 54.0	+13
CLL	**Collm**	**75.45**	**320**	*i* P	**P**	**14 47 08.4**	**-0.9**
CLL				*i* *PP	pP	14 47 16.6	+2.5
CLL				*e*S	S	14 56 46.0	-1.5
CLL				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
CLL				MLR	MLR		
	comp=Z,2µm,20.3s,MS5.3						
CLL	**Collm**	**75.45**	**320**	*i* P	**P**	**14 47 08.4**	**-0.9**
	comp=Z,38nm,1.2s,mb5.2						
CLL				*i* pP	pP	14 47 16.6	+2.5
CLL				*e*S	S	14 56 46.0	-1.5
CLL				LR	LR		
	comp=Z,2µm,20.3s,MS5.3						
GMNA	**Gemona**	**75.49**	**315**	*e*P	**P**	**14 47 10.2**	**+0.5**
AQU	**L'Aquila**	**75.59**	**311**	*e*P	**P**	**14 47 11.6**	**+1.2**
WET	**Wettzell**	**75.61**	**318**	*e*P	**P**	**14 47 09.7**	**-0.6**
WET				pmax	pmax		
	comp=Z,103nm,1.3s,mb5.6						
WET	**Wettzell**	**75.61**	**318**	*e*P	**P**	**14 47 09.7**	**-0.6**
	comp=Z,103nm,1.3s,mb5.6						
PTQR	**Pietraquaria**	**75.62**	**310**	*e*P	**P**	**14 47 10.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**75.63**	**348**	P	**P**	**14 47 09.0**	**-0.9**
	comp=Z,16nm,0.8s,mb5.0,baz=63,slow=4.5,SNR=11						
SPITS				pP	pP	14 47 16.4	+1.8
	comp=Z,36nm,1.1s,baz=72,slow=6.3,SNR=5.0						
CING	**Cingoli**	**75.68**	**312**	*e*P	**P**	**14 47 11.2**	**+0.3**
COP	**Copenhagen**	**75.69**	**325**	*i* P	**P**	**14 47 18.4**	**+7.8**
	comp=Z,44nm,1.2s,mb5.3						
COP				*i*		14 50 08.1	
COP				*i* S	S	14 56 51.5	+1.4
	comp=Z,270nm,20.0s						
COP	**Copenhagen**	**75.69**	**325**	*e*P	**P**	**14 47 18.4**	**+7.8**
	comp=Z,44nm,1.2s,mb5.3						
COP				*i*		14 50 08.1	
COP				*i* S	S	14 56 51.5	+1.4
COP				LR	LR		
	comp=Z,280nm,20.0s,MS4.6						
NRCA	**Norcia**	**75.78**	**311**	⇑*i*P	**P**	**14 47 11.5**	**+0.1**
FVI	**Forni Avoltri**	**75.79**	**315**	*e*P	**P**	**14 47 11.4**	**+0.1**
ARV	**Arcevia**	**75.86**	**312**	⇑*i*P	**P**	**14 47 11.4**	**-0.4**
NSS	**Namsos**	**75.92**	**334**	*e*S	S	14 56 49.5	-2.9
NSS				AMS	AMS	15 26 49.2	
	comp=Z,932nm,16.0s,MS5.2						
FSSB	**Fossombrone**	**75.97**	**312**	⇑*i*P	**P**	**14 47 13.0**	**+0.6**
MNS	**Montasola**	**76.13**	**311**	*e*P	**P**	**14 47 19.2**	**+5.9**
MURB	**Monte Urbino**	**76.18**	**312**	*i* P	**P**	**14 47 14.1**	**+0.5**
NB2	**NORSAR Subarra**	**76.26**	**330**	P	**P**	**14 47 13.2**	**-0.5**
	comp=Z,57nm,1.2s,mb5.4,baz=89,slow=5.6						
NB2	**NORSAR Subarra**	**76.26**	**330**	P	**P**	**14 47 13.2**	**-0.5**
	baz=89,slow=5.9						
NOA	**NORSAR Array B**	**76.26**	**330**	P	**P**	**14 47 12.4**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=90,slow=5.7,SNR=4.8						
NOA				pP	pP	14 47 20.1	+1.7
	comp=Z,20nm,1.0s,baz=90,slow=5.8,SNR=16						
NOA				PP	PP	14 50 06.2	-0.6
	comp=Z,1.6nm,0.8s,baz=101,slow=6.8,SNR=3.1						
NOA	**NORSAR Array B**	**76.26**	**330**	P	**P**	**14 47 12.5**	**-1.2**
NOA				*PP	pP	14 47 20.1	+1.7
NOA						14 50 06.2	
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,20nm,1.0s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MOX	**Moxa**	**76.35**	**319**	*i* P	**P**	**14 47 14.7**	**+0.2**
	comp=Z,logA/T=1.9,mb5.6						
MOX				*i*		14 47 22.0	
MOX				*e*		14 47 33.0	
MOX				S	S	14 57 00.0	+2.6
MOX				L		15 25 55.0	
MOX	**Moxa**	**76.35**	**319**	*e*P	**P**	**14 47 14.7**	**+0.2**
MOX				*e*		14 47 21.7	
MOX				pmax	pmax		
	comp=Z,99nm,1.4s,mb5.5						
MOX				MLR	MLR		
	comp=Z,900nm,22.0s,MS5.0						
MOX	**Moxa**	**76.35**	**319**	*e*P	**P**	**14 47 14.7**	**+0.2**
	comp=Z,99nm,1.4s,mb5.5						
MOX				*e*		14 47 21.7	
MOX				*e*		14 47 33.4	
MOX				LR	LR		
	comp=Z,900nm,22.0s,MS5.0						
WTTA	**Wattenberg**	**76.53**	**316**	⇓*i*P	**P**	**14 47 14.8**	**-0.7**
	comp=Z,109nm,1.3s,mb5.6						
CRE	**Caprese Michel**	**76.57**	**312**	*e*P	**P**	**14 47 15.7**	**-0.2**
WATA	**Walderalm**	**76.57**	**316**	⇑*i*P	**P**	**14 47 15.4**	**-0.3**
	comp=Z,65nm,1.4s,mb5.4						
KBS	**Kingsbay**	**76.59**	**349**	*e*P	**P**	**14 47 17.2**	**+1.9**
KBS				*e*S	S	14 56 56.0	-3.6
KBS				*e*SS	SS	15 01 55.5	-2.5
KBS				AMS	AMS	15 28 48.4	
	comp=Z,953nm,18.4s,MS5.1						
KBS	**Kingsbay**	**76.59**	**349**	*e*P	**P**	**14 47 17.2**	**+1.9**
KBS				*e*S	S	14 56 56.0	-3.6
KBS				LR	LR		
	comp=Z,953µm,18.4s						
CTI	**Castel Tesino**	**76.61**	**315**	*e*P	**P**	**14 47 16.5**	**+0.5**
SFI	**Santa Sofia**	**76.62**	**312**	⇑*i*P	**P**	**14 47 17.7**	**+1.6**
GRA1	**Grafenberg Arr**	**76.66**	**318**	*e*P	**P**	**14 47 16.0**	**-0.2**
	comp=Z,163nm,1.4s,mb5.8						
GRA1				*e*		14 47 23.4	
GRA1				*e*PP	PP	14 50 16.9	+6.7
GRA1				*e*S	S	14 57 03.6	+2.8
GRA1				LR	LR		
	comp=Z,1µm,21.9s,MS5.2						
GRF	**Grafenberg Arr**	**76.66**	**318**	*e*P	**P**	**14 47 16.0**	**-0.2**
GRF				*e*		14 47 23.4	
GRF				*e*S	S	14 57 03.6	+2.8
GRF				pmax	pmax		
	comp=Z,163nm,1.4s,mb5.8						
GRF				MLR	MLR		
	comp=Z,1µm,21.9s,MS5.2						
FUR	**Furstenfeldbru**	**76.72**	**317**	*e*P	**P**	**14 47 17.0**	**+0.5**
FUR				pmax	pmax		
	comp=Z,154nm,1.5s,mb5.7						
FUR	**Furstenfeldbru**	**76.72**	**317**	*e*P	**P**	**14 47 17.0**	**+0.5**
	comp=Z,154nm,1.5s,mb5.7						
SQTA	**Sankt Quirin**	**76.83**	**316**	⇑*i*P	**P**	**14 47 16.2**	**-1.0**
	comp=Z,62nm,1.3s,mb5.4						
MOTA	**Moosalm**	**76.89**	**316**	⇓*i*P	**P**	**14 47 16.6**	**-0.9**
	comp=Z,48nm,1.1s,mb5.3						
SEI	**Scarperia**	**76.96**	**313**	⇑*i*P	**P**	**14 47 19.5**	**+1.5**
BSEG	**Bad Segeberg**	**76.98**	**323**	*e*P	**P**	**14 47 17.7**	**-0.2**
BSEG				pmax	pmax		
	comp=Z,206nm,1.2s,mb5.9						
CSNT	**Castellina Chi**	**77.06**	**312**	⇑*i*P	**P**	**14 47 17.9**	**-0.6**
CLZ	**Clausthal**	**77.07**	**321**	*e*P	**P**	**14 47 17.9**	**-0.5**
	comp=Z,188nm,1.4s,mb5.8						
KONO	**Kongsberg**	**77.10**	**329**	*e*P	Px	14 47 53.6	
KONO				*e*S	Sx	14 57 39.7	
KONO				AMS	AMS	15 26 22.9	
	comp=Z,1µm,16.8s,MS5.3						
KONO	**Kongsberg**	**77.10**	**329**	*e*P	**P**	**14 47 19.6**	**+1.2**
KONO	**Kongsberg**	**77.10**	**329**	PFAKE		14 47 30.0	+12
KONO				LR	LR		
	comp=Z,154nm,20.0s,MS4.3						
ZCCA	**Zocca**	**77.21**	**313**	⇓*i*P	**P**	**14 47 21.4**	**+2.0**
GRFL	**Gerfalco**	**77.31**	**312**	*e*P	**P**	**14 47 25.3**	**+5.3**
MABI	**Malga Bissina**	**77.39**	**315**	⇑*i*P	**P**	**14 47 21.4**	**+1.1**
HDH	**Heidenheim**	**77.40**	**317**	*e*P	**P**	**14 47 19.5**	**-0.8**
SAL	**Salo**	**77.42**	**314**	*e*P	**P**	**14 47 21.5**	**+1.0**
BRMO	**Bormio**	**77.46**	**315**	*e*P	**P**	**14 47 20.9**	**+0.3**
MUD	**Monsted U'grnd**	**77.49**	**325**	*i* P	**P**	**14 47 28.6**	**+8.0**
	comp=Z,58nm,1.2s,mb5.4						
BDI	**Bagni Di Lucca**	**77.51**	**313**	⇑*i*P	**P**	**14 47 21.0**	**0.0**
UBR	**Uberruh**	**77.54**	**316**	*e*P	**P**	**14 47 20.3**	**-0.8**
MAIM		**77.60**	**313**	P	**P**	**14 47 20.5**	**-1.0**
ERBM	**Eremo**	**77.61**	**313**	*e*P	**P**	**14 47 23.5**	**+1.9**
DAVA	**Damuels**	**77.72**	**316**	⇓*i*P	**P**	**14 47 21.4**	**-0.7**
	comp=Z,165nm,1.4s,mb5.8						
VALM		**77.73**	**313**	P	**P**	**14 47 21.7**	**-0.5**
SIND	**Sindeldorf**	**77.73**	**318**	*e*P	**P**	**14 47 21.5**	**-0.6**
VINC	**Vinca**	**77.82**	**313**	P	**P**	**14 47 22.9**	**+0.1**
GRAM		**77.85**	**313**	P	**P**	**14 47 24.1**	**+1.2**
BACM		**77.86**	**313**	P	**P**	**14 47 22.4**	**-0.6**
BUCH	**Bad Urach**	**77.98**	**317**	*e*P	**P**	**14 47 23.3**	**-0.2**
CODM		**78.01**	**313**	P	**P**	**14 47 24.8**	**+1.0**
GUT	**Gutenstein**	**78.17**	**317**	*e*P	**P**	**14 47 23.3**	**-1.2**
TOD	**Tromm**	**78.23**	**318**	*e*P	**P**	**14 47 25.0**	**+0.1**
BOB	**Bobbio (Coli)**	**78.26**	**314**	⇑*i*P	**P**	**14 47 25.8**	**+0.6**
SWS	**Schriesheim**	**78.31**	**318**	*e*P	**P**	**14 47 24.7**	**-0.6**
LBG	**Lerchenberg**	**78.33**	**318**	*e*P	**P**	**14 47 24.9**	**-0.5**
SPAK	**Spaichingen**	**78.39**	**317**	*e*P	**P**	**14 47 25.0**	**-0.7**
SPAK	**Spaichingen**	**78.39**	**317**	*e*P	**P**	**14 47 25.5**	**-0.2**
GENL	**Genova Univers**	**78.64**	**313**	P	**P**	**14 47 26.6**	**-0.6**
BFO	**Black Forest**	**78.67**	**317**	*e*P	**P**	**14 47 26.1**	**-1.2**
BFO				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
BFO	**Black Forest**	**78.67**	**317**	*e*P	**P**	**14 47 26.1**	**-1.2**
	comp=Z,52nm,1.2s,mb5.3						
BLS5	**Blasjo**	**78.71**	**329**	*e*pP	pP	14 47 35.9	+3.8
BLS5				AMb	AMB	14 47 38.7	
	comp=Z,72nm,1.4s,mb5.4						
BLS5	**Blasjo**	**78.71**	**329**	*e*P	**P**	**14 47 36.8**	**+10**
PGF	**Pioggiola**	**78.82**	**311**	*e*P	**P**	**14 47 27.7**	**-0.6**
	comp=Z,214nm,1.5s,mb5.5						
LANF	**Langenberg**	**78.95**	**318**	*e*P	**P**	**14 47 28.0**	**-0.8**
KIZ	**Kirchzarten**	**78.98**	**317**	*e*P	**P**	**14 47 27.7**	**-1.3**
ABH	**Alteburg**	**79.02**	**319**	*e*P	**P**	**14 47 29.1**	**-0.1**
MCGN	**Macugnaga**	**79.16**	**315**	*e*P	**P**	**14 47 30.4**	**+0.4**
LIBD	**Limburg**	**79.17**	**317**	*e*P	**P**	**14 47 29.2**	**-0.8**
ORO	**Oropa**	**79.20**	**314**	⇑*i*P	**P**	**14 47 29.5**	**-0.7**
FIN	**Finale Ligure**	**79.20**	**313**	⇑*i*P	**P**	**14 47 29.8**	**-0.5**
WTSB	**Winterswijk**	**79.26**	**321**	*e*P	**P**	**14 47 30.8**	**+0.4**
	comp=Z,30nm,1.3s,mb5.1						
WTSB				*e*x	x	14 47 37.9	
	comp=Z,85nm,1.4s						
CASY	**Casey**	**79.28**	**174**	*e*P	**P**	**14 47 30.2**	**-0.1**
	comp=Z,211nm,2.1s,mb5.7						
WLS	**Welschbruch**	**79.31**	**317**	*e*P	**P**	**14 47 30.6**	**-0.2**
RORO		**79.32**	**313**	P	**P**	**14 47 30.3**	**-0.6**
RUP	**Ruppelstein**	**79.35**	**319**	*e*P	**P**	**14 47 30.9**	**-0.1**
RUP	**Ruppelstein**	**79.35**	**319**	*e*P	**P**	**14 47 31.6**	**+0.6**
CDF	**Champ du Feu**	**79.36**	**317**	*e*P	**P**	**14 47 30.5**	**-0.5**
	comp=Z,89nm,1.2s,mb5.3						
TRAV		**79.38**	**314**	P	**P**	**14 47 29.7**	**-1.5**
ROB	**Roburent**	**79.43**	**313**	P	**P**	**14 47 30.6**	**-1.0**
IMI	**Imperia**	**79.47**	**313**	⇓*i*P	**P**	**14 47 32.2**	**+0.4**
MOF	**Molkenrain**	**79.52**	**317**	*e*P	**P**	**14 47 32.0**	**+0.1**
MONE	**Monesi**	**79.54**	**313**	P	**P**	**14 47 31.4**	**-0.8**
NEGI	**Negi**	**79.61**	**313**	P	**P**	**14 47 32.1**	**-0.4**
SAOF	**Saorge**	**79.70**	**313**	*e*P	**P**	**14 47 33.3**	**+0.3**
HINF	**Hinteralfeld**	**79.71**	**317**	*e*P	**P**	**14 47 32.2**	**-0.8**
	comp=Z,70nm,1.2s,mb5.2						
RSP	**Reno Superiore**	**79.76**	**314**	P	**P**	**14 47 32.0**	**-1.3**
ENR	**Entracque**	**79.76**	**313**	P	**P**	**14 47 31.9**	**-1.5**
LOMF	**Lomont**	**79.78**	**316**	*e*P	**P**	**14 47 32.7**	**-0.7**
AUTN	**L'Aution**	**79.79**	**313**	*e*P	**P**	**14 47 33.9**	**+0.4**
LSD	**Ceresole Reale**	**79.80**	**314**	P	**P**	**14 47 33.5**	**0.0**
BHB	**Bricherasio**	**79.80**	**314**	P	**P**	**14 47 31.8**	**-1.7**
SBF	**Sospel**	**79.80**	**313**	*e*P	**P**	**14 47 33.1**	**-0.4**
	comp=Z,327nm,1.2s,mb5.8						
STV2	**Anna di Valdie**	**79.83**	**313**	P	**P**	**14 47 32.5**	**-1.1**
STV	**Sta Anna Valdi**	**79.83**	**313**	P	**P**	**14 47 32.4**	**-1.3**
AURF	**Auriere**	**79.87**	**313**	*e*P	**P**	**14 47 33.9**	**0.0**
FENE	**Fenestrelle**	**79.92**	**314**	P	**P**	**14 47 33.0**	**-1.1**
HGN	**Heimansgroeve**	**79.94**	**320**	*e*P	**P**	**14 47 35.4**	**+1.2**
	comp=Z,11nm,1.5s,mb4.6						
HGN				*e*x	x	14 47 42.6	
	comp=Z,28nm,1.4s						
PZZ	**Prazzo**	**79.95**	**313**	P	**P**	**14 47 32.0**	**-2.3**
MVIF	**Mont Vial**	**80.00**	**313**	*e*P	**P**	**14 47 34.7**	**+0.1**
HAU	**Haudompre**	**80.02**	**317**	*e*P	**P**	**14 47 34.1**	**-0.5**
	comp=Z,159nm,1.1s,mb5.5						
HAU				*e*R			
	comp=Z,601nm,20.2s						
LPG	**La Plagne**	**80.07**	**314**	*e*P	**P**	**14 47 35.1**	**+0.1**
	comp=Z,148nm,1.0s,mb5.6						
LPL	**La Plagne**	**80.08**	**314**	*e*P	**P**	**14 47 35.0**	**0.0**
	comp=Z,303nm,1.2s,mb5.8						
RRL	**Cesana Torines**	**80.12**	**314**	P	**P**	**14 47 34.8**	**-0.5**
MBDF	**Montbardon**	**80.16**	**314**	*e*P	**P**	**14 47 34.6**	**-0.8**
	comp=Z,200nm,1.5s,mb5.5						
SURF	**Saint Ours**	**80.16**	**313**	*e*P	**P**	**14 47 36.1**	**+0.6**
CALN	**Calern**	**80.21**	**313**	*e*P	**P**	**14 47 36.4**	**+0.7**
THEF	**They Montfort**	**80.23**	**317**	*e*P	**P**	**14 47 35.3**	**-0.5**
CABF	**La Chapelle**	**80.38**	**316**	*e*P	**P**	**14 47 36.5**	**-0.1**
	comp=Z,230nm,1.2s,mb5.7						
FRF	**La Foret Royal**	**80.41**	**313**	*e*P	**P**	**14 47 36.6**	**-0.2**
	comp=Z,419nm,1.3s,mb5.9						
LMR	**La Mourre**	**80.54**	**312**	*e*P	**P**	**14 47 37.2**	**-0.3**
	comp=Z,203nm,1.2s,mb5.6						
GDM	**Grand'Maison**	**80.56**	**314**	*e*P	**P**	**14 47 37.7**	**+0.2**
GIVF	**Givet**	**80.73**	**319**	*e*P	**P**	**14 47 38.4**	**0.0**
	comp=Z,192nm,1.3s,mb5.6						
ORIF	**Oris-en-Rattie**	**80.76**	**314**	*e*P	**P**	**14 47 38.6**	**0.0**
	comp=Z,87nm,1.2s,mb5.2						
ORIF				*e*R			
	comp=Z,791nm,19.8s						
GRN	**Grenoble**	**80.81**	**314**	*e*P	**P**	**14 47 39.1**	**+0.2**
MEZF	**Maizieres J'vi**	**80.81**	**318**	*e*P	**P**	**14 47 38.6**	**-0.2**
	comp=Z,145nm,1.3s,mb5.5						
SMRF	**Simiane la Rot**	**81.11**	**313**	*e*P	**P**	**14 47 40.8**	**+0.3**
	comp=Z,152nm,1.3s,mb5.5						
BAIF	**Baives**	**81.13**	**319**	*e*P	**P**	**14 47 40.6**	**+0.1**
	comp=Z,220nm,1.1s,mb5.7						
OCF	**Saint Nazaire**	**81.22**	**314**	*e*P	**P**	**14 47 41.4**	**+0.4**
OG26	**St.-Nazaire-De**	**81.22**	**314**	*e*P	**P**	**14 47 41.4**	**+0.4**
VIVF	**Saint-Julien-l**	**81.62**	**314**	*e*P	**P**	**14 47 42.9**	**-0.2**
	comp=Z,235nm,1.3s,mb5.7						
LOR	**Lormes**	**81.80**	**317**	*e*P	**P**	**14 47 43.6**	**-0.4**
	comp=Z,258nm,1.3s,mb5.7						
LOR				*e*R			
	comp=Z,1µm,23.0s						
SSF	**Saint Saulge**	**82.07**	**316**	*e*P	**P**	**14 47 45.3**	**-0.1**
	comp=Z,197nm,1.4s,mb5.5						
PLDF	**La Plantade**	**82.17**	**315**	*e*P	**P**	**14 47 46.0**	**+0.1**
MIDW	**Midway**	**82.19**	**63**	PFAKE		14 48 00.0	+14
MIDW				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
COLF	**Collangettes**	**82.19**	**315**	*e*P	**P**	**14 47 46.2**	**+0.1**
AVF	**Avril sur Loir**	**82.22**	**316**	*e*P	**P**	**14 47 45.8**	**-0.3**
	comp=Z,187nm,1.4s,mb5.5						

LASF	**Ste Croix**	**82.32**	**313**	eP	**P**	**14 47 47.1**	**+0.3**
	comp=Z,294nm,1.3s,mb5.7						
TSUM	**Tsumeb**	**82.45**	**249**	eP	**P**	**14 47 48.1**	**+0.2**
	comp=Z,22nm,1.0s,mb5.0						
TSUM				epP	pP	14 47 56.1	+3.4
TSUM				LR	LR		
	comp=Z,815nm,19.0s,MS5.1						
AGO	**Saint Agoulin**	**82.49**	**315**	eP	**P**	**14 47 47.9**	**+0.3**
LBL	**Lubilhac**	**82.55**	**315**	eP	**P**	**14 47 48.4**	**+0.5**
BGF	**Bois d'Agland**	**82.60**	**316**	eP	**P**	**14 47 48.2**	**+0.1**
	comp=Z,210nm,1.4s,mb5.7						
HYF	**Humbligny**	**82.61**	**317**	eP	**P**	**14 47 48.7**	**+0.5**
PYM	**Petit Puy Mans**	**82.63**	**315**	eP	**P**	**14 47 48.6**	**+0.3**
JMIC	**Jan Mayen**	**82.74**	**341**	eP	**P**	**14 47 50.8**	**+2.4**
JMIC				ePP	PP	14 50 56.4	-4.1
JMIC				eS	S	14 58 02.2	-2.1
JMIC				AMS	AMS	15 26 40.5	
	comp=Z,365nm,25.9s,MS4.6						
TCF	**Toulx Ste Croi**	**83.08**	**316**	eP	**P**	**14 47 50.9**	**+0.2**
	comp=Z,199nm,1.2s,mb5.7						
MAW	**Mawson**	**83.09**	**192**	P	**P**	**14 47 51.8**	**+1.5**
	comp=Z,10nm,1.1s,mb4.8,baz=26,slow=5.7,SNR=7.6						
MAW	**Mawson**	**83.09**	**192**	P	**P**	**14 47 51.8**	**+1.5**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MAW	**Mawson**	**83.09**	**192**	⇑iP	**P**	**14 47 51.8**	**+1.5**
	comp=Z,12nm,1.1s,mb4.8						
MAW				eS	S	14 58 11.7	+3.8
DAG	**Danmarks Havn**	**83.28**	**348**	⇓iP	**P**	**14 47 51.7**	**+0.6**
	comp=Z,13nm,1.3s,mb4.8						
EJON	**La Jonquera**	**83.31**	**312**	P	**P**	**14 47 51.3**	**-0.6**
	comp=Z,68nm,1.4s,mb5.5						
CAF	**Calviac**	**83.43**	**314**	eP	**P**	**14 47 52.8**	**+0.3**
	comp=Z,144nm,1.2s,mb5.6						
FILF	**Fillols**	**83.52**	**312**	eP	**P**	**14 47 53.4**	**+0.4**
SUR	**Sutherland**	**83.59**	**235**	eP	**P**	**14 47 53.9**	**+0.3**
	comp=Z,164nm,1.6s,mb5.9						
SUR				LR	LR		
	comp=Z,233nm,21.0s,MS4.5						
MTLF	**Montolieu**	**83.62**	**313**	eP	**P**	**14 47 53.6**	**+0.1**
	comp=Z,138nm,1.1s,mb5.7						
RJF	**Les Rejaudoux**	**83.74**	**315**	eP	**P**	**14 47 54.4**	**+0.3**
	comp=Z,264nm,1.4s,mb5.9						
RJF				eR			
	comp=Z,881nm,22.5s						
LPEF	**Le Peyrat**	**83.92**	**312**	eP	**P**	**14 47 55.1**	**+0.1**
LDF	**La Druitiere**	**84.18**	**318**	eP	**P**	**14 47 56.2**	**0.0**
	comp=Z,201nm,1.2s,mb5.8						
LHO	**Holmfirth**	**84.18**	**323**	i P	**P**	**14 47 57.1**	**+1.0**
LFF	**La Frestale**	**84.35**	**315**	eP	**P**	**14 47 57.5**	**+0.3**
	comp=Z,182nm,1.4s,mb5.7						
FLN	**La Foliniere**	**84.38**	**319**	eP	**P**	**14 47 57.2**	**0.0**
	comp=Z,271nm,1.2s,mb5.9						
FLN				eR			
	comp=Z,1μm,22.5s						
EMIR	**Miracle**	**84.40**	**312**	P	**P**	**14 47 57.2**	**-0.3**
	comp=Z,179nm,1.5s,mb6.0						
SALF	**Salau**	**84.48**	**312**	eP	**P**	**14 47 58.1**	**+0.3**
MLS	**Moulis**	**84.50**	**313**	eP	**P**	**14 47 57.3**	**-0.7**
EKA	**Eskdalemuir Ar**	**84.52**	**325**	P	**P**	**14 47 58.8**	**+1.1**
	baz=90,slow=3.5						
ESK	**Eskdalemuir**	**84.55**	**325**	eP	**P**	**14 47 58.4**	**+0.5**
ESK				e*PP	pP	14 48 05.9	+3.2
ESK				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.7						
ESK	**Eskdalemuir**	**84.55**	**325**	eP	**P**	**14 47 58.4**	**+0.6**
	comp=Z,72nm,1.2s,mb5.7						
ESK				epP	pP	14 48 05.9	+3.3
MFF	**Saint Martin d**	**84.61**	**316**	eP	**P**	**14 47 58.4**	**0.0**
	comp=Z,226nm,1.2s,mb5.9						
GRR	**Gorron**	**84.70**	**318**	eP	**P**	**14 47 59.0**	**+0.2**
	comp=Z,164nm,1.4s,mb5.7						
EPOB	**Poblet**	**84.84**	**311**	P	**P**	**14 47 59.6**	**-0.1**
	comp=Z,149nm,1.3s,mb6.0						
HAE	**Alders End**	**84.94**	**322**	⇑eP	**P**	**14 48 01.4**	**+1.5**
HAE				AMb	AMB	14 48 09.5	
	comp=Z,174nm,1.3s,mb6.0						
HLM1	**Long Mynd**	**85.02**	**323**	⇑eP	**P**	**14 48 01.8**	**+1.5**
HLM1				AMb	AMB	14 48 10.2	
	comp=Z,87nm,1.3s,mb5.7						
EPF	**Esparros**	**85.03**	**313**	eP	**P**	**14 47 59.9**	**-0.7**
EIBI	**Ibiza**	**85.12**	**309**	P	**P**	**14 48 00.9**	**-0.3**
	comp=Z,133nm,1.3s,mb5.9						
SSP1	**Stoney Pound**	**85.19**	**323**	⇑eP	**P**	**14 48 03.1**	**+1.9**
HGH	**Gray Hill**	**85.19**	**322**	⇑eP	**P**	**14 48 02.5**	**+1.3**
HGH				AMb	AMB	14 48 11.3	
	comp=Z,241nm,1.3s,mb6.2						
MCH1	**Michaelchurch**	**85.22**	**322**	⇑eP	**P**	**14 48 02.5**	**+1.2**
LABF	**Labassere**	**85.22**	**313**	eP	**P**	**14 48 02.3**	**+0.8**
EGRA	**Graus**	**85.23**	**312**	P	**P**	**14 48 01.3**	**-0.3**
	comp=Z,73nm,1.3s,mb5.7						
VIEF	**Viey**	**85.29**	**313**	eP	**P**	**14 48 03.8**	**+1.9**
HTR	**Trewern Hill**	**85.36**	**322**	⇑eP	**P**	**14 48 03.6**	**+1.6**
HTR				AMb	AMB	14 48 12.4	
	comp=Z,112nm,1.4s,mb5.8						
EBR	**Ebro Roquetas**	**85.39**	**311**	eP	**P**	**14 48 02.7**	**+0.3**
LRYF	**La Roche-sur-Y**	**85.56**	**317**	eP	**P**	**14 48 03.3**	**+0.1**
ETSF	**Etsaut**	**85.70**	**313**	eP	**P**	**14 48 04.4**	**+0.4**
	comp=Z,83nm,0.9s,mb5.7						
SGMF	**Saint Gilles**	**85.84**	**318**	eP	**P**	**14 48 04.8**	**+0.3**
	comp=Z,216nm,1.3s,mb5.9						
ESAC	**San Caprasio**	**85.90**	**312**	P	**P**	**14 48 04.8**	**-0.2**
	comp=Z,158nm,1.5s,mb6.0						
LARF	**Larrau**	**85.98**	**313**	eP	**P**	**14 48 05.9**	**+0.6**
SJPF	**Ste Jean**	**86.13**	**313**	eP	**P**	**14 48 06.6**	**+0.5**
	comp=Z,160nm,1.2s,mb5.8						
EMOS	**Mosqueruela**	**86.20**	**310**	P	**P**	**14 48 08.5**	**+2.0**
	comp=Z,41nm,1.1s,mb5.6						
ROSF	**Rostrenen**	**86.28**	**319**	eP	**P**	**14 48 07.0**	**+0.3**
	comp=Z,212nm,1.3s,mb5.9						
QUIF	**Quistinic**	**86.32**	**318**	eP	**P**	**14 48 06.8**	**-0.1**
	comp=Z,221nm,1.4s,mb5.9						
SBD	**Saint Breward**	**86.60**	**321**	⇑eP	**P**	**14 48 02.7**	**-5.6**
DMUB	**Kingscourt**	**87.00**	**325**	eP	**P**	**14 48 14.0**	**+4.0**
IMA	**Indian Mountai**	**87.15**	**22**	eP	**P**	**14 48 10.7**	**+0.2**
IMA				e*PP	pP	14 48 18.1	+2.8
IMA				pmax	pmax		
	comp=Z,94nm,0.7s,mb6.1						
IMA	**Indian Mountai**	**87.15**	**22**	eP	**P**	**14 48 11.7**	**+1.2**
	comp=Z,18nm,0.7s,mb5.4						
ECRI	**Cripan**	**87.17**	**313**	P	**P**	**14 48 10.9**	**-0.2**
	comp=Z,58nm,1.1s,mb5.7						
ETOR	**Torete**	**87.27**	**311**	P	**P**	**14 48 12.0**	**+0.3**
	comp=Z,78nm,1.2s,mb5.8						
DCN	**Croghan**	**87.37**	**324**	eP	**P**	**14 48 16.0**	**+4.2**
ETOB	**Tobarra**	**87.41**	**309**	P	**P**	**14 48 13.3**	**+0.9**
	comp=Z,60nm,1.2s,mb5.7						
EVIA	**Vianos**	**88.14**	**309**	P	**P**	**14 48 16.5**	**+0.6**
	comp=Z,10nm,0.8s,mb5.1						
SVW	**Sparrevohn**	**88.35**	**27**	eP	**P**	**14 48 18.8**	**+2.5**
	comp=Z,13nm,1.2s,mb5.0						
EQES	**Quesada**	**88.78**	**308**	P	**P**	**14 48 17.7**	**-1.3**
	comp=Z,94nm,1.9s,mb5.8						
ESDC	**Sonseca Array**	**88.97**	**310**	P	**P**	**14 48 19.8**	**-0.1**
	comp=Z,6.0nm,0.8s,mb5.0,baz=58,slow=5.1,SNR=9.7						
ESDC				pP	pP	14 48 27.3	+2.6
	comp=Z,15nm,1.0s,baz=60,slow=4.5,SNR=7.5						
ESDC	**Sonseca Array**	**88.97**	**310**	P	**P**	**14 48 19.4**	**-0.5**
	comp=Z,50nm,1.4s,mb5.7						
ERON	**Agron**	**89.54**	**308**	P	**P**	**14 48 20.0**	**-2.7**
	comp=Z,6.3nm,0.6s,mb5.1						
ELUQ	**Luque**	**89.76**	**308**	P	**P**	**14 48 23.5**	**-0.1**
	comp=Z,27nm,1.4s,mb5.4						
EADA	**Adamuz**	**89.83**	**309**	P	**P**	**14 48 23.9**	**0.0**
	comp=Z,41nm,1.3s,mb5.6						
COLA	**College**	**89.86**	**22**	eP	**P**	**14 48 23.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
COLA	**College**	**89.86**	**22**	eP	**P**	**14 48 23.9**	**+0.4**
	comp=Z,15nm,1.2s,mb5.2						
SPU	**Mount Spurr**	**89.89**	**27**	eP	**P**	**14 48 23.6**	**-0.1**
SPU				epP	pP	14 48 31.1	+2.6
SYO	**Syowa Base**	**89.94**	**197**	⇑P	**P**	**14 48 24.3**	**+0.6**
SYO	**Syowa Base**	**89.94**	**197**	⇓PcP	PcP	14 48 25.8	+0.5
SYO	**Syowa Base**	**89.94**	**197**	⇑pP	pP	14 48 34.2	+5.7
EPON	**Pontenova**	**90.25**	**314**	P	**P**	**14 48 27.4**	**+1.6**
	comp=Z,47nm,1.6s,mb5.6						
ILAR	**Eielson Array**	**90.27**	**22**	P	**P**	**14 48 24.1**	**-1.2**
	comp=Z,4.1nm,0.7s,mb4.9,baz=296,slow=4.3,SNR=25						
ILAR				PP	PP	14 51 59.6	-2.2
	comp=Z,1.3nm,0.9s,baz=306,slow=7.3,SNR=4.2						
ILAR				PKKPbc		15 05 55.0	
	comp=Z,0.5nm,0.8s,baz=131,slow=3.2,SNR=4.1						
ILAR	**Eielson Array**	**90.27**	**22**	P	**P**	**14 48 24.2**	**-1.2**
ILAR						14 51 59.7	
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ECAL	**Calabor**	**90.37**	**313**	P	**P**	**14 48 27.2**	**+0.9**
	comp=Z,66nm,1.4s,mb5.8						
PBRG	**Braganca**	**90.41**	**313**	eP	**P**	**14 48 28.2**	**+1.6**
	comp=Z,26nm,1.5s,mb5.3						
SNZO	**South Karori**	**90.49**	**132**	PFAKE		14 48 40.0	+13
SNZO				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
ERUA	**La Rua**	**90.53**	**314**	P	**P**	**14 48 27.5**	**+0.5**
	comp=Z,63nm,1.2s,mb5.8						
PMR	**Palmer**	**90.96**	**25**	eP	**P**	**14 48 28.3**	**-0.3**
PMR				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.7						
PMR	**Palmer**	**90.96**	**25**	eP	**P**	**14 48 28.8**	**+0.2**
	comp=Z,30nm,0.8s,mb5.7						
SLKM	**Skilak Lake**	**91.00**	**27**	eP	**P**	**14 48 29.1**	**+0.3**
KDAK	**Kodiak Island**	**91.12**	**30**	PFAKE		14 48 40.0	+11
KDAK				LR	LR		
	comp=Z,206nm,21.0s,MS4.5						
ESPR	**Espera**	**91.17**	**308**	P	**P**	**14 48 29.8**	**-0.4**
	comp=Z,71nm,1.4s,mb5.8						
PVRL	**Vila Real**	**91.27**	**313**	eP	**P**	**14 48 32.6**	**+2.1**
	comp=Z,31nm,1.5s,mb5.4						
ELOB	**Lobios**	**91.34**	**313**	P	**P**	**14 48 30.9**	**0.0**
	comp=Z,35nm,1.2s,mb5.6						
STS	**Santiago**	**91.37**	**314**	P	**P**	**14 48 31.5**	**+0.6**
	comp=Z,95nm,1.4s,mb5.9						
MTE	**Manteigas**	**91.41**	**312**	eP	**P**	**14 48 32.2**	**+1.0**
	comp=Z,46nm,1.3s,mb5.7						
EBAD	**Badajoz**	**91.50**	**310**	P	**P**	**14 48 32.6**	**+1.0**
	comp=Z,23nm,1.4s,mb5.3						
PCBR	**Castelo Branco**	**91.53**	**311**	eP	**P**	**14 48 33.3**	**+1.6**
	comp=Z,30nm,1.3s,mb5.5						
EMIN	**Mina Concepcio**	**91.53**	**309**	P	**P**	**14 48 31.6**	**-0.2**
	comp=Z,55nm,1.1s,mb5.8						
PVIS	**Viseu**	**91.57**	**312**	eP	**P**	**14 48 34.4**	**+2.5**
	comp=Z,36nm,1.5s,mb5.5						
EZAM	**Zamans**	**91.70**	**314**	P	**P**	**14 48 31.0**	**-1.4**
	comp=Z,108nm,1.9s,mb5.8						
EGRO	**El Granado**	**92.22**	**309**	P	**P**	**14 48 34.5**	**-0.5**
	comp=Z,35nm,1.3s,mb5.5						
PALC	**Alcoutim**	**92.23**	**309**	eP	**P**	**14 48 36.9**	**+1.9**
	comp=Z,53nm,1.9s,mb5.5						
PTOM	**Tomar**	**92.28**	**311**	eP	**P**	**14 48 36.5**	**+1.3**
	comp=Z,64nm,1.5s,mb5.7						
PBEJ	**Beja**	**92.36**	**310**	eP	**P**	**14 48 37.7**	**+2.1**
	comp=Z,30nm,1.3s,mb5.5						
INK	**Inuvik**	**92.45**	**16**	P	**P**	**14 48 35.3**	**0.0**
	comp=Z,44nm,1.4s,mb5.6,baz=289,slow=4.7,SNR=11						
INK				pP	pP	14 48 43.4	+3.3
	comp=Z,26nm,1.1s,baz=295,slow=6.5,SNR=8.6						
INK	**Inuvik**	**92.45**	**16**	P	**P**	**14 48 35.3**	**0.0**
INK				*PP	pP	14 48 43.4	+3.3
INK				pmax	pmax		
	comp=Z,44nm,1.4s						
INK				pmax	pmax		
	comp=Z,26nm,1.2s						
INK	**Inuvik**	**92.45**	**16**	eP	**P**	**14 48 34.8**	**-0.5**
	comp=Z,62nm,1.4s,mb5.7						
DAWY	**Dawson**	**93.37**	**21**	eP	**P**	**14 48 36.9**	**-2.7**
VNDA	**Vanda**	**97.15**	**168**	P	**P**	**14 48 57.1**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=286,slow=7.4,SNR=2.8						
VNDA	**Vanda**	**97.15**	**168**	P	**P**	**14 48 57.1**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SBA	**Scott Base**	**98.25**	**168**	P	**P**	**14 49 02.8**	**+1.2**
SIT	**Sitka**	**99.34**	**25**	PFAKE		14 49 20.0	+13
SIT				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
YKA	**Yellowknife Ar**	**101.87**	**14**	P	P	14 49 17.4	-0.9
	comp=Z,1.3nm,0.8s,baz=336,slow=3.7,SNR=3.6						
YKA				PP	PP	14 53 26.3	-5.5
	comp=Z,2.2nm,1.0s,baz=334,slow=7.3,SNR=3.9						
YKA	**Yellowknife Ar**	**101.87**	**14**	P	P	14 49 17.4	-0.9
YKA						14 53 26.3	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SNAA	**Sanae**	**104.14**	**199**	⇓i		14 53 54.9	
SNAA	**Sanae**	**104.14**	**199**	⇓i		14 53 59.9	
VNA2	**Neumayer--Watz**	**105.68**	**199**			14 53 55.8	
OCWA	**Octopus Mounta**	**110.72**	**27**	PFAKE		14 54 10.0	+10
OCWA				LR	LR		
	comp=Z,617nm,21.0s,MS5.2						
FFC	**Flin Flon**	**111.62**	**11**	PFAKE		14 54 10.0	+8.5
FFC				LR	LR		
	comp=Z,166nm,21.0s,MS4.6						
NEW	**Newport**	**113.23**	**23**	PFAKE		14 54 10.0	+5.1
NEW				LR	LR		
	comp=Z,593nm,20.0s,MS5.2						
COR	**Corvallis**	**113.50**	**29**	PFAKE		14 54 10.0	+4.4
COR				LR	LR		
	comp=Z,566nm,19.0s,MS5.2						
HAWA	**Hanford**	**113.78**	**25**	PFAKE		14 54 20.0	+14
HAWA				LR	LR		
	comp=Z,514nm,21.0s,MS5.1						
MSO	**Missoula**	**115.60**	**22**	PFAKE		14 54 20.0	+10
MSO				LR	LR		
	comp=Z,545nm,19.0s,MS5.2						
YBH	**Yreka Blue Hor**	**115.93**	**31**	PFAKE		14 54 20.0	+10
YBH				LR	LR		
	comp=Z,388nm,22.0s,MS5.0						
WDC	**Whiskeytown Da**	**116.87**	**31**	PFAKE		14 54 20.0	+7.8
WDC				LR	LR		
	comp=Z,352nm,21.0s,MS5.0						
MOD	**Modoc**	**116.97**	**29**	PFAKE		14 54 20.0	+7.7
MOD				LR	LR		
	comp=Z,505nm,22.0s,MS5.1						
DGMT	**Dagmar**	**117.07**	**14**	PFAKE		14 54 20.0	+7.6
DGMT				LR	LR		
	comp=Z,895nm,22.0s,MS5.3						
WVOR	**Wild Horse Val**	**117.32**	**27**	PFAKE		14 54 20.0	+7.0
WVOR				LR	LR		
	comp=Z,721nm,22.0s,MS5.2						
BOZ	**Bozeman (W)**	**117.44**	**21**	PFAKE		14 54 20.0	+6.9
BOZ				LR	LR		
	comp=Z,647nm,19.0s,MS5.3						
HOPS	**Hopland**	**117.76**	**33**	PFAKE		14 54 20.0	+6.1
HOPS				LR	LR		
	comp=Z,376nm,21.0s,MS5.0						
HLID	**Hailey**	**118.19**	**24**	PFAKE		14 54 20.0	+5.3
HLID				LR	LR		
	comp=Z,746nm,22.0s,MS5.3						
LAO	**LASA Array**	**118.19**	**16**	PFAKE		14 54 20.0	+5.4
LAO				LR	LR		
	comp=Z,722nm,21.0s,MS5.3						
PQI	**Presque Isle**	**119.28**	**347**	PFAKE		14 54 30.0	+13
PQI				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
EYMN	**Ely**	**119.67**	**5**	PFAKE		14 54 30.0	+13
EYMN				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
CMB	**Columbia Colle**	**119.88**	**32**	PFAKE		14 54 30.0	+12
CMB				LR	LR		
	comp=Z,263nm,20.0s,MS4.9						
AHID	**Auburn Hatcher**	**120.13**	**22**	PFAKE		14 54 30.0	+12
AHID				LR	LR		
	comp=Z,505nm,20.0s,MS5.2						
NVAR	**Mina Array Bea**	**120.63**	**30**	PKP	PKPdf	14 54 18.0	-1.6
	comp=Z,3.4nm,1.0s,baz=315,slow=2.6,SNR=9.7						
NVAR				pPKP		14 54 23.8	
	comp=Z,3.3nm,1.1s,baz=227,slow=0.1,SNR=5.3						
NVAR				PKKPbc		15 04 23.7	
	comp=Z,0.6nm,0.7s,baz=132,slow=5.3,SNR=5.5						
BW06	**Boulder Array**	**120.68**	**21**	ePKPdf	PKPdf	14 54 17.1	-2.5
BW06				LR	LR		
	comp=Z,618nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**120.68**	**21**	PKP	PKPdf	14 54 17.0	-2.5
	comp=Z,1.4nm,0.9s,baz=333,slow=2.0,SNR=8.8						
MNV	**Mina**	**120.70**	**30**	ePKPdf	PKPdf	14 54 17.1	-2.6
MNV				LR	LR		
	comp=Z,461nm,21.0s,MS5.1						
HWUT	**Hardware Ranch**	**120.96**	**23**	ePKPdf	PKPdf	14 54 18.0	-2.1
HWUT				LR	LR		
	comp=Z,648nm,21.0s,MS5.2						
EMMW	**East Machias**	**120.99**	**345**	PFAKE		14 54 30.0	+10
EMMW				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
DUG	**Dugway**	**121.66**	**25**	PFAKE		14 54 30.0	+8.5
DUG				LR	LR		
	comp=Z,411nm,21.0s,MS5.0						
MVU	**Marysvale**	**123.34**	**25**	ePKPdf	PKPdf	14 54 23.6	-1.1
MSU	**Marysvale**	**123.35**	**25**	ePKIKP	PKPdf	14 54 23.4	-1.4
HRV	**Harvard--Oak R**	**124.00**	**348**	PFAKE		14 54 40.0	+14
HRV				LR	LR		
	comp=Z,568nm,19.0s,MS5.2						
WES	**Weston**	**124.07**	**348**	PFAKE		14 54 40.0	+14
WES				LR	LR		
	comp=Z,953nm,21.0s,MS5.4						
ISCO	**Idaho Springs**	**124.66**	**19**	PFAKE		14 54 40.0	+13
ISCO				LR	LR		
	comp=Z,860nm,20.0s,MS5.4						
PV10	**Paradox Valley**	**124.72**	**23**	ePKPdf	PKPdf	14 54 25.8	-1.7
JFWS	**Jewell Farm**	**124.77**	**5**	PFAKE		14 54 40.0	+13
JFWS				LR	LR		
	comp=Z,984nm,21.0s,MS5.5						
BINY	**Binghamton**	**125.06**	**352**	PFAKE		14 54 40.0	+12
BINY				LR	LR		
	comp=Z,867nm,19.0s,MS5.4						
PFO	**Pinyon Flat Ob**	**125.32**	**32**	PFAKE		14 54 40.0	+11
PFO				LR	LR		
	comp=Z,117nm,22.0s,MS4.5						
ERPA	**Erie**	**125.58**	**355**	PFAKE		14 54 40.0	+11
ERPA				LR	LR		
	comp=Z,574nm,19.0s,MS5.3						
SDCO	**Great Sand Dun**	**126.55**	**20**	PFAKE		14 54 40.0	+9.0
SDCO				LR	LR		
	comp=Z,947nm,19.0s,MS5.5						
SSPA	**Standing Stone**	**126.84**	**353**	PFAKE		14 54 40.0	+8.6
SSPA				LR	LR		
	comp=Z,691nm,21.0s,MS5.3						
CBKS	**Cedar Bluff**	**127.24**	**14**	PFAKE		14 54 40.0	+7.7
CBKS				LR	LR		
	comp=Z,895nm,21.0s,MS5.4						
ACSO	**Alum Creek Sta**	**127.62**	**358**	PFAKE		14 54 40.0	+7.0
ACSO				LR	LR		
	comp=Z,713nm,22.0s,MS5.3						
MCWV	**Mont Chateau**	**128.01**	**355**	PFAKE		14 54 40.0	+6.2
MCWV				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
ANMO	**Albuquerque**	**128.71**	**23**	⇓iPKIKP	PKPdf	14 54 34.4	-0.9
LAZ	**Ladron**	**128.94**	**24**	ePKPdf	PKPdf	14 54 34.0	-1.7
TUC	**Tucson**	**129.17**	**28**	ePKPdf	PKPdf	14 54 34.6	-1.7
TUC				LR	LR		
	comp=Z,390nm,21.0s,MS5.1						
CBN	**Corbin**	**129.18**	**352**	PFAKE		14 54 50.0	+14
CBN				LR	LR		
	comp=Z,886nm,20.0s,MS5.5						
BNM	**Barren Site**	**129.36**	**23**	ePKPdf	PKPdf	14 54 34.7	-1.8
CCM	**Cathedral Cave**	**129.49**	**6**	PFAKE		14 54 50.0	+13
CCM				LR	LR		
	comp=Z,719nm,20.0s,MS5.4						
BLA	**Blacksburg**	**130.49**	**355**	PFAKE		14 54 50.0	+11
BLA				LR	LR		
	comp=Z,938nm,21.0s,MS5.5						
RCBR	**Riachuelo**	**131.15**	**273**	PFAKE		14 54 50.0	+10
RCBR				LR	LR		
	comp=Z,525nm,19.0s,MS5.3						
WMOK	**Wichita Mounta**	**131.35**	**15**	PKPdf	PKPdf	14 54 37.8	-2.5
WMOK				LR	LR		
	comp=Z,774nm,20.0s,MS5.4						
GDL2	**Guadalupe Moun**	**131.95**	**22**	ePKPdf	PKPdf	14 54 40.5	-1.0
MIAR	**Mount Ida**	**132.63**	**10**	PFAKE		14 54 50.0	+7.2
MIAR				LR	LR		
	comp=Z,973nm,21.0s,MS5.5						
MYNC	**Murphy**	**132.80**	**359**	PFAKE		14 54 50.0	+6.9
MYNC				LR	LR		
	comp=Z,903nm,19.0s,MS5.5						
OXF	**Oxford**	**133.18**	**5**	PFAKE		14 54 50.0	+6.2
OXF				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
NHSC	**New Hope**	**134.53**	**354**	PFAKE		14 55 00.0	+14
NHSC				LR	LR		
	comp=Z,668nm,19.0s,MS5.4						
LTX	**Lajitas**	**134.78**	**23**	PFAKE		14 55 00.0	+13
LTX				LR	LR		
	comp=Z,562nm,22.0s,MS5.2						
TXAR	**Lajitas Array**	**134.78**	**23**	PKP	PKPdf	14 54 44.1	-2.8
	comp=Z,0.5nm,0.3s,baz=225,slow=1.3,SNR=3.4						
LRAL	**Lakeview Retre**	**134.80**	**2**	PFAKE		14 55 00.0	+13
LRAL				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
JCT	**Junction City**	**135.07**	**18**	ePKPdf	PKPdf	14 54 45.9	-1.5
JCT				LR	LR		
	comp=Z,804nm,21.0s,MS5.4						
NATX	**Nacogdoches**	**135.14**	**12**	PFAKE		14 55 00.0	+13
NATX				LR	LR		
	comp=Z,766nm,22.0s,MS5.4						
HKT	**Hockley**	**136.64**	**14**	PFAKE		14 55 00.0	+10
HKT				LR	LR		
	comp=Z,816nm,21.0s,MS5.4						
DWPF	**Disney**	**139.60**	**355**	PFAKE		14 55 10.0	+14
DWPF				LR	LR		
	comp=Z,513nm,22.0s,MS5.2						
BDFB	**Brasilia**	**144.00**	**260**	PKP	PKPdf	14 55 00.8	-3.0
	comp=Z,11nm,0.9s,baz=71,slow=3.9,SNR=7.4						
BDFB	**Brasilia**	**144.00**	**260**	PKIKP	PKPdf	14 55 00.8	-2.9
BDFB				pmax	pmax		
	comp=Z,11nm,0.9s						
SJG	**San Juan**	**144.45**	**328**	PFAKE		14 55 10.0	+9.5
SJG				LR	LR		
	comp=Z,314nm,20.0s,MS5.1						
TRQA	**Tornquist**	**147.21**	**215**	ePKPbc	PKPdf	14 55 08.3	-0.4
PLCA	**Paso Flores**	**149.04**	**202**	PKPbc	PKPdf	14 55 11.6	+0.1
	comp=Z,11nm,0.9s,baz=299,slow=4.6,SNR=11						
PLCA	**Paso Flores**	**149.04**	**202**	PKIKP	PKPdf	14 55 11.6	+0.1
PLCA				pmax	pmax		
	comp=Z,11nm,0.9s						
PLCA	**Paso Flores**	**149.04**	**202**	PKPbc	PKPdf	14 55 11.6	+0.1
CPUP	**Villa Florida**	**150.53**	**238**	PKP	PKPdf	14 55 12.9	-1.4
	comp=Z,16nm,1.0s,baz=56,slow=4.3,SNR=3.4						
CPUP				PKPbc	PKPdf	14 55 17.3	+3.0
	comp=Z,15nm,0.9s,baz=95,slow=3.8,SNR=11						
CPUP	**Villa Florida**	**150.53**	**238**	PKIKP	PKPdf	14 55 12.9	-1.4
CPUP						14 55 17.3	
CPUP				pmax	pmax		
	comp=Z,17nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,15nm,1.0s						
SDV	**Santo Domingo**	**154.50**	**325**	PKPdf	PKPdf	14 55 19.2	-1.1
SDV	**Santo Domingo**	**154.50**	**325**	ePKPdf	PKPdf	14 55 18.7	-1.5
SDV				ePKPbc	PKPdf	14 55 26.6	+6.3
SDV				LR	LR		
	comp=Z,90nm,21.0s,MS4.6						
JTS	**JuntasAbangare**	**157.47**	**360**	PFAKE		14 55 30.0	+5.8
JTS				LR	LR		
	comp=Z,134nm,22.0s,MS4.7						
SAML	**Samuel**	**158.30**	**277**	ePKPdf	PKPdf	14 55 21.6	-3.6
SAML				ePKPab	PKPab	14 55 57.1	-1.2
ROSC	**El Rosal**	**159.86**	**328**	PKP	PKPdf	14 55 26.3	-0.7
	comp=Z,9.9nm,0.3s,baz=285,slow=22,SNR=3.6						
LPAZ	**La Paz**	**163.21**	**255**	PKP	PKPdf	14 55 28.4	-1.9
	comp=Z,4.4nm,1.2s,baz=342,slow=7.6,SNR=4.8						
LPAZ				PKPab	PKPab	14 56 18.5	-0.9
	comp=Z,10nm,1.1s,baz=83,slow=7.6,SNR=10						
LPAZ	**La Paz**	**163.21**	**255**	PKIKP	PKPdf	14 55 28.4	-1.9
LPAZ						14 56 18.5	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LPAZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PAYG	**Puerto Ayora**	**167.24**	**25**	PFAKE		14 55 40.0	+6.0
PAYG				LR	LR		
	comp=Z,320nm,20.0s						
NNA	**Nana**	**172.02**	**272**	PFAKE		14 55 50.0	+13
NNA				LR	LR		
	comp=Z,138nm,20.0s						

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*IDC **06** 15:33:41.6±1.5, 57.53S×148.20E, mb4.0/7, mb1 4.2/7, mb1mx4.1/11, MS3.8/4, Ms1 3.8/4, ms1mx3.5/18, Error ellipse: s-maj=71.2km s-min=19.6km az=87.0*

*NEIC **06** 15:33:42.9±0.6, 57.55S×148.20E, h10^{km}, Error ellipse: s-maj=36.8km s-min=8.2km az=81.0*

ISC 06 15:33:40.8±0.8**, 57.57S**±0.09×**148.3E**±0.6**, h10^{km}, n18, σ0^{s}34**/12**, mb4.0**/9**, MS3.8**/3**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**19.89**	**56**	LR	LR	15 44 13.6	
	comp=Z,203nm,19.8s,baz=186,slow=32						
VNDA	**Vanda**	**20.58**	**172**	P	**P**	**15 38 22.1**	**+0.1**
	7.2nm,0.9s,baz=341,slow=12,SNR=19						
SBA	**Scott Base**	**21.33**	**169**	eP	**P**	**15 38 29.9**	**+0.3**
	16nm,1.5s,mb4.1						
STKA	**Stephens Creek**	**26.10**	**347**	P	**P**	**15 39 15.7**	**-0.4**

	2.8nm,0.9s,mb3.8,baz=152,slow=15,SNR=3.9						
NWAO	**Narrogin (SRO)**	32.42	306	LR	LR	15 51 03.6	
	comp=Z,97nm,19.1s,MS3.5,baz=319,slow=32						
QSPA	**South Pole Qui**	32.53	180	eP	**P**	**15 40 13.2**	**-0.1**
	3.6nm,1.1s,mb4.2						
ASAR	**Alice Springs**	35.42	337	P	**P**	**15 40 38.7**	**-0.1**
	0.9nm,0.8s,mb3.8,baz=161,slow=9.0,SNR=9.5						
MAW	**Mawson**	37.37	219	P	**P**	**15 40 54.3**	**-0.4**
	1.1nm,0.6s,mb3.9,baz=206,slow=2.6,SNR=3.6						
MAW				LR	LR	15 53 47.5	
	comp=Z,194nm,19.8s,MS3.9,baz=331,slow=32						
MAW	**Mawson**	37.37	219	P	**P**	**15 40 54.3**	**-0.4**
MAW				LR	LR	15 53 47.5	
CTA	**Charters Tower**	37.46	357	P	**P**	**15 40 55.5**	**-0.5**
	2.4nm,0.8s,mb4.1,baz=159,slow=12,SNR=3.6						
WB2	**Warramunga Arr**	38.95	339	eP	**P**	**15 41 08.8**	**+0.3**
WRA	**Warramunga Arr**	38.95	339	P	**P**	**15 41 08.6**	**+0.1**
	4.2nm,1.0s,mb4.1,baz=167,slow=7.1,SNR=19						
WRAB	**Tennant Creek**	38.96	339	eP	**P**	**15 41 08.7**	**+0.1**
	2.3nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	42.84	327	P	**P**	**15 41 41.2**	**+0.7**
	2.1nm,0.9s,mb3.9,baz=151,slow=13,SNR=3.5						
PMG	**Port Moresby**	48.06	359	LR	LR	16 00 13.8	
	comp=Z,163nm,21.7s,MS4.0,baz=36,slow=33						
FINES	**FINESS Array B**	151.24	302	PKPbc	PKPdf	15 53 34.4	+4.7
	0.6nm,0.5s,baz=90,slow=3.8,SNR=9.5						
FINES	**FINESS Array B**	151.24	302	PKPbc	PKPdf	15 53 34.4	+4.6
GERES	**GERESS Array B**	151.90	272	PKPbc	PKPdf	15 53 39.0	+7.8
	0.2nm,0.3s,baz=117,slow=2.2,SNR=4.7						

*JMA **06** 15:37:26.4±0.1, 43.78N×143.12E, h187^{km}±2^{km}, M3.1*
*IDC **06** 15:37:28.6±1.7, 44.34N×143.09E, h172^{km}±15^{km}, mb3.2/6, mb1 3.4/6, mb1mx3.2/21, Error ellipse: s-maj=84.2km s-min=18.6km az=171.0*
*NEIC **06** 15:37:30.1±1.7, 44.19N×143.14E, h195^{km}, Error ellipse: s-maj=39.6km s-min=18.6km az=168.0*
ISC 06 15:37:25.5±0.4, **43.75N**±0.04×**143.15E**±0.05, **h187**^{km}±3^{km}, **n29, σ0^{s}91**/47, **mb3.5**/7, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMP	**Maruseppu**	0.30	31	P	**P**	**15 37 51.5**	**+0.7**
JMP				eS	**S**	**15 38 10.0**	**-0.3**
JKK2	**Kamakawa 2**	0.32	293	P	**P**	**15 37 51.5**	**+0.6**
JKK2				eS	**S**	**15 38 10.3**	**-0.1**
ASAJ	**Asahikawa**	0.54	313	P	**P**	**15 37 52.4**	**+0.7**
	27nm,0.3s,baz=201,slow=4.0,SNR=190						
ASAJ				S	**S**	**15 38 11.3**	**-0.5**
	5.1nm,0.3s,baz=112,slow=33,SNR=59						
ASAJ	**Asahikawa**	0.54	313	P	**P**	**15 37 52.3**	**+0.7**
ASAJ				eS	**S**	**15 38 11.5**	**-0.3**
JTKR	**Abashiri--Toko**	0.59	68	P	**P**	**15 37 52.7**	**+0.8**
JTKR				eS	**S**	**15 38 12.4**	**+0.2**
JAR	**Ashorobuto**	0.64	135	P	**P**	**15 37 53.0**	**+0.9**
JAR				eS	**S**	**15 38 13.0**	**+0.4**
JFR	**Furan**	0.71	215	P	**P**	**15 37 53.4**	**+1.0**
JFR				eS	**S**	**15 38 14.7**	**+1.5**
JAB	**Ashibetsu**	0.71	250	P	**P**	**15 37 53.3**	**+0.9**
JAB				eS	**S**	**15 38 14.0**	**+0.8**
JHR	**Hokuryu**	1.03	270	P	**P**	**15 37 55.1**	**+0.8**
JHR				eS	**S**	**15 38 17.2**	**+0.5**
JCH	**Churui**	1.15	172	P	**P**	**15 37 55.4**	**+0.1**
JCH				eS	**S**	**15 38 17.0**	**-1.3**
JSE	**Soyaes**	1.27	342	P	**P**	**15 37 56.4**	**0.0**
JSE				eS	**S**	**15 38 19.0**	**-1.3**
JAK	**Akkeshi**	1.36	123	P	**P**	**15 37 57.3**	**+0.1**
JAK				eS	**S**	**15 38 20.8**	**-0.8**
JYG	**Yagishiri**	1.41	299	P	**P**	**15 37 57.3**	**-0.4**
JYG				eS	**S**	**15 38 21.0**	**-1.5**
JRA	**Rausu**	1.44	82	P	**P**	**15 37 58.9**	**+1.0**
JNBK	**Urakawa-nobuka**	1.50	191	P	**P**	**15 37 58.7**	**+0.2**
JNBK				eS	**S**	**15 38 23.3**	**-0.6**
JEW	**Eniwo**	1.54	234	P	**P**	**15 37 59.6**	**+0.8**
JEW				eS	**S**	**15 38 24.2**	**-0.3**
JWK2	**Keihoku**	1.80	331	P	**P**	**15 38 01.9**	**+0.5**
NEM2	**Nemuro 2**	1.93	101	P	**P**	**15 38 02.4**	**-0.2**
NEM2				eS	**S**	**15 38 29.5**	**-1.8**
JSK	**Shakotan**	1.98	259	P	**P**	**15 38 03.6**	**+0.3**
JSK				eS	**S**	**15 38 31.0**	**-1.3**
JKB	**Kayabe**	2.43	221	P	**P**	**15 38 08.4**	**+0.1**
JKB				eS	**S**	**15 38 39.3**	**-1.9**
YSS	**Yuzh-Sakhalins**	3.22	355	ePn	**P**	**15 38 17.1**	**-0.7**
SONM	**Songino Array**	25.79	292	P	**P**	**15 42 41.2**	**+0.6**
	1.1nm,0.7s,mb3.6,baz=79,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	42.00	296	P	**P**	**15 45 01.5**	**+2.0**
	0.3nm,0.5s,mb3.2,baz=74,slow=9.7,SNR=4.2						
ILAR	**Eielson Array**	43.20	36	P	**P**	**15 45 08.9**	**0.0**
	1.2nm,0.8s,mb3.6,baz=279,slow=7.7,SNR=13						
INK	**Inuvik**	47.86	30	P	**P**	**15 45 45.0**	**-0.6**
	1.2nm,0.4s,mb3.9,baz=278,slow=6.3						
FINES	**FINESS Array B**	63.52	331	P	**P**	**15 47 35.0**	**-2.3**
	1.3nm,1.1s,mb3.7,baz=18,slow=6.0,SNR=6.8						
FINES	**FINESS Array B**	63.52	331	P	**P**	**15 47 35.0**	**-2.3**
NOA	**NORSAR Array B**	68.52	337	P	**P**	**15 48 07.7**	**-1.2**
	1.1nm,1.0s,mb3.5,baz=35,slow=6.1,SNR=4.2						
PDAR	**Pinedale Array**	72.09	48	P	**P**	**15 48 31.4**	**+0.6**
	0.2nm,0.5s,mb3.1,baz=307,slow=4.5,SNR=3.5						

*IDC **06** 15:42:20.1±6.5, 1.21N×124.30E, h202^{km}±65^{km}, mb3.6/6, mb1 3.7/7, mb1mx3.4/18, MS3.4/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=69.1km s-min=14.5km az=65.0*
*NEIC **06** 15:42:26.4±4.5, 1.02N×124.08E, h267^{km}±49^{km}, mb4.0/5, Error ellipse: s-maj=48.0km s-min=13.0km az=64.0*
ISC 06 15:42:22.2±3.1, **1.1N**±0.2×**124.1E**±0.5, **h241**^{km}±32^{km}, **n15, σ0^{s}17**/15, **mb3.9**/8, **1C-4D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	15.99	149	⇑iP	**P**	**15 45 56.0**	**+0.1**
	8.2nm,0.4s						
FITZ	**Fitzroy Crossi**	19.14	176	⇓iP	**P**	**15 46 29.3**	**0.0**
	1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	19.14	176	P	**P**	**15 46 29.2**	**0.0**
	0.3nm,0.3s,baz=343,slow=8.7,SNR=8.9						
WRAB	**Tennant Creek**	23.19	155	eP	**P**	**15 47 08.9**	**-0.2**
	11nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	23.19	155	P	**P**	**15 47 09.1**	**0.0**
	7.6nm,0.4s,mb4.5,baz=335,slow=10,SNR=114						
WB2	**Warramunga Arr**	23.20	155	⇓iP	**P**	**15 47 09.0**	**-0.1**
WB2				eS	**S**	**15 51 00.0**	**0.0**
ASAR	**Alice Springs**	26.39	159	P	**P**	**15 47 38.5**	**-0.1**
	1.8nm,0.6s,mb3.9,baz=340,slow=7.5,SNR=49						
ASAR				PcP	PcP	15 50 58.2	+0.4
	0.4nm,0.8s,baz=346,slow=1.6,SNR=5.2						
ASPA	**Alice Springs**	26.39	159	⇓iP	**P**	**15 47 38.5**	**-0.1**
JHJ	**Hachijo jima 2**	35.09	23	LR	LR	16 01 29.9	
	comp=Z,59nm,20.2s,baz=46,slow=33						
STKA	**Stephens Creek**	36.74	155	⇓iP	**P**	**15 49 08.7**	**+0.4**
	1.8nm,0.5s,mb3.9						
STKA	**Stephens Creek**	36.74	155	P	**P**	**15 49 08.6**	**+0.3**
	1.1nm,0.4s,mb3.7,baz=334,slow=10,SNR=8.3						
SONM	**Songino Array**	49.02	344	P	**P**	**15 50 46.4**	**-0.1**
	2.2nm,1.0s,mb3.5,baz=153,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	58.28	327	P	**P**	**15 51 53.6**	**-0.1**
	1.1nm,0.4s,mb3.9,baz=123,slow=8.3,SNR=24						
MKAR				PcP	PcP	15 52 42.1	0.0
	0.7nm,0.7s,baz=118,slow=5.1,SNR=3.7						
BVAR	**Borovoye Array**	68.13	328	P	**P**	**15 52 57.9**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=127,slow=7.2,SNR=5.0						
BRVK	**Borovoye**	68.20	328	P	**P**	**15 52 58.7**	**+0.4**
	1.9nm,0.8s,mb3.8						

IDC 06 15:48:08.9±57.0, **13.40S**×**166.62E, mb3.7**/3, **mb1 3.9**/3, **mb1mx3.6**/14, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.9**/26, **Error ellipse: s-maj=959.0km s-min=107.9km az=63.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	20.60	248	LR	LR	15 59 34.7	
	comp=Z,117nm,21.8s,baz=135,slow=33						
STKA	**Stephens Creek**	29.41	227	P	P	15 54 14.1	-2.2
	1.6nm,0.8s,baz=56,slow=9.4,SNR=7.0						
WRA	**Warramunga Arr**	31.57	254	P	P	15 54 33.5	-2.1
	0.2nm,0.3s,baz=84,slow=8.4,SNR=7.9						
ASAR	**Alice Springs**	32.59	247	P	P	15 54 42.4	-2.0
	0.3nm,0.5s,baz=74,slow=10.0,SNR=11						

*SKHL **06** 16:01:58.7±3.9, 48.57N×155.52E, h78^{km}±8^{km}, mb5.2/4*
*MOS **06** 16:01:58.8±1.6, 48.74N×155.25E, h57^{km}, mb4.1/7, Error ellipse: s-maj=18.5km s-min=9.9km az=62.9*
*NEIC **06** 16:02:02.0±1.1, 48.90N×155.05E, h64^{km}±10^{km}, mb4.1/5, Error ellipse: s-maj=12.2km s-min=7.3km az=133.0*
*BJI **06** 16:02:02.0, 48.81N×155.01E, h61^{km}, mB4.6, mb4.3, Ms3.6*
*IDC **06** 16:02:03.4±4.0, 48.93N×154.90E, h80^{km}±36^{km}, mb3.5/16, mb1 3.9/18, mb1mx3.8/25, MS3.4/4, Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=19.6km s-min=13.9km az=141.0*
ISC 06 16:01:58.7±0.9, **48.74N**±0.06×**155.33E**±0.09, **h51**^{km}±7^{km}, **n69, σ1^{s}07**/72, **mb3.9**/20, **MS3.4**/3, **1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	2.01	15	eP	**P**	**16 02 32.0**	**+1.1**
SKR				AMB	AMB	16 02 37.0	
	180nm,0.5s						
SKR				AMB	AMB	16 02 37.0	
	120nm,0.5s						
SKR				AMB	AMB	16 02 37.0	
	190nm,0.5s						
SKR				i S	**S**	**16 02 57.0**	**+2.2**
SKR				A		16 03 02.5	
	3µm,2.0s						
SKR				A		16 03 02.5	
	2µm,2.0s						
SKR				A		16 03 02.5	
	2µm,0.5s						
SKR				A		16 03 02.5	
	2µm,0.5s						
SKR				A		16 03 02.5	
	590nm,0.5s						
SKR	**Severo-Kuril's**	2.01	15	ePN	**P**	**16 02 32.0**	**+1.1**
SKR				i S	**S**	**16 02 57.0**	**+2.2**
SKR				pmax	pmax		
	comp=N,180nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,190nm,0.5s						
SKR				smax			
	comp=N,2µm,0.5s						
SKR				smax			
	comp=E,2µm,0.5s						
SKR				smax			
	comp=N,3µm,2.0s						
SKR				smax			
	comp=E,2µm,2.0s						
PET	**Petropavlovsk**	4.78	25	ePN	**P**	**16 03 09.7**	**-0.3**
PET				eS	**S**	**16 04 03.3**	**-1.4**
PET				pmax	pmax		
	comp=Z,56nm,0.5s						
PET				smax			
	comp=E,342nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
PET	**Petropavlovsk**	4.78	25	ePn	**P**	**16 03 09.5**	**-0.6**
PET				eSn	**S**	**16 04 02.9**	**-1.9**
KUR	**Kuril'sk**	6.19	238	eP	**P**	**16 03 29.3**	**-0.5**
KUR				AMB	AMB	16 03 31.0	
	comp=Z,114nm,0.9s						
KUR				AMB	AMB	16 03 31.0	
	comp=Z,312nm,0.9s						
KUR				eS	**S**	**16 04 41.3**	**+1.2**
KUR				A		16 04 58.0	
	comp=Z,312nm,0.9s						
KUR				A		16 04 58.0	
	comp=Z,213nm,0.9s						
KUR	**Kuril'sk**	6.19	238	ePN	**P**	**16 03 29.3**	**-0.5**
KUR				eS	**S**	**16 04 41.3**	**+1.2**
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,310nm,0.5s						
KUR				smax			
	comp=N,310nm,0.9s						
KUR				smax			
	comp=E,210nm,0.9s						
YUK	**Yuzh-Kuril'sk**	8.06	238	eP	**P**	**16 03 53.0**	**-2.8**
YUK				AMB	AMB	16 03 53.5	
	comp=E,2µm,0.8s						
YUK				AMB	AMB	16 03 54.4	
	comp=E,200nm,0.3s						
YUK				eS	**S**	**16 05 22.0**	**-4.4**
YUK				A		16 05 54.3	
	comp=E,140nm,0.5s						
YUK				A		16 06 13.0	
	comp=E,1µm,1.2s						
TYV	**Tymovskoe**	8.47	289	eP	**P**	**16 04 01.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	8.64	263	d iPN	**P**	**16 04 03.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,15nm,0.6s						
YSS				MLR	MLR		
	comp=Z,100nm,18.0s						
YSS	**Yuzh-Sakhalins**	8.64	263	ePn	**P**	**16 04 03.3**	**-0.5**
	comp=Z,18nm,0.5s						
UGL	**Uglegorsk**	8.74	277	eP	**P**	**16 04 05.0**	**-0.2**
UGL				AMB	AMB	16 04 06.5	
	comp=Z,41nm,0.7s						
UGL				AMS	AMS	16 07 46.0	
	comp=Z,400nm,18.0s						
UGL				AMS	AMS	16 07 46.0	
	comp=Z,400nm,17.0s						
ASAJ	**Asahikawa**	9.93	247	P	**P**	**16 04 21.8**	**+0.4**
	comp=Z,9.7nm,0.3s,baz=79,slow=13,SNR=90						
ASAJ				LR	LR	16 07 39.5	
	comp=Z,192nm,20.5s,baz=218,slow=34						
ASAJ	**Asahikawa**	9.93	247	PN	**P**	**16 04 21.8**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,192nm,20.5s						
FX1	**Attu Island--F**	12.01	63	P	**P**	**16 04 48.1**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=119,slow=7.2,SNR=4.5						
FX1	**Attu Island--F**	12.01	63	PN	**P**	**16 04 48.1**	**-1.5**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	15.47	281	eP	**P**	**16 05 41.2**	**+6.3**
MAJO	**Matsushiro**	17.48	232	eP	**P**	**16 06 01.5**	**+1.3**
	comp=Z,3.3nm,0.6s						
MAJO				e		16 06 08.9	
MAT	**Matsushiro**	17.48	232	P	**P**	**16 06 00.5**	**+0.2**
MAT	**Matsushiro**	17.48	232	eP	**P**	**16 06 01.0**	**+0.7**
	comp=Z,8.9nm,0.7s						
ZEA	**Zeya**	18.21	297	eP	**P**	**16 06 09.0**	**-0.2**
YAK	**Yakutsk**	19.55	322	d iP	**P**	**16 06 24.1**	**-0.4**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s						
YAK	**Yakutsk**	19.55	322	eP	**P**	**16 06 21.5**	**-3.1**
	comp=Z,12nm,0.7s						
YAK				e		16 06 35.3	
JNU	**Nakatsue**	24.03	239	LR	LR	16 17 41.6	
	comp=Z,42nm,18.5s,MS2.9,baz=234,slow=39						
SSE	**Sheshan**	31.22	248	P	**P**	**16 08 15.6**	**+0.3**
SSE				AMB	AMB		
	comp=Z,44nm,3.8s						
NJ2	**Nanjing**	32.02	252	eP	**P**	**16 08 25.0**	**+2.7**
NJ2				AMB	AMB		
	comp=Z,150nm,8.9s						
SONM	**Songino Array**	32.12	287	P	**P**	**16 08 19.6**	**-3.5**
	comp=Z,0.2nm,0.6s,mb3.1,baz=45,slow=14,SNR=2.4						
SONM				PcP	PcP	16 11 09.8	-1.6
	comp=Z,1.1nm,0.9s,baz=116,slow=2.1,SNR=6.2						
COLA	**College**	33.65	40	eP	**P**	**16 08 36.8**	**+0.7**
ILAR	**Eielson Array**	34.06	40	P	**P**	**16 08 39.5**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=270,slow=11,SNR=5.9						
INK	**Inuvik**	39.17	34	P	**P**	**16 09 22.3**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=294,slow=10.0,SNR=2.0						
INK	**Inuvik**	39.17	34	P	**P**	**16 09 22.3**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	39.17	34	P	**P**	**16 09 22.3**	**-0.4**
MKAR	**Makanchi Array**	47.37	297	P	**P**	**16 10 25.8**	**-3.4**
	comp=Z,1.7nm,1.0s,mb3.9,baz=64,slow=8.5,SNR=7.8						
MKAR	**Makanchi Array**	47.37	297	i P	**P**	**16 10 26.6**	**-2.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	48.43	38	P	**P**	**16 10 37.4**	**+0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=297,slow=9.0,SNR=4.0						
YKA	**Yellowknife Ar**	48.43	38	P	**P**	**16 10 37.4**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	50.76	309	P	**P**	**16 10 50.9**	**-4.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=65,slow=6.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	54.29	257	P	**P**	**16 11 21.1**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.3,baz=33,slow=7.6,SNR=18						
NVAR	**Mina Array Bea**	60.21	65	P	**P**	**16 12 04.0**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.6,baz=300,slow=7.3,SNR=2.9						
PDAR	**Pinedale Array**	62.38	56	P	**P**	**16 12 19.8**	**+1.6**
	comp=Z,1.1nm,0.8s,mb4.0,baz=333,slow=2.0,SNR=2.3						
FINES	**FINESS Array B**	62.86	335	P	**P**	**16 12 17.7**	**-3.5**
	comp=Z,0.5nm,0.4s,mb4.0,baz=36,slow=8.3,SNR=8.3						
FINES	**FINESS Array B**	62.86	335	P	**P**	**16 12 17.7**	**-3.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	66.81	342	P	**P**	**16 12 43.8**	**-2.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=25,slow=6.4,SNR=3.4						
NOA				LR	LR	16 45 50.0	
	comp=Z,23nm,20.9s,MS3.4,baz=55,slow=40						
NOA	**NORSAR Array B**	66.81	342	P	**P**	**16 12 43.8**	**-2.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,23nm,20.9s						
KIV	**Kislovodsk**	70.46	315	eP	**P**	**16 13 10.7**	**+1.4**
KIV				e		16 13 31.3	
KIV				e		16 15 46.8	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	70.89	201	P	**P**	**16 13 11.0**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=16,slow=6.2,SNR=13						
WRA	**Warramunga Arr**	70.89	201	P	**P**	**16 13 11.0**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	71.61	210	⇑iP	**P**	**16 13 16.2**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	71.61	210	LR	LR	16 40 38.9	
	comp=Z,53nm,19.4s,MS3.8,baz=233,slow=32						
ASAR	**Alice Springs**	74.58	200	P	**P**	**16 13 33.9**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=14,slow=5.5,SNR=34						
ASPA	**Alice Springs**	74.58	200	eP	**P**	**16 13 34.0**	**0.0**
TXAR	**Lajitas Array**	75.23	62	P	**P**	**16 13 38.5**	**+1.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=284,slow=5.2,SNR=6.4						
GERES	**GERESS Array B**	77.30	335	P	**P**	**16 13 47.9**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=4.7						
GERES	**GERESS Array B**	77.30	335	P	**P**	**16 13 47.9**	**-1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	77.94	318	P	**P**	**16 13 52.8**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.6,baz=45,slow=2.0,SNR=2.6						
BRTR	**Keskin Array B**	77.94	318	P	**P**	**16 13 52.8**	**+0.2**
CDF	**Champ du Feu**	79.36	339	eP	**P**	**16 13 59.6**	**-0.5**
GRR	**Gorron**	81.08	344	eP	**P**	**16 14 09.0**	**-0.3**
LOR	**Lormes**	81.21	341	eP	**P**	**16 14 09.6**	**-0.4**
SSF	**Saint Saulge**	81.48	341	eP	**P**	**16 14 11.9**	**+0.4**
SGMF	**Saint Gilles**	81.50	345	eP	**P**	**16 14 11.6**	**0.0**
AVF	**Avril sur Loir**	81.77	341	eP	**P**	**16 14 12.7**	**-0.3**
LPL	**La Plagne**	82.20	338	eP	**P**	**16 14 15.8**	**+0.6**
	comp=Z,8.9nm,0.7s,mb4.5						
LPG	**La Plagne**	82.21	338	eP	**P**	**16 14 16.0**	**+0.7**
	comp=Z,6.0nm,0.6s,mb4.4						
TCF	**Toulx Ste Croi**	82.49	342	eP	**P**	**16 14 16.6**	**-0.1**
VIVF	**Saint-Julien-l**	83.31	339	eP	**P**	**16 14 21.3**	**+0.4**
RJF	**Les Rejaudoux**	83.58	342	eP	**P**	**16 14 23.3**	**+1.2**
CAF	**Calviac**	83.83	341	eP	**P**	**16 14 24.1**	**+0.7**
CPUP	**Villa Florida**	146.18	60	PKPbc	PKPbc	16 21 34.6	+1.4
	comp=Z,2.8nm,1.1s,baz=270,slow=5.1,SNR=4.0						
CPUP	**Villa Florida**	146.18	60	PKP2	PKPab	16 21 34.6	-1.4
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						

*NEIC **06** 16:06:56.4, 30.71S×71.81W, h15^{km}, ML3.1(GUC), After GUC.*
GUC 06 16:06:56.4±0.6, **30.71S**×**71.81W, h15**^{km}±8^{km}, **MD3.6, ML3.1, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	0.84	124	⇓iP	Pb	16 07 10.3	-1.8
CMCH				i S	Sb	16 07 21.1	-1.8
CMCH				AMP		16 07 21.4	
	comp=E,3µm,0.2s						
LSCH	**La Serena**	0.94	32	⇑iP	Pb	16 07 11.7	-2.1
LSCH				i S	Sb	16 07 23.5	-2.3
LSCH				AMP		16 07 27.1	
	comp=E,812nm,0.7s						
TLL	**Tololo Astrono**	1.03	58	⇓iP	Pb	16 07 13.4	-1.9
TLL				i S	Sb	16 07 26.5	-1.8
TLL				AMP		16 07 30.6	
	comp=N,930nm,0.5s						
ILCH	**Illapel**	1.08	149	⇑iP	Pb	16 07 13.9	-2.2
ILCH				i S	Sb	16 07 27.3	-2.5
ILCH				AMP		16 07 32.2	
	comp=E,819nm,0.3s						

*BJI **06** 16:10:42.6, 55.00N×108.69E, h11^{km}, mB4.8, Ms3.9*
*IDC **06** 16:10:42.5±0.8, 54.84N×108.96E, mb3.9/8, mb1 4.0/10, mb1mx3.9/23, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=21.8km s-min=17.7km az=77.0*
*NEIC **06** 16:10:44.2±0.4, 54.89N×108.97E, h10^{km}, mb4.3/3, Error ellipse: s-maj=9.9km s-min=7.4km az=214.0*
*MOS **06** 16:10:45.0±1.2, 54.99N×108.61E, h15^{km}, mb4.1/9, Error ellipse: s-maj=13.1km s-min=7.6km az=63.5*
*BYKL **06** 16:10:48.0±0.3, 54.79N×108.91E, h29^{km}±16^{km}, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 33.00 82.00 96.00 17 0 IEC + 176.00 10.00 53.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 310.00 53.00 212.00 6.00 118.00 37.00 IEC + 0.00 0.00 0.00 0.00 0.00 0.00*
ISC 06 16:10:44.0±0.2, **54.81N**±0.02×**108.84E**±0.03, **h15**^{km}, **n81, σ1^{s}52**/143, **mb4.0**/13, **MS3.2**/3, **6C-16D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	1.05	22	⇓iPg	**Pg**	**16 11 07.1**	**+2.0**
	185nm,0.6s						
NIZ				⇓iPg	**Pg**	**16 11 07.1**	**+2.0**
	113nm,0.6s						
NIZ				⇓iPg	**Pg**	**16 11 07.1**	**+2.0**
	453nm,0.6s						
NIZ				Pmax		16 11 07.6	
	640nm,0.5s						
NIZ				eSg	**Sg**	**16 11 21.4**	**+2.2**
NIZ				Smax		16 11 22.1	
	14µm,0.5s						
NIZ	**Nizh Angarsk**	1.05	22	ePG	**Pg**	**16 11 07.1**	**+2.0**
NIZ				e		16 11 21.6	
NIZ				pmax	pmax		
	comp=Z,609nm,0.5s						
SYVR	**Suvo**	1.34	149	⇑iPg	**Pg**	**16 11 11.1**	**+0.1**
SYVR				Pmax		16 11 12.9	
	comp=Z,895nm,0.5s						
SYVR				eSg	**Sg**	**16 11 28.8**	**-0.2**
SYVR				Smax		16 11 30.1	
	comp=Z,13µm,0.9s						
SYVR	**Suvo**	1.34	149	ePN	**Pn**	**16 11 11.2**	**+2.8**
SYVR				e		16 11 28.4	
SYVR				pmax	pmax		
	comp=Z,487nm,0.3s						
SYVR				smax			
	comp=N,1µm,0.6s						
YLYR	**Ulyunkhan**	1.35	86	⇓iPg	**Pg**	**16 11 11.2**	**+0.1**
YLYR				Pmax		16 11 11.6	
	comp=N,629nm,0.4s						
YLYR				i Sg	**Sg**	**16 11 29.7**	**+0.6**
YLYR				Smax		16 11 30.0	
	comp=N,11µm,0.7s						
YLYR	**Ulyunkhan**	1.35	86	⇓iPN	**Pn**	**16 11 11.1**	**+2.7**
YLYR				e		16 11 28.9	
YLYR				pmax	pmax		
	comp=Z,657nm,0.4s						
YLYR				smax			
	comp=N,2µm,0.9s						
OGRR	**Ongureny**	1.38	212	ePg	**Pg**	**16 11 12.0**	**+0.3**
OGRR				ePb	**Pb**	**16 11 13.2**	**+4.2**
OGRR				max		16 11 14.4	
	comp=N,239nm,0.3s						
OGRR				eSg	**Sg**	**16 11 31.0**	**+0.8**
OGRR				Smax		16 11 33.0	
	comp=N,2µm,0.5s						

OGRR	Ongureny	1.38	212	ePN	Pn	16 11 11.8	+2.9
OGRR				e		16 11 31.0	
OGRR				pmax	pmax		
	comp=Z,249nm,0.3s						
OGRR				smax			
	comp=E,2μm,0.5s						
MXMB	Maximikha	1.55	182	ePg	Pg	16 11 16.3	+1.1
MXMB				Pmax		16 11 26.9	
	comp=E,494nm,0.7s						
MXMB				eSg	Sg	16 11 37.2	+1.2
MXMB				Smax		16 11 47.8	
	comp=E,6μm,0.8s						
KMO	Kumora	1.73	50	⇓iPg	Pg	16 11 16.9	-1.8
KMO				Pmax		16 11 17.1	
	comp=E,461nm,0.3s						
KMO				eSg	Sg	16 11 39.5	-2.3
KMO				e		16 11 41.8	
KMO				max		16 11 46.2	
	comp=E,4μm,1.1s						
KMO	Kumora	1.73	50	ePN	Pg	16 11 16.9	-1.8
KMO				e		16 11 38.8	
KMO				pmax	pmax		
	comp=Z,402nm,0.3s						
KMO				smax			
	comp=E,2μm,0.7s						
YOA	Uoyan	2.11	50	⇓iPn	Pn	16 11 22.4	+3.0
YOA				ePg	Pg	16 11 24.5	-1.8
YOA				Pmax		16 11 34.8	
	comp=E,849nm,0.5s						
YOA				eSn	Sn	16 11 49.5	+4.0
YOA				eSg	Sg	16 11 53.4	-1.1
YOA				Smax		16 12 00.3	
	comp=E,5μm,1.0s						
ZRHB	Zarechye	2.47	205	ePg	Pg	16 11 34.6	+1.1
ZRHB				Pmax		16 11 45.8	
	comp=E,776nm,0.6s						
ZRHB				eSg	Sg	16 12 06.5	0.0
ZRHB				Smax		16 12 19.5	
	comp=E,8μm,0.8s						
TRG	Tyrgan	2.53	217	⇓iPn	Pn	16 11 28.0	+2.6
	comp=E,24nm,0.9s						
TRG				⇓iPn	Pn	16 11 28.0	+2.6
	comp=E,14nm,0.9s						
TRG				⇑iPn	Pn	16 11 28.0	+2.6
	comp=E,51nm,0.9s						
TRG				ePg	Pg	16 11 32.3	-2.3
TRG				Pmax		16 11 37.7	
	comp=E,201nm,0.6s						
TRG				eSg	Sg	16 12 06.5	-1.9
TRG				Smax		16 12 12.6	
	comp=E,2μm,0.5s						
TRG	Tyrgan	2.53	217	ePN	Pn	16 11 28.1	+2.7
TRG				e		16 11 32.4	
TRG				eS	Sn	16 12 00.0	+3.9
TRG				e		16 12 06.4	
TRG				pmax	pmax		
	comp=Z,254nm,0.3s						
TRG				smax			
	comp=N,2μm,0.5s						
TRTB	Turuntaevo	2.69	196	ePn	Pn	16 11 29.9	+2.3
TRTB				ePg	Pg	16 11 35.3	-2.4
TRTB				Pmax		16 11 55.2	
	comp=N,240nm,0.9s						
TRTB				eSg	Sg	16 12 11.7	-1.9
TRTB				Smax		16 12 14.7	
	comp=N,655nm,0.7s						
UKT	Uakit	2.83	74	⇑iPn	Pn	16 11 31.7	+2.0
UKT				ePg	Pg	16 11 38.0	-2.7
UKT				Pmax		16 11 57.0	
	comp=N,509nm,0.7s						
UKT				eSn	Sn	16 12 05.8	+2.0
UKT				eSg	Sg	16 12 14.3	-4.2
UKT				Smax		16 12 22.2	
	comp=N,1μm,0.7s						
UKT	Uakit	2.83	74	ePN	Pg	16 11 38.0	-2.7
UKT				e		16 12 14.7	
UKT				pmax	pmax		
	comp=Z,332nm,0.5s						
UKT				smax			
	comp=N,841nm,0.5s						
SVKR	Severomuysk	2.99	62	⇓iPn	Pn	16 11 34.6	+2.7
SVKR				ePg	Pg	16 11 42.6	-1.2
SVKR				Pmax		16 11 44.4	
	comp=N,550nm,0.4s						
SVKR				eSn	Sn	16 12 12.1	+4.3
SVKR				eSg	Sg	16 12 21.9	-1.8
SVKR				Smax		16 12 32.1	
	comp=N,4μm,0.8s						
SVKR	Severomuysk	2.99	62	ePN	Pn	16 11 34.5	+2.6
SVKR				eS	Sn	16 12 11.4	+3.6
KAB	Kabansk	3.06	206	ePg	Pg	16 11 44.1	-1.1
KAB				Pmax		16 12 05.2	
	comp=N,210nm,0.7s						
KAB				eSg	Sg	16 12 24.1	-1.9
KAB				Smax		16 12 44.1	
	comp=N,3μm,1.0s						
HRMR	Khuramsha	3.38	200	ePn	Pn	16 11 40.0	+2.5
HRMR				ePg	Pg	16 11 49.0	-2.7
HRMR				Pmax		16 11 55.3	
	comp=N,298nm,0.4s						
HRMR				eSg	Sg	16 12 32.3	-4.5
HRMR				Smax		16 12 40.5	
	comp=N,3μm,0.7s						
IRK	Irkutsk	3.75	228	ePg	Pg	16 11 55.1	-3.8
IRK				Pmax		16 12 09.9	
	comp=N,296nm,0.4s						
IRK				e		16 12 25.1	
IRK				eSg	Sg	16 12 43.5	-5.4
IRK				Smax		16 12 50.1	
	comp=N,2μm,0.5s						
IRK	Irkutsk	3.75	228	ePN	Pn	16 11 55.4	+13
IRK				e		16 12 44.4	
IRK				pmax	pmax		
	comp=Z,90nm,0.2s						
IRK				smax			
	comp=E,3μm,0.7s						
LSTR	Listvyanka	3.80	221	ePN	Pn	16 11 44.9	+1.5
LSTR				eS	Sn	16 12 43.3	+15
LSTR				smax			
	comp=N,798nm,1.3s						
CIT	Chita	3.97	133	ePn	Pn	16 11 46.3	+0.5
CIT				ePg	Pg	16 11 57.6	-5.8
CIT				e		16 12 07.5	
CIT				max		16 12 08.6	
	comp=N,284nm,0.5s						
CIT				eSn	Sn	16 12 33.6	+1.0
CIT				eSg	Sg	16 12 48.8	-7.6
CIT				Smax		16 12 59.9	
	comp=N,485nm,1.1s						
CIT	Chita	3.97	133	ePN	Pn	16 11 57.7	+12
CIT				eS	Sn	16 12 33.1	+0.5
CIT				pmax	pmax		
	comp=Z,284nm,0.7s						
CIT				smax			
	comp=N,550nm,1.0s						
BOD	Bodaibo	4.17	42	⇓iPn	Pn	16 11 49.8	+1.2
	comp=N,74nm,0.4s						
BOD				⇓iPn	Pn	16 11 49.8	+1.2
	comp=N,59nm,0.4s						
BOD				⇓iPn	Pn	16 11 49.8	+1.2
	comp=N,84nm,0.4s						
BOD				max		16 12 17.0	
	comp=N,91nm,0.6s						
BOD				eSg	Sg	16 12 56.0	-6.9
BOD				Smax		16 12 58.5	
	comp=N,642nm,1.0s						
BOD	Bodaibo	4.17	42	ePN	Pn	16 11 49.5	+0.9
NLYR	Nelyaty	4.24	64	⇓iPn	Pn	16 11 50.7	+1.1
NLYR				max		16 12 17.6	
	comp=N,276nm,0.7s						
NLYR				eSg	Sg	16 12 59.9	-5.3
NLYR				Smax		16 13 11.9	
	comp=N,966nm,0.8s						
NLYR	Nelyaty	4.24	64	ePN	Pn	16 11 50.9	+1.3
NLYR				e		16 12 04.6	
TLY	Talaya	4.42	227	ePn	Pn	16 11 52.9	+0.6
TLY				ePg	Pg	16 12 08.6	-3.8
TLY				Pmax		16 12 17.7	
	comp=N,89nm,0.6s						
TLY				eSn	Sn	16 12 43.8	-0.2
TLY				eSg	Sg	16 13 04.9	-6.4
TLY				Smax		16 13 12.3	
	comp=N,665nm,0.5s						
TLY	Talaya	4.42	227	ePN	Pn	16 12 07.2	+15
TLY				e		16 13 03.0	
TLY				pmax	pmax		
	comp=Z,88nm,0.8s						
TLY				smax			
	comp=E,823nm,0.8s						
ARS	Arshan	4.81	236	ePn	Pn	16 11 58.7	+1.0
ARS				ePg	Pg	16 12 13.6	-6.5
ARS				Pmax		16 12 28.6	
	comp=E,199nm,0.6s						
ARS				eSn	Sn	16 12 52.1	-1.7
ARS				eSg	Sg	16 13 16.0	-8.2
ARS				Smax		16 13 26.1	
	comp=E,3μm,0.8s						
KPC	Khapcheranga	5.56	156	ePn	Pn	16 12 07.9	-0.4
KPC				max		16 12 38.5	
	comp=E,63nm,1.1s						
KPC				eSg	Sg	16 13 38.1	-11
KPC				Smax		16 13 46.6	
	comp=E,457nm,1.0s						
KPC	Khapcheranga	5.56	156	ePN	Pn	16 12 24.6	+16
KPC				pmax	pmax		
	comp=Z,48nm,1.0s						
ZAK	Zakamensk	5.58	220	ePn	Pn	16 12 10.3	+1.7
ZAK				ePg	Pg	16 12 29.8	-5.7
ZAK				Pmax		16 12 48.6	
	comp=Z,28nm,0.7s						
ZAK				eSg	Sg	16 13 43.0	-6.9
ZAK				Smax		16 13 46.9	
	comp=Z,711nm,1.0s						
ZAK	Zakamensk	5.58	220	ePN	Pn	16 12 10.0	+1.4
ZAK				e		16 12 26.2	
ZAK				eS	Sn	16 13 38.4	+25
ZAK				pmax	pmax		
	comp=Z,31nm,1.0s						
ZAK				smax			
	comp=E,726nm,1.0s						
MOY	Mondy	5.67	239	ePn	Pn	16 12 12.3	+2.5
MOY				max		16 12 41.9	
	comp=E,70nm,1.0s						
MOY				eSn	Sn	16 13 14.0	-1.3
MOY				eSg	Sg	16 13 43.1	-10
MOY				Smax		16 13 56.3	
	comp=E,813nm,1.5s						
MOY	Mondy	5.67	239	ePN	Pn	16 12 13.1	+3.3
MOY				e		16 12 27.2	
MOY				eS	Sn	16 13 13.1	-2.2
MOY				e		16 13 43.1	
MOY				pmax	pmax		
	comp=Z,61nm,0.5s						
MOY				smax			
	comp=E,821nm,1.6s						
CRS	Chara	5.71	65	ePn	Pn	16 12 11.9	+1.5
CRS				ePg	Pg	16 12 29.9	-8.2
CRS				Pmax		16 12 44.0	
	comp=E,167nm,1.0s						
CRS				eSg	Sg	16 13 44.7	-10
CRS				Smax		16 13 54.7	
	comp=E,789nm,1.3s						
CRS	Chara	5.71	65	ePG	Pg	16 12 31.4	-6.7
CRS				e		16 13 44.7	
CRS				pmax	pmax		
	comp=Z,166nm,1.2s						
CRS				smax			
	comp=E,800nm,1.3s						
ORL	Orlik	5.83	251	⇑iPn	Pn	16 12 14.3	+2.2
	comp=E,40nm,1.1s						
ORL				⇑iPn	Pn	16 12 14.3	+2.2
	comp=E,65nm,1.1s						
ORL				⇓iPn	Pn	16 12 14.3	+2.2
	comp=E,59nm,1.1s						
ORL				e		16 12 22.7	
ORL				max		16 12 23.1	
	comp=E,62nm,0.4s						
ORL				eSn	Sn	16 13 18.5	-0.9
ORL				eSg	Sg	16 13 50.2	-7.9
ORL				Smax		16 13 53.2	
	comp=E,488nm,0.9s						
ORL	Orlik	5.83	251	ePN	Pn	16 12 14.2	+2.1
TUP	Tupik	6.47	89	⇓iPn	Pn	16 12 20.1	-1.1
TUP				ePg	Pg	16 12 41.3	-12
TUP				Pmax		16 12 53.3	
	comp=E,56nm,0.9s						
TUP				eSg	Sg	16 14 04.8	-15
TUP				Smax		16 14 15.1	
	comp=E,551nm,0.8s						
TUP	Tupik	6.47	89	ePN	Pn	16 12 41.8	+21
TUP				eS	Sn	16 13 33.1	-2.4
TUP				e		16 14 06.8	
TUP				pmax	pmax		
	comp=Z,59nm,0.7s						
TUP				smax			
	comp=N,574nm,0.9s						
SONM	Songino Array	7.15	193	Pn	Pn	16 12 31.2	+0.5
	comp=N,0.3nm,0.3s,baz=6.5,slow=14,SNR=15						
SONM				Lg		16 14 29.6	
	comp=N,3.9nm,0.3s,baz=7.4,slow=29,SNR=11						
TDJR	Todzha	7.95	258	ePn	Pn	16 12 45.0	+3.1
TDJR				eSn	Sn	16 14 13.5	+1.0
TDJR				eSg	Sg	16 14 55.1	-14
HIA	Hailar	8.71	125	Pn	P	16 12 49.7	-2.8
	comp=N,6.4nm,0.6s						
ARDR	Aradan	9.41	263	eSg	Sg	16 15 41.0	-16
YAK	Yakutsk	13.05	48	eP	P	16 13 49.0	-2.4
YAK				eS	S	16 16 23.1	+5.8
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YAK				smax			
	comp=N,6.0nm,0.8s						
YAK				smax			
	comp=N,59nm,1.1s						
YAK				smax			
	comp=Z,25nm,1.1s						
YAK				smax			
	comp=E,43nm,1.4s						
YAK				MLR	MLR		
	comp=Z,53nm,11.0s						
NVS	Novosibirsk	14.73	281	eP	P	16 14 19.5	+6.1
MKAR	Makanchi Array	18.51	255	P	P	16 15 01.2	-0.2
	comp=Z,1.4nm,0.3s,baz=71,slow=11,SNR=51						
MKAR	Makanchi Array	18.51	255	i P	P	16 15 01.4	0.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KURK	Kurchatov	18.66	270	eP	P	16 15 02.5	-0.7
	comp=Z,22nm,1.0s						
TIXI	Tiksi	18.97	20	eP	P	16 15 06.3	-0.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VOSK	Vostochnaya	22.30	280	P	P	16 15 41.9	-0.1
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
BVA0	Borovoye Array	22.53	281	i P	P	16 15 44.7	+0.5
BVAR	Borovoye Array	22.53	281	P	P	16 15 44.6	+0.4
	comp=Z,7.5nm,0.5s,mb4.4,baz=72,slow=11,SNR=46						
BRVK	Borovoye	22.57	282	eP	P	16 15 45.0	+0.3
	comp=Z,22nm,0.8s,mb4.7						
ZRNK	Zerenda	23.34	282	P	P	16 15 52.0	-0.1
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
NJ2	Nanjing	23.84	159	eP	P	16 15 59.1	+1.9
NJ2				AMB	AMB		
	comp=Z,150nm,3.9s						
ASAJ	Asahikawa	24.18	102	LR	LR	16 26 09.0	
	comp=Z,65nm,18.7s,MS3.1,baz=160,slow=38						
SSE	Sheshan	25.29	155	P	P	16 16 14.2	+3.0
SSE				AMB	AMB		
	comp=Z,50nm,4.3s						
KKAR	Karatay Array	27.40	261	i P	P	16 16 36.0	+5.4
ARU	Arti	27.93	294	⇑iP	P	16 16 34.4	-0.8
ARU				e		16 17 18.9	
ARU				ePPP	PPP	16 17 30.1	-6.7
ARU				e		16 19 45.9	
ARU				eS	S	16 21 17.3	+0.6
ARU				eSS	SS	16 22 31.8	-6.3
ARU				e		16 27 22.5	
ARU				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
ARU				MLR	MLR		
	comp=E,60nm,16.0s						
AB31	Akbulak array	30.07	280	P	P	16 16 54.0	-0.6
JHJ	Hachijo jima 2	30.68	122	LR	LR	16 28 54.8	
	comp=E,37nm,18.9s,MS3.1,baz=273,slow=36						
FINES	FINESS Array B	41.39	314	P	P	16 18 29.6	-1.2
	comp=E,0.4nm,0.5s,mb3.3,baz=75,slow=9.3,SNR=5.8						
KIV	Kislovodsk	42.86	284	eP	P	16 18 42.3	-0.6
KIV				e		16 20 21.8	
KIV				e		16 20 33.5	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
AKASG	Malin Array Be	45.92	299	P	P	16 19 06.6	-0.7
	comp=Z,1.7nm,0.7s,mb4.1,baz=47,slow=8.8,SNR=4.5						
AKASG	Malin Array Be	45.92	299	P	P	16 19 06.6	-0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	47.50	34	P	P	16 19 18.6	-1.2
	comp=Z,2.9nm,0.7s,mb4.4,baz=301,slow=6.8,SNR=25						
ILAR	Eielson Array	47.50	34	P	P	16 19 18.6	-1.1
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	47.55	319	P	P	16 19 19.9	-0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=50,slow=7.4						
NOA	NORSAR Array B	47.55	319	P	P	16 19 19.2	-0.9
	comp=Z,1.0nm,0.9s,mb3.9,baz=52,slow=7.3,SNR=3.9						
NOA	NORSAR Array B	47.55	319	P	P	16 19 19.2	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	Pinedale Array	77.43	28	P	P	16 22 39.3	-0.4
	comp=Z,0.3nm,0.6s,mb3.4,slow=4.4,SNR=3.5						
WRA	Warramunga Arr	77.58	155	P	P	16 22 39.8	-1.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=348,slow=6.0,SNR=14						
WRA	Warramunga Arr	77.58	155	P	P	16 22 39.8	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	81.07	157	P	P	16 22 59.1	-0.6
	comp=Z,0.4nm,0.5s,mb3.6,baz=352,slow=4.9,SNR=14						

*ISK **06** 16:18:12.2,36.91N×27.65E,h5^{km},MD3.1*
*NEIC **06** 16:18:14.4,36.81N×27.48E,h5^{km},MD3.2(ATH),After ATH.*
*ATH **06** 16:18:14.4,36.80N×27.48E,h5^{km},MD3.2/5*
ISC 06 16:18:13.3±0.7,**36.87N**±0.04×**27.65E**±0.05,**h5^{km},n15,** σ**1$\overset{s}{.}$03**/20,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	319	i P	Pg	16 18 19.4	+1.0
BDRM				i S	Sg	16 18 23.8	+1.9
MLSB	Milas	0.43	13	PG	Pg	16 18 21.4	-0.6
MLSB				SG	Sg	16 18 27.9	+0.1
YER	Yerkesik	0.57	62	i PG	Pg	16 18 24.0	-0.7
ARG	Arkhangelos	0.76	150	ePB	Pb	16 18 28.5	0.0
AYDN	Tasoluk	0.81	13	⇑iP	Pb	16 18 28.5	-0.9
AYDN				i S	Sg	16 18 39.1	-1.1
SMG	Samos	1.06	322	ePG	Pg	16 18 33.8	-0.6
DNZL	Cakiroluk	1.38	53	i P	Pb	16 18 39.6	+0.4
DNZL				i S	Sb	16 18 58.0	+1.0
KARP	Karpathos	1.38	197	ePB	Pb	16 18 40.0	+0.8
DENT	Denizli	1.41	51	PN	Pn	16 18 40.1	+0.4
KDAG	Bornova	1.56	349	i P	Pn	16 18 41.0	-0.8
KDAG				i S	Sb	16 19 04.2	+2.0
APE	Apeiranthos	1.71	277	ePG	Pg	16 18 44.3	-3.1
KSL	Kastellorizon	1.71	114	ePN	Pn	16 18 49.0	+5.0
ELL	Elmali	1.81	93	ePN	Pn	16 18 46.1	+0.7
AKS	Akhisar	2.01	4	PN	Pn	16 18 47.7	-0.5
PRK	Paraskevi	2.61	336	ePG	Pg	16 19 04.2	-1.2

*IDC **06** 16:28:25.0±1.4,33.62N×124.13W,mb4.0/5,mb1 4.3/11, mb1mx4.1/24,ML4.2/5,MS3.5/3,Ms1 3.4/3,ms1mx2.9/25, Error ellipse: s-maj=27.6km s-min=23.1km az=129.0*
*NEIC **06** 16:28:25.7±0.7,33.41N×123.85W,h10^{km},mb3.9/4,Error ellipse: s-maj=10.4km s-min=7.5km az=38.0*
ISC 06 16:28:23.7±1.1,**33.49N**±0.08×**124.08W**±0.09,**h10^{km},n65,** σ**1$\overset{s}{.}$72**/65,**mb3.9**/6,**MS3.5**/2,**Off coast of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRV	Little Rabbit	3.86	40	eP	Pn	16 29 23.7	-0.8
LRV				eS	Sn	16 29 58.3	-12
SAC	San Andreas	4.31	18	eP	Pn	16 29 28.5	-2.4
LKC	Lake Chabot	4.55	21	eP	Pn	16 29 32.9	-1.4
MWC	Mount Wilson	5.06	80	eP	Pn	16 29 39.4	-2.2
NSHM	Saint Helena R	5.16	13	eP	Pn	16 29 41.4	-1.7
CMB	Columbia Colle	5.44	32	eP	Pn	16 29 46.1	-0.8
HOPS	Hopland	5.56	8	eP	Pn	16 29 45.8	-2.8
OMM	Old Mammoth Mi	5.85	44	eP	Pn	16 29 52.4	-0.2
MTUM	Tungsten Hills	5.93	48	eP	Pn	16 29 53.5	-0.3
OHCM	Honcut	6.20	19	eP	Pn	16 29 55.6	-2.1
BAR	Barrett	6.27	95	eP	Pn	16 29 54.2	-4.4
PFO	Pinyon Flat Ob	6.37	87	eP	Pn	16 29 57.1	-2.9
WCN	Washoe City	6.77	30	eP	Pn	16 30 05.1	-0.5
NVAR	Mina Array Bea	6.80	42	Pn	Pn	16 30 06.0	-0.1
	9.7nm,0.3s,baz=224,slow=13,SNR=38						
MNV	Mina	6.89	43	eP	Pn	16 30 06.3	-1.0
BEKR	Beckwourth	7.04	24	eP	Pn	16 30 08.7	-0.7
WDC	Whiskeytown Da	7.19	9	eP	Pn	16 30 09.7	-1.8
KHMM	Horse Mountain	7.38	2	eP	Pn	16 30 12.7	-1.6
LDFC	Landfair	7.59	75	eP	Pn	16 30 14.0	-3.1
NEN	Nelson	7.92	72	eP	Pn	16 30 18.6	-3.1
KRMB	Red Mountain	8.03	1	eP	P	16 30 21.1	-2.1
YBH	Yreka Blue Hor	8.30	7	Pn	P	16 30 26.2	-0.9
	3.0nm,0.3s,baz=197,slow=6.9,SNR=39						
YBH				Sn	Sn	16 31 52.0	-10
	baz=200,slow=21,SNR=1.2						
YBH	Yreka Blue Hor	8.30	7	eP	P	16 30 25.4	-1.7
MOD	Modoc	8.92	18	P	P	16 30 35.4	-0.2
HUMO	Hull Mountain	9.15	5	eP	P	16 30 36.3	-2.5
WVOR	Wild Horse Val	9.91	24	eP	P	16 30 50.0	+0.7
WUAZ	Wupatki	10.68	76	P	P	16 30 57.2	-2.7
MSU	Marysvale	10.87	59	eP	P	16 31 03.2	+0.8
DUG	Dugway	11.23	50	eP	P	16 31 09.0	+1.6
TUC	Tucson	11.24	92	P	P	16 31 03.6	-3.9
HVU	Hansel Valley	12.19	44	eP	P	16 31 21.9	+1.5
JLU	Jordanelle	12.33	51	eP	P	16 31 24.5	+2.2
DAU	Daniels Canyon	12.36	52	eP	P	16 31 24.6	+1.9
HLID	Hailey	12.58	34	eP	P	16 31 27.3	+1.7
HWUT	Hardware Ranch	12.81	47	eP	P	16 31 30.4	+1.8
PV10	Paradox Valley	13.13	64	eP	P	16 31 34.0	+1.1
LNOR	Lincton Mounta	13.14	18	eP	P	16 31 36.8	+3.7
HAWA	Hanford	13.35	14	eP	P	16 31 38.3	+2.5
	22nm,0.9s						
PV01	Paradox Valley	13.41	65	eP	P	16 31 37.5	+0.9
RW3	Ridgway	14.12	66	eP	P	16 31 47.5	+1.6
RW3				e		16 31 58.9	
MCMT	McKenzie Canyo	14.27	34	eP	P	16 31 51.5	+3.5
REDW	Red Top Meadow	14.29	43	eP	P	16 31 51.3	+3.2
TPAW	Teton Pass	14.32	42	eP	P	16 31 52.1	+3.6
BW06	Boulder Array	14.70	47	eP	P	16 31 56.4	+3.0
	4.5nm,0.9s						
PDAR	Pinedale Array	14.70	47	Pn	P	16 31 55.7	+2.2
	0.1nm,0.3s,baz=238,slow=14,SNR=8.5						
DPW	Davenport	15.04	15	eP	P	16 31 59.8	+1.8
BOZ	Bozeman (W)	15.46	35	eP	P	16 32 05.5	+2.1
	65nm,1.9s						
NEW	Newport	15.66	17	Pn	P	16 32 09.3	+3.2
	0.6nm,0.3s,baz=216,slow=18,SNR=4.1						
NEW				LR	LR	16 37 45.7	
	comp=Z,139nm,19.4s,baz=184,slow=36						
SDCO	Great Sand Dun	15.69	69	P	P	16 32 09.6	+3.0
	5.6nm,1.0s						
CHMT	Chamberlain Mo	15.74	28	eP	P	16 32 09.2	+2.2
GDL2	Guadalupe Moun	16.62	89	P	P	16 32 18.1	-0.3
LTX	Lajitas	17.91	98	P	P	16 32 32.9	-1.6
	2.4nm,0.5s						
TXAR	Lajitas Array	17.91	98	P	P	16 32 37.8	+3.3
	baz=282,slow=12,SNR=12						
BBB	Bella Bella	18.92	352	P	P	16 32 44.4	-2.4
	0.2nm,0.3s,baz=139,slow=11,SNR=3.0						
VIB	Van Inlet	20.67	345	P	P	16 33 10.0	+3.9
WMOK	Wichita Mounta	20.97	80	P	P	16 33 07.9	-1.5
MIAR	Mount Ida	25.27	79	P	P	16 33 50.3	-1.3
	2.5nm,0.7s,mb3.9						
FFC	Flin Flon	26.30	30	P	P	16 34 02.3	+1.3
ULM	Lac du Bonnet	26.64	43	P	P	16 34 05.0	+0.8
	2.2nm,0.7s,mb3.8,baz=258,slow=10,SNR=3.0						
ULM				LR	LR	16 44 13.9	
	comp=Z,67nm,21.2s,MS3.2,baz=63,slow=36						
ILAR	Eielson Array	34.28	343	P	P	16 35 12.8	+0.9
	2.5nm,0.7s,mb4.2,baz=160,slow=8.3,SNR=26						
NOA	NORSAR Array B	79.01	20	P	P	16 40 30.4	+1.5
	0.6nm,0.8s,mb3.6,baz=323,slow=5.6,SNR=2.9						
FINES	FINESS Array B	82.34	14	P	P	16 40 47.0	+0.5
	1.1nm,0.7s,mb3.9,slow=4.2,SNR=7.0						
SONM	Songino Array	87.28	329	P	P	16 41 13.0	+1.5
	0.8nm,0.8s,mb4.0,baz=91,slow=5.4,SNR=11						
MKAR	Makanchi Array	96.63	342	LR	LR	17 30 55.3	
	comp=Z,33nm,19.4s,MS3.8,baz=19,slow=39						

MAW	Mawson	145.60	185	PKPbc	PKPbc	16 48 03.0	+1.0
	2.2nm,0.7s,baz=250,slow=7.3,SNR=6.7						

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*WAR **06** 17:06:18.8, 51.45N×16.08E, ML2.7, Mining Induced*

PRU 06 17:06:19.2, 51.39N×16.09E, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.56	167	*e*PG	Pg	17 06 30.0	-0.4
KSP				*e*SG	Sg	17 06 38.0	+0.1
DPC	Dobruska-Polom	1.05	172	*e*PG	Pg	17 06 38.9	-1.3
DPC				*e*SG	Sg	17 06 53.3	-0.9
	4.5nm,0.2s						
PVCC	Panska Ves	1.29	229	*e*PG	Pg	17 06 43.5	-1.5
PVCC				*e*SG	Sg	17 07 01.5	-0.7
PRU	Pruhonice	1.71	216	*e*PG	Pg	17 06 49.7	-3.7
PRU				*e*SG	Sg	17 07 12.9	-3.4
	13nm,0.5s						
CLL	Collm	1.94	269	*e*PG	Pg	17 06 55.0	-2.9
CLL				*e*SG	Sg	17 07 20.0	-3.7
OKC	Ostrava-Krasne	2.03	139	*e*SG	Sg	17 07 23.3	-3.6
KHC	Kasperske Hory	2.78	216	*e*SG	Sg	17 07 47.3	-4.4

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*MDD **06** 17:25:16.3±0.5, 37.43N×7.77W, h12^{km}±2^{km}, mbLg2.0/11, Error ellipse: s-maj=5.8km s-min=3.2km az=12.0, PRXIMO*

*INMG **06** 17:25:16.0±0.8, 37.40N×7.77W, h14^{km}±4^{km}, ML1.8, Error ellipse: s-maj=2.6km s-min=1.9km az=22.0*

ISC 06 17:25:15.3±0.9**, 37.38N**±0.07×**7.75W**±0.05**, h17**^{km}±9^{km}**, n17, σ0^{s}54**/20**, 1C, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALC	Alcoutim	0.24	68	*i* Pg	Pb	17 25 21.0	+0.2
PALC				*e*Sg	Sb	17 25 24.4	-0.1
	105nm,0.2s						
PALC	Alcoutim	0.24	68	⇑Pg	Pb	17 25 21.0	+0.2
PALC				Lg		17 25 24.4	
	52nm,0.2s						
EGRO	El Granado	0.27	54	Pg	Pb	17 25 21.4	+0.1
	29nm,0.1s,SNR=47						
EGRO				Lg		17 25 24.4	
	55nm,0.1s,SNR=5.0						
PBEJ	Beja	0.65	352	*e*Pg	Pb	17 25 27.5	-0.4
PBEJ				*e*Sg	Sb	17 25 35.9	-0.5
	26nm,0.1s						
PBEJ	Beja	0.65	352	Pg	Pb	17 25 27.5	-0.4
PBEJ				Lg		17 25 35.9	
	13nm,0.1s						
PTEO	Sao Teotonio	0.79	283	*e*Pg	Pb	17 25 30.1	0.0
PTEO				*e*Sg	Sb	17 25 40.1	-0.3
	20nm,0.3s						
PTEO	Sao Teotonio	0.79	283	Pg	Pb	17 25 30.1	0.0
PTEO				Lg		17 25 40.1	
	10nm,0.3s						
EMIN	Mina Concepcio	0.94	65	Pg	Pb	17 25 32.9	+0.1
	0.2nm,0.1s,SNR=4.0						
EMIN				Pn	Pn	17 25 33.5	-0.2
	8.4nm,0.1s,SNR=4.0						
EMIN				Lg		17 25 44.9	
	10nm,0.1s,SNR=30						
MOE	Montemor	1.24	338	*e*Sg	Sb	17 25 54.4	+1.1
EBAD	Badajoz	1.50	23	Pn	Pn	17 25 40.7	-0.8
	0.3nm,0.1s,SNR=10						
EBAD				Pg	Pn	17 25 42.6	+1.1
	3.2nm,0.1s,SNR=7.9						
EBAD				Lg		17 26 00.4	
	22nm,0.2s,SNR=5.6						
ESPR	Espera	1.60	108	Pn	Pn	17 25 43.8	+0.7
	3.1nm,0.2s,SNR=7.9						
ESPR				Lg		17 26 08.3	
	14nm,0.3s,SNR=6.1						
PTOM	Tomar	2.30	347	*e*Sg	Sn	17 26 26.0	+4.9
	8.8nm,0.3s						
PTOM	Tomar	2.30	347	Lg		17 26 26.0	
	4.4nm,0.3s						
PCBR	Castelo Branco	2.47	5	*e*Sg	Sn	17 26 31.2	+5.7
	2.8nm,0.3s						
PCBR	Castelo Branco	2.47	5	Lg		17 26 31.2	
	1.4nm,0.3s						
EADA	Adamuz	2.64	72	Pn	Pn	17 25 57.2	-0.7
	0.4nm,0.2s,SNR=7.9						
EADA				Lg		17 26 36.4	
	1.4nm,0.1s,SNR=8.7						
ECAL	Calabor	4.63	9	Sn	Sn	17 27 14.5	-5.6
	0.8nm,0.2s,SNR=7.9						
ECAL				Lg		17 27 37.4	
	1.7nm,0.3s,SNR=7.9						

THR 06 17:26:38.9±1.1**, 30.89N×57.75E, h14**^{km}±22^{km}**, ML3.6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	Zahedan	2.91	115	*e*PN	Pn	17 27 27.6	+1.8
ZHSF				*e*SG	Sg	17 28 09.6	-6.4
ZHSF				AMP		17 28 12.9	
	comp=N,254nm,0.7s						
NASN	Na'in	4.61	296	*e*PN	Pn	17 27 50.2	+0.3
NASN				AMP		17 29 16.8	
	comp=N,37nm,0.6s						
ASAO	Ashtian	7.46	301	*e*PN	Pn	17 28 30.1	+0.1
THKV	Tehran--Karaj	7.62	313	*e*PN	Pn	17 28 32.0	-0.3

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*NEIC **06** 17:50:28.0, 60.50N×153.25W, h181^{km}, After AEIC.*

*IDC **06** 17:50:30.9±7.8, 60.95N×153.46W, h181^{km}±69^{km}, mb3.4/1, mb1 3.5/3, mb1mx3.0/20, Error ellipse: s-maj=77.0km s-min=29.9km az=21.0*

ISC 06 17:50:26.5±0.4**, 60.52N**±0.03×**153.24W**±0.07**, h182**^{km}±3^{km}**, n73, σ0^{s}69**/87**, mb3.6**/1**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSO	Redoubt South	0.25	104	P	P	17 50 51.7	+0.6
REF	Redoubt East F	0.27	97	P	P	17 50 51.5	+0.4
DFR	Drift River	0.28	76	P	P	17 50 51.7	+0.5
DFR				S	S	17 51 10.7	+0.5
ILIM	Iliamna	0.47	163	P	P	17 50 52.2	+0.4
ILIM				S	S	17 51 10.3	-0.9
ILW	Iliamna West	0.47	174	P	P	17 50 52.2	+0.4
ILW				S	S	17 51 10.8	-0.5
IVS	Iliamna South	0.52	171	P	P	17 50 52.8	+0.8
IVS				S	S	17 51 12.1	+0.5
BKG	Blockade Glaci	0.73	41	P	P	17 50 53.7	+0.7
CKL	Chakachamna La	0.81	33	P	P	17 50 54.5	+1.1
SPU	Mount Spurr	0.88	41	P	P	17 50 54.4	+0.6
NCG	North Capps Gl	1.03	30	P	P	17 50 56.0	+1.2
NNL	Ninilchik	1.08	116	P	P	17 50 56.7	+1.4
AUL	Augustine Lava	1.15	185	P	P	17 50 56.5	+0.6
AUL				S	S	17 51 18.3	-0.2
AGU	Augustine-Summ	1.17	185	P	P	17 50 56.8	+0.7
SVW	Sparrevohn	1.31	298	P	P	17 50 57.6	+0.4
XLV	Seldovia	1.32	144	P	P	17 50 57.6	+0.3
XLV				S	S	17 51 20.4	-0.8
BRLK	Bradley Lake	1.40	122	P	P	17 50 58.7	+0.6
BRLK				S	S	17 51 21.5	-1.0
CNPM	China Poot	1.42	134	P	P	17 50 58.7	+0.5
CNPM				S	S	17 51 21.8	-1.0
SLKM	Skilak Lake	1.49	89	P	P	17 50 58.9	-0.1
SLKM				S	S	17 51 22.8	-1.2
SUA	Susitna One	1.54	51	P	P	17 50 59.8	+0.4
SUA				S	S	17 51 25.0	+0.2
FIB	Fire Island	1.63	65	P	P	17 51 01.2	+0.9
RC01	Rabbit Creek A	1.81	70	P	P	17 51 01.9	-0.2
RC01				S	S	17 51 29.3	-0.1
MPA	Moose Pass	1.92	89	P	P	17 51 03.3	+0.1
SEW	Seward	1.93	101	P	P	17 51 03.4	0.0
SEW				S	S	17 51 30.9	-0.8
PMS	Palmer South	1.94	66	P	P	17 51 03.5	+0.1
PMS				S	S	17 51 31.8	-0.1
PWA	Palmer West	1.99	54	P	P	17 51 04.0	+0.1
PMR	Palmer	2.27	60	P	P	17 51 06.1	-1.1
CUT	Chulitna	2.37	36	P	P	17 51 08.3	0.0
GHO	Glory Hole Cre	2.44	57	P	P	17 51 08.7	-0.5
KNK	Knik Glacier	2.50	67	P	P	17 51 09.3	-0.5
KABR	Katmai Barrier	2.56	201	P	P	17 51 09.8	-0.8
ANCK	Angle Creek	2.60	207	P	P	17 51 10.7	-0.4
CAHL	Cahill	2.70	204	P	P	17 51 11.7	-0.5
SML	Sawmill	2.70	59	P	P	17 51 11.6	-0.6
TT01	Tatalina	2.73	332	P	P	17 51 12.6	-0.1
KJL	Kejulik	2.75	207	P	P	17 51 12.5	-0.4
CFI	College Fiord	2.76	74	P	P	17 51 12.7	-0.2
KDAK	Kodiak Island	2.77	173	P	P	17 51 11.2	-1.9
HUR	Hurricane	3.00	33	P	P	17 51 15.8	0.0
SCM	Sheep Creek Mo	3.15	63	P	P	17 51 17.6	-0.1
KTH	Kantishna Hill	3.23	19	P	P	17 51 18.5	-0.2
TRF	Thorofare Moun	3.25	24	P	P	17 51 18.9	-0.1
MID	Middleton Isla	3.64	105	P	P	17 51 24.1	+0.3
EYAK	Cordova Ski Ar	3.70	86	P	P	17 51 25.0	+0.4
DIV	Divide	3.71	77	P	P	17 51 24.8	+0.1
DHY	Denali Highway	3.78	45	P	P	17 51 25.7	+0.1
MCK	McKinley	3.80	30	P	P	17 51 25.7	-0.1
SGAM	Sherman Glacie	3.97	87	P	P	17 51 28.4	+0.4
RAGM	Ragged Mountai	4.24	88	P	P	17 51 32.0	+0.5
BMRM	Bremner River	4.26	80	P	P	17 51 32.0	+0.2
PAX	Paxson	4.43	53	P	P	17 51 34.6	+0.6
KAIM	Kayak Island	4.44	94	P	P	17 51 34.9	+0.8
HMT	Hamilton	4.45	89	P	P	17 51 34.7	+0.5
ANPK	Aniakchak Peak	4.49	217	P	P	17 51 33.4	-1.3
MLY	Manley	4.67	13	P	P	17 51 36.2	-0.8
GLB	Gilahina Butte	4.68	75	P	P	17 51 38.0	+0.8
CCB	Clear Creek Bu	4.84	29	P	P	17 51 38.6	-0.6
HDA	Harding Lake	4.87	34	P	P	17 51 39.3	-0.2
COLA	College	5.02	27	P	P	17 51 41.2	-0.4
IL1	Eielson Array	5.17	32	P	P	17 51 42.9	-0.6
ILAR	Eielson Array	5.17	32	P	P	17 51 42.8	-0.7
	7.9nm,0.3s,baz=223,slow=13,SNR=117						
ILAR				S	S	17 52 40.7	-2.5
	3.4nm,0.3s,baz=222,slow=27,SNR=11						
BALM	Baldy	5.36	80	P	P	17 51 46.9	+0.9
IM3	Indian Mountai	5.49	358	P	P	17 51 47.3	-0.3
IMA	Indian Mountai	5.57	358	*e*P	P	17 51 50.0	+1.3
CTGM	Chitina Glacie	5.86	80	P	P	17 51 53.3	+0.8
BCA3	Beaver Creek A	6.00	60	P	P	17 51 54.9	+0.6
PRP	Porcupine Dome	6.12	32	P	P	17 51 56.0	+0.1
PCA	Pinnacle	6.47	88	P	P	17 52 00.7	+0.2
COLD	Coldfoot	6.86	10	P	P	17 52 04.8	-0.9
PNL	Peninsula	6.97	91	P	P	17 52 07.5	+0.3
DAWY	Dawson	7.36	55	P	P	17 52 11.6	-0.7
BM3	Burnt Mountain	7.89	25	P	P	17 52 17.4	-1.7
YKA	Yellowknife Ar	18.35	67	P	P	17 54 29.6	+0.3
	0.1nm,0.3s,baz=280,slow=11,SNR=3.9						
SONM	Songino Array	54.39	305	P	P	17 59 36.5	+0.5
	0.8nm,0.6s,mb3.6,baz=39,slow=5.9,SNR=9.5						

IDC 06 18:09:53.2±5.7**, 7.79S×149.46E, mb3.2**/2**, mb1 3.4**/4**, mb1mx3.3**/13**, ML2.9**/2**, Error ellipse: s-maj=96.5km s-min=46.9km az=171.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	2.79	235	Pn	Pn	18 10 41.1	+1.3
	3.5nm,0.3s,baz=55,slow=8.0,SNR=18						
PMG				Sn	Sn	18 11 14.4	-0.2
	5.7nm,0.3s,baz=46,slow=18,SNR=10						
WRA	Warramunga Arr	18.99	229	P	P	18 14 15.4	-3.4
	0.1nm,0.3s,baz=54,slow=11,SNR=13						
ASAR	Alice Springs	21.72	222	P	P	18 14 45.6	-2.4
	0.2nm,0.4s,baz=61,slow=9.0,SNR=8.9						
STKA	Stephens Creek	25.06	196	P	P	18 15 19.4	-1.4
	1.0nm,0.7s,baz=21,slow=8.6,SNR=2.7						

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*IDC **06** 18:27:33.4±1.1, 58.94S×25.54W, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, MS3.5/1, Ms1 3.5/1, ms1mx3.0/19, Error ellipse: s-maj=50.4km s-min=37.9km az=54.0*

*NEIC **06** 18:27:41.0±0.7, 59.03S×25.71W, h55^{km}, Error ellipse: s-maj=37.2km s-min=14.9km az=59.0*

ISC 06 18:27:37.7±7.0**, 58.9S**±0.6×**2 5W**± **, h44**^{km}±48^{km}**, n10, σ2^{s}12**/5**, mb3.6**/3**, MS3.4**/1**, 2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.84	156	⇑*i*	P	18 30 54.2	+1.4
SNAA	Sanae	15.80	153	⇑*i*	P	18 31 16.6	-1.6
PLCA	Paso Flores	33.45	283	P	P	18 34 14.2	-0.1
	1.3nm,0.9s,mb3.9,baz=167,slow=3.2,SNR=2.5						
PLCA				LR	LR	18 46 43.5	
	comp=Z,72nm,18.2s,MS3.4,baz=358,slow=34						
VNDA	Vanda	43.79	182	P	P	18 35 39.9	-0.1
	0.7nm,0.7s,mb3.5,baz=193,slow=4.7,SNR=3.7						
ASAR	Alice Springs	96.02	161	P	P	18 41 01.3	+0.3
	0.1nm,0.6s,mb3.5,baz=181,slow=6.6,SNR=3.9						
FINES	FINESS Array B	126.45	28	PKP	PKPdf	18 46 36.9	+2.3
	0.3nm,0.6s,baz=180,slow=1.9,SNR=4.1						
ARCES	ARCESS Array B	133.22	22	PKP	PKPdf	18 46 50.7	+3.3
	0.7nm,0.8s,baz=191,slow=1.8,SNR=3.3						
YKA	Yellowknife Ar	138.85	315	PKP	PKPdf	18 46 57.9	0.0
	0.9nm,0.6s,baz=122,slow=1.9,SNR=5.3						
SONM	Songino Array	149.90	90	PKPbc	PKPdf	18 47 24.1	+7.2
	0.7nm,0.9s,baz=237,slow=2.5,SNR=4.7						
ILAR	Eielson Array	152.62	307	PKPbc	PKPdf	18 47 29.0	+8.5
	0.3nm,0.5s,baz=104,slow=3.7,SNR=4.5						

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*DJA **06** 19:12:06.4±0.8, 4.77S×102.46E, h30^{km}±7^{km}, MD5.2/7, Error ellipse: s-maj=31.5km s-min=6.2km az=40.0*

*MOS **06** 19:12:10.8±1.1, 4.16S×102.96E, h85^{km}, mb5.1/29, Error ellipse: s-maj=19.2km s-min=7.7km az=116.0*

*HRVD **06** 19:12:12.9±0.8, 4.63S×102.99E, h70^{km}±3^{km}, MW4.9/36, Centroid moment Tensor Solution. LP body waves: s24,c35;Mantle waves: s36,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.66±.17; $M_{\theta\theta}$-1.87±.14; $M_{\phi\phi}$0.21±.20; $M_{r\theta}$0.65±.09; $M_{\theta\phi}$1.59±.10; $M_{\phi r}$-0.74±.15; Best double couple: $M_0$2.45×10^{16} NP1:ϕ_s276°,δ38°,λ56°. NP2:ϕ_s136°,δ59°,λ113°. Principal axes: T 1.97, Plg67°, Azm91°; N .94, Plg20°, Azm304°; P -2.92, Plg11°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 19:12:12.9, 4.30S×102.80E, h91^{km}, mB5.0, mb5.0*

*NEIC **06** 19:12:12.9±1.0, 4.34S×102.85E, h91^{km}±8^{km}, mb5.1/32, Error ellipse: s-maj=7.5km s-min=4.3km az=47.0*

NEIC Felt [III] at Bengkulu.

*SYO **06** 19:12:12.9, 4.34S×102.85E, h91^{km}, MB5.1*

*IDC **06** 19:12:12.6±2.8, 4.32S×102.87E, h89^{km}±24^{km}, mb4.7/21, mb1 4.7/21, mb1mx4.7/21, MS3.8/13, Ms1 3.8/13, ms1mx3.6/25, Error ellipse: s-maj=19.6km s-min=9.0km az=47.0*

ISC 06 19:12:04.7±0.2**, 4.39S**±0.04×**102.82E**±0.03**, h33**^{km}**, n262, σ0^{s}99**/231**, mb5.1**/77**, MS3.9**/23**, 25C-23D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	Kapahiang	0.76	343	*e*P	P	19 12 22.0	+3.1
KLI	Kotabumi	2.09	103	*e*P	P	19 12 44.1	+6.2
KLI				*e*S	S	19 13 03.0	0.0
PPI	Padang Panjang	4.59	328	*e*P	P	19 13 18.0	+4.4
PPI				*e*S	S	19 14 11.0	+4.6
KGM	Kluang	6.38	5	⇑*e*P	P	19 13 45.0	+6.3
	316nm,0.9s						
IPM	Ipoh	9.08	349	⇑*e*P	P	19 14 20.5	+4.1
KELI	Kelakatan	12.21	109	⇓*i*P	P	19 15 03.6	+4.3
KELI				⇓*i*S	S	19 17 21.4	+6.2
INGI	Ingas	13.01	110	⇓*i*P	P	19 15 14.5	+4.5
RATI	Rata	13.35	109	⇓*i*P	P	19 15 15.0	+0.7
RATI				⇓*i*S	S	19 17 39.9	-2.6
KEDI	Kedomdong	13.83	108	⇓*i*P	P	19 15 22.1	+1.3
KEDI				⇓*i*S	S	19 17 40.9	-13
TANI	Tanete Lipujan	16.56	87	⇓*i*P	P	19 16 01.1	+5.0
NINI	Niniconang	16.89	91	⇓*i*P	P	19 16 06.6	+6.3
BUNI	Buntu Taipa	17.48	88	⇓*i*P	P	19 16 13.0	+5.3
NST	Nakhon Sawan	20.11	352	P	P	19 16 39.5	+1.0
KKTK	Khon Kaen	20.59	0	P	P	19 16 45.0	+1.4
	370nm,0.6s						
BDT	Bhumibol Dam	21.82	350	P	P	19 16 57.0	+1.0
CMAR	Chiang Mai Arr	23.02	351	P	P	19 17 09.1	+1.1
	63nm,1.1s,mb5.0,baz=183,slow=8.8,SNR=135						
CMAR				PcP	PcP	19 20 58.0	-0.5
	4.9nm,0.8s,baz=208,slow=3.1,SNR=13						
CMAR				LR	LR	19 25 50.7	
	comp=Z,221nm,21.7s,MS3.6,baz=175,slow=36						
CMAR	Chiang Mai Arr	23.02	351	P	P	19 17 09.1	+1.1
CMAR						19 20 58.0	
CMAR				pmax	pmax		
	comp=Z,63nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,221nm,21.7s						
NANT	Nan	23.13	355	P	P	19 17 11.0	+1.9
QIZ	Qiongzhong	24.27	16	P	P	19 17 23.8	+3.6
QIZ				*e*S	S	19 21 32.0	-2.0
CHRT	Chiangrai	24.29	353	⇓P	P	19 17 21.5	+1.2
	comp=Z,290nm,0.8s,mb5.8						
PALK	Pallekele	24.92	298	P	P	19 17 25.7	-0.8
TGY	Tagaytay City	25.70	44	P	P	19 17 36.8	+2.9
	comp=Z,139nm,0.7s,mb5.6,baz=16,slow=22,SNR=4.2						
TGY				LR	LR	19 28 16.7	
	comp=Z,340nm,20.9s,MS3.9,baz=242,slow=38						
TGY	Tagaytay City	25.70	44	P	P	19 17 36.8	+2.9
TGY				pmax	pmax		
	comp=Z,139nm,0.7s						
TGY				MLR	MLR		
	comp=Z,340nm,20.9s						
FITZ	Fitzroy Crossi	26.16	123	*e*P	P	19 17 38.2	+0.1
	comp=Z,33nm,0.8s,mb4.9						
FITZ				*e*		19 17 45.5	
FITZ				*e*		19 17 54.8	
FITZ				*e*S	PcP	19 21 08.8	+3.5
FITZ	Fitzroy Crossi	26.16	123	P	P	19 17 38.3	+0.2
	comp=Z,40nm,0.8s,mb5.0,baz=314,slow=3.9,SNR=86						
FITZ				LR	LR	19 27 05.5	
	comp=Z,106nm,21.1s,MS3.4,baz=288,slow=34						
KMI	Kunming	29.33	360	*e*P	P	19 18 08.4	+1.7
KMI				S	S	19 22 58.9	+2.3
KMI				AMB	AMB		
	comp=Z,111nm,4.6s						
KAKA	Kakadu	30.37	108	*e*P	P	19 18 17.8	+1.7
	comp=Z,11nm,0.6s,mb4.8						
GYA	Guiyang	30.89	7	⇓P	P	19 18 21.9	+1.3
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NWAO	Narrogin (SRO)	31.43	156	LR	LR	19 30 11.9	
	comp=Z,382nm,19.3s,MS4.1,baz=144,slow=34						
NWAO	Narrogin (SRO)	31.43	156	P	P	19 18 25.4	+0.1
	comp=Z,34nm,1.3s,mb5.0						
WRA	Warramunga Arr	34.37	119	P	P	19 18 50.6	-0.3
	comp=Z,25nm,0.8s,mb5.2,baz=287,slow=9.8,SNR=122						
WRA				S	S	19 24 12.0	-3.5
	comp=Z,2.8nm,0.9s,baz=291,slow=16,SNR=4.5						
WRA	Warramunga Arr	34.37	119	P	P	19 18 50.6	-0.3
WRA				S	S	19 24 12.0	-3.5
WRA				pmax	pmax		
	comp=Z,25nm,0.9s						
WRA				smax			
	comp=Z,3.0nm,0.9s						
WRAB	Tennant Creek	34.38	119	*e*P	P	19 18 50.5	-0.5
	comp=Z,32nm,0.8s,mb5.3						
WB2	Warramunga Arr	34.38	119	⇑*i*P	P	19 18 50.7	-0.3
ENH	Enshi	35.05	10	*e*P	P	19 18 56.8	+0.2
	comp=Z,32nm,0.4s,mb5.6						
ASPA	Alice Springs	35.58	126	⇑*i*P	P	19 19 01.5	+0.2
ASAR	Alice Springs	35.59	126	P	P	19 19 01.6	+0.3
	comp=Z,24nm,0.8s,mb5.2,baz=295,slow=7.9,SNR=199						
ASAR				PcP	PcP	19 21 29.4	-0.5
	comp=Z,5.8nm,0.6s,baz=301,slow=2.3,SNR=10.0						
ASAR				S	S	19 24 31.5	-2.7
	comp=Z,2.0nm,0.9s,baz=288,slow=14,SNR=5.0						
ASAR				ScP		19 25 11.3	
	comp=Z,0.5nm,0.8s,baz=252,slow=2.9,SNR=4.4						
ASAR				LR	LR	19 32 25.0	
	comp=Z,112nm,20.2s,MS3.6,baz=112,slow=34						
LSA	Lhasa	35.69	342	P	P	19 19 03.0	+0.9
LSA	Lhasa	35.69	342	*e*P	P	19 19 02.4	+0.3
	comp=Z,37nm,1.3s,mb5.2						
LSA				LR	LR		
	comp=Z,255nm,21.0s,MS4.0						
PKI	Pulchoki	35.94	333	*e*P	P	19 19 04.2	0.0
	comp=Z,50nm,0.6s,mb5.6						
DMN	Daman	36.11	333	*e*P	P	19 19 06.0	+0.3
KKN	Kakani	36.19	333	*e*P	P	19 19 06.6	+0.3
	comp=Z,231nm,0.9s,mb6.1						
WHN	Wuhan	36.44	17	⇓P	P	19 19 10.2	+1.8
GKN	Gorkha	36.66	332	*e*P	P	19 19 10.6	+0.3
	comp=Z,199nm,0.9s,mb6.0						
KOLN	Koldanda	36.95	331	*e*P	P	19 19 13.4	+0.6
	comp=Z,297nm,0.9s						
XAN	Xi'an	38.65	8	P	P	19 19 27.4	+0.5
NJ2	Nanjing	39.32	22	*e*P	P	19 19 34.9	+2.5
NJ2				AP	pP	19 19 57.6	+15
NJ2				XP	sP	19 20 09.2	+23
NJ2				PP	PP	19 21 11.2	+4.5
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
SSE	Sheshan	39.40	25	P	P	19 19 34.2	+1.1
SSE				XP	sP	19 20 04.9	+18
SSE				S	S	19 25 36.6	+4.3
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=N,80nm,14.8s,MS3.8						
SSE				LR	LR		
	comp=E,85nm,14.9s,MS3.8						
SSE				LR	LR		
	comp=Z,127nm,16.8s,MS3.8						
LZH	Lanzhou	40.27	1	*e*P	P	19 19 41.0	+0.7
LZH				AP	pP	19 19 59.5	+9.4
LZH				AMB	AMB		
	comp=Z,58nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,140nm,4.0s						
GTA	Gaotai	43.66	357	P	P	19 20 08.8	+0.6
GTA				PP	PP	19 21 53.3	+1.8
GTA				S	S	19 26 38.1	+2.8
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,52nm,4.0s						
PMG	Port Moresby	44.28	99	P	P	19 20 13.6	+0.1
	comp=Z,13nm,0.6s,mb4.8,baz=224,slow=1.4,SNR=4.8						
PMG	Port Moresby	44.28	99	P	P	19 20 13.6	+0.2
PMG				pmax	pmax		
	comp=Z,13nm,0.6s						
CTA	Charters Tower	45.05	114	*e*P	P	19 20 20.1	+0.5
	comp=Z,59nm,0.8s,mb5.5						
CTA	Charters Tower	45.05	114	LR	LR	19 38 40.5	
	comp=Z,111nm,21.2s,MS3.8,baz=139,slow=35						
CTAO	Charters Tower	45.05	114	*e*P	P	19 20 19.6	0.0
	comp=Z,84nm,0.8s,mb5.6						
STKA	Stephens Creek	45.47	132	⇑*i*P	P	19 20 23.2	+0.4
	comp=Z,40nm,0.6s,mb5.4						
STKA	Stephens Creek	45.47	132	P	P	19 20 23.4	+0.6
	comp=Z,50nm,0.7s,mb5.5,baz=307,slow=8.0,SNR=128						
STKA				LR	LR	19 37 19.0	
	comp=Z,228nm,21.1s,MS4.1,baz=303,slow=33						
HHC	Hu-ho-hao-te	45.72	9	*e*P	P	19 20 25.8	+1.1
HHC				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.3						
BJT	Baijiatuau	45.86	14	*e*P	P	19 20 26.5	+0.7
	comp=Z,9.6nm,0.6s,mb4.9						
BJT				LR	LR		
	comp=Z,398nm,19.0s,MS4.4						
BJI	Beijing	45.88	14	P	P	19 20 26.3	+0.3
BJI				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
BJI				LR	LR		
	comp=N,255nm,19.5s,MS4.3						
BJI				LR	LR		
	comp=E,149nm,17.7s,MS4.3						
BJI				LR	LR		
	comp=Z,240nm,19.5s,MS4.2						
WMQ	Urumqi	49.88	346	⇑*i*P	P	19 20 57.0	0.0
WMQ				PP	PP	19 22 53.0	+0.3
WMQ				S	S	19 28 01.0	-2.5
KSH	Kashi	50.20	333	*e*P	P	19 20 59.2	-0.3
SONM	Songino Array	52.09	3	P	P	19 21 14.4	+0.7
	comp=Z,54nm,0.8s,mb5.5,baz=182,slow=8.7,SNR=39						
SONM				PcP	PcP	19 22 24.3	-1.2
	comp=Z,4.7nm,0.3s,baz=191,slow=4.2,SNR=16						
CN2	Changchun	52.12	21	*e*P	P	19 21 13.1	-0.8
CN2				PCP	PcP	19 22 24.8	-0.9
CN2				*e*S	S	19 28 33.9	-0.5
CN2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
MAJO	Matsushiro	52.44	36	*e*P	P	19 21 14.3	-2.1
	comp=Z,9.9nm,0.8s,mb4.8						
MAT	Matsushiro	52.44	36	P	P	19 21 14.7	-1.7
MAT	Matsushiro	52.44	36	*e*P	P	19 21 15.0	-1.4
	comp=Z,23nm,1.2s,mb5.0						
ARMA	Armidale	52.74	125	*e*P	P	19 21 20.1	+1.4
UCH	Uchtor	53.04	334	P	P	19 21 20.8	-0.1
	SNR=20						
TKM2	Tokmak 2	53.14	335	P	P	19 21 21.1	-0.5
	SNR=55						

KBK	**Karagaybulak**	53.20	334	P	P	19 21 22.1	+0.1
	SNR=15						
AML	**Almayashu**	53.33	333	P	P	19 21 23.3	+0.3
	SNR=14						
AAK	**Ala-Archa**	53.38	334	P	P	19 21 23.5	+0.2
	SNR=6.1						
FRU	**Bishkek**	53.49	334	*e*P	P	19 21 24.0	-0.2
FRU				*e*		19 21 51.0	
FRU				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
CHMS	**Chumysh**	53.56	335	P	P	19 21 23.7	-1.0
	SNR=11						
EKS2	**Erkin-Say**	53.72	334	P	P	19 21 25.6	-0.2
	SNR=79						
USP	**Ospenovka**	53.89	335	P	P	19 21 26.1	-1.0
	SNR=24						
MKAR	**Makanchi Array**	54.10	343	P	P	19 21 27.5	-1.1
	comp=Z,31nm,0.6s,mb5.4,baz=146,slow=8.1,SNR=137						
MKAR				LR	LR	19 46 03.4	
	comp=Z,70nm,21.2s,MS3.7,baz=164,slow=38						
MKAR	**Makanchi Array**	54.10	343	P	P	19 21 27.5	-1.1
MKAR				pmax	pmax		
	comp=Z,31nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,70nm,21.2s						
MDJ	**Mudanjiang**	54.37	23	P	P	19 21 30.1	-0.5
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,59nm,4.8s						
MDJ	**Mudanjiang**	54.37	23	*e*P	P	19 21 30.0	-0.6
	comp=Z,7.1nm,0.8s,mb4.7						
ZAK	**Zakamensk**	54.55	0	⇑*e*P	P	19 21 27.1	-4.7
HIA	**Hailar**	55.42	13	*e*P	P	19 21 36.3	-2.0
	comp=Z,12nm,0.8s,mb5.0						
HIA				*e*PcP	PcP	19 22 36.7	-1.4
KKAR	**Karatay Array**	55.56	332	*i* P	P	19 21 37.3	-2.0
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
MOY	**Mondy**	55.86	359	*e*P	P	19 21 41.2	-0.1
KURK	**Kurchatov**	58.70	342	*e*P	P	19 21 59.7	-1.7
	comp=Z,53nm,0.8s,mb5.6						
KLR	**Kul'dur**	59.02	22	*e*P	P	19 22 02.8	-0.9
KLR				pmax	pmax		
	comp=N,16nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
NVS	**Novosibirsk**	61.22	347	*i* P	P	19 22 15.8	-2.8
NVS				*e*		19 22 34.8	
NVS				*e*S	S	19 30 29.3	-5.1
NVS				pmax	pmax		
	comp=N,57nm,1.2s						
NVS				pmax	pmax		
	comp=E,20nm,1.2s						
NVS				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.6						
NVS				smax			
	comp=N,21nm,1.6s						
NVS				smax			
	comp=E,11nm,1.6s						
YSS	**Yuzh-Sakhalins**	62.07	30	⇓*i*P	P	19 22 23.7	-0.7
YSS				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.6						
YSS	**Yuzh-Sakhalins**	62.07	30	*e*P	P	19 22 23.3	-1.2
	comp=Z,42nm,0.8s,mb5.6						
RAYN	**Ar Rayn**	62.34	299	P	P	19 22 26.3	-0.3
	comp=Z,76nm,0.8s,mb5.9,SNR=8.9						
BOD	**Bodaibo**	62.66	7	*e*P	P	19 22 26.9	-1.3
MZLS	**Mizel**	62.76	300	P	P	19 22 29.2	-0.2
VOSK	**Vostochnaya**	62.94	339	P	P	19 22 28.0	-2.2
VOSK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
TATS	**Tathlith**	62.98	294	P	P	19 22 31.3	+0.4
BVA0	**Borovoye Array**	63.39	339	*i* P	P	19 22 31.3	-1.9
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	63.39	339	P	P	19 22 31.3	-1.8
	comp=Z,33nm,0.8s,mb5.5,baz=143,slow=7.4,SNR=124						
BRVK	**Borovoye**	63.46	339	*e*P	P	19 22 31.0	-2.6
	comp=Z,20nm,0.8s,mb5.3						
ZRNK	**Zerenda**	63.84	338	P	P	19 22 34.2	-1.9
ZRNK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
NAMS	**An Nimas**	64.04	294	P	P	19 22 39.4	+1.4
AFFS	**'Afif**	64.65	299	P	P	19 22 42.0	+0.2
BLJS	**Baljurashi**	64.78	294	P	P	19 22 44.0	+1.3
ARSS	**Ar Rass**	65.05	301	P	P	19 22 43.9	-0.5
AB31	**Akbulak array**	65.08	331	*i* P	P	19 22 42.3	-1.8
AB31				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
KMBO	**Kilima Mbogo**	65.55	271	P	P	19 22 47.4	-0.4
	comp=Z,2.3nm,0.8s,mb4.2,baz=51,slow=15,SNR=6.8						
KMBO				LR	LR	19 45 57.4	
	comp=Z,49nm,19.6s,MS3.7,baz=82,slow=31						
HILS	**Ha'il**	66.75	302	P	P	19 22 55.8	+0.6
KBRS	**Khaybar**	68.44	300	P	P	19 23 06.7	+0.9
MAW	**Mawson**	68.71	195	*e*P	P	19 23 07.0	+0.2
	comp=Z,1.2nm,0.6s						
MAW				*e*		19 23 22.9	
MAW	**Mawson**	68.71	195	P	P	19 23 06.5	-0.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=52,slow=8.7,SNR=4.4						
MAW				LR	LR	19 46 39.3	
	comp=Z,238nm,20.4s,MS4.4,baz=57,slow=30						
MAW	**Mawson**	68.71	195	P	P	19 23 06.5	-0.3
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW				MLR	MLR		
	comp=Z,238nm,20.4s						
YNBS	**Yanbu' al Bahr**	69.16	298	P	P	19 23 11.0	+0.7
YAK	**Yakutsk**	69.37	13	*e*P	P	19 23 09.1	-1.8
YAK				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,16nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK	**Yakutsk**	69.37	13	*e*P	P	19 23 09.1	-1.8
	comp=E,61nm,0.8s,mb5.6						
YAK				LR	LR		
	comp=Z,124nm,19.0s,MS4.2						
UMJS	**Umm Lajj**	69.99	299	P	P	19 23 16.7	+1.4
ARU	**Arti**	70.51	336	⇓*i*P	P	19 23 16.6	-1.4
ARU				*i*		19 23 36.2	
ARU				*i*		19 23 40.2	
ARU				*i*		19 25 51.0	
ARU				*e*PPP	PPP	19 27 32.8	-3.9
ARU				*e*S	S	19 32 22.0	-5.6
ARU				*e*SS	SS	19 37 02.4	+1.6
ARU				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
ARU	**Arti**	70.51	336	*e*P	P	19 23 16.5	-1.5
	comp=Z,38nm,1.1s,mb5.2						
ARU				LR	LR		
	comp=Z,23nm,21.0s,MS3.4						
TBKS	**Tabuk**	71.43	302	P	P	19 23 24.7	+0.7
ERZM	**Erzurum**	71.45	315	*i* P	P	19 23 23.9	0.0
QURS	**Qurayyt al Mil**	71.68	305	P	P	19 23 26.6	+1.2
MBAR	**Mbarara**	72.08	271	*e*P	P	19 23 27.3	-0.7
KIV	**Kislovodsk**	72.17	319	*c* *i*P	P	19 23 27.5	-0.6
KIV				*e*		19 23 45.1	
KIV				*e*		19 23 57.2	
KIV				*e*		19 26 07.9	
KIV				*e*S	S	19 32 41.6	-5.5
KIV				*e*SS	SS	19 37 23.3	-3.3
KIV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
KIV	**Kislovodsk**	72.17	319	*e*P	P	19 23 27.4	-0.7
	comp=Z,17nm,1.0s,mb4.9						
JMQS	**Jabal Moqyreh**	72.18	302	P	P	19 23 29.0	+0.6
AYUS	**'Aynunah**	72.51	301	P	P	19 23 30.8	+0.3
ELZG	**Elazig**	72.66	312	*i* P	P	19 23 31.5	+0.3
BDAS	**Al Bad'**	72.72	301	P	P	19 23 31.8	+0.1
HAQS	**Haql**	73.03	302	P	P	19 23 34.0	+0.5
EIL	**Elat**	73.17	303	P	P	19 23 34.6	+0.2
ZFRI	**Zfri**	73.21	304	P	P	19 23 35.0	+0.4
MBH	**Mount Berech**	73.23	303	P	P	19 23 35.2	+0.5
PRNI	**Paran**	73.30	303	P	P	19 23 35.6	+0.4
DRGI	**Dragot**	73.32	305	P	P	19 23 35.5	+0.3
SOKR	**Solikamsk**	73.32	338	⇓*e*P	P	19 23 33.4	-1.2
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GZT	**Gaziantep**	73.34	311	*i* P	P	19 23 35.2	0.0
KSHT	**Keshet**	73.37	306	P	P	19 23 36.3	+0.8
HMDT	**Nahal Hemdat**	73.39	305	P	P	19 23 35.8	+0.2
MMLI	**Mount Malkishu**	73.53	306	P	P	19 23 37.0	+0.6
PET	**Petropavlovsk**	73.88	31	*e*P	P	19 23 36.9	-1.1
	comp=Z,16nm,0.5s,mb5.2						
HNTI	**Hanita**	73.91	306	P	P	19 23 39.2	+0.6
OFRI	**'Ofer**	73.93	306	P	P	19 23 39.1	+0.3
HAF	**Haifa**	73.94	306	P	P	19 23 39.3	+0.5
KZIT	**Kziot**	73.95	304	P	P	19 23 39.1	+0.2
SOC	**Sochi**	74.00	318	*e*P	P	19 23 37.2	-1.7
SOC				*e*		19 23 51.9	
SOC				*e*		19 26 21.9	
SOC				*e*S	S	19 33 00.4	-7.3
SOC				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
SOC				pmax	pmax		
	comp=N,7.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,11nm,0.9s						
SOC				MLR	MLR		
	comp=Z,45nm,15.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,50nm,20.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,94nm,24.0s,MS4.1						
CTKT	**Corum**	76.42	313	*i* P	P	19 23 50.8	-2.1
SYO	**Syowa Base**	76.54	199	⇑P	P	19 23 52.7	-0.3
SYO	**Syowa Base**	76.54	199	⇑PcP	PcP	19 24 06.3	+1.5
SYO	**Syowa Base**	76.54	199	⇓pP	pP	19 24 09.6	+6.3
BOYT	**Boyabat**	76.59	314	*i* P	P	19 23 53.3	-0.5
BRTR	**Keskin Array B**	77.00	312	P	P	19 23 55.0	-1.2
	comp=E,9.8nm,0.7s,mb4.8,baz=135,slow=7.0,SNR=52						
BRTR				LR	LR	19 59 25.5	
	comp=E,25nm,19.4s,MS3.5,baz=80,slow=37						
BRTR	**Keskin Array B**	77.00	312	P	P	19 23 55.0	-1.2
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,25nm,19.4s						
VOR	**Voronezh**	77.52	325	*e*P	P	19 23 58.0	-0.8
VOR				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						
BALT	**Daday**	77.71	314	*i* P	P	19 23 59.7	-0.4
TIXI	**Tiksi**	77.78	8	*e*P	P	19 23 58.0	-1.8
TIXI				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,63nm,17.0s,MS4.0						
SIM	**Simferopol'**	78.24	317	⇓*i*P	P	19 24 02.9	0.0
SIM				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
ESKT	**Eskisehir**	79.01	311	*i* P	P	19 24 06.4	-0.9
VNDA	**Vanda**	79.30	169	P	P	19 24 08.3	+0.3
	comp=Z,2.9nm,0.8s,mb4.3,baz=299,slow=5.1,SNR=9.9						
VNDA				LR	LR	19 54 13.8	
	comp=Z,89nm,21.1s,MS4.1,baz=309,slow=32						
VNDA	**Vanda**	79.30	169	P	P	19 24 08.4	+0.3
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,89nm,21.1s						
VNDA	**Vanda**	79.30	169	P	P	19 24 08.3	+0.3
VNDA				LR	LR	19 54 13.8	
HENT	**Hendek**	79.31	313	*i* P	P	19 24 07.5	-1.3
MOS	**Moscow**	79.98	329	*e*P	P	19 24 11.3	-0.8
MOS				*e*		19 24 33.1	
MOS				*e*		19 24 42.7	
MOS				pmax	pmax		
	comp=Z,97nm,0.8s,mb5.8						
OBN	**Obninsk**	80.29	328	*c* *i*P	P	19 24 13.2	-0.6
OBN				*i*		19 24 44.2	
OBN				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.3						
OBN	**Obninsk**	80.29	328	*e*P	P	19 24 12.8	-1.0
	comp=Z,52nm,1.2s,mb5.3						
SBA	**Scott Base**	80.39	169	*e*P	P	19 24 14.2	+0.2
	comp=Z,3.1nm,0.8s,mb4.3						
ULDT	**Uludag**	80.44	312	*i* P	P	19 24 14.9	0.0
SUR	**Sutherland**	80.92	238	P	P	19 24 18.1	+0.4
KDAG	**Bornova**	81.46	310	*i* P	P	19 24 20.3	0.0
KIS	**Kishinev**	82.37	318	*e*P	P	19 24 23.0	-1.8
AKASG	**Malin Array Be**	83.08	322	P	P	19 24 27.6	-0.7
	comp=Z,5.4nm,0.7s,mb4.7,baz=82,slow=4.6,SNR=29						
AKASG				PP	PP	19 27 42.1	+0.7
	comp=Z,1.0nm,0.6s,baz=95,slow=6.6,SNR=5.3						
AKASG	**Malin Array Be**	83.08	322	P	P	19 24 27.6	-0.7
AKASG						19 27 42.1	
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	85.59	180	*e*P	P	19 24 40.9	+0.5
	comp=Z,6.0nm,1.0s,mb4.8						
QSPA				LR	LR		
	comp=Z,130nm,19.9s,MS4.3						
LVZ	**Lovozero**	85.98	339	*e*P	P	19 24 41.4	-1.1
LVZ				pmax	pmax		
	comp=Z,20nm,1.7s,mb5.1						
FINES	**FINESS Array B**	87.52	332	P	P	19 24 50.0	0.0
	comp=Z,3.5nm,0.4s,mb4.9,baz=119,slow=6.0,SNR=74						
FINES	**FINESS Array B**	87.52	332	P	P	19 24 50.1	0.0
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KAF	**Kangasniemi**	87.57	333	*e*p	P	19 24 49.5	-0.8
	comp=Z,1.4nm,0.4s,mb4.5,baz=98,slow=4.3						
KAF	**Kangasniemi**	87.57	333	*e*P	P	19 24 49.5	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
CRVS	**Cervenica-Dubn**	87.60	319	*e*P	P	19 24 51.3	+0.5
KECS	**Kecovo**	88.17	319	*e*P	P	19 24 54.2	+0.6
PSZ	**Piszkesteto**	88.48	318	*e*P	P	19 24 55.3	+0.2
PSZ	**Piszkesteto**	88.48	318	⇑*e*P	P	19 24 55.4	+0.3
OJC	**Ojcow**	88.87	320	*e*P	P	19 24 57.1	+0.2
VYHS	**Vyhne**	89.26	319	*i* P	P	19 24 59.0	+0.2
ARCES	**ARCESS Array B**	89.66	340	P	P	19 25 00.2	+0.1
	comp=Z,1.8nm,0.4s,mb4.7,baz=104,slow=5.0,SNR=29						
ARCES				PP	PP	19 28 33.8	-0.9
	comp=Z,0.5nm,0.4s,baz=98,slow=1.7,SNR=6.8						
ARCES	**ARCESS Array B**	89.66	340	P	P	19 25 00.3	+0.1
ARCES						19 28 33.8	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OKC	**Ostrava-Krasne**	89.88	320	*e*P	P	19 25 02.5	+0.9
SMOL	**Smolenice**	90.19	318	*e*P	P	19 25 03.5	+0.4
SNAA	**Sanae**	90.75	198	⇑*i*P	P	19 25 06.4	+1.2
SNAA	**Sanae**	90.75	198	⇑*i*	pP	19 25 31.6	+16
SNAA	**Sanae**	90.75	198	⇓*i*	sP	19 25 37.4	+18
SNAA	**Sanae**	90.75	198	⇑*i*	sP	19 25 43.1	+24
SNAA	**Sanae**	90.75	198	⇑*i*S	S	19 35 54.0	-2.7
DPC	**Dobruska-Polom**	91.10	320	*e*P	P	19 25 08.1	+0.8
BOJS	**Bojanci**	91.39	315	⇑*i*P	P	19 25 08.9	+0.1
PERS	**Pernice**	91.57	316	⇑*e*P	P	19 25 10.0	+0.4
VISS	**Visnje**	91.70	316	⇑*e*P	P	19 25 10.3	+0.1
LJU	**Ljubljana**	91.93	316	⇑*e*P	P	19 25 11.7	+0.4
PRU	**Pruhonice**	92.21	320	*e*P	P	19 25 12.9	+0.4
PVCC	**Panska Ves**	92.23	320	*e*P	P	19 25 13.4	+0.9
BRG	**Berggiesshubel**	92.66	321	⇑*i*P	P	19 25 14.8	+0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.1						
BRG	**Berggiesshubel**	92.66	321	⇑*i*P	P	19 25 14.8	+0.3
	comp=Z,6.8nm,0.8s,mb5.1						
GEC2	**GERESS Array S**	92.68	319	*e*P	P	19 25 14.9	+0.2
GEC2				pmax	pmax		
	comp=Z,14nm,1.5s,mb5.2						
GEC2	**GERESS Array S**	92.68	319	*e*P	P	19 25 14.9	+0.2
	comp=Z,14nm,1.5s,mb5.2						
GERES	**GERESS Array B**	92.68	319	P	P	19 25 14.7	0.0
	comp=Z,2.3nm,0.8s,mb4.7,baz=108,slow=4.2,SNR=22						
GERES	**GERESS Array B**	92.68	319	P	P	19 25 14.7	0.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNA1	**Neumayer--Stat**	92.75	198	⇑*i*P	P	19 25 19.1	+4.6
VNA1	**Neumayer--Stat**	92.75	198	⇑*i*	pP	19 25 36.1	+11
PTCC	**Patocco-Chiusa**	92.77	316	⇓*i*P	P	19 25 15.2	+0.1
KHC	**Kasperske Hory**	92.78	319	*e*P	P	19 25 15.4	+0.3
KHC				*e*		19 28 51.0	
ARV	**Arcevia**	92.89	313	⇑*i*P	P	19 25 16.1	+0.4
WET	**Wettzell**	93.24	319	*e*P	P	19 25 17.4	+0.2
WET				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
WET	**Wettzell**	93.24	319	*e*P	P	19 25 17.4	+0.2
	comp=Z,8.0nm,1.1s,mb5.1						
CLL	**Collm**	93.27	321	⇓P	P	19 25 17.4	+0.1
	comp=Z,logA/T=0.8,mb5.0						
CLL	**Collm**	93.27	321	⇓*i*P	P	19 25 17.4	+0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.0						
CLL	**Collm**	93.27	321	⇓*i*P	P	19 25 17.4	+0.1
	comp=Z,7.0nm,1.1s,mb5.0						
HFS	**Hagfors**	93.33	330	P	P	19 25 17.2	-0.1
	comp=Z,7.7nm,0.8s,mb5.2,baz=108,slow=4.7,SNR=19						
HFS				PP	PP	19 29 01.1	-3.1
	comp=Z,2.8nm,0.9s,baz=84,slow=13,SNR=4.1						
HFS	**Hagfors**	93.33	330	P	P	19 25 17.2	-0.1
HFS						19 29 01.1	
HFS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SPITS	**Spitsbergen Ar**	93.53	348	P	P	19 25 17.6	-0.4
	comp=Z,9.6nm,0.9s,mb5.2,baz=117,slow=9.0,SNR=9.9						
MOX	**Moxa**	94.12	320	*e*P	P	19 25 20.0	-1.1
GRA1	**Grafenberg Arr**	94.34	319	*e*P	P	19 25 22.8	+0.6
	comp=Z,8.0nm,0.9s,mb5.2						
GRF	**Grafenberg Arr**	94.34	319	*e*P	P	19 25 22.8	+0.6
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.2						
NB2	**NORSAR Subarra**	94.58	331	P	P	19 25 22.3	-0.7
	comp=Z,0.2nm,0.7s,baz=94,slow=5.3						
NOA	**NORSAR Array B**	94.58	331	P	P	19 25 22.1	-0.9
	comp=Z,2.3nm,0.8s,mb4.7,baz=92,slow=4.6,SNR=9.3						
NOA				PP	PP	19 29 12.8	-0.8
	comp=Z,0.4nm,0.4s,baz=87,slow=7.7,SNR=3.7						
NOA				LR	LR	20 12 55.7	
	comp=Z,26nm,18.1s,MS3.7,baz=50,slow=38						
NOA	**NORSAR Array B**	94.58	331	P	P	19 25 22.1	-0.9
NOA						19 29 12.8	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,26nm,18.1s						
CLZ	**Clausthal**	94.93	322	*e*P	P	19 25 25.3	+0.5
	comp=Z,3.0nm,0.8s,mb4.8						
BFO	**Black Forest**	96.23	318	*e*P	P	19 25 30.8	0.0
BFO				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
BFO	**Black Forest**	96.23	318	*e*P	P	19 25 30.8	0.0
	comp=Z,3.0nm,1.0s,mb4.7						
ILAR	**Eielson Array**	102.53	24	PP	PP	19 30 07.5	-7.2
	comp=Z,0.3nm,0.5s,baz=298,slow=6.0,SNR=4.2						
ILAR				PKKPbc		19 41 59.2	
	comp=Z,1.6nm,1.3s,baz=89,slow=1.7,SNR=4.2						
FFC	**Flin Flon**	125.94	17	*e*PKPdf	PKPdf	19 31 03.4	0.0
WVOR	**Wild Horse Val**	127.18	38	*e*PKPdf	PKPdf	19 31 07.8	+1.5
CHMT	**Chamberlain Mo**	127.43	31	*e*PKPdf	PKPdf	19 31 06.9	+0.3
HLID	**Hailey**	129.00	34	*e*PKPdf	PKPdf	19 31 10.9	+1.2
SCHQ	**Schefferville**	129.01	352	PKP	PKPdf	19 31 10.8	+1.4
	comp=Z,0.7nm,0.4s,baz=345,slow=2.7,SNR=3.9						
BOZ	**Bozeman (W)**	129.12	31	*e*PKPdf	PKPdf	19 31 10.7	+0.9
NVAR	**Mina Array Bea**	129.57	42	PKP	PKPdf	19 31 13.8	+2.9
	comp=Z,1.3nm,0.6s,baz=310,slow=1.6,SNR=9.6						
BW06	**Boulder Array**	132.19	32	*e*PKPdf	PKPdf	19 31 17.0	+1.2
PDAR	**Pinedale Array**	132.19	32	PKP	PKPdf	19 31 15.6	-0.2
	comp=Z,2.5nm,1.2s,baz=180,slow=1.5,SNR=6.5						
PDAR				SKPab		19 34 39.8	
	comp=Z,0.8nm,0.8s,baz=333,slow=2.0,SNR=4.0						
MSU	**Marysvale**	133.47	38	*e*PKPdf	PKPdf	19 31 20.7	+2.4
PLCA	**Paso Flores**	134.69	187	PKP	PKPdf	19 31 22.2	+1.7
	comp=Z,1.5nm,0.8s,baz=139,slow=5.5,SNR=3.2						
PLCA	**Paso Flores**	134.69	187	PKIKP	PKPdf	19 31 22.2	+1.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PV10	**Paradox Valley**	135.45	36	*e*PKPdf	PKPdf	19 31 25.5	+3.5
TRQA	**Tornquist**	135.48	197	*e*PKPdf	PKPdf	19 31 23.0	+1.0
PV01	**Paradox Valley**	135.89	36	PKPdf	PKPdf	19 31 24.3	+1.6
SDCO	**Great Sand Dun**	137.91	34	*e*PKPdf	PKPdf	19 31 27.9	+1.4
ANMO	**Albuquerque**	139.27	38	*i* PKIKP	PKPdf	19 31 31.2	+2.2
BNM	**Barren Site**	139.69	39	*e*PKPdf	PKPdf	19 31 31.4	+1.6
GDL2	**Guadalupe Moun**	142.40	39	*e*PKPdf	PKPdf	19 31 36.3	+1.6
WMOK	**Wichita Mounta**	143.77	31	*e*PKPdf	PKPdf	19 31 34.7	-2.2
CPUP	**Villa Florida**	143.91	211	PKP	PKPdf	19 31 36.8	-0.6
	comp=Z,6.0nm,1.1s,baz=193,slow=2.1,SNR=7.5						
CPUP	**Villa Florida**	143.91	211	PKIKP	PKPdf	19 31 36.8	-0.6
CPUP				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CCM	**Cathedral Cave**	144.11	19	*e*PKPdf	PKPdf	19 31 35.7	-1.8
LTX	**Lajitas**	144.72	42	*e*PKPdf	PKPdf	19 31 39.6	+0.8
TXAR	**Lajitas Array**	144.72	42	PKP	PKPdf	19 31 39.6	+0.8
	comp=Z,15nm,0.6s,baz=270,slow=1.3,SNR=70						
BDFB	**Brasilia**	144.93	235	PKPbc	PKPbc	19 31 40.2	+0.6
	comp=Z,15nm,0.7s,baz=149,slow=3.3,SNR=18						
BDFB	**Brasilia**	144.93	235	PKIKP	PKPdf	19 31 40.2	+0.7
BDFB				pmax	pmax		
	comp=Z,15nm,0.7s						
JCT	**Junction City**	146.40	37	*e*PKPdf	PKPdf	19 31 42.5	+0.9
JCT				*e*PKPbc	PKPbc	19 31 44.2	+1.4
PWV	**Princeton**	147.02	6	*e*PKPbc	PKPdf	19 31 44.5	+2.1
SWET	**Sewanee**	148.27	14	*e*PKPbc	PKPdf	19 31 47.7	+3.2
CPCT	**Cooper Cave**	148.35	11	*e*PKPbc	PKPdf	19 31 48.3	+3.6
MYNC	**Murphy**	148.79	11	*e*PKPbc	PKPdf	19 31 49.6	+4.2
HKT	**Hockley**	149.06	33	*e*PKPdf	PKPdf	19 31 47.7	+1.8
HKT				*e*PKPbc	PKPdf	19 31 51.8	+5.9
LRAL	**Lakeview Retre**	150.06	17	*e*PKPbc	PKPdf	19 31 52.9	+5.5
LRAL				*e*PKPab	PKPab	19 31 58.2	-2.3
LPAZ	**La Paz**	157.59	203	PKP	PKPdf	19 32 00.8	+2.5
	comp=Z,2.3nm,0.9s,baz=55,slow=4.7,SNR=5.7						
LPAZ				PKPab	PKPab	19 32 33.5	+0.7
	comp=Z,2.2nm,0.8s,baz=148,slow=5.4,SNR=5.2						
LPAZ	**La Paz**	157.59	203	PKIKP	PKPdf	19 32 00.9	+2.5
LPAZ						19 32 33.6	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						

NEIC ***06*** *19:12:31.2, 35.77S×178.91E, h199km, After WEL.*

WEL 06 19:12:30.4±0.6**, 35.71S×178.91E, h197**km±8km**, ML4.6**/5**,**
Error ellipse: s-maj=7.5km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	1.92	194	PN	P	19 13 07.9	-0.3
MXZ				SN	S	19 13 36.4	-1.0
MXZ	**Matakaoa Point**	1.92	194	P	P	19 13 08.1	-0.2
MXZ				S	S	19 13 36.5	-0.9
PUZ	**Puketiti**	2.42	192	PN	P	19 13 13.6	-0.1
PUZ				SN	S	19 13 46.5	-0.7
PUZ	**Puketiti**	2.42	192	P	P	19 13 13.8	+0.1
KUZ	**Kuaotunu**	2.78	247	PN	P	19 13 17.5	-0.4
KUZ	**Kuaotunu**	2.78	247	*e*P	P	19 13 17.9	0.0
MWZ	**Matawai**	2.85	202	PN	P	19 13 18.4	-0.3
MWZ				SN	S	19 13 55.7	-0.2
MWZ	**Matawai**	2.85	202	P	P	19 13 18.6	-0.1
MWZ				S	S	19 13 56.0	+0.1
KNZ	**Kokohu**	3.45	196	PN	P	19 13 25.1	-0.8
KNZ	**Kokohu**	3.45	196	*e*P	P	19 13 25.2	-0.8
BKZ	**Black Stump Fm**	3.95	208	PN	P	19 13 31.2	-1.0
BKZ				SN	S	19 14 19.1	-0.8
BKZ	**Black Stump Fm**	3.95	208	P	P	19 13 31.5	-0.7
BKZ				S	S	19 14 19.4	-0.5
NGZ	**Ngauruhoe**	4.35	216	PN	P	19 13 36.9	-0.3
NGZ	**Ngauruhoe**	4.35	216	P	P	19 13 37.0	-0.2
FWVZ	**Far West T-bar**	4.44	216	PN	P	19 13 37.5	-0.8
FWVZ	**Far West T-bar**	4.44	216	P	P	19 13 37.9	-0.4
MOVZ	**Moawhango**	4.47	213	PN	P	19 13 37.1	-1.5
MOVZ				SN	S	19 14 29.4	-2.1
PWZ	**Pawanui**	4.61	200	PN	P	19 13 38.3	-2.2
PWZ	**Pawanui**	4.61	200	*e*P	P	19 13 38.6	-1.9
TSZ	**Takapari Road**	4.93	207	PN	P	19 13 42.0	-2.6
TSZ	**Takapari Road**	4.93	207	P	P	19 13 42.2	-2.4
WAZ	**Wanganui**	5.10	216	SN	S	19 14 46.3	+0.3
BFZ	**Birch Farm**	5.39	202	PN	P	19 13 48.1	-2.4
BFZ	**Birch Farm**	5.39	202	*e*P	P	19 13 47.9	-2.6
MRZ	**Mangatainoka R**	5.60	207	PN	P	19 13 49.9	-3.3
MRZ	**Mangatainoka R**	5.60	207	*e*P	P	19 13 49.8	-3.4
KIW	**Kapiti Island**	6.03	210	PN	P	19 13 55.3	-3.5
KIW	**Kapiti Island**	6.03	210	P	P	19 13 56.0	-2.8
KIW				S	S	19 15 04.2	-3.4
MTW	**Mount Morrison**	6.07	205	PN	P	19 13 55.8	-3.5
MTW	**Mount Morrison**	6.07	205	P	P	19 13 56.2	-3.0
CAW	**Cannon Point**	6.18	208	PN	P	19 13 56.5	-4.2
CAW				SN	S	19 15 07.1	-4.0
CAW	**Cannon Point**	6.18	208	P	P	19 13 57.4	-3.3
PAWZ	**Paruwai Farm**	6.29	205	PN	P	19 13 59.2	-2.9

MSWZ	**Moikau Station**	**6.38**	**206**	PN	P	19 13 59.9	-3.5
SNZO	**South Karori**	**6.49**	**209**	PN	P	19 14 01.3	-3.5
SNZO				SN	S	19 15 14.6	-3.8
SNZO	**South Karori**	**6.49**	**209**	*e*P	P	19 14 01.4	-3.4
SNZO				S	S	19 15 14.7	-3.7
BHW	**Baring Head**	**6.51**	**208**	PN	P	19 14 01.7	-3.3
BHW	**Baring Head**	**6.51**	**208**	P	P	19 14 01.6	-3.5
TUWZ	**Tuamarina**	**6.91**	**213**	PN	P	19 14 06.6	-3.7
TUWZ				SN	S	19 15 23.6	-4.5
NNZ	**Nelson**	**7.01**	**217**	PN	P	19 14 07.8	-3.7
NNZ				SN	S	19 15 26.3	-4.0
NNZ	**Nelson**	**7.01**	**217**	*e*P	P	19 14 08.5	-3.0
QRZ	**Quartz Range**	**7.16**	**223**	PN	P	19 14 10.4	-3.1
BSWZ	**Blackbirch Sta**	**7.17**	**212**	PN	P	19 14 10.3	-3.4
THZ	**Tophouse**	**7.65**	**216**	PN	P	19 14 16.3	-3.7
THZ	**Tophouse**	**7.65**	**216**	*e*P	P	19 14 16.8	-3.2
KHZ	**Kahutara**	**7.89**	**210**	PN	P	19 14 19.1	-4.0
KHZ	**Kahutara**	**7.89**	**210**	*e*P	P	19 14 20.3	-2.8
DSZ	**Denniston Nort**	**8.20**	**220**	SN	S	19 15 54.1	-4.1
LTZ	**Lake Taylor**	**8.74**	**214**	PN	P	19 14 30.2	-4.0
CRLZ	**Canterbury Las**	**9.23**	**210**	SN	S	19 16 14.1	-8.2
MQZ	**McQueen's Vall**	**9.33**	**209**	PN	P	19 14 37.3	-4.5
MQZ				SN	S	19 16 15.8	-8.8
WVZ	**Waitaha Valley**	**9.70**	**218**	SN	S	19 16 25.3	-7.8
RPZ	**Rata Peaks**	**10.03**	**215**	SN	S	19 16 34.7	-6.0
LBZ	**Lake Benmore**	**10.94**	**215**	SN	S	19 16 54.8	-7.3
ODZ	**Otahua Downs**	**11.25**	**211**	SN	S	19 17 03.2	-6.1
TUZ	**Tuapeka**	**12.41**	**212**	SN	S	19 17 29.9	-6.0

MAN 06 19:18:34.2, 16.13N×119.83E, h3^{km}, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.27**	**17**	*e*P	Pg	19 18 40.0	+0.5
BOLP				*e*S	Sg	19 18 49.5	+6.5
SCZP	**Santa Cruz**	**0.36**	**168**	*e*P	Pg	19 18 41.5	+0.2
BCPH	**Baguio City Da**	**0.76**	**71**	⇓*i*P	Pg	19 18 49.8	+0.3
BCPH				*e*S	Sg	19 19 08.2	+8.5
BALP	**Baler**	**1.72**	**103**	*e*P	Pn	19 19 05.8	+0.6
ABRA	**Dolores**	**1.73**	**29**	*e*P	Pn	19 19 05.0	-0.4
APYP	**Conner**	**2.19**	**38**	*e*P	Pn	19 19 09.2	-2.8

IDC 06 19:43:11.7±1.6**, 6.58S×129.67E, mb4.1**/2**, mb1 4.1**/5**, mb1mx3.9**/13**, ML3.9**/3**, Error ellipse: s-maj=76.5km s-min=23.4km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.11**	**199**	Pn	P	19 46 04.4	-4.3
	0.4nm,0.3s,baz=26,slow=9.7,SNR=12						
FITZ				Sn	S	19 48 03.4	-22
	1.4nm,0.3s,baz=179,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**14.04**	**162**	Pn	P	19 46 32.0	-2.4
	1.7nm,0.3s,baz=347,slow=13,SNR=29						
WRA				Sn	S	19 48 55.4	-17
	1.7nm,0.3s,baz=331,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.47**	**167**	P	P	19 47 17.0	-1.6
	0.4nm,0.3s,baz=336,slow=9.1,SNR=13						
ASAR				S	S	19 50 20.3	-12
	0.4nm,0.3s,baz=354,slow=28,SNR=7.2						
STKA	**Stephens Creek**	**27.53**	**158**	P	P	19 49 00.8	-1.4
	1.2nm,0.4s,baz=333,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	19 54 10.9	-2.1
	0.7nm,0.3s,baz=116,slow=8.6,SNR=23						

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*IDC **06** 20:08:42.4±1.8, 43.67N×105.38W, mb3.6/1, mb1 3.9/4, mb1mx3.5/21, ML3.8/3, Error ellipse: s-maj=53.4km s-min=7.8km az=150.0*

*NEIC **06** 20:08:43.9±0.8, 43.78N×105.29W, ML3.4, Error ellipse: s-maj=13.3km s-min=8.1km az=122.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] SSE of Gillette.

ISC 06 20:08:41.3±0.7**, 43.78N**±0.04×**105.17W**±0.09**, n22, σ0^{s}.97**/28**, mb3.7**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**3.00**	**346**	*e*Pn	**Pn**	**20 09 32.1**	**+1.2**
LAO				*e*Pg	**Pg**	**20 09 42.2**	**+1.0**
PDAR	**Pinedale Array**	**3.36**	**254**	Pn	**Pn**	**20 09 36.8**	**+0.6**
	9.9nm,0.3s,baz=72,slow=15,SNR=52						
PDAR				Pg	**Pg**	**20 09 43.3**	**-5.1**
	22nm,0.3s,baz=63,slow=20,SNR=15						
PDAR				Lg		20 10 22.3	
	16nm,0.3s,baz=75,slow=27,SNR=7.4						
BW06	**Boulder Array**	**3.36**	**254**	*e*Pn	**Pn**	**20 09 36.1**	**0.0**
BW06				*e*Sg	**Sn**	**20 10 21.8**	**+4.5**
ISCO	**Idaho Springs**	**3.99**	**185**	*e*Pn	**Pn**	**20 09 46.4**	**+1.4**
ISCO				*e*Sg	**Sn**	**20 10 43.2**	**+10**
MOOW	**Moose Ponds**	**4.04**	**271**	*e*P	**Pg**	**20 09 57.2**	**-4.7**
REDW	**Red Top Meadow**	**4.15**	**266**	*e*Pn	**Pn**	**20 09 48.5**	**+1.2**
TPAW	**Teton Pass**	**4.21**	**268**	Pn	**Pn**	**20 09 48.7**	**+0.5**
AHID	**Auburn Hatcher**	**4.45**	**259**	*e*Pn	**Pn**	**20 09 51.0**	**-0.6**
DGMT	**Dagmar**	**4.74**	**8**	*e*Pn	**Pn**	**20 09 57.8**	**+2.1**
DGMT				*e*		20 10 09.8	
DGMT				*e*Sg	**Sg**	**20 11 18.4**	**-0.6**
BOZ	**Bozeman (W)**	**4.97**	**294**	*e*Pn	**Pn**	**20 09 57.6**	**-1.3**
HWUT	**Hardware Ranch**	**5.19**	**247**	*e*Pn	**Pn**	**20 10 01.1**	**-1.0**
TCUT	**Toone Canyon**	**5.33**	**242**	*e*Pn	**Pn**	**20 10 03.2**	**-0.8**
HRY	**Holter Researc**	**5.54**	**304**	*e*Pn	**Pn**	**20 10 06.7**	**-0.3**
MCMT	**McKenzie Canyo**	**5.61**	**283**	*e*Pn	**Pn**	**20 10 08.7**	**+0.7**
SPUT	**South Promonto**	**5.92**	**248**	*e*Pn	**Pn**	**20 10 12.7**	**+0.4**
SPUT				*e*Pg	**Pg**	**20 10 31.1**	**-8.3**
SDCO	**Great Sand Dun**	**6.03**	**183**	*e*Pn	**Pn**	**20 10 13.8**	**-0.2**
	1.8nm,0.4s						
CBKS	**Cedar Bluff**	**6.43**	**139**	*e*Pg	**Pg**	**20 10 45.2**	**-4.5**
	25nm,0.4s						
CHMT	**Chamberlain Mo**	**6.50**	**302**	*e*Pn	**Pn**	**20 10 19.7**	**-0.8**
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**P**	**20 10 54.7**	**-1.6**
	2.7nm,0.3s,baz=230,slow=12,SNR=17						
ULM				Pg	P	20 11 29.7	+33
	2.1nm,0.3s,baz=228,slow=16,SNR=6.5						
ULM				Lg		20 13 29.0	
	1.2nm,0.3s,baz=135,slow=20,SNR=3.0						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**P**	**20 10 54.7**	**-1.6**
ULM				Pg	P	20 11 29.7	+33
ULM				Lg		20 13 29.0	
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn	**P**	**20 11 25.4**	**-1.0**
	0.2nm,0.3s,baz=59,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**20 18 60.0**	**-0.7**
	0.3nm,0.5s,mb3.7,baz=339,slow=7.7,SNR=5.1						

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*PGC **06** 20:27:26.9, 65.24N×141.85W, h1^{km}, ML3.6/2, Ogilvie Mountains, Yukon Territory - Alaska border.*

*NEIC **06** 20:27:28.2, 65.29N×141.72W, h16^{km}, ML3.8(PMR), ML3.3(AEIC), After AEIC.*

ISC 06 20:27:27.0±0.4**, 65.32N**±0.04×**141.61W**±0.08**, h16^{km}, n33, σ0^{s}.97**/36**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**1.58**	**142**	Pn	**Pn**	**20 27 55.5**	**+0.9**
DAWY				Sn	**Sn**	**20 28 17.1**	**+2.4**
DAWY				Trac		20 28 18.7	
	comp=Z,381nm,0.4s						
DAWY	**Dawson**	**1.58**	**142**	P	**Pn**	**20 27 55.5**	**+0.9**
DAWY				S	**Sn**	**20 28 17.2**	**+2.4**
PRP	**Porcupine Dome**	**1.65**	**279**	P	**Pn**	**20 27 55.9**	**+0.3**
PRP				S	**Sn**	**20 28 17.4**	**+0.8**
FYU	**Fort Yukon**	**1.94**	**312**	P	**Pn**	**20 28 00.2**	**+0.3**
BCA3	**Beaver Creek A**	**2.26**	**182**	P	**Pn**	**20 28 04.3**	**-0.1**
IL1	**Eielson Array**	**2.30**	**259**	P	**Pn**	**20 28 03.9**	**-1.1**
BM3	**Burnt Mountain**	**2.43**	**332**	P	**Pn**	**20 28 07.7**	**+0.9**
THY	**Trims Highway**	**2.62**	**225**	*e*P	**Pn**	**20 28 10.7**	**+1.1**
COLA	**College**	**2.68**	**263**	P	**Pn**	**20 28 10.0**	**-0.4**
CCB	**Clear Creek Bu**	**2.72**	**258**	P	**Pn**	**20 28 09.4**	**-1.6**
PAX	**Paxson**	**2.90**	**217**	P	**Pn**	**20 28 12.9**	**-0.6**
MCK	**McKinley**	**3.54**	**247**	*e*P	**Pn**	**20 28 23.4**	**+0.7**
COLD	**Coldfoot**	**3.97**	**303**	P	**Pn**	**20 28 28.9**	**+0.2**
GLB	**Gilahina Butte**	**4.01**	**195**	P	**Pn**	**20 28 29.4**	**0.0**
TRF	**Thorofare Moun**	**4.21**	**248**	P	**Pn**	**20 28 30.8**	**-1.3**
BALM	**Baldy**	**4.31**	**185**	P	**Pn**	**20 28 33.6**	**0.0**
CTGM	**Chitina Glacie**	**4.37**	**178**	P	**Pn**	**20 28 34.7**	**+0.3**
INK	**Inuvik**	**4.39**	**43**	Pn	**Pn**	**20 28 35.0**	**+0.3**
INK				Sn	**Sn**	**20 29 26.2**	**+0.2**
INK				Sg	Sn	20 29 48.6	+23
INK				Trac		20 29 59.5	
	comp=Z,41nm,0.6s						
INK	**Inuvik**	**4.39**	**43**	*e*P	**Pn**	**20 28 34.9**	**+0.3**
DIV	**Divide**	**4.60**	**206**	*e*P	**Pn**	**20 28 38.2**	**+0.5**
SML	**Sawmill**	**4.63**	**224**	*e*P	**Pn**	**20 28 37.6**	**-0.5**
PMR	**Palmer**	**5.03**	**226**	*e*P	**Pn**	**20 28 46.0**	**+2.2**
IMA	**Indian Mountai**	**5.04**	**284**	*e*P	**Pn**	**20 28 44.3**	**+0.3**
IM3	**Indian Mountai**	**5.07**	**283**	P	**Pn**	**20 28 42.2**	**-2.1**
EYAK	**Cordova Ski Ar**	**5.14**	**203**	*e*P	**Pn**	**20 28 45.2**	**-0.1**
PWA	**Palmer West**	**5.22**	**229**	*e*P	**Pn**	**20 28 47.9**	**+1.5**
WHY	**Whitehorse**	**5.59**	**144**	Pn	**Pn**	**20 28 50.4**	**-1.3**
WHY				Sn	**Sn**	**20 29 54.9**	**-1.4**
WHY				Trac		20 30 45.9	
	comp=Z,15nm,0.6s						
WHY	**Whitehorse**	**5.59**	**144**	P	**Pn**	**20 28 50.2**	**-1.4**
RSO	**Redoubt South**	**7.04**	**231**	P	**Pn**	**20 29 11.3**	**-0.7**
SVW	**Sparrevohn**	**7.60**	**243**	*e*P	**Pn**	**20 29 20.0**	**+0.1**
DLBC	**Dease Lake**	**8.79**	**136**	Trac		20 32 14.0	
	comp=Z,10.0nm,0.9s						
DLBC	**Dease Lake**	**8.79**	**136**	Sg	Sx	20 31 60.0	
YKW3	**Yellowknife Ar**	**12.14**	**91**	Pn	**P**	**20 30 21.0**	**-1.1**

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*MDD **06** 20:29:13.5±2.0, 42.83N×1.42W, mbLg1.3/1, Error ellipse: s-maj=13.8km s-min=6.9km az=44.0, PRXIMO*

LDG 06 20:29:13.3±0.7**, 42.86N×1.50W, h2^{km}**±3^{km}**, Md2.0**/2**, Ml2.1**/1**, Error ellipse: s-maj=12.0km s-min=4.7km az=33.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.32**	**39**	*e*Pg	Pg	20 29 19.5	-0.2
SJPF				*e*Sg	Sg	20 29 23.7	-0.2
	12nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**359**	Pg	Pg	20 29 21.2	+0.8
	0.3nm,0.2s,SNR=7.9						
EALK				Lg		20 29 27.2	
	18nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**0.69**	**87**	*e*Pg	Pg	20 29 25.1	-2.0
ETSF				*e*Sg	Sg	20 29 35.2	-1.1
	3.3nm,0.3s						
EPF	**Esparros**	**1.36**	**82**	*e*Pn	Pn	20 29 37.6	-1.7
EPF				*e*Pg	Pg	20 29 39.5	-0.9
EPF				*e*Sg	Sg	20 29 56.5	-2.0
	3.7nm,0.3s						

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*IDC **06** 20:31:49.1±0.7, 12.29N×94.87E, mb3.9/12, mb1 4.0/13, mb1mx4.0/19, ML3.2/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/20, Error ellipse: s-maj=35.5km s-min=14.7km az=53.0*

*BJI **06** 20:31:52.7, 12.30N×94.90E, h25^{km}, mb4.1*

*NEIC **06** 20:31:52.8±0.3, 12.31N×94.91E, h25^{km}, mb4.4/19, Error ellipse: s-maj=8.9km s-min=6.0km az=49.0*

ISC 06 20:31:51.0±2.2**, 12.29N**±0.07×**94.91E**±0.06**, h25^{km}**±15^{km}**, n59, σ0^{s}.81**/60**, mb4.2**/32**, MS3.6**/6**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.21**	**254**	*e*P	**Pn**	**20 32 27.0**	**0.0**
PBA				*e*		20 32 30.0	
NST	**Nakhon Sawan**	**6.08**	**56**	P	**Pn**	**20 33 19.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**7.26**	**32**	Pn	**Pn**	**20 33 36.4**	**-2.0**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.6						
SNG	**Songkhla**	**7.57**	**132**	P	**Pn**	**20 33 56.0**	**+13**
NANT	**Nan**	**8.54**	**40**	P	**P**	**20 34 00.0**	**+3.7**
KKTK	**Khon Kaen**	**8.66**	**61**	P	**P**	**20 33 58.0**	**+0.2**
BWNR	**Bhubaneshwar**	**11.82**	**314**	*e*P	**P**	**20 34 40.2**	**-1.1**
BWNR				*e*S	Px	20 36 39.2	
BWNR				*e*	**S**	**20 36 50.8**	**-2.6**
	comp=E,51nm,0.5s						
BWNR				*e*	**S**	**20 36 51.3**	**-2.2**
	comp=N,33nm,0.3s						
VIS	**Vishakhapatnam**	**12.43**	**297**	*e*P	**P**	**20 34 48.5**	**-0.9**
PKI	**Pulchoki**	**17.62**	**331**	*e*P	**P**	**20 35 58.3**	**+1.6**
	comp=N,90nm,1.2s						
LSA	**Lhasa**	**17.68**	**349**	*e*P	**P**	**20 35 58.9**	**+1.5**
	comp=N,70nm,1.4s						
DMN	**Daman**	**17.80**	**330**	*e*P	**P**	**20 36 00.1**	**+1.2**
	comp=N,70nm,1.1s						
KKN	**Kakani**	**17.87**	**331**	*e*P	**P**	**20 36 00.6**	**+0.8**
	comp=N,20nm,0.8s						
GKN	**Gorkha**	**18.36**	**330**	*e*P	**P**	**20 36 06.4**	**+0.5**
	comp=N,26nm,0.6s						
KOLN	**Koldanda**	**18.70**	**327**	*e*P	**P**	**20 36 10.3**	**+0.3**
	comp=N,24nm,0.6s						
ENH	**Enshi**	**22.42**	**35**	*e*P	**P**	**20 36 48.4**	**-1.0**
	comp=N,11nm,1.1s,mb4.2						
NDI	**New Delhi**	**23.21**	**317**	*e*P	**P**	**20 36 58.0**	**+0.8**
LZH	**Lanzhou**	**25.03**	**17**	*e*P	**P**	**20 37 16.0**	**+1.2**
LZH				AP	pP	20 37 25.0	+3.0
LZH				XP	sP	20 37 31.5	+6.2
TGY	**Tagaytay City**	**25.40**	**83**	LR	LR	20 45 57.6	
	comp=N,102nm,20.9s,MS3.3,baz=64,slow=33						
GTA	**Gaotai**	**27.36**	**8**	P	**P**	**20 37 37.0**	**+0.7**
GTA				AP	pP	20 37 49.0	+5.4
GTA				XP	sP	20 37 54.4	+7.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
WMQ	**Urumqi**	**32.03**	**350**	*e*P	**P**	**20 38 17.1**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**36.01**	**345**	P	**P**	**20 38 51.2**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.2,baz=152,slow=11,SNR=14						
MKAR				LR	LR	20 56 22.3	
	comp=Z,58nm,18.6s,MS3.4,baz=162,slow=41						
SONM	**Songino Array**	**36.72**	**13**	P	**P**	**20 38 58.3**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.7,baz=191,slow=6.3,SNR=8.0						
BVAR	**Borovoye Array**	**45.12**	**339**	P	**P**	**20 40 07.3**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.7,baz=130,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**50.31**	**129**	P	**P**	**20 40 48.1**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=308,slow=8.3,SNR=17						
WRA				PcP	PcP	20 42 07.0	+0.1
	comp=Z,0.3nm,0.5s,baz=319,slow=2.9,SNR=6.2						
WRAB	**Tennant Creek**	**50.31**	**129**	*e*P	**P**	**20 40 48.5**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**50.32**	**129**	*e*P	**P**	**20 40 48.0**	**-0.2**
ARU	**Arti**	**52.19**	**335**	*e*P	**P**	**20 41 00.8**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**52.25**	**133**	P	**P**	**20 41 02.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=313,slow=6.9,SNR=16						
ASAR				LR	LR	21 03 04.6	
	comp=Z,58nm,19.9s,MS3.6,baz=200,slow=36						
BRTR	**Keskin Array B**	**60.21**	**309**	P	**P**	**20 41 58.6**	**-0.9**
	comp=Z,2.6nm,0.6s,mb4.5,baz=124,slow=7.6,SNR=18						
BRTR				LR	LR	21 11 27.7	
	comp=Z,39nm,19.1s,MS3.6,baz=145,slow=40						
STKA	**Stephens Creek**	**62.65**	**136**	P	**P**	**20 42 15.6**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.4,baz=214,slow=0.6,SNR=5.6						
STKA	**Stephens Creek**	**62.65**	**136**	P	**P**	**20 42 15.6**	**-0.6**
AKASG	**Malin Array Be**	**65.23**	**320**	P	**P**	**20 42 31.4**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=105,slow=4.3,SNR=4.1						
FINES	**FINESS Array B**	**69.21**	**331**	P	**P**	**20 42 57.3**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=90,slow=6.6,SNR=12						
ARCES	**ARCESS Array B**	**71.41**	**340**	P	**P**	**20 43 11.0**	**+0.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=79,slow=4.6,SNR=5.3						
ARCES				LR	LR	21 18 45.7	
	comp=Z,69nm,20.3s,MS3.9,baz=276,slow=40						
BRG	**Berggiesshubel**	**74.89**	**320**	*i* P	**P**	**20 43 32.2**	**+0.7**
	comp=Z,3.2nm,1.0s,mb4.2						
BRG				*e*		20 43 53.6	
GERES	**GERESS Array B**	**75.09**	**317**	P	**P**	**20 43 33.5**	**+0.8**
	comp=Z,2.1nm,0.6s,mb4.2,baz=86,slow=6.0,SNR=31						
NB2	**NORSAR Subarra**	**76.30**	**330**	P	**P**	**20 43 39.8**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**76.30**	**330**	P	**P**	**20 43 39.9**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=90,slow=5.8,SNR=3.9						
NOA				LR	LR	21 19 38.3	
	comp=Z,32nm,20.9s,MS3.6,baz=270,slow=38						
GRA1	**Grafenberg Arr**	**76.67**	**318**	*e*P	**P**	**20 43 42.8**	**+1.1**
	comp=Z,2.0nm,0.9s,mb4.0						
PGF	**Pioggiola**	**78.82**	**311**	*e*P	**P**	**20 43 52.7**	**-0.9**
	comp=Z,23nm,1.2s,mb4.7						
SBF	**Sospel**	**79.80**	**313**	*e*P	**P**	**20 43 58.7**	**-0.2**
	comp=Z,17nm,0.8s,mb4.7						
HAU	**Haudompre**	**80.03**	**317**	*e*P	**P**	**20 43 59.6**	**-0.5**
LPG	**La Plagne**	**80.08**	**314**	*e*P	**P**	**20 44 00.7**	**+0.3**
	comp=Z,6.9nm,0.7s,mb4.4						
LPL	**La Plagne**	**80.09**	**314**	*e*P	**P**	**20 44 00.7**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.4						
CABF	**La Chapelle**	**80.39**	**316**	*e*P	**P**	**20 44 02.1**	**+0.1**
	comp=Z,4.8nm,0.7s,mb4.2						
FRF	**La Foret Royal**	**80.41**	**313**	*e*P	**P**	**20 44 02.1**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.4						
LMR	**La Mourre**	**80.54**	**312**	*e*P	**P**	**20 44 02.8**	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.3						
ORIF	**Oris-en-Rattie**	**80.77**	**314**	*e*P	**P**	**20 44 04.2**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
SMRF	**Simiane la Rot**	**81.12**	**313**	*e*P	**P**	**20 44 06.3**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.2						
BAIF	**Baives**	**81.15**	**319**	*e*P	**P**	**20 44 06.2**	**+0.3**
VIVF	**Saint-Julien-l**	**81.62**	**314**	*e*P	**P**	**20 44 08.4**	**-0.1**
LOR	**Lormes**	**81.81**	**317**	*e*P	**P**	**20 44 09.2**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.1						
SSF	**Saint Saulge**	**82.08**	**316**	*e*P	**P**	**20 44 10.5**	**-0.3**
AVF	**Avril sur Loir**	**82.22**	**316**	*e*P	**P**	**20 44 11.3**	**-0.3**
TCF	**Toulx Ste Croi**	**83.09**	**316**	*e*P	**P**	**20 44 16.3**	**+0.2**
	comp=Z,21nm,1.4s,mb4.7						
CAF	**Calviac**	**83.44**	**314**	*e*P	**P**	**20 44 18.3**	**+0.4**
MTLF	**Montolieu**	**83.62**	**313**	*e*P	**P**	**20 44 19.0**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.4						
RJF	**Les Rejaudoux**	**83.75**	**315**	*e*P	**P**	**20 44 20.0**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.2						
LDF	**La Druitiere**	**84.20**	**318**	*e*P	**P**	**20 44 21.6**	**-0.1**

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*ISK **06** 20:41:22.5, 37.06N×27.94E, h19^{km}, MD3.0*

*NEIC **06** 20:41:22.3, 36.79N×27.70E, h5^{km}, MD3.1(ATH), After ATH.*

*ATH **06** 20:41:22.0, 36.81N×27.71E, h5^{km}, MD3.1/5*

ISC 06 20:41:20.1±0.5**, 36.90N**±0.03×**27.78E**±0.05**, h5^{km}, n16, σ0^{s}.97**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.32**	**302**	*i* P	**Pg**	**20 41 26.7**	**+0.2**
BDRM				*i* S	**Sg**	**20 41 31.5**	**+0.8**
MLSB	**Milas**	**0.40**	**360**	*i* PG	**Pg**	**20 41 28.9**	**+0.8**
MLSB				SG	**Sg**	**20 41 33.7**	**+0.2**
YER	**Yerkesik**	**0.47**	**59**	*i* PG	**Pg**	**20 41 29.2**	**-0.3**
NISR	**Nisiros**	**0.59**	**242**	*e*PB	**Pb**	**20 41 33.1**	**+0.5**
ARG	**Arkhangelos**	**0.73**	**157**	*e*PB	**Pb**	**20 41 35.5**	**+0.5**
AYDN	**Tasoluk**	**0.77**	**6**	*i* P	**Pg**	**20 41 34.6**	**-0.8**
AYDN				*i* S	**Sg**	**20 41 45.0**	**-0.7**
SMG	**Samos**	**1.10**	**318**	*e*PB	**Pb**	**20 41 41.5**	**+0.2**
SMG	**Samos**	**1.10**	**318**	*e*Pb	**Pb**	**20 41 41.0**	**-0.3**
DNZL	**Cakiroluk**	**1.28**	**52**	*i* P	**Pb**	**20 41 44.3**	**-0.1**
DNZL				*i* S	**Sb**	**20 42 03.2**	**+2.1**
DENT	**Denizli**	**1.32**	**49**	*e*PN	**Pn**	**20 41 43.7**	**-1.5**
KARP	**Karpathos**	**1.44**	**200**	*e*PN	**Pn**	**20 41 46.5**	**-0.4**
KARP				*e*SB	**Sb**	**20 42 05.9**	**+0.5**
KDAG	**Bornova**	**1.56**	**345**	*i* P	**Pn**	**20 41 48.3**	**-0.4**
KDAG				*i* S	**Sb**	**20 42 10.0**	**+1.0**
MANT	**Manisa**	**1.71**	**21**	*i* P	**Pn**	**20 41 50.2**	**-0.6**
MANT				*i* S	**Sn**	**20 42 15.2**	**+1.9**
AKS	**Akhisar**	**1.98**	**1**	*e*PN	**Pn**	**20 41 52.9**	**-1.8**
PRK	**Paraskevi**	**2.63**	**334**	*e*PN	**Pn**	**20 42 10.0**	**+6.0**
PRK	**Paraskevi**	**2.63**	**334**	*e*Pg	**Pg**	**20 42 11.0**	**-1.6**

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*INMG **06** 20:46:40.6±1.2, 36.55N×7.63W, h22^{km}±4^{km}, ML2.6, Error ellipse: s-maj=4.7km s-min=2.7km az=43.0*

*LDG **06** 20:46:40.1±0.5, 36.57N×7.68W, h10^{km}, Ml3.0/4, Error ellipse: s-maj=9.4km s-min=4.8km az=5.0*

*NEIC **06** 20:46:40.7, 36.52N×7.65W, h39^{km}, MN2.8(MDD), After MDD.*

*MDD **06** 20:46:42.3±1.6, 36.71N×7.51W, h64^{km}±16^{km}, mb3.5/4, Error ellipse: s-maj=17.1km s-min=9.1km az=29.0, PRXIMO*

ISC 06 20:46:42.3±0.7**, 36.81N**±0.04×**7.41W**±0.04**, h83^{km}**±5^{km}**, n58, σ1^{s}.07**/105**, 6C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERIP	**Rio Piedras**	**0.57**	**12**	⇑Pn	**P**	**20 46 56.5**	**-0.7**
	64nm,0.1s,SNR=18						
ERIP				Sn	**S**	**20 47 08.1**	**0.0**
	87nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**0.65**	**355**	*e*Pg	**P**	**20 46 57.3**	**-0.6**
PALC				*e*Sg	**S**	**20 47 09.6**	**+0.1**
	127nm,0.1s						
PALC	**Alcoutim**	**0.65**	**355**	P	**P**	**20 46 57.2**	**-0.7**
PALC				S	**S**	**20 47 09.4**	**-0.1**
EGRO	**El Granado**	**0.72**	**355**	⇑Pn	**P**	**20 46 58.0**	**-0.7**
	30nm,0.1s,SNR=18						
EGRO				Sn	**S**	**20 47 10.6**	**-0.2**
	61nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.12**	**31**	⇑Pn	**P**	**20 47 03.8**	**+0.6**
	2.6nm,0.0s,SNR=18						
EMIN				Sn	**S**	**20 47 21.0**	**+2.1**
	8.0nm,0.1s						
ESPR	**Espera**	**1.25**	**87**	Pn	**P**	**20 47 04.2**	**-0.7**
	3.7nm,0.2s,SNR=112						
ESPR				Sn	**S**	**20 47 21.0**	**-0.8**
	189nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**1.26**	**343**	*e*P	**P**	**20 47 04.8**	**-0.3**
PBEJ				*e*S	**S**	**20 47 22.5**	**+0.3**
	44nm,0.1s						
PBEJ	**Beja**	**1.26**	**343**	P	**P**	**20 47 04.8**	**-0.3**
PBEJ				S	**S**	**20 47 21.9**	**-0.3**
PTEO	**Sao Teotonio**	**1.28**	**305**	*e*Pn	**P**	**20 47 02.1**	**-3.2**
PTEO				*e*Sn	**S**	**20 47 18.3**	**-4.2**
	30nm,0.1s						
PTEO	**Sao Teotonio**	**1.28**	**305**	P	**P**	**20 47 02.1**	**-3.2**
PTEO				S	**S**	**20 47 17.9**	**-4.6**
MOE	**Montemor**	**1.86**	**337**	*e*Pn	**P**	**20 47 12.6**	**-0.4**
MOE				*e*Sn	**S**	**20 47 36.2**	**+0.6**
MOE	**Montemor**	**1.86**	**337**	P	**P**	**20 47 12.9**	**0.0**
MOE				S	**S**	**20 47 35.8**	**+0.2**
EBAD	**Badajoz**	**1.96**	**9**	⇑Pn	**P**	**20 47 15.1**	**+0.7**
	6.3nm,0.1s,SNR=18						
EBAD				Sn	**S**	**20 47 41.0**	**+3.1**
	15nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.13**	**96**	Pn	**P**	**20 47 15.1**	**-1.6**
	0.8nm,0.2s,SNR=7.9						
EMIJ				Sn	**S**	**20 47 40.7**	**-1.5**
	5.6nm,0.3s,SNR=7.9						
PLOU	**Loures**	**2.49**	**327**	*e*Pn	**P**	**20 47 20.3**	**-1.3**
PLOU				*e*Sn	**S**	**20 47 49.7**	**-1.2**
	25nm,0.1s						
PLOU	**Loures**	**2.49**	**327**	P	**P**	**20 47 20.4**	**-1.2**
PLOU				S	**S**	**20 47 49.5**	**-1.4**
ELUQ	**Luque**	**2.62**	**73**	Pn	**P**	**20 47 23.8**	**+0.4**
	2.0nm,0.2s,SNR=7.9						
ELUQ				Sn	**S**	**20 47 54.8**	**+0.6**
	5.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.63**	**58**	⇑Pn	**P**	**20 47 24.4**	**+0.8**
	6.2nm,0.2s,SNR=18						
EADA				Sn	**S**	**20 47 57.5**	**+3.1**
	18nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.63**	**58**	⇑P	**P**	**20 47 24.4**	**+0.8**
EADA				S	**S**	**20 47 57.5**	**+3.1**
ELOJ	**Sierra Loja**	**2.63**	**82**	Pn	**P**	**20 47 25.0**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
ELOJ				Sn	**S**	**20 47 55.6**	**+1.1**
	3.3nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.91**	**345**	*e*Sn	**S**	**20 48 01.3**	**-0.2**
	23nm,0.1s						
PTOM	**Tomar**	**2.91**	**345**	Sn	**S**	**20 48 01.3**	**-0.2**
	12nm,0.1s						
PCBR	**Castelo Branco**	**3.02**	**359**	*e*Pn	**P**	**20 47 29.4**	**+0.3**
PCBR				*e*Sn	**S**	**20 48 05.5**	**+1.2**
	14nm,0.1s						
PCBR	**Castelo Branco**	**3.02**	**359**	Pn	**P**	**20 47 29.4**	**+0.3**
PCBR				Sn	**S**	**20 48 05.5**	**+1.2**
	6.8nm,0.1s						
MTE	**Manteigas**	**3.58**	**358**	*e*Pn	**P**	**20 47 36.6**	**-0.2**
MTE				*e*Sn	**S**	**20 48 18.9**	**+0.7**
	9.8nm,0.2s						
MTE	**Manteigas**	**3.58**	**358**	Pn	**P**	**20 47 36.6**	**-0.2**
MTE				Sn	**S**	**20 48 18.9**	**+0.7**
	4.9nm,0.2s						
EQES	**Quesada**	**3.60**	**73**	Pn	**P**	**20 47 38.2**	**+1.2**
	1.1nm,0.1s,SNR=13						
EQES				Sn	**S**	**20 48 18.8**	**+0.3**
	2.4nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**3.92**	**355**	*e*Pn	**P**	**20 47 41.3**	**-0.1**
PVIS				*e*Sn	**S**	**20 48 26.4**	**-0.1**
	9.7nm,0.1s						
PVIS	**Viseu**	**3.92**	**355**	Pn	**P**	**20 47 41.3**	**-0.1**
PVIS				Sn	**S**	**20 48 26.4**	**-0.1**
	4.8nm,0.1s						
ESDC	**Sonseca Array**	**3.94**	**42**	Pn	**P**	**20 47 42.6**	**+0.9**
	4.8nm,0.1s,baz=226,slow=13,SNR=11						
ESDC				Sn	**S**	**20 48 27.6**	**+0.6**
	1.7nm,0.1s,baz=225,slow=24,SNR=7.9						
EVIA	**Vianos**	**4.29**	**63**	Pn	**P**	**20 47 46.9**	**+0.2**
	0.9nm,0.2s,SNR=7.9						
EVIA				Sn	**S**	**20 48 35.5**	**-0.5**

	1.8nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	4.46	357	*e*Pn	P	20 47 48.9	-0.1
PVRL				*e*Sn	S	20 48 39.5	-0.6
	13nm,0.1s						
PVRL	**Vila Real**	4.46	357	Pn	P	20 47 48.9	-0.1
PVRL				Sn	S	20 48 39.5	-0.6
	6.3nm,0.1s						
ETOB	**Tobarra**	4.99	67	Pn	P	20 47 55.7	-0.6
	0.7nm,0.1s,SNR=11						
ETOB				Sn	S	20 48 52.5	-0.7
	4.6nm,0.2s						
PBRG	**Braganca**	5.01	6	*e*Pn	P	20 47 56.2	-0.4
PBRG				*e*Sn	S	20 48 52.7	-1.0
	5.5nm,0.2s						
PBRG	**Braganca**	5.01	6	Pn	P	20 47 56.2	-0.4
PBRG				Sn	S	20 48 52.7	-1.0
	2.8nm,0.2s						
EMUR	**La Murta**	5.02	76	Sn	S	20 48 52.1	-1.9
	2.9nm,0.3s,SNR=7.9						
ELOB	**Lobios**	5.07	354	Pn	P	20 47 57.4	0.0
	0.4nm,0.1s,SNR=7.9						
ELOB				Sn	S	20 48 55.5	+0.3
	5.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	5.15	6	Pn	P	20 47 58.9	+0.5
	1.0nm,0.1s,SNR=11						
ECAL				Sn	S	20 48 57.8	+0.7
	8.8nm,0.3s						
EZAM	**Zamans**	5.42	350	Pn	P	20 48 01.9	-0.3
	0.4nm,0.1s,SNR=7.9						
EZAM				Sn	S	20 49 01.7	-2.2
	3.9nm,0.6s,SNR=7.9						
ERUA	**La Rua**	5.58	2	Pn	P	20 48 05.0	+0.7
	1.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	5.79	45	Pn	P	20 48 08.4	+1.2
	0.9nm,0.1s,SNR=23						
ETOR				Sn	S	20 49 13.1	+0.2
	1.8nm,0.2s						
EBEN	**Beniarda**	6.00	69	Pn	P	20 48 07.8	-2.2
	8.5nm,0.8s,SNR=7.9						
EBEN				Sn	S	20 49 15.8	-2.3
	1.2nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	6.49	55	Pn	P	20 48 18.7	+1.8
	0.4nm,0.3s,SNR=7.9						
EMOS				Sn	S	20 49 29.1	-1.0
	0.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	6.51	2	Pn	P	20 48 18.7	+1.5
	0.3nm,0.1s,SNR=7.9						
EPON				Sn	S	20 49 30.8	+0.1
	0.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	6.51	2	P	P	20 48 18.7	+1.5
EPON				S	S	20 49 30.8	+0.1
ELAN	**Lanestosa**	7.10	24	Pn	P	20 48 25.8	+0.4
	0.4nm,0.2s,SNR=7.9						
ELAN				Sn	S	20 49 43.3	-1.9
	3.2nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	7.28	46	Pn	P	20 48 29.5	+1.6
	4.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	7.84	33	Pn	P	20 48 36.7	+1.2
	0.4nm,0.3s,SNR=7.9						
EALK				Sn	S	20 50 01.1	-2.2
	30nm,0.9s,SNR=7.9						
EALK	**Alkurruntz**	7.84	33	P	P	20 48 37.1	+1.6
SJPF	**Ste Jean**	7.88	35	*e*Pn	P	20 48 37.2	+1.1
SJPF				*e*Sn	S	20 50 03.7	-0.7
	1.5nm,0.3s						
ETSF	**Etsaut**	8.04	39	*e*Pn	P	20 48 39.7	+1.4
ETSF				*e*Sn	S	20 50 08.4	0.0
	0.6nm,0.3s						
EPF	**Esparros**	8.60	41	*e*Pn	P	20 48 47.7	+1.8
EPF				*e*Sn	S	20 50 20.9	-1.2
	1.0nm,0.3s						
CAF	**Calviac**	10.81	39	*e*Sn	S	20 51 14.5	-1.2
	0.2nm,0.2s						
RJF	**Les Rejaudoux**	10.83	36	*e*Pn	P	20 49 16.3	+0.3
QUIF	**Quistinic**	11.53	14	*e*Pn	P	20 49 24.9	-0.5
TCF	**Toulx Ste Croi**	11.89	34	*e*Pn	P	20 49 31.0	+0.8
ROSF	**Rostrenen**	11.91	13	*e*Pn	P	20 49 30.4	-0.1

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*PDG **06** 21:36:32.6±0.2, 41.13N×20.13E, h3^{km}*
*NEIC **06** 21:36:32.6, 41.13N×20.13E, h3^{km}, MD2.5(PDG), After PDG.*
*THE **06** 21:36:46.2, 40.62N×21.27E, h8^{km}, ML2.3*
ISC 06 21:36:32.1±0.5, **41.12N**±0.03×**20.24E**±0.04, **h3^{km}, n20, σ1^{s}30**/38, **5C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	0.36	310	⇑*i*Pg	Pg	21 36 38.7	-0.7
TIR				*i* Sg	Sg	21 36 44.7	+0.5
OHR	**Ohrid**	0.42	91	⇑*i*Pg	Pg	21 36 40.9	+0.3
OHR				*i* Sg	Sg	21 36 48.4	+2.1
QSH	**Qafa e Shtames**	0.47	328	*i* Pg	Pg	21 36 40.4	-1.2
QSH				*i* Sg	Sg	21 36 47.4	-0.6
LACI	**Lac**	0.65	323	*i* Pg	Pg	21 36 43.8	-1.4
LACI				*i* Sg	Sg	21 36 53.7	-0.2
FNA	**Florina**	0.93	111	*e*Pg	Pg	21 36 50.0	-0.6
LSK	**Leskovik**	1.00	164	*i* Pg	Pg	21 36 52.8	+0.6
LSK				*i* Sg	Sg	21 37 06.3	+0.7
ULC	**Ulcinj**	1.12	319	⇑*i*Pg	Pg	21 36 52.3	-2.3
ULC				*e*Sg	Sg	21 37 09.2	-0.3
SKO	**Skopje**	1.24	46	*i* Pn	Pn	21 36 55.5	-0.9
SKO				*i* Sg	Sg	21 37 12.8	-0.7
BCI	**Bajram Curri**	1.25	354	*i* Pn	Pn	21 36 55.1	-1.4
BCI				*i* Sn	Sn	21 37 14.5	+0.4
PVY	**Plav**	1.49	353	*e*Pg	Pg	21 36 59.7	-2.2
PVY				*e*Sg	Sg	21 37 22.7	+1.0
TTG	**Podgorica**	1.50	331	⇑*i*Pg	Pg	21 36 59.3	-2.8
TTG				*e*Sg	Sg	21 37 22.3	+0.2
BUM	**Brajici-Budva**	1.55	320	⇑*i*Pg	Pg	21 37 00.7	-2.4
BUM				*e*Sg	Sg	21 37 24.0	+0.3
GRG	**Griva**	1.65	95	*e*Pg	Pg	21 37 02.9	-2.1
GRG				*e*Sg	Sg	21 37 16.9	-10
IVA	**Berane**	1.77	352	*e*Pn	Pn	21 37 05.2	+1.2
IVA				*e*Sn	Sn	21 37 31.0	+3.8
HCY	**Herceg Novi**	1.86	316	*e*Pn	Pn	21 37 05.3	+0.1
HCY				*e*Sn	Sn	21 37 31.7	+2.2
NKY	**Niksic**	1.93	332	*e*Pn	Pn	21 37 06.5	+0.4
NKY				*e*Sn	Sn	21 37 33.8	+2.5
LIT	**Litokhoron**	1.99	120	*e*Pg	Pg	21 37 06.1	-5.8
KNT	**Kendrikon**	2.01	88	*e*Pb	Pb	21 37 10.3	+1.3
KNT				*e*Sb	Sb	21 37 29.3	-5.1
BRY	**Bratogost**	2.18	325	*e*Pn	Pn	21 37 10.7	+0.8
BRY				*e*Sn	Sn	21 37 39.8	+2.1
UPM	**Unac-Piva**	2.31	335	*e*Pn	Pn	21 37 11.7	+0.1
UPM				*e*Sn	Sn	21 37 42.6	+1.8

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*IDC **06** 22:17:05.7±2.2, 39.68N×54.11E, mb3.7/7, mb1 3.8/10, mb1mx3.7/23, ML3.7/3, Error ellipse: s-maj=44.7km s-min=14.8km az=165.0*
*NEIC **06** 22:17:11.0±1.7, 39.71N×54.08E, h36^{km}±21^{km}, Error ellipse: s-maj=28.1km s-min=9.6km az=156.0*
*MOS **06** 22:17:12.3±1.4, 40.18N×53.88E, h33^{km}, mb3.8/3, Error ellipse: s-maj=21.8km s-min=14.9km az=44.5*
*NNC **06** 22:17:22.0±1.8, 40.57N×55.39E, Error ellipse: s-maj=15.9km s-min=11.8km az=61.0*
ISC 06 22:17:11.2±1.1, **40.3N**±0.1×**54.20E**±0.08, **h33^{km}, n23, σ1^{s}69**/30, **mb3.6**/6, **9C-3D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNI	**Garni**	7.24	272	Pn	Pn	22 18 54.6	-3.0
GNI				Sn	Sn	22 20 19.7	+0.2
KIV	**Kislovodsk**	9.30	297	⇓*i*P	P	22 19 27.2	+1.2
KIV				*e*		22 21 01.1	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				smax			
	comp=N,15μm,1.2s						
AB31	**Akbulak array**	9.82	23	⇑P	P	22 19 36.6	+3.4
	comp=N,2.0nm,0.2s,baz=202,slow=13,SNR=102						
AB31				⇑S	S	22 21 23.1	-0.4
	comp=N,14nm,0.3s,baz=182,slow=24,SNR=18						
KK31	**Karatay Array**	12.50	72	⇑P	P	22 20 08.3	-1.3
	comp=N,0.9nm,0.4s,baz=261,slow=15,SNR=16						
KK31				⇑S	S	22 22 19.5	-9.2
	comp=N,1.5nm,0.5s,baz=251,slow=21,SNR=5.8						
BRTR	**Keskin Array B**	15.77	275	Pn	P	22 20 49.2	-3.1
	comp=N,0.1nm,0.3s,baz=96,slow=12,SNR=3.6						
ASF	**Jabal al Asfar**	16.14	245	Pn	P	22 20 50.1	-6.9
	comp=N,0.1nm,0.3s,baz=312,slow=12,SNR=2.8						
ZRNK	**Zerenda**	16.18	34	⇑P	P	22 21 02.1	+4.7
	comp=N,1.1nm,0.5s						
ZRNK				⇑S	S	22 23 54.3	-1.1
	comp=N,4.8nm,0.6s						
ARU	**Arti**	16.38	9	⇓*i*P	P	22 21 01.9	+1.9
ARU				*e*S	S	22 23 57.0	-3.1
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU				MLR	MLR		
	comp=N,30nm,20.0s						
ARU				MLR	MLR		
	comp=Z,50nm,20.0s						
ARU	**Arti**	16.38	9	*e*Pn	P	22 21 01.2	+1.3
	comp=Z,1.9nm,0.5s						
BRVK	**Borovoye**	16.81	35	⇑P	P	22 21 10.2	+4.8
	comp=Z,1.8nm,0.8s						
BRVK				⇑S	S	22 24 08.8	-1.2
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	16.81	35	*e*P	P	22 21 09.2	+3.8
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	16.83	36	P	P	22 21 10.2	+4.6
	comp=Z,1.4nm,0.3s,baz=225,slow=11,SNR=32						
VOSK	**Vostochnaya**	16.90	37	⇓P	P	22 21 08.7	+2.2
	comp=Z,2.0nm,0.5s						
VOSK				⇑S	S	22 24 11.3	-0.8
	comp=Z,2.6nm,0.7s						
AKASG	**Malin Array Be**	20.26	309	P	P	22 21 44.7	-1.7
	comp=Z,1.9nm,0.3s,baz=106,slow=9.6,SNR=13						
AKASG	**Malin Array Be**	20.26	309	P	P	22 21 44.7	-1.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MLR	**Muntele Rosu**	21.28	293	P	P	22 21 57.1	+0.2
	comp=Z,0.9nm,0.3s,mb3.6,baz=186,slow=11,SNR=5.2						
MLR	**Muntele Rosu**	21.28	293	P	P	22 21 57.1	+0.3
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	21.29	63	P	P	22 21 59.4	+2.4
	comp=Z,1.2nm,0.6s,mb3.4,baz=256,slow=11,SNR=10						
MKAR	**Makanchi Array**	21.29	63	P	P	22 21 59.4	+2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
IDI	**Anoyia**	23.64	267	P	P	22 22 17.1	-3.1
	comp=Z,4.0nm,0.4s,mb4.2,baz=12,slow=8.4,SNR=17						
FINES	**FINESS Array B**	27.23	330	P	P	22 22 56.0	+2.2
	comp=Z,0.2nm,0.3s,mb3.1,baz=126,slow=11,SNR=6.4						
ARCES	**ARCESS Array B**	32.95	342	P	P	22 23 45.3	+0.8
	comp=Z,0.3nm,0.3s,mb3.7,baz=150,slow=9.8,SNR=6.8						
NOA	**NORSAR Array B**	33.36	323	P	P	22 23 49.9	+1.7
	comp=Z,0.2nm,0.4s,mb3.4,baz=113,slow=5.9,SNR=2.8						

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*NEIC **06** 23:23:57.4, 27.86S×70.95W, h22^{km}, ML4.2(GUC), After GUC.*
GUC 06 23:23:57.4±0.7, **27.86S×70.95W, h22^{km}**±6^{km}, **ML4.2, 3C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	0.73	47	⇑*i*P	Pb	23 24 11.2	-0.1
CPCH				*i* S	Sb	23 24 20.8	0.0
CPCH				AMP		23 24 21.5	
	comp=E,57μm,0.1s						
VACH	**Vallenar**	0.73	167	⇑*i*P	Pb	23 24 10.6	-0.8
VACH				*i* S	Sb	23 24 21.2	+0.3
VACH				AMP		23 24 21.8	
	comp=E,17μm,0.1s						
TLL	**Tololo Astrono**	2.30	177	*e*P	Pn	23 24 35.8	+1.0
TLL				*i* S	Sn	23 25 05.2	+2.5
CMCH	**Combarbala**	3.30	181	⇑*i*P	Pn	23 24 49.0	-0.1
CMCH				*i* S	Sn	23 25 28.2	+0.1
CMCH				AMP		23 25 45.6	
	comp=N,252nm,0.5s						

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*NNC **06** 23:27:36.0±3.6, 40.01N×74.53E, h10^{km}±11^{km}, mpv3.2, Error ellipse: s-maj=575.8km s-min=29.7km az=47.0*
ISC 06 23:27:31.3±3.4, **39.1N**±0.2×**73.6E**±0.2, **h10^{km}, n8, σ0^{s}46**/9, **2C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	3.08	1	P	Pn	23 28 20.9	-0.2
	SNR=16						
UCH	**Uchtor**	3.25	12	P	Pn	23 28 23.5	+0.1
	SNR=20						
EKS2	**Erkin-Say**	3.61	2	P	Pn	23 28 28.2	-0.4
	SNR=15						
AAK	**Ala-Archa**	3.64	10	P	Pn	23 28 29.6	+0.6
	SNR=6.7						
KBK	**Karagaybulak**	3.74	15	P	Pn	23 28 30.8	+0.4
	SNR=11						
ULHL	**Ulahol**	3.77	31	P	Pn	23 28 30.3	-0.6
	SNR=6.9						
KK31	**Karatay Array**	4.67	331	⇓Pn	Pn	23 28 44.5	+0.8
	2.0nm,0.5s,baz=135,slow=12,SNR=58						
KK31				Sn	Sn	23 29 38.5	-0.2
	2.3nm,0.3s,baz=133,slow=18,SNR=5.7						
KK31				⇑Lg		23 29 53.4	
	12nm,0.6s,baz=148,slow=30,SNR=4.9						
AB31	**Akbulak array**	14.13	321	⇑P	P	23 30 53.0	-0.5
	0.2nm,0.5s,baz=125,slow=14,SNR=6.8						

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*NAO **06** 23:28:03.2±3.1, 67.80N×20.85E, ML2.2*
*BER **06** 23:28:03.0±3.9, 67.88N×20.20E, ML1.8, ML2.2(NAO), Suspected explosion*
ISC 06 23:28:01.8±1.0, **67.97N**±0.06×**20.1E**±0.1, **n10, σ0^{s}51**/8, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	1.58	47	*e*P	Pn	23 28 31.9	+0.7
KTK1				*e*Sg	Sg	23 28 53.8	-0.5
KTK1				AML	AML	23 28 57.2	
	comp=Z,10nm,0.3s						
TRO	**Tromso**	1.72	347	*e*P	Pn	23 28 34.1	+0.9
TRO				*e*Sg	Sg	23 28 58.8	-0.3
TRO				AML	AML	23 29 01.5	
	comp=Z,12nm,0.3s						
LOF	**Lofoten**	2.45	277	*e*Sg	Sg	23 29 23.4	0.0
ARA0	**ARCESS Array S**	2.54	49	Pn	Pn	23 28 44.7	-0.2
	baz=229,slow=16						
ARA0				Lg		23 29 18.7	
	baz=226,slow=28						
MOR8	**Moi Rana**	2.84	233	*e*Sg	Sn	23 29 24.3	-0.4
MOR8				AML	AML	23 29 25.7	
	comp=Z,12nm,0.4s						
NSS	**Namsos**	4.75	227	*e*Sg	Sn	23 30 28.4	+15
NSS				AML	AML	23 30 29.3	
	comp=Z,4.0nm,0.4s						
FIA0	**FINESS Array S**	7.04	156	Lg		23 31 37.0	
	baz=342,slow=37						
FIA0	**FINESS Array S**	7.04	156	Lg		23 31 37.0	
	baz=342,slow=37						
HFS	**Hagfors**	8.34	202	Lg		23 32 19.9	
	baz=9.2,slow=37						
HFS	**Hagfors**	8.34	202	Lg		23 32 19.9	
	baz=9.2,slow=37						

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*HEL **06** 23:32:58.7±0.2, 67.85N×20.13E, ML2.2(UPP), ML1.9(BER), Explosion*
*BER **06** 23:33:00.3±4.0, 67.86N×20.11E, ML1.9, Suspected explosion*
ISC 06 23:32:57.5±0.6, **67.82N**±0.04×**20.12E**±0.09, **n17, σ0^{s}72**/20, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.16	31	*i* P	Pg	23 33 00.8	+0.2
KUA				*i* S	Sg	23 33 02.5	-0.2
NIKU	**Nikkaluokta**	0.41	277	*i* P	Pg	23 33 06.2	+0.4
DUNU	**Dundret**	0.72	166	*i* P	Pg	23 33 11.9	0.0
MASU	**Masugnsbyn**	0.81	116	*i* P	Pg	23 33 13.0	-0.5
KIF	**Kilpisjarvi**	1.22	12	*e*S	Sb	23 33 36.6	-0.6
PAJU	**Pajala**	1.41	123	*e*P	Pb	23 33 23.7	-0.6
ERTU	**Ertsjaerv**	1.51	147	*e*P	Pn	23 33 25.8	0.0
KTK1	**Kautokeino**	1.66	42	*e*P	Pn	23 33 28.8	+0.7
KTK1				*e*SN	Sn	23 33 52.5	+2.1
TRO	**Tromso**	1.87	347	*e*P	Pn	23 33 30.6	-0.5
TRO				*e*SG	Sg	23 33 55.4	-4.4
TRO				AML	AML	23 33 58.2	
	comp=Z,17nm,0.5s						
SGF	**Sodankyl**	2.48	96	*e*S	Sn	23 34 11.6	+0.5
LOF	**Lofoten**	2.50	280	*e*	Sg	23 34 20.6	-0.1
LOF				AML	AML	23 34 22.2	
	comp=Z,9.8nm,0.4s						
LOF	**Lofoten**	2.50	280	*e*Sg	Sg	23 34 20.6	-0.1
LOF				AML	AML	23 34 22.2	
	comp=Z,9.8nm,0.4s						
MOR8	**Moi Rana**	2.78	236	*e*SG	Sg	23 34 21.6	-8.4
MOR8				AML	AML	23 34 22.5	
	comp=Z,12nm,0.3s						
KEV	**Kevo**	3.17	49	*e*SB	Sb	23 34 32.8	-1.1
OUL	**Oulu**	3.59	137	*e*SG	Sg	23 34 50.4	-6.7
MSF	**Maaselka**	4.01	114	*e*SG	Sg	23 35 05.3	-5.6
NSS	**Namsos**	4.67	229	*e*SG	Sg	23 35 25.6	-7.4
NSS				AML	AML	23 35 26.4	
	comp=Z,5.9nm,0.4s						

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*IDC **06** 23:34:51.3±6.8, 21.90S×170.27E, mb3.9/2, mb1 4.1/2, mb1mx3.8/13, MS3.5/4, Ms1 3.5/4, ms1mx3.2/22, Error ellipse: s-maj=272.0km s-min=61.0km az=150.0*
*NEIC **06** 23:34:51.2±0.6, 22.50S×170.52E, h10^{km}, Error ellipse: s-maj=32.8km s-min=27.3km az=159.0*
ISC 06 23:34:55.3±4.5, **22.5S**±0.4×**170.3E**±0.2, **h46^{km}**±33^{km}, **n18, σ0^{s}89**/5, **mb3.8**/2, **MS3.4**/4, **1C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	3.58	276	*e*P	P	23 35 49.9	+0.1
DZM				*e*S	S	23 36 31.0	-0.3
RPZ	**Rata Peaks**	21.19	178	LR	LR	23 46 38.2	
	comp=Z,152nm,18.6s,MS3.4,baz=105,slow=32						
CTA	**Charters Tower**	22.51	272	LR	LR	23 45 48.8	
	comp=Z,33nm,21.0s,MS2.7,baz=228,slow=29						
ASAR	**Alice Springs**	33.44	261	P	P	23 41 32.8	+0.7
	0.6nm,0.8s,mb3.6,baz=93,slow=8.1,SNR=4.8						
ASAR				LR	LR	23 55 57.4	
	comp=Z,86nm,18.6s,MS3.5,baz=217,slow=38						
JOW	**Kunigami**	63.68	318	LR	LR	00 07 49.6	
	comp=Z,96nm,20.6s,MS4.0,baz=103,slow=31						
CMAR	**Chiang Mai Arr**	80.72	294	P	P	23 47 05.6	-0.2
	1.5nm,0.7s,mb4.0,baz=127,slow=4.5,SNR=5.2						
SNAA	**Sanae**	85.98	182	⇓*i*	P	23 47 30.9	-0.4
KSP	**Ksiaz**	145.19	331	*e*P	PKPdf	23 54 28.1	+0.5
KSP				*e*		23 54 33.1	
VYHS	**Vyhne**	145.52	326	*e*PKP	PKPdf	23 54 29.8	+1.5
DPC	**Dobruska-Polom**	145.52	330	*e*PKP	PKPdf	23 54 29.5	+1.3
PVCC	**Panska Ves**	146.18	332	*e*PKP	PKPdf	23 54 31.7	+2.4
BRG	**Berggiesshubel**	146.19	333	*e*P	PKPdf	23 54 31.2	+1.9
CLL	**Collm**	146.25	334	⇑*i*PKP1	PKPbc	23 54 31.0	+0.4
PRU	**Pruhonice**	146.58	331	*e*PKP	PKPdf	23 54 32.5	+2.5
MOX	**Moxa**	147.32	335	*e*P	PKPdf	23 54 34.0	+2.8
KHC	**Kasperske Hory**	147.63	331	*e*PKP	PKPdf	23 54 35.7	+3.9
GERES	**GERESS Array B**	147.79	330	PKPbc	PKPdf	23 54 36.0	+4.0
	1.5nm,0.7s,baz=45,slow=1.9,SNR=14						
GRA1	**Grafenberg Arr**	148.22	334	*e*PKP	PKPdf	23 54 30.0	-2.7
GRA1				*e*		23 54 37.3	

IDC 06 23:40:32.1±1.7, **13.08N×125.49E, mb3.6**/3, **mb1 3.7**/3, **mb1mx3.5**/18, **Error ellipse: s-maj=254.0km s-min=24.6km az=73.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	33.95	165	P	P	23 47 16.7	-2.8
	0.2nm,0.3s,baz=346,slow=9.9,SNR=7.4						
ASAR	**Alice Springs**	37.44	167	P	P	23 47 48.0	-1.1
	0.2nm,0.5s,baz=353,slow=8.2,SNR=5.3						
SONM	**Songino Array**	38.13	339	P	P	23 47 53.0	-1.7
	1.7nm,1.0s,baz=132,slow=5.7,SNR=8.9						

IDC 06 23:45:55.7±16.0, **4.60S×143.31E, h297^{km}**±171^{km}, **mb3.1**/3, **mb1 3.2**/4, **mb1mx3.0**/13, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.6**/10, **Error ellipse: s-maj=82.3km s-min=62.3km az=77.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	6.12	142	LR	LR	23 49 24.6	
	comp=Z,124nm,20.3s,baz=63,slow=34						
WB2	**Warramunga Arr**	17.57	209	*e*P	P	23 49 40.0	-3.1
WRA	**Warramunga Arr**	17.58	209	P	P	23 49 40.8	-2.3
	0.4nm,0.3s,baz=31,slow=12,SNR=14						
ASAR	**Alice Springs**	21.02	205	P	P	23 50 17.4	+0.1
	0.9nm,0.5s,baz=29,slow=13,SNR=9.5						
FITZ	**Fitzroy Crossi**	21.88	231	*e*P	P	23 50 25.0	-0.7
	2.8nm,0.6s						
FITZ	**Fitzroy Crossi**	21.88	231	P	P	23 50 24.9	-0.8
	3.0nm,0.6s,baz=57,slow=5.4,SNR=17						
MKAR	**Makanchi Array**	74.10	321	P	P	23 56 59.8	-1.6
	0.3nm,0.5s,baz=102,slow=8.8,SNR=3.9						

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*IDC **07** 00:03:32.9±1.7, 31.73N×46.06E, mb3.8/11, mb1 3.9/14, mb1mx3.9/21, ML3.3/3, MS3.5/1, Ms1 3.4/1, ms1mx2.2/21, Error ellipse: s-maj=41.2km s-min=17.9km az=6.0*
*NEIC **07** 00:03:34.3±0.7, 31.72N×46.10E, h10^{km}, mb4.2/12, Error ellipse: s-maj=16.3km s-min=6.4km az=176.0*
*MOS **07** 00:03:35.5±1.2, 31.65N×45.98E, h33^{km}, mb4.0/10, Error ellipse: s-maj=27.6km s-min=12.1km az=108.8*
*KISR **07** 00:03:35.6±1.0, 31.86N×46.06E, h40^{km}±999^{km}, MD4.1, ML3.5*
ISC 07 00:03:35.4±2.4, **31.75N**±0.05×**45.97E**±0.06, **h27^{km}**±19^{km}, **n56, σ0^{s}88**/60, **mb4.0**/23, **MS3.5**/1, **1D, Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIB	**Mutribah**	2.27	148	*e*P	Pn	00 04 13.2	+1.2
MIB				AML	AML	00 04 52.8	
	comp=Z,346nm,0.5s						
UMR	**Umm Al-Rimmam**	2.66	145	*e*P	Pn	00 04 18.2	+0.7
UMR				*e*S	Sn	00 04 49.4	+0.1
UMR				AML	AML	00 04 57.6	
	comp=Z,215nm,0.4s						
RDF	**Al-Radifah**	3.13	154	*e*P	Pn	00 04 24.8	+0.6
RDF				*e*S	Sn	00 05 01.3	+0.2
RDF				AML	AML	00 05 03.6	
	comp=Z,92nm,0.3s						
QRN	**Al-Qurain**	3.44	150	*e*P	Pn	00 04 29.1	+0.5
QRN				*e*S	Sn	00 05 09.5	+0.6
QRN				AML	AML	00 05 18.5	
	comp=Z,98nm,0.4s						
HILS	**Ha’il**	5.67	221	P	Pn	00 04 50.1	-10
ARSS	**Ar Rass**	6.32	203	P	Pn	00 05 08.0	-1.3
HASS	**Wahat al Ahsa’**	7.32	152	P	Pn	00 05 21.3	-2.0
ASF	**Jabal al Asfar**	7.72	275	Pn	Pn	00 05 28.9	-0.1
	comp=Z,1.2nm,0.3s,baz=320,slow=11,SNR=5.5						
ASF				Sn	Sn	00 06 54.3	-2.0
	comp=Z,1.1nm,0.3s,baz=338,slow=23,SNR=3.3						
ASF				Lg		00 07 46.0	
	comp=Z,1.8nm,0.3s,baz=132,slow=22,SNR=4.1						
MZLS	**Mizel**	7.72	185	P	Pn	00 05 28.8	-0.3
RAYN	**Ar Rayn**	8.21	183	Pn	P	00 05 32.1	-3.7
	comp=Z,107nm,0.9s,SNR=22						
AFFS	**‘Afif**	8.23	199	P	P	00 05 31.9	-4.1
BRTR	**Keskin Array B**	12.78	312	Pn	P	00 06 38.4	+0.3
	comp=Z,0.0nm,0.3s,baz=131,slow=13,SNR=11						
IDI	**Anoyia**	17.92	287	P	P	00 07 45.2	+0.8
	comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=2.5						
MLR	**Muntele Rosu**	20.73	317	P	P	00 08 18.4	+2.1
	comp=Z,2.1nm,0.7s,baz=90,slow=10						
MLR	**Muntele Rosu**	20.73	317	P	P	00 08 18.4	+2.1
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	22.64	332	P	P	00 08 35.4	0.0
	comp=Z,0.7nm,0.3s,mb3.5,baz=139,slow=11,SNR=6.6						
AKASG	**Malin Array Be**	22.64	332	P	P	00 08 35.4	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	24.28	347	*d i*P	P	00 08 52.6	+1.3
OBN				*e*S	S	00 13 14.9	+9.4
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
OBN	**Obninsk**	24.28	347	*e*P	P	00 08 51.6	+0.3
	comp=Z,17nm,1.3s,mb4.3						
ARU	**Arti**	26.19	16	*e*P	P	00 09 08.6	-0.7
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
ARU	**Arti**	26.19	16	*e*P	P	00 09 08.6	-0.7
	comp=Z,1.7nm,0.6s,mb3.8						
BRVK	**Borovoye**	27.61	32	*e*P	P	00 09 21.3	-1.1
BVAR	**Borovoye Array**	27.64	33	P	P	00 09 21.9	-0.6
	comp=Z,1.8nm,0.6s,mb3.9,baz=225,slow=8.4,SNR=9.3						
MKAR	**Makanchi Array**	31.56	51	P	P	00 09 57.2	-0.5

	comp=Z,1.5nm,0.5s,mb4.1,baz=248,slow=8.8,SNR=18						
MKAR	Makanchi Array	31.56	51	P	P	00 09 57.2	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	31.56	51	P	P	00 09 57.2	-0.5
FINES	FINESS Array B	32.41	342	P	P	00 10 04.6	-0.3
	comp=Z,0.5nm,0.4s,mb3.7,baz=143,slow=9.4,SNR=10						
FINES	FINESS Array B	32.41	342	P	P	00 10 04.6	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	Kangasniemi	32.92	343	*e*p	P	00 10 08.2	-1.1
MBDF	Montbardon	33.08	304	*e*P	P	00 10 11.2	+0.3
	comp=Z,4.5nm,0.6s,mb4.3						
LPG	La Plagne	33.23	306	*e*P	P	00 10 13.2	+1.0
	comp=Z,6.0nm,0.7s,mb4.3						
LPL	La Plagne	33.24	306	*e*P	P	00 10 13.1	+0.8
	comp=Z,2.3nm,0.4s,mb4.1						
SMRF	Simiane la Rot	33.82	303	*e*P	P	00 10 17.9	+0.6
CABF	La Chapelle	33.90	308	*e*P	P	00 10 18.3	+0.3
	comp=Z,8.3nm,0.5s,mb4.6						
MEZF	Maizieres J'vi	34.99	311	*e*P	P	00 10 27.5	+0.1
LOR	Lormes	35.52	308	*e*P	P	00 10 31.3	-0.6
	comp=Z,2.2nm,0.5s,mb4.0						
SSF	Saint Saulge	35.72	308	*e*P	P	00 10 33.3	-0.3
	comp=Z,4.1nm,0.5s,mb4.3						
AVF	Avril sur Loir	35.78	307	*e*P	P	00 10 33.5	-0.6
BAIF	Baives	35.90	313	*e*P	P	00 10 35.3	+0.2
RJF	Les Rejaudoux	36.85	305	*e*P	P	00 10 43.4	+0.3
	comp=Z,2.9nm,0.6s,mb4.0						
NB2	NORSAR Subarra	37.05	333	P	P	00 10 43.4	-1.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=126,slow=8.6						
NOA	NORSAR Array B	37.05	333	P	P	00 10 43.3	-1.3
	comp=Z,0.3nm,0.6s,mb3.3,baz=126,slow=8.6,SNR=3.6						
LFF	La Frestale	37.36	304	*e*P	P	00 10 47.8	+0.4
	comp=Z,4.2nm,0.5s,mb4.3						
SJPF	Ste Jean	38.69	301	*e*P	P	00 10 59.5	+0.9
	comp=Z,7.5nm,0.7s,mb4.2						
KEV	Kevo	39.52	350	*e*p	P	00 11 05.2	0.0
	comp=Z,0.6nm,0.3s,mb3.8						
KEV	Kevo	39.52	350	*e*P	P	00 11 05.2	0.0
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ARCES	ARCESS Array B	39.56	349	P	P	00 11 05.6	+0.1
	comp=Z,1.0nm,0.8s,mb3.6,baz=164,slow=8.8,SNR=7.1						
ARCES	ARCESS Array B	39.56	349	P	P	00 11 05.6	0.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ESDC	Sonseca Array	40.87	295	P	P	00 11 16.7	+0.1
	comp=Z,0.4nm,0.5s,mb3.4,baz=83,slow=8.2,SNR=5.4						
SONM	Songino Array	47.91	52	P	P	00 12 12.8	-0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=281,slow=8.8,SNR=7.8						
CMAR	Chiang Mai Arr	49.33	92	P	P	00 12 22.7	-1.7
	comp=Z,0.6nm,0.3s,mb4.0,baz=292,slow=7.7,SNR=4.1						
CMAR	Chiang Mai Arr	49.33	92	P	P	00 12 22.7	-1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DBIC	Dimbokro	53.49	253	LR	LR	00 35 30.4	
	comp=Z,40nm,19.2s,MS3.5,baz=121,slow=36						
SCHQ	Schefferville	76.34	327	P	P	00 15 24.6	+1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=18,slow=9.6,SNR=2.7						
ILAR	Eielson Array	83.27	6	P	P	00 16 01.2	+0.9
	comp=Z,0.8nm,0.8s,mb3.8,baz=318,slow=4.4,SNR=6.9						
ILAR	Eielson Array	83.27	6	P	P	00 16 01.2	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

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*NEIC **07** 00:24:21.1, 17.07N×95.40W, h47^{km}, MD3.9(MEX), After MEX.*

MEX 07 00:24:21.7±0.9**, 17.07N×95.44W, h28**^{km}±18^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.54	88	*i* P	Pb	00 24 30.4	-2.1
CMIG				*i* S	Sb	00 24 38.5	-1.5
OXX	Oaxaca	1.23	271	*i* P	Pn	00 24 41.0	-2.2
OXX				*i* S	Sn	00 24 56.0	-3.0
HUIG	Huatulco	1.45	206	*i* P	Pn	00 24 43.0	-3.3
HUIG				*e*S	Sn	00 25 01.0	-3.5
CCIG	Comitan	3.27	103	*e*P	Pn	00 25 09.1	-3.3
CCIG				*i* S	Sn	00 25 47.7	-3.0
PPM				*e*P	Pn	00 25 14.9	-2.5
PPM				*i* S	Sn	00 25 59.1	-0.6
PPM	Popocatepetl	3.62	304	*e*P	Pn	00 25 14.9	-2.5
PPM				*i* S	Sn	00 25 58.5	-1.2
PPM	Popocatepetl	3.62	304	*e*P	Pn	00 25 14.5	-2.9
PPM				*i* S	Sn	00 25 58.5	-1.2

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*IDC **07** 00:25:52.3±5.2, 2.40S×139.45E, h24^{km}±34^{km}, mb4.1/8, mb1 4.3/11, mb1mx4.2/15, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx3.3/16, Error ellipse: s-maj=25.6km s-min=12.9km az=84.0*

*NEIC **07** 00:25:53.6±2.0, 2.49S×139.39E, h37^{km}±19^{km}, mb4.2/8, Error ellipse: s-maj=15.0km s-min=13.0km az=77.0*

ISC 07 00:25:48.8±3.2**, 2.49S**±0.05×**139.4E**±0.1**, h14**^{km}±22^{km}**, n38, σ0$\overset{s}{.}$92**/34**, mb4.6**/14**, MS3.4**/4**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	10.35	132	Pn	P	00 28 20.1	0.0
	1.0nm,0.3s,baz=44,slow=1.1,SNR=3.1						
KAKA	Kakadu	12.27	214	*e*P	P	00 28 46.5	+0.2
	32nm,0.5s						
KAKA				*e*S	S	00 31 03.0	-0.9
WRAB	Tennant Creek	18.02	195	*e*P	P	00 29 59.4	-1.3
	12nm,0.5s						
WB2	Warramunga Arr	18.03	195	*e*P	P	00 30 00.4	-0.5
WB2				*e*S	S	00 33 11.3	-7.7
WRA	Warramunga Arr	18.03	195	P	P	00 29 60.0	-0.9
	0.9nm,0.3s,baz=20,slow=13,SNR=43						
WRA				S	S	00 33 15.4	-3.7
	baz=14,slow=21,SNR=4.6						
CTA	Charters Tower	18.74	159	*e*P	P	00 30 12.5	+2.9
	3.5nm,0.6s						
CTA	Charters Tower	18.74	159	P	P	00 30 11.2	+1.6
	0.5nm,0.3s,baz=346,slow=9.4,SNR=9.4						
CTA				LR	LR	00 38 02.1	
	comp=Z,156nm,18.9s,baz=329,slow=39						
CTAO	Charters Tower	18.74	159	*e*P	P	00 30 09.8	+0.2
	12nm,1.2s						
FITZ	Fitzroy Crossi	20.55	220	*e*P	P	00 30 30.3	+0.5
	7.6nm,0.8s						
FITZ				*e*S	S	00 34 15.5	+1.3
FITZ	Fitzroy Crossi	20.55	220	P	P	00 30 30.8	+0.9
	12nm,0.8s,baz=35,slow=7.8,SNR=18						
FITZ				S	S	00 34 15.8	+1.6
	17nm,1.2s,baz=188,slow=15,SNR=6.1						
FITZ				LR	LR	00 39 43.2	
	comp=Z,122nm,20.0s,MS3.3,baz=70,slow=40						
ASAR	Alice Springs	21.71	194	P	P	00 30 41.8	+0.2
	6.5nm,0.8s,mb4.1,baz=18,slow=9.4,SNR=47						
ASAR				S	S	00 34 44.0	+7.6
	2.9nm,0.7s,baz=14,slow=26,SNR=4.6						
ASAR				LR	LR	00 39 30.2	
	comp=Z,147nm,18.5s,MS3.4,baz=21,slow=38						
ASPA	Alice Springs	21.71	194	*e*P	P	00 30 42.7	+1.1
ASPA				*e*S	S	00 34 43.5	+7.1
TGY	Tagaytay City	24.61	313	LR	LR	00 41 08.4	
	comp=Z,83nm,21.2s,MS3.2,baz=145,slow=37						
STKA	Stephens Creek	29.31	176	*e*P	P	00 31 53.1	-0.2
	4.3nm,1.5s,mb4.0						
STKA	Stephens Creek	29.31	176	P	P	00 31 53.3	+0.1
	2.6nm,0.8s,mb4.0,baz=86,slow=14,SNR=4.9						
FORT	Forrest	30.11	200	*e*P	P	00 32 01.6	+1.2
	54nm,0.8s,mb5.3						
CMAR	Chiang Mai Arr	44.91	299	P	P	00 34 04.4	-0.9
	2.2nm,0.5s,mb4.3,baz=117,slow=6.1,SNR=11						
SONM	Songino Array	57.80	334	P	P	00 35 41.3	-0.8
	0.4nm,0.5s,mb3.7,baz=159,slow=7.0,SNR=4.5						
PKI	Pulchoki	59.88	304	*e*P	P	00 35 56.7	-0.1
KKN	Kakani	60.06	304	*e*P	P	00 35 58.3	+0.2
	18nm,0.8s,mb5.1						
DMN	Daman	60.14	304	*e*P	P	00 35 59.3	+0.7
	27nm,1.0s,mb5.2						
GKN	Gorkha	60.67	304	*e*P	P	00 36 02.8	+0.6
	18nm,0.7s,mb5.3						
MKAR	Makanchi Array	70.02	322	P	P	00 37 03.2	+1.0
	4.6nm,0.8s,mb4.5,baz=121,slow=8.4,SNR=22						
KURK	Kurchatov	73.92	325	*e*P	P	00 37 24.6	-0.8
	6.8nm,1.0s,mb4.5						
BVAR	Borovoye Array	79.51	325	P	P	00 37 57.6	+1.0
	9.2nm,1.0s,mb4.7,baz=117,slow=6.6,SNR=18						
BRVK	Borovoye	79.58	325	*e*P	P	00 37 57.9	+0.9
	10nm,1.3s,mb4.6						
ILAR	Eielson Array	85.36	24	P	P	00 38 25.0	-1.6
	1.6nm,0.7s,mb4.3,baz=256,slow=4.7,SNR=12						
ARU	Arti	86.97	327	*e*P	P	00 38 33.5	-1.3
	6.3nm,1.2s,mb4.7						
YKA	Yellowknife Ar	99.57	27	LR	LR	01 18 27.1	
	comp=Z,35nm,22.0s,MS3.8,baz=295,slow=32						
ARCES	ARCESS Array B	100.52	341	P	P	00 39 36.4	-0.5
	0.9nm,0.7s,baz=90,slow=4.9,SNR=4.8						
ARCES	ARCESS Array B	100.52	341	P	P	00 39 36.4	-0.5
KIC	Kosan Boka	144.03	277	*e*PKP1	PKPbc	00 45 25.6	+1.2
	152nm,1.6s						
DBIC	Dimbokro	144.11	278	PKP	PKPdf	00 45 25.3	-3.5
	4.2nm,0.5s,baz=95,slow=4.6,SNR=15						
TIC	Toumodi	144.28	278	*e*PKP1	PKPbc	00 45 26.0	+0.9
	8.2nm,0.2s						
LIC	Lamto	144.32	277	*e*PKP1	PKPbc	00 45 26.4	+1.2
	46nm,1.5s						
ROSC	El Rosal	146.28	85	PKPbc	PKPbc	00 45 31.5	+1.2
	6.9nm,0.4s,baz=297,slow=5.5,SNR=4.1						
LPAZ	La Paz	147.04	125	PKPbc	PKPdf	00 45 34.5	+0.8
	1.9nm,0.8s,baz=208,slow=3.4,SNR=7.0						
CPUP	Villa Florida	147.11	152	PKPbc	PKPdf	00 45 33.6	0.0
	0.8nm,0.6s,baz=113,slow=7.1,SNR=2.3						

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*NEIC **07** 01:02:39.7±4.2, 17.13S×179.11W, h482^{km}±45^{km}, mb4.0/7, Error ellipse: s-maj=45.8km s-min=21.6km az=153.0*

*IDC **07** 01:02:41.0±7.1, 17.08S×179.14W, h496^{km}±84^{km}, mb3.5/7, mb1 3.8/7, mb1mx3.6/15, Error ellipse: s-maj=77.4km s-min=25.6km az=156.0*

ISC 07 01:02:40.3±0.9**, 17.2S**±0.3×**179.2W**±0.2**, h500**^{km}**, n40, σ0$\overset{s}{.}$82**/17**, mb3.9**/12**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	29.70	238	*e*P	P	01 08 06.9	+0.4
CTA	Charters Tower	32.86	259	*e*P	P	01 08 34.8	+1.4
	3.1nm,0.9s,mb3.7						
CTAO	Charters Tower	32.86	259	P	P	01 08 31.6	-1.8
	5.6nm,0.9s,mb4.0						
PMG	Port Moresby	33.62	279	P	P	01 08 41.4	+1.5
	19nm,1.0s,mb4.5						
STKA	Stephens Creek	38.36	240	*e*P	P	01 09 19.4	+0.5
	4.2nm,0.6s,mb4.0						
STKA	Stephens Creek	38.36	240	P	P	01 09 19.4	+0.6
	7.8nm,0.7s,mb4.2,baz=102,slow=9.9,SNR=16						
WB2	Warramunga Arr	44.05	259	*e*P	P	01 10 04.2	-0.4
WRAB	Tennant Creek	44.05	259	*e*P	P	01 10 02.7	-2.0
	4.3nm,1.1s,mb3.8						
WRA	Warramunga Arr	44.06	259	P	P	01 10 04.6	-0.1
	1.7nm,0.8s,mb3.5,baz=97,slow=7.2,SNR=28						
ASAR	Alice Springs	44.30	254	P	P	01 10 06.8	+0.3
	11nm,0.5s,mb4.6,baz=89,slow=8.1,SNR=217						
ASPA	Alice Springs	44.30	254	*e*P	P	01 10 06.3	-0.3
KAKA	Kakadu	46.91	269	*e*P	P	01 10 20.6	-6.2
	3.1nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	52.44	260	*e*P	P	01 11 07.9	+0.1
	1.0nm,0.6s,mb3.3						
NVAR	Mina Array Bea	79.40	44	P	P	01 13 54.9	-0.2
	1.3nm,0.7s,mb3.5,baz=211,slow=6.9,SNR=7.4						
ILAR	Eielson Array	85.33	13	P	P	01 14 24.1	-0.3
	1.0nm,0.4s,mb3.8,baz=228,slow=5.2,SNR=11						
TXAR	Lajitas Array	86.22	58	P	P	01 14 30.0	+0.5
	1.4nm,0.8s,mb3.6,baz=214,slow=7.5,SNR=12						
PDAR	Pinedale Array	87.32	44	P	P	01 14 34.2	-0.1
	0.8nm,0.6s,mb3.6,baz=234,slow=3.1,SNR=7.9						
BVAR	Borovoye Array	115.81	321	PKP	PKPdf	01 20 24.9	-0.2
	0.4nm,0.3s,baz=96,slow=3.4,SNR=4.3						
BRTR	Keskin Array B	143.75	315	PKP	PKPdf	01 21 18.7	+1.0
	0.9nm,0.5s,baz=90,slow=2.5,SNR=5.6						
CLL	Collm	144.58	347	⇓*i*PKIKP	PKPdf	01 21 20.6	+1.7
DPC	Dobruska-Polom	144.63	343	*e*PKP	PKPdf	01 21 20.8	+1.8
BRG	Berggiesshubel	144.77	346	*e*P	PKPdf	01 21 21.0	+1.8
PRU	Pruhonice	145.44	344	*e*PKP	PKPdf	01 21 23.3	+2.9
KHC	Kasperske Hory	146.47	345	*e*P	PKPdf	01 21 25.7	+3.6
GERES	GERESS Array B	146.71	344	PKPbc	PKPbc	01 21 26.8	+2.2
	1.4nm,0.6s,baz=29,slow=2.7,SNR=16						
BAIF	Baives	147.07	356	*e*PKP1	PKPdf	01 21 27.4	+4.3
CDF	Champ du Feu	148.39	352	*e*PKP1	PKPdf	01 21 30.8	+5.6
	1.8nm,0.4s						
FLN	La Foliniere	148.47	2	*e*PKP1	PKPdf	01 21 30.4	+5.1
	3.4nm,0.4s						
MEZF	Maizieres J'vi	148.56	355	*e*PKP1	PKPdf	01 21 32.3	+6.8
LDF	La Druitiere	148.64	1	*e*PKP1	PKPdf	01 21 30.7	+5.1
	2.5nm,0.4s						
GRR	Gorron	148.83	2	*e*PKP1	PKPdf	01 21 31.4	+5.5
	2.8nm,0.4s						
SGMF	Saint Gilles	148.87	4	*e*PKP1	PKPdf	01 21 31.1	+5.1
LOR	Lormes	149.88	356	*e*PKP1	PKPdf	01 21 34.2	+6.5
	4.2nm,0.4s						
SSF	Saint Saulge	150.10	356	*e*PKP1	PKPdf	01 21 34.7	+6.7
	4.0nm,0.5s						
AVF	Avril sur Loir	150.38	356	*e*PKP1	PKPdf	01 21 34.9	+6.5
MFF	Saint Martin d	150.63	1	*e*PKP1	PKPdf	01 21 35.5	+6.7
	2.9nm,0.6s						
BGF	Bois d'Agland	150.64	357	*e*PKP1	PKPdf	01 21 35.8	+7.0
MBDF	Montbardon	152.07	351	*e*PKP1	PKPdf	01 21 39.5	+8.6
CAF	Calviac	152.30	358	*e*PKP1	PKPdf	01 21 39.6	+8.3
LFF	La Frestale	152.31	0	*e*PKP1	PKPdf	01 21 38.4	+7.1

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*NIED **07** 01:08:00, 34.90N×140.30E, h59^{km}, Mw4.0 Best double couple: M$_0$1.08×10^{15} NP1:φ$_s$106°, δ59°, λ-58°. NP2: φ$_s$236°, δ44°, λ-131°.*

*JMA **07** 01:08:37.8±0.1, 34.86N×140.35E, h66^{km}±2^{km}, M4.2*

JMA Felt I J1.

*IDC **07** 01:08:39.9±2.6, 34.80N×140.16E, h69^{km}±25^{km}, mb3.6/15, mb1 3.8/17, mb1mx3.8/25, Error ellipse: s-maj=20.3km s-min=16.1km az=74.0*

*NEIC **07** 01:08:40.5±1.5, 34.84N×140.23E, h74^{km}±13^{km}, mb4.1/2, Error ellipse: s-maj=16.1km s-min=10.5km az=96.0*

NEIC Recorded [1 JMA] in Chiba, Kanagawa and Tokyo Prefectures. Also recorded [1 JMA] on Miyake-jima.

ISC 07 01:08:37.6±0.4**, 34.78N**±0.04×**140.33E**±0.04**, h67**^{km}±2^{km}**, n39, σ1$\overset{s}{.}$03**/50**, mb3.8**/17**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	Boso 3	0.15	81	⇓P	P	01 08 47.7	+0.1
BSO4	Boso 4	0.21	2	⇓P	P	01 08 47.9	0.0
BSO4				S	S	01 08 56.0	+0.4
BSO2	Boso 2	0.35	94	*e*S	S	01 08 57.5	+0.2
KTR	Katsuura	0.37	358	⇓P	P	01 08 48.6	-0.5
KTR				S	S	01 08 55.4	-2.2
TATJ	Tateyama 2	0.44	305	⇓P	P	01 08 50.2	+0.5
TATJ				S	S	01 08 59.5	+0.9
BSO1	Boso 1	0.55	103	⇓P	P	01 08 50.7	-0.1
JIM2	Oshima 3	0.74	266	⇓P	P	01 08 53.2	+0.3
JIM2				*e*S	S	01 09 03.9	-0.4
JMY	Miyake jima 2	0.98	224	P	P	01 08 56.9	+1.0
JMY				*e*S	S	01 09 10.8	+1.3
AJI	Ajiro	1.05	285	S	S	01 09 10.7	-0.4
JOD2	Odawara 2	1.13	296	⇓P	P	01 08 57.6	-0.3
JOD2				*e*S	S	01 09 11.6	-1.4
JIZS	Izushimoda	1.20	268	⇓P	P	01 08 59.1	+0.3
JIZS				S	S	01 09 14.3	-0.3
JHJ	Hachijo jima 2	1.72	195	P	P	01 09 07.4	+1.5
	469nm,0.3s,baz=332,slow=7.9,SNR=98						
JHJ				S	S	01 09 23.5	-3.3
	230nm,0.3s,baz=258,slow=22,SNR=6.6						
MAJO	Matsushiro	2.47	316	*e*P	P	01 09 16.7	+0.3
MAJO				*e*S	S	01 09 46.1	+0.7
MAT	Matsushiro	2.47	316	P	P	01 09 16.4	0.0
MAT				S	S	01 09 45.7	+0.3
MAT	Matsushiro	2.47	316	*e*P	P	01 09 16.0	-0.4
MAT				*e*S	S	01 09 46.0	+0.6
CBIJ	Chichi jima	7.83	168	P	P	01 10 28.6	-2.4
	38nm,0.3s,baz=299,slow=13,SNR=26						
CBIJ				S	S	01 11 51.5	-7.4
	5.5nm,0.3s,baz=281,slow=23,SNR=3.1						
JNU	Nakatsue	8.02	261	P	P	01 10 35.9	+2.1
	2.0nm,0.3s,baz=58,slow=9.5,SNR=5.6						
SONM	Songino Array	28.39	308	P	P	01 14 27.5	0.0
	0.4nm,0.5s,mb3.2,baz=120,slow=10,SNR=5.8						
MKAR	Makanchi Array	44.61	304	P	P	01 16 44.0	-0.7
	0.5nm,0.5s,mb3.5,baz=91,slow=8.9,SNR=4.8						
BVAR	Borovoye Array	51.46	313	P	P	01 17 36.9	-1.0
	0.3nm,0.4s,mb3.7,baz=82,slow=10,SNR=4.1						
ILAR	Eielson Array	51.87	31	P	P	01 17 40.6	-0.2
	1.4nm,0.8s,mb4.0,baz=273,slow=6.1,SNR=12						
WRAB	Tennant Creek	54.70	187	*e*P	P	01 18 01.7	-0.7
	5.0nm,1.1s,mb4.5						
WB2	Warramunga Arr	54.71	187	*e*P	P	01 18 01.9	-0.5
WRA	Warramunga Arr	54.71	187	P	P	01 18 01.6	-0.8
	1.5nm,0.4s,mb4.4,baz=2.2,slow=7.8,SNR=53						
INK	Inuvik	56.79	26	P	P	01 18 16.8	0.0
	0.5nm,0.3s,mb4.0,baz=314,slow=5.4,SNR=5.8						
ASAR	Alice Springs	58.44	187	P	P	01 18 28.7	-0.2
	0.8nm,0.4s,mb4.1,baz=21,slow=10,SNR=12						
ARCES	ARCESS Array B	65.80	340	P	P	01 19 16.7	-0.5
	1.2nm,0.8s,mb3.8,baz=56,slow=8.7,SNR=3.8						
KAF	Kangasniemi	69.91	333	*e*p	P	01 19 41.1	-1.8
	0.3nm,0.3s,mb3.6						
FINES	FINESS Array B	70.40	332	P	P	01 19 45.5	-0.4
	0.4nm,0.4s,mb3.6,baz=54,slow=6.7,SNR=12						
AKASG	Malin Array Be	75.54	322	P	P	01 20 15.0	-1.2
	1.3nm,0.6s,mb3.9,baz=46,slow=6.3,SNR=5.7						
NB2	NORSAR Subarra	75.92	337	P	P	01 20 17.2	-1.0
	0.9nm,0.7s,mb3.6,baz=41,slow=5.6						
NOA	NORSAR Array B	75.92	337	P	P	01 20 18.3	+0.1
	0.7nm,0.8s,mb3.5,baz=42,slow=5.9,SNR=5.9						
NOA	NORSAR Array B	75.92	337	P	P	01 20 18.3	+0.1
NVAR	Mina Array Bea	77.05	52	P	P	01 20 26.7	+1.7
	1.0nm,0.5s,mb3.8,baz=311,slow=4.3,SNR=9.6						
BRTR	Keskin Array B	79.68	311	P	P	01 20 40.6	+1.2
	0.8nm,0.9s,mb3.5,baz=127,slow=6.2,SNR=4.1						
PDAR	Pinedale Array	79.88	45	P	P	01 20 41.9	+1.4
	0.9nm,0.6s,mb3.8,baz=277,slow=2.7,SNR=10.0						
PV10	Paradox Valley	82.93	48	*e*P	P	01 20 59.2	+2.8
TXAR	Lajitas Array	92.20	52	P	P	01 21 42.9	+1.6
	0.2nm,0.5s,mb3.6,baz=305,slow=3.8,SNR=4.6						
LPAZ	La Paz	148.57	61	PKPbc	PKPdf	01 28 20.9	+7.4
	1.4nm,0.5s,baz=301,slow=2.9,SNR=8.5						

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*IDC **07** 01:26:11.5±1.3, 12.24N×94.42E, mb3.7/6, mb1 3.9/6, mb1mx3.6/17, Error ellipse: s-maj=88.8km s-min=26.2km az=47.0*

ISC 07 01:26:15.4±1.1**, 12.4N**±0.4×**94.5E**±0.5**, h33**^{km}**, n6, σ1$\overset{s}{.}$39**/6**, mb3.8**/6**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	35.80	346	P	P	01 33 13.8	+0.2
	0.9nm,0.8s,mb3.8,baz=140,slow=9.5,SNR=5.2						
WRA	Warramunga Arr	50.72	129	P	P	01 35 12.9	-1.5
	0.8nm,0.8s,mb3.7,baz=308,slow=8.0,SNR=4.9						
BRTR	Keskin Array B	59.80	309	P	P	01 36 19.1	-0.8
	0.7nm,0.6s,mb3.9,baz=131,slow=7.1,SNR=7.1						
STKA	Stephens Creek	63.03	136	P	P	01 36 43.4	+1.6
	1.5nm,0.8s,mb4.2,baz=348,slow=9.3,SNR=2.8						
FINES	FINESS Array B	68.91	331	P	P	01 37 18.4	-0.3
	0.6nm,0.8s,mb3.5,baz=90,slow=4.2,SNR=4.1						
GERES	GERESS Array B	74.71	317	P	P	01 37 54.3	+0.8
	0.3nm,0.4s,mb3.6,baz=90,slow=6.7,SNR=8.3						

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*IDC **07** 01:49:39.5±10.0, 7.31S×125.96E, h192^{km}±123^{km}, mb3.0/2, mb1 2.9/5, mb1mx2.9/14, Error ellipse: s-maj=101.0km s-min=49.3km az=50.0*

ISC 07 01:49:38.2±1.1**, 7.3S**±0.2×**126.0E**±0.4**, h200**^{km}**, n5, σ0$\overset{s}{.}$36**/5**, mb3.2**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.77	182	P	P	01 52 08.4	+0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=2.2						
WRA	Warramunga Arr	14.94	148	P	P	01 53 01.3	+0.3
	0.1nm,0.3s,baz=325,slow=13,SNR=4.6						
ASAR	Alice Springs	17.96	156	P	P	01 53 35.7	-0.5
	0.1nm,0.3s,baz=331,slow=10,SNR=6.4						
SONM	Songino Array	57.55	344	P	P	01 59 09.1	0.0
	0.2nm,0.5s,mb3.0,baz=172,slow=10,SNR=1.9						
MKAR	Makanchi Array	66.36	329	P	P	02 00 07.6	0.0
	0.4nm,0.5s,mb3.4,baz=122,slow=7.4,SNR=4.8						

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*JSN **07** 02:01:52.2±0.5, 17.45N×80.04W, MD5.3*

*BGS **07** 02:01:52.7±1.6, 16.51N×80.48W, h10^{km}, mb5.3*

*HRVD **07** 02:02:02.5±0.3, 17.87N×79.37W, h12^{km}, MW4.8/51, Centroid moment Tensor Solution. LP body waves: s26,c34;Mantle waves: s51,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.62±.08; M$_{\theta\theta}$-2.00±.06; M$_{\phi\phi}$0.38±.09; M$_{r\theta}$-0.01±.19; M$_{\theta\phi}$0.13±.06; M$_{\phi r}$-0.04±.28; Best double couple: M$_0$1.81×10^{16} NP1:φ$_s$95°, δ45°, λ93°. NP2:φ$_s$271°, δ45°, λ87°. Principal axes: T 1.62, Plg88°, Azm97°; N .38, Plg2°, Azm273°; P -2.01, Plg0°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 02:02:02.4, 17.70N×79.40W, h10^{km}, mB4.8, Ms4.9, Msz4.7*

*NEIC **07** 02:02:02.5±0.2, 17.68N×79.41W, h10^{km}, mb5.0/98, Error ellipse: s-maj=4.4km s-min=2.8km az=20.0*

*MOS **07** 02:02:03.7±1.0, 17.54N×79.47W, h33^{km}, mb5.1/24, Error ellipse: s-maj=13.8km s-min=10.0km az=68.0*

*SSNC **07** 02:02:05.6±2.2, 17.78N×79.37W, h28^{km}±999^{km}, MD4.4, ML5.3*

*IDC **07** 02:02:06.1±3.2, 17.59N×79.46W, h37^{km}±26^{km}, mb4.6/21, mb1 4.7/24, mb1mx4.7/25, ML3.4/4, MS3.9/17, Ms1 3.9/17, ms1mx3.8/25, Error ellipse: s-maj=15.1km s-min=10.6km az=62.0*

ISC 07 02:02:00.6±1.3**, 17.83N**±0.04×**79.38W**±0.02**, h4**^{km}±8^{km}**, h14**^{km}±.8^{km}**:pP-P, n321, σ0$\overset{s}{.}$84**/293**, mb4.9**/125**, MS4.0**/23**, 33C-8D, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	Negril	1.08	67	⇑*e*PN	Pn	02 02 23.1	+0.8
MCJ	Malvern	1.61	86	⇑*e*PN	Pn	02 02 30.3	+0.3
CVJ	Coleyville	1.80	77	⇑*e*PN	Pn	02 02 33.1	+0.5
BBJ	Bamboo Saint A	2.08	74	⇓*e*PN	Pn	02 02 37.5	+0.8
PCJ	Portland Cotta	2.12	92	*e*PN	Pn	02 02 36.7	-0.5
PCJ				*i* S	Sn	02 03 10.1	+5.8
BNJ	Bonny Gate	2.36	78	⇓*e*PN	Pn	02 02 41.0	+0.3
STH	Stony Hill	2.46	84	⇓*e*PN	Pn	02 02 42.3	+0.3
STH				*i* S	Sn	02 03 19.6	+6.7
HOJ	Hope	2.51	86	⇓*e*PN	Pn	02 02 43.0	+0.2
GWJ	Greenwich	2.53	84	⇑*e*PN	Pn	02 02 43.4	+0.2
CMJ	Castle Mountai	2.88	84	⇑*e*PN	Pn	02 02 48.1	0.0
LMGC	Las Mercedes	3.16	45	⇓*i*P	Pn	02 02 51.8	-0.2
LMGC				*i* S	Sn	02 03 27.6	-3.0
	comp=N,52μm,0.1s						
	comp=E,47μm,0.1s						
RCC	Rio Carpintero	4.09	58	*e*P	Pn	02 03 06.2	+0.8
RCC				*e*S	Sn	02 03 50.4	-4.0
	comp=N,21μm,0.1s						
	comp=E,30μm,0.1s						
MOAC	Moa	5.03	55	*e*P	Pn	02 03 19.0	+0.3
MOAC				*e*S	Sn	02 04 16.6	-1.5
	comp=N,8μm,0.3s						
	comp=E,10μm,0.4s						
MASC	Masc	5.40	64	*e*P	Pn	02 03 23.7	-0.1
MASC				*e*S	Sn	02 04 20.5	-6.8
	comp=N,7μm,0.3s						
	comp=E,7μm,0.3s						
TEIG	Tepich	8.75	287	Pn	P	02 04 08.6	-2.2
	comp=E,0.0nm,0.3s,baz=264,slow=24,SNR=27						
TEIG				Sn	Sn	02 05 41.0	-10
	comp=E,0.0nm,0.3s,baz=2.5,slow=24,SNR=2.2						
JTS	JuntasAbangare	9.24	217	Pn	P	02 04 19.3	+1.6
	comp=E,0.5nm,0.3s,baz=54,slow=11,SNR=6.7						
JTS				LR	LR	02 07 45.9	
	comp=E,507nm,19.3s,baz=17,slow=38						
JTS	JuntasAbangare	9.24	217	*e*P	P	02 04 18.0	+0.3
	comp=E,37nm,1.1s						
DWPF	Disney	10.40	350	*e*P	P	02 04 31.6	-2.1
	comp=E,139nm,0.8s						
CCIG	Comitan	12.30	265	*e*P	P	02 04 58.0	-1.6
SDV	Santo Domingo	12.30	135	*e*Pn	P	02 04 54.7	-4.9
	comp=E,34nm,0.7s						
SJG	San Juan	12.59	87	Pn	P	02 05 04.1	+0.7
	comp=E,1.4nm,0.3s,baz=262,slow=15,SNR=5.0						
SJG	San Juan	12.59	87	P	P	02 05 04.1	+0.7
SJG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MTP	Monte Pirata	13.15	87	*e*P	P	02 05 08.7	-2.2
ROSC	El Rosal	13.81	158	Pn	P	02 05 20.5	+0.8
	comp=Z,0.8nm,0.3s,baz=141,slow=23,SNR=3.7						
TUIG	Tuzandepetl	14.32	273	*e*P	P	02 05 33.8	+7.4
CMIG	Matias Romero	14.81	269	*i* P	P	02 05 32.8	-0.1
RGRS	Roger Stewart	15.03	357	*e*P	P	02 05 32.9	-2.7
NHSC	New Hope	15.23	357	*e*P	P	02 05 36.2	-2.0

	comp=Z,23nm,0.6s						
OXX	Oaxaca	16.57	270	i P	P	02 05 55.0	-0.5
LRAL	Lakeview Retre	16.62	337	eP	P	02 05 53.7	-2.4
	comp=Z,64nm,0.7s						
OTAV	Otavalo	17.51	177	eP	P	02 06 07.5	+0.1
	comp=Z,84nm,1.4s						
MYNC	Murphy	17.68	347	eP	P	02 06 08.8	-0.6
	comp=Z,36nm,0.6s						
PPM	Popocatepetl	18.30	277	eP	P	02 06 18.1	+0.9
OXF	Oxford	18.87	334	eP	P	02 06 24.6	+0.4
	comp=Z,178nm,1.0s						
HKT	Hockley	19.26	312	eP	P	02 06 28.0	-0.7
	comp=Z,58nm,1.4s						
BLA	Blacksburg	19.33	357	eP	P	02 06 30.1	+0.6
	comp=Z,126nm,1.0s						
ELN	Prospectdale	19.36	357	P	P	02 06 29.4	-0.4
PWV	Princeton	19.48	356	eP	P	02 06 31.5	+0.2
NATX	Nacogdoches	19.58	318	eP	P	02 06 32.0	-0.4
	comp=Z,40nm,0.7s						
FWV	Forest Hill	19.71	357	eP	P	02 06 33.7	-0.2
UTMT	University of	20.26	337	eP	P	02 06 40.4	+0.6
	comp=Z,531nm,1.0s						
CBN	Corbin	20.37	5	eP	P	02 06 40.1	-0.8
	comp=Z,37nm,0.8s						
UALR	University of	20.45	328	eP	P	02 06 41.5	-0.3
	comp=Z,67nm,1.3s						
MOIG	Morelia	20.73	279	i P	P	02 06 44.1	-0.7
USIN	University of	21.33	342	eP	P	02 06 50.8	-0.1
	comp=Z,47nm,0.7s,mb4.9						
MCWV	Mont Chateau	21.75	359	eP	P	02 06 56.8	+1.7
	comp=Z,36nm,0.8s,mb4.8						
BLO	Bloomington	22.15	345	eP	P	02 06 59.7	+0.6
	comp=Z,76nm,0.8s,mb5.2						
FVM	French Village	22.29	336	eP	P	02 07 01.3	+0.9
	comp=Z,118nm,1.1s,mb5.2						
JCT	Junction City	22.44	308	eP	P	02 07 02.5	+0.4
	comp=Z,220nm,1.1s,mb5.5						
SFJM	Santa Fe	22.50	281	i P	P	02 07 00.0	-2.8
ACSO	Alum Creek Sta	22.54	353	eP	P	02 07 04.7	+1.8
	comp=Z,105nm,1.2s,mb5.1						
CCM	Cathedral Cave	22.67	335	eP	P	02 07 04.8	+0.5
	comp=Z,51nm,0.8s,mb5.0						
SSPA	Standing Stone	22.76	3	eP	P	02 07 07.1	+2.0
	comp=Z,60nm,1.4s,mb4.8						
SLM	Saint Louis	22.79	338	eP	P	02 07 06.8	+1.4
	comp=Z,17nm,0.3s,mb5.0						
WMOK	Wichita Mounta	24.14	318	eP	P	02 07 18.3	-0.3
	comp=Z,9.7nm,0.7s,mb4.3						
BINY	Binghamton	24.46	6	eP	P	02 07 22.8	+1.2
	comp=Z,36nm,1.3s,mb4.6						
LTX	Lajitas	24.98	302	eP	P	02 07 26.6	-0.2
	comp=Z,47nm,0.9s,mb5.0						
TXAR	Lajitas Array	24.98	302	P	P	02 07 27.0	+0.2
	comp=Z,32nm,0.8s,mb4.9,baz=115,slow=7.2,SNR=214						
TXAR				PcP	PcP	02 11 02.2	-0.9
	comp=Z,4.0nm,0.7s,baz=132,slow=3.4,SNR=8.5						
TXAR				LR	LR	02 20 05.3	
	comp=Z,54nm,19.9s,MS3.0,baz=55,slow=43						
TXAR	Lajitas Array	24.98	302	P	P	02 07 27.0	+0.2
TXAR				PcP	PcP	02 11 02.2	-0.9
TXAR				LR	LR	02 20 05.3	
ACCN	Adirondack Com	25.93	10	eP	P	02 07 34.7	-0.8
KSU1	Kansas State U	25.96	328	eP	P	02 07 35.4	-0.5
CLNB	Carlsbad	26.36	308	eP	P	02 07 38.8	-0.8
NCB	Newcomb	26.42	8	eP	P	02 07 39.3	-0.8
JFWS	Jewell Farm	26.65	342	eP	P	02 07 42.1	-0.1
	comp=Z,58nm,0.6s,mb5.3						
GDL2	Guadalupe Moun	26.70	307	eP	P	02 07 42.7	-0.1
SADO	Sadowa	26.86	0	P	P	02 07 45.4	+1.3
	comp=Z,17nm,0.7s,mb4.7,baz=190,slow=9.1,SNR=14						
SADO				LR	LR	02 18 39.1	
	comp=Z,666nm,21.2s,MS4.2,baz=202,slow=37						
BNM	Barren Site	29.27	309	eP	P	02 08 05.8	-0.2
LPM	Los Pinos Moun	29.34	309	eP	P	02 08 06.8	+0.1
ANMO	Albuquerque	29.51	311	eP	P	02 08 08.0	-0.2
ANMO	Albuquerque	29.51	311	eP	P	02 08 07.8	-0.4
	comp=Z,19nm,1.2s,mb4.7						
LENM	Lemitar	29.53	309	eP	P	02 08 07.5	-0.9
LAZ	Ladron	29.76	309	eP	P	02 08 10.7	+0.3
SDCO	Great Sand Dun	30.29	316	eP	P	02 08 15.3	+0.2
	comp=Z,7.8nm,0.7s,mb4.5						
SAML	Samuel	31.05	148	eP	P	02 08 19.3	-2.7
	comp=Z,25nm,0.7s,mb5.2						
ISCO	Idaho Springs	31.54	319	eP	P	02 08 26.4	+0.3
	comp=Z,3.1nm,0.7s,mb4.2						
TUC	Tucson	31.75	303	eP	P	02 08 27.3	-0.7
	comp=Z,8.0nm,1.2s,mb4.4						
RW3	Ridgway	32.01	315	eP	P	02 08 31.2	+0.9
PV01	Paradox Valley	32.55	314	eP	P	02 08 35.9	+1.0
PV10	Paradox Valley	32.99	314	eP	P	02 08 39.4	+0.6
WUAZ	Wupatki	33.38	308	eP	P	02 08 43.4	+1.2
	comp=Z,163nm,1.1s,mb5.9						
SRU	San Rafael	34.36	315	eP	P	02 08 51.4	+0.7
ULM	Lac du Bonnet	34.94	341	P	P	02 08 55.0	-0.6
	comp=Z,10nm,0.7s,mb4.9,baz=147,slow=8.6,SNR=14						
ULM				LR	LR	02 22 42.9	
	comp=Z,513nm,20.8s,MS4.2,baz=153,slow=35						
ULM	Lac du Bonnet	34.94	341	P	P	02 08 55.0	-0.6
ULM				LR	LR	02 22 42.9	
MSU	Marysvale	35.23	313	eP	P	02 08 58.9	+0.8
DAU	Daniels Canyon	35.49	316	eP	P	02 09 00.9	+0.5
LPAZ	La Paz	35.67	161	P	P	02 08 59.5	-2.6
	comp=Z,3.4nm,1.1s,mb4.2,baz=12,slow=5.2,SNR=6.3						
LPAZ				PcP	PcP	02 11 28.2	-2.5
	comp=Z,3.4nm,0.9s,baz=3.0,slow=5.9,SNR=3.6						
LPAZ				LR	LR	02 25 41.4	
	comp=Z,168nm,18.5s,MS3.8,baz=128,slow=40						
LPAZ	La Paz	35.67	161	P	P	02 08 59.5	-2.6
LPAZ						02 11 28.2	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,168nm,18.5s						
LPAZ	La Paz	35.67	161	P	P	02 08 59.5	-2.6
LPAZ				PcP	PcP	02 11 28.2	-2.5
LPAZ				LR	LR	02 25 41.4	
PDAR	Pinedale Array	35.68	321	P	P	02 09 01.7	-0.2
	comp=Z,7.0nm,0.8s,mb4.7,baz=112,slow=9.4,SNR=66						
PDAR				PcP	PcP	02 11 28.8	-1.8
	comp=Z,3.6nm,0.8s,baz=119,slow=3.7,SNR=5.7						
PDAR				LR	LR	02 24 50.5	
	comp=Z,104nm,18.5s,MS3.6,baz=296,slow=38						
JLU	Jordanelle	35.72	316	eP	P	02 09 02.9	+0.6
TCUT	Toone Canyon	35.95	317	eP	P	02 09 04.4	+0.1
NEN	Nelson	36.05	307	eP	P	02 09 05.9	+0.7
HWUT	Hardware Ranch	36.30	318	eP	P	02 09 07.0	-0.2
	comp=Z,9.4nm,0.8s,mb4.8						
DUG	Dugway	36.43	315	eP	P	02 09 08.9	+0.7
	comp=Z,75nm,1.5s,mb5.4						
DUG				LR	LR		
	comp=Z,120nm,20.0s,MS3.7						
AHID	Auburn Hatcher	36.62	320	eP	P	02 09 09.8	0.0
	comp=Z,18nm,0.9s,mb4.9						
DGMT	Dagmar	36.62	332	eP	P	02 09 09.4	-0.4
	comp=Z,26nm,1.0s,mb5.0						
PFO	Pinyon Flat Ob	36.69	303	eP	P	02 09 10.8	+0.3
	comp=Z,20nm,1.1s,mb4.8						
SPUT	South Promonto	36.73	317	eP	P	02 09 11.0	+0.3
REDW	Red Top Meadow	36.80	321	eP	P	02 09 11.1	-0.2
TPAW	Teton Pass	36.93	321	eP	P	02 09 12.4	0.0
HVU	Hansel Valley	37.17	317	eP	P	02 09 14.5	+0.1
SCHQ	Schefferville	38.17	12	P	P	02 09 25.7	+3.0
	comp=Z,17nm,1.2s,mb4.7,baz=194,slow=7.3,SNR=8.8						
SCHQ				PcP	PcP	02 11 36.5	-1.5
	comp=Z,9.0nm,0.6s,baz=208,slow=2.0,SNR=16						
SCHQ	Schefferville	38.17	12	P	P	02 09 25.7	+3.0
SCHQ				PcP	PcP	02 11 36.5	-1.5
BOZ	Bozeman (W)	38.55	323	eP	P	02 09 25.5	-0.6
	comp=Z,44nm,1.8s,mb4.9						
TPH	Tonopah	38.69	309	eP	P	02 09 28.7	+1.4
	comp=Z,72nm,0.9s,mb5.4						
MCMT	McKenzie Canyo	38.81	321	eP	P	02 09 29.0	+0.8
HLID	Hailey	39.11	319	eP	P	02 09 30.8	+0.1
	comp=Z,8.8nm,0.9s,mb4.5						
HRY	Holter Researc	39.29	324	eP	P	02 09 31.8	-0.4
MTUM	Tungsten Hills	39.45	308	eP	P	02 09 34.9	+1.3
MNV	Mina	39.50	309	eP	P	02 09 35.0	+0.9
	comp=Z,44nm,0.8s,mb5.2						
BMN	Battle Mountai	39.57	313	eP	P	02 09 35.5	+0.9
	comp=Z,14nm,1.1s,mb4.6						
NVAR	Mina Array Bea	39.61	309	P	P	02 09 36.6	+1.7
	comp=Z,28nm,0.8s,mb5.0,baz=110,slow=9.2,SNR=145						
NVAR				PcP	PcP	02 11 41.9	-0.8
	comp=Z,3.4nm,0.8s,baz=126,slow=5.2,SNR=4.3						
OMM	Old Mammoth Mi	39.85	308	eP	P	02 09 38.3	+1.3
CHMT	Chamberlain Mo	40.20	324	eP	P	02 09 39.4	-0.3
FFC	Flin Flon	40.71	340	eP	P	02 09 42.9	-0.9
	comp=Z,15nm,0.9s,mb4.6						
WCN	Washoe City	40.97	310	eP	P	02 09 47.8	+1.7
	comp=Z,42nm,1.0s,mb5.0						
CMB	Columbia Colle	41.03	308	eP	P	02 09 47.1	+0.5
	comp=Z,9.3nm,0.7s,mb4.5						
CMB				LR	LR		
	comp=Z,89nm,22.0s,MS3.6						
WVOR	Wild Horse Val	41.35	315	eP	P	02 09 49.7	+0.5
	comp=Z,25nm,1.0s,mb4.8						
LVC	Limon Verde	41.48	165	P	P	02 09 49.5	-1.0
	comp=Z,29nm,0.8s,mb4.9,baz=354,slow=5.7,SNR=33						
BEKR	Beckwourth	41.60	311	eP	P	02 09 51.8	+0.5
	comp=Z,17nm,1.0s,mb4.6						
LKC	Lake Chabot	42.22	307	eP	P	02 09 57.7	+1.3
OHCM	Honcut	42.25	309	eP	P	02 09 57.1	+0.5
MOD	Modoc	42.29	313	eP	P	02 09 56.6	-0.3
	comp=Z,47nm,1.6s,mb4.9						
LNOR	Lincton Mounta	42.64	320	eP	P	02 09 59.5	-0.3
NSHM	Saint Helena R	42.84	308	eP	P	02 10 02.1	+0.6
NEW	Newport	43.13	323	LR	LR	02 29 27.3	
	comp=Z,92nm,18.6s,MS3.7,baz=122,slow=38						
NEW	Newport	43.13	323	eP	P	02 10 02.6	-1.1
	comp=Z,9.6nm,0.9s,mb4.5						
NEW				LR	LR		
	comp=Z,81nm,19.0s,MS3.6						
WDC	Whiskeytown Da	43.41	311	eP	P	02 10 04.0	-2.1
	comp=Z,12nm,1.0s,mb4.6						
DPW	Davenport	43.56	322	eP	P	02 10 06.7	-0.5
LON	Longmire	45.22	319	eP	P	02 10 20.1	-0.5
BDFB	Brasilia	45.41	135	P	P	02 10 20.7	-1.7
	comp=Z,9.2nm,0.9s,mb4.6,baz=323,slow=9.3,SNR=9.1						
BDFB				LR	LR	02 31 13.1	
	comp=Z,178nm,19.9s,MS4.0,baz=131,slow=39						
BDFB	Brasilia	45.41	135	P	P	02 10 20.7	-1.8
BDFB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,178nm,19.9s						
KEBM	Edson Butte	45.42	313	eP	P	02 10 22.6	+0.3
RPW	Rockport	45.78	321	eP	P	02 10 24.0	-1.0
CPUP	Villa Florida	48.85	153	P	P	02 10 44.6	-4.7
	comp=Z,3.4nm,0.8s,mb4.4,baz=21,slow=8.0,SNR=3.3						
CPUP				PcP	PcP	02 12 11.3	-3.1
	comp=Z,3.4nm,0.9s,baz=114,slow=2.6,SNR=4.0						
CPUP				LR	LR	02 30 23.6	
	comp=Z,194nm,20.4s,MS4.1,baz=255,slow=35						
CPUP	Villa Florida	48.85	153	P	P	02 10 44.7	-4.7
CPUP						02 12 11.3	
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP	Villa Florida	48.85	153	P	P	02 10 44.6	-4.7
CPUP				PcP	PcP	02 12 11.3	-3.1
CPUP				LR	LR	02 30 23.6	
YKA	Yellowknife Ar	50.89	340	P	P	02 11 03.4	-1.0
	comp=Z,9.0nm,0.7s,mb4.8,baz=133,slow=8.1,SNR=60						
YKA				PcP	PcP	02 12 19.6	-1.7
	comp=Z,5.0nm,0.8s,baz=129,slow=4.4,SNR=9.8						
YKA				LR	LR	02 33 14.3	
	comp=Z,203nm,18.1s,MS4.2,baz=135,slow=37						
YKA	Yellowknife Ar	50.89	340	P	P	02 11 03.4	-1.1
YKA						02 12 19.6	
YKA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,203nm,18.1s						
YKA	Yellowknife Ar	50.89	340	P	P	02 11 03.4	-1.1
YKA				PcP	PcP	02 12 19.6	-1.7
YKA				LR	LR	02 33 14.3	
YKW3	Yellowknife Ar	50.94	340	eP	P	02 11 03.6	-1.3
BBB	Bella Bella	51.20	324	LR	LR	02 34 21.1	
	comp=Z,136nm,18.9s,MS4.0,baz=201,slow=38						
DLBC	Dease Lake	54.79	330	LR	LR	02 35 09.3	
	comp=Z,138nm,18.7s,MS4.0,baz=118,slow=36						
DLBC	Dease Lake	54.79	330	eP	P	02 11 33.5	-0.1
TRQA	Tornquist	57.95	164	P	P	02 11 57.5	+1.0
PLCA	Paso Flores	58.84	172	P	P	02 11 58.6	-4.1
	comp=Z,5.6nm,0.8s,mb4.7,baz=340,slow=7.6,SNR=16						
PLCA				LR	LR	02 39 04.8	
	comp=Z,154nm,18.5s,MS4.2,baz=1.6,slow=38						
PLCA	Paso Flores	58.84	172	P	P	02 11 58.6	-4.1
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLCA				MLR	MLR		
	comp=Z,154nm,18.5s						
INK	Inuvik	60.66	340	LR	LR	02 38 09.9	
	comp=Z,254nm,20.8s,MS4.3,baz=351,slow=36						
INK	Inuvik	60.66	340	eP	P	02 12 13.3	-1.5
	comp=Z,18nm,1.1s,mb5.1						
DAWY	Dawson	61.14	334	eP	P	02 12 16.5	-1.6
EYAK	Cordova Ski Ar	63.05	329	eP	P	02 12 30.4	-0.5
DIV	Divide	63.18	330	eP	P	02 12 31.5	-0.3
	comp=Z,24nm,0.7s,mb5.4						
THY	Trims Highway	63.67	333	eP	P	02 12 35.2	+0.2
PTOM	Tomar	64.33	54	eP	P	02 12 39.9	+0.2
	comp=Z,17nm,1.2s,mb5.0						
ILAR	Eielson Array	64.46	334	P	P	02 12 39.5	-0.7
	comp=Z,13nm,0.6s,mb5.1,baz=113,slow=4.3,SNR=134						
ILAR				LR	LR	02 39 57.1	
	comp=Z,93nm,18.7s,MS4.0,baz=285,slow=35						
SML	Sawmill	64.51	331	eP	P	02 12 39.9	-0.7
PVIS	Viseu	64.68	53	eP	P	02 12 41.8	-0.2
	comp=Z,23nm,1.2s,mb5.1						
PVRL	Vila Real	64.79	52	eP	P	02 12 42.7	0.0
	comp=Z,16nm,1.1s,mb5.0						
COLA	College	64.88	334	eP	P	02 12 41.9	-1.0
COLA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
COLA	College	64.88	334	eP	P	02 12 41.9	-1.0
	comp=Z,9.6nm,0.5s,mb5.1						
MTE	Manteigas	64.96	53	eP	P	02 12 43.4	-0.4
	comp=Z,18nm,1.1s,mb5.0						
PCBR	Castelo Branco	65.03	54	eP	P	02 12 44.0	-0.3
	comp=Z,6.9nm,1.1s,mb4.6						
MCK	McKinley	65.13	333	eP	P	02 12 44.0	-0.5
	comp=Z,10nm,0.9s,mb4.8						
SLKM	Skilak Lake	65.22	329	eP	P	02 12 44.8	-0.3
DCN	Croghan	65.22	39	⇑iP	P	02 12 45.4	+0.1
DMUB	Kingscourt	65.47	38	⇑iP	P	02 12 47.1	+0.2
GCL	Cushendall	65.99	37	⇑eP	P	02 12 50.3	+0.1
GMM	Mts of Mourne	66.05	38	⇑eP	P	02 12 50.6	+0.1
SPU	Mount Spurr	66.19	330	eP	P	02 12 50.5	-0.8
GMK	Mull of Kintyr	66.31	37	⇑eP	P	02 12 52.1	-0.1
RSO	Redoubt South	66.46	329	eP	P	02 12 52.5	-0.5
GAL1	Galloway	66.80	37	⇑eP	P	02 12 55.1	-0.2
PMSU	Muirshiel	66.81	36	⇑eP	P	02 12 55.5	0.0
EAB	Aberfoyle	67.05	36	⇑eP	P	02 12 56.6	-0.3
EAB				AMb	AMB	02 13 02.5	
	comp=Z,43nm,1.0s,mb5.4						
PCA1	Carrot	67.08	36	⇑eP	P	02 12 57.1	-0.1
MDO	Dochfour	67.09	35	⇑eP	P	02 12 56.8	-0.4
PCOU	Corrie	67.18	36	⇑eP	P	02 12 57.1	-0.7
MVH1	Achvaich	67.21	34	⇑eP	P	02 12 57.7	-0.2
IMA	Indian Mountai	67.48	335	eP	P	02 12 59.1	-0.4
	comp=Z,7.1nm,0.7s,mb4.8						
MLA1	Latheron	67.66	34	⇑eP	P	02 13 00.6	-0.1
ESK	Eskdalemuir	67.67	37	eP	P	02 13 00.1	-0.8
	comp=Z,24nm,0.6s,mb5.4						
EDI	Edinburgh	67.69	36	eP	P	02 13 00.7	-0.3
EDI				AMb	AMB	02 13 06.4	
	comp=Z,24nm,1.0s,mb5.2						
MCD	Coleburn Disti	67.70	34	⇑eP	P	02 13 01.0	+0.1
ROSF	Rostrenen	67.71	44	eP	P	02 13 01.3	+0.1
	comp=Z,31nm,1.0s,mb5.0						
ESDC	Sonseca Array	67.75	54	P	P	02 13 01.8	+0.2
	comp=Z,6.1nm,0.9s,mb4.6,baz=280,slow=5.9,SNR=14						
ESDC				LR	LR	02 36 39.3	
	comp=Z,58nm,20.3s,MS3.8,baz=185,slow=30						
QUIF	Quistinic	67.80	45	eP	P	02 13 02.0	+0.2
	comp=Z,50nm,1.3s,mb5.1						
SVW	Sparrevohn	67.91	329	eP	P	02 13 01.9	-0.3
	comp=Z,9.5nm,0.6s,mb5.0						
ESY	Stoneypath	68.02	36	⇑eP	P	02 13 03.0	0.0
ESY				AMb	AMB	02 13 08.7	
	comp=Z,59nm,0.8s,mb5.7						
SGMF	Saint Gilles	68.19	44	eP	P	02 13 04.1	-0.1
	comp=Z,30nm,0.8s,mb5.1						
LHO	Holmfirth	68.47	39	i P	P	02 13 06.7	+0.9
WAL1	Walls	68.62	32	⇑eP	P	02 13 06.5	-0.2
SAN1	Sandwick	68.81	32	⇑eP	P	02 13 07.4	-0.4
LRW	Lerwick	68.84	32	⇑eP	P	02 13 07.6	-0.4
YEL1	Yell	68.89	31	⇑eP	P	02 13 08.0	-0.3
GRR	Gorron	69.31	44	eP	P	02 13 11.3	+0.2
	comp=Z,50nm,1.0s,mb5.1						
SJPF	Ste Jean	69.48	50	eP	P	02 13 12.6	+0.3
	comp=Z,25nm,0.9s,mb4.8						
FLN	La Foliniere	69.54	44	eP	P	02 13 12.8	+0.3
	comp=Z,43nm,1.0s,mb5.0						
FLN				eR			
	comp=Z,73nm,21.5s						
LDF	La Druitiere	69.79	44	eP	P	02 13 14.4	+0.4
	comp=Z,51nm,0.9s,mb5.2						
MFF	Saint Martin d	69.93	46	eP	P	02 13 15.1	+0.2
	comp=Z,16nm,0.9s,mb4.7						
ETSF	Etsaut	69.99	50	eP	P	02 13 15.7	+0.3
	comp=Z,21nm,1.1s,mb4.7						
EPF	Esparros	70.63	50	eP	P	02 13 19.7	+0.4
	comp=Z,40nm,1.2s,mb4.9						
LFF	La Frestale	70.71	48	eP	P	02 13 19.8	+0.1
	comp=Z,44nm,0.9s,mb5.1						
RJF	Les Rejaudoux	71.21	47	eP	P	02 13 22.7	-0.1
	comp=Z,25nm,1.0s,mb4.8						
RJF				eR			
	comp=Z,140nm,22.8s						
TCF	Toulx Ste Croi	71.58	46	eP	P	02 13 24.8	-0.2
	comp=Z,28nm,1.1s,mb4.8						
CAF	Calviac	71.64	48	eP	P	02 13 25.4	0.0
	comp=Z,25nm,1.0s,mb4.8						
HYF	Humbligny	71.76	45	eP	P	02 13 26.2	+0.2
MTLF	Montolieu	71.96	49	eP	P	02 13 28.2	+0.9
	comp=Z,16nm,1.0s,mb4.6						
BGF	Bois d’Agland	71.99	46	eP	P	02 13 27.3	-0.1
	comp=Z,24nm,1.0s,mb4.8						
AVF	Avril sur Loir	72.30	46	eP	P	02 13 28.9	-0.4
	comp=Z,23nm,1.1s,mb4.7						
SSF	Saint Saulge	72.37	45	eP	P	02 13 29.4	-0.3
	comp=Z,28nm,1.0s,mb4.9						
BAIF	Baives	72.46	42	eP	P	02 13 30.1	0.0
	comp=Z,22nm,1.4s,mb4.6						
LOR	Lormes	72.59	45	eP	P	02 13 30.7	-0.2
	comp=Z,26nm,1.2s,mb4.8						
LOR				eR			
	comp=Z,124nm,22.8s						
SMF	Signal de Mont	72.66	46	eP	P	02 13 31.1	-0.3
	comp=Z,33nm,1.0s,mb4.9						
GIVF	Givet	72.85	42	eP	P	02 13 32.6	+0.2
	comp=Z,45nm,1.0s,mb5.0						
LASF	Ste Croix	73.03	48	eP	P	02 13 34.0	+0.4
TIC	Toumodi	73.14	88	eP	P	02 13 33.5	-1.3
	comp=Z,47nm,0.9s,mb5.4						
MEZF	Maizieres J’vi	73.21	44	eP	P	02 13 34.9	+0.3
	comp=Z,69nm,1.2s,mb5.2						
LIC	Lamto	73.25	89	eP	P	02 13 33.6	-1.9
	comp=Z,121nm,1.5s,mb5.3						
LIC	Lamto	73.25	89	eP	P	02 13 34.3	-1.2
	comp=Z,120nm,1.7s,mb5.5						
DBIC	Dimbokro	73.28	88	P	P	02 13 34.7	-1.0
	comp=Z,6.4nm,0.9s,mb4.5,baz=222,slow=6.1,SNR=7.4						
DBIC	Dimbokro	73.28	88	P	P	02 13 34.7	-1.0
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HGN	Heimansgroeve	73.47	41	eP	P	02 13 36.0	0.0
	comp=Z,6.5nm,0.8s,mb4.6						
HGN				ex	x	02 13 41.0	
	comp=Z,9.0nm,1.0s						
KIC	Kosan Boka	73.48	89	eP	P	02 13 35.8	-1.0
	comp=Z,243nm,1.7s,mb5.9						
VIVF	Saint-Julien-l	73.49	48	eP	P	02 13 37.0	+0.7
	comp=Z,34nm,1.0s,mb4.9						
WIT	Witteveen	73.64	39	eP	P	02 13 38.1	+1.2
WIT				ex	x	02 13 43.5	
WTSB	Winterswijk	73.83	40	eP	P	02 13 38.3	+0.2
	comp=Z,24nm,0.8s,mb5.2						
WTSB				i x	x	02 13 43.5	
	comp=Z,35nm,0.9s						
HAU	Haudompre	74.14	44	eP	P	02 13 40.0	0.0
	comp=Z,21nm,0.9s,mb4.8						
HAU				eR			
	comp=Z,98nm,20.0s						
CABF	La Chapelle	74.19	46	eP	P	02 13 40.5	+0.2
	comp=Z,28nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	74.33	47	eP	P	02 13 41.8	+0.7
	comp=Z,15nm,1.0s,mb4.6						
ORIF				eR			
	comp=Z,90nm,20.5s						
HINF	Hinteralfeld	74.51	44	eP	P	02 13 42.0	-0.1
	comp=Z,23nm,1.1s,mb4.7						
MUD	Monsted U’grnd	74.54	35	⇑iP	P	02 13 43.2	+1.1
	comp=Z,22nm,1.1s,mb5.0						
MUD				i		02 13 47.7	
CDF	Champ du Feu	74.69	44	eP	P	02 13 43.3	+0.2
	comp=Z,18nm,1.1s,mb4.6						
LPL	La Plagne	74.82	47	eP	P	02 13 44.8	+0.9
	comp=Z,15nm,1.1s,mb4.5						
LPG	La Plagne	74.83	47	eP	P	02 13 45.0	+1.0
NB2	NORSAR Subarra	74.86	30	P	P	02 13 44.5	+0.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=285,slow=5.8						
NOA	NORSAR Array B	74.86	30	P	P	02 13 44.6	+0.8
	comp=Z,13nm,1.0s,mb4.8,baz=282,slow=5.6,SNR=39						
NOA				LR	LR	02 46 49.6	
	comp=Z,32nm,19.1s,MS3.6,baz=290,slow=36						
NOA	NORSAR Array B	74.86	30	P	P	02 13 44.7	+0.8
NOA				pmax	pmax		
	comp=Z,13nm,1.0s						
NOA				MLR	MLR		
	comp=Z,32nm,19.1s						
MBDF	Montbardon	74.98	47	eP	P	02 13 44.8	-0.1
LMR	La Mourre	75.05	49	eP	P	02 13 45.2	-0.1
	comp=Z,15nm,1.1s,mb4.5						
BSEG	Bad Segeberg	75.61	38	eP	P	02 13 48.6	+0.3
BSEG				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
CLZ	Clausthal	76.04	40	eP	P	02 13 51.6	+0.8
	comp=Z,14nm,1.0s,mb4.8						
PGF	Pioggiola	77.00	49	eP	P	02 13 56.2	-0.1
	comp=Z,24nm,1.0s,mb4.8						
GRA1	Grafenberg Arr	77.00	42	eP	P	02 13 56.4	+0.2
	comp=Z,8.0nm,1.0s,mb4.6						
GRA1				e		02 14 01.6	
GRF	Grafenberg Arr	77.00	42	eP	P	02 13 56.4	+0.2
GRF				e		02 14 01.6	
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MOX	Moxa	77.04	41	i P	P	02 13 57.1	+0.7
	comp=Z,logA/T=1.1,mb4.8						
MOX				i		02 14 02.0	
MOX				L		02 44 36.0	
MOX	Moxa	77.04	41	eP	P	02 13 57.1	+0.7
MOX				e		02 14 01.6	
MOX				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
MOX	Moxa	77.04	41	eP	P	02 13 57.1	+0.7
	comp=Z,18nm,1.4s,mb4.8						
MOX				e		02 14 01.6	
CLL	Collm	77.75	40	⇓P	P	02 14 01.1	+0.8
	comp=Z,logA/T=1.0,mb4.7						
CLL				i *PP	pP	02 14 05.7	+4.1
CLL	Collm	77.75	40	⇓iP	P	02 14 01.1	+0.8
CLL				i		02 14 05.7	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
CLL	Collm	77.75	40	⇓iP	P	02 14 01.1	+0.8
	comp=Z,9.0nm,1.0s,mb4.7						
CLL				i		02 14 05.7	
WET	Wettzell	78.17	42	eP	P	02 14 03.1	+0.4
WET				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
WET	Wettzell	78.17	42	eP	P	02 14 03.1	+0.4
	comp=Z,12nm,1.1s,mb4.7						
BRG	Berggiesshubel	78.43	40	i P	P	02 14 04.7	+0.7
BRG				i		02 14 09.2	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
BRG	Berggiesshubel	78.43	40	i P	P	02 14 04.7	+0.7
	comp=Z,9.1nm,1.3s,mb4.5						
BRG				i		02 14 09.2	
ARCES	ARCESS Array B	78.53	20	P	P	02 14 04.4	+0.2
	comp=Z,12nm,0.6s,mb5.0,baz=286,slow=4.3,SNR=55						
ARCES	ARCESS Array B	78.53	20	P	P	02 14 04.4	+0.2
ARCES				pmax	pmax		
	comp=Z,12nm,0.6s						
KHC	Kasperske Hory	78.62	42	eP	P	02 14 04.8	-0.3
KHC				eAP	pP	02 14 10.1	+3.7
GEC2	GERESS Array S	78.77	42	eP	P	02 14 06.5	+0.5
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						

GEC2	**GERESS Array S**	**78.77**	**42**	*e*P	**P**	**02 14 06.5**	**+0.5**
	comp=Z,9.0nm,1.2s,mb4.6						
GERES	**GERESS Array B**	**78.77**	**42**	P	**P**	**02 14 06.8**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.4,baz=252,slow=4.2,SNR=33						
GERES	**GERESS Array B**	**78.77**	**42**	P	**P**	**02 14 06.8**	**+0.8**
GERES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KEV	**Kevo**	**78.94**	**20**	*e*p	**P**	**02 14 01.6**	**-4.9**
PRU	**Pruhonice**	**79.02**	**41**	*e*P	**P**	**02 14 07.8**	**+0.5**
PRU				*e*AP	pP	02 14 12.0	+3.4
ROBS	**Robic**	**79.29**	**45**	*e*P	**P**	**02 14 08.6**	**-0.2**
ROBS				*e*		02 14 13.4	
LJU	**Ljubljana**	**80.03**	**45**	*e*P	**P**	**02 14 13.3**	**+0.5**
LJU				*e*		02 14 17.6	
DPC	**Dobruska-Polom**	**80.03**	**40**	*e*P	**P**	**02 14 12.9**	**+0.2**
DPC				*e*AP	pP	02 14 18.2	+4.1
CEY	**Cerknica**	**80.04**	**45**	*e*P	**P**	**02 14 13.6**	**+0.7**
CEY				*e*	pP	02 14 16.8	+2.6
PERS	**Pernice**	**80.26**	**44**	*e*P	**P**	**02 14 13.7**	**-0.4**
PERS				*e*		02 14 18.9	
SMOL	**Smolenice**	**81.24**	**42**	*e*P	**P**	**02 14 21.4**	**+2.2**
OKC	**Ostrava-Krasne**	**81.30**	**40**	*e*P	**P**	**02 14 20.8**	**+1.3**
OKC				*e*AP	pP	02 14 25.1	+4.3
KAF	**Kangasniemi**	**81.52**	**27**	*e*p	**P**	**02 14 19.2**	**-1.1**
	comp=Z,3.7nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**81.52**	**27**	*e*P	**P**	**02 14 19.2**	**-1.1**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**81.67**	**28**	P	**P**	**02 14 21.8**	**+0.7**
	comp=Z,11nm,0.5s,mb5.0,baz=277,slow=2.7,SNR=165						
FINES	**FINESS Array B**	**81.67**	**28**	P	**P**	**02 14 21.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,11nm,0.5s						
APA	**Apatity**	**81.98**	**21**⇑	*i*P	**P**	**02 14 22.9**	**+0.3**
APA				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
VYHS	**Vyhne**	**82.14**	**42**	*e*P	**P**	**02 14 25.0**	**+1.1**
VYHS				*e*		02 14 30.0	
OJC	**Ojcow**	**82.20**	**40**	*e*P	**P**	**02 14 21.9**	**-2.2**
LVZ	**Lovozero**	**82.24**	**20***c*	*i*P	**P**	**02 14 24.6**	**+0.6**
LVZ				*e*S	S	02 24 33.4	-5.3
LVZ				pmax	pmax		
	comp=N,3.0nm,0.9s						
LVZ				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
LVZ				pmax	pmax		
	comp=E,8.0nm,0.8s						
LVZ				smax			
	comp=N,40nm,17.9s						
LVZ				smax			
	comp=Z,14nm,7.8s						
LVZ				smax			
	comp=E,11nm,7.6s						
PSZ	**Piszkesteto**	**82.99**	**42**	*e*PcP	PcP	02 14 30.0	-3.5
CRVS	**Cervenica-Dubn**	**83.66**	**41**	*e*P	**P**	**02 14 33.3**	**+1.6**
CRVS				*e*		02 14 42.0	
MNK	**Minsk**	**85.25**	**34**	*e*P	**P**	**02 14 37.0**	**-2.5**
AKASG	**Malin Array Be**	**87.61**	**37**	P	**P**	**02 14 51.2**	**0.0**
	comp=E,3.0nm,0.8s,mb4.6,baz=295,slow=4.0,SNR=7.2						
AKASG	**Malin Array Be**	**87.61**	**37**	P	**P**	**02 14 51.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**88.69**	**351**	*e*P	**P**	**02 14 55.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
OBN	**Obninsk**	**89.45**	**31**α	*i*P	**P**	**02 14 59.9**	**0.0**
OBN				*e*		02 27 04.4	
OBN				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.3						
BRTR	**Keskin Array B**	**95.36**	**45**	P	**P**	**02 15 26.2**	**-1.3**
	comp=Z,0.7nm,0.9s,mb4.1,baz=281,slow=6.3,SNR=4.7						
BRTR	**Keskin Array B**	**95.36**	**45**	P	**P**	**02 15 26.3**	**-1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YAK	**Yakutsk**	**97.13**	**347**	*e*P	**P**	**02 15 35.4**	**+0.4**
SOC	**Sochi**	**97.33**	**40**	*e*P	**P**	**02 15 34.5**	**-1.8**
SOC				*e*		02 15 45.6	
SOC				*e*		02 19 30.9	
SOC				*e*S	S	02 26 45.9	-12
SOC				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.5						
SOC				pmax	pmax		
	comp=N,12nm,0.9s						
SOC				pmax	pmax		
	comp=E,21nm,1.1s						
SOC				MLR	MLR		
	comp=Z,114nm,26.0s,MS4.2						
SOC				MLR	MLR		
	comp=E,56nm,24.0s						
ARU	**Arti**	**98.04**	**22**⇑	*i*P	**P**	**02 15 39.7**	**+0.5**
ARU				*e*	PP	02 19 38.8	-2.2
ARU				*e*S	SKS	02 26 10.7	-9.4
ARU				*e*PS	PS	02 28 32.3	+0.1
ARU				*e*SS	SS	02 33 46.7	-2.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.2						
ARU	**Arti**	**98.04**	**22**	*e*P	**P**	**02 15 39.6**	**+0.4**
	comp=Z,7.0nm,0.9s,mb5.2						
ARU				*e*pP	pP	02 15 44.0	+3.5
SNAA	**Sanae**	**102.63**	**162**⇑	*i*Pdif	Pdif	02 15 58.1	-1.5
SNAA				*e*		02 20 11.8	
SNAA				*e*		02 20 19.7	
TLY	**Talaya**	**110.74**	**358**⇑	*i*P	Pdif	02 16 36.1	+0.4
TLY				*e*		02 21 11.3	
TLY				*i*		02 27 42.3	
TLY				*i* PS	PS	02 30 42.6	+1.3
TLY				pmax	pmax		
	comp=Z,86nm,0.9s						
SONM	**Songino Array**	**114.43**	**356**	PKP	PKPdf	02 20 41.6	-2.5
	comp=Z,1.3nm,1.1s,baz=338,slow=0.5,SNR=4.8						
SONM				PP	PP	02 21 37.2	-5.8
	comp=Z,0.1nm,0.4s,baz=124,slow=4.5,SNR=3.8						
CN2	**Changchun**	**114.58**	**340**	*e*PKP	PKPdf	02 20 39.3	-5.2
CN2				LR	LR		
	comp=Z,200nm,22.0s,MS4.7						
WMQ	**Urumqi**	**117.52**	**11**	PKP	PKPdf	02 20 45.2	-5.0
WMQ				PP	PP	02 22 02.7	-2.0
WMQ				LR	LR		
	comp=E,72nm,24.0s						
GTA	**Gaotai**	**123.05**	**1**	*e*PKP	PKPdf	02 20 59.2	-1.7
GTA				XPKP		02 21 06.5	
MAW	**Mawson**	**124.73**	**163**	PKP	PKPdf	02 21 00.4	-3.2
	comp=E,2.2nm,0.7s,baz=265,slow=4.9,SNR=8.3						
MAW	**Mawson**	**124.73**	**163**	PKIKP	PKPdf	02 21 00.4	-3.2
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	**127.41**	**340**	*e*PKP	PKPdf	02 21 04.3	-5.4
NJ2				PKS	PKS	02 24 40.0	-2.7
NJ2				SKS	SKS	02 28 12.0	-4.5
NJ2				LR	LR		
	comp=N,270nm,21.7s,MS4.9						
NJ2				LR	LR		
	comp=E,150nm,22.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,230nm,27.2s,MS4.7						
SSE	**Sheshan**	**127.49**	**338**	⇑PKP	PKPdf	02 21 09.4	-0.5
SSE				PP	PP	02 23 12.1	+0.2
SSE				PP	PP		
	comp=Z,65nm,5.8s						
WHN	**Wuhan**	**130.12**	**344**	*e*PKP	PKPdf	02 21 12.5	-2.5
ENH	**Enshi**	**131.42**	**350**	*e*PKP	PKPdf	02 21 14.9	-2.6
CTA	**Charters Tower**	**136.88**	**259**	PKP	PKPdf	02 21 25.4	-2.2
	comp=Z,3.5nm,0.8s,baz=198,slow=2.1,SNR=5.8						
CTA	**Charters Tower**	**136.88**	**259**	PKIKP	PKPdf	02 21 25.4	-2.2
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMI	**Kunming**	**137.25**	**357**	*e*PKP	PKPdf	02 21 29.0	+0.7
KMI				PP	PP	02 24 17.4	+3.0
KMI				PKS	PKS	02 25 02.1	+1.2
KMI				SKS	SKS	02 28 32.0	-6.4
KMI				SS	SS	02 42 16.0	-3.2
KMI				LR	LR		
	comp=N,61nm,25.6s,MS4.3						
KMI				LR	LR		
	comp=E,50nm,24.5s,MS4.3						
STKA	**Stephens Creek**	**140.52**	**241**	*e*PKP	PKPdf	02 21 28.0	-6.2
	comp=E,5.2nm,0.9s						
STKA	**Stephens Creek**	**140.52**	**241**	PKP	PKPdf	02 21 28.7	-5.5
	comp=E,4.8nm,0.7s,baz=124,slow=3.4,SNR=9.5						
CMAR	**Chiang Mai Arr**	**143.90**	**3**	PKP	PKPdf	02 21 36.2	-4.1
	comp=E,6.6nm,1.0s,baz=331,slow=4.8,SNR=7.8						
CMAR	**Chiang Mai Arr**	**143.90**	**3**	PKIKP	PKPdf	02 21 36.3	-4.0
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKTK	**Khon Kaen**	**145.98**	**356**	P	PKPbc	02 21 43.0	+0.4
WB2	**Warramunga Arr**	**148.05**	**261**	*e*PKP	PKPdf	02 21 44.7	-2.6
WB2				*e*pPKP		02 21 48.0	
WRAB	**Tennant Creek**	**148.05**	**261**	*e*PKPdf	PKPdf	02 21 44.7	-2.6
WRAB				*e*PKPbc	PKPdf	02 21 48.1	+0.7
WRA	**Warramunga Arr**	**148.06**	**261**	PKP	PKPdf	02 21 44.9	-2.5
	comp=Z,23nm,0.7s,baz=86,slow=3.2,SNR=82						
WRA				PKPbc	PKPdf	02 21 48.0	+0.7
	comp=Z,24nm,0.7s,baz=86,slow=2.9,SNR=108						
WRA	**Warramunga Arr**	**148.06**	**261**	PKIKP	PKPdf	02 21 44.9	-2.5
WRA						02 21 48.0	
WRA				pmax	pmax		
	comp=Z,23nm,0.7s						
WRA				pmax	pmax		
	comp=Z,24nm,0.7s						
ASAR	**Alice Springs**	**148.39**	**254**	PKP	PKPdf	02 21 45.3	-2.5
	comp=Z,32nm,0.7s,baz=98,slow=1.6,SNR=49						
ASAR				PKPbc	PKPdf	02 21 48.8	+1.1
	comp=Z,34nm,0.7s,baz=101,slow=2.6,SNR=147						
ASPA	**Alice Springs**	**148.39**	**254**	*e*PKP	PKPdf	02 21 45.0	-2.8
ASPA				*e*pPKP		02 21 48.6	
KAKA	**Kakadu**	**148.95**	**275**	*e*PKP	PKPdf	02 21 50.4	+1.5
	comp=Z,16nm,0.6s						
FORT	**Forrest**	**151.96**	**238**	*e*PKP	PKPdf	02 21 56.2	+3.1
	comp=Z,90nm,0.7s						
FITZ	**Fitzroy Crossi**	**156.21**	**265**	*e*PKP	PKPab	02 22 26.1	-1.1
	comp=Z,5.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**156.21**	**265**	PKPab	PKPab	02 22 25.5	-1.8
	comp=Z,6.5nm,0.7s,baz=118,slow=2.1,SNR=14						

IDC 07 02:02:32.8±2.2**,63.04S**×**166.15W,mb3.6**/1**,mb1 4.0**/2**, mb1mx3.8**/11**,ML3.3**/1**,MS3.8**/7**,Ms1 3.8**/7**,ms1mx3.6**/16**, 1C-1D,Error ellipse: s-maj=75.4km s-min=52.1km az=100.0,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.66**	**202**	P	P	02 06 40.5	-0.9
	0.1nm,0.3s,baz=57,slow=17,SNR=13						
VNDA				LR	LR	02 11 55.1	
	comp=Z,223nm,20.6s,baz=48,slow=32						
RPZ	**Rata Peaks**	**23.42**	**315**	LR	LR	02 15 29.3	
	comp=Z,173nm,19.3s,baz=62,slow=33						
URZ	**Urewera**	**26.81**	**330**	LR	LR	02 16 39.7	
	comp=Z,161nm,19.7s,baz=178,slow=32						
RAR	**Rarotonga**	**42.03**	**9**	LR	LR	02 24 02.1	
	comp=Z,166nm,19.4s,baz=286,slow=31						
MAW	**Mawson**	**44.96**	**204**	LR	LR	02 28 18.3	
	comp=Z,96nm,20.9s,baz=71,slow=34						
SNAA	**Sanae**	**45.07**	**173**⇓	*i*	P	02 10 45.8	-5.6
VNA1	**Neumayer--Stat**	**45.70**	**170**⇑	*i*	P	02 10 53.3	-3.0
CTA	**Charters Tower**	**53.65**	**300**	LR	LR	02 32 54.8	
	comp=Z,120nm,18.0s,baz=232,slow=34						
NWAO	**Narrogin (SRO)**	**55.23**	**265**	LR	LR	02 28 51.6	
	comp=Z,111nm,21.9s,baz=20,slow=29						
ASAR	**Alice Springs**	**55.63**	**286**	P	P	02 12 10.5	-2.0
	0.7nm,0.8s,baz=161,slow=8.7,SNR=3.1						
ILAR	**Eielson Array**	**128.30**	**10**	PKP	PKPdf	02 21 39.6	-2.1
	3.7nm,1.5s,baz=207,slow=2.0,SNR=3.1						
BVAR	**Borovoye Array**	**149.45**	**278**	PKPbc	PKPdf	02 22 20.9	+1.3
	0.9nm,0.6s,baz=180,slow=2.9,SNR=4.9						

IDC ***07*** *02:10:36.8±1.9,3.46S×127.70E,mb4.1/3,mb1 4.2/5, mb1mx3.8/16,ML3.4/2,MS2.6/1,Ms1 2.6/1,ms1mx2.5/16, Error ellipse: s-maj=114.0km s-min=25.0km az=70.0*

ISC 07 02:10:39.9±1.5**,3.6S**±0.2×**127.5E**±0.4**,h33**^{km}**,n7,**σ**1**^{s}**23**/7**, mb3.8**/2**,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.49**	**187**	Pn	**P**	**02 14 04.5**	**-0.3**
	0.1nm,0.3s,baz=19,slow=9.2,SNR=3.0						
FITZ				LR	LR	02 19 43.9	
	comp=Z,22nm,19.3s,baz=45,slow=37						
WRA	**Warramunga Arr**	**17.55**	**158**	P	**P**	**02 14 42.1**	**-1.6**
	0.2nm,0.3s,baz=342,slow=13,SNR=11						
WB2	**Warramunga Arr**	**17.55**	**158**	*e*P	**P**	**02 14 42.8**	**-1.0**
ASPA	**Alice Springs**	**20.87**	**163**	*e*P	**P**	**02 15 23.0**	**+1.3**
ASAR	**Alice Springs**	**20.87**	**163**	P	**P**	**02 15 23.1**	**+1.4**
	24nm,0.8s,baz=343,slow=11,SNR=59						
STKA	**Stephens Creek**	**31.08**	**156**	P	**P**	**02 17 01.4**	**+3.8**
	0.7nm,0.6s,mb3.7,baz=63,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**64.04**	**327**	P	**P**	**02 21 12.3**	**-0.4**
	1.2nm,1.1s,mb3.9,baz=123,slow=7.4,SNR=4.0						

JSN 07 02:15:51.3±1.9**,18.31N**×**79.57W,h7**^{km}±29^{km}**,MD4.4, 1C-5D,North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEJ	**Negril**	**1.18**	**93**⇓	*e*P	Pb	02 16 12.0	-1.6
NEJ				*e*S	Sb	02 16 27.6	-1.4
MCJ	**Malvern**	**1.83**	**102**⇓	*e*PN	Pn	02 16 21.3	-2.2
MCJ				*e*S	Sn	02 16 44.0	-3.3
MCJ				*e*S	Sn	02 16 44.0	-3.2
BBJ	**Bamboo Saint A**	**2.19**	**88**⇓	*e*P	Pn	02 16 27.7	-1.0
PCJ	**Portland Cotta**	**2.37**	**103**⇑	*e*P	Pn	02 16 30.1	-1.1
PCJ				*e*S	Sn	02 16 58.5	-2.3
BNJ	**Bonny Gate**	**2.49**	**89**⇓	*e*P	Pn	02 16 31.2	-1.8
STH	**Stony Hill**	**2.64**	**95**⇓	*e*P	Pn	02 16 31.5	-3.6

IDC 07 02:23:38.7±2.7**,51.41S**×**158.40E,mb3.4**/2**,mb1 3.7**/2**, mb1mx3.5**/9**,MS3.5**/1**,Ms1 3.5**/1**,ms1mx2.9**/9**,Error ellipse: s-maj=384.0km s-min=60.1km az=50.0,North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**8.39**	**53**	P	P	02 25 29.4	-15
MLZ	**Mavora Lakes**	**8.89**	**51**	P	P	02 25 36.4	-15
JCZ	**Jackson Bay**	**10.12**	**48**	P	P	02 25 55.7	-13
ASAR	**Alice Springs**	**33.52**	**316**	P	P	02 30 18.1	-3.8
	0.5nm,0.7s,baz=156,slow=8.9,SNR=2.5						
ASAR				LR	LR	02 43 46.0	
	comp=Z,88nm,22.0s,baz=28,slow=36						
WRA	**Warramunga Arr**	**36.65**	**320**	P	P	02 30 47.9	-0.8
	0.4nm,0.6s,baz=154,slow=7.5,SNR=8.5						
WRA				PcP	PcP	02 33 09.3	-2.9
	0.4nm,0.6s,baz=155,slow=2.9,SNR=5.3						
FINES	**FINESS Array B**	**152.41**	**310**	PKPbc	PKPdf	02 43 35.5	+5.3
	0.6nm,0.6s,baz=104,slow=4.2,SNR=6.6						

MEX 07 02:34:24.3±0.8**,17.71N**×**94.87W,h114**^{km}±17^{km}**,MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.62**	**181**	*i* P	P	02 34 41.2	-1.4
CMIG				*i* S	S	02 34 54.4	-2.1
OXX	**Oaxaca**	**1.88**	**251**	*i* P	P	02 34 55.0	-1.4
OXX				*i* S	S	02 35 18.5	-2.1
CCIG	**Comitan**	**2.98**	**118**	*i* P	P	02 35 09.1	-2.0
CCIG				*i* S	S	02 35 43.4	-3.0

ISC 07 02:35:13.3±2.0**,36.8N**±0.1×**27.66E**±0.06**,h10**^{km}**,n7,** σ**1**^{s}**28**/13**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.29**	**324**	*i* P	**Pg**	**02 35 19.1**	**-0.3**
BDRM				*i* S	**Sg**	**02 35 23.4**	**-0.2**
YER	**Yerkesik**	**0.58**	**58**	*e*PG	**Pg**	**02 35 23.8**	**-1.3**
YER				*e*SG	**Sg**	**02 35 32.1**	**-0.8**
AYDN	**Tasoluk**	**0.85**	**12**	*i* P	**Pb**	**02 35 28.4**	**-1.3**
AYDN				*i* S	**Sb**	**02 35 38.9**	**-2.0**
DNZL	**Cakiroluk**	**1.40**	**52**	*i* P	**Pn**	**02 35 39.2**	**+0.3**
DNZL				*i* S	**Sb**	**02 35 58.2**	**+1.3**
KDAG	**Bornova**	**1.60**	**349**	*i* P	**Pn**	**02 35 41.8**	**0.0**
KDAG				*i* S	**Sn**	**02 36 06.4**	**+3.7**
MANT	**Manisa**	**1.81**	**23**	*i* P	**Pn**	**02 35 44.9**	**+0.2**
MANT				*i* S	**Sn**	**02 36 09.8**	**+2.0**
AKS	**Akhisar**	**2.05**	**3**	*e*PN	**Pn**	**02 35 51.2**	**+2.9**

MDD ***07*** *02:50:19.2±0.9,35.22N×4.13W,mb3.9/28,Error ellipse: s-maj=7.3km s-min=3.5km az=23.0,PRXIMO AftershockPLICA*

NEIC ***07*** *02:50:20.6,35.16N×4.05W,MG4.2(MDD),After MDD.*

LDG ***07*** *02:50:22.7±0.3,35.11N×4.11W,h10*^{km}*,Error ellipse: s-maj=6.9km s-min=3.3km az=177.0*

INMG ***07*** *02:50:23.6±0.9,35.07N×3.99W,h31*^{km}*±9*^{km}*,ML2.8,Error ellipse: s-maj=5.7km s-min=3.4km az=6.0*

ISC 07 02:50:21.0±0.7**,35.36N**±0.05×**4.08W**±0.03**,h10**^{km}**,n61,** σ**1**^{s}**14**/97**,3C-3D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.92**	**93**	⇑P	**Pb**	**02 50 37.0**	**-1.6**
	1μm,0.2s,SNR=18						
EMEL				S	**Sb**	**02 50 49.7**	**-0.9**
	863nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.33**	**335**	P	**Pb**	**02 50 45.8**	**+0.2**
	11nm,0.2s,SNR=7.9						
EMIJ				S	**Sb**	**02 51 07.3**	**+4.7**
	70nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.43**	**349**	P	**Pn**	**02 50 47.8**	**+0.7**
	4.9nm,0.1s,SNR=7.9						
EMAL				S	**Sb**	**02 51 09.7**	**+4.3**
	19nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.57**	**314**	P	**Pn**	**02 50 50.9**	**+1.7**
	0.2nm,0.2s,SNR=4.0						
ERON	**Agron**	**1.67**	**7**	P	**Pn**	**02 50 52.1**	**+1.5**
	4.2nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**02 51 15.7**	**+3.5**
	25nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.79**	**358**	P	**Pn**	**02 50 53.1**	**+0.9**
	2.0nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**02 51 19.0**	**+3.9**
	24nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**1.79**	**358**	P	**Pn**	**02 50 53.5**	**+1.3**
ELOJ				S	**Sn**	**02 51 21.7**	**+6.5**
ELIJ	**Sierra de Lija**	**1.88**	**326**	P	**Pn**	**02 50 53.7**	**+0.2**
	0.1nm,0.1s,SNR=4.0						
ESPR	**Espera**	**2.08**	**317**	⇑P	**Pn**	**02 50 58.9**	**+2.4**
	6.4nm,0.3s,SNR=18						
ESPR				S	**Sn**	**02 51 26.3**	**+3.6**
	19nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.20**	**356**	P	**Pn**	**02 51 01.1**	**+2.9**
	2.9nm,0.2s,SNR=22						
ELUQ				S	**Sn**	**02 51 28.9**	**+3.2**
	25nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.57**	**18**	P	**Pn**	**02 51 05.9**	**+2.4**
	4.6nm,0.1s,SNR=64						
EQES				S	**Sn**	**02 51 36.5**	**+1.5**
	40nm,0.2s						
EADA	**Adamuz**	**2.83**	**352**	P	**Pn**	**02 51 08.7**	**+1.6**
	2.8nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**02 51 43.2**	**+1.5**
	9.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.19**	**320**	P	**Pn**	**02 51 12.6**	**+0.4**
	3.4nm,0.1s,SNR=78						
EMIN				S	**Sn**	**02 51 50.6**	**-0.1**
	3.7nm,0.2s						
ERIP	**Rio Piedras**	**3.26**	**309**	P	**Pn**	**02 51 13.7**	**+0.5**
	7.3nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**02 51 52.3**	**-0.2**
	13nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.37**	**42**	P	**Pn**	**02 51 14.8**	**0.0**
	1.7nm,0.2s,SNR=6.6						
EMUR				S	**Sn**	**02 51 51.7**	**-3.6**
	33nm,0.3s						
PALC	**Alcoutim**	**3.45**	**308**	*e*Pn	**Pn**	**02 51 16.5**	**+0.5**
PALC				*e*Sn	**Sn**	**02 51 56.8**	**-0.6**
	20nm,0.4s						
PALC	**Alcoutim**	**3.45**	**308**	P	**Pn**	**02 51 16.5**	**+0.5**
PALC				S	**Sn**	**02 51 56.8**	**-0.6**
	10nm,0.4s						
EGRO	**El Granado**	**3.50**	**309**	⇓P	**Pn**	**02 51 16.8**	**+0.1**
	6.2nm,0.1s,SNR=18						
EGRO				S	**Sn**	**02 51 57.8**	**-0.9**
	13nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.50**	**309**	⇓P	**Pn**	**02 51 16.7**	**+0.1**
EGRO				S	**Sn**	**02 51 57.8**	**-0.9**
EVIA	**Vianos**	**3.51**	**21**	P	**Pn**	**02 51 17.6**	**+0.8**
	2.1nm,0.3s,SNR=4.0						
EVIA	**Vianos**	**3.51**	**21**	P	**Pn**	**02 51 20.5**	**+3.7**
ETOB	**Tobarra**	**3.85**	**31**	⇓P	**Pn**	**02 51 23.2**	**+1.5**
	9.0nm,0.2s,SNR=18						
ETOB				S	**Sn**	**02 52 07.7**	**+0.1**
	8.9nm,0.2s						
PBEJ	**Beja**	**4.04**	**312**	*e*Pn	**Pn**	**02 51 24.9**	**+0.5**
PBEJ				*e*Sn	**Sn**	**02 52 10.9**	**-1.5**
	11nm,0.3s						
PBEJ	**Beja**	**4.04**	**312**	P	**Pn**	**02 51 24.9**	**+0.5**
PBEJ				S	**Sn**	**02 52 10.9**	**-1.5**
	5.4nm,0.3s						
EBAD	**Badajoz**	**4.12**	**326**	P	**Pn**	**02 51 25.9**	**+0.4**
	10nm,0.2s,SNR=173						
EBAD				S	**Sn**	**02 52 14.4**	**0.0**
	34nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.31**	**1**	P	**Pn**	**02 51 29.3**	**+1.2**
	3.8nm,0.2s,baz=177,slow=12,SNR=25						
ESDC				S	**Sn**	**02 52 19.8**	**+0.7**
	4.6nm,0.4s,baz=185,slow=22,SNR=18						
PTEO	**Sao Teotonio**	**4.33**	**302**	*e*Pn	**Pn**	**02 51 28.7**	**+0.2**
EBEN	**Beniarda**	**4.54**	**42**	P	**Pn**	**02 51 30.7**	**-0.8**
	1.5nm,0.3s,SNR=6.6						
EBEN				S	**Sn**	**02 52 20.4**	**-4.7**
	1.5nm,0.2s						
MOE	**Montemor**	**4.66**	**314**	*e*Pn	**Pn**	**02 51 33.7**	**+0.6**
MOE				*e*Sn	**Sn**	**02 52 25.7**	**-2.2**
PCBR	**Castelo Branco**	**5.22**	**330**	*e*Pn	**Pn**	**02 51 41.3**	**+0.2**
PCBR				*e*Sn	**Sn**	**02 52 39.9**	**-2.3**
	6.7nm,0.5s						
PCBR	**Castelo Branco**	**5.22**	**330**	P	**Pn**	**02 51 41.3**	**+0.2**
PCBR				S	**Sn**	**02 52 39.9**	**-2.3**
	3.3nm,0.5s						
PLOU	**Loures**	**5.37**	**312**	*e*Pn	**Pn**	**02 51 42.9**	**-0.3**
PTOM	**Tomar**	**5.47**	**322**	*e*Pn	**Pn**	**02 51 44.5**	**-0.1**
EIBI	**Ibiza**	**5.67**	**48**	P	**Pn**	**02 51 45.3**	**-2.1**
	2.6nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**02 52 46.7**	**-6.6**
	7.9nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.68**	**16**	P	**Pn**	**02 51 47.5**	**-0.1**
	0.7nm,0.2s,SNR=12						
ETOR				S	**Sn**	**02 52 52.2**	**-1.5**
	0.7nm,0.2s,SNR=4.0						
MTE	**Manteigas**	**5.73**	**332**	*e*Pn	**Pn**	**02 51 48.4**	**+0.1**
MTE				*e*Sn	**Sn**	**02 52 51.8**	**-3.1**
	8.2nm,0.5s						
MTE	**Manteigas**	**5.73**	**332**	P	**Pn**	**02 51 48.4**	**+0.1**
MTE				S	**Sn**	**02 52 51.8**	**-3.1**
	4.1nm,0.5s						
EMOS	**Mosqueruela**	**5.75**	**29**	P	**Pn**	**02 51 49.7**	**+1.1**
	0.9nm,0.4s,SNR=7.9						
PCOI	**Coimbra**	**5.92**	**325**	*e*Pn	**Pn**	**02 51 50.9**	**0.0**
PVIS	**Viseu**	**6.14**	**332**	*e*Pn	**Pn**	**02 51 53.9**	**-0.1**
PVRL	**Vila Real**	**6.56**	**335**	*e*Pn	**Pn**	**02 51 59.7**	**-0.3**
PVRL				*e*Sn	**Sn**	**02 53 12.2**	**-3.5**
	6.7nm,0.2s						
PBRG	**Braganca**	**6.77**	**343**	*e*Sn	**Sn**	**02 53 16.6**	**-4.2**
ECAL	**Calabor**	**6.89**	**343**	⇑P	**Pn**	**02 52 05.2**	**+0.6**
	0.9nm,0.1s,SNR=18						
ECAL				S	**Sn**	**02 53 22.2**	**-1.8**
	3.0nm,0.3s						
ELOB	**Lobios**	**7.21**	**336**	P	**Pn**	**02 52 08.7**	**-0.3**
	5.4nm,0.2s,SNR=12						
ELOB				S	**Sn**	**02 53 26.9**	**-4.9**
	3.0nm,0.4s						
ERUA	**La Rua**	**7.42**	**342**	P	**Pn**	**02 52 11.9**	**-0.1**
	3.4nm,0.2s,SNR=43						
ERUA				S	**Sn**	**02 53 35.2**	**-1.9**
	2.9nm,0.4s						
EZAM	**Zamans**	**7.68**	**333**	P	**Pn**	**02 52 15.3**	**-0.4**
	2.3nm,0.2s,SNR=9.5						
ELAN	**Lanestosa**	**7.88**	**3**	P	**Pn**	**02 52 19.1**	**+0.6**
	1.0nm,0.3s,SNR=7.3						
ETSF	**Etsaut**	**8.01**	**19**	*e*Pn	**P**	**02 52 20.9**	**+0.6**
SJPF	**Ste Jean**	**8.05**	**15**	*e*Pn	**P**	**02 52 20.2**	**-0.7**
EALK	**Alkurruntz**	**8.10**	**13**	P	**P**	**02 52 22.2**	**+0.7**
	1.4nm,0.2s,SNR=13						
EALK				S	**Sn**	**02 53 49.5**	**-4.6**
	3.2nm,0.4s						
STS	**Santiago**	**8.28**	**337**	P	**P**	**02 52 23.2**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**8.30**	**344**	P	**P**	**02 52 24.4**	**0.0**
	2.0nm,0.2s,SNR=14						
EPON				S	**Sn**	**02 53 55.7**	**-3.6**
	1.0nm,0.2s						
EPF	**Esparros**	**8.39**	**23**	*e*Pn	**P**	**02 52 25.5**	**-0.1**
MTLF	**Montolieu**	**9.34**	**30**	*e*Pn	**P**	**02 52 38.2**	**-0.6**
LFF	**La Frestale**	**10.25**	**20**	*e*Pn	**P**	**02 52 50.9**	**-0.4**
LFF				*e*Pg	P	02 53 36.8	+46

CAF	**Calviac**	10.64	24	*e*Pn	P	02 52 55.1	-1.5
PGF	**Pioggiola**	12.45	51	*e*Pn	P	02 53 19.1	-2.0
QUIF	**Quistinic**	12.57	3	*e*Pn	P	02 53 22.4	-0.3
SGMF	**Saint Gilles**	12.94	5	*e*Pn	P	02 53 27.4	-0.2
ROSF	**Rostrenen**	12.98	2	*e*Pn	P	02 53 28.2	0.0
FLN	**La Foliniere**	13.65	10	*e*Pn	P	02 53 36.7	-0.3

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*NEIC **07** 03:02:42.8±0.2, 43.66N×17.12E, $h5^{km}$, MD3.4(PDG), ML3.3(FUR), ML2.9(ZAG), Error ellipse: s-maj=3.2km s-min=2.4km az=74.0*

*IDC **07** 03:02:43.5±1.8, 43.83N×17.01E, mb3.6/1, mb1 3.6/7, mb1mx3.5/23, ML3.2/6, Error ellipse: s-maj=25.8km s-min=13.2km az=44.0*

*PDG **07** 03:02:45.0±0.4, 43.57N×17.10E, $h10^{km}\pm1^{km}$*

*LDG **07** 03:02:45.3±99.0, 43.70N×17.10E, $h10^{km}$, Ml3.5/20, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 07 03:02:41.9±0.2, **43.71N**±0.01×**17.03E**±0.02, **h5**^{km}**, n117,** σ**1**^{s}**41**/185, **mb3.7**/1, **21C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	0.97	149	*i* Pg	Pg	03 02 59.8	-1.6
STON				*i* Sg	Sg	03 03 14.2	-0.2
BRY	**Bratogost**	1.37	126	⇑*i*Pg	Pg	03 03 08.1	-1.3
BRY				*e*Sg	Sg	03 03 27.9	+0.3
UPM	**Unac-Piva**	1.46	110	⇑*i*Pg	Pg	03 03 09.8	-1.4
UPM				*e*Sg	Sg	03 03 31.9	+1.2
HCY	**Herceg Novi**	1.66	139	⇑*i*Pg	Pg	03 03 11.9	-3.2
HCY				*e*Sg	Sg	03 03 36.7	-0.5
PLE	**Pljevlja**	1.77	102	⇑*i*Pn	Pn	03 03 16.0	+2.6
PLE				*e*Sn	Sn	03 03 41.8	+5.3
NVLJ	**Novalja**	1.77	300	*i* Pn	Pn	03 03 13.7	+0.2
NVLJ				*i* Sg	Sg	03 03 39.4	-1.4
NVLJ	**Novalja**	1.77	300	*i* Pn	Pn	03 03 13.7	+0.2
NVLJ				*i* Pg	Pg	03 03 15.8	-1.4
NVLJ				*i* Sn	Sn	03 03 36.6	0.0
NVLJ				*i* Sg	Sg	03 03 39.4	-1.4
SISC	**Sisak**	1.82	345	*i* Pn	Pn	03 03 18.1	+3.9
SISC				*i* Sn	Sn	03 03 42.0	+4.1
NVSS	**Nova Varos 2**	1.95	95	⇓*i*Pn	Pn	03 03 20.2	+4.1
NVSS				Sn	Sn	03 03 46.8	+5.6
BUM	**Brajici-Budva**	1.97	135	⇑*i*Pn	Pn	03 03 18.3	+2.0
BUM				*e*Sn	Sn	03 03 46.3	+4.7
TTG	**Podgorica**	2.08	127	⇑*i*Pn	Pn	03 03 20.2	+2.4
TTG				*e*Sn	Sn	03 03 48.8	+4.3
FGMS	**Monte Sant'Ang**	2.15	202	*e*Pn	Pn	03 03 18.3	-0.7
DIVS	**Divcibare**	2.18	79	⇓*i*Pn	Pn	03 03 20.4	+1.1
DIVS				Sn	Sn	03 03 52.7	+5.7
BOJS	**Bojanci**	2.19	325	*e*Pn	Pn	03 03 20.6	+1.0
BOJS				*e*Sn	Sn	03 03 49.4	+2.0
IVA	**Berane**	2.26	111	⇑*i*Pn	Pn	03 03 23.9	+3.4
IVA				*e*Sn	Sn	03 03 53.7	+4.7
RGNG	**Rignano Grg**	2.30	208	*i* Pn	Pn	03 03 20.2	-0.8
FG2	**Serracapriola**	2.35	216	*e*Pn	Pn	03 03 23.0	+1.2
ULC	**Ulcinj**	2.39	136	⇑*i*Pn	Pn	03 03 25.1	+2.7
ULC				*e*Sn	Sn	03 03 55.3	+2.9
PVY	**Plav**	2.43	116	⇑*i*Pn	Pn	03 03 26.4	+3.5
PVY				*e*Sn	Sn	03 03 57.7	+4.4
BCI	**Bajram Curri**	2.60	120	*i* Pg	Pg	03 03 29.5	-4.4
BCI				*i* Sg	Sg	03 04 07.0	-1.6
PUK	**Puka**	2.69	127	*i* Pg	Pg	03 03 30.2	-5.4
PUK				*i* Sg	Sg	03 04 07.6	-3.8
TERO	**Teramo**	2.73	248	*e*Pn	Pn	03 03 27.5	+0.3
TERO				*e*Sn	Sn	03 04 03.1	+2.1
CEY	**Cerknica**	2.75	318	*i* Pn	Pn	03 03 28.9	+1.5
FG5	**Orsara di Pugl**	2.75	209	*e*Pn	Pn	03 03 27.9	+0.4
CING	**Cingoli**	2.81	264	*e*Pn	Pn	03 03 28.7	+0.4
CING				*e*Sn	Sn	03 04 04.5	+1.6
FG4	**Candela**	2.81	204	*e*Pn	Pn	03 03 27.8	-0.6
CII	**Carovilli**	2.82	226	*e*Pn	Pn	03 03 28.8	+0.3
BRT	**Bari-Castellan**	2.83	177	*e*Pn	Pn	03 03 27.8	-0.9
BRT				*e*Sn	Sn	03 04 01.6	-2.1
INTR	**Introdacqua**	2.85	235	⇓*i*Pn	Pn	03 03 29.1	+0.1
INTR				*e*Sn	Sn	03 04 14.2	+10
CPI2	**Carpinone**	2.92	224	*e*Pn	Pn	03 03 30.4	+0.5
LJU	**Ljubljana**	2.93	324	*e*Pn	Pn	03 03 28.9	-1.2
LJU				*e*Sn	Sn	03 04 08.5	+2.4
ARV	**Arcevia**	2.98	267	⇓*i*Pn	Pn	03 03 31.0	+0.3
AQU	**L'Aquila**	2.98	244	*e*Pn	Pn	03 03 31.5	+0.7
AQU				*e*Sn	Sn	03 04 08.8	+1.4
NRCA	**Norcia**	2.99	254	⇑*i*Pn	Pn	03 03 31.1	+0.2
MRB1	**Monte Rocchett**	3.00	211	*e*Pn	Pn	03 03 33.3	+2.3
JAVS	**Javornik**	3.03	317	*i* Pn	Pn	03 03 32.8	+1.3
SGG	**Gregorio Mates**	3.04	221	*e*Pn	Pn	03 03 32.1	+0.5
QSH	**Qafa e Shtames**	3.05	135	*i* Pg	Pg	03 03 38.4	-4.4
FSSB	**Fossombrone**	3.08	271	⇑*i*Pn	Pn	03 03 32.9	+0.7
FSSB				*e*Sn	Sn	03 04 11.3	+1.4
SDI	**San Donato**	3.10	231	⇓*i*Pn	Pn	03 03 32.6	+0.1
PTQR	**Pietraquaria**	3.15	239	*e*Pn	Pn	03 03 34.9	+1.7
TIR	**Tirane**	3.16	137	*e*Pn	Pn	03 03 44.5	+11
CSSN	**Cassano Irpino**	3.21	208	*e*Pn	Pn	03 03 33.7	-0.4
VOY	**Vojsko**	3.21	317	*e*Pn	Pn	03 03 35.0	+0.9
VOY				*e*Sn	Sn	03 04 17.0	+3.7
PERS	**Pernice**	3.22	336	*e*Pn	Pn	03 03 34.5	+0.3
ASS	**Assisi**	3.25	260	*e*Pn	Pn	03 03 34.7	0.0
ASS				*e*Sn	Sn	03 04 17.4	+3.2
OBKA	**Obir**	3.30	329	⇑*i*PN	Pn	03 03 37.0	+1.7
OBKA				*i* SN	Sn	03 04 18.2	+2.7
MURB	**Monte Urbino**	3.31	264	*e*Pn	Pn	03 03 36.0	+0.6
MURB				*e*Sn	Sn	03 04 15.2	-0.4
RSM	**Repubblica di**	3.32	275	*e*Pn	Pn	03 03 36.4	+0.8
MSC	**Monte Massico**	3.38	223	*e*Pn	Pn	03 03 36.6	+0.1
SGO	**Sicignano**	3.40	203	*e*Pn	Pn	03 03 35.8	-0.9
SGO				*e*Sn	Sn	03 04 15.8	-2.1
MNS	**Montasola**	3.45	249	*e*Pn	Pn	03 03 37.7	+0.3
CERT	**Cerreto**	3.46	241	*e*Pn	Pn	03 03 38.6	+1.1
ROBS	**Robic**	3.56	317	*i* Pn	Pn	03 03 39.3	+0.4
ORI	**Oriolo Calabro**	3.67	187	⇓*i*Pn	Pn	03 03 40.5	-0.1
SKO	**Skopje**	3.68	117	*i* Pn	Pn	03 03 43.0	+2.3
CRE	**Caprese Michel**	3.68	270	*e*Pn	Pn	03 03 42.2	+1.4
ARSA	**Arzberg**	3.69	344	⇑*i*PN	Pn	03 03 40.6	-0.3
ARSA				*i* SN	Sn	03 04 24.2	-1.2
GMNA	**Gemona**	3.71	315	*e*Pn	Pn	03 03 42.0	+0.8
MGR	**Morigerati**	3.74	198	*e*Pn	Pn	03 03 40.7	-0.8
PTCC	**Patocco-Chiusa**	3.75	317	⇓*i*Pn	Pn	03 03 42.1	+0.5
SFI	**Santa Sofia**	3.75	275	*e*Pn	Pn	03 03 42.9	+1.2
PGD	**Poggio Sodo**	3.84	274	*e*Pn	Pn	03 03 44.5	+1.5
VMG	**Vicchio**	3.97	275	*e*Pn	Pn	03 03 46.9	+2.0
TOLF	**Tolfa**	4.04	248	⇑*i*Pn	Pn	03 03 45.0	-0.8
FVI	**Forni Avoltri**	4.16	315	*e*Pn	Pn	03 03 48.3	+0.7
CSNT	**Castellina Chi**	4.17	269	⇑*i*Pn	Pn	03 03 49.3	+1.6
CSNT				*e*Sn	Sn	03 04 37.1	-0.4
SRO	**Srobarova**	4.20	12	*e*PN	Pn	03 03 48.7	+0.6
SRO				*e*SN	Sn	03 04 38.4	+0.2
CTI	**Castel Tesino**	4.48	303	⇓*i*Pn	Pn	03 03 51.5	-0.6
MOA	**Molln**	4.57	336	⇑*i*PN	Pn	03 03 53.6	+0.3
MOA				*i* SN	Sn	03 04 49.4	+1.9
PSZ	**Piszkesteto**	4.66	24	⇑*e*Pn	Pn	03 03 53.5	-1.1
PSZ				*e*Sn	Sn	03 04 45.4	-4.5
PII	**Pisa**	4.71	272	*e*Pn	Pn	03 03 55.6	+0.2
SMOL	**Smolenice**	4.81	3	*e*PN	Pn	03 03 55.4	-1.4
SMOL				*e*SN	Sn	03 04 50.8	-2.9
BGLD	**Berchtesgaden**	4.84	326	⇑*i*Pn	Pn	03 03 59.1	+1.9
VYHS	**Vyhne**	4.95	14	*i* PN	Pn	03 03 58.4	-0.3
VYHS				*e*SN	Sn	03 04 53.2	-3.9
SCE	**Schlegeis**	5.01	313	⇓*i*Pn	Pn	03 03 59.7	+0.1
MABI	**Malga Bissina**	5.19	299	*e*Pn	Pn	03 04 01.4	-0.6
WTTA	**Wattenberg**	5.19	315	⇓*i*PN	Pn	03 04 02.5	+0.3
WTTA				*i* SN	Sn	03 05 04.3	+1.0
WATA	**Walderalm**	5.27	315	⇑*i*PN	Pn	03 04 03.8	+0.5
WATA				*i* SN	Sn	03 05 07.2	+1.9
SQTA	**Sankt Quirin**	5.39	313	⇓*i*PN	Pn	03 04 05.7	+0.8
SQTA				*i* SN	Sn	03 05 10.6	+2.4
BRMO	**Bormio**	5.46	303	*e*Pn	Pn	03 04 05.6	-0.4
MOTA	**Moosalm**	5.52	313	⇑*i*PN	Pn	03 04 07.3	+0.5
MOTA				*i* SN	Sn	03 05 13.1	+1.5
VRAC	**Vranov**	5.61	357	Pn	Pn	03 04 06.8	-1.2
	0.4nm,0.3s,baz=184,slow=13,SNR=5.7						
VRAC				Sn	Sn	03 05 09.8	-3.9
	0.7nm,0.3s,baz=114,slow=19,SNR=4.2						
GERES	**GERESS Array B**	5.63	337	Pn	Pn	03 04 07.4	-0.9
	0.5nm,0.3s,baz=152,slow=14,SNR=18						
GERES				Sn	Sn	03 05 13.3	-0.9
	1.9nm,0.3s,baz=155,slow=24,SNR=17						
DAVOX	**Davos**	5.90	304	Pn	Pn	03 04 12.2	0.0
	2.6nm,0.3s,baz=126,slow=13,SNR=26						
DAVOX				Sn	Sn	03 05 21.3	+0.2
	1.1nm,0.3s,baz=131,slow=20,SNR=5.1						
KHC	**Kasperske Hory**	5.92	337	*e*PN	Pn	03 04 11.3	-1.1
KHC				*e*SN	Sn	03 05 18.7	-2.8
PGF	**Pioggiola**	5.99	262	*e*Pn	Pn	03 04 12.2	-1.2
PGF				*e*Sn	Sn	03 05 17.0	-6.2
	3.5nm,0.5s						
CRVS	**Cervenica-Dubn**	6.03	29	*i* PN	Pn	03 04 14.4	+0.4
DAVA	**Damuels**	6.16	308	⇑*i*PN	Pn	03 04 15.9	0.0
DAVA				*i* SN	Sn	03 05 28.5	+0.9
OKC	**Ostrava-Krasne**	6.18	7	*e*SN	Sn	03 05 26.1	-1.8
MLR	**Muntele Rosu**	6.61	71	Pn	Pn	03 04 24.7	+2.5
	0.1nm,0.3s,baz=145,slow=14,SNR=2.2						
SBF	**Sospel**	6.94	275	*e*Pn	Pn	03 04 25.3	-1.6
SBF				*e*Sn	Sn	03 05 40.7	-6.4
	6.3nm,0.3s						
MBDF	**Montbardon**	7.44	281	*e*Pn	Pn	03 04 29.9	-3.9
MBDF				*e*Sn	Sn	03 05 53.1	-6.4
	8.4nm,0.5s						
FRF	**La Foret Royal**	7.53	272	*e*Pn	Pn	03 04 33.0	-2.1
FRF				*e*Sn	Sn	03 05 55.7	-6.1
	3.7nm,0.3s						
LPG	**La Plagne**	7.55	287	*e*Pn	Pn	03 04 34.7	-0.6
LPG				*e*Sn	Sn	03 05 56.1	-6.1
	4.4nm,0.3s						
LPL	**La Plagne**	7.56	287	*e*Pn	Pn	03 04 32.7	-2.8
LPL				*e*Sn	Sn	03 05 56.1	-6.5
	21nm,0.6s						
LMR	**La Mourre**	7.65	271	*e*Pn	Pn	03 04 35.1	-1.7
LMR				*e*Sn	Sn	03 05 57.3	-7.6
	2.4nm,0.3s						
ORIF	**Oris-en-Rattie**	8.09	282	*e*Pn	P	03 04 41.1	-1.7
ORIF				*e*Sn	Sn	03 06 06.6	-9.0
	6.9nm,0.4s						
HINF	**Hinteralfeld**	8.21	304	*e*Pn	P	03 04 41.6	-3.0
HINF				*e*Sn	Sn	03 06 11.5	-7.3
	5.2nm,0.4s						
CDF	**Champ du Feu**	8.25	308	*e*Pn	P	03 04 42.5	-2.6
CABF	**La Chapelle**	8.26	294	*e*Pn	P	03 04 42.4	-2.8
CABF				*e*Sn	Sn	03 06 11.4	-8.5
	1.8nm,0.3s						
SMRF	**Simiane la Rot**	8.28	276	*e*Pn	P	03 04 43.6	-2.0
SMRF				*e*Sn	Sn	03 06 13.3	-7.3
	2.6nm,0.5s						
HAU	**Haudompre**	8.60	304	*e*Pn	P	03 04 47.2	-2.8
HAU				*e*Sn	Sn	03 06 20.3	-8.2
	9.2nm,0.6s						
VIVF	**Saint-Julien-l**	8.94	282	*e*Pn	P	03 04 50.9	-3.8
VIVF				*e*Sn	Sn	03 06 29.4	-7.5
	2.4nm,0.5s						
LASF	**Ste Croix**	9.52	277	*e*Pn	P	03 05 00.6	-2.0
SMF	**Signal de Mont**	9.76	292	*e*Pn	P	03 05 02.3	-3.7
SMF				*e*Sn	Sn	03 06 48.5	-8.7
	4.5nm,0.5s						
LOR	**Lormes**	9.91	296	*e*Pn	P	03 05 04.2	-3.8
LOR				*e*Sn	Sn	03 06 51.4	-9.3
	6.8nm,0.4s						
SSF	**Saint Saulge**	10.08	294	*e*Pn	P	03 05 06.4	-4.0
SSF				*e*Sn	S	03 06 55.4	-10
	2.1nm,0.3s						
AVF	**Avril sur Loir**	10.12	292	*e*Pn	P	03 05 07.6	-3.3
AVF				*e*Sn	S	03 06 57.2	-8.8
	2.7nm,0.5s						
IDI	**Anoyia**	10.37	142	Pn	P	03 05 13.6	-0.8
	0.3nm,0.3s,baz=302,slow=11,SNR=4.3						
BGF	**Bois d'Agland**	10.42	291	*e*Pn	P	03 05 12.9	-2.1
BGF				*e*Sn	S	03 07 04.2	-9.0
	4.2nm,0.3s						
HYF	**Humbligny**	10.71	294	*e*Pn	P	03 05 16.9	-2.1
HYF				*e*Sn	S	03 07 10.5	-10
CAF	**Calviac**	10.79	282	*e*Pn	P	03 05 17.0	-3.1
TCF	**Toulx Ste Croi**	10.80	289	*e*Pn	P	03 05 19.3	-1.0
TCF				*e*Sn	S	03 07 13.4	-9.4
	1.3nm,0.4s						
RJF	**Les Rejaudoux**	11.19	284	*e*Pn	P	03 05 23.3	-2.3
FINES	**FINESS Array B**	18.56	14	P	P	03 07 00.5	-0.7
	0.1nm,0.3s,baz=194,slow=7.9,SNR=5.1						
SONM	**Songino Array**	59.05	52	P	P	03 12 44.5	-0.5
	0.5nm,0.6s,mb3.7,baz=295,slow=9.1,SNR=5.1						

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*IDC **07** 03:25:48.7±0.7, 8.25S×117.42E, mb4.2/10, mb1 4.4/11, mb1mx4.2/18, ML4.3/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/20, Error ellipse: s-maj=34.3km s-min=12.3km az=55.0*

*NEIC **07** 03:25:53.8±1.8, 8.34S×117.45E, $h30^{km}\pm15^{km}$, mb4.6/10, Error ellipse: s-maj=7.4km s-min=6.3km az=217.0*

NEIC Felt [III] at Sumbawa Besar. Also felt [III] at Mataram, Lombok and [II] at Denpasar, Bali.

*DJA **07** 03:25:54.8±0.8, 8.13S×117.31E, $h33^{km}$, mb5.2/1, MD4.9/4, Error ellipse: s-maj=47.9km s-min=4.9km az=143.0*

ISC 07 03:25:51.8±1.9, **8.35S**±0.05×**117.50E**±0.03, **h25**$^{km}\pm15^{km}$, **n36,** σ**1**^{s}**21**/43, **mb4.3**/16, **MS3.6**/1, **9C-5D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	1.38	264	⇓*e*P	Pn	03 26 16.1	+0.3
RATI	**Rata**	1.98	259	⇑*e*P	Pn	03 26 24.7	+0.3
RATI				⇑*e*S	Sn	03 26 49.0	+0.3
INGI	**Ingas**	2.38	259	⇓*i*P	Pn	03 26 30.7	+0.7
KELI	**Kelakatan**	2.98	272	⇑*e*P	Pn	03 26 38.7	0.0
	740nm,0.2s						
KELI				⇑*e*S	Sn	03 27 12.1	-1.9
NINI	**Niniconang**	4.50	30	⇓*i*P	Pn	03 27 01.4	+1.2
TANI	**Tanete Lipujan**	5.23	21	⇓*e*P	Pn	03 27 10.2	-0.2
	172nm,0.2s						
BUNI	**Buntu Taipa**	5.44	31	⇑*e*P	Pn	03 27 14.6	+1.2
FITZ	**Fitzroy Crossi**	12.51	142	⇓*i*P	P	03 28 49.5	-1.8
	10nm,0.6s						
FITZ				*e*S	S	03 31 03.9	-6.9
FITZ	**Fitzroy Crossi**	12.51	142	Pn	P	03 28 49.6	-1.7
	1.4nm,0.3s,baz=355,slow=11,SNR=47						
FITZ				Sn	S	03 31 02.7	-8.1
	0.9nm,0.3s,baz=336,slow=19,SNR=5.1						
FITZ				LR	LR	03 34 00.9	
	comp=Z,126nm,21.6s,baz=269,slow=39						
KAKA	**Kakadu**	15.27	108	*e*P	P	03 29 26.5	-1.2
	16nm,0.4s						
KAKA				*e*S	S	03 32 17.3	+0.8
WRA	**Warramunga Arr**	19.96	127	P	P	03 30 23.4	-1.8
	12nm,0.4s,baz=300,slow=12,SNR=141						
WRA				S	S	03 34 03.6	+0.7
	4.7nm,0.8s,baz=305,slow=23,SNR=5.5						
WRA				LR	LR	03 37 50.0	
	comp=Z,95nm,21.0s,baz=310,slow=36						
WRAB	**Tennant Creek**	19.96	127	*e*P	P	03 30 23.6	-1.7
	12nm,0.8s						
WB2	**Warramunga Arr**	19.97	127	⇑*i*P	P	03 30 23.6	-1.7
WB2				*i* pP		03 30 35.8	
WB2				*e*S	S	03 34 03.1	0.0
WB2				*i* sS		03 34 35.0	
ASPA	**Alice Springs**	21.88	136	⇑*i*P	P	03 30 44.9	+0.1
ASPA				*i* pP		03 30 56.8	
ASPA				*e*S	S	03 34 49.5	+9.4
ASAR	**Alice Springs**	21.88	136	P	P	03 30 45.0	+0.2
	14nm,0.6s,mb4.5,baz=311,slow=9.3,SNR=170						
ASAR				S	S	03 34 49.6	+9.4
	2.7nm,0.7s,baz=315,slow=22,SNR=9.1						
KLBR	**Kellerberrin**	23.13	179	*e*P	P	03 30 57.8	+0.7
	20nm,1.4s,mb4.4						
KLBR				*i*		03 31 11.6	
KLBR				*e*S	S	03 35 10.6	+7.9
MUN	**Mundaring**	23.54	183	*e*P	P	03 31 02.9	+1.8
	12nm,1.2s,mb4.2						
MUN				*i*		03 31 18.1	
MUN				*e*S	S	03 35 17.5	+7.5
FORT	**Forrest**	24.40	158	*e*P	P	03 31 10.7	+1.2
	79nm,0.5s,mb5.4						
FORT				*i*		03 31 16.3	
FORT				*e*S	S	03 35 48.0	+23
NWAO	**Narrogin (SRO)**	24.46	181	P	P	03 31 11.1	+1.0
	5.6nm,0.4s,mb4.3,baz=3.1,slow=7.5,SNR=13						
NWAO	**Narrogin (SRO)**	24.46	181	*e*P	P	03 31 10.6	+0.6
	14nm,0.5s,mb4.7						
NWAO				*e*		03 31 28.1	
CMAR	**Chiang Mai Arr**	32.33	326	P	P	03 32 24.0	+2.6
	1.2nm,0.3s,mb4.1,baz=140,slow=9.2,SNR=3.9						
CMAR				LR	LR	03 46 48.8	
	comp=Z,112nm,18.4s,MS3.6,baz=160,slow=39						
STKA	**Stephens Creek**	32.40	140	⇑*i*P	P	03 32 21.7	-0.2
	4.2nm,0.4s,mb4.6						
STKA				*i*	pP	03 32 29.3	-0.1
STKA	**Stephens Creek**	32.40	140	P	P	03 32 21.9	0.0
	4.0nm,0.4s,mb4.6,baz=313,slow=9.4,SNR=32						
TOO	**Toolangi**	38.56	143	⇑*i*P	P	03 33 16.3	+1.9
	2.0nm,0.5s,mb4.1						
TOO				*i*	pP	03 33 25.2	+3.2
ENH	**Enshi**	39.16	349	P	P	03 33 19.5	0.0
	42nm,2.1s,mb4.8						
JNU	**Nakatsue**	43.16	16	P	P	03 33 57.5	+5.2
	3.0nm,0.6s,mb4.2						
SONM	**Songino Array**	56.80	351	P	P	03 35 35.1	-1.3
	1.2nm,0.9s,mb3.9,baz=166,slow=7.9,SNR=8.2						
MKAR	**Makanchi Array**	63.21	334	P	P	03 36 18.2	-2.1
	0.6nm,0.5s,mb4.0,baz=131,slow=5.3,SNR=8.7						
MAW	**Mawson**	69.34	200	P	P	03 36 58.3	-0.7
	1.4nm,0.7s,mb4.0,baz=76,slow=8.7,SNR=4.4						
VNDA	**Vanda**	72.86	171	P	P	03 37 18.8	-1.2
	0.9nm,0.4s,mb4.0,baz=312,slow=7.8,SNR=6.6						
BVAR	**Borovoye Array**	73.03	332	P	P	03 37 18.1	-3.3
	0.5nm,0.6s,mb3.6,baz=121,slow=8.4,SNR=2.7						
QSPA	**South Pole Qui**	81.64	180	*e*P	P	03 38 10.3	+1.6
	5.0nm,1.0s,mb4.4						
LVC	**Limon Verde**	148.59	169	PKPbc	PKPdf	03 45 40.1	+1.8
	2.7nm,0.6s,baz=270,slow=6.1,SNR=4.3						
LVC	**Limon Verde**	148.59	169	PKPbc	PKPdf	03 45 40.1	+1.8
BDFB	**Brasilia**	152.18	211	PKPbc	PKPdf	03 45 46.0	+1.9
	1.2nm,0.5s,baz=72,slow=5.2,SNR=3.8						
LPAZ	**La Paz**	154.89	167	PKPab	PKPab	03 46 09.5	-0.1
	0.9nm,0.5s,baz=236,slow=3.6,SNR=8.0						

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*NEIC **07** 03:38:03.5±3.9, 59.56S×29.77W, $h33^{km}\pm27^{km}$, mb4.6/3, Error ellipse: s-maj=19.3km s-min=9.4km az=224.0*

*IDC **07** 03:38:07.6±6.4, 59.54S×29.92W, $h67^{km}\pm57^{km}$, mb4.0/9, mb1 4.0/9, mb1mx3.9/14, MS4.2/11, Ms1 4.1/11, ms1mx4.1/16, Error ellipse: s-maj=29.3km s-min=16.4km az=53.0*

ISC 07 03:37:58.7±0.5, **59.54S**±0.08×**29.8W**±0.2, **h10**^{km}**, n25,** σ**0**^{s}**67**/19, **mb4.5**/14, **MS4.2**/8, **1C-4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	14.24	150	⇓*i*	P	03 41 22.3	+0.2
SNAA	**Sanae**	16.26	149	⇓*i*	P	03 41 47.9	-0.5
USHA	**Ushuaia**	21.25	266	P	P	03 42 45.6	-1.4
	23nm,1.0s,mb4.5,baz=77,slow=8.8,SNR=4.0						
USHA				LR	LR	03 48 50.6	
	comp=Z,837nm,20.7s,MS4.1,baz=103,slow=30						
SYO	**Syowa Base**	29.84	137	⇓P	P	03 44 06.9	-0.8
SYO	**Syowa Base**	29.84	137	⇓P	P	03 44 14.0	+6.3
QSPA	**South Pole Qui**	30.71	180	*e*P	P	03 44 14.6	-0.6
	26nm,1.5s,mb4.8						
QSPA				*e*		03 45 01.6	
PLCA	**Paso Flores**	31.52	288	P	P	03 44 23.8	+1.1
	2.2nm,0.8s,mb4.0,baz=118,slow=7.3,SNR=4.2						
PLCA				LR	LR	03 56 23.4	
	comp=Z,484nm,18.0s,MS4.2,baz=174,slow=35						
MAW	**Mawson**	38.21	142	⇑*i*P	P	03 45 20.8	+1.1
	6.3nm,0.9s,mb4.3						
MAW				*i*		03 45 27.4	
MAW	**Mawson**	38.21	142	P	P	03 45 20.6	+0.9
	7.1nm,0.8s,mb4.4,baz=238,slow=9.0,SNR=19						
MAW				LR	LR	03 58 49.1	
	comp=Z,296nm,21.4s,MS4.1,baz=240,slow=32						
CPUP	**Villa Florida**	38.28	318	P	P	03 45 20.1	-0.7
	2.1nm,0.7s,mb4.0,baz=167,slow=8.6,SNR=7.0						
CPUP				LR	LR	03 59 58.1	
	comp=Z,357nm,19.2s,MS4.2,baz=182,slow=34						
VNDA	**Vanda**	43.01	184	P	P	03 46 00.0	+1.0
	1.5nm,0.9s,mb3.7,baz=192,slow=5.8,SNR=4.6						
VNDA				LR	LR	04 01 09.6	
	comp=Z,135nm,21.6s,MS3.8,baz=358,slow=32						
LPAZ	**La Paz**	51.43	310	P	P	03 47 06.5	+0.6
	1.0nm,0.8s,mb3.8,baz=243,slow=2.3,SNR=2.9						
LIC	**Lamto**	68.44	27	*e*P	P	03 49 02.9	0.0
	82nm,1.5s,mb5.5						
KIC	**Kosan Boka**	68.64	27	*e*P	P	03 49 04.1	0.0
	61nm,1.0s,mb5.5						
TIC	**Toumodi**	68.85	26	*e*P	P	03 49 04.9	-0.5
	35nm,0.8s,mb5.4						
DBIC	**Dimbokro**	68.91	27	P	P	03 49 05.6	-0.2
	6.9nm,0.7s,mb4.7,baz=148,slow=7.0,SNR=14						
DBIC				LR	LR	04 14 11.6	
	comp=Z,79nm,18.2s,MS4.0,baz=199,slow=31						
OTAV	**Otavalo**	70.56	307	P	P	03 49 16.4	+0.6
	7.7nm,1.4s,mb4.4						
STKA	**Stephens Creek**	88.65	173	P	P	03 50 52.9	+0.1
	1.5nm,0.8s,mb4.4,baz=135,slow=5.3,SNR=3.9						
STKA				LR	LR	04 27 05.7	
	comp=Z,177nm,19.9s,MS4.5,baz=205,slow=33						
ASAR	**Alice Springs**	96.02	165	P	P	03 51 26.8	-0.3
	0.4nm,0.7s,mb4.0,baz=201,slow=4.6,SNR=5.5						
ASAR				LR	LR	04 32 18.5	
	comp=Z,122nm,21.5s,MS4.3,baz=196,slow=34						
ARCES	**ARCESS Array B**	134.70	24	PKP	PKPdf	03 57 16.1	-3.1
	0.5nm,0.6s,baz=243,slow=2.0,SNR=2.6						
YKA	**Yellowknife Ar**	137.80	316	PKP	PKPdf	03 57 21.5	-3.6
	0.6nm,0.7s,baz=128,slow=2.7,SNR=3.5						
INK	**Inuvik**	147.54	318	PKPbc	PKPdf	03 57 42.2	+0.6
	3.6nm,0.8s,baz=121,slow=7.6,SNR=7.0						
DAWY	**Dawson**	148.00	309	*e*PKPbc	PKPdf	03 57 43.4	+0.9
ILAR	**Eielson Array**	151.28	307	PKPbc	PKPdf	03 57 51.5	+3.9
	1.7nm,0.8s,baz=153,slow=1.6,SNR=16						
ILAR				PKPab	PKPab	03 57 58.9	-2.0
	4.8nm,0.8s,baz=161,slow=2.4,SNR=22						
SONM	**Songino Array**	152.06	95	PKP	PKPdf	03 57 47.1	-2.2
	0.2nm,0.7s,baz=198,slow=4.6,SNR=2.4						
SONM				PKPbc	PKPdf	03 57 53.4	+4.1
	0.5nm,0.6s,baz=225,slow=1.7,SNR=4.6						
SONM				PKPab	PKPab	03 58 04.1	-0.7
	0.9nm,0.8s,baz=225,slow=3.5,SNR=5.7						

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*IDC **07** 03:51:42.9±1.9, 39.36N×20.22E, mb3.5/6, mb1 3.7/11, mb1mx3.6/26, ML3.4/5, Error ellipse: s-maj=32.4km s-min=16.8km az=37.0*

*NEIC **07** 03:51:45.7, 39.40N×20.50E, $h5^{km}$, mb3.6/1, MD3.7(ATH), ML3.5(THE), After ATH.*

*ATH **07** 03:51:45.7, 39.40N×20.50E, $h5^{km}$, MD3.7/7*

*THE **07** 03:51:46.7, 39.39N×20.41E, $h3^{km}$, ML3.5*

ISC 07 03:51:44.0±0.4, **39.34N**±0.03×**20.34E**±0.03, **h3**^{km}**, n58,** σ**1**^{s}**53**/77, **mb3.5**/6, **6C-5D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	0.51	51	*e*PG	Pg	03 51 52.4	-1.7
KEK	**Kerkira**	0.56	312	*e*PB	Pb	03 51 58.0	+1.9
KEK				*e*SB	Sb	03 52 06.9	+2.6
MEV	**Metsovon**	0.82	57	*e*Pg	Pg	03 52 01.3	+1.0
MEV				*e*Sg	Sg	03 52 11.2	0.0
LSK	**Leskovik**	0.84	14	*e*Pg	Pg	03 52 01.0	+0.3
LSK				*i* Sg	Sg	03 52 14.0	+2.2
VLS	**Valsamata**	1.17	170	*e*PN	Pn	03 52 08.0	+0.7
VLS				*e*SB	Sb	03 52 27.1	+5.0
EVR	**Evrytania**	1.22	110	*e*PN	Pn	03 52 07.0	-0.9
KZN	**Kozani**	1.47	48	*e*PB	Pb	03 52 12.0	+0.4
AGG	**Agios Georgios**	1.58	101	*e*Pb	Pb	03 52 14.2	+0.7
AGG				*e*Sb	Sb	03 52 35.8	+2.0
FNA	**Florina**	1.65	28	*e*Pb	Pb	03 52 15.3	+0.6
FNA				*e*Sb	Sb	03 52 36.0	+0.2
OHR	**Ohrid**	1.81	11	*i* Sg	Sg	03 52 45.0	+0.8
LIT	**Litokhoron**	1.82	65	*e*Pb	Pb	03 52 16.9	-0.9
LIT				*e*Sb	Sb	03 52 41.6	+0.7
BIA	**Bitola**	1.84	24	*i* Pn	Pn	03 52 11.0	-5.8
BIA				*i* Sg	Sg	03 52 39.3	-6.0
LCI	**Lecce**	1.98	301	*e*Pn	Pn	03 52 22.9	+4.0
LCI				*e*Sn	Sg	03 52 56.6	+6.5
TIR	**Tirane**	2.04	350	*e*Pn	Pn	03 52 21.0	+1.3
TIR				*i* Sn	Sn	03 52 54.2	+8.2
QSH	**Qafa e Shtames**	2.21	351	*i* Pn	Pn	03 52 23.4	+1.4
GRG	**Griva**	2.26	44	*e*Pn	Pn	03 52 23.6	+0.7
ITM	**Ithomi**	2.49	149	*e*PN	Pn	03 52 30.5	+4.4
KNT	**Kendrikon**	2.67	46	*e*Pn	Pn	03 52 29.3	+0.6
PUK	**Puka**	2.72	353	*e*Pn	Pn	03 52 30.7	+1.3
SOH	**Sokhos**	2.75	56	*e*Pn	Pn	03 52 30.5	+0.8
SOH				*e*Sn	Sn	03 53 03.5	-0.4
SKO	**Skopje**	2.76	17	*i* Pn	Pn	03 52 30.5	+0.5
BRT	**Bari-Castellan**	2.86	304	⇑*i*Pn	Pn	03 52 32.8	+1.5
OUR	**Ouranopolis**	2.97	69	*e*Pn	Pn	03 52 33.3	+0.3
OUR				*e*Sn	Sn	03 53 09.1	-0.5
VLI	**Veliai**	3.32	141	*e*PG	Pg	03 52 45.5	-4.8
SLCN	**Sala Consilina**	3.77	288	*e*Pn	Pn	03 52 46.2	+1.8
SGO	**Sicignano**	4.06	289	*e*Pn	Pn	03 52 50.1	+1.7
SGO				*e*Sn	Sn	03 53 44.6	+7.5
RGNG	**Rignano Grg**	4.31	304	*e*Pn	Pn	03 52 52.2	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FG5	**Orsara di Pugl**	**4.34**	**298**	⇓*i*Pn	**Pn**	**03 52 54.3**	**+1.9**
MRB1	**Monte Rocchett**	**4.48**	**295**	⇑*i*Pn	**Pn**	**03 52 57.6**	**+3.1**
SGG	**Gregorio Mates**	**4.99**	**296**	*e*Pn	**Pn**	**03 53 04.7**	**+3.0**
CII	**Carovilli**	**5.18**	**299**	*e*Pn	**Pn**	**03 53 05.7**	**+1.4**
IDI	**Anoyia**	**5.43**	**137**	Pn	**Pn**	**03 53 07.2**	**-0.6**
	0.3nm,0.3s,baz=321,slow=14,SNR=2.9						
IDI				Sn	**Sn**	**03 54 12.3**	**+0.6**
	0.7nm,0.3s,baz=307,slow=20,SNR=4.1						
INTR	**Introdacqua**	**5.58**	**301**	⇓*i*Pn	**Pn**	**03 53 10.5**	**+0.6**
NRCA	**Norcia**	**6.48**	**305**	*e*Pn	**Pn**	**03 53 22.6**	**-0.1**
ASS	**Assisi**	**6.89**	**305**	⇑*i*Pn	**Pn**	**03 53 28.5**	**+0.1**
ARV	**Arcevia**	**6.94**	**309**	⇓*i*Pn	**Pn**	**03 53 27.6**	**-1.5**
FSSB	**Fossombrone**	**7.15**	**310**	⇓*i*Pn	**Pn**	**03 53 30.1**	**-2.0**
MLR	**Muntele Rosu**	**7.41**	**32**	Pn	**Pn**	**03 53 35.4**	**-0.4**
	0.2nm,0.3s,baz=224,slow=3.6,SNR=13						
SFI	**Santa Sofia**	**7.83**	**308**	*e*Pn	**Pn**	**03 53 41.9**	**+0.3**
VOY	**Vojsko**	**8.20**	**327**	*e*Pn	**P**	**03 53 44.2**	**-2.6**
VOY				*e*Sn	**Sn**	**03 55 14.5**	**-6.6**
OBKA	**Obir**	**8.33**	**331**	⇑*i*PN	**P**	**03 53 45.8**	**-2.8**
OBKA				*i* SN	**Sn**	**03 55 15.2**	**-9.1**
ARSA	**Arzberg**	**8.65**	**338**	⇑*i*PN	**P**	**03 53 49.9**	**-3.1**
ARSA				*i* SN	**Sn**	**03 55 22.5**	**-10**
PTCC	**Patocco-Chiusa**	**8.73**	**326**	*e*Pn	**P**	**03 53 51.0**	**-3.0**
MOA	**Molln**	**9.58**	**335**	⇓*i*PN	**P**	**03 54 02.8**	**-3.0**
MOA				*i* SN	**Sn**	**03 55 46.5**	**-8.7**
BRTR	**Keskin Array B**	**10.28**	**84**	Pn	**P**	**03 54 13.7**	**-1.8**
	0.1nm,0.3s,baz=207,slow=6.4,SNR=3.6						
MOTA	**Moosalm**	**10.45**	**323**	⇑*i*PN	**P**	**03 54 15.8**	**-2.0**
MOTA				*i* SN	**S**	**03 56 09.4**	**-7.2**
GERES	**GERESS Array B**	**10.63**	**336**	Pn	**P**	**03 54 16.4**	**-3.9**
	0.3nm,0.3s,baz=157,slow=14,SNR=14						
DAVOX	**Davos**	**10.67**	**318**	Pn	**P**	**03 54 18.0**	**-2.7**
	0.3nm,0.3s,baz=162,slow=9.6,SNR=4.5						
KHC	**Kasperske Hory**	**10.92**	**336**	*e*P	**P**	**03 54 21.5**	**-2.7**
MOX	**Moxa**	**12.87**	**334**	*e*P	**P**	**03 54 54.0**	**+3.4**
HFS	**Hagfors**	**21.23**	**351**	P	**P**	**03 56 29.6**	**-3.6**
	1.6nm,0.5s,mb3.6,baz=164,slow=11,SNR=21						
EKA	**Eskdalemuir Ar**	**22.41**	**323**	P	**P**	**03 56 43.0**	**-2.0**
	0.7nm,0.7s,mb3.2,baz=118,slow=10,SNR=6.7						
FINES	**FINESS Array B**	**22.41**	**7**	P	**P**	**03 56 42.6**	**-2.4**
	0.5nm,0.5s,mb3.2,baz=175,slow=10.0,SNR=8.9						
NB2	**NORSAR Subarra**	**22.46**	**348**	P	**P**	**03 56 42.9**	**-2.5**
	1.6nm,0.7s,mb3.6,baz=166,slow=10						
NOA	**NORSAR Array B**	**22.46**	**348**	P	**P**	**03 56 43.1**	**-2.3**
	1.8nm,0.7s,mb3.6,baz=165,slow=11,SNR=8.7						
ARCES	**ARCESS Array B**	**30.39**	**4**	P	**P**	**03 57 55.0**	**-4.1**
	1.3nm,1.1s,mb3.6,baz=156,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**44.82**	**59**	P	**P**	**03 59 57.7**	**-3.1**
	0.7nm,0.5s,mb3.8,baz=272,slow=7.7,SNR=7.5						
MKAR	**Makanchi Array**	**44.82**	**59**	P	**P**	**03 59 57.7**	**-3.1**

IDC ***07*** *03:57:49.0±1.5,56.52S×146.72E,mb3.9/5,mb1 4.1/5, mb1mx3.9/11,MS3.8/2,Ms1 3.7/2,ms1mx3.3/15,Error ellipse: s-maj=118.0km s-min=23.1km az=82.0*

NEIC ***07*** *03:57:50.6±0.9,56.54S×145.81E,h10^{km},mb4.2/1,Error ellipse: s-maj=41.9km s-min=15.3km az=86.0*

ISC 07 03:57:48.4±1.0**,56.6S**±0.1×**146.0E**±0.6**,h10^{km},n12, σ1^{s}24**/9**,mb3.9**/6**,MS3.8**/2**,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**13.70**	**4**	P	**P**	**04 01 03.1**	**-1.7**
VNDA	**Vanda**	**21.77**	**171**	P	**P**	**04 02 41.6**	**-0.1**
	2.2nm,1.1s,mb3.5,baz=331,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**24.87**	**351**	P	**P**	**04 03 13.8**	**+1.5**
	3.0nm,0.8s,mb3.9,baz=165,slow=7.1,SNR=5.4						
NWAO	**Narrogin (SRO)**	**30.81**	**308**	P	**P**	**04 04 03.5**	**-2.7**
ASAR	**Alice Springs**	**34.02**	**340**	P	**P**	**04 04 35.8**	**+1.3**
	0.9nm,0.6s,mb3.9,baz=169,slow=9.3,SNR=9.1						
CTA	**Charters Tower**	**36.42**	**0**	P	**P**	**04 04 54.4**	**-0.5**
	0.9nm,0.4s,mb4.0,baz=178,slow=9.9,SNR=3.8						
CTA				LR	LR	04 18 46.2	
	comp=Z,169nm,18.6s,MS3.9,baz=37,slow=35						
CTAO	**Charters Tower**	**36.42**	**0**	*e*P	**P**	**04 04 54.5**	**-0.4**
MAW	**Mawson**	**37.37**	**219**	LR	LR	04 18 27.9	
	comp=Z,109nm,19.5s,MS3.7,baz=238,slow=33						
WRA	**Warramunga Arr**	**37.58**	**342**	P	**P**	**04 05 05.4**	**+0.8**
	1.9nm,0.7s,mb4.0,baz=165,slow=7.6,SNR=15						
WRAB	**Tennant Creek**	**37.59**	**342**	*e*P	**P**	**04 05 04.7**	**+0.1**
	3.1nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**149.63**	**304**	PKPbc	PKPdf	04 17 40.8	+5.8
	1.1nm,0.9s,baz=135,slow=3.9,SNR=5.2						
GERES	**GERESS Array B**	**150.58**	**275**	PKPbc	PKPdf	04 17 41.3	+4.5
	0.6nm,0.9s,baz=135,slow=2.7,SNR=4.8						

IDC ***07*** *04:15:31.6±27.0,28.03S×176.14W,mb3.9/4,mb1 4.1/5, mb1mx3.9/15,ML3.4/1,Error ellipse: s-maj=489.0km s-min=56.3km az=82.0*

NEIC ***07*** *04:15:44.9±2.3,28.34S×177.75W,h10^{km},mb4.3/1,Error ellipse: s-maj=45.0km s-min=18.1km az=63.0*

ISC 07 04:16:00.9±6.0**,29.2S**±0.2×**178.6W**±0.3**,h116^{km}**±49^{km}**,n7, σ0^{s}42**/8**,mb3.9**/5**,1C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.77**	**200**	Pn	**P**	**04 18 19.6**	**+0.1**
	0.3nm,0.3s,baz=279,slow=7.8,SNR=2.3						
URZ				Sn	**S**	**04 20 07.7**	**-0.1**
	1.8nm,0.3s,baz=99,slow=18,SNR=12						
CTA	**Charters Tower**	**33.13**	**278**	P	**P**	**04 22 27.8**	**-0.3**
	1.2nm,0.5s,mb4.0,baz=102,slow=9.9,SNR=4.8						
STKA	**Stephens Creek**	**34.30**	**255**	P	**P**	**04 22 38.8**	**+0.7**
	1.7nm,0.9s,mb3.9,baz=86,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**42.70**	**266**	P	**P**	**04 23 47.8**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=102,slow=6.9,SNR=13						
WB2	**Warramunga Arr**	**43.56**	**271**	⇑*i*P	**P**	**04 23 55.0**	**0.0**
WRA	**Warramunga Arr**	**43.57**	**271**	P	**P**	**04 23 55.1**	**0.0**
	0.6nm,0.3s,mb3.8,baz=109,slow=7.9,SNR=24						
QSPA	**South Pole Qui**	**60.95**	**180**	*e*P	**P**	**04 26 03.5**	**0.0**
	1.6nm,0.7s,mb4.2						

BJI ***07*** *04:27:24.2,36.86N×72.02E,h140^{km},mb4.3*

NEIC ***07*** *04:27:26.6±1.9,37.32N×71.84E,h154^{km}±18^{km},mb4.1/6, Error ellipse: s-maj=14.4km s-min=8.3km az=199.0*

IDC ***07*** *04:27:27.6±6.0,37.36N×71.93E,h161^{km}±46^{km},mb3.6/10, mb1 3.7/12,mb1mx3.6/22,MS3.7/2,Ms1 3.7/2, ms1mx2.5/24,Error ellipse: s-maj=55.1km s-min=17.6km az=174.0*

MOS ***07*** *04:27:28.6±1.0,37.50N×71.90E,h178^{km},mb4.0/7,Error ellipse: s-maj=25.7km s-min=9.5km az=98.0*

NNC ***07*** *04:27:33.0±16.0,37.74N×69.79E,h174^{km}±154^{km},mpv4.3, Error ellipse: s-maj=151.7km s-min=114.0km az=8.0*

ISC 07 04:27:24.3±0.4**,37.13N**±0.03×**72.02E**±0.06**,h165^{km}**±6^{km}**, n85,σ1^{s}04**/95**,mb3.9**/15**,6C-2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.30**	**182**	P	**P**	**04 28 18.7**	**+2.0**
CHCP	**Chirah Chowk**	**3.61**	**163**	P	**P**	**04 28 23.1**	**+2.4**
KSH	**Kashi**	**3.92**	**51**	*e*P	**P**	**04 28 26.9**	**+2.2**
KSH				S	**S**	**04 29 11.6**	**+0.5**
THW	**Thamme Wali**	**4.33**	**183**	P	**P**	**04 28 31.1**	**+1.0**
SBDP	**Sheikh Budin**	**4.92**	**192**	P	**P**	**04 28 38.3**	**+0.5**
JMU	**Jammu**	**5.00**	**151**	*e*P	**P**	**04 28 37.0**	**-1.8**
AML	**Almayashu**	**5.16**	**14**	P	**P**	**04 28 40.8**	**-0.1**
	SNR=130						
SARP	**Sargodha**	**5.22**	**174**	P	**P**	**04 28 42.8**	**+1.1**
SARP				S	**S**	**04 29 40.0**	**-1.6**
UCH	**Uchtor**	**5.44**	**20**	P	**P**	**04 28 44.9**	**+0.3**
	SNR=61						
DRP	**Derazinda**	**5.58**	**196**	P	**P**	**04 28 48.9**	**+2.5**
DRP				S	**S**	**04 29 47.0**	**-3.1**
THN	**Thein Dam**	**5.58**	**146**	*e*P	**P**	**04 28 47.7**	**+1.2**
	32nm,0.3s						
THN				*e*S	**S**	**04 29 49.3**	**-0.9**
EKS2	**Erkin-Say**	**5.69**	**13**	P	**P**	**04 28 48.0**	**+0.1**
	SNR=6.7						
AAK	**Ala-Archa**	**5.82**	**18**	P	**P**	**04 28 50.1**	**+0.5**
	SNR=20						
ULHL	**Ulahol**	**6.06**	**31**	P	**P**	**04 28 52.8**	**0.0**
	SNR=15						
KK31	**Karatay Array**	**6.08**	**349**	⇓P	**P**	**04 28 51.8**	**-1.2**
	9.3nm,0.2s,baz=180,slow=14,SNR=441						
KK31				⇑S	**S**	**04 29 54.2**	**-7.8**
	119nm,0.4s,baz=188,slow=25						
KKAR	**Karatay Array**	**6.08**	**349**	PN	**P**	**04 28 51.8**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.2s						
CHMS	**Chumysh**	**6.22**	**19**	P	**P**	**04 28 54.7**	**-0.3**
	SNR=18						
TKM2	**Tokmak 2**	**6.40**	**24**	P	**P**	**04 28 57.5**	**+0.1**
	SNR=6.6						
BHK	**Bhakra**	**6.76**	**146**	*e*S	**S**	**04 30 16.6**	**-1.6**
SDNR	**Sundarnagar**	**6.95**	**142**	*e*P	**P**	**04 29 04.0**	**-0.6**
SDNR				*e*S	**S**	**04 30 19.0**	**-3.7**
SMLA	**Simla**	**7.35**	**143**	⇓*i*P	**P**	**04 29 19.7**	**+10**
SMLA				*i* S	**S**	**04 30 37.6**	**+5.3**
DDI	**Dehra Dun**	**8.44**	**142**	*e*	**P**	**04 29 33.0**	**+8.5**
DDI				*e*S	**S**	**04 30 53.0**	**-5.3**
NDI	**New Delhi**	**9.48**	**151**	*e*P	**P**	**04 29 37.0**	**-1.1**
NDI				*e*S	**S**	**04 31 16.0**	**-6.8**
LGTI	**Lohaghat**	**10.29**	**136**	*e*P	**P**	**04 29 48.0**	**-0.7**
LGTI				*e*S	**S**	**04 31 37.3**	**-4.5**
MKAR	**Makanchi Array**	**12.30**	**35**	P	**P**	**04 30 14.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=8.2						
KOLN	**Koldanda**	**13.50**	**130**	*e*P	**P**	**04 30 29.7**	**-0.5**
	comp=Z,51nm,0.8s						
GKN	**Gorkha**	**13.99**	**127**	*e*P	**P**	**04 30 35.8**	**-0.5**
	comp=Z,39nm,0.3s						
KURK	**Kurchatov**	**14.38**	**17**	*e*P	**P**	**04 30 43.2**	**+2.1**
KKN	**Kakani**	**14.54**	**126**	*e*P	**P**	**04 30 43.0**	**-0.4**
	comp=Z,16nm,0.2s						
DMN	**Daman**	**14.56**	**127**	*e*P	**P**	**04 30 43.4**	**-0.1**
	comp=Z,37nm,0.4s						
PKI	**Pulchoki**	**14.78**	**126**	*e*P	**P**	**04 30 45.7**	**-0.6**
	comp=Z,72nm,0.6s						
AB31	**Akbulak array**	**14.96**	**328**	⇑P	**P**	**04 30 47.3**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=156,slow=11						
AB31				⇑S	**S**	**04 33 21.0**	**-8.8**
	comp=Z,13nm,0.7s,baz=150,slow=22,SNR=16						
AB31	**Akbulak array**	**14.96**	**328**	P	**P**	**04 30 48.1**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**15.61**	**358**	⇑P	**P**	**04 30 54.0**	**-2.4**
	comp=Z,5.3nm,0.8s						
VOSK	**Vostochnaya**	**15.61**	**358**	P	**P**	**04 30 54.5**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BVA0	**Borovoye Array**	**15.94**	**356**	⇑P	**P**	**04 30 59.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=168,slow=23,SNR=4.3						
BVAR	**Borovoye Array**	**15.94**	**356**	P	**P**	**04 30 59.0**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=168,slow=14,SNR=21						
ZRNK	**Zerenda**	**15.96**	**353**	⇑P	**P**	**04 31 01.3**	**+0.5**
	comp=Z,9.4nm,1.1s						
ZRNK	**Zerenda**	**15.96**	**353**	P	**P**	**04 31 01.5**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRVK	**Borovoye**	**15.98**	**356**	P	**P**	**04 30 59.3**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**15.98**	**356**	*e*P	**P**	**04 30 59.3**	**-1.7**
	comp=Z,5.1nm,0.6s						
LSA	**Lhasa**	**17.59**	**109**	*e*P	**P**	**04 31 23.6**	**+3.1**
	comp=Z,14nm,0.9s						
NVS	**Novosibirsk**	**19.31**	**20**	*i* P	**P**	**04 31 37.1**	**-1.5**
NVS				pmax	pmax		
	comp=N,6.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ARU	**Arti**	**21.32**	**339**	*e*P	**P**	**04 31 59.0**	**+0.2**
ARU				*e*S	S	04 36 02.6	+22
ARU				*e*SS	SS	04 36 31.8	+1.3
ARU	**Arti**	**21.32**	**339**	*e*P	**P**	**04 31 58.5**	**-0.3**
	comp=Z,14nm,1.1s,mb4.2						
GTA	**Gaotai**	**21.91**	**75**	*e*P	**P**	**04 32 09.0**	**+4.3**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**27.30**	**56**	P	**P**	**04 32 57.0**	**+1.7**
	comp=Z,0.8nm,0.5s,mb3.6,baz=264,slow=9.1,SNR=10						
BRTR	**Keskin Array B**	**30.03**	**287**	P	**P**	**04 33 20.9**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=98,slow=9.1,SNR=5.2						
BRTR	**Keskin Array B**	**30.03**	**287**	P	**P**	**04 33 20.9**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**33.20**	**308**	P	**P**	**04 33 47.6**	**+0.5**
	comp=Z,6.6nm,1.0s,mb4.3,baz=106,slow=10,SNR=5.7						
AKASG	**Malin Array Be**	**33.20**	**308**	P	**P**	**04 33 47.7**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FINES	**FINESS Array B**	**37.43**	**325**	P	**P**	**04 34 23.2**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.7,baz=101,slow=9.7,SNR=8.4						
FINES	**FINESS Array B**	**37.43**	**325**	P	**P**	**04 34 23.2**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**04 34 52.0**	**+0.7**
	comp=Z,2.9nm,0.8s,mb4.0,baz=97,slow=9.8,SNR=8.8						
ARCES				LR	LR	04 55 11.4	
	comp=Z,46nm,21.9s,baz=271,slow=41						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**04 34 52.0**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,46nm,21.9s						
CLL	**Collm**	**43.44**	**308**	P	**P**	**04 35 13.0**	**+0.9**
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**04 35 19.2**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.0,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**04 35 19.5**	**+0.1**
	comp=Z,2.1nm,0.6s,mb3.9,baz=95,slow=7.8,SNR=21						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**04 35 19.5**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**04 35 19.5**	**0.0**
DAVOX	**Davos**	**46.11**	**303**	P	**P**	**04 35 33.4**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.7,baz=94,slow=9.9,SNR=4.6						
PGF	**Pioggiola**	**47.71**	**297**	*e*P	**P**	**04 35 45.6**	**-0.4**
LPL	**La Plagne**	**48.53**	**302**	*e*P	**P**	**04 35 52.6**	**+0.4**
CABF	**La Chapelle**	**48.70**	**303**	*e*P	**P**	**04 35 53.5**	**0.0**
MBDF	**Montbardon**	**48.70**	**300**	*e*P	**P**	**04 35 53.2**	**-0.3**
TGY	**Tagaytay City**	**49.07**	**105**	LR	LR	04 57 08.5	
	comp=Z,189nm,21.3s,baz=124,slow=36						
FRF	**La Foret Royal**	**49.10**	**299**	*e*P	**P**	**04 35 56.3**	**-0.3**
VIVF	**Saint-Julien-l**	**50.10**	**301**	*e*P	**P**	**04 36 04.2**	**0.0**
SMF	**Signal de Mont**	**50.19**	**304**	*e*P	**P**	**04 36 04.5**	**-0.4**
	comp=Z,3.7nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**50.30**	**304**	*e*P	**P**	**04 36 05.2**	**-0.5**
AVF	**Avril sur Loir**	**50.48**	**304**	*e*P	**P**	**04 36 06.6**	**-0.4**
	comp=Z,8.3nm,0.9s,mb4.1						
LASF	**Ste Croix**	**50.89**	**300**	*e*P	**P**	**04 36 10.3**	**+0.1**
	comp=Z,5.6nm,0.9s,mb3.9						
TCF	**Toulx Ste Croi**	**51.37**	**304**	*e*P	**P**	**04 36 13.6**	**-0.2**
MTLF	**Montolieu**	**52.24**	**300**	*e*P	**P**	**04 36 20.8**	**+0.4**
LDF	**La Druitiere**	**52.26**	**307**	*e*P	**P**	**04 36 20.4**	**0.0**
ETSF	**Etsaut**	**54.31**	**300**	*e*P	**P**	**04 36 35.2**	**-0.3**
ROSF	**Rostrenen**	**54.34**	**307**	*e*P	**P**	**04 36 35.4**	**-0.2**
QUIF	**Quistinic**	**54.40**	**307**	*e*P	**P**	**04 36 35.7**	**-0.4**
ESDC	**Sonseca Array**	**57.89**	**298**	P	**P**	**04 37 01.1**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=55,slow=7.7,SNR=4.6						
INK	**Inuvik**	**73.15**	**10**	P	**P**	**04 38 38.9**	**+1.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=350,slow=7.6,SNR=10						
INK	**Inuvik**	**73.15**	**10**	P	**P**	**04 38 38.9**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**73.15**	**10**	P	**P**	**04 38 38.9**	**+1.1**
YKA	**Yellowknife Ar**	**80.58**	**3**	P	**P**	**04 39 20.1**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.5,baz=351,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**80.58**	**3**	P	**P**	**04 39 20.1**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**80.58**	**3**	P	**P**	**04 39 20.1**	**+1.0**

IDC ***07*** *04:28:20.2±1.5,12.43N×95.07E,mb3.7/4,mb1 4.0/4, mb1mx3.6/16,Error ellipse: s-maj=71.7km s-min=27.8km az=57.0*

ISC 07 04:28:23.6±1.4**,12.4N**±0.3×**95.2E**±0.4**,h33^{km},n5,σ0^{s}49**/4**, mb3.8**/4**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**36.52**	**13**	P	**P**	**04 35 27.8**	**0.0**
	0.3nm,0.7s,mb3.2,baz=194,slow=12,SNR=1.8						
SONM				pP	pP	04 35 35.1	-2.4
	0.6nm,0.9s,baz=203,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**50.21**	**129**	P	**P**	**04 37 18.4**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=309,slow=8.3,SNR=6.9						
WRA				pP	pP	04 37 25.4	-3.2
	1.9nm,0.9s,baz=310,slow=8.2,SNR=9.3						
ASAR	**Alice Springs**	**52.17**	**133**	pP	pP	04 37 40.5	-2.9
	0.7nm,0.7s,baz=314,slow=6.3,SNR=4.6						
STKA	**Stephens Creek**	**62.58**	**136**	P	**P**	**04 38 47.3**	**+0.3**
	1.8nm,0.8s,mb4.2,baz=299,slow=10,SNR=3.0						
GERES	**GERESS Array B**	**75.15**	**317**	P	**P**	**04 40 04.2**	**-0.1**
	1.4nm,1.1s,mb3.8,baz=90,slow=6.7,SNR=5.5						

IDC ***07*** *04:34:33.6±0.9,10.91S×118.77E,mb4.1/4,mb1 4.4/7, mb1mx4.2/14,ML4.3/3,Error ellipse: s-maj=54.3km s-min=20.0km az=67.0*

NEIC ***07*** *04:34:35.0±0.7,10.99S×118.60E,h10^{km},mb4.5/4,Error ellipse: s-maj=23.5km s-min=7.7km az=58.0*

DJA ***07*** *04:34:42.8±0.8,10.93S×117.99E,h160^{km},mb5.3/4, MD4.8/7,Error ellipse: s-maj=22.1km s-min=6.9km az=173.0*

ISC 07 04:34:32.6±1.1**,11.69S**±0.08×**118.43E**±0.08**,h40^{km}**±15^{km}**, n32,σ0^{s}83**/50**,mb4.1**/4**,12C-10D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.92**	**324**	⇑*i*P	**P**	**04 35 32.1**	**+0.2**
	2µm,0.2s						
KEDI				⇑*i*S	**S**	**04 36 09.8**	**-7.4**
KEDI	**Kedomdong**	**3.92**	**324**	⇑*i*P	**P**	**04 35 32.1**	**+0.2**
KEDI				*i* S	**S**	**04 36 11.9**	**-5.3**
RATI	**Rata**	**4.10**	**316**	⇓*i*P	**P**	**04 35 34.1**	**-0.4**
	2µm,0.3s						
RATI				⇓*i*S	**S**	**04 36 14.8**	**-7.1**
RATI	**Rata**	**4.10**	**316**	⇓*i*P	**P**	**04 35 34.1**	**-0.4**
RATI				*i* S	**S**	**04 36 17.2**	**-4.7**
INGI	**Ingas**	**4.31**	**311**	⇓*i*P	**P**	**04 35 37.2**	**-0.3**
	2µm,0.3s						
INGI				⇑*e*S	**S**	**04 36 20.0**	**-7.2**
INGI	**Ingas**	**4.31**	**311**	⇑*i*P	**P**	**04 35 36.7**	**-0.8**
INGI				*i* S	**S**	**04 36 18.1**	**-9.1**
KELI	**Kelakatan**	**5.20**	**311**	⇑*i*P	**P**	**04 35 50.0**	**+0.1**
	692nm,0.2s						
KELI				⇑*i*S	**S**	**04 36 40.1**	**-9.3**
KELI	**Kelakatan**	**5.20**	**311**	⇑*i*P	**P**	**04 35 50.0**	**+0.1**
KELI				*i* S	**S**	**04 36 42.1**	**-7.3**
NINI	**Niniconang**	**7.34**	**10**	⇑*e*P	**P**	**04 36 20.0**	**+0.1**
	935nm,0.2s						
NINI	**Niniconang**	**7.34**	**10**	⇑*e*P	**P**	**04 36 20.0**	**+0.1**
NINI				*i* S	**S**	**04 37 33.8**	**-9.0**
BUNI	**Buntu Taipa**	**8.20**	**13**	⇓*i*P	**P**	**04 36 31.4**	**-0.4**
	63nm,0.3s						
TANI	**Tanete Lipujan**	**8.26**	**7**	⇑*i*P	**P**	**04 36 31.4**	**-1.2**
	5µm,0.3s						
TANI	**Tanete Lipujan**	**8.26**	**7**	⇓*i*P	**P**	**04 36 31.6**	**-1.0**
	5µm,0.3s						
TANI	**Tanete Lipujan**	**8.26**	**7**	⇑*i*P	**P**	**04 36 31.4**	**-1.2**
TANI				*i* S	**S**	**04 37 53.3**	**-12**
FITZ	**Fitzroy Crossi**	**9.44**	**133**	⇓*i*P	**P**	**04 36 49.8**	**+0.8**
	26nm,0.7s						
FITZ				*e*S	**S**	**04 38 32.5**	**-2.5**
FITZ	**Fitzroy Crossi**	**9.44**	**133**	Pn	**P**	**04 36 49.9**	**+0.9**
	4.8nm,0.3s,baz=348,slow=9.3,SNR=103						
FITZ				Sn	**S**	**04 38 30.5**	**-4.5**
	6.3nm,0.3s,baz=182,slow=18,SNR=6.5						
KAKA	**Kakadu**	**13.69**	**96**	*e*P	**P**	**04 37 46.8**	**+0.3**
	4.2nm,0.4s						
KAKA				*e*S	**S**	**04 40 11.2**	**-7.0**
WRA	**Warramunga Arr**	**17.35**	**120**	P	**P**	**04 38 34.5**	**+1.0**
	0.9nm,0.3s,baz=288,slow=14,SNR=43						
WRA				S	**S**	**04 41 36.3**	**-7.1**
	0.6nm,0.3s,baz=290,slow=22,SNR=4.7						
WRAB	**Tennant Creek**	**17.36**	**120**	*e*P	**P**	**04 38 34.4**	**+0.8**
	6.0nm,0.8s						
WB2	**Warramunga Arr**	**17.36**	**120**	⇓*i*P	**P**	**04 38 34.5**	**+0.8**
WB2				*e*S	**S**	**04 41 37.8**	**-5.9**
ASPA	**Alice Springs**	**18.93**	**131**	⇓*i*P	**P**	**04 38 57.7**	**+4.8**
ASPA				*e*S	**S**	**04 42 18.2**	**-0.7**
ASAR	**Alice Springs**	**18.93**	**131**	P	**P**	**04 38 58.0**	**+5.2**
	1.5nm,0.3s,baz=323,slow=14,SNR=70						
ASAR				S	**S**	**04 42 17.9**	**-1.0**
	0.3nm,0.3s,baz=312,slow=24,SNR=8.0						
KLBR	**Kellerberrin**	**19.82**	**182**	⇓*i*P	**P**	**04 39 12.7**	**+10**
	10nm,0.4s						
KLBR				*e*S	**S**	**04 42 34.1**	**-4.4**
MUN	**Mundaring**	**20.30**	**185**	*e*P	**P**	**04 39 18.3**	**+11**
	6.8nm,0.4s						
MUN				*e*S	**S**	**04 42 47.4**	**-0.7**
FORT	**Forrest**	**20.98**	**156**	*e*P	**P**	**04 39 24.7**	**+10**
	56nm,0.6s						
FORT				*e*S	**S**	**04 43 07.4**	**+6.0**
NWAO	**Narrogin (SRO)**	**21.17**	**183**	P	**P**	**04 39 29.1**	**+12**
	8.4nm,0.3s,mb4.5,baz=12,slow=10.0,SNR=20						
STKA	**Stephens Creek**	**29.31**	**137**	P	**P**	**04 40 42.0**	**+8.3**
	1.7nm,0.8s,mb3.8,baz=316,slow=17,SNR=2.5						
SONM	**Songino Array**	**60.22**	**351**	P	**P**	**04 44 38.8**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=166,slow=8.5,SNR=5.3						
MKAR	**Makanchi Array**	**66.59**	**334**	P	**P**	**04 45 22.4**	**+1.5**
	1.4nm,0.5s,mb4.2,baz=146,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**66.59**	**334**	P	**P**	**04 45 22.4**	**+1.5**
LVC	**Limon Verde**	**145.16**	**168**	PKPbc	PKPbc	04 54 15.6	+8.6
	2.3nm,0.6s,baz=202,slow=4.0,SNR=5.6						
BDFB	**Brasilia**	**149.71**	**207**	PKPbc	PKPdf	04 54 27.3	+13
	1.6nm,0.6s,baz=207,slow=4.5,SNR=2.9						

BGS ***07*** *04:54:04.4±0.7,55.11N×3.62W,h8^{km}±9^{km},ML2.3*

BER ***07*** *04:54:05.2±0.8,55.09N×3.64W,h4^{km}±5^{km},ML2.3, ML2.3(BGS)*

ISC 07 04:54:03.9±0.4**,55.07N**±0.02×**3.66W**±0.05**,h11^{km}**±4^{km}**, n36,σ0^{s}71**/53**,6C-9D,United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BWH	**Wardlaw**	**0.10**	**3**	⇑*i*P	**Pg**	**04 54 06.7**	**0.0**
BHH	**Howats Hill**	**0.26**	**85**	⇓*i*P	**Pg**	**04 54 09.2**	**-0.2**
BHH				*e*S	**Sg**	**04 54 12.4**	**-0.6**
BHH				AML	AML	04 54 12.7	
	comp=N,870nm,0.3s						
BHH				AML	AML	04 54 12.9	
	comp=E,1µm,0.1s						
BHH	**Howats Hill**	**0.26**	**85**	P	**Pg**	**04 54 09.2**	**-0.2**
BHH				S	**Sg**	**04 54 12.4**	**-0.6**
BHH				AML	AML	04 54 12.7	
	comp=E,870nm,0.3s						
BHH				AML	AML	04 54 12.9	
	comp=E,1µm,0.1s						
BCC1	**Chapelcross**	**0.26**	**103**	⇓*i*P	**Pg**	**04 54 09.6**	**+0.1**
BCC1				*e*S	**Sg**	**04 54 13.1**	**-0.1**
BCC1				AML	AML	04 54 13.4	
	comp=E,348nm,0.3s						
BCC1				AML	AML	04 54 13.6	
	comp=N,507nm,0.2s						
BCC1	**Chapelcross**	**0.26**	**103**	P	**Pg**	**04 54 09.6**	**+0.1**
BCC1				S	**Sg**	**04 54 13.1**	**-0.1**
BCC1				AML	AML	04 54 13.4	
	comp=N,348nm,0.3s						
BCC1				AML	AML	04 54 13.6	
	comp=N,507nm,0.2s						
ESK	**Eskdalemuir**	**0.36**	**47**	⇑*i*P	**Pg**	**04 54 10.7**	**-0.6**
ESK				*e*S	**Sg**	**04 54 15.1**	**-1.1**
ESK				AML	AML	04 54 16.1	
	comp=E,429nm,0.2s						
ESK				AML	AML	04 54 16.1	
	comp=N,348nm,0.1s						
BBO1	**Bothel**	**0.41**	**144**	⇓*i*P	**Pg**	**04 54 12.9**	**+0.5**
BBO1				*e*S	**Sg**	**04 54 18.8**	**+0.7**
BBH	**Bruntsheil**	**0.43**	**82**	⇓*i*P	**Pg**	**04 54 12.1**	**-0.5**
BDL	**Dobcross Hall**	**0.50**	**123**	⇓*i*P	**Pg**	**04 54 14.3**	**+0.3**
CKE	**Keswick**	**0.58**	**146**	⇓*i*P	**Pb**	**04 54 15.8**	**+0.3**
BTA	**Talkin**	**0.59**	**106**	⇓*i*P	**Pb**	**04 54 15.8**	**+0.1**
BTA				*e*S	**Sb**	**04 54 24.4**	**+0.6**
BTA				AML	AML	04 54 27.6	
	comp=N,162nm,0.5s						
BTA				AML	AML	04 54 29.5	
	comp=E,150nm,0.4s						
GAL1	**Galloway**	**0.64**	**251**	⇑*e*P	**Pb**	**04 54 16.6**	**+0.1**
GAL1				*e*S	**Sb**	**04 54 25.2**	**0.0**
GAL1				AML	AML	04 54 29.2	
	comp=E,150nm,0.2s						
GAL1				AML	AML	04 54 29.6	
	comp=N,290nm,0.1s						
GAL1	**Galloway**	**0.64**	**251**	P	**Pb**	**04 54 16.6**	**+0.1**
GAL1				S	**Sb**	**04 54 25.2**	**0.0**
GAL1				AML	AML	04 54 29.2	
	comp=N,150nm,0.2s						
GAL1				AML	AML	04 54 29.6	
	comp=N,290nm,0.1s						
CSF	**Scaffel**	**0.67**	**159**	*e*P	**Pb**	**04 54 17.5**	**+0.4**
PCA1	**Carrot**	**0.71**	**332**	⇓*i*P	**Pb**	**04 54 18.1**	**+0.3**
PCA1				*e*S	**Sb**	**04 54 27.7**	**+0.3**
EAU	**Auchinoon**	**0.78**	**9**	⇑*i*P	**Pb**	**04 54 19.1**	**+0.1**
CDU1	**Dunnerdale**	**0.79**	**160**	⇑*i*P	**Pb**	**04 54 19.5**	**+0.4**
POB1	**Observatory**	**0.89**	**331**	*e*P	**Pb**	**04 54 21.3**	**+0.5**
POB1				*e*S	**Sb**	**04 54 33.0**	**+0.6**
EDI	**Edinburgh**	**0.90**	**17**	⇑*i*P	**Pb**	**04 54 21.0**	**+0.1**

PCOU	**Corrie**	**0.95**	**345**	*e*P	**Pb**	**04 54 22.3**	**+0.5**
PCOU				*e*S	**Sb**	**04 54 35.0**	**+0.8**
PMSU	**Muirshiel**	**0.99**	**322**	⇓*i*P	**Pb**	**04 54 22.8**	**+0.3**
PMSU				*e*S	**Sb**	**04 54 37.0**	**+1.6**
WIM	**Isle of Man**	**1.10**	**213**	*e*P	**Pb**	**04 54 25.2**	**+0.8**
WIM				*e*S	**Sb**	**04 54 39.9**	**+1.4**
GMK	**Mull of Kintyr**	**1.14**	**285**	*e*P	**Pb**	**04 54 25.6**	**+0.5**
LCP	**Cassop**	**1.31**	**104**	*e*P	**Pb**	**04 54 28.8**	**+0.8**
GCL	**Cushendall**	**1.42**	**271**	*e*P	**Pn**	**04 54 29.4**	**-0.3**
GMM	**Mts of Mourne**	**1.57**	**239**	*e*P	**Pn**	**04 54 31.7**	**-0.2**
WME	**Myndd Eilian**	**1.72**	**193**	*e*P	**Pn**	**04 54 33.7**	**-0.3**
WCB1	**Church Bay**	**1.78**	**197**	*e*P	**Pn**	**04 54 34.4**	**-0.4**
WCB1				AML	AML	04 55 02.3	
	comp=E,19nm,0.3s						
WCB1				AML	AML	04 55 04.4	
	comp=N,14nm,0.4s						
WPM1	**Penmaenmawr**	**1.82**	**185**	*e*P	**Pn**	**04 54 35.0**	**-0.5**
WLF1	**Llynfaes**	**1.84**	**194**	*e*P	**Pn**	**04 54 35.2**	**-0.5**
LHO	**Holmfirth**	**1.86**	**145**	*e*P	**Pn**	**04 54 37.0**	**+1.0**
YRC	**Rhoscolyn**	**1.90**	**197**	*e*P	**Pn**	**04 54 36.0**	**-0.6**
YRE	**Yr Eifl**	**2.14**	**192**	*e*P	**Pn**	**04 54 39.8**	**-0.3**
DMUB	**Kingscourt**	**2.23**	**239**	*e*P	**Pn**	**04 54 40.5**	**-0.8**
DMUB				*e*S	**Sn**	**04 55 07.0**	**-2.0**
MCD	**Coleburn Disti**	**2.53**	**5**	*e*P	**Pn**	**04 54 44.7**	**-0.8**
MCD				*e*S	**Sn**	**04 55 14.7**	**-1.9**
MCD				AML	AML	04 55 15.7	
	comp=N,16nm,0.2s						
MCD				AML	AML	04 55 21.1	
	comp=E,26nm,0.5s						
DCN	**Croghan**	**2.74**	**232**	*e*P	**Pn**	**04 54 48.0**	**-0.6**
DCN				*e*S	**Sn**	**04 55 20.9**	**-1.1**

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*DJA **07** 05:15:54.4±0.8, 8.33S×118.98E, h160^{km}, MD4.8/4, ML4.9/4, Error ellipse: s-maj=58.5km s-min=17.0km az=176.0*

ISC 07 05:15:57.8±2.0,**8.6S**±0.2×**118.7E**±0.2,**h187**^{km}±33^{km},**n10,** σ**0^{s}88**/16,**13C-1D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**2.52**	**272**	⇑*i*Pn	**P**	**05 16 40.8**	**-0.8**
	642nm,0.2s						
KEDI	**Kedomdong**	**2.52**	**272**	⇑*i*P	**P**	**05 16 41.0**	**-0.6**
KEDI				⇑*i*Sn	**S**	**05 17 15.6**	**+0.2**
RATI	**Rata**	**3.10**	**267**	⇑*i*Pn	**P**	**05 16 47.1**	**-1.4**
	436nm,0.2s						
RATI	**Rata**	**3.10**	**267**	⇑*i*P	**P**	**05 16 48.1**	**-0.4**
RATI				⇑*i*Sn	**S**	**05 17 27.2**	**-0.4**
INGI	**Ingas**	**3.48**	**266**	⇑*i*Pn	**P**	**05 16 53.6**	**+0.3**
	584nm,0.2s						
INGI	**Ingas**	**3.48**	**266**	⇑*i*P	**P**	**05 16 54.0**	**+0.7**
INGI				⇓*i*Sn	**S**	**05 17 37.3**	**+1.2**
KELI	**Kelakatan**	**4.14**	**275**	⇑*i*Pn	**P**	**05 17 01.2**	**-0.4**
	66nm,0.2s						
KELI	**Kelakatan**	**4.14**	**275**	⇑*i*P	**P**	**05 17 02.3**	**+0.7**
KELI				⇑*i*Sn	**S**	**05 17 50.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.64**	**145**	⇑*i*P	**P**	**05 18 41.1**	**+1.9**
	2.2nm,1.0s						
FITZ				*e*S	**S**	**05 20 45.0**	**-1.0**
WB2	**Warramunga Arr**	**18.91**	**128**	⇑*i*P	**P**	**05 20 06.4**	**-0.2**
WB2				*e*S	**S**	**05 23 34.6**	**+7.8**

DJA 07 05:17:57.7±0.8,**9.38S**×**115.15E,h33**^{km}**,MD4.9**/4, **ML4.1**/2,**7C-2D,Error ellipse: s-maj=19.1km s-min=8.3km az=2.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.56**	**360**	⇑*i*Pn	Pn	05 18 08.1	-1.2
	892nm,0.2s						
INGI				⇑*i*Sn	Sn	05 18 16.0	-1.5
RATI	**Rata**	**0.76**	**30**	⇑*i*Pn	Pn	05 18 10.4	-1.7
	283nm,0.2s						
RATI				⇑*i*Sn	Sn	05 18 20.0	-2.5
KEDI	**Kedomdong**	**1.30**	**47**	⇑*i*Pn	Pn	05 18 19.0	-0.9
	187nm,0.2s						
KEDI				⇓*i*Sn	Sn	05 18 33.6	-2.7
KELI	**Kelakatan**	**1.33**	**331**	⇑*i*Pn	Pn	05 18 19.5	-0.8
	243nm,0.2s						
KELI	**Kelakatan**	**1.33**	**331**	⇓*i*P	P	05 18 19.6	-0.5
KELI				⇑*i*Sn	Sn	05 18 35.4	-1.6

ISC 07 05:28:17.6±1.9,**36.9N**±0.1×**27.68E**±0.06,**h10**^{km}**,n7,** σ**1^{s}19**/13,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**319**	*i* P	**Pg**	**05 28 23.3**	**-0.4**
BDRM				*i* S	**Sg**	**05 28 27.7**	**0.0**
YER	**Yerkesik**	**0.56**	**59**	*e*PG	**Pg**	**05 28 27.5**	**-1.4**
YER				*e*SG	**Sg**	**05 28 32.9**	**-3.6**
AYDN	**Tasoluk**	**0.82**	**11**	*i* P	**Pb**	**05 28 32.4**	**-1.2**
AYDN				*i* S	**Sb**	**05 28 43.2**	**-1.4**
DNZL	**Cakiroluk**	**1.37**	**52**	*i* P	**Pn**	**05 28 43.1**	**+0.1**
DNZL				*i* S	**Sb**	**05 29 01.5**	**+1.0**
KDAG	**Bornova**	**1.59**	**348**	*i* P	**Pn**	**05 28 45.8**	**-0.2**
KDAG				*i* S	**Sb**	**05 29 10.7**	**+4.1**
MANT	**Manisa**	**1.78**	**23**	*e*P	**Pn**	**05 28 50.9**	**+2.1**
MANT				*e*S	**Sn**	**05 29 13.0**	**+1.4**
AKS	**Akhisar**	**2.03**	**3**	*e*PN	**Pn**	**05 28 53.0**	**+0.7**

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*IDC **07** 05:33:32.4±1.8, 3.52S×148.44E, mb3.8/5, mb1 4.1/5, mb1mx3.9/13, MS2.7/1, Ms1 2.7/1, ms1mx2.3/20, Error ellipse: s-maj=68.1km s-min=23.4km az=114.0*

ISC 07 05:33:35.8±1.8,**3.5S**±0.2×**148.3E**±0.4,**h33**^{km}**,n6,**σ**0^{s}96**/5, **mb3.7**/5,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.60**	**187**	LR	LR	05 43 08.9	
	comp=Z,29nm,20.8s,baz=228,slow=35						
WRA	**Warramunga Arr**	**21.28**	**219**	P	**P**	**05 38 20.9**	**-0.9**
	5.0nm,0.9s,mb3.9,baz=43,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.41**	**214**	P	**P**	**05 38 53.8**	**+1.1**
	1.8nm,0.8s,mb3.5,baz=40,slow=7.9,SNR=12						
FITZ	**Fitzroy Crossi**	**26.53**	**235**	P	**P**	**05 39 12.5**	**-0.2**
	2.2nm,0.9s,mb3.7,baz=42,slow=12,SNR=4.3						
SONM	**Songino Array**	**62.91**	**330**	P	**P**	**05 44 01.5**	**+0.3**
	0.4nm,1.0s,mb3.5,baz=135,slow=2.0,SNR=3.5						
ILAR	**Eielson Array**	**82.69**	**23**	P	**P**	**05 45 57.0**	**-0.3**
	0.7nm,0.8s,mb3.8,baz=250,slow=4.8,SNR=5.7						

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*ATH **07** 05:50:10.5, 36.68N×29.20E, h33^{km}, MD3.3/3*
*ISK **07** 05:50:14.8, 37.00N×27.81E, h18^{km}, MD3.2*

ISC 07 05:50:14.0±0.8,**36.90N**±0.04×**27.78E**±0.05,**h9**^{km}±6^{km}, **n16,**σ**0^{s}94**/26,**3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.31**	**301**	*i* P	**Pg**	**05 50 20.8**	**+0.3**
BDRM				*i* S	**Sg**	**05 50 24.9**	**+0.2**
BDRM	**Kayabasi**	**0.31**	**301**	*i* P	**Pg**	**05 50 21.0**	**+0.6**
BDRM				*i* S	**Sg**	**05 50 25.8**	**+1.1**
MLSB	**Milas**	**0.39**	**0**	*i* PG	**Pg**	**05 50 21.8**	**-0.2**
YER	**Yerkesik**	**0.47**	**60**	*i* PG	**Pg**	**05 50 23.5**	**0.0**
YER				SG	**Sg**	**05 50 30.1**	**+0.3**
ARG	**Arkhangelos**	**0.74**	**158**	*e*PN	**Pn**	**05 50 29.3**	**-1.2**
ARG				*e*SN	**Sn**	**05 50 43.0**	**+1.1**
AYDN	**Tasoluk**	**0.76**	**6**	⇑*i*P	**Pb**	**05 50 28.5**	**-0.5**
AYDN				*i* S	**Sb**	**05 50 38.7**	**-0.5**
AYDN	**Tasoluk**	**0.76**	**6**	⇑*i*P	**Pb**	**05 50 28.9**	**-0.2**
AYDN				*i* S	**Sb**	**05 50 39.1**	**-0.2**
SMG	**Samos**	**1.10**	**317**	*e*PN	**Pn**	**05 50 46.2**	**+11**
DNZL	**Cakiroluk**	**1.28**	**52**	*i* P	**Pb**	**05 50 37.8**	**-0.1**
DNZL				*i* S	**Sb**	**05 50 52.1**	**-2.3**
DNZL	**Cakiroluk**	**1.28**	**52**	*i* P	**Pb**	**05 50 38.5**	**+0.5**
DNZL				*i* S	**Sb**	**05 50 56.6**	**+2.2**
DENT	**Denizli**	**1.31**	**49**	*e*PN	**Pn**	**05 50 37.6**	**-1.0**
KDAG	**Bornova**	**1.55**	**345**	⇑*i*P	**Pn**	**05 50 41.8**	**-0.2**
KDAG				*i* S	**Sb**	**05 51 06.8**	**+4.6**
MANT	**Manisa**	**1.70**	**21**	*e*P	**Pn**	**05 50 44.6**	**+0.4**
MANT				*e*S	**Sn**	**05 51 07.9**	**+1.6**
ELL	**Elmali**	**1.72**	**95**	*e*PN	**Pn**	**05 50 44.6**	**+0.2**
AKS	**Akhisar**	**1.97**	**1**	*e*PN	**Pn**	**05 50 46.3**	**-1.8**
PRK	**Paraskevi**	**2.62**	**334**	*e*PN	**Pn**	**05 51 04.3**	**+6.9**

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*JMA **07** 05:57:03.6, 29.37N×129.99E, h56^{km}±2^{km}, M3.4*
*IDC **07** 05:57:05.9±2.4, 29.38N×129.75E, h69^{km}±22^{km}, mb3.2/4, mb1 3.3/6, mb1mx3.2/23, Error ellipse: s-maj=38.5km s-min=14.4km az=97.0*

ISC 07 05:57:03.4±0.4,**29.37N**±0.04×**129.97E**±0.10,**h61**^{km}±6^{km}, **n17,**σ**0^{s}62**/25,**mb3.4**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.48**	**350**	P	**P**	**05 57 15.0**	**-0.3**
JNN				S	**S**	**05 57 23.5**	**-0.6**
JAM	**Amami Oshima**	**1.00**	**199**	P	**P**	**05 57 21.4**	**-0.4**
JAM				*e*S	**S**	**05 57 34.8**	**-0.6**
JZK	**Kikaishima**	**1.05**	**180**	P	**P**	**05 57 22.9**	**+0.5**
JZK				*e*S	**S**	**05 57 36.4**	**0.0**
JKC	**Kuchinoerabu**	**1.11**	**10**	P	**P**	**05 57 23.4**	**+0.2**
JKC				S	**S**	**05 57 37.6**	**-0.3**
JTN	**Tanegashima 3**	**1.55**	**34**	P	**P**	**05 57 29.2**	**-0.2**
JTN				*e*S	**S**	**05 57 47.9**	**-0.7**
JTK	**Tokunoshima**	**1.81**	**210**	P	**P**	**05 57 33.1**	**+0.2**
JTK				*e*S	**S**	**05 57 54.6**	**-0.2**
JTSR	**Tashiro 2**	**1.97**	**24**	P	**P**	**05 57 35.5**	**+0.3**
JSU	**Suzuyama**	**2.17**	**11**	P	**P**	**05 57 38.2**	**+0.2**
JSU				*e*S	**S**	**05 58 03.7**	**0.0**
JSJ	**Shimokoshiki**	**2.31**	**355**	P	**P**	**05 57 40.5**	**+0.5**
JNAR	**Kushima--Naru**	**2.43**	**27**	P	**P**	**05 57 42.3**	**+0.7**
JIH	**Iheya**	**2.92**	**218**	S	**S**	**05 58 23.6**	**+1.0**
JOW	**Kunigami**	**2.94**	**211**	P	**P**	**05 57 48.5**	**-0.3**
	4.9nm,0.3s,baz=94,slow=19,SNR=9.0						
JOW				S	**S**	**05 58 22.9**	**0.0**
JNU	**Nakatsue**	**3.82**	**11**	P	**P**	**05 58 02.9**	**+1.6**
	1.9nm,0.3s,baz=225,slow=8.6,SNR=5.1						
SONM	**Songino Array**	**25.90**	**322**	P	**P**	**06 02 31.2**	**0.0**
	0.2nm,0.3s,mb3.1,baz=130,slow=9.6,SNR=4.7						
WRA	**Warramunga Arr**	**49.20**	**175**	P	**P**	**06 05 46.9**	**-0.7**
	0.9nm,1.0s,mb3.8,baz=353,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**52.86**	**175**	P	**P**	**06 06 15.9**	**+0.6**
	0.2nm,0.6s,mb3.2,baz=9.4,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**70.91**	**330**	P	**P**	**06 08 14.0**	**-1.6**
	0.3nm,0.5s,mb3.5,baz=76,slow=5.7,SNR=6.4						

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*IDC **07** 06:25:52.5±0.8, 7.40S×129.37E, mb4.1/7, mb1 4.4/11, mb1mx4.3/16, ML4.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/15, Error ellipse: s-maj=47.7km s-min=16.8km az=56.0*
*NEIC **07** 06:25:56.5±5.8, 7.34S×129.49E, h28^{km}±43^{km}, mb4.1/4, Error ellipse: s-maj=17.1km s-min=14.9km az=220.0*

ISC 07 06:26:01.4±1.7,**7.72S**±0.06×**129.57E**±0.09,**h105**^{km}±19^{km}, **n28,**σ**1^{s}30**/37,**mb4.4**/13,**2D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.68**	**151**	⇓*i*P	**P**	**06 27 23.8**	**-1.0**
	47nm,0.3s						
KAKA				*i* S	**S**	**06 28 30.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.01**	**200**	*e*P	**P**	**06 28 38.3**	**+1.3**
	11nm,0.3s						
FITZ				*e*S	**S**	**06 30 39.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.01**	**200**	Pn	**P**	**06 28 38.4**	**+1.4**
	4.3nm,0.3s,baz=22,slow=11,SNR=100						
FITZ				Sn	**S**	**06 30 38.6**	**0.0**
	10nm,0.3s,baz=126,slow=17,SNR=9.6						
FITZ				LR	LR	06 33 19.7	
	comp=Z,38nm,21.0s,baz=86,slow=40						
WRAB	**Tennant Creek**	**13.00**	**160**	*e*P	**P**	**06 29 01.1**	**-2.2**
	11nm,0.5s						
WRAB				*e*S	**S**	**06 31 20.4**	**-5.4**
WRA	**Warramunga Arr**	**13.01**	**160**	Pn	**P**	**06 29 00.8**	**-2.6**
	2.1nm,0.3s,baz=350,slow=13,SNR=56						
WRA				Sn	**S**	**06 31 20.2**	**-5.7**
	6.5nm,0.3s,baz=337,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.01**	**160**	⇓*i*P	**P**	**06 29 00.9**	**-2.5**
WB2				*e*S	**S**	**06 31 25.1**	**-0.9**
ASAR	**Alice Springs**	**16.40**	**166**	Pn	**P**	**06 29 47.6**	**+0.9**
	1.0nm,0.3s,baz=341,slow=8.6,SNR=26						
ASAR				Sn	**S**	**06 32 44.6**	**+0.1**
	2.1nm,0.3s,baz=344,slow=11,SNR=6.3						
ASPA	**Alice Springs**	**16.40**	**166**	*e*P	**P**	**06 29 48.4**	**+1.7**
ASPA				*e*S	**S**	**06 32 41.9**	**-2.7**
PMG	**Port Moresby**	**17.48**	**97**	P	**P**	**06 30 00.9**	**+0.8**
	1.7nm,0.3s,baz=302,slow=15,SNR=4.2						
CTA	**Charters Tower**	**20.31**	**129**	*e*P	**P**	**06 30 34.0**	**+2.7**
	4.2nm,0.9s						
CTA				*e*S	**S**	**06 34 29.6**	**+22**
CTA	**Charters Tower**	**20.31**	**129**	P	**P**	**06 30 33.8**	**+2.5**
	4.7nm,0.7s,baz=322,slow=12,SNR=8.9						
CTAO	**Charters Tower**	**20.31**	**129**	*e*P	**P**	**06 30 34.0**	**+2.7**
	5.8nm,0.8s						
FORT	**Forrest**	**22.99**	**183**	*e*P	**P**	**06 31 04.3**	**+6.5**
	53nm,0.6s,mb5.0						
FORT				*e*S	S	06 35 24.3	+28
STKA	**Stephens Creek**	**26.52**	**157**	P	**P**	**06 31 35.5**	**+4.3**
	1.5nm,0.3s,mb3.9,baz=335,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**39.87**	**311**	P	**P**	**06 33 25.2**	**-1.4**
	1.7nm,0.5s,mb4.1,baz=138,slow=7.2,SNR=7.3						
GUN	**Gumba**	**55.10**	**312**	*e*P	**P**	**06 35 25.6**	**+0.3**
	39nm,0.6s						
PKI	**Pulchoki**	**55.27**	**311**	*e*P	**P**	**06 35 27.9**	**+1.4**
	4.4nm,0.3s,mb4.9						
KKN	**Kakani**	**55.48**	**311**	*e*P	**P**	**06 35 28.8**	**+0.8**
	13nm,0.6s,mb5.1						
DMN	**Daman**	**55.51**	**311**	*e*P	**P**	**06 35 29.4**	**+1.1**
GKN	**Gorkha**	**56.08**	**311**	*e*P	**P**	**06 35 31.2**	**-1.1**
	12nm,0.3s,mb5.4						
KOLN	**Koldanda**	**56.73**	**310**	*e*P	**P**	**06 35 36.6**	**-0.3**
	9.3nm,0.5s,mb5.1						
SONM	**Songino Array**	**58.98**	**342**	P	**P**	**06 35 52.0**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=160,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**68.59**	**327**	P	**P**	**06 36 55.1**	**0.0**
	2.6nm,0.4s,mb4.4,baz=115,slow=9.4,SNR=34						
VNDA	**Vanda**	**71.79**	**173**	P	**P**	**06 37 19.0**	**+5.0**
	0.9nm,0.5s,mb3.9,baz=310,slow=4.4,SNR=4.6						
VNDA	**Vanda**	**71.79**	**173**	P	**P**	**06 37 19.0**	**+5.0**
KURK	**Kurchatov**	**72.90**	**329**	P	**P**	**06 37 19.4**	**-1.5**
	2.4nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**78.44**	**328**	P	**P**	**06 37 52.3**	**+0.1**
	1.0nm,0.7s,mb3.6,baz=112,slow=8.0,SNR=4.5						
BRVK	**Borovoye**	**78.51**	**328**	*e*P	**P**	**06 37 52.5**	**-0.1**
	1.8nm,0.8s,mb4.0						

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*IDC **07** 06:32:18.8±1.3, 27.55N×140.10E, h399^{km}±18^{km}, mb3.1/7, mb1 3.3/7, mb1mx3.0/21, Error ellipse: s-maj=53.5km s-min=15.6km az=91.0*

ISC 07 06:32:18.0±1.4,**27.5N**±0.1×**140.1E**±0.5,**h408**^{km}±21^{km}**,n9,** σ**0^{s}49**/10,**mb3.4**/8,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.92**	**101**	P	**P**	**06 33 15.3**	**+0.6**
	22nm,0.3s,baz=272,slow=17,SNR=20						
CBIJ				S	**S**	**06 33 58.7**	**-0.4**
	23nm,0.3s,baz=292,slow=22,SNR=9.4						
WRA	**Warramunga Arr**	**47.48**	**187**	P	**P**	**06 40 15.7**	**-0.2**
	0.8nm,0.6s,mb3.3,baz=6.4,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**51.21**	**187**	P	**P**	**06 40 44.0**	**+0.2**
	0.3nm,0.3s,mb3.0,baz=354,slow=4.1,SNR=5.5						
ARCES	**ARCESS Array B**	**72.54**	**340**	P	**P**	**06 43 03.7**	**+0.9**
	1.7nm,0.9s,mb3.6,baz=79,slow=9.2,SNR=3.5						
YKA	**Yellowknife Ar**	**72.68**	**28**	P	**P**	**06 43 03.8**	**+0.1**
	0.2nm,0.4s,mb3.0,baz=298,slow=6.2,SNR=5.8						
KAF	**Kangasniemi**	**76.29**	**334**	*e*p	**P**	**06 43 23.2**	**-1.0**
	0.5nm,0.4s,mb3.5						
FINES	**FINESS Array B**	**76.75**	**333**	P	**P**	**06 43 26.9**	**+0.2**
	1.2nm,0.3s,mb4.0,baz=70,slow=4.7,SNR=32						
HFS	**Hagfors**	**82.31**	**336**	P	**P**	**06 43 55.8**	**-0.2**
	0.4nm,0.4s,mb3.5,baz=90,slow=1.5,SNR=6.6						
NOA	**NORSAR Array B**	**82.54**	**338**	P	**P**	**06 43 57.0**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=46,slow=5.0,SNR=3.8						

IDC 07 06:47:34.9±34.0,**21.63S**×**177.61W,mb4.2**/4,**mb1 4.4**/4, **mb1mx3.9**/15,**1D,Error ellipse: s-maj=644.0km s-min=160.0km az=91.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.64**	**246**	P	P	06 54 50.8	-2.6
	1.7nm,0.5s,baz=96,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**44.62**	**258**	P	P	06 55 49.2	-1.9
	2.1nm,0.5s,baz=92,slow=7.3,SNR=31						
WB2	**Warramunga Arr**	**44.80**	**263**	⇓*i*P	P	06 55 51.1	-1.5
WRA	**Warramunga Arr**	**44.81**	**263**	P	P	06 55 51.4	-1.2
	1.4nm,0.3s,baz=89,slow=5.8,SNR=152						
KAKA	**Kakadu**	**48.41**	**272**	*e*P	P	06 56 20.5	-0.5
	4.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.24**	**263**	*e*P	P	06 56 56.0	-1.8
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.24**	**263**	P	P	06 56 55.6	-2.1
	1.5nm,0.4s,baz=105,slow=6.3,SNR=8.8						

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*IDC **07** 06:52:44.7±0.7, 15.09S×173.59W, mb4.2/11, mb1 4.4/12, mb1mx4.3/17, ML4.4/1, MS3.5/8, Ms1 3.5/8, ms1mx3.4/28, Error ellipse: s-maj=39.7km s-min=16.4km az=139.0*
*NEIC **07** 06:52:46.1±0.3, 15.25S×173.45W, h10^{km}, mb4.6/6, Error ellipse: s-maj=13.4km s-min=9.2km az=141.0*

ISC 07 06:52:44.7±0.4,**15.1S**±0.2×**173.7W**±0.2,**h10**^{km}**,n37,** σ**0^{s}47**/27,**mb4.2**/17,**MS3.6**/8,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.58**	**117**	Pn	**P**	**06 56 06.5**	**-6.7**
	1.8nm,0.3s,baz=270,slow=8.1,SNR=4.0						
URZ	**Urewera**	**24.50**	**198**	LR	LR	07 04 39.9	
	comp=Z,108nm,21.2s,MS3.3,baz=259,slow=29						
PMG	**Port Moresby**	**38.62**	**274**	LR	LR	07 11 11.3	
	comp=Z,45nm,21.9s,MS3.2,baz=217,slow=29						
STKA	**Stephens Creek**	**43.96**	**240**	P	**P**	**07 00 53.0**	**-0.9**
	2.3nm,0.7s,mb4.0,baz=70,slow=8.2,SNR=5.2						
WRA	**Warramunga Arr**	**49.64**	**256**	P	**P**	**07 01 39.4**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=92,slow=6.8,SNR=17						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**07 01 41.1**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=87,slow=7.7,SNR=30						
ASAR				LR	LR	07 21 08.8	
	comp=Z,80nm,19.4s,MS3.7,baz=295,slow=34						
FITZ	**Fitzroy Crossi**	**58.00**	**258**	LR	LR	07 25 13.6	
	comp=Z,45nm,19.8s,MS3.6,baz=281,slow=34						
VNDA	**Vanda**	**63.69**	**186**	P	**P**	**07 03 18.1**	**0.0**
	1.6nm,0.8s,mb4.1,baz=22,slow=6.2,SNR=5.2						
FX1	**Attu Island--F**	**68.60**	**351**	LR	LR	07 28 57.5	
	comp=Z,2.7nm,18.9s,MS2.5,baz=159,slow=32						
JNU	**Nakatsue**	**71.35**	**313**	LR	LR	07 28 55.4	
	comp=Z,28nm,20.4s,MS3.5,baz=284,slow=30						
CMB	**Columbia Colle**	**72.70**	**42**	*e*P	**P**	**07 04 14.3**	**-0.7**
	3.8nm,0.9s,mb4.3						
YBH	**Yreka Blue Hor**	**73.50**	**37**	P	**P**	**07 04 19.9**	**+0.3**
	5.9nm,0.7s,mb4.6,baz=166,slow=8.3,SNR=20						
NVAR	**Mina Array Bea**	**74.27**	**42**	P	**P**	**07 04 24.1**	**0.0**
	2.4nm,0.7s,mb4.3,baz=230,slow=11,SNR=16						
TPH	**Tonopah**	**74.78**	**43**	*e*P	**P**	**07 04 26.1**	**-0.9**
	19nm,2.1s,mb4.7						
QSPA	**South Pole Qui**	**74.99**	**180**	*e*P	**P**	**07 04 27.5**	**0.0**
	9.4nm,1.1s,mb4.6						
TUC	**Tucson**	**76.40**	**51**	*e*P	**P**	**07 04 36.1**	**-0.3**
	3.8nm,0.8s,mb4.4						
MSU	**Marysvale**	**78.38**	**45**	*e*P	**P**	**07 04 48.1**	**+0.9**
HLID	**Hailey**	**79.54**	**39**	*e*P	**P**	**07 04 53.7**	**+0.3**
	8.8nm,1.0s,mb4.6						
SRU	**San Rafael**	**79.80**	**45**	*e*P	**P**	**07 04 55.0**	**+0.1**
LAZ	**Ladron**	**80.06**	**50**	*e*P	**P**	**07 04 56.9**	**+0.5**
TCUT	**Toone Canyon**	**80.19**	**43**	*e*P	**P**	**07 04 56.9**	**0.0**
LPM	**Los Pinos Moun**	**80.40**	**51**	*e*P	**P**	**07 04 58.5**	**+0.3**
PV10	**Paradox Valley**	**80.48**	**46**	*e*P	**P**	**07 04 58.4**	**-0.2**
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**07 04 59.7**	**0.0**
	4.1nm,1.1s,mb4.3,baz=225,slow=5.3,SNR=23						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**07 04 59.7**	**0.0**
MCK	**McKinley**	**80.84**	**11**	*e*P	**P**	**07 05 00.1**	**+0.2**
	2.8nm,0.8s,mb4.2						
TPAW	**Teton Pass**	**81.66**	**41**	*e*P	**P**	**07 05 05.2**	**+0.5**
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**07 05 06.8**	**0.0**
	0.8nm,0.6s,mb3.8,baz=234,slow=5.6,SNR=5.9						
PDAR	**Pinedale Array**	**82.20**	**42**	P	**P**	**07 05 06.7**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=228,slow=2.1,SNR=18						
USHA	**Ushuaia**	**86.37**	**146**	LR	LR	07 37 09.4	
	comp=Z,181nm,19.5s,MS4.5,baz=238,slow=31						
MAW	**Mawson**	**88.03**	**199**	P	**P**	**07 05 36.3**	**+0.3**
	1.1nm,0.6s,mb4.3,baz=90,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**07 05 44.5**	**-0.4**
	0.5nm,0.8s,mb3.9,baz=234,slow=3.7,SNR=4.4						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**07 05 44.5**	**-0.5**
ULM	**Lac du Bonnet**	**93.85**	**39**	LR	LR	07 46 47.4	
	comp=Z,78nm,18.3s,MS4.2,baz=32,slow=35						
KHC	**Kasperske Hory**	**145.49**	**352**	*e*P	PKPbc	07 12 25.5	+1.8
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	PKPbc	07 12 27.4	+2.9
	3.0nm,0.9s,baz=117,slow=2.8,SNR=12						
GERES	**GERESS Array B**	**145.75**	**351**	PKPbc	PKPbc	07 12 25.7	+1.4
	0.9nm,0.7s,slow=2.7,SNR=8.4						

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*NEIC **07** 07:09:57.0, 44.08N×6.62E, h2^{km}, ML2.6(GEN), ML2.6(LDG), ML2.3(STR), After GEN.*
*STR **07** 07:09:58.1±0.2, 44.13N×6.67E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 07:09:58.0±0.1, 44.12N×6.68E, h2^{km}, Md2.6/2, Ml2.6/7, Error ellipse: s-maj=1.5km s-min=1.1km az=39.0*

ISC 07 07:09:56.9±0.3,**44.12N**±0.02×**6.61E**±0.02,**h10**^{km}±3^{km}, **n40,**σ**0^{s}84**/74,**3C,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.39**	**21**	Pg	**Pg**	**07 10 05.2**	**+0.3**
SURF				Sg	**Sg**	**07 10 11.0**	**+0.8**
CALN	**Calern**	**0.42**	**151**	Pg	**Pg**	**07 10 05.8**	**+0.4**
CALN				Sg	**Sg**	**07 10 11.8**	**+0.7**
MVIF	**Mont Vial**	**0.45**	**119**	Pg	**Pg**	**07 10 06.3**	**+0.3**
MVIF				Sg	**Sg**	**07 10 13.1**	**+1.0**
TOUF	**Mont Tournerai**	**0.47**	**103**	Pg	**Pg**	**07 10 06.2**	**-0.2**
TOUF				Sg	**Sg**	**07 10 11.8**	**-1.0**
PZZ	**Prazzo**	**0.52**	**42**	⇑P	**Pg**	**07 10 07.7**	**+0.2**
PZZ				S	**Sg**	**07 10 15.1**	**+0.6**
STV	**Sta Anna Valdi**	**0.53**	**76**	⇑P	**Pg**	**07 10 07.3**	**-0.2**
STV				S	**Sg**	**07 10 14.5**	**-0.2**
STV2	**Anna di Valdie**	**0.53**	**76**	P	**Pg**	**07 10 07.2**	**-0.4**
STV2				S	**Sg**	**07 10 14.4**	**-0.4**
FRF	**La Foret Royal**	**0.56**	**178**	*e*Pg	**Pg**	**07 10 08.1**	**-0.1**
FRF				*e*Sg	**Sg**	**07 10 15.7**	**0.0**
	51nm,0.2s						
AURF	**Auriere**	**0.56**	**114**	Pg	**Pg**	**07 10 08.1**	**-0.2**
AURF				Sg	**Sg**	**07 10 16.1**	**+0.2**
ENR	**Entracque**	**0.59**	**79**	⇑P	**Pg**	**07 10 08.5**	**-0.4**
ENR				S	**Sg**	**07 10 16.2**	**-0.6**
AUTN	**L'Aution**	**0.60**	**101**	Pg	**Pg**	**07 10 08.5**	**-0.5**
AUTN				Sg	**Sg**	**07 10 16.4**	**-0.7**
MBDF	**Montbardon**	**0.62**	**10**	*e*Pg	**Pg**	**07 10 09.4**	**0.0**
MBDF				*e*Sg	**Sg**	**07 10 17.8**	**+0.1**
	54nm,0.4s						
SBF	**Sospel**	**0.65**	**113**	*e*Pg	**Pg**	**07 10 09.4**	**-0.5**
SBF				*e*Sg	**Sg**	**07 10 17.7**	**-0.9**
SBF				*e*Sn	**Sn**	**07 10 22.5**	**+0.3**
	49nm,0.3s						
REVF	**Revere**	**0.66**	**124**	Pg	**Pg**	**07 10 10.2**	**0.0**
REVF				Sg	**Sg**	**07 10 19.2**	**0.0**
SMRF	**Simiane la Rot**	**0.76**	**260**	*e*Pg	**Pg**	**07 10 13.9**	**+1.7**
SMRF				*e*Sg	**Sg**	**07 10 24.8**	**+2.4**
	34nm,0.2s						
LMR	**La Mourre**	**0.79**	**186**	*e*Pg	**Pg**	**07 10 12.1**	**-0.6**
LMR				*e*Sg	**Sg**	**07 10 23.4**	**+0.1**
LMR				*e*Sn	**Sn**	**07 10 26.4**	**+0.6**
	32nm,0.2s						
RRL	**Cesana Torines**	**0.81**	**9**	P	**Pb**	**07 10 13.3**	**+0.6**
RRL				S	**Sb**	**07 10 24.8**	**+1.4**
MONE	**Monesi**	**0.82**	**92**	P	**Pb**	**07 10 12.5**	**-0.4**
NEGI	**Negi**	**0.83**	**109**	P	**Pb**	**07 10 12.7**	**-0.4**
BHB	**Bricherasio**	**0.86**	**32**	P	**Pb**	**07 10 13.5**	**0.0**
BHB				S	**Sb**	**07 10 25.2**	**+0.3**
ROB	**Roburent**	**0.92**	**78**	P	**Pb**	**07 10 14.3**	**-0.2**
IMI	**Imperia**	**0.94**	**102**	*e*Pg	**Pg**	**07 10 17.3**	**+1.5**
IMI				*e*Sg	**Sg**	**07 10 30.7**	**+2.3**
ORIF	**Oris-en-Rattie**	**0.96**	**327**	*e*Pg	**Pg**	**07 10 16.5**	**+0.4**
ORIF				*e*Sn	**Sn**	**07 10 30.4**	**+0.3**
	36nm,0.4s						
FENE	**Fenestrelle**	**0.97**	**19**	P	**Pb**	**07 10 15.8**	**+0.4**
FENE				S	**Sb**	**07 10 28.6**	**+0.6**
RORO		**1.05**	**90**	P	**Pb**	**07 10 16.3**	**-0.4**
RSP	**Reno Superiore**	**1.13**	**24**	P	**Pb**	**07 10 18.6**	**+0.4**
RSP				S	**Sb**	**07 10 32.8**	**0.0**
FIN	**Finale Ligure**	**1.15**	**85**	*e*Pg	**Pg**	**07 10 20.2**	**+0.2**
FIN				*e*Sg	**Sg**	**07 10 38.4**	**+3.1**
LPG	**La Plagne**	**1.38**	**4**	*e*Pg	**Pg**	**07 10 23.8**	**-0.8**
LPG				*e*Sg	**Sg**	**07 10 42.0**	**-1.1**
	15nm,0.4s						
LSD	**Ceresole Reale**	**1.39**	**16**	P	**Pn**	**07 10 23.5**	**+1.0**
LPL	**La Plagne**	**1.40**	**3**	*e*Pg	**Pg**	**07 10 24.3**	**-0.6**
LPL				*e*Sg	**Sg**	**07 10 40.8**	**-2.8**
	6.2nm,0.3s						
VIVF	**Saint-Julien-l**	**1.57**	**299**	*e*Pn	**Pn**	**07 10 25.9**	**+0.8**
VIVF				*e*Pg	**Pg**	**07 10 27.7**	**-0.7**
VIVF				*e*Sn	**Sn**	**07 10 46.5**	**+0.8**
	11nm,0.3s						

TRAV		1.61	30	P	Pn	07 10 24.7	-0.9
LASF	Ste Croix	1.99	270	*e*Pn	Pn	07 10 31.3	+0.3
LASF				*e*Pg	Pg	07 10 35.7	-0.9
LASF				*e*Sn	Sn	07 10 55.7	-0.5
	5.7nm,0.4s						
LASF				*e*Sg	Sg	07 11 02.4	-0.7
PGF	Pioggiola	2.34	131	*e*Pn	Pn	07 10 34.9	-1.3
PGF				*e*Sn	Sn	07 11 02.2	-3.1
	11nm,0.2s						
CABF	La Chapelle	2.52	352	*e*Pg	Pg	07 10 45.8	-1.5
SMF	Signal de Mont	3.19	323	*e*Pn	Pn	07 10 48.9	+0.6
MTLF	Montolieu	3.28	258	*e*Pn	Pn	07 10 49.5	0.0
MTLF				*e*Sn	Sn	07 11 27.0	-2.0
	1.5nm,0.2s						
CAF	Calviac	3.35	286	*e*Pn	Pn	07 10 50.2	-0.3
AVF	Avril sur Loir	3.52	320	*e*Pn	Pn	07 10 53.6	+0.6
BGF	Bois d'Agland	3.61	314	*e*Pn	Pn	07 10 53.6	-0.5

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*IDC **07** 07:19:21.0±8.3,5.12S×125.81E,h554^{km}±128^{km},mb2.8/3, mb1 3.2/5,mb1mx2.9/16,Error ellipse: s-maj=114.0km s-min=22.3km az=49.0*

ISC 07 07:19:19.9±1.0,**5.0S**±0.2×**125.9E**±0.3,**h550**^{km}**,n7,** σ**0^{s}78**/7,**mb3.5**/2,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.00	181	*e*P	P	07 22 10.2	+1.2
	2.8nm,0.7s						
FITZ				*i*		07 22 12.8	
FITZ	Fitzroy Crossi	13.00	181	P	P	07 22 10.4	+1.3
	1.2nm,0.3s,baz=6.8,slow=5.9,SNR=37						
WRA	Warramunga Arr	16.97	152	P	P	07 22 47.9	-0.4
	0.4nm,0.3s,baz=330,slow=11,SNR=21						
WB2	Warramunga Arr	16.98	152	*e*P	P	07 22 48.0	-0.4
ASAR	Alice Springs	20.09	158	P	P	07 23 17.2	-0.7
	0.3nm,0.3s,baz=341,slow=7.4,SNR=6.3						
CMAR	Chiang Mai Arr	35.33	312	P	P	07 25 30.1	-0.7
	0.9nm,0.5s,mb3.6,baz=124,slow=5.2,SNR=5.1						
ILAR	Eielson Array	93.34	25	P	P	07 31 37.8	+0.9
	0.2nm,0.5s,mb3.4,baz=253,slow=6.5,SNR=4.4						

IDC 07 07:31:15.9±5.5,**7.35S**×**74.63W,h119**^{km}±54^{km}**,mb3.5**/3, **mb1 3.6**/4,**mb1mx3.4**/17,**Error ellipse: s-maj=44.6km s-min=26.6km az=55.0,Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	10.92	145	P	P	07 33 49.5	-0.3
	0.1nm,0.3s,baz=338,slow=13,SNR=7.6						
PLCA	Paso Flores	33.44	174	P	P	07 37 43.4	-2.1
	0.9nm,0.6s,baz=359,slow=14,SNR=4.4						
TXAR	Lajitas Array	45.95	324	P	P	07 39 27.1	-1.8
	0.2nm,0.6s,baz=150,slow=7.3,SNR=3.8						
DBIC	Dimbokro	70.97	80	P	P	07 42 21.2	-1.8
	2.4nm,0.3s,baz=239,slow=9.4,SNR=5.3						
YKA	Yellowknife Ar	76.10	342	pP	PcP	07 43 07.9	+4.1
	0.2nm,0.4s,baz=134,slow=6.1,SNR=5.9						
ASAR	Alice Springs	138.44	221	PKP	PKPdf	07 50 27.1	-1.1
	0.3nm,0.5s,baz=126,slow=1.8,SNR=4.3						
WRA	Warramunga Arr	140.65	226	PKhKP		07 50 25.1	
	0.4nm,0.8s,baz=176,slow=2.1,SNR=4.9						
WRA				PKP	PKPdf	07 50 33.6	+1.2
	0.5nm,0.4s,baz=125,slow=1.9,SNR=6.8						

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*IDC **07** 07:32:07.5±2.5,40.42N×124.27W,mb2.9/1,mb1 3.6/3, mb1mx3.3/22,ML3.3/2,MS2.9/1,Ms1 2.9/1,ms1mx2.3/8, Error ellipse: s-maj=25.8km s-min=12.7km az=97.0*

*NEIC **07** 07:32:07.7,40.31N×124.57W,h20^{km},MD3.8(NCEDC), After NCEDC.*

ISC 07 07:32:04.4±2.7,**40.27N**±0.05×**124.6W**±0.2,**h16**^{km}±20^{km}**, n31,**σ**1^{s}03**/31,**1C-1D,Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	Horse Mountain	0.90	47	*e*P	Pb	07 32 22.4	+1.3
KHMM				*e*S	Sb	07 32 32.1	-0.5
KRMB	Red Mountain	1.36	23	*e*P	Pn	07 32 28.6	-0.4
WDC	Whiskeytown Da	1.60	78	*e*P	Pn	07 32 32.2	-0.2
HOPS	Hopland	1.74	137	*e*P	Pn	07 32 34.7	+0.3
KBO	Bosley Butte	1.96	8	*e*P	Pn	07 32 37.1	-0.5
YBH	Yreka Blue Hor	2.05	44	Pn	Pn	07 32 38.9	+0.1
	43nm,0.3s,baz=267,slow=9.8,SNR=913						
YBH				Lg		07 33 03.3	
	18nm,0.3s,baz=109,slow=12,SNR=18						
YBH	Yreka Blue Hor	2.05	44	⇑*e*P	Pn	07 32 38.9	+0.2
NSHM	Saint Helena R	2.33	138	*e*P	Pn	07 32 43.2	+0.4
OHCM	Honcut	2.58	110	*e*P	Pn	07 32 45.4	-0.9
HUMO	Hull Mountain	2.64	27	*e*P	Pn	07 32 46.5	-0.8
BUOR	Burton Butte	2.68	41	⇓P	Pn	07 32 49.2	+1.3
LAB	Little Aspen B	2.77	43	P	Pn	07 32 50.0	+1.0
BBOR	Butler Butte	2.99	28	P	Pn	07 32 52.7	+0.5
SAC	San Andreas	3.18	147	*e*P	Pn	07 32 54.5	-0.5
LKC	Lake Chabot	3.21	141	*e*P	Pn	07 32 55.5	+0.1
BEKR	Beckwourth	3.28	96	*e*P	Pn	07 32 57.1	+0.7
MOD	Modoc	3.64	62	*e*P	Pn	07 33 00.7	-0.8
WCN	Washoe City	3.86	103	*e*P	Pn	07 33 01.9	-2.7
CMB	Columbia Colle	3.97	123	*e*P	Pn	07 33 06.2	+0.1
COR	Corvallis	4.42	12	P	Pn	07 33 12.2	-0.3
LRV	Little Rabbit	4.76	143	*e*P	Pn	07 33 16.1	-1.3
WVOR	Wild Horse Val	4.98	62	*e*P	Pn	07 33 17.6	-2.9
OMM	Old Mammoth Mi	5.11	119	*e*P	Pn	07 33 21.9	-0.4
NVAR	Mina Array Bea	5.22	109	Pn	Pn	07 33 25.4	+1.5
	0.4nm,0.3s,baz=295,slow=13,SNR=8.2						
NVAR				Lg		07 34 42.9	
	0.4nm,0.3s,baz=292,slow=29,SNR=3.9						
BMN	Battle Mountai	5.64	86	P	Pn	07 33 29.2	-0.6
TPH	Tonopah	6.14	109	P	Pn	07 33 37.8	+1.0
HLID	Hailey	8.28	63	*e*P	P	07 34 06.6	-0.3
NEW	Newport	9.62	31	LR	LR	07 38 03.7	
	comp=Z,72nm,21.2s,baz=226,slow=38						
PDAR	Pinedale Array	11.55	73	Pn	P	07 34 55.4	+3.6
	0.0nm,0.3s,baz=278,slow=10,SNR=5.7						
TXAR	Lajitas Array	20.31	116	P	P	07 36 45.2	+2.7
	0.7nm,1.0s,baz=300,slow=7.3,SNR=5.4						
TXAR	Lajitas Array	20.31	116	P	P	07 36 45.2	+2.7

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*IDC **07** 07:33:09.1±0.4,11.54S×166.39E,mb4.9/20,mb1 5.0/21, mb1mx5.0/22,ML3.8/1,MS4.6/21,Ms1 4.6/21, ms1mx4.5/23,Error ellipse: s-maj=18.3km s-min=13.2km az=121.0*

*NEIC **07** 07:33:32.9±3.2,11.72S×166.07E,h200^{km}±29^{km}, mb4.8/37,Error ellipse: s-maj=12.1km s-min=10.4km az=131.0*

*SYO **07** 07:33:32.9,11.72S×166.07E,h200^{km},MB4.8*

*BJI **07** 07:33:33.3,10.90S×166.12E,h186^{km},mB5.0,mb5.0*

ISC 07 07:33:14.9±0.2,**11.64S**±0.04×**166.23E**±0.04,**h48**^{km}**, h48**^{km}±1.0^{km}**:pP-P,n157,**σ**1^{s}00**/125,**mb5.1**/66,**MS4.6**/22, **16C-4D,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	6.31	162	*i* P	P	07 34 52.0	+4.3
BKM				S	S	07 36 15.9	+17
DZM	Mont Dzumac	10.38	179	*e*P	P	07 35 44.6	+0.5
DZM				*e*S	S	07 37 34.3	-5.7
PMG	Port Moresby	18.88	275	P	P	07 37 36.2	+2.0
	1.0nm,0.3s,baz=76,slow=8.2,SNR=4.5						
PMG	Port Moresby	18.88	275	*e*P	P	07 37 36.1	+1.9
	58nm,1.0s						
KWAJ				*e*	P	07 37 59.6	+9.5
CTA	Charters Tower	20.96	244	⇑*i*P	P	07 37 58.2	+1.9
	21nm,0.8s						
CTA				*e*S	S	07 41 51.4	+9.3
CTA	Charters Tower	20.96	244	P	P	07 37 57.7	+1.4
	15nm,0.6s,baz=79,slow=9.7,SNR=32						
CTA				LR	LR	07 44 59.0	
	comp=Z,3µm,21.2s,MS4.6,baz=64,slow=34						
CTAO	Charters Tower	20.96	244	*e*P	P	07 37 58.0	+1.6
	34nm,0.8s						
CTAO				*e*		07 38 10.9	
WCZ	Waipu Caves	25.29	164	P	P	07 38 39.6	+1.0
RIV	Riverview	26.04	210	*e*P	P	07 38 49.3	+3.7
CNB	Canberra Magne	28.11	210	⇓*i*P	P	07 39 05.5	+1.0
	33nm,0.9s,mb5.0						
URZ	Urewera	28.24	162	P	P	07 39 05.4	-0.3
	8.8nm,0.6s,mb4.6,baz=1.5,slow=4.0,SNR=6.4						
URZ				LR	LR	07 48 38.8	
	comp=Z,2µm,21.7s,MS4.6,baz=187,slow=33						
BKZ	Black Stump Fm	28.90	163	P	P	07 39 09.9	-1.6
NNZ	Nelson	30.13	169	P	P	07 39 22.1	-0.4
STKA	Stephens Creek	30.35	225	⇑*i*P	P	07 39 25.2	+0.6
	25nm,0.7s,mb5.0						
STKA				*i* PCP	PcP	07 42 22.8	-1.0
STKA	Stephens Creek	30.35	225	P	P	07 39 25.2	+0.7
	28nm,0.7s,mb5.1,baz=37,slow=8.0,SNR=65						
STKA				PcP	PcP	07 42 22.6	-1.2
	10nm,0.9s,baz=39,slow=5.1,SNR=3.8						
STKA				ScP		07 46 07.5	
	2.3nm,0.7s,baz=2.7,slow=7.5,SNR=3.2						
STKA				LR	LR	07 50 47.7	
	comp=Z,3µm,20.6s,MS4.8,baz=42,slow=35						
LTZ	Lake Taylor	31.47	171	P	P	07 39 32.7	-1.6
WRAB	Tennant Creek	31.73	251	*e*P	P	07 39 36.2	-0.6
	36nm,1.1s,mb5.1						
WRAB				*e*	pP	07 39 46.9	-2.4
WB2	Warramunga Arr	31.73	251	⇑*i*P	P	07 39 36.3	-0.5
WB2				*i* PCP	PcP	07 42 26.6	-1.0
WB2				*e*S	S	07 44 42.5	+0.5
WB2				*e*PCS		07 46 10.0	
WRA	Warramunga Arr	31.74	251	P	P	07 39 36.5	-0.4
	27nm,0.9s,mb5.1,baz=85,slow=9.2,SNR=202						
WRA				PcP	PcP	07 42 26.7	-0.9
	4.0nm,0.6s,baz=79,slow=3.3,SNR=7.7						
WRA				ScP		07 46 12.0	
	5.1nm,1.2s,baz=77,slow=3.3,SNR=6.0						
WRA				LR	LR	07 51 18.3	
	comp=Z,1µm,20.1s,MS4.5,baz=65,slow=34						
TOO	Toolangi	31.82	212	⇑*i*P	P	07 39 38.1	+0.6
	17nm,0.8s,mb4.9						
TOO				*e*	pP	07 39 51.1	+1.1
RPZ	Rata Peaks	32.24	173	P	P	07 39 40.2	-0.8
	32nm,0.5s,mb5.4,baz=284,slow=3.4,SNR=38						
RPZ				LR	LR	07 50 59.5	
	comp=Z,2µm,21.5s,MS4.7,baz=340,slow=33						
ASAR	Alice Springs	32.96	244	P	P	07 39 46.8	-0.8
	16nm,0.7s,mb5.0,baz=68,slow=9.7,SNR=209						
ASAR				PcP	PcP	07 42 29.6	-1.3
	7.1nm,0.8s,baz=83,slow=3.1,SNR=10						
ASAR				ScP		07 46 15.9	
	3.1nm,0.9s,baz=87,slow=3.5,SNR=10						
ASAR				LR	LR	07 52 23.7	
	comp=Z,1µm,19.2s,MS4.5,baz=70,slow=35						
ASPA	Alice Springs	32.97	244	⇑*i*P	P	07 39 46.8	-0.7
ASPA				*i* sP	sP	07 40 01.6	-4.5
ASPA				*i* PCP	PcP	07 42 29.0	-1.9
KAKA	Kakadu	33.08	265	⇑*i*P	P	07 39 48.0	-0.6
	39nm,0.6s,mb5.5						
KAKA				*e*PCP	PcP	07 42 30.3	-1.0
AXZ	Alexandra	33.62	176	P	P	07 39 52.1	-0.9
RAR	Rarotonga	33.90	111	LR	LR	07 49 33.5	
	comp=Z,486nm,19.3s,MS4.2,baz=275,slow=29						
FITZ	Fitzroy Crossi	39.70	256	⇑*i*P	P	07 40 44.9	+0.5
	29nm,0.8s,mb5.1						
FITZ				*i* PCP	PcP	07 42 50.8	-0.3
FORT	Forrest	40.10	236	*e*P	P	07 40 48.8	+1.1
	74nm,0.7s,mb5.5						
FORT				*e*PCP	PcP	07 42 51.2	-1.1
TBI	Tubuai	43.67	112	*e*SS	SS	07 51 10.9	+19
	586nm,32.8s						
TBI				*e*L		07 51 54.3	
	2µm,30.2s						
TBI				*e*R		07 53 53.7	
	4µm,29.0s,baz=282						
KLBR	Kellerberrin	48.80	238	⇑*i*P	P	07 41 57.1	-0.4
	35nm,0.8s,mb5.4						
NWAO	Narrogin (SRO)	49.53	237	P	P	07 42 03.3	+0.1
	35nm,0.7s,mb5.5,baz=80,slow=7.5,SNR=20						
NWAO	Narrogin (SRO)	49.53	237	*e*P	P	07 42 03.2	0.0
	31nm,0.8s,mb5.4						
NWAO				*e*	pP	07 42 19.2	+3.0
MUN	Mundaring	50.17	238	⇓*i*P	P	07 42 08.4	+0.3
	34nm,0.8s,mb5.4						
MAJO	Matsushiro	54.71	332	*e*P	P	07 42 39.8	-2.1
	16nm,1.0s,mb5.0						
MAJO				*e*	pP	07 42 53.9	-1.2
MAT	Matsushiro	54.71	332	P	P	07 42 40.5	-1.4
MAT				S	S	07 50 08.0	-9.0
MAT	Matsushiro	54.71	332	P	P	07 42 41.0	-0.9
	9.7nm,0.8s,mb4.9						
MAT				*e*S	S	07 50 45.0	+28
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.4						
ASAJ	Asahikawa	59.51	340	P	P	07 43 14.8	-0.9
	comp=Z,13nm,0.8s,mb5.0,baz=214,slow=12,SNR=7.6						
SSE	Sheshan	60.60	316	⇑P	P	07 43 22.7	-0.7
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,142nm,5.7s						
NJ2	Nanjing	62.77	315	*e*P	P	07 43 37.7	-0.3
MDJ	Mudanjiang	65.09	332	P	P	07 43 52.0	-0.9
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,151nm,7.3s						
WHN	Wuhan	65.14	312	*e*P	P	07 43 52.0	-1.5
VNDA	Vanda	65.92	181	P	P	07 43 57.6	-0.1
	comp=Z,5.9nm,0.5s,mb4.9,baz=348,slow=7.1,SNR=26						
VNDA				LR	LR	08 09 01.0	
	comp=Z,372nm,20.1s,MS4.6,baz=41,slow=33						
CN2	Changchun	66.49	329	*e*P	P	07 44 01.5	-0.4
CN2				PCP	PcP	07 44 30.6	-0.5
CN2				*e*AP	pP	07 44 43.6	+28
CN2				*e*S	S	07 52 38.5	-8.8
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
IPM	Ipoh	66.82	280	⇑*e*P	P	07 44 04.5	+0.1
NIKO	Nikolski	67.80	16	*e*P	P	07 44 07.3	-2.7
KKTK	Khon Kaen	68.59	293	P	P	07 44 16.0	+0.6
ENH	Enshi	68.64	309	*e*P	P	07 44 14.5	-1.0
	comp=Z,55nm,1.0s,mb5.4						
GYA	Guiyang	69.14	304	P	P	07 44 18.7	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
BJT	Baijiatuau	69.23	321	*e*P	P	07 44 16.6	-2.4
	comp=Z,12nm,0.8s,mb4.9						
BJI	Beijing	69.24	321	P	P	07 44 18.7	-0.4
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
NST	Nakhon Sawan	70.82	291	P	P	07 44 29.0	0.0
XAN	Xi'an	70.87	312	P	P	07 44 28.7	-0.4
XAN				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
NANT	Nan	71.33	294	P	P	07 44 32.0	-0.1
KMI	Kunming	71.83	301	⇑*i*P	P	07 44 36.4	+1.4
KMI				PP	PP	07 47 20.0	+3.4
KMI				AMB	AMB		
	comp=Z,27nm,1.7s,mb4.9						
KMI				AMB	AMB		
	comp=Z,325nm,7.2s						
BDT	Bhumibol Dam	72.34	292	P	P	07 44 39.0	+0.9
CHRT	Chiangrai	72.50	295	⇑P	P	07 44 40.0	+1.0
HHC	Hu-ho-hao-te	72.59	320	*e*P	P	07 44 39.3	+0.1
HHC				S	S	07 53 40.1	-19
HHC				SCS	ScS	07 54 22.2	-17
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,232nm,5.1s						
CMAR	Chiang Mai Arr	72.78	294	P	P	07 44 41.8	+1.0
	comp=Z,33nm,0.8s,mb5.3,baz=121,slow=4.6,SNR=79						
CMAR				LR	LR	08 14 04.3	
	comp=Z,218nm,20.9s,MS4.4,baz=100,slow=34						
HIA	Hailar	73.11	330	*e*P	P	07 44 42.0	-0.1
	comp=Z,22nm,1.4s,mb4.9						
HIA				*e*	pP	07 44 55.5	-0.3
CD2	Chengdu	73.34	307	P	P	07 44 44.1	+0.2
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,340nm,8.1s						
BTO	Baotou	73.45	319	*e*P	P	07 44 45.4	+1.1
BTO				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
LZH	Lanzhou	75.50	312	*e*P	P	07 44 57.1	+0.8
QSPA	South Pole Qui	78.37	180	*e*P	P	07 45 10.9	-0.6
	comp=Z,44nm,1.0s,mb5.3						
QSPA				*e*	pP	07 45 24.6	-0.7
YAK	Yakutsk	78.79	343	P	P	07 45 13.4	-0.6
	comp=Z,25nm,0.8s,mb5.2						
RSO	Redoubt South	78.91	19	P	P	07 45 14.8	0.0
SONM	Songino Array	79.42	324	P	P	07 45 17.6	-0.2
	comp=Z,9.5nm,1.0s,mb4.7,baz=139,slow=4.9,SNR=43						
GTA	Gaotai	79.81	314	P	P	07 45 21.0	+0.9
GTA				PP	PP	07 48 24.9	+1.8
GTA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
GTA				AMB	AMB		
	comp=Z,234nm,6.8s						
PMR	Palmer	80.94	20	P	P	07 45 26.1	+0.5
	comp=Z,3.4nm,0.9s,mb4.3						
PMR				*e*	pP	07 45 39.5	0.0
SHL	Shillong	81.22	298	*e*P	P	07 45 23.0	-4.8
HOPS	Hopland	82.71	48	*e*P	P	07 45 35.2	0.0
	comp=Z,27nm,1.2s,mb5.2						
HOPS				*e*	pP	07 45 49.6	+0.4
IMA	Indian Mountai	82.94	15	*e*P	P	07 45 35.0	-0.9
	comp=Z,24nm,1.3s,mb5.1						
IMA				*e*	pP	07 45 50.8	+1.0
LSA	Lhasa	83.07	302	*e*P	P	07 45 38.2	+0.9
	comp=Z,24nm,1.2s,mb5.1						
LSA				*e*	pP	07 45 52.6	+1.4
ILAR	Eielson Array	83.92	18	P	P	07 45 39.0	-1.8
	comp=Z,2.0nm,0.6s,mb4.4,baz=233,slow=4.8,SNR=26						
ILAR				LR	LR	08 23 53.1	
	comp=Z,166nm,18.0s,MS4.5,baz=241,slow=36						
YBH	Yreka Blue Hor	83.96	45	P	P	07 45 41.7	+0.2
	comp=Z,4.0nm,0.6s,mb4.8,baz=237,slow=1.3,SNR=13						
HUMO	Hull Mountain	84.11	45	*e*P	P	07 45 44.6	+2.3
	comp=Z,11nm,1.3s,mb4.8						
HUMO				*e*	pP	07 45 57.5	+1.2
CMB	Columbia Colle	84.36	49	*e*P	P	07 45 42.2	-1.4
	comp=Z,3.5nm,0.6s,mb4.7						
CMB				*e*	pP	07 45 57.7	+0.1
MAW	Mawson	84.36	202	⇑*i*P	P	07 45 42.3	-0.6
	comp=Z,5.3nm,1.0s,mb4.6						
MAW	Mawson	84.36	202	P	P	07 45 42.7	-0.3
	comp=Z,6.6nm,1.1s,mb4.7,baz=109,slow=7.7,SNR=11						
MAW				LR	LR	08 17 36.9	
	comp=Z,305nm,21.7s,MS4.6,baz=78,slow=32						
BBB	Bella Bella	84.79	34	LR	LR	08 14 59.3	
	comp=Z,525nm,20.9s,MS4.9,baz=231,slow=30						
OMM	Old Mammoth Mi	85.27	50	*e*P	P	07 45 48.5	+0.3
OMM				*e*	pP	07 46 03.4	+1.2
MTUM	Tungsten Hills	85.51	51	*e*P	P	07 45 50.6	+1.2
MTUM				*e*	pP	07 46 03.9	+0.5
MOD	Modoc	85.71	46	*e*P	P	07 45 49.6	-0.6
	comp=Z,10nm,1.2s,mb4.9						
MOD				*e*	pP	07 46 04.9	+0.7
DAWY	Dawson	85.93	21	*e*P	P	07 45 49.5	-1.2
DAWY				*e*	pP	07 46 04.1	-0.7
NVAR	Mina Array Bea	86.04	50	P	P	07 45 52.0	+0.1
	comp=Z,2.5nm,0.7s,mb4.5,baz=217,slow=6.5,SNR=11						
NVAR				LR	LR	08 15 58.6	
	comp=Z,769nm,21.7s,MS5.1,baz=310,slow=30						
DLBC	Dease Lake	86.70	28	LR	LR	08 20 57.2	
	comp=Z,249nm,19.4s,MS4.6,baz=309,slow=33						
TPH	Tonopah	86.74	50	*e*P	P	07 45 55.3	-0.1
	comp=Z,1.4nm,0.6s,mb4.4						
TPH				*e*	pP	07 46 10.0	+0.5
GUN	Gumba	87.02	299	*e*P	P	07 45 57.1	+0.1
	comp=Z,92nm,1.0s,mb6.0						
WVOR	Wild Horse Val	87.05	46	*e*P	P	07 45 57.1	+0.3
	comp=Z,1.7nm,0.6s,mb4.5						
WVOR				*e*	pP	07 46 11.2	+0.3
RPW	Rockport	87.17	39	P	P	07 45 57.0	-0.2
PKI	Pulchoki	87.34	299	*e*P	P	07 45 58.5	0.0
	comp=Z,160nm,1.3s,mb6.1						
KKN	Kakani	87.50	299	*e*P	P	07 45 59.6	+0.3
	comp=Z,303nm,1.7s						
LDFC	Landfair	87.51	54	P	P	07 45 58.9	-0.3
LDFC				*e*	pP	07 46 13.8	+0.5
DMN	Daman	87.61	299	*e*P	P	07 46 00.2	+0.4
	comp=Z,171nm,1.0s						
NEN	Nelson	87.88	53	P	P	07 45 59.7	-1.2
NEN				*e*	pP	07 46 16.1	+1.0
GKN	Gorkha	88.11	299	*e*P	P	07 46 01.5	-0.7
	comp=Z,138nm,1.0s,mb6.1						
KOLN	Koldanda	88.94	298	*e*P	P	07 46 05.6	-0.6
	comp=Z,102nm,1.2s,mb6.0						
WMQ	Urumqi	89.85	315	⇑P	P	07 46 10.0	-0.1
WMQ				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,54nm,9.6s						
NEW	Newport	89.88	41	P	P	07 46 10.9	+0.8
	comp=Z,3.1nm,0.7s,mb4.7,baz=267,slow=7.9,SNR=6.9						
NEW				LR	LR	08 18 43.5	
	comp=Z,380nm,21.8s,MS4.8,baz=229,slow=30						
INK	Inuvik	90.30	19	LR	LR	08 23 52.3	
	comp=Z,261nm,19.3s,MS4.7,baz=219,slow=34						
TUC	Tucson	90.30	57	*e*P	P	07 46 14.1	+1.7
	comp=Z,18nm,2.2s,mb5.0						
TUC				*e*	pP	07 46 27.8	+1.2
HLID	Hailey	90.34	46	*e*P	P	07 46 12.0	-0.4
	comp=Z,9.1nm,1.3s,mb5.0						
HLID				*e*	pP	07 46 27.5	+0.9
DUG	Dugway	90.62	49	*e*P	P	07 46 14.8	+1.0
	comp=Z,30nm,1.8s,mb5.3						
DUG				*e*	pP	07 46 28.2	+0.2
MVU	Marysvale	90.65	51	P	P	07 46 16.6	+2.6
	comp=Z,25nm,1.8s,mb5.2						
MVU				*e*	pP	07 46 29.4	+1.3
MSU	Marysvale	90.68	51	*e*P	P	07 46 17.1	+3.0
MSU				*e*	pP	07 46 30.6	+2.3
HVU	Hansel Valley	91.05	48	P	P	07 46 17.4	+1.6
HVU				*e*	pP	07 46 30.2	+0.3
HYB	Hyderabad	91.25	287	*i* P	P	07 46 18.0	+0.8
HYB	Hyderabad	91.25	287	*e*P	P	07 46 18.0	+0.8
SYO	Syowa Base	91.36	197	⇑P	P	07 46 14.9	-1.7
SYO	Syowa Base	91.36	197	⇓P	pP	07 46 28.3	-2.5
JLU	Jordanelle	91.73	49	P	P	07 46 21.2	+2.3
JLU				*e*	pP	07 46 33.0	-0.1
MCMT	McKenzie Canyo	91.76	45	*e*P	P	07 46 20.3	+1.3
HWUT	Hardware Ranch	91.88	48	P	P	07 46 16.5	-3.1
	comp=Z,10nm,1.5s,mb4.9						
HWUT				*e*	pP	07 46 32.8	-1.0
CHMT	Chamberlain Mo	92.02	43	*e*P	P	07 46 21.1	+1.1
CHMT				*e*	pP	07 46 33.0	-1.2
BOZ	Bozeman (W)	92.80	44	*e*P	P	07 46 23.6	-0.1
	comp=Z,2.1nm,0.8s,mb4.6						
PV10	Paradox Valley	93.05	52	*e*P	P	07 46 26.2	+1.2
PV10				*e*	pP	07 46 39.6	+0.4
PV01	Paradox Valley	93.36	52	P	P	07 46 26.9	+0.5
PDAR	Pinedale Array	93.60	47	P	P	07 46 27.6	+0.2
	comp=Z,0.9nm,0.9s,mb4.2,baz=264,slow=2.7,SNR=7.0						
PDAR				PKKPbc		08 03 32.2	
	comp=Z,0.6nm,0.8s,baz=79,slow=7.6,SNR=6.8						
PDAR				LR	LR	08 21 51.8	
	comp=Z,202nm,20.9s,MS4.6,baz=244,slow=31						
MKAR	Makanchi Array	94.28	317	P	P	07 46 30.2	-0.1
	comp=Z,22nm,0.7s,mb5.7,baz=93,slow=5.4,SNR=69						
MKAR				PKKPbc		08 03 28.0	
	comp=Z,0.5nm,0.6s,baz=270,slow=2.4,SNR=4.1						
MKAR				LR	LR	08 28 44.2	
	comp=Z,70nm,18.8s,MS4.2,baz=99,slow=35						
YKA	Yellowknife Ar	95.27	27	P	P	07 46 34.6	+0.1
	comp=Z,0.6nm,0.5s,mb4.3,baz=258,slow=4.6,SNR=17						
YKA				LR	LR	08 22 27.8	
	comp=Z,222nm,21.1s,MS4.6,baz=265,slow=31						
TXAR	Lajitas Array	95.69	61	P	P	07 46 36.8	-0.5
	comp=Z,0.5nm,0.7s,mb4.0,baz=232,slow=3.7,SNR=9.0						
TXAR				PP	PP	07 50 33.3	+1.9
	comp=Z,0.3nm,0.9s,baz=207,slow=8.1,SNR=2.9						
TXAR				PKKPbc		08 03 28.1	
	comp=Z,0.2nm,0.6s,baz=91,slow=4.5,SNR=4.4						
TXAR				LR	LR	08 22 10.6	
	comp=Z,398nm,20.2s,MS4.9,baz=195,slow=31						
TXAR	Lajitas Array	95.69	61	P	P	07 46 36.8	-0.5
TXAR				PP	PP	07 50 33.3	+1.9
TXAR				PKKPbc		08 03 28.1	
TXAR				LR	LR	08 22 10.6	
CLNB	Carlsbad	96.02	58	P	P	07 46 33.2	-5.4
CLNB				*e*	pP	07 46 45.3	-7.5
SNAA	Sanae	96.56	183	⇓*i*	P	07 46 37.0	-3.2
KURK	Kurchatov	97.40	320	P	P	07 46 44.2	-0.3
	comp=Z,36nm,2.2s,mb5.4						
KURK				*e*	pP	07 46 57.4	-1.3
VNA1	Neumayer--Stat	97.83	182	⇑*i*	P	07 46 42.3	-3.7
USHA	Ushuaia	99.46	151	LR	LR	08 22 01.2	
	comp=Z,433nm,19.1s,MS5.0,baz=221,slow=30						
ARCES	ARCESS Array B	117.02	346	PKP	PKPdf	07 51 53.6	-0.6
	comp=Z,3.5nm,0.8s,baz=79,slow=1.3,SNR=9.4						
LPAZ	La Paz	119.50	116	PKP	PKPdf	07 52 00.7	+0.4
	comp=Z,0.7nm,0.6s,baz=228,slow=1.1,SNR=5.8						
KAF	Kangasniemi	121.96	339	*e*p	PKPdf	07 52 05.2	+1.2
	comp=Z,0.5nm,0.3s						
FINES	FINESS Array B	122.49	339	PKP	PKPdf	07 52 04.3	-0.7

	comp=Z,0.6nm,0.4s,baz=96,slow=3.0,SNR=12						
FINES	**FINESS Array B**	**122.49**	**339**	PKP	PKPdf	07 52 04.3	-0.7
NB2	**NORSAR Subarra**	**127.39**	**345**	PKPdf	PKPdf	07 52 14.3	-0.2
	comp=Z,0.4nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**127.39**	**345**	PKP	PKPdf	07 52 13.6	-0.9
	comp=Z,0.8nm,0.7s,baz=34,slow=1.9,SNR=6.9						
BRTR	**Keskin Array B**	**129.71**	**312**	PP	PP	07 54 29.8	-5.2
	comp=Z,0.5nm,0.4s,baz=90,slow=7.2,SNR=3.6						
BRTR				SKPbc		07 55 46.9	
	comp=Z,1.3nm,0.9s,baz=31,slow=8.4,SNR=5.2						
GERES	**GERESS Array B**	**136.44**	**334**	PKP	PKPdf	07 52 32.8	+1.0
	comp=Z,0.9nm,0.8s,baz=90,slow=2.7,SNR=7.9						
GERES				SKPbc		07 56 07.3	
	comp=Z,0.4nm,0.5s,baz=90,slow=5.3,SNR=4.6						
BDFB	**Brasilia**	**136.60**	**128**	PKP	PKPdf	07 52 33.7	+0.8
	comp=Z,0.9nm,0.4s,baz=167,slow=4.1,SNR=3.2						
BDFB				SKPbc		07 56 05.8	
	comp=Z,9.1nm,1.1s,baz=52,slow=4.9,SNR=6.1						
LDF	**La Druitiere**	**141.44**	**345**	*e*PKP1	PKPdf	07 52 38.6	-2.2
SSF	**Saint Saulge**	**141.80**	**341**	*e*PKP1	PKPdf	07 52 38.5	-3.0
MBDF	**Montbardon**	**142.61**	**336**	*e*PKP1	PKPdf	07 52 40.2	-2.8
	comp=Z,7.7nm,1.0s						
ORIF	**Oris-en-Rattie**	**142.80**	**337**	*e*PKP1	PKPdf	07 52 39.6	-3.7
	comp=Z,10nm,0.9s						
ORIF				*e*R			
	comp=Z,262nm,20.0s						
SBF	**Sospel**	**143.04**	**334**	*e*PKP1	PKPbc	07 52 39.7	-2.0
	comp=Z,18nm,0.8s						
MFF	**Saint Martin d**	**143.29**	**344**	*e*PKP1	PKPbc	07 52 40.9	-1.5
VIVF	**Saint-Julien-l**	**143.31**	**338**	*e*PKP1	PKPbc	07 52 41.4	-1.1
PGF	**Pioggiola**	**143.38**	**331**	*e*PKP1	PKPbc	07 52 41.1	-1.7
	comp=Z,17nm,1.0s						
FRF	**La Foret Royal**	**143.62**	**335**	*e*PKP1	PKPbc	07 52 41.9	-1.6
	comp=Z,9.0nm,0.9s						
SMRF	**Simiane la Rot**	**143.71**	**336**	*e*PKP1	PKPbc	07 52 42.9	-0.8
LMR	**La Mourre**	**143.86**	**335**	*e*PKP1	PKPbc	07 52 42.8	-1.4
	comp=Z,20nm,0.9s						
CAF	**Calviac**	**144.16**	**341**	*e*PKP1	PKPbc	07 52 44.3	-0.7
LASF	**Ste Croix**	**144.28**	**338**	*e*PKP1	PKPbc	07 52 44.8	-0.6
	comp=Z,20nm,0.9s						
LFF	**La Frestale**	**144.56**	**342**	*e*PKP1	PKPbc	07 52 45.3	-0.8
MTLF	**Montolieu**	**145.51**	**339**	*e*PKP1	PKPbc	07 52 48.8	+0.1
	comp=Z,17nm,0.7s						
ETSF	**Etsaut**	**146.80**	**342**	*e*PKP1	PKPbc	07 52 54.5	+2.7
	comp=Z,11nm,0.7s						
ESDC	**Sonseca Array**	**150.75**	**344**	PKPbc	PKPdf	07 53 02.8	+6.2
	comp=Z,0.5nm,0.4s,baz=6.7,slow=2.5,SNR=7.4						
KIC	**Kosan Boka**	**169.66**	**240**	*e*P	PKPab	07 54 33.1	-0.8
	comp=Z,57nm,1.0s						
LIC	**Lamto**	**169.83**	**239**	*e*P	PKPab	07 54 34.1	-0.5
	comp=Z,60nm,1.2s						
TIC	**Toumodi**	**170.04**	**241**	*e*P	PKPab	07 54 35.0	-0.6
	comp=Z,67nm,0.9s						

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*NEIC **07** 07:36:29.1, 38.06S×176.11E, h179^{km}, After WEL.*

WEL 07 07:36:29.1±0.3**, 38.05S×176.13E, h178**^{km}±2^{km}**, ML3.7**/4**, 2C, Error ellipse: s-maj=3.3km s-min=3.0km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.80**	**105**	PN	P	07 36 55.2	-0.4
URZ				SN	S	07 37 15.4	-0.6
URZ	**Urewera**	**0.80**	**105**	*e*P	P	07 36 55.2	-0.4
MWZ	**Matawai**	**1.14**	**105**	PN	P	07 36 58.0	0.0
MWZ				SN	S	07 37 19.6	-0.8
MWZ	**Matawai**	**1.14**	**105**	P	P	07 36 58.0	0.0
BKZ	**Black Stump Fm**	**1.15**	**166**	⇑PN	P	07 36 57.9	-0.2
BKZ				SN	S	07 37 19.6	-0.9
BKZ	**Black Stump Fm**	**1.15**	**166**	P	P	07 36 57.9	-0.2
BKZ				S	S	07 37 19.6	-0.9
NGZ	**Ngauruhoe**	**1.20**	**200**	PN	P	07 36 58.7	+0.2
NGZ	**Ngauruhoe**	**1.20**	**200**	P	P	07 36 58.7	+0.2
TUVZ	**Tukino**	**1.27**	**197**	PN	P	07 36 59.0	-0.2
TUVZ				SN	S	07 37 22.6	+0.2
TUVZ	**Tukino**	**1.27**	**197**	P	P	07 36 59.0	-0.2
TUVZ				S	S	07 37 22.6	+0.2
MOVZ	**Moawhango**	**1.39**	**192**	PN	P	07 36 59.4	-0.8
MOVZ				SN	S	07 37 22.5	-1.8
KNZ	**Kokohu**	**1.55**	**129**	PN	P	07 37 01.7	-0.1
KNZ				SN	S	07 37 26.0	-1.0
KNZ	**Kokohu**	**1.55**	**129**	*e*P	P	07 37 01.7	-0.2
PUZ	**Puketiti**	**1.68**	**91**	PN	P	07 37 02.6	-0.5
PUZ				SN	S	07 37 28.1	-1.2
PUZ	**Puketiti**	**1.68**	**91**	*e*P	P	07 37 02.6	-0.5
PUZ				S	S	07 37 28.1	-1.2
MXZ	**Matakaoa Point**	**1.79**	**75**	PN	P	07 37 03.8	-0.4
MXZ				SN	S	07 37 30.9	-0.4
MXZ	**Matakaoa Point**	**1.79**	**75**	P	P	07 37 03.8	-0.5
TSZ	**Takapari Road**	**2.01**	**184**	⇑PN	P	07 37 05.4	-1.2
TSZ				SN	S	07 37 33.0	-2.4
TSZ	**Takapari Road**	**2.01**	**184**	P	P	07 37 05.4	-1.1
PWZ	**Pawanui**	**2.06**	**164**	PN	P	07 37 06.3	-0.8
PWZ				SN	S	07 37 35.4	-0.9
PWZ	**Pawanui**	**2.06**	**164**	P	P	07 37 06.3	-0.8
BFZ	**Birch Farm**	**2.63**	**178**	PN	P	07 37 11.7	-2.1
BFZ				SN	S	07 37 44.0	-4.2
BFZ	**Birch Farm**	**2.63**	**178**	*e*P	P	07 37 11.7	-2.1
MRZ	**Mangatainoka R**	**2.64**	**189**	PN	P	07 37 11.4	-2.5
MRZ				SN	S	07 37 43.8	-4.7
MRZ	**Mangatainoka R**	**2.64**	**189**	*e*P	P	07 37 11.4	-2.5
KIW	**Kapiti Island**	**2.96**	**198**	*e*PN	P	07 37 14.2	-3.6
MTW	**Mount Morrison**	**3.14**	**189**	PN	P	07 37 16.4	-3.6
MTW				SN	S	07 37 53.6	-5.7
MTW	**Mount Morrison**	**3.14**	**189**	P	P	07 37 16.4	-3.6
MTW				S	S	07 37 53.6	-5.7
CAW	**Cannon Point**	**3.16**	**195**	PN	P	07 37 17.0	-3.3
CAW				SN	S	07 37 54.7	-5.0
CAW	**Cannon Point**	**3.16**	**195**	P	P	07 37 17.0	-3.3
MRW	**Makara Radio**	**3.36**	**199**	*e*PN	P	07 37 19.3	-3.5
MSWZ	**Moikau Station**	**3.43**	**191**	PN	P	07 37 19.7	-3.9
MSWZ				SN	S	07 37 58.9	-6.8
TUWZ	**Tuamarina**	**3.77**	**206**	PN	P	07 37 23.9	-4.1
TUWZ				SN	S	07 38 07.1	-6.3
NNZ	**Nelson**	**3.81**	**213**	PN	P	07 37 24.6	-3.9
NNZ				SN	S	07 38 08.4	-5.8
NNZ	**Nelson**	**3.81**	**213**	*e*P	P	07 37 24.6	-3.9
NNZ				S	S	07 38 09.2	-5.0
QRZ	**Quartz Range**	**3.93**	**224**	PN	P	07 37 27.1	-2.9
THZ	**Tophouse**	**4.46**	**213**	PN	P	07 37 32.5	-4.3
THZ				SN	S	07 38 23.3	-5.8
THZ	**Tophouse**	**4.46**	**213**	*e*P	P	07 37 33.1	-3.7
KHZ	**Kahutara**	**4.79**	**204**	PN	P	07 37 36.4	-4.7
KHZ				SN	S	07 38 29.8	-7.0
KHZ	**Kahutara**	**4.79**	**204**	*e*P	P	07 37 36.4	-4.7
LTZ	**Lake Taylor**	**5.57**	**211**	PN	P	07 37 45.8	-5.4
LTZ	**Lake Taylor**	**5.57**	**211**	*e*P	P	07 37 45.8	-5.4

DJA 07 07:54:33.5±0.9**, 8.72S×117.04E, h2**^{km}**, MD5.6**/4**, ML4.3**/3**, 6C-2D, Error ellipse: s-maj=34.5km s-min=17.9km az=5.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.94**	**284**	⇑*i*Pn	Pn	07 54 50.7	-2.9
	498nm,0.2s						
KEDI				⇑*i*Sn	Sn	07 55 03.5	-4.3
RATI	**Rata**	**1.49**	**270**	⇑*i*Pn	Pn	07 54 58.2	-3.2
	116nm,0.2s						
RATI				⇑*i*Sn	Sn	07 55 17.0	-4.6
INGI	**Ingas**	**1.87**	**267**	⇓*i*Pn	Pn	07 55 04.1	-2.8
	484nm,0.2s						
INGI				⇑*i*Sn	Sn	07 55 25.4	-6.0
KELI	**Kelakatan**	**2.57**	**281**	⇑*i*Pn	Pn	07 55 14.1	-2.7
KELI				⇓*i*Sn	Sn	07 55 44.0	-5.0

DJA 07 07:57:44.9±0.9**, 9.63S×114.02E, h30**^{km}±35^{km}**, MD5.0**/4**, ML4.2**/4**, 2C-4D, Error ellipse: s-maj=37.8km s-min=14.9km az=21.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**1.38**	**54**	⇓*i*Pn	Pn	07 58 07.5	-0.9
	399nm,0.2s						
INGI				⇓*i*Sn	Sn	07 58 24.0	-1.8
KELI	**Kelakatan**	**1.48**	**18**	*e*Pn	Pn	07 58 08.5	-1.4
	330nm,0.2s						
KELI				⇑*i*Sn	Sn	07 58 26.9	-1.6
RATI	**Rata**	**1.75**	**59**	*e*Pn	Pn	07 58 12.0	-1.7
	135nm,0.2s						
RATI				⇓*i*Sn	Sn	07 58 32.4	-2.8
KEDI	**Kedomdong**	**2.36**	**61**	⇓*i*Pn	Pn	07 58 21.3	-1.2
	62nm,0.2s						
KEDI				⇑*i*Sn	Sn	07 58 46.3	-4.5

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*IDC **07** 08:12:47.2±0.7, 47.11S×11.14W, mb4.4/12, mb1 4.5/12, mb1mx4.3/17, MS4.2/8, Ms1 4.2/8, ms1mx4.0/14, Error ellipse: s-maj=24.6km s-min=17.3km az=6.0*

*NEIC **07** 08:12:48.7±0.3, 47.07S×11.15W, h10^{km}, mb4.8/5, Error ellipse: s-maj=11.3km s-min=10.0km az=198.0*

ISC 07 08:12:47.3±0.5**, 47.06S**±0.09×**11.1W**±0.1**, h10**^{km}**, n33, σ1^{s}02**/23**, mb4.5**/16**, MS4.2**/8**, 1C-2D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.70**	**178**	⇓*i*	**P**	**08 18 02.1**	**+2.5**
SNAA	**Sanae**	**25.00**	**174**	⇓*i*	**P**	**08 18 11.3**	**-0.8**
SUR	**Sutherland**	**28.38**	**70**	P	**P**	**08 18 43.6**	**0.0**
	20nm,1.0s,mb4.7,baz=214,slow=11,SNR=3.9						
SYO	**Syowa Base**	**33.21**	**149**	⇑P	**P**	**08 19 27.0**	**+1.0**
TSUM	**Tsumeb**	**36.37**	**50**	P	**P**	**08 19 52.8**	**-0.7**
	10nm,0.6s,mb4.9,baz=203,slow=9.4,SNR=24						
TSUM				LR	LR	08 30 52.5	
	comp=Z,186nm,21.0s,MS3.8,baz=103,slow=30						
TRQA	**Tornquist**	**37.92**	**265**	P	**P**	**08 20 05.3**	**-1.0**
	9.5nm,1.0s,mb4.5						
CPUP	**Villa Florida**	**41.69**	**283**	P	**P**	**08 20 37.2**	**-0.5**
	3.0nm,0.8s,mb4.0,baz=127,slow=5.5,SNR=7.5						
CPUP				LR	LR	08 36 42.8	
	comp=Z,102nm,18.2s,MS3.7,baz=187,slow=34						
CPUP	**Villa Florida**	**41.69**	**283**	P	**P**	**08 20 37.2**	**-0.5**
CPUP				LR	LR	08 36 42.8	
MAW	**Mawson**	**41.74**	**146**	P	**P**	**08 20 36.7**	**-0.8**
	4.7nm,0.9s,mb4.1,baz=260,slow=7.2,SNR=7.7						
PLCA	**Paso Flores**	**42.37**	**256**	P	**P**	**08 20 42.9**	**-0.2**
	1.2nm,0.9s,mb3.5,baz=132,slow=7.6,SNR=3.2						
PLCA				LR	LR	08 34 37.5	
	comp=Z,252nm,19.2s,MS4.1,baz=121,slow=31						
PLCA	**Paso Flores**	**42.37**	**256**	P	**P**	**08 20 42.9**	**-0.2**
PLCA				LR	LR	08 34 37.5	
QSPA	**South Pole Qui**	**43.20**	**180**	*e*P	**P**	**08 20 49.3**	**-0.1**
	20nm,0.9s,mb4.8						
BDFB	**Brasilia**	**43.74**	**303**	P	**P**	**08 20 54.7**	**+0.2**
	8.6nm,0.9s,mb4.5,baz=155,slow=5.4,SNR=10						
BDFB				LR	LR	08 35 26.0	
	comp=Z,472nm,19.8s,MS4.4,baz=169,slow=31						
LSZ	**Lusaka**	**45.45**	**59**	*e*P	**P**	**08 21 07.5**	**-0.8**
	47nm,1.6s,mb5.1						
LVC	**Limon Verde**	**51.98**	**277**	P	**P**	**08 21 58.8**	**0.0**
	9.0nm,0.8s,mb4.7,baz=117,slow=5.7,SNR=13						
LVC	**Limon Verde**	**51.98**	**277**	*e*P	**P**	**08 21 58.7**	**-0.1**
	5.7nm,0.5s,mb4.8						
VNDA	**Vanda**	**55.62**	**178**	P	**P**	**08 22 24.1**	**-0.8**
	3.6nm,1.0s,mb4.3,baz=206,slow=6.7,SNR=5.7						
VNDA				LR	LR	08 44 24.7	
	comp=Z,336nm,18.7s,MS4.5,baz=280,slow=34						
VNDA	**Vanda**	**55.62**	**178**	P	**P**	**08 22 24.1**	**-0.8**
VNDA				LR	LR	08 44 24.7	
LPAZ	**La Paz**	**55.87**	**283**	P	**P**	**08 22 25.6**	**-1.8**
	1.1nm,0.7s,mb4.0,baz=124,slow=6.3,SNR=4.8						
KMBO	**Kilima Mbogo**	**62.09**	**58**	LR	LR	08 47 34.5	
	comp=Z,252nm,18.6s,MS4.4,baz=98,slow=34						
OTAV	**Otavalo**	**74.89**	**287**	*e*P	**P**	**08 24 31.1**	**+0.9**
	7.7nm,0.9s,mb4.6						
ROSC	**El Rosal**	**75.76**	**293**	P	**P**	**08 24 36.6**	**+1.4**
	8.6nm,1.2s,mb4.6,baz=5.8,slow=23,SNR=5.7						
ROSC				LR	LR	08 56 03.7	
	comp=Z,146nm,18.3s,MS4.3,baz=102,slow=34						
ESDC	**Sonseca Array**	**86.59**	**6**	P	**P**	**08 25 33.5**	**+1.8**
	0.4nm,0.3s,mb4.1,baz=194,slow=5.3,SNR=4.1						
ESDC				LR	LR	08 59 03.8	
	comp=Z,91nm,21.4s,MS4.2,baz=30,slow=32						
JTS	**JuntasAbangare**	**86.67**	**289**	P	**P**	**08 25 33.2**	**+0.6**
	5.9nm,0.8s,mb4.9,baz=78,slow=0.9,SNR=4.3						
PDAR	**Pinedale Array**	**124.57**	**298**	PKP	PKPdf	08 31 47.0	-2.7
	0.6nm,0.7s,baz=135,slow=2.1,SNR=6.7						
NVAR	**Mina Array Bea**	**127.60**	**289**	PKP	PKPdf	08 31 54.0	-1.6
	0.2nm,0.5s,baz=252,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**136.07**	**319**	PKP	PKPdf	08 32 08.7	-2.1
	1.2nm,0.8s,baz=107,slow=1.8,SNR=8.8						
YKA	**Yellowknife Ar**	**136.07**	**319**	PKP	PKPdf	08 32 08.7	-2.1
SONM	**Songino Array**	**138.78**	**65**	PKP	PKPdf	08 32 15.2	-1.0
	1.6nm,1.2s,baz=225,slow=1.7,SNR=4.7						
DLBC	**Dease Lake**	**142.59**	**311**	PKhKP		08 32 17.4	
	1.7nm,0.9s,baz=155,slow=26,SNR=2.9						
DLBC	**Dease Lake**	**142.59**	**311**	PKP	PKPdf	08 32 17.4	-5.1
INK	**Inuvik**	**144.44**	**327**	PKP	PKPdf	08 32 22.1	-3.3
	11nm,1.0s,baz=94,slow=3.4,SNR=7.6						
ILAR	**Eielson Array**	**150.37**	**323**	PKPbc	PKPdf	08 32 38.6	+3.4
	5.2nm,0.7s,baz=351,slow=1.0,SNR=55						

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*NEIC **07** 08:25:14.5±1.4, 15.23S×175.30W, h245^{km}, Error ellipse: s-maj=86.1km s-min=12.4km az=149.0*

*IDC **07** 08:25:15.0±8.9, 15.15S×175.34W, h246^{km}±81^{km}, mb3.5/6, mb1 3.8/6, mb1mx3.5/16, Error ellipse: s-maj=105.0km s-min=18.7km az=147.0*

ISC 07 08:25:14.1±2.3**, 15.1S**±0.9×**175.4W**±0.6**, h250**^{km}**, n12, σ0^{s}24**/7**, mb3.6**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**47.99**	**257**	*e*P	**P**	**08 33 29.9**	**-0.2**
	3.6nm,0.9s,mb3.7						
WRA	**Warramunga Arr**	**48.00**	**257**	P	**P**	**08 33 30.2**	**0.0**
	1.6nm,0.7s,mb3.5,baz=90,slow=7.7,SNR=28						
WRA				PcP	PcP	08 34 53.8	-0.7
	0.3nm,0.9s,baz=96,slow=3.8,SNR=5.8						
ASAR	**Alice Springs**	**48.34**	**252**	P	**P**	**08 33 33.0**	**+0.3**
	12nm,0.6s,mb4.4,baz=87,slow=8.2,SNR=170						
YBH	**Yreka Blue Hor**	**74.54**	**38**	P	**P**	**08 36 27.7**	**+0.4**
	1.0nm,0.5s,mb3.7,baz=151,slow=3.3,SNR=4.8						
NVAR	**Mina Array Bea**	**75.41**	**43**	P	**P**	**08 36 32.3**	**0.0**
	0.4nm,0.6s,mb3.2,baz=229,slow=9.6,SNR=3.6						
ILAR	**Eielson Array**	**82.51**	**12**	P	**P**	**08 37 09.7**	**0.0**
	0.5nm,0.4s,mb3.6,baz=219,slow=5.4,SNR=9.7						
PDAR	**Pinedale Array**	**83.34**	**43**	P	**P**	**08 37 14.1**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=180,slow=1.5,SNR=5.7						
ARCES	**ARCESS Array B**	**124.00**	**351**	PKP	PKPdf	08 43 42.5	+0.3
	1.6nm,0.9s,baz=45,slow=1.3,SNR=5.8						
FINES	**FINESS Array B**	**131.18**	**346**	PKP	PKPdf	08 43 57.1	+1.0
	1.8nm,1.1s,baz=18,slow=4.4,SNR=4.3						
BRTR	**Keskin Array B**	**144.65**	**320**	PKP	PKPdf	08 44 22.9	+1.9
	1.8nm,0.5s,baz=87,slow=3.5,SNR=9.6						
GERES	**GERESS Array B**	**145.49**	**349**	PKPbc	PKPbc	08 44 24.5	+1.4
	0.6nm,0.5s,slow=2.7,SNR=5.8						
DAVOX	**Davos**	**148.07**	**353**	PKPbc	PKPdf	08 44 31.9	+5.4
	2.1nm,0.6s,baz=39,slow=3.5,SNR=3.6						

DJA 07 08:43:57.5±0.9**, 9.37S×114.11E, h64**^{km}±25^{km}**, MD5.2**/4**, ML3.8**/4**, 4C-4D, Error ellipse: s-maj=34.4km s-min=13.6km az=23.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**1.17**	**62**	⇑*i*Pn	P	08 44 18.8	+0.7
	272nm,0.2s						
INGI				⇑*i*Sn	S	08 44 29.7	-3.8
KELI	**Kelakatan**	**1.21**	**18**	⇓*i*Pn	P	08 44 17.5	-1.3
	86nm,0.2s						
KELI				⇓*i*Sn	S	08 44 34.3	-0.3
RATI	**Rata**	**1.55**	**65**	⇑*i*Pn	P	08 44 21.9	-1.6
	104nm,0.2s						
RATI				⇑*i*Sn	S	08 44 40.4	-2.3
KEDI	**Kedomdong**	**2.17**	**66**	⇓*i*Pn	P	08 44 30.7	-1.4
	32nm,0.2s						
KEDI				⇓*i*Sn	S	08 44 56.5	-1.3

WEL 07 09:00:17.5±0.3**, 45.06S×167.42E, h88**^{km}±3^{km}**, ML3.5**/4**, 2C-1D, Error ellipse: s-maj=2.3km s-min=1.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**204**	⇑PN	P	09 00 31.3	-0.4
DCZ				SN	S	09 00 42.1	-0.4
MLZ	**Mavora Lakes**	**0.61**	**119**	⇑PN	P	09 00 32.8	-0.3
MLZ				SN	S	09 00 43.9	-0.7
WHZ	**Wether Hill Ro**	**0.92**	**156**	PN	P	09 00 35.8	-0.4
WHZ				SN	S	09 00 49.6	-0.8
WKZ	**Wanaka**	**1.16**	**79**	PN	P	09 00 39.1	-0.1
WKZ				SN	S	09 00 55.2	-0.2
AXZ	**Alexandra**	**1.37**	**100**	PN	P	09 00 41.4	-0.5
AXZ				SN	S	09 00 58.5	-1.5
JCZ	**Jackson Bay**	**1.37**	**45**	PN	P	09 00 41.3	-0.6
JCZ				SN	S	09 00 58.7	-1.4
TUZ	**Tuapeka**	**1.80**	**121**	PN	P	09 00 46.5	-0.9
TUZ				SN	S	09 01 07.4	-2.1
LBZ	**Lake Benmore**	**2.08**	**72**	PN	P	09 00 49.3	-1.9
LBZ				SN	S	09 01 13.8	-2.4
ODZ	**Otahua Downs**	**2.29**	**91**	⇓PN	P	09 00 52.3	-1.8
ODZ				SN	S	09 01 17.4	-3.9

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*IDC **07** 09:21:23.0±0.7, 23.09N×142.61E, h106^{km}±5^{km}, mb3.9/14, mb1 4.0/15, mb1mx3.9/22, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=21.9km s-min=9.0km az=87.0*

*NEIC **07** 09:21:23.0±0.3, 23.10N×142.63E, mb4.5/8, Error ellipse: s-maj=16.7km s-min=6.7km az=83.0*

*JMA **07** 09:21:24.4±0.1, 23.39N×142.56E, h149^{km}, M5.0*

ISC 07 09:21:20.9±1.1**, 23.19N**±0.05×**142.4E**±0.2**, h104**^{km}±10^{km}**, h106**^{km}±1.3^{km}**:pP-P, n50, σ1^{s}36**/56**, mb4.3**/18**, 1C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.43**	**356**	P	**P**	**09 22 15.3**	**+1.7**
JHHJ				*e*S	**S**	**09 22 54.3**	**+0.8**
CBIJ	**Chichi jima**	**3.89**	**357**	P	**P**	**09 22 21.4**	**+1.5**
	91nm,0.3s,baz=126,slow=16,SNR=64						
CBIJ				S	**S**	**09 23 05.5**	**+0.6**
	421nm,0.3s,baz=110,slow=24,SNR=28						
CBIJ	**Chichi jima**	**3.89**	**357**	P	**P**	**09 22 21.4**	**+1.5**
CBIJ				*e*S	**S**	**09 23 05.4**	**+0.6**
BSO1	**Boso 1**	**11.49**	**354**	P	**P**	**09 24 03.0**	**+0.2**
BSO1				*e*S	**S**	**09 26 03.9**	**-5.5**
BSO3	**Boso 3**	**11.69**	**352**	*e*S	**S**	**09 26 12.7**	**-1.4**
JIM2	**Oshima 3**	**11.78**	**348**	P	**P**	**09 24 06.9**	**+0.3**
BSO4	**Boso 4**	**11.90**	**352**	*e*S	**S**	**09 26 16.1**	**-3.0**
TATJ	**Tateyama 2**	**12.00**	**350**	P	**P**	**09 24 10.1**	**+0.5**
TATJ				*e*S	**S**	**09 26 18.5**	**-3.1**
JOD2	**Odawara 2**	**12.38**	**347**	P	**P**	**09 24 14.1**	**-0.4**
JYN	**Shimob**	**12.72**	**345**	P	**P**	**09 24 18.8**	**-0.2**
JHU	**Hanno**	**12.91**	**348**	P	**P**	**09 24 19.7**	**-1.8**
JHU				*e*S	**S**	**09 26 34.3**	**-8.8**
JRY	**Ryogami san**	**13.14**	**347**	P	**P**	**09 24 23.1**	**-1.4**
JRY				*e*S	**S**	**09 26 41.7**	**-6.8**
JNT	**Takato**	**13.18**	**345**	P	**P**	**09 24 24.8**	**-0.2**
JAG	**Ashikaga**	**13.44**	**350**	P	**P**	**09 24 25.7**	**-2.6**
JHO	**Hitachi**	**13.47**	**354**	P	**P**	**09 24 27.0**	**-1.7**
JGN	**Niukaw**	**13.72**	**342**	P	**P**	**09 24 31.2**	**-0.8**
MAJO	**Matsushiro**	**13.80**	**346**	*e*Pn	**P**	**09 24 34.2**	**+1.2**
JNU	**Nakatsue**	**14.19**	**317**	LR	LR	09 29 29.3	
	comp=Z,44nm,19.7s,baz=58,slow=34						
JFT	**Otama**	**14.39**	**353**	P	**P**	**09 24 39.9**	**-0.8**
JFT				*e*S	**S**	**09 27 10.4**	**-7.5**
JYS	**Shirataka**	**15.12**	**353**	P	**P**	**09 24 49.8**	**-0.1**
JYS				*e*S	**S**	**09 27 29.2**	**-5.5**
JMK	**Ichinoseki**	**15.74**	**357**	P	**P**	**09 24 59.5**	**+1.7**
JMK				*e*S	**S**	**09 27 43.9**	**-5.1**
ASAJ	**Asahikawa**	**20.87**	**0**	P	**P**	**09 25 58.9**	**+2.7**
	9.3nm,0.8s,baz=250,slow=15,SNR=3.8						
SONM	**Songino Array**	**37.75**	**320**	P	**P**	**09 28 30.5**	**+2.4**
	0.7nm,0.5s,mb3.8,baz=125,slow=5.9,SNR=6.2						
CTA	**Charters Tower**	**43.18**	**175**	*e*P	**P**	**09 29 13.1**	**-0.1**
	1.5nm,0.6s,mb3.9						
CTA	**Charters Tower**	**43.18**	**175**	P	**P**	**09 29 12.1**	**-1.1**
	2.4nm,0.7s,mb4.1,baz=1.7,slow=9.2,SNR=7.9						
CTAO	**Charters Tower**	**43.18**	**175**	*e*P	**P**	**09 29 13.0**	**-0.2**
	1.8nm,0.5s,mb4.1						
WRAB	**Tennant Creek**	**43.58**	**191**	*e*P	**P**	**09 29 15.8**	**-0.7**
	9.3nm,0.4s,mb4.9						
WB2	**Warramunga Arr**	**43.59**	**191**	⇑*i*P	**P**	**09 29 16.1**	**-0.4**
WRA	**Warramunga Arr**	**43.59**	**191**	P	**P**	**09 29 16.1**	**-0.4**
	5.6nm,0.4s,mb4.7,baz=18,slow=9.1,SNR=131						
WRA				PcP	PcP	09 31 02.5	-0.3
	0.9nm,0.6s,baz=7.1,slow=3.6,SNR=5.6						
WRA				S	**S**	**09 35 35.3**	**-2.2**
	0.2nm,0.8s,baz=8.0,slow=13,SNR=3.4						
FITZ	**Fitzroy Crossi**	**44.20**	**203**	*e*P	**P**	**09 29 21.9**	**+0.4**
	3.1nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**47.31**	**191**	P	**P**	**09 29 45.1**	**-0.9**
	1.3nm,0.5s,mb4.0,baz=13,slow=7.4,SNR=22						
ASPA	**Alice Springs**	**47.31**	**191**	*e*P	**P**	**09 29 44.6**	**-1.4**
MKAR	**Makanchi Array**	**53.19**	**312**	P	**P**	**09 30 32.8**	**+2.4**
	5.1nm,0.5s,mb4.8,baz=88,slow=9.8,SNR=61						
MKAR				pP	pP	09 30 58.8	+3.2
	0.7nm,0.4s,baz=90,slow=11,SNR=2.1						
STKA	**Stephens Creek**	**54.76**	**181**	*e*P	**P**	**09 30 40.3**	**-1.8**
	1.1nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**54.76**	**181**	P	**P**	**09 30 39.8**	**-2.4**
	1.2nm,0.3s,mb4.3,baz=14,slow=7.4,SNR=9.9						
KURK	**Kurchatov**	**55.92**	**316**	*e*P	**P**	**09 30 51.6**	**+1.4**
	14nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**61.03**	**28**	P	**P**	**09 31 24.9**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=276,slow=5.0,SNR=4.5						
BVAR	**Borovoye Array**	**61.09**	**319**	P	**P**	**09 31 27.9**	**+1.8**
	12nm,0.5s,mb5.2,baz=90,slow=6.9,SNR=78						
BVAR				pP	pP	09 31 53.1	+1.1
	2.5nm,0.4s,baz=92,slow=6.4,SNR=3.0						
BRVK	**Borovoye**	**61.16**	**319**	*e*P	**P**	**09 31 28.1**	**+1.6**
	15nm,0.9s,mb5.0						
ARU	**Arti**	**67.66**	**323**	*e*P	**P**	**09 32 09.4**	**+0.9**
	4.6nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**75.46**	**28**	P	**P**	**09 32 55.1**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=291,slow=5.9,SNR=4.7						
YKA				pP	pP	09 33 22.9	+1.2
	0.3nm,0.4s,baz=292,slow=6.0,SNR=3.3						
ARCES	**ARCESS Array B**	**77.29**	**341**	P	**P**	**09 33 06.7**	**+1.8**
	1.4nm,0.7s,mb3.8,baz=83,slow=9.8,SNR=4.9						
KAF	**Kangasniemi**	**81.08**	**335**	*e*p	**P**	**09 33 25.3**	**-0.2**
FINES	**FINESS Array B**	**81.54**	**334**	P	**P**	**09 33 28.9**	**+0.9**
	1.9nm,0.5s,mb4.2,baz=70,slow=5.6,SNR=23						
FINES				pP	pP	09 33 57.1	+2.0
	0.7nm,0.3s,baz=77,slow=5.7,SNR=3.3						
NVAR	**Mina Array Bea**	**82.76**	**51**	P	**P**	**09 33 36.0**	**+1.3**
	0.7nm,0.7s,mb3.6,baz=289,slow=4.7,SNR=5.1						
AKASG	**Malin Array Be**	**85.89**	**324**	pP	pP	09 34 19.0	+1.5
	0.3nm,0.3s,baz=50,slow=5.4,SNR=2.6						
NOA	**NORSAR Array B**	**87.31**	**339**	P	**P**	**09 33 57.5**	**+0.8**
	0.6nm,0.8s,mb3.6,baz=45,slow=4.4,SNR=4.4						
NOA				pP	pP	09 34 25.3	+1.1
	1.7nm,0.9s,baz=48,slow=4.3,SNR=7.4						
BRTR	**Keskin Array B**	**88.82**	**313**	pP	pP	09 34 34.7	+2.6
	1.1nm,0.7s,baz=72,slow=3.9,SNR=3.6						
PLCA	**Paso Flores**	**147.25**	**130**	PKPbc	PKPdf	09 40 54.4	+4.7
	3.2nm,0.5s,baz=234,slow=2.6,SNR=13						
LPAZ	**La Paz**	**150.46**	**82**	PKPbc	PKPdf	09 41 04.0	+8.6
	2.5nm,0.5s,baz=296,slow=1.9,SNR=16						

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*BJI **07** 09:30:14.0, 51.47N×166.58W, h7^{km}, mB6.1, mb6.1, Ms5.7, Msz5.4*

*IGIL **07** 09:30:15.8, 51.85N×166.45W, h10^{km}, MS5.6*

*MOS **07** 09:30:15.2±0.9, 51.58N×166.48W, h10^{km}, mb6.5/67, MS5.4/29, Error ellipse: s-maj=7.5km s-min=5.5km az=101.1*

*HRVD **07** 09:30:16.9±0.1, 51.60N×166.32W, h12^{km}, MW5.9/75, Centroid moment Tensor Solution. LP body waves: s64,c147;Mantle waves: s75,c181; Half duration: 2^{s}2 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.72±.01; M$_{\theta\theta}$0.73±.01; M$_{\phi\phi}$-0.01±.01; M$_{r\theta}$-0.21±.02; M$_{\theta\phi}$0.53±.01; M$_{\phi r}$0.18±.02; Best double couple: M$_{0}$.93×10^{18} NP1:φ$_{s}$219°, δ47°, λ-125°. NP2:φ$_{s}$85°, δ53°, λ-59°. Principal axes: T 1.01, Plg3°, Azm153°; N -.17, Plg25°, Azm245°; P -.84, Plg65°, Azm56°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 09:30:16.9±0.1, 51.75N×166.31W, h8^{km}, mb6.3/198, ME6.0, MS5.4/86, MW6.0 Error ellipse: s-maj=2.8km s-min=2.0km az=169.0 Broadband fault plane solution: P waves. NP1:φ$_{s}$230°, δ65°, λ-90°. NP2:φ$_{s}$50°, δ25°, λ-90°. Principal axes: T Plg20°, Azm320°; N Plg0°, Azm0°; P Plg70°, Azm140°; Moment Tensor Solution. s49 Moment tensor: Scale 10^{18} Nm; M$_{rr}$-0.92; M$_{\theta\theta}$1.00; M$_{\phi\phi}$-0.08; M$_{r\theta}$-0.26; M$_{\theta\phi}$0.61; M$_{\phi r}$0.00; Best double couple: M$_{0}$1.1×10^{18} NP1:φ$_{s}$235°, δ40°, λ-105°. NP2:φ$_{s}$75°, δ52°, λ-78°. Principal axes: T 1.3, Plg6°, Azm156°; N -.34, Plg10°, Azm247°; P -.96, Plg78°, Azm34°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*SYO **07** 09:30:16.9,51.75N×166.31W,h8^{km},MB6.3,MS5.4*
*IDC **07** 09:30:18.5±2.3,51.62N×166.35W,h21^{km}±14^{km},mb5.8/35, mb1 5.9/37,mb1mx5.8/38,ML4.7/2,MS5.3/33,Ms1 5.3/33, ms1mx5.3/39,Error ellipse: s-maj=12.0km s-min=9.3km az=166.0*
*BGS **07** 09:30:20.0,51.97N×165.29W,h10^{km},mb6.2*
ISC 07 09:30:15.8±0.1,**51.77N**±0.02×**166.24W**±0.02,**h8^{km}, (h12^{km}**±1.1^{km}**:pP-P),n1225,**σ**1$\overset{s}{.}$18**/1212,**mb6.2**/349, **MS5.4**/157,**52C-397D,South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	2.00	308	P	Pn	09 30 49.3	-1.1
NIKO				S	Sn	09 31 12.1	-3.8
OKER	East Rim	2.01	327	P	Pn	09 30 50.3	-0.2
MGOD	Makushin Gods	2.06	349	P	Pn	09 30 51.2	0.0
MGOD				S	Sn	09 31 17.0	-0.3
UNV	Unalaska Valle	2.08	356	P	Pn	09 30 51.2	-0.4
UNV				S	Sn	09 31 16.0	-1.9
MNAT	Makushin Natee	2.13	353	P	Pn	09 30 52.5	+0.3
MNAT				S	Sn	09 31 16.0	-3.2
MSW	Makushin Switc	2.17	351	P	Pn	09 30 52.7	-0.1
MTBL	Makushin Table	2.22	353	P	Pn	09 30 53.3	-0.1
MCIR	Makushin Cirqu	2.22	350	P	Pn	09 30 53.8	+0.4
AHB	Akutan Harbor	2.36	6	P	Pn	09 30 55.5	0.0
AKA	Akutan	2.38	7	P	Pn	09 30 56.1	+0.2
AKA				S	Sn	09 31 24.3	-1.2
LVA	Lava Point	2.40	3	P	Pn	09 30 56.1	+0.2
AKLV	Akutan Long Va	2.40	4	P	Pn	09 30 55.3	-0.8
AKLV				S	Sn	09 31 24.5	-1.5
AKGG	Akutan Green G	2.43	3	P	Pn	09 30 56.6	0.0
AKGG				S	Sn	09 31 24.2	-2.6
WESS	West Dahl Sout	2.86	18	P	Pn	09 31 02.8	+0.1
WESS				S	Sn	09 31 36.6	-1.0
WESE	West Dahl East	2.88	20	P	Pn	09 31 02.8	-0.1
WFAR	Faris Peak	2.91	17	P	Pn	09 31 03.9	+0.7
WPOG	Pogromni	2.97	17	P	Pn	09 31 04.5	+0.4
WESN	West Dahl Nort	2.97	19	P	Pn	09 31 04.7	+0.5
SSLS	Shishaldin Sou	3.24	24	P	Pn	09 31 07.7	-0.3
SSLS				S	Sn	09 31 45.9	-1.3
SSLW	Shishaldin Wes	3.26	22	P	Pn	09 31 08.4	+0.1
WTUG	Tugumak	3.27	19	P	Pn	09 31 09.2	+0.6
SSLN	Shishaldin Nor	3.33	23	P	Pn	09 31 09.7	+0.4
FALS	False Pass	3.52	28	P	Pn	09 31 11.7	-0.3
FALS				S	Sn	09 31 52.0	-2.4
DRIA	Deer Island	3.99	35	P	Pn	09 31 17.7	-0.9
BALA	Baldy Mountain	4.00	30	P	Pn	09 31 20.4	+1.5
DT1	Dutton Round H	4.09	34	P	Pn	09 31 19.9	-0.2
DTNA	Dutton South F	4.14	34	P	Pn	09 31 20.7	-0.1
DOL	Dolgoi Island	4.27	36	P	Pn	09 31 22.1	-0.6
HAG	Hague Volcano	4.39	34	P	Pn	09 31 24.6	+0.2
PN7A	Pavlof North-7	4.45	33	P	Pn	09 31 25.6	+0.4
PVV	Pavlof Volcano	4.47	35	P	Pn	09 31 25.7	+0.1
PVV				S	Sn	09 32 17.0	-1.5
PN6	Pavlof North-6	4.49	33	P	Pn	09 31 26.5	+0.7
PS1A	Pavlof South-1	4.53	34	P	Pn	09 31 26.8	+0.4
BLHA	Black Hill	4.65	31	P	Pn	09 31 27.7	-0.3
ATKA	Atka Island	4.94	278	P	Pn	09 31 29.7	-2.5
SDN	Sand Point	4.95	41	eP	Pn	09 31 32.0	-0.3
SPIA	Saint Paul Isl	5.90	338	P	Pn	09 31 44.3	-1.4
GSIG	Igitkin Island	6.00	276	P	Pn	09 31 44.5	-2.7
GSMY	Great Sitkin M	6.08	276	P	Pn	09 31 45.8	-2.6
GSTR	Great Sitkin T	6.09	277	P	Pn	09 31 46.0	-2.3
GSTD	Great Sitkin T	6.14	277	P	Pn	09 31 46.6	-2.5
GSSP	Great Sitkin S	6.16	277	P	Pn	09 31 46.6	-2.7
ETKA	Kagalaska Isla	6.31	275	P	Pn	09 31 48.8	-2.7
ADAG	Mount Adagdak	6.42	276	P	Pn	09 31 51.1	-2.0
KIRH	Kanaga Island	6.73	275	P	Pn	09 31 55.4	-2.1
KINC	Kanaga Island	6.75	276	P	Pn	09 31 55.5	-2.2
KIWB	Kanaga Island	6.77	275	P	Pn	09 31 55.3	-2.7
KIKV	Kanaga Island	6.78	275	P	Pn	09 31 55.8	-2.3
KIMD	Kanaga Island	6.83	274	P	Pn	09 31 56.2	-2.6
ANPB	Aniakchak Plen	6.86	40	P	Pn	09 31 58.4	-0.8
ANPK	Aniakchak Peak	6.95	40	P	Pn	09 31 59.7	-0.8
KJL	Kejulik	8.79	40	P	P	09 32 24.0	-2.1
CNTC	Contact Creek	8.80	38	P	P	09 32 25.4	-1.0
CAHL	Cahill	8.89	41	P	P	09 32 25.7	-1.9
ANCK	Angle Creek	8.91	40	P	P	09 32 25.8	-2.1
ACHA	Angle Creek He	8.99	40	P	P	09 32 28.0	-0.9
MGLS	Mageik LS	8.99	40	P	P	09 32 27.8	-1.2
KABR	Katmai Barrier	9.08	41	P	P	09 32 28.3	-1.9
KAIC	Katmai Ikaglui	9.28	39	P	P	09 32 31.4	-1.6
KAWH	Katmai	9.31	40	P	P	09 32 31.9	-1.5
KAHC	Katmai Hardscr	9.41	39	P	P	09 32 33.2	-1.5
KAHG	Katmai Hook Gl	9.48	40	P	P	09 32 34.0	-1.8
KAPH	Katmai Pasha	9.63	40	P	P	09 32 36.4	-1.3
KDAK	Kodiak Island	9.91	47	P	P	09 32 38.1	-3.4
KDAK				S	Sn	09 34 24.8	-9.3
MCNL	McNeil River	10.03	38	P	P	09 32 41.3	-1.8
SYI	Shuyak Island	10.45	44	P	P	09 32 47.9	-1.1
AUW	Augustine West	10.48	38	P	P	09 32 46.6	-2.7
AGU	Augustine-Summ	10.49	39	P	P	09 32 47.9	-1.6
AUL	Augustine Lava	10.50	38	P	P	09 32 47.7	-1.9
AUE	Augustine Isla	10.51	39	P	P	09 32 48.5	-1.3
OPT	Oil Point	10.76	38	P	P	09 32 51.4	-1.8
ILS	Iliamna Low So	11.03	37	P	P	09 32 55.6	-1.2
SVW	Sparrevohn	11.03	28	P	P	09 32 55.8	-1.1
IVS	Iliamna South	11.05	37	P	P	09 32 56.1	-1.0
ILW	Iliamna West	11.07	36	P	P	09 32 56.5	-0.9
IVE	Iliamna Volcan	11.08	37	P	P	09 32 56.4	-1.2
ILIM	Iliamna	11.15	37	P	P	09 32 57.6	-0.9
XLV	Seldovia	11.23	41	P	P	09 32 57.9	-1.7
RED	Redoubt Volcan	11.45	36	P	P	09 33 01.3	-1.3
RSO	Redoubt South	11.48	35	P	P	09 33 01.2	-1.8
REF	Redoubt East F	11.52	35	P	P	09 33 02.2	-1.3
RDT	Redoubt	11.69	36	P	P	09 33 04.0	-1.8
BKG	Blockade Glaci	12.08	34	P	P	09 33 09.9	-1.1
SMY	Shemya	12.09	282	P	P	09 33 08.2	-3.1
SMY				pmax	pmax		
	comp=Z,79nm,0.7s						
SMY	Shemya	12.09	282	P	P	09 33 07.7	-3.6
SPU	Mount Spurr	12.23	34	P	P	09 33 11.6	-1.6
TT01	Tatalina	12.43	22	P	P	09 33 13.4	-2.3
SLKM	Skilak Lake	12.47	39	P	P	09 33 14.7	-1.6
SLKM	Skilak Lake	12.47	39	P	P	09 33 13.9	-2.4
SEW	Seward	12.54	42	P	P	09 33 13.9	-3.4
FX1	Attu Island--F	12.65	283	Pn	P	09 33 14.5	-4.2
	comp=Z,9.9nm,0.3s,baz=90,slow=7.1,SNR=18						
FX1				Sn	S	09 35 33.0	-7.9
	comp=Z,9.1nm,0.3s,baz=288,slow=17,SNR=5.3						
FX1				LR	LR	09 37 15.3	
	comp=Z,33µm,20.9s,baz=32,slow=33						
FX1	Attu Island--F	12.65	283	P	P	09 33 14.5	-4.2
FX1				SN	S	09 35 32.9	-8.0
FX1	Attu Island--F	12.65	283	P	P	09 33 13.8	-5.0
MPA	Moose Pass	12.80	40	P	P	09 33 17.7	-3.0
ANM	Nome	12.84	2	P	P	09 33 18.1	-3.2
FIB	Fire Island	12.90	37	eP	P	09 33 19.2	-2.9
SKT	Skwentna	12.97	32	P	P	09 33 21.6	-1.4
RC01	Rabbit Creek A	13.02	38	P	P	09 33 21.1	-2.5
PMS	Palmer South	13.18	37	P	P	09 33 22.2	-3.6
PWA	Palmer West	13.32	36	P	P	09 33 22.6	-5.0
PWL	Port Wells	13.43	40	P	P	09 33 25.8	-3.3
PMR	Palmer	13.56	37	eP	P	09 33 26.2	-4.4
PMR				pmax	pmax		
	comp=Z,73nm,1.0s						
PMR	Palmer	13.56	37	P	P	09 33 24.7	-5.9
MID	Middleton Isla	13.57	48	P	P	09 33 28.3	-2.5
KNK	Knik Glacier	13.70	38	P	P	09 33 28.3	-4.2
GHO	Glory Hole Cre	13.75	37	P	P	09 33 28.7	-4.5
CFI	College Fiord	13.84	40	P	P	09 33 31.5	-2.9
TNA	Tin City	13.86	357	P	P	09 33 31.1	-3.5
SML	Sawmill	13.99	37	eP	P	09 33 31.7	-4.6
SML	Sawmill	13.99	37	P	P	09 33 31.1	-5.2
KTH	Kantishna Hill	14.32	29	P	P	09 33 39.4	-1.2
CVA	Cordova	14.35	44	P	P	09 33 37.9	-3.1
EYAK	Cordova Ski Ar	14.35	44	P	P	09 33 37.7	-3.3
TRF	Thorofare Moun	14.43	30	P	P	09 33 39.7	-2.4
SGAM	Sherman Glacie	14.56	45	P	P	09 33 41.4	-2.4
DIV	Divide	14.62	42	P	P	09 33 41.6	-3.0
KAIM	Kayak Island	14.66	48	P	P	09 33 43.9	-1.3
RAGM	Ragged Mountai	14.74	46	P	P	09 33 44.7	-1.5
KLU	Klutina	14.75	41	P	P	09 33 43.0	-3.4
HMT	Hamilton	14.91	46	P	P	09 33 46.2	-2.1
BMRM	Bremner River	15.04	44	P	P	09 33 49.3	-0.8
MCK	McKinley	15.06	31	P	P	09 33 46.7	-3.6
MCK				pmax	pmax		
	comp=Z,64nm,0.9s						
MCK	McKinley	15.06	31	P	P	09 33 48.7	-1.5
TZL	Tazlina	15.25	40	P	P	09 33 51.3	-1.6
SDG	Sourdough	15.47	38	P	P	09 33 53.5	-2.2
SNH	Sunshine Point	15.49	48	P	P	09 33 54.4	-1.6
CRQM	Cirque	15.59	46	P	P	09 33 55.7	-1.6
IM3	Indian Mountai	15.59	19	P	P	09 33 56.3	-0.9
WAX	Waxell Ridge	15.59	47	P	P	09 33 55.9	-1.4
GLB	Gilahina Butte	15.61	43	P	P	09 33 54.8	-2.6
NEA	Nenana	15.62	28	P	P	09 33 55.8	-1.9
IMA	Indian Mountai	15.68	19	P	P	09 33 59.0	+0.6
IMA				pmax	pmax		
	comp=Z,2µm,1.1s						
IMA	Indian Mountai	15.68	19	eP	P	09 33 59.1	+0.7
	comp=Z,547nm,1.2s						
PAX	Paxson	15.76	37	P	P	09 33 55.6	-3.8
THY	Trims Highway	15.92	35	eP	P	09 33 58.2	-3.3
BALM	Baldy	16.06	45	P	P	09 34 01.8	-1.5
YAH	Yahtse	16.07	48	P	P	09 34 02.3	-1.1
DDM	Donnelly Dome	16.11	34	P	P	09 34 01.4	-2.6
COLA	College	16.20	29	P	P	09 34 02.0	-3.1
ILAR	Eielson Array	16.43	30	Pn	P	09 34 04.1	-3.8
	comp=Z,2.3nm,0.3s,baz=227,slow=10,SNR=209						
ILAR				LR	LR	09 40 35.4	
	comp=Z,11µm,19.9s,baz=253,slow=37						
ILAR				ScP		09 42 37.2	
	baz=250,slow=3.0,SNR=6.9						
ILAR				P3KPbc		10 09 06.3	
	comp=Z,0.0nm,0.3s,baz=9.0,slow=2.6,SNR=5.7						
ILAR				P3KP		10 09 41.9	
	comp=Z,0.0nm,0.3s,baz=149,slow=1.7,SNR=5.3						
IL1	Eielson Array	16.43	30	P	P	09 34 03.1	-4.8
CTGM	Chitina Glacie	16.48	46	P	P	09 34 07.7	-0.9
PCA	Pinnacle	16.67	50	P	P	09 34 11.2	+0.1
PNL	Peninsula	16.96	52	P	P	09 34 15.2	+0.5
BCA3	Beaver Creek A	17.22	40	P	P	09 34 16.0	-2.0
COLD	Coldfoot	17.41	21	P	P	09 34 20.4	+0.2
SIT	Sitka	18.64	61	P	P	09 34 36.9	+1.2
SIT				pmax	pmax		
	comp=Z,910nm,1.0s						
SIT	Sitka	18.64	61	P	P	09 34 37.2	+1.5
DAWY	Dawson	18.65	38	P	P	09 34 35.4	-0.4
BM3	Burnt Mountain	18.95	26	P	P	09 34 35.7	-3.6
BESE	Bessie Mountai	19.04	57	P	P	09 34 41.8	+1.4
WHY	Whitehorse	19.40	51	P	P	09 34 46.1	+1.4
VIB	Van Inlet	20.46	73	T		09 57 48.5	
	SNR=71						
PET	Petropavlovsk	21.34	287α	iP	P	09 35 03.0	-2.2
PET				e*PP		09 35 06.4	
PET				eS	S	09 38 54.8	-2.6
PET				e*SS		09 39 02.4	
PET				e		09 39 06.6	
PET				pmax	pmax		
	comp=Z,178nm,0.9s,mb5.4						
PET				pmax	pmax		
	comp=Z,1µm,2.3s,mb5.8						
PET				pmax	pmax		
	comp=E,900nm,2.0s						
PET				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.1						
PET	Petropavlovsk	21.34	287	eP	P	09 35 02.4	-2.8
	comp=Z,550nm,1.1s,mb5.8						
PET				LR	LR		
	comp=Z,6µm,19.0s,MS5.0						
DLBC	Dease Lake	21.55	58	P	P	09 35 08.4	+1.0
	comp=Z,986nm,1.1s,mb6.2,baz=266,slow=11,SNR=112						
DLBC	Dease Lake	21.55	58	eP	P	09 35 08.4	+1.0
INK	Inuvik	22.82	31	P	P	09 35 19.5	-0.2
	comp=Z,1µm,1.1s,mb6.3,baz=233,slow=12,SNR=212						
INK				S	S	09 39 31.9	+7.5
	comp=Z,51nm,1.1s,baz=143,slow=30,SNR=5.6						
INK				LR	LR	09 45 17.8	
	comp=Z,13µm,19.3s,MS5.4,baz=239,slow=39						
INK	Inuvik	22.82	31	P	P	09 35 19.3	-0.5
INK				pmax	pmax		
	comp=Z,2µm,1.1s						
INK	Inuvik	22.82	31	eP	P	09 35 19.2	-0.6
	comp=Z,2µm,1.2s,mb6.4						
BBB	Bella Bella	23.31	74	P	P	09 35 26.6	+1.9
	comp=Z,355nm,0.8s,mb5.8,baz=283,slow=8.6,SNR=190						
BBB				PcP	PcP	09 39 09.4	-4.2
	comp=Z,26nm,0.9s,baz=279,slow=5.9,SNR=3.2						
BBB				LR	LR	09 43 35.9	
	comp=Z,8µm,18.2s,MS5.2,baz=279,slow=34						
SKR	Severo-Kuril’s	23.43	282	eP	P	09 35 27.6	+1.7
SKR				e		09 35 36.5	
SKR				i S	S	09 39 42.0	+6.5
SKR				eSS	SS	09 40 21.0	-1.5
SKR				pmax	pmax		
	comp=Z,310nm,1.0s,mb5.7						
SKR				pmax	pmax		
	comp=E,70nm,0.8s						
SKR				pmax	pmax		
	comp=Z,5µm,6.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,3µm,4.0s						
SKR				smax			
	comp=N,2µm,2.0s						
SKR				smax			
	comp=E,980nm,2.0s						
SKR				smax			
	comp=N,11µm,14.0s						
SKR				smax			
	comp=E,10µm,10.0s						
SKR				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.0						
SKR				MLR	MLR		
	comp=N,2µm,14.0s,MS5.1						
SKR				MLR	MLR		
	comp=E,5µm,14.0s,MS5.1						
SEY	Seymchan	24.49	313	eP	P	09 35 35.2	-0.9
SEY						09 36 16.9	
SEY				eS	S	09 39 54.3	+0.7
SEY				eSS	SS	09 41 08.4	+20
SEY				pmax	pmax		
	comp=N,150nm,1.2s						
SEY				pmax	pmax		
	comp=Z,500nm,1.2s,mb5.8						
SEY				pmax	pmax		
	comp=E,330nm,1.1s						
SEY				MLR	MLR		
	comp=Z,30µm,17.0s,MS5.8						
SEY				MLR	MLR		
	comp=N,31µm,15.0s,MS6.0						
SEY				MLR	MLR		
	comp=E,16µm,16.0s,MS6.0						
MIDW	Midway	24.97	204	P	P	09 35 39.0	-2.1
MIDW				LR	LR		
	comp=Z,10µm,22.0s,MS5.3						
MA2	Magadan	25.07	305c	iP	P	09 35 41.3	-0.4
MA2				e		09 36 33.1	
MA2				eS	S	09 40 00.9	-2.6
MA2				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.2						
MA2				pmax	pmax		
	comp=N,20nm,1.0s						
MA2				pmax	pmax		
	comp=E,80nm,1.4s						
MA2				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.2						
MA2	Magadan	25.07	305	eP	P	09 35 40.4	-1.3
	comp=Z,84nm,0.8s,mb5.3						
MA2				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
OZB	Mount Ozzard	25.90	80	P	P	09 35 51.4	+1.7
OCWA	Octopus Mounta	27.18	82	eP	P	09 36 02.5	+1.1
	comp=Z,1µm,1.4s,mb6.3						
OCWA				LR	LR		
	comp=Z,21µm,20.0s,MS5.7						
PGC	Sidney	27.27	79	eP	P	09 36 02.6	+0.4
	comp=Z,1µm,1.4s,mb6.3						
SNB	Saturna Island	27.39	79	P	P	09 36 04.9	+1.6
VDB	Vedder Mountai	27.95	78	P	P	09 36 09.2	+0.9
GNW	Green Mountain	28.09	81	eP	P	09 36 10.8	+1.2
BMW	Boistfort Moun	28.32	84	P	P	09 36 13.0	+1.3
BMW	Boistfort Moun	28.32	84	eP	P	09 36 12.2	+0.5
RPW	Rockport	28.53	79	P	P	09 36 14.4	+0.8
RMW	Rattlesnake Mo	28.76	81	P	P	09 36 10.5	-5.2
RMW	Rattlesnake Mo	28.76	81	eP	P	09 36 16.7	+1.0
SHW	Mount Saint He	29.06	83	P	P	09 36 13.7	-4.7
SHW	Mount Saint He	29.06	83	eP	P	09 36 19.0	+0.7
LON	Longmire	29.07	82	P	P	09 36 14.8	-3.7
LON	Longmire	29.07	82	eP	P	09 36 19.1	+0.6
WRW	Wenatchee Ridg	29.16	80	P	P	09 36 20.4	+1.1
COR	Corvallis	29.17	87	eP	P	09 36 20.9	+1.5
COR				pmax	pmax		
	comp=Z,630nm,1.0s,mb6.3						
COR	Corvallis	29.17	87	eP	P	09 36 20.0	+0.6
	comp=Z,688nm,1.0s,mb6.3						
COR				LR	LR		
	comp=Z,7µm,20.0s,MS5.2						
YKW3	Yellowknife Ar	29.18	48	eP	P	09 36 19.0	-0.3
YKA	Yellowknife Ar	29.19	48	P	P	09 36 19.1	-0.3
	comp=Z,126nm,0.9s,mb5.7,baz=271,slow=8.3,SNR=438						
YKA				PcP	PcP	09 39 24.7	-2.2
	comp=Z,19nm,0.9s,baz=273,slow=2.9,SNR=7.1						
YKA				ScP		09 43 05.9	
	comp=Z,9.5nm,1.1s,baz=278,slow=3.0,SNR=5.1						
YKA				LR	LR	09 47 47.1	
	comp=Z,5µm,18.1s,MS5.2,baz=275,slow=36						
YKA				P3KPbc		10 08 21.0	
	comp=Z,1.0nm,0.9s,baz=90,slow=4.3,SNR=5.1						
YKA				P3KP		10 09 39.0	
	comp=Z,0.4nm,0.8s,baz=27,slow=1.4,SNR=2.9						
YKA	Yellowknife Ar	29.19	48	P	P	09 36 19.1	-0.3
YKA				PcP	PcP	09 39 24.8	-2.2
YKA				ScP		09 43 05.9	
YKA				LR	LR	09 47 47.1	
PNT	Penticton	29.34	76	P	P	09 36 21.6	+0.7
NLW	Nelson Butte	29.40	79	P	P	09 36 22.6	+1.1
KEBM	Edson Butte	29.41	91	eP	P	09 36 22.1	+0.5
LTY	Liberty	29.55	81	P	P	09 36 23.5	+0.7
WTV	Waterville	29.79	79	P	P	09 36 25.4	+0.4
KBO	Bosley Butte	29.83	92	eP	P	09 36 25.4	0.0
HSO	Harness Mounta	29.84	89	P	P	09 36 26.9	+1.5
HSO	Harness Mounta	29.84	89	eP	P	09 36 26.2	+0.8
VGB	Gordon Butte	30.28	84	P	P	09 36 30.3	+1.0
VGB	Gordon Butte	30.28	84	eP	P	09 36 30.0	+0.7
MDW	Midway	30.39	81	P	P	09 36 31.2	+1.0
HUMO	Hull Mountain	30.41	90	eP	P	09 36 30.8	+0.4
	comp=Z,252nm,1.1s,mb5.9						
KRMB	Red Mountain	30.41	93	eP	P	09 36 30.7	+0.2
SNIWA	Snively Ranch	30.52	81	P	P	09 36 32.5	+1.1
HAWA	Hanford	30.63	81	eP	P	09 36 32.8	+0.4
	comp=Z,1µm,1.0s,mb6.6						
HAWA				LR	LR		
	comp=Z,9µm,19.0s,MS5.5						
WIW	Wooded Island	30.77	81	P	P	09 36 34.5	+0.9
DPW	Davenport	30.79	78	P	P	09 36 30.3	-3.4
DPW	Davenport	30.79	78	eP	P	09 36 34.0	+0.3
KHMM	Horse Mountain	30.89	94	eP	P	09 36 35.0	+0.3
KIP	Kipapa	30.96	165	P	P	09 36 34.2	-1.3
KIP				pmax	pmax		
	comp=Z,200nm,1.4s,mb5.8						
KIP	Kipapa	30.96	165	eP	P	09 36 32.9	-2.6
	comp=Z,196nm,1.4s,mb5.8						
KIP				LR	LR		
	comp=Z,18µm,19.0s,MS5.7						
YBH	Yreka Blue Hor	31.04	91	P	P	09 36 36.3	+0.2
	comp=Z,199nm,1.0s,mb5.9,baz=307,slow=4.0,SNR=267						
YBH				ScP		09 43 10.9	
	comp=Z,7.8nm,1.2s,baz=161,slow=10,SNR=3.5						
YBH	Yreka Blue Hor	31.04	91	P	P	09 36 37.4	+1.4
YBH				pmax	pmax		
	comp=Z,260nm,1.1s						
YBH	Yreka Blue Hor	31.04	91	eP	P	09 36 37.2	+1.1
	comp=Z,256nm,1.1s,mb6.0						
YBH				LR	LR		
	comp=Z,9µm,20.0s,MS5.4						
HON	Honolulu	31.06	165	P	P	09 36 34.3	-2.1
NEW	Newport	31.27	77	P	P	09 36 38.5	+0.4
	comp=Z,483nm,0.8s,mb6.4,baz=298,slow=7.4,SNR=782						
NEW				LR	LR	09 47 12.4	
	comp=Z,6µm,19.2s,MS5.3,baz=293,slow=32						
NEW	Newport	31.27	77	P	P	09 36 38.0	0.0
NEW				pmax	pmax		
	comp=Z,700nm,1.0s						
NEW	Newport	31.27	77	eP	P	09 36 37.8	-0.3
	comp=Z,705nm,0.9s,mb6.5						
LNOR	Lincton Mounta	31.64	81	P	P	09 36 42.0	+0.7
LNOR	Lincton Mounta	31.64	81	eP	P	09 36 41.5	+0.2
WDC	Whiskeytown Da	31.80	93	P	P	09 36 43.4	+0.7
WDC				pmax	pmax		
	comp=Z,360nm,1.1s,mb6.1						
WDC	Whiskeytown Da	31.80	93	eP	P	09 36 43.3	+0.6
	comp=Z,362nm,1.2s,mb6.1						
WDC				LR	LR		
	comp=Z,6µm,21.0s,MS5.2						
HOPS	Hopland	32.41	96	eP	P	09 36 47.3	-0.8
	comp=Z,311nm,1.3s,mb6.0						
HOPS				LR	LR		
	comp=Z,6µm,19.0s,MS5.3						
MOD	Modoc	32.44	89	eP	P	09 36 49.3	+1.0
	comp=Z,676nm,1.1s,mb6.4						
MOD				LR	LR		
	comp=Z,9µm,20.0s,MS5.5						
YUK	Yuzh-Kuril’sk	32.52	275	eP	P	09 36 45.0	-4.0
YUK				eS	S	09 42 06.0	+2.8
YUK				pmax	pmax		
	comp=E,2µm,3.0s						
YUK				pmax	pmax		
	comp=Z,2µm,3.0s						
YUK				pmax	pmax		
	comp=Z,2µm,1.7s,mb6.9						
YUK				smax			
	comp=N,2µm,12.0s						
YUK				smax			
	comp=E,4µm,9.0s						
YUK				MLR	MLR		
	comp=N,6µm,16.0s,MS5.4						
YUK				MLR	MLR		
	comp=E,3µm,17.0s,MS5.4						
YUK				MLR	MLR		
	comp=Z,5µm,17.0s,MS5.2						
NSHM	Saint Helena R	32.99	96	eP	P	09 36 52.8	-0.4
YSS	Yuzh-Sakhalins	33.01	282κ	iP	P	09 36 51.2	-2.0
YSS				e	pP	09 36 54.0	-1.5
YSS				e		09 39 33.3	
YSS				eS	S	09 42 08.0	-2.7
YSS				eSSS	SSS	09 44 30.0	-4.2
YSS				pmax	pmax		
	comp=N,100nm,1.2s						
YSS				pmax	pmax		
	comp=E,170nm,1.2s						
YSS				pmax	pmax		
	comp=Z,200nm,1.2s,mb5.9						
YSS				smax			
	comp=E,5µm,6.0s						
YSS				MLR	MLR		
	comp=Z,5µm,21.0s,MS5.2						
YSS				MLR	MLR		
	comp=N,3µm,15.0s						
YSS				MLR	MLR		
	comp=E,5µm,21.0s						
YSS	Yuzh-Sakhalins	33.01	282	eP	P	09 36 51.5	-1.6
	comp=E,241nm,1.3s,mb6.0						
YSS				LR	LR		
	comp=Z,6µm,20.0s,MS5.3						
WVOR	Wild Horse Val	33.18	87	P	P	09 36 55.8	+1.0
WVOR				pmax	pmax		
	comp=Z,530nm,1.0s,mb6.4						
WVOR	Wild Horse Val	33.18	87	eP	P	09 36 55.6	+0.8
	comp=Z,533nm,1.1s,mb6.4						
WVOR				LR	LR		
	comp=Z,12µm,21.0s,MS5.6						
OHCM	Honcut	33.19	94	eP	P	09 36 54.4	-0.5
BEKR	Beckwourth	33.57	92	eP	P	09 36 58.2	0.0
	comp=Z,301nm,1.3s,mb6.1						
SAC	San Andreas	33.69	97	P	P	09 36 59.4	+0.1
SAC	San Andreas	33.69	97	eP	P	09 36 58.3	-0.9
LKC	Lake Chabot	33.81	97	eP	P	09 36 59.9	-0.4
MSO	Missoula	33.84	77	eP	P	09 37 00.2	-0.3
	comp=Z,649nm,1.4s,mb6.4						
MSO				LR	LR		
	comp=Z,990nm,20.0s,MS4.5						
CHMT	Chamberlain Mo	34.22	77	eP	P	09 37 03.0	-0.7
PAHR	Pah Rah Range	34.27	92	eP	P	09 37 04.3	+0.1
	comp=Z,377nm,1.2s,mb6.2						
WCN	Washoe City	34.28	93	P	P	09 37 05.2	+0.9
WCN				pmax	pmax		
	comp=Z,420nm,1.1s,mb6.3						
WCN	Washoe City	34.28	93	eP	P	09 37 04.7	+0.4
	comp=Z,421nm,1.2s,mb6.2						
ASAJ	Asahikawa	34.50	278	P	P	09 37 04.3	-1.8
	comp=Z,110nm,1.1s,mb5.7,baz=35,slow=5.9,SNR=27						
ASAJ				PcP	PcP	09 39 38.3	-3.1
	comp=Z,48nm,1.0s,baz=281,slow=4.2,SNR=4.4						
ASAJ				LR	LR	09 50 00.1	
	comp=Z,6µm,19.8s,MS5.3,baz=71,slow=34						
CMB	Columbia Colle	34.66	95	P	P	09 37 07.9	+0.3
CMB				PcP	PcP	09 39 39.6	-2.3
CMB				S	S	09 42 41.7	+5.2

CMB	**Columbia Colle**	**34.66**	**95**	P	**P**	**09 37 08.1**	**+0.5**
CMB				pmax	pmax		
	comp=Z,220nm,1.2s,mb6.0						
CMB	**Columbia Colle**	**34.66**	**95**	*e*P	**P**	**09 37 07.7**	**+0.1**
	comp=Z,218nm,1.2s,mb6.0						
CMB				LR	LR		
	comp=Z,8µm,21.0s,MS5.5						
YAK	**Yakutsk**	**35.01**	**312⇑**	*i*P	**P**	**09 37 07.7**	**-2.7**
YAK				*e*		09 38 21.9	
YAK				*e*		09 39 40.2	
YAK				*e*S	**S**	**09 42 37.6**	**-4.0**
YAK				*e*SS	SS	09 44 56.8	+0.6
YAK				*e*SSS	SSS	09 45 23.0	-0.2
YAK				*e*		09 47 26.7	
YAK				pmax	pmax		
	comp=Z,83nm,1.1s,mb5.6						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,23nm,0.8s						
YAK				pmax	pmax		
	comp=E,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				smax			
	comp=N,16nm,1.4s						
YAK				smax			
	comp=E,24nm,1.4s						
YAK				MLR	MLR		
	comp=N,793nm,15.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,3µm,18.0s,MS5.2						
YAK				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.2						
YAK	**Yakutsk**	**35.01**	**312**	*e*P	**P**	**09 37 07.5**	**-2.8**
	comp=Z,132nm,0.8s,mb5.9						
YAK				*e*PcP	PcP	09 39 39.4	-3.3
YAK				LR	LR		
	comp=Z,7µm,20.0s,MS5.4						
HRY	**Holter Researc**	**35.17**	**76**	*e*P	**P**	**09 37 11.7**	**-0.2**
BMN	**Battle Mountai**	**35.19**	**89**	P	**P**	**09 37 13.0**	**+0.9**
BMN				pmax	pmax		
	comp=Z,360nm,1.1s,mb6.2						
BMN	**Battle Mountai**	**35.19**	**89**	*e*P	**P**	**09 37 12.6**	**+0.5**
	comp=Z,361nm,1.1s,mb6.2						
BMN				LR	LR		
	comp=Z,6µm,19.0s,MS5.3						
HLID	**Hailey**	**35.19**	**83**	*e*P	**P**	**09 37 12.7**	**+0.6**
	comp=Z,630nm,1.1s,mb6.5						
HLID				LR	LR		
	comp=Z,8µm,19.0s,MS5.5						
LRV	**Little Rabbit**	**35.29**	**98**	*e*P	**P**	**09 37 13.1**	**+0.1**
LRV				*e*PcP	PcP	09 39 42.5	-1.4
MCMT	**McKenzie Canyo**	**35.49**	**80**	*e*P	**P**	**09 37 14.5**	**-0.1**
NVAR	**Mina Array Bea**	**35.71**	**93**	P	**P**	**09 37 17.4**	**+0.8**
	comp=Z,313nm,1.0s,mb6.2,baz=295,slow=7.1,SNR=660						
NVAR				PcP	PcP	09 39 43.5	-1.5
	comp=Z,37nm,0.9s,baz=291,slow=1.5,SNR=6.9						
NVAR				ScP		09 43 28.2	
	comp=Z,5.2nm,0.9s,baz=301,slow=1.8,SNR=5.6						
NVAR				P3KPbc		10 07 54.9	
	comp=Z,0.9nm,0.9s,baz=135,slow=6.6,SNR=5.7						
NVAR				P3KP		10 09 26.3	
	comp=Z,0.7nm,0.8s,baz=190,slow=5.5,SNR=3.5						
OMM	**Old Mammoth Mi**	**35.79**	**94**	*e*P	**P**	**09 37 18.4**	**+1.2**
MNV	**Mina**	**35.80**	**93⇓**	*i*P	**P**	**09 37 17.9**	**+0.5**
	comp=Z,310nm,1.2s,mb6.1						
MNV				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
BOZ	**Bozeman (W)**	**35.82**	**78**	P	**P**	**09 37 17.8**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,510nm,1.2s,mb6.3						
BOZ	**Bozeman (W)**	**35.82**	**78⇓**	*i*P	**P**	**09 37 17.7**	**+0.3**
	comp=Z,508nm,1.2s,mb6.3						
BOZ				LR	LR		
	comp=Z,5µm,19.0s,MS5.3						
RES	**Resolute Bay**	**36.08**	**25**	P	**P**	**09 37 19.6**	**+0.3**
RES				pmax	pmax		
	comp=Z,270nm,1.3s,mb6.0						
RES	**Resolute Bay**	**36.08**	**25**	*e*P	**P**	**09 37 19.0**	**-0.3**
	comp=Z,272nm,1.4s,mb6.0						
MTUM	**Tungsten Hills**	**36.22**	**94**	*e*P	**P**	**09 37 21.9**	**+1.0**
QLMT	**Earthquake Lak**	**36.36**	**79**	*e*P	**P**	**09 37 22.0**	**+0.1**
TPH	**Tonopah**	**36.60**	**92**	P	**P**	**09 37 24.9**	**+0.9**
TPH				pmax	pmax		
	comp=Z,340nm,1.1s,mb6.1						
TPH	**Tonopah**	**36.60**	**92**	*e*P	**P**	**09 37 24.8**	**+0.8**
	comp=Z,336nm,1.1s,mb6.1						
TPH				LR	LR		
	comp=Z,6µm,19.0s,MS5.4						
YMR	**Madison River**	**36.72**	**79**	*e*P	**P**	**09 37 25.5**	**+0.5**
HVU	**Hansel Valley**	**37.18**	**84**	P	**P**	**09 37 30.0**	**+1.2**
HVU	**Hansel Valley**	**37.18**	**84**	*e*P	**P**	**09 37 29.7**	**+0.9**
TPAW	**Teton Pass**	**37.36**	**80**	*e*P	**P**	**09 37 31.8**	**+1.4**
FFC	**Flin Flon**	**37.37**	**59**	*e*P	**P**	**09 37 30.1**	**-0.2**
	comp=Z,489nm,1.1s,mb6.2						
FFC				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
REDW	**Red Top Meadow**	**37.49**	**80**	*e*P	**P**	**09 37 32.6**	**+1.2**
DAC	**Darwin (Calif)**	**37.50**	**95**	P	**P**	**09 37 32.7**	**+1.1**
DAC				pmax	pmax		
	comp=Z,280nm,1.1s,mb5.9						
DAC	**Darwin (Calif)**	**37.50**	**95**	*e*P	**P**	**09 37 32.0**	**+0.4**
	comp=Z,275nm,1.1s,mb5.9						
DAC				LR	LR		
	comp=Z,7µm,20.0s,MS5.4						
BGU	**Big Grassy Mou**	**37.51**	**85**	*e*P	**P**	**09 37 31.3**	**-0.4**
SPUT	**South Promonto**	**37.65**	**84**	*e*P	**P**	**09 37 33.3**	**+0.5**
AHID	**Auburn Hatcher**	**37.66**	**81**	*e*P	**P**	**09 37 33.7**	**+0.8**
	comp=Z,648nm,1.1s,mb6.3						
AHID				LR	LR		
	comp=Z,11µm,20.0s,MS5.6						
HWUT	**Hardware Ranch**	**38.02**	**83**	*e*P	**P**	**09 37 36.4**	**+0.4**
	comp=Z,284nm,1.1s,mb5.9						
HWUT				LR	LR		
	comp=Z,6µm,20.0s,MS5.4						
DUG	**Dugway**	**38.06**	**86**	*e*P	**P**	**09 37 37.2**	**+0.9**
	comp=Z,1µm,1.2s,mb6.5						
DUG				LR	LR		
	comp=Z,8µm,20.0s,MS5.5						
TCUT	**Toone Canyon**	**38.40**	**84**	*e*P	**P**	**09 37 39.4**	**+0.3**
CTU	**Camp Tracy**	**38.43**	**85**	*e*P	**P**	**09 37 39.9**	**+0.4**
KLR	**Kul'dur**	**38.48**	**292⇑**	*i*P	**P**	**09 37 38.0**	**-1.7**
KLR				*e*		09 39 03.0	
KLR				*e*PPP	PPP	09 39 34.0	+0.2
KLR				*e*SS	SS	09 46 17.0	+2.4
KLR				pmax	pmax		
	comp=N,110nm,1.2s						
KLR				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.6						
KLR				pmax	pmax		
	comp=E,800nm,7.0s						
KLR				pmax	pmax		
	comp=Z,1µm,7.0s						
KLR				MLR	MLR		
	comp=E,3µm,16.0s						
KLR				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.3						
LAO	**LASA Array**	**38.55**	**73**	*e*P	**P**	**09 37 40.5**	**+0.2**
	comp=Z,780nm,1.2s,mb6.3						
LAO				LR	LR		
	comp=Z,5µm,20.0s,MS5.3						
MWC	**Mount Wilson**	**38.56**	**98**	P	**P**	**09 37 40.8**	**+0.2**
MWC	**Mount Wilson**	**38.56**	**98**	*e*P	**P**	**09 37 40.7**	**+0.2**
BW06	**Boulder Array**	**38.61**	**80**	*e*P	**P**	**09 37 40.8**	**-0.1**
	comp=Z,271nm,1.6s,mb5.7						
BW06				LR	LR		
	comp=Z,7µm,20.0s,MS5.5						
PDAR	**Pinedale Array**	**38.61**	**80**	P	**P**	**09 37 41.0**	**+0.1**
	comp=Z,272nm,0.9s,mb6.0,baz=304,slow=4.0,SNR=1399						
PDAR				LR	LR	09 51 01.7	
	comp=Z,5µm,18.9s,MS5.4,baz=302,slow=32						
PDAR				P3KPbc		10 07 46.6	
	comp=Z,0.4nm,0.8s,baz=153,slow=3.3,SNR=3.8						
PDAR				PKPPKP		10 09 56.2	
	comp=Z,0.7nm,0.8s,baz=90,slow=0.9,SNR=3.7						
PDAR	**Pinedale Array**	**38.61**	**80**	P	**P**	**09 37 41.0**	**+0.1**
PDAR				LR	LR	09 51 01.7	
PDAR				P'P'		10 09 56.2	
JLU	**Jordanelle**	**38.67**	**85**	*e*P	**P**	**09 37 42.2**	**+0.8**
DGMT	**Dagmar**	**38.86**	**70**	*e*P	**P**	**09 37 42.9**	**-0.1**
	comp=Z,1µm,1.3s,mb6.5						
DGMT				LR	LR		
	comp=Z,8µm,19.0s,MS5.6						
DAU	**Daniels Canyon**	**38.90**	**85**	P	**P**	**09 37 44.8**	**+1.4**
DAU	**Daniels Canyon**	**38.90**	**85**	*e*P	**P**	**09 37 44.5**	**+1.1**
MPU	**Maple Canyon**	**38.90**	**85**	*e*P	**P**	**09 37 44.0**	**+0.7**
CLNS	**Chul'man**	**38.95**	**305⇑**	*i*P	**P**	**09 37 41.9**	**-1.7**
CLNS				*e**PP	pP	09 37 48.6	+2.6
CLNS				*e*		09 39 11.5	
CLNS				*e*		09 39 51.6	
CLNS				*i* S	**S**	**09 43 40.1**	**-1.8**
CLNS				*e*SS	SS	09 46 21.5	-3.4
CLNS				*e*SSS	SSS	09 47 00.4	+1.6
CLNS				*e*		09 47 46.6	
CLNS				pmax	pmax		
	comp=E,35nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,17nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s						
CLNS				pmax	pmax		
	comp=N,49nm,1.1s						
CLNS				pmax	pmax		
	comp=E,17nm,0.7s						
CLNS				smax			
	comp=E,153nm,11.9s						
CLNS				smax			
	comp=Z,805nm,11.4s						
CLNS				smax			
	comp=N,2µm,13.9s						
CLNS				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,2µm,14.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,300nm,16.0s,MS5.0						
MVU	**Marysvale**	**39.45**	**88**	*e*P	**P**	**09 37 48.8**	**+0.9**
	comp=E,350nm,1.1s,mb6.0						
MVU				LR	LR		
	comp=Z,8µm,20.0s,MS5.5						
MSU	**Marysvale**	**39.47**	**88**	P	**P**	**09 37 49.2**	**+1.1**
MSU	**Marysvale**	**39.47**	**88**	*e*P	**P**	**09 37 49.1**	**+1.0**
NEN	**Nelson**	**39.61**	**93**	*e*P	**P**	**09 37 49.7**	**+0.4**
NEN				*e*PcP	PcP	09 39 55.1	-1.9
LDFC	**Landfair**	**39.82**	**94**	*e*P	**P**	**09 37 51.0**	**0.0**
FCC	**Fort Churchill**	**39.83**	**51**	P	**P**	**09 37 50.9**	**+0.1**
FCC				pmax	pmax		
	comp=Z,660nm,1.0s,mb6.3						
FCC	**Fort Churchill**	**39.83**	**51**	*e*P	**P**	**09 37 50.6**	**-0.2**
	comp=Z,659nm,1.0s,mb6.3						
PFO	**Pinyon Flat Ob**	**39.96**	**97**	P	**P**	**09 37 52.6**	**+0.4**
PFO				pmax	pmax		
	comp=Z,340nm,1.1s,mb6.0						
PFO	**Pinyon Flat Ob**	**39.96**	**97**	*e*P	**P**	**09 37 52.3**	**+0.1**
	comp=Z,239nm,1.1s,mb5.8						
PFO				*e*PcP	PcP	09 39 55.8	-2.4
PFO				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
SRU	**San Rafael**	**40.13**	**86**	P	**P**	**09 37 54.5**	**+1.0**
SRU	**San Rafael**	**40.13**	**86**	*e*P	**P**	**09 37 54.2**	**+0.7**
BAR	**Barrett**	**40.45**	**98**	*e*P	**P**	**09 37 56.6**	**+0.3**
BAR				*e*PcP	PcP	09 39 57.5	-2.3
RSSD	**Black Hills**	**41.21**	**75**	P	**P**	**09 38 02.4**	**+0.1**
RSSD				PcP	PcP	09 39 60.0	-2.1
RSSD				S	**S**	**09 44 15.8**	**-0.2**
PV10	**Paradox Valley**	**41.50**	**86**	*e*P	**P**	**09 38 05.2**	**+0.4**
MAJO	**Matsushiro**	**41.62**	**271**	P	**P**	**09 38 04.1**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.4						
MAJO	**Matsushiro**	**41.62**	**271**	*e*P	**P**	**09 38 03.8**	**-2.0**
	comp=Z,121nm,1.1s,mb5.4						
MAJO				*e*PcP	PcP	09 40 00.9	-2.6
MAJO				LR	LR		
	comp=Z,3µm,22.0s,MS5.2						
MAT	**Matsushiro**	**41.62**	**271**	P	**P**	**09 38 04.2**	**-1.6**
MAT				S	**S**	**09 44 23.0**	**+0.9**
MAT	**Matsushiro**	**41.62**	**271**	*e*P	**P**	**09 38 04.0**	**-1.8**
	comp=Z,328nm,1.5s,mb5.7						
MAT				*e*S	**S**	**09 44 24.0**	**+1.9**
MAT				LR	LR		
	comp=Z,3µm,21.0s,MS5.1						
WUAZ	**Wupatki**	**41.85**	**91**	*e*P	**P**	**09 38 08.6**	**+1.0**
	comp=Z,856nm,1.2s,mb6.2						
PV01	**Paradox Valley**	**41.94**	**86**	*e*P	**P**	**09 38 08.3**	**0.0**
MDJ	**Mudanjiang**	**42.12**	**287**	P	**P**	**09 38 07.5**	**-2.2**
MDJ				AP	pP	09 38 10.5	-1.6
MDJ				XP	sP	09 38 11.9	-1.2
MDJ				PP	PP	09 39 44.8	-5.6
MDJ				PCP	PcP	09 40 02.8	-2.2
MDJ				S	**S**	**09 44 24.8**	**-4.5**
MDJ				LR	LR		
	comp=N,7µm,28.1s,MS5.5						
MDJ				LR	LR		
	comp=E,4µm,24.6s,MS5.5						
MDJ				LR	LR		
	comp=Z,2µm,28.1s,MS4.9						
MDJ	**Mudanjiang**	**42.12**	**287**	*e*P	**P**	**09 38 06.8**	**-2.9**
	comp=Z,53nm,0.9s,mb5.2						
RW3	**Ridgway**	**42.41**	**85**	P	**P**	**09 38 12.8**	**+0.6**
RW3	**Ridgway**	**42.41**	**85**	*e*P	**P**	**09 38 12.6**	**+0.4**
ULM	**Lac du Bonnet**	**42.71**	**63**	LR	LR	09 54 56.4	
	comp=Z,3µm,19.9s,MS5.2,baz=314,slow=34						
ISCO	**Idaho Springs**	**42.75**	**82**	P	**P**	**09 38 15.0**	**+0.1**
ISCO				pmax	pmax		
	comp=Z,270nm,1.4s,mb5.8						
ISCO	**Idaho Springs**	**42.75**	**82**	*e*P	**P**	**09 38 14.7**	**-0.2**
	comp=Z,270nm,1.4s,mb5.8						
ISCO				LR	LR		
	comp=Z,8µm,19.0s,MS5.6						
JHJ	**Hachijo jima 2**	**42.88**	**266**	P	**P**	**09 38 15.3**	**-0.9**
	comp=Z,102nm,1.0s,mb5.5,baz=55,slow=21,SNR=3.6						
BOD	**Bodaibo**	**43.86**	**311⇓**	*i*P	**P**	**09 38 21.8**	**-1.9**
BOD				*e*		09 44 51.0	
SDCO	**Great Sand Dun**	**44.08**	**84⇓**	*e*P	**P**	**09 38 26.2**	**+0.4**
	comp=Z,587nm,1.2s,mb6.2						
SDCO				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
TUC	**Tucson**	**44.34**	**94**	*e*P	**P**	**09 38 28.2**	**+0.2**
	comp=Z,451nm,1.4s,mb6.0						
TUC				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
CN2	**Changchun**	**45.04**	**288**	*e*P	**P**	**09 38 32.2**	**-1.2**
CN2				PCP	PcP	09 40 11.3	-3.5
CN2				PCS		09 44 05.1	
CN2				*e*S	**S**	**09 45 06.8**	**-4.9**
CN2				*e*SS	SS	09 48 23.1	-2.1
CN2				LR	LR		
	comp=N,8µm,23.0s,MS5.6						
CN2				LR	LR		
	comp=E,4µm,23.0s,MS5.6						
CN2				LR	LR		
	comp=Z,4µm,21.0s,MS5.3						
LAZ	**Ladron**	**45.21**	**89**	*e*P	**P**	**09 38 35.8**	**+0.9**
HIA	**Hailar**	**45.25**	**298**	P	**P**	**09 38 34.4**	**-0.6**
HIA				PcP	PcP	09 40 13.9	-1.5
HIA	**Hailar**	**45.25**	**298**	*e*P	**P**	**09 38 33.9**	**-1.1**
	comp=Z,537nm,1.3s,mb6.2						
HIA				*e*PcP	PcP	09 40 13.3	-2.2
ANMO	**Albuquerque**	**45.27**	**88**	P	**P**	**09 38 35.7**	**+0.3**
ANMO				sP	sP	09 39 00.8	+22
ANMO				PcP	PcP	09 40 14.8	-1.0
ANMO				S	**S**	**09 45 18.0**	**+2.8**
ANMO				ScS	ScS	09 48 32.6	+2.4
LENM	**Lemitar**	**45.47**	**89**	*e*P	**P**	**09 38 37.5**	**+0.6**
LPM	**Los Pinos Moun**	**45.58**	**88**	*e*P	**P**	**09 38 38.5**	**+0.7**
BNM	**Barren Site**	**45.69**	**89**	*e*P	**P**	**09 38 39.5**	**+0.8**
CBKS	**Cedar Bluff**	**46.95**	**79**	P	**P**	**09 38 48.5**	**-0.1**
CBKS				pmax	pmax		
	comp=Z,1µm,1.1s,mb6.7						
CBKS	**Cedar Bluff**	**46.95**	**79**	*e*P	**P**	**09 38 48.2**	**-0.4**
	comp=Z,1µm,1.2s,mb6.7						
CBKS				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
SNY	**Shenyang**	**47.31**	**287⇓**	*i*P	**P**	**09 38 51.0**	**-0.5**
SNY				AP	pP	09 38 59.6	+5.7
SNY				PCP	PcP	09 40 20.9	-1.9
SNY				S	**S**	**09 45 40.4**	**-3.9**
SNY				AMB	AMB		
	comp=Z,1µm,8.1s						
SNY				LR	LR		
	comp=N,2µm,16.6s,MS5.4						
SNY				LR	LR		
	comp=E,3µm,15.7s,MS5.4						
SNY				LR	LR		
	comp=Z,3µm,16.4s,MS5.4						
CPRX	**Cap Rock**	**48.15**	**88**	*e*P	**P**	**09 38 58.4**	**+0.3**
INCN	**Inchon**	**48.17**	**280**	*e*P	**P**	**09 38 56.5**	**-1.7**
	comp=Z,337nm,1.3s,mb6.2						
INCN				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
GDL2	**Guadalupe Moun**	**48.41**	**89**	*e*P	**P**	**09 38 59.8**	**-0.3**
JNU	**Nakatsue**	**48.41**	**273**	P	**P**	**09 38 58.6**	**-1.6**
	comp=Z,158nm,1.1s,mb6.0,baz=46,slow=11,SNR=64						
CLNB	**Carlsbad**	**48.66**	**88**	*e*P	**P**	**09 39 01.6**	**-0.5**
KSU1	**Kansas State U**	**48.66**	**76**	*e*P	**P**	**09 39 00.4**	**-1.6**
KBS	**Kingsbay**	**49.56**	**0⇓**	*i*P	**P**	**09 39 09.5**	**+1.1**
KBS				AMb	AMB	09 39 12.9	
	comp=Z,861nm,1.5s,mb6.6						
KBS				*e*PP	PP	09 41 05.0	+1.6
KBS				*e*S	**S**	**09 46 14.8**	**-0.5**
KBS				*e*SS	SS	09 49 50.9	+7.3
KBS				AMS	AMS	10 01 43.8	
	comp=Z,3µm,18.5s,MS5.3						
KBS	**Kingsbay**	**49.56**	**0**	P	**P**	**09 39 09.7**	**+1.3**
KBS				PcP	PcP	09 40 29.7	-0.8
KBS				S	**S**	**09 46 19.0**	**+3.7**
KBS	**Kingsbay**	**49.56**	**0**	P	**P**	**09 39 09.8**	**+1.4**
KBS				pmax	pmax		
	comp=Z,640nm,1.1s,mb6.6						
KBS	**Kingsbay**	**49.56**	**0**	*e*P	**P**	**09 39 09.5**	**+1.1**
	comp=Z,644nm,1.1s,mb6.6						
KBS				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
JFWS	**Jewell Farm**	**50.05**	**68**	P	**P**	**09 39 10.3**	**-2.3**
JFWS				pmax	pmax		
	comp=Z,650nm,1.0s,mb6.6						
JFWS	**Jewell Farm**	**50.05**	**68**	*e*P	**P**	**09 39 10.1**	**-2.5**
	comp=Z,650nm,1.0s,mb6.6						
JFWS				LR	LR		
	comp=Z,10µm,19.0s,MS5.8						
DAG	**Danmarks Havn**	**50.08**	**9⇑**	*i*P	**P**	**09 39 12.7**	**+0.2**
	comp=Z,540nm,1.0s,mb6.5						
WMOK	**Wichita Mounta**	**50.16**	**82**	P	**P**	**09 39 12.7**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,390nm,1.0s,mb6.4						
WMOK	**Wichita Mounta**	**50.16**	**82**	*e*P	**P**	**09 39 12.5**	**-1.1**
	comp=Z,389nm,1.0s,mb6.4						
WMOK				LR	LR		
	comp=Z,6µm,21.0s,MS5.5						
DL2	**Dalian**	**50.30**	**285**	PR		09 39 13.0	
DL2				PCP	PcP	09 40 31.5	-2.2
DL2				S	**S**	**09 46 25.0**	**-1.1**
DL2				LR	LR		
	comp=E,2µm,18.0s						
SPITS	**Spitsbergen Ar**	**50.30**	**359**	P	**P**	**09 39 14.2**	**0.0**
	comp=E,251nm,0.9s,mb6.2,baz=51,slow=2.1,SNR=90						
LTX	**Lajitas**	**50.81**	**91**	P	**P**	**09 39 18.4**	**-0.2**
LTX				pmax	pmax		
	comp=Z,580nm,1.0s,mb6.5						
LTX	**Lajitas**	**50.81**	**91**	*e*P	**P**	**09 39 18.2**	**-0.5**
	comp=Z,584nm,1.0s,mb6.5						
LTX				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
TXAR	**Lajitas Array**	**50.81**	**91**	P	**P**	**09 39 17.8**	**-0.8**
	comp=Z,190nm,0.6s,mb6.2,baz=300,slow=5.3,SNR=2353						
TXAR				LR	LR	09 58 28.0	
	comp=Z,3µm,19.1s,MS5.3,baz=200,slow=33						
TXAR				P3KP		10 09 04.4	
	comp=Z,0.4nm,1.0s,baz=162,slow=2.9,SNR=3.6						
TXAR				PKPPKP		10 09 55.6	
	comp=Z,0.8nm,0.8s,baz=153,slow=2.8,SNR=3.8						
TXAR	**Lajitas Array**	**50.81**	**91**	P	**P**	**09 39 17.8**	**-0.8**
TXAR				LR	LR	09 58 28.0	
TXAR				P'P'		10 09 55.6	
HSP	**Hornsund**	**51.49**	**359**	*e*P	**P**	**09 39 23.2**	**+0.1**
IRK	**Irkutsk**	**51.59**	**308**	*e*P	**P**	**09 39 23.0**	**-1.2**
IRK				*e*		09 40 37.0	
IRK				*e*S	**S**	**09 46 44.4**	**+0.7**
JCT	**Junction City**	**52.42**	**87**	*e*P	**P**	**09 39 29.1**	**-1.6**
JCT				pmax	pmax		
	comp=Z,840nm,1.2s,mb6.5						
JCT	**Junction City**	**52.42**	**87**	*e*P	**P**	**09 39 28.8**	**-1.9**
	comp=Z,840nm,1.2s,mb6.5						
JCT				LR	LR		
	comp=Z,5µm,19.0s,MS5.6						
CCM	**Cathedral Cave**	**52.55**	**74**	*e*P	**P**	**09 39 28.3**	**-3.4**
	comp=Z,388nm,1.1s,mb6.2						
CCM				LR	LR		
	comp=Z,777nm,20.0s,MS4.8						
SLM	**Saint Louis**	**52.78**	**73**	P	**P**	**09 39 31.1**	**-2.2**
SLM				pmax	pmax		
	comp=Z,1µm,1.3s,mb6.6						
SLM	**Saint Louis**	**52.78**	**73**	*e*P	**P**	**09 39 30.5**	**-2.8**
	comp=Z,1µm,1.4s,mb6.6						
BJI	**Beijing**	**52.80**	**290**	P	**P**	**09 39 32.4**	**-1.1**
BJI				S	**S**	**09 46 57.4**	**-3.0**
BJI				AMB	AMB		
	comp=Z,142nm,1.0s,mb5.8						
BJI				AMB	AMB		
	comp=Z,2µm,6.5s						
BJI				LR	LR		
	comp=N,8µm,26.1s,MS5.7						
BJI				LR	LR		
	comp=E,5µm,27.6s,MS5.7						
BJI				LR	LR		
	comp=Z,4µm,40.9s						
BJT	**Baijiatuau**	**52.82**	**290**	P	**P**	**09 39 32.5**	**-1.1**
BJT				S	**S**	**09 47 03.1**	**+2.4**
BJT	**Baijiatuau**	**52.82**	**290**	*e*P	**P**	**09 39 32.0**	**-1.6**
	comp=Z,142nm,0.9s,mb5.9						
ULN	**Ulaanbaatar**	**52.90**	**303**	PFAKE		09 39 50.0	+16
ULN				LR	LR		
	comp=Z,3µm,20.0s,MS5.4						
FVM	**French Village**	**53.09**	**73**	P	**P**	**09 39 32.9**	**-2.8**
FVM				pmax	pmax		
	comp=Z,710nm,1.2s,mb6.5						
FVM	**French Village**	**53.09**	**73**	*e*P	**P**	**09 39 32.8**	**-2.9**
	comp=Z,705nm,1.3s,mb6.4						
ZAK	**Zakamensk**	**53.23**	**307⇑**	*i*P	**P**	**09 39 35.6**	**-0.9**
SONM	**Songino Array**	**53.26**	**303**	P	**P**	**09 39 36.5**	**-0.3**
	comp=Z,203nm,1.0s,mb6.0,baz=59,slow=7.2,SNR=616						
SONM				PcP	PcP	09 40 43.2	-1.3
	comp=Z,82nm,0.9s,baz=70,slow=1.6,SNR=6.4						
SONM				PKPPKP		10 09 29.6	
	comp=Z,1.8nm,1.1s,baz=200,slow=2.1,SNR=5.8						
SONM				PKP2bc		10 10 10.3	
	comp=Z,1.5nm,1.1s,baz=297,slow=2.8,SNR=3.9						
SONM	**Songino Array**	**53.26**	**303**	P	**P**	**09 39 36.5**	**-0.3**
SONM				PcP	PcP	09 40 43.2	-1.3
SONM				P'P'		10 09 29.6	
SONM				⇑*e*		10 10 10.3	
MIAR	**Mount Ida**	**53.48**	**79**	*e*P	**P**	**09 39 36.9**	**-1.7**
	comp=Z,605nm,1.3s,mb6.4						
MIAR				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
MOY	**Mondy**	**53.54**	**309**	*e*P	**P**	**09 39 38.5**	**-0.2**
MOY				*e*		09 47 14.4	
BJO	**Bjornoya**	**53.96**	**358**	*e*P	**P**	**09 39 43.7**	**+2.2**
BJO				*e*S	**S**	**09 47 18.0**	**+2.3**
UALR	**University of**	**54.07**	**78**	*e*P	**P**	**09 39 40.4**	**-2.5**
	comp=Z,250nm,1.3s,mb6.0						
SCHQ	**Schefferville**	**54.52**	**44**	P	**P**	**09 39 44.6**	**-1.3**
	comp=Z,291nm,1.2s,mb6.2,baz=317,slow=7.5,SNR=95						
SCHQ				LR	LR	10 04 48.2	
	comp=Z,5µm,19.4s,MS5.6,baz=319,slow=38						
GUMO	**Guam**	**54.54**	**244**	P	**P**	**09 39 42.2**	**-4.4**
GUMO				pmax	pmax		
	comp=Z,140nm,0.9s,mb6.0						
GUMO	**Guam**	**54.54**	**244**	*e*P	**P**	**09 39 41.5**	**-5.1**
	comp=Z,144nm,0.8s,mb6.1						
PVMO	**Portageville**	**54.56**	**74**	*e*P	**P**	**09 39 43.7**	**-2.8**
BLO	**Bloomington**	**54.61**	**70**	P	**P**	**09 39 44.2**	**-2.6**
BLO				pmax	pmax		
	comp=Z,910nm,1.1s,mb6.7						
BLO	**Bloomington**	**54.61**	**70**	*e*P	**P**	**09 39 44.2**	**-2.6**
	comp=Z,911nm,1.1s,mb6.7						
NATX	**Nacogdoches**	**54.71**	**82**	*e*P	**P**	**09 39 46.3**	**-1.3**
	comp=Z,627nm,1.0s,mb6.6						
NATX				LR	LR		
	comp=Z,6µm,21.0s,MS5.7						
USIN	**University of**	**54.74**	**72**	*e*P	**P**	**09 39 45.2**	**-2.6**
	comp=Z,1µm,1.0s,mb6.9						
TIA	**Tai'an**	**54.76**	**286**	⇓P	**P**	**09 39 46.2**	**-1.8**
TIA				PP	PP	09 41 52.0	-0.2
TIA				S	**S**	**09 47 27.0**	**0.0**
TIA				AMB	AMB		
	comp=Z,217nm,1.0s,mb6.1						
TIA				LR	LR		
	comp=N,2µm,18.0s,MS5.4						
TIA				LR	LR		
	comp=E,2µm,18.0s,MS5.4						
HHC	**Hu-ho-hao-te**	**54.94**	**293**	*e*P	**P**	**09 39 48.8**	**-0.4**

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HHC                                      PP      PP      09 41 50.5 -3.2
HHC                                      S       S       09 47 27.7 -1.6
HHC                                      AMB     AMB
      comp=Z,263nm,1.2s,mb6.1
HHC                                      AMB     AMB
      comp=Z,2µm,6.7s
HHC                                      LR      LR
      comp=N,2µm,19.0s,MS5.2
HHC                                      LR      LR
      comp=E,1µm,22.6s,MS5.2
HHC                                      LR      LR
      comp=Z,2µm,17.8s,MS5.2
SADO  Sadowa            55.09  60        LR      LR      10 02 07.3
      comp=Z,3µm,18.2s,MS5.5,baz=345,slow=35
UTMT  University of     55.11  74     eP      P       09 39 48.1 -2.4
      comp=Z,1µm,1.2s,mb6.8
HKT   Hockley           55.24  84        P       P       09 39 50.4 -1.2
HKT                                      pmax    pmax
      comp=Z,500nm,1.4s,mb6.3
HKT   Hockley           55.24  84     eP      P       09 39 50.2 -1.4
      comp=Z,501nm,1.4s,mb6.3
HKT                                      LR      LR
      comp=Z,1µm,19.0s,MS5.0
SSE   Sheshan           55.79 278    ⇓P      P       09 39 54.0 -1.5
SSE                                      XP      sP      09 39 58.3 -0.6
SSE                                      PP      PP      09 41 54.1 -7.4
SSE                                      S       S       09 47 37.0 -3.8
SSE                                      AMB     AMB
      comp=Z,336nm,1.3s,mb6.2
SSE                                      LR      LR
      comp=N,2µm,38.3s,MS5.0
SSE                                      LR      LR
      comp=E,1µm,38.2s,MS5.0
SSE                                      LR      LR
      comp=Z,2µm,23.7s
SSE   Sheshan           55.79 278        P       P       09 39 54.0 -1.5
SSE                                      S       S       09 47 42.7 +1.9
ACSO  Alum Creek Sta    55.95  67     eP      P       09 39 53.6 -2.9
      comp=Z,656nm,1.3s,mb6.5
ACSO                                     LR      LR
      comp=Z,8µm,19.0s,MS5.8
BTO   Baotou            55.98 294     eP      P       09 39 56.5 -0.2
BTO                                      S       S       09 47 41.0 -2.2
BTO                                      AMB     AMB
      comp=Z,921nm,1.1s,mb6.7
OXF   Oxford            56.02  76        P       P       09 39 55.0 -2.1
OXF                                      pmax    pmax
      comp=Z,2µm,1.0s,mb7.2
OXF   Oxford            56.02  76     eP      P       09 39 54.8 -2.4
      comp=Z,2µm,1.1s,mb7.1
OXF                                      LR      LR
      comp=Z,1µm,20.0s,MS5.1
ZAIG  Zacatecas         56.23  96   ⇓iP      P       09 39 58.0 -0.8
ERPA  Erie              56.37  63     eP      P       09 39 57.0 -2.5
      comp=Z,1µm,1.2s,mb6.8
ERPA                                     LR      LR
      comp=Z,5µm,20.0s,MS5.6
JNW   Jan Mayen West    56.48   9     eP      P       09 40 01.0 +1.1
JMIC  Jan Mayen         56.51   9        LR      LR      10 03 23.5
      comp=Z,6µm,21.4s,MS5.7,baz=349,slow=35
JMIC  Jan Mayen         56.51   9   ⇓iP      P       09 39 59.4 -0.7
JMIC                                  eS      S       09 47 50.6 +0.7
JMIC                                  eSS     SS      09 51 38.5 +0.7
JMIC                                     AMS     AMS     10 03 39.2
      comp=Z,5µm,22.0s,MS5.6
TIY   Taiyuan           56.53 290    ⇓P      P       09 40 00.0 -0.7
TIY                                      S       S       09 47 53.0 +2.5
TIY                                      LR      LR
      comp=N,3µm,15.0s
TIY                                      LR      LR
      comp=Z,4µm,22.0s
NJ2   Nanjing           56.55 281     eP      P       09 39 57.9 -3.1
NJ2                                      AP      pP      09 40 02.4 -1.0
NJ2                                      XP      sP      09 40 04.7 +0.3
NJ2                                      PP      PP      09 42 04.6 -3.8
NJ2                                      S       S       09 47 45.0 -6.0
NJ2                                      XS              09 47 53.0
NJ2                                      SS      SS      09 51 32.0 -7.1
NJ2                                      AMB     AMB
      comp=Z,490nm,1.0s,mb6.5
NJ2                                      AMB     AMB
      comp=Z,2µm,11.4s
NJ2                                      LR      LR
      comp=N,6µm,26.9s,MS5.7
NJ2                                      LR      LR
      comp=E,6µm,23.8s,MS5.7
NJ2                                      LR      LR
      comp=Z,4µm,22.4s,MS5.5
ALLY  Alegheny Colle    56.60  64     eP      P       09 39 59.0 -2.2
CJM   Chamela           57.15 100   ⇓iP      P       09 40 03.2 -2.2
MSNY  Massena           57.21  58     eP      P       09 40 02.8 -2.7
PTN   Potsdam (NY)      57.43  58        P       P       09 40 05.2 -1.9
PTN   Potsdam (NY)      57.43  58     eP      P       09 40 04.8 -2.2
MCWV  Mont Chateau      58.11  65     eP      P       09 40 09.3 -2.6
      comp=Z,909nm,1.1s,mb6.7
MCWV                                     LR      LR
      comp=Z,3µm,19.0s,MS5.5
NCB   Newcomb           58.24  58     eP      P       09 40 10.6 -2.1
      comp=Z,787nm,1.2s,mb6.6
NCB                                      LR      LR
      comp=Z,4µm,22.0s,MS5.5
KEV   Kevo              58.40 355     ep      P       09 40 09.5 -3.9
      comp=Z,60nm,0.7s,mb5.7
KEV   Kevo              58.40 355     eP      P       09 40 09.5 -3.9
KEV                                      pmax    pmax
      comp=Z,60nm,0.7s,mb5.7
LRAL  Lakeview Retre    58.49  75     eP      P       09 40 11.0 -3.6
      comp=Z,197nm,1.2s,mb6.0
LRAL                                     LR      LR
      comp=Z,2µm,19.0s,MS5.3
BINY  Binghamton        58.51  61     eP      P       09 40 12.9 -1.7
      comp=Z,721nm,1.1s,mb6.6
BINY                                     LR      LR
      comp=Z,3µm,19.0s,MS5.4
SSPA  Standing Stone    58.54  63     eP      P       09 40 12.5 -2.3
      comp=Z,1µm,1.3s,mb6.8
SSPA                                     LR      LR
      comp=Z,907nm,22.0s,MS4.8
ARCES ARCESS Array B    58.70 355        P       P       09 40 14.7 -0.8
      comp=Z,89nm,0.9s,mb5.8,slow=6.1,SNR=123
ARCES                                    PcP     PcP     09 41 04.1 -1.2
      comp=Z,63nm,1.0s,slow=4.9,SNR=6.3
ARCES                                    LR      LR      10 08 10.3
      comp=Z,3µm,18.6s,MS5.5,baz=360,slow=39
ARCES                                    PKPPKP          10 09 53.1
      comp=Z,20nm,1.2s,baz=225,slow=1.7,SNR=14
MYNC  Murphy            58.79  72        P       P       09 40 13.9 -2.8
MYNC                                     pmax    pmax
      comp=Z,540nm,1.2s,mb6.5
MYNC  Murphy            58.79  72     eP      P       09 40 13.5 -3.2
      comp=Z,536nm,1.2s,mb6.5
MYNC                                     LR      LR
      comp=Z,5µm,20.0s,MS5.6
TRO   Tromso            58.85 358   ⇓iP      P       09 40 15.2 -1.5
TRO                                   ePP     PP      09 42 25.0 -3.6
TRO                                   eS      S       09 48 19.5 -1.1
TRO                                   eSS     SS      09 52 16.5 +0.7
TRO                                      AMS     AMS     10 03 50.9
      comp=Z,1µm,20.0s,MS5.1
ACCN  Adirondack Com    58.94  58     eP      P       09 40 15.9 -1.7
FWV   Forest Hill       58.99  68     eP      P       09 40 15.9 -2.1
PWV   Princeton         59.02  68     eP      P       09 40 16.1 -2.2
NVS   Novosibirsk       59.13 321    i P      P       09 40 17.0 -1.7
NVS                                   e                       09 42 30.0
NVS                                   e                       09 43 54.2
NVS                                  i S      S       09 48 19.2 -5.3
NVS                                      pmax    pmax
      comp=N,112nm,1.1s
NVS                                      pmax    pmax
      comp=E,133nm,1.1s
NVS                                      pmax    pmax
      comp=Z,278nm,1.1s,mb6.2
NVS                                      smax
      comp=N,300nm,2.4s
NVS                                      smax
      comp=E,135nm,2.4s
ELN   Prospectdale      59.27  68   ⇓eP      P       09 40 17.5 -2.4
KTK1  Kautokeino        59.33 356   ⇓iP      P       09 40 19.8 -0.2
KTK1                                  epP     pP      09 40 22.0 -0.5
KTK1                                     AMb     AMB     09 40 23.2
      comp=Z,291nm,1.4s,mb6.1
MOIG  Morelia           59.38  97   ⇓iP      P       09 40 20.0 -0.9
HNH   Hanover           59.44  57   ⇓eP      P       09 40 19.4 -1.7
      comp=Z,56nm,1.3s,mb5.4
BLA   Blacksburg        59.47  68        P       P       09 40 19.2 -2.1
BLA                                      pmax    pmax
      comp=Z,690nm,1.0s,mb6.6
BLA   Blacksburg        59.47  68     eP      P       09 40 18.9 -2.5
      comp=Z,687nm,1.0s,mb6.6
BLA                                      LR      LR
      comp=Z,8µm,19.0s,MS5.9
PQI   Presque Isle      59.54  52     eP      P       09 40 18.5 -3.1
      comp=Z,813nm,1.2s,mb6.6
PQI                                      LR      LR
      comp=Z,13µm,20.0s,MS6.1
LVZ   Lovozero          59.63 351   diP      P       09 40 21.4 -0.6
LVZ                                   i                       09 42 35.8
LVZ                                   eS      S       09 48 31.8 +1.0
LVZ                                      pmax    pmax
      comp=Z,772nm,1.2s,mb6.6
LVZ                                      pmax    pmax
      comp=N,395nm,1.4s
LVZ                                      pmax    pmax
      comp=E,145nm,1.4s
LVZ                                      smax
      comp=N,2µm,5.4s
LVZ                                      smax
      comp=Z,2µm,5.6s
LVZ                                      smax
      comp=E,2µm,6.7s
LVZ                                      smax
      comp=Z,728nm,9.7s
LVZ                                      smax
      comp=N,929nm,10.6s
LVZ                                      smax
      comp=E,2µm,11.5s
LVZ                                      MLR     MLR
      comp=N,2µm,16.0s,MS5.5
LVZ                                      MLR     MLR
      comp=E,3µm,18.0s,MS5.5
LVZ   Lovozero          59.63 351    i Pr                     09 40 21.1
TATO  Taipei            59.95 273        PFAKE                09 40 40.0  +15
TATO                                     LR      LR
      comp=Z,3µm,21.0s,MS5.4
APA   Apatity           60.07 351   ⇑iP      P       09 40 24.4 -0.6
APA                                   e                       09 42 36.0
APA                                   eS      S       09 48 36.0 -0.4
APA                                   e                       09 50 15.0
APA                                      pmax    pmax
      comp=Z,308nm,1.6s,mb6.1
APA                                      pmax    pmax
      comp=Z,3µm,8.0s
APA                                      smax
      comp=N,4µm,6.0s
APA                                      smax
      comp=E,3µm,6.0s
WHN   Wuhan             60.35 283   ⇓iP      P       09 40 25.2 -2.3
WHN                                      S       S       09 48 40.0 -0.6
WHN                                      AMB     AMB
      comp=Z,335nm,1.0s,mb6.3
WHN                                      AMB     AMB
      comp=Z,1µm,4.0s
WHN                                      LR      LR
      comp=N,2µm,20.1s,MS5.5
WHN                                      LR      LR
      comp=E,3µm,16.4s,MS5.5
WHN                                      LR      LR
      comp=Z,4µm,18.8s,MS5.5
QUA2  Belchertown       60.40  58     eP      P       09 40 29.3 +1.6
      comp=Z,872nm,1.2s,mb6.7
LOF   Lofoten           60.42   0   ⇓iP      P       09 40 28.5 +1.1
LOF                                      AMb     AMB     09 40 30.1
      comp=Z,159nm,1.1s,mb6.0
PAL   Palisades         60.46  60   ⇓iP      P       09 40 26.3 -1.8
PAL                                      pmax    pmax
      comp=Z,660nm,1.2s,mb6.5
PAL   Palisades         60.46  60   ⇓iP      P       09 40 26.3 -1.8
      comp=Z,656nm,1.3s,mb6.5
CBN   Corbin            60.51  65     eP      P       09 40 26.1 -2.4
      comp=Z,1µm,1.3s,mb6.9
CBN                                      LR      LR
      comp=Z,4µm,19.0s,MS5.6
CRX   Cerrillo          60.52  96     eP      P       09 40 28.0 -0.8
HRV   Harvard--Oak R    60.66  58        P       P       09 40 28.0 -1.4
HRV                                      pmax    pmax
      comp=Z,690nm,1.2s,mb6.7
HRV   Harvard--Oak R    60.66  58     eP      P       09 40 27.4 -2.0
      comp=Z,692nm,1.3s,mb6.6
HRV                                      LR      LR
      comp=Z,3µm,19.0s,MS5.5
ZIIG  Zihuatanejo       60.78  99   ⇓iP      P       09 40 28.5 -2.0
WES   Weston            60.87  58        P       P       09 40 29.4 -1.4
WES                                      pmax    pmax
      comp=Z,1µm,1.0s,mb6.9
WES   Weston            60.87  58   ⇓iP      P       09 40 29.3 -1.5
      comp=Z,1µm,1.0s,mb6.9
WES                                      LR      LR
      comp=Z,4µm,21.0s,MS5.5
UNM   Universidad Na    60.89  96   ⇓iP      P       09 40 29.6 -1.6
UNM                                   eP              09 40 30.0
JSC   Jenkinsville      61.03  71        P       P       09 40 29.8 -2.2
JSC   Jenkinsville      61.03  71     eP      P       09 40 29.6 -2.4
BRYW  Bryant College    61.08  58   ⇓eP      P       09 40 30.6 -1.7
      comp=Z,811nm,1.1s,mb6.8
XAN   Xi’an             61.12 289        P       P       09 40 31.1 -1.6
XAN                                      AP      pP      09 40 39.8 +4.6
XAN                                      S       S       09 48 47.2 -3.2
XAN                                      AMB     AMB
      comp=Z,225nm,1.5s,mb6.1
XAN                                      AMB     AMB
      comp=Z,900nm,7.0s
XAN                                      LR      LR
      comp=N,2µm,21.3s,MS5.3
XAN                                      LR      LR
      comp=E,2µm,22.3s,MS5.3
XAN                                      LR      LR
      comp=Z,4µm,19.9s,MS5.6
EMMW  East Machias      61.20  54     eP      P       09 40 30.7 -2.4
      comp=Z,2µm,1.1s,mb7.1
EMMW                                     LR      LR
      comp=Z,15µm,20.0s,MS6.1
PPM   Popocatepetl      61.43  95   ⇓iP      P       09 40 33.5 -1.4
PPM                                   eP              09 40 34.0
QZH   Quanzhou          61.77 275    i PR             09 40 35.0
QZH                                      S       S       09 48 58.0 -0.7
QZH                                      AMB     AMB
      comp=Z,590nm,1.5s,mb6.5
QZH                                      AMB     AMB
      comp=Z,2µm,4.5s
QZH                                      LR      LR
      comp=N,920nm,13.6s,MS5.5
QZH                                      LR      LR
      comp=E,3µm,16.1s,MS5.5
QZH                                      LR      LR
      comp=Z,2µm,17.8s,MS5.4
CAIG  El Cayaco         61.94  98   ⇓iP      P       09 40 36.4 -2.0
MOR8  Moi Rana          62.38 360   ⇓iP      P       09 40 38.7 -2.0
MOR8                                     AMb     AMB     09 40 42.1
      comp=Z,156nm,1.7s,mb5.9
GTA   Gaotai            62.47 299   ⇓iP      P       09 40 40.5 -1.2
GTA                                      AP      pP      09 40 45.2 +1.1
GTA                                      XP      sP      09 40 47.4 +2.4
GTA                                      PCP     PcP     09 41 20.0 -0.8
GTA                                      PP      PP      09 42 59.4 -1.6
GTA                                      PPP     PPP     09 44 29.1 -1.9
GTA                                      SCP             09 45 20.6
GTA                                      S       S       09 49 04.4 -2.9
GTA                                      XS              09 49 11.6
GTA                                      PS      PS      09 49 23.0 -2.3
GTA                                      SCS     ScS     09 50 28.1 -2.4
GTA                                      SS      SS      09 53 08.9 -4.1
GTA                                      AMB     AMB
      comp=Z,152nm,1.1s,mb6.0
GTA                                      AMB     AMB
      comp=Z,1µm,7.2s
GTA                                      LR      LR
      comp=N,3µm,23.6s,MS5.4
GTA                                      LR      LR
      comp=E,2µm,23.6s,MS5.4
GTA                                      LR      LR
      comp=Z,2µm,23.6s,MS5.2
NHSC  New Hope          62.50  71     eP      P       09 40 39.8 -2.2
      comp=Z,1µm,1.0s,mb7.0
NHSC                                     LR      LR
      comp=Z,4µm,20.0s,MS5.6
HBF   Harts Bluff       62.50  71     eP      P       09 40 40.6 -1.4
HBF   Harts Bluff       62.50  71     eP      P       09 40 39.7 -2.3
TWB   Tillmans-White    62.53  71     eP      P       09 40 39.8 -2.4
LZH   Lanzhou           62.60 294    ⇓P      P       09 40 42.2 -0.4
LZH                                      AP      pP      09 40 52.1 +7.0
LZH                                      PP      PP      09 43 01.0 -1.2
LZH                                      S       S       09 49 08.2 -0.9
LZH                                      PS      PS      09 49 31.1 +3.9
LZH                                      SS      SS      09 53 17.0 +1.7
LZH                                      AMB     AMB
      comp=Z,910nm,1.3s,mb6.8
LZH                                      AMB     AMB
      comp=Z,3µm,4.5s
RGRS  Roger Stewart     62.63  71   ⇓eP      P       09 40 40.6 -2.2
ENH   Enshi             63.47 286        P       P       09 40 46.5 -1.9
ENH                                      S       S       09 49 17.6 -2.5
ENH   Enshi             63.47 286     eP      P       09 40 46.1 -2.3
      comp=Z,694nm,1.3s,mb6.6
SOKR  Solikamsk         63.69 337   diP      P       09 40 47.1 -2.2
SOKR                                 i S      S       09 49 17.6 -4.6
SOKR                                     pmax    pmax
      comp=Z,270nm,1.1s,mb6.2
SOKR                                     MLR     MLR
      comp=Z,4µm,19.0s,MS5.7
PNIG  Pinotepa          63.76  97   ⇓iP      P       09 40 48.6 -1.9
NSS   Namsos            64.03   1     eP      P       09 40 49.8 -1.6
NSS                                   ePP     PP      09 43 08.4 -5.7
NSS                                   eS      S       09 49 26.4 +0.1
NSS                                      AMS     AMS     10 07 17.3
      comp=Z,2µm,28.9s,MS5.2
OXX   Oaxaca            64.10  95     eP      P       09 40 52.0 -0.7
TUIG  Tuzandepetl       64.81  93   ⇓iP      P       09 40 56.0 -1.3
CMIG  Matias Romero     65.24  94   ⇓iP      P       09 40 58.2 -1.8
BVAR  Borovoye Array    65.29 326        P       P       09 40 59.7 -0.2
      comp=Z,167nm,0.9s,mb6.1,baz=45,slow=6.3,SNR=581
BVAR                                     PcP     PcP     09 41 31.0 -1.1
      comp=Z,36nm,0.7s,baz=45,slow=4.2,SNR=4.8
BVAR                                     PKPPKP          10 09 34.6
      comp=Z,4.5nm,1.0s,baz=153,slow=3.3,SNR=9.2
BVAR                                     LR      LR      10 12 57.3
      comp=Z,54nm,18.9s,baz=95,slow=39
BRVK  Borovoye          65.30 326   ⇓eP      P       09 40 59.6 -0.3
      comp=Z,290nm,1.1s,mb6.2
VOSK  Vostochnaya       65.34 326        P       P       09 40 59.6 -0.5
VOSK                                     pmax    pmax
      comp=Z,339nm,1.3s,mb6.2
VOSK  Vostochnaya       65.34 326    i P      P       09 40 59.7 -0.4
DWPF  Disney            65.36  75   ⇓eP      P       09 40 58.5 -2.1
      comp=Z,622nm,1.5s,mb6.4
DWPF                                     LR      LR
      comp=Z,829nm,20.0s,MS4.9
WMQ   Urumqi            65.41 310   ⇓iP      P       09 41 00.4 -0.3
WMQ                                      AP      pP      09 41 04.4 +1.2
WMQ                                      XP      sP      09 41 07.2 +3.1
WMQ                                      PCP     PcP     09 41 32.1 -0.6
WMQ                                      PP      PP      09 43 26.7 -0.2
WMQ                                      S       S       09 49 43.4 -0.3
WMQ                                      SCS     ScS     09 50 51.6 -1.2
WMQ                                      AMB     AMB
      comp=Z,139nm,1.1s,mb5.9
WMQ                                      LR      LR
      comp=N,4µm,20.0s,MS5.7
WMQ                                      LR      LR
      comp=E,4µm,25.0s,MS5.7
WMQ                                      LR      LR
      comp=Z,4µm,23.0s,MS5.5
HUIG  Huatulco          65.48  96   ⇓iP      P       09 40 59.8 -1.8
MKAR  Makanchi Array    65.61 315        P       P       09 41 00.6 -1.3
      comp=Z,56nm,0.8s,mb5.7,baz=54,slow=6.9,SNR=199
MKAR                                     PKPPKP          10 09 32.6
      comp=Z,3.7nm,1.0s,baz=214,slow=4.4,SNR=4.4
MKAR                                     LR      LR      10 09 59.0
      comp=Z,4µm,21.6s,MS5.6,baz=35,slow=36
MKAR  Makanchi Array    65.61 315    i P      P       09 41 00.4 -1.5
MKAR                                     pmax    pmax
      comp=Z,140nm,1.0s
ZRNK  Zerenda           65.83 327        P       P       09 41 03.1 -0.1
ZRNK                                     pmax    pmax
      comp=Z,402nm,1.1s,mb6.4
ZRNK  Zerenda           65.83 327    i P      P       09 41 03.2  0.0
MOL   Molde             65.90   3   ⇓iP      P       09 41 07.0 +3.5
MOL                                      AMb     AMB     09 41 10.2
      comp=Z,421nm,1.4s,mb6.3
ARU   Arti              66.01 335   ⇓iP      P       09 41 04.3  0.0
ARU                                   i                       09 41 13.5
ARU                                   i                       09 41 34.8
ARU                                   i                       09 43 28.5
ARU                                  i PPP    PPP     09 45 03.0 -4.0
ARU                                  i S      S       09 49 52.9 +2.0
ARU                                   i                       09 50 57.5
ARU                                   eSS     SS      09 54 02.2 -5.2
ARU                                      pmax    pmax
      comp=Z,397nm,1.0s,mb6.4
ARU                                      MLR     MLR
      comp=Z,6µm,24.0s,MS5.7
ARU                                      MLR     MLR
      comp=N,4µm,23.0s,MS5.6
ARU                                      MLR     MLR
      comp=E,800nm,20.0s,MS5.6
ARU   Arti              66.01 335   ⇓iP      P       09 41 04.0 -0.3
      comp=E,369nm,1.0s,mb6.4
ARU                                      LR      LR
      comp=Z,945nm,19.0s,MS5.0
KAF   Kangasniemi       66.03 354     ep      P       09 41 01.5 -2.8
      comp=Z,39nm,0.6s,mb5.6,baz=4.9,slow=6.0
KAF   Kangasniemi       66.03 354     eP      P       09 41 01.5 -2.8
KAF                                      pmax    pmax
      comp=Z,39nm,0.6s,mb5.6
GZH   Guangzhou         66.38 278        P       P       09 41 01.9 -5.4
GZH                                      S       S       09 49 49.6 -6.3
GZH                                      AMB     AMB
      comp=Z,1µm,5.5s
GZH                                      LR      LR
      comp=N,843nm,16.3s,MS5.3
GZH                                      LR      LR
      comp=E,1µm,15.7s,MS5.3
GZH                                      LR      LR
      comp=Z,1µm,15.1s,MS5.2
CD2   Chengdu           66.39 290   ⇓iP      P       09 41 06.5 -0.7
CD2                                      PP      PP      09 43 38.4 +2.8
CD2                                      PPP     PPP     09 45 07.8 -3.5
CD2                                      S       S       09 49 51.8 -4.2
CD2                                      XS              09 50 01.8
CD2                                      AMB     AMB
      comp=Z,490nm,1.1s,mb6.5
CD2                                      AMB     AMB
      comp=Z,2µm,7.8s
CD2                                      LR      LR
      comp=N,2µm,20.4s
CD2                                      LR      LR
      comp=Z,3µm,22.6s,MS5.5
DOMB  Dombas            66.47   2   ⇓iP      P       09 41 06.8 -0.4
DOMB                                     AMb     AMB     09 41 09.8
      comp=Z,312nm,1.6s,mb6.1
FINES FINESS Array B    66.71 354        P       P       09 41 08.2 -0.5
      comp=Z,148nm,1.0s,mb6.0,baz=18,slow=6.0,SNR=262
FINES                                    PKPPKP          10 09 31.8
      comp=Z,6.7nm,1.0s,baz=153,slow=4.3,SNR=14
FINES                                    LR      LR      10 11 32.7
      comp=Z,3µm,21.6s,MS5.4,baz=4.8,slow=37
FINES FINESS Array B    66.71 354    i P      P       09 41 08.2 -0.5
FINES                                    pmax    pmax
      comp=Z,148nm,1.0s
HYA   Hoyanger          67.25   4     eP      P       09 41 13.0 +0.8
HYA                                      AMb     AMB     09 41 17.2
      comp=Z,397nm,1.6s,mb6.2
YEL1  Yell              67.39   8   ⇓iP      P       09 41 12.8 -0.3
NB2   NORSAR Subarra    67.52   1        P       P       09 41 13.7 -0.2
      comp=Z,328nm,1.2s,mb6.2,baz=358,slow=6.2
NB2   NORSAR Subarra    67.52   1        P       P       09 41 13.7 -0.2
      baz=358,slow=6.2
NOA   NORSAR Array B    67.52   1        P       P       09 41 13.4 -0.4
      comp=Z,145nm,1.1s,mb5.9,baz=0.4,slow=6.3,SNR=91
NOA                                      PKPPKP          10 09 31.3
      comp=Z,10nm,1.0s,baz=158,slow=3.1,SNR=14
NOA                                      LR      LR      10 10 05.7
      comp=Z,1µm,21.1s,MS5.1,baz=355,slow=35
WAL1  Walls             67.64   8   ⇓iP      P       09 41 14.5 -0.2
LRW   Lerwick           67.80   8   ⇓iP      P       09 41 15.7 +0.1
LRW                                      AMb     AMB     09 41 17.9
      comp=Z,375nm,1.6s,mb6.2
ASK   Askoy             67.89   5     eP      P       09 41 16.1  0.0
ASK                                      AMb     AMB     09 41 18.6
      comp=Z,542nm,1.6s,mb6.3
SAN1  Sandwick          67.91   8   ⇓iP      P       09 41 15.9 -0.4
GYA   Guiyang           67.95 285    ⇓P      P       09 41 15.9 -1.3
GYA                                      AP      pP      09 41 20.8 +1.1
GYA                                      XP      sP      09 41 25.1 +4.5
GYA                                      PP      PP      09 43 47.8 -1.2
GYA                                      S       S       09 50 14.1 -0.7
GYA                                      XS              09 50 19.8
GYA                                      AMB     AMB
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	comp=Z,320nm,1.2s,mb6.2						
GYA				AMB	AMB		
	comp=Z,980nm,3.6s						
GYA				LR	LR		
	comp=N,2µm,19.2s,MS5.5						
GYA				LR	LR		
	comp=E,2µm,19.5s,MS5.5						
GYA				LR	LR		
	comp=Z,2µm,15.6s,MS5.4						
RUND	**Rundenannen**	67.96	4	⇓*i*P	P	09 41 16.5	-0.2
RUND				AMb	AMB	09 41 19.9	
	comp=Z,572nm,1.5s,mb6.4						
BER	**Bergen**	67.99	5	*e*P	P	09 41 16.6	-0.2
BER				AMb	AMB	09 41 19.0	
	comp=Z,319nm,1.5s,mb6.1						
PUL	**Pulkovo**	68.01	351	*de*P	P	09 41 17.2	+0.2
PUL				*i*		09 43 47.8	
PUL				*i* PPP	PPP	09 45 26.6	+0.6
PUL				*e*S	S	09 50 16.2	+1.3
PUL				*i*		09 51 09.8	
PUL				*i* SS	SS	09 54 47.0	+8.6
PUL				pmax	pmax		
	comp=N,487nm,1.1s						
PUL				pmax	pmax		
	comp=Z,368nm,1.1s,mb6.3						
PUL				pmax	pmax		
	comp=E,132nm,0.9s						
PUL				pmax	pmax		
	comp=Z,660nm,1.3s,mb6.5						
PUL				pmax	pmax		
	comp=N,846nm,1.4s						
PUL				pmax	pmax		
	comp=E,181nm,1.0s						
PUL				smax			
	comp=N,476nm,1.7s						
PUL				smax			
	comp=E,2µm,3.9s						
PUL				smax			
	comp=Z,633nm,11.0s						
PUL	**Pulkovo**	68.01	351	*e*P	P	09 41 17.4	+0.4
LQP	**Lukban**	68.05	265	⇓*e*P	P	09 41 16.4	-1.5
EGD	**Espegrend**	68.10	5	*e*P	P	09 41 17.6	+0.1
EGD				AMb	AMB	09 41 19.9	
	comp=Z,363nm,1.5s,mb6.2						
PMOR	**Pomariorio Ree**	68.38	161	*e*P	P	09 41 18.1	-1.9
	comp=Z,262nm,1.2s,mb6.1						
TGY	**Tagaytay City**	68.43	265	P	P	09 41 19.7	-0.6
	comp=Z,414nm,0.6s,mb6.6,baz=240,slow=2.7,SNR=8.0						
HFS	**Hagfors**	68.45	0	PKP2bc		10 09 24.3	
	comp=Z,2.2nm,0.8s,baz=225,slow=8.4,SNR=5.4						
ODD1	**Odda**	68.52	4	⇓*i*P	P	09 41 19.0	-1.2
ODD1				AMb	AMB	09 41 22.4	
	comp=Z,284nm,1.7s,mb5.9						
TPX	**Tapachula**	68.53	93	*e*P	P	09 41 19.0	-1.9
VAH	**Vaihoa**	68.67	161	*e*P	P	09 41 19.7	-2.1
	comp=Z,245nm,1.1s,mb6.0						
KONO	**Kongsberg**	68.88	2	⇓*i*P	Px	09 41 57.4	
KONO				AMb	AMB	09 42 00.8	
	comp=Z,404nm,1.0s,mb6.3						
KONO				*i*		09 51 02.2	
KONO				AMS	AMS	10 09 56.2	
	comp=Z,2µm,20.2s,MS5.2						
KONO	**Kongsberg**	68.88	2	PFAKE		09 41 30.0	+7.6
KONO				LR	LR		
	comp=Z,242nm,22.0s,MS4.4						
BLS5	**Blasjo**	69.00	4	⇓*i*P	P	09 41 23.8	+0.7
BLS5				*e*pP	pP	09 41 25.6	0.0
BLS5				AMb	AMB	09 41 27.0	
	comp=Z,218nm,1.5s,mb5.9						
KMY	**Karmoy**	69.16	5	*e*P	P	09 41 23.7	-0.4
KMY				AMb	AMB	09 41 27.1	
	comp=Z,183nm,1.5s,mb5.8						
PECR	**Pechory**	69.40	343	*d i*P	P	09 41 25.0	-0.6
PECR				*e*		09 41 55.0	
PECR				*e*		09 44 00.0	
PECR				*i* S	S	09 50 32.0	+0.5
PECR				*i*		09 51 06.6	
PECR				*e*		09 51 17.0	
PECR				pmax	pmax		
	comp=Z,2µm,6.0s						
PECR				smax			
	comp=N,4µm,7.0s						
PECR				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.5						
STAV	**Stavanger**	69.46	4	*e*P	P	09 41 25.5	-0.4
STAV				AMb	AMB	09 41 29.2	
	comp=Z,307nm,1.4s,mb6.0						
VSU	**Vasula**	69.62	353	*i* Pr		09 41 26.9	
PPT	**Papeete**	70.56	163	P	P	09 41 32.0	-1.3
	comp=Z,72nm,1.0s,mb5.6,baz=75,slow=10,SNR=3.6						
PPT	**Papeete**	70.56	163	*e*P	P	09 41 31.4	-1.9
	comp=Z,98nm,1.2s,mb5.6						
PPT	**Papeete**	70.56	163	*e*L		09 59 30.5	
	comp=Z,3µm,22.5s						
PPT				*e*R		10 02 43.3	
	comp=Z,21µm,27.8s						
TIAR	**Tiarei**	70.59	163	*e*P	P	09 41 31.5	-2.0
	comp=Z,579nm,0.9s,mb6.5						
PAE	**Paea**	70.65	163	*e*P	P	09 41 32.3	-1.6
	comp=Z,463nm,1.4s,mb6.2						
AAA	**Alma-Ata**	70.71	316	*i* P	P	09 41 35.0	+1.2
AAA				*e*S	S	09 50 52.5	+5.5
AAA				pmax	pmax		
	comp=Z,2µm,8.0s						
AAA				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.4						
TVO	**Taravao**	70.83	163	*e*P	P	09 41 33.3	-1.7
	comp=Z,292nm,0.9s,mb6.2						
EDR	**Drumtochty**	70.84	9	⇓*e*P	P	09 41 34.1	-0.3
DAV	**Davao City (W)**	71.04	257	*e*P	P	09 41 34.0	-2.3
MOS	**Moscow**	71.05	346	κ *i*P	P	09 41 35.3	-0.3
MOS				*e*	pP	09 41 39.0	+0.9
MOS				*e*		09 44 11.3	
MOS				*e*PPP	PPP	09 45 53.0	-3.4
MOS				*e*S	S	09 50 50.4	-0.3
MOS				*e*		09 51 35.5	
MOS				*e*SSS	SSS	09 58 29.3	-2.8
MOS				pmax	pmax		
	comp=Z,939nm,1.2s,mb6.6						
MOS				MLR	MLR		
	comp=Z,6µm,19.9s,MS5.8						
MOS				MLR	MLR		
	comp=N,3µm,19.3s						
EDU	**Dundee**	71.16	10	⇓*e*P	P	09 41 36.0	-0.3
KMI	**Kunming**	71.29	287	⇓*i*P	P	09 41 36.7	-1.0
KMI				XP	sP	09 41 41.2	+0.1
KMI				PCP	PcP	09 41 59.2	+1.5
KMI				PP	PP	09 44 16.1	-1.7
KMI				PPP	PPP	09 45 59.0	-0.1
KMI				S	S	09 50 52.9	-1.2
KMI				XS		09 51 00.4	
KMI				SCS	ScS	09 51 39.4	+0.5
KMI				SS	SS	09 55 26.4	-3.7
KMI				AMB	AMB		
	comp=Z,173nm,1.5s,mb5.8						
KMI				AMB	AMB		
	comp=Z,2µm,4.2s						
KMI				LR	LR		
	comp=N,2µm,19.5s,MS5.5						
KMI				LR	LR		
	comp=E,2µm,16.7s,MS5.5						
KMI				LR	LR		
	comp=Z,2µm,29.5s						
EAB	**Aberfoyle**	71.37	11	⇓*i*P	P	09 41 37.4	-0.2
EAB				AMb	AMB	09 41 40.8	
	comp=Z,516nm,1.7s,mb6.2						
EBH	**Black Hill**	71.40	10	⇓*e*P	P	09 41 37.8	0.0
EBH				AMb	AMB	09 41 40.2	
	comp=Z,457nm,1.4s,mb6.2						
TKM2	**Tokmak 2**	71.57	317	P	P	09 41 39.1	+0.1
	SNR=64						
QIZ	**Qiongzhong**	71.57	277	⇓*i*P	P	09 41 38.0	-1.4
QIZ				PCP	PcP	09 41 56.0	-2.9
QIZ				PP	PP	09 44 18.6	-1.5
QIZ				S	S	09 50 56.2	-1.2
QIZ				XS		09 51 10.4	
QIZ				SKS	SKS	09 51 34.6	-8.5
QIZ				SS	SS	09 55 34.8	+0.4
QIZ				LR	LR		
	comp=E,1µm,22.0s						
QIZ				LR	LR		
	comp=Z,1µm,21.1s,MS5.1						
QIZ	**Qiongzhong**	71.57	277	*e*P	P	09 41 37.3	-2.1
	comp=Z,219nm,1.4s,mb5.9						
PCOU	**Corrie**	71.59	10	⇓*i*P	P	09 41 39.1	+0.2
PMSU	**Muirshiel**	71.66	11	⇓*e*P	P	09 41 39.2	-0.1
POB1	**Observatory**	71.69	11	⇓*e*P	P	09 41 39.7	+0.1
USP	**Ospenovka**	71.75	318	P	P	09 41 40.3	+0.2
	SNR=125						
EDI	**Edinburgh**	71.76	10	⇓*i*P	P	09 41 40.0	+0.1
EDI				AMb	AMB	09 41 42.3	
	comp=Z,422nm,1.6s,mb6.1						
BBSR	**BB Station**	71.80	61	⇓*e*P	P	09 41 38.8	-1.8
	comp=Z,1µm,1.6s,mb6.5						
BBSR				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
OBN	**Obninsk**	71.81	346	κ *i*P	P	09 41 39.5	-0.7
OBN				*i*		09 41 46.7	
OBN				*i*		09 41 55.2	
OBN				*e*		09 44 17.4	
OBN				*i* PPP	PPP	09 46 07.8	+4.6
OBN				*i* S	S	09 50 59.5	0.0
OBN				*e*PS	PS	09 51 24.9	-5.6
OBN				*i*		09 51 43.4	
OBN				*i*		09 51 52.5	
OBN				*i* SS	SS	09 55 34.5	-2.8
OBN				pmax	pmax		
	comp=Z,509nm,1.2s,mb6.3						
OBN				pmax	pmax		
	comp=Z,787µm,1.3s						
OBN				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.6						
OBN	**Obninsk**	71.81	346	⇓*i*P	P	09 41 39.4	-0.9
	comp=Z,379nm,1.1s,mb6.2						
OBN				LR	LR		
	comp=Z,957nm,21.0s,MS5.0						
ESY	**Stoneypath**	71.82	10	⇓*i*P	P	09 41 40.3	0.0
ESY				AMb	AMB	09 41 43.7	
	comp=Z,232nm,1.6s,mb5.9						
ULHL	**Ulahol**	71.84	316	P	P	09 41 41.6	+0.9
	SNR=6.6						
PCA1	**Carrot**	71.86	11	⇓*i*P	P	09 41 40.5	0.0
CHMS	**Chumysh**	71.86	318	P	P	09 41 41.0	+0.2
	SNR=69						
AB31	**Akbulak array**	71.94	330	*i* P	P	09 41 40.7	-0.4
AB31				pmax	pmax		
	comp=Z,317nm,1.1s,mb6.2						
GMK	**Mull of Kintyr**	72.05	11	⇓*i*P	P	09 41 41.6	0.0
FRU	**Bishkek**	72.05	318	*e*P	P	09 41 42.0	+0.1
FRU				*e*		09 44 23.0	
FRU				*e*PPP	PPP	09 46 10.0	+4.3
FRU				*e*S	S	09 51 05.0	+2.5
FRU				*e*SS	SS	09 55 34.0	-7.3
FRU				*e*SSS	SSS	09 58 53.0	+2.6
FRU				pmax	pmax		
	comp=Z,450nm,1.7s,mb6.1						
FRU				smax			
	comp=E,2µm,10.0s						
FRU				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.6						
KBK	**Karagaybulak**	72.06	317	P	P	09 41 42.4	+0.4
	SNR=64						
MUD	**Monsted U'grnd**	72.07	3	*i* P	P	09 41 40.4	-1.4
	comp=Z,61nm,0.8s,mb5.6						
MUD				*i*		09 44 27.7	
MUD				*i* S	S	09 51 06.3	+3.8
GCL	**Cushendall**	72.24	12	⇓*i*P	P	09 41 42.8	0.0
AAK	**Ala-Archa**	72.27	317	P	P	09 41 43.5	+0.4
	SNR=80						
EKA	**Eskdalemuir Ar**	72.34	10	PKP2bc		10 09 17.7	
	comp=Z,1.8nm,1.0s,baz=214,slow=3.0,SNR=5.6						
IZAR	**Zarasai**	72.35	353	*i* P	P	09 41 43.2	-0.2
IZAR				AMPb	AMB	09 41 46.3	
	comp=Z,118nm,1.6s,mb5.6						
ESK	**Eskdalemuir**	72.35	10	⇓*i*P	P	09 41 43.4	0.0
ESK				AMb	AMB	09 41 45.3	
	comp=Z,341nm,1.2s,mb6.1						
ESK	**Eskdalemuir**	72.35	10	⇓*i*P	P	09 41 43.6	+0.1
	comp=Z,259nm,1.1s,mb6.1						
ESK				LR	LR		
	comp=Z,634nm,21.0s,MS4.9						
KZA	**Kyzart**	72.40	317	P	P	09 41 45.0	+1.0
	SNR=8.4						
ISAL	**Salakas**	72.53	353	*i* P	P	09 41 44.4	0.0
ISAL				AMPb	AMB	09 41 46.1	
	comp=Z,114nm,1.1s,mb5.7						
ISAL				*e*		09 42 02.0	
EKS2	**Erkin-Say**	72.55	318	P	P	09 41 45.1	+0.3
	SNR=74						
UCH	**Uchtor**	72.59	317	P	P	09 41 45.9	+0.9
	SNR=57						
GAL1	**Galloway**	72.62	11	⇓*i*P	P	09 41 45.1	+0.2
IDID	**Didziasalis**	72.74	352	*i* P	P	09 41 45.6	0.0
IDID				AMPb	AMB	09 41 48.5	
	comp=Z,142nm,1.4s,mb5.7						
IIGN	**Ignalina**	72.74	353	*i* P	P	09 41 45.7	0.0
IIGN				AMPb	AMB	09 41 47.4	
	comp=Z,145nm,1.1s,mb5.8						
IIGN				*e*		09 42 03.4	
RAR	**Rarotonga**	72.89	174	P	P	09 41 45.5	-1.7
	comp=Z,102nm,1.3s,mb5.6,baz=242,slow=5.4,SNR=3.8						
RAR				LR	LR	10 05 49.7	
	comp=Z,2µm,20.8s,MS5.5,baz=348,slow=29						
COP	**Copenhagen**	72.90	1	⇓*i*P	P	09 41 47.2	+0.6
	comp=Z,88nm,0.8s,mb5.7						
COP				*i* S	S	09 51 17.5	+5.6
COP				*e*		09 59 05.3	
	comp=Z,240nm,22.0s						
AML	**Almayashu**	73.02	318	P	P	09 41 48.6	+1.0
	SNR=57						
GMM	**Mts of Mourne**	73.08	12	⇓*i*P	P	09 41 47.6	-0.1
LCP	**Cassop**	73.10	9	⇓*e*P	P	09 41 47.9	+0.2
MNK	**Minsk**	73.45	351	*e*P	P	09 41 47.0	-2.8
MNK				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.8						
KKAR	**Karatay Array**	73.50	320	*i* P	P	09 41 49.7	-0.6
KKAR				pmax	pmax		
	comp=Z,349nm,1.1s,mb6.2						
LWH	**Whinny Nab**	73.58	9	⇓*e*P	P	09 41 51.1	+0.6
HPK	**Haverah Park**	73.86	9	⇓*i*P	P	09 41 52.7	+0.6
LDU	**Leeds Universi**	74.02	9	⇓*e*P	P	09 41 53.8	+0.7
KSH	**Kashi**	74.19	315	*i* PR		09 41 55.0	
KSH				*e*AP	pP	09 42 01.1	+4.2
KSH				*e*XP	sP	09 42 04.1	+6.3
KSH				*e*PCP	PcP	09 42 12.1	+2.4
KSH				*e*PP	PP	09 44 43.0	+1.1
KSH				*e*PPP	PPP	09 46 29.2	+2.3
KSH				S	S	09 51 27.2	+0.6
KSH				*e*XS		09 51 36.0	
KSH				*e*SKS	SKS	09 51 59.0	-2.9
KSH				*e*PS	PS	09 52 11.2	+9.3
KSH				*e*SS	SS	09 56 16.5	+2.2
KSH				AMB	AMB		
	comp=Z,420nm,1.3s,mb6.2						
KSH				AMB	AMB		
	comp=Z,2µm,4.3s						
LHO	**Holmfirth**	74.24	10	*i* P	P	09 41 54.8	+0.4
LHO	**Holmfirth**	74.24	10	⇓*i*P	P	09 41 54.5	+0.2
SUW	**Suwalki**	74.29	354	⇓*e*P	P	09 41 54.5	-0.2
SUW				*e*S	S	09 51 28.7	+1.2
LSA	**Lhasa**	74.44	298	P	P	09 41 57.0	+0.9
LSA				AP	pP	09 42 03.4	+4.8
LSA				AMB	AMB		
	comp=Z,230nm,1.0s,mb6.1						
LSA				AMB	AMB		
	comp=Z,990nm,7.3s						
LSA				LR	LR		
	comp=N,3µm,27.4s,MS5.6						
LSA				LR	LR		
	comp=E,4µm,29.3s,MS5.6						
LSA				LR	LR		
	comp=Z,2µm,31.3s,MS5.2						
LSA	**Lhasa**	74.44	298	*e*P	P	09 41 56.4	+0.3
	comp=Z,243nm,1.0s,mb6.1						
LMK	**Market Rasen**	74.48	9	⇓*e*P	P	09 41 56.0	+0.2
KBI1	**Birley Grange**	74.56	9	⇓*i*P	P	09 41 56.4	+0.2
BSEG	**Bad Segeberg**	74.62	2	*e*P	P	09 41 57.5	+0.9
BSEG				pmax	pmax		
	comp=Z,392nm,1.2s,mb6.2						
VOR	**Voronezh**	74.66	344	*e*P	P	09 41 56.7	-0.1
VOR				pmax	pmax		
	comp=Z,440nm,1.5s,mb6.2						
VAL	**Valentia**	74.69	15	⇓*i*P	P	09 41 57.7	+0.7
KWE	**Weaver Farm**	74.76	10	⇓*i*P	P	09 41 57.9	+0.4
KSY	**Syston**	74.94	9	⇓*e*P	P	09 41 58.8	+0.3
HLM1	**Long Mynd**	75.14	10	⇓*i*P	P	09 42 00.0	+0.4
HLM1				AMb	AMB	09 42 03.4	
	comp=Z,281nm,1.8s,mb5.9						
SSP1	**Stoney Pound**	75.22	11	⇓*i*P	P	09 42 00.6	+0.6
GKP	**Gorka Klasztor**	75.29	358	⇓*e*P	P	09 42 01.0	+0.6
	comp=Z,2.1nm,4.3s						
GKP				*e*pP	pP	09 42 05.5	+2.5
GKP				*e*S	S	09 51 41.7	+3.1
GKP				LR	LR		
	comp=Z,5µm,28.6s,MS5.6						
HPE	**Pembroke**	75.49	12	⇓*i*P	P	09 42 01.6	0.0
HTR	**Trewern Hill**	75.53	11	⇓*i*P	P	09 42 02.2	+0.4
HTR				AMb	AMB	09 42 04.0	
	comp=Z,494nm,1.3s,mb6.3						
KTG1	**Tilbrook Grang**	75.59	9	⇓*i*P	P	09 42 02.3	+0.2
WIT	**Witteveen**	75.62	4	*e*P	P	09 42 03.9	+1.6
	comp=Z,645nm,0.9s,mb6.6						
MCH1	**Michaelchurch**	75.64	11	⇓*i*P	P	09 42 02.7	+0.2
HAE	**Alders End**	75.65	10	⇓*i*P	P	09 42 03.1	+0.6
HAE				AMb	AMB	09 42 06.3	
	comp=Z,712nm,1.7s,mb6.3						
HGH	**Gray Hill**	76.02	11	⇓*i*P	P	09 42 05.0	+0.4
HGH				AMb	AMB	09 42 06.6	
	comp=Z,506nm,1.2s,mb6.3						
WAR	**Warsaw**	76.18	355	⇓*e*P	P	09 42 06.7	+1.2
	comp=Z,2.2nm,1.2s						
WAR				*e*S	S	09 51 52.4	+4.0
WAR				LR	LR		
	comp=Z,5µm,27.3s						
TBI	**Tubuai**	76.23	164	*e*P	P	09 42 04.8	-1.6
	comp=Z,238nm,1.2s,mb6.0						
TBI				*e*L		10 01 50.2	
	comp=Z,1µm,21.5s						
TBI				*e*R		10 05 26.2	
	comp=Z,15µm,30.2s,baz=343						
HTL	**Hartland**	76.45	12	⇓*i*P	P	09 42 07.4	+0.3
HEX	**Exmoor**	76.46	11	⇓*i*P	P	09 42 07.3	+0.2
WTSB	**Winterswijk**	76.47	4	⇓*e*P	P	09 42 07.6	+0.4
	comp=Z,153nm,1.2s,mb5.8						
JTS	**JuntasAbangare**	76.60	90	*e*P	P	09 42 04.6	-4.0
	comp=Z,21nm,0.9s,mb5.1						
IMP	**Imphal**	76.69	293	*e*P	P	09 42 07.0	-2.0
CLZ	**Clausthal**	76.72	2	*e*P	P	09 42 09.6	+1.0
	comp=Z,502nm,1.3s,mb6.3						
SBD	**Saint Breward**	76.84	12	⇓*i*P	P	09 41 57.9	-11
CSA1	**St Austell**	77.03	12	⇓*e*P	P	09 42 10.4	+0.1
CHRT	**Chiangrai**	77.05	286	⇓P	P	09 42 10.0	-1.0
	comp=Z,447nm,1.0s,mb6.3						
AKASG	**Malin Array Be**	77.06	350	P	P	09 42 09.5	-1.0
	comp=Z,130nm,0.9s,mb5.8,baz=11,slow=5.5,SNR=353						
AKASG				PKPPKP		10 09 05.5	
	comp=Z,1.0nm,0.7s,baz=252,slow=1.6,SNR=7.6						
AKASG				LR	LR	10 18 17.1	
	comp=Z,3µm,21.1s,MS5.5,baz=10.0,slow=37						
CPZ	**Penzance**	77.13	13	⇓*e*P	P	09 42 11.1	+0.3
CCA1	**Carnmenellis**	77.14	12	⇓*i*P	P	09 42 11.4	+0.5
CRQ2	**Rosemanowes 2**	77.17	12	⇓*i*P	P	09 42 11.5	+0.4
CGW	**Gweek**	77.23	12	⇓*e*P	P	09 42 11.8	+0.3
SHL	**Shillong**	77.25	295	*e*P	P	09 42 11.0	-1.0
SHL				*e*		09 51 56.5	
CMA1	**Manaccan**	77.26	12	⇓*e*P	P	09 42 11.8	+0.2
CGH1	**Goonhilly**	77.28	12	⇓*i*P	P	09 42 12.2	+0.5
CLL	**Collm**	77.29	0	⇓P	P	09 42 12.2	+0.5
	comp=Z,logA/T=2.4,mb6.1						
CLL				*i*		09 42 20.9	
CLL				*e*		09 43 30.0	
CLL				*e*PP	PP	09 45 08.0	+0.4
CLL				*e*PPP	PPP	09 46 58.0	+2.2
CLL				*e*		09 48 18.0	
CLL				*e*S	S	09 52 03.0	+2.5
CLL				*e*PS	PS	09 52 42.0	+1.0
CLL				*e*SS	SS	09 57 00.0	-1.6
CLL	**Collm**	77.29	0	⇓*i*P	P	09 42 12.2	+0.5
CLL				*i*		09 42 20.9	
CLL				*e*S	S	09 52 03.0	+2.5
CLL				pmax	pmax		
	comp=Z,277nm,1.2s,mb6.1						
CLL				MLR	MLR		
	comp=Z,2µm,21.7s,MS5.4						
CLL	**Collm**	77.29	0	⇓*i*P	P	09 42 12.2	+0.5
	comp=Z,277nm,1.2s,mb6.1						
CLL				*i*		09 42 20.9	
CLL				*e*S	S	09 52 03.0	+2.5
CLL				LR	LR		
	comp=Z,2µm,21.7s,MS5.4						
NANT	**Nan**	77.32	284	⇓P	P	09 42 10.6	-1.9
	comp=Z,106nm,1.0s,mb5.7						
DZM	**Mont Dzumac**	77.33	206	*e*P	P	09 42 05.1	-7.5
HGN	**Heimansgroeve**	77.62	5	⇓*e*P	P	09 42 14.1	+0.6
	comp=Z,189nm,1.2s,mb5.9						
HGN				*e*S	S	09 52 06.3	+2.2
BRG	**Berggiesshubel**	77.73	360	⇓*i*P	P	09 42 14.9	+0.7
BRG				*i* S	S	09 52 10.0	+4.7
BRG				*e*SS	SS	09 57 12.0	+3.8
BRG				pmax	pmax		
	comp=Z,304nm,1.3s,mb6.1						
BRG				MLR	MLR		
	comp=Z,2µm,23.2s,MS5.4						
BRG				MLR	MLR		
	comp=N,2µm,23.4s,MS5.4						
BRG				MLR	MLR		
	comp=E,1µm,23.4s,MS5.4						
BRG	**Berggiesshubel**	77.73	360	⇓*i*P	P	09 42 14.9	+0.7
	comp=E,304nm,1.3s,mb6.1						
BRG				*i* S	S	09 52 10.0	+4.7
BRG				*e*SS	SS	09 57 12.0	+3.8
BRG				LR	LR		
	comp=Z,2µm,23.2s,MS5.4						
KSP	**Ksiaz**	77.74	358	⇓*i*P	P	09 42 14.9	+0.7
KSP				*e*PPP	PPP	09 47 01.0	+0.7
KSP				*e*S	S	09 52 03.0	-2.4
KSP				*e*SS	SS	09 56 54.0	-14
KSP				LR	LR		
	comp=Z,9µm,34.6s,MS5.8						
KKTK	**Khon Kaen**	77.92	281	⇓P	P	09 42 14.0	-1.9
	comp=Z,2µm,0.9s,mb7.1						
MOX	**Moxa**	77.94	1	⇓*i*P	P	09 42 16.1	+0.8
	comp=Z,logA/T=2.5,mb6.2						
MOX				PP	PP	09 45 00.0	-13
MOX				S	S	09 52 11.0	+3.4
MOX				SS	SS	09 57 07.0	-4.3
MOX				LQ		10 02 59.0	
MOX				LR	LR	10 07 23.0	
MOX				*i*		10 09 11.0	
MOX				L		10 23 10.0	
MOX	**Moxa**	77.94	1	*d i*P	P	09 42 16.1	+0.8
MOX				pmax	pmax		
	comp=Z,553nm,1.7s,mb6.2						
MOX				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.1						
MOX	**Moxa**	77.94	1	*i* Pdr		09 42 16.1	
	comp=Z,553nm,1.7s						
MOX				LR	LR		
	comp=Z,900nm,19.0s,MS5.1						
PVCC	**Panska Ves**	78.07	359	⇓*i*P	P	09 42 16.9	+0.9
PVCC				LM		10 16 10.0	
	comp=Z,2.4nm,22.5s						
GIVF	**Givet**	78.22	6	⇓*i*P	P	09 42 17.5	+0.7
	comp=Z,974nm,1.5s,mb6.2						
BAIF	**Baives**	78.22	6	⇓*i*P	P	09 42 17.6	+0.7
	comp=Z,484nm,1.2s,mb6.0						
DPC	**Dobruska-Polom**	78.23	358	⇓*i*P	P	09 42 18.1	+1.2
DPC				*e*S	S	09 52 11.5	+0.8
DPC				LM		10 19 30.0	
	comp=Z,2.0nm,19.3s						
OJC	**Ojcow**	78.26	356	⇓*i*P	P	09 42 17.9	+0.9
	comp=Z,500nm,1.3s,mb6.3						
OJC				*e*PcP	PcP	09 42 28.2	+1.2
OJC				*e*PP	PP	09 45 19.1	+3.1
OJC				*e*S	S	09 52 13.8	+2.9
OJC				LR	LR		
	comp=Z,3µm,22.3s,MS5.5						
LVV	**L'vov**	78.41	353	*e*P	P	09 42 18.0	+0.1
LVV				*e*S	S	09 52 14.0	+1.4
LVV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
RAC	**Raciborz**	78.45	357	⇓*e*P	P	09 42 19.4	+1.3
RAC				*e*		09 45 17.6	
RAC				*e*S	S	09 52 16.9	+3.9
PRA	**Prague**	78.53	360	⇓P	P	09 42 19.0	+0.4
ABH	**Alteburg**	78.58	4	⇓*e*P	P	09 42 19.7	+0.8
PRU	**Pruhonice**	78.61	359	⇓*i*P	P	09 42 19.8	+0.8
	comp=Z,256nm,1.2s,mb6.0						
PRU				*e*S	S	09 52 16.2	+1.4
PRU				*e*		09 52 50.5	
PRU				LM		10 16 50.0	
	comp=Z,1.8nm,17.0s						
CMAR	**Chiang Mai Arr**	78.64	285	P	P	09 42 18.8	-1.0

	comp=Z,126nm,0.9s,mb5.8,baz=16,slow=6.3,SNR=277						
CMAR				PKKPbc		10 01 12.8	
	comp=Z,4.0nm,1.1s,baz=230,slow=3.4,SNR=7.5						
CMAR				LR	LR	10 20 42.1	
	comp=Z,1µm,18.5s,MS5.3,baz=40,slow=38						
KWP	**Kalwaria**	**78.69**	**354**	⇓*e*P	**P**	**09 42 20.4**	**+1.0**
KWP				*e**PP	pP	09 42 23.1	+1.1
KWP				*e*		09 42 28.1	
KWP				*e*S	S	09 52 19.3	+3.7
OKC	**Ostrava-Krasne**	**78.70**	**357**	⇓*i*P	**P**	**09 42 20.4**	**+0.9**
OKC				*e*S	S	09 52 19.6	+3.9
OKC				*e*		09 52 50.2	
OKC				LM		10 21 10.0	
	comp=Z,2.0nm,19.4s						
OKC	**Ostrava-Krasne**	**78.70**	**357**	⇓*i*P	**P**	**09 42 20.4**	**+0.9**
OKC				*e*S	S	09 52 19.6	+3.9
OKC				MLR	MLR		
	comp=Z,2µm,19.4s,MS5.5						
RUP	**Ruppelstein**	**78.74**	**4**	⇓*e*P	**P**	**09 42 20.6**	**+0.9**
GRA1	**Grafenberg Arr**	**78.89**	**2**	*i* P	**P**	**09 42 21.7**	**+1.2**
	comp=Z,580nm,1.2s,mb6.4						
GRA1				*e*S	S	09 52 23.9	+6.2
GRA1				*e*P'P'		10 09 07.4	
GRA1				LR	LR		
	comp=Z,2µm,23.3s,MS5.5						
GRF	**Grafenberg Arr**	**78.89**	**2**	*i* P	**P**	**09 42 21.7**	**+1.2**
GRF				*e*S	S	09 52 23.9	+6.2
GRF				pmax	pmax		
	comp=Z,580nm,1.2s,mb6.4						
TOD	**Tromm**	**78.91**	**3**	⇓*e*P	**P**	**09 42 21.5**	**+0.8**
AGT	**Agartala**	**78.92**	**294**	⇑*i*P	**P**	**09 42 19.0**	**-2.2**
SWS	**Schriesheim**	**79.03**	**3**	⇓*e*P	**P**	**09 42 22.0**	**+0.7**
FLN	**La Foliniere**	**79.11**	**10**	⇓*i*P	**P**	**09 42 21.9**	**+0.1**
	comp=Z,634nm,1.3s,mb6.1						
FLN				*e*R			
	comp=Z,3µm,23.0s						
KKN	**Kakani**	**79.11**	**301**	*e*P	**P**	**09 42 21.6**	**-0.6**
	comp=Z,969nm,1.3s,mb6.6						
KTD	**Kalmit**	**79.17**	**4**	⇓*e*P	**P**	**09 42 23.1**	**+1.0**
KTD	**Kalmit**	**79.17**	**4**	*e*P	**P**	**09 42 23.6**	**+1.5**
SIND	**Sindeldorf**	**79.19**	**3**	⇓*e*P	**P**	**09 42 22.9**	**+0.7**
ROSF	**Rostrenen**	**79.21**	**11**	⇓*i*P	**P**	**09 42 22.7**	**+0.4**
	comp=Z,463nm,1.3s,mb5.9						
PKI	**Pulchoki**	**79.22**	**301**	*e*P	**P**	**09 42 22.1**	**-0.7**
	comp=Z,1µm,1.2s,mb6.6						
VRAC	**Vranov**	**79.27**	**358**	PKKPbc		10 01 08.1	
	comp=Z,3.5nm,0.4s,baz=54,slow=1.6,SNR=4.3						
GKN	**Gorkha**	**79.28**	**302**	*e*P	**P**	**09 42 22.3**	**-0.9**
	comp=Z,1µm,1.2s,mb6.7						
LDF	**La Druitiere**	**79.31**	**9**	⇓*i*P	**P**	**09 42 23.0**	**+0.1**
	comp=Z,549nm,1.2s,mb6.1						
DMN	**Daman**	**79.35**	**301**	*e*P	**P**	**09 42 22.9**	**-0.6**
	comp=Z,1µm,1.4s,mb6.6						
SGMF	**Saint Gilles**	**79.38**	**11**	⇓*i*P	**P**	**09 42 23.6**	**+0.4**
	comp=Z,514nm,1.2s,mb6.0						
GRR	**Gorron**	**79.44**	**10**	⇓*i*P	**P**	**09 42 24.0**	**+0.5**
	comp=Z,562nm,1.2s,mb6.1						
LIKS	**Likavka**	**79.45**	**356**	*i* P	**P**	**09 42 25.5**	**+1.9**
LIKS				*e*	pP	09 42 29.5	+3.3
WET	**Wettzell**	**79.46**	**1**	*e*P	**P**	**09 42 24.9**	**+1.2**
WET				pmax	pmax		
	comp=Z,272nm,1.4s,mb6.0						
WET	**Wettzell**	**79.46**	**1**	*e*P	**P**	**09 42 24.9**	**+1.2**
	comp=Z,272nm,1.4s,mb6.0						
KHC	**Kasperske Hory**	**79.47**	**0**	⇓*i*P	**P**	**09 42 25.0**	**+1.3**
KHC				*e*S	S	09 52 27.8	+3.9
KHC				*e*		09 52 57.8	
KHC				*e*PKKP	PKKP	10 01 08.5	+13
KHC				*e*PKPPKP		10 09 08.0	
KHC				LM		10 14 40.0	
	comp=Z,2.4nm,23.0s						
KHC	**Kasperske Hory**	**79.47**	**0**	⇓*i*P	**P**	**09 42 25.0**	**+1.3**
KHC				*e*S	S	09 52 27.8	+3.9
KHC				MLR	MLR		
	comp=Z,2µm,23.0s,MS5.5						
KHC	**Kasperske Hory**	**79.47**	**0**	⇓*i*P	**P**	**09 42 25.0**	**+1.3**
KHC				*e*S	S	09 52 27.8	+3.9
KHC				*e*		09 52 57.8	
KHC				*e*PKKP	PKKP	10 01 08.5	+13
KHC				LR	LR		
	comp=Z,2µm,23.0s,MS5.5						
CRVS	**Cervenica-Dubn**	**79.49**	**355**	*i* P	**P**	**09 42 24.8**	**+1.0**
CRVS				*e*		09 42 29.7	
LANF	**Langenberg**	**79.50**	**4**	⇓*e*P	**P**	**09 42 24.7**	**+0.8**
BDT	**Bhumibol Dam**	**79.54**	**284**	P	**P**	**09 42 24.0**	**-0.7**
	comp=Z,40nm,1.0s,mb5.3						
QUIF	**Quistinic**	**79.64**	**11**	⇓*i*P	**P**	**09 42 25.0**	**+0.4**
	comp=Z,440nm,1.4s,mb5.9						
KLP	**Kalpa**	**79.67**	**308**	*e*P	**P**	**09 42 24.7**	**-0.5**
KLP				*e*		09 42 29.6	
	comp=Z,410nm,1.4s						
UZH	**Uzhgorod**	**79.71**	**354**	*e*P	**P**	**09 42 25.0**	**0.0**
UZH				*e*S	S	09 52 31.0	+4.6
GEC2	**GERESS Array S**	**79.76**	**0**	*e*P	**P**	**09 42 26.2**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,260nm,1.2s,mb6.0						
GEC2	**GERESS Array S**	**79.76**	**0**	*e*P	**P**	**09 42 26.2**	**+0.9**
	comp=Z,260nm,1.2s,mb6.0						
GERES	**GERESS Array B**	**79.76**	**0**	P	**P**	**09 42 26.2**	**+0.9**
	comp=Z,108nm,1.0s,mb5.7,slow=4.0,SNR=311						
GERES				PKKPbc		10 01 07.3	
	comp=Z,2.3nm,0.9s,baz=180,slow=1.3,SNR=10						
GERES				PKPPKP		10 09 10.2	
	comp=Z,3.3nm,1.1s,baz=153,slow=3.0,SNR=8.6						
MEZF	**Maizieres J'vi**	**79.83**	**6**	⇓*i*P	**P**	**09 42 26.4**	**+0.8**
	comp=Z,755nm,1.4s,mb6.1						
JOSI	**Joshimath**	**79.83**	**307**	*e*P	**P**	**09 42 25.3**	**-0.8**
LBG	**Lerchenberg**	**79.85**	**3**	⇓*e*P	**P**	**09 42 26.7**	**+0.9**
STR	**Strasbourg**	**79.89**	**4**	*e*P	**P**	**09 42 27.6**	**+1.6**
DLH	**Dalhousie**	**79.94**	**311**	*e*P	**P**	**09 42 25.0**	**-1.6**
KECS	**Kecovo**	**79.96**	**355**	*i* P	**P**	**09 42 27.4**	**+1.1**
HDH	**Heidenheim**	**79.98**	**2**	⇓*e*P	**P**	**09 42 27.3**	**+0.9**
KOLN	**Koldanda**	**80.02**	**302**	*e*P	**P**	**09 42 26.5**	**-0.6**
	comp=Z,577nm,1.1s,mb6.4						
VYHS	**Vyhne**	**80.02**	**357**	*i* P	**P**	**09 42 28.0**	**+1.3**
VYHS				*e*pP	pP	09 42 30.7	+1.5
VYHS				*e*		09 42 34.0	
VYHS				*e*PP	PP	09 45 27.8	-2.3
VYHS				*e*S	S	09 52 32.6	+3.0
VYHS				*e*SS	SS	09 57 38.6	-3.9
CDF	**Champ du Feu**	**80.04**	**4**	⇓*i*P	**P**	**09 42 27.6**	**+0.8**
	comp=Z,620nm,1.3s,mb6.1						
SMOL	**Smolenice**	**80.04**	**358**	*i* P	**P**	**09 42 28.5**	**+1.7**
SMOL				*e*		09 42 36.1	
WLS	**Welschbruch**	**80.04**	**4**	⇓*e*P	**P**	**09 42 27.8**	**+1.0**
NST	**Nakhon Sawan**	**80.07**	**283**	P	**P**	**09 42 25.0**	**-2.6**
	comp=Z,92nm,1.2s,mb5.6						
BUCH	**Bad Urach**	**80.09**	**3**	⇓*e*P	**P**	**09 42 28.4**	**+1.4**
THEF	**They Montfort**	**80.16**	**5**	⇓*e*P	**P**	**09 42 28.2**	**+0.8**
BFO	**Black Forest**	**80.17**	**4**	*e*P	**P**	**09 42 28.2**	**+0.7**
BFO				pmax	pmax		
	comp=Z,236nm,1.2s,mb6.0						
BFO	**Black Forest**	**80.17**	**4**	*e*P	**P**	**09 42 28.2**	**+0.7**
	comp=Z,236nm,1.2s,mb6.0						
GOF	**Gofitskoye**	**80.30**	**339**	⇑*i*P	**P**	**09 42 29.5**	**+1.3**
GOF				*i*		09 45 38.0	
GOF				*i* S	S	09 52 36.5	+3.9
GOF				pmax	pmax		
	comp=Z,900nm,1.5s,mb6.5						
GOF				pmax	pmax		
	comp=Z,3µm,2.0s,mb6.9						
GOF				smax			
	comp=E,9µm,9.0s						
GOF				MLR	MLR		
	comp=N,5µm,22.0s,MS5.9						
GOF				MLR	MLR		
	comp=E,4µm,22.0s,MS5.9						
GOF				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.6						
LIBD	**Limburg**	**80.32**	**4**	*e*P	**P**	**09 42 29.4**	**+1.1**
LIBD	**Limburg**	**80.32**	**4**	⇓*e*P	**P**	**09 42 29.4**	**+1.1**
VKA	**Vienna**	**80.32**	**358**	⇓*i*P	**P**	**09 42 29.4**	**+1.1**
	comp=Z,392nm,1.5s,mb6.1						
PTH	**Pithoragarh**	**80.32**	**306**	*e*	**P**	**09 42 21.4**	**-7.3**
SDNR	**Sundarnagar**	**80.32**	**309**	*e*P	**P**	**09 42 27.8**	**-0.9**
LGTI	**Lohaghat**	**80.39**	**306**	*e*P	**P**	**09 42 28.7**	**-0.3**
HAU	**Haudompre**	**80.40**	**5**	⇓*i*P	**P**	**09 42 29.5**	**+0.8**
	comp=Z,558nm,1.3s,mb6.0						
HAU				*e*R			
	comp=Z,2µm,18.8s						
SPAK	**Spaichingen**	**80.41**	**3**	⇓*e*P	**P**	**09 42 29.9**	**+1.1**
SPAK	**Spaichingen**	**80.41**	**3**	⇓*e*P	**P**	**09 42 29.7**	**+0.9**
FUR	**Furstenfeldbru**	**80.42**	**2**	*e*P	**P**	**09 42 30.0**	**+1.2**
FUR				pmax	pmax		
	comp=Z,567nm,1.2s,mb6.4						
FUR	**Furstenfeldbru**	**80.42**	**2**	*e*P	**P**	**09 42 30.0**	**+1.2**
	comp=Z,567nm,1.2s,mb6.4						
PONG	**Pong**	**80.43**	**310**	*e*P	**P**	**09 42 30.0**	**+0.8**
GUT	**Gutenstein**	**80.46**	**3**	*e*P	**P**	**09 42 30.1**	**+1.1**
KIZ	**Kirchzarten**	**80.52**	**4**	⇓*e*P	**P**	**09 42 30.0**	**+0.6**
PSZ	**Piszkesteto**	**80.55**	**356**	⇓*i*PcP	PcP	09 42 31.1	-5.8
MOF	**Molkenrain**	**80.59**	**5**	⇓*e*P	**P**	**09 42 30.4**	**+0.7**
HINF	**Hinteralfeld**	**80.61**	**5**	⇓*i*P	**P**	**09 42 30.4**	**+0.5**
	comp=Z,447nm,1.2s,mb6.0						
BHK	**Bhakra**	**80.66**	**310**	*e*	**P**	**09 42 37.2**	**+6.8**
SRO	**Srobarova**	**80.72**	**357**	*i* P	**P**	**09 42 32.0**	**+1.6**
SRO				*e*		09 42 40.6	
SLE	**Schleitheim**	**80.74**	**4**	⇓*i*P	**P**	**09 42 31.0**	**+0.5**
	comp=Z,502nm,1.3s,mb6.3						
MOA	**Molln**	**80.76**	**360**	⇑*i*P	**P**	**09 42 31.7**	**+1.1**
	comp=Z,365nm,1.8s,mb6.0						
DDI	**Dehra Dun**	**80.76**	**308**	⇓*e*P	**P**	**09 42 30.0**	**-1.0**
KIS	**Kishinev**	**80.76**	**350**	κ *i*P	**P**	**09 42 29.0**	**-1.7**
KIS				*e*		09 45 38.0	
KIS				*e*PPP	PPP	09 47 30.0	+2.1
KIS				*e*S	S	09 52 34.0	-3.4
KIS				*e*		09 52 46.0	
KIS				*e*PS	PS	09 53 23.0	-2.2
KIS				pmax	pmax		
	comp=Z,560nm,1.4s,mb6.3						
KIS				pmax	pmax		
	comp=N,300nm,1.5s						
KIS				pmax	pmax		
	comp=N,1µm,8.0s						
KIS				pmax	pmax		
	comp=Z,2µm,8.0s						
KIS				pmax	pmax		
	comp=Z,2µm,10.0s						
STEIN	**Stein am Rhein**	**80.85**	**3**	⇓*i*P	**P**	**09 42 32.0**	**+0.9**
	comp=Z,565nm,1.2s,mb6.4						
TRULL	**Truellikon**	**80.86**	**3**	⇓*i*P	**P**	**09 42 32.0**	**+0.8**
	comp=Z,433nm,1.8s,mb6.1						
TRULL	**Truellikon**	**80.86**	**3**	⇓*i*P	**P**	**09 42 32.1**	**+0.9**
UBR	**Uberruh**	**80.88**	**3**	*e*P	**P**	**09 42 32.2**	**+1.0**
HYF	**Humbligny**	**80.88**	**8**	⇓*i*P	**P**	**09 42 32.2**	**+0.9**
SULZ	**Sulz-Cheisache**	**80.96**	**4**	⇓*i*P	**P**	**09 42 32.4**	**+0.7**
	comp=Z,587nm,1.2s,mb6.4						
LOR	**Lormes**	**80.97**	**7**	⇓*i*P	**P**	**09 42 32.4**	**+0.6**
	comp=Z,804nm,1.2s,mb6.2						
LOR				*e*R			
	comp=Z,3µm,22.2s						
WEIN	**Weingarten**	**80.99**	**3**	⇓*i*P	**P**	**09 42 32.7**	**+0.8**
	comp=Z,703nm,1.3s,mb6.4						
BBS	**Basel-Blauen**	**81.00**	**4**	⇓*e*P	**P**	**09 42 32.8**	**+0.9**
BBS	**Basel-Blauen**	**81.00**	**4**	⇓*e*P	**P**	**09 42 32.5**	**+0.6**
BUD	**Budapest**	**81.02**	**356**	*e*P	**P**	**09 42 33.5**	**+1.5**
BOURR	**Bourrignon**	**81.05**	**4**	⇓*i*P	**P**	**09 42 33.2**	**+1.0**
	comp=Z,890nm,1.5s,mb6.5						
LOMF	**Lomont**	**81.08**	**5**	⇓*e*P	**P**	**09 42 33.4**	**+1.1**
WILA	**Wila**	**81.11**	**3**	⇓*i*P	**P**	**09 42 33.5**	**+1.1**
	comp=Z,739nm,1.1s,mb6.5						
BALST	**Balsthal**	**81.13**	**4**	⇓*i*P	**P**	**09 42 33.6**	**+1.0**
	comp=Z,743nm,1.2s,mb6.5						
ZUR	**Zurich**	**81.14**	**4**	⇓*i*P	**P**	**09 42 33.6**	**+1.0**
	comp=Z,710nm,1.2s,mb6.5						
LRYF	**La Roche-sur-Y**	**81.15**	**11**	⇓*e*P	**P**	**09 42 33.4**	**+0.7**
SSF	**Saint Saulge**	**81.15**	**7**	⇓*i*P	**P**	**09 42 33.4**	**+0.7**
	comp=Z,787nm,1.2s,mb6.2						
MAK	**Makhachkala**	**81.21**	**336**	*d* *i*P	**P**	**09 42 33.0**	**-0.1**
MAK				*i*		09 45 41.0	
MAK				*e*S	S	09 52 32.0	-10
MAK				*i*		09 52 50.0	
MAK				*e*PS	PS	09 53 26.0	-4.9
MAK				pmax	pmax		
	comp=Z,3µm,7.0s						
MAK				pmax	pmax		
	comp=Z,2µm,6.0s						
MOTA	**Moosalm**	**81.24**	**2**	⇓*i*P	**P**	**09 42 34.4**	**+1.3**
	comp=Z,356nm,1.2s,mb6.2						
WATA	**Walderalm**	**81.25**	**2**	⇑*i*P	**P**	**09 42 34.7**	**+1.5**
	comp=Z,318nm,1.2s,mb6.1						
DAVA	**Damuels**	**81.26**	**3**	⇑*i*P	**P**	**09 42 34.4**	**+1.1**
	comp=Z,437nm,2.4s,mb6.0						
MFF	**Saint Martin d**	**81.28**	**10**	⇓*i*P	**P**	**09 42 34.1**	**+0.7**
	comp=Z,909nm,1.1s,mb6.3						
WTTA	**Wattenberg**	**81.33**	**1**	⇑*i*P	**P**	**09 42 35.1**	**+1.5**
	comp=Z,752nm,1.5s,mb6.4						
ARSA	**Arzberg**	**81.34**	**359**	⇑*i*P	**P**	**09 42 35.3**	**+1.6**
	comp=Z,615nm,1.4s,mb6.3						
SQTA	**Sankt Quirin**	**81.36**	**2**	⇓*i*P	**P**	**09 42 35.3**	**+1.5**
	comp=Z,437nm,1.2s,mb6.3						
AVF	**Avril sur Loir**	**81.41**	**7**	⇓*i*P	**P**	**09 42 34.6**	**+0.5**
	comp=Z,652nm,1.1s,mb6.2						
KIV	**Kislovodsk**	**81.42**	**339**	*d* *i*P	**P**	**09 42 35.3**	**+1.1**
KIV				*i*		09 42 40.6	
KIV				*i*		09 45 44.9	
KIV				*e*PPP	PPP	09 47 32.5	-1.4
KIV				*i*		09 52 45.2	
KIV				*i*		09 52 54.3	
KIV				*i* PS	PS	09 53 35.3	+1.9
KIV				pmax	pmax		
	comp=Z,278nm,1.2s,mb6.1						
KIV				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.8						
KIV	**Kislovodsk**	**81.42**	**339**	*e*P	**P**	**09 42 35.2**	**+1.1**
	comp=Z,219nm,1.1s,mb6.0						
KIV				LR	LR		
	comp=Z,951nm,22.0s,MS5.1						
BRANT	**Les Verrieres**	**81.47**	**5**	⇓*i*P	**P**	**09 42 35.5**	**+1.1**
	comp=Z,622nm,1.1s,mb6.5						
PLONS	**Plons**	**81.49**	**3**	⇓*i*P	**P**	**09 42 35.5**	**+1.1**
	comp=Z,482nm,1.1s,mb6.3						
KBA	**Koelnbreinsper**	**81.53**	**0**	⇑*i*P	**P**	**09 42 36.6**	**+1.9**
	comp=Z,1µm,1.3s,mb6.6						
MUO	**Muotathal**	**81.54**	**4**	⇓*i*P	**P**	**09 42 36.1**	**+1.4**
	comp=Z,596nm,1.1s,mb6.5						
MGP	**Maguayo**	**81.56**	**72**	P	**P**	**09 42 34.6**	**-0.8**
MGP	**Maguayo**	**81.56**	**72**	*e*P	**P**	**09 42 34.4**	**-1.0**
SMF	**Signal de Mont**	**81.59**	**7**	⇓*i*P	**P**	**09 42 35.6**	**+0.6**
	comp=Z,834nm,1.1s,mb6.3						
BGF	**Bois d'Agland**	**81.60**	**8**	⇓*i*P	**P**	**09 42 35.7**	**+0.7**
	comp=Z,678nm,1.1s,mb6.2						
BNALP	**Bannalp**	**81.63**	**4**	⇓*i*P	**P**	**09 42 36.5**	**+1.3**
	comp=Z,449nm,1.0s,mb6.3						
BNALP	**Bannalp**	**81.63**	**4**	⇓*i*P	**P**	**09 42 36.6**	**+1.4**
ANN	**Anapa**	**81.66**	**343**	*d* *i*P	**P**	**09 42 35.5**	**+0.1**
ANN				*e*PPP	PPP	09 47 36.6	+0.6
ANN				*e*S	S	09 52 49.2	+2.5
ANN				pmax	pmax		
	comp=Z,357nm,1.2s,mb6.2						
ANN	**Anapa**	**81.66**	**343**	*i* Pr		09 42 35.4	
TORNY	**Torny**	**81.66**	**5**	⇓*i*P	**P**	**09 42 36.6**	**+1.3**
	comp=Z,599nm,1.0s,mb6.5						
KKR	**Kurukshetra**	**81.66**	**309**	*e*P	**P**	**09 42 35.0**	**-0.7**
KKR				*e*	pP	09 42 39.3	+1.1
	comp=Z,525nm,1.6s						
LLS	**Linth-Limmern**	**81.67**	**3**	⇓*i*P	**P**	**09 42 36.7**	**+1.3**
	comp=Z,2µm,4.8s						
HASLI	**Hasliberg**	**81.73**	**4**	⇓*i*P	**P**	**09 42 37.0**	**+1.3**
	comp=Z,488nm,1.1s,mb6.4						
DAVOX	**Davos**	**81.77**	**3**	PKKPbc		10 01 03.1	
	comp=Z,1.4nm,0.5s,baz=133,slow=2.1,SNR=5.0						
DAVOX				PKPPKP		10 09 11.6	
	comp=Z,6.1nm,1.0s,baz=82,slow=4.3,SNR=6.8						
DAVOX	**Davos**	**81.77**	**3**	⇓*i*P	**P**	**09 42 37.6**	**+1.7**
	comp=Z,3µm,6.9s						
CABF	**La Chapelle**	**81.77**	**5**	⇓*i*P	**P**	**09 42 37.3**	**+1.4**
	comp=Z,822nm,1.1s,mb6.3						
OLEF	**Ile d'Oleron**	**81.80**	**11**	*e*P	**P**	**09 42 36.9**	**+0.8**
WIMIS	**Wimmis**	**81.80**	**4**	⇓*i*P	**P**	**09 42 37.2**	**+1.1**
	comp=Z,3µm,6.7s						
TCF	**Toulx Ste Croi**	**81.81**	**8**	⇓*i*P	**P**	**09 42 36.7**	**+0.5**
	comp=Z,315nm,1.0s,mb5.9						
PAYG	**Puerto Ayora**	**81.86**	**102**	PFAKE		09 42 50.0	+13
PAYG				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
GIMEL	**Gimel**	**81.86**	**5**	⇓*i*P	**P**	**09 42 37.8**	**+1.4**
	comp=Z,4µm,6.4s						
FUORN	**Ofenpass**	**81.94**	**2**	⇓*i*P	**P**	**09 42 38.6**	**+1.8**
	comp=Z,3µm,5.1s						
PERS	**Pernice**	**81.97**	**359**	⇓*i*P	**P**	**09 42 38.3**	**+1.4**
FVI	**Forni Avoltri**	**82.01**	**1**	⇓*i*P	**P**	**09 42 37.8**	**+0.6**
FUSIO	**Fusio**	**82.05**	**4**	⇓*i*P	**P**	**09 42 39.0**	**+1.6**
	comp=Z,2µm,4.0s						
SIM	**Simferopol'**	**82.07**	**346**	*i* P	**P**	**09 42 38.0**	**+0.5**
SIM				*e*		09 45 53.0	
SIM				*e*PPP	PPP	09 47 41.0	+1.3
SIM				*i* S	S	09 52 53.0	+2.1
SIM				*e*SS	SS	09 58 10.0	-3.3
SIM				pmax	pmax		
	comp=Z,121nm,0.8s,mb5.9						
SIM				pmax	pmax		
	comp=Z,850nm,16.0s						
SIM				MLR	MLR		
	comp=Z,5µm,20.8s,MS5.9						
LKBD	**Leukerbad**	**82.08**	**4**	⇓*i*P	**P**	**09 42 38.9**	**+1.4**
	comp=Z,340nm,1.2s,mb6.2						
SENIN	**Lac Senin**	**82.09**	**5**	⇓*i*P	**P**	**09 42 38.8**	**+1.2**
	comp=Z,3µm,6.8s						
BRMO	**Bormio**	**82.09**	**2**	⇓*i*P	**P**	**09 42 39.2**	**+1.7**
AIGLE	**Aigle**	**82.09**	**5**	⇓*i*P	**P**	**09 42 38.6**	**+1.0**
	comp=Z,2µm,6.5s						
OBKA	**Obir**	**82.10**	**359**	⇑*i*P	**P**	**09 42 38.9**	**+1.3**
	comp=Z,1µm,2.5s,mb6.4						
VRI	**Vrincioaia**	**82.10**	**351**	⇑*i*P	**P**	**09 42 38.5**	**+0.8**
VRI	**Vrincioaia**	**82.10**	**351**	⇑*i*P	**P**	**09 42 38.5**	**+0.9**
AGO	**Saint Agoulin**	**82.13**	**7**	*e*P	**P**	**09 42 39.0**	**+1.2**
BERNI	**Berninapass**	**82.14**	**3**	⇓*i*P	**P**	**09 42 39.7**	**+1.8**
	comp=Z,3µm,6.2s						
GRYON	**Gryon**	**82.19**	**5**	⇓*i*P	**P**	**09 42 39.3**	**+1.2**
	comp=Z,882nm,3.5s						
PTCC	**Patocco-Chiusa**	**82.20**	**0**	⇓*i*P	**P**	**09 42 38.4**	**+0.3**
PLDF	**La Plantade**	**82.25**	**7**	⇓*e*P	**P**	**09 42 39.9**	**+1.5**
SALAN	**Lac Salanfe**	**82.29**	**5**	⇓*i*P	**P**	**09 42 40.0**	**+1.4**
	comp=Z,779nm,3.9s						
GMNA	**Gemona**	**82.33**	**0**	⇓*i*P	**P**	**09 42 39.1**	**+0.2**
ROBS	**Robic**	**82.36**	**0**	⇓*i*P	**P**	**09 42 39.3**	**+0.3**
EMV	**Vieux Emosson**	**82.36**	**5**	⇓*i*P	**P**	**09 42 40.6**	**+1.6**
	comp=Z,3µm,6.7s						
DIX	**Grande Dixence**	**82.37**	**4**	⇓*i*P	**P**	**09 42 40.9**	**+1.8**
	comp=Z,2µm,5.0s						
BRD	**Bordesti**	**82.38**	**351**	⇑*i*P	**P**	**09 42 40.8**	**+1.7**
BRD	**Bordesti**	**82.38**	**351**	⇑*i*P	**P**	**09 42 40.8**	**+1.7**
MTP	**Monte Pirata**	**82.39**	**71**	*e*P	**P**	**09 42 38.3**	**-1.4**
SOC	**Sochi**	**82.40**	**341**	*i* P	**P**	**09 42 40.2**	**+0.9**
SOC				*e*		09 42 44.8	
SOC				*e*		09 45 46.9	
SOC				*e*PPP	PPP	09 47 39.4	-3.3
SOC				*e*S	S	09 52 57.6	+3.3
SOC				pmax	pmax		
	comp=Z,523nm,1.2s,mb6.3						
SOC				pmax	pmax		
	comp=N,164nm,1.1s						
SOC				pmax	pmax		
	comp=E,16nm,1.1s						
SOC				smax			
	comp=N,1µm,5.5s						
SOC				smax			
	comp=E,2µm,13.1s						
SOC				MLR	MLR		
	comp=Z,9µm,26.0s,MS6.0						
SOC				MLR	MLR		
	comp=N,5µm,27.0s,MS5.9						
SOC				MLR	MLR		
	comp=E,4µm,22.0s,MS5.9						
PYM	**Petit Puy Mans**	**82.42**	**8**	⇓*e*P	**P**	**09 42 40.1**	**+0.8**
MMK	**Mattmark**	**82.43**	**4**	⇓*i*P	**P**	**09 42 41.5**	**+2.1**
	comp=E,3µm,4.8s						
MABI	**Malga Bissina**	**82.51**	**2**	⇓*i*P	**P**	**09 42 40.5**	**+0.8**
MCGN	**Macugnaga**	**82.52**	**4**	⇓*i*P	**P**	**09 42 41.9**	**+2.1**
NDI	**New Delhi**	**82.52**	**308**	*e*P	**P**	**09 42 38.5**	**-1.7**
	comp=E,375nm,1.1s,mb6.3						
CTI	**Castel Tesino**	**82.54**	**1**	⇓*i*P	**P**	**09 42 40.6**	**+0.6**
MLR	**Muntele Rosu**	**82.55**	**351**	P	**P**	**09 42 40.2**	**+0.3**
	comp=E,52nm,0.9s,mb5.6,baz=2.7,slow=2.7,SNR=70						
MLR				PKKPbc		10 01 00.6	
	comp=E,8.2nm,1.2s,baz=223,slow=3.2,SNR=4.5						
MLR				PKPPKP		10 09 04.5	
	comp=E,2.2nm,1.0s,baz=238,slow=6.5,SNR=3.8						
MLR				LR	LR	10 22 23.7	
	comp=E,4µm,20.8s,MS5.8,baz=22,slow=38						
MLR	**Muntele Rosu**	**82.55**	**351**	⇑*i*P	**P**	**09 42 41.8**	**+1.8**
MLR	**Muntele Rosu**	**82.55**	**351**	⇓*i*P	**P**	**09 42 42.0**	**+2.1**
LJU	**Ljubljana**	**82.56**	**359**	⇓*i*P	**P**	**09 42 40.5**	**+0.5**
LJU				*e*S	S	09 52 56.3	+0.4
LJU				*e*SS	SS	09 58 18.6	-2.2
VOY	**Vojsko**	**82.58**	**360**	⇓*e*P	**P**	**09 42 40.3**	**+0.2**
MUGIO	**Muggio**	**82.60**	**3**	⇓*i*P	**P**	**09 42 41.1**	**+0.8**
	comp=E,3µm,6.1s						
VAN	**Vannovskaya**	**82.62**	**326**	*e*P	**P**	**09 42 41.1**	**+0.6**
VAN				*e*S	S	09 52 53.0	-3.6
VAI	**Varese**	**82.64**	**4**	⇓*i*P	**P**	**09 42 41.4**	**+0.9**
BHGR	**Bahadurgarh**	**82.66**	**308**	*e*P	**P**	**09 42 39.9**	**-1.0**
BHGR				*e*	pP	09 42 44.2	+0.7
	comp=Z,408nm,1.0s						
BUNI	**Buntu Taipa**	**82.70**	**255**	⇓*e*P	**P**	**09 42 39.2**	**-2.2**
	comp=Z,34nm,0.9s,mb5.4						
NNT	**Nongplab**	**82.70**	**281**	P	**P**	**09 42 41.0**	**-0.4**
COLF	**Collangettes**	**82.70**	**7**	*e*P	**P**	**09 42 41.9**	**+1.1**
CTA	**Charters Tower**	**82.71**	**224**	⇓*i*P	**P**	**09 42 38.7**	**-2.6**
	comp=Z,29nm,1.0s,mb5.3						
CTA				*e*SKS	SKS	09 52 57.0	-6.2
CTAO	**Charters Tower**	**82.71**	**224**	P	**P**	**09 42 38.9**	**-2.4**
CTAO				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.6						
CTAO	**Charters Tower**	**82.71**	**224**	*e*P	**P**	**09 42 38.2**	**-3.1**
	comp=Z,67nm,1.1s,mb5.6						
CTAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
JAVS	**Javornik**	**82.71**	**360**	⇓*i*P	**P**	**09 42 41.1**	**+0.2**
RJF	**Les Rejaudoux**	**82.73**	**9**	⇓*i*P	**P**	**09 42 41.3**	**+0.4**
	comp=Z,777nm,1.3s,mb6.3						
RJF				*e*R			
	comp=Z,3µm,19.2s						
AYAN	**Aya Nagar**	**82.73**	**308**	*e*P	**P**	**09 42 40.4**	**-0.9**
AYAN				*e*	pP	09 42 44.1	+0.2
	comp=Z,195nm,1.2s						
ORO	**Oropa**	**82.85**	**4**	⇓*i*P	**P**	**09 42 43.0**	**+1.4**
ISR	**Istrita**	**82.86**	**351**	⇑*i*P	**P**	**09 42 43.7**	**+2.1**
ISR	**Istrita**	**82.86**	**351**	⇑*i*P	**P**	**09 42 43.7**	**+2.1**
CEY	**Cerknica**	**82.87**	**360**	⇓*i*P	**P**	**09 42 42.1**	**+0.5**
TRI	**Trieste**	**82.90**	**360**	⇓*i*P	**P**	**09 42 42.1**	**+0.3**
LPL	**La Plagne**	**82.90**	**5**	⇓*i*P	**P**	**09 42 43.9**	**+2.1**
	comp=Z,340nm,1.4s,mb5.9						
LPG	**La Plagne**	**82.92**	**5**	⇓*i*P	**P**	**09 42 44.2**	**+2.3**
	comp=Z,712nm,1.6s,mb6.1						
SONA	**Sohna**	**82.95**	**307**	*e*P	**P**	**09 42 41.2**	**-1.2**
SONA				*e*	pP	09 42 45.3	+0.3
	comp=Z,221nm,1.6s						
LBL	**Lubilhac**	**82.95**	**7**	⇓*e*P	**P**	**09 42 43.2**	**+1.1**
TRAV		**82.96**	**4**	P	**P**	**09 42 43.5**	**+1.4**
SAL	**Salo**	**82.96**	**2**	⇑*i*P	**P**	**09 42 43.1**	**+1.0**
LSD	**Ceresole Reale**	**82.98**	**5**	P	**P**	**09 42 44.5**	**+2.3**
LFF	**La Frestale**	**83.01**	**9**	⇓*i*P	**P**	**09 42 43.3**	**+0.9**
	comp=Z,2µm,1.2s,mb6.6						
TI2	**Plekhanov**	**83.06**	**337**	*i* P	**P**	**09 42 43.2**	**+0.5**
TI2				*i* S	S	09 53 04.8	+3.8
TI2				MLR	MLR		
	comp=N,2µm,23.0s,MS5.5						
TI2				MLR	MLR		
	comp=E,2µm,23.0s,MS5.5						
TI2				MLR	MLR		
	comp=Z,2µm,23.0s,MS5.3						
TANI	**Tanete Lipujan**	**83.09**	**256**	⇓*e*P	**P**	**09 42 41.3**	**-2.1**
	comp=Z,42nm,1.1s,mb5.4						
BOJS	**Bojanci**	**83.09**	**359**	⇓*i*P	**P**	**09 42 43.6**	**+0.8**
SISC	**Sisak**	**83.11**	**358**	⇓*i*P	**P**	**09 42 47.2**	**+4.3**
GRN	**Grenoble**	**83.12**	**6**	*e*P	**P**	**09 42 44.3**	**+1.4**
HARR	**Harsova**	**83.14**	**350**	⇓*i*P	**P**	**09 42 43.5**	**+0.4**
HARR	**Harsova**	**83.14**	**350**	⇓*i*P	**P**	**09 42 43.5**	**+0.5**
KAKA	**Kakadu**	**83.14**	**240**	⇓*i*P	**P**	**09 42 41.1**	**-2.6**
	comp=Z,165nm,1.0s,mb6.0						
CAF	**Calviac**	**83.15**	**8**	⇓*i*P	**P**	**09 42 44.0**	**+0.9**
	comp=Z,915nm,1.2s,mb6.4						
GDM	**Grand'Maison**	**83.18**	**5**	*e*P	**P**	**09 42 45.1**	**+1.8**
RSP	**Reno Superiore**	**83.29**	**5**	P	**P**	**09 42 45.2**	**+1.4**
KUDL	**Kundal**	**83.33**	**308**	*e*P	**P**	**09 42 43.5**	**-0.9**
KUDL				*e*	pP	09 42 46.8	-0.1
	comp=Z,288nm,1.8s						
HOPOS	**Hopovo Monaste**	**83.33**	**356**	⇓*i*P	**P**	**09 42 46.3**	**+2.2**
AGRA	**Agra**	**83.36**	**306**	*e*P	**P**	**09 42 43.9**	**-0.7**
AGRA				*e*	pP	09 42 46.4	-0.7
	comp=Z,236nm,1.8s						
FENE	**Fenestrelle**	**83.40**	**5**	P	**P**	**09 42 46.8**	**+2.4**
VIVF	**Saint-Julien-l**	**83.43**	**6**	⇓*i*P	**P**	**09 42 45.8**	**+1.2**
	comp=Z,766nm,1.3s,mb6.3						
ORIF	**Oris-en-Rattie**	**83.45**	**6**	⇓*i*P	**P**	**09 42 46.1**	**+1.4**
	comp=Z,506nm,1.4s,mb6.0						
ORIF				*e*R			
	comp=Z,2µm,22.5s						
RRL	**Cesana Torines**	**83.50**	**5**	P	**P**	**09 42 47.7**	**+2.8**
EPON	**Pontenova**	**83.56**	**15**	⇓P	**P**	**09 42 45.8**	**+0.6**
	comp=Z,638nm,1.3s,mb6.6						
BHB	**Bricherasio**	**83.60**	**5**	P	**P**	**09 42 45.8**	**+0.5**

BEO	Belgrade	83.61	355	⇑iP	P	09 42 46.0	+0.6
NINI	Niniconang	83.65	255	⇓eP	P	09 42 44.7	-1.6
	comp=Z,165nm,1.0s,mb6.1						
BUC1	Bucharest	83.67	351	⇓P	P	09 42 45.9	+0.2
BUC1	Bucharest	83.67	351	⇓iP	P	09 42 45.9	+0.2
MBDF	Montbardon	83.69	5	⇓iP	P	09 42 48.0	+2.2
	comp=Z,653nm,1.1s,mb6.4						
KHET	Khetri	83.72	308	eP	P	09 42 45.8	-0.6
KHET				e	pP	09 42 47.9	-1.0
	comp=Z,165nm,1.2s						
OCF	Saint Nazaire	83.75	6	eP	P	09 42 47.9	+1.8
OG26	St.-Nazaire-De	83.75	6	eP	P	09 42 47.9	+1.8
STS	Santiago	83.75	16	P	P	09 42 47.0	+0.8
	comp=Z,176nm,1.0s,mb6.2						
BOB	Bobbio (Coli)	83.77	3	⇓iP	P	09 42 48.0	+1.8
PZZ	Prazzo	83.93	5	P	P	09 42 47.7	+0.7
SURF	Saint Ours	83.94	5	eP	P	09 42 49.4	+2.3
NVLJ	Novalja	84.04	359	⇓iP	P	09 42 48.0	+0.4
GRAM		84.06	3	P	P	09 42 49.4	+1.7
SVIS	Svilajnac	84.09	355	⇓iP	P	09 42 48.2	+0.4
GENL	Genova Univers	84.11	3	P	P	09 42 48.2	+0.3
ERBM	Eremo	84.14	2	⇓iP	P	09 42 49.9	+1.8
LASF	Ste Croix	84.15	7	⇓iP	P	09 42 49.5	+1.4
	comp=Z,422nm,1.1s,mb6.2						
CODM		84.16	3	P	P	09 42 49.4	+1.3
ROB	Roburent	84.18	4	P	P	09 42 48.8	+0.5
STV2	Anna di Valdie	84.20	5	P	P	09 42 48.4	0.0
STV	Sta Anna Valdi	84.20	5	P	P	09 42 48.3	-0.1
ELAN	Lanestosa	84.21	13	⇓P	P	09 42 49.1	+0.6
	comp=Z,882nm,1.3s,mb6.7						
VALM		84.21	3	P	P	09 42 49.7	+1.3
GSCL	Gusciola	84.22	2	⇓iP	P	09 42 50.2	+1.8
ENR	Entracque	84.22	5	P	P	09 42 48.2	-0.3
ZCCA	Zocca	84.23	2	⇓iP	P	09 42 51.0	+2.5
BACM		84.28	3	P	P	09 42 50.1	+1.3
FIN	Finale Ligure	84.28	4	P	P	09 42 49.0	+0.2
BRSN	Barisano	84.31	1	⇑iP	P	09 42 51.8	+2.9
DIVS	Divcibare	84.36	355	⇑iP	P	09 42 49.6	+0.4
RORO		84.37	4	P	P	09 42 49.6	+0.4
SMRF	Simiane la Rot	84.37	6	⇓iP	P	09 42 51.1	+1.9
	comp=Z,797nm,1.3s,mb6.4						
MONE	Monesi	84.39	4	P	P	09 42 50.1	+0.8
TOUF	Mont Tournerai	84.43	5	⇓eP	P	09 42 51.2	+1.7
EZAM	Zamans	84.44	17	P	P	09 42 50.7	+1.0
	comp=Z,131nm,1.1s,mb6.0						
AUTN	L'Aution	84.45	5	⇓eP	P	09 42 51.2	+1.5
OSSF	Osses	84.46	11	⇓eP	P	09 42 49.8	+0.1
EALK	Alkurruntz	84.47	11	⇓P	P	09 42 50.2	+0.4
	comp=Z,635nm,1.7s,mb6.5						
SAOF	Saorge	84.47	4	⇓eP	P	09 42 51.0	+1.3
ERUA	La Rua	84.47	15	⇓P	P	09 42 50.6	+0.8
	comp=Z,260nm,1.2s,mb6.2						
VILF	Villemus	84.50	6	⇓eP	P	09 42 51.9	+2.0
BDI	Bagni Di Lucca	84.51	2	⇓iP	P	09 42 50.3	+0.4
BOLS	Boljevac	84.51	354	⇓iP	P	09 42 50.0	0.0
PRAF	Pradon	84.51	6	⇓eP	P	09 42 51.9	+1.9
GRUS	Gruza	84.53	355	⇑iP	P	09 42 50.6	+0.5
SEI	Scarperia	84.53	2	⇑iP	P	09 42 52.0	+1.9
MVIF	Mont Vial	84.54	5	⇓eP	P	09 42 51.4	+1.3
ORDF	Ordiarp	84.54	11	⇓eP	P	09 42 50.0	-0.1
GNI	Garni	84.56	337	P	P	09 42 51.5	+1.3
	comp=Z,52nm,1.0s,mb5.6,baz=342,slow=6.8,SNR=24						
GNI				LR	LR	10 30 33.7	
	comp=Z,2µm,18.5s,MS5.4,baz=9.3,slow=43						
GNI	Garni	84.56	337	P	P	09 42 51.5	+1.3
GNI				LR	LR	10 30 33.7	
AURF	Auriere	84.56	5	⇓eP	P	09 42 51.4	+1.2
IMI	Imperia	84.56	4	P	P	09 42 50.9	+0.7
SBF	Sospel	84.59	5	⇓iP	P	09 42 51.3	+1.0
	comp=Z,966nm,1.1s,mb6.5						
SJPF	Ste Jean	84.60	11	⇓iP	P	09 42 50.8	+0.4
	comp=Z,185nm,1.3s,mb5.8						
BBLS	Bajina Basta -	84.61	356	⇑iP	PcP	09 43 05.1	+11
NEGI	Negi	84.61	4	P	P	09 42 51.3	+0.8
VMG	Vicchio	84.63	2	⇑iP	P	09 42 52.1	+1.6
MAIM		84.65	2	P	P	09 42 51.1	+0.4
CALN	Calern	84.67	5	⇓eP	P	09 42 52.1	+1.4
RSM	Repubblica di	84.67	1	⇓iP	P	09 42 52.8	+2.0
PRD	Provadia	84.67	350	eP	P	09 42 52.0	+1.2
SFI	Santa Sofia	84.69	1	⇓iP	P	09 42 52.9	+2.1
REVF	Revere	84.71	5	eP	P	09 42 52.3	+1.4
TREF	Trevaresse	84.71	6	⇓eP	P	09 42 52.9	+2.0
PGD	Poggio Sodo	84.72	1	⇓iP	P	09 42 53.3	+2.3
MTLF	Montolieu	84.74	8	⇓iP	P	09 42 52.2	+1.1
	comp=Z,905nm,1.2s,mb6.5						
SZH	Strazhica	84.75	351	eP	P	09 42 51.0	-0.2
TAVF	Tavernes	84.76	6	⇓eP	P	09 42 52.9	+1.7
LABF	Labassere	84.82	10	⇓eP	P	09 42 51.5	0.0
PUYF	Puyloubier	84.82	6	⇓eP	P	09 42 53.1	+1.6
ELOB	Lobios	84.83	16	P	P	09 42 52.1	+0.5
	comp=Z,388nm,2.2s,mb6.2						
PII	Pisa	84.84	2	⇓iP	P	09 42 51.6	0.0
FRF	La Foret Royal	84.85	5	⇓iP	P	09 42 52.6	+1.0
	comp=Z,595nm,1.2s,mb6.3						
EPF	Esparros	84.86	10	⇓iP	P	09 42 51.9	+0.2
	comp=Z,436nm,1.2s,mb6.2						
NEV	Hard Times	84.89	69	eP	P	09 42 53.2	+0.8
ETSF	Etsaut	84.89	11	⇓iP	P	09 42 53.1	+1.2
	comp=Z,574nm,1.2s,mb6.3						
FSSB	Fossombrone	84.91	1	⇓iP	P	09 42 53.3	+1.3
CPB	Codrington	84.92	68	eP	P	09 42 52.6	0.0
GELF	Grande-Etoile	84.95	6	⇓eP	P	09 42 53.8	+1.7
NVSS	Nova Varos 2	84.96	356	⇑iP	P	09 42 54.1	+1.9
FDAF	Les Forges d'A	84.97	11	⇓eP	P	09 42 53.7	+1.4
CRE	Caprese Michel	84.97	1	⇓iP	P	09 42 53.4	+1.2
ECAL	Calabor	84.98	15	⇓P	P	09 42 52.7	+0.4
	comp=Z,514nm,2.6s,mb6.2						
BZK	Bozkurt	85.00	345	P	P	09 42 53.3	+0.9
MLS	Moulis	85.01	9	⇓eP	P	09 42 53.1	+0.6
BERF	Bertagne	85.04	6	⇓eP	P	09 42 54.1	+1.5
MELF	Melles	85.06	10	⇓eP	P	09 42 52.7	0.0
LMR	La Mourre	85.06	5	⇓iP	P	09 42 53.9	+1.2
	comp=Z,710nm,1.3s,mb6.3						
LPEF	Le Peyrat	85.10	9	⇓eP	P	09 42 53.9	+1.0
ARV	Arcevia	85.11	1	⇓iP	P	09 42 54.3	+1.4
CSNT	Castellina Chi	85.11	2	⇓iP	P	09 42 53.2	+0.3
PBRG	Braganca	85.11	15	eP	P	09 42 53.3	+0.3
	comp=Z,123nm,1.4s,mb5.8						
PBRG				ePP	PP	09 46 11.9	0.0
PLE	Pljevlja	85.15	356	⇓iP	P	09 42 54.5	+1.4
LRDF	Laroque-de-Fa	85.17	8	⇓eP	P	09 42 54.6	+1.4
CING	Cingoli	85.23	0	iP	P	09 42 54.9	+1.3
UPM	Unac-Piva	85.30	356	⇓iP	P	09 42 54.2	+0.3
MURB	Monte Urbino	85.34	1	⇓iP	P	09 42 55.6	+1.5
BYBT	Boyabat	85.36	344	iP	P	09 42 56.6	+2.4
BPA	Boggy Peak	85.37	68	eP	P	09 42 54.5	-0.4
GRFL	Gerfalco	85.43	2	⇓iP	P	09 42 55.2	+0.7
GUMT	Gumushane	85.45	341	P	P	09 42 56.4	+1.7
PVRL	Vila Real	85.46	16	eP	P	09 42 55.3	+0.5
	comp=Z,117nm,1.7s,mb5.7						
PVRL				ePP	PP	09 46 13.8	-1.0
JMB	Yambol	85.48	351	eP	P	09 42 55.0	+0.2
KVT	Kavak	85.51	343	P	P	09 42 57.4	+2.4
BARS	Barje	85.53	354	⇑iP	P	09 42 55.0	-0.1
ASS	Assisi	85.54	1	⇓iP	P	09 42 56.0	+0.9
FILF	Fillols	85.54	8	⇓eP	P	09 42 55.8	+0.7
EZM	Erzurum	85.58	339	P	P	09 42 57.7	+2.3
IVA	Berane	85.58	355	⇓iP	P	09 42 56.0	+0.7
AJM	Ajmer	85.61	308	⇓iP	P	09 42 55.0	-0.9
BRY	Bratogost	85.61	356	⇓iP	P	09 42 55.6	+0.1
PGB	Panagyurishte	85.62	352	iP	P	09 42 56.0	+0.5
VTS	Vitosha	85.66	353	iP	P	09 42 56.0	+0.3
STON	Ston	85.67	357	⇓iP	P	09 42 55.4	-0.4
EJON	La Jonquera	85.68	8	⇓P	P	09 42 56.6	+0.8
	comp=Z,337nm,1.4s,mb6.4						
NKY	Niksic	85.69	356	⇓iP	P	09 42 55.8	0.0
NRCA	Norcia	85.77	0	⇓iP	P	09 42 57.4	+1.1
PVY	Plav	85.86	355	⇓iP	P	09 42 56.4	-0.3
TOS	Tosya	85.90	345	P	P	09 42 59.3	+2.3
SAFT	Safranbolu	85.91	346	P	P	09 42 58.2	+1.2
PGF	Pioggiola	85.97	4	⇓iP	P	09 42 58.3	+1.0
	comp=Z,1µm,1.4s,mb6.6						
PVIS	Viseu	85.98	16	eP	P	09 42 57.6	+0.3
	comp=Z,154nm,1.2s,mb6.1						
PVIS				ePP	PP	09 46 18.8	-0.1
TERO	Teramo	85.98	0	iP	P	09 42 58.9	+1.6
DIM	Dimitrovgrad	86.00	351	eP	P	09 42 58.0	+0.6
PLD	Plovdiv	86.02	352	eP	P	09 42 58.0	+0.5
TTG	Podgorica	86.06	356	⇓iP	P	09 42 57.5	-0.2
ESAC	San Caprasio	86.06	11	⇓P	P	09 42 58.5	+0.8
	comp=Z,806nm,1.4s,mb6.8						
HCY	Herceg Novi	86.07	356	⇓iP	P	09 42 57.5	-0.2
EMIR	Miracle	86.09	9	⇓P	P	09 42 58.6	+0.7
	comp=Z,758nm,1.8s,mb6.6						
MAON	Monte Argentar	86.15	2	iP	P	09 42 58.5	+0.3
BUM	Brajici-Budva	86.20	356	⇓iP	P	09 42 58.2	-0.2
MNS	Montasola	86.22	1	⇓iP	P	09 42 58.6	+0.1
AQU	L'Aquila	86.25	0	⇓iP	P	09 42 59.5	+0.9
VRT	Varto	86.28	339	P	P	09 43 00.8	+1.9
MTE	Manteigas	86.34	16	eP	P	09 42 59.2	0.0
	comp=Z,87nm,1.1s,mb5.9						
MTE				ePP	PP	09 46 22.0	-0.2
MTE				eSS	SS	09 59 14.9	-1.3
MTE				eLQ		10 08 04.8	
MTE				eLR	LR	10 12 37.7	
	comp=Z,2µm,22.0s						
SNG	Songkhla	86.36	277	P	P	09 42 51.0	-8.9
	comp=Z,460nm,1.0s,mb6.7						
CANT	Cankiri	86.39	345	P	P	09 43 01.4	+2.0
KKB	Krupnik	86.39	353	iP	P	09 43 00.0	+0.7
SKO	Skopje	86.40	354	⇓iP	P	09 43 00.3	+0.9
	comp=Z,0.3nm,1.0s						
KDZ	Kurdzhali	86.41	351	eP	P	09 43 00.0	+0.6
PCOI	Coimbra	86.42	17	eP	P	09 42 59.8	+0.3
	comp=Z,353nm,1.3s,mb6.4						
RZN	Rozhen	86.43	352	iP	P	09 43 00.0	+0.4
ULC	Ulcinj	86.52	356	⇓iP	P	09 43 00.4	+0.4
TOLF	Tolfa	86.53	1	eP	P	09 43 00.6	+0.6
SDV	Santo Domingo	86.54	80	P	P	09 42 59.8	-0.9
PTQR	Pietraquaria	86.58	0	⇓iP	P	09 43 01.1	+0.8
INTR	Introdacqua	86.59	360	⇓iP	P	09 43 00.3	0.0
EPOB	Poblet	86.60	10	⇓P	P	09 43 00.9	+0.5
	comp=Z,499nm,1.5s,mb6.5						
MMB	Musomiste	86.61	353	iP	P	09 43 01.0	+0.5
CERT	Cerreto	86.66	1	iP	P	09 43 02.0	+1.3
HRT	Hereke	86.75	348	iP	P	09 43 02.0	+0.9
ETOR	Torete	86.76	12	⇓P	P	09 43 01.5	+0.3
	comp=Z,194nm,1.4s,mb6.1						
FG2	Serracapriola	86.79	359	⇓iP	P	09 43 02.1	+0.8
BBL	Barber's Block	86.80	69	eP	P	09 43 00.4	-1.6
FGMS	Monte Sant'Ang	86.88	358	⇓iP	P	09 43 02.2	+0.4
CII	Carovilli	86.88	360	⇓iP	P	09 43 02.8	+1.0
MDU	Mudurnu	86.89	347	P	P	09 43 02.9	+1.1
RDO	Rodhopi	86.89	351	eP	P	09 43 03.2	+1.4
SDI	San Donato	86.90	360	⇓iP	P	09 43 02.1	+0.3
PCBR	Castelo Branco	86.90	16	eP	P	09 43 01.6	-0.3
	comp=Z,114nm,1.3s,mb5.9						
PCBR				ePP	PP	09 46 24.7	-2.5
BHPL	Bhopal	86.91	304	⇓iP	P	09 43 01.2	-1.2
	comp=Z,472nm,1.6s,mb6.5						
BHPL				eP		09 43 01.3	
BHPL				AMb	AMB	09 43 03.5	
	comp=Z,449nm,1.3s,mb6.5						
DLVT	Layou Valley	86.92	69	eP	P	09 43 02.2	-0.3
RGNG	Rignano Grg	86.92	359	⇑iP	P	09 43 02.7	+0.8
PTOM	Tomar	86.95	17	eP	P	09 43 02.1	0.0
	comp=Z,252nm,1.2s,mb6.3						
PTOM				ePP	PP	09 46 25.9	-1.8
VAY	Valandovo	86.97	353	⇓iP	P	09 43 01.9	-0.3
MDN	Morne-Daniel	87.01	69	eP	P	09 43 03.5	+0.6
JASL	Jaisalmer	87.03	311	eP	P	09 43 01.9	-0.9
EBR	Ebro Roquetas	87.06	10	eTs		09 43 03.0	
DPMT	Pointe Michel	87.07	69	eP	P	09 43 03.5	+0.3
DBCT	Belle View Cho	87.08	69	eP	P	09 43 03.5	+0.2
ALN	Alexandroupoli	87.09	351	eP	P	09 43 02.7	-0.1
SRS	Serrai	87.09	353	eP	P	09 43 03.1	+0.3
DSTT	Stowe	87.12	69	eP	P	09 43 03.0	-0.5
SGG	Gregorio Mates	87.22	360	⇓iP	P	09 43 03.9	+0.5
ANTO	Ankara	87.24	345	iP	P	09 43 02.9	-0.6
BRTR	Keskin Array B	87.24	345	P	P	09 43 04.4	+0.8
	comp=Z,79nm,1.0s,mb5.9,baz=45,slow=1.7,SNR=256						
BRTR				PKKPbc		10 00 50.9	
	comp=Z,4.3nm,0.9s,baz=180,slow=6.2,SNR=16						
BRTR				PKPPKP		10 08 53.6	
	comp=Z,1.6nm,0.7s,baz=180,slow=4.9,SNR=9.4						
BRTR				LR	LR	10 26 23.5	
	comp=Z,2µm,21.4s,MS5.4,baz=60,slow=38						
OHR	Ohrid	87.29	355	⇓iP	P	09 43 04.0	+0.2
FG5	Orsara di Pugl	87.31	359	⇓iP	P	09 43 04.5	+0.7
GRG	Griva	87.34	353	eP	P	09 43 04.5	+0.5
ROSC	El Rosal	87.40	86	P	P	09 43 05.1	+0.2
	comp=Z,48nm,1.0s,mb5.7,baz=124,slow=22,SNR=29						
EMOS	Mosqueruela	87.41	11	⇓P	P	09 43 04.8	+0.5
	comp=Z,194nm,1.1s,mb6.2						
SOH	Sokhos	87.41	353	eP	P	09 43 04.9	+0.6
MSC	Monte Massico	87.41	360	⇓iP	P	09 43 04.5	+0.2
BNT	Bandirma	87.42	349	iP	P	09 43 05.4	+1.0
FG4	Candela	87.46	359	eP	P	09 43 05.0	+0.4
MRB1	Monte Rocchett	87.47	359	⇓iP	P	09 43 06.8	+2.2
PLOU	Loures	87.52	18	eP	P	09 43 05.0	+0.1
	comp=Z,282nm,1.2s,mb6.4						
KAMT	Kaman	87.58	345	P	P	09 43 06.1	+0.9
FNA	Florina	87.58	354	eP	P	09 43 05.1	0.0
FDF	Fort de France	87.62	69	⇑eP	P	09 43 04.6	-1.3
ESDC	Sonseca Array	87.62	14	P	P	09 43 05.5	+0.1
	comp=Z,107nm,1.0s,mb6.0,baz=347,slow=4.6,SNR=200						
ESDC				PP	PP	09 46 31.0	-2.1
	comp=Z,60nm,1.4s,baz=349,slow=7.9,SNR=9.5						
ESDC				PKKPbc		10 00 50.5	
	comp=Z,3.3nm,0.9s,baz=186,slow=1.8,SNR=9.8						
ESDC				PKPPKP		10 08 57.9	
	comp=Z,0.5nm,0.5s,baz=187,slow=1.4,SNR=8.2						
ESDC				LR	LR	10 20 19.3	
	comp=Z,2µm,21.7s,MS5.4,baz=345,slow=34						
INMG	Instituto de M	87.64	18	eP	P	09 43 05.9	+0.4
BRT	Bari-Castellan	87.68	357	⇑iP	P	09 43 06.2	+0.6
LIS	Lisbon	87.69	18	eP	P	09 43 04.5	-1.2
LIS				ePP	PP	09 46 29.1	-4.5
LIS				eSS	SS	09 59 33.7	-2.1
LIS				eSS	SS	09 59 34.8	-1.0
LIS				AMS	AMS	10 23 41.2	
	comp=Z,3µm,20.6s,MS5.6						
LIS	Lisbon	87.69	18	eP	P	09 43 04.5	-1.2
LIS				ePP	PP	09 46 29.1	-4.5
LIS				eSS	SS	09 59 33.7	-2.0
	comp=Z,3µm,20.6s						
MALT	Malatya	87.73	341	iP	P	09 43 06.8	+0.9
CSSN	Cassano Irpino	87.74	359	⇓iP	P	09 43 05.8	-0.1
CRM	Caravelle	87.74	69	⇑eP	P	09 43 04.5	-2.0
OVO	Vesuviano	87.78	360	⇑iP	P	09 43 06.3	+0.2
BIM	Bigot	87.84	69	eP	P	09 43 06.1	-0.8
MRLC	Muro Lucano	87.84	359	⇓iP	P	09 43 08.8	+2.4
OUR	Ouranopolis	87.84	352	eP	P	09 43 06.3	0.0
PLG	Polygyros	87.84	353	eP	P	09 43 06.5	+0.1
ESKT	Eskisehir	87.87	347	iP	P	09 43 07.4	+0.8
MVM	Montagne Vaucl	87.91	69	eP	P	09 43 06.3	-0.9
MOE	Montemor	88.03	17	eP	P	09 43 07.5	+0.2
SGO	Sicignano	88.03	359	⇓iP	P	09 43 07.2	-0.1
EBAD	Badajoz	88.04	16	P	P	09 43 06.6	-0.8
	comp=Z,114nm,1.2s,mb6.0						
IPM	Ipoh	88.14	275	⇑eP	P	09 43 07.5	-0.9
	comp=Z,57nm,0.8s,mb5.9						
WRAB	Tennant Creek	88.17	234	eP	P	09 43 05.4	-3.0
	comp=Z,120nm,1.2s,mb6.0						
WRAB				LR	LR		
	comp=Z,315nm,20.0s,MS4.7						
WB2	Warramunga Arr	88.18	234	eP	P	09 43 05.3	-3.2
WB2				eSKS	SKS	09 53 33.6	-6.0
WRA	Warramunga Arr	88.19	234	P	P	09 43 05.8	-2.7
	comp=Z,49nm,0.9s,mb5.8,baz=40,slow=5.4,SNR=244						
WRA				PP	PP	09 46 38.0	0.0
	comp=Z,9.3nm,1.1s,baz=36,slow=8.3,SNR=5.4						
WRA				PKKPbc		10 00 49.9	
	comp=Z,1.6nm,1.0s,baz=214,slow=2.1,SNR=7.3						
WRA				LR	LR	10 18 36.7	
	comp=Z,918nm,20.4s,MS5.2,baz=25,slow=33						
LIT	Litokhoron	88.19	353	eP	P	09 43 07.6	-0.5
LCI	Lecce	88.19	357	eP	P	09 43 08.7	+0.6
SLCN	Sala Consilina	88.20	359	⇓iP	P	09 43 08.8	+0.7
PAIG	Paliouri	88.27	352	eP	P	09 43 08.0	-0.5
KIZT	Kizilcal	88.35	346	P	P	09 43 09.6	+0.7
ALT	Altintas	88.43	347	iP	P	09 43 10.3	+1.0
OTAV	Otavalo	88.44	92	eP	P	09 43 10.1	+0.2
	comp=Z,124nm,1.2s,mb6.0						
MGR	Morigerati	88.45	359	⇓iP	P	09 43 09.0	-0.4
ORI	Oriolo Calabro	88.51	358	⇓iP	P	09 43 10.7	+1.0
MEV	Metsovon	88.59	354	eP	P	09 43 11.1	+1.1
PBEJ	Beja	88.60	17	eP	P	09 43 10.0	-0.1
	comp=Z,111nm,1.3s,mb6.0						
PBEJ				ePP	PP	09 46 40.9	0.0
NIG	Nigde	88.65	344	P	P	09 43 11.9	+1.5
PRK	Paraskevi	88.70	350	eP	P	09 43 11.0	+0.4
KGM	Kluang	88.71	272	⇑eP	P	09 43 11.1	-0.1
JAN	Janina	88.74	355	eP	P	09 43 11.5	+0.8
KEK	Kerkira	88.74	355	eP	P	09 43 11.0	+0.3
EVIA	Vianos	88.85	13	⇓P	P	09 43 11.4	+0.1
	comp=Z,76nm,1.0s,mb6.0						
AKS	Akhisar	88.89	349	iP	P	09 43 11.7	+0.2
PTEO	Sao Teotonio	88.90	18	eP	P	09 43 11.3	-0.3
	comp=Z,179nm,1.2s,mb6.3						
PTEO				ePP	PP	09 46 41.3	-2.1
TDS	Terranova Siba	88.92	358	⇓iP	P	09 43 11.9	+0.4
NEO	Neokhori	88.92	353	eP	P	09 43 11.5	-0.1
EIBI	Ibiza	88.93	10	⇓P	P	09 43 12.2	+0.6
	comp=Z,251nm,1.3s,mb6.4						
ETOB	Tobarra	88.97	12	P	P	09 43 12.2	+0.3
	comp=Z,1µm,5.2s						
EADA	Adamuz	89.01	14	⇓P	P	09 43 11.9	-0.1
	comp=Z,281nm,1.4s,mb6.4						
KEDI	Kedomdong	89.05	255	⇑eP	P	09 43 08.4	-4.4
EMIN	Mina Concepcio	89.06	16	⇓P	P	09 43 12.1	-0.2
	comp=Z,180nm,1.3s,mb6.2						
EBEN	Beniarda	89.07	11	⇓P	P	09 43 13.2	+0.8
	comp=Z,524nm,1.5s,mb6.6						
GAZ	Gaziantep	89.08	341	P	P	09 43 13.9	+1.5
EGRO	El Granado	89.14	17	⇓P	P	09 43 12.4	-0.3
	comp=Z,292nm,1.5s,mb6.4						
KONT	Konya--Tatoy	89.19	345	P	P	09 43 13.8	+0.9
PALC	Alcoutim	89.21	17	eP	P	09 43 12.9	-0.1
	comp=Z,123nm,1.4s,mb6.0						
PALC				ePP	PP	09 46 45.7	-0.1
AGG	Agios Georgios	89.27	353	eP	P	09 43 12.6	-0.7
EVR	Evrytania	89.41	354	eP	P	09 43 14.2	+0.2
IZM	Izmir	89.43	349	P	P	09 43 13.8	-0.3
CEYT	Ceyhan	89.52	343	iP	P	09 43 16.2	+1.7
ISP	Isparta	89.56	347	P	P	09 43 14.3	-0.4
ISP	Isparta	89.56	347	iPr		09 43 14.9	
EQES	Quesada	89.59	13	⇓P	P	09 43 14.8	0.0
	comp=Z,143nm,1.7s,mb6.0						
ELUQ	Luque	89.65	14	P	P	09 43 15.4	+0.3
	comp=Z,125nm,1.5s,mb6.0						
GRI	Girifalco	89.75	358	⇓iP	P	09 43 15.5	0.0
EMUR	La Murta	89.80	12	P	P	09 43 15.6	-0.2
	comp=Z,170nm,1.6s,mb6.1						
MPAR	Parnis Oros	90.03	352	eP	P	09 43 16.0	-0.8
ELOJ	Sierra Loja	90.07	14	⇑P	P	09 43 17.9	+0.8
	comp=Z,127nm,1.2s,mb6.1						
ESPR	Espera	90.07	16	⇓P	P	09 43 17.0	-0.1
	comp=Z,262nm,1.3s,mb6.4						
HDMB	Hadim	90.13	345	eP	P	09 43 17.4	+0.1
VLS	Valsamata	90.23	355	eP	P	09 43 17.5	-0.3
ERON	Agron	90.25	14	P	P	09 43 18.2	+0.3
	comp=Z,41nm,1.1s,mb5.7						
SCLL	Scilla	90.33	358	⇑iP	P	09 43 16.4	-1.8
EJIF	Jimena Fronter	90.55	15	P	P	09 43 23.2	+3.9
	comp=Z,2.7nm,1.0s						
IKL	Isikli	90.64	344	P	P	09 43 19.4	-0.3
URZ	Urewera	90.83	193	LR	LR	10 23 06.7	
	comp=Z,2µm,18.5s,MS5.6,baz=197,slow=35						
VAE	Valguarnera	91.12	359	LR	LR	10 22 03.1	
	comp=Z,1µm,21.0s,MS5.3,baz=97,slow=34						
HYB	Hyderabad	91.12	300	⇓iP	P	09 43 21.5	-0.8
	comp=Z,667nm,1.2s,mb6.8						
HYB				ePP	PP	09 46 59.0	-2.6
HYB				eS	S	09 54 19.0	+1.0
ITM	Ithomi	91.13	353	eP	P	09 43 21.0	-1.0
FITZ	Fitzroy Crossi	91.25	242	⇓iP	P	09 43 21.0	-1.9
	comp=Z,65nm,0.8s,mb6.0						
FITZ	Fitzroy Crossi	91.25	242	LR	LR	10 19 56.6	
	comp=Z,371nm,21.4s,MS4.8,baz=90,slow=33						
LATR	Latur	91.36	302	eP	P	09 43 21.6	-1.7
	comp=Z,400nm,1.1s,mb6.7						
ARG	Arkhangelos	91.48	348	eP	P	09 43 23.0	-0.6
VLI	Veliai	91.52	353	eP	P	09 43 22.5	-1.2
ASAR	Alice Springs	91.53	232	P	P	09 43 22.1	-2.0
	comp=Z,62nm,0.8s,mb6.0,baz=35,slow=4.6,SNR=326						
ASAR				PKKPbc		10 00 41.5	
	comp=Z,0.5nm,0.4s,baz=206,slow=1.6,SNR=11						
ASAR				PKPPKP		10 08 42.2	
	comp=Z,0.5nm,0.8s,baz=207,slow=2.5,SNR=3.8						
ASAR				LR	LR	10 22 31.0	
	comp=Z,1µm,20.4s,MS5.3,baz=33,slow=34						
ASPA	Alice Springs	91.53	232	⇓iP	P	09 43 21.9	-2.2
ASPA				eSKS	SKS	09 53 53.9	-5.8
MAMC	Mammari	91.76	344	⇑P	P	09 43 25.0	+0.1
MAMC	Mammari	91.76	344	⇑eP	P	09 43 25.0	+0.1
PHNC	Paralimni	91.78	343	⇑P	P	09 43 25.6	+0.6
PHNC	Paralimni	91.78	343	⇑eP	P	09 43 25.6	+0.6
LEF	Lefka	91.86	344	iP	P	09 43 26.2	+0.8
ALFC	Alevga	91.88	345	⇓P	P	09 43 24.8	-0.6
	comp=Z,2.7nm,1.1s						
ALFC	Alevga	91.88	345	⇓eP	P	09 43 24.8	-0.6
CSS	Prodhromos	91.94	344	⇑P	P	09 43 24.9	-0.8
	comp=Z,1.4nm,0.9s						
CSS	Prodhromos	91.94	344	⇑iP	P	09 43 24.9	-0.8
SZAC	Souni-Zanaja	92.22	344	⇓P	P	09 43 27.0	0.0
SZAC	Souni-Zanaja	92.22	344	⇓eP	P	09 43 27.0	0.0
POO	Poona	92.67	305	eP	P	09 43 28.2	-1.2
POO				e	pP	09 43 30.6	-1.4
	comp=Z,285nm,1.3s						
VAM	Vamos	92.71	351	eP	P	09 43 29.0	-0.2
CUD	Cuddapah	93.42	298	⇓eP	P	09 43 31.7	-1.2
CUD				e		09 55 09.1	
HNTI	Hanita	93.44	342	P	P	09 43 33.0	+0.3
HNTI	Hanita	93.44	342	⇓P	P	09 43 33.0	+0.3
KAD	Karad	93.52	304	eP	P	09 43 32.0	-1.3
	comp=Z,181nm,1.9s,mb6.2						
HAF	Haifa	93.76	342	P	P	09 43 34.3	+0.1
OFRI	‘Ofer	93.92	342	P	P	09 43 35.1	+0.2
OFRI	‘Ofer	93.92	342	⇓P	P	09 43 35.1	+0.2
ASF	Jabal al Asfar	93.98	340	P	P	09 43 36.0	+0.8
	comp=Z,33nm,0.9s,mb5.8,baz=244,slow=0.9,SNR=38						
ASF				PP	PP	09 47 20.4	-3.7
	comp=Z,8.8nm,0.9s,baz=210,slow=2.5,SNR=5.8						
ASF				LR	LR	10 35 50.1	
	comp=Z,1µm,20.6s,MS5.3,baz=63,slow=42						
MMLI	Mount Malkishu	94.02	342	P	P	09 43 36.0	+0.7
HMDT	Nahal Hemdat	94.18	342	P	P	09 43 36.6	+0.5
HMDT	Nahal Hemdat	94.18	342	⇓P	P	09 43 36.6	+0.5
SNZO	South Karori	94.18	194	PFAKE		09 43 50.0	+14
SNZO				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
SLTI	Sal'it	94.28	342	P	P	09 43 37.0	+0.4
SLTI	Sal'it	94.28	342	⇓P	P	09 43 37.0	+0.4
DRGI	Dragot	94.84	342	P	P	09 43 39.2	0.0
DRGI	Dragot	94.84	342	⇓P	P	09 43 39.2	0.0
STKA	Stephens Creek	95.02	222	eP	P	09 43 37.9	-2.1
	comp=Z,16nm,1.2s,mb5.3						
STKA	Stephens Creek	95.02	222	P	P	09 43 38.2	-1.8
	comp=Z,17nm,1.1s,mb5.4,baz=9.9,slow=5.5,SNR=17						
STKA				PKiKP		09 48 19.7	
	comp=Z,2.7nm,0.8s,baz=86,slow=11,SNR=3.6						
STKA				PKKPbc		10 00 32.4	
	comp=Z,1.4nm,0.6s,baz=203,slow=4.2,SNR=3.2						
STKA				LR	LR	10 25 38.3	
	comp=Z,1µm,18.7s,MS5.3,baz=24,slow=35						
MZDA	Masada	95.12	342	P	P	09 43 40.8	+0.3
MZDA	Masada	95.12	342	⇓P	P	09 43 40.8	+0.3
MASH	Mash‘abbe Sade	95.54	342	P	P	09 43 42.3	-0.1
SVTA	Shivta	95.64	342	P	P	09 43 42.8	0.0
KZIT	Kziot	95.70	342	P	P	09 43 42.4	-0.7
ZFRI	Zfri	95.89	342	P	P	09 43 44.0	0.0
PRNI	Paran	96.12	342	P	P	09 43 45.2	+0.1
PRNI	Paran	96.12	342	⇓P	P	09 43 45.2	+0.1
KMTI	Karmit	96.42	342	P	P	09 43 46.5	+0.1
KMTI	Karmit	96.42	342	⇓P	P	09 43 46.5	+0.1
MBH	Mount Berech	96.68	342	P	P	09 43 46.9	-0.7
EIL	Elat	96.80	342	P	P	09 43 48.2	+0.1
EIL	Elat	96.80	342	⇓P	P	09 43 48.2	+0.1
RPZ	Rata Peaks	97.12	196	LR	LR	10 22 57.1	
	comp=Z,2µm,18.3s,MS5.6,baz=10,slow=33						
ALWS	Ilw as Safayha	97.12	341	P	P	09 43 50.1	+0.5
HASS	Wahat al Ahsa'	97.13	328	P	P	09 43 48.9	-0.8
JMOS	Jabal al Moall	97.25	341	P	P	09 43 50.7	+0.6
JMQS	Jabal Moqyreh	97.37	341	P	P	09 43 51.5	+0.8
HAQS	Haql	97.40	341	P	P	09 43 51.1	+0.3
HILS	Ha'il	97.43	335	P	P	09 43 51.4	+0.4
TBKS	Tabuk	97.87	340	P	P	09 43 54.2	+1.3
BDAS	Al Bad‘	97.97	341	P	P	09 43 54.3	+0.9
PALK	Pallekele	98.22	293	eP	P	09 43 53.4	-1.5
	comp=Z,118nm,1.4s,mb6.2						
ARSS	Ar Rass	98.46	333	P	P	09 43 55.7	+0.1
NNA	Nana	98.93	98	PFAKE		09 44 10.0	+12
NNA				LR	LR		
	comp=Z,358nm,21.0s,MS4.8						
KBRS	Khaybar	99.59	337	P	P	09 44 01.6	+0.8
MZLS	Mizel	99.64	331	P	P	09 44 00.8	-0.3
AFFS	‘Afif	100.38	333	P	P	09 44 04.5	+0.1
NWAO	Narrogin (SRO)	107.59	239	PFAKE		09 49 00.0	

NWAO				LR	LR		
	comp=Z,748nm,21.0s,MS5.2						
LPAZ	**La Paz**	107.61	94	Pdiff	Pdif	09 44 35.0	-1.6
	comp=Z,2.5nm,0.9s,baz=12,slow=3.0,SNR=6.7						
LPAZ				PP	PP	09 49 04.9	-3.0
	comp=Z,5.4nm,1.2s,baz=292,slow=6.1,SNR=3.7						
LPAZ				PKKPbc		09 59 59.6	
	comp=Z,2.4nm,1.1s,baz=158,slow=1.3,SNR=5.5						
LPAZ	**La Paz**	107.61	94	P	Pdif	09 44 34.9	-1.7
LPAZ				PP	PP	09 49 04.9	-3.0
LVC	**Limon Verde**	111.89	99	PKKPbc		09 59 45.7	
	comp=Z,8.8nm,1.0s,baz=231,slow=3.5,SNR=6.3						
RCBR	**Riachuelo**	118.63	60	PFAKE		09 49 20.0	+13
RCBR				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BDFB	**Brasilia**	119.54	77	PKP	PKPdf	09 49 05.5	-3.5
	comp=Z,27nm,1.2s,baz=271,slow=2.1,SNR=9.9						
BDFB				PP	PP	09 50 27.1	-5.8
	comp=Z,21nm,1.0s,baz=344,slow=5.2,SNR=5.9						
TIC	**Toumodi**	119.62	22	ePKIKP	PKPdf	09 49 05.3	-3.9
	comp=Z,224nm,1.1s						
DBIC	**Dimbokro**	119.64	21	PKP	PKPdf	09 49 06.0	-3.2
	comp=Z,21nm,0.9s,baz=338,slow=2.8,SNR=17						
DBIC				PKKPbc		09 59 15.3	
	comp=Z,3.4nm,0.7s,baz=135,slow=8.2,SNR=6.2						
KIC	**Kosan Boka**	119.96	21	ePKIKP	PKPdf	09 49 05.4	-4.4
	comp=Z,137nm,1.0s						
LIC	**Lamto**	120.03	22	ePKIKP	PKPdf	09 49 06.4	-3.6
	comp=Z,44nm,0.9s						
LIC	**Lamto**	120.03	22	ePKIKP	PKPdf	09 49 05.9	-4.1
	comp=Z,97nm,1.1s						
CPUP	**Villa Florida**	121.76	93	PKP	PKPdf	09 49 09.4	-3.7
	comp=Z,16nm,1.1s,baz=16,slow=3.3,SNR=13						
CPUP				PKKPbc		09 59 10.2	
	comp=Z,3.6nm,0.9s,baz=120,slow=5.4,SNR=5.2						
CPUP	**Villa Florida**	121.76	93	PKIKP	PKPdf	09 49 09.4	-3.8
PLCA	**Paso Flores**	123.78	115	PKhKP		09 49 02.4	
	comp=Z,2.3nm,1.0s,baz=348,slow=17,SNR=3.2						
PLCA				PKP	PKPdf	09 49 13.2	-3.5
	comp=Z,39nm,0.9s,baz=298,slow=1.9,SNR=49						
PLCA	**Paso Flores**	123.78	115	PKPdf	PKPdf	09 49 13.2	-3.5
KMBO	**Kilima Mbogo**	125.81	331	PKP	PKPdf	09 49 19.3	-2.0
	comp=Z,42nm,0.9s,baz=2.7,slow=3.2,SNR=64						
KMBO				PP	PP	09 51 10.5	-4.9
	comp=Z,6.8nm,1.0s,baz=8.8,slow=9.1,SNR=4.5						
TRQA	**Tornquist**	127.00	107	ePKP	PKPdf	09 49 18.3	-4.5
MBAR	**Mbarara**	127.04	339	ePKP	PKPdf	09 49 19.8	-3.8
MBAR				LR	LR		
	comp=Z,274nm,20.0s,MS4.9						
CAM3	**Guarapari**	127.97	75	eP	PKPdf	09 49 12.8	-12
CAM3				i		09 49 19.5	
CAM3				i		09 49 28.5	
CAM3				i		09 49 52.9	
CAM3				i		09 50 06.6	
CAM3				i		09 50 10.2	
CAM3				i		09 50 19.4	
SBA	**Scott Base**	130.43	187	PKPdf	PKPdf	09 49 25.7	-2.9
SBA				SKPbc		09 52 46.9	
VNDA	**Vanda**	130.54	189	PKP	PKPdf	09 49 25.5	-3.3
	comp=Z,16nm,1.2s,baz=324,slow=2.4,SNR=14						
VNDA				SKPbc		09 52 46.7	
	comp=Z,26nm,1.1s,baz=353,slow=5.9,SNR=16						
USHA	**Ushuaia**	133.46	128	PKP	PKPdf	09 49 31.4	-3.3
EFI	**East Falkland**	137.20	119	ePKP	PKPdf	09 49 37.1	-4.5
PMSA	**Palmer Station**	139.83	140	ePKPdf	PKPdf	09 49 41.4	-4.7
MIR	**Mirnyy**	139.86	218	⇓ePKHKP		09 49 31.4	
MIR				pmax	pmax		
	comp=Z,100nm,1.2s						
TSUM	**Tsumeb**	147.36	353	PKP	PKPdf	09 49 58.4	-1.9
	comp=Z,119nm,1.0s,baz=4.5,slow=3.3,SNR=33						
TSUM				PKPbc	PKPdf	09 50 00.9	+0.6
	comp=Z,117nm,1.0s,baz=356,slow=5.0,SNR=55						
MAW	**Mawson**	151.59	218	i PKP	PKPdf	09 50 01.7	-3.8
	comp=Z,14nm,1.1s						
MAW	**Mawson**	151.59	218	ePKP	PKPdf	09 50 08.8	+3.3
MAW	**Mawson**	151.59	218	PKP	PKPdf	09 50 02.0	-3.5
	comp=Z,16nm,1.1s,baz=74,slow=1.9,SNR=32						
MAW				PKPbc	PKPdf	09 50 08.8	+3.3
	comp=Z,244nm,0.9s,baz=319,slow=2.5,SNR=148						
MAW	**Mawson**	151.59	218	PKIKP	PKPdf	09 50 02.0	-3.5
MAW				e		09 50 08.8	
VNA1	**Neumayer--Stat**	158.55	160	⇓iPKPdf	PKPdf	09 50 11.0	-3.8
VNA1				e		09 50 47.7	
VNA1				e		09 54 28.1	
SNAA	**Sanae**	158.70	166	⇓iPKPdf	PKPdf	09 50 09.5	-5.4
SNAA				e		09 50 46.2	
SNAA				e		09 54 26.2	
SYO	**Syowa Base**	158.82	206	⇓P	PKPdf	09 50 09.1	-6.0
SYO	**Syowa Base**	158.82	206	⇓PKPdf	PKPdf	09 50 13.8	-1.3
SYO	**Syowa Base**	158.82	206	⇓pPKPdf		09 50 18.0	
SYO	**Syowa Base**	158.82	206	⇓PKPab	PKPab	09 50 50.0	-0.6
SUR	**Sutherland**	159.94	342	PKPab	PKPab	09 50 56.7	+0.1
	comp=Z,37nm,0.9s,baz=355,slow=5.8,SNR=8.9						
MAIT	**Maitri**	160.91	178	ePKPdf	PKPdf	09 50 13.2	-4.1
NVL	**N'lazarevskaya**	160.92	178	⇓ePKIKP	PKPdf	09 50 08.0	-9.3

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*NEIC **07** 09:51:01.3, 16.60N×99.78W, h20^{km}, MD3.8(MEX), After MEX.*

MEX 07 09:51:01.0±0.6**, 16.54N×99.83W, h27**^{km}±41^{km}**, MD3.8, 1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	0.65	320	⇑iP	Pb	09 51 11.5	-2.3
CAIG				i S	Sb	09 51 20.2	-2.3
PLIG	**Platanillo**	1.87	10	i P	Pn	09 51 29.8	-2.0
PLIG				i S	Sn	09 51 51.9	-2.8
ZIIG	**Zihuatanejo**	1.89	304	i P	Pn	09 51 31.2	-0.9
ZIIG				i S	Sn	09 51 51.0	-4.3
YAIG	**Yautepec**	2.42	17	eP	Pn	09 51 37.9	-1.9
YAIG				i S	Sn	09 52 04.1	-4.7
YAIG	**Yautepec**	2.42	17	eP	Pn	09 51 37.9	-1.9
YAIG				i S	Sn	09 52 02.4	-6.4
PPM	**Popocatepetl**	2.76	24	i P	Pn	09 51 42.5	-2.1
PPM				i S	Sn	09 52 14.1	-3.4
PPM	**Popocatepetl**	2.76	24	i P	Pn	09 51 42.5	-2.1
PPM				i S	Sn	09 52 14.1	-3.4
PPM	**Popocatepetl**	2.76	24	i S	Sn	09 52 20.0	+2.5
PPM	**Popocatepetl**	2.76	24	eP	Pn	09 51 43.2	-1.4

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*IDC **07** 10:27:00.3±0.9, 22.75N×94.45E, h94^{km}±7^{km}, mb3.8/11, mb1 3.9/12, mb1mx3.7/20, Error ellipse: s-maj=41.4km s-min=9.7km az=53.0*

*NEIC **07** 10:27:00.1±1.0, 22.69N×94.36E, h94^{km}±8^{km}, mb4.2/4, Error ellipse: s-maj=26.1km s-min=4.9km az=56.0*

*BJI **07** 10:27:02.3, 23.18N×94.17E, h86^{km}, mb4.6*

ISC 07 10:26:57.8±0.6**, 22.55N**±0.07×**94.15E**±0.07**, h97**^{km}±7^{km}**, h91**^{km}±3.5^{km}**:pP-P, n35, σ0^{s}77**/37**, mb4.1**/15**, 3C-1D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	2.24	355	⇓iP	P	10 27 35.0	+1.0
AGT	**Agartala**	2.98	297	e	S	10 28 19.0	-0.3
SHL	**Shillong**	3.66	326	ePN	P	10 27 53.5	0.0
SHL				eSN	Sx	10 28 52.0	
CHRT	**Chiangrai**	5.89	116	⇑P	P	10 28 23.0	-1.0
	471nm,1.0s						
CMAR	**Chiang Mai Arr**	6.06	131	P	P	10 28 26.6	+0.2
	1.1nm,0.3s,baz=312,slow=13,SNR=32						
CMAR				S	S	10 29 34.9	0.0
	1.8nm,0.3s,baz=321,slow=19,SNR=4.5						
BDT	**Bhumibol Dam**	6.97	138	P	P	10 28 40.0	+1.0
NANT	**Nan**	7.17	120	P	P	10 28 40.0	-1.8
NANT				S	S	10 29 58.0	-4.2
LSA	**Lhasa**	7.62	340	ePn	P	10 28 47.8	0.0
	42nm,0.6s						
KMI	**Kunming**	8.27	70	⇑iP	P	10 28 58.1	+1.4
KMI				AMB	AMB		
	comp=Z,17nm,1.0s						
PKI	**Pulchoki**	9.37	304	eP	P	10 29 12.0	+0.4
	comp=Z,50nm,0.6s						
KKN	**Kakani**	9.58	305	eP	P	10 29 14.7	+0.2
	comp=Z,24nm,0.2s						
DMN	**Daman**	9.62	303	eP	P	10 29 14.9	-0.1
	comp=Z,15nm,0.3s						
GKN	**Gorkha**	10.18	304	eP	P	10 29 22.2	-0.3
	comp=Z,68nm,0.5s						
KOLN	**Koldanda**	10.88	301	eP	P	10 29 31.3	-0.6
	comp=Z,18nm,0.2s						
WMQ	**Urumqi**	21.88	347	eP	P	10 31 41.0	-2.9
MKAR	**Makanchi Array**	26.02	341	P	P	10 32 24.6	+1.1
	comp=Z,13nm,0.7s,mb4.5,baz=147,slow=11,SNR=74						
MKAR				pP	pP	10 32 43.4	-1.4
	comp=Z,1.1nm,0.4s,baz=150,slow=12,SNR=1.9						
SONM	**Songino Array**	27.07	18	P	P	10 32 31.4	-1.8
	comp=Z,0.2nm,0.4s,mb3.0,baz=194,slow=5.9,SNR=2.4						
SONM				ScP		10 39 23.5	
	comp=Z,0.3nm,0.5s,baz=212,slow=2.6,SNR=4.2						
KURK	**Kurchatov**	30.63	340	P	P	10 33 04.8	-0.1
BVAR	**Borovoye Array**	35.42	335	P	P	10 33 46.7	+0.4
	comp=Z,1.2nm,0.6s,mb3.9,baz=135,slow=13,SNR=9.7						
BRVK	**Borovoye**	35.49	335	eP	P	10 33 46.5	-0.4
	comp=Z,1.6nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	50.79	140	eP	P	10 35 50.6	0.0
	comp=Z,2.9nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	57.64	134	P	P	10 36 40.5	-0.1
	comp=Z,4.7nm,0.5s,mb4.8,baz=321,slow=7.5,SNR=68						
WRAB	**Tennant Creek**	57.64	134	eP	P	10 36 40.2	-0.3
	comp=Z,6.2nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	57.65	134	⇑iP	P	10 36 40.4	-0.2
FINES	**FINESS Array B**	59.99	329	P	P	10 36 56.1	-0.1
	comp=Z,0.8nm,0.6s,mb4.0,baz=141,slow=12,SNR=5.1						
ASPA	**Alice Springs**	60.03	137	eP	P	10 36 57.6	+0.6
ASAR	**Alice Springs**	60.03	137	P	P	10 36 57.5	+0.5
	comp=Z,3.2nm,0.5s,mb4.6,baz=321,slow=6.9,SNR=84						
ASAR				PcP	PcP	10 37 41.5	-0.2
	comp=Z,0.7nm,0.6s,baz=323,slow=4.5,SNR=4.2						
ARCES	**ARCESS Array B**	61.62	338	P	P	10 37 07.0	-0.2
	comp=Z,6.1nm,1.1s,mb4.5,baz=90,slow=7.3,SNR=7.0						
HFS	**Hagfors**	66.00	327	P	P	10 37 36.2	+0.3
	comp=Z,1.5nm,0.5s,mb4.1,baz=76,slow=5.9,SNR=6.4						
HFS				pP	pP	10 37 59.4	-0.9
	comp=Z,0.5nm,0.4s,baz=82,slow=10,SNR=2.1						
HFS	**Hagfors**	66.00	327	P	P	10 37 36.1	+0.3
HFS				pP	pP	10 37 59.4	-0.9
CTA	**Charters Tower**	66.19	126	P	P	10 37 37.9	+0.1
	comp=Z,1.2nm,0.6s,mb3.9,baz=5.7,slow=10						
NB2	**NORSAR Subarra**	67.15	328	P	P	10 37 42.7	-0.4
	comp=Z,0.6nm,0.6s,mb3.6,baz=84,slow=5.8						
NOA	**NORSAR Array B**	67.15	328	P	P	10 37 43.1	0.0
	comp=Z,0.8nm,0.7s,mb3.7,baz=85,slow=6.5,SNR=5.8						
GERES	**GERESS Array B**	67.20	315	P	P	10 37 44.8	+1.2
	comp=Z,0.5nm,0.6s,mb3.5,baz=76,slow=5.5,SNR=5.6						
GERES				pP	pP	10 38 09.6	+1.4
	comp=Z,0.6nm,0.6s,baz=76,slow=5.5,SNR=4.0						
STKA	**Stephens Creek**	70.63	138	P	P	10 38 05.5	+0.5
	comp=Z,2.2nm,0.9s,mb4.0,baz=333,slow=11,SNR=2.9						

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*NEIC **07** 10:29:51.5, 19.53N×105.25W, h4^{km}, MD4.0(MEX), After MEX.*

MEX 07 10:29:51.5±0.4**, 19.53N×105.25W, h4**^{km}±4^{km}**, MD4.0, 1C, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	0.20	98	⇑iP	Pg	10 29 55.1	-0.5
CJM				eS	Sg	10 29 58.2	-0.1
CGX	**Ciudad Guzman**	1.65	84	eP	Pn	10 30 18.0	-3.4
CGX				i S	Sb	10 30 38.0	-5.2
SFJM	**Santa Fe**	2.29	65	i P	Pn	10 30 32.0	+1.4
ZIIG	**Zihuatanejo**	4.07	117	eP	Pn	10 30 52.0	-3.9
ZIIG				i S	Sn	10 31 39.4	-5.2
ZAIG	**Zacatecas**	4.08	37	eP	Pn	10 30 52.2	-3.9
ZAIG				i S	Sn	10 31 40.7	-4.3

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*CASC **07** 10:33:10.5±2.0, 13.04N×89.11W, h62^{km}±10^{km}, MD4.1, ML4.2, mb3.8(NEIC)*

*NEIC **07** 10:33:12.0±0.7, 13.59N×88.59W, mb3.8/1, MD3.7(SNET), Error ellipse: s-maj=28.9km s-min=9.7km az=224.0*

NEIC Felt [II] at San Salvador.

*IDC **07** 10:33:14.6±2.6, 13.53N×88.53W, h96^{km}±26^{km}, mb3.6/9, mb1 3.9/10, mb1mx3.6/22, Error ellipse: s-maj=42.3km s-min=17.6km az=51.0*

ISC 07 10:33:09.8±0.4**, 13.10N**±0.05×**89.08W**±0.04**, h83**^{km}±4^{km}**, n60, σ1^{s}07**/87**, mb3.9**/9**, 22C-11D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	0.52	2	⇑iP	P	10 33 23.4	-0.6
LCBS	**La Ceiba**	0.56	10	⇑iP	P	10 33 23.9	-0.6
SNVI	**San Vicente**	0.56	25	⇑eP	P	10 33 24.2	-0.2
SNVI				eS	S	10 33 34.6	-0.8
SNET	**Serv Nac Est T**	0.60	346	⇓eP	P	10 33 24.3	-0.6
SNET				eS	S	10 33 34.6	-1.4
SNET				i		10 33 37.5	
	comp=Z,8µm,0.3s						
LBRS	**Las Brisas**	0.64	3	⇑iP	P	10 33 25.3	+0.1
LBRS				eS	S	10 33 34.9	-1.8
BOQS	**Boqueron**	0.66	343	⇑iP	P	10 33 25.3	-0.2
VSM	**San Miguel**	0.85	67	⇑eP	P	10 33 28.4	+0.9
VSM				eS	S	10 33 41.4	+0.6
BLLM	**Bellamira**	0.89	67	⇑eP	P	10 33 28.9	+1.1
BLLM				eS	S	10 33 42.0	+0.5
SBLS	**San Blas**	0.90	324	⇑iP	P	10 33 28.0	0.0
SNJE	**San Jose**	0.92	326	⇑iP	P	10 33 28.2	0.0
SNJE				eS	S	10 33 41.6	-0.6
RTR	**El Retiro**	0.96	325	⇑iP	P	10 33 29.0	+0.2
CAHU	**Cacacuatique**	1.08	52	⇑eP	P	10 33 31.4	+1.2
CAHU				eS	S	10 33 46.1	+0.6
RBDL	**Robledal**	1.17	330	⇑iP	P	10 33 31.6	+0.3
CNCH	**Conchagua**	1.23	82	⇓eP	P	10 33 32.9	+0.8
CNCH				eS	S	10 33 49.3	+0.5
MTO2	**Montecristo 2**	1.32	348	⇑iP	P	10 33 34.0	+0.6
IXG	**Ixpaco**	1.71	309	⇑eP	P	10 33 37.9	-0.5
IXG				AML	AML	10 33 59.2	
	comp=E,16µm,0.3s						
IXG				eS	S	10 34 00.5	+0.9
NBG	**Las Nubes**	1.92	320	⇑eP	P	10 33 42.0	+0.7
NBG				eS	S	10 34 08.0	+3.5
CRIN	**San Cristobal**	2.02	101	eP	P	10 33 44.1	+1.5
CRIN				eS	S	10 34 07.9	+1.1
MRL	**Marmol**	2.04	343	⇑iP	P	10 33 44.2	+1.3
MRL				eS	S	10 34 09.0	+1.7
CHIN	**Chinandega**	2.06	103	⇓eP	Px	10 33 27.7	
CHIN				eS	Sx	10 33 41.3	
PYN	**Poneloya**	2.13	109	⇑eP	P	10 33 43.9	-0.3
PYN				eS	S	10 34 08.0	-1.6
LEON	**Leon**	2.24	107	⇓eP	P	10 33 46.2	+0.5
TEL3	**Telica 3**	2.24	103	⇓eP	P	10 33 46.2	+0.5
TEL3				eS	S	10 34 13.3	+0.9
TELN	**Telica**	2.25	102	⇑eP	P	10 33 46.2	+0.4
CNGN	**Cerro Negro**	2.40	104	⇑eP	P	10 33 48.2	+0.4
CNGN				eS	S	10 34 15.0	-1.3
MIRN	**Miramar**	2.40	106	⇓eP	P	10 33 47.9	-0.1
MOMJ	**Momotombo**	2.57	105	⇓eP	P	10 33 51.0	+0.7
MOMJ				eS	S	10 34 20.5	-0.1
COPN	**Copaltepe**	2.60	110	⇑eP	P	10 33 50.3	-0.4
COPN				eS	S	10 34 20.1	-1.1
JAT	**Jato**	2.76	296	⇑eP	P	10 33 52.0	-0.9
JAT				eS	S	10 34 23.8	-1.5
XAVN	**Gruta Xavier**	2.85	109	⇓eP	P	10 33 54.1	-0.1
XAVN				eS	S	10 34 26.7	-0.8
MGAN	**Managua**	2.92	109	⇑eP	P	10 33 55.5	+0.3
MGAN				eS	S	10 34 27.9	-1.4
	comp=N,285nm,0.5s						
WILN	**Americas 2**	2.98	108	eS	S	10 34 29.6	-1.0
TICN	**Ticuantepe**	2.98	111	eP	P	10 33 57.9	+1.9
TICN				eS	S	10 34 27.9	-2.7
PYTN	**Playitas**	3.00	100	eP	P	10 33 56.6	+0.4
PYTN				eS	S	10 34 30.2	-1.1
CONN	**Concepcion**	3.71	114	⇓eP	P	10 34 06.7	+0.7
CONN				eS	S	10 34 46.8	-2.0
VCR	**Vista de Mar**	4.49	131	eP	P	10 34 17.1	+0.3
JTS	**JuntasAbangare**	4.91	124	P	P	10 34 22.5	-0.2
	comp=N,4.9nm,0.3s,baz=310,slow=20,SNR=47						
JTS				S	S	10 35 19.4	+0.6
	comp=N,1.9nm,0.3s,baz=22,slow=23,SNR=2.5						
JCR	**Jicaral**	5.06	129	⇓eP	P	10 34 25.2	+0.5
JCR				eS	S	10 35 21.6	-0.7
CGA2	**Cerro Gallo 2**	5.46	124	eP	P	10 34 32.0	+1.8
CGA2				eS	S	10 35 32.1	-0.3
PRS1	**Puriscal**	5.61	123	eP	P	10 34 33.0	+0.8
PRS1				eS	S	10 35 36.4	+0.5
LAJ	**Bijagual**	5.83	123	eP	P	10 34 32.4	-2.9
URSC	**Urasca**	6.13	121	⇓eP	P	10 34 40.7	+1.3
URSC				eS	S	10 35 49.3	+0.5
BUS	**Buena Vista**	6.30	123	eP	P	10 34 43.1	+1.3
BUS				eS	S	10 35 53.8	+0.8
CMIG	**Matias Romero**	6.87	306	eP	P	10 34 47.2	-2.5
CMIG				eS	S	10 35 55.3	-12
SDV	**Santo Domingo**	18.59	101	eP	P	10 37 20.9	-1.9
	comp=N,8.9nm,1.4s						
TXAR	**Lajitas Array**	21.08	322	P	P	10 37 50.9	+1.7
	comp=N,1.0nm,0.5s,mb3.4,baz=141,slow=10,SNR=20						
TXAR				pP		10 38 04.7	
	comp=N,0.8nm,0.7s,baz=135,slow=11,SNR=6.2						
TXAR				PcP	PcP	10 41 54.9	+1.6
	comp=N,0.6nm,1.0s,baz=124,slow=4.5,SNR=4.9						
TXAR	**Lajitas Array**	21.08	322	P	P	10 37 50.9	+1.7
TXAR				pP		10 38 04.7	
TXAR				PcP	PcP	10 41 54.9	+1.6
PV10	**Paradox Valley**	30.79	328	eP	P	10 39 19.8	0.0
PDAR	**Pinedale Array**	34.46	333	P	P	10 39 52.8	+1.3
	comp=N,0.6nm,1.1s,mb3.4,baz=180,slow=4.5,SNR=2.7						
PDAR				PcP	PcP	10 42 25.1	-0.3
	comp=N,0.5nm,0.5s,baz=146,slow=4.9,SNR=7.9						
NVAR	**Mina Array Bea**	36.17	319	P	P	10 40 08.8	+2.7
	comp=N,0.3nm,0.6s,mb3.4,baz=131,slow=8.3,SNR=3.2						
NVAR				pP	pP	10 40 26.8	+0.9
	comp=N,1.0nm,0.8s,baz=127,slow=9.6,SNR=6.3						
NVAR				PcP	PcP	10 42 31.9	+1.5
	comp=N,1.5nm,0.9s,baz=119,slow=4.7,SNR=5.8						
ULM	**Lac du Bonnet**	37.46	353	P	P	10 40 15.1	-1.7
	comp=N,1.8nm,0.5s,mb4.3,baz=166,slow=9.5,SNR=6.0						
ULM	**Lac du Bonnet**	37.46	353	P	P	10 40 15.1	-1.7
SCHQ	**Schefferville**	45.13	18	P	P	10 41 17.6	-2.0
	comp=N,3.7nm,0.8s,mb4.2,baz=221,slow=8.3,SNR=7.0						
SCHQ				PcP	PcP	10 42 57.1	-2.1
	comp=N,2.9nm,1.0s,baz=243,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	52.58	345	P	P	10 42 15.8	-1.1
	comp=N,1.7nm,0.4s,mb4.4,baz=131,slow=8.5,SNR=20						
DLBC	**Dease Lake**	54.65	335	P	P	10 42 32.6	+0.5
	comp=N,1.4nm,0.7s,mb4.1,baz=160,slow=8.9,SNR=7.2						
INK	**Inuvik**	62.11	343	P	P	10 43 23.0	-1.0
	comp=N,2.9nm,1.0s,mb4.2,baz=146,slow=7.3,SNR=5.4						
ARCES	**ARCESS Array B**	86.09	19	P	P	10 45 41.0	-1.1
	comp=N,1.6nm,0.9s,mb4.0,baz=301,slow=7.1,SNR=3.8						
ARCES	**ARCESS Array B**	86.09	19	P	P	10 45 41.0	-1.1
WRA	**Warramunga Arr**	137.91	255	PKP	PKPdf	10 52 31.3	+5.7
	comp=N,0.2nm,0.4s,baz=19,slow=0.7,SNR=7.9						
CMAR	**Chiang Mai Arr**	147.66	346	PKPbc	PKPdf	10 52 47.0	+4.3
	comp=N,1.5nm,0.8s,baz=333,slow=3.6,SNR=6.0						

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*IDC **07** 10:41:34.2±5.5, 27.03N×111.11W, mb3.4/1, mb1 3.8/4, mb1mx3.6/20, ML3.6/3, Error ellipse: s-maj=85.5km s-min=29.6km az=19.0*

*NEIC **07** 10:41:34.3±1.5, 26.99N×111.31W, h10^{km}, mb3.2/2, Error ellipse: s-maj=19.9km s-min=10.7km az=207.0*

ISC 07 10:41:32.9±1.6**, 27.1N**±0.1×**111.30W**±0.10**, h10**^{km}**, n23, σ1^{s}12**/23**, mb3.2**/1**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUC	**Tucson**	5.26	5	eP	Pn	10 42 51.5	-1.9
TXAR	**Lajitas Array**	7.11	70	Pn	Pn	10 43 19.3	-0.2
	0.2nm,0.3s,baz=242,slow=14,SNR=9.8						
TXAR				Lg		10 45 37.0	
	0.2nm,0.3s,baz=248,slow=19,SNR=3.9						
BAR	**Barrett**	7.29	322	eP	Pn	10 43 16.3	-5.8
GDL2	**Guadalupe Moun**	7.92	48	eP	Pn	10 43 32.1	+1.3
LAZ	**Ladron**	8.15	25	eP	P	10 43 34.4	+0.3
CLNB	**Carlsbad**	8.28	49	P	P	10 43 34.8	-1.1
PV01	**Paradox Valley**	11.29	11	eP	P	10 44 18.0	+0.7
PV10	**Paradox Valley**	11.45	9	P	P	10 44 18.9	-0.6
RW3	**Ridgway**	11.57	14	P	P	10 44 26.4	+5.2
SDCO	**Great Sand Dun**	11.73	23	P	P	10 44 24.2	+1.0
SRU	**San Rafael**	12.04	3	eP	P	10 44 26.8	-0.7
TPH	**Tonopah**	12.06	337	eP	P	10 44 26.9	-0.9
OMM	**Old Mammoth Mi**	12.37	330	eP	P	10 44 32.2	+0.2
MNV	**Mina**	12.72	335	eP	P	10 44 35.8	-0.8
NVAR	**Mina Array Bea**	12.78	334	Pn	P	10 44 42.7	+5.3
	0.1nm,0.3s,baz=160,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	12.78	334	Pn	P	10 44 42.7	+5.3
WCN	**Washoe City**	14.11	332	P	P	10 44 56.7	+1.8
BW06	**Boulder Array**	15.74	5	P	P	10 45 17.9	+1.7
	2.4nm,1.0s						
PDAR	**Pinedale Array**	15.74	5	Pn	P	10 45 19.7	+3.5
	0.1nm,0.3s,baz=184,slow=14,SNR=7.9						
BOZ	**Bozeman (W)**	18.56	359	eP	P	10 45 51.5	-0.2
	1.1nm,0.7s						
CHMT	**Chamberlain Mo**	19.88	356	eP	P	10 46 05.2	-2.0
SDV	**Santo Domingo**	42.45	107	P	P	10 49 29.6	-0.3
ILAR	**Eielson Array**	43.98	339	P	P	10 49 42.6	+1.0
	0.5nm,0.9s,mb3.2,baz=153,slow=6.0,SNR=5.7						

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*IDC **07** 10:41:51.8±0.7, 51.60N×166.38W, h30^{km}±3^{km}, mb3.9/23, mb1 4.1/25, mb1mx4.1/30, ML3.5/2, Error ellipse: s-maj=18.4km s-min=11.7km az=10.0*

*NEIC **07** 10:41:52.0±0.3, 51.76N×166.46W, mb4.3/6, ML3.5(AEIC), Error ellipse: s-maj=5.4km s-min=3.7km az=162.0*

ISC 07 10:41:49.1±1.2**, 51.75N**±0.03×**166.49W**±0.04**, h20**^{km}±8^{km}**, h28**^{km}±.2^{km}**:pP-P, n77, σ0^{s}92**/88**, mb4.1**/28**, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	1.90	311	P	Pn	10 42 21.4	+0.5
NIKO				S	Sn	10 42 43.7	-0.7
OKER	**East Rim**	1.95	331	P	Pn	10 42 22.9	+1.2
OKER				S	Sn	10 42 47.3	+1.5
MGOD	**Makushin Gods**	2.06	354	P	Pn	10 42 23.6	+0.4
MGOD				S	Sn	10 42 48.6	+0.1
UNV	**Unalaska Valle**	2.10	360	P	Pn	10 42 23.9	+0.1
UNV				S	Sn	10 42 48.4	-1.1
MNAT	**Makushin Natee**	2.14	357	P	Pn	10 42 24.7	+0.4
MSW	**Makushin Switc**	2.17	355	P	Pn	10 42 25.9	+1.1
MSW				S	Sn	10 42 51.8	+0.3
MCIR	**Makushin Cirqu**	2.21	354	P	Pn	10 42 26.4	+0.9
MTBL	**Makushin Table**	2.22	357	P	Pn	10 42 26.6	+1.0
LVA	**Lava Point**	2.43	6	P	Pn	10 42 28.9	+0.4
LVA				S	Sn	10 42 56.5	-1.5
AKLV	**Akutan Long Va**	2.44	7	P	Pn	10 42 28.8	+0.1
AKLV				S	Sn	10 42 57.0	-1.2
WESE	**West Dahl East**	2.96	22	P	Pn	10 42 36.6	+0.6
WPOG	**Pogromni**	3.04	20	P	Pn	10 42 37.5	+0.3
WESN	**West Dahl Nort**	3.04	21	P	Pn	10 42 38.0	+0.7
SSLW	**Shishaldin Wes**	3.34	24	P	Pn	10 42 42.5	+0.9
SSLW				S	Sn	10 43 19.8	-1.3
WTUG	**Tugumak**	3.35	21	P	Pn	10 42 42.0	+0.4
WTUG				S	Sn	10 43 19.9	-1.4
SSLN	**Shishaldin Nor**	3.41	25	P	Pn	10 42 42.9	+0.4
FALS	**False Pass**	3.62	29	P	Pn	10 42 45.1	-0.3
FALS				S	Sn	10 43 24.9	-3.1
BALA	**Baldy Mountain**	4.10	31	P	Pn	10 42 52.2	0.0
DRIA	**Deer Island**	4.10	37	P	Pn	10 42 51.8	-0.5
DTNA	**Dutton South F**	4.24	35	P	Pn	10 42 53.6	-0.7
DOL	**Dolgoi Island**	4.38	37	P	Pn	10 42 55.6	-0.7
DOL				S	Sn	10 43 43.8	-3.7
HAG	**Hague Volcano**	4.50	36	P	Pn	10 42 57.7	-0.3
BLHA	**Black Hill**	4.75	32	P	Pn	10 43 01.0	-0.5
ATKA	**Atka Island**	4.78	278	P	Pn	10 43 01.4	-0.6
ATKA				S	Sn	10 43 56.0	-1.6
GSIG	**Igitkin Island**	5.85	276	P	Pn	10 43 16.6	-0.4
SPIA	**Saint Paul Isl**	5.86	340	P	Pn	10 43 16.8	-0.3
GSMY	**Great Sitkin M**	5.93	277	P	Pn	10 43 17.9	-0.3
GSTR	**Great Sitkin T**	5.93	277	P	Pn	10 43 18.2	0.0
GSTD	**Great Sitkin T**	5.98	277	P	Pn	10 43 18.6	-0.3
GSTD				S	Sn	10 44 25.0	-2.7
KIWB	**Kanaga Island**	6.61	275	P	Pn	10 43 27.2	-0.5
KIKV	**Kanaga Island**	6.62	275	P	Pn	10 43 27.7	-0.3
KIMD	**Kanaga Island**	6.67	274	P	Pn	10 43 28.0	-0.7
FX1	**Attu Island--F**	12.50	283	Pn	P	10 44 48.6	-0.1
	1.1nm,0.3s,baz=225,slow=20,SNR=2.9						
ILAR	**Eielson Array**	16.52	30	Pn	P	10 45 37.1	-3.9
	0.1nm,0.3s,baz=232,slow=10,SNR=8.4						
DAWY	**Dawson**	18.76	39	eP	P	10 46 09.8	+0.9
VIB	**Van Inlet**	20.61	72	T		11 07 19.2	
DLBC	**Dease Lake**	21.70	58	P	P	10 46 44.2	+3.7
	3.5nm,1.0s,mb3.8,baz=276,slow=11,SNR=8.4						
DLBC	**Dease Lake**	21.70	58	eP	P	10 46 43.0	+2.6
INK	**Inuvik**	22.92	31	P	P	10 46 53.0	+0.7
	5.3nm,0.6s,mb4.1,baz=222,slow=10,SNR=7.2						
INK	**Inuvik**	22.92	31	eP	P	10 46 52.5	+0.2
	4.9nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	29.32	48	P	P	10 47 51.9	-0.2
	0.7nm,0.8s,mb3.4,baz=261,slow=8.1,SNR=4.0						
NEW	**Newport**	31.43	77	P	P	10 48 10.5	-0.5
	4.7nm,0.8s,mb4.4,baz=294,slow=8.1,SNR=7.0						
HLID	**Hailey**	35.35	82	eP	P	10 48 44.4	-0.6
	2.5nm,0.9s,mb4.1						
MCMT	**McKenzie Canyo**	35.65	79	eP	P	10 48 46.5	-1.0
NVAR	**Mina Array Bea**	35.87	92	P	P	10 48 49.5	+0.1

	1.5nm,0.9s,mb3.9,baz=309,slow=7.6,SNR=7.5						
NVAR				pP	pP	10 48 58.1	+2.8
	0.1nm,0.3s,baz=282,slow=7.6,SNR=3.7						
DUG	Dugway	38.23	86	eP	P	10 49 08.4	-0.7
	3.4nm,0.9s,mb4.1						
PDAR	Pinedale Array	38.77	80	P	P	10 49 13.2	-0.5
	1.3nm,0.5s,mb3.9,baz=314,slow=5.5,SNR=15						
PDAR				pP	pP	10 49 21.6	+2.0
	1.4nm,0.5s,baz=314,slow=3.8,SNR=9.0						
PV01	Paradox Valley	42.10	85	eP	P	10 49 40.2	-0.9
ULM	Lac du Bonnet	42.86	63	P	P	10 49 45.5	-1.7
	1.1nm,0.5s,mb3.9,baz=329,slow=5.9,SNR=3.0						
SDCO	Great Sand Dun	44.24	84	eP	P	10 49 58.2	-0.4
BNM	Barren Site	45.85	88	eP	P	10 50 11.3	-0.2
SPITS	Spitsbergen Ar	50.32	359	P	P	10 50 46.2	+0.4
	13nm,1.1s,mb4.9,baz=18,slow=6.3,SNR=8.0						
TXAR	Lajitas Array	50.97	91	P	P	10 50 50.1	-1.2
	2.5nm,0.5s,mb4.4,baz=302,slow=5.8,SNR=49						
TXAR				pP	pP	10 50 58.9	+1.6
	1.7nm,0.5s,baz=301,slow=5.8,SNR=12						
TXAR	Lajitas Array	50.97	91	P	P	10 50 50.1	-1.2
TXAR				pP	pP	10 50 58.9	+1.6
SONM	Songino Array	53.13	303	P	P	10 51 08.5	+1.1
	2.4nm,0.9s,mb4.1,baz=59,slow=7.2,SNR=15						
SONM				pP	pP	10 51 17.4	+4.0
	1.2nm,1.0s,baz=53,slow=6.2,SNR=3.7						
ARCES	ARCESS Array B	58.71	355	P	P	10 51 47.1	+0.1
	2.0nm,0.9s,mb4.2,baz=18,slow=7.7,SNR=3.9						
BVAR	Borovoye Array	65.22	326	P	P	10 52 31.9	+1.1
	3.4nm,0.5s,mb4.6,baz=53,slow=6.6,SNR=26						
BVAR				pP	pP	10 52 40.5	+3.5
	2.0nm,0.5s,baz=45,slow=6.3,SNR=7.7						
MKAR	Makanchi Array	65.51	315	P	P	10 52 32.7	0.0
	1.5nm,0.7s,mb4.2,baz=54,slow=7.5,SNR=7.8						
MKAR				pP	pP	10 52 41.5	+2.5
	1.0nm,0.7s,baz=55,slow=7.4,SNR=3.2						
FINES	FINESS Array B	66.71	353	P	P	10 52 40.3	+0.2
	0.8nm,0.7s,mb3.9,baz=27,slow=4.3,SNR=5.2						
NOA	NORSAR Array B	67.54	1	P	P	10 52 45.1	-0.3
	0.5nm,0.8s,mb3.6,baz=335,slow=5.4,SNR=2.4						
HFS	Hagfors	68.47	360	P	P	10 52 51.0	-0.2
	1.0nm,0.5s,mb4.2,baz=63,slow=3.3,SNR=12						
EKA	Eskdalemuir Ar	72.39	10	P	P	10 53 15.7	+0.6
	1.0nm,0.9s,mb3.7,baz=342,slow=5.3,SNR=4.8						
AKASG	Malin Array Be	77.06	350	P	P	10 53 41.3	-0.5
	1.6nm,0.5s,mb4.2,baz=11,slow=5.6,SNR=4.4						
CMAR	Chiang Mai Arr	78.49	285	P	P	10 53 50.8	+0.4
	3.3nm,0.9s,mb4.2,baz=33,slow=6.4,SNR=8.3						
ROSF	Rostrenen	79.26	11	eP	P	10 53 54.9	+0.9
GERES	GERESS Array B	79.78	360	P	P	10 53 58.2	+1.4
	0.6nm,0.3s,mb4.0,baz=22,slow=7.2,SNR=6.2						
LOR	Lormes	81.01	7	eP	P	10 54 04.7	+1.4
SSF	Saint Saulge	81.19	7	eP	P	10 54 05.5	+1.2
	5.0nm,0.8s,mb4.2						
MFF	Saint Martin d	81.32	9	eP	P	10 54 06.2	+1.2
	17nm,1.1s,mb4.6						
SMF	Signal de Mont	81.63	7	eP	P	10 54 07.7	+1.1
RJF	Les Rejaudoux	82.77	8	eP	P	10 54 13.3	+0.8
MBDF	Montbardon	83.72	5	eP	P	10 54 19.2	+1.9
	6.6nm,0.8s,mb4.5						
SMRF	Simiane la Rot	84.41	6	eP	P	10 54 23.3	+2.5
ESDC	Sonseca Array	87.68	13	P	P	10 54 37.5	+0.5
	0.2nm,0.3s,mb3.8,baz=360,slow=2.5,SNR=4.3						
WRA	Warramunga Arr	88.04	234	P	P	10 54 37.8	-1.4
	0.6nm,0.9s,mb3.8,baz=40,slow=5.8,SNR=5.6						
ASAR	Alice Springs	91.39	232	P	P	10 54 53.9	-0.9
	2.2nm,0.9s,mb4.5,baz=30,slow=4.6,SNR=17						
MAW	Mawson	151.48	218	PKPbc	PKPdf	11 01 40.5	+2.5
	2.2nm,0.6s,baz=34,slow=1.0,SNR=9.6						
MAW				PKPab	PKPab	11 01 49.5	-1.3
	1.7nm,0.7s,baz=156,slow=6.8,SNR=6.1						

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*JMA **07** 11:00:24.8±0.3, 30.49N×139.26E, h450^{km}±4^{km}, M3.8*

*IDC **07** 11:00:26.1±1.1, 30.40N×138.69E, h428^{km}±12^{km}, mb3.2/13, mb1 3.3/17, mb1mx3.2/25, Error ellipse: s-maj=17.3km s-min=11.2km az=79.0*

*NEIC **07** 11:00:26.2±0.8, 30.41N×138.68E, h429^{km}±8^{km}, mb4.2/6, Error ellipse: s-maj=12.1km s-min=8.6km az=98.0*

ISC 07 11:00:24.4±0.4**, 30.37N**±0.05×**138.76E**±0.09**, h429**^{km}±5^{km}**, n43, σ0^{s}99**/53**, mb3.7**/18**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.88	17	P	P	11 01 30.4	+1.1
	21nm,0.3s,baz=192,slow=13,SNR=34						
JHJ				S	S	11 02 16.6	-3.9
	27nm,0.3s,baz=239,slow=20,SNR=4.7						
JHJ2	Mitsune	2.88	18	P	P	11 01 30.4	+1.1
JIE	Ise	4.37	337	P	P	11 01 44.7	+2.5
JIE				S	S	11 02 46.9	+3.4
JIM2	Oshima 3	4.37	7	P	P	11 01 43.2	+0.9
CBIJ	Chichi jima	4.44	136	P	P	11 01 42.8	-0.2
	14nm,0.3s,baz=150,slow=23,SNR=20						
CBIJ				S	S	11 02 43.6	-1.1
	114nm,0.3s,baz=286,slow=20,SNR=19						
CBIJ	Chichi jima	4.44	136	P	P	11 01 42.9	0.0
CBIJ				S	S	11 02 44.2	-0.5
HMMJ	Hamamatsu 2	4.56	349	P	P	11 01 45.4	+1.3
BSO3	Boso 3	4.66	18	P	P	11 01 44.1	-1.0
BSO3				S	S	11 02 47.6	-0.9
BSO1	Boso 1	4.66	23	P	P	11 01 44.9	-0.2
BSO1				S	S	11 02 47.2	-1.4
BSO4	Boso 4	4.79	16	P	P	11 01 46.9	+0.5
BSO4				S	S	11 02 49.9	-0.9
JNY	Yasuok	5.03	352	P	P	11 01 50.3	+1.6
JHU	Hanno	5.48	4	P	P	11 01 52.4	-0.9
JHU				S	S	11 03 00.0	-3.3
MAJO	Matsushiro	6.17	356	eP	P	11 02 00.1	-0.4
	31nm,0.5s						
MAT	Matsushiro	6.17	356	P	P	11 02 00.0	-0.5
MAT				S	S	11 03 15.9	-0.4
MAT	Matsushiro	6.17	356	eP	P	11 02 00.0	-0.5
	32nm,0.8s						
MAT				eS	S	11 03 16.0	-0.3
JNU	Nakatsue	7.25	294	P	P	11 02 13.8	+1.4
	0.4nm,0.3s,baz=101,slow=13,SNR=6.0						
ASAJ	Asahikawa	14.05	11	P	P	11 03 28.5	+0.7
	1.0nm,0.3s,baz=248,slow=8.5,SNR=8.8						
YSS	Yuzh-Sakhalins	16.84	9	eP	P	11 03 58.2	+2.0
	8.3nm,0.4s						
SONM	Songino Array	30.28	314	P	P	11 05 59.6	-0.3
	0.7nm,0.5s,mb3.3,baz=121,slow=8.2,SNR=10						
CMAR	Chiang Mai Arr	37.96	261	P	P	11 07 05.2	+0.4
	1.8nm,0.6s,mb3.6,baz=58,slow=6.8,SNR=8.8						
MKAR	Makanchi Array	46.09	307	P	P	11 08 09.0	-0.5
	2.1nm,0.7s,mb3.6,baz=87,slow=10,SNR=11						
PKI	Pulchoki	46.40	280	eP	P	11 08 11.3	-0.9
KKN	Kakani	46.45	281	eP	P	11 08 12.2	-0.4
	22nm,0.9s,mb4.5						
DMN	Daman	46.65	281	eP	P	11 08 13.4	-0.7
GKN	Gorkha	46.93	281	eP	P	11 08 15.7	-0.6
	16nm,0.8s,mb4.4						
KOLN	Koldanda	47.88	281	eP	P	11 08 21.6	-1.9
	27nm,0.8s,mb4.6						
KURK	Kurchatov	48.55	313	eP	P	11 08 27.1	-1.1
	2.8nm,0.4s,mb4.0						
WB2	Warramunga Arr	50.20	185	eP	P	11 08 41.1	0.0
WRA	Warramunga Arr	50.20	185	P	P	11 08 41.1	0.0
	2.6nm,0.6s,mb3.8,baz=1.8,slow=7.8,SNR=27						
BRVK	Borovoye	53.67	316	eP	P	11 09 04.7	-1.3
	3.5nm,0.9s,mb3.6						
ASAR	Alice Springs	53.93	186	P	P	11 09 08.3	0.0
	1.0nm,0.5s,mb3.3,baz=358,slow=5.9,SNR=46						
ASPA	Alice Springs	53.93	186	eP	P	11 09 08.2	-0.1
MCK	McKinley	55.43	31	P	P	11 09 18.3	0.0
	3.4nm,1.1s,mb3.5						
ILAR	Eielson Array	56.33	30	P	P	11 09 25.1	+0.6
	0.1nm,0.4s,baz=275,slow=4.9,SNR=4.2						
ARCES	ARCESS Array B	69.45	340	P	P	11 10 49.7	+0.6
	0.6nm,0.6s,mb3.4,baz=74,slow=8.8,SNR=4.1						
ARCES	ARCESS Array B	69.45	340	P	P	11 10 49.7	+0.6
FINES	FINESS Array B	73.68	332	P	P	11 11 13.7	-0.2
	0.9nm,0.5s,mb3.7,baz=72,slow=6.0,SNR=6.6						
AKASG	Malin Array Be	78.20	322	P	P	11 11 38.8	-0.2
	0.6nm,0.3s,mb3.6,baz=54,slow=5.4,SNR=4.5						
HFS	Hagfors	79.22	335	P	P	11 11 44.4	+0.2
	0.8nm,0.4s,mb3.7,baz=117,slow=6.6,SNR=9.6						
NB2	NORSAR Subarra	79.45	337	P	P	11 11 45.2	-0.2
	0.5nm,0.5s,mb3.4,baz=45,slow=5.0						
NOA	NORSAR Array B	79.45	337	P	P	11 11 45.9	+0.4
	0.7nm,0.6s,mb3.5,baz=46,slow=5.4,SNR=5.5						
NVAR	Mina Array Bea	80.83	51	P	P	11 11 54.6	+1.5
	0.3nm,0.7s,mb3.1,baz=286,slow=6.6,SNR=2.8						
BRTR	Keskin Array B	81.58	311	P	P	11 11 57.9	+0.9
	2.4nm,0.8s,mb4.0,baz=108,slow=3.9,SNR=12						

IDC 07 11:11:40.9±2.2**, 4.53S**×**129.89E, mb3.8**/1**, mb1 4.0**/4**, mb1mx3.7**/14**, ML3.7**/3**, Error ellipse: s-maj=100.0km s-min=27.6km az=74.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.11	197	Pn	P	11 15 03.1	-1.3
	0.5nm,0.3s,baz=24,slow=9.3,SNR=19						
FITZ				Sn	S	11 17 26.1	-17
	0.4nm,0.3s,baz=350,slow=17,SNR=5.5						
WRA	Warramunga Arr	15.92	165	Pn	P	11 15 27.8	-0.2
	0.3nm,0.3s,baz=347,slow=12,SNR=32						
WRA				Sn	S	11 18 07.7	-18
	0.1nm,0.3s,baz=333,slow=22,SNR=2.6						
ASAR	Alice Springs	19.41	169	P	P	11 16 07.9	-3.5
	0.2nm,0.3s,baz=351,slow=12,SNR=20						
ASAR				S	S	11 19 42.5	-2.8
	0.1nm,0.3s,baz=349,slow=23,SNR=4.3						
MKAR	Makanchi Array	66.12	326	P	P	11 22 30.1	-2.1
	0.4nm,0.4s,baz=123,slow=8.5,SNR=5.6						

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*IDC **07** 11:20:41.0±0.9, 18.76N×121.04E, mb3.6/7, mb1 3.8/7, mb1mx3.6/19, Error ellipse: s-maj=58.3km s-min=19.5km az=69.0*

*MAN **07** 11:20:45.1, 18.94N×120.57E, h26^{km}, mb4.4, ML3.3, MS3.1*

ISC 07 11:20:47.9±1.2**, 18.85N**±0.08×**120.7E**±0.1**, h59**^{km}±15^{km}**, n13, σ1^{s}30**/15**, mb3.5**/7**, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	Conner	1.12	152	eP	P	11 21 06.8	-1.0
APYP				eS	S	11 21 22.6	+0.1
CVP	Callao Caves	1.57	136	⇑iP	P	11 21 13.3	-0.8
CVP				i S	S	11 21 35.2	+1.7
BBP	Basco	1.99	37	eP	P	11 21 18.5	-1.3
CAUP	Cauayan	2.19	150	eP	P	11 21 24.7	+2.0
BOLP	Bolinao	2.57	197	eP	P	11 21 26.8	-1.3
BALP	Baler	3.21	164	eP	P	11 21 37.8	+0.7
SONM	Songino Array	31.17	341	P	P	11 27 04.3	+0.9
	0.8nm,0.8s,mb3.6,baz=157,slow=8.8,SNR=6.0						
WRA	Warramunga Arr	40.81	160	P	P	11 28 22.6	-2.8
	0.8nm,1.1s,mb3.3,baz=335,slow=10,SNR=10						
MKAR	Makanchi Array	41.98	320	P	P	11 28 35.9	+1.2
	2.0nm,1.1s,mb3.7,baz=80,slow=7.4,SNR=4.1						
ASAR	Alice Springs	44.19	162	P	P	11 28 50.5	-2.4
	0.4nm,0.4s,mb3.5,baz=338,slow=6.5,SNR=5.5						
BVAR	Borovoye Array	51.58	324	P	P	11 29 51.4	+1.3
	0.3nm,0.5s,mb3.5,baz=113,slow=11,SNR=3.1						
ILAR	Eielson Array	74.16	26	P	P	11 32 18.7	-0.8
	0.4nm,0.6s,mb3.5,baz=262,slow=4.7,SNR=8.0						
NOA	NORSAR Array B	82.70	332	P	P	11 33 06.3	+0.1
	0.3nm,0.8s,mb3.4,baz=42,slow=16,SNR=2.9						

TRN 07 11:24:42.8, 17.12N×62.46W, h129^{km}, MD3.9, 3C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.34	309	⇑iP	P	11 25 02.7	+1.6
SKI				eS	S	11 25 16.2	+1.1
BPA	Boggy Peak	0.58	97	⇑iP	P	11 25 03.6	+1.2
BPA				eS	S	11 25 18.4	+1.0
STAT	Sint Eustatius	0.62	307	eP	P	11 25 04.0	+1.3
STAT				eS	S	11 25 18.3	+0.4
CPB	Codrington	0.80	49	⇑iP	P	11 25 05.7	+1.7
CPB				eS	S	11 25 20.8	+0.7
SABT	Saba	0.90	304	eP	P	11 25 06.2	+1.3
SABT				eS	S	11 25 25.9	+4.2
STMA	St. Maarten, A	1.11	326	eP	P	11 25 16.4	+9.4
STMA				eS	S	11 25 24.7	-0.6
MGG	Marie-Galante	1.62	137	⇓iP	P	11 25 12.8	+0.2
BBL	Barber's Block	1.84	149	⇓eP	P	11 25 15.2	-0.1
BBL	Barber's Block	1.84	149	⇓iP	P	11 25 16.4	+1.1
BBL				eS	S	11 25 41.5	+1.6
MDN	Morne-Daniel	2.06	150	eP	P	11 25 18.8	+0.9
DBCT	Belle View Cho	2.12	150	eP	P	11 25 19.0	+0.3

MAN 07 11:48:08.1, 10.41N×125.01E, h7^{km}, mb4.3, ML3.1, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	0.32	208	eP	Pg	11 48 16.4	+1.9
OCLP	Ormoc	0.74	328	eP	Pb	11 48 23.5	+0.5
LLP	Lapu-Lapu	1.03	265	eP	Pb	11 48 27.5	-0.4
LLP				eS	Sb	11 48 44.0	+2.6
BESP	Borongan	1.25	20	eP	Pb	11 48 31.6	-0.1
CNP	Catarman	2.11	351	eP	Pn	11 48 45.2	+0.9

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*ORF **07** 11:49:09.8, 17.71N×94.67W, h30^{km}, mb5.5*

*MOS **07** 11:49:11.5±0.9, 17.26N×95.12W, h100^{km}, mb5.3/32, MS5.1/9, Error ellipse: s-maj=9.8km s-min=4.8km az=100.5*

*MEX **07** 11:49:12.7±1.3, 17.05N×95.43W, h110^{km}±9^{km}, MD5.9*

*HRVD **07** 11:49:12.6±0.1, 17.25N×95.30W, h105^{km}, MW5.8/74, Centroid moment Tensor Solution. LP body waves: s71,c154;Mantle waves: s74,c174; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.57±.06; $M_{\theta\theta}$0.90±.06; $M_{\phi\phi}$2.68±.07; $M_{r\theta}$2.78±.04; $M_{\theta\phi}$-2.54±.06; $M_{\phi r}$-2.11±.05; Best double couple: $M_0$5.35×10^{17} NP1: ϕ_s161°, δ27°, λ-64°. NP2: ϕ_s312°, δ66°, λ-103°. Principal axes: T 5.7, Plg20°, Azm51°; N -.69, Plg12°, Azm317°; P -5.01, Plg67°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 11:49:12.5, 17.20N×95.20W, h100^{km}, mB5.4*

*NEIC **07** 11:49:12.6±0.1, 17.20N×95.22W, mb5.4/171, MW5.9, MD5.9(MEX), Error ellipse: s-maj=3.8km s-min=2.2km az=207.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.81; $M_{\theta\theta}$1.53; $M_{\phi\phi}$2.27; $M_{r\theta}$3.56; $M_{\theta\phi}$-3.61; $M_{\phi r}$-3.46; Best double couple: $M_0$6.8×10^{17} NP1: ϕ_s144°, δ22°, λ-81°. NP2: ϕ_s314°, δ68°, λ-94°. Principal axes: T 7.67, Plg23°, Azm47°; N -1.71, Plg3°, Azm316°; P -5.96, Plg66°, Azm218°;*

NEIC Felt at Cordoba, Juchitan, Mexico City, Oaxaca, Puerto Escondido and Veracruz.

*IDC **07** 11:49:12.8±0.5, 17.26N×95.16W, h104^{km}±3^{km}, mb4.9/25, mb1 5.1/27, mb1mx5.1/28, MS4.5/23, Ms1 4.5/23, ms1mx4.5/30 Error ellipse: s-maj=12.7km s-min=8.7km az=57.0*

*CASC **07** 11:49:18.1±2.1, 17.62N×94.54W, h138^{km}±87^{km}, MD5.2, ML4.6, mb5.4(NEIC)*

*BGS **07** 11:49:18.0±1.6, 17.93N×94.25W, h100^{km}, mb5.5*

ISC 07 11:49:11.7±0.1**, 17.32N**±0.02×**95.27W**±0.02**, h100**^{km}**, h100**^{km}±.7^{km}**:pP-P, n704, σ1^{s}10**/653**, mb5.3**/205**, 73C-35D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.43	122	⇓iP	P	11 49 28.0	+0.9
CMIG				i S	S	11 49 40.2	+1.5
TUIG	Tuzandepetl	1.07	49	i P	P	11 49 36.2	+3.0
TUIG				eS	S	11 49 55.9	+6.6
EVV	El Vigia	1.13	356	⇑iP	P	11 49 37.3	+3.3
EVV				i S	S	11 49 55.8	+5.2
OXX	Oaxaca	1.41	260	i P	P	11 49 35.6	-1.7
VHO	Vista Hermosa	1.42	260	⇑iP	P	11 49 35.9	-1.6
VHO				i S	S	11 49 53.9	-2.7
HUIG	Huatulco	1.74	208	⇑iP	P	11 49 36.6	-4.8
HUIG				i S	S	11 49 57.4	-6.0
SCX	San Cristobal	2.58	103	i P	P	11 49 54.7	+2.0
SCX				i S	S	11 50 27.0	+3.5
IISM	Ciudad Serdan	2.60	310	i P	P	11 49 52.1	-0.9
LVIG	Laguna Verde	2.63	336	i P	P	11 49 51.8	-1.6
LVIG				i S	S	11 50 24.6	0.0
PNIG	Pinotepa	2.89	252	i P	P	11 49 51.6	-5.4
PNIG				i S	S	11 50 25.1	-5.9
CCIG	Comitan	3.17	109	⇑iP	P	11 50 02.0	+1.2
CCIG				i S	S	11 50 37.9	+0.1
PPM	Popocatepetl	3.63	299	i P	P	11 50 08.4	+1.2
PPM				i P		11 50 08.5	
PPM				i S	S	11 50 45.6	-3.6
TPX	Tapachula	3.76	129	eP	P	11 50 09.0	+0.2
YAIG	Yautepec	3.93	294	i P	P	11 50 11.1	-0.1
YAIG				i S	S	11 50 52.6	-3.8
PLIG	Platanillo	4.17	285	i P	P	11 50 13.8	-0.7
PLIG				i S	S	11 50 56.7	-5.8
PBVM	Pinon	4.19	301	i P	P	11 50 13.5	-1.3
PBVM				i S	S	11 50 58.2	-4.8
IIZ	Mezontepec	4.21	297	i P	P	11 50 13.5	-1.5
SCIG		4.21	67	⇑iP	P	11 50 15.2	+0.2
SCIG				i S	S	11 51 03.6	+0.3
UNM	Universidad Na	4.22	299	eP	P	11 50 12.6	-2.5
UNM				eP		11 50 14.5	
UNM				eP		11 50 16.0	
UNM				i S	S	11 50 59.0	-4.6
UNM				i S	S	11 51 00.3	-3.3
PTVM	Pico Tres Padr	4.29	302	i P	P	11 50 16.6	+0.4
JAT	Jato	4.60	130	⇓eP	P	11 50 21.4	+1.1
JAT				eS	S	11 51 13.6	+0.8
CRX	Cerrillo	4.68	297	eP	P	11 50 20.5	-0.9
CAIG	El Cayaco	4.79	267	⇑iP	P	11 50 18.5	-4.5
CAIG				i S	S	11 51 10.2	-7.4
IIJ	Jocotitlan	4.87	300	eP	P	11 50 20.2	-3.8
FUG	Fuego 3	5.13	123	eP	P	11 50 29.5	+2.0
GCG	Guatemala City	5.30	120	eP	P	11 50 33.0	+3.1
PCG	Pacaya	5.34	122	eP	P	11 50 33.4	+2.9
NBG	Las Nubes	5.46	119	⇓eP	P	11 50 34.1	+2.2
NBG				eS	S	11 51 32.5	-1.6
IXG	Ixpaco	5.59	123	⇑eP	P	11 50 35.9	+2.1
IXG				eS	S	11 51 37.0	-0.3
MRL	Marmol	5.81	112	⇑eP	P	11 50 34.8	-2.0
MRL				eS	S	11 51 37.6	-5.1
ZIIG	Zihuatanejo	5.92	274	⇑iP	P	11 50 35.5	-2.9
ZIIG				i S	S	11 51 39.7	-5.8
MOIG	Morelia	6.09	294	⇑iP	P	11 50 41.4	+0.7
MOIG				i S	S	11 51 47.8	-1.8
RBDL	Robledal	6.25	120	⇓eP	P	11 50 41.9	-1.0
MTO2	Montecristo 2	6.38	116	⇓eP	P	11 50 43.2	-1.5
RTR	El Retiro	6.40	121	⇓eP	P	11 50 46.6	+1.7
SNJE	San Jose	6.44	121	⇓eP	P	11 50 47.0	+1.5
SBLS	San Blas	6.45	122	⇓eP	P	11 50 46.9	+1.3
BOQS	Boqueron	6.78	121	⇓eP	P	11 50 51.5	+1.2
SNET	Serv Nac Est T	6.85	121	⇓eP	P	11 50 52.7	+1.6
LBRS	Las Brisas	6.98	120	⇑eP	P	11 50 54.6	+1.7
LFRS	El Faro	7.02	121	⇓eP	P	11 50 54.4	+0.9
LCBS	La Ceiba	7.07	120	⇓eP	P	11 50 55.2	+1.0
SNVI	San Vicente	7.21	120	⇑eP	P	11 50 57.9	+1.8
TEIG	Tepich	7.22	65	P	P	11 50 55.2	-1.1
	0.0nm,0.3s,baz=71,slow=24,SNR=86						
TEIG				S	S	11 52 14.3	-3.0
	0.0nm,0.3s,baz=328,slow=24,SNR=15						
CAHU	Cacacuatique	7.66	116	⇑eP	P	11 51 03.6	+1.4
VSM	San Miguel	7.78	119	⇓eP	P	11 51 05.1	+1.3
BLLM	Bellamira	7.80	119	⇑eP	P	11 51 03.1	-1.1
SFJM	Santa Fe	8.00	294	i P	P	11 51 07.7	+0.8
SFJM				i S	S	11 52 26.7	-10
CGX	Ciudad Guzman	8.17	288	eP	P	11 51 10.0	+0.9
CNCH	Conchagua	8.22	118	⇓eP	P	11 51 10.5	+0.7
ZAIG	Zacatecas	8.74	309	eP	P	11 51 18.7	+1.9
ZAIG				i S	S	11 52 52.5	-1.9
PYN	Poneloya	9.36	121	⇓eP	P	11 51 26.5	+1.3
TELN	Telica	9.40	119	eP	P	11 51 27.8	+2.0
TEL3	Telica 3	9.41	119	eP	P	11 51 27.9	+2.1
LEON	Leon	9.45	120	⇓eP	P	11 51 27.7	+1.3
CJM	Chamela	9.53	285	⇑iP	P	11 51 25.7	-1.9
CJM				i S	S	11 53 10.3	-3.2
CNGN	Cerro Negro	9.57	119	eP	P	11 51 30.6	+2.5
MIRN	Miramar	9.59	119	⇓eP	P	11 51 30.6	+2.2
MOMJ	Momotombo	9.75	119	eP	P	11 51 33.0	+2.5
COPN	Copaltepe	9.82	120	⇑eP	P	11 51 32.2	+0.7
XAVN	Gruta Xavier	10.06	120	⇑eP	P	11 51 36.6	+1.9
MGAN	Managua	10.13	119	⇓eP	P	11 51 38.1	+2.5
MGAN				eS	S	11 53 25.5	-2.4
MGAN				i		11 53 29.9	
	comp=N,230nm,0.3s						
TICN	Ticuantepe	10.20	120	⇑eP	P	11 51 38.5	+1.9
APON	Apoyo	10.40	120	eP	P	11 51 41.7	+2.5
CONN	Concepcion	10.95	120	⇑eP	P	11 51 47.5	+0.8
JTS	JuntasAbangare	12.21	124	P	P	11 52 02.3	-1.1
	comp=N,26nm,0.3s,baz=321,slow=9.2,SNR=74						
JTS				S	S	11 54 14.5	-3.2
	comp=N,10nm,0.3s,baz=156,slow=20,SNR=5.0						
JTS				LR	LR	11 57 23.9	
	comp=N,981nm,20.6s,baz=310,slow=41						
JTS	JuntasAbangare	12.21	124	eP	P	11 52 01.9	-1.5
	comp=N,174nm,0.4s						
JTS				eS	S	11 54 13.7	-4.0
HKT	Hockley	12.58	358	Pn	P	11 52 08.5	+0.3
HKT				Pn	P	11 52 18.8	+11
HKT	Hockley	12.58	358	eP	P	11 52 09.7	+1.5
HKT				eS	S	11 54 20.5	-6.0
HKT				pmax	pmax		
	comp=Z,900nm,1.5s						
HKT	Hockley	12.58	358	eP	P	11 52 09.7	+1.5
	comp=Z,901nm,1.5s						
HKT				eS	S	11 54 20.4	-6.0
JCT	Junction City	13.74	343	eP	P	11 52 24.8	+1.5
JCT				eS	S	11 54 55.2	+1.5
JCT				pmax	pmax		
	comp=Z,52nm,0.8s						
JCT	Junction City	13.74	343	eP	P	11 52 24.8	+1.5
	comp=Z,52nm,0.8s						
JCT				eS	S	11 54 55.2	+1.5
LTX	Lajitas	14.22	329	eP	P	11 52 32.4	+2.8
LTX				pmax	pmax		
	comp=Z,860nm,0.8s						
LTX	Lajitas	14.22	329	eP	P	11 52 32.4	+2.8
	comp=Z,862nm,0.8s						
TXAR	Lajitas Array	14.22	329	P	P	11 52 32.3	+2.7
	comp=Z,1.7nm,0.3s,baz=148,slow=12,SNR=98						
TXAR				LR	LR	11 58 07.5	
	comp=Z,691nm,19.9s,baz=5.0,slow=37						
NATX	Nacogdoches	14.38	2	eP	P	11 52 32.8	+1.1
NATX				eS	S	11 55 04.7	-4.3
LPIG	La Paz	15.60	298	eP	P	11 52 47.5	+0.3
DWPF	Disney	16.66	47	eP	P	11 53 01.5	+1.1
	comp=Z,347nm,0.6s						
DWPF				eS	S	11 55 57.1	-4.1
MCJ	Malvern	16.77	85	⇓eP	P	11 53 02.3	+0.5
CLNB	Carlsbad	16.79	334	eP	P	11 53 04.6	+2.6
CVJ	Coleyville	16.91	84	⇓eP	P	11 53 04.4	+0.8
GDL2	Guadalupe Moun	16.95	333	eP	P	11 53 06.0	+2.0
BBJ	Bamboo Saint A	17.17	84	⇓eP	P	11 53 06.4	-0.3
BNJ	Bonny Gate	17.47	84	⇓eP	P	11 53 09.2	-1.3
UALR	University of	17.58	8	eP	P	11 53 12.4	+0.6
	comp=Z,928nm,1.1s						
UALR				eS	S	11 56 16.8	-4.8
STH	Stony Hill	17.60	85	⇓eP	P	11 53 11.1	-1.1
WMOK	Wichita Mounta	17.63	350	P	P	11 53 12.1	-0.3
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMOK	Wichita Mounta	17.63	350	eP	P	11 53 12.2	-0.2
	comp=Z,232nm,1.0s						
OXF	Oxford	17.90	16	P	P	11 53 15.8	+0.1
OXF				pmax	pmax		
	comp=Z,890nm,0.9s						
OXF	Oxford	17.90	16	eP	P	11 53 15.6	-0.1
	comp=Z,1μm,1.1s						
OXF				eS	S	11 56 28.3	-0.5
PAYG	Puerto Ayora	18.54	164	P	P	11 53 22.7	-0.5
PAYG				sP		11 53 54.8	
PAYG	Puerto Ayora	18.54	164	eP	P	11 53 22.9	-0.2
	comp=Z,497nm,1.5s						
BNM	Barren Site	19.61	331	eP	P	11 53 35.8	+1.2
PVMO	Portageville	19.64	13	eP	P	11 53 35.1	+0.2
LPM	Los Pinos Moun	19.74	331	eP	P	11 53 37.6	+1.6
LPM				e		11 54 07.3	
UTMT	University of	19.78	15	eP	P	11 53 36.3	0.0
	comp=Z,3μm,1.0s						
UTMT				eS	S	11 57 12.4	+3.9
LENM	Lemitar	19.78	330	eP	P	11 53 38.5	+2.1
LENM				eS	x	11 54 09.6	
LAZ	Ladron	20.06	330	eP	P	11 53 40.7	+1.5
MYNC	Murphy	20.28	27	P	P	11 53 40.3	-1.2
MYNC				pmax	pmax		
	comp=Z,35nm,0.8s						
MYNC	Murphy	20.28	27	eP	P	11 53 40.2	-1.3
	comp=Z,680nm,0.9s						
TUC	Tucson	20.48	320	P	P	11 53 44.1	+0.5
TUC				pmax	pmax		
	comp=Z,130nm,1.0s						
TUC	Tucson	20.48	320	eP	P	11 53 44.1	+0.5
	comp=Z,115nm,1.0s						
HBF	Harts Bluff	20.54	38	P	P	11 53 44.2	+0.1
HBF	Harts Bluff	20.54	38	eP	P	11 53 43.8	-0.4

RGRS	**Roger Stewart**	**20.63**	**38**	*e*P	**P**	**11 53 44.6**	**-0.4**
TWB	**Tillmans-White**	**20.83**	**38**	*e*P	**P**	**11 53 47.0**	**-0.1**
CCM	**Cathedral Cave**	**20.95**	**9**	P	**P**	**11 53 45.4**	**-2.9**
CCM				pmax	pmax		
	comp=Z,350nm,0.6s						
CCM	**Cathedral Cave**	**20.95**	**9**	*e*P	**P**	**11 53 47.9**	**-0.5**
	comp=Z,439nm,0.7s						
FVM	**French Village**	**21.02**	**11**	P	**P**	**11 53 48.1**	**-0.9**
FVM				pmax	pmax		
	comp=Z,120nm,0.6s,mb5.4						
FVM	**French Village**	**21.02**	**11**	*e*P	**P**	**11 53 48.1**	**-0.9**
	comp=Z,741nm,1.9s,mb5.7						
FVM				*e*S	**S**	**11 57 38.7**	**+6.5**
SLM	**Saint Louis**	**21.69**	**11**	P	**P**	**11 53 56.1**	**+0.5**
SLM				pmax	pmax		
	comp=Z,420nm,0.5s,mb6.0						
SLM	**Saint Louis**	**21.69**	**11**	*e*P	**P**	**11 53 55.7**	**+0.1**
	comp=Z,453nm,0.5s,mb6.1						
KSU1	**Kansas State U**	**21.73**	**357**	*e*P	**P**	**11 53 55.5**	**-0.5**
CBKS	**Cedar Bluff**	**21.77**	**351**	P	**P**	**11 53 57.1**	**+0.7**
CBKS				pmax	pmax		
	comp=Z,980nm,1.5s,mb5.9						
CBKS	**Cedar Bluff**	**21.77**	**351**	*e*P	**P**	**11 53 56.9**	**+0.5**
	comp=Z,164nm,0.7s,mb5.5						
SDCO	**Great Sand Dun**	**22.25**	**338**	*e*P	**P**	**11 54 02.9**	**+1.8**
	comp=Z,55nm,0.8s,mb4.9						
BLO	**Bloomington**	**23.07**	**18**	P	**P**	**11 54 09.2**	**+0.1**
BLO				pmax	pmax		
	comp=Z,360nm,0.5s,mb6.0						
BLO	**Bloomington**	**23.07**	**18**	*e*P	**P**	**11 54 09.1**	**0.0**
	comp=Z,538nm,0.7s,mb6.0						
WUAZ	**Wupatki**	**23.10**	**325**	*e*P	**P**	**11 54 12.2**	**+2.8**
	comp=Z,61nm,1.0s,mb4.9						
RW3	**Ridgway**	**23.52**	**335**	P	**P**	**11 54 17.1**	**+3.7**
RW3	**Ridgway**	**23.52**	**335**	*e*P	**P**	**11 54 16.4**	**+3.0**
PWV	**Princeton**	**23.55**	**29**	*e*P	**P**	**11 54 13.5**	**-0.2**
ELN	**Prospectdale**	**23.60**	**30**	*e*P	**P**	**11 54 14.2**	**+0.1**
OTAV	**Otavalo**	**23.71**	**134**	*e*P	**P**	**11 54 17.4**	**+1.9**
	comp=Z,148nm,1.0s,mb5.3						
BLA	**Blacksburg**	**23.74**	**31**	P	**P**	**11 54 15.4**	**-0.2**
BLA				pmax	pmax		
	comp=Z,730nm,0.9s,mb6.0						
BLA	**Blacksburg**	**23.74**	**31**	*e*P	**P**	**11 54 15.2**	**-0.4**
	comp=Z,842nm,1.0s,mb6.0						
PV01	**Paradox Valley**	**23.79**	**333**	*e*P	**P**	**11 54 18.2**	**+2.2**
FWV	**Forest Hill**	**23.85**	**29**	*e*P	**P**	**11 54 16.1**	**-0.5**
ROSC	**El Rosal**	**23.95**	**119**	P	**P**	**11 54 17.9**	**0.0**
	comp=Z,27nm,0.7s,mb4.7,baz=135,slow=20,SNR=10						
ISCO	**Idaho Springs**	**24.13**	**340**	P	**P**	**11 54 21.4**	**+2.1**
ISCO				pmax	pmax		
	comp=Z,240nm,0.8s,mb5.6						
ISCO	**Idaho Springs**	**24.13**	**340**	*e*P	**P**	**11 54 21.1**	**+1.8**
	comp=Z,37nm,0.7s,mb4.8						
ISCO				*e*pP		11 54 42.8	
PV10	**Paradox Valley**	**24.20**	**333**	*e*P	**P**	**11 54 20.9**	**+1.0**
PV10				*e*		11 54 55.0	
BAR	**Barrett**	**24.63**	**312**	*e*P	**P**	**11 54 25.0**	**+0.8**
BAR				*e*pP		11 54 47.5	
PFO	**Pinyon Flat Ob**	**25.00**	**314**	P	**P**	**11 54 28.9**	**+1.1**
PFO				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.1						
PFO	**Pinyon Flat Ob**	**25.00**	**314**	*e*P	**P**	**11 54 28.8**	**+1.0**
	comp=Z,38nm,0.8s,mb4.9						
PFO				*e*pP		11 54 49.8	
LDFC	**Landfair**	**25.01**	**319**	*e*P	**P**	**11 54 29.9**	**+2.1**
LDFC				*e*pP	pP	11 54 49.8	+0.2
LDFC				*e*sP	sP	11 55 04.8	+3.0
ACSO	**Alum Creek Sta**	**25.19**	**23**	*e*P	**P**	**11 54 28.5**	**-0.9**
	comp=Z,606nm,0.9s,mb6.0						
ACSO				*e*sP	sP	11 55 01.4	-2.0
NEN	**Nelson**	**25.22**	**320**	*e*P	**P**	**11 54 30.6**	**+0.8**
NEN				*e*pP	pP	11 54 52.2	+0.7
NEN				*e*sP	sP	11 55 04.8	+1.1
SDV	**Santo Domingo**	**25.39**	**106**	P	**P**	**11 54 29.7**	**-1.9**
SDV	**Santo Domingo**	**25.39**	**106**	*e*P	**P**	**11 54 29.6**	**-2.0**
	comp=Z,317nm,0.8s,mb5.8						
SRU	**San Rafael**	**25.46**	**332**	P	**P**	**11 54 33.2**	**+1.2**
SRU	**San Rafael**	**25.46**	**332**	*e*P	**P**	**11 54 32.8**	**+0.8**
MSU	**Marysvale**	**25.78**	**328**	P	**P**	**11 54 36.9**	**+1.9**
MSU	**Marysvale**	**25.78**	**328**	*e*P	**P**	**11 54 36.8**	**+1.8**
MSU				*e*pP	pP	11 54 57.0	+0.2
MSU				*e*sP	sP	11 55 12.0	+3.1
MSU				*e*PcP	PcP	11 58 02.5	-0.3
MVU	**Marysvale**	**25.79**	**328**	*e*P	**P**	**11 54 37.0**	**+1.9**
	comp=Z,32nm,0.8s,mb4.8						
MVU				*e*pP	pP	11 55 00.6	+3.6
MVU				*e*sP	sP	11 55 12.5	+3.6
JFWS	**Jewell Farm**	**25.86**	**8**	P	**P**	**11 54 34.9**	**-0.8**
JFWS				pmax	pmax		
	comp=Z,580nm,0.6s,mb6.2						
JFWS	**Jewell Farm**	**25.86**	**8**	*e*P	**P**	**11 54 34.9**	**-0.8**
	comp=Z,907nm,0.8s,mb6.2						
MCWV	**Mont Chateau**	**25.98**	**28**	*e*P	**P**	**11 54 35.5**	**-1.3**
	comp=Z,250nm,0.8s,mb5.7						
MCWV				*e*pP	pP	11 54 57.7	-0.9
MCWV				*e*sP	sP	11 55 12.3	+1.6
CBN	**Corbin**	**26.05**	**33**	*e*P	**P**	**11 54 36.9**	**-0.6**
	comp=Z,119nm,0.6s,mb5.5						
CBN				*e*sP	sP	11 55 11.5	+0.1
MWC	**Mount Wilson**	**26.45**	**314**	P	**P**	**11 54 41.6**	**+0.4**
MWC	**Mount Wilson**	**26.45**	**314**	*e*P	**P**	**11 54 41.8**	**+0.6**
MWC				*e*pP	pP	11 55 04.5	+1.4
MPU	**Maple Canyon**	**26.70**	**331**	*e*P	**P**	**11 54 44.0**	**+0.6**
DAU	**Daniels Canyon**	**26.85**	**332**	P	**P**	**11 54 45.9**	**+1.1**
DAU	**Daniels Canyon**	**26.85**	**332**	*e*P	**P**	**11 54 45.7**	**+1.0**
DAU				*e*pP	pP	11 55 07.3	+0.5
DAU				sP	sP	11 55 20.7	+2.0
JLU	**Jordanelle**	**27.09**	**332**	*e*P	**P**	**11 54 47.4**	**+0.4**
DAC	**Darwin (Calif)**	**27.34**	**318**	P	**P**	**11 54 50.9**	**+1.6**
DAC				*e*	pP	11 55 15.7	+4.3
DAC	**Darwin (Calif)**	**27.34**	**318**	*e*P	**P**	**11 54 50.6**	**+1.3**
	comp=Z,29nm,1.0s,mb4.8						
DAC				*e*pP	pP	11 55 13.8	+2.4
DUG	**Dugway**	**27.39**	**330**	P	**P**	**11 54 51.4**	**+1.6**
DUG				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.6						
DUG	**Dugway**	**27.39**	**330**	*e*P	**P**	**11 54 51.1**	**+1.3**
	comp=Z,6.6nm,0.8s,mb4.2						
DUG				*e*sP	sP	11 55 24.2	+0.6
TCUT	**Toone Canyon**	**27.49**	**333**	*e*P	**P**	**11 54 51.2**	**+0.6**
TCUT				*e*pP	pP	11 55 14.4	+1.7
TCUT				*e*sP	sP	11 55 25.9	+1.4
ALLY	**Alegheny Colle**	**27.50**	**25**	*e*P	**P**	**11 54 49.3**	**-1.4**
SSPA	**Standing Stone**	**27.66**	**29**	*e*P	**P**	**11 54 50.3**	**-1.9**
	comp=Z,98nm,0.8s,mb5.4						
SJG	**San Juan**	**27.73**	**84**	P	**P**	**11 54 50.7**	**-2.4**
	comp=Z,112nm,0.8s,mb5.4,baz=269,slow=6.5,SNR=29						
HWUT	**Hardware Ranch**	**27.96**	**333**	*e*P	**P**	**11 54 54.9**	**+0.1**
	comp=Z,14nm,0.8s,mb4.5						
ERPA	**Erie**	**27.96**	**25**	*e*P	**P**	**11 54 53.2**	**-1.6**
	comp=Z,532nm,0.6s,mb6.2						
BGU	**Big Grassy Mou**	**28.07**	**331**	P	**P**	**11 54 56.6**	**+0.7**
PDAR	**Pinedale Array**	**28.13**	**337**	P	**P**	**11 54 56.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.5,baz=156,slow=9.5,SNR=39						
PDAR				PKiKP		12 05 40.0	
	comp=Z,1.1nm,0.8s,baz=90,slow=3.0,SNR=3.4						
TPH	**Tonopah**	**28.25**	**321**	P	**P**	**11 54 57.8**	**+0.3**
TPH				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.7						
TPH	**Tonopah**	**28.25**	**321**	*e*P	**P**	**11 54 57.9**	**+0.4**
	comp=Z,13nm,0.9s,mb4.5						
TPH				*e*pP	pP	11 55 21.1	+1.4
TPH				*e*sP	sP	11 55 32.3	+0.9
TPH				*e*PcP	PcP	11 58 07.8	-0.9
MTP	**Monte Pirata**	**28.30**	**84**	*e*P	**P**	**11 54 55.4**	**-2.7**
MTP				pP	pP	11 55 17.2	-3.1
MTP				*e*sP	sP	11 55 29.1	-2.9
MTUM	**Tungsten Hills**	**28.61**	**319**	*e*P	**P**	**11 55 01.9**	**+1.2**
MTUM				*e*pP	pP	11 55 21.8	-1.2
MTUM				*e*sP	sP	11 55 35.9	+1.3
HVU	**Hansel Valley**	**28.63**	**332**	P	**P**	**11 55 01.6**	**+0.7**
HVU	**Hansel Valley**	**28.63**	**332**	*e*P	**P**	**11 55 01.3**	**+0.5**
HVU				*e*sP	sP	11 55 35.6	+0.9
AHID	**Auburn Hatcher**	**28.73**	**335**	*e*P	**P**	**11 55 03.2**	**+1.5**
	comp=Z,57nm,0.8s,mb5.2						
MNV	**Mina**	**29.04**	**321**	P	**P**	**11 55 05.7**	**+1.2**
MNV				pmax	pmax		
	comp=Z,180nm,1.6s,mb5.5						
MNV	**Mina**	**29.04**	**321**	*e*P	**P**	**11 55 05.3**	**+0.7**
	comp=Z,28nm,0.8s,mb4.9						
MNV				*e*pP	pP	11 55 27.8	+1.0
OMM	**Old Mammoth Mi**	**29.04**	**319**	*e*P	**P**	**11 55 05.6**	**+1.0**
NVAR	**Mina Array Bea**	**29.12**	**321**	P	**P**	**11 55 06.3**	**+0.9**
	comp=Z,41nm,0.9s,mb5.1,baz=127,slow=10.0,SNR=195						
NVAR				pP	pP	11 55 30.2	+2.5
	comp=Z,31nm,0.9s,baz=131,slow=9.8,SNR=4.5						
NVAR				sP	sP	11 55 41.1	+1.9
	comp=Z,6.9nm,0.6s,baz=139,slow=4.0,SNR=4.9						
NVAR				PcP	PcP	11 58 10.7	-0.1
	comp=Z,8.9nm,0.8s,baz=109,slow=3.4,SNR=4.5						
NVAR				ScP		12 01 42.5	
	comp=Z,1.8nm,0.9s,baz=132,slow=4.8,SNR=3.9						
NVAR				LR	LR	12 09 48.6	
	comp=Z,501nm,19.6s,baz=120,slow=42						
NVAR	**Mina Array Bea**	**29.12**	**321**	P	**P**	**11 55 06.3**	**+1.0**
NVAR				pP	pP	11 55 30.2	+2.5
NVAR				sP	sP	11 55 41.1	+1.9
NVAR				PcP	PcP	11 58 10.7	-0.1
NVAR				ScP		12 01 42.5	
NVAR				LR	LR	12 09 48.6	
REDW	**Red Top Meadow**	**29.13**	**336**	*e*P	**P**	**11 55 05.7**	**+0.4**
TPAW	**Teton Pass**	**29.28**	**336**	*e*P	**P**	**11 55 07.0**	**+0.4**
LRV	**Little Rabbit**	**29.68**	**315**	*e*P	**P**	**11 55 10.8**	**+0.5**
BINY	**Binghamton**	**29.77**	**30**	*e*P	**P**	**11 55 09.2**	**-1.9**
	comp=Z,195nm,0.8s,mb5.8						
BMN	**Battle Mountai**	**29.84**	**325**	P	**P**	**11 55 13.2**	**+1.5**
BMN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
BMN	**Battle Mountai**	**29.84**	**325**	*e*P	**P**	**11 55 12.9**	**+1.2**
	comp=Z,16nm,1.0s,mb4.6						
PAL	**Palisades**	**29.92**	**34**	P	**P**	**11 55 10.6**	**-1.8**
PAL				pmax	pmax		
	comp=Z,160nm,0.8s,mb5.7						
PAL	**Palisades**	**29.92**	**34**	*e*P	**P**	**11 55 10.5**	**-1.9**
	comp=Z,175nm,0.8s,mb5.7						
CMB	**Columbia Colle**	**30.17**	**318**	P	**P**	**11 55 15.1**	**+0.4**
CMB				P'P'ab		12 33 45.8	
CMB	**Columbia Colle**	**30.17**	**318**	P	**P**	**11 55 14.8**	**+0.1**
CMB				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**30.17**	**318**	*e*P	**P**	**11 55 14.6**	**-0.1**
	comp=Z,18nm,0.8s,mb4.7						
YMR	**Madison River**	**30.29**	**337**	*e*P	**P**	**11 55 17.0**	**+1.4**
SADO	**Sadowa**	**30.53**	**23**	P	**P**	**11 55 15.4**	**-2.3**
	comp=Z,58nm,0.5s,mb5.6,baz=228,slow=8.7,SNR=92						
WCN	**Washoe City**	**30.55**	**321**	P	**P**	**11 55 19.9**	**+1.9**
WCN				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
WCN	**Washoe City**	**30.55**	**321**	*e*P	**P**	**11 55 19.4**	**+1.4**
	comp=Z,21nm,1.1s,mb4.8						
PAHR	**Pah Rah Range**	**30.59**	**322**	*e*P	**P**	**11 55 19.2**	**+0.9**
	comp=Z,39nm,1.5s,mb4.9						
QLMT	**Earthquake Lak**	**30.60**	**337**	*e*P	**P**	**11 55 19.9**	**+1.6**
QLMT				*e*pP	pP	11 55 40.2	-0.7
LAO	**LASA Array**	**30.66**	**345**	*e*P	**P**	**11 55 18.7**	**-0.2**
	comp=Z,19nm,0.9s,mb4.8						
LAO				*e*pP	pP	11 55 42.4	+1.1
LAO				*e*sP	sP	11 55 53.4	+0.3
HLID	**Hailey**	**30.78**	**332**	*e*P	**P**	**11 55 20.3**	**+0.4**
	comp=Z,32nm,1.0s,mb5.0						
HLID				*e*		11 55 53.4	
LKC	**Lake Chabot**	**31.09**	**316**	*e*P	**P**	**11 55 24.3**	**+1.5**
LKC				*e*		11 56 05.4	
MCMT	**McKenzie Canyo**	**31.14**	**335**	*e*P	**P**	**11 55 24.3**	**+1.2**
BEKR	**Beckwourth**	**31.27**	**321**	*e*P	**P**	**11 55 25.1**	**+0.8**
	comp=Z,56nm,1.2s,mb5.2						
BOZ	**Bozeman (W)**	**31.37**	**338**	P	**P**	**11 55 25.0**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
BOZ	**Bozeman (W)**	**31.37**	**338**	*e*P	**P**	**11 55 24.5**	**-0.5**
	comp=Z,13nm,0.7s,mb4.8						
BBSR	**BB Station**	**31.39**	**56**	*e*P	**P**	**11 55 24.8**	**-0.5**
	comp=Z,191nm,1.2s,mb5.7						
OHCM	**Honcut**	**31.64**	**319**	*e*P	**P**	**11 55 27.4**	**0.0**
QUA2	**Belchertown**	**31.65**	**33**	*e*P	**P**	**11 55 28.8**	**+1.3**
	comp=Z,265nm,0.8s,mb6.0						
ACCN	**Adirondack Com**	**31.78**	**31**	*e*P	**P**	**11 55 27.2**	**-1.5**
ACCN				*e*	pP	11 55 49.5	-1.9
BRYW	**Bryant College**	**31.83**	**35**	*e*P	**P**	**11 55 27.3**	**-1.8**
	comp=Z,66nm,0.8s,mb5.4						
NSHM	**Saint Helena R**	**31.88**	**317**	*e*P	**P**	**11 55 30.7**	**+1.1**
DGMT	**Dagmar**	**31.91**	**349**	*e*P	**P**	**11 55 29.8**	**0.0**
	comp=Z,52nm,0.9s,mb5.3						
NCB	**Newcomb**	**31.96**	**29**	*e*P	**P**	**11 55 28.0**	**-2.2**
	comp=Z,178nm,0.8s,mb5.8						
WVOR	**Wild Horse Val**	**32.00**	**326**	P	**P**	**11 55 31.2**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.1						
WVOR	**Wild Horse Val**	**32.00**	**326**	*e*P	**P**	**11 55 31.3**	**+0.7**
	comp=Z,47nm,1.1s,mb5.1						
PTN	**Potsdam (NY)**	**32.07**	**28**	P	**P**	**11 55 30.0**	**-1.2**
PTN	**Potsdam (NY)**	**32.07**	**28**	*e*P	**P**	**11 55 29.8**	**-1.4**
HRV	**Harvard--Oak R**	**32.23**	**34**	P	**P**	**11 55 30.7**	**-1.8**
HRV				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.3						
HRV	**Harvard--Oak R**	**32.23**	**34**	*e*P	**P**	**11 55 30.8**	**-1.8**
	comp=Z,67nm,0.9s,mb5.4						
WES	**Weston**	**32.27**	**34**	P	**P**	**11 55 32.0**	**-0.9**
WES				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
WES	**Weston**	**32.27**	**34**	*e*P	**P**	**11 55 30.9**	**-2.0**
	comp=Z,38nm,0.8s,mb5.2						
HRY	**Holter Researc**	**32.36**	**338**	*e*P	**P**	**11 55 34.4**	**+0.8**
MSNY	**Massena**	**32.46**	**27**	*e*P	**P**	**11 55 33.0**	**-1.6**
MOD	**Modoc**	**32.55**	**324**	*e*P	**P**	**11 55 35.4**	**+0.1**
	comp=Z,15nm,0.8s,mb4.9						
MOD				*e*sP	sP	11 56 09.3	-0.6
HNH	**Hanover**	**32.70**	**32**	*e*P	**P**	**11 55 35.3**	**-1.3**
	comp=Z,8.3nm,0.5s,mb4.8						
ULM	**Lac du Bonnet**	**32.85**	**359**	P	**P**	**11 55 36.3**	**-1.6**
	comp=Z,54nm,0.9s,mb5.4,baz=175,slow=10.0,SNR=61						
ULM				LR	LR	12 11 17.9	
	comp=Z,1µm,18.9s,baz=177,slow=40						
WDC	**Whiskeytown Da**	**33.03**	**320**	P	**P**	**11 55 38.4**	**-1.1**
WDC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
WDC	**Whiskeytown Da**	**33.03**	**320**	*e*P	**P**	**11 55 37.8**	**-1.8**
	comp=Z,5.1nm,0.7s,mb4.5						
CHMT	**Chamberlain Mo**	**33.04**	**337**	*e*P	**P**	**11 55 39.2**	**-0.4**
CHMT				*e*pP	pP	11 56 01.0	-1.5
CHMT				*e*sP	sP	11 56 14.8	+0.5
MSO	**Missoula**	**33.23**	**336**	*e*P	**P**	**11 55 41.1**	**-0.1**
	comp=Z,37nm,1.3s,mb5.1						
MSO				*e*pP	pP	11 56 04.8	+0.8
MSO				*e*sP	sP	11 56 16.2	+0.3
YBH	**Yreka Blue Hor**	**33.83**	**322**	P	**P**	**11 55 44.8**	**-1.6**
YBH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YBH	**Yreka Blue Hor**	**33.83**	**322**	*e*P	**P**	**11 55 44.7**	**-1.7**
	comp=Z,8.4nm,0.7s,mb4.7						
KHMM	**Horse Mountain**	**33.93**	**320**	*e*P	**P**	**11 55 47.9**	**+0.6**
KHMM				*e*pP	pP	11 56 08.3	-2.0
LNOR	**Lincton Mounta**	**34.31**	**331**	P	**P**	**11 55 53.5**	**+3.0**
LNOR	**Lincton Mounta**	**34.31**	**331**	*e*P	**P**	**11 55 50.2**	**-0.3**
LNOR				*e*		11 56 25.3	
NNA	**Nana**	**34.34**	**147**	*e*P	**P**	**11 55 48.6**	**-2.4**
	comp=Z,180nm,1.4s,mb5.7						
KRMB	**Red Mountain**	**34.42**	**320**	*e*P	**P**	**11 55 51.6**	**+0.2**
KBO	**Bosley Butte**	**35.02**	**321**	*e*P	**P**	**11 55 57.4**	**+0.8**
HSO	**Harness Mounta**	**35.16**	**324**	P	**P**	**11 55 58.6**	**+0.9**
HSO	**Harness Mounta**	**35.16**	**324**	*e*P	**P**	**11 55 54.6**	**-3.1**
VGB	**Gordon Butte**	**35.26**	**328**	P	**P**	**11 56 01.9**	**+3.4**
VGB	**Gordon Butte**	**35.26**	**328**	*e*P	**P**	**11 55 58.8**	**+0.3**
HAWA	**Hanford**	**35.28**	**330**	*e*P	**P**	**11 55 59.1**	**+0.4**
	comp=Z,9.9nm,0.8s,mb4.7						
GBL	**Gable Mountain**	**35.40**	**331**	P	**P**	**11 56 00.9**	**+1.2**
KEBM	**Edson Butte**	**35.47**	**322**	*e*P	**P**	**11 56 01.4**	**+1.0**
KEBM				*e*pP	pP	11 56 22.7	-0.8
KEBM				*e*		11 56 58.9	
GBB	**Gable Butte**	**35.48**	**331**	P	**P**	**11 56 01.6**	**+1.2**
WAH2	**Wahluke Slope**	**35.56**	**331**	P	**P**	**11 56 02.0**	**+0.9**
TDH	**Tom, Dick, Har**	**35.62**	**327**	P	**P**	**11 56 03.2**	**+1.6**
NEW	**Newport**	**35.65**	**335**	P	**P**	**11 56 02.0**	**+0.2**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NEW	**Newport**	**35.65**	**335**	*e*P	**P**	**11 56 01.9**	**+0.1**
	comp=Z,5.3nm,0.4s,mb4.8						
OD2	**Odessa Site #2**	**35.65**	**332**	P	**P**	**11 56 02.7**	**+0.9**
DPW	**Davenport**	**35.80**	**333**	P	**P**	**11 56 03.4**	**+0.3**
DPW	**Davenport**	**35.80**	**333**	*e*P	**P**	**11 56 03.1**	**+0.1**
EMMW	**East Machias**	**35.91**	**35**	*e*P	**P**	**11 56 02.3**	**-1.8**
	comp=Z,540nm,0.9s						
EMMW				pP	pP	11 56 27.4	+0.2
EMMW				*e*PP	PP	11 57 28.8	+0.3
MPOR	**Mary's Peak**	**36.04**	**325**	P	**P**	**11 56 07.6**	**+2.4**
ASR	**Mount Adams--S**	**36.11**	**328**	P	**P**	**11 56 07.8**	**+2.1**
NAC	**Naches**	**36.15**	**330**	P	**P**	**11 56 07.6**	**+1.6**
EBG	**Ellensburg**	**36.15**	**330**	P	**P**	**11 56 07.2**	**+1.2**
TBM	**Table Mountain**	**36.35**	**330**	P	**P**	**11 56 09.2**	**+1.4**
WTV	**Waterville**	**36.44**	**332**	P	**P**	**11 56 09.6**	**+1.1**
FL2	**Flat Top 2**	**36.52**	**328**	P	**P**	**11 56 11.8**	**+2.6**
ETW	**Entiat**	**36.54**	**331**	P	**P**	**11 56 10.0**	**+0.6**
LON	**Longmire**	**36.63**	**329**	P	**P**	**11 56 11.4**	**+1.3**
LON	**Longmire**	**36.63**	**329**	*e*P	**P**	**11 56 11.0**	**+0.9**
NLW	**Nelson Butte**	**36.90**	**332**	P	**P**	**11 56 14.7**	**+2.4**
PQI	**Presque Isle**	**36.93**	**32**	*e*P	**P**	**11 56 11.1**	**-1.5**
	comp=Z,718nm,0.8s						
FFC	**Flin Flon**	**37.69**	**354**	*e*P	**P**	**11 56 18.5**	**-0.3**
	comp=Z,77nm,0.9s,mb5.5						
GNW	**Green Mountain**	**37.70**	**329**	*e*P	**P**	**11 56 18.7**	**-0.3**
GNW				*e*pP	pP	11 56 42.8	+0.6
RPW	**Rockport**	**37.70**	**331**	P	**P**	**11 56 18.6**	**-0.4**
JCW	**Jim Creek**	**37.71**	**331**	P	**P**	**11 56 19.2**	**+0.1**
HDW	**Hoodsport**	**37.87**	**329**	P	**P**	**11 56 21.1**	**+0.7**
MBW	**Mount Baker**	**38.12**	**331**	P	**P**	**11 56 22.1**	**-0.4**
VDB	**Vedder Mountai**	**38.39**	**331**	P	**P**	**11 56 25.7**	**+1.0**
MCW	**Mount Constitu**	**38.48**	**330**	P	**P**	**11 56 25.8**	**+0.3**
OCWA	**Octopus Mounta**	**38.49**	**328**	P	**P**	**11 56 23.6**	**-2.0**
	comp=Z,128nm,1.8s,mb5.5						
PGC	**Sidney**	**38.75**	**330**	*e*P	**P**	**11 56 27.7**	**-0.1**
	comp=Z,38nm,0.8s,mb5.3						
PGC				*e*sP	sP	11 57 03.1	+0.3
ARE	**Arequipa**	**40.94**	**144**	⇓*i*P	**P**	**11 56 46.6**	**+0.5**
SAML	**Samuel**	**41.07**	**127**	P	**P**	**11 56 44.4**	**-2.8**
SAML				S	**S**	**12 02 46.2**	**-5.9**
FCC	**Fort Churchill**	**41.39**	**1**	P	**P**	**11 56 49.5**	**+0.2**
FCC				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.4						
FCC	**Fort Churchill**	**41.39**	**1**	*e*P	**P**	**11 56 48.9**	**-0.5**
	comp=Z,149nm,1.3s,mb5.7						
LPAZ	**La Paz**	**42.78**	**140**	P	**P**	**11 57 00.2**	**-1.1**
	comp=Z,41nm,0.7s,mb5.2,baz=331,slow=7.7,SNR=154						
LPAZ				pP	pP	11 57 25.4	+0.6
	comp=Z,22nm,0.7s,baz=324,slow=14,SNR=3.6						
LPAZ				LR	LR	12 12 27.9	
	comp=Z,773nm,21.0s,baz=204,slow=33						
LPAZ	**La Paz**	**42.78**	**140**	P	**P**	**11 57 00.1**	**-1.2**
LPAZ				P		11 57 05.8	
SCHQ	**Schefferville**	**43.33**	**24**	P	**P**	**11 57 03.9**	**-1.4**
	comp=Z,192nm,0.9s,mb5.8,baz=223,slow=6.6,SNR=160						
SCHQ				LR	LR	12 18 17.1	
	comp=Z,3µm,18.4s,baz=218,slow=40						
RPN	**Rapa Nui**	**46.24**	**197**	*e*P	**P**	**11 57 27.7**	**-1.2**
	comp=Z,203nm,0.9s,mb5.8						
YKA	**Yellowknife Ar**	**47.11**	**348**	P	**P**	**11 57 34.3**	**-0.9**
	comp=Z,14nm,0.7s,mb4.8,baz=153,slow=7.3,SNR=64						
YKA				pP	pP	11 57 58.5	-0.5
	comp=Z,9.9nm,0.5s,baz=152,slow=7.5,SNR=4.9						
YKA				sP	sP	11 58 10.5	+0.2
	comp=Z,18nm,0.7s,baz=151,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**47.11**	**348**	P	**P**	**11 57 34.4**	**-0.9**
YKA				pP	pP	11 57 58.5	-0.5
YKA				sP	sP	11 58 10.5	+0.2
YKW3	**Yellowknife Ar**	**47.17**	**348**	*e*P	**P**	**11 57 34.9**	**-0.9**
LVC	**Limon Verde**	**47.33**	**146**	LR	LR	12 16 19.6	
	comp=Z,323nm,18.6s,baz=308,slow=34						
LVC	**Limon Verde**	**47.33**	**146**	*e*P	**P**	**11 57 36.9**	**-0.7**
	comp=Z,68nm,0.8s,mb5.4						
DLBC	**Dease Lake**	**48.36**	**336**	*e*P	**P**	**11 57 46.4**	**+1.4**
DLBC				*e*sP	pP	11 58 09.5	+0.6
CMCH	**Combarbala**	**53.56**	**154**	*i* P	**P**	**11 58 22.1**	**-2.7**
DAWY	**Dawson**	**55.44**	**338**	*e*P	**P**	**11 58 36.7**	**-1.2**
DAWY				*e*pP	pP	11 59 01.9	-0.5
DAWY				*e*sP	sP	11 59 13.4	-0.2
CLCH	**Cerro Calan**	**55.69**	**155**	⇓*i*P	**P**	**11 58 37.9**	**-2.2**
FCH	**Farellones**	**55.73**	**155**	⇓*i*P	**P**	**11 58 38.7**	**-1.7**
RKT	**Rikitea**	**55.87**	**225**	*e*L		12 12 44.3	
	comp=Z,964nm,45.8s						
RKT				*e*R		12 15 06.0	
	comp=Z,2µm,34.5s						
EYAK	**Cordova Ski Ar**	**56.11**	**333**	*e*P	**P**	**11 58 42.9**	**+0.2**
EYAK				*e*pP	pP	11 59 07.9	+0.7
EYAK				*e*sP	sP	11 59 19.9	+1.4
LMEL	**Las Melosas**	**56.22**	**155**	⇓*i*P	**P**	**11 58 41.8**	**-2.1**
DIV	**Divide**	**56.39**	**333**	*e*P	**P**	**11 58 45.5**	**+0.8**
	comp=Z,30nm,0.9s,mb5.3						
DIV				*e*pP	pP	11 59 10.3	+1.0
INK	**Inuvik**	**56.39**	**344**	LR	LR	12 24 35.3	
	comp=Z,809nm,21.5s,baz=126,slow=38						
INK	**Inuvik**	**56.39**	**344**	P	**P**	**11 58 43.7**	**-1.0**
INK				pmax	pmax		
	comp=Z,17nm,0.6s						
INK	**Inuvik**	**56.39**	**344**	*e*P	**P**	**11 58 43.5**	**-1.1**
	comp=Z,17nm,0.6s,mb5.2						
INK				*e*pP	pP	11 59 08.9	-0.3
INK				*e*sP	sP	11 59 20.9	+0.5
CPUP	**Villa Florida**	**56.94**	**139**	P	**P**	**11 58 45.9**	**-3.2**
	comp=Z,44nm,1.0s,mb5.5,baz=342,slow=7.3,SNR=48						
CPUP				pP	pP	11 59 10.5	-3.2
	comp=Z,29nm,1.1s,baz=348,slow=6.7,SNR=3.4						
CPUP				LR	LR	12 21 02.1	
	comp=Z,456nm,20.4s,baz=351,slow=34						
CPUP	**Villa Florida**	**56.94**	**139**	P	**P**	**11 58 45.7**	**-3.5**
CPUP				P		11 58 50.8	
CPUP				pP	pP	11 59 10.4	-3.3
CPUP	**Villa Florida**	**56.94**	**139**	P	**P**	**11 58 45.9**	**-3.2**
CPUP				pP	pP	11 59 10.5	-3.2
CPUP				LR	LR	12 21 02.1	
BDFB	**Brasilia**	**56.95**	**122**	P	**P**	**11 58 47.8**	**-1.5**
	comp=Z,42nm,0.9s,mb5.5,baz=295,slow=8.7,SNR=44						
BDFB				LR	LR	12 25 57.2	
	comp=Z,502nm,18.3s,baz=309,slow=39						
THY	**Trims Highway**	**57.47**	**336**	*e*P	**P**	**11 58 52.7**	**+0.4**
THY				*e*pP	pP	11 59 17.5	+0.5
SML	**Sawmill**	**57.79**	**333**	P	**P**	**11 58 54.8**	**+0.2**
SML	**Sawmill**	**57.79**	**333**	⇑*i*P	**P**	**11 58 54.9**	**+0.3**
SML				*e*pP	pP	11 59 17.8	-1.5
PMR	**Palmer**	**58.04**	**333**	P	**P**	**11 58 55.6**	**-0.8**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
PMR	**Palmer**	**58.04**	**333**	*e*P	**P**	**11 58 56.1**	**-0.3**
	comp=Z,19nm,0.8s,mb5.2						
PMS	**Palmer South**	**58.09**	**332**	*e*P	**P**	**11 58 56.5**	**-0.2**
	comp=Z,33nm,0.9s,mb5.4						
SLKM	**Skilak Lake**	**58.09**	**331**	P	**P**	**11 58 57.2**	**+0.5**
SLKM				*e*	pP	11 59 21.9	+0.5
SLKM	**Skilak Lake**	**58.09**	**331**	*e*P	**P**	**11 58 56.7**	**0.0**
SLKM				*e*pP	pP	11 59 21.7	+0.3
SLKM				*e*PcP	PcP	11 59 46.3	-0.8
KDAK	**Kodiak Island**	**58.25**	**328**	*e*P	**P**	**11 58 57.1**	**-0.8**
	comp=Z,10nm,0.6s,mb5.0						
KDAK				*e*pP	pP	11 59 21.6	-0.9
ILAR	**Eielson Array**	**58.56**	**337**	P	**P**	**11 58 59.0**	**-0.9**
	comp=Z,4.2nm,0.7s,mb4.6,baz=113,slow=7.0,SNR=63						
ILAR				pP	pP	11 59 23.6	-1.1
	comp=Z,4.7nm,0.6s,baz=163,slow=4.2,SNR=5.4						
ILAR				LR	LR	12 26 24.6	
	comp=Z,369nm,20.0s,baz=134,slow=38						
ILAR				PKPPKP		12 28 27.9	
	comp=Z,0.4nm,0.9s,baz=288,slow=2.9,SNR=4.1						
MCK	**McKinley**	**58.88**	**335**	*e*P	**P**	**11 59 01.6**	**-0.5**
MCK				*e**PP	pP	11 59 26.7	-0.2
MCK				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.0						
MCK	**McKinley**	**58.88**	**335**	*e*P	**P**	**11 59 01.6**	**-0.6**
	comp=Z,24nm,1.7s,mb5.0						
MCK				*e*pP	pP	11 59 26.7	-0.2
COLA	**College**	**58.98**	**337**	*e*P	**P**	**11 59 01.5**	**-1.3**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
COLA	**College**	**58.98**	**337**	*e*P	**P**	**11 59 01.5**	**-1.3**
	comp=Z,12nm,0.8s,mb5.0						
SPU	**Mount Spurr**	**59.18**	**332**	*e*P	**P**	**11 59 03.8**	**-0.4**
SPU				*e*pP	pP	11 59 28.6	-0.4
SPU				*e*sP	sP	11 59 40.4	+0.1
RSO	**Redoubt South**	**59.24**	**331**	*e*P	**P**	**11 59 04.0**	**-0.7**
RSO				*e*pP	pP	11 59 29.8	+0.4
SVW	**Sparrevohn**	**60.78**	**331**	*e*P	**P**	**11 59 14.5**	**-0.7**
	comp=Z,18nm,0.6s,mb5.3						
PLCA	**Paso Flores**	**62.16**	**159**	P	**P**	**11 59 22.0**	**-2.7**
	comp=Z,158nm,0.8s,mb6.1,baz=326,slow=7.8,SNR=274						
PLCA				LR	LR	12 22 38.1	
	comp=Z,422nm,18.3s,baz=343,slow=32						
PLCA	**Paso Flores**	**62.16**	**159**	P	**P**	**11 59 21.9**	**-2.8**
PLCA	**Paso Flores**	**62.16**	**159**	P	**P**	**11 59 22.0**	**-2.7**
PLCA				LR	LR	12 22 38.1	
ADH	**Angra Heroismo**	**62.36**	**55**	*e*LR	LR	12 18 37.5	
RCBR	**Riachuelo**	**62.97**	**106**	*e*P	**P**	**11 59 30.1**	**-0.4**
	comp=Z,377nm,1.0s,mb6.3						
TRQA	**Tornquist**	**63.34**	**151**	*e*P	**P**	**11 59 29.8**	**-2.8**
	comp=Z,140nm,1.0s,mb5.8						
TRQA				*e*pP	pP	11 59 55.0	-2.7

PPT	**Papeete**	63.72	240	*e*S	S	12 08 00.0	-0.3
	comp=Z,2µm,24.0s						
PPT				*e*SS	SS	12 12 06.6	-4.8
	comp=Z,368nm,25.8s						
PPT				*e*R		12 18 07.5	
	comp=Z,4µm,31.8s,baz=53						
UNV	**Unalaska Valle**	65.14	322	*e*P	P	11 59 43.3	-0.8
	comp=Z,129nm,0.9s,mb5.8						
UNV				*e*pP	pP	12 00 05.8	-3.4
CAM3	**Guarapari**	65.67	123	*e*P	P	11 59 46.2	-1.9
CAM3				*i*		11 59 52.0	
CAM3				*i*		11 59 56.8	
CAM3				*i*		12 00 03.3	
CAM3				*i*	pP	12 00 14.0	+0.8
CAM3				*i*		12 00 29.3	
NIKO	**Nikolski**	66.49	321	*e*P	P	11 59 50.5	-2.2
NIKO				*e*pP	pP	12 00 16.5	-1.4
TBI	**Tubuai**	66.61	234	*e*S	S	12 08 36.0	+0.4
	comp=Z,2µm,26.0s						
TBI				*e*R		12 19 40.8	
	comp=Z,3µm,33.8s,baz=54						
DAG	**Danmarks Havn**	70.19	14	⇓*i*P	P	12 00 13.5	-1.7
	comp=Z,64nm,0.8s,mb5.5						
CHIE	**El Hierro**	71.15	66	P	P	12 00 21.6	-0.1
	comp=Z,34nm,0.9s,mb5.2						
EGOM	**La Gomera**	71.73	65	P	P	12 00 25.6	+0.4
	comp=Z,93nm,1.1s,mb5.5						
CCAN	**Las Canadas**	72.25	65	P	P	12 00 29.1	+0.8
	comp=Z,32nm,0.8s,mb5.2						
JMIC	**Jan Mayen**	72.70	20	LR	LR	12 34 54.6	
	comp=Z,972nm,19.5s,baz=264,slow=38						
JMIC	**Jan Mayen**	72.70	20	*e*P	P	12 00 27.4	-2.7
JMIC				*e*pP	pP	12 00 55.4	-0.4
JMIC				*e*S	S	12 09 46.8	+0.9
JMIC				AMS	AMS	12 35 17.8	
	comp=Z,902nm,18.8s						
VAL	**Valentia**	73.52	40	⇓*i*P	P	12 00 34.5	-0.7
RAR	**Rarotonga**	73.91	241	P	P	12 00 36.0	-2.2
	comp=Z,15nm,0.7s,mb4.8,baz=32,slow=10,SNR=4.0						
EFAM	**Famara**	74.73	64	P	P	12 00 43.5	+0.8
	comp=Z,57nm,1.0s,mb5.3						
USHA	**Ushuaia**	75.42	164	LR	LR	12 29 34.1	
	comp=Z,506nm,19.4s,baz=330,slow=32						
GCL	**Cushendall**	75.50	36	*e*P	P	12 00 45.5	-1.1
GMM	**Mts of Mourne**	75.74	37	⇑*e*P	P	12 00 46.8	-1.2
GMK	**Mull of Kintyr**	75.76	36	⇑*e*P	P	12 00 46.9	-1.1
STS	**Santiago**	76.06	49	P	P	12 00 49.7	-0.3
	comp=Z,59nm,0.7s,mb5.4						
MDO	**Dochfour**	76.07	34	⇑*e*P	P	12 00 48.4	-1.3
MVH1	**Achvaich**	76.08	33	⇑*e*P	P	12 00 48.6	-1.1
EZAM	**Zamans**	76.09	50	P	P	12 00 50.1	-0.1
	comp=Z,43nm,0.8s,mb5.2						
EAB	**Aberfoyle**	76.31	35	*e*P	P	12 00 50.0	-1.1
EAB				AMb	AMB	12 00 51.7	
	comp=Z,69nm,0.9s,mb5.4						
GAL1	**Galloway**	76.34	37	⇑*e*P	P	12 00 50.3	-1.1
KBS	**Kingsbay**	76.37	11	*e*P	P	12 00 52.7	+1.6
KBS				*e*pP	pP	12 01 17.9	+0.9
KBS				*e*PP	PP	12 03 43.4	-1.8
KBS				*e*S	S	12 10 27.1	+0.6
KBS				*e*SS	SS	12 15 24.5	-1.0
KBS				AMS	AMS	12 32 40.1	
	comp=Z,229nm,21.1s						
KBS	**Kingsbay**	76.37	11	*e*P	P	12 00 52.0	+0.9
KBS				*e**PP	pP	12 01 18.0	+1.0
KBS				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.3						
PLOU	**Loures**	76.38	53	*e*P	P	12 00 51.0	-0.9
	comp=Z,51nm,1.0s,mb5.2						
MLA1	**Latheron**	76.43	33	⇑*e*P	P	12 00 51.1	-0.7
ELOB	**Lobios**	76.61	50	P	P	12 00 52.6	-0.6
	comp=Z,55nm,0.8s,mb5.3						
MCD	**Coleburn Disti**	76.63	34	⇑*e*P	P	12 00 52.0	-0.9
PCOI	**Coimbra**	76.65	52	*e*P	P	12 00 53.3	-0.1
EBH	**Black Hill**	76.75	35	*e*P	P	12 00 52.5	-1.1
PTOM	**Tomar**	76.80	52	*e*P	P	12 00 53.6	-0.6
	comp=Z,85nm,1.0s,mb5.4						
PVIS	**Viseu**	76.96	51	*e*P	P	12 00 54.6	-0.5
	comp=Z,50nm,0.9s,mb5.2						
PTEO	**Sao Teotonio**	76.98	55	*e*P	P	12 00 54.4	-0.9
	comp=Z,55nm,0.9s,mb5.3						
EPON	**Pontenova**	76.98	48	P	P	12 00 54.3	-0.9
	comp=Z,48nm,0.7s,mb5.3						
PVRL	**Vila Real**	76.98	51	*e*P	P	12 00 54.0	-1.2
	comp=Z,27nm,1.0s,mb4.9						
EDI	**Edinburgh**	76.99	35	P	P	12 00 54.3	-0.6
EDI				AMb	AMB	12 00 55.6	
	comp=Z,86nm,0.8s,mb5.5						
EDI	**Edinburgh**	76.99	35	*e*P	P	12 00 54.0	-0.9
EDI				*e*P		12 00 54.3	
EDI				AMb	AMB	12 00 55.6	
	comp=Z,86nm,0.8s,mb5.5						
MOE	**Montemor**	77.06	53	*e*P	P	12 00 55.5	-0.2
EBL	**Broad Law**	77.10	35	*e*P	P	12 00 54.1	-1.4
ESK	**Eskdalemuir**	77.11	36	*e*P	P	12 00 54.4	-1.2
ESK				*e*		12 01 04.4	
ESK				*e**PP	pP	12 01 21.3	-0.2
ESK				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.3						
ESK	**Eskdalemuir**	77.11	36	*e*P	P	12 00 54.4	-1.1
	comp=Z,46nm,0.8s,mb5.3						
ESK				*e*PcP	PcP	12 01 04.4	-2.0
ESK				*e*pP	pP	12 01 21.3	-0.3
YEL1	**Yell**	77.12	30	⇑*e*P	P	12 00 55.2	-0.3
EKA	**Eskdalemuir Ar**	77.13	36	P	P	12 00 54.5	-1.2
	comp=Z,36nm,0.9s,mb5.1,baz=283,slow=5.9,SNR=89						
EKA				pP	pP	12 01 20.9	-0.7
	comp=Z,24nm,1.0s,baz=278,slow=5.9,SNR=4.6						
SAN1	**Sandwick**	77.16	31	⇑*e*P	P	12 00 55.0	-0.7
LRW	**Lerwick**	77.17	31	P	P	12 00 55.2	-0.6
LRW	**Lerwick**	77.17	31	*e*P	P	12 00 54.4	-1.4
LRW				*e*P		12 00 55.2	
ERUA	**La Rua**	77.18	49	P	P	12 00 56.3	0.0
	comp=Z,35nm,0.7s,mb5.2						
CSF	**Scaffel**	77.26	37	⇑*e*P	P	12 00 55.5	-0.9
MTE	**Manteigas**	77.29	51	*e*P	P	12 00 56.2	-0.7
	comp=Z,108nm,1.0s,mb5.5						
MTE				*e*S	S	12 10 37.2	+0.1
ESY	**Stoneypath**	77.31	35	*e*P	P	12 00 55.8	-0.9
ESY				AMb	AMB	12 00 57.6	
	comp=Z,65nm,0.7s,mb5.5						
CDU1	**Dunnerdale**	77.31	37	⇑*e*P	P	12 00 55.8	-1.0
FX1	**Attu Island--F**	77.32	322	LR	LR	12 36 31.1	
	comp=Z,11nm,19.4s,baz=195,slow=37						
PCBR	**Castelo Branco**	77.45	52	*e*P	P	12 00 57.0	-0.9
	comp=Z,89nm,1.1s,mb5.4						
SPITS	**Spitsbergen Ar**	77.47	11	LR	LR	12 40 07.0	
	comp=Z,41nm,18.3s,baz=91,slow=39						
PBEJ	**Beja**	77.54	54	*e*P	P	12 00 58.2	-0.2
	comp=Z,51nm,1.0s,mb5.2						
ECAL	**Calabor**	77.56	50	P	P	12 00 58.6	+0.2
	comp=Z,46nm,0.7s,mb5.3						
PBRG	**Braganca**	77.59	50	*e*P	P	12 00 58.2	-0.4
	comp=Z,27nm,0.9s,mb5.0						
EGRO	**El Granado**	77.94	54	P	P	12 01 00.1	-0.5
	comp=Z,67nm,0.8s,mb5.4						
PALC	**Alcoutim**	77.96	54	*e*P	P	12 01 00.8	+0.1
	comp=Z,57nm,1.0s,mb5.3						
EBAD	**Badajoz**	78.04	53	P	P	12 01 00.9	-0.2
	comp=Z,21nm,1.0s,mb4.8						
LHO	**Holmfirth**	78.26	37	*i* P	P	12 01 02.4	+0.5
EMIN	**Mina Concepcio**	78.52	54	P	P	12 01 03.6	-0.1
	comp=Z,73nm,0.7s,mb5.6						
ROSF	**Rostrenen**	78.56	43	*e*P	P	12 01 03.0	-0.8
	comp=Z,54nm,1.1s,mb5.0						
QUIF	**Quistinic**	78.73	43	*e*P	P	12 01 04.0	-0.7
SGMF	**Saint Gilles**	79.05	43	*e*P	P	12 01 05.4	-1.0
	comp=Z,65nm,1.2s,mb5.0						
ESPR	**Espera**	79.36	55	P	P	12 01 08.3	0.0
	comp=Z,71nm,0.9s,mb5.5						
ELAN	**Lanestosa**	79.65	48	P	P	12 01 09.1	-0.7
	comp=Z,90nm,1.9s,mb5.3						
BJO	**Bjornoya**	79.70	14	AMS	AMS	12 39 47.2	
	comp=Z,559nm,18.7s						
EADA	**Adamuz**	80.03	53	P	P	12 01 11.2	-0.8
	comp=Z,166nm,1.1s,mb5.8						
GRR	**Gorron**	80.12	42	*e*P	P	12 01 11.6	-0.6
	comp=Z,140nm,1.1s,mb5.4						
ESDC	**Sonseca Array**	80.13	52	P	P	12 01 11.8	-0.6
	comp=Z,66nm,1.0s,mb5.4,baz=293,slow=5.4,SNR=134						
ESDC				LR	LR	12 35 02.3	
	comp=Z,605nm,18.9s,baz=270,slow=34						
ESDC	**Sonseca Array**	80.13	52	P	P	12 01 12.1	-0.3
	comp=Z,68nm,1.0s,mb5.4						
FLN	**La Foliniere**	80.26	42	*e*P	P	12 01 12.5	-0.4
	comp=Z,189nm,1.1s,mb5.5						
FLN				*e*R			
	comp=Z,2µm,19.2s						
ELUQ	**Luque**	80.42	54	P	P	12 01 14.5	+0.5
	comp=Z,22nm,0.9s,mb5.0						
LDF	**La Druitiere**	80.53	42	*e*P	P	12 01 13.9	-0.5
	comp=Z,129nm,1.1s,mb5.4						
MOL	**Molde**	80.55	27	⇑*i*P	P	12 01 18.6	+4.5
ELOJ	**Sierra Loja**	80.61	54	P	P	12 01 15.9	+0.8
	comp=Z,21nm,0.7s,mb5.1						
ERON	**Agron**	80.91	54	P	P	12 01 16.9	+0.3
	comp=Z,69nm,0.6s,mb5.7						
EALK	**Alkurruntz**	81.02	48	P	P	12 01 16.1	-1.0
	comp=Z,110nm,1.1s,mb5.6						
MFF	**Saint Martin d**	81.05	44	*e*P	P	12 01 16.5	-0.7
	comp=Z,130nm,1.3s,mb5.3						
OSSF	**Osses**	81.18	48	*e*P	P	12 01 17.5	-0.4
SJPF	**Ste Jean**	81.24	48	*e*P	P	12 01 17.9	-0.3
	comp=Z,43nm,0.7s,mb5.1						
ETOR	**Torete**	81.25	50	P	P	12 01 19.1	+0.8
	comp=Z,59nm,0.8s,mb5.5						
EQES	**Quesada**	81.28	53	P	P	12 01 19.9	+1.3
	comp=Z,71nm,1.2s,mb5.4						
LARF	**Larrau**	81.43	48	*e*P	P	12 01 19.5	+0.3
EVIA	**Vianos**	81.49	52	P	P	12 01 20.6	+1.0
	comp=Z,115nm,0.8s,mb5.8						
ETSF	**Etsaut**	81.77	48	*e*P	P	12 01 20.9	-0.1
	comp=Z,89nm,0.8s,mb5.3						
FDAF	**Les Forges d'A**	81.79	48	*e*P	P	12 01 20.9	-0.2
TRO	**Tromso**	81.94	19	⇑*i*P	P	12 01 20.9	-0.5
TRO				AMb	AMB	12 01 25.3	
	comp=Z,129nm,1.8s,mb5.5						
TRO				*e*pP	pP	12 01 47.3	-0.2
TRO				*e*PP	PP	12 04 27.7	-3.8
TRO				*e*S	S	12 11 27.2	+1.8
TRO				*e*SS	SS	12 16 46.8	-2.1
TRO				AMS	AMS	12 40 35.0	
	comp=Z,526nm,18.2s						
TRO	**Tromso**	81.94	19	⇑*i*P	P	12 01 20.9	-0.5
	comp=Z,129nm,1.8s,mb5.5						
LFF	**La Frestale**	82.11	45	*e*P	P	12 01 22.1	-0.6
	comp=Z,160nm,1.0s,mb5.5						
ESAC	**San Caprasio**	82.16	49	P	P	12 01 22.2	-0.8
	comp=Z,142nm,1.2s,mb5.7						
ETOB	**Tobarra**	82.21	52	P	P	12 01 24.1	+0.7
	comp=Z,265nm,1.8s,mb5.8						
EPF	**Esparros**	82.37	47	*e*P	P	12 01 23.7	-0.4
	comp=Z,120nm,1.2s,mb5.3						
KONO	**Kongsberg**	82.50	30	⇑*i*P	pP	12 01 59.0	+8.4
KONO				AMb	AMB	12 02 04.9	
	comp=Z,44nm,1.4s,mb5.1						
KONO				AMS	AMS	12 34 20.3	
	comp=Z,245nm,25.3s						
RJF	**Les Rejaudoux**	82.53	45	*e*P	P	12 01 24.2	-0.6
	comp=Z,106nm,0.9s,mb5.4						
RJF				*e*R			
	comp=Z,1µm,21.8s						
EMOS	**Mosqueruela**	82.54	50	P	P	12 01 25.5	+0.5
	comp=Z,58nm,0.6s,mb5.6						
EGRA	**Graus**	82.59	48	P	P	12 01 25.5	+0.3
	comp=Z,49nm,1.0s,mb5.3						
EMUR	**La Murta**	82.66	53	P	P	12 01 25.2	-0.5
	comp=Z,191nm,1.7s,mb5.7						
HYF	**Humbligny**	82.69	43	*e*P	P	12 01 25.3	-0.3
TCF	**Toulx Ste Croi**	82.70	44	*e*P	P	12 01 25.0	-0.7
	comp=Z,122nm,1.2s,mb5.3						
MELF	**Melles**	82.71	47	*e*P	P	12 01 26.3	+0.5
NB2	**NORSAR Subarra**	82.73	28	P	P	12 01 26.1	+0.6
	comp=Z,69nm,1.2s,mb5.4,baz=293,slow=5.0						
NOA	**NORSAR Array B**	82.73	28	P	P	12 01 26.1	+0.6
	comp=Z,14nm,0.8s,mb4.9,baz=295,slow=5.2,SNR=62						
NOA				PP	PP	12 04 32.1	-5.9
	comp=Z,2.1nm,0.8s,baz=296,slow=7.8,SNR=3.0						
NOA				LR	LR	12 41 31.1	
	comp=Z,249nm,18.4s,baz=295,slow=38						
BAIF	**Baives**	82.82	40	*e*P	P	12 01 26.0	-0.2
	comp=Z,85nm,1.1s,mb5.2						
MLS	**Moulis**	82.92	47	*e*P	P	12 01 26.3	-0.6
CAF	**Calviac**	83.01	45	*e*P	P	12 01 26.7	-0.6
	comp=Z,41nm,0.8s,mb5.0						
BGF	**Bois d'Agland**	83.04	43	*e*P	P	12 01 26.8	-0.6
	comp=Z,123nm,1.0s,mb5.4						
EBR	**Ebro Roquetas**	83.11	50	*e*P	P	12 01 29.0	+1.1
GIVF	**Givet**	83.19	40	*e*P	P	12 01 28.0	0.0
	comp=Z,68nm,1.1s,mb5.1						
AVF	**Avril sur Loir**	83.30	43	*e*P	P	12 01 27.8	-0.9
	comp=Z,50nm,0.9s,mb5.0						
SSF	**Saint Saulge**	83.32	43	*e*P	P	12 01 28.1	-0.7
	comp=Z,82nm,1.0s,mb5.2						
EPOB	**Poblet**	83.38	49	P	P	12 01 27.8	-1.4
	comp=Z,76nm,2.1s,mb5.2						
AGO	**Saint Agoulin**	83.38	44	*e*P	P	12 01 28.4	-0.7
PYM	**Petit Puy Mans**	83.39	44	*e*P	P	12 01 29.2	0.0
MUD	**Monsted U'grnd**	83.46	33	*i* P	P	12 01 31.0	+1.7
	comp=Z,8.7nm,0.6s,mb4.8						
MUD				*i* S	S	12 11 43.2	+2.3
LOR	**Lormes**	83.48	43	*e*P	P	12 01 29.2	-0.4
	comp=Z,127nm,1.0s,mb5.4						
LOR				*e*R			
	comp=Z,941nm,20.2s						
EMIR	**Miracle**	83.53	48	P	P	12 01 29.2	-0.7
	comp=Z,38nm,0.7s,mb5.3						
MTLF	**Montolieu**	83.59	47	*e*P	P	12 01 29.9	-0.4
	comp=Z,102nm,0.9s,mb5.3						
HGN	**Heimansgroeve**	83.64	39	*e*P	P	12 01 30.2	-0.1
	comp=Z,28nm,1.2s,mb5.0						
HGN	**Heimansgroeve**	83.64	39	*i* S	S	12 11 46.6	+3.8
SMF	**Signal de Mont**	83.67	43	*e*P	P	12 01 29.7	-0.8
	comp=Z,41nm,0.9s,mb5.0						
LBL	**Lubilhac**	83.72	45	*e*P	P	12 01 31.0	+0.2
PLDF	**La Plantade**	83.73	44	*e*P	P	12 01 29.7	-1.2
WTSB	**Winterswijk**	83.75	37	*e*P	P	12 01 31.0	+0.2
	comp=Z,59nm,1.0s,mb5.3						
MEZF	**Maizieres J'vi**	83.85	41	*e*P	P	12 01 31.2	-0.2
	comp=Z,112nm,1.0s,mb5.4						
COLF	**Collangettes**	83.92	44	*e*P	P	12 01 31.5	-0.4
LRDF	**Laroque-de-Fa**	83.94	47	*e*P	P	12 01 31.7	-0.3
ARCES	**ARCESS Array B**	83.97	18	P	P	12 01 31.8	+0.3
	comp=Z,17nm,0.6s,mb5.1,baz=300,slow=4.8,SNR=143						
ARCES				pP	pP	12 01 58.6	+0.8
	comp=Z,50nm,1.1s,baz=297,slow=5.4,SNR=3.9						
ARCES				PP	PP	12 04 42.4	-5.3
	comp=Z,20nm,0.8s,baz=297,slow=8.1,SNR=8.5						
ARCES				LR	LR	12 41 22.9	
	comp=Z,563nm,18.3s,baz=360,slow=37						
FILF	**Fillols**	84.07	47	*e*P	P	12 01 32.0	-0.7
KEV	**Kevo**	84.27	17	*e*p	P	12 01 32.0	-1.0
EJON	**La Jonquera**	84.33	47	P	P	12 01 33.9	0.0
	comp=Z,144nm,1.4s,mb5.6						
SEY	**Seymchan**	84.44	335	*e*P	P	12 01 34.8	+0.8
SEY				*PP	pP	12 02 01.4	+1.1
SEY						12 04 54.0	
SEY						12 11 45.1	
SEY				*e*S	S	12 11 52.9	+2.5
SEY				*e*SS	SS	12 17 30.5	+5.2
SEY				*e*SSS	SSS	12 20 55.6	+1.8
SEY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
SEY				pmax	pmax		
	comp=E,5.0nm,0.7s						
SEY				MLR	MLR		
	comp=Z,2µm,24.0s						
LASF	**Ste Croix**	84.49	46	*e*P	P	12 01 35.1	+0.4
	comp=Z,177nm,1.4s,mb5.4						
THEF	**They Montfort**	84.53	41	*e*P	P	12 01 34.6	-0.2
RUP	**Ruppelstein**	84.68	40	*e*P	P	12 01 36.0	+0.5
RUP	**Ruppelstein**	84.68	40	*e*P	P	12 01 36.0	+0.5
VIVF	**Saint-Julien-l**	84.79	45	*e*P	P	12 01 36.5	+0.3
	comp=Z,79nm,1.0s,mb5.3						
HAU	**Haudompre**	84.83	41	*e*P	P	12 01 36.2	-0.1
	comp=Z,139nm,0.9s,mb5.6						
HAU				*e*R			
	comp=Z,888nm,22.0s						
ABH	**Alteburg**	84.92	39	*e*P	P	12 01 37.3	+0.6
ABH	**Alteburg**	84.92	39	*e*P	P	12 01 37.3	+0.6
BSEG	**Bad Segeberg**	85.01	35	*e*P	P	12 01 37.5	+0.4
BSEG				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.7						
CABF	**La Chapelle**	85.14	43	*e*P	P	12 01 37.9	0.0
	comp=Z,84nm,1.0s,mb5.3						
HINF	**Hinteralfeld**	85.21	41	*e*P	P	12 01 37.9	-0.3
	comp=Z,88nm,1.0s,mb5.3						
CDF	**Champ du Feu**	85.27	41	*e*P	P	12 01 38.4	-0.1
	comp=Z,106nm,1.1s,mb5.4						
LOMF	**Lomont**	85.36	42	*e*P	P	12 01 38.8	-0.1
MOF	**Molkenrain**	85.38	41	*e*P	P	12 01 38.6	-0.4
GRN	**Grenoble**	85.38	44	*e*P	P	12 01 39.2	+0.1
LANF	**Langenberg**	85.39	40	*e*P	P	12 01 39.3	+0.2
KTD	**Kalmit**	85.44	40	*e*P	P	12 01 39.3	0.0
KTD	**Kalmit**	85.44	40	*e*P	P	12 01 39.3	0.0
COP	**Copenhagen**	85.44	33	*i* P	pP	12 02 03.7	-1.9
	comp=Z,18nm,0.7s						
COP				*i*		12 04 57.2	
COP				*i*		12 11 53.8	
	comp=Z,140nm,20.0s						
PRAF	**Pradon**	85.48	46	*e*P	P	12 01 40.4	+0.8
ORIF	**Oris-en-Rattie**	85.58	44	*e*P	P	12 01 40.4	+0.3
	comp=Z,48nm,0.9s,mb5.1						
ORIF				*e*R			
	comp=Z,1µm,20.2s						
PET	**Petropavlovsk**	85.64	324	*d* *i*P	P	12 01 39.7	-0.5
PET				*e*S	S	12 11 55.3	-7.0
PET				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.4						
PET				pmax	pmax		
	comp=Z,300nm,11.5s						
TREF	**Trevaresse**	85.69	46	*e*P	P	12 01 41.6	+1.0
SMRF	**Simiane la Rot**	85.70	45	*e*P	P	12 01 41.4	+0.7
	comp=Z,109nm,0.9s,mb5.5						
BBS	**Basel-Blauen**	85.75	42	*e*P	P	12 01 40.7	-0.2
BBS	**Basel-Blauen**	85.75	42	*e*P	P	12 01 40.7	-0.2
SWS	**Schriesheim**	85.76	39	*e*P	P	12 01 40.7	-0.1
SWS	**Schriesheim**	85.76	39	*e*P	P	12 01 40.7	-0.1
TOD	**Tromm**	85.78	39	*e*P	P	12 01 40.9	0.0
TOD	**Tromm**	85.78	39	*e*P	P	12 01 40.9	0.0
GELF	**Grande-Etoile**	85.80	46	*e*P	P	12 01 41.6	+0.4
VILF	**Villemus**	85.83	45	*e*P	P	12 01 42.3	+0.9
KIZ	**Kirchzarten**	85.83	41	*e*P	P	12 01 40.9	-0.4
KIZ	**Kirchzarten**	85.83	41	*e*P	P	12 01 40.9	-0.4
CLZ	**Clausthal**	85.85	37	*e*P	P	12 01 42.0	+0.8
	comp=Z,62nm,1.3s,mb5.4						
PUYF	**Puyloubier**	85.93	46	*e*P	P	12 01 42.3	+0.5
LPL	**La Plagne**	85.94	44	*e*P	P	12 01 42.6	+0.8
	comp=Z,114nm,1.3s,mb5.3						
BFO	**Black Forest**	85.95	41	*e*P	P	12 01 41.4	-0.4
BFO				*e**PP	pP	12 02 07.4	-0.9
BFO				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
BFO	**Black Forest**	85.95	41	*e*P	P	12 01 41.4	-0.4
	comp=Z,31nm,1.1s,mb5.2						
BFO				*e*pP	pP	12 02 07.4	-0.9
LPG	**La Plagne**	85.96	44	*e*P	P	12 01 42.8	+0.9
	comp=Z,134nm,1.3s,mb5.4						
BERF	**Bertagne**	86.00	46	*e*P	P	12 01 42.7	+0.5
LBG	**Lerchenberg**	86.12	40	*e*P	P	12 01 42.5	-0.1
LBG	**Lerchenberg**	86.12	40	*e*P	P	12 01 42.5	-0.1
TAVF	**Tavernes**	86.15	46	*e*P	P	12 01 43.5	+0.6
RRL	**Cesana Torines**	86.18	44	P	P	12 01 44.0	+1.0
LSD	**Ceresole Reale**	86.24	44	P	P	12 01 44.4	+1.1
MBDF	**Montbardon**	86.24	44	*e*P	P	12 01 43.8	+0.5
	comp=Z,73nm,0.8s,mb5.3						
SPAK	**Spaichingen**	86.32	41	*e*P	P	12 01 43.4	-0.2
SPAK	**Spaichingen**	86.32	41	*e*P	P	12 01 43.4	-0.2
SPAK	**Spaichingen**	86.32	41	*e*P	P	12 01 43.7	+0.1
FENE	**Fenestrelle**	86.33	44	P	P	12 01 44.4	+0.6
SIND	**Sindeldorf**	86.36	39	*e*P	P	12 01 43.8	0.0
SIND	**Sindeldorf**	86.36	39	*e*P	P	12 01 43.8	0.0
SURF	**Saint Ours**	86.36	45	*e*P	P	12 01 44.5	+0.6
RSP	**Reno Superiore**	86.42	44	P	P	12 01 44.7	+0.5
BHB	**Bricherasio**	86.53	44	P	P	12 01 44.7	0.0
GUT	**Gutenstein**	86.54	41	*e*P	P	12 01 44.6	-0.1
GUT	**Gutenstein**	86.54	41	*e*P	P	12 01 44.6	-0.1
PZZ	**Prazzo**	86.54	44	P	P	12 01 45.0	+0.2
BUCH	**Bad Urach**	86.54	40	*e*P	P	12 01 44.7	0.0
BUCH	**Bad Urach**	86.54	40	*e*P	P	12 01 44.7	0.0
LMR	**La Mourre**	86.55	46	*e*P	P	12 01 44.9	0.0
	comp=Z,126nm,0.9s,mb5.5						
FRF	**La Foret Royal**	86.57	45	*e*P	P	12 01 45.0	0.0
	comp=Z,148nm,1.3s,mb5.5						
MCGN	**Macugnaga**	86.60	43	⇑*i*P	P	12 01 46.3	+1.2
TRAV		86.61	43	P	P	12 01 44.7	-0.4
CALN	**Calern**	86.67	45	*e*P	P	12 01 45.8	+0.4
MA2	**Magadan**	86.72	332	*e*P	P	12 01 45.5	+0.2
MA2				*e**PP	pP	12 02 12.2	+0.4
MA2				*e**SP	sP	12 02 22.2	-0.3
MA2				*e*		12 12 01.5	
MA2				*e*S	S	12 12 16.5	+4.0
MA2				pmax	pmax		
	comp=N,10.0nm,1.0s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.0s						
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
MA2	**Magadan**	86.72	332	*e*P	P	12 01 45.9	+0.6
	comp=Z,36nm,0.8s,mb5.3						
MA2				*e*pP	pP	12 02 12.5	+0.7
ORO	**Oropa**	86.72	43	⇓*i*P	P	12 01 46.8	+1.1
STV	**Sta Anna Valdi**	86.78	45	P	P	12 01 45.5	-0.4
STV2	**Anna di Valdie**	86.78	45	P	P	12 01 45.6	-0.4
MVIF	**Mont Vial**	86.79	45	*e*P	P	12 01 46.4	+0.4
TOUF	**Mont Tournerai**	86.81	45	*e*P	P	12 01 46.4	+0.2
ENR	**Entracque**	86.85	45	P	P	12 01 45.5	-0.9
AUTN	**L'Aution**	86.94	45	*e*P	P	12 01 47.0	+0.2
REVF	**Revere**	86.99	45	*e*P	P	12 01 47.2	+0.2
SBF	**Sospel**	87.00	45	*e*P	P	12 01 46.8	-0.2
	comp=Z,43nm,0.9s,mb5.1						
HDH	**Heidenheim**	87.02	40	*e*P	P	12 01 47.1	+0.1
HDH	**Heidenheim**	87.02	40	*e*P	P	12 01 47.1	+0.1
SAOF	**Saorge**	87.03	45	*e*P	P	12 01 47.7	+0.5
MOX	**Moxa**	87.04	38	*i* P	P	12 01 47.9	+0.8
	comp=Z,logA/T=1.4,mb5.1						
MOX				pP	pP	12 02 14.0	+0.4
MOX				S	S	12 12 26.0	+10
MOX				PS	PS	12 13 26.0	-5.6
MOX				LR	LR	12 29 50.0	
MOX				L		12 42 36.0	
MOX	**Moxa**	87.04	38	*e*P	P	12 01 47.9	+0.8
MOX				*e*	pP	12 02 14.4	+0.8
MOX				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
MOX				MLR	MLR		
	comp=Z,500nm,21.0s						
MOX	**Moxa**	87.04	38	*e*P	P	12 01 47.9	+0.8
	comp=Z,33nm,1.3s,mb5.1						
MOX				*e*	pP	12 02 14.4	+0.8
MOX				LR	LR		
	comp=Z,500nm,21.0s						
ROB	**Roburent**	87.13	44	P	P	12 01 46.9	-0.8
MONE	**Monesi**	87.13	45	P	P	12 01 47.1	-0.5
VAI	**Varese**	87.14	43	*e*P	P	12 01 47.7	0.0
NEGI	**Negi**	87.18	45	P	P	12 01 47.4	-0.5
GRA1	**Grafenberg Arr**	87.19	39	*e*P	P	12 01 48.6	+0.8
	comp=Z,46nm,1.4s,mb5.2						
GRA1				*e*pP	pP	12 02 14.6	+0.2
GRA1				*e*PP	PP	12 05 11.6	-3.3
GRA1				*e*S	S	12 12 09.6	-7.6
GRA1				LR	LR		
	comp=Z,600nm,20.8s						
GRF	**Grafenberg Arr**	87.19	39	*e*P	P	12 01 48.6	+0.8
GRF				*e**PP	pP	12 02 14.6	+0.2
GRF				*e*		12 05 11.6	
GRF				*e*S	S	12 12 09.6	-7.6
GRF				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2						
GRF				MLR	MLR		
	comp=Z,600nm,20.8s						
IMI	**Imperia**	87.28	45	P	P	12 01 48.2	-0.2
UBR	**Uberruh**	87.31	41	*e*P	P	12 01 48.0	-0.4
UBR	**Uberruh**	87.31	41	*e*P	P	12 01 48.0	-0.4
DAVA	**Damuels**	87.31	41	⇑*i*P	P	12 01 48.9	+0.4
	comp=Z,83nm,1.8s,mb5.4						
RORO		87.33	45	P	P	12 01 48.1	-0.6
FIN	**Finale Ligure**	87.39	44	*e*P	P	12 01 49.0	0.0
DAVOX	**Davos**	87.51	42	P	P	12 01 48.9	-0.5
	comp=Z,4.3nm,0.6s,mb4.6,baz=164,slow=8.0,SNR=14						
CLL	**Collm**	87.57	37	⇑P	P	12 01 49.4	-0.2
	comp=Z,logA/T=1.3,mb5.1						
CLL				*i* *PP	pP	12 02 16.0	-0.2
CLL				*e*		12 02 33.0	
CLL				*e*		12 02 54.0	
CLL				*e*PP	PP	12 05 13.0	-4.9
CLL				*e*		12 12 07.0	
CLL				*e*S	S	12 12 26.0	+5.3
CLL				*e**SS		12 13 12.0	
CLL				*e*PPS	PPS	12 14 06.0	-0.2
CLL	**Collm**	87.57	37	⇑*i*P	P	12 01 49.4	-0.2
CLL				*i* *PP	pP	12 02 16.0	-0.2
CLL				*e*		12 12 07.0	
CLL				*e*S	S	12 12 26.0	+5.3

CLL				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
CLL				MLR	MLR		
	comp=Z,700nm,19.5s						
CLL	**Collm**	**87.57**	**37**	⇑*i*P	**P**	**12 01 49.4**	**-0.2**
	comp=Z,18nm,0.9s,mb5.1						
CLL				*i* pP	pP	12 02 16.0	-0.2
CLL				*e*SKS	SKS	12 12 07.0	+1.2
CLL				*e*S	S	12 12 26.0	+5.3
CLL				LR	LR		
	comp=Z,700nm,19.5s						
GENL	**Genova Univers**	**87.82**	**44**	P	**P**	**12 01 50.5**	**-0.5**
BRMO	**Bormio**	**87.94**	**42**	⇓*i*P	**P**	**12 01 52.7**	**+1.1**
BOB	**Bobbio (Coli)**	**88.00**	**44**	*e*P	**P**	**12 01 53.0**	**+1.2**
MOTA	**Moosalm**	**88.06**	**41**	⇑*i*P	**P**	**12 01 53.0**	**+1.0**
	comp=Z,16nm,0.9s,mb5.0						
SQTA	**Sankt Quirin**	**88.17**	**41**	⇑*i*P	**P**	**12 01 53.7**	**+1.1**
	comp=Z,16nm,1.1s,mb5.0						
TIC	**Toumodi**	**88.28**	**84**	*e*P	**P**	**12 01 55.0**	**+1.1**
	comp=Z,548nm,1.3s						
BRG	**Berggiesshubel**	**88.29**	**37**	*i* P	**P**	**12 01 53.9**	**+0.8**
BRG				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
BRG	**Berggiesshubel**	**88.29**	**37**	*i* P	**P**	**12 01 53.9**	**+0.8**
	comp=Z,18nm,1.0s,mb5.1						
BRG				PP	PP	12 05 19.0	-4.7
BRG				S	S	12 12 15.0	-12
BRG				LR	LR		
	comp=Z,680nm,22.0s						
LIC	**Lamto**	**88.40**	**84**	*e*P	**P**	**12 01 55.7**	**+1.2**
	comp=Z,295nm,0.9s,mb6.3						
LIC	**Lamto**	**88.40**	**84**	*e*P	**P**	**12 01 55.6**	**+1.1**
	comp=Z,100nm,0.9s,mb5.8						
WET	**Wettzell**	**88.41**	**39**	*e*P	**P**	**12 01 54.0**	**+0.4**
WET				e*PP	pP	12 02 19.6	-0.6
WET				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
WET	**Wettzell**	**88.41**	**39**	*e*P	**P**	**12 01 54.0**	**+0.4**
	comp=Z,14nm,1.0s,mb5.0						
WET				*e*pP	pP	12 02 19.6	-0.6
CODM		**88.41**	**44**	P	**P**	**12 01 52.3**	**-1.5**
WTTA	**Wattenberg**	**88.42**	**41**	⇓*i*P	**P**	**12 01 54.8**	**+1.0**
	comp=Z,26nm,1.8s,mb5.0						
DBIC	**Dimbokro**	**88.43**	**84**	P	**P**	**12 01 53.8**	**-0.9**
	comp=Z,61nm,0.8s,mb5.7,baz=266,slow=4.6,SNR=47						
DBIC				PKKPbc		12 19 36.1	
	comp=Z,1.4nm,0.5s,baz=180,slow=7.1,SNR=6.4						
DBIC				LR	LR	12 36 00.1	
	comp=Z,346nm,21.5s,baz=264,slow=32						
KAF	**Kangasniemi**	**88.51**	**24**	*e*p	**P**	**12 01 52.3**	**-1.5**
GRAM		**88.52**	**44**	P	**P**	**12 01 53.8**	**-0.5**
PGF	**Pioggiola**	**88.54**	**46**	*e*P	**P**	**12 01 54.1**	**-0.4**
	comp=Z,29nm,0.8s,mb5.0						
BACM		**88.60**	**44**	P	**P**	**12 01 53.1**	**-1.6**
KIC	**Kosan Boka**	**88.63**	**84**	*e*P	**P**	**12 01 56.7**	**+1.2**
	comp=Z,404nm,0.8s						
VINC	**Vinca**	**88.71**	**44**	P	**P**	**12 01 52.8**	**-2.4**
PVCC	**Panska Ves**	**88.80**	**37**	*e*SKS	SKS	12 12 14.6	+1.2
PVCC				*e*S	S	12 12 37.3	+5.1
PVCC				LM		12 41 30.0	
	comp=Z,1.0nm,19.1s						
FINES	**FINESS Array B**	**88.81**	**24**	P	**P**	**12 01 54.4**	**-0.8**
	comp=Z,5.3nm,0.8s,mb4.6,baz=342,slow=6.0,SNR=24						
FINES				PP	PP	12 05 20.5	-7.1
	comp=Z,2.7nm,0.7s,baz=22,slow=7.5,SNR=3.2						
FINES				LR	LR	12 45 11.5	
	comp=Z,404nm,20.4s,baz=306,slow=38						
FINES	**FINESS Array B**	**88.81**	**24**	*e*P	**P**	**12 01 53.9**	**-1.3**
KHC	**Kasperske Hory**	**88.83**	**38**	*e*P	**P**	**12 01 55.1**	**-0.5**
KHC				*e*AP	pP	12 02 22.6	+0.4
KHC				*e*PP	PP	12 05 24.1	-3.9
KHC				*e*SKS	SKS	12 12 13.0	-0.6
KHC				*e*S	S	12 12 38.2	+5.7
KHC				LM		12 40 50.0	
	comp=Z,0.9nm,18.3s						
CTI	**Castel Tesino**	**88.92**	**42**	*e*P	**P**	**12 01 56.7**	**+0.6**
PRU	**Pruhonice**	**89.02**	**37**	P	**P**	**12 01 55.9**	**-0.6**
	comp=Z,17nm,1.2s,mb5.0						
PRU				*e*AP	pP	12 02 21.6	-1.5
PRU				*e*PP	PP	12 05 23.6	-6.0
PRU				*e*SKS	SKS	12 12 16.6	+1.8
PRU				*e*S	S	12 12 35.7	+1.4
PRU				LM		12 43 30.0	
	comp=Z,0.6nm,17.0s						
PRU	**Pruhonice**	**89.02**	**37**	*e*P	**P**	**12 01 55.9**	**-0.6**
PRU				*e*pP	pP	12 02 21.6	-1.5
PRU				*e*PP	PP	12 05 23.6	-6.0
PRU				*e*SKS	SKS	12 12 16.6	+1.8
PRU				*e*S	S	12 12 35.7	+1.4
GEC2	**GERESS Array S**	**89.02**	**39**	*e*P	**P**	**12 01 56.4**	**-0.1**
GEC2				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
GEC2	**GERESS Array S**	**89.02**	**39**	*e*P	**P**	**12 01 56.4**	**-0.1**
	comp=Z,18nm,1.3s,mb4.9						
GERES	**GERESS Array B**	**89.02**	**39**	P	**P**	**12 01 55.9**	**-0.6**
	comp=Z,5.0nm,0.9s,mb4.6,baz=315,slow=3.8,SNR=38						
GERES				PKKPbc		12 19 32.6	
	comp=Z,1.1nm,0.7s,baz=153,slow=2.2,SNR=10						
MAIM		**89.02**	**44**	P	**P**	**12 01 54.4**	**-2.2**
GKP	**Gorka Klasztor**	**89.03**	**34**	*e*P	**P**	**12 01 57.3**	**+0.9**
GKP				LR	LR		
	comp=Z,2µm,44.7s						
KBA	**Koelnbreinsper**	**89.56**	**40**	⇑*i*P	**P**	**12 01 59.5**	**+0.4**
	comp=Z,32nm,1.6s,mb5.2						
KSP	**Ksiaz**	**89.64**	**36**	*e*P	**P**	**12 01 59.8**	**+0.4**
KSP				e*PP	pP	12 02 25.8	-0.2
KSP				*e*		12 05 28.5	
KSP				*e*		12 12 17.0	
KSP				MLR	MLR		
	comp=Z,2µm,20.7s						
VMG	**Vicchio**	**89.70**	**44**	*e*P	**P**	**12 02 00.1**	**+0.2**
MOA	**Molln**	**89.79**	**39**	⇑*i*P	**P**	**12 01 58.9**	**-1.3**
	comp=Z,30nm,1.4s,mb5.2						
GMNA	**Gemona**	**89.83**	**41**	⇓*i*P	**P**	**12 02 00.7**	**+0.2**
PTCC	**Patocco-Chiusa**	**89.85**	**41**	⇑*i*P	**P**	**12 01 59.7**	**-0.8**
PGD	**Poggio Sodo**	**89.85**	**44**	⇑*i*P	**P**	**12 02 01.3**	**+0.7**
DPC	**Dobruska-Polom**	**89.88**	**37**	*e*P	**P**	**12 02 00.7**	**+0.2**
DPC				*e*AP	pP	12 02 27.2	0.0
DPC				*e*PP	PP	12 05 31.8	-4.6
DPC				*e*SKS	SKS	12 12 21.7	+1.7
DPC				*e*S	S	12 12 44.5	+2.4
DPC				LM		12 43 30.0	
	comp=Z,0.8nm,19.3s						
SFI	**Santa Sofia**	**89.92**	**44**	⇑*i*P	**P**	**12 02 01.8**	**+0.9**
ROBS	**Robic**	**90.02**	**41**	⇑*e*P	pP	12 02 27.2	-0.8
JAVS	**Javornik**	**90.52**	**41**	⇑*i*P	pP	12 02 30.3	-0.1
VRAC	**Vranov**	**90.52**	**37**	P	**P**	**12 02 03.7**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.8,baz=303,slow=7.6,SNR=12						
VRAC				pP	pP	12 02 29.8	-0.4
	comp=Z,3.0nm,0.8s,baz=284,slow=6.7,SNR=1.8						
OBKA	**Obir**	**90.55**	**41**	⇑*i*P	**P**	**12 02 03.4**	**-0.4**
	comp=Z,28nm,1.8s,mb5.1						
FSSB	**Fossombrone**	**90.63**	**44**	⇑*i*P	**P**	**12 02 03.7**	**-0.5**
LJU	**Ljubljana**	**90.74**	**41**	⇑*i*P	pP	12 02 30.8	-0.6
ASS	**Assisi**	**90.81**	**44**	⇑*i*P	**P**	**12 02 03.6**	**-1.4**
CEY	**Cerknica**	**90.81**	**41**	⇑*i*P	pP	12 02 31.8	0.0
VSU	**Vasula**	**90.82**	**26**	*e*P	**P**	**12 02 03.1**	**-1.6**
ARSA	**Arzberg**	**90.82**	**40**	⇑*i*P	**P**	**12 02 04.6**	**-0.4**
	comp=Z,30nm,2.3s,mb5.0						
VISS	**Visnje**	**91.05**	**41**	⇑*e*P	pP	12 02 31.1	-1.7
MNS	**Montasola**	**91.11**	**45**	⇑*i*P	**P**	**12 02 05.4**	**-1.1**
OKC	**Ostrava-Krasne**	**91.16**	**36**	*e*P	**P**	**12 02 07.1**	**+0.5**
OKC				*e*AP	pP	12 02 32.5	-0.8
OKC				*e*SKS	SKS	12 12 30.2	+2.6
OKC				*e*S	S	12 12 59.0	+5.5
OKC				LM		12 43 50.0	
	comp=Z,0.5nm,19.3s						
BOJS	**Bojanci**	**91.44**	**41**	⇑*e*P	pP	12 02 34.5	-0.1
NVLJ	**Novalja**	**91.61**	**42**	*i* P	pP	12 02 34.8	-0.7
SUW	**Suwalki**	**91.70**	**31**	*e*P	**P**	**12 02 09.0**	**+0.1**
PTQR	**Pietraquaria**	**91.75**	**45**	⇑*i*P	**P**	**12 02 10.0**	**+0.6**
OJC	**Ojcow**	**91.90**	**36**	*e*P	**P**	**12 02 10.5**	**+0.6**
OJC				*e*	pP	12 02 36.1	-0.6
OJC				*e*		12 05 46.4	
OJC				*e*		12 12 32.7	
OJC				MLR	MLR		
	comp=Z,900nm,20.4s						
VYHS	**Vyhne**	**92.21**	**37**	*e*P	**P**	**12 02 11.3**	**-0.1**
VYHS				*e*	pP	12 02 38.4	+0.2
VYHS				*e*S	S	12 12 35.8	-27
YAK	**Yakutsk**	**93.31**	**341**	*e*P	**P**	**12 02 16.4**	**+0.3**
YAK				e*PP	pP	12 02 43.2	+0.3
YAK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.6						
YAK	**Yakutsk**	**93.31**	**341**	*e*P	**P**	**12 02 16.4**	**+0.3**
	comp=Z,35nm,1.0s,mb5.6						
YAK				*e*pP	pP	12 02 43.2	+0.3
MRLC	**Muro Lucano**	**93.71**	**45**	*e*P	**P**	**12 02 19.0**	**+0.6**
KWP	**Kalwaria**	**93.81**	**35**	*e*P	**P**	**12 02 19.4**	**+0.7**
KWP				e*PP	pP	12 02 46.3	+0.8
TDS	**Terranova Siba**	**94.78**	**46**	⇑*i*P	**P**	**12 02 24.0**	**+0.7**
AKASG	**Malin Array Be**	**96.64**	**32**	P	**P**	**12 02 30.6**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.5,baz=308,slow=3.5,SNR=6.3						
AKASG				pP	pP	12 02 57.6	-0.7
	comp=Z,0.2nm,0.2s,baz=293,slow=3.6,SNR=1.6						
AKASG				PP	PP	12 06 21.2	-8.2
	comp=Z,4.5nm,0.7s,baz=305,slow=7.0,SNR=9.0						
AKASG				PKKP	PKKP	12 19 12.2	+10
	comp=Z,1.7nm,0.8s,baz=93,slow=1.9,SNR=6.2						
AKASG				LR	LR	12 53 09.8	
	comp=Z,325nm,18.4s,baz=300,slow=40						
SKO	**Skopje**	**97.06**	**42**	*e*P	**P**	**12 02 32.0**	**-1.7**
OBN	**Obninsk**	**97.11**	**26**	*de*P	**P**	**12 02 33.7**	**+0.1**
OBN				*i* *SP	pP	12 02 59.3	-1.1
OBN				*e*		12 06 29.0	
OBN				*i*		12 13 00.0	
OBN				*i*		12 13 47.4	
OBN				*e*PS	PS	12 15 16.8	-8.2
OBN				*e*		12 16 06.1	
OBN				*e*SS	SS	12 20 38.9	+11
OBN				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.4						
OBN				MLR	MLR		
	comp=Z,400nm,16.0s						
OBN	**Obninsk**	**97.11**	**26**	*i* Pr		12 02 33.3	
OBN				LR	LR		
	comp=Z,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**97.53**	**324**	*e*P	**P**	**12 02 35.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**97.53**	**324**	*e*P	**P**	**12 02 35.4**	**-0.3**
MLR	**Muntele Rosu**	**97.92**	**37**	P	**P**	**12 02 38.0**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.9,baz=186,slow=3.7,SNR=9.0						
MLR				pP	pP	12 03 04.7	+0.4
	comp=Z,4.8nm,0.9s,baz=254,slow=10.0,SNR=2.6						
URZ	**Urewera**	**98.70**	**233**	LR	LR	12 36 19.6	
	comp=Z,161nm,19.6s,baz=82,slow=29						
VNA1	**Neumayer--Stat**	**105.21**	**160**	⇑*i*	PP	12 07 30.3	-4.0
VNA1	**Neumayer--Stat**	**105.21**	**160**	⇑*i*		12 08 01.5	
VNA2	**Neumayer--Watz**	**105.53**	**160**	⇑*i*	PP	12 07 31.9	-4.7
VNA2	**Neumayer--Watz**	**105.53**	**160**	⇑*i*		12 07 51.0	
VNA2	**Neumayer--Watz**	**105.53**	**160**	⇑*i*		12 08 02.3	
BRTR	**Keskin Array B**	**105.92**	**39**	PKiKP		12 07 24.7	
	comp=Z,1.4nm,0.7s,slow=1.4,SNR=5.2						
BRTR				PP	PP	12 07 33.8	-6.3
	comp=Z,3.1nm,0.8s,baz=318,slow=5.3,SNR=11						
BRTR				PKKPbc		12 18 46.2	
	comp=Z,3.8nm,1.1s,baz=148,slow=3.4,SNR=9.3						
SNAA	**Sanae**	**107.07**	**161**	⇑*i*	PP	12 07 44.6	-3.7
SNAA	**Sanae**	**107.07**	**161**	⇑*i*		12 08 05.3	
SNAA	**Sanae**	**107.07**	**161**	⇑*i*		12 08 15.3	
QSPA	**South Pole Qui**	**107.25**	**180**	*e*P	Pdif	12 03 19.2	+1.0
	comp=Z,2.2nm,0.8s						
QSPA				*e*PKP		12 07 26.3	
CN2	**Changchun**	**108.67**	**330**	PDIF	Pdif	12 03 26.4	+1.2
CN2				PP	PP	12 08 01.7	+0.8
BVAR	**Borovoye Array**	**108.86**	**9**	PKiKP		12 07 29.9	
	comp=Z,1.3nm,0.7s,baz=333,slow=3.2,SNR=3.9						
BVAR				PP	PP	12 07 53.9	-8.2
	comp=Z,3.6nm,0.8s,baz=342,slow=4.6,SNR=6.2						
BVAR				PKKPab		12 18 49.3	
	comp=Z,1.4nm,0.8s,baz=162,slow=9.1,SNR=5.7						
SONM	**Songino Array**	**112.30**	**344**	PKiKP		12 07 36.5	
	comp=Z,1.5nm,0.8s,baz=350,slow=0.7,SNR=8.2						
SONM				PKKPbc		12 18 25.4	
	comp=Z,3.6nm,0.8s,baz=199,slow=2.1,SNR=18						
SONM				PKKPab		12 18 34.5	
	comp=Z,1.6nm,0.8s,baz=179,slow=6.1,SNR=5.4						
MKAR	**Makanchi Array**	**116.15**	**2**	PKP	PKPdf	12 07 42.9	-0.4
	comp=Z,2.9nm,0.8s,baz=20,slow=3.0,SNR=13						
MKAR				PP	PP	12 08 42.6	-12
	comp=Z,1.7nm,0.7s,baz=34,slow=5.9,SNR=3.6						
MKAR				PKKPbc		12 18 08.9	
	comp=Z,3.0nm,0.8s,baz=198,slow=3.8,SNR=9.7						
WMQ	**Urumqi**	**119.10**	**358**	*i* PKP	PKPdf	12 07 49.7	+0.7
WMQ				XPKP		12 08 28.2	
WMQ				PP	PP	12 09 15.7	+0.6
WMQ				SKS	SKS	12 14 50.7	+16
SSE	**Sheshan**	**120.47**	**324**	⇑PKP	PKPdf	12 07 52.5	+0.5
SSE				PP	PP	12 09 23.9	-0.2
SSE				SS	SS	12 25 46.2	+4.6
GTA	**Gaotai**	**121.83**	**346**	PKP	PKPdf	12 07 55.1	+0.7
GTA				XPKP		12 08 33.6	
GTA				PP	PP	12 09 31.7	-1.7
GTA				PKS	PKS	12 11 30.7	+0.5
GTA				PPP	PPP	12 12 08.7	-1.5
GTA				SKS	SKS	12 14 55.2	+11
GTA				SKKS		12 16 12.8	
GTA				PP	PP		
	comp=Z,97nm,6.5s						
GTA				LR	LR		
	comp=N,140nm,17.1s						
GTA				LR	LR		
	comp=E,115nm,16.3s						
GTA				LR	LR		
	comp=Z,178nm,17.1s						
CTA	**Charters Tower**	**121.95**	**257**	*i* PKP	PKPdf	12 07 54.9	-0.2
	comp=Z,6.2nm,0.7s						
CTA	**Charters Tower**	**121.95**	**257**	PKKPab		12 17 58.0	
	comp=Z,1.6nm,0.8s,baz=297,slow=2.3,SNR=3.5						
TOO	**Toolangi**	**123.40**	**236**	*e*PKP	PKPdf	12 07 57.5	0.0
	comp=Z,11nm,0.8s						
LZH	**Lanzhou**	**123.89**	**341**	*e*PKP	PKPdf	12 07 59.3	+0.8
LZH				XPKP		12 08 34.7	
LZH				PP	PP		
	comp=Z,170nm,7.8s						
LZH				LR	LR		
	comp=N,2µm,19.0s						
LZH				LR	LR		
	comp=Z,2µm,20.0s						
XAN	**Xi’an**	**123.97**	**336**	PKP	PKPdf	12 07 58.5	-0.2
STKA	**Stephens Creek**	**126.85**	**243**	*e*PKP	PKPdf	12 08 03.8	-0.5
	comp=Z,30nm,0.7s						
STKA	**Stephens Creek**	**126.85**	**243**	PKP	PKPdf	12 08 04.5	+0.2
	comp=Z,38nm,0.7s,baz=66,slow=2.2,SNR=70						
ENH	**Enshi**	**127.02**	**333**	*e*PKPdf	PKPdf	12 08 04.5	-0.2
MAW	**Mawson**	**127.81**	**170**	*e*PKP	PKPdf	12 07 58.7	-6.5
	comp=Z,1.6nm,0.8s						
MAW	**Mawson**	**127.81**	**170**	*e*PKP	PKPdf	12 08 04.8	-0.4
MAW	**Mawson**	**127.81**	**170**	PKP	PKPdf	12 08 05.4	+0.1
	comp=Z,22nm,0.8s,baz=232,slow=2.9,SNR=52						
MAW	**Mawson**	**127.81**	**170**	*e*PKP	PKPdf	12 07 58.7	-6.5
MAW				*e*PKP	PKPdf	12 08 04.8	-0.4
CD2	**Chengdu**	**128.68**	**339**	PKP	PKPdf	12 08 08.4	+0.5
KMBO	**Kilima Mbogo**	**130.63**	**76**	PKP	PKPdf	12 08 14.3	+2.3
	comp=Z,1.1nm,0.6s,baz=58,slow=20,SNR=3.7						
KMBO				pPKP		12 08 42.4	
	comp=Z,1.4nm,0.9s,baz=218,slow=22,SNR=1.9						
GYA	**Guiyang**	**131.54**	**333**	⇑*i*PKP	PKPdf	12 08 13.5	0.0
GYA				XPKP		12 08 50.6	
GYA				PP	PP		
	comp=Z,150nm,6.6s						
GYA				LR	LR		
	comp=N,340nm,22.8s						
GYA				LR	LR		
	comp=E,420nm,23.7s						
GYA				LR	LR		
	comp=Z,420nm,21.0s						
DDI	**Dehra Dun**	**132.20**	**8**	*e*	PKPdf	12 08 15.4	+0.8
LSA	**Lhasa**	**132.84**	**352**	PKP	PKPdf	12 08 18.0	+2.1
LSA	**Lhasa**	**132.84**	**352**	*e*PKPdf	PKPdf	12 08 17.6	+1.7
WB2	**Warramunga Arr**	**133.04**	**259**	*e*PKP		12 08 00.2	
WB2	**Warramunga Arr**	**133.04**	**259**	*e*PKP	PKPdf	12 08 16.1	-0.4
WB2				*e*PKS	PKS	12 11 39.0	-13
WB2				*e*		12 11 43.5	
WRAB	**Tennant Creek**	**133.04**	**259**	*e*PKPdf	PKPdf	12 08 16.6	+0.1
WRA	**Warramunga Arr**	**133.06**	**259**	PKhKP		12 07 57.3	
	comp=Z,1.6nm,0.8s,baz=88,slow=3.4,SNR=5.2						
WRA				PKP	PKPdf	12 08 16.7	+0.2
	comp=Z,15nm,0.7s,baz=81,slow=2.5,SNR=34						
WRA	**Warramunga Arr**	**133.06**	**259**	PKP	PKPdf	12 08 16.7	+0.2
ASAR	**Alice Springs**	**133.69**	**254**	PKhKP		12 07 59.2	
	comp=Z,0.9nm,0.6s,baz=101,slow=3.3,SNR=15						
ASAR				PKP	PKPdf	12 08 17.4	-0.2
	comp=Z,8.9nm,0.7s,baz=99,slow=2.1,SNR=23						
ASAR	**Alice Springs**	**133.69**	**254**	PKP	PKPdf	12 08 17.4	-0.2
ASPA	**Alice Springs**	**133.69**	**254**	*e*PKP		12 07 59.7	
ASPA	**Alice Springs**	**133.69**	**254**	*e*PKP	PKPdf	12 08 17.4	-0.1
ASPA				*e*PKS	PKS	12 11 45.5	-7.3
KAKA	**Kakadu**	**133.82**	**269**	*e*PKP	PKPdf	12 08 18.0	0.0
KMI	**Kunming**	**134.31**	**337**	⇑*e*PKP	PKPdf	12 08 19.7	+1.0
GKN	**Gorkha**	**134.94**	**0**	*e*P	PKPdf	12 08 19.8	0.0
	comp=Z,28nm,0.9s						
KKN	**Kakani**	**135.15**	**359**	*e*P	PKPdf	12 08 20.4	+0.2
	comp=Z,19nm,0.9s						
KOLN	**Koldanda**	**135.16**	**1**	*e*P	PKPdf	12 08 20.6	+0.4
	comp=Z,29nm,1.0s						
DMN	**Daman**	**135.34**	**360**	*e*P	PKPdf	12 08 20.8	+0.3
	comp=Z,17nm,0.8s						
PKI	**Pulchoki**	**135.37**	**359**	*e*P	PKPdf	12 08 20.3	-0.3
	comp=Z,21nm,0.9s						
NANT	**Nan**	**140.82**	**336**	P	PKPdf	12 08 24.0	-6.8
FITZ	**Fitzroy Crossi**	**141.08**	**262**	*e*PKP	PKPdf	12 08 24.3	-7.0
	comp=Z,17nm,0.6s						
FITZ	**Fitzroy Crossi**	**141.08**	**262**	PKhKP		12 08 24.6	
	comp=Z,20nm,0.6s,baz=164,slow=2.0,SNR=60						
FITZ				PKP	PKPdf	12 08 31.8	+0.5
	comp=Z,26nm,0.9s,baz=156,slow=1.1,SNR=16						
FITZ	**Fitzroy Crossi**	**141.08**	**262**	*e*PKP	PKPdf	12 08 24.3	-7.0
FITZ				PKP	PKPdf	12 08 31.8	+0.5
CMAR	**Chiang Mai Arr**	**141.80**	**338**	PKhKP		12 08 27.5	
	comp=Z,4.4nm,0.8s,baz=347,slow=4.1,SNR=21						
CMAR				PKP	PKPdf	12 08 33.4	+0.9
	comp=Z,9.1nm,0.8s,baz=4.2,slow=2.4,SNR=22						
CMAR				pPKP		12 09 01.4	
	comp=Z,3.7nm,0.8s,baz=327,slow=1.9,SNR=2.7						
KKTK	**Khon Kaen**	**142.10**	**331**	P	PKPdf	12 08 27.0	-6.0
NST	**Nakhon Sawan**	**143.87**	**334**	P	PKPbc	12 08 35.0	-0.2
	comp=Z,42nm,0.8s						
HYB	**Hyderabad**	**144.95**	**10**	⇑*i*PKP	PKPdf	12 08 37.0	-0.9
	comp=Z,160nm,1.0s						
HYB				*e*pPKP		12 09 05.0	
HYB	**Hyderabad**	**144.95**	**10**	⇑*e*P	PKPdf	12 08 37.0	-0.9
HYB				*e*		12 09 05.0	
VIS	**Vishakhapatnam**	**145.15**	**2**	*e*P	PKPdf	12 08 38.2	-0.1
NNT	**Nongplab**	**146.79**	**333**	P	PKPdf	12 08 44.3	+3.1
NWAO	**Narrogin (SRO)**	**146.89**	**236**	PKPbc	PKPbc	12 08 42.5	0.0
	comp=Z,92nm,0.9s,baz=121,slow=4.4,SNR=29						
NWAO	**Narrogin (SRO)**	**146.89**	**236**	PKPdf	PKPdf	12 08 42.3	+1.4
NWAO	**Narrogin (SRO)**	**146.89**	**236**	*e*PKP	PKPdf	12 08 41.9	+1.1
KLBR	**Kellerberrin**	**146.90**	**238**	*e*PKP	PKPdf	12 08 40.9	0.0
	comp=Z,62nm,0.8s						
KLBR	**Kellerberrin**	**146.90**	**238**	*e*PKP		12 09 10.0	
CUD	**Cuddapah**	**147.86**	**11**	*e*P	PKPdf	12 08 45.5	+2.7
CUD				*e*		12 12 29.6	
MUN	**Mundaring**	**148.03**	**237**	*e*PKP	PKPdf	12 08 43.2	+0.5
	comp=Z,69nm,0.7s						
SNG	**Songkhla**	**151.03**	**326**	P	PKPdf	12 08 46.0	-1.9
	comp=Z,280nm,0.9s						

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*NEIC **07** 12:15:46.3, 38.66S×178.64E, h23km, ML3.8(WEL), After WEL.*

WEL 07 12:15:45.4±0.2**, 38.69S×178.72E, h23km**±1km**, ML3.9**/9**, 6C-1D, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.71**	**329**	⇑P*	Pb	12 15 58.9	-0.2
PUZ				S*	Sb	12 16 08.7	+0.2
PUZ				S*	Sb	12 16 09.1	+0.7
PUZ	**Puketiti**	**0.71**	**329**	P	Pb	12 15 58.9	-0.2
PUZ				S	Sb	12 16 08.7	+0.2
KNZ	**Kokohu**	**0.88**	**248**	⇓P*	Pb	12 16 01.8	-0.2
KNZ				S*	Sb	12 16 13.7	+0.4
KNZ				S*	Sb	12 16 13.9	+0.6
KNZ	**Kokohu**	**0.88**	**248**	P	Pb	12 16 01.8	-0.1
KNZ				S	Sb	12 16 13.7	+0.4
MWZ	**Matawai**	**1.00**	**290**	⇑PN	Pn	12 16 03.3	-0.9
MWZ				SN	Sn	12 16 15.4	-2.1
MWZ				SN	Sn	12 16 15.7	-1.9
MWZ	**Matawai**	**1.00**	**290**	P	Pb	12 16 03.3	-0.6
MWZ				S	Sb	12 16 15.4	-1.3
MXZ	**Matakaoa Point**	**1.17**	**344**	⇑PN	Pn	12 16 05.8	-0.7
MXZ				SN	Sn	12 16 21.1	-0.8
MXZ	**Matakaoa Point**	**1.17**	**344**	P	Pn	12 16 05.8	-0.7
URZ	**Urewera**	**1.33**	**288**	⇑PN	Pn	12 16 07.9	-1.0
URZ				SN	Sn	12 16 24.8	-1.3
URZ	**Urewera**	**1.33**	**288**	P	Pn	12 16 07.9	-1.0
EDRZ	**Edgecumbe**	**1.66**	**290**	PN	Pn	12 16 12.8	-0.8
EDRZ	**Edgecumbe**	**1.66**	**290**	P	Pn	12 16 12.8	-0.8
WIZ	**White Island**	**1.67**	**313**	PN	Pn	12 16 12.2	-1.5
WIZ	**White Island**	**1.67**	**313**	P	Pn	12 16 12.2	-1.6
MARZ	**Manawahe**	**1.75**	**293**	PN	Pn	12 16 13.8	-1.1
MARZ	**Manawahe**	**1.75**	**293**	P	Pn	12 16 13.8	-1.1
TAZ	**Tarawera**	**1.79**	**284**	PN	Pn	12 16 15.0	-0.5
TAZ	**Tarawera**	**1.79**	**284**	P	Pn	12 16 15.0	-0.5
BKZ	**Black Stump Fm**	**1.80**	**254**	⇑PN	Pn	12 16 14.6	-1.0
BKZ				SN	Sn	12 16 35.9	-2.0
BKZ	**Black Stump Fm**	**1.80**	**254**	P	Pn	12 16 14.6	-1.0
PATZ	**Paeroa**	**1.96**	**278**	PN	Pn	12 16 16.9	-0.9
PATZ	**Paeroa**	**1.96**	**278**	P	Pn	12 16 16.9	-0.9
LIRZ	**Lichensteins R**	**1.96**	**290**	PN	Pn	12 16 16.5	-1.3
LIRZ	**Lichensteins R**	**1.96**	**290**	P	Pn	12 16 16.5	-1.3
PWZ	**Pawanui**	**1.97**	**226**	⇑PN	Pn	12 16 15.4	-2.6
PWZ				SN	Sn	12 16 39.5	-2.6
PWZ	**Pawanui**	**1.97**	**226**	P	Pn	12 16 15.4	-2.5
UTU	**Utuhina**	**2.05**	**284**	PN	Pn	12 16 18.4	-0.8
UTU	**Utuhina**	**2.05**	**284**	P	Pn	12 16 18.4	-0.8
TGRZ	**Tauranga**	**2.16**	**296**	PN	Pn	12 16 18.7	-2.0
TGRZ	**Tauranga**	**2.16**	**296**	P	Pn	12 16 18.7	-2.0
RATZ	**Rangitukua**	**2.31**	**265**	PN	Pn	12 16 21.7	-1.2
RATZ				SN	Sn	12 16 50.0	-0.9
RATZ	**Rangitukua**	**2.31**	**265**	P	Pn	12 16 21.7	-1.2
RATZ				S	Sn	12 16 50.0	-0.9
MOVZ	**Moawhango**	**2.42**	**252**	PN	Pn	12 16 23.4	-1.1
MOVZ				SN	Sn	12 16 50.2	-3.4
TUVZ	**Tukino**	**2.46**	**255**	PN	Pn	12 16 23.9	-1.1
TUVZ				SN	Sn	12 16 51.4	-3.3
TUVZ	**Tukino**	**2.46**	**255**	P	Pn	12 16 23.9	-1.1
TUVZ				S	Sn	12 16 51.5	-3.1
WTVZ	**West Tongariro**	**2.48**	**259**	PN	Pn	12 16 24.2	-1.0
NGZ	**Ngauruhoe**	**2.48**	**258**	PN	Pn	12 16 24.0	-1.4
NGZ	**Ngauruhoe**	**2.48**	**258**	P	Pn	12 16 24.0	-1.3
NGZ				S	Sn	12 16 43.7	-11
WNVZ	**Wahianoa**	**2.52**	**254**	PN	Pn	12 16 24.5	-1.3
WNVZ				SN	Sn	12 16 52.7	-3.4
CNZ	**Chateau**	**2.52**	**257**	PN	Pn	12 16 24.6	-1.4
WPVZ	**Whakapapa**	**2.53**	**257**	PN	Pn	12 16 24.4	-1.6
WPVZ				SN	Sn	12 16 52.7	-3.7
FWVZ	**Far West T-bar**	**2.53**	**256**	PN	Pn	12 16 24.8	-1.3
FWVZ	**Far West T-bar**	**2.53**	**256**	*e*P	Pn	12 16 24.8	-1.3
TSZ	**Takapari Road**	**2.54**	**236**	PN	Pn	12 16 23.4	-2.7
TSZ				SN	Sn	12 16 51.6	-5.0
TSZ	**Takapari Road**	**2.54**	**236**	P	Pn	12 16 23.4	-2.7
TWVZ	**Taurewa**	**2.59**	**260**	*e*PN	Pn	12 16 25.7	-1.1
BFZ	**Birch Farm**	**2.76**	**223**	PN	Pn	12 16 25.3	-4.0
BFZ				SN	Sn	12 16 57.0	-5.2
HIZ	**Hauiti**	**3.03**	**272**	PN	Pn	12 16 31.9	-1.3
HIZ				SN	Sn	12 17 04.6	-4.5
KUZ	**Kuaotunu**	**3.07**	**308**	PN	Pn	12 16 31.0	-2.6
KUZ				SN	Sn	12 17 04.9	-5.1
KUZ	**Kuaotunu**	**3.07**	**308**	P	Pn	12 16 31.0	-2.7
KUZ				S	Sn	12 17 04.9	-5.1
WAZ	**Wanganui**	**3.09**	**249**	PN	Pn	12 16 33.0	-1.0
WAZ				SN	Sn	12 17 07.4	-3.2
WAZ	**Wanganui**	**3.09**	**249**	*e*P	Pn	12 16 33.1	-0.9
VRZ	**Vera Road**	**3.12**	**261**	PN	Pn	12 16 32.8	-1.6
VRZ				SN	Sn	12 17 08.6	-2.8
VRZ	**Vera Road**	**3.12**	**261**	*e*P	Pn	12 16 32.8	-1.6
MRZ	**Mangatainoka R**	**3.12**	**230**	PN	Pn	12 16 30.8	-3.6
MRZ				SN	Sn	12 17 06.1	-5.4
MRZ	**Mangatainoka R**	**3.12**	**230**	P	Pn	12 16 30.8	-3.7
MKAZ	**Moumakai**	**3.22**	**298**	PN	Pn	12 16 33.6	-2.3
MKAZ	**Moumakai**	**3.22**	**298**	P	Pn	12 16 33.6	-2.2
OTAZ	**Otara**	**3.47**	**299**	PN	Pn	12 16 37.5	-1.9
OTAZ	**Otara**	**3.47**	**299**	P	Pn	12 16 37.5	-1.9
MTW	**Mount Morrison**	**3.49**	**224**	PN	Pn	12 16 34.7	-5.1
MTW				SN	Sn	12 17 13.6	-7.2
MTW	**Mount Morrison**	**3.49**	**224**	P	Pn	12 16 34.7	-5.0
KIW	**Kapiti Island**	**3.65**	**232**	PN	Pn	12 16 38.0	-4.0
KIW	**Kapiti Island**	**3.65**	**232**	P	Pn	12 16 38.2	-3.7
KAAZ	**Kauri Point**	**3.69**	**299**	P	Pn	12 16 40.8	-1.7
PAWZ	**Paruwai Farm**	**3.69**	**222**	PN	Pn	12 16 37.1	-5.4
PAWZ				*e*SN	Sn	12 17 18.1	-7.8
CAW	**Cannon Point**	**3.71**	**228**	PN	Pn	12 16 38.1	-4.6
CAW				SN	Sn	12 17 19.8	-6.4
CAW	**Cannon Point**	**3.71**	**228**	P	Pn	12 16 38.1	-4.6
MSWZ	**Moikau Station**	**3.81**	**223**	PN	Pn	12 16 38.4	-5.7

MSWZ				SN	Sn	12 17 20.6	-8.2
MRW	**Makara Radio**	**4.00**	**229**	*e*PN	Pn	12 16 41.8	-5.1
SNZO	**South Karori**	**4.04**	**228**	PN	Pn	12 16 42.3	-5.3
SNZO				SN	Sn	12 17 27.4	-7.4
SNZO	**South Karori**	**4.04**	**228**	P	Pn	12 16 42.3	-5.2
WCZ	**Waipu Caves**	**4.44**	**307**	PN	Pn	12 16 50.4	-2.7
WCZ	**Waipu Caves**	**4.44**	**307**	P	Pn	12 16 51.1	-2.0
TUWZ	**Tuamarina**	**4.58**	**232**	PN	Pn	12 16 49.2	-5.9
TUWZ				SN	Sn	12 17 39.4	-8.8
BSWZ	**Blackbirch Sta**	**4.78**	**229**	PN	Pn	12 16 52.2	-5.8
NNZ	**Nelson**	**4.82**	**237**	PN	Pn	12 16 53.5	-5.0
NNZ				SN	Sn	12 17 47.2	-7.1
NNZ	**Nelson**	**4.82**	**237**	*e*P	Pn	12 16 53.5	-5.0
QRZ	**Quartz Range**	**5.23**	**244**	PN	Pn	12 16 58.6	-5.6
QRZ				SN	Sn	12 17 55.2	-9.3
QRZ	**Quartz Range**	**5.23**	**244**	*e*P	Pn	12 16 58.6	-5.7
THZ	**Tophouse**	**5.41**	**234**	PN	Pn	12 17 00.2	-6.7
THZ				SN	Sn	12 18 00.6	-8.5
THZ	**Tophouse**	**5.41**	**234**	*e*P	Pn	12 17 00.6	-6.2
KHZ	**Kahutara**	**5.42**	**225**	PN	Pn	12 17 00.1	-7.0
KHZ				SN	Sn	12 17 59.0	-11
KHZ	**Kahutara**	**5.42**	**225**	*e*P	Pn	12 17 00.1	-7.0
DSZ	**Denniston Nort**	**6.11**	**238**	PN	Pn	12 17 10.4	-6.4
DSZ	**Denniston Nort**	**6.11**	**238**	P	Pn	12 17 11.0	-5.8
LTZ	**Lake Taylor**	**6.38**	**228**	PN	Pn	12 17 13.1	-7.5
LTZ				SN	Sn	12 18 20.7	-13
LTZ	**Lake Taylor**	**6.38**	**228**	*e*P	Pn	12 17 13.8	-6.8
CRLZ	**Canterbury Las**	**6.71**	**221**	SN	Sn	12 18 27.1	-15
MQZ	**McQueen's Vall**	**6.79**	**220**	PN	Pn	12 17 18.9	-7.4
MQZ				SN	Sn	12 18 28.9	-15
MQZ	**McQueen's Vall**	**6.79**	**220**	*e*P	Pn	12 17 18.9	-7.4
WVZ	**Waitaha Valley**	**7.47**	**232**	SN	Sn	12 18 47.0	-14
ODZ	**Otahua Downs**	**8.75**	**221**	PN	P	12 17 45.7	-8.0
ODZ	**Otahua Downs**	**8.75**	**221**	*e*P	P	12 17 45.7	-8.0
TUZ	**Tuapeka**	**9.89**	**220**	PN	P	12 18 02.1	-7.3

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*IDC **07** 12:22:29.8±2.1, 13.81S×167.28E, mb4.0/5, mb1 4.3/5, mb1mx4.0/15, Error ellipse: s-maj=94.9km s-min=27.7km az=140.0*

ISC 07 12:22:34.2±2.1**, 13.8S**±0.4×**167.1E**±0.4**, h33^{km}, n24,** σ_0^s**24**/5**, mb4.0**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.45**	**228**	P	**P**	**12 28 37.2**	**0.0**
	2.3nm,0.5s,mb4.2,baz=43,slow=6.2,SNR=9.2						
WRA	**Warramunga Arr**	**31.87**	**254**	P	**P**	**12 28 59.1**	**+0.3**
	0.5nm,0.5s,mb3.6,baz=86,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**32.83**	**248**	P	**P**	**12 29 07.0**	**-0.1**
	1.3nm,0.4s,mb4.2,baz=79,slow=9.3,SNR=42						
FITZ	**Fitzroy Crossi**	**40.00**	**258**	P	**P**	**12 30 07.6**	**-0.2**
	2.0nm,0.8s,mb3.9,baz=90,slow=6.1,SNR=7.0						
ILAR	**Eielson Array**	**85.72**	**18**	P	**P**	**12 35 10.8**	**0.0**
	0.5nm,0.6s,mb3.9,baz=229,slow=5.5,SNR=5.0						
ARCES	**ARCESS Array B**	**119.32**	**345**	PKP	PKPdf	12 41 19.4	-0.5
	0.7nm,0.4s,baz=60,slow=2.5,SNR=8.8						
LDF	**La Druitiere**	**143.74**	**346**	*e*PKP1	PKPbc	12 42 06.0	+1.3
LOR	**Lormes**	**143.82**	**341**	*e*PKP1	PKPbc	12 42 05.6	+0.6
	2.4nm,0.6s						
GRR	**Gorron**	**144.10**	**346**	*e*PKP1	PKPbc	12 42 06.2	+0.4
	9.3nm,0.6s						
SSF	**Saint Saulge**	**144.11**	**341**	*e*PKP1	PKPbc	12 42 06.7	+0.8
	9.9nm,0.7s						
LPL	**La Plagne**	**144.28**	**336**	*e*PKP1	PKPbc	12 42 07.8	+1.4
	5.1nm,0.7s						
LPG	**La Plagne**	**144.29**	**336**	*e*PKP1	PKPbc	12 42 07.8	+1.4
	9.5nm,0.7s						
SMF	**Signal de Mont**	**144.37**	**340**	*e*PKP1	PKPbc	12 42 07.3	+0.7
	7.8nm,0.9s						
AVF	**Avril sur Loir**	**144.40**	**341**	*e*PKP1	PKPbc	12 42 07.4	+0.7
	5.6nm,0.9s						
MBDF	**Montbardon**	**144.92**	**335**	*e*PKP1	PKPbc	12 42 09.2	+1.0
	4.9nm,0.8s						
ORIF	**Oris-en-Rattie**	**145.12**	**336**	*e*PKP1	PKPbc	12 42 10.0	+1.3
	11nm,0.7s						
TCF	**Toulx Ste Croi**	**145.21**	**341**	*e*PKP1	PKPbc	12 42 10.0	+1.1
SBF	**Sospel**	**145.34**	**334**	*e*PKP1	PKPbc	12 42 10.1	+0.8
MFF	**Saint Martin d**	**145.59**	**344**	*e*PKP1	PKPbc	12 42 11.0	+1.1
FRF	**La Foret Royal**	**145.93**	**334**	*e*PKP1	PKPbc	12 42 11.8	+1.0
	13nm,0.7s						
SMRF	**Simiane la Rot**	**146.02**	**336**	*e*PKP1	PKPbc	12 42 12.7	+1.7
	7.1nm,0.8s						
LASF	**Ste Croix**	**146.60**	**338**	*e*PKP1	PKPbc	12 42 14.2	+1.9
MTLF	**Montolieu**	**147.82**	**339**	*e*PKP1	PKPdf	12 42 17.4	+4.4
	9.5nm,0.8s						
ETSF	**Etsaut**	**149.12**	**342**	*e*PKP1	PKPdf	12 42 21.0	+5.9
	5.5nm,0.7s						

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*NIED **07** 12:22:00, 43.80N×137.30E, h300^{km}, Mw4.8 Best double couple: $M_0$1.56×10^{16} NP1:ϕ_s257°, δ69°, λ-154°. NP2: ϕ_s157°, δ66°, λ-23°.*

*MOS **07** 12:22:50.1±1.0, 44.10N×137.06E, h301^{km}, mb4.2/22, Error ellipse: s-maj=11.9km s-min=9.4km az=98.4*

*SKHL **07** 12:22:51.2±0.5, 43.99N×137.13E, h310^{km}±20^{km}, mb5.7/4, mbh5.5/3, msh5.4/6*

*BJI **07** 12:22:51.0, 44.00N×137.06E, h315^{km}, mB4.4, mb4.6*

*NEIC **07** 12:22:51.2±0.1, 44.01N×137.05E, mb4.4/57, Error ellipse: s-maj=3.8km s-min=2.9km az=131.0*

*IDC **07** 12:22:51.2±0.5, 43.98N×137.04E, h300^{km}±5^{km}, mb4.1/30, mb1 4.2/35, mb1mx4.2/38, Error ellipse: s-maj=7.3km s-min=6.6km az=78.0*

*JMA **07** 12:22:51.1±0.2, 43.82N×137.28E, h329^{km}±3^{km}, M4.2*

ISC 07 12:22:50.3±0.2**, 43.98N**±0.02×**137.09E**±0.03**, h303^{km}**±2^{km}**, h298^{km}**±1.5^{km}**:pP-P, n251,** σ_0^s**95**/272**, mb4.3**/90**, 23C-16D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEY	**Ternei**	**1.12**	**342**	⇑*i*P	**P**	**12 23 32.0**	**+0.2**
TEY				AMB	AMB	12 23 33.0	
	1μm,1.5s						
TEY				AMB	AMB	12 23 33.0	
	2μm,1.5s						
TEY				AMB	AMB	12 23 33.0	
	250nm,0.5s						
TEY				AMB	AMB	12 23 33.0	
	530nm,0.5s						
TEY				AMB	AMB	12 23 33.0	
	110nm,0.7s						
TEY				*i* S	**S**	**12 24 04.0**	**-0.3**
TEY				A		12 24 06.0	
	4μm,3.0s						
JSH	**Shimam**	**2.53**	**121**	P	**P**	**12 23 43.0**	**+0.7**
JSK	**Shakotan**	**2.53**	**103**	P	**P**	**12 23 43.3**	**+1.0**
JSK				*e*S	**S**	**12 24 24.5**	**+1.7**
JOSM	**Okushiri--Mats**	**2.58**	**136**	P	**P**	**12 23 43.4**	**+0.8**
JOSM				*e*S	**S**	**12 24 24.4**	**+0.9**
JHR	**Hokuryu**	**3.36**	**92**	P	**P**	**12 23 51.6**	**+1.3**
JKB	**Kayabe**	**3.57**	**124**	P	**P**	**12 23 52.8**	**+0.3**
JKB				*e*S	**S**	**12 24 41.3**	**+0.2**
JWK2	**Keihoku**	**3.68**	**67**	P	**P**	**12 23 55.6**	**+1.9**
JWK2				*e*S	**S**	**12 24 45.1**	**+1.8**
VLA	**Vladivostok**	**3.87**	**259**	⇑*i*P	**P**	**12 23 56.0**	**+0.2**
VLA				AMB	AMB	12 23 57.0	
	500nm,1.6s						
VLA				AMB	AMB	12 23 57.0	
	900nm,1.8s						
VLA				*i* S	**S**	**12 24 48.0**	**+1.0**
VLA				A		12 24 49.0	
	10μm,5.0s						
VLA				A		12 24 49.0	
	4μm,5.0s						
JOT	**Ohata**	**3.90**	**130**	P	**P**	**12 23 55.7**	**-0.4**
ASAJ	**Asahikawa**	**3.97**	**86**	P	**P**	**12 23 57.0**	**+0.2**
	16nm,0.3s,baz=260,slow=8.9,SNR=72						
ASAJ				S	**S**	**12 24 48.9**	**0.0**
	5.4nm,0.3s,baz=136,slow=31,SNR=11						
ASAJ	**Asahikawa**	**3.97**	**86**	P	**P**	**12 23 57.1**	**+0.3**
ASAJ				S	**S**	**12 24 48.9**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
JCH	**Churui**	**4.78**	**104**	P	**P**	**12 24 04.3**	**-1.6**
JCH				*e*S	**S**	**12 25 00.2**	**-4.9**
JTKR	**Abashiri--Toko**	**4.92**	**88**	P	**P**	**12 24 07.9**	**+0.4**
JTKR				*e*S	**S**	**12 25 07.4**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.97**	**51**	⇑*i*P	**P**	**12 24 07.9**	**-0.2**
YSS				⇑*i*P		12 24 07.9	
YSS				AMB	AMB	12 24 09.8	
	comp=Z,310nm,1.2s						
YSS				AMB	AMB	12 24 09.8	
	comp=Z,180nm,1.2s						
YSS				AMB	AMB	12 24 09.8	
	comp=Z,80nm,1.0s						
YSS				*i* S	**S**	**12 25 08.0**	**-1.2**
YSS				A		12 25 10.0	
	comp=Z,270nm,1.1s						
YSS				A		12 25 12.0	
	comp=Z,1μm,4.0s						
YSS	**Yuzh-Sakhalins**	**4.97**	**51**	⇑*i*P	**P**	**12 24 07.9**	**-0.2**
YSS				AMB	AMB	12 24 09.8	
	comp=Z,180nm,1.2s						
YSS				AMB	AMB	12 24 09.8	
	comp=Z,80nm,1.2s						
YSS				AMB	AMB	12 24 09.8	
	comp=Z,310nm,1.2s						
YSS				*i* S	**S**	**12 25 08.0**	**-1.2**
YSS				A		12 25 10.0	
	comp=Z,270nm,1.1s						
YSS				A		12 25 12.0	
	comp=Z,1μm,4.0s						
YSS	**Yuzh-Sakhalins**	**4.97**	**51**	α*i*P	**P**	**12 24 07.9**	**-0.2**
YSS				*i* S	**S**	**12 25 08.0**	**-1.2**
YSS				pmax	pmax		
	comp=N,180nm,1.2s						
YSS				pmax	pmax		
	comp=Z,310nm,1.2s						
YSS				pmax	pmax		
	comp=E,80nm,1.0s						
YSS				smax			
	comp=N,270nm,1.1s						
YSS				smax			
	comp=N,1μm,4.0s						
YSS	**Yuzh-Sakhalins**	**4.97**	**51**	*e*P	**P**	**12 24 08.3**	**+0.1**
MDJ	**Mudanjiang**	**5.42**	**279**	P	**P**	**12 24 14.4**	**+1.0**
MDJ				XP		12 25 13.3	
MDJ				AMB	AMB		
	comp=Z,247nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,210nm,4.1s						
MDJ	**Mudanjiang**	**5.42**	**279**	*e*P	**P**	**12 24 14.2**	**+0.8**
	comp=Z,229nm,0.9s						
JMK	**Ichinoseki**	**5.90**	**147**	P	**P**	**12 24 17.7**	**-1.4**
JMK				*e*S	**S**	**12 25 26.1**	**-2.6**
UGL	**Uglegorsk**	**6.15**	**32**	⇑*i*P	**P**	**12 24 22.2**	**+0.1**
UGL				⇑*i*P		12 24 22.2	
UGL				AMB	AMB	12 24 23.0	
	comp=Z,500nm,1.0s						
UGL				AMB	AMB	12 24 23.0	
	comp=Z,600nm,1.0s						
UGL				AMB	AMB	12 24 23.0	
	comp=Z,200nm,0.8s						
UGL				AMB	AMB	12 24 23.0	
	comp=Z,280nm,0.8s						
UGL				AMB	AMB	12 24 23.0	
	comp=Z,280nm,0.7s						
UGL				AMB	AMB	12 24 23.0	
	comp=Z,2μm,2.0s						
UGL				*e*S	**S**	**12 25 33.0**	**-1.1**
UGL				A		12 25 37.0	
	comp=Z,900nm,6.0s						
UGL				A		12 25 37.0	
	comp=Z,800nm,6.0s						
NEM2	**Nemuro 2**	**6.30**	**93**	P	**P**	**12 24 21.5**	**-2.5**
NEM2				*e*S	**S**	**12 25 30.8**	**-6.6**
YUK	**Yuzh-Kuril'sk**	**6.33**	**86**	⇓*e*P	**P**	**12 24 23.0**	**-1.2**
YUK				⇓*e*P		12 24 23.3	
YUK				AMB	AMB	12 24 23.8	
	comp=Z,280nm,0.3s						
YUK				AMB	AMB	12 24 24.0	
	comp=Z,2μm,1.0s						
YUK				*e*S	**S**	**12 25 36.0**	**-1.9**
YUK				*i* S	**S**	**12 25 36.0**	**-1.9**
YUK				*e*S	**S**	**12 25 37.0**	**-0.9**
YUK				A		12 25 42.5	
	comp=Z,5μm,2.0s						
YUK				A		12 25 42.5	
	comp=Z,2μm,2.0s						
YUK				A		12 25 44.1	
	comp=Z,390nm,0.4s						
YUK				A		12 25 44.1	
	comp=Z,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**86**	⇓*i*P	**P**	**12 24 23.0**	**-1.2**
YUK				⇓*i*P		12 24 23.3	
YUK				AMB	AMB	12 24 23.8	
	comp=Z,280nm,0.3s						
YUK				AMB	AMB	12 24 24.0	
	comp=Z,2μm,1.0s						
YUK				*e*S	**S**	**12 25 36.0**	**-1.9**
YUK				A		12 25 42.5	
	comp=Z,5μm,1.8s						
YUK				A		12 25 42.5	
	comp=Z,2μm,1.8s						
YUK				A		12 25 44.1	
	comp=Z,390nm,0.4s						
YUK				A		12 25 44.1	
	comp=Z,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**86**	⇓*i*P	**P**	**12 24 23.0**	**-1.2**
YUK				*e*S	**S**	**12 25 36.0**	**-1.9**
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,5μm,2.0s						
YUK				smax			
	comp=E,2μm,1.6s						
YUK				smax			
	comp=N,390nm,0.4s						
YUK				smax			
	comp=E,180nm,0.4s						
KLR	**Kul'dur**	**6.42**	**327**	*e*P	**P**	**12 24 25.0**	**-0.3**
KLR				AMB	AMB	12 24 25.8	
	comp=E,36nm,1.0s						
KLR				*e*S	**S**	**12 25 40.8**	**+1.0**
GRNR	**Gornyy**	**6.81**	**356**	⇑*i*P	**P**	**12 24 29.2**	**-0.9**
GRNR				AMB	AMB	12 24 31.0	
	comp=E,140nm,0.8s						
GRNR				AMB	AMB	12 24 31.0	
	comp=E,28nm,0.8s						
GRNR				AMB	AMB	12 24 31.0	
	comp=E,220nm,0.8s						
GRNR				*e*S	**S**	**12 25 49.2**	**+0.7**
GRNR				A		12 25 51.0	
	comp=E,100nm,1.0s						
MAJO	**Matsushiro**	**7.47**	**173**	*e*P	**P**	**12 24 37.8**	**-0.4**
	comp=E,87nm,0.8s						
MAT	**Matsushiro**	**7.47**	**173**	P	**P**	**12 24 37.8**	**-0.4**
MAT				S	**S**	**12 26 03.5**	**+0.6**
MAT	**Matsushiro**	**7.47**	**173**	P	**P**	**12 24 38.0**	**-0.2**
MAT	**Matsushiro**	**7.47**	**173**	*e*P	**P**	**12 24 38.0**	**-0.2**
	comp=E,108nm,1.0s						
MAT				*e*S	**S**	**12 26 04.0**	**+1.1**
KUR	**Kuril'sk**	**7.79**	**77**	⇑*e*P	**P**	**12 24 41.4**	**-0.7**
KUR				AMB	AMB	12 24 42.0	
	comp=E,57nm,1.0s						
KUR				AMB	AMB	12 24 42.0	
	comp=E,75nm,1.0s						
KUR				AMB	AMB	12 24 42.0	
	comp=E,151nm,1.0s						
KUR				*i* S	**S**	**12 26 08.0**	**-2.0**
KUR				A		12 26 13.4	
	comp=E,150nm,1.0s						
KUR				A		12 26 13.4	
	comp=E,110nm,1.0s						
KUR	**Kuril'sk**	**7.79**	**77**	*e*P	**P**	**12 24 41.4**	**-0.7**
KUR				AMB	AMB	12 24 42.0	
	comp=E,57nm,1.0s						
KUR				AMB	AMB	12 24 42.0	
	comp=E,75nm,1.0s						
KUR				AMB	AMB	12 24 42.0	
	comp=E,151nm,1.0s						
KUR				*e*S	**S**	**12 26 08.0**	**-2.0**
KUR				A		12 26 19.4	
	comp=E,151nm,1.0s						
KUR				A		12 26 19.4	
	comp=E,113nm,1.0s						
KUR	**Kuril'sk**	**7.79**	**77**	*e*P	**P**	**12 24 41.4**	**-0.7**
KUR				*e*S	**S**	**12 26 08.0**	**-2.0**
KUR				pmax	pmax		
	comp=N,70nm,1.0s						
KUR				pmax	pmax		
	comp=E,60nm,1.0s						
KUR				pmax	pmax		
	comp=Z,150nm,1.0s						
KUR				smax			
	comp=N,150nm,1.0s						
KUR				smax			
	comp=E,110nm,1.0s						
TYV	**Tymovskoe**	**7.86**	**27**	⇑*i*P	**P**	**12 24 42.9**	**0.0**
TYV				AMB	AMB	12 24 44.0	
	comp=E,373nm,1.0s						
JRY	**Ryogami san**	**8.07**	**169**	P	**P**	**12 24 43.7**	**-1.8**
CN2	**Changchun**	**8.41**	**273**	⇓*i*P	**P**	**12 24 50.5**	**+0.8**
CN2				*e*XP		12 25 50.9	
CN2				*e*S	**S**	**12 26 23.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
JOD2	**Odawara 2**	**8.84**	**169**	P	**P**	**12 24 51.3**	**-3.6**
JOD2				*e*S	**S**	**12 26 26.7**	**-6.3**
NKL	**Nikolayevsk**	**9.48**	**13**	*e*P	**P**	**12 25 01.0**	**-1.9**
NKL				AMB	AMB	12 25 01.8	
	comp=Z,80nm,0.9s						
NKL	**Nikolayevsk**	**9.48**	**13**	*e*P	**P**	**12 25 00.5**	**-2.4**
NKL				AMB	AMB	12 25 01.8	
	comp=Z,80nm,0.9s						
EKMR	**Ekimchan**	**9.51**	**345**	⇑*e*P	**P**	**12 25 02.5**	**-0.5**
EKMR				AMB	AMB	12 25 06.5	
	comp=Z,12nm,0.6s						
BSO1	**Boso 1**	**9.78**	**161**	P	**P**	**12 25 01.4**	**-5.1**
BSO1				*e*S	**S**	**12 26 47.9**	**-6.1**
SNY	**Shenyang**	**10.15**	**262**	⇓P	**P**	**12 25 12.8**	**+1.9**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s						
INCN	**Inchon**	**10.24**	**234**	*e*P	**P**	**12 25 13.4**	**+1.3**
	comp=Z,76nm,0.8s						
OKH	**Okha**	**10.32**	**20**	*i* P	**P**	**12 25 14.4**	**+1.3**
OKH				AMB	AMB	12 25 15.0	
	comp=Z,600nm,0.9s						
OKH	**Okha**	**10.32**	**20**	*e*P	**P**	**12 25 14.2**	**+1.1**
OKH				*e*P		12 25 14.4	
OKH				AMB	AMB	12 25 15.0	
	comp=Z,600nm,0.9s						
JHJ	**Hachijo jima 2**	**11.04**	**168**	P	**P**	**12 25 17.4**	**-4.6**
	comp=Z,141nm,0.3s,baz=86,slow=15,SNR=35						
JHJ				S	**S**	**12 27 13.7**	**-8.2**
	comp=Z,49nm,0.3s,baz=50,slow=22,SNR=7.5						
YASR	**Yasnyy**	**11.09**	**330**	⇑*i*P	**P**	**12 25 22.3**	**-0.2**
YASR				AMB	AMB	12 25 25.9	
	comp=Z,10.0nm,0.7s						
YASR				AMB	AMB	12 25 25.9	
	comp=Z,8.0nm,0.7s						
YASR				AMB	AMB	12 25 25.9	
	comp=Z,34nm,0.7s						
ZEA	**Zeya**	**11.71**	**330**	⇑*e*P	**P**	**12 25 29.4**	**-0.8**
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,40nm,0.8s						
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,42nm,0.8s						
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,87nm,0.8s						
ZEA				*e*S	**S**	**12 27 38.0**	**+1.3**
ZEA				A		12 27 42.0	
	comp=Z,400nm,6.0s						
ZEA				A		12 27 42.0	
	comp=Z,600nm,6.0s						
ZEA	**Zeya**	**11.71**	**330**	*e*P	**P**	**12 25 29.4**	**-0.8**
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,40nm,0.8s						
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,42nm,0.8s						
ZEA				AMB	AMB	12 25 32.1	
	comp=Z,87nm,0.8s						
ZEA				*e*S	**S**	**12 27 38.0**	**+1.3**
ZEA				A		12 27 40.0	
	comp=Z,56nm,1.4s						
ZEA				A		12 27 42.0	
	comp=Z,400nm,6.0s						
ZEA				A		12 27 42.0	
	comp=Z,600nm,6.0s						
JNU	**Nakatsue**	**11.87**	**206**	P	**P**	**12 25 33.1**	**+0.9**
	comp=Z,8.7nm,0.3s,baz=50,slow=10,SNR=46						
BMKR	**Bomnak**	**12.01**	**336**	⇑*i*P	**P**	**12 25 32.8**	**-1.0**
BMKR				AMB	AMB	12 25 35.5	
	comp=Z,50nm,0.9s						
BMKR				AMB	AMB	12 25 35.5	
	comp=Z,58nm,0.9s						
BMKR				AMB	AMB	12 25 35.5	
	comp=Z,94nm,0.9s						
KROS	**Kirovskiy**	**12.37**	**331**	*e*P	**P**	**12 25 37.1**	**-1.1**
KROS				AMB	AMB	12 25 39.4	
	comp=Z,8.0nm,0.6s						
KROS				AMB	AMB	12 25 39.4	
	comp=Z,13nm,0.6s						
DL2	**Dalian**	**12.65**	**252**	P	**P**	**12 25 43.6**	**+1.8**
DL2				AMB	AMB		
	comp=Z,22nm,0.5s						
HIA	**Hailar**	**13.04**	**300**	*e*P	**P**	**12 25 45.2**	**-1.1**
	comp=Z,20nm,0.6s						
SKR	**Severo-Kuril's**	**14.52**	**56**	*e*P	**P**	**12 26 04.5**	**+0.6**
SKR				AMB	AMB	12 26 05.5	
	comp=Z,20nm,0.6s						
SKR				AMB	AMB	12 26 05.5	
	comp=Z,60nm,0.6s						
SKR				*e*S	**S**	**12 28 40.6**	**+2.4**
SKR				A		12 28 43.1	
	comp=Z,1μm,10.0s						
SKR				A		12 28 43.1	
	comp=Z,50nm,0.8s						
SKR				A		12 28 43.1	
	comp=Z,70nm,0.8s						
SKR				A		12 28 43.1	
	comp=Z,20nm,0.8s						
SKR	**Severo-Kuril's**	**14.52**	**56**	*e*P	**P**	**12 26 04.5**	**+0.6**
SKR				*e*S	**S**	**12 28 40.6**	**+2.4**
SKR				pmax	pmax		
	comp=N,20nm,0.6s						
SKR				pmax	pmax		
	comp=E,20nm,0.6s						
SKR				pmax	pmax		
	comp=Z,60nm,0.6s						
SKR				smax			
	comp=N,50nm,0.7s						
SKR				smax			
	comp=E,70nm,1.0s						
SKR				smax			
	comp=N,1μm,10.0s						
SKR				smax			
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=N,900nm,12.0s						
SKR				MLR	MLR		
	comp=E,700nm,12.0s						
SKR				MLR	MLR		
	comp=Z,900nm,12.0s						
BJI	**Beijing**	**16.03**	**263**	P	**P**	**12 26 19.9**	**-0.9**
BJI				AMB	AMB		
	comp=Z,26nm,0.8s						
BJT	**Baijiatuau**	**16.04**	**263**	*e*P	**P**	**12 26 19.8**	**-1.1**
	comp=Z,15nm,0.6s						
TIA	**Tai'an**	**17.11**	**250**	*e*P	**P**	**12 26 31.0**	**-1.2**
CBIJ	**Chichi jima**	**17.34**	**165**	P	**P**	**12 26 32.6**	**-2.0**
	comp=Z,54nm,0.3s,baz=260,slow=21,SNR=20						
CBIJ				S	**S**	**12 29 34.6**	**-0.5**
	comp=Z,15nm,0.3s,baz=81,slow=19,SNR=5.9						
MA2	**Magadan**	**17.71**	**23**	*c i*P	**P**	**12 26 35.8**	**-2.3**
MA2				*e*		12 29 45.9	
MA2				pmax	pmax		
	comp=N,40nm,0.7s						
MA2				pmax	pmax		
	comp=E,30nm,0.7s						
MA2				pmax	pmax		
	comp=Z,70nm,0.7s						
MA2	**Magadan**	**17.71**	**23**	*e*P	**P**	**12 26 35.6**	**-2.5**
	comp=Z,121nm,0.7s						
JOW	**Kunigami**	**18.53**	**206**	P	**P**	**12 26 45.8**	**-1.0**
	comp=Z,3.5nm,0.3s,baz=111,slow=17,SNR=6.0						
JOW				S	**S**	**12 29 52.4**	**-5.3**
	comp=Z,1.4nm,0.3s,baz=120,slow=27,SNR=3.5						
YAK	**Yakutsk**	**18.61**	**349**	*e*P	**P**	**12 26 44.1**	**-3.2**
YAK				*e*S	**S**	**12 29 56.2**	**-2.6**
YAK				pmax	pmax		
	comp=Z,43nm,0.8s						
YAK				pmax	pmax		
	comp=N,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,0.9s						

YAK				smax			
	comp=Z,15nm,0.9s						
YAK				smax			
	comp=N,33nm,1.1s						
YAK				smax			
	comp=E,59nm,1.6s						
YAK	Yakutsk	18.61	349	eP	P	12 26 43.5	-3.7
	comp=E,89nm,0.8s						
NJ2	Nanjing	18.61	236	eP	P	12 26 47.1	-0.4
NJ2				S	S	12 29 59.0	-0.1
NJ2				PCS		12 34 38.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s						
SONM	Songino Array	21.63	291	P	P	12 27 17.0	0.0
	comp=Z,3.9nm,0.5s,mb4.0,baz=82,slow=8.6,SNR=28						
SONM				pP		12 28 09.5	
	comp=Z,6.9nm,1.2s,baz=76,slow=10,SNR=2.0						
SONM				ScP		12 34 13.5	
	comp=Z,1.0nm,0.8s,baz=137,slow=1.2,SNR=4.7						
ZAK	Zakamensk	23.71	298	eP	P	12 27 35.7	-0.9
FX1	Attu Island--F	25.31	57	P	P	12 27 51.0	-0.1
	comp=Z,21nm,0.5s,mb4.9,baz=6.0,slow=6.3,SNR=10.0						
FX1	Attu Island--F	25.31	57	P	P	12 27 51.0	-0.1
FX1				pmax	pmax		
	comp=Z,21nm,0.5s						
ENH	Enshi	25.77	247	eP	P	12 27 56.5	+1.0
	comp=Z,10nm,0.6s,mb4.4						
GTA	Gaotai	28.05	274	P	P	12 28 17.0	+1.0
GTA				AP		12 29 15.7	
GTA				XP	sP	12 29 46.9	-1.9
GTA				PCP	PcP	12 31 21.8	-0.5
GTA				S	S	12 32 41.8	+4.7
GTA				XS		12 34 20.3	
GTA				SCP		12 34 33.7	
GTA				SCS	ScS	12 38 26.4	+1.8
GTA				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,51nm,5.3s						
KMI	Kunming	33.65	247	eP	P	12 29 06.5	+1.9
KMI				AP	pP	12 30 06.0	+1.5
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.2						
WMQ	Urumqi	35.16	287	⇑P	P	12 29 19.9	+2.7
WMQ				AP	pP	12 30 18.4	+0.9
WMQ				PP	PP	12 30 50.4	+5.7
WMQ				XP	sP	12 30 51.9	-0.3
WMQ				S	S	12 34 31.7	+4.2
WMQ				XS		12 36 13.0	
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,87nm,8.0s						
UNV	Unalaska Valle	37.43	54	eP	P	12 29 35.8	-0.3
	comp=Z,14µm,1.2s						
MKAR	Makanchi Array	37.94	294	P	P	12 29 40.1	-0.2
	comp=Z,5.3nm,0.5s,mb4.2,baz=82,slow=9.9,SNR=40						
MKAR				pP	pP	12 30 41.1	-0.2
	comp=Z,7.2nm,0.9s,baz=83,slow=9.8,SNR=7.4						
MKAR				ScP		12 35 05.8	
	comp=Z,1.9nm,0.7s,baz=72,slow=3.8,SNR=8.8						
MKAR	Makanchi Array	37.94	294	P	P	12 29 40.2	-0.2
MKAR				*PP	pP	12 30 41.1	-0.2
MKAR						12 35 05.8	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
MKAR	Makanchi Array	37.94	294	P	P	12 29 40.1	-0.2
MKAR				pP	pP	12 30 41.1	-0.2
MKAR				ScP		12 35 05.8	
KURK	Kurchatov	39.27	301	eP	P	12 29 50.3	-1.0
	comp=N,19nm,0.7s,mb4.6						
KURK				epP	pP	12 30 52.0	-0.6
SDN	Sand Point	40.63	51	eP	P	12 30 03.1	+0.8
	comp=N,21nm,0.5s,mb4.6						
CMAR	Chiang Mai Arr	40.83	244	ScP		12 35 18.4	
	comp=N,2.7nm,0.9s,baz=15,slow=3.0,SNR=4.1						
SHL	Shillong	40.85	258	eP	P	12 30 04.0	-0.4
SVW	Sparrevohn	42.25	42	eP	P	12 30 15.7	+0.4
	comp=N,11nm,0.7s,mb4.2						
IMA	Indian Mountai	42.59	34	eP	P	12 30 17.9	-0.1
	comp=N,18nm,0.6s,mb4.5						
VOSK	Vostochnaya	43.36	306	P	P	12 30 24.2	-0.1
VOSK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.2						
BVAR	Borovoye Array	43.62	306	P	P	12 30 26.2	-0.2
	comp=Z,16nm,0.4s,mb4.6,baz=78,slow=9.3,SNR=83						
BVAR				pP	pP	12 31 27.5	-1.2
	comp=Z,4.0nm,0.8s,baz=90,slow=10,SNR=2.2						
BVAR				ScP		12 35 27.8	
	comp=Z,0.9nm,0.6s,baz=45,slow=2.1,SNR=4.3						
BVAR				S	S	12 36 30.0	-2.5
	comp=Z,0.5nm,0.5s,baz=97,slow=12,SNR=3.2						
BRVK	Borovoye	43.67	307	P	P	12 30 26.5	-0.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8						
BRVK	Borovoye	43.67	307	eP	P	12 30 26.4	-0.4
	comp=Z,16nm,0.6s,mb4.4						
RSO	Redoubt South	43.74	42	eP	P	12 30 27.7	+0.5
SPU	Mount Spurr	43.95	41	eP	P	12 30 29.0	+0.2
KKN	Kakani	44.25	266	eP	P	12 30 31.3	-0.4
	comp=Z,26nm,0.6s,mb4.6						
PKI	Pulchoki	44.28	266	eP	P	12 30 31.2	-0.8
	comp=Z,20nm,0.6s,mb4.5						
KDAK	Kodiak Island	44.40	46	eP	P	12 30 31.9	-0.6
	comp=Z,16nm,0.6s,mb4.4						
ZRNK	Zerenda	44.45	307	P	P	12 30 32.8	-0.1
ZRNK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.5						
DMN	Daman	44.48	266	eP	P	12 30 32.6	-0.9
	comp=Z,14nm,0.6s,mb4.4						
GKN	Gorkha	44.59	267	eP	P	12 30 33.9	-0.5
	comp=Z,20nm,0.4s,mb4.7						
MCK	McKinley	44.90	37	eP	P	12 30 36.0	-0.4
	comp=Z,15nm,0.9s,mb4.2						
SLKM	Skilak Lake	44.96	42	eP	P	12 30 36.5	-0.4
COLA	College	45.16	36	eP	P	12 30 38.1	-0.3
COLA				pmax	pmax		
	comp=Z,64nm,0.9s,mb4.8						
COLA	College	45.16	36	eP	P	12 30 38.1	-0.3
	comp=Z,64nm,0.9s,mb4.8						
PMR	Palmer	45.24	40	eP	P	12 30 38.4	-0.7
	comp=Z,34nm,1.2s,mb4.5						
KOLN	Koldanda	45.47	268	eP	P	12 30 41.2	-0.1
	comp=Z,15nm,0.3s,mb4.7						
SML	Sawmill	45.56	40	eP	P	12 30 41.0	-0.5
ILAR	Eielson Array	45.58	36	P	P	12 30 40.9	-0.8
	comp=Z,20nm,0.7s,mb4.6,baz=281,slow=5.4,SNR=203						
ILAR	Eielson Array	45.58	36	P	P	12 30 40.9	-0.8
ILAR				pmax	pmax		
	comp=Z,20nm,0.7s						
DIV	Divide	46.92	40	eP	P	12 30 52.3	+0.1
	comp=Z,120nm,1.1s,mb5.1						
KKAR	Karatay Array	47.06	293	i P	P	12 30 54.3	+0.9
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
EYAK	Cordova Ski Ar	47.09	41	eP	P	12 30 54.0	+0.5
DAWY	Dawson	48.91	35	eP	P	12 31 06.5	-0.8
INK	Inuvik	49.82	29	P	P	12 31 13.8	-0.4
	comp=Z,110nm,1.1s,mb5.1,baz=289,slow=7.0,SNR=69						
INK	Inuvik	49.82	29	P	P	12 31 13.8	-0.3
INK				pmax	pmax		
	comp=Z,110nm,1.2s						
INK	Inuvik	49.82	29	eP	P	12 31 13.8	-0.3
	comp=Z,61nm,0.9s,mb4.9						
AB31	Akbulak array	51.10	305	i P	P	12 31 23.4	-0.5
AB31				pmax	pmax		
	comp=Z,29nm,0.6s,mb4.8						
SPITS	Spitsbergen Ar	53.06	347	P	P	12 31 37.2	-0.7
	comp=Z,21nm,0.8s,mb4.5,baz=72,slow=6.3,SNR=22						
SIT	Sitka	53.41	43	eP	P	12 31 42.4	+1.8
	comp=Z,48nm,1.1s,mb4.7						
DLBC	Dease Lake	55.29	40	P	P	12 31 55.8	+1.6
	comp=Z,12nm,0.6s,mb4.5,baz=292,slow=6.5,SNR=60						
DLBC	Dease Lake	55.29	40	eP	P	12 31 55.4	+1.3
KEV	Kevo	55.78	337	ep	P	12 31 55.3	-2.2
	comp=Z,2.3nm,0.3s,mb4.1						
KEV	Kevo	55.78	337	eP	P	12 31 55.3	-2.2
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.0						
ARCES	ARCESS Array B	56.34	337	P	P	12 32 00.2	-1.2
	comp=Z,4.0nm,0.4s,mb4.2,baz=52,slow=8.3,SNR=38						
ARCES	ARCESS Array B	56.34	337	P	P	12 32 00.2	-1.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARCES	ARCESS Array B	56.34	337	P	P	12 32 00.2	-1.2
KAKA	Kakadu	56.56	185	⇑iP	P	12 32 03.2	-0.5
	comp=Z,8.6nm,0.6s,mb4.4						
KTK1	Kautokeino	57.30	337	⇓iP	P	12 32 08.4	+0.4
KTK1				AMb	AMB	12 32 10.3	
	comp=Z,30nm,1.6s,mb4.5						
KTK1	Kautokeino	57.30	337	⇓iP	P	12 32 08.4	+0.4
	comp=Z,30nm,1.6s,mb4.5						
TRO	Tromso	58.07	339	eP	P	12 32 11.4	-2.1
TRO				AMb	AMB	12 32 17.1	
	comp=Z,24nm,2.0s,mb4.3						
TRO	Tromso	58.07	339	eP	P	12 32 11.4	-2.1
	comp=Z,24nm,2.0s,mb4.3						
YKW3	Yellowknife Ar	59.46	31	eP	P	12 32 22.1	-1.0
BBB	Bella Bella	59.47	45	P	P	12 32 23.2	-0.1
	comp=Z,9.6nm,0.8s,mb4.3,baz=264,slow=0.6,SNR=11						
BBB	Bella Bella	59.47	45	P	P	12 32 23.2	-0.1
YKA	Yellowknife Ar	59.50	31	P	P	12 32 22.1	-1.2
	comp=Z,9.1nm,0.7s,mb4.4,baz=307,slow=6.3,SNR=40						
YKA				ScP		12 36 37.4	
	comp=Z,0.2nm,0.6s,baz=300,slow=5.0,SNR=3.5						
OBN	Obninsk	60.62	320	eP	P	12 32 29.9	-1.1
OBN				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.3						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s						
KAF	Kangasniemi	60.65	330	ep	P	12 32 28.7	-2.4
	comp=Z,4.1nm,0.4s,mb4.3,baz=49,slow=6.4						
KAF	Kangasniemi	60.65	330	eP	P	12 32 28.7	-2.4
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.3						
FINES	FINESS Array B	61.16	329	P	P	12 32 33.4	-1.0
	comp=Z,8.2nm,0.5s,mb4.5,baz=37,slow=9.7,SNR=123						
FINES				pP	pP	12 33 39.5	-2.4
	comp=Z,4.2nm,0.8s,baz=76,slow=7.9,SNR=3.6						
FINES	FINESS Array B	61.16	329	P	P	12 32 33.4	-1.0
FINES				*PP	pP	12 33 39.5	-2.4
FINES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	61.16	329	P	P	12 32 33.4	-1.0
FINES				pP	pP	12 33 39.5	-2.4
MOR8	Moi Rana	61.71	337	eP	P	12 32 35.5	-2.5
MOR8				AMb	AMB	12 32 37.3	
	comp=Z,20nm,1.4s,mb4.5						
MOR8				epP	pP	12 33 42.4	-3.2
MOR8	Moi Rana	61.71	337	eP	P	12 32 35.5	-2.5
	comp=Z,20nm,1.4s,mb4.5						
FITZ	Fitzroy Crossi	62.66	192	eP	P	12 32 44.3	-0.5
	comp=Z,2.8nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	62.66	192	P	P	12 32 44.3	-0.6
	comp=Z,3.5nm,0.8s,mb4.0,baz=36,slow=3.5,SNR=9.4						
FITZ				PcP	PcP	12 33 19.9	-1.0
	comp=Z,1.7nm,0.5s,baz=46,slow=2.6,SNR=3.4						
WRAB	Tennant Creek	63.64	183	eP	P	12 32 49.9	-1.4
	comp=Z,2.5nm,0.6s,mb4.0						
WB2	Warramunga Arr	63.65	183	⇓iP	P	12 32 50.3	-1.0
WB2				e		12 33 24.3	
WRA	Warramunga Arr	63.65	183	P	P	12 32 50.4	-0.9
	comp=Z,2.2nm,0.5s,mb4.1,baz=1.0,slow=7.1,SNR=98						
WRA				PcP	PcP	12 33 24.4	-0.6
	comp=Z,4.6nm,0.6s,baz=359,slow=4.7,SNR=13						
WRA	Warramunga Arr	63.65	183	P	P	12 32 50.4	-0.9
WRA						12 33 24.4	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PGC	Sidney	63.95	47	eP	P	12 32 52.8	+0.1
KIV	Kislovodsk	63.99	307	deP	P	12 32 53.9	+0.8
KIV				e	pP	12 34 00.8	-0.5
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KIV	Kislovodsk	63.99	307	eP	P	12 32 53.8	+0.7
CTA	Charters Tower	64.30	170	eP	P	12 32 55.1	-0.3
	comp=Z,2.6nm,0.6s,mb4.0						
CTA	Charters Tower	64.30	170	P	P	12 32 55.2	-0.3
	comp=Z,3.1nm,0.5s,mb4.2,baz=358,slow=7.9,SNR=18						
CTA	Charters Tower	64.30	170	P	P	12 32 55.2	-0.2
CTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RPW	Rockport	65.08	46	P	P	12 32 59.5	-0.5
NLW	Nelson Butte	65.93	46	eP	P	12 33 05.5	+0.2
MOL	Molde	66.40	337	eP	P	12 33 09.1	+1.1
NB2	NORSAR Subarra	66.52	335	P	P	12 33 08.2	-0.6
	comp=Z,7.4nm,0.6s,mb4.6,baz=37,slow=6.2						
NB2	NORSAR Subarra	66.52	335	P	P	12 33 08.2	-0.6
	comp=Z,7.4nm,0.6s,mb4.6,baz=37,slow=6.5						
NOA	NORSAR Array B	66.52	335	P	P	12 33 08.2	-0.6
	comp=Z,10nm,0.8s,mb4.6,baz=39,slow=6.3,SNR=47						
NOA	NORSAR Array B	66.52	335	P	P	12 33 08.2	-0.6
NOA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	Malin Array Be	66.85	319	P	P	12 33 10.3	-0.8
	comp=Z,5.7nm,0.6s,mb4.5,baz=44,slow=6.5,SNR=13						
AKASG				pP	pP	12 34 17.7	-2.4
	comp=Z,2.7nm,0.8s,baz=44,slow=7.3,SNR=1.9						
AKASG	Malin Array Be	66.85	319	P	P	12 33 10.3	-0.8
AKASG				*PP	pP	12 34 17.7	-2.3
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DPW	Davenport	67.16	45	eP	P	12 33 13.2	+0.1
ASAR	Alice Springs	67.37	183	P	P	12 33 14.9	+0.1
	comp=Z,8.5nm,0.6s,mb4.7,baz=358,slow=5.6,SNR=150						
ASAR				PcP	PcP	12 33 39.9	-0.5
	comp=Z,1.9nm,0.6s,baz=6.7,slow=4.9,SNR=5.3						
ASPA	Alice Springs	67.37	183	⇓iP	P	12 33 14.8	0.0
LNOR	Lincton Mounta	68.43	47	eP	P	12 33 21.7	+0.8
YBH	Yreka Blue Hor	68.71	52	P	P	12 33 23.3	+0.7
	comp=Z,2.7nm,0.9s,mb4.0,baz=22,slow=4.4,SNR=7.7						
YBH	Yreka Blue Hor	68.71	52	P	P	12 33 23.3	+0.6
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FFC	Flin Flon	69.62	32	eP	P	12 33 27.9	-0.1
MOD	Modoc	69.96	51	eP	P	12 33 30.5	+0.2
	comp=Z,2.8nm,0.8s,mb4.0						
CHMT	Chamberlain Mo	70.29	43	eP	P	12 33 32.4	+0.2
WVOR	Wild Horse Val	70.53	50	eP	P	12 33 33.9	+0.2
	comp=Z,9.1nm,1.3s,mb4.2						
HRY	Holter Researc	71.13	43	eP	P	12 33 38.2	+0.9
BEKR	Beckwourth	71.28	52	eP	P	12 33 38.2	-0.1
	comp=Z,3.8nm,0.8s,mb4.1						
OJC	Ojcow	71.48	323	eP	P	12 33 39.7	+0.4
BRTR	Keskin Array B	71.89	308	P	P	12 33 42.2	+0.3
	comp=Z,1.3nm,0.7s,mb3.7,baz=72,slow=3.9,SNR=4.0						
BRTR				pP	pP	12 34 50.0	-1.6
	comp=Z,1.5nm,0.8s,baz=60,slow=4.4,SNR=4.6						
BRTR	Keskin Array B	71.89	308	P	P	12 33 42.2	+0.3
BRTR				*PP	pP	12 34 50.0	-1.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCMT	McKenzie Canyo	71.95	45	eP	P	12 33 42.5	+0.4
BOZ	Bozeman (W)	71.98	43	eP	P	12 33 42.6	+0.3
	comp=Z,4.0nm,0.7s,mb4.2						
WCN	Washoe City	72.00	53	eP	P	12 33 42.6	+0.1
	comp=Z,5.7nm,1.0s,mb4.2						
HLID	Hailey	72.02	46	eP	P	12 33 42.9	+0.2
	comp=Z,1.0nm,0.6s,mb3.6						
MLR	Muntele Rosu	72.03	316	P	P	12 33 43.0	+0.3
	comp=Z,0.9nm,0.4s,mb3.8,baz=202,slow=5.4,SNR=3.0						
MLR	Muntele Rosu	72.03	316	P	P	12 33 43.0	+0.4
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMB	Columbia Colle	72.49	54	eP	P	12 33 45.5	0.0
	comp=Z,11nm,1.3s,mb4.3						
NVAR	Mina Array Bea	73.42	52	P	P	12 33 51.6	+0.7
	comp=Z,12nm,0.9s,mb4.5,baz=305,slow=3.6,SNR=70						
MNV	Mina	73.51	52	eP	P	12 33 51.6	+0.1
	comp=Z,5.2nm,0.8s,mb4.2						
REDW	Red Top Meadow	74.00	45	eP	P	12 33 55.6	+1.5
TPH	Tonopah	74.28	52	eP	P	12 33 56.4	+0.5
	comp=Z,10nm,0.8s,mb4.5						
FORT	Forrest	74.85	188	eP	P	12 33 59.3	0.0
	comp=Z,45nm,0.8s,mb5.2						
HWUT	Hardware Ranch	74.89	46	eP	P	12 33 59.7	+0.4
	comp=Z,7.3nm,0.9s,mb4.3						
PDAR	Pinedale Array	75.09	44	P	P	12 34 01.0	+0.6
	comp=Z,8.5nm,0.5s,mb4.6,baz=340,slow=1.2,SNR=108						
GERES	GERESS Array B	75.11	325	P	P	12 34 00.5	+0.1
	comp=Z,1.0nm,0.6s,mb3.7,baz=45,slow=5.7,SNR=8.8						
GERES	GERESS Array B	75.11	325	P	P	12 34 00.5	+0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARMA	Armidale	75.22	167	eP	P	12 34 02.4	+1.0
DUG	Dugway	75.24	48	eP	P	12 34 01.9	+0.6
	comp=Z,10nm,1.2s,mb4.3						
TCUT	Toone Canyon	75.33	47	eP	P	12 34 02.1	+0.4
ULM	Lac du Bonnet	75.44	32	P	P	12 34 01.9	-0.3
	comp=Z,3.5nm,0.4s,mb4.3,baz=329,slow=7.8,SNR=16						
STKA	Stephens Creek	75.60	176	⇓iP	P	12 34 04.3	+0.8
	comp=Z,7.5nm,0.5s,mb4.6						
STKA	Stephens Creek	75.60	176	P	P	12 34 04.3	+0.9
	comp=Z,9.7nm,0.5s,mb4.7,baz=342,slow=6.5,SNR=30						
DAU	Daniels Canyon	75.91	47	eP	P	12 34 05.8	+0.7
MVU	Marysvale	76.78	49	eP	P	12 34 11.1	+1.2
	comp=Z,8.0nm,1.3s,mb4.3						
MSU	Marysvale	76.79	49	eP	P	12 34 11.1	+1.1
SRU	San Rafael	77.25	48	eP	P	12 34 12.8	+0.4
NEN	Nelson	77.34	53	eP	P	12 34 13.7	+0.6
LDFC	Landfair	77.59	53	eP	P	12 34 14.7	+0.3
DAVOX	Davos	78.31	326	P	P	12 34 19.7	+1.6
	comp=Z,1.2nm,0.6s,mb3.8,baz=342,slow=19,SNR=3.2						
PV01	Paradox Valley	79.00	47	eP	P	12 34 22.6	+0.7
ISCO	Idaho Springs	79.28	44	eP	P	12 34 23.9	+0.6
	comp=Z,7.5nm,1.3s,mb4.3						
RW3	Ridgway	79.38	46	eP	P	12 34 25.0	+1.1
WUAZ	Wupatki	79.40	51	eP	P	12 34 25.1	+1.1
	comp=Z,11nm,1.2s,mb4.5						
SCHQ	Schefferville	79.48	14	P	P	12 34 24.2	+0.1
	comp=Z,2.3nm,0.5s,mb4.2,baz=294,slow=8.8,SNR=8.4						
LOR	Lormes	80.22	330	eP	P	12 34 27.9	-0.2
	comp=Z,4.5nm,0.6s,mb4.1						
LDF	La Druitiere	80.47	333	eP	P	12 34 29.5	+0.1
SSF	Saint Saulge	80.52	330	eP	P	12 34 29.5	-0.2
	comp=Z,5.1nm,0.8s,mb4.0						
LPL	La Plagne	80.60	327	eP	P	12 34 30.9	+0.8
	comp=Z,5.7nm,0.7s,mb4.1						
LPG	La Plagne	80.61	327	eP	P	12 34 31.0	+0.8
	comp=Z,7.4nm,0.7s,mb4.2						
SMF	Signal de Mont	80.75	329	eP	P	12 34 30.4	-0.5
AVF	Avril sur Loir	80.81	330	eP	P	12 34 31.3	+0.1
	comp=Z,10nm,0.9s,mb4.3						
SDCO	Great Sand Dun	80.89	45	eP	P	12 34 32.4	+0.5
	comp=Z,3.7nm,0.9s,mb4.1						
MBDF	Montbardon	81.24	327	eP	P	12 34 34.1	+0.6
	comp=Z,3.9nm,0.5s,mb4.1						
ORIF	Oris-en-Rattie	81.43	327	eP	P	12 34 35.4	+0.9
TOO	Toolangi	81.52	173	eP	P	12 34 36.3	+1.2
	comp=Z,4.1nm,0.5s,mb4.4						
TUC	Tucson	82.08	52	eP	P	12 34 38.8	+0.7
	comp=Z,2.1nm,0.8s,mb3.9						
ETSF	Etsaut	85.57	330	eP	P	12 34 55.1	-0.2
	comp=Z,7.4nm,0.8s,mb4.3						
GDL2	Guadalupe Moun	85.73	48	eP	P	12 34 57.1	+0.8
CLNB	Carlsbad	85.94	48	P	P	12 34 58.0	+0.6
WMOK	Wichita Mounta	86.62	43	eP	P	12 35 00.7	+0.1
	comp=Z,3.4nm,0.8s,mb4.2						
LTX	Lajitas	88.32	50	eP	P	12 35 09.8	+1.1
TXAR	Lajitas Array	88.32	50	P	P	12 35 09.4	+0.7
	comp=Z,5.3nm,0.7s,mb4.5,baz=280,slow=2.8,SNR=74						
JCT	Junction City	89.50	46	eP	P	12 35 13.8	-0.4
	comp=Z,9.2nm,0.8s,mb4.7						
URZ	Urewera	89.51	150	P	P	12 35 14.1	0.0
	comp=Z,12nm,0.6s,mb4.9,baz=351,slow=5.9,SNR=9.7						
VNDA	Vanda	122.19	174	PKP	PKPdf	12 41 08.7	+0.7
	comp=Z,2.4nm,0.5s,baz=304,slow=5.1,SNR=13						
VNDA	Vanda	122.19	174	PKIKP	PKPdf	12 41 08.7	+0.7
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW	Mawson	124.32	207	PKP	PKPdf	12 41 13.0	+0.7
	comp=Z,1.7nm,0.5s,baz=334,slow=4.4,SNR=8.4						
MAW	Mawson	124.32	207	PKIKP	PKPdf	12 41 13.0	+0.8
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
QSPA	South Pole Qui	133.71	180	ePKP	PKPdf	12 41 30.5	+0.8
LPAZ	La Paz	145.10	46	PKPbc	PKPbc	12 41 53.9	+1.6
	comp=Z,3.1nm,0.5s,baz=311,slow=2.0,SNR=23						
LPAZ	La Paz	145.10	46	PKP2	PKPab	12 41 53.9	-0.7
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SNAA	Sanae	146.22	201	⇓iP	PKPdf	12 41 54.5	+2.5
SNAA	Sanae	146.22	201	⇑i	PKPbc	12 41 56.8	+3.4
SNAA	Sanae	146.22	201	⇑i	PKPab	12 41 59.2	+1.9
VNA2	Neumayer--Watz	147.85	201	⇓iP	PKPdf	12 42 02.4	+7.8
VNA2	Neumayer--Watz	147.85	201	⇑i	PKPab	12 42 10.5	+6.8
VNA1	Neumayer--Stat	148.25	201	⇓iP	PKPdf	12 42 03.6	+8.3
VNA1	Neumayer--Stat	148.25	201	⇑i	PKPab	12 42 08.5	+3.2
LVC	Limon Verde	149.78	54	PKPbc	PKPdf	12 42 06.4	+7.3
	comp=Z,2.4nm,0.4s,baz=176,slow=1.0,SNR=11						
LVC				PKPab	PKPab	12 42 12.5	-0.6
	comp=Z,4.2nm,0.6s,baz=308,slow=5.5,SNR=8.4						
BDFB	Brasilia	151.43	10	PKPbc	PKPdf	12 42 09.5	+7.8
	comp=Z,4.4nm,0.5s,baz=320,slow=1.0,SNR=6.4						
BDFB	Brasilia	151.43	10	PKIKP	PKPdf	12 42 09.5	+7.8
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CPUP	Villa Florida	158.87	38	PKPab	PKPab	12 42 50.9	-0.6
	comp=Z,1.6nm,0.8s,baz=4.7,slow=5.4,SNR=3.7						
CPUP	Villa Florida	158.87	38	PKP2	PKPab	12 42 50.9	-0.6
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA	Paso Flores	159.35	91	PKPab	PKPab	12 42 53.8	+0.6
	comp=Z,2.0nm,0.6s,baz=265,slow=4.5,SNR=6.6						
PLCA	Paso Flores	159.35	91	PKP2	PKPab	12 42 53.8	+0.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC ***07*** *12:56:54.8±1.1, 49.04S×124.57E, mb3.7/4, mb1 3.9/4, mb1mx3.8/10, MS3.7/2, Ms1 3.8/2, ms1mx3.3/19, Error ellipse: s-maj=62.6km s-min=22.3km az=107.0*

ISC 07 12:56:54.6±0.9, **49.1S**±0.2×**124.6E**±0.6, **h10**^{km}, **n8,** σ**0**^{s}**.55**/5, **mb3.6**/4, **MS3.7**/2, **1C, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	26.39	20	P	P	13 02 32.4	-0.6
	0.6nm,0.7s,mb3.3,baz=198,slow=9.0,SNR=6.3						
ASAR				LR	LR	13 11 19.6	
	comp=Z,151nm,21.7s,MS3.5,baz=174,slow=33						
WRA	Warramunga Arr	30.09	19	P	P	13 03 07.0	+0.6
	0.5nm,1.1s,mb3.2,baz=196,slow=9.6,SNR=2.6						
VNDA	Vanda	31.89	166	P	P	13 03 21.8	+0.1
	0.7nm,0.6s,mb3.7,baz=288,slow=6.7,SNR=4.3						
MAW	Mawson	35.39	216	P	P	13 03 52.2	+0.1
	6.0nm,1.3s,mb4.4,baz=75,slow=12,SNR=4.6						
SNAA	Sanae	53.98	198	⇑i	P	13 06 20.0	-0.2
CMAR	Chiang Mai Arr	70.99	334	LR	LR	13 37 15.8	
	comp=Z,64nm,19.3s,MS3.9,baz=200,slow=34						
YKA	Yellowknife Ar	145.44	45	PKPbc	PKPbc	13 16 31.1	-1.0
	0.8nm,0.8s,baz=265,slow=1.3,SNR=4.7						
EKA	Eskdalemuir Ar	148.02	301	PKPbc	PKPdf	13 16 40.1	+1.1
	1.0nm,0.9s,baz=101,slow=3.6,SNR=4.1						

IDC 07 12:59:35.0±2.1, **5.49S**×**150.62E, mb3.3**/3, **mb1 3.7**/3, **mb1mx3.5**/12, **Error ellipse: s-maj=168.0km s-min=28.9km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.38	226	P	P	13 04 26.1	-0.4
	0.8nm,0.7s,baz=50,slow=9.8,SNR=5.9						
ASAR	Alice Springs	24.20	220	P	P	13 04 52.2	-2.1
	1.2nm,1.0s,baz=51,slow=8.3,SNR=8.4						
ILAR	Eielson Array	83.62	22	P	P	13 12 05.1	-1.2
	0.3nm,1.0s,baz=230,slow=7.0,SNR=3.2						

IDC 07 13:01:11.5±2.9, **16.12S**×**173.33W, mb3.6**/5, **mb1 4.0**/5, **mb1mx3.8**/17, **Error ellipse: s-maj=171.0km s-min=25.2km az=148.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	49.75	257	P	P	13 10 05.1	-2.9
	0.3nm,0.8s,baz=96,slow=6.5,SNR=4.6						
ASAR	Alice Springs	49.96	252	P	P	13 10 07.8	-1.7
	1.6nm,0.6s,baz=87,slow=8.3,SNR=35						
NVAR	Mina Array Bea	74.81	42	P	P	13 12 53.4	-2.3
	0.5nm,0.6s,baz=225,slow=10,SNR=5.5						
PDAR	Pinedale Array	82.75	42	P	P	13 13 38.4	-0.4

	0.5nm,0.8s,baz=198,slow=4.7,SNR=4.3						
ILAR	**Eielson Array**	83.13	11	P	P	13 13 38.5	-1.8
	0.2nm,0.6s,baz=220,slow=5.8,SNR=4.9						
BRTR	**Keskin Array B**	146.76	320	PKPbc	PKPbc	13 20 56.1	+0.7
	0.4nm,0.5s,baz=180,slow=1.2,SNR=5.0						
GERES	**GERESS Array B**	146.86	351	PKPbc	PKPbc	13 20 55.9	+0.5
	0.2nm,0.2s,SNR=4.5						

DJA 07 13:02:09.8±0.9, 8.58S×116.07E, h108^{km}±6^{km}, MD5.0/4, ML4.9/2, 4C-4D, Error ellipse: s-maj=17.4km s-min=9.2km az=139.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	0.10	23	⇓*i*Pn	P	13 02 24.8	0.0
	146nm,0.2s						
KEDI	**Kedomdong**	0.10	23	*e*P	P	13 02 25.2	+0.4
KEDI				⇓*i*Sn	S	13 02 35.2	-0.8
RATI	**Rata**	0.55	255	⇑*i*Pn	P	13 02 26.6	-0.3
	2µm,0.2s						
RATI				⇓*i*Sn	S	13 02 38.9	-0.9
INGI	**Ingas**	0.95	256	⇑*i*Pn	P	13 02 29.9	-0.6
	2µm,0.2s						
INGI				⇑*i*Sn	S	13 02 44.6	-1.5
KELI	**Kelakatan**	1.61	283	⇑*i*Pn	P	13 02 37.7	-0.5
	913nm,0.2s						
KELI				⇓*i*Sn	S	13 02 58.8	-0.7

NEIC 07 13:08:19.2, 51.74N×166.42W, h27^{km}, ML3.1(AEIC), After AEIC., South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	1.94	311	P	Pn	13 08 48.8	-2.3
NIKO				S	Sn	13 09 11.8	-3.0
OKER	**East Rim**	1.99	331	P	Pn	13 08 50.3	-1.5
OKER				S	Sn	13 09 14.7	-1.3
MGOD	**Makushin Gods**	2.08	353	P	Pn	13 08 51.4	-1.7
MGOD				S	Sn	13 09 16.4	-2.0
UNV	**Unalaska Valle**	2.12	359	P	Pn	13 08 51.4	-2.3
UNV				S	Sn	13 09 16.7	-2.6
MNAT	**Makushin Natee**	2.16	356	P	Pn	13 08 52.3	-1.9
MNAT				S	Sn	13 09 18.6	-1.8
MSW	**Makushin Switc**	2.19	354	P	Pn	13 08 52.9	-1.9
MSW				S	Sn	13 09 18.9	-2.4
MCIR	**Makushin Cirqu**	2.24	353	P	Pn	13 08 54.2	-1.2
MCIR				S	Sn	13 09 20.0	-2.4
MTBL	**Makushin Table**	2.24	356	P	Pn	13 08 53.8	-1.7
LVA	**Lava Point**	2.44	5	P	Pn	13 08 57.1	-1.2
LVA				S	Sn	13 09 25.3	-2.2
WESN	**West Dahl Nort**	3.05	21	P	Pn	13 09 05.3	-1.6
FALS	**False Pass**	3.61	29	P	Pn	13 09 12.1	-2.8
DOL	**Dolgoi Island**	4.37	37	P	Pn	13 09 22.7	-3.1
DAWY	**Dawson**	18.75	38	*e*P	P	13 12 38.6	+0.5

*NIED **07** 13:46:00, 20.70N×122.50E, h35^{km}, Mw4.2 Best double couple: M$_0$2.63×10^{15} NP1:ϕ_s209°, δ80°, λ-111°. NP2: ϕ_s95°, δ23°, λ-26°.*

*MAN **07** 13:46:22.3, 20.26N×122.59E, h4^{km}, MS3.6*

*JMA **07** 13:46:27.9±0.5, 20.72N×122.53E, M4.6*

*IDC **07** 13:46:28.6±2.9, 20.28N×122.57E, h56^{km}±29^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.6/20, ML4.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=27.4km s-min=16.2km az=74.0*

*NEIC **07** 13:46:28.8±1.1, 20.31N×122.56E, h54^{km}±12^{km}, mb4.0/2, Error ellipse: s-maj=16.7km s-min=9.5km az=86.0*

ISC 07 13:46:22.1±0.3, 20.34N±0.03×122.59E±0.06, h10^{km}, n35, σ1^{s}39/44, mb3.8/10, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	**Basco**	0.59	279	*e*P	Pg	13 46 34.5	+0.5
SGCP	**Mt. Cagua**	2.15	194	*e*P	Pn	13 46 57.9	-0.7
CVP	**Callao Caves**	2.73	195	⇑*i*P	Pn	13 47 06.3	-0.4
ABRA	**Dolores**	3.21	214	*e*P	Pn	13 47 13.3	-0.3
PALP	**Palanan**	3.27	183	*e*P	Pn	13 47 14.3	-0.1
CAUP	**Cauayan**	3.46	192	*e*P	Pn	13 47 18.4	+1.2
HATJ	**Hateruma jima**	3.86	17	P	Pn	13 47 25.5	+2.6
HATJ				S	Sn	13 48 08.2	-0.7
JKRS	**Kuro-shima**	4.09	19	P	Pn	13 47 29.2	+3.0
JKRS				S	Sn	13 48 14.6	-0.1
IRIF	**Iriomote-Funau**	4.11	15	P	Pn	13 47 28.9	+2.5
IRIF				S	Sn	13 48 14.3	-0.8
YOJ	**Yonaguni jima**	4.12	5	P	Pn	13 47 28.9	+2.4
YOJ				S	Sn	13 48 15.3	0.0
JIJ	**Ishigaki jima**	4.25	20	P	Pn	13 47 30.5	+2.1
JIJ				S	Sn	13 48 16.9	-1.8
BCPH	**Baguio City Da**	4.38	206	⇑*i*P	Pn	13 47 29.7	-0.5
BCPH				*i* S	Sn	13 48 20.8	-1.1
BALP	**Baler**	4.68	192	*e*P	Pn	13 47 33.6	-0.8
BOLP	**Bolinao**	4.69	213	*e*P	Pn	13 47 35.0	+0.4
JTJ	**Tarama**	4.70	24	P	Pn	13 47 38.8	+4.0
JTJ				S	Sn	13 48 29.4	-0.7
TATO	**Taipei**	4.72	348	*e*Pn	Pn	13 47 38.2	+3.2
TATO				*e*Sn	Sn	13 48 28.6	-2.0
JMJ	**Miyako jima 2**	5.10	29	*e*S	Sn	13 48 42.8	+2.6
JOGS	**Gusukube**	5.11	30	P	Pn	13 47 44.1	+3.5
JOGS				*e*S	Sn	13 48 41.1	+0.7
POLP	**Polilio Island**	5.62	186	*e*P	Pn	13 47 48.1	+0.3
TGY	**Tagaytay City**	6.40	194	P	Pn	13 48 00.2	+1.4
	25nm,0.3s,baz=328,slow=19,SNR=2.8						
TGY				LR	LR	13 50 35.8	
	comp=Z,245nm,18.5s,baz=122,slow=39						
JKE	**Kume jima 2**	7.09	32	*e*S	Sn	13 49 27.5	-2.6
JAGN	**Aguni-jima**	7.54	34	S	Sn	13 49 39.9	-1.4
JIH	**Iheya**	8.29	35	*e*S	Sn	13 49 57.8	-2.0
JOW	**Kunigami**	8.30	38	P	P	13 48 26.6	+1.3
	7.8nm,0.3s,baz=222,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	22.38	269	P	P	13 51 22.6	+0.6
	2.3nm,0.8s,mb3.6,baz=73,slow=8.1,SNR=8.3						
SONM	**Songino Array**	30.40	338	P	P	13 52 36.5	0.0
	0.9nm,0.6s,mb3.6,baz=146,slow=10.0,SNR=7.8						
WRAB	**Tennant Creek**	41.65	163	P	P	13 54 13.9	+1.4
	1.7nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	41.66	163	P	P	13 54 10.7	-1.9
	1.0nm,0.6s,mb3.6,baz=344,slow=9.2,SNR=5.7						
MKAR	**Makanchi Array**	42.02	318	P	P	13 54 14.9	-0.4
	2.0nm,0.5s,mb4.0,baz=108,slow=10.0,SNR=17						
ASAR	**Alice Springs**	45.11	165	P	P	13 54 39.1	-1.5
	0.6nm,0.5s,mb3.7,baz=348,slow=7.2,SNR=8.8						
BVAR	**Borovoye Array**	51.47	322	P	P	13 55 27.1	-2.5
	0.5nm,0.5s,mb3.8,baz=108,slow=9.4,SNR=3.6						
BRVK	**Borovoye**	51.55	322	*e*P	P	13 55 29.9	-0.2
	1.5nm,0.7s,mb4.0						
FINES	**FINESS Array B**	75.41	330	P	P	13 58 06.2	-1.3
	0.4nm,0.6s,mb3.5,baz=60,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	85.98	23	P	P	13 59 04.2	+0.8
	0.5nm,0.5s,mb4.0,baz=312,slow=5.1,SNR=3.8						
YKA	**Yellowknife Ar**	85.98	23	P	P	13 59 04.2	+0.8

*IDC **07** 13:50:09.6±1.0, 24.14S×66.82W, h181^{km}±9^{km}, mb4.0/9, mb1 4.3/14, mb1mx4.2/18, Error ellipse: s-maj=15.1km s-min=12.3km az=62.0*

*NEIC **07** 13:50:09.3±0.6, 24.24S×66.85W, h177^{km}±5^{km}, mb4.6/5, Error ellipse: s-maj=9.4km s-min=6.5km az=71.0*

*GUC **07** 13:50:11.5±0.4, 24.38S×67.24W, h182^{km}±7^{km}, ML4.7*

ISC 07 13:50:08.1±0.6, 24.27S±0.04×66.89W±0.07, h178^{km}±6^{km}, n50, σ1^{s}16/47, mb4.4/15, 5C-8D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	2.48	311	P	P	13 50 53.3	+2.4
	165nm,0.3s,baz=130,slow=8.0,SNR=938						
LVC				S	S	13 51 25.1	+1.1
	326nm,0.3s,baz=17,slow=22,SNR=62						
LVC	**Limon Verde**	2.48	311	*e*P	P	13 50 53.2	+2.2
LVC				*e*S	S	13 51 25.2	+1.2
CPN1	**Cerro Paranal**	3.22	263	⇑*i*P	P	13 51 01.1	+1.1
CPN1				*i* S	S	13 51 38.9	-1.0
CPN1				AMP		13 51 41.3	
	comp=E,2µm,0.4s						
ANCH	**Antofagasta**	3.27	280	⇑*i*P	P	13 51 01.7	+1.0
ANCH				*i* S	S	13 51 39.4	-1.7
CPCH	**Copiapo**	4.38	225	⇓*i*P	P	13 51 14.3	-0.4
CPCH				*i* S	S	13 52 04.9	-1.3
LPAZ	**La Paz**	8.03	351	P	P	13 52 03.4	+0.8
	comp=E,15nm,0.3s,baz=153,slow=8.6,SNR=175						
LPAZ				S	S	13 53 30.6	-1.4
	comp=E,1.7nm,0.3s,baz=335,slow=17,SNR=3.5						
ARE	**Arequipa**	8.88	330	*e*P	P	13 52 13.0	-0.9
ARE				*e*S	S	13 53 46.0	-6.2
CPUP	**Villa Florida**	8.89	105	P	P	13 52 15.0	+1.0
	comp=E,0.7nm,0.3s,baz=318,slow=12,SNR=26						
TRQA	**Tornquist**	14.37	164	*e*P	P	13 53 24.1	-0.3
	comp=E,66nm,0.9s						
PLCA	**Paso Flores**	16.70	190	P	P	13 53 53.0	-0.2
	comp=E,1.4nm,0.3s,baz=13,slow=12,SNR=35						
BDFB	**Brasilia**	19.69	68	P	P	13 54 24.7	-0.9
	comp=E,11nm,0.3s,baz=246,slow=10.0,SNR=71						
USHA	**Ushuaia**	30.55	182	P	P	13 56 06.0	-0.8
	comp=E,8.6nm,0.7s,mb4.6,baz=339,slow=9.3,SNR=5.6						
VNA1	**Neumayer--Stat**	57.06	160	⇓*i*	P	13 59 40.8	+3.4
VNA1	**Neumayer--Stat**	57.06	160	⇓*i*	P	13 59 40.8	+3.4
VNA2	**Neumayer--Watz**	57.43	160	⇓*i*	P	13 59 42.9	+3.0
VNA2	**Neumayer--Watz**	57.43	160	⇓*i*	P	13 59 42.9	+3.0
SNAA	**Sanae**	59.06	161	⇓*i*	P	13 59 50.9	-0.4
SNAA	**Sanae**	59.06	161	⇓*i*	P	13 59 50.9	-0.4
SNAA	**Sanae**	59.06	161	⇑*i*	PcP	14 00 37.0	-0.9
SNAA	**Sanae**	59.06	161	⇑*i*	PcP	14 00 37.0	-0.9
QSPA	**South Pole Qui**	65.94	180	*e*P	P	14 00 37.2	+0.7
	comp=E,33nm,0.5s,mb5.4						
LIC	**Lamto**	67.43	72	*e*PKP1	P	14 00 46.9	-0.1
	comp=E,52nm,1.8s,mb5.1						
TIC	**Toumodi**	67.64	71	*e*PKP1	P	14 00 46.0	-2.3
	comp=E,5.7nm,0.2s,mb5.0						
KIC	**Kosan Boka**	67.74	72	*e*PKP1	P	14 00 46.7	-2.2
	comp=E,45nm,1.0s,mb5.1						
DBIC	**Dimbokro**	67.79	71	P	P	14 00 46.9	-2.3
	comp=E,5.0nm,0.8s,mb4.3,baz=216,slow=7.3,SNR=14						
DBIC	**Dimbokro**	67.79	71	P	P	14 00 46.9	-2.3
VNDA	**Vanda**	74.45	190	P	P	14 01 29.2	+1.4
	comp=E,4.4nm,1.0s,mb4.2,baz=115,slow=4.0,SNR=6.1						
NEN	**Nelson**	74.89	321	*e*P	P	14 01 31.5	+0.4
PDAR	**Pinedale Array**	77.43	329	P	P	14 01 44.6	-0.4
	comp=E,0.7nm,0.6s,mb3.5,baz=131,slow=7.3,SNR=8.0						
HWUT	**Hardware Ranch**	77.51	327	*e*P	P	14 01 45.7	+0.1
	comp=E,2.6nm,0.7s,mb4.0						
ULM	**Lac du Bonnet**	78.51	341	P	P	14 01 49.9	-1.0
	comp=E,2.6nm,0.6s,mb4.1,baz=126,slow=6.4,SNR=5.3						
OMM	**Old Mammoth Mi**	78.65	320	*e*P	P	14 01 52.8	+1.0
NVAR	**Mina Array Bea**	78.81	321	P	P	14 01 53.2	+0.5
	comp=E,0.9nm,0.7s,mb3.5,baz=140,slow=6.5,SNR=7.1						
NVAR	**Mina Array Bea**	78.81	321	P	P	14 01 53.2	+0.5
HLID	**Hailey**	80.37	327	*e*P	P	14 02 01.9	+1.0
	comp=E,2.7nm,0.5s,mb4.1						
HLID				*e*	pP	14 02 50.7	+6.0
MCMT	**McKenzie Canyo**	80.54	329	⇑*i*P	P	14 02 03.2	+1.4
MCMT				*e*	pP	14 02 52.0	+6.3
MAW	**Mawson**	81.15	163	⇓*i*P	P	14 02 05.4	+0.8
	comp=E,7.3nm,0.5s,mb4.6						
MAW	**Mawson**	81.15	163	P	P	14 02 05.5	+0.9
	comp=E,11nm,0.6s,mb4.7,baz=215,slow=5.8,SNR=56						
DPW	**Davenport**	85.30	328	*e*P	P	14 02 25.9	-0.1
ESDC	**Sonseca Array**	86.52	44	P	P	14 02 32.5	+0.4
	comp=E,1.8nm,0.9s,mb3.9,baz=231,slow=4.6,SNR=6.2						
YKA	**Yellowknife Ar**	94.41	340	P	P	14 03 07.6	-0.7
	comp=E,1.8nm,0.7s,mb4.3,baz=130,slow=4.5,SNR=13						
YKA	**Yellowknife Ar**	94.41	340	P	P	14 03 07.6	-0.7
ASAR	**Alice Springs**	128.25	204	PKP	PKPdf	14 08 54.7	+0.7
	comp=E,2.6nm,0.6s,baz=135,slow=1.7,SNR=38						
WB2	**Warramunga Arr**	131.43	207	*e*P	PKPdf	14 09 01.0	+0.9
WRA	**Warramunga Arr**	131.43	207	PKP	PKPdf	14 09 00.9	+0.9
	comp=E,2.1nm,0.4s,baz=158,slow=1.8,SNR=58						
FITZ	**Fitzroy Crossi**	136.15	197	PKP	PKPdf	14 09 10.2	+1.3
	comp=E,1.4nm,0.6s,baz=187,slow=2.3,SNR=8.6						
BVAR	**Borovoye Array**	136.95	37	PKP	PKPdf	14 09 10.6	+1.2
	comp=E,1.3nm,0.9s,baz=270,slow=1.5,SNR=4.9						
MKAR	**Makanchi Array**	146.67	40	PKPbc	PKPbc	14 09 28.4	+0.1
	comp=E,5.2nm,0.6s,baz=21,slow=1.6,SNR=27						
SONM	**Songino Array**	155.88	11	PKPab	PKPab	14 10 08.2	-2.4
	comp=E,0.5nm,0.6s,baz=333,slow=2.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	165.60	111	PKPab	PKPab	14 10 52.4	-1.0
	comp=E,0.4nm,0.4s,baz=253,slow=6.6,SNR=4.3						

MAN 07 13:52:08.8, 16.87N×120.99E, h16^{km}, mb4.0, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	0.63	219	⇓*i*P	Pb	13 52 20.2	-0.7
BCPH				*i* S	Sb	13 52 29.1	-0.1
CAUP	**Cauayan**	0.80	85	*e*P	Pb	13 52 24.4	+0.5
ABRA	**Dolores**	0.82	341	*e*P	Pb	13 52 22.9	-1.3
ABRA				*e*S	Sb	13 52 32.9	-1.9
BOLP	**Bolinao**	1.14	245	*e*P	Pb	13 52 29.8	0.0
BALP	**Baler**	1.26	153	*e*P	Pb	13 52 30.1	-1.6
PALP	**Palanan**	1.39	82	*e*P	Pn	13 52 32.9	-0.8

IDC 07 13:53:36.2±1.8, 9.20S×122.28E, mb3.8/1, mb1 3.6/4, mb1mx3.4/14, ML3.2/3, Error ellipse: s-maj=149.0km s-min=26.9km az=59.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	9.43	160	*e*P	P	13 55 53.8	-2.6
	1.2nm,0.6s						
FITZ				*e*S	Sn	13 57 27.8	-17
FITZ	**Fitzroy Crossi**	9.43	160	Pn	P	13 55 53.3	-3.1
	0.3nm,0.3s,baz=347,slow=10,SNR=7.4						
FITZ				Sn	Sn	13 57 25.3	-19
	0.3nm,0.3s,baz=135,slow=2.9,SNR=3.1						
KAKA	**Kakadu**	10.53	110	*e*P	P	13 56 12.5	+0.9
	2.9nm,0.3s						
WRA	**Warramunga Arr**	15.81	134	Pn	P	13 57 19.6	-2.4
	0.1nm,0.3s,baz=306,slow=13,SNR=6.4						
WRA				Sn	S	13 59 59.4	-19
	0.3nm,0.3s,baz=305,slow=24,SNR=6.7						
ASAR	**Alice Springs**	18.18	144	P	P	13 57 50.9	-1.1
	0.1nm,0.3s,baz=324,slow=12,SNR=6.3						
ASAR				S	S	14 00 55.8	-17
	0.1nm,0.3s,baz=315,slow=23,SNR=6.7						
MKAR	**Makanchi Array**	66.15	331	P	P	14 04 25.6	-2.2
	0.7nm,0.6s,baz=133,slow=7.5,SNR=5.0						

*BJI **07** 14:08:54.1, 51.75N×178.31W, h37^{km}, mB4.7, mb4.6, Ms4.6, Msz4.4*

*MOS **07** 14:08:54.7±1.1, 51.30N×178.24W, h58^{km}, mb4.2/8, Error ellipse: s-maj=23.7km s-min=15.0km az=83.8*

*NEIC **07** 14:08:56.0±0.3, 51.29N×178.24W, mb4.5/24, ML4.6(AEIC), Error ellipse: s-maj=6.8km s-min=4.0km az=169.0*

*IDC **07** 14:08:57.5±3.0, 51.34N×178.17W, h64^{km}±26^{km}, mb3.7/20, mb1 3.9/21, mb1mx3.9/28, ML3.5/1, MS3.4/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=20.9km s-min=11.4km az=170.0*

ISC 07 14:08:54.6±0.3, 51.27N±0.05×178.25W±0.04, h49^{km}, h49^{km}±1.7^{km}:pP-P, n125, σ0^{s}87/132, mb4.2/41, MS3.5/6, 1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	0.80	52	P	P	14 09 09.5	-0.2
KIWB	**Kanaga Island**	0.90	49	P	P	14 09 11.1	+0.1
KIKV	**Kanaga Island**	0.91	47	P	P	14 09 11.3	+0.1
KIRH	**Kanaga Island**	0.95	48	P	P	14 09 12.4	+0.5
KINC	**Kanaga Island**	0.96	46	P	P	14 09 12.2	+0.3
ADAG	**Mount Adagdak**	1.25	55	P	P	14 09 16.5	+0.5
ETKA	**Kagalaska Isla**	1.29	62	P	P	14 09 16.2	-0.5
GSCK	**Great Sitkin C**	1.50	60	P	P	14 09 20.4	+0.8
GSTD	**Great Sitkin T**	1.53	58	P	P	14 09 20.3	+0.3
GSTD				S	S	14 09 41.0	+2.2
GSSP	**Great Sitkin S**	1.53	57	P	P	14 09 20.6	+0.6
GSSP				S	S	14 09 40.3	+1.4
GSMY	**Great Sitkin M**	1.57	60	P	P	14 09 20.7	+0.2
GSTR	**Great Sitkin T**	1.59	58	P	P	14 09 21.6	+0.7
GSTR				S	S	14 09 39.8	-0.6
GSIG	**Igitkin Island**	1.61	63	P	P	14 09 21.2	0.0
ATKA	**Atka Island**	2.69	68	P	P	14 09 36.3	-0.1
ATKA				S	S	14 10 08.6	+0.7
SMY	**Shemya**	4.95	290	P	P	14 10 08.8	+0.5
SMY				S	S	14 11 04.2	-0.7
FX1	**Attu Island--F**	5.54	290	P	P	14 10 16.5	0.0
	5.3nm,0.3s,baz=176,slow=2.5,SNR=30						
FX1				S	S	14 11 21.7	+2.0
	6.1nm,0.3s,baz=332,slow=22,SNR=2.4						
FX1	**Attu Island--F**	5.54	290	P	P	14 10 16.5	0.0
FX1				S	S	14 11 21.7	+2.0
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	**Attu Island--F**	5.54	290	P	P	14 10 16.2	-0.3
NIKO	**Nikolski**	6.03	70	P	P	14 10 22.0	-1.4
SPIA	**Saint Paul Isl**	7.55	35	P	P	14 10 45.7	+1.1
UNV	**Unalaska Valle**	7.61	66	P	P	14 10 45.6	+0.1
SVW	**Sparrevohn**	15.90	43	*e*P	P	14 12 40.6	+4.5
	comp=Z,32nm,0.9s						
KDAK	**Kodiak Island**	16.19	56	*e*P	P	14 12 35.4	-4.5
	comp=Z,27nm,0.4s						
RSO	**Redoubt South**	16.90	47	*e*P	P	14 12 48.7	-0.1
SPU	**Mount Spurr**	17.49	45	*e*P	P	14 12 57.0	+0.8
SLKM	**Skilak Lake**	18.10	48	*e*P	P	14 13 03.5	-0.3
PMS	**Palmer South**	18.64	47	*e*P	P	14 13 09.0	-1.3
	comp=Z,1.5nm,0.4s						
IMA	**Indian Mountai**	19.36	31	*e*P	P	14 13 19.5	+1.0
	comp=Z,13nm,0.8s						
SML	**Sawmill**	19.39	46	*e*P	P	14 13 16.8	-1.9
MCK	**McKinley**	19.86	40	*e*P	P	14 13 22.2	-1.6
	comp=Z,9.3nm,0.7s						
DIV	**Divide**	20.37	48	*e*P	P	14 13 28.5	-0.7
	comp=Z,29nm,0.5s						
COLA	**College**	20.78	38	*e*P	P	14 13 35.0	+1.5
COLA				pmax	pmax		
	comp=Z,28nm,0.9s						
COLA	**College**	20.78	38	*e*P	P	14 13 35.0	+1.5
	comp=Z,28nm,0.9s						
THY	**Trims Highway**	21.05	42	*e*P	P	14 13 35.9	-0.4
ILAR	**Eielson Array**	21.11	38	P	P	14 13 36.0	-0.8
	comp=Z,2.4nm,0.5s,mb3.8,baz=240,slow=9.2,SNR=34						
ILAR				LR	LR	14 22 30.3	
	comp=Z,78nm,18.0s,MS3.1,baz=266,slow=39						
ILAR	**Eielson Array**	21.11	38	P	P	14 13 36.1	-0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR				MLR	MLR		
	comp=Z,79nm,18.0s						
DAWY	**Dawson**	23.95	43	*e*P	P	14 14 03.8	-0.8
YSS	**Yuzh-Sakhalins**	25.68	276	*e*P	P	14 14 20.0	-1.3
ASAJ	**Asahikawa**	27.05	270	LR	LR	14 23 21.5	
	comp=Z,44nm,19.9s,MS3.0,baz=2.7,slow=32						
INK	**Inuvik**	27.35	35	P	P	14 14 34.6	-1.9
	comp=Z,1.5nm,0.3s,mb3.9,baz=249,slow=8.9,SNR=6.4						
INK				LR	LR	14 27 10.1	
	comp=Z,123nm,18.3s,MS3.5,baz=207,slow=40						
INK	**Inuvik**	27.35	35	P	P	14 14 34.6	-1.9
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,123nm,18.3s						
INK	**Inuvik**	27.35	35	*e*P	P	14 14 33.2	-3.3
DLBC	**Dease Lake**	28.13	56	P	P	14 14 42.1	-1.6
	comp=Z,0.4nm,0.5s,mb3.4,baz=222,slow=20,SNR=2.4						
DLBC				LR	LR	14 25 20.8	
	comp=Z,100nm,20.1s,MS3.4,baz=286,slow=35						
YKA	**Yellowknife Ar**	35.05	46	P	P	14 15 42.3	-1.9
	comp=Z,2.0nm,0.5s,mb4.3,baz=276,slow=9.0,SNR=14						
YKA				PcP	PcP	14 18 12.3	-3.2
	comp=Z,0.5nm,0.5s,baz=283,slow=3.2,SNR=5.1						
YKA				LR	LR	14 30 56.1	
	comp=Z,101nm,20.8s,MS3.5,baz=280,slow=38						
YKA	**Yellowknife Ar**	35.05	46	P	P	14 15 42.3	-1.9
YKA						14 18 12.3	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,101nm,20.8s						
YKA	**Yellowknife Ar**	35.05	46	P	P	14 15 42.3	-1.9
YKA				PcP	PcP	14 18 12.3	-3.2
YKA				LR	LR	14 30 56.1	
BMW	**Boistfort Moun**	35.78	76	P	P	14 15 51.1	+0.5
RPW	**Rockport**	35.91	72	*e*P	P	14 15 51.1	-0.5
FMW	**Mount Fremont**	36.51	74	P	P	14 15 58.0	+1.3
LON	**Longmire**	36.51	74	*e*P	P	14 15 57.3	+0.5
PNT	**Penticton**	36.65	69	P	P	14 15 58.2	+0.3
NLW	**Nelson Butte**	36.78	72	*e*P	P	14 15 59.3	+0.3
HSO	**Harness Mounta**	37.35	80	*e*P	P	14 16 05.5	+1.7
HUOR	**Husband**	37.80	78	P	P	14 16 09.2	+1.7
CROR	**Criterion Ridg**	37.88	76	P	P	14 16 09.4	+1.2
CN2	**Changchun**	37.91	281	*e*P	P	14 16 09.7	+1.2
HAWA	**Hanford**	38.06	74	*e*P	P	14 16 09.5	-0.2
	comp=Z,10nm,0.8s,mb4.6						
DPW	**Davenport**	38.14	71	*e*P	P	14 16 09.8	-0.5
VIPM	**Ingram Point**	38.35	77	P	P	14 16 13.3	+1.2
YBH	**Yreka Blue Hor**	38.55	82	*e*P	P	14 16 14.6	+0.8
	comp=Z,2.3nm,0.6s,mb4.1						
NEW	**Newport**	38.60	70	*e*P	P	14 16 13.9	-0.2
	comp=Z,8.5nm,0.8s,mb4.5						
HOPS	**Hopland**	39.90	86	P	P	14 16 25.5	+0.4
MOD	**Modoc**	39.95	80	*e*P	P	14 16 25.9	+0.5
	comp=Z,6.2nm,0.6s,mb4.5						
WVOR	**Wild Horse Val**	40.68	78	*e*P	P	14 16 31.8	+0.3
	comp=Z,15nm,0.8s,mb4.7						
OHCM	**Honcut**	40.69	84	*e*P	P	14 16 31.4	-0.2
CMB	**Columbia Colle**	42.16	85	*e*P	P	14 16 44.0	+0.4
	comp=Z,3.3nm,0.9s,mb4.0						
HRY	**Holter Researc**	42.48	69	*e*P	P	14 16 45.9	-0.2
HLID	**Hailey**	42.64	74	*e*P	P	14 16 47.4	0.0
	comp=Z,6.3nm,0.9s,mb4.3						
MCMT	**McKenzie Canyo**	42.88	72	*e*P	P	14 16 49.2	-0.2
BOZ	**Bozeman (W)**	43.16	70	*e*P	P	14 16 51.2	-0.5
	comp=Z,5.3nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	43.22	83	P	P	14 16 52.7	+0.4
	comp=Z,2.8nm,0.7s,mb4.1,baz=301,slow=6.0,SNR=22						
TPH	**Tonopah**	44.11	83	*e*P	P	14 16 59.9	+0.4
	comp=Z,4.5nm,0.8s,mb4.2						
HVU	**Hansel Valley**	44.64	76	*e*P	P	14 17 03.6	0.0
HWUT	**Hardware Ranch**	45.48	75	*e*P	P	14 17 10.3	-0.1
	comp=Z,5.6nm,1.0s,mb4.3						
DUG	**Dugway**	45.55	77	*e*P	P	14 17 11.1	+0.1
	comp=Z,13nm,0.6s,mb5.0						
TCUT	**Toone Canyon**	45.86	75	*e*P	P	14 17 13.3	-0.1
PDAR	**Pinedale Array**	46.01	72	P	P	14 17 14.7	+0.1
	comp=Z,9.6nm,1.0s,mb4.7,baz=304,slow=5.3,SNR=41						
JLU	**Jordanelle**	46.15	76	*e*P	P	14 17 14.9	-0.8
DAU	**Daniels Canyon**	46.38	76	*e*P	P	14 17 18.2	+0.7
MPU	**Maple Canyon**	46.38	77	*e*P	P	14 17 17.7	+0.2
MVU	**Marysvale**	46.95	79	*e*P	P	14 17 22.1	+0.1
	comp=Z,6.5nm,0.8s,mb4.6						
MSU	**Marysvale**	46.97	79	*e*P	P	14 17 22.4	+0.2
SONM	**Songino Array**	47.00	297	P	P	14 17 22.7	+0.4
	comp=Z,0.4nm,0.7s,mb3.5,baz=45,slow=10,SNR=4.9						
SONM				PcP	PcP	14 18 55.3	+0.9
	comp=Z,0.7nm,0.9s,baz=34,slow=5.2,SNR=2.9						
ZAK	**Zakamensk**	47.31	301	*e*P	P	14 17 30.3	+5.6
LDFC	**Landfair**	47.32	84	*e*P	P	14 17 24.1	-0.9
SRU	**San Rafael**	47.62	77	*e*P	P	14 17 27.0	-0.2
SSE	**Sheshan**	48.34	270	⇓P	P	14 17 35.8	+2.8
SSE				AMB	AMB		
	comp=Z,34nm,0.6s						
SSE				AMB	AMB		
	comp=Z,51nm,4.7s						
PV10	**Paradox Valley**	48.98	77	*e*P	P	14 17 38.1	+0.2
WUAZ	**Wupatki**	49.36	81	*e*P	P	14 17 40.9	0.0
	comp=Z,3.0nm,0.5s,mb4.6						
PV01	**Paradox Valley**	49.42	77	*e*P	P	14 17 40.5	-0.7
RW3	**Ridgway**	49.89	76	*e*P	P	14 17 44.6	-0.2
SDCO	**Great Sand Dun**	51.54	75	*e*P	P	14 17 57.0	-0.3
	comp=Z,4.0nm,0.7s,mb4.5						
TUC	**Tucson**	51.85	84	*e*P	P	14 17 59.1	-0.7
	comp=Z,2.2nm,0.8s,mb4.1						
TUC				*e*pP	pP	14 18 12.3	-0.9
LAZ	**Ladron**	52.72	80	*e*P	P	14 18 06.4	+0.2
FRB	**Frobisher Bay**	52.94	32	P	P	14 18 05.7	-1.8
	comp=Z,6.3nm,0.7s,mb4.6,baz=120,slow=2.9,SNR=6.0						
FRB	**Frobisher Bay**	52.94	32	P	P	14 18 05.7	-1.8
FRB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	55.93	292	*e*P	P	14 18 29.5	-0.1
GTA				AP	pP	14 18 43.3	0.0
GTA				XP	sP	14 18 48.7	-0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
WMOK	**Wichita Mounta**	57.59	74	*e*P	P	14 18 40.1	-1.5
	comp=Z,3.0nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	58.26	350	P	P	14 18 43.9	-1.8
	comp=Z,1.0nm,0.6s,mb4.0,baz=23,slow=9.2,SNR=6.7						
ARCES	**ARCESS Array B**	58.26	350	P	P	14 18 43.9	-1.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LTX	**Lajitas**	58.33	82	*e*P	P	14 18 45.6	-1.1
TXAR	**Lajitas Array**	58.33	82	P	P	14 18 45.6	-1.1
	comp=Z,1.9nm,0.7s,mb4.2,baz=305,slow=5.5,SNR=21						
WMQ	**Urumqi**	59.69	303	P	P	14 18 56.7	+0.7
WMQ				AP	pP	14 19 11.9	+2.2

WMQ				PCP	PcP	14 19 42.9	+0.6
WMQ				S	**S**	**14 27 01.5**	**+0.3**
WMQ				PS	PS	14 27 24.7	+1.3
WMQ				LR	LR		
	comp=N,386nm,19.0s						
WMQ				LR	LR		
	comp=E,736nm,28.0s						
WMQ				LR	LR		
	comp=Z,340nm,23.2s,MS4.4						
MKAR	**Makanchi Array**	**60.37**	**309**	P	**P**	**14 18 58.9**	**-1.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=49,slow=8.3,SNR=2.8						
GYA	**Guiyang**	**60.68**	**277**	*e*P	**P**	**14 19 05.0**	**+2.0**
GYA				AP	pP	14 19 18.2	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**61.20**	**320**	P	**P**	**14 19 05.1**	**-1.0**
	comp=Z,0.4nm,0.3s,mb4.0,baz=49,slow=8.0,SNR=6.3						
KMI	**Kunming**	**64.08**	**278**	*e*P	**P**	**14 19 25.7**	**+0.1**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.2						
SSPA	**Standing Stone**	**65.24**	**56**	P	**P**	**14 19 32.5**	**-0.3**
MYNC	**Murphy**	**65.92**	**64**	*e*P	**P**	**14 19 36.0**	**-1.3**
	comp=Z,14nm,0.5s,mb5.3						
MYNC				*e*pP	pP	14 19 49.2	-2.1
FINES	**FINESS Array B**	**65.97**	**347**	P	**P**	**14 19 36.6**	**-0.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=14,slow=7.9,SNR=4.8						
FINES	**FINESS Array B**	**65.97**	**347**	P	**P**	**14 19 36.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**67.78**	**355**	P	**P**	**14 19 47.8**	**-0.7**
	comp=Z,0.8nm,0.9s,mb3.7,baz=237,slow=22,SNR=2.3						
NOA	**NORSAR Array B**	**67.78**	**355**	P	**P**	**14 19 47.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.37**	**276**	P	**P**	**14 20 11.0**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=10,slow=7.7,SNR=4.3						
KKN	**Kakani**	**72.66**	**293**	*e*P	**P**	**14 20 18.7**	**0.0**
	comp=Z,9.9nm,0.5s,mb5.0						
PKI	**Pulchoki**	**72.75**	**293**	*e*P	**P**	**14 20 19.6**	**+0.4**
GKN	**Gorkha**	**72.87**	**293**	*e*P	**P**	**14 20 20.4**	**+0.5**
DMN	**Daman**	**72.89**	**293**	*e*P	**P**	**14 20 20.6**	**+0.5**
KOLN	**Koldanda**	**73.64**	**294**	*e*P	**P**	**14 20 24.8**	**+0.4**
GERES	**GERESS Array B**	**79.74**	**352**	P	**P**	**14 20 58.0**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=163,slow=28,SNR=5.6						
WRA	**Warramunga Arr**	**82.18**	**224**	P	**P**	**14 21 10.9**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=33,slow=5.9,SNR=7.5						
WRA	**Warramunga Arr**	**82.18**	**224**	P	**P**	**14 21 10.9**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**84.67**	**232**	P	**P**	**14 21 24.3**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.1,baz=35,slow=7.7,SNR=5.4						
BRTR	**Keskin Array B**	**85.19**	**336**	P	**P**	**14 21 27.1**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.9,baz=27,slow=2.8,SNR=4.1						
ASAR	**Alice Springs**	**85.64**	**223**	P	**P**	**14 21 29.5**	**+0.5**
	comp=Z,0.5nm,0.6s,mb4.0,baz=26,slow=5.6,SNR=10						

IDC 07 14:16:11.1±15.0**, 17.67S**×**175.63W, h625**^{km}±216^{km}**, mb2.9**/8**, mb1 3.2**/8**, mb1mx3.1**/16**, Error ellipse: s-maj=87.9km s-min=56.8km az=164.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.10**	**260**	P	P	14 22 23.2	-0.8
	2.8nm,0.7s,baz=50,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**41.07**	**242**	P	P	14 23 02.7	-1.3
	2.1nm,0.8s,baz=45,slow=5.7,SNR=2.7						
WRA	**Warramunga Arr**	**47.28**	**259**	P	P	14 23 50.7	-1.3
	0.8nm,0.6s,baz=97,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**47.40**	**254**	P	P	14 23 50.3	-2.6
	7.6nm,0.8s,baz=88,slow=6.5,SNR=29						
NVAR	**Mina Array Bea**	**77.44**	**43**	P	P	14 27 02.7	-2.2
	0.6nm,0.8s,baz=208,slow=8.0,SNR=3.6						
TXAR	**Lajitas Array**	**83.64**	**57**	P	P	14 27 37.3	+0.3
	0.1nm,0.4s,baz=135,slow=48,SNR=2.1						
ILAR	**Eielson Array**	**85.09**	**12**	P	P	14 27 42.9	-0.3
	0.6nm,1.0s,baz=226,slow=3.4,SNR=4.7						
PDAR	**Pinedale Array**	**85.37**	**42**	P	P	14 27 43.5	-1.5
	1.1nm,0.9s,baz=237,slow=2.1,SNR=8.5						

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*IDC **07** 14:18:32.0±0.3, 6.23S×95.58E, mb5.3/27, mb1 5.4/27, mb1mx5.4/27, MS5.0/17, Ms1 5.0/17, ms1mx5.0/19, Error ellipse: s-maj=12.9km s-min=9.9km az=62.0*

*HRVD **07** 14:18:35.2±0.2, 6.23S×95.61E, h22^{km}, MW5.6/64, Centroid moment Tensor Solution. LP body waves: s51,c103;Mantle waves: s64,c146; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.58±.05; $M_{\theta\theta}$-1.20±.04; $M_{\phi\phi}$-0.38±.05; $M_{r\theta}$-0.95±.08; $M_{\theta\phi}$-1.96±.03; $M_{\phi r}$0.68±.09; Best double couple: $M_0$2.68×10^{17} NP1:ϕ_s18°, δ54°, λ37°. NP2:ϕ_s264°, δ61°, λ137°. Principal axes: T 2.55, Plg50°, Azm227°; N .27, Plg40°, Azm56°; P -2.81, Plg4°, Azm322°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 14:18:35.2±0.1, 6.24S×95.67E, mb5.8/101, MS4.9/33, MW5.5 Error ellipse: s-maj=5.1km s-min=2.9km az=205.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17} Nm; M_{rr}1.67; $M_{\theta\theta}$-1.31; $M_{\phi\phi}$-0.36; $M_{r\theta}$-0.85; $M_{\theta\phi}$-0.57; $M_{\phi r}$0.13; Best double couple: $M_0$1.8×10^{17} NP1:ϕ_s53°, δ34°, λ68°. NP2:ϕ_s259°, δ58°, λ104°. Principal axes: T 1.93, Plg73°, Azm204°; N -.2, Plg12°, Azm71°; P -1.73, Plg12°, Azm338°;*

*BJI **07** 14:18:35.2, 6.20S×95.70E, h20^{km}, mB5.7, mb5.7, Ms5.3, Msz5.1*

*SYO **07** 14:18:35.2, 6.24S×95.67E, h21^{km}, MB5.8, MS4.9*

*MOS **07** 14:18:36.2±1.1, 6.12S×95.73E, h37^{km}, mb5.9/42, MS5.0/38, Error ellipse: s-maj=12.0km s-min=6.0km az=115.4*

*DJA **07** 14:18:36.1±3.0, 6.27S×96.13E, h2^{km}, mb5.6/4, Error ellipse: s-maj=97.1km s-min=13.9km az=77.0*

*CSEM **07** 14:18:39.1, 5.35S×95.78E, h33^{km}, mb6.0*

ISC 07 14:18:34.0±0.1**, 6.24S**±0.03×**95.66E**±0.02**, h22**^{km}**, h22**^{km}±.5^{km}**:pP-P, n728,** σ**0^{s}88**/628**, mb5.7**/189**, MS5.0**/91**, 221C-43D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**7.44**	**40**	⇓*i*Pn	**Pn**	**14 20 22.0**	**-2.1**
KGM	**Kluang**	**11.21**	**43**	⇑*i*P	**P**	**14 21 15.5**	**-0.8**
	1µm,1.0s						
KGM				*e*		14 22 22.0	
IPM	**Ipoh**	**12.01**	**27**	⇑*e*P	**P**	**14 21 26.5**	**-0.6**
	95nm,0.6s						
KELI	**Kelakatan**	**18.79**	**97**	⇓*e*P	**P**	**14 22 53.9**	**-0.6**
KELI	**Kelakatan**	**18.79**	**97**	⇓*e*P	**P**	**14 22 55.3**	**+0.8**
NNT	**Nongplab**	**19.14**	**12**	P	**P**	**14 23 02.0**	**+3.4**
INGI	**Ingas**	**19.49**	**99**	⇓*e*P	**P**	**14 23 01.1**	**-1.6**
RATI	**Rata**	**19.86**	**98**	⇑*e*P	**P**	**14 23 05.9**	**-0.9**
RATI	**Rata**	**19.86**	**98**	⇓*e*P	**P**	**14 23 05.2**	**-1.6**
PALK	**Pallekele**	**20.07**	**312**	Pn	**P**	**14 23 09.3**	**+0.3**
	1µm,1.1s,SNR=26						
PALK	**Pallekele**	**20.07**	**312**	*e*P	**P**	**14 23 08.3**	**-0.7**
	185nm,0.7s						
PALK				LR	LR		
	comp=Z,1µm,20.0s,MS4.3						
KEDI	**Kedomdong**	**20.41**	**98**	⇓*e*P	**P**	**14 23 10.5**	**-2.1**
	comp=Z,553nm,0.9s						
KEDI	**Kedomdong**	**20.41**	**98**	⇓*e*P	**P**	**14 23 10.0**	**-2.6**
	comp=Z,277nm,0.9s						
NST	**Nakhon Sawan**	**22.21**	**11**	P	**P**	**14 23 32.0**	**+1.2**
DGAR	**Diego Garcia**	**23.07**	**266**	*e*P	**P**	**14 23 40.7**	**+1.3**
	comp=Z,1µm,1.1s,mb6.2						
KKTK	**Khon Kaen**	**23.52**	**17**	PN	**P**	**14 23 45.5**	**+1.8**
BDT	**Bhumibol Dam**	**23.56**	**8**	P	**P**	**14 23 46.0**	**+1.9**
	comp=Z,51nm,1.0s,mb4.9						
TRD	**Trivandrum**	**23.71**	**308**	*e*P	**P**	**14 23 45.4**	**-0.2**
TRD				*e*		14 23 57.3	
	comp=Z,319nm,2.6s						
TANI	**Tanete Lipujan**	**23.80**	**84**	⇓*e*P	**P**	**14 23 47.3**	**+0.8**
	comp=Z,86nm,1.3s,mb4.7						
KKM	**Kota Kinabalu**	**23.87**	**60**	⇑*e*P	**P**	**14 23 50.0**	**+2.8**
NINI	**Niniconang**	**24.06**	**87**	⇓*e*P	**P**	**14 23 48.8**	**-0.3**
	comp=Z,476nm,1.1s,mb5.5						
NINI	**Niniconang**	**24.06**	**87**	⇑*e*P	**P**	**14 23 51.1**	**+2.0**
	comp=Z,238nm,1.1s,mb5.5						
MDRS	**Chennai**	**24.54**	**321**	⇓*e*	**P**	**14 24 01.0**	**+7.3**
BUNI	**Buntu Taipa**	**24.70**	**85**	⇓*e*P	**P**	**14 23 55.8**	**+0.5**
	comp=Z,750nm,1.3s,mb5.8						
BUNI	**Buntu Taipa**	**24.70**	**85**	⇓*e*P	**P**	**14 23 56.2**	**+0.9**
	comp=Z,375nm,1.3s,mb5.8						
CMAR	**Chiang Mai Arr**	**24.75**	**7**	P	**P**	**14 23 56.6**	**+1.0**
	comp=Z,27nm,0.8s,mb4.9,baz=203,slow=9.1,SNR=93						
CMAR				S	**S**	**14 28 20.5**	**+6.8**
	comp=Z,1.5nm,0.7s,baz=189,slow=4.2,SNR=2.3						
CMAR				LR	LR	14 33 09.0	
	comp=Z,3µm,20.3s,MS4.8,baz=200,slow=35						
CMAR				P3KPbc		14 57 02.2	
	comp=Z,1.5nm,1.1s,baz=345,slow=5.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**24.75**	**7**	P	**P**	**14 23 56.7**	**+1.0**
CMAR				S	**S**	**14 28 20.5**	**+6.8**
CMAR				pmax	pmax		
	comp=Z,27nm,0.8s						
CMAR				smax			
	comp=Z,2.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,3µm,20.3s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CHG	**Chiang Mai**	**25.10**	**7**	⇑P	**P**	**14 24 00.0**	**+1.0**
	comp=Z,44nm,1.0s,mb5.0						
NANT	**Nan**	**25.37**	**11**	P	**P**	**14 24 03.0**	**+1.5**
	comp=Z,331nm,1.0s,mb5.8						
CHRT	**Chiangrai**	**26.26**	**9**	⇑P	**P**	**14 24 11.5**	**+1.7**
	comp=Z,1µm,0.6s,mb6.7						
CUD	**Cuddapah**	**26.54**	**321**	*e*P	**P**	**14 24 13.4**	**+1.0**
CUD				*e*	pP	14 24 21.4	+2.6
CUD				*e*		14 24 42.4	
CUD				*e*S	**S**	**14 28 48.6**	**+5.2**
CUD				*e*		14 31 31.2	
VIS	**Vishakhapatnam**	**26.74**	**333**	*e*	**P**	**14 24 24.9**	**+11**
MNCY	**Minicoy**	**26.77**	**302**	⇓*i*P	**P**	**14 24 13.0**	**-1.5**
MNCY				*i*		14 24 50.0	
QIZ	**Qiongzhong**	**28.73**	**29**	⇑*i*P	**P**	**14 24 33.4**	**+1.1**
QIZ				AP	pP	14 24 39.2	+0.5
QIZ				S	**S**	**14 29 24.6**	**+5.7**
QIZ				XS		14 29 37.3	
QIZ				AMB	AMB		
	comp=Z,356nm,3.8s						
QIZ				LR	LR		
	comp=N,2µm,18.2s,MS4.9						
QIZ				LR	LR		
	comp=E,2µm,21.9s,MS4.9						
QIZ	**Qiongzhong**	**28.73**	**29**	*e*P	**P**	**14 24 33.6**	**+1.3**
	comp=E,250nm,1.4s,mb5.8						
QIZ				LR	LR		
	comp=Z,616nm,19.0s,MS4.2						
HYB	**Hyderabad**	**28.95**	**325**	*i* P	**P**	**14 24 35.0**	**+0.8**
	comp=Z,120nm,1.0s,mb5.6						
HYB				*e*pP	pP	14 24 41.0	+0.3
HYB				*e*PcP	PcP	14 27 36.0	-7.1
HYB				*e*S	**S**	**14 29 23.0**	**+0.7**
HYB				LR	LR	14 33 12.0	
	comp=Z,4.4nm,22.0s						
HYB	**Hyderabad**	**28.95**	**325**	*e*P	**P**	**14 24 35.0**	**+0.8**
	comp=Z,120nm,1.0s,mb5.6						
HYB				*e*	pP	14 24 41.0	+0.3
HYB				*e*S	**S**	**14 29 20.0**	**-2.3**
CAL	**Calcutta**	**29.48**	**346**	*e*P	**P**	**14 24 39.0**	**0.0**
LATR	**Latur**	**30.90**	**323**	*e*	**P**	**14 24 57.5**	**+5.9**
	comp=Z,101nm,1.2s,mb5.5						
BLSP	**Bilaspur**	**31.15**	**335**	⇓*i*P	**P**	**14 24 53.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**31.53**	**115**	*e*P	**P**	**14 24 56.2**	**-1.0**
	comp=Z,24nm,0.8s,mb5.1						
FITZ				*e*S	**S**	**14 30 02.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**31.53**	**115**	P	**P**	**14 24 56.3**	**-0.8**
	comp=Z,25nm,0.9s,mb5.1,baz=306,slow=4.2,SNR=42						
SHL	**Shillong**	**31.82**	**354**	*e*P	**P**	**14 25 00.0**	**+0.3**
	comp=Z,215nm,1.0s,mb5.9						
SHL				*e*S	**S**	**14 30 20.0**	**+12**
KMI	**Kunming**	**31.92**	**12**	⇑*i*P	**P**	**14 25 02.6**	**+2.1**
KMI				AP	pP	14 25 08.8	+1.8
KMI				XP	sP	14 25 10.9	+1.1
KMI				PP	PP	14 26 07.1	+0.5
KMI				PPP	PPP	14 26 26.3	+4.7
KMI				S	**S**	**14 30 14.6**	**+5.4**
KMI				XS		14 30 23.3	
KMI				SS	SS	14 32 03.9	+2.4
KMI				LR	LR		
	comp=N,3µm,17.8s,MS5.2						
KMI				LR	LR		
	comp=E,5µm,20.9s,MS5.2						
KMI				LR	LR		
	comp=Z,3µm,18.0s,MS5.0						
MUN	**Mundaring**	**32.01**	**146**	*e*P	**P**	**14 25 00.8**	**-0.4**
	comp=Z,46nm,1.0s,mb5.3						
TGY	**Tagaytay City**	**32.21**	**51**	P	**P**	**14 25 04.3**	**+1.2**
	comp=Z,76nm,0.5s,mb5.8,baz=141,slow=16,SNR=2.1						
TGY	**Tagaytay City**	**32.21**	**51**	P	**P**	**14 25 04.3**	**+1.2**
TGY				pmax	pmax		
	comp=Z,76nm,0.5s						
KLBR	**Kellerberrin**	**32.61**	**143**	*e*P	**P**	**14 25 05.3**	**-1.2**
	comp=Z,38nm,1.0s,mb5.3						
POO	**Poona**	**32.68**	**319**	*e*P	**P**	**14 25 06.3**	**-0.9**
POO				*e*S	**S**	**14 30 29.2**	**+8.1**
POO				AMS	AMS	14 40 41.0	
	comp=Z,3µm,10.9s,MS5.2						
LQP	**Lukban**	**32.68**	**52**	⇓*e*P	**P**	**14 25 08.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**33.29**	**146**	P	**P**	**14 25 11.8**	**-0.6**
	comp=Z,56nm,1.1s,mb5.4,baz=310,slow=11,SNR=11						
NWAO				LR	LR	14 38 07.8	
	comp=Z,3µm,18.6s,MS5.0,baz=126,slow=35						
NWAO	**Narrogin (SRO)**	**33.29**	**146**	P	**P**	**14 25 11.8**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,56nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,3µm,18.6s						
NWAO	**Narrogin (SRO)**	**33.29**	**146**	*e*P	**P**	**14 25 10.3**	**-2.0**
	comp=Z,126nm,1.3s,mb5.7						
BOM	**Bombay**	**33.62**	**318**	*e*P	**P**	**14 25 13.2**	**-2.2**
BOM				*e*S	**S**	**14 30 42.9**	**+7.1**
	comp=Z,797nm,2.5s						
GYA	**Guiyang**	**34.21**	**18**	⇑*i*P	**P**	**14 25 21.5**	**+1.1**
GYA				AP	pP	14 25 27.8	+0.9
GYA				XP	sP	14 25 30.8	+1.1
GYA				PP	PP	14 26 31.0	-4.3
GYA				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
GYA				LR	LR		
	comp=N,2µm,18.3s,MS5.1						
GYA				LR	LR		
	comp=E,2µm,15.0s,MS5.1						
GYA				LR	LR		
	comp=Z,2µm,20.4s						
BHPL	**Bhopal**	**34.29**	**329**	*e*P	**P**	**14 25 22.2**	**+1.1**
BHPL				*e*	pP	14 25 30.0	+2.4
	comp=Z,137nm,1.5s						
PKI	**Pulchoki**	**35.04**	**344**	*e*P	**P**	**14 25 27.3**	**-0.2**
	comp=Z,155nm,1.1s,mb5.8						
DMN	**Daman**	**35.16**	**344**	*e*P	**P**	**14 25 28.2**	**-0.3**
	comp=Z,175nm,0.9s,mb6.0						
KKN	**Kakani**	**35.28**	**344**	*e*P	**P**	**14 25 29.8**	**+0.2**
	comp=Z,180nm,0.8s,mb6.0						
GKN	**Gorkha**	**35.66**	**343**	*e*P	**P**	**14 25 32.4**	**-0.4**
	comp=Z,252nm,1.0s,mb6.1						
KOLN	**Koldanda**	**35.76**	**342**	*e*P	**P**	**14 25 32.9**	**-0.7**
	comp=Z,116nm,0.8s,mb5.9						
LSA	**Lhasa**	**35.99**	**353**	P	**P**	**14 25 37.1**	**+1.5**
LSA				AP	pP	14 25 43.7	+1.6
LSA				XP	sP	14 25 47.7	+2.8
LSA				S	**S**	**14 31 14.3**	**+2.0**
LSA				LR	LR		
	comp=N,710nm,17.5s,MS4.7						
LSA				LR	LR		
	comp=E,880nm,17.5s,MS4.7						
LSA				LR	LR		
	comp=Z,1µm,17.5s,MS4.8						
LSA	**Lhasa**	**35.99**	**353**	*e*P	**P**	**14 25 37.5**	**+2.0**
	comp=Z,161nm,0.9s,mb6.0						
KAKA	**Kakadu**	**36.78**	**103**	⇓*i*P	**P**	**14 25 41.1**	**-1.2**
	comp=Z,44nm,0.7s,mb5.4						
AGRA	**Agra**	**37.42**	**334**	*e*P	**P**	**14 25 45.9**	**-1.8**
AGRA				AMb	AMB	14 25 57.5	
	comp=Z,98nm,0.3s,mb6.1						
CD2	**Chengdu**	**37.74**	**11**	⇑*i*P	**P**	**14 25 50.7**	**+0.5**
CD2				AP	pP	14 25 56.7	-0.1
CD2				XP	sP	14 26 00.5	+0.9
CD2				PP	PP	14 27 17.7	-1.8
CD2				S	**S**	**14 31 40.8**	**+1.8**
CD2				XS		14 31 50.7	
CD2				SS	SS	14 34 18.8	+4.5
CD2				AMB	AMB		
	comp=Z,180nm,0.9s,mb5.8						
CD2				LR	LR		
	comp=E,4µm,20.4s						
CD2				LR	LR		
	comp=Z,2µm,19.2s,MS5.0						
AJM	**Ajmer**	**38.38**	**329**	⇓*i*P	**P**	**14 25 57.0**	**+1.4**
	comp=Z,153nm,1.5s,mb5.5						
LGTI	**Lohaghat**	**38.45**	**338**	⇓*e*P	**P**	**14 25 56.5**	**+0.3**
PTH	**Pithoragarh**	**38.55**	**338**	*e*P	**P**	**14 25 56.0**	**-1.1**
ENH	**Enshi**	**38.65**	**19**	*e*P	**P**	**14 25 58.1**	**+0.3**
	comp=Z,212nm,1.0s,mb5.8						
SONA	**Sohna**	**38.69**	**333**	*e*P	**P**	**14 25 57.4**	**-0.8**
SONA				*e*		14 26 06.3	
	comp=Z,72nm,1.4s						
KUDL	**Kundal**	**38.87**	**332**	*e*P	**P**	**14 25 59.3**	**-0.4**
KUDL				*e*		14 26 08.1	
	comp=Z,92nm,1.6s						
AYAN	**Aya Nagar**	**38.87**	**334**	*e*P	**P**	**14 25 59.0**	**-0.8**
AYAN				*e*		14 26 07.7	
	comp=Z,69nm,1.1s						
FORT	**Forrest**	**38.98**	**133**	⇑*i*P	**P**	**14 26 01.3**	**+0.6**
	comp=Z,103nm,0.6s,mb5.7						
NDI	**New Delhi**	**39.00**	**334**	*e*P	**P**	**14 26 01.0**	**+0.2**
KHET	**Khetri**	**39.12**	**332**	*e*P	**P**	**14 26 01.6**	**-0.3**
KHET				*e*		14 26 10.7	
	comp=Z,87nm,1.1s						
JOSI	**Joshimath**	**39.70**	**338**	*e*P	**P**	**14 26 08.2**	**+1.6**
TATO	**Taipei**	**39.93**	**38**	*e*P	**P**	**14 26 06.1**	**-2.5**
	comp=Z,140nm,1.3s,mb5.5						
WRA	**Warramunga Arr**	**39.94**	**114**	P	**P**	**14 26 08.9**	**+0.1**
	comp=Z,98nm,0.9s,mb5.5,baz=286,slow=9.3,SNR=271						
WRA	**Warramunga Arr**	**39.94**	**114**	P	**P**	**14 26 08.9**	**+0.2**
WRA				pmax	pmax		
	comp=Z,98nm,0.9s						
WRAB	**Tennant Creek**	**39.95**	**114**	*e*P	**P**	**14 26 08.5**	**-0.3**
	comp=Z,141nm,0.9s,mb5.7						
WB2	**Warramunga Arr**	**39.95**	**114**	⇓*i*P	**P**	**14 26 08.8**	**0.0**
DDI	**Dehra Dun**	**40.08**	**336**	*e*P	**P**	**14 26 09.2**	**-0.5**
ASPA	**Alice Springs**	**40.63**	**119**	⇓*i*P	**P**	**14 26 14.4**	**+0.1**
ASAR	**Alice Springs**	**40.63**	**119**	P	**P**	**14 26 14.4**	**+0.1**
	comp=Z,41nm,1.1s,mb5.0,baz=289,slow=7.7,SNR=112						
ASAR				LR	LR	14 43 36.7	
	comp=Z,2µm,18.1s,MS4.9,baz=290,slow=37						
WHN	**Wuhan**	**40.72**	**25**	⇓P	**P**	**14 26 16.5**	**+1.5**
WHN				AP	pP	14 26 22.5	+0.9
WHN				XP	sP	14 26 29.2	+4.9
WHN				S	**S**	**14 32 29.0**	**+5.1**
WHN				AMB	AMB		
	comp=Z,122nm,1.5s,mb5.3						
WHN				LR	LR		
	comp=Z,4µm,19.5s,MS5.3						
JASL	**Jaisalmer**	**40.76**	**325**	*e*P	**P**	**14 26 15.8**	**+0.4**
KLP	**Kalpa**	**41.07**	**337**	*e*P	**P**	**14 26 17.3**	**-0.5**
SDNR	**Sundarnagar**	**41.55**	**336**	*e*P	**P**	**14 26 21.6**	**-0.3**
XAN	**Xi’an**	**41.98**	**17**	P	**P**	**14 26 25.6**	**+0.2**
XAN				S	**S**	**14 32 41.7**	**-0.9**
XAN				AMB	AMB		
	comp=Z,124nm,1.2s,mb5.4						
XAN				LR	LR		
	comp=N,2µm,16.5s,MS5.1						
XAN				LR	LR		
	comp=E,1µm,16.5s,MS5.1						
XAN				LR	LR		
	comp=Z,3µm,17.1s,MS5.3						
LZH	**Lanzhou**	**42.79**	**10**	⇑P	**P**	**14 26 32.7**	**+0.7**
LZH				AP	pP	14 26 38.9	+0.3
LZH				XP	sP	14 26 41.6	+0.3
LZH				PP	PP	14 28 17.0	+3.1
LZH				AMB	AMB		
	comp=Z,220nm,1.2s,mb5.8						
LZH				AMB	AMB		
	comp=Z,490nm,4.0s						
LZH				LR	LR		
	comp=Z,4µm,18.0s,MS5.4						
THN	**Thein Dam**	**42.88**	**335**	*e*	**P**	**14 26 38.8**	**+6.0**
	comp=Z,45nm,0.3s,mb5.7						
NJ2	**Nanjing**	**44.03**	**29**	*e*P	**P**	**14 26 43.5**	**+1.4**
NJ2				AP	pP	14 26 51.5	+2.8
NJ2				XP	sP	14 26 54.4	+3.0
NJ2				S	**S**	**14 33 13.0**	**+0.5**
NJ2				XS		14 33 28.0	
NJ2				SS	SS	14 36 25.0	+3.2
NJ2				AMB	AMB		
	comp=Z,290nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,1µm,5.8s						
NJ2				LR	LR		
	comp=Z,5µm,17.8s,MS5.4						
SSE	**Sheshan**	**44.43**	**32**	⇑P	**P**	**14 26 46.4**	**+1.0**
SSE				AP	pP	14 26 52.3	+0.3
SSE				XP	sP	14 26 55.3	+0.6
SSE				S	**S**	**14 33 20.1**	**+1.7**
SSE				XS		14 33 28.5	
SSE				AMB	AMB		
	comp=Z,67nm,1.2s,mb5.2						
SSE				LR	LR		
	comp=N,2µm,18.8s,MS5.1						
SSE				LR	LR		
	comp=E,1µm,18.8s,MS5.1						
SSE				LR	LR		
	comp=Z,2µm,20.7s,MS5.1						
GTA	**Gaotai**	**45.58**	**5**	⇑*i*P	**P**	**14 26 55.0**	**+0.6**
GTA				AP	pP	14 27 01.6	+0.6
GTA				XP	sP	14 27 04.2	+0.5
GTA				PCP	PcP	14 28 33.0	-0.2
GTA				PP	PP	14 28 41.8	+0.1
GTA				SCP		14 32 25.1	
GTA				PCS		14 32 26.9	
GTA				S	**S**	**14 33 33.4**	**-1.3**
GTA				SCS	ScS	14 36 47.6	+0.6
GTA				AMB	AMB		
	comp=Z,122nm,1.0s,mb5.8						
GTA				AMB	AMB		
	comp=Z,297nm,5.1s						
GTA				LR	LR		
	comp=N,577nm,16.0s,MS4.8						
GTA				LR	LR		
	comp=E,578nm,15.6s,MS4.8						
GTA				LR	LR		
	comp=Z,574nm,14.4s,MS4.7						
TIY	**Taiyuan**	**46.44**	**18**	⇑P	**P**	**14 27 01.6**	**+0.4**
TIY				S	**S**	**14 33 50.0**	**+2.9**
TIY				LR	LR		
	comp=N,1µm,13.0s						
TIY				LR	LR		
	comp=Z,1µm,13.0s,MS5.0						
TIA	**Tai’an**	**46.78**	**24**	*e*P	**P**	**14 27 03.0**	**-1.0**
TIA				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.4						
TIA				LR	LR		
	comp=N,2µm,16.0s,MS5.3						
TIA				LR	LR		
	comp=E,2µm,16.0s,MS5.3						
BTO	**Baotou**	**48.45**	**15**	*e*P	**P**	**14 27 17.4**	**+0.5**
BTO				S	**S**	**14 34 20.3**	**+4.8**
BTO				AMB	AMB		
	comp=Z,85nm,0.9s,mb5.8						
KSH	**Kashi**	**49.03**	**340**	*e*P	**P**	**14 27 21.0**	**-0.4**
KSH				*e*AP	pP	14 27 28.0	-0.1
KSH				*e*XP	sP	14 27 31.1	+0.4
KSH				*e*PCP	PcP	14 28 45.0	-0.5
KSH				*e*PP	PP	14 29 15.0	-0.2
KSH				*e*PPP	PPP	14 30 08.3	-0.6
KSH				*e*SCP		14 32 38.0	
KSH				*e*PCS		14 32 46.2	
KSH				*e*S	**S**	**14 34 23.4**	**-0.2**
KSH				*e*SCS	ScS	14 37 08.0	-1.5
KSH				*e*SS	SS	14 37 50.0	-0.4
KSH				AMB	AMB		
	comp=Z,280nm,1.0s,mb6.2						
HHC	**Hu-ho-hao-te**	**49.08**	**16**	*e*P	**P**	**14 27 22.9**	**+1.1**
HHC				AP	pP	14 27 25.7	-2.8
HHC				PP	PP	14 29 14.0	-1.7
HHC				S	**S**	**14 34 23.1**	**-1.2**
HHC				XS		14 34 36.1	
HHC				AMB	AMB		
	comp=Z,51nm,1.2s,mb5.4						
HHC				LR	LR		
	comp=N,1µm,15.5s,MS5.1						
HHC				LR	LR		
	comp=E,1µm,17.8s,MS5.1						
BJT	**Baijiatuau**	**49.76**	**21**	P	**P**	**14 27 27.9**	**+0.8**
BJT				pP	pP	14 27 34.2	+0.4
BJT				sS		14 34 48.3	
BJT	**Baijiatuau**	**49.76**	**21**	*e*P	**P**	**14 27 27.5**	**+0.5**
	comp=E,286nm,0.8s,mb6.3						
BJT				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
BJI	**Beijing**	**49.78**	**21**	P	**P**	**14 27 27.9**	**+0.7**
BJI				S	**S**	**14 34 35.8**	**+1.7**

BJI				AMB	AMB		
	comp=Z,176nm,1.0s,mb6.0						
BJI				LR	LR		
	comp=N,1µm,16.9s,MS5.2						
BJI				LR	LR		
	comp=E,2µm,19.0s,MS5.2						
BJI				LR	LR		
	comp=Z,829nm,26.9s						
STKA	Stephens Creek	49.84	127	⇓iP	P	14 27 27.8	0.0
	comp=Z,35nm,0.8s,mb5.4						
STKA	Stephens Creek	49.84	127	P	P	14 27 28.0	+0.2
	comp=Z,37nm,0.8s,mb5.4,baz=299,slow=7.3,SNR=60						
STKA				LR	LR	14 47 58.5	
	comp=Z,4µm,20.3s,MS5.4,baz=284,slow=35						
WMQ	Urumqi	50.34	353	⇑iP	P	14 27 31.6	+0.2
WMQ				AP	pP	14 27 37.6	-0.6
WMQ				XP	sP	14 27 40.6	-0.2
WMQ				PCP	PcP	14 28 50.1	-0.1
WMQ				PP	PP	14 29 28.1	+0.2
WMQ				S	S	14 34 42.2	+0.4
WMQ				XS		14 34 52.2	
WMQ				AMB	AMB		
	comp=Z,209nm,1.2s,mb6.0						
WMQ				LR	LR		
	comp=N,454nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=E,343nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,429nm,18.0s,MS4.5						
CTA	Charters Tower	50.95	111	⇓iP	P	14 27 36.9	+0.5
	comp=Z,88nm,1.0s,mb5.7						
CTA				eS	S	14 34 55.0	+4.5
CTA	Charters Tower	50.95	111	P	P	14 27 36.9	+0.5
	comp=Z,20nm,1.0s,mb5.0,baz=280,slow=9.5,SNR=25						
CTA				LR	LR	14 48 24.4	
	comp=Z,2µm,20.1s,MS5.1,baz=281,slow=35						
CTAO	Charters Tower	50.95	111	eP	P	14 27 36.4	+0.1
	comp=Z,111nm,0.9s,mb5.8						
DL2	Dalian	50.96	26	P	P	14 27 36.0	-0.2
DL2				AP	pP	14 27 44.0	+1.1
DL2				S	S	14 34 55.0	+4.6
DL2				AMB	AMB		
	comp=Z,75nm,1.0s,mb5.6						
DL2				LR	LR		
	comp=E,2µm,18.0s						
PMG	Port Moresby	51.09	97	P	P	14 27 37.2	-0.2
	comp=E,49nm,1.1s,mb5.4,baz=304,slow=5.6,SNR=11						
PMG				LR	LR	14 47 50.5	
	comp=E,1µm,22.0s,MS4.8,baz=264,slow=34						
PMG	Port Moresby	51.09	97	eP	P	14 27 38.3	+0.8
	comp=E,235nm,0.8s,mb6.2						
KZA	Kyzart	51.56	341	P	P	14 27 41.2	+0.4
	SNR=7.3						
UCH	Uchtor	51.94	340	P	P	14 27 43.5	-0.1
	SNR=9.5						
AML	Almayashu	52.14	339	P	P	14 27 44.9	-0.2
	SNR=20						
KBK	Karagaybulak	52.18	341	P	P	14 27 45.0	-0.4
	SNR=6.0						
TKM2	Tokmak 2	52.21	341	P	P	14 27 45.1	-0.5
	SNR=15						
INCN	Inchon	52.22	31	eP	P	14 27 43.4	-2.4
	comp=E,81nm,0.8s,mb5.7						
INCN				epP	pP	14 27 50.4	-2.1
AAK	Ala-Archa	52.31	340	P	P	14 27 46.0	-0.4
	SNR=6.8						
FRU	Bishkek	52.45	341	eP	P	14 27 46.0	-1.4
FRU				e		14 27 56.0	
CHMS	Chumysh	52.55	341	P	P	14 27 47.6	-0.6
	SNR=22						
EKS2	Erkin-Say	52.58	340	P	P	14 27 48.2	-0.2
	SNR=18						
GUMO	Guam	52.68	68	P	P	14 27 45.9	-3.6
USP	Ospenovka	52.87	341	P	P	14 27 49.8	-0.8
	SNR=39						
MKAR	Makanchi Array	54.11	349	P	P	14 27 58.1	-1.5
	comp=E,32nm,0.8s,mb5.3,baz=155,slow=7.8,SNR=135						
MKAR				LR	LR	14 52 34.9	
	comp=E,613nm,20.5s,MS4.7,baz=164,slow=38						
MKAR	Makanchi Array	54.11	349	P	P	14 27 58.1	-1.5
MKAR				pmax	pmax		
	comp=Z,32nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,613nm,20.5s						
KKAR	Karatay Array	54.15	337	iP	P	14 27 58.2	-1.7
KKAR				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
SNY	Shenyang	54.21	26	⇑P	P	14 27 59.0	-1.4
SNY				S	S	14 35 35.8	+1.1
SNY				AMB	AMB		
	comp=Z,350nm,7.1s						
SNY				LR	LR		
	comp=N,2µm,18.6s						
SNY				LR	LR		
	comp=Z,2µm,19.2s,MS5.1						
HASS	Wahat al Ahsa’	54.52	307	P	P	14 28 02.2	-0.7
SONM	Songino Array	54.66	9	P	P	14 28 03.5	-0.2
	comp=Z,38nm,0.9s,mb5.4,baz=190,slow=7.5,SNR=186						
SONM				PKPPKP		14 58 18.0	
	comp=Z,1.3nm,1.1s,slow=1.2,SNR=4.4						
SONM				PKP2bc		14 58 29.9	
	comp=Z,1.1nm,1.1s,slow=1.2,SNR=3.9						
SONM	Songino Array	54.66	9	P	P	14 28 03.5	-0.2
SONM				P’P’		14 58 18.0	
SONM				⇑e		14 58 29.9	
ULN	Ulaanbaatar	54.80	9	PFAKE		14 28 20.0	+15
ULN				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
TOO	Toolangi	54.90	132	eP	P	14 28 06.2	+0.6
	comp=Z,28nm,0.8s,mb5.3						
CN2	Changchun	56.61	26	eP	P	14 28 16.8	-1.0
CN2				eAP	pP	14 28 23.4	-1.2
CN2				eS	S	14 36 07.3	+0.6
CN2				SS	SS	14 39 56.0	+0.7
CN2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.7						
CN2				LR	LR		
	comp=Z,2µm,17.0s,MS5.2						
KAMS	Al Khamasin	56.70	299	P	P	14 28 16.8	-1.9
ZAK	Zakamensk	56.77	6	⇓eP	P	14 28 18.1	-0.8
ZAK				i	pP	14 28 24.7	-0.9
ZAK				e		14 29 09.3	
CNB	Canberra Magne	57.09	128	eP	P	14 28 21.8	+0.4
	comp=Z,67nm,1.1s,mb5.6						
RAYN	Ar Rayn	57.19	303	P	P	14 28 20.1	-2.1
	comp=Z,405nm,1.0s,mb6.4,SNR=40						
TATS	Tathlith	57.38	298	P	P	14 28 23.0	-0.6
MZLS	Mizel	57.65	303	P	P	14 28 24.6	-0.8
ARMA	Armidale	57.66	122	eP	P	14 28 26.8	+1.4
TLY	Talaya	58.09	6	⇑iP	P	14 28 27.1	-1.0
TLY				i	pP	14 28 34.9	0.0
TLY				e		14 29 17.6	
TLY				i		14 30 36.4	
TLY				iS	S	14 36 18.0	-8.1
TLY				iSS	SS	14 40 12.9	-6.3
TLY				pmax	pmax		
	comp=Z,565nm,0.9s,mb6.6						
TLY				MLR	MLR		
	comp=Z,10µm,17.0s,MS6.0						
TAU	Tasmania Unive	58.25	137	eP	P	14 28 27.3	-2.0
	comp=Z,33nm,0.8s,mb5.4						
TAU				LR	LR		
	comp=Z,559nm,20.0s,MS4.7						
MAJO	Matsushiro	58.27	40	eP	P	14 28 27.6	-2.0
	comp=Z,26nm,0.7s,mb5.4						
MAJO				epP	pP	14 28 34.0	-2.4
MAJO				LR	LR		
	comp=Z,939nm,19.0s,MS4.9						
MAT	Matsushiro	58.27	40	P	P	14 28 28.1	-1.5
MAT				S	S	14 36 25.0	-3.7
MAT	Matsushiro	58.27	40	eP	P	14 28 28.0	-1.6
	comp=Z,54nm,1.4s,mb5.4						
MAT				eS	S	14 36 25.0	-3.7
MAT				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
KMBO	Kilima Mbogo	58.48	272	P	P	14 28 31.2	-0.1
	comp=Z,11nm,1.0s,mb4.8,baz=73,slow=6.8,SNR=23						
KMBO				LR	LR	14 49 17.5	
	comp=Z,2µm,19.5s,MS5.1,baz=98,slow=32						
KURK	Kurchatov	58.60	347	eP	P	14 28 30.0	-1.7
	comp=Z,86nm,1.1s,mb5.7						
KURK				LR	LR		
	comp=Z,357nm,20.0s,MS4.5						
IRK	Irkutsk	58.71	6	eP	P	14 28 31.6	-0.9
MDJ	Mudanjiang	59.10	28	P	P	14 28 35.0	-0.3
MDJ				AP	pP	14 28 41.3	-0.8
MDJ				XP	sP	14 28 43.9	-0.7
MDJ				PCP	PcP	14 29 22.8	-0.8
MDJ				PP	PP	14 30 46.8	-0.9
MDJ				SCP		14 33 22.4	
MDJ				S	S	14 36 42.8	+3.4
MDJ				XS		14 36 53.7	
MDJ				SCS	ScS	14 38 23.9	+3.6
MDJ				SS	SS	14 40 37.5	+2.2
MDJ				AMB	AMB		
	comp=Z,323nm,6.1s						
MDJ				LR	LR		
	comp=N,1µm,16.5s,MS5.2						
MDJ				LR	LR		
	comp=E,1µm,17.8s,MS5.2						
MDJ				LR	LR		
	comp=Z,1µm,20.3s,MS5.1						
MDJ	Mudanjiang	59.10	28	eP	P	14 28 34.5	-0.8
	comp=Z,38nm,1.0s,mb5.4						
MDJ				e	pP	14 28 41.2	-0.9
MDJ				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
HIA	Hailar	59.13	18	eP	P	14 28 34.5	-1.0
	comp=Z,79nm,0.9s,mb5.7						
AFFS	‘Afif	59.45	302	P	P	14 28 37.6	-0.3
ARSS	Ar Rass	60.04	305	P	P	14 28 41.2	-0.8
MIR	Mirnyy	60.24	181	⇑eP	P	14 28 42.0	-0.8
MIR				e		14 31 05.0	
MIR				ePPP	PPP	14 32 20.0	-4.2
MIR				eS	S	14 36 56.0	+2.2
MIR				pmax	pmax		
	comp=Z,130nm,1.6s,mb5.7						
LTHS	Al Lith	60.34	297	P	P	14 28 43.5	-0.6
NVS	Novosibirsk	61.73	352	iP	P	14 28 50.2	-2.9
NVS				e		14 31 10.2	
NVS				pmax	pmax		
	comp=N,67nm,1.0s						
NVS				pmax	pmax		
	comp=E,31nm,1.0s						
NVS				pmax	pmax		
	comp=Z,126nm,1.0s,mb6.0						
HILS	Ha’il	61.84	305	P	P	14 28 54.3	+0.1
VOSK	Vostochnaya	62.37	343	P	P	14 28 55.0	-2.4
VOSK				pmax	pmax		
	comp=Z,75nm,1.2s,mb5.7						
VOSK	Vostochnaya	62.37	343	iP	P	14 28 55.1	-2.3
BVAR	Borovoye Array	62.80	343	P	P	14 28 58.2	-2.0
	comp=Z,21nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=138						
BRVK	Borovoye	62.86	343	P	P	14 28 58.7	-1.9
BRVK				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.3						
BRVK	Borovoye	62.86	343	eP	P	14 28 58.5	-2.1
	comp=Z,75nm,1.1s,mb5.7						
ZRNK	Zerenda	63.15	342	P	P	14 29 00.5	-2.0
ZRNK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
ZRNK	Zerenda	63.15	342	iP	P	14 29 00.6	-1.9
KBRS	Khaybar	63.30	303	P	P	14 29 04.2	+0.4
AB31	Akbulak array	63.42	335	iP	P	14 29 03.3	-1.1
AB31				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.8						
KLR	Kul’dur	63.57	26	⇓iP	P	14 29 04.1	-1.2
KLR				e		14 29 46.0	
KLR				e		14 31 29.5	
KLR				eS	S	14 37 42.0	+5.9
KLR				pmax	pmax		
	comp=N,30nm,1.2s						
KLR				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.5						
KLR				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.1						
YNBS	Yanbu‘ al Bahr	63.84	301	P	P	14 29 07.6	0.0
UMJS	Umm Lajj	64.74	302	P	P	14 29 13.6	+0.2
MBAR	Mbarara	65.01	272	eP	P	14 29 12.5	-2.8
	comp=Z,31nm,1.1s,mb5.2						
MBAR				LR	LR		
	comp=Z,439nm,19.0s,MS4.7						
MAW	Mawson	65.17	193	⇑iP	P	14 29 15.3	-0.2
	comp=Z,45nm,0.9s,mb5.5						
MAW				eS	S	14 37 59.2	+3.6
MAW	Mawson	65.17	193	P	P	14 29 15.4	-0.1
	comp=Z,66nm,1.1s,mb5.6,baz=28,slow=7.6,SNR=70						
MAW				LR	LR	14 51 32.9	
	comp=Z,478nm,20.2s,MS4.7,baz=36,slow=30						
MAW				PKPPKP		14 57 55.4	
	comp=Z,2.2nm,0.9s,baz=282,slow=4.1,SNR=3.9						
ASAJ	Asahikawa	65.54	35	P	P	14 29 17.7	-0.6
	comp=Z,15nm,0.9s,mb5.0,baz=263,slow=8.4,SNR=9.4						
ASAJ	Asahikawa	65.54	35	P	P	14 29 17.7	-0.6
ASAJ				pmax	pmax		
	comp=Z,15nm,0.9s						
BOD	Bodaibo	65.55	11	eP	P	14 29 16.0	-2.1
BOD				e	pP	14 29 22.7	-2.2
TBKS	Tabuk	66.44	304	P	P	14 29 24.6	+0.3
DBAS	Duba	66.55	303	P	P	14 29 24.8	-0.2
TI2	Plekhanov	66.57	321c	iP	P	14 29 24.4	-0.5
TI2				iS	S	14 38 15.4	+2.3
TI2				MLR	MLR		
	comp=N,1µm,20.0s,MS5.1						
TI2				MLR	MLR		
	comp=E,500nm,20.0s,MS5.1						
TI2				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.0						
LSZ	Lusaka	66.68	256	eP	P	14 29 25.2	-0.8
	comp=Z,126nm,1.4s,mb5.8						
LSZ				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
BEST	Besiri	66.92	316	iP	P	14 29 26.1	-1.0
QURS	Qurayyt al Mil	67.02	308	P	P	14 29 28.1	+0.2
JMQS	Jabal Moqyreh	67.23	305	P	P	14 29 29.3	0.0
CLNS	Chul’man	67.25	17	eP	P	14 29 28.3	-0.6
CLNS				e*PP	pP	14 29 37.4	+1.6
CLNS				e		14 30 01.1	
CLNS				eS	S	14 38 09.5	-12
CLNS				e		14 39 22.6	
CLNS				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.6						
CLNS				pmax	pmax		
	comp=N,35nm,1.0s						
CLNS				pmax	pmax		
	comp=E,24nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,12nm,1.2s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.2s						
CLNS				smax			
	comp=N,165nm,13.5s						
CLNS				smax			
	comp=Z,102nm,13.7s						
CLNS				smax			
	comp=E,144nm,13.3s						
CLNS				MLR	MLR		
	comp=N,500nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=Z,1µm,14.0s,MS5.2						
YSS	Yuzh-Sakhalins	67.36	33α	iP	P	14 29 28.3	-1.5
YSS				i	pP	14 29 35.3	-1.3
YSS				i *SP	sP	14 29 42.0	+2.9
YSS				eS	S	14 38 24.0	+1.5
YSS				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
YSS				pmax	pmax		
	comp=Z,240nm,1.1s,mb6.1						
YSS				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.9						
YSS				MLR	MLR		
	comp=N,500nm,17.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,600nm,16.0s,MS5.0						
YSS	Yuzh-Sakhalins	67.36	33	eP	P	14 29 28.9	-0.9
	comp=E,282nm,1.1s,mb6.2						
YSS				epP	pP	14 29 34.5	-2.1
YSS				LR	LR		
	comp=Z,621nm,20.0s,MS4.8						
ASF	Jabal al Asfar	67.66	308	P	P	14 29 31.7	-0.3
	comp=Z,63nm,1.0s,mb5.6,baz=357,slow=3.7,SNR=59						
BDAS	Al Bad‘	67.71	304	P	P	14 29 32.0	-0.3
ERZM	Erzurum	67.83	318	iP	P	14 29 33.4	+0.6
JMOS	Jabal al Moall	67.96	305	P	P	14 29 33.6	-0.3
ALWS	Ilw as Safayha	68.05	305	P	P	14 29 34.1	-0.3
HAQS	Haql	68.07	305	P	P	14 29 34.3	-0.3
AQBJ	Aqaba	68.21	305	P	P	14 29 34.9	-0.5
EIL	Elat	68.27	305	P	P	14 29 35.3	-0.5
EIL	Elat	68.27	305	⇑P	P	14 29 35.3	-0.5
MBH	Mount Berech	68.34	305	P	P	14 29 36.0	-0.3
MBH	Mount Berech	68.34	305	⇑P	P	14 29 36.0	-0.3
ZFRI	Zfri	68.41	306	P	P	14 29 36.4	-0.2
ZFRI	Zfri	68.41	306	⇑P	P	14 29 36.4	-0.2
PRNI	Paran	68.47	306	P	P	14 29 36.9	-0.2
PRNI	Paran	68.47	306	⇑P	P	14 29 36.9	-0.2
MZDA	Masada	68.54	307	P	P	14 29 37.1	-0.3
MZDA	Masada	68.54	307	⇑P	P	14 29 37.1	-0.3
KMTI	Karmit	68.61	306	P	P	14 29 37.4	-0.5
KMTI	Karmit	68.61	306	⇑P	P	14 29 37.4	-0.5
DRGI	Dragot	68.62	307	P	P	14 29 37.8	-0.2
DRGI	Dragot	68.62	307	⇑P	P	14 29 37.8	-0.2
HMDT	Nahal Hemdat	68.76	308	P	P	14 29 38.6	-0.2
HMDT	Nahal Hemdat	68.76	308	⇑P	P	14 29 38.6	-0.2
ELZG	Elazig	68.79	315	iP	P	14 29 39.2	+0.3
MASH	Mash‘abbe Sade	68.88	306	P	P	14 29 39.2	-0.4
MASH	Mash‘abbe Sade	68.88	306	⇑P	P	14 29 39.2	-0.4
MMLI	Mount Malkishu	68.92	308	P	P	14 29 39.9	+0.1
MMLI	Mount Malkishu	68.92	308	⇑P	P	14 29 39.9	+0.1
RTMM	Retamin	68.98	306	P	P	14 29 39.8	-0.4
HRI	Mount Hermon	68.99	309	P	P	14 29 40.5	+0.3
SVTA	Shivta	68.99	306	P	P	14 29 39.9	-0.3
SVTA	Shivta	68.99	306	⇑P	P	14 29 39.9	-0.3
KIV	Kislovodsk	69.04	322α	iP	P	14 29 40.2	-0.1
KIV				i	pP	14 29 48.7	+1.6
KIV				i		14 32 16.0	
KIV				iS	S	14 38 42.2	-0.4
KIV				ePS	PS	14 39 18.4	+7.3
KIV				e		14 39 40.9	
KIV				pmax	pmax		
	comp=Z,252nm,1.1s,mb6.1						
KIV				pmax	pmax		
	comp=Z,361µm,1.2s						
KIV				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
KIV	Kislovodsk	69.04	322	eP	P	14 29 39.6	-0.7
	comp=Z,267nm,1.1s,mb6.1						
KIV				LR	LR		
	comp=Z,144nm,19.0s,MS4.2						
SLTI	Sal’it	69.14	308	P	P	14 29 41.1	0.0
SLTI	Sal’it	69.14	308	⇑P	P	14 29 41.1	0.0
KZIT	Kziot	69.16	306	P	P	14 29 40.9	-0.4
KZIT	Kziot	69.16	306	⇑P	P	14 29 40.9	-0.4
GZT	Gaziantep	69.30	314	iP	P	14 29 41.8	-0.2
OFRI	‘Ofer	69.33	308	P	P	14 29 42.1	-0.2
OFRI	‘Ofer	69.33	308	⇑P	P	14 29 42.1	-0.2
LBTB	Lobatse	69.33	246	P	P	14 29 41.9	-0.6
LBTB				P		14 29 41.9	
HNTI	Hanita	69.35	309	P	P	14 29 42.6	+0.2
HNTI	Hanita	69.35	309	⇑P	P	14 29 42.6	+0.2
HAF	Haifa	69.36	308	P	P	14 29 42.3	-0.1
HAF	Haifa	69.36	308	⇑P	P	14 29 42.3	-0.1
GOF	Gofitskoye	69.41	323	⇓iP	P	14 29 42.0	-0.6
GOF				i		14 29 51.0	
GOF				iS	S	14 38 50.0	+3.0
GOF				pmax	pmax		
	comp=Z,150nm,1.5s,mb5.7						
GOF				pmax	pmax		
	comp=Z,1µm,3.0s						
GOF				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.4						
ARU	Arti	69.46	339	⇑iP	P	14 29 41.6	-1.1
ARU				i		14 29 50.6	
ARU				i		14 30 01.4	
ARU				i		14 32 13.7	
ARU				ePPP	PPP	14 33 54.1	-3.2
ARU				iS	S	14 38 46.1	-1.3
ARU				e		14 39 38.6	
ARU				eSS	SS	14 43 12.8	-3.8
ARU				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.4						
ARU				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.1						
ARU				MLR	MLR		
	comp=N,900nm,18.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,400nm,16.0s,MS5.1						
ARU	Arti	69.46	339	eP	P	14 29 41.4	-1.3
	comp=E,53nm,1.0s,mb5.4						
ARU				LR	LR		
	comp=Z,221nm,21.0s,MS4.4						
COBT	Iskenderun	69.90	312	iP	P	14 29 45.1	-0.6
SOC	Sochi	70.70	320	iP	P	14 29 49.3	-1.1
SOC				e		14 30 09.7	
SOC				e		14 32 34.6	
SOC				eS	S	14 38 59.5	-2.6
SOC				e		14 39 42.1	
SOC				eSS	SS	14 43 35.5	-0.6
SOC				eSSS	SSS	14 46 34.9	-6.9
SOC				pmax	pmax		
	comp=N,23nm,0.9s						
SOC				pmax	pmax		
	comp=Z,124nm,0.9s,mb5.8						
SOC				pmax	pmax		
	comp=E,38nm,1.6s						
SOC				pmax	pmax		
	comp=Z,248nm,2.0s,mb5.8						
SOC				pmax	pmax		
	comp=N,64nm,0.9s						
SOC				pmax	pmax		
	comp=E,76nm,1.5s						
SOC				smax			
	comp=N,282nm,4.8s						
SOC				smax			
	comp=E,356nm,4.6s						
SOC				MLR	MLR		
	comp=Z,604nm,22.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,281nm,23.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,463nm,21.0s,MS4.8						
SVST	Sivas	70.78	316	iP	P	14 29 51.3	+0.4
CSS	Prodhromos	71.48	310	⇑P	P	14 29 55.2	-0.1
	comp=E,2.0nm,1.0s						
CSS	Prodhromos	71.48	310	⇑eP	P	14 29 55.2	-0.1
MAMC	Mammari	71.64	310	⇑P	P	14 29 56.7	+0.4
MAMC	Mammari	71.64	310	⇑iP	P	14 29 56.7	+0.4
SZAC	Souni-Zanaja	71.74	310	⇑P	P	14 29 56.8	-0.1
SZAC	Souni-Zanaja	71.74	310	⇑eP	P	14 29 56.8	-0.1
ALFC	Alevga	72.11	310	⇑P	P	14 29 58.4	-0.6
	comp=E,1.2nm,0.9s						
ALFC	Alevga	72.11	310	⇑eP	P	14 29 58.4	-0.6
SOKR	Solikamsk	72.47	340c	iP	P	14 29 59.9	-0.9
SOKR				i	pP	14 30 08.5	+0.8
SOKR				iS	S	14 39 12.2	-10
SOKR				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.6						
SOKR				MLR	MLR		
	comp=Z,730nm,17.0s,MS5.0						
SYO	Syowa Base	72.50	198	⇓P	P	14 30 00.4	-0.4
SYO	Syowa Base	72.50	198	⇑pP	pP	14 30 09.8	+2.1
SYO	Syowa Base	72.50	198	⇓PcP	PcP	14 30 16.9	-1.7
ANN	Anapa	72.72	321c	iP	P	14 30 01.0	-1.6
ANN				e*PP	pP	14 30 11.3	+1.9
ANN				e		14 30 22.6	
ANN				eS	S	14 39 24.4	-1.0
ANN				eSP	SP	14 39 59.8	+2.5
ANN				pmax	pmax		
	comp=Z,86nm,1.5s,mb5.5						
ANN				MLR	MLR		
	comp=N,924nm,18.0s,MS5.1						
ANN				MLR	MLR		
	comp=Z,427nm,18.0s,MS4.8						
ANN				MLR	MLR		
	comp=E,170nm,17.0s,MS5.1						
YAK	Yakutsk	72.94	16	eP	P	14 30 01.9	-1.6
YAK				e*PP	pP	14 30 08.1	-2.3
YAK				e		14 30 15.9	
YAK				e		14 32 50.0	
YAK				ePPP	PPP	14 34 25.9	-5.1
YAK				eS	S	14 39 30.3	+2.8
YAK				e		14 40 06.6	
YAK				eSS	SS	14 44 12.4	+1.8
YAK				pmax	pmax		
	comp=N,34nm,1.0s						
YAK				pmax	pmax		
	comp=Z,98nm,1.0s,mb5.7						
YAK				pmax	pmax		
	comp=E,32nm,1.3s						
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						

YAK				pmax	pmax		
	comp=N,13nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				smax			
	comp=N,50nm,8.2s						
YAK				smax			
	comp=E,63nm,8.5s						
YAK				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.1						
YAK				MLR	MLR		
	comp=N,500nm,16.0s,MS5.0						
YAK				MLR	MLR		
	comp=E,400nm,16.0s,MS5.0						
YAK	**Yakutsk**	**72.94**	**16**	*e*P	**P**	**14 30 01.7**	**-1.8**
	comp=E,467nm,0.8s,mb6.5						
YAK				*e*pP	pP	14 30 08.3	-2.0
YAK				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
BRTR	**Keskin Array B**	**73.08**	**315**	P	**P**	**14 30 03.2**	**-1.5**
	comp=Z,47nm,0.8s,mb5.4,baz=135,slow=7.0,SNR=225						
BRTR				LR	LR	15 04 03.1	
	comp=Z,1µm,19.3s,MS5.2,baz=170,slow=37						
BRTR	**Keskin Array B**	**73.08**	**315**	P	**P**	**14 30 03.3**	**-1.4**
BRTR				pmax	pmax		
	comp=Z,47nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,1µm,19.3s						
SUR	**Sutherland**	**73.89**	**238**	P	**P**	**14 30 09.6**	**0.0**
	comp=Z,68nm,1.0s,mb5.5,baz=95,slow=5.3,SNR=15						
SUR				LR	LR	14 58 04.2	
	comp=Z,2µm,18.2s,MS5.4,baz=317,slow=32						
SUR	**Sutherland**	**73.89**	**238**	*e*P	**P**	**14 30 10.3**	**+0.7**
	comp=Z,312nm,1.5s,mb6.0						
ISP	**Isparta**	**74.64**	**312**	⇑*i*P	**P**	**14 30 12.2**	**-1.6**
SIM	**Simferopol’**	**74.90**	**320**	c *i*P	**P**	**14 30 14.8**	**-0.4**
SIM				*e*S	S	14 39 49.0	-0.8
SIM				*e*		14 40 41.0	
SIM				pmax	pmax		
	comp=Z,160nm,11.1s						
SIM				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.7						
SIM				MLR	MLR		
	comp=Z,420nm,19.3s,MS4.8						
SIM	**Simferopol’**	**74.90**	**320**	⇑*e*P	**P**	**14 30 14.8**	**-0.4**
VOR	**Voronezh**	**75.10**	**328**	*e*P	**P**	**14 30 15.0**	**-1.2**
VOR				*e*	pP	14 30 22.5	-0.6
VOR				pmax	pmax		
	comp=N,140nm,1.6s						
VOR				pmax	pmax		
	comp=E,150nm,1.6s						
VOR				pmax	pmax		
	comp=Z,300nm,1.6s,mb6.0						
RPZ	**Rata Peaks**	**75.16**	**133**	P	**P**	**14 30 17.1**	**+0.4**
	comp=Z,18nm,1.2s,mb4.9,baz=49,slow=13,SNR=2.1						
ARG	**Arkhangelos**	**75.89**	**310**	*e*P	**P**	**14 30 21.0**	**0.0**
TSUM	**Tsumeb**	**76.74**	**252**	P	**P**	**14 30 25.4**	**-0.6**
	comp=Z,28nm,0.9s,mb5.2,baz=93,slow=5.0,SNR=19						
TSUM				LR	LR	15 02 51.9	
	comp=Z,1µm,18.1s,MS5.3,baz=76,slow=35						
SKR	**Severo-Kuril’s**	**76.79**	**35**	*e*P	**P**	**14 30 24.0**	**-1.7**
SKR				*e*		14 30 36.0	
SKR				*e*		14 33 24.0	
SKR				*e*PPP	PPP	14 35 05.0	-2.8
SKR				*e*S	S	14 40 07.0	-3.3
SKR				*e*		14 40 40.0	
SKR				*e*PS	PS	14 41 14.0	+22
SKR				pmax	pmax		
	comp=N,500nm,4.0s						
SKR				pmax	pmax		
	comp=Z,900nm,4.0s						
SKR				pmax	pmax		
	comp=E,700nm,5.0s						
SKR				pmax	pmax		
	comp=N,20nm,0.8s						
SKR				pmax	pmax		
	comp=E,20nm,0.8s						
SKR				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6						
SKR				smax			
	comp=N,1µm,14.0s						
SKR				smax			
	comp=E,1µm,14.0s						
SKR				MLR	MLR		
	comp=N,1µm,18.0s,MS5.3						
SKR				MLR	MLR		
	comp=E,1µm,18.0s,MS5.3						
SKR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
XRY	**Khrisi**	**77.37**	**308**	*e*P	**P**	**14 30 29.0**	**-0.3**
NPS	**Neapolis**	**77.55**	**308**	*e*P	**P**	**14 30 30.5**	**+0.2**
SNZO	**South Karori**	**77.69**	**131**	PFAKE		14 30 40.0	+9.1
SNZO				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
MOS	**Moscow**	**77.95**	**331**	α *i*P	**P**	**14 30 31.6**	**-0.4**
MOS				*e*	pP	14 30 38.6	-0.4
MOS				*e*		14 33 24.4	
MOS				*e*S	S	14 40 19.6	-3.2
MOS				*e*		14 40 44.5	
MOS				*e*PS	PS	14 40 56.8	-10
MOS				*e*		14 41 23.5	
MOS				*e*SS	SS	14 45 18.8	-8.2
MOS				*e*SSS	SSS	14 48 39.1	-5.8
MOS				pmax	pmax		
	comp=Z,600nm,1.0s,mb6.5						
MOS				pmax	pmax		
	comp=E,300nm,1.6s						
MOS				pmax	pmax		
	comp=Z,623nm,1.4s,mb6.3						
MOS				MLR	MLR		
	comp=Z,1µm,19.7s,MS5.3						
MOS				MLR	MLR		
	comp=N,600nm,17.5s						
THR1	**Thera Island**	**77.99**	**309**	*e*P	**P**	**14 30 32.2**	**-0.5**
THR5	**Thira Island,**	**78.09**	**309**	*e*P	**P**	**14 30 31.4**	**-1.8**
APE	**Apeiranthos**	**78.14**	**310**	*e*P	**P**	**14 30 32.5**	**-1.0**
APE	**Apeiranthos**	**78.14**	**310**	⇑*i*P	**P**	**14 30 32.4**	**-1.1**
OBN	**Obninsk**	**78.16**	**330**	α *i*P	**P**	**14 30 32.9**	**-0.3**
OBN				*i*	pP	14 30 39.0	-1.2
OBN				*e*		14 33 24.7	
OBN				*i* S	S	14 40 22.2	-2.9
OBN				*e*PS	PS	14 41 08.6	-0.9
OBN				*i*		14 41 22.6	
OBN				*i* SS	SS	14 45 34.7	+4.6
OBN				pmax	pmax		
	comp=Z,257nm,1.3s,mb6.0						
OBN				pmax	pmax		
	comp=Z,411µm,1.4s						
OBN				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.1						
OBN	**Obninsk**	**78.16**	**330**	*e*P	**P**	**14 30 32.2**	**-1.1**
	comp=Z,312nm,1.4s,mb6.0						
MA2	**Magadan**	**78.67**	**25**	*e*P	**P**	**14 30 35.5**	**-0.4**
MA2				*e*S	S	14 40 26.5	-3.9
MA2				*e*PS	PS	14 41 06.1	-10
MA2				*e*SS	SS	14 45 36.0	-1.6
MA2				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6						
MA2				pmax	pmax		
	comp=N,20nm,1.0s						
MA2				pmax	pmax		
	comp=E,20nm,0.8s						
MA2				MLR	MLR		
	comp=Z,600nm,22.5s,MS4.9						
MA2	**Magadan**	**78.67**	**25**	*e*P	**P**	**14 30 35.6**	**-0.2**
	comp=Z,133nm,1.1s,mb5.8						
VAM	**Vamos**	**78.69**	**308**	*e*P	**P**	**14 30 47.3**	**+11**
PRD	**Provadia**	**78.71**	**316**	*e*P	**P**	**14 30 36.0**	**-0.5**
HARR	**Harsova**	**78.86**	**318**	⇑*i*P	**P**	**14 30 37.5**	**+0.2**
HARR	**Harsova**	**78.86**	**318**	⇑*i*P	**P**	**14 30 37.6**	**+0.3**
VNDA	**Vanda**	**78.90**	**168**	P	**P**	**14 30 36.9**	**0.0**
	comp=Z,13nm,1.0s,mb4.8,baz=293,slow=6.1,SNR=26						
VNDA				LR	LR	15 01 10.1	
	comp=Z,1µm,19.4s,MS5.2,baz=300,slow=32						
ALN	**Alexandroupoli**	**78.92**	**314**	*e*P	**P**	**14 30 37.3**	**-0.4**
JMB	**Yambol**	**79.04**	**315**	*e*P	**P**	**14 30 39.0**	**+0.7**
KIS	**Kishinev**	**79.11**	**320**	α*e*P	**P**	**14 30 37.0**	**-1.6**
KIS				*e*	pP	14 30 44.0	-1.5
KIS				*e*		14 30 46.0	
KIS				*e*S	S	14 40 32.0	-3.3
KIS				*e*		14 40 42.0	
KIS				pmax	pmax		
	comp=Z,540nm,1.2s,mb6.3						
KIS				pmax	pmax		
	comp=E,190nm,1.4s						
KIS				MLR	MLR		
	comp=E,800nm,19.0s						
KIS				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.1						
KIS				MLR	MLR		
	comp=Z,900nm,19.0s						
PET	**Petropavlovsk**	**79.24**	**33**	α *i*P	**P**	**14 30 38.5**	**-0.7**
PET				*e*	pP	14 30 44.7	-1.4
PET				*e*PPP	PPP	14 35 22.4	-8.5
PET				*e*S	S	14 40 34.7	-1.9
PET				*e*SS	SS	14 45 47.2	+0.9
PET				*e*SSS	SSS	14 49 07.7	+1.9
PET				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
PET				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.5						
PET				smax			
	comp=N,400nm,19.8s						
PET				MLR	MLR		
	comp=Z,600nm,22.0s,MS4.9						
PET	**Petropavlovsk**	**79.24**	**33**	*e*P	**P**	**14 30 38.2**	**-0.9**
	comp=Z,167nm,1.0s,mb5.9						
PET				*e*pP	pP	14 30 44.4	-1.8
URZ	**Urewera**	**79.46**	**128**	P	**P**	**14 30 44.0**	**+3.3**
	comp=Z,59nm,1.2s,mb5.4,baz=357,slow=8.7,SNR=10						
KDZ	**Kurdzhali**	**79.60**	**314**	*e*P	**P**	**14 30 41.0**	**-0.4**
DIM	**Dimitrovgrad**	**79.64**	**315**	*e*P	**P**	**14 30 41.0**	**-0.6**
SZH	**Strazhica**	**79.75**	**316**	*e*P	**P**	**14 30 42.0**	**-0.1**
MPAR	**Parnis Oros**	**79.81**	**310**	*e*P	**P**	**14 30 42.0**	**-0.6**
KYTH	**Kithira**	**79.84**	**308**	*e*P	**P**	**14 30 42.0**	**-0.8**
ISR	**Istrita**	**79.94**	**318**	⇑*i*P	**P**	**14 30 44.6**	**+1.5**
ISR	**Istrita**	**79.94**	**318**	⇑*i*P	**P**	**14 30 44.7**	**+1.6**
BUC1	**Bucharest**	**80.03**	**317**	⇑*i*P	**P**	**14 30 44.3**	**+0.7**
BUC1	**Bucharest**	**80.03**	**317**	⇑*i*P	**P**	**14 30 44.4**	**+0.8**
VLI	**Veliai**	**80.03**	**309**	*e*P	**P**	**14 30 43.8**	**0.0**
VRI	**Vrincioaia**	**80.06**	**319**	⇑*i*P	**P**	**14 30 44.7**	**+1.0**
VRI	**Vrincioaia**	**80.06**	**319**	⇑*i*P	**P**	**14 30 44.7**	**+1.0**
RZN	**Rozhen**	**80.11**	**314**	*e*P	**P**	**14 30 44.0**	**-0.1**
AKASG	**Malin Array Be**	**80.24**	**324**	P	**P**	**14 30 44.0**	**-0.6**
	comp=Z,53nm,0.8s,mb5.5,baz=91,slow=4.1,SNR=165						
AKASG				PP	PP	14 33 50.5	+1.5
	comp=Z,17nm,1.2s,baz=98,slow=6.2,SNR=4.1						
AKASG				LR	LR	15 07 14.6	
	comp=Z,666nm,22.0s,MS4.9,baz=120,slow=36						
AKASG	**Malin Array Be**	**80.24**	**324**	P	**P**	**14 30 44.0**	**-0.6**
AKASG						14 33 50.5	
AKASG				pmax	pmax		
	comp=Z,53nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,17nm,1.2s						
AKASG				MLR	MLR		
	comp=Z,666nm,22.0s						
OUR	**Ouranopolis**	**80.25**	**313**	*e*P	**P**	**14 30 44.4**	**-0.4**
PLD	**Plovdiv**	**80.25**	**314**	*e*P	**P**	**14 30 44.0**	**-0.8**
PAIG	**Paliouri**	**80.35**	**312**	*e*P	**P**	**14 30 44.9**	**-0.5**
MLR	**Muntele Rosu**	**80.46**	**318**	⇑*i*P	**P**	**14 30 46.5**	**+0.7**
MLR	**Muntele Rosu**	**80.46**	**318**	⇑*i*P	**P**	**14 30 46.5**	**+0.7**
NEO	**Neokhori**	**80.52**	**311**	*e*P	**P**	**14 30 45.0**	**-1.3**
PLG	**Polygyros**	**80.65**	**313**	*e*P	**P**	**14 30 46.2**	**-0.8**
TIXI	**Tiksi**	**80.73**	**10**	PFAKE		14 31 00.0	+13
TIXI				LR	LR		
	comp=Z,482nm,19.0s,MS4.9						
SRS	**Serrai**	**80.76**	**313**	*e*P	**P**	**14 30 47.8**	**+0.2**
PGB	**Panagyurishte**	**80.76**	**315**	*e*P	**P**	**14 30 46.0**	**-1.5**
MMB	**Musomiste**	**80.79**	**314**	*e*P	**P**	**14 30 47.0**	**-0.7**
SOH	**Sokhos**	**80.85**	**313**	*e*P	**P**	**14 30 47.4**	**-0.6**
ITM	**Ithomi**	**80.94**	**309**	*e*P	**P**	**14 30 47.8**	**-0.8**
MTUR	**Matau**	**80.96**	**318**	⇑*i*P	**P**	**14 30 48.4**	**-0.1**
AGG	**Agios Georgios**	**81.11**	**311**	*e*P	**P**	**14 30 48.5**	**-1.0**
SEY	**Seymchan**	**81.17**	**23**	*e*P	**P**	**14 30 49.5**	**+0.3**
SEY					pP	14 30 55.6	-0.6
SEY						14 33 57.3	
SEY				*e*S	S	14 40 57.3	+0.8
SEY				SS	SS	14 46 15.7	+0.7
SEY				*e*SSS	SSS	14 49 41.4	+4.2
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
SEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
SEY				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.7						
SEY				MLR	MLR		
	comp=N,1µm,17.0s,MS5.5						
SEY				MLR	MLR		
	comp=E,2µm,19.0s,MS5.5						
KNT	**Kendrikon**	**81.27**	**313**	*e*P	**P**	**14 30 49.8**	**-0.5**
LIT	**Litokhoron**	**81.28**	**312**	*e*P	**P**	**14 30 49.4**	**-0.9**
KKB	**Krupnik**	**81.34**	**314**	*e*P	**P**	**14 30 50.0**	**-0.5**
VTS	**Vitosha**	**81.45**	**315**	*e*P	**P**	**14 30 51.0**	**-0.1**
EVR	**Evrytania**	**81.47**	**311**	*e*P	**P**	**14 30 50.5**	**-0.8**
VAY	**Valandovo**	**81.55**	**313**	⇑*i*P	**P**	**14 30 50.1**	**-1.6**
GRG	**Griva**	**81.58**	**313**	*e*P	**P**	**14 30 51.2**	**-0.6**
KZN	**Kozani**	**81.87**	**312**	*e*P	**P**	**14 31 00.0**	**+6.7**
NVL	**N’lazarevskaya**	**82.11**	**199**	⇑*e*P	**P**	**14 30 54.0**	**0.0**
NVL				pmax	pmax		
	comp=Z,555nm,2.4s,mb6.1						
MEV	**Metsovon**	**82.13**	**311**	*e*P	**P**	**14 30 54.9**	**+0.2**
MAIT	**Maitri**	**82.14**	**199**	*e*PKP	**P**	**14 30 55.7**	**+1.5**
MAIT				*e*PcP	PcP	14 31 01.1	+1.0
MAIT				*e*PP	PP	14 34 01.3	-3.2
VLS	**Valsamata**	**82.21**	**310**	*e*P	**P**	**14 30 55.0**	**-0.2**
FNA	**Florina**	**82.28**	**312**	*e*P	**P**	**14 30 54.6**	**-0.9**
LKD	**Levkas**	**82.30**	**310**	*e*P	**P**	**14 30 55.7**	**+0.1**
JAN	**Janina**	**82.38**	**311**	*e*P	**P**	**14 30 56.5**	**+0.5**
MNK	**Minsk**	**82.46**	**327**	*e*P	**P**	**14 30 54.0**	**-2.1**
BARS	**Barje**	**82.50**	**315**	⇑*i*P	**P**	**14 30 56.0**	**-0.6**
SKO	**Skopje**	**82.55**	**314**	⇑*i*P	**P**	**14 30 56.0**	**-0.8**
	comp=Z,0.1nm,1.1s						
BOLS	**Boljevac**	**82.67**	**316**	⇑*i*P	**P**	**14 30 57.0**	**-0.5**
IGT	**Igoumenitsa**	**82.74**	**311**	*e*P	**P**	**14 30 57.9**	**0.0**
OHR	**Ohrid**	**82.79**	**313**	⇑*i*P	**P**	**14 30 57.2**	**-0.9**
LVV	**L’vov**	**83.06**	**322**	*e*P	**P**	**14 30 59.0**	**-0.3**
PUL	**Pulkovo**	**83.29**	**332**	*e*P	**P**	**14 31 00.5**	**+0.2**
PUL				*i*		14 34 11.0	
PUL				*i* PPP	PPP	14 36 04.0	-3.5
PUL				pmax	pmax		
	comp=Z,119nm,1.0s,mb5.9						
PUL				pmax	pmax		
	comp=N,86nm,0.8s						
PUL				pmax	pmax		
	comp=E,356nm,1.8s						
PUL				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3						
SVIS	**Svilajnac**	**83.31**	**316**	⇑*i*P	**P**	**14 31 00.6**	**-0.1**
GRUS	**Gruza**	**83.56**	**315**	⇓*i*P	**P**	**14 31 02.0**	**0.0**
QSPA	**South Pole Qui**	**83.76**	**180**	*e*P	**P**	**14 31 03.1**	**+0.8**
	comp=Z,86nm,1.2s,mb5.8						
QSPA				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
UZH	**Uzhgorod**	**83.80**	**320**	*e*P	**P**	**14 31 04.0**	**+0.9**
UZH				*e*S	S	14 41 24.0	+0.5
KWP	**Kalwaria**	**83.82**	**321**	⇑*e*P	**P**	**14 31 04.0**	**+0.8**
KWP				MLR	MLR		
	comp=Z,400nm,21.5s,MS4.8						
BEO	**Belgrade**	**83.98**	**316**	⇓*i*P	**P**	**14 31 04.1**	**0.0**
DIVS	**Divcibare**	**84.12**	**315**	⇓*i*P	**P**	**14 31 05.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**84.40**	**320**	*i* P	**P**	**14 31 06.9**	**+0.8**
CRVS				*e*		14 31 10.1	
CRVS				*e*		14 31 19.2	
CRVS	**Cervenica-Dubn**	**84.40**	**320**	*i* P	**P**	**14 31 06.9**	**+0.8**
CRVS				*e*		14 31 19.2	
VSU	**Vasula**	**84.48**	**330**	⇑*i*P	**P**	**14 31 06.6**	**+0.3**
SUW	**Suwalki**	**84.86**	**326**	⇑*e*P	**P**	**14 31 08.0**	**-0.3**
SUW				*e**PP	pP	14 31 15.4	0.0
SUW				MLR	MLR		
	comp=Z,600nm,21.5s,MS5.0						
KECS	**Kecovo**	**84.91**	**320**	*i* P	**P**	**14 31 09.5**	**+0.8**
KECS				*e*pP	pP	14 31 16.6	+0.8
PSZ	**Piszkesteto**	**85.14**	**319**	⇑*e*P	**P**	**14 31 10.6**	**+0.7**
APA	**Apatity**	**85.53**	**340**	⇓*i*P	**P**	**14 31 10.1**	**-1.2**
APA				*i*	pP	14 31 18.0	-0.4
APA				*i* S	S	14 41 43.0	+2.9
APA				*e*PS	PS	14 42 44.0	+3.1
APA				*e*SS	SS	14 47 16.0	-3.3
APA				pmax	pmax		
	comp=Z,97nm,1.4s,mb5.8						
GRI	**Girifalco**	**85.55**	**310**	⇑*i*P	**P**	**14 31 13.2**	**+1.0**
WAR	**Warsaw**	**85.59**	**324**	*e*P	**P**	**14 31 13.1**	**+1.1**
WAR				*e**PP	pP	14 31 19.2	+0.1
WAR				*e*S	S	14 41 38.5	-2.6
WAR				MLR	MLR		
	comp=Z,800nm,25.2s,MS5.0						
ORI	**Oriolo Calabro**	**85.77**	**311**	⇑*i*P	**P**	**14 31 14.4**	**+1.2**
TDS	**Terranova Siba**	**85.78**	**310**	⇑*i*P	**P**	**14 31 14.8**	**+1.5**
OJC	**Ojcow**	**85.79**	**321**	⇑*i*P	**P**	**14 31 13.5**	**+0.4**
OJC				*e*		14 34 35.3	
OJC				*i* S	S	14 41 45.7	+2.6
OJC				*e*SS	SS	14 47 27.8	+4.1
OJC				MLR	MLR		
	comp=Z,500nm,20.4s,MS4.9						
OJC	**Ojcow**	**85.79**	**321**	⇑*i*P	**P**	**14 31 13.5**	**+0.4**
	comp=Z,200nm,1.3s,mb6.2						
OJC				*e*PcP	PcP	14 31 16.7	+0.3
OJC				*e*PP	PP	14 34 35.3	+1.2
OJC				*i* S	S	14 41 45.7	+2.6
OJC				*e*SS	SS	14 47 27.8	+4.1
OJC				LR	LR		
	comp=Z,500nm,20.4s,MS4.9						
FINES	**FINESS Array B**	**85.87**	**333**	P	**P**	**14 31 13.3**	**+0.1**
	comp=Z,32nm,0.9s,mb5.6,baz=104,slow=7.9,SNR=115						
FINES				LR	LR	15 11 38.0	
	comp=Z,1µm,20.2s,MS5.2,baz=107,slow=37						
FINES	**FINESS Array B**	**85.87**	**333**	P	**P**	**14 31 13.3**	**+0.1**
FINES				pmax	pmax		
	comp=Z,32nm,0.9s						
FINES				MLR	MLR		
	comp=Z,1µm,20.2s						
MTTG	**Motta San Giov**	**85.94**	**309**	⇑*i*P	**P**	**14 31 14.8**	**+0.7**
VYHS	**Vyhne**	**85.97**	**320**	*i* P	**P**	**14 31 14.7**	**+0.7**
VYHS				*e*	pP	14 31 21.7	+0.6
VYHS				*e*S	S	14 41 44.3	-0.6
VYHS				*e*SS	SS	14 47 33.4	+7.0
SCLL	**Scilla**	**85.98**	**309**	⇓*i*P	**P**	**14 31 15.2**	**+0.9**
KAF	**Kangasniemi**	**86.01**	**334**	*e*p	**P**	**14 31 11.1**	**-2.8**
	baz=106,slow=4.4						
SRO	**Srobarova**	**86.15**	**319**	*e*P	**P**	**14 31 16.4**	**+1.5**
KOLL	**Kolacno**	**86.27**	**320**	*i* P	**P**	**14 31 16.4**	**+0.9**
KOLL				*e*sP	sP	14 31 25.2	+0.4
SLCN	**Sala Consilina**	**86.45**	**311**	⇑*i*P	**P**	**14 31 17.4**	**+0.8**
MGR	**Morigerati**	**86.46**	**311**	⇑*i*P	**P**	**14 31 16.1**	**-0.6**
FGMS	**Monte Sant’Ang**	**86.47**	**312**	⇑*i*P	**P**	**14 31 17.1**	**+0.5**
MRLC	**Muro Lucano**	**86.63**	**311**	⇑*i*P	**P**	**14 31 17.5**	**+0.1**
FG4	**Candela**	**86.68**	**312**	⇑*i*P	**P**	**14 31 18.5**	**+0.8**
MNO	**Monte Soro**	**86.71**	**309**	⇓*i*P	**P**	**14 31 19.5**	**+1.6**
SGO	**Sicignano**	**86.73**	**311**	⇑*i*P	**P**	**14 31 18.2**	**+0.2**
OKC	**Ostrava-Krasne**	**86.73**	**321**	⇑*i*P	**P**	**14 31 18.2**	**+0.5**
OKC				*e*AP	pP	14 31 25.2	+0.4
OKC				*e*S	S	14 41 53.9	+1.8
OKC				*e*		14 43 02.1	
OKC				LM		15 16 40.0	
	comp=Z,0.4nm,16.9s						
RGNG	**Rignano Grg**	**86.73**	**312**	⇑*i*P	**P**	**14 31 18.4**	**+0.4**
RAC	**Raciborz**	**86.76**	**321**	*e*P	**P**	**14 31 19.1**	**+1.3**
RAC				*e**PP	pP	14 31 25.9	+1.0
RAC				*e*		14 41 41.2	
RAC				*e*S	S	14 41 52.6	+0.2
RAC				MLR	MLR		
	comp=Z,600nm,21.3s,MS5.0						
SNAA	**Sanae**	**86.80**	**198**	⇑*i*P	**P**	**14 31 19.0**	**+1.5**
SNAA	**Sanae**	**86.80**	**198**		pP	14 31 29.6	+5.0
SNAA	**Sanae**	**86.80**	**198**		**P**	**14 31 32.6**	**+15**
FG5	**Orsara di Pugl**	**86.89**	**312**	⇑*i*P	**P**	**14 31 19.4**	**+0.7**
CSSN	**Cassano Irpino**	**87.00**	**311**	⇑*i*P	**P**	**14 31 19.4**	**+0.2**
FG2	**Serracapriola**	**87.07**	**312**	*e*P	**P**	**14 31 20.6**	**+1.1**
MRB1	**Monte Rocchett**	**87.08**	**312**	⇑*i*P	**P**	**14 31 21.7**	**+2.0**
CSLB	**Castelbuono**	**87.20**	**308**	*e*P	**P**	**14 31 23.9**	**+3.6**
MCT	**Mte Cammarata**	**87.48**	**308**	⇑*i*P	**P**	**14 31 23.8**	**+2.2**
VKA	**Vienna**	**87.56**	**319**	⇑*i*P	**P**	**14 31 22.4**	**+0.7**
	comp=Z,336nm,1.5s,mb6.3						
SGG	**Gregorio Mates**	**87.57**	**312**	⇑*i*P	**P**	**14 31 21.8**	**-0.2**
CII	**Carovilli**	**87.69**	**312**	⇑*i*P	**P**	**14 31 22.9**	**+0.3**
BOJS	**Bojanci**	**87.72**	**316**	⇑*e*P	**P**	**14 31 23.1**	**+0.6**
NVLJ	**Novalja**	**87.80**	**315**	⇑*i*P	**P**	**14 31 22.8**	**-0.2**
MSC	**Monte Massico**	**87.84**	**312**	⇑*i*P	**P**	**14 31 23.2**	**-0.1**
ARSA	**Arzberg**	**87.88**	**318**	⇑*i*P	**P**	**14 31 24.1**	**+0.8**
	comp=Z,370nm,1.5s,mb6.4						
SMY	**Shemya**	**87.97**	**37**	*e*P	**P**	**14 31 29.7**	**+6.1**
	comp=Z,222nm,1.0s,mb6.3						
DPC	**Dobruska-Polom**	**87.99**	**321**	⇑*i*P	**P**	**14 31 25.0**	**+1.2**
DPC				*e*AP	pP	14 31 31.2	+0.4
DPC				*e*SKKS		14 42 01.3	
DPC				*e*PS	PS	14 43 15.3	+3.9
DPC				*e*SS	SS	14 48 00.1	+4.4
DPC				LM		15 14 40.0	
	comp=Z,0.5nm,18.9s						
PERS	**Pernice**	**88.03**	**317**	⇑*e*P	**P**	**14 31 24.8**	**+0.7**
INTR	**Introdacqua**	**88.03**	**312**	⇑*i*P	**P**	**14 31 24.0**	**-0.1**
SDI	**San Donato**	**88.05**	**312**	*e*P	**P**	**14 31 24.1**	**-0.2**
MFNL	**Monte Finestre**	**88.06**	**308**	*e*P	**P**	**14 31 29.1**	**+4.7**
GKP	**Gorka Klasztor**	**88.07**	**324**	⇑*e*P	**P**	**14 31 24.8**	**+0.7**
GKP				*e**PP	pP	14 31 31.1	0.0
GKP				MLR	MLR		
	comp=Z,900nm,25.2s,MS5.1						
KSP	**Ksiaz**	**88.11**	**321**	⇑*e*P	**P**	**14 31 25.2**	**+0.9**
KSP				*e**PP	pP	14 31 32.0	+0.6
KSP				*e*		14 34 52.0	
KSP				*e*		14 41 50.0	
KSP				*e*S	S	14 42 07.0	+1.9
KSP				*e*SP	SP	14 43 08.0	-1.5
KSP				*e*SS	SS	14 47 52.0	-5.4
KSP				MLR	MLR		
	comp=Z,1µm,21.7s,MS5.2						
LJU	**Ljubljana**	**88.32**	**316**	⇑*e*P	**P**	**14 31 26.1**	**+0.7**
LJU				*e*pP	pP	14 31 32.8	+0.3
LJU				*e*S	S	14 42 03.3	-3.8
CEY	**Cerknica**	**88.33**	**316**	⇑*e*P	**P**	**14 31 25.5**	**0.0**
CEY				*e*pP	pP	14 31 32.1	-0.4
CEY				*e*S	S	14 42 03.4	-3.9
TERO	**Teramo**	**88.36**	**313**	⇑*i*P	**P**	**14 31 27.6**	**+1.9**
OBKA	**Obir**	**88.39**	**317**	⇑*i*P	**P**	**14 31 26.6**	**+0.8**
	comp=Z,345nm,2.0s,mb6.2						
VNA2	**Neumayer--Watz**	**88.39**	**199**	⇑*i*P	**P**	**14 31 30.0**	**+4.8**
VNA2	**Neumayer--Watz**	**88.39**	**199**	⇓*i*	pP	14 31 36.6	+4.3
PTQR	**Pietraquaria**	**88.40**	**312**	⇑*i*P	**P**	**14 31 26.3**	**+0.3**
AQU	**L’Aquila**	**88.46**	**313**	⇑*i*P	**P**	**14 31 26.9**	**+0.7**
JAVS	**Javornik**	**88.61**	**316**	⇑*e*P	**P**	**14 31 26.5**	**-0.3**
CERT	**Cerreto**	**88.70**	**312**	⇑*i*P	**P**	**14 31 26.9**	**-0.4**
VNA1	**Neumayer--Stat**	**88.74**	**199**	⇑*i*P	**P**	**14 31 31.8**	**+4.9**
VNA1	**Neumayer--Stat**	**88.74**	**199**	⇓*i*	pP	14 31 33.8	-0.1
VNA1	**Neumayer--Stat**	**88.74**	**199**	⇑*i*	**P**	**14 31 43.7**	**+17**
NRCA	**Norcia**	**88.75**	**313**	⇑*i*P	**P**	**14 31 27.8**	**+0.3**
VOY	**Vojsko**	**88.75**	**316**	⇓*e*P	**P**	**14 31 27.6**	**+0.1**
CING	**Cingoli**	**88.78**	**314**	*e*P	**P**	**14 31 28.5**	**+0.8**
MOA	**Molln**	**88.83**	**318**	⇑*i*P	**P**	**14 31 28.2**	**+0.4**
	comp=Z,184nm,1.6s,mb6.2						
ARCES	**ARCESS Array B**	**88.98**	**341**	P	**P**	**14 31 28.4**	**+0.3**
	comp=Z,20nm,0.8s,mb5.5,baz=117,slow=2.7,SNR=43						
ARCES				LR	LR	15 13 44.4	
	comp=Z,1µm,19.0s,MS5.3,baz=181,slow=37						
ARCES	**ARCESS Array B**	**88.98**	**341**	P	**P**	**14 31 28.4**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,20nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,1µm,19.0s						
ARV	**Arcevia**	**88.98**	**314**	⇑*i*P	**P**	**14 31 29.3**	**+0.6**
MNS	**Montasola**	**88.99**	**313**	⇑*i*P	**P**	**14 31 28.2**	**-0.5**
PRU	**Pruhonice**	**89.04**	**320**	⇑*i*P	**P**	**14 31 29.6**	**+0.8**
	comp=Z,94nm,1.3s,mb6.0						
PRU				*e*AP	pP	14 31 36.0	+0.1
PRU				*e*		14 35 12.9	
PRU				*e*S	S	14 42 16.0	+2.2
PRU				*e*		14 43 29.4	
PRU				*e*SS	SS	14 48 14.8	+4.4
PRU				LM		15 17 20.0	
PRU	**Pruhonice**	**89.04**	**320**	⇑*i*P	**P**	**14 31 29.6**	**+0.8**
PRU				*e**PP	pP	14 31 36.0	+0.1
PRU				*e*		14 42 16.0	
PRU				*e*S		14 43 29.4	
PRU				*e*		14 48 14.8	
ROBS	**Robic**	**89.05**	**317**	⇑*e*P	**P**	**14 31 28.9**	**-0.1**
ASS	**Assisi**	**89.12**	**313**	⇑*i*P	**P**	**14 31 28.7**	**-0.7**
PVCC	**Panska Ves**	**89.13**	**321**	⇑*i*P	**P**	**14 31 30.1**	**+0.9**
PVCC				*e*AP	pP	14 31 36.9	+0.7
PVCC				LM		15 15 30.0	
	comp=Z,0.4nm,18.2s						
FSSB	**Fossombrone**	**89.13**	**314**	⇑*i*P	**P**	**14 31 30.4**	**+1.0**
PTCC	**Patocco-Chiusa**	**89.18**	**317**	⇑*i*P	**P**	**14 31 29.8**	**+0.2**
GMNA	**Gemona**	**89.24**	**317**	⇑*i*P	**P**	**14 31 30.2**	**+0.3**
MURB	**Monte Urbino**	**89.25**	**314**	*i* P	**P**	**14 31 31.8**	**+1.8**
KBA	**Koelnbreinsper**	**89.31**	**317**	⇑*i*P	**P**	**14 31 30.2**	**+0.1**
	comp=Z,156nm,1.4s,mb6.2						
GEC2	**GERESS Array S**	**89.38**	**319**	*e*P	**P**	**14 31 31.4**	**+1.0**
GEC2				pmax	pmax		

	comp=Z,333nm,1.4s,mb6.5						
GEC2	**GERESS Array S**	89.38	319	eP	P	14 31 31.4	+1.0
	comp=Z,333nm,1.4s,mb6.5						
GERES	**GERESS Array B**	89.38	319	P	P	14 31 31.1	+0.7
	comp=Z,68nm,0.9s,mb6.0,baz=108,slow=4.2,SNR=428						
GERES	**GERESS Array B**	89.38	319	P	P	14 31 31.1	+0.7
GERES				pmax	pmax		
	comp=Z,68nm,0.9s						
RSM	**Repubblica di**	89.41	314	⇑iP	P	14 31 32.1	+1.4
TOLF	**Tolfa**	89.44	312	⇑iP	P	14 31 31.0	+0.1
KHC	**Kasperske Hory**	89.50	319	⇑iP	P	14 31 31.5	+0.5
KHC				eAP	pP	14 31 38.3	+0.2
KHC				eS	S	14 42 20.5	+2.5
KHC				ePS	PS	14 43 31.7	+2.7
KHC				LM		15 16 10.0	
	comp=Z,0.6nm,18.4s						
BRG	**Berggiesshubel**	89.58	321	⇑iP	P	14 31 32.3	+1.0
BRG				i	pP	14 31 39.4	+1.0
BRG				e		14 31 46.4	
BRG				S	S	14 42 23.0	+4.3
BRG				pmax	pmax		
	comp=Z,207nm,1.5s,mb6.2						
BRG				MLR	MLR		
	comp=Z,560nm,15.4s,MS5.1						
BRG				MLR	MLR		
	comp=N,300nm,15.7s,MS5.1						
BRG				MLR	MLR		
	comp=E,430nm,15.7s,MS5.1						
BRG	**Berggiesshubel**	89.58	321	⇑iP	P	14 31 32.3	+1.0
	comp=E,207nm,1.5s,mb6.2						
BRG				i	pP	14 31 39.4	+1.0
BRG				e		14 31 46.4	
BRG				PP	PP	14 35 16.0	+11
BRG				S	S	14 42 23.0	+4.3
BRG				SS	SS	14 48 29.0	+11
BRG				LR	LR		
	comp=Z,560nm,15.4s,MS5.1						
FVI	**Forni Avoltri**	89.61	317	⇑iP	P	14 31 31.9	+0.3
CRE	**Caprese Michel**	89.71	314	⇑iP	P	14 31 31.9	-0.3
SFI	**Santa Sofia**	89.83	314	⇑iP	P	14 31 34.0	+1.3
PGD	**Poggio Sodo**	89.92	314	⇑iP	P	14 31 34.0	+0.9
WET	**Wettzell**	89.96	319	eP	P	14 31 34.0	+0.9
WET				pmax	pmax		
	comp=Z,170nm,1.2s,mb6.2						
WET	**Wettzell**	89.96	319	eP	P	14 31 34.0	+0.9
	comp=Z,170nm,1.2s,mb6.2						
VMG	**Vicchio**	90.06	314	⇑iP	P	14 31 34.6	+0.9
MAON	**Monte Argentar**	90.13	313	⇑iP	P	14 31 34.2	+0.1
CSNT	**Castellina Chi**	90.17	314	⇑iP	P	14 31 32.9	-1.3
SEI	**Scarperia**	90.20	314	⇑iP	P	14 31 35.1	+0.7
CLL	**Collm**	90.24	321	⇑P	P	14 31 34.8	+0.4
	comp=Z,logA/T=2.0,mb6.1						
CLL				i *SP	sP	14 31 42.1	-1.6
CLL				e		14 33 26.0	
CLL				ePP	PP	14 35 18.0	+7.3
CLL				eS	S	14 42 27.0	+2.3
CLL				ePS	PS	14 43 33.0	-4.3
CLL				eSS	SS	14 48 32.0	+3.9
CLL	**Collm**	90.24	321	⇑iP	P	14 31 34.8	+0.4
CLL				i	pP	14 31 42.1	+0.7
CLL				eS	S	14 42 27.0	+2.3
CLL				pmax	pmax		
	comp=Z,125nm,1.2s,mb6.1						
CLL				MLR	MLR		
	comp=Z,800nm,16.7s,MS5.2						
CLL	**Collm**	90.24	321	⇑iP	P	14 31 34.8	+0.4
	comp=Z,125nm,1.2s,mb6.1						
CLL				i	pP	14 31 42.1	+0.7
CLL				eS	S	14 42 27.0	+2.3
CLL				LR	LR		
	comp=Z,800nm,16.7s,MS5.2						
CTI	**Castel Tesino**	90.29	316	⇑iP	P	14 31 35.7	+0.9
GRFL	**Gerfalco**	90.35	313	⇑iP	P	14 31 34.9	-0.2
WTTA	**Wattenberg**	90.48	317	⇓iP	P	14 31 35.8	+0.2
	comp=Z,241nm,1.3s,mb6.4						
ZCCA	**Zocca**	90.52	314	eP	P	14 31 37.5	+1.7
WATA	**Walderalm**	90.54	317	⇑iP	P	14 31 36.0	+0.2
	comp=Z,89nm,1.1s,mb6.0						
BDI	**Bagni Di Lucca**	90.75	314	⇑iP	P	14 31 36.0	-0.9
PII	**Pisa**	90.75	314	eP	P	14 31 36.2	-0.7
SQTA	**Sankt Quirin**	90.77	317	⇑iP	P	14 31 37.4	+0.5
	comp=Z,79nm,1.1s,mb6.0						
GSCL	**Gusciola**	90.79	314	⇑iP	P	14 31 38.3	+1.2
MAIM		90.80	314	P	P	14 31 36.0	-1.1
MOTA	**Moosalm**	90.86	317	⇑iP	P	14 31 37.5	+0.2
	comp=Z,76nm,1.1s,mb5.9						
FUR	**Furstenfeldbru**	90.86	318	eP	P	14 31 37.6	+0.3
FUR				pmax	pmax		
	comp=Z,100nm,1.1s,mb6.1						
FUR	**Furstenfeldbru**	90.86	318	eP	P	14 31 37.6	+0.3
	comp=Z,100nm,1.1s,mb6.1						
ERBM	**Eremo**	90.93	314	⇑iP	P	14 31 39.1	+1.4
MOX	**Moxa**	91.00	321	⇓iP	P	14 31 38.9	+1.0
	comp=Z,logA/T=2.0,mb6.1						
MOX				pP	pP	14 31 53.0	+8.1
MOX				PP	PP	14 35 26.0	+9.2
MOX				S	S	14 42 44.0	+13
MOX				PS	PS	14 43 58.0	+12
MOX				SS	SS	14 48 50.0	+11
MOX				L		15 15 19.0	
MOX	**Moxa**	91.00	321	⇓iP	P	14 31 38.9	+1.0
MOX				e		14 31 53.2	
MOX				pmax	pmax		
	comp=Z,153nm,1.5s,mb6.1						
MOX				MLR	MLR		
	comp=Z,500nm,18.0s,MS5.0						
MOX	**Moxa**	91.00	321	⇓iP	P	14 31 38.9	+1.0
	comp=Z,153nm,1.5s,mb6.1						
MOX				e		14 31 53.2	
MOX				e		14 35 26.0	
MOX				LR	LR		
	comp=Z,500nm,18.0s,MS5.0						
SAL	**Salo**	91.01	316	eP	P	14 31 39.4	+1.3
VALM		91.04	314	P	P	14 31 38.8	+0.6
VINC	**Vinca**	91.08	314	P	P	14 31 37.8	-0.6
MABI	**Malga Bissina**	91.08	316	⇑iP	P	14 31 39.8	+1.5
GRA1	**Grafenberg Arr**	91.11	320	i P	P	14 31 39.6	+1.2
	comp=Z,179nm,1.3s,mb6.2						
GRA1				eSKSac		14 42 19.6	
GRA1				eSP	SP	14 43 55.9	+11
GRA1				eSS	SS	14 48 53.2	+13
GRA1				LR	LR		
	comp=Z,400nm,19.6s,MS4.9						
GRF	**Grafenberg Arr**	91.11	320	i P	P	14 31 39.6	+1.2
GRF				pmax	pmax		
	comp=Z,179nm,1.3s,mb6.2						
GRF				MLR	MLR		
	comp=Z,400nm,19.6s,MS4.9						
BACM		91.15	314	P	P	14 31 38.3	-0.4
GRAM		91.18	314	P	P	14 31 38.8	-0.1
TRO	**Tromso**	91.21	340	eP	P	14 31 37.5	-0.9
TRO				e		14 42 33.8	
TRO				eSS	SS	14 48 39.0	-2.4
TRO				AMS	AMS	15 13 44.5	
	comp=Z,587nm,19.2s,MS5.0						
BRMO	**Bormio**	91.23	316	⇑iP	P	14 31 40.0	+1.0
COP	**Copenhagen**	91.29	326	i P	P	14 31 37.8	-1.3
	comp=Z,240nm,18.0s						
CODM		91.32	314	P	P	14 31 39.0	-0.5
FUORN	**Ofenpass**	91.33	317	⇑iPKPbc	P	14 31 40.5	+1.0
	comp=Z,515nm,2.2s,mb6.5						
BERNI	**Berninapass**	91.46	316	⇑iPKPbc	P	14 31 41.1	+1.0
	comp=Z,203nm,1.4s,mb6.3						
DAVOX	**Davos**	91.61	317	⇑iPKPbc	P	14 31 41.6	+0.8
	comp=Z,162nm,1.2s,mb6.2						
DAVA	**Damuels**	91.67	317	⇑iP	P	14 31 42.0	+0.9
	comp=Z,301nm,1.4s,mb6.4						
PGF	**Pioggiola**	91.71	312	⇑iP	P	14 31 41.9	+0.5
	comp=Z,290nm,1.1s,mb6.2						
KAMOR	**Kamor**	91.94	317	⇑iPKPdf	P	14 31 43.1	+0.8
	comp=Z,268nm,1.3s,mb6.4						
CLZ	**Clausthal**	91.94	322	eP	P	14 31 43.1	+0.9
	comp=Z,128nm,1.2s,mb6.1						
CLZ				ePP	PP	14 35 32.5	+8.2
GENL	**Genova Univers**	91.95	314	P	P	14 31 41.2	-1.2
PLONS	**Plons**	91.98	317	⇑iPKPdf	P	14 31 42.9	+0.4
	comp=Z,157nm,1.6s,mb6.1						
MUGIO	**Muggio**	92.08	316	⇑iPKPdf	P	14 31 42.2	-0.8
	comp=Z,70nm,1.9s,mb5.7						
LLS	**Linth-Limmern**	92.21	317	⇑ePKPdf	P	14 31 43.9	+0.4
	comp=Z,57nm,1.3s,mb5.7						
BSEG	**Bad Segeberg**	92.25	324	eP	P	14 31 44.5	+1.0
BSEG				pmax	pmax		
	comp=Z,107nm,1.4s,mb6.0						
BSEG	**Bad Segeberg**	92.25	324	eP	P	14 31 44.5	+1.0
BSEG				ePP	PP	14 35 34.3	+7.6
VAI	**Varese**	92.26	316	⇑iP	P	14 31 43.0	-0.8
BJO	**Bjornoya**	92.37	345	AMS	AMS	15 19 45.9	
	comp=Z,472nm,19.3s,MS5.0						
FIN	**Finale Ligure**	92.47	314	⇓iP	P	14 31 45.1	+0.3
MUO	**Muotathal**	92.48	317	⇑iPKPdf	P	14 31 45.5	+0.7
	comp=Z,217nm,1.4s,mb6.3						
SPAK	**Spaichingen**	92.50	318	eP	P	14 31 45.4	+0.5
RORO		92.56	314	P	P	14 31 45.4	+0.1
BNALP	**Bannalp**	92.61	317	⇑iPKPdf	P	14 31 45.8	+0.4
	comp=Z,102nm,1.2s,mb6.1						
IMI	**Imperia**	92.67	314	⇓iP	P	14 31 46.6	+0.8
NB2	**NORSAR Subarra**	92.72	331	P	P	14 31 45.2	-0.3
	comp=Z,28nm,1.1s,mb5.6,baz=99,slow=4.6						
NB2	**NORSAR Subarra**	92.72	331	P	P	14 31 45.2	-0.3
	baz=99,slow=4.6						
NOA	**NORSAR Array B**	92.72	331	P	P	14 31 45.2	-0.3
	comp=Z,12nm,0.9s,mb5.3,baz=97,slow=4.7,SNR=26						
NOA				PP	PP	14 35 33.0	+2.7
	comp=Z,2.2nm,0.8s,baz=100,slow=7.8,SNR=3.9						
NOA				LR	LR	15 14 52.8	
	comp=Z,537nm,20.9s,MS5.0,baz=95,slow=36						
NOA	**NORSAR Array B**	92.72	331	P	P	14 31 45.2	-0.3
NOA						14 35 33.0	
NOA				pmax	pmax		
	comp=Z,12nm,0.9s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,537nm,20.9s						
NOA	**NORSAR Array B**	92.72	331	P	P	14 31 45.2	-0.3
NOA				PP	PP	14 35 33.0	+2.7
NOA				LR	LR	15 14 52.8	
ROB	**Roburent**	92.72	314	P	P	14 31 45.8	-0.2
MONE	**Monesi**	92.78	314	P	P	14 31 46.0	-0.3
ORO	**Oropa**	92.78	315	eP	P	14 31 45.6	-0.6
HASLI	**Hasliberg**	92.79	317	⇑iPKPdf	P	14 31 46.6	+0.4
	comp=Z,155nm,1.1s,mb6.3						
NEGI	**Negi**	92.80	314	P	P	14 31 46.7	+0.4
MCGN	**Macugnaga**	92.81	316	eP	P	14 31 46.7	+0.3
BFO	**Black Forest**	92.83	318	eP	P	14 31 46.6	+0.2
BFO				pmax	pmax		
	comp=Z,62nm,1.8s,mb5.7						
BFO	**Black Forest**	92.83	318	eP	P	14 31 46.6	+0.2
	comp=Z,62nm,1.8s,mb5.7						
MMK	**Mattmark**	92.84	316	⇑ePKPdf	P	14 31 46.8	+0.3
	comp=Z,97nm,1.1s,mb6.1						
NSS	**Namsos**	92.87	335	⇑iP	P	14 31 44.9	-1.2
NSS				AMS	AMS	15 16 00.6	
	comp=Z,908nm,20.2s,MS5.2						
SULZ	**Sulz-Cheisache**	92.89	317	⇑ePKPdf	P	14 31 46.7	0.0
	comp=Z,121nm,1.1s,mb6.2						
SAOF	**Saorge**	92.92	314	eP	P	14 31 45.6	-1.3
TRAV		92.94	315	P	P	14 31 46.1	-0.8
SBF	**Sospel**	92.99	314	⇑iP	P	14 31 47.5	+0.3
	comp=Z,178nm,1.1s,mb6.1						
AUTN	**L'Aution**	93.01	314	eP	P	14 31 48.1	+0.8
REVF	**Revere**	93.03	313	eP	P	14 31 47.8	+0.4
ENR	**Entracque**	93.04	314	P	P	14 31 46.7	-0.7
AURF	**Auriere**	93.07	314	eP	P	14 31 48.4	+0.8
LKBD	**Leukerbad**	93.11	316	⇑iPKPdf	P	14 31 48.4	+0.7
	comp=Z,149nm,1.2s,mb6.3						
STV2	**Anna di Valdie**	93.11	314	P	P	14 31 46.6	-1.1
STV	**Sta Anna Valdi**	93.11	314	P	P	14 31 46.5	-1.2
WIMIS	**Wimmis**	93.14	316	⇑ePKPdf	P	14 31 48.0	+0.2
	comp=Z,95nm,1.8s,mb5.9						
BALST	**Balsthal**	93.16	317	⇑ePKPdf	P	14 31 47.8	-0.1
	comp=Z,126nm,1.3s,mb6.2						
MVIF	**Mont Vial**	93.20	314	eP	P	14 31 48.9	+0.7
MUD	**Monsted U'grnd**	93.20	326	i P	P	14 31 48.5	+0.6
	comp=Z,20nm,1.3s,mb5.4						
MUD	**Monsted U'grnd**	93.20	326	eP	P	14 31 48.5	+0.6
	comp=Z,20nm,1.3s,mb5.4						
BHB	**Bricherasio**	93.21	315	P	P	14 31 46.4	-1.8
DIX	**Grande Dixence**	93.23	316	⇑ePKPdf	P	14 31 49.3	+1.1
	comp=Z,295nm,1.6s,mb6.5						
RSP	**Reno Superiore**	93.24	315	P	P	14 31 46.8	-1.5
LANF	**Langenberg**	93.25	319	eP	P	14 31 48.5	+0.3
PZZ	**Prazzo**	93.29	314	P	P	14 31 47.6	-0.9
LIBD	**Limburg**	93.30	318	eP	P	14 31 49.0	+0.5
SENIN	**Lac Senin**	93.33	316	⇑iPKPdf	P	14 31 49.3	+0.6
	comp=Z,97nm,1.6s,mb6.0						
SENIN	**Lac Senin**	93.33	316	⇑iP	P	14 31 49.4	+0.7
KONO	**Kongsberg**	93.34	330	AMS	AMS	15 15 19.4	
	comp=Z,606nm,20.2s,MS5.0						
LSD	**Ceresole Reale**	93.34	315	P	P	14 31 49.2	+0.4
FENE	**Fenestrelle**	93.37	315	P	P	14 31 48.4	-0.5
CALN	**Calern**	93.37	313	eP	P	14 31 49.4	+0.4
GRYON	**Gryon**	93.45	316	⇑iPKPdf	P	14 31 49.8	+0.5
	comp=Z,96nm,1.3s,mb6.0						
WLS	**Welschbruch**	93.49	318	eP	P	14 31 49.2	-0.2
SURF	**Saint Ours**	93.50	314	eP	P	14 31 49.9	+0.4
FRF	**La Foret Royal**	93.53	313	⇑iP	P	14 31 50.0	+0.3
	comp=Z,140nm,1.4s,mb5.9						
CDF	**Champ du Feu**	93.54	318	⇑iP	P	14 31 49.5	-0.1
	comp=Z,27nm,1.1s,mb5.3						
MBDF	**Montbardon**	93.55	314	eP	P	14 31 49.4	-0.4
	comp=Z,49nm,1.2s,mb5.5						
RRL	**Cesana Torines**	93.56	315	P	P	14 31 50.1	+0.3
AIGLE	**Aigle**	93.57	316	⇑iPKPdf	P	14 31 50.1	+0.3
	comp=Z,126nm,1.3s,mb6.2						
MOF	**Molkenrain**	93.58	318	eP	P	14 31 49.7	-0.1
LMR	**La Mourre**	93.61	313	eP	P	14 31 50.2	+0.1
LPG	**La Plagne**	93.63	315	⇑iP	P	14 31 50.5	+0.4
	comp=Z,60nm,1.0s,mb5.7						
LPL	**La Plagne**	93.65	315	⇑iP	P	14 31 50.6	+0.4
	comp=Z,88nm,1.0s,mb5.8						
LOMF	**Lomont**	93.74	317	eP	P	14 31 50.6	0.0
HINF	**Hinteralfeld**	93.77	318	⇑iP	P	14 31 50.3	-0.4
RUP	**Ruppelstein**	93.80	319	eP	P	14 31 51.5	+0.7
GDM	**Grand'Maison**	94.05	315	eP	P	14 31 52.4	+0.3
HAU	**Haudompre**	94.12	318	⇑iP	P	14 31 52.1	-0.2
	comp=Z,74nm,1.0s,mb5.8						
HAU				eR			
	comp=Z,352nm,21.5s						
WTSB	**Winterswijk**	94.16	322	eP	P	14 31 53.1	+0.7
	comp=Z,14nm,1.5s,mb5.2						
CABF	**La Chapelle**	94.19	316	⇑iP	P	14 31 53.1	+0.5
	comp=Z,123nm,1.4s,mb5.8						
ORIF	**Oris-en-Rattie**	94.20	315	eP	P	14 31 53.1	+0.4
	comp=Z,70nm,1.1s,mb5.7						
ORIF				eR			
	comp=Z,764nm,20.0s						
GRN	**Grenoble**	94.32	315	eP	P	14 31 54.0	+0.7
SMRF	**Simiane la Rot**	94.34	314	⇑iP	P	14 31 54.3	+0.9
	comp=Z,62nm,1.2s,mb5.6						
THEF	**They Montfort**	94.38	318	eP	P	14 31 53.5	0.0
HGN	**Heimansgroeve**	94.61	320	eP	P	14 31 54.3	-0.2
	comp=Z,9.2nm,1.1s,mb5.1						
KBS	**Kingsbay**	94.86	349	eP	P	14 31 56.0	+0.9
KBS				ePP	PP	14 35 42.2	-4.1
KBS				e		14 43 06.2	
KBS				AMS	AMS	15 18 12.4	
	comp=Z,845nm,23.3s,MS5.1						
KBS	**Kingsbay**	94.86	349	eP	P	14 31 50.6	-4.5
KBS				e		14 43 07.2	
KBS				LR	LR		
	comp=Z,845µm,23.3s						
MEZF	**Maizieres J'vi**	95.02	318	⇑iP	P	14 31 56.6	+0.2
	comp=Z,53nm,1.1s,mb5.6						
VIVF	**Saint-Julien-l**	95.05	314	⇑iP	P	14 31 56.9	+0.3
	comp=Z,94nm,1.4s,mb5.7						
GIVF	**Givet**	95.27	320	⇑iP	P	14 31 57.6	+0.1
LASF	**Ste Croix**	95.58	314	⇑iP	P	14 31 59.5	+0.4
	comp=Z,33nm,1.1s,mb5.4						
BAIF	**Baives**	95.66	320	⇑iP	P	14 31 59.7	+0.4
	comp=Z,79nm,1.2s,mb5.7						
SMF	**Signal de Mont**	95.73	316	⇑iP	P	14 31 59.6	-0.2
	comp=Z,59nm,1.1s,mb5.6						
LOR	**Lormes**	95.75	317	⇑iP	P	14 31 59.8	0.0
	comp=Z,96nm,1.1s,mb5.8						
LOR				eR			
	comp=Z,634nm,21.2s						
COLF	**Collangettes**	95.78	315	eP	P	14 31 59.9	-0.1
PLDF	**La Plantade**	95.85	316	eP	P	14 32 00.8	+0.5
SSF	**Saint Saulge**	95.98	317	⇑iP	P	14 32 01.0	+0.1
	comp=Z,72nm,1.2s,mb5.7						
AVF	**Avril sur Loir**	96.08	316	⇑iP	P	14 32 01.1	-0.2
	comp=Z,43nm,1.1s,mb5.5						
LBL	**Lubilhac**	96.08	315	eP	P	14 32 02.0	+0.6
AGO	**Saint Agoulin**	96.20	316	eP	P	14 32 02.5	+0.6
PYM	**Petit Puy Mans**	96.27	315	eP	P	14 32 02.7	+0.5
BGF	**Bois d'Agland**	96.42	316	⇑iP	P	14 32 03.2	+0.3
	comp=Z,115nm,1.0s,mb5.9						
HYF	**Humbligny**	96.58	317	eP	P	14 32 04.0	+0.4
MTLF	**Montolieu**	96.74	313	⇑iP	P	14 32 04.6	+0.2
	comp=Z,69nm,1.4s,mb5.6						
TCF	**Toulx Ste Croi**	96.84	316	⇑iP	P	14 32 05.0	+0.2
	comp=Z,36nm,1.3s,mb5.3						
CAF	**Calviac**	96.90	314	⇑iP	P	14 32 05.6	+0.5
	comp=Z,38nm,1.4s,mb5.3						
RJF	**Les Rejaudoux**	97.30	315	⇑iP	P	14 32 07.4	+0.5
	comp=Z,58nm,1.3s,mb5.5						
RJF				eR			
	comp=Z,535nm,22.5s						
LFF	**La Frestale**	97.84	314	⇑iP	P	14 32 09.9	+0.6
	comp=Z,43nm,1.2s,mb5.6						
EPF	**Esparros**	98.10	312	eP	P	14 32 10.0	-0.5
	comp=Z,13nm,1.2s,mb5.0						
LDF	**La Druitiere**	98.46	318	⇑iP	P	14 32 11.9	-0.1
	comp=Z,51nm,1.4s,mb5.6						
MFF	**Saint Martin d**	98.48	316	⇑iP	P	14 32 12.2	+0.1
	comp=Z,26nm,1.1s,mb5.4						
FLN	**La Foliniere**	98.70	318	eP	P	14 32 12.9	-0.2
FLN				eR			
	comp=Z,492nm,21.5s						
ETSF	**Etsaut**	98.76	312	eP	P	14 32 14.0	+0.5
GRR	**Gorron**	98.95	318	⇑iP	P	14 32 14.2	0.0
	comp=Z,30nm,1.1s,mb5.4						
SJPF	**Ste Jean**	99.25	313	eP	P	14 32 16.4	+0.7
	comp=Z,33nm,1.5s,mb5.3						
ESK	**Eskdalemuir**	100.14	325	eP	P	14 32 19.1	-0.4
	comp=Z,17nm,1.2s						
ESK				LR	LR		
	comp=Z,128nm,19.0s,MS4.5						
JMIC	**Jan Mayen**	100.47	341	ePP	PP	14 36 25.1	-5.0
JMIC				eSS	SS	14 50 50.6	-1.3
JMIC				AMS	AMS	15 20 58.0	
	comp=Z,295nm,19.2s,MS4.8						
QUIF	**Quistinic**	100.51	317	eP	P	14 32 20.6	-0.7
	comp=Z,38nm,1.3s						
ROSF	**Rostrenen**	100.56	318	eP	P	14 32 21.0	-0.6
	comp=Z,72nm,1.5s						
KIC	**Kosan Boka**	100.97	275	eP	P	14 32 23.9	-0.3
	comp=Z,217nm,1.3s						
DBIC	**Dimbokro**	101.11	276	P	P	14 32 24.6	-0.2
	comp=Z,11nm,0.9s,baz=91,slow=6.6,SNR=10						
DBIC	**Dimbokro**	101.11	276	P	P	14 32 24.7	-0.1
DBIC				pmax	pmax		
	comp=Z,11nm,0.9s						
LIC	**Lamto**	101.24	275	eP	P	14 32 26.8	+1.4
	comp=Z,86nm,1.4s						
TIC	**Toumodi**	101.27	276	eP	P	14 32 27.1	+1.6
	comp=Z,132nm,1.3s						
ESDC	**Sonseca Array**	101.35	309	P	P	14 32 25.2	-0.1
	comp=Z,0.5nm,0.7s,baz=74,slow=4.3,SNR=5.1						
ESDC				PP	PP	14 36 32.0	-5.6
	comp=Z,2.3nm,0.8s,baz=80,slow=7.6,SNR=6.1						
PCBR	**Castelo Branco**	104.05	309	ePKiKP		14 36 53.2	
PVRL	**Vila Real**	104.14	311	ePKiKP		14 36 55.6	
PALC	**Alcoutim**	104.19	307	ePKiKP		14 36 53.2	
PBEJ	**Beja**	104.47	308	ePKiKP		14 36 56.4	
MCK	**McKinley**	106.64	25	PFAKE		14 37 10.0	
MCK				LR	LR		
	comp=Z,261nm,20.0s,MS4.8						
ILAR	**Eielson Array**	107.09	23	PP	PP	14 37 13.4	-6.7
	comp=Z,2.2nm,0.9s,baz=289,slow=7.5,SNR=5.4						
ILAR				PKKPbc		14 48 16.4	
	comp=Z,1.7nm,0.9s,baz=142,slow=2.0,SNR=12						
SML	**Sawmill**	107.58	27	ePKPdf	PP	14 37 02.1	-21
INK	**Inuvik**	109.99	17	PKKPab		14 48 19.0	
	comp=Z,11nm,0.9s,baz=145,slow=7.7,SNR=7.5						
DLBC	**Dease Lake**	117.20	25	PKP	PKPdf	14 37 17.7	-4.2
	comp=Z,1.8nm,0.9s,baz=342,slow=3.0,SNR=5.9						
DLBC				PKKPbc		14 47 43.0	
	comp=Z,1.4nm,1.0s,baz=110,slow=4.0,SNR=3.5						
DLBC	**Dease Lake**	117.20	25	PKP	PKPdf	14 37 17.7	-4.2
DLBC				PKKPbc		14 47 43.0	
YKA	**Yellowknife Ar**	119.62	16	PKP	PKPdf	14 37 21.5	-4.9
	comp=Z,2.1nm,0.9s,baz=322,slow=2.3,SNR=10						
YKA				PP	PP	14 38 44.3	-4.9
	comp=Z,2.6nm,0.9s,baz=329,slow=7.3,SNR=5.9						
YKA				PKKPab		14 47 33.9	
	comp=Z,2.1nm,0.9s,baz=142,slow=3.9,SNR=10						
YKA	**Yellowknife Ar**	119.62	16	PKIKP	PKPdf	14 37 21.5	-4.9
YKA						14 38 44.3	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	119.62	16	PKP	PKPdf	14 37 21.5	-4.9
YKA				PP	PP	14 38 44.3	-4.9
YKA				PKKPab		14 47 33.9	
BBB	**Bella Bella**	121.81	30	PKP	PKPdf	14 37 27.2	-3.7
	comp=Z,7.3nm,1.1s,baz=307,slow=4.9,SNR=3.9						
RPW	**Rockport**	127.44	30	ePKPdf	PKPdf	14 37 38.6	-3.3
NLW	**Nelson Butte**	128.28	30	ePKPdf	PKPdf	14 37 39.0	-4.6
DPW	**Davenport**	129.47	29	ePKPdf	PKPdf	14 37 42.8	-3.1
SCHQ	**Schefferville**	129.53	347	PP	PP	14 39 48.7	-7.2
	comp=Z,5.3nm,1.1s,baz=13,slow=10,SNR=3.6						
FFC	**Flin Flon**	129.60	13	ePKPdf	PKPdf	14 37 42.0	-3.9
NEW	**Newport**	129.70	28	PKP	PKPdf	14 37 41.9	-4.4
	comp=Z,2.4nm,0.8s,baz=327,slow=5.6,SNR=3.8						
NEW				PP	PP	14 39 50.2	-6.9
	comp=Z,3.2nm,0.9s,baz=246,slow=5.8,SNR=3.8						
NEW	**Newport**	129.70	28	PKIKP	PKPdf	14 37 41.9	-4.4
NEW						14 39 50.2	
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NEW	**Newport**	129.70	28	PKP	PKPdf	14 37 41.9	-4.4
NEW				PP	PP	14 39 50.2	-6.9
HAWA	**Hanford**	129.81	31	ePKPdf	PKPdf	14 37 44.0	-2.5
HUMO	**Hull Mountain**	130.26	37	ePKPdf	PKPdf	14 37 43.3	-4.2
PLCA	**Paso Flores**	131.57	194	PKP	PKPdf	14 37 47.5	-2.5
	comp=Z,6.4nm,1.2s,baz=66,slow=1.3,SNR=4.3						
PLCA				PP	PP	14 40 06.5	-3.1
	comp=Z,2.3nm,1.0s,baz=181,slow=8.5,SNR=2.9						
PLCA	**Paso Flores**	131.57	194	PKIKP	PKPdf	14 37 47.6	-2.5
PLCA						14 40 06.5	
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	131.57	194	PKP	PKPdf	14 37 47.5	-2.5
PLCA				PP	PP	14 40 06.5	-3.1
MOD	**Modoc**	132.26	36	ePKPdf	PKPdf	14 37 48.0	-3.4
CHMT	**Chamberlain Mo**	132.47	27	ePKPdf	PKPdf	14 37 47.9	-3.7
WVOR	**Wild Horse Val**	132.89	35	PKPdf	PKPdf	14 37 48.9	-3.6
BOZ	**Bozeman (W)**	134.16	27	ePKPdf	PKPdf	14 37 50.6	-4.1
MCMT	**McKenzie Canyo**	134.23	28	PKPdf	PKPdf	14 37 51.3	-3.6
HLID	**Hailey**	134.39	31	ePKPdf	PKPdf	14 37 48.3	-7.0
CMB	**Columbia Colle**	134.50	41	PFAKE		14 38 00.0	+4.4
CMB				LR	LR		
	comp=Z,289nm,22.0s,MS5.0						
QLMT	**Earthquake Lak**	134.88	27	ePKPdf	PKPdf	14 37 51.3	-4.9
ULM	**Lac du Bonnet**	135.08	10	PKP	PKPdf	14 37 53.8	-2.6
	comp=Z,6.8nm,0.8s,baz=0.5,slow=3.3,SNR=7.8						
LAO	**LASA Array**	135.51	21	PKPdf	PKPdf	14 37 53.3	-3.9
NVAR	**Mina Array Bea**	135.59	39	PKhKP		14 37 46.4	
	comp=Z,3.0nm,1.2s,baz=4.7,slow=1.1,SNR=5.6						
NVAR				PKP	PKPdf	14 37 54.1	-3.6
	comp=Z,3.2nm,0.8s,baz=313,slow=0.6,SNR=17						
NVAR				PP	PP	14 40 34.0	-0.7
	comp=Z,0.7nm,0.8s,baz=270,slow=2.7,SNR=2.5						
NVAR	**Mina Array Bea**	135.59	39	PKP	PKPdf	14 37 46.4	-11
NVAR				PKP	PKPdf	14 37 54.1	-3.6
NVAR				PP	PP	14 40 34.0	-0.7
TPAW	**Teton Pass**	136.13	28	ePKPdf	PKPdf	14 37 56.3	-2.1
REDW	**Red Top Meadow**	136.27	28	ePKPdf	PKPdf	14 37 54.0	-4.7
HVU	**Hansel Valley**	136.51	31	ePKPdf	PKPdf	14 37 55.9	-3.3
HWUT	**Hardware Ranch**	137.25	30	ePKPdf	PKPdf	14 37 54.3	-6.2
PDAR	**Pinedale Array**	137.34	28	PKhKP		14 37 49.6	
	comp=Z,1.7nm,1.1s,baz=180,slow=1.5,SNR=5.5						
PDAR				PKP	PKPdf	14 37 57.1	-3.6
	comp=Z,3.2nm,1.1s,slow=1.5,SNR=14						
PDAR				PP	PP	14 40 40.6	-4.7
	comp=Z,1.6nm,1.0s,baz=315,slow=2.1,SNR=4.1						
DUG	**Dugway**	137.63	33	ePKP	PKPdf	14 37 54.2	-7.0
TCUT	**Toone Canyon**	137.69	31	ePKPdf	PKPdf	14 37 58.5	-2.9
BDFB	**Brasilia**	137.97	238	PKP	PKPdf	14 37 57.7	-4.8
	comp=Z,8.6nm,0.9s,baz=114,slow=2.8,SNR=8.9						
BDFB	**Brasilia**	137.97	238	PKIKP	PKPdf	14 37 57.7	-4.8
BDFB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JLU	**Jordanelle**	138.05	31	ePKPdf	PKPdf	14 37 58.5	-3.6

CPUP	**Villa Florida**	**138.35**	**218**	PKhKP		14 37 52.4	
	comp=Z,9.3nm,1.2s,baz=66,slow=6.2,SNR=2.8						
CPUP				PKP	PKPdf	14 37 59.0	-4.0
	comp=Z,8.0nm,1.1s,baz=69,slow=2.4,SNR=5.3						
CPUP	**Villa Florida**	**138.35**	**218**	PKHKP		14 37 52.4	
CPUP						14 37 59.0	
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CPUP				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CPUP	**Villa Florida**	**138.35**	**218**	PKP	PKPdf	14 37 52.4	-11
CPUP				PKP	PKPdf	14 37 59.0	-4.0
MVU	**Marysvale**	**139.15**	**34**	*e*PKPdf	PKPdf	14 38 01.1	-3.0
MSU	**Marysvale**	**139.17**	**34**	*e*PKPdf	PKPdf	14 38 01.2	-3.0
NEN	**Nelson**	**139.49**	**40**	*e*PKPdf	PKPdf	14 38 01.6	-3.2
SRU	**San Rafael**	**139.63**	**32**	*e*PKPdf	PKPdf	14 38 01.2	-3.8
PV10	**Paradox Valley**	**140.95**	**31**	*e*PKPdf	PKPdf	14 37 58.3	-9.1
SADO	**Sadowa**	**141.35**	**354**	PKP	PKPdf	14 38 02.5	-5.3
	comp=Z,7.1nm,1.0s,baz=101,slow=0.7,SNR=4.3						
SADO				PP	PP	14 41 08.0	-2.1
	comp=Z,3.3nm,0.8s,baz=342,slow=13,SNR=2.2						
SADO	**Sadowa**	**141.35**	**354**	PKP	PKPdf	14 38 02.5	-5.3
SADO				PP	PP	14 41 08.0	-2.1
PV01	**Paradox Valley**	**141.38**	**31**	*e*PKPdf	PKPdf	14 37 59.3	-8.9
ISCO	**Idaho Springs**	**141.49**	**27**	*e*PKPdf	PKPdf	14 37 59.3	-9.0
WUAZ	**Wupatki**	**141.71**	**37**	*e*PKPdf	PKPdf	14 38 02.9	-5.9
RW3	**Ridgway**	**141.74**	**30**	*e*PKPdf	PKPdf	14 38 01.7	-7.1
JFWS	**Jewell Farm**	**143.10**	**7**	*e*PKPdf	PKPdf	14 38 03.9	-7.1
SDCO	**Great Sand Dun**	**143.20**	**29**	*e*PKPdf	PKPdf	14 38 05.8	-5.5
BINY	**Binghamton**	**143.43**	**350**	*e*PKPdf	PKPdf	14 38 04.9	-6.6
ERPA	**Erie**	**144.06**	**354**	*e*PKPdf	PKPdf	14 38 05.5	-7.1
PAL	**Palisades**	**144.14**	**346**	*e*PKPdf	PKPdf	14 38 06.4	-6.4
TUC	**Tucson**	**144.21**	**40**	PKPdf	PKPdf	14 38 08.9	-4.3
TUC				PKiKP		14 38 15.9	
TUC	**Tucson**	**144.21**	**40**	*e*PKPdf	PKPdf	14 38 08.7	-4.5
ALLY	**Alegheny Colle**	**144.54**	**355**	*e*PKPdf	PKPdf	14 38 08.1	-5.4
CBKS	**Cedar Bluff**	**144.70**	**21**	*e*PKPdf	PKPdf	14 38 08.4	-5.5
ANMO	**Albuquerque**	**144.90**	**33**	PKPdf	PKPdf	14 38 11.5	-2.8
ANMO				pPKPbc		14 38 17.3	
LAZ	**Ladron**	**144.94**	**34**	*e*PKPdf	PKPdf	14 38 11.1	-3.3
LENM	**Lemitar**	**145.20**	**34**	*e*PKPdf	PKPdf	14 38 12.1	-2.8
SSPA	**Standing Stone**	**145.26**	**351**	*e*PKPdf	PKPdf	14 38 11.0	-3.8
LPM	**Los Pinos Moun**	**145.28**	**33**	*e*PKPdf	PKPdf	14 38 12.2	-2.8
BNM	**Barren Site**	**145.41**	**34**	*e*PKPdf	PKPdf	14 38 12.9	-2.4
KSU1	**Kansas State U**	**145.46**	**17**	*e*PKPdf	PKPdf	14 38 10.9	-4.2
ACSO	**Alum Creek Sta**	**146.13**	**358**	*e*PKPdf	PKPdf	14 38 12.2	-4.1
MCWV	**Mont Chateau**	**146.48**	**354**	*e*PKP	PKPdf	14 38 14.7	-2.2
BLO	**Bloomington**	**147.15**	**3**	*e*PKPbc	PKPdf	14 38 16.4	-1.7
SLM	**Saint Louis**	**147.31**	**9**	*e*PKP	PKPdf	14 38 15.4	-2.9
CBN	**Corbin**	**147.55**	**350**	*e*PKPbc	PKPdf	14 38 18.2	-0.5
LVC	**Limon Verde**	**147.59**	**207**	PKPbc	PKPdf	14 38 20.1	+0.9
	comp=Z,74nm,1.0s,baz=164,slow=0.7,SNR=55						
LVC	**Limon Verde**	**147.59**	**207**	*e*PKP	PKPdf	14 38 20.0	+0.8
CCM	**Cathedral Cave**	**147.71**	**10**	*e*PKPdf	PKPdf	14 38 14.8	-4.1
FVM	**French Village**	**147.92**	**9**	*e*PKPdf	PKPdf	14 38 16.0	-3.3
FVM				*e*PKPbc	PKPdf	14 38 17.9	-1.4
GDL2	**Guadalupe Moun**	**148.12**	**33**	*e*PKPdf	PKPdf	14 38 15.9	-3.9
GDL2				*e*PKPbc	PKPdf	14 38 20.4	+0.6
USIN	**University of**	**148.27**	**5**	*e*PKPbc	PKPdf	14 38 19.0	-0.9
CLNB	**Carlsbad**	**148.33**	**33**	*e*PKPdf	PKPdf	14 38 17.6	-2.6
CLNB				*e*PKPbc	PKPdf	14 38 20.9	+0.8
FWV	**Forest Hill**	**148.63**	**355**	*e*PKPbc	PKPdf	14 38 20.3	-0.1
FWV				*e*PKPab	PKPab	14 38 24.8	-0.9
WMOK	**Wichita Mounta**	**148.66**	**23**	*e*PKPdf	PKPdf	14 38 16.3	-4.3
WMOK				*e*PKPbc	PKPdf	14 38 20.2	-0.3
PWV	**Princeton**	**148.90**	**355**	*e*PKPbc	PKPdf	14 38 21.5	+0.6
BLA	**Blacksburg**	**148.96**	**354**	*e*PKPbc	PKPdf	14 38 21.4	+0.4
ELN	**Prospectdale**	**148.98**	**354**	*e*PKPdf	PKPdf	14 38 17.9	-3.1
ELN				*e*PKPbc	PKPdf	14 38 21.6	+0.6
UTMT	**University of**	**149.75**	**7**	*e*PKPbc	PKPdf	14 38 23.2	+0.9
UALR	**University of**	**150.65**	**14**	*e*PKPdf	PKPdf	14 38 20.9	-2.8
UALR				*e*PKPbc	PKPdf	14 38 25.9	+2.2
UALR				*e*PKPab	PKPab	14 38 31.9	-2.1
LTX	**Lajitas**	**150.66**	**36**	*e*PKPdf	PKPdf	14 38 21.0	-2.9
LTX				*e*PKPbc	PKPdf	14 38 26.5	+2.6
LTX				*e*PKPab	PKPab	14 38 33.1	-1.2
TXAR	**Lajitas Array**	**150.66**	**36**	PKP	PKPdf	14 38 19.9	-4.0
	comp=Z,0.8nm,0.6s,baz=48,slow=14,SNR=4.2						
TXAR				PKPbc	PKPdf	14 38 25.9	+2.0
	comp=Z,30nm,0.8s,baz=270,slow=0.9,SNR=110						
TXAR				PKPab	PKPab	14 38 32.9	-1.4
	comp=Z,47nm,0.8s,baz=270,slow=0.9,SNR=47						
TXAR				PP	PP	14 42 04.7	-0.8
	comp=Z,1.2nm,0.9s,baz=315,slow=1.3,SNR=2.3						
TXAR	**Lajitas Array**	**150.66**	**36**	PKP	PKPdf	14 38 19.9	-4.0
TXAR				PKPbc	PKPdf	14 38 25.9	+2.0
TXAR				PKPab	PKPab	14 38 32.9	-1.4
TXAR				PP	PP	14 42 04.7	-0.8
MYNC	**Murphy**	**151.30**	**360**	*e*PKPbc	PKPdf	14 38 27.1	+2.5
MYNC				*e*PKPab	PKPab	14 38 34.6	-2.2
OXF	**Oxford**	**151.47**	**9**	*e*PKPbc	PKPdf	14 38 26.8	+1.9
JCT	**Junction City**	**151.84**	**29**	*e*PKPdf	PKPdf	14 38 22.7	-3.0
JCT				*e*PKPbc	PKPdf	14 38 28.9	+3.3
JCT				*e*PKPab	PKPab	14 38 34.7	-4.5
LPAZ	**La Paz**	**152.47**	**215**	PKP	PKPdf	14 38 25.2	-1.6
	comp=Z,5.0nm,1.1s,baz=88,slow=1.5,SNR=14						
LPAZ				PKPbc	PKPdf	14 38 31.8	+4.9
	comp=Z,52nm,1.1s,baz=133,slow=2.7,SNR=70						
LPAZ				PKPab	PKPab	14 38 39.6	-2.5
	comp=Z,58nm,1.0s,baz=96,slow=7.5,SNR=20						
LPAZ	**La Paz**	**152.47**	**215**	PKPdf	PKPdf	14 38 24.9	-2.0
LPAZ				pPKPdf		14 38 31.6	
LPAZ				pPKPbc		14 38 39.1	
LPAZ	**La Paz**	**152.47**	**215**	PKIKP	PKPdf	14 38 25.3	-1.6
LPAZ						14 38 31.8	
LPAZ						14 38 39.6	
LPAZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LPAZ				pmax	pmax		
	comp=Z,52nm,1.1s						
LPAZ				pmax	pmax		
	comp=Z,58nm,1.0s						
NATX	**Nacogdoches**	**152.83**	**20**	*e*PKPdf	PKPdf	14 38 23.8	-3.2
NATX				*e*PKPbc	PKPdf	14 38 31.1	+4.1
LRAL	**Lakeview Retre**	**153.22**	**5**	PFAKE		14 38 40.0	+13
LRAL				LR	LR		
	comp=Z,518nm,19.0s,MS5.4						
HKT	**Hockley**	**154.05**	**23**	*e*PKPdf	PKPdf	14 38 25.5	-3.3
HKT				*e*PKPab	PKPab	14 38 32.8	-16
SAML	**Samuel**	**154.07**	**235**	PKPdf	PKPdf	14 38 26.1	-3.1
SAML				PKiKP		14 38 34.1	
SAML				PKPab	PKPab	14 38 47.2	-1.8
NNA	**Nana**	**160.42**	**202**	PFAKE		14 38 50.0	+13
NNA				LR	LR		
	comp=Z,225nm,20.0s						
ROSC	**El Rosal**	**169.94**	**263**	PKP	PKPdf	14 38 42.7	-2.4
	comp=Z,7.2nm,0.3s,baz=166,slow=22,SNR=5.0						
OTAV	**Otavalo**	**171.63**	**225**	*e*PKPdf	PKPdf	14 38 43.4	-2.7

DJA 07 14:55:35.7±1.3**, 7.62S**×**115.48E, h80^{km}, MD5.3**/4**, ML3.9**/3**, 4C-3D, Error ellipse: s-maj=36.2km s-min=13.3km az=169.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.07**	**144**	⇑*i*Pn	P	14 55 55.1	-0.7
	70nm,0.2s						
KEDI				⇑*i*Sn	S	14 56 07.8	-3.1
RATI	**Rata**	**1.10**	**177**	⇓*i*Pn	P	14 55 54.7	-1.5
	210nm,0.2s						
RATI				⇓*i*Sn	S	14 56 07.8	-3.8
KELI	**Kelakatan**	**1.14**	**239**	⇑*i*Pn	P	14 55 49.6	-7.1
KELI				*e*Sn	S	14 56 10.4	-2.1
INGI	**Ingas**	**1.24**	**195**	⇑*i*Pn	P	14 55 58.2	+0.2
	245nm,0.2s						
INGI				⇓*i*Sn	S	14 56 13.2	-1.5

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*IDC **07** 15:04:01.8±0.7, 17.38S×67.94W, mb4.1/9, mb1 4.3/12, mb1mx4.2/20, ML4.0/3, MS3.9/4, Ms1 3.9/4, ms1mx3.6/25, Error ellipse: s-maj=34.1km s-min=9.8km az=84.0*

*NEIC **07** 15:04:01.9±2.0, 17.38S×67.84W, h3^{km}±12^{km}, mb4.2/2, Error ellipse: s-maj=21.2km s-min=9.8km az=77.0*

*BJI **07** 15:04:02.9, 17.40S×67.80W, h3^{km}*

ISC 07 15:04:01.0±0.5**, 17.37S**±0.07×**67.7W**±0.1**, h10^{km}, n26, $\sigma 1^{s}.49$**/23**, mb4.1**/10**, MS4.3**/1**, 4C-1D, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.15**	**339**	Pg	**Pg**	**15 04 23.6**	**-0.6**
	79nm,0.3s,baz=157,slow=14,SNR=1289						
LPAZ				Lg		15 04 38.5	
	116nm,0.3s,baz=220,slow=19,SNR=9.4						
LVC	**Limon Verde**	**5.34**	**192**	Pn	**Pn**	**15 05 23.7**	**+1.0**
	1.8nm,0.3s,baz=4.3,slow=8.7,SNR=24						
LVC				Pg	**Pg**	**15 05 38.2**	**-9.4**
	8.6nm,0.3s,baz=5.2,slow=9.2,SNR=14						
LVC				Lg		15 06 50.1	
	2.1nm,0.3s,baz=274,slow=14,SNR=2.6						
LVC				LR	LR	15 07 32.9	
	comp=Z,1µm,18.8s,baz=354,slow=40						
LVC	**Limon Verde**	**5.34**	**192**	*e*Pn	**Pn**	**15 05 23.8**	**+1.1**
LVC				Pg	**Pg**	**15 05 38.2**	**-9.4**
LVC				Lg		15 06 50.1	
LVC				LR	LR	15 07 32.9	
CPUP	**Villa Florida**	**13.12**	**135**	Pn	**P**	**15 07 07.4**	**-2.7**
	0.1nm,0.3s,baz=330,slow=9.4,SNR=4.0						
CPUP				LR	LR	15 12 52.8	
	comp=Z,479nm,19.0s,baz=340,slow=40						
BDFB	**Brasilia**	**18.96**	**88**	P	**P**	**15 08 26.2**	**+1.3**
	0.2nm,0.3s,baz=282,slow=9.9,SNR=4.2						
BDFB				LR	LR	15 15 40.7	
	comp=Z,214nm,19.5s,baz=160,slow=36						
OTAV	**Otavalo**	**20.45**	**328**	*e*P	**P**	**15 08 45.8**	**+4.2**
	7.9nm,0.9s						
TRQA	**Tornquist**	**21.21**	**167**	*e*P	**P**	**15 08 46.8**	**-2.4**
	12nm,0.8s,mb4.3						
ROSC	**El Rosal**	**23.04**	**343**	P	**P**	**15 09 11.3**	**+3.6**
	7.0nm,0.3s,mb4.5,baz=173,slow=21,SNR=1.8						
PLCA	**Paso Flores**	**23.41**	**185**	P	**P**	**15 09 11.7**	**+0.6**
	13nm,0.8s,mb4.4,baz=12,slow=11,SNR=20						
TXAR	**Lajitas Array**	**57.98**	**323**	P	**P**	**15 13 53.7**	**-2.7**
	0.2nm,0.3s,mb3.6,baz=151,slow=11,SNR=5.0						
VNA1	**Neumayer--Stat**	**63.79**	**161**	⇓*i*	**P**	**15 14 38.5**	**+3.3**
VNA2	**Neumayer--Watz**	**64.17**	**161**	⇑*i*	**P**	**15 14 38.3**	**+0.6**
SNAA	**Sanae**	**65.81**	**162**	⇑*i*	**P**	**15 14 45.3**	**-2.9**
SNAA	**Sanae**	**65.81**	**162**	⇑*i*	**P**	**15 14 47.5**	**-0.7**
SNAA	**Sanae**	**65.81**	**162**	⇑*i*P	**P**	**15 14 47.5**	**-0.7**
PDAR	**Pinedale Array**	**71.15**	**329**	P	**P**	**15 15 21.7**	**-0.3**
	1.2nm,0.9s,mb3.8,baz=122,slow=7.9,SNR=8.4						
NVAR	**Mina Array Bea**	**73.00**	**321**	P	**P**	**15 15 31.3**	**-1.7**
	0.3nm,0.7s,mb3.4,baz=285,slow=20,SNR=3.1						
YBH	**Yreka Blue Hor**	**77.69**	**321**	P	**P**	**15 16 00.7**	**+1.0**
	0.8nm,0.6s,mb3.9,baz=104,slow=6.4,SNR=3.1						
NEW	**Newport**	**78.79**	**329**	P	**P**	**15 16 06.7**	**+1.1**
	1.6nm,0.7s,mb4.1,baz=280,slow=6.5,SNR=2.3						
YKA	**Yellowknife Ar**	**87.70**	**340**	P	**P**	**15 16 51.6**	**+0.8**
	2.2nm,0.7s,mb4.5,baz=129,slow=4.9,SNR=14						
MAW	**Mawson**	**87.93**	**163**	P	**P**	**15 16 53.1**	**+1.3**
	2.7nm,0.8s,mb4.5,baz=212,slow=4.5,SNR=8.2						
MAW				LR	LR	15 56 09.1	
	comp=Z,116nm,19.3s,MS4.3,baz=55,slow=36						
ASAR	**Alice Springs**	**134.08**	**208**	PKP	PKPdf	15 23 22.1	-0.6
	0.4nm,0.6s,baz=134,slow=0.7,SNR=5.3						
WRA	**Warramunga Arr**	**137.06**	**211**	PKP	PKPdf	15 23 27.6	-0.6
	1.4nm,1.0s,baz=149,slow=1.9,SNR=5.5						
NDI	**New Delhi**	**145.93**	**64**	*e*P	PKPbc	15 23 42.0	+0.3
WMQ	**Urumqi**	**146.43**	**33**	*e*PKP	PKPdf	15 23 45.4	+1.2
SONM	**Songino Array**	**149.23**	**8**	PKP	PKPdf	15 23 49.2	+0.6
	5.2nm,0.7s,baz=301,slow=1.0,SNR=19						
SONM				PKPbc	PKPdf	15 23 52.8	+4.2
	5.3nm,0.7s,baz=318,slow=1.4,SNR=44						

IDC 07 15:33:44.1±7.7**, 6.96S**×**73.24W, h129^{km}**±81^{km}**, mb3.3**/5**, mb1 3.6**/7**, mb1mx3.5**/20**, Error ellipse: s-maj=142.0km s-min=25.2km az=52.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**10.53**	**152**	P	P	15 36 12.3	-0.3
	0.2nm,0.3s,baz=307,slow=9.8,SNR=6.0						
LVC	**Limon Verde**	**16.11**	**165**	P	P	15 37 22.8	-1.7
	0.5nm,0.3s,baz=354,slow=14,SNR=5.9						
CPUP	**Villa Florida**	**24.51**	**144**	P	P	15 38 51.8	-1.1
	1.8nm,0.5s,baz=336,slow=6.8,SNR=9.0						
TXAR	**Lajitas Array**	**46.47**	**322**	P	P	15 41 58.8	-1.3
	0.5nm,0.5s,baz=152,slow=8.8,SNR=9.4						
PDAR	**Pinedale Array**	**59.49**	**330**	P	P	15 43 33.5	-2.5
	0.3nm,0.6s,baz=130,slow=7.0,SNR=3.3						
NVAR	**Mina Array Bea**	**61.56**	**321**	P	P	15 43 48.0	-2.0
	0.5nm,0.8s,baz=166,slow=7.4,SNR=3.7						
YKA	**Yellowknife Ar**	**76.15**	**342**	P	P	15 45 17.4	-1.7
	0.4nm,0.4s,baz=142,slow=5.8,SNR=5.1						

DJA 07 15:36:13.8±1.0**, 9.54S**×**117.20E, h30^{km}, MD5.5**/4**, ML4.2**/3**, 3C-4D, Error ellipse: s-maj=29.3km s-min=21.0km az=29.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.50**	**314**	⇓*i*Pn	Pn	15 36 39.2	+0.1
	163nm,0.2s						
KEDI				⇑*i*Sn	Sn	15 36 57.9	+0.2
RATI	**Rata**	**1.84**	**296**	⇑*i*Pn	Pn	15 36 43.5	-0.4
	94nm,0.1s						
RATI				⇓*i*Sn	Sn	15 37 05.9	-0.4
INGI	**Ingas**	**2.15**	**289**	⇑*i*Pn	Pn	15 36 48.3	-0.1
	347nm,0.2s						
INGI				⇓*i*Sn	Sn	15 37 12.4	-2.0
KELI	**Kelakatan**	**2.98**	**296**	⇓*i*Pn	Pn	15 36 59.9	-0.4

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*NEIC **07** 15:51:29.1±0.3, 15.53S×74.49W, mb4.5/8, Error ellipse: s-maj=11.6km s-min=5.2km az=50.0*

*IDC **07** 15:51:30.4±2.9, 15.52S×74.48W, h82^{km}±27^{km}, mb3.9/11, mb1 4.1/14, mb1mx4.0/19, MS3.5/1, Ms1 3.5/1, ms1mx3.1/22, Error ellipse: s-maj=23.7km s-min=15.9km az=54.0*

ISC 07 15:51:27.2±0.4**, 15.55S**±0.07×**74.55W**±0.07**, h68^{km}, h68^{km}**±.6^{km}**:pP-P, n48, $\sigma 0^{s}.97$**/41**, mb4.4**/21**, 3C-1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.08**	**108**	*e*P	**P**	**15 52 14.6**	**-0.1**
NNA	**Nana**	**4.18**	**328**	*e*Pn	**P**	**15 52 30.0**	**-0.1**
NNA				*e*S	**S**	**15 53 23.4**	**+5.4**
LPAZ	**La Paz**	**6.22**	**98**	P	**P**	**15 52 60.0**	**+1.6**
	2.3nm,0.3s,baz=286,slow=9.4,SNR=34						
LPAZ				S	**S**	**15 54 10.4**	**+1.6**
	baz=234,slow=14,SNR=1.4						
LVC	**Limon Verde**	**8.82**	**144**	P	**P**	**15 53 33.2**	**-1.0**
	3.7nm,0.3s,baz=313,slow=13,SNR=36						
LVC				LR	LR	15 56 44.1	
	comp=Z,296nm,18.2s,baz=342,slow=36						
LVC	**Limon Verde**	**8.82**	**144**	*e*P	**P**	**15 53 32.8**	**-1.4**
	12nm,0.5s						
OTAV	**Otavalo**	**16.15**	**346**	*e*P	**P**	**15 55 16.2**	**+4.8**
CPUP	**Villa Florida**	**19.31**	**127**	P	**P**	**15 55 48.3**	**-1.1**
	0.1nm,0.3s,baz=48,slow=20,SNR=2.3						
CPUP				S	**S**	**15 59 11.5**	**-7.1**
	0.1nm,0.3s,baz=62,slow=4.2,SNR=2.9						
ROSC	**El Rosal**	**20.27**	**1**	P	**P**	**15 56 00.4**	**+0.6**
	8.2nm,0.3s,baz=151,slow=21,SNR=2.5						
SDV	**Santo Domingo**	**24.59**	**9**	*e*P	**P**	**15 56 43.5**	**+1.1**
	37nm,1.4s,mb4.6						
TRQA	**Tornquist**	**25.02**	**156**	*e*P	**P**	**15 56 46.3**	**0.0**
	7.2nm,0.9s,mb4.1						
PLCA	**Paso Flores**	**25.33**	**173**	P	**P**	**15 56 50.3**	**+1.1**
	4.6nm,0.7s,mb4.0,baz=344,slow=11,SNR=12						
BDFB	**Brasilia**	**25.56**	**94**	P	**P**	**15 56 51.0**	**-0.6**
	4.7nm,0.7s,mb4.0,baz=260,slow=7.7,SNR=5.5						
TXAR	**Lajitas Array**	**52.74**	**328**	P	**P**	**16 00 37.4**	**-0.1**
	2.3nm,0.8s,mb4.2,baz=150,slow=8.6,SNR=17						
LAZ	**Ladron**	**58.55**	**329**	*e*P	**P**	**16 01 18.8**	**-0.4**
SDCO	**Great Sand Dun**	**60.47**	**332**	*e*P	**P**	**16 01 32.5**	**+0.2**
	12nm,1.0s,mb4.9						
SDCO				pP	pP	16 01 50.5	+0.1
PV01	**Paradox Valley**	**62.21**	**330**	*e*P	**P**	**16 01 44.8**	**+0.8**
PV01				*e*pP	pP	16 02 02.7	+0.5
PV01				*e*sP	sP	16 02 11.8	+1.8
PV10	**Paradox Valley**	**62.63**	**330**	P	**P**	**16 01 44.5**	**-2.4**
SRU	**San Rafael**	**63.93**	**329**	*e*P	**P**	**16 01 55.1**	**-0.3**
MVU	**Marysvale**	**64.31**	**328**	*e*P	**P**	**16 01 58.6**	**+0.7**
	6.6nm,1.3s,mb4.3						
DAU	**Daniels Canyon**	**65.29**	**330**	*e*P	**P**	**16 02 04.8**	**+0.6**
DUG	**Dugway**	**65.89**	**329**	*e*P	**P**	**16 02 08.7**	**+0.6**
	11nm,1.0s,mb4.7						
DUG				*e*pP	pP	16 02 27.2	+0.9
DUG				*e*		16 02 36.8	
PDAR	**Pinedale Array**	**66.35**	**333**	P	**P**	**16 02 10.2**	**-0.8**
	1.0nm,0.9s,mb3.6,baz=153,slow=6.6,SNR=7.9						
HWUT	**Hardware Ranch**	**66.36**	**330**	*e*P	**P**	**16 02 11.1**	**+0.1**
	9.2nm,1.1s,mb4.5						
HVU	**Hansel Valley**	**67.08**	**330**	*e*P	**P**	**16 02 15.0**	**-0.5**
NVAR	**Mina Array Bea**	**67.55**	**324**	P	**P**	**16 02 18.6**	**+0.1**
	1.0nm,0.8s,mb3.7,baz=139,slow=7.0,SNR=7.6						
VNA1	**Neumayer--Stat**	**67.64**	**161**	⇑*i*	pP	16 02 35.0	-1.9
VNA2	**Neumayer--Watz**	**68.00**	**161**		pP	16 02 31.8	-7.4
VNA2	**Neumayer--Watz**	**68.00**	**161**	⇑*i*	pP	16 02 38.3	-0.9
ULM	**Lac du Bonnet**	**68.15**	**345**	P	**P**	**16 02 20.7**	**-1.3**
	2.4nm,0.6s,mb4.2,baz=123,slow=8.7,SNR=3.4						
HLID	**Hailey**	**69.21**	**330**	*e*P	**P**	**16 02 29.6**	**+0.8**
	2.9nm,0.7s,mb4.2						
SNAA	**Sanae**	**69.61**	**161**	⇓*i*	**P**	**16 02 31.2**	**+0.5**
SNAA	**Sanae**	**69.61**	**161**	⇑*i*	pP	16 02 44.8	-4.4
PPAD	**Pico dos Padre**	**69.76**	**38**	*e*S	S	16 11 43.3	+8.7
	17nm,0.3s						
PVNV	**Vila Nova**	**69.88**	**38**	*e*S	S	16 11 43.9	+8.0
	11nm,0.1s						
PFAV	**Pico das Favas**	**69.89**	**38**	*i* S	S	16 11 41.7	+5.6
	35nm,0.1s						
NSHM	**Saint Helena R**	**70.11**	**322**	*e*P	**P**	**16 02 35.1**	**+0.8**
LIC	**Lamto**	**72.15**	**78**	*e*P	**P**	**16 02 45.2**	**-1.7**
	31nm,1.2s,mb5.0						
YBH	**Yreka Blue Hor**	**72.27**	**324**	P	**P**	**16 02 47.1**	**0.0**
	3.4nm,1.2s,mb4.1,baz=77,slow=5.2,SNR=7.4						
TIC	**Toumodi**	**72.29**	**78**	*e*P	**P**	**16 02 46.5**	**-1.3**
	306nm,2.1s,mb5.8						
DBIC	**Dimbokro**	**72.45**	**78**	P	**P**	**16 02 47.6**	**-1.1**
	3.9nm,0.6s,mb4.4,baz=190,slow=1.8,SNR=5.7						
KIC	**Kosan Boka**	**72.46**	**78**	*e*P	**P**	**16 02 47.6**	**-1.2**
	19nm,0.6s,mb5.1						
QSPA	**South Pole Qui**	**74.61**	**180**	*e*P	**P**	**16 03 02.4**	**+2.3**
	3.2nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**83.88**	**343**	P	**P**	**16 03 50.1**	**-0.3**
	1.5nm,0.6s,mb4.0,baz=138,slow=5.9,SNR=15						
ESDC	**Sonseca Array**	**85.53**	**47**	P	**P**	**16 03 58.9**	**-0.3**
	1.1nm,0.7s,mb3.9,baz=266,slow=4.9,SNR=6.3						
DLBC	**Dease Lake**	**86.52**	**334**	*e*P	**P**	**16 04 05.0**	**+1.5**
ASAR	**Alice Springs**	**132.12**	**216**	PKP	PKPdf	16 10 35.8	+1.7
	0.7nm,0.8s,baz=136,slow=1.8,SNR=6.4						
WRA	**Warramunga Arr**	**134.72**	**220**	PKP	PKPdf	16 10 41.1	+2.1
	1.5nm,0.8s,baz=240,slow=1.7,SNR=6.5						
SONM	**Songino Array**	**147.80**	**359**	PKPbc	PKPdf	16 11 06.6	+5.3
	3.4nm,0.6s,baz=340,slow=2.0,SNR=30						

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*IDC **07** 15:58:55.0±1.1, 12.86N×94.85E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=47.3km s-min=21.9km az=51.0*

*NEIC **07** 15:58:56.6±0.8, 12.85N×94.86E, h10^{km}, Error ellipse: s-maj=20.5km s-min=15.1km az=61.0*

ISC 07 15:58:54.6±1.0**, 12.9N**±0.1×**94.9E**±0.2**, h10^{km}, n8, $\sigma 0^{s}.58$**/7**, mb3.6**/5**, MS3.0**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.79**	**35**	Pn	**Pn**	**16 00 37.0**	**+0.1**
	0.1nm,0.3s,baz=225,slow=13,SNR=4.5						
TGY	**Tagaytay City**	**25.36**	**84**	LR	LR	16 14 22.1	
	comp=Z,40nm,19.0s,MS3.0,baz=316,slow=36						
MKAR	**Makanchi Array**	**35.44**	**345**	P	**P**	**16 05 52.4**	**-0.6**
	0.3nm,0.8s,mb3.3,baz=284,slow=34,SNR=2.7						
MKAR	**Makanchi Array**	**35.44**	**345**	P	**P**	**16 05 52.4**	**-0.6**
WRA	**Warramunga Arr**	**50.70**	**129**	P	**P**	**16 07 57.3**	**+0.5**
	1.1nm,0.7s,mb3.9,baz=312,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**52.67**	**133**	P	**P**	**16 08 11.1**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=313,slow=6.4,SNR=5.4						
BRTR	**Keskin Array B**	**59.82**	**309**	P	**P**	**16 09 02.3**	**-0.4**
	0.9nm,0.9s,mb3.8,baz=119,slow=6.5,SNR=3.8						
GERES	**GERESS Array B**	**74.64**	**317**	P	**P**	**16 10 36.9**	**+1.0**
	0.7nm,0.8s,mb3.7,baz=90,slow=5.9,SNR=6.2						

WEL 07 16:04:04.8±0.3**, 38.62S**×**175.91E, h115^{km}**±2^{km}**, ML3.5**/5**, 2C-4D, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.28**	**204**	PN	P	16 04 20.6	-0.5
MGZ	**Maungaku**	**0.48**	**217**	*e*PN	P	16 04 21.5	-0.7
WTVZ	**West Tongariro**	**0.56**	**207**	PN	P	16 04 22.7	0.0
TWVZ	**Taurewa**	**0.59**	**219**	⇓PN	P	16 04 22.7	-0.2
NGZ	**Ngauruhoe**	**0.61**	**203**	PN	P	16 04 23.2	+0.2
CNZ	**Chateau**	**0.65**	**206**	PN	P	16 04 23.4	+0.1
WPVZ	**Whakapapa**	**0.65**	**206**	PN	P	16 04 23.4	+0.1
TUVZ	**Tukino**	**0.68**	**197**	PN	P	16 04 23.8	+0.2
FWVZ	**Far West T-bar**	**0.70**	**204**	PN	P	16 04 23.9	+0.2
BKZ	**Black Stump Fm**	**0.71**	**141**	⇑PN	P	16 04 23.5	-0.3
BKZ				SN	S	16 04 38.4	+0.1
WNVZ	**Wahianoa**	**0.75**	**199**	PN	P	16 04 24.3	+0.1
MOVZ	**Moawhango**	**0.80**	**189**	PN	P	16 04 24.3	-0.4
MOVZ				SN	S	16 04 38.3	-1.3
HIZ	**Hauiti**	**0.84**	**277**	⇓PN	P	16 04 24.6	-0.5
URZ	**Urewera**	**1.00**	**70**	PN	P	16 04 26.0	-0.7
URZ				SN	S	16 04 42.9	-0.3
VRZ	**Vera Road**	**1.03**	**240**	⇓PN	P	16 04 26.7	-0.3
MWZ	**Matawai**	**1.30**	**78**	PN	P	16 04 29.7	-0.3
MWZ				SN	S	16 04 48.3	-0.6
WAZ	**Wanganui**	**1.35**	**212**	PN	P	16 04 30.5	-0.1
WAZ				SN	S	16 04 50.3	+0.3
KNZ	**Kokohu**	**1.43**	**107**	PN	P	16 04 31.4	-0.2
KNZ				SN	S	16 04 50.4	-1.4
TSZ	**Takapari Road**	**1.44**	**179**	PN	P	16 04 30.9	-0.7
TSZ				SN	S	16 04 50.0	-2.0
PWZ	**Pawanui**	**1.59**	**153**	⇓PN	P	16 04 32.8	-0.6
PWZ				SN	S	16 04 54.6	-0.4
MRZ	**Mangatainoka R**	**2.06**	**187**	⇑PN	P	16 04 37.4	-1.8
MRZ				SN	S	16 05 01.1	-4.0
BFZ	**Birch Farm**	**2.08**	**173**	PN	P	16 04 37.9	-1.6
KIW	**Kapiti Island**	**2.37**	**199**	PN	P	16 04 41.0	-2.4
MTW	**Mount Morrison**	**2.56**	**187**	PN	P	16 04 43.0	-2.9
MTW				SN	S	16 05 12.4	-4.5
CAW	**Cannon Point**	**2.57**	**194**	PN	P	16 04 43.0	-3.1
CAW				SN	S	16 05 13.3	-3.9
MRW	**Makara Radio**	**2.77**	**199**	PN	P	16 04 45.6	-3.2
MRW				SN	S	16 05 18.0	-4.0
PAWZ	**Paruwai Farm**	**2.79**	**188**	PN	P	16 04 45.7	-3.3
PAWZ				SN	S	16 05 15.8	-6.6
WEL	**Wellington**	**2.81**	**198**	PN	P	16 04 46.2	-3.1
WEL				SN	S	16 05 18.6	-4.2
MSWZ	**Moikau Station**	**2.84**	**190**	PN	P	16 04 46.3	-3.4
MSWZ				SN	S	16 05 16.8	-6.9
BHW	**Baring Head**	**2.90**	**196**	PN	P	16 04 47.0	-3.6
TUWZ	**Tuamarina**	**3.19**	**208**	PN	P	16 04 50.8	-3.7
TUWZ				*e*SN	S	16 05 26.9	-5.2
NNZ	**Nelson**	**3.25**	**216**	*e*PN	P	16 04 51.7	-3.5
THZ	**Tophouse**	**3.90**	**215**	*e*PN	P	16 05 00.2	-3.8
KHZ	**Kahutara**	**4.21**	**205**	*e*PN	P	16 05 03.6	-4.5
LTZ	**Lake Taylor**	**5.00**	**212**	*e*PN	P	16 05 14.6	-4.3

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*MDD **07** 17:54:00.3±0.6, 38.53N×8.12W, mbLg1.6/8, Error ellipse: s-maj=6.0km s-min=3.7km az=24.0, PRXIMO*

*INMG **07** 17:54:01.0±1.0, 38.51N×8.14W, h4^{km}±5^{km}, ML1.3, Error ellipse: s-maj=2.2km s-min=2.1km az=64.0*

ISC 07 17:53:59.8±0.7**, 38.52N**±0.04×**8.11W**±0.05**, h2^{km}**±9^{km}**, n14, $\sigma 0^{s}.52$**/18**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.19**	**270**	*e*Pg	**Pg**	**17 54 04.3**	**+0.7**
MOE				*e*Sg	**Sg**	**17 54 06.4**	**+0.2**
PBEJ	**Beja**	**0.53**	**159**	*e*Pg	**Pg**	**17 54 10.8**	**+0.4**
PBEJ				*e*Sg	**Sg**	**17 54 17.7**	**+0.2**
	4.1nm,0.1s						
PBEJ	**Beja**	**0.53**	**159**	Pg	**Pg**	**17 54 10.8**	**+0.4**
PBEJ				Lg		17 54 17.7	
	2.0nm,0.1s						
EBAD	**Badajoz**	**0.89**	**74**	Pg	**Pg**	**17 54 18.0**	**+0.4**
	0.6nm,0.1s,SNR=9.0						
EBAD				Lg		17 54 30.2	
	15nm,0.2s,SNR=26						
PLOU	**Loures**	**0.89**	**294**	*e*P	**Pb**	**17 54 16.8**	**-0.8**
PLOU				*e*S	**Sg**	**17 54 29.2**	**-0.3**
	5.7nm,0.2s						
PLOU	**Loures**	**0.89**	**294**	Pg	**Pb**	**17 54 16.8**	**-0.8**
PLOU				Lg		17 54 29.2	
	2.8nm,0.2s						
EGRO	**El Granado**	**1.10**	**153**	Pg	**Pg**	**17 54 21.5**	**-0.3**
	0.2nm,0.0s,SNR=14						
EGRO				Lg		17 54 36.1	
	2.7nm,0.1s,SNR=5.0						
PTOM	**Tomar**	**1.12**	**348**	*e*P	**Pb**	**17 54 21.6**	**+0.1**
PTOM				*e*S	**Sb**	**17 54 36.4**	**+0.1**
	7.8nm,0.1s						

PTOM	**Tomar**	**1.12**	**348**	Pg	**Pb**	**17 54 21.6**	**+0.1**
PTOM				Lg		17 54 36.4	
	3.9nm,0.1s						
PALC	**Alcoutim**	**1.17**	**154**	*e*S	**Sb**	**17 54 38.1**	**+0.3**
	5.7nm,0.2s						
PALC	**Alcoutim**	**1.17**	**154**	Lg		17 54 38.1	
	2.8nm,0.2s						
EMIN	**Mina Concepcio**	**1.36**	**123**	Pg	**Pg**	**17 54 25.6**	**-1.3**
	0.4nm,0.1s,SNR=7.3						
EMIN				Lg		17 54 44.9	
	1.3nm,0.1s,SNR=7.2						
PCBR	**Castelo Branco**	**1.40**	**20**	*e*P	**Pn**	**17 54 26.5**	**+0.1**
PCBR				*e*S	**Sb**	**17 54 44.9**	**+0.3**
	3.6nm,0.2s						
PCBR	**Castelo Branco**	**1.40**	**20**	Pg	**Pn**	**17 54 26.5**	**+0.1**
PCBR				Lg		17 54 44.9	
	1.8nm,0.2s						

IDC ***07*** *17:55:59.5±2.4, 7.33S×128.34E, mb3.7/1, mb1 3.7/3, mb1mx3.5/12, ML3.4/2, Error ellipse: s-maj=266.0km s-min=31.1km az=65.0*

NEIC ***07*** *17:56:14.1±1.3, 7.64S×128.86E, h145^{km}, mb3.9/2, Error ellipse: s-maj=33.7km s-min=16.6km az=63.0*

ISC 07 17:56:16.1±2.0**, 7.8S**±0.1×**129.0E**±0.1**, h192**^{km}±23^{km}**, n8, σ0.^{s}79**/13**, mb3.4**/1**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.92**	**146**	⇓*i*P	**P**	**17 57 43.0**	**0.0**
	2.1nm,0.2s						
KAKA				*e*S	**S**	**17 58 50.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.78**	**197**	*e*P	**P**	**17 58 45.6**	**-0.8**
	1.0nm,0.5s						
FITZ				*e*S	**S**	**18 00 44.5**	**+0.3**
WRA	**Warramunga Arr**	**13.15**	**157**	Pn	**P**	**17 59 16.7**	**0.0**
	0.4nm,0.3s,baz=331,slow=14,SNR=16						
WRA				Sn	**S**	**18 01 38.3**	**-0.7**
	0.7nm,0.3s,baz=332,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.15**	**157**	⇓*i*P	**P**	**17 59 17.1**	**+0.4**
WB2				*e*S	**S**	**18 01 38.9**	**-0.2**
ASAR	**Alice Springs**	**16.48**	**164**	P	**P**	**18 00 00.3**	**+2.3**
	0.1nm,0.3s,baz=346,slow=14,SNR=12						
ASPA	**Alice Springs**	**16.48**	**164**	*e*P	**P**	**18 00 02.3**	**+4.2**
ASPA				*e*S	**S**	**18 03 03.8**	**+10**
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**18 06 58.2**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=116,slow=8.1,SNR=9.3						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**18 06 58.2**	**-0.5**

IDC 07 17:58:40.6±2.4**, 6.48S**×**130.29E, mb4.0**/1**, mb1 3.9**/3**, mb1mx3.6**/12**, ML3.6**/2**, Error ellipse: s-maj=162.0km s-min=30.9km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.95**	**164**	Pn	P	18 01 59.7	-2.4
	0.5nm,0.3s,baz=348,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**17.44**	**169**	P	P	18 02 45.6	-1.5
	0.2nm,0.3s,baz=336,slow=9.7,SNR=8.2						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	18 09 41.4	-2.1
	0.6nm,0.4s,baz=119,slow=7.9,SNR=18						

IDC ***07*** *18:01:24.9±1.2, 43.82N×105.61W, mb3.7/2, mb1 3.7/7, mb1mx3.5/23, ML3.5/4, MS2.9/1, Ms1 3.0/1, ms1mx2.2/26, Error ellipse: s-maj=33.9km s-min=7.8km az=148.0*

NEIC ***07*** *18:01:24.7±0.5, 43.80N×105.34W, mb4.2/1, ML3.4, Error ellipse: s-maj=9.1km s-min=5.7km az=114.0, Suspected Mining explosion.*

NEIC 55 km [35 miles] SSE of Gillette.

ISC 07 18:01:22.8±0.5**, 43.77N**±0.05×**105.32W**±0.07**, n36, σ1.^{s}37**/35**, mb3.9**/2**, MS2.9**/2**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**2.99**	**348**	*e*Pn	**Pn**	**18 02 12.4**	**0.0**
BW06	**Boulder Array**	**3.26**	**254**	*e*Pn	**Pn**	**18 02 18.0**	**+1.9**
BW06				*e*Sn	**Sn**	**18 02 56.5**	**+0.3**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 02 18.1**	**+2.0**
	4.3nm,0.3s,baz=72,slow=16,SNR=33						
PDAR				Pg	**Pg**	**18 02 24.0**	**-3.8**
	12nm,0.3s,baz=74,slow=20,SNR=49						
PDAR				Lg		18 02 59.1	
	3.1nm,0.3s,baz=76,slow=34,SNR=4.5						
ISCO	**Idaho Springs**	**3.97**	**183**	*e*Pn	**Pn**	**18 02 27.3**	**+0.9**
REDW	**Red Top Meadow**	**4.04**	**266**	Pn	**Pn**	**18 02 25.9**	**-1.5**
TPAW	**Teton Pass**	**4.10**	**268**	*e*Pn	**Pn**	**18 02 30.8**	**+2.6**
QLMT	**Earthquake Lak**	**4.52**	**286**	*e*Pn	**Pn**	**18 02 33.0**	**-1.1**
DGMT	**Dagmar**	**4.77**	**9**	*e*Pn	**Pn**	**18 02 40.7**	**+3.0**
BOZ	**Bozeman (W)**	**4.88**	**295**	*e*Pn	**Pn**	**18 02 39.1**	**-0.1**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*Pn	**Pn**	**18 02 42.5**	**+0.3**
	5.1nm,0.6s						
TCUT	**Toone Canyon**	**5.23**	**242**	*e*Pn	**Pn**	**18 02 43.1**	**-1.0**
MCMT	**McKenzie Canyo**	**5.51**	**284**	*e*Pn	**Pn**	**18 02 52.9**	**+4.8**
DAU	**Daniels Canyon**	**5.55**	**235**	*e*Pn	**Pn**	**18 02 49.6**	**+0.9**
RW3	**Ridgway**	**5.80**	**199**	Pn	**Pn**	**18 02 49.7**	**-2.4**
SPUT	**South Promonto**	**5.81**	**247**	*e*Pn	**Pn**	**18 02 53.5**	**+1.1**
HVU	**Hansel Valley**	**5.84**	**253**	*e*Pn	**Pn**	**18 02 48.8**	**-4.0**
SDCO	**Great Sand Dun**	**6.02**	**181**	*e*Pn	**Pn**	**18 02 55.3**	**0.0**
	3.2nm,0.6s						
MPU	**Maple Canyon**	**6.02**	**234**	P	**Pn**	**18 02 52.4**	**-2.9**
PV10	**Paradox Valley**	**6.08**	**209**	*e*Pn	**Pn**	**18 02 57.9**	**+1.8**
SRU	**San Rafael**	**6.08**	**222**	*e*Pn	**Pn**	**18 02 55.0**	**-1.1**
PV01	**Paradox Valley**	**6.14**	**205**	*e*Pn	**Pn**	**18 02 57.5**	**+0.4**
DUG	**Dugway**	**6.63**	**240**	*e*Pn	**Pn**	**18 03 03.3**	**-0.6**
	4.5nm,0.4s						
MSU	**Marysvale**	**7.37**	**227**	*e*Pn	**Pn**	**18 03 13.7**	**-0.7**
MVU	**Marysvale**	**7.40**	**227**	*e*Pn	**Pn**	**18 03 13.5**	**-1.2**
	1.4nm,0.5s						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**P**	**18 03 36.9**	**-2.1**
	2.6nm,0.3s,baz=235,slow=11,SNR=13						
ULM				Lg		18 06 07.0	
	0.3nm,0.3s,baz=157,slow=16,SNR=2.1						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**P**	**18 03 36.9**	**-2.1**
ULM				Lg		18 06 07.0	
NEW	**Newport**	**9.36**	**303**	Lg		18 06 06.9	
	0.2nm,0.3s,baz=34,slow=19,SNR=1.8						
WUAZ	**Wupatki**	**9.47**	**212**	*e*Pn	**P**	**18 03 42.2**	**-1.3**
	3.0nm,0.4s						
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**P**	**18 04 07.5**	**+0.9**
	0.1nm,0.3s,baz=67,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**14.47**	**174**	Pn	**P**	**18 04 55.3**	**+4.5**
	baz=355,slow=10.0,SNR=3.1						
TXAR				Pg	P	18 05 51.5	+61
	0.2nm,0.3s,baz=3.6,slow=14,SNR=4.0						
TXAR				Lg		18 08 54.1	
	0.8nm,0.3s,baz=49,slow=28,SNR=7.2						
MYNC	**Murphy**	**18.49**	**111**	*e*P	**P**	**18 05 45.1**	**+2.9**
	9.6nm,0.6s						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**P**	**18 05 54.5**	**+0.2**
	0.1nm,0.3s,baz=156,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**31.23**	**327**	LR	LR	18 20 45.3	
	comp=Z,21nm,19.1s,MS2.8,baz=252,slow=37						
JTS	**JuntasAbangare**	**37.74**	**146**	LR	LR	18 24 04.7	
	comp=Z,25nm,21.6s,MS3.0,baz=6.5,slow=33						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**18 11 41.6**	**-0.8**
	0.8nm,0.6s,mb4.1,baz=329,slow=7.1,SNR=9.2						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**18 12 25.1**	**-0.3**
	0.5nm,0.9s,mb3.7,baz=315,slow=7.9,SNR=4.0						

IDC 07 18:13:42.1±1.2**, 23.00N**×**70.24W, mb3.7**/7**, mb1 4.0**/7**, mb1mx3.8**/20**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.0**/22**, Error ellipse: s-maj=31.9km s-min=27.6km az=73.0, Bahama Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**30.59**	**289**	P	P	18 19 57.9	-2.1
	0.8nm,0.7s,baz=96,slow=9.1,SNR=11						
LPAZ	**La Paz**	**39.10**	**177**	P	P	18 21 11.8	-1.2
	0.8nm,0.7s,baz=349,slow=10,SNR=4.7						
NVAR	**Mina Array Bea**	**43.60**	**302**	P	P	18 21 48.6	-1.2
	0.7nm,1.0s,baz=98,slow=6.4,SNR=3.9						
YKA	**Yellowknife Ar**	**49.46**	**335**	P	P	18 22 33.5	-2.2
	0.9nm,0.8s,baz=118,slow=7.5,SNR=6.4						
ILAR	**Eielson Array**	**63.75**	**332**	P	P	18 24 15.3	-2.3
	0.7nm,0.6s,baz=99,slow=4.5,SNR=6.7						
ARCES	**ARCESS Array B**	**70.66**	**22**	P	P	18 24 59.1	-1.9
	1.6nm,0.7s,baz=270,slow=4.5,SNR=6.2						
FINES	**FINESS Array B**	**73.02**	**30**	P	P	18 25 13.7	-1.6
	0.3nm,0.5s,baz=270,slow=2.8,SNR=6.0						

LDG ***07*** *18:23:36.4±0.6, 16.20S×166.91E, h10^{km}, Mb5.0/2, Error ellipse: s-maj=81.5km s-min=36.1km az=34.0*

HRVD ***07*** *18:23:58.6±0.5, 15.63S×167.52E, h186^{km}±3^{km}, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s13,c16;Mantle waves: s51,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.35±.15; $M_{\theta\theta}$-0.68±.16; $M_{\phi\phi}$-0.67±.14; $M_{r\theta}$-2.59±.14; $M_{\theta\phi}$2.67±.15; $M_{\phi r}$-0.59±.12; Best double couple: $M_0$3.94×10^{16} NP1: ϕ_s172°, δ46°, λ159°. NP2: ϕ_s276°, δ75°, λ46°. Principal axes: T 4.06, Plg42°, Azm145°; N -.25, Plg42°, Azm290°; P -3.81, Plg18°, Azm38°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***07*** *18:23:58.8, 14.81S×167.64E, h166^{km}, mB4.8, mb4.9*

NEIC ***07*** *18:23:58.6±0.2, 15.55S×167.69E, mb4.9/22, Error ellipse: s-maj=9.0km s-min=7.1km az=133.0*

SYO ***07*** *18:23:58.5, 15.55S×167.69E, h179^{km}, MB4.9*

IDC ***07*** *18:23:58.2±0.6, 15.61S×167.69E, h178^{km}±4^{km}, mb4.4/22, mb1 4.4/22, mb1mx4.4/23, MS3.4/8, Ms1 3.4/8, ms1mx3.3/20, Error ellipse: s-maj=10.3km s-min=8.8km az=84.0*

ISC 07 18:23:57.7±1.3**, 15.58S**±0.05×**167.63E**±0.05**, h184**^{km}±12^{km}**, h181**^{km}±2.2^{km}**:pP-P, n204, σ1.^{s}03**/80**, mb4.8**/46**, 14C-8D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.55**	**190**	*e*P	**P**	**18 25 33.4**	**+0.6**
DZM				*e*S	**S**	**18 26 45.9**	**-0.8**
CTA	**Charters Tower**	**20.83**	**254**	⇓*i*P	**P**	**18 28 28.3**	**+2.2**
	24nm,0.9s						
CTA	**Charters Tower**	**20.83**	**254**	P	**P**	**18 28 28.1**	**+2.0**
	30nm,0.9s,baz=81,slow=12,SNR=42						
CTA				ScP		18 35 47.5	
	3.2nm,0.9s,baz=28,slow=3.0,SNR=4.7						
CTAO	**Charters Tower**	**20.83**	**254**	*e*P	**P**	**18 28 27.2**	**+1.1**
	49nm,1.1s						
PMG	**Port Moresby**	**20.90**	**285**	P	**P**	**18 28 28.5**	**+1.7**
	22nm,0.8s,baz=138,slow=3.0,SNR=6.5						
PMG				LR	LR	18 35 24.5	
	comp=Z,286nm,19.0s,baz=79,slow=33						
PMG	**Port Moresby**	**20.90**	**285**	*e*P	**P**	**18 28 28.1**	**+1.4**
	32nm,1.0s						
WCZ	**Waipu Caves**	**21.14**	**165**	P	**P**	**18 28 30.5**	**+1.4**
RIV	**Riverview**	**23.48**	**216**	⇓*i*P	**P**	**18 28 54.3**	**+2.5**
URZ	**Urewera**	**24.09**	**161**	P	**P**	**18 28 57.4**	**-0.1**
	108nm,0.9s,mb5.4,baz=314,slow=6.1,SNR=15						
URZ				S	**S**	**18 33 01.5**	**+2.7**
	32nm,1.3s,baz=157,slow=16,SNR=3.5						
URZ				LR	LR	18 36 16.2	
	comp=Z,107nm,22.0s,baz=185,slow=31						
URZ	**Urewera**	**24.09**	**161**	P	**P**	**18 28 57.0**	**-0.5**
MWZ	**Matawai**	**24.29**	**161**	P	**P**	**18 28 59.2**	**-0.2**
PUZ	**Puketiti**	**24.29**	**159**	P	**P**	**18 28 57.9**	**-1.5**
BKZ	**Black Stump Fm**	**24.75**	**163**	P	**P**	**18 29 03.2**	**-0.5**
WAZ	**Wanganui**	**24.93**	**166**	P	**P**	**18 29 08.7**	**+3.3**
TSZ	**Takapari Road**	**25.45**	**165**	P	**P**	**18 29 09.4**	**-0.8**
CNB	**Canberra Magne**	**25.57**	**216**	⇑*i*P	**P**	**18 29 12.6**	**+1.2**
	20nm,0.7s,mb4.9						
LTZ	**Lake Taylor**	**27.40**	**173**	P	**P**	**18 29 27.4**	**-0.6**
RPZ	**Rata Peaks**	**28.19**	**175**	P	**P**	**18 29 34.2**	**-0.9**
	31nm,0.7s,mb5.1,baz=337,slow=5.2,SNR=14						
STKA	**Stephens Creek**	**28.72**	**231**	⇓*i*P	**P**	**18 29 40.7**	**+0.8**
	14nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**28.72**	**231**	P	**P**	**18 29 40.5**	**+0.6**
	21nm,0.8s,mb5.0,baz=52,slow=7.7,SNR=46						
STKA				pP	pP	18 30 14.9	-2.7
	4.5nm,0.7s,baz=42,slow=8.7,SNR=1.9						
STKA				PcP	PcP	18 32 43.6	-2.0
	4.3nm,0.6s,baz=31,slow=6.2,SNR=4.1						
STKA				ScP		18 36 06.2	
	1.6nm,0.6s,baz=67,slow=7.7,SNR=3.2						
TOO	**Toolangi**	**29.38**	**218**	⇑*i*P	**P**	**18 29 46.4**	**+0.6**
	6.5nm,0.7s,mb4.5						
RAR	**Rarotonga**	**31.40**	**105**	LR	LR	18 40 09.1	
	comp=Z,90nm,20.1s,baz=100,slow=31						
WB2	**Warramunga Arr**	**31.95**	**257**	⇓*i*P	**P**	**18 30 06.8**	**-1.7**
WB2				*e*S	**S**	**18 35 02.7**	**-2.2**
WRAB	**Tennant Creek**	**31.95**	**257**	*e*P	**P**	**18 30 06.8**	**-1.6**
	7.2nm,0.8s,mb4.5						
WRAB				*e*sP	pP	18 30 44.2	-2.7
WRA	**Warramunga Arr**	**31.96**	**257**	P	**P**	**18 30 07.3**	**-1.3**
	7.1nm,0.8s,mb4.5,baz=87,slow=9.3,SNR=64						
WRA				PcP	PcP	18 32 53.1	-1.1
	1.9nm,0.9s,baz=91,slow=3.3,SNR=4.4						
WRA				S	**S**	**18 35 01.2**	**-3.9**
	1.8nm,0.8s,baz=85,slow=14,SNR=5.3						
WRA				ScP		18 36 19.9	
	1.3nm,0.7s,baz=88,slow=3.6,SNR=6.3						
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**18 30 14.3**	**-0.6**
	15nm,0.7s,mb4.8,baz=76,slow=9.0,SNR=269						
ASAR				pP	pP	18 30 50.4	-3.1
	5.1nm,0.7s,baz=75,slow=8.5,SNR=1.2						
ASAR				PcP	PcP	18 32 55.0	-1.1
	1.2nm,0.5s,baz=92,slow=2.8,SNR=5.3						
ASAR				S	**S**	**18 35 17.2**	**+0.6**
	2.3nm,0.9s,baz=80,slow=18,SNR=6.2						
ASAR				ScP		18 36 22.1	
	4.3nm,0.9s,baz=91,slow=2.6,SNR=14						
ASAR				PKiKP		18 40 20.1	
	0.9nm,1.0s,baz=97,slow=1.3,SNR=7.8						
ASAR				LR	LR	18 41 50.9	
	comp=Z,92nm,20.8s,baz=313,slow=33						
ASPA	**Alice Springs**	**32.71**	**250**	⇓*i*P	**P**	**18 30 14.3**	**-0.6**
ASPA				*e*S	**S**	**18 35 16.5**	**-0.1**
KAKA	**Kakadu**	**34.26**	**270**	⇓*i*P	**P**	**18 30 27.3**	**-0.9**
	6.3nm,0.6s,mb4.5						
FORT	**Forrest**	**39.17**	**240**	⇑*i*P	**P**	**18 31 10.1**	**+0.9**
	58nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**40.20**	**260**	⇓*i*P	**P**	**18 31 18.1**	**+0.2**
	19nm,0.6s,mb4.9						
PPT	**Papeete**	**41.01**	**99**	P	**P**	**18 31 24.3**	**-0.1**
	42nm,0.5s,mb5.3,baz=276,slow=6.6,SNR=6.9						
PPT	**Papeete**	**41.01**	**99**	*e*L		18 41 01.0	
	395nm,24.2s						
PPT				*e*R		18 42 45.3	
	71nm,23.5s						
TIAR	**Tiarei**	**41.23**	**99**	*e*P	**P**	**18 31 26.5**	**+0.3**
	146nm,0.8s,mb5.7						
TVO	**Taravao**	**41.30**	**99**	*e*P	**P**	**18 31 27.0**	**+0.2**
	87nm,0.7s,mb5.5						
PMOR	**Pomariorio Ree**	**42.85**	**95**	*e*P	**P**	**18 31 39.4**	**-0.1**
	256nm,1.3s,mb5.7						
VAH	**Vaihoa**	**43.08**	**96**	*e*P	**P**	**18 31 40.9**	**-0.5**
	125nm,1.2s,mb5.4						
KLBR	**Kellerberrin**	**47.99**	**241**	⇑*i*P	**P**	**18 32 19.3**	**-0.7**
	74nm,1.8s,mb5.0						
CBIJ	**Chichi jima**	**49.09**	**330**	P	**P**	**18 32 27.6**	**-0.7**
	86nm,0.7s,mb5.5,baz=110,slow=22,SNR=6.5						
JOW	**Kunigami**	**56.91**	**317**	P	**P**	**18 33 26.2**	**+0.3**
	31nm,0.6s,mb5.3,baz=150,slow=5.7,SNR=12						
MAJO	**Matsushiro**	**58.82**	**332**	*e*P	**P**	**18 33 37.8**	**-1.3**
	23nm,0.7s,mb5.1						
MAJO				*e*pP	pP	18 34 20.7	-0.9
MAT	**Matsushiro**	**58.82**	**332**	P	**P**	**18 33 38.0**	**-1.1**
MAT	**Matsushiro**	**58.82**	**332**	*e*P	**P**	**18 33 38.0**	**-1.1**
	25nm,0.8s,mb5.1						
JNU	**Nakatsue**	**59.81**	**324**	P	**P**	**18 33 45.1**	**-0.8**
	14nm,0.6s,mb5.0,baz=70,slow=3.5,SNR=15						
VNDA	**Vanda**	**62.02**	**181**	P	**P**	**18 33 59.4**	**-0.9**
	8.6nm,0.8s,mb4.6,baz=358,slow=7.1,SNR=28						
ASAJ	**Asahikawa**	**63.66**	**340**	P	**P**	**18 34 11.8**	**+0.4**
	31nm,0.6s,mb5.3,baz=217,slow=7.1,SNR=28						
FX1	**Attu Island--F**	**68.35**	**4**	LR	LR	18 58 58.9	
	comp=Z,2.3nm,19.7s,baz=20,slow=31						
MDJ	**Mudanjiang**	**69.19**	**332**	P	**P**	**18 34 46.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,54nm,0.9s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,65nm,4.6s						
MDJ	**Mudanjiang**	**69.19**	**332**	⇑*i*P	**P**	**18 34 46.9**	**+0.7**
	comp=Z,51nm,0.9s,mb5.2						
CN2	**Changchun**	**70.55**	**329**	*e*P	**P**	**18 34 54.7**	**+0.2**
CN2				*e*AP	pP	18 35 39.0	+0.4
CN2				*e*S	S	18 43 52.6	+1.1
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
ENH	**Enshi**	**72.17**	**309**	⇑*i*P	**P**	**18 35 04.4**	**0.0**
	comp=Z,22nm,1.1s,mb4.8						
ENH				*e*pP	pP	18 35 48.7	0.0
BJT	**Baijiatuau**	**73.13**	**321**	*e*P	**P**	**18 35 10.4**	**+0.5**
	comp=Z,20nm,0.7s,mb4.9						
BJT				*e*pP	pP	18 35 53.5	-0.7
BJI	**Beijing**	**73.14**	**321**	P	**P**	**18 35 10.4**	**+0.4**
BJI				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**74.45**	**180**	*e*P	**P**	**18 35 16.7**	**-0.1**
	comp=Z,38nm,0.9s,mb5.1						
XAN	**Xi'an**	**74.52**	**313**	P	**P**	**18 35 18.4**	**+0.4**
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
KMI	**Kunming**	**75.05**	**302**	⇑*e*P	**P**	**18 35 20.9**	**-0.3**
KMI				AP	pP	18 36 07.2	+1.5
KMI				XP	sP	18 36 26.5	+1.1
KMI				PP	PP	18 38 14.2	+0.9
KMI				S	S	18 44 43.8	+1.5
KMI				SS	SS	18 49 39.7	+2.1
KMI				AMB	AMB		
	comp=Z,77nm,5.2s						
CMAR	**Chiang Mai Arr**	**75.61**	**294**	P	**P**	**18 35 25.9**	**+1.4**
	comp=Z,1.0nm,0.6s,mb3.6,baz=129,slow=5.3,SNR=7.9						
CMAR				pP	pP	18 36 07.2	-1.8
	comp=Z,0.9nm,0.8s,baz=117,slow=4.0,SNR=2.7						
HHC	**Hu-ho-hao-te**	**76.45**	**320**	*e*P	**P**	**18 35 29.7**	**+0.9**
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,60nm,4.5s						
HIA	**Hailar**	**77.19**	**330**	*e*P	**P**	**18 35 32.9**	**+0.2**
	comp=Z,25nm,1.1s,mb4.8						
HIA				*e*pP	pP	18 36 17.4	0.0
LZH	**Lanzhou**	**79.15**	**312**	*e*P	**P**	**18 35 45.0**	**+1.4**
LZH				AP	pP	18 36 30.0	+1.4
LZH				XP	sP	18 36 47.0	-1.2
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.8						
MAW	**Mawson**	**81.23**	**202**	⇑*i*P	**P**	**18 35 54.3**	**+0.3**
	comp=Z,9.1nm,1.0s,mb4.4						
MAW	**Mawson**	**81.23**	**202**	P	**P**	**18 35 54.4**	**+0.4**
	comp=Z,8.9nm,0.7s,mb4.5,baz=111,slow=5.7,SNR=27						
YAK	**Yakutsk**	**82.94**	**343**	*e*P	**P**	**18 36 02.5**	**-0.4**
	comp=Z,65nm,0.8s,mb5.4						
YAK				*e*sP	sP	18 37 06.8	-1.1
SONM	**Songino Array**	**83.38**	**324**	P	**P**	**18 36 06.3**	**+0.8**
	comp=Z,8.2nm,0.8s,mb4.5,baz=150,slow=8.1,SNR=49						
SONM				pP	pP	18 36 49.9	-1.0
	comp=Z,1.7nm,0.9s,baz=145,slow=3.9,SNR=1.7						
GTA	**Gaotai**	**83.50**	**314**	*e*P	**P**	**18 36 08.1**	**+1.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,75nm,3.8s						
YBH	**Yreka Blue Hor**	**85.78**	**45**	P	**P**	**18 36 18.2**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.7,baz=161,slow=5.0,SNR=3.3						
LSA	**Lhasa**	**86.30**	**302**	*e*P	**P**	**18 36 18.5**	**-1.8**
	comp=Z,7.8nm,1.6s,mb4.2						
LSA				*e*pP	pP	18 37 07.7	+1.6
ILAR	**Eielson Array**	**87.23**	**18**	P	**P**	**18 36 22.1**	**-1.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=236,slow=5.8,SNR=21						
ILAR				pP	pP	18 37 07.4	-2.3
	comp=Z,1.5nm,0.7s,baz=234,slow=5.7,SNR=4.0						
NVAR	**Mina Array Bea**	**87.56**	**49**	P	**P**	**18 36 26.1**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=223,slow=4.5,SNR=6.6						
SYO	**Syowa Base**	**87.99**	**196**	⇑P	**P**	**18 36 26.5**	**-0.9**
SYO	**Syowa Base**	**87.99**	**196**	⇓PcP	PcP	18 36 28.4	-1.0
NEW	**Newport**	**91.99**	**40**	LR	LR	19 10 00.6	
	comp=Z,28nm,21.6s,baz=357,slow=30						
SNAA	**Sanae**	**92.72**	**183**	⇑*i*	**P**	**18 36 48.4**	**-1.0**
INK	**Inuvik**	**93.58**	**19**	LR	LR	19 14 53.5	
	comp=Z,26nm,19.8s,baz=254,slow=33						
VNA2	**Neumayer--Watz**	**93.64**	**182**	⇑*i*	**P**	**18 36 55.8**	**+2.2**
VNA1	**Neumayer--Stat**	**93.94**	**181**	⇑*i*	**P**	**18 36 57.1**	**+2.1**
TXAR	**Lajitas Array**	**96.38**	**61**	P	**P**	**18 37 08.0**	**+0.9**
	comp=Z,0.1nm,0.3s,mb3.6,baz=243,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**98.06**	**316**	P	**P**	**18 37 13.5**	**-0.7**
	comp=Z,0.6nm,0.5s,mb4.2,baz=79,slow=7.8,SNR=5.9						
MKAR				pP	pP	18 37 57.7	-2.7
	comp=Z,1.3nm,0.8s,baz=112,slow=6.5,SNR=3.3						
MKAR				PKiKP		18 41 45.3	
	comp=Z,0.5nm,0.5s,baz=170,slow=0.5,SNR=11						
MKAR	**Makanchi Array**	**98.06**	**316**	P	**P**	**18 37 13.5**	**-0.7**
MKAR				pP	pP	18 37 57.7	-2.7
YKA	**Yellowknife Ar**	**98.14**	**27**	P	**P**	**18 37 13.2**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.3,baz=259,slow=4.3,SNR=7.9						
YKA				LR	LR	19 24 24.0	
	comp=Z,25nm,18.1s,baz=40,slow=37						
YKA	**Yellowknife Ar**	**98.14**	**27**	P	**P**	**18 37 13.2**	**-1.0**
YKA				LR	LR	19 24 24.0	
WMOK	**Wichita Mounta**	**101.60**	**57**	Pdif	P	18 37 29.8	-0.8
	comp=Z,3.3nm,0.9s						
BVAR	**Borovoye Array**	**106.62**	**321**	PKiKP		18 42 01.3	
	comp=Z,1.3nm,0.7s,baz=90,slow=2.9,SNR=9.6						
ARU	**Arti**	**113.38**	**325**	*e*PKPdf	PKPdf	18 42 13.6	+0.3
KEV	**Kevo**	**120.63**	**345**	*e*p	PKPdf	18 42 26.5	-0.6
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**121.16**	**345**	PKP	PKPdf	18 42 28.3	+0.2
	comp=Z,4.6nm,0.4s,baz=76,slow=2.1,SNR=46						
KAF	**Kangasniemi**	**126.11**	**339**	*e*p	PKPdf	18 42 36.5	-1.2
	comp=Z,1.1nm,0.4s						
FINES	**FINESS Array B**	**126.64**	**338**	PKP	PKPdf	18 42 39.6	+0.9
	comp=Z,2.0nm,0.5s,baz=46,slow=2.4,SNR=38						
NB2	**NORSAR Subarra**	**131.53**	**345**	PKPdf	PKPdf	18 42 48.6	+0.4
	comp=Z,0.5nm,0.5s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.53**	**345**	PKP	PKPdf	18 42 49.0	+0.9
	comp=Z,1.5nm,0.6s,baz=35,slow=2.0,SNR=14						
NOA				SKPbc		18 45 56.9	
	comp=Z,3.0nm,0.7s,baz=33,slow=2.8,SNR=10						
AKASG	**Malin Array Be**	**131.63**	**326**	PKP	PKPdf	18 42 48.7	+0.1
	comp=Z,2.8nm,0.4s,baz=44,slow=2.6,SNR=25						
AKASG				SKPbc		18 45 58.0	
	comp=Z,30nm,1.1s,baz=42,slow=4.4,SNR=31						
BRTR	**Keskin Array B**	**133.32**	**310**	PKP	PKPdf	18 42 52.7	+0.6
	comp=Z,2.2nm,0.6s,baz=136,slow=3.8,SNR=14						
BRTR				SKPbc		18 46 05.4	
	comp=Z,1.0nm,0.8s,baz=90,slow=2.9,SNR=3.3						
DPC	**Dobruska-Polom**	**138.29**	**332**	*e*PKIKP	PKPdf	18 43 04.6	+3.7
DPC				*e*SKP		18 46 19.1	
PVCC	**Panska Ves**	**138.92**	**334**	*e*PKIKP	PKPdf	18 43 05.8	+3.7
CLL	**Collm**	**138.97**	**336**	*e*PKIKP	PKPdf	18 43 05.0	+2.8
CLL				*e*		18 46 22.0	
PRU	**Pruhonice**	**139.34**	**333**	*e*PKIKP	PKPdf	18 43 05.6	+2.7
PRU				*e*SKP		18 46 22.0	
	comp=Z,6.2nm,0.8s						
KHC	**Kasperske Hory**	**140.40**	**333**	*e*PKIKP	PKPdf	18 43 06.3	+1.5
KHC				*e*SKP		18 46 25.1	
GERES	**GERESS Array B**	**140.56**	**333**	PKhKP		18 42 59.3	
	comp=Z,1.3nm,0.8s,baz=45,slow=1.9,SNR=4.1						
GERES				PKP	PKPdf	18 43 05.8	+0.7
	comp=Z,2.0nm,0.7s,baz=45,slow=1.9,SNR=14						
GERES				SKPbc		18 46 25.3	
	comp=Z,2.7nm,0.8s,baz=45,slow=1.9,SNR=16						
GERES				SKPab		18 46 38.1	
	comp=Z,0.6nm,0.8s,baz=45,slow=2.8,SNR=3.6						
FVI	**Forni Avoltri**	**142.64**	**331**	⇑*i*PKP	PKPdf	18 43 06.0	-2.7
WLS	**Welschbruch**	**143.46**	**338**	PKP	PKPdf	18 43 08.9	-1.2
CDF	**Champ du Feu**	**143.49**	**338**	*e*PKP1	PKPbc	18 43 09.5	+0.7
	comp=Z,9.3nm,0.5s						
BRMO	**Bormio**	**143.82**	**333**	*e*PKP	PKPdf	18 43 11.3	+0.5
MOF	**Molkenrain**	**144.01**	**337**	PKP	PKPdf	18 43 10.5	-0.6
THEF	**They Montfort**	**144.11**	**339**	PKP	PKPdf	18 43 10.7	-0.5
HINF	**Hinteralfeld**	**144.15**	**338**	*e*PKP1	PKPbc	18 43 10.8	0.0
	comp=Z,18nm,0.5s						
HAU	**Haudompre**	**144.17**	**338**	*e*PKP1	PKPbc	18 43 11.1	+0.2
	comp=Z,21nm,0.6s						
MEZF	**Maizieres J'vi**	**144.18**	**340**	*e*PKP1	PKPbc	18 43 11.5	+0.6
	comp=Z,23nm,0.5s						
LOMF	**Lomont**	**144.55**	**337**	PKP	PKPdf	18 43 12.4	+0.4
FSSB	**Fossombrone**	**144.74**	**328**	*e*PKP	PKPdf	18 43 14.2	+1.7
ARV	**Arcevia**	**144.79**	**327**	*e*PKP	PKPdf	18 43 14.2	+1.7
VAI	**Varese**	**144.99**	**334**	*e*PKP	PKPdf	18 43 13.8	+1.0
SFI	**Santa Sofia**	**145.06**	**329**	*e*PKP	PKPdf	18 43 15.7	+2.7
PGD	**Poggio Sodo**	**145.14**	**329**	*e*PKP	PKPdf	18 43 15.8	+2.7
ZCCA	**Zocca**	**145.16**	**330**	*e*PKP	PKPdf	18 43 15.8	+2.6
NRCA	**Norcia**	**145.16**	**326**	*e*PKP	PKPdf	18 43 15.2	+2.0
MRLC	**Muro Lucano**	**145.17**	**322**	*e*PKP	PKPdf	18 43 16.6	+3.3
VMG	**Vicchio**	**145.17**	**329**	*e*PKP	PKPdf	18 43 16.2	+3.0
MCGN	**Macugnaga**	**145.24**	**335**	*e*PKP	PKPdf	18 43 15.7	+2.4
ASS	**Assisi**	**145.25**	**327**	*e*PKP	PKPdf	18 43 14.6	+1.3
TDS	**Terranova Siba**	**145.30**	**319**	*e*PKP	PKPdf	18 43 15.9	+2.3
GSCL	**Gusciola**	**145.34**	**331**	*e*PKP	PKPdf	18 43 16.2	+2.7
CABF	**La Chapelle**	**145.44**	**337**	*e*PKP1	PKPbc	18 43 15.9	+1.6
	comp=Z,63nm,0.8s						
GRAM		**145.48**	**331**	P	PKPdf	18 43 15.4	+1.7
FLN	**La Foliniere**	**145.50**	**346**	*e*PKP1	PKPbc	18 43 15.1	+0.7
	comp=Z,29nm,0.5s						
MGR	**Morigerati**	**145.51**	**321**	*e*PKP	PKPdf	18 43 15.2	+1.3
VALM		**145.51**	**331**	P	PKPdf	18 43 16.0	+2.2
SDI	**San Donato**	**145.54**	**324**	⇑*i*PKP	PKPdf	18 43 16.0	+2.1
BDI	**Bagni Di Lucca**	**145.56**	**330**	*e*PKP	PKPdf	18 43 15.0	+1.2

PTQR	Pietraquaria	145.56	325	*e*PKP	PKPdf	18 43 16.1	+2.2
LDF	La Druitiere	145.58	346	*e*PKP1	PKPbc	18 43 15.3	+0.7
	comp=Z,39nm,0.8s						
BACM		145.64	331	P	PKPdf	18 43 15.4	+1.4
LOR	Lormes	145.65	340	*e*PKP1	PKPbc	18 43 16.1	+1.3
	comp=Z,32nm,0.5s						
CODM		145.66	331	P	PKPdf	18 43 15.5	+1.5
TRAV		145.70	335	P	PKPdf	18 43 15.1	+1.1
MNS	Montasola	145.70	326	*e*PKP	PKPdf	18 43 15.5	+1.3
VINC	Vinca	145.71	331	P	PKPdf	18 43 15.2	+1.1
MAIM		145.72	330	P	PKPdf	18 43 15.0	+0.9
GRR	Gorron	145.94	346	*e*PKP1	PKPbc	18 43 16.7	+1.2
	comp=Z,42nm,0.5s						
SSF	Saint Saulge	145.95	340	*e*PKP1	PKPbc	18 43 17.2	+1.6
	comp=Z,66nm,0.5s						
LSD	Ceresole Reale	145.99	335	P	PKPdf	18 43 17.7	+3.2
HYF	Humbligny	146.04	342	*e*PKP1	PKPbc	18 43 17.6	+1.8
GENL	Genova Univers	146.05	332	P	PKPdf	18 43 16.4	+1.7
LPL	La Plagne	146.11	336	*e*PKP1	PKPbc	18 43 18.1	+2.1
	comp=Z,20nm,0.6s						
LPG	La Plagne	146.12	336	*e*PKP1	PKPbc	18 43 18.2	+2.2
	comp=Z,31nm,0.5s						
RSP	Reno Superiore	146.19	335	P	PKPdf	18 43 17.1	+2.3
SMF	Signal de Mont	146.21	340	*e*PKP1	PKPbc	18 43 17.5	+1.3
	comp=Z,34nm,0.9s						
AVF	Avril sur Loir	146.24	340	*e*PKP1	PKPbc	18 43 17.5	+1.2
	comp=Z,16nm,0.5s						
FENE	Fenestrelle	146.37	335	P	PKPdf	18 43 18.2	+3.0
SGMF	Saint Gilles	146.43	348	*e*PKP1	PKPbc	18 43 18.0	+1.3
	comp=Z,50nm,0.6s						
BHB	Bricherasio	146.44	334	P	PKPdf	18 43 16.8	+1.5
ROSF	Rostrenen	146.49	349	*e*PKP1	PKPbc	18 43 18.0	+1.2
FIN	Finale Ligure	146.54	333	*e*PKP	PKPdf	18 43 18.2	+2.8
RRL	Cesana Torines	146.58	335	P	PKPdf	18 43 19.6	+4.1
BGF	Bois d'Agland	146.61	341	*e*PKP1	PKPbc	18 43 18.8	+1.7
	comp=Z,58nm,0.5s						
ROB	Roburent	146.62	333	P	PKPdf	18 43 17.8	+2.2
RORO		146.68	333	P	PKPdf	18 43 17.7	+2.0
GRN	Grenoble	146.72	336	PKP	PKPdf	18 43 19.7	+4.0
MBDF	Montbardon	146.74	335	*e*PKP1	PKPbc	18 43 19.2	+1.7
	comp=Z,16nm,0.6s						
PZZ	Prazzo	146.78	334	P	PKPdf	18 43 18.1	+2.3
MONE	Monesi	146.85	333	P	PKPdf	18 43 19.1	+3.1
PLDF	La Plantade	146.87	339	PKP	PKPdf	18 43 20.1	+4.2
QUIF	Quistinic	146.87	349	*e*PKP1	PKPbc	18 43 19.0	+1.3
	comp=Z,17nm,0.7s						
ENR	Entracque	146.87	334	P	PKPdf	18 43 18.3	+2.3
STV2	Anna di Valdie	146.90	334	P	PKPdf	18 43 17.8	+1.8
STV	Sta Anna Valdi	146.90	334	P	PKPdf	18 43 17.8	+1.8
IMI	Imperia	146.92	333	P	PKPdf	18 43 18.9	+2.8
SURF	Saint Ours	146.93	334	PKP	PKPdf	18 43 20.2	+4.1
ORIF	Oris-en-Rattie	146.94	336	*e*PKP1	PKPbc	18 43 20.1	+2.1
	comp=Z,26nm,0.5s						
AGO	Saint Agoulin	146.96	340	PKP	PKPdf	18 43 20.1	+4.0
SAOF	Saorge	147.01	333	PKP	PKPdf	18 43 19.5	+3.3
TCF	Toulx Ste Croi	147.05	341	*e*PKP1	PKPdf	18 43 20.0	+3.8
	comp=Z,20nm,0.5s						
NEGI	Negi	147.05	333	P	PKPdf	18 43 18.1	+1.7
SBF	Sospel	147.16	333	*e*PKP1	PKPdf	18 43 20.1	+3.6
	comp=Z,29nm,0.5s						
PYM	Petit Puy Mans	147.27	340	PKP	PKPdf	18 43 20.6	+4.0
MFF	Saint Martin d	147.43	344	*e*PKP1	PKPdf	18 43 21.0	+4.1
	comp=Z,60nm,0.6s						
VIVF	Saint-Julien-l	147.46	337	*e*PKP1	PKPdf	18 43 21.3	+4.3
	comp=Z,22nm,0.9s						
PGF	Pioggiola	147.46	330	*e*PKP1	PKPdf	18 43 21.2	+4.1
	comp=Z,38nm,0.6s						
LBL	Lubilhac	147.64	339	PKP	PKPdf	18 43 22.4	+5.1
FRF	La Foret Royal	147.74	334	*e*PKP1	PKPdf	18 43 21.7	+4.2
	comp=Z,23nm,0.5s						
SMRF	Simiane la Rot	147.85	335	*e*PKP1	PKPdf	18 43 22.6	+4.9
	comp=Z,21nm,0.6s						
LMR	La Mourre	147.98	334	*e*PKP1	PKPdf	18 43 22.4	+4.5
	comp=Z,19nm,0.4s						
RJF	Les Rejaudoux	148.14	341	*e*PKP1	PKPdf	18 43 23.1	+5.0
	comp=Z,24nm,0.7s						
CAF	Calviac	148.31	340	*e*PKP1	PKPdf	18 43 23.6	+5.2
	comp=Z,16nm,0.6s						
LASF	Ste Croix	148.43	337	*e*PKP1	PKPdf	18 43 24.1	+5.5
	comp=Z,36nm,0.6s						
LFF	La Frestale	148.71	342	*e*PKP1	PKPdf	18 43 24.5	+5.5
	comp=Z,23nm,0.5s						
MTLF	Montolieu	149.66	339	*e*PKP1	PKPdf	18 43 27.0	+6.4
	comp=Z,28nm,0.7s						
EJON	La Jonquera	150.19	337	PKP	PKPdf	18 43 27.3	+5.9
EPF	Esparros	150.56	341	*e*PKP1	PKPdf	18 43 29.6	+7.7
	comp=Z,14nm,0.7s						
SJPF	Ste Jean	150.95	343	*e*PKP1	PKPdf	18 43 30.3	+7.8
	comp=Z,13nm,0.7s						
ETSF	Etsaut	150.95	342	*e*PKP1	PKPdf	18 43 30.5	+8.0
	comp=Z,29nm,0.6s						
EMIR	Miracle	151.15	338	PKP	PKPdf	18 43 30.1	+7.2
ELAN	Lanestosa	151.40	346	PKP	PKPdf	18 43 31.4	+8.2
EPOB	Poblet	151.80	338	PKP	PKPdf	18 43 31.8	+7.9
EPON	Pontenova	151.99	352	PKP	PKPdf	18 43 31.8	+7.8
ESAC	San Caprasio	152.00	341	PKP	PKPdf	18 43 32.5	+8.3
STS	Santiago	152.59	354	PKP	PKPdf	18 43 33.7	+8.8
EMOS	Mosqueruela	153.22	340	PKP	PKPdf	18 43 33.9	+8.1
ETOR	Torete	153.31	342	PKP	PKPdf	18 43 35.5	+9.5
ESDC	Sonseca Array	154.90	345	PKPab	PKPab	18 43 55.2	-0.4
	comp=Z,1.0nm,0.6s,baz=6.6,slow=4.6,SNR=7.0						
ESDC	Sonseca Array	154.90	345	PKP	PKPdf	18 43 37.8	+10
ESDC				PKPab	PKPab	18 43 55.2	-0.4
KIC	Kosan Boka	168.17	220	*e*PKP1	PKPab	18 44 53.4	-0.4
	comp=Z,38nm,0.8s						
LIC	Lamto	168.24	219	*e*PKP2	PKPab	18 44 53.7	-0.4
	comp=Z,18nm,0.8s						
LIC	Lamto	168.24	219	*e*PKP1	PKPab	18 44 53.4	-0.7
	comp=Z,29nm,0.8s						
DBIC	Dimbokro	168.48	221	PKPab	PKPab	18 44 54.7	-0.5
	comp=Z,4.4nm,0.7s,baz=131,slow=6.5,SNR=9.8						
TIC	Toumodi	168.56	220	*e*PKP1	PKPab	18 44 54.5	-1.1
	comp=Z,66nm,0.8s						

DJA 07 18:52:44.1±1.2,**8.66S**×**116.06E,h109**^{km}±7^{km}**,MD5.4**/4,**ML3.7**/2**,3C-3D,Error ellipse: s-maj=40.0km s-min=19.0km az=161.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.18	16	⇑*i*Pn	P	18 52 59.0	-0.4
	43nm,0.2s						
KEDI				⇑*i*Sn	S	18 53 10.1	-0.8
RATI	Rata	0.53	263	⇑*i*Pn	P	18 53 00.9	-0.2
	206nm,0.2s						
RATI				⇓*i*Sn	S	18 53 13.0	-1.0
INGI	Ingas	0.92	260	*e*Pn	P	18 53 04.2	-0.5
	284nm,0.3s						
INGI				⇓*i*Sn	S	18 53 20.7	+0.6
KELI	Kelakatan	1.62	286	⇓*e*Pn	P	18 53 12.2	-0.5
	31nm,0.2s						

IDC ***07*** *18:54:02.4±21.0,81.31N×2.02W,mb3.0/2,mb1 3.5/4, mb1mx3.3/22,ML3.5/3,MS3.1/2,Ms1 3.1/2,ms1mx2.4/12, Error ellipse: s-maj=278.0km s-min=49.5km az=161.0*

ISC 07 18:54:06.6±10.0,**80.8N**±0.9× ± ,**h10**^{km}**,n8,**σ**1**^{s}**21**/6,**MS3.0**/2**,North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	4.09	121	Pn	Pn	18 55 09.8	-0.8
	2.8nm,0.3s,baz=342,slow=8.6,SNR=165						
HSP	Hornsund	4.93	132	*e*P	Pn	18 55 24.1	+1.5
JMIC	Jan Mayen	10.04	195	Pn	P	18 56 33.5	-0.2
	3.8nm,0.3s,baz=5.4,slow=9.7,SNR=7.8						
ARCES	ARCESS Array B	12.94	136	Pn	P	18 57 11.9	-1.1
	0.3nm,0.3s,baz=347,slow=12,SNR=6.3						
NOA	NORSAR Array B	20.16	163	P	P	18 58 43.5	+0.1
	0.4nm,0.8s,baz=347,slow=9.7,SNR=3.2						
FINES	FINESS Array B	20.86	142	P	P	18 58 51.2	+0.6
	1.4nm,1.0s,baz=331,slow=14,SNR=2.8						
FRB	Frobisher Bay	24.34	267	LR	LR	19 07 50.2	
	comp=Z,31nm,21.9s,MS2.8,baz=328,slow=34						
YKA	Yellowknife Ar	32.43	308	LR	LR	19 12 42.7	
	comp=Z,48nm,19.6s,MS3.2,baz=40,slow=35						

TAP ***07*** *19:00:52.5,24.69N×122.26E,h2*^{km}*±1*^{km}*,ML2.9*

JMA 07 19:00:50.5±0.8,**24.09N**×**122.29E,M2.6,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.76	60	P	Pg	19 01 05.4	-0.2
YOJ				S	Sg	19 01 16.1	+0.5
IRIF	Iriomote-Funau	1.34	79	P	Pb	19 01 15.5	-0.7
IRIF				S	Sb	19 01 33.6	-0.1
JKRS	Kuro-shima	1.58	84	P	Pn	19 01 19.8	-0.1
JKRS				S	Sb	19 01 40.5	-0.2
JIJ	Ishigaki jima	1.71	80	P	Pn	19 01 21.1	-0.7
JIJ				S	Sb	19 01 41.1	-3.5

IDC ***07*** *19:09:10.1±0.6,5.62S×105.32E,mb4.1/15,mb1 4.2/15, mb1mx4.1/20,MS3.7/4,Ms1 3.6/4,ms1mx3.3/15,Error ellipse: s-maj=41.2km s-min=13.7km az=47.0*

NEIC ***07*** *19:09:16.3±7.1,5.67S×105.36E,h44*^{km}*±64*^{km}*,mb4.3/3, Error ellipse: s-maj=37.4km s-min=10.3km az=57.0*

ISC 07 19:09:13.7±0.5,**5.6S**±0.2×**105.4E**±0.2,**h33**^{km}**,n23,** σ**1**^{s}**03**/19,**mb4.1**/19,**MS3.6**/4,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.34	124	P	P	19 14 21.3	+1.2
	2.0nm,0.7s,mb3.6,baz=318,slow=11,SNR=4.3						
FITZ				LR	LR	19 22 08.8	
	comp=Z,50nm,21.1s,MS2.9,baz=311,slow=33						
CMAR	Chiang Mai Arr	24.74	345	P	P	19 14 34.2	+0.5
	1.1nm,0.9s,mb3.4,baz=182,slow=8.6,SNR=4.9						
WRA	Warramunga Arr	31.54	120	P	P	19 15 33.2	-2.2
	1.6nm,0.9s,mb3.8,baz=293,slow=11,SNR=4.3						
WRAB	Tennant Creek	31.54	119	*e*P	P	19 15 35.1	-0.3
	2.7nm,0.6s,mb4.2						
ASAR	Alice Springs	32.79	126	P	P	19 15 46.0	-0.3
	1.4nm,0.9s,mb3.9,baz=292,slow=7.7,SNR=16						
ASAR				PcP	PcP	19 18 30.8	-0.2
	0.7nm,0.8s,baz=292,slow=2.4,SNR=4.4						
CTAO	Charters Tower	42.21	114	*e*P	P	19 17 08.9	+3.4
	11nm,1.3s,mb4.3						
STKA	Stephens Creek	42.75	132	P	P	19 17 10.2	+0.3
	9.2nm,0.6s,mb4.7,baz=304,slow=7.6,SNR=14						
STKA				LR	LR	19 33 00.3	
	comp=Z,150nm,21.7s,MS3.9,baz=338,slow=33						
SONM	Songino Array	53.21	1	P	P	19 18 32.0	+1.0
	0.8nm,0.8s,mb3.7,baz=183,slow=9.6,SNR=6.3						
SONM				PcP	PcP	19 19 38.7	0.0
	0.9nm,0.6s,baz=175,slow=3.5,SNR=7.7						
MKAR	Makanchi Array	56.05	341	P	P	19 18 50.2	-1.5
	0.4nm,0.4s,mb3.8,baz=149,slow=9.4,SNR=13						
BVAR	Borovoye Array	65.47	338	P	P	19 19 53.2	-2.4
	0.3nm,0.5s,mb3.6,baz=143,slow=7.2,SNR=3.1						
BVAR				PcP	PcP	19 20 26.6	-0.6
	0.8nm,0.7s,baz=135,slow=4.1,SNR=4.5						
MAW	Mawson	68.25	196	LR	LR	19 44 38.5	
	comp=Z,75nm,19.2s,MS3.9,baz=271,slow=31						
ASF	Jabal al Asfar	75.05	305	P	P	19 20 54.9	+0.6
	3.8nm,0.7s,mb4.4,baz=200,slow=1.0,SNR=5.8						
BRTR	Keskin Array B	79.72	312	P	P	19 21 19.2	-0.8
	1.6nm,0.6s,mb4.1,baz=135,slow=7.1,SNR=11						
QSPA	South Pole Qui	84.38	180	P	P	19 21 43.0	-0.4
	1.3nm,0.6s,mb4.2						
IDI	Anoyia	85.50	306	P	P	19 21 50.5	+0.6
	0.2nm,0.3s,mb3.7,baz=242,slow=20,SNR=3.4						
AKASG	Malin Array Be	85.62	322	P	P	19 21 49.6	-0.5
	1.2nm,0.5s,mb4.3,baz=82,slow=4.0,SNR=8.1						
TSUM	Tsumeb	86.13	251	LR	LR	19 53 32.5	
	comp=Z,46nm,20.7s,MS3.9,baz=145,slow=31						
MLR	Muntele Rosu	86.61	316	P	P	19 21 55.7	+0.6
	3.2nm,0.6s,mb4.7,baz=52,slow=2.8,SNR=8.6						
FINES	FINESS Array B	89.80	332	P	P	19 22 10.3	+0.4
	1.5nm,0.7s,mb4.4,baz=90,slow=7.6,SNR=9.4						
GERES	GERESS Array B	95.30	318	P	P	19 22 36.4	+0.9
	0.2nm,0.5s,mb3.8,baz=90,slow=3.9,SNR=2.9						
HFS	Hagfors	95.67	330	P	P	19 22 37.1	+0.1
	1.6nm,0.8s,mb4.5,baz=135,slow=2.1,SNR=5.7						
TXAR	Lajitas Array	143.79	46	PKP	PKPdf	19 28 47.5	+1.3
	1.2nm,0.7s,baz=260,slow=1.8,SNR=12						
BDFB	Brasilia	146.26	231	PKPbc	PKPbc	19 28 53.4	+1.5
	4.0nm,0.7s,baz=158,slow=6.0,SNR=5.3						

IDC ***07*** *19:11:02.5±0.8,5.38S×105.45E,mb3.9/10,mb1 4.1/10, mb1mx3.9/17,Error ellipse: s-maj=60.1km s-min=16.9km az=44.0*

ISC 07 19:11:06.1±0.8,**5.2S**±0.4×**105.7E**±0.4,**h33**^{km}**,n13,** σ**0**^{s}**72**/10,**mb3.9**/10,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.47	120	P	P	19 17 28.2	+0.9
	0.3nm,0.4s,mb3.4,baz=293,slow=10,SNR=3.4						
ASAR	Alice Springs	32.79	127	P	P	19 17 38.4	-0.4
	0.7nm,0.9s,mb3.6,baz=301,slow=7.5,SNR=2.9						
STKA	Stephens Creek	42.81	133	P	P	19 19 02.1	-0.7
	2.1nm,0.5s,mb4.2,baz=325,slow=13,SNR=3.6						
SONM	Songino Array	52.76	1	PcP	PcP	19 21 30.6	+1.2
	0.4nm,0.6s,baz=180,slow=2.6,SNR=3.9						
MKAR	Makanchi Array	55.73	341	P	P	19 20 42.1	+0.2
	0.6nm,0.7s,mb3.8,baz=163,slow=9.5,SNR=4.4						
BVAR	Borovoye Array	65.18	337	P	P	19 21 45.0	-1.2
	0.2nm,0.5s,mb3.4,baz=79,slow=24,SNR=2.4						
BVAR				PcP	PcP	19 22 19.2	+0.8
	0.8nm,0.8s,baz=72,slow=4.7,SNR=3.6						
ASF	Jabal al Asfar	75.07	305	P	P	19 22 47.1	+0.4
	3.1nm,0.8s,mb4.3,baz=222,slow=7.7,SNR=3.5						
BRTR	Keskin Array B	79.67	312	P	P	19 23 11.3	-0.9
	1.1nm,0.7s,mb3.9,baz=143,slow=6.6,SNR=5.6						
AKASG	Malin Array Be	85.47	322	P	P	19 23 41.8	0.0
	0.3nm,0.4s,mb3.8,baz=91,slow=4.6,SNR=4.6						
MLR	Muntele Rosu	86.51	316	P	P	19 23 48.0	+1.0
	1.5nm,0.7s,mb4.3,baz=130,slow=18,SNR=2.7						
FINES	FINESS Array B	89.56	332	P	P	19 24 01.9	+0.7
	0.9nm,0.7s,mb4.2,baz=135,slow=5.4,SNR=4.6						
TXAR	Lajitas Array	143.24	46	PKP	PKPdf	19 30 38.5	+0.9
	0.3nm,0.5s,baz=243,slow=2.0,SNR=3.4						
BDFB	Brasilia	146.80	231	PKPbc	PKPbc	19 30 45.4	-0.2
	2.8nm,0.7s,baz=116,slow=3.8,SNR=2.9						

IDC ***07*** *19:49:33.9±2.4,7.54N×127.50E,mb3.4/3,mb1 3.6/3, mb1mx3.4/18,Error ellipse: s-maj=206.0km s-min=30.6km az=67.0*

ISC 07 19:49:35.9±1.1,**7.21N**±0.07×**127.27E**±0.07,**h10**^{km}**,n11,** σ**1**^{s}**48**/16,**mb3.2**/3,**2D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.04	256	*e*P	Pb	19 49 55.0	-0.6
MATI				*e*S	Sb	19 50 06.6	-2.4
BIPH	Bislig	1.32	317	⇓*e*P	Pb	19 49 59.8	-0.6
BIPH				*e*S	Sb	19 50 16.4	-1.0
DMPH	Davao City--Mi	1.75	266	*e*P	Pn	19 50 08.8	+2.1
DMPH				*i* S	Sn	19 50 32.4	+3.2
KCP	Kidapawan	2.17	265	⇓*e*P	Pn	19 50 08.9	-3.8
KCP				*i* S	Sn	19 50 40.5	+0.6
BUKP	Musuan	2.29	287	*e*P	Pn	19 50 14.8	+0.4
BUTP	Butuan	2.40	317	*e*P	Pn	19 50 17.0	+1.2
SCPH	Surigao	3.11	326	*e*P	Pn	19 50 31.1	+5.2
SCPH				*e*S	Sn	19 50 46.7	-17
PAGZ	Pagadian	3.91	280	*e*P	Pn	19 50 38.0	+0.6
WRA	Warramunga Arr	27.86	166	P	P	19 55 26.0	-1.9
	0.4nm,0.8s,mb3.1,baz=347,slow=9.5,SNR=3.0						
ASAR	Alice Springs	31.36	168	P	P	19 56 00.5	+1.3
	0.1nm,0.5s,mb2.9,baz=348,slow=7.5,SNR=3.5						
ASAR				PcP	PcP	19 58 51.5	-1.6
	0.4nm,0.8s,baz=357,slow=2.1,SNR=7.9						
MKAR	Makanchi Array	55.06	324	P	P	19 59 06.3	-3.9
	0.5nm,0.6s,mb3.7,baz=117,slow=8.9,SNR=3.2						

TAP ***07*** *20:13:31.4,25.02N×122.62E,h128*^{km}*±1*^{km}*,ML2.8*

JMA 07 20:13:32.0±0.4,**24.99N**×**122.65E,h122**^{km}**,M1.6,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	148	P	P	20 13 51.0	-0.1
IRIF	Iriomote-Funau	1.18	123	P	P	20 13 56.1	-0.3
IRIF				S	S	20 14 14.7	+0.1
JKRS	Kuro-shima	1.45	121	P	P	20 13 59.1	-0.3
JKRS				S	S	20 14 20.4	+0.2
JIJ	Ishigaki jima	1.49	114	P	P	20 13 59.9	0.0
JIJ				S	S	20 14 19.8	-1.3
JTJ	Tarama	1.90	100	*e*S	S	20 14 29.5	0.0

IDC ***07*** *20:33:43.6±1.7,23.05S×174.31W,mb4.2/6,mb1 4.4/7, mb1mx4.1/18,ML4.6/1,Error ellipse: s-maj=95.8km s-min=31.0km az=164.0*

NEIC ***07*** *20:33:53.0±4.2,23.91S×173.76W,h111*^{km}*±49*^{km}*,mb4.4/6, Error ellipse: s-maj=33.5km s-min=23.5km az=186.0*

ISC 07 20:33:54.4±4.5,**23.9S**±0.2×**173.7W**±0.1,**h145**^{km}±49^{km}**, n17,**σ**0**^{s}**96**/16,**mb4.1**/11,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.11	81	Pn	P	20 36 56.2	+0.2
	2.7nm,0.3s,baz=278,slow=12,SNR=16						
RAR				Sn	S	20 39 18.6	-0.2
	0.8nm,0.3s,baz=103,slow=18,SNR=1.1						
CTA	Charters Tower	37.27	268	P	P	20 40 53.4	-0.5
	1.9nm,0.5s,mb4.0,baz=103,slow=9.3,SNR=6.0						
CTA	Charters Tower	37.27	268	P	P	20 40 53.4	-0.5
CTAO	Charters Tower	37.27	268	*e*P	P	20 40 52.4	-1.6
	3.7nm,0.7s,mb4.1						
TAU	Tasmania Unive	37.30	230	*e*P	P	20 40 57.3	+3.4
	45nm,1.2s,mb5.0						
STKA	Stephens Creek	40.12	248	P	P	20 41 18.7	+1.2
	5.0nm,1.1s,mb4.1,baz=195,slow=0.4,SNR=3.9						
STKA	Stephens Creek	40.12	248	P	P	20 41 18.7	+1.2
ASAR	Alice Springs	47.75	259	P	P	20 42 19.6	+0.8
	2.3nm,0.8s,mb3.9,baz=90,slow=8.5,SNR=21						
WRAB	Tennant Creek	48.18	264	*e*P	P	20 42 20.5	-1.5
	1.8nm,0.7s,mb3.8						
WRA	Warramunga Arr	48.18	264	P	P	20 42 21.3	-0.8
	1.0nm,0.6s,mb3.6,baz=94,slow=8.3,SNR=18						
FITZ	Fitzroy Crossi	56.60	263	P	P	20 43 24.5	-0.2
	2.8nm,1.0s,mb4.1,baz=159,slow=9.6,SNR=5.8						
QSPA	South Pole Qui	66.23	180	P	P	20 44 28.0	-0.3
	4.6nm,1.1s,mb4.2						
MAJO	Matsushiro	75.30	322	P	P	20 45 24.3	+1.0
	1.9nm,0.6s,mb3.9						
MDJ	Mudanjiang	85.58	323	P	P	20 46 22.9	+5.5
	8.0nm,0.7s,mb4.6						
CMAR	Chiang Mai Arr	94.99	288	P	P	20 47 06.8	+4.8
	1.3nm,0.7s,mb4.3,baz=140,slow=4.0,SNR=7.1						
AKASG	Malin Array Be	147.86	332	PKPbc	PKPdf	20 53 27.1	+8.3
	3.9nm,1.0s,baz=38,slow=4.1,SNR=7.4						
CLL	Collm	152.12	351	*e*PKP1	PKPdf	20 53 40.0	+15

NEIC ***07*** *20:48:24.4,38.17N×22.68E,h32*^{km}*,MD3.7(ATH),After ATH.*

ATH ***07*** *20:48:24.4,38.17N×22.68E,h32*^{km}*±9*^{km}*,MD3.2/7,ML2.9*

THE ***07*** *20:48:25.9,38.33N×22.76E,h10*^{km}*,ML3.0*

ISC 07 20:48:24.4±0.8,**38.18N**±0.05×**22.69E**±0.06,**h18**^{km}±10^{km}**, n19,**σ**0**^{s}**67**/21,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKIT	Kithairon Oros	0.45	89	*e*PB	Pn	20 48 35.5	-0.3
NSAL	Nisos Salamina	0.67	114	*e*PN	Pb	20 48 37.5	+0.2
MPAR	Parnis Oros	0.83	91	*e*PN	Pn	20 48 41.6	+0.4
ATH	Athens Observa	0.84	104	*e*PB	Pb	20 48 40.0	-0.1
AGG	Agios Georgios	0.89	342	*e*Pg	Pb	20 48 40.2	-0.8
PTL	Penteli	0.94	97	*e*PN	Pn	20 48 43.0	+0.3
EVR	Evrytania	1.01	317	*e*PN	Pn	20 48 42.2	-1.6
NEO	Neokhori	1.20	20	*e*PN	Pn	20 48 47.0	+0.5
AOS	Alonnisos	1.36	43	*e*Pb	Pb	20 48 49.2	+0.1
AOS				*e*Sb	Sb	20 49 06.8	+0.6
VLI	Veliai	1.47	172	*e*PB	Pb	20 48 50.0	-0.9
VLS	Valsamata	1.65	271	*e*PN	Pn	20 48 54.2	+1.3
LKD	Levkas	1.68	289	*e*Pb	Pb	20 48 55.7	+1.1
LKD				*e*Sb	Sb	20 49 19.9	+4.5
PAIG	Paliouri	1.91	24	*e*Pb	Pn	20 48 55.9	-0.7
LIT	Litokhoron	1.93	356	*e*Pb	Pn	20 48 56.8	-0.1
MEV	Metsovon	1.97	325	*e*Pb	Pb	20 48 59.0	-0.3
GRG	Griva	2.79	356	*e*Pn	Pn	20 49 09.0	-0.2
FNA	Florina	2.79	339	*e*Pn	Pn	20 49 09.5	+0.2
KNT	Kendrikon	2.98	3	*e*Pn	Pn	20 49 12.5	+0.5
SRS	Serrai	3.02	13	*e*Pn	Pn	20 49 12.0	-0.4

IDC ***07*** *21:24:49.8±1.8,36.52N×71.23E,mb3.8/4,mb1 3.8/6, mb1mx3.6/20,ML3.5/2,Error ellipse: s-maj=38.9km s-min=28.4km az=50.0*

NNC ***07*** *21:25:04.9±15.0,37.21N×69.83E,h108*^{km}*±173*^{km}*,mpv4.0, Error ellipse: s-maj=123.5km s-min=121.6km az=85.0*

ISC 07 21:24:58.5±1.4,**36.79N**±0.07×**71.1E**±0.2,**h100**^{km}±15^{km}**, n24,**σ**1**^{s}**35**/30,**mb3.6**/4,**5C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.71	20	P	P	21 26 23.2	+1.0
	SNR=71						
THN	Thein Dam	5.80	137	*e*P	P	21 26 25.7	+2.3
THN				*e*S	S	21 27 29.9	+0.7
	147nm,0.4s						
DLH	Dalhousie	5.86	135	*e*P	P	21 26 25.0	+0.8
DLH				*e*S	S	21 27 29.0	-1.6
EKS2	Erkin-Say	6.23	19	P	P	21 26 30.6	+1.2
	SNR=8.1						
KK31	Karatay Array	6.32	356	⇓P	P	21 26 30.0	-0.6
	4.3nm,0.3s,baz=179,slow=13,SNR=270						
KK31				⇓S	S	21 27 37.0	-4.9
	14nm,0.5s,baz=188,slow=23,SNR=4.0						
AAK	Ala-Archa	6.41	23	P	P	21 26 33.0	+1.1
	SNR=6.1						
CHMS	Chumysh	6.82	23	P	P	21 26 38.1	+0.6
	SNR=23						
USP	Ospenovka	6.99	21	P	P	21 26 39.8	0.0
	SNR=16						
SDNR	Sundarnagar	7.20	135	*e*P	P	21 26 43.0	+0.3
SDNR				*e*S	S	21 28 01.0	-2.5
SMLA	Simla	7.59	136	*i* P	P	21 26 57.4	+9.4
SMLA				*i* S	S	21 28 17.8	+4.8
	203nm,0.4s						
MKAR	Makanchi Array	13.03	36	Pn	P	21 27 58.2	-2.6
	0.1nm,0.3s,baz=227,slow=13,SNR=6.6						
GKN	Gorkha	14.42	124	*e*P	P	21 28 18.2	-0.6
	13nm,0.4s						
AB31	Akbulak array	14.86	330	⇑P	P	21 28 22.8	-1.4
	0.3nm,0.3s,baz=166,slow=11,SNR=7.3						
AB31				⇑S	S	21 30 53.5	-13
	2.2nm,0.6s,baz=150,slow=21,SNR=9.1						
KKN	Kakani	14.99	123	*e*P	P	21 28 23.9	-2.2
	11nm,0.4s						
DMN	Daman	14.99	124	*e*P	P	21 28 24.8	-1.3
	15nm,0.6s						
PKI	Pulchoki	15.22	123	*e*P	P	21 28 28.9	-0.1
	13nm,0.5s						
VOSK	Vostochnaya	15.93	360	⇑P	P	21 28 36.4	-1.3
	1.8nm,1.1s						
ZRNK	Zerenda	16.23	356	⇑P	P	21 28 42.2	+0.8
	2.4nm,0.9s						
BVA0	Borovoye Array	16.24	359	⇑P	P	21 28 41.1	-0.6
	0.4nm,1.0s,baz=170,slow=11,SNR=7.3						
BVAR	Borovoye Array	16.24	359	Pn	P	21 28 40.1	-1.5
	0.3nm,0.3s,baz=164,slow=12,SNR=7.9						
SONM	Songino Array	28.13	56	P	P	21 30 44.2	+1.3
	0.2nm,0.3s,mb3.1,baz=319,slow=28,SNR=2.0						
ARCES	ARCESS Array B	40.90	337	P	P	21 32 34.8	+3.1
	2.1nm,0.9s,mb3.9,baz=107,slow=12,SNR=2.7						
HFS	Hagfors	42.87	322	P	P	21 32 51.9	+4.0
	0.5nm,0.6s,mb3.4,baz=90,slow=17,SNR=3.6						
WRA	Warramunga Arr	82.10	122	P	P	21 37 11.3	+1.8
	2.4nm,1.1s,mb3.9,baz=325,slow=4.9,SNR=5.2						

IDC ***07*** *22:08:11.1±3.1,41.33N×21.79E,mb3.0/2,mb1 3.5/7, mb1mx3.4/23,ML3.7/5,Error ellipse: s-maj=33.5km s-min=14.6km az=175.0*

THE ***07*** *22:08:22.6,42.32N×22.21E,h10*^{km}*,ML3.4*

NEIC ***07*** *22:08:22.6,42.32N×22.21E,MD3.0(PDG),ML3.5(THE), After THE.*

BEO ***07*** *22:08:23.8±2.4,42.49N×22.08E,h12*^{km}*±5*^{km}

PDG ***07*** *22:08:26.5±0.1,42.77N×21.86E,h4*^{km}

ISC 07 22:08:21.3±0.3,**42.42N**±0.02×**22.17E**±0.03,**h12**^{km}**,n70,** σ**1**^{s}**17**/117,**15C-13D,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARS	Barje	0.47	328	⇑*i*Pg	Pg	22 08 31.3	+0.4
BARS				Sg	Sg	22 08 38.5	+1.1
SKO	Skopje	0.70	231	⇑*i*Pg	Pg	22 08 34.6	-0.9
SKO				*i*		22 08 39.1	
SKO				*i* Sg	Sg	22 08 44.0	-0.9
SKO				*i*		22 08 45.4	
SKO				Lg		22 08 47.5	
	comp=Z,0.3nm,0.5s						
VAY	Valandovo	1.14	165	*i* Pg	Pg	22 08 40.3	-3.8
VAY				*i* Sg	Sg	22 08 54.6	-4.8

KNT	**Kendrikon**	1.37	156	*e*Pb	Pb	22 08 45.8	-0.6
KNT				*e*Sb	Sb	22 09 04.3	+0.5
BOLS	**Boljevac**	1.42	354	⇑*i*Pg	Pg	22 08 48.0	-1.6
BOLS				Sg	Sg	22 09 06.5	-2.0
GRG	**Griva**	1.48	173	*e*Pb	Pb	22 08 47.8	-0.4
GRG				*e*Sb	Sb	22 09 08.2	+1.5
BIA	**Bitola**	1.54	205	*i* Pn	Pn	22 08 42.5	-6.2
BIA				*i*		22 08 45.5	
BIA				*i* Sn	Sn	22 09 03.0	-5.7
BIA				*i* Sg	Sg	22 09 04.6	-8.0
BCI	**Bajram Curri**	1.56	269	*i* Pg	Pg	22 08 51.4	-1.0
BCI				*i* Sg	Sg	22 09 13.4	+0.2
PVY	**Plav**	1.63	277	⇓*i*Pg	Pg	22 08 52.2	-1.7
PVY				*e*Sg	Sg	22 09 14.7	-1.0
OHR	**Ohrid**	1.66	218	*i* Pn	Pn	22 08 50.8	+0.3
OHR				*i*		22 08 54.6	
OHR				*i*		22 08 57.5	
OHR				*i* Sg	Sg	22 09 11.1	-5.6
OHR				*i*		22 09 13.8	
SRS	**Serrai**	1.68	140	*e*Pb	Pb	22 08 51.6	-0.2
SRS				*e*Sb	Sb	22 09 13.5	+0.7
PUK	**Puka**	1.73	258	*i* Pg	Pg	22 08 53.0	-2.9
PUK				*i* Sg	Sg	22 09 17.0	-2.0
IVA	**Berane**	1.73	286	⇓*i*Pg	Pg	22 08 53.2	-2.8
IVA				*e*Sg	Sg	22 09 15.9	-3.2
FNA	**Florina**	1.74	200	*e*Pb	Pb	22 08 53.0	+0.2
FNA				*e*Sb	Sb	22 09 14.9	+0.4
GRUS	**Gruza**	1.81	325	⇓*i*Pn	Pn	22 08 53.2	+0.6
GRUS				Sg	Sg	22 09 19.8	-1.8
SOH	**Sokhos**	1.83	151	*e*Pb	Pb	22 08 53.6	-0.7
SOH				*e*Sb	Sb	22 09 16.8	-0.2
THE	**Thessaloniki**	1.89	161	*e*Pb	Pb	22 08 54.4	-0.9
THE				*e*Sb	Sb	22 09 17.8	-0.9
QSH	**Qafa e Shtames**	1.91	243	*i* Pg	Pg	22 08 59.2	-0.3
QSH				*i* Sg	Sg	22 09 25.2	+0.2
SVIS	**Svilajnac**	2.00	340	⇑*i*Pn	Pn	22 08 55.8	+0.5
SVIS				Sg	Sg	22 09 21.5	-6.3
NVSS	**Nova Varos 2**	2.11	302	⇓*i*Pn	Pn	22 08 56.6	-0.3
NVSS				Sn	Sn	22 09 25.0	+1.7
TTG	**Podgorica**	2.15	271	⇓*i*Pn	Pn	22 09 01.5	+4.0
TTG				*e*Sn	Sn	22 09 29.0	+4.7
ULC	**Ulcinj**	2.22	259	⇓*i*Pn	Pn	22 09 03.3	+4.9
ULC				*e*Sn	Sn	22 09 32.2	+6.2
PLE	**Pljevlja**	2.23	295	*e*Pn	Pn	22 08 59.9	+1.3
PLE				*e*Sn	Sn	22 09 27.3	+1.0
PLG	**Polygyros**	2.26	154	*e*P	Pn	22 08 59.0	-0.1
DIVS	**Divcibare**	2.31	317	⇓*i*Pn	Pn	22 09 00.2	+0.4
DIVS				Sn	Sn	22 09 28.8	+0.5
LIT	**Litokhoron**	2.33	174	*e*Pn	Pn	22 08 59.7	-0.4
NKY	**Niksic**	2.37	281	⇓*i*Pn	Pn	22 09 03.5	+2.8
NKY				*e*Sn	Sn	22 09 32.6	+2.7
BUM	**Brajici-Budva**	2.43	268	⇓*i*Pn	Pn	22 09 05.4	+4.0
BUM				*e*Sn	Sn	22 09 36.1	+4.8
BBLS	**Bajina Basta -**	2.48	307	⇓*i*Pn	Pg	22 09 18.8	+8.0
BBLS				Sn	Sg	22 09 49.6	+5.6
OUR	**Ouranopolis**	2.49	146	*e*Pn	Pn	22 09 01.9	-0.5
OUR				*e*Sn	Sn	22 09 33.8	+0.8
UPM	**Unac-Piva**	2.52	289	⇓*i*Pn	Pn	22 09 04.4	+1.6
UPM				*e*Sn	Sn	22 09 35.1	+1.4
BEO	**Belgrade**	2.70	333	⇑*i*Pn	Pn	22 09 12.3	+7.0
BEO				Sn	Sn	22 09 45.2	+6.9
BRY	**Bratogost**	2.71	281	⇓*i*Pn	Pn	22 09 08.4	+2.8
BRY				*e*Sn	Sn	22 09 40.2	+1.6
HCY	**Herceg Novi**	2.72	272	⇓*i*Pn	Pn	22 09 09.3	+3.7
HCY				*e*Sn	Sn	22 09 41.9	+3.2
MEV	**Metsovon**	2.73	195	*e*Pn	Pn	22 09 05.7	-0.1
PAIG	**Paliouri**	2.74	155	*e*Pn	Pn	22 09 05.1	-0.8
RDO	**Rodhopi**	2.82	116	*e*P	Pn	22 09 07.6	+0.5
JAN	**Janina**	2.94	200	*e*P	Pn	22 09 09.0	+0.3
NEO	**Neokhori**	3.21	165	*e*P	Pn	22 09 11.5	-1.2
KEK	**Kerkira**	3.25	214	*e*P	Pn	22 09 18.5	+5.4
ALN	**Alexandroupoli**	3.28	116	*e*Pn	Pn	22 09 13.9	+0.3
EVR	**Evrytania**	3.51	185	*e*P	Pn	22 09 17.0	+0.1
MLR	**Muntele Rosu**	4.11	40	Pn	Pn	22 09 29.8	+4.5
	comp=Z,1.2nm,0.3s,baz=177,slow=6.5,SNR=10						
MLR				Sn	Sg	22 10 31.1	-6.9
	comp=Z,1.6nm,0.3s,baz=116,slow=21,SNR=3.0						
MRLC	**Muro Lucano**	5.28	254	*e*Pn	Pn	22 09 42.9	+1.0
SLCN	**Sala Consilina**	5.32	250	*e*Pn	Pn	22 09 42.4	-0.1
SGO	**Sicignano**	5.48	252	*e*Pn	Pn	22 09 44.2	-0.5
MGR	**Morigerati**	5.48	248	⇑*i*Pn	Pn	22 09 44.1	-0.7
CSSN	**Cassano Irpino**	5.58	256	*e*Pn	Pn	22 09 46.4	+0.2
PSZ	**Piszkesteto**	5.73	344	⇑*e*Pn	Pn	22 09 47.5	-0.8
PSZ				*e*		22 10 49.4	
SGG	**Gregorio Mates**	5.90	263	*e*Pn	Pn	22 09 52.4	+1.6
VYHS	**Vyhne**	6.51	340	*e*PN	Pn	22 09 59.9	+0.6
VYHS				*e*		22 11 10.3	
NRCA	**Norcia**	6.69	277	*e*Pn	Pn	22 10 02.0	+0.2
ARSA	**Arzberg**	6.75	318	⇑*i*PN	Pn	22 10 02.6	-0.1
ARSA				*i* SN	Sn	22 11 14.8	-5.5
OBKA	**Obir**	6.81	309	⇑*i*PN	Pn	22 10 03.4	-0.1
OBKA				*i* SN	Sn	22 11 15.7	-6.1
ASS	**Assisi**	7.04	278	*e*Pn	Pn	22 10 09.2	+2.5
ASS				*e*Sn	Sn	22 11 23.9	-3.5
MOA	**Molln**	7.79	317	⇑*i*PN	Pn	22 10 16.5	-0.7
MOA				*i* SN	Sn	22 11 40.0	-6.2
KBA	**Koelnbreinsper**	7.81	310	⇑*i*PN	Pn	22 10 16.5	-1.1
KBA				*i* SN	Sn	22 11 40.1	-6.8
FVI	**Forni Avoltri**	7.90	305	*e*Pn	Pn	22 10 20.4	+1.6
FVI				*e*Sn	Sn	22 11 48.4	-0.6
VRAC	**Vranov**	7.91	332	Pn	Pn	22 10 20.6	+1.7
	comp=Z,0.6nm,0.3s,baz=152,slow=11,SNR=2.0						
GERES	**GERESS Array B**	8.74	320	Pn	P	22 10 29.4	-1.1
	comp=Z,0.5nm,0.3s,baz=148,slow=13,SNR=14						
GERES				Sn	Sn	22 12 14.2	+4.2
	comp=Z,0.6nm,0.3s,baz=151,slow=22,SNR=7.1						
WTTA	**Wattenberg**	8.91	306	⇑*i*PN	P	22 10 33.6	+0.8
WTTA				*i* SN	Sn	22 12 08.4	-5.7
WATA	**Walderalm**	8.98	307	⇑*i*PN	P	22 10 33.4	-0.4
WATA				*i* SN	Sn	22 12 08.9	-7.0
KHC	**Kasperske Hory**	9.00	321	*e*PN	P	22 10 35.9	+1.9
KHC				*e*SN	Sn	22 12 14.6	-1.7
KHC				*e*		22 13 25.0	
SQTA	**Sankt Quirin**	9.14	305	⇑*i*PN	P	22 10 35.0	-1.1
SQTA				*i* SN	Sn	22 12 14.5	-5.5
PRU	**Pruhonice**	9.23	328	*e*SN	Sn	22 12 21.4	-0.6
MOTA	**Moosalm**	9.27	306	⇑*i*PN	P	22 10 36.7	-1.1
MOTA				*i* SN	Sn	22 12 16.1	-6.9
AKASG	**Malin Array Be**	9.60	28	Pn	P	22 10 46.2	+4.0
	comp=Z,0.7nm,0.3s,baz=225,slow=16,SNR=6.6						
AKASG				Sn	Sn	22 12 40.7	+10
	comp=Z,0.6nm,0.3s,baz=340,slow=39,SNR=1.7						
HFS	**Hagfors**	18.48	347	P	P	22 12 37.7	-1.1
	comp=Z,0.0nm,0.3s,baz=180,slow=40,SNR=2.5						
FINES	**FINESS Array B**	19.20	6	P	P	22 12 48.9	+1.6
	comp=Z,1.1nm,1.0s,baz=207,slow=8.5,SNR=3.5						
NOA	**NORSAR Array B**	19.79	344	P	P	22 12 54.1	+0.1
	comp=Z,0.4nm,0.8s,baz=155,slow=10.0,SNR=3.4						

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*TIR **07** 23:11:29.9, 41.16N×20.35E, h5^{km}, Ml3.2*
*PDG **07** 23:11:29.3±0.1, 40.84N×19.95E, h10^{km}±1^{km}*
*NEIC **07** 23:11:29.3, 40.84N×19.95E, h10^{km}, MD3.6(ATH), MD3.2(PDG), ML3.2(THE), After PDG.*
*ATH **07** 23:11:30.6, 41.25N×20.30E, h5^{km}, MD3.6/6*
*IDC **07** 23:11:32.6±1.7, 41.10N×19.98E, mb3.1/2, mb1 3.4/8, mb1mx3.3/25, ML3.1/6, Error ellipse: s-maj=22.9km s-min=17.1km az=45.0*
*THE **07** 23:11:33.8, 41.13N×20.25E, h10^{km}, ML3.3*
ISC 07 23:11:31.6±0.2, **41.10N**±0.02×**20.14E**±0.02, **h5^{km}, n70, σ1^{s}36**/108, **7C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	0.32	320	*i* Pg	Pg	23 11 37.5	-0.6
TIR				*i* Sg	Sg	23 11 43.5	+1.1
QSH	**Qafa e Shtames**	0.46	337	*i* Pg	Pg	23 11 41.0	+0.3
QSH				*i* Sg	Sg	23 11 47.8	+1.0
PRZA	**Preza**	0.48	313	*i* Pg	Pg	23 11 42.2	+0.9
PRZA				*i* Sg	Sg	23 11 52.2	+4.5
OHR	**Ohrid**	0.50	89	⇑*i*Pg	Pg	23 11 39.6	-2.0
OHR				⇑*i*Sg	Sg	23 11 47.1	-1.1
LACI	**Lac**	0.62	329	*i* Pg	Pg	23 11 42.4	-1.7
LACI				*i* Sg	Sg	23 11 52.3	-0.1
PHP	**Peshkopia**	0.62	21	*i* Pg	Pg	23 11 39.5	-4.6
PHP				*i* Sg	Sg	23 11 46.8	-5.6
KBN	**Korca**	0.69	134	*i* Pg	Pg	23 11 43.9	-1.4
KBN				*i* Sg	Sg	23 11 55.3	+0.9
TPE	**Tepelena**	0.81	187	*i* Pg	Pg	23 11 47.1	-0.7
TPE				*i* Sg	Sg	23 12 02.5	+3.9
BIA				*i*	Pb	23 11 48.2	-1.1
BIA				*i*		23 11 52.8	
PUK	**Puka**	0.96	349	*i* Pg	Pg	23 11 48.6	-2.1
PUK				*i* Sg	Sg	23 12 03.6	+0.1
LSK	**Leskovik**	1.01	160	*i* Pg	Pg	23 11 49.7	-2.1
LSK				*i* Sg	Sg	23 12 05.2	-0.1
SDA	**Shkodra**	1.06	333	*i* Pg	Pg	23 11 54.4	+1.6
SDA				*i* Sg	Sg	23 12 09.3	+2.3
ULC	**Ulcinj**	1.09	322	⇓*i*Pg	Pg	23 11 51.0	-2.4
ULC				*e*Sg	Sg	23 12 08.6	+0.7
BCI	**Bajram Curri**	1.27	358	*i* Pg	Pg	23 11 54.4	-2.4
BCI				*i* Sg	Sg	23 12 13.1	-0.6
SKO	**Skopje**	1.31	48	*i* Pn	Pn	23 11 54.6	-1.9
SKO				*i* Sg	Sg	23 12 11.8	-3.3
SKO				Lg		23 12 15.0	
	comp=Z,0.2nm,0.5s						
KEK	**Kerkira**	1.41	191	*e*PG	Pg	23 11 59.0	-0.8
KEK				*e*SB	Sb	23 12 23.3	+7.1
KZN	**Kozani**	1.47	122	*e*PG	Pg	23 11 58.0	-3.0
TTG	**Podgorica**	1.48	334	⇓*i*Pn	Pn	23 11 57.7	-1.3
TTG				*e*Sn	Sn	23 12 22.0	+3.0
PVY	**Plav**	1.50	355	⇓*i*Pn	Pn	23 11 59.4	+0.2
PVY				*e*Sn	Sn	23 12 24.1	+4.8
BUM	**Brajici-Budva**	1.52	323	*e*Pn	Pn	23 11 58.2	-1.3
BUM				*e*Sn	Sn	23 12 21.2	+1.4
JAN	**Janina**	1.54	159	*e*PB	Pb	23 12 02.3	+2.0
MEV	**Metsovon**	1.56	147	*e*Pb	Pb	23 12 02.1	+1.6
MEV				*e*Sb	Sb	23 12 23.9	+3.5
IGT	**Igoumenitsa**	1.57	175	*e*Pb	Pb	23 12 01.9	+1.0
IGT				*e*Sb	Sb	23 12 25.3	+4.3
GRG	**Griva**	1.72	94	*e*Pb	Pb	23 12 02.2	-1.1
GRG				*e*Sb	Sb	23 12 26.0	+0.9
LCI	**Lecce**	1.72	244	*e*Pn	Pn	23 12 02.9	+0.5
LCI				*e*Sn	Sn	23 12 33.6	+8.5
IVA	**Berane**	1.78	354	*e*Pn	Pn	23 12 04.6	+1.3
IVA				*e*Sn	Sn	23 12 32.3	+5.9
HCY	**Herceg Novi**	1.82	318	*e*Pn	Pn	23 12 03.0	-0.9
HCY				*e*Sn	Sn	23 12 29.5	+1.9
VAY	**Valandovo**	1.85	82	*i* Pn	Pn	23 12 02.9	-1.3
VAY				*i* Sg	Sg	23 12 25.7	-7.4
NKY	**Niksic**	1.91	334	*e*Pn	Pn	23 12 05.3	+0.1
NKY				*e*Sn	Sn	23 12 33.7	+3.9
LIT	**Litokhoron**	2.05	118	*e*Pn	Pn	23 12 07.7	+0.5
LIT				*e*Sn	Sn	23 12 34.1	+0.7
KNT	**Kendrikon**	2.08	87	*e*Pn	Pn	23 12 08.5	+0.9
KNT				*e*Sn	Sn	23 12 34.2	0.0
BARS	**Barje**	2.13	36	⇓*i*Pn	Pn	23 12 08.8	+0.6
BRY	**Bratogost**	2.16	327	*e*Pn	Pn	23 12 08.8	+0.1
BRY				*e*Sn	Sn	23 12 39.5	+3.4
THE	**Thessaloniki**	2.19	101	*e*Pn	Pn	23 12 10.1	+0.9
THE				*e*Sn	Sn	23 12 38.0	+0.9
BRT	**Bari-Castellan**	2.23	265	*e*Pn	Pn	23 12 11.2	+1.5
UPM	**Unac-Piva**	2.29	337	*e*Pn	Pn	23 12 11.3	+0.7
UPM				*e*Sn	Sn	23 12 43.4	+3.9
PLE	**Pljevlja**	2.29	346	*e*Pn	Pn	23 12 11.7	+1.0
PLE				*e*Sn	Sn	23 12 44.1	+4.5
LKD	**Levkas**	2.42	171	*e*Pn	Pn	23 12 13.2	+0.7
NVSS	**Nova Varos 2**	2.43	352	⇑*i*Pn	Pn	23 12 14.0	+1.5
NVSS				Sn	Sn	23 12 46.1	+3.1
SOH	**Sokhos**	2.45	96	*e*Pn	Pn	23 12 14.0	+1.1
EVR	**Evrytania**	2.53	149	*e*PN	Pn	23 12 16.0	+2.0
STON	**Ston**	2.54	315	*i* Pn	Pn	23 12 13.2	-0.9
STON				*i* Sn	Sn	23 12 42.7	-3.0
SRS	**Serrai**	2.61	89	*e*Pn	Pn	23 12 15.9	+0.8
SRS				*e*Sn	Sn	23 12 48.6	+1.0
PLG	**Polygyros**	2.62	105	*e*PN	Pn	23 12 15.8	+0.6
AGG	**Agios Georgios**	2.67	140	*e*Pn	Pn	23 12 16.8	+0.7
PAIG	**Paliouri**	2.94	112	*e*Pn	Pn	23 12 20.1	+0.3
VLS	**Valsamata**	2.94	173	*e*PN	Pn	23 12 18.8	-1.1
OUR	**Ouranopolis**	3.02	103	*e*Pn	Pn	23 12 21.7	+0.7
SLCN	**Sala Consilina**	3.50	260	⇓*i*Pn	Pn	23 12 29.3	+1.5
MRLC	**Muro Lucano**	3.54	266	*e*Pn	Pn	23 12 28.9	+0.5
MGR	**Morigerati**	3.62	256	⇓*i*Pn	Pn	23 12 29.2	-0.4
SGO	**Sicignano**	3.71	263	*e*Pn	Pn	23 12 29.4	-1.3
CSSN	**Cassano Irpino**	3.88	268	*e*Pn	Pn	23 12 33.1	-0.1
SGG	**Gregorio Mates**	4.35	276	⇓*i*Pn	Pn	23 12 39.1	-0.8
CII	**Carovilli**	4.43	280	*e*Pn	Pn	23 12 41.6	+0.6
SDI	**San Donato**	4.80	279	*e*Pn	Pn	23 12 46.2	0.0
NRCA	**Norcia**	5.52	291	⇑*i*Pn	Pn	23 12 53.8	-2.6
MNS	**Montasola**	5.72	285	*e*Pn	Pn	23 12 58.5	-0.8
VAE	**Valguarnera**	5.73	233	Pn	Pn	23 12 59.1	-0.2
	comp=Z,0.7nm,0.3s,baz=217,slow=16,SNR=2.6						
ARV	**Arcevia**	5.85	297	⇑*i*Pn	Pn	23 12 58.8	-2.3
ASS	**Assisi**	5.91	292	⇑*i*Pn	Pn	23 13 00.9	-1.0
FSSB	**Fossombrone**	6.03	298	⇑*i*Pn	Pn	23 13 00.8	-2.9
MLR	**Muntele Rosu**	6.10	42	Pn	Pn	23 13 06.9	+2.3
	comp=Z,0.2nm,0.3s,baz=224,slow=9.3,SNR=3.7						
IDI	**Anoyia**	6.90	146	Pn	Pn	23 13 15.0	-0.9
	comp=Z,0.3nm,0.3s,baz=326,slow=11,SNR=4.1						
IDI				Sn	Sn	23 14 32.7	-3.1
	comp=Z,0.3nm,0.3s,baz=257,slow=20,SNR=5.1						
GERES	**GERESS Array B**	8.98	332	Pn	P	23 13 44.7	-0.2
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=6.9						
GERES				Sn	Sn	23 15 23.1	-4.6
	comp=Z,0.1nm,0.3s,baz=146,slow=21,SNR=2.8						
DAVOX	**Davos**	9.32	311	Pn	P	23 13 47.5	-2.2
	comp=Z,0.3nm,0.3s,baz=46,slow=8.4,SNR=3.4						
DAVOX				Sn	Sn	23 15 31.6	-4.5
	comp=Z,0.2nm,0.3s,baz=321,slow=21,SNR=3.2						
HFS	**Hagfors**	19.47	350	P	P	23 15 59.0	-2.8
	comp=Z,0.0nm,0.3s,baz=187,slow=12,SNR=6.2						
FINES	**FINESS Array B**	20.69	8	P	P	23 16 15.8	+0.9
	comp=Z,1.4nm,1.1s,baz=180,slow=11,SNR=3.1						
NB2	**NORSAR Subarra**	20.70	348	P	P	23 16 10.7	-4.2
	comp=Z,0.6nm,0.8s,baz=157,slow=10						
NOA	**NORSAR Array B**	20.70	348	P	P	23 16 12.9	-2.0
	comp=Z,0.7nm,0.9s,baz=163,slow=8.8,SNR=3.5						

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*HEL **07** 23:17:22.1±0.1, 67.85N×20.13E, ML1.8, ML2.1(UPP), ML1.8(BER), Explosion*
*NAO **07** 23:17:24.5±1.5, 67.88N×20.83E, ML2.0*
*BER **07** 23:17:24.4±3.4, 67.81N×20.07E, ML1.8, ML2.0(NAO), Suspected explosion*
ISC 07 23:17:20.9±0.4, **67.82N**±0.03×**20.14E**±0.07, **n19, σ0^{s}74**/30, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.16	28	*i* P	Pg	23 17 24.4	+0.3
KUA				*i* S	Sg	23 17 26.3	+0.1
NIKU	**Nikkaluokta**	0.42	278	*i* P	Pg	23 17 29.0	-0.3
NIKU				*i* S	Sg	23 17 35.2	+0.2
DUNU	**Dundret**	0.72	166	*i* P	Pg	23 17 35.2	0.0
DUNU				*i* S	Sg	23 17 45.8	+1.0
MASU	**Masugnsbyn**	0.80	116	*i* P	Pg	23 17 36.4	-0.5
KIF	**Kilpisjarvi**	1.22	11	*e*P	Pb	23 17 44.5	0.0
KIF				*e*S	Sb	23 18 00.4	-0.3
PAJU	**Pajala**	1.40	123	*e*P	Pb	23 17 47.0	-0.6
PAJU				*e*S	Sb	23 18 05.8	-0.1
KTK1	**Kautokeino**	1.66	42	*e*P	Pn	23 17 52.1	+0.6
KTK1				AML	AML	23 18 18.2	
	comp=Z,12nm,0.2s						
TRO	**Tromso**	1.88	347	*e*P	Pn	23 17 54.4	-0.1
SGF	**Sodankyl**	2.47	96	*e*P	Pn	23 18 03.4	+0.3
SGF				*e*S	Sn	23 18 34.3	-0.2
LOF	**Lofoten**	2.51	280	*e*	Sg	23 18 43.2	-1.2
LOF				AML	AML	23 18 44.7	
	comp=Z,6.3nm,0.4s						
LOF	**Lofoten**	2.51	280	*e*Sg	Sg	23 18 43.2	-1.2
LOF				AML	AML	23 18 44.7	
	comp=Z,6.3nm,0.4s						
ARA0	**ARCESS Array S**	2.61	46	*e*P	Pn	23 18 05.2	0.0
ARA0				*e*SB	Sn	23 18 39.2	+1.2
ARA0	**ARCESS Array S**	2.61	46	Pn	Pn	23 18 05.2	0.0
	baz=225,slow=16						
ARA0				S	Sn	23 18 39.2	+1.2
	baz=228,slow=28						
MOR8	**Moi Rana**	2.78	236	*e*SG	Sn	23 18 44.5	+2.2
MOR8				AML	AML	23 18 45.9	
	comp=Z,13nm,0.3s						
KEV	**Kevo**	3.17	49	*e*P	Pn	23 18 13.3	+0.3
KEV				*e*S	Sn	23 18 51.6	-0.5
KEV				MSG		23 18 59.6	
	comp=Z,2.6nm,0.2s						
OUL	**Oulu**	3.59	137	*e*PG	Pg	23 18 26.4	-6.1
OUL				*e*SB	Sb	23 19 09.1	-0.3
OUL				MSG		23 19 20.7	
	comp=Z,1.6nm,0.2s						
MSF	**Maaselka**	4.00	114	*e*SG	Sg	23 19 25.6	-8.5
NSS	**Namsos**	4.67	229	*e*SG	Sg	23 19 48.8	-7.8
NSS				AML	AML	23 19 49.5	
	comp=Z,4.1nm,0.4s						
FIA0	**FINESS Array S**	6.88	155	Pn	Pn	23 19 04.4	-1.2
	baz=344,slow=14						
FIA0				Sn	Sn	23 20 21.8	-3.9
	baz=348,slow=22						
FIA0				Lg		23 20 55.8	
	baz=346,slow=37						

WEL 07 23:26:55.0±0.4, **38.83S×175.35E, h211^{km}**±3^{km}, **ML3.7**/3, **1C, Error ellipse: s-maj=5.1km s-min=3.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	0.40	151	PN	P	23 27 23.0	-0.4
CNZ	**Chateau**	0.41	157	PN	P	23 27 23.1	-0.3
MOVZ	**Moawhango**	0.66	152	⇑PN	P	23 27 23.8	-0.5
MOVZ				SN	S	23 27 45.7	-1.3
BKZ	**Black Stump Fm**	0.96	111	PN	P	23 27 25.6	-0.1
BKZ				SN	S	23 27 49.1	-0.6
WAZ	**Wanganui**	0.97	197	PN	P	23 27 25.4	-0.4
WAZ				SN	S	23 27 49.3	-0.5
TSZ	**Takapari Road**	1.32	159	PN	P	23 27 28.3	-0.3
TSZ				SN	S	23 27 53.8	-0.7
MRZ	**Mangatainoka R**	1.84	174	PN	P	23 27 31.9	-1.2
MRZ				SN	S	23 28 01.2	-1.4
KIW	**Kapiti Island**	2.06	189	PN	P	23 27 33.5	-1.8
CAW	**Cannon Point**	2.29	185	PN	P	23 27 35.8	-1.9
MTW	**Mount Morrison**	2.33	177	*e*PN	P	23 27 36.2	-2.0
MRW	**Makara Radio**	2.45	191	*e*PN	P	23 27 37.2	-2.3
SNZO	**South Karori**	2.53	191	*e*PN	P	23 27 37.8	-2.5
PAWZ	**Paruwai Farm**	2.56	179	*e*PN	P	23 27 38.5	-2.1
MSWZ	**Moikau Station**	2.59	182	*e*PN	P	23 27 38.7	-2.3
BHW	**Baring Head**	2.61	188	*e*PN	P	23 27 38.6	-2.6
TUWZ	**Tuamarina**	2.82	202	PN	P	23 27 40.9	-2.7
NNZ	**Nelson**	2.83	212	PN	P	23 27 40.1	-3.6
NNZ				SN	S	23 28 16.7	-4.7
QRZ	**Quartz Range**	2.95	226	PN	P	23 27 40.4	-4.7
BSWZ	**Blackbirch Sta**	3.10	201	*e*PN	P	23 27 44.1	-2.7
THZ	**Tophouse**	3.48	212	PN	P	23 27 47.1	-4.3
THZ				*e*SN	S	23 28 29.9	-5.2
KHZ	**Kahutara**	3.84	200	PN	P	23 27 52.4	-3.4

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*NIED **07** 23:32:00, 40.60N×142.20E, h80^{km}, Mw3.5 Best double couple: M$_0$2.04×10^{14} NP1:ϕ_s172°, δ71°, λ82°. NP2:ϕ_s15°, δ21°, λ112°.*
*JMA **07** 23:32:36.4±0.1, 40.55N×142.19E, h58^{km}±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1:ϕ_s11°, δ12°, λ75°. NP2:ϕ_s207°, δ78°, λ93°. Principal axes: T Plg57°, Azm121°; N Plg3°, Azm26°; P Plg33°, Azm294°;*
JMA Felt I J1.
ISC 07 23:32:36.4±1.0, **40.58N**±0.04×**142.11E**±0.08, **h61^{km}**±16^{km}, **n10, σ0^{s}23**/17, **5C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JANG	**Nango**	0.50	246	⇑P	P	23 32 48.7	+0.2
JANG				S	S	23 32 57.6	+0.2
JTH	**Tanohata**	0.67	196	⇑P	P	23 32 50.0	-0.4
JTM	**Tenmabayashi**	0.82	285	⇑P	P	23 32 52.4	+0.1
JTM				S	S	23 33 04.1	0.0
JOT	**Ohata**	1.14	315	S	S	23 33 11.2	-0.4
JAH	**Hinai**	1.19	251	⇑P	P	23 32 57.6	+0.3
JAH				S	S	23 33 13.1	+0.2
JOM	**Ohasama**	1.27	210	P	P	23 32 58.4	-0.1
JOM				S	S	23 33 14.4	-0.4
JKB	**Kayabe**	1.54	329	⇓P	P	23 33 02.2	0.0
JKB				*e*S	S	23 33 21.1	-0.2
JSR	**Shiriuchi**	1.59	307	⇓P	P	23 33 02.9	-0.1
JSR				*e*S	S	23 33 22.5	-0.1
JIW	**Iwasaki**	1.60	271	P	P	23 33 03.5	+0.4
JEM	**Erimo**	1.64	28	⇑P	P	23 33 03.7	+0.1
JEM				*e*S	S	23 33 23.8	+0.1

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*PDG **07** 23:48:45.8±0.2, 40.90N×20.19E, h10^{km}±1^{km}*
*NEIC **07** 23:48:45.8, 40.90N×20.19E, h10^{km}, MD2.6(PDG), After PDG.*
*TIR **07** 23:48:49.9, 41.36N×20.23E, h21^{km}*
ISC 07 23:48:48.8±0.8, **41.11N**±0.05×**20.30E**±0.05, **h10^{km}, n20, σ1^{s}60**/35, **2C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	0.37	90	⇑*i*Pg	Pg	23 48 55.8	-0.6
OHR				⇑*i*Sg	Sg	23 49 03.2	+1.6
QSH	**Qafa e Shtames**	0.51	324	*i* Pg	Pg	23 48 57.0	-2.0
QSH				*i* Sg	Sg	23 49 03.0	-2.9
BIA	**Bitola**	0.78	97	*i* Pg	Pg	23 48 56.5	-7.9
BIA				*i*		23 49 05.8	
BIA				*i*		23 49 08.8	
PUK	**Puka**	0.98	342	*i* Pg	Pg	23 49 04.9	-3.5
PUK				*i* Sg	Sg	23 49 20.4	-1.1
ULC	**Ulcinj**	1.16	317	*e*Pg	Pg	23 49 07.7	-4.3
ULC				*e*Sg	Sg	23 49 26.2	-1.3
SKO	**Skopje**	1.21	44	*i* Pn	Pn	23 49 11.0	-0.7
SKO				*i* Sg	Sg	23 49 27.9	-1.2
BCI	**Bajram Curri**	1.26	352	*e*Pn	Pn	23 49 10.4	-2.1
BCI				*i* Sn	Sn	23 49 29.1	-0.5
PVY	**Plav**	1.50	351	*e*Pn	Pn	23 49 14.2	-1.6
PVY				*e*Sn	Sn	23 49 38.8	+3.2
MEV	**Metsovon**	1.50	152	*e*P	Pn	23 49 20.0	+4.1
TTG	**Podgorica**	1.53	330	*e*Pn	Pn	23 49 14.7	-1.6
TTG				*e*Sn	Sn	23 49 38.6	+2.3
BUM	**Brajici-Budva**	1.59	319	*e*Pn	Pn	23 49 15.9	-1.2
BUM				*e*Sn	Sn	23 49 39.4	+1.6
GRG	**Griva**	1.59	95	*e*P	Pn	23 49 17.9	+0.7
IVA	**Berane**	1.78	350	*e*Pn	Pn	23 49 20.2	+0.3
IVA				*e*Sn	Sn	23 49 47.1	+4.3
HCY	**Herceg Novi**	1.90	315	*e*Pn	Pn	23 49 20.5	-1.1
HCY				*e*Sn	Sn	23 49 47.6	+1.8
LIT	**Litokhoron**	1.95	121	*e*P	Pn	23 49 24.3	+2.0
NKY	**Niksic**	1.96	331	*e*Pn	Pn	23 49 21.7	-0.7
NKY				*e*Sn	Sn	23 49 50.0	+2.7
KNT	**Kendrikon**	1.96	88	*e*P	Pn	23 49 22.2	-0.2
BRY	**Bratogost**	2.22	324	*e*Pn	Pn	23 49 25.9	-0.3
BRY				*e*Sn	Sn	23 49 56.5	+2.7
PLE	**Pljevlja**	2.31	343	*e*Pn	Pn	23 49 27.6	+0.1
PLE				*e*Sn	Sn	23 49 59.7	+3.3
UPM	**Unac-Piva**	2.33	334	*e*Pn	Pn	23 49 27.7	-0.1
UPM				*e*Sn	Sn	23 49 59.9	+3.1

CASC 07 23:57:04.7±2.0, **12.94N×88.95W, h36^{km}**±999^{km}, **MD3.5, 2C-12D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	0.68	9	⇓*e*P	P	23 57 18.1	+0.3
SNVI				⇓*e*P		23 57 18.2	
SNVI				*e*S	S	23 57 28.4	+1.1
SNVI				*e*S	S	23 57 28.5	+1.2
LFRS	**El Faro**	0.69	351	⇓*e*P	P	23 57 18.0	+0.1
LCBS	**La Ceiba**	0.71	358	⇓*e*P	P	23 57 18.4	+0.1
LCBS				*e*S	S	23 57 28.9	+0.8
SNET	**Serv Nac Est T**	0.79	340	⇓*e*P	P	23 57 19.6	+0.2
SNET				*e*S	S	23 57 29.9	-0.2
LBRS	**Las Brisas**	0.80	354	⇓*e*P	P	23 57 20.0	+0.5
LBRS				*e*S	S	23 57 30.3	-0.1
BOQS	**Boqueron**	0.85	338	⇓*e*P	P	23 57 20.5	+0.3
BOQS				*e*S	S	23 57 32.8	+1.1
BLLM	**Bellamira**	0.86	54	⇑*e*P	P	23 57 20.8	+0.5
BLLM				*e*S	S	23 57 32.7	+0.9
CAHU	**Cacacuatique**	1.10	41	⇑*e*P	P	23 57 24.1	+0.4
SBLS	**San Blas**	1.11	324	⇓*e*P	P	23 57 24.3	+0.5
SBLS				*e*S	S	23 57 39.2	+1.0
SNJE	**San Jose**	1.12	326	⇓*e*P	P	23 57 24.4	+0.3
SNJE				*e*S	S	23 57 38.9	+0.3
CNCH	**Conchagua**	1.14	73	⇓*e*P	P	23 57 24.2	-0.2
CNCH				*i* P		23 57 24.3	
CNCH				*e*S	S	23 57 39.8	+0.7
RTR	**El Retiro**	1.17	325	⇓*e*P	P	23 57 25.3	+0.6
RTR				*e*S	S	23 57 40.1	+0.4
RBDL	**Robledal**	1.37	329	⇓*e*P	P	23 57 27.9	+0.2
PYN	**Poneloya**	1.96	106	*e*P	P	23 57 34.9	-1.3
PYN				*e*S	S	23 57 56.7	-3.2

LEON	**Leon**	**2.08**	**104**	*e*P	P	23 57 37.7	-0.1
TEL3	**Telica 3**	**2.09**	**100**	*e*P	P	23 57 36.7	-1.3
COPN	**Copaltepe**	**2.43**	**108**	*e*P	P	23 57 43.4	+0.6

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*NAO **08** 00:03:28.3±1.8, 71.26N×7.97W*

*NEIC **08** 00:03:28.2, 71.27N×7.80W, ML3.4(BER), After BER.*

*BER **08** 00:03:28.3±1.2, 71.25N×7.77W, h0^{km}±28^{km}, MD2.9, ML3.4*

ISC 08 00:03:25.3±0.8**, 71.2N**±0.1×**7.3W**±0.2**, h10^{km}, n10, σ0^{s}57**/14**, 4D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.36**	**240**	⇓*i*P	**Pg**	**00 03 33.4**	**+0.7**
JNE				*e*S	**Sg**	**00 03 37.7**	**0.0**
JNE				AML	AML	00 03 38.8	
	comp=Z,4μm,0.3s						
JNW	**Jan Mayen West**	**0.38**	**249**	⇓*i*P	**Pg**	**00 03 33.9**	**+0.7**
JNW				*e*S	**Sg**	**00 03 38.4**	**0.0**
JNW				AML	AML	00 03 40.2	
	comp=Z,4μm,0.2s						
JMIC	**Jan Mayen**	**0.43**	**245**	Pg	**Pg**	**00 03 34.3**	**+0.3**
JMIC				Lg		00 03 39.2	
JMIC	**Jan Mayen**	**0.43**	**245**	⇓*i*P	**Pg**	**00 03 34.2**	**+0.2**
JMIC				*i* S	**Sg**	**00 03 39.0**	**-0.7**
JMI	**Jan Mayen**	**0.52**	**242**	⇓*i*P	**Pg**	**00 03 36.0**	**+0.2**
JMI				*e*S	**Sg**	**00 03 42.2**	**-0.5**
JMI				AML	AML	00 03 43.4	
	comp=Z,2μm,0.2s						
LOF	**Lofoten**	**7.87**	**103**	*e*P	**Pn**	**00 05 22.7**	**+0.1**
KBS	**Kingsbay**	**9.17**	**24**	Pn	**P**	**00 05 40.6**	**0.0**
SPA0	**Spitsbergen Ar**	**9.32**	**31**	Pn	**P**	**00 05 42.3**	**-0.4**
	baz=227,slow=16						
NSS	**Namsos**	**9.83**	**123**	*e*P	**P**	**00 05 46.0**	**-3.5**
HFS	**Hagfors**	**13.95**	**132**	P	**P**	**00 06 49.6**	**+4.8**
	baz=2.5,slow=12						

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*IDC **08** 00:04:16.9±57.0, 39.47N×72.71E, mb3.7/5, mb1 3.7/5, mb1mx3.5/20, Error ellipse: s-maj=1033.0km s-min=111.0km az=126.0*

*NNC **08** 00:04:23.2±10.0, 39.44N×71.40E, mpv3.4, Error ellipse: s-maj=129.9km s-min=86.2km az=81.0*

ISC 08 00:04:17.4±1.3**, 39.3N**±0.1×**72.4E**±0.1**, h10^{km}, n14, σ0^{s}95**/16**, mb3.5**/5**, 2C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.98**	**19**	P	**Pn**	**00 05 06.4**	**+0.7**
	SNR=62						
UCH	**Uchtor**	**3.33**	**28**	P	**Pn**	**00 05 10.6**	**0.0**
	SNR=8.8						
EKS2	**Erkin-Say**	**3.51**	**17**	P	**Pn**	**00 05 14.5**	**+1.4**
	SNR=9.3						
AAK	**Ala-Archa**	**3.68**	**25**	P	**Pn**	**00 05 15.8**	**+0.3**
	SNR=11						
KK31	**Karatay Array**	**4.04**	**340**	⇓P	**Pn**	**00 05 22.0**	**+1.3**
	3.7nm,0.3s,baz=149,slow=13,SNR=220						
KK31				⇑S	**Sn**	**00 06 08.3**	**-0.3**
	40nm,0.5s,baz=153,slow=24,SNR=16						
CHMS	**Chumysh**	**4.09**	**25**	P	**Pn**	**00 05 21.0**	**-0.5**
	SNR=11						
ULHL	**Ulahol**	**4.14**	**44**	P	**Pn**	**00 05 21.0**	**-1.1**
	SNR=8.0						
USP	**Ospenovka**	**4.26**	**21**	P	**Pn**	**00 05 23.4**	**-0.4**
	SNR=7.7						
AB31	**Akbulak array**	**13.33**	**322**	⇑P	**P**	**00 07 26.6**	**-2.5**
	0.6nm,0.5s,baz=128,slow=14,SNR=17						
AB31				⇓S	**S**	**00 09 46.2**	**-12**
	1.2nm,0.6s,baz=131,slow=25,SNR=7.1						
FINES	**FINESS Array B**	**35.81**	**324**	P	**P**	**00 11 17.9**	**-0.7**
	0.7nm,0.8s,mb3.7,baz=117,slow=8.5,SNR=5.7						
HFS	**Hagfors**	**41.57**	**320**	P	**P**	**00 12 06.3**	**-0.1**
	1.0nm,0.5s,mb3.7,baz=106,slow=11,SNR=14						
GERES	**GERESS Array B**	**42.26**	**303**	P	**P**	**00 12 13.7**	**+1.6**
	0.5nm,0.6s,mb3.4,baz=69,slow=8.4,SNR=7.3						
NOA	**NORSAR Array B**	**42.83**	**321**	P	**P**	**00 12 16.3**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=101,slow=8.5,SNR=3.2						
DAVOX	**Davos**	**45.20**	**301**	P	**P**	**00 12 36.2**	**+0.2**
	1.4nm,0.5s,mb4.0,baz=139,slow=9.3,SNR=5.7						

MAN 08 00:11:56.1, 17.24N×122.49E, h29^{km}, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.19**	**199**	*e*P	Pb	00 12 04.1	+2.1
PALP				*e*S	Sb	00 12 09.2	+3.1
CAUP	**Cauayan**	**0.70**	**245**	*e*P	Pb	00 12 11.1	+1.4
CVP	**Callao Caves**	**0.79**	**306**	⇓*e*P	Pb	00 12 11.4	+0.3
CVP				*e*S	Sb	00 12 23.7	+2.3
SGCP	**Mt. Cagua**	**1.08**	**337**	*e*P	Pn	00 12 15.6	+0.1
SGCP				*e*S	Sn	00 12 29.8	+0.2
APYP	**Conner**	**1.34**	**298**	*e*P	Pn	00 12 20.2	+1.1
APYP				*e*S	Sn	00 12 40.8	+4.7
BALP	**Baler**	**1.73**	**211**	*e*P	Pn	00 12 25.8	+1.1
ABRA	**Dolores**	**1.74**	**284**	*e*P	Pn	00 12 28.1	+3.2

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*IDC **08** 00:21:55.6±0.7, 27.83N×139.94E, h498^{km}±20^{km}, mb3.1/6, mb1 3.2/7, mb1mx2.9/21, Error ellipse: s-maj=59.6km s-min=14.6km az=78.0*

ISC 08 00:21:54.9±1.0**, 27.8N**±0.2×**139.9E**±0.6**, h506^{km}**±26^{km}**, n8, σ0^{s}78**/9**, mb3.4**/7**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.19**	**108**	P	**P**	**00 23 02.9**	**+0.9**
	6.2nm,0.3s,baz=212,slow=17,SNR=13						
CBIJ				S	**S**	**00 23 54.5**	**-0.6**
	41nm,0.3s,baz=271,slow=22,SNR=23						
WRA	**Warramunga Arr**	**47.74**	**187**	P	**P**	**00 29 47.3**	**+0.1**
	1.3nm,0.4s,mb3.6,baz=4.1,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**00 29 52.0**	**-0.1**
	0.3nm,0.7s,mb2.8,baz=92,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**51.47**	**187**	P	**P**	**00 30 14.7**	**-0.1**
	0.4nm,0.4s,mb3.1,baz=6.1,slow=6.2,SNR=7.8						
BVAR	**Borovoye Array**	**56.13**	**317**	P	**P**	**00 30 47.4**	**-0.1**
	1.5nm,0.4s,mb3.7,baz=94,slow=7.3,SNR=12						
ARCES	**ARCESS Array B**	**72.20**	**340**	P	**P**	**00 32 29.6**	**+0.7**
	2.3nm,0.9s,mb3.7,baz=54,slow=7.8,SNR=4.0						
KAF	**Kangasniemi**	**75.94**	**334**	*e*p	**P**	**00 32 46.8**	**-3.1**
	0.2nm,0.3s,mb3.1						
FINES	**FINESS Array B**	**76.40**	**333**	P	**P**	**00 32 52.7**	**+0.2**
	0.5nm,0.3s,mb3.5,baz=67,slow=5.2,SNR=18						

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*NEIC **08** 00:28:22.6±1.2, 16.82N×146.63E, h59^{km}±10^{km}, mb4.4/12, Error ellipse: s-maj=16.4km s-min=6.4km az=87.0*

*IDC **08** 00:28:23.7±3.4, 16.81N×146.56E, h64^{km}±30^{km}, mb4.0/16, mb1 4.1/16, mb1mx4.0/23, MS3.5/9, Ms1 3.5/9, ms1mx3.2/30, Error ellipse: s-maj=21.8km s-min=12.3km az=91.0*

ISC 08 00:28:21.7±1.2**, 16.80N**±0.05×**146.6E**±0.1**, h68^{km}**±9^{km}**, n45, σ0^{s}98**/41**, mb4.2**/25**, 2C-4D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.83**	**263**	⇓*i*P	**P**	**00 28 38.9**	**+0.7**
ANA2	**Anatahan**	**0.99**	**243**	⇓*i*P	**P**	**00 28 40.8**	**+0.5**
ANA2				*e*S	**S**	**00 28 54.4**	**+0.4**
ANAT	**Anatahan**	**1.04**	**245**	⇓*i*P	**P**	**00 28 41.3**	**+0.5**
SAPN	**Saipan**	**1.79**	**208**	*e*P	**P**	**00 28 49.9**	**-1.1**
GUMO	**Guam**	**3.62**	**208**	*e*Pn	**P**	**00 29 16.8**	**+0.1**
GUMO				*e*Sn	**S**	**00 29 56.8**	**-1.6**
JOW	**Kunigami**	**19.73**	**304**	LR	LR	00 39 12.9	
	comp=Z,151nm,20.6s,baz=134,slow=33						
MAJO	**Matsushiro**	**21.04**	**341**	*e*Pn	**P**	**00 33 00.4**	**-1.6**
	15nm,0.5s,mb4.6						
MAT	**Matsushiro**	**21.04**	**341**	P	**P**	**00 33 01.0**	**-1.0**
MAT	**Matsushiro**	**21.04**	**341**	*e*P	**P**	**00 33 01.0**	**-1.0**
	9.9nm,0.5s,mb4.4						
JNU	**Nakatsue**	**21.59**	**322**	P	**P**	**00 33 09.3**	**+1.8**
	5.7nm,0.6s,mb4.1,baz=52,slow=12,SNR=6.7						
JNU				LR	LR	00 40 11.7	
	comp=Z,74nm,19.5s,baz=164,slow=33						
TGY	**Tagaytay City**	**24.91**	**267**	LR	LR	00 42 35.1	
	comp=Z,102nm,19.8s,baz=175,slow=34						
ASAJ	**Asahikawa**	**27.45**	**354**	P	**P**	**00 34 04.6**	**+1.3**
	27nm,0.8s,mb4.8,baz=218,slow=14,SNR=13						
ASAJ				LR	LR	00 44 54.9	
	comp=Z,38nm,21.9s,baz=138,slow=36						
YSS	**Yuzh-Sakhalins**	**30.24**	**355**	*e*P	**P**	**00 34 27.4**	**-0.8**
	11nm,0.4s,mb4.8						
KAKA	**Kakadu**	**32.51**	**207**	*e*P	**P**	**00 34 46.8**	**-1.6**
	3.9nm,0.6s,mb4.4						
CTA	**Charters Tower**	**36.66**	**181**	*e*P	**P**	**00 35 24.6**	**+0.8**
	2.8nm,1.2s,mb4.1						
CTA	**Charters Tower**	**36.66**	**181**	P	**P**	**00 35 24.6**	**+0.8**
	2.3nm,0.8s,mb4.2,baz=357,slow=12,SNR=3.5						
CTA				LR	LR	00 50 16.7	
	comp=Z,90nm,19.1s,baz=227,slow=36						
CTAO	**Charters Tower**	**36.66**	**181**	P	**P**	**00 35 24.1**	**+0.3**
	2.3nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**38.44**	**199**	*e*P	**P**	**00 35 38.8**	**+0.1**
	9.5nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**38.45**	**199**	⇑*i*P	**P**	**00 35 38.6**	**-0.1**
WB2				*e*S	**S**	**00 41 30.3**	**+1.6**
WRA	**Warramunga Arr**	**38.46**	**199**	P	**P**	**00 35 39.1**	**+0.3**
	5.2nm,0.5s,mb4.6,baz=23,slow=9.2,SNR=36						
WRA				PcP	PcP	00 37 51.7	+0.3
	1.3nm,0.5s,baz=16,slow=3.2,SNR=4.8						
HIA	**Hailar**	**39.05**	**332**	*e*P	**P**	**00 35 42.9**	**-0.4**
	9.4nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.37**	**212**	⇑*i*P	**P**	**00 35 55.1**	**+0.4**
	4.2nm,1.5s,mb4.0						
ASAR	**Alice Springs**	**42.09**	**198**	P	**P**	**00 36 08.3**	**-0.5**
	1.9nm,0.8s,mb3.9,baz=15,slow=8.0,SNR=13						
ASAR				PcP	PcP	00 38 04.0	+0.9
	1.5nm,0.6s,baz=30,slow=2.8,SNR=7.5						
ASAR				ScP		00 41 49.0	
	0.6nm,0.8s,baz=33,slow=4.9,SNR=4.5						
ASAR				LR	LR	00 52 24.7	
	comp=Z,92nm,19.7s,baz=21,slow=34						
ASPA	**Alice Springs**	**42.10**	**198**	*e*P	**P**	**00 36 10.3**	**+1.4**
SONM	**Songino Array**	**45.18**	**322**	P	**P**	**00 36 34.5**	**+1.0**
	3.5nm,0.5s,mb4.4,baz=137,slow=7.7,SNR=25						
CMAR	**Chiang Mai Arr**	**45.38**	**280**	P	**P**	**00 36 36.2**	**+0.8**
	3.0nm,0.7s,mb4.1,baz=72,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**48.64**	**186**	*e*P	**P**	**00 37 01.4**	**+0.5**
	3.2nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**48.64**	**186**	P	**P**	**00 37 01.0**	**+0.1**
	2.6nm,0.8s,mb4.2,baz=9.9,slow=11,SNR=5.8						
FORT	**Forrest**	**50.56**	**201**	⇓*i*P	**P**	**00 37 15.8**	**+0.1**
	50nm,0.7s						
MKAR	**Makanchi Array**	**60.42**	**315**	P	**P**	**00 38 25.6**	**-0.9**
	0.6nm,0.5s,mb3.9,baz=91,slow=8.6,SNR=12						
KURK	**Kurchatov**	**63.28**	**319**	*e*P	**P**	**00 38 43.8**	**-1.7**
	3.8nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**64.96**	**26**	P	**P**	**00 38 55.8**	**-0.5**
	1.3nm,0.6s,mb4.0,baz=247,slow=5.9,SNR=11						
BVAR	**Borovoye Array**	**68.50**	**321**	P	**P**	**00 39 17.9**	**-0.8**
	1.0nm,0.4s,mb4.0,baz=102,slow=8.5,SNR=12						
INK	**Inuvik**	**70.77**	**23**	P	**P**	**00 39 32.5**	**+0.1**
	2.4nm,0.7s,mb4.1,baz=262,slow=7.5,SNR=4.0						
INK	**Inuvik**	**70.77**	**23**	*e*P	**P**	**00 39 32.4**	**+0.1**
YKA	**Yellowknife Ar**	**79.24**	**28**	P	**P**	**00 40 21.8**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=287,slow=5.5,SNR=7.7						
YKA				LR	LR	01 13 22.2	
	comp=Z,42nm,18.8s,baz=35,slow=34						
NVAR	**Mina Array Bea**	**83.61**	**52**	P	**P**	**00 40 46.6**	**+2.5**
	0.9nm,0.7s,mb3.7,baz=262,slow=4.2,SNR=7.7						
ARCES	**ARCESS Array B**	**84.57**	**342**	P	**P**	**00 40 48.8**	**+0.6**
	2.8nm,1.0s,mb4.2,baz=68,slow=6.5,SNR=6.9						
DUG	**Dugway**	**87.12**	**49**	*e*P	**P**	**00 41 00.3**	**-1.2**
	3.0nm,0.9s,mb4.2						
GNI	**Garni**	**88.10**	**311**	LR	LR	01 22 47.1	
	comp=Z,22nm,18.2s,baz=70,slow=37						
FINES	**FINESS Array B**	**88.97**	**336**	P	**P**	**00 41 08.9**	**-0.9**
	0.5nm,0.4s,mb3.9,baz=66,slow=4.8,SNR=25						
NOA	**NORSAR Array B**	**94.66**	**340**	LR	LR	01 26 35.9	
	comp=Z,18nm,20.8s,baz=200,slow=37						
PLCA	**Paso Flores**	**140.05**	**134**	PKhKP		00 47 41.4	
	0.7nm,0.9s,baz=198,slow=3.2,SNR=2.7						
DBIC	**Dimbokro**	**143.41**	**307**	PKhKP		00 47 47.9	
	1.6nm,0.4s,baz=29,slow=3.9,SNR=12						
LPAZ	**La Paz**	**146.70**	**94**	PKPbc	PKPbc	00 48 01.1	+4.7
	0.7nm,0.4s,baz=315,slow=1.4,SNR=7.5						

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*IDC **08** 00:43:56.9±1.6, 4.57S×139.51E, mb3.9/1, mb1 4.1/4, mb1mx3.9/11, ML3.9/3, Error ellipse: s-maj=52.1km s-min=30.1km az=84.0*

ISC 08 00:44:00.3±1.6**, 4.7S**±0.1×**139.4E**±0.2**, h33^{km}, n10, σ1^{s}24**/9**, mb3.8**/1**, 1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.56**	**220**	⇓*i*P	**P**	**00 46 30.7**	**-1.9**
	18nm,0.4s						
WB2	**Warramunga Arr**	**15.96**	**198**	*e*P	**P**	**00 47 47.6**	**+3.5**
CTA	**Charters Tower**	**16.72**	**157**	*e*P	**P**	**00 47 52.6**	**-1.1**
	2.2nm,1.1s						
CTA	**Charters Tower**	**16.72**	**157**	Pn	**P**	**00 47 52.9**	**-0.7**
	0.4nm,0.3s,baz=338,slow=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**18.96**	**224**	*e*P	**P**	**00 48 22.8**	**+1.2**
	3.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.96**	**224**	P	**P**	**00 48 21.1**	**-0.5**
	0.3nm,0.3s,baz=27,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**19.62**	**195**	P	**P**	**00 48 28.9**	**0.0**
	0.6nm,0.3s,baz=25,slow=9.3,SNR=34						
ASPA	**Alice Springs**	**19.62**	**195**	*e*P	**P**	**00 48 30.3**	**+1.4**
MKAR	**Makanchi Array**	**71.75**	**323**	P	**P**	**00 55 21.2**	**0.0**
	0.8nm,0.6s,mb3.8,baz=112,slow=6.7,SNR=6.4						
LPAZ	**La Paz**	**145.72**	**128**	PKPbc	PKPbc	01 03 38.8	+1.5
	1.0nm,0.8s,baz=270,slow=5.1,SNR=3.7						

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*NEIC **08** 00:57:21.4±5.1, 16.21S×176.73W, h328^{km}±66^{km}, mb4.0/7, Error ellipse: s-maj=39.3km s-min=21.1km az=197.0*

*IDC **08** 00:57:27.4±2.6, 16.51S×176.69W, h392^{km}±79^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.5/18, Error ellipse: s-maj=118.0km s-min=30.6km az=61.0*

ISC 08 00:57:23.6±2.5**, 15.7S**±0.4×**176.6W**±0.2**, h398^{km}**±34^{km}**, n20, σ0^{s}61**/22**, mb4.2**/14**, 4C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.89**	**112**	P	**P**	**01 00 57.2**	**-0.5**
	20nm,0.8s						
URZ	**Urewera**	**23.19**	**193**	P	**P**	**01 01 53.1**	**-5.3**
	11nm,0.3s,mb4.8,baz=277,slow=2.1,SNR=22						
CTA	**Charters Tower**	**35.58**	**257**	P	**P**	**01 03 46.7**	**0.0**
	1.7nm,0.5s,mb3.7,baz=68,slow=12,SNR=4.2						
CTA	**Charters Tower**	**35.58**	**257**	P	**P**	**01 03 46.7**	**0.0**
CNB	**Canberra Magne**	**36.17**	**231**	⇑*i*P	**P**	**01 03 51.2**	**-0.4**
	10nm,0.6s,mb4.3						
TOO	**Toolangi**	**39.93**	**230**	*e*P	**P**	**01 04 23.3**	**+0.8**
	4.1nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**41.24**	**239**	⇑*i*P	**P**	**01 04 33.2**	**+0.1**
	2.3nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**41.24**	**239**	P	**P**	**01 04 33.2**	**+0.1**
	2.9nm,0.5s,mb3.9,baz=72,slow=10,SNR=11						
WB2	**Warramunga Arr**	**46.77**	**257**	⇓*i*P	**P**	**01 05 16.7**	**-0.3**
WRAB	**Tennant Creek**	**46.77**	**257**	*e*P	**P**	**01 05 16.6**	**-0.4**
	6.5nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**46.78**	**257**	P	**P**	**01 05 16.8**	**-0.2**
	6.1nm,0.5s,mb4.2,baz=90,slow=6.7,SNR=59						
WRA				S	**S**	**01 11 35.8**	**-0.5**
	0.7nm,0.9s,baz=91,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**47.10**	**252**	P	**P**	**01 05 19.5**	**+0.1**
	23nm,0.5s,mb4.8,baz=88,slow=7.9,SNR=510						
ASAR				S	**S**	**01 11 40.5**	**-0.2**
	0.7nm,0.8s,baz=85,slow=16,SNR=5.7						
ASPA	**Alice Springs**	**47.10**	**252**	⇓*i*P	**P**	**01 05 19.4**	**-0.1**
KAKA	**Kakadu**	**49.44**	**267**	⇑*i*P	**P**	**01 05 37.9**	**+0.5**
	4.6nm,0.4s,mb4.2						
FORT	**Forrest**	**52.55**	**243**	⇑*i*P	**P**	**01 05 59.1**	**-1.1**
	41nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**55.14**	**259**	*e*P	**P**	**01 06 20.2**	**+1.3**
	2.2nm,1.1s,mb3.3						
FITZ				*i*		01 06 23.4	
FITZ	**Fitzroy Crossi**	**55.14**	**259**	P	**P**	**01 06 19.9**	**+1.1**
	2.0nm,0.5s,mb3.6,baz=90,slow=3.0,SNR=12						
KLBR	**Kellerberrin**	**61.39**	**242**	⇓*i*P	**P**	**01 07 00.5**	**-0.6**
	14nm,0.7s,mb4.5						
MUN	**Mundaring**	**62.70**	**242**	*e*P	**P**	**01 07 10.1**	**+0.5**
	6.0nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**74.38**	**180**	*e*P	**P**	**01 08 20.7**	**+0.8**
	2.2nm,0.7s,mb3.9						

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*IDC **08** 01:00:57.9±1.4, 31.18N×72.76E, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, ML3.8/1, Error ellipse: s-maj=45.0km s-min=20.1km az=58.0*

*NEIC **08** 01:00:59.7±0.8, 31.25N×72.80E, h10^{km}, mb4.0/2, Error ellipse: s-maj=21.8km s-min=10.6km az=66.0*

*BJI **08** 01:01:01.6, 31.71N×72.76E, h10^{km}, mb3.8, Ms4.0*

*NDI **08** 01:01:10.8±7.1, 31.66N×72.48E, h15^{km}±165^{km}, ML4.1, mb4.0(NEIC)*

*NNC **08** 01:01:14.3±4.9, 32.13N×72.93E, h68^{km}±38^{km}, Error ellipse: s-maj=90.4km s-min=45.1km az=74.0*

ISC 08 01:01:01.1±0.6**, 31.08N**±0.05×**72.82E**±0.06**, h33^{km}, n40, σ1^{s}53**/46**, mb3.8**/8**, 8C-5D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARP	**Sargodha**	**0.85**	**352**	⇑P	**P**	**01 01 16.6**	**0.0**
THW	**Thamme Wali**	**1.94**	**332**	⇑P	**P**	**01 01 33.5**	**+1.3**
SBDP	**Sheikh Budin**	**2.10**	**306**	⇑P	**P**	**01 01 37.1**	**+2.5**
DRP	**Derazinda**	**2.33**	**287**	P	**P**	**01 01 42.5**	**+4.7**
JMU	**Jammu**	**2.41**	**47**	⇓*e*P	**P**	**01 01 48.0**	**+9.0**
CHCP	**Chirah Chowk**	**2.60**	**8**	⇓P	**P**	**01 01 41.9**	**+0.2**
PONG	**Pong**	**2.81**	**71**	*e*P	**P**	**01 01 47.0**	**+2.3**
PONG				*e*S	**S**	**01 02 19.0**	**+1.1**
THN	**Thein Dam**	**2.81**	**61**	*e*P	**P**	**01 01 54.4**	**+10**
CEP	**Cherat**	**2.84**	**345**	⇓P	**P**	**01 01 46.0**	**+0.9**
CEP				S	**S**	**01 02 28.0**	**+9.4**
DLH	**Dalhousie**	**3.05**	**61**	*e*	**P**	**01 01 46.0**	**-2.1**
DLH				*e*S	**S**	**01 02 35.0**	**+11**
BHK	**Bhakra**	**3.10**	**83**	*e*	Px	01 02 27.0	
BHK				*e*S	Sx	01 02 40.4	
SDNR	**Sundarnagar**	**3.58**	**82**	*e*	**P**	**01 01 57.6**	**+2.0**
SDNR				*e*		01 02 23.6	
SMLA	**Simla**	**3.73**	**88**	⇑*i*P	**P**	**01 02 09.4**	**+12**
NDI	**New Delhi**	**4.50**	**121**	*e*P	**P**	**01 02 28.0**	**+19**
NDI				*e*		01 03 35.0	
DDI	**Dehra Dun**	**4.57**	**98**	*e*	**P**	**01 02 11.2**	**+1.4**
DDI				*e*S	**S**	**01 03 20.2**	**+18**
AJM	**Ajmer**	**4.86**	**160**	⇓*i*	**P**	**01 02 17.0**	**+3.3**
AJM				*i*		01 03 39.0	
	212nm,0.1s						
PTH	**Pithoragarh**	**6.58**	**102**	*e*	**P**	**01 02 37.7**	**-0.2**
PTH				*e*		01 03 43.0	
LGTI	**Lohaghat**	**6.63**	**102**	*e*	**P**	**01 02 39.0**	**+0.3**
LGTI				*e*		01 04 13.3	
BHPL	**Bhopal**	**8.82**	**151**	*e*P	**P**	**01 03 08.8**	**-0.4**
BHPL				*e*S	**S**	**01 04 46.1**	**-2.3**
BHPL				*e*		01 06 00.4	
	comp=N,102nm,0.6s						
BHPL				*e*		01 06 00.4	
	comp=E,106nm,1.1s						
KOLN	**Koldanda**	**9.96**	**107**	*e*P	**P**	**01 03 24.3**	**-0.7**
	comp=E,39nm,0.2s						
GKN	**Gorkha**	**10.74**	**104**	*e*P	**P**	**01 03 33.8**	**-1.9**
	comp=E,46nm,0.2s						
DMN	**Daman**	**11.27**	**105**	*e*P	**P**	**01 03 40.1**	**-2.7**
	comp=E,24nm,0.3s						
KKN	**Kakani**	**11.35**	**104**	*e*P	**P**	**01 03 41.9**	**-2.0**
	comp=E,37nm,0.2s						
PKI	**Pulchoki**	**11.53**	**104**	*e*P	**P**	**01 03 43.0**	**-3.4**
	comp=E,33nm,0.2s						
KK31	**Karatay Array**	**12.14**	**352**	⇑P	**P**	**01 03 50.9**	**-3.7**
	comp=E,3.6nm,0.4s,baz=177,slow=13,SNR=70						
KK31				⇓S	**S**	**01 05 53.5**	**-16**
	comp=E,7.0nm,0.6s,baz=180,slow=22,SNR=7.9						
MK31	**Makanchi Array**	**17.31**	**22**	⇑P	**P**	**01 04 58.7**	**-3.0**
	comp=E,1.6nm,0.7s,baz=210,slow=13,SNR=16						
MKAR	**Makanchi Array**	**17.31**	**22**	P	**P**	**01 04 58.7**	**-3.0**
	comp=E,0.3nm,0.3s,baz=196,slow=12,SNR=12						
MKAR	**Makanchi Array**	**17.31**	**22**	P	**P**	**01 04 58.7**	**-3.0**
WMQ	**Urumqi**	**17.32**	**39**	*e*P	**P**	**01 05 03.0**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**20.09**	**11**	*e*P	**P**	**01 05 30.9**	**-3.6**
	comp=Z,2.7nm,0.5s						
AB31	**Akbulak array**	**20.60**	**335**	⇑P	**P**	**01 05 37.7**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=146,slow=11,SNR=11						
AB31				⇑S	**S**	**01 09 17.0**	**-6.3**
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**22.00**	**356**	P	**P**	**01 05 52.0**	**-1.9**
	comp=Z,0.7nm,0.3s,mb3.5,baz=149,slow=10,SNR=4.2						
CMAR	**Chiang Mai Arr**	**26.77**	**112**	P	**P**	**01 06 40.8**	**+0.8**
	comp=Z,1.0nm,0.6s,mb3.5,baz=292,slow=12,SNR=4.9						
SONM	**Songino Array**	**30.55**	**47**	P	**P**	**01 07 13.4**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.6,baz=241,slow=9.0,SNR=5.8						
ARCES	**ARCESS Array B**	**46.73**	**339**	P	**P**	**01 09 27.9**	**-0.5**
	comp=Z,2.0nm,1.0s,mb4.0,baz=108,slow=12,SNR=4.4						
NB2	**NORSAR Subarra**	**49.66**	**326**	P	**P**	**01 09 50.3**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=100,slow=7.4						
NOA	**NORSAR Array B**	**49.66**	**326**	P	**P**	**01 09 50.2**	**-1.0**
	comp=Z,1.0nm,1.0s,mb3.8,baz=97,slow=7.6,SNR=4.5						
WRA	**Warramunga Arr**	**77.83**	**122**	P	**P**	**01 12 58.0**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=320,slow=5.4,SNR=18						
WRAB	**Tennant Creek**	**77.84**	**122**	*e*P	**P**	**01 12 58.0**	**+0.7**
	comp=Z,0.8nm,0.3s,mb4.1						
ASAR	**Alice Springs**	**79.90**	**125**	P	**P**	**01 13 09.1**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=311,slow=5.5,SNR=10.0						

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*TIR **08** 01:14:49.5, 41.14N×20.20E, h17^{km}, Ml2.7*

*PDG **08** 01:14:49.7±0.2, 41.06N×20.19E, h10^{km}±1^{km}*

*IDC **08** 01:14:50.3±2.0, 41.11N×19.95E, mb3.1/2, mb1 3.3/6, mb1mx3.2/23, ML3.1/4, Error ellipse: s-maj=25.2km s-min=18.9km az=11.0*

*NEIC **08** 01:14:51.8±0.2, 41.15N×20.16E, h5^{km}, MD3.5(ATH), MD3.4(PDG), ML3.3(THE), Error ellipse: s-maj=4.4km s-min=2.9km az=219.0*

*ATH **08** 01:14:52.4, 41.13N×20.47E, h5^{km}, MD3.5/6*

*THE **08** 01:14:54.3, 41.04N×20.28E, h10^{km}, ML3.3*

ISC 08 01:14:50.9±0.4**, 41.12N**±0.02×**20.12E**±0.02**, h6^{km}**±3^{km}**, n75, σ1^{s}33**/114**, mb3.2**/1**, 12C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QSH	**Qafa e Shtames**	**0.44**	**338**	*i* Pg	**Pg**	**01 15 00.0**	**+0.3**
QSH				*i* Sg	**Sg**	**01 15 06.8**	**+1.3**
OHR	**Ohrid**	**0.51**	**90**	⇑*i*Pg	**Pg**	**01 14 59.4**	**-1.7**
OHR				⇑*i*Sg	**Sg**	**01 15 06.8**	**-1.1**
LACI	**Lac**	**0.61**	**329**	*i* Pg	**Pg**	**01 15 02.2**	**-0.8**
LACI				*i* Sg	**Sg**	**01 15 11.7**	**+0.6**
KBN	**Korca**	**0.70**	**134**	*e*Pg	**Pg**	**01 15 03.6**	**-1.3**
KBN				*i* Sg	**Sg**	**01 15 15.0**	**+0.7**
TPE	**Tepelena**	**0.82**	**186**	*i* Pg	**Pg**	**01 15 07.0**	**-0.3**
BIA	**Bitola**	**0.91**	**96**	*i* Pg	**Pg**	**01 14 59.8**	**-9.3**
BIA				*i*		01 15 09.5	
BIA				*i*		01 15 12.0	
PUK	**Puka**	**0.94**	**349**	*i* Pg	**Pg**	**01 15 08.6**	**-1.1**
PUK				*i* Sg	**Sg**	**01 15 23.6**	**+1.3**
FNA	**Florina**	**1.00**	**109**	*e*Pg	**Pg**	**01 15 10.7**	**-0.3**
FNA				*e*Sg	**Sg**	**01 15 23.8**	**-0.6**
LSK	**Leskovik**	**1.03**	**159**	*e*Pn	**Pn**	**01 15 10.1**	**-1.6**
LSK				*i* Sn	**Sn**	**01 15 26.2**	**-0.4**
SDA	**Shkodra**	**1.05**	**334**	*i* Pn	**Pn**	**01 15 10.2**	**-1.7**
SDA				*i* Sg	**Sg**	**01 15 27.3**	**+1.6**
ULC	**Ulcinj**	**1.07**	**323**	*e*Pg	**Pg**	**01 15 10.4**	**-1.8**
ULC				*e*Sg	**Sg**	**01 15 29.0**	**+2.4**
BCI	**Bajram Curri**	**1.25**	**358**	*i* Pn	**Pn**	**01 15 13.5**	**-1.4**
BCI				*i* Sn	**Sn**	**01 15 33.2**	**+1.0**
SKO	**Skopje**	**1.31**	**49**	⇑*i*Pn	**Pn**	**01 15 14.7**	**-1.0**
SKO				*i* Sg	**Sg**	**01 15 31.3**	**-3.1**
SKO				Lg		01 15 35.0	
	comp=Z,0.2nm,0.5s						
KEK	**Kerkira**	**1.42**	**190**	*e*PG	**Pg**	**01 15 20.0**	**+0.7**
KEK				*e*SB	**Sb**	**01 15 42.3**	**+6.6**
TTG	**Podgorica**	**1.46**	**334**	*e*Pg	**Pg**	**01 15 17.5**	**-2.6**
TTG				*e*Sg	**Sg**	**01 15 41.8**	**+2.2**
PVY	**Plav**	**1.48**	**356**	⇓*i*Pg	**Pg**	**01 15 17.5**	**-2.9**
PVY				*e*Sg	**Sg**	**01 15 41.8**	**+1.6**
KZN	**Kozani**	**1.49**	**122**	*e*PB	**Pb**	**01 15 17.0**	**-1.6**
BUM	**Brajici-Budva**	**1.50**	**323**	*e*Pg	**Pg**	**01 15 18.6**	**-2.2**
BUM				*e*Sg	**Sg**	**01 15 43.7**	**+2.9**
JAN	**Janina**	**1.56**	**159**	*e*PB	**Pb**	**01 15 20.8**	**+1.0**
MEV	**Metsovon**	**1.57**	**147**	*e*Pb	**Pb**	**01 15 21.7**	**+1.7**
IGT	**Igoumenitsa**	**1.59**	**174**	*e*Pb	**Pb**	**01 15 21.4**	**+1.2**
IGT				*e*Sb	**Sb**	**01 15 43.4**	**+2.9**
LCI	**Lecce**	**1.72**	**244**	⇓*i*Pn	**Pn**	**01 15 22.4**	**+0.9**
GRG	**Griva**	**1.73**	**95**	*e*Pb	**Pb**	**01 15 23.2**	**+0.5**
GRG				*e*Sb	**Sb**	**01 15 45.6**	**+1.0**
IVA	**Berane**	**1.76**	**355**	*e*Pn	**Pn**	**01 15 23.1**	**+0.9**
IVA				*e*Sn	**Sn**	**01 15 50.2**	**+5.1**
HCY	**Herceg Novi**	**1.80**	**318**	⇑*i*Pn	**Pn**	**01 15 23.7**	**+1.0**
HCY				*e*Sn	**Sn**	**01 15 51.6**	**+5.4**
NKY	**Niksic**	**1.89**	**334**	*e*Pn	**Pn**	**01 15 25.3**	**+1.2**
NKY				*e*Sn	**Sn**	**01 15 53.9**	**+5.4**
LIT	**Litokhoron**	**2.07**	**119**	*e*Pb	**Pb**	**01 15 28.1**	**-0.3**
LIT				*e*Sb	**Sb**	**01 15 53.0**	**-1.4**
KNT	**Kendrikon**	**2.10**	**88**	*e*Pn	**Pn**	**01 15 28.0**	**+1.1**
BARS	**Barje**	**2.12**	**36**	⇑*i*Pn	**Pn**	**01 15 28.9**	**+1.5**

BRY	Bratogost	2.14	327	*e*Pn	Pn	01 15 29.0	+1.4
BRY				*e*Sn	Sn	01 15 59.5	+4.8
THE	Thessaloniki	2.21	102	*e*Pn	Pn	01 15 29.8	+1.2
BRT	Bari-Castellan	2.22	265	*e*Pn	Pn	01 15 31.6	+2.8
BRT				*e*Sn	Sn	01 16 02.5	+5.7
UPM	Unac-Piva	2.27	337	*e*Pn	Pn	01 15 30.5	+1.0
UPM				*e*Sn	Sn	01 16 02.8	+4.6
PLE	Pljevlja	2.28	346	*e*Pn	Pn	01 15 30.5	+1.0
PLE				*e*Sn	Sn	01 16 02.6	+4.4
NVSS	Nova Varos 2	2.41	353	⇑*i*Pn	Pn	01 15 33.1	+1.6
NVSS				Sn	Sn	01 16 02.6	+1.0
LKD	Levkas	2.44	170	*e*Pn	Pn	01 15 33.1	+1.2
SOH	Sokhos	2.46	96	*e*Pn	Pn	01 15 33.9	+1.7
STON	Ston	2.52	315	*i* Pn	Pn	01 15 32.7	-0.3
STON				*i* Sn	Sn	01 16 04.3	-0.1
EVR	Evrytania	2.55	149	*e*PN	Pn	01 15 35.8	+2.4
PLG	Polygyros	2.63	105	*e*PN	Pn	01 15 35.0	+0.4
AGG	Agios Georgios	2.69	140	*e*Pn	Pn	01 15 36.0	+0.6
VLS	Valsamata	2.96	173	*e*PN	Pn	01 15 38.2	-1.1
ORI	Oriolo Calabro	2.99	251	*e*Pn	Pn	01 15 41.2	+1.5
OUR	Ouranopolis	3.03	104	*e*Pn	Pn	01 15 41.3	+0.9
FGMS	Monte Sant'Ang	3.19	282	⇓*i*Pn	Pn	01 15 42.5	-0.1
TDS	Terranova Siba	3.24	245	*e*Pn	Pn	01 15 43.8	+0.6
RGNG	Rignano Grg	3.46	281	*e*Pn	Pn	01 15 46.0	-0.3
RGNG				*e*Sn	Sn	01 16 28.2	0.0
SLCN	Sala Consilina	3.49	259	*e*Pn	Pn	01 15 48.6	+1.8
MGR	Morigerati	3.61	256	*e*Pn	Pn	01 15 48.9	+0.3
MGR				*e*Sn	Sn	01 16 32.8	+0.7
SGO	Sicignano	3.70	263	*e*Pn	Pn	01 15 49.0	-0.8
CSSN	Cassano Irpino	3.87	268	*e*Pn	Pn	01 15 53.0	+0.8
CSSN				*e*Sn	Sn	01 16 40.2	+1.6
MRB1	Monte Rocchett	3.89	272	*e*Pn	Pn	01 15 53.1	+0.6
SGG	Gregorio Mates	4.34	275	⇓*i*Pn	Pn	01 16 00.1	+1.2
SGG				*e*Sn	Sn	01 16 49.5	-1.1
SOI	Samo	4.37	227	*e*Pn	Pn	01 15 58.7	-0.6
CII	Carovilli	4.42	280	*e*Pn	Pn	01 16 01.2	+1.2
SDI	San Donato	4.79	279	*e*Pn	Pn	01 16 04.8	-0.4
SDI				*e*Sn	Sn	01 17 01.6	-0.2
TERO	Teramo	5.10	289	*e*Pn	Pn	01 16 09.8	+0.2
NRCA	Norcia	5.50	290	⇑*i*Pn	Pn	01 16 14.0	-1.3
NRCA				*e*Sn	Sn	01 17 17.2	-2.5
CING	Cingoli	5.62	296	⇑*i*Pn	Pn	01 16 15.1	-1.9
BOJS	Bojanci	5.64	323	*e*Pn	Pn	01 16 16.4	-1.0
MNS	Montasola	5.71	285	⇑*i*Pn	Pn	01 16 18.4	+0.1
ARV	Arcevia	5.83	296	⇑*i*Pn	Pn	01 16 18.0	-2.0
GOLS	Golise	5.88	328	*i* Pn	Pn	01 16 20.1	-0.6
ASS	Assisi	5.89	292	⇑*i*Pn	Pn	01 16 20.1	-0.7
ASS				*e*Sn	Sn	01 17 28.3	-1.3
FSSB	Fossombrone	6.02	298	⇑*i*Pn	Pn	01 16 20.7	-1.9
FSSB				*e*Sn	Sn	01 17 29.3	-3.4
MURB	Monte Urbino	6.04	293	*i* Pn	Pn	01 16 21.9	-1.0
MURB				*e*Sn	Sn	01 17 30.7	-2.6
VISS	Visnje	6.06	322	*i* Pn	Pn	01 16 22.5	-0.7
MLR	Muntele Rosu	6.09	42	Pn	Pn	01 16 24.6	+0.9
	comp=Z,0.2nm,0.3s,baz=181,slow=11,SNR=6.2						
MLR				Sn	Sn	01 17 35.2	+0.6
	comp=Z,0.1nm,0.3s,baz=246,slow=10,SNR=3.0						
CEY	Cerknica	6.21	320	*e*Pn	Pn	01 16 24.0	-1.4
CEY				*e*Sn	Sn	01 17 34.3	-3.2
PERS	Pernice	6.60	328	*e*Pn	Pn	01 16 29.6	-1.2
IDI	Anoyia	6.92	146	Pn	Pn	01 16 33.6	-1.7
	comp=Z,0.2nm,0.3s,slow=16,SNR=3.5						
IDI				Sn	Sn	01 17 50.8	-4.5
	comp=Z,0.2nm,0.3s,baz=79,slow=14,SNR=3.1						
GERES	GERESS Array B	8.96	332	Pn	P	01 17 01.7	-2.2
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=9.2						
HFS	Hagfors	19.45	350	P	P	01 19 17.9	-2.8
	comp=Z,0.0nm,0.3s,baz=166,slow=12,SNR=6.6						
FINES	FINESS Array B	20.68	8	P	P	01 19 31.4	-2.4
	comp=Z,0.7nm,0.8s,baz=207,slow=9.3,SNR=3.7						
MKAR	Makanchi Array	44.08	61	P	P	01 23 01.4	+0.3
	comp=Z,0.2nm,0.4s,mb3.2,baz=286,slow=6.4,SNR=2.2						

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*PDG **08** 01:22:55.0±0.1, 41.10N×20.22E, h10^{km}±1^{km}*
*TIR **08** 01:22:56.3, 41.18N×19.97E, h24^{km}, Ml2.3*
*NEIC **08** 01:22:56.2±0.4, 41.19N×20.29E, h5^{km}, MD3.2(ATH), MD2.8(PDG), ML2.8(THE), Error ellipse: s-maj=8.0km s-min=3.9km az=54.0*
*THE **08** 01:22:57.9, 41.13N×20.35E, h10^{km}, ML2.8*
*ATH **08** 01:23:17.0, 39.47N×20.22E, h10^{km}, MD3.2/3*
ISC 08 01:22:56.3±0.3**, 41.17N**±0.02×**20.31E**±0.03**, h5^{km}, n31, σ1^{s}12**/56**, 3C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	Tirane	0.38	298	⇑*i*Pg	Pg	01 23 02.0	-1.8
TIR				*i* Sg	Sg	01 23 05.0	-3.9
OHR	Ohrid	0.38	99	⇑*i*Pg	Pg	01 23 04.4	+0.5
OHR				⇑*i*Sg	Sn	01 23 11.8	-3.8
QSH	Qafa e Shtames	0.46	319	*i* pg?	Pg	01 23 05.5	0.0
QSH				*i* Sg	Sn	01 23 12.7	-5.0
LACI	Lac	0.65	316	*i* Pg	Pg	01 23 07.3	-1.9
LACI				*i* Sg	Sn	01 23 16.7	-5.7
BIA				*i*	Pg	01 23 13.4	+1.4
BIA				*i*		01 23 17.0	
FNA	Florina	0.90	115	*e*Pg	Pg	01 23 13.3	-0.9
FNA				*e*Sg	Sg	01 23 26.1	-0.2
PUK	Puka	0.92	341	*i* Pg	Pg	01 23 14.0	-0.7
PUK				*i* Sg	Sn	01 23 28.6	-0.9
ULC	Ulcinj	1.12	315	*e*Pg	Pg	01 23 15.7	-3.0
ULC				*e*Sg	Sn	01 23 33.4	-1.0
SKO	Skopje	1.17	46	*i* Pn	Pn	01 23 19.4	+0.2
PVY	Plav	1.44	350	⇓*i*Pg	Pg	01 23 22.6	-2.6
PVY				*e*Sg	Sg	01 23 45.7	+1.3
TTG	Podgorica	1.48	328	⇓*i*Pg	Pg	01 23 22.7	-3.1
TTG				*e*Sg	Sg	01 23 46.5	+1.0
KEK	Kerkira	1.51	195	*e*PB	Pb	01 23 25.0	+0.6
BUM	Brajici-Budva	1.54	317	⇓*i*Pg	Pg	01 23 23.7	-3.4
BUM				*e*Sg	Sg	01 23 48.0	+0.3
MEV	Metsovon	1.55	153	*e*Pb	Pb	01 23 26.2	+1.0
MEV				*e*Sb	Sb	01 23 46.2	+1.1
JAN	Janina	1.57	164	*e*PB	Pb	01 23 27.0	+1.6
GRG	Griva	1.60	97	*e*Pb	Pb	01 23 25.9	-0.1
GRG				*e*Sb	Sb	01 23 46.8	+0.5
IGT	Igoumenitsa	1.64	179	*e*Pb	Pb	01 23 26.4	-0.2
IGT				*e*Sb	Sb	01 23 47.6	+0.1
IVA	Berane	1.73	350	*e*Pn	Pn	01 23 27.8	+0.6
IVA				*e*Sn	Sn	01 23 54.6	+4.8
HCY	Herceg Novi	1.86	314	*e*Pn	Pn	01 23 29.0	-0.1
HCY				*e*Sn	Sn	01 23 56.2	+3.0
NKY	Niksic	1.91	330	*e*Pn	Pn	01 23 30.2	+0.4
NKY				*e*Sn	Sn	01 23 58.1	+3.7
KNT	Kendrikon	1.96	89	*e*Pb	Pb	01 23 30.9	-1.2
KNT				*e*Sb	Sb	01 23 56.2	-0.6
LIT	Litokhoron	1.98	122	*e*Pb	Pb	01 23 31.6	-0.8
LIT				*e*Sb	Sb	01 23 56.4	-0.9
THE	Thessaloniki	2.09	104	*e*Pn	Pn	01 23 32.9	+0.6
THE				*e*Sn	Sn	01 23 58.8	-0.2
BRY	Bratogost	2.17	323	*e*Pn	Pn	01 23 33.3	-0.3
BRY				*e*Sn	Sn	01 24 03.8	+2.6
PLE	Pljevlja	2.26	343	*e*Pn	Pn	01 23 35.6	+0.8
PLE				*e*Sn	Sn	01 24 07.3	+3.9
UPM	Unac-Piva	2.28	333	*e*Pn	Pn	01 23 35.9	+0.7
UPM				*e*Sn	Sn	01 24 07.5	+3.5
SOH	Sokhos	2.33	98	*e*Pn	Pn	01 23 36.8	+0.9
SOH				*e*Sn	Sn	01 24 05.0	-0.3
LKD	Levkas	2.48	174	*e*Pn	Pn	01 23 37.7	-0.2
LKD				*e*Sn	Sn	01 24 08.6	-0.3
EVR	Evrytania	2.53	152	*e*PB	Pb	01 23 42.5	+0.6
AGG	Agios Georgios	2.65	143	*e*Pn	Pn	01 23 40.2	-0.2
AGG				*e*Sn	Sn	01 24 12.1	-1.2
OUR	Ouranopolis	2.92	105	*e*Pn	Pn	01 23 44.5	+0.3

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*ISK **08** 02:08:33.8, 36.94N×27.67E, h3^{km}, MD3.2*
*ATH **08** 02:08:35.2, 36.90N×27.69E, h10^{km}, MD2.8/3*
ISC 08 02:08:34.2±0.8**, 36.89N**±0.04×**27.68E**±0.04**, h4^{km}**±6^{km}**, n15, σ0^{s}90**/22**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	313	*i* P	Pg	02 08 39.6	+0.1
BDRM				*i* S	Sg	02 08 44.6	+1.6
MLSB	Milas	0.41	10	*i* PG	Pg	02 08 42.2	-0.3
NISR	Nisiros	0.52	239	*e*PB	Pb	02 08 45.5	-0.1
YER	Yerkesik	0.54	63	*i* PG	Pg	02 08 44.6	-0.4
YER				*i* SG	Sg	02 08 53.0	+0.7
ARG	Arkhangelos	0.76	152	*e*PB	Pb	02 08 50.0	+0.4
AYDN	Tasoluk	0.79	11	⇑*i*P	Pg	02 08 49.0	-1.0
AYDN				*i* S	Sg	02 09 00.1	-0.4
SMG	Samos	1.06	321	*e*PB	Pb	02 08 55.0	+0.2
DNZL	Cakiroluk	1.35	53	⇑*i*P	Pb	02 08 59.7	-0.1
DNZL				*i* S	Sb	02 09 17.1	-0.2
DENT	Denizli	1.38	51	PN	Pn	02 09 00.8	+0.4
DENT				SN	Sn	02 09 20.2	+0.9
IZM	Izmir	1.54	348	PN	Pn	02 09 02.1	-0.6
IZM				SN	Sn	02 09 23.0	-0.5
KDAG	Bornova	1.55	348	*i* P	Pn	02 09 00.3	-2.5
KDAG				*i* S	Sb	02 09 25.2	+2.2
APE	Apeiranthos	1.73	277	*e*PN	Pn	02 09 05.4	0.0
ELL	Elmali	1.79	94	PN	Pn	02 09 07.3	+1.1
AKS	Akhisar	1.99	3	*e*PN	Pn	02 09 08.5	-0.6
DST	Dursunbey	2.81	15	*e*PN	Pn	02 09 19.7	-1.2

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*DJA **08** 02:22:31.7±1.0, 6.57S×113.41E, h160^{km}, MD4.8/3, ML4.6/3, Error ellipse: s-maj=43.8km s-min=24.6km az=36.0*
*IDC **08** 02:22:37.3±7.2, 6.44S×113.41E, h64^{km}±66^{km}, mb3.6/7, mb1 3.9/8, mb1mx3.7/15, ML3.6/1, Error ellipse: s-maj=49.9km s-min=16.1km az=62.0*
*NEIC **08** 02:22:37.1±3.4, 6.50S×113.35E, h63^{km}±32^{km}, mb4.0/1, Error ellipse: s-maj=26.4km s-min=10.1km az=60.0*
ISC 08 02:22:32.7±1.9**, 6.4S**±0.1×**113.5E**±0.2**, h36^{km}**±17^{km}**, n15, σ1^{s}07**/16**, mb3.9**/7**, 5C-3D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	2.08	152	⇑*i*Pn	P	02 23 06.7	+0.8
	260nm,0.2s						
KELI				⇑*i*Sn	S	02 23 34.5	+3.7
RATI	Rata	3.08	139	⇑*i*Pn	P	02 23 20.2	0.0
	602nm,0.3s						
RATI				⇓*i*Sn	S	02 23 54.7	-1.6
KEDI	Kedomdong	3.33	129	⇓*i*Pn	P	02 23 23.7	-0.1
	128nm,0.2s						
KEDI				⇓*i*Sn	S	02 24 00.7	-2.0
FITZ	Fitzroy Crossi	16.62	136	P	P	02 26 25.9	+1.2
	0.2nm,0.3s,baz=346,slow=11,SNR=3.8						
KAKA	Kakadu	19.66	110	⇑*i*P	P	02 27 02.6	+1.0
	6.6nm,0.8s						
WRA	Warramunga Arr	24.32	126	P	P	02 27 49.1	+0.6
	1.0nm,0.6s,mb3.4,baz=299,slow=11,SNR=4.1						
WB2	Warramunga Arr	24.33	126	⇑*i*P	P	02 27 49.4	+0.8
ASAR	Alice Springs	26.09	133	P	P	02 28 05.3	+0.1
	2.4nm,0.7s,mb3.8,baz=304,slow=8.4,SNR=17						
ASAR				PcP	PcP	02 31 31.1	-1.6
	0.5nm,0.7s,baz=318,slow=1.6,SNR=8.1						
CMAR	Chiang Mai Arr	28.55	330	P	P	02 28 27.9	+0.2
	1.1nm,0.4s,mb3.9,baz=164,slow=6.6,SNR=4.6						
STKA	Stephens Creek	36.49	138	P	P	02 29 37.1	+0.5
	0.9nm,0.3s,mb4.1,baz=312,slow=5.1,SNR=6.9						
SONM	Songino Array	54.33	354	P	P	02 31 58.0	-0.1
	1.6nm,1.2s,mb3.8,baz=178,slow=10,SNR=3.2						
MKAR	Makanchi Array	59.74	336	P	P	02 32 35.0	-1.5
	1.1nm,0.8s,mb4.0,baz=156,slow=7.9,SNR=6.1						
MAW	Mawson	69.92	198	P	P	02 33 40.5	-1.4
	1.8nm,0.9s,mb4.0,baz=24,slow=7.3,SNR=4.0						
CPUP	Villa Florida	146.30	195	PKPbc	PKPbc	02 42 11.2	+0.7
	1.6nm,0.6s,baz=197,slow=4.7,SNR=7.6						
BDFB	Brasilia	151.48	220	PKPbc	PKPdf	02 42 24.2	+6.5
	1.8nm,0.5s,baz=20,slow=1.8,SNR=4.8						

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*TIR **08** 02:33:15.6, 41.02N×19.88E, h25^{km}, Ml2.6*
*PDG **08** 02:33:16.8±0.3, 41.11N×20.14E, h10^{km}±1^{km}*
*ATH **08** 02:33:17.5, 41.17N×20.29E, h5^{km}, MD3.4/5*
*NEIC **08** 02:33:18.2±0.4, 41.24N×20.25E, h5^{km}, MD3.4(ATH), MD3.2(PDG), ML3.2(THE), Error ellipse: s-maj=7.0km s-min=4.1km az=225.0*
*THE **08** 02:33:21.8, 41.15N×20.37E, h10^{km}, ML3.2*
ISC 08 02:33:17.9±0.3**, 41.17N**±0.02×**20.19E**±0.02**, h5^{km}, n42, σ1^{s}46**/74**, 4C-10D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	Tirane	0.30	306	⇓*i*Pg	Pg	02 33 23.5	-0.5
TIR				*i* Sg	Sg	02 33 27.5	-0.6
QSH	Qafa e Shtames	0.41	329	*i* Pg	Pg	02 33 26.9	+0.7
QSH				*i* Sg	Sg	02 33 34.0	+2.2
OHR	Ohrid	0.46	97	⇑*i*Pg	Pg	02 33 25.7	-1.4
OHR				*i*		02 33 30.0	
OHR				⇑*i*Sg	Sg	02 33 33.1	-0.2
OHR				⇓*i*Sg	Sg	02 33 33.2	-0.1
LACI	Lac	0.59	322	*i* Pg	Pg	02 33 28.5	-1.2
LACI				*i* Sg	Sg	02 33 38.3	+0.6
KBN	Korca	0.71	140	*e*pg?	Pg	02 33 30.0	-2.0
KBN				*i* Sg	Sg	02 33 41.4	0.0
BIA	Bitola	0.87	99	*i* Pg	Pg	02 33 25.8	-9.4
BIA				*i*		02 33 35.8	
BIA				*i*		02 33 38.6	
FNA	Florina	0.97	113	*e*Pg	Pg	02 33 36.9	-0.4
FNA				*e*Sg	Sg	02 33 50.0	-0.3
SDA	Shkodra	1.03	330	*e*Pg	Pg	02 33 36.4	-2.0
SDA				*i* Sg	Sg	02 33 53.2	+1.2
LSK	Leskovik	1.06	163	*e*Pg	Pg	02 33 36.1	-3.0
LSK				*i* Sg	Sg	02 33 51.5	-1.8
ULC	Ulcinj	1.06	319	⇓*i*Pg	Pg	02 33 36.7	-2.4
ULC				*e*Sg	Sg	02 33 54.5	+1.2
SKO	Skopje	1.23	49	*i* Pn	Pn	02 33 40.5	-1.3
SKO				*i*		02 33 42.2	
SKO				*i*		02 33 44.5	
SKO				*i* Sg	Sg	02 33 57.6	-1.4
SKO				Lg		02 34 01.0	
	comp=Z,0.1nm,0.5s						
PVY	Plav	1.44	354	⇓*i*Pg	Pg	02 33 43.8	-2.7
PVY				*e*Sg	Sg	02 34 07.3	+1.6
TTG	Podgorica	1.44	331	⇓*i*Pg	Pg	02 33 43.8	-2.9
TTG				*e*Sg	Sg	02 34 07.6	+1.8
KZN	Kozani	1.48	125	*e*PG	Pg	02 33 44.0	-3.3
KEK	Kerkira	1.48	192	*e*PG	Pg	02 33 45.5	-2.0
BUM	Brajici-Budva	1.49	320	⇓*i*Pg	Pg	02 33 44.5	-3.1
BUM				*e*Sg	Sg	02 34 08.1	+0.6
JAN	Janina	1.59	161	*e*PB	Pb	02 33 48.3	+0.9
JAN	Janina	1.59	161	*e*Pb	Pb	02 33 48.5	+1.1
MEV	Metsovon	1.59	150	*e*Pb	Pb	02 33 49.6	+2.2
MEV				*e*Sb	Sb	02 34 10.6	+2.9
IGT	Igoumenitsa	1.64	176	*e*Pb	Pb	02 33 51.1	+3.0
IGT				*e*Sb	Sb	02 34 13.8	+4.7
GRG	Griva	1.68	96	*e*Pb	Pb	02 33 49.5	+0.5
GRG				*e*Sb	Sb	02 34 12.0	+1.6
IVA	Berane	1.72	353	⇓*i*Pn	Pn	02 33 48.6	0.0
IVA				*e*Sn	Sn	02 34 16.2	+5.0
LCI	Lecce	1.79	243	⇓*i*Pn	Pn	02 33 51.6	+2.0
LCI				*e*Sn	Sn	02 34 20.1	+7.2
HCY	Herceg Novi	1.80	316	*e*Pn	Pn	02 33 49.3	-0.5
HCY				*e*Sn	Sn	02 34 17.0	+3.7
NKY	Niksic	1.87	332	⇓*i*Pn	Pn	02 33 51.3	+0.5
NKY				*e*Sn	Sn	02 34 19.7	+4.6
KNT	Kendrikon	2.04	89	*e*Pb	Pb	02 33 55.0	-0.2
KNT				*e*Sb	Sb	02 34 21.3	+0.4
LIT	Litokhoron	2.05	121	*e*Pb	Pb	02 33 54.5	-0.7
LIT				*e*Sb	Sb	02 34 21.5	+0.5
BRY	Bratogost	2.12	325	⇓*i*Pn	Pn	02 33 54.9	+0.5
BRY				*e*Sn	Sn	02 34 25.6	+4.1
PLE	Pljevlja	2.24	345	*e*Pn	Pn	02 33 57.1	+0.9
PLE				*e*Sn	Sn	02 34 28.6	+4.1
UPM	Unac-Piva	2.25	335	*e*Pn	Pn	02 33 57.2	+1.0
UPM				*e*Sn	Sn	02 34 28.7	+4.0
STON	Ston	2.52	313	*i* Pn	Pn	02 33 59.1	-1.1
STON				*i* Sn	Sn	02 34 30.7	-0.9
EVR	Evrytania	2.57	151	*e*PN	Pn	02 34 02.3	+1.5
PLG	Polygyros	2.59	107	*e*PN	Pn	02 34 02.0	+0.8
AGG	Agios Georgios	2.70	142	*e*Pn	Pn	02 34 03.8	+1.1
ORI	Oriolo Calabro	3.05	250	*e*Pn	Pn	02 34 10.0	+2.2
ORI				*e*Sn	Sn	02 34 49.9	+4.8
SLCN	Sala Consilina	3.55	259	⇑*i*Pn	Pn	02 34 16.4	+1.7
SGO	Sicignano	3.75	262	*e*Pn	Pn	02 34 17.4	-0.3
SGO				*e*Sn	Sn	02 35 03.5	+0.7
CSSN	Cassano Irpino	3.92	267	*e*Pn	Pn	02 34 20.4	+0.3
SGG	Gregorio Mates	4.39	275	*e*Pn	Pn	02 34 25.3	-1.4
SGG				*e*Sn	Sn	02 35 16.6	-2.3
SDI	San Donato	4.83	279	*e*Pn	Pn	02 34 31.8	-1.1
NRCA	Norcia	5.53	290	⇑*i*Pn	Pn	02 34 40.5	-2.4
NRCA				*e*Sn	Sn	02 35 44.4	-3.3
FSSB	Fossombrone	6.04	297	*e*Pn	Pn	02 34 47.1	-2.9
FSSB				*e*Sn	Sn	02 35 53.0	-7.4

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*IDC **08** 02:37:41.2±12.0, 14.09S×168.65E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, Error ellipse: s-maj=206.0km s-min=112.2km az=64.0*
ISC 08 02:38:11.3±5.0**, 15.2S**±0.2×**167.1E**±0.6**, h150^{km}, n6, σ1^{s}09**/7**, mb3.6**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	6.86	185	*e*P	P	02 39 50.8	+0.4
DZM				*e*S	S	02 41 07.0	-0.4
CTA	Charters Tower	20.41	253	P	P	02 42 40.0	+1.7
	2.0nm,0.6s,baz=88,slow=10,SNR=5.2						
STKA	Stephens Creek	28.54	230	P	P	02 43 56.2	+1.1
	1.8nm,0.5s,mb4.1,baz=34,slow=9.4,SNR=4.4						
WRA	Warramunga Arr	31.52	257	P	P	02 44 19.9	-1.6
	0.2nm,0.5s,mb3.1,baz=89,slow=11,SNR=1.8						
ASAR	Alice Springs	32.32	250	P	P	02 44 27.2	-1.2
	0.6nm,0.4s,mb3.7,baz=78,slow=8.8,SNR=16						
FITZ	Fitzroy Crossi	39.74	260	P	P	02 45 30.9	0.0
	0.8nm,0.5s,mb3.6,baz=146,slow=7.3,SNR=4.9						

IDC 08 02:48:06.7±27.0**, 15.95S**×**173.18W, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/18**, Error ellipse: s-maj=540.0km s-min=158.7km az=86.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.95	240	P	P	02 56 16.4	-0.9
	0.8nm,0.4s,baz=115,slow=9.6,SNR=4.8						
WRA	Warramunga Arr	49.93	257	P	P	02 57 01.7	-2.8
	0.6nm,0.5s,baz=95,slow=6.9,SNR=11						
ASAR	Alice Springs	50.15	252	P	P	02 57 03.8	-2.4
	4.3nm,0.5s,baz=89,slow=8.1,SNR=112						
FITZ	Fitzroy Crossi	58.31	258	P	P	02 58 04.5	-1.6
	1.0nm,0.7s,baz=51,slow=6.5,SNR=4.6						

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*IDC **08** 03:15:15.3±1.1, 36.21S×99.51W, mb4.3/8, mb1 4.5/8, mb1mx4.3/16, MS4.0/10, Ms1 4.0/10, ms1mx3.8/22, Error ellipse: s-maj=30.8km s-min=22.1km az=36.0*
*NEIC **08** 03:15:17.2±0.6, 36.16S×99.46W, h10^{km}, mb4.5/3, Error ellipse: s-maj=17.6km s-min=14.5km az=48.0*
ISC 08 03:15:15.8±0.8**, 36.2S**±0.1×**99.5W**±0.2**, h10^{km}, n21, σ0^{s}88**/13**, mb4.1**/11**, MS4.0**/10**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	23.04	110	P	P	03 20 24.1	+2.0
	5.2nm,0.8s,mb4.0,baz=284,slow=10,SNR=9.2						
PLCA				LR	LR	03 27 16.6	
	comp=Z,224nm,21.7s,MS3.6,baz=86,slow=31						
USHA	Ushuaia	28.32	141	LR	LR	03 29 34.4	
	comp=Z,761nm,19.8s,MS4.3,baz=271,slow=30						
LVC	Limon Verde	29.70	71	P	P	03 21 23.9	-0.3
	7.8nm,1.1s,mb4.3,baz=232,slow=7.3,SNR=5.7						
LVC				LR	LR	03 30 51.9	
	comp=Z,234nm,18.0s,MS3.9,baz=230,slow=32						
LVC	Limon Verde	29.70	71	P	P	03 21 23.8	-0.4
	12nm,1.3s,mb4.5						
LVC				LR	LR	03 30 51.9	
LPAZ	La Paz	34.14	63	P	P	03 22 04.0	+0.9
	6.4nm,0.9s,mb4.5,baz=218,slow=8.2,SNR=17						
LPAZ				LR	LR	03 32 47.7	
	comp=Z,64nm,19.7s,MS3.4,baz=89,slow=31						
CPUP	Villa Florida	37.08	87	P	P	03 22 26.6	-1.4
	6.6nm,1.0s,mb4.4,baz=271,slow=8.1,SNR=10						
CPUP				LR	LR	03 35 56.6	
	comp=Z,101nm,18.6s,MS3.6,baz=87,slow=33						
TBI	Tubuai	44.80	272	*e*L		03 33 27.5	
	178nm,22.5s						
TBI				*e*R		03 35 17.7	
	205nm,28.2s						
ROSC	El Rosal	47.09	35	LR	LR	03 40 35.2	
	comp=Z,202nm,18.3s,MS4.1,baz=219,slow=32						
PPT	Papeete	47.84	279	*e*L		03 35 20.5	
	199nm,23.5s						
PPT				*e*R		03 36 42.7	
	143nm,27.0s						
BDFB	Brasilia	49.95	80	P	P	03 24 11.1	-0.9
	7.4nm,0.8s,mb4.8,baz=243,slow=5.6,SNR=9.0						
BDFB				LR	LR	03 43 21.9	
	comp=Z,137nm,21.0s,MS3.9,baz=146,slow=34						
QSPA	South Pole Qui	54.06	180	*e*P	P	03 24 42.2	+0.1
	4.7nm,1.5s,mb4.2						
VNDA	Vanda	56.86	195	LR	LR	03 45 21.1	
	comp=Z,120nm,20.0s,MS4.0,baz=106,slow=32						
TXAR	Lajitas Array	65.26	356	P	P	03 25 59.4	-0.6
	0.1nm,0.5s,mb3.1,baz=174,slow=8.2,SNR=2.5						
MAW	Mawson	75.70	173	P	P	03 27 01.8	-0.7
	1.5nm,0.9s,mb3.9,baz=171,slow=5.5,SNR=3.2						
NVAR	Mina Array Bea	76.23	345	P	P	03 27 06.5	+0.4
	0.8nm,0.6s,mb3.8,baz=161,slow=7.6,SNR=7.6						
NVAR	Mina Array Bea	76.23	345	P	P	03 27 06.5	+0.4
PDAR	Pinedale Array	79.08	352	P	P	03 27 21.8	0.0
	1.5nm,0.7s,mb4.0,baz=157,slow=5.8,SNR=14						
HLID	Hailey	80.50	349	*e*P	P	03 27 29.9	+0.6
	3.0nm,1.1s,mb4.1						
STKA	Stephens Creek	91.41	228	LR	LR	03 59 37.6	
	comp=Z,249nm,21.7s,MS4.6,baz=205,slow=29						
SCHQ	Schefferville	94.86	18	LR	LR	04 06 07.7	
	comp=Z,93nm,21.2s,MS4.2,baz=45,slow=32						
GERES	GERESS Array B	130.63	53	PKP	PKPdf	03 34 26.7	-3.2
	0.8nm,1.0s,baz=270,slow=7.8,SNR=4.0						

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*IDC **08** 03:24:38.1±0.8, 58.35N×31.75W, mb3.9/15, mb1 4.1/17, mb1mx4.0/24, ML3.1/2, MS3.5/14, Ms1 3.6/14, ms1mx3.3/29, Error ellipse: s-maj=23.6km s-min=12.8km az=3.0*
*ZUR_RM **08** 03:24:39, 58.40N×31.82W, h6^{km}, Mw4.6/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.37; $M_{\theta\theta}$1.35; $M_{\phi\phi}$4.02; $M_{r\theta}$4.79; $M_{\theta\phi}$1.49; $M_{\phi r}$3.43; Best double couple: $M_0$7.68×10^{15} NP1:ϕ_s226°,δ70°,λ-78°. NP2:ϕ_s14°,δ23°,λ-120°. Principal axes: T 7.03, Plg24°, Azm306°; N 1.307, Plg11°, Azm41°; P -8.338, Plg63°, Azm154°;*
*NEIC **08** 03:24:39.8±0.4, 58.40N×31.82W, h10^{km}, mb4.6/15 Error ellipse: s-maj=15.5km s-min=6.4km az=15.0*
ISC 08 03:24:38.2±0.4**, 58.4N**±0.1×**31.83W**±0.09**, h10^{km}, n50, σ1^{s}05**/45**, mb4.1**/30**, MS3.5**/12**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	Jan Mayen	15.88	28	LR	LR	03 33 03.7	
	comp=Z,74nm,20.1s,baz=206,slow=32						
EKA	Eskdalemuir Ar	15.91	89	Pn	P	03 28 24.2	+0.6
	0.1nm,0.3s,baz=294,slow=12,SNR=4.6						
FRB	Frobisher Bay	18.33	302	LR	LR	03 35 04.2	
	comp=Z,385nm,18.9s,baz=106,slow=34						
SCHQ	Schefferville	19.45	274	P	P	03 29 07.0	-0.2
	0.3nm,0.3s,baz=35,slow=8.9,SNR=6.0						
SCHQ				LR	LR	03 35 25.6	
	comp=Z,260nm,18.1s,baz=320,slow=33						
QUIF	Quistinic	19.99	109	*e*P	P	03 29 13.8	+0.4
	154nm,1.9s						
FLN	La Foliniere	20.79	104	*e*P	P	03 29 23.0	+1.3
FLN				*e*R			
	166nm,22.5s						
GRR	Gorron	20.84	105	*e*P	P	03 29 23.8	+1.6
	148nm,1.6s						
LDF	La Druitiere	21.08	104	*e*P	P	03 29 25.7	+1.0
NB2	NORSAR Subarra	21.56	65	P	P	03 29 29.3	-0.2
	1.6nm,1.0s,mb3.4,baz=277,slow=5.3						
NOA	NORSAR Array B	21.56	65	P	P	03 29 28.8	-0.7
	1.7nm,1.1s,mb3.4,baz=282,slow=9.1,SNR=5.1						
NOA				LR	LR	03 36 34.2	
	comp=Z,74nm,21.5s,MS3.0,baz=280,slow=33						
BAIF	Baives	22.42	96	*e*P	P	03 29 35.2	-3.0
	67nm,1.4s,mb4.6						
GIVF	Givet	22.72	95	*e*P	P	03 29 40.0	-1.0
WTSB	Winterswijk	22.72	90	*e*P	P	03 29 47.5	+6.5
	8.4nm,1.8s,mb3.9						
HGN	Heimansgroeve	22.92	93	*e*P	P	03 29 48.7	+5.7
	5.7nm,0.7s,mb4.1						
HFS	Hagfors	22.97	66	P	P	03 29 45.3	+2.0
	6.4nm,1.0s,mb4.0,baz=270,slow=5.9,SNR=9.1						
MEZF	Maizieres J'vi	23.80	98	*e*P	P	03 29 51.5	0.0
	50nm,1.4s,mb4.4						
BGF	Bois d'Agland	23.93	105	*e*P	P	03 29 53.1	+0.3
	33nm,1.0s,mb4.4						
SSF	Saint Saulge	23.93	103	*e*P	P	03 29 51.6	-1.2
	20nm,1.3s,mb4.1						
LOR	Lormes	23.98	102	*e*P	P	03 29 52.5	-0.7

	34nm,1.4s,mb4.3						
LOR				eR			
	153nm,19.5s						
LFF	La Frestale	24.00	110	eP	P	03 29 53.4	-0.1
	24nm,1.1s,mb4.2						
AVF	Avril sur Loir	24.03	104	eP	P	03 29 53.9	+0.1
	41nm,1.3s,mb4.4						
RJF	Les Rejaudoux	24.13	108	eP	P	03 29 55.1	+0.4
RJF				eR			
	240nm,22.0s						
SMF	Signal de Mont	24.38	103	eP	P	03 29 57.4	+0.2
HAU	Haudompre	24.79	98	eP	P	03 30 01.3	+0.2
	24nm,1.2s,mb4.3						
HAU				eR			
	290nm,19.5s						
CDF	Champ du Feu	25.02	96	eP	P	03 30 02.8	-0.5
	47nm,1.6s,mb4.5						
HINF	Hinteralfeld	25.17	98	eP	P	03 30 08.3	+3.5
	68nm,1.7s,mb4.6						
CABF	La Chapelle	25.56	101	eP	P	03 30 08.8	+0.4
	117nm,1.8s,mb4.8						
ESDC	Sonseca Array	25.88	124	P	P	03 30 12.1	+0.6
	3.0nm,1.1s,mb3.8,baz=328,slow=9.7,SNR=7.2						
ESDC				LR	LR	03 38 30.3	
	comp=Z,62nm,20.6s,MS3.1,baz=335,slow=32						
MOX	Moxa	25.98	88	iP	P	03 30 12.5	+0.2
MOX				e		03 30 18.0	
MOX				L		03 40 56.0	
MOX	Moxa	25.98	88	P	P	03 30 12.5	+0.2
	14nm,1.6s,mb4.2						
MOX				e		03 30 17.5	
MOX				LR	LR		
	comp=Z,200nm,17.0s,MS3.7						
GRA1	Grafenberg Arr	26.32	90	eP	P	03 30 20.0	+4.6
CLL	Collm	26.34	86	e*SP	sP	03 30 22.0	+2.2
ARCES	ARCESS Array B	26.36	42	P	P	03 30 15.2	-0.5
	comp=Z,2.7nm,0.9s,mb3.8,baz=270,slow=8.5,SNR=5.5						
FINES	FINESS Array B	28.34	59	P	P	03 30 32.9	-0.9
	comp=Z,0.5nm,0.6s,mb3.3,baz=304,slow=6.9,SNR=6.2						
FINES				LR	LR	03 41 20.5	
	comp=Z,49nm,18.5s,MS3.1,baz=272,slow=35						
AKASG	Malin Array Be	35.09	75	P	P	03 31 31.5	-1.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=304,slow=8.6,SNR=6.1						
VAE	Valguarnera	36.42	105	LR	LR	03 45 34.8	
	comp=Z,74nm,21.7s,MS3.4,baz=130,slow=35						
ULM	Lac du Bonnet	36.88	286	P	P	03 31 50.1	+1.8
	comp=Z,1.9nm,0.7s,mb4.0,baz=353,slow=4.5,SNR=3.3						
ULM				LR	LR	03 45 34.2	
	comp=Z,114nm,18.3s,MS3.7,baz=31,slow=34						
YKA	Yellowknife Ar	38.38	312	P	P	03 32 02.5	+1.8
	comp=Z,1.2nm,0.6s,mb3.8,baz=57,slow=8.6,SNR=8.1						
YKA				LR	LR	03 47 06.3	
	comp=Z,144nm,19.4s,MS3.8,baz=50,slow=35						
DAWY	Dawson	46.05	324	eP	P	03 33 03.9	+0.8
ILAR	Eielson Array	47.71	328	P	P	03 33 16.6	+0.3
	comp=Z,2.2nm,0.9s,mb4.2,baz=32,slow=6.5,SNR=18						
ILAR				LR	LR	03 52 37.9	
	comp=Z,40nm,20.4s,MS3.4,baz=249,slow=35						
PDAR	Pinedale Array	48.87	287	P	P	03 33 24.1	-1.5
	comp=Z,0.9nm,0.7s,mb3.9,baz=61,slow=6.5,SNR=11						
PDAR				LR	LR	03 52 58.7	
	comp=Z,98nm,18.3s,MS3.8,baz=68,slow=35						
ISCO	Idaho Springs	49.05	282	eP	P	03 33 27.4	+0.5
	comp=Z,3.1nm,1.1s,mb4.2						
DPW	Davenport	49.37	298	eP	P	03 33 27.7	-1.5
GNI	Garni	50.22	76	LR	LR	03 55 07.8	
	comp=Z,41nm,19.2s,MS3.5,baz=153,slow=36						
RW3	Ridgway	51.28	282	eP	P	03 33 44.3	+0.3
DBIC	Dimbokro	55.68	147	P	P	03 34 14.4	-2.5
	comp=Z,4.5nm,0.9s,mb4.5,baz=289,slow=7.2,SNR=7.2						
DBIC				LR	LR	03 54 45.9	
	comp=Z,51nm,19.3s,MS3.6,baz=212,slow=32						
TXAR	Lajitas Array	56.10	272	P	P	03 34 18.4	-1.3
	comp=Z,0.5nm,0.7s,mb3.7,baz=45,slow=3.5,SNR=7.7						
NVAR	Mina Array Bea	56.51	290	P	P	03 34 23.2	+0.8
	comp=Z,0.6nm,0.8s,mb3.7,baz=72,slow=5.8,SNR=3.5						
NVAR				LR	LR	03 57 47.9	
	comp=Z,72nm,20.3s,MS3.8,baz=60,slow=35						
MKAR	Makanchi Array	61.95	45	P	P	03 34 59.3	-0.8
	comp=Z,1.8nm,0.6s,mb4.4,baz=340,slow=5.6,SNR=14						
SONM	Songino Array	68.64	29	P	P	03 35 42.4	-0.6
	comp=Z,0.9nm,0.9s,mb3.7,baz=346,slow=5.1,SNR=4.7						

IDC 08 03:36:05.5±1.9**, 4.80N×125.85E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/17**, Error ellipse: s-maj=124.0km s-min=22.7km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.76	181	P	P	03 41 09.9	-1.0
	1.9nm,0.6s,baz=359,slow=10,SNR=5.4						
WRA	Warramunga Arr	25.96	162	P	P	03 41 40.0	-1.8
	0.3nm,0.4s,baz=341,slow=9.9,SNR=6.4						
WB2	Warramunga Arr	25.97	161	eP	P	03 41 40.6	-1.2
ASAR	Alice Springs	29.36	165	P	P	03 42 10.3	-2.3
	0.5nm,0.9s,baz=342,slow=7.0,SNR=4.6						
MKAR	Makanchi Array	56.18	325	P	P	03 45 47.2	-2.3
	0.9nm,0.4s,baz=110,slow=8.0,SNR=18						

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*IDC **08** 03:44:26.0±1.1, 6.22S×103.54E, mb4.6/14, mb1 4.7/14, mb1mx4.5/19, MS3.7/3, Ms1 3.8/3, ms1mx3.3/20, Error ellipse: s-maj=44.3km s-min=11.4km az=47.0*

*MOS **08** 03:44:28.7±1.2, 6.16S×103.65E, h33^{km}, mb4.7/13, Error ellipse: s-maj=25.5km s-min=12.5km az=117.2*

*BJI **08** 03:44:32.0, 6.20S×103.70E, h42^{km}, mB4.9, mb4.9, Ms4.7, Msz4.4*

*SYO **08** 03:44:32.0, 6.22S×103.72E, h43^{km}, MB4.6*

*NEIC **08** 03:44:32.0±2.2, 6.22S×103.72E, h43^{km}±16^{km}, mb4.6/9, Error ellipse: s-maj=27.8km s-min=7.7km az=53.0*

ISC 08 03:44:26.3±2.3**, 6.31S**±0.07×**103.57E**±0.07**, h18**^{km}±16^{km}**, n87, σ1$\overset{s}{.}$09**/79**, mb4.7**/34**, MS3.9**/6**, 10C-7D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSI	Kapahiang	2.81	340	eP	Sn	03 45 45.0	-0.1
KELI	Kelakatan	10.99	101	⇑eP	P	03 47 05.9	-0.1
	734nm,0.4s						
INGI	Ingas	11.74	103	⇑eP	P	03 47 17.2	+1.1
	859nm,0.3s						
RATI	Rata	12.10	102	epP		03 47 19.9	
RATI	Rata	12.10	102	⇑eP	P	03 47 18.6	-2.3
	3μm,0.2s						
RATI	Rata	12.10	102	⇑eP	P	03 47 18.6	-2.3
KEDI	Kedomdong	12.62	101	⇓eP	P	03 47 25.6	-2.4
	541nm,0.3s						
TANI	Tanete Lipujan	16.01	80	⇓eP	P	03 48 13.9	+1.5
NINI	Niniconang	16.22	84	⇓eP	P	03 48 16.9	+1.8
BUNI	Buntu Taipa	16.89	82	⇑eP	P	03 48 25.7	+2.1
FITZ	Fitzroy Crossi	24.51	121	⇑iP	P	03 49 46.5	+0.4
	9.2nm,0.7s,mb4.4						
FITZ				eS	S	03 54 17.2	+14
FITZ	Fitzroy Crossi	24.51	121	P	P	03 49 46.6	+0.5
	12nm,0.8s,mb4.5,baz=312,slow=2.4,SNR=21						
FITZ				S	S	03 54 14.6	+12
	2.7nm,0.9s,baz=189,slow=16,SNR=2.8						
CMAR	Chiang Mai Arr	25.02	350	P	P	03 49 51.0	-0.1
	12nm,0.6s,mb4.6,baz=181,slow=9.1,SNR=44						
CMAR				LR	LR	04 01 06.9	
	comp=Z,147nm,18.3s,MS3.5,baz=165,slow=40						
CMAR	Chiang Mai Arr	25.02	350	P	P	03 49 51.0	-0.1
CMAR				pmax	pmax		
	comp=Z,12nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,147nm,18.3s						
QIZ	Qiongzhong	25.92	14	P	P	03 50 01.2	+1.7
QIZ	Qiongzhong	25.92	14	eP	P	03 50 01.0	+1.5
	comp=Z,4.7nm,0.7s,mb4.1						
KAKA	Kakadu	29.11	105	⇑iP	P	03 50 26.9	-1.6
	comp=Z,13nm,0.6s,mb4.8						
NWAO	Narrogin (SRO)	29.38	156	LR	LR	04 00 46.6	
	comp=Z,210nm,18.4s,MS3.8,baz=142,slow=33						
WRA	Warramunga Arr	32.80	117	P	P	03 51 00.9	-0.1
	comp=Z,5.0nm,0.5s,mb4.7,baz=286,slow=13,SNR=42						
WRA	Warramunga Arr	32.80	117	P	P	03 51 00.9	-0.1
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WB2	Warramunga Arr	32.81	117	⇑iP	P	03 51 00.6	-0.5
SHL	Shillong	33.66	341	⇓eP	P	03 51 06.2	-2.2
ASPA	Alice Springs	33.88	124	eP	P	03 51 10.5	+0.2
ASPA				i		03 51 21.8	
ASAR	Alice Springs	33.88	124	P	P	03 51 10.4	0.0
	comp=Z,3.2nm,0.7s,mb4.4,baz=303,slow=8.3,SNR=28						
LSA	Lhasa	37.74	342	eP	P	03 51 44.5	+1.5
	comp=Z,9.5nm,0.5s,mb4.8						
PKI	Pulchoki	37.98	333	eP	P	03 51 44.7	-0.4
WHN	Wuhan	38.07	15	eP	P	03 51 45.7	-0.1
GUN	Gumba	38.07	334	eP	P	03 51 46.9	+1.1
DMN	Daman	38.15	333	eP	P	03 51 47.3	+0.8
KKN	Kakani	38.23	333	eP	P	03 51 47.8	+0.6
	comp=Z,21nm,0.6s,mb5.0						
GKN	Gorkha	38.70	333	eP	P	03 51 51.9	+0.8
	comp=Z,15nm,0.3s,mb5.1						
KOLN	Koldanda	38.99	331	eP	P	03 51 54.4	+0.9
	comp=Z,28nm,0.9s,mb5.0						
SSE	Sheshan	40.83	23	⇓P	P	03 52 08.6	-0.1
SSE				S	S	03 58 09.2	-9.4
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,52nm,6.1s						
NJ2	Nanjing	40.83	20	eP	P	03 52 08.1	-0.6
NJ2				PP	PP	03 53 45.6	-0.5
NJ2				PCS		03 58 02.0	
NJ2				LR	LR		
	comp=N,200nm,14.3s,MS4.4						
NJ2				LR	LR		
	comp=E,270nm,13.4s,MS4.4						
NJ2				LR	LR		
	comp=Z,430nm,14.4s,MS4.5						
NDI	New Delhi	43.07	325	e	P	03 52 28.0	+0.8
PMG	Port Moresby	43.27	97	P	P	03 52 28.5	-0.5
	comp=Z,29nm,0.6s,mb5.2,baz=280,slow=6.1,SNR=12						
PMG	Port Moresby	43.27	97	P	P	03 52 28.5	-0.4
PMG				pmax	pmax		
	comp=Z,29nm,0.6s						
CTA	Charters Tower	43.61	113	P	P	03 52 32.7	+1.1
	comp=Z,2.5nm,0.8s,mb4.0,baz=281,slow=9.6,SNR=5.6						
CTA	Charters Tower	43.61	113	P	P	03 52 32.7	+1.1
CTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTA	Charters Tower	43.61	113	P	P	03 52 32.7	+1.1
CTAO	Charters Tower	43.61	113	eP	P	03 52 31.9	+0.3
	comp=Z,4.4nm,0.8s,mb4.2						
CTAO				e	pP	03 52 38.9	+1.8
STKA	Stephens Creek	43.65	131	eP	pP	03 52 46.4	+9.1
	comp=Z,5.8nm,0.3s						
STKA	Stephens Creek	43.65	131	P	P	03 52 32.6	+0.8
	comp=Z,4.4nm,0.5s,mb4.4,baz=297,slow=6.6,SNR=5.8						
GTA	Gaotai	45.62	356	eP	P	03 52 48.4	+0.9
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
JNU	Nakatsue	47.01	32	P	P	03 52 58.0	-0.5
	comp=Z,13nm,0.9s,mb4.8,baz=169,slow=2.2,SNR=8.0						
WMQ	Urumqi	51.92	345	⇑P	P	03 53 36.4	+0.2
WMQ				PCP	PcP	03 54 48.4	-0.5
WMQ				eS	S	04 00 58.4	+1.7
MAT	Matsushiro	53.56	35	P	P	03 53 45.6	-2.9
MAT	Matsushiro	53.56	35	eP	P	03 53 46.0	-2.5
CN2	Changchun	53.65	20	eP	P	03 53 47.6	-1.5
CN2				eS	S	04 01 20.6	+0.3
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.3						
SONM	Songino Array	53.96	2	P	P	03 53 51.7	+0.4
	comp=Z,11nm,0.8s,mb4.8,baz=177,slow=8.5,SNR=76						
MDJ	Mudanjiang	55.83	22	P	P	03 54 05.6	+0.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,39nm,5.9s						
MKAR	Makanchi Array	56.14	343	P	P	03 54 06.8	-0.4
	comp=Z,10.0nm,0.5s,mb5.1,baz=150,slow=7.8,SNR=66						
MKAR				LR	LR	04 20 47.7	
	comp=Z,50nm,19.2s,MS3.6,baz=349,slow=39						
MKAR	Makanchi Array	56.14	343	eP	P	03 54 06.5	-0.7
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAK	Zakamensk	56.45	360	eP	P	03 54 09.0	-0.4
ZAK				e		03 54 22.4	
KLR	Kul'dur	60.53	21	eP	P	03 54 35.8	-2.0
KURK	Kurchatov	60.74	342	eP	P	03 54 38.3	-0.9
	comp=Z,7.7nm,0.8s,mb4.9						
VOSK	Vostochnaya	64.99	339	P	P	03 55 06.4	-1.0
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BVA0	Borovoye Array	65.44	339	iP	P	03 55 09.6	-0.7
BVAR	Borovoye Array	65.44	339	P	P	03 55 09.7	-0.6
	comp=Z,5.9nm,0.5s,mb4.8,baz=144,slow=9.2,SNR=47						
BRVK	Borovoye	65.51	339	eP	P	03 55 09.8	-0.9
	comp=Z,3.4nm,0.5s,mb4.6						
ZRNK	Zerenda	65.89	338	P	P	03 55 12.5	-0.7
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AB31	Akbulak array	67.11	331	iP	P	03 55 20.6	-0.4
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
YAK	Yakutsk	71.06	13	eP	P	03 55 44.6	-0.5
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
ARU	Arti	72.56	336	⇑iP	P	03 55 54.0	-0.2
ARU				e		03 56 11.1	
ARU				e		03 58 31.3	
ARU				ePPP	PPP	04 00 17.9	-2.2
ARU				eS	S	04 05 07.0	-9.5
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ARU	Arti	72.56	336	eP	P	03 55 53.9	-0.3
	comp=Z,3.2nm,0.6s,mb4.4						
SYO	Syowa Base	75.00	200	⇓P	P	03 56 08.9	+0.8
SYO	Syowa Base	75.00	200	⇓pP	pP	03 56 12.5	-1.3
SOC	Sochi	75.92	318	eP	P	03 56 10.8	-3.0
SOC				e		03 56 26.6	
SOC				e		03 59 12.1	
SOC				e		04 06 00.2	
SOC				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SOC				pmax	pmax		
	comp=N,1.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				MLR	MLR		
	comp=N,74nm,25.0s						
SOC				MLR	MLR		
	comp=Z,71nm,25.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,44nm,18.0s						
OBN	Obninsk	82.31	328	eP	P	03 56 46.4	-1.8
OBN				e	pP	03 56 53.6	-0.3
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AKASG	Malin Array Be	85.05	322	P	P	03 57 03.1	+1.0
	comp=Z,0.9nm,0.6s,mb4.1,baz=86,slow=4.1,SNR=7.1						
AKASG	Malin Array Be	85.05	322	P	P	03 57 03.2	+1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	89.56	332	P	P	03 57 24.9	+1.1
	comp=Z,1.4nm,0.6s,mb4.5,baz=113,slow=7.4,SNR=16						
FINES	FINESS Array B	89.56	332	P	P	03 57 24.9	+1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	89.56	332	P	P	03 57 24.9	+1.1
KAF	Kangasniemi	89.61	333	ep	P	03 57 24.8	+0.8
	comp=Z,2.1nm,0.7s,mb4.6						
KAF	Kangasniemi	89.61	333	eP	P	03 57 24.8	+0.8
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
ARCES	ARCESS Array B	91.71	340	P	P	03 57 35.4	+1.9
	comp=Z,2.9nm,1.1s,mb4.5,baz=90,slow=4.5,SNR=3.5						
ARCES	ARCESS Array B	91.71	340	P	P	03 57 35.4	+1.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NVAR	Mina Array Bea	130.45	44	PKP	PKPdf	04 03 40.5	0.0
	comp=Z,0.4nm,0.5s,baz=342,slow=2.9,SNR=4.8						
PDAR	Pinedale Array	133.38	34	PKP	PKPdf	04 03 44.7	-1.2
	comp=Z,0.4nm,0.8s,baz=45,slow=2.1,SNR=4.9						
WMOK	Wichita Mounta	144.99	33	ePKPdf	PKPdf	04 04 03.4	-3.6
WMOK				e		04 04 15.4	
LTX	Lajitas	145.58	45	ePKPdf	PKPdf	04 04 06.9	-1.2
LTX				e		04 04 18.9	
TXAR	Lajitas Array	145.58	45	PKPbc	PKPbc	04 04 07.1	+2.2
	comp=Z,8.3nm,0.8s,baz=290,slow=1.4,SNR=113						
CCM	Cathedral Cave	145.65	21	ePKPdf	PKPdf	04 04 05.2	-2.8
ACSO	Alum Creek Sta	145.71	9	ePKPdf	PKPdf	04 04 05.4	-2.7
BLO	Bloomington	146.03	14	ePKPdf	PKPdf	04 04 06.6	-2.0
JCT	Junction City	147.43	40	ePKPbc	PKPdf	04 04 11.6	+0.4

IDC 08 03:55:04.9±4.3**, 18.39S×177.25W, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/15**, Error ellipse: s-maj=186.0km s-min=35.1km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.38	242	P	P	04 02 37.4	-0.6
	1.9nm,0.5s,baz=113,slow=13,SNR=4.6						
WRA	Warramunga Arr	45.63	260	P	P	04 03 26.9	-2.3
	0.2nm,0.3s,baz=97,slow=7.2,SNR=5.1						
ASAR	Alice Springs	45.73	255	P	P	04 03 27.7	-2.2
	2.6nm,0.5s,baz=91,slow=8.3,SNR=57						
ILAR	Eielson Array	86.11	13	P	P	04 07 47.4	-1.2
	0.2nm,0.5s,baz=217,slow=5.2,SNR=5.3						

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*ISK **08** 04:49:10.1, 36.91N×27.73E, h2^{km}, MD3.1*

*NEIC **08** 04:49:13.0, 36.91N×27.79E, h31^{km}, MD2.9(ATH), After ATH.*

*ATH **08** 04:49:13.0, 36.91N×27.79E, h31^{km}±3^{km}, MD2.9/3*

ISC 08 04:49:11.6±0.8**, 36.89N**±0.03×**27.75E**±0.04**, h5**^{km}±6^{km}**, n12, σ0$\overset{s}{.}$91**/21**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	306	iP	Pg	04 49 18.7	+1.0
BDRM				iS	Sg	04 49 24.4	+2.6
YER	Yerkesik	0.49	60	iPG	Pg	04 49 20.6	-0.9
YER				iSG	Sg	04 49 28.3	+0.2
NISR	Nisiros	0.57	242	ePN	Pn	04 49 25.5	-0.5
NISR				eSN	Sn	04 49 35.0	-0.9
ARG	Arkhangelos	0.73	156	ePB	Pb	04 49 26.5	0.0
ARG				eSN	Sn	04 49 40.0	0.0
AYDN	Tasoluk	0.78	7	⇑iP	Pg	04 49 26.2	-1.0
AYDN				iS	Sg	04 49 37.5	-0.2
SMG	Samos	1.10	319	ePN	Pn	04 49 34.0	+0.4
DNZL	Cakiroluk	1.31	52	⇑iP	Pb	04 49 35.1	-1.3
DNZL				iS	Sb	04 49 54.8	+1.5
DENT	Denizli	1.34	49	PN	Pn	04 49 37.3	+0.2
DENT				SN	Sn	04 49 56.4	+0.9
KARP	Karpathos	1.42	200	ePN	Pn	04 49 39.0	+0.8
KARP				eSN	Sn	04 49 58.0	+0.6
IZM	Izmir	1.56	346	ePN	Pn	04 49 38.5	-1.7
IZM				eSN	Sn	04 50 01.0	0.0
ELL	Elmali	1.74	94	ePN	Pn	04 49 43.1	+0.4
AKS	Akhisar	1.99	1	ePN	Pn	04 49 45.4	-1.0

IDC 08 04:59:16.8±17.0**, 20.96S×174.65W, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.8**/18**, Error ellipse: s-maj=327.0km s-min=156.4km az=81.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.56	264	P	P	05 06 25.8	-0.6
	1.9nm,0.6s,baz=92,slow=12,SNR=7.8						
STKA	Stephens Creek	40.42	245	P	P	05 06 56.5	-2.1
	1.5nm,0.6s,baz=99,slow=13,SNR=3.2						
ASAR	Alice Springs	47.46	257	P	P	05 07 52.8	-2.7
	0.8nm,0.6s,baz=98,slow=7.7,SNR=12						
WRA	Warramunga Arr	47.64	262	P	P	05 07 54.4	-2.6
	0.4nm,0.3s,baz=95,slow=8.2,SNR=21						
FITZ	Fitzroy Crossi	56.07	262	P	P	05 08 58.9	-1.4
	0.5nm,0.3s,baz=76,slow=4.2,SNR=5.2						

IDC 08 05:00:54.5±65.0**, 15.51S×171.61W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/17**, Error ellipse: s-maj=1275.0km s-min=208.5km az=79.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.48	240	P	P	05 09 15.4	-2.0
	4.4nm,1.1s,baz=90,slow=12,SNR=3.6						
WRA	Warramunga Arr	51.50	257	P	P	05 10 01.8	-2.6
	0.3nm,0.4s,baz=93,slow=6.8,SNR=7.8						
ASAR	Alice Springs	51.72	252	P	P	05 10 04.5	-1.5
	0.7nm,0.4s,baz=89,slow=7.8,SNR=22						

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*IDC **08** 05:08:09.8±1.9, 7.46N×126.79E, mb3.8/6, mb1 4.0/6, mb1mx3.7/19, Error ellipse: s-maj=139.0km s-min=18.8km az=68.0*

*MAN **08** 05:08:18.2, 7.15N×126.61E, h24^{km}, mb4.7, ML3.6, MS3.5*

ISC 08 05:08:16.8±1.0**, 7.14N**±0.06×**126.75E**±0.09**, h49**^{km}±12^{km}**, n19, σ1$\overset{s}{.}$22**/24**, mb3.7**/6**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.52	249	eP	P	05 08 28.3	+0.1
MATI				eS	S	05 08 36.2	-0.3
BIPH	Bislig	1.11	340	⇑eP	P	05 08 34.3	-1.9
BIPH				eS	S	05 08 46.6	-4.0
DMPH	Davao City--Mi	1.23	268	⇓iP	P	05 08 39.1	+1.2
KCP	Kidapawan	1.65	266	⇓iP	P	05 08 44.1	+0.3
KCP				iS	S	05 09 04.4	+0.5
BUKP	Musuan	1.82	294	eP	P	05 08 46.1	-0.2
BUKP				eS	S	05 09 07.8	-0.4
GSPH	General Santos	2.07	240	eP	P	05 08 49.0	-0.7
BUTP	Butuan	2.13	329	eP	P	05 08 52.0	+1.3
BUTP				eS	S	05 09 19.7	+3.7
SCPH	Surigao	2.91	335	⇑eP	P	05 09 03.3	+1.6
PAGZ	Pagadian	3.41	282	eP	P	05 09 08.1	-0.7
MSLP	Maasin	3.51	328	eP	P	05 09 06.5	-3.7
BESP	Borongan	4.62	344	eP	P	05 09 28.5	+2.6
CNP	Catarman	5.72	339	eP	P	05 09 41.8	+0.6
CNP				eS	Sx	05 10 24.3	
PVCP	Virac	6.91	339	eP	P	05 10 02.4	+4.5
FITZ	Fitzroy Crossi	25.10	182	P	P	05 13 38.9	+0.2
	2.3nm,0.8s,mb3.8,baz=357,slow=8.3,SNR=5.0						
WRA	Warramunga Arr	27.93	165	P	P	05 14 05.9	+1.2
	0.6nm,0.7s,mb3.3,baz=349,slow=10,SNR=7.6						
ASAR	Alice Springs	31.40	167	P	P	05 14 35.4	-0.3
	0.4nm,0.3s,mb3.7,baz=345,slow=6.8,SNR=5.1						
STKA	Stephens Creek	41.30	161	P	P	05 15 58.2	-1.0
	2.5nm,0.9s,mb3.8,baz=333,slow=6.8,SNR=2.9						
MKAR	Makanchi Array	54.80	324	P	P	05 17 39.9	-4.3
	1.0nm,0.6s,mb4.0,baz=124,slow=8.8,SNR=9.9						
BVAR	Borovoye Array	64.50	326	P	P	05 18 46.9	-3.7
	0.6nm,0.7s,mb3.8,baz=124,slow=5.2,SNR=2.7						

MAN 08 05:19:27.6, 17.38N×121.75E, h27^{km}, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CVP	Callao Caves	0.33	12	⇓iP	Pb	05 19 35.5	+0.4
CVP				iS	Sb	05 19 40.5	+0.1
CAUP	Cauayan	0.44	171	eP	Pb	05 19 38.8	+2.0
CAUP				eS	Sb	05 19 45.3	+2.2
APYP	Conner	0.68	315	eP	Pb	05 19 41.5	+0.6
APYP				eS	Sb	05 19 52.2	+2.2
PALP	Palanan	0.71	116	eP	Pb	05 19 41.5	+0.2
PALP				eS	Sb	05 19 53.0	+2.2
SGCP	Mt. Cagua	0.90	18	eP	Pb	05 19 43.7	-0.8
ABRA	Dolores	1.03	285	eP	Pn	05 19 46.6	+0.2
ABRA				eS	Sb	05 20 00.5	+0.7
BALP	Baler	1.64	186	eP	Pn	05 19 54.2	-0.8
BALP				eS	Sn	05 20 14.8	-0.6

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*NEIC **08** 05:41:33.2, 16.28N×98.23W, h5^{km}, MD3.8(MEX), After MEX.*

MEX 08 05:41:34.3±1.1**, 16.30N×98.19W, h6**^{km}±6^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	35	eP	Pg	05 41 35.7	-1.0
PNIG				eS	Sg	05 41 38.2	-0.1
OXX	Oaxaca	1.60	61	eP	Pn	05 41 59.5	-3.9
OXX				eS	Sb	05 42 20.0	-4.5
PLIG	Platanillo	2.42	329	iP	Pn	05 42 14.6	-0.5
PLIG				iS	Sn	05 42 40.8	-4.7
YAIG	Yautepec	2.68	342	eP	Pn	05 42 15.7	-3.1
YAIG				eS	Sn	05 42 46.7	-5.2
PPM	Popocatepetl	2.78	351	eP	Pn	05 42 18.8	-1.4
PPM				eP		05 42 19.5	
PPM				eS	Sn	05 42 50.0	-4.5
PPM				eS	Sn	05 42 52.5	-1.9
PPM	Popocatepetl	2.78	351	eP	Pn	05 42 18.8	-1.4
PPM				eS	Sn	05 42 52.5	-1.9

CMIG	Matias Romero	3.26	76	*e*P	Pn	05 42 22.4	-4.7
CMIG				*e*S	Sn	05 42 58.9	-7.8

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*MDD **08** 06:20:57.4±2.1, 36.63N×9.69W, mb3.5/6, Error ellipse: s-maj=19.3km s-min=13.6km az=95.0, PRXIMO*

*INMG **08** 06:20:58.4±0.6, 36.59N×9.64W, h2^{km}±4^{km}, ML1.6, Error ellipse: s-maj=5.7km s-min=2.6km az=83.0*

ISC 08 06:20:57.0±1.8, **36.65N**±0.07×**9.6W**±0.1, **h10^{km}, n15, σ1^{s}05**/26, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	Sao Teotonio	1.15	39	*e*P	Pb	06 21 20.2	+1.6
PTEO				*e*S	Sb	06 21 36.8	+3.4
	4.3nm,0.1s						
PTEO	Sao Teotonio	1.15	39	P	Pb	06 21 20.2	+1.6
PTEO				S	Sb	06 21 36.8	+3.4
	2.2nm,0.1s						
PALC	Alcoutim	1.91	64	*e*Pn	Pn	06 21 30.7	+0.7
PALC				*e*Sn	Sn	06 21 54.7	+0.5
	4.4nm,0.2s						
PALC	Alcoutim	1.91	64	P	Pn	06 21 30.7	+0.7
PALC				S	Sn	06 21 54.7	+0.5
	2.2nm,0.2s						
EGRO	El Granado	1.93	62	P	Pn	06 21 31.1	+0.8
	0.8nm,0.1s,SNR=6.3						
EGRO				S	Sn	06 21 55.9	+1.0
	2.8nm,0.1s,SNR=12						
PBEJ	Beja	1.97	45	*e*Pn	Pn	06 21 31.3	+0.5
PBEJ				*e*Sn	Sn	06 21 56.4	+0.6
MOE	Montemor	2.13	28	*e*Sn	Sn	06 22 00.6	+0.7
EMIN	Mina Concepcio	2.61	64	P	Pn	06 21 39.9	-0.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 22 11.3	-0.9
	1.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.96	44	P	Pn	06 21 44.4	-0.6
	0.2nm,0.0s,SNR=5.7						
EBAD				S	Sn	06 22 18.6	-2.3
	1.9nm,0.1s,SNR=7.9						
ESPR	Espera	3.04	85	P	Pn	06 21 46.4	+0.2
	0.8nm,0.1s,SNR=7.9						
ESPR				S	Sn	06 22 23.1	+0.1
	4.8nm,0.2s,SNR=7.9						
PTOM	Tomar	3.12	18	*e*Sn	Sn	06 22 24.1	-0.8
	1.9nm,0.1s						
PTOM	Tomar	3.12	18	S	Sn	06 22 24.1	-0.8
	0.9nm,0.1s						
EADA	Adamuz	4.30	68	P	Pn	06 22 03.1	-1.0
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	06 22 51.4	-3.5
	0.5nm,0.0s,SNR=7.9						
ESDC	Sonseca Array	5.39	54	P	Pn	06 22 18.2	-1.3
	1.8nm,0.1s,baz=240,slow=13,SNR=7.9						
ESDC				S	Sn	06 23 16.9	-5.5
	0.2nm,0.3s,baz=84,slow=39,SNR=7.8						
ECAL	Calabor	5.74	22	S	Sn	06 23 22.8	-8.4
	1.6nm,0.3s,SNR=7.9						

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*IDC **08** 06:23:34.6±2.0, 43.52N×126.88W, mb3.2/4, mb1 3.7/9, mb1mx3.5/24, ML3.5/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/14, Error ellipse: s-maj=31.3km s-min=14.7km az=59.0*

*NEIC **08** 06:23:36.1±0.8, 43.49N×126.99W, h10^{km}, mb3.9/2, Error ellipse: s-maj=10.2km s-min=4.2km az=74.0*

ISC 08 06:23:33.7±1.0, **43.48N**±0.04×**127.1W**±0.1, **h10^{km}, n79, σ0^{s}92**/79, **mb3.4**/4, **MS3.0**/3, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	2.09	106	*e*P	Pn	06 24 07.8	-1.4
MPOR	Mary's Peak	2.73	67	P	Pn	06 24 18.1	-0.3
DBO	Dodson Butte	2.81	96	P	Pn	06 24 18.9	-0.7
HSO	Harness Mounta	2.89	88	P	Pn	06 24 20.2	-0.5
COR	Corvallis	2.93	67	*e*P	Pn	06 24 21.2	0.0
EUO	Eugene	2.94	78	P	Pn	06 24 21.5	0.0
HUMO	Hull Mountain	3.13	105	*e*P	Pn	06 24 22.7	-1.4
HUMO				*e*S	Sn	06 24 57.7	-4.3
BBOR	Butler Butte	3.26	99	P	Pn	06 24 25.8	-0.1
KMOR	Kings Mountain	3.34	49	P	Pn	06 24 27.0	0.0
HBO	Huckleberry Mo	3.46	82	P	Pn	06 24 29.6	+0.8
SSOR	Sweet Springs	3.59	66	*e*P	Pn	06 24 31.0	+0.5
YBH	Yreka Blue Hor	3.66	117	Pn	Pn	06 24 31.4	-0.1
	1.0nm,0.3s,baz=296,slow=10,SNR=22						
YBH				Sn	Sn	06 25 17.9	+2.6
	0.7nm,0.3s,baz=93,slow=18,SNR=2.8						
YBH				T		06 27 31.7	
	0.1nm,0.3s,baz=163,slow=14,SNR=5.2						
YBH	Yreka Blue Hor	3.66	117	*e*P	Pn	06 24 31.6	0.0
NLO	Nicolai Mounta	3.66	43	P	Pn	06 24 32.1	+0.5
HUOR	Husband	3.83	79	P	Pn	06 24 35.0	+0.9
BMW	Boistfort Moun	4.04	41	P	Pn	06 24 36.8	-0.3
RVW	Rose Valley	4.07	48	P	Pn	06 24 37.9	+0.4
VLMM	Larch Mountain	4.14	58	P	Pn	06 24 39.4	+1.0
TDH	Tom, Dick, Har	4.19	63	P	Pn	06 24 40.1	+1.0
LVP	Lakeview Peak	4.20	50	P	Pn	06 24 40.1	+0.7
MTMW	Mount Mitchell	4.29	52	P	Pn	06 24 41.3	+0.7
FL2	Flat Top 2	4.31	49	P	Pn	06 24 41.6	+0.7
VLL	Laurance Lake	4.33	61	P	Pn	06 24 42.3	+1.1
SHW	Mount Saint He	4.37	50	P	Pn	06 24 42.8	+1.0
ERK	Elk Rock	4.38	48	P	Pn	06 24 42.3	+0.4
JLK	June Lake	4.39	51	P	Pn	06 24 42.9	+0.8
STD	Studebaker Rid	4.41	50	P	Pn	06 24 43.2	+1.0
CDFW	Cedar Flats	4.44	52	P	Pn	06 24 43.3	+0.7
LCW	Lucas Creek	4.44	43	P	Pn	06 24 43.0	+0.3
CPW	Capitol Peak	4.46	37	P	Pn	06 24 42.5	-0.5
KOSW	Kosmos	4.56	48	P	Pn	06 24 45.5	+1.0
CROR	Criterion Ridg	4.62	69	P	Pn	06 24 45.0	-0.2
ASR	Mount Adams--S	4.72	54	P	Pn	06 24 47.6	+1.0
OCWA	Octopus Mounta	4.72	24	*e*P	Pn	06 24 46.0	-0.7
MEW	McNeil Island	4.85	38	P	Pn	06 24 49.2	+0.6
GHW	Garrison Hill	4.91	42	P	Pn	06 24 49.6	+0.2
VGB	Gordon Butte	4.93	63	*e*P	Pn	06 24 49.5	-0.3
GLK	Glacier Lake	4.94	50	P	Pn	06 24 50.8	+0.9
LON	Longmire	4.95	47	P	Pn	06 24 50.4	+0.5
HDW	Hoodsport	5.03	33	P	Pn	06 24 50.6	-0.5
GNW	Green Mountain	5.05	35	P	Pn	06 24 50.5	-0.9
GL2	New Goldendale	5.09	59	P	Pn	06 24 52.4	+0.5
FMW	Mount Fremont	5.14	46	P	Pn	06 24 53.3	+0.7
GSM	Grass Mountain	5.26	43	P	Pn	06 24 54.7	+0.4
RMW	Rattlesnake Mo	5.43	41	*e*P	Pn	06 24 56.4	-0.4
HTW	Haystack Looko	5.70	39	P	Pn	06 24 59.9	-0.5
EBG	Ellensburg	5.73	51	P	Pn	06 25 01.7	+0.8
PGC	Sidney	5.75	25	*e*P	Pn	06 24 59.9	-1.3
HAWA	Hanford	6.09	59	*e*P	Pn	06 25 05.5	-0.5
WVOR	Wild Horse Val	6.27	97	*e*P	Pn	06 25 06.4	-2.2
RPW	Rockport	6.29	36	P	Pn	06 25 08.5	-0.4
WTV	Waterville	6.53	47	P	Pn	06 25 12.1	-0.1
NLW	Nelson Butte	6.58	43	*e*P	Pn	06 25 12.0	-0.9
LNOR	Lincton Mounta	6.70	66	P	Pn	06 25 12.9	-1.6
WCN	Washoe City	6.90	125	P	Pn	06 25 17.2	-0.2
CMB	Columbia Colle	7.43	135	*e*P	Pn	06 25 24.3	-0.6
DPW	Davenport	7.60	52	*e*P	Pn	06 25 25.9	-1.3
NVAR	Mina Array Bea	8.33	124	Pn	P	06 25 38.2	+0.8
	0.1nm,0.3s,baz=292,slow=11,SNR=5.0						
NEW	Newport	8.42	52	Pn	P	06 25 38.3	-0.4
	1.2nm,0.3s,baz=252,slow=11,SNR=12						
NEW				LR	LR	06 28 57.1	
	comp=Z,163nm,20.6s,baz=244,slow=39						
NEW	Newport	8.42	52	*e*P	P	06 25 36.9	-1.8
OMM	Old Mammoth Mi	8.48	131	*e*P	P	06 25 39.4	-0.2
BBB	Bella Bella	8.74	356	Pn	P	06 25 43.0	-0.1
	0.2nm,0.3s,baz=184,slow=13,SNR=3.6						
HLID	Hailey	9.19	85	*e*P	P	06 25 48.8	-0.6
MCMT	McKenzie Canyo	10.31	78	P	P	06 26 03.0	-1.7
CHMT	Chamberlain Mo	10.33	66	*e*P	P	06 26 02.8	-2.2
BOZ	Bozeman (W)	11.22	74	*e*P	P	06 26 15.4	-1.8
QLMT	Earthquake Lak	11.31	78	P	P	06 26 18.6	+0.1
TPAW	Teton Pass	11.71	84	P	P	06 26 21.6	-2.2
MSU	Marysvale	12.29	109	*e*P	P	06 26 30.7	-0.9
LDFC	Landfair	12.49	128	*e*P	P	06 26 36.5	+2.2
PDAR	Pinedale Array	12.81	87	Pn	P	06 26 39.0	+0.4
	0.0nm,0.3s,baz=270,slow=12,SNR=7.4						
DLBC	Dease Lake	15.09	354	LR	LR	06 32 18.7	
	comp=Z,58nm,19.3s,baz=0.2,slow=35						
SDCO	Great Sand Dun	17.33	102	*e*P	P	06 27 37.7	+0.5
	7.3nm,1.2s						
YKA	Yellowknife Ar	20.40	17	P	P	06 28 12.6	-0.5
	0.3nm,0.5s,baz=205,slow=10,SNR=2.9						
ULM	Lac du Bonnet	22.26	61	P	P	06 28 32.3	+0.2
	1.6nm,0.7s,mb3.6,baz=286,slow=9.9,SNR=3.0						
ULM				LR	LR	06 37 31.6	
	comp=Z,66nm,20.0s,MS3.1,baz=358,slow=38						
TXAR	Lajitas Array	23.43	119	P	P	06 28 45.5	+1.7
	0.5nm,0.9s,mb2.9,baz=298,slow=8.8,SNR=5.0						
WMOK	Wichita Mounta	23.53	102	*e*P	P	06 28 45.7	+1.1
	8.4nm,1.1s,mb4.1						
ILAR	Eielson Array	24.08	339	P	P	06 28 50.0	+0.3
	0.6nm,0.8s,mb3.1,baz=155,slow=8.8,SNR=11						
ILAR				LR	LR	06 36 48.6	
	comp=Z,28nm,20.5s,MS2.7,baz=360,slow=33						
INK	Inuvik	25.12	354	LR	LR	06 38 32.3	
	comp=Z,64nm,18.3s,MS3.2,baz=52,slow=36						

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*NEIC **08** 07:00:52.3±2.7, 20.48S×177.76W, h522^{km}±32^{km}, mb4.0/12, Error ellipse: s-maj=18.5km s-min=11.2km az=166.0*

*IDC **08** 07:00:54.4±2.8, 20.63S×177.75W, h548^{km}±34^{km}, mb3.4/7, mb1 3.7/8, mb1mx3.5/15, Error ellipse: s-maj=40.2km s-min=11.5km az=156.0*

ISC 08 07:00:52.2±2.2, **20.5S**±0.2×**177.86W**±0.10, **h530^{km}**±27^{km}, **n39, σ0^{s}63**/31, **mb3.9**/18, **3C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	18.27	193	P	P	07 04 33.1	-0.5
	3.9nm,0.3s,baz=231,slow=2.7,SNR=16						
CTA	Charters Tower	33.63	264	⇑*i*P	P	07 06 50.6	+0.7
	6.2nm,0.4s,mb4.5						
CTAO	Charters Tower	33.63	264	⇑*e*P	P	07 06 50.6	+0.7
	6.7nm,0.4s,mb4.5						
STKA	Stephens Creek	37.93	244	P	P	07 07 26.0	+0.7
	2.3nm,0.7s,mb3.8,baz=101,slow=17,SNR=7.3						
ASAR	Alice Springs	44.66	257	P	P	07 08 19.2	+0.1
	4.7nm,0.8s,mb4.1,baz=95,slow=7.9,SNR=43						
ASAR				PcP	PcP	07 09 50.4	-0.4
	0.6nm,0.6s,baz=101,slow=4.5,SNR=4.2						
ASAR				S	S	07 14 16.6	-0.5
	2.0nm,0.9s,baz=94,slow=15,SNR=10						
ASPA	Alice Springs	44.66	257	*e*P	P	07 08 19.2	0.0
ASPA				*e*S	S	07 14 16.6	-0.5
WB2	Warramunga Arr	44.73	262	*e*P	P	07 08 19.1	-0.6
WRA	Warramunga Arr	44.74	262	P	P	07 08 19.5	-0.3
	2.4nm,0.4s,mb4.0,baz=96,slow=8.0,SNR=127						
WRA				S	S	07 14 18.3	0.0
	0.5nm,0.8s,baz=98,slow=14,SNR=3.7						
KAKA	Kakadu	48.15	271	⇑*i*P	P	07 08 45.0	-0.9
	2.8nm,0.3s,mb4.3						
QSPA	South Pole Qui	69.61	180	*e*P	P	07 11 09.5	+0.6
	3.6nm,0.9s,mb3.9						
NVAR	Mina Array Bea	80.90	43	P	P	07 12 12.3	+0.2
	2.5nm,0.8s,mb3.7,baz=219,slow=8.2,SNR=20						
NVAR	Mina Array Bea	80.90	43	P	P	07 12 12.3	+0.2
MNV	Mina	81.00	43	*e*P	P	07 12 12.5	-0.1
	2.8nm,0.8s,mb3.7						
LDFC	Landfair	81.18	48	*e*P	P	07 12 13.7	+0.1
TPH	Tonopah	81.40	44	*e*P	P	07 12 14.8	+0.2
	3.4nm,1.0s,mb3.7						
MOD	Modoc	81.70	40	*e*P	P	07 12 15.9	-0.1
	3.7nm,0.8s,mb3.9						
TUC	Tucson	82.85	52	*e*P	P	07 12 22.1	+0.1
	3.4nm,1.0s,mb3.8						
WVOR	Wild Horse Val	83.01	40	*e*P	P	07 12 22.7	0.0
	4.7nm,1.1s,mb3.9						
OCWA	Octopus Mounta	83.20	33	*e*P	P	07 12 24.0	+0.6
	12nm,0.9s,mb4.4						
RMW	Rattlesnake Mo	84.26	34	*e*P	P	07 12 28.7	+0.1
HLID	Hailey	86.21	41	*e*P	P	07 12 38.4	+0.2
	2.3nm,1.1s,mb3.7						
DPW	Davenport	86.44	36	*e*P	P	07 12 38.8	-0.4
TXAR	Lajitas Array	86.92	57	P	P	07 12 42.4	+0.5
	1.5nm,0.8s,mb3.7,baz=215,slow=6.5,SNR=20						
PV10	Paradox Valley	87.05	47	*e*P	P	07 12 41.7	-0.6
MCMT	McKenzie Canyo	87.83	40	*e*P	P	07 12 46.0	+0.2
BW06	Boulder Array	88.84	43	*e*P	P	07 12 48.9	-1.7
	1.7nm,0.8s,mb3.9						
PDAR	Pinedale Array	88.84	43	P	P	07 12 50.2	-0.4
	1.3nm,0.7s,mb3.9,baz=228,slow=1.6,SNR=15						
CMAR	Chiang Mai Arr	90.23	290	P	P	07 12 59.6	+2.1
	0.4nm,0.4s,mb3.6,baz=135,slow=5.1,SNR=4.2						
MKAR	Makanchi Array	111.27	313	PKiKP		07 18 25.1	
	0.4nm,0.6s,baz=66,slow=2.4,SNR=4.7						
ARCES	ARCESS Array B	128.91	350	PKP	PKPdf	07 18 59.2	+0.4
	1.1nm,0.7s,baz=63,slow=2.7,SNR=3.8						
FINES	FINESS Array B	135.77	344	PKP	PKPdf	07 19 14.1	+2.3
	0.7nm,0.8s,baz=117,slow=4.3,SNR=5.4						
FINES	FINESS Array B	135.77	344	PKP	PKPdf	07 19 14.1	+2.3
AKASG	Malin Array Be	143.04	331	PKhKP		07 19 22.7	
	1.5nm,0.4s,baz=40,slow=4.3,SNR=15						
CLL	Collm	148.06	347	⇓*i*PKP1	PKPdf	07 19 38.3	+4.9
BRG	Berggiesshubel	148.26	346	*i* P	PKPdf	07 19 38.9	+5.2
MOX	Moxa	148.96	348	*e*P	PKPdf	07 19 40.0	+5.2
MOX				L		07 49 27.0	
KHC	Kasperske Hory	149.97	345	*e*PKP1	PKPdf	07 19 43.0	+6.5
KHC				PKP2	PKPab	07 19 51.5	-0.9
KHC	Kasperske Hory	149.97	345	*e*P	PKPdf	07 19 43.0	+6.5
KHC				*e*		07 19 51.5	
GERES	GERESS Array B	150.20	345	PKPbc	PKPdf	07 19 43.6	+6.7
	2.4nm,0.9s,baz=27,slow=3.0,SNR=13						

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*IDC **08** 07:12:34.8±7.2, 5.49S×148.56E, mb4.1/3, mb1 4.1/5, mb1mx3.8/14, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=108.0km s-min=57.9km az=47.0*

ISC 08 07:12:47.8±4.9, **6.1S**±0.2×**147.9E**±0.3, **h51^{km}**±31^{km}, **n10, σ0^{s}88**/10, **mb3.9**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.33	192	Pn	P	07 13 38.6	-0.2
	4.3nm,0.3s,baz=30,slow=10,SNR=10						
PMG				Sn	S	07 14 17.8	+0.4
	6.7nm,0.3s,baz=346,slow=21,SNR=3.5						
CTA	Charters Tower	13.96	186	LR	LR	07 21 10.7	
	comp=Z,73nm,21.7s,baz=230,slow=35						
KAKA	Kakadu	16.57	246	*e*P	P	07 16 39.1	+0.8
	3.7nm,1.0s						
WB2	Warramunga Arr	18.99	222	*e*P	P	07 17 06.3	-1.7
WRA	Warramunga Arr	19.00	222	P	P	07 17 06.7	-1.4
	0.3nm,0.3s,baz=49,slow=10,SNR=21						
ASAR	Alice Springs	22.00	216	P	P	07 17 39.6	+0.3
	2.2nm,0.5s,mb3.9,baz=55,slow=8.8,SNR=36						
ASPA	Alice Springs	22.00	216	*e*P	P	07 17 39.5	+0.1
FITZ	Fitzroy Crossi	24.72	239	*e*P	P	07 18 07.1	+1.1
	2.6nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	24.72	239	P	P	07 18 07.0	+1.0
	3.4nm,0.6s,mb4.1,baz=39,slow=8.5,SNR=13						
STKA	Stephens Creek	26.28	192	P	P	07 18 20.9	+0.5
	1.7nm,0.6s,mb3.8,baz=42,slow=15,SNR=4.8						

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*IDC **08** 07:18:05.2±1.6, 8.81S×122.33E, mb3.6/2, mb1 4.3/5, mb1mx4.0/13, ML4.3/3, Error ellipse: s-maj=158.0km s-min=25.3km az=65.0*

*DJA **08** 07:18:12.5±0.9, 9.21S×121.91E, h370^{km}±35^{km}, MD4.6/6, ML5.3/2, Error ellipse: s-maj=62.6km s-min=9.3km az=137.0*

*NEIC **08** 07:18:15.9±0.6, 9.57S×122.23E, h123^{km}±12^{km}, MD4.6(DJA), Error ellipse: s-maj=13.8km s-min=6.9km az=220.0*

ISC 08 07:18:15.4±0.9, **9.51S**±0.07×**122.19E**±0.06, **h137^{km}**±15^{km}, **n15, σ1^{s}21**/26, **mb3.5**/2, **4C-5D, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NINI	Niniconang	5.60	334	*e*Pn	P	07 19 39.8	+2.2
KEDI	Kedomdong	6.09	279	⇓*i*Pn	P	07 19 45.5	+1.3
	210nm,0.1s						
KEDI				⇑*i*Sn	S	07 20 54.3	+1.1
BUNI	Buntu Taipa	6.10	342	⇓*i*Pn	P	07 19 44.0	-0.4
RATI	Rata	6.62	276	⇓*i*Pn	P	07 19 52.1	+0.6
	288nm,0.1s						
RATI				⇑*i*Sn	S	07 21 04.8	-1.2
INGI	Ingas	6.99	275	⇑*i*Pn	P	07 19 55.9	-0.6
INGI				⇑*i*Sn	S	07 21 11.9	-3.1
KELI	Kelakatan	7.72	279	⇓*i*Pn	P	07 20 05.7	-0.5
KELI				⇓*i*Sn	S	07 21 27.2	-5.3
FITZ	Fitzroy Crossi	9.17	159	*e*P	P	07 20 25.4	-0.2
	6.0nm,0.3s						
FITZ				*e*S	S	07 22 06.1	-1.3
FITZ	Fitzroy Crossi	9.17	159	Pn	P	07 20 27.5	+1.9
	2.8nm,0.3s,baz=356,slow=8.1,SNR=53						
FITZ				Sn	S	07 22 08.5	+1.1
	2.3nm,0.3s,baz=197,slow=9.7,SNR=5.8						
KAKA	Kakadu	10.51	109	*e*P	P	07 20 41.8	-1.6
	7.0nm,0.3s						
KAKA				*e*S	S	07 22 29.4	-10
WRA	Warramunga Arr	15.66	133	Pn	P	07 21 49.2	-0.7
	1.4nm,0.3s,baz=298,slow=13,SNR=53						
WRA				Sn	S	07 24 34.4	-4.8
	1.4nm,0.3s,baz=297,slow=23,SNR=11						
WB2	Warramunga Arr	15.67	133	*e*P	P	07 21 48.9	-1.1
WB2				*e*S	S	07 24 30.8	-8.6
ASPA	Alice Springs	17.98	143	*e*P	P	07 22 21.5	+3.4
ASPA				*e*S	S	07 25 30.9	-0.3
ASAR	Alice Springs	17.99	143	P	P	07 22 22.1	+4.0
	1.4nm,0.3s,baz=328,slow=14,SNR=54						
ASAR				S	S	07 25 32.9	+1.7
	0.3nm,0.3s,baz=317,slow=23,SNR=16						
SONM	Songino Array	58.78	348	P	P	07 28 01.2	-0.4
	0.3nm,0.7s,mb3.2,baz=177,slow=5.7,SNR=2.8						
MKAR	Makanchi Array	66.38	331	P	P	07 28 52.0	+0.1
	0.7nm,0.6s,mb3.7,baz=138,slow=7.1,SNR=5.7						

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*NIED **08** 07:41:00, 33.30N×137.00E, h400^{km}, Mw4.6 Best double couple: M$_0$9.92×10^{15} NP1:φ$_s$163°, δ80°, λ51°. NP2:φ$_s$61°, δ40°, λ165°.*

*MOS **08** 07:41:10.5±0.8, 33.28N×136.90E, h367^{km}, mb4.2/19, Error ellipse: s-maj=16.7km s-min=9.1km az=100.2*

*BJI **08** 07:41:11.1, 33.23N×137.01E, h389^{km}, mB4.5, mb4.8*

*JMA **08** 07:41:12.2±0.3, 33.28N×137.00E, h392^{km}±3^{km}, M4.2*

*SYO **08** 07:41:12.3, 33.18N×136.95E, h372^{km}, MB4.5*

*NEIC **08** 07:41:12.4±0.2, 33.18N×136.95E, mb4.5/43, MW4.6(NIED), Error ellipse: s-maj=5.3km s-min=4.0km az=151.0*

*IDC **08** 07:41:13.3±1.0, 33.22N×136.95E, h383^{km}±10^{km}, mb3.9/18, mb1 4.0/23, mb1mx4.0/26, Error ellipse: s-maj=11.9km s-min=9.7km az=96.0*

ISC 08 07:41:12.5±0.2, **33.24N**±0.04×**136.89E**±0.03, **h385^{km}**±1^{km}, **h370^{km}**±2.3^{km}**:pP-P, n189, σ0^{s}91**/215, **mb4.4**/73, **30C-15D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.79	48	P	P	07 42 01.7	+0.2
TK01				S	S	07 42 41.1	+1.1
JWZ	Kozaga	1.02	287	⇑P	P	07 42 02.4	+0.1
JWZ				S	S	07 42 41.7	+0.3
JIE	Ise	1.16	353	⇑P	P	07 42 03.3	+0.4
JIE				S	S	07 42 42.4	0.0
TK03	Tokai 3	1.29	44	P	P	07 42 03.7	+0.2
TK03				S	S	07 42 46.1	+2.6
JWY	Kouya	1.46	313	⇑P	P	07 42 04.9	+0.6
JWY				S	S	07 42 44.8	-0.1
JKO	Kozu shima	2.10	63	P	P	07 42 08.7	+0.6
NJJJ	Nii jima 2	2.31	59	⇓P	P	07 42 09.2	-0.3
JMY	Miyake jima 2	2.34	69	P	P	07 42 09.1	-0.7
JWT	Wachi	2.38	329	⇑P	P	07 42 10.5	+0.4
JWT				S	S	07 42 55.1	-0.2
JHJ	Hachijo jima 2	2.43	92	P	P	07 42 10.4	0.0
	144nm,0.3s,baz=217,slow=3.6,SNR=7.4						
JHJ2	Mitsune	2.46	92	⇓P	P	07 42 10.2	-0.4
JGM	Miyama	2.46	357	⇑P	P	07 42 11.1	+0.5
JGM				S	S	07 42 56.7	+0.4
JIM2	Oshima 3	2.58	54	P	P	07 42 10.5	-1.0
JOD2	Odawara 2	2.72	41	⇓P	P	07 42 12.0	-0.6
JOD2				S	S	07 43 00.1	+0.2
JRY	Ryogami san	3.23	30	⇓P	P	07 42 16.3	-0.6
JRY				S	S	07 43 08.3	+0.7
JTO	Tosashimizu	3.45	265	⇑P	P	07 42 19.9	+1.0
JTO				S	S	07 43 13.3	+2.2
MAT	Matsushiro	3.47	18	P	P	07 42 18.3	-0.8
MAT				S	S	07 43 09.6	-1.8
MAT	Matsushiro	3.47	18	P	P	07 42 18.2	-0.9
MAT				S	S	07 43 10.3	-1.1
MAT	Matsushiro	3.47	18	*e*P	P	07 42 18.0	-1.1
MAT				*e*S	S	07 43 10.0	-1.4
MAJO	Matsushiro	3.47	18	⇓*i*P	P	07 42 18.3	-0.8
MAJO				*e*S	S	07 43 09.7	-1.7
JHS	Saijyo	3.59	300	P	P	07 42 21.3	+1.1
JHS				S	S	07 43 16.0	+2.7
BSO1	Boso 1	3.68	66	P	P	07 42 17.1	-3.9
BSO1				S	S	07 43 10.5	-4.4
JAG	Ashikaga	3.82	33	⇓P	P	07 42 20.1	-2.2
JAG				S	S	07 43 13.7	-3.5
JNU	Nakatsue	5.04	270	P	P	07 42 36.1	+1.4
	2.8nm,0.3s,baz=90,slow=10,SNR=8.1						
JMK	Ichinoseki	6.70	30	⇑P	P	07 42 50.5	-2.5
JMK				S	S	07 44 05.6	-6.6
CBIJ	Chichi jima	7.65	142	P	P	07 42 58.5	-5.5
	36nm,0.3s,baz=136,slow=22,SNR=22						
CBIJ				S	S	07 44 22.9	-8.8
	128nm,0.3s,baz=275,slow=23,SNR=31						
INCN	Inchon	9.38	300	*e*P	P	07 43 25.0	+0.8
	91nm,0.7s						
JOW	Kunigami	9.82	232	P	P	07 43 29.9	+0.6
	3.2nm,0.3s,baz=337,slow=29,SNR=8.8						
ASAJ	Asahikawa	11.74	21	P	P	07 43 49.6	-2.2
	2.0nm,0.3s,baz=89,slow=9.5,SNR=11						
ASAJ	Asahikawa	11.74	21	P	P	07 43 49.6	-2.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MDJ	Mudanjiang	12.70	336	P	P	07 44 02.2	-0.6
MDJ				S	S	07 46 17.4	-1.0
MDJ				PCP	PcP	07 49 08.8	+2.1
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,51nm,6.8s						
MDJ	Mudanjiang	12.70	336	*e*P	P	07 44 03.4	+0.6
	comp=Z,8.5nm,0.8s						
YUK	Yuzh-Kuril'sk	12.85	30	*e*P	P	07 44 02.5	-2.1
YUK				*e*S	S	07 46 22.5	+0.9
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				pmax	pmax		
	comp=N,150nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.7s						
YUK				smax			
	comp=N,2µm,1.0s						
YUK				smax			
	comp=E,1µm,1.3s						
YUK				smax			
	comp=N,210nm,0.4s						
SSE	Sheshan	13.47	265	⇓P	P	07 44 12.3	+0.7
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,38nm,5.5s						
SNY	Shenyang	13.59	313	⇓P	P	07 44 11.9	-0.9
SNY				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2	Changchun	13.82	323	*e*P	P	07 44 16.0	+0.7
CN2				*e*XP		07 45 40.3	
CN2				*e*S	S	07 46 33.0	-8.5
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	14.41	16	⇑*i*P	P	07 44 19.8	-1.8
YSS				*e*S	S	07 46 54.0	+0.8
YSS				pmax	pmax		
	comp=N,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				smax			
	comp=E,90nm,1.2s						
YSS	Yuzh-Sakhalins	14.41	16	*e*P	P	07 44 20.1	-1.5
	comp=E,53nm,0.7s						
KUR	Kuril'sk	14.68	32	*e*P	P	07 44 28.6	+4.2
KUR				*e*S	S	07 47 05.5	+7.1
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
KUR				smax			
	comp=N,130nm,1.0s						
NJ2	Nanjing	15.24	270	*e*P	P	07 44 28.9	-1.4
NJ2				XP		07 46 05.9	
NJ2				S	S	07 47 07.9	-1.6
NJ2				PCP	PcP	07 49 07.1	-3.1
NJ2				SCP		07 52 00.8	
NJ2				PCS		07 52 41.0	
NJ2				SCS	ScS	07 55 38.0	-5.8

BJI	Beijing	17.94	298	P	P	07 44 57.9	+0.2
BJI				XP		07 46 37.7	
BJI				S	S	07 48 00.2	+0.2
BJI				PCP	PcP	07 49 14.8	+0.4
BJT	Baijiatuau	17.94	298	⇓iP	P	07 44 57.9	+0.1
	comp=N,161nm,0.7s						
WHN	Wuhan	19.32	268	P	P	07 45 12.2	+0.7
WHN				AMB	AMB		
	comp=Z,151nm,0.8s						
HIA	Hailar	20.48	327	eP	P	07 45 22.8	+0.2
	comp=Z,15nm,0.6s						
HHC	Hu-ho-hao-te	21.55	298	eP	P	07 45 33.2	+0.3
HHC				S	S	07 49 03.7	+0.9
HHC				SCP		07 52 22.3	
HHC				PCS		07 52 57.2	
HHC				AMB	AMB		
	comp=Z,44nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,119nm,5.7s						
BTO	Baotou	22.65	297	eP	P	07 45 43.6	+0.5
BTO				AMB	AMB		
	comp=Z,129nm,0.8s,mb5.4						
XAN	Xi'an	23.27	280	P	P	07 45 48.5	-0.5
XAN				AMB	AMB		
	comp=Z,82nm,0.8s,mb5.2						
ENH	Enshi	23.46	270	⇓iP	P	07 45 50.2	-0.5
	comp=Z,147nm,0.8s						
GYA	Guiyang	27.01	264	⇑iP	P	07 46 20.9	-1.8
GYA				S	S	07 50 31.0	-0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
SONM	Songino Array	27.17	312	P	P	07 46 24.7	+0.8
	comp=Z,15nm,0.6s,mb4.6,baz=110,slow=8.0,SNR=86						
SONM				ScP		07 52 35.8	
	comp=Z,0.5nm,0.6s,baz=162,slow=3.9,SNR=4.0						
LZH	Lanzhou	27.26	285	eP	P	07 46 24.0	-0.8
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,140nm,5.6s						
MA2	Magadan	27.91	15c	iP	P	07 46 29.6	-0.8
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
MA2				pmax	pmax		
	comp=E,4.0nm,0.7s						
MA2				pmax	pmax		
	comp=N,10.0nm,0.8s						
MA2	Magadan	27.91	15	eP	P	07 46 29.1	-1.3
	comp=N,36nm,0.8s,mb4.8						
CD2	Chengdu	28.11	274	⇓iP	P	07 46 31.4	-1.0
CD2				AMB	AMB		
	comp=Z,112nm,0.6s,mb5.4						
YAK	Yakutsk	29.18	353	eP	P	07 46 40.5	-0.9
YAK				eS	S	07 51 01.0	-4.3
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				smax			
	comp=N,3.0nm,1.1s						
YAK				smax			
	comp=E,4.0nm,0.9s						
ZAK	Zakamensk	30.01	315	eP	P	07 46 50.0	+1.2
GTA	Gaotai	30.35	292	P	P	07 46 51.6	-0.2
GTA				AP	pP	07 47 59.6	-3.7
GTA				PP	PP	07 48 12.4	+2.5
GTA				PCP	PcP	07 49 43.9	+2.5
GTA				SCP		07 52 47.4	
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.1						
GTA				AMB	AMB		
	comp=Z,65nm,4.9s						
KMI	Kunming	30.79	264	eP	P	07 46 55.5	-0.2
KMI				AP	pP	07 48 04.5	-3.0
KMI				PP	PP	07 48 16.6	+1.6
KMI				XP	sP	07 48 48.3	-3.3
KMI				S	S	07 51 30.2	-0.5
KMI				XS		07 53 37.7	
KMI				SS	SS	07 53 55.0	-0.8
KMI				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,45nm,3.9s						
SMY	Shemya	32.97	43	eP	P	07 47 15.3	+1.2
	comp=Z,35nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	36.96	256	P	P	07 47 48.1	+0.1
	comp=Z,10nm,0.7s,mb4.3,baz=49,slow=8.1,SNR=40						
CMAR	Chiang Mai Arr	36.96	256	P	P	07 47 48.2	+0.2
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ	Urumqi	39.39	300	⇑P	P	07 48 08.1	+0.4
WMQ				AP	pP	07 49 22.1	-0.6
WMQ				XP	sP	07 50 04.9	-0.1
WMQ				PCP	PcP	07 50 08.1	+0.2
WMQ				S	S	07 53 42.1	+1.2
WMQ				AMB	AMB		
	comp=Z,32nm,10.1s						
SHL	Shillong	39.70	271	eP	P	07 48 08.2	-2.3
NVS	Novosibirsk	42.92	317	eP	P	07 48 35.3	-0.8
MKAR	Makanchi Array	43.12	305	P	P	07 48 38.1	+0.4
	comp=Z,12nm,0.4s,mb4.6,baz=88,slow=10,SNR=136						
MKAR				ScP		07 53 33.3	
	comp=Z,2.7nm,0.6s,baz=79,slow=6.0,SNR=18						
GUN	Gumba	43.89	277	eP	P	07 48 44.5	+0.4
	comp=Z,56nm,0.7s,mb5.0						
PKI	Pulchoki	44.40	277	eP	P	07 48 47.4	-0.8
	comp=Z,68nm,1.2s,mb4.8						
KKN	Kakani	44.43	277	eP	P	07 48 48.4	0.0
	comp=Z,61nm,0.9s,mb4.9						
DMN	Daman	44.63	277	eP	P	07 48 49.8	-0.3
	comp=Z,62nm,1.1s,mb4.8						
GKN	Gorkha	44.89	278	eP	P	07 48 51.8	-0.3
	comp=Z,43nm,0.7s,mb4.9						
KURK	Kurchatov	45.47	311	eP	P	07 48 55.6	-0.6
	comp=Z,21nm,0.8s,mb4.5						
KOLN	Koldanda	45.83	278	eP	P	07 48 59.3	-0.1
	comp=Z,72nm,0.9s,mb5.0						
KAKA	Kakadu	45.88	186	eP	P	07 48 58.5	-1.4
	comp=Z,3.3nm,0.8s,mb3.7						
ULHL	Ulahol	47.90	299	P	P	07 49 15.8	+0.7
	SNR=5.5						
TKM2	Tokmak 2	48.25	300	P	P	07 49 18.6	+0.8
	SNR=9.1						
KZA	Kyzart	48.65	299	P	P	07 49 22.4	+1.5
	SNR=7.0						
USP	Ospenovka	48.98	301	P	P	07 49 23.2	-0.1
	SNR=8.3						
AML	Almayashu	49.78	300	P	P	07 49 30.4	+1.1
	SNR=18						
VOSK	Vostochnaya	50.13	314	P	P	07 49 31.0	-0.8
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
BVA0	Borovoye Array	50.46	314	P	P	07 49 33.7	-0.5
BRVK	Borovoye	50.52	314	eP	P	07 49 34.2	-0.5
	comp=Z,8.9nm,0.8s,mb4.0						
SVW	Sparrevohn	50.75	35	eP	P	07 49 37.4	+1.1
	comp=Z,20nm,1.2s,mb4.2						
ZRNK	Zerenda	51.30	314	P	P	07 49 39.8	-0.6
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
KKAR	Karatay Array	51.87	301	i P	P	07 49 44.4	-0.4
KKAR				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.5						
RSO	Redoubt South	52.16	36	eP	P	07 49 46.3	-0.5
FITZ	Fitzroy Crossi	52.17	194	eP	P	07 49 46.3	-1.0
	comp=Z,1.8nm,0.5s,mb3.6						
KDAK	Kodiak Island	52.39	40	⇑iP	P	07 49 47.3	-1.2
	comp=Z,34nm,0.6s,mb4.8						
SPU	Mount Spurr	52.48	35	eP	P	07 49 48.4	-0.6
WB2	Warramunga Arr	52.93	183	eP	P	07 49 50.8	-2.1
WRA	Warramunga Arr	52.93	183	P	P	07 49 51.3	-1.6
	comp=Z,1.9nm,0.3s,mb3.8,baz=0.1,slow=7.6,SNR=55						
WRA	Warramunga Arr	52.93	183	P	P	07 49 51.3	-1.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PWA	Palmer West	53.51	35	eP	P	07 49 55.7	-0.8
	comp=Z,48nm,0.6s,mb4.9						
MCK	McKinley	53.83	32	eP	P	07 49 57.8	-1.0
	comp=Z,9.1nm,0.6s,mb4.2						
PMR	Palmer	53.87	35	eP	P	07 49 57.9	-1.2
	comp=Z,61nm,1.0s,mb4.8						
SML	Sawmill	54.23	34	⇑iP	P	07 50 00.9	-0.8
SML				ePcP	PcP	07 50 57.3	-3.1
SML				epP	pP	07 51 19.1	-2.5
COLA	College	54.24	31	eP	P	07 50 01.4	-0.4
COLA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.2						
COLA	College	54.24	31	eP	P	07 50 01.4	-0.4
	comp=Z,10.0nm,0.6s,mb4.2						
HYB	Hyderabad	54.38	268	i P	P	07 50 02.5	-0.9
HYB	Hyderabad	54.38	268	eP	P	07 50 02.5	-0.9
ILAR	Eielson Array	54.66	31	P	P	07 50 03.4	-1.4
	comp=Z,5.9nm,0.8s,mb3.9,baz=283,slow=5.5,SNR=56						
ILAR	Eielson Array	54.66	31	P	P	07 50 03.4	-1.3
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DIV	Divide	55.52	35	⇑iP	P	07 50 10.5	-0.3
	comp=Z,54nm,0.7s,mb5.0						
EYAK	Cordova Ski Ar	55.61	36	eP	P	07 50 10.6	-0.8
ASAR	Alice Springs	56.66	183	P	P	07 50 17.8	-1.5
	comp=Z,1.3nm,0.6s,mb3.4,baz=360,slow=5.7,SNR=15						
AB31	Akbulak array	57.58	311	i P	P	07 50 24.4	-0.8
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
DAWY	Dawson	57.98	31	eP	P	07 50 27.3	-0.4
INK	Inuvik	59.43	26	⇑iP	P	07 50 36.8	-0.7
	comp=Z,15nm,0.9s,mb4.3						
DLBC	Dease Lake	63.88	36	eP	P	07 51 07.3	+0.6
STKA	Stephens Creek	64.92	176	eP	P	07 51 12.5	-1.3
	comp=Z,2.1nm,0.5s,mb4.0						
STKA	Stephens Creek	64.92	176	P	P	07 51 13.1	-0.8
	comp=Z,3.3nm,0.7s,mb4.1,baz=326,slow=5.1,SNR=8.9						
KEV	Kevo	65.66	339	ep	P	07 51 16.9	-1.0
	comp=Z,2.6nm,0.5s,mb4.1						
KEV	Kevo	65.66	339	eP	P	07 51 16.9	-1.0
KEV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
ARCES	ARCESS Array B	66.22	339	P	P	07 51 21.2	-0.2
	comp=Z,2.1nm,0.5s,mb4.0,baz=61,slow=8.9,SNR=26						
ARCES	ARCESS Array B	66.22	339	P	P	07 51 21.3	-0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RES	Resolute Bay	67.16	13	eP	P	07 51 27.1	-0.1
	comp=Z,17nm,0.5s,mb4.9						
OBN	Obninsk	68.89	323	eP	P	07 51 38.3	+0.3
OBN				e*PP	pP	07 53 00.3	-2.9
OBN				e		07 54 10.9	
OBN				eS	S	08 00 12.2	+2.0
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
YKA	Yellowknife Ar	68.92	28	P	P	07 51 37.7	-0.4
	comp=Z,2.9nm,0.5s,mb4.2,baz=304,slow=6.4,SNR=20						
YKA	Yellowknife Ar	68.92	28	P	P	07 51 37.7	-0.4
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	Yellowknife Ar	68.92	28	P	P	07 51 37.7	-0.4
KAF	Kangasniemi	69.95	332	ep	P	07 51 42.0	-2.3
	comp=Z,1.3nm,0.4s,mb3.8						
KAF	Kangasniemi	69.95	332	eP	P	07 51 42.0	-2.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
FINES	FINESS Array B	70.41	332	P	P	07 51 46.6	-0.4
	comp=Z,2.9nm,0.5s,mb4.1,baz=62,slow=6.0,SNR=69						
FINES	FINESS Array B	70.41	332	P	P	07 51 46.6	-0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MBW	Mount Baker	72.46	43	P	P	07 51 59.8	+0.4
CMW	Cultus Mountai	72.52	43	P	P	07 52 00.5	+0.8
RPW	Rockport	72.85	43	eP	P	07 52 01.4	-0.3
HTW	Haystack Looko	73.04	44	P	P	07 52 03.4	+0.7
EBG	Ellensburg	74.20	44	P	P	07 52 10.0	+0.7
GL2	New Goldendale	74.55	45	P	P	07 52 12.2	+0.8
AKASG	Malin Array Be	74.97	321	P	P	07 52 13.1	-0.6
	comp=Z,1.4nm,0.5s,mb3.9,baz=51,slow=5.8,SNR=8.5						
AKASG	Malin Array Be	74.97	321	P	P	07 52 13.1	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GBL	Gable Mountain	75.01	44	P	P	07 52 14.5	+0.6
NEW	Newport	75.43	42	eP	P	07 52 16.2	-0.1
	comp=Z,11nm,1.2s,mb4.4						
VIPM	Ingram Point	75.44	46	P	P	07 52 17.1	+0.7
LNOR	Lincton Mounta	76.09	44	eP	P	07 52 20.4	+0.4
NB2	NORSAR Subarra	76.19	336	P	P	07 52 19.5	-0.7
	comp=Z,3.0nm,0.6s,mb4.1,baz=45,slow=5.3						
NOA	NORSAR Array B	76.19	336	P	P	07 52 19.8	-0.4
	comp=Z,3.5nm,0.7s,mb4.1,baz=45,slow=5.6,SNR=23						
NOA	NORSAR Array B	76.19	336	P	P	07 52 19.8	-0.4
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OHCM	Honcut	77.68	51	eP	P	07 52 28.8	-0.1
WVOR	Wild Horse Val	77.78	47	⇑iP	P	07 52 30.0	+0.7
	comp=Z,8.7nm,0.6s,mb4.6						
BEKR	Beckwourth	78.12	50	⇑iP	P	07 52 31.4	+0.2
	comp=Z,15nm,0.8s,mb4.7						
WCN	Washoe City	78.82	50	⇑eP	P	07 52 35.5	+0.6
	comp=Z,6.5nm,1.0s,mb4.2						
CMB	Columbia Colle	79.11	52	⇑eP	P	07 52 36.3	-0.1
	comp=Z,3.8nm,0.6s,mb4.2						
CMB				epP	pP	07 54 00.4	-3.6
HRY	Holter Researc	79.25	41	eP	P	07 52 37.2	+0.2
HLID	Hailey	79.67	44	⇑eP	P	07 52 40.2	+0.9
	comp=Z,2.9nm,0.8s,mb4.0						
LCCM	Lewis and Clar	79.76	41	P	P	07 52 40.4	+0.7
BMN	Battle Mountai	79.79	48	eP	P	07 52 40.9	+0.9
	comp=Z,10nm,0.9s,mb4.5						
MCMT	McKenzie Canyo	79.82	43	eP	P	07 52 39.6	-0.5
BOZ	Bozeman (W)	80.01	42	⇑iP	P	07 52 41.6	+0.6
	comp=Z,5.9nm,0.6s,mb4.4						
OJC	Ojcow	80.04	325	eP	P	07 52 42.0	+0.8
NVAR	Mina Array Bea	80.25	50	P	P	07 52 43.3	+0.8
	comp=Z,5.8nm,0.6s,mb4.4,baz=314,slow=4.3,SNR=54						
QLMT	Earthquake Lak	80.62	42	eP	P	07 52 45.4	+1.1
MTUM	Tungsten Hills	80.69	51	eP	P	07 52 45.4	+0.6
TPH	Tonopah	81.15	50	⇑eP	P	07 52 47.6	+0.5
	comp=Z,12nm,0.8s,mb4.7						
TPAW	Teton Pass	81.72	43	eP	P	07 52 50.6	+0.6
SNOW	Snow King Moun	81.85	43	⇑eP	P	07 52 50.8	+0.1
BRG	Berggiesshubel	82.34	328	eP	P	07 52 53.4	+0.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BRG	Berggiesshubel	82.34	328	eP	P	07 52 53.4	+0.4
	comp=Z,4.3nm,0.9s,mb4.2						
CLL	Collm	82.45	328	⇓P	P	07 52 54.0	+0.5
	comp=Z,logA/T=1.1,mb4.6						
CLL	Collm	82.45	328	⇓iP	P	07 52 54.0	+0.5
CLL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
CLL	Collm	82.45	328	⇓iP	P	07 52 54.0	+0.5
	comp=Z,11nm,0.9s,mb4.6						
HWUT	Hardware Ranch	82.53	45	eP	P	07 52 54.3	+0.1
	comp=Z,28nm,1.4s,mb4.8						
DUG	Dugway	82.65	46	⇑eP	P	07 52 55.6	+0.8
	comp=Z,11nm,0.9s,mb4.6						
BW06	Boulder Array	82.97	43	eP	P	07 52 56.5	+0.1
	comp=Z,6.7nm,0.8s,mb4.4						
PDAR	Pinedale Array	82.97	43	P	P	07 52 56.7	+0.4
	comp=Z,5.5nm,0.7s,mb4.4,baz=314,slow=2.9,SNR=56						
JLU	Jordanelle	83.22	45	eP	P	07 52 58.4	+0.8
DAU	Daniels Canyon	83.45	46	eP	P	07 53 00.1	+1.2
MPU	Maple Canyon	83.47	46	eP	P	07 52 59.8	+0.9
GERES	GERESS Array B	83.89	326	P	P	07 53 01.2	+0.4
	comp=Z,1.6nm,0.7s,mb3.9,baz=27,slow=3.0,SNR=13						
GERES	GERESS Array B	83.89	326	P	P	07 53 01.2	+0.4
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MVU	Marysvale	84.05	47	⇑eP	P	07 53 03.3	+1.4
	comp=Z,8.6nm,0.9s,mb4.5						
MSU	Marysvale	84.07	47	eP	P	07 53 03.4	+1.4
NEN	Nelson	84.11	51	⇑eP	P	07 53 02.9	+0.6
PFO	Pinyon Flat Ob	84.26	53	⇑iP	P	07 53 03.1	+0.1
	comp=Z,11nm,1.0s,mb4.5						
ULM	Lac du Bonnet	84.68	31	P	P	07 53 04.8	+0.2
	comp=Z,1.2nm,0.4s,mb4.0,baz=296,slow=8.2,SNR=4.2						
SRU	San Rafael	84.71	46	⇑iP	P	07 53 05.8	+0.7
PV10	Paradox Valley	86.07	46	eP	P	07 53 12.9	+1.3
PV01	Paradox Valley	86.51	46	eP	P	07 53 14.6	+0.8
RW3	Ridgway	86.96	45	eP	P	07 53 17.5	+1.5
ISCO	Idaho Springs	87.15	43	⇑eP	P	07 53 17.9	+1.1
	comp=Z,3.5nm,0.8s,mb4.1						
SDCO	Great Sand Dun	88.59	45	eP	P	07 53 24.6	+0.9
	comp=Z,1.9nm,0.7s,mb3.9						
SCHQ	Schefferville	89.94	13	P	P	07 53 30.0	+0.5
	comp=Z,3.4nm,1.0s,mb4.1,baz=326,slow=7.3,SNR=3.9						
TXAR	Lajitas Array	95.39	50	P	P	07 53 56.0	+0.8
	comp=Z,2.3nm,0.6s,mb4.4,baz=290,slow=2.8,SNR=23						
TXAR	Lajitas Array	95.39	50	P	P	07 53 56.0	+0.8
SYO	Syowa Base	123.18	205	⇓Pdiff	Pdif	07 55 59.4	+2.3
SNAA	Sanae	136.04	197	⇑iPdif	Pdif	07 56 52.0	-1.5
SNAA				e		07 59 45.6	
SNAA				e		07 59 47.4	
SNAA				e		08 02 30.9	
LPAZ	La Paz	151.81	59	PKPbc	PKPdf	08 00 24.6	+9.1
	comp=Z,4.4nm,0.8s,baz=336,slow=2.4,SNR=24						
LPAZ	La Paz	151.81	59	PKIKP	PKPdf	08 00 24.6	+9.1
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USHA	Ushuaia	152.04	148	PKPbc	PKPdf	08 00 24.0	+9.3
	comp=Z,10nm,0.9s,baz=2.3,slow=7.9,SNR=6.6						

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*BJI **08** 08:05:28.6, 10.80S×66.60E, h10^{km}, mB4.7, mb4.6, Ms4.4, Msz4.1*

*IDC **08** 08:05:28.9±0.6, 10.78S×66.62E, mb4.2/16, mb1 4.4/16, mb1mx4.3/20, MS4.0/17, Ms1 4.0/17, ms1mx3.7/33, Error ellipse: s-maj=21.7km s-min=15.8km az=41.0*

*NEIC **08** 08:05:30.6±0.2, 10.76S×66.63E, h10^{km}, mb4.6/6, Error ellipse: s-maj=8.0km s-min=6.1km az=195.0*

ISC 08 08:05:28.8±0.4, **10.78S**±0.09×**66.67E**±0.07, **h10^{km}, n54,** σ**0^{s}61**/28, **mb4.4**/22, **MS4.0**/18, **1D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	Diego Garcia	6.62	60	eP	Pn	08 07 07.9	-0.7
	104nm,0.5s						
KMBO	Kilima Mbogo	30.76	286	P	P	08 11 47.2	+0.3
	1.9nm,0.9s,mb3.9,baz=82,slow=13,SNR=4.1						
KMBO				LR	LR	08 21 16.0	
	comp=Z,203nm,20.1s,MS3.8,baz=274,slow=31						
KMBO	Kilima Mbogo	30.76	286	eP	P	08 11 47.4	+0.5
	1.7nm,0.8s,mb3.9						
KMBO				LR	LR	08 21 16.0	
LSZ	Lusaka	37.72	259	eP	P	08 12 47.1	+0.4
	33nm,1.2s,mb4.9						
CMAR	Chiang Mai Arr	43.11	48	P	P	08 13 32.1	+0.8
	1.3nm,0.7s,mb3.8,baz=243,slow=9.2,SNR=8.2						
CMAR				LR	LR	08 31 01.3	
	comp=Z,104nm,18.6s,MS3.8,baz=230,slow=36						
TSUM	Tsumeb	48.02	254	LR	LR	08 34 50.3	
	comp=Z,139nm,18.1s,MS4.0,baz=134,slow=37						
ASF	Jabal al Asfar	51.33	327	LR	LR	08 34 12.7	
	comp=Z,54nm,19.9s,MS3.6,baz=137,slow=34						
MAW	Mawson	56.81	182	P	P	08 15 14.5	-1.0
	9.6nm,1.1s,mb4.7,baz=356,slow=10,SNR=11						
MAW				LR	LR	08 34 19.4	
	comp=Z,133nm,18.8s,MS4.1,baz=145,slow=30						
FITZ	Fitzroy Crossi	57.37	105	LR	LR	08 35 11.2	
	comp=Z,88nm,19.3s,MS3.9,baz=235,slow=31						
WMQ	Urumqi	57.61	18	eP	P	08 15 22.3	+0.8
GTA	Gaotai	58.68	30	eP	P	08 15 29.4	+0.4
GTA				AP	pP	08 15 35.7	+3.6
GTA				XP	sP	08 15 39.2	+5.9
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,42nm,5.7s						
GTA				LR	LR		
	comp=N,111nm,16.7s,MS4.2						
GTA				LR	LR		
	comp=E,132nm,18.2s,MS4.2						
GTA				LR	LR		
	comp=Z,122nm,18.2s,MS4.1						
MKAR	Makanchi Array	58.99	12	P	P	08 15 29.2	-1.9
	comp=Z,1.5nm,0.8s,mb4.1,baz=195,slow=8.2,SNR=12						
MKAR				LR	LR	08 39 38.5	
	comp=Z,80nm,19.9s,MS3.8,baz=22,slow=35						
TGY	Tagaytay City	59.22	66	LR	LR	08 39 10.3	
	comp=Z,99nm,19.5s,MS4.0,baz=344,slow=34						
BVAR	Borovoye Array	63.63	3	P	P	08 16 01.7	-0.6
	comp=Z,0.3nm,0.5s,mb3.6,baz=135,slow=6.1,SNR=2.7						
KAKA	Kakadu	64.23	99	eP	P	08 16 07.3	+0.4
	comp=Z,9.7nm,0.8s,mb4.9						
ASPA	Alice Springs	64.98	111	eP	P	08 16 11.5	-0.1
ASAR	Alice Springs	64.99	111	P	P	08 16 10.9	-0.7
	comp=Z,3.0nm,0.7s,mb4.4,baz=274,slow=5.5,SNR=26						
ASAR				LR	LR	08 41 11.9	
	comp=Z,95nm,18.1s,MS4.0,baz=220,slow=33						
WRA	Warramunga Arr	65.53	107	P	P	08 16 15.3	+0.1
	comp=Z,4.4nm,0.8s,mb4.6,baz=275,slow=5.6,SNR=35						
WRA				LR	LR	08 40 26.9	
	comp=Z,227nm,21.6s,MS4.3,baz=295,slow=32						
WB2	Warramunga Arr	65.54	107	⇓iP	P	08 16 15.6	+0.3
MLR	Muntele Rosu	66.94	330	P	P	08 16 23.5	-0.3
	comp=Z,2.0nm,0.9s,mb4.2,baz=145,slow=11,SNR=3.7						
SONM	Songino Array	68.17	28	P	P	08 16 31.8	+0.3
	comp=Z,4.9nm,0.8s,mb4.6,baz=216,slow=5.1,SNR=22						
AKASG	Malin Array Be	69.35	336	P	P	08 16 39.0	+0.3
	comp=Z,0.3nm,0.3s,mb3.7,baz=141,slow=5.0,SNR=4.9						
JOW	Kunigami	70.48	57	LR	LR	08 47 04.4	
	comp=Z,163nm,18.1s,MS4.3,baz=78,slow=35						
STKA	Stephens Creek	71.63	120	LR	LR	08 42 31.6	
	comp=Z,164nm,21.3s,MS4.3,baz=25,slow=31						
DBIC	Dimbokro	73.27	280	P	P	08 17 02.3	-0.7
	comp=Z,6.3nm,0.8s,mb4.6,baz=110,slow=8.6,SNR=4.9						
DBIC				LR	LR	08 47 29.8	
	comp=Z,182nm,18.3s,MS4.4,baz=94,slow=34						
LIC	Lamto	73.34	280	eP	P	08 17 03.6	+0.2
	comp=Z,47nm,1.1s,mb5.3						
TIC	Toumodi	73.42	280	eP	P	08 17 03.4	-0.5
	comp=Z,8.0nm,0.2s,mb5.3						
BRG	Berggiesshubel	76.51	329	P	P	08 17 21.1	+0.3
	comp=Z,2.1nm,0.7s,mb4.2						
CTA	Charters Tower	76.68	108	P	P	08 17 23.1	+0.7
	comp=Z,5.0nm,0.9s,mb4.4,baz=274,slow=2.4,SNR=8.0						
CTA				LR	LR	08 48 57.8	
	comp=Z,154nm,18.1s,MS4.4,baz=238,slow=34						
CTAO	Charters Tower	76.68	108	eP	P	08 17 23.3	+0.9
	comp=Z,4.7nm,0.8s,mb4.5						
PMG	Port Moresby	79.03	98	LR	LR	08 47 55.5	
	comp=Z,144nm,18.1s,MS4.3,baz=154,slow=32						
QSPA	South Pole Qui	79.27	180	eP	P	08 17 35.9	+0.4
	comp=Z,7.4nm,1.3s,mb4.5						
JHJ	Hachijo jima 2	82.04	54	LR	LR	08 50 07.4	
	comp=Z,79nm,20.7s,MS4.1,baz=117,slow=33						
HFS	Hagfors	82.23	336	P	P	08 17 51.6	+0.1
	comp=Z,3.2nm,0.8s,mb4.3,baz=162,slow=4.7,SNR=8.7						
ESDC	Sonseca Array	82.34	313	P	P	08 17 52.7	+0.2
	comp=Z,2.5nm,0.7s,mb4.2,baz=102,slow=4.5,SNR=12						
NOA	NORSAR Array B	83.75	336	P	P	08 17 59.3	0.0
	comp=Z,1.1nm,0.9s,mb4.0,baz=118,slow=5.2,SNR=4.3						
ARCES	ARCESS Array B	85.06	347	LR	LR	08 55 30.4	
	comp=Z,28nm,20.0s,MS3.6,baz=272,slow=35						
LPAZ	La Paz	127.82	240	PKP	PKPdf	08 24 38.5	-0.4
	comp=Z,1.3nm,0.9s,baz=136,slow=3.4,SNR=6.4						
BOZ	Bozeman (W)	145.23	358	ePKPdf	PKPdf	08 25 08.6	-1.4
QLMT	Earthquake Lak	146.03	358	ePKPab	PKPab	08 25 12.5	+0.7
MCMT	McKenzie Canyo	146.07	359	ePKPbc	PKPbc	08 25 11.5	+2.0
HLID	Hailey	147.33	1	ePKPbc	PKPdf	08 25 15.1	+1.5
TPAW	Teton Pass	147.35	357	ePKPdf	PKPdf	08 25 12.7	-0.9
TPAW				ePKPab	PKPab	08 25 16.3	-0.7
SNOW	Snow King Moun	147.37	357	ePKPbc	PKPdf	08 25 14.9	+1.2
REDW	Red Top Meadow	147.47	357	ePKPbc	PKPdf	08 25 14.8	+1.0
REDW				ePKPab	PKPab	08 25 16.3	-1.2
PDAR	Pinedale Array	147.97	355	PKPbc	PKPdf	08 25 15.8	+1.1
	comp=Z,1.7nm,0.8s,baz=44,slow=1.9,SNR=17						
HWUT	Hardware Ranch	149.26	357	ePKPbc	PKPdf	08 25 19.9	+3.1
TCUT	Toone Canyon	149.74	357	ePKPbc	PKPdf	08 25 21.6	+4.1
DAU	Daniels Canyon	150.43	357	ePKPbc	PKPdf	08 25 24.0	+5.3
DUG	Dugway	150.70	359	ePKPbc	PKPdf	08 25 23.6	+4.6
DUG				ePKPab	PKPab	08 25 30.7	-0.1
NVAR	Mina Array Bea	152.11	8	PKPbc	PKPdf	08 25 28.0	+6.8
	comp=Z,2.2nm,0.8s,baz=41,slow=0.9,SNR=5.5						
PV10	Paradox Valley	152.26	353	ePKPbc	PKPdf	08 25 27.8	+6.4
WMOK	Wichita Mounta	152.71	333	ePKPbc	PKPdf	08 25 27.6	+5.4
TXAR	Lajitas Array	159.45	335	PKPab	PKPab	08 26 07.5	-0.8
	comp=Z,0.7nm,0.8s,baz=53,slow=3.3,SNR=6.1						

IDC 08 08:16:52.3±1.6, **49.37S**×**114.79E, mb3.9**/4, **mb1 4.0**/4, **mb1mx3.8**/11, **Error ellipse: s-maj=117.0km s-min=25.3km az=128.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.61	59	P	P	08 22 31.9	-2.0
	1.9nm,0.6s,baz=207,slow=6.8,SNR=6.7						
ASAR	Alice Springs	29.73	37	P	P	08 23 00.1	-2.2
	1.2nm,0.9s,baz=207,slow=8.2,SNR=8.9						
MAW	Mawson	31.41	215	P	P	08 23 14.2	-2.5
	0.5nm,0.5s,baz=100,slow=11,SNR=3.7						
WRA	Warramunga Arr	33.27	35	P	P	08 23 31.3	-2.1
	0.8nm,0.5s,baz=202,slow=8.8,SNR=22						
TXAR	Lajitas Array	144.67	110	PKP	PKPdf	08 36 31.4	-1.0
	0.2nm,0.9s,baz=188,slow=6.4,SNR=2.9						

*ATH **08** 08:17:19.2,37.14N×28.24E,h20^{km},MD3.0/3*

*ISK **08** 08:17:22.7,36.98N×27.74E,h5^{km},MD3.2*

ISC 08 08:17:21.7±1.0,**36.86N**±0.04×**27.69E**±0.05,**h3**^{km}±6^{km},**n13,σ0^{s}84**/20,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	316	*i* P	Pg	08 17 27.5	+0.2
BDRM				*i* S	Sg	08 17 31.5	+0.4
MLSB	Milas	0.44	9	*i* PG	Pg	08 17 30.2	-0.2
MLSB				*i* SG	Sg	08 17 35.6	-0.7
YER	Yerkesik	0.55	60	*i* PG	Pg	08 17 32.5	-0.1
YER				*i* SG	Sg	08 17 40.8	+0.8
ARG	Arkhangelos	0.74	151	*e*PN	Pn	08 17 37.0	-1.7
ARG				*e*SN	Sn	08 17 50.0	-0.6
AYDN	Tasoluk	0.81	11	⇑*i*P	Pg	08 17 37.0	-0.9
AYDN				*i* S	Sg	08 17 48.2	-0.5
SMG	Samos	1.08	321	*e*PN	Pn	08 17 43.0	-0.7
KARP	Karpathos	1.38	198	*e*PN	Pn	08 17 51.5	+3.6
DENT	Denizli	1.39	50	PN	Pn	08 17 48.5	+0.4
IZM	Izmir	1.57	348	PN	Pn	08 17 51.9	+1.3
KDAG	Bornova	1.57	348	*i* P	Pn	08 17 44.7	-6.0
KDAG				*i* S	Sb	08 18 11.5	+0.1
MANT	Manisa	1.77	23	*i* P	Pn	08 17 53.6	+0.2
MANT				*i* S	Sn	08 18 16.0	-0.7
ELL	Elmali	1.79	93	*e*PN	Pn	08 17 55.3	+1.6
AKS	Akhisar	2.02	3	*e*PN	Pn	08 17 57.4	+0.4

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*NIED **08** 08:30:00,24.60N×122.10E,h32^{km},Mw3.9 Best double couple: M$_0$8.51×10^{14} NP1:φ$_s$308°,δ77°,λ-58°. NP2:φ$_s$58°,δ34°,λ-157°.*

*JMA **08** 08:30:54.0±0.2,24.58N×122.09E,h66^{km}±2^{km},M3.7*

*TAP **08** 08:30:56.0,24.31N×122.10E,h24^{km},ML4.2*

*NEIC **08** 08:30:55.2±1.1,24.47N×122.23E,h54^{km}±10^{km},Error ellipse: s-maj=15.8km s-min=10.9km az=216.0*

*IDC **08** 08:30:56.9±5.0,24.52N×122.35E,h71^{km}±49^{km},mb3.3/8,mb1 3.5/9,mb1mx3.3/21,ML3.7/1,MS3.1/1,Ms1 3.3/1,ms1mx2.4/18,Error ellipse: s-maj=43.0km s-min=17.7km az=68.0*

ISC 08 08:30:54.4±0.8,**24.35N**±0.09×**122.09E**±0.05,**h65**^{km}±6^{km},**n20,σ0^{s}80**/27,**mb3.4**/8,**1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	Taipei	0.83	319	⇓*e*Pn	P	08 31 10.7	+0.1
TATO				*e*Sn	S	08 31 23.3	+0.6
YOJ	Yonaguni jima	0.84	82	P	P	08 31 10.4	-0.4
YOJ				S	S	08 31 22.6	-0.5
IRIF	Iriomote-Funau	1.50	90	P	P	08 31 19.1	-0.6
IRIF				*e*S	S	08 31 38.4	0.0
HATJ	Hateruma jima	1.59	100	P	P	08 31 21.3	+0.3
JKRS	Kuro-shima	1.75	93	P	P	08 31 23.3	+0.1
JKRS				S	S	08 31 45.5	+1.1
JIJ	Ishigaki jima	1.87	89	P	P	08 31 24.2	-0.6
JIJ				S	S	08 31 46.8	-0.4
JTJ	Tarama	2.40	83	P	P	08 31 32.1	-0.1
JTJ				*e*S	S	08 31 59.7	-0.7
JMJ	Miyako jima 2	2.95	80	P	P	08 31 39.3	-0.7
JMJ				*e*S	S	08 32 15.4	+1.0
JKE	Kume jima 2	4.68	64	P	P	08 32 04.6	+0.4
JOW	Kunigami	6.10	65	P	P	08 32 20.8	-3.2
	4.6nm,0.3s,baz=207,slow=14,SNR=9.5						
JOW				S	S	08 33 35.0	+1.8
	0.4nm,0.3s,baz=51,slow=19,SNR=2.5						
CMAR	Chiang Mai Arr	22.32	259	LR	LR	08 45 11.9	
	comp=Z,48nm,19.4s,baz=195,slow=38						
SONM	Songino Array	26.54	336	P	P	08 36 27.9	0.0
	0.7nm,0.5s,mb3.5,baz=172,slow=8.7,SNR=3.8						
MKAR	Makanchi Array	38.80	315	P	P	08 38 15.3	+1.1
	0.4nm,0.5s,mb3.5,baz=104,slow=10,SNR=4.8						
WRA	Warramunga Arr	45.62	164	P	P	08 39 10.6	+0.4
	0.3nm,0.4s,mb3.4,baz=346,slow=8.5,SNR=13						
BVAR	Borovoye Array	48.07	320	P	P	08 39 28.8	-0.3
	0.3nm,0.4s,mb3.5,baz=90,slow=4.3,SNR=3.8						
BVAR	Borovoye Array	48.07	320	P	P	08 39 28.8	-0.3
ASAR	Alice Springs	49.09	166	P	P	08 39 38.5	+1.1
	0.1nm,0.4s,mb3.1,baz=350,slow=11,SNR=4.3						
ILAR	Eielson Array	68.68	27	P	P	08 41 51.1	-1.4
	0.2nm,0.6s,mb3.1,baz=292,slow=7.7,SNR=4.1						
ARCES	ARCESS Array B	69.69	338	P	P	08 41 58.3	-0.4
	1.5nm,0.8s,mb3.9,baz=60,slow=12,SNR=3.1						
FINES	FINESS Array B	71.72	330	P	P	08 42 10.6	-0.5
	0.8nm,0.9s,mb3.5,baz=34,slow=5.0,SNR=3.6						

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*IDC **08** 08:34:54.5±1.2,48.84N×28.15W,mb3.6/9,mb1 3.9/9,mb1mx3.7/23,MS3.3/12,Ms1 3.3/12,ms1mx3.2/29,Error ellipse: s-maj=41.7km s-min=18.5km az=176.0*

*NEIC **08** 08:34:56.0±0.5,48.84N×28.17W,h10^{km},mb4.3/5,Error ellipse: s-maj=19.8km s-min=5.7km az=183.0*

ISC 08 08:34:54.0±1.0,**48.9N**±0.3×**28.14W**±0.10,**h10**^{km},**n31,σ0^{s}52**/20,**mb3.8**/13,**MS3.3**/11,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	19.53	109	LR	LR	08 45 18.2	
	comp=Z,96nm,21.7s,baz=290,slow=32						
TCF	Toulx Ste Croi	20.57	86	*e*P	P	08 39 35.7	+0.3
BAIF	Baives	20.98	74	*e*P	P	08 39 39.5	0.0
	63nm,1.6s						
AVF	Avril sur Loir	21.17	84	*e*P	P	08 39 40.8	-0.7
	20nm,1.1s,mb4.0						
SSF	Saint Saulge	21.19	83	*e*P	P	08 39 40.4	-1.3
LOR	Lormes	21.37	82	*e*P	P	08 39 43.9	+0.4
SMF	Signal de Mont	21.54	84	*e*P	P	08 39 45.9	+0.7
	27nm,1.2s,mb4.3						
JMIC	Jan Mayen	24.04	16	LR	LR	08 47 31.1	
	comp=Z,40nm,18.2s,MS2.9,baz=252,slow=31						
SCHQ	Schefferville	24.40	299	LR	LR	08 47 54.5	
	comp=Z,56nm,19.8s,MS3.0,baz=76,slow=32						
NOA	NORSAR Array B	25.25	46	LR	LR	08 49 24.4	
	comp=Z,70nm,19.1s,MS3.2,baz=270,slow=34						
FRB	Frobisher Bay	26.34	319	LR	LR	08 48 08.0	
	comp=Z,46nm,21.6s,MS3.0,baz=162,slow=30						
GERES	GERESS Array B	27.29	74	P	P	08 40 41.1	+0.9
	0.2nm,0.6s,mb2.8,baz=301,slow=11,SNR=3.2						
FINES	FINESS Array B	32.43	47	P	P	08 41 25.6	-0.3
	1.0nm,1.1s,mb3.6,baz=263,slow=11,SNR=3.4						
FINES				LR	LR	08 53 55.5	
	comp=Z,82nm,18.6s,MS3.5,baz=354,slow=35						
AKASG	Malin Array Be	36.30	65	P	P	08 41 59.1	-0.1
	0.4nm,0.5s,mb3.6,baz=289,slow=8.9,SNR=4.5						
ULM	Lac du Bonnet	42.58	299	LR	LR	08 59 04.0	
	comp=Z,47nm,19.6s,MS3.4,baz=5.5,slow=34						
CCM	Cathedral Cave	45.83	281	*e*P	P	08 43 18.3	+0.6
	4.7nm,0.9s,mb4.4						
DBIC	Dimbokro	46.43	147	LR	LR	08 59 44.6	
	comp=Z,32nm,19.7s,MS3.3,baz=325,slow=32						
YKA	Yellowknife Ar	46.85	321	P	P	08 43 25.7	+0.3
	1.3nm,0.9s,mb3.8,baz=72,slow=8.7,SNR=4.1						
YKA	Yellowknife Ar	46.85	321	P	P	08 43 25.7	+0.3
ASF	Jabal al Asfar	50.63	84	LR	LR	09 06 20.0	
	comp=Z,40nm,21.1s,MS3.4,baz=300,slow=37						
BW06	Boulder Array	54.51	297	*e*P	P	08 44 23.3	-0.6
	1.7nm,1.0s,mb4.0						
PDAR	Pinedale Array	54.51	297	P	P	08 44 23.7	-0.2
	1.0nm,0.8s,mb3.9,baz=63,slow=6.6,SNR=11						
PDAR				LR	LR	09 05 58.0	
	comp=Z,35nm,21.1s,MS3.4,baz=188,slow=34						
PV10	Paradox Valley	56.89	292	*e*P	P	08 44 40.8	-0.3
ILAR	Eielson Array	57.16	333	P	P	08 44 43.0	+0.2
	0.7nm,1.0s,mb3.6,baz=48,slow=4.2,SNR=5.6						
BVAR	Borovoye Array	57.37	45	P	P	08 44 44.4	0.0
	1.0nm,0.8s,mb3.9,baz=304,slow=5.3,SNR=6.0						
TXAR	Lajitas Array	59.33	281	P	P	08 44 58.4	0.0
	0.8nm,0.8s,mb3.8,baz=64,slow=6.8,SNR=13						
TXAR				LR	LR	09 10 01.5	
	comp=Z,57nm,20.2s,MS3.7,baz=245,slow=36						
MKAR	Makanchi Array	67.22	44	P	P	08 45 50.2	+0.1
	0.7nm,1.0s,mb3.7,baz=342,slow=3.8,SNR=3.9						
MKAR				LR	LR	09 12 59.0	
	comp=Z,33nm,20.7s,MS3.5,baz=106,slow=34						
MKAR	Makanchi Array	67.22	44	P	P	08 45 50.2	+0.1
MKAR				LR	LR	09 12 59.0	
VNDA	Vanda	150.97	184	PKPbc	PKPdf	08 54 47.2	+4.7
	2.4nm,1.0s,baz=274,slow=3.5,SNR=6.4						
VNDA	Vanda	150.97	184	PKPbc	PKPdf	08 54 47.2	+4.7
ASAR	Alice Springs	151.14	36	PKPbc	PKPdf	08 54 49.2	+4.9
	1.0nm,0.9s,baz=323,slow=1.1,SNR=6.2						

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*IDC **08** 08:40:33.3±4.2,3.12S×139.62E,h125^{km}±40^{km},mb3.6/5,mb1 3.9/6,mb1mx3.7/11,MS3.0/1,Ms1 3.0/1,ms1mx2.4/20,Error ellipse: s-maj=32.1km s-min=13.4km az=107.0*

ISC 08 08:40:28.5±3.3,**3.1S**±0.1×**139.5E**±0.2,**h93**^{km}±31^{km},**n10,σ0^{s}92**/17,**mb3.8**/4,**2C,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.85	216	⇑*i*P	P	08 43 15.1	-0.6
	32nm,0.6s						
KAKA				*e*S	S	08 45 17.2	-9.2
WB2	Warramunga Arr	17.47	196	*e*P	P	08 44 27.8	+0.1
WB2				*e*S	S	08 47 30.4	-6.4
WRA	Warramunga Arr	17.47	196	P	P	08 44 27.7	-0.1
	0.9nm,0.3s,baz=20,slow=12,SNR=41						
WRA				S	S	08 47 33.9	-2.9
	0.3nm,0.3s,baz=17,slow=23,SNR=5.7						
FITZ	Fitzroy Crossi	20.18	221	⇑*i*P	P	08 44 59.0	+1.0
	5.7nm,0.8s						
FITZ				*e*S	S	08 48 34.9	+0.7
FITZ	Fitzroy Crossi	20.18	221	P	P	08 44 59.1	+1.1
	10.0nm,1.0s,baz=40,slow=8.1,SNR=16						
FITZ				S	S	08 48 39.4	+5.2
	2.8nm,0.5s,baz=172,slow=13,SNR=6.1						
FITZ				LR	LR	08 52 02.8	
	comp=Z,43nm,20.7s,baz=237,slow=34						
ASAR	Alice Springs	21.14	194	P	P	08 45 07.7	0.0
	6.4nm,0.7s,mb4.1,baz=27,slow=10,SNR=61						
ASAR				S	S	08 48 58.1	+5.8
	1.3nm,0.8s,baz=18,slow=18,SNR=4.1						
ASPA	Alice Springs	21.14	194	*e*P	P	08 45 08.4	+0.7
ASPA				*e*S	S	08 49 00.3	+8.0
STKA	Stephens Creek	28.67	176	P	P	08 46 20.0	+1.2
	3.3nm,1.1s,mb3.9,baz=346,slow=8.3,SNR=3.5						
MKAR	Makanchi Array	70.61	322	P	P	08 51 35.7	-0.1
	0.4nm,0.7s,mb3.4,baz=108,slow=9.1,SNR=3.5						
ILAR	Eielson Array	85.86	24	P	P	08 52 57.5	-1.1
	0.9nm,1.1s,mb3.6,baz=256,slow=5.1,SNR=5.0						

CASC 08 08:46:26.0±2.1,**9.14N**×**83.84W,h24**^{km}±7^{km},**MD4.1,6C-6D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUS	Buena Vista	0.43	11	⇓*i*P	Pb	08 46 35.4	+0.5
BUS				*e*S	Sb	08 46 44.0	+3.0
URSC	Urasca	0.70	5	⇓*i*P	Pb	08 46 39.1	-0.4
URSC				*e*S	Sb	08 46 48.9	+0.3
LAJ	Bijagual	0.77	339	⇑*e*P	Pb	08 46 43.1	+2.4
LAJ				*e*S	Sb	08 46 56.1	+5.3
ACR	Cerro Adams	0.82	126	⇓*e*P	Pb	08 46 41.0	-0.5
ACR				*e*S	Sb	08 46 53.1	+1.0
SJS	Escuela Geolog	0.83	345	⇑*e*P	Pb	08 46 39.9	-1.7
SJS				*e*S	Sb	08 46 54.6	+2.3
ICR	Volcan Irazu	0.84	1	⇓*e*P	Pb	08 46 41.7	-0.1
ICR				*e*S	Sb	08 46 55.2	+2.5
PRS1	Puriscal	0.96	331	⇑*e*P	Pb	08 46 42.5	-1.3
PRS1				*e*S	Sb	08 46 57.0	+0.9
CGA2	Cerro Gallo 2	1.07	325	⇓*e*P	Pn	08 46 44.9	-0.8
CGA2				*e*S	Sb	08 46 59.7	+0.5
VPS2	Volcan Poas 2	1.12	340	⇑*e*P	Pn	08 46 45.7	-0.6
VPS2				*e*S	Sb	08 47 02.4	+1.7
LIO	Limon	1.18	43	⇓*e*P	Pn	08 46 47.0	-0.1
LIO				*e*S	Sb	08 47 01.2	-1.1
JCR	Jicaral	1.44	300	⇑*e*P	Pn	08 46 49.6	-1.3
JCR				*e*S	Sn	08 47 10.9	+1.7
FORC	Fortuna	1.56	329	⇑*e*P	Pn	08 46 53.0	+0.3
FORC				*e*S	Sn	08 47 12.2	0.0

IDC 08 08:58:16.2±2.7,**50.27S**×**112.61E,mb4.0**/4,**mb1 4.3**/4,**mb1mx4.0**/11,**MS3.7**/4,**Ms1 3.6**/4,**ms1mx3.4**/15,**Error ellipse: s-maj=118.0km s-min=24.3km az=100.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.67	13	LR	LR	09 07 40.3	
	comp=Z,297nm,21.6s,baz=111,slow=32						
MAW	Mawson	29.85	216	LR	LR	09 14 24.3	
	comp=Z,97nm,18.9s,baz=257,slow=32						
ASAR	Alice Springs	31.32	40	P	P	09 04 37.9	-2.4
	0.7nm,0.5s,baz=209,slow=8.0,SNR=12						
ASAR				LR	LR	09 15 36.4	
	comp=Z,100nm,21.1s,baz=321,slow=33						
VNDA	Vanda	32.89	162	P	P	09 04 51.7	-1.8
	1.8nm,0.7s,baz=295,slow=8.4,SNR=10						
VNDA				LR	LR	09 16 59.4	
	comp=Z,138nm,19.3s,baz=323,slow=34						
FITZ	Fitzroy Crossi	33.75	23	P	P	09 05 01.0	-0.6
	3.0nm,0.7s,baz=187,slow=12,SNR=5.4						
WRA	Warramunga Arr	34.83	38	P	P	09 05 08.4	-2.5
	1.0nm,0.5s,baz=203,slow=10,SNR=18						
TXAR	Lajitas Array	145.64	114	PKPbc	PKPbc	09 17 56.7	-0.1
	0.6nm,0.9s,baz=180,slow=5.0,SNR=5.2						
PDAR	Pinedale Array	150.36	88	PKPbc	PKPdf	09 18 08.0	+2.8
	0.6nm,0.9s,baz=297,slow=6.6,SNR=3.7						
YKA	Yellowknife Ar	151.84	46	PKPbc	PKPdf	09 18 10.5	+3.7
	0.3nm,0.5s,baz=276,slow=1.8,SNR=8.5						

IDC 08 09:03:41.8±6.8,**25.31N**×**109.47W,mb1 3.5**/3,**mb1mx3.3**/19,**ML3.7**/2,**Error ellipse: s-maj=81.5km s-min=29.0km az=173.0,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	6.53	51	Pn	Pn	09 05 19.0	-2.6
	0.2nm,0.3s,baz=231,slow=14,SNR=12						
TXAR				Pg	Pg	09 05 49.2	-3.1
	0.4nm,0.3s,baz=223,slow=16,SNR=9.0						
TXAR				Lg		09 07 08.9	
	1.2nm,0.3s,baz=235,slow=28,SNR=7.4						
NVAR	Mina Array Bea	15.06	332	Pn	P	09 07 20.6	+2.8
	baz=158,slow=15,SNR=2.4						
PDAR	Pinedale Array	17.41	360	P	P	09 07 44.8	-3.0
	0.0nm,0.3s,baz=162,slow=8.6,SNR=4.6						

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*BJI **08** 09:20:22.6,20.07S×178.24W,h666^{km},mB5.0,mb5.0*

*MOS **08** 09:20:22.5±3.0,20.09S×178.83W,h615^{km},mb5.2/13,Error ellipse: s-maj=15.2km s-min=13.3km az=125.7*

*IDC **08** 09:20:22.9±0.5,20.25S×178.85W,h635^{km}±6^{km},mb4.3/24,mb1 4.4/26,mb1mx4.4/26,Error ellipse: s-maj=11.0km s-min=8.3km az=153.0*

*NEIC **08** 09:20:23.5±0.1,20.23S×178.92W,mb4.8/48,Error ellipse: s-maj=6.4km s-min=3.8km az=126.0*

*SYO **08** 09:20:23.5,20.23S×178.92W,h641^{km},MB4.8*

ISC 08 09:20:22.0±0.8,**20.35S**±0.05×**178.90W**±0.04,**h640**^{km}±12^{km},**h641**^{km}±2.1^{km}**:pP-P,n371,σ1^{s}01**/236,**mb4.8**/91,**34C-33D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.78	260	⇑*i*P	P	09 23 19.6	+1.8
DZM				*e*S	S	09 25 42.5	+3.6
WCZ	Waipu Caves	16.63	199	P	P	09 23 48.0	+3.3
WCZ	Waipu Caves	16.63	199	*e*P	P	09 23 48.0	+3.3
KUZ	Kuaotunu	17.00	195	P	P	09 23 50.0	+1.9
KUZ	Kuaotunu	17.00	195	*e*P	P	09 23 50.0	+1.9
MTAZ	Motutapu	17.25	197	P	P	09 23 53.2	+2.8
KAAZ	Kauri Point	17.34	197	P	P	09 23 54.3	+3.0
OTAZ	Otara	17.40	197	P	P	09 23 54.6	+2.8
OTAZ	Otara	17.40	197	P	P	09 23 54.8	+3.0
WTAZ	Waiatarua	17.48	198	P	P	09 23 55.2	+2.6
MKAZ	Moumakai	17.49	196	P	P	09 23 55.0	+2.4
PUZ	Puketiti	17.84	187	*e*P	P	09 23 55.1	-0.8
PUZ				*e*S	S	09 26 45.0	-2.6
RAR	Rarotonga	17.91	96	P	P	09 23 54.8	-1.8
	1.3nm,0.3s,baz=232,slow=7.2,SNR=4.5						
RAR	Rarotonga	17.91	96	P	P	09 23 54.8	-1.8
RAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
URZ	Urewera	18.18	190	P	P	09 23 56.7	-2.3
	comp=Z,13nm,0.3s,baz=76,slow=2.0,SNR=53						
URZ				S	S	09 26 48.7	-4.6
	comp=Z,1.4nm,0.3s,baz=233,slow=21,SNR=5.9						
URZ	Urewera	18.18	190	P	P	09 23 56.6	-2.5
URZ	Urewera	18.18	190	P	P	09 23 56.7	-2.4
MWZ	Matawai	18.19	189	P	P	09 23 57.4	-1.7
MWZ				*e*S	S	09 26 47.8	-5.6
MWZ	Matawai	18.19	189	*e*P	P	09 23 57.6	-1.5
CAW	Cannon Point	21.32	193	P	P	09 24 26.0	-1.6
SNZO	South Karori	21.59	193	*e*P	P	09 24 28.2	-1.9
	comp=Z,89nm,0.6s,mb5.4						
QRZ	Quartz Range	21.68	198	P	P	09 24 31.5	+0.6
QRZ	Quartz Range	21.68	198	*e*P	P	09 24 31.5	+0.6
NNZ	Nelson	21.82	196	*e*P	P	09 24 31.0	-1.1
NNZ				*e*S	S	09 27 46.9	-5.5
NNZ	Nelson	21.82	196	P	P	09 24 32.0	-0.1
THZ	Tophouse	22.45	196	P	P	09 24 36.9	-0.8
THZ	Tophouse	22.45	196	*e*P	P	09 24 37.2	-0.5
KHZ	Kahutara	22.91	194	P	P	09 24 40.3	-1.5
KHZ	Kahutara	22.91	194	*e*P	P	09 24 40.4	-1.4
LTZ	Lake Taylor	23.57	196	P	P	09 24 46.1	-1.5
LTZ	Lake Taylor	23.57	196	*e*P	P	09 24 46.4	-1.2
WVZ	Waitaha Valley	24.28	199	P	P	09 24 53.1	-0.7
WVZ	Waitaha Valley	24.28	199	*e*P	P	09 24 53.5	-0.3
RPZ	Rata Peaks	24.77	198	P	P	09 24 56.9	-1.2
	comp=Z,11nm,0.5s,mb4.7,baz=325,slow=3.0,SNR=13						
LBZ	Lake Benmore	25.64	198	P	P	09 25 04.3	-1.4
JCZ	Jackson Bay	25.80	201	P	P	09 25 07.2	+0.1
JCZ				S	S	09 28 51.4	-3.6
JCZ				ScP		09 30 55.0	
AXZ	Alexandra	26.69	199	*e*P	P	09 25 14.3	-0.5
MLZ	Mavora Lakes	27.12	200	P	P	09 25 19.7	+1.2
MLZ	Mavora Lakes	27.12	200	*e*P	P	09 25 19.7	+1.2
TBI	Tubuai	27.47	102	*e*P	P	09 25 22.0	+0.3
	comp=Z,165nm,1.1s,mb5.5						
TBI				*e*R		09 32 08.0	
	comp=Z,224nm,29.0s						
PAE	Paea	27.84	89	*e*P	P	09 25 24.1	-0.8
	comp=Z,178nm,1.2s,mb5.5						
PPT	Papeete	27.86	89	P	P	09 25 24.5	-0.5
	comp=Z,76nm,1.0s,mb5.2,baz=122,slow=0.3,SNR=6.2						
PPT	Papeete	27.86	89	*e*P	P	09 25 24.6	-0.5
	comp=Z,92nm,1.4s,mb5.1						
PPT	Papeete	27.86	89	P	P	09 25 24.5	-0.6
PPT				pmax	pmax		
	comp=Z,76nm,1.0s						
TIAR	Tiarei	28.07	89	*e*P	P	09 25 26.5	-0.4
	comp=Z,170nm,1.0s,mb5.5						
TVO	Taravao	28.12	90	*e*P	P	09 25 26.9	-0.4
	comp=Z,103nm,0.7s,mb5.5						
ARMA	Armidale	28.38	243	*e*P	P	09 25 30.8	+1.4
MEH	Mehetia	29.22	90	*e*P	P	09 25 36.5	-0.2
	comp=Z,72nm,1.0s,mb5.2						
PMOR	Pomariorio Ree	29.99	85	*e*P	P	09 25 42.6	-0.7
	comp=Z,162nm,1.2s,mb5.4						
VAH	Vaihoa	30.18	85	*e*P	P	09 25 44.2	-0.7
	comp=Z,162nm,1.0s,mb5.5						
CNB	Canberra Magne	31.62	235	*e*P	P	09 25 58.9	+2.1
	comp=Z,25nm,0.6s,mb4.9						
CTA	Charters Tower	32.66	264	⇓*i*P	P	09 26 06.5	+0.8
	comp=Z,96nm,0.3s,mb5.8						
CTA				*e*S	S	09 30 39.0	-1.8
CTA				*e*SCP		09 31 19.4	
CTA				*i* SCS	ScS	09 35 21.7	+4.8
CTA	Charters Tower	32.66	264	P	P	09 26 06.5	+0.8
	comp=Z,114nm,0.4s,mb5.8,baz=89,slow=11,SNR=463						
CTA				S	S	09 30 38.8	-2.0
	comp=Z,3.7nm,0.8s,baz=292,slow=20,SNR=7.3						
CTA	Charters Tower	32.66	264	P	P	09 26 06.6	+0.9
CTA				S	S	09 30 38.8	-2.0
CTA				pmax	pmax		
	comp=Z,114nm,0.4s						
CTA				smax			
	comp=Z,4.0nm,0.8s						
CTAO	Charters Tower	32.66	264	⇓*i*P	P	09 26 06.4	+0.7
	comp=Z,198nm,0.8s,mb5.7						
PMG	Port Moresby	34.48	283	P	P	09 26 21.2	+0.4
	comp=Z,176nm,0.8s,mb5.6,baz=84,slow=6.1,SNR=39						
PMG	Port Moresby	34.48	283	P	P	09 26 21.2	+0.3
PMG				pmax	pmax		
	comp=Z,176nm,0.8s						
TOO	Toolangi	35.31	233	⇑*i*P	P	09 26 29.3	+1.9
	comp=Z,23nm,0.7s,mb4.8						
TAU	Tasmania Unive	36.15	224	*e*P	P	09 26 35.5	+1.2
	comp=Z,12nm,0.7s,mb4.5						
STKA	Stephens Creek	37.10	244	⇓*i*P	P	09 26 43.3	+1.1
	comp=Z,13nm,0.8s,mb4.5						
STKA	Stephens Creek	37.10	244	P	P	09 26 43.5	+1.3
	comp=Z,25nm,1.0s,mb4.7,baz=87,slow=9.4,SNR=23						
ASAR	Alice Springs	43.73	257	P	P	09 27 35.1	+0.1
	comp=Z,88nm,0.5s,mb5.3,baz=89,slow=7.7,SNR=1754						
ASAR				PcP	PcP	09 29 06.7	-0.6
	comp=Z,5.6nm,0.5s,baz=110,slow=3.9,SNR=4.8						
ASAR				S	S	09 33 19.4	-2.0
	comp=Z,25nm,0.8s,baz=93,slow=16,SNR=48						
ASPA	Alice Springs	43.73	257	⇓*i*P	P	09 27 35.0	0.0
ASPA				*e*S	S	09 33 19.7	-1.8
ASPA				*i* SCS	ScS	09 36 24.9	+3.1
WB2	Warramunga Arr	43.77	262	⇓*i*P	P	09 27 34.7	-0.7
WB2				*e*S	S	09 33 16.2	-5.9
WB2				*e*SCS	ScS	09 36 24.9	+2.9
WRA	Warramunga Arr	43.78	262	P	P	09 27 34.8	-0.6
	comp=Z,88nm,0.5s,mb5.4,baz=97,slow=8.0,SNR=937						
WRA				S	S	09 33 17.6	-4.6
	comp=Z,12nm,0.8s,baz=93,slow=13,SNR=17						
WRA	Warramunga Arr	43.78	262	P	P	09 27 34.8	-0.7
WRA				S	S	09 33 17.6	-4.6
WRA				pmax	pmax		
	comp=Z,88nm,0.5s						
WRA				smax			
	comp=Z,12nm,0.8s						
KAKA	Kakadu	47.16	271	⇓*i*P	P	09 28 00.1	-1.1
	comp=Z,139nm,0.6s,mb5.5						
KAKA				*e*S	S	09 34 06.6	-2.4
FORT	Forrest	48.58	247	⇑*i*P	P	09 28 11.1	-0.5
	comp=Z,126nm,0.6s,mb5.4						
FITZ	Fitzroy Crossi	52.21	262	⇓*i*P	P	09 28 37.5	-0.4
	comp=Z,32nm,0.4s,mb4.9						
FITZ	Fitzroy Crossi	52.21	262	P	P	09 28 37.9	-0.1
	comp=Z,35nm,0.5s,mb4.9,baz=132,slow=2.3,SNR=253						
FITZ				S	S	09 35 13.6	-3.1
	comp=Z,5.0nm,1.1s,baz=291,slow=15,SNR=4.0						
KLBR	Kellerberrin	57.35	245	*e*P	P	09 29 12.8	-0.6
	comp=Z,22nm,0.7s,mb4.4						
VNDA	Vanda	57.99	185	P	P	09 29 17.6	+0.6
	comp=Z,17nm,0.6s,mb4.3,baz=355,slow=7.1,SNR=94						
VNDA	Vanda	57.99	185	P	P	09 29 17.6	+0.5
VNDA				pmax	pmax		
	comp=Z,17nm,0.6s						
MUN	Mundaring	58.63	244	⇑*i*P	P	09 29 22.4	+0.5
	comp=Z,12nm,0.5s,mb4.3						
BUNI	Buntu Taipa	61.37	277	⇑*e*P	P	09 29 40.0	-0.1
NINI	Niniconang	61.63	276	⇑*e*P	P	09 29 41.9	+0.1
TANI	Tanete Lipujan	62.33	277	⇑*e*P	P	09 29 45.7	-0.5
KEDI	Kedomdong	63.69	270	⇓*e*P	P	09 29 53.3	-1.7
RATI	Rata	64.17	270	⇑*e*P	P	09 29 57.3	-0.7
INGI	Ingas	64.50	270	⇓*i*P	P	09 30 00.0	-0.1
KELI	Kelakatan	65.30	270	⇑*e*P	P	09 30 04.7	-0.4
JHJ	Hachijo jima 2	66.20	323	P	P	09 30 09.4	-0.9
	comp=Z,149nm,0.5s,mb5.6,baz=61,slow=24,SNR=9.3						
JOW	Kunigami	69.42	310	P	P	09 30 29.6	-0.2
	comp=Z,33nm,0.4s,mb5.0,baz=150,slow=4.7						
MAJO	Matsushiro	69.59	324	*e*P	P	09 30 29.5	-1.1
	comp=Z,36nm,0.7s,mb4.9						
MAT	Matsushiro	69.59	324	P	P	09 30 29.2	-1.4
MAT	Matsushiro	69.59	324	*e*P	P	09 30 29.0	-1.6
	comp=Z,36nm,0.9s,mb4.8						
MIR	Mirnyy	70.77	205	⇑*e*P	P	09 30 37.6	+0.7
MIR				*e*		09 30 58.0	
MIR				pmax	pmax		
	comp=Z,55nm,1.2s,mb4.9						
JNU	Nakatsue	71.59	317	P	P	09 30 41.8	-0.4
	comp=Z,58nm,0.9s,mb5.0,baz=84,slow=8.6,SNR=35						
SMY	Shemya	73.02	356	*e*P	P	09 30 48.7	-1.3
	comp=Z,147nm,0.9s,mb5.4						
ASAJ	Asahikawa	73.19	332	P	P	09 30 51.9	+0.7
	comp=Z,136nm,1.1s,mb5.3,baz=218,slow=6.5,SNR=35						
ASAJ	Asahikawa	73.19	332	P	P	09 30 51.9	+0.7
ASAJ				pmax	pmax		
	comp=Z,136nm,1.1s						
YSS	Yuzh-Sakhalins	75.38	334	*c i*P	P	09 31 03.4	+0.1
YSS				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.2						
YSS	Yuzh-Sakhalins	75.38	334	*e*P	P	09 31 03.3	0.0
	comp=Z,65nm,0.9s,mb5.2						
PET	Petropavlovsk	75.61	346	⇓*i*P	P	09 31 03.1	-1.3
PET				*e**PP	pP	09 33 13.8	-1.8
PET				*e*S	S	09 39 58.5	+2.9
PET				*e*SS	SS	09 45 11.4	+2.1
PET				*e*SSS	SSS	09 48 36.3	+2.4
PET				pmax	pmax		
	comp=Z,39nm,1.3s,mb4.8						
PET				pmax	pmax		

	comp=Z,100nm,12.0s						
PET				pmax	pmax		
	comp=Z,40nm,14.6s						
PET				pmax	pmax		
	comp=Z,100nm,16.3s						
SSE	**Sheshan**	**76.94**	**310**	⇓P	**P**	**09 31 12.0**	**0.0**
SSE				AP	pP	09 33 29.3	+5.5
SSE				S	S	09 40 08.9	-1.1
SSE				XS		09 44 04.1	
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.0						
SDN	**Sand Point**	**77.00**	**11**	*e*P	**P**	**09 31 10.9**	**-0.9**
	comp=Z,82nm,0.6s,mb5.4						
INCN	**Inchon**	**77.03**	**318**	*e*P	**P**	**09 31 12.6**	**+0.2**
NJ2	**Nanjing**	**79.13**	**310**	*e*P	**P**	**09 31 24.3**	**+0.7**
NJ2				PP	PP	09 34 35.4	-0.3
NJ2				S	S	09 40 35.0	+2.5
NJ2				SKS	SKS	09 40 39.0	+2.3
NJ2				SCS	ScS	09 40 50.0	+2.7
KGM	**Kluang**	**79.25**	**276**	⇓*e*P	**P**	**09 31 25.7**	**+1.1**
MDJ	**Mudanjiang**	**79.91**	**325**	P	**P**	**09 31 27.7**	**+0.3**
MDJ				AP	pP	09 33 40.3	-0.2
MDJ				XP	sP	09 34 44.7	+0.9
MDJ				S	S	09 40 40.5	+0.4
MDJ				SCS	ScS	09 40 54.9	+1.5
MDJ				XS		09 44 39.0	
MDJ				AMB	AMB		
	comp=Z,59nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,121nm,5.6s						
MDJ	**Mudanjiang**	**79.91**	**325**	*e*P	**P**	**09 31 27.9**	**+0.5**
	comp=Z,68nm,1.1s,mb5.0						
CMB	**Columbia Colle**	**79.92**	**43**	*e*P	**P**	**09 31 27.7**	**0.0**
	comp=Z,15nm,1.1s,mb4.3						
OHCM	**Honcut**	**80.00**	**42**	*e*P	**P**	**09 31 28.2**	**+0.2**
WDC	**Whiskeytown Da**	**80.10**	**40**	*e*P	**P**	**09 31 28.8**	**+0.3**
	comp=Z,48nm,1.5s,mb4.7						
YBH	**Yreka Blue Hor**	**80.70**	**39**	P	**P**	**09 31 32.1**	**+0.6**
	comp=Z,15nm,0.9s,mb4.4,baz=154,slow=0.4,SNR=23						
YBH	**Yreka Blue Hor**	**80.70**	**39**	P	**P**	**09 31 32.1**	**+0.6**
YBH				pmax	pmax		
	comp=Z,15nm,0.9s						
YBH	**Yreka Blue Hor**	**80.70**	**39**	*e*P	**P**	**09 31 32.2**	**+0.7**
	comp=Z,19nm,1.0s,mb4.5						
YBH				*e*pP	pP	09 33 44.7	-0.2
MTUM	**Tungsten Hills**	**80.72**	**45**	*e*P	**P**	**09 31 32.3**	**+0.6**
KDAK	**Kodiak Island**	**80.87**	**14**	⇓*e*P	**P**	**09 31 31.2**	**-0.8**
	comp=Z,50nm,1.3s,mb4.8						
KDAK				*e*pP	pP	09 33 43.9	-1.6
BEKR	**Beckwourth**	**81.01**	**42**	*e*P	**P**	**09 31 33.5**	**+0.3**
	comp=Z,33nm,1.5s,mb4.5						
BEKR				pP	pP	09 33 45.6	-1.1
WCN	**Washoe City**	**81.06**	**42**	*e*P	**P**	**09 31 34.0**	**+0.6**
	comp=Z,24nm,1.1s,mb4.5						
HUMO	**Hull Mountain**	**81.09**	**38**	*e*P	**P**	**09 31 34.3**	**+0.8**
MAW	**Mawson**	**81.42**	**200**	*e*P	**P**	**09 31 35.3**	**+0.6**
	comp=Z,11nm,0.9s,mb4.3						
MAW				*e*	pP	09 33 51.1	+2.7
MAW	**Mawson**	**81.42**	**200**	P	**P**	**09 31 35.4**	**+0.7**
	comp=Z,11nm,0.8s,mb4.4,baz=120,slow=7.1,SNR=24						
MAW				pP	pP	09 33 48.4	+0.1
	comp=Z,12nm,1.0s,baz=108,slow=7.0,SNR=7.2						
MAW	**Mawson**	**81.42**	**200**	P	**P**	**09 31 35.4**	**+0.7**
MAW				*PP	pP	09 33 48.4	0.0
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW				pmax	pmax		
	comp=Z,12nm,1.0s						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**09 31 36.1**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.2,baz=212,slow=6.6,SNR=56						
NVAR				pP	pP	09 33 48.7	-0.7
	comp=Z,0.7nm,0.8s,baz=225,slow=6.4,SNR=2.9						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**09 31 36.1**	**+0.5**
NVAR				pP	pP	09 33 48.7	-0.7
SNY	**Shenyang**	**81.55**	**320**	⇓P	**P**	**09 31 35.2**	**-0.6**
SNY				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
MNV	**Mina**	**81.59**	**44**	⇓*e*P	**P**	**09 31 36.5**	**+0.4**
	comp=Z,16nm,1.1s,mb4.5						
MNV				*e*pP	pP	09 33 50.2	+0.2
CN2	**Changchun**	**81.66**	**323**	*e*P	**P**	**09 31 36.5**	**+0.1**
CN2				*e*AP	pP	09 33 50.5	+0.3
CN2				XP	sP	09 34 59.8	+6.6
CN2				*e*S	S	09 40 54.3	-3.2
CN2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
WHN	**Wuhan**	**81.67**	**307**	P	**P**	**09 31 37.5**	**+0.8**
WHN				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.8						
LDFC	**Landfair**	**81.83**	**48**	*e*P	**P**	**09 31 37.7**	**+0.3**
KLR	**Kul'dur**	**81.97**	**330**	*e*P	**P**	**09 31 39.0**	**+1.2**
KLR				pmax	pmax		
	comp=N,16nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.7						
TPH	**Tonopah**	**82.00**	**45**	⇓*e*P	**P**	**09 31 38.8**	**+0.5**
	comp=Z,20nm,1.2s,mb4.5						
MOD	**Modoc**	**82.24**	**40**	*e*P	**P**	**09 31 39.5**	**+0.1**
	comp=Z,22nm,0.9s,mb4.7						
NEN	**Nelson**	**82.31**	**48**	*e*P	**P**	**09 31 40.5**	**+0.7**
RSO	**Redoubt South**	**83.27**	**13**	*e*P	**P**	**09 31 42.8**	**-1.2**
SVW	**Sparrevohn**	**83.31**	**11**	*e*P	**P**	**09 31 43.9**	**-0.3**
	comp=Z,15nm,0.9s,mb4.5						
MA2	**Magadan**	**83.41**	**345**	*d* *i*P	**P**	**09 31 43.7**	**-1.1**
MA2				pmax	pmax		
	comp=E,10.0nm,1.1s						
MA2				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.7						
MA2	**Magadan**	**83.41**	**345**	*e*P	**P**	**09 31 43.2**	**-1.5**
	comp=Z,174nm,1.8s,mb5.3						
TUC	**Tucson**	**83.55**	**52**	*e*P	**P**	**09 31 47.0**	**+0.9**
	comp=Z,4.1nm,0.9s,mb4.0						
TUC				*e*pP	pP	09 34 02.5	+1.9
WVOR	**Wild Horse Val**	**83.56**	**40**	*e*P	**P**	**09 31 46.1**	**+0.2**
	comp=Z,17nm,1.0s,mb4.5						
SHW	**Mount Saint He**	**83.71**	**36**	*e*P	**P**	**09 31 47.6**	**+1.1**
SPU	**Mount Spurr**	**84.07**	**13**	*e*P	**P**	**09 31 46.1**	**-1.8**
HDW	**Hoodsport**	**84.17**	**34**	P	**P**	**09 31 49.7**	**+0.9**
GNW	**Green Mountain**	**84.24**	**34**	*e*P	**P**	**09 31 49.1**	**0.0**
PGC	**Sidney**	**84.59**	**33**	*e*P	**P**	**09 31 50.6**	**-0.2**
WUAZ	**Wupatki**	**84.68**	**49**	*e*P	**P**	**09 31 51.8**	**+0.3**
	comp=Z,6.8nm,1.3s,mb4.1						
RMW	**Rattlesnake Mo**	**84.72**	**35**	P	**P**	**09 31 51.9**	**+0.5**
MCW	**Mount Constitu**	**84.93**	**34**	P	**P**	**09 31 53.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**84.97**	**16**	*e*P	**P**	**09 31 51.3**	**-1.0**
PMR	**Palmer**	**85.07**	**14**	*e*P	**P**	**09 31 51.6**	**-1.1**
	comp=Z,64nm,1.3s,mb5.1						
BJT	**Baijiatuau**	**85.18**	**316**	*e*P	**P**	**09 31 53.6**	**-0.3**
	comp=Z,21nm,0.8s,mb4.8						
BJI	**Beijing**	**85.19**	**316**	P	**P**	**09 31 53.9**	**0.0**
BJI				XS		09 45 44.1	
BJI				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
LTY	**Liberty**	**85.21**	**36**	P	**P**	**09 31 53.9**	**+0.1**
ENH	**Enshi**	**85.25**	**305**	*e*P	**P**	**09 31 54.8**	**+0.4**
	comp=Z,183nm,1.4s,mb5.5						
SIT	**Sitka**	**85.30**	**22**	*e*P	**P**	**09 31 53.9**	**0.0**
	comp=Z,21nm,1.2s,mb4.7						
HAWA	**Hanford**	**85.33**	**37**	*e*P	**P**	**09 31 54.3**	**0.0**
	comp=Z,41nm,1.3s,mb4.9						
SML	**Sawmill**	**85.44**	**14**	*e*P	**P**	**09 31 53.3**	**-1.2**
DIV	**Divide**	**85.46**	**15**	*e*P	**P**	**09 31 53.6**	**-1.0**
	comp=Z,149nm,1.0s,mb5.6						
RPW	**Rockport**	**85.48**	**34**	P	**P**	**09 31 55.0**	**0.0**
MVU	**Marysvale**	**85.58**	**46**	*e*P	**P**	**09 31 56.6**	**+0.9**
	comp=Z,2.3nm,0.8s,mb3.9						
MSU	**Marysvale**	**85.61**	**46**	*e*P	**P**	**09 31 56.9**	**+1.0**
LNOR	**Lincton Mounta**	**85.73**	**38**	*e*P	**P**	**09 31 56.4**	**+0.1**
GYA	**Guiyang**	**85.84**	**300**	P	**P**	**09 31 58.4**	**+1.1**
GYA				AP	pP	09 34 17.6	+5.0
GYA				XP	sP	09 35 22.4	+7.5
GYA				S	S	09 41 39.7	+2.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WTV	**Waterville**	**85.86**	**35**	P	**P**	**09 31 57.0**	**+0.1**
NLW	**Nelson Butte**	**85.88**	**35**	*e*P	**P**	**09 31 57.0**	**+0.1**
SEY	**Seymchan**	**86.04**	**347**	*e*P	**P**	**09 31 57.1**	**-0.2**
SEY				*PP	pP	09 34 11.2	-1.5
SEY				*e*		09 35 27.0	
SEY				*e*		09 41 23.6	
SEY				*e*S	S	09 41 40.8	+2.2
SEY				*e*PS	SP	09 42 43.1	-3.9
SEY				*e*SS	SS	09 47 48.5	+7.0
SEY				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.0						
OD2	**Odessa Site #2**	**86.37**	**36**	P	**P**	**09 31 59.7**	**+0.4**
SYO	**Syowa Base**	**86.69**	**193**	⇓P	**P**	**09 31 59.8**	**-0.4**
SYO	**Syowa Base**	**86.69**	**193**	⇓PcP	PcP	09 32 00.6	-1.3
SYO	**Syowa Base**	**86.69**	**193**	⇓pP	pP	09 34 14.4	-1.5
SYO	**Syowa Base**	**86.69**	**193**	⇓SH		09 41 43.2	
HLID	**Hailey**	**86.76**	**41**	⇓*e*P	**P**	**09 32 02.2**	**+1.0**
	comp=Z,14nm,0.9s,mb4.6						
HLID				*e*pP	pP	09 34 18.1	+1.3
DPW	**Davenport**	**86.92**	**36**	*e*P	**P**	**09 32 01.8**	**-0.1**
PNT	**Penticton**	**87.00**	**34**	P	**P**	**09 32 02.7**	**+0.5**
MCK	**McKinley**	**87.01**	**13**	⇓*e*P	**P**	**09 32 00.4**	**-1.4**
	comp=Z,16nm,0.9s,mb4.6						
MCK				pP	pP	09 34 17.4	-0.2
DAU	**Daniels Canyon**	**87.17**	**45**	*e*P	**P**	**09 32 04.4**	**+1.2**
XAN	**Xi'an**	**87.37**	**308**	P	**P**	**09 32 05.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,51nm,1.2s,mb5.0						
TCUT	**Toone Canyon**	**87.42**	**44**	*e*P	**P**	**09 32 05.1**	**+0.7**
THY	**Trims Highway**	**87.43**	**14**	*e*P	**P**	**09 32 02.5**	**-1.3**
LTX	**Lajitas**	**87.69**	**58**	*e*P	**P**	**09 32 06.9**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**87.69**	**58**	P	**P**	**09 32 07.1**	**+1.2**
	comp=Z,2.1nm,0.7s,mb3.9,baz=220,slow=6.1,SNR=32						
TXAR				pP	pP	09 34 20.9	-1.0
	comp=Z,0.2nm,0.8s,baz=211,slow=5.3,SNR=1.7						
PV10	**Paradox Valley**	**87.69**	**48**	*e*P	**P**	**09 32 05.5**	**-0.2**
NEW	**Newport**	**87.75**	**36**	P	**P**	**09 32 04.8**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.1,baz=290,slow=4.3,SNR=7.7						
NEW	**Newport**	**87.75**	**36**	P	**P**	**09 32 04.8**	**-0.9**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NANT	**Nan**	**87.85**	**291**	⇑P	**P**	**09 32 06.0**	**-0.8**
PV01	**Paradox Valley**	**87.91**	**48**	*e*P	**P**	**09 32 07.0**	**+0.3**
HIA	**Hailar**	**88.08**	**325**	*e*P	**P**	**09 32 07.0**	**-0.3**
	comp=Z,22nm,1.0s,mb4.7						
SNAA	**Sanae**	**88.18**	**179**	*e*	**P**	**09 32 08.0**	**+0.8**
SNAA	**Sanae**	**88.18**	**179**	*e*	pP	09 34 15.5	-7.9
SNAA	**Sanae**	**88.18**	**179**	⇑*i*P	**P**	**09 32 06.9**	**-0.3**
SNAA				*e*		09 32 08.0	
SNAA				*e*		09 34 15.5	
SNAA				*e*		09 35 41.2	
COLA	**College**	**88.24**	**13**	*e*P	**P**	**09 32 05.9**	**-1.7**
COLA				pmax	pmax		
	comp=Z,85nm,1.1s,mb5.3						
COLA	**College**	**88.24**	**13**	*e*P	**P**	**09 32 05.9**	**-1.7**
	comp=Z,85nm,1.1s,mb5.3						
DLBC	**Dease Lake**	**88.24**	**23**	*e*P	**P**	**09 32 07.8**	**0.0**
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**09 32 06.5**	**-1.6**
	comp=Z,18nm,0.9s,mb4.7,baz=230,slow=5.4,SNR=110						
ILAR				pP	pP	09 34 22.9	-1.5
	comp=Z,6.2nm,1.0s,baz=229,slow=5.5,SNR=18						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**09 32 06.5**	**-1.6**
ILAR				*PP	pP	09 34 22.9	-1.5
ILAR				pmax	pmax		
	comp=Z,18nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MCMT	**McKenzie Canyo**	**88.38**	**41**	*e*P	**P**	**09 32 09.4**	**+0.6**
KMI	**Kunming**	**88.53**	**297**	*e*P	**P**	**09 32 11.6**	**+1.7**
KMI				AP	pP	09 34 27.2	+1.0
KMI				S	S	09 42 08.4	+6.3
KMI				XS		09 46 07.9	
KMI				SS	SS	09 48 20.2	+2.8
KMI				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.1						
KMI				AMB	AMB		
	comp=Z,87nm,3.5s						
HHC	**Hu-ho-hao-te**	**88.64**	**315**	*e*P	**P**	**09 32 11.0**	**+0.9**
HHC				SKS	SKS	09 41 33.3	-5.5
HHC				S	S	09 41 57.9	-4.8
HHC				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,154nm,4.9s						
BDT	**Bhumibol Dam**	**88.77**	**289**	P	**P**	**09 32 13.0**	**+1.9**
	comp=Z,16nm,0.8s,mb4.8						
MAIT	**Maitri**	**88.82**	**184**	*e*P	**P**	**09 32 10.1**	**-0.1**
REDW	**Red Top Meadow**	**88.89**	**43**	*e*P	**P**	**09 32 11.7**	**+0.5**
TPAW	**Teton Pass**	**88.89**	**42**	*e*P	**P**	**09 32 11.4**	**+0.3**
SNOW	**Snow King Moun**	**89.00**	**43**	*e*P	**P**	**09 32 12.4**	**+0.7**
VNA1	**Neumayer--Stat**	**89.01**	**177**	*e*	**P**	**09 32 14.8**	**+3.7**
VNA1	**Neumayer--Stat**	**89.01**	**177**	*e*	pP	09 34 22.3	-5.2
VNA1	**Neumayer--Stat**	**89.01**	**177**	⇓*i*P	**P**	**09 32 13.7**	**+2.6**
VNA1				*e*		09 32 14.8	
VNA1				*e*		09 34 22.3	
CHMT	**Chamberlain Mo**	**89.22**	**39**	*e*P	**P**	**09 32 12.1**	**-0.5**
QLMT	**Earthquake Lak**	**89.26**	**41**	P	**P**	**09 32 13.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**09 32 14.3**	**+0.9**
	comp=Z,24nm,0.8s,mb5.0,baz=123,slow=3.2,SNR=85						
CMAR				PP	PP	09 35 59.5	+1.9
	comp=Z,3.5nm,1.0s,baz=129,slow=6.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**09 32 14.4**	**+1.0**
CMAR						09 35 59.5	
CMAR				pmax	pmax		
	comp=Z,25nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHG	**Chiang Mai**	**89.40**	**290**	⇓P	**P**	**09 32 15.6**	**+1.6**
	comp=Z,47nm,0.8s,mb5.3						
BW06	**Boulder Array**	**89.43**	**44**	⇓*e*P	**P**	**09 32 13.7**	**0.0**
	comp=Z,8.3nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**89.43**	**44**	P	**P**	**09 32 13.8**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.3,baz=230,slow=1.9,SNR=41						
PDAR				PP	PP	09 35 54.6	-3.7
	comp=Z,0.8nm,0.9s,baz=270,slow=3.0,SNR=4.9						
LCCM	**Lewis and Clar**	**89.49**	**40**	P	**P**	**09 32 14.3**	**+0.5**
BOZ	**Bozeman (W)**	**89.54**	**40**	⇓*e*P	**P**	**09 32 14.6**	**+0.5**
	comp=Z,15nm,1.4s,mb4.6						
BOZ				*e*pP	pP	09 34 32.1	+1.4
DAWY	**Dawson**	**89.55**	**16**	*e*P	**P**	**09 32 13.1**	**-0.6**
DAWY				*e*pP	pP	09 34 30.4	+0.1
HRY	**Holter Researc**	**89.95**	**39**	*e*P	**P**	**09 32 15.3**	**-0.6**
PLCA	**Paso Flores**	**89.99**	**134**	P	**P**	**09 32 17.8**	**+1.6**
	comp=Z,9.0nm,0.8s,mb4.6,baz=213,slow=5.5,SNR=20						
PLCA				PP	PP	09 35 59.8	-3.0
	comp=Z,1.8nm,0.8s,baz=222,slow=4.2,SNR=3.1						
PLCA	**Paso Flores**	**89.99**	**134**	P	**P**	**09 32 17.8**	**+1.5**
PLCA						09 35 59.8	
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CD2	**Chengdu**	**90.00**	**303**	P	**P**	**09 32 17.9**	**+1.4**
JCT	**Junction City**	**91.22**	**58**	P	**P**	**09 32 22.1**	**-0.1**
YAK	**Yakutsk**	**91.66**	**338**	*d* *i*P	**P**	**09 32 22.2**	**-1.2**
YAK				*e*S	SKS	09 41 52.5	-3.0
YAK				*i* *SS		09 42 35.9	
YAK				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,3.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
YAK				smax			
	comp=N,8.0nm,1.3s						
YAK				smax			
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**91.66**	**338**	*e*P	**P**	**09 32 21.8**	**-1.6**
	comp=E,46nm,0.8s,mb5.5						
LZH	**Lanzhou**	**92.00**	**308**	*e*P	**P**	**09 32 26.2**	**+0.6**
LZH				AP	pP	09 34 51.0	+8.2
LZH				XP	sP	09 35 54.0	+10
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.2						
INK	**Inuvik**	**94.35**	**15**	P	**P**	**09 32 34.1**	**-1.4**
	comp=Z,6.1nm,0.9s,mb4.7,baz=215,slow=5.9,SNR=14						
INK	**Inuvik**	**94.35**	**15**	P	**P**	**09 32 34.1**	**-1.5**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**94.35**	**15**	*e*P	**P**	**09 32 33.9**	**-1.7**
	comp=Z,12nm,1.2s,mb4.8						
INK				*e*pP	pP	09 34 52.8	-0.1
SONM	**Songino Array**	**95.08**	**319**	P	**P**	**09 32 38.7**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.4,baz=90,slow=2.5,SNR=6.7						
GTA	**Gaotai**	**96.22**	**310**	*e*P	**P**	**09 32 45.2**	**+0.5**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.7						
YKA	**Yellowknife Ar**	**96.73**	**25**	P	**P**	**09 32 44.6**	**-1.7**
	comp=Z,1.1nm,0.7s,mb4.2,baz=244,slow=4.4,SNR=9.3						
YKA				pP	pP	09 35 02.2	-1.6
	comp=Z,0.5nm,0.7s,baz=237,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**96.73**	**25**	P	**P**	**09 32 44.6**	**-1.8**
YKA				*PP	pP	09 35 02.2	-1.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**96.73**	**25**	P	**P**	**09 32 44.6**	**-1.7**
YKA				pP	pP	09 35 02.2	-1.6
ZAK	**Zakamensk**	**97.97**	**321**	*e*P	**P**	**09 32 51.4**	**-0.9**
LPAZ	**La Paz**	**102.90**	**113**	P	Pdif	09 33 17.3	+2.4
	comp=Z,2.0nm,1.1s,baz=244,slow=2.7,SNR=6.3						
LPAZ	**La Paz**	**102.90**	**113**	P	Pdif	09 33 17.3	+2.3
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**110.48**	**314**	Pdiff	Pdif	09 33 49.4	+1.7
	comp=Z,1.1nm,0.7s,baz=77,slow=6.7,SNR=10						
MKAR				PKiKP		09 37 42.9	
	comp=Z,2.6nm,0.6s,baz=79,slow=1.9,SNR=22						
MKAR				PP	PP	09 38 28.4	-6.6
	comp=Z,0.9nm,0.9s,baz=117,slow=5.4,SNR=3.6						
MKAR				PKKPbc		09 48 46.1	
	comp=Z,0.8nm,0.5s,baz=277,slow=3.3,SNR=8.3						
MKAR				PKKPab		09 48 58.9	
	comp=Z,0.2nm,0.2s,baz=294,slow=1.9,SNR=6.6						
MKAR	**Makanchi Array**	**110.48**	**314**	P	Pdif	09 33 49.4	+1.8
MKAR				*i*		09 37 42.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**118.48**	**320**	*e*PKPdf	PKPdf	09 37 58.1	-0.3
BRVK				*e*SKPdf		09 40 35.3	
SOKR	**Solikamsk**	**124.52**	**329**	⇑*i*PKIKP	PKPdf	09 38 09.1	-0.7
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	**Arti**	**124.59**	**325**	*i* PKIKP	PKPdf	09 38 10.2	+0.2
ARU				*e*PS	PS	09 50 10.8	-6.9
ARU	**Arti**	**124.59**	**325**	*i* PKPr		09 38 10.4	
KEV	**Kevo**	**128.16**	**349**	*e*p	PKPdf	09 38 15.3	-1.3
	comp=Z,0.6nm,0.3s						
KEV	**Kevo**	**128.16**	**349**	*e*PKIKP	PKPdf	09 38 15.3	-1.3
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**128.62**	**349**	PKhKP		09 38 03.5	
	comp=Z,1.2nm,0.8s,baz=270,slow=3.6,SNR=5.7						
ARCES				PKP	PKPdf	09 38 17.4	-0.1
	comp=Z,6.8nm,0.6s,baz=7.0,slow=1.0,SNR=30						
ARCES				SKPbc		09 40 39.8	
	comp=Z,6.7nm,0.9s,baz=45,slow=3.4,SNR=9.2						
ARCES	**ARCESS Array B**	**128.62**	**349**	PKHKP		09 38 03.5	
ARCES						09 38 17.4	
ARCES						09 40 39.8	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KAF	**Kangasniemi**	**134.77**	**344**	*e*p	PKPdf	09 38 23.9	-5.2
	comp=Z,2.9nm,0.5s						
KAF	**Kangasniemi**	**134.77**	**344**	*e*PKHKP		09 38 23.9	
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**135.38**	**343**	PKhKP		09 38 17.4	
	comp=Z,0.7nm,0.5s,baz=75,slow=3.7,SNR=8.2						
FINES				PKP	PKPdf	09 38 30.6	+0.4
	comp=Z,7.0nm,0.8s,baz=86,slow=3.2,SNR=8.2						
FINES				SKPbc		09 41 03.5	
	comp=Z,4.7nm,0.7s,baz=63,slow=4.3,SNR=14						
FINES	**FINESS Array B**	**135.38**	**343**	PKP		09 38 17.4	
FINES				PKP	PKPdf	09 38 30.6	+0.4
FINES				SKPbc		09 41 03.5	
OBN	**Obninsk**	**136.22**	**331**	*i* PKIKP	PKPdf	09 38 32.4	+0.4
OBN				*e*		09 41 24.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**136.22**	**331**	*e*PKP	PKPdf	09 38 34.5	+2.5
NB2	**NORSAR Subarra**	**138.72**	**353**	PKP		09 38 27.7	
	comp=Z,1.2nm,0.5s,baz=16,slow=3.1						
NOA	**NORSAR Array B**	**138.72**	**353**	PKhKP		09 38 27.2	
	comp=Z,1.9nm,0.6s,baz=16,slow=4.7,SNR=16						
NOA				PKP	PKPdf	09 38 37.0	+0.6
	comp=Z,0.5nm,0.5s,baz=34,slow=2.1,SNR=7.9						
NOA				SKPbc		09 41 13.0	
	comp=Z,8.8nm,0.9s,baz=16,slow=4.5,SNR=6.4						
NOA				SKPab		09 41 24.2	
	comp=Z,2.1nm,0.9s,baz=15,slow=3.2,SNR=4.7						
NOA	**NORSAR Array B**	**138.72**	**353**	PKHKP		09 38 27.2	
NOA						09 38 37.0	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**138.72**	**353**	PKP	PKPdf	09 38 27.2	-9.2
NOA				PKP	PKPdf	09 38 37.0	+0.6
NOA				SKPbc		09 41 13.0	
NOA				SKPab		09 41 24.2	
SUW	**Suwalki**	**142.39**	**339**	*e*PKHKP		09 38 41.0	
AKASG	**Malin Array Be**	**142.47**	**331**	PKhKP		09 38 40.2	
	comp=Z,28nm,0.4s,baz=42,slow=4.4,SNR=163						
AKASG				SKPbc		09 41 24.1	
	comp=Z,5.2nm,0.7s,baz=36,slow=2.7,SNR=13						
AKASG	**Malin Array Be**	**142.47**	**331**	PKHKP		09 38 40.2	
AKASG				pmax	pmax		
	comp=Z,28nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LTHS	**Al Lith**	**143.19**	**277**	P	PKPbc	09 38 46.7	+2.5
SIM	**Simferopol'**	**143.33**	**320**	*d* *i*PKHKP		09 38 45.0	
SIM				pmax	pmax		
	comp=Z,115nm,0.7s						
SIM	**Simferopol'**	**143.33**	**320**	*i* Pr	PKPdf	09 38 45.0	+0.1
MUD	**Monsted U'grnd**	**143.44**	**352**	*i* P	PKPbc	09 38 44.0	+0.2
	comp=Z,69nm,1.1s						
COP	**Copenhagen**	**143.70**	**349**	⇓*i*P	PKPbc	09 38 45.1	+0.5
	comp=Z,56nm,0.8s						
GZT	**Gaziantep**	**144.11**	**306**	*i* P	PKPbc	09 38 48.1	+1.7
BOYT	**Boyabat**	**144.51**	**314**	*i* P	PKPdf	09 38 49.3	+2.3
KAHT	**Ahir Dag**	**144.55**	**307**	*i* P	PKPdf	09 38 49.2	+2.0
KBRS	**Khaybar**	**144.56**	**286**	P	PKPdf	09 38 50.3	+2.7
WAR	**Warsaw**	**144.59**	**339**	*e*PKIKP	PKPdf	09 38 49.8	+3.0
GKP	**Gorka Klasztor**	**144.86**	**343**	*e*PKIKP	PKPdf	09 38 49.4	+2.2
CTKT	**Corum**	**144.93**	**313**	*i* P	PKPdf	09 38 50.8	+3.0
ESK	**Eskdalemuir**	**144.93**	**4**	*e*PKPdf	PKPdf	09 38 48.9	+1.6
COBT	**Iskenderun**	**145.37**	**305**	*i* P	PKPdf	09 38 51.7	+3.1
BALT	**Daday**	**145.48**	**315**	*i* P	PKPdf	09 38 52.0	+3.4
AVNT	**Avonos**	**145.63**	**310**	*i* P	PKPdf	09 38 52.2	+3.2
YNBS	**Yanbu' al Bahr**	**145.71**	**284**	P	PKPdf	09 38 53.4	+3.8
BSEG	**Bad Segeberg**	**145.73**	**350**	*e*PKIKP	PKPdf	09 38 51.8	+3.1
ELDT	**Eldivan**	**145.92**	**313**	*i* P	PKPdf	09 38 52.9	+3.5
KWP	**Kalwaria**	**146.09**	**335**	*e*PKIKP	PKPdf	09 38 53.3	+3.9
KWP				*e*		09 38 55.6	
UMJS	**Umm Lajj**	**146.33**	**285**	P	PKPdf	09 38 55.4	+4.8
OJC	**Ojcow**	**146.71**	**338**	*e*PKIKP	PKPdf	09 38 54.5	+4.1
SGKT	**Sivrigoynuk**	**146.81**	**314**	*i* P	PKPdf	09 38 55.3	+4.4
TBKS	**Tabuk**	**146.84**	**291**	P	PKPdf	09 38 56.6	+5.2
VRI	**Vrincioaia**	**146.97**	**326**	⇑*i*P	PKPdf	09 38 55.7	+4.7
VRI	**Vrincioaia**	**146.97**	**326**	⇑*i*P	PKPdf	09 38 55.7	+4.7
HMDT	**Nahal Hemdat**	**147.08**	**298**	P	PKPdf	09 38 56.9	+5.3
HARR	**Harsova**	**147.09**	**324**	⇑*i*P	PKPdf	09 38 55.9	+4.7
HARR	**Harsova**	**147.09**	**324**	⇑*i*P	PKPdf	09 38 55.9	+4.6
MMLI	**Mount Malkishu**	**147.12**	**299**	P	PKPdf	09 38 57.1	+5.4
CRVS	**Cervenica-Dubn**	**147.16**	**335**	*e*PKP	PKPdf	09 38 56.0	+4.8
CRVS				*e*		09 38 59.6	
CRVS				*e*		09 41 20.4	
CRVS				*e*		09 41 23.7	
KSP	**Ksiaz**	**147.29**	**342**	*i* PKIKP	PKPdf	09 38 56.1	+4.8
KSP				*e*		09 39 00.5	
KSP	**Ksiaz**	**147.29**	**342**	*e*PKPdf	PKPdf	09 38 56.1	+4.8
KSP				*e*		09 39 00.5	
KSP				*e*pPKP		09 41 21.0	
KSP				*e*PP	PP	09 42 24.0	-6.0
DRGI	**Dragot**	**147.33**	**297**	P	PKPdf	09 38 57.3	+5.3
JMQS	**Jabal Moqyreh**	**147.35**	**292**	P	PKPdf	09 38 57.8	+5.7

RAC	Raciborz	147.37	339	*e*PKIKP	PKPdf	09 38 57.1	+5.6
RAC				*e*		09 41 12.8	
HENT	Hendek	147.46	315	*i* P	PKPdf	09 38 55.4	+3.4
SLTI	Sal'it	147.48	298	P	PKPdf	09 38 57.9	+5.6
OKC	Ostrava-Krasne	147.60	339	⇑*i*PKPB		09 38 56.6	
OKC				*e*PKPAB	PKPab	09 39 01.6	-1.4
OKC				*e*APKP		09 41 21.1	
MLR	Muntele Rosu	147.63	326	⇑*i*P	PKPdf	09 38 57.3	+5.2
MLR	Muntele Rosu	147.63	326	⇑*i*P	PKPdf	09 38 57.3	+5.3
ZFRI	Zfri	147.70	295	P	PKPdf	09 38 58.5	+5.8
CLL	Collm	147.72	346	*e*PKIKP	PKPdf	09 38 54.0	+2.0
CLL				*i* PKP1	PKPdf	09 38 56.9	+4.9
CLL				*i* PKP2	PKPab	09 39 01.4	-2.0
CLL				*i* *PPKP		09 41 22.2	
CLL	Collm	147.72	346	*i* PKIKP	PKPdf	09 38 56.9	+4.9
CLL				*i*		09 39 01.4	
CLL				pmax	pmax		
	comp=Z,89nm,0.9s						
CLL				pmax	pmax		
	comp=Z,40nm,0.8s						
CLL	Collm	147.72	346	*i* PKP	PKPdf	09 38 56.9	+4.9
CLL				*i* PKP	PKPdf	09 39 01.4	+9.4
CLL				*i* pPKP		09 41 22.2	
DPC	Dobruska-Polom	147.72	342	⇑*i*PKPB		09 38 57.5	
DPC				*e*PKPAB	PKPab	09 39 02.2	-1.3
DPC				*e*APKP		09 41 22.1	
CLZ	Clausthal	147.74	349	*e*PKPbc	PKPdf	09 38 57.4	+5.4
KECS	Kecovo	147.88	335	*e*PKP	PKPdf	09 38 58.0	+5.6
PRNI	Paran	147.89	295	P	PKPdf	09 38 58.9	+5.9
BRG	Berggiesshubel	147.90	345	*i* PKP	PKPdf	09 38 53.9	+1.6
BRG				*i*		09 38 57.5	
BRG				*i*		09 39 02.8	
BRG				pPKP		09 41 22.7	
JMOS	Jabal al Moall	147.98	293	P	PKPdf	09 38 59.2	+6.1
EIL	Elat	148.04	294	P	PKPdf	09 38 59.2	+6.0
PVCC	Panska Ves	148.05	344	⇑*i*PKPB		09 38 58.1	
PVCC				*e*PKPAB	PKPab	09 39 03.3	-1.5
PVCC				*e*APKP		09 41 23.4	
MBH	Mount Berech	148.06	294	P	PKPdf	09 38 59.4	+6.1
BDAS	Al Bad'	148.09	291	P	PKPdf	09 38 59.2	+5.8
ESKT	Eskisehir	148.13	313	*i* P	PKPdf	09 38 58.7	+5.6
WTSB	Winterswijk	148.13	353	*e*PKiKP		09 38 54.4	
	comp=Z,8.3nm,0.4s						
WTSB				*e*PKP	PKPdf	09 38 57.9	+5.3
	comp=Z,66nm,0.9s						
WTSB				*e*PKP	PKPdf	09 39 03.0	+10
	comp=Z,30nm,0.9s						
HAQS	Haql	148.15	293	P	PKPdf	09 38 59.4	+6.0
KMTI	Karmit	148.17	295	P	PKPdf	09 38 59.3	+5.9
PRD	Provadia	148.31	322	*i* P	PKPdf	09 38 59.0	+5.8
VYHS	Vyhne	148.50	337	*e*PKP	PKPdf	09 38 59.5	+6.2
VYHS				*e*		09 39 05.1	
VYHS				*e*		09 41 24.6	
VYHS				*e*		09 41 27.5	
PRU	Pruhonice	148.55	343	*e*PKPDF	PKPdf	09 38 52.8	-0.6
PRU				⇑*i*PKPB		09 38 59.1	
PRU				*e*PKPAB	PKPab	09 39 04.3	-2.5
PRU				*e*APKP		09 41 25.6	
PSZ	Piszkesteto	148.57	335	⇑*e*P	PKPdf	09 38 59.7	+6.2
KOLL	Kolacno	148.58	338	*e*PKP	PKPdf	09 38 59.9	+6.4
KOLL				*e*		09 39 06.2	
MOX	Moxa	148.64	347	⇓*i*PKHKP		09 38 59.4	
MOX				*e*		09 39 05.5	
MOX				pmax	pmax		
	comp=Z,53nm,1.4s						
MOX	Moxa	148.64	347	⇓*i*P	PKPdf	09 38 59.4	+5.9
MOX				*e*		09 39 05.5	
MOX				*e*		09 41 26.9	
ULDT	Uludag	148.97	316	*i* P	PKPdf	09 39 00.4	+6.0
JMB	Yambol	149.24	322	P	PKPdf	09 39 01.0	+6.3
SRO	Srobarova	149.26	337	*e*PKP	PKPdf	09 39 01.7	+7.2
SRO				*e*		09 39 08.6	
HGN	Heimansgroeve	149.41	354	*e*PKP	PKPdf	09 39 01.0	+6.3
	comp=Z,25nm,0.8s						
HGN				*e*PKP	PKPdf	09 39 08.5	+14
	comp=Z,21nm,0.9s						
KHC	Kasperske Hory	149.59	344	*e*PKPDF	PKPdf	09 38 56.3	+1.3
KHC				⇑*i*PKPB		09 39 01.6	
KHC				*e*PKPAB	PKPab	09 39 09.9	-1.2
KHC				*e*APKP		09 41 28.0	
GRA1	Grafenberg Arr	149.63	347	*e*PKPbc	PKPdf	09 39 02.3	+7.2
GRA1				*e*PKPab	PKPab	09 39 10.1	-1.2
GRA1				*e*pPKPbc		09 41 29.4	
GRF	Grafenberg Arr	149.63	347	*e*PKHKP		09 39 02.3	
WET	Wettzell	149.76	345	*e*PKPbc	PKPdf	09 39 02.1	+6.8
WET				*e*PKPab	PKPab	09 39 10.7	-1.1
GEC2	GERESS Array S	149.82	343	*e*PKPbc	PKPdf	09 39 02.2	+6.8
GEC2				*e*PKPab	PKPab	09 39 10.8	-1.3
GERES	GERESS Array B	149.82	343	PKP	PKPdf	09 38 56.3	+0.9
	comp=Z,2.0nm,0.7s,baz=108,slow=4.2,SNR=5.5						
GERES				PKPbc	PKPdf	09 39 02.4	+7.0
	comp=Z,11nm,0.7s,baz=45,slow=1.9,SNR=64						
GERES				PKPab	PKPab	09 39 10.2	-1.8
	comp=Z,4.1nm,0.8s,baz=34,slow=4.8,SNR=7.7						
GERES				pPKPbc		09 41 26.2	
	comp=Z,2.3nm,1.1s,baz=56,slow=3.5,SNR=3.3						
GERES	GERESS Array B	149.82	343	PKIKP	PKPdf	09 38 56.3	+0.9
GERES						09 39 02.4	
GERES						09 39 10.2	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,11nm,0.7s						
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GIVF	Givet	150.16	355	*e*PKP1	PKPdf	09 39 02.9	+7.1
	comp=Z,139nm,1.0s						
DNZL	Cakiroluk	150.23	312	*i* P	PKPdf	09 39 04.0	+7.6
BAIF	Baives	150.25	356	*e*PKP1	PKPdf	09 39 03.2	+7.2
	comp=Z,74nm,1.0s						
PLD	Plovdiv	150.55	323	*i* P	PKPdf	09 39 03.5	+6.8
ARSA	Arzberg	150.71	340	⇓*i*P	PKPdf	09 39 03.3	+6.5
ARSA				*i*		09 39 14.9	
RZN	Rozhen	150.81	322	*i* P	PKPdf	09 39 04.0	+6.9
VTS	Vitosha	151.05	325	*i* P	PKPdf	09 39 05.0	+7.6
FUR	Furstenfeldbru	151.05	346	*e*PKPbc	PKPdf	09 39 04.7	+7.5
FUR				*e*PKPab	PKPab	09 39 15.9	-1.4
MMB	Musomiste	151.44	323	*i* P	PKPdf	09 39 05.7	+7.7
BFO	Black Forest	151.48	350	*e*PKPbc	PKPdf	09 39 05.9	+8.1
BFO				*e*PKPab	PKPab	09 39 16.9	-2.2
KBA	Koelnbreinsper	151.53	342	⇑*i*P	PKPdf	09 38 58.5	+0.5
KBA				*i*		09 39 06.2	
KBA				*i*		09 39 19.1	
CDF	Champ du Feu	151.56	351	*e*PKP1	PKPdf	09 39 06.0	+8.0
KKB	Krupnik	151.61	324	*i* P	PKPdf	09 39 06.3	+8.1
FLN	La Foliniere	151.62	2	*e*PKP1	PKPdf	09 39 05.8	+7.8
	comp=Z,28nm,0.7s						
MEZF	Maizieres J'vi	151.73	354	*e*PKP1	PKPdf	09 39 06.6	+8.4
	comp=Z,41nm,0.8s						
WATA	Walderalm	151.76	345	⇑*i*P	PKPdf	09 38 59.4	+1.1
WATA				*i*		09 39 06.0	
WATA				*i*		09 39 18.9	
LDF	La Druitiere	151.80	2	*e*PKP1	PKPdf	09 39 06.1	+7.8
	comp=Z,19nm,0.7s						
WTTA	Wattenberg	151.81	345	⇑*i*P	PKPdf	09 38 59.9	+1.6
WTTA				*i*		09 39 06.7	
WTTA				*i*		09 39 19.9	
ROSF	Rostrenen	151.85	6	*e*PKP1	PKPdf	09 39 06.1	+7.7
MOTA	Moosalm	151.87	345	⇑*i*P	PKPdf	09 38 59.8	+1.4
MOTA				*i*		09 39 06.9	
MOTA				*i*		09 39 19.5	
SQTA	Sankt Quirin	151.96	345	⇑*i*P	PKPdf	09 38 59.9	+1.4
SQTA				*i*		09 39 06.8	
SQTA				*i*		09 39 20.0	
GRR	Gorron	151.98	3	*e*PKP1	PKPdf	09 39 06.7	+8.2
	comp=Z,18nm,0.7s						
SGMF	Saint Gilles	152.00	5	*e*PKP1	PKPdf	09 39 06.5	+7.9
	comp=Z,16nm,0.7s						
HAU	Haudompre	152.08	352	*e*PKP1	PKPdf	09 39 07.0	+8.3
	comp=Z,15nm,0.6s						
LJU	Ljubljana	152.10	340	*e*PKPbc	PKPdf	09 39 07.5	+8.7
LJU				*e*PKPab	PKPab	09 39 19.6	-2.1
DAVA	Damuels	152.19	347	⇑*i*P	PKPdf	09 39 00.4	+1.5
DAVA				*i*		09 39 08.0	
DAVA				*i*		09 39 20.7	
HINF	Hinteralfeld	152.20	352	*e*PKP1	PKPdf	09 39 07.1	+8.2
	comp=Z,10.0nm,0.7s						
BOJS	Bojanci	152.33	338	*e*PKPbc	PKPdf	09 39 08.0	+8.9
BOJS				*e*PKPab	PKPab	09 39 17.5	-5.2
SKO	Skopje	152.42	326	*e*PKP	PKPdf	09 39 08.0	+8.6
LOR	Lormes	153.05	356	*e*PKP1	PKPdf	09 39 09.2	+9.1
	comp=Z,15nm,0.7s						
SSF	Saint Saulge	153.28	356	*e*PKP1	PKPdf	09 39 09.7	+9.3
	comp=Z,4.4nm,0.4s						
CABF	La Chapelle	153.49	352	*e*PKP1	PKPdf	09 39 10.7	+10
	comp=Z,20nm,0.8s						
MFF	Saint Martin d	153.79	2	*e*PKP1	PKPdf	09 39 10.6	+9.5
TCF	Toulx Ste Croi	154.11	358	*e*PKP1	PKPdf	09 39 11.3	+10
LPL	La Plagne	154.47	351	*e*PKP1	PKPdf	09 39 13.0	+11
	comp=Z,7.0nm,0.8s						
LPG	La Plagne	154.49	351	*e*PKP1	PKPdf	09 39 13.1	+11
RJF	Les Rejaudoux	155.11	359	*e*PKP1	PKPdf	09 39 13.5	+11
ORIF	Oris-en-Rattie	155.18	352	*e*PKP1	PKPdf	09 39 14.1	+11
MBDF	Montbardon	155.24	350	*e*PKP1	PKPdf	09 39 14.0	+11
	comp=Z,8.8nm,0.7s						
CAF	Calviac	155.47	358	*e*PKP1	PKPdf	09 39 14.6	+11
LIC	Lamto	164.75	156	*e*PKP2	PKPab	09 40 17.4	+0.4
	comp=Z,43nm,0.9s						
LIC	Lamto	164.75	156	⇑*i*P	PKPab	09 40 17.3	+0.3
	comp=Z,61nm,0.9s						
KIC	Kosan Boka	164.99	157	⇑*i*P	PKPab	09 40 18.4	+0.4
	comp=Z,200nm,1.0s						
TIC	Toumodi	165.14	156	⇑*i*P	PKPab	09 40 19.0	+0.3
	comp=Z,159nm,1.0s						

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*NIED **08** 09:26:00, 32.50N×142.20E, h53^{km}, Mw3.8 Best double couple: $M_0$6.06×10^{14} NP1:ϕ_s89°, δ77°, λ-162°. NP2: ϕ_s355°, δ72°, λ-13°.*

JMA 08 09:26:29.1±0.6**, 32.55N**×**142.19E, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.08	286	P	Pn	09 27 05.7	+0.1
BSO1	Boso 1	2.33	335	P	Pn	09 27 10.0	+0.8
BSO3	Boso 3	2.65	329	P	Pn	09 27 14.6	+0.8
JMY	Miyake jima 2	2.70	305	P	Pn	09 27 15.0	+0.5
BSO4	Boso 4	2.88	328	P	Pn	09 27 18.3	+1.2
JIM2	Oshima 3	3.16	314	P	Pn	09 27 20.7	-0.3
JIM2				*e*S	Sn	09 27 58.5	-1.5
JOD2	Odawara 2	3.74	317	P	Pn	09 27 29.1	-0.2
JYN	Shimob	4.22	315	P	Pn	09 27 37.1	+1.0
JRY	Ryogami san	4.40	323	P	Pn	09 27 39.6	+0.9
JAG	Ashikaga	4.48	330	P	Pn	09 27 40.2	+0.4
MAT	Matsushiro	5.16	322	P	Pn	09 27 49.7	+0.2
MAT				S	Sn	09 28 49.8	-0.9
MAT	Matsushiro	5.16	322	P	Pn	09 27 50.1	+0.6
MAT				S	Sn	09 28 49.7	-1.0
JMM	Marumori	5.43	348	P	Pn	09 27 51.2	-2.0
JMK	Ichinoseki	6.44	353	P	Pn	09 28 04.7	-2.8

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*IDC **08** 09:46:20.5±17.0, 11.56S×166.75E, h227^{km}±171^{km}, mb3.6/10, mb1 3.7/10, mb1mx3.6/17, Error ellipse: s-maj=56.1km s-min=23.1km az=19.0*

*NEIC **08** 09:46:22.8±0.6, 11.60S×166.72E, h250^{km}, mb3.9/1, Error ellipse: s-maj=18.8km s-min=11.5km az=138.0*

ISC 08 09:46:21.5±0.7**, 11.7S**±0.1×**166.7E**±0.1**, h250^{km}, n13, σ0^{s}94**/13**, mb3.8**/10**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	21.39	244	P	P	09 50 52.1	+1.9
	1.4nm,0.6s,mb3.7,baz=102,slow=8.2,SNR=3.5						
ARMA	Armidale	23.34	215	*e*P	P	09 51 09.8	+0.8
URZ	Urewera	28.06	162	P	P	09 51 51.5	-0.6
	14nm,0.9s,mb4.6,baz=168,slow=21,SNR=6.4						
STKA	Stephens Creek	30.68	225	*e*P	P	09 52 15.4	+0.2
	1.4nm,0.4s,mb3.9						
STKA	Stephens Creek	30.68	225	P	P	09 52 15.5	+0.3
	1.7nm,0.5s,mb4.0,baz=47,slow=11,SNR=8.3						
WB2	Warramunga Arr	32.18	251	*e*P	P	09 52 27.2	-1.1
WRA	Warramunga Arr	32.20	251	P	P	09 52 27.1	-1.3
	0.6nm,0.5s,mb3.4,baz=83,slow=8.7,SNR=15						
ASAR	Alice Springs	33.40	245	P	P	09 52 37.6	-1.1
	1.4nm,0.8s,mb3.6,baz=75,slow=9.8,SNR=14						
ASAR				pP	pP	09 53 27.6	-1.7
	1.1nm,0.8s,baz=71,slow=8.5,SNR=6.3						
FITZ	Fitzroy Crossi	40.17	256	P	P	09 53 36.0	+0.8
	1.5nm,0.8s,mb3.5,baz=60,slow=8.1,SNR=3.3						
ILAR	Eielson Array	83.79	18	P	P	09 58 23.1	-0.4
	2.0nm,0.6s,mb4.0,baz=245,slow=5.0,SNR=23						
NVAR	Mina Array Bea	85.68	50	P	P	09 58 34.6	+1.0
	0.5nm,0.8s,mb3.3,baz=233,slow=13,SNR=3.7						
MKAR	Makanchi Array	94.63	317	P	P	09 59 15.6	+0.4
	0.7nm,0.5s,mb4.0,baz=90,slow=6.4,SNR=7.2						
YKA	Yellowknife Ar	95.07	27	P	P	09 59 16.3	-0.5
	0.5nm,0.7s,mb3.8,baz=257,slow=4.8,SNR=6.7						

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*IDC **08** 10:02:19.9±1.2, 12.26N×95.67E, mb3.8/5, mb1 3.9/6, mb1mx3.7/16, ML3.4/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=54.7km s-min=20.7km az=56.0*

*NEIC **08** 10:02:23.9±0.9, 12.32N×95.79E, Error ellipse: s-maj=26.2km s-min=15.4km az=69.0*

ISC 08 10:02:22.0±1.0**, 12.4N**±0.1×**95.8E**±0.2**, h24^{km}, n7, σ0^{s}63**/6**, mb3.8**/5**, MS3.6**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.76	26	Pn	Pn	10 04 02.3	-0.1
	0.2nm,0.3s,baz=214,slow=13,SNR=3.2						
CMAR				LR	LR	10 07 18.2	
	comp=Z,50nm,20.3s,baz=235,slow=43						
MKAR	Makanchi Array	36.18	344	P	P	10 09 24.7	+0.1
	1.6nm,0.8s,mb4.0,baz=158,slow=9.1,SNR=12						
WRA	Warramunga Arr	49.66	130	P	P	10 11 14.1	-0.1
	1.2nm,0.7s,mb4.0,baz=309,slow=8.3,SNR=12						
WRA				pP	pP	10 11 21.6	+0.1
	1.1nm,0.6s,baz=308,slow=8.3,SNR=5.3						
ASAR	Alice Springs	51.65	134	P	P	10 11 29.4	+0.1
	0.8nm,0.7s,mb3.8,baz=312,slow=6.4,SNR=8.7						
ASAR				pP	pP	10 11 36.4	-0.3
	0.5nm,0.5s,baz=309,slow=6.5,SNR=6.1						
KMBO	Kilima Mbogo	59.67	261	LR	LR	10 37 16.2	
	comp=Z,46nm,18.8s,MS3.6,baz=94,slow=35						
FINES	FINESS Array B	69.58	331	P	P	10 13 31.6	+0.7
	0.5nm,0.8s,mb3.5,baz=104,slow=5.7,SNR=3.5						
GERES	GERESS Array B	75.64	318	P	P	10 14 06.1	-0.8
	0.9nm,0.8s,mb3.7,baz=104,slow=4.0,SNR=5.2						

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*NNC **08** 10:27:02.6±14.0, 38.60N×71.96E, mpv3.2, Error ellipse: s-maj=210.6km s-min=105.5km az=80.0*

ISC 08 10:26:53.1±1.3**, 38.27N**±0.08×**73.6E**±0.3**, h233^{km}**±50^{km}**, n12, σ0^{s}48**/14**, 3C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.86	1	P	P	10 27 54.4	-0.7
	SNR=65						
KZA	Kyzart	4.00	17	P	P	10 27 56.3	-0.5
	SNR=7.7						
UCH	Uchtor	4.01	9	P	P	10 27 56.9	-0.1
	SNR=40						
EKS2	Erkin-Say	4.39	1	P	P	10 28 01.8	+0.3
	SNR=27						
AAK	Ala-Archa	4.41	8	P	P	10 28 02.3	+0.5
	SNR=9.1						
ULHL	Ulahol	4.45	26	P	P	10 28 02.0	-0.2
	SNR=27						
CHMS	Chumysh	4.80	10	P	Px	10 28 21.2	
	SNR=5.9						
TKM2	Tokmak 2	4.88	17	P	P	10 28 08.1	+0.5
	SNR=6.7						
KK31	Karatay Array	5.38	335	⇓P	P	10 28 14.3	+0.4
	1.3nm,0.3s,baz=141,slow=12,SNR=38						
KK31				⇑S	S	10 29 09.9	-6.8
	22nm,0.5s,baz=150,slow=22,SNR=20						
DLH	Dalhousie	6.02	161	*e*P	S	10 29 27.0	-4.0
THN	Thein Dam	6.06	163	*e*P	P	10 28 27.7	+5.3
	52nm,0.3s						
THN				*e*S	S	10 29 32.1	+0.1
AB31	Akbulak array	14.76	322	⇑P	P	10 30 17.5	+5.4
	0.4nm,0.3s,baz=129,slow=13,SNR=20						
AB31				⇑S	S	10 32 49.5	-0.2
	0.9nm,0.6s,baz=133,slow=24,SNR=5.3						

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*BJI **08** 10:35:42.2, 24.88S×179.75E, h490^{km}, mB4.6, mb4.8*

*IDC **08** 10:35:43.8±0.6, 25.53S×179.58E, h511^{km}±5^{km}, mb4.2/21, mb1 4.2/24, mb1mx4.2/25, Error ellipse: s-maj=10.5km s-min=9.0km az=165.0*

*NEIC **08** 10:35:43.3±0.2, 25.53S×179.54E, mb4.7/21, Error ellipse: s-maj=7.5km s-min=6.1km az=139.0*

ISC 08 10:35:41.5±0.9**, 25.58S**±0.04×**179.53E**±0.05**, h496^{km}**±11^{km}**, h508^{km}**±2.5^{km}**:pP-P, n154, σ1^{s}03**/97**, mb4.7**/42**, 4C-10D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.47	284	⇑*i*P	P	10 38 29.1	+3.0
DZM				*e*S	S	10 40 38.0	-0.3
PUZ	Puketiti	12.50	185	P	P	10 38 26.0	-0.3
PUZ				*e*S	S	10 40 35.8	-3.1
URZ	Urewera	12.81	189	P	P	10 38 28.8	-0.7
	18nm,0.3s,baz=31,slow=2.2,SNR=71						
URZ				S	S	10 40 46.2	+1.6
	3.6nm,0.3s,baz=81,slow=20,SNR=7.2						
URZ	Urewera	12.81	189	P	P	10 38 28.0	-1.5
MWZ	Matawai	12.83	187	P	P	10 38 29.5	-0.3
MWZ				S	S	10 40 43.4	-1.7
KNZ	Kokohu	13.49	186	P	P	10 38 37.1	+0.5
KNZ				*e*S	S	10 40 59.7	+2.1
MGZ	Maungaku	13.80	193	*e*P	P	10 38 41.8	+2.0
NGZ	Ngauruhoe	13.96	193	*e*P	P	10 38 42.4	+1.0
PWZ	Pawanui	14.58	188	*e*P	P	10 38 46.3	-1.5
TSZ	Takapari Road	14.74	191	*e*P	P	10 38 48.5	-0.9
MRZ	Mangatainoka R	15.40	191	*e*P	P	10 38 54.0	-2.0
KIW	Kapiti Island	15.72	193	*e*P	P	10 39 00.0	+0.8
CAW	Cannon Point	15.93	192	*e*P	P	10 39 00.4	-0.8
SNZO	South Karori	16.19	193	*e*P	P	10 39 05.4	+1.5
	39nm,0.4s						
QRZ	Quartz Range	16.28	199	*e*P	P	10 39 06.5	+1.7
NNZ	Nelson	16.41	197	*e*P	P	10 39 06.9	+0.8
NNZ				S	S	10 41 50.1	-1.5
THZ	Tophouse	17.05	197	P	P	10 39 12.6	+0.2
THZ				*e*S	S	10 42 02.5	-0.4
KHZ	Kahutara	17.50	195	*e*P	P	10 39 16.4	-0.5
LTZ	Lake Taylor	18.17	197	*e*P	P	10 39 22.7	-0.7
WVZ	Waitaha Valley	18.88	200	P	P	10 39 30.2	0.0
RPZ	Rata Peaks	19.37	199	P	P	10 39 35.0	+0.1
	4.2nm,0.3s,baz=14,slow=3.9,SNR=21						
RAR	Rarotonga	19.49	81	P	P	10 39 35.9	-0.3
	2.5nm,0.3s,baz=238,slow=5.9,SNR=7.5						
JCZ	Jackson Bay	20.43	203	P	P	10 39 44.7	-0.1
ARMA	Armidale	25.07	253	*e*P	P	10 40 29.6	+2.3
TBI	Tubuai	28.29	92	*e*P	P	10 40 55.5	-0.2
	85nm,0.8s,mb5.2						
TBI				*e*R		10 47 32.4	
PAE	Paea	29.73	81	*e*P	P	10 41 07.5	-0.7
	68nm,1.0s,mb5.0						
PPT	Papeete	29.77	81	P	P	10 41 07.9	-0.7
	33nm,0.8s,mb4.8,baz=212,slow=14,SNR=4.4						
PPT	Papeete	29.77	81	*e*P	P	10 41 07.8	-0.8
	76nm,1.4s,mb4.9						
TIAR	Tiarei	29.97	81	*e*P	P	10 41 09.7	-0.7
	358nm,1.4s,mb5.6						
TVO	Taravao	29.98	81	*e*P	P	10 41 09.6	-0.8
	92nm,0.7s,mb5.3						
CTA	Charters Tower	31.09	273	⇓*i*P	P	10 41 21.1	+1.2
	21nm,0.4s,mb4.9						
CTA	Charters Tower	31.09	273	P	P	10 41 21.2	+1.3
	29nm,0.5s,mb4.9,baz=99,slow=11,SNR=115						
CTA				ScP		10 46 55.0	
	9.2nm,0.9s,baz=138,slow=2.2,SNR=9.5						
CTAO	Charters Tower	31.09	273	⇓*e*P	P	10 41 21.1	+1.1
	21nm,0.4s,mb4.9						
VAH	Vaihoa	32.38	78	*e*P	P	10 41 30.1	-0.7
	104nm,1.1s,mb5.2						
STKA	Stephens Creek	33.73	250	*e*P	P	10 41 42.6	+0.6
	11nm,1.3s,mb4.1						
STKA	Stephens Creek	33.73	250	P	P	10 41 42.9	+0.8
	5.9nm,0.6s,mb4.2,baz=96,slow=9.3,SNR=9.8						
STKA				ScP		10 47 04.6	
	4.1nm,0.9s,baz=119,slow=3.7,SNR=3.9						
PMG	Port Moresby	34.67	292	P	P	10 41 50.3	+0.2
	54nm,0.8s,mb5.0,baz=112,slow=5.2,SNR=15						
ASAR	Alice Springs	41.36	263	P	P	10 42 45.2	+0.5
	16nm,0.5s,mb4.7,baz=93,slow=7.2,SNR=640						
ASAR				pP	pP	10 44 18.6	+2.0
	1.7nm,0.7s,baz=87,slow=8.1,SNR=2.1						
ASAR				PcP	PcP	10 44 31.3	-0.8
	1.6nm,0.6s,baz=104,slow=5.5,SNR=5.2						
ASAR				ScP		10 47 33.4	
	4.5nm,1.0s,baz=105,slow=2.5,SNR=8.1						
ASAR				S	S	10 48 20.1	-3.8
	1.4nm,0.7s,baz=98,slow=15,SNR=4.2						
ASPA	Alice Springs	41.37	263	⇓*i*P	P	10 42 45.2	+0.4
ASPA				*e*S	S	10 48 21.4	-2.5
ASPA				*e*SCS	ScS	10 51 48.8	-2.2
WB2	Warramunga Arr	41.88	268	⇓*i*P	P	10 42 48.8	-0.2
WB2				*e*S	S	10 48 26.8	-4.6
WRA	Warramunga Arr	41.89	268	P	P	10 42 48.9	-0.1
	18nm,0.5s,mb4.7,baz=102,slow=7.8,SNR=395						
WRA				PcP	PcP	10 44 32.3	-1.7
	3.3nm,0.9s,baz=106,slow=5.8,SNR=5.9						
WRA				ScP		10 47 35.8	
	8.6nm,1.1s,baz=105,slow=4.2,SNR=11						
WRA				S	S	10 48 27.0	-4.5
	6.3nm,1.3s,baz=101,slow=14,SNR=7.0						
FORT	Forrest	45.34	251	*e*P	P	10 43 15.2	-0.8
	29nm,0.5s,mb5.0						
KAKA	Kakadu	46.10	277	⇓*i*P	P	10 43 20.9	-1.1
	19nm,0.3s,mb5.0						
FITZ	Fitzroy Crossi	50.29	267	⇓*i*P	P	10 43 53.2	-0.4
	24nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	50.29	267	P	P	10 43 53.4	-0.2
	25nm,0.6s,mb4.7,baz=124,slow=3.6,SNR=132						
VNDA	Vanda	52.68	185	P	P	10 44 10.6	+0.3
	4.3nm,0.5s,mb4.0,baz=4.5,slow=8.2,SNR=26						
VNDA				ScP		10 48 18.1	
	2.3nm,0.7s,baz=355,slow=3.8,SNR=6.8						
KLBR	Kellerberrin	53.96	248	⇓*i*P	P	10 44 18.4	-1.6
	7.3nm,0.5s,mb4.3						
QSPA	South Pole Qui	64.51	180	⇑*e*P	P	10 45 30.5	+0.7
	44nm,0.7s,mb5.2						
QSPA				*e*		10 47 19.9	
JHJ	Hachijo jima 2	69.56	325	P	P	10 46 00.9	-0.6
	91nm,0.7s,mb5.4,baz=204,slow=19,SNR=5.8						
JOW	Kunigami	71.80	313	P	P	10 46 14.5	-0.3
	43nm,0.8s,mb5.1,baz=141,slow=17,SNR=6.0						
MAJO	Matsushiro	73.04	326	*e*P	P	10 46 20.5	-1.3
	48nm,0.8s,mb5.1						
MAT	Matsushiro	73.04	326	P	P	10 46 20.9	-0.9
MAT	Matsushiro	73.04	326	*e*P	P	10 46 21.0	-0.8
	59nm,1.0s,mb5.1						
MAT				*e*S	Sx	10 53 09.0	
JNU	Nakatsue	74.50	319	P	P	10 46 29.3	-0.8
	23nm,0.8s,mb4.8,baz=75,slow=7.9,SNR=17						
MAW	Mawson	76.03	201	⇑*i*P	P	10 46 38.2	+0.3
	7.8nm,0.5s,mb4.5						
MAW	Mawson	76.03	201	P	P	10 46 38.3	+0.4
	9.9nm,0.6s,mb4.6,baz=130,slow=6.9,SNR=47						
ASAJ	Asahikawa	77.17	334	P	P	10 46 45.5	+1.0
	21nm,0.8s,mb4.7,baz=234,slow=7.5,SNR=10						
YSS	Yuzh-Sakhalins	79.47	335	*e*P	P	10 46 57.6	+0.9
	12nm,0.4s,mb4.8						
INCN	Inchon	80.02	320	P	P	10 46 58.4	-1.4
	17nm,0.6s,mb4.7						
USHA	Ushuaia	81.13	147	P	P	10 47 05.8	+0.6
	13nm,1.1s,mb4.4,baz=277,slow=1.9,SNR=3.7						
SNAA	Sanae	83.00	179	⇓*i*	P	10 47 12.8	-1.5
MDJ	Mudanjiang	83.42	327	P	P	10 47 16.9	0.0
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,76nm,5.6s						
MDJ	Mudanjiang	83.42	327	*e*P	P	10 47 17.5	+0.6
VNA1	Neumayer--Stat	83.88	177		P	10 47 21.5	+2.9
CMB	Columbia Colle	84.71	43	*e*P	P	10 47 23.6	+0.1
	comp=Z,5.1nm,0.9s,mb4.2						
YBH	Yreka Blue Hor	85.65	39	P	P	10 47 29.1	+1.2
	comp=Z,1.2nm,0.6s,mb3.7,baz=131,slow=4.9,SNR=3.6						
WCN	Washoe City	85.88	43	*e*P	P	10 47 30.3	+1.2
	comp=Z,12nm,1.5s,mb4.3						
NVAR	Mina Array Bea	86.25	44	P	P	10 47 31.7	+0.8
	comp=Z,3.4nm,0.8s,mb4.0,baz=210,slow=6.3,SNR=30						
MNV	Mina	86.35	44	*e*P	P	10 47 31.4	+0.1
TPH	Tonopah	86.73	45	⇑*e*P	P	10 47 33.6	+0.4
	comp=Z,9.0nm,1.0s,mb4.5						
NEN	Nelson	86.89	48	*e*P	P	10 47 34.6	+0.6
ENH	Enshi	87.06	305	*e*P	P	10 47 34.8	-0.1
MOD	Modoc	87.16	40	*e*P	P	10 47 35.4	+0.4
PLCA	Paso Flores	87.41	134	P	P	10 47 37.4	+1.1
	comp=Z,12nm,1.2s,mb4.5,baz=226,slow=5.0,SNR=9.6						
PLCA	Paso Flores	87.41	134	P	P	10 47 37.4	+1.1
TUC	Tucson	87.88	53	*e*P	P	10 47 40.0	+1.3
	comp=Z,22nm,1.5s,mb4.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WVOR	Wild Horse Val	88.46	41	eP	P	10 47 41.8	+0.6
	comp=Z,7.4nm,1.1s,mb4.3						
SLKM	Skilak Lake	89.26	14	eP	P	10 47 44.0	-0.5
CMAR	Chiang Mai Arr	89.70	291	P	P	10 47 49.1	+1.6
	comp=Z,6.6nm,0.9s,mb4.5,baz=136,slow=3.3,SNR=14						
CMAR				pP	pP	10 49 41.8	+2.7
	comp=Z,1.5nm,1.0s,baz=124,slow=3.3,SNR=2.6						
PMR	Palmer	90.47	14	eP	P	10 47 48.9	-1.1
	comp=Z,2.8nm,0.6s,mb4.3						
HIA	Hailar	91.53	326	P	P	10 47 54.5	-0.7
	comp=Z,11nm,1.8s,mb4.5						
SRU	San Rafael	91.66	47	eP	P	10 47 56.5	+0.5
TXAR	Lajitas Array	91.68	58	P	P	10 47 57.0	+0.6
	comp=Z,3.6nm,0.8s,mb4.4,baz=213,slow=6.5,SNR=56						
TXAR				pP	pP	10 49 50.5	+2.3
	comp=Z,0.9nm,1.1s,baz=180,slow=1.8,SNR=3.0						
TXAR	Lajitas Array	91.68	58	P	P	10 47 57.0	+0.6
TXAR				pP	pP	10 49 50.5	+2.3
ILAR	Eielson Array	93.76	14	P	P	10 48 03.7	-1.4
	comp=Z,1.9nm,0.9s,mb4.1,baz=225,slow=5.2,SNR=30						
ILAR				pP	pP	10 49 58.7	+1.7
	comp=Z,1.0nm,0.9s,baz=234,slow=6.3,SNR=5.9						
PDAR	Pinedale Array	94.19	44	P	P	10 48 06.8	-0.8
	comp=Z,0.5nm,0.8s,mb3.6,baz=252,slow=3.3,SNR=5.0						
PDAR				pP	pP	10 50 02.4	+2.8
	comp=Z,0.1nm,0.4s,baz=225,slow=3.8,SNR=2.2						
LPAZ	La Paz	102.12	115	P	Pdif	10 48 45.8	+2.0
	comp=Z,1.1nm,1.1s,baz=263,slow=4.6,SNR=3.7						
MKAR	Makanchi Array	112.96	312	PKiKP		10 53 20.7	
	comp=Z,0.6nm,0.5s,baz=101,slow=4.8,SNR=4.4						
MKAR				PP	PP	10 54 19.1	-4.2
	comp=Z,1.6nm,0.9s,baz=98,slow=8.6,SNR=4.2						
MKAR				SKP		10 56 08.1	
	comp=Z,1.4nm,0.6s,baz=93,slow=1.2,SNR=8.4						
MKAR				PKKPbc		11 04 10.6	
	comp=Z,2.2nm,0.9s,baz=290,slow=3.3,SNR=13						
MKAR				PKKPab		11 04 19.1	
	comp=Z,0.7nm,0.8s,baz=289,slow=1.2,SNR=4.2						
BDFB	Brasilia	118.19	126	PKKPab		11 03 58.2	
	comp=Z,4.4nm,0.8s,baz=22,slow=5.4,SNR=5.8						
BVAR	Borovoye Array	121.40	318	PKP	PKPdf	10 53 37.2	-0.3
	comp=Z,3.1nm,0.4s,baz=138,slow=2.7,SNR=15						
BVAR				SKP		10 56 24.2	
	comp=Z,4.5nm,1.0s,baz=27,slow=3.3,SNR=5.8						
BRVK	Borovoye	121.47	318	ePKPdf	PKPdf	10 53 37.2	-0.4
TSUM	Tsumeb	132.15	203	SKPbc		10 56 38.7	
	comp=Z,5.5nm,0.8s,baz=237,slow=2.6,SNR=6.4						
KEV	Kevo	132.96	347	ep	PKPdf	10 53 50.5	-8.6
ARCES	ARCESS Array B	133.43	348	PKhKP		10 53 51.6	
	comp=Z,1.0nm,0.5s,baz=90,slow=2.0,SNR=8.9						
ARCES				PKP	PKPdf	10 54 00.5	+0.5
	comp=Z,2.0nm,0.5s,baz=71,slow=2.7,SNR=7.3						
ARCES				SKPbc		10 56 40.6	
	comp=Z,18nm,0.8s,baz=45,slow=3.4,SNR=29						
ARCES	ARCESS Array B	133.43	348	PKP	PKPdf	10 53 51.6	-8.4
ARCES				PKP	PKPdf	10 54 00.5	+0.5
ARCES				SKPbc		10 56 40.6	
KAF	Kangasniemi	139.29	341	ep	PKPdf	10 54 01.7	-9.2
FINES	FINESS Array B	139.89	341	PKhKP		10 54 04.8	
	comp=Z,2.6nm,0.6s,baz=56,slow=3.6,SNR=16						
FINES				SKPbc		10 56 59.4	
	comp=Z,18nm,0.7s,baz=90,slow=3.8,SNR=42						
FINES				SKPab		10 57 11.9	
	comp=Z,3.1nm,0.8s,baz=342,slow=6.0,SNR=4.1						
BEST	Besiri	142.72	300	i P	PKPdf	10 54 16.1	-1.4
NB2	NORSAR Subarra	143.66	350	PKP		10 54 17.4	
	comp=Z,55nm,0.8s,baz=18,slow=3.3						
NB2	NORSAR Subarra	143.66	350	PKPa		10 54 17.4	
	baz=18,slow=3.3						
NOA	NORSAR Array B	143.66	350	PKP	PKPdf	10 54 17.4	-1.0
	comp=Z,35nm,0.7s,baz=21,slow=3.8,SNR=191						
NOA				SKPbc		10 57 09.7	
	comp=Z,2.4nm,0.9s,baz=15,slow=4.2,SNR=4.3						
ELZG	Elazig	144.42	301	i P	PKPdf	10 54 22.7	+2.2
GZT	Gaziantep	145.71	299	i P	PKPdf	10 54 26.0	+3.2
AKASG	Malin Array Be	146.12	326	PKPbc	PKPbc	10 54 24.9	+0.2
	comp=Z,9.2nm,0.5s,baz=39,slow=3.8,SNR=29						
AKASG				pPKPbc		10 56 23.3	
	comp=Z,1.5nm,0.8s,baz=50,slow=3.4,SNR=1.7						
AKASG				SKPbc		10 57 15.0	
	comp=Z,6.8nm,0.7s,baz=43,slow=2.5,SNR=12						
KAHT	Ahir Dag	146.21	300	i P	PKPdf	10 54 27.2	+3.7
BOYT	Boyabat	146.80	307	i P	PKPdf	10 54 28.6	+4.2
COBT	Iskenderun	146.88	298	i P	PKPdf	10 54 29.0	+4.4
CTKT	Corum	147.12	306	i P	PKPdf	10 54 29.6	+4.7
AVNT	Avonos	147.54	303	i P	PKPdf	10 54 30.1	+4.5
BALT	Daday	147.85	308	i P	PKPdf	10 54 31.3	+5.2
ELDT	Eldivan	148.15	306	i P	PKPdf	10 54 31.7	+5.2
SGKT	Sivrigoynuk	149.12	307	i P	PKPdf	10 54 34.0	+5.9
HENT	Hendek	149.86	308	i P	PKPdf	10 54 35.2	+5.9
ESKT	Eskisehir	150.33	306	i P	PKPdf	10 54 36.3	+6.2
BSEG	Bad Segeberg	150.56	347	ePKPbc	PKPdf	10 54 36.9	+7.0
BSEG				ePKPab	PKPab	10 54 45.6	-1.5
OJC	Ojcow	150.84	333	⇓iP	PKPdf	10 54 37.8	+7.3
ULDT	Uludag	151.36	308	i P	PKPdf	10 54 39.3	+7.7
KSP	Ksiaz	151.68	337	eP	PKPdf	10 54 39.8	+8.2
KSP				e		10 54 50.8	
OKC	Ostrava-Krasne	151.81	334	ePKP1	PKPdf	10 54 40.1	+8.2
DPC	Dobruska-Polom	152.08	337	ePKP1	PKPdf	10 54 40.9	+8.7
CLL	Collm	152.32	342	⇑iPKP1	PKPdf	10 54 41.2	+8.7
CLL				i		10 54 53.4	
CLL				e*PPKP2		10 56 46.0	
BRG	Berggiesshubel	152.43	340	⇓iPKP	PKPdf	10 54 41.4	+8.7
BRG				i		10 54 54.2	
CLZ	Clausthal	152.51	345	ePKPbc	PKPdf	10 54 41.3	+8.5
CLZ				ePKPab	PKPab	10 54 54.3	-1.1
PVCC	Panska Ves	152.53	339	ePKP2	PKPab	10 54 54.6	-0.9
VYHS	Vyhne	152.57	331	ePKP	PKPdf	10 54 41.7	+8.7
VYHS				e		10 54 54.9	
VRAC	Vranov	152.84	335	PKPab	PKPab	10 54 55.5	-1.3
	comp=Z,3.5nm,0.7s,baz=35,slow=3.1,SNR=5.3						
PRU	Pruhonice	153.00	338	ePKP2	PKPab	10 54 56.3	-1.2
	comp=Z,10nm,1.1s						
SMOL	Smolenice	153.15	333	ePKP	PKPab	10 54 57.7	-0.5
MOX	Moxa	153.30	343	eP	PKPab	10 54 57.6	-1.1
KHC	Kasperske Hory	154.06	339	ePKP1	PKPdf	10 54 44.0	+9.1
KHC				PKP2	PKPab	10 55 01.5	-0.5
KHC	Kasperske Hory	154.06	339	eP	PKPdf	10 54 44.0	+9.1
KHC				e		10 55 01.5	
GEC2	GERESS Array S	154.26	338	ePKPab	PKPab	10 55 01.9	-0.9
GERES	GERESS Array B	154.26	338	PKPbc	PKPdf	10 54 44.0	+8.8
	comp=Z,0.7nm,0.6s,baz=27,slow=3.0,SNR=5.5						
GERES				PKPab	PKPab	10 55 01.9	-0.9
	comp=Z,2.1nm,0.8s,baz=30,slow=3.7,SNR=8.9						
GRA1	Grafenberg Arr	154.27	342	ePKPab	PKPab	10 55 01.9	-0.9
WET	Wettzell	154.27	340	ePKPab	PKPab	10 55 02.0	-0.9
BAIF	Baives	155.29	353	ePKP2	PKPab	10 55 05.5	-1.7
	comp=Z,20nm,0.9s						
SKO	Skopje	155.63	318	i P	PKPab	10 55 09.2	+0.3
FUR	Furstenfeldbru	155.63	341	ePKPab	PKPab	10 55 08.1	-0.6
BFO	Black Forest	156.26	345	ePKPab	PKPab	10 55 09.8	-1.6
CDF	Champ du Feu	156.41	347	ePKP2	PKPab	10 55 10.4	-1.6
	comp=Z,7.8nm,0.8s						
MEZF	Maizieres J'vi	156.71	351	ePKP2	PKPab	10 55 11.7	-1.6
	comp=Z,36nm,1.0s						
FLN	La Foliniere	156.86	0	ePKP2	PKPab	10 55 11.6	-2.3
HAU	Haudompre	156.98	348	ePKP2	PKPab	10 55 12.6	-1.9
	comp=Z,16nm,0.7s						
LDF	La Druitiere	157.03	359	ePKP2	PKPab	10 55 12.1	-2.6
	comp=Z,9.2nm,0.8s						
DAVOX	Davos	157.29	341	PKPab	PKPab	10 55 15.2	-0.7
	comp=Z,13nm,0.6s,baz=19,slow=3.4,SNR=23						
LOR	Lormes	158.08	352	ePKP2	PKPab	10 55 17.4	-1.8
	comp=Z,10nm,0.7s						
SSF	Saint Saulge	158.33	353	ePKP2	PKPab	10 55 18.7	-1.6
	comp=Z,38nm,0.7s						
AVF	Avril sur Loir	158.61	353	ePKP2	PKPab	10 55 19.7	-1.8
	comp=Z,23nm,0.8s						
SMF	Signal de Mont	158.70	352	ePKP2	PKPab	10 55 20.3	-1.6
	comp=Z,53nm,0.8s						
TCF	Toulx Ste Croi	159.22	355	ePKP2	PKPab	10 55 22.6	-1.6
	comp=Z,24nm,1.1s						
LIC	Lamto	160.27	166	ePKIKP	PKPab	10 55 28.4	-1.2
	comp=Z,20nm,0.8s						
LIC	Lamto	160.27	166	eP	PKPab	10 55 28.0	-1.6
	comp=Z,31nm,0.8s						
DBIC	Dimbokro	160.74	167	PKPab	PKPab	10 55 30.8	-0.9
	comp=Z,7.4nm,1.0s,baz=145,slow=9.5,SNR=5.5						
ESDC	Sonseca Array	165.64	11	PKPab	PKPab	10 55 50.9	-1.4
	comp=Z,7.0nm,1.1s,baz=353,slow=5.7,SNR=12						

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*TAP **08** 10:36:21.8,24.53N×121.86E,h9^{km}±1^{km},ML3.0*
TAP Felt III J at Suao, II J at Nanau.

*JMA **08** 10:36:22.8±0.2,24.58N×121.89E,h53^{km},M2.4*

ISC 08 10:36:21.8±0.3,**24.51N**±0.02×**121.94E**±0.02,**h9**^{km}**,n32,** σ**1ˢ06**/51**,1C-8D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.13	318	⇑iP	Pg	10 36 24.6	-0.3
TWC				S	Sg	10 36 25.8	-1.1
ENA	Nanau	0.20	245	⇓iP	Pg	10 36 26.0	-0.2
ENA				S	Sg	10 36 28.4	-0.7
ILA	Ilan	0.31	325	P	Pg	10 36 28.1	-0.1
ILA				S	Sg	10 36 33.6	+1.1
TWE	Neicheng	0.33	309	⇓iP	Pg	10 36 28.0	-0.6
TWE				S	Sg	10 36 31.9	-1.2
ENTT	Nioudou	0.37	290	⇓iP	Pg	10 36 28.7	-0.7
ENTT				S	Sg	10 36 33.0	-1.4
TWB1	Santiao Chiao	0.49	5	⇓iP	Pg	10 36 31.7	-0.1
TWB1				S	Sg	10 36 38.7	+0.1
NNS	Nan Shan	0.53	262	⇓iP	Pg	10 36 31.6	-0.9
NNS				S	Sg	10 36 38.0	-1.5
TWD	Chiawan	0.54	216	⇓iP	Pg	10 36 32.4	-0.3
TWD				S	Sg	10 36 39.2	-0.7
NSK	Sanguang	0.56	287	⇓iP	Pg	10 36 32.3	-0.8
NSK				S	Sg	10 36 38.6	-2.0
NWF	Wu-fen Shan	0.57	345	⇓iP	Pg	10 36 33.3	-0.1
NWF				S	Sg	10 36 41.2	0.0
TAP1	Taipei	0.65	324	eP	Pb	10 36 34.8	-0.1
TAP	Taipei	0.66	323	eP	Pb	10 36 35.1	+0.1
WHF	Hehuan Shan	0.72	239	P	Pb	10 36 35.6	-0.5
WHF				S	Sb	10 36 45.6	-0.2
TWS1	Kuangyinshan	0.76	321	eP	Pb	10 36 37.3	+0.6
TWS1				S	Sb	10 36 49.1	+2.3
TWY	Chenhua	0.82	338	eP	Pb	10 36 38.3	+0.5
NCU	National Centr	0.82	304	eP	Pb	10 36 38.9	+1.0
NCU				S	Sb	10 36 52.0	+3.1
ESL	Shilin	0.84	214	eP	Pb	10 36 37.8	-0.3
ESL				S	Sb	10 36 49.4	+0.1
NSTT	Nanjuang	0.87	278	eP	Pb	10 36 38.6	0.0
NSTT				S	Sb	10 36 48.9	-1.2
HSN	Hsinchu	0.93	288	eP	Pb	10 36 40.4	+0.7
YOJ	Yonaguni jima	0.97	93	P	Pb	10 36 41.2	+0.8
YOJ				S	Sb	10 36 54.5	+1.3
TWQ1	Liyutan	1.08	261	eP	Pb	10 36 44.3	+2.0
TWQ1				S	Sb	10 36 58.1	+1.8
SMLT	Sun Moon Lake	1.14	237	eP	Pb	10 36 44.2	+0.9
EHY	Hungye	1.15	210	eP	Pb	10 36 43.8	+0.2
TYC	Yuchr	1.16	239	eP	Pb	10 36 44.6	+1.0
ALS	Alishan	1.44	226	eP	Pn	10 36 49.5	+1.2
CHN5	Tsauling	1.47	232	eP	Pn	10 36 51.2	+2.5
IRIF	Iriomote-Funau	1.64	96	P	Pn	10 36 50.6	-0.4
IRIF				S	Sn	10 37 11.7	-0.7
CHN4	Tsaushan	1.69	227	eP	Pn	10 36 55.2	+3.3
STYT	Tauyuan	1.73	219	eP	Pn	10 36 55.6	+3.2
HATJ	Hateruma jima	1.76	105	eS	Sn	10 37 14.2	-1.2
JKRS	Kuro-shima	1.90	98	P	Pn	10 36 54.4	-0.4
JKRS				S	Sn	10 37 18.7	-0.4
JIJ	Ishigaki jima	2.01	94	eS	Sn	10 37 19.8	-2.0

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*BJI **08** 10:40:28.2,4.53N×120.69E,h49^{km},mB5.1,mb5.0,Ms4.6*

*HRVD **08** 10:40:29.8±0.4,4.80N×120.43E,h25^{km},MW5.0/44, Centroid moment Tensor Solution. LP body waves: s37,c55;Mantle waves: s44,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.59±.15; $M_{\theta\theta}$-1.20±.10; $M_{\phi\phi}$-2.39±.12; $M_{r\theta}$0.11±.21; $M_{\theta\phi}$2.18±.07; $M_{\phi r}$-0.57±.24; Best double couple: $M_0$3.87×10^{16} NP1:ϕ_s318°,δ41°,λ83°. NP2:ϕ_s147°,δ49°,λ96°. Principal axes: T 3.65, Plg84°, Azm103°; N .44, Plg5°, Azm323°; P -4.09, Plg4°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 10:40:29.8±0.2,4.66N×120.57E,mb5.1/16 Error ellipse: s-maj=7.8km s-min=5.5km az=63.0*

*IDC **08** 10:40:29.6±0.8,4.61N×120.46E,h34^{km}±5^{km},mb4.4/21, mb1 4.4/21,mb1mx4.4/24,MS3.9/10,Ms1 4.0/10, ms1mx3.7/23,Error ellipse: s-maj=22.9km s-min=10.5km az=67.0*

*MAN **08** 10:40:30.8,4.83N×120.60E,h97^{km},mb5.2,ML4.1,MS4.3*

*MOS **08** 10:40:30.6±0.9,4.62N×120.51E,h59^{km},mb5.1/16,Error ellipse: s-maj=20.8km s-min=9.2km az=112.6*

ISC 08 10:40:27.7±1.4**,4.69N**±0.03×**120.57E**±0.03**,h29**^{km}±9^{km}**,** **h33**^{km}±.8^{km}**:pP-P,n150,**σ**1ˢ05**/148**,mb4.8**/59**,MS4.0**/16**,** **12C-6D,Sulu Archipelago**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	Tawau	2.72	262	eP	Pn	10 41 09.0	-1.5
IPIL	Ipil	3.66	33	eP	Pn	10 41 25.2	+1.3
IPIL				eS	Sn	10 42 07.1	+0.5
PAGZ	Pagadian	4.20	42	eP	Pn	10 41 32.2	+0.7
PAGZ				eS	Sn	10 42 19.0	-1.2
KKM	Kota Kinabalu	4.54	287	⇑eP	Pn	10 41 36.6	+0.2
	66nm,0.5s						
GSPH	General Santos	4.57	72	⇓iP	Pn	10 41 38.0	+1.2
GSPH	General Santos	4.57	72	i P	Sn	10 42 31.5	+1.9
KCP	Kidapawan	5.05	63	⇓iP	Pn	10 41 44.8	+1.3
KCP				eS	Sn	10 42 40.3	-1.3
BUKP	Musuan	5.47	54	eP	Pn	10 41 50.2	+0.8
BUKP				eS	Sn	10 42 51.6	-0.6
DAV	Davao City (W)	5.51	64	eP	Pn	10 41 51.0	+1.0
CGP	Cagayan de Oro	5.54	47	eP	Pn	10 41 52.0	+1.5
MATI	Mati	6.08	68	eP	Pn	10 41 57.4	-0.7
CUYO	Cuyo Island	6.14	4	eP	Pn	10 41 58.9	+0.1
CUYO				eS	Sn	10 43 03.5	-5.3
GUIM	Jordan	6.23	19	eP	Pn	10 42 00.8	+0.7
GUIM				eS	Sn	10 43 08.6	-2.5
ENPP	El Nido	6.57	350	eP	Pn	10 42 04.2	-0.8
BUSP	Coron	7.28	357	eP	Pn	10 42 13.6	-1.2
SJMP	San Jose	7.74	4	eP	Pn	10 42 19.5	-1.8
OTRP	Odiongan	7.76	11	eP	Pn	10 42 22.8	+1.2
LUBP	Lubang	8.99	358	eP	P	10 42 38.2	-0.5
KGM	Kluang	17.43	262	⇓eP	P	10 44 33.1	+2.5
QIZ	Qiongzhong	17.69	325	P	P	10 44 32.9	-0.9
QIZ				S	S	10 47 56.6	+9.1
QIZ				AMB	AMB		
	comp=Z,231nm,7.4s						
GZH	Guangzhou	19.58	340	P	P	10 45 01.2	+4.7
GZH				AMB	AMB		
	comp=Z,437nm,3.9s						
TATO	Taipei	20.19	2	eP	P	10 45 01.1	-1.9
	comp=Z,47nm,0.9s						
KAKA	Kakadu	20.89	146	eP	P	10 45 09.2	-1.1
	comp=Z,15nm,0.6s						
FITZ	Fitzroy Crossi	23.19	168	eP	P	10 45 32.1	-1.2
	comp=Z,12nm,1.3s,mb4.2						
FITZ	Fitzroy Crossi	23.19	168	P	P	10 45 32.9	-0.3
	comp=Z,9.5nm,0.9s,mb4.2,baz=1.9,slow=11,SNR=5.0						
JOW	Kunigami	23.22	18	P	P	10 45 36.2	+2.8
	comp=Z,28nm,0.8s,mb4.8,baz=189,slow=14,SNR=4.3						
JOW				LR	LR	10 54 02.7	
	comp=Z,154nm,20.1s,MS3.5,baz=207,slow=35						
NANT	Nan	23.94	307	⇓P	P	10 45 39.0	-1.5
BDT	Bhumibol Dam	24.54	302	P	P	10 45 47.0	+0.6
CMAR	Chiang Mai Arr	25.18	305	P	P	10 45 51.7	-0.8
	comp=Z,8.7nm,1.1s,mb4.2,baz=129,slow=8.2,SNR=25						
CMAR				LR	LR	10 56 09.1	
	comp=Z,410nm,18.7s,MS4.0,baz=120,slow=37						
CMAR	Chiang Mai Arr	25.18	305	P	P	10 45 51.7	-0.8
CMAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMAR				MLR	MLR		
	comp=Z,411nm,18.7s						
CHG	Chiang Mai	25.36	305	⇑P	P	10 45 53.9	-0.2
	comp=Z,22nm,1.0s,mb4.6						
GYA	Guiyang	25.41	330	⇑iP	P	10 45 55.8	+1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
SSE	Sheshan	26.27	1	⇓P	P	10 46 02.5	-0.1
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.0						
WHN	Wuhan	26.38	348	eP	P	10 46 04.5	+1.0
KMI	Kunming	26.57	322	eP	P	10 46 05.8	+0.4
KMI				AP	pP	10 46 14.0	+0.1
KMI				PP	PP	10 46 47.3	-2.2
KMI				AMB	AMB		
	comp=Z,127nm,6.1s						
NJ2	Nanjing	27.27	357	eP	P	10 46 11.3	-0.4
NJ2				PP	PP	10 47 02.1	+3.2
ENH	Enshi	27.51	339	eP	P	10 46 14.0	+0.1
	comp=Z,33nm,1.0s,mb4.9						
WRA	Warramunga Arr	27.97	151	P	P	10 46 16.0	-2.1
	comp=Z,6.1nm,0.5s,mb4.5,baz=332,slow=9.5,SNR=25						
WRA				PcP	PcP	10 49 31.1	-2.1
	comp=Z,2.0nm,0.9s,baz=321,slow=2.5,SNR=4.6						
WRA	Warramunga Arr	27.97	151	P	P	10 46 16.0	-2.1
WRA						10 49 31.1	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WB2	Warramunga Arr	27.98	151	⇓iP	P	10 46 16.3	-1.9
PMG	Port Moresby	29.97	118	P	P	10 46 35.1	-1.1
	comp=Z,20nm,1.1s,mb4.8,baz=272,slow=9.5,SNR=4.7						
PMG	Port Moresby	29.97	118	P	P	10 46 35.1	-1.1
PMG				pmax	pmax		
	comp=Z,20nm,1.1s						
CBIJ	Chichi jima	30.36	41	LR	LR	10 56 37.5	
	comp=Z,199nm,21.3s,MS3.7,baz=284,slow=32						
CD2	Chengdu	30.51	331	⇑iP	P	10 46 40.2	-0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
ASAR	Alice Springs	31.04	156	P	P	10 46 43.8	-1.7
	comp=Z,0.9nm,0.5s,mb3.8,baz=343,slow=15,SNR=6.3						
ASAR				PcP	PcP	10 49 39.5	-1.4
	comp=Z,3.2nm,0.5s,baz=338,slow=2.5,SNR=19						
JHJ	Hachijo jima 2	33.48	30	LR	LR	10 59 26.2	
	comp=Z,226nm,18.9s,MS3.9,baz=137,slow=34						
SHL	Shillong	34.46	310	⇑eP	P	10 47 13.0	-2.2
LZH	Lanzhou	34.84	336	eP	P	10 47 18.2	-0.2
LZH				AP	pP	10 47 29.1	+2.1
LZH				XP	sP	10 47 36.1	+5.4
LZH				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
LZH				LR	LR		
	comp=N,590nm,14.0s						
CTAO	Charters Tower	35.26	135	eP	P	10 47 22.1	0.0
	comp=N,2.6nm,0.7s,mb4.3						
BJI	Beijing	35.42	354	P	P	10 47 23.4	+0.1
BJI				XP	sP	10 47 39.5	+3.9
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
MAT	Matsushiro	35.60	25	P	P	10 47 24.1	-0.8
MAT				eS	S	10 53 04.0	+5.7
MAT	Matsushiro	35.60	25	eP	P	10 47 24.0	-0.9
	comp=Z,72nm,1.5s,mb5.4						
MAJO	Matsushiro	35.60	25	eP	P	10 47 24.4	-0.5
FORT	Forrest	35.99	169	eP	P	10 47 27.4	-0.8
	comp=Z,28nm,0.6s,mb5.4						
LSA	Lhasa	37.31	315	P	P	10 47 40.6	+1.3
LSA	Lhasa	37.31	315	eP	P	10 47 38.7	-0.6
	comp=Z,54nm,2.0s,mb5.0						
NWAO	Narrogin (SRO)	37.54	185	P	P	10 47 40.1	-1.2
	comp=Z,19nm,0.8s,mb4.9,baz=18,slow=8.1,SNR=8.3						
NWAO				LR	LR	11 03 31.4	
	comp=Z,196nm,20.5s,MS3.9,baz=216,slow=37						
NWAO	Narrogin (SRO)	37.54	185	P	P	10 47 40.1	-1.1
NWAO				pmax	pmax		
	comp=Z,19nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,196nm,20.5s						
NWAO	Narrogin (SRO)	37.54	185	eP	P	10 47 41.4	+0.1
	comp=Z,29nm,1.0s,mb5.0						
NWAO				LR	LR	11 03 31.4	
GTA	Gaotai	39.34	334	eP	P	10 47 57.7	+1.4
GTA				AP	pP	10 48 08.3	+3.3
GTA				XP	sP	10 48 11.7	+3.1
GTA				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,192nm,6.1s						
PKI	Pulchoki	40.47	308	eP	P	10 48 05.9	+0.2
	comp=Z,36nm,0.8s,mb5.1						
MDJ	Mudanjiang	40.55	10	P	P	10 48 06.9	+0.8
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,90nm,7.1s						
MDJ	Mudanjiang	40.55	10	eP	P	10 48 06.5	+0.4
KKN	Kakani	40.68	308	eP	P	10 48 07.4	0.0
	comp=Z,48nm,0.9s,mb5.2						
DMN	Daman	40.73	308	eP	P	10 48 07.0	-0.8
	comp=Z,68nm,1.0s,mb5.2						
GKN	Gorkha	41.28	308	eP	P	10 48 12.3	0.0
	comp=Z,92nm,1.0s,mb5.4						
STKA	Stephens Creek	41.51	153	eP	P	10 48 14.2	0.0
	comp=Z,3.9nm,0.8s,mb4.1						
STKA	Stephens Creek	41.51	153	P	P	10 48 14.2	-0.1
	comp=Z,3.4nm,0.5s,mb4.2,baz=323,slow=8.7,SNR=10						
KOLN	Koldanda	41.99	307	eP	P	10 48 18.7	+0.4
	comp=Z,143nm,0.8s,mb5.6						
ASAJ	Asahikawa	43.79	23	P	P	10 48 34.0	+1.4
	comp=Z,15nm,0.9s,mb4.7,baz=232,slow=9.3,SNR=4.6						
ASAJ	Asahikawa	43.79	23	P	P	10 48 34.1	+1.4
ASAJ				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	Hailar	44.42	359	eP	P	10 48 37.4	-0.4
HIA				LR	LR		
	comp=Z,156nm,20.0s,MS3.9						
SONM	Songino Array	44.68	346	P	P	10 48 40.2	+0.4
	comp=Z,9.2nm,0.9s,mb4.6,baz=162,slow=7.8,SNR=18						
SONM				pP	pP	10 48 49.9	+1.3
	comp=Z,3.7nm,0.8s,baz=166,slow=5.1,SNR=2.9						
ARMA	Armidale	45.84	142	eP	P	10 48 51.6	+2.3
DDI	Dehra Dun	47.47	308	e	P	10 48 55.0	-7.2
ZAK	Zakamensk	47.81	345	⇑eP	P	10 49 04.9	+0.4
ZAK				e		10 50 33.2	
TLY	Talaya	48.91	346	⇑iP	P	10 49 13.5	+0.5
TLY				pmax	pmax		
	comp=Z,290nm,1.2s						
TLY				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.9						
BOD	Bodaibo	53.24	356	eP	P	10 49 45.0	-0.7
MKAR	Makanchi Array	53.38	328	P	P	10 49 45.9	-1.0
	comp=Z,14nm,0.8s,mb4.9,baz=124,slow=8.7,SNR=64						
MKAR				pP	pP	10 49 56.7	+0.9
	comp=Z,21nm,1.1s,baz=124,slow=9.5,SNR=9.1						
MKAR				LR	LR	11 14 00.8	
	comp=Z,113nm,18.2s,MS4.0,baz=124,slow=38						
MKAR	Makanchi Array	53.38	328	P	P	10 49 45.9	-1.0
MKAR				*PP	pP	10 49 56.7	+0.9
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,21nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,113nm,18.2s						
MKAR	Makanchi Array	53.38	328	P	P	10 49 45.9	-1.0
MKAR				pP	pP	10 49 56.7	+0.9
MKAR				LR	LR	11 14 00.8	
PET	Petropavlovsk	57.41	26	eP	P	10 50 20.2	+4.2
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
YAK	Yakutsk	57.62	5c	iP	P	10 50 16.8	-0.5
YAK				i		10 51 08.9	
YAK				e		10 59 56.1	
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
KURK	Kurchatov	57.73	330	eP	P	10 50 17.5	-0.8
	comp=E,60nm,1.1s,mb5.5						
KURK				e	pP	10 50 27.7	+0.4
NVS	Novosibirsk	58.36	336	i P	P	10 50 20.6	-2.0
NVS				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
NVS				pmax	pmax		
	comp=N,30nm,1.6s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
KKAR	Karatay Array	58.41	319	i P	P	10 50 22.9	-0.2
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.5						
MA2	Magadan	59.45	17	eP	P	10 50 29.2	-0.9
MA2				e	sP	10 50 42.0	-0.5
MA2				e*SP	PcP	10 51 17.5	+0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
MA2				pmax	pmax		
	comp=N,10.0nm,1.5s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.5s						
MA2	Magadan	59.45	17	eP	P	10 50 28.8	-1.3
SEY	Seymchan	62.63	16	eP	P	10 50 52.2	+0.6

SEY						10 51 29.9	
SEY				*e*		10 53 18.4	
SEY				*e*S	**S**	**10 59 05.3**	**-11**
SEY				SS	SS	11 03 22.3	-0.3
SEY				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0						
VOSK	**Vostochnaya**	**62.78**	**329**	P	**P**	**10 50 51.6**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
BVA0	**Borovoye Array**	**63.24**	**329**	*i* P	**P**	**10 50 55.2**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**63.24**	**329**	P	**P**	**10 50 54.8**	**-1.0**
	comp=Z,31nm,1.2s,mb5.3,baz=143,slow=7.4,SNR=45						
BRVK	**Borovoye**	**63.31**	**329**	*e*P	**P**	**10 50 55.2**	**-1.1**
	comp=Z,47nm,1.3s,mb5.5						
BRVK				*e*	pP	10 51 05.6	+0.3
ZRNK	**Zerenda**	**63.93**	**328**	P	**P**	**10 50 59.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.3						
RPZ	**Rata Peaks**	**66.17**	**142**	P	**P**	**10 51 14.4**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0,baz=298,slow=21,SNR=7.5						
AB31	**Akbulak array**	**67.56**	**322**	*i* P	**P**	**10 51 23.2**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARU	**Arti**	**70.89**	**329**⇑	*i*P	**P**	**10 51 43.1**	**-0.9**
ARU				*i*		10 52 01.4	
ARU				*e*		10 54 19.7	
ARU				*e*S	S	11 00 45.0	-11
ARU				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
ARU	**Arti**	**70.89**	**329**	*e*P	**P**	**10 51 42.9**	**-1.1**
	comp=Z,42nm,1.0s,mb5.3						
ARU				*e*	pP	10 51 53.0	-0.1
ARU				LR	LR		
	comp=Z,12nm,21.0s,MS3.1						
MIR	**Mirnyy**	**73.79**	**191**⇑	*e*P	**P**	**10 52 01.4**	**+0.5**
MIR				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
MZLS	**Mizel**	**74.75**	**294**	P	**P**	**10 52 07.3**	**-0.1**
TATS	**Tathlith**	**76.30**	**289**	P	**P**	**10 52 16.6**	**+0.4**
ARSS	**Ar Rass**	**76.58**	**295**	P	**P**	**10 52 17.9**	**+0.2**
AFFS	**‘Afif**	**76.76**	**293**	P	**P**	**10 52 18.9**	**+0.1**
HILS	**Ha’il**	**77.90**	**297**	P	**P**	**10 52 26.0**	**+1.0**
KIV	**Kislovodsk**	**78.04**	**314***c*	*i*P	**P**	**10 52 26.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BLJS	**Baljurashi**	**78.06**	**289**	P	**P**	**10 52 27.2**	**+1.2**
KBRS	**Khaybar**	**80.16**	**295**	P	**P**	**10 52 38.9**	**+1.6**
SOC	**Sochi**	**80.16**	**313**	*e*P	**P**	**10 52 37.0**	**+0.1**
SOC				*e*		11 02 34.6	
SOC				*e*SSS	SSS	11 11 13.3	-0.1
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.4s						
YNBS	**Yanbu‘ al Bahr**	**81.33**	**294**	P	**P**	**10 52 45.2**	**+1.7**
UMJS	**Umm Lajj**	**81.93**	**295**	P	**P**	**10 52 48.7**	**+2.2**
OBN	**Obninsk**	**82.75**	**325***c*	*i*P	**P**	**10 52 49.8**	**-0.4**
OBN				*e*		10 56 02.3	
OBN				*e*S	S	11 02 53.8	-11
OBN				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.3						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
JMQS	**Jabal Moqyreh**	**83.12**	**298**	P	**P**	**10 52 54.3**	**+1.6**
HMDT	**Nahal Hemdat**	**83.34**	**302**	P	**P**	**10 52 54.8**	**+1.1**
KMBO	**Kilima Mbogo**	**83.44**	**268**	P	**P**	**10 52 55.1**	**+0.5**
	comp=Z,5.3nm,1.0s,mb4.5,baz=54,slow=6.2,SNR=8.4						
KMBO				LR	LR	11 30 06.7	
	comp=Z,70nm,18.7s,MS4.1,baz=102,slow=36						
DRGI	**Dragot**	**83.47**	**301**	P	**P**	**10 52 55.8**	**+1.4**
JMOS	**Jabal al Moall**	**83.78**	**299**	P	**P**	**10 52 57.8**	**+1.6**
BDAS	**Al Bad‘**	**83.81**	**298**	P	**P**	**10 52 57.6**	**+1.3**
PRNI	**Paran**	**83.83**	**300**	P	**P**	**10 52 57.6**	**+1.2**
HAQS	**Haql**	**83.94**	**299**	P	**P**	**10 52 58.5**	**+1.6**
KMTI	**Karmit**	**84.08**	**300**	P	**P**	**10 52 58.6**	**+1.0**
SIM	**Simferopol’**	**84.21**	**315**	*e*P	**P**	**10 52 58.0**	**+0.1**
SIM				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
KDAK	**Kodiak Island**	**84.38**	**33**	*e*P	**P**	**10 52 59.1**	**+0.7**
	comp=Z,36nm,1.4s,mb5.3						
KDAK				*e*	pP	10 53 09.3	+1.5
SPU	**Mount Spurr**	**84.65**	**29**	*e*P	**P**	**10 53 00.4**	**+0.7**
VNDA	**Vanda**	**85.20**	**172**	P	**P**	**10 53 02.0**	**-0.2**
	comp=Z,1.4nm,0.9s,mb4.1,baz=323,slow=4.0,SNR=4.8						
VNDA				LR	LR	11 31 19.1	
	comp=Z,123nm,21.6s,MS4.3,baz=326,slow=36						
VNDA	**Vanda**	**85.20**	**172**	P	**P**	**10 53 02.0**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,123nm,21.6s						
MCK	**McKinley**	**86.05**	**26**	*e*P	**P**	**10 53 06.8**	**+0.2**
	comp=Z,23nm,1.4s,mb5.2						
PMR	**Palmer**	**86.05**	**29**	*e*P	**P**	**10 53 07.7**	**+1.0**
PMR				LR	LR		
	comp=Z,88nm,20.0s,MS4.2						
SML	**Sawmill**	**86.42**	**28**	*e*P	**P**	**10 53 07.5**	**-1.0**
ILAR	**Eielson Array**	**86.88**	**25**	P	**P**	**10 53 10.1**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.1,baz=237,slow=3.3,SNR=13						
ILAR	**Eielson Array**	**86.88**	**25**	P	**P**	**10 53 10.1**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**87.26**	**320**	P	**P**	**10 53 11.2**	**-1.6**
	comp=Z,3.1nm,0.9s,mb4.5,baz=76,slow=3.9,SNR=7.8						
AKASG				LR	LR	11 39 55.9	
	comp=Z,36nm,19.4s,MS3.8,baz=50,slow=41						
ARCES	**ARCESS Array B**	**87.42**	**339**	P	**P**	**10 53 11.9**	**-1.3**
	comp=Z,4.7nm,0.8s,mb4.8,baz=90,slow=3.6,SNR=12						
ARCES	**ARCESS Array B**	**87.42**	**339**	P	**P**	**10 53 11.9**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**88.07**	**331**	P	**P**	**10 53 15.6**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.2,baz=124,slow=6.9,SNR=6.3						
FINES	**FINESS Array B**	**88.07**	**331**	P	**P**	**10 53 15.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MBAR	**Mbarara**	**89.88**	**269**	*e*P	**P**	**10 53 25.9**	**-0.4**
	comp=Z,12nm,1.0s,mb5.2						
DAWY	**Dawson**	**90.20**	**26**	*e*P	**P**	**10 53 27.1**	**+0.6**
INK	**Inuvik**	**91.50**	**21**	P	**P**	**10 53 32.7**	**+0.3**
	comp=Z,7.4nm,1.0s,mb5.0,baz=280,slow=7.5,SNR=9.6						
INK	**Inuvik**	**91.50**	**21**	P	**P**	**10 53 32.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**91.50**	**21**	*e*P	**P**	**10 53 32.4**	**0.0**
NOA	**NORSAR Array B**	**95.16**	**333**	LR	LR	11 40 16.5	
	comp=Z,71nm,19.0s,MS4.2,baz=35,slow=38						
GERES	**GERESS Array B**	**97.48**	**320**	P	**P**	**10 53 59.7**	**-0.4**
	comp=Z,0.5nm,0.9s,mb3.9,baz=22,slow=7.2,SNR=3.5						
GERES				pP	pP	10 54 10.3	+0.8
	comp=Z,0.4nm,0.7s,baz=90,slow=1.3,SNR=2.7						
YKA	**Yellowknife Ar**	**101.09**	**23**	P	P	10 54 16.6	+0.4
	comp=Z,0.8nm,0.8s,baz=301,slow=4.7,SNR=7.5						
YKA				pP		10 54 25.3	
	comp=Z,0.7nm,0.8s,baz=308,slow=5.0,SNR=4.8						
YKA	**Yellowknife Ar**	**101.09**	**23**	P	P	10 54 16.6	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**101.09**	**23**	P	P	10 54 16.6	+0.4
YKA				pP		10 54 25.3	
NVAR	**Mina Array Bea**	**110.75**	**46**	Pdiff	Pdif	10 55 01.1	+1.8
	comp=Z,0.6nm,0.8s,baz=287,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**125.73**	**49**	PKP	PKPdf	10 59 28.6	-3.8
	comp=Z,0.7nm,0.8s,baz=90,slow=0.9,SNR=9.2						
JCT	**Junction City**	**127.92**	**45**	*e*PKPdf	PKPdf	10 59 32.8	-3.8
LPAZ	**La Paz**	**165.65**	**144**	PKP	PKPdf	11 00 32.9	-2.6
	comp=Z,4.7nm,1.2s,baz=27,slow=3.3,SNR=7.6						
LPAZ				PKPab	PKPab	11 01 32.5	+1.1
	comp=Z,2.0nm,1.0s,baz=12,slow=3.7,SNR=5.9						
LPAZ	**La Paz**	**165.65**	**144**	PKIKP	PKPdf	11 00 32.9	-2.5
LPAZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						

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*IDC **08** 11:15:55.0±0.7,51.68N×166.44W,mb4.3/19,mb1 4.4/21, mb1mx4.4/24,ML3.4/2,MS3.1/1,Ms1 3.2/1,ms1mx2.1/34, Error ellipse: s-maj=21.8km s-min=14.5km az=166.0*

*BJI **08** 11:15:57.4,51.60N×166.86W,h17^{km},mB4.6,mb4.7, Ms4.4,Msz4.3*

*NEIC **08** 11:15:59.8±0.3,51.84N×166.42W,mb4.5/24, ML3.7(AEIC),Error ellipse: s-maj=6.2km s-min=3.7km az=6.0*

*MOS **08** 11:16:00.5±1.4,52.66N×166.88W,h10^{km},mb4.4/12, Error ellipse: s-maj=23.7km s-min=12.0km az=89.5*

ISC 08 11:15:58.0±0.2,**51.80N**±0.04×**166.42W**±0.04,**h28**^{km}, **h28**^{km}±.6^{km}**:pP-P,n144,**σ**1**^{s}**.20**/147,**mb4.4**/52,**MS3.8**/2, **1C-3D,South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.90**	**309**	P	**Pn**	**11 16 28.7**	**-0.5**
NIKO				S	**Sn**	**11 16 50.8**	**-1.5**
OKER	**East Rim**	**1.93**	**330**	P	**Pn**	**11 16 30.2**	**+0.6**
OKER				S	**Sn**	**11 16 53.9**	**+0.8**
UNV	**Unalaska Valle**	**2.05**	**359**	P	**Pn**	**11 16 30.8**	**-0.5**
MSW	**Makushin Switc**	**2.13**	**354**	P	**Pn**	**11 16 32.4**	**0.0**
MSW				S	**Sn**	**11 16 58.2**	**0.0**
MCIR	**Makushin Cirqu**	**2.17**	**353**	P	**Pn**	**11 16 33.7**	**+0.7**
MTBL	**Makushin Table**	**2.18**	**356**	P	**Pn**	**11 16 33.6**	**+0.4**
WESE	**West Dahl East**	**2.89**	**22**	P	**Pn**	**11 16 43.1**	**-0.3**
WESN	**West Dahl Nort**	**2.98**	**21**	P	**Pn**	**11 16 45.1**	**+0.5**
DRIA	**Deer Island**	**4.03**	**37**	P	**Pn**	**11 16 58.4**	**-1.1**
DTNA	**Dutton South F**	**4.18**	**35**	P	**Pn**	**11 17 00.9**	**-0.7**
HAG	**Hague Volcano**	**4.43**	**36**	P	**Pn**	**11 17 04.6**	**-0.6**
ATKA	**Atka Island**	**4.82**	**278**	P	**Pn**	**11 17 09.0**	**-1.8**
SDN	**Sand Point**	**5.00**	**43**	*e*P	**Pn**	**11 17 12.7**	**-0.6**
GSIG	**Igitkin Island**	**5.89**	**276**	P	**Pn**	**11 17 23.7**	**-2.0**
GSMY	**Great Sitkin M**	**5.97**	**276**	P	**Pn**	**11 17 25.2**	**-1.6**
GSTD	**Great Sitkin T**	**6.02**	**276**	P	**Pn**	**11 17 26.2**	**-1.4**
KIWB	**Kanaga Island**	**6.65**	**275**	P	**Pn**	**11 17 35.0**	**-1.6**
KIKV	**Kanaga Island**	**6.66**	**275**	P	**Pn**	**11 17 35.1**	**-1.6**
KIMD	**Kanaga Island**	**6.71**	**274**	P	**Pn**	**11 17 35.5**	**-1.9**
KABR	**Katmai Barrier**	**9.13**	**42**	P	**P**	**11 18 08.3**	**-2.9**
KDAK	**Kodiak Island**	**9.98**	**48**	P	**P**	**11 18 19.9**	**-2.7**
SPU	**Mount Spurr**	**12.27**	**34**	*e*P	**P**	**11 18 51.7**	**-2.0**
FX1	**Attu Island--F**	**12.53**	**283**	Pn	**P**	**11 18 54.4**	**-2.8**
	0.4nm,0.3s,baz=73,slow=19,SNR=4.2						
PMS	**Palmer South**	**13.23**	**38**	*e*P	**P**	**11 19 03.2**	**-3.2**
	4.7nm,0.3s						
PMR	**Palmer**	**13.60**	**37**	*e*P	**P**	**11 19 08.0**	**-3.3**
	0.8nm,0.3s						
SML	**Sawmill**	**14.04**	**37**	*e*P	**P**	**11 19 11.1**	**-5.8**
EYAK	**Cordova Ski Ar**	**14.41**	**45**	*e*P	**P**	**11 19 17.7**	**-4.1**
DIV	**Divide**	**14.68**	**42**	P	**P**	**11 19 21.2**	**-4.1**
THY	**Trims Highway**	**15.96**	**35**	P	**P**	**11 19 40.5**	**-1.5**
ILAR	**Eielson Array**	**16.46**	**30**	Pn	**P**	**11 19 43.5**	**-4.7**
	0.2nm,0.3s,baz=227,slow=12,SNR=22						
ILAR				LR	LR	11 26 29.8	
	comp=Z,60nm,19.4s,baz=264,slow=38						
DAWY	**Dawson**	**18.70**	**39**	*e*P	**P**	**11 20 15.3**	**-0.8**
PET	**Petropavlovsk**	**21.22**	**287**	*e*P	**P**	**11 20 44.2**	**+0.6**
PET				*e*S	**S**	**11 24 31.7**	**-1.3**
PET				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
DLBC	**Dease Lake**	**21.63**	**58**	P	**P**	**11 20 47.8**	**+0.1**
	comp=Z,9.5nm,0.9s,mb4.2,baz=268,slow=11,SNR=2.5						
DLBC	**Dease Lake**	**21.63**	**58**	*e*P	**P**	**11 20 47.7**	**-0.1**
INK	**Inuvik**	**22.85**	**31**	P	**P**	**11 20 60.0**	**+0.4**
	comp=Z,18nm,0.6s,mb4.7,baz=228,slow=12,SNR=36						
INK	**Inuvik**	**22.85**	**31**	P	**P**	**11 21 00.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,18nm,0.6s						
INK	**Inuvik**	**22.85**	**31**	*e*P	**P**	**11 20 59.5**	**-0.1**
	comp=Z,24nm,0.8s,mb4.7						
BBB	**Bella Bella**	**23.41**	**74**	P	**P**	**11 21 07.1**	**+1.9**
	comp=Z,7.1nm,1.1s,mb4.0,baz=314,slow=2.4,SNR=5.6						
BBB	**Bella Bella**	**23.41**	**74**	P	**P**	**11 21 07.1**	**+1.9**
PGC	**Sidney**	**27.38**	**79**	P	**P**	**11 21 42.3**	**-0.3**
MBW	**Mount Baker**	**28.27**	**78**	P	**P**	**11 21 52.1**	**+1.4**
YKA	**Yellowknife Ar**	**29.25**	**48**	P	**P**	**11 21 59.0**	**-0.4**
	comp=Z,2.2nm,0.9s,mb3.9,baz=270,slow=7.7,SNR=17						
YKA	**Yellowknife Ar**	**29.25**	**48**	P	**P**	**11 21 59.0**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**29.25**	**48**	P	**P**	**11 21 59.0**	**-0.4**
TBM	**Table Mountain**	**29.74**	**81**	P	**P**	**11 22 04.8**	**+0.9**
EBG	**Ellensburg**	**29.87**	**81**	P	**P**	**11 22 06.2**	**+1.1**
WTV	**Waterville**	**29.90**	**79**	P	**P**	**11 22 05.9**	**+0.6**
EPH	**Ephrata**	**30.27**	**80**	P	**P**	**11 22 09.1**	**+0.5**
HAWA	**Hanford**	**30.74**	**81**	*e*P	**P**	**11 22 12.8**	**+0.1**
	comp=Z,10nm,0.9s,mb4.7						
NEW	**Newport**	**31.38**	**77**	*e*P	**P**	**11 22 17.8**	**-0.6**
	comp=Z,7.1nm,0.8s,mb4.5						
LNOR	**Lincton Mounta**	**31.75**	**81**	*e*P	**P**	**11 22 21.7**	**+0.1**
WVOR	**Wild Horse Val**	**33.30**	**87**	*e*P	**P**	**11 22 34.5**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.3						
CHMT	**Chamberlain Mo**	**34.33**	**77**	P	**P**	**11 22 42.6**	**-1.4**
HRY	**Holter Researc**	**35.28**	**76**	P	**P**	**11 22 50.7**	**-1.4**
HLID	**Hailey**	**35.30**	**82**	*e*P	**P**	**11 22 51.6**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.4						
MCMT	**McKenzie Canyo**	**35.60**	**80**	*e*P	**P**	**11 22 54.9**	**0.0**
MNV	**Mina**	**35.92**	**92**	*e*P	**P**	**11 22 57.4**	**-0.3**
BOZ	**Bozeman (W)**	**35.93**	**78**	*e*P	**P**	**11 22 57.0**	**-0.6**
TPH	**Tonopah**	**36.72**	**92**	*e*P	**P**	**11 23 02.9**	**-1.5**
	comp=Z,1.5nm,0.8s,mb3.9						
TPAW	**Teton Pass**	**37.47**	**80**	*e*P	**P**	**11 23 11.5**	**+0.9**
DUG	**Dugway**	**38.18**	**86**	*e*P	**P**	**11 23 16.7**	**+0.1**
	comp=Z,11nm,1.3s,mb4.4						
BW06	**Boulder Array**	**38.72**	**80**	*e*P	**P**	**11 23 21.2**	**+0.1**
	comp=Z,4.8nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**38.72**	**80**	P	**P**	**11 23 21.3**	**+0.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=315,slow=5.3,SNR=29						
JLU	**Jordanelle**	**38.78**	**85**	*e*P	**P**	**11 23 19.5**	**-2.2**
DAU	**Daniels Canyon**	**39.01**	**85**	*e*P	**P**	**11 23 24.2**	**+0.6**
MVU	**Marysvale**	**39.56**	**88**	*e*P	**P**	**11 23 28.6**	**+0.4**
MSU	**Marysvale**	**39.58**	**88**	*e*P	**P**	**11 23 29.1**	**+0.7**
SRU	**San Rafael**	**40.24**	**86**	*e*P	**P**	**11 23 34.2**	**+0.4**
PV10	**Paradox Valley**	**41.61**	**86**	*e*P	**P**	**11 23 45.5**	**+0.6**
WUAZ	**Wupatki**	**41.97**	**91**	*e*P	**P**	**11 23 48.2**	**+0.3**
	comp=Z,6.9nm,1.1s,mb4.2						
MDJ	**Mudanjiang**	**42.00**	**286**	P	**P**	**11 23 48.7**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,55nm,6.0s						
PV01	**Paradox Valley**	**42.05**	**85**	*e*P	**P**	**11 23 48.5**	**0.0**
RW3	**Ridgway**	**42.52**	**85**	*e*P	**P**	**11 23 52.6**	**+0.2**
ULM	**Lac du Bonnet**	**42.80**	**63**	P	**P**	**11 23 53.6**	**-0.9**
	comp=Z,7.3nm,0.8s,mb4.4,baz=287,slow=7.9,SNR=11						
SDCO	**Great Sand Dun**	**44.19**	**84**	*e*P	**P**	**11 24 05.3**	**-0.7**
	comp=Z,12nm,1.6s,mb4.4						
CN2	**Changchun**	**44.92**	**288**	*e*P	**P**	**11 24 13.6**	**+1.8**
CN2				*e*AP	pP	11 24 22.0	+1.9
CN2				XP	sP	11 24 25.8	+2.2
CN2				*e*S	**S**	**11 30 48.8**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
LAZ	**Ladron**	**45.32**	**89**	*e*P	**P**	**11 24 15.4**	**+0.3**
LPM	**Los Pinos Moun**	**45.70**	**88**	*e*P	**P**	**11 24 18.2**	**+0.2**
DAG	**Danmarks Havn**	**50.07**	**9**⇑	*i*P	**P**	**11 24 52.3**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.7						
WMOK	**Wichita Mounta**	**50.27**	**82**	*e*P	**P**	**11 24 52.7**	**-1.0**
LTX	**Lajitas**	**50.93**	**91**	*e*P	**P**	**11 24 58.1**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**50.93**	**91**	P	**P**	**11 24 58.2**	**-0.6**
	comp=Z,4.0nm,0.5s,mb4.6,baz=301,slow=5.9,SNR=98						
TXAR	**Lajitas Array**	**50.93**	**91**	P	**P**	**11 24 58.2**	**-0.6**
JCT	**Junction City**	**52.53**	**87**	*e*P	**P**	**11 25 09.1**	**-1.8**
	comp=Z,3.9nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**53.12**	**307**⇓	*i*P	**P**	**11 25 14.4**	**-0.6**
SONM	**Songino Array**	**53.15**	**303**	P	**P**	**11 25 15.8**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.4,baz=68,slow=6.7,SNR=8.7						
BLO	**Bloomington**	**54.71**	**70**	*e*P	**P**	**11 25 24.3**	**-2.5**
	comp=Z,4.9nm,0.5s,mb4.8						
HHC	**Hu-ho-hao-te**	**54.82**	**293**	*e*P	**P**	**11 25 27.8**	**+0.2**
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,78nm,4.8s						
SSE	**Sheshan**	**55.67**	**278**	⇓P	**P**	**11 25 33.3**	**-0.6**
SSE				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
NJ2	**Nanjing**	**56.44**	**281**	*e*P	**P**	**11 25 40.9**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
KEV	**Kevo**	**58.36**	**355**	*e*p	**P**	**11 25 50.8**	**-1.6**
	comp=Z,0.5nm,0.5s,mb3.8						
KEV	**Kevo**	**58.36**	**355**	*e*P	**P**	**11 25 50.8**	**-1.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
SSPA	**Standing Stone**	**58.63**	**63**	*e*P	**P**	**11 25 52.4**	**-2.3**
	comp=Z,7.9nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**58.66**	**355**	P	**P**	**11 25 54.2**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=352,slow=8.6,SNR=7.1						
ARCES	**ARCESS Array B**	**58.66**	**355**	P	**P**	**11 25 54.2**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.66**	**355**	P	**P**	**11 25 54.2**	**-0.3**
PWV	**Princeton**	**59.12**	**68**	P	**P**	**11 25 56.3**	**-1.9**
BRVK	**Borovoye**	**65.22**	**326**	*e*P	**P**	**11 26 39.0**	**+0.5**
BRVK				*e*pP	pP	11 26 47.7	+0.5
WMQ	**Urumqi**	**65.30**	**310**	*e*P	**P**	**11 26 40.2**	**+1.0**
WMQ				AP	pP	11 26 48.2	+0.3
WMQ				PCP	PcP	11 27 12.7	+1.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.8						
MKAR	**Makanchi Array**	**65.50**	**315**	P	**P**	**11 26 40.0**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.3,baz=52,slow=6.9,SNR=24						
MKAR	**Makanchi Array**	**65.50**	**315**	P	**P**	**11 26 40.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**65.94**	**335***d*	*i*P	**P**	**11 26 43.9**	**+0.9**
ARU	**Arti**	**65.94**	**335**	*e*P	**P**	**11 26 42.9**	**-0.1**
	comp=Z,4.6nm,0.4s,mb4.9						
ARU				*e*pP	pP	11 26 51.9	+0.1
KAF	**Kangasniemi**	**65.98**	**353**	*e*p	**P**	**11 26 41.4**	**-1.8**
	comp=Z,2.1nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**65.98**	**353**	*e*P	**P**	**11 26 41.4**	**-1.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**66.66**	**353**	P	**P**	**11 26 48.0**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=18,slow=6.0,SNR=9.2						
FINES	**FINESS Array B**	**66.66**	**353**	P	**P**	**11 26 48.0**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**67.49**	**1**	P	**P**	**11 26 53.3**	**+0.4**
	comp=Z,6.5nm,1.2s,mb4.5,baz=360,slow=6.2						
NOA	**NORSAR Array B**	**67.49**	**1**	P	**P**	**11 26 53.6**	**+0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=360,slow=6.2,SNR=5.6						
NOA	**NORSAR Array B**	**67.49**	**1**	P	**P**	**11 26 53.6**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GYA	**Guiyang**	**67.83**	**285**	P	**P**	**11 26 57.0**	**+1.4**
GYA				AP	pP	11 27 05.4	+1.1
GYA				XP	sP	11 27 08.6	+1.2
GYA				XS		11 36 07.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	**Kunming**	**71.17**	**287**	*e*P	**P**	**11 27 15.7**	**-0.4**
KMI				AP	pP	11 27 25.0	+0.2
KMI				S	S	11 36 29.8	0.0
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,85nm,21.6s,MS4.2						
KMI				LR	LR		
	comp=E,116nm,17.5s,MS4.2						
KMI				LR	LR		
	comp=Z,138nm,28.3s						
KSH	**Kashi**	**74.09**	**315**	*e*P	**P**	**11 27 39.2**	**+6.3**
AKASG	**Malin Array Be**	**77.01**	**350**	P	**P**	**11 27 49.2**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=8.6,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	**77.01**	**350**	P	**P**	**11 27 49.3**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PVCC	**Panska Ves**	**78.04**	**359**	*e*P	**P**	**11 27 57.0**	**+2.0**
DPC	**Dobruska-Polom**	**78.20**	**358**	*e*P	**P**	**11 27 57.8**	**+2.0**
BAIF	**Baives**	**78.20**	**6**	*e*P	**P**	**11 27 57.3**	**+1.4**
	comp=Z,4.5nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**78.52**	**285**	P	**P**	**11 27 58.5**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2,baz=23,slow=6.1,SNR=11						
CMAR	**Chiang Mai Arr**	**78.52**	**285**	P	**P**	**11 27 58.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OKC	**Ostrava-Krasne**	**78.66**	**357**	*e*P	**P**	**11 28 00.5**	**+2.1**
KHC	**Kasperske Hory**	**79.44**	**360**	*e*P	**P**	**11 28 04.8**	**+2.1**
GERES	**GERESS Array B**	**79.73**	**360**	P	**P**	**11 28 05.7**	**+1.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=342,slow=4.2,SNR=9.9						
GERES	**GERESS Array B**	**79.73**	**360**	P	**P**	**11 28 05.7**	**+1.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CDF	**Champ du Feu**	**80.02**	**4**	*e*P	**P**	**11 28 07.4**	**+1.6**
	comp=Z,2.4nm,0.6s,mb4.0						
SSF	**Saint Saulge**	**81.14**	**7**	*e*P	**P**	**11 28 13.1**	**+1.4**
MFF	**Saint Martin d**	**81.27**	**10**	*e*P	**P**	**11 28 13.7**	**+1.3**
	comp=Z,30nm,1.0s,mb4.9						
AVF	**Avril sur Loir**	**81.39**	**7**	*e*P	**P**	**11 28 14.3**	**+1.2**
	comp=Z,4.7nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**81.58**	**7**	*e*P	**P**	**11 28 15.4**	**+1.4**
	comp=Z,7.4nm,0.7s,mb4.4						
CABF	**La Chapelle**	**81.75**	**5**	*e*P	**P**	**11 28 17.0**	**+2.0**
RJF	**Les Rejaudoux**	**82.72**	**9**	*e*P	**P**	**11 28 22.2**	**+2.2**
	comp=Z,6.4nm,0.6s,mb4.5						
LFF	**La Frestale**	**83.00**	**9**	*e*P	**P**	**11 28 23.2**	**+1.7**
	comp=Z,13nm,0.7s,mb4.8						
CAF	**Calviac**	**83.14**	**8**	*e*P	**P**	**11 28 23.9**	**+1.7**
MBDF	**Montbardon**	**83.67**	**5**	*e*P	**P**	**11 28 27.6**	**+2.8**
	comp=Z,11nm,0.9s,mb4.7						
SMRF	**Simiane la Rot**	**84.35**	**6**	*e*P	**P**	**11 28 30.7**	**+2.5**
MTLF	**Montolieu**	**84.73**	**8**	*e*P	**P**	**11 28 31.8**	**+1.7**
EPF	**Esparros**	**84.85**	**10**	*e*P	**P**	**11 28 31.5**	**+0.7**
ESDC	**Sonseca Array**	**87.62**	**13**	P	**P**	**11 28 44.8**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.9,baz=340,slow=5.3,SNR=5.6						
WRA	**Warramunga Arr**	**88.11**	**234**	P	**P**	**11 28 47.4**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.2,baz=36,slow=5.4,SNR=7.5						
WRA	**Warramunga Arr**	**88.11**	**234**	P	**P**	**11 28 47.4**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**91.46**	**232**	P	**P**	**11 29 02.0**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.5,baz=33,slow=4.5,SNR=15						
STKA	**Stephens Creek**	**94.97**	**222**	P	**P**	**11 29 18.7**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.7,baz=280,slow=14,SNR=3.6						
MAW	**Mawson**	**151.55**	**218**	PKPbc	PKPdf	11 35 48.5	+2.1
	comp=Z,2.9nm,0.6s,baz=102,slow=2.9,SNR=10						
MAW	**Mawson**	**151.55**	**218**	PKIKP	PKPdf	11 35 48.5	+2.0
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						

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*IDC **08** 11:17:02.4±2.0,4.27S×130.28E,mb4.0/2,mb1 4.1/4, mb1mx3.8/12,ML3.8/2,Error ellipse: s-maj=141.0km s-min=26.6km az=68.0*

ISC 08 11:17:02.4±3.0,**4.10S**±0.08×**130.9E**±0.2,**h19**^{km}±24^{km}**,n9,** σ**1**^{s}**.20**/15,**mb3.9**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.67**	**170**	*e*P	**P**	**11 19 09.8**	**0.0**
	7.6nm,0.4s						
KAKA				*e*S	**Sn**	**11 20 47.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**14.85**	**200**	*e*P	**P**	**11 20 35.5**	**+2.2**
	3.3nm,1.0s						
FITZ				*e*S	**S**	**11 23 16.3**	**-1.7**
WRA	**Warramunga Arr**	**16.09**	**168**	Pn	**P**	**11 20 47.9**	**-1.5**
	0.3nm,0.3s,baz=348,slow=13,SNR=15						
WRA				Sn	**S**	**11 23 39.7**	**-7.6**
	0.2nm,0.3s,baz=357,slow=22,SNR=4.0						
WB2	**Warramunga Arr**	**16.10**	**168**	*e*P	**P**	**11 20 48.2**	**-1.3**
WB2				*e*S	**S**	**11 23 42.6**	**-4.8**
ASAR	**Alice Springs**	**19.66**	**172**	P	**P**	**11 21 34.3**	**+1.0**
	0.9nm,0.3s,baz=352,slow=11,SNR=100						
ASAR				S	**S**	**11 25 09.0**	**+0.7**
	0.1nm,0.3s,baz=356,slow=24,SNR=3.4						
ASPA	**Alice Springs**	**19.66**	**172**	*e*P	**P**	**11 21 35.2**	**+1.9**
ASPA				*e*S	**S**	**11 25 09.0**	**+0.7**
CTA	**Charters Tower**	**21.81**	**138**	*e*P	**P**	**11 21 54.4**	**-1.1**
	2.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**29.39**	**161**	P	**P**	**11 23 07.2**	**+0.4**
	1.5nm,0.6s,mb3.9,baz=331,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**66.34**	**326**	P	**P**	**11 27 51.5**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=129,slow=8.3,SNR=4.7						

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*ISK **08** 11:24:35.2,36.88N×27.72E,h5^{km},MD3.3*

*NEIC **08** 11:24:40.0,36.84N×27.53E,h5^{km},MD3.2(ATH),After ATH.*

*ATH **08** 11:24:40.0,36.84N×27.53E,h5^{km},MD3.2/7*

ISC 08 11:24:37.2±0.5,**36.90N**±0.03×**27.72E**±0.04,**h5**^{km}**,n18,** σ**1**^{s}**.21**/26,**3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.28**	**306**⇑	*i*P	**Pg**	**11 24 41.7**	**-1.1**
BDRM				*i* S	**Sg**	**11 24 46.8**	**+0.3**

MLSB	Milas	0.39	6	*i* PG	Pg	11 24 44.7	-0.4
MLSB				*i* SG	Sg	11 24 51.5	+1.1
YER	Yerkesik	0.50	63	*i* PG	Pg	11 24 45.6	-1.7
NISR	Nisiros	0.56	239	*e*PB	Pb	11 24 48.0	-1.1
ARG	Arkhangelos	0.76	155	*e*PB	Pb	11 24 52.5	0.0
AYDN	Tasoluk	0.77	9	⇑*i*P	Pg	11 24 50.8	-1.8
AYDN				*i* S	Sg	11 25 02.7	-0.1
SMG	Samos	1.07	319	*e*PB	Pb	11 24 57.8	0.0
DNZL	Cakiroluk	1.31	53	⇑*i*P	Pb	11 25 00.3	-1.7
DNZL				*i* S	Sb	11 25 20.3	+1.3
DENT	Denizli	1.34	50	PN	Pn	11 25 02.8	+0.1
DENT				SN	Sn	11 25 22.6	+1.5
KARP	Karpathos	1.43	199	*e*PB	Pb	11 25 06.0	+2.1
KARP				*e*SB	Sb	11 25 23.0	+0.7
IZM	Izmir	1.54	346	PN	Pn	11 25 04.9	-0.5
KDAG	Bornova	1.54	347	*i* P	Pn	11 25 04.4	-1.0
KDAG				*i* S	Sb	11 25 27.7	+2.1
KSL	Kastellorizon	1.68	116	*e*PN	Pn	11 25 14.5	+7.1
MANT	Manisa	1.72	22	*i* P	Pn	11 25 07.3	-0.6
MANT				*i* S	Sn	11 25 33.7	+3.2
ELL	Elmali	1.76	94	*e*PN	Pn	11 25 08.4	-0.2
APE	Apeiranthos	1.76	276	*e*PB	Pb	11 25 11.5	+1.8
AKS	Akhisar	1.97	2	*e*PN	Pn	11 25 11.6	0.0
PRK	Paraskevi	2.60	334	*e*PG	Pg	11 25 27.5	-1.7

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*BJI **08** 11:45:07.8, 1.65N×126.80E, h52^{km}, mB4.9, mb4.9, Ms4.3, Msz4.2*

*MOS **08** 11:45:09.8±1.3, 2.25N×126.72E, h33^{km}, mb4.8/16, Error ellipse: s-maj=21.6km s-min=10.8km az=108.2*

*NEIC **08** 11:45:10.9±3.6, 2.24N×126.78E, h30^{km}±26^{km}, mb4.7/19, Error ellipse: s-maj=12.3km s-min=5.8km az=79.0*

*IDC **08** 11:45:13.8±2.4, 2.20N×126.69E, h56^{km}±21^{km}, mb4.3/23, mb1 4.4/23, mb1mx4.3/25, MS3.6/6, Ms1 3.7/6, ms1mx3.2/22, Error ellipse: s-maj=21.0km s-min=8.9km az=74.0*

*MAN **08** 11:45:41.6, 4.35N×125.90E, h180^{km}*

ISC 08 11:45:12.1±0.9**, 2.18N**±0.04×**126.67E**±0.07**, h56**^{km}±8^{km}**, n110,** $\sigma 1\overset{s}{.}$**10**/108**, mb4.8**/54**, MS3.7**/8**, 4C-4D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	4.24	336	*e*P	P	11 46 18.0	+2.2
MATI	Mati	4.75	355	*e*P	P	11 46 23.5	+0.5
KCP	Kidapawan	5.05	342	⇓*e*P	P	11 46 28.4	+1.3
BUKP	Musuan	5.88	344	*e*P	P	11 46 40.2	+1.5
PAGZ	Pagadian	6.51	330	*e*P	P	11 46 47.7	+0.2
BUTP	Butuan	6.82	351	*e*P	P	11 46 50.9	-1.0
IPIL	Ipil	6.90	324	*e*P	P	11 46 52.4	-0.6
CAUP	Cauayan	15.42	342	*e*P	P	11 48 46.2	-1.6
KAKA	Kakadu	15.84	159	*e*P	P	11 48 51.8	-1.3
	31nm,0.6s						
FITZ	Fitzroy Crossi	20.18	183	*e*P	P	11 49 44.3	-0.4
	8.6nm,0.4s						
FITZ	Fitzroy Crossi	20.18	183	P	P	11 49 44.4	-0.4
	7.3nm,0.5s,baz=13,slow=9.4,SNR=40						
FITZ				LR	LR	11 57 36.1	
	comp=Z,50nm,20.4s,MS2.9,baz=102,slow=37						
WRA	Warramunga Arr	23.24	161	P	P	11 50 15.1	-0.2
	14nm,0.5s,mb4.7,baz=337,slow=11,SNR=86						
WRA				S	S	11 54 24.9	+5.3
	1.4nm,0.8s,baz=349,slow=17,SNR=5.3						
WRA	Warramunga Arr	23.24	161	P	P	11 50 15.1	-0.3
WRA				S	S	11 54 24.9	+5.3
WRA				pmax	pmax		
	comp=Z,14nm,0.5s						
WRA				smax			
	comp=Z,1.0nm,0.8s						
WB2	Warramunga Arr	23.24	161	⇑*i*P	P	11 50 15.2	-0.2
WB2				*e*S	S	11 54 26.1	+6.4
PMG	Port Moresby	23.44	120	P	P	11 50 17.3	-0.1
	comp=Z,20nm,1.1s,mb4.5,baz=264,slow=3.8,SNR=4.0						
PMG	Port Moresby	23.44	120	P	P	11 50 17.3	0.0
PMG				pmax	pmax		
	comp=Z,20nm,1.1s						
QIZ	Qiongzhong	23.49	317	P	P	11 50 17.6	-0.2
QIZ				*e*S	S	11 54 26.3	+2.4
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
JOW	Kunigami	24.56	3	P	P	11 50 28.6	+0.4
	comp=Z,42nm,0.7s,mb5.1,baz=199,slow=7.0,SNR=9.1						
ASAR	Alice Springs	26.64	165	P	P	11 50 46.6	-1.0
	comp=Z,3.2nm,0.4s,mb4.2,baz=348,slow=13,SNR=28						
ASAR				PcP	PcP	11 54 09.3	-1.6
	comp=Z,1.5nm,0.5s,baz=345,slow=2.0,SNR=5.9						
ASAR				S	S	11 55 23.9	+7.2
	comp=Z,0.8nm,0.7s,baz=348,slow=18,SNR=2.4						
ASPA	Alice Springs	26.64	165	*e*P	P	11 50 48.0	+0.3
ASPA				*e*S	S	11 55 27.4	+11
CBIJ	Chichi jima	28.90	30	LR	LR	12 01 35.0	
	comp=Z,72nm,22.0s,MS3.2,baz=127,slow=34						
SSE	Sheshan	29.22	350	⇓P	P	11 51 13.3	+2.4
SSE				S	S	11 56 05.5	+7.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,46nm,6.5s						
CTA	Charters Tower	29.31	140	*e*P	P	11 51 10.3	-1.5
	comp=Z,2.3nm,0.6s,mb4.1						
CTA	Charters Tower	29.31	140	P	P	11 51 11.2	-0.6
	comp=Z,2.9nm,0.7s,mb4.2,baz=333,slow=11,SNR=5.6						
CTA	Charters Tower	29.31	140	P	P	11 51 11.2	-0.6
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTAO	Charters Tower	29.31	140	*e*P	P	11 51 10.3	-1.5
	comp=Z,4.1nm,0.8s,mb4.2						
NJ2	Nanjing	30.61	347	*e*P	P	11 51 26.1	+2.9
NJ2				AP	pP	11 51 35.8	-1.5
NJ2				PP	PP	11 52 28.4	+3.3
NJ2				S	S	11 56 27.0	+6.9
NJ2				SS	SS	11 58 12.0	+7.6
NJ2				LR	LR		
	comp=N,210nm,16.4s,MS4.1						
NJ2				LR	LR		
	comp=E,300nm,14.8s,MS4.1						
NJ2				LR	LR		
	comp=Z,380nm,15.0s,MS4.2						
JNU	Nakatsue	31.03	7	P	P	11 51 26.9	0.0
	comp=Z,5.9nm,0.6s,mb4.6,baz=165,slow=20,SNR=3.5						
CMAR	Chiang Mai Arr	31.62	303	P	P	11 51 31.7	-0.5
	comp=Z,6.5nm,0.9s,mb4.5,baz=120,slow=7.1,SNR=25						
CMAR				LR	LR	12 03 41.2	
	comp=Z,68nm,21.0s,MS3.3,baz=144,slow=35						
CMAR	Chiang Mai Arr	31.62	303	P	P	11 51 31.7	-0.5
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,68nm,21.0s						
KMI	Kunming	32.44	317	*e*P	P	11 51 37.9	-1.4
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.4						
FORT	Forrest	32.80	178	*e*P	P	11 51 42.0	-0.4
	comp=Z,102nm,0.6s						
KLBR	Kellerberrin	34.64	193	*e*P	P	11 51 58.5	+0.3
	comp=Z,18nm,1.1s,mb4.9						
MUN	Mundaring	35.39	195	*e*P	P	11 52 06.5	+1.9
	comp=Z,10nm,1.5s,mb4.5						
XAN	Xi’an	35.77	334	P	P	11 52 06.2	-1.6
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MAJO	Matsushiro	35.82	16	*e*P	P	11 52 06.7	-1.5
	comp=Z,8.8nm,0.5s,mb5.0						
MAT	Matsushiro	35.82	16	P	P	11 52 06.4	-1.8
MAT	Matsushiro	35.82	16	*e*P	P	11 52 06.0	-2.2
	comp=Z,6.8nm,0.7s,mb4.7						
NWAO	Narrogin (SRO)	36.04	194	P	P	11 52 11.0	+0.9
	comp=Z,9.1nm,0.8s,mb4.8,baz=177,slow=12,SNR=7.1						
NWAO	Narrogin (SRO)	36.04	194	P	P	11 52 11.0	+0.9
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	Narrogin (SRO)	36.04	194	*e*P	P	11 52 11.2	+1.0
	comp=Z,2.4nm,0.5s,mb4.4						
STKA	Stephens Creek	36.72	158	*e*P	P	11 52 15.4	-0.4
	comp=Z,11nm,0.6s,mb4.9						
STKA	Stephens Creek	36.72	158	P	P	11 52 15.6	-0.2
	comp=Z,24nm,1.0s,mb5.0,baz=335,slow=7.5,SNR=21						
BJT	Baijiatuau	38.85	347	*e*P	P	11 52 34.5	+1.0
	comp=Z,13nm,0.6s,mb4.8						
BJI	Beijing	38.87	347	P	P	11 52 33.5	-0.2
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
SNY	Shenyang	39.57	356	⇓P	P	11 52 40.2	+0.8
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
ARMA	Armidale	40.22	146	*e*P	P	11 52 45.5	+0.5
SHL	Shillong	40.75	308	*e*P	P	11 52 47.0	-2.4
MDJ	Mudanjiang	42.34	3	P	P	11 53 02.5	+0.2
MDJ				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,57nm,4.9s						
MDJ	Mudanjiang	42.34	3	*e*P	P	11 53 02.4	+0.1
	comp=Z,15nm,0.8s,mb4.7						
LSA	Lhasa	43.42	313	P	P	11 53 12.0	+0.6
LSA	Lhasa	43.42	313	*e*P	P	11 53 11.3	-0.1
	comp=Z,10nm,0.8s,mb4.6						
ASAJ	Asahikawa	44.08	17	P	P	11 53 16.8	+0.3
	comp=Z,3.2nm,0.5s,mb4.3,baz=249,slow=10,SNR=4.2						
ASAJ	Asahikawa	44.08	17	P	P	11 53 16.8	+0.3
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PKI	Pulchoki	46.82	307	*e*P	P	11 53 37.8	-0.7
	comp=Z,14nm,0.6s,mb5.0						
KKN	Kakani	47.02	307	*e*P	P	11 53 39.2	-0.8
	comp=Z,30nm,0.9s,mb5.2						
KLR	Kul’dur	47.08	5	*e*P	P	11 53 38.3	-1.9
DMN	Daman	47.08	306	*e*P	P	11 53 39.5	-1.0
	comp=Z,24nm,0.8s,mb5.2						
GKN	Gorkha	47.62	307	*e*P	P	11 53 43.8	-1.0
	comp=Z,14nm,0.6s,mb5.2						
KOLN	Koldanda	48.36	306	*e*P	P	11 53 50.2	-0.3
	comp=Z,53nm,0.8s,mb5.6						
SONM	Songino Array	48.74	342	P	P	11 53 53.0	-0.1
	comp=Z,3.4nm,0.7s,mb4.5,baz=163,slow=8.2,SNR=9.3						
ZAK	Zakamensk	51.96	341	*e*P	P	11 54 18.3	+0.7
TLY	Talaya	52.97	342	*e*P	P	11 54 22.4	-2.8
TLY				*i*		11 55 29.2	
TLY				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.8						
MKAR	Makanchi Array	58.79	326	P	P	11 55 05.5	-1.4
	comp=Z,2.5nm,0.4s,mb4.6,baz=124,slow=8.5,SNR=33						
MKAR				PcP	PcP	11 55 55.8	0.0
	comp=Z,2.1nm,0.6s,baz=108,slow=4.6,SNR=4.2						
MKAR				ScP		11 59 50.5	
	comp=Z,1.0nm,0.8s,baz=112,slow=6.5,SNR=4.9						
MKAR	Makanchi Array	58.79	326	P	P	11 55 05.5	-1.5
MKAR						11 55 55.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	58.79	326	P	P	11 55 05.5	-1.4
MKAR				PcP	PcP	11 55 55.8	0.0
MKAR				ScP		11 59 50.5	
YAK	Yakutsk	59.75	2	*e*P	P	11 55 12.7	-0.7
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4						
YAK	Yakutsk	59.75	2	*e*P	P	11 55 12.7	-0.7
	comp=Z,65nm,0.8s,mb5.7						
MA2	Magadan	60.21	14	⇓*e*P	P	11 55 18.9	+2.3
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	60.21	14	*e*P	P	11 55 16.0	-0.6
	comp=Z,8.5nm,0.8s,mb4.8						
RPZ	Rata Peaks	60.54	144	LR	LR	12 20 09.8	
	comp=Z,225nm,18.5s,MS4.3,baz=98,slow=35						
URZ	Urewera	61.47	136	P	P	11 55 26.1	+0.7
	comp=Z,68nm,1.4s,mb5.6,baz=312,slow=8.3,SNR=3.0						
KURK	Kurchatov	63.01	328	*e*P	P	11 55 34.4	-1.2
	comp=Z,10nm,0.6s,mb5.1						
FX1	Attu Island--F	63.45	29	P	P	11 55 38.0	-0.4
	comp=Z,18nm,0.7s,mb5.3,baz=84,slow=9.4,SNR=14						
FX1	Attu Island--F	63.45	29	P	P	11 55 38.0	-0.4
FX1				pmax	pmax		
	comp=Z,18nm,0.7s						
BVAR	Borovoye Array	68.58	327	P	P	11 56 09.9	-1.1
	comp=Z,6.8nm,0.9s,mb4.6,baz=127,slow=7.4,SNR=21						
BVAR				PcP	PcP	11 56 33.9	-1.9
	comp=Z,1.9nm,0.6s,baz=90,slow=4.3,SNR=5.1						
BRVK	Borovoye	68.65	327	*e*P	P	11 56 10.9	-0.6
	comp=Z,8.0nm,0.8s,mb4.7						
AB31	Akbulak array	73.30	321	Pn	P	11 56 39.1	-0.4
	comp=Z,2.4nm,0.7s,mb4.2,baz=95,slow=6.6,SNR=22						
AB31				Pg	P	11 56 46.9	+7.4
	comp=Z,0.4nm,0.2s,mb3.9,baz=335,slow=16,SNR=16						
AB31				⇑Lg		11 57 17.6	
	comp=Z,1.5nm,0.3s,baz=330,slow=28,SNR=4.1						
ARU	Arti	76.20	328	⇑*i*P	P	11 56 56.1	0.0
ARU				*e*		11 59 47.6	
ARU				*e*S	S	12 06 39.8	+5.3
ARU				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
VNDA	Vanda	81.91	173	P	P	11 57 27.4	+0.8
	comp=Z,2.8nm,0.5s,mb4.4,baz=312,slow=6.4,SNR=22						
VNDA				LR	LR	12 32 49.4	
	comp=Z,99nm,20.1s,MS4.2,baz=237,slow=35						
VNDA	Vanda	81.91	173	P	P	11 57 27.4	+0.8
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VNDA				MLR	MLR		
	comp=Z,99nm,20.1s						
MAW	Mawson	82.29	200	P	P	11 57 30.5	+1.7
	comp=Z,3.3nm,0.6s,mb4.5,baz=76,slow=5.4,SNR=13						
MAW	Mawson	82.29	200	P	P	11 57 30.5	+1.8
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GNI	Garni	82.42	310	LR	LR	12 38 30.3	
	comp=Z,27nm,20.8s,MS3.6,baz=343,slow=39						
KDAK	Kodiak Island	83.23	32	*e*P	P	11 57 34.3	+0.6
	comp=Z,5.2nm,0.6s,mb4.7						
KIV	Kislovodsk	84.16	314	*e*P	P	11 57 40.3	+1.6
KIV				pmax	pmax		
	comp=Z,21nm,1.8s,mb5.0						
PMR	Palmer	85.33	29	*e*P	P	11 57 44.3	+0.2
	comp=Z,5.3nm,0.8s,mb4.7						
SML	Sawmill	85.72	28	*e*P	P	11 57 46.9	+0.9
SOC	Sochi	86.30	313	*e*P	P	11 57 50.7	+1.4
SOC				*e*		12 01 06.4	
SOC				*e*PPP	PPP	12 03 09.8	-0.1
SOC				*e*S	S	12 08 21.3	+2.7
SOC				pmax	pmax		
	comp=N,13nm,0.8s						
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=E,7.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,68nm,18.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,74nm,22.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,50nm,23.0s,MS4.1						
ILAR	Eielson Array	86.52	25	P	P	11 57 49.1	-0.7
	comp=E,0.6nm,0.7s,mb3.9,baz=238,slow=5.0,SNR=11						
ILAR	Eielson Array	86.52	25	P	P	11 57 49.2	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANN	Anapa	87.93	315	*e*P	P	11 58 04.5	+7.3
ANN				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.6						
OBN	Obninsk	88.28	325	*e*P	P	11 58 01.0	+2.4
OBN				*i* S	S	12 08 28.7	-8.3
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.2						
DAWY	Dawson	89.79	26	*e*P	P	11 58 05.5	0.0
ARCES	ARCESS Array B	91.87	340	P	P	11 58 15.7	+0.6
	comp=Z,2.0nm,0.8s,mb4.5,baz=14,slow=5.0,SNR=5.7						
ARCES	ARCESS Array B	91.87	340	P	P	11 58 15.7	+0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
QSPA	South Pole Qui	92.10	180	*e*P	P	11 58 20.2	+4.2
	comp=Z,1.4nm,0.5s,mb4.5						
AKASG	Malin Array Be	93.05	321	P	P	11 58 21.4	+0.5
	comp=Z,1.0nm,0.7s,mb4.4,baz=59,slow=5.4,SNR=4.4						
AKASG	Malin Array Be	93.05	321	P	P	11 58 21.5	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	93.16	332	P	P	11 58 21.9	+0.8
	comp=Z,1.5nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=7.9						
FINES	FINESS Array B	93.16	332	P	P	11 58 21.9	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DLBC	Dease Lake	95.10	31	P	P	11 58 31.1	+1.0
	comp=Z,0.6nm,0.5s,mb4.2,baz=259,slow=5.2,SNR=3.1						
SNAA	Sanae	103.71	195	⇑*i*P		12 03 25.5	
VNA2	Neumayer--Watz	105.32	194	P		12 03 28.5	
TXAR	Lajitas Array	122.59	53	PKP	PKPdf	12 04 04.5	+2.4
	comp=Z,0.2nm,0.7s,baz=254,slow=0.6,SNR=5.2						
PLCA	Paso Flores	138.58	160	PKP	PKPdf	12 04 31.9	-0.2
	comp=Z,2.0nm,0.9s,baz=346,slow=2.2,SNR=3.0						
PLCA	Paso Flores	138.58	160	PKIKP	PKPdf	12 04 31.9	-0.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PLCA	Paso Flores	138.58	160	PKP	PKPdf	12 04 31.9	-0.2
LVC	Limon Verde	154.68	145	PKPbc	PKPdf	12 05 11.1	+12
	comp=Z,1.7nm,0.7s,baz=234,slow=10,SNR=3.8						
CPUP	Villa Florida	155.68	171	PKPbc	PKPdf	12 05 12.9	+13
	comp=Z,1.5nm,0.6s,baz=202,slow=4.4,SNR=3.5						

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*NEIC **08** 12:15:29.6, 17.17N×96.89W, h70^{km}, MD3.9(MEX), After MEX.*

MEX 08 12:15:29.8±0.6**, 17.17N×96.86W, h70**^{km}±5^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.16	124	*e*P	P	12 15 39.0	-1.2
OXX				*e*S	S	12 15 46.0	-1.9
PNIG	Pinotepa	1.44	238	*e*P	P	12 15 52.8	-1.7
PNIG				*i* S	S	12 16 09.2	-3.4
PNIG	Pinotepa	1.44	238	*e*P	P	12 15 52.8	-1.7
PNIG				*e*S	S	12 16 08.1	-4.6
HUIG	Huatulco	1.57	152	*e*P	P	12 15 54.7	-1.6
HUIG				*e*S	S	12 16 13.2	-2.6
CMIG	Matias Romero	1.90	92	*e*P	P	12 15 58.3	-2.3
CMIG				*e*S	S	12 16 20.6	-2.7
TUIG	Tuzandepetl	2.48	69	*i* P	P	12 16 07.0	-1.8
TUIG				*i* S	S	12 16 35.5	-2.5
PPM	Popocatepetl	2.52	319	*e*P	P	12 16 07.0	-2.4
PPM				*e*P		12 16 07.5	
PPM				*i* S	S	12 16 40.0	+1.0
PPM				*e*S	S	12 16 42.5	+3.5
CAIG	El Cayaco	3.26	268	*i* P	P	12 16 17.3	-2.4
CAIG				*i* S	S	12 16 52.6	-4.9
CAIG	El Cayaco	3.26	268	*i* P	P	12 16 17.3	-2.4
CAIG				*i* S	S	12 16 52.3	-5.2

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*MOS **08** 12:17:46.5±0.9, 5.45S×102.53E, h33^{km}, mb4.5/11, Error ellipse: s-maj=28.2km s-min=12.6km az=107.6*

*BJI **08** 12:17:47.7, 5.43S×102.74E, h41^{km}, mB4.7, mb4.8, Ms4.1*

*IDC **08** 12:17:50.6±0.9, 5.50S×102.66E, h50^{km}±6^{km}, mb4.3/13, mb1 4.4/13, mb1mx4.2/17, MS3.4/3, Ms1 3.5/3, ms1mx2.9/27, Error ellipse: s-maj=32.4km s-min=10.7km az=48.0*

*NEIC **08** 12:17:50.9±0.7, 5.60S×102.73E, mb4.5/10, Error ellipse: s-maj=21.4km s-min=8.6km az=47.0*

*DJA **08** 12:18:47.9±32.0, 7.79S×106.71E, h320^{km}, mb5.0/4, Error ellipse: s-maj=940.8km s-min=46.5km az=79.0*

ISC 08 12:17:49.2±0.5**, 5.46S**±0.08×**102.71E**±0.08**, h54**^{km}**, h54**^{km}±2.9^{km}**:pP-P, n85,** $\sigma 1\overset{s}{.}$**19**/83**, mb4.6**/34**, MS3.8**/5**, 6C-11D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	Kluang	7.46	5	⇓*e*P	P	12 19 41.5	+3.7
IPM	Ipoh	10.12	350	⇓*e*P	P	12 20 18.5	+4.0
KELI	Kelakatan	12.02	104	⇓*i*P	P	12 20 39.3	-0.9
	166nm,0.3s						
INGI	Ingas	12.78	106	*e*P	P	12 20 47.7	-2.8
	387nm,0.2s						
INGI	Ingas	12.78	106	⇓*i*P	P	12 20 47.3	-3.2
RATI	Rata	13.13	105	⇑*e*P	P	12 20 51.9	-3.1
	975nm,0.2s						
KEDI	Kedomdong	13.64	103	⇓*i*P	P	12 20 58.3	-3.5
	285nm,0.2s						
KEDI	Kedomdong	13.64	103	⇓*i*P	P	12 20 58.4	-3.4
TANI	Tanete Lipujan	16.75	84	*e*P	P	12 21 57.5	+16
NINI	Niniconang	17.02	87	*e*P	P	12 21 48.1	+3.0
NINI	Niniconang	17.02	87	*e*P	P	12 21 58.2	+13
BUNI	Buntu Taipa	17.65	85	*e*P	P	12 21 52.9	-0.2
BUNI	Buntu Taipa	17.65	85	*e*P	P	12 22 06.7	+14
KKTK	Khon Kaen	21.66	0	P	P	12 22 38.0	+0.9
CMAR	Chiang Mai Arr	24.06	351	P	P	12 23 00.7	0.0
	10nm,0.6s,mb4.4,baz=182,slow=9.1,SNR=49						
CMAR				LR	LR	12 32 46.4	
	comp=Z,60nm,18.7s,MS3.1,baz=351,slow=37						
CMAR	Chiang Mai Arr	24.06	351	P	P	12 23 00.7	+0.1
CMAR				pmax	pmax		
	comp=Z,11nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,60nm,18.7s						
CHG	Chiang Mai	24.41	351	⇑P	P	12 23 04.3	+0.3
	comp=Z,12nm,0.8s,mb4.4						
PALK	Pallekele	25.34	300	P	P	12 23 14.2	+1.2
	comp=Z,14nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	25.68	121	*e*P	P	12 23 16.0	-0.1
	comp=Z,7.1nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	25.68	121	P	P	12 23 16.6	+0.5
	comp=Z,8.1nm,0.8s,mb4.3,baz=251,slow=2.4,SNR=12						
KAKA	Kakadu	30.17	106	*e*P	P	12 23 56.7	0.0
	comp=Z,18nm,1.4s,mb4.6						
NWAO	Narrogin (SRO)	30.50	155	LR	LR	12 34 51.8	
	comp=Z,132nm,20.0s,MS3.6,baz=231,slow=34						
GYA	Guiyang	31.96	7	⇓*i*P	P	12 24 12.0	-0.5
GYA				S	S	12 29 11.4	-7.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SHL	Shillong	32.59	342	*e*P	P	12 24 15.5	-2.4
WRA	Warramunga Arr	33.95	118	P	P	12 24 30.0	+0.2
	comp=Z,5.6nm,1.2s,mb4.4,baz=304,slow=9.0,SNR=17						
WRA				pPcP		12 27 20.9	
	comp=Z,0.6nm,0.4s,baz=312,slow=2.3,SNR=6.1						
WRA				S	S	12 29 51.0	+1.1
	comp=Z,0.2nm,0.8s,baz=188,slow=40,SNR=3.2						
WRA	Warramunga Arr	33.95	118	P	P	12 24 30.0	+0.2
WRA				S	S	12 29 51.0	+1.2
WRA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	33.95	118	P	P	12 24 30.0	+0.2
WRA				pPcP		12 27 20.9	
WRA				S	S	12 29 51.0	+1.1
WB2	Warramunga Arr	33.97	118	*e*P	P	12 24 29.5	-0.4
WB2				*e*S	S	12 29 56.1	+6.1
ASPA	Alice Springs	35.06	124	⇓*i*P	P	12 24 39.6	+0.4
ASAR	Alice Springs	35.06	124	P	P	12 24 39.7	+0.5
	comp=Z,5.5nm,0.7s,mb4.6,baz=299,slow=8.0,SNR=50						
ASAR				pPcP		12 27 24.9	
	comp=Z,0.9nm,0.6s,baz=305,slow=2.6,SNR=4.4						
ASAR				S	S	12 30 07.7	+0.8
	comp=Z,0.8nm,0.8s,baz=295,slow=13,SNR=3.7						
ASAR				LR	LR	12 38 32.2	
	comp=Z,57nm,21.6s,MS3.3,baz=320,slow=35						
CD2	Chengdu	36.18	2	⇑*i*P	P	12 24 47.8	-0.9
DMN	Daman	37.02	334	*e*P	P	12 24 57.6	+1.9
KKN	Kakani	37.10	334	*e*P	P	12 24 57.3	+0.9
	comp=Z,17nm,0.6s,mb5.0						
GKN	Gorkha	37.56	333	*e*P	P	12 25 00.8	+0.5
KOLN	Koldanda	37.84	332	*e*P	P	12 25 04.3	+1.7
	comp=Z,26nm,0.7s,mb5.0						
XAN	Xi’an	39.73	8	P	P	12 25 17.3	-0.9
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
SSE	Sheshan	40.42	25	⇓P	P	12 25 23.9	0.0
SSE				AMB	AMB		
	comp=Z,66nm,3.8s						
CTA	Charters Tower	44.73	113	*e*P	P	12 26 01.0	+1.7
	comp=Z,4.8nm,0.6s,mb4.5						
CTA	Charters Tower	44.73	113	P	P	12 26 01.2	+1.9
	comp=Z,2.3nm,0.6s,mb4.2,baz=300,slow=11,SNR=6.2						
CTA	Charters Tower	44.73	113	P	P	12 26 01.2	+1.9
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTAO	Charters Tower	44.73	113	*e*P	P	12 26 01.1	+1.8
	comp=Z,2.9nm,0.8s,mb4.2						
GTA	Gaotai	44.73	357	*e*P	P	12 26 00.0	+0.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
STKA	Stephens Creek	44.85	131	*e*P	P	12 26 00.3	+0.2
	comp=Z,5.9nm,0.6s,mb4.6						
STKA	Stephens Creek	44.85	131	P	P	12 26 01.2	+1.1
	comp=Z,6.7nm,0.5s,mb4.7,baz=77,slow=19,SNR=3.1						
BJT	Baijiatuau	46.93	14	P	P	12 26 16.7	+0.2
WMQ	Urumqi	50.90	346	⇓P	P	12 26 48.1	+1.0

CN2	**Changchun**	**53.16**	**20**	*e*P	**P**	**12 27 07.1**	**+3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SONM	**Songino Array**	**53.17**	**3**	P	**P**	**12 27 04.5**	**+0.5**
	comp=Z,22nm,0.7s,mb5.2,baz=180,slow=8.9,SNR=43						
SONM				pP	pP	12 27 17.6	-1.0
	comp=Z,15nm,0.6s,baz=184,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**55.09**	**343**	P	**P**	**12 27 17.6**	**-0.5**
	comp=Z,6.5nm,0.5s,mb5.0,baz=151,slow=9.3,SNR=83						
MKAR				pP	pP	12 27 32.3	-0.4
	comp=Z,7.2nm,0.6s,baz=145,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**55.09**	**343**	P	**P**	**12 27 17.7**	**-0.4**
MKAR				*PP	pP	12 27 32.3	-0.4
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MDJ	**Mudanjiang**	**55.39**	**23**	P	**P**	**12 27 21.4**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,39nm,4.2s						
ZAK	**Zakamensk**	**55.62**	**0**	⇓*i*P	**P**	**12 27 22.0**	**+0.1**
HIA	**Hailar**	**56.49**	**13**	*e*P	**P**	**12 27 27.4**	**-0.8**
	comp=Z,4.3nm,0.5s,mb4.7						
TLY	**Talaya**	**56.93**	**1**	*e*P	**P**	**12 27 31.5**	**+0.3**
TLY				*i* *PP	pP	12 27 46.5	+0.6
TLY				*e*		12 29 38.5	
TLY				pmax	pmax		
	comp=Z,80nm,1.0s						
TLY				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
KURK	**Kurchatov**	**59.69**	**343**	*e*P	**P**	**12 27 51.2**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.6						
NVS	**Novosibirsk**	**62.24**	**347**	*e*P	**P**	**12 28 05.9**	**-1.8**
YSS	**Yuzh-Sakhalins**	**63.05**	**30**	*e*P	**P**	**12 28 12.6**	**-0.7**
YSS				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
VOSK	**Vostochnaya**	**63.90**	**339**	P	**P**	**12 28 17.3**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BVA0	**Borovoye Array**	**64.35**	**339**	*i* P	**P**	**12 28 20.1**	**-1.5**
BVAR	**Borovoye Array**	**64.35**	**339**	P	**P**	**12 28 20.3**	**-1.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=153,slow=9.9,SNR=15						
BRVK	**Borovoye**	**64.42**	**339**	*e*P	**P**	**12 28 21.3**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**64.80**	**338**	P	**P**	**12 28 22.1**	**-2.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AB31	**Akbulak array**	**65.96**	**331**	*i* P	**P**	**12 28 30.6**	**-1.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
MAW	**Mawson**	**67.65**	**195**	P	**P**	**12 28 41.5**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.2,baz=9.5,slow=6.1,SNR=3.9						
MAW	**Mawson**	**67.65**	**195**	P	**P**	**12 28 41.5**	**-0.8**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK	**Yakutsk**	**70.44**	**13**	*e*P	**P**	**12 28 58.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
ARU	**Arti**	**71.44**	**336**	⇑*i*P	**P**	**12 29 05.4**	**-0.3**
ARU				*i*	pP	12 29 23.2	+2.3
ARU				*e*		12 31 45.2	
ARU				*e*S	S	12 38 23.1	+4.4
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
ARU	**Arti**	**71.44**	**336**	P	**P**	**12 29 05.0**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.6						
SOC	**Sochi**	**74.72**	**318**	*e*P	**P**	**12 29 20.1**	**-5.1**
SOC				*e*	pP	12 29 35.9	-4.5
SOC				*e*		12 32 12.0	
SOC				*e*S	S	12 38 47.7	-8.3
SOC				*e*		12 39 23.2	
SOC				*e*SS	SS	12 43 39.5	-7.0
SOC				*e*SSS	SSS	12 46 58.2	-2.0
SOC				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,14nm,0.8s						
SOC				pmax	pmax		
	comp=E,12nm,0.7s						
SOC				MLR	MLR		
	comp=Z,132nm,25.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,196nm,27.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,65nm,24.0s,MS4.3						
OBN	**Obninsk**	**81.14**	**328**	*e*P	**P**	**12 29 59.9**	**-0.5**
OBN				*e*		12 30 05.7	
OBN				*e**PP	pP	12 30 13.1	-2.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
AKASG	**Malin Array Be**	**83.86**	**322**	P	**P**	**12 30 13.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.3,baz=88,slow=4.7,SNR=5.2						
AKASG	**Malin Array Be**	**83.86**	**322**	P	**P**	**12 30 13.7**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**88.42**	**332**	P	**P**	**12 30 37.7**	**+1.3**
	comp=Z,0.7nm,0.6s,mb4.1,baz=143,slow=9.5,SNR=7.3						
FINES	**FINESS Array B**	**88.42**	**332**	P	**P**	**12 30 37.7**	**+1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**88.48**	**333**	*e*p	**P**	**12 30 39.4**	**+2.7**
SNAA	**Sanae**	**89.69**	**198**	⇑*i*P	**P**	**12 30 47.7**	**+5.4**
SNAA	**Sanae**	**89.69**	**198**	⇑*i*	pP	12 31 06.6	+8.7
ARCES	**ARCESS Array B**	**90.63**	**340**	P	**P**	**12 30 50.5**	**+3.8**
	comp=Z,11nm,1.3s,mb5.0,baz=90,slow=8.5,SNR=3.8						
ARCES	**ARCESS Array B**	**90.63**	**340**	P	**P**	**12 30 50.5**	**+3.8**
ARCES				pmax	pmax		
	comp=Z,11nm,1.3s						
VNA2	**Neumayer--Watz**	**91.33**	**198**	P	pP	12 31 20.9	+15
WMOK	**Wichita Mounta**	**144.74**	**32**	*e*PKPdf	PKPdf	12 37 20.9	+0.4
CCM	**Cathedral Cave**	**145.16**	**19**	*e*PKPdf	PKPdf	12 37 21.7	+0.6
CCM				*e*		12 37 36.3	
LTX	**Lajitas**	**145.58**	**43**	*e*PKPdf	PKPdf	12 37 25.1	+2.9
TXAR	**Lajitas Array**	**145.58**	**43**	PKPbc	PKPbc	12 37 25.2	+2.4
	comp=Z,1.7nm,0.7s,baz=285,slow=2.1,SNR=18						
TXAR				pPKPbc		12 37 37.6	
	comp=Z,4.8nm,0.9s,baz=315,slow=1.8,SNR=7.9						
JCT	**Junction City**	**147.32**	**38**	*e*PKPbc	PKPdf	12 37 30.0	+5.0
JCT				*e*		12 37 45.4	

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*IDC **08** 12:38:40.8±0.8, 16.40S×174.97E, mb4.3/10, mb1 4.5/10, mb1mx4.4/16, MS4.1/18, Ms1 4.1/18, ms1mx4.0/24, Error ellipse: s-maj=34.2km s-min=18.3km az=146.0*

*NEIC **08** 12:38:42.5±0.6, 16.58S×175.13E, h10^{km}, mb4.6/5, Error ellipse: s-maj=24.2km s-min=14.5km az=145.0*

ISC 08 12:38:44.5±0.5**, 16.6S**±0.1×**175.1E**±0.1**, h33^{km}, n34, σ1^{s}31**/21**, mb4.3**/13**, MS4.1**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.63**	**176**	P	**P**	**12 43 33.4**	**-0.4**
	19nm,1.1s,mb4.4,baz=351,slow=14,SNR=3.4						
RAR	**Rarotonga**	**24.20**	**105**	LR	LR	12 51 24.8	
	comp=Z,421nm,18.5s,MS4.0,baz=278,slow=31						
ARMA	**Armidale**	**25.45**	**233**	*e*P	**P**	**12 44 11.5**	**+0.3**
RPZ	**Rata Peaks**	**27.23**	**186**	LR	LR	12 53 37.6	
	comp=Z,306nm,18.3s,MS3.9,baz=189,slow=33						
CTA	**Charters Tower**	**27.57**	**258**	*e*P	**P**	**12 44 33.1**	**+2.3**
	4.8nm,1.1s,mb4.0						
CTA	**Charters Tower**	**27.57**	**258**	P	**P**	**12 44 29.7**	**-1.1**
	6.4nm,1.0s,mb4.2,baz=83,slow=12,SNR=6.4						
CTAO	**Charters Tower**	**27.57**	**258**	*e*P	**P**	**12 44 32.4**	**+1.6**
	8.7nm,1.0s,mb4.3						
PMG	**Port Moresby**	**28.12**	**281**	LR	LR	12 53 55.3	
	comp=Z,314nm,19.2s,MS3.9,baz=301,slow=33						
PPT	**Papeete**	**33.76**	**97**	*e*L		12 53 10.8	
	1µm,24.8s						
PPT				*e*R		12 54 30.7	
	678nm,24.2s,baz=260						
TBI	**Tubuai**	**33.92**	**107**	*e*L		12 53 15.6	
	523nm,29.0s						
TBI				*e*R		12 54 32.1	
	755nm,32.5s,baz=270						
STKA	**Stephens Creek**	**33.94**	**237**	*e*P	**P**	**12 45 29.3**	**+2.4**
	5.2nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**33.94**	**237**	P	**P**	**12 45 26.8**	**-0.1**
	7.3nm,1.0s,mb4.6,baz=85,slow=11,SNR=6.5						
STKA				LR	LR	12 57 58.6	
	comp=Z,362nm,21.4s,MS4.1,baz=317,slow=34						
WRA	**Warramunga Arr**	**38.77**	**259**	P	**P**	**12 46 06.0**	**-1.8**
	4.9nm,1.0s,mb4.2,baz=90,slow=8.3,SNR=19						
ASAR	**Alice Springs**	**39.19**	**253**	P	**P**	**12 46 10.2**	**-1.0**
	10nm,0.8s,mb4.6,baz=83,slow=9.0,SNR=67						
ASAR				PcP	PcP	12 48 19.7	-1.1
	0.5nm,0.6s,baz=108,slow=2.9,SNR=4.2						
ASAR				LR	LR	13 01 55.0	
	comp=Z,170nm,18.4s,MS3.9,baz=86,slow=36						
ASPA	**Alice Springs**	**39.19**	**253**	*e*P	**P**	**12 46 12.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**47.11**	**261**	*e*P	**P**	**12 47 15.1**	**-0.5**
	7.5nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**47.11**	**261**	LR	LR	13 05 19.0	
	comp=Z,108nm,21.6s,MS3.8,baz=93,slow=34						
VNDA	**Vanda**	**61.28**	**183**	LR	LR	13 12 04.5	
	comp=Z,174nm,19.9s,MS4.2,baz=25,slow=33						
ASAJ	**Asahikawa**	**67.34**	**335**	LR	LR	13 12 37.9	
	comp=Z,139nm,20.7s,MS4.2,baz=250,slow=30						
QSPA	**South Pole Qui**	**73.42**	**180**	*e*P	**P**	**12 50 12.6**	**-2.1**
	17nm,1.4s,mb4.8						
MAW	**Mawson**	**82.90**	**201**	P	**P**	**12 51 09.3**	**+2.5**
	3.2nm,0.9s,mb4.3,baz=75,slow=8.5,SNR=4.1						
MAW				LR	LR	13 21 49.7	
	comp=Z,58nm,18.5s,MS4.0,baz=248,slow=31						
NVAR	**Mina Array Bea**	**82.93**	**47**	P	**P**	**12 51 07.4**	**-0.3**
	1.0nm,0.9s,mb3.8,baz=226,slow=6.3,SNR=6.7						
NVAR				LR	LR	13 21 16.3	
	comp=Z,132nm,19.6s,MS4.3,baz=320,slow=31						
NVAR	**Mina Array Bea**	**82.93**	**47**	P	**P**	**12 51 07.4**	**-0.3**
NVAR				LR	LR	13 21 16.3	
MNV	**Mina**	**83.04**	**47**	*e*P	**P**	**12 51 05.2**	**-3.0**
	9.0nm,1.6s,mb4.5						
BBB	**Bella Bella**	**84.30**	**31**	LR	LR	13 21 39.9	
	comp=Z,108nm,18.6s,MS4.3,baz=229,slow=31						
ILAR	**Eielson Array**	**86.17**	**15**	P	**P**	**12 51 21.9**	**-1.3**
	2.5nm,0.7s,mb4.5,baz=232,slow=5.3,SNR=32						
ILAR				LR	LR	13 23 08.7	
	comp=Z,90nm,21.2s,MS4.1,baz=253,slow=31						
DLBC	**Dease Lake**	**87.23**	**26**	LR	LR	13 23 46.8	
	comp=Z,82nm,19.3s,MS4.2,baz=142,slow=31						
HLID	**Hailey**	**87.85**	**43**	*e*P	**P**	**12 51 32.4**	**+0.5**
MCMT	**McKenzie Canyo**	**89.40**	**43**	*e*P	**P**	**12 51 40.4**	**+1.2**
TXAR	**Lajitas Array**	**90.64**	**60**	P	**P**	**12 51 46.4**	**+1.0**
	0.3nm,0.4s,mb3.9,baz=214,slow=4.5,SNR=7.4						
TXAR				LR	LR	13 25 53.7	
	comp=Z,128nm,18.7s,MS4.4,baz=320,slow=31						
PDAR	**Pinedale Array**	**90.79**	**45**	P	**P**	**12 51 46.2**	**+0.4**
	0.2nm,0.8s,mb3.5,baz=243,slow=6.6,SNR=4.0						
PDAR				LR	LR	13 29 15.3	
	comp=Z,54nm,18.2s,MS4.0,baz=255,slow=34						
USHA	**Ushuaia**	**90.89**	**149**	LR	LR	13 21 18.1	
	comp=Z,137nm,22.0s,MS4.3,baz=287,slow=28						
YKA	**Yellowknife Ar**	**95.84**	**26**	LR	LR	13 25 53.5	
	comp=Z,59nm,21.5s,MS4.0,baz=250,slow=30						
PLCA	**Paso Flores**	**96.65**	**136**	LR	LR	13 24 54.2	
	comp=Z,120nm,19.6s,MS4.4,baz=78,slow=29						

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*NEIC **08** 12:42:30.0, 32.47N×35.26E, h10^{km}, ML4.0(GII), ML3.8(NIC), After GII.*

NEIC Felt at 'Afula, Bet She'an, Haifa, Kinneret, Nablus and Qiryat Tiv'on, Israel.

*GII **08** 12:42:30.7±0.1, 32.47N×35.26E, h10^{km}±1^{km}, mb4.2/7, ML4.0/15, Mw3.7/9*

*GRAL **08** 12:42:31.3±1.5, 32.44N×35.19E, h20^{km}±15^{km}, MD3.8*

*NIC **08** 12:42:32.9±0.3, 32.53N×35.30E, h25^{km}, mb4.2, ML3.8, MW3.4*

*NSSC **08** 12:42:33.6, 32.59N×35.40E, h13^{km}±2^{km}*

*SNSN **08** 12:42:50.0, 31.14N×36.33E, h10^{km}, Ml3.7*

ISC 08 12:42:29.9±0.4**, 32.50N**±0.01×**35.20E**±0.03**, h11^{km}**±3^{km}**, n93, σ1^{s}08**/118**, mb4.5**/1**, 2C-15D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMLI	**Mount Malkishu**	**0.20**	**108**	Pg	**Pg**	**12 42 35.5**	**+1.3**
MMLI	**Mount Malkishu**	**0.20**	**108**	Pg	**Pg**	**12 42 35.6**	**+1.4**
OFRI	**'Ofer**	**0.22**	**303**	Pg	**Pg**	**12 42 36.9**	**+2.2**
OFRI	**'Ofer**	**0.22**	**303**	Pg	**Pg**	**12 42 36.8**	**+2.1**
SLTI	**Sal'it**	**0.29**	**208**	Pg	**Pg**	**12 42 37.4**	**+1.4**
SLTI	**Sal'it**	**0.29**	**208**	Pg	**Pg**	**12 42 37.3**	**+1.3**
HAF	**Haifa**	**0.32**	**332**	Pg	**Pg**	**12 42 38.4**	**+1.9**
HAF	**Haifa**	**0.32**	**332**	Pg	**Pg**	**12 42 38.3**	**+1.8**
HMDT	**Nahal Hemdat**	**0.37**	**132**	P	**Pg**	**12 42 38.1**	**+0.6**
HNTI	**Hanita**	**0.58**	**358**	Pg	**Pg**	**12 42 42.7**	**+1.0**
HNTI				Sg	**Sg**	**12 42 51.9**	**+2.4**
HNTI	**Hanita**	**0.58**	**358**	Pg	**Pg**	**12 42 42.7**	**+1.0**
HNTI				Sg	**Sg**	**12 42 51.9**	**+2.4**
TCHB	**Talchebab**	**0.67**	**75**	⇑P	**Pb**	**12 42 43.7**	**+0.5**
TCHB				⇑S	**Sb**	**12 42 50.9**	**-1.3**
KSHT	**Keshet**	**0.70**	**47**	P	**Pb**	**12 42 44.4**	**+0.7**
KSDI	**Kefar Szold**	**0.79**	**29**	Pg	**Pg**	**12 42 46.0**	**+0.2**
KSDI	**Kefar Szold**	**0.79**	**29**	Pg	**Pg**	**12 42 46.0**	**+0.2**
HRI	**Mount Hermon**	**0.89**	**30**	Pg	**Pg**	**12 42 47.3**	**-0.4**
HRI	**Mount Hermon**	**0.89**	**30**	Pg	**Pg**	**12 42 47.3**	**-0.4**
DRGI	**Dragot**	**0.92**	**170**	Pg	**Pg**	**12 42 47.2**	**-1.1**
DRGI	**Dragot**	**0.92**	**170**	Pg	**Pg**	**12 42 47.2**	**-1.1**
DSI	**Dead Sea**	**0.94**	**171**	Pg	**Pg**	**12 42 47.3**	**-1.5**
MATL	**Matirih**	**0.99**	**6**	*i* PG	**Pg**	**12 42 49.2**	**-0.6**
BRBR	**Barbar**	**1.11**	**35**	⇑P	**Pb**	**12 42 51.1**	**+0.5**
BRBR				⇓S	**Sb**	**12 43 04.7**	**-0.1**
YTIR	**Yattir**	**1.14**	**184**	Pg	**Pg**	**12 42 51.0**	**-1.6**
MZDA	**Masada**	**1.20**	**173**	P	**Pb**	**12 42 57.3**	**+5.2**
MZDA	**Masada**	**1.20**	**173**	Pg	**Pg**	**12 42 51.7**	**-2.1**
MZDA				Sg	**Sg**	**12 43 07.8**	**-2.0**
MZDA	**Masada**	**1.20**	**173**	Pg	**Pg**	**12 42 51.7**	**-2.1**
SALA	**Sala**	**1.31**	**80**	⇑P	**Pb**	**12 42 53.9**	**-0.2**
SALA				⇑S	**Sb**	**12 43 10.2**	**-0.5**
TOTH	**TOTAH**	**1.34**	**50**	⇑P	**Pb**	**12 42 54.6**	**0.0**
TOTH				⇑S	**Sb**	**12 43 12.0**	**+0.4**
QASN	**Qassioun**	**1.37**	**41**	⇑P	**Pn**	**12 42 55.5**	**+0.4**
QASN				⇑S	**Sb**	**12 43 12.6**	**+0.1**
BHL	**Bhannes**	**1.45**	**15**	*i* PG	**Pg**	**12 42 56.8**	**-2.1**
BHL				*i* SG	**Sg**	**12 43 17.3**	**-1.0**
RTMM	**Retamin**	**1.51**	**197**	Pn	**Pn**	**12 42 57.3**	**+0.2**
RTMM	**Retamin**	**1.51**	**197**	Pn	**Pn**	**12 42 57.3**	**+0.2**
MASH	**Mash'abbe Sade**	**1.54**	**193**	Pn	**Pn**	**12 42 57.8**	**+0.3**
MASH	**Mash'abbe Sade**	**1.54**	**193**	Pn	**Pn**	**12 42 57.8**	**+0.3**
SVTA	**Shivta**	**1.64**	**198**	Pn	**Pn**	**12 42 59.4**	**+0.4**
SVTA	**Shivta**	**1.64**	**198**	Pn	**Pn**	**12 42 59.4**	**+0.4**
KZIT	**Kziot**	**1.73**	**204**	Pn	**Pn**	**12 43 00.7**	**+0.5**
KZIT				Sn	**Sn**	**12 43 24.2**	**+1.7**
KZIT	**Kziot**	**1.73**	**204**	Pn	**Pn**	**12 43 00.7**	**+0.5**
ZALF	**Zalf**	**1.85**	**76**	⇑P	**Pn**	**12 43 02.3**	**+0.5**
ZALF				⇓S	**Sn**	**12 43 24.4**	**-1.1**
MARH	**Ras Al Marh**	**1.86**	**35**	⇑P	**Pn**	**12 43 03.1**	**+1.0**
HWQ	**Hawqa**	**1.88**	**19**	*i* PG	**Pg**	**12 43 03.0**	**-4.4**
HWQ				*i* SG	**Sg**	**12 43 29.0**	**-3.6**
ZFRI	**Zfri**	**1.94**	**181**	Pn	**Pn**	**12 43 03.2**	**0.0**
QURS	**Qurayyt al Mil**	**2.12**	**121**	P	**Pn**	**12 43 07.0**	**+1.2**
PRNI	**Paran**	**2.15**	**185**	Pn	**Pn**	**12 43 06.2**	**0.0**
PRNI				Sn	**Sn**	**12 43 33.9**	**+0.8**
HAWK	**Haweek**	**2.25**	**26**	⇓P	**Pn**	**12 43 08.8**	**+1.1**
KMTI	**Karmit**	**2.42**	**190**	Pn	**Pn**	**12 43 09.7**	**-0.4**
KMTI				Sn	**Sn**	**12 43 40.9**	**+0.8**
KMTI	**Karmit**	**2.42**	**190**	Pn	**Pn**	**12 43 09.7**	**-0.4**
KMTI				S	**Sn**	**12 43 40.9**	**+0.8**
BIDA	**Albida**	**2.67**	**20**	⇓P	**Pn**	**12 43 14.4**	**+0.7**
BIDA				⇓S	**Sn**	**12 43 47.4**	**+1.0**
PHNC	**Paralimni**	**2.68**	**339**	⇑P	**Pn**	**12 43 13.7**	**-0.1**
PHNC				S	**Sn**	**12 43 46.3**	**-0.3**
PHNC	**Paralimni**	**2.68**	**339**	⇑*i*P	**Pn**	**12 43 13.7**	**-0.1**
PHNC				S	**Sn**	**12 43 46.3**	**-0.3**
MBH	**Mount Berech**	**2.71**	**185**	Pn	**Pn**	**12 43 14.1**	**-0.2**
MBH	**Mount Berech**	**2.71**	**185**	Pn	**Pn**	**12 43 14.1**	**-0.1**
AQBJ	**Aqaba**	**2.77**	**183**	Pn	**Pn**	**12 43 14.6**	**-0.4**
EIL	**Elat**	**2.83**	**184**	P	**Pn**	**12 43 16.0**	**+0.1**
CSS	**Prodhromos**	**2.91**	**328**	⇓P	**Pn**	**12 43 16.7**	**-0.4**
	4.2nm,0.2s						
CSS				S	**Sn**	**12 43 51.1**	**-1.3**
CSS	**Prodhromos**	**2.91**	**328**	⇓*i*P	**Pn**	**12 43 16.7**	**-0.4**
CSS				S	**Sn**	**12 43 51.1**	**-1.3**
SZAC	**Souni-Zanaja**	**2.97**	**320**	⇓P	**Pn**	**12 43 16.9**	**-1.0**
	23nm,0.2s						
SZAC				S	**Sn**	**12 43 52.4**	**-1.5**
SZAC	**Souni-Zanaja**	**2.97**	**320**	⇓*i*P	**Pn**	**12 43 16.9**	**-1.0**
SZAC				S	**Sn**	**12 43 52.4**	**-1.5**
KFRA	**Kufra**	**3.01**	**26**	⇑P	**Pn**	**12 43 19.9**	**+1.3**
MAMC	**Mammari**	**3.13**	**329**	P	**Pn**	**12 43 20.1**	**-0.2**
WRDH	**Warideh**	**3.16**	**18**	⇑P	**Pn**	**12 43 21.4**	**+0.7**
WRDH				⇓S	**Sn**	**12 43 58.8**	**0.0**
SLNF	**Slenfeh**	**3.20**	**15**	⇓P	**Pn**	**12 43 21.4**	**+0.1**
JMOS	**Jabal al Moall**	**3.32**	**181**	P	**Pn**	**12 43 30.3**	**+7.4**
PPCY	**Paphos**	**3.37**	**316**	P	**Pn**	**12 43 23.1**	**-0.5**
ARNB	**Al Arnab**	**3.41**	**11**	⇓P	**Pn**	**12 43 23.7**	**-0.5**
ALFC	**Alevga**	**3.42**	**321**	⇓P	**Pn**	**12 43 23.8**	**-0.6**
	27nm,0.2s						
ALFC				S	**Sn**	**12 44 04.1**	**-1.3**
ALFC	**Alevga**	**3.42**	**321**	⇓*i*P	**Pn**	**12 43 23.8**	**-0.6**
ALFC				S	**Sn**	**12 44 04.1**	**-1.3**
HAQS	**Haql**	**3.44**	**184**	P	**Pn**	**12 43 27.8**	**+3.2**
JMQS	**Jabal Moqyreh**	**3.65**	**171**	P	**Pn**	**12 43 32.1**	**+4.5**
BTCH	**Batrach**	**3.68**	**16**	⇓P	**Pn**	**12 43 28.9**	**+0.9**
HTY	**Hatay**	**3.69**	**12**	P	**Pn**	**12 43 28.3**	**+0.1**
IKL	**Isikli**	**3.94**	**342**	*e*P	**Pn**	**12 43 31.0**	**-0.6**
BDAS	**Al Bad'**	**4.06**	**181**	P	**Pn**	**12 43 36.2**	**+2.8**
COBT	**Iskenderun**	**4.10**	**12**	*i* P	**Pn**	**12 43 33.9**	**-0.1**
GAZ	**Gaziantep**	**4.95**	**19**	*e*P	**Pn**	**12 43 57.7**	**+12**
HDMB	**Hadim**	**4.98**	**334**	*i* P	**Pn**	**12 43 46.4**	**-0.1**
HDMB	**Hadim**	**4.98**	**334**	*i* S	**Sn**	**12 44 45.6**	**+0.7**
GZT	**Gaziantep**	**5.22**	**21**	*i* P	**Pn**	**12 43 51.6**	**+1.8**
KAHT	**Ahir Dag**	**5.30**	**15**	*i* P	**Pn**	**12 43 50.5**	**-0.5**
DBAS	**Duba**	**5.31**	**173**	P	**Pn**	**12 43 49.8**	**-1.3**
NIG	**Nigde**	**5.62**	**355**	*e*P	**Sn**	**12 45 03.2**	**+2.4**
AVNT	**Avonos**	**6.27**	**358**	*i* P	**Pn**	**12 44 04.5**	**-0.2**
MALT	**Malatya**	**6.37**	**24**	*e*P	**Pn**	**12 44 18.4**	**+12**
ELZG	**Elazig**	**6.73**	**26**	*i* P	**Pn**	**12 44 09.5**	**-1.7**
DNZL	**Cakiroluk**	**7.23**	**317**	*i* P	**Pn**	**12 44 15.6**	**-2.5**
BEST	**Besiri**	**7.32**	**41**	*i* P	**Pn**	**12 44 16.4**	**-3.0**
CTKT	**Corum**	**8.11**	**358**	*i* P	**P**	**12 44 29.2**	**-1.3**
BALT	**Daday**	**9.13**	**351**	*i* P	**P**	**12 44 41.0**	**-3.7**
MOX	**Moxa**	**25.12**	**323**	*i* P	**P**	**12 47 56.7**	**+0.6**
	logA/T=1.2,mb4.5						
MOX				pP	pP	12 48 05.0	+5.8
MOX	**Moxa**	**25.12**	**323**	*e*P	**P**	**12 47 56.7**	**+0.6**
	17nm,1.1s,mb4.5						
MOX				*e*		12 48 05.3	
MBDF	**Montbardon**	**25.21**	**307**	*e*P	**P**	**12 47 57.3**	**+0.3**
LPG	**La Plagne**	**25.49**	**309**	*e*P	**P**	**12 47 59.5**	**-0.1**
LPL	**La Plagne**	**25.51**	**309**	*e*P	**P**	**12 47 59.6**	**-0.2**

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*IDC **08** 12:45:43.5±0.5, 19.96N×95.64E, mb4.6/20, mb1 4.8/21, mb1mx4.7/23, ML4.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/31, Error ellipse: s-maj=21.4km s-min=9.9km az=43.0*

*MOS **08** 12:45:46.8±0.9, 20.00N×95.67E, h33^{km}, mb5.2/23, Error ellipse: s-maj=17.3km s-min=6.6km az=122.5*

*BJI **08** 12:45:49.1, 19.80N×95.65E, h66^{km}, mB4.7, mb4.8, ML5.3, Ms4.6, Msz4.6*

*NEIC **08** 12:45:49.1±0.9, 19.95N×95.70E, h38^{km}±7^{km}, mb4.8/54, Error ellipse: s-maj=6.9km s-min=4.6km az=221.0*

ISC 08 12:45:45.4±1.0**, 19.86N**±0.04×**95.60E**±0.03**, h25^{km}**±7^{km}**, h35^{km}**±3.4^{km}**:pP-P, n223, σ0^{s}95**/236**, mb4.7**/88**, MS3.9**/8**, 14C-7D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**3.32**	**108**	PN	**Pn**	**12 46 36.3**	**-0.8**
CHG				SG	**Sn**	**12 47 28.5**	**+12**
CMAR	**Chiang Mai Arr**	**3.45**	**113**	Pn	**Pn**	**12 46 38.0**	**-1.0**
	6.6nm,0.3s,baz=285,slow=13,SNR=73						
CMAR				Pg	**Pn**	**12 46 48.3**	**+9.3**
	20nm,0.3s,baz=289,slow=17,SNR=49						
CMAR				Lg		12 47 31.6	
	36nm,0.3s,baz=288,slow=18,SNR=4.9						
CHRT	**Chiangrai**	**3.94**	**89**	⇑PN	**Pn**	**12 46 45.0**	**-0.8**
CHRT				PG	**Pn**	**12 46 56.0**	**+10**
CHRT				SG	**Sn**	**12 47 46.0**	**+14**
BDT	**Bhumibol Dam**	**4.14**	**128**	PG	**Pn**	**12 46 48.0**	**-0.8**
BDT				SG	**Sn**	**12 47 53.0**	**+16**
NANT	**Nan**	**4.93**	**101**	PN	**Pn**	**12 46 57.0**	**-2.9**
NANT				PG	**Pn**	**12 47 17.0**	**+17**
NANT				SG	Sn	12 48 25.0	+28
IMP	**Imphal**	**5.14**	**343**	*e*P	**Pn**	**12 47 03.0**	**+0.1**
NST	**Nakhon Sawan**	**6.00**	**133**	PN	**Pn**	**12 47 13.0**	**-2.0**
	133nm,1.0s						
NST				PG	**Pn**	**12 47 17.0**	**+2.0**
NST				SG	Sn	12 48 55.0	+31
SHL	**Shillong**	**6.64**	**330**	*e*P	**Pn**	**12 47 23.5**	**-0.5**
CAL	**Calcutta**	**7.29**	**293**	*e*	**Sn**	**12 48 43.8**	**-12**
KKTK	**Khon Kaen**	**7.71**	**116**	PN	**Pn**	**12 47 42.0**	**+3.0**
KKTK				SG	x	12 47 53.0	
KMI	**Kunming**	**8.43**	**50**	*e*P	**P**	**12 47 48.9**	**-0.1**
KMI				S	**Sn**	**12 49 25.8**	**+1.5**
KMI				Smax			
	comp=N,230nm,1.6s						
KMI				Smax			
	comp=E,170nm,1.6s						
KMI				LR	LR		
	comp=N,3µm,7.4s						
KMI				LR	LR		
	comp=E,3µm,7.8s						
KMI				LR	LR		
	comp=Z,3µm,9.2s						
LSA	**Lhasa**	**10.60**	**338**	P	**P**	**12 48 19.6**	**+0.6**
LSA	**Lhasa**	**10.60**	**338**	*e*Pn	**P**	**12 48 17.5**	**-1.5**
	comp=Z,9.5nm,0.4s						
VIS	**Vishakhapatnam**	**11.81**	**262**	*e*S	**S**	**12 50 40.0**	**-7.6**
PKI	**Pulchoki**	**12.08**	**311**	*e*P	**P**	**12 48 38.2**	**-0.9**
	comp=Z,116nm,0.5s						
GYA	**Guiyang**	**12.11**	**55**	⇑*i*P	**P**	**12 48 41.4**	**+1.9**
GYA				S	**S**	**12 50 59.5**	**+4.8**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				LR	LR		
	comp=N,1µm,10.2s						
GYA				LR	LR		
	comp=E,1µm,9.0s						
GYA				LR	LR		
	comp=Z,2µm,9.6s						
KKN	**Kakani**	**12.31**	**312**	*e*P	**P**	**12 48 40.7**	**-1.4**
	comp=Z,34nm,0.3s						
DMN	**Daman**	**12.32**	**311**	*e*P	**P**	**12 48 40.9**	**-1.4**
	comp=Z,35nm,0.4s						
GKN	**Gorkha**	**12.89**	**311**	*e*P	**P**	**12 48 48.2**	**-1.7**
	comp=Z,134nm,0.3s						
CD2	**Chengdu**	**13.24**	**32**	⇓*i*P	**P**	**12 48 56.1**	**+1.6**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s						
CD2				LR	LR		
	comp=E,3µm,6.9s						
CD2				LR	LR		
	comp=Z,3µm,7.5s						
QIZ	**Qiongzhong**	**13.46**	**91**	P	**P**	**12 48 56.0**	**-1.5**
QIZ				*e*S	**S**	**12 51 24.7**	**-2.5**
QIZ				LR	LR		
	comp=N,1µm,11.3s						
QIZ				LR	LR		
	comp=E,555nm,11.1s						
QIZ				LR	LR		
	comp=Z,866nm,9.2s						
KOLN	**Koldanda**	**13.51**	**308**	*e*P	**P**	**12 48 56.5**	**-1.6**
	comp=Z,297nm,0.7s						
ENH	**Enshi**	**16.29**	**48**	*e*Pn	**P**	**12 49 33.4**	**-0.8**
	comp=Z,21nm,0.9s						
HYB	**Hyderabad**	**16.34**	**264**	*i* P	**P**	**12 49 40.0**	**+5.0**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**12 52 39.0**	**+4.0**
HYB	**Hyderabad**	**16.34**	**264**	*e*P	**P**	**12 49 40.0**	**+5.0**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**12 52 30.0**	**-5.0**
BHPL	**Bhopal**	**17.24**	**285**	*e*P	**P**	**12 49 49.5**	**+3.2**
BHPL				AMb	AMB	12 49 55.3	
	comp=Z,39nm,1.1s						
BHPL				*e*		12 52 49.7	
LZH	**Lanzhou**	**17.72**	**22**	*e*P	**P**	**12 49 55.2**	**+3.0**
LZH				PP	PP	12 50 10.0	+3.2
LZH				*e*S	**S**	**12 53 11.1**	**+4.6**
LZH				SS	SS	12 53 34.0	+4.9
LZH				AMB	AMB		
	comp=Z,70nm,1.3s						
LZH				AMB	AMB		
	comp=Z,350nm,4.9s						
LZH				LR	LR		
	comp=N,1µm,10.3s						
LZH				LR	LR		
	comp=Z,1µm,13.0s						
AGRA	**Agra**	**17.76**	**298**	*e*S	**S**	**12 53 01.3**	**-6.2**
XAN	**Xi'an**	**18.43**	**37**	P	**P**	**12 49 59.7**	**-1.3**
XAN				AMB	AMB		
	comp=Z,15nm,1.0s						
SONA	**Sohna**	**18.84**	**300**	*e*P	**P**	**12 50 07.1**	**+1.0**
SONA				AMb	AMB	12 50 09.0	
	comp=Z,26nm,0.6s						
SONA				*e*		12 53 20.8	
AYAN	**Aya Nagar**	**18.90**	**301**	*e*P	**P**	**12 50 08.6**	**+1.8**
AYAN				AMb	AMB	12 50 12.2	
	comp=Z,35nm,1.1s						
NDI	**New Delhi**	**18.91**	**301**	*e*P	**P**	**12 50 08.0**	**+1.2**

	comp=Z,49nm,0.7s						
NDI				eS	S	12 53 28.0	-5.3
DDI	**Dehra Dun**	18.98	307	e	P	12 50 09.0	+1.4
KUDL	**Kundal**	19.29	299	eP	P	12 50 12.5	+1.1
KUDL				AMb	AMB	12 50 13.6	
	comp=Z,20nm,0.8s						
KUDL				e		12 53 32.2	
KLP	**Kalpa**	19.45	310	eP	P	12 50 14.1	+0.9
KLP				AMb	AMB	12 50 18.8	
	comp=Z,54nm,1.4s						
GTA	**Gaotai**	19.82	10	eP	P	12 50 18.1	+0.8
GTA				PP	PP	12 50 36.5	+0.5
GTA				S	S	12 53 53.8	+0.2
GTA				SS	SS	12 54 18.5	-3.0
GTA				AMB	AMB		
	comp=Z,22nm,1.0s						
GTA				AMB	AMB		
	comp=Z,106nm,5.3s						
KHET	**Khetri**	19.83	298	eP	P	12 50 18.5	+1.0
KHET				e		12 50 22.6	
	comp=Z,88nm,0.8s						
WHN	**Wuhan**	20.00	54	eP	P	12 50 19.0	-0.2
WHN				AMB	AMB		
	comp=Z,38nm,1.3s						
WHN				LR	LR		
	comp=N,1µm,9.0s						
WHN				LR	LR		
	comp=E,2µm,8.4s						
WHN				LR	LR		
	comp=Z,3µm,9.4s						
THN	**Thein Dam**	21.76	309	eP	P	12 50 38.0	+0.8
	comp=Z,29nm,0.6s,mb4.9						
TIY	**Taiyuan**	23.05	36	eP	P	12 50 49.5	-0.4
TIY				LR	LR		
	comp=N,581nm,7.0s						
NJ2	**Nanjing**	24.12	55	eP	P	12 51 00.6	+0.2
NJ2				PP	PP	12 51 35.1	0.0
NJ2				S	S	12 55 12.0	-1.6
NJ2				SS	SS	12 56 04.0	-2.0
NJ2				LR	LR		
	comp=N,1µm,13.4s,MS4.6						
NJ2				LR	LR		
	comp=E,850nm,16.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,480nm,10.1s						
WMQ	**Urumqi**	24.79	346⇑	iP	P	12 51 07.5	+0.7
WMQ				PP	PP	12 51 44.3	+0.6
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
HHC	**Hu-ho-hao-te**	24.97	30	eP	P	12 51 11.1	+2.6
HHC				AP		12 51 22.2	
HHC				XP		12 51 28.3	
HHC				XS		12 55 56.8	
HHC				SS	SS	12 56 22.5	-4.7
HHC				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,146nm,6.1s						
HHC				LR	LR		
	comp=N,201nm,9.8s						
HHC				LR	LR		
	comp=E,240nm,8.3s						
KSH	**Kashi**	25.87	323	eP	P	12 51 17.1	+0.2
KSH				ePP	PP	12 51 58.1	+0.3
KSH				ePCP	PcP	12 54 47.0	+0.6
KSH				eS	S	12 55 42.0	-0.9
KSH				ePCS		12 58 28.0	
KSH				LR	LR		
	comp=N,420nm,5.2s						
KSH				LR	LR		
	comp=E,480nm,9.2s						
BJT	**Baijiatuau**	26.74	37	eP	P	12 51 26.4	+1.5
	comp=E,9.3nm,0.7s,mb4.4						
BJI	**Beijing**	26.76	37	P	P	12 51 25.7	+0.6
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	28.99	341	P	P	12 51 44.9	-0.4
	comp=Z,16nm,0.7s,mb4.9,baz=151,slow=9.5,SNR=162						
MKAR				LR	LR	13 05 47.0	
	comp=Z,56nm,18.6s,MS3.2,baz=48,slow=42						
MKAR	**Makanchi Array**	28.99	341	P	P	12 51 44.9	-0.4
MKAR				pmax	pmax		
	comp=Z,17nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,56nm,18.6s						
SONM	**Songino Array**	29.25	15	P	P	12 51 48.3	+0.7
	comp=Z,6.6nm,0.9s,mb4.4,baz=207,slow=11,SNR=14						
ZAK	**Zakamensk**	31.06	10	eP	P	12 52 01.8	-1.8
KKAR	**Karatay Array**	31.32	323	i P	P	12 52 05.2	-0.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
KURK	**Kurchatov**	33.60	340⇑	eP	P	12 52 24.8	-1.0
	comp=Z,34nm,0.8s,mb5.3						
CN2	**Changchun**	34.51	40	eP	P	12 52 35.5	+1.8
CN2				eAP	pP	12 52 48.0	+6.9
CN2				eS	S	12 57 59.3	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,200nm,10.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,10.0s,MS4.3						
HIA	**Hailar**	35.14	28	eP	P	12 52 39.0	0.0
	comp=E,17nm,1.6s,mb4.7						
NVS	**Novosibirsk**	36.17	348	i P	P	12 52 46.3	-1.4
NVS				eS	S	12 58 25.4	0.0
NVS				pmax	pmax		
	comp=N,11nm,0.5s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
MDJ	**Mudanjiang**	37.47	41	P	P	12 52 58.6	-0.1
MDJ				AMB	AMB		
	comp=Z,73nm,4.3s						
VOSK	**Vostochnaya**	37.96	336	P	P	12 53 02.2	-0.5
VOSK				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
BVA0	**Borovoye Array**	38.42	336	i P	P	12 53 05.8	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	38.42	336	P	P	12 53 05.7	-0.9
	comp=Z,3.3nm,0.5s,mb4.3,baz=141,slow=9.5,SNR=21						
BVAR				PcP	PcP	12 55 20.6	+0.3
	comp=Z,1.7nm,0.7s,baz=135,slow=6.1,SNR=4.6						
BRVK	**Borovoye**	38.48	335	eP	P	12 53 06.8	-0.3
	comp=Z,4.7nm,0.7s,mb4.3						
ZRNK	**Zerenda**	38.91	334	P	P	12 53 10.0	-0.8
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
AB31	**Akbulak array**	40.87	324	i P	P	12 53 27.1	+0.1
AB31				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
CLNS	**Chul'man**	42.84	23	eP	P	12 53 44.2	+1.2
CLNS				e*PP	pP	12 53 51.4	+0.9
CLNS				e		12 55 21.3	
CLNS				e		12 55 35.6	
CLNS				ePPP	PPP	12 55 51.9	-7.3
CLNS				eS	S	13 00 06.2	+0.7
CLNS				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,30nm,1.0s						
CLNS				pmax	pmax		
	comp=E,21nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CLNS				smax			
	comp=N,50nm,13.4s						
CLNS				smax			
	comp=Z,45nm,11.8s						
CLNS				smax			
	comp=E,81nm,12.5s						
CLNS				MLR	MLR		
	comp=N,100nm,12.0s,MS4.1						
CLNS				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.9						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.1						
ARU	**Arti**	45.72	332⇓	iP	P	12 54 05.2	-1.0
ARU				e		12 55 42.2	
ARU				e		12 55 53.5	
ARU				eS	S	13 00 48.0	+0.9
ARU				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	47.88	140	eP	P	12 54 23.5	-0.2
	comp=Z,6.3nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	47.88	140	P	P	12 54 24.1	+0.4
	comp=Z,8.4nm,0.9s,mb4.8,baz=349,slow=5.6,SNR=11						
YAK	**Yakutsk**	48.29	21c	iP	P	12 54 25.0	-1.3
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.5s						
YAK	**Yakutsk**	48.29	21	eP	P	12 54 25.9	-0.4
	comp=E,26nm,0.7s,mb5.4						
KIV	**Kislovodsk**	49.95	311c	iP	P	12 54 40.1	+0.8
KIV				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
KIV	**Kislovodsk**	49.95	311	eP	P	12 54 39.7	+0.4
	comp=Z,26nm,0.8s,mb5.3						
SOC	**Sochi**	52.00	310	eP	P	12 54 53.4	-1.6
SOC				e		12 56 03.5	
SOC				e		12 56 48.8	
SOC				eS	S	13 02 12.0	-3.3
SOC				ePS	PS	13 02 25.6	-2.7
SOC				eSS	SS	13 05 48.8	-1.7
SOC				eSSS	SSS	13 07 29.0	-3.0
SOC				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,12nm,0.6s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,76nm,21.0s,MS3.7						
SOC				MLR	MLR		
	comp=N,77nm,19.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,52nm,22.0s,MS3.8						
ASF	**Jabal al Asfar**	53.59	296	P	P	12 55 07.9	+1.0
	comp=E,2.6nm,0.4s,mb4.5,baz=349,slow=3.0,SNR=4.3						
WRA	**Warramunga Arr**	54.81	134	P	P	12 55 15.9	-0.1
	comp=E,9.8nm,0.9s,mb4.8,baz=322,slow=7.2,SNR=42						
WRA	**Warramunga Arr**	54.81	134	P	P	12 55 15.9	-0.1
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WB2	**Warramunga Arr**	54.82	134	eP	P	12 55 15.2	-0.9
BOYT	**Boyabat**	55.32	307	i P	P	12 55 19.0	-0.4
MA2	**Magadan**	55.65	30c	iP	P	12 55 21.0	-0.5
MA2				pmax	pmax		
	comp=E,10.0nm,0.8s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2				pmax	pmax		
	comp=N,4.0nm,1.0s						
MA2	**Magadan**	55.65	30	eP	P	12 55 21.1	-0.5
	comp=N,16nm,0.8s,mb5.1						
OBN	**Obninsk**	56.31	324	eP	P	12 55 25.2	-1.2
OBN				i		12 56 23.7	
OBN				i		12 57 31.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	56.41	158	eP	P	12 55 27.6	+0.2
	comp=Z,7.5nm,0.6s,mb4.9						
BALT	**Daday**	56.46	307	i P	P	12 55 27.5	-0.2
ASPA	**Alice Springs**	57.15	137	eP	P	12 55 32.6	-0.2
ASAR	**Alice Springs**	57.15	137	P	P	12 55 32.5	-0.2
	comp=Z,5.8nm,0.7s,mb4.8,baz=319,slow=7.1,SNR=76						
ULDT	**Uludag**	59.67	305	i P	P	12 55 48.0	-2.2
AKASG	**Malin Array Be**	59.97	318	P	P	12 55 50.4	-1.7
	comp=Z,6.0nm,0.4s,mb4.9,baz=80,slow=6.2,SNR=31						
AKASG	**Malin Array Be**	59.97	318	P	P	12 55 50.4	-1.6
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KMBO	**Kilima Mbogo**	60.84	257	P	P	12 55 59.8	+1.3
	comp=Z,3.0nm,1.0s,mb4.4,baz=38,slow=13,SNR=5.5						
KMBO				LR	LR	13 18 53.5	
	comp=Z,80nm,21.3s,MS3.8,baz=84,slow=33						
VRI	**Vrincioaia**	61.41	312⇓	iP	P	12 56 02.6	+0.7
MLR	**Muntele Rosu**	61.95	312	P	P	12 56 05.5	-0.1
	comp=Z,15nm,0.7s,mb5.2,baz=112,slow=0.8,SNR=37						
MLR	**Muntele Rosu**	61.95	312	⇓P	P	12 56 06.5	+0.9
MLR	**Muntele Rosu**	61.95	312	P	P	12 56 05.5	-0.1
MLR				pmax	pmax		
	comp=Z,15nm,0.7s						
KAF	**Kangasniemi**	62.97	330	ep	P	12 56 09.5	-2.6
	comp=Z,1.1nm,0.4s,mb4.3						
KAF	**Kangasniemi**	62.97	330	eP	P	12 56 09.5	-2.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	62.98	330	P	P	12 56 10.4	-1.7
	comp=Z,6.6nm,0.6s,mb5.0,baz=106,slow=6.6,SNR=64						
FINES				LR	LR	13 26 51.2	
	comp=Z,32nm,20.1s,MS3.5,baz=185,slow=39						
FINES	**FINESS Array B**	62.98	330	P	P	12 56 10.4	-1.7
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,32nm,20.1s						
CTA	**Charters Tower**	63.54	126	P	P	12 56 16.6	+0.1
	comp=Z,3.3nm,1.0s,mb4.3,baz=315,slow=5.7,SNR=3.8						
CTA	**Charters Tower**	63.54	126	P	P	12 56 16.6	+0.1
CTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SUW	**Suwalki**	63.87	321	eP	P	12 56 17.2	-0.9
KWP	**Kalwaria**	64.11	316	eP	P	12 56 19.7	-0.1
KEV	**Kevo**	64.14	339	ep	P	12 56 17.4	-2.2
ARCES	**ARCESS Array B**	64.61	339	P	P	12 56 21.9	-0.7
	comp=Z,4.6nm,0.6s,mb4.7,baz=89,slow=7.4,SNR=23						
ARCES	**ARCESS Array B**	64.61	339	P	P	12 56 22.0	-0.7
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CRVS	**Cervenica-Dubn**	64.95	316	i P	P	12 56 25.9	+0.7
KTK1	**Kautokeino**	65.31	338	eP	P	12 56 27.3	+0.1
KTK1				AMb	AMB	12 56 27.8	
	comp=Z,20nm,0.9s,mb5.2						
KTK1				epP	pP	12 56 38.2	+3.2
KTK1	**Kautokeino**	65.31	338	eP	P	12 56 27.3	+0.1
	comp=Z,20nm,0.9s,mb5.1						
OJC	**Ojcow**	65.98	317⇑	iP	P	12 56 31.0	-0.8
MBAR	**Mbarara**	66.65	260	eP	P	12 56 36.9	+0.2
VYHS	**Vyhne**	66.70	315	eP	P	12 56 35.9	-0.6
TRO	**Tromso**	66.91	338	eP	P	12 56 35.8	-1.6
TRO				AMb	AMB	12 56 38.2	
	comp=Z,17nm,1.7s,mb4.8						
TRO				epP	pP	12 56 47.7	+2.5
TRO				esP	sP	12 56 53.2	+5.2
TRO	**Tromso**	66.91	338	eP	P	12 56 35.8	-1.6
	comp=Z,17nm,1.7s,mb4.8						
OKC	**Ostrava-Krasne**	67.06	317	eP	P	12 56 38.4	-0.3
SRO	**Srobarova**	67.11	314	eP	P	12 56 39.1	+0.1
STKA	**Stephens Creek**	67.73	139	eP	P	12 56 43.3	0.0
	comp=Z,6.1nm,0.8s,mb4.7						
STKA	**Stephens Creek**	67.73	139	P	P	12 56 43.4	+0.1
	comp=Z,6.9nm,0.8s,mb4.8,baz=318,slow=6.6,SNR=13						
KSP	**Ksiaz**	68.17	318	eP	P	12 56 45.2	-0.4
DPC	**Dobruska-Polom**	68.19	317	eP	P	12 56 46.2	+0.4
MOR8	**Moi Rana**	68.45	334	eP	P	12 56 45.1	-2.1
MOR8				AMb	AMB	12 56 46.2	
	comp=Z,14nm,0.4s,mb5.3						
MOR8	**Moi Rana**	68.45	334	eP	P	12 56 45.1	-2.1
	comp=Z,14nm,0.4s,mb5.3						
LOF	**Lofoten**	68.79	337⇓	iP	P	12 56 49.9	+0.7
ARSA	**Arzberg**	69.04	314⇑	iP	P	12 56 51.0	-0.1
	comp=Z,5.0nm,0.8s,mb4.5						
PVCC	**Panska Ves**	69.29	318	eP	P	12 56 52.8	+0.2
PRU	**Pruhonice**	69.37	317	eP	P	12 56 53.5	+0.4
	comp=Z,12nm,0.9s,mb4.8						
PERS	**Pernice**	69.39	313	i P	P	12 56 53.4	+0.1
BOJS	**Bojanci**	69.45	312	i P	P	12 56 53.7	+0.1
NSS	**Namsos**	69.54	333	eP	P	12 56 52.3	-1.6
BRG	**Berggiesshubel**	69.65	318	i P	P	12 56 54.9	+0.2
BRG				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
BRG	**Berggiesshubel**	69.65	318	i P	P	12 56 54.9	+0.2
	comp=Z,15nm,0.6s,mb5.1						
BRG				i		12 56 58.1	
LJU	**Ljubljana**	69.88	313	i P	P	12 56 56.9	+0.6
CEY	**Cerknica**	69.99	313	i P	P	12 56 57.1	+0.2
GEC2	**GERESS Array S**	70.06	316	eP	P	12 56 57.5	+0.3
GEC2				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
GEC2	**GERESS Array S**	70.06	316	eP	P	12 56 57.5	+0.3
	comp=Z,16nm,0.8s,mb5.0						
GERES	**GERESS Array B**	70.06	316	P	P	12 56 57.5	+0.2
	comp=Z,11nm,0.5s,mb5.0,baz=76,slow=6.0,SNR=101						
GERES	**GERESS Array B**	70.06	316	P	P	12 56 57.5	+0.3
GERES				pmax	pmax		
	comp=Z,11nm,0.5s						
KHC	**Kasperske Hory**	70.10	316	eP	P	12 56 57.3	-0.2
NB2	**NORSAR Subarra**	70.14	329	P	P	12 56 56.5	-1.0
	comp=Z,12nm,0.7s,mb4.9,baz=84,slow=6.2						
NB2	**NORSAR Subarra**	70.14	329	P	P	12 56 56.5	-1.0
	baz=84,slow=6.5						
NOA	**NORSAR Array B**	70.14	329	P	P	12 56 56.5	-1.0
	comp=Z,8.9nm,0.6s,mb4.9,baz=85,slow=6.1,SNR=61						
NOA	**NORSAR Array B**	70.14	329	P	P	12 56 56.6	-0.9
NOA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CLL	**Collm**	70.19	319	P	P	12 56 57.6	-0.4
	comp=Z,logA/T=1.2,mb4.9						
CLL	**Collm**	70.19	319	i P	P	12 56 57.6	-0.4
CLL				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
CLL	**Collm**	70.19	319	i P	P	12 56 57.6	-0.4
	comp=Z,21nm,1.4s,mb4.9						
JAVS	**Javornik**	70.22	313	i P	P	12 56 58.2	-0.1
KBA	**Koelnbreinsper**	70.54	314⇑	iP	P	12 57 00.0	-0.2
	comp=Z,12nm,1.1s,mb4.8						
ROBS	**Robic**	70.55	313	i P	P	12 57 00.1	-0.2
WET	**Wettzell**	70.55	316	eP	P	12 57 00.4	+0.1
WET				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
WET	**Wettzell**	70.55	316	eP	P	12 57 00.4	+0.1
	comp=Z,15nm,1.2s,mb4.8						
TERO	**Teramo**	71.06	309	eP	P	12 57 02.7	-0.8
MOX	**Moxa**	71.14	318	i P	P	12 57 04.1	+0.3
	comp=Z,logA/T=1.2,mb4.9						
MOX	**Moxa**	71.14	318	eP	P	12 57 04.1	+0.3
MOX				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
MOX	**Moxa**	71.14	318	eP	P	12 57 04.1	+0.3
	comp=Z,20nm,1.3s,mb4.9						
PTQR	**Pietraquaria**	71.31	309	eP	P	12 57 04.9	-0.1
NRCA	**Norcia**	71.38	310	eP	P	12 57 05.1	-0.3
BSEG	**Bad Segeberg**	71.45	322	eP	P	12 57 06.1	+0.5
BSEG				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
GRA1	**Grafenberg Arr**	71.54	317	eP	P	12 57 06.9	+0.7
	comp=Z,50nm,1.6s,mb5.2						
GRF	**Grafenberg Arr**	71.54	317	eP	P	12 57 06.9	+0.7
GRF				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
WTTA	**Wattenberg**	71.66	314⇑	iP	P	12 57 06.1	-0.9
	comp=Z,17nm,1.3s,mb4.8						
WATA	**Walderalm**	71.69	315⇑	iP	P	12 57 05.8	-1.4
	comp=Z,7.2nm,1.1s,mb4.5						
MOL	**Molde**	71.69	331	eP	P	12 57 08.3	+1.3
MOL	**Molde**	71.69	331⇓	iP	P	12 57 08.6	+1.6
CLZ	**Clausthal**	71.74	319	eP	P	12 57 07.5	+0.1
	comp=Z,32nm,1.3s,mb5.1						
SQTA	**Sankt Quirin**	71.95	314⇓	iP	P	12 57 08.2	-0.6
	comp=Z,4.5nm,0.7s,mb4.5						
MOTA	**Moosalm**	72.00	315⇑	iP	P	12 57 08.5	-0.6
	comp=Z,5.6nm,0.8s,mb4.5						
PGD	**Poggio Sodo**	72.19	311	eP	P	12 57 11.3	+1.0
CSNT	**Castellina Chi**	72.58	311	eP	P	12 57 11.6	-1.0
DAVA	**Damuels**	72.83	315⇑	iP	P	12 57 13.9	-0.1
	comp=Z,19nm,1.1s,mb4.9						
GSCL	**Gusciola**	72.91	312	eP	P	12 57 12.3	-2.1
VAI	**Varese**	73.86	313	eP	P	12 57 19.4	-0.6
WTSB	**Winterswijk**	73.89	320	eP	P	12 57 20.4	+0.4
	comp=Z,12nm,1.0s,mb4.8						
CDF	**Champ du Feu**	74.33	316	eP	P	12 57 22.7	+0.1
	comp=Z,9.0nm,0.6s,mb4.6						
PGF	**Pioggiola**	74.41	310	eP	P	12 57 23.6	+0.4
	comp=Z,19nm,0.7s,mb4.8						
HGN	**Heimansgroeve**	74.68	319	eP	P	12 57 25.6	+1.0
	comp=Z,6.9nm,1.0s,mb4.5						
HINF	**Hinteralfeld**	74.73	316	eP	P	12 57 25.0	0.0
HAU	**Haudompre**	75.02	316	eP	P	12 57 26.6	0.0
	comp=Z,14nm,0.7s,mb4.7						
SBF	**Sospel**	75.23	312	eP	P	12 57 27.8	-0.1
LPG	**La Plagne**	75.33	313	eP	P	12 57 29.2	+0.8
	comp=Z,20nm,0.7s,mb4.9						
LPL	**La Plagne**	75.33	313	eP	P	12 57 29.2	+0.7
	comp=Z,22nm,0.6s,mb5.0						
MBDF	**Montbardon**	75.49	313	eP	P	12 57 29.6	+0.2
	comp=Z,11nm,0.7s,mb4.6						
CABF	**La Chapelle**	75.52	315	eP	P	12 57 29.9	+0.4
	comp=Z,30nm,1.0s,mb4.9						
GIVF	**Givet**	75.52	318	eP	P	12 57 29.7	+0.3
MEZF	**Maizieres J'vi**	75.75	317	eP	P	12 57 31.1	+0.3
	comp=Z,30nm,0.8s,mb5.0						
FRF	**La Foret Royal**	75.86	311	eP	P	12 57 31.7	+0.2
	comp=Z,27nm,0.7s,mb5.0						
BAIF	**Baives**	75.91	318	eP	P	12 57 32.1	+0.5
	comp=Z,28nm,1.0s,mb4.8						
LMR	**La Mourre**	76.01	311	eP	P	12 57 32.7	+0.4
	comp=Z,18nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	76.06	313	eP	P	12 57 32.4	-0.2
	comp=Z,8.0nm,0.7s,mb4.5						
SMRF	**Simiane la Rot**	76.51	312	eP	P	12 57 35.8	+0.7
LOR	**Lormes**	76.83	316	eP	P	12 57 36.9	0.0
	comp=Z,6.8nm,0.6s,mb4.4						
VIVF	**Saint-Julien-l**	76.91	313	eP	P	12 57 37.6	+0.3
SMF	**Signal de Mont**	77.01	315	eP	P	12 57 38.0	+0.1
	comp=Z,17nm,0.6s,mb4.9						
SSF	**Saint Saulge**	77.12	316	eP	P	12 57 38.8	+0.3
	comp=Z,39nm,1.0s,mb5.0						
AVF	**Avril sur Loir**	77.29	315	eP	P	12 57 39.7	+0.3
LASF	**Ste Croix**	77.68	312	eP	P	12 57 42.3	+0.7
	comp=Z,11nm,0.8s,mb4.5						
BGF	**Bois d'Agland**	77.69	315	eP	P	12 57 42.0	+0.4
	comp=Z,5.4nm,0.5s,mb4.4						
TCF	**Toulx Ste Croi**	78.19	315	eP	P	12 57 45.3	+0.9
	comp=Z,33nm,0.9s,mb5.0						
CAF	**Calviac**	78.67	314	eP	P	12 57 47.9	+0.8
RJF	**Les Rejaudoux**	78.94	314	eP	P	12 57 49.6	+1.1
MTLF	**Montolieu**	79.02	312	eP	P	12 57 49.6	+0.6
	comp=Z,12nm,0.8s,mb4.6						
LDF	**La Druitiere**	79.04	318	eP	P	12 57 49.3	+0.3
GRR	**Gorron**	79.56	318	eP	P	12 57 52.4	+0.6
LFF	**La Frestale**	79.57	314	eP	P	12 57 52.9	+1.0
	comp=Z,12nm,0.6s,mb4.7						
MFF	**Saint Martin d**	79.66	316	eP	P	12 57 53.0	+0.6
SGMF	**Saint Gilles**	80.68	318	eP	P	12 57 58.6	+0.8
	comp=Z,6.1nm,0.3s,mb4.7						
ETSF	**Etsaut**	81.09	312	eP	P	12 58 01.3	+1.2
	comp=Z,9.6nm,0.7s,mb4.5						
ROSF	**Rostrenen**	81.11	318	eP	P	12 58 00.9	+0.9
	comp=Z,6.3nm,0.4s,mb4.6						
QUIF	**Quistinic**	81.18	318	eP	P	12 58 00.9	+0.5
	comp=Z,2.9nm,0.3s,mb4.3						
MCK	**McKinley**	82.97	24	eP	P	12 58 09.7	+0.2
	comp=Z,1.4nm,0.7s,mb4.1						
ILAR	**Eielson Array**	83.18	23	P	P	12 58 10.0	-0.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=294,slow=5.5,SNR=22						
ILAR				PP	PP	13 01 18.1	-5.6
	comp=Z,0.5nm,0.8s,baz=296,slow=7.0,SNR=5.9						
ILAR	**Eielson Array**	83.18	23	P	P	12 58 10.0	-0.4
ILAR						13 01 18.2	
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SML	**Sawmill**	84.22	25	eP	P	12 58 15.8	0.0
ESDC	**Sonseca Array**	84.61	310	P	P	12 58 19.4	+1.2
	comp=Z,1.5nm,0.5s,mb4.4,baz=48,slow=4.9,SNR=24						
INK	**Inuvik**	85.16	16	P	P	12 58 20.8	+0.6
	comp=Z,1.9nm,0.5s,mb4.5,baz=316,slow=3.5,SNR=6.2						
INK	**Inuvik**	85.16	16	P	P	12 58 20.8	+0.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	85.16	16	eP	P	12 58 20.1	-0.1
TSUM	**Tsumeb**	85.74	248	LR	LR	13 32 54.2	
	comp=Z,60nm,19.1s,MS4.0,baz=43,slow=33						
YKA	**Yellowknife Ar**	94.51	14	P	P	12 59 04.9	+0.4
	comp=Z,0.3nm,0.8s,mb3.8,baz=327,slow=4.2,SNR=4.8						
YKA	**Yellowknife Ar**	94.51	14	P	P	12 59 04.9	+0.4
TXAR	**Lajitas Array**	127.68	21	PKP	PKPdf	13 04 51.2	-2.8
	comp=Z,0.2nm,0.3s,baz=105,slow=1.4,SNR=6.3						
TXAR	**Lajitas Array**	127.68	21	PKP	PKPdf	13 04 51.2	-2.8
BDFB	**Brasilia**	145.14	271	PKPbc	PKPbc	13 05 23.7	+1.7
	comp=Z,11nm,0.8s,baz=49,slow=5.0,SNR=9.7						
BDFB	**Brasilia**	145.14	271	PKIKP	PKPdf	13 05 23.7	-2.6
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	154.31	250	PKPbc	PKPdf	13 05 45.9	+5.7
	comp=Z,3.4nm,1.0s,baz=139,slow=3.6,SNR=5.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP				PKPab	PKPab	13 05 59.5	-0.9
	comp=Z,3.7nm,0.9s,baz=53,slow=6.7,SNR=4.7						
CPUP	Villa Florida	154.31	250	PKPbc	PKPdf	13 05 45.9	+5.7
CPUP				PKPab	PKPab	13 05 59.5	-0.9
LPAZ	La Paz	164.13	280	PKPab	PKPab	13 06 42.9	-0.1
	comp=Z,0.9nm,0.6s,baz=53,slow=2.8,SNR=5.5						
LPAZ	La Paz	164.13	280	PKP2	PKPab	13 06 42.9	-0.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***08*** *12:52:20.8±3.0,5.24S×151.49E,h50^{km}±25^{km},mb4.1/8, mb1 4.4/10,mb1mx4.2/15,ML3.6/2,MS3.6/2,Ms1 3.6/2, ms1mx3.1/19,Error ellipse: s-maj=33.7km s-min=19.2km az=123.0*

NEIC ***08*** *12:52:24.7±2.2,5.24S×151.31E,h83^{km}±18^{km},mb4.3/3, Error ellipse: s-maj=18.3km s-min=15.0km az=115.0*

ISC 08 12:52:23.3±3.4**,5.3S**±0.2×**151.3E**±0.2**,h84**^{km}±29^{km}**,n22, σ0.^{s}64**/20**,mb4.2**/8**,1C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.83	225	P	P	12 53 47.8	-0.9
	10nm,0.3s,baz=20,slow=7.6,SNR=41						
PMG				S	S	12 54 55.3	+0.4
	13nm,0.3s,baz=138,slow=18,SNR=6.8						
PMG	Port Moresby	5.83	225	P	P	12 53 47.8	-1.0
PMG				S	S	12 54 55.4	+0.4
CTA	Charters Tower	15.54	198	P	P	12 55 59.4	+0.4
	0.1nm,0.3s,baz=15,slow=10,SNR=7.5						
CTAO	Charters Tower	15.54	198	*e*P	P	12 56 01.3	+2.3
	3.2nm,0.7s						
KAKA	Kakadu	20.07	247	*e*P	P	12 56 52.4	-0.1
	11nm,0.5s						
WB2	Warramunga Arr	22.03	227	*e*P	P	12 57 12.2	0.0
WRA	Warramunga Arr	22.04	227	P	P	12 57 12.5	+0.2
	16nm,0.6s,mb4.5,baz=52,slow=9.8,SNR=70						
WRA				ScP		13 04 43.4	
	0.4nm,0.7s,baz=51,slow=2.8,SNR=5.9						
ASAR	Alice Springs	24.82	221	P	P	12 57 39.5	+0.2
	22nm,0.7s,mb4.7,baz=56,slow=8.9,SNR=126						
ASPA	Alice Springs	24.83	221	*e*P	P	12 57 39.5	+0.1
STKA	Stephens Creek	28.01	198	P	P	12 58 08.1	-0.5
	1.4nm,0.6s,mb3.7,baz=355,slow=11,SNR=3.0						
STKA	Stephens Creek	28.01	198	P	P	12 58 08.1	-0.5
FITZ	Fitzroy Crossi	28.14	241	⇑*i*P	P	12 58 09.7	-0.2
	11nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	28.14	241	P	P	12 58 09.8	-0.1
	14nm,0.7s,mb4.6,baz=61,slow=5.0,SNR=32						
CBIJ	Chichi jima	33.34	345	LR	LR	13 10 47.0	
	comp=Z,89nm,20.8s,baz=118,slow=33						
VNDA	Vanda	72.44	178	P	P	13 03 40.9	-1.2
	2.1nm,1.0s,mb3.9,baz=326,slow=7.6,SNR=8.3						
MKAR	Makanchi Array	79.69	319	P	P	13 04 23.5	0.0
	0.5nm,0.5s,mb3.6,baz=95,slow=9.1,SNR=6.2						
MKAR				LR	LR	13 36 05.4	
	comp=Z,33nm,20.9s,baz=284,slow=33						
MKAR	Makanchi Array	79.69	319	P	P	13 04 23.5	0.0
MKAR				LR	LR	13 36 05.4	
ILAR	Eielson Array	83.14	22	P	P	13 04 41.0	0.0
	0.8nm,0.8s,mb3.6,baz=250,slow=5.3,SNR=10						
NVAR	Mina Array Bea	93.53	52	P	P	13 05 32.1	+0.8
	2.2nm,0.7s,mb4.6,baz=254,slow=5.6,SNR=18						
PDAR	Pinedale Array	100.25	48	P	P	13 06 01.1	-0.7
	0.4nm,0.6s,baz=290,slow=4.6,SNR=5.3						
GERES	GERESS Array B	123.65	328	PKP	PKPdf	13 11 13.3	+1.8
	0.3nm,0.4s,baz=45,slow=1.9,SNR=5.8						
BDFB	Brasilia	151.77	138	PKPbc	PKPdf	13 12 10.3	+7.7
	4.6nm,0.9s,baz=143,slow=4.8,SNR=5.4						

WEL 08 13:02:47.5±0.3**,35.10S×178.55E,h33**^{km}**,ML3.5**/1**,Error ellipse: s-maj=5.6km s-min=2.3km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.98	184	PN	Pn	13 03 31.7	-2.0
PUZ				SN	Sn	13 04 05.2	-3.5
PUZ				SN	Sn	13 04 05.5	-3.2
MWZ	Matawai	3.33	194	P*	Pb	13 03 37.4	-8.4
MWZ				S*	Sb	13 04 15.0	-11
MWZ				*e*S*	Sb	13 04 15.4	-11
URZ	Urewera	3.36	200	P*	Pb	13 03 38.4	-7.9
URZ				*e*S*	Sb	13 04 15.4	-12
URZ				*e*S*	Sb	13 04 16.7	-10
KIW	Kapiti Island	6.43	205	*e*SN	Sn	13 05 24.5	-11
NNZ	Nelson	7.34	212	*e*SN	Sn	13 05 48.0	-10
MQZ	McQueen’s Vall	9.73	206	*e*SN	Sn	13 06 39.3	-18

NIED ***08*** *13:12:00,24.70N×121.90E,h74^{km},Mw4.3 Best double couple: $M_0$3.75×10^{15} NP1:ϕ_s147°,δ84°,λ6°. NP2:ϕ_s57°, δ84°,λ174°.*

TAP ***08*** *13:12:26.2,24.67N×121.82E,h81^{km}±1^{km},ML5.0*

TAP Felt III J at Suao, II J at Ilan, II J at Neicheng, III J at Nioudou, II J at Nanau, I J at Santiao Chiao, I J, II J at Sanguang, I J at Taipai, II J at Nanshan, I J at Jungli (National Central University), I J at Hualien, II J at Hehuanshan, I J at Nanjuang, I J at Shilin, I J at Sanyi, I J at Ryuetan, I J at Mingjian, I J at Alishan, I J at Tsauling, I J at Gukeng, I J at Dacheng, II J at Szhu, I J at Anpu.

NEIC ***08*** *13:12:26.2±0.7,24.67N×121.94E,h80^{km}±6^{km},mb3.8/1, Error ellipse: s-maj=11.0km s-min=8.1km az=48.0*

NEIC Felt at Taipei. Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien, Nan-t’ou and T’ao-yuan; [1 TAP] in Chang-hua, Miao-li, T’ai-pei and Yun-lin Counties.

JMA ***08*** *13:12:26.6±0.3,24.66N×121.89E,h75^{km},M4.3*

IDC ***08*** *13:12:27.3±0.8,24.71N×122.01E,h91^{km}±7^{km},mb3.6/16, mb1 3.8/17,mb1mx3.7/24,Error ellipse: s-maj=14.6km s-min=12.2km az=54.0*

BJI ***08*** *13:12:28.0,24.81N×121.62E,h80^{km},mB4.3,mb4.1, Ms3.7,Msz3.7*

ISC 08 13:12:25.4±0.2**,24.71N**±0.02×**121.85E**±0.02**,h86**^{km}±2^{km}**, h89**^{km}±3.3^{km}**:pP-P,n107,σ1.^{s}09**/167**,mb3.8**/18**,16C-11D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.10	182	⇓*i*P	P	13 12 38.0	+0.3
ILA	Ilan	0.11	299	⇑*i*P	P	13 12 38.3	+0.6
ILA				S	S	13 12 47.5	+0.6
TWE	Neicheng	0.17	273	⇑*i*P	P	13 12 38.4	+0.6
TWE				S	S	13 12 47.0	-0.1
ENTT	Nioudou	0.27	255	⇑*i*P	P	13 12 38.7	+0.4
ENA	Nanau	0.30	200	⇓*i*P	P	13 12 38.4	-0.1
ENA				S	S	13 12 47.7	-0.6
TWB1	Santiao Chiao	0.32	22	⇑*i*P	P	13 12 39.1	+0.6
TWB1				S	S	13 12 48.1	-0.3
NWF	Wu-fen Shan	0.36	350	⇓*i*P	P	13 12 39.6	+0.8
NWF				S	S	13 12 49.2	+0.2
TATO	Taipei	0.42	308	*e*Pn	P	13 12 39.3	+0.1
TATO				*e*Sn	S	13 12 47.6	-2.0
TAP1	Taipei	0.44	317	⇑*i*P	P	13 12 39.8	+0.4
TAP1				S	S	13 12 49.8	-0.2
NSK	Sanguang	0.45	266	⇑*i*P	P	13 12 39.4	-0.1
NSK				S	S	13 12 48.6	-1.5
TAP	Taipei	0.45	316	⇑*i*P	P	13 12 39.9	+0.4
TAP				S	S	13 12 49.8	-0.2
NNS	Nan Shan	0.51	238	⇑*i*P	P	13 12 40.2	+0.2
NNS				S	S	13 12 49.7	-1.2
TWS1	Kuangyinshan	0.55	315	⇑*i*P	P	13 12 41.1	+0.7
TWS1				S	S	13 12 52.1	+0.6
TWY	Chenhua	0.61	338	⇓*i*P	P	13 12 41.9	+1.0
TWY				S	S	13 12 53.5	+1.2
NCU	National Centr	0.66	293	⇑*i*P	P	13 12 41.8	+0.4
NCU				S	S	13 12 53.2	0.0
TWD	Chiawan	0.67	201	⇓*i*P	P	13 12 40.5	-1.0
TWD				S	S	13 12 51.2	-2.3
HWA	Hwalien	0.77	197	*e*P	P	13 12 41.7	-0.8
WHF	Hehuan Shan	0.78	224	⇓*i*P	P	13 12 42.8	+0.2
NSTT	Nanjuang	0.78	264	⇑*i*P	P	13 12 42.6	-0.1
NSTT				S	S	13 12 54.4	-1.0
HSN	Hsinchu	0.81	277	⇑*i*P	P	13 12 42.8	-0.2
HSN				S	S	13 12 54.7	-1.3
PCYT	Pengchaiyu	0.94	12	⇓*i*P	P	13 12 45.5	+1.2
PCYT				S	S	13 13 00.1	+1.6
ESL	Shilin	0.97	203	⇓P	P	13 12 43.1	-1.6
ESL				S	S	13 12 56.2	-3.1
NSY	Sanyi	1.04	254	⇑*i*P	P	13 12 46.1	+0.6
NSY				S	S	13 13 00.4	-0.2
TWQ1	Liyutan	1.05	250	⇑*i*P	P	13 12 45.9	+0.3
TWQ1				S	S	13 13 00.1	-0.8
YOJ	Yonaguni jima	1.08	103	P	P	13 12 46.0	-0.1
YOJ				S	S	13 13 00.6	-1.0
SMLT	Sun Moon Lake	1.20	227	⇓*i*P	P	13 12 48.2	+0.6
SMLT				S	S	13 13 04.7	+0.6
TCU	Taichung	1.21	243	*e*P	P	13 12 48.0	+0.2
TCU				S	S	13 13 03.6	-0.8
TYC	Yuchr	1.21	229	⇓P	P	13 12 48.1	+0.4
TYC				S	S	13 13 04.8	+0.3
EHY	Hungye	1.29	202	*e*P	P	13 12 46.8	-2.0
WNT	Mingjian	1.35	232	*e*P	P	13 12 49.9	+0.3
WNT				S	S	13 13 07.5	0.0
ALS	Alishan	1.53	219	*e*P	P	13 12 52.6	+0.7
ALS				S	S	13 13 13.6	+2.2
CHN5	Tsauling	1.54	224	*e*P	P	13 12 52.3	+0.3
CHN5				S	S	13 13 12.0	+0.3
WGK	Gukeng	1.56	229	*e*P	P	13 12 52.5	+0.3
WGK				S	S	13 13 12.5	+0.5
WTCT	Ta-ch’eng	1.67	240	*e*P	P	13 12 53.3	-0.3
WTCT				S	S	13 13 13.5	-0.8
CHKT	Chengkung	1.67	196	*e*P	P	13 12 52.2	-1.4
ELDTW	Lidau	1.70	207	*e*P	P	13 12 52.9	-1.1
ELDTW				S	S	13 13 15.0	-0.1
CHN2	Minshiung	1.72	227	*e*P	P	13 12 54.7	+0.4
CHN2				S	S	13 13 16.5	+0.8
IRIF	Iriomote-Funau	1.75	102	P	P	13 12 54.6	-0.1
IRIF				S	S	13 13 15.7	-0.6
CHN4	Tsaushan	1.78	221	*e*P	P	13 12 55.4	+0.3
CHN4				S	S	13 13 20.0	+3.0
CHY	Chiayi	1.78	228	*e*P	P	13 12 55.2	+0.1
CHY				S	S	13 13 17.1	+0.1
WSF	Szhu	1.83	235	*e*P	P	13 12 55.8	-0.1
WSF				S	S	13 13 18.0	-0.2
STYT	Tauyuan	1.84	213	*e*P	P	13 12 56.6	+0.7
STYT				S	S	13 13 21.1	+2.7
WTP	Ta-pu	1.85	218	*e*P	P	13 12 56.2	+0.2
WTP				S	S	13 13 21.0	+2.5
HATJ	Hateruma jima	1.90	110	P	P	13 12 57.2	+0.6
TWK	Hsinying	1.91	221	*e*P	P	13 12 56.8	+0.1
TWK				S	S	13 13 22.2	+2.4
CHN1	Nanshi	1.94	219	*e*P	P	13 12 57.4	+0.1
CHN1				S	S	13 13 22.1	+1.3
SGST	Jiashian	2.00	216	*e*P	P	13 12 58.4	+0.4
SGST				S	S	13 13 24.1	+2.2
TWG	Pinlang	2.01	201	*e*P	P	13 12 56.2	-2.1
JKRS	Kuro-shima	2.02	103	P	P	13 12 58.7	+0.4
JKRS				S	S	13 13 23.1	+0.5
CHN8	Yiju	2.03	228	*e*P	P	13 12 58.1	-0.3
CHN8				S	S	13 13 23.2	+0.5
TTN	Taitung	2.05	199	*e*P	P	13 12 58.3	-0.5
JIJ	Ishigaki jima	2.11	99	P	P	13 12 59.4	-0.2
JIJ				S	S	13 13 24.2	-0.7
CHN3	Shinhua	2.12	220	*e*P	P	13 13 00.8	+1.0
SSD	Sandimen	2.25	210	*e*P	P	13 13 02.1	+0.5
SSD				S	S	13 13 29.7	+1.3
ECL	Taimali	2.26	202	*e*P	P	13 12 59.3	-2.4
SGLT	Jiouru	2.34	213	*e*P	P	13 13 04.3	+1.5
PNG	Penghu	2.39	242	*e*P	P	13 13 02.1	-1.4
PNG				S	S	13 13 28.9	-2.8
WDGT	Dungji	2.47	235	*e*P	P	13 13 03.4	-1.2
WDGT				S	S	13 13 31.5	-2.3
EAST	Anshuo	2.50	202	*e*P	P	13 13 03.1	-1.8
SCZT	Fangliau	2.59	206	*e*P	P	13 13 06.5	+0.3
SCZT				S	S	13 13 36.0	-0.8
JTJ	Tarama	2.59	91	P	P	13 13 07.0	+0.7
HEN	Hengchun	2.88	201	*e*P	P	13 13 11.1	+0.8
TWK1	Hengchun	2.92	199	*e*P	P	13 13 10.3	-0.5
QZH	Quanzhou	2.97	275	⇓*i*P	P	13 13 10.6	-1.0
QZH				S	S	13 13 42.5	-3.8
KNM	Kinmen	3.13	265	*e*P	P	13 13 14.3	+0.5
KNM				S	S	13 13 49.4	-0.7
JMJ	Miyako jima 2	3.13	87	P	P	13 13 15.4	+1.6
JMJ				*e*S	S	13 13 50.7	+0.6
JOGS	Gusukube	3.23	88	P	P	13 13 15.9	+0.7
JOGS				*e*S	S	13 13 54.0	+1.3
JKE	Kume jima 2	4.74	69	P	P	13 13 37.1	+1.1
JKE				*e*S	S	13 14 30.6	+0.5
JAGN	Aguni-jima	5.21	68	P	P	13 13 43.3	+0.9
JAGN				S	S	13 14 43.6	+1.8
JJT2	Tamagusuku 2	5.52	74	P	P	13 13 47.0	+0.4
JJT2				*e*S	S	13 14 49.9	+0.6
JIH	Iheya	5.97	66	P	P	13 13 53.0	+0.1
JIH				*e*S	S	13 15 00.7	+0.1
JOW	Kunigami	6.16	69	P	P	13 13 54.9	-0.7
	14nm,0.3s,baz=234,slow=11,SNR=30						
JOW				S	S	13 15 03.4	-1.9
	3.2nm,0.3s,baz=139,slow=20,SNR=2.6						
JOW	Kunigami	6.16	69	P	P	13 13 54.9	-0.6
JOW				S	S	13 15 03.1	-2.2
SSE	Sheshan	6.39	355	⇑P	P	13 13 57.8	-0.9
SSE				S	S	13 15 09.2	-1.6
SSE				AMB	AMB		
	comp=Z,43nm,2.5s						
JTK	Tokunoshima	7.07	63	P	P	13 14 06.8	-1.3
JTK				*e*S	S	13 15 25.3	-2.3
NJ2	Nanjing	7.78	341	*e*P	P	13 14 17.0	-0.8
NJ2				XP		13 14 38.8	
NJ2				S	S	13 15 42.2	-2.7
NJ2				LR	LR		
	comp=N,530nm,16.8s						
NJ2				LR	LR		
	comp=E,920nm,10.0s						
JAM	Amami Oshima	7.86	60	P	P	13 14 17.1	-1.8
WHN	Wuhan	8.83	313	*e*P	P	13 14 30.8	-1.3
WHN				S	S	13 16 03.6	-7.2
WHN				LR	LR		
	comp=Z,550nm,5.8s						
ENH	Enshi	12.29	300	*e*P	P	13 15 19.2	+0.5
QIZ	Qiongzhong	12.50	245	*e*P	P	13 15 24.1	+2.6
GYA	Guiyang	13.82	280	⇑*i*P	P	13 15 40.0	+1.3
XAN	Xi’an	14.60	312	P	P	13 15 50.4	+1.6
HHC	Hu-ho-hao-te	18.25	334	*e*P	P	13 16 38.4	+4.2
HHC				AMB	AMB		
	comp=Z,12nm,1.3s						
LZH	Lanzhou	19.20	310	*e*P	P	13 16 47.5	+2.5
CMAR	Chiang Mai Arr	22.18	258	P	P	13 17 18.0	+2.5
	comp=Z,0.7nm,0.6s,mb3.2,baz=54,slow=7.8,SNR=2.8						
CMAR				pP		13 17 37.5	
	comp=Z,1.9nm,0.9s,baz=65,slow=7.0,SNR=4.3						
GTA	Gaotai	23.66	314	*e*P	P	13 17 32.5	+2.9
GTA				AP		13 17 47.8	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.4						
GTA				AMB	AMB		
	comp=Z,70nm,5.3s						
GTA				LR	LR		
	comp=N,59nm,11.0s						
GTA				LR	LR		
	comp=E,47nm,12.5s						
GTA				LR	LR		
	comp=Z,85nm,13.7s						
SONM	Songino Array	26.13	336	P	P	13 17 53.7	+0.6
	comp=Z,1.9nm,0.6s,mb3.7,baz=150,slow=10.0,SNR=5.2						
SONM				pP	pP	13 18 13.7	+1.3
	comp=Z,6.9nm,0.9s,baz=150,slow=10.0,SNR=8.2						
SHL	Shillong	27.12	278	*e*P	pP	13 18 21.5	-0.4
MKAR	Makanchi Array	38.39	315	P	P	13 19 40.5	+0.7
	comp=Z,2.2nm,0.8s,mb4.0,baz=102,slow=10,SNR=19						
MKAR				pP	pP	13 20 00.5	+0.2
	comp=Z,1.9nm,0.6s,baz=106,slow=11,SNR=6.4						
MKAR	Makanchi Array	38.39	315	P	P	13 19 40.5	+0.7
MKAR				pP	pP	13 20 00.5	+0.2
WRA	Warramunga Arr	46.02	164	P	P	13 20 40.6	-1.7
	comp=Z,1.0nm,0.5s,mb3.8,baz=346,slow=8.9,SNR=21						
WB2	Warramunga Arr	46.02	164	*e*P	P	13 20 40.7	-1.6
BVAR	Borovoye Array	47.66	320	P	P	13 20 54.6	-0.2
	comp=Z,0.9nm,0.4s,mb3.9,baz=115,slow=8.7,SNR=7.5						
BVAR				pP	pP	13 21 17.1	+1.4
	comp=Z,1.3nm,0.6s,baz=108,slow=9.4,SNR=5.1						
ASAR	Alice Springs	49.49	165	P	P	13 21 08.1	-1.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=338,slow=7.7,SNR=10						
CTA	Charters Tower	50.47	150	P	P	13 21 15.9	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=333,slow=12,SNR=4.9						
STKA	Stephens Creek	59.35	160	P	P	13 22 19.9	-1.1
	comp=Z,2.2nm,1.1s,mb4.1,baz=278,slow=16,SNR=3.0						
ILAR	Eielson Array	68.47	27	P	P	13 23 18.2	-1.7
	comp=Z,0.2nm,0.6s,mb3.1,baz=272,slow=4.9,SNR=6.0						
SPITS	Spitsbergen Ar	69.10	348	P	P	13 23 23.3	-0.4
	comp=Z,3.6nm,0.9s,mb4.2,baz=119,slow=9.3,SNR=3.2						
ARCES	ARCESS Array B	69.28	338	P	P	13 23 24.6	-0.3
	comp=Z,1.9nm,1.0s,mb3.9,baz=59,slow=7.1,SNR=4.4						
KAF	Kangasniemi	71.00	330	*e*p	P	13 23 34.0	-1.4
	comp=Z,0.5nm,0.4s,mb3.7						
FINES	FINESS Array B	71.30	330	P	P	13 23 37.2	0.0
	comp=Z,1.8nm,0.5s,mb4.1,baz=66,slow=6.0,SNR=29						
HFS	Hagfors	77.41	331	P	P	13 24 13.9	+1.5
	comp=Z,0.7nm,0.6s,mb3.6,baz=135,slow=8.2,SNR=3.5						
NB2	NORSAR Subarra	78.05	332	P	P	13 24 15.1	-0.8
	comp=Z,0.6nm,0.6s,mb3.5,baz=58,slow=5.3						
NOA	NORSAR Array B	78.05	332	P	P	13 24 16.7	+0.8
	comp=Z,0.6nm,0.7s,mb3.5,baz=58,slow=5.8,SNR=5.2						
YKA	Yellowknife Ar	82.25	23	P	P	13 24 37.7	-0.5
	comp=Z,0.5nm,0.5s,mb3.6,baz=310,slow=5.0,SNR=10						
YKA	Yellowknife Ar	82.25	23	P	P	13 24 37.7	-0.5
NVAR	Mina Array Bea	95.63	43	P	P	13 25 44.0	+1.5
	comp=Z,0.6nm,0.9s,mb4.0,baz=270,slow=4.4,SNR=4.4						

STR ***08*** *13:22:04.8±0.2,44.41N×6.79E,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***08*** *13:22:04.7±0.1,44.42N×6.77E,h2^{km},Md2.2/2,Ml2.3/9, Error ellipse: s-maj=1.8km s-min=1.1km az=64.0*

ISC 08 13:22:03.7±0.3**,44.41N**±0.02×**6.72E**±0.03**,h5**^{km}**,n19, σ0.^{s}90**/35**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.10	44	Pg	Pg	13 22 06.9	+1.0
SURF				Sg	Sg	13 22 08.2	+0.9
MBDF	Montbardon	0.32	7	*e*Pg	Pg	13 22 10.9	+0.8
MBDF				*e*Sg	Sg	13 22 15.2	+0.7
	37nm,0.3s						
TOUF	Mont Tournerai	0.55	136	Pg	Pg	13 22 14.8	+0.1
TOUF				Sg	Sg	13 22 21.1	-1.0
AUTN	L’Aution	0.66	129	Pg	Pg	13 22 16.8	0.0
AUTN				Sg	Sg	13 22 25.2	-0.4
CALN	Calern	0.67	169	Pg	Pg	13 22 17.9	+0.9
CALN				Sg	Sg	13 22 26.0	0.0
AURF	Auriere	0.68	140	Pg	Pg	13 22 17.2	-0.1
SAOF	Saorge	0.74	125	Pg	Pg	13 22 18.1	-0.3
SAOF				Sg	Sg	13 22 27.9	-0.4
SBF	Sospel	0.75	136	*e*Pg	Pg	13 22 18.7	0.0
SBF				*e*Sg	Sg	13 22 29.5	+0.7
ORIF	Oris-en-Rattie	0.78	311	*e*Pg	Pg	13 22 20.0	+0.6
ORIF				*e*Sg	Sg	13 22 31.4	+1.6
	10nm,0.4s						
FRF	La Foret Royal	0.85	183	*e*Pg	Pg	13 22 20.9	+0.2
FRF				*e*Sg	Sg	13 22 32.3	+0.3
	12nm,0.2s						
SMRF	Simiane la Rot	0.93	243	*e*Pn	Pn	13 22 24.4	+1.2
SMRF				*e*Sg	Sg	13 22 36.4	+1.8
	21nm,0.4s						
LMR	La Mourre	1.08	188	*e*Pg	Pg	13 22 25.8	+0.5
LMR				*e*Sg	Sg	13 22 40.0	+0.2
	16nm,0.2s						
LPG	La Plagne	1.09	1	*e*Pg	Pg	13 22 25.1	-0.3
LPG				*e*Sg	Sg	13 22 39.3	-0.7
	7.8nm,0.4s						
LPL	La Plagne	1.11	1	*e*Pg	Pg	13 22 25.6	-0.2
LPL				*e*Sg	Sg	13 22 39.7	-0.9
	5.8nm,0.4s						
VIVF	Saint-Julien-l	1.52	288	*e*Pg	Pg	13 22 33.1	-1.0
VIVF				*e*Sg	Sg	13 22 53.0	-1.5
	3.6nm,0.3s						
LASF	Ste Croix	2.08	262	*e*Pn	Pn	13 22 39.4	-0.3
LASF				*e*Sn	Sn	13 23 04.6	-1.7
	0.6nm,0.2s						
PGF	Pioggiola	2.50	137	*e*Pn	Pn	13 22 44.3	-1.3
PGF				*e*Sn	Sn	13 23 11.4	-5.4
	1.0nm,0.2s						
MTLF	Montolieu	3.42	253	*e*Pn	Pn	13 22 55.9	-2.9
SSF	Saint Saulge	3.48	321	*e*Sg	Sg	13 23 54.4	-5.0
	1.4nm,0.4s						

IDC ***08*** *13:22:15.7±0.8,19.99N×95.68E,mb4.1/10,mb1 4.2/11, mb1mx4.0/18,ML3.7/1,Error ellipse: s-maj=51.3km s-min=11.9km az=42.0*

NEIC ***08*** *13:22:17.3±0.6,20.00N×95.73E,h10^{km},mb4.4/2,Error ellipse: s-maj=39.8km s-min=8.7km az=48.0*

ISC 08 13:22:15.2±0.6**,20.03N**±0.09×**95.80E**±0.06**,h10**^{km}**,n18, σ1.^{s}08**/24**,mb4.1**/11**,1C,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	Chiang Mai	3.21	112	PN	Pn	13 23 08.2	+1.5
CHG				SG	Sg	13 23 59.8	-2.2
CMAR	Chiang Mai Arr	3.36	117	Pn	Pn	13 23 10.1	+1.2
	1.8nm,0.3s,baz=284,slow=14,SNR=21						
CMAR				Pg	Pg	13 23 19.9	-2.4
	4.7nm,0.3s,baz=287,slow=17,SNR=38						
CMAR				Lg		13 24 03.5	
	19nm,0.3s,baz=291,slow=31,SNR=12						
CHRT	Chiangrai	3.75	92	⇑PN	Pn	13 23 18.0	+3.6
CHRT				PG	Pg	13 23 31.0	+0.9
CHRT				SG	Sg	13 24 20.5	+0.4
BDT	Bhumibol Dam	4.11	132	PG	Pg	13 23 31.0	-6.3
BDT	Bhumibol Dam	4.11	132	PG	Pg	13 23 32.0	-5.3
BDT				SG	Sg	13 24 26.0	-6.2
SHL	Shillong	6.59	327	*e*PN	Pn	13 23 54.5	0.0
SHL				*e*SN	Sn	13 25 09.5	-1.0
MKAR	Makanchi Array	28.89	341	P	P	13 28 17.1	+0.9
	1.9nm,0.7s,mb4.0,baz=146,slow=9.5,SNR=21						
KURK	Kurchatov	33.50	340	*e*P	P	13 28 57.2	+0.4
	3.6nm,0.6s,mb4.5						
WRA	Warramunga Arr	54.80	134	P	P	13 31 47.7	-0.2
	1.5nm,0.8s,mb4.1,baz=324,slow=7.2,SNR=9.5						
ASAR	Alice Springs	57.15	138	P	P	13 32 05.0	+0.2
	1.1nm,0.6s,mb4.0,baz=320,slow=7.0,SNR=26						
AKASG	Malin Array Be	59.97	318	P	P	13 32 22.5	-1.5
	3.2nm,0.8s,mb4.4,baz=80,slow=6.2,SNR=5.2						
FINES	FINESS Array B	62.92	330	P	P	13 32 43.1	-0.7
	0.8nm,0.5s,mb4.1,baz=90,slow=3.8,SNR=11						
ARCES	ARCESS Array B	64.52	338	P	P	13 32 54.0	-0.1
	1.6nm,0.9s,mb4.1,baz=104,slow=10.0,SNR=4.0						
STKA	Stephens Creek	67.74	139	P	P	13 33 16.1	+0.7
	1.7nm,0.7s,mb4.2,baz=291,slow=8.6,SNR=4.4						
GERES	GERESS Array B	70.06	316	P	P	13 33 29.6	+0.3
	1.5nm,0.6s,mb4.1,baz=74,slow=5.8,SNR=12						
NB2	NORSAR Subarra	70.08	329	P	P	13 33 28.5	-0.8
	1.8nm,0.7s,mb4.1,baz=84,slow=6.2						
NOA	NORSAR Array B	70.08	329	P	P	13 33 28.6	-0.7
	1.8nm,0.8s,mb4.1,baz=85,slow=6.1,SNR=8.2						
EKA	Eskdalemuir Ar	78.71	325	P	P	13 34 20.2	+1.1
	0.8nm,0.6s,mb3.9,baz=82,slow=5.0,SNR=5.4						

IDC 08 13:26:29.3±3.5**,9.18N×91.84E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.6**/16**,Error ellipse: s-maj=207.0km s-min=24.6km az=56.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	38.36	349	P	P	13 33 52.0	-1.8
	0.2nm,0.3s,baz=167,slow=9.6,SNR=5.5						
WRA	Warramunga Arr	50.87	125	P	P	13 35 31.3	-3.1
	1.0nm,1.1s,baz=302,slow=9.8,SNR=4.6						
ASAR	Alice Springs	52.49	129	P	P	13 35 45.5	-1.2
	0.4nm,0.4s,baz=303,slow=7.7,SNR=7.8						
ARCES	ARCESS Array B	73.28	340	P	P	13 38 02.2	-1.8
	1.7nm,0.9s,baz=97,slow=7.1,SNR=6.0						

NEIC ***08*** *13:44:41.2,33.02S×73.16W,h26^{km},ML3.3(GUC),After GUC.*

GUC 08 13:44:41.2±1.0**,33.02S×73.16W,h26**^{km}±8^{km}**,MD3.6, ML3.3,2C-2D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.41	109	*i* P	Pn	13 45 05.7	+0.2
LNV	Longovilo	1.74	123	⇑*i*P	Pn	13 45 10.1	-0.1
JACH	Jahuel	2.19	82	*e*P	Pn	13 45 17.0	+0.4
JACH				*i* S	Sn	13 45 44.3	+1.2
CLCH	Cerro Calan	2.23	101	⇑*i*P	Pn	13 45 18.9	+1.6
CLCH				*i* S	Sn	13 45 47.1	+2.9
CLCH				AMP		13 45 48.0	
	comp=N,219nm,0.5s						
CHCH	Chadas Angostu	2.29	114	*i* P	Pn	13 45 18.9	+0.9
CHCH				*i* S	Sn	13 45 47.0	+1.4
SFDO	San Fernando	2.39	132	⇓*i*P	Pn	13 45 19.3	-0.3
SFDO				*i* S	Sn	13 45 49.3	+0.9
CACH	El Canelo	2.40	118	*e*P	Pn	13 45 20.9	+1.1
CACH				*i* S	Sn	13 45 50.9	+2.3

FCH	**Farellones**	**2.42**	**98**	*i*P	Pn	13 45 21.8	+1.7
FCH				*i*S	Sn	13 45 51.6	+2.4
FCH				AMP		13 45 53.2	
	comp=N,134nm,0.3s						
CMCH	**Combarbala**	**2.59**	**45**	*e*P	Pn	13 45 23.2	+0.8
CMCH				*i*S	Sn	13 45 54.1	+0.7
CMCH				AMP		13 45 58.9	
	comp=E,188nm,0.4s						
LMEL	**Las Melosas**	**2.61**	**109**	⇓*i*P	Pn	13 45 23.8	+1.1
LMEL				*i*S	Sn	13 45 55.6	+1.8
LMEL				AMP		13 46 00.4	
	comp=N,159nm,0.1s						
CICH	**Cipreses**	**2.63**	**120**	*e*P	Pn	13 45 23.6	+0.6
CICH				*i*S	Sn	13 45 55.8	+1.5

*NEIC **08** 13:48:45.5, 17.27N×94.76W, h125^{km}, MD3.7(MEX), After MEX.*

MEX 08 13:48:45.9±0.8**, 17.29N×94.78W, h123**^{km}±8^{km}**, MD3.7, 1D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.22**	**208**	⇓*i*P	P	13 49 01.7	-1.3
CMIG				*i*S	S	13 49 13.7	-2.4
TUIG	**Tuzandepetl**	**0.82**	**24**	*i*P	P	13 49 02.2	-4.5
TUIG				*i*S	S	13 49 22.5	+0.1
OXX	**Oaxaca**	**1.87**	**264**	*i*P	P	13 49 17.0	-1.3
OXX				*i*S	S	13 49 40.0	-2.9
VHO	**Vista Hermosa**	**1.88**	**264**	*i*P	P	13 49 16.9	-1.6
VHO				*i*S	S	13 49 41.3	-1.9
CCIG	**Comitan**	**2.72**	**111**	*i*P	P	13 49 27.9	-1.6
CCIG				*i*S	S	13 49 59.6	-2.8
CCIG	**Comitan**	**2.72**	**111**	*i*P	P	13 49 27.9	-1.6
CCIG				*i*S	S	13 49 56.6	-5.8

*LDG **08** 14:01:51.9±0.0, 44.42N×6.76E, h2^{km}, Md2.0/3, Ml1.9/8, Error ellipse: s-maj=1.0km s-min=0.7km az=64.0*

*STR **08** 14:01:52.3±0.2, 44.42N×6.83E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 08 14:01:50.7±0.4**, 44.41N**±0.02×**6.73E**±0.03**, h13**^{km}±4^{km}**, n16, σ0^{s}.70**/31**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.10**	**39**	Pg	**Pg**	**14 01 54.0**	**+0.3**
SURF				Sg	**Sg**	**14 01 55.5**	**-0.1**
MBDF	**Montbardon**	**0.32**	**5**	*e*Pg	**Pg**	**14 01 58.0**	**+0.5**
MBDF				*e*Sg	**Sg**	**14 02 02.4**	**+0.3**
	14nm,0.2s						
AUTN	**L'Aution**	**0.65**	**129**	Pg	**Pg**	**14 02 04.2**	**+0.4**
AUTN				Sg	**Sg**	**14 02 12.2**	**-0.4**
CALN	**Calern**	**0.66**	**170**	Pg	**Pg**	**14 02 05.1**	**+1.0**
AURF	**Auriere**	**0.67**	**140**	Pg	**Pg**	**14 02 04.8**	**+0.5**
AURF				Sg	**Sg**	**14 02 13.0**	**-0.4**
SAOF	**Saorge**	**0.73**	**125**	Pg	**Pg**	**14 02 05.3**	**-0.1**
SAOF				Sg	**Sg**	**14 02 15.1**	**-0.1**
SBF	**Sospel**	**0.74**	**137**	*e*Pg	**Pg**	**14 02 05.1**	**-0.6**
SBF				*e*Sg	**Sg**	**14 02 15.4**	**-0.3**
	7.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.79**	**311**	*e*Pg	**Pg**	**14 02 07.0**	**+0.3**
ORIF				*e*Sg	**Sg**	**14 02 18.3**	**+0.9**
	1.6nm,0.2s						
FRF	**La Foret Royal**	**0.85**	**184**	*e*Pg	**Pg**	**14 02 08.1**	**+0.4**
FRF				*e*Sg	**Sg**	**14 02 19.5**	**+0.4**
	2.8nm,0.2s						
SMRF	**Simiane la Rot**	**0.93**	**243**	*e*Pn	**Pn**	**14 02 10.9**	**+1.5**
SMRF				*e*Sg	**Sg**	**14 02 22.2**	**+0.2**
	5.6nm,0.3s						
LMR	**La Mourre**	**1.08**	**188**	*e*Pg	**Pg**	**14 02 12.6**	**+0.2**
LMR				*e*Sg	**Sg**	**14 02 27.2**	**+0.3**
	6.6nm,0.3s						
LPG	**La Plagne**	**1.09**	**1**	*e*Pg	**Pg**	**14 02 12.3**	**-0.3**
LPG				*e*Sn	**Sn**	**14 02 27.1**	**+0.4**
	1.4nm,0.2s						
LPL	**La Plagne**	**1.11**	**0**	*e*Pg	**Pg**	**14 02 12.8**	**-0.2**
LPL				*e*Sg	**Sg**	**14 02 27.1**	**-0.8**
	3.4nm,0.4s						
VIVF	**Saint-Julien-l**	**1.54**	**288**	*e*Pn	**Pn**	**14 02 18.7**	**+0.7**
VIVF				*e*Pg	**Pg**	**14 02 20.6**	**-0.8**
VIVF				*e*Sg	**Sg**	**14 02 40.5**	**-1.4**
	1.1nm,0.3s						
LASF	**Ste Croix**	**2.09**	**262**	*e*Sg	**Sg**	**14 02 58.6**	**-1.7**
	0.8nm,0.2s						
PGF	**Pioggiola**	**2.48**	**138**	*e*Pn	**Pn**	**14 02 31.6**	**0.0**
PGF				*e*Sn	**Sn**	**14 03 00.6**	**-1.5**
	0.9nm,0.2s						

DJA 08 14:39:23.5±1.0**, 8.92S×116.73E, h15**^{km}**, MD5.0**/4**, ML4.8**/2**, 2C-5D, Error ellipse: s-maj=23.2km s-min=20.9km az=170.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.75**	**305**	⇓*i*Pn	Pn	14 39 37.0	-2.3
	998nm,0.2s						
KEDI				⇓*i*Sn	Sn	14 39 47.2	-3.1
RATI	**Rata**	**1.20**	**279**	⇓*e*Pn	Pn	14 39 42.7	-3.1
	1μm,0.2s						
RATI				⇑*i*Sn	Sn	14 39 57.2	-4.6
INGI	**Ingas**	**1.57**	**274**	⇓*e*Pn	Pn	14 39 48.4	-2.7
	826nm,0.2s						
INGI				⇓*i*Sn	Sn	14 40 07.2	-4.0
KELI	**Kelakatan**	**2.32**	**287**	⇑*e*Pn	Pn	14 40 00.2	-1.6

*BJI **08** 14:45:29.3, 6.97S×130.44E, h112^{km}, mB4.8, mb5.2*

*MOS **08** 14:45:35.6±1.2, 6.43S×130.00E, h122^{km}, mb4.6/10, Error ellipse: s-maj=19.9km s-min=9.8km az=114.1*

*HRVD **08** 14:45:36.4±0.7, 6.46S×129.96E, h125^{km}±4^{km}, MW4.9/35, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s35,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.64±.13; $M_{\theta\theta}$-2.22±.12; $M_{\phi\phi}$1.58±.14; $M_{r\theta}$-0.20±.12; $M_{\theta\phi}$-1.30±.12; $M_{\phi r}$-0.57±.11; Best double couple: $M_0$2.4×10^{16} NP1:ϕ_s117°,δ73°,λ171°. NP2:ϕ_s209°,δ82°,λ18°. Principal axes: T 2.14, Plg18°, Azm74°; N .52, Plg71°, Azm234°; P -2.66, Plg6°, Azm342°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 14:45:36.4±1.2, 6.44S×130.01E, h112^{km}±12^{km}, mb4.9/20 Error ellipse: s-maj=11.5km s-min=6.2km az=74.0*

*SYO **08** 14:45:36.3, 6.44S×130.01E, h113^{km}, MB4.9*

*IDC **08** 14:45:38.8±3.6, 6.40S×130.05E, h131^{km}±34^{km}, mb4.4/12, mb1 4.5/15, mb1mx4.4/18, MS3.6/7, Ms1 3.6/7, ms1mx3.3/21, Error ellipse: s-maj=22.7km s-min=10.2km az=72.0*

ISC 08 14:45:35.7±0.7**, 6.47S**±0.03×**130.21E**±0.06**, h128**^{km}±7^{km}**, h125**^{km}±3.2^{km}**:pP-P, n143, σ1^{s}.05**/146**, mb5.0**/54**, 10C-15D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.55**	**161**	⇓*i*P	**P**	**14 47 12.2**	**+1.4**
KAKA				*e*S	**S**	**14 48 23.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.39**	**201**	*e*P	**P**	**14 48 25.9**	**-2.7**
	81nm,0.6s						
FITZ				*e*S	**S**	**14 50 35.0**	**-9.3**
FITZ	**Fitzroy Crossi**	**12.39**	**201**	P	**P**	**14 48 27.2**	**-1.4**
	11nm,0.3s,baz=21,slow=12,SNR=145						
FITZ				S	**S**	**14 50 33.7**	**-11**
	21nm,0.3s,baz=155,slow=19,SNR=11						
FITZ				LR	LR	14 54 08.0	
	comp=Z,112nm,19.6s,baz=46,slow=41						
MATI	**Mati**	**13.90**	**343**	*e*P	**P**	**14 48 49.3**	**+1.0**
WRA	**Warramunga Arr**	**13.98**	**164**	P	**P**	**14 48 48.2**	**-1.0**
	21nm,0.3s,baz=348,slow=13,SNR=162						
WRA				S	**S**	**14 51 17.8**	**-3.7**
	29nm,0.3s,baz=330,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**13.98**	**164**	P	**P**	**14 48 48.2**	**-1.0**
WRA				S	**S**	**14 51 17.8**	**-3.7**
WRA				pmax	pmax		
	comp=Z,21nm,0.3s						
WRA				smax			
	comp=Z,29nm,0.3s						
WB2	**Warramunga Arr**	**13.98**	**164**	⇓*i*P	**P**	**14 48 47.0**	**-2.3**
WB2				*e*S	**S**	**14 51 17.6**	**-4.0**
BUKP	**Musuan**	**15.15**	**340**	*e*P	**P**	**14 49 04.5**	**+0.3**
PAGZ	**Pagadian**	**15.77**	**334**	*e*P	**P**	**14 49 11.8**	**-0.2**
BUTP	**Butuan**	**16.01**	**343**	*e*P	**P**	**14 49 15.9**	**+1.0**
IPIL	**Ipil**	**16.09**	**332**	*e*P	**P**	**14 49 16.9**	**+1.0**
SCPH	**Surigao**	**16.82**	**344**	⇑*e*P	**P**	**14 49 25.1**	**+0.2**
PMG	**Port Moresby**	**17.04**	**101**	P	**P**	**14 49 31.6**	**+4.0**
	comp=Z,8.1nm,0.3s,baz=272,slow=3.2,SNR=53						
PMG				S	**S**	**14 52 30.2**	**-1.0**
	comp=Z,5.2nm,0.3s,baz=181,slow=23,SNR=7.0						
PMG	**Port Moresby**	**17.04**	**101**	P	**P**	**14 49 31.6**	**+4.0**
PMG				S	**S**	**14 52 30.2**	**-1.1**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PMG				smax			
	comp=Z,5.0nm,0.3s						
MSLP	**Maasin**	**17.34**	**342**	*e*P	**P**	**14 49 31.9**	**+0.5**
ASAR	**Alice Springs**	**17.46**	**169**	P	**P**	**14 49 33.9**	**+1.1**
	comp=Z,7.0nm,0.3s,baz=341,slow=8.3,SNR=324						
ASAR				S	**S**	**14 52 41.5**	**+0.8**
	comp=Z,8.3nm,0.3s,baz=346,slow=27,SNR=5.1						
ASAR				LR	LR	14 57 19.6	
	comp=Z,104nm,18.7s,baz=141,slow=40						
ASPA	**Alice Springs**	**17.46**	**169**	*e*P	**P**	**14 49 32.3**	**-0.5**
ASPA				*e*S	**S**	**14 52 40.6**	**-0.1**
OCLP	**Ormoc**	**18.28**	**342**	*e*P	**P**	**14 49 43.5**	**+1.3**
BESP	**Borongan**	**18.57**	**345**	*e*P	**P**	**14 49 45.2**	**-0.2**
GUIM	**Jordan**	**18.60**	**336**	*e*P	**P**	**14 49 45.3**	**-0.5**
KKM	**Kota Kinabalu**	**18.70**	**311**	⇑*i*P	**P**	**14 49 46.3**	**-0.5**
	comp=Z,118nm,0.8s						
CUYO	**Cuyo Island**	**19.49**	**332**	*e*P	**P**	**14 49 56.0**	**+0.8**
OTRP	**Odiongan**	**20.41**	**336**	*e*P	**P**	**14 50 04.8**	**+0.2**
CTA	**Charters Tower**	**20.63**	**133**	⇓*i*P	**P**	**14 50 10.4**	**+3.6**
	comp=Z,22nm,0.8s						
CTA	**Charters Tower**	**20.63**	**133**	P	**P**	**14 50 10.4**	**+3.6**
	comp=Z,26nm,0.8s,baz=311,slow=12,SNR=38						
CTA	**Charters Tower**	**20.63**	**133**	P	**P**	**14 50 10.4**	**+3.6**
CTA				pmax	pmax		
	comp=Z,26nm,0.8s						
CTAO	**Charters Tower**	**20.63**	**133**	*e*P	**P**	**14 50 10.1**	**+3.2**
	comp=Z,22nm,0.8s						
CTAO				*e*S	**S**	**14 53 53.5**	**+8.4**
PVCP	**Virac**	**20.82**	**343**	*e*P	**P**	**14 50 10.3**	**+1.6**
SJMP	**San Jose**	**20.87**	**334**	*e*P	**P**	**14 50 10.3**	**+1.1**
BUSP	**Coron**	**20.88**	**331**	*e*P	**P**	**14 50 07.4**	**-1.9**
AUQP	**San Andres**	**21.04**	**339**	*e*P	**P**	**14 50 13.8**	**+2.8**
LQP	**Lukban**	**22.19**	**337**	⇑*e*P	**P**	**14 50 23.9**	**+1.7**
LUBP	**Lubang**	**22.38**	**334**	*e*P	**P**	**14 50 25.9**	**+1.8**
TGY	**Tagaytay City**	**22.42**	**336**	⇓*e*P	**P**	**14 50 26.8**	**+2.3**
TGY	**Tagaytay City**	**22.42**	**336**	P	**P**	**14 50 25.9**	**+1.5**
	comp=Z,1μm,0.7s,baz=211,slow=5.9,SNR=49						
POLP	**Polilio Island**	**22.60**	**339**	*e*P	**P**	**14 50 26.6**	**+0.2**
BALP	**Baler**	**23.67**	**339**	*e*P	**P**	**14 50 36.1**	**-0.6**
FORT	**Forrest**	**24.26**	**185**	*e*P	**P**	**14 50 43.8**	**+1.6**
	comp=Z,109nm,0.7s,mb5.3						
FORT				*e*		14 50 55.8	
FORT				*e*S	S	14 55 12.1	+23
SCZP	**Santa Cruz**	**24.34**	**335**	*e*P	**P**	**14 50 39.5**	**-3.6**
PALP	**Palanan**	**24.62**	**342**	*e*P	**P**	**14 50 44.2**	**-1.5**
CAUP	**Cauayan**	**24.70**	**340**	*e*P	**P**	**14 50 47.0**	**+0.5**
BOLP	**Bolinao**	**24.89**	**336**	*e*P	**P**	**14 50 47.1**	**-1.2**
ABRA	**Dolores**	**25.74**	**339**	*e*P	**P**	**14 50 54.4**	**-1.8**
APYP	**Conner**	**25.75**	**340**	*e*P	**P**	**14 50 54.2**	**-2.1**
STKA	**Stephens Creek**	**27.42**	**159**	⇑*i*P	**P**	**14 51 13.1**	**+1.6**
	comp=Z,11nm,0.7s,mb4.5						
STKA				*e*S	S	14 56 34.0	+53
STKA	**Stephens Creek**	**27.42**	**159**	P	**P**	**14 51 12.7**	**+1.2**
	comp=Z,11nm,0.7s,mb4.5,baz=337,slow=8.2,SNR=28						
STKA				LR	LR	15 03 36.6	
	comp=Z,284nm,21.4s,baz=23,slow=39						
KLBR	**Kellerberrin**	**27.57**	**203**	*e*P	**P**	**14 51 13.5**	**+0.6**
	comp=Z,44nm,1.5s,mb4.8						
KLBR				*e*S	S	14 56 28.1	+45
MUN	**Mundaring**	**28.55**	**205**	*e*P	**P**	**14 51 22.1**	**+0.5**
	comp=Z,3.7nm,0.5s,mb4.3						
MUN				*e*S	S	14 56 50.5	+52
NWAO	**Narrogin (SRO)**	**28.96**	**203**	P	**P**	**14 51 25.8**	**+0.5**
	comp=Z,5.7nm,0.5s,mb4.5,baz=8.6,slow=10,SNR=13						
NWAO	**Narrogin (SRO)**	**28.96**	**203**	P	**P**	**14 51 25.8**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**28.96**	**203**	*e*P	**P**	**14 51 25.2**	**-0.1**
QIZ	**Qiongzhong**	**32.33**	**322**	⇑P	**P**	**14 51 54.1**	**-1.0**
QIZ	**Qiongzhong**	**32.33**	**322**	*e*P	**P**	**14 51 54.0**	**-1.1**
	comp=Z,31nm,1.0s,mb5.0						
JOW	**Kunigami**	**33.16**	**357**	P	**P**	**14 52 02.4**	**+0.2**
	comp=Z,47nm,0.7s,mb5.4,baz=193,slow=6.7,SNR=5.2						
SSE	**Sheshan**	**38.34**	**347**	⇓P	**P**	**14 52 47.9**	**+2.1**
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,65nm,3.6s						
NANT	**Nan**	**38.43**	**311**	⇓P	**P**	**14 52 45.0**	**-1.7**
	comp=Z,100nm,0.7s,mb5.8						
BDT	**Bhumibol Dam**	**38.81**	**308**	P	**P**	**14 52 50.0**	**+0.1**
	comp=Z,20nm,0.8s,mb5.0						
JNU	**Nakatsue**	**39.38**	**1**	P	**P**	**14 52 54.5**	**+0.1**
	comp=Z,12nm,0.8s,mb4.8,baz=356,slow=6.7,SNR=9.0						
JNU				LR	LR	15 08 15.4	
	comp=Z,102nm,18.4s,baz=44,slow=34						
CMAR	**Chiang Mai Arr**	**39.56**	**309**	P	**P**	**14 52 55.9**	**-0.1**
	comp=Z,12nm,0.6s,mb4.9,baz=138,slow=7.5,SNR=77						
CMAR	**Chiang Mai Arr**	**39.56**	**309**	P	**P**	**14 52 55.9**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,12nm,0.6s						
CHG	**Chiang Mai**	**39.77**	**310**	PG	**P**	**14 52 57.8**	**+0.1**
	comp=Z,33nm,0.8s,mb5.2						
NJ2	**Nanjing**	**39.81**	**345**	*e*P	**P**	**14 52 58.8**	**+0.8**
NJ2				PP	PP	14 54 38.5	+3.6
NJ2				PCS		14 58 50.0	
NJ2				S	**S**	**14 58 53.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
WHN	**Wuhan**	**39.82**	**338**	⇓P	**P**	**14 52 58.7**	**+0.6**
WHN				AMB	AMB		
	comp=Z,42nm,0.9s,mb5.3						
GYA	**Guiyang**	**39.91**	**326**	⇓*i*P	**P**	**14 52 58.6**	**-0.3**
GYA				AP	pP	14 53 26.4	-1.3
GYA				XP	sP	14 53 41.2	-1.6
GYA				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
JHJ	**Hachijo jima 2**	**40.41**	**12**	LR	LR	15 07 56.8	
	comp=Z,99nm,20.3s,baz=120,slow=33						
KMI	**Kunming**	**41.24**	**321**	*e*P	**P**	**14 53 10.6**	**+0.8**
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.9						
ENH	**Enshi**	**41.59**	**333**	*e*P	**P**	**14 53 11.7**	**-1.0**
	comp=Z,33nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**43.44**	**9**	*e*P	**P**	**14 53 26.7**	**-1.0**
	comp=Z,15nm,0.6s,mb4.9						
MAT	**Matsushiro**	**43.44**	**9**	P	**P**	**14 53 26.6**	**-1.0**
MAT	**Matsushiro**	**43.44**	**9**	*e*P	**P**	**14 53 27.0**	**-0.6**
	comp=Z,14nm,0.8s,mb4.8						
CD2	**Chengdu**	**44.97**	**327**	⇓*i*P	**P**	**14 53 38.8**	**-1.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
XAN	**Xi'an**	**45.05**	**335**	P	**P**	**14 53 39.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**48.04**	**345**	*e*P	**P**	**14 54 03.2**	**-0.8**
	comp=Z,34nm,0.6s,mb5.4						
BJI	**Beijing**	**48.06**	**346**	P	**P**	**14 54 03.6**	**-0.5**
BJI				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.3						
SHL	**Shillong**	**49.00**	**312**	*e*P	**P**	**14 54 08.2**	**-3.4**
LZH	**Lanzhou**	**49.04**	**332**	⇓P	**P**	**14 54 11.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.3						
HHC	**Hu-ho-hao-te**	**50.11**	**342**	*e*P	**P**	**14 54 20.3**	**+0.5**
HHC				AP	pP	14 54 50.3	+0.7
HHC				XP	sP	14 55 01.9	-1.8
HHC				PP	PP	14 56 20.2	+3.3
HHC				S	**S**	**15 01 24.8**	**+4.9**
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
CN2	**Changchun**	**50.22**	**356**	*e*P	**P**	**14 54 20.2**	**-0.4**
CN2				*e*AP	pP	14 54 50.4	0.0
CN2				*e*S	**S**	**15 01 21.5**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MDJ	**Mudanjiang**	**50.86**	**359**	P	**P**	**14 54 25.0**	**-0.5**
MDJ				AP	pP	14 54 50.8	-4.5
MDJ				XP	sP	14 55 05.3	-4.0
MDJ				SCP		14 59 23.1	
MDJ				S	**S**	**15 01 34.3**	**+4.1**
MDJ				SCS	ScS	15 04 03.8	+4.0
MDJ				SS	SS	15 05 05.4	+1.0
MDJ				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,58nm,4.8s						
MDJ	**Mudanjiang**	**50.86**	**359**	*e*P	**P**	**14 54 24.8**	**-0.6**
	comp=Z,8.9nm,0.6s,mb5.0						
ASAJ	**Asahikawa**	**51.58**	**11**	P	**P**	**14 54 30.9**	**0.0**
	comp=Z,7.5nm,0.6s,mb4.9,baz=255,slow=5.8,SNR=10						
ASAJ	**Asahikawa**	**51.58**	**11**	P	**P**	**14 54 31.0**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**51.97**	**316**	P	**P**	**14 54 34.4**	**+0.4**
LSA	**Lhasa**	**51.97**	**316**	*e*P	**P**	**14 54 34.2**	**+0.2**
	comp=Z,17nm,0.6s,mb5.2						
URZ	**Urewera**	**52.87**	**134**	LR	LR	15 17 09.3	
	comp=Z,140nm,18.3s,baz=53,slow=36						
GTA	**Gaotai**	**53.62**	**331**	⇓P	**P**	**14 54 45.7**	**-0.4**
GTA				AP	pP	14 55 17.4	+1.2
GTA				PCP	PcP	14 55 50.8	0.0
GTA				S	**S**	**15 02 04.6**	**-3.2**
GTA				SCS	ScS	15 04 17.4	-1.6
GTA				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.3						
GTA				AMB	AMB		
	comp=Z,54nm,4.6s						
YSS	**Yuzh-Sakhalins**	**54.34**	**11**	*e*P	**P**	**14 54 51.0**	**-0.3**
PKI	**Pulchoki**	**54.95**	**310**	*e*P	**P**	**14 54 54.6**	**-1.3**
	comp=Z,21nm,0.7s,mb5.3						
KKN	**Kakani**	**55.16**	**310**	*e*P	**P**	**14 54 56.1**	**-1.4**
	comp=Z,35nm,0.8s,mb5.5						
DMN	**Daman**	**55.20**	**310**	*e*P	**P**	**14 54 56.3**	**-1.5**
	comp=Z,29nm,0.7s,mb5.4						
KLR	**Kul'dur**	**55.48**	**1**	*e*P	**P**	**14 54 59.2**	**-0.3**
GKN	**Gorkha**	**55.75**	**310**	*e*P	**P**	**14 55 00.6**	**-1.2**
	comp=Z,40nm,0.5s,mb5.7						
SONM	**Songino Array**	**58.01**	**341**	P	**P**	**14 55 17.5**	**+0.1**
	comp=Z,8.8nm,0.9s,mb4.8,baz=153,slow=5.5,SNR=16						
ZAK	**Zakamensk**	**61.24**	**341**	⇓*i*P	**P**	**14 55 39.2**	**-0.3**
TLY	**Talaya**	**62.24**	**342**	⇓*i*P	**P**	**14 55 45.8**	**-0.4**
TLY				*e*S	**S**	**15 04 02.2**	**+2.3**
TLY				pmax	pmax		
	comp=Z,85nm,0.7s,mb5.9						
TLY				MLR	MLR		
	comp=Z,200nm,17.0s						
WMQ	**Urumqi**	**63.07**	**327**	⇓*i*P	**P**	**14 55 51.8**	**0.0**
WMQ				AP	pP	14 56 23.0	+0.2
WMQ				PCP	PcP	14 56 28.8	+0.8
WMQ				PP	PP	14 58 13.1	-0.2
WMQ				S	**S**	**15 04 09.5**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.4						
SDNR	**Sundarnagar**	**63.27**	**310**	*e*P	**P**	**14 55 52.4**	**-0.9**
KSH	**Kashi**	**67.77**	**317**	*e*P	**P**	**14 56 22.3**	**+0.3**
KSH				*e*PCP	PcP	14 56 49.5	+1.8
KSH				*e*AP	pP	14 56 52.0	-1.3
KSH				*e*XP	sP	14 57 07.4	+0.1
KSH				*e*PP	PP	14 58 55.0	+0.4
KSH				*e*SCP		15 00 38.6	
KSH				*e*PCS		15 00 52.3	
KSH				*e*S	S	15 05 05.3	-2.6
KSH				*e*XS		15 06 00.2	
KSH				*e*SCS	ScS	15 06 08.0	+3.5
KSH				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
KSH				AMB	AMB		
	comp=Z,150nm,9.3s						
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**14 56 22.6**	**0.0**
	comp=Z,38nm,0.5s,mb5.4,baz=123,slow=8.2,SNR=262						
MKAR				LR	LR	15 25 44.1	
	comp=Z,29nm,20.7s,baz=242,slow=36						
YAK	**Yakutsk**	**68.30**	**360**	*e*P	**P**	**14 56 24.6**	**-0.2**
YAK				*i* *PP	pP	14 56 45.1	-11
YAK				*e*S	S	15 05 11.7	-2.0
YAK				*i* *SS		15 05 55.4	
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.6s						
YAK				smax			
	comp=N,5.0nm,1.2s						
YAK				smax			
	comp=E,4.0nm,1.4s						
YAK	**Yakutsk**	**68.30**	**360**	*e*P	**P**	**14 56 24.6**	**-0.2**
	comp=E,27nm,0.7s,mb5.2						
KZA	**Kyzart**	**69.51**	**319**	P	**P**	**14 56 34.0**	**+1.4**
	SNR=17						
TKM2	**Tokmak 2**	**69.71**	**320**	P	**P**	**14 56 34.3**	**+0.6**
	SNR=19						
UCH	**Uchtor**	**70.06**	**319**	P	**P**	**14 56 37.4**	**+1.4**
	SNR=9.0						
AAK	**Ala-Archa**	**70.28**	**320**	P	**P**	**14 56 38.4**	**+1.2**
	SNR=9.6						
CHMS	**Chumysh**	**70.29**	**320**	P	**P**	**14 56 37.4**	**+0.1**
	SNR=6.0						
AML	**Almayashu**	**70.55**	**319**	P	**P**	**14 56 39.6**	**+0.8**
	SNR=27						
USP	**Ospenovka**	**70.58**	**320**	P	**P**	**14 56 39.3**	**+0.3**
	SNR=29						
EKS2	**Erkin-Say**	**70.75**	**319**	P	**P**	**14 56 41.1**	**+1.1**
	SNR=15						
KURK	**Kurchatov**	**72.18**	**328**	*e*P	**P**	**14 56 48.1**	**-0.3**
	comp=E,9.5nm,0.7s,mb4.7						
NVS	**Novosibirsk**	**72.49**	**334**	*i*P	**P**	**14 56 47.9**	**-2.2**
NVS				*e*S	S	15 05 57.8	-4.5
NVS				*e*		15 06 29.7	
NVS				*e*		15 06 53.6	
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				smax			
	comp=N,16nm,1.5s						
NVS				smax			
	comp=E,15nm,1.5s						
VNDA	**Vanda**	**72.94**	**173**	P	**P**	**14 56 53.6**	**+1.2**
	comp=E,1.4nm,0.8s,mb3.9,baz=310,slow=6.1,SNR=8.5						
VNDA	**Vanda**	**72.94**	**173**	P	**P**	**14 56 53.6**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KKAR	**Karatay Array**	**73.08**	**319**	*i*P	**P**	**14 56 53.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
VOSK	**Vostochnaya**	**77.27**	**328**	P	**P**	**14 57 16.8**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
BVA0	**Borovoye Array**	**77.73**	**328**	P	**P**	**14 57 19.4**	**-0.6**
BVAR	**Borovoye Array**	**77.73**	**328**	P	**P**	**14 57 19.9**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.2,baz=124,slow=5.3,SNR=27						
BRVK	**Borovoye**	**77.80**	**328**	*e*P	**P**	**14 57 19.9**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**78.44**	**327**	P	**P**	**14 57 23.5**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
AB31	**Akbulak array**	**82.23**	**322**	*e*P	**P**	**14 57 43.8**	**-0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
QSPA	**South Pole Qui**	**83.50**	**180**	*e*P	**P**	**14 57 51.1**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.2						
SYO	**Syowa Base**	**84.23**	**201**	⇑P	**P**	**14 57 55.2**	**+1.5**
SYO	**Syowa Base**	**84.23**	**201**	⇓PcP	PcP	14 57 57.7	+0.2
SYO	**Syowa Base**	**84.23**	**201**	⇑pP	pP	14 58 30.5	+4.1
ARU	**Arti**	**85.37**	**328**	⇑*i*P	**P**	**14 58 00.2**	**+0.6**
ARU				*e*		15 01 22.5	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ARU	**Arti**	**85.37**	**328**	*e*P	**P**	**14 57 59.1**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**92.78**	**25**	P	**P**	**14 58 34.0**	**-0.5**
	comp=Z,0.7nm,0.8s,mb4.1,baz=270,slow=5.4,SNR=9.3						
ILAR	**Eielson Array**	**92.78**	**25**	P	**P**	**14 58 34.0**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SOC	**Sochi**	**94.77**	**313**	*e*P	**P**	**14 58 40.2**	**-3.8**
SOC				*e*		15 02 31.3	
SOC				*e*S	S	15 09 33.5	-10
SOC				*e*SS	SS	15 16 06.9	-7.2
SOC				*e*SSS	SSS	15 19 48.5	-8.6
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.3						
SOC				pmax	pmax		
	comp=N,13nm,0.8s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
DAWY	**Dawson**	**95.95**	**26**	P	**P**	**14 58 50.5**	**+1.6**

SNAA	Sanae	96.22	193	⇑*i*P	P	14 58 50.9	+1.0
SNAA	Sanae	96.22	193	⇑*i*	pP	14 59 29.7	+6.5
OBN	Obninsk	97.35	325	*e*P	P	14 58 54.4	-1.1
OBN				e*PP	pP	14 59 35.4	+6.7
OBN				*e*		15 02 53.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb5.1						
GERES	GERESS Array B	112.15	320	PKiKP		15 03 58.3	
	comp=Z,0.3nm,0.4s,baz=63,slow=3.0,SNR=3.9						
GERES	GERESS Array B	112.15	320	*i* PKIKP	PKPdf	15 03 58.3	+2.4
DBIC	Dimbokro	135.37	273	PKP	PKPdf	15 04 43.7	+2.1
	comp=Z,5.2nm,1.1s,baz=90,slow=6.1,SNR=2.8						
DBIC	Dimbokro	135.37	273	PKIKP	PKPdf	15 04 43.7	+2.1
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
JTS	JuntasAbangare	145.02	81	*e*PKPdf	PKPdf	15 05 01.9	+3.0
CPUP	Villa Florida	146.58	168	PKPbc	PKPbc	15 05 05.9	+3.3
	comp=Z,1.6nm,0.4s,baz=233,slow=4.4,SNR=5.8						
CPUP	Villa Florida	146.58	168	PKP2	PKPab	15 05 05.9	-0.5
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPAZ	La Paz	151.00	141	PKPbc	PKPdf	15 05 18.4	+10
	comp=Z,1.7nm,0.8s,baz=158,slow=2.8,SNR=8.5						
LPAZ				PKPab	PKPab	15 05 27.4	+2.8
	comp=Z,2.7nm,0.6s,baz=193,slow=4.4,SNR=9.1						
LPAZ	La Paz	151.00	141	PKIKP	PKPdf	15 05 18.5	+10
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPAZ	La Paz	151.00	141	PKPbc	PKPdf	15 05 18.4	+10
LPAZ				PKPab	PKPab	15 05 27.4	+2.8

IDC 08 15:04:49.6±7.2,**18.84S**×**176.52W**,**mb3.6**/2,**mb1 3.8**/2, **mb1mx3.5**/15,**Error ellipse: s-maj=291.0km s-min=116.1km az=152.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.24	260	P	P	15 13 17.2	-1.5
	1.4nm,1.1s,baz=96,slow=7.3,SNR=9.3						
ASAR	Alice Springs	46.28	255	P	P	15 13 16.8	-2.1
	0.3nm,0.5s,baz=91,slow=8.1,SNR=14						
AKASG	Malin Array Be	142.20	333	PKP	PKPdf	15 24 23.4	-2.2
	1.0nm,0.5s,baz=40,slow=3.7,SNR=5.9						

ISK ***08*** *15:30:28.7,38.68N×31.36E,h5^{km},MD3.5,ML3.5*
ISC 08 15:30:29.7±1.0,**38.68N**±0.03×**31.36E**±0.03,**h3**^{km}±8^{km}, **n42**,σ**0^{s}68**/50,**1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.45	63	*i* PG	Pg	15 30 38.3	-0.5
ESKT	Eskisehir	0.93	335	*i* PG	Pg	15 30 47.5	-0.8
ESKT				*i* SG	Sg	15 31 01.4	+0.7
ESKT	Eskisehir	0.93	335	*i* P	Pb	15 30 47.4	-0.7
ESKT				*i* S	Sb	15 31 01.0	+0.3
ALT	Altintas	1.05	292	*i* PG	Pg	15 30 50.2	-0.4
ISP	Isparta	1.07	219	*i* PN	Pn	15 30 50.2	-1.2
ISP				*i* SN	Sn	15 31 06.3	-0.7
KONT	Konya--Tatoy	1.07	133	*i* PN	Pn	15 30 50.3	-1.2
KONT				*i* SN	Sn	15 31 06.3	-0.8
BCK	Bucak	1.36	207	PN	Pn	15 30 56.1	+0.5
ANTO	Ankara	1.63	43	PN	Pn	15 30 59.1	-0.4
LOD	Lodumlu	1.63	42	PN	Pn	15 31 00.3	+0.8
MDU	Mudurnu	1.79	356	PN	Pn	15 31 02.7	+0.9
GPA	Golpazari	1.80	334	PN	Pn	15 31 01.2	-0.8
ANTB	Antalya	1.86	198	PN	Pn	15 31 03.1	+0.3
HDMB	Hadim	1.93	152	*e*PN	Pn	15 31 04.8	+1.0
KAMT	Kaman	1.96	69	PN	Pn	15 31 04.3	+0.1
SGKT	Sivrigoynuk	1.97	16	*i* P	Pn	15 31 04.8	+0.5
SGKT				*i* S	Sn	15 31 35.9	+6.0
DENT	Denizli	2.05	244	*e*PN	Pn	15 31 05.7	+0.2
DNZL	Cakiroluk	2.07	242	*i* P	Pn	15 31 06.8	+1.0
EYL	Eskiyayla	2.10	334	*e*PN	Pn	15 31 06.2	0.0
HENT	Hendek	2.17	351	⇑*i*P	Pn	15 31 07.9	+0.7
HENT				*i* S	Sn	15 31 29.6	-5.4
MANT	Manisa	2.20	266	*i* P	Pn	15 31 08.7	+1.0
ELL	Elmali	2.24	211	*e*PN	Pn	15 31 09.0	+0.7
ULDT	Uludag	2.26	311	*i* P	Pn	15 31 09.0	+0.5
ULDT				*i* S	Sn	15 31 43.8	+6.6
ORLT	Orhaneli	2.35	306	*e*PN	Pn	15 31 10.0	+0.2
ELDT	Eldivan	2.41	41	*i* P	Pn	15 31 10.4	-0.3
YLV	Yalova	2.43	322	*e*PN	Pn	15 31 10.3	-0.7
HRT	Hereke	2.51	329	*e*PN	Pn	15 31 12.1	+0.1
CANT	Cankiri	2.60	41	*e*PN	Pn	15 31 13.9	+0.5
NIG	Nigde	2.62	101	*e*PN	Pn	15 31 14.3	+0.7
AVNT	Avonos	2.74	87	*i* P	Pn	15 31 16.7	+1.4
AVNT				*i* S	Sn	15 31 40.6	-8.7
SAFT	Safranbolu	2.75	21	PN	Pn	15 31 15.6	0.0
AKS	Akhisar	2.78	275	*e*PN	Pn	15 31 15.2	-0.7
BALB	Balikesir	2.87	291	*e*PN	Pn	15 31 17.1	-0.1
YER	Yerkesik	2.88	239	*e*PN	Pn	15 31 16.7	-0.7
ISK	Istanbul-Kandi	2.97	324	*e*PN	Pn	15 31 19.0	+0.3
IKL	Isikli	3.06	142	*e*PN	Pn	15 31 20.8	+0.9
TOS	Tosya	3.12	40	*e*PN	Pn	15 31 20.1	-0.7
YOZ	Yozgat	3.23	71	*e*PN	Pn	15 31 21.6	-0.7
BALT	Daday	3.25	28	*i* P	Pn	15 31 22.0	-0.6
CTKT	Corum	3.28	53	*i* P	Pn	15 31 22.9	-0.2
CTT	Catalca	3.34	319	*e*PN	Pn	15 31 23.2	-0.7
BZK	Bozkurt	3.85	31	*e*PN	Pn	15 31 31.3	+0.1
BOYT	Boyabat	3.86	44	*i* P	Pn	15 31 30.4	-0.9

IDC ***08*** *15:35:39.6±2.5,22.41N×92.63E,mb3.7/3,mb1 3.7/4, mb1mx3.5/17,ML3.4/1,Error ellipse: s-maj=145.0km s-min=24.5km az=57.0*
ISC 08 15:35:47.6±1.5,**23.2N**±0.2×**93.9E**±0.2,**h59**^{km}±20^{km},**n10**, σ**0^{s}92**/11,**mb3.7**/3,**1D,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	2.98	322	⇓*e*PN	P	15 36 30.7	-3.0
SHL				*e*SN	S	15 37 08.2	-0.2
CMAR	Chiang Mai Arr	6.67	134	Pn	P	15 37 26.1	+0.8
	0.2nm,0.3s,baz=313,slow=13,SNR=2.9						
PKI	Pulchoki	8.83	301	*e*P	P	15 37 55.8	+0.8
	9.8nm,0.3s						
KKN	Kakani	9.03	302	*e*P	P	15 37 57.8	0.0
	10nm,0.2s						
DMN	Daman	9.08	301	*e*P	P	15 37 59.1	+0.6
	17nm,0.3s						
GKN	Gorkha	9.63	302	*e*P	P	15 38 05.8	-0.3
	111nm,0.3s						
KOLN	Koldanda	10.36	298	*e*P	P	15 38 15.9	-0.1
MKAR	Makanchi Array	25.32	341	P	P	15 41 11.8	+1.4
	2.6nm,0.7s,mb3.9,baz=148,slow=10,SNR=13						
WRA	Warramunga Arr	58.27	134	P	P	15 45 37.7	-1.2
	0.2nm,0.5s,mb3.4,baz=321,slow=7.5,SNR=6.2						
ASAR	Alice Springs	60.67	137	P	P	15 45 54.9	-0.5
	0.6nm,1.0s,mb3.7,baz=319,slow=6.9,SNR=6.4						

MAN ***08*** *15:41:47.0,20.32N×122.17E,h35^{km},mb4.7,ML3.5, MS3.5*
JMA ***08*** *15:41:50.4±0.4,20.70N×122.57E,h1^{km},M4.2*
ISC 08 15:41:46.3±0.4,**20.33N**±0.03×**122.38E**±0.06,**h33**^{km},**n16**, σ**1^{s}30**/29,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.41	286	*e*P	P	15 41 56.0	+0.5
BBP				*e*S	S	15 42 01.1	-1.0
SGCP	Mt. Cagua	2.10	189	*e*P	P	15 42 19.8	+0.1
SGCP				*e*S	S	15 42 42.8	-2.1
CVP	Callao Caves	2.66	192	*e*P	P	15 42 28.4	+0.6
CVP				*e*S	S	15 42 58.4	-0.8
APYP	Conner	2.68	204	*e*P	P	15 42 28.5	+0.5
APYP				*e*S	S	15 42 58.2	-1.4
ABRA	Dolores	3.10	211	*e*P	S	15 43 10.0	-0.3
ABRA				*e*S	S	15 43 10.2	-0.1
PALP	Palanan	3.25	179	*e*P	P	15 42 36.9	+0.8
PALP				*e*S	S	15 43 13.4	-0.7
CAUP	Cauayan	3.41	189	*e*P	P	15 42 40.3	+1.9
CAUP				*e*S	S	15 43 22.2	+4.1
HATJ	Hateruma jima	3.94	19	*e*S	S	15 43 30.2	-1.4
YOJ	Yonaguni jima	4.16	8	P	P	15 42 51.3	+2.3
YOJ				*e*S	S	15 43 37.3	+0.2
JKRS	Kuro-shima	4.17	21	P	P	15 42 51.3	+2.0
JKRS				*e*S	S	15 43 36.5	-1.1
IRIF	Iriomote-Funau	4.18	17	P	P	15 42 50.8	+1.4
IRIF				*e*S	S	15 43 37.1	-0.6
JIJ	Ishigaki jima	4.33	22	P	P	15 42 53.6	+2.0
JIJ				*e*S	S	15 43 39.7	-1.9
BALP	Baler	4.62	190	*e*P	P	15 42 55.9	+0.2
JTJ	Tarama	4.80	26	P	P	15 43 00.2	+2.0
JTJ				*e*S	S	15 43 51.5	-1.8
JOGS	Gusukube	5.22	32	*e*S	S	15 44 03.4	-0.6
JKE	Kume jima 2	7.21	33	P	P	15 43 32.5	+0.5
JKE				*e*S	S	15 44 50.1	-3.6

NNC ***08*** *15:50:57.0±7.5,38.89N×69.39E,mpv3.4,Error ellipse: s-maj=75.1km s-min=68.1km az=5.0*
ISC 08 15:51:02.2±5.0,**39.2N**±0.4×**69.5E**±0.2,**h33**^{km},**n10**, σ**1^{s}23**/11,**1C-4D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	4.02	11	⇓Pn	Pn	15 52 06.2	+3.0
	2.6nm,0.3s,baz=200,slow=17,SNR=62						
KK31				⇓Lg		15 53 13.4	
	57nm,1.0s,baz=192,slow=30,SNR=6.3						
AML	Almayashu	4.37	46	P	P	15 52 06.6	-1.4
	SNR=26						
UCH	Uchtor	4.90	50	P	P	15 52 17.6	+2.1
	SNR=11						
AAK	Ala-Archa	5.14	46	P	P	15 52 19.9	+1.0
	SNR=6.9						
KZA	Kyzart	5.27	54	P	P	15 52 20.6	0.0
	SNR=48						
CHMS	Chumysh	5.53	44	P	P	15 52 24.7	+0.3
	SNR=9.1						
USP	Ospenovka	5.58	41	P	P	15 52 23.7	-1.4
	SNR=10						
TKM2	Tokmak 2	5.96	49	P	P	15 52 29.8	-0.5
	SNR=7.0						
AB31	Akbulak array	12.20	329	⇑P	P	15 53 56.7	+0.3
	0.7nm,0.5s						
AB31				⇓S	S	15 56 12.3	+0.1
	3.1nm,0.7s,baz=148,slow=23,SNR=9.8						
BVA0	Borovoye Array	13.89	2	⇓P	P	15 54 17.0	-1.8
	0.4nm,1.1s						

IDC ***08*** *15:53:05.9±0.8,6.62N×126.21E,mb4.3/10,mb1 4.4/10, mb1mx4.1/20,MS3.0/2,Ms1 3.1/2,ms1mx2.6/25,Error ellipse: s-maj=50.7km s-min=15.0km az=76.0*
NEIC ***08*** *15:53:12.8±0.4,6.56N×126.18E,h50^{km},mb4.6/8,Error ellipse: s-maj=19.7km s-min=5.6km az=71.0*
MAN ***08*** *15:53:15.4,6.43N×126.22E,h60^{km},mb4.8,ML3.7,MS3.7*
ISC 08 15:53:13.8±0.4,**6.32N**±0.03×**126.28E**±0.05,**h60**^{km},**n39**, σ**1^{s}17**/46,**mb4.3**/14,**4C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.62	358	*e*P	P	15 53 29.5	+2.3
MATI				*e*S	S	15 53 39.0	+1.9
DMPH	Davao City--Mi	1.08	315	⇑*i*P	P	15 53 34.8	+1.6
DMPH				*i* S	S	15 53 53.1	+5.6
GSPH	General Santos	1.34	260	⇑*i*P	S	15 53 55.0	+1.0
KCP	Kidapawan	1.36	300	⇓*i*P	P	15 53 38.0	+0.7
KCP				*i* S	S	15 53 54.8	+0.3
BIPH	Bislig	1.85	3	⇑*e*P	P	15 53 45.5	+1.6
BIPH				*e*S	S	15 54 07.1	+1.0
BUKP	Musuan	1.96	322	*e*P	P	15 53 45.9	+0.5
BUKP				*e*S	S	15 54 09.2	+0.4
CGP	Cagayan de Oro	2.64	324	⇑*e*P	P	15 53 55.0	0.0
CGP				*e*S	S	15 54 24.3	-1.6
BUTP	Butuan	2.71	346	*e*P	P	15 53 57.3	+1.2
BUTP				*e*S	S	15 54 32.0	+4.2
PAGZ	Pagadian	3.25	298	*e*P	P	15 54 03.5	-0.2
SCPH	Surigao	3.53	347	⇓*e*P	P	15 54 07.2	-0.3
IPIL	Ipil	3.96	292	*e*P	P	15 54 13.2	-0.3
MSLP	Maasin	4.04	340	*e*P	P	15 54 12.4	-2.4
MSLP				*e*S	S	15 54 59.0	-2.3
OCLP	Ormoc	4.98	341	*e*P	P	15 54 27.9	0.0
BESP	Borongan	5.31	351	*e*P	P	15 54 32.6	+0.2
BESP				*e*S	S	15 55 24.4	-8.7
GUIM	Jordan	5.62	320	*e*P	P	15 54 30.1	-6.6
KAKA	Kakadu	19.85	162	*e*P	P	15 57 43.5	+0.8
	58nm,0.6s						
QIZ	Qiongzhong	20.39	310	P	P	15 57 44.3	-4.0
	8.7nm,1.1s						
JOW	Kunigami	20.49	5	LR	LR	16 05 26.9	
	comp=Z,46nm,20.6s,baz=161,slow=37						
FITZ	Fitzroy Crossi	24.27	181	*e*P	P	15 58 27.4	+0.6
	6.3nm,0.3s,mb4.5						
FITZ	Fitzroy Crossi	24.27	181	P	P	15 58 27.8	+1.0
	7.8nm,0.5s,mb4.4,baz=359,slow=5.6,SNR=20						
WRA	Warramunga Arr	27.28	163	P	P	15 58 55.3	+0.4
	3.9nm,0.4s,mb4.3,baz=346,slow=10.0,SNR=22						
WB2	Warramunga Arr	27.28	163	*e*P	P	15 58 54.5	-0.4
CMAR	Chiang Mai Arr	29.24	297	LR	LR	16 09 47.8	
	comp=Z,32nm,19.8s,baz=210,slow=34						
ASAR	Alice Springs	30.72	166	P	P	15 59 25.2	-0.4
	1.6nm,0.4s,mb4.2,baz=337,slow=7.2,SNR=46						
ASPA	Alice Springs	30.72	166	*e*P	P	15 59 25.3	-0.3
FORT	Forrest	36.93	177	*e*P	P	16 00 19.0	+0.1
	48nm,0.5s						
KLBR	Kellerberrin	38.57	192	*e*P	P	16 00 32.0	-0.6
	6.5nm,0.5s,mb4.6						
MUN	Mundaring	39.27	194	⇓*i*P	P	16 00 38.3	-0.2
	7.6nm,0.5s,mb4.7						
NWAO	Narrogin (SRO)	39.97	192	P	P	16 00 44.2	0.0
	9.7nm,0.5s,mb4.8,baz=15,slow=9.8,SNR=18						
NWAO	Narrogin (SRO)	39.97	192	*e*P	P	16 00 44.1	-0.1
STKA	Stephens Creek	40.70	160	*e*P	P	16 00 51.0	+0.8
	5.4nm,0.6s,mb4.3						
STKA	Stephens Creek	40.70	160	P	P	16 00 50.9	+0.7
	5.2nm,0.5s,mb4.4,baz=332,slow=6.4,SNR=12						
MKAR	Makanchi Array	55.19	324	P	P	16 02 38.6	-4.2
	0.5nm,0.5s,mb3.9,baz=122,slow=6.9,SNR=9.8						
KURK	Kurchatov	59.33	327	*e*P	P	16 03 07.2	-4.8
	4.8nm,1.1s,mb4.4						
BVAR	Borovoye Array	64.92	326	P	P	16 03 45.4	-3.8
	0.4nm,0.6s,mb3.7,baz=135,slow=10,SNR=2.4						
BRVK	Borovoye	64.99	326	P	P	16 03 45.2	-4.5
	2.9nm,0.8s,mb4.4						
ILAR	Eielson Array	82.97	26	P	P	16 05 31.4	-2.1
	0.6nm,0.8s,mb3.7,baz=237,slow=4.9,SNR=9.5						
ARCES	ARCESS Array B	87.88	340	P	P	16 05 55.6	-2.0
	1.5nm,0.7s,mb4.3,baz=63,slow=5.4,SNR=4.1						
FINES	FINESS Array B	89.35	332	P	P	16 06 02.5	-2.2
	0.6nm,0.7s,mb4.0,baz=330,slow=26,SNR=3.4						

IDC ***08*** *15:56:28.4±5.5,6.21S×151.71E,h55^{km}±48^{km},mb3.9/8, mb1 4.2/9,mb1mx4.0/14,ML4.0/1,MS3.5/1,Ms1 3.5/1, ms1mx2.7/18,Error ellipse: s-maj=44.9km s-min=27.1km az=126.0*
NEIC ***08*** *15:56:28.3±2.2,6.20S×151.65E,h52^{km}±19^{km},mb4.3/3, Error ellipse: s-maj=20.7km s-min=13.2km az=129.0*
ISC 08 15:56:27.1±3.4,**6.2S**±0.1×**151.6E**±0.2,**h54**^{km}±30^{km},**n19**, σ**0^{s}79**/18,**mb4.1**/9,**MS3.5**/1,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.46	234	P	P	15 57 47.2	-0.6
	31nm,0.3s,baz=66,slow=10,SNR=75						
PMG				S	S	15 58 51.9	+1.7
	baz=75,slow=19						
CTAO	Charters Tower	14.77	200	P	P	15 59 54.0	-0.4
	3.2nm,0.8s						
KAKA	Kakadu	20.03	250	*e*P	P	16 00 57.4	-1.0
	10nm,0.6s						
WB2	Warramunga Arr	21.65	229	*e*P	P	16 01 14.2	-0.7
WRA	Warramunga Arr	21.66	229	P	P	16 01 14.7	-0.3
	3.5nm,0.6s,mb3.9,baz=54,slow=10,SNR=6.7						
ASAR	Alice Springs	24.34	223	P	P	16 01 40.6	-0.6
	6.2nm,0.5s,mb4.3,baz=58,slow=9.0,SNR=30						
ASPA	Alice Springs	24.34	223	*e*P	P	16 01 41.6	+0.3
STKA	Stephens Creek	27.22	199	P	P	16 02 08.4	+0.3
	2.6nm,0.6s,mb4.0,baz=13,slow=10,SNR=2.4						
FITZ	Fitzroy Crossi	27.98	243	*e*P	P	16 02 15.1	-0.1
	5.9nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	27.98	243	P	P	16 02 15.1	-0.1
	3.0nm,0.6s,mb4.1,baz=33,slow=6.3,SNR=6.2						
JNU	Nakatsue	43.78	335	LR	LR	16 19 41.0	
	comp=Z,58nm,18.9s,MS3.5,baz=61,slow=32						
CMAR	Chiang Mai Arr	57.43	296	P	P	16 06 13.2	0.0
	0.7nm,0.8s,mb3.8,baz=124,slow=4.9,SNR=3.6						
MCK	McKinley	82.59	23	P	P	16 08 46.0	+0.4
	2.4nm,0.7s,mb4.3						
ILAR	Eielson Array	83.88	22	P	P	16 08 51.6	-0.5
	2.4nm,0.8s,mb4.4,baz=252,slow=4.9,SNR=17						
DAWY	Dawson	86.53	24	*e*P	P	16 09 06.2	+1.0
NVAR	Mina Array Bea	93.86	52	P	P	16 09 41.6	+1.5
	0.4nm,0.7s,mb4.0,baz=246,slow=6.7,SNR=3.8						
YKA	Yellowknife Ar	97.19	28	P	P	16 09 53.8	-1.0
	0.3nm,0.6s,mb3.9,baz=279,slow=4.5,SNR=3.5						
YKA	Yellowknife Ar	97.19	28	P	P	16 09 53.8	-1.0
GERES	GERESS Array B	124.61	327	PKP	PKPdf	16 15 21.4	+0.5
	0.4nm,0.6s,baz=108,slow=3.1,SNR=3.5						

ISK ***08*** *16:01:03.0,37.19N×27.71E,h3^{km},MD3.2*
NEIC ***08*** *16:01:03.7,36.93N×27.81E,h28^{km},MD2.9(ATH),After ATH.*
ATH ***08*** *16:01:03.7,36.93N×27.81E,h28^{km}±3^{km},MD2.9/4*
ISC 08 16:01:03.5±0.8,**36.85N**±0.03×**27.75E**±0.04,**h5**^{km}±6^{km}, **n13**,σ**1^{s}35**/24,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.33	312	*i* P	Pg	16 01 10.7	+0.6
BDRM				*i* S	Sg	16 01 16.2	+1.7
YER	Yerkesik	0.51	56	*i* PG	Pg	16 01 12.8	-1.0
YER				*i* SG	Sg	16 01 20.4	-0.2
NISR	Nisiros	0.55	245	*e*PN	Pn	16 01 16.5	-1.2
NISR				*e*SN	Sn	16 01 26.0	-1.3
ARG	Arkhangelos	0.70	154	*e*PB	Pb	16 01 17.5	-0.3
ARG				*e*SN	Sn	16 01 31.0	-0.1
AYDN	Tasoluk	0.82	7	*i* P	Pb	16 01 18.6	-1.2
AYDN				*i* S	Sb	16 01 28.8	-2.1
SMG	Samos	1.12	320	*e*PN	Pn	16 01 25.0	-0.9
DNZL	Cakiroluk	1.33	51	*i* P	Pb	16 01 28.5	-0.2
DNZL				*i* S	Sb	16 01 47.4	+1.5
DENT	Denizli	1.36	48	PN	Pn	16 01 26.9	-2.4
DENT				SN	Sn	16 01 43.6	-4.4
KARP	Karpathos	1.38	200	*e*PN	Pn	16 01 30.0	+0.4
KARP				*e*SN	Sn	16 01 50.0	+1.6
KDAG	Bornova	1.60	346	*i* P	Pn	16 01 32.7	+0.1
KDAG				*i* S	Sb	16 01 54.4	+0.8
ELL	Elmali	1.74	93	*e*PN	Pn	16 01 35.1	+0.5
ELL				*e*SN	Sn	16 02 00.2	+2.8
MANT	Manisa	1.76	21	*i* P	Pn	16 01 37.4	+2.4
MANT				*i* S	Sn	16 02 00.2	+2.2
AKS	Akhisar	2.03	1	*e*PN	Pn	16 01 34.9	-3.9

NNC ***08*** *16:04:37.7±4.4,39.98N×63.38E,mpv4.3,Error ellipse: s-maj=50.2km s-min=23.8km az=25.0*
BJI ***08*** *16:04:49.5,40.72N×63.86E,h15^{km},mB4.8,mb4.4,Ms4.3*
MOS ***08*** *16:04:50.4±1.1,40.80N×63.59E,h33^{km},mb4.6/15,Error ellipse: s-maj=10.7km s-min=7.4km az=102.1*
NEIC ***08*** *16:04:50.0±0.5,40.65N×63.68E,h25^{km},mb4.3/13,Error ellipse: s-maj=10.8km s-min=6.2km az=177.0*
IDC ***08*** *16:04:51.1±3.9,40.37N×63.48E,h38^{km}±30^{km},mb4.1/18, mb1 4.3/20,mb1mx4.2/23,ML3.9/2,MS3.0/4,Ms1 3.1/4, ms1mx2.7/27,Error ellipse: s-maj=24.5km s-min=13.7km az=10.0*
ISC 08 16:04:47.4±0.3,**40.72N**±0.04×**63.64E**±0.04,**h15**^{km},**n108**, σ**1^{s}03**/108,**mb4.3**/35,**MS3.1**/3,**7C-6D,Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.66	63	⇑Pn	Pn	16 06 13.7	+0.6
	17nm,0.6s,baz=352,slow=39,SNR=55						
KK31				⇑Lg		16 07 53.4	
	77nm,0.6s,baz=238,slow=26,SNR=5.0						
KKAR	Karatay Array	5.66	63	PN	Pn	16 06 13.6	+0.6
AB31	Akbulak array	8.93	344	⇑Pn	P	16 06 58.7	-0.2
	2.1nm,0.5s,baz=149,slow=15,SNR=31						
AB31				⇓Lg		16 09 40.7	
	62nm,0.7s						
AB31	Akbulak array	8.93	344	P	P	16 06 58.6	-0.3
KSH	Kashi	9.53	93	P	P	16 07 06.1	-1.0
KSH				*e*S	Sn	16 08 49.9	-5.0
ZRNK	Zerenda	12.77	15	⇓Pn	P	16 07 49.6	-1.6
	5.9nm,0.6s						
ZRNK	Zerenda	12.77	15	P	P	16 07 49.5	-1.7
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VOSK	Vostochnaya	13.02	20	⇓Pn	P	16 07 52.9	-1.4
	comp=Z,7.5nm,0.7s						
VOSK	Vostochnaya	13.02	20	P	P	16 07 52.9	-1.5
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVA0	Borovoye Array	13.14	18	⇑Pn	P	16 07 56.3	+0.3
	comp=Z,0.1nm,0.6s,baz=187,slow=11,SNR=31						
BVA0	Borovoye Array	13.14	18	*i* P	P	16 07 56.3	+0.2
BVAR	Borovoye Array	13.14	18	Pn	P	16 07 55.7	-0.4
	comp=Z,0.7nm,0.3s,baz=188,slow=10,SNR=24						
BVAR				Sn	S	16 10 19.6	-3.3
	comp=Z,0.8nm,0.3s,baz=255,slow=29,SNR=3.4						
BVAR				Lg		16 11 59.9	
	comp=Z,0.4nm,0.3s,baz=186,slow=27,SNR=2.3						
BRVK	Borovoye	13.15	18	*e*Pn	P	16 07 54.8	-1.3
	comp=Z,6.3nm,0.6s						
BRVK				*e*		16 08 07.3	
GNI	Garni	14.41	274	LR	LR	16 14 43.6	
	comp=Z,29nm,20.6s,baz=259,slow=41						
KURK	Kurchatov	14.45	41	*e*Pn	P	16 08 11.4	-1.7
	comp=Z,11nm,1.4s						
KURK				*e*		16 08 22.0	
MK31	Makanchi Array	14.77	60	⇑Pn	P	16 08 16.8	-0.7
	comp=Z,7.3nm,0.7s						
MKAR	Makanchi Array	14.77	60	Pn	P	16 08 15.9	-1.5
	comp=Z,0.5nm,0.3s,baz=249,slow=13,SNR=83						
MKAR				Lg		16 12 37.8	
	comp=Z,0.2nm,0.3s,baz=292,slow=26,SNR=3.3						
MKAR	Makanchi Array	14.77	60	*i* P	P	16 08 16.9	-0.5
MKAR				pmax	pmax		
	comp=Z,11nm,0.8s						
KIV	Kislovodsk	15.82	289	*c i*P	P	16 08 29.4	-1.7
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIV				MLR	MLR		
	comp=Z,100nm,7.0s						
KIV	Kislovodsk	15.82	289	*e*P	P	16 08 29.6	-1.6
	comp=Z,11nm,0.8s						
ARU	Arti	16.07	350	⇑*i*P	P	16 08 33.8	-0.4
ARU				*e*S	S	16 11 33.8	+1.7
ARU				pmax	pmax		
	comp=Z,35nm,0.8s						
ARU				MLR	MLR		
	comp=Z,40nm,14.0s						
ARU				MLR	MLR		
	comp=N,40nm,18.0s						
ARU	Arti	16.07	350	*e*P	P	16 08 33.3	-1.0
	comp=N,35nm,0.7s						
ARU				*e*		16 08 39.3	
SOC	Sochi	17.95	287	*e*P	P	16 08 56.6	-1.4
SOC				*e*S	S	16 12 08.2	-7.1
SOC				pmax	pmax		
	comp=Z,11nm,0.8s						
SOC				pmax	pmax		
	comp=N,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,100nm,23.0s						
SOC				MLR	MLR		
	comp=N,55nm,19.0s						
SOC				MLR	MLR		
	comp=E,64nm,18.0s						
WMQ	Urumqi	18.06	72	*e*P	P	16 09 02.3	+3.0
NVS	Novosibirsk	19.22	36	*e*P	P	16 09 13.2	-0.1
NVS				*e*S	S	16 12 43.2	-0.7
NVS				pmax	pmax		
	comp=N,12nm,1.1s						
NVS				pmax	pmax		
	comp=Z,12nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				smax			
	comp=N,10.0nm,1.3s						
SOKR	Solikamsk	19.36	349	⇓*e*P	P	16 09 09.6	-5.3
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOKR				MLR	MLR		
	comp=Z,20nm,1.0s						
GZT	Gaziantep	20.50	269	*i* P	P	16 09 25.7	-1.8
KOLN	Koldanda	20.89	122	*e*P	P	16 09 31.8	+0.2
	comp=Z,36nm,0.6s						
KAHT	Ahir Dag	20.95	270	*i* P	P	16 09 31.1	-0.9

GKN	Gorkha	21.41	120	*e*P	P	16 09 37.4	+0.6
	comp=Z,33nm,1.0s,mb4.6						
BOYT	Boyabat	21.64	281	*i* P	P	16 09 38.1	-0.9
KKN	Kakani	21.98	119	*e*P	P	16 09 43.1	+0.6
	comp=Z,16nm,0.6s,mb4.6						
DMN	Daman	21.98	120	*e*P	P	16 09 41.9	-0.7
	comp=Z,32nm,0.9s,mb4.7						
SIM	Simferopol’	22.00	291	*e*P	P	16 09 44.0	+1.4
SIM				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
PKI	Pulchoki	22.21	119	*e*P	P	16 09 44.9	+0.1
	comp=Z,26nm,0.8s,mb4.7						
MOS	Moscow	22.75	320	*e*P	P	16 09 50.7	+0.9
MOS				*e*		16 14 39.8	
BALT	Daday	22.75	282	*i* P	P	16 09 49.6	-0.4
ELDT	Eldivan	22.89	279	*i* P	P	16 09 52.4	+1.0
OBN	Obninsk	22.97	318	⇓*e*P	P	16 09 53.2	+1.2
OBN				*e*		16 13 36.4	
OBN				*e*S	S	16 13 59.1	+1.9
OBN				*e*SS	SS	16 14 39.5	-2.2
OBN				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,9.0s						
OBN	Obninsk	22.97	318	*e*P	P	16 09 53.0	+0.9
	comp=Z,34nm,1.1s,mb4.7						
SGKT	Sivrigoynuk	23.90	280	*i* P	P	16 10 02.7	+1.5
LSA	Lhasa	24.92	107	P	P	16 10 14.0	+2.7
LSA	Lhasa	24.92	107	*e*P	P	16 10 10.8	-0.5
	comp=Z,6.0nm,0.8s,mb4.2						
ESKT	Eskisehir	25.03	278	*i* P	P	16 10 11.5	-0.6
AKASG	Malin Array Be	25.81	304	P	P	16 10 17.9	-1.5
	comp=Z,4.5nm,0.6s,mb4.2,baz=84,slow=8.1,SNR=9.2						
AKASG	Malin Array Be	25.81	304	P	P	16 10 17.9	-1.5
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULDT	Uludag	26.17	280	*i* P	P	16 10 22.2	-0.7
GTA	Gaotai	27.60	81	*e*P	P	16 10 36.7	+0.8
GTA				AP	pP	16 10 45.7	+5.4
GTA				XP	sP	16 10 49.4	+7.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.7						
MLR	Muntele Rosu	27.76	293	P	P	16 10 37.8	+0.5
	comp=Z,6.6nm,0.8s,mb4.3,baz=240,slow=10,SNR=9.3						
MLR	Muntele Rosu	27.76	293	P	P	16 10 37.8	+0.5
MLR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZAK	Zakamensk	29.09	57	*e*P	P	16 10 49.4	+0.2
FINES	FINESS Array B	30.75	325	P	P	16 11 04.0	0.0
	comp=Z,8.9nm,1.0s,mb4.5,baz=124,slow=11,SNR=30						
FINES				LR	LR	16 23 59.8	
	comp=Z,24nm,21.9s,MS2.8,baz=107,slow=37						
FINES	FINESS Array B	30.75	325	*i* P	P	16 11 04.6	+0.7
FINES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAF	Kangasniemi	30.95	326	*e*p	P	16 11 05.8	+0.2
	comp=Z,3.9nm,0.5s,mb4.5						
KAF	Kangasniemi	30.95	326	*e*P	P	16 11 05.8	+0.2
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
SONM	Songino Array	31.11	62	P	P	16 11 08.5	+1.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=276,slow=12,SNR=4.6						
OJC	Ojcow	31.77	302	*e*P	P	16 11 12.3	-0.7
VRAC	Vranov	33.87	301	P	P	16 11 31.5	+0.2
	comp=Z,4.7nm,1.0s,mb4.4,baz=91,slow=9.9,SNR=5.3						
ARCES	ARCESS Array B	35.06	338	P	P	16 11 42.6	+1.3
	comp=Z,10nm,1.0s,mb4.7,baz=135,slow=8.6,SNR=15						
ARCES	ARCESS Array B	35.06	338	P	P	16 11 42.6	+1.3
ARCES				pmax	pmax		
	comp=Z,11nm,1.0s						
BRG	Berggiesshubel	35.49	304	*i* P	P	16 11 45.2	+0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRG	Berggiesshubel	35.49	304	*i* P	P	16 11 45.2	+0.1
	comp=Z,3.6nm,0.7s,mb4.4						
GERES	GERESS Array B	35.81	300	P	P	16 11 47.7	-0.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=68,slow=7.2,SNR=9.4						
GERES				PcP	PcP	16 14 14.4	-1.3
	comp=Z,0.6nm,0.7s,baz=90,slow=1.3,SNR=4.7						
GERES	GERESS Array B	35.81	300	P	P	16 11 47.7	-0.2
GERES						16 14 14.4	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	Kasperske Hory	35.86	301	*e*P	P	16 11 48.5	+0.2
HFS	Hagfors	36.16	320	P	P	16 11 50.7	-0.1
	comp=Z,5.3nm,0.7s,mb4.6,baz=100,slow=9.0,SNR=18						
HFS	Hagfors	36.16	320	P	P	16 11 50.7	0.0
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	Chiang Mai Arr	37.51	116	PcP	PcP	16 14 20.1	-1.1
	comp=Z,1.1nm,0.8s,baz=295,slow=4.8,SNR=5.3						
NB2	NORSAR Subarra	37.51	321	P	P	16 12 02.0	-0.1
	comp=Z,5.9nm,0.8s,mb4.4,baz=99,slow=8.6						
NOA	NORSAR Array B	37.51	321	P	P	16 12 01.8	-0.3
	comp=Z,13nm,1.1s,mb4.6,baz=99,slow=8.4,SNR=22						
NOA				LR	LR	16 29 15.8	
	comp=Z,41nm,18.5s,MS3.3,baz=90,slow=39						
NOA	NORSAR Array B	37.51	321	P	P	16 12 01.8	-0.3
NOA				pmax	pmax		
	comp=Z,13nm,1.1s						
NOA				MLR	MLR		
	comp=Z,41nm,18.5s						
NOA	NORSAR Array B	37.51	321	P	P	16 12 01.8	-0.3
NOA				LR	LR	16 29 15.8	
DAVOX	Davos	38.66	297	P	P	16 12 11.4	-0.5
	comp=Z,1.3nm,0.6s,mb3.9,baz=89,slow=13,SNR=4.1						
LPG	La Plagne	41.06	296	*e*P	P	16 12 32.3	+0.5
LPL	La Plagne	41.07	296	*e*P	P	16 12 32.1	+0.3
	comp=Z,5.0nm,0.6s,mb4.0						
MBDF	Montbardon	41.25	295	*e*P	P	16 12 35.4	+2.2
	comp=Z,5.0nm,0.7s,mb4.0						
VIVF	Saint-Julien-l	42.65	296	*e*P	P	16 12 44.5	-0.2
	comp=Z,5.4nm,0.7s,mb4.1						
SMF	Signal de Mont	42.74	299	*e*P	P	16 12 45.1	-0.3
SSF	Saint Saulge	42.86	299	*e*P	P	16 12 45.9	-0.5
AVF	Avril sur Loir	43.03	299	*e*P	P	16 12 47.5	-0.3
	comp=Z,6.1nm,0.7s,mb4.1						
TCF	Toulx Ste Croi	43.92	299	*e*P	P	16 12 55.1	+0.1
	comp=Z,4.4nm,0.6s,mb4.1						
YAK	Yakutsk	44.07	38	*e*P	P	16 12 57.0	+1.0
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
YAK				MLR	MLR		
	comp=Z,100nm,8.0s						
EKA	Eskdalemuir Ar	45.22	312	P	P	16 13 05.2	-0.2
	comp=Z,7.3nm,1.1s,mb4.4,baz=93,slow=7.1,SNR=6.1						
EKA	Eskdalemuir Ar	45.22	312	P	P	16 13 05.2	-0.1
EKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LFF	La Frestale	45.30	297	*e*P	P	16 13 06.1	0.0
JMIC	Jan Mayen	46.35	334	LR	LR	16 32 31.1	
	comp=Z,23nm,18.7s,MS3.2,baz=226,slow=36						
SSE	Sheshan	46.86	83	⇓P	P	16 13 17.5	-1.1
SSE				AMB	AMB		
	comp=Z,41nm,5.0s						
KLR	Kul’dur	47.43	56	*e*P	P	16 13 24.2	+1.3
ESDC	Sonseca Array	50.45	292	P	P	16 13 44.8	-1.5
	comp=Z,1.6nm,0.7s,mb4.2,baz=60,slow=7.3,SNR=7.3						
MAJO	Matsushiro	56.76	68	*e*P	P	16 14 32.2	-0.8
	comp=Z,4.6nm,0.9s,mb4.5						
ILAR	Eielson Array	72.16	13	P	P	16 16 13.4	+0.7
	comp=Z,1.1nm,0.7s,mb3.9,baz=332,slow=4.5,SNR=17						
ILAR	Eielson Array	72.16	13	P	P	16 16 13.5	+0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	Dawson	73.98	10	*e*P	P	16 16 24.7	+1.4
SML	Sawmill	74.60	15	*e*P	P	16 16 28.1	+1.1
SCHQ	Schefferville	75.85	333	P	P	16 16 34.4	+0.2
	comp=Z,2.8nm,0.7s,mb4.3,baz=63,slow=10.0,SNR=5.1						
SCHQ	Schefferville	75.85	333	P	P	16 16 34.4	+0.2
YKA	Yellowknife Ar	77.13	359	P	P	16 16 42.0	+0.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=359,slow=6.1,SNR=13						
YKA	Yellowknife Ar	77.13	359	P	P	16 16 42.0	+0.7
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	77.13	359	P	P	16 16 42.0	+0.7
WRA	Warramunga Arr	89.08	117	P	P	16 17 41.6	-1.9
	comp=Z,1.6nm,1.0s,mb4.3,baz=323,slow=4.5,SNR=9.4						
WRA	Warramunga Arr	89.08	117	P	P	16 17 41.6	-1.9
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	Alice Springs	91.38	120	P	P	16 17 52.7	-1.4
	comp=Z,1.0nm,0.7s,mb4.2,baz=313,slow=4.8,SNR=11						
CHMT	Chamberlain Mo	92.71	358	*e*P	P	16 18 01.4	+1.7
HRY	Holter Researc	92.86	357	*e*P	P	16 18 02.1	+1.8
PDAR	Pinedale Array	96.67	355	P	P	16 18 19.3	+1.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=37,slow=4.5,SNR=3.1						
PLCA	Paso Flores	145.59	255	PKPbc	PKPbc	16 24 25.3	-0.1
	comp=Z,6.2nm,0.9s,baz=136,slow=2.3,SNR=9.8						
PLCA	Paso Flores	145.59	255	PKP2	PKPab	16 24 25.3	-2.0
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PLCA	Paso Flores	145.59	255	PKPbc	PKPbc	16 24 25.3	-0.1

*JMA **08** 16:07:53.4±0.3,24.20N×121.93E,h24^{km},M2.4*
*TAP **08** 16:07:55.1,24.53N×121.85E,h8^{km},ML2.8*
TAP Felt II J at Suao.
ISC 08 16:07:53.8±0.5**,24.51N**±0.02×**122.00E**±0.02**,h5**^{km}±5^{km}**,**
n31,σ**1^{s}22**/51**,1C-3D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.17	306	⇑*i*P	Pg	16 07 57.9	+0.5
TWC				S	Sg	16 07 59.2	-0.6
ENA	Nanau	0.25	252	P	Pg	16 07 59.3	+0.5
ENA				S	Sg	16 08 01.7	-0.5
ILA	Ilan	0.35	318	P	Pg	16 08 01.3	+0.5
ILA				S	Sg	16 08 06.0	+0.5
TWE	Neicheng	0.37	305	⇓*i*P	Pg	16 08 01.3	0.0
TWE				S	Sg	16 08 05.3	-1.0
ENTT	Nioudou	0.42	289	⇓*i*P	Pg	16 08 01.9	-0.3
ENTT				S	Sg	16 08 06.0	-1.8
TWB1	Santiao Chiao	0.50	359	P	Pg	16 08 04.8	+1.0
TWB1				S	Sg	16 08 10.7	+0.2
TWD	Chiawan	0.56	221	*i* P	Pg	16 08 05.6	+0.5
TWD				S	Sg	16 08 12.2	-0.4
NNS	Nan Shan	0.58	264	P	Pg	16 08 04.9	-0.4
NNS				S	Sg	16 08 11.3	-1.8
NWF	Wu-fen Shan	0.60	340	P	Pg	16 08 06.5	+0.8
NWF				S	Sg	16 08 14.6	+0.9
NSK	Sanguang	0.61	286	⇓*i*P	Pg	16 08 05.6	-0.4
NSK				S	Sg	16 08 11.9	-2.2
WHF	Hehuan Shan	0.76	242	P	Pg	16 08 08.9	-0.1
WHF				S	Sg	16 08 18.7	-0.5
TWS1	Kuangyinshan	0.80	318	*e*P	Pb	16 08 10.5	+0.9
TWS1				S	Sg	16 08 21.8	+1.5
TWY	Chenhua	0.85	335	P	Pb	16 08 11.4	+0.8
ESL	Shilin	0.86	217	*e*P	Pb	16 08 10.9	+0.1
ESL				S	Sb	16 08 22.0	-0.5
NSTT	Nanjuang	0.92	278	*e*P	Pb	16 08 11.8	0.0
NSTT				S	Sb	16 08 21.9	-2.2
YOJ	Yonaguni jima	0.92	93	P	Pb	16 08 11.9	+0.1
YOJ				*e*S	Sb	16 08 25.3	+1.2
TWQ1	Liyutan	1.13	262	*e*P	Pb	16 08 13.3	-2.1
TWQ1				S	Sb	16 08 29.5	-0.8
EHY	Hungye	1.17	212	*e*P	Pb	16 08 16.9	+0.7
SMLT	Sun Moon Lake	1.18	239	*e*P	Pb	16 08 19.5	+3.2
SMLT				S	Sb	16 08 32.6	+0.9
TYC	Yuchr	1.21	240	*e*P	Pb	16 08 17.0	+0.3
CHN5	Tsauling	1.51	233	*e*P	Pn	16 08 23.9	+2.3
IRIF	Iriomote-Funau	1.58	96	P	Pn	16 08 21.2	-1.4
IRIF				*e*S	Sb	16 08 42.4	-1.0
ELDTW	Lidau	1.59	215	*e*P	Pn	16 08 23.3	+0.6
CHN4	Tsaushan	1.73	229	*e*P	Pn	16 08 27.9	+3.2
STYT	Tauyuan	1.76	221	*e*P	Pn	16 08 28.3	+3.2
WTP	Ta-pu	1.79	226	*e*P	Pn	16 08 28.4	+2.9
JKRS	Kuro-shima	1.85	98	P	Pn	16 08 25.4	-1.0
JKRS				*e*S	Sn	16 08 48.8	-1.6
TWK	Hsinying	1.85	229	*e*P	Pn	16 08 28.9	+2.4
SGST	Jiashian	1.92	223	*e*P	Pn	16 08 30.3	+2.8
JIJ	Ishigaki jima	1.96	94	P	Pn	16 08 27.4	-0.6
JIJ				*e*S	Sn	16 08 50.4	-2.7
JTJ	Tarama	2.46	86	*e*S	Sn	16 09 05.1	-0.9

IGQ 08 16:09:21.2,0.74S×78.70W,h19^{km}±2^{km}**,mb4.1,9C-7D,**
Error ellipse: s-maj=1.0km s-min=0.6km az=8.3,
Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARY	Rancho Maria	0.22	88	⇓P	Pb	16 09 26.8	+0.3
NAS1	Nasa	0.25	65	⇓P	Pb	16 09 27.6	+0.5
QIL1	Quilotoa	0.25	246	⇓P	Pb	16 09 27.9	+0.8
VC1	Cotopaxi 1	0.32	72	⇑P	Pb	16 09 28.9	+0.8
TAMB	Tambo	0.34	82	⇑P	Pb	16 09 29.0	+0.5
PISA	Pisayambo	0.45	135	⇑P	Pb	16 09 31.0	+0.7
JUA2	San Juan 2	0.53	11	⇑P	Pb	16 09 32.2	+0.5
CGGP	Crater GGP	0.57	10	⇓P	Pb	16 09 33.2	+0.9
GGP	Refugio Guagua	0.57	11	⇓P	Pb	16 09 33.0	+0.6
PINO	Pino	0.59	9	⇑P	Pb	16 09 33.2	+0.6
ANTI	Antisana	0.61	62	⇑P	Pb	16 09 33.4	+0.3
YANA	Yana	0.63	12	⇑P	Pb	16 09 33.7	+0.3
YANA				S	Sb	16 09 43.2	+1.4
JUIV	Juive	0.72	161	P	Pb	16 09 35.2	+0.3
CUSU	Cusua	0.73	162	P	Pb	16 09 35.3	+0.2
IGUA	Igualata	0.75	175	P	Pb	16 09 36.4	+1.0
RETU	Refugio	0.75	160	P	Pb	16 09 36.1	+0.7
PATA	Patacocha	0.80	160	⇑P	Pb	16 09 37.0	+0.7
CAYR	Refugio Cayamb	1.02	43	⇑P	Pb	16 09 41.8	+1.7
CAYR				S	Sb	16 09 56.9	+3.8
CAYA	Cayambe	1.08	41	P	Pb	16 09 41.4	+0.5
COTA	Cotacachi	1.13	19	P	Pb	16 09 42.9	+1.1
CONE	Cono NE Rev Vo	1.25	58	⇓P	Pn	16 09 45.6	+1.7
HOJA	Cerro de Hojas	1.87	261	⇓P	Pn	16 09 54.2	+1.6

*JMA **08** 16:12:08.6±0.2,23.18N×121.80E,h90^{km}*
TAP 08 16:12:08.1,23.07N×121.68E,h11^{km}±1^{km}**,ML3.2,**
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.84	41	P	Pn	16 12 37.2	-2.9
YOJ				*e*S	Sn	16 12 58.6	-5.0
HATJ	Hateruma jima	2.18	63	*e*S	Sn	16 13 06.7	-5.4
IRIF	Iriomote-Funau	2.26	56	P	Pn	16 12 43.0	-3.0
IRIF				*e*S	Sn	16 13 09.2	-4.9
JKRS	Kuro-shima	2.43	61	P	Pn	16 12 45.0	-3.4
JKRS				*e*S	Sn	16 13 12.9	-5.5
JIJ	Ishigaki jima	2.60	60	P	Pn	16 12 47.3	-3.5
JIJ				*e*S	Sn	16 13 16.5	-6.2
JTJ	Tarama	3.18	60	P	Pn	16 12 55.2	-3.9
JTJ				*e*S	Sn	16 13 31.1	-6.3

*IDC **08** 16:13:26.0±11.0,14.12S×167.44E,h143^{km}±91^{km},*
mb3.8/9,mb1 3.9/9,mb1mx3.8/16,Error ellipse:
s-maj=54.5km s-min=34.6km az=117.0
*NEIC **08** 16:13:28.8±7.5,14.18S×167.31E,h165^{km}±62^{km},mb4.3/3,*
Error ellipse: s-maj=31.9km s-min=19.5km az=84.0
ISC 08 16:13:25.7±1.1**,14.2S**±0.2×**167.3E**±0.2**,h150**^{km}**,n47,**
σ**1^{s}04**/14**,mb4.0**/10**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.94	251	P	P	16 18 00.1	+2.2
	2.5nm,0.8s,baz=90,slow=11,SNR=3.1						
STKA	Stephens Creek	29.38	229	*e*P	P	16 19 18.1	+1.2
	4.4nm,0.6s,mb4.4						
STKA	Stephens Creek	29.38	229	P	P	16 19 17.9	+1.0
	4.9nm,0.6s,mb4.4,baz=48,slow=8.3,SNR=13						
WB2	Warramunga Arr	31.97	255	*e*P	P	16 19 38.8	-1.0
WRA	Warramunga Arr	31.98	255	P	P	16 19 39.4	-0.6
	2.0nm,0.6s,mb4.0,baz=86,slow=9.1,SNR=24						
WRA				PcP	PcP	16 22 25.4	-1.0
	0.6nm,0.8s,baz=91,slow=2.1,SNR=4.7						
ASAR	Alice Springs	32.89	248	P	P	16 19 47.1	-0.6
	3.6nm,0.9s,mb4.1,baz=76,slow=9.4,SNR=68						
ASAR				PcP	PcP	16 22 27.6	-1.1
	0.3nm,0.5s,baz=64,slow=2.0,SNR=6.2						
ASPA	Alice Springs	32.90	248	*e*P	P	16 19 46.0	-1.8
FITZ	Fitzroy Crossi	40.14	259	P	P	16 20 49.1	+0.6
	1.5nm,0.7s,mb3.8,baz=115,slow=7.2,SNR=5.3						
NWAO	Narrogin (SRO)	49.05	239	*e*P	P	16 21 58.6	-1.0
	1.7nm,0.4s,mb4.0						
CMAR	Chiang Mai Arr	74.73	294	P	P	16 24 52.5	+1.3
	1.1nm,0.7s,mb3.6,baz=133,slow=5.4,SNR=6.3						
QSPA	South Pole Qui	75.87	180	P	P	16 24 56.9	+0.4
	25nm,1.9s,mb4.5						
SONM	Songino Array	82.05	324	P	P	16 25 30.4	-0.1
	0.8nm,0.8s,mb3.4,baz=130,slow=11,SNR=2.7						
ILAR	Eielson Array	85.98	18	P	P	16 25 49.0	-0.8
	0.7nm,0.6s,mb3.6,baz=237,slow=5.3,SNR=13						
MKAR	Makanchi Array	96.80	316	P	P	16 26 41.1	+0.6
	1.4nm,0.6s,mb4.5,baz=94,slow=6.9,SNR=18						
ARCES	ARCESS Array B	119.71	345	PKP	PKPdf	16 31 58.2	+0.8
	1.4nm,0.5s,baz=62,slow=1.1,SNR=17						
ARCES	ARCESS Array B	119.71	345	PKP	PKPdf	16 31 58.2	+0.8
FINES	FINESS Array B	125.20	338	PKP	PKPdf	16 32 09.2	+1.0
	0.4nm,0.4s,baz=101,slow=2.9,SNR=9.6						
NB2	NORSAR Subarra	130.08	345	PKPdf	PKPdf	16 32 18.8	+1.3
	0.1nm,0.7s,baz=46,slow=2.6						
NOA	NORSAR Array B	130.08	345	PKP	PKPdf	16 32 18.8	+1.3
	0.6nm,0.7s,baz=28,slow=2.0,SNR=4.3						
GERES	GERESS Array B	139.14	333	PKP	PKPdf	16 32 36.1	+1.4
	0.5nm,0.6s,baz=108,slow=4.2,SNR=4.9						
MEZF	Maizieres J’vi	142.74	340	*e*PKP1	PKPdf	16 32 42.6	+1.6
LDF	La Druitiere	144.12	346	*e*PKP1	PKPbc	16 32 43.7	+0.9
SSF	Saint Saulge	144.50	341	*e*PKP1	PKPbc	16 32 45.0	+1.1
	15nm,0.8s						
LPL	La Plagne	144.68	336	*e*PKP1	PKPbc	16 32 46.0	+1.5
	14nm,0.9s						
LPG	La Plagne	144.69	336	*e*PKP1	PKPbc	16 32 46.1	+1.6
	14nm,0.9s						
SMF	Signal de Mont	144.76	340	*e*PKP1	PKPbc	16 32 45.6	+0.9
	14nm,0.8s						
AVF	Avril sur Loir	144.79	341	*e*PKP1	PKPbc	16 32 45.6	+0.9
	8.0nm,0.7s						
SGMF	Saint Gilles	144.98	348	*e*PKP1	PKPbc	16 32 46.0	+0.8
	53nm,1.0s						
ROSF	Rostrenen	145.04	349	*e*PKP1	PKPbc	16 32 46.3	+0.9
BGF	Bois d’Agland	145.16	341	*e*PKP1	PKPbc	16 32 47.0	+1.3
	23nm,0.8s						
MBDF	Montbardon	145.32	335	*e*PKP1	PKPbc	16 32 47.5	+1.3
	9.4nm,0.7s						
ORIF	Oris-en-Rattie	145.51	336	*e*PKP1	PKPbc	16 32 48.4	+1.7
	21nm,0.7s						
TCF	Toulx Ste Croi	145.60	342	*e*PKP1	PKPbc	16 32 48.3	+1.5
SBF	Sospel	145.74	334	*e*PKP1	PKPbc	16 32 48.5	+1.2
	16nm,0.7s						
MFF	Saint Martin d	145.98	344	*e*PKP1	PKPbc	16 32 49.4	+1.6
	10nm,0.6s						
VIVF	Saint-Julien-l	146.02	338	*e*PKP1	PKPbc	16 32 49.9	+2.0
	4.5nm,0.5s						
PGF	Pioggiola	146.07	331	*e*PKP1	PKPbc	16 32 49.7	+1.6
	26nm,0.8s						
FRF	La Foret Royal	146.32	334	*e*PKP1	PKPbc	16 32 50.2	+1.5
	16nm,0.7s						
SMRF	Simiane la Rot	146.42	336	*e*PKP1	PKPbc	16 32 51.1	+2.2
	14nm,0.7s						
LMR	La Mourre	146.57	334	*e*PKP1	PKPbc	16 32 51.0	+1.8
	24nm,0.8s						
RJF	Les Rejaudoux	146.69	342	*e*PKP1	PKPbc	16 32 51.6	+2.1
	6.6nm,0.6s						
LASF	Ste Croix	146.99	338	*e*PKP1	PKPbc	16 32 52.7	+2.5
	14nm,0.8s						
LFF	La Frestale	147.26	342	*e*PKP1	PKPdf	16 32 53.2	+4.4
	7.5nm,0.5s						
MTLF	Montolieu	148.22	339	*e*PKP1	PKPdf	16 32 55.9	+5.4
	17nm,0.8s						
EPF	Esparros	149.11	341	*e*PKP1	PKPdf	16 32 58.5	+6.6
SJPF	Ste Jean	149.50	343	*e*PKP1	PKPdf	16 32 59.4	+6.9
ETSF	Etsaut	149.50	342	*e*PKP1	PKPdf	16 32 59.8	+7.3
	9.5nm,0.6s						

IDC 08 16:18:43.8±12.0**,1.98N×126.97E,h126**^{km}±113^{km}**,**
mb3.4/4**,mb1 3.4**/5**,mb1mx3.3**/15**,ML3.6**/1**,MS3.7**/1**,**
Ms1 3.7/1**,ms1mx2.8**/12**,Error ellipse: s-maj=116.0km**
s-min=23.9km az=62.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.00	184	P	P	16 23 06.6	-2.1
	0.1nm,0.3s,baz=5.7,slow=10,SNR=4.7						
WRA	Warramunga Arr	22.95	162	P	P	16 23 35.8	-2.2
	1.0nm,0.4s,baz=340,slow=11,SNR=14						
WB2	Warramunga Arr	22.96	162	*e*P	P	16 23 35.7	-2.4
ASAR	Alice Springs	26.37	166	P	P	16 24 10.1	-0.2
	0.2nm,0.3s,baz=346,slow=11,SNR=10						
ASAR				PcP	PcP	16 27 31.0	-2.3
	0.7nm,1.1s,baz=351,slow=1.9,SNR=5.5						
STKA	Stephens Creek	36.42	159	P	P	16 25 36.1	-1.9
	0.8nm,0.4s,baz=349,slow=10,SNR=2.6						
STKA				LR	LR	16 41 39.3	
	comp=Z,129nm,20.4s,baz=89,slow=38						
MKAR	Makanchi Array	59.12	326	P	P	16 28 30.9	-2.6
	0.4nm,0.3s,baz=117,slow=8.3,SNR=8.0						

*LDG **08** 16:50:47.6±0.1,44.42N×6.76E,h2^{km},Md2.0/3,Ml1.9/6,*
Error ellipse: s-maj=1.5km s-min=0.9km az=63.0
*STR **08** 16:50:48.2±0.1,44.45N×6.88E,h5^{km}±1^{km},Ml2.0,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 08 16:50:46.6±0.4**,44.41N**±0.02×**6.73E**±0.04**,h9**^{km}±4^{km}**,n15,**
σ**0^{s}69**/30**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.09	40	Pg	Pg	16 50 49.8	+0.8
SURF				Sg	Sg	16 50 51.1	+0.4
MBDF	Montbardon	0.32	5	*e*Pg	Pg	16 50 53.8	+0.7
MBDF				*e*Sg	Sg	16 50 58.1	+0.6
	16nm,0.4s						
TOUF	Mont Tournerai	0.55	137	Pg	Pg	16 50 57.8	+0.2
TOUF				Sg	Sg	16 51 05.1	+0.1
AUTN	L’Aution	0.65	130	Pg	Pg	16 51 00.0	+0.3
AUTN				Sg	Sg	16 51 08.0	-0.5
AURF	Auriere	0.68	141	Pg	Pg	16 51 01.0	+0.7
SAOF	Saorge	0.73	125	Pg	Pg	16 51 01.2	-0.1
SAOF				Sg	Sg	16 51 10.5	-0.6
SBF	Sospel	0.75	137	*e*Pg	Pg	16 51 01.5	-0.1
SBF				*e*Sg	Sg	16 51 11.2	-0.4
	13nm,0.4s						
SBF				*e*Sn	Sn	16 51 15.2	+0.7
ORIF	Oris-en-Rattie	0.79	310	*e*Pg	Pg	16 51 02.3	-0.2
ORIF				*e*Sg	Sg	16 51 13.9	+0.8
	3.5nm,0.2s						
FRF	La Foret Royal	0.85	184	*e*Pg	Pg	16 51 04.0	+0.2
FRF				*e*Sn	Sn	16 51 18.1	+0.8
	4.1nm,0.2s						
SMRF	Simiane la Rot	0.94	243	*e*Pn	Pn	16 51 06.8	+1.0
SMRF				*e*Sn	Sn	16 51 19.7	+0.3
	3.8nm,0.3s						
LPG	La Plagne	1.08	1	*e*Pg	Pg	16 51 07.8	-0.6
LPG				*e*Sn	Sn	16 51 23.3	+0.2
	2.3nm,0.4s						
LMR	La Mourre	1.09	189	*e*Pg	Pg	16 51 08.5	0.0
LMR				*e*Sg	Sg	16 51 22.9	-0.1
	7.4nm,0.4s						
LPL	La Plagne	1.10	360	*e*Pg	Pg	16 51 08.4	-0.3
LPL				*e*Sg	Sg	16 51 22.5	-1.0
	2.9nm,0.3s						
VIVF	Saint-Julien-l	1.54	287	*e*Pg	Pg	16 51 16.1	-1.2
VIVF				*e*Sg	Sg	16 51 36.7	-1.1
	2.0nm,0.5s						
PGF	Pioggiola	2.49	138	*e*Pn	Pn	16 51 27.8	-0.2
PGF				*e*Sn	Sn	16 51 55.9	-2.9

*ATH **08** 17:09:57.7,38.57N×25.81E,h10^{km},MD3.2/3*
*ISK **08** 17:09:58.8,38.58N×26.02E,h16^{km},MD3.2*
ISC 08 17:09:58.6±0.7**,38.59N**±0.04×**26.01E**±0.05**,h10**^{km}**,n15,**
σ**1^{s}07**/25**,1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IZM	Izmir	1.00	101	*i* PG	Pg	17 10 18.2	-0.4
IZM				*i* SG	Sg	17 10 32.8	+0.8
KDAG	Bornova	1.00	101	*i* P	Pg	17 10 18.3	-0.4
KDAG				*i* S	Sg	17 10 32.1	+0.1
SMG	Samos	1.10	143	*e*PB	Pb	17 10 20.0	+0.8
BOZC	Bozcaada	1.25	1	*i* P	Pb	17 10 21.3	-0.4
BOZC				*i* S	Sb	17 10 39.7	+2.0
AKS	Akhisar	1.44	78	*i* PN	Pn	17 10 25.5	+0.7
AKS				*i* SN	Sn	17 10 43.4	-0.4
APE	Apeiranthos	1.57	194	PN	Pn	17 10 26.3	-0.4
APE				SN	Sn	17 10 47.0	-0.2
AYDN	Tasoluk	1.74	122	*i* P	Pn	17 10 32.8	+3.6
AYDN				*i* S	Sn	17 10 55.7	+4.1
BALB	Balikesir	1.79	54	*e*PN	Pn	17 10 30.6	+0.8
LPK	Lapseki	1.87	18	*e*PN	Pn	17 10 30.8	-0.2
BDRM	Kayabasi	1.90	143	*i* P	Pn	17 10 30.7	-0.7
BDRM				*i* S	Sn	17 10 59.7	+4.1
MANT	Manisa	2.00	92	*i* P	Pg	17 10 38.7	+0.2
MANT				*i* S	Sg	17 11 02.1	-3.1
EDC	Edincik	2.26	39	*e*PN	Pn	17 10 36.8	+0.2
SART	Tekirdag	2.28	23	⇑*i*P	Pg	17 10 41.0	-3.0
SART				*i* S	Sg	17 11 07.2	-7.3

MRMT	Marmara Adasi	2.35	31	ePN	Pn	17 10 37.9	0.0
ULDT	Uludag	2.87	56	i P	Pg	17 10 51.5	-4.5
ULDT				i S	Sg	17 11 27.2	-7.1

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*ROM **08** 17:19:35.5±0.1, 46.30N×13.64E, h10^{km}, MD2.7/3, ML1.9/2, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
*NEIC **08** 17:19:36.9±0.6, 46.28N×13.64E, h5^{km}, MD2.7(ROM), ML2.3(VIE), Error ellipse: s-maj=8.7km s-min=5.9km az=212.0*
*LJU **08** 17:19:36.7, 46.31N×13.61E, h7^{km}, ML1.7*
ISC 08 17:19:36.6±0.3, **46.32N**±0.02×**13.64E**±0.02, **h5^{km}, n29, σ0^{s}.76**/54, **10C-9D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROBS	Robic	0.12	232	⇓iPg	Pg	17 19 38.9	-0.2
ROBS				i Sg	Sg	17 19 40.3	-0.4
DRE	Drenchia	0.14	180	⇓iPg	Pg	17 19 39.6	+0.1
DRE				eSg	Sg	17 19 41.9	+0.3
LSR	Lussari	0.18	333	⇓iPg	Pg	17 19 40.6	+0.4
LSR				eSg	Sg	17 19 44.3	+1.6
PTCC	Patocco-Chiusa	0.22	294	⇓iPG	Pg	17 19 40.7	-0.3
PTCC				SG	Sg	17 19 44.3	+0.3
	115nm,0.2s						
PTCC	Patocco-Chiusa	0.22	294	⇓iPg	Pg	17 19 40.7	-0.3
PTCC				eSg	Sg	17 19 44.3	+0.3
COLI	Coloredo	0.26	225	ePg	Pg	17 19 41.5	-0.3
COLI				eSg	Sg	17 19 45.6	+0.2
GMNA	Gemona	0.28	262	⇑iPG	Pg	17 19 43.2	+0.9
GMNA				SG	Sg	17 19 48.5	+2.4
	230nm,0.4s						
GMNA	Gemona	0.28	262	⇑iPg	Pg	17 19 43.2	+0.9
GMNA				eSg	Sg	17 19 48.5	+2.3
BAD	Bernadia	0.29	254	ePg	Pg	17 19 41.7	-0.6
BAD				eSg	Sg	17 19 46.4	+0.1
VOY	Vojsko	0.34	149	⇓iPg	Pg	17 19 43.3	0.0
VOY				eSg	Sg	17 19 48.6	+0.8
BUA	Buia	0.37	255	⇑ePg	Pg	17 19 43.7	-0.4
BOO	Bordano	0.38	271	⇓iPg	Pg	17 19 43.1	-1.0
PLRO	Paularo	0.41	304	⇓ePg	Pg	17 19 44.4	-0.4
PLRO				eSg	Sg	17 19 50.7	+0.3
MPRI	Monte Prat	0.46	261	ePg	Pg	17 19 45.2	-0.6
MPRI				eSg	Sg	17 19 52.2	+0.3
JAVS	Javornik	0.52	145	⇓iPg	Pg	17 19 46.3	-0.6
JAVS				i Sg	Sg	17 19 54.7	+1.0
	comp=Z,24nm,0.1s						
ZOU	Zoufplan	0.52	298	⇑ePg	Pg	17 19 46.9	-0.1
ZOU				eSg	Sg	17 19 54.8	+0.8
TRI	Trieste	0.61	172	⇑iPG	Pg	17 19 47.7	-1.2
TRI				SG	Sg	17 19 56.9	-0.2
	comp=Z,73nm,0.3s						
TRI	Trieste	0.61	172	⇑iPg	Pg	17 19 47.7	-1.2
TRI				eSg	Sg	17 19 56.9	-0.2
OBKA	Obir	0.66	73	⇑iPG	Pg	17 19 49.7	0.0
OBKA				i SG	Sg	17 19 59.1	+0.7
	comp=Z,11nm,0.1s						
FVI	Forni Avoltri	0.66	295	ePG	Pg	17 19 49.0	-0.7
FVI				SG	Sg	17 19 58.8	+0.3
	comp=Z,32nm,0.2s						
FVI	Forni Avoltri	0.66	295	ePg	Pg	17 19 49.0	-0.7
FVI				eSg	Sg	17 19 58.8	+0.3
LJU	Ljubljana	0.67	114	i Sg	Sg	17 20 00.4	+1.4
	comp=Z,13nm,0.1s						
KBA	Koelnbreinsper	0.79	345	⇑iPG	Pg	17 19 52.1	-0.2
KBA				i SG	Sg	17 20 03.4	+0.6
	comp=Z,5.7nm,0.2s						
CEY	Cerknica	0.80	136	i Pg	Pg	17 19 51.1	-1.3
CEY				i Sg	Sg	17 20 04.1	+1.0
	comp=Z,7.0nm,0.1s						
VISS	Visnje	0.98	121	i Pg	Pg	17 19 56.1	-0.1
VISS				i Sg	Sg	17 20 10.2	+1.0
	comp=Z,6.0nm,0.1s						
CRES	Cresnjevec ost	1.35	111	i Sg	Sg	17 20 21.7	0.0
BOJS	Bojanci	1.39	125	i Pg	Pg	17 20 03.0	-1.3
BOJS				i Sg	Sg	17 20 22.1	-0.6
	comp=Z,5.0nm,0.1s						
ARSA	Arzberg	1.59	53	⇑iPG	Pg	17 20 07.2	-1.2
ARSA				i SG	Sg	17 20 29.1	-0.5
	comp=Z,2.6nm,0.3s						
WTTA	Wattenberg	1.67	305	⇑iPG	Pg	17 20 08.7	-1.3
WTTA				i SG	Sg	17 20 31.9	-0.3
	comp=Z,6.3nm,0.4s						

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*INMG **08** 17:41:48.8±0.5, 38.21N×8.02W, h8^{km}±3^{km}, ML0.7, Error ellipse: s-maj=2.6km s-min=1.6km az=67.0*
MDD 08 17:41:49.0±0.4, **38.21N×8.03W, mbLg1.0**/5, **Error ellipse: s-maj=7.2km s-min=2.3km az=55.0, PRXIMO, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBEJ	Beja	0.22	145	ePg	Pg	17 41 52.9	-0.5
PBEJ				eSg	Sg	17 41 56.1	-0.2
	4.6nm,0.1s						
PBEJ	Beja	0.22	145	Pg	Pg	17 41 52.9	-0.5
PBEJ				Lg		17 41 56.1	
	2.3nm,0.1s						
MOE	Montemor	0.41	321	ePg	Pg	17 41 56.6	-0.5
MOE				eSg	Sg	17 42 02.4	-0.2
EGRO	El Granado	0.80	147	Pg	Pg	17 42 04.0	-0.9
	0.6nm,0.2s,SNR=7.9						
EGRO				Lg		17 42 14.2	
	1.6nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.86	149	eP	Pg	17 42 04.6	-1.6
PALC				eS	Sg	17 42 16.0	-1.6
	2.2nm,0.1s						
PALC	Alcoutim	0.86	149	Pg	Pg	17 42 04.6	-1.6
PALC				Lg		17 42 16.0	
	1.1nm,0.1s						
EBAD	Badajoz	0.96	55	Pg	Pg	17 42 06.5	-1.8
	1.8nm,0.5s,SNR=7.9						
EBAD				Lg		17 42 20.0	
	4.7nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	1.16	112	Pg	Pg	17 42 10.5	-1.5
	0.0nm,0.2s,SNR=7.9						
EMIN				Lg		17 42 25.6	
	0.5nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	1.69	14	eSg	Sg	17 42 42.7	-2.5

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*NEIC **08** 17:52:47.5, 16.06N×97.14W, h10^{km}, MD3.7(MEX), After MEX.*
MEX 08 17:52:47.6±1.1, **16.04N×97.13W, h11^{km}**±11^{km}, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.02	105	eP	Pb	17 53 04.7	-2.1
HUIG				eS	Sb	17 53 16.9	-3.1
PNIG	Pinotepa	1.02	290	eP	Pb	17 53 03.4	-3.5
PNIG				eS	Sb	17 53 17.0	-3.1
VHO	Vista Hermosa	1.09	20	i P	Pb	17 53 04.7	-3.5
VHO				i S	Sb	17 53 18.2	-4.0
OXX	Oaxaca	1.11	21	i P	Pb	17 53 05.5	-2.8
OXX				i S	Sb	17 53 19.0	-3.6
CMIG	Matias Romero	2.39	64	eP	Pn	17 53 24.0	-3.4
CMIG				eS	Sn	17 53 52.4	-4.6
PPM	Popocatepetl	3.33	335	eP	Pn	17 53 37.7	-3.1
PPM				eP		17 53 39.0	
PPM	Popocatepetl	3.33	335	eP	Pn	17 53 39.0	-1.8

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*MDD **08** 18:00:25.8±0.4, 43.09N×0.47W, mbLg1.6/2, Error ellipse: s-maj=3.5km s-min=2.0km az=6.0, PRXIMO*
*STR **08** 18:00:25.4±0.2, 43.08N×0.49W, h7^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 18:00:25.4±0.1, 43.08N×0.47W, h2^{km}, Md2.1/3, Error ellipse: s-maj=2.4km s-min=1.4km az=176.0*
ISC 08 18:00:24.3±1.0, **43.10N**±0.05×**0.46W**±0.04, **h12^{km}**±8^{km}, **n11, σ0^{s}.41**/17, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.06	119	Pg	Pg	18 00 26.8	0.0
REYF				Sg	Sg	18 00 28.3	-0.2
REYF	Montagne du Re	0.06	119	Pg	Pg	18 00 26.9	0.0
REYF				Lg		18 00 28.4	
ETSF	Etsaut	0.21	200	ePg	Pg	18 00 29.3	+0.2
ETSF				eSg	Sg	18 00 31.9	-0.4
	12nm,0.2s						
FDAF	Les Forges d'A	0.29	195	Pg	Pg	18 00 30.7	+0.2
FDAF				Sg	Sg	18 00 35.0	+0.3
FDAF	Les Forges d'A	0.29	195	Pg	Pg	18 00 30.8	+0.3
FDAF				Lg		18 00 35.2	
LARF	Larrau	0.39	261	Pg	Pg	18 00 32.6	+0.2
LARF				Sg	Sg	18 00 38.5	+0.7
LARF	Larrau	0.39	261	Pg	Pg	18 00 32.8	+0.4
LARF				Lg		18 00 38.7	
SJPF	Ste Jean	0.56	272	ePg	Pg	18 00 36.0	+0.3
SJPF				eSg	Sg	18 00 42.9	-0.4
	2.3nm,0.2s						
EPF	Esparros	0.59	96	ePg	Pg	18 00 36.5	+0.2
EPF				eSg	Sg	18 00 44.6	+0.2
	2.0nm,0.3s						
EALK	Alkurruntz	0.77	279	Pg	Pg	18 00 39.1	-0.8
	0.1nm,0.3s,SNR=7.9						
EALK				Lg		18 00 50.7	
	28nm,1.7s,SNR=7.9						
ESAC	San Caprasio	1.38	180	Pg	Pg	18 00 51.2	-0.7
	1.8nm,0.4s,SNR=7.9						
ESAC				Lg		18 01 09.7	
	23nm,0.7s,SNR=7.9						

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*IDC **08** 18:01:55.9±1.8, 14.11S×175.66W, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, Error ellipse: s-maj=51.6km s-min=42.7km az=167.0*
NEIC 08 18:01:57.3±0.9, **14.14S×175.63W, h10^{km}, mb4.3**/1, **Error ellipse: s-maj=28.2km s-min=24.2km az=157.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.83	238	P	P	18 09 55.9	-1.4
	2.5nm,0.8s,baz=68,slow=11,SNR=3.8						
WRA	Warramunga Arr	48.04	256	P	P	18 10 37.1	-2.0
	0.3nm,0.2s,baz=82,slow=6.0,SNR=9.7						
ASAR	Alice Springs	48.46	251	P	P	18 10 40.5	-1.9
	4.3nm,0.4s,baz=86,slow=8.0,SNR=407						
VNDA	Vanda	64.41	185	P	P	18 12 33.6	-1.9
	0.6nm,0.8s,baz=20,slow=10,SNR=6.1						
QSPA	South Pole Qui	75.89	180	eP	P	18 13 43.5	-1.7
	1.7nm,0.6s						
ARCES	ARCESS Array B	123.06	351	PKP	PKPdf	18 20 53.2	-3.5
	1.7nm,0.9s,SNR=4.0						
GERES	GERESS Array B	144.55	349	PKP	PKPdf	18 21 34.7	-2.4
	0.3nm,0.4s,baz=27,slow=3.0,SNR=4.2						

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*PRU **08** 18:34:11.8, 51.40N×16.11E*
*WAR **08** 18:34:11.6, 51.45N×16.12E, ML2.7, Mining Induced*
*NEIC **08** 18:34:12.2±1.4, 51.35N×16.07E, h5^{km}, MG2.6(WAR), Error ellipse: s-maj=17.9km s-min=8.9km az=199.0*
ISC 08 18:34:08.8±0.8, **51.44N**±0.05×**16.12E**±0.04, **n13, σ1^{s}.09**/32, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	169	i PG	Pg	18 34 22.9	+1.9
KSP				eSG	Sg	18 34 30.9	+1.8
KSP	Ksiaz	0.61	169	i Pg	Pg	18 34 22.9	+1.9
KSP				i		18 34 24.2	
KSP				eSg	Sg	18 34 30.3	+1.2
DPC	Dobruska-Polom	1.10	173	ePG	Pg	18 34 31.6	+0.8
DPC				eSG	Sg	18 34 46.5	+1.0
PVCC	Panska Ves	1.34	228	ePG	Pg	18 34 36.3	+0.7
BRG	Berggiesshubel	1.48	248	i Pn	Pn	18 34 37.6	+0.8
BRG				i Pg	Pg	18 34 39.2	+0.8
BRG				i Sg	Sg	18 34 58.8	+0.6
PRU	Pruhonice	1.77	215	ePN	Pn	18 34 40.8	-0.1
PRU				ePG	Pg	18 34 43.2	-0.9
PRU				i		18 34 47.3	
PRU				i		18 35 00.8	
PRU				SG	Sg	18 35 07.5	-0.1
	8.6nm,0.3s						
PRU	Pruhonice	1.77	215	ePn	Pn	18 34 40.8	-0.1
PRU				ePg	Pg	18 34 43.4	-0.7
PRU				eSg	Sg	18 35 07.0	-0.6
CLL	Collm	1.96	267	ePG	Pg	18 34 47.0	-0.9
CLL				eSG	Sg	18 35 14.0	+0.1
OKC	Ostrava-Krasne	2.06	140	ePG	Pg	18 34 48.6	-1.4
OKC				eSG	Sg	18 35 15.9	-1.6
OJC	Ojcow	2.64	116	ePN	Pn	18 34 54.0	+0.7
OJC				ePG	Pg	18 35 01.0	-0.5
OJC				eSG	Sg	18 35 36.0	-0.6
OJC	Ojcow	2.64	116	ePn	Pn	18 34 53.6	+0.3
OJC				ePg	Pg	18 35 01.5	0.0
OJC				eSg	Sg	18 35 36.3	-0.3
KHC	Kasperske Hory	2.83	216	ePN	Pn	18 34 57.1	+1.0
KHC				ePG	Pg	18 35 03.1	-2.2
KHC				e		18 35 31.5	
KHC				eSG	Sg	18 35 41.1	-1.9
MOX	Moxa	2.95	256	Pn	Pn	18 34 59.4	+1.6
MOX				i Pg	Pg	18 35 06.4	-1.3
MOX				i Sg	Sg	18 35 46.5	-0.5

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*IDC **08** 18:47:22.1±1.9, 8.80S×124.70E, mb3.6/1, mb1 3.8/4, mb1mx3.6/12, ML3.5/3, Error ellipse: s-maj=108.0km s-min=27.6km az=65.0*
ISC 08 18:47:37.1±2.1, **9.8S**±0.1×**124.4E**±0.1, **h100^{km}, n9, σ1^{s}.20**/17, **mb3.4**/1, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNA	Kununurra	7.28	144	eP	P	18 49 21.7	-0.7
KNA				eS	S	18 50 43.3	-0.7
FITZ	Fitzroy Crossi	8.31	172	eP	P	18 49 36.2	-0.2
	2.6nm,0.5s						
FITZ				eS	S	18 51 07.9	-1.3
FITZ	Fitzroy Crossi	8.31	172	Pn	P	18 49 36.5	+0.1
	0.7nm,0.3s,baz=359,slow=13,SNR=15						
FITZ				Sn	S	18 51 09.3	+0.1
	2.6nm,0.3s,baz=130,slow=4.6,SNR=10						
KAKA	Kakadu	8.38	111	eP	P	18 49 37.0	-0.3
	3.3nm,0.2s						
KAKA				eS	S	18 51 10.9	-0.1
WRA	Warramunga Arr	13.91	137	Pn	P	18 50 50.2	-0.9
	0.2nm,0.3s,baz=320,slow=13,SNR=4.5						
WRA				Sn	S	18 53 23.2	-0.2
	0.9nm,0.3s,baz=318,slow=24,SNR=11						
WB2	Warramunga Arr	13.92	137	eP	P	18 50 53.7	+2.5
WB2				eS	S	18 53 20.1	-3.4
ASPA	Alice Springs	16.49	148	eP	P	18 51 30.9	+7.1
ASPA				eS	S	18 54 25.8	+2.9
ASAR	Alice Springs	16.49	148	P	P	18 51 24.0	+0.2
	0.2nm,0.3s,baz=320,slow=10,SNR=12						
ASAR				S	S	18 54 26.9	+4.0
	0.2nm,0.3s,baz=317,slow=20,SNR=8.0						
MKAR	Makanchi Array	67.71	330	P	P	18 58 16.9	-9.0
	0.3nm,0.5s,mb3.4,baz=151,slow=6.1,SNR=4.5						

IDC 08 18:54:23.3±25.0, **23.38S×171.97W, mb4.3**/4, **mb1 4.4**/4, **mb1mx3.9**/18, **Error ellipse: s-maj=471.0km s-min=148.8km az=77.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	38.85	267	eP	P	19 01 50.4	-1.7
	3.7nm,0.4s						
CTA	Charters Tower	38.85	267	P	P	19 01 50.5	-1.6
	4.5nm,0.4s,baz=96,slow=11,SNR=16						
STKA	Stephens Creek	41.75	248	P	P	19 02 13.4	-2.5
	1.8nm,0.7s,baz=90,slow=12,SNR=5.1						
ASAR	Alice Springs	49.37	258	P	P	19 03 14.8	-1.9
	1.6nm,0.4s,baz=88,slow=7.0,SNR=88						
ASPA	Alice Springs	49.37	258	eP	P	19 03 15.4	-1.4
WB2	Warramunga Arr	49.78	263	eP	P	19 03 18.4	-1.5
WRA	Warramunga Arr	49.79	263	P	P	19 03 18.6	-1.4
	1.1nm,0.3s,baz=103,slow=8.0,SNR=59						

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*BJI **08** 19:18:59.8, 6.10S×155.59E, h258^{km}, mB4.7, mb4.4*
*IDC **08** 19:18:60.0±4.6, 6.37S×155.32E, h246^{km}±42^{km}, mb3.9/10, mb1 4.0/12, mb1mx3.9/15, Error ellipse: s-maj=27.6km s-min=15.8km az=92.0*
*NEIC **08** 19:19:01.6±1.9, 6.37S×155.22E, h262^{km}±18^{km}, mb4.2/10, Error ellipse: s-maj=16.1km s-min=8.1km az=100.0*
ISC 08 19:18:53.0±2.0, **6.32S**±0.08×**155.4E**±0.1, **h196^{km}**±18^{km}, **n33, σ0^{s}.98**/36, **mb4.1**/21, **1C-2D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.74	249	P	P	19 21 02.4	+5.7
	0.5nm,0.3s,baz=50,slow=10.0,SNR=4.2						
PMG				S	S	19 22 38.0	+4.6
	0.2nm,0.3s,baz=94,slow=9.1,SNR=1.9						
CTA	Charters Tower	16.33	212	eP	P	19 22 33.8	+0.9
	3.7nm,0.5s						
CTA	Charters Tower	16.33	212	P	P	19 22 34.3	+1.4
	0.8nm,0.3s,baz=41,slow=13,SNR=13						
CTAO	Charters Tower	16.33	212	eP	P	19 22 33.8	+0.9
	8.0nm,0.8s						
KAKA	Kakadu	23.56	253	⇑iP	P	19 23 46.4	-0.7
	51nm,0.5s						
WB2	Warramunga Arr	24.54	235	⇓iP	P	19 23 56.3	0.0
WB2				eS	S	19 28 00.3	+0.3
WRA	Warramunga Arr	24.55	235	P	P	19 23 56.4	+0.1
	6.7nm,0.7s,mb4.4,baz=61,slow=9.7,SNR=83						
WRA				S	S	19 28 02.0	+1.8
	0.3nm,0.5s,baz=335,slow=36,SNR=5.8						
ASAR	Alice Springs	26.94	228	P	P	19 24 17.0	-1.3
	3.5nm,0.4s,mb4.3,baz=58,slow=8.8,SNR=39						
ASAR				S	S	19 28 39.6	+0.5
	0.9nm,0.9s,baz=31,slow=21,SNR=4.6						
ASPA	Alice Springs	26.94	228	eP	P	19 24 17.4	-0.9
STKA	Stephens Creek	28.52	205	P	P	19 24 32.6	+0.1
	4.4nm,1.3s,mb3.9,baz=61,slow=13,SNR=4.3						
FITZ	Fitzroy Crossi	31.32	245	⇓iP	P	19 24 55.5	-1.7
	6.0nm,0.4s,mb4.6						
FORT	Forrest	35.37	223	eP	P	19 25 31.0	-0.7
	46nm,0.6s,mb5.2						
KLBR	Kellerberrin	43.24	230	eP	P	19 26 35.2	-1.6
	4.9nm,0.4s,mb4.3						
MAJO	Matsushiro	45.59	341	eP	P	19 26 54.8	-0.5
	5.0nm,0.6s,mb4.0						
MAT	Matsushiro	45.59	341	P	P	19 26 54.5	-0.9
MAT	Matsushiro	45.59	341	eP	P	19 26 55.0	-0.4
	6.2nm,0.7s,mb4.0						
JNU	Nakatsue	45.63	331	P	P	19 26 55.8	0.0
	16nm,0.9s,mb4.4,baz=50,slow=3.8,SNR=11						
MDJ	Mudanjiang	55.78	338	P	P	19 28 11.5	-0.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,50nm,5.6s						
CMAR	Chiang Mai Arr	60.88	295	P	P	19 28 47.0	-0.4
	comp=Z,2.0nm,0.6s,mb3.9						
HIA	Hailar	63.50	335	eP	P	19 29 04.6	+0.3
	comp=Z,2.6nm,0.6s,mb4.0						
GTA	Gaotai	68.54	317	eP	P	19 29 37.3	+0.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
SONM	Songino Array	69.00	327	P	P	19 29 39.7	+0.6
	comp=Z,9.5nm,0.8s,mb4.5,baz=133,slow=6.8,SNR=22						
VNDA	Vanda	71.24	179	P	P	19 29 52.1	0.0
	comp=Z,1.0nm,0.8s,mb3.5,baz=312,slow=6.9,SNR=4.5						
SML	Sawmill	80.44	24	eP	P	19 30 44.6	+0.6
MCK	McKinley	81.28	22	eP	P	19 30 48.0	-0.3
	comp=Z,2.6nm,0.9s,mb3.9						
ILAR	Eielson Array	82.59	21	P	P	19 30 54.5	-0.6
	comp=Z,1.8nm,0.8s,mb3.9,baz=254,slow=5.2,SNR=24						
MKAR	Makanchi Array	83.19	319	P	P	19 30 58.5	0.0
	comp=Z,1.4nm,0.6s,mb3.9,baz=101,slow=7.0,SNR=12						
MKAR	Makanchi Array	83.19	319	P	P	19 30 58.5	0.0
QSPA	South Pole Qui	83.65	180	eP	P	19 31 00.7	+0.5
	comp=Z,4.6nm,0.5s,mb4.5						
NVAR	Mina Array Bea	90.97	52	P	P	19 31 37.9	+1.8
	comp=Z,1.1nm,0.7s,mb3.9,baz=261,slow=7.3,SNR=8.4						
NVAR	Mina Array Bea	90.97	52	P	P	19 31 37.9	+1.8
YKA	Yellowknife Ar	95.55	28	P	P	19 31 57.6	+1.1
	comp=Z,0.8nm,0.6s,mb4.1,baz=262,slow=4.9,SNR=5.6						
GERES	GERESS Array B	126.70	329	PKP	PKPdf	19 37 34.9	+1.7
	comp=Z,0.8nm,0.6s,baz=90,slow=1.3,SNR=11						

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*NEIC **08** 19:30:32.9, 32.46S×71.88W, h35^{km}, ML3.1(GUC), After GUC.*
GUC 08 19:30:32.9±1.0, **32.46S×71.88W, h35^{km}**±3^{km}, **MD3.6, ML3.1, 11C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.05	166	⇑iP	P	19 30 51.3	0.0
LCCH				i S	S	19 31 05.3	+0.4
JACH	Jahuel	1.11	102	⇑iP	P	19 30 52.9	+0.7
JACH				i S	S	19 31 08.1	+1.6
DSCH	Colegio Aleman	1.45	131	⇓iP	P	19 30 58.1	+1.0
DSCH				i S	S	19 31 17.1	+2.0
DSCH				AMP		19 31 20.0	
	comp=N,552nm,0.5s						
CLCH	Cerro Calan	1.47	130	⇑iP	P	19 30 58.4	+1.0
CLCH				i S	S	19 31 17.7	+2.1
CLCH				AMP		19 31 20.6	
	comp=N,356nm,0.5s						
CMCH	Combarbala	1.48	31	⇑iP	P	19 30 58.7	+1.2
CMCH				i S	S	19 31 18.3	+2.4
CMCH				AMP		19 31 21.4	
	comp=E,687nm,0.5s						
LNV	Longovilo	1.55	165	⇑iP	P	19 30 59.5	+1.0
LNV				i S	S	19 31 19.4	+1.8
FCH	Farellones	1.60	123	⇑iP	P	19 31 00.4	+1.3
FCH				i S	S	19 31 21.6	+2.8
FCH				AMP		19 31 23.8	
	comp=N,232nm,0.2s						
PCH	Pirque	1.64	136	⇑iP	P	19 31 01.0	+1.3
PCH				i S	S	19 31 21.5	+1.7
CHCH	Chadas Angostu	1.80	145	⇑iP	P	19 31 03.3	+1.3
CHCH				i S	S	19 31 25.6	+1.8
CACH	El Canelo	1.98	147	⇓iP	P	19 31 07.8	+3.3
CACH				i S	S	19 31 33.9	+5.6
LMEL	Las Melosas	1.98	135	⇑iP	P	19 31 06.3	+1.7
LMEL				i S	S	19 31 31.1	+2.7
LMEL				AMP		19 31 35.3	
	comp=N,211nm,0.2s						
CICH	Cipreses	2.23	147	⇑iP	P	19 31 09.3	+1.1
SFDO	San Fernando	2.27	162	⇑iP	P	19 31 09.4	+0.6
TLL	Tololo Astrono	2.46	22	⇓iP	P	19 31 12.3	+0.8
TLL				i S	S	19 31 41.9	+1.3
TLL				AMP		19 31 53.8	
	comp=N,169nm,0.7s						

IDC 08 19:42:30.4±5.3, **25.00N×141.90E, h104^{km}**±82^{km}, **mb2.8**/2, **mb1 3.1**/3, **mb1mx2.9**/19, **ML3.8**/1, **Error ellipse: s-maj=428.0km s-min=24.5km az=108.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.10	7	P	P	19 43 04.5	-0.4
	23nm,0.3s,baz=94,slow=23,SNR=23						
CBIJ				S	S	19 43 29.9	-0.8
	101nm,0.3s,baz=258,slow=21,SNR=7.2						
WRA	Warramunga Arr	45.28	190	P	P	19 50 37.5	-2.1
	3.0nm,0.3s,baz=7.4,slow=8.6,SNR=134						
ASAR	Alice Springs	49.00	190	P	P	19 51 07.0	-1.6
	0.1nm,0.3s,baz=19,slow=9.6,SNR=4.3						
ILAR	Eielson Array	59.67	28	P	P	19 52 23.4	-2.3
	0.1nm,0.4s,baz=258,slow=4.7,SNR=4.2						

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*IDC **08** 19:52:31.6±0.5, 17.86S×69.34W, h137^{km}±4^{km}, mb3.7/9, mb1 4.0/11, mb1mx3.9/16, MS2.7/1, Ms1 2.7/1, ms1mx2.4/16, Error ellipse: s-maj=13.9km s-min=9.5km az=96.0*
*NEIC **08** 19:52:31.6±0.4, 17.82S×69.38W, mb4.4/2, Error ellipse: s-maj=13.7km s-min=8.2km az=68.0*
NEIC Felt [II] at Tacna, Peru.
ISC 08 19:52:30.0±0.6, **17.87S**±0.05×**69.42W**±0.07, **h141^{km}**±5^{km}, **h137^{km}**±1.0^{km}**:pP-P, n29, σ1^{s}.18**/29, **mb4.3**/11, **1C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.99	38	P	P	19 53 06.9	+2.0
	122nm,0.3s,baz=223,slow=7.2,SNR=4165						
LPAZ				S	S	19 53 31.6	-0.1
	16nm,0.3s,slow=11,SNR=1.9						
LPAZ				LR	LR	19 53 50.0	
	comp=Z,349nm,18.5s,baz=287,slow=40						
ARE	Arequipa	2.43	305	⇑iP	P	19 53 10.9	+0.5
ARE				i S	S	19 53 40.2	-1.0
LVC	Limon Verde	4.75	174	P	P	19 53 41.2	+0.4
	22nm,0.3s,baz=345,slow=8.2,SNR=237						
LVC				S	S	19 54 34.4	-1.1

	51nm,0.3s,baz=194,slow=23,SNR=7.5						
CPUP	Villa Florida	14.01	129	P	P	19 55 41.8	-1.6
	0.2nm,0.3s,baz=322,slow=12,SNR=12						
CPUP				LR	LR	20 01 27.1	
	comp=Z,32nm,19.1s,baz=273,slow=38						
MDZ	Mendoza	14.96	178	eP	P	19 55 59.6	+4.2
OTAV	Otavalo	20.07	333	P	P	19 56 54.3	0.0
BDFB	Brasilia	20.61	87	P	P	19 57 01.0	+1.1
	33nm,0.6s,baz=269,slow=10.0,SNR=44						
TRQA	Tornquist	21.14	164	eP	P	19 57 05.2	+0.2
	14nm,0.9s,mb4.3						
PLCA	Paso Flores	22.81	182	P	P	19 57 23.5	+2.2
	7.3nm,0.8s,mb4.2,baz=9.3,slow=10,SNR=15						
TXAR	Lajitas Array	57.40	324	P	P	20 02 05.7	-0.5
	0.7nm,0.9s,mb3.5,baz=153,slow=7.7,SNR=4.9						
TXAR				pP	pP	20 02 37.9	-1.7
	0.8nm,0.7s,baz=152,slow=7.5,SNR=7.0						
TXAR	Lajitas Array	57.40	324	P	P	20 02 05.7	-0.5
TXAR				pP	pP	20 02 37.9	-1.7
CCM	Cathedral Cave	59.29	340	eP	P	20 02 17.8	-1.5
	5.4nm,1.0s,mb4.3						
LIC	Lamto	67.89	75	eP	P	20 03 14.4	-1.5
	46nm,1.0s,mb5.2						
LIC	Lamto	67.89	75	eP	P	20 03 14.4	-1.5
	46nm,1.0s,mb5.2						
TIC	Toumodi	68.05	75	eP	P	20 03 15.6	-1.3
	135nm,1.1s,mb5.6						
TIC	Toumodi	68.05	75	eP	P	20 03 15.6	-1.3
	135nm,1.1s,mb5.6						
KIC	Kosan Boka	68.20	75	eP	P	20 03 16.8	-1.0
	136nm,0.9s						
KIC	Kosan Boka	68.20	75	eP	P	20 03 16.7	-1.1
	136nm,0.9s						
DBIC	Dimbokro	68.21	75	P	P	20 03 17.0	-0.9
	26nm,0.8s,mb5.0,baz=218,slow=6.3,SNR=29						
PDAR	Pinedale Array	70.74	330	P	P	20 03 32.9	+0.1
	0.3nm,0.6s,baz=151,slow=9.3,SNR=3.4						
PDAR				pP	pP	20 04 06.2	-1.2
	0.7nm,0.7s,baz=135,slow=6.3,SNR=4.5						
ULM	Lac du Bonnet	71.72	342	P	P	20 03 37.6	-0.8
	1.7nm,0.4s,mb4.1,baz=155,slow=7.8,SNR=8.0						
ULM				pP	pP	20 04 11.8	-1.3
	1.8nm,0.6s,baz=29,slow=4.8,SNR=2.7						
NVAR	Mina Array Bea	72.36	322	P	P	20 03 43.9	+1.5
	0.9nm,0.9s,mb3.5,baz=162,slow=7.1,SNR=4.6						
NVAR				pP	pP	20 04 18.1	+0.9
	1.2nm,0.7s,baz=153,slow=5.9,SNR=6.8						
ESDC	Sonseca Array	83.60	45	P	P	20 04 45.3	+1.3
	0.5nm,0.6s,baz=265,slow=4.5,SNR=4.4						
YKA	Yellowknife Ar	87.62	341	P	P	20 05 03.6	+0.6
	1.9nm,0.4s,mb4.2,baz=133,slow=4.8,SNR=18						
YKA				pP	pP	20 05 39.0	-0.1
	1.2nm,0.7s,baz=132,slow=5.3,SNR=3.0						
YKA	Yellowknife Ar	87.62	341	P	P	20 05 03.6	+0.6
YKA				pP	pP	20 05 39.0	-0.1
MAW	Mawson	87.93	164	P	P	20 05 06.7	+2.2
	2.0nm,0.7s,mb4.0,baz=166,slow=7.2,SNR=2.5						
MAW				pP	pP	20 05 40.9	+0.3
	1.6nm,0.8s,baz=264,slow=9.2,SNR=2.1						
ASAR	Alice Springs	132.86	210	PKP	PKPdf	20 11 31.3	+2.1
	0.4nm,0.5s,baz=130,slow=2.1,SNR=8.4						
MKAR	Makanchi Array	142.91	33	PKP	PKPdf	20 11 49.1	+2.4
	0.2nm,0.4s,baz=323,slow=1.7,SNR=4.3						
SONM	Songino Array	149.91	6	PKPbc	PKPdf	20 12 06.7	+8.3
	1.0nm,0.6s,baz=333,slow=2.8,SNR=4.6						
SONM				pPKPbc		20 12 42.9	
	1.4nm,1.0s,baz=316,slow=3.3,SNR=2.6						

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*NEIC **08** 20:06:26.2±3.5, 1.81N×127.62E, h157km±35km, mb4.3/6, Error ellipse: s-maj=36.4km s-min=11.0km az=69.0*
*IDC **08** 20:06:28.0±3.4, 1.76N×127.49E, h174km±30km, mb4.0/8, mb1 4.0/9, mb1mx3.7/17, Error ellipse: s-maj=57.1km s-min=12.6km az=72.0*
ISC 08 20:06:25.5±1.2**, 1.8N**±0.1×**127.7E**±0.2**, h167**km±13km**, n25, σ0s68**/26**, mb4.3**/14**, 1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	5.27	345	eP	P	20 07 43.4	-0.2
BUKP	Musuan	6.54	337	eP	P	20 08 00.5	+0.1
IPIL	Ipil	7.79	320	eP	S	20 09 36.4	-7.6
KAKA	Kakadu	15.18	162	eP	P	20 09 52.2	-0.5
	9.0nm,0.4s						
FITZ	Fitzroy Crossi	19.91	186	eP	P	20 10 44.8	-1.4
	2.1nm,0.6s						
FITZ	Fitzroy Crossi	19.91	186	P	P	20 10 44.9	-1.2
	0.6nm,0.3s,baz=1.0,slow=6.2,SNR=15						
WRA	Warramunga Arr	22.61	163	P	P	20 11 13.3	+0.4
	12nm,0.5s,mb4.6,baz=339,slow=10,SNR=135						
WB2	Warramunga Arr	22.61	163	⇑iP	P	20 11 14.2	+1.3
WB2				eS	S	20 15 13.3	+8.8
ASAR	Alice Springs	26.06	167	P	P	20 11 45.5	0.0
	1.3nm,0.4s,mb3.9,baz=342,slow=7.5,SNR=30						
ASAR				ScP		20 18 31.8	
	0.3nm,1.0s,baz=355,slow=3.4,SNR=4.1						
ASPA	Alice Springs	26.06	167	eP	P	20 11 45.4	-0.1
NWAO	Narrogin (SRO)	35.95	195	P	P	20 13 11.1	-0.7
	16nm,1.2s,mb4.5,baz=53,slow=8.1,SNR=6.3						
NWAO	Narrogin (SRO)	35.95	195	eP	P	20 13 11.5	-0.3
	1.5nm,0.4s,mb4.0						
STKA	Stephens Creek	36.04	160	P	P	20 13 13.4	+0.8
	3.7nm,0.7s,mb4.1,baz=347,slow=11,SNR=6.5						
LSA	Lhasa	44.39	312	eP	P	20 14 22.8	+1.5
	5.4nm,0.6s,mb4.3						
PKI	Pulchoki	47.83	306	eP	P	20 14 49.2	+0.8
KKN	Kakani	48.03	307	eP	P	20 14 49.8	-0.1
	15nm,0.7s,mb4.7						
DMN	Daman	48.09	306	eP	P	20 14 50.5	+0.1
	31nm,1.1s,mb4.9						
GKN	Gorkha	48.63	306	eP	P	20 14 54.5	0.0
	18nm,0.9s,mb4.7						
KOLN	Koldanda	49.37	306	eP	P	20 15 00.7	+0.5
	46nm,0.8s						
SONM	Songino Array	49.38	341	P	P	20 15 00.3	+0.3
	1.7nm,0.7s,mb3.8,baz=150,slow=7.5,SNR=5.4						
MKAR	Makanchi Array	59.64	325	P	P	20 16 14.0	-0.3
	4.5nm,0.4s,mb4.7,baz=115,slow=8.4,SNR=66						
KURK	Kurchatov	63.83	328	eP	P	20 16 41.2	-1.0
	6.6nm,0.8s,mb4.5						
KURK				e		20 16 46.6	
BVAR	Borovoye Array	69.41	327	P	P	20 17 16.5	-0.7
	1.5nm,0.5s,mb4.0,baz=80,slow=9.0,SNR=7.7						
BRVK	Borovoye	69.48	327	eP	P	20 17 17.0	-0.7
	2.4nm,0.5s,mb4.2						
ARCES	ARCESS Array B	92.54	340	P	P	20 19 18.1	-0.4
	2.3nm,1.0s,mb4.3,baz=82,slow=8.6,SNR=5.5						

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*NEIC **08** 20:42:50.8±3.3, 2.75N×125.68E, h115km±33km, mb4.3/3, Error ellipse: s-maj=37.5km s-min=10.2km az=71.0*
*IDC **08** 20:42:52.9±3.8, 2.74N×125.63E, h135km±33km, mb3.6/9, mb1 3.7/9, mb1mx3.6/18, Error ellipse: s-maj=62.2km s-min=11.7km az=71.0*
ISC 08 20:42:49.9±3.1**, 2.8N**±0.2×**125.6E**±0.4**, h125**km±30km**, n13, σ0s70**/15**, mb4.0**/9**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	16.77	156	eP	P	20 46 38.1	-0.6
	5.5nm,0.4s						
FITZ	Fitzroy Crossi	20.73	180	eP	P	20 47 22.5	+0.2
	3.0nm,0.3s						
FITZ	Fitzroy Crossi	20.73	180	P	P	20 47 22.4	+0.1
	2.7nm,0.3s,baz=0.6,slow=7.2,SNR=24						
WRA	Warramunga Arr	24.13	160	P	P	20 47 56.3	+0.8
	1.9nm,0.4s,mb3.8,baz=339,slow=10,SNR=19						
WRA				S	S	20 52 05.2	+3.9
	0.9nm,0.7s,baz=340,slow=18,SNR=5.8						
WB2	Warramunga Arr	24.14	160	⇑iP	P	20 47 56.0	+0.4
WB2				eS	S	20 51 59.3	-2.1
ASAR	Alice Springs	27.48	163	P	P	20 48 26.4	-0.2
	1.0nm,0.8s,mb3.4,baz=346,slow=7.9,SNR=13						
ASAR				PcP	PcP	20 51 41.0	-1.0
	0.4nm,0.6s,baz=352,slow=2.7,SNR=4.4						
NWAO	Narrogin (SRO)	36.38	192	P	P	20 49 44.0	+0.1
	5.8nm,1.1s,mb4.4,baz=51,slow=12,SNR=4.2						
STKA	Stephens Creek	37.64	157	P	P	20 49 54.1	-0.4
	2.5nm,0.7s,mb4.1,baz=32,slow=3.7,SNR=3.3						
SONM	Songino Array	47.87	343	P	P	20 51 17.8	+0.8
	0.4nm,0.5s,mb3.5,baz=169,slow=6.3,SNR=4.6						
MKAR	Makanchi Array	57.73	326	P	P	20 52 29.5	-0.4
	1.8nm,0.4s,mb4.4,baz=120,slow=7.7,SNR=40						
KURK	Kurchatov	61.97	328	eP	P	20 52 58.2	-0.6
	4.4nm,0.4s,mb4.8						
BVAR	Borovoye Array	67.53	328	P	P	20 53 34.6	-0.1
	0.3nm,0.4s,mb3.5,baz=153,slow=9.7,SNR=3.8						
VNDA	Vanda	82.62	173	P	P	20 55 00.5	+0.4
	0.8nm,0.7s,mb3.7,baz=286,slow=5.9,SNR=7.0						

KRSC 08 20:48:45.1, 54.21N×158.20E, h278km, ML3.6, Kamchatka Peninsula

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*ATH **08** 20:53:16.3, 38.61N×26.02E, h35km, MD3.0/3*
*ISK **08** 20:53:18.0, 38.70N×26.17E, h2km, MD3.0*
ISC 08 20:53:16.0±1.4**, 38.57N**±0.05×**25.98E**±0.09**, h7**km±8km**, n7, σ0s64**/11**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.71	19	ePN	Pg	20 53 30.0	-0.3
PRK				eSN	Sg	20 53 40.0	+0.1
IZM	Izmir	1.02	99	PG	Pg	20 53 36.0	-0.5
IZM				SG	Sg	20 53 50.0	-0.1
SMG	Samos	1.09	141	ePN	Pn	20 53 37.0	-0.6
EZN	Ezine	1.28	12	ePN	Pn	20 53 40.9	+0.5
EZN				eSN	Sn	20 53 56.9	-1.1
AKS	Akhisar	1.47	77	PN	Pn	20 53 43.9	+0.9
AKS				SN	Sn	20 54 02.5	-0.2
APE	Apeiranthos	1.54	193	ePN	Pn	20 53 44.0	0.0
BALB	Balikesir	1.83	54	ePN	Pn	20 53 49.4	+1.3

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*THE **08** 21:03:11.1, 38.60N×20.48E, h10km, ML2.7*
*NEIC **08** 21:03:13.2, 38.72N×20.59E, h9km, MD3.2(ATH), ML2.7(THE), After ATH.*
*ATH **08** 21:03:13.2, 38.72N×20.59E, h9km±8km, MD3.2/4*
ISC 08 21:03:13.2±0.6**, 38.70N**±0.03×**20.59E**±0.08**, h9**km**, n11, σ1s22**/18**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.05	80	ePg	Pg	21 03 14.8	-0.3
LKD				eSg	Sg	21 03 16.4	+0.1
VLS	Valsamata	0.52	180	ePB	Pb	21 03 23.0	-1.1
VLS				eSB	Sb	21 03 32.5	+1.1
IGT	Igoumenitsa	0.86	346	ePg	Pg	21 03 28.0	-2.4
IGT				eSg	Sg	21 03 43.0	+1.1
JAN	Janina	0.98	12	ePB	Pb	21 03 30.5	-1.4
JAN				eSB	Sb	21 03 45.0	+0.3
KEK	Kerkira	1.19	329	ePN	Pn	21 03 34.5	-1.5
KEK				eSB	Sb	21 03 52.0	+1.3
MEV	Metsovon	1.19	24	ePb	Pb	21 03 35.0	-0.6
MEV				eSb	Sb	21 03 54.9	+3.9
AGG	Agios Georgios	1.40	76	ePb	Pb	21 03 38.4	-0.6
ITM	Ithomi	1.85	145	ePN	Pn	21 03 47.5	+2.1
LIT	Litokhoron	2.03	46	ePn	Pn	21 03 48.8	+0.7
FNA	Florina	2.17	16	ePn	Pn	21 03 49.7	-0.3
FNA				eSn	Sn	21 04 20.1	+2.9
KNT	Kendrikon	3.03	35	ePn	Pn	21 04 01.8	-0.5

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*NEIC **08** 21:06:39.9, 16.16N×98.23W, h8km, MD3.8(MEX), After MEX.*
MEX 08 21:06:39.5±0.7**, 16.15N**×**98.23W, h5**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.27	23	iP	Pg	21 06 44.1	-0.8
PNIG				iS	Sg	21 06 48.2	-0.2
VHO	Vista Hermosa	1.71	57	iP	Pn	21 07 08.2	-2.0
VHO				iS	Sn	21 07 28.0	-4.6
VHO	Vista Hermosa	1.71	57	iP	Pn	21 07 08.2	-2.0
VHO				iS	Sn	21 07 33.1	+0.5
OXX	Oaxaca	1.72	57	iP	Pn	21 07 07.0	-3.4
OXX				iS	Sn	21 07 29.0	-4.0
HUIG	Huatulco	2.08	100	eP	Pn	21 07 10.8	-4.6
HUIG				iS	Sn	21 07 38.0	-4.0
CAIG	El Cayaco	2.15	295	iP	Pn	21 07 13.0	-3.5
CAIG				iS	Sn	21 07 38.5	-5.3
YAIG	Yautepec	2.82	344	eP	Pn	21 07 24.4	-1.7
YAIG				iS	Sn	21 07 55.1	-5.7
PPM	Popocatepetl	2.93	353	iP	Pn	21 07 22.7	-4.9
PPM				eP		21 07 24.0	
PPM				iS	Sn	21 07 58.5	-5.1
PPM	Popocatepetl	2.93	353	eP	Pn	21 07 24.0	-3.6
PPM				iS	Sn	21 07 58.5	-5.1
CMIG	Matias Romero	3.35	73	eP	Pn	21 07 30.6	-2.9
CMIG				iS	Sn	21 08 08.7	-5.5

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*TIR **08** 21:52:22.1, 41.08N×20.10E, h7km, Ml2.6*
*PDG **08** 21:52:28.2±0.3, 41.27N×19.90E, h10km±1km*
*NEIC **08** 21:52:28.2, 41.27N×19.90E, h10km, MD2.7(PDG), After PDG.*
ISC 08 21:52:21.6±0.6**, 41.07N**±0.03×**20.01E**±0.06**, h10**km**, n16, σ1s10**/31**, 3C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.30	338	⇑iPg	Pg	21 52 29.0	+1.1
TIR				iSg	Sg	21 52 34.5	+2.4
OHR	Ohrid	0.59	86	⇑iPg	Pg	21 52 33.3	-0.3
OHR				⇓iSg	Sg	21 52 41.6	-0.1
LACI	Lac	0.61	338	iPg	Pg	21 52 34.4	+0.4
LACI				iSg	Sg	21 52 43.3	+1.1
BIA	Bitola	0.99	92	iPg	Pg	21 52 36.5	-5.0
BIA				⇑iSg	Sg	21 52 47.0	-7.8
LSK	Leskovik	1.02	154	ePg	Pg	21 52 42.1	0.0
LSK				iSg	Sg	21 52 56.2	+0.5
ULC	Ulcinj	1.06	328	ePg	Pg	21 52 43.7	+0.8
ULC				eSg	Sg	21 52 57.6	+0.4
SKO	Skopje	1.40	49	iPn	Pn	21 52 48.0	+0.7
TTG	Podgorica	1.47	338	ePg	Pg	21 52 51.3	+0.3
TTG				eSg	Sg	21 53 11.3	+0.6
BUM	Brajici-Budva	1.49	326	ePg	Pg	21 52 52.0	+0.6
BUM				eSg	Sg	21 53 12.2	+0.9
PVY	Plav	1.53	359	ePg	Pg	21 52 51.9	-0.2
PVY				eSg	Sg	21 53 13.7	+1.1
HCY	Herceg Novi	1.79	321	ePn	Pg	21 52 57.0	-0.3
HCY				eSn	Sg	21 53 21.5	+0.4
IVA	Berane	1.80	357	ePn	Pg	21 52 57.5	-0.2
IVA				eSn	Sg	21 53 22.7	+0.9
NKY	Niksic	1.90	337	ePn	Pg	21 52 58.8	-0.9
NKY				eSn	Sg	21 53 24.4	-0.5
BRY	Bratogost	2.13	330	ePn	Pg	21 53 03.4	-0.8
BRY				eSn	Sg	21 53 30.8	-2.0
UPM	Unac-Piva	2.29	339	ePn	Pg	21 53 05.2	-2.1
UPM				eSn	Sg	21 53 34.8	-3.0
PLE	Pljevlja	2.31	349	ePn	Pg	21 53 05.7	-2.0
PLE				eSn	Sg	21 53 35.6	-2.8

IDC 08 21:57:28.8±5.4**, 50.32S**×**113.59E, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/10**, MS3.7**/1**, Ms1 3.8**/1**, ms1mx3.2**/9**, Error ellipse: s-maj=218.0km s-min=28.6km az=101.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	30.96	38	P	P	22 03 48.6	-1.0
	0.8nm,0.9s,baz=212,slow=8.5,SNR=4.0						
VNDA	Vanda	32.65	162	P	P	22 04 01.6	-2.5
	1.2nm,0.8s,baz=287,slow=9.0,SNR=6.1						
VNDA				LR	LR	22 15 47.7	
	comp=Z,133nm,18.6s,baz=88,slow=34						
WRA	Warramunga Arr	34.49	36	P	P	22 04 17.4	-3.1
	0.9nm,0.8s,baz=203,slow=9.1,SNR=4.2						
TXAR	Lajitas Array	145.04	113	PKPbc	PKPbc	22 17 07.7	-0.2
	0.3nm,0.8s,baz=198,slow=5.7,SNR=4.3						
PDAR	Pinedale Array	149.73	88	PKPbc	PKPdf	22 17 19.1	+2.2
	0.4nm,0.8s,baz=284,slow=3.7,SNR=3.9						

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*IDC **08** 22:32:30.9±1.8, 17.93S×69.92W, h113km±17km, mb3.7/7, mb1 3.8/9, mb1mx3.6/17, Error ellipse: s-maj=28.1km s-min=10.4km az=101.0*
*NEIC **08** 22:32:32.1±1.2, 17.91S×69.91W, h122km±11km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=12.1km az=87.0*
ISC 08 22:32:30.7±1.3**, 17.95S**±0.06×**69.9W**±0.2**, h125**km±13km**, n13, σ1s22**/15**, mb3.9**/7**, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	2.38	46	P	P	22 33 10.3	+0.5
	7.3nm,0.3s,baz=228,slow=8.7,SNR=169						
LPAZ				S	S	22 33 39.0	-0.4
	2.8nm,0.3s,baz=70,slow=24,SNR=4.0						
LPAZ	La Paz	2.38	46	P	P	22 33 10.3	+0.5
LPAZ				S	S	22 33 39.0	-0.4
LVC	Limon Verde	4.74	169	P	P	22 33 42.2	+0.9
	6.5nm,0.3s,baz=351,slow=12,SNR=141						
LVC				S	S	22 34 34.0	-1.7
	16nm,0.3s,baz=103,slow=22,SNR=13						
OTAV	Otavalo	19.92	334	P	P	22 36 55.6	+0.8
	5.1nm,0.8s						
BDFB	Brasilia	21.10	87	P	P	22 37 08.6	+1.8
	1.2nm,0.4s,mb3.5,baz=149,slow=9.7,SNR=3.4						
PLCA	Paso Flores	22.72	181	P	P	22 37 24.1	+1.7
	2.8nm,1.1s,mb3.5,baz=9.6,slow=9.9,SNR=4.0						
TXAR	Lajitas Array	57.18	325	P	P	22 42 06.5	-0.5
	0.2nm,0.5s,mb3.4,baz=143,slow=6.3,SNR=4.0						
DBIC	Dimbokro	68.70	75	P	P	22 43 21.9	-1.4
	4.3nm,0.9s,mb4.3,baz=106,slow=8.9,SNR=4.3						
ULM	Lac du Bonnet	71.66	343	P	P	22 43 39.4	-1.1
	2.9nm,0.5s,mb4.3,baz=150,slow=3.9,SNR=8.7						
SCHQ	Schefferville	72.53	2	P	P	22 43 44.0	-1.6
	2.4nm,0.6s,mb4.2,baz=211,slow=12,SNR=3.8						
YKA	Yellowknife Ar	87.53	341	P	P	22 45 06.2	+1.1
	0.7nm,0.4s,mb4.0,baz=132,slow=4.7,SNR=6.7						
YKA	Yellowknife Ar	87.53	341	P	P	22 45 06.2	+1.1
SONM	Songino Array	150.04	5	PKPbc	PKPdf	22 52 09.2	+8.0
	0.8nm,0.7s,baz=347,slow=1.7,SNR=4.4						

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*STR **08** 22:38:52.1±0.1, 44.43N×6.83E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 22:38:52.1±0.1, 44.42N×6.82E, h2km, Md1.9/3, Ml1.8/6, Error ellipse: s-maj=1.8km s-min=0.8km az=73.0*
ISC 08 22:38:51.0±0.4**, 44.42N**±0.02×**6.81E**±0.05**, h13**km±4km**, n15, σ0s61**/28**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.06	360	Pg	Pg	22 38 53.9	+0.3
SURF				Sg	Sg	22 38 55.2	-0.2
MBDF	Montbardon	0.31	354	ePg	Pg	22 38 58.0	+0.4
MBDF				eSg	Sg	22 39 02.3	+0.4
	8.8nm,0.2s						
TOUF	Mont Tournerai	0.51	142	Pg	Pg	22 39 01.8	+0.3
TOUF				Sg	Sg	22 39 08.8	+0.3
AUTN	L'Aution	0.61	134	Pg	Pg	22 39 03.8	+0.3
AUTN				Sg	Sg	22 39 12.5	+0.7
AURF	Auriere	0.65	145	Pg	Pg	22 39 04.6	+0.4
CALN	Calern	0.67	175	Pg	Pg	22 39 05.0	+0.4
SBF	Sospel	0.71	141	ePg	Pg	22 39 05.7	+0.2
SBF				eSg	Sg	22 39 14.8	-0.3
	4.3nm,0.3s						
ORIF	Oris-en-Rattie	0.83	307	ePg	Pg	22 39 07.1	-0.6
ORIF				eSg	Sg	22 39 18.5	-0.4
	1.7nm,0.2s						
FRF	La Foret Royal	0.87	188	ePg	Pg	22 39 08.1	-0.4
FRF				eSg	Sg	22 39 19.4	-0.8
	3.0nm,0.2s						
SMRF	Simiane la Rot	1.00	244	ePg	Pg	22 39 11.5	+0.5
SMRF				eSn	Sn	22 39 25.7	+1.3
	3.0nm,0.3s						
LPG	La Plagne	1.08	358	ePg	Pg	22 39 12.4	-0.2
LPG				eSg	Sg	22 39 26.9	-0.2
	1.8nm,0.4s						
LPL	La Plagne	1.10	357	ePg	Pg	22 39 12.7	-0.3
LPL				eSg	Sg	22 39 27.3	-0.4
	1.4nm,0.3s						
LMR	La Mourre	1.11	192	ePg	Pg	22 39 13.0	-0.2
LMR				eSg	Sg	22 39 27.4	-0.7
	5.1nm,0.3s						
VIVF	Saint-Julien-l	1.59	287	ePn	Pn	22 39 19.6	+0.6
VIVF				eSg	Sg	22 39 39.8	-4.2
	0.8nm,0.3s						
PGF	Pioggiola	2.46	139	ePn	Pn	22 39 31.9	+0.4
PGF				eSn	Sn	22 39 59.7	-1.9

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*NEIC **08** 23:05:05.2, 39.77N×26.26E, h17km, MD2.9(ATH), After ATH.*
*ATH **08** 23:05:05.2, 39.77N×26.26E, h17km±2km, MD2.9/4*
*ISK **08** 23:05:06.3, 39.56N×26.24E, h8km, MD3.3*
ISC 08 23:05:05.1±1.1**, 39.59N**±0.05×**26.02E**±0.06**, h12**km±7km**, n18, σ0s80**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZN	Ezine	0.33	45	iPG	Pg	23 05 12.9	+0.9
PRK	Paraskevi	0.40	151	ePN	Pn	23 05 16.0	-0.1
PRK				eSN	Sn	23 05 23.0	-0.4
LOS	Limnos	0.80	296	eP	Pb	23 05 19.3	-1.1
LPK	Lapseki	0.96	36	iPG	Pg	23 05 24.0	-0.5
LPK				iSG	Sg	23 05 36.8	-0.6
ALN	Alexandroupoli	1.30	1	eP	Pb	23 05 28.2	-0.8
BALB	Balikesir	1.44	87	PN	Pn	23 05 30.9	-0.1
BALB				SN	Sn	23 05 49.1	-0.8
AKS	Akhisar	1.56	117	PN	Pn	23 05 32.7	-0.1
MRMT	Marmara Adasi	1.57	50	PN	Pn	23 05 33.9	+0.9
MRMT				SN	Sn	23 05 54.1	+0.7
RDO	Rodhopi	1.60	347	ePN	Pn	23 05 33.0	-0.3
EDC	Edincik	1.60	61	ePN	Pn	23 05 32.9	-0.5
BNT	Bandirma	1.65	62	PN	Pn	23 05 33.9	-0.1
KCT	Karacabey	1.92	69	ePN	Pn	23 05 37.4	-0.5
SMG	Samos	1.98	161	ePN	Pn	23 05 42.0	+3.1
PLG	Polygyros	2.13	292	ePB	Pb	23 05 43.5	+0.4
EDRB	Edirne	2.32	13	ePN	Pn	23 05 45.8	+2.1
SLVT	Silivri	2.34	45	ePN	Pn	23 05 44.0	0.0
CTT	Catalca	2.41	49	ePN	Pn	23 05 45.4	+0.5
YLV	Yalova	2.75	68	ePN	Pn	23 05 49.8	0.0

MEX 08 23:07:43.9±0.5**, 16.19N**×**98.36W, h6**km±6km**, MD3.8, 1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	48	⇓iP	Pg	23 07 49.3	-0.6
PNIG				iS	Sg	23 07 53.8	-0.2
OXX	Oaxaca	1.80	60	eP	Pn	23 08 12.5	-3.2
OXX				iS	Sn	23 08 33.5	-5.5
PPM	Popocatepetl	2.87	355	eP	Pn	23 08 29.0	-2.0
PPM				iS	Sn	23 09 01.4	-4.8

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*JMA **08** 23:48:29.2±0.3, 24.08N×121.88E, h80km, M2.4*
TAP 08 23:48:30.3, 23.87N×121.80E, h44km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.25	62	P	P	23 48 49.7	-2.0
YOJ				eS	S	23 49 04.8	-2.8
IRIF	Iriomote-Funau	1.82	75	P	P	23 48 57.5	-2.3
IRIF				eS	S	23 49 19.3	-2.5
HATJ	Hateruma jima	1.84	84	eS	S	23 49 20.0	-2.3
JKRS	Kuro-shima	2.05	79	P	P	23 49 01.2	-1.8
JKRS				eS	S	23 49 25.8	-1.7
JIJ	Ishigaki jima	2.20	77	P	P	23 49 02.3	-2.8
JIJ				eS	S	23 49 27.2	-4.0
JTJ	Tarama	2.76	73	P	P	23 49 10.4	-2.7
JTJ				eS	S	23 49 41.7	-3.8

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*IDC **09** 00:01:24.2±3.0, 34.10S×178.72W, mb4.1/4, mb1 4.3/5, mb1mx4.0/16, ML4.3/1, MS3.7/1, Ms1 3.6/1, ms1mx3.2/11, Error ellipse: s-maj=63.3km s-min=35.9km az=120.0*
ISC 09 00:01:23.4±2.9**, 34.1S**±0.1×**178.7W**±0.4**, h10**km**, n11, σ0s92**/10**, mb4.0**/4**, MS3.6**/1**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	4.64	211	P	Pn	00 02 35.9	+0.5
PUZ				S	Sn	00 03 29.8	-0.2
MWZ	Matawai	5.19	215	P	Pn	00 02 41.8	-1.3
URZ	Urewera	5.34	218	Pn	Pn	00 02 46.6	+1.4
	9.0nm,0.3s,baz=8.8,slow=1.8,SNR=21						
URZ				Sn	Sn	00 03 47.4	-0.1
	4.7nm,0.3s,baz=128,slow=19,SNR=5.5						
STKA	Stephens Creek	33.25	263	LR	LR	00 19 34.6	
	comp=Z,140nm,21.7s,MS3.6,baz=347,slow=33						
CTA	Charters Tower	34.02	285	P	P	00 08 11.4	+1.7
	1.4nm,0.3s,mb4.3,baz=114,slow=10.0,SNR=3.2						
ASAR	Alice Springs	42.47	271	P	P	00 09 20.6	+0.2
	1.3nm,0.8s,mb3.6,baz=111,slow=7.0,SNR=11						

WB2	Warramunga Arr	43.79	276	eP	P	00 09 30.6	-0.6
WRA	Warramunga Arr	43.80	276	P	P	00 09 30.7	-0.5
	1.7nm,0.6s,mb4.0,baz=119,slow=7.5,SNR=7.4						
FITZ	Fitzroy Crossi	51.88	273	P	P	00 10 33.3	-1.1
	2.3nm,0.7s,mb4.2,baz=164,slow=10,SNR=5.3						
FINES	FINESS Array B	148.41	337	PKPbc	PKPdf	00 21 11.2	+2.5
	0.2nm,0.3s,baz=90,slow=3.8,SNR=6.7						
NB2	NORSAR Subarra	152.33	350	PKP	PKPab	00 21 30.1	-0.9
	1.2nm,0.8s,baz=22,slow=4.1						

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*STR **09** 00:21:13.4±0.1, 44.43N×6.81E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **09** 00:21:13.5±0.1, 44.42N×6.80E, h2^{km}, Md2.1/6, Ml1.7/6, Error ellipse: s-maj=1.4km s-min=0.8km az=66.0*

ISC 09 00:21:12.5±0.4**, 44.42N**±0.02×**6.79E**±0.04**, h11**^{km}±4^{km}**, n15, σ0^{s}67**/32**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	16	Pg	Pg	00 21 15.4	+0.6
SURF				Sg	Sg	00 21 16.5	+0.1
MBDF	Montbardon	0.31	358	ePg	Pg	00 21 19.6	+0.6
MBDF				eSg	Sg	00 21 24.0	+0.7
	9.6nm,0.2s						
TOUF	Mont Tournerai	0.52	140	Pg	Pg	00 21 23.4	+0.4
AUTN	L'Aution	0.62	132	Pg	Pg	00 21 25.3	+0.2
AUTN				Sg	Sg	00 21 33.8	+0.3
AURF	Auriere	0.66	143	Pg	Pg	00 21 26.1	+0.4
CALN	Calern	0.67	174	Pg	Pg	00 21 26.4	+0.5
CALN				Sg	Sg	00 21 35.5	+0.6
SBF	Sospel	0.72	140	ePg	Pg	00 21 27.0	0.0
SBF				eSg	Sg	00 21 36.5	-0.3
	4.5nm,0.2s						
ORIF	Oris-en-Rattie	0.82	308	ePg	Pg	00 21 28.6	-0.3
ORIF				eSg	Sg	00 21 40.2	+0.3
	1.6nm,0.2s						
FRF	La Foret Royal	0.86	187	ePg	Pg	00 21 29.5	-0.3
FRF				ePn	Pn	00 21 31.1	+0.7
FRF				eSg	Sg	00 21 41.1	-0.2
	2.4nm,0.2s						
SMRF	Simiane la Rot	0.98	244	ePn	Pn	00 21 33.0	+1.0
SMRF				eSn	Sn	00 21 47.3	+1.4
LPG	La Plagne	1.08	359	ePg	Pg	00 21 33.8	-0.4
LPG				eSg	Sg	00 21 48.6	0.0
	1.5nm,0.3s						
LMR	La Mourre	1.10	191	ePg	Pg	00 21 33.6	-0.9
LMR				ePn	Pn	00 21 34.6	+0.8
LMR				eSg	Sg	00 21 48.2	-1.0
	3.3nm,0.2s						
LPL	La Plagne	1.10	358	ePg	Pg	00 21 34.2	-0.3
LPL				eSg	Sg	00 21 48.5	-0.8
	1.2nm,0.4s						
VIVF	Saint-Julien-l	1.57	287	ePn	Pn	00 21 40.8	+0.2
VIVF				ePg	Pg	00 21 42.8	-1.1
VIVF				eSn	Sn	00 22 00.9	-0.2
VIVF				eSg	Sg	00 22 04.0	-0.9
	0.9nm,0.3s						
PGF	Pioggiola	2.46	138	ePn	Pn	00 21 53.0	-0.3
PGF				eSn	Sn	00 22 21.9	-1.9
	0.4nm,0.2s						

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*NEIC **09** 00:26:09.9, 36.92N×27.69E, h32^{km}, MD3.0(ATH), After ATH.*

*ATH **09** 00:26:09.9, 36.92N×27.69E, h32^{km}±10^{km}, MD3.0/4*

*ISK **09** 00:26:11.0, 37.02N×27.82E, h12^{km}, MD3.2*

ISC 09 00:26:09.7±0.7**, 36.91N**±0.03×**27.71E**±0.04**, h16**^{km}±7^{km}**, n16, σ0^{s}99**/27**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	307	⇑iP	Pb	00 26 15.9	+0.4
BDRM				i S	Sb	00 26 20.9	+1.3
MLSB	Milas	0.39	8	i PG	Pb	00 26 17.0	-0.8
MLSB				i SG	Sb	00 26 22.0	-1.3
YER	Yerkesik	0.52	63	i PG	Pb	00 26 19.0	-0.9
YER				i SG	Sb	00 26 24.9	-1.9
NISR	Nisiros	0.55	238	ePN	Pn	00 26 20.0	-2.6
NISR				eSN	Sn	00 26 30.5	-0.8
ARG	Arkhangelos	0.77	154	ePN	Pn	00 26 25.0	-0.7
ARG				eSN	Sn	00 26 37.0	+0.2
AYDN	Tasoluk	0.77	10	⇑iP	Pb	00 26 24.2	0.0
AYDN				i S	Sb	00 26 34.1	0.0
SMG	Samos	1.06	319	ePN	Pn	00 26 30.5	+0.6
SMG				eSN	Sn	00 26 43.5	-0.8
DNZL	Cakiroluk	1.32	53	⇑iP	Pn	00 26 33.9	+0.2
DNZL				i S	Sb	00 26 52.1	+1.9
DENT	Denizli	1.35	51	i PN	Pn	00 26 35.0	+0.9
DENT				i SN	Sn	00 26 51.1	-0.7
KARP	Karpathos	1.43	198	ePN	Pn	00 26 36.0	+0.9
IZM	Izmir	1.53	347	PN	Pn	00 26 37.0	+0.4
KDAG	Bornova	1.54	347	⇑iP	Pn	00 26 36.5	-0.2
KDAG				i S	Sn	00 26 57.6	+1.2
MANT	Manisa	1.72	23	i P	Pn	00 26 39.3	0.0
MANT				i S	Sn	00 27 00.4	-0.7
ELL	Elmali	1.77	94	PN	Pn	00 26 41.9	+1.8
AKS	Akhisar	1.97	2	PN	Pn	00 26 42.7	-0.2
BCK	Bucak	2.37	76	ePN	Pn	00 26 49.5	+0.9

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*MDD **09** 00:49:51.8±0.2, 42.30N×1.05E, h5^{km}±4^{km}, mbLg1.7/18, Error ellipse: s-maj=2.0km s-min=1.7km az=87.0, PRXIMO*

*STR **09** 00:49:51.4±0.4, 42.31N×1.05E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **09** 00:49:51.6±0.2, 42.29N×1.06E, h2^{km}, Md2.2/3, Ml2.2/12, Error ellipse: s-maj=3.7km s-min=2.2km az=179.0*

ISC 09 00:49:50.2±0.3**, 42.34N**±0.02×**1.06E**±0.03**, h15**^{km}±3^{km}**, n35, σ1^{s}08**/57**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSOR	Sort	0.07	57	Pg	Pg	00 49 53.5	+0.3
CSOR				Lg		00 49 55.3	
	163nm,0.1s						
CORG	Organya	0.22	119	Pg	Pg	00 49 55.2	-0.2
CORG				Lg		00 49 58.9	
	21nm,0.1s						
PAND	Andorre	0.41	63	Pg	Pg	00 49 59.6	+0.8
PAND				Lg		00 50 06.0	
SALF	Salau	0.43	13	Pg	Pg	00 50 00.8	+1.5
SALF				Sg	Sg	00 50 06.9	+1.6
SALF	Salau	0.43	13	Pg	Pg	00 50 00.5	+1.2
SALF				Lg		00 50 06.9	
CAVN	Les Avellanes	0.51	207	Pg	Pg	00 50 00.4	-0.3
CAVN				Lg		00 50 06.9	
	12nm,0.1s						
EMIR	Miracle	0.55	140	Pg	Pg	00 50 01.2	-0.3
	7.2nm,0.1s,SNR=31						
EMIR				Lg		00 50 09.1	
	10nm,0.1s,SNR=5.0						
MELF	Melles	0.58	338	Pg	Pg	00 50 02.8	+0.7
MELF				Sg	Sg	00 50 10.8	+0.8
MELF	Melles	0.58	338	Pg	Pg	00 50 02.9	+0.8
MELF				Lg		00 50 11.1	
GRBF	Gourbit	0.61	35	Pg	Pg	00 50 03.7	+0.9
GRBF				Lg		00 50 12.7	
MLS	Moulis	0.62	3	Pg	Pg	00 50 03.7	+0.8
MLS				Sg	Sg	00 50 12.6	+1.3
MLS	Moulis	0.62	3	Pg	Pg	00 50 03.9	+1.0
MLS				Lg		00 50 12.5	
CLLI	Llivia	0.69	78	Pg	Pg	00 50 04.7	+0.3
CLLI				Lg		00 50 14.6	
	4.1nm,0.1s						
VALF	Valcebollere	0.71	85	Pg	Pg	00 50 05.0	+0.2
VALF				Sg	Sg	00 50 14.9	+0.4
VALF	Valcebollere	0.71	85	Pg	Pg	00 50 05.2	+0.4
VALF				Lg		00 50 14.8	
CBRU	Bruguera	0.84	93	Pg	Pg	00 50 07.3	+0.2
EPF	Esparros	0.87	323	ePg	Pg	00 50 07.9	+0.1
EPF				eSg	Sg	00 50 20.4	+0.9
	6.7nm,0.2s						
VIEF	Viey	0.94	306	Lg		00 50 22.6	
EPOB	Poblet	0.98	179	Pg	Pg	00 50 09.5	-0.6
	2.0nm,0.1s,SNR=7.1						
EPOB				Lg		00 50 21.3	
	7.7nm,0.1s,SNR=15						
LABF	Labassere	1.01	315	Lg		00 50 24.3	
ESAC	San Caprasio	1.29	242	Pn	Pn	00 50 15.0	+1.1
	1.4nm,0.1s,SNR=10						
ESAC				Pg	Pg	00 50 16.3	+0.1
	9.8nm,0.1s,SNR=7.9						
ESAC				Lg		00 50 33.4	
	27nm,0.2s,SNR=11						
ETSF	Etsaut	1.32	296	ePg	Pg	00 50 16.5	-0.2
ETSF				eSg	Sg	00 50 34.7	+0.4
	8.2nm,0.3s						
MTLF	Montolieu	1.32	40	ePg	Pg	00 50 17.2	+0.5
MTLF				eSg	Sg	00 50 35.3	+1.0
	5.8nm,0.4s						
EJON	La Jonquera	1.36	85	Pg	Pg	00 50 17.0	-0.5
	1.0nm,0.1s,SNR=12						
EJON				Lg		00 50 35.7	
	4.5nm,0.2s,SNR=5.0						
SJPF	Ste Jean	1.85	295	ePg	Pg	00 50 27.0	-0.3
SJPF				eSg	Sg	00 50 51.9	-0.1
	4.9nm,0.5s						
EALK	Alkurruntz	2.08	296	Pn	Pn	00 50 26.3	+1.2
	SNR=7.9						
EALK				Pg	Pg	00 50 31.1	-0.8
	1.0nm,0.2s,SNR=5.5						
EALK				Lg		00 50 58.8	
	5.1nm,0.4s,SNR=5.0						
EMOS	Mosqueruela	2.28	211	Pg	Pg	00 50 32.2	-3.7
	0.5nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	00 50 56.1	+0.1
	0.9nm,0.2s,SNR=7.9						
LFF	La Frestale	2.61	355	ePn	Pn	00 50 33.7	+1.0
LFF				ePg	Pg	00 50 41.5	-0.9
LFF				eSg	Sg	00 51 15.5	-1.7
	3.6nm,0.4s						
LASF	Ste Croix	2.69	49	ePn	Pn	00 50 35.3	+1.5
LASF				ePg	Pg	00 50 42.0	-1.9
LASF				eSg	Sg	00 51 16.9	-2.8
	1.1nm,0.2s						
CAF	Calviac	2.69	15	ePn	Pn	00 50 34.6	+0.8
CAF				ePg	Pg	00 50 43.1	-0.9
CAF				eSg	Sg	00 51 17.8	-2.0
	1.7nm,0.2s						
ETOR	Torete	2.78	238	Pn	Pn	00 50 35.6	+0.5
	0.3nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	00 50 43.4	-2.5
	0.7nm,0.3s,SNR=4.9						
ETOR				Sn	Sn	00 51 09.1	+0.4
	0.3nm,0.2s,SNR=7.9						
ETOR				Lg		00 51 20.4	
	0.7nm,0.2s,SNR=5.0						
RJF	Les Rejaudoux	2.98	6	ePn	Pn	00 50 36.7	-1.3
RJF				ePg	Pg	00 50 47.9	-2.0
RJF				eSn	Sn	00 51 14.5	+0.7
RJF				eSg	Sg	00 51 27.2	-2.5
	1.9nm,0.3s						
VIVF	Saint-Julien-l	3.64	45	eSg	Sg	00 51 46.6	-4.8
	1.0nm,0.4s						
TCF	Toulx Ste Croi	4.03	11	eSg	Sg	00 51 58.6	-6.0
	0.7nm,0.3s						
MFF	Saint Martin d	4.35	349	ePn	Pn	00 50 57.1	-0.3
MFF				eSn	Sn	00 51 46.0	-2.4
MFF				eSg	Sg	00 52 08.9	-6.2
	1.3nm,0.4s						

NEIC 09 00:51:50.2, 53.80N×163.96W, h22^{km}**, ML3.1**(AEIC)**, After AEIC., Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESE	West Dahl East	0.77	332	P	Pb	00 52 04.0	-0.9
WESE				S	Sb	00 52 14.8	-0.1
WESS	West Dahl Sout	0.82	327	P	Pb	00 52 04.5	-1.1
WESS				S	Sb	00 52 15.6	-0.7
WESN	West Dahl Nort	0.86	335	P	Pb	00 52 05.5	-0.8
WTUG	Tugumak	1.08	347	P	Pb	00 52 08.6	-1.5
WTUG				S	Sb	00 52 23.2	-0.7
FALS	False Pass	1.11	16	P	Pn	00 52 08.4	-2.2
FALS				S	Sb	00 52 23.2	-1.5
AKLV	Akutan Long Va	1.23	288	P	Pn	00 52 10.2	-2.2
AKGG	Akutan Green G	1.27	289	P	Pn	00 52 11.0	-1.9
UNV	Unalaska Valle	1.51	273	P	Pn	00 52 13.8	-2.5
DRIA	Deer Island	1.54	40	P	Pn	00 52 14.1	-2.6
BALA	Baldy Mountain	1.56	26	P	Pn	00 52 16.6	-0.4
MTBL	Makushin Table	1.62	277	P	Pn	00 52 16.1	-1.7
DTNA	Dutton South F	1.68	36	P	Pn	00 52 16.9	-1.9
MCIR	Makushin Cirqu	1.74	276	P	Pn	00 52 17.9	-1.8
HAG	Hague Volcano	1.94	37	P	Pn	00 52 21.2	-1.3
BLHA	Black Hill	2.21	29	P	Pn	00 52 24.8	-1.5
SDN	Sand Point	2.54	51	eP	Pn	00 52 29.9	-1.2
PWA	Palmer West	10.87	38	eP	P	00 54 23.3	-4.3
	5.4nm,0.4s						

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*IDC **09** 01:00:32.9±5.5, 15.45S×178.80W, h393^{km}±58^{km}, mb3.7/11, mb1 3.9/11, mb1mx3.8/18, Error ellipse: s-maj=25.9km s-min=18.3km az=168.0*

*NEIC **09** 01:00:33.5±2.7, 15.38S×178.87W, h401^{km}±28^{km}, mb4.1/7, Error ellipse: s-maj=15.6km s-min=9.2km az=144.0*

ISC 09 01:00:32.4±0.4**, 15.4S**±0.1×**178.9W**±0.1**, h400**^{km}**, n61, σ0^{s}74**/27**, mb4.0**/18**, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	23.05	188	P	P	01 05 04.0	-1.9
	5.5nm,0.3s,mb4.5,baz=2.2,slow=4.3,SNR=14						
RPZ	Rata Peaks	29.50	195	P	P	01 06 02.5	-0.8
	7.8nm,0.7s,mb4.2,baz=70,slow=11,SNR=3.9						
CTA	Charters Tower	33.49	257	P	P	01 06 38.3	+0.5
	3.8nm,0.8s,mb3.8,baz=90,slow=9.1,SNR=3.2						
STKA	Stephens Creek	39.49	238	P	P	01 07 28.6	+1.0
	4.5nm,0.9s,mb3.8,baz=146,slow=20,SNR=5.0						
WRA	Warramunga Arr	44.69	257	P	P	01 08 08.9	-0.5
	0.5nm,0.6s,mb3.1,baz=94,slow=7.4,SNR=5.6						
ASAR	Alice Springs	45.08	252	P	P	01 08 12.6	+0.1
	7.8nm,0.4s,mb4.4,baz=84,slow=8.4,SNR=116						
ASPA	Alice Springs	45.08	252	⇓iP	P	01 08 12.5	0.0
QSPA	South Pole Qui	74.64	180	eP	P	01 11 30.7	+0.7
	6.6nm,0.7s,mb4.4						
CMB	Columbia Colle	76.34	44	eP	P	01 11 40.2	-0.1
NVAR	Mina Array Bea	77.95	44	P	P	01 11 49.4	+0.3
	4.1nm,0.8s,mb4.1,baz=219,slow=7.7,SNR=34						
MOD	Modoc	78.48	41	eP	P	01 11 51.8	0.0
	2.2nm,0.8s,mb3.8						
TPH	Tonopah	78.50	45	eP	P	01 11 52.0	0.0
	2.3nm,0.6s,mb4.0						
WVOR	Wild Horse Val	79.81	41	eP	P	01 11 59.0	+0.2
	5.1nm,1.0s,mb4.1						
TUC	Tucson	80.55	53	eP	P	01 12 03.0	+0.1
MCK	McKinley	82.21	13	eP	P	01 12 09.6	-1.1
MSU	Marysvale	82.21	47	eP	P	01 12 12.1	+0.8
DUG	Dugway	82.53	45	eP	P	01 12 13.1	+0.2
	1.7nm,0.8s,mb3.8						
HLID	Hailey	83.05	41	⇑iP	P	01 12 16.1	+0.6
	4.6nm,0.8s,mb4.3						
ILAR	Eielson Array	83.56	13	P	P	01 12 16.2	-1.3
	3.4nm,0.5s,mb4.4,baz=231,slow=5.5,SNR=59						
HWUT	Hardware Ranch	84.01	44	eP	P	01 12 20.2	-0.2
DAWY	Dawson	84.82	16	eP	P	01 12 23.2	-0.5
TXAR	Lajitas Array	85.05	58	P	P	01 12 27.2	+1.5
	2.4nm,0.8s,mb4.0,baz=222,slow=5.8,SNR=29						
TPAW	Teton Pass	85.25	43	eP	P	01 12 26.1	-0.3
BOZ	Bozeman (W)	85.78	40	eP	P	01 12 28.5	-0.4
	4.5nm,1.3s,mb4.0						
BW06	Boulder Array	85.86	44	eP	P	01 12 28.5	-0.7
PDAR	Pinedale Array	85.86	44	P	P	01 12 29.6	+0.3
	2.4nm,0.5s,mb4.2,baz=209,slow=2.5,SNR=36						
MAW	Mawson	86.05	200	P	P	01 12 31.0	+1.3
	0.7nm,0.4s,mb3.7,baz=354,slow=3.7,SNR=4.1						
BVAR	Borovoye Array	114.61	322	PKP	PKPdf	01 18 26.0	+0.5
	0.6nm,0.5s,slow=1.5,SNR=4.3						
ARCES	ARCESS Array B	123.78	350	PKP	PKPdf	01 18 43.3	+0.3
	0.9nm,0.6s,baz=45,slow=1.7,SNR=8.9						
MLR	Muntele Rosu	143.45	330	PKP	PKPdf	01 19 20.2	+0.2
	1.0nm,0.9s,baz=189,slow=12,SNR=4.8						
VRAC	Vranov	143.89	343	PKP	PKPdf	01 19 20.9	+0.3
	2.2nm,0.4s,baz=127,slow=10,SNR=4.9						
GRA1	Grafenberg Arr	144.82	349	ePKP	PKPdf	01 19 23.7	+1.6
KHC	Kasperske Hory	144.85	346	ePKP	PKPdf	01 19 24.0	+1.8
GERES	GERESS Array B	145.08	345	PKPbc	PKPbc	01 19 24.3	+0.9
	1.3nm,0.5s,baz=27,slow=3.0,SNR=15						
BAIF	Baives	145.34	356	ePKP1	PKPbc	01 19 24.9	+0.9
	3.4nm,0.5s						
CDF	Champ du Feu	146.69	353	ePKP1	PKPbc	01 19 28.9	+1.7
	8.1nm,0.6s						
FLN	La Foliniere	146.70	2	ePKP1	PKPbc	01 19 28.4	+1.1
	4.7nm,0.6s						
LDF	La Druitiere	146.88	2	ePKP1	PKPbc	01 19 28.8	+1.1
	6.1nm,0.6s						
GRR	Gorron	147.06	2	ePKP1	PKPdf	01 19 29.6	+3.6
	4.2nm,0.5s						
SGMF	Saint Gilles	147.10	5	ePKP1	PKPdf	01 19 29.4	+3.4
	12nm,0.7s						
DAVOX	Davos	147.87	349	PKPbc	PKPdf	01 19 32.7	+5.4
	2.0nm,0.7s,baz=304,slow=2.3,SNR=10.0						
DAVOX	Davos	147.87	349	PKPbc	PKPdf	01 19 32.7	+5.4
LOR	Lormes	148.14	356	ePKP1	PKPdf	01 19 32.8	+5.1
	5.0nm,0.6s						
SSF	Saint Saulge	148.37	357	ePKP1	PKPdf	01 19 33.4	+5.3
CABF	La Chapelle	148.60	353	ePKP1	PKPdf	01 19 34.6	+6.1
AVF	Avril sur Loir	148.65	357	ePKP1	PKPdf	01 19 33.7	+5.2
	2.2nm,0.5s						
SMF	Signal de Mont	148.76	356	ePKP1	PKPdf	01 19 34.3	+5.6
TCF	Toulx Ste Croi	149.19	359	ePKP1	PKPdf	01 19 35.2	+5.8
LPL	La Plagne	149.61	352	ePKP1	PKPdf	01 19 37.5	+7.4
	5.4nm,0.8s						
LPG	La Plagne	149.62	352	ePKP1	PKPdf	01 19 37.6	+7.4
	7.9nm,1.0s						
RJF	Les Rejaudoux	150.19	359	ePKP1	PKPdf	01 19 37.7	+6.7
	2.2nm,0.4s						
ORIF	Oris-en-Rattie	150.30	353	ePKP1	PKPdf	01 19 38.5	+7.3
	6.9nm,0.8s						
MBDF	Montbardon	150.38	352	ePKP1	PKPdf	01 19 38.6	+7.2
	8.1nm,0.7s						
VIVF	Saint-Julien-l	150.48	355	ePKP1	PKPdf	01 19 38.8	+7.3
LFF	La Frestale	150.55	1	ePKP1	PKPdf	01 19 38.6	+7.0
	13nm,0.8s						
CAF	Calviac	150.56	359	ePKP1	PKPdf	01 19 38.8	+7.2
	4.5nm,0.7s						
LASF	Ste Croix	151.32	356	ePKP1	PKPdf	01 19 40.9	+8.1
	8.4nm,0.8s						
MTLF	Montolieu	152.13	358	ePKP1	PKPdf	01 19 42.5	+8.6
SJPF	Ste Jean	152.31	4	ePKP1	PKPdf	01 19 42.5	+8.3
EPF	Esparros	152.45	1	ePKP1	PKPdf	01 19 43.9	+10
ETSF	Etsaut	152.56	3	ePKP1	PKPdf	01 19 43.7	+9.2
	2.3nm,0.4s						

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*NAO **09** 01:05:13.7±2.2, 67.21N×20.32E, ML2.0*

*HEL **09** 01:05:14.9±0.1, 67.18N×20.62E, ML1.7, ML2.0(UPP), ML1.6(BER), Explosion*

*BER **09** 01:05:17.2±5.9, 67.21N×20.53E, ML1.6, ML2.0(NAO), Suspected explosion*

ISC 09 01:05:13.3±0.5**, 67.17N**±0.03×**20.64E**±0.07**, n21, σ1^{s}35**/33**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	208	i P	Pg	01 05 16.1	+1.6
MASU	Masugnsbyn	0.60	61	i P	Pg	01 05 25.3	0.0
ERTU	Ertsjaerv	0.87	135	eP	Pg	01 05 30.3	-0.4
NIKU	Nikkaluokta	0.93	319	eP	Pg	01 05 30.5	-1.3
PAJU	Pajala	0.98	98	eP	Pb	01 05 32.1	-0.8
PAJU				eS	Sg	01 05 45.7	-0.2
KIF	Kilpisjarvi	1.84	2	eP	Pn	01 05 48.3	+1.9
KIF				eS	Sn	01 06 12.4	+1.6
LILU	Lilltraesk	1.92	190	eP	Pn	01 05 48.9	+1.3
KTK1	Kautokeino	2.09	27	eP	Pn	01 05 52.8	+2.9
KTK1				eSG	Sg	01 06 19.1	-3.7
KTK1				AML	AML	01 06 21.4	
	comp=Z,12nm,0.2s						
SGF	Sodankyl	2.30	81	eP	Pn	01 05 54.2	+1.3
SGF				eS	Sn	01 06 22.6	+0.3
TRO	Tromso	2.55	346	eP	Pn	01 05 57.0	+0.4
TRO				AML	AML	01 06 34.1	
	comp=Z,4.0nm,0.3s						
MOR8	Moi Rana	2.66	251	eP	Pn	01 05 59.1	+0.9
MOR8				AML	AML	01 06 38.8	
	comp=Z,7.8nm,0.7s						
LOF	Lofoten	2.88	293	eSG	Sg	01 06 46.4	-2.7
LOF				AML	AML	01 06 59.4	
	comp=Z,3.6nm,0.3s						
ARA0	ARCESS Array S	2.98	35	Pn	Pn	01 06 03.0	+0.2
	baz=211,slow=14						
ARA0				Sn	Sn	01 06 39.1	-0.6
	baz=214,slow=22						
ARA0	ARCESS Array S	2.98	35	eP	Pn	01 06 03.0	+0.2
ARA0				eS	Sn	01 06 39.1	-0.6
OUL	Oulu	2.99	132	eP	Pn	01 06 04.0	+1.1
OUL				eS	Sn	01 06 39.5	-0.6
OUL				eSG	Sg	01 06 46.1	-6.9
OUL				MSG		01 06 49.7	
	comp=Z,1.8nm,0.3s						
KEV	Kevo	3.50	39	eP	Pn	01 06 10.8	+0.8
KEV				eS	Sn	01 06 51.3	-1.5
KEV				eSB	Sb	01 06 58.1	-1.1
KEV				MSG		01 06 58.9	
	comp=Z,1.8nm,0.3s						
MSF	Maaselka	3.59	107	eP	Pn	01 06 12.2	+0.8
MSF				eS	Sn	01 06 53.6	-1.5
NSS	Namsos	4.44	237	eSG	Sg	01 07 33.8	-7.3
NSS				AML	AML	01 07 37.4	
	comp=Z,3.4nm,0.8s						
FIA0	FINESS Array S	6.22	155	eS	Sn	01 07 57.3	-4.1
FIA0				e		01 08 33.0	
FIA0	FINESS Array S	6.22	155	Sn	Sn	01 07 57.3	-4.1
	baz=10,slow=28						
FIA0				Lg		01 08 33.0	
	baz=357,slow=37						
HFS	Hagfors	7.71	207	Pn	Pn	01 07 06.9	-2.6
	baz=26,slow=14						
HFS				Sn	Sn	01 08 31.8	-6.8
	baz=29,slow=22						
HFS				Lg		01 09 11.8	
	baz=27,slow=37						

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*IDC **09** 01:12:32.8±1.0, 23.47S×68.70W, h98^{km}±10^{km}, mb4.2/6, mb1 4.0/9, mb1mx3.8/17, Error ellipse: s-maj=23.1km s-min=21.2km az=107.0*

*NEIC **09** 01:12:32.5±0.9, 23.57S×68.71W, h97^{km}±9^{km}, mb4.0/3, Error ellipse: s-maj=16.6km s-min=10.5km az=78.0*

ISC 09 01:12:31.5±0.8**, 23.57S**±0.08×**68.7W**±0.1**, h101**^{km}±8^{km}**, n18, σ1^{s}11**/16**, mb4.3**/7**, 1C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.98	346	P	P	01 12 52.1	+0.1
	287nm,0.3s,baz=178,slow=8.1,SNR=3248						
LVC				S	S	01 13 07.2	-0.3
	583nm,0.3s,baz=226,slow=23,SNR=92						
LPAZ	La Paz	7.26	4	P	P	01 14 16.9	+0.4
	0.6nm,0.3s,baz=181,slow=7.5,SNR=15						
CPUP	Villa Florida	10.65	107	P	P	01 15 04.3	+2.0
	0.2nm,0.3s,baz=336,slow=15,SNR=6.5						
TRQA	Tornquist	15.53	160	eP	P	01 16 04.5	-1.4
	6.1nm,0.7s						
PLCA	Paso Flores	17.19	185	P	P	01 16 26.8	+0.2
	0.2nm,0.3s,baz=4.5,slow=14,SNR=6.9						
BDFB	Brasilia	20.97	72	P	P	01 17 07.4	-0.9
	9.1nm,0.4s,baz=248,slow=10,SNR=22						
VNA1	Neumayer--Stat	58.27	160	⇓i	P	01 22 27.6	+10
SNAA	Sanae	60.26	161	⇑i	P	01 22 28.7	-2.5
QSPA	South Pole Qui	66.63	180	eP	P	01 23 12.1	-0.7
	6.4nm,0.6s,mb4.6						
DBIC	Dimbokro	69.12	73	P	P	01 23 29.1	-0.1
	24nm,1.4s,mb4.8,baz=135,slow=8.3,SNR=2.5						
VNDA	Vanda	74.86	190	P	P	01 24 03.4	+1.2
	0.6nm,0.6s,mb3.5,baz=29,slow=2.1,SNR=4.5						
NVAR	Mina Array Bea	77.26	322	sP	sP	01 24 53.0	-0.6
	0.7nm,0.9s,baz=141,slow=6.9,SNR=4.0						
ULM	Lac du Bonnet	77.35	342	P	P	01 24 15.2	-1.4
	1.3nm,0.6s,mb3.9,baz=153,slow=9.0,SNR=3.1						
HLID	Hailey	78.91	328	eP	P	01 24 25.9	+0.6
	1.2nm,0.8s,mb3.8						
MAW	Mawson	82.29	163	P	P	01 24 43.4	+0.7
	3.0nm,0.4s,mb4.5,baz=202,slow=7.3,SNR=9.5						
URZ	Urewera	92.94	226	P	P	01 25 36.1	+1.5
	3.3nm,0.5s,mb4.9,baz=121,slow=12,SNR=2.1						
ASAR	Alice Springs	128.19	207	PKP	PKPdf	01 31 27.6	+0.9
	0.5nm,0.6s,baz=130,slow=2.2,SNR=6.7						
MKAR	Makanchi Array	147.14	38	PKPbc	PKPdf	01 32 04.3	+4.0
	1.1nm,0.6s,baz=326,slow=1.8,SNR=6.8						
MKAR				pPKPbc		01 32 31.3	
	2.2nm,0.8s,baz=332,slow=3.8,SNR=8.4						

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*IDC **09** 01:18:38.7±2.9, 24.74S×112.20W, mb3.9/7, mb1 4.2/7, mb1mx4.0/18, MS3.8/11, Ms1 3.8/11, ms1mx3.6/18, Error ellipse: s-maj=92.2km s-min=24.2km az=48.0*

ISC 09 01:18:37.6±2.6**, 24.8S**±0.4×**112.4W**±0.5**, h10**^{km}**, n14, σ0^{s}85**/7**, mb3.8**/7**, MS3.8**/11**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**38.21**	**125**	P	**P**	**01 25 59.4**	**+0.1**
	3.7nm,1.1s,mb4.0,baz=289,slow=15,SNR=4.1						
PLCA				LR	LR	01 37 27.6	
	comp=Z,310nm,18.4s,MS4.2,baz=356,slow=30						
LVC	**Limon Verde**	**39.76**	**96**	P	**P**	**01 26 13.3**	**+0.8**
	2.4nm,0.9s,mb3.9,baz=231,slow=12,SNR=3.6						
LPAZ	**La Paz**	**42.17**	**87**	P	**P**	**01 26 31.3**	**-1.0**
	1.8nm,0.9s,mb3.7,baz=288,slow=7.1,SNR=5.9						
ROSC	**El Rosal**	**47.34**	**57**	LR	LR	01 42 44.3	
	comp=Z,96nm,19.1s,MS3.8,baz=209,slow=31						
CPUP	**Villa Florida**	**49.38**	**104**	LR	LR	01 45 01.4	
	comp=Z,139nm,18.1s,MS4.0,baz=288,slow=32						
TXAR	**Lajitas Array**	**54.50**	**9**	P	**P**	**01 28 08.9**	**+0.9**
	0.4nm,0.7s,mb3.6,baz=166,slow=10,SNR=3.5						
TXAR				LR	LR	01 46 33.6	
	comp=Z,45nm,21.7s,MS3.5,baz=215,slow=31						
BDFB	**Brasilia**	**60.65**	**95**	LR	LR	01 51 51.7	
	comp=Z,120nm,18.5s,MS4.1,baz=298,slow=33						
NVAR	**Mina Array Bea**	**63.17**	**355**	P	**P**	**01 29 08.4**	**+0.3**
	1.1nm,0.9s,mb4.0,baz=172,slow=9.2,SNR=5.3						
NVAR				LR	LR	01 49 58.0	
	comp=Z,28nm,18.9s,MS3.5,baz=15,slow=30						
VNDA	**Vanda**	**65.02**	**194**	LR	LR	01 52 12.0	
	comp=Z,114nm,20.2s,MS4.1,baz=254,slow=31						
PDAR	**Pinedale Array**	**67.31**	**2**	P	**P**	**01 29 33.2**	**-1.5**
	0.6nm,1.0s,mb3.6,baz=146,slow=5.3,SNR=4.4						
PDAR				LR	LR	01 54 33.8	
	comp=Z,26nm,19.3s,MS3.5,baz=67,slow=32						
ULM	**Lac du Bonnet**	**76.17**	**11**	P	**P**	**01 30 27.9**	**+0.4**
	2.2nm,0.8s,mb4.1,baz=253,slow=1.9,SNR=3.8						
ULM				LR	LR	02 00 32.9	
	comp=Z,35nm,18.3s,MS3.7,baz=278,slow=33						
MAW	**Mawson**	**87.78**	**178**	LR	LR	02 08 46.3	
	comp=Z,98nm,21.8s,MS4.2,baz=130,slow=34						
SCHQ	**Schefferville**	**88.43**	**24**	LR	LR	02 12 26.3	
	comp=Z,33nm,18.4s,MS3.8,baz=310,slow=37						
BVAR	**Borovoye Array**	**151.77**	**356**	PKPab	PKPab	01 38 43.4	+0.1
	0.5nm,0.7s,baz=315,slow=6.3,SNR=4.4						

ATH 09 01:19:43.2, 36.19N×26.14E, h45^{km}, MD2.9/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.05**	**127**	*e*P	P	01 20 02.5	+0.8
KARP				*e*S	S	01 20 16.5	+1.1
ARG	**Arkhangelos**	**1.61**	**88**	*e*P	P	01 20 10.5	+0.8
SMG	**Samos**	**1.61**	**20**	*e*P	P	01 20 10.5	+0.7
SMG				*e*S	S	01 20 30.5	+0.9

ISK 09 01:20:43.8, 36.40N×28.56E, h5^{km}, MD2.9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.76**	**343**	*i* PG	Pg	01 20 59.4	+0.3
YER				*i* SG	Sg	01 21 11.5	+2.2
BDRM	**Kayabasi**	**1.12**	**307**	*i* P	Pb	01 20 59.3	-5.9
BDRM				*i* S	Sb	01 21 10.6	-9.3
DNZL	**Cakiroluk**	**1.34**	**17**	*i* P	Pb	01 21 11.4	+2.3
DNZL				*i* S	Sb	01 21 32.7	+6.3
DENT	**Denizli**	**1.40**	**15**	*i* PN	Pn	01 21 11.5	+1.4
DENT				*i* SN	Sn	01 21 31.6	+2.5
BCK	**Bucak**	**1.94**	**56**	*e*PN	Pn	01 21 19.3	+1.6
MANT	**Manisa**	**2.08**	**360**	*i* P	Pn	01 21 17.9	-1.9

*ATH **09** 01:21:57.9, 37.99N×27.89E, h5^{km}, MD3.8/13*
*ISK **09** 01:21:58.8, 37.94N×27.67E, h9^{km}, MD3.9, ML3.9*
*NEIC **09** 01:21:58.7, 37.94N×27.66E, h10^{km}, MD3.8(ATH), After ISK.*

ISC 09 01:21:58.6±0.4, 37.95N±0.02×27.65E±0.02, h3^{km}±4^{km}, n73, σ0^{s}86/88, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.34**	**148**	*i* P	**Pg**	**01 22 05.7**	**+0.3**
AYDN				*i* S	**Sg**	**01 22 09.6**	**-0.3**
IZM	**Izmir**	**0.55**	**326**	*i* PG	**Pg**	**01 22 10.5**	**+1.0**
KDAG	**Bornova**	**0.55**	**326**	*i* P	**Pg**	**01 22 10.5**	**+1.0**
KDAG				*i* S	**Sg**	**01 22 17.1**	**+0.3**
MLSB	**Milas**	**0.66**	**171**	*i* PG	**Pg**	**01 22 11.2**	**-0.6**
SMG	**Samos**	**0.69**	**250**	*e*PB	**Pb**	**01 22 13.0**	**+0.1**
SMG	**Samos**	**0.69**	**250**	*e*Pb	**Pb**	**01 22 12.2**	**-0.7**
MANT	**Manisa**	**0.90**	**52**	*i* P	**Pb**	**01 22 16.4**	**+0.1**
MANT				*i* S	**Sg**	**01 22 27.7**	**-0.7**
BDRM	**Kayabasi**	**0.90**	**191**	⇑*i*P	**Pb**	**01 22 15.2**	**-1.2**
BDRM				*i* S	**Sg**	**01 22 29.5**	**+1.0**
AKS	**Akhisar**	**0.94**	**8**	*i* PG	**Pg**	**01 22 17.8**	**+0.5**
AKS				*i* SG	**Sg**	**01 22 30.4**	**+0.5**
AKS	**Akhisar**	**0.94**	**8**	Pg	**Pg**	**01 22 17.8**	**+0.5**
AKS				Sg	**Sg**	**01 22 30.8**	**+0.9**
YER	**Yerkesik**	**0.95**	**148**	*i* PG	**Pg**	**01 22 17.1**	**-0.5**
YER				*i* SG	**Sg**	**01 22 31.3**	**+1.0**
DENT	**Denizli**	**1.11**	**100**	*i* PN	**Pn**	**01 22 20.5**	**-0.4**
DENT				*i* SN	**Sn**	**01 22 35.6**	**-1.2**
DNZL	**Cakiroluk**	**1.13**	**103**	*i* P	**Pb**	**01 22 20.7**	**+0.3**
DNZL				*i* S	**Sb**	**01 22 36.8**	**+1.4**
NISR	**Nisiros**	**1.40**	**198**	*e*PG	**Pg**	**01 22 25.5**	**-1.0**
PRK	**Paraskevi**	**1.69**	**321**	*e*Pb	**Pb**	**01 22 29.5**	**-0.5**
PRK				*e*Sn	**Sn**	**01 22 55.0**	**+3.4**
BALB	**Balikesir**	**1.70**	**6**	*i* PN	**Pn**	**01 22 29.5**	**+0.2**
ARG	**Arkhangelos**	**1.77**	**168**	*e*PB	**Pn**	**01 22 29.0**	**-1.3**
ARG				*e*SG	**Sg**	**01 22 58.0**	**+0.5**
ARG	**Arkhangelos**	**1.77**	**168**	*e*Pb	**Pn**	**01 22 29.0**	**-1.3**
ARG				*e*Sg	**Sg**	**01 22 58.5**	**+1.0**
DST	**Dursunbey**	**1.82**	**24**	PN	**Pn**	**01 22 31.1**	**0.0**
APE	**Apeiranthos**	**1.90**	**243**	PN	**Pn**	**01 22 32.1**	**-0.1**
APE	**Apeiranthos**	**1.90**	**243**	*e*PB	**Pb**	**01 22 34.5**	**+0.9**
ELL	**Elmali**	**2.16**	**123**	*e*PN	**Pn**	**01 22 36.1**	**+0.2**
ALT	**Altintas**	**2.22**	**59**	PN	**Pn**	**01 22 37.0**	**+0.2**
ISP	**Isparta**	**2.26**	**92**	*e*PN	**Pn**	**01 22 38.1**	**+0.7**
BOZC	**Bozcaada**	**2.27**	**327**	*i* P	**Pn**	**01 22 37.6**	**+0.1**
BOZC				*i* S	**Sn**	**01 23 13.5**	**+7.3**
ORLT	**Orhaneli**	**2.31**	**24**	*e*PN	**Pn**	**01 22 38.2**	**+0.2**
THR4	**Thira Island,**	**2.33**	**231**	*e*P	**Pn**	**01 22 38.6**	**+0.2**
KSL	**Kastellorizon**	**2.37**	**139**	*e*PG	**Pn**	**01 22 40.5**	**+1.6**
THR3	**Thira Island,**	**2.37**	**230**	*e*P	**Pn**	**01 22 40.9**	**+2.0**
BCK	**Bucak**	**2.38**	**101**	*e*PN	**Pn**	**01 22 39.5**	**+0.5**
THR5	**Thira Island,**	**2.39**	**231**	*e*P	**Pn**	**01 22 43.0**	**+3.7**
EDC	**Edincik**	**2.40**	**4**	PN	**Pn**	**01 22 39.2**	**-0.2**
THR6	**Thira Island,**	**2.40**	**229**	*e*P	**Pn**	**01 22 39.0**	**-0.4**
BNT	**Bandirma**	**2.41**	**5**	PN	**Pn**	**01 22 39.1**	**-0.5**
KARP	**Karpathos**	**2.43**	**190**	*e*PN	**Pn**	**01 22 38.5**	**-1.3**
ULDT	**Uludag**	**2.48**	**27**	*i* P	**Pn**	**01 22 34.4**	**-6.0**
ULDT				*i* S	**Sn**	**01 23 16.9**	**+5.3**
LPK	**Lapseki**	**2.52**	**344**	PN	**Pn**	**01 22 41.4**	**+0.3**
MRMT	**Marmara Adasi**	**2.65**	**359**	*e*PN	**Pn**	**01 22 42.6**	**-0.4**
SART	**Tekirdag**	**2.76**	**352**	*i* P	**Pn**	**01 22 44.2**	**-0.3**
SART				*i* S	**Sn**	**01 23 23.6**	**+4.8**
LOS	**Limnos**	**2.82**	**315**	*e*P	**Pn**	**01 22 45.9**	**+0.5**
ESKT	**Eskisehir**	**2.95**	**57**	*e*PN	**Pn**	**01 22 46.6**	**-0.6**
ESKT	**Eskisehir**	**2.95**	**57**	*i* P	**Pn**	**01 22 47.4**	**+0.2**
MPAR	**Parnis Oros**	**3.10**	**275**	*e*PG	**Pg**	**01 22 59.5**	**-1.0**
MPAR	**Parnis Oros**	**3.10**	**275**	*e*Pg	**Pg**	**01 23 00.5**	**0.0**
NPS	**Neapolis**	**3.14**	**212**	*e*PB	**Pb**	**01 22 54.5**	**-0.3**
ALN	**Alexandroupoli**	**3.20**	**338**	*e*P	**Pn**	**01 22 50.3**	**-0.5**
AOS	**Alonnisos**	**3.20**	**294**	*e*P	**Pn**	**01 22 51.4**	**+0.6**
CTT	**Catalca**	**3.25**	**10**	*e*PN	**Pn**	**01 22 50.8**	**-0.7**
HRT	**Hereke**	**3.27**	**28**	*e*PN	**Pn**	**01 22 50.8**	**-0.9**
ISK	**Istanbul-Kandi**	**3.30**	**19**	*e*PN	**Pn**	**01 22 51.3**	**-0.9**
NAIG	**Nisos Aigina**	**3.30**	**268**	*e*PG	**Pg**	**01 23 00.7**	**-3.8**
NAIG	**Nisos Aigina**	**3.30**	**268**	*e*Pg	**Pg**	**01 23 04.5**	**0.0**
NSAL	**Nisos Salamina**	**3.31**	**271**	*e*Pg	**Pg**	**01 23 01.5**	**-3.3**
KIZT	**Kizilcal**	**3.45**	**73**	*e*PN	**Pn**	**01 22 53.7**	**-0.6**
XRY	**Khrisi**	**3.45**	**208**	*e*PB	**Pb**	**01 22 59.2**	**-0.9**
XRY	**Khrisi**	**3.45**	**208**	*e*Pb	**Pb**	**01 23 00.0**	**-0.1**
PAIG	**Paliouri**	**3.68**	**304**	*e*P	**Pn**	**01 22 57.6**	**+0.1**
OUR	**Ouranopolis**	**3.72**	**311**	*e*P	**Pn**	**01 22 57.8**	**-0.3**
VAM	**Vamos**	**3.76**	**229**	*e*PB	**Pb**	**01 23 05.0**	**-0.4**
HENT	**Hendek**	**3.82**	**40**	*i* P	**Pg**	**01 23 11.7**	**-3.1**
VLI	**Veliai**	**3.96**	**253**	*e*PB	**Pb**	**01 23 07.5**	**-1.2**
SOH	**Sokhos**	**4.40**	**312**	*e*P	**Pn**	**01 23 07.5**	**-0.2**
ANTO	**Ankara**	**4.44**	**63**	*e*PN	**Pn**	**01 23 07.4**	**-1.0**
SRS	**Serrai**	**4.46**	**316**	*e*P	**Pn**	**01 23 07.8**	**-0.9**
LIT	**Litokhoron**	**4.56**	**300**	*e*P	**Pn**	**01 23 10.0**	**-0.1**
KNT	**Kendrikon**	**4.88**	**313**	*e*P	**Pn**	**01 23 14.8**	**+0.1**
KAMT	**Kaman**	**4.95**	**71**	*e*PN	**Pn**	**01 23 16.4**	**+0.8**
GRG	**Griva**	**5.05**	**308**	*e*P	**Pn**	**01 23 17.3**	**+0.2**
ELDT	**Eldivan**	**5.15**	**59**	*i* P	**Pn**	**01 23 19.0**	**+0.5**
FNA	**Florina**	**5.63**	**302**	*e*P	**Pn**	**01 23 25.8**	**+0.6**
BALT	**Daday**	**5.69**	**49**	*i* P	**Pn**	**01 23 25.5**	**-0.5**
IGT	**Igoumenitsa**	**5.94**	**288**	*e*P	**Pn**	**01 23 31.1**	**+1.6**
CTKT	**Corum**	**6.15**	**62**	*i* P	**Pn**	**01 23 34.5**	**+2.1**

*LDG **09** 01:24:09.7±0.2, 46.62N×7.00E, h6^{km}, Md2.0/5, Ml1.8/12, Error ellipse: s-maj=3.0km s-min=1.9km az=86.0*
*ZUR **09** 01:24:09.4, 46.60N×7.00E, h13^{km}, ML1.2/6*

ISC 09 01:24:08.3±0.4, 46.62N±0.02×6.85E±0.04, h12^{km}±5^{km}, n21, σ1^{s}00/35, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORNY	**Torny**	**0.18**	**26**	⇓*i*Pg	**Pg**	**01 24 13.5**	**+1.1**
	6.2nm,0.5s						
TORNY				*e*Sg	**Sg**	**01 24 16.7**	**+1.6**
	6.2nm,0.5s						
AIGLE	**Aigle**	**0.28**	**165**	⇑*i*Pg	**Pg**	**01 24 14.9**	**+0.6**
	0.8nm,0.2s						
AIGLE				*i* Sg	**Sg**	**01 24 18.9**	**+0.5**
	0.8nm,0.2s						
SENIN	**Lac Senin**	**0.40**	**129**	*e*Pg	**Pg**	**01 24 16.1**	**-0.5**
	1.2nm,0.2s						
GRYON	**Gryon**	**0.41**	**153**	*e*Pg	**Pg**	**01 24 16.6**	**-0.1**
	0.4nm,0.2s						
GRYON				*i* Sg	**Sg**	**01 24 21.8**	**-0.5**
	0.4nm,0.2s						
GIMEL	**Gimel**	**0.41**	**259**	Pg	**Pg**	**01 24 19.9**	**+3.2**
	2.2nm,2.9s						
SALAN	**Lac Salanfe**	**0.48**	**169**	*e*Pg	**Pg**	**01 24 18.5**	**+0.4**
CABF	**La Chapelle**	**0.52**	**270**	*e*Pg	**Pg**	**01 24 22.3**	**+3.3**
CABF				*e*Sg	**Sg**	**01 24 31.4**	**+5.3**
	1.7nm,0.3s						
LKBD	**Leukerbad**	**0.58**	**113**	*e*Sg	**Sg**	**01 24 26.2**	**-1.9**
LPL	**La Plagne**	**1.10**	**184**	*e*Pg	**Pg**	**01 24 30.9**	**+0.5**
LPL				*e*Sg	**Sg**	**01 24 45.4**	**+0.2**
	1.4nm,0.3s						
LPG	**La Plagne**	**1.12**	**183**	*e*Pg	**Pg**	**01 24 31.2**	**+0.4**
LPG				*e*Sg	**Sg**	**01 24 45.9**	**+0.2**
	1.9nm,0.2s						
HINF	**Hinteralfeld**	**1.20**	**0**	*e*Pg	**Pg**	**01 24 32.5**	**+0.1**
HINF				*e*Sg	**Sg**	**01 24 48.6**	**+0.1**
	2.2nm,0.2s						
HAU	**Haudompre**	**1.43**	**346**	*e*Pn	**Pn**	**01 24 36.3**	**+2.0**
HAU				*e*Sg	**Sg**	**01 24 55.4**	**-0.7**
	2.2nm,0.2s						
CDF	**Champ du Feu**	**1.82**	**9**	*e*Pn	**Pn**	**01 24 39.6**	**-0.3**
CDF				*e*Sg	**Sg**	**01 25 06.1**	**-3.0**
	1.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.83**	**202**	*e*Pn	**Pn**	**01 24 40.7**	**+0.8**
ORIF				*e*Pg	**Pg**	**01 24 43.2**	**-1.6**
ORIF				*e*Sn	**Sn**	**01 25 04.1**	**+0.9**
ORIF				*e*Sg	**Sg**	**01 25 08.5**	**-0.7**
	0.9nm,0.3s						
MBDF	**Montbardon**	**1.89**	**182**	*e*Pn	**Pn**	**01 24 39.5**	**-1.3**
SFTF	**Sexfontaines**	**2.01**	**323**	*e*Sg	**Sg**	**01 25 14.7**	**-0.6**
	1.5nm,0.2s						
SMF	**Signal de Mont**	**2.07**	**272**	*e*Sg	**Sg**	**01 25 17.2**	**-0.2**
	0.4nm,0.2s						
LOR	**Lormes**	**2.15**	**289**	*e*Pg	**Pg**	**01 24 51.9**	**+0.6**
LOR				*e*Sg	**Sg**	**01 25 19.6**	**-0.3**
	1.6nm,0.3s						
SSF	**Saint Saulge**	**2.34**	**282**	*e*Pg	**Pg**	**01 24 54.9**	**-0.1**
SSF				*e*Sg	**Sg**	**01 25 26.2**	**0.0**
	0.5nm,0.3s						
AVF	**Avril sur Loir**	**2.41**	**275**	*e*Sg	**Sg**	**01 25 27.2**	**-1.5**
	0.3nm,0.2s						
BGF	**Bois d'Agland**	**2.76**	**270**	*e*Sg	**Sg**	**01 25 40.1**	**-0.1**
	1.6nm,0.2s						

*MDD **09** 01:33:32.9±0.3, 38.76N×9.05W, mbLg1.2/2, Error ellipse: s-maj=3.3km s-min=2.3km az=17.0, PRXIMO*
*INMG **09** 01:33:32.0±0.8, 38.73N×9.10W, h8^{km}±4^{km}, MD1.9, ML1.0, Error ellipse: s-maj=6.1km s-min=1.5km az=73.0*
*IGIL **09** 01:33:34.5, 38.73N×9.11W, h2^{km}, ML1.0*

ISC 09 01:33:32.0±0.5, 38.76N±0.03×9.05W±0.04, h8^{km}, n17, σ0^{s}86/24, 1C-2D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INMG	**Instituto de M**	**0.06**	**280**	*i* Pg	**Pg**	**01 33 33.4**	**-0.5**
INMG				*e*Sg	**Sg**	**01 33 35.0**	**-0.2**
INMG	**Instituto de M**	**0.06**	**280**	⇓Pg	**Pg**	**01 33 33.4**	**-0.5**
INMG				Lg		01 33 35.0	
LIS	**Lisbon**	**0.09**	**238**	*e*P	**Pg**	**01 33 34.9**	**+0.5**
LIS				*e*S	**Sg**	**01 33 35.8**	**-0.1**
LIS				*e*S	**Sg**	**01 33 35.8**	**-0.1**
LIS				AML	AML	01 33 37.1	
	comp=E,386nm,0.3s						
PLOU	**Loures**	**0.14**	**327**	*i* Pg	**Pg**	**01 33 35.1**	**-0.2**
PLOU				*e*Sg	**Sg**	**01 33 37.9**	**+0.5**
	comp=E,44nm,0.2s						
PLOU	**Loures**	**0.14**	**327**	⇓Pg	**Pg**	**01 33 35.1**	**-0.2**
PLOU				Lg		01 33 37.9	
	comp=E,22nm,0.2s						
MOE	**Montemor**	**0.60**	**113**	*i* Pg	**Pg**	**01 33 43.5**	**-0.6**
MOE				*e*Sg	**Sg**	**01 33 51.8**	**-0.4**
MOE	**Montemor**	**0.60**	**113**	⇑Pg	**Pg**	**01 33 43.5**	**-0.6**
MOE				Lg		01 33 51.8	
PTOM	**Tomar**	**0.99**	**30**	*e*P	**Pb**	**01 33 50.8**	**-0.1**
PTOM				*e*S	**Sb**	**01 34 04.9**	**+1.0**
	comp=E,3.1nm,0.2s						
PTOM	**Tomar**	**0.99**	**30**	Pg	**Pb**	**01 33 50.8**	**-0.1**
PTOM				Lg		01 34 04.9	
	comp=E,1.6nm,0.2s						
PBEJ	**Beja**	**1.19**	**128**	*e*S	**Sb**	**01 34 09.5**	**-0.1**
	comp=E,1.3nm,0.3s						
PBEJ	**Beja**	**1.19**	**128**	Lg		01 34 09.5	
	comp=E,0.6nm,0.3s						
EBAD	**Badajoz**	**1.59**	**90**	Pn	**Pn**	**01 34 00.9**	**+0.3**
	comp=E,0.8nm,0.2s,SNR=6.1						
EBAD				Sn	**Sn**	**01 34 22.1**	**+0.6**
	comp=E,4.4nm,0.2s,SNR=6.9						
EGRO	**El Granado**	**1.74**	**134**	Pn	**Pn**	**01 34 02.3**	**-0.5**
	comp=E,0.4nm,0.2s,SNR=7.9						
EGRO				Sn	**Sn**	**01 34 26.6**	**+1.3**
	comp=E,1.2nm,0.2s,SNR=7.9						
PALC	**Alcoutim**	**1.80**	**136**	*e*Sg	**Sg**	**01 34 29.5**	**-2.4**
	comp=E,1.5nm,0.3s						
PALC	**Alcoutim**	**1.80**	**136**	Lg		01 34 29.5	
	comp=E,0.8nm,0.3s						
EMIN	**Mina Concepcio**	**2.12**	**117**	Pn	**Pn**	**01 34 08.6**	**+0.4**
	comp=E,0.2nm,0.2s,SNR=4.0						
EMIN				Sn	**Sn**	**01 34 36.4**	**+1.5**
	comp=E,0.2nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**2.14**	**24**	*e*Sg	**Sg**	**01 34 41.8**	**-1.6**

*ZUR **09** 02:14:01.9, 45.75N×6.95E, h3^{km}, ML1.2/4*

LDG 09 02:14:02.1±0.1, 45.71N×6.92E, h2^{km}, Md2.1/4, Ml1.9/14, 2C-3D, Error ellipse: s-maj=1.5km s-min=0.9km az=94.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	**0.23**	**214**	*e*Pg	Pg	02 14 07.1	+0.3
LPL				*e*Sg	Sg	02 14 10.4	+0.4
	8.4nm,0.3s						
LPG	**La Plagne**	**0.24**	**209**	*e*Pg	Pg	02 14 07.3	+0.3
LPG				*e*Sg	Sg	02 14 10.7	+0.4
	32nm,0.2s						
EMV	**Vieux Emosson**	**0.35**	**357**	⇑*i*Pg	Pg	02 14 09.1	0.0
	1.4nm,0.5s						
EMV				*i* Sg	Sg	02 14 13.6	-0.3
	1.4nm,0.5s						
SALAN	**Lac Salanfe**	**0.43**	**5**	⇑*i*Pg	Pg	02 14 10.6	-0.2
	0.7nm,0.3s						
SALAN				*i* Sg	Sg	02 14 16.0	-0.6
	0.7nm,0.3s						
DIX	**Grande Dixence**	**0.50**	**43**	⇓*i*Pg	Pg	02 14 11.6	-0.6
	0.7nm,0.5s						
AIGLE	**Aigle**	**0.63**	**2**	⇓*i*Pg	Pg	02 14 14.2	-0.5
GIMEL	**Gimel**	**0.94**	**331**	⇓*i*P*P	Pn	02 14 20.4	-1.7
MBDF	**Montbardon**	**0.99**	**186**	*e*Pn	Pn	02 14 21.4	-1.4
MBDF				*e*Sg	Sg	02 14 33.8	-1.3
	2.2nm,0.3s						
CABF	**La Chapelle**	**1.07**	**328**	*e*Pn	Pn	02 14 22.6	-1.4
CABF				*e*Sg	Sg	02 14 38.0	+0.2
	1.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.08**	**223**	*e*Pn	Pn	02 14 22.5	-1.6
ORIF				*e*Sg	Sg	02 14 36.7	-1.4
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**1.80**	**242**	*e*Pn	Pn	02 14 32.5	-2.0
VIVF				*e*Pg	Pg	02 14 35.7	-2.4
VIVF				*e*Sg	Sg	02 14 59.5	-2.6
	1.3nm,0.3s						
HINF	**Hinteralfeld**	**2.11**	**359**	*e*Sg	Sg	02 15 08.0	-4.2
	1.9nm,0.3s						
HAU	**Haudompre**	**2.33**	**350**	*e*Pg	Pg	02 14 45.7	-2.9
HAU				*e*Sn	Sn	02 15 07.4	-4.2
HAU				*e*Sg	Sg	02 15 15.1	-4.5
	1.5nm,0.3s						
SMF	**Signal de Mont**	**2.33**	**295**	*e*Pg	Pg	02 14 46.3	-2.4
SMF				*e*Sg	Sg	02 15 15.7	-4.1
	1.5nm,0.2s						
LOR	**Lormes**	**2.63**	**307**	*e*Pn	Pn	02 14 43.8	-2.5
LOR				*e*Pg	Pg	02 14 50.9	-3.6
LOR				*e*Sn	Sn	02 15 14.3	-4.9
LOR				*e*Sg	Sg	02 15 23.7	-5.9
	1.0nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**295**	*e*Pn	Pn	02 14 44.9	-2.4
AVF				*e*Pg	Pg	02 14 51.8	-4.2
AVF				*e*Sn	Sn	02 15 15.9	-5.1
AVF				*e*Sg	Sg	02 15 26.4	-5.6
	0.8nm,0.4s						
CDF	**Champ du Feu**	**2.71**	**5**	*e*Pn	Pn	02 14 45.0	-2.5
CDF				*e*Sg	Sg	02 15 27.4	-5.0
	0.8nm,0.3s						
SSF	**Saint Saulge**	**2.72**	**301**	*e*Pg	Pg	02 14 52.7	-3.8
SSF				*e*Sn	Sn	02 15 16.6	-5.0
SSF				*e*Sg	Sg	02 15 26.0	-6.7
	0.6nm,0.3s						
BGF	**Bois d'Agland**	**2.96**	**288**	*e*Sn	Sn	02 15 22.2	-5.3
BGF				*e*Sg	Sg	02 15 35.9	-4.7
	2.0nm,0.4s						
MEZF	**Maizieres J'vi**	**3.07**	**336**	*e*Pn	Pn	02 14 49.8	-2.8
TCF	**Toulx Ste Croi**	**3.33**	**282**	*e*Pn	Pn	02 14 53.3	-3.0
TCF				*e*Pg	Pg	02 15 03.8	-4.9
TCF				*e*Sg	Sg	02 15 46.8	-6.3
	0.6nm,0.2s						

IDC 09 02:18:05.2±12.0, 6.25S×130.67E, h85^{km}±117^{km}, mb3.7/2, mb1 3.8/4, mb1mx3.5/11, ML3.7/2, Error ellipse: s-maj=133.0km s-min=40.4km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.07**	**166**	P	P	02 21 20.1	-1.8
	0.4nm,0.3s,baz=348,slow=13,SNR=6.1						
WRA				S	S	02 23 47.9	-8.3
	1.7nm,0.3s,baz=355,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.59**	**170**	P	P	02 22 05.6	-0.8
	0.4nm,0.3s,baz=349,slow=10,SNR=21						
ASAR				S	S	02 25 11.6	-5.3
	0.3nm,0.3s,baz=359,slow=25,SNR=7.1						
STKA	**Stephens Creek**	**27.47**	**160**	P	P	02 23 43.1	-2.4
	2.5nm,0.9s,baz=331,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**67.97**	**326**	P	P	02 28 55.2	-2.0
	0.9nm,0.5s,baz=124,slow=8.9,SNR=9.4						

*CASC **09** 02:29:29.8±2.2, 8.92N×82.84W, h12^{km}±4^{km}, MD4.0*

ISC 09 02:29:29.8±0.4, 8.92N±0.03×82.83W±0.03, h18^{km}±5^{km}, n18, σ1^{s}15/33, 5C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.18**	**132**	⇑*i*P	**Pb**	**02 29 35.0**	**+0.4**
BRU2				*e*S	**Sb**	**02 29 39.2**	**+1.4**
ACR	**Cerro Adams**	**0.42**	**232**	⇓*e*P	**Pb**	**02 29 37.7**	**-0.7**
ACR				*e*S	**Sb**	**02 29 44.8**	**+0.5**
CNI	**Changuinola**	**0.58**	**32**	⇓*i*P	**Pb**	**02 29 41.3**	**+0.1**
CNI				*i* S	**Sb**	**02 29 45.9**	**-3.0**
DVD	**David**	**0.61**	**142**	*i* P	**Pb**	**02 29 41.9**	**+0.3**
DVD				*i* S	**Sb**	**02 29 50.3**	**+0.6**
PTP1	**Petroterminal**	**0.81**	**151**	⇓*i*P	**Pb**	**02 29 43.4**	**-1.7**
PTP1				*i* S	**Sb**	**02 29 54.0**	**-1.6**
LIO	**Limon**	**1.10**	**349**	⇑*i*P	**Pb**	**02 29 49.8**	**-0.1**
LIO				*e*S	**Sb**	**02 30 04.8**	**+1.0**
BUS	**Buena Vista**	**1.11**	**305**	*e*P	**Pb**	**02 29 49.3**	**-0.8**
URSC	**Urasca**	**1.31**	**314**	⇑*e*P	**Pn**	**02 29 52.5**	**-0.7**
ICR	**Volcan Irazu**	**1.45**	**317**	⇑*e*P	**Pn**	**02 29 55.2**	**-0.1**
ICR				*e*S	**Sn**	**02 30 15.5**	**+1.6**
SJS	**Escuela Geolog**	**1.58**	**310**	⇓*e*P	**Pn**	**02 29 55.9**	**-1.3**
SJS				*e*S	**Sn**	**02 30 16.9**	**-0.3**
LAJ	**Bijagual**	**1.58**	**307**	*e*P	**Pn**	**02 30 01.5**	**+4.3**
LAJ				*e*S	**Sn**	**02 30 27.8**	**+10**
PRS1	**Puriscal**	**1.81**	**306**	*e*P	**Pn**	**02 29 59.7**	**-0.7**
PRS1				*e*S	**Sn**	**02 30 21.6**	**-1.4**
TRTC	**Tortuguero**	**1.86**	**332**	⇓*e*P	**Pn**	**02 30 00.7**	**-0.6**
VPS2	**Volcan Poas 2**	**1.88**	**312**	⇑*e*P	**Pn**	**02 30 02.8**	**+1.4**
VPS2				*e*S	**Sn**	**02 30 27.8**	**+3.0**
CGA2	**Cerro Gallo 2**	**1.95**	**304**	*e*P	**Pn**	**02 30 02.2**	**-0.3**
CGA2				*e*S	**Sn**	**02 30 27.3**	**+0.7**
JCR	**Jicaral**	**2.44**	**293**	*e*P	**Pn**	**02 30 08.3**	**-1.1**
JCR				*e*S	**Sn**	**02 30 40.3**	**+1.3**
AZU	**Azuero**	**2.77**	**114**	*i* P	**Pn**	**02 30 16.1**	**+1.9**
AZU				*i* S	**Sn**	**02 30 48.9**	**+1.5**
UPA	**Univ. de Panam**	**3.26**	**89**	*e*P	**Pn**	**02 30 26.6**	**+5.4**
UPA				*i* S	**Sn**	**02 30 58.5**	**-1.4**

IDC 09 02:37:34.1±10.0, 2.26N×129.56E, h54^{km}±99^{km}, mb3.6/5, mb1 3.8/5, mb1mx3.5/15, Error ellipse: s-maj=143.0km s-min=26.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**168**	P	P	02 42 29.6	-1.4
	1.5nm,0.5s,baz=348,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**26.11**	**171**	P	P	02 43 03.5	-1.7
	0.5nm,0.7s,slow=7.1,SNR=4.8						
STKA	**Stephens Creek**	**35.82**	**162**	P	P	02 44 28.8	-1.8
	13nm,1.4s,baz=355,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**60.37**	**325**	P	P	02 47 38.3	-1.9
	0.7nm,0.7s,baz=126,slow=8.1,SNR=3.5						
VNDA	**Vanda**	**81.63**	**173**	P	P	02 49 45.6	-2.0
	0.4nm,0.8s,baz=323,slow=5.1,SNR=2.8						

*ISK **09** 03:22:33.0, 36.98N×27.85E, h10^{km}, MD3.1*
*NEIC **09** 03:22:33.4, 36.92N×27.79E, h34^{km}, MD2.9(ATH), After ATH.*
*ATH **09** 03:22:33.4, 36.92N×27.79E, h34^{km}±9^{km}, MD2.9/4*

ISC 09 03:22:32.3±0.7, 36.91N±0.03×27.79E±0.04, h9^{km}±5^{km}, n15, σ0^{s}79/25, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.32**	**299**	*i* P	**Pg**	**03 22 39.2**	**+0.4**
BDRM				*i* S	**Sg**	**03 22 44.5**	**+1.4**
MLSB	**Milas**	**0.38**	**359**	*i* PG	**Pg**	**03 22 39.7**	**-0.4**
MLSB				*i* SG	**Sg**	**03 22 45.2**	**-0.1**
YER	**Yerkesik**	**0.46**	**60**	*i* PG	**Pg**	**03 22 41.4**	**-0.1**
YER				*i* SG	**Sg**	**03 22 46.4**	**-1.3**
NISR	**Nisiros**	**0.61**	**241**	*e*PN	**Pn**	**03 22 47.0**	**+0.2**
NISR				*e*SN	**Sn**	**03 22 55.0**	**-1.7**
ARG	**Arkhangelos**	**0.74**	**158**	*e*PB	**Pb**	**03 22 47.0**	**0.0**
ARG				*e*SN	**Sn**	**03 23 00.5**	**+0.3**
AYDN	**Tasoluk**	**0.75**	**6**	*i* P	**Pb**	**03 22 47.0**	**-0.1**
AYDN				*i* S	**Sb**	**03 22 56.9**	**-0.3**
SMG	**Samos**	**1.10**	**317**	*e*PN	**Pn**	**03 22 54.0**	**+0.2**
DNZL	**Cakiroluk**	**1.27**	**52**	⇑*i*P	**Pb**	**03 22 56.5**	**+0.5**
DNZL				*i* S	**Sb**	**03 23 15.8**	**+3.5**
DENT	**Denizli**	**1.30**	**49**	PN	**Pn**	**03 22 57.2**	**+0.5**
KARP	**Karpathos**	**1.45**	**201**	*e*PB	**Pb**	**03 22 59.0**	**-0.1**
KARP				*e*SN	**Sn**	**03 23 18.5**	**+0.3**
IZM	**Izmir**	**1.54**	**344**	PN	**Pn**	**03 22 59.6**	**-0.5**
KDAG	**Bornova**	**1.55**	**345**	*i* P	**Pn**	**03 22 59.5**	**-0.7**
KDAG				*i* S	**Sb**	**03 23 19.9**	**-0.3**
MANT	**Manisa**	**1.69**	**21**	*i* P	**Pn**	**03 23 02.0**	**-0.2**
MANT				*i* S	**Sn**	**03 23 27.3**	**+3.1**
ELL	**Elmali**	**1.71**	**95**	*e*PN	**Pn**	**03 23 03.1**	**+0.6**
AKS	**Akhisar**	**1.96**	**1**	*e*PN	**Pn**	**03 23 05.9**	**-0.3**

IDC 09 03:56:58.6±13.0, 45.94N×153.93E, mb3.7/4, mb1 3.8/5, mb1mx3.5/22, ML3.5/1, Error ellipse: s-maj=335.0km s-min=34.1km az=167.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**14.30**	**54**	Pn	P	04 00 21.4	-2.7
	0.7nm,0.3s,baz=243,slow=4.5,SNR=7.7						

MKAR	Makanchi Array	47.82	298	P	P	04 05 37.5	-2.0
	0.4nm,0.7s,baz=68,slow=7.8,SNR=3.8						
FINES	FINESS Array B	65.02	335	P	P	04 07 39.0	-3.0
	0.5nm,0.4s,baz=90,slow=7.6,SNR=4.0						
NB2	NORSAR Subarra	69.18	342	P	P	04 08 06.4	-1.9
	0.4nm,0.6s,baz=26,slow=6.2						
NOA	NORSAR Array B	69.18	342	P	P	04 08 07.1	-1.3
	0.4nm,0.5s,baz=26,slow=6.1,SNR=3.9						
HFS	Hagfors	69.42	340	P	P	04 08 08.4	-1.4
	0.8nm,0.6s,baz=68,slow=7.8,SNR=7.0						

IDC 09 04:09:38.8±6.4**, 5.24S**×**151.39E, h41**^{km}±56^{km}**, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.6**/14**, ML2.8**/1**, Error ellipse: s-maj=130.0km s-min=33.0km az=131.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.89	225	P	P	04 11 04.4	-1.4
	1.4nm,0.3s,baz=105,slow=4.0,SNR=3.1						
PMG				S	S	04 12 09.6	-3.5
	3.6nm,0.3s,baz=117,slow=22,SNR=6.2						
WRA	Warramunga Arr	22.11	227	P	P	04 14 31.8	-0.5
	1.2nm,0.4s,baz=53,slow=10,SNR=8.6						
ASAR	Alice Springs	24.89	221	P	P	04 14 58.2	-1.3
	0.8nm,0.6s,baz=63,slow=8.3,SNR=6.2						
FITZ	Fitzroy Crossi	28.22	241	P	P	04 15 27.6	-2.6
	2.2nm,0.3s,baz=57,slow=6.0,SNR=12						
ILAR	Eielson Array	83.09	22	P	P	04 21 59.7	-1.7
	0.3nm,0.6s,baz=245,slow=5.9,SNR=7.8						

IDC 09 04:15:11.6±2.8**, 8.22S**×**159.11E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/13**, Error ellipse: s-maj=94.6km s-min=35.9km az=132.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.66	241	P	P	04 20 52.2	-2.1
	0.2nm,0.5s,baz=66,slow=9.2,SNR=6.3						
SONM	Songino Array	72.60	326	P	P	04 26 41.7	-1.1
	0.8nm,0.6s,baz=137,slow=5.4,SNR=7.5						
ILAR	Eielson Array	83.05	20	P	P	04 27 38.2	-1.8
	0.2nm,0.5s,baz=248,slow=4.9,SNR=6.7						

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*ISK **09** 04:24:19.7, 36.91N×27.66E, h9^{km}, MD3.4*
*ATH **09** 04:24:20.8, 36.75N×27.64E, h40^{km}±6^{km}, MD3.5/3*
*NEIC **09** 04:24:21.2, 36.78N×27.54E, h48^{km}, MD3.5(ATH), After ATH.*
ISC 09 04:24:20.4±0.6**, 36.92N**±0.03×**27.70E**±0.04**, h6**^{km}±6^{km}**, n26, σ1^{s}00**/34**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	306	iP	Pg	04 24 25.6	0.0
BDRM				iS	Sg	04 24 30.1	+1.0
MLSB	Milas	0.38	9	iPG	Pg	04 24 28.1	-0.1
MLSB				iSG	Sg	04 24 34.3	+1.0
YER	Yerkesik	0.51	65	iPG	Pg	04 24 30.4	-0.4
NISR	Nisiros	0.55	237	eP	Pg	04 24 30.8	-0.7
NISR				eS	Sg	04 24 39.0	+0.1
AYDN	Tasoluk	0.76	11	⇑iP	Pg	04 24 34.9	-0.7
AYDN				iS	Sg	04 24 45.8	+0.1
ARG	Arkhangelos	0.78	154	⇑iP	Pg	04 24 34.7	-1.3
ARG	Arkhangelos	0.78	154	⇑iP	Pg	04 24 34.5	-1.5
ARG				eS	Sg	04 24 48.5	+2.1
SMG	Samos	1.05	319	eP	Pb	04 24 40.5	-0.2
DNZL	Cakiroluk	1.32	54	iP	Pb	04 24 45.1	-0.2
DNZL				iS	Sb	04 25 03.3	+0.9
DENT	Denizli	1.35	51	PN	Pn	04 24 46.1	+0.2
DENT				SN	Sn	04 25 05.2	+0.8
IZM	Izmir	1.52	347	iPN	Pn	04 24 47.0	-1.4
MANT	Manisa	1.71	23	iP	Pn	04 24 51.8	+0.7
MANT				iS	Sn	04 25 17.9	+4.3
APE	Apeiranthos	1.75	276	iPN	Pn	04 24 51.0	-0.6
APE	Apeiranthos	1.75	276	eP	Pn	04 24 50.0	-1.6
ELL	Elmali	1.78	95	PN	Pn	04 24 52.0	0.0
THR4	Thira Island,	1.91	257	eP	Pn	04 24 58.4	+4.6
THR3	Thira Island,	1.92	255	eP	Pn	04 24 58.1	+4.0
THR6	Thira Island,	1.94	254	eP	Pn	04 24 57.5	+3.2
THR5	Thira Island,	1.96	256	eP	Pn	04 24 58.8	+4.2
AKS	Akhisar	1.96	3	ePN	Pn	04 24 53.3	-1.4
ISP	Isparta	2.42	67	ePN	Pn	04 25 00.8	-0.4
PRK	Paraskevi	2.59	335	eP	Pn	04 25 04.0	+0.4
BALB	Balikesir	2.72	3	ePN	Pn	04 25 04.5	-1.1
BOZC	Bozcaada	3.20	337	iP	Pn	04 25 21.4	+9.1
HDMB	Hadim	3.83	88	ePN	Pn	04 25 20.9	-0.4
IKL	Isikli	4.86	96	ePN	Pn	04 25 35.8	-0.2

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*ISK **09** 04:26:53.7, 36.64N×27.66E, h5^{km}, MD3.4*
ISC 09 04:26:58.0±1.5**, 36.89N**±0.10×**27.74E**±0.08**, h7**^{km}±9^{km}**, n11, σ0^{s}89**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.29	306	P	Pg	04 27 03.1	-0.8
BDRM				S	Sg	04 27 07.7	-0.3
MLSB	Milas	0.40	4	iPG	Pg	04 27 06.8	+0.7
MLSB				iSG	Sg	04 27 18.1	+6.6
YER	Yerkesik	0.49	61	iPG	Pg	04 27 08.2	+0.3
AYDN	Tasoluk	0.77	8	P	Pb	04 27 12.6	-0.7
AYDN				S	Sb	04 27 22.5	-1.3
DNZL	Cakiroluk	1.31	52	P	Pb	04 27 23.0	+0.5
DNZL				S	Sb	04 27 33.9	-5.5
DENT	Denizli	1.34	50	ePN	Pn	04 27 23.8	+0.6
IZM	Izmir	1.55	346	ePN	Pn	04 27 27.4	+1.3
KDAG	Bornova	1.55	346	P	Pn	04 27 27.0	+0.8
MANT	Manisa	1.72	22	P	Pn	04 27 27.9	-0.7
MANT				S	Sn	04 27 42.3	-8.7
ELL	Elmali	1.74	94	ePN	Pn	04 27 27.4	-1.5
AKS	Akhisar	1.98	2	ePN	Pn	04 27 33.5	+1.2

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*ATH **09** 04:27:09.2, 36.86N×27.67E, h10^{km}, MD3.1/3*
ISC 09 04:27:09.2±1.2**, 36.87N**±0.05×**27.66E**±0.09**, h12**^{km}±10^{km}**, n8, σ1^{s}00**/13**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	318	iP	Pg	04 27 14.2	-0.5
BDRM				iS	Sg	04 27 18.6	+0.1
NISR	Nisiros	0.50	239	ePB	Pb	04 27 19.0	-0.3
ARG	Arkhangelos	0.76	150	ePB	Pb	04 27 23.5	-0.2
AYDN	Tasoluk	0.81	13	iP	Pb	04 27 23.3	-1.3
AYDN				iS	Sb	04 27 34.8	-0.3
SMG	Samos	1.06	322	ePB	Pb	04 27 29.5	+0.6
DNZL	Cakiroluk	1.37	53	iP	Pn	04 27 33.7	-0.6
DNZL				iS	Sb	04 27 52.5	+0.9
KDAG	Bornova	1.56	349	iP	Pn	04 27 38.2	+1.4
KDAG				iS	Sb	04 28 02.0	+5.0
MANT	Manisa	1.77	24	iP	Pn	04 27 42.0	+2.2
MANT				iS	Sn	04 28 00.8	-1.5

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*IDC **09** 04:27:33.1±0.6, 6.09S×150.99E, mb4.5/16, mb1 4.6/18, mb1mx4.6/21, ML3.2/2, MS3.5/4, Ms1 3.5/4, ms1mx3.3/21, Error ellipse: s-maj=22.7km s-min=10.2km az=123.0*
*NEIC **09** 04:27:39.2±0.3, 6.09S×151.02E, h40^{km}, mb4.6/8, Error ellipse: s-maj=13.8km s-min=7.1km az=119.0*
ISC 09 04:27:31.9±2.5**, 6.03S**±0.08×**151.0E**±0.1**, h1**^{km}±15^{km}**, n42, σ1^{s}09**/37**, mb4.5**/20**, MS3.6**/2**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.05	228	Pn	Pn	04 28 54.0	+3.3
	3.3nm,0.3s,baz=40,slow=8.7,SNR=10.0						
PMG				Sn	Sn	04 29 48.9	-1.7
	24nm,0.3s,baz=325,slow=23,SNR=9.1						
PMG				LR	LR	04 30 47.5	
	comp=Z,265nm,22.0s,baz=225,slow=39						
CTA	Charters Tower	14.71	198	Pn	P	04 31 03.6	+0.4
	0.2nm,0.3s,baz=18,slow=18,SNR=2.4						
CTA				LR	LR	04 35 59.8	
	comp=Z,274nm,20.4s,baz=238,slow=35						
KAKA	Kakadu	19.48	249	eP	P	04 32 03.2	0.0
	15nm,0.5s						
KAKA				eS	Sx	04 35 59.2	
WB2	Warramunga Arr	21.26	228	⇑iP	P	04 32 21.7	-0.4
WB2				eS	S	04 36 14.5	+0.1
WRA	Warramunga Arr	21.27	228	P	P	04 32 21.8	-0.4
	16nm,0.6s,mb4.5,baz=53,slow=11,SNR=87						
WRA				S	S	04 36 15.8	+1.2
	3.6nm,1.2s,baz=54,slow=17,SNR=7.8						
WRA				ScP		04 40 03.4	
	2.0nm,1.1s,baz=50,slow=2.7,SNR=4.8						
ASAR	Alice Springs	24.02	221	P	P	04 32 50.1	+0.7
	17nm,0.6s,mb4.8,baz=56,slow=9.4,SNR=122						
ASAR				S	S	04 37 11.9	+7.6
	2.4nm,0.9s,baz=38,slow=22,SNR=7.1						
ASAR				ScP		04 40 11.8	
	1.2nm,0.9s,baz=45,slow=1.3,SNR=5.4						
ASPA	Alice Springs	24.03	221	eP	P	04 32 50.4	+0.9
ASPA				eS	S	04 37 06.0	+1.6
STKA	Stephens Creek	27.17	198	eP	P	04 33 18.9	-0.1
	17nm,0.8s,mb4.8						
STKA	Stephens Creek	27.17	198	P	P	04 33 17.4	-1.6
	21nm,0.8s,mb4.9,baz=17,slow=12,SNR=14						
STKA				LR	LR	04 43 10.2	
	comp=Z,205nm,19.6s,MS3.7,baz=23,slow=35						
FITZ	Fitzroy Crossi	27.48	242	eP	P	04 33 21.7	-0.2
	10nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	27.48	242	P	P	04 33 21.7	-0.2
	11nm,0.7s,mb4.7,baz=65,slow=4.6,SNR=12						
JNU	Nakatsue	43.36	335	P	P	04 35 39.6	+1.9
	14nm,0.9s,mb4.7,baz=70,slow=6.4,SNR=6.7						
ASAJ	Asahikawa	50.48	352	LR	LR	04 53 43.2	
	comp=Z,42nm,21.1s,MS3.4,baz=151,slow=31						
CMAR	Chiang Mai Arr	56.77	297	P	P	04 37 21.5	+1.1
	0.8nm,0.3s,mb4.2,baz=114,slow=4.6,SNR=4.2						
HIA	Hailar	61.43	337	P	P	04 37 52.0	-0.2
	4.5nm,1.0s,mb4.5						
FX1	Attu Island--F	61.63	15	P	P	04 37 52.2	-1.4
	4.8nm,0.6s,mb4.9,baz=286,slow=7.0,SNR=5.1						
SONM	Songino Array	66.41	329	P	P	04 38 25.2	+0.3
	2.2nm,1.1s,mb4.3,baz=135,slow=5.2,SNR=9.9						
VNDA	Vanda	71.68	178	P	P	04 38 56.0	-1.1
	1.8nm,0.8s,mb4.3,baz=326,slow=6.4,SNR=8.6						
MKAR	Makanchi Array	80.06	319	P	P	04 39 44.2	-0.8
	2.0nm,0.9s,mb4.1,baz=114,slow=5.3,SNR=13						
MKAR				PP	PP	04 42 47.2	-1.3
	0.8nm,1.0s,baz=135,slow=1.7,SNR=3.8						
MKAR	Makanchi Array	80.06	319	P	P	04 39 44.2	-0.8
MKAR				PP	PP	04 42 47.2	-1.3
MCK	McKinley	82.69	23	eP	P	04 39 57.2	-1.2
	6.6nm,0.9s,mb4.9						
KURK	Kurchatov	83.62	322	eP	P	04 40 02.8	-0.6
	5.7nm,1.0s,mb4.8						
QSPA	South Pole Qui	83.94	180	eP	P	04 40 04.5	0.0
	5.4nm,1.0s,mb4.7						
ILAR	Eielson Array	83.98	22	P	P	04 40 03.4	-1.5
	2.7nm,0.7s,mb4.6,baz=252,slow=5.3,SNR=31						
DAWY	Dawson	86.65	24	eP	P	04 40 19.1	+0.9
BVAR	Borovoye Array	89.13	323	P	P	04 40 29.1	-1.3
	0.8nm,0.7s,mb4.1,baz=104,slow=6.1,SNR=4.5						
DLBC	Dease Lake	89.36	31	P	P	04 40 32.9	+1.5
	1.7nm,0.9s,mb4.3,baz=255,slow=14,SNR=3.5						
DLBC	Dease Lake	89.36	31	P	P	04 40 32.9	+1.5
INK	Inuvik	90.25	21	P	P	04 40 34.2	-1.1
	1.1nm,0.5s,mb4.3,baz=302,slow=2.1,SNR=8.9						
INK	Inuvik	90.25	21	eP	P	04 40 34.3	-1.0
	4.6nm,1.1s,mb4.6						
YBH	Yreka Blue Hor	91.23	48	P	P	04 40 42.0	+1.6
	1.5nm,0.9s,mb4.3,baz=342,slow=4.5,SNR=2.9						
NVAR	Mina Array Bea	94.27	52	P	P	04 40 55.7	+1.1
	2.1nm,1.1s,mb4.4,baz=253,slow=3.3,SNR=8.2						
NVAR	Mina Array Bea	94.27	52	P	P	04 40 55.7	+1.1
PDAR	Pinedale Array	101.02	48	P	P	04 41 25.4	+0.3
	0.4nm,0.9s,baz=248,slow=4.9,SNR=3.5						
NB2	NORSAR Subarra	117.42	339	PKPdf	PKPdf	04 46 19.7	-1.5
	0.7nm,0.8s,baz=45,slow=1.9						
NOA	NORSAR Array B	117.42	339	PKP	PKPdf	04 46 20.1	-1.1
	0.6nm,0.7s,baz=55,slow=1.9,SNR=3.4						
GERES	GERESS Array B	124.12	327	PKP	PKPdf	04 46 33.6	-0.9
	0.9nm,0.8s,slow=1.3,SNR=4.5						
EKA	Eskdalemuir Ar	126.65	342	PKP	PKPdf	04 46 38.8	-0.2
	3.3nm,0.9s,baz=16,slow=2.5,SNR=5.6						
DAVOX	Davos	127.42	327	PKP	PKPdf	04 46 39.7	-1.2
	1.2nm,0.4s,baz=135,slow=4.3,SNR=3.4						
LPAZ	La Paz	135.41	120	PKP	PKPdf	04 46 58.0	+1.3
	0.8nm,0.9s,baz=198,slow=6.4,SNR=3.1						
BDFB	Brasilia	151.42	139	PKPbc	PKPdf	04 47 29.7	+5.4
	2.0nm,0.8s,baz=69,slow=17,SNR=5.4						
DBIC	Dimbokro	155.97	273	PKPab	PKPab	04 47 57.6	-0.8
	7.4nm,1.1s,baz=94,slow=12,SNR=3.0						

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*STR **09** 04:28:54.0±0.1, 43.06N×0.31W, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 04:28:54.9±0.1, 43.02N×0.32W, h2^{km}, Md1.8/3, Ml1.7/1*
*MDD **09** 04:28:55.2±0.3, 43.04N×0.31W, mbLg1.5/2, Error ellipse: s-maj=3.8km s-min=1.7km az=6.0, PRXIMO*
ISC 09 04:28:53.5±0.8**, 43.06N**±0.06×**0.30W**±0.03**, h13**^{km}±7^{km}**, n13, σ0^{s}82**/20**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	Montagne du Re	0.07	279	Pg	Pg	04 28 56.0	-0.3
REYF				Sg	Sg	04 28 57.3	-0.8
REYF	Montagne du Re	0.07	279	Pg	Pg	04 28 56.1	-0.2
REYF				Lg		04 28 57.4	
ETSF	Etsaut	0.25	230	ePg	Pg	04 28 59.1	+0.1
ETSF				eSg	Sg	04 29 02.5	-0.2
	4.5nm,0.2s						
LABF	Labassere	0.28	92	Pg	Pg	04 28 59.6	+0.1
LABF				Sg	Sg	04 29 03.9	+0.4
LABF	Labassere	0.28	92	Pg	Pg	04 28 59.8	+0.3
LABF				Lg		04 29 03.8	
VIEF	Viey	0.30	126	Pg	Pg	04 29 00.3	+0.4
VIEF				Sg	Sg	04 29 04.3	+0.1
VIEF	Viey	0.30	126	Pg	Pg	04 29 00.5	+0.6
VIEF				Lg		04 29 04.4	
EPF	Esparros	0.47	93	ePg	Pg	04 29 03.8	+0.6
EPF				eSg	Sg	04 29 11.3	+1.6
	2.6nm,0.2s						
SJPF	Ste Jean	0.68	275	ePg	Pg	04 29 08.0	+0.7
SJPF				eSg	Sg	04 29 17.2	+0.7
	2.1nm,0.2s						
EALK	Alkurruntz	0.90	281	Pg	Pg	04 29 12.2	+0.6
	19nm,1.7s,SNR=7.9						
EALK				Lg		04 29 23.4	
	5.7nm,0.7s,SNR=7.9						
ESAC	San Caprasio	1.34	185	Pg	Pg	04 29 19.3	-1.2
	19nm,1.2s,SNR=7.9						
ESAC				Lg		04 29 38.3	
	11nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.86	80	ePg	Pg	04 29 29.9	-0.9
MTLF				eSg	Sg	04 29 55.4	-0.3
	1.2nm,0.3s						
LASF	Ste Croix	3.19	70	ePg	Pg	04 29 55.0	-2.2

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*NEIC **09** 04:31:25.7, 39.10N×24.29E, h24^{km}, ML2.9(ATH), ML2.6(THE), After ATH.*
*ATH **09** 04:31:25.7, 39.10N×24.29E, h24^{km}±3^{km}, MD2.8/7, ML2.9*
*THE **09** 04:31:26.5, 39.09N×24.23E, h8^{km}, ML2.6*
ISC 09 04:31:27.2±0.6**, 39.13N**±0.04×**24.12E**±0.07**, h24**^{km}**, n13, σ1^{s}08**/18**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	Alonnisos	0.20	283	ePg	Pb	04 31 32.2	-0.4
AOS				eSg	Sb	04 31 36.2	-0.2
NEO	Neokhori	0.72	285	ePN	Pn	04 31 42.3	+0.5
PAIG	Paliouri	0.87	337	ePg	Pb	04 31 44.0	+0.6
PAIG				eSg	Sb	04 31 58.1	+3.4
MPAR	Parnis Oros	1.02	197	ePN	Pn	04 31 46.2	+0.1
MPAR				eSN	Sn	04 32 00.0	+0.3
LOS	Limnos	1.09	42	ePg	Pn	04 31 46.4	-0.8
	comp=Z,2.6nm,0.3s						
LOS				eSg	Sb	04 32 02.1	+1.0
PTL	Penteli	1.09	191	ePN	Pn	04 31 46.5	-0.7
MKIT	Kithairon Oros	1.16	216	ePB	Pb	04 31 48.0	-0.4
MKIT				eSN	Sn	04 32 06.5	+3.2
ATH	Athens Observa	1.20	196	ePN	Pn	04 31 45.8	-2.8
NSAL	Nisos Salamina	1.32	203	ePN	Pn	04 31 50.5	+0.1
AGG	Agios Georgios	1.40	266	ePb	Pb	04 31 52.8	+0.3
NAIG	Nisos Aigina	1.46	200	ePN	Pn	04 31 54.0	+1.7
LIT	Litokhoron	1.59	308	ePb	Pb	04 31 54.8	-1.0
SOH	Sokhos	1.79	341	ePb	Pb	04 31 57.8	-1.4

IDC 09 04:33:00.2±10.0**, 4.68S**×**153.46E, h145**^{km}±64^{km}**, mb3.6**/4**, mb1 3.8**/5**, mb1mx3.5**/15**, Error ellipse: s-maj=87.6km s-min=62.6km az=31.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.82	233	P	P	04 34 51.3	-0.9
	5.4nm,0.3s,baz=45,slow=11,SNR=10						
PMG				S	S	04 36 19.1	-0.4
	3.1nm,0.3s,baz=214,slow=23,SNR=6.7						
WRA	Warramunga Arr	24.02	229	P	P	04 38 02.4	-0.5
	6.5nm,0.8s,baz=54,slow=9.9,SNR=30						
ASAR	Alice Springs	26.68	223	P	P	04 38 25.3	-2.4
	0.6nm,0.6s,baz=56,slow=9.8,SNR=4.4						
STKA	Stephens Creek	29.26	201	P	P	04 38 48.6	-2.2
	2.2nm,0.7s,baz=17,slow=11,SNR=5.4						
FITZ	Fitzroy Crossi	30.30	242	P	P	04 38 57.8	-2.4
	1.1nm,0.6s,baz=74,slow=7.4,SNR=4.7						

IDC 09 04:36:48.3±2.3**, 6.99S**×**152.88E, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.7**/13**, Error ellipse: s-maj=135.0km s-min=26.9km az=133.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.13	233	P	P	04 41 45.8	-1.5
	0.6nm,0.8s,baz=56,slow=11,SNR=4.1						
ASAR	Alice Springs	24.64	226	P	P	04 42 09.5	-2.5
	1.1nm,0.6s,baz=56,slow=8.9,SNR=10.0						
FITZ	Fitzroy Crossi	28.75	245	P	P	04 42 49.1	-0.8
	1.3nm,0.4s,baz=43,slow=10,SNR=9.7						
ILAR	Eielson Array	84.14	22	P	P	04 49 21.0	-1.3
	0.7nm,0.8s,baz=248,slow=5.8,SNR=11						

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*IDC **09** 04:39:23.8±14.0, 10.91S×165.96E, h121^{km}±135^{km}, mb3.7/11, mb1 3.9/11, mb1mx3.8/17, MS3.7/2, Ms1 3.6/2, ms1mx3.2/20, Error ellipse: s-maj=63.3km s-min=28.8km az=166.0*
*NEIC **09** 04:39:26.6±0.6, 11.06S×166.00E, h150^{km}, mb3.9/2, Error ellipse: s-maj=32.4km s-min=9.7km az=152.0*
ISC 09 04:39:24.9±5.4**, 11.4S**±0.2×**166.1E**±0.1**, h153**^{km}±53^{km}**, n18, σ0^{s}73**/15**, mb3.8**/13**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.63	178	eP	P	04 41 54.3	+0.2
DZM				eS	S	04 43 50.4	-0.6
CTA	Charters Tower	20.93	243	LR	LR	04 50 44.3	
	comp=Z,156nm,21.8s,baz=50,slow=32						
STKA	Stephens Creek	30.42	224	LR	LR	04 56 24.0	
	comp=Z,174nm,22.0s,baz=26,slow=33						
WRA	Warramunga Arr	31.67	250	P	P	04 45 36.2	0.0
	0.8nm,0.7s,mb3.5,baz=80,slow=8.5,SNR=5.4						
ASAR	Alice Springs	32.93	244	P	P	04 45 47.8	+0.8
	0.7nm,0.8s,mb3.4,baz=66,slow=10.0,SNR=4.7						
FITZ	Fitzroy Crossi	39.60	255	P	P	04 46 44.0	+0.9
	1.8nm,0.8s,mb3.7,baz=56,slow=11,SNR=3.0						
CMAR	Chiang Mai Arr	72.54	294	P	P	04 50 36.9	-0.7
	0.5nm,0.3s,mb3.7,baz=121,slow=5.3,SNR=4.9						
SONM	Songino Array	79.12	324	P	P	04 51 12.8	-1.2
	1.3nm,1.1s,mb3.5,baz=117,slow=5.5,SNR=4.7						
ILAR	Eielson Array	83.73	18	P	P	04 51 35.9	-1.7
	1.2nm,0.6s,mb3.8,baz=236,slow=5.0,SNR=26						
YBH	Yreka Blue Hor	83.90	45	P	P	04 51 39.8	+0.9
	2.7nm,1.0s,mb3.9,baz=350,slow=5.1,SNR=5.6						
NVAR	Mina Array Bea	86.00	50	P	P	04 51 50.3	+0.8
	3.9nm,1.2s,mb4.0,baz=214,slow=5.4,SNR=8.7						
MNV	Mina	86.11	50	eP	P	04 51 49.9	-0.1
	2.2nm,0.9s,mb3.9						
DLBC	Dease Lake	86.56	28	P	P	04 51 52.0	+0.4
	0.8nm,0.7s,mb3.7,baz=201,slow=23,SNR=3.0						
HLID	Hailey	90.28	46	eP	P	04 52 10.0	+0.4
	1.0nm,0.8s,mb3.8						
PDAR	Pinedale Array	93.55	47	P	P	04 52 24.8	0.0
	0.4nm,0.9s,mb3.5,baz=315,slow=2.1,SNR=4.7						
MKAR	Makanchi Array	93.98	317	P	P	04 52 26.3	-0.3
	2.1nm,0.8s,mb4.3,baz=96,slow=7.0,SNR=18						
ARCES	ARCESS Array B	116.74	346	PKP	PKPdf	04 57 51.8	+1.2
	0.6nm,0.5s,baz=75,slow=1.8,SNR=8.4						
ESDC	Sonseca Array	150.47	344	PKPbc	PKPdf	04 59 00.2	+7.2
	0.1nm,0.3s,baz=77,slow=1.8,SNR=4.2						

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*NEIC **09** 04:39:31.4±0.3, 34.71N×25.97E, h61^{km}±4^{km}, mb3.5/7, Error ellipse: s-maj=6.1km s-min=2.7km az=204.0*
*THE **09** 04:39:32.9, 34.81N×25.94E, h46^{km}, ML4.4*
*IDC **09** 04:39:32.9±1.4, 34.92N×26.09E, h60^{km}±11^{km}, mb3.8/12, mb1 3.9/18, mb1mx3.8/28, Error ellipse: s-maj=19.8km s-min=13.0km az=7.0*
*ATH **09** 04:39:32.5, 34.99N×25.97E, h94^{km}±5^{km}, ML4.1*
*NIC **09** 04:39:40.2±0.4, 36.12N×27.03E, h55^{km}, mb4.6, ML4.1, MW3.3*
ISC 09 04:39:29.6±0.3**, 34.68N**±0.03×**25.98E**±0.03**, h76**^{km}±4^{km}**, n140, σ1^{s}22**/170**, mb3.9**/14**, 5C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	Neapolis	0.65	333	⇓iP	P	04 39 45.7	+1.0
IDI	Anoyia	1.08	304	P	P	04 39 52.0	+2.3
	152nm,0.3s,baz=122,slow=13,SNR=736						
IDI				S	S	04 40 05.9	+1.3
	173nm,0.3s,baz=234,slow=20,SNR=13						
KARP	Karpathos	1.30	48	eP	P	04 39 55.7	+3.1
KARP				eS	S	04 40 11.1	+1.3
GVD	Gavdhos	1.56	276	eP	P	04 39 59.5	+3.3
VAM	Vamos	1.63	297	⇓iP	P	04 40 00.1	+3.1
VAM				eS	S	04 40 20.6	+3.4
THR6	Thira Island,	1.73	344	ePb	P	04 39 58.4	-0.1
THR1	Thera Island	1.74	346	ePb	P	04 39 58.2	-0.3
THR3	Thira Island,	1.79	345	ePb	P	04 39 58.8	-0.3
THR5	Thira Island,	1.80	344	ePb	P	04 39 59.3	-0.1
THR4	Thira Island,	1.83	345	ePb	P	04 39 59.5	-0.3
ARG	Arkhangelos	2.33	48	eP	P	04 40 08.3	+1.6
ARG				eS	S	04 40 33.2	-1.0
APE	Apeiranthos	2.41	352	eP	P	04 40 05.9	-1.9
APE	Apeiranthos	2.41	352	eP	P	04 40 07.2	-0.6
APE				eS	S	04 40 32.7	-3.5
BDRM	Kayabasi	2.66	26	iP	P	04 40 11.4	+0.1
BDRM				iS	S	04 40 39.2	-3.3
KYTH	Kithira	2.88	304	eP	P	04 40 14.6	+0.2
MLSB	Milas	2.99	29	eP	P	04 40 16.2	+0.3
MLSB	Milas	2.99	29	Pn	P	04 40 17.0	+1.1
YER	Yerkesik	3.08	37	eP	P	04 40 18.3	+1.1
SMG	Samos	3.10	13	eP	P	04 40 16.8	-0.7
VLI	Veliai	3.20	310	⇓iP	P	04 40 18.7	-0.2
KSL	Kastellorizon	3.29	63	eP	P	04 40 20.8	+0.7
AYDN	Tasoluk	3.35	27	iP	P	04 40 21.6	+0.7
AYDN				iS	S	04 40 40.7	-19
NAIG	Nisos Aigina	3.67	328	eP	P	04 40 25.5	+0.1
ATH	Athens Observa	3.75	332	eP	P	04 40 27.0	+0.4
PTL	Penteli	3.77	334	eP	P	04 40 27.0	+0.3
NSAL	Nisos Salamina	3.80	328	eP	P	04 40 27.2	0.0
ELL	Elmali	3.81	56	eP	P	04 40 28.4	+1.1
KDAG	Bornova	3.85	15	iP	P	04 40 28.9	+1.0
DNZL	Cakiroluk	3.90	39	iP	P	04 40 27.6	-1.0
MPAR	Parnis Oros	3.90	333	eP	P	04 40 29.0	+0.4
ITM	Ithomi	4.12	308	eP	P	04 40 32.0	+0.3
MKIT	Kithairon Oros	4.12	329	eP	P	04 40 32.0	+0.3
MANT	Manisa	4.33	28	iP	P	04 40 34.9	+0.3
MANT				iS	S	04 41 16.3	-7.9
AKS	Akhisar	4.44	19	eP	P	04 40 36.4	+0.3
PRK	Paraskevi	4.56	3	eP	P	04 40 37.3	-0.5
LKR	Lokris	4.63	330	eP	P	04 40 38.6	-0.1
AOS	Alonnisos	4.78	340	ePn	P	04 40 40.6	-0.2
ISP	Isparta	4.83	48	eP	P	04 40 42.7	+1.2
RLS	Riolos of Patr	4.96	314	eP	P	04 40 44.4	+1.2
XOR	Xorichti	5.18	335	ePn	P	04 40 46.1	-0.2
AGG	Agios Georgios	5.22	327	ePn	P	04 40 46.4	-0.5
	comp=Z,4.1nm,0.2s						
AGG				eSn	S	04 41 44.1	-2.3
PPCY	Paphos	5.25	86	⇑P	P	04 40 47.0	-0.2
PPCY	Paphos	5.25	86	⇑iP	P	04 40 47.0	-0.2
ALFC	Alevga	5.46	83	⇑P	P	04 40 49.5	-0.7
	12nm,0.2s						
ALFC				S	S	04 41 42.3	-10
VLS	Valsamata	5.57	310	eP	P	04 40 50.1	-1.5
SZAC	Souni-Zanaja	5.69	87	⇑P	P	04 40 52.8	-0.5
SZAC				S	S	04 41 51.0	-7.0
LEF	Lefka	5.70	84	Pn	P	04 40 55.5	+2.1
LPK	Lapseki	5.71	6	eP	P	04 40 52.9	-0.7
HDMB	Hadim	5.76	65	eP	P	04 40 56.0	+1.8
OUR	Ouranopolis	5.86	345	ePn	P	04 40 55.5	-0.1
LKD	Levkas	5.87	315	ePn	P	04 40 55.5	-0.2

MAMC	Mammari	5.97	83	P	P	04 40 55.3	-1.9
ULDT	Uludag	6.00	24	*i* P	P	04 40 57.7	+0.1
CSS	Prodhromos	6.06	85	P	P	04 40 57.8	-0.6
	3.0nm,0.2s						
CSS				S	S	04 41 57.9	-9.2
LIT	Litokhoron	6.08	334	*e*Pn	P	04 40 58.3	-0.4
	comp=Z,2.6nm,0.5s						
KONT	Konya--Tatoy	6.10	56	*e*P	P	04 41 00.1	+1.2
ALN	Alexandroupoli	6.20	0	*e*Pn	P	04 40 59.7	-0.7
KIZT	Kizilcal	6.32	47	*e*P	P	04 41 02.5	+0.4
MEV	Metsovon	6.34	325	*e*Pn	P	04 41 02.5	+0.1
	comp=Z,13nm,0.2s						
IKL	Isikli	6.48	74	*e*P	P	04 41 05.7	+1.4
IKL	Isikli	6.48	74	Pn	P	04 41 04.8	+0.5
PHNC	Paralimni	6.63	85	P	P	04 41 06.8	+0.3
PHNC				S	S	04 42 04.9	-16
GRG	Griva	6.87	337	*e*Pn	P	04 41 08.9	-0.9
KEK	Kerkira	7.03	317	*e*P	P	04 41 09.2	-2.8
KEK	Kerkira	7.03	317	*e*P	P	04 41 09.0	-3.0
FNA	Florina	7.10	330	*e*Pn	P	04 41 12.8	-0.1
ANTO	Ankara	7.50	44	*e*P	P	04 41 18.0	-0.5
ANTO	Ankara	7.50	44	Pn	P	04 41 17.8	-0.7
HNTI	Hanita	7.81	99	S	S	04 42 43.0	-7.4
SLTI	Sal'it	7.96	105	P	P	04 41 23.2	-1.5
SLTI				S	S	04 42 46.2	-7.7
KZIT	Kziot	8.03	116	P	P	04 41 24.6	-1.0
KZIT				S	S	04 42 48.8	-6.8
SVTA	Shivta	8.18	115	P	P	04 41 27.9	+0.2
MMLI	Mount Malkishu	8.20	103	P	P	04 41 27.3	-0.6
HRI	Mount Hermon	8.23	97	P	P	04 41 27.9	-0.5
MASH	Mash‘abbe Sade	8.27	114	P	P	04 41 27.6	-1.4
HMDT	Nahal Hemdat	8.34	104	P	P	04 41 28.7	-1.2
KSHT	Keshet	8.36	99	P	P	04 41 30.3	+0.2
LCI	Lecce	8.41	314	*e*Pn	P	04 41 28.5	-2.4
DRGI	Dragot	8.48	109	P	P	04 41 31.0	-0.7
MZDA	Masada	8.57	110	P	P	04 41 32.4	-0.6
MZDA				S	S	04 43 01.5	-7.6
SOI	Samo	8.69	296	*e*Pn	P	04 41 32.2	-2.4
SOI				*e*Sn	S	04 42 57.8	-14
KMTI	Karmit	8.69	119	P	P	04 41 34.4	-0.3
KMTI				S	S	04 43 04.8	-7.2
PRNI	Paran	8.76	117	P	P	04 41 35.0	-0.6
PRNI				S	S	04 43 06.3	-7.4
ZFRI	Zfri	8.79	115	P	P	04 41 35.2	-0.8
MTTG	Motta San Giov	8.93	295⇑	*i*Pn	P	04 41 37.2	-0.7
SCLL	Scilla	9.00	296	*e*Pn	P	04 41 37.5	-1.3
MBH	Mount Berech	9.00	120	P	P	04 41 39.0	+0.1
AGST	Augusta-Monte	9.08	290	*e*Pn	P	04 41 38.3	-1.7
AGST				*e*Sn	S	04 43 06.3	-15
EIL	Elat	9.10	121	P	P	04 41 40.5	+0.3
AQBJ	Aqaba	9.14	120	P	P	04 41 41.2	+0.5
TDS	Terranova Siba	9.15	306	*e*Pn	P	04 41 40.7	-0.3
TDS				*e*Sn	S	04 43 06.9	-16
PZI	Palazzolo	9.26	288	*e*Pn	P	04 41 41.0	-1.4
PZI				*e*Sn	S	04 43 13.9	-12
ORI	Oriolo Calabro	9.29	308	*e*Pn	P	04 41 41.2	-1.6
ORI				*e*Sn	S	04 43 12.2	-14
BRT	Bari-Castellan	9.29	314	*e*Pn	P	04 41 39.4	-3.5
BRT				*e*Sn	S	04 43 11.1	-16
HAQS	Haql	9.46	124	P	P	04 41 45.4	+0.3
HAQS				S	S	04 43 25.4	-5.2
ASF	Jabal al Asfar	9.47	102	P	P	04 41 44.5	-0.7
	1.8nm,0.3s,baz=153,slow=10,SNR=5.7						
ASF				S	S	04 43 27.6	-3.2
	1.0nm,0.3s,baz=52,slow=19,SNR=3.3						
JMOS	Jabal al Moall	9.51	123	P	P	04 41 46.3	+0.4
MNO	Monte Soro	9.66	293	*e*Pn	P	04 41 48.1	+0.2
VAE	Valguarnera	9.77	290	P	P	04 41 50.0	+0.7
	11nm,0.3s,baz=152,slow=5.3,SNR=7.8						
VAE				S	S	04 43 29.1	-9.0
	0.6nm,0.3s,baz=260,slow=18,SNR=2.1						
MGR	Morigerati	9.91	306	*e*Pn	P	04 41 48.7	-2.6
BDAS	Al Bad‘	9.97	126	P	P	04 41 53.3	+1.2
SLCN	Sala Consilina	9.99	308	*e*Pn	P	04 41 51.8	-0.6
GIB	Gibilmanna	10.19	292	*e*Pn	P	04 41 55.5	+0.4
JMQS	Jabal Moqyreh	10.21	122	P	P	04 41 56.3	+0.9
SGO	Sicignano	10.29	308	*e*Pn	P	04 41 54.9	-1.5
SGO				*e*Sn	S	04 43 33.2	-18
STON	Ston	10.41	324	*i* Pn	P	04 41 52.6	-5.5
STON				*i* Sn	S	04 43 36.9	-17
MLR	Muntele Rosu	10.79	360	P	P	04 42 00.8	-2.4
	0.2nm,0.3s,baz=168,slow=5.5,SNR=4.0						
NRCA	Norcia	12.91	313	*e*Pn	P	04 42 30.0	-1.4
VRAC	Vranov	16.17	337	P	P	04 43 15.3	+2.0
	0.3nm,0.3s,baz=176,slow=8.0,SNR=4.0						
AKASG	Malin Array Be	16.18	7	P	P	04 43 14.7	+1.2
	4.6nm,0.3s,baz=197,slow=9.8,SNR=18						
GERES	GERESS Array B	16.82	331	P	P	04 43 23.4	+2.0
	0.2nm,0.3s,baz=144,slow=12,SNR=4.7						
DAVOX	Davos	17.13	320	P	P	04 43 28.5	+3.2
	0.2nm,0.3s,baz=330,slow=22,SNR=2.0						
DAVOX				S	S	04 46 26.4	-5.3
	0.4nm,0.3s,baz=335,slow=22,SNR=3.5						
MBDF	Montbardon	17.82	310	*e*P	P	04 43 36.5	+2.6
	7.5nm,0.8s						
LPG	La Plagne	18.20	312	*e*P	P	04 43 41.1	+2.6
	1.3nm,0.4s						
LPL	La Plagne	18.22	312	*e*P	P	04 43 41.2	+2.5
CABF	La Chapelle	19.17	314	*e*P	P	04 43 49.4	-0.1
CDF	Champ du Feu	19.52	320	*e*P	P	04 43 51.0	-2.3
	2.0nm,0.4s						
SMF	Signal de Mont	20.53	312	*e*P	P	04 44 05.1	+1.3
LOR	Lormes	20.82	314	*e*P	P	04 44 07.3	+0.5
SSF	Saint Saulge	20.93	313	*e*P	P	04 44 09.5	+1.6
	2.6nm,0.5s						
LDF	La Druitiere	23.80	314	*e*P	P	04 44 37.6	+1.6
FLN	La Foliniere	24.09	314	*e*P	P	04 44 40.2	+1.4
GRR	Gorron	24.16	313	*e*P	P	04 44 41.3	+1.9
ESDC	Sonseca Array	24.31	291	P	P	04 44 44.9	+3.9
	0.4nm,0.5s,mb3.0,baz=85,slow=10,SNR=4.5						
HFS	Hagfors	26.69	346	P	P	04 45 03.1	-0.1
	0.9nm,0.3s,mb3.7,baz=140,slow=12,SNR=8.3						
FINES	FINESS Array B	26.78	0	P	P	04 45 03.7	-0.2
	1.8nm,0.3s,mb4.1,baz=191,slow=9.7,SNR=20						
FINES	FINESS Array B	26.78	0	P	P	04 45 03.7	-0.2
KAF	Kangasniemi	27.45	0	*e*p	P	04 45 08.9	-1.2
	1.0nm,0.3s,mb3.8						
NB2	NORSAR Subarra	28.03	345	P	P	04 45 13.6	-1.8
	0.2nm,0.3s,mb3.1,baz=159,slow=9.3						
NOA	NORSAR Array B	28.03	345	P	P	04 45 14.8	-0.5
	0.3nm,0.5s,mb3.1,baz=152,slow=6.6,SNR=3.8						
EKA	Eskdalemuir Ar	28.82	325	P	P	04 45 24.1	+1.7
	1.3nm,0.4s,mb4.0,baz=118,slow=8.9,SNR=12						
ARCES	ARCESS Array B	34.91	360	P	P	04 46 14.9	-0.5
	4.2nm,0.4s,mb4.6,baz=177,slow=9.2,SNR=70						
KEV	Kevo	35.13	1	*e*p	P	04 46 17.3	0.0
	1.1nm,0.3s,mb4.2						
DBIC	Dimbokro	39.80	233	P	P	04 47 01.7	+4.7
	2.7nm,1.0s,mb4.0,baz=201,slow=10,SNR=2.6						
DBIC	Dimbokro	39.80	233	P	P	04 47 01.7	+4.7
MKAR	Makanchi Array	43.48	56	P	P	04 47 30.2	+3.5
	0.4nm,0.3s,mb3.6,baz=266,slow=8.0,SNR=20						
SPITS	Spitsbergen Ar	43.80	357	P	P	04 47 30.0	+1.0
	10nm,1.1s,mb4.5,baz=152,slow=15,SNR=5.0						
SONM	Songino Array	59.27	51	P	P	04 49 28.6	+3.3
	0.7nm,0.5s,mb3.9,baz=284,slow=6.9,SNR=5.2						
SCHQ	Schefferville	63.98	320	P	P	04 49 59.3	+2.5
	1.5nm,0.3s,mb4.2,baz=88,slow=6.1,SNR=7.1						
INK	Inuvik	76.18	352	P	P	04 51 13.0	+2.5
	0.4nm,0.5s,mb3.5,baz=5.0,slow=3.0,SNR=7.0						

IDC 09 04:45:53.4±2.6**, 57.45S**×**147.04E, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.9**/10**, MS3.8**/2**, Ms1 3.8**/2**, ms1mx3.4**/10**, Error ellipse: s-maj=219.0km s-min=26.2km az=77.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	20.80	171	P	P	04 50 35.9	-2.5
	4.1nm,1.0s,baz=342,slow=13,SNR=9.3						
NWAO	Narrogin (SRO)	31.83	308	LR	LR	05 02 06.1	
	comp=Z,177nm,21.2s,baz=227,slow=31						
ASAR	Alice Springs	35.07	339	P	P	04 52 48.2	-1.8
	0.3nm,0.6s,baz=168,slow=8.3,SNR=3.1						
MAW	Mawson	37.05	219	LR	LR	05 07 08.3	
	comp=Z,154nm,20.7s,baz=62,slow=34						
WRA	Warramunga Arr	38.61	341	P	P	04 53 17.9	-2.0
	4.6nm,1.3s,baz=167,slow=7.7,SNR=9.2						
GERES	GERESS Array B	151.24	273	PKPbc	PKPdf	05 05 47.4	+4.1
	0.1nm,0.3s,baz=100,slow=6.0,SNR=1.9						

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*MDD **09** 04:56:58.9±1.1, 37.33N×8.47W, h11^{km}±2^{km}, mbLg1.1/3, Error ellipse: s-maj=12.7km s-min=3.8km az=24.0, PRXIMO*

*INMG **09** 04:56:59.0±0.8, 37.33N×8.46W, h7^{km}±7^{km}, ML0.9, Error ellipse: s-maj=3.5km s-min=2.9km az=28.0*

ISC 09 04:56:57.4±1.5**, 37.31N**±0.07×**8.45W**±0.06**, h11^{km}, n10, σ1^{s}12**/12**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.32	317	*e*Pg	Pg	04 57 04.5	+0.3
PTEO				*e*Sg	Sg	04 57 08.7	0.0
PALC	Alcoutim	0.79	78	*e*Pg	Pg	04 57 13.8	+0.5
PALC				*e*Sg	Sg	04 57 24.2	+0.3
	4.9nm,0.2s						
PALC	Alcoutim	0.79	78	Pg	Pg	04 57 13.8	+0.5
PALC				Lg		04 57 24.2	
	2.5nm,0.2s						
EGRO	El Granado	0.80	73	Pg	Pg	04 57 14.3	+0.8
	0.5nm,0.4s,SNR=7.9						
EGRO				Lg		04 57 24.2	
	2.3nm,0.3s,SNR=7.3						
PBEJ	Beja	0.85	33	*e*Sg	Sg	04 57 25.9	-0.1
	1.1nm,0.1s						
PBEJ	Beja	0.85	33	Lg		04 57 25.9	
	0.6nm,0.1s						
MOE	Montemor	1.22	4	*e*P	Pb	04 57 20.9	+1.0
MOE				*e*S	Sb	04 57 36.8	+1.4
EMIN	Mina Concepcio	1.48	71	Pg	Pg	04 57 25.1	-2.0
	0.2nm,0.5s,SNR=7.9						
EMIN				Lg		04 57 45.8	
	2.6nm,0.6s,SNR=7.0						
PLOU	Loures	1.67	341	*e*Sg	Sg	04 57 51.9	-1.2
EBAD	Badajoz	1.84	38	Pg	Pg	04 57 31.2	-2.9
	0.3nm,0.2s,SNR=7.9						
EBAD				Lg		04 57 55.4	
	7.4nm,1.2s,SNR=7.9						

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*NEIC **09** 05:11:26.9±1.0, 16.15N×97.13W, h8^{km}±7^{km}, mb3.9/7, MD4.4(MEX), Error ellipse: s-maj=9.4km s-min=5.4km az=196.0*

*MEX **09** 05:11:30.6±0.8, 16.16N×97.20W, h26^{km}±15^{km}, MD4.5*

*IDC **09** 05:11:30.1±1.3, 16.20N×96.95W, h28^{km}±5^{km}, mb3.5/5, mb1 3.8/6, mb1mx3.6/20, ML3.5/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=39.5km s-min=23.5km az=61.0*

ISC 09 05:11:27.8±0.7**, 16.24N**±0.04×**97.16W**±0.03**, h23^{km}**±6^{km}**, n47, σ1^{s}35**/62**, mb3.7**/9**, MS3.4**/3**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	0.94	26	*i* P	Pb	05 11 47.0	+1.7
OXX				*i* S	Sb	05 11 57.0	-0.4
PNIG	Pinotepa	0.94	280	*i* P	Pb	05 11 44.8	-0.6
PNIG				*i* S	Sb	05 11 56.6	-0.8
HUIG	Huatulco	1.11	115	*i* P	Pn	05 11 47.7	-0.4
HUIG				*i* S	Sb	05 12 02.1	-0.2
CMIG	Matias Romero	2.34	68	*e*P	Pn	05 12 05.9	+0.2
CMIG				*e*S	Sn	05 12 34.6	+0.6
IISM	Ciudad Serdan	2.75	356	*e*P	Pn	05 12 11.0	-0.5
EVV	El Vigia	2.81	38	*i* P	Pn	05 12 14.0	+1.7
IIB	San Bernardino	2.94	338	*e*P	Pn	05 12 22.0	+7.7
CAIG	El Cayaco	3.09	286	*e*P	Pn	05 12 15.3	-1.0
CAIG				*e*S	Sn	05 12 47.2	-5.7
PPM	Popocatepetl	3.14	334	*i* P	Pn	05 12 16.0	-1.1
PPM				*i* P		05 12 18.5	
PPM				*i* S	Sn	05 12 55.1	+0.8
PPM	Popocatepetl	3.14	334	*i* P	Pn	05 12 18.5	+1.4
PPM				*i* S	Sn	05 12 55.1	+0.8
TUIG	Tuzandepetl	3.17	55	*i* P	Pn	05 12 17.2	-0.4
TUIG				*e*S	Sn	05 12 52.4	-2.6
YAIG	Yautepec	3.18	325	*e*P	Pn	05 12 19.5	+1.8
YAIG				*e*S	Sn	05 12 52.6	-2.8
IIZ	Mezontepec	3.54	326	*e*P	Pn	05 12 24.5	+1.7
UNM	Universidad Na	3.63	328	*e*P	Pn	05 12 23.6	-0.4
UNM				*i* P		05 12 24.0	
UNM				*e*P		05 12 26.0	
UNM				*e*S	Sn	05 13 05.3	-1.3
UNM				*i* S	Sn	05 13 05.7	-0.9
UNM	Universidad Na	3.63	328	*i* P	Pn	05 12 24.0	0.0
UNM				*e*S	Sn	05 13 05.3	-1.3
UNM				*i* S	Sn	05 13 05.7	-0.9
PBVM	Pinon	3.68	330	*e*P	Pn	05 12 24.9	+0.2
PBVM				*i* S	Sn	05 13 04.8	-3.1
ZIIG	Zihuatanejo	4.34	289	*e*P	Pn	05 12 33.7	-0.5
ZIIG				*e*S	Sn	05 13 20.6	-4.0
SCX	San Cristobal	4.37	83	*e*P	Pn	05 12 37.0	+2.4
TPX	Tapachula	4.90	105	*e*P	Pn	05 12 40.0	-2.1
MOIG	Morelia	5.14	312	*e*P	Pn	05 12 46.9	+1.4
MOIG				*e*S	Sn	05 13 44.4	-0.4
CGX	Ciudad Guzman	6.95	301	*e*P	Pn	05 13 02.5	-8.5
SFJM	Santa Fe	7.00	308	*e*P	Pn	05 13 11.0	-0.7
TEIG	Tepich	9.33	63	Pn	P	05 13 42.5	-1.6
	0.0nm,0.3s,baz=255,slow=24,SNR=6.6						
TEIG				Sn	Sn	05 15 18.1	-11
	0.0nm,0.3s,baz=343,slow=19,SNR=5.4						
JTS	JuntasAbangare	13.27	115	P	P	05 14 40.5	+3.0
TXAR	Lajitas Array	14.35	336	Pn	P	05 14 53.4	+1.7
	0.1nm,0.3s,baz=168,slow=13,SNR=4.6						
TXAR				LR	LR	05 20 53.5	
	comp=Z,277nm,18.2s,baz=140,slow=39						
JCT	Junction City	14.38	351	*e*P	P	05 14 50.0	-2.3
	2.0nm,0.4s						
NATX	Nacogdoches	15.62	8	P	P	05 15 07.5	-0.9
	16nm,1.3s						
GDL2	Guadalupe Moun	17.19	339	*e*P	P	05 15 28.4	+0.2
UALR	University of	18.96	12	*e*P	P	05 15 48.4	-1.7
	11nm,0.8s						
BNM	Barren Site	19.77	336	*e*P	P	05 15 59.1	-0.2
LAZ	Ladron	20.19	335	*e*P	P	05 16 04.3	+0.5
TUC	Tucson	20.22	325	*e*P	P	05 16 04.8	+0.7
	2.4nm,1.1s						
CCM	Cathedral Cave	22.35	12	*e*P	P	05 16 24.5	-1.1
	2.4nm,0.6s,mb3.8						
SDCO	Great Sand Dun	22.66	343	P	P	05 16 29.0	+0.3
	4.6nm,1.1s,mb3.8						
WUAZ	Wupatki	23.02	329	*e*P	P	05 16 34.7	+2.4
	3.3nm,0.9s,mb3.8						
PV01	Paradox Valley	24.02	337	*e*P	P	05 16 43.7	+1.8
PV10	Paradox Valley	24.41	337	*e*P	P	05 16 47.2	+1.4
ISCO	Idaho Springs	24.61	344	*e*P	P	05 16 49.1	+1.4
	1.0nm,0.5s,mb3.6						
PDAR	Pinedale Array	28.49	341	P	P	05 17 25.5	+2.0
	0.2nm,0.5s,mb3.0,baz=149,slow=8.6,SNR=5.4						
NVAR	Mina Array Bea	28.88	324	P	P	05 17 28.3	+1.4
	0.5nm,0.7s,mb3.4,baz=135,slow=8.0,SNR=5.9						
NVAR				pP	pP	05 17 36.8	+2.9
	1.0nm,0.8s,baz=140,slow=9.8,SNR=6.3						
ULM	Lac du Bonnet	33.94	1	LR	LR	05 33 22.2	
	comp=Z,25nm,19.1s,MS3.0,baz=19,slow=39						
SCHQ	Schefferville	45.06	24	P	P	05 19 41.5	-2.2
	2.2nm,0.6s,mb4.2,baz=203,slow=19,SNR=3.7						
SCHQ	Schefferville	45.06	24	P	P	05 19 41.5	-2.2
ILAR	Eielson Array	58.86	338	P	P	05 21 26.4	-0.5
	0.1nm,0.5s,mb3.1,baz=140,slow=6.6,SNR=4.5						
ILAR				pP	pP	05 21 35.0	+0.8
	1.1nm,1.1s,baz=159,slow=2.8,SNR=4.3						
ILAR				sP	sP	05 21 39.2	+2.4
	0.6nm,0.8s,baz=136,slow=2.1,SNR=4.9						
PLCA	Paso Flores	61.83	157	P	P	05 21 45.9	-1.6
	2.2nm,0.8s,mb4.4,baz=324,slow=8.4,SNR=5.5						
PLCA				LR	LR	05 43 01.6	
	comp=Z,62nm,20.9s,MS3.7,baz=191,slow=31						
PLCA	Paso Flores	61.83	157	P	P	05 21 45.9	-1.6
PLCA				LR	LR	05 43 01.6	
NOA	NORSAR Array B	84.53	28	LR	LR	06 03 30.8	
	comp=Z,16nm,21.2s,MS3.4,baz=95,slow=37						

CASC 09 05:25:20.2±2.0**, 12.68N**×**88.40W, h36^{km}**±999^{km}**, MD3.5, 4C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	0.75	10⇑	*e*P	P	05 25 35.6	+1.3
VSM				*e*S	S	05 25 45.9	+1.3
BLLM	Bellamira	0.77	12⇑	*e*P	P	05 25 35.5	+0.8
BLLM				*e*S	S	05 25 44.9	-0.3
CNCH	Conchagua	0.81	43⇓	*e*P	P	05 25 35.6	+0.5
CNCH				*e*S	S	05 25 48.1	+2.0
SNVI	San Vicente	1.02	335⇑	*e*P	P	05 25 38.5	+0.4
SNVI				*e*S	S	05 25 51.4	0.0
LCBS	La Ceiba	1.12	330⇓	*e*P	P	05 25 40.0	+0.5
LCBS				*e*S	S	05 25 53.9	-0.1
LFRS	El Faro	1.13	326⇓	*e*P	P	05 25 40.2	+0.4
LFRS				*e*S	S	05 25 54.3	-0.1
LBRS	Las Brisas	1.22	329	*e*P	P	05 25 41.7	+0.7
LBRS				*e*S	S	05 25 55.7	-0.9
CRIN	San Cristobal	1.32	89	*e*P	P	05 25 42.7	+0.2
CRIN				*e*S	S	05 25 59.7	+0.5
BOQS	Boqueron	1.35	321⇑	*e*P	P	05 25 43.6	+0.6
BOQS				*e*S	S	05 26 00.2	+0.3
PYN	Poneloya	1.38	102	*e*P	P	05 25 43.4	0.0
PYN				*e*S	S	05 26 00.1	-0.5
LEON	Leon	1.50	100	*e*P	P	05 25 44.8	-0.3
LEON				*e*S	S	05 26 02.5	-1.1
TEL3	Telica 3	1.52	94	*e*P	P	05 25 45.6	+0.1
TEL3				*e*S	S	05 26 03.7	-0.6
SBLS	San Blas	1.65	314	*e*P	P	05 25 48.2	+0.9
SBLS				*e*S	S	05 26 07.4	0.0
MIRN	Miramar	1.67	98	*e*P	P	05 25 47.3	-0.1
MIRN				*e*S	S	05 26 07.8	-0.1
RTR	El Retiro	1.71	315⇓	*e*P	P	05 25 49.0	+1.0
RTR				*e*S	S	05 26 08.2	-0.7
COPN	Copaltepe	1.84	106	*e*P	P	05 25 49.6	-0.3
COPN				*e*S	S	05 26 10.6	-1.6
MOMJ	Momotombo	1.84	98	*e*P	P	05 25 49.9	0.0
MOMJ				*e*S	S	05 26 11.9	-0.3
MGAN	Managua	2.17	104	*e*S	S	05 26 19.0	-1.6

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*ISK **09** 05:30:39.5, 36.98N×27.78E, h5^{km}, MD3.2*

*NEIC **09** 05:30:41.5, 36.65N×27.58E, h26^{km}, MD3.2(ATH), After ATH.*

*ATH **09** 05:30:41.5, 36.65N×27.58E, h26^{km}±13^{km}, MD3.2/6*

ISC 09 05:30:38.9±0.5**, 36.89N**±0.03×**27.68E**±0.04**, h5^{km}, n18, σ0^{s}95**/26**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	314	*i* P	Pg	05 30 44.5	+0.3
BDRM				*i* S	Sg	05 30 48.5	+0.8
MLSB	Milas	0.42	11	*i* PG	Pg	05 30 46.6	-0.7
MLSB				*i* SG	Sg	05 30 52.7	-0.2
NISR	Nisiros	0.52	238	*e*PB	Pb	05 30 49.5	-0.6
YER	Yerkesik	0.55	63	*i* PG	Pg	05 30 49.4	-0.4
YER				*i* SG	Sg	05 30 56.1	-1.0
ARG	Arkhangelos	0.76	151	*e*PB	Pb	05 30 53.5	-0.7
AYDN	Tasoluk	0.79	12⇑	*i*P	Pg	05 30 53.9	-0.9
AYDN				*i* S	Sg	05 31 04.8	-0.5
DNZL	Cakiroluk	1.35	53	*i* P	Pb	05 31 04.1	-0.3
DNZL				*i* S	Sb	05 31 23.6	+1.7
DENT	Denizli	1.39	51	PN	Pn	05 31 04.5	-0.5
KARP	Karpathos	1.40	198	*e*PN	Pn	05 31 04.8	-0.4
IZM	Izmir	1.54	348	PN	Pn	05 31 07.7	+0.4
KDAG	Bornova	1.55	348	*i* P	Pn	05 31 06.5	-0.9
KDAG				*i* S	Sb	05 31 27.7	+0.1
KSL	Kastellorizon	1.70	115	*e*PN	Pn	05 31 11.5	+2.0
APE	Apeiranthos	1.73	277	*e*PN	Pn	05 31 09.0	-0.9
MANT	Manisa	1.75	23	*i* P	Pn	05 31 09.4	-0.7
MANT				*i* S	Sn	05 31 32.7	-0.4
ELL	Elmali	1.79	94	PN	Pn	05 31 12.6	+1.8
AKS	Akhisar	1.99	3	*e*PN	Pn	05 31 14.8	+1.1
PRK	Paraskevi	2.60	335	*e*PB	Pb	05 31 28.0	+2.2
ULDT	Uludag	3.45	19	*i* P	Pg	05 31 43.9	-3.9
ULDT				*i* S	Sg	05 32 33.8	+0.1

IDC 09 05:44:02.8±8.0**, 6.33S**×**129.68E, h104^{km}**±67^{km}**, mb3.3**/2**, mb1 3.3**/5**, mb1mx3.2**/12**, ML3.1**/3**, Error ellipse: s-maj=116.0km s-min=31.9km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.35	198	P	P	05 46 55.6	-0.6
	0.1nm,0.3s,baz=20,slow=11,SNR=7.1						
FITZ				S	S	05 49 02.1	-10
	0.2nm,0.3s,baz=360,slow=19,SNR=4.8						
WRA	Warramunga Arr	14.27	162	P	P	05 47 19.4	-1.8
	0.2nm,0.3s,baz=334,slow=13,SNR=10						
WRA				S	S	05 49 46.6	-11
	0.2nm,0.3s,baz=331,slow=24,SNR=6.2						
ASAR	Alice Springs	17.71	167	P	P	05 48 02.3	-2.0
	0.1nm,0.3s,baz=348,slow=10,SNR=6.9						
MKAR	Makanchi Array	67.49	327	P	P	05 54 47.7	-2.1
	0.3nm,0.5s,baz=114,slow=6.7,SNR=3.7						
VNDA	Vanda	73.15	173	P	P	05 55 21.7	-1.6
	0.5nm,0.8s,baz=320,slow=2.5,SNR=2.3						

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*MAN **09** 05:53:07.5, 9.66N×126.52E, h102^{km}, mb4.2, ML3.0, MS2.8*

*IDC **09** 05:53:24.7±13.0, 9.45N×125.11E, h172^{km}±133^{km}, mb3.2/7, mb1 3.4/7, mb1mx3.2/18, MS3.2/1, Ms1 3.2/1, ms1mx2.5/14, Error ellipse: s-maj=116.0km s-min=21.6km az=70.0*

ISC 09 05:53:08.6±1.3**, 9.70N**±0.08×**126.5E**±0.1**, h62^{km}**±13^{km}**, n15, σ0^{s}97**/16**, mb3.6**/7**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.14	231	*e*P	P	05 53 25.7	-3.1
BIPH	Bislig	1.51	186⇓	*e*P	P	05 53 33.6	-0.4
BIPH				*i* S	S	05 53 54.0	+1.2
MSLP	Maasin	1.69	285	*e*P	P	05 53 37.3	+0.8
BESP	Borongan	2.17	331	*e*P	P	05 53 43.6	+0.4
BUKP	Musuan	2.31	219	*e*P	P	05 53 46.5	+1.4
TBP	Tagbilaran	2.62	270	*e*P	P	05 53 49.0	-0.6
TBP				*e*S	S	05 54 20.1	-0.1
MATI	Mati	2.74	185	*e*P	P	05 53 49.7	-1.6
TGY	Tagaytay City	7.00	309	LR	LR	05 57 36.0	
	comp=Z,208nm,21.8s,baz=217,slow=41						
FITZ	Fitzroy Crossi	27.63	182	P	P	05 58 52.8	0.0
	1.5nm,0.5s,mb3.8,baz=347,slow=10,SNR=5.6						
WRA	Warramunga Arr	30.44	165	P	P	05 59 23.3	+5.6
	0.2nm,0.5s,mb3.1,baz=344,slow=8.8,SNR=6.9						
ASAR	Alice Springs	33.93	168	P	P	05 59 53.1	+4.9
	0.1nm,0.5s,mb3.0,baz=333,slow=6.0,SNR=2.7						
SONM	Songino Array	41.64	340	P	P	06 00 53.0	+0.6
	0.3nm,0.4s,mb3.2,baz=153,slow=9.7,SNR=3.4						
MKAR	Makanchi Array	52.63	323	P	P	06 02 17.5	-1.1
	0.4nm,0.5s,mb3.6,baz=122,slow=8.7,SNR=6.0						
ARCES	ARCESS Array B	84.81	340	P	P	06 05 37.8	+0.6
	1.3nm,0.7s,mb4.1,baz=68,slow=6.5,SNR=3.6						
FINES	FINESS Array B	86.51	332	P	P	06 05 45.5	-0.1
	1.9nm,0.9s,mb4.3,baz=150,slow=26,SNR=1.8						

IDC 09 05:53:22.4±16.0**, 16.09S**×**174.25W, mb4.5**/5**, mb1 4.7**/5**, mb1mx4.0**/17**, 1C, Error ellipse: s-maj=304.0km s-min=138.7km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.70	258	P	P	06 00 40.0	-1.6
	9.1nm,0.8s,baz=64,slow=10,SNR=7.0						
TOO	Toolangi	41.40	231	*e*P	P	06 01 12.4	+0.3
STKA	Stephens Creek	42.99	240	*e*P	P	06 01 23.8	-1.5
	3.9nm,1.0s						
STKA	Stephens Creek	42.99	240	P	P	06 01 23.8	-1.5
	2.5nm,0.5s,baz=86,slow=10,SNR=8.3						
WB2	Warramunga Arr	48.88	257	*e*P	P	06 02 09.5	-2.7
WRA	Warramunga Arr	48.90	257	P	P	06 02 09.8	-2.5
	2.6nm,0.5s,baz=93,slow=6.8,SNR=72						
ASAR	Alice Springs	49.12	252	P	P	06 02 11.7	-2.4
	20nm,0.5s,baz=89,slow=8.2,SNR=286						
ASPA	Alice Springs	49.13	252	*e*P	P	06 02 11.7	-2.4
KAKA	Kakadu	51.68	266⇑	*i*P	P	06 02 25.5	-8.1
	3.3nm,0.4s						
KAKA				*e*		06 02 33.2	
FORT	Forrest	54.38	243	*e*P	P	06 02 50.0	-3.5
	26nm,1.5s						
FITZ	Fitzroy Crossi	57.27	259	*e*P	P	06 03 13.1	-1.4
	2.4nm,1.6s						
FITZ	Fitzroy Crossi	57.27	259	P	P	06 03 13.0	-1.6
	1.3nm,0.5s,baz=159,slow=4.7,SNR=12						

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*NEIC **09** 05:59:40.5±0.4, 17.98S×178.83W, h500^{km}, mb3.9/7, Error ellipse: s-maj=18.3km s-min=10.2km az=144.0*

*IDC **09** 05:59:46.4±4.1, 18.19S×178.88W, h573^{km}±50^{km}, mb3.1/11, mb1 3.4/11, mb1mx3.3/18, Error ellipse: s-maj=20.3km s-min=13.7km az=106.0*

ISC 09 05:59:43.4±4.8**, 18.1S**±0.1×**178.9W**±0.2**, h547^{km}**±60^{km}**,**

n20,σ0^{s}90/21,mb3.7/15,1C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.35	189	P	P	06 03 42.6	-1.1
	9.4nm,1.0s,baz=314,slow=18,SNR=5.0						
URZ				S	S	06 06 55.4	-1.5
	4.5nm,0.3s,baz=135,slow=19,SNR=9.0						
TOO	Toolangi	36.65	231	*e*P	P	06 06 07.1	+2.1
	8.1nm,1.4s,mb4.1						
STKA	Stephens Creek	38.10	241	⇓*i*P	P	06 06 18.5	+1.7
	0.8nm,0.3s,mb3.7						
STKA	Stephens Creek	38.10	241	P	P	06 06 18.6	+1.8
	1.1nm,0.4s,mb3.8,baz=72,slow=9.6,SNR=5.8						
WB2	Warramunga Arr	44.10	260	*e*P	P	06 07 04.3	-0.6
WRA	Warramunga Arr	44.11	260	P	P	06 07 03.9	-1.1
	0.7nm,0.4s,mb3.6,baz=93,slow=6.8,SNR=22						
ASAR	Alice Springs	44.26	254	P	P	06 07 06.5	+0.4
	7.0nm,0.5s,mb4.5,baz=89,slow=8.2,SNR=101						
ASPA	Alice Springs	44.27	254	*e*P	P	06 07 06.4	+0.2
KAKA	Kakadu	47.13	269	⇑*i*P	P	06 07 27.8	-0.5
	3.5nm,0.6s,mb4.1						
FORT	Forrest	49.47	245	⇓*i*P	P	06 07 45.0	-0.7
	23nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	52.51	261	*e*P	P	06 08 08.0	+0.1
	2.9nm,1.0s,mb3.6						
FITZ	Fitzroy Crossi	52.51	261	P	P	06 08 08.0	+0.1
	0.8nm,0.3s,mb3.5,baz=59,slow=2.5,SNR=7.3						
VNDA	Vanda	60.18	185	P	P	06 09 00.3	+0.5
	0.5nm,0.7s,mb3.0,baz=18,slow=9.6,SNR=3.1						
QSPA	South Pole Qui	71.92	180	*e*P	P	06 10 12.7	+0.4
	2.6nm,0.7s,mb3.8						
YBH	Yreka Blue Hor	79.00	39	P	P	06 10 52.2	+0.3
	1.0nm,0.6s,mb3.4,baz=157,slow=4.5,SNR=4.4						
NVAR	Mina Array Bea	79.92	44	P	P	06 10 57.0	+0.2
	0.8nm,0.7s,mb3.2,baz=220,slow=7.4,SNR=9.3						
HLID	Hailey	85.12	41	*e*P	P	06 11 22.7	0.0
	0.8nm,0.8s,mb3.3						
ILAR	Eielson Array	86.22	13	P	P	06 11 25.8	-1.6
	0.3nm,0.5s,mb3.2,baz=218,slow=5.3,SNR=10						
TXAR	Lajitas Array	86.53	58	P	P	06 11 30.6	+0.8
	1.3nm,0.8s,mb3.6,baz=236,slow=4.5,SNR=5.1						
PDAR	Pinedale Array	87.85	44	P	P	06 11 35.5	-0.2
	0.7nm,0.6s,mb3.6,baz=215,slow=2.5,SNR=10						

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*IDC **09** 06:00:40.4±11.0,36.79N×71.37E,h93^{km}±81^{km},mb3.7/5, mb1 3.7/7,mb1mx3.5/19,ML3.5/2,Error ellipse: s-maj=85.2km s-min=44.3km az=179.0*
*MOS **09** 06:00:42.9±1.3,36.97N×71.11E,h117^{km},mb4.1/4,Error ellipse: s-maj=34.7km s-min=13.5km az=103.2*
*NNC **09** 06:00:45.3±5.0,36.96N×70.43E,h140^{km}±47^{km},mpv4.8, Error ellipse: s-maj=44.3km s-min=29.8km az=34.0*
ISC 09 06:00:38.7±0.5**,36.51N**±0.03×**71.43E**±0.08**,h126**^{km}±8^{km}**, n57,σ1^{s}20**/68**,mb3.9**/5**,4C-10D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.71	172	⇓P	P	06 01 22.3	+0.2
CEP				S	S	06 01 55.0	-0.1
CHCP	Chirah Chowk	3.21	152	⇑P	P	06 01 30.4	+1.5
CHCP				S	S	06 02 09.0	+1.9
THW	Thamme Wali	3.71	176	⇓P	P	06 01 35.0	-0.6
SBDP	Sheikh Budin	4.23	187	P	P	06 01 42.0	-0.5
SARP	Sargodha	4.69	167	⇑P	P	06 01 47.4	-1.2
DRP	Derazinda	4.86	192	⇓P	P	06 01 50.6	-0.3
THN	Thein Dam	5.39	138	*e*P	P	06 01 58.8	+0.8
DLH	Dalhousie	5.45	135	*e*P	P	06 01 58.0	-0.8
DLH				*e*S	S	06 02 55.0	-5.8
AML	Almayashu	5.88	17	P	P	06 02 05.1	+0.5
	SNR=139						
PONG	Pong	5.88	139	*e*P	P	06 02 06.0	+1.3
PONG				*e*		06 03 14.0	
UCH	Uchtor	6.19	22	P	P	06 02 09.7	+0.8
	SNR=16						
KZA	Kyzart	6.30	27	P	P	06 02 11.1	+0.8
	SNR=10.0						
EKS2	Erkin-Say	6.41	16	P	P	06 02 12.0	+0.2
	SNR=36						
AAK	Ala-Archa	6.56	20	P	P	06 02 14.5	+0.6
	SNR=22						
KK31	Karatay Array	6.62	354	⇓P	P	06 02 13.4	-1.4
	21nm,0.2s,baz=176,slow=12,SNR=794						
KK31				⇓S	S	06 03 23.7	-5.6
	18nm,0.4s,baz=176,slow=14,SNR=12						
KKAR	Karatay Array	6.62	354	*e*PN	P	06 02 13.3	-1.5
KKAR				S	S	06 03 24.0	-5.4
KKAR				pmax	pmax		
	comp=Z,13nm,0.2s						
KBK	Karagaybulak	6.71	23	P	P	06 02 17.0	+1.0
	SNR=7.6						
SDNR	Sundarnagar	6.79	136	*e*P	P	06 02 17.0	0.0
SDNR				*e*S	S	06 03 28.8	-4.5
ULHL	Ulahol	6.83	32	P	P	06 02 19.0	+1.4
	SNR=11						
CHMS	Chumysh	6.97	20	P	P	06 02 19.6	+0.2
	SNR=15						
USP	Ospenovka	7.15	18	P	P	06 02 21.5	-0.4
	SNR=26						
TKM2	Tokmak 2	7.16	25	P	P	06 02 22.7	+0.6
	SNR=23						
SMLA	Simla	7.18	137	⇓*i*P	P	06 02 31.3	+8.9
KLP	Kalpa	7.53	129	*e*P	P	06 02 27.5	+0.5
KLP				*e*S	S	06 03 45.8	-5.4
KLP				AML	AML	06 03 54.0	
	comp=E,254nm,0.5s						
KLP				AML	AML	06 03 54.2	
	comp=N,308nm,0.6s						
KLP				*e*		06 03 54.9	
	comp=N,926nm,0.9s						
DDI	Dehra Dun	8.29	136	*e*	S	06 04 12.5	+2.9
KHET	Khetri	9.19	155	*e*S	S	06 04 24.1	-7.2
NDI	New Delhi	9.20	146	*e*	S	06 04 24.5	-7.1
AYAN	Aya Nagar	9.33	147	*e*S	S	06 04 27.7	-7.0
KUDL	Kundal	9.37	151	*e*P	P	06 02 50.7	-1.0
KUDL				*e*S	S	06 04 27.2	-8.5
SONA	Sohna	9.52	148	*e*S	S	06 04 31.1	-8.1
AGRA	Agra	10.78	147	*e*S	S	06 05 01.7	-7.4
AGRA				AML	AML	06 05 14.0	
	comp=E,79nm,0.4s						
AGRA				AML	AML	06 05 18.4	
	comp=N,50nm,0.1s						
MK31	Makanchi Array	13.08	35	⇓P	P	06 03 47.1	+6.6
	comp=N,2.5nm,0.7s,baz=212,slow=12,SNR=5.6						
MKAR	Makanchi Array	13.08	35	P	P	06 03 40.1	-0.5
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=7.2						
GKN	Gorkha	14.02	123	*e*P	P	06 03 51.5	-1.1
	comp=N,11nm,0.3s						
DMN	Daman	14.59	124	*e*P	P	06 03 58.5	-1.4
	comp=N,7.3nm,0.4s						
KKN	Kakani	14.59	123	*e*P	P	06 04 00.1	+0.2
	comp=N,11nm,0.5s						
PKI	Pulchoki	14.81	123	*e*P	P	06 04 01.5	-1.3
	comp=N,7.8nm,0.4s						
GUN	Gumba	14.92	121	*e*P	P	06 04 02.2	-2.0
	comp=N,15nm,0.5s						
KURK	Kurchatov	15.11	18	⇓P	P	06 04 09.5	+3.1
	comp=N,1.5nm,1.0s,baz=101,slow=17,SNR=4.4						
AB31	Akbulak array	15.25	330	⇑P	P	06 04 04.8	-3.4
	comp=N,2.3nm,0.5s,baz=140,slow=12,SNR=104						
AB31				⇓S	S	06 06 42.0	-12
	comp=N,4.4nm,0.7s,baz=153,slow=23,SNR=7.3						
AB31	Akbulak array	15.25	330	P	P	06 04 04.7	-3.4
AB31				*e*S	S	06 06 41.1	-12
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	Vostochnaya	16.22	359	⇑P	P	06 04 17.6	-2.6
	comp=Z,3.2nm,1.2s						
ZRNK	Zerenda	16.53	355	⇓P	P	06 04 24.0	-0.1
	comp=Z,1.3nm,0.5s						
BVA0	Borovoye Array	16.53	358	P	P	06 04 23.0	-1.2
	comp=Z,0.5nm,0.8s,baz=161,slow=12,SNR=8.8						
BVAR	Borovoye Array	16.53	358	P	P	06 04 23.1	-1.0
	comp=Z,0.7nm,0.3s,baz=166,slow=12,SNR=11						
BVAR				S	S	06 07 21.2	-1.5
	comp=Z,0.3nm,0.3s,baz=158,slow=23,SNR=3.6						
AKASG	Malin Array Be	33.21	309	P	P	06 07 05.8	+0.5
	comp=Z,0.8nm,0.4s,mb3.9,baz=80,slow=6.7,SNR=5.8						
AKASG	Malin Array Be	33.21	309	P	P	06 07 05.8	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	37.67	326	P	P	06 07 44.4	+1.5
	comp=Z,1.2nm,0.5s,mb4.0,baz=118,slow=10,SNR=8.0						
FINES	FINESS Array B	37.67	326	P	P	06 07 44.4	+1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	Kangasniemi	37.81	327	*e*p	P	06 07 46.5	+2.5
KEV	Kevo	40.92	338	*e*p	P	06 08 09.0	-0.7
ARCES	ARCESS Array B	41.27	337	P	P	06 08 14.6	+2.0
	comp=Z,2.9nm,0.8s,mb4.2,baz=114,slow=7.9,SNR=10.0						
ARCES	ARCESS Array B	41.27	337	P	P	06 08 14.6	+2.1
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	44.58	323	P	P	06 08 40.2	+0.8
	comp=Z,0.9nm,0.4s,mb3.9,baz=97,slow=7.4						
NOA	NORSAR Array B	44.58	323	P	P	06 08 40.5	+1.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=11						
NOA	NORSAR Array B	44.58	323	P	P	06 08 40.6	+1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	81.22	3	P	P	06 12 43.7	+2.4
	comp=Z,0.3nm,0.4s,mb3.5,baz=352,slow=5.4,SNR=4.6						

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*IDC **09** 06:07:21.6±0.8,0.18S×125.49E,mb4.2/12,mb1 4.3/13, mb1mx4.2/18,ML3.5/1,MS3.4/1,Ms1 3.6/1,ms1mx2.7/22, Error ellipse: s-maj=45.4km s-min=15.7km az=66.0*
*NEIC **09** 06:07:26.3±0.4,0.21S×125.47E,h30^{km},Error ellipse: s-maj=25.4km s-min=7.1km az=65.0*
ISC 09 06:07:21.6±0.6**,0.2S**±0.1×**125.5E**±0.2**,h10**^{km}**,n17, σ0^{s}95**/17**,mb4.2**/12**,MS3.3**/1**,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	14.22	151	*e*P	P	06 10 45.4	0.0
	7.3nm,0.6s						
FITZ	Fitzroy Crossi	17.82	180	*e*P	P	06 11 31.8	+0.2
	2.0nm,0.6s						
FITZ	Fitzroy Crossi	17.82	180	P	P	06 11 31.8	+0.3
	0.1nm,0.3s,slow=11,SNR=2.8						
WRA	Warramunga Arr	21.48	157	P	P	06 12 11.3	-1.4
	2.6nm,0.8s,mb3.6,baz=333,slow=11,SNR=19						
WB2	Warramunga Arr	21.49	157	*e*P	P	06 12 12.6	-0.1
ASPA	Alice Springs	24.75	161	*e*P	P	06 12 46.4	+1.6
ASAR	Alice Springs	24.75	161	P	P	06 12 45.5	+0.6
	1.0nm,0.6s,mb3.5,baz=337,slow=8.8,SNR=14						
ASAR				PcP	PcP	06 16 22.1	-0.7
	0.4nm,0.6s,baz=325,slow=1.6,SNR=5.3						
CMAR	Chiang Mai Arr	31.98	307	P	P	06 13 49.2	-1.2
	2.4nm,1.1s,mb3.9,baz=131,slow=8.7,SNR=6.0						
CMAR				LR	LR	06 25 30.0	
	comp=Z,55nm,18.1s,MS3.3,baz=278,slow=34						
STKA	Stephens Creek	35.03	156	P	P	06 14 15.0	-1.7
	2.2nm,0.8s,mb4.2,baz=328,slow=15,SNR=2.8						
SONM	Songino Array	50.61	343	P	P	06 16 22.2	-0.6
	2.2nm,0.8s,mb4.1,baz=159,slow=7.2,SNR=12						
MKAR	Makanchi Array	60.08	327	P	P	06 17 30.3	-1.0
	2.7nm,0.6s,mb4.4,baz=119,slow=9.1,SNR=18						
BVAR	Borovoye Array	69.92	328	P	P	06 18 35.7	+0.8
	0.6nm,0.4s,mb3.8,baz=141,slow=9.5,SNR=4.1						
KMBO	Kilima Mbogo	88.23	269	P	P	06 20 15.5	+0.3
	1.1nm,0.6s,mb4.3,baz=41,slow=19,SNR=4.9						
ASF	Jabal al Asfar	88.89	302	P	P	06 20 19.0	+1.0
	1.3nm,0.3s,mb4.7,baz=164,slow=1.5,SNR=3.4						
ILAR	Eielson Array	89.13	25	P	P	06 20 18.7	+0.4
	0.3nm,0.5s,mb3.8,baz=256,slow=4.6,SNR=7.3						
ARCES	ARCESS Array B	93.65	340	P	P	06 20 43.1	+4.0
	1.9nm,0.8s,mb4.5,baz=80,slow=5.5,SNR=2.9						
SPITS	Spitsbergen Ar	94.03	349	P	P	06 20 41.6	+0.8
	8.2nm,1.1s,mb5.1,baz=124,slow=7.2,SNR=4.9						

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*IDC **09** 06:28:27.5±1.5,55.52N×167.14E,mb3.6/4,mb1 3.9/5, mb1mx3.5/22,ML3.1/1,Error ellipse: s-maj=43.8km s-min=12.8km az=43.0*
ISC 09 06:28:25.6±6.4**,55.3N**±0.3×**167.1E**±0.4**,h8**^{km}±40^{km}**,n5, σ0^{s}32**/6**,mb3.5**/4**,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	Attu Island--F	4.32	121	Pn	Pn	06 29 33.2	0.0
	3.3nm,0.3s,baz=313,slow=3.7,SNR=15						
FX1				Sn	Sn	06 30 24.3	-0.1
	5.6nm,0.3s,baz=68,slow=23,SNR=15						
ILAR	Eielson Array	24.32	49	P	P	06 33 44.0	-0.2
	1.3nm,0.9s,mb3.4,baz=262,slow=7.7,SNR=18						
BVAR	Borovoye Array	52.16	311	P	P	06 37 38.0	-0.2
	0.2nm,0.3s,mb3.5,baz=45,slow=8.2,SNR=2.2						
NOA	NORSAR Array B	62.46	347	P	P	06 38 51.3	+0.2
	0.1nm,0.3s,mb3.4,baz=356,slow=6.8,SNR=2.2						
TXAR	Lajitas Array	66.04	73	P	P	06 39 14.9	+0.2
	0.8nm,0.6s,mb4.0,baz=308,slow=5.4,SNR=4.8						

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*SNSN **09** 06:28:57.6,24.17N×36.70E,Ml2.8*
*HLW **09** 06:28:59.4,24.03N×36.52E,h26^{km},Mb3.2*
ISC 09 06:28:55.9±0.9**,24.07N**±0.08×**36.50E**±0.05**,h10**^{km}**,n12, σ0^{s}72**/14**,3C-1D,Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UMJS	Umm Lajj	1.38	32	P	Pn	06 29 20.6	-0.6
YNBS	Yanbu‘ al Bahr	1.39	78	P	Pn	06 29 20.3	-1.1
HSHL	Bi’r Shalatayn	1.39	227	⇑P	Pn	06 29 21.7	+0.2
HAGS	Hagol	1.42	283	⇑P	Pn	06 29 22.6	+0.8
HAGS				S	Sb	06 29 39.1	-0.9
EMRS	Mersa Alam	1.79	302	⇑P	Pn	06 29 27.5	+0.4
HADB		2.13	307	⇓P	Pn	06 29 32.7	+0.6
HADB				S	Sn	06 29 57.5	-1.4
KBRS	Khaybar	3.04	55	P	Pn	06 29 44.8	-0.2
DBAS	Duba	3.17	351	P	Pn	06 29 46.8	0.0
HSFG		3.41	317	P	Pn	06 29 50.1	-0.2
TBKS	Tabuk	4.14	1	P	Pn	06 30 01.1	+0.5
HAQS	Haql	5.16	345	P	Pn	06 30 16.0	+0.9
JMOS	Jabal al Moall	5.23	347	P	Pn	06 30 17.0	+0.9

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*NEIC **09** 06:39:40.4±2.5,6.62S×150.65E,h94^{km}±19^{km},mb3.9/2, Error ellipse: s-maj=25.4km s-min=17.1km az=108.0*
*IDC **09** 06:39:41.4±4.9,6.66S×150.72E,h105^{km}±40^{km},mb3.6/7, mb1 3.8/8,mb1mx3.7/14,Error ellipse: s-maj=41.8km s-min=25.2km az=102.0*
ISC 09 06:39:39.7±3.7**,6.6S**±0.2×**150.7E**±0.2**,h105**^{km}±29^{km}**,n12, σ1^{s}12**/13**,mb3.7**/6**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.47	231	P	P	06 40 45.3	-1.2
	1.7nm,0.3s,baz=16,slow=13,SNR=4.0						
PMG				S	S	06 41 39.2	+1.6
	1.7nm,0.3s,baz=120,slow=18,SNR=5.0						
KAKA	Kakadu	19.00	250	*e*P	P	06 43 53.8	-2.0
	4.8nm,0.5s						
WB2	Warramunga Arr	20.67	229	*e*P	P	06 44 12.7	-0.4
WRA	Warramunga Arr	20.68	229	P	P	06 44 12.9	-0.3
	3.6nm,0.5s,baz=53,slow=11,SNR=39						
ASAR	Alice Springs	23.41	222	P	P	06 44 41.1	+1.1
	6.0nm,0.5s,mb4.2,baz=56,slow=9.3,SNR=57						
ASPA	Alice Springs	23.41	222	*e*P	P	06 44 41.4	+1.3
STKA	Stephens Creek	26.55	197	P	P	06 45 09.8	+0.2
	2.4nm,0.8s,mb3.8,baz=36,slow=11,SNR=4.0						
FITZ	Fitzroy Crossi	26.96	243	*e*P	P	06 45 12.5	-1.0
	1.8nm,0.6s,mb3.8						
FITZ	Fitzroy Crossi	26.96	243	P	P	06 45 12.4	-1.0
	1.9nm,0.6s,mb3.8,baz=63,slow=5.2,SNR=6.0						
VNDA	Vanda	71.14	177	P	P	06 50 47.0	-1.3
	0.6nm,0.9s,mb3.4,baz=335,slow=3.7,SNR=4.1						
MKAR	Makanchi Array	80.29	320	P	P	06 51 41.3	+0.7
	0.4nm,0.8s,mb3.3,baz=124,slow=5.2,SNR=3.2						
ILAR	Eielson Array	84.61	22	P	P	06 52 03.4	+1.1
	0.5nm,0.6s,mb3.6,baz=252,slow=5.3,SNR=9.3						

IDC 09 06:49:23.8±17.0**,21.37S**×**174.07W,mb4.2**/5**,mb1 4.3**/5**, mb1mx3.9**/18**,Error ellipse: s-maj=330.0km s-min=157.0km az=82.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.06	265	P	P	06 56 36.3	-1.3
	3.6nm,0.6s,baz=96,slow=10.0,SNR=6.8						
STKA	Stephens Creek	40.75	246	P	P	06 57 06.8	-1.3
	1.7nm,0.5s,baz=96,slow=14,SNR=5.0						
ASAR	Alice Springs	47.90	257	P	P	06 58 03.7	-2.2
	1.3nm,0.6s,baz=95,slow=6.7,SNR=19						
WB2	Warramunga Arr	48.10	262	*e*P	P	06 58 04.6	-3.0
WRA	Warramunga Arr	48.12	262	P	P	06 58 04.8	-2.9
	0.7nm,0.4s,baz=102,slow=7.9,SNR=29						
KAKA	Kakadu	51.70	270	*e*P	P	06 58 33.4	-1.7
	5.4nm,1.2s						
FITZ	Fitzroy Crossi	56.55	262	P	P	06 59 09.1	-1.6
	3.7nm,1.0s,baz=34,slow=3.6,SNR=4.5						

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*SNSN **09** 06:52:33.1,27.85N×36.91E,h8^{km},Ml2.6*
*GII **09** 06:52:35.2±1.3,27.51N×36.91E,h5^{km}±30^{km},ML2.4/2*
ISC 09 06:52:31.3±1.8**,28.13N**±0.08×**37.2E**±0.1**,h5**^{km}**,n12, σ1^{s}08**/16**,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBKS	Tabuk	0.58	279	P	Pg	06 52 42.7	-0.1
TBKS				S	Sg	06 52 50.0	-0.6
JMQS	Jabal Moqyreh	1.38	303	P	Pb	06 52 58.1	+0.9
JMQS				S	Sb	06 53 16.9	+1.9
DBAS	Duba	1.42	230	P	Pn	06 52 52.4	-5.4
DBAS				S	Sb	06 53 07.8	-8.2
BDAS	Al Bad‘	1.87	280	P	Pn	06 53 03.2	-1.1
JMOS	Jabal al Moall	2.10	300	P	Pn	06 53 08.7	+1.1
HAQS	Haql	2.19	295	P	Pn	06 53 09.1	+0.2
AQBJ	Aqaba	2.46	311	Sn	Sg	06 53 54.7	+1.4
EIL	Elat	2.49	308	Sn	Sg	06 53 55.1	+0.7
MBH	Mount Berech	2.59	310	Sn	Sg	06 53 57.0	-0.7
HRFI	Mount Harif	2.68	316	Pn	Pg	06 53 23.5	-1.3
HRFI				Sn	Sg	06 54 00.3	-0.1
KMTI	Karmit	2.92	313	Sn	Sg	06 54 05.8	-2.7
PRNI	Paran	2.92	320	Sn	Sg	06 54 08.2	-0.5

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*IDC **09** 07:13:26.4±1.7,2.75S×139.63E,mb3.7/3,mb1 4.1/4, mb1mx3.8/11,ML3.6/1,Error ellipse: s-maj=100.0km s-min=27.2km az=114.0*
ISC 09 07:13:30.6±1.3**,2.9S**±0.2×**139.5E**±0.3**,h33**^{km}**,n8,σ1^{s}00**/9**, mb3.7**/2**,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.99	215	*e*P	P	07 16 21.5	-0.7
	15nm,0.5s						
WB2	Warramunga Arr	17.67	196	*e*P	P	07 17 36.6	+0.7
WB2				*e*S	S	07 20 48.7	-0.6
WRA	Warramunga Arr	17.67	196	P	P	07 17 34.8	-1.2
	0.2nm,0.3s,baz=16,slow=12,SNR=17						
FITZ	Fitzroy Crossi	20.30	221	*e*P	P	07 18 07.3	+0.9
	5.9nm,1.6s						
FITZ	Fitzroy Crossi	20.30	221	P	P	07 18 07.0	+0.5
	3.3nm,0.7s,baz=41,slow=11,SNR=3.1						
ASAR	Alice Springs	21.34	194	P	P	07 18 17.2	+0.1
	2.0nm,0.6s,mb3.6,baz=24,slow=9.5,SNR=21						
ASPA	Alice Springs	21.35	194	*e*P	P	07 18 19.4	+2.2
ILAR	Eielson Array	85.69	24	P	P	07 26 06.2	-0.8
	0.4nm,0.8s,mb3.7,baz=240,slow=5.5,SNR=5.8						

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*BER **09** 07:27:20.6±3.2,79.86N×21.38E,h23^{km}±36^{km}, ML2.4(NAO)*
NAO 09 07:27:21.4±5.7**,79.74N**×**21.37E,h26**^{km}±28^{km}**,ML2.4, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	Spitsbergen Ar	1.84	214	Pn	Pn	07 27 51.1	-0.8
	baz=34,slow=11						
SPA0				Pg	Pn	07 27 55.0	+3.0
	baz=34,slow=16						
SPA0				Lg		07 28 21.4	
	baz=39,slow=28						
KBS	Kingsbay	1.93	250	Pn	Pn	07 27 51.0	-2.3
KBS				Pg	Pn	07 27 55.3	+2.0
KBS				Lg		07 28 19.7	
ARA0	ARCESS Array S	10.32	172	Pn	P	07 29 47.2	-3.5
	baz=0.3,slow=11						
ARA0				Sn	S	07 31 36.6	-10
	baz=3.2,slow=22						

ISC 09 07:33:34.5±1.2**,45.35N**±0.05×**12.97E**±0.06**,h10**^{km}**,n12, σ0^{s}97**/22**,6C-1D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLI	Talmassons	0.58	9	⇓*e*Pg	Pg	07 33 47.5	+1.2
TLI				*e*Sg	Sg	07 33 55.7	+1.5
CAE	Caneva	0.76	331	⇑*e*Pg	Pg	07 33 50.1	+0.3
CAE				*e*Sg	Sg	07 34 00.5	+0.4
COLI	Coloredo	0.84	20	⇑*e*Pg	Pg	07 33 51.6	+0.2
COLI				*e*Sg	Sg	07 34 03.3	+0.7
BUA	Buia	0.88	7	⇑*e*Pg	Pg	07 33 52.4	+0.2
JAVS	Javornik	0.94	54	*i* Pg	Pg	07 33 53.3	-0.1
JAVS				*i* Sg	Sg	07 34 06.5	+0.4
	comp=Z,2.0nm,0.1s						
VOY	Vojsko	0.94	43	*e*Pg	Pg	07 33 53.5	+0.1
VOY				*e*Sg	Sg	07 34 06.4	+0.3
DRE	Drenchia	0.95	29	⇑*e*Pg	Pg	07 33 53.4	-0.2
DRE				*e*Sg	Sg	07 34 06.6	+0.2
ROBS	Robic	0.97	22	*i* Pg	Pg	07 33 53.7	-0.4
ROBS				*i* Sg	Sg	07 34 07.0	-0.1
	comp=Z,6.0nm,0.1s						
KNDS	Knezji Dol	1.01	79	*i* Pg	Pg	07 33 55.1	+0.4
KNDS				*i* Sg	Sg	07 34 09.8	+1.7
	comp=Z,7.0nm,0.2s						
VISS	Visnje	1.39	70	*i* Pg	Pg	07 34 00.5	-1.8
OBKA	Obir	1.60	43	⇑*i*PG	Pg	07 34 06.2	-0.4
OBKA				*i* SG	Sg	07 34 25.8	-2.1
	comp=Z,3.1nm,0.2s						
KBA	Koelnbreinsper	1.75	8	⇑*i*PG	Pg	07 34 08.4	-1.2
KBA				*i* SG	Sg	07 34 30.5	-2.5
	comp=Z,1.8nm,0.2s						

MEX 09 07:38:26.0±0.6**,15.89N**×**95.53W,h36**^{km}±21^{km}**,MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.57	258	*i* P	P	07 38 35.5	-2.0
HUIG				*i* S	S	07 38 43.7	-2.1
CMIG	Matias Romero	1.34	27	*i* P	P	07 38 46.8	-1.9
CMIG				*i* S	S	07 39 02.6	-3.0
OXX	Oaxaca	1.64	316	*i* P	P	07 38 51.0	-1.9
OXX				*i* S	S	07 39 10.0	-3.1

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*IDC **09** 08:18:18.3±0.5,27.73N×91.97E,h15^{km}±2^{km},mb4.0/15, mb1 4.2/16,mb1mx4.1/22,ML3.8/1,MS3.5/6,Ms1 3.5/6, ms1mx3.2/19,Error ellipse: s-maj=22.4km s-min=10.7km az=53.0*
*NEIC **09** 08:18:18.5±0.4,27.58N×91.80E,mb4.1/2,Error ellipse: s-maj=11.5km s-min=8.7km az=56.0*
*BJI **09** 08:18:20.7,27.91N×92.10E,h16^{km},mB4.4,mb4.1,ML3.8, Ms4.2,Msz4.0*
ISC 09 08:18:17.3±0.3**,27.79N**±0.03×**91.90E**±0.03**,h15**^{km}**, (h17**^{km}±.9^{km}**:pP-P),n53,σ1^{s}36**/68**,mb4.1**/17**,MS3.9**/8**, 1C-1D,Bhutan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	Lhasa	2.02	341	PG	Pg	08 18 56.4	-1.3
LSA				SG	Sg	08 19 24.6	-0.1
LSA				Smax			
	comp=N,250nm,0.8s						
LSA				Smax			
	comp=E,750nm,0.8s						
LSA	Lhasa	2.02	341	*e*Pn	Pg	08 18 56.5	-1.2
LSA				*e*Sn	Sg	08 19 24.8	+0.1
SHL	Shillong	2.21	180	*e*P	Pn	08 18 55.0	+0.9
SHL				*e*S	Sn	08 19 21.5	+0.2
IMP	Imphal	3.50	148	⇓*i*P	Pn	08 19 15.0	+2.5
AGT	Agartala	3.93	189	⇑*i*	Pg	08 19 34.0	-1.8
AGT				*i* S	Sn	08 20 00.0	-4.9
PKI	Pulchoki	5.76	269	*e*Pn	Pn	08 19 46.2	+1.7
PKI				*e*Sn	Sn	08 20 51.2	+0.2
	comp=E,386nm,0.8s						
KKN	Kakani	5.87	272	*e*Pn	Pn	08 19 47.4	+1.5
KKN				*e*Sn	Sn	08 20 54.2	+0.6
	comp=E,587nm,1.1s						
DMN	Daman	6.03	270	*e*Pn	Pn	08 19 49.8	+1.6
GKN	Gorkha	6.43	274	*e*Pn	Pn	08 19 55.8	+1.9
GKN				*e*Sn	Sn	08 21 06.4	-1.4
	comp=E,153nm,0.4s						
KOLN	Koldanda	7.36	272	*e*Pn	Pn	08 20 07.2	+0.3
KOLN				*e*Sn	Sn	08 21 29.5	-1.4
	comp=E,159nm,0.4s						

BWNR	Bhubaneshwar	9.31	218	*e*P	P	08 20 33.4	-0.6
BWNR				*e*		08 22 13.3	
BWNR				*e*		08 22 20.6	
	comp=E,133nm,0.3s						
BWNR				*e*		08 22 21.0	
	comp=N,116nm,0.4s						
LGTI	Lohaghat	10.38	282	*e*P	P	08 20 51.5	+2.7
BLSP	Bilaspur	10.50	240	*e*S	S	08 22 37.0	-12
CMAR	Chiang Mai Arr	11.32	144	Pn	P	08 20 58.0	-3.7
	comp=N,0.2nm,0.3s,baz=308,slow=16,SNR=4.6						
CMAR				LR	LR	08 25 38.9	
	comp=N,40nm,19.4s,baz=335,slow=39						
AGRA	Agra	12.40	271	*e*P	P	08 21 17.6	+1.2
AGRA				*e*S	S	08 23 22.3	-13
AGRA				AML	AML	08 25 07.4	
	comp=N,115nm,0.6s						
AGRA				AML	AML	08 25 07.7	
	comp=E,76nm,0.6s						
KLP	Kalpa	12.45	291	*e*P	P	08 21 16.3	-0.5
KLP				*e*S	S	08 23 25.9	-10
KLP				AML	AML	08 23 54.6	
	comp=N,32nm,1.0s						
KLP				AML	AML	08 23 56.3	
	comp=E,53nm,0.9s						
NDI	New Delhi	12.98	277	*e*P	P	08 21 24.0	0.0
NDI				*e*S	S	08 23 37.0	-12
AYAN	Aya Nagar	13.06	277	*e*P	P	08 21 25.3	+0.3
AYAN				*e*S	S	08 23 36.4	-15
SONA	Sohna	13.10	275	*e*P	P	08 21 27.6	+2.0
SONA				*e*S	S	08 23 40.2	-12
GTA	Gaotai	13.33	28	*e*P	P	08 21 30.2	+1.6
GTA				AP		08 21 35.8	
GTA				XP		08 21 38.4	
GTA				S	S	08 23 57.6	+0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,64nm,4.6s						
GTA				LR	LR		
	comp=N,215nm,11.4s						
GTA				LR	LR		
	comp=E,250nm,15.6s						
GTA				LR	LR		
	comp=Z,190nm,17.1s						
KUDL	Kundal	13.63	275	*e*P	P	08 21 32.6	0.0
KUDL				*e*S	S	08 23 50.6	-14
BHPL	Bhopal	13.83	254	*e*P	P	08 21 35.4	+0.1
ENH	Enshi	15.58	77	*e*P	P	08 22 00.9	+2.7
	comp=Z,9.5nm,0.6s						
XAN	Xi’an	15.87	63	P	P	08 22 03.2	+1.3
XAN				AMB	AMB		
	comp=Z,11nm,1.1s						
XAN				LR	LR		
	comp=N,188nm,8.9s						
XAN				LR	LR		
	comp=E,446nm,10.4s						
XAN				LR	LR		
	comp=Z,522nm,10.6s						
HYB	Hyderabad	16.06	233	*i* P	P	08 22 01.0	-3.4
HYB				*e*S	S	08 25 04.0	+1.9
HYB	Hyderabad	16.06	233	*e*P	P	08 22 01.0	-3.4
HYB				*e*S	S	08 25 04.0	+1.9
QIZ	Qiongzhong	18.61	114	*e*P	P	08 22 40.7	+4.4
WHN	Wuhan	19.79	77	*e*P	P	08 22 49.3	-0.7
MKAR	Makanchi Array	20.43	341	P	P	08 22 56.0	-0.6
	comp=Z,1.1nm,0.6s,baz=143,slow=12,SNR=4.6						
MKAR				sP		08 23 01.5	
	comp=Z,3.0nm,0.6s,baz=150,slow=13,SNR=12						
MKAR	Makanchi Array	20.43	341	P	P	08 22 56.0	-0.6
MKAR				sP		08 23 01.5	
HHC	Hu-ho-hao-te	20.76	46	*e*P	P	08 23 02.0	+1.9
HHC				XS		08 26 51.2	
HHC				SS	SS	08 27 13.8	-4.1
HHC				AMB	AMB		
	comp=Z,24nm,0.6s						
HHC				AMB	AMB		
	comp=Z,88nm,4.2s						
HHC				LR	LR		
	comp=N,290nm,13.8s,MS4.0						
HHC				LR	LR		
	comp=E,247nm,12.1s,MS4.0						
HHC				LR	LR		
	comp=Z,314nm,12.5s,MS3.9						
SONM	Songino Array	22.98	26	P	P	08 23 23.7	+1.4
	comp=Z,2.6nm,0.8s,mb3.7,baz=207,slow=8.3,SNR=9.9						
SONM				pP		08 23 27.3	
	comp=Z,2.5nm,0.8s,baz=206,slow=7.5,SNR=9.5						
BJI	Beijing	23.48	52	P	P	08 23 30.6	+3.4
BJI				S	S	08 27 44.4	+8.0
BJI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
BJI				LR	LR		
	comp=N,762nm,13.3s,MS4.6						
BJI				LR	LR		
	comp=E,833nm,10.2s,MS4.6						
BJI				LR	LR		
	comp=Z,442nm,15.9s						
NJ2	Nanjing	23.72	73	*e*P	P	08 23 33.9	+4.3
NJ2				S	S	08 27 33.0	-7.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
NJ2				LR	LR		
	comp=N,670nm,13.0s,MS4.3						
NJ2				LR	LR		
	comp=E,440nm,14.6s,MS4.3						
NJ2				LR	LR		
	comp=Z,3µm,19.6s,MS4.7						
KURK	Kurchatov	25.02	340	*e*P	P	08 23 39.6	-2.5
	comp=Z,1.9nm,0.5s,mb3.9						
BVAR	Borovoye Array	29.84	334	P	P	08 24 25.7	-0.3
	comp=Z,0.9nm,0.8s,mb3.5,baz=120,slow=12,SNR=3.4						
BVAR				sP	sP	08 24 32.3	-0.1
	comp=Z,0.5nm,0.5s,baz=131,slow=14,SNR=3.0						
AKASG	Malin Array Be	51.94	314	P	P	08 27 26.4	-1.2
	comp=Z,2.4nm,0.4s,mb4.5,baz=80,slow=6.5,SNR=12						
MLR	Muntele Rosu	54.30	308	P	P	08 27 44.9	-0.3
	comp=Z,3.7nm,0.7s,mb4.4,baz=92,slow=12,SNR=12						
FINES	FINESS Array B	54.48	327	P	P	08 27 45.1	-1.1
	comp=Z,1.1nm,0.6s,mb3.9,baz=90,slow=9.5,SNR=4.4						
FINES				sP	sP	08 27 51.6	-0.9
	comp=Z,1.2nm,0.6s,baz=104,slow=7.9,SNR=2.3						
FINES				LR	LR	08 54 52.3	
	comp=Z,27nm,19.9s,MS3.3,baz=5.2,slow=40						
ARCES	ARCESS Array B	56.02	337	sP	sP	08 28 03.3	-0.4
	comp=Z,1.7nm,0.8s,baz=90,slow=8.1,SNR=2.6						
KMBO	Kilima Mbogo	59.77	251	P	P	08 28 24.5	0.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=53,slow=17,SNR=3.1						
KMBO				LR	LR	08 52 45.3	
	comp=Z,42nm,18.2s,MS3.6,baz=116,slow=35						
VRAC	Vranov	60.16	313	P	P	08 28 26.3	-0.3
	comp=Z,2.0nm,0.4s,mb4.5,baz=87,slow=5.5,SNR=3.5						
NOA	NORSAR Array B	61.65	327	P	P	08 28 35.2	-1.4
	comp=Z,1.1nm,0.8s,mb4.0,baz=85,slow=6.6,SNR=4.5						
NOA				pP	pP	08 28 41.0	-0.2
	comp=Z,1.0nm,0.7s,baz=83,slow=6.8,SNR=4.2						
NOA	NORSAR Array B	61.65	327	P	P	08 28 35.2	-1.4
NOA				pP	pP	08 28 41.0	-0.2
GERES	GERESS Array B	62.11	313	P	P	08 28 39.1	-0.8
	comp=Z,1.6nm,0.4s,mb4.5,baz=76,slow=5.5,SNR=15						
GERES				pP	pP	08 28 43.9	-0.6
	comp=Z,1.6nm,0.6s,baz=90,slow=5.3,SNR=4.1						
WRA	Warramunga Arr	62.75	134	P	P	08 28 42.6	-1.9
	comp=Z,2.3nm,0.6s,mb4.5,baz=324,slow=7.0,SNR=37						
WRA				pP	pP	08 28 47.4	-1.7
	comp=Z,4.0nm,0.6s,baz=324,slow=7.2,SNR=14						
DAVOX	Davos	65.08	311	P	P	08 28 58.0	-1.3
	comp=Z,0.7nm,0.3s,mb4.2,baz=5.6,slow=17,SNR=3.5						
ASAR	Alice Springs	65.25	138	P	P	08 28 59.1	-1.8
	comp=Z,2.1nm,0.6s,mb4.3,baz=321,slow=6.7,SNR=41						
ASAR				pP	pP	08 29 04.5	-1.0
	comp=Z,2.2nm,0.7s,baz=318,slow=6.4,SNR=13						
STKA	Stephens Creek	75.88	138	P	P	08 30 03.1	-2.0
	comp=Z,1.7nm,0.7s,mb4.1,baz=322,slow=19,SNR=3.0						
STKA				sP	sP	08 30 10.2	-1.2
	comp=Z,2.3nm,0.8s,baz=292,slow=17,SNR=2.5						
ILAR	Eielson Array	77.16	22	P	P	08 30 10.8	-0.8
	comp=Z,0.6nm,0.8s,mb3.6,baz=304,slow=5.6,SNR=11						
ILAR				LR	LR	09 08 08.1	
	comp=Z,35nm,20.5s,MS3.7,baz=222,slow=39						
YKA	Yellowknife Ar	87.56	12	LR	LR	09 12 40.6	
	comp=Z,33nm,19.3s,MS3.8,baz=260,slow=37						
MAW	Mawson	97.55	191	LR	LR	09 11 01.0	
	comp=Z,60nm,19.4s,MS4.1,baz=236,slow=32						
ROSC	El Rosal	144.93	336	PKPbc	PKPbc	08 37 56.5	+1.6
	comp=Z,8.0nm,0.7s,baz=128,slow=14,SNR=4.6						

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*ISK **09** 08:32:37.0, 36.93N×27.82E, h15^{km}, MD3.2*
*NEIC **09** 08:32:38.5, 36.91N×27.75E, h26^{km}, MD3.0(ATH), After ATH.*
*ATH **09** 08:32:38.5, 36.91N×27.75E, h26^{km}±5^{km}, MD3.0/4*
ISC 09 08:32:37.4±0.7**, 36.91N**±0.03×**27.78E**±0.04**, h12**^{km}±5^{km}**, n15, σ1$\overset{s}{.}$12**/25**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	300	*i* P	Pg	08 32 44.5	+0.5
BDRM				*i* S	Sg	08 32 50.2	+1.7
MLSB	Milas	0.39	359	*i* PG	Pg	08 32 44.9	-0.5
MLSB				*i* SG	Sg	08 32 50.7	-0.1
YER	Yerkesik	0.46	61	*i* PG	Pg	08 32 46.2	-0.6
YER				*i* SG	Sg	08 32 52.6	-0.5
NISR	Nisiros	0.60	241	*e*PN	Pn	08 32 50.0	-1.5
NISR				*e*SN	Sn	08 32 59.5	-1.6
ARG	Arkhangelos	0.74	158	*e*PB	Pb	08 32 51.8	0.0
ARG				*e*SN	Sn	08 33 05.0	+0.3
AYDN	Tasoluk	0.75	6	⇑*i*P	Pb	08 32 52.1	+0.1
AYDN				*i* S	Sb	08 33 01.2	-0.7
DNZL	Cakiroluk	1.27	52	⇑*i*P	Pb	08 33 01.4	+0.5
DNZL				*i* S	Sb	08 33 17.1	+0.2
DENT	Denizli	1.30	49	PN	Pn	08 33 00.5	-1.0
KARP	Karpathos	1.45	201	*e*PB	Pb	08 33 04.0	+0.1
KARP				*e*SN	Sn	08 33 24.0	+1.4
IZM	Izmir	1.54	345	PN	Pn	08 33 04.8	-0.1
KDAG	Bornova	1.55	345	⇑*i*P	Pn	08 33 02.3	-2.6
KDAG				*i* S	Sb	08 33 29.1	+4.2
KSL	Kastellorizon	1.64	117	*e*PN	Pn	08 33 09.2	+3.0
MANT	Manisa	1.69	21	⇑*i*P	Pn	08 33 08.8	+1.7
MANT				*i* S	Sn	08 33 30.9	+2.2
ELL	Elmali	1.71	95	*e*PN	Pn	08 33 06.4	-0.9
AKS	Akhisar	1.97	1	*e*PN	Pn	08 33 10.6	-0.4

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*MDD **09** 08:43:15.9±0.8, 40.33N×1.05E, h11^{km}±1^{km}, mbLg2.0/12, Error ellipse: s-maj=7.6km s-min=4.5km az=110.0, PRXIMO*
*LDG **09** 08:43:32.5±0.8, 40.93N×0.98E, h2^{km}, Ml2.3/4, Error ellipse: s-maj=15.6km s-min=13.4km az=115.0*
ISC 09 08:43:12.8±0.8**, 40.39N**±0.03×**1.01E**±0.08**, h8**^{km}±8^{km}**, n16, σ1$\overset{s}{.}$36**/20**, Balearic Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBR	Ebro Roquetas	0.58	318	*e*SG	Sg	08 43 37.0	+4.8
EPOB	Poblet	0.96	3	Pg	Pg	08 43 34.7	+2.7
	2.6nm,0.1s,SNR=14						
EPOB				Lg		08 43 48.7	
	16nm,0.2s,SNR=14						
EMOS	Mosqueruela	1.13	269	Pg	Pg	08 43 36.7	+1.2
	3.3nm,0.1s,SNR=26						
EMOS				Lg		08 43 51.8	
	3.7nm,0.1s,SNR=7.9						
EIBI	Ibiza	1.39	169	Pn	Pn	08 43 39.4	+0.8
	2.8nm,0.3s,SNR=7.9						
EIBI				Sn	Sn	08 43 56.4	-0.9
	1.5nm,0.1s,SNR=7.9						
CAVN	Les Avellanes	1.50	353	Pg	Pg	08 43 45.3	+2.5
CAVN				Lg		08 44 06.3	
	9.4nm,0.2s						
EMIR	Miracle	1.57	14	Pg	Pg	08 43 44.6	+0.5
	1.6nm,0.2s,SNR=7.9						
EMIR				Lg		08 44 06.8	
	3.2nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.73	320	Pg	Pg	08 43 47.9	+0.4
	11nm,0.3s,SNR=9.6						
ESAC				Lg		08 44 12.6	
	35nm,0.3s,SNR=5.9						
CFON	Fontmartina	1.74	38	Pg	Pg	08 43 46.0	-1.6
EGRA	Graus	1.88	344	Pg	Pg	08 43 51.4	+1.1
	1.2nm,0.2s,SNR=7.9						
EGRA				Lg		08 44 18.0	
	7.7nm,0.4s,SNR=7.9						
EBEN	Beniarda	1.94	210	Pg	Pg	08 43 50.1	-1.4
	2.6nm,0.3s,SNR=7.9						
EBEN				Lg		08 44 15.2	
	4.9nm,0.5s,SNR=7.9						
ETOR	Torete	2.37	281	Pg	Pg	08 43 59.1	-1.0
	2.4nm,0.3s,SNR=8.7						
ETOR				Lg		08 44 31.8	
	30nm,1.6s,SNR=7.9						
EPF	Esparros	2.68	349	*e*Pn	Pg	08 44 07.1	+0.7
EPF				*e*Sg	Sg	08 44 41.7	-0.4
	6.6nm,0.2s						
ETSF	Etsaut	2.77	335	*e*Pn	Pg	08 44 09.9	+1.9
ETSF				*e*Sg	Sg	08 44 44.2	-0.7
	4.0nm,0.3s						
MTLF	Montolieu	3.08	17	*e*Sg	Sg	08 44 53.0	-2.4
	2.2nm,0.3s						
SJPF	Ste Jean	3.19	329	*e*Pn	Pg	08 44 15.5	-1.0
SJPF				*e*Sg	Sg	08 44 56.7	-2.3
	3.6nm,0.5s						
CAF	Calviac	4.60	9	*e*Sn	Sn	08 45 19.1	+0.5

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*IDC **09** 08:48:04.7±6.4, 6.62S×146.52E, h126^{km}±68^{km}, mb3.0/3, mb1 3.1/5, mb1mx3.0/14, Error ellipse: s-maj=74.8km s-min=28.1km az=142.0*
ISC 09 08:48:02.5±5.8**, 6.5S**±0.4×**146.4E**±0.3**, h113**^{km}±60^{km}**, n5, σ1$\overset{s}{.}$30**/6**, mb3.4**/2**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.96	165	P	P	08 48 49.7	+0.7
	2.7nm,0.3s,baz=269,slow=7.6,SNR=7.9						
PMG				S	S	08 49 23.6	-0.4
	3.8nm,0.3s,baz=152,slow=20,SNR=11						
WRA	Warramunga Arr	17.74	220	P	P	08 52 02.6	-1.2
	0.1nm,0.3s,baz=45,slow=12,SNR=8.2						
ASAR	Alice Springs	20.84	214	P	P	08 52 37.9	+0.9
	0.2nm,0.4s,baz=46,slow=8.7,SNR=4.1						
FITZ	Fitzroy Crossi	23.27	239	P	P	08 53 01.4	+0.4
	1.7nm,0.8s,mb3.4,baz=32,slow=9.5,SNR=5.3						
ILAR	Eielson Array	86.21	23	P	P	09 00 31.7	-0.4
	0.4nm,0.7s,mb3.5,baz=239,slow=5.5,SNR=8.0						

MAN 09 08:59:07.3, 17.65N×120.68E, h28^{km}, mb3.5, ML2.2, MS1.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.03	82	*e*P	Pn	08 59 12.2	+0.5
ABRA				*e*S	Sn	08 59 15.7	+1.5
APYP	Conner	0.58	68	*e*P	Pb	08 59 18.0	-0.9
APYP				*e*S	Sb	08 59 25.1	-1.7
CVP	Callao Caves	1.09	87	*e*P	Pn	08 59 26.1	-0.8
CVP				*e*S	Sn	08 59 39.2	-1.8
BCPH	Baguio City Da	1.26	184	⇑*i*P	Pn	08 59 28.6	-0.7
BCPH				*i* S	Sn	08 59 43.9	-1.5
CAUP	Cauayan	1.29	122	*e*P	Pn	08 59 30.2	+0.4
SGCP	Mt. Cagua	1.43	65	*e*P	Sn	08 59 53.5	+3.8
BALP	Baler	2.08	155	*e*P	Pn	08 59 41.2	+0.1

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*BER **09** 09:30:58.9±3.3, 79.89N×3.30E, h15^{km}, MD3.6, ML3.7, MW3.7, mb4.6(NEIC)*
*IDC **09** 09:30:59.4±0.5, 79.51N×3.15E, mb4.1/15, mb1 4.3/20, mb1mx4.3/24, ML4.0/5, MS3.9/18, Ms1 3.9/18, ms1mx3.7/29, Error ellipse: s-maj=16.1km s-min=9.6km az=35.0*
*BJI **09** 09:31:00.4, 79.50N×3.50E, h10^{km}, mB4.9, mb4.8, Ms4.6, Msz4.3*
*NEIC **09** 09:31:00.5±0.2, 79.50N×3.52E, h10^{km}, mb4.6/26, MS4.3/12, MD4.3(BER), Error ellipse: s-maj=7.6km s-min=4.3km az=51.0*
*ZUR_RM **09** 09:31:00, 79.50N×3.52E, h9^{km}, Mw4.8/9, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79; $M_{\theta\theta}$0.60; $M_{\phi\phi}$1.19; $M_{r\theta}$-0.60; $M_{\theta\phi}$0.29; $M_{\phi r}$0.39; Best double couple: $M_0$1.66×10^{16} NP1:ϕ_s185°, δ50°, λ-111°. NP2:ϕ_s35°, δ44°, λ-67°. Principal axes: T 1.315, Plg3°, Azm289°; N .68, Plg16°, Azm199°; P -1.995, Plg74°, Azm30°;*
*NAO **09** 09:31:01.9±3.7, 79.47N×5.11E, ML2.5*
*CSEM **09** 09:31:02.8, 79.60N×3.17E, h33^{km}, mb4.8*
*MOS **09** 09:31:03.1±1.0, 79.30N×2.94E, h33^{km}, mb4.7/12, Error ellipse: s-maj=59.7km s-min=9.4km az=95.8*
ISC 09 09:30:59.0±0.2**, 79.44N**±0.03×**3.1E**±0.2**, h10**^{km}**, (h19**^{km}±5.2^{km}**:pP-P), n148, σ1$\overset{s}{.}$04**/145**, mb4.6**/54**, MS4.1**/33**, 4C-5D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.76	103	Pn	Pn	09 31 28.0	-1.8
KBS				Lg		09 31 47.0	
KBS	Kingsbay	1.76	103	⇑*i*P	Pn	09 31 27.7	-2.1
KBS				*e*S	Sn	09 31 47.1	-5.3
KBS	Kingsbay	1.76	103	Pn	Pn	09 31 28.0	-1.8
KBS				Lg		09 31 47.0	
SPA0	Spitsbergen Ar	2.89	109	P	Pn	09 31 44.7	-1.3
	baz=314,slow=7.9						
SPA0				S	Sn	09 32 19.2	-2.0
SPITS	Spitsbergen Ar	2.89	109	Pn	Pn	09 31 44.7	-1.3
	63nm,0.3s,baz=311,slow=8.4,SNR=980						
SPITS				Sn	Sn	09 32 19.6	-1.5
	37nm,0.3s,baz=315,slow=11,SNR=15						
HSP	Hornsund	3.54	127	*e*P	Pn	09 31 53.2	-2.0
HSP				*e*S	Sn	09 32 32.0	-5.5
BJO	Bjornoya	6.12	136	*e*P	Pn	09 32 31.8	-0.1
BJO				*e*S	Sn	09 33 36.8	-6.0
JNW	Jan Mayen West	8.92	205	*e*P	P	09 33 08.5	-2.5
JNE	Jan Mayen East	8.95	204	*e*P	P	09 33 08.8	-2.6
JMIC	Jan Mayen	8.97	205	Pn	P	09 33 08.8	-2.8
	29nm,0.3s,baz=5.4,slow=2.7,SNR=46						
JMIC				Sn	Sn	09 34 44.7	-9.0
	14nm,0.3s,baz=162,slow=18,SNR=7.6						
JMIC				LR	LR	09 35 51.1	
	comp=Z,188nm,21.1s,baz=178,slow=32						
JMIC	Jan Mayen	8.97	205	*e*P	P	09 33 08.2	-3.4
JMIC				*e*S	Sn	09 34 44.6	-9.1
JMIC				AML	AML	09 34 47.4	
	comp=Z,49nm,0.4s						
JMI	Jan Mayen	9.04	205	*e*P	P	09 33 09.8	-2.8
SCO	Scoresbysund	10.93	228	*i* P	P	09 33 38.9	+0.5
	comp=Z,18nm,0.5s						
ARA0	ARCESS Array S	11.48	138	Pn	P	09 33 42.9	-2.9
	baz=351,slow=12						
ARA0				Sn	S	09 35 42.5	-13
	baz=347,slow=22						
ARCES	ARCESS Array B	11.48	138	Pn	P	09 33 42.7	-3.2
	comp=Z,0.6nm,0.3s,baz=348,slow=12,SNR=18						
ARCES				Sn	S	09 35 44.8	-10
	comp=Z,0.4nm,0.3s,baz=357,slow=18,SNR=3.2						
ARCES				LR	LR	09 38 12.6	
	comp=Z,236nm,19.9s,baz=271,slow=38						
KTK1	Kautokeino	11.71	142	*e*Pn	P	09 33 50.2	+1.4
KTK1	Kautokeino	11.71	142	*e*Pn	P	09 33 49.5	+0.6
LOF	Lofoten	11.71	160	*e*Pn	P	09 33 52.1	+3.2
LOF	Lofoten	11.71	160	*e*Pn	P	09 33 52.3	+3.4
MOR8	Moi Rana	13.71	160	*e*	P	09 34 24.8	+9.4
APA	Apatity	14.38	129	⇓*i*P	P	09 34 25.1	+0.9
APA				MLR	MLR		
	comp=Z,900nm,12.0s						
NB2	NORSAR Subarra	18.66	168	P	P	09 35 19.8	+1.1
	baz=350,slow=11						
NB2	NORSAR Subarra	18.66	168	P	P	09 35 19.1	+0.4
	comp=Z,48nm,1.7s,baz=353,slow=11						
NOA	NORSAR Array B	18.66	168	P	P	09 35 19.5	+0.8
	comp=Z,0.5nm,0.3s,baz=351,slow=12,SNR=8.8						
NOA				LR	LR	09 41 25.7	
	comp=Z,162nm,20.3s,baz=355,slow=33						
NOA	NORSAR Array B	18.66	168	P	P	09 35 19.5	+0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		
	comp=Z,162nm,20.3s						
KAF	Kangasniemi	18.72	145	*e*p	P	09 35 19.5	+0.1
	comp=Z,3.7nm,0.6s						
KAF	Kangasniemi	18.72	145	*e*P	P	09 35 19.5	+0.1
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FIA0	FINESS Array S	19.35	145	P	P	09 35 26.3	-0.6
	baz=346,slow=11						
FINES	FINESS Array B	19.35	145	P	P	09 35 26.2	-0.6
	comp=Z,0.9nm,0.3s,baz=348,slow=8.4,SNR=20						
FINES				LR	LR	09 42 58.7	
	comp=Z,205nm,19.0s,baz=359,slow=37						
FINES	FINESS Array B	19.35	145	P	P	09 35 26.3	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,205nm,19.0s						
HFS	Hagfors	19.68	164	P	P	09 35 30.5	-0.1
	baz=17,slow=10						
HFS	Hagfors	19.68	164	P	P	09 35 30.1	-0.5
	comp=Z,0.2nm,0.3s,baz=18,slow=9.4,SNR=16						
EKA	Eskdalemuir Ar	24.31	189	P	P	09 36 19.2	+2.2
	comp=Z,1.8nm,0.6s,mb3.7,baz=357,slow=8.3,SNR=7.8						
EKA	Eskdalemuir Ar	24.31	189	P	P	09 36 19.3	+2.3
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FRB	Frobisher Bay	25.02	274	P	P	09 36 25.0	+1.2
	comp=Z,14nm,0.8s,mb4.5,baz=30,slow=12,SNR=8.8						
FRB				LR	LR	09 46 20.3	
	comp=Z,381nm,19.6s,MS3.9,baz=359,slow=37						
FRB	Frobisher Bay	25.02	274	P	P	09 36 25.0	+1.2
FRB				pmax	pmax		
	comp=Z,14nm,0.8s						
FRB				MLR	MLR		
	comp=Z,381nm,19.7s						
FRB	Frobisher Bay	25.02	274	P	P	09 36 25.0	+1.2
FRB				LR	LR	09 46 20.3	
MOS	Moscow	26.31	134	*e*P	P	09 36 39.0	+3.1
MOS				pmax	pmax		
	comp=Z,90nm,0.6s,mb5.5						
MNK	Minsk	26.36	147	*e*P	P	09 36 34.0	-2.5
OBN	Obninsk	26.78	135	*d* *i*P	P	09 36 40.3	0.0
OBN				*e*S	Sx	09 40 02.0	
OBN				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.6						
OBN				MLR	MLR		
	comp=Z,300nm,23.0s,MS3.8						
ARU	Arti	28.93	109	⇓*i*P	P	09 36 54.6	-5.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS3.9						
ARU				MLR	MLR		
	comp=Z,300nm,19.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,200nm,17.0s,MS3.9						
ARU	Arti	28.93	109	P	P	09 36 55.0	-4.8
	comp=E,8.6nm,0.6s,mb4.7						
AKASG	Malin Array Be	30.26	146	P	P	09 37 11.4	-0.3
	comp=E,0.4nm,0.3s,mb3.6,baz=348,slow=9.5,SNR=8.4						
AKASG				LR	LR	09 49 19.7	
	comp=E,186nm,21.9s,MS3.7,baz=345,slow=36						
INK	Inuvik	30.39	330	*e*P	P	09 37 11.5	-1.2
	comp=E,8.6nm,1.4s,mb4.3						
KWP	Kalwaria	30.73	155	*e*P	P	09 37 17.0	+1.2
KWP				MLR	MLR		
	comp=Z,200nm,20.2s,MS3.8						
GERES	GERESS Array B	30.95	166	P	P	09 37 19.1	+1.3
	comp=Z,1.6nm,0.7s,mb4.0,baz=354,slow=8.9,SNR=9.6						
GERES	GERESS Array B	30.95	166	P	P	09 37 19.1	+1.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LDF	La Druitiere	30.99	184	*e*P	P	09 37 17.4	-0.8
GRR	Gorron	31.21	185	*e*P	P	09 37 19.4	-0.7
	comp=Z,7.6nm,0.5s,mb4.5						
CRVS	Cervenica-Dubn	31.36	156	*e*P	P	09 37 22.4	+1.0
VYHS	Vyhne	31.58	160	*i* P	P	09 37 24.4	+1.0
LOR	Lormes	32.30	179	*e*P	P	09 37 29.6	-0.1
LOR				*e*R			
	comp=Z,82nm,20.8s						
SSF	Saint Saulge	32.50	179	*e*P	P	09 37 31.5	+0.1
AVF	Avril sur Loir	32.77	180	*e*P	P	09 37 33.9	+0.1
	comp=Z,10nm,0.9s,mb4.5						
CABF	La Chapelle	32.97	176	*e*P	P	09 37 36.1	+0.6
BGF	Bois d’Agland	33.01	180	*e*P	P	09 37 36.1	+0.3
SCHQ	Schefferville	33.03	265	P	P	09 37 36.5	+0.6
	comp=Z,1.2nm,0.5s,mb4.1,baz=236,slow=6.7,SNR=2.4						
SCHQ				LR	LR	09 51 26.8	
	comp=Z,230nm,18.2s,MS3.9,baz=2.2,slow=37						
TCF	Toulx Ste Croi	33.28	181	*e*P	P	09 37 38.3	+0.1
	comp=Z,13nm,0.9s,mb4.6						
YKA	Yellowknife Ar	33.83	312	LR	LR	09 51 18.6	
	comp=Z,299nm,19.6s,MS4.0,baz=5.0,slow=36						
ZRNK	Zerenda	34.11	100	P	P	09 37 46.4	+1.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	Borovoye	34.24	98	P	P	09 37 47.8	+1.3
BRVK				pmax	pmax		

	comp=Z,6.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**34.24**	**98**	P	**P**	**09 37 41.8**	**-4.7**
	comp=Z,8.1nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**34.27**	**182**	*e*P	**P**	**09 37 47.0**	**+0.2**
	comp=Z,15nm,0.7s,mb4.7						
RJF				*e*R			
	comp=Z,84nm,23.0s						
BVA0	**Borovoye Array**	**34.29**	**98**	*i* P	**P**	**09 37 48.2**	**+1.3**
ORIF	**Oris-en-Rattie**	**34.66**	**176**	*e*P	**P**	**09 37 50.9**	**+0.7**
ORIF				*e*R			
	comp=Z,92nm,19.8s						
VOSK	**Vostochnaya**	**34.69**	**98**	P	**P**	**09 37 51.3**	**+1.0**
VOSK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
NVS	**Novosibirsk**	**34.92**	**85**	*i* P	**P**	**09 37 52.6**	**+0.3**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
ILAR	**Eielson Array**	**34.96**	**338**	P	**P**	**09 37 52.7**	**+0.2**
	comp=N,1.0nm,0.9s,mb3.8,baz=350,slow=8.7,SNR=7.4						
ILAR				PcP	PcP	09 40 24.1	-1.0
	comp=N,0.8nm,0.6s,baz=334,slow=3.5,SNR=9.4						
ILAR				LR	LR	09 51 07.7	
	comp=N,92nm,21.8s,MS3.5,baz=25,slow=35						
ILAR	**Eielson Array**	**34.96**	**338**	P	**P**	**09 37 52.7**	**+0.2**
ILAR						09 40 24.2	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,93nm,21.8s						
DAWY	**Dawson**	**35.07**	**332**	*e*P	**P**	**09 37 53.1**	**-0.4**
SBF	**Sospel**	**35.74**	**175**	*e*P	**P**	**09 38 00.6**	**+1.2**
	comp=Z,34nm,0.8s,mb5.0						
AB31	**Akbulak array**	**36.05**	**111**	*i* P	**P**	**09 38 03.0**	**+1.0**
EPF	**Esparros**	**36.55**	**183**	*e*P	**P**	**09 38 06.6**	**+0.4**
	comp=Z,11nm,0.7s,mb4.5						
BOD	**Bodaibo**	**37.35**	**55**	*e*P	**P**	**09 38 06.8**	**-6.0**
KURK	**Kurchatov**	**38.01**	**91**	*i* P	**P**	**09 38 19.5**	**+1.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**38.01**	**91**	*e*P	**P**	**09 38 15.1**	**-3.4**
	comp=Z,18nm,1.0s,mb4.8						
ESDC	**Sonseca Array**	**39.98**	**188**	P	**P**	**09 38 35.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=2.2,slow=8.6,SNR=5.3						
MKAR	**Makanchi Array**	**42.46**	**89**	P	**P**	**09 38 56.2**	**+1.1**
	comp=Z,8.4nm,0.7s,mb4.5,baz=343,slow=7.1,SNR=63						
MKAR				LR	LR	10 01 16.1	
	comp=Z,196nm,18.2s,MS4.0,baz=349,slow=43						
MKAR	**Makanchi Array**	**42.46**	**89**	P	**P**	**09 38 56.2**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,196nm,18.2s						
ULM	**Lac du Bonnet**	**42.68**	**291**	P	**P**	**09 38 56.6**	**-0.2**
	comp=Z,4.4nm,0.6s,mb4.4,baz=7.0,slow=8.9,SNR=3.0						
ULM				LR	LR	09 57 00.1	
	comp=Z,421nm,18.2s,MS4.4,baz=39,slow=37						
ULM	**Lac du Bonnet**	**42.68**	**291**	P	**P**	**09 38 56.6**	**-0.2**
ULM				LR	LR	09 57 00.1	
KKAR	**Karatay Array**	**43.87**	**103**	*i* P	**P**	**09 39 08.3**	**+1.8**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MSNY	**Massena**	**43.94**	**269**	*e*P	**P**	**09 39 06.8**	**-0.3**
SONM	**Songino Array**	**45.77**	**66**	P	**P**	**09 39 21.5**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=336,slow=8.2,SNR=8.1						
WMQ	**Urumqi**	**46.32**	**85**	⇓P	**P**	**09 39 27.8**	**+1.6**
WMQ				AP	pP	09 39 32.3	+3.1
WMQ				XP	sP	09 39 34.8	+4.4
WMQ				PCP	PcP	09 41 04.2	+2.3
WMQ				PP	PP	09 41 16.1	+1.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				LR	LR		
	comp=N,143nm,24.7s						
WMQ				LR	LR		
	comp=E,175nm,19.1s						
WMQ				LR	LR		
	comp=Z,98nm,23.1s,MS3.7						
NEW	**Newport**	**47.99**	**309**	*e*P	**P**	**09 39 39.5**	**+0.3**
	comp=Z,19nm,1.7s,mb4.8						
NEW				LR	LR		
	comp=Z,266nm,22.0s,MS4.2						
HRY	**Holter Researc**	**48.72**	**304**	*e*P	**P**	**09 39 44.6**	**-0.3**
SSPA	**Standing Stone**	**48.72**	**270**	*e*P	**P**	**09 39 45.0**	**0.0**
CHMT	**Chamberlain Mo**	**48.74**	**305**	*e*P	**P**	**09 39 44.4**	**-0.6**
JFWS	**Jewell Farm**	**48.78**	**283**	P	**P**	**09 39 45.7**	**+0.3**
JFWS				LR	LR		
	comp=Z,426nm,20.0s,MS4.4						
GNW	**Green Mountain**	**49.46**	**314**	*e*P	**P**	**09 39 51.3**	**+0.7**
BOZ	**Bozeman (W)**	**49.73**	**303**	*e*P	**P**	**09 39 52.9**	**+0.2**
	comp=Z,24nm,1.9s,mb4.9						
BOZ				LR	LR		
	comp=Z,236nm,20.0s,MS4.2						
ACSO	**Alum Creek Sta**	**50.05**	**275**	*e*P	**P**	**09 39 55.3**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.7						
ACSO				LR	LR		
	comp=Z,370nm,21.0s,MS4.4						
LON	**Longmire**	**50.12**	**313**	*e*P	**P**	**09 39 55.6**	**-0.1**
MCMT	**McKenzie Canyo**	**50.71**	**304**	*e*P	**P**	**09 40 00.6**	**+0.4**
SNOW	**Snow King Moun**	**51.72**	**302**	*e*P	**P**	**09 40 05.9**	**-2.0**
TPAW	**Teton Pass**	**51.73**	**302**	*e*P	**P**	**09 40 08.3**	**+0.4**
HLID	**Hailey**	**52.19**	**305**	*e*P	**P**	**09 40 11.4**	**0.0**
	comp=Z,6.2nm,1.4s,mb4.3						
HLID				LR	LR		
	comp=Z,202nm,20.0s,MS4.2						
BW06	**Boulder Array**	**52.21**	**301**	*e*P	**P**	**09 40 11.0**	**-0.6**
	comp=Z,5.4nm,1.3s,mb4.3						
BW06				LR	LR		
	comp=Z,282nm,21.0s,MS4.3						
PDAR	**Pinedale Array**	**52.21**	**301**	P	**P**	**09 40 11.2**	**-0.4**
	comp=Z,2.7nm,1.2s,mb4.0,baz=18,slow=4.7,SNR=12						
PDAR				LR	LR	10 02 35.6	
	comp=Z,175nm,18.4s,MS4.1,baz=25,slow=36						
CN2	**Changchun**	**52.67**	**50**	*e*P	**P**	**09 40 15.1**	**0.0**
CN2				*e*S	**S**	**09 47 37.7**	**-3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,13.0s,MS4.3						
GTA	**Gaotai**	**52.80**	**75**	*e*P	**P**	**09 40 16.4**	**+0.4**
GTA				AP	pP	09 40 21.0	+1.9
GTA				XP	sP	09 40 23.9	+3.6
GTA				PP	PP	09 42 18.6	+1.7
GTA				S	**S**	**09 47 47.1**	**+4.4**
GTA				XS		09 47 54.3	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,28nm,5.3s						
GTA				LR	LR		
	comp=N,113nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,95nm,18.6s,MS4.0						
GTA				LR	LR		
	comp=Z,116nm,18.2s,MS4.0						
HWUT	**Hardware Ranch**	**53.66**	**302**	*e*P	**P**	**09 40 22.0**	**-0.4**
	comp=Z,11nm,1.2s,mb4.7						
HWUT				LR	LR		
	comp=Z,461nm,20.0s,MS4.5						
SNY	**Shenyang**	**54.34**	**52**	⇑P	**P**	**09 40 27.7**	**+0.4**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SNY				AMB	AMB		
	comp=Z,130nm,5.0s						
ISCO	**Idaho Springs**	**54.47**	**296**	*e*P	**P**	**09 40 28.4**	**+0.1**
ISCO				LR	LR		
	comp=Z,393nm,21.0s,MS4.5						
MOD	**Modoc**	**54.67**	**310**	*e*P	**P**	**09 40 30.2**	**+0.4**
	comp=Z,9.8nm,1.6s,mb4.6						
DAU	**Daniels Canyon**	**54.78**	**302**	*e*P	**P**	**09 40 30.9**	**+0.3**
DUG	**Dugway**	**55.24**	**303**	*e*P	**P**	**09 40 33.8**	**-0.2**
	comp=Z,2.8nm,1.1s,mb4.2						
DUG				LR	LR		
	comp=Z,211nm,20.0s,MS4.2						
MYNC	**Murphy**	**55.27**	**275**	*e*P	**P**	**09 40 33.5**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9						
RW3	**Ridgway**	**56.32**	**298**	*e*P	**P**	**09 40 42.4**	**+0.6**
PV10	**Paradox Valley**	**56.42**	**299**	*e*P	**P**	**09 40 43.2**	**+0.8**
SDCO	**Great Sand Dun**	**56.45**	**296**	*e*P	**P**	**09 40 42.4**	**-0.3**
	comp=Z,17nm,1.5s,mb4.9						
SDCO				LR	LR		
	comp=Z,447nm,19.0s,MS4.6						
PV01	**Paradox Valley**	**56.58**	**299**	*e*P	**P**	**09 40 43.8**	**+0.1**
MSU	**Marysvale**	**56.78**	**302**	*e*P	**P**	**09 40 45.7**	**+0.6**
MVU	**Marysvale**	**56.80**	**302**	*e*P	**P**	**09 40 45.6**	**+0.4**
	comp=Z,11nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**57.79**	**308**	P	**P**	**09 40 52.0**	**-0.2**
	comp=Z,2.0nm,1.1s,mb4.1,baz=14,slow=4.7,SNR=7.3						
NVAR				LR	LR	10 06 06.0	
	comp=Z,80nm,19.0s,MS3.9,baz=65,slow=36						
WMOK	**Wichita Mounta**	**58.24**	**289**	*e*P	**P**	**09 40 54.7**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.3						
WMOK				LR	LR		
	comp=Z,251nm,22.0s,MS4.3						
WUAZ	**Wupatki**	**59.59**	**301**	*e*P	**P**	**09 41 04.9**	**+0.2**
	comp=Z,9.0nm,1.1s,mb4.7						
LAZ	**Ladron**	**59.99**	**296**	*e*P	**P**	**09 41 06.8**	**-0.8**
NEN	**Nelson**	**60.00**	**304**	*e*P	**P**	**09 41 07.5**	**0.0**
GKN	**Gorkha**	**61.13**	**93**	*e*P	**P**	**09 41 15.2**	**-0.1**
	comp=Z,47nm,1.0s,mb5.6						
KOLN	**Koldanda**	**61.16**	**94**	*e*P	**P**	**09 41 15.7**	**+0.1**
	comp=Z,15nm,0.9s,mb5.1						
KKN	**Kakani**	**61.45**	**92**	*e*P	**P**	**09 41 18.0**	**+0.4**
	comp=Z,72nm,0.7s						
DMN	**Daman**	**61.60**	**92**	*e*P	**P**	**09 41 18.6**	**+0.1**
	comp=Z,26nm,0.9s,mb5.4						
PKI	**Pulchoki**	**61.69**	**92**	*e*P	**P**	**09 41 19.1**	**-0.1**
	comp=Z,52nm,1.4s,mb5.5						
JCT	**Junction City**	**62.57**	**289**	*e*P	**P**	**09 41 24.1**	**-0.9**
	comp=Z,5.6nm,0.9s,mb4.7						
TUC	**Tucson**	**62.63**	**299**	*e*P	**P**	**09 41 25.7**	**+0.3**
	comp=Z,12nm,1.4s,mb4.8						
NJ2	**Nanjing**	**63.20**	**59**	*e*P	**P**	**09 41 28.1**	**-1.0**
NJ2				AP	pP	09 41 38.6	+6.3
NJ2				XP	sP	09 41 42.4	+9.0
NJ2				S	**S**	**09 49 54.0**	**-5.0**
NJ2				XS		09 50 11.0	
NJ2				SCS	ScS	09 51 17.0	-1.5
NJ2				LR	LR		
	comp=Z,1μm,24.4s,MS4.9						
TXAR	**Lajitas Array**	**64.36**	**292**	P	**P**	**09 41 35.8**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=35,slow=5.0,SNR=23						
TXAR				LR	LR	10 10 10.4	
	comp=Z,229nm,18.4s,MS4.4,baz=45,slow=36						
SSE	**Sheshan**	**64.50**	**57**	⇑P	**P**	**09 41 35.4**	**-2.2**
KMI	**Kunming**	**67.24**	**76**	*e*P	**P**	**09 41 52.7**	**-2.5**
KMI				PP	PP	09 44 26.4	+1.2
KMI				S	S	09 50 47.6	-0.9
KMI				SS	SS	09 55 04.8	-4.9
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.9						
KMI				AMB	AMB		
	comp=Z,59nm,3.9s						
KMI				LR	LR		
	comp=N,121nm,20.9s,MS4.3						
KMI				LR	LR		
	comp=E,181nm,20.9s,MS4.3						
KMI				LR	LR		
	comp=Z,158nm,25.3s,MS4.1						
DBIC	**Dimbokro**	**72.85**	**188**	LR	LR	10 14 37.7	
	comp=Z,53nm,18.1s,MS3.9,baz=326,slow=36						
CMAR	**Chiang Mai Arr**	**73.06**	**81**	P	**P**	**09 42 30.4**	**-0.2**
	comp=Z,5.9nm,0.9s,mb4.5,baz=341,slow=7.2,SNR=18						
CMAR				LR	LR	10 19 08.7	
	comp=Z,80nm,20.0s,MS4.0,baz=350,slow=40						
CMAR	**Chiang Mai Arr**	**73.06**	**81**	P	**P**	**09 42 30.5**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,80nm,20.0s						
KMBO	**Kilima Mbogo**	**82.34**	**145**	P	**P**	**09 43 24.2**	**+2.3**
	comp=Z,3.1nm,1.2s,mb4.1,baz=222,slow=24,SNR=2.2						
KMBO				LR	LR	10 22 28.7	
	comp=Z,39nm,20.2s,MS3.8,baz=95,slow=38						
ROSC	**El Rosal**	**82.95**	**258**	LR	LR	10 18 40.2	
	comp=Z,74nm,18.1s,MS4.1,baz=209,slow=34						
LPAZ	**La Paz**	**102.52**	**249**	PKiKP		09 49 18.1	
	comp=Z,0.4nm,0.6s,baz=156,slow=18,SNR=3.7						
ASAR	**Alice Springs**	**120.19**	**53**	PKP	PKPdf	09 49 49.1	-3.5
	comp=Z,0.7nm,1.0s,baz=356,slow=1.9,SNR=7.2						
VNA1	**Neumayer--Stat**	**150.04**	**188**	*e*	PKPdf	09 50 50.0	+4.5
VNA1	**Neumayer--Stat**	**150.04**	**188**	*e*	PKPdf	09 50 52.3	+6.8
VNA1	**Neumayer--Stat**	**150.04**	**188**	*e*	PKPdf	09 51 01.3	+16
VNA1	**Neumayer--Stat**	**150.04**	**188**	⇑*i*P	PKPdf	09 50 44.4	-1.1
VNA1				*e*		09 50 50.0	
VNA1				*e*		09 50 52.3	
VNA1				*e*		09 51 01.3	
MAW	**Mawson**	**150.73**	**137**	PKPbc	PKPdf	09 50 52.3	+5.7
	comp=Z,3.3nm,0.8s,baz=302,slow=7.5,SNR=4.9						
MAW	**Mawson**	**150.73**	**137**	PKIKP	PKPdf	09 50 52.3	+5.7
MAW				pmax	pmax		
	comp=Z,3μm,0.8s						
SNAA	**Sanae**	**150.96**	**184**	*e*	PKPdf	09 50 49.3	+2.4
SNAA	**Sanae**	**150.96**	**184**	*e*	PKPdf	09 50 51.6	+4.7
SNAA	**Sanae**	**150.96**	**184**	*e*	PKPdf	09 51 00.3	+13
SNAA	**Sanae**	**150.96**	**184**	⇓*i*P	PKPdf	09 50 43.8	-3.1
SNAA				*e*		09 50 49.3	
SNAA				*e*		09 50 51.6	
SNAA				*e*		09 51 00.3	

ISK 09 09:32:41.0,36.10N×31.23E,h32^{km},MD3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELL	**Elmali**	**1.25**	**302**	PN	Pn	09 33 02.9	+0.4
HDMB	**Hadim**	**1.33**	**49**	PN	Pn	09 33 04.1	+0.4
HDMB				SN	Sn	09 33 20.5	0.0
IKL	**Isikli**	**2.00**	**85**	PN	Pn	09 33 13.5	+0.3
IKL				SN	Sn	09 33 36.7	-0.6
KONT	**Konya--Tatoy**	**2.06**	**26**	*e*PN	Pn	09 33 14.2	+0.1
YER	**Yerkesik**	**2.58**	**294**	PN	Pn	09 33 21.2	-0.4

STR ***09*** *09:46:21.5±2.2,44.31N×7.76E,h2^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***09*** *09:46:21.4±0.1,44.46N×7.56E,h2^{km},Md2.1/2,Ml2.1/4, Error ellipse: s-maj=3.0km s-min=1.7km az=73.0*

ISC 09 09:46:19.4±0.8**,44.45N**±0.03×**7.59E**±0.06**,h2^{km},n14,** σ**1^{s}06**/22**,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.47**	**194**	Pg	**Pg**	**09 46 27.4**	**-1.4**
AURF	**Auriere**	**0.59**	**199**	Pg	**Pg**	**09 46 32.2**	**+1.0**
AURF				Sg	**Sg**	**09 46 39.0**	**-0.2**
SBF	**Sospel**	**0.60**	**191**	*e*Pg	**Pg**	**09 46 33.3**	**+2.0**
SBF				*e*Sg	**Sg**	**09 46 40.2**	**+0.9**
	7.5nm,0.2s						
MVIF	**Mont Vial**	**0.64**	**210**	Pg	**Pg**	**09 46 33.5**	**+1.4**
MVIF				Sg	**Sg**	**09 46 40.8**	**+0.2**
MBDF	**Montbardon**	**0.65**	**296**	*e*Pg	**Pg**	**09 46 33.1**	**+0.8**
MBDF				*e*Sg	**Sg**	**09 46 41.3**	**+0.4**
	3.5nm,0.2s						
FRF	**La Foret Royal**	**1.12**	**218**	*e*Pg	**Pg**	**09 46 42.2**	**+0.5**
FRF				*e*Sg	**Sg**	**09 46 56.5**	**-0.2**
	5.2nm,0.3s						
LPG	**La Plagne**	**1.20**	**331**	*e*Pg	**Pg**	**09 46 44.0**	**+0.6**
LPL	**La Plagne**	**1.23**	**331**	*e*Pn	**Pn**	**09 46 44.1**	**+0.6**
ORIF	**Oris-en-Rattie**	**1.31**	**292**	*e*Pg	**Pg**	**09 46 45.5**	**+0.1**
LMR	**La Mourre**	**1.36**	**215**	*e*Pn	**Pn**	**09 46 45.9**	**+0.5**
LMR				*e*Sg	**Sg**	**09 47 03.4**	**-1.3**
	6.3nm,0.3s						
SMRF	**Simiane la Rot**	**1.52**	**253**	*e*Pg	**Pg**	**09 46 49.8**	**0.0**
SMRF				*e*Sg	**Sg**	**09 47 09.0**	**-1.1**
	2.6nm,0.3s						
PGF	**Pioggiola**	**2.16**	**151**	*e*Pn	**Pn**	**09 46 56.8**	**0.0**
PGF				*e*Sn	**Sn**	**09 47 22.2**	**-2.4**
	0.8nm,0.3s						
LOR	**Lormes**	**3.84**	**319**	*e*Pn	**Pn**	**09 47 18.4**	**-2.3**
SSF	**Saint Saulge**	**3.87**	**314**	*e*Pn	**Pn**	**09 47 19.9**	**-1.3**

NIED ***09*** *09:49:00,46.60N×153.30E,h116^{km},Mw4.5 Best double couple: M$_0$6.74×10^{15} NP1:ϕ_s190°,δ76°,λ111°. NP2: ϕ_s312°,δ25°,λ35°.*

SKHL ***09*** *09:49:11.1±0.7,47.26N×153.71E,h180^{km}±20^{km},mb6.0/3, mbh6.0/3,msh5.7/2*

BJI ***09*** *09:49:11.3,47.98N×153.16E,h136^{km},mB4.6,mb4.8*

NEIC ***09*** *09:49:12.6±0.1,48.10N×152.87E,mb4.7/68,Error ellipse: s-maj=4.8km s-min=3.3km az=137.0*

MOS ***09*** *09:49:13.7±1.1,48.14N×152.86E,h141^{km},mb4.3/25, Error ellipse: s-maj=11.4km s-min=7.8km az=94.8*

IDC ***09*** *09:49:14.7±0.5,48.13N×152.86E,h135^{km}±4^{km},mb4.1/21, mb1 4.3/24,mb1mx4.2/27,Error ellipse: s-maj=12.2km s-min=7.9km az=135.0*

JMA ***09*** *09:49:18.5±0.5,46.63N×153.33E,h172^{km},M4.4*

ISC 09 09:49:11.3±0.2**,48.08N**±0.03×**152.86E**±0.05**,h116^{km}, h116^{km}**±2.1^{km}**:pP-P,n279,**σ**1^{s}03**/289**,mb4.7**/101**,19C-12D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.37**	**38**	⇑*i*P	**P**	**09 50 11.2**	**+7.8**
SKR				⇑*i*P		09 50 11.2	
SKR				AMB	AMB	09 50 12.0	
	1μm,2.0s						
SKR				AMB	AMB	09 50 12.0	
	1μm,2.0s						
SKR				AMB	AMB	09 50 12.4	
	230nm,0.5s						
SKR				AMB	AMB	09 50 12.4	
	360nm,0.5s						
SKR				AMB	AMB	09 50 12.4	
	620nm,0.5s						
SKR				A		09 50 56.5	
	1μm,0.5s						
SKR				A		09 50 56.5	
	770nm,0.5s						
SKR				A		09 50 56.5	
	310nm,0.5s						
SKR	**Severo-Kuril's**	**3.37**	**38**	⇑*i*PN	**P**	**09 50 11.2**	**+7.8**
SKR				*i* S	**S**	**09 50 49.0**	**+6.1**
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				pmax	pmax		
	comp=N,1μm,3.0s						
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=Z,620nm,0.5s						
SKR				pmax	pmax		
	comp=E,360nm,0.4s						
SKR				smax			
	comp=N,2μm,2.0s						
SKR				smax			
	comp=E,2μm,2.0s						
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,770nm,0.5s						
KUR	**Kuril'sk**	**4.46**	**232**	⇑*i*P	**P**	**09 50 21.0**	**+2.9**
KUR				⇑*i*P		09 50 21.0	
KUR				AMB	AMB	09 50 22.9	
	comp=E,2μm,2.0s						
KUR				AMB	AMB	09 50 22.9	
	comp=E,2μm,2.0s						
KUR				AMB	AMB	09 50 22.9	
	comp=E,3μm,2.0s						
KUR				AMB	AMB	09 50 22.9	
	comp=E,530nm,0.6s						
KUR				AMB	AMB	09 50 22.9	
	comp=E,90nm,0.6s						
KUR				*i* S	**S**	**09 51 14.0**	**+4.6**
KUR				A		09 51 16.2	
	comp=E,450nm,0.5s						
KUR				A		09 51 16.2	
	comp=E,300nm,0.5s						
KUR				A		09 51 18.0	
	comp=E,5μm,2.0s						
KUR				A		09 51 18.0	
	comp=E,2μm,2.0s						
KUR	**Kuril'sk**	**4.46**	**232**	⇓*i*PN	**P**	**09 50 21.0**	**+2.9**
KUR				*i* S	**S**	**09 51 14.0**	**+4.6**
KUR				pmax	pmax		
	comp=N,90nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,530nm,0.6s						
KUR				pmax	pmax		
	comp=N,2μm,2.0s						
KUR				pmax	pmax		
	comp=E,2μm,2.0s						
KUR				pmax	pmax		
	comp=Z,3μm,2.0s						
KUR				smax			
	comp=N,450nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,2μm,2.0s						
PET	**Petropavlovsk**	**6.18**	**35**	*e*PN	**P**	**09 50 41.6**	**+0.2**
PET				*e*S	**S**	**09 51 50.6**	**-0.6**
PET				pmax	pmax		
	comp=Z,61nm,0.7s						
PET				smax			
	comp=N,370nm,0.5s						
PET				smax			
	comp=E,361nm,0.5s						
PET				smax			
	comp=E,100nm,11.9s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**6.18**	**35**	*e*P	**P**	**09 50 40.9**	**-0.5**
	comp=Z,40nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**233**	⇓*i*P	**P**	**09 50 44.5**	**+1.1**
YUK				AMB	AMB	09 50 45.2	
	comp=Z,1μm,0.6s						
YUK				AMB	AMB	09 50 45.2	
	comp=Z,1μm,0.6s						
YUK				AMB	AMB	09 50 45.2	
	comp=Z,2μm,0.6s						
YUK				AMB	AMB	09 50 48.4	
	comp=Z,770nm,0.5s						
YUK				AMB	AMB	09 50 48.4	
	comp=Z,520nm,0.5s						
YUK				AMB	AMB	09 50 48.4	
	comp=Z,2μm,0.5s						
YUK				*e*S	**S**	**09 51 54.0**	**-0.9**
YUK				A		09 52 05.0	
	comp=Z,280nm,0.6s						
YUK				A		09 52 05.0	
	comp=Z,360nm,0.6s						
YUK				A		09 52 14.0	
	comp=Z,2μm,1.0s						
YUK				A		09 52 14.0	
	comp=Z,1μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**233**	⇓*i*PN	**P**	**09 50 44.5**	**+1.1**
YUK				*e*S	**S**	**09 51 54.0**	**-0.9**
YUK				pmax	pmax		
	comp=N,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,1μm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=N,770nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=E,520nm,0.4s						
YUK				smax			
	comp=N,280nm,0.6s						
YUK				smax			
	comp=E,360nm,0.6s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,1μm,1.0s						
JRA	**Rausu**	**6.79**	**235**	P	**P**	**09 50 51.6**	**+1.8**
NEM2	**Nemuro 2**	**6.86**	**229**	P	**P**	**09 50 49.6**	**-1.1**
NEM2				*e*S	**S**	**09 52 01.2**	**-6.5**
YSS	**Yuzh-Sakhalins**	**6.94**	**264**	⇑*i*P	**P**	**09 50 56.5**	**+4.7**
YSS				AMB	AMB	09 50 57.5	
	comp=E,30nm,0.9s						
YSS				*e*LQ		09 52 20.0	
YSS				AMS	AMS	09 54 26.0	
	comp=E,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.94**	**264**	⇑*i*PN	**P**	**09 50 56.5**	**+4.7**
YSS				*e*S	**S**	**09 52 08.0**	**-1.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax			
	comp=E,50nm,1.0s						

YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	Yuzh-Sakhalins	6.94	264	P	P	09 50 51.1	-0.7
	comp=Z,17nm,0.7s						
TYV	Tymovskoe	7.21	297	eP	P	09 51 06.9	+11
JNK	Nakash	7.24	235	P	P	09 50 56.8	+0.8
JTKR	Abashiri--Toko	7.46	240	P	P	09 51 00.9	+2.0
JAK	Akkeshi	7.66	231	P	P	09 51 00.6	-1.0
JAK				eS	S	09 52 20.5	-6.7
JSE	Soyaes	7.74	250	P	P	09 51 08.2	+5.5
JMP	Maruseppu	7.76	242	P	P	09 51 06.0	+3.0
JAR	Ashorobuto	7.96	236	P	P	09 51 07.3	+1.7
ASAJ	Asahikawa	8.16	245	P	P	09 51 12.3	+4.1
	comp=Z,15nm,0.3s,baz=78,slow=15,SNR=80						
ASAJ				S	S	09 52 43.5	+4.2
	baz=173,slow=26,SNR=2.6						
ASAJ	Asahikawa	8.16	245	P	P	09 51 12.8	+4.5
ASAJ	Asahikawa	8.16	245	PN	P	09 51 12.4	+4.1
ASAJ				S	S	09 52 43.6	+4.2
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
JOB	Onbets	8.18	234	P	P	09 51 08.5	-0.1
JOB				eS	S	09 52 35.9	-4.0
JKK2	Kamakawa 2	8.20	243	P	P	09 51 11.7	+2.8
JCH	Churui	8.63	234	P	P	09 51 14.1	-0.6
JCH				eS	S	09 52 44.9	-6.0
JFR	Furan	8.71	239	P	P	09 51 17.4	+1.7
JAB	Ashibetsu	8.72	242	P	P	09 51 19.3	+3.4
JBT2	Biratori 2	9.08	238	P	P	09 51 21.9	+1.2
JEM	Erimo	9.15	232	P	P	09 51 21.7	0.0
JNBK	Urakawa-nobuka	9.19	235	P	P	09 51 20.3	-1.8
JEW	Eniwo	9.57	241	P	P	09 51 29.2	+2.0
JNB	Noboribetsu	10.04	240	P	P	09 51 34.1	+0.7
JNB				eS	S	09 53 20.3	-4.3
JKB	Kayabe	10.41	238	P	P	09 51 37.0	-1.3
JKB				eS	S	09 53 25.4	-8.0
JSH	Shimam	10.52	244	P	P	09 51 41.9	+2.0
JYM2	Yakumo 2	10.65	241	eS	S	09 53 34.9	-4.1
JSR	Shiriuchi	10.99	238	P	P	09 51 45.2	-0.9
JTM	Tenmabayashi	11.13	233	P	P	09 51 45.0	-3.0
JTM				eS	S	09 53 38.7	-12
JOSM	Okushiri--Mats	11.20	243	P	P	09 51 50.2	+1.4
JANG	Nango	11.20	231	P	P	09 51 44.9	-3.9
JANG				eS	S	09 53 39.6	-13
JTH	Tanohata	11.34	228	P	P	09 51 46.3	-4.4
OFUJ	Ofunato	12.10	226	P	P	09 51 57.1	-3.6
OFUJ				eS	S	09 54 01.1	-12
JRG	Rokugo	12.37	230	P	P	09 52 01.1	-3.3
JRG				eS	S	09 54 10.2	-10
JIO	Ouri	12.75	225	P	P	09 52 05.1	-4.1
JYA	Atsumi	13.45	230	P	P	09 52 16.2	-2.1
FX1	Attu Island--F	13.78	62	P	P	09 52 23.2	+0.8
	comp=Z,5.7nm,0.3s,baz=119,slow=22,SNR=24						
FX1				S	S	09 54 43.1	-10
	comp=Z,28nm,0.3s,baz=36,slow=20,SNR=17						
FX1	Attu Island--F	13.78	62	P	P	09 52 23.2	+0.8
FX1				S	S	09 54 43.1	-10
FX1				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KLR	Kul'dur	14.00	283	eP	P	09 52 30.0	+4.7
KLR				pmax	pmax		
	comp=E,21nm,1.2s						
KLR				pmax	pmax		
	comp=Z,34nm,1.2s						
MAJO	Matsushiro	15.79	228	eP	P	09 52 47.5	-0.6
	comp=Z,18nm,0.9s						
MAT	Matsushiro	15.79	228	P	P	09 52 49.9	+1.8
MAT	Matsushiro	15.79	228	P	P	09 52 50.0	+1.9
	comp=Z,8.9nm,0.7s						
MDJ	Mudanjiang	16.42	266	P	P	09 52 54.7	-1.2
MDJ				S	S	09 56 03.7	+10
MDJ				PCS		10 01 16.0	
MDJ	Mudanjiang	16.42	266	eP	P	09 52 56.9	+1.0
	comp=Z,7.0nm,0.6s						
ZEA	Zeya	17.07	299	eP	P	09 53 05.5	+1.7
ZEA				AMB	AMB	09 53 06.6	
	comp=Z,23nm,1.0s						
JHJ	Hachijo jima 2	17.90	218	P	P	09 53 15.2	+1.1
	comp=Z,4.0nm,0.3s,baz=265,slow=8.2,SNR=3.5						
CLNS	Chul'man	19.05	308	eP	P	09 53 26.4	-0.2
CLNS				pmax	pmax		
	comp=Z,36nm,1.0s						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
YAK	Yakutsk	19.12	325	eP	P	09 53 28.9	+1.6
YAK				pmax	pmax		
	comp=Z,20nm,0.7s						
YAK	Yakutsk	19.12	325	P	P	09 53 25.3	-2.0
CN2	Changchun	19.49	268	⇑eP	P	09 53 29.9	-1.4
CN2				eS	S	09 56 58.0	-2.1
CN2				AMB	AMB		
	comp=Z,40nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
SNY	Shenyang	21.56	264	⇓P	P	09 53 53.4	+1.0
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
JNU	Nakatsue	22.29	236	P	P	09 54 02.4	+2.8
	comp=Z,15nm,0.7s,mb4.4,baz=360,slow=30,SNR=8.5						
BOD	Bodaibo	25.03	307	eP	P	09 54 24.1	-1.5
JOW	Kunigami	28.60	231	P	P	09 54 58.8	+0.2
	comp=Z,25nm,0.9s,mb4.8,baz=331,slow=5.7,SNR=4.4						
SSE	Sheshan	29.45	246	⇓P	P	09 55 07.1	+1.0
SSE				S	S	09 59 52.1	+1.9
SSE				XS		10 00 35.9	
SSE				AMB	AMB		
	comp=Z,42nm,4.7s						
SSE				LR	LR		
	comp=N,10.0nm,19.2s						
SSE				LR	LR		
	comp=E,94nm,19.3s						
SSE				LR	LR		
	comp=Z,51nm,14.6s						
NJ2	Nanjing	30.25	251	eP	P	09 55 10.9	-2.3
NJ2				PP	PP	09 56 12.8	-3.6
NJ2				S	S	10 00 00.0	-2.9
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
SONM	Songino Array	30.75	287	P	P	09 55 17.0	-0.5
	comp=Z,2.2nm,0.7s,mb4.0,baz=68,slow=9.0,SNR=17						
SONM				PcP	PcP	09 58 10.9	-1.3
	comp=Z,1.2nm,0.6s,baz=137,slow=1.8,SNR=4.9						
WHN	Wuhan	34.12	253	⇑P	P	09 55 47.0	+0.2
MCK	McKinley	34.76	42	eP	P	09 55 50.7	-1.2
	comp=Z,6.8nm,0.9s,mb4.5						
PMR	Palmer	34.78	45	P	P	09 55 51.3	-0.7
	comp=Z,2.0nm,0.6s,mb4.1						
SML	Sawmill	35.14	45	eP	P	09 55 54.3	-0.8
XAN	Xi'an	35.48	263	P	P	09 55 58.4	+0.1
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
ILAR	Eielson Array	35.63	40	P	P	09 55 58.7	-0.5
	comp=Z,4.6nm,0.8s,mb4.5,baz=256,slow=7.6,SNR=46						
ILAR				PcP	PcP	09 58 22.7	-3.0
	comp=Z,0.5nm,0.5s,baz=290,slow=3.7,SNR=4.2						
ILAR				ScP		10 01 56.2	
	comp=Z,0.5nm,0.8s,baz=280,slow=3.6,SNR=5.3						
ILAR	Eielson Array	35.63	40	P	P	09 55 58.7	-0.5
ILAR						09 58 22.7	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ENH	Enshi	37.46	258	eP	P	09 56 14.6	-0.3
	comp=Z,12nm,0.5s,mb5.1						
LZH	Lanzhou	37.70	270	⇑P	P	09 56 18.2	+1.4
GTA	Gaotai	38.61	277	eP	P	09 56 24.6	+0.2
GTA				PP	PP	09 58 00.1	+2.2
GTA				PCP	PcP	09 58 34.7	-0.3
GTA				S	S	10 02 11.3	-0.4
GTA				SS	SS	10 05 00.5	+1.3
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,121nm,5.0s						
DAWY	Dawson	38.93	40	eP	P	09 56 26.7	-0.2
INK	Inuvik	40.63	33	P	P	09 56 41.6	+0.9
	comp=Z,2.8nm,0.7s,mb4.2,baz=295,slow=7.4,SNR=42						
INK	Inuvik	40.63	33	P	P	09 56 41.6	+0.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	40.63	33	eP	P	09 56 41.2	+0.5
	comp=Z,2.2nm,0.6s,mb4.2						
GYA	Guiyang	41.85	256	⇓iP	P	09 56 51.6	+0.4
GYA				S	S	10 02 59.2	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NVS	Novosibirsk	42.26	306	eP	P	09 56 53.1	-1.0
NVS				e		09 58 42.8	
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
TGY	Tagaytay City	42.96	229	P	P	09 57 01.2	+0.8
	comp=Z,70nm,0.3s						
TGY	Tagaytay City	42.96	229	P	P	09 57 01.2	+0.9
TGY				pmax	pmax		
	comp=Z,70nm,0.4s						
WMQ	Urumqi	44.30	290	⇑P	P	09 57 14.5	+3.7
WMQ				AP	pP	09 57 40.1	+2.4
WMQ				XP	sP	09 57 53.0	+1.9
WMQ				ePP	PP	09 59 00.6	+3.4
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.6						
KMI	Kunming	45.33	258	eP	P	09 57 20.1	+0.8
KMI				S	S	10 03 47.6	-2.7
KMI				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,118nm,4.6s						
MKAR	Makanchi Array	46.19	296	P	P	09 57 24.6	-1.1
	comp=Z,14nm,0.9s,mb4.7,baz=68,slow=8.4,SNR=65						
MKAR				PcP	PcP	09 58 59.1	-1.1
	comp=Z,5.0nm,0.9s,baz=66,slow=3.4,SNR=7.4						
MKAR				ScP		10 02 39.2	
	comp=Z,0.7nm,0.7s,baz=56,slow=8.7,SNR=4.2						
MKAR	Makanchi Array	46.19	296	P	P	09 57 24.7	-1.1
MKAR						09 58 59.1	
MKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	Makanchi Array	46.19	296	P	P	09 57 24.6	-1.1
MKAR				PcP	PcP	09 58 59.1	-1.1
MKAR				ScP		10 02 39.2	
KURK	Kurchatov	46.50	302	i P	P	09 57 27.4	-0.7
KURK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
KURK	Kurchatov	46.50	302	eP	P	09 57 27.0	-1.1
	comp=Z,24nm,0.6s,mb5.1						
VOSK	Vostochnaya	49.73	308	P	P	09 57 52.0	-1.1
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BVA0	Borovoye Array	49.89	308	eP	P	09 57 53.4	-1.0
BRVK	Borovoye	49.93	309	P	P	09 57 53.9	-0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	Borovoye	49.93	309	eP	P	09 57 53.4	-1.3
	comp=Z,9.1nm,0.8s,mb4.8						
YKA	Yellowknife Ar	49.97	37	P	P	09 57 54.8	0.0
	comp=Z,2.4nm,0.4s,mb4.5,baz=299,slow=7.0,SNR=12						
YKA				PcP	PcP	09 59 12.0	-1.4
	comp=Z,0.6nm,0.6s,baz=307,slow=3.3,SNR=4.2						
YKA	Yellowknife Ar	49.97	37	P	P	09 57 54.8	0.0
YKA						09 59 12.0	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	49.97	37	P	P	09 57 54.8	0.0
YKA				PcP	PcP	09 59 12.1	-1.4
LSA	Lhasa	50.05	272	P	P	09 57 55.0	-0.9
LSA	Lhasa	50.05	272	eP	P	09 57 56.7	+0.9
	comp=Z,24nm,0.6s,mb5.3						
ZRNK	Zerenda	50.65	309	P	P	09 57 59.1	-1.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
SHL	Shillong	52.25	267	⇓eP	P	09 58 10.5	-2.1
CMAR	Chiang Mai Arr	52.53	255	P	P	09 58 15.4	+0.6
	comp=Z,11nm,0.7s,mb5.0,baz=35,slow=7.1,SNR=52						
CMAR				PcP	PcP	09 59 23.2	-0.3
	comp=Z,2.7nm,0.6s,baz=19,slow=3.3,SNR=7.2						
CMAR	Chiang Mai Arr	52.53	255	P	P	09 58 15.4	+0.6
CMAR						09 59 23.3	
CMAR				pmax	pmax		
	comp=Z,11nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	Arti	53.92	317	⇓iP	P	09 58 22.6	-1.9
ARU				i		09 59 24.3	
ARU				e		10 00 22.7	
ARU				eS	S	10 05 47.2	-1.8
ARU				e		10 07 55.8	
ARU				eSS	SS	10 09 29.5	-1.9
ARU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
KKN	Kakani	55.21	274	eP	P	09 58 34.0	-0.3
	comp=Z,54nm,0.6s						
KKAR	Karatay Array	55.22	298	i P	P	09 58 33.1	-1.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
PKI	Pulchoki	55.26	274	eP	P	09 58 34.6	-0.1
	comp=Z,34nm,0.6s,mb5.6						
DMN	Daman	55.44	274	eP	P	09 58 36.4	+0.4
	comp=Z,61nm,0.6s						
GKN	Gorkha	55.50	275	eP	P	09 58 35.9	-0.5
	comp=Z,39nm,0.5s,mb5.7						
KEV	Kevo	56.04	340	ep	P	09 58 36.4	-3.3
	comp=Z,1.1nm,0.4s,mb4.2						
KEV	Kevo	56.04	340	eP	P	09 58 36.4	-3.3
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KOLN	Koldanda	56.34	275	eP	P	09 58 42.0	-0.4
	comp=Z,34nm,0.8s,mb5.4						
NEW	Newport	56.52	53	eP	P	09 58 42.5	-0.8
	comp=Z,1.0nm,0.7s,mb4.0						
ARCES	ARCESS Array B	56.55	340	P	P	09 58 41.5	-1.7
	comp=Z,1.4nm,0.4s,mb4.3,baz=28,slow=7.1,SNR=22						
ARCES				PcP	PcP	09 59 37.5	-0.7
	comp=Z,3.6nm,0.7s,baz=27,slow=5.4,SNR=9.4						
ARCES	ARCESS Array B	56.55	340	P	P	09 58 41.5	-1.8
ARCES						09 59 37.6	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AB31	Akbulak array	57.45	309	eP	P	09 58 48.4	-1.5
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
WVOR	Wild Horse Val	59.23	59	eP	P	09 59 01.8	-0.5
	comp=Z,1.8nm,0.8s,mb4.2						
FFC	Flin Flon	59.84	40	eP	P	09 59 04.5	-1.8
	comp=Z,3.0nm,0.6s,mb4.5						
FFC				epP	pP	09 59 31.5	-3.1
HLID	Hailey	60.91	56	P	P	09 59 13.4	-0.4
BOZ	Bozeman (W)	61.09	53	eP	P	09 59 14.8	-0.2
	comp=Z,1.6nm,0.5s,mb4.3						
BOZ				epP	pP	09 59 42.3	-1.0
NVAR	Mina Array Bea	61.98	63	P	P	09 59 21.1	0.0
	comp=Z,1.1nm,0.5s,mb4.1,baz=300,slow=6.8,SNR=14						
NVAR				pP	pP	09 59 50.9	+1.4
	comp=Z,1.5nm,0.7s,baz=286,slow=6.6,SNR=6.2						
MNV	Mina	62.06	63	eP	P	09 59 21.3	-0.3
	comp=Z,0.6nm,0.6s,mb3.8						
MNV				epP	pP	09 59 48.5	-1.6
KAF	Kangasniemi	62.17	335	ep	P	09 59 21.3	-0.7
	comp=Z,0.8nm,0.4s,mb4.1						
KAF	Kangasniemi	62.17	335	eP	P	09 59 21.3	-0.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	62.77	334	P	P	09 59 24.1	-1.9
	comp=Z,3.4nm,0.5s,mb4.6,baz=38,slow=7.4,SNR=24						
FINES				PcP	PcP	10 00 01.6	-1.5
	comp=Z,2.8nm,0.7s,baz=90,slow=4.2,SNR=3.7						
FINES	FINESS Array B	62.77	334	P	P	09 59 24.1	-1.9
FINES						10 00 01.6	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAKA	Kakadu	63.18	202	⇓iP	P	09 59 27.6	-1.7
	comp=Z,12nm,0.6s,mb5.0						
KAKA				e		10 00 41.0	
BHPL	Bhopal	63.50	276	⇑iP	P	09 59 31.1	-0.2
DUG	Dugway	64.02	58	eP	P	09 59 34.2	-0.2
BW06	Boulder Array	64.11	54	eP	P	09 59 34.0	-0.9
	comp=Z,0.8nm,0.4s,mb3.9						
BW06				epP	pP	10 00 01.7	-1.8
PDAR	Pinedale Array	64.11	54	P	P	09 59 34.9	0.0
	comp=Z,0.9nm,0.6s,mb3.8,baz=318,slow=2.8,SNR=12						
PDAR				pP	pP	10 00 06.7	+3.2
	comp=Z,4.1nm,1.0s,baz=326,slow=3.3,SNR=9.2						
SRU	San Rafael	66.05	58	P	P	09 59 47.5	0.0
HYB	Hyderabad	66.81	270	i P	P	09 59 52.0	-0.6
HYB	Hyderabad	66.81	270	eP	P	09 59 52.0	-0.6
NB2	NORSAR Subarra	66.92	341	P	P	09 59 51.1	-1.5
	comp=Z,4.3nm,0.7s,mb4.4,baz=27,slow=6.5						
NOA	NORSAR Array B	66.92	341	P	P	09 59 51.5	-1.1
	comp=Z,3.1nm,0.6s,mb4.3,baz=26,slow=6.3,SNR=25						
NOA	NORSAR Array B	66.92	341	P	P	09 59 51.5	-1.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CTA	Charters Tower	68.11	187	P	P	09 59 59.8	-0.8
	comp=Z,4.2nm,0.8s,mb4.3,baz=347,slow=7.1,SNR=2.9						
CTA	Charters Tower	68.11	187	P	P	09 59 59.8	-0.8
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
POO	Poona	69.17	275	e	P	10 00 06.0	-1.2
WB2	Warramunga Arr	69.71	199	eP	P	10 00 09.0	-1.5
WB2				e		10 00 51.9	
WRA	Warramunga Arr	69.71	199	P	P	10 00 08.9	-1.6
	comp=Z,11nm,0.8s,mb4.7,baz=17,slow=6.3,SNR=117						
WRA				PcP	PcP	10 00 31.5	-1.1
	comp=Z,1.8nm,0.7s,baz=18,slow=5.0,SNR=9.0						
WRA	Warramunga Arr	69.71	199	P	P	10 00 08.9	-1.6
WRA						10 00 31.5	
WRA				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SDCO	Great Sand Dun	69.82	56	P	P	10 00 10.7	-0.2
SDCO				epP	pP	10 00 39.7	-0.3
FITZ	Fitzroy Crossi	70.24	208	eP	P	10 00 13.3	-0.4
	comp=Z,5.4nm,0.5s,mb4.6						
FITZ				e		10 01 48.0	
AKASG	Malin Array Be	70.35	326	P	P	10 00 12.0	-1.9
	comp=Z,4.0nm,0.5s,mb4.5,baz=33,slow=6.2,SNR=21						
AKASG	Malin Array Be	70.35	326	P	P	10 00 12.0	-1.9
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SCHQ	Schefferville	72.15	23	P	P	10 00 24.5	0.0
	comp=Z,3.5nm,0.6s,mb4.4,baz=266,slow=10,SNR=8.9						
ASAR	Alice Springs	73.41	198	P	P	10 00 32.2	-0.1
	comp=Z,9.3nm,0.8s,mb4.7,baz=13,slow=6.0,SNR=136						
ASPA	Alice Springs	73.41	198	eP	P	10 00 32.5	+0.1
ASPA				e		10 01 14.0	
CRVS	Cervenica-Dubn	74.65	329	eP	P	10 00 39.3	+0.3
DPC	Dobruska-Polom	75.06	333	eP	P	10 00 41.6	+0.2
CLL	Collm	75.19	335	⇑P	P	10 00 41.9	-0.1
	comp=Z,logA/T=1.4,mb4.9						
CLL	Collm	75.19	335	⇑iP	P	10 00 41.9	-0.1
CLL				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
CLL	Collm	75.19	335	⇑iP	P	10 00 41.9	-0.1
	comp=Z,17nm,0.7s,mb4.9						
BRG	Berggiesshubel	75.31	335	i P	P	10 00 42.7	0.0
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
BRG	Berggiesshubel	75.31	335	P	P	10 00 42.7	0.0
	comp=Z,4.6nm,0.7s,mb4.3						
CLZ	Clausthal	75.42	337	eP	P	10 00 43.8	+0.5
	comp=Z,14nm,0.9s,mb4.7						
PVCC	Panska Ves	75.43	334	eP	P	10 00 43.7	+0.3
WMOK	Wichita Mounta	75.71	54	eP	P	10 00 44.8	-0.6
	comp=Z,0.8nm,0.6s,mb3.6						
WMOK				epP	pP	10 01 14.4	-0.5
VYHS	Vyhne	75.89	330	eP	P	10 00 46.4	+0.3
VYHS				e		10 00 51.9	
PRU	Pruhonice	75.92	334	eP	P	10 00 46.0	-0.2
	comp=Z,5.7nm,0.8s,mb4.3						
PRU	Pruhonice	75.92	334	eP	P	10 00 46.0	-0.2
PRU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
MOX	Moxa	76.17	336	eP	P	10 00 48.0	+0.4
KHC	Kasperske Hory	76.97	334	eP	P	10 00 52.6	+0.5
KHC				e		10 00 57.3	
LTX	Lajitas	76.99	61	eP	P	10 00 52.8	+0.2
	comp=Z,3.2nm,0.6s,mb4.2						
TXAR	Lajitas Array	76.99	61	P	P	10 00 52.6	0.0
	comp=Z,2.0nm,0.4s,mb4.2,baz=296,slow=4.8,SNR=56						
TXAR				pP	pP	10 01 23.7	+1.4
	comp=Z,1.6nm,0.6s,baz=296,slow=4.2,SNR=4.9						
TXAR				sP	sP	10 01 39.4	+4.4
	comp=Z,1.4nm,0.7s,baz=293,slow=3.8,SNR=2.5						
GRA1	Grafenberg Arr	77.14	336	eP	P	10 00 53.7	+0.6
	comp=Z,31nm,0.7s,mb5.2						
GRF	Grafenberg Arr	77.14	336	eP	P	10 00 53.7	+0.6
GRF				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.2						
WET	Wettzell	77.17	334	eP	P	10 00 52.9	-0.3
WET				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
WET	Wettzell	77.17	334	eP	P	10 00 52.9	-0.3
	comp=Z,10.0nm,0.9s,mb4.5						
GEC2	GERESS Array S	77.19	334	eP	P	10 00 53.2	-0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
GEC2	GERESS Array S	77.19	334	eP	P	10 00 53.2	-0.1
	comp=Z,5.0nm,1.0s,mb4.2						
GERES	GERESS Array B	77.19	334	P	P	10 00 53.3	-0.1
	comp=Z,3.3nm,0.8s,mb4.1,baz=34,slow=4.8,SNR=14						
GERES	GERESS Array B	77.19	334	P	P	10 00 53.3	0.0
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
UMR	Umm Al-Rimmam	77.80	301	eP	P	10 00 56.9	-0.2
KBD	Kabd	78.09	300	eP	P	10 00 58.6	-0.1
QRN	Al-Qurain	78.29	300	eP	P	10 00 59.6	-0.2
QRN				AMb	AMB	10 01 01.3	
	comp=Z,39nm,0.6s,mb5.3						
RDF	Al-Radifah	78.36	300	eP	P	10 01 00.2	0.0
RDF				AMb	AMB	10 01 01.2	
	comp=Z,56nm,0.5s,mb5.5						
GIVF	Givet	78.40	340	eP	P	10 00 59.8	-0.1
BAIF	Baives	78.58	340	eP	P	10 01 00.8	-0.1
	comp=Z,18nm,0.7s,mb4.7						
KBA	Koelnbreinsper	78.88	333	⇓iP	P	10 01 03.7	+1.1
	comp=Z,22nm,0.6s,mb5.2						
BFO	Black Forest	79.17	337	eP	P	10 01 04.0	-0.2
BFO				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.8						
BFO	Black Forest	79.17	337	eP	P	10 01 04.0	-0.2
	comp=Z,20nm,1.2s,mb4.8						
WATA	Walderalm	79.17	334	⇑iP	P	10 01 05.2	+1.0
	comp=Z,14nm,1.0s,mb4.7						
WTTA	Wattenberg	79.22	334	⇓iP	P	10 01 05.4	+0.9
	comp=Z,25nm,0.6s,mb5.2						
MOTA	Moosalm	79.30	335	⇑iP	P	10 01 05.4	+0.5
	comp=Z,11nm,1.0s,mb4.7						
CDF	Champ du Feu	79.37	337	eP	P	10 01 05.2	0.0
	comp=Z,22nm,0.7s,mb4.8						
SQTA	Sankt Quirin	79.38	335	⇑iP	P	10 01 06.1	+0.7
	comp=Z,15nm,1.1s,mb4.7						
DAVA	Damuels	79.70	335	⇑iP	P	10 01 07.9	+0.8
	comp=Z,15nm,0.9s,mb4.8						
MEZF	Maizieres J'vi	79.84	339	eP	P	10 01 08.0	+0.2
	comp=Z,59nm,0.7s,mb5.2						
HAU	Haudompre	79.98	338	eP	P	10 01 08.3	-0.3
	comp=Z,31nm,0.9s,mb4.8						
HINF	Hinteralfeld	80.03	338	eP	P	10 01 08.4	-0.4
	comp=Z,12nm,0.7s,mb4.5						
STKA	Stephens Creek	80.23	190	P	P	10 01 09.3	-0.9
	comp=Z,1.7nm,0.4s,mb4.2,baz=16,slow=4.3,SNR=11						
FLN	La Foliniere	80.82	342	eP	P	10 01 12.9	-0.1
	comp=Z,25nm,0.9s,mb4.8						
LDF	La Druitiere	80.91	342	eP	P	10 01 13.3	-0.2
GRR	Gorron	81.25	343	eP	P	10 01 15.3	0.0
LOR	Lormes	81.28	339	eP	P	10 01 15.4	0.0
	comp=Z,57nm,0.7s,mb5.2						
CABF	La Chapelle	81.34	338	eP	P	10 01 16.0	+0.2
	comp=Z,24nm,0.8s,mb4.8						
SSF	Saint Saulge	81.55	339	eP	P	10 01 16.9	0.0
	comp=Z,34nm,0.8s,mb4.9						
HYF	Humbligny	81.56	340	eP	P	10 01 17.3	+0.4
FORT	Forrest	81.59	201	eP	P	10 01 17.4	0.0
	comp=Z,36nm,0.7s,mb5.3						
FORT				e		10 02 28.2	
SGMF	Saint Gilles	81.71	344	eP	P	10 01 18.0	+0.3
	comp=Z,20nm,0.6s,mb4.8						
ROSF	Rostrenen	81.76	344	eP	P	10 01 18.3	+0.3
	comp=Z,29nm,0.8s,mb4.9						
AVF	Avril sur Loir	81.84	339	eP	P	10 01 18.5	+0.1
	comp=Z,41nm,0.7s,mb5.1						
SMF	Signal de Mont	81.86	339	eP	P	10 01 18.7	+0.2
	comp=Z,45nm,0.8s,mb5.0						

TRAV		81.92	336	P	P	10 01 19.0	+0.2
LSD	Ceresole Reale	82.13	336	P	P	10 01 21.3	+1.4
BGF	Bois d'Agland	82.18	340	*e*P	P	10 01 20.3	+0.1
	comp=Z,22nm,0.6s,mb4.9						
LPL	La Plagne	82.19	337	*e*P	P	10 01 21.2	+1.0
	comp=Z,46nm,0.8s,mb5.0						
GRAM		82.20	334	P	P	10 01 22.1	+1.8
LPG	La Plagne	82.20	337	*e*P	P	10 01 21.3	+1.0
	comp=Z,48nm,0.8s,mb5.1						
CODM		82.35	334	P	P	10 01 21.1	0.0
RSP	Reno Superiore	82.38	336	P	P	10 01 20.9	-0.3
BACM		82.39	334	P	P	10 01 22.7	+1.4
VINC	Vinca	82.49	334	P	P	10 01 22.6	+0.8
FENE	Fenestrelle	82.55	336	P	P	10 01 22.5	+0.4
TCF	Toulx Ste Croi	82.58	340	*e*P	P	10 01 22.7	+0.5
	comp=Z,44nm,0.9s,mb5.0						
GENL	Genova Univers	82.59	335	P	P	10 01 21.9	-0.4
MAIM		82.60	334	P	P	10 01 23.7	+1.4
BHB	Bricherasio	82.67	336	P	P	10 01 21.9	-0.8
RRL	Cesana Torines	82.72	336	P	P	10 01 23.7	+0.8
MFF	Saint Martin d	82.81	342	*e*P	P	10 01 23.9	+0.6
	comp=Z,16nm,0.7s,mb4.6						
HILS	Ha'il	82.82	303	P	P	10 01 25.2	+1.4
MBDF	Montbardon	82.91	336	*e*P	P	10 01 24.2	+0.3
	comp=Z,16nm,0.6s,mb4.7						
ORIF	Oris-en-Rattie	82.97	337	*e*P	P	10 01 25.1	+0.9
	comp=Z,30nm,0.7s,mb4.9						
FIN	Finale Ligure	82.99	335	P	P	10 01 23.7	-0.6
ROB	Roburent	83.00	335	P	P	10 01 24.1	-0.2
PZZ	Prazzo	83.02	336	P	P	10 01 23.7	-0.7
RORO		83.12	335	P	P	10 01 25.1	+0.1
ARSS	Ar Rass	83.16	301	P	P	10 01 26.3	+0.8
ENR	Entracque	83.19	336	P	P	10 01 24.1	-1.2
STV2	Anna di Valdie	83.20	336	P	P	10 01 24.2	-1.2
STV	Sta Anna Valdi	83.20	336	P	P	10 01 24.4	-1.0
VIVF	Saint-Julien-l	83.33	338	*e*P	P	10 01 26.9	+0.9
	comp=Z,32nm,0.8s,mb4.9						
IMI	Imperia	83.36	335	P	P	10 01 26.6	+0.4
MZLS	Mizel	83.43	299	P	P	10 01 28.1	+1.1
NEGI	Negi	83.46	335	P	P	10 01 26.2	-0.5
RAYN	Ar Rayn	83.64	298	P	P	10 01 28.3	+0.3
	comp=Z,166nm,0.7s,SNR=18						
CAF	Calviac	83.90	340	*e*P	P	10 01 30.0	+1.2
	comp=Z,22nm,0.9s,mb4.7						
SMRF	Simiane la Rot	83.92	337	*e*P	P	10 01 30.1	+1.2
LFF	La Frestale	84.19	340	*e*P	P	10 01 30.5	+0.3
LMR	La Mourre	84.27	336	*e*P	P	10 01 31.0	+0.4
	comp=Z,22nm,0.8s,mb4.7						
LASF	Ste Croix	84.27	338	*e*P	P	10 01 31.9	+1.3
	comp=Z,18nm,1.0s,mb4.5						
PGF	Pioggiola	84.29	334	*e*P	P	10 01 30.7	-0.1
	comp=Z,13nm,0.8s,mb4.5						
AFFS	‘Afif	84.80	300	P	P	10 01 34.6	+0.8
JMQS	Jabal Moqyreh	84.86	308	P	P	10 01 35.1	+1.1
JMOS	Jabal al Moall	85.03	309	P	P	10 01 35.7	+0.9
HAQS	Haql	85.22	309	P	P	10 01 36.7	+0.9
KLBR	Kellerberrin	85.33	209	*e*P	P	10 01 35.8	-0.4
	comp=Z,10nm,0.7s,mb4.9						
MTLF	Montolieu	85.36	339	*e*P	P	10 01 37.4	+1.3
	comp=Z,11nm,0.8s,mb4.6						
KBRS	Khaybar	85.47	304	P	P	10 01 38.7	+1.6
BDAS	Al Bad‘	85.63	309	P	P	10 01 38.9	+1.2
EPF	Esparros	86.10	340	*e*P	P	10 01 39.8	+0.1
	comp=Z,3.8nm,0.5s,mb4.3						
DBAS	Duba	86.14	307	P	P	10 01 41.4	+1.1
MUN	Mundaring	86.20	211	*e*P	P	10 01 40.8	+0.3
	comp=Z,6.7nm,0.7s,mb4.7						
ETSF	Etsaut	86.42	341	*e*P	P	10 01 42.4	+1.1
	comp=Z,4.9nm,0.6s,mb4.3						
UMJS	Umm Lajj	86.99	305	P	P	10 01 45.7	+1.2
BLJS	Baljurashi	88.75	299	P	P	10 01 54.3	+1.4
DBIC	Dimbokro	122.06	334	PKP	PKPdf	10 07 51.9	-0.4
	comp=Z,3.2nm,0.6s,baz=232,slow=19,SNR=5.5						
DBIC	Dimbokro	122.06	334	PKIKP	PKPdf	10 07 51.9	-0.4
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	Vanda	125.44	178	PKP	PKPdf	10 07 56.7	-0.6
	comp=Z,1.3nm,0.7s,baz=312,slow=4.1,SNR=7.0						
VNDA	Vanda	125.44	178	PKIKP	PKPdf	10 07 56.7	-0.6
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	125.44	178	PKP	PKPdf	10 07 56.7	-0.6
MAW	Mawson	133.24	212	PKP	PKPdf	10 08 12.4	0.0
	comp=Z,1.5nm,0.6s,baz=47,slow=6.8,SNR=3.0						
MAW	Mawson	133.24	212	PKIKP	PKPdf	10 08 12.4	+0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ	La Paz	133.86	61	PKP	PKPdf	10 08 16.2	+1.4
	comp=Z,0.7nm,0.6s,baz=304,slow=3.0,SNR=6.2						
LPAZ	La Paz	133.86	61	PKIKP	PKPdf	10 08 16.2	+1.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BDFB	Brasilia	143.37	35	PKhKP		10 08 30.3	
	comp=Z,2.6nm,0.6s,baz=256,slow=6.5,SNR=3.4						
BDFB	Brasilia	143.37	35	PKIKP	PKPdf	10 08 30.3	-1.6
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CPUP	Villa Florida	147.94	58	PKPbc	PKPdf	10 08 43.2	+3.8
	comp=Z,4.3nm,0.6s,baz=334,slow=2.0,SNR=16						
CPUP				pPKPbc		10 09 19.7	
	comp=Z,1.2nm,0.7s,baz=18,slow=9.6,SNR=2.2						
CPUP	Villa Florida	147.94	58	PKP2	PKPab	10 08 43.2	-4.5
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CPUP	Villa Florida	147.94	58	PKPbc	PKPdf	10 08 43.2	+3.8
CPUP				pPKPbc		10 09 19.7	
PLCA	Paso Flores	148.47	93	PKPbc	PKPdf	10 08 44.8	+4.9
	comp=Z,3.3nm,0.7s,baz=298,slow=2.8,SNR=8.9						
PLCA				pPKPbc		10 09 20.8	
	comp=Z,1.6nm,0.7s,baz=308,slow=5.7,SNR=2.6						
PLCA	Paso Flores	148.47	93	PKP2	PKPab	10 08 44.8	-4.6
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	148.47	93	PKPbc	PKPdf	10 08 44.8	+4.9
PLCA				pPKPbc		10 09 20.8	
TRQA	Tornquist	152.86	81	*e*PKPdf	PKPdf	10 08 48.9	+2.4
TRQA				*e*PKPbc	PKPdf	10 08 54.5	+7.9
VNA1	Neumayer--Stat	155.63	195	⇓*i*P	PKPab	10 09 17.4	-1.1
VNA1				*e*	PP	10 12 55.2	-1.2

IDC 09 09:55:28.3±6.5**, 4.67S**×**154.29E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/13**, Error ellipse: s-maj=197.0km s-min=28.6km az=105.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.66	230	P	P	10 00 52.0	-0.2
	1.2nm,0.4s,baz=55,slow=9.2,SNR=16						
ASAR	Alice Springs	27.26	224	P	P	10 01 13.9	-2.5
	0.8nm,0.3s,baz=55,slow=9.4,SNR=14						
SONM	Songino Array	67.01	327	P	P	10 06 24.7	-0.7
	0.4nm,0.5s,baz=135,slow=6.1,SNR=2.8						
MKAR	Makanchi Array	81.21	319	P	P	10 07 44.5	-3.1
	0.8nm,0.8s,baz=108,slow=6.2,SNR=6.1						

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*NIED **09** 10:14:00, 25.50N×128.00E, h14^{km}, Mw3.8 Best double couple: $M_0$5.61×10^{14} NP1:ϕ_s212°, δ66°, λ65°. NP2:ϕ_s82°, δ34°, λ134°.*

*JMA **09** 10:14:18.1±0.2, 25.52N×128.03E, h37^{km}±3^{km}, M3.6*

*IDC **09** 10:14:20.3±0.7, 25.73N×127.99E, h20^{km}±5^{km}, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, Error ellipse: s-maj=35.1km s-min=10.2km az=97.0*

*NEIC **09** 10:14:20.4±0.8, 25.70N×127.99E, Error ellipse: s-maj=36.1km s-min=14.7km az=83.0*

ISC 09 10:14:19.3±0.9**, 25.61N**±0.04×**128.06E**±0.04**, h31**^{km}±6^{km}**, n20,** σ0^{s}**86**/30**, mb3.7**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.60	332	P	Pb	10 14 31.0	-0.3
JJT2				S	Sb	10 14 40.7	+1.2
NAH1	Naha	0.68	331	P	Pb	10 14 32.1	-0.5
NAH1				S	Sb	10 14 42.0	+0.2
JAGN	Aguni-jima	1.22	323	P	Pn	10 14 40.4	-0.1
JAGN				S	Sn	10 14 56.1	0.0
JOW	Kunigami	1.23	9	Pg	Pn	10 14 41.3	+0.6
	87nm,0.3s,baz=171,slow=16,SNR=148						
JOW				Lg		10 14 56.2	
	114nm,0.3s,baz=114,slow=24,SNR=13						
JOW	Kunigami	1.23	9	P	Pn	10 14 41.2	+0.5
JOW				S	Sn	10 14 56.8	+0.4
JKE	Kume jima 2	1.35	302	P	Pn	10 14 41.5	-0.9
JKE				S	Sn	10 14 59.7	+0.3
JIH	Iheya	1.42	357	P	Pn	10 14 43.5	+0.1
JIH				S	Sn	10 15 01.6	+0.4
JTK	Tokunoshima	2.31	20	P	Pn	10 14 55.8	-0.3
JTK				S	Sn	10 15 22.6	-1.1
JMJ	Miyako jima 2	2.63	253	S	Sn	10 15 26.3	-5.5
JMZ	Minamidaito 2	2.86	85	P	Pn	10 15 03.8	-0.1
JMZ				S	Sn	10 15 37.0	-0.6
JAM	Amami Oshima	3.11	26	P	Pn	10 15 05.9	-1.6
JAM				S	Sn	10 15 43.3	-0.7
JZK	Kikaishima	3.19	32	P	Pn	10 15 09.5	+0.9
JZK				S	Sn	10 15 46.9	+0.9
JIJ	Ishigaki jima	3.77	252	P	Pn	10 15 14.9	-1.9
SONM	Songino Array	28.00	328	P	P	10 20 10.4	+1.1
	0.8nm,0.5s,mb3.6,baz=139,slow=10,SNR=5.2						
MKAR	Makanchi Array	41.84	312	P	P	10 22 06.6	-1.3
	0.5nm,0.5s,mb3.5,baz=93,slow=10.0,SNR=6.9						
MKAR	Makanchi Array	41.84	312	P	P	10 22 06.6	-1.3
WRA	Warramunga Arr	45.69	172	P	P	10 22 40.7	+1.3
	0.8nm,0.6s,mb3.8,baz=353,slow=8.3,SNR=9.7						
WRA				pP	pP	10 22 47.0	-1.7
	0.4nm,0.5s,baz=353,slow=8.7,SNR=3.7						
WRA				sP	sP	10 22 49.5	-3.0
	0.6nm,0.8s,baz=352,slow=8.5,SNR=3.9						
ASAR	Alice Springs	49.31	173	P	P	10 23 09.3	+1.6
	0.4nm,0.5s,mb3.7,baz=353,slow=6.9,SNR=11						
ASAR				pP	pP	10 23 15.3	-1.7
	0.3nm,0.6s,baz=350,slow=6.5,SNR=2.9						
ASAR				sP	sP	10 23 17.9	-2.8
	0.3nm,0.6s,baz=357,slow=7.6,SNR=2.9						
FINES	FINESS Array B	73.33	331	P	P	10 25 49.6	+0.1
	0.6nm,0.4s,mb3.9,baz=196,slow=36,SNR=5.2						
NOA	NORSAR Array B	79.80	334	P	P	10 26 25.8	0.0
	0.8nm,0.8s,mb3.7,baz=52,slow=5.7,SNR=3.9						

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*MEX **09** 10:24:58.0±1.4, 16.34N×98.14W, h14^{km}±5^{km}, MD4.5*

*NEIC **09** 10:24:58.1, 16.38N×98.14W, h14^{km}, mb4.3/14, MD4.4(MEX), After MEX.*

*IDC **09** 10:25:07.0±5.9, 17.24N×97.33W, h72^{km}±52^{km}, mb3.6/4, mb1 3.9/6, mb1mx3.6/21, ML3.3/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/19, Error ellipse: s-maj=85.8km s-min=28.5km az=56.0*

ISC 09 10:24:55.6±0.4**, 16.47N**±0.04×**97.99W**±0.03**, h10**^{km}**, n69,** σ**1**^{s}**29**/80**, mb4.1**/16**, MS3.4**/3**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.15	241	*e*P	Pg	10 24 59.3	+0.3
PNIG				*i* S	Sg	10 25 02.1	+0.8
OXX	Oaxaca	1.36	63	*i* P	Pb	10 25 21.0	+0.3
HUIG	Huatulco	1.94	111	*e*P	Pn	10 25 29.0	0.0
HUIG				*i* S	Sn	10 25 54.2	+0.7
CAIG	El Cayaco	2.26	285	*e*P	Pn	10 25 31.3	-2.2
CAIG				*i* S	Sn	10 25 54.5	-7.2
IIB	San Bernardino	2.51	352	*e*P	Pn	10 25 43.0	+5.9
IISM	Ciudad Serdan	2.58	13	*e*P	Pn	10 25 40.0	+1.9
YAIG	Yautepec	2.59	337	*e*P	Pn	10 25 41.7	+3.4
PPM	Popocatepetl	2.66	347	*e*P	Pn	10 25 38.6	-0.7
PPM				*e*P		10 25 40.0	
PPM				*e*S	Sn	10 26 12.4	+0.5
PPM	Popocatepetl	2.66	347	*e*P	Pn	10 25 38.6	-0.7
PPM				*e*S	Sn	10 26 12.4	+0.5
IIZ	Mezontepec	2.96	336	*e*P	Pn	10 25 48.5	+5.0
CMIG	Matias Romero	3.04	78	*e*P	Pn	10 25 42.7	-2.0
CMIG				*e*S	Sn	10 26 20.1	-1.4
UNM	Universidad Na	3.06	339	*e*P	Pn	10 25 44.1	-1.0
UNM				*e*P		10 25 45.0	
UNM				*e*P		10 25 47.3	
UNM				*e*S	Sn	10 26 21.7	-0.4
UNM				*e*S	Sn	10 26 22.2	0.0
UNM	Universidad Na	3.06	339	*e*P	Pn	10 25 44.1	-1.0
UNM				*e*S	Sn	10 26 21.7	-0.4
UNM				*e*S	Sn	10 26 22.2	0.0
PBVM	Pinon	3.14	341	*e*P	Pn	10 25 46.3	+0.2
PBVM				*e*S	Sn	10 26 19.5	-4.5
EVV	El Vigia	3.21	51	*i* P	Pn	10 25 44.0	-3.1
ZIIG	Zihuatanejo	3.51	289	*e*P	Pn	10 25 52.6	+1.2
ZIIG				*e*S	Sn	10 26 35.4	+1.9
LVIG	Laguna Verde	3.57	25	*e*P	Pn	10 25 54.5	+2.3
LVIG				*e*S	Sn	10 26 36.7	+1.8
TUIG	Tuzandepetl	3.75	65	*e*P	Pn	10 25 55.0	+0.2
TUIG				*e*S	Sn	10 26 40.1	+0.6
MOIG	Morelia	4.41	317	*e*P	Pn	10 26 09.6	+5.4
MOIG				*e*S	Sn	10 26 52.6	-3.7
TPX	Tapachula	5.73	105	*e*P	Pn	10 26 25.0	+2.2
CGX	Ciudad Guzman	6.15	302	*e*P	Pn	10 26 29.0	+0.2
SFJM	Santa Fe	6.24	311	*e*P	Pn	10 26 34.0	+4.0
TEIG	Tepich	9.95	66	S	Sn	10 29 02.5	-12
	0.0nm,0.3s,baz=58,slow=24,SNR=2.4						
HKT	Hockley	13.57	8	*e*P	P	10 28 13.5	+2.8
	7.8nm,1.3s						
TXAR	Lajitas Array	13.83	339	P	P	10 28 14.1	0.0
	0.0nm,0.3s,baz=156,slow=12,SNR=7.3						
JCT	Junction City	14.05	354	*e*P	P	10 28 18.5	+1.5
	9.1nm,0.8s						
JTS	JuntasAbangare	14.09	114	P	P	10 28 20.0	+2.3
	0.3nm,0.3s,baz=290,slow=15,SNR=3.2						
CLNB	Carlsbad	16.61	342	*e*P	P	10 28 53.3	+3.1
GDL2	Guadalupe Moun	16.70	341	*e*P	P	10 28 52.3	+1.0
WMOK	Wichita Mounta	18.21	358	*e*P	P	10 29 07.8	-2.4
	7.4nm,1.1s						
BNM	Barren Site	19.25	338	*e*P	P	10 29 24.9	+2.1
LENM	Lemitar	19.39	337	*e*P	P	10 29 23.7	-0.7
LPM	Los Pinos Moun	19.39	338	*e*P	P	10 29 25.0	+0.5
TUC	Tucson	19.58	326	*e*P	P	10 29 26.2	-0.5
	3.5nm,1.0s						
LAZ	Ladron	19.66	337	*e*P	P	10 29 27.4	-0.1
SDCO	Great Sand Dun	22.21	344	*e*P	P	10 29 53.7	-0.1
	5.9nm,0.8s,mb4.1						
MYNC	Murphy	22.30	31	P	P	10 29 49.8	-4.9
	22nm,1.0s,mb4.5						
CCM	Cathedral Cave	22.31	14	*e*P	P	10 29 53.4	-1.4
	7.8nm,0.8s,mb4.2						
WUAZ	Wupatki	22.42	330	*e*P	P	10 29 57.3	+1.4
	12nm,0.9s,mb4.3						
KSU1	Kansas State U	22.58	3	*e*P	P	10 29 56.6	-0.9
RW3	Ridgway	23.32	340	*e*P	P	10 30 05.9	+1.2
PV01	Paradox Valley	23.51	339	*e*P	P	10 30 07.4	+0.8
PV10	Paradox Valley	23.89	338	*e*P	P	10 30 09.8	-0.4
ISCO	Idaho Springs	24.18	346	*e*P	P	10 30 13.7	+0.6
	12nm,0.8s,mb4.4						
SRU	San Rafael	25.09	337	*e*P	P	10 30 21.9	+0.1
MSU	Marysvale	25.25	333	*e*P	P	10 30 24.1	+0.7
DAU	Daniels Canyon	26.50	337	*e*P	P	10 30 34.6	-0.4
DUG	Dugway	26.93	334	*e*P	P	10 30 38.7	-0.2
	5.8nm,1.0s,mb4.1						
TCUT	Toone Canyon	27.16	337	*e*P	P	10 30 40.3	-0.8
HWUT	Hardware Ranch	27.65	338	*e*P	P	10 30 44.9	-0.6
	6.0nm,1.2s,mb4.1						
PDAR	Pinedale Array	28.02	342	P	P	10 30 47.0	-1.8
	0.7nm,0.8s,mb3.3,baz=135,slow=8.4,SNR=6.9						
NVAR	Mina Array Bea	28.23	325	P	P	10 30 51.2	+0.5
	2.0nm,0.8s,mb3.8,baz=139,slow=11,SNR=17						
NVAR	Mina Array Bea	28.23	325	P	P	10 30 51.2	+0.5
TPAW	Teton Pass	29.11	340	*e*P	P	10 30 57.9	-0.7
HLID	Hailey	30.40	336	*e*P	P	10 31 09.1	-1.1
	2.0nm,1.0s,mb3.8						
MCMT	McKenzie Canyo	30.92	339	*e*P	P	10 31 14.9	+0.2
WVOR	Wild Horse Val	31.34	330	*e*P	P	10 31 17.9	-0.6
	8.0nm,1.0s,mb4.5						
MOD	Modoc	31.78	327	*e*P	P	10 31 21.7	-0.6
	1.7nm,0.7s,mb4.0						
ULM	Lac du Bonnet	33.74	2	LR	LR	10 45 09.7	
	comp=Z,29nm,20.2s,MS3.0,baz=31,slow=36						
GNW	Green Mountain	37.16	332	*e*P	P	10 32 06.9	-1.5
GNW				*e*		10 32 15.2	
FFC	Flin Flon	38.31	356	*e*P	P	10 32 16.0	-2.0
	7.8nm,0.9s,mb4.4						
SCHQ	Schefferville	45.19	25	LR	LR	10 52 49.0	
	comp=Z,69nm,19.1s,MS3.6,baz=80,slow=38						
YKA	Yellowknife Ar	47.44	350	P	P	10 33 29.8	-2.2
	1.2nm,0.7s,mb4.0,baz=158,slow=6.7,SNR=3.6						
YKA	Yellowknife Ar	47.44	350	P	P	10 33 29.8	-2.2
DLBC	Dease Lake	48.13	338	*e*P	P	10 33 37.9	+0.4
INK	Inuvik	56.51	345	*e*P	P	10 34 37.5	-2.5
	7.0nm,1.0s,mb4.7						
ILAR	Eielson Array	58.34	338	P	P	10 34 50.4	-2.6
	1.2nm,0.8s,mb4.0,baz=138,slow=5.0,SNR=12						
ILAR				LR	LR	11 02 10.9	
	comp=Z,59nm,18.3s,MS3.7,baz=318,slow=38						
WRA	Warramunga Arr	130.33	258	PKP	PKPdf	10 44 11.7	+1.4
	0.6nm,1.1s,baz=77,slow=2.3,SNR=5.1						
ASAR	Alice Springs	130.94	253	PKP	PKPdf	10 44 12.2	+0.8
	0.3nm,0.9s,baz=90,slow=1.8,SNR=4.4						

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*IDC **09** 10:53:41.6±4.8, 4.52S×153.65E, h105^{km}±40^{km}, mb3.9/12, mb1 4.1/13, mb1mx4.0/17, Error ellipse: s-maj=31.7km s-min=16.4km az=93.0*

*NEIC **09** 10:53:42.7±2.1, 4.53S×153.59E, h114^{km}±17^{km}, mb4.4/7, Error ellipse: s-maj=18.6km s-min=9.3km az=97.0*

ISC 09 10:53:41.6±3.8**, 4.52S**±0.10×**153.6E**±0.2**, h118**^{km}±31^{km}**, n24,** σ0^{s}**64**/26**, mb4.1**/17**, 3D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.01	232	P	P	10 55 36.6	+0.1
	11nm,0.3s,baz=31,slow=6.0,SNR=39						
PMG				S	S	10 57 06.3	+0.3
	3.6nm,0.3s,baz=132,slow=19,SNR=9.1						
KAKA	Kakadu	22.44	247	⇓*i*P	P	10 58 31.6	+0.1
	14nm,0.6s,mb4.5						
WB2	Warramunga Arr	24.20	229	⇓*i*P	P	10 58 49.3	+0.8
WRA	Warramunga Arr	24.21	229	P	P	10 58 49.4	+0.9
	14nm,0.4s,mb4.6,baz=54,slow=10.0,SNR=258						
WRA				S	S	11 03 08.8	+13
	0.6nm,0.8s,baz=44,slow=17,SNR=3.5						
ASAR	Alice Springs	26.88	223	P	P	10 59 12.9	-0.5
	1.7nm,0.6s,mb3.8,baz=54,slow=9.1,SNR=24						
ASAR				PcP	PcP	11 02 32.8	-0.4
	0.7nm,0.7s,baz=51,slow=1.8,SNR=5.3						
ASPA	Alice Springs	26.88	223	*e*P	P	10 59 13.2	-0.3
STKA	Stephens Creek	29.44	201	*e*P	P	10 59 35.8	-0.7
	3.3nm,0.5s,mb4.2						
STKA	Stephens Creek	29.44	201	P	P	10 59 35.7	-0.7
	4.1nm,0.5s,mb4.3,baz=18,slow=11,SNR=16						
FITZ	Fitzroy Crossi	30.47	241	*e*P	P	10 59 44.4	-1.3
	4.8nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	30.47	241	P	P	10 59 44.0	-1.8
	4.3nm,0.6s,mb4.3,baz=68,slow=4.5,SNR=18						
FORT	Forrest	35.49	220	⇓*i*P	P	11 00 28.5	-0.3
	50nm,0.5s						
KLBR	Kellerberrin	43.06	227	*e*P	P	11 01 30.4	-1.1
	4.9nm,0.5s,mb4.5						
JNU	Nakatsue	43.18	332	P	P	11 01 32.1	-0.3
	4.5nm,0.5s,mb4.4,baz=244,slow=6.1,SNR=4.1						
CMAR	Chiang Mai Arr	58.47	295	P	P	11 03 28.5	+0.6
	1.6nm,0.8s,mb4.1,baz=130,slow=5.0,SNR=6.8						
SONM	Songino Array	66.51	327	P	P	11 04 20.7	-0.2
	0.5nm,0.4s,mb3.7,baz=142,slow=7.4,SNR=3.8						
VNDA	Vanda	73.08	178	P	P	11 05 00.8	+0.6
	1.3nm,0.6s,mb4.0,baz=335,slow=6.2,SNR=8.0						
VNDA	Vanda	73.08	178	P	P	11 05 00.8	+0.6
MKAR	Makanchi Array	80.63	319	P	P	11 05 43.4	+0.6
	1.8nm,0.9s,mb3.9,baz=100,slow=8.3,SNR=11						
ILAR	Eielson Array	81.61	22	P	P	11 05 46.8	-0.8
	0.4nm,0.7s,mb3.4,baz=248,slow=5.4,SNR=8.5						
KURK	Kurchatov	84.03	322	*e*P	P	11 06 00.5	+0.4
	2.9nm,1.0s,mb4.1						
QSPA	South Pole Qui	85.44	180	*e*P	P	11 06 07.5	+1.0
	1.0nm,0.6s,mb3.9						
QSPA				*e*	pP	11 06 38.0	+0.8
MAW	Mawson	86.12	203	P	P	11 06 10.1	+0.1
	3.3nm,0.7s,mb4.4,baz=68,slow=5.1,SNR=7.3						
INK	Inuvik	87.92	21	P	P	11 06 19.0	+0.2
	0.4nm,0.7s,mb3.6,baz=233,slow=11,SNR=3.1						
BRVK	Borovoye	89.55	323	P	P	11 06 26.8	0.0
	1.2nm,0.4s,mb4.4						

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*STR **09** 11:33:36.2±0.1, 44.41N×6.81E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **09** 11:33:36.1±0.0, 44.42N×6.79E, h2^{km}, Md2.4/3, Ml2.5/7, Error ellipse: s-maj=1.2km s-min=0.7km az=69.0*

*NEIC **09** 11:33:36.2, 44.41N×6.81E, h5^{km}, ML2.5(LDG), ML2.2(STR), ML2.1(GEN), After STR.*

ISC 09 11:33:35.1±0.3**, 44.40N**±0.01×**6.76E**±0.02**, h10**^{km}±2^{km}**, n33,** σ0^{s}**70**/62**, 5C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.09	28	Pg	Pg	11 33 38.2	+0.6
SURF				Sg	Sg	11 33 39.7	+0.4
PZZ	Prazzo	0.27	68	⇑P	Pg	11 33 41.4	+0.6
PZZ				S	Sg	11 33 45.2	+0.6
MBDF	Montbardon	0.32	2	*e*Pg	Pg	11 33 42.2	+0.4
MBDF				*e*Sg	Sg	11 33 46.5	+0.2
	73nm,0.2s						
STV	Sta Anna Valdi	0.44	111	⇑P	Pg	11 33 44.3	+0.2
STV				S	Sg	11 33 50.1	+0.1
STV2	Anna di Valdie	0.44	111	P	Pg	11 33 44.2	+0.1
STV2				S	Sg	11 33 50.1	0.0
OG25	Le Caire	0.49	266	Pg	Pg	11 33 46.0	+0.9
ENR	Entracque	0.51	110	⇑P	Pg	11 33 45.5	+0.1
ENR				S	Sg	11 33 52.4	+0.1
RRL	Cesana Torines	0.52	2	⇑P	Pg	11 33 46.0	+0.4
RRL				S	Sg	11 33 53.1	+0.5
TOUF	Mont Tournerai	0.53	138	Pg	Pg	11 33 46.1	+0.3
MVIF	Mont Vial	0.58	150	Pg	Pg	11 33 47.4	+0.5
AUTN	L'Aution	0.63	130	Pg	Pg	11 33 47.8	-0.1
AUTN				Sg	Sg	11 33 56.4	0.0
CALN	Calern	0.66	172	Pg	Pg	11 33 49.3	+0.9
CALN				Sg	Sg	11 33 57.8	+0.6
AURF	Auriere	0.66	141	Pg	Pg	11 33 48.7	+0.3
AURF				Sg	Sg	11 33 57.1	-0.2
FENE	Fenestrelle	0.66	19	P	Pb	11 33 48.3	0.0
FENE				S	Sb	11 33 56.9	-0.4
SAOF	Saorge	0.71	126	Pg	Pg	11 33 49.3	-0.1
SAOF				Sg	Sg	11 33 58.3	-0.7
SBF	Sospel	0.73	138	*e*Pg	Pg	11 33 49.7	-0.1
SBF				*e*Sg	Sg	11 33 58.8	-0.8
	21nm,0.2s						
MONE	Monesi	0.79	114	P	Pb	11 33 50.6	+0.2
MONE				S	Sb	11 34 01.4	+0.5
ROB	Roburent	0.81	97	⇑P	Pb	11 33 51.1	+0.4
ROB				S	Sb	11 34 01.7	+0.2
ORIF	Oris-en-Rattie	0.81	310	*e*Pg	Pg	11 33 50.8	-0.6
ORIF				*e*Sg	Sg	11 34 01.8	-0.4
	16nm,0.2s						
RSP	Reno Superiore	0.83	25	P	Pb	11 33 51.4	+0.3
RSP				S	Sb	11 34 02.5	+0.4
FRF	La Foret Royal	0.85	185	*e*Pg	Pg	11 33 52.3	+0.2
FRF				*e*Sg	Sg	11 34 03.5	0.0
	12nm,0.2s						
NEGI	Negi	0.88	129	P	Pb	11 33 52.6	+0.6
SMRF	Simiane la Rot	0.95	244	*e*Pn	Pn	11 33 55.3	+0.9
SMRF				*e*Sg	Sg	11 34 08.7	+1.8
	19nm,0.3s						
IMI	Imperia	0.95	121	*e*Pg	Pg	11 33 53.7	-0.5
IMI				*e*Sg	Sg	11 34 12.2	+5.2
RORO		0.99	107	P	Pb	11 33 53.9	+0.1
RORO				S	Sb	11 34 06.9	+0.3
FIN	Finale Ligure	1.06	100	*e*Pg	Pg	11 33 55.5	-0.9
FIN				*e*Sg	Sg	11 34 07.9	-2.6
LMR	La Mourre	1.08	190	*e*Pg	Pg	11 33 56.6	-0.2
LMR				*e*Sg	Sg	11 34 10.9	-0.4
	30nm,0.3s						
LSD	Ceresole Reale	1.09	15	P	Pb	11 33 55.9	+0.3
LSD				S	Sb	11 34 10.4	+0.7
LPG	La Plagne	1.09	360	*e*Pg	Pg	11 33 56.6	-0.4
LPG				*e*Sg	Sg	11 34 11.1	-0.6
	7.3nm,0.2s						
LPL	La Plagne	1.11	359	*e*Pg	Pg	11 33 56.7	-0.7
LPL				*e*Sg	Sg	11 34 11.0	-1.3
	13nm,0.4s						
VIVF	Saint-Julien-l	1.56	288	*e*Pg	Pg	11 34 04.7	-1.5
VIVF				*e*Sn	Sn	11 34 23.4	+0.1
	5.8nm,0.3s						
LASF	Ste Croix	2.11	262	*e*Pn	Pn	11 34 10.9	0.0
LASF				*e*Sg	Sg	11 34 43.4	-2.0
PGF	Pioggiola	2.47	138	*e*Pn	Pn	11 34 16.1	0.0
PGF				*e*Sn	Sn	11 34 44.5	-2.1
	2.1nm,0.2s						

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*LDG **09** 11:33:54.4±0.1, 44.41N×6.67E, h2^{km}, Md2.4/2, Ml2.4/5, Error ellipse: s-maj=2.3km s-min=1.4km az=68.0*

*STR **09** 11:33:55.4±0.1, 44.42N×6.78E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 09 11:33:53.2±0.6**, 44.40N**±0.02×**6.63E**±0.04**, h2^{km}, n14, σ0.^{s}71**/19**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	**Saint Ours**	0.16	57	Pg	Pg	11 33 57.4	+1.1
SURF				Sg	Sg	11 33 59.0	+0.5
MBDF	**Montbardon**	0.35	17	*e*Sg	Sg	11 34 05.4	+0.7
	93nm,0.3s						
OG25	**Le Caire**	0.40	266	Pg	Pg	11 34 05.2	+4.1
TOUF	**Mont Tournerai**	0.59	130	Pg	Pg	11 34 05.1	+0.2
TOUF				Sg	Sg	11 34 12.3	-0.4
AUTN	**L'Aution**	0.70	125	Pg	Pg	11 34 07.3	+0.1
AUTN				Sg	Sg	11 34 16.7	+0.2
ORIF	**Oris-en-Rattie**	0.75	315	*e*Sg	Sg	11 34 18.3	+0.3
	10.0nm,0.3s						
SAOF	**Saorge**	0.78	121	Pg	Pg	11 34 08.6	-0.2
SAOF				Sg	Sg	11 34 18.6	-0.6
SBF	**Sospel**	0.79	132	*e*Sg	Sg	11 34 19.2	-0.2
	13nm,0.2s						
FRF	**La Foret Royal**	0.83	179	*e*Sg	Sg	11 34 22.1	+1.1
	12nm,0.2s						
LMR	**La Mourre**	1.06	185	*e*Sg	Sg	11 34 29.0	+0.4
	29nm,0.4s						
LPG	**La Plagne**	1.10	5	*e*Sg	Sg	11 34 29.8	-0.2
	6.7nm,0.2s						
LPL	**La Plagne**	1.12	4	*e*Sg	Sg	11 34 29.8	-0.8
	12nm,0.4s						
VIVF	**Saint-Julien-l**	1.47	289	*e*Sg	Sg	11 34 41.4	-0.7
	3.5nm,0.3s						
PGF	**Pioggiola**	2.53	136	*e*Pn	Pn	11 34 35.0	-0.9
PGF				*e*Sn	Sn	11 35 04.2	-3.5
	2.5nm,0.3s						

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*IDC **09** 11:39:33.3±12.0, 6.57S×129.79E, h125^{km}±95^{km}, mb3.9/1, mb1 3.3/4, mb1mx3.1/12, ML3.2/3, Error ellipse: s-maj=93.6km s-min=56.9km az=174.0*

ISC 09 11:39:31.3±3.0**, 6.3S**±0.2×**129.7E**±0.2**, h160^{km}**±26^{km}**, n5, σ0.^{s}77**/8**, mb4.2**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	6.88	157	*e*P	P	11 41 11.3	+0.6
	0.8nm,0.2s						
KAKA				*e*S	S	11 42 27.9	-0.1
FITZ	**Fitzroy Crossi**	12.33	198	P	P	11 42 22.5	+0.1
	0.2nm,0.3s,baz=210,slow=17,SNR=6.3						
FITZ				S	S	11 44 37.0	+0.1
	0.1nm,0.3s,baz=205,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	14.27	162	P	P	11 42 46.3	-0.9
	0.1nm,0.3s,baz=344,slow=12,SNR=10						
WRA				S	S	11 45 21.8	+0.2
	0.2nm,0.3s,baz=333,slow=25,SNR=6.5						
ASAR	**Alice Springs**	17.71	167	P	P	11 43 28.6	-0.7
	0.1nm,0.3s,baz=350,slow=11,SNR=7.3						
STKA	**Stephens Creek**	27.75	158	P	P	11 45 07.9	+0.7
	5.8nm,1.3s,mb4.2,baz=323,slow=15,SNR=2.6						

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*IDC **09** 12:24:27.5±1.4, 20.75S×173.24W, mb3.8/5, mb1 4.2/6, mb1mx3.9/18, ML4.1/1, Error ellipse: s-maj=88.4km s-min=22.3km az=162.0*

ISC 09 12:24:29.9±0.9**, 21.4S**±0.4×**173.0W**±0.1**, h33^{km}, n6, σ0.^{s}93**/6**, mb3.9**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	12.36	91	Pn	P	12 27 26.4	-0.1
	1.2nm,0.3s,baz=260,slow=11,SNR=13						
CTA	**Charters Tower**	38.02	264	P	P	12 31 46.5	-0.3
	2.1nm,0.5s,mb4.1,baz=92,slow=12,SNR=4.4						
ASAR	**Alice Springs**	48.82	257	P	P	12 33 14.7	+0.5
	1.1nm,0.7s,mb4.0,baz=91,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	49.06	262	P	P	12 33 15.9	-0.3
	0.9nm,0.4s,mb4.2,baz=97,slow=7.1,SNR=48						
NVAR	**Mina Array Bea**	78.60	41	P	P	12 36 29.1	-0.9
	0.3nm,0.6s,mb3.4,baz=221,slow=8.3,SNR=4.2						
PDAR	**Pinedale Array**	86.53	41	P	P	12 37 11.9	+1.2
	0.3nm,0.8s,mb3.6,baz=214,slow=3.3,SNR=4.1						

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*NNC **09** 12:34:38.6±3.6, 43.79N×86.85E, mpv3.2, Error ellipse: s-maj=122.3km s-min=35.1km az=45.0*

BJI 09 12:34:43.8, 44.21N×87.08E, h15^{km}, ML3.7, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	0.59	131	⇑*i*PG	Pg	12 34 53.5	-2.4
WMQ				SG	Sg	12 35 02.7	-1.2
WMQ				Smax			
	comp=N,5µm,0.3s						
WMQ				Smax			
	comp=E,3µm,0.4s						
MK31	**Makanchi Array**	4.24	309	⇑Pn	Pn	12 35 49.2	-0.3
	comp=E,1.1nm,0.4s,baz=226,slow=27,SNR=35						
MK31				Pg	Pg	12 36 01.7	-6.9
	comp=E,4.6nm,0.5s,baz=127,slow=16,SNR=6.5						
MK31				⇓Lg		12 36 56.2	
	comp=E,26nm,0.6s,baz=123,slow=28,SNR=11						
KURK	**Kurchatov**	8.67	322	⇓Pn	P	12 36 48.6	-3.1
	comp=E,0.7nm,0.6s,baz=142,slow=8.4,SNR=3.9						
KURK				⇓Lg		12 39 20.6	
	comp=E,9.0nm,0.8s,baz=269,slow=14,SNR=4.1						

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*IDC **09** 13:09:16.8±1.7, 10.16S×161.42E, mb3.7/7, mb1 4.0/7, mb1mx3.9/15, Error ellipse: s-maj=68.2km s-min=23.0km az=141.0*

ISC 09 13:09:20.5±1.5**, 10.2S**±0.4×**161.3E**±0.3**, h33^{km}, n7, σ0.^{s}57**/7**, mb3.7**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	27.75	246	P	P	13 15 08.3	-0.1
	0.2nm,0.3s,mb3.2,baz=77,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	29.36	239	P	P	13 15 22.3	-0.5
	0.3nm,0.8s,mb3.1,baz=63,slow=10,SNR=3.3						
FITZ	**Fitzroy Crossi**	35.42	253	P	P	13 16 16.4	+0.7
	3.7nm,1.2s,mb4.2,baz=80,slow=11,SNR=3.4						
SONM	**Songino Array**	75.47	325	P	P	13 21 03.6	+0.5
	0.5nm,0.5s,mb3.8,baz=136,slow=5.5,SNR=3.3						
ILAR	**Eielson Array**	84.16	20	P	P	13 21 48.6	-0.7
	0.3nm,0.5s,mb3.7,baz=250,slow=5.0,SNR=11						
NVAR	**Mina Array Bea**	88.85	51	P	P	13 22 13.5	+0.6
	0.4nm,0.7s,mb3.8,baz=225,slow=5.1,SNR=3.4						
MKAR	**Makanchi Array**	89.96	318	P	P	13 22 17.4	-0.5
	0.4nm,0.5s,mb4.0,baz=101,slow=6.3,SNR=4.4						

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*IDC **09** 13:18:06.1±0.9, 72.92N×5.87E, mb3.3/5, mb1 3.7/11, mb1mx3.6/23, ML3.6/6, MS3.3/12, Ms1 3.3/12, ms1mx3.0/24, Error ellipse: s-maj=20.0km s-min=13.2km az=51.0*

*NEIC **09** 13:18:07.3±0.5, 73.02N×5.96E, h10^{km}, ML2.7(BER), Error ellipse: s-maj=9.0km s-min=5.9km az=67.0*

*NAO **09** 13:18:11.7±12.0, 73.20N×6.75E, h22^{km}±133^{km}, ML2.0*

*BER **09** 13:18:11.1±3.3, 73.12N×6.22E, h15^{km}±36^{km}, MD3.1, ML2.7, ML2.0(NAO)*

ISC 09 13:18:06.2±0.6**, 73.02N**±0.04×**6.7E**±0.2**, h10^{km}, n40, σ1.^{s}35**/39**, mb3.2**/5**, MS3.4**/9**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJO	**Bjornoya**	3.80	61	*e*P	Pn	13 19 07.6	+1.6
BJO				*e*S	Sn	13 19 51.2	-0.1
JMIC	**Jan Mayen**	5.14	254	Pn	Pn	13 19 20.3	-4.8
	15nm,0.3s,baz=68,slow=8.0,SNR=16						
JMIC				LR	LR	13 20 44.8	
	comp=Z,120nm,18.6s,baz=299,slow=33						
TRO	**Tromso**	5.18	125	*e*P	Pn	13 19 26.5	+0.8
LOF	**Lofoten**	5.41	152	*e*P	Pn	13 19 31.3	+2.5
LOF				*e*P		13 19 31.8	
LOF				*e*S	Sn	13 20 29.2	-2.7
LOF				AML	AML	13 20 30.1	
	comp=Z,16nm,0.5s						
LOF				AML	AML	13 20 30.1	
	comp=Z,15nm,0.5s						
LOF	**Lofoten**	5.41	152	*e*P	Pn	13 19 31.3	+2.5
LOF				*e*S	Sn	13 20 29.2	-2.7
SPA0	**Spitsbergen Ar**	5.71	20	Pn	Pn	13 19 32.2	-0.9
	baz=207,slow=16						
SPITS	**Spitsbergen Ar**	5.71	20	Pn	Pn	13 19 32.8	-0.3
	comp=Z,0.7nm,0.3s,baz=204,slow=16,SNR=17						
KBS	**Kingsbay**	6.07	10	Pn	Pn	13 19 37.4	-0.8
KTK1	**Kautokeino**	6.70	119	*e*P	Pn	13 19 50.0	+2.9
ARA0	**ARCESS Array S**	6.96	111	Pn	Pn	13 19 51.8	+1.1
	baz=303,slow=12						
ARA0				Sn	Sn	13 21 09.6	-1.1
	baz=304,slow=22						
ARCES	**ARCESS Array B**	6.96	111	Pn	Pn	13 19 52.0	+1.3
	comp=Z,0.8nm,0.3s,baz=322,slow=10,SNR=32						
ARCES				Sn	Sn	13 21 10.3	-0.4
	comp=Z,0.4nm,0.3s,baz=304,slow=21,SNR=2.6						
STOK	**Stokkvaagen**	7.06	159	*e*P	Pn	13 19 52.8	+0.6
STOK				*e*S	Sn	13 21 08.4	-4.8
STOK				AML	AML	13 21 13.5	
	comp=Z,11nm,0.5s						
KEV	**Kevo**	7.24	107	*e*p	Pn	13 19 52.0	-2.7
MOR8	**Moi Rana**	7.38	155	*e*P	Pn	13 19 56.2	-0.4
MOR8				*e*P		13 19 56.5	
MOR8				*e*S	Sn	13 21 13.1	-8.2
MOR8				AML	AML	13 21 20.4	
	comp=Z,13nm,0.5s						
MOR8				AML	AML	13 21 20.4	
	comp=Z,13nm,0.6s						
MOR8	**Moi Rana**	7.38	155	*e*P	Pn	13 19 56.2	-0.4
MOR8				*e*S	Sn	13 21 13.1	-8.2
NSS	**Namsos**	8.73	165	*e*P	P	13 20 14.6	-0.9
NSS				AML	AML	13 21 52.1	
	comp=Z,6.9nm,0.7s						
MOL	**Molde**	10.50	178	*e*P	P	13 20 41.3	+1.6
NB2	**NORSAR Subarra**	12.15	170	Pn	P	13 21 01.4	-0.7
NOA	**NORSAR Array B**	12.15	170	Pn	P	13 21 00.6	-1.5
	comp=Z,0.4nm,0.3s,baz=348,slow=12,SNR=4.2						
NOA				LR	LR	13 25 28.1	
	comp=Z,64nm,19.9s,baz=350,slow=36						
KAF	**Kangasniemi**	13.15	136	*e*p	P	13 21 14.4	-1.0
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	13.22	165	Pn	P	13 21 15.1	-1.2
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=14						
HFS				Sn	S	13 23 37.1	-7.3
	comp=Z,0.1nm,0.3s,baz=344,slow=27,SNR=3.4						
HFS	**Hagfors**	13.22	165	P	P	13 21 15.5	-0.8
	baz=352,slow=14						
FIA0	**FINESS Array S**	13.71	138	Pn	P	13 21 22.9	+0.3
	baz=340,slow=14						
FINES	**FINESS Array B**	13.71	138	Pn	P	13 21 23.1	+0.5
	comp=Z,0.3nm,0.3s,baz=339,slow=12,SNR=10						
FINES				LR	LR	13 26 24.1	
	comp=Z,103nm,20.0s,baz=276,slow=36						
MOX	**Moxa**	22.56	172	*e*P	P	13 23 10.0	+2.8
AKASG	**Malin Array Be**	24.45	144	P	P	13 23 28.6	+3.0
	comp=Z,1.2nm,0.6s,mb3.5,baz=343,slow=9.7,SNR=3.1						
GERES	**GERESS Array B**	24.45	169	P	P	13 23 25.9	+0.2
	comp=Z,0.3nm,0.3s,mb3.2,baz=7.1,slow=11,SNR=4.4						
FRB	**Frobisher Bay**	27.21	290	LR	LR	13 33 46.8	
	comp=Z,28nm,18.0s,MS2.9,baz=115,slow=35						
GNI	**Garni**	37.69	129	LR	LR	13 41 19.3	
	comp=Z,48nm,20.1s,MS3.3,baz=168,slow=37						
YKA	**Yellowknife Ar**	39.14	321	LR	LR	13 41 34.7	
	comp=Z,68nm,19.1s,MS3.5,baz=30,slow=36						
ILAR	**Eielson Array**	41.34	343	P	P	13 25 53.1	+0.1
	comp=Z,0.2nm,0.7s,mb2.9,baz=7.1,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	41.85	86	P	P	13 26 04.0	+6.8
	comp=Z,0.4nm,0.9s,mb3.0,baz=337,slow=9.2,SNR=4.5						
DLBC	**Dease Lake**	45.55	330	LR	LR	13 44 57.0	
	comp=Z,44nm,21.6s,MS3.4,baz=344,slow=35						
ULM	**Lac du Bonnet**	46.24	300	LR	LR	13 45 40.5	
	comp=Z,68nm,19.0s,MS3.6,baz=24,slow=36						
SADO	**Sadowa**	46.69	282	LR	LR	13 45 03.1	
	comp=Z,29nm,19.4s,MS3.2,baz=44,slow=35						
NEW	**Newport**	53.01	316	LR	LR	13 51 07.3	
	comp=Z,40nm,19.0s,MS3.5,baz=76,slow=38						
PDAR	**Pinedale Array**	56.58	308	P	P	13 27 49.3	-1.5
	comp=Z,0.1nm,0.3s,mb3.3,baz=224,slow=56,SNR=3.4						
NVAR	**Mina Array Bea**	62.67	314	LR	LR	13 54 33.3	
	comp=Z,19nm,19.1s,MS3.3,baz=210,slow=35						
TXAR	**Lajitas Array**	67.89	298	LR	LR	13 58 27.3	
	comp=Z,43nm,18.3s,MS3.7,baz=190,slow=36						
ASAR	**Alice Springs**	122.98	61	PKP	PKPdf	13 37 02.9	-2.3
	comp=Z,0.2nm,0.7s,baz=2.1,slow=2.2,SNR=5.9						

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*IDC **09** 13:31:32.7±0.6, 12.43N×95.06E, h21^{km}±3^{km}, mb3.9/10, mb1 4.1/11, mb1mx3.9/20, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=42.0km s-min=11.6km az=54.0*

*NEIC **09** 13:31:32.4±0.5, 12.26N×94.88E, mb4.3/2, Error ellipse: s-maj=19.1km s-min=10.2km az=68.0*

*BJI **09** 13:31:34.6, 12.19N×94.30E, h38^{km}, mb4.5*

ISC 09 13:31:30.9±0.6**, 12.28N**±0.08×**95.06E**±0.08**, h22^{km}, h22^{km}**±1.6^{km}**: pP-P, n33, σ0.^{s}97**/27**, mb4.1**/13**, MS3.5**/3**, 1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNT	**Nongplab**	4.58	86	P	Pn	13 32 39.5	-1.2
NST	**Nakhon Sawan**	5.97	55	P	Pn	13 32 48.0	-12
BDT	**Bhumibol Dam**	6.24	37	P	Pn	13 33 03.0	-1.2
CMAR	**Chiang Mai Arr**	7.20	31	Pn	Pn	13 33 19.1	+1.5
	0.4nm,0.3s,baz=222,slow=15,SNR=7.3						
PKI	**Pulchoki**	17.70	331	*e*P	P	13 35 38.9	+1.1
	45nm,1.1s						
LSA	**Lhasa**	17.71	349	P	P	13 35 39.0	+1.0
LSA	**Lhasa**	17.71	349	*e*P	P	13 35 38.1	+0.1
	11nm,0.6s						
DMN	**Daman**	17.88	330	*e*P	P	13 35 41.2	+1.1
	14nm,0.4s						
KKN	**Kakani**	17.94	331	*e*P	P	13 35 41.8	+0.9
GKN	**Gorkha**	18.43	330	*e*P	P	13 35 46.0	-1.0
	66nm,1.2s						
KOLN	**Koldanda**	18.78	327	*e*P	P	13 35 50.0	-1.2
CD2	**Chengdu**	20.21	22	⇓*i*P	P	13 36 12.0	+4.7
CD2				AMB	AMB		
	comp=Z,28nm,1.0s						
NDI	**New Delhi**	23.31	317	*e*P	P	13 36 38.0	-0.4
LZH	**Lanzhou**	25.00	17	*e*P	P	13 36 57.0	+2.3
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GTA	**Gaotai**	27.35	8	*e*P	P	13 37 22.9	+6.4
GTA				AP	pP	13 37 33.5	+11
GTA				XP	sP	13 37 37.1	+11
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	36.05	345	P	P	13 38 32.1	-0.6
	comp=Z,2.7nm,0.9s,mb4.2,baz=157,slow=9.2,SNR=16						
MKAR				pP	pP	13 38 38.5	-0.8
	comp=Z,8.3nm,1.0s,baz=157,slow=9.2,SNR=24						
MKAR				LR	LR	13 55 30.0	
	comp=Z,44nm,20.6s,MS3.2,baz=117,slow=40						
MKAR	**Makanchi Array**	36.05	345	P	P	13 38 32.1	-0.6
MKAR				pP	pP	13 38 38.5	-0.8
MKAR				LR	LR	13 55 29.9	
SONM	**Songino Array**	36.70	13	pP	pP	13 38 43.7	-1.0
	comp=Z,2.7nm,1.1s,baz=202,slow=7.8,SNR=5.0						
KURK	**Kurchatov**	40.62	344	*e*P	P	13 39 10.4	-0.4
	comp=Z,10nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	42.68	134	P	P	13 39 28.1	-0.1
	comp=Z,1.3nm,0.8s,mb3.7,baz=195,slow=13,SNR=2.7						
FITZ				pP	pP	13 39 35.6	+0.9
	comp=Z,1.5nm,0.9s,baz=89,slow=9.2,SNR=1.5						
BVAR	**Borovoye Array**	45.18	339	P	P	13 39 46.8	-1.1
	comp=Z,2.3nm,1.2s,mb3.9,baz=112,slow=7.8,SNR=3.2						
BVAR				pP	pP	13 39 53.0	-1.5
	comp=Z,3.2nm,1.1s,baz=129,slow=9.5,SNR=4.3						
WRA	**Warramunga Arr**	50.20	129	P	P	13 40 27.9	+0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=310,slow=8.0,SNR=10						
WRA				pP	pP	13 40 34.9	+0.7
	comp=Z,2.2nm,0.6s,baz=309,slow=8.2,SNR=14						
ASAR	**Alice Springs**	52.15	133	P	P	13 40 42.7	+0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=309,slow=6.6,SNR=18						
ASAR				pP	pP	13 40 49.2	+0.3
	comp=Z,1.4nm,0.6s,baz=312,slow=6.7,SNR=9.7						
STKA	**Stephens Creek**	62.55	136	P	P	13 41 57.0	+1.2
	comp=Z,1.5nm,0.8s,mb4.2,baz=3.1,slow=17,SNR=2.5						
STKA				pP	pP	13 42 02.8	+0.2
	comp=Z,3.2nm,1.1s,baz=144,slow=19,SNR=2.4						
MLR	**Muntele Rosu**	66.72	314	P	P	13 42 22.5	-0.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=88,slow=4.7,SNR=3.5						
MLR				pP	pP	13 42 27.7	-1.7
	comp=Z,2.9nm,1.0s,baz=29,slow=6.2,SNR=2.5						
FINES	**FINESS Array B**	69.28	331	LR	LR	14 18 42.6	
	comp=Z,39nm,18.1s,MS3.7,baz=101,slow=41						
ARCES	**ARCESS Array B**	71.47	340	LR	LR	14 17 49.6	
	comp=Z,47nm,21.7s,MS3.7,baz=134,slow=39						
GERES	**GERESS Array B**	75.19	318	P	P	13 43 13.3	-0.3
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=6.7,SNR=14						
GERES				pP	pP	13 43 19.9	-0.6
	comp=Z,1.8nm,0.8s,baz=90,slow=5.3,SNR=3.4						
ILAR	**Eielson Array**	90.35	22	P	P	13 44 30.1	-1.3
	comp=Z,0.4nm,0.7s,mb3.9,baz=301,slow=4.8,SNR=6.9						
INK	**Inuvik**	92.54	16	P	P	13 44 41.5	+0.1
	comp=Z,1.9nm,1.2s,mb4.4,baz=284,slow=4.2,SNR=5.4						
BDFB	**Brasilia**	144.04	260	PKP	PKPdf	13 51 06.0	-4.1
	comp=Z,1.6nm,0.4s,baz=161,slow=8.0,SNR=2.2						
PLCA	**Paso Flores**	148.96	201	PKPbc	PKPdf	13 51 20.3	+2.6
	comp=Z,1.2nm,0.9s,baz=138,slow=1.7,SNR=3.8						
CPUP	**Villa Florida**	150.51	238	PKPbc	PKPdf	13 51 23.1	+2.6
	comp=Z,1.5nm,0.8s,baz=180,slow=3.0,SNR=3.9						

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*IDC **09** 14:04:53.6±6.7, 37.11N×74.42E, mb3.9/3, mb1 3.8/5, mb1mx3.5/19, ML3.3/2, Error ellipse: s-maj=115.0km s-min=35.2km az=141.0*

*NNC **09** 14:05:05.0±4.2, 37.44N×72.10E, mpv4.0, Error ellipse: s-maj=71.3km s-min=34.6km az=82.0*

ISC 09 14:05:01.3±1.9**, 37.7N**±0.2×**74.2E**±0.2**, h33^{km}, n7, σ0.^{s}86**/9**, mb3.8**/3**, 3C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	6.08	334	⇑P	P	14 06 31.9	+0.7
	5.3nm,0.3s,baz=201,slow=92,SNR=162						
KK31				⇑S	S	14 07 40.5	0.0
	8.4nm,0.5s,baz=153,slow=22,SNR=9.7						
MKAR	**Makanchi Array**	10.90	31	Pn	P	14 07 37.7	-0.3
	0.1nm,0.3s,baz=207,slow=13,SNR=3.8						
MKAR				Lg		14 10 52.3	
	0.1nm,0.3s,baz=221,slow=27,SNR=2.7						
AB31	**Akbulak array**	15.46	323	⇑P	P	14 08 35.0	-3.4
	1.4nm,0.6s,baz=132,slow=12,SNR=18						
AB31				⇓S	S	14 11 18.7	-10
	1.5nm,0.6s						
BVAR	**Borovoye Array**	15.55	351	Pn	P	14 08 39.6	0.0
	0.2nm,0.3s,baz=165,slow=16,SNR=3.0						
FINES	**FINESS Array B**	37.95	324	P	P	14 12 17.4	+0.2
	5.7nm,1.2s,mb4.2,baz=192,slow=35,SNR=2.0						
ARCES	**ARCESS Array B**	41.04	336	P	P	14 12 43.8	+1.0
	1.3nm,0.8s,mb3.6,baz=106,slow=6.6,SNR=6.7						
NOA	**NORSAR Array B**	44.97	322	P	P	14 13 14.1	-0.6
	0.7nm,0.8s,mb3.6,baz=102,slow=6.7,SNR=3.9						

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*BJI **09** 14:28:30.6, 16.95N×119.93E, h39^{km}, mB4.8, mb4.6, Ms4.9, Msz4.8*

*MAN **09** 14:28:31.5, 17.00N×119.70E, h18^{km}, mb4.4, ML3.3, MS3.1*

MAN F Baguio City - Intensity I.

*MOS **09** 14:28:31.9±1.3, 16.98N×119.78E, h57^{km}, mb4.7/13, Error ellipse: s-maj=20.3km s-min=9.7km az=106.0*

*IDC **09** 14:28:32.4±0.5, 16.79N×119.83E, h51^{km}±4^{km}, mb4.0/16, mb1 4.1/19, mb1mx4.1/23, MS3.5/16, Ms1 3.5/16, ms1mx3.5/27, Error ellipse: s-maj=21.5km s-min=10.2km az=69.0*

*NEIC **09** 14:28:32.8±0.3, 16.82N×119.90E, mb4.6/12, Error ellipse: s-maj=9.8km s-min=5.7km az=76.0*

NEIC Felt [I PIVS] at Baguio.

ISC 09 14:28:31.8±0.2**, 16.91N**±0.03×**119.70E**±0.03**, h53^{km}, h53^{km}**±2.2^{km}**: pP-P, n97, σ1.^{s}32**/105**, mb4.5**/33**, MS3.7**/15**, 3C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	**Bolinao**	0.56	158	*e*P	P	14 28 42.8	-1.2
BOLP				*e*S	S	14 28 54.9	+2.0
BCPH	**Baguio City Da**	0.99	122	⇓*i*P	P	14 28 49.6	-0.1
BCPH				*i* S	S	14 29 03.1	0.0
SCZP	**Santa Cruz**	1.14	170	*e*P	P	14 28 52.3	+0.5
SCZP				*e*S	S	14 29 06.2	-0.4
ABRA	**Dolores**	1.22	53	*e*P	P	14 28 52.3	-0.5
ABRA				*e*S	S	14 29 10.2	+1.7
APYP	**Conner**	1.75	57	*e*P	P	14 28 59.8	-0.6
APYP				*e*S	S	14 29 21.1	-0.5
CAUP	**Cauayan**	2.04	89	*e*P	P	14 29 06.4	+2.1
BALP	**Baler**	2.14	122	*e*P	P	14 29 07.6	+1.7
BALP				*e*S	S	14 29 37.4	+6.1
CVP	**Callao Caves**	2.18	68	*i* P	P	14 29 06.7	+0.3
CVP				*i* S	S	14 29 32.2	+0.1
SGCP	**Mt. Cagua**	2.60	59	*e*P	P	14 29 12.2	-0.2
SGCP				*e*S	S	14 29 47.2	+4.2
PALP	**Palanan**	2.62	86	*e*P	P	14 29 13.2	+0.6
TGY	**Tagaytay City**	3.03	157	⇓*i*P	P	14 29 21.8	+3.3
TGY				*i* S	S	14 30 00.7	+6.8
TGY	**Tagaytay City**	3.03	157	P	P	14 29 21.7	+3.2
	210nm,0.3s,baz=316,slow=2.1,SNR=25						
TGY				LR	LR	14 29 51.7	
	comp=Z,512nm,21.4s,baz=285,slow=28						
TGY				S	S	14 29 56.3	+2.4
	385nm,0.3s,baz=269,slow=0.8,SNR=6.1						
TGY	**Tagaytay City**	3.03	157	P	P	14 29 21.7	+3.2
TGY				S	S	14 29 56.3	+2.4
TGY				pmax	pmax		
	comp=Z,210nm,0.3s						
TGY				smax			
	comp=Z,385nm,0.3s						
TGY				MLR	MLR		
	comp=Z,512nm,21.4s						
POLP	**Polilio Island**	3.06	135	*e*P	P	14 29 20.0	+1.2
LUBP	**Lubang**	3.20	170	*e*P	P	14 29 24.6	+3.8
LQP	**Lukban**	3.30	147	⇑*e*P	P	14 29 26.4	+4.2
BBP	**Basco**	4.12	31	*e*P	P	14 29 32.2	-1.7
AUQP	**San Andres**	4.58	141	*e*P	P	14 29 52.5	+12
SJMP	**San Jose**	4.63	163	*e*P	P	14 29 44.0	+3.0
BUSP	**Coron**	4.90	174	*e*P	P	14 29 44.5	-0.2
OTRP	**Odiongan**	5.05	153	*e*P	P	14 29 52.1	+5.3
PVCP	**Virac**	5.42	127	*e*P	P	14 29 54.5	+2.6
ENPP	**El Nido**	5.67	183	*e*P	P	14 29 55.3	-0.2
TATO	**Taipei**	8.20	11	*e*P	P	14 30 31.4	+0.7
	comp=Z,53nm,0.8s						
QIZ	**Qiongzhong**	9.61	284	P	P	14 30 48.3	-1.9
JOW	**Kunigami**	12.68	37	P	P	14 31 28.6	-3.1
	comp=Z,3.5nm,0.3s,baz=144,slow=25,SNR=3.9						
JOW				LR	LR	14 36 46.7	
	comp=Z,86nm,19.9s,baz=124,slow=39						
WHN	**Wuhan**	14.43	341	⇑P	P	14 31 57.0	+2.4
ENH	**Enshi**	16.25	327	*e*P	P	14 32 19.2	+1.3
	comp=Z,36nm,1.4s						
KMI	**Kunming**	17.80	300	*e*P	P	14 32 43.4	+5.9
KMI				AP		14 32 48.7	
KMI				XP		14 32 51.7	
KMI				PP	PP	14 32 57.7	+5.1
KMI				S	S	14 35 52.1	+0.7
KMI				SS	SS	14 36 13.8	-1.7
KMI				AMB	AMB		
	comp=Z,196nm,4.7s						
JNU	**Nakatsue**	19.04	30	P	P	14 32 51.0	-1.2
	comp=Z,0.4nm,0.3s,baz=71,slow=12,SNR=4.8						
JNU				LR	LR	14 40 35.8	
	comp=Z,124nm,19.7s,baz=217,slow=38						
TIA	**Tai'an**	19.36	354	*e*P	P	14 32 55.4	-0.4
XAN	**Xi'an**	19.61	332	P	P	14 32 58.9	+0.4
XAN				AP		14 33 04.9	
XAN				AMB	AMB		
	comp=Z,20nm,1.3s						
CMAR	**Chiang Mai Arr**	19.84	278	P	P	14 33 02.1	+1.1
	baz=96,slow=9.1,SNR=6.5						
CMAR				LR	LR	14 40 40.1	
	comp=Z,93nm,18.1s,baz=100,slow=36						
CD2	**Chengdu**	20.13	317	P	P	14 33 05.0	+0.9
CD2				AMB	AMB		
	comp=Z,28nm,1.0s						
CBIJ	**Chichi jima**	23.15	60	LR	LR	14 42 42.8	
	comp=Z,126nm,18.6s,MS3.4,baz=233,slow=37						
BJT	**Baijiatuau**	23.23	353	*e*P	P	14 33 36.4	+1.4
	comp=Z,49nm,1.3s,mb4.8						
BJI	**Beijing**	23.25	353	P	P	14 33 36.4	+1.2
BJI				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
LZH	**Lanzhou**	23.73	327	⇑P	P	14 33 43.0	+3.1
LZH				AP		14 33 54.3	
LZH				XP		14 33 59.8	
LZH				PP	PP	14 34 17.0	+2.8
LZH				*e*S	S	14 37 50.0	+1.8
LZH				XS		14 38 10.0	
LZH				SS	SS	14 38 40.0	-0.3
LZH				AMB	AMB		
	comp=Z,140nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,380nm,5.6s						
LZH				LR	LR		
	comp=E,2µm,14.5s						

LZH				LR	LR		
	comp=Z,2µm,16.0s,MS4.8						
JHJ	**Hachijo jima 2**	**24.26**	**45**	LR	LR	14 43 18.5	
	comp=Z,17nm,18.6s,MS2.6,baz=114,slow=36						
HHC	**Hu-ho-hao-te**	**24.87**	**345**	*e*P	**P**	**14 33 52.9**	**+1.9**
HHC				AMB	AMB		
	comp=Z,22nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,194nm,4.7s						
SNY	**Shenyang**	**25.06**	**7**	⇓P	**P**	**14 33 52.4**	**-0.3**
SNY				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
SNY				AMB	AMB		
	comp=Z,80nm,5.5s						
GTA	**Gaotai**	**28.33**	**326**	*e*P	**P**	**14 34 24.4**	**+1.6**
GTA				AP	pP	14 34 37.6	+1.4
GTA				XP	sP	14 34 43.1	+0.4
GTA				PP	PP	14 35 17.9	+2.6
GTA				S	**S**	**14 39 07.5**	**+3.4**
GTA				XS		14 39 27.7	
GTA				SS	SS	14 40 36.5	+5.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,57nm,4.2s						
MDJ	**Mudanjiang**	**28.86**	**15**	P	**P**	**14 34 26.4**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,61nm,4.2s						
MDJ	**Mudanjiang**	**28.86**	**15**	*e*P	**P**	**14 34 26.3**	**-1.1**
	comp=Z,25nm,1.4s,mb4.8						
LSA	**Lhasa**	**29.06**	**301**	P	**P**	**14 34 31.0**	**+1.6**
LSA	**Lhasa**	**29.06**	**301**	*e*P	**P**	**14 34 31.7**	**+2.4**
	comp=Z,7.6nm,0.9s,mb4.4						
KAKA	**Kakadu**	**31.98**	**156**	*e*P	**P**	**14 34 52.2**	**-3.1**
	comp=Z,5.3nm,0.6s,mb4.5						
HIA	**Hailar**	**32.28**	**0**	P	**P**	**14 34 57.0**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.4						
SONM	**Songino Array**	**32.73**	**343**	P	**P**	**14 35 01.8**	**+0.3**
	comp=Z,7.7nm,0.7s,mb4.8,baz=162,slow=9.9,SNR=45						
ASAJ	**Asahikawa**	**33.31**	**31**	P	**P**	**14 35 06.5**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.5,baz=106,slow=13,SNR=2.9						
ASAJ				LR	LR	14 47 54.3	
	comp=Z,110nm,21.0s,MS3.5,baz=164,slow=35						
ASAJ	**Asahikawa**	**33.31**	**31**	P	**P**	**14 35 06.5**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,110nm,21.0s						
KLR	**Kul'dur**	**33.70**	**14**	*e*P	**P**	**14 35 09.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**35.28**	**170**	P	**P**	**14 35 21.3**	**-2.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=352,slow=21,SNR=4.1						
ZAK	**Zakamensk**	**35.91**	**342**	⇓*i*P	**P**	**14 35 27.6**	**-1.2**
TLY	**Talaya**	**36.97**	**343**	*e*P	**P**	**14 35 37.0**	**-0.6**
TLY				pmax	pmax		
	comp=Z,111nm,1.0s						
TLY				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.4						
WRA	**Warramunga Arr**	**39.34**	**158**	P	**P**	**14 35 55.3**	**-2.4**
	comp=Z,5.2nm,0.8s,mb4.3,baz=338,slow=9.3,SNR=27						
WRA				pP	pP	14 36 07.0	-4.6
	comp=Z,2.6nm,0.8s,baz=339,slow=9.0,SNR=7.1						
WRA	**Warramunga Arr**	**39.34**	**158**	P	**P**	**14 35 55.3**	**-2.4**
WRA				*PP	pP	14 36 07.0	-4.7
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**39.35**	**158**	*e*P	**P**	**14 35 55.2**	**-2.6**
ASAR	**Alice Springs**	**42.65**	**161**	P	**P**	**14 36 23.1**	**-2.0**
	comp=Z,3.6nm,0.6s,mb4.3,baz=339,slow=6.8,SNR=41						
ASAR				pP	pP	14 36 35.6	-3.4
	comp=Z,2.9nm,0.7s,baz=339,slow=6.8,SNR=8.1						
ASAR				PcP	PcP	14 38 15.1	-1.8
	comp=Z,0.5nm,0.9s,baz=342,slow=5.7,SNR=2.2						
ASAR				pPcP		14 38 30.1	
	comp=Z,0.5nm,0.9s,baz=349,slow=4.6,SNR=4.0						
ASAR				LR	LR	14 53 57.8	
	comp=Z,66nm,19.7s,MS3.5,baz=19,slow=36						
ASPA	**Alice Springs**	**42.65**	**161**	*e*P	**P**	**14 36 23.4**	**-1.6**
MKAR	**Makanchi Array**	**42.91**	**322**	P	**P**	**14 36 28.1**	**+1.2**
	comp=Z,6.7nm,0.8s,mb4.4,baz=127,slow=9.0,SNR=60						
MKAR				pP	pP	14 36 41.9	+1.0
	comp=Z,1.8nm,0.6s,baz=124,slow=8.7,SNR=5.3						
MKAR				PcP	PcP	14 38 16.6	-0.8
	comp=Z,2.5nm,0.8s,baz=102,slow=4.3,SNR=6.3						
MKAR				pPcP		14 38 31.1	
	comp=Z,1.7nm,0.7s,baz=123,slow=4.6,SNR=5.2						
MKAR				LR	LR	14 55 39.3	
	comp=Z,103nm,18.9s,MS3.7,baz=264,slow=38						
MKAR	**Makanchi Array**	**42.91**	**322**	P	**P**	**14 36 28.1**	**+1.3**
MKAR				*PP	pP	14 36 41.9	+1.1
MKAR						14 38 16.6	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,103nm,18.9s						
CTA	**Charters Tower**	**45.08**	**144**	P	**P**	**14 36 43.7**	**-1.0**
	comp=Z,4.5nm,1.0s,mb4.3,baz=25,slow=8.7,SNR=2.6						
CTA				pP	pP	14 36 56.6	-2.1
	comp=Z,3.8nm,0.8s,baz=306,slow=8.5,SNR=2.1						
CTA	**Charters Tower**	**45.08**	**144**	P	**P**	**14 36 43.7**	**-1.0**
CTA				*PP	pP	14 36 56.7	-2.0
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK	**Yakutsk**	**45.62**	**7**	*e*P	**P**	**14 36 47.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
KURK	**Kurchatov**	**47.01**	**325**	*e*P	**P**	**14 37 00.0**	**+0.5**
	comp=N,20nm,0.8s,mb5.1						
KURK				*e*pP	pP	14 37 15.5	+1.8
KURK				*e*sP	sP	14 37 26.5	+6.6
NVS	**Novosibirsk**	**47.07**	**332**	*e*P	**P**	**14 36 58.9**	**-1.1**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
MA2	**Magadan**	**48.23**	**21**	*e*P	**P**	**14 37 08.3**	**-0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	**Magadan**	**48.23**	**21**	*e*P	**P**	**14 37 07.9**	**-1.1**
	comp=Z,9.0nm,0.8s,mb4.8						
MA2				*e*pP	pP	14 37 23.1	0.0
MA2				*e*sP	sP	14 37 35.0	+5.7
BRVK	**Borovoye**	**52.67**	**325**	*e*P	**P**	**14 37 42.6**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						
BRVK				*e*pP	pP	14 37 58.2	+1.0
STKA	**Stephens Creek**	**52.86**	**157**	P	**P**	**14 37 42.6**	**-1.9**
	comp=Z,1.3nm,0.5s,mb4.1,baz=348,slow=9.3,SNR=5.4						
STKA				LR	LR	15 00 52.0	
	comp=Z,95nm,18.8s,MS3.9,baz=24,slow=37						
TIXI	**Tiksi**	**55.01**	**4**	*e*P	**P**	**14 37 56.8**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,44nm,19.0s,MS3.5						
ARU	**Arti**	**60.19**	**326**	*e*P	**P**	**14 38 35.7**	**-0.8**
MCK	**McKinley**	**75.60**	**27**	*e*P	**P**	**14 40 11.5**	**-0.9**
	comp=Z,2.6nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**75.76**	**339**	P	**P**	**14 40 12.6**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=63,slow=5.4,SNR=8.1						
ARCES	**ARCESS Array B**	**75.76**	**339**	P	**P**	**14 40 12.6**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**76.31**	**26**	P	**P**	**14 40 16.6**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=273,slow=7.5,SNR=6.8						
ILAR				pP	pP	14 40 31.0	-0.5
	comp=Z,0.6nm,0.7s,baz=268,slow=5.8,SNR=4.2						
ILAR				LR	LR	15 19 14.6	
	comp=Z,20nm,18.9s,MS3.5,baz=146,slow=40						
ILAR	**Eielson Array**	**76.31**	**26**	P	**P**	**14 40 16.6**	**+0.2**
ILAR				*PP	pP	14 40 31.0	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**77.03**	**331**	P	**P**	**14 40 20.3**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=56,slow=6.9,SNR=7.9						
FINES				LR	LR	15 17 38.1	
	comp=Z,44nm,18.7s,MS3.8,baz=56,slow=38						
FINES	**FINESS Array B**	**77.03**	**331**	P	**P**	**14 40 20.3**	**-0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,44nm,18.7s						
FINES	**FINESS Array B**	**77.03**	**331**	P	**P**	**14 40 20.3**	**-0.3**
FINES				LR	LR	15 17 38.1	
AKASG	**Malin Array Be**	**77.41**	**319**	P	**P**	**14 40 22.0**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.3,baz=63,slow=5.4,SNR=4.9						
AKASG				pP	pP	14 40 36.2	-1.7
	comp=Z,0.3nm,0.3s,baz=135,slow=11,SNR=1.9						
AKASG	**Malin Array Be**	**77.41**	**319**	P	**P**	**14 40 22.0**	**-0.9**
AKASG				*PP	pP	14 40 36.3	-1.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**80.47**	**21**	P	**P**	**14 40 37.7**	**-1.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=290,slow=7.2,SNR=4.0						
INK	**Inuvik**	**80.47**	**21**	P	**P**	**14 40 37.7**	**-1.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**80.47**	**21**	*e*P	**P**	**14 40 38.6**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1						
KMBO	**Kilima Mbogo**	**83.10**	**267**	LR	LR	15 19 37.6	
	comp=Z,30nm,19.3s,MS3.7,baz=96,slow=37						
NB2	**NORSAR Subarra**	**83.99**	**332**	P	**P**	**14 40 56.2**	**-1.1**
	comp=Z,4.5nm,0.8s,mb4.7,baz=64,slow=4.8						
NOA	**NORSAR Array B**	**83.99**	**332**	P	**P**	**14 40 56.2**	**-1.1**
	comp=Z,2.8nm,0.7s,mb4.5,baz=65,slow=4.8,SNR=16						
NOA				pP	pP	14 41 13.3	+0.6
	comp=Z,2.5nm,0.6s,baz=66,slow=4.7,SNR=6.3						
NOA				LR	LR	15 20 52.1	
	comp=Z,63nm,19.9s,MS4.0,baz=55,slow=37						
NOA	**NORSAR Array B**	**83.99**	**332**	P	**P**	**14 40 56.3**	**-1.0**
NOA				*PP	pP	14 41 13.3	+0.6
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,63nm,20.0s						
GERES	**GERESS Array B**	**87.55**	**321**	P	**P**	**14 41 15.6**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.9,baz=83,slow=7.9,SNR=3.5						
GERES				pP	pP	14 41 31.9	+1.2
	comp=Z,0.3nm,0.4s,baz=212,slow=41,SNR=2.5						
GERES	**GERESS Array B**	**87.55**	**321**	P	**P**	**14 41 15.6**	**+0.4**
GERES				*PP	pP	14 41 31.9	+1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**90.19**	**22**	P	**P**	**14 41 28.0**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.4,baz=317,slow=4.1,SNR=4.3						
YKA				LR	LR	15 23 45.3	
	comp=Z,22nm,18.9s,MS3.6,baz=225,slow=37						
YKA	**Yellowknife Ar**	**90.19**	**22**	P	**P**	**14 41 28.0**	**+0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,22nm,18.9s						
FRB	**Frobisher Bay**	**99.35**	**4**	LR	LR	15 26 43.8	
	comp=Z,53nm,18.5s,MS4.1,baz=95,slow=35						
TXAR	**Lajitas Array**	**117.83**	**43**	PKP	PKPdf	14 47 14.0	+1.2
	comp=Z,0.3nm,0.5s,baz=336,slow=0.5,SNR=6.4						
TXAR				pPKP		14 47 29.3	
	comp=Z,0.2nm,0.5s,baz=153,slow=2.8,SNR=3.9						
TXAR	**Lajitas Array**	**117.83**	**43**	PKP	PKPdf	14 47 14.0	+1.2
TXAR				pPKP		14 47 29.3	

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*IDC **09** 15:32:20.3±1.2, 25.14N×102.07E, mb3.3/4, mb1 3.5/4, mb1mx3.4/16, Error ellipse: s-maj=37.5km s-min=19.6km az=84.0*

*BJI **09** 15:32:22.0, 25.00N×101.82E, h12^{km}, ML3.7*

ISC 09 15:32:19.9±1.0**, 25.0N**±0.1×**101.80E**±0.07**, h12^{km}, n8, σ0^{s}99**/9**, mb3.2**/4**, 1C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**0.87**	**78**	*e*PG	**Pg**	**15 32 36.0**	**-1.5**
KMI				SG	**Sg**	**15 32 49.1**	**-0.1**
KMI				Smax			
	comp=N,653nm,0.7s						
KMI				Smax			
	comp=E,474nm,0.7s						
GYA	**Guiyang**	**4.64**	**70**	⇑*i*P	**Pn**	**15 33 34.0**	**+2.4**
CD2	**Chengdu**	**6.19**	**16**	P	**Pn**	**15 33 54.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**6.98**	**203**	Pg	**Pg**	**15 34 33.9**	**-5.3**
	comp=E,0.2nm,0.3s,baz=24,slow=18,SNR=7.3						
CMAR				Lg		15 36 09.0	
	comp=E,0.2nm,0.3s,baz=23,slow=30,SNR=4.6						
SONM	**Songino Array**	**23.13**	**8**	P	**P**	**15 37 26.3**	**-0.4**
	comp=E,1.0nm,0.8s,mb3.3,baz=189,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**26.79**	**329**	P	**P**	**15 38 00.9**	**-0.6**
	comp=E,0.2nm,0.6s,mb2.8,baz=157,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**54.71**	**142**	P	**P**	**15 41 51.5**	**0.0**
	comp=E,0.3nm,0.6s,mb3.5,baz=331,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**57.48**	**145**	P	**P**	**15 42 11.8**	**+0.3**
	comp=E,0.2nm,0.6s,mb3.3,baz=326,slow=6.7,SNR=5.0						

GUC 09 15:52:52.1±0.8**, 31.08S**×**71.74W, h25^{km}**±6^{km}**, MD3.5, ML2.5, 4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.64**	**99**	⇑*i*P	Pb	15 53 04.8	+0.2
CMCH				*i* S	Sb	15 53 13.7	+0.6
CMCH				AMP		15 53 14.5	
	comp=E,652nm,0.2s						
ILCH	**Illapel**	**0.74**	**139**	⇑*i*P	Pb	15 53 05.6	-0.6
ILCH				*i* S	Sb	15 53 15.9	0.0
ILCH				AMP		15 53 17.4	
	comp=N,374nm,0.2s						
TLL	**Tololo Astrono**	**1.21**	**42**	⇑*i*P	Pn	15 53 13.7	0.0
TLL				*i* S	Sn	15 53 29.9	+0.5
TLL				AMP		15 53 34.6	
	comp=N,119nm,0.6s						
FCH	**Farellones**	**2.56**	**152**	⇑*i*P	Pn	15 53 34.1	+1.2
FCH				*i* S	Sn	15 54 05.6	+2.0
FCH				AMP		15 54 10.0	
	comp=E,28nm,0.3s						

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*IDC **09** 16:09:15.9±3.7, 36.77N×22.78E, mb3.9/5, mb1 3.8/6, mb1mx3.6/21, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/24, Error ellipse: s-maj=92.2km s-min=14.8km az=51.0*

*ATH **09** 16:09:15.7, 36.16N×22.13E, h24^{km}±10^{km}, MD3.9/15, ML3.7*

*NEIC **09** 16:09:16.0, 36.19N×22.13E, h24^{km}, ML3.7(ATH), After ATH.*

ISC 09 16:09:15.7±1.4**, 36.0N**±0.1×**22.2E**±0.1**, h65^{km}**±9^{km}**, n31, σ1^{s}13**/31**, mb3.8**/5**, 1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.74**	**67**	*e*PN	**P**	**16 09 30.0**	**-0.9**
VLI	**Veliai**	**0.94**	**40**	⇓*i*PN	**P**	**16 09 32.0**	**-1.4**
ITM	**Ithomi**	**1.20**	**350**	*e*PN	**P**	**16 09 36.8**	**0.0**
VAM	**Vamos**	**1.74**	**109**	*e*PN	**P**	**16 09 45.5**	**+1.2**
NAIG	**Nisos Aigina**	**2.04**	**30**	*e*PN	**P**	**16 09 50.5**	**+2.0**
NSAL	**Nisos Salamina**	**2.16**	**28**	*e*PN	**P**	**16 09 51.0**	**+0.8**
IDI	**Anoyia**	**2.31**	**107**	Pn	**P**	**16 09 53.3**	**+1.0**
	2.9nm,0.3s,baz=282,slow=15,SNR=16						
IDI				Lg		16 10 29.2	
	33nm,0.3s,baz=42,slow=20,SNR=9.7						
ATH	**Athens Observa**	**2.32**	**31**	*e*PB	**P**	**16 09 54.5**	**+2.1**
MPAR	**Parnis Oros**	**2.48**	**29**	*e*PB	**P**	**16 09 57.0**	**+2.3**
VLS	**Valsamata**	**2.52**	**330**	*e*PN	**P**	**16 09 55.5**	**+0.2**
THR5	**Thira Island,**	**2.59**	**80**	*e*P	**P**	**16 09 55.1**	**-1.1**
THR3	**Thira Island,**	**2.63**	**80**	*e*P	**P**	**16 09 55.7**	**-1.1**
NPS	**Neapolis**	**2.88**	**104**	*e*PB	**P**	**16 10 06.5**	**+6.1**
APE	**Apeiranthos**	**2.90**	**67**	*e*PN	**P**	**16 10 00.0**	**-0.6**
EVR	**Evrytania**	**2.93**	**354**	*e*PN	**P**	**16 09 56.5**	**-4.6**
LKD	**Levkas**	**2.97**	**336**	*e*P	**P**	**16 10 03.2**	**+1.6**
AGG	**Agios Georgios**	**3.02**	**2**	*e*P	**P**	**16 10 02.7**	**+0.3**
XRY	**Khrisi**	**3.07**	**110**	*e*PB	**P**	**16 10 09.5**	**+6.4**
XRY	**Khrisi**	**3.07**	**110**	*e*Pb	**P**	**16 10 11.5**	**+8.4**
AOS	**Alonnisos**	**3.44**	**22**	*e*P	**P**	**16 10 07.6**	**-0.6**
JAN	**Janina**	**3.80**	**344**	*e*PN	**P**	**16 10 13.5**	**+0.2**
IGT	**Igoumenitsa**	**3.82**	**338**	*e*P	**P**	**16 10 13.0**	**-0.6**
MEV	**Metsovon**	**3.86**	**349**	*e*P	**P**	**16 10 14.6**	**+0.6**
PAIG	**Paliouri**	**4.10**	**16**	*e*P	**P**	**16 10 16.1**	**-1.3**
KEK	**Kerkira**	**4.16**	**334**	*e*PN	**P**	**16 10 15.5**	**-2.8**
FNA	**Florina**	**4.82**	**353**	*e*P	**P**	**16 10 25.8**	**-1.7**
FINES	**FINESS Array B**	**25.59**	**4**	P	**P**	**16 14 39.8**	**-0.3**
	0.6nm,0.5s,mb3.4,baz=172,slow=14,SNR=6.1						
FINES				LR	LR	16 25 53.0	
	comp=Z,47nm,18.5s,baz=352,slow=40						
NOA	**NORSAR Array B**	**26.02**	**348**	P	**P**	**16 14 44.3**	**+0.2**
	0.6nm,0.9s,mb3.1,baz=149,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**33.64**	**2**	P	**P**	**16 15 51.6**	**-0.3**
	1.7nm,0.9s,mb4.0,baz=175,slow=10.0,SNR=3.7						
SPITS	**Spitsbergen Ar**	**42.36**	**358**	P	**P**	**16 17 05.4**	**+0.9**
	2.0nm,0.8s,mb3.8,baz=153,slow=14,SNR=2.5						
MKAR	**Makanchi Array**	**45.34**	**57**	P	**P**	**16 17 28.4**	**-0.6**
	16nm,1.2s,mb4.7,baz=286,slow=6.5,SNR=34						

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*SVSA **09** 16:11:11.5±0.8, 45.04N×25.32W, h15^{km}, MD5.7, ML5.4, Error ellipse: s-maj=20.2km s-min=5.8km az=115.0*

*NEIC **09** 16:11:19.6±7.7, 45.18N×24.34W, h10^{km}, mb3.8/17, Error ellipse: s-maj=88.7km s-min=16.4km az=86.0*

ISC 09 16:11:13.7±1.0**, 44.32N**±0.08×**24.9W**±0.1**, h10^{km}, n65, σ1^{s}31**/73**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STGR	**Santa Cruz**	**5.73**	**205**	*e*P	**Pn**	**16 12 40.2**	**-0.8**
PVNV	**Vila Nova**	**5.81**	**198**	*e*P	**Pn**	**16 12 42.0**	**-0.1**
PBIS	**Biscoitos**	**5.83**	**199**	*e*P	**Pn**	**16 12 41.9**	**-0.5**
PFAV	**Pico das Favas**	**5.84**	**197**	*e*P	**Pn**	**16 12 42.4**	**-0.2**
PFAV				*e*S	**Sn**	**16 13 50.3**	**-0.1**
PSCM	**Serra do Cume**	**5.86**	**197**	*e*P	**Pn**	**16 12 42.4**	**-0.4**
PSCM				*e*S	**Sn**	**16 13 51.9**	**+1.1**
	116nm,0.4s						
ASBA	**Santa Barbara**	**5.89**	**199**	*e*P	**Pn**	**16 12 42.9**	**-0.3**
PPAD	**Pico dos Padre**	**5.90**	**199**	*e*P	**Pn**	**16 12 43.0**	**-0.3**
RIB2	**Ribeirinha**	**5.90**	**198**	*e*P	**Pn**	**16 12 43.0**	**-0.4**
ADH	**Angra Heroismo**	**5.93**	**198**	*e*-		16 13 56.4	
ROSA	**Rosais**	**6.14**	**205**	*e*S	**Sn**	**16 13 55.4**	**-2.4**
PMAN	**Manadas**	**6.17**	**204**	*e*P	**Pn**	**16 12 46.4**	**-0.8**
PMAN				*e*S	**Sn**	**16 13 56.3**	**-2.3**
	35nm,0.2s						
PID	**Ribeirinha**	**6.36**	**204**	*e*-		16 13 59.6	
PCED	**Cedros**	**6.37**	**208**	*e*S	**Sn**	**16 14 01.6**	**-1.9**
	52nm,0.1s						
PPNO	**Prainha do Nor**	**6.37**	**205**	*e*P	**Pn**	**16 12 48.8**	**-1.2**
PPNO				*e*S	**Sn**	**16 14 01.6**	**-2.0**
	30nm,0.2s						
PICO	**Pico**	**6.39**	**206**	*e*S	**Sn**	**16 14 02.5**	**-1.7**
CALA	**Caldeira**	**6.41**	**208**	*e*-		16 13 58.9	
SET4	**Mosteiros**	**6.48**	**186**	*e*P	**Pn**	**16 12 51.9**	**+0.4**
PFAD	**Fenais da Ajud**	**6.48**	**183**	*e*P	**Pn**	**16 12 53.0**	**+1.4**
PSAN	**Santo Antonio**	**6.49**	**186**	*e*P	**Pn**	**16 12 52.3**	**+0.5**
SET2	**Ginetes**	**6.51**	**186**	*e*P	**Pn**	**16 12 52.9**	**+0.9**
PMAT	**Coroa da Mata**	**6.51**	**184**	*e*P	**Pn**	**16 12 53.1**	**+1.1**
PSET	**Sete Cidades**	**6.52**	**186**	*e*P	**Pn**	**16 12 52.7**	**+0.6**
PFET	**Feteiras**	**6.53**	**186**	*e*P	**Pn**	**16 12 53.0**	**+0.7**
MESC	**Monte Escuro**	**6.53**	**184**	*e*P	**Pn**	**16 12 53.2**	**+0.9**
PVER	**Pico Vermelho**	**6.53**	**184**	*e*P	**Pn**	**16 12 53.5**	**+1.2**
BART	**Pico Bartolome**	**6.54**	**182**	*i* P	**Pn**	**16 12 53.2**	**+0.8**
LFA	**Lagoa do Fogo**	**6.56**	**184**	*e*P	**Pn**	**16 12 53.4**	**+0.8**
PCNG	**Congro**	**6.56**	**184**	*e*P	**Pn**	**16 12 53.8**	**+1.1**
CML	**Cha da Macela**	**6.56**	**185**	*e*P	**Pn**	**16 12 53.5**	**+0.8**
FAC	**Faja de Cima**	**6.57**	**185**	*e*P	**Pn**	**16 12 53.4**	**+0.6**
VIF	**Vila Franca**	**6.58**	**184**	*e*P	**Pn**	**16 12 54.3**	**+1.3**
PRCH	**Ribeira Ch**	**6.60**	**184**	*e*P	**Pn**	**16 12 53.9**	**+0.6**
PSMN	**Pico do Norte,**	**7.31**	**181**	*e*P	**Pn**	**16 13 04.5**	**+1.3**
PSMA	**Santa Maria**	**7.32**	**182**	*e*P	**Pn**	**16 13 04.1**	**+0.7**
STS	**Santiago**	**11.93**	**91**	P	**P**	**16 14 05.0**	**-1.9**
	9.8nm,0.2s						
EZAM	**Zamans**	**12.01**	**95**	P	**P**	**16 14 06.6**	**-1.2**
	2.4nm,0.2s						
ELOB	**Lobios**	**12.54**	**95**	P	**P**	**16 14 14.2**	**-0.8**
	0.1nm,0.1s						
ELOB				S	**S**	**16 16 28.9**	**-7.0**
EINC	**Incio**	**12.84**	**91**	P	**P**	**16 14 17.4**	**-1.6**
	0.1nm,0.1s						
EPON	**Pontenova**	**12.85**	**88**	P	**P**	**16 14 17.1**	**-2.1**
	0.4nm,0.1s						
EPON				S	**S**	**16 16 33.2**	**-10**
ERUA	**La Rua**	**13.06**	**92**	P	**P**	**16 14 20.7**	**-1.2**
ERUA				S	**S**	**16 16 37.0**	**-11**
ECAL	**Calabor**	**13.47**	**94**	P	**P**	**16 14 27.0**	**-0.4**
	4.8nm,0.3s						
ECAL				S	**S**	**16 16 47.9**	**-10**
EBAD	**Badajoz**	**14.48**	**106**	P	**P**	**16 14 41.6**	**+1.0**
	2.1nm,0.2s						
EBAD				S	**S**	**16 17 16.1**	**-6.2**
EGRO	**El Granado**	**14.78**	**111**	P	**P**	**16 14 48.2**	**+3.6**
EMIN	**Mina Concepcio**	**15.21**	**109**	P	**P**	**16 14 52.8**	**+2.7**
	0.6nm,0.2s						
EMIN				S	**S**	**16 17 32.4**	**-6.9**
ROSF	**Rostrenen**	**15.45**	**67**	*e*P	**P**	**16 14 46.5**	**-6.7**
	10nm,0.3s						
QUIF	**Quistinic**	**15.47**	**69**	*e*P	**P**	**16 14 47.5**	**-6.0**
	5.2nm,0.2s						
ELAN	**Lanestosa**	**15.53**	**87**	P	**P**	**16 14 53.6**	**-0.7**
	3.4nm,0.2s						
SGMF	**Saint Gilles**	**15.91**	**68**	*e*P	**P**	**16 14 53.0**	**-6.2**
	12nm,0.2s						
ESDC	**Sonseca Array**	**16.22**	**99**	P	**P**	**16 15 05.4**	**+2.3**
	0.7nm,0.3s						
EADA	**Adamuz**	**16.45**	**105**	P	**P**	**16 15 08.0**	**+1.9**
	0.4nm,0.1s						
EADA				S	**S**	**16 18 04.3**	**-3.9**
EALK	**Alkurruntz**	**16.91**	**86**	P	**P**	**16 15 11.6**	**-0.3**
	0.8nm,0.2s						
GRR	**Gorron**	**17.05**	**68**	*e*P	**P**	**16 15 09.4**	**-4.3**
	8.7nm,0.2s						
SJPF	**Ste Jean**	**17.14**	**86**	*e*P	**P**	**16 15 15.6**	**+0.8**
	2.1nm,0.2s						
FLN	**La Foliniere**	**17.34**	**67**	*e*P	**P**	**16 15 12.6**	**-4.6**
	4.1nm,0.3s						
MFF	**Saint Martin d**	**17.49**	**74**	*e*P	**P**	**16 15 16.1**	**-3.0**
	7.5nm,0.2s						
LDF	**La Druitiere**	**17.56**	**67**	*e*P	**P**	**16 15 16.2**	**-3.8**
	4.3nm,0.2s						
ETSF	**Etsaut**	**17.66**	**86**	*e*P	**P**	**16 15 21.9**	**+0.6**
	3.3nm,0.4s						
ESAC	**San Caprasio**	**18.02**	**90**	P	**P**	**16 15 27.4**	**+1.5**
EPF	**Esparros**	**18.27**	**85**	*e*P	**P**	**16 15 31.6**	**+2.6**
TCF	**Toulx Ste Croi**	**19.13**	**75**	*e*P	**P**	**16 15 38.7**	**-0.6**
	4.6nm,0.3s						
HYF	**Humbligny**	**19.38**	**72**	*e*P	**P**	**16 15 42.9**	**+0.7**
MTLF	**Montolieu**	**19.55**	**83**	*e*P	**P**	**16 15 47.5**	**+3.3**
	1.2nm,0.3s						
AVF	**Avril sur Loir**	**19.88**	**73**	*e*P	**P**	**16 15 48.4**	**+0.5**
	4.4nm,0.2s						
SSF	**Saint Saulge**	**19.98**	**72**	*e*P	**P**	**16 15 51.1**	**+2.2**
	4.5nm,0.3s						
LOR	**Lormes**	**20.21**	**71**	*e*P	**P**	**16 15 51.6**	**+0.3**
	4.1nm,0.4s						

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*NIED **09** 16:12:00, 26.00N×128.60E, h11^{km}, Mw4.9 Best double couple: M$_0$2.17×10^{16} NP1:φ$_s$29°, δ78°, λ86°. NP2:φ$_s$228°, δ13°, λ109°.*

*BJI **09** 16:12:46.7, 25.66N×129.20E, h15^{km}, mB4.6, mb4.7, Ms4.7, Msz4.5*

*JMA **09** 16:12:55.2±0.1, 25.96N×128.61E, h49^{km}±4^{km}, M4.3*

*NEIC **09** 16:12:55.8±0.3, 26.03N×128.46E, h15^{km}, mb4.6/18, MW4.9(NIED), Error ellipse: s-maj=8.0km s-min=5.3km az=81.0*

*IDC **09** 16:12:56.0±3.4, 26.08N×128.43E, h16^{km}±20^{km}, mb4.3/22, mb1 4.4/23, mb1mx4.4/27, ML4.0/1, MS3.7/4, Ms1 3.8/4, ms1mx3.4/26, Error ellipse: s-maj=19.8km s-min=11.2km az=79.0*

*MOS **09** 16:12:58.9±1.3, 26.35N×128.31E, h33^{km}, mb4.9/20, Error ellipse: s-maj=17.7km s-min=8.9km az=114.4*

ISC 09 16:12:55.0±0.7**, 25.99N**±0.03×**128.58E**±0.03**, h26^{km}**±4^{km}**, h28^{km}**±1.8^{km}**:pP-P, n137, σ1^{s}16**/163**, mb4.6**/55**, MS4.4**/14**, 7C-4D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.77**	**282**	P	**Pb**	**16 13 10.3**	**+0.7**
JJT2				S	**Sb**	**16 13 21.6**	**+2.0**
NAH1	**Naha**	**0.83**	**285**	P	**Pb**	**16 13 11.1**	**+0.4**
NAH1				S	**Sb**	**16 13 22.8**	**+1.3**
JOW	**Kunigami**	**0.89**	**342**	Pg	**Pb**	**16 13 11.8**	**+0.1**

	900nm,0.3s,baz=150,slow=17,SNR=1083						
JOW				Lg		16 13 19.4	
	950nm,0.3s,baz=146,slow=22,SNR=38						
JOW	Kunigami	0.89	342	P	Pb	16 13 11.9	+0.3
JOW				S	Sb	16 13 23.9	+0.9
JIH	Iheya	1.18	332	P	Pn	16 13 16.4	+0.4
JIH				S	Sn	16 13 31.6	+0.2
JAGN	Aguni-jima	1.34	297	P	Pn	16 13 18.7	+0.3
JAGN				S	Sn	16 13 36.1	+0.6
JKE	Kume jima 2	1.65	282	P	Pn	16 13 22.4	-0.4
JTK	Tokunoshima	1.82	10	P	Pn	16 13 25.4	+0.2
JTK				S	Sn	16 13 46.9	-0.7
JMZ	Minamidaito 2	2.38	93	P	Pn	16 13 32.5	-0.7
JMZ				S	Sn	16 13 59.2	-2.7
JAM	Amami Oshima	2.58	20	P	Pn	16 13 35.8	-0.3
JAM				S	Sn	16 14 05.5	-1.4
JZK	Kikaishima	2.63	28	P	Pn	16 13 37.3	+0.6
JZK				S	Sn	16 14 08.4	+0.3
JOGS	Gusukube	3.12	248	P	Pn	16 13 43.3	-0.5
JOGS				S	Sn	16 14 19.3	-1.4
JMJ	Miyako jima 2	3.20	249	P	Pn	16 13 44.2	-0.6
JMJ				eS	Sn	16 14 20.3	-2.2
JTJ	Tarama	3.76	250	P	Pn	16 13 51.1	-1.7
JTJ				S	Sn	16 14 33.1	-3.7
JNN	Nakanoshima	4.01	16	P	Pn	16 13 56.4	+0.1
JNN				S	Sn	16 14 41.8	-1.2
JIJ	Ishigaki jima	4.34	249	P	Pn	16 13 59.0	-2.0
JIJ				S	Sn	16 14 45.5	-5.9
JKRS	Kuro-shima	4.50	248	P	Pn	16 14 01.8	-1.5
JKRS				S	Sn	16 14 52.0	-3.5
JKC	Kuchinoerabu	4.68	17	P	Pn	16 14 04.8	-1.1
JKC				S	Sn	16 14 56.7	-3.3
IRIF	Iriomote-Funau	4.70	251	P	Pn	16 14 04.2	-1.9
IRIF				S	Sn	16 14 56.2	-4.3
JTN	Tanegashima 3	5.11	24	P	Pn	16 14 10.7	-1.2
JTN				S	Sn	16 15 06.3	-4.5
YOJ	Yonaguni jima	5.27	254	P	Pn	16 14 11.0	-3.2
JNU	Nakatsue	7.38	15	Pn	Pn	16 14 43.1	-0.8
	2.4nm,0.3s,baz=191,slow=5.9,SNR=17						
JNU				LR	LR	16 17 58.7	
	comp=Z,885nm,19.4s,baz=13,slow=41						
JHJ	Hachijo jima 2	12.06	51	LR	LR	16 20 42.8	
	comp=Z,234nm,18.0s,baz=354,slow=38						
CBIJ	Chichi jima	12.23	82	LR	LR	16 19 39.3	
	comp=Z,286nm,21.9s,baz=108,slow=33						
MAJO	Matsushiro	13.35	36	ePn	P	16 16 04.0	-1.4
	18nm,1.3s						
TIA	Tai’an	14.14	319	eP	P	16 16 19.2	+3.4
SNY	Shenyang	16.33	347	⇑P	P	16 16 48.1	+3.9
SNY				S	S	16 19 54.2	+10
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s						
SNY				AMB	AMB		
	comp=Z,240nm,10.0s						
SNY				LR	LR		
	comp=N,1µm,14.8s						
SNY				LR	LR		
	comp=Z,1µm,13.9s						
ENH	Enshi	17.37	289	eP	P	16 16 56.3	-1.1
	comp=Z,9.6nm,0.9s						
BJT	Baijiatuau	17.41	327	eP	P	16 16 57.9	0.0
	comp=Z,13nm,0.8s						
BJI	Beijing	17.43	327	P	P	16 16 58.5	+0.5
BJI				S	S	16 20 24.7	+15
BJI				AMB	AMB		
	comp=Z,20nm,1.1s						
BJI				LR	LR		
	comp=N,3µm,13.6s						
BJI				LR	LR		
	comp=E,730nm,13.2s						
BJI				LR	LR		
	comp=Z,742nm,14.5s						
CN2	Changchun	17.95	353	eP	P	16 17 05.1	+0.6
CN2				eS	S	16 20 24.8	+3.6
CN2				LR	LR		
	comp=N,2µm,11.0s						
CN2				LR	LR		
	comp=E,600nm,11.0s						
CN2				LR	LR		
	comp=Z,2µm,12.0s						
TIY	Taiyuan	17.99	314	eP	P	16 17 06.4	+1.4
TIY				LR	LR		
	comp=N,2µm,11.0s						
TIY				LR	LR		
	comp=Z,1µm,12.0s						
QIZ	Qiongzhong	18.64	252	P	P	16 17 15.3	+2.2
QIZ				eS	S	16 20 37.4	+0.6
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s						
QIZ				LR	LR		
	comp=N,946nm,21.3s						
QIZ				LR	LR		
	comp=E,372nm,21.5s						
QIZ				LR	LR		
	comp=Z,712nm,20.3s						
XAN	Xi’an	18.80	300	P	P	16 17 13.7	-1.3
XAN				AP		16 17 24.8	
XAN				AMB	AMB		
	comp=Z,24nm,0.8s						
XAN				LR	LR		
	comp=E,923nm,13.5s						
XAN				LR	LR		
	comp=Z,1µm,14.5s						
GYA	Guiyang	19.67	276	P	P	16 17 25.0	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	20.48	321	eP	P	16 17 31.8	-1.7
HHC				AP		16 17 41.3	
HHC				XP		16 17 48.0	
HHC				AMB	AMB		
	comp=Z,20nm,1.3s						
HHC				AMB	AMB		
	comp=Z,135nm,3.7s						
HHC				LR	LR		
	comp=N,780nm,12.9s,MS4.4						
HHC				LR	LR		
	comp=E,662nm,12.8s,MS4.4						
HHC				LR	LR		
	comp=Z,897nm,12.4s,MS4.3						
BTO	Baotou	21.23	318	eP	P	16 17 39.5	-1.7
BTO				S	S	16 21 41.6	+11
BTO				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.3						
BTO				LR	LR		
	comp=N,3µm,12.4s,MS4.9						
BTO				LR	LR		
	comp=E,1µm,14.2s,MS4.9						
ASAJ	Asahikawa	21.36	29	P	P	16 17 41.5	-1.1
	comp=E,4.4nm,0.9s,mb3.8,baz=68,slow=29,SNR=2.4						
CD2	Chengdu	22.35	288	⇓iP	P	16 17 50.4	-2.1
CD2				AP		16 17 58.5	
CD2				XP		16 18 02.4	
CD2				PPP	PPP	16 18 29.0	-0.9
CD2				S	S	16 22 00.1	+8.3
CD2				XS		16 22 14.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb4.9						
CD2				LR	LR		
	comp=E,990nm,15.0s						
CD2				LR	LR		
	comp=Z,2µm,12.6s,MS4.7						
KMI	Kunming	23.32	274	eP	P	16 18 02.3	+0.2
KMI				AP		16 18 12.1	
KMI				XP		16 18 15.8	
KMI				PP	PP	16 18 36.5	+3.0
KMI				S	S	16 22 16.3	+7.1
KMI				XS		16 22 28.9	
KMI				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,154nm,4.9s						
KMI				LR	LR		
	comp=N,775nm,16.5s						
KMI				LR	LR		
	comp=E,634nm,8.7s						
KMI				LR	LR		
	comp=Z,701nm,12.6s,MS4.3						
LZH	Lanzhou	23.41	301	eP	P	16 18 02.1	-0.7
LZH				S	S	16 22 17.1	+6.5
LZH				AMB	AMB		
	comp=Z,140nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,300nm,4.2s						
LZH				LR	LR		
	comp=E,3µm,13.0s						
LZH				LR	LR		
	comp=Z,3µm,15.5s,MS4.9						
YSS	Yuzh-Sakhalins	23.75	25	⇑iP	P	16 18 08.2	+2.1
YSS				e		16 22 19.0	
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.0						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.1						
YSS	Yuzh-Sakhalins	23.75	25	eP	P	16 18 08.8	+2.8
	comp=Z,56nm,1.0s,mb5.0						
GTA	Gaotai	27.53	306	⇑P	P	16 18 39.8	-1.8
GTA				AP	pP	16 18 44.4	-4.7
GTA				XP	sP	16 18 46.9	-5.6
GTA				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,100nm,8.0s						
GTA				LR	LR		
	comp=N,478nm,11.4s,MS4.3						
GTA				LR	LR		
	comp=E,347nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,565nm,12.6s,MS4.3						
ULN	Ulaanbaatar	27.63	328	i P	P	16 18 42.1	-0.3
SONM	Songino Array	27.93	327	P	P	16 18 43.0	-2.1
	comp=Z,9.5nm,0.8s,mb4.5,baz=137,slow=10,SNR=41						
CMAR	Chiang Mai Arr	28.40	261	P	P	16 18 49.4	-0.3
	comp=Z,3.2nm,0.8s,mb4.0,baz=55,slow=7.9,SNR=16						
CMAR				LR	LR	16 31 55.5	
	comp=Z,236nm,18.5s,MS3.8,baz=85,slow=40						
TLY	Talaya	31.88	330	eP	P	16 19 20.6	+0.4
TLY				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0						
TLY				MLR	MLR		
	comp=Z,6µm,14.0s,MS5.4						
LSA	Lhasa	33.21	285	P	P	16 19 31.5	-0.6
	comp=Z,3.3nm,0.6s,mb4.4						
PET	Petropavlovsk	35.13	32	eP	P	16 19 57.9	+10
PET				eS	S	16 25 17.3	-1.5
PET				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
PET				smax			
	comp=N,100nm,13.6s						
PET				smax			
	comp=E,100nm,17.6s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.6						
PET	Petropavlovsk	35.13	32	eP	P	16 19 48.6	+0.2
	comp=Z,18nm,1.2s,mb4.9						
YAK	Yakutsk	36.04	1	ceP	P	16 19 55.0	-1.0
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
YAK	Yakutsk	36.04	1	eP	P	16 19 54.8	-1.2
	comp=Z,34nm,1.3s,mb5.1						
MA2	Magadan	36.94	19	eP	P	16 20 04.0	+0.5
MA2				e		16 21 23.0	
MA2				ePPP	PPP	16 21 44.7	-5.2
MA2				i		16 30 17.9	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.4						
PKI	Pulchoki	38.44	282	eP	P	16 20 16.3	-0.1
	comp=Z,83nm,1.0s,mb5.4						
KKN	Kakani	38.52	283	eP	P	16 20 16.7	-0.4
	comp=Z,71nm,0.9s,mb5.4						
DMN	Daman	38.70	282	eP	P	16 20 18.4	-0.2
	comp=Z,87nm,1.1s,mb5.4						
GKN	Gorkha	39.05	283	eP	P	16 20 21.1	-0.5
	comp=Z,90nm,1.0s,mb5.5						
KOLN	Koldanda	40.00	283	eP	P	16 20 29.6	+0.2
	comp=Z,76nm,0.8s,mb5.5						
SEY	Seymchan	40.16	17	eP	P	16 20 31.4	+1.0
SEY				e		16 26 36.5	
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
MKAR	Makanchi Array	41.93	312	P	P	16 20 44.1	-1.0
	comp=Z,3.8nm,0.7s,mb4.2,baz=99,slow=11,SNR=37						
MKAR				PcP	PcP	16 22 40.5	-0.5
	comp=Z,1.3nm,0.7s,baz=85,slow=3.4,SNR=3.6						
MKAR	Makanchi Array	41.93	312	i P	P	16 20 43.8	-1.3
MKAR				pmax	pmax		
	comp=Z,31nm,1.4s						
MKAR	Makanchi Array	41.93	312	P	P	16 20 44.1	-1.0
MKAR				PcP	PcP	16 22 40.5	-0.5
FITZ	Fitzroy Crossi	43.92	184	eP	P	16 21 02.2	+0.6
	comp=Z,5.4nm,0.9s,mb4.3						
KURK	Kurchatov	45.21	317	i P	P	16 21 10.6	-1.0
KURK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
KURK	Kurchatov	45.21	317	eP	P	16 21 09.7	-2.0
	comp=Z,25nm,1.3s,mb4.9						
NDI	New Delhi	45.43	286	e	P	16 21 22.0	+8.4
TIXI	Tiksi	45.70	0	eP	P	16 21 14.2	-1.0
TIXI				e		16 22 52.1	
TIXI				eS	S	16 27 53.8	-2.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,151nm,12.0s,MS4.2						
WRA	Warramunga Arr	46.00	172	P	P	16 21 18.5	+0.3
	comp=Z,5.1nm,0.6s,mb4.6,baz=353,slow=8.4,SNR=34						
WB2	Warramunga Arr	46.00	172	⇓iP	P	16 21 18.4	+0.2
CTA	Charters Tower	48.91	158	eP	P	16 21 41.9	+0.9
	comp=Z,3.2nm,0.7s,mb4.5						
CTA	Charters Tower	48.91	158	P	P	16 21 42.0	+1.0
	comp=Z,3.1nm,0.6s,mb4.5,baz=355,slow=10,SNR=5.5						
CTAO	Charters Tower	48.91	158	eP	P	16 21 41.7	+0.7
	comp=Z,3.4nm,0.7s,mb4.5						
ASAR	Alice Springs	49.63	174	P	P	16 21 47.0	+0.5
	comp=Z,3.0nm,0.7s,mb4.5,baz=2.1,slow=9.7,SNR=46						
ASPA	Alice Springs	49.63	174	⇑iP	P	16 21 47.2	+0.7
KKAR	Karatay Array	49.81	306	i P	P	16 21 47.8	+0.1
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
VOSK	Vostochnaya	50.27	318	P	P	16 21 49.8	-1.2
VOSK				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
BVA0	Borovoye Array	50.67	318	i P	P	16 21 53.4	-0.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	Borovoye Array	50.67	318	P	P	16 21 53.6	-0.4
	comp=Z,4.6nm,0.6s,mb4.6,baz=79,slow=7.6,SNR=22						
BRVK	Borovoye	50.73	318	P	P	16 21 54.1	-0.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRVK	Borovoye	50.73	318	eP	P	16 21 53.9	-0.7
	comp=Z,18nm,0.9s,mb5.0						
BRVK				e	pP	16 22 01.8	-0.6
ZRNK	Zerenda	51.48	318	P	P	16 21 59.8	-0.5
ZRNK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
AB31	Akbulak array	57.04	313	i P	P	16 22 40.6	-0.5
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	Arti	57.78	322	⇑iP	P	16 22 45.1	-1.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,300nm,17.0s,MS4.5						
ARU	Arti	57.78	322	eP	P	16 22 44.5	-1.6
	comp=E,5.9nm,0.8s,mb4.7						
STKA	Stephens Creek	58.87	167	P	P	16 22 54.4	+0.3
	comp=E,1.9nm,0.8s,mb4.2,baz=308,slow=16,SNR=3.5						
ILAR	Eielson Array	64.50	28	P	P	16 23 31.6	+0.2
	comp=E,0.7nm,0.6s,mb3.8,baz=254,slow=6.6,SNR=6.7						
INK	Inuvik	68.99	23	P	P	16 24 00.3	+0.5
	comp=E,2.0nm,1.1s,mb4.0,baz=307,slow=14,SNR=4.8						
GOF	Gofitskoye	69.09	311	eP	P	16 24 02.0	+1.2
SPITS	Spitsbergen Ar	69.13	348	P	P	16 24 00.8	+0.2
	comp=E,30nm,1.4s,mb5.0,baz=101,slow=10,SNR=5.0						
KEV	Kevo	69.78	339	ep	P	16 24 02.2	-2.4
	comp=E,2.9nm,0.7s,mb4.3						
KEV	Kevo	69.78	339	eP	P	16 24 02.2	-2.4
KEV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
OBN	Obninsk	70.21	322	c iP	P	16 24 06.6	-0.9
OBN				eS	S	16 33 22.4	+6.3
OBN				eSS	SS	16 37 44.0	-3.9
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
ARCES	ARCESS Array B	70.35	339	P	P	16 24 07.8	-0.2
	comp=Z,4.5nm,0.9s,mb4.4,baz=69,slow=10,SNR=7.3						
ARCES	ARCESS Array B	70.35	339	P	P	16 24 07.8	-0.2
KAF	Kangasniemi	72.86	331	ep	P	16 24 18.6	-4.6
	comp=Z,3.1nm,0.7s,mb4.3						
KAF	Kangasniemi	72.86	331	eP	P	16 24 18.6	-4.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FINES	FINESS Array B	73.23	331	P	P	16 24 24.9	-0.5
	comp=Z,4.0nm,0.7s,mb4.4,baz=63,slow=4.3,SNR=11						
HILS	Ha’il	75.87	294	P	P	16 24 42.2	+1.0
AKASG	Malin Array Be	75.92	320	P	P	16 24 40.7	-0.4
	comp=Z,14nm,1.0s,mb4.9,baz=52,slow=5.9,SNR=29						
TATS	Tathlith	77.45	286	P	P	16 24 50.7	+0.6
SUW	Suwalki	77.84	324	eP	P	16 24 52.0	+0.4
ASF	Jabal al Asfar	77.97	300	P	P	16 24 54.4	+1.6
	comp=Z,2.6nm,0.6s,mb4.3,baz=289,slow=7.7,SNR=8.1						
KBRS	Khaybar	78.57	293	P	P	16 24 56.1	-0.2
YKA	Yellowknife Ar	78.61	25	P	P	16 24 57.2	+1.5
	comp=Z,1.0nm,0.8s,mb3.8,baz=297,slow=5.8,SNR=3.8						
YKA	Yellowknife Ar	78.61	25	P	P	16 24 57.2	+1.5
JMIC	Jan Mayen	78.72	347	P	P	16 24 56.7	+0.6
	comp=Z,13nm,0.7s,mb5.0,baz=276,slow=6.5,SNR=3.1						
BLJS	Baljurashi	78.94	287	P	P	16 24 59.3	+0.9
VRI	Vrincioaia	79.48	316	⇓iP	P	16 25 02.6	+1.8
NB2	NORSAR Subarra	79.67	334	P	P	16 25 00.9	-0.6
	comp=Z,6.7nm,0.8s,mb4.6,baz=53,slow=5.3						
NOA	NORSAR Array B	79.67	334	P	P	16 25 01.3	-0.2
	comp=Z,4.6nm,0.8s,mb4.5,baz=52,slow=5.5,SNR=20						
TBKS	Tabuk	79.81	296	P	P	16 25 03.8	+0.8
JMQS	Jabal Moqyreh	80.09	297	P	P	16 25 04.7	+0.3
MLR	Muntele Rosu	80.14	316	⇓iP	P	16 25 05.5	+1.2
KWP	Kalwaria	80.16	321	eP	P	16 25 05.8	+1.5
JMOS	Jabal al Moall	80.58	298	P	P	16 25 07.3	+0.3
HAQS	Haql	80.77	298	P	P	16 25 08.3	+0.3
AYUS	‘Aynunah	80.86	297	P	P	16 25 08.8	+0.3
BDAS	Al Bad‘	80.89	297	P	P	16 25 09.8	+1.1
OJC	Ojcow	81.50	322	eP	P	16 25 12.4	+1.0
KSP	Ksiaz	83.08	324	eP	P	16 25 20.0	+0.5
DPC	Dobruska-Polom	83.33	323	eP	P	16 25 23.3	+2.5
DPC				e	pP	16 25 31.7	+2.6
BRG	Berggiesshubel	84.30	325	eP	P	16 25 27.4	+1.7
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BRG	Berggiesshubel	84.30	325	eP	P	16 25 27.4	+1.7
	comp=Z,7.6nm,1.3s,mb4.7						
PRU	Pruhonice	84.48	324	eP	P	16 25 27.8	+1.1
PRU				e	pP	16 25 36.5	+1.6
CLL	Collm	84.53	325	P	P	16 25 27.0	+0.1
	comp=Z,logA/T=1.0,mb4.9						
CLL	Collm	84.53	325	eP	P	16 25 27.0	+0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CLL	Collm	84.53	325	eP	P	16 25 27.0	+0.1
	comp=Z,9.0nm,1.0s,mb4.8						
SKO	Skopje	84.69	314	eP	P	16 25 29.0	+1.1
NKC	Novy Kostel	85.44	325	eP	P	16 25 33.2	+1.8
NKC				e		16 25 43.9	
KHC	Kasperske Hory	85.49	323	eP	P	16 25 33.5	+1.8
KHC				e	pP	16 25 43.1	+3.1
GERES	GERESS Array B	85.58	323	P	P	16 25 33.8	+1.6
	comp=Z,0.9nm,0.7s,mb4.1,baz=45,slow=5.7,SNR=8.5						
MOX	Moxa	85.63	325	eP	P	16 25 36.0	+3.6
MOX				L		17 19 41.0	
GRA1	Grafenberg Arr	86.40	325	eP	P	16 25 38.5	+2.3
	comp=Z,3.0nm,0.9s,mb4.5						
GRA1				e	pP	16 25 48.7	+4.2
GRA1				LR	LR		
	comp=Z,300nm,20.9s,MS4.7						
GRF	Grafenberg Arr	86.40	325	eP	P	16 25 38.5	+2.3
GRF				e	pP	16 25 48.7	+4.2
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
GRF				MLR	MLR		
	comp=Z,300nm,20.9s,MS4.7						
NVAR	Mina Array Bea	90.44	46	P	P	16 25 59.0	+3.2
	comp=Z,0.5nm,0.9s,mb3.8,baz=304,slow=5.3,SNR=3.5						
PDAR	Pinedale Array	93.15	39	P	P	16 26 10.3	+2.2
	comp=Z,0.3nm,0.4s,mb4.1,baz=315,slow=2.6,SNR=2.8						

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*NIED **09** 16:24:00,25.90N×128.60E,h14^{km},Mw4.9 Best double couple: $M_0$2.28×10^{16} NP1:ϕ_s56°,δ59°,λ102°. NP2:ϕ_s213°, δ33°,λ70°.*

*BJI **09** 16:24:52.5,25.74N×129.00E,h58^{km},mB4.8,mb4.7, Ms4.9,Msz4.8*

*JMA **09** 16:24:53.4±0.1,25.95N×128.60E,h52^{km}±4^{km},M4.9*

JMA Felt I J1.

*MOS **09** 16:24:55.2±1.1,26.05N×128.44E,h33^{km},mb4.9/20, MS4.4/16,Error ellipse: s-maj=15.8km s-min=7.9km az=114.8*

*IDC **09** 16:24:55.2±2.2,26.05N×128.37E,h23^{km}±14^{km},mb4.2/19, mb1 4.4/20,mb1mx4.3/24,ML4.2/1,MS4.1/17,Ms1 4.1/17, ms1mx3.9/27,Error ellipse: s-maj=20.2km s-min=11.2km az=84.0*

*NEIC **09** 16:24:56.0±0.3,26.03N×128.48E,mb4.8/18, MW4.9(NIED),Error ellipse: s-maj=8.4km s-min=5.8km az=84.0*

NEIC Recorded [1 JMA] on Okinawa-jima.

ISC 09 16:24:53.5±0.7**,25.99N**±0.03×**128.57E**±0.03**,h27**^{km}±4^{km}**, h28**^{km}±.8^{km}**:pP-P,n164,**σ**1**^{s}**23**/184**,mb4.7**/54**,MS4.4**/31**, 5C-8D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.75	282	P	Pb	16 25 08.5	+0.6
JJT2				S	Sb	16 25 19.8	+2.1
NAH1	Naha	0.82	285	P	Pb	16 25 09.3	+0.4
NAH1				S	Sb	16 25 21.0	+1.4
JOW	Kunigami	0.88	343	Pg	Pb	16 25 10.2	+0.2
	768nm,0.3s,baz=154,slow=17,SNR=552						
JOW				Lg		16 25 20.7	
	2µm,0.3s,baz=152,slow=18,SNR=28						
JOW	Kunigami	0.88	343	P	Pb	16 25 10.4	+0.4
JOW				S	Sb	16 25 22.7	+1.3
JIH	Iheya	1.17	333	P	Pn	16 25 14.9	+0.5
JIH				S	Sn	16 25 30.3	+0.7
JAGN	Aguni-jima	1.33	297	P	Pn	16 25 17.1	+0.5
JAGN				S	Sn	16 25 33.2	-0.4
JKE	Kume jima 2	1.64	282	P	Pn	16 25 20.7	-0.3
JKE				S	Sn	16 25 40.1	-1.2
JTK	Tokunoshima	1.82	11	P	Pn	16 25 23.9	+0.2
JTK				S	Sn	16 25 45.8	-0.3
JMZ	Minamidaito 2	2.40	93	P	Pn	16 25 30.8	-1.1
JMZ				eS	Sn	16 25 57.7	-2.9
JAM	Amami Oshima	2.58	21	P	Pn	16 25 34.1	-0.5
JAM				S	Sn	16 26 04.6	-0.8
JZK	Kikaishima	2.63	28	S	Sn	16 26 06.8	+0.1
JOGS	Gusukube	3.11	248	P	Pn	16 25 41.6	-0.4
JOGS				eS	Sn	16 26 17.6	-1.1
JMJ	Miyako jima 2	3.18	249	P	Pn	16 25 42.5	-0.5
JMJ				S	Sn	16 26 18.1	-2.5
JTJ	Tarama	3.75	250	P	Pn	16 25 49.8	-1.2
JTJ				S	Sn	16 26 30.5	-4.3
JNN	Nakanoshima	4.01	16	P	Pn	16 25 54.8	0.0
JNN				eS	Sn	16 26 39.8	-1.7
JIJ	Ishigaki jima	4.32	249	P	Pn	16 25 56.7	-2.5
JIJ				eS	Sn	16 26 45.7	-3.7
JKRS	Kuro-shima	4.48	248	P	Pn	16 25 59.5	-2.0
IRIF	Iriomote-Funau	4.68	250	P	Pn	16 26 01.6	-2.7
JKC	Kuchinoerabu	4.68	17	P	Pn	16 26 03.0	-1.4
JKC				S	Sn	16 26 55.4	-3.1
JTN	Tanegashima 3	5.11	24	P	Pn	16 26 09.2	-1.2
JTN				S	Sn	16 27 05.1	-4.2
YOJ	Yonaguni jima	5.26	254	P	Pn	16 26 11.5	-0.9
JNU	Nakatsue	7.39	15	Pn	Pn	16 26 41.8	-0.6
	4.0nm,0.3s,baz=197,slow=8.1,SNR=21						
JNU				Sn	Sn	16 28 03.8	-2.5
	1.0nm,0.3s,baz=240,slow=40,SNR=2.8						
JNU				LR	LR	16 29 57.3	
	comp=Z,2µm,19.3s,baz=12,slow=41						
JHJ	Hachijo jima 2	12.07	51	LR	LR	16 31 17.3	
	comp=Z,483nm,19.8s,baz=306,slow=31						
CBIJ	Chichi jima	12.24	82	LR	LR	16 31 37.8	
	comp=Z,486nm,21.9s,baz=281,slow=32						
MAJO	Matsushiro	13.36	36	ePn	P	16 28 02.2	-1.7
	39nm,1.5s						
MAT	Matsushiro	13.36	36	P	P	16 28 12.6	+8.7
MAT	Matsushiro	13.36	36	eP	P	16 28 13.0	+9.1
	8.4nm,0.9s						
TIA	Tai’an	14.13	319	eP	P	16 28 16.2	+2.1
TIA				LR	LR		

	comp=N,4µm,13.0s						
TIA				LR	LR		
	comp=E,2µm,13.0s						
SNY	**Shenyang**	**16.33**	**347**	⇓P	**P**	**16 28 43.5**	**+0.9**
SNY				AMB	AMB		
	comp=Z,20nm,1.9s						
SNY				LR	LR		
	comp=N,2µm,14.7s						
SNY				LR	LR		
	comp=E,1µm,11.4s						
SNY				LR	LR		
	comp=Z,2µm,14.2s						
ENH	**Enshi**	**17.36**	**289**	*e*P	**P**	**16 28 55.2**	**-0.4**
	comp=Z,5.9nm,0.8s						
BJT	**Baijiatuau**	**17.41**	**327**	*e*P	**P**	**16 28 56.8**	**+0.7**
	comp=Z,36nm,1.0s						
BJI	**Beijing**	**17.42**	**327**	P	**P**	**16 28 57.0**	**+0.7**
BJI				S	**S**	**16 32 20.8**	**+13**
BJI				AMB	AMB		
	comp=Z,24nm,0.9s						
BJI				AMB	AMB		
	comp=Z,433nm,3.2s						
BJI				LR	LR		
	comp=N,5µm,13.2s						
BJI				LR	LR		
	comp=E,1µm,13.2s						
BJI				LR	LR		
	comp=Z,1µm,14.6s						
CN2	**Changchun**	**17.95**	**353**	*e*P	**P**	**16 29 03.0**	**+0.1**
CN2				*e*S	**S**	**16 32 25.6**	**+6.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.5s						
CN2				LR	LR		
	comp=N,3µm,11.0s						
CN2				LR	LR		
	comp=E,1µm,11.0s						
CN2				LR	LR		
	comp=Z,3µm,11.0s						
TIY	**Taiyuan**	**17.98**	**314**	⇑P	**P**	**16 29 04.8**	**+1.5**
TIY				LR	LR		
	comp=N,3µm,11.0s						
TIY				LR	LR		
	comp=Z,3µm,12.0s						
QIZ	**Qiongzhong**	**18.62**	**252**	P	**P**	**16 29 13.1**	**+1.8**
QIZ				S	**S**	**16 32 37.5**	**+2.7**
QIZ				AMB	AMB		
	comp=Z,28nm,1.6s						
QIZ				LR	LR		
	comp=N,2µm,21.1s						
QIZ				LR	LR		
	comp=E,624nm,20.5s						
QIZ				LR	LR		
	comp=Z,1µm,20.0s						
XAN	**Xi’an**	**18.79**	**300**	P	**P**	**16 29 12.0**	**-1.3**
XAN				LG1		16 36 17.2	
XAN				LG2		16 36 46.1	
XAN				AMB	AMB		
	comp=Z,27nm,0.9s						
XAN				LR	LR		
	comp=E,2µm,13.5s						
XAN				LR	LR		
	comp=Z,2µm,14.6s						
GYA	**Guiyang**	**19.66**	**276**	P	**P**	**16 29 23.4**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**20.47**	**321**	*e*P	**P**	**16 29 30.4**	**-1.4**
HHC				AMB	AMB		
	comp=Z,27nm,1.1s						
HHC				AMB	AMB		
	comp=Z,265nm,11.3s						
HHC				LR	LR		
	comp=N,2µm,11.2s,MS4.7						
HHC				LR	LR		
	comp=E,1µm,12.9s,MS4.7						
HHC				LR	LR		
	comp=Z,2µm,11.6s,MS4.7						
ASAJ	**Asahikawa**	**21.37**	**29**	P	**P**	**16 29 42.3**	**+1.3**
	comp=Z,6.2nm,0.8s,mb4.0,baz=176,slow=15,SNR=3.4						
ASAJ				LR	LR	16 38 12.1	
	comp=Z,561nm,21.4s,MS3.9,baz=228,slow=37						
ASAJ	**Asahikawa**	**21.37**	**29**	P	**P**	**16 29 42.3**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,561nm,21.4s						
CD2	**Chengdu**	**22.34**	**288**	P	**P**	**16 29 48.0**	**-2.8**
KMI	**Kunming**	**23.31**	**274**	*e*P	**P**	**16 29 58.3**	**-2.0**
KMI				AP		16 30 10.2	
KMI				PP	PP	16 30 35.8	+4.1
KMI				S	**S**	**16 34 13.8**	**+6.6**
KMI				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,510nm,10.3s						
KMI				LR	LR		
	comp=N,1µm,16.7s						
KMI				LR	LR		
	comp=E,1µm,8.9s						
KMI				LR	LR		
	comp=Z,1µm,13.4s,MS4.5						
LZH	**Lanzhou**	**23.40**	**301**	⇓P	**P**	**16 30 00.5**	**-0.6**
LZH				PP	PP	16 30 40.0	+7.1
LZH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,490nm,6.1s						
LZH				LR	LR		
	comp=E,2µm,11.4s						
LZH				LR	LR		
	comp=Z,3µm,14.3s,MS4.9						
YSS	**Yuzh-Sakhalins**	**23.76**	**25**	⇑*i*P	**P**	**16 30 06.5**	**+2.0**
YSS				*e*		16 30 16.0	
YSS				*e*S	**S**	**16 34 18.0**	**+3.1**
YSS				*e*		16 34 29.0	
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.0						
YSS	**Yuzh-Sakhalins**	**23.76**	**25**	*e*P	**P**	**16 30 07.0**	**+2.5**
	comp=Z,60nm,0.9s,mb5.0						
KKTK	**Khon Kaen**	**25.81**	**253**	P	**P**	**16 30 25.6**	**+1.2**
NANT	**Nan**	**26.70**	**260**	P	**P**	**16 30 30.0**	**-2.6**
GTA	**Gaotai**	**27.52**	**306**	⇑P	**P**	**16 30 38.1**	**-1.8**
GTA				AMB	AMB		
	comp=Z,57nm,0.7s,mb5.3						
GTA				AMB	AMB		
	comp=Z,88nm,5.7s						
GTA				LR	LR		
	comp=N,809nm,12.2s,MS4.5						
GTA				LR	LR		
	comp=E,581nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=Z,1µm,12.9s,MS4.6						
SONM	**Songino Array**	**27.92**	**327**	P	**P**	**16 30 41.0**	**-2.4**
	comp=Z,9.1nm,0.8s,mb4.5,baz=138,slow=9.3,SNR=37						
CMAR	**Chiang Mai Arr**	**28.38**	**261**	P	**P**	**16 30 48.0**	**+0.1**
	comp=Z,4.6nm,1.0s,mb4.1,baz=64,slow=7.1,SNR=15						
CMAR				LR	LR	16 43 53.9	
	comp=Z,455nm,18.4s,MS4.1,baz=70,slow=40						
CMAR	**Chiang Mai Arr**	**28.38**	**261**	P	**P**	**16 30 48.0**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,455nm,18.4s						
ZAK	**Zakamensk**	**31.15**	**328**	*e*P	**P**	**16 31 05.8**	**-6.4**
TLY	**Talaya**	**31.87**	**330**	*e*P	**P**	**16 31 15.3**	**-3.2**
TLY				pmax	pmax		
	comp=Z,65nm,1.3s,mb5.3						
TLY				MLR	MLR		
	comp=Z,11µm,14.0s,MS5.7						
LSA	**Lhasa**	**33.20**	**285**	*e*P	**P**	**16 31 29.6**	**-0.7**
	comp=Z,2.0nm,0.5s,mb4.3						
PET	**Petropavlovsk**	**35.14**	**32**	*e*P	**P**	**16 31 57.3**	**+10**
PET				*e*S	**S**	**16 37 26.0**	**+8.8**
PET				smax			
	comp=E,200nm,19.4s						
PET				smax			
	comp=N,200nm,16.1s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.6						
PET	**Petropavlovsk**	**35.14**	**32**	*e*P	**P**	**16 31 46.9**	**+0.1**
	comp=Z,6.2nm,0.5s,mb4.8						
YAK	**Yakutsk**	**36.04**	**1**	*e*P	**P**	**16 31 53.6**	**-0.8**
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK	**Yakutsk**	**36.04**	**1**	*e*P	**P**	**16 31 53.3**	**-1.0**
	comp=N,9.8nm,0.6s,mb4.9						
CAL	**Calcutta**	**36.74**	**273**	*e*P	**P**	**16 32 04.0**	**+3.3**
CAL				*e*		16 33 10.8	
MA2	**Magadan**	**36.94**	**19**	*de*P	**P**	**16 32 01.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
MA2				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
WMQ	**Urumqi**	**37.50**	**309**	⇑P	**P**	**16 32 06.0**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,271nm,15.0s,MS4.5						
WMQ				LR	LR		
	comp=E,432nm,14.5s,MS4.5						
WMQ				LR	LR		
	comp=Z,422nm,14.4s,MS4.4						
PKI	**Pulchoki**	**38.42**	**282**	*e*P	**P**	**16 32 13.6**	**-1.1**
	comp=Z,102nm,1.1s,mb5.5						
KKN	**Kakani**	**38.51**	**283**	*e*P	**P**	**16 32 14.5**	**-0.9**
	comp=Z,132nm,1.1s,mb5.6						
DMN	**Daman**	**38.68**	**282**	*e*P	**P**	**16 32 15.6**	**-1.3**
	comp=Z,114nm,1.1s,mb5.5						
GKN	**Gorkha**	**39.04**	**283**	*e*P	**P**	**16 32 19.2**	**-0.7**
	comp=Z,128nm,1.1s,mb5.6						
PMG	**Port Moresby**	**39.56**	**150**	LR	LR	16 46 37.3	
	comp=Z,219nm,20.1s,MS4.0,baz=218,slow=33						
KOLN	**Koldanda**	**39.98**	**283**	*e*P	**P**	**16 32 27.4**	**-0.3**
	comp=Z,123nm,1.2s,mb5.5						
KNA	**Kununurra**	**41.48**	**180**	*e*P	**P**	**16 32 40.1**	**0.0**
	comp=Z,5.7nm,1.2s,mb4.1						
MKAR	**Makanchi Array**	**41.92**	**312**	P	**P**	**16 32 42.1**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.3,baz=99,slow=11,SNR=48						
MKAR				LR	LR	16 51 45.2	
	comp=Z,158nm,18.1s,MS3.9,baz=258,slow=39						
MKAR	**Makanchi Array**	**41.92**	**312**	*i* P	**P**	**16 32 42.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.92**	**184**	*e*P	**P**	**16 33 00.5**	**+0.5**
	comp=Z,7.2nm,2.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**43.92**	**184**	P	**P**	**16 33 00.5**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.1,baz=8.0,slow=5.2,SNR=4.4						
KURK	**Kurchatov**	**45.20**	**317**	*i* P	**P**	**16 33 08.6**	**-1.3**
KURK				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.2						
KURK	**Kurchatov**	**45.20**	**317**	*e*P	**P**	**16 33 08.6**	**-1.4**
	comp=Z,30nm,1.3s,mb5.0						
KURK				*e*pP	pP	16 33 17.0	-1.0
TIXI	**Tiksi**	**45.70**	**0**	*e*P	**P**	**16 33 12.6**	**-1.0**
TIXI				*e*S	**S**	**16 39 47.4**	**-6.8**
TIXI				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,246nm,10.0s,MS4.5						
WRA	**Warramunga Arr**	**46.00**	**172**	P	**P**	**16 33 16.7**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.5,baz=353,slow=8.4,SNR=21						
WRA	**Warramunga Arr**	**46.00**	**172**	P	**P**	**16 33 16.7**	**+0.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**46.00**	**172**	*e*P	**P**	**16 33 16.4**	**-0.2**
FRU	**Bishkek**	**46.78**	**305**	*e*P	**P**	**16 33 23.0**	**+0.5**
FRU				MLR	MLR		
	comp=E,1µm,14.0s						
FRU				MLR	MLR		
	comp=Z,1µm,14.0s,MS4.9						
CTA	**Charters Tower**	**48.91**	**158**	P	**P**	**16 33 40.7**	**+1.2**
	comp=Z,4.0nm,0.8s,mb4.5,baz=331,slow=15,SNR=2.8						
CTA				LR	LR	16 54 49.0	
	comp=Z,191nm,18.4s,MS4.1,baz=159,slow=37						
CTA	**Charters Tower**	**48.91**	**158**	P	**P**	**16 33 40.7**	**+1.2**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTA				MLR	MLR		
	comp=Z,191nm,18.4s						
CTA	**Charters Tower**	**48.91**	**158**	P	**P**	**16 33 40.7**	**+1.2**
CTA				LR	LR	16 54 49.0	
ASAR	**Alice Springs**	**49.63**	**174**	P	**P**	**16 33 45.3**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=0.6,slow=9.0,SNR=23						
ASAR				LR	LR	16 53 55.3	
	comp=Z,89nm,18.2s,MS3.8,baz=356,slow=35						
ASPA	**Alice Springs**	**49.63**	**174**	*e*P	**P**	**16 33 45.2**	**+0.3**
KKAR	**Karatay Array**	**49.80**	**306**	*i* P	**P**	**16 33 46.2**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
VOSK	**Vostochnaya**	**50.26**	**318**	P	**P**	**16 33 48.4**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BVA0	**Borovoye Array**	**50.66**	**318**	P	**P**	**16 33 51.7**	**-0.7**
BRVK	**Borovoye**	**50.73**	**318**	P	**P**	**16 33 52.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
BRVK	**Borovoye**	**50.73**	**318**	*e*P	**P**	**16 33 52.3**	**-0.6**
	comp=Z,44nm,1.4s,mb5.2						
BRVK				*e*pP	pP	16 34 00.4	-0.6
ZRNK	**Zerenda**	**51.48**	**318**	P	**P**	**16 33 57.7**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
AB31	**Akbulak array**	**57.03**	**313**	*i* P	**P**	**16 34 38.5**	**-0.9**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ARU	**Arti**	**57.77**	**322**	⇓*i*P	**P**	**16 34 43.8**	**-0.6**
ARU				*i*	pP	16 34 52.9	+0.2
ARU				*e*		16 35 39.4	
ARU				*e*		16 36 48.0	
ARU				*e*S	**S**	**16 42 32.5**	**-7.5**
ARU				*e*SS	SS	16 46 27.3	-4.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,400nm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,700nm,17.0s,MS4.9						
ARU	**Arti**	**57.77**	**322**	*e*P	**P**	**16 34 42.3**	**-2.1**
	comp=E,8.0nm,1.0s,mb4.7						
ARU				*e*pP	pP	16 34 51.4	-1.3
SOKR	**Solikamsk**	**58.78**	**326**	⇓*e*P	**P**	**16 34 43.2**	**-8.2**
SOKR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SOKR				MLR	MLR		
	comp=Z,450nm,18.0s,MS4.6						
STKA	**Stephens Creek**	**58.87**	**167**	P	**P**	**16 34 52.5**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=338,slow=5.4,SNR=2.8						
STKA				LR	LR	16 57 21.8	
	comp=Z,100nm,21.8s,MS3.9,baz=24,slow=33						
STKA	**Stephens Creek**	**58.87**	**167**	P	**P**	**16 34 52.5**	**0.0**
STKA				LR	LR	16 57 21.8	
MCK	**McKinley**	**63.73**	**29**	*e*P	**P**	**16 35 25.4**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**64.51**	**28**	P	**P**	**16 35 29.4**	**-0.4**
	comp=Z,2.0nm,1.2s,mb4.0,baz=264,slow=5.3,SNR=5.8						
ILAR				LR	LR	17 06 34.0	
	comp=Z,97nm,18.1s,MS4.0,baz=300,slow=39						
ILAR	**Eielson Array**	**64.51**	**28**	P	**P**	**16 35 29.4**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ILAR				MLR	MLR		
	comp=Z,97nm,18.1s						
INK	**Inuvik**	**68.99**	**23**	P	**P**	**16 35 58.5**	**+0.3**
	comp=Z,0.8nm,0.3s,mb4.1,baz=307,slow=5.8,SNR=8.8						
INK				LR	LR	17 10 18.8	
	comp=Z,122nm,19.6s,MS4.2,baz=148,slow=40						
INK	**Inuvik**	**68.99**	**23**	P	**P**	**16 35 58.5**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,122nm,19.6s						
INK	**Inuvik**	**68.99**	**23**	*e*P	**P**	**16 35 58.5**	**+0.4**
	comp=Z,8.9nm,1.2s,mb4.6						
GOF	**Gofitskoye**	**69.08**	**311**	*e*P	**P**	**16 35 54.0**	**-5.1**
KEV	**Kevo**	**69.77**	**339**	*e*p	**P**	**16 35 59.6**	**-3.3**
	comp=Z,3.9nm,0.7s,mb4.5						
KEV	**Kevo**	**69.77**	**339**	*e*P	**P**	**16 35 59.6**	**-3.3**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
OBN	**Obninsk**	**70.20**	**322**	*c i*P	**P**	**16 36 04.8**	**-1.0**
OBN				*e*S	S	16 45 05.4	-8.8
OBN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.9						
ARCES	**ARCESS Array B**	**70.34**	**339**	P	**P**	**16 36 06.2**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.4,baz=72,slow=7.7,SNR=8.8						
ARCES				LR	LR	17 12 27.8	
	comp=Z,271nm,18.3s,MS4.5,baz=245,slow=41						
ARCES	**ARCESS Array B**	**70.34**	**339**	P	**P**	**16 36 06.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,271nm,18.3s						
SOC	**Sochi**	**71.79**	**310**	*e*P	**P**	**16 36 14.6**	**-1.0**
SOC				*e*S	S	16 45 28.6	-4.2
SOC				*e*		16 46 25.2	
SOC				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
SOC				pmax	pmax		
	comp=N,13nm,1.0s						
SOC				pmax	pmax		
	comp=E,19nm,1.0s						
SOC				MLR	MLR		
	comp=Z,301nm,25.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,123nm,15.0s						
SOC				MLR	MLR		
	comp=E,241nm,19.0s						
KAF	**Kangasniemi**	**72.86**	**331**	*e*p	**P**	**16 36 18.1**	**-3.4**
ANN	**Anapa**	**72.94**	**312**	*e*P	**P**	**16 36 21.0**	**-1.4**
ANN				*e*S	S	16 45 50.0	+4.1
ANN				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.1						
ANN				MLR	MLR		
	comp=Z,224nm,13.0s,MS4.6						
RYDS	**Riyadh**	**72.96**	**289**	P	**P**	**16 36 31.4**	**+8.5**
FINES	**FINESS Array B**	**73.22**	**331**	P	**P**	**16 36 23.3**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=63,slow=4.3,SNR=14						
FINES				LR	LR	17 12 12.3	
	comp=Z,294nm,18.7s,MS4.6,baz=238,slow=39						
FINES	**FINESS Array B**	**73.22**	**331**	P	**P**	**16 36 23.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,294nm,18.7s						
FINES	**FINESS Array B**	**73.22**	**331**	P	**P**	**16 36 23.3**	**-0.4**
FINES				LR	LR	17 12 12.3	
SIM	**Simferopol’**	**75.09**	**313**	*e*P	**P**	**16 36 35.1**	**+0.3**
SIM				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SIM				MLR	MLR		
	comp=Z,140nm,17.1s,MS4.3						
GZT	**Gaziantep**	**75.48**	**305**	*i* P	**P**	**16 36 38.3**	**+1.1**
RES	**Resolute Bay**	**75.73**	**11**	*e*P	**P**	**16 36 42.6**	**+4.7**
	comp=Z,12nm,0.7s,mb4.9						
RES				*e*	pP	16 36 50.4	+4.1
BOYT	**Boyabat**	**75.88**	**309**	*i* P	**P**	**16 36 40.0**	**+0.7**
AKASG	**Malin Array Be**	**75.91**	**320**	P	**P**	**16 36 39.0**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.7,baz=53,slow=5.8,SNR=32						
AKASG	**Malin Array Be**	**75.91**	**320**	P	**P**	**16 36 39.1**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTKT	**Corum**	**76.26**	**309**	*i* P	**P**	**16 36 42.7**	**+1.2**
BALT	**Daday**	**76.89**	**310**	*i* P	**P**	**16 36 45.8**	**+0.8**
AVNT	**Avonos**	**76.92**	**307**	*i* P	**P**	**16 36 46.0**	**+0.7**
ELDT	**Eldivan**	**77.27**	**309**	*i* P	**P**	**16 36 48.2**	**+1.0**
SUW	**Suwalki**	**77.83**	**324**	*e*P	**P**	**16 36 50.1**	**+0.2**
KBRS	**Khaybar**	**78.56**	**293**	P	**P**	**16 36 56.3**	**+1.7**
YKA	**Yellowknife Ar**	**78.62**	**25**	P	**P**	**16 36 55.1**	**+1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=302,slow=5.8,SNR=3.4						
YKA				LR	LR	17 17 47.8	
	comp=Z,65nm,18.4s,MS4.0,baz=315,slow=40						
YKA	**Yellowknife Ar**	**78.62**	**25**	P	**P**	**16 36 55.1**	**+1.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,65nm,18.4s						
NB2	**NORSAR Subarra**	**79.66**	**334**	P	**P**	**16 36 59.3**	**-0.5**
	comp=Z,7.1nm,0.8s,mb4.7,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**16 36 59.7**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.5,baz=52,slow=5.5,SNR=19						
NOA				LR	LR	17 13 35.4	
	comp=Z,145nm,19.2s,MS4.3,baz=90,slow=37						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**16 36 59.7**	**-0.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,145nm,19.2s						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**16 36 59.7**	**-0.1**
NOA				LR	LR	17 13 35.4	
TBKS	**Tabuk**	**79.80**	**296**	P	**P**	**16 37 00.9**	**-0.3**
JMQS	**Jabal Moqyreh**	**80.07**	**297**	P	**P**	**16 37 02.6**	**-0.1**
KWP	**Kalwaria**	**80.14**	**321**	*e*P	**P**	**16 37 03.9**	**+1.3**
ULDT	**Uludag**	**80.40**	**310**	*i* P	**P**	**16 37 04.9**	**+0.7**
JMOS	**Jabal al Moall**	**80.57**	**298**	P	**P**	**16 37 06.4**	**+1.1**
HAQS	**Haql**	**80.76**	**298**	P	**P**	**16 37 07.1**	**+0.8**
AYUS	**‘Aynunah**	**80.85**	**297**	P	**P**	**16 37 07.8**	**+1.0**
BDAS	**Al Bad‘**	**80.88**	**297**	P	**P**	**16 37 07.8**	**+0.8**
OJC	**Ojcow**	**81.49**	**322**	*e*P	**P**	**16 37 10.7**	**+1.0**
OKC	**Ostrava-Krasne**	**82.60**	**322**	LM		17 16 30.0	
	comp=Z,0.5nm,17.1s						
VYHS	**Vyhne**	**82.92**	**321**	*i* P	**P**	**16 37 18.5**	**+1.4**
VYHS				*e*		16 37 32.6	
KSP	**Ksiaz**	**83.07**	**324**	*e*P	**P**	**16 37 19.0**	**+1.1**
DPC	**Dobruska-Polom**	**83.32**	**323**	*e*P	**P**	**16 37 20.9**	**+1.7**
DPC				*e*AP	pP	16 37 30.0	+2.3
DPC				LM		17 18 30.0	
	comp=Z,0.7nm,13.7s						
PVCC	**Panska Ves**	**84.15**	**324**	*e*P	**P**	**16 37 25.1**	**+1.7**
PVCC				LM		17 19 00.0	
	comp=Z,0.6nm,14.4s						
BRG	**Berggiesshubel**	**84.29**	**325**	*e*P	**P**	**16 37 25.7**	**+1.7**
BRG				pmax	pmax		
	comp=Z,33nm,2.2s,mb5.1						
BRG	**Berggiesshubel**	**84.29**	**325**	*e*P	**P**	**16 37 25.7**	**+1.7**
	comp=Z,33nm,2.2s,mb5.1						
PRU	**Pruhonice**	**84.47**	**324**	*e*P	**P**	**16 37 26.5**	**+1.5**
PRU				*e*AP	pP	16 37 35.3	+1.8
PRU				LM		17 19 20.0	
	comp=Z,0.6nm,10.0s						
CLL	**Collm**	**84.52**	**325**	⇓P	**P**	**16 37 26.5**	**+1.3**
	comp=Z,logA/T=1.5,mb5.4						
CLL				e*PP	pP	16 37 34.0	+0.3
CLL	**Collm**	**84.52**	**325**	⇓*i*P	**P**	**16 37 26.5**	**+1.3**
CLL				pmax	pmax		
	comp=Z,62nm,2.1s,mb5.4						
CLL				MLR	MLR		
	comp=Z,900nm,16.8s,MS5.2						
CLL	**Collm**	**84.52**	**325**	⇓*i*P	**P**	**16 37 26.5**	**+1.3**
	comp=Z,62nm,2.1s,mb5.4						
CLL				LR	LR		
	comp=Z,900nm,16.8s,MS5.2						
SKO	**Skopje**	**84.68**	**314**	*e*P	**P**	**16 37 27.0**	**+0.8**
NKC	**Novy Kostel**	**85.44**	**325**	*e*P	**P**	**16 37 31.6**	**+1.8**
NKC				*e*AP	pP	16 37 41.3	+3.0
NKC				LM		17 19 40.0	
	comp=Z,0.6nm,12.7s						
KHC	**Kasperske Hory**	**85.48**	**323**	*e*P	**P**	**16 37 31.6**	**+1.6**
KHC				*e*AP	pP	16 37 41.1	+2.5
KHC				LM		17 19 50.0	
	comp=Z,0.7nm,16.0s						
GERES	**GERESS Array B**	**85.58**	**323**	P	**P**	**16 37 32.1**	**+1.6**
	comp=Z,1.2nm,0.3s,mb4.6,baz=68,slow=5.3,SNR=8.9						
GERES	**GERESS Array B**	**85.58**	**323**	P	**P**	**16 37 32.1**	**+1.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MOX	**Moxa**	**85.62**	**325**	*e*P	**P**	**16 37 42.0**	**+11**
GRA1	**Grafenberg Arr**	**86.39**	**325**	*e*P	**P**	**16 37 36.9**	**+2.4**
	comp=Z,9.0nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**86.39**	**325**	*e*P	**P**	**16 37 36.9**	**+2.4**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
NVAR	**Mina Array Bea**	**90.45**	**46**	P	**P**	**16 37 57.1**	**+2.9**
	comp=Z,0.2nm,0.6s,mb3.7,baz=277,slow=8.4,SNR=2.6						
PDAR	**Pinedale Array**	**93.16**	**39**	P	**P**	**16 38 09.8**	**+3.3**
	comp=Z,0.2nm,0.3s,mb4.0,baz=304,slow=3.3,SNR=2.8						
SCHQ	**Schefferville**	**98.43**	**9**	LR	LR	17 24 37.2	
	comp=Z,114nm,20.0s,MS4.4,baz=322,slow=36						

DJA 09 16:28:32.3±0.8**,6.90S**×**114.44E,h80**km**,ML4.4**/3**,1C-7D,**
Error ellipse: s-maj=18.4km s-min=14.2km az=177.0,
Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**1.31**	**178**	⇓*e*Pn	P	16 28 55.0	-0.6
	348nm,0.2s						
KELI	**Kelakatan**	**1.31**	**178**	⇑*e*P	P	16 28 55.4	-0.2
KELI				⇓*e*Sn	S	16 29 12.4	-0.5
INGI	**Ingas**	**2.03**	**160**	⇓*e*Pn	P	16 29 05.1	0.0
	270nm,0.1s						
INGI				⇓*e*Sn	S	16 29 27.8	-1.6
RATI	**Rata**	**2.11**	**149**	*e*Pn	P	16 29 05.5	-0.8

	168nm,0.3s						
RATI	Rata	2.11	149	⇓*e*P	P	16 29 06.2	-0.1
RATI				*e*Sn	S	16 29 29.8	-1.6
KEDI	Kedomdong	2.29	134	⇓*e*Pn	P	16 29 08.0	-0.8
KEDI				⇓*e*Sn	S	16 29 32.8	-3.1

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*LDG **09** 16:31:41.8±0.1, 44.43N×6.78E, h2^{km}, Md2.2/2, Ml2.2/6, Error ellipse: s-maj=1.5km s-min=0.9km az=64.0*

*STR **09** 16:31:42.0±0.2, 44.42N×6.82E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **09** 16:31:42.0, 44.42N×6.82E, h5^{km}, ML2.5(GEN), ML2.2(LDG), ML2.1(STR), After STR.*

ISC 09 16:31:40.9±0.3**, 44.41N**±0.01×**6.75E**±0.03**, h10**^{km}±3^{km}**, n31, σ0^{s}63**/56**, 2C, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	Saint Ours	0.09	35	Pg	Pg	16 31 43.9	+0.5
SURF				Sg	Sg	16 31 44.9	-0.1
PZZ	Prazzo	0.27	70	⇑P	Pg	16 31 47.2	+0.6
PZZ				S	Sg	16 31 50.9	+0.5
MBDF	Montbardon	0.32	3	*e*Pg	Pg	16 31 47.9	+0.4
MBDF				*e*Sg	Sg	16 31 52.0	+0.2
	17nm,0.3s						
STV	Sta Anna Valdi	0.45	112	P	Pg	16 31 50.2	+0.2
STV				S	Sg	16 31 55.6	-0.5
STV2	Anna di Valdie	0.45	111	P	Pg	16 31 50.1	+0.1
STV2				S	Sg	16 31 55.5	-0.6
RRL	Cesana Torines	0.51	3	P	Pg	16 31 51.6	+0.4
RRL				S	Sg	16 31 58.8	+0.7
ENR	Entracque	0.52	111	P	Pg	16 31 51.3	0.0
TOUF	Mont Tournerai	0.54	137	Pg	Pg	16 31 51.8	+0.1
BHB	Bricherasio	0.57	40	⇑P	Pg	16 31 52.3	-0.1
BHB				S	Sg	16 31 59.5	-0.5
MVIF	Mont Vial	0.59	150	Pg	Pg	16 31 52.9	+0.1
AUTN	L'Aution	0.64	130	Pg	Pg	16 31 54.5	+0.7
AUTN				Sg	Sg	16 32 02.5	0.0
FENE	Fenestrelle	0.66	20	P	Pb	16 31 54.0	0.0
FENE				S	Sb	16 32 02.8	-0.1
CALN	Calern	0.67	171	Pg	Pg	16 31 55.0	+0.7
CALN				Sg	Sg	16 32 04.0	+0.7
AURF	Auriere	0.67	141	Pg	Pg	16 31 54.5	+0.1
AURF				Sg	Sg	16 32 03.1	-0.3
SAOF	Saorge	0.72	126	Pg	Pg	16 31 55.4	0.0
SAOF				Sg	Sg	16 32 04.1	-1.0
SBF	Sospel	0.74	138	*e*Pg	Pg	16 31 55.5	-0.2
SBF				*e*Sg	Sg	16 32 04.5	-1.2
	7.2nm,0.2s						
ORIF	Oris-en-Rattie	0.80	310	*e*Pg	Pg	16 31 56.9	0.0
ORIF				*e*Sg	Sg	16 32 07.6	-0.1
	4.3nm,0.2s						
ROB	Roburent	0.82	98	P	Pb	16 31 56.6	-0.1
ROB				S	Sb	16 32 07.4	0.0
RSP	Reno Superiore	0.83	26	P	Pb	16 31 57.2	+0.3
RSP				S	Sb	16 32 08.0	+0.2
FRF	La Foret Royal	0.85	185	*e*Pg	Pg	16 31 58.0	0.0
FRF				*e*Sg	Sg	16 32 09.2	-0.2
	14nm,0.2s						
NEGI	Negi	0.89	129	P	Pb	16 31 58.7	+0.8
NEGI				S	Sb	16 32 09.9	+0.3
SMRF	Simiane la Rot	0.95	243	*e*Pg	Pg	16 32 00.3	+0.4
SMRF				*e*Sg	Sg	16 32 13.6	+1.1
	5.3nm,0.3s						
IMI	Imperia	0.96	121	P	Pb	16 31 59.7	+0.5
IMI				S	Sb	16 32 12.1	+0.3
RORO		0.99	107	P	Pb	16 31 59.8	+0.1
FIN	Finale Ligure	1.07	100	P	Pb	16 32 01.2	+0.2
LPG	La Plagne	1.09	0	*e*Pg	Pg	16 32 02.1	-0.5
LPG				*e*Sg	Sg	16 32 16.0	-1.2
	2.3nm,0.3s						
LSD	Ceresole Reale	1.09	15	P	Pb	16 32 02.0	+0.7
LSD				S	Sb	16 32 16.1	+0.7
LMR	La Mourre	1.09	189	*e*Pg	Pg	16 32 02.9	+0.2
LMR				*e*Sg	Sg	16 32 17.7	+0.4
	14nm,0.2s						
LPL	La Plagne	1.11	360	*e*Pg	Pg	16 32 02.4	-0.6
VIVF	Saint-Julien-l	1.54	287	*e*Pg	Pg	16 32 10.6	-1.2
VIVF				*e*Sg	Sg	16 32 30.1	-2.3
	1.5nm,0.3s						
PGF	Pioggiola	2.48	138	*e*Pn	Pn	16 32 21.5	-0.5
PGF				*e*Sn	Sn	16 32 50.5	-2.1
	1.6nm,0.2s						

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*IDC **09** 16:34:54.1±8.8, 4.10S×128.50E, h260^{km}±96^{km}, mb3.3/2, mb1 3.5/4, mb1mx3.2/15, Error ellipse: s-maj=90.0km s-min=30.1km az=62.0*

ISC 09 16:34:38.0±5.1**, 3.4S**±0.2×**129.4E**±0.4**, h124**^{km}±50^{km}**, n6, σ0^{s}22**/7**, mb3.5**/1**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	15.02	194	P	P	16 38 05.1	0.0
	0.6nm,0.3s,baz=8.3,slow=10.0,SNR=22						
WRA	Warramunga Arr	17.11	164	P	P	16 38 31.2	+0.1
	0.9nm,0.3s,baz=338,slow=12,SNR=25						
WRA				S	S	16 41 35.4	-0.1
	0.1nm,0.3s,baz=338,slow=22,SNR=5.0						
WB2	Warramunga Arr	17.11	164	*e*P	P	16 38 30.9	-0.2
ASAR	Alice Springs	20.58	168	P	P	16 39 09.2	+0.2
	4.5nm,0.5s,baz=346,slow=12,SNR=44						
ASPA	Alice Springs	20.58	168	⇓*i*P	P	16 39 09.2	+0.2
MKAR	Makanchi Array	64.92	326	P	P	16 45 06.5	-0.1
	0.3nm,0.4s,mb3.5,baz=112,slow=8.6,SNR=5.8						

IDC 09 16:38:35.8±11.0**, 5.73S**×**128.76E, h202**^{km}±128^{km}**, mb2.8**/1**, mb1 3.4**/4**, mb1mx3.2**/13**, Error ellipse: s-maj=71.6km s-min=42.7km az=42.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.67	194	P	P	16 41 30.6	+0.6
	0.3nm,0.3s,baz=21,slow=8.6,SNR=10						
FITZ				S	S	16 43 47.4	+0.3
	0.1nm,0.3s,baz=177,slow=21,SNR=2.5						
WRA	Warramunga Arr	15.13	159	P	P	16 41 59.5	-1.3
	0.4nm,0.3s,baz=341,slow=11,SNR=5.5						
WRA				S	S	16 44 46.3	+3.4
	0.1nm,0.3s,baz=333,slow=26,SNR=4.1						
ASAR	Alice Springs	18.51	165	P	P	16 42 37.1	-2.1
	1.0nm,0.3s,baz=348,slow=11,SNR=43						
MKAR	Makanchi Array	66.50	327	P	P	16 49 03.8	-2.0
	0.2nm,0.5s,baz=114,slow=10,SNR=2.7						

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*NIED **09** 16:49:00, 25.90N×128.60E, h11^{km}, Mw4.7 Best double couple: M$_0$1.24×10^{16} NP1:φ$_s$58°, δ62°, λ102°. NP2:φ$_s$213°, δ30°, λ68°.*

*MOS **09** 16:49:25.9±1.1, 26.02N×128.43E, h10^{km}, mb4.9/22, Error ellipse: s-maj=16.0km s-min=8.1km az=109.2*

*BJI **09** 16:49:26.5, 25.90N×128.87E, h43^{km}, mB4.8, mb4.7, Ms4.7, Msz4.5*

*JMA **09** 16:49:27.7±0.1, 25.95N×128.61E, h49^{km}±4^{km}, M4.6*

*IDC **09** 16:49:29.8±0.5, 26.05N×128.41E, h24^{km}±2^{km}, mb4.3/20, mb1 4.4/22, mb1mx4.4/27, ML4.1/2, MS3.8/13, Ms1 3.8/13, ms1mx3.7/30, Error ellipse: s-maj=15.9km s-min=7.7km az=81.0*

*NEIC **09** 16:49:30.0±0.3, 26.00N×128.47E, mb4.8/18, MW4.7(NIED), Error ellipse: s-maj=9.2km s-min=6.3km az=80.0*

ISC 09 16:49:28.1±0.8**, 25.99N**±0.03×**128.55E**±0.03**, h29**^{km}±4^{km}**, h27**^{km}±.7^{km}**:pP-P, n152, σ1^{s}22**/169**, mb4.7**/50**, MS4.3**/24**, 6C-8D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	Tamagusuku 2	0.73	282	P	Pb	16 49 42.9	+0.6
JJT2				S	Sb	16 49 54.2	+2.2
NAH1	Naha	0.80	286	P	Pb	16 49 43.7	+0.3
NAH1				S	Sb	16 49 55.6	+1.7
JOW	Kunigami	0.88	344	Pg	Pn	16 49 44.6	0.0
	976nm,0.3s,baz=148,slow=16,SNR=1362						
JOW				Lg		16 49 54.8	
	1µm,0.3s,baz=123,slow=27,SNR=19						
JOW	Kunigami	0.88	344	P	Pn	16 49 44.7	+0.1
JOW				S	Sb	16 49 56.5	+0.4
JIH	Iheya	1.17	334	P	Pn	16 49 49.2	+0.5
JIH				S	Sn	16 50 04.7	+0.9
JAGN	Aguni-jima	1.31	297	P	Pn	16 49 51.4	+0.5
JKE	Kume jima 2	1.62	282	P	Pn	16 49 55.0	-0.2
JKE				S	Sn	16 50 14.9	-0.4
JTK	Tokunoshima	1.83	11	P	Pn	16 49 58.1	-0.1
JTK				S	Sn	16 50 19.7	-0.9
JMZ	Minamidaito 2	2.41	93	P	Pn	16 50 04.9	-1.7
JMZ				S	Sn	16 50 31.4	-4.1
JAM	Amami Oshima	2.59	21	P	Pn	16 50 08.4	-0.7
JAM				S	Sn	16 50 37.6	-2.4
JZK	Kikaishima	2.64	28	P	Pn	16 50 09.6	-0.3
JZK				S	Sn	16 50 41.2	-0.1
JMJ	Miyako jima 2	3.17	249	P	Pn	16 50 16.6	-0.7
JMJ				*e*S	Sn	16 50 51.8	-2.7
JTJ	Tarama	3.73	250	P	Pn	16 50 23.6	-1.7
JTJ				S	Sn	16 51 05.3	-3.5
JNN	Nakanoshima	4.01	17	P	Pn	16 50 28.3	-1.1
JNN				S	Sn	16 51 14.1	-2.0
JIJ	Ishigaki jima	4.30	249	P	Pn	16 50 30.9	-2.6
JIJ				S	Sn	16 51 19.5	-3.9
JKRS	Kuro-shima	4.47	248	P	Pn	16 50 34.3	-1.5
JKRS				*e*S	Sn	16 51 23.6	-3.9
IRIF	Iriomote-Funau	4.66	250	P	Pn	16 50 37.1	-1.5
IRIF				S	Sn	16 51 27.5	-5.0
JKC	Kuchinoerabu	4.69	18	P	Pn	16 50 37.6	-1.3
JKC				S	Sn	16 51 28.4	-4.7
JTN	Tanegashima 3	5.12	24	P	Pn	16 50 43.4	-1.6
JTN				S	Sn	16 51 39.8	-4.1
YOJ	Yonaguni jima	5.24	254	P	Pn	16 50 44.0	-2.7
JNU	Nakatsue	7.39	15	Pn	Pn	16 51 16.1	-0.9
	4.0nm,0.3s,baz=184,slow=4.8,SNR=42						
JNU				Sn	Sn	16 52 37.5	-3.3
	2.1nm,0.3s,baz=360,slow=24,SNR=4.6						
JNU				LR	LR	16 54 31.6	
	comp=Z,870nm,19.6s,baz=15,slow=41						
JHJ	Hachijo jima 2	12.09	51	LR	LR	16 57 06.5	
	comp=Z,184nm,18.3s,baz=121,slow=38						
CBIJ	Chichi jima	12.26	82	Pn	P	16 52 24.2	+0.3
	3.7nm,0.3s,baz=260,slow=18,SNR=2.7						
CBIJ				LR	LR	16 57 15.8	
	comp=Z,50nm,18.2s,baz=223,slow=38						
MAJO	Matsushiro	13.37	36	*e*Pn	P	16 52 41.1	+2.6
MAT	Matsushiro	13.37	36	P	P	16 52 48.6	+10
MAT				*e*S	S	16 55 13.0	+5.9
ENH	Enshi	17.34	289	*e*P	P	16 53 31.6	+1.7
	8.0nm,0.8s						
BJT	Baijiatuau	17.40	327	*e*P	P	16 53 31.0	+0.5
	18nm,0.6s						
BJI	Beijing	17.41	327	P	P	16 53 31.3	+0.7
BJI				S	S	16 56 46.2	+4.7
BJI				AMB	AMB		
	comp=Z,19nm,0.8s						
BJI				AMB	AMB		
	comp=Z,253nm,3.6s						
BJI				LR	LR		
	comp=N,3µm,12.8s						
BJI				LR	LR		
	comp=E,640nm,12.8s						
BJI				LR	LR		
	comp=Z,756nm,14.2s						
TIY	Taiyuan	17.97	314	⇑P	P	16 53 39.0	+1.4
TIY				LR	LR		
	comp=N,2µm,11.0s						
TIY				LR	LR		
	comp=Z,1µm,11.0s						
QIZ	Qiongzhong	18.61	252	P	P	16 53 45.6	0.0
QIZ				*e*S	S	16 57 06.7	-2.0
QIZ				AMB	AMB		
	comp=Z,19nm,1.5s						
QIZ				LR	LR		
	comp=N,1µm,21.6s						
QIZ				LR	LR		
	comp=E,362nm,21.6s						
QIZ				LR	LR		
	comp=Z,690nm,20.5s						
XAN	Xi'an	18.77	300	P	P	16 53 46.4	-1.1
XAN				AMB	AMB		
	comp=Z,31nm,0.8s						
XAN				LR	LR		
	comp=E,971nm,13.5s						
XAN				LR	LR		
	comp=Z,1µm,13.9s						
GYA	Guiyang	19.64	276	P	P	16 53 59.0	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	20.45	321	*e*P	P	16 54 04.5	-1.6
HHC				SS	SS	16 58 20.3	+1.5
HHC				AMB	AMB		
	comp=Z,23nm,1.1s						
HHC				AMB	AMB		
	comp=Z,271nm,5.3s						
HHC				LR	LR		
	comp=N,789nm,12.3s,MS4.4						
HHC				LR	LR		
	comp=E,721nm,13.7s,MS4.4						
HHC				LR	LR		
	comp=Z,1µm,12.1s,MS4.4						
BTO	Baotou	21.20	318	*e*P	P	16 54 12.4	-1.4
BTO				AMB	AMB		
	comp=Z,21nm,0.5s,mb4.7						
BTO				LR	LR		
	comp=N,3µm,11.8s,MS4.9						
BTO				LR	LR		
	comp=E,1µm,14.7s,MS4.9						
ASAJ	Asahikawa	21.38	29	P	P	16 54 16.4	+0.9
	comp=E,5.2nm,0.7s,mb4.0,baz=222,slow=23,SNR=5.4						
ASAJ	Asahikawa	21.38	29	P	P	16 54 16.4	+0.9
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI	Kunming	23.29	274	*e*P	P	16 54 35.4	+0.8
KMI				AP		16 54 43.1	
KMI				PP	PP	16 55 10.4	+4.5
KMI				S	S	16 58 49.9	+8.7
KMI				XS		16 59 01.6	
KMI				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,109nm,4.6s						
KMI				LR	LR		
	comp=N,768nm,19.2s						
KMI				LR	LR		
	comp=E,602nm,12.5s						
KMI				LR	LR		
	comp=Z,620nm,12.5s						
KLR	Kul'dur	23.34	5	*e*P	P	16 54 36.0	+1.2
KLR				MLR	MLR		
	comp=Z,800nm,12.0s,MS4.4						
LZH	Lanzhou	23.38	301	*e*P	P	16 54 34.3	-1.0
LZH				AP		16 54 48.8	
LZH				S	S	16 58 53.0	+10
LZH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,200nm,4.0s						
LZH				LR	LR		
	comp=N,2µm,12.0s						
LZH				LR	LR		
	comp=Z,2µm,13.4s,MS4.7						
YSS	Yuzh-Sakhalins	23.77	25	*d i*P	P	16 54 41.0	+2.0
YSS				pmax	pmax		
	comp=Z,78nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,300nm,22.0s,MS3.7						
YSS	Yuzh-Sakhalins	23.77	25	*e*P	P	16 54 40.8	+1.8
	comp=Z,120nm,1.1s,mb5.2						
GTA	Gaotai	27.50	306	⇑P	P	16 55 12.5	-1.6
GTA				AMB	AMB		
	comp=Z,76nm,0.6s,mb5.5						
GTA				AMB	AMB		
	comp=Z,156nm,5.3s						
GTA				LR	LR		
	comp=N,492nm,12.5s,MS4.3						
GTA				LR	LR		
	comp=E,333nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,578nm,12.2s,MS4.4						
SONM	Songino Array	27.91	327	P	P	16 55 15.8	-1.9
	comp=Z,8.5nm,0.6s,mb4.6,baz=137,slow=10.0,SNR=40						
SONM				sP	sP	16 55 26.9	-3.0
	comp=Z,6.1nm,0.6s,baz=141,slow=11,SNR=11						
CMAR	Chiang Mai Arr	28.36	261	P	P	16 55 22.4	+0.4
	comp=Z,2.7nm,0.6s,mb4.0,baz=58,slow=7.3,SNR=15						
CMAR				PcP	PcP	16 58 35.0	+0.5
	comp=Z,0.9nm,0.8s,baz=60,slow=1.0,SNR=4.6						
CMAR				LR	LR	17 08 50.0	
	comp=Z,318nm,18.4s,MS4.0,baz=70,slow=41						
CMAR	Chiang Mai Arr	28.36	261	P	P	16 55 22.5	+0.4
CMAR						16 58 35.1	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,318nm,18.4s						
TLY	Talaya	31.86	330	*e*P	P	16 55 45.5	-7.3
TLY				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.1						
TLY				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.4						
SHL	Shillong	32.95	277	*e*P	P	16 56 00.0	-2.6
LSA	Lhasa	33.18	285	P	P	16 56 04.0	-0.5
LSA	Lhasa	33.18	285	*e*P	P	16 56 04.2	-0.4
	comp=Z,1.8nm,0.5s,mb4.3						
LSA				*e*	pP	16 56 12.3	-0.8
PET	Petropavlovsk	35.15	32	P	P	16 56 20.8	-0.5
	comp=Z,7.3nm,0.6s,mb4.8						
YAK	Yakutsk	36.04	1	*de*P	P	16 56 27.6	-1.1
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.0						
YAK	Yakutsk	36.04	1	*e*P	P	16 56 27.5	-1.3
	comp=Z,42nm,1.2s,mb5.2						
MA2	Magadan	36.95	19	*e*P	P	16 56 35.4	-1.0
MA2				*e*		17 05 17.4	
MA2				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
PKI	Pulchoki	38.40	282	*e*P	P	16 56 48.6	-0.3
	comp=Z,86nm,0.9s,mb5.5						
KKN	Kakani	38.49	283	*e*P	P	16 56 49.3	-0.3
	comp=Z,92nm,0.9s,mb5.5						
DMN	Daman	38.66	282	*e*P	P	16 56 50.5	-0.6
	comp=Z,73nm,0.9s,mb5.4						
GKN	Gorkha	39.02	283	*e*P	P	16 56 54.2	+0.1
	comp=Z,117nm,0.9s,mb5.6						
KOLN	Koldanda	39.96	283	*e*P	P	16 57 01.0	-0.9
	comp=Z,80nm,0.9s,mb5.5						
MKAR	Makanchi Array	41.91	312	P	P	16 57 16.6	-1.0
	comp=Z,5.9nm,0.5s,mb4.5,baz=99,slow=11,SNR=73						
MKAR				pP	pP	16 57 24.9	-1.3
	comp=Z,6.7nm,0.5s,baz=95,slow=12,SNR=16						
MKAR				LR	LR	17 16 37.3	
	comp=Z,72nm,18.1s,MS3.6,baz=276,slow=39						
MKAR	Makanchi Array	41.91	312	P	P	16 57 16.7	-0.9
MKAR				*PP	pP	16 57 24.9	-1.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,72nm,18.1s						
FITZ	Fitzroy Crossi	43.91	184	*e*P	P	16 57 34.5	+0.1
	comp=Z,4.3nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	43.91	184	P	P	16 57 34.7	+0.3
	comp=Z,6.1nm,0.8s,mb4.4,baz=12,slow=7.3,SNR=7.5						
KURK	Kurchatov	45.19	317	*i* P	P	16 57 43.1	-1.1
KURK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
KURK	Kurchatov	45.19	317	*e*P	P	16 57 43.2	-1.0
	comp=Z,19nm,1.1s,mb4.8						
TIXI	Tiksi	45.70	0	⇓*e*P	P	16 57 47.3	-0.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
WRA	Warramunga Arr	46.00	172	P	P	16 57 50.9	-0.1
	comp=Z,6.6nm,0.7s,mb4.7,baz=353,slow=8.4,SNR=37						
WRA				pP	pP	16 57 59.3	-0.4
	comp=Z,2.8nm,0.5s,baz=354,slow=8.5,SNR=7.3						
WRA	Warramunga Arr	46.00	172	P	P	16 57 50.9	-0.1
WRA				*PP	pP	16 57 59.3	-0.4
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WB2	Warramunga Arr	46.00	172	*e*P	P	16 57 50.7	-0.3
CTA	Charters Tower	48.92	158	P	P	16 58 14.5	+0.6
	comp=Z,6.1nm,0.8s,mb4.7,baz=328,slow=10,SNR=7.2						
CTA				pP	pP	16 58 22.4	-0.2
	comp=Z,3.9nm,0.8s,baz=345,slow=12,SNR=2.4						
CTA				LR	LR	17 19 31.4	
	comp=Z,154nm,19.1s,MS4.0,baz=256,slow=37						
CTA	Charters Tower	48.92	158	P	P	16 58 14.5	+0.6
CTA				*PP	pP	16 58 22.5	-0.1
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTA				MLR	MLR		
	comp=Z,154nm,19.1s						
CTAO	Charters Tower	48.92	158	*e*P	P	16 58 14.2	+0.3
	comp=Z,5.0nm,0.6s,mb4.7						
ASAR	Alice Springs	49.63	174	P	P	16 58 19.8	+0.4
	comp=Z,2.6nm,0.6s,mb4.4,baz=4.9,slow=13,SNR=50						
ASAR				LR	LR	17 18 38.1	
	comp=Z,67nm,18.3s,MS3.7,baz=198,slow=35						
ASPA	Alice Springs	49.63	174	*e*P	P	16 58 18.5	-0.8
KKAR	Karatay Array	49.78	306	*i* P	P	16 58 20.8	+0.6
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
VOSK	Vostochnaya	50.24	318	P	P	16 58 22.7	-0.9
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BVA0	Borovoye Array	50.65	318	P	P	16 58 26.3	-0.3
BVAR	Borovoye Array	50.65	318	P	P	16 58 26.0	-0.7
	comp=Z,6.9nm,0.6s,mb4.8,baz=74,slow=9.1,SNR=46						
BVAR				pP	pP	16 58 33.7	-1.8
	comp=Z,10nm,0.6s,baz=90,slow=8.0,SNR=18						
BRVK	Borovoye	50.71	318	P	P	16 58 26.8	-0.4
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BRVK	Borovoye	50.71	318	*e*P	P	16 58 26.4	-0.7
	comp=Z,22nm,0.7s,mb5.2						
BRVK				*e*	pP	16 58 34.9	-1.0
ZRNK	Zerenda	51.46	318	P	P	16 58 32.2	-0.7
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ARU	Arti	57.76	322	⇑*i*P	P	16 59 18.0	-0.7
ARU				*e*PPP	PPP	17 02 42.3	-8.3
ARU				*e*S	S	17 07 13.5	-0.5
ARU				*e*SSS	SSS	17 13 23.2	-1.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,300nm,17.0s,MS4.5						
ARU	Arti	57.76	322	*e*P	P	16 59 17.1	-1.6
	comp=E,4.6nm,0.5s,mb4.8						
ARU				*e*	pP	16 59 25.8	-1.8
STKA	Stephens Creek	58.87	167	P	P	16 59 26.6	-0.3
	comp=E,3.5nm,1.0s,mb4.3,baz=360,slow=6.9,SNR=5.2						
ILAR	Eielson Array	64.52	28	P	P	17 00 03.8	-0.5
	comp=E,0.7nm,0.6s,mb3.9,baz=264,slow=5.8,SNR=8.4						
ILAR				LR	LR	17 31 28.2	
	comp=E,66nm,18.0s,MS3.9,baz=100,slow=39						
ILAR	Eielson Array	64.52	28	P	P	17 00 03.8	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,66nm,18.0s						
INK	Inuvik	69.00	23	P	P	17 00 33.3	+0.7
	comp=Z,1.9nm,0.6s,mb4.2,baz=293,slow=5.0,SNR=7.9						
INK	Inuvik	69.00	23	P	P	17 00 33.3	+0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	69.00	23	*e*P	P	17 00 32.9	+0.3
	comp=Z,2.9nm,0.6s,mb4.4						
GNI	Garni	69.25	305	LR	LR	17 35 00.8	
	comp=Z,89nm,18.4s,MS4.0,baz=159,slow=40						
MOS	Moscow	69.44	323	*e*P	P	17 00 35.1	-0.4
MOS				pmax	pmax		
	comp=Z,65nm,0.7s,mb5.7						
KEV	Kevo	69.77	339	*e*p	P	17 00 33.8	-3.5
	comp=Z,3.1nm,0.5s,mb4.5						
KEV	Kevo	69.77	339	*e*P	P	17 00 33.8	-3.5
KEV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
OBN	Obninsk	70.19	322	*e*P	P	17 00 39.1	-1.0
OBN				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						

OBN				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
ARCES	ARCESS Array B	70.33	339	P	P	17 00 40.2	-0.5
	comp=Z,5.5nm,0.9s,mb4.5,baz=51,slow=7.8,SNR=8.7						
ARCES				LR	LR	17 38 32.2	
	comp=Z,189nm,18.5s,MS4.4,baz=266,slow=42						
ARCES	ARCESS Array B	70.33	339	P	P	17 00 40.3	-0.4
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,189nm,18.5s						
SOC	Sochi	71.78	310	eP	P	17 00 49.2	-0.7
SOC				eS	S	17 10 01.0	-5.8
SOC				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
SOC				pmax	pmax		
	comp=N,18nm,0.9s						
SOC				pmax	pmax		
	comp=E,15nm,0.8s						
SOC				MLR	MLR		
	comp=Z,117nm,18.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,120nm,20.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,159nm,23.0s,MS4.3						
KAF	Kangasniemi	72.85	331	ep	P	17 00 53.8	-2.0
FINES	FINESS Array B	73.21	331	P	P	17 00 57.6	-0.4
	comp=E,4.5nm,0.7s,mb4.5,baz=78,slow=4.9,SNR=18						
FINES				LR	LR	17 36 46.8	
	comp=E,153nm,18.6s,MS4.3,baz=241,slow=39						
FINES	FINESS Array B	73.21	331	P	P	17 00 57.6	-0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,153nm,18.6s						
DLBC	Dease Lake	73.93	32	P	P	17 01 03.4	+1.3
	comp=Z,0.6nm,0.6s,mb3.7,baz=183,slow=23,SNR=3.6						
DLBC				pP	pP	17 01 11.2	0.0
	comp=Z,0.9nm,0.5s,baz=267,slow=16,SNR=2.1						
HILS	Ha'il	75.84	294	P	P	17 01 14.9	+1.1
AKASG	Malin Array Be	75.90	320	P	P	17 01 13.0	-0.7
	comp=Z,6.6nm,0.5s,mb4.8,baz=57,slow=6.4,SNR=29						
AKASG				pP	pP	17 01 21.6	-1.1
	comp=Z,5.5nm,0.6s,baz=58,slow=6.2,SNR=8.7						
AKASG	Malin Array Be	75.90	320	P	P	17 01 13.0	-0.7
AKASG				*PP	pP	17 01 21.7	-1.0
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AFFS	'Afif	76.13	290	P	P	17 01 16.2	+0.7
TATS	Tathlith	77.42	286	P	P	17 01 24.0	+1.2
SUW	Suwalki	77.82	324	eP	P	17 01 25.0	+0.8
KBRS	Khaybar	78.54	293	P	P	17 01 30.7	+1.9
YKA	Yellowknife Ar	78.62	25	P	P	17 01 29.8	+1.3
	comp=Z,1.3nm,0.6s,mb4.0,baz=306,slow=5.3,SNR=4.3						
YKA				pP	pP	17 01 37.0	-0.6
	comp=Z,2.6nm,0.8s,baz=298,slow=5.2,SNR=6.6						
YKA				LR	LR	17 42 21.8	
	comp=Z,40nm,18.4s,MS3.8,baz=320,slow=40						
YKA	Yellowknife Ar	78.62	25	P	P	17 01 29.8	+1.3
YKA				*PP	pP	17 01 37.0	-0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,40nm,18.4s						
YKA	Yellowknife Ar	78.62	25	P	P	17 01 29.8	+1.3
YKA				pP	pP	17 01 37.0	-0.6
YKA				LR	LR	17 42 21.8	
JMIC	Jan Mayen	78.71	347	LR	LR	17 44 23.6	
	comp=Z,67nm,18.0s,MS4.0,baz=258,slow=42						
BLJS	Baljurashi	78.91	287	P	P	17 01 32.9	+2.0
VRI	Vrincioaia	79.46	316	⇓iP	P	17 01 35.1	+1.7
VRI	Vrincioaia	79.46	316	⇑iP	P	17 01 35.7	+2.3
NB2	NORSAR Subarra	79.66	334	P	P	17 01 33.6	-0.5
	comp=Z,7.2nm,0.8s,mb4.7,baz=52,slow=5.6						
NOA	NORSAR Array B	79.66	334	P	P	17 01 34.0	-0.1
	comp=Z,5.7nm,0.7s,mb4.6,baz=52,slow=5.5,SNR=23						
NOA	NORSAR Array B	79.66	334	P	P	17 01 34.0	-0.1
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TBKS	Tabuk	79.79	296	P	P	17 01 36.7	+1.2
ISR	Istrita	79.91	315	⇓iP	P	17 01 37.9	+2.1
ISR	Istrita	79.91	315	⇓iP	P	17 01 37.7	+1.8
JMQS	Jabal Moqyreh	80.06	297	P	P	17 01 37.6	+0.6
MLR	Muntele Rosu	80.12	316	⇓iP	P	17 01 38.2	+1.3
MLR	Muntele Rosu	80.12	316	⇓iP	P	17 01 38.2	+1.3
KWP	Kalwaria	80.13	321	P	P	17 01 38.3	+1.4
KWP	Kalwaria	80.13	321	eP	P	17 01 37.8	+0.9
	comp=Z,21nm,1.0s,mb5.0						
JMOS	Jabal al Moall	80.56	298	P	P	17 01 40.6	+1.0
HAQS	Haql	80.75	298	P	P	17 01 41.4	+0.8
AYUS	'Aynunah	80.83	297	P	P	17 01 41.7	+0.6
BDAS	Al Bad'	80.86	297	P	P	17 01 42.4	+1.1
OJC	Ojcow	81.48	322	eP	P	17 01 45.1	+1.1
OKC	Ostrava-Krasne	82.59	322	LM		17 40 50.0	
	comp=Z,0.2nm,16.1s						
KSP	Ksiaz	83.06	324	eP	P	17 01 53.0	+0.8
DPC	Dobruska-Polom	83.31	323	eP	P	17 01 55.7	+2.2
DPC				eAP	pP	17 02 03.7	+1.0
DPC				LM		17 43 10.0	
	comp=Z,0.4nm,15.5s						
PVCC	Panska Ves	84.14	324	LM		17 44 40.0	
	comp=Z,0.3nm,16.8s						
BRG	Berggiesshubel	84.28	325	eP	P	17 01 59.5	+1.2
BRG				e	pP	17 02 08.4	+0.9
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
BRG	Berggiesshubel	84.28	325	P	P	17 01 59.5	+1.2
	comp=Z,7.4nm,1.3s,mb4.7						
BRG				e	pP	17 02 08.4	+0.9
PRU	Pruhonice	84.46	324	eP	P	17 02 00.9	+1.6
PRU				eAP	pP	17 02 09.6	+1.1
PRU				LM		17 43 50.0	
CLL	Collm	84.51	325	P	P	17 02 00.5	+1.0
	comp=Z,logA/T=1.0,mb4.9						
CLL				i *SP	sP	17 02 11.0	-0.7
CLL	Collm	84.51	325	i P	P	17 02 00.5	+1.0
CLL				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
CLL	Collm	84.51	325	i P	P	17 02 00.5	+1.0
	comp=Z,7.0nm,0.7s,mb4.9						
SKO	Skopje	84.67	314	i P	P	17 02 02.0	+1.5
NKC	Novy Kostel	85.42	325	eP	P	17 02 06.1	+2.0
NKC				eAP	pP	17 02 16.1	+2.8
NKC				LM		17 44 30.0	
	comp=Z,0.3nm,16.4s						
NKC	Novy Kostel	85.42	325	eP	P	17 02 06.1	+2.0
NKC				MLR	MLR		
	comp=Z,300nm,16.4s,MS4.8						
KHC	Kasperske Hory	85.47	323	eP	P	17 02 05.6	+1.3
KHC				eAP	pP	17 02 15.7	+2.2
KHC				LM		17 44 30.0	
	comp=Z,0.4nm,13.8s						
KHC	Kasperske Hory	85.47	323	eP	P	17 02 05.6	+1.3
KHC				MLR	MLR		
	comp=Z,400nm,13.8s,MS5.0						
GERES	GERESS Array B	85.56	323	P	P	17 02 06.5	+1.7
	comp=Z,1.3nm,0.7s,mb4.3,baz=56,slow=4.8,SNR=7.4						
GERES				sP	sP	17 02 16.7	-0.3
	comp=Z,1.8nm,0.7s,baz=72,slow=4.2,SNR=8.8						
GERES	GERESS Array B	85.56	323	P	P	17 02 06.5	+1.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GRA1	Grafenberg Arr	86.38	325	eP	P	17 02 13.5	+4.6
	comp=Z,9.0nm,1.0s,mb5.0						
GRA1				e	pP	17 02 21.1	+3.0
GRF	Grafenberg Arr	86.38	325	eP	P	17 02 13.5	+4.6
GRF				e	pP	17 02 21.1	+3.0
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
NVAR	Mina Array Bea	90.47	46	P	P	17 02 31.5	+2.9
	comp=Z,0.4nm,0.7s,mb3.9,baz=315,slow=2.6,SNR=2.8						
VNA1	Neumayer--Stat	129.02	197	⇑i	Pdif	17 05 22.4	+3.3
VNA1	Neumayer--Stat	129.02	197	⇑i		17 05 33.4	

IDC 09 17:16:59.4±20.0**, 17.67S**×**178.64W, h597^{km}**±215^{km}**, mb3.2**/5**, mb1 3.3**/5**, mb1mx3.0**/17**, Error ellipse: s-maj=125.0km s-min=106.8km az=90.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.27	260	P	P	17 22 49.0	-1.3
	2.0nm,0.5s,baz=91,slow=9.5,SNR=4.7						
STKA	Stephens Creek	38.55	241	P	P	17 23 32.4	-1.3
	1.6nm,1.0s,baz=86,slow=15,SNR=4.2						
WB2	Warramunga Arr	44.44	259	eP	P	17 24 18.1	-2.4
WRA	Warramunga Arr	44.45	259	P	P	17 24 19.0	-1.6
	2.2nm,0.6s,baz=95,slow=7.2,SNR=36						
ASAR	Alice Springs	44.64	254	P	P	17 24 20.2	-1.7
	9.8nm,0.6s,baz=87,slow=8.5,SNR=134						
ASPA	Alice Springs	44.64	254	eP	P	17 24 20.0	-2.0
KAKA	Kakadu	47.41	269	eP	P	17 24 41.2	-1.9
	3.7nm,0.4s						
FITZ	Fitzroy Crossi	52.85	260	P	P	17 25 21.1	-1.7
	0.7nm,0.4s,baz=185,slow=20,SNR=9.9						
GERES	GERESS Array B	147.33	345	PKPbc	PKPdf	17 35 36.2	+3.1
	0.7nm,0.6s,slow=1.3,SNR=6.6						
DAVOX	Davos	150.13	348	PKPbc	PKPdf	17 35 43.8	+6.3
	0.7nm,0.4s,baz=322,slow=22,SNR=5.2						

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*JMA **09** 17:30:50.8±0.2, 25.92N×128.60E, h53^{km}±4^{km}, M3.4*
*IDC **09** 17:30:55.0±2.8, 25.59N×127.63E, h26^{km}±7^{km}, mb3.4/4, mb1 3.5/4, mb1mx3.3/20, Error ellipse: s-maj=159.0km s-min=24.6km az=66.0*
*NEIC **09** 17:30:55.5±1.0, 25.50N×127.44E, Error ellipse: s-maj=46.9km s-min=17.8km az=72.0*
ISC 09 17:30:50.0±0.6**, 25.91N**±0.04×**128.61E**±0.03**, h27^{km}, h27^{km}**±.4^{km}**:pP-P, n20,** σ1ˢ04/33**, mb3.4**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.81	287	P	Pb	17 31 06.1	+0.8
JJT2				eS	Sb	17 31 17.4	+1.5
NAH1	Naha	0.88	290	P	Pb	17 31 06.8	+0.3
NAH1				S	Sb	17 31 18.6	+0.7
JOW	Kunigami	0.97	342	P	Pn	17 31 08.0	0.0
JOW				eS	Sb	17 31 21.2	+0.8
JIH	Iheya	1.26	333	P	Pn	17 31 12.7	+0.5
JIH				eS	Sn	17 31 27.8	-0.6
JAGN	Aguni-jima	1.40	299	P	Pn	17 31 14.6	+0.4
JAGN				eS	Sn	17 31 31.1	-0.9
JKE	Kume jima 2	1.69	285	P	Pn	17 31 18.2	-0.1
JKE				S	Sn	17 31 38.5	-0.8
JTK	Tokunoshima	1.90	9	P	Pn	17 31 21.5	+0.3
JTK				S	Sn	17 31 43.5	-0.9
JMZ	Minamidaito 2	2.35	92	P	Pn	17 31 28.3	+0.5
JMZ				S	Sn	17 31 55.3	-0.8
JAM	Amami Oshima	2.65	19	P	Pn	17 31 32.0	0.0
JAM				S	Sn	17 32 01.7	-1.8
JZK	Kikaishima	2.69	27	P	Pn	17 31 33.9	+1.4
JZK				S	Sn	17 32 04.8	+0.2
JTJ	Tarama	3.76	251	P	Pn	17 31 46.7	-1.0
JTJ				S	Sn	17 32 28.2	-3.4
IRIF	Iriomote-Funau	4.69	252	P	Pn	17 32 00.3	-0.7
IRIF				eS	Sn	17 32 52.1	-3.2
JKC	Kuchinoerabu	4.75	17	P	Pn	17 32 00.0	-1.8
JKC				S	Sn	17 32 52.2	-4.5
JTN	Tanegashima 3	5.17	23	P	Pn	17 32 09.0	+1.3
JTN				S	Sn	17 33 03.1	-4.2
SONM	Songino Array	28.01	327	P	P	17 36 42.3	+1.6
	0.5nm,0.6s,mb3.3,baz=136,slow=11,SNR=7.4						
SONM				pP	pP	17 36 50.4	+1.9
	0.5nm,0.5s,baz=140,slow=11,SNR=5.8						
YAK	Yakutsk	36.12	1	P	pP	17 37 58.6	-0.9
	4.3nm,0.5s						
MKAR	Makanchi Array	42.00	312	P	P	17 38 40.3	-0.3
	0.2nm,0.4s,mb3.1,baz=95,slow=10,SNR=5.7						
MKAR				pP	pP	17 38 48.2	-0.4
	0.4nm,0.5s,baz=88,slow=9.6,SNR=4.2						
MKAR	Makanchi Array	42.00	312	P	P	17 38 40.3	-0.3
MKAR				pP	pP	17 38 48.2	-0.4
WRA	Warramunga Arr	45.91	172	P	P	17 39 14.1	+1.6
	0.4nm,0.5s,mb3.6,baz=353,slow=8.6,SNR=7.9						
BVAR	Borovoye Array	50.74	318	P	P	17 39 49.4	-0.1
	0.5nm,0.7s,mb3.6,baz=69,slow=12,SNR=3.4						
BVAR				pP	pP	17 39 57.4	-0.3
	0.5nm,0.4s,baz=82,slow=10,SNR=3.7						

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*BER **09** 17:38:49.6±2.9, 60.08N×25.46E, ML2.3(NAO)*
*HEL **09** 17:38:50.7±0.1, 60.16N×25.22E, ML2.1, ML2.2(UPP), ML2.3(NAO), Explosion*
*NAO **09** 17:38:50.3±3.2, 60.22N×25.18E, ML2.3*
ISC 09 17:38:49.0±0.7**, 60.16N**±0.05×**25.26E**±0.07**, n20,** σ**0ˢ86**/29**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUR	Nurmij rvi	0.46	320	eP	Pg	17 38 58.3	0.0
NUR				eS	Sg	17 39 04.5	0.0
VJF	Virojoki	1.21	71	eP	Pb	17 39 12.1	-0.3
VJF				eS	Sb	17 39 28.2	-0.1
FIA0	FINESS Array S	1.35	17	Pn	Pn	17 39 14.8	-0.3
	baz=194,slow=14						
FIA0				Lg		17 39 32.0	
	baz=194,slow=37						
FIA0	FINESS Array S	1.35	17	eP	Pb	17 39 15.3	+0.4
FIA0				eS	Sb	17 39 32.0	-0.6
KAF	Kangasniemi	2.03	14	eP	Pn	17 39 26.5	+1.7
KAF				eS	Sn	17 39 52.1	+0.9
SUF	Sumiainen	2.60	9	eP	Pn	17 39 33.8	+0.7
SUF				eSB	Sb	17 40 08.9	-0.2
SUF				MSG		17 40 10.7	
	comp=Z,6.7nm,0.3s						
AAL	Aland	2.63	273	eP	Pn	17 39 34.4	+1.0
GRAU	Graesoe	3.35	276	eP	Pn	17 39 43.8	+0.1
GRAU				eS	Sn	17 40 24.4	-0.5
NRTU	Norrtaelje	3.37	265	eP	Pn	17 39 44.9	+0.9
FLYU	Flymyra	3.69	273	eP	Pn	17 39 48.3	-0.2
NYNU	Nynaeshamn	3.87	256	eP	Pn	17 39 51.7	+0.7
IGGU	Iggoen	3.99	284	eP	Pn	17 39 52.2	-0.6
OSTU	Oestervaala	4.06	275	eP	Pn	17 39 53.6	-0.1
BACU	Backbrunna	4.10	269	eP	Pn	17 39 54.5	+0.2
ARNU	Arnoeviken	4.14	295	eP	Pn	17 39 54.9	-0.1
HFS	Hagfors	5.78	275	Pn	Pn	17 40 16.1	-2.0
	baz=98,slow=10						
HFS				Sn	Sn	17 41 21.1	-5.0
	baz=80,slow=28						
HFS				Lg		17 41 50.4	
	baz=90,slow=28						
HFS	Hagfors	5.78	275	eP	Pn	17 40 16.1	-2.0
HFS				eS	Sn	17 41 21.1	-5.0
HFS				eSG	Sg	17 41 50.4	-11
APA0	Apatity Array	8.21	21	Pn	P	17 40 49.3	-2.9
	baz=204,slow=14						
APA0	Apatity Array	8.21	21	eP	P	17 40 49.3	-2.9
ARA0	ARCESS Array S	9.42	1	Pn	P	17 41 05.2	-3.8
	baz=172,slow=16						
ARA0				Lg		17 43 43.0	
	baz=172,slow=37						

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*IDC **09** 17:46:50.8±2.6, 18.45S×173.39W, mb4.2/6, mb1 4.3/7, mb1mx4.0/20, ML4.4/1, Error ellipse: s-maj=53.2km s-min=32.7km az=27.0*
*NEIC **09** 17:46:57.1±0.9, 18.69S×173.23W, h55^{km}, mb4.4/1, Error ellipse: s-maj=29.0km s-min=11.3km az=185.0*
ISC 09 17:46:53.1±1.5**, 18.5S**±0.3×**173.3W**±0.1**, h33^{km}, n8,** σ**0ˢ93**/8**, mb4.2**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	12.97	104	Pn	P	17 49 57.8	-0.1
	2.2nm,0.3s,baz=224,slow=4.3,SNR=20						
URZ	Urewera	21.37	201	P	P	17 51 38.5	-1.3
	3.8nm,0.3s,mb4.2,baz=61,slow=6.9,SNR=8.8						
RPZ	Rata Peaks	28.37	204	P	P	17 52 48.8	+2.4
	13nm,0.9s,mb4.5,baz=39,slow=21,SNR=3.4						
CTA	Charters Tower	38.17	261	P	P	17 54 11.4	0.0
	1.9nm,0.4s,mb4.2,baz=97,slow=12,SNR=8.5						
CTAO	Charters Tower	38.17	261	eP	P	17 54 11.5	+0.1
	2.3nm,0.5s,mb4.2						
STKA	Stephens Creek	42.66	243	P	P	17 54 48.3	-0.2
	1.8nm,0.8s,mb3.9,baz=107,slow=17,SNR=4.2						
WRA	Warramunga Arr	49.33	259	P	P	17 55 41.4	0.0
	0.4nm,0.3s,mb3.9,baz=97,slow=7.2,SNR=5.3						
ASAR	Alice Springs	49.33	254	P	P	17 55 41.4	-0.1
	1.7nm,0.7s,mb4.2,baz=95,slow=7.8,SNR=21						

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*JMA **09** 17:58:24.1±0.2, 25.95N×128.60E, h48^{km}, M3.2*
*IDC **09** 17:58:26.4±1.0, 26.06N×128.55E, h27^{km}±5^{km}, mb3.4/9, mb1 3.6/10, mb1mx3.5/21, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=29.3km s-min=11.5km az=81.0*
*NEIC **09** 17:58:26.3±0.7, 26.02N×128.59E, Error ellipse: s-maj=20.4km s-min=11.6km az=87.0*
ISC 09 17:58:23.6±1.0**, 25.96N**±0.04×**128.62E**±0.04**, h28^{km}**±7^{km}**, h27^{km}**±1.4^{km}**:pP-P, n28,** σ**0ˢ99**/36**, mb3.5**/9**, MS3.3**/2**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.80	283	P	Pb	17 58 39.1	+0.3
JJT2				eS	Sb	17 58 50.1	+0.8
NAH1	Naha	0.87	286	P	Pb	17 58 39.7	-0.2
NAH1				S	Sb	17 58 51.6	+0.4
JOW	Kunigami	0.92	341	Pg	Pn	17 58 41.0	+0.2
	83nm,0.3s,baz=148,slow=16,SNR=107						
JOW				Lg		17 58 52.0	
	145nm,0.3s,baz=125,slow=22,SNR=15						
JOW	Kunigami	0.92	341	P	Pn	17 58 41.0	+0.2
JOW				S	Sb	17 58 52.2	-0.6
JIH	Iheya	1.22	332	P	Pn	17 58 45.4	+0.4
JAGN	Aguni-jima	1.38	297	P	Pn	17 58 47.5	+0.1
JKE	Kume jima 2	1.68	283	P	Pn	17 58 51.1	-0.6
JKE				eS	Sn	17 59 10.8	-1.7
JTK	Tokunoshima	1.84	9	P	Pn	17 58 54.4	+0.4
JTK				eS	Sn	17 59 16.5	0.0
JMZ	Minamidaito 2	2.35	93	P	Pn	17 59 01.1	-0.1
JMZ				eS	Sn	17 59 27.5	-2.0
JAM	Amami Oshima	2.60	20	P	Pn	17 59 05.3	+0.6
JAM				eS	Sn	17 59 35.3	-0.4
JZK	Kikaishima	2.64	27	eS	Sn	17 59 38.4	+1.6
JTJ	Tarama	3.78	251	P	Pn	17 59 19.7	-1.8
JTJ				eS	Sn	18 00 01.0	-4.6
JIJ	Ishigaki jima	4.35	250	P	Pn	17 59 27.9	-1.8
JTN	Tanegashima 3	5.12	23	P	Pn	17 59 41.0	+0.5
JTN				eS	Sn	18 00 36.1	-3.4
JNU	Nakatsue	7.40	15	Pn	Pn	18 00 12.5	-0.2
	0.4nm,0.3s,baz=161,slow=19,SNR=3.6						
JNU				Sn	Sn	18 01 34.5	-2.1
	0.3nm,0.3s,baz=13,slow=19,SNR=2.3						
ASAJ	Asahikawa	21.37	29	LR	LR	18 11 53.3	
	comp=Z,34nm,19.7s,MS2.8,baz=0.7,slow=38						
SONM	Songino Array	27.97	327	P	P	18 04 15.1	+1.3
	0.5nm,0.5s,mb3.4,baz=138,slow=10,SNR=6.6						
SONM				pP	pP	18 04 23.2	+1.2
	0.6nm,0.4s,baz=142,slow=11,SNR=10						
CMAR	Chiang Mai Arr	28.42	261	P	P	18 04 19.8	+1.6
	0.5nm,0.7s,mb3.2,baz=209,slow=29,SNR=3.1						
MKAR	Makanchi Array	41.97	312	P	P	18 06 13.5	-0.2
	0.5nm,0.5s,mb3.4,baz=95,slow=13,SNR=3.6						
MKAR				pP	pP	18 06 21.1	-1.1
	0.8nm,0.7s,baz=97,slow=9.8,SNR=3.0						
MKAR	Makanchi Array	41.97	312	P	P	18 06 13.5	-0.2
MKAR				pP	pP	18 06 21.1	-1.1
WRA	Warramunga Arr	45.96	173	P	P	18 06 46.8	+0.5
	0.6nm,0.8s,mb3.6,baz=355,slow=8.5,SNR=4.7						
ASAR	Alice Springs	49.60	174	P	P	18 07 15.7	+1.0
	0.2nm,0.3s,mb3.6,baz=5.6,slow=14,SNR=6.8						
BVAR	Borovoye Array	50.71	318	P	P	18 07 22.6	-0.1
	0.3nm,0.4s,mb3.5,baz=79,slow=7.3,SNR=3.5						
BVAR				pP	pP	18 07 30.4	-0.9
	0.8nm,0.5s,baz=80,slow=9.0,SNR=5.7						
ILAR	Eielson Array	64.51	28	P	P	18 09 00.6	+0.8
	0.2nm,0.5s,mb3.4,baz=263,slow=7.3,SNR=3.6						
FINES	FINESS Array B	73.27	331	P	P	18 09 54.0	+0.1
	0.6nm,0.6s,mb3.7,baz=135,slow=14,SNR=3.3						
FINES				pP	pP	18 10 03.4	+0.8
	1.1nm,0.9s,baz=56,slow=6.9,SNR=5.1						
FINES	FINESS Array B	73.27	331	P	P	18 09 54.0	+0.1
FINES				pP	pP	18 10 03.4	+0.8
AKASG	Malin Array Be	75.96	320	LR	LR	18 43 21.9	
	comp=Z,49nm,19.3s,MS3.8,baz=210,slow=36						
NOA	NORSAR Array B	79.71	334	P	P	18 10 30.7	+0.7
	0.4nm,0.6s,mb3.6,baz=58,slow=5.3,SNR=2.5						

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*NEIC **09** 18:03:02.9±0.3, 2.55N×128.63E, mb4.3/11, Error ellipse: s-maj=14.9km s-min=5.1km az=69.0*
*IDC **09** 18:03:03.1±0.8, 2.53N×128.57E, h230^{km}±7^{km}, mb3.9/16, mb1 4.0/16, mb1mx3.9/22, Error ellipse: s-maj=20.7km s-min=7.9km az=70.0*
ISC 09 18:03:02.3±0.9**, 2.55N**±0.07×**128.6E**±0.1**, h241^{km}**±9^{km}**, h230^{km}**±2.6^{km}**:pP-P, n46,** σ**0ˢ63**/44**, mb4.2**/26**, 2C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	4.96	332	eP	P	18 04 18.3	+0.5
MATI	Mati	4.96	332	eP	P	18 04 18.3	+0.5
KCP	Kidapawan	5.65	322	⇑eP	P	18 04 26.6	+0.1
BUKP	Musuan	6.37	326	eP	P	18 04 35.4	-0.1
BUKP	Musuan	6.37	326	eP	P	18 04 35.4	-0.1
PAGZ	Pagadian	7.40	315	eP	P	18 04 48.7	0.0
IPIL	Ipil	7.95	311	eP	P	18 05 06.3	+11
KAKA	Kakadu	15.61	166	eP	P	18 06 31.0	-0.6
	19nm,0.6s						
FITZ	Fitzroy Crossi	20.73	188	eP	P	18 07 25.2	-0.1
	3.0nm,0.3s						
FITZ	Fitzroy Crossi	20.73	188	P	P	18 07 25.2	-0.1
	3.6nm,0.3s,baz=12,slow=8.6,SNR=35						
WRA	Warramunga Arr	23.05	166	P	P	18 07 48.2	+0.3
	9.7nm,0.5s,mb4.6,baz=344,slow=10,SNR=72						
WB2	Warramunga Arr	23.05	166	eP	P	18 07 47.5	-0.4
ASAR	Alice Springs	26.56	169	P	P	18 08 19.9	-0.5
	8.9nm,0.4s,mb4.7,baz=354,slow=8.1,SNR=149						
ASAR				PcP	PcP	18 11 38.4	-0.1
	1.2nm,0.4s,baz=359,slow=2.0,SNR=6.9						
ASAR				ScP		18 14 55.2	
	1.7nm,0.7s,baz=347,slow=2.2,SNR=15						
ASPA	Alice Springs	26.56	169	eP	P	18 08 19.0	-1.3
CTA	Charters Tower	28.39	143	P	P	18 08 36.6	-0.1
	1.0nm,0.5s,mb3.8,baz=288,slow=20,SNR=2.5						
CTAO	Charters Tower	28.39	143	P	P	18 08 40.8	+4.0
	2.6nm,0.5s,mb4.1						
ENH	Enshi	32.99	329	eP	P	18 09 16.9	0.0
	9.2nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	33.09	301	P	P	18 09 18.7	+1.0
	5.4nm,0.8s,mb4.2,baz=116,slow=7.3,SNR=26						
CMAR				ScP		18 15 18.3	
	0.4nm,0.6s,baz=180,slow=1.8,SNR=4.6						
MAJO	Matsushiro	34.97	14	eP	P	18 09 33.2	-0.3
	4.7nm,0.8s,mb4.1						
STKA	Stephens Creek	36.39	161	⇑iP	P	18 09 45.4	-0.1
	7.1nm,0.8s,mb4.2						
STKA	Stephens Creek	36.39	161	P	P	18 09 45.4	-0.1
	7.9nm,0.6s,mb4.4,baz=331,slow=7.8,SNR=20						
STKA				PcP	PcP	18 12 04.8	0.0
	8.1nm,1.2s,baz=322,slow=7.0,SNR=3.2						
NWAO	Narrogin (SRO)	36.89	196	P	P	18 09 49.8	+0.1
	3.4nm,0.6s,mb4.1,baz=271,slow=13,SNR=5.4						
ARMA	Armidale	39.46	148	eP	P	18 10 11.8	+0.8
SHL	Shillong	42.09	306	eP	P	18 10 31.2	-1.4
ASAJ	Asahikawa	43.21	15	P	P	18 10 41.7	+0.4
	6.0nm,1.0s,mb4.0,baz=277,slow=31,SNR=2.5						
LSA	Lhasa	44.62	311	eP	P	18 10 54.5	+1.7
	6.0nm,0.8s,mb4.0						
PKI	Pulchoki	48.18	305	eP	P	18 11 20.3	-0.3
	5.0nm,0.4s,mb4.2						
KKN	Kakani	48.37	306	eP	P	18 11 22.0	0.0
	9.9nm,0.6s,mb4.3						
DMN	Daman	48.44	305	eP	P	18 11 22.8	+0.2
	16nm,0.7s,mb4.4						
GKN	Gorkha	48.98	306	eP	P	18 11 26.7	+0.1
SONM	Songino Array	49.02	340	P	P	18 11 27.0	+0.3
	1.4nm,0.7s,mb3.4,baz=151,slow=8.4,SNR=14						
SONM				pP	pP	18 12 16.0	-2.9
	0.6nm,1.0s,baz=149,slow=8.4,SNR=2.2						
KOLN	Koldanda	49.74	305	eP	P	18 11 31.7	-0.7
	38nm,0.7s,mb4.8						
MKAR	Makanchi Array	59.59	325	P	P	18 12 42.5	-0.4
	3.3nm,0.5s,mb4.2,baz=117,slow=8.7,SNR=54						
MKAR				pP	pP	18 13 34.7	-2.8
	0.7nm,0.5s,baz=120,slow=7.8,SNR=3.2						
MKAR	Makanchi Array	59.59	325	P	P	18 12 42.5	-0.4
MKAR				pP	pP	18 13 34.7	-2.8
RPZ	Rata Peaks	59.73	145	P	P	18 12 44.3	+0.5
	29nm,1.1s,mb4.8,baz=52,slow=4.4,SNR=3.1						
URZ	Urewera	60.40	137	P	P	18 12 48.4	-0.1
	4.0nm,0.5s,mb4.3,baz=347,slow=22,SNR=3.0						
KURK	Kurchatov	63.74	327	eP	P	18 13 09.8	-0.6

	7.9nm,0.6s,mb4.5						
BVAR	Borovoye Array	69.33	327	P	P	18 13 44.9	-0.5
	2.2nm,0.6s,mb4.0,baz=117,slow=6.6,SNR=14						
BVAR				pP	pP	18 14 39.8	-1.9
	0.6nm,0.6s,baz=316,slow=54,SNR=3.2						
BRVK	Borovoye	69.40	327	*e*P	P	18 13 45.2	-0.6
	2.3nm,0.5s,mb4.1						
CASY	Casey	69.89	188	*e*P	P	18 13 48.8	+0.2
	5.1nm,0.7s,mb4.3						
VNDA	Vanda	82.03	173	P	P	18 14 57.1	+0.8
	3.3nm,0.8s,mb4.0,baz=314,slow=6.4,SNR=8.3						
MAW	Mawson	83.31	201	P	P	18 15 03.7	+0.6
	1.7nm,0.7s,mb3.9,baz=93,slow=7.8,SNR=3.7						
ARCES	ARCESS Array B	92.20	340	P	P	18 15 44.9	-0.6
	0.7nm,0.7s,mb3.7,baz=76,slow=3.7,SNR=3.2						
QSPA	South Pole Qui	92.46	180	*e*P	P	18 15 47.7	+1.2
	2.4nm,0.8s,mb4.2						
JTS	JuntasAbangare	144.23	69	PKP	PKPdf	18 22 12.1	+1.7
	2.7nm,0.5s,baz=303,slow=21,SNR=3.2						
LPAZ	La Paz	158.60	131	PKPab	PKPab	18 23 12.9	+2.5
	0.9nm,0.7s,baz=181,slow=1.7,SNR=5.9						

*NNC **09** 18:15:39.1±2.9, 44.11N×87.10E, mpv3.1, Error ellipse: s-maj=28.9km s-min=18.4km az=128.0*

BJI 09 18:15:42.7, 44.22N×87.13E, h15^{km}, ML3.6, 5C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	Urumqi	0.57	134	⇑*i*PG	Pg	18 15 52.6	-1.8
WMQ				SG	Sg	18 16 02.5	+0.3
WMQ				Smax			
	comp=N,4μm,0.3s						
WMQ				Smax			
	comp=E,2μm,0.3s						
MK31	Makanchi Array	4.27	309	⇑Pn	Pn	18 16 48.6	-0.1
	comp=E,1.5nm,0.4s,baz=126,slow=14,SNR=27						
MK31				⇑Lg		18 17 54.8	
	comp=E,11nm,0.3s,baz=127,slow=30						
KURK	Kurchatov	8.68	321	⇑Pn	P	18 17 47.8	-3.0
	comp=E,1.2nm,1.1s,baz=177,slow=17,SNR=5.0						
KURK				⇑Lg		18 20 16.0	
	comp=E,9.1nm,0.9s,baz=80,slow=15,SNR=3.6						

*TIF **09** 18:33:19.2, 39.53N×44.31E, h3^{km}, Mpv5.0*
*ISK **09** 18:33:22.5, 39.66N×43.90E, h5^{km}, MD3.9*
*MOS **09** 18:33:26.7±2.1, 39.85N×44.27E, h10^{km}, mb3.9/2, Error ellipse: s-maj=19.8km s-min=12.1km az=92.2*
*IDC **09** 18:33:27.0±2.8, 40.01N×44.35E, mb3.5/7, mb1 3.6/9, mb1mx3.6/20, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/21, Error ellipse: s-maj=58.1km s-min=10.5km az=179.0*
*NEIC **09** 18:33:27.7±3.2, 39.97N×44.32E, h4^{km}±13^{km}, mb4.0/2, Error ellipse: s-maj=43.3km s-min=10.2km az=180.0*

ISC 09 18:33:22.7±0.4**, 39.63N**±0.03×**44.22E**±0.04**, h3^{km}, n38, σ1^{s}56**/49**, mb3.4**/8**, MS3.1**/2**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERE	Yerevan	0.59	20	*i* P	Pg	18 33 33.0	-1.6
ERE				*i* S	Sg	18 33 43.0	+0.5
GNI	Garni	0.66	37	Pg	Pg	18 33 34.6	-1.3
	63nm,0.3s,baz=245,slow=3.6,SNR=103						
GNI				Lg		18 33 48.1	
	189nm,0.3s,baz=159,slow=14,SNR=21						
AGRT	Agri	0.95	269	*i* PG	Pg	18 33 35.8	-6.0
AGRT				*i* SG	Sg	18 33 47.1	-7.4
VAD	Vardenisi	1.29	64	*e*P	Pb	18 33 45.0	-2.3
VAD				*i* S	Sb	18 34 06.0	+1.9
STE	Stepanavan	1.38	6	*e*S	Sb	18 34 08.0	+1.3
GRS	Goris	1.64	93	*e*P	Pn	18 33 49.0	-3.6
GRS				*e*S	Sb	18 34 13.0	-1.2
HKR	Hakkari	2.08	191	PN	Pn	18 33 58.9	0.0
HKR				SN	Sn	18 34 25.2	-0.4
MTA	Mtatsminda	2.11	12	*i* P	Pn	18 33 58.4	-1.0
MTA				*i* S	Sn	18 34 27.2	+0.7
TBLG	Delisi	2.14	10	*e*P	Pn	18 33 58.0	-1.8
TBLG				*i* S	Sn	18 34 32.8	+5.6
TI2	Plekhanov	2.14	11	*e*PN	Pn	18 33 58.0	-1.8
TI2				*i* S	Sn	18 34 32.8	+5.5
TI2				pmax	pmax		
	comp=Z,500nm,0.8s						
TI2				smax			
	comp=E,2μm,1.6s						
VRT	Varto	2.15	258	PN	Pn	18 33 56.5	-3.4
ERZM	Erzurum	2.22	278	*i* P	Pn	18 33 58.6	-2.4
EZM	Erzurum	2.22	278	PN	Pn	18 33 57.9	-3.1
EZM				SN	Sn	18 34 22.3	-7.0
BTMT	Batman	2.57	237	*e*PN	Pn	18 34 06.0	+0.1
BEST	Besiri	2.89	234	*i* P	Pn	18 34 12.1	+1.6
BEST				*i* S	Sn	18 34 49.3	+3.2
BEST	Besiri	2.89	234	*i* P	Pn	18 34 12.1	+1.6
BEST				*i* S	Sn	18 34 49.3	+3.2
BINT	Bingol	2.99	257	*e*PN	Pn	18 34 09.5	-2.5
ZEI	Tsey	3.15	356	*e*PN	Pn	18 34 19.0	+4.8
ZEI				*e*		18 34 47.0	
EZC	Erzincan	3.40	273	*e*PN	Pn	18 34 19.7	+1.9
KELT	Kelkit	3.86	279	*i* P	Pn	18 34 25.6	+1.3
KELT				*i* S	Sn	18 35 08.8	-1.9
ELZG	Elazig	4.23	256	*i* P	Pn	18 34 30.3	+0.7
ELZG				*i* S	Sn	18 35 26.7	+6.6
ASF	Jabal al Asfar	9.52	221	LR	LR	18 39 44.8	
	comp=E,54nm,20.9s,baz=274,slow=38						
MLR	Muntele Rosu	14.68	299	Pn	P	18 36 56.5	+3.5
	comp=E,0.1nm,0.3s,baz=83,slow=13,SNR=2.1						
AKASG	Malin Array Be	15.28	321	Pn	P	18 36 59.4	-1.5
	comp=E,0.3nm,0.3s,baz=132,slow=11,SNR=4.0						
ARU	Arti	19.29	25	*e*P	P	18 37 53.2	+2.2
ARU	Arti	19.29	25	*e*P	P	18 37 49.4	-1.7
	comp=E,8.5nm,1.1s						
BVAR	Borovoye Array	22.34	44	P	P	18 38 24.1	+1.1
	comp=E,0.7nm,0.5s,mb3.3,baz=265,slow=36,SNR=2.6						
GERES	GERESS Array B	23.60	303	P	P	18 38 37.4	+2.1
	comp=E,0.4nm,0.6s,mb3.0,baz=104,slow=8.1,SNR=4.6						
FINES	FINESS Array B	24.53	339	P	P	18 38 44.2	0.0
	comp=E,1.7nm,0.8s,mb3.7,baz=127,slow=6.9,SNR=5.3						
FINES				LR	LR	18 48 45.1	
	comp=E,56nm,19.2s,MS3.1,baz=154,slow=38						
FINES	FINESS Array B	24.53	339	P	P	18 38 44.2	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,56nm,19.2s						
DAVOX	Davos	25.88	297	P	P	18 38 59.2	+2.0
	comp=Z,1.5nm,0.8s,mb3.6,baz=334,slow=20,SNR=3.2						
KURK	Kurchatov	26.43	54	*e*P	P	18 39 03.2	+1.0
	comp=Z,6.8nm,1.4s,mb4.0						
HFS	Hagfors	28.01	327	P	P	18 39 17.6	+1.1
	comp=Z,2.0nm,1.0s,mb3.7,baz=119,slow=15,SNR=3.5						
HFS	Hagfors	28.01	327	P	P	18 39 17.6	+1.1
HFS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	Hagfors	28.01	327	P	P	18 39 17.6	+1.1
MKAR	Makanchi Array	28.44	63	P	P	18 39 21.4	+0.8
	comp=Z,0.3nm,0.7s,mb3.0,baz=270,slow=2.9,SNR=4.5						
NOA	NORSAR Array B	29.53	327	LR	LR	18 52 14.1	
	comp=Z,41nm,18.4s,MS3.1,baz=110,slow=38						
SONM	Songino Array	44.58	58	P	P	18 41 38.9	+1.4
	comp=Z,0.3nm,0.9s,mb3.1,baz=293,slow=11,SNR=2.5						

*MDD **09** 18:57:54.4±1.7, 36.97N×8.65W, mbLg2.0/4, Error ellipse: s-maj=12.7km s-min=6.3km az=38.0, PRXIMO*
*INMG **09** 18:57:55.1±0.8, 36.99N×8.64W, ML1.9, Error ellipse: s-maj=5.6km s-min=3.3km az=44.0*

ISC 09 18:57:52.4±2.1**, 36.93N**±0.09×**8.7W**±0.1**, h6^{km}**±8^{km}**, n10, σ0^{s}60**/14**, 1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.62	356	*i* Pg	Pg	18 58 05.0	+0.2
PTEO				*e*Sg	Sg	18 58 12.9	-0.2
	16nm,0.1s						
PTEO	Sao Teotonio	0.62	356	⇓Pg	Pg	18 58 05.0	+0.2
PTEO				Lg		18 58 12.9	
	8.1nm,0.1s						
PALC	Alcoutim	1.09	60	*e*P	Pg	18 58 14.2	-0.1
PALC				*e*S	Sb	18 58 28.4	+0.7
	30nm,0.2s						
PALC	Alcoutim	1.09	60	Pg	Pg	18 58 14.2	-0.1
PALC				Lg		18 58 28.4	
	15nm,0.2s						
EGRO	El Granado	1.12	57	Pg	Pg	18 58 14.5	-0.3
	0.1nm,0.1s,SNR=7.9						
EGRO				Lg		18 58 28.9	
	10nm,0.1s,SNR=7.9						
PBEJ	Beja	1.27	30	*e*S	Sb	18 58 33.3	+0.5
	7.3nm,0.1s						
PBEJ	Beja	1.27	30	Lg		18 58 33.3	
	3.7nm,0.1s						
MOE	Montemor	1.61	9	*e*Pn	Pn	18 58 22.4	+0.8
MOE				*e*Sn	Sn	18 58 43.1	+0.2
EMIN	Mina Concepcio	1.80	62	Pn	Pn	18 58 23.9	-0.4
	0.9nm,0.9s,SNR=7.9						
EMIN				Sn	Sn	18 58 47.9	+0.3
	10nm,0.6s,SNR=7.9						
EBAD	Badajoz	2.25	35	Pn	Pn	18 58 30.4	-0.3
	0.5nm,1.1s,SNR=7.9						
EBAD				Sn	Sn	18 58 57.4	-1.6
	3.4nm,0.7s,SNR=7.9						

*IDC **09** 19:14:19.5±2.4, 38.59S×177.08E, h45^{km}±15^{km}, mb3.6/2, mb1 3.9/3, mb1mx3.6/12, ML3.4/1, Error ellipse: s-maj=53.5km s-min=27.2km az=113.0*
*WEL **09** 19:14:22.4±0.1, 38.49S×176.97E, h48^{km}±1^{km}, ML4.2/8, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
*NEIC **09** 19:14:22.0, 38.50S×176.98E, h55^{km}, ML4.2(WEL), After WEL.*

ISC 09 19:14:21.7±0.3**, 38.52S**±0.02×**176.97E**±0.03**, h48^{km}, n123, σ1^{s}06**/152**, mb3.7**/2**, 5C-1D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.28	23	P	P	19 14 30.4	-0.1
URZ				S	S	19 14 37.4	+0.6
	2μm,0.3s,baz=166,slow=24,SNR=74						
URZ	Urewera	0.28	23	P*	P	19 14 30.7	+0.2
URZ				S*	S	19 14 37.1	+0.3
URZ	Urewera	0.28	23	P	P	19 14 30.7	+0.2
URZ				S	S	19 14 37.1	+0.3
EDRZ	Edgecumbe	0.45	336	⇑P*	P	19 14 32.6	+0.3
EDRZ				S*	S	19 14 39.6	-0.2
EDRZ	Edgecumbe	0.45	336	P	P	19 14 32.6	+0.3
TAZ	Tarawera	0.46	308	P*	P	19 14 33.0	+0.6
TAZ	Tarawera	0.46	308	P	P	19 14 33.2	+0.8
MWZ	Matawai	0.47	68	⇓P*	P	19 14 32.9	+0.4
MWZ				S*	S	19 14 41.0	+0.6
MWZ	Matawai	0.47	68	P	P	19 14 32.9	+0.3
MWZ				S	S	19 14 41.3	+1.0
MKRZ	Makatiti	0.55	314	P	P	19 14 34.6	+1.2
PATZ	Paeroa	0.57	284	P*	P	19 14 34.2	+0.4
PATZ	Paeroa	0.57	284	P	P	19 14 34.4	+0.6
MARZ	Manawahe	0.58	336	P*	P	19 14 34.4	+0.6
MARZ				S*	S	19 14 42.4	-0.3
MARZ	Manawahe	0.58	336	P	P	19 14 34.5	+0.7
LIRZ	Lichensteins R	0.69	318	P*	P	19 14 35.1	-0.1
LIRZ	Lichensteins R	0.69	318	P	P	19 14 35.4	+0.2
UTU	Utuhina	0.70	299	P*	P	19 14 35.9	+0.5
UTU	Utuhina	0.70	299	P	P	19 14 35.9	+0.5
KNZ	Kokohu	0.75	133	⇑PN	P	19 14 36.7	+0.7
KNZ				SN	S	19 14 49.2	+2.6
KNZ	Kokohu	0.75	133	P	P	19 14 36.7	+0.7
KNZ				S	S	19 14 49.2	+2.6
BKZ	Black Stump Fm	0.75	210	P*	P	19 14 36.7	+0.7
BKZ				S*	S	19 14 47.6	+0.9
HATZ	Hinemaiaia	0.78	241	P*	P	19 14 36.8	+0.3
HATZ				S*	S	19 14 47.1	-0.3
HATZ	Hinemaiaia	0.78	241	P	P	19 14 36.8	+0.3
WHTZ	Whakaora	0.81	259	P*	P	19 14 37.6	+0.8
WHTZ	Whakaora	0.81	259	P	P	19 14 37.6	+0.7
TGRZ	Tauranga	0.96	324	P	P	19 14 38.4	-0.7
RITZ	Rihia Road	0.98	242	P*	P	19 14 40.0	+0.6
RITZ				S*	S	19 14 52.7	+0.3
RITZ	Rihia Road	0.98	242	P	P	19 14 40.0	+0.7
WATZ	Wairara	0.99	258	P*	P	19 14 39.6	+0.2
RATZ	Rangitukua	1.00	249	P*	P	19 14 40.0	+0.4
RATZ	Rangitukua	1.00	249	P	P	19 14 40.1	+0.5
WIZ	White Island	1.00	10	P*	P	19 14 39.0	-0.6
WIZ				S*	S	19 14 52.1	-0.8
WIZ	White Island	1.00	10	P	P	19 14 39.1	-0.5
KATZ	Kakaramea	1.10	245	P*	P	19 14 41.4	+0.4
KATZ				S*	S	19 14 55.0	-0.2
KATZ	Kakaramea	1.10	245	P	P	19 14 41.4	+0.5
PUZ	Puketiti	1.11	67	PN	P	19 14 41.2	+0.2
PUZ				SN	S	19 14 55.5	+0.1
PUZ	Puketiti	1.11	67	*e*P	P	19 14 41.3	+0.2
PUZ				S	S	19 14 56.3	+0.8
KAVZ	Karewarewa	1.19	240	P*	P	19 14 42.7	+0.6
KAVZ	Karewarewa	1.19	240	P	P	19 14 42.7	+0.6
MGZ	Maungaku	1.22	246	P*	P	19 14 42.7	0.0
MGZ	Maungaku	1.22	246	P	P	19 14 42.8	+0.2
WTVZ	West Tongariro	1.23	241	P*	P	19 14 43.4	+0.5
NGZ	Ngauruhoe	1.25	238	P*	P	19 14 43.6	+0.5
NGZ				S*	S	19 14 59.1	-0.1
NGZ	Ngauruhoe	1.25	238	P	P	19 14 43.6	+0.4
TUVZ	Tukino	1.27	233	P*	P	19 14 43.8	+0.4
TUVZ				S*	S	19 15 00.6	+1.0
TUVZ	Tukino	1.27	233	P	P	19 14 43.8	+0.4
MOVZ	Moawhango	1.30	226	P*	P	19 14 43.8	0.0
MOVZ				S*	S	19 14 59.6	-0.7
CNZ	Chateau	1.30	238	⇑P*	P	19 14 44.4	+0.5
CNZ	Chateau	1.30	238	P	P	19 14 44.4	+0.5
WPVZ	Whakapapa	1.31	238	P*	P	19 14 44.4	+0.4
WPVZ				S*	S	19 15 01.0	+0.5
TWVZ	Taurewa	1.32	245	P*	P	19 14 44.0	-0.2
FWVZ	Far West T-bar	1.33	236	P*	P	19 14 44.6	+0.3
FWVZ	Far West T-bar	1.33	236	P	P	19 14 44.6	+0.3
DRZ	Dome Shelter	1.33	235	P*	P	19 14 44.7	+0.4
DRZ	Dome Shelter	1.33	235	P	P	19 14 44.8	+0.4
WNVZ	Wahianoa	1.34	232	P*	P	19 14 44.7	+0.2
WNVZ				S*	S	19 15 01.4	0.0
MYRZ	Mayor Island	1.36	335	P*	P	19 14 44.1	-0.7
TOZ	Tahuroa Road	1.40	304	PN	P	19 14 44.6	-0.7
TOZ				SN	S	19 15 02.1	-0.7
TOZ	Tahuroa Road	1.40	304	P	P	19 14 44.7	-0.6
MXZ	Matakaoa Point	1.42	48	P*	P	19 14 45.9	+0.3
MXZ				S*	S	19 15 03.6	+0.2
MXZ	Matakaoa Point	1.42	48	P	P	19 14 46.2	+0.6
MXZ				S	S	19 15 04.2	+0.8
PWZ	Pawanui	1.51	183	PN	P	19 14 45.8	-1.1
PWZ				SN	S	19 15 05.4	-0.1
PWZ	Pawanui	1.51	183	P	P	19 14 45.8	-1.1
HIZ	Hauiti	1.66	269	⇑PN	P	19 14 49.3	+0.4
TSZ	Takapari Road	1.73	207	PN	P	19 14 48.9	-0.9
TSZ	Takapari Road	1.73	207	P	P	19 14 48.9	-1.0
VRZ	Vera Road	1.83	250	P*	P	19 14 51.8	+0.4
VRZ	Vera Road	1.83	250	P	P	19 14 51.8	+0.5
WAZ	Wanganui	1.98	231	PN	P	19 14 53.7	+0.4
WAZ				SN	S	19 15 19.3	+2.3
WAZ	Wanganui	1.98	231	P	P	19 14 53.7	+0.3
MKAZ	Moumakai	2.00	314	PN	P	19 14 53.1	-0.6
MKAZ	Moumakai	2.00	314	P	P	19 14 53.1	-0.6
KUZ	Kuaotunu	2.03	330	PN	P	19 14 53.0	-1.1
KUZ	Kuaotunu	2.03	330	P	P	19 14 53.0	-1.1
RAEZ	Rainy Point	2.15	248	PN	P	19 14 56.9	+1.1
RAEZ	Rainy Point	2.15	248	P	P	19 14 57.0	+1.1
BFZ	Birch Farm	2.23	194	SN	S	19 15 21.8	-1.7
OTAZ	Otara	2.25	313	PN	P	19 14 57.0	-0.4
OTAZ	Otara	2.25	313	P	P	19 14 57.5	+0.2
NEZ	North Egmont	2.37	251	P	P	19 15 00.6	+1.7
DFE	Dawson Falls	2.38	249	PN	P	19 15 00.9	+1.8
DFE	Dawson Falls	2.38	249	P	P	19 15 00.9	+1.8
MTAZ	Motutapu	2.38	316	PN	P	19 14 58.6	-0.5
MTAZ	Motutapu	2.38	316	P	P	19 14 58.7	-0.4
MRZ	Mangatainoka R	2.40	206	PN	P	19 14 57.0	-2.4
MRZ				SN	S	19 15 25.2	-2.4
MRZ	Mangatainoka R	2.40	206	*e*P	P	19 14 57.0	-2.4
PKE	Pukeiti	2.42	253	P	P	19 15 01.1	+1.3
WTAZ	Waiatarua	2.47	309	PN	P	19 15 00.2	-0.2
WTAZ	Waiatarua	2.47	309	P	P	19 15 00.2	-0.2
NRZ	Ngariki Road	2.50	250	PN	P	19 15 02.4	+1.5
NRZ	Ngariki Road	2.50	250	P	P	19 15 02.5	+1.6
NWEZ	Newall Road	2.54	252	PN	P	19 15 03.3	+2.0
NWEZ	Newall Road	2.54	252	P	P	19 15 02.7	+1.3
KIW	Kapiti Island	2.83	214	PN	P	19 15 02.8	-2.7
KIW	Kapiti Island	2.83	214	P	P	19 15 02.9	-2.6
MTW	Mount Morrison	2.87	203	PN	P	19 15 02.3	-3.8
MTW				SN	S	19 15 35.2	-4.4
MTW	Mount Morrison	2.87	203	P	P	19 15 02.5	-3.6
CAW	Cannon Point	2.97	209	PN	P	19 15 04.2	-3.4
CAW	Cannon Point	2.97	209	P	P	19 15 04.2	-3.4
PAWZ	Paruwai Farm	3.10	202	SN	S	19 15 40.6	-4.8
MRW	Makara Radio	3.22	212	P	P	19 15 08.0	-3.1
BHW	Baring Head	3.31	209	SN	S	19 15 45.2	-5.5
WCZ	Waipu Caves	3.32	320	⇑PN	P	19 15 11.7	-0.7
WCZ	Waipu Caves	3.32	320	P	P	19 15 11.7	-0.7
TUWZ	Tuamarina	3.72	218	PN	P	19 15 13.8	-4.4
TUWZ				SN	S	19 15 56.4	-4.8
NNZ	Nelson	3.86	225	PN	P	19 15 16.7	-3.4
NNZ	Nelson	3.86	225	*e*P	P	19 15 16.7	-3.4
BSWZ	Blackbirch Sta	3.98	216	PN	P	19 15 17.3	-4.5
QRZ	Quartz Range	4.13	235	*e*P	P	19 15 20.3	-3.6
OUZ	Omahuta	4.26	320	PN	P	19 15 25.1	-0.7
OUZ	Omahuta	4.26	320	P	P	19 15 25.1	-0.6
THZ	Tophouse	4.50	223	PN	P	19 15 24.6	-4.5
THZ	Tophouse	4.50	223	P	P	19 15 24.9	-4.2
LTZ	Lake Taylor	5.56	219	*e*P	P	19 15 37.9	-6.0
MQZ	McQueen's Vall	6.12	211	PN	P	19 15 45.0	-6.8
MQZ	McQueen's Vall	6.12	211	*e*P	P	19 15 45.0	-6.8
WVZ	Waitaha Valley	6.56	224	*e*P	P	19 15 56.3	-1.7
RPZ	Rata Peaks	6.85	219	P	P	19 15 56.0	-6.0
	0.6nm,0.3s,baz=287,slow=17,SNR=4.1						
RPZ				S	S	19 17 08.3	-11
	1.8nm,0.3s,baz=22,slow=21,SNR=9.0						
ODZ	Otahua Downs	8.05	214	*e*P	P	19 16 11.5	-7.2
ASAR	Alice Springs	39.37	279	P	P	19 21 45.5	-2.7
	1.2nm,0.3s,mb4.0,baz=132,slow=9.0,SNR=47						
ASPA	Alice Springs	39.38	279	*e*P	P	19 21 45.7	-2.5
WRA	Warramunga Arr	41.13	284	P	P	19 22 00.4	-2.3
	0.3nm,0.3s,mb3.4,baz=120,slow=8.3,SNR=5.7						
ARCES	ARCESS Array B	145.38	343	PKPbc	PKPbc	19 33 50.0	-3.5
	0.4nm,0.5s,baz=45,slow=5.1,SNR=6.7						

*IDC **09** 19:16:37.3±1.0, 30.62N×137.81E, h459^{km}±28^{km}, mb2.8/4, mb1 3.0/6, mb1mx2.8/22, Error ellipse: s-maj=46.5km s-min=20.0km az=60.0*
*JMA **09** 19:16:39.0±0.5, 30.91N×138.45E, h478^{km}, M3.2*

ISC 09 19:16:36.6±0.7**, 30.9N**±0.1×**138.4E**±0.2**, h507^{km}**±15^{km}**, n14, σ0^{s}72**/19**, mb3.1**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.49	28	P	P	19 17 45.5	0.0
	13nm,0.3s,baz=243,slow=20,SNR=4.1						
JHJ				S	S	19 18 40.4	+0.3
	6.9nm,0.3s,baz=83,slow=21,SNR=2.9						
JHJ2	Mitsune	2.50	29	P	P	19 17 45.3	-0.3
JIE	Ise	3.74	338	P	P	19 17 54.1	0.0
BSO3	Boso 3	4.26	24	S	S	19 19 02.5	-0.5
BSO1	Boso 1	4.31	30	S	S	19 19 04.5	+0.7
JHU	Hanno	4.97	8	P	P	19 18 04.3	-0.2
JHU				S	S	19 19 13.2	-0.9
JRY	Ryogami san	5.10	5	P	P	19 18 07.0	+1.4
JRY				S	S	19 19 17.6	+1.5
JYT	Yasato	5.50	15	P	P	19 18 09.3	-0.1
JYT				S	S	19 19 21.7	-1.2
JAG	Ashikaga	5.56	9	P	P	19 18 09.7	-0.2
JAG				S	S	19 19 23.5	-0.3
ASAJ	Asahikawa	13.59	13	P	P	19 19 38.5	+6.2
	0.8nm,0.3s,baz=218,slow=10,SNR=5.6						
CMAR	Chiang Mai Arr	37.74	260	P	P	19 23 08.6	-1.1
	1.0nm,0.7s,mb3.4,baz=56,slow=6.9,SNR=6.3						
MKAR	Makanchi Array	45.51	307	P	P	19 24 12.1	+0.8
	0.2nm,0.4s,mb2.9,baz=95,slow=9.6,SNR=5.5						
WRA	Warramunga Arr	50.72	185	P	P	19 24 50.6	-0.3
	0.7nm,0.5s,mb3.2,baz=1.0,slow=7.7,SNR=6.7						
ASAR	Alice Springs	54.45	185	P	P	19 25 18.1	+0.5
	0.4nm,0.5s,mb3.0,baz=24,slow=12,SNR=7.8						

*IDC **09** 19:24:08.1±1.8, 35.92N×22.10E, mb3.9/9, mb1 3.9/15, mb1mx3.8/29, ML3.8/6, Error ellipse: s-maj=34.0km s-min=18.4km az=19.0*
*NEIC **09** 19:24:08.3, 35.61N×21.94E, h19^{km}, mb3.5/2, ML3.8(ATH), After ATH.*
*ATH **09** 19:24:08.3, 35.61N×21.94E, h19^{km}±5^{km}, MD3.9/14, ML3.8*

ISC 09 19:24:09.4±0.6**, 35.77N**±0.06×**21.81E**±0.03**, h19^{km}, n66, σ1^{s}29**/75**, mb3.9**/8**, 4C-4D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	1.12	63	*e*PN	Pn	19 24 29.5	-0.6
VLI	Veliai	1.31	44	*e*PN	Pn	19 24 34.0	+1.1
ITM	Ithomi	1.41	4	*e*PN	Pn	19 24 37.5	+3.2
VAM	Vamos	1.98	100	*e*PN	Pn	19 24 41.7	-0.8
NAIG	Nisos Aigina	2.40	34	*e*PB	Pb	19 24 50.5	-1.2
NSAL	Nisos Salamina	2.51	31	*e*PB	Pb	19 24 52.5	-1.1
IDI	Anoyia	2.56	100	Pn	Pn	19 24 50.0	-0.8
	1.9nm,0.3s,baz=324,slow=16,SNR=17						
VLS	Valsamata	2.59	338	*e*PN	Pn	19 24 54.0	+2.8
ATH	Athens Observa	2.67	34	*e*PB	Pb	19 24 55.5	-0.9
PTL	Penteli	2.81	35	*e*PN	Pn	19 24 55.0	+0.7
MPAR	Parnis Oros	2.83	32	*e*PN	Pn	19 24 56.0	+1.3
LKD	Levkas	3.07	343	*e*P	Pn	19 24 58.4	+0.3
EVR	Evrytania	3.14	360	*e*PB	Pb	19 25 03.5	-0.8
APE	Apeiranthos	3.27	66	*e*PN	Pn	19 25 00.0	-0.9
AGG	Agios Georgios	3.27	7	*e*P	Pn	19 25 03.6	+2.7
AOS	Alonnisos	3.77	25	*e*P	Pn	19 25 09.3	+1.4
IGT	Igoumenitsa	3.93	343	*e*P	Pn	19 25 11.3	+1.0
JAN	Janina	3.95	349	*e*PN	Pn	19 25 13.0	+2.5
MEV	Metsovon	4.03	354	*e*P	Pn	19 25 14.7	+3.0
KEK	Kerkira	4.24	339	*e*PN	Pn	19 25 16.5	+1.8
LIT	Litokhoron	4.35	7	*e*P	Pn	19 25 17.5	+1.3
FNA	Florina	5.01	356	*e*P	Pn	19 25 26.7	+1.1
GRG	Griva	5.20	5	*e*P	Pn	19 25 28.6	+0.4
MTTG	Motta San Giov	5.38	296	*e*Pn	Pn	19 25 31.3	+0.5
MTTG				*e*Sn	Sn	19 26 31.6	-1.5
LCI	Lecce	5.41	328	⇑*i*Pn	Pn	19 25 31.6	+0.4
LCI				*e*Sn	Sn	19 26 32.5	-1.1
PZI	Palazzolo	5.68	285	*e*Pn	Pn	19 25 34.9	-0.2
PZI				*e*Sn	Sn	19 26 38.5	-1.9
TDS	Terranova Siba	5.82	313	*e*Pn	Pn	19 25 38.2	+1.2
ORI	Oriolo Calabro	6.02	317	*e*Pn	Pn	19 25 41.1	+1.2
ORI				*e*Sn	Sn	19 26 48.7	-0.4
VAE	Valguarnera	6.19	288	Pn	Pn	19 25 44.7	+2.5
	1.4nm,0.3s,baz=125,slow=7.3,SNR=3.7						
VAE				Sn	Sn	19 26 53.3	+0.1
	2.9nm,0.3s,baz=257,slow=18,SNR=3.5						
SKO	Skopje	6.20	357	*i* Pn	Pn	19 25 42.0	-0.3
BRT	Bari-Castellan	6.25	326	⇓*i*Pn	Pn	19 25 42.7	-0.3
MGR	Morigerati	6.59	313	*e*Pn	Pn	19 25 47.7	-0.1
MGR				*e*Sn	Sn	19 27 03.4	+0.2
SGO	Sicignano	7.00	315	*e*Pn	Pn	19 25 54.1	+0.4
MRLC	Muro Lucano	7.03	317	⇓*i*Pn	Pn	19 25 54.3	+0.2
CSSN	Cassano Irpino	7.36	316	⇑*i*Pn	Pn	19 25 59.1	+0.4
FGMS	Monte Sant'Ang	7.48	324	*e*Pn	Pn	19 25 59.1	-1.3
FGMS				*e*Sn	Sn	19 27 23.2	-2.5
FG5	Orsara di Pugl	7.52	319	⇓*i*Pn	Pn	19 26 01.1	+0.3
RGNG	Rignano Grg	7.64	322	*e*Pn	Pn	19 26 01.4	-1.2
RGNG				*e*Sn	Sn	19 27 26.1	-3.3
CII	Carovilli	8.34	318	*e*Pn	P	19 26 13.8	+1.4
SDI	San Donato	8.61	316	⇑*i*Pn	P	19 26 20.1	+4.0
INTR	Introdacqua	8.76	318	*e*Pn	P	19 26 18.8	+0.7
NRCA	Norcia	9.75	319	⇑*i*Pn	P	19 26 32.1	+0.3
MLR	Muntele Rosu	10.20	17	Pn	P	19 26 34.6	-3.4
	0.2nm,0.3s,baz=244,slow=18,SNR=2.3						
ARV	Arcevia	10.30	321	⇓*i*Pn	P	19 26 38.7	-0.7
FSSB	Fossombrone	10.52	321	*e*Pn	P	19 26 41.9	-0.5
VRAC	Vranov	14.05	346	Pn	P	19 27 24.5	-5.2
	0.6nm,0.3s,baz=8.2,slow=22,SNR=3.1						
DAVOX	Davos	14.17	325	Pn	P	19 27 28.6	-2.6
	0.1nm,0.3s,baz=148,slow=18,SNR=2.1						
DAVOX				Sn	S	19 30 06.4	-2.4
	0.2nm,0.3s,baz=316,slow=16,SNR=2.6						
GERES	GERESS Array B	14.36	338	Pn	P	19 27 30.6	-3.1
	0.1nm,0.3s,baz=151,slow=14,SNR=6.9						
MBDF	Montbardon	14.54	313	*e*P	P	19 27 40.6	+4.6
	7.7nm,0.8s						
KHC	Kasperske Hory	14.65	338	*e*P	P	19 27 37.5	0.0
AKASG	Malin Array Be	15.85	17	Pn	P	19 27 49.0	-4.1
	0.3nm,0.3s,baz=205,slow=12,SNR=3.3						
CDF	Champ du Feu	16.57	324	*e*P	P	19 28 06.0	+3.7
CLL	Collm	16.77	341	*e*	P	19 28 22.0	+17
MFF	Saint Martin d	19.68	310	*e*P	P	19 28 40.9	+0.6
	3.7nm,0.6s						
LDF	La Druitiere	20.60	315	*e*P	P	19 28 50.1	+0.1
	1.7nm,0.4s						
ESDC	Sonseca Array	20.73	289	P	P	19 28 51.0	-0.3
	1.1nm,0.7s,baz=92,slow=11,SNR=4.4						

FLN	**La Foliniere**	20.89	315	eP	P	19 28 53.7	+0.7
SGMF	**Saint Gilles**	21.88	312	eP	P	19 29 04.4	+1.5
HFS	**Hagfors**	24.93	350	P	P	19 29 32.4	-0.2
	1.5nm,0.5s,mb3.8,baz=162,slow=9.4,SNR=12						
FINES	**FINESS Array B**	25.83	5	P	P	19 29 39.8	-1.2
	0.5nm,0.4s,mb3.4,baz=170,slow=12,SNR=6.1						
EKA	**Eskdalemuir Ar**	25.99	327	P	P	19 29 44.0	+1.5
	3.6nm,0.6s,mb4.1,baz=127,slow=9.1,SNR=15						
NOA	**NORSAR Array B**	26.18	348	P	P	19 29 43.3	-0.9
	0.2nm,0.6s,mb2.8,baz=151,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	33.88	2	P	P	19 30 50.6	-2.0
	1.0nm,0.4s,mb4.1,baz=192,slow=9.5,SNR=19						
SPITS	**Spitsbergen Ar**	42.57	358	P	P	19 32 04.4	-0.8
	6.6nm,1.1s,mb4.3,SNR=3.9						
MKAR	**Makanchi Array**	45.72	57	P	P	19 32 27.6	-3.3
	3.6nm,0.3s,mb4.8,baz=267,slow=7.2,SNR=72						
SONM	**Songino Array**	61.20	50	P	P	19 34 21.9	-3.2
	0.3nm,0.5s,mb3.7,baz=287,slow=7.9,SNR=2.7						

MAN 09 19:34:18.2, 12.70N×123.16E, h12^{km}, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	0.57	127	⇑iP	Pb	19 34 28.7	-0.9
MMPH				iS	Sb	19 34 36.8	-0.6
AUQP	**San Andres**	0.78	323	eP	Pb	19 34 33.9	+0.7
OTRP	**Odiongan**	1.16	253	eP	Pb	19 34 38.9	-0.8
RCP	**Roxas**	1.20	200	eP	Pb	19 34 39.3	-1.1
PVCP	**Virac**	1.32	47	eP	Pb	19 34 42.0	-0.5
GQP	**Guinayangan**	1.38	330	eP	Pn	19 34 42.6	-0.8
GQP				eS	Sb	19 35 01.9	+1.0
CNP	**Catarman**	1.48	97	eP	Pn	19 34 44.5	-0.4
SJMP	**San Jose**	2.00	263	eP	Pn	19 34 52.7	+0.4
GUIM	**Jordan**	2.14	195	eP	Pn	19 34 57.5	+3.3
BESP	**Borongan**	2.48	116	eP	Pn	19 35 02.1	+2.9
LLP	**Lapu-Lapu**	2.50	161	eP	Pn	19 35 00.0	+0.6
BUSP	**Coron**	2.97	257	eP	Pn	19 35 05.3	-0.8
LUBP	**Lubang**	3.01	290	eP	Pn	19 35 17.4	+11
BALP	**Baler**	3.39	333	eP	Pn	19 35 17.6	+5.6
CAUP	**Cauayan**	4.41	343	eP	Pn	19 35 25.4	-1.2
PAGZ	**Pagadian**	4.83	177	eP	Pn	19 35 32.7	+0.2
APYP	**Conner**	5.45	340	eP	Pn	19 35 39.9	-1.4

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*ISK **09** 19:51:14.6, 39.60N×43.82E, h12^{km}, MD3.7*

TIF 09 19:51:11.0, 39.81N×43.89E, h19^{km}, Mpv4.8, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERE	**Yerevan**	0.59	51	eP	Pb	19 51 23.0	+0.5
ERE				eS	Sb	19 51 32.0	+1.6
AGRT	**Agri**	0.72	254	iPG	Pb	19 51 26.6	+1.8
AGRT				iSG	Sb	19 51 37.6	+3.4
STE	**Stepanavan**	1.25	18	eP	Pn	19 51 35.5	+1.8
STE				eS	Sb	19 51 57.0	+7.5
TVAN	**Van**	1.33	197	⇑iP	Pn	19 51 34.8	0.0
TVAN				iS	Sb	19 51 54.1	+2.3
VAD	**Vardenisi**	1.46	74	iS	Sn	19 51 57.0	+1.5
AKH	**Akhalkalaki**	1.63	349	⇑iP	Pn	19 51 45.2	+6.1
ERZM	**Erzurum**	1.94	274	iP	Pn	19 51 49.1	+5.5
ERZM				iS	Sn	19 52 22.5	+15
EZM	**Erzurum**	1.95	274	PN	Pn	19 51 48.8	+5.1
VRT	**Varto**	1.95	250	iPN	Pn	19 51 47.0	+3.3
VRT				iSN	Sn	19 52 09.9	+2.1
MTA	**Mtatsminda**	2.00	20	⇓iP	Pn	19 51 49.5	+5.1
MTA				iS	Sn	19 52 18.4	+9.2
TBLG	**Delisi**	2.02	18	⇑iP	Pn	19 51 49.9	+5.1
TBLG				iS	Sn	19 52 18.7	+9.0
HKR	**Hakkari**	2.23	183	ePN	Pn	19 51 49.9	+2.2
DUS	**Dusheti**	2.36	15	⇓iP	Pn	19 51 55.3	+5.8
DUS				iS	Sn	19 52 26.7	+8.4
BTMT	**Batman**	2.47	230	ePN	Pn	19 51 55.8	+4.6
BEST	**Besiri**	2.80	228	iP	Pn	19 51 50.4	-5.5
BEST				iS	Sn	19 52 35.7	+6.2

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*ROM **09** 19:51:28.1±0.1, 46.30N×13.61E, h10^{km}, MD2.2/3, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0*

*LJU **09** 19:51:29.0, 46.31N×13.60E, h8^{km}, ML1.5*

ISC 09 19:51:28.8±0.6**, 46.32N**±0.03×**13.62E**±0.04**, h9**^{km}±9^{km}**, n16,** σ**0^{s}63**/27**, 5C-4D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	0.11	228	⇓iPg	Pg	19 51 31.1	-0.4
ROBS				iSg	Sg	19 51 32.5	-0.7
	comp=Z,109nm,0.1s						
CADS	**Cadrg**	0.12	138	⇓iPg	Pg	19 51 31.7	0.0
CADS				iSg	Sg	19 51 33.7	+0.1
	comp=Z,198nm,0.1s						
DRE	**Drenchia**	0.14	174	⇓iPg	Pg	19 51 31.8	-0.3
PTCC	**Patocco-Chiusa**	0.21	296	⇓iPG	Pg	19 51 33.0	-0.3
PTCC				SG	Sg	19 51 36.6	+0.4
COLI	**Coloredo**	0.25	223	⇑ePg	Pg	19 51 33.8	-0.3
GMNA	**Gemona**	0.27	261	ePG	Pg	19 51 35.5	+1.0
GMNA				SG	Sg	19 51 40.3	+2.1
	comp=Z,49nm,0.3s						
VOY	**Vojsko**	0.34	146	ePg	Pg	19 51 35.5	-0.3
VOY				eSg	Sg	19 51 40.7	+0.2
BOO	**Bordano**	0.36	271	⇑iPg	Pg	19 51 35.4	-0.8
JAVS	**Javornik**	0.52	144	⇑iPg	Pg	19 51 38.6	-0.7
JAVS				iSg	Sg	19 51 47.0	+0.6
TRI	**Trieste**	0.61	171	ePG	Pg	19 51 40.1	-1.1
TRI				SG	Sg	19 51 49.4	-0.1
	comp=Z,20nm,0.3s						
FVI	**Forni Avoltri**	0.65	296	ePG	Pg	19 51 41.5	-0.3
FVI				SG	Sg	19 51 50.7	+0.2
	comp=Z,7.0nm,0.2s						
OBKA	**Obir**	0.67	73	⇑iPG	Pg	19 51 42.1	-0.2
OBKA				iSG	Sg	19 51 51.1	-0.1
	comp=Z,3.2nm,0.1s						
KBA	**Koelnbreinsper**	0.79	346	⇑iPG	Pg	19 51 44.3	-0.3
KBA				iSG	Sg	19 51 54.9	-0.2
	comp=Z,1.6nm,0.2s						
PDKS	**Podkum**	0.98	103	iPg	Pg	19 51 49.5	+1.0
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	0.99	121	iPg	Pg	19 51 48.7	0.0
	comp=Z,4.0nm,0.2s						
LEGS	**Legarje**	1.23	107	ePg	Pg	19 51 53.3	-0.2
LEGS				iSg	Sg	19 52 10.9	+0.9

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*JMA **09** 19:52:35.1±0.2, 24.18N×121.91E, h79^{km}±4^{km}, M3.3*

*TAP **09** 19:52:36.4, 23.99N×121.89E, h43^{km}±1^{km}, ML4.0*

ISC 09 19:52:35.2±2.1**, 24.1N**±0.2×**121.9E**±0.1**, h43**^{km}**, n7,** σ**0^{s}60**/13**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	1.09	69	P	P	19 52 54.7	+0.5
YOJ				S	S	19 53 09.3	+1.0
IRIF	**Iriomote-Funau**	1.69	81	P	P	19 53 02.8	-0.1
IRIF				eS	S	19 53 24.2	+0.6
HATJ	**Hateruma jima**	1.75	90	P	P	19 53 03.8	+0.1
HATJ				S	S	19 53 25.4	+0.5
JKRS	**Kuro-shima**	1.94	85	P	P	19 53 06.6	+0.2
JKRS				eS	S	19 53 30.1	+0.5
JIJ	**Ishigaki jima**	2.07	82	P	P	19 53 07.8	-0.5
JIJ				S	S	19 53 31.9	-1.1
JTJ	**Tarama**	2.62	77	P	P	19 53 15.7	-0.4
JTJ				eS	S	19 53 46.1	-0.8
JMJ	**Miyako jima 2**	3.18	76	eS	S	19 54 00.7	-0.5

NEIC 09 19:58:15.5, 51.40N×178.36W, h9^{km}, ML3.5(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	0.79	63	P	Pb	19 58 30.1	-0.8
KIMD				S	Sb	19 58 41.8	+0.2
KIWB	**Kanaga Island**	0.88	59	P	Pb	19 58 31.4	-1.1
KIKV	**Kanaga Island**	0.88	57	P	Pb	19 58 31.6	-1.0
KIRH	**Kanaga Island**	0.94	57	P	Pb	19 58 32.4	-1.0
GSTD	**Great Sitkin T**	1.53	64	P	Pn	19 58 41.0	-2.1
GSTD				S	Sb	19 59 00.8	-2.1
GSMY	**Great Sitkin M**	1.57	65	P	Pn	19 58 41.5	-2.3
GSIG	**Igitkin Island**	1.63	68	P	Pn	19 58 42.4	-2.2
ATKA	**Atka Island**	2.71	71	P	Pn	19 58 57.4	-2.6

ISC 09 20:26:53.4±1.6**, 36.89N**±0.08×**27.65E**±0.06**, h10**^{km}**, n7,** σ**1^{s}25**/14**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.24	317	iP	Pg	20 26 57.6	-0.8
BDRM				iS	Sg	20 27 01.3	-0.6
MLSB	**Milas**	0.42	14	iPG	Pg	20 27 00.0	-1.9
MLSB				iSG	Sg	20 27 07.1	-0.4
YER	**Yerkesik**	0.56	64	PG	Pg	20 27 04.1	-0.7
YER				SG	Sg	20 27 12.2	-0.2
AYDN	**Tasoluk**	0.79	13	iP	Pb	20 27 07.6	-1.1
AYDN				iS	Sb	20 27 18.7	-0.5
DNZL	**Cakiroluk**	1.37	54	iP	Pn	20 27 19.2	+0.5
DNZL				iS	Sb	20 27 39.9	+3.8
KDAG	**Bornova**	1.54	349	iP	Pn	20 27 22.5	+1.4
KDAG				iS	Sb	20 27 43.1	+2.2
MANT	**Manisa**	1.75	24	iP	Pn	20 27 26.3	+2.1
MANT				iS	Sn	20 27 52.2	+5.6

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*IDC **09** 20:36:13.1±0.4, 9.78N×125.34E, mb4.8/24, mb1 4.8/26, mb1mx4.8/27, ML4.5/2, MS4.1/17, Ms1 4.1/17, ms1mx4.0/26, Error ellipse: s-maj=20.0km s-min=10.9km az=80.0*

*NEIC **09** 20:36:14.3±0.2, 9.83N×125.50E, h10^{km}, mb5.0/27, Error ellipse: s-maj=10.7km s-min=5.3km az=72.0*

NEIC Felt [IV PIVS] at Surigao and [III PIVS] at Butuan.

*SYO **09** 20:36:14.3, 9.83N×125.50E, h10^{km}, MB5.0*

*MAN **09** 20:36:15.1, 9.76N×125.45E, h22^{km}, mb5.1, ML4.0, MS4.0*

MAN F Intensity IV - Surigao City Intensity III - Butuan City.

*MOS **09** 20:36:16.1±1.0, 9.87N×125.34E, h33^{km}, mb5.0/25, Error ellipse: s-maj=17.9km s-min=8.1km az=111.2*

*BJI **09** 20:36:20.6, 9.87N×125.46E, h72^{km}, mB5.1, mb4.8, Ms4.6, Msz4.6*

*HRVD **09** 20:36:22.4±0.3, 9.74N×125.47E, h16^{km}±1^{km}, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s51,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$0.20±.13; M$_{\theta\theta}$1.91±.09; M$_{\phi\phi}$-2.11±.13; M$_{r\theta}$-0.53±.29; M$_{\theta\phi}$-1.89±.08; M$_{\phi r}$-2.25±.45; Best double couple: M$_0$3.41×10^{16} NP1:ϕ_s72°,δ61°,λ-168°. NP2:ϕ_s336°,δ79°,λ-29°. Principal axes: T 2.73, Plg12°, Azm27°; N 1.35, Plg59°, Azm137°; P -4.08, Plg28°, Azm290°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 20:36:13.1±0.2**, 9.80N**±0.02×**125.46E**±0.03**, h10**^{km}**, (h61**^{km}±4.1^{km}**:pP-P), n218,** σ**1^{s}14**/227**, mb4.9**/75**, MS4.2**/28**, 7C-16D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	0.68	300	eP	Pb	20 36 26.8	+0.3
BUTP	**Butuan**	0.84	169	eP	Pb	20 36 29.9	+0.7
PLP	**Palo**	1.44	341	iP	Pn	20 36 40.2	+0.8
PLP				iS	Sb	20 36 57.1	-0.8
OCLP	**Ormoc**	1.50	326	eP	Pn	20 36 42.5	+2.3
CGP	**Cagayan de Oro**	1.53	210	⇓eP	Pn	20 36 40.0	-0.7
CGP				eS	Sb	20 37 00.6	+0.2
LLP	**Lapu-Lapu**	1.56	290	⇓iP	Pn	20 36 39.5	-1.5
LLP				iS	Sb	20 36 59.0	-2.2
TBP	**Tagbilaran**	1.57	266	eP	Pn	20 36 41.2	0.0
TBP				eS	Sb	20 37 00.0	-1.7
BESP	**Borongan**	1.79	359	eP	Pn	20 36 45.4	+1.0
BUKP	**Musuan**	1.94	192	eP	Pn	20 36 46.9	+0.3
SNPH	**Sibulan**	2.23	259	eP	Pn	20 36 51.5	+0.8
SNPH				iS	Sn	20 37 25.5	+6.9
DAV	**Davao City (W)**	2.71	177	eP	Pn	20 37 01.5	+4.0
DAV	**Davao City (W)**	2.71	177	iS	Sn	20 37 47.5	+17
KCP	**Kidapawan**	2.79	187	⇓eP	Pn	20 36 59.8	+1.1
CNP	**Catarman**	2.81	344	eP	Pn	20 37 01.8	+2.9
PAGZ	**Pagadian**	2.82	227	eP	Pn	20 36 59.2	+0.1
CTBH	**Cotabato--PC H**	2.82	205	⇓iP	Pn	20 36 59.5	+0.4
	366μm,1.0s						
CTBH				eS	Sn	20 37 41.9	+8.3
GUIM	**Jordan**	2.94	287	eP	Pn	20 37 01.2	+0.4
MATI	**Mati**	2.94	164	eP	Pn	20 37 02.4	+1.6
MMPH	**Masbate**	3.12	325	⇑iP	Pn	20 37 11.4	+8.1
MMPH				iS	Sn	20 37 54.3	+13
RCP	**Roxas**	3.19	304	eP	Pn	20 37 06.1	+1.7
IPIL	**Ipil**	3.48	235	eP	Pn	20 37 09.2	+0.7
IPIL				eS	Sn	20 37 49.7	-0.4
PVCP	**Virac**	3.99	341	eP	Pn	20 37 18.7	+3.0
OTRP	**Odiongan**	4.23	307	eP	Pn	20 37 20.7	+1.6
AUQP	**San Andres**	4.44	322	eP	Pn	20 37 34.7	+13
CUYO	**Cuyo Island**	4.49	284	eP	Pn	20 37 24.5	+1.7
SJMP	**San Jose**	5.01	302	eP	Pn	20 37 33.9	+3.6
BUSP	**Coron**	5.61	294	eP	Pn	20 37 38.8	+0.2
LQP	**Lukban**	5.75	319	⇓eP	Pn	20 37 44.8	+4.2
ENPP	**El Nido**	6.09	284	eP	Pn	20 37 45.4	-0.1
TGY	**Tagaytay City**	6.15	315	Pn	Pn	20 37 50.7	+4.4
	18nm,0.3s,baz=157,slow=7.2,SNR=3.9						
TGY				Sn	Sn	20 38 56.6	-1.0
	14nm,0.3s,baz=156,slow=18,SNR=2.3						
TGY				LR	LR	20 40 25.9	
	comp=Z,2μm,19.3s,baz=127,slow=42						
TGY	**Tagaytay City**	6.15	315	P	Pn	20 37 50.7	+4.4
TGY						20 38 56.6	
TGY				pmax	pmax		
	comp=Z,18nm,0.3s						
TGY				smax			
	comp=Z,14nm,0.3s						
TGY				MLR	MLR		
	comp=Z,2μm,19.3s						
LUBP	**Lubang**	6.43	308	eP	Pn	20 37 45.9	-4.3
BALP	**Baler**	7.02	328	eP	Pn	20 38 03.1	+4.6
CAUP	**Cauayan**	7.94	334	eP	Pn	20 38 13.2	+1.8
SCZP	**Santa Cruz**	8.04	318	eP	P	20 38 17.2	+4.5
BOLP	**Bolinao**	8.48	321	eP	P	20 38 24.2	+5.2
TATO	**Taipei**	15.56	346	P	P	20 39 57.4	+3.0
JOW	**Kunigami**	17.15	9	P	P	20 40 19.9	+5.3
	comp=Z,2.7nm,0.3s,baz=194,slow=9.1,SNR=5.6						
JOW				LR	LR	20 45 39.3	
	comp=Z,1μm,21.7s,baz=158,slow=33						
QIZ	**Qiongzhong**	17.68	303	⇓P	P	20 40 23.9	+2.7
QIZ				eS	S	20 43 41.3	+5.2
QIZ				AMB	AMB		
	comp=Z,19nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,247nm,8.7s						
QIZ	**Qiongzhong**	17.68	303	eP	P	20 40 23.7	+2.5
	comp=Z,17nm,0.9s						
SSE	**Sheshan**	21.56	350	⇓P	P	20 41 08.4	+3.5
SSE				AP		20 41 22.9	
SSE				XP		20 41 32.1	
SSE				S	S	20 44 57.4	-1.4
SSE				XS		20 45 25.0	
SSE				AMB	AMB		
	comp=Z,29nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,111nm,5.4s						
KKTK	**Khon Kaen**	22.97	289	P	P	20 41 18.3	-0.8
	comp=Z,309nm,1.0s,mb5.7						
NJ2	**Nanjing**	22.98	346	eP	P	20 41 20.0	+1.0
NJ2				AP		20 41 36.4	
NJ2				XP		20 41 46.5	
NJ2				S	S	20 45 10.0	-15
NJ2				PCS		20 48 48.0	
NJ2				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.2						
NJ2				LR	LR		
	comp=N,940nm,17.9s,MS4.5						
NJ2				LR	LR		
	comp=E,1μm,14.5s,MS4.5						
WHN	**Wuhan**	23.09	335	eP	P	20 41 21.0	+0.8
WHN				LR	LR		
	comp=N,1μm,13.8s,MS4.6						
WHN				LR	LR		
	comp=E,1μm,15.9s,MS4.6						
WHN				LR	LR		
	comp=Z,2μm,19.1s,MS4.6						
CBIJ	**Chichi jima**	23.36	40	P	P	20 41 24.2	+1.5
	comp=Z,62nm,0.6s,mb5.2,baz=317,slow=8.9,SNR=2.3						
CBIJ				LR	LR	20 49 11.9	
	comp=Z,305nm,19.3s,MS3.8,baz=224,slow=33						
KAKA	**Kakadu**	23.39	163	eP	P	20 41 22.4	-0.8
	comp=Z,42nm,0.6s,mb5.0						
JNU	**Nakatsue**	23.75	11	P	P	20 41 27.6	+1.1
	comp=Z,9.3nm,0.8s,mb4.3,baz=42,slow=5.3,SNR=6.2						
JNU				LR	LR	20 49 36.9	
	comp=Z,456nm,21.7s,MS3.9,baz=16,slow=34						
JNU	**Nakatsue**	23.75	11	P	P	20 41 27.6	+1.1
JNU				LR	LR	20 49 36.9	
GYA	**Guiyang**	24.31	315	⇓iP	P	20 41 33.8	+1.8
GYA				AP		20 41 50.8	
GYA				XP		20 41 59.6	
GYA				PP	PP	20 42 07.2	0.0
GYA				S	S	20 45 42.7	-5.2
GYA				XS		20 46 14.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
GYA				AMB	AMB		
	comp=Z,150nm,3.6s						
GYA				LR	LR		
	comp=N,1μm,19.2s,MS4.5						
GYA				LR	LR		
	comp=E,890nm,19.8s,MS4.5						
IPM	**Ipoh**	24.78	260	⇓eP	P	20 41 37.0	+0.3
ENH	**Enshi**	25.24	326	eP	P	20 41 40.6	-0.3
	comp=E,53nm,0.8s,mb5.1						
KMI	**Kunming**	26.43	308	⇓eP	P	20 41 53.2	+1.2
KMI				PPP	PPP	20 42 51.3	+4.2
KMI				S	S	20 46 19.3	-4.2
KMI				XS		20 46 48.7	
KMI				SS	SS	20 47 34.6	+1.8
KMI				SSS	SSS	20 47 52.8	+2.5
KMI				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,156nm,3.6s						
KMI				LR	LR		
	comp=N,584nm,17.5s,MS4.3						
KMI				LR	LR		
	comp=E,694nm,19.2s,MS4.3						
JHJ	**Hachijo jima 2**	26.71	28	LR	LR	20 50 32.7	
	comp=E,472nm,18.6s,MS4.1,baz=302,slow=32						
CMAR	**Chiang Mai Arr**	27.08	291	P	P	20 41 58.4	+0.3
	comp=E,8.9nm,0.9s,mb4.3,baz=110,slow=7.1,SNR=37						
CMAR				PcP	PcP	20 45 19.1	-0.5
	comp=E,1.6nm,0.8s,baz=166,slow=0.8,SNR=5.8						
CMAR				LR	LR	20 52 49.3	
	comp=E,380nm,18.7s,MS4.0,baz=105,slow=37						
CMAR	**Chiang Mai Arr**	27.08	291	P	P	20 41 58.4	+0.3
CMAR						20 45 19.1	
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,380nm,18.7s						
CHG	**Chiang Mai**	27.18	292	⇓P	P	20 42 04.5	+5.6
	comp=Z,12nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	27.72	180	⇑iP	P	20 42 01.7	-2.2
	comp=Z,18nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	27.72	180	P	P	20 42 02.0	-1.9
	comp=Z,22nm,0.8s,mb4.9,baz=12,slow=8.0,SNR=26						
XAN	**Xi'an**	28.50	330	P	P	20 42 09.6	-1.2
XAN				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.0						
PMG	**Port Moresby**	28.82	131	P	P	20 42 14.4	+0.6
	comp=Z,15nm,0.7s,mb4.8,baz=297,slow=4.8,SNR=2.9						
PMG				LR	LR	20 53 00.8	
	comp=Z,192nm,20.0s,MS3.7,baz=203,slow=35						
PMG	**Port Moresby**	28.82	131	P	P	20 42 14.4	+0.6
PMG				pmax	pmax		
	comp=Z,15nm,0.7s						
PMG				MLR	MLR		
	comp=Z,192nm,20.0s						
PMG	**Port Moresby**	28.82	131	P	P	20 42 14.8	+0.9
	comp=Z,52nm,1.2s,mb5.1						
MAJO	**Matsushiro**	29.03	21	eP	P	20 42 14.0	-1.5
	comp=Z,8.2nm,0.7s,mb4.6						
MAT	**Matsushiro**	29.03	21	P	P	20 42 13.2	-2.3
MAT				S	S	20 47 15.0	+10
MAT	**Matsushiro**	29.03	21	eP	P	20 42 13.0	-2.5
	comp=Z,11nm,1.1s,mb4.5						
MAT				eS	S	20 47 15.0	+10
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.0						
CD2	**Chengdu**	29.13	319	P	P	20 42 16.0	-0.5
WRA	**Warramunga Arr**	30.82	164	P	P	20 42 30.3	-1.3
	comp=Z,2.5nm,0.7s,mb4.1,baz=346,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	30.82	164	P	P	20 42 30.3	-1.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	30.82	164	eP	P	20 42 30.2	-1.4
WB2				e		20 42 44.2	
BJT	**Baijiatuau**	31.21	346	eP	P	20 42 34.6	-0.3
	comp=Z,20nm,0.9s,mb5.0						
BJI	**Beijing**	31.23	346	P	P	20 42 34.3	-0.8
BJI				S	S	20 47 33.3	-6.9
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9						
SNY	**Shenyang**	31.95	357	⇓P	P	20 42 41.3	0.0
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SNY				AMB	AMB		
	comp=Z,80nm,4.5s						
SNY				LR	LR		
	comp=N,350nm,18.2s,MS4.3						
SNY				LR	LR		
	comp=E,410nm,16.3s,MS4.3						
LZH	**Lanzhou**	32.72	326	eP	P	20 42 47.9	-0.2
LZH				AP	pP	20 43 06.0	+15
LZH				XP	sP	20 43 15.4	+23
LZH				S	S	20 48 02.0	-1.4
LZH				XS		20 48 33.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,190nm,5.4s						
LZH				LR	LR		
	comp=E,1μm,14.5s						
LZH				LR	LR		
	comp=Z,2μm,19.9s						
HHC	**Hu-ho-hao-te**	33.28	341	eP	P	20 42 53.1	+0.1
HHC				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,135nm,4.5s						
BTO	**Baotou**	33.60	339	eP	P	20 42 55.8	+0.1
CN2	**Changchun**	33.88	360	eP	P	20 43 00.0	+1.9
CN2				eAP	pP	20 43 17.2	+16
CN2				eS	S	20 48 18.8	-2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.4						
ASAR	**Alice Springs**	34.27	166	P	P	20 42 59.8	-1.9
	comp=E,2.2nm,0.5s,mb4.3,baz=351,slow=7.0,SNR=34						
ASAR				LR	LR	20 57 15.4	
	comp=E,205nm,19.5s,MS3.9,baz=341,slow=37						
ASPA	**Alice Springs**	34.27	166	eP	P	20 43 01.8	+0.1
MDJ	**Mudanjiang**	34.88	5	P	P	20 43 07.4	+0.7
MDJ				AP	pP	20 43 23.6	+14
MDJ				XP	sP	20 43 31.7	+21
MDJ				PP	PP	20 44 27.2	+2.8
MDJ				PCP	PcP	20 45 38.7	-1.1
MDJ				S	S	20 48 38.5	+1.7
MDJ				XS		20 49 03.8	
MDJ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,71nm,5.8s						
MDJ	**Mudanjiang**	34.88	5	eP	P	20 43 06.3	-0.4
	comp=Z,13nm,0.8s,mb4.9						
CTAO	**Charters Tower**	36.07	145	eP	P	20 43 16.7	-0.4
	comp=Z,22nm,0.8s,mb5.1						
ASAJ	**Asahikawa**	37.29	21	P	P	20 43 28.2	+1.2
	comp=Z,13nm,0.8s,mb4.8,baz=247,slow=11,SNR=8.6						
ASAJ	**Asahikawa**	37.29	21	P	P	20 43 28.3	+1.2
ASAJ				pmax	pmax		
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	37.32	326	eP	P	20 43 27.8	+0.4
GTA				AP	pP	20 43 47.4	+17
GTA				XP	sP	20 43 56.8	+25
GTA				PP	PP	20 44 53.8	-1.1
GTA				PCP	PcP	20 45 49.2	+2.1
GTA				S	S	20 49 04.4	-10
GTA				SCP		20 49 28.4	
GTA				XS		20 49 36.0	

GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,65nm,5.7s						
LSA	**Lhasa**	**37.66**	**307**	P	**P**	**20 43 32.6**	**+2.3**
LSA	**Lhasa**	**37.66**	**307**	*e*P	**P**	**20 43 32.4**	**+2.1**
	comp=Z,100nm,1.1s,mb5.5						
HIA	**Hailar**	**39.63**	**354**	*e*P	**P**	**20 43 47.0**	**+0.3**
	comp=Z,10nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**39.85**	**19**	*e*P	**P**	**20 43 48.8**	**+0.4**
YSS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
SONM	**Songino Array**	**41.19**	**340**	P	**P**	**20 43 59.6**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.2,baz=158,slow=9.2,SNR=42						
SONM				ScP		20 49 47.8	
	comp=Z,0.2nm,0.6s,baz=141,slow=4.2,SNR=2.5						
PKI	**Pulchoki**	**41.62**	**301**	*e*P	**P**	**20 44 03.5**	**+0.2**
	comp=Z,52nm,0.9s,mb5.2						
KKN	**Kakani**	**41.79**	**301**	*e*P	**P**	**20 44 05.1**	**+0.4**
	comp=Z,72nm,0.9s,mb5.3						
KLBR	**Kellerberrin**	**41.81**	**190**	*e*P	**P**	**20 44 05.6**	**+0.8**
	comp=Z,20nm,1.0s,mb4.7						
DMN	**Daman**	**41.88**	**301**	*e*P	**P**	**20 44 06.1**	**+0.6**
	comp=Z,62nm,1.0s,mb5.2						
GKN	**Gorkha**	**42.40**	**301**	*e*P	**P**	**20 44 09.9**	**+0.2**
	comp=Z,67nm,1.0s,mb5.2						
MUN	**Mundaring**	**42.47**	**192**	*e*P	**P**	**20 44 11.2**	**+1.0**
	comp=Z,6.9nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**43.20**	**190**	P	**P**	**20 44 16.2**	**+0.1**
	comp=Z,14nm,0.6s,mb4.9,baz=12,slow=8.6,SNR=12						
NWAO	**Narrogin (SRO)**	**43.20**	**190**	P	**P**	**20 44 16.3**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,14nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.20**	**190**	*e*P	**P**	**20 44 16.0**	**-0.2**
	comp=Z,15nm,0.6s,mb4.9						
KOLN	**Koldanda**	**43.21**	**300**	*e*P	**P**	**20 44 16.8**	**+0.5**
	comp=Z,114nm,1.0s,mb5.6						
STKA	**Stephens Creek**	**44.22**	**160**	*e*P	**P**	**20 44 23.6**	**-0.9**
	comp=Z,13nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**44.22**	**160**	P	**P**	**20 44 23.8**	**-0.7**
	comp=Z,16nm,0.7s,mb4.9,baz=336,slow=9.1,SNR=26						
ZAK	**Zakamensk**	**44.42**	**340**	*e*P	**P**	**20 44 23.8**	**-2.0**
TLY	**Talaya**	**45.41**	**341**	*e*P	**P**	**20 44 31.4**	**-2.3**
TLY				pmax	pmax		
	comp=Z,108nm,1.3s,mb5.5						
TLY				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
CUD	**Cuddapah**	**45.82**	**281**	*e*P	**P**	**20 44 35.6**	**-1.9**
HYB	**Hyderabad**	**46.12**	**285**	*i* P	**P**	**20 44 39.0**	**-0.7**
HYB	**Hyderabad**	**46.12**	**285**	*e*P	**P**	**20 44 39.0**	**-0.7**
ADE	**Adelaide**	**46.25**	**165**	P	**P**	**20 44 41.1**	**+0.5**
CLNS	**Chul'man**	**46.93**	**360**	*e*P	**P**	**20 44 43.3**	**-2.3**
CLNS				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
WMQ	**Urumqi**	**47.11**	**323**	P	**P**	**20 44 45.9**	**-1.3**
WMQ				AP	pP	20 45 04.5	+14
WMQ				XP	sP	20 45 13.4	+22
WMQ				PCP	PcP	20 46 16.9	-2.6
WMQ				PP	PP	20 46 37.4	-0.3
WMQ				S	**S**	**20 51 32.4**	**-6.1**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				LR	LR		
	comp=N,1µm,20.4s,MS4.9						
WMQ				LR	LR		
	comp=E,351nm,19.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,541nm,20.4s,MS4.5						
ARMA	**Armidale**	**47.24**	**149**	*e*P	**P**	**20 44 48.2**	**-0.3**
DDI	**Dehra Dun**	**48.57**	**302**	*e*	**P**	**20 44 53.3**	**-5.5**
CNB	**Canberra Magne**	**50.24**	**154**	*e*P	**P**	**20 45 12.2**	**+0.6**
	comp=Z,53nm,0.9s,mb5.6						
MKAR	**Makanchi Array**	**51.92**	**323**	P	**P**	**20 45 23.6**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=122,slow=8.5,SNR=117						
MKAR				LR	LR	21 06 07.7	
	comp=Z,306nm,21.9s,MS4.3,baz=228,slow=35						
MKAR	**Makanchi Array**	**51.92**	**323**	P	**P**	**20 45 23.6**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,306nm,21.9s						
YAK	**Yakutsk**	**52.23**	**3**	*d i*P	**P**	**20 45 25.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
KSH	**Kashi**	**52.95**	**313**	*e*P	**P**	**20 45 33.5**	**+1.4**
KSH				*e*AP	pP	20 45 53.0	+18
KSH				*e*XP	sP	20 46 02.0	+26
KSH				*e*PCP	PcP	20 46 41.5	+0.6
KSH				*e*PP	PP	20 47 37.0	+3.7
KSH				*e*PPP	PPP	20 47 43.6	-55
KSH				*e*SCP		20 50 30.5	
KSH				*e*PCS		20 50 40.0	
KSH				*e*S	**S**	**20 52 55.6**	**-4.2**
KSH				*e*PS	PS	20 53 17.4	+6.6
KSH				*e*XS		20 53 28.1	
KSH				*e*SCS	ScS	20 55 12.0	-6.6
KSH				*e*SS	SS	20 56 36.0	-2.1
KSH				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
KSH				LR	LR		
	comp=N,510nm,10.5s						
KSH				LR	LR		
	comp=E,450nm,6.8s						
MA2	**Magadan**	**53.20**	**16**	*e*P	**P**	**20 45 32.8**	**-0.8**
MA2				*e*		20 46 41.3	
MA2				*e*S	**S**	**20 52 52.7**	**-10**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KZA	**Kyzart**	**54.38**	**315**	P	**P**	**20 45 43.7**	**+1.3**
	SNR=5.7						
TKM2	**Tokmak 2**	**54.45**	**316**	P	**P**	**20 45 42.9**	**-0.1**
	SNR=11						
KBK	**Karagaybulak**	**54.79**	**316**	P	**P**	**20 45 46.1**	**+0.6**
	SNR=9.6						
UCH	**Uchtor**	**54.94**	**315**	P	**P**	**20 45 47.5**	**+0.9**
	SNR=12						
CHMS	**Chumysh**	**55.05**	**316**	P	**P**	**20 45 46.4**	**-1.0**
	SNR=9.8						
FRU	**Bishkek**	**55.09**	**316**	*e*P	**P**	**20 45 47.0**	**-0.7**
USP	**Ospenovka**	**55.32**	**316**	P	**P**	**20 45 48.9**	**-0.5**
	SNR=12						
AML	**Almayashu**	**55.48**	**315**	P	**P**	**20 45 51.0**	**+0.5**
	SNR=28						
EKS2	**Erkin-Say**	**55.60**	**315**	P	**P**	**20 45 51.5**	**+0.1**
	SNR=22						
NVS	**Novosibirsk**	**55.94**	**332**	*e*P	**P**	**20 45 51.2**	**-2.4**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
KURK	**Kurchatov**	**56.01**	**326**	*i* P	**P**	**20 45 52.7**	**-1.5**
KURK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
KURK	**Kurchatov**	**56.01**	**326**	*e*P	**P**	**20 45 53.1**	**-1.1**
	comp=Z,30nm,0.9s,mb5.3						
KKAR	**Karatay Array**	**58.01**	**315**	*i* P	**P**	**20 46 07.5**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
BRVK	**Borovoye**	**61.67**	**326**	P	**P**	**20 46 31.9**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**61.67**	**326**	*e*P	**P**	**20 46 31.9**	**-1.7**
	comp=Z,7.3nm,0.7s,mb4.9						
TIXI	**Tiksi**	**61.84**	**1**	*e*P	**P**	**20 46 33.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,122nm,19.0s,MS4.1						
AB31	**Akbulak array**	**66.71**	**320**	*i* P	**P**	**20 47 05.0**	**-1.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**69.18**	**327**	⇑*i*P	**P**	**20 47 20.4**	**-1.4**
ARU				*i*		20 47 37.7	
ARU				*e*		20 47 42.7	
ARU				*e*PPP	PPP	20 51 29.5	-5.8
ARU				*e*S	S	20 56 18.2	-8.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ARU	**Arti**	**69.18**	**327**	*e*P	**P**	**20 47 19.5**	**-2.3**
	comp=Z,17nm,0.9s,mb5.0						
CASY	**Casey**	**76.66**	**186**	*e*P	**P**	**20 48 04.4**	**-1.2**
	comp=Z,17nm,0.9s,mb5.0						
RAYN	**Ar Rayn**	**77.00**	**292**	P	**P**	**20 48 08.6**	**+0.2**
	comp=Z,94nm,0.8s,mb5.8,SNR=9.1						
MZLS	**Mizel**	**77.23**	**292**	P	**P**	**20 48 09.6**	**0.0**
GOF	**Gofitskoye**	**77.80**	**314**	*e*P	**P**	**20 48 06.0**	**-6.3**
ARSS	**Ar Rass**	**78.84**	**295**	P	**P**	**20 48 18.4**	**0.0**
TATS	**Tathlith**	**79.29**	**288**	P	**P**	**20 48 21.4**	**+0.4**
DJNS	**Zahran al Janu**	**79.44**	**286**	P	**P**	**20 48 22.9**	**+1.0**
HILS	**Ha'il**	**79.98**	**296**	P	**P**	**20 48 24.9**	**+0.3**
ILAR	**Eielson Array**	**80.21**	**26**	P	**P**	**20 48 25.1**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=244,slow=6.3,SNR=17						
ILAR				LR	LR	21 21 43.4	
	comp=Z,88nm,20.5s,MS4.1,baz=259,slow=34						
ILAR	**Eielson Array**	**80.21**	**26**	P	**P**	**20 48 25.1**	**0.0**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,89nm,20.5s						
BLJS	**Baljurashi**	**81.00**	**289**	P	**P**	**20 48 31.3**	**+1.1**
ELZG	**Elazig**	**81.23**	**308**	*i* P	**P**	**20 48 31.9**	**+0.9**
OBN	**Obninsk**	**81.41**	**324**	*d i*P	**P**	**20 48 30.0**	**-1.6**
OBN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
OBN	**Obninsk**	**81.41**	**324**	*e*P	**P**	**20 48 29.8**	**-1.7**
	comp=Z,24nm,0.8s,mb5.2						
ANN	**Anapa**	**81.78**	**314**	*e*P	**P**	**20 48 32.4**	**-1.3**
ANN				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.4						
KBRS	**Khaybar**	**82.41**	**295**	P	**P**	**20 48 39.1**	**+1.7**
GZT	**Gaziantep**	**82.47**	**307**	*i* P	**P**	**20 48 38.4**	**+0.9**
DAWY	**Dawson**	**83.52**	**26**	*e*P	**P**	**20 48 43.0**	**+0.8**
ASF	**Jabal al Asfar**	**83.65**	**301**	LR	LR	21 33 28.6	
	comp=Z,74nm,21.2s,MS4.0,baz=312,slow=41						
KEV	**Kevo**	**83.80**	**340**	*e*p	**P**	**20 48 40.6**	**-3.0**
	comp=Z,0.4nm,0.4s,mb3.9						
BOYT	**Boyabat**	**84.02**	**311**	*i* P	**P**	**20 48 44.8**	**-0.5**
SIM	**Simferopol'**	**84.11**	**314**	*d i*P	**P**	**20 48 44.9**	**-0.8**
SIM				*e*		20 51 54.0	
SIM				pmax	pmax		
	comp=Z,20nm,14.3s						
SIM				MLR	MLR		
	comp=Z,210nm,20.9s,MS4.5						
CTKT	**Corum**	**84.21**	**310**	*i* P	**P**	**20 48 46.6**	**+0.3**
UMJS	**Umm Lajj**	**84.23**	**295**	P	**P**	**20 48 48.2**	**+1.4**
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**20 48 45.8**	**-0.6**
	comp=Z,9.9nm,0.9s,mb4.9,baz=79,slow=6.2,SNR=20						
ARCES				LR	LR	21 32 22.2	
	comp=Z,145nm,19.1s,MS4.4,baz=357,slow=40						
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**20 48 45.8**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,145nm,19.1s						
AVNT	**Avonos**	**84.41**	**308**	*i* P	**P**	**20 48 38.4**	**-9.0**
TBKS	**Tabuk**	**84.48**	**298**	P	**P**	**20 48 49.0**	**+1.0**
JMQS	**Jabal Moqyreh**	**84.97**	**298**	P	**P**	**20 48 51.2**	**+0.8**
INK	**Inuvik**	**85.02**	**21**	P	**P**	**20 48 50.3**	**+0.6**
	comp=Z,11nm,0.9s,mb5.0,baz=288,slow=5.0,SNR=20						
INK	**Inuvik**	**85.02**	**21**	P	**P**	**20 48 50.3**	**+0.6**
INK				pmax	pmax		
	comp=Z,11nm,0.9s						
INK	**Inuvik**	**85.02**	**21**	*e*P	**P**	**20 48 50.0**	**+0.4**
	comp=Z,17nm,1.0s,mb5.1						
BALT	**Daday**	**85.13**	**311**	*i* P	**P**	**20 48 50.8**	**-0.1**
JMOS	**Jabal al Moall**	**85.60**	**299**	P	**P**	**20 48 54.3**	**+0.8**
AYUS	**'Aynunah**	**85.61**	**298**	P	**P**	**20 48 54.1**	**+0.5**
KAF	**Kangasniemi**	**85.67**	**332**	*e*p	**P**	**20 48 50.2**	**-2.9**
	comp=Z,0.6nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**85.67**	**332**	*e*P	**P**	**20 48 50.2**	**-2.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
HAQS	**Haql**	**85.77**	**299**	P	**P**	**20 48 55.2**	**+0.8**
FINES	**FINESS Array B**	**85.93**	**332**	P	**P**	**20 48 53.6**	**-0.7**
	comp=Z,9.9nm,0.6s,mb5.2,baz=74,slow=5.4,SNR=62						
FINES				LR	LR	21 31 57.2	
	comp=Z,118nm,18.5s,MS4.3,baz=81,slow=39						
FINES	**FINESS Array B**	**85.93**	**332**	P	**P**	**20 48 53.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,118nm,18.5s						
AKASG	**Malin Array Be**	**86.42**	**321**	P	**P**	**20 48 56.0**	**-1.1**
	comp=Z,15nm,0.9s,mb5.2,baz=62,slow=4.3,SNR=37						
AKASG				LR	LR	21 32 13.6	
	comp=Z,84nm,19.4s,MS4.2,baz=55,slow=39						
AKASG	**Malin Array Be**	**86.42**	**321**	P	**P**	**20 48 56.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,15nm,0.9s						
AKASG				MLR	MLR		
	comp=Z,84nm,19.4s						
KMBO	**Kilima Mbogo**	**88.42**	**269**	P	**P**	**20 49 08.1**	**+0.5**
	comp=Z,2.8nm,1.0s,mb4.5,baz=47,slow=13,SNR=5.8						
KMBO	**Kilima Mbogo**	**88.42**	**269**	*e*P	**P**	**20 49 08.0**	**+0.4**
	comp=Z,8.5nm,1.2s,mb4.8						
MAW	**Mawson**	**88.98**	**200**	P	**P**	**20 49 10.2**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.4,baz=28,slow=6.9,SNR=3.1						
MAW				LR	LR	21 23 13.2	
	comp=Z,76nm,20.3s,MS4.1,baz=241,slow=32						
MAW	**Mawson**	**88.98**	**200**	P	**P**	**20 49 10.2**	**+1.2**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,76nm,20.3s						
DLBC	**Dease Lake**	**89.21**	**31**	P	**P**	**20 49 13.2**	**+2.8**
	comp=Z,1.4nm,0.7s,mb4.4,baz=310,slow=8.6,SNR=4.6						
SUW	**Suwalki**	**89.27**	**325**	*e*P	**P**	**20 49 09.6**	**-1.1**
VNDA	**Vanda**	**89.56**	**173**	P	**P**	**20 49 12.1**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.8,baz=316,slow=5.2,SNR=9.2						
VNDA	**Vanda**	**89.56**	**173**	P	**P**	**20 49 12.1**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**89.56**	**173**	P	**P**	**20 49 12.1**	**+0.4**
KWP	**Kalwaria**	**90.75**	**321**	*e*P	**P**	**20 49 17.2**	**-0.5**
OJC	**Ojcow**	**92.37**	**322**	*e*P	**P**	**20 49 24.5**	**-0.6**
NB2	**NORSAR Subarra**	**92.83**	**334**	P	**P**	**20 49 25.0**	**-1.9**
	comp=Z,3.6nm,0.7s,mb4.9,baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**92.83**	**334**	P	**P**	**20 49 25.0**	**-1.9**
	baz=66,slow=4.6						
NOA	**NORSAR Array B**	**92.83**	**334**	P	**P**	**20 49 25.4**	**-1.6**
	comp=Z,3.4nm,0.7s,mb4.9,baz=65,slow=4.5,SNR=18						
NOA				LR	LR	21 34 09.2	
	comp=Z,199nm,21.2s,MS4.5,baz=45,slow=38						
NOA	**NORSAR Array B**	**92.83**	**334**	P	**P**	**20 49 25.4**	**-1.5**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,199nm,21.2s						
YKA	**Yellowknife Ar**	**94.51**	**24**	P	**P**	**20 49 35.5**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.5,baz=300,slow=4.7,SNR=6.7						
YKA				LR	LR	21 35 11.9	
	comp=Z,44nm,19.3s,MS3.9,baz=310,slow=37						
YKA	**Yellowknife Ar**	**94.51**	**24**	P	**P**	**20 49 35.5**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,44nm,19.3s						
YKA	**Yellowknife Ar**	**94.51**	**24**	P	**P**	**20 49 35.5**	**+0.8**
YKA				LR	LR	21 35 11.9	
BRG	**Berggiesshubel**	**95.64**	**324**	*e*P	**P**	**20 49 39.6**	**-0.5**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
BRG	**Berggiesshubel**	**95.64**	**324**	*e*P	**P**	**20 49 39.6**	**-0.5**
	comp=Z,2.8nm,1.0s,mb4.7						
KHC	**Kasperske Hory**	**96.53**	**322**	*e*P	**P**	**20 49 44.0**	**-0.2**
GERES	**GERESS Array B**	**96.57**	**322**	P	**P**	**20 49 44.1**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.6,baz=56,slow=4.8,SNR=17						
GERES	**GERESS Array B**	**96.57**	**322**	P	**P**	**20 49 44.1**	**-0.3**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SYO	**Syowa Base**	**97.59**	**201**	⇑P	**P**	**20 49 37.8**	**-11**
SYO	**Syowa Base**	**97.59**	**201**	⇑P	**P**	**20 49 46.1**	**-2.4**
SYO	**Syowa Base**	**97.59**	**201**	⇓PcP	PcP	20 49 48.2	-0.7
SYO	**Syowa Base**	**97.59**	**201**	⇑pP	pP	20 50 09.3	+18
SYO	**Syowa Base**	**97.59**	**201**	⇑sP	sP	20 50 16.3	+24
GRA1	**Grafenberg Arr**	**97.71**	**323**	P	**P**	**20 49 49.2**	**-0.3**
GRF	**Grafenberg Arr**	**97.71**	**323**	*e*P	**P**	**20 49 49.2**	**-0.3**
TXAR	**Lajitas Array**	**118.74**	**49**	PKP	PKPdf	20 55 03.8	-1.5
	comp=Z,1.4nm,1.2s,baz=315,slow=1.8,SNR=3.9						
NCB	**Newcomb**	**123.58**	**17**	*e*Pdif	Pdif	20 51 42.6	-1.5
NCB				*e*PKPdf	PKPdf	20 55 11.9	-2.4
PLCA	**Paso Flores**	**146.08**	**158**	PKPbc	PKPbc	20 55 55.7	+1.8
	comp=Z,5.5nm,0.8s,baz=219,slow=5.0,SNR=14						
PLCA	**Paso Flores**	**146.08**	**158**	PKP2	PKPab	20 55 55.7	-0.7
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLCA	**Paso Flores**	**146.08**	**158**	PKPbc	PKPbc	20 55 55.7	+1.8
TRQA	**Tornquist**	**151.08**	**168**	*e*PKPbc	PKPdf	20 56 07.8	+3.9
CPUP	**Villa Florida**	**163.34**	**171**	PKPab	PKPab	20 57 10.8	+1.2
	comp=Z,2.4nm,0.9s,baz=259,slow=4.0,SNR=5.0						
LPAZ	**La Paz**	**165.28**	**117**	PKP	PKPdf	20 56 22.7	+1.2
	comp=Z,0.6nm,0.5s,baz=352,slow=0.5,SNR=7.5						
LPAZ				PKPab	PKPab	20 57 19.9	+1.7
	comp=Z,0.5nm,0.3s,baz=235,slow=3.6,SNR=2.5						
LPAZ	**La Paz**	**165.28**	**117**	PKIKP	PKPdf	20 56 22.7	+1.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**165.28**	**117**	PKP	PKPdf	20 56 22.7	+1.2
LPAZ				PKPab	PKPab	20 57 19.9	+1.7

NIED ***09*** *20:58:00, 23.80N×126.60E, h11^{km}, Mw4.1 Best double couple: $M_0 1.35\times10^{15}$ NP1: $\phi_s 292°, \delta 66°, \lambda -85°$. NP2: $\phi_s 100°, \delta 24°, \lambda -101°$.*
JMA ***09*** *20:58:16.0±0.5, 23.83N×126.56E, h6^{km}, M3.5*
ISC 09 20:58:16.3±3.5**, 23.9N**±0.1×**126.5E**±0.2**, h1**^{km}±35^{km}**, n6, σ0^{s}43**/8**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.37**	**312**	P	**Pb**	**20 58 42.3**	**-0.1**
JOGS				*e*S	**Sb**	**20 59 00.8**	**+0.5**
JMJ	**Miyako jima 2**	**1.48**	**311**	*e*S	**Sb**	**20 59 03.2**	**-0.4**
JTJ	**Tarama**	**1.85**	**296**	P	**Pn**	**20 58 48.9**	**-0.5**
JTJ				*e*S	**Sn**	**20 59 13.6**	**-0.1**
JIJ	**Ishigaki jima**	**2.25**	**284**	P	**Pn**	**20 58 55.2**	**+0.2**
JKRS	**Kuro-shima**	**2.34**	**280**	P	**Pn**	**20 58 56.7**	**+0.3**
JKE	**Kume jima 2**	**2.48**	**5**	P	**Pn**	**20 58 58.4**	**+0.1**

STR ***09*** *21:01:56.2±0.0, 46.01N×6.71E, h2^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***09*** *21:01:56.3±0.1, 46.01N×6.72E, h2^{km}, Md2.0/2, Ml2.0/12, Error ellipse: s-maj=3.0km s-min=1.5km az=83.0*
ZUR ***09*** *21:01:56.3, 46.03N×6.75E, h6^{km}, ML1.3/3*
ISC 09 21:01:54.9±0.3**, 46.04N**±0.02×**6.60E**±0.03**, h4**^{km}±6^{km}**, n21, σ1^{s}08**/36**, 3C, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.21**	**82**	⇑*i*Pg	**Pg**	**21 01 59.1**	**0.0**
	5.7nm,0.5s						
EMV				*i* Sg	**Sg**	**21 02 01.0**	**-0.9**
	5.7nm,0.5s						
SALAN	**Lac Salanfe**	**0.28**	**67**	⇑*i*Pg	**Pg**	**21 02 00.5**	**0.0**
SALAN				*e*Sg	**Sg**	**21 02 03.7**	**-0.6**
OG01	**Vacheresse**	**0.30**	**11**	Pg	**Pg**	**21 02 02.7**	**+1.8**
OG01				Sg	**Sg**	**21 02 07.1**	**+2.2**
RSL	**Roselend**	**0.35**	**177**	Pg	**Pg**	**21 02 03.2**	**+1.3**
RSL				Sg	**Sg**	**21 02 07.4**	**+0.9**
GRYON	**Gryon**	**0.41**	**59**	⇑*i*Pg	**Pg**	**21 02 03.1**	**-0.1**
LPL	**La Plagne**	**0.53**	**170**	*e*Pg	**Pg**	**21 02 06.0**	**+0.6**
LPL				*e*Sg	**Sg**	**21 02 11.9**	**-0.6**
	3.0nm,0.2s						
LPG	**La Plagne**	**0.55**	**169**	*e*Pg	**Pg**	**21 02 06.8**	**+1.0**
LPG				*e*Sg	**Sg**	**21 02 13.8**	**+0.6**
	3.8nm,0.2s						
DIX	**Grande Dixence**	**0.57**	**85**	*e*Pg	**Pg**	**21 02 05.8**	**-0.4**
	0.3nm,0.2s						
SENIN	**Lac Senin**	**0.58**	**56**	*e*Pg	**Pg**	**21 02 06.3**	**-0.3**
SENIN				*e*Sg	**Sg**	**21 02 13.7**	**-0.7**
CABF	**La Chapelle**	**0.68**	**328**	*e*Pg	**Pg**	**21 02 10.4**	**+2.0**
CABF				*e*Pn	**Pn**	**21 02 12.9**	**+2.0**
CABF				*e*Sg	**Sg**	**21 02 20.9**	**+3.5**
	1.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.23**	**205**	*e*Pg	**Pg**	**21 02 19.5**	**+0.1**
ORIF				*e*Sg	**Sg**	**21 02 35.3**	**-0.5**
	2.6nm,0.2s						
MBDF	**Montbardon**	**1.31**	**175**	*e*Pg	**Pg**	**21 02 20.0**	**-1.1**
	0.7nm,0.2s						
MBDF				*e*Sn	**Sn**	**21 02 37.1**	**-1.1**
	69nm,2.2s						
HINF	**Hinteralfeld**	**1.79**	**5**	*e*Pn	**Pn**	**21 02 26.8**	**-0.1**
HINF				*e*Sg	**Sg**	**21 02 53.1**	**-1.4**
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**1.80**	**230**	*e*Pg	**Pg**	**21 02 31.3**	**+0.5**
VIVF				*e*Sg	**Sg**	**21 02 55.2**	**+0.4**
	1.3nm,0.2s						
HAU	**Haudompre**	**1.98**	**355**	*e*Sg	**Sg**	**21 02 58.9**	**-1.9**
	1.4nm,0.2s						
SMF	**Signal de Mont**	**2.01**	**289**	*e*Pn	**Pn**	**21 02 30.6**	**+0.6**
SMF				*e*Sg	**Sg**	**21 03 01.7**	**0.0**
	2.0nm,0.2s						
LOR	**Lormes**	**2.26**	**304**	*e*Sg	**Sg**	**21 03 08.9**	**-1.1**
	1.0nm,0.3s						
AVF	**Avril sur Loir**	**2.37**	**290**	*e*Sg	**Sg**	**21 03 12.4**	**-1.4**
	0.8nm,0.3s						
BGF	**Bois d'Agland**	**2.66**	**283**	*e*Pn	**Pn**	**21 02 40.5**	**+1.3**
LASF	**Ste Croix**	**2.76**	**226**	*e*Pn	**Pn**	**21 02 39.8**	**-0.9**
LASF				*e*Sg	**Sg**	**21 03 25.1**	**-1.7**
	0.6nm,0.2s						
HYF	**Humbligny**	**2.99**	**296**	*e*Sg	**Sg**	**21 03 33.8**	**-0.8**
	50nm,0.3s						

PGC ***09*** *21:10:39.0, 67.46N×142.05W, h1^{km}, ML3.5/2, Eastern Alaska.*
NEIC 09 21:10:38.0, 67.49N×142.54W, h18^{km}**, ML3.5**(AEIC)**, After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**0.80**	**266**	P	Pb	21 10 53.2	+0.2
BM3				S	Sb	21 11 04.9	+1.5
FYU	**Fort Yukon**	**1.41**	**230**	P	Pn	21 11 03.3	+0.3
FYU				S	Sb	21 11 22.7	+1.7
PRP	**Porcupine Dome**	**2.32**	**212**	P	Pn	21 11 15.8	-0.1
PRP				S	Sn	21 11 44.5	+0.4
COLD	**Coldfoot**	**2.98**	**268**	P	Pn	21 11 24.9	-0.4
IL1	**Eielson Array**	**3.25**	**215**	P	Pn	21 11 28.6	-0.7
COLA	**College**	**3.40**	**222**	P	Pn	21 11 31.8	+0.4
INK	**Inuvik**	**3.51**	**72**	Pn	Pn	21 11 31.8	-1.1
INK				Sn	Sn	21 12 10.9	-3.4
INK				Sg	Sn	21 12 22.3	+8.0
INK				Trac		21 12 30.9	
	comp=Z,38nm,0.5s						
INK	**Inuvik**	**3.51**	**72**	*e*P	Pn	21 11 31.7	-1.2
CCB	**Clear Creek Bu**	**3.57**	**219**	P	Pn	21 11 32.9	-1.0
DAWY	**Dawson**	**3.68**	**158**	Pn	Pn	21 11 34.8	-0.5
DAWY				Sn	Sn	21 12 18.6	0.0
DAWY				Sg	Sn	21 12 29.8	+11
DAWY				Trac		21 12 45.1	
	comp=Z,82nm,0.8s						
DAWY	**Dawson**	**3.68**	**158**	P	Pn	21 11 35.3	-0.1
NEA	**Nenana**	**3.96**	**225**	P	Pn	21 11 37.8	-1.5
MLY	**Manley**	**4.13**	**237**	P	Pn	21 11 40.0	-1.8
BCA3	**Beaver Creek A**	**4.46**	**176**	P	Pn	21 11 46.0	-0.4
IMA	**Indian Mountai**	**4.64**	**257**	*e*P	Pn	21 11 48.8	-0.1
IM3	**Indian Mountai**	**4.70**	**256**	P	Pn	21 11 47.6	-2.1
PAX	**Paxson**	**4.71**	**197**	P	Pn	21 11 49.5	-0.4
TRF	**Thorofare Moun**	**5.18**	**222**	P	Pn	21 11 55.5	-1.2
PMR	**Palmer**	**6.57**	**209**	*e*P	Pn	21 12 10.8	-5.4
WHY	**Whitehorse**	**7.63**	**150**	Trac		21 14 57.0	
	comp=Z,7.0nm,0.9s						
WHY	**Whitehorse**	**7.63**	**150**	Sg	Sn	21 14 33.8	+36
SLKM	**Skilak Lake**	**7.78**	**209**	*e*P	Pn	21 12 29.1	-4.0
DLBC	**Dease Lake**	**10.69**	**142**	Trac		21 16 22.0	
	comp=Z,4.0nm,0.8s						
DLBC	**Dease Lake**	**10.69**	**142**	Sg	S	21 16 11.0	+58
YKW3	**Yellowknife Ar**	**12.71**	**100**	Pn	P	21 13 35.8	-4.7
YKW3				Sn	S	21 15 46.5	-16

PGC ***09*** *21:15:44.7, 67.47N×142.30W, h10^{km}, ML3.6/2, Eastern Alaska.*
NEIC 09 21:15:43.6, 67.47N×142.37W, h9^{km}**, ML3.5**(AEIC)**, After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**0.86**	**268**	P	Pb	21 15 59.7	-0.6
BM3				S	Sb	21 16 12.9	+1.2
FYU	**Fort Yukon**	**1.44**	**232**	P	Pn	21 16 10.0	+0.1
FYU				S	Sb	21 16 29.2	+0.6

PRP	**Porcupine Dome**	2.33	214	P	Pn	21 16 23.4	+0.7
COLD	**Coldfoot**	3.04	269	P	Pn	21 16 31.8	-1.0
IL1	**Eielson Array**	3.27	216	P	Pn	21 16 35.2	-0.9
COLA	**College**	3.43	223	P	Pn	21 16 38.9	+0.6
INK	**Inuvik**	3.45	72	Pn	Pn	21 16 38.1	-0.5
INK				Sn	Sn	21 17 16.6	-3.5
INK				Sg	Sg	21 17 31.0	-7.5
INK				Trac		21 17 37.3	
	comp=Z,50nm,0.5s						
INK	**Inuvik**	3.45	72	eP	Pn	21 16 38.2	-0.4
CCB	**Clear Creek Bu**	3.60	221	P	Pn	21 16 39.2	-1.4
DAWY	**Dawson**	3.63	159	Pn	Pn	21 16 39.6	-1.6
DAWY				Sg	Sg	21 17 37.6	-6.9
DAWY				Trac		21 17 45.0	
	comp=Z,60nm,0.5s						
DAWY	**Dawson**	3.63	159	P	Pn	21 16 42.0	+0.8
BCA3	**Beaver Creek A**	4.43	177	P	Pn	21 16 53.1	+0.6
IM3	**Indian Mountai**	4.75	257	P	Pn	21 16 54.9	-2.3
WHY	**Whitehorse**	7.58	151	Pn	Pn	21 17 35.1	-1.8
WHY				Sg	Sg	21 19 40.2	-16
WHY				Trac		21 20 03.3	
	comp=Z,10.0nm,1.0s						
DLBC	**Dease Lake**	10.64	142	Trac		21 21 44.5	
	comp=Z,6.0nm,0.8s						
DLBC	**Dease Lake**	10.64	142	Sg	S	21 21 13.9	+55
YKW3	**Yellowknife Ar**	12.64	100	Pn	P	21 18 43.8	-2.4
YKW3				Pn	P	21 18 44.1	-2.0

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*IDC **09** 21:18:29.9±1.3, 42.88N×48.37E, mb3.6/4, mb1 3.7/6, mb1mx3.4/18, Error ellipse: s-maj=30.2km s-min=11.7km az=127.0*
*MOS **09** 21:18:33.2±2.9, 42.58N×48.30E, h47^{km}, mb3.7/3, Error ellipse: s-maj=13.9km s-min=12.5km az=78.0*
*NNC **09** 21:18:46.0±6.9, 42.84N×49.38E, h192^{km}±34^{km}, Error ellipse: s-maj=57.0km s-min=43.4km az=133.0*
ISC 09 21:18:31.2±0.7, **42.71N**±0.05×**48.69E**±0.06, **h41**^{km}±14^{km}, **n23**, σ**1$\overset{s}{.}$03**/36, **mb3.4**/4, **6C-4D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNSR	**Manas**	0.72	270	eP	P	21 18 48.0	+3.1
MNSR				iS	S	21 18 55.0	+0.1
MAK	**Makhachkala**	0.91	287	eP	P	21 18 47.4	-0.2
MAK				i		21 18 58.0	
MAK				pmax	pmax		
	comp=Z,320nm,0.2s						
MAK				smax			
	comp=N,2μm,0.4s						
MAK				smax			
	comp=E,3μm,0.4s						
URKR	**Urkarakh**	0.95	236	⇑iP	P	21 18 41.0	-7.2
URKR				eS	S	21 18 51.0	-10
BUJR	**Buynaksk**	1.17	276	⇑iP	P	21 18 51.4	+0.1
BUJR				iS	S	21 19 05.9	-0.5
BUJR				pmax	pmax		
	comp=Z,217nm,0.2s						
KSMR	**Kasumkent**	1.18	201	⇓iP	P	21 18 50.8	-0.6
KSMR				eS	S	21 19 06.3	-0.3
KSMR				pmax	pmax		
	comp=Z,993nm,0.3s						
KMKR	**Kumukh**	1.31	245	⇑iP	P	21 18 49.5	-4.0
KMKR				iS	S	21 19 05.0	-5.0
KMKR				pmax	pmax		
	comp=Z,641nm,0.2s						
DBC	**Dubki**	1.40	284	iP	P	21 18 54.5	-0.3
DBC				iS	S	21 19 11.0	-1.3
DBC				pmax	pmax		
	comp=Z,174nm,0.2s						
AKT	**Akhty**	1.42	211	⇓iP	P	21 18 55.0	0.0
AKT				iS	S	21 19 12.0	-0.6
AKT				pmax	pmax		
	comp=Z,268nm,0.2s						
XNZR	**Khunzakh**	1.47	264	eP	P	21 18 56.5	+0.7
XNZR				eS	S	21 19 14.0	0.0
XNZR				pmax	pmax		
	comp=Z,98nm,0.2s						
GNI	**Garni**	3.92	231	Pn	P	21 19 33.1	+2.6
	comp=Z,2.0nm,0.3s,baz=256,slow=1.9,SNR=7.7						
GNI				Sn	S	21 20 19.6	+3.9
	comp=Z,2.1nm,0.3s,baz=21,slow=16,SNR=2.0						
GNI				Lg		21 20 31.8	
	comp=Z,3.1nm,0.3s,baz=9.9,slow=17,SNR=3.7						
AB31	**Akbulak array**	10.20	46	P	P	21 20 59.1	+1.1
	comp=Z,0.6nm,0.3s,baz=244,slow=12,SNR=49						
AB31				⇑S	S	21 22 51.1	-1.1
	comp=Z,0.8nm,0.3s,baz=236,slow=23,SNR=7.1						
KK31	**Karatay Array**	15.99	81	⇑P	P	21 22 13.3	-1.3
	comp=Z,0.3nm,0.4s,baz=281,slow=14,SNR=7.7						
KK31				⇑S	S	21 25 06.4	-4.0
	comp=Z,1.8nm,1.0s						
ZRNK	**Zerenda**	17.00	46	⇓P	P	21 22 27.3	+0.1
	comp=Z,3.0nm,1.6s						
ZRNK				⇓S	S	21 25 29.0	-4.5
	comp=Z,0.6nm,0.5s						
BVA0	**Borovoye Array**	17.78	47	P	P	21 22 38.1	+1.2
	comp=Z,0.2nm,0.7s,baz=285,slow=31,SNR=9.5						
BVA0				S	S	21 25 49.8	-1.3
	comp=Z,0.1nm,0.6s,baz=240,slow=27,SNR=3.8						
BVAR	**Borovoye Array**	17.78	47	P	P	21 22 38.7	+1.8
	comp=Z,0.2nm,0.3s,baz=243,slow=13,SNR=9.0						
FINES	**FINESS Array B**	23.13	332	P	P	21 23 34.9	+0.8
	comp=Z,0.7nm,0.3s,mb3.6,baz=139,slow=10,SNR=20						
FINES	**FINESS Array B**	23.13	332	P	P	21 23 34.9	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	24.10	69	P	P	21 23 48.9	+5.2
	comp=Z,0.7nm,0.8s,mb3.1,baz=264,slow=8.5,SNR=5.8						
MKAR	**Makanchi Array**	24.10	69	P	P	21 23 48.9	+5.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	28.95	322	P	P	21 24 27.5	-0.9
	comp=Z,0.2nm,0.3s,mb3.3,baz=116,slow=8.6						
NOA	**NORSAR Array B**	28.95	322	P	P	21 24 27.4	-1.0
	comp=Z,0.3nm,0.6s,mb3.2,baz=92,slow=5.2,SNR=2.6						
ARCES	**ARCESS Array B**	29.44	344	P	P	21 24 33.1	+0.5
	comp=Z,0.6nm,0.6s,mb3.5,baz=140,slow=9.5,SNR=11						
ARCES	**ARCESS Array B**	29.44	344	P	P	21 24 33.1	+0.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NEIC 09 21:44:39.5, 51.82N×166.39W, h46^{km}**, ML3.0**(AEIC), **After AEIC., South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	1.91	308	P	P	21 45 07.8	-2.4
NIKO				S	S	21 45 30.2	-2.7
OKER	**East Rim**	1.93	329	P	P	21 45 09.3	-1.1
UNV	**Unalaska Valle**	2.04	358	P	P	21 45 10.1	-1.8
UNV				S	S	21 45 35.1	-1.1
MNAT	**Makushin Natee**	2.08	355	P	P	21 45 11.3	-1.3
MSW	**Makushin Switc**	2.12	354	P	P	21 45 11.6	-1.5
MCIR	**Makushin Cirqu**	2.16	352	P	P	21 45 13.1	-0.7
MTBL	**Makushin Table**	2.17	355	P	P	21 45 12.7	-1.1
AHB	**Akutan Harbor**	2.33	8	P	P	21 45 14.3	-1.8
AKLV	**Akutan Long Va**	2.37	6	P	P	21 45 14.9	-1.8
FALS	**False Pass**	3.53	29	P	P	21 45 31.1	-2.1
DRIA	**Deer Island**	4.01	36	P	P	21 45 37.3	-2.6
HAG	**Hague Volcano**	4.41	36	P	P	21 45 43.5	-2.2
ATKA	**Atka Island**	4.84	278	P	P	21 45 48.8	-2.9
GSTD	**Great Sitkin T**	6.04	276	P	P	21 46 05.5	-3.0
DAWY	**Dawson**	18.68	39	P	P	21 48 57.9	+2.1
DLBC	**Dease Lake**	21.61	58	eP	P	21 49 23.1	-3.9
INK	**Inuvik**	22.83	31	eP	P	21 49 37.6	-1.2

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*ISK **09** 21:48:13.3, 37.06N×27.77E, h8^{km}, MD3.2*
*NEIC **09** 21:48:13.1, 36.93N×27.71E, h30^{km}, MD3.0(ATH), After ATH.*
*ATH **09** 21:48:13.1, 36.93N×27.71E, h30^{km}±1^{km}, MD3.0/4*
ISC 09 21:48:11.6±0.8, **36.91N**±0.03×**27.72E**±0.04, **h6**^{km}±5^{km}, **n15**, σ**1$\overset{s}{.}$02**/26, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.27	306	iP	Pg	21 48 17.7	+0.6
BDRM				iS	Sg	21 48 21.8	+1.0
MLSB	**Milas**	0.39	7	iPG	Pg	21 48 19.1	-0.4
MLSB				iSG	Sg	21 48 22.0	-2.7
YER	**Yerkesik**	0.51	63	iPG	Pg	21 48 21.8	0.0
YER				iSG	Sg	21 48 28.3	-0.3
NISR	**Nisiros**	0.56	238	ePN	Pn	21 48 25.0	-0.7
NISR				eSN	Sn	21 48 33.5	-1.9
AYDN	**Tasoluk**	0.76	10	iP	Pb	21 48 26.5	-0.4
AYDN				iS	Sg	21 48 36.8	-0.3
ARG	**Arkhangelos**	0.77	154	ePN	Pn	21 48 27.5	-1.2
ARG				eSN	Sn	21 48 40.5	-0.1
SMG	**Samos**	1.06	319	ePN	Pn	21 48 33.0	0.0
DNZL	**Cakiroluk**	1.32	53	iP	Pb	21 48 37.0	+0.7
DNZL				iS	Sb	21 48 55.0	+1.6
DENT	**Denizli**	1.35	51	PN	Pn	21 48 36.1	-0.9
DENT				SN	Sn	21 48 54.9	-0.5
KARP	**Karpathos**	1.43	198	ePN	Pn	21 48 39.0	+0.8
KARP				eSN	Sn	21 48 58.5	+1.0
IZM	**Izmir**	1.53	346	PN	Pn	21 48 39.4	-0.2
KDAG	**Bornova**	1.53	347	⇑iP	Pn	21 48 39.9	+0.2
KDAG				iS	Sb	21 49 01.9	+2.3
MANT	**Manisa**	1.71	23	iP	Pn	21 48 42.6	+0.4
MANT				iS	Sn	21 49 03.6	-1.1
ELL	**Elmali**	1.77	95	ePN	Pn	21 48 45.2	+2.2
AKS	**Akhisar**	1.97	2	ePN	Pn	21 48 45.6	-0.3

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*ATH **09** 22:09:16.8, 39.66N×20.70E, h37^{km}±2^{km}, MD3.2/4*
*THE **09** 22:09:18.9, 39.44N×20.69E, h10^{km}, ML3.1*
*NEIC **09** 22:09:18.9, 39.44N×20.69E, h10^{km}, MD3.2(ATH), ML3.1(THE), After THE.*
ISC 09 22:09:18.6±0.7, **39.48N**±0.05×**20.70E**±0.06, **h10**^{km}±9^{km}, **n10**, σ**1$\overset{s}{.}$00**/15, **1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	0.22	33	⇓iPB	Pb	22 09 23.2	-0.9
IGT	**Igoumenitsa**	0.29	282	ePg	Pg	22 09 24.3	-0.4
IGT				eSg	Sg	22 09 29.4	+0.7
MEV	**Metsovon**	0.51	53	ePg	Pg	22 09 28.6	-0.4
	comp=Z,24nm,0.2s						
MEV				eSg	Sg	22 09 37.5	+1.5
KEK	**Kerkira**	0.73	289	ePN	Pn	22 09 31.0	-3.8
LKD	**Levkas**	0.77	183	ePg	Pg	22 09 33.3	-0.8
EVR	**Evrytania**	1.03	123	ePN	Pn	22 09 38.0	-1.0
VLS	**Valsamata**	1.30	184	ePB	Pb	22 09 42.5	-0.2
VLS				eSN	Sn	22 10 02.5	+2.2
AGG	**Agios Georgios**	1.35	109	ePb	Pb	22 09 43.1	-0.3
AGG				eSb	Sb	22 10 04.4	+3.8
FNA	**Florina**	1.41	21	ePb	Pb	22 09 44.7	+0.2
	comp=Z,2.7nm,0.3s						
FNA				eSb	Sb	22 10 07.0	+4.7
LIT	**Litokhoron**	1.52	65	ePb	Pb	22 09 46.2	-0.1
	comp=Z,4.8nm,0.2s						

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*ATH **09** 22:15:07.5, 38.83N×20.62E, h28^{km}±6^{km}, MD3.3/4*
*THE **09** 22:15:08.6, 38.90N×20.61E, h10^{km}, ML2.9*
*NEIC **09** 22:15:08.6, 38.90N×20.61E, h10^{km}, MD3.3(ATH), ML2.9(THE), After THE.*
ISC 09 22:15:07.4±1.0, **38.89N**±0.05×**20.62E**±0.07, **h3**^{km}±8^{km}, **n13**, σ**1$\overset{s}{.}$06**/17, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	**Levkas**	0.18	173	ePg	Pg	22 15 12.3	+1.3
IGT	**Igoumenitsa**	0.68	341	ePg	Pg	22 15 20.1	-0.8
IGT				eSg	Sg	22 15 30.7	+0.6
VLS	**Valsamata**	0.71	182	ePN	Pn	22 15 20.8	-3.2
JAN	**Janina**	0.79	13	ePB	Pb	22 15 23.0	-0.4
EVR	**Evrytania**	0.93	88	ePN	Pn	22 15 25.3	-1.8
EVR				eSN	Sn	22 15 40.0	-1.1
MEV	**Metsovon**	1.01	28	ePg	Pg	22 15 26.6	-1.0
	comp=Z,7.4nm,0.2s						
KEK	**Kerkira**	1.04	323	ePN	Pn	22 15 28.8	0.0
KEK				eSN	Sn	22 15 44.5	+0.5
AGG	**Agios Georgios**	1.34	84	ePb	Pb	22 15 32.4	-0.4
	comp=Z,2.9nm,0.2s						
AGG				eSb	Sb	22 15 52.4	+2.2
LIT	**Litokhoron**	1.89	49	ePb	Pb	22 15 42.2	+0.1
	comp=Z,1.3nm,0.5s						
FNA	**Florina**	1.98	17	ePb	Pb	22 15 43.1	-0.6
GRG	**Griva**	2.48	33	ePn	Pn	22 15 50.4	+1.1
AOS	**Alonnisos**	2.55	83	ePn	Pn	22 15 51.1	+0.8
SOH	**Sokhos**	2.86	47	ePn	Pn	22 15 55.5	+0.8

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*GII **09** 22:21:04.8±0.1, 32.47N×35.36E, h12^{km}±1^{km}, ML2.1/9, Mw2.3/4*
*NSSC **09** 22:21:07.9, 32.60N×35.50E, h12^{km}±3^{km}*
ISC 09 22:21:04.6±0.4, **32.46N**±0.02×**35.37E**±0.04, **h14**^{km}±3^{km}, **n22**, σ**0$\overset{s}{.}$69**/34, **4D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMLI	**Mount Malkishu**	0.05	117	Pg	Pg	22 21 08.2	+1.0
MMLI				Sg	Sg	22 21 10.3	+1.4
HMDT	**Nahal Hemdat**	0.24	148	Pg	Pg	22 21 10.5	+0.5
SLTI	**Sal'it**	0.36	232	Pg	Pg	22 21 12.1	0.0
SLTI				Sg	Sg	22 21 17.5	+0.4
OFRI	**'Ofer**	0.36	296	Pg	Pg	22 21 12.2	0.0
AMZI	**Amatzia**	0.40	283	Pg	Pg	22 21 23.1	+10
AMZI				Sg	Sg	22 21 37.9	+19
HAF	**Haifa**	0.43	317	Pg	Pg	22 21 13.5	-0.1
TCHB	**Talchebab**	0.55	67	⇑P	Pb	22 21 16.0	+0.6
TCHB				⇑S	Sb	22 21 22.3	-0.5
KSHT	**Keshet**	0.64	35	Pg	Pg	22 21 17.4	-0.1
HNTI	**Hanita**	0.64	345	Pg	Pg	22 21 17.2	-0.4
HNTI				Sg	Sg	22 21 26.3	-0.1
KSDI	**Kefar Szold**	0.77	18	Pg	Pg	22 21 19.6	-0.5
HRI	**Mount Hermon**	0.86	21	Pg	Pg	22 21 20.8	-1.1
DRGI	**Dragot**	0.86	179	Pg	Pg	22 21 20.7	-1.3
BRBR	**Barbar**	1.07	27	⇓P	Pb	22 21 24.4	+0.1
BRBR				⇓S	Sb	22 21 38.0	0.0
MZDA	**Masada**	1.15	180	Pg	Pg	22 21 25.3	-2.3
MZDA				Sg	Sg	22 21 41.5	-1.4
QASN	**Qassioun**	1.31	35	⇓P	Pb	22 21 29.4	+0.9
QASN				⇓S	Sb	22 21 45.0	-0.1
RTMM	**Retamin**	1.52	203	Pn	Pn	22 21 31.6	0.0
RTMM				Sn	Sn	22 21 51.6	+0.4
MASH	**Mash'abbe Sade**	1.54	199	Pn	Pn	22 21 31.9	0.0
KZIT	**Kziot**	1.76	208	Pn	Pn	22 21 35.2	+0.3
ZFRI	**Zfri**	1.91	185	Pn	Pn	22 21 37.2	+0.1
PRNI	**Paran**	2.12	189	Pn	Pn	22 21 40.4	+0.2
PRNI				Sn	Sn	22 22 07.0	+0.4
KMTI	**Karmit**	2.41	193	Pn	Pn	22 21 44.7	+0.4
KMTI				Sn	Sn	22 22 14.1	+0.2
HRFI	**Mount Harif**	2.43	187	Pn	Pn	22 21 44.5	-0.1
HRFI				Sn	Sn	22 22 14.9	+0.5

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*NEIC **09** 22:26:04.7, 36.01N×0.14W, MG3.5(MDD), After MDD.*
MDD 09 22:26:04.7±2.9, **36.01N×0.14W, mb3.5**/6, **Error ellipse: s-maj=25.4km s-min=23.2km az=143.0, PRXIMO, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMUR	**La Murta**	2.03	335	Pn	Pn	22 26 38.5	-2.0
	1.5nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	22 27 04.8	-2.1
	3.5nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	2.86	337	Pn	Pn	22 26 50.2	-2.2
	4.0nm,0.3s,SNR=12						
ETOB				Sn	Sn	22 27 23.1	-4.9
	30nm,1.7s,SNR=7.9						
EQES	**Quesada**	2.95	308	Pn	Pn	22 26 51.3	-2.4
	2.3nm,0.1s,SNR=19						
EQES				Sn	Sn	22 27 26.6	-3.8
	496nm,5.4s,SNR=7.9						
EVIA	**Vianos**	3.23	325	Pn	Pn	22 26 54.9	-2.7
	11nm,1.1s,SNR=7.9						
EVIA				Sn	Sn	22 27 32.9	-4.5
	6.0nm,0.5s,SNR=7.9						
EADA	**Adamuz**	4.15	303	Pn	Pn	22 27 09.3	-1.4
	2.6nm,1.0s,SNR=7.9						
EADA				Sn	Sn	22 27 55.7	-5.0
	93nm,2.5s,SNR=7.9						
EMOS	**Mosqueruela**	4.35	357	Pn	Pn	22 27 11.7	-1.9
	11nm,1.7s,SNR=7.9						
EMOS				Sn	Sn	22 28 01.5	-4.4
	306nm,4.2s,SNR=7.9						

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*IDC **09** 22:27:02.8±1.8, 2.89S×142.30E, mb3.8/5, mb1 4.0/6, mb1mx3.9/13, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/17, Error ellipse: s-maj=64.0km s-min=21.0km az=91.0*
*NEIC **09** 22:27:05.0±0.9, 2.93S×142.07E, h10^{km}, mb4.4/2, Error ellipse: s-maj=29.1km s-min=14.4km az=102.0*
ISC 09 22:27:03.8±4.8, **2.9S**±0.1×**141.9E**±0.2, **h10**^{km}±32^{km}, **n12**, σ**1$\overset{s}{.}$05**/11, **mb3.9**/6, **MS3.5**/2, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	13.53	223	eP	P	22 30 16.5	-2.0
	7.4nm,0.4s						
KAKA				eS	S	22 32 49.7	-0.2
WB2	**Warramunga Arr**	18.47	203	eP	P	22 31 23.2	+1.5
WRA	**Warramunga Arr**	18.48	203	P	P	22 31 21.8	0.0
	0.3nm,0.3s,baz=22,slow=13,SNR=7.5						
FITZ	**Fitzroy Crossi**	21.96	225	eP	P	22 32 01.5	+1.9
	4.9nm,1.0s,mb3.9						
FITZ	**Fitzroy Crossi**	21.96	225	P	P	22 32 02.3	+2.8
	8.5nm,1.1s,mb4.1,baz=41,slow=8.0,SNR=5.6						
ASAR	**Alice Springs**	22.05	200	P	P	22 32 00.2	-0.1
	2.6nm,0.9s,mb3.6,baz=34,slow=9.7,SNR=11						
ASAR				LR	LR	22 40 58.2	
	comp=Z,85nm,19.7s,MS3.2,baz=298,slow=38						
STKA	**Stephens Creek**	28.83	181	P	P	22 33 03.3	-1.0
	2.3nm,0.8s,mb4.0,baz=37,slow=5.1,SNR=3.6						
SONM	**Songino Array**	59.29	333	P	P	22 37 07.6	-0.4
	0.1nm,0.3s,mb3.3,baz=135,slow=4.1,SNR=2.4						
MKAR	**Makanchi Array**	71.90	321	P	P	22 38 29.3	+0.2
	1.3nm,0.8s,mb3.9,baz=118,slow=7.4,SNR=10.0						
MAW	**Mawson**	83.15	202	LR	LR	23 11 38.7	
	comp=Z,49nm,21.4s,MS3.9,baz=245,slow=32						
QSPA	**South Pole Qui**	87.05	180	eP	P	22 39 50.2	0.0
	8.1nm,1.2s,mb4.8						
LPAZ	**La Paz**	144.73	124	PKP	PKPdf	22 46 42.8	-2.1
	1.1nm,0.5s,baz=224,slow=1.2,SNR=7.8						

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*ATH **09** 22:35:39.7, 38.91N×21.97E, h8^{km}±7^{km}, MD3.2/5*
*THE **09** 22:35:41.5, 38.89N×21.80E, h9^{km}, ML3.1*
*NEIC **09** 22:35:41.5, 38.89N×21.80E, h9^{km}, MD3.2(ATH), ML3.1(THE), After THE.*
ISC 09 22:35:40.9±0.6, **38.92N**±0.05×**21.77E**±0.05, **h10**^{km}±4^{km}, **n14**, σ**1$\overset{s}{.}$02**/17, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	0.03	93	ePG	Pg	22 35 41.8	-1.0
EVR				eSG	Sg	22 35 45.5	+1.5
AGG	**Agios Georgios**	0.45	77	ePg	Pg	22 35 49.5	-0.5
	comp=Z,33nm,0.1s						
AGG				eSg	Sg	22 35 56.9	+0.7
LKD	**Levkas**	0.90	257	ePg	Pg	22 35 58.8	-0.1
MEV	**Metsovon**	0.96	334	ePg	Pg	22 35 59.7	-0.4
	comp=Z,7.6nm,0.2s						
JAN	**Janina**	1.02	316	ePG	Pg	22 36 00.5	-0.9
VLS	**Valsamata**	1.18	232	ePB	Pb	22 36 05.2	+2.2
IGT	**Igoumenitsa**	1.27	299	ePb	Pb	22 36 05.4	+0.8
LIT	**Litokhoron**	1.31	25	ePb	Pb	22 36 05.1	0.0
	comp=Z,3.5nm,0.5s						
LIT				eSb	Sb	22 36 23.8	+2.0
AOS	**Alonnisos**	1.66	81	ePb	Pb	22 36 09.4	-1.8
KEK	**Kerkira**	1.72	298	ePG	Pg	22 36 14.5	-0.8
GRG	**Griva**	2.09	13	ePn	Pn	22 36 16.1	-0.4
OUR	**Ouranopolis**	2.22	50	ePn	Pn	22 36 17.6	-0.7
VLI	**Veliai**	2.38	157	ePN	Pn	22 36 20.5	-0.2
KNT	**Kendrikon**	2.40	21	ePn	Pn	22 36 21.1	+0.2

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*MDD **09** 22:39:12.8±1.8, 37.08N×9.58W, mb3.5/5, Error ellipse: s-maj=16.1km s-min=11.0km az=55.0, PRXIMO*
INMG 09 22:39:13.6±0.8, **37.01N×9.72W, h17**^{km}±19^{km}**, ML1.5, Error ellipse: s-maj=18.4km s-min=3.4km az=56.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	0.96	56	eP	Pb	22 39 30.8	-0.6
PTEO				eS	Sb	22 39 44.0	+0.3
PBEJ	**Beja**	1.79	55	ePn	Pn	22 39 41.8	-2.4
PBEJ				eSn	Sn	22 40 03.4	-3.3
	1.2nm,0.1s						
PBEJ	**Beja**	1.79	55	Pn	Pn	22 39 41.8	-2.4
PBEJ				Sn	Sn	22 40 03.4	-3.3
	0.6nm,0.1s						
PALC	**Alcoutim**	1.85	75	ePn	Pn	22 39 43.3	-1.7
PALC				eSn	Sn	22 40 04.7	-3.5
	2.2nm,0.2s						
PALC	**Alcoutim**	1.85	75	Pn	Pn	22 39 43.3	-1.7
PALC				Sn	Sn	22 40 04.7	-3.5
	1.1nm,0.2s						
EGRO	**El Granado**	1.86	73	Pn	Pn	22 39 43.1	-2.1
	0.6nm,0.0s,SNR=7.9						
EGRO				Sn	Sn	22 40 04.1	-4.4
	SNR=7.9						
MOE	**Montemor**	1.87	35	eSn	Sn	22 40 05.4	-3.1
PLOU	**Loures**	1.93	13	ePn	Pn	22 39 44.1	-2.0
PLOU				eSn	Sn	22 40 07.2	-3.0
	5.0nm,0.1s						
PLOU	**Loures**	1.93	13	Pn	Pn	22 39 44.1	-2.0
PLOU				Sn	Sn	22 40 07.2	-3.0
	2.5nm,0.1s						
EMIN	**Mina Concepcio**	2.55	72	Pn	Pn	22 39 52.2	-2.8
	0.2nm,0.1s,SNR=6.6						
EMIN				Sn	Sn	22 40 21.9	-3.9
	4.4nm,1.1s,SNR=7.8						
EBAD	**Badajoz**	2.77	50	Pn	Pn	22 39 54.4	-3.7
	0.9nm,0.1s,SNR=5.9						
EBAD				Sn	Sn	22 40 26.7	-4.7
	1.3nm,0.4s,SNR=8.2						
PTOM	**Tomar**	2.81	21	eSn	Sn	22 40 27.5	-4.9
ESPR	**Espera**	3.10	91	Pn	Pn	22 39 58.5	-4.4
	142nm,2.0s,SNR=7.9						
ESPR				Sn	Sn	22 40 34.5	-5.3
	4.8nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	3.34	31	eSn	Sn	22 40 40.1	-5.7
EADA	**Adamuz**	4.25	73	Pn	Pn	22 40 15.9	-3.2
	0.3nm,0.1s,SNR=6.9						
EADA				Sn	Sn	22 41 02.1	-6.8
	32nm,1.9s,SNR=5.0						

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*NEIC **09** 22:41:00.8±0.5, 4.11S×127.95E, h15^{km}, mb4.5/2, Error ellipse: s-maj=23.7km s-min=8.4km az=69.0*
*IDC **09** 22:41:07.8±6.9, 4.13S×128.00E, h70^{km}±65^{km}, mb3.9/10, mb1 3.9/12, mb1mx3.8/19, ML3.4/2, MS3.7/1, Ms1 3.6/1, ms1mx2.8/20, Error ellipse: s-maj=40.8km s-min=14.9km az=58.0*
ISC 09 22:41:01.2±0.6, **4.16S**±0.09×**128.0E**±0.2, **h33**^{km}**, n21**, σ**1$\overset{s}{.}$35**/19, **mb4.2**/11, **MS3.6**/1, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	9.54	153	eP	P	22 43 16.9	-2.5
	7.9nm,0.8s						
FITZ	**Fitzroy Crossi**	14.04	189	P	P	22 44 19.8	-0.4
	0.1nm,0.3s,baz=360,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	16.86	159	P	P	22 44 53.4	-3.0
	0.2nm,0.3s,baz=338,slow=14,SNR=5.8						
WB2	**Warramunga Arr**	16.86	159	eP	P	22 44 53.5	-3.0
ASAR	**Alice Springs**	20.21	164	P	P	22 45 36.9	+0.7
	15nm,0.7s,baz=345,slow=10,SNR=129						
ASAR				PcP	PcP	22 49 49.0	-0.5
	0.6nm,0.6s,baz=1.2,slow=1.3,SNR=5.8						
ASPA	**Alice Springs**	20.21	164	eP	P	22 45 36.8	+0.6
CTA	**Charters Tower**	23.82	133	P	P	22 46 14.5	+2.2
	1.6nm,0.6s,mb3.7,baz=342,slow=23,SNR=3.7						
CTA	**Charters Tower**	23.82	133	P	P	22 46 14.5	+2.2
NWAO	**Narrogin (SRO)**	30.33	198	P	P	22 47 13.1	+1.0
	2.8nm,0.7s,mb4.1,baz=319,slow=22,SNR=2.3						
STKA	**Stephens Creek**	30.39	157	P	P	22 47 13.1	+0.4
	3.1nm,0.7s,mb4.2,baz=285,slow=7.3,SNR=6.0						
STKA				LR	LR	23 00 19.9	
	comp=Z,132nm,20.5s,MS3.6,baz=24,slow=38						
CMAR	**Chiang Mai Arr**	36.39	309	P	P	22 48 06.8	+2.0
	1.7nm,0.8s,mb4.1,baz=129,slow=7.4,SNR=9.6						
SONM	**Songino Array**	55.14	342	P	P	22 50 32.4	-0.4
	1.6nm,1.0s,mb4.0,baz=180,slow=3.7,SNR=8.2						
URZ	**Urewera**	56.06	134	P	P	22 50 41.0	+1.5
	5.4nm,0.8s,mb4.6,baz=26,slow=8.3,SNR=2.5						
MKAR	**Makanchi Array**	64.77	327	P	P	22 51 38.5	-0.3
	2.0nm,0.6s,mb4.3,baz=128,slow=8.7,SNR=21						
KURK	**Kurchatov**	69.07	329	eP	P	22 52 05.0	-0.8
	8.7nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	74.61	328	P	P	22 52 39.0	+0.2
	0.9nm,0.7s,mb3.8,baz=120,slow=12,SNR=6.3						

ZRNK	Zerenda	75.31	328	*e*P	P	22 52 42.5	-0.4
	2.2nm,1.0s,mb4.0						
ARCES	ARCESS Array B	98.24	340	P	P	22 54 34.0	-2.0
	0.6nm,0.7s,mb4.3,baz=76,slow=5.0,SNR=4.0						
ARCES	ARCESS Array B	98.24	340	P	P	22 54 34.0	-2.0
CPUP	Villa Florida	149.25	171	PKPbc	PKPdf	23 00 48.5	+5.5
	3.1nm,1.0s,baz=115,slow=1.6,SNR=4.4						
CPUP	Villa Florida	149.25	171	PKPbc	PKPdf	23 00 48.5	+5.5

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*IDC **09** 22:50:45.7±2.2, 2.97S×142.05E, mb3.3/4, mb1 3.4/5, mb1mx3.4/13, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/9, Error ellipse: s-maj=76.9km s-min=24.5km az=98.0*

ISC 09 22:50:49.2±3.2**, 3.0S**±0.1×**141.9E**±0.7**, h33**^{km}**, n6,** σ**0**^{s}**67**/5**,** **mb3.3**/4**, MS2.9**/1**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.43	203	P	P	22 55 04.8	+0.7
	0.1nm,0.3s,baz=22,slow=13,SNR=3.9						
FITZ	Fitzroy Crossi	21.94	226	P	P	22 55 41.5	-0.2
	1.4nm,0.8s,mb3.4,baz=58,slow=15,SNR=2.9						
ASAR	Alice Springs	22.00	200	P	P	22 55 41.7	-0.6
	0.4nm,0.9s,mb2.9,baz=31,slow=10,SNR=2.7						
ASAR				LR	LR	23 04 41.0	
	comp=Z,44nm,20.5s,MS2.9,baz=100,slow=38						
SONM	Songino Array	59.36	333	P	P	23 00 50.9	+0.4
	0.3nm,0.9s,mb3.3,baz=135,slow=6.1,SNR=2.3						
MKAR	Makanchi Array	71.97	321	P	P	23 02 11.1	-0.2
	0.3nm,0.5s,mb3.5,baz=127,slow=7.2,SNR=4.4						
LPAZ	La Paz	144.66	124	PKP	PKPdf	23 10 24.9	+1.3
	0.7nm,0.9s,baz=216,slow=5.0,SNR=3.0						

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*HEL **09** 23:14:10.4±0.1, 67.82N×20.11E, ML1.8, ML2.1(UPP), ML1.7(BER), Explosion*
*NAO **09** 23:14:11.3±2.7, 67.74N×20.77E, ML2.3*
*BER **09** 23:14:11.6±7.7, 67.85N×20.26E, ML1.7, ML2.3(NAO), Suspected explosion*

ISC 09 23:14:09.0±0.5**, 67.79N**±0.03×**20.17E**±0.08**, n23,** σ**1**^{s}**02**/34**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.18	21	*i* P	Pg	23 14 13.3	+0.7
KUA				*i* S	Sg	23 14 15.4	+0.5
NIKU	Nikkaluokta	0.44	281	*i* P	Pg	23 14 17.6	-0.1
DUNU	Dundret	0.69	167	*i* P	Pg	23 14 23.5	+0.7
MASU	Masugnsbyn	0.78	115	*i* P	Pg	23 14 24.8	+0.2
KIF	Kilpisjarvi	1.24	11	*e*P	Pb	23 14 33.1	0.0
KIF				*e*S	Sb	23 14 49.0	-0.5
PAJU	Pajala	1.37	123	*e*P	Pb	23 14 35.5	+0.1
PAJU				*e*S	Sb	23 14 54.1	+0.8
ERTU	Ertsjaerv	1.47	147	*e*P	Pn	23 14 37.5	+0.7
KTK1	Kautokeino	1.67	41	*e*P	Pn	23 14 41.1	+1.3
KTK1				*e*SN	Sn	23 15 02.5	+0.3
KTK1				AML	AML	23 15 07.2	
	comp=Z,9.7nm,0.7s						
TRO	Tromso	1.91	347	*e*P	Pn	23 14 43.1	0.0
TRO				*e*SG	Sg	23 15 08.2	-4.3
TRO				AML	AML	23 15 10.5	
	comp=Z,9.4nm,0.4s						
SGF	Sodankyl	2.46	95	*e*P	Pn	23 14 52.3	+1.3
SGF				*e*S	Sn	23 15 22.5	+0.3
LOF	Lofoten	2.52	281	*e*	Sg	23 15 32.3	-0.7
LOF				AML	AML	23 15 33.9	
	comp=Z,7.3nm,0.4s						
LOF	Lofoten	2.52	281	*e*Sg	Sg	23 15 32.3	-0.7
LOF				AML	AML	23 15 33.9	
	comp=Z,7.3nm,0.4s						
ARA0	ARCESS Array S	2.62	46	*e*P	Pn	23 14 53.8	+0.4
ARA0				*e*SB	Sb	23 15 28.2	-1.4
ARA0	ARCESS Array S	2.62	46	Pn	Pn	23 14 53.8	+0.4
	baz=233,slow=14						
ARA0				Lg		23 15 28.2	
	baz=223,slow=28						
MOR8	Moi Rana	2.78	237	*e*SG	Sg	23 15 32.9	-8.6
MOR8				AML	AML	23 15 34.3	
	comp=Z,13nm,0.4s						
KEV	Kevo	3.18	48	*e*P	Pn	23 15 01.6	+0.4
KEV				*e*S	Sn	23 15 39.4	-1.0
OUL	Oulu	3.56	137	*e*PB	Pb	23 15 13.2	+0.5
OUL				*e*		23 16 05.5	
MSF	Maaselka	3.98	114	*e*S	Sn	23 15 58.8	-1.9
MSF				*e*SG	Sg	23 16 13.4	-8.1
MSF				MSG		23 16 17.5	
	comp=Z,1.5nm,0.4s						
NSS	Namsos	4.67	229	*e*SG	Sg	23 16 35.8	-8.6
NSS				AML	AML	23 16 37.9	
	comp=Z,3.6nm,0.3s						
KJN	Kajaani	4.83	137	*e*P	Pn	23 15 23.4	-1.4
KJN				*e*S	Sn	23 16 18.3	-4.0
KJN				*e*SG	Sg	23 16 37.4	-13
KJN				MSG		23 16 41.6	
	comp=Z,1.4nm,0.4s						
FIA0	FINESS Array S	6.86	156	Sn	Sn	23 17 07.5	-5.6
FIA0				Lg		23 17 41.7	
	baz=345,slow=28						
HFS	Hagfors	8.19	203	*e*S	Sn	23 17 40.9	-5.5
HFS				*e*		23 18 29.1	
HFS	Hagfors	8.19	203	Sn	Sn	23 17 40.9	-5.5
	baz=68,slow=28						
HFS				Lg		23 18 29.1	
	baz=20,slow=37						

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*IDC **09** 23:16:45.0±4.8, 34.77N×25.04E, h12^{km}±22^{km}, mb3.7/3, mb1 3.7/6, mb1mx3.5/22, ML3.8/3, Error ellipse: s-maj=41.7km s-min=29.4km az=46.0*
*NEIC **09** 23:16:45.3, 34.74N×24.91E, h11^{km}, MD3.6(ATH), After ATH.*
*ATH **09** 23:16:45.3, 34.74N×24.91E, h11^{km}±8^{km}, MD3.6/7*

ISC 09 23:16:41.9±1.3**, 34.58N**±0.08×**24.94E**±0.06**, h4**^{km}±7^{km}**, n20,** σ**1**^{s}**12**/24**, mb3.6**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.69	64	*e*PB	Pb	23 16 57.4	+1.3
IDI	Anoyia	0.71	357	Pg	Pg	23 16 55.3	-0.8
	55nm,0.3s,baz=182,slow=18,SNR=593						
IDI				Lg		23 17 03.0	
	272nm,0.3s,baz=117,slow=23,SNR=42						
NPS	Neapolis	0.88	39	*e*PB	Pb	23 16 59.0	-0.4
VAM	Vamos	1.03	324	*e*PG	Pg	23 17 01.7	-0.8
VAM				*e*SB	Sb	23 17 15.8	+0.2
THR6	Thira Island,	1.82	12	*e*P	Pn	23 17 14.7	+0.5
THR6				*e*S	Sn	23 17 38.4	+0.5
SANT	Santorini	1.84	13	*e*P	Pn	23 17 14.3	-0.3
THR1	Thera Island	1.84	13	*e*P	Pn	23 17 15.1	+0.5
THR1				*e*S	Sn	23 17 36.8	-1.8
THR3	Thira Island,	1.87	11	*e*P	Pn	23 17 15.4	+0.5
THR5	Thira Island,	1.87	10	*e*P	Pn	23 17 15.5	+0.6
THR5				*e*S	Sn	23 17 40.2	+0.9
THR4	Thira Island,	1.92	11	*e*P	Pn	23 17 16.9	+1.3
KARP	Karpathos	2.06	61	*e*PG	Pg	23 17 23.5	+0.4
KYTH	Kithira	2.31	318	*e*PN	Pn	23 17 23.5	+2.3
APE	Apeiranthos	2.53	11	*e*PB	Pb	23 17 25.0	-2.7
VLI	Veliai	2.69	323	*e*PN	Pn	23 17 28.5	+1.8
AKASG	Malin Array Be	16.42	10	Pn	P	23 20 30.9	-3.7
	0.4nm,0.3s,baz=191,slow=12,SNR=3.5						
GERES	GERESS Array B	16.52	333	Pn	P	23 20 34.6	-1.3
	0.2nm,0.3s,baz=147,slow=12,SNR=8.6						
DAVOX	Davos	16.67	322	Pn	P	23 20 38.4	+0.5
	0.1nm,0.3s,baz=166,slow=22,SNR=1.9						
NOA	NORSAR Array B	27.92	346	P	P	23 22 33.8	-1.0
	0.3nm,0.6s,mb3.1,baz=139,slow=6.1,SNR=2.3						
MKAR	Makanchi Array	44.25	56	P	P	23 24 52.9	-1.1
	0.7nm,0.6s,mb3.5,baz=269,slow=7.8,SNR=6.3						
SCHQ	Schefferville	63.52	320	P	P	23 27 14.0	-1.2
	1.6nm,0.8s,mb4.1,baz=72,slow=16,SNR=2.6						

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*HEL **09** 23:17:30.1±0.1, 67.84N×20.12E, ML1.8, ML2.2(UPP), ML1.5(BER), Explosion*
*NAO **09** 23:17:31.4±3.6, 67.81N×20.86E, ML2.0*
*BER **09** 23:17:34.0±2.7, 67.82N×20.35E, ML1.5, ML2.0(NAO), Suspected explosion*

ISC 09 23:17:29.0±0.5**, 67.80N**±0.02×**20.18E**±0.09**, n21,** σ**0**^{s}**96**/27**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	22	*i* P	Pg	23 17 32.3	+0.1
KUA				*i* S	Sg	23 17 34.2	-0.2
NIKU	Nikkaluokta	0.44	279	*i* P	Pg	23 17 37.1	-0.7
NIKU				*i* S	Sg	23 17 43.3	-0.3
DUNU	Dundret	0.70	167	*i* P	Pg	23 17 43.3	+0.3
DUNU				*i* S	Sg	23 17 53.7	+1.3
MASU	Masugnsbyn	0.78	116	*i* P	Pg	23 17 44.5	-0.1
KIF	Kilpisjarvi	1.23	11	*e*P	Pb	23 17 53.1	+0.3
KIF				*e*S	Sb	23 18 08.2	-0.9
PAJU	Pajala	1.38	123	*e*P	Pb	23 17 55.1	-0.3
ERTU	Ertsjaerv	1.48	147	*e*P	Pn	23 17 57.2	+0.3
KTK1	Kautokeino	1.66	42	*e*P	Pn	23 18 00.2	+0.7
KTK1				*e*SN	Sn	23 18 24.2	+2.3
KTK1				AML	AML	23 18 25.5	
	comp=Z,8.9nm,0.3s						
SGF	Sodankyl	2.46	96	*e*P	Pn	23 18 12.2	+1.3
SGF				*e*S	Sn	23 18 41.2	-1.0
ARA0	ARCESS Array S	2.61	46	*e*P	Pn	23 18 13.2	0.0
ARA0				*e*S	Sn	23 18 47.0	+1.0
ARA0	ARCESS Array S	2.61	46	P	Pn	23 18 13.2	0.0
	baz=234,slow=14						
ARA0				S	Sn	23 18 47.0	+1.0
	baz=222,slow=28						
KEV	Kevo	3.16	49	*e*S	Sn	23 18 59.1	-0.9
OUL	Oulu	3.57	137	*e*PB	Pb	23 18 33.1	+0.3
OUL				*e*SB	Sb	23 19 17.6	+0.7
OUL				MSG		23 19 21.7	
	comp=Z,2.0nm,0.3s						
MSF	Maaselka	3.98	114	*e*P	Pn	23 18 32.5	-0.1
MSF				*e*S	Sn	23 19 18.2	-2.5
MSF				*e*SG	Sg	23 19 33.8	-7.7
KJN	Kajaani	4.84	137	*e*P	Pn	23 18 44.6	-0.2
KJN				*e*S	Sn	23 19 39.6	-2.9
FIA0	FINESS Array S	6.87	156	Lg		23 21 05.2	
	baz=343,slow=37						
FIA0	FINESS Array S	6.87	156	*e*SG		23 21 05.2	
FIA0	FINESS Array S	6.87	156	Lg		23 21 05.2	
	baz=343,slow=37						
HFS	Hagfors	8.21	203	Lg		23 21 49.0	
	baz=20,slow=28						
HFS	Hagfors	8.21	203	*e*		23 21 49.0	
HFS	Hagfors	8.21	203	Lg		23 21 49.0	
	baz=20,slow=28						

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*HEL **09** 23:20:17.6±0.1, 67.85N×20.12E, ML1.7, ML1.9(UPP), ML1.5(BER), Explosion*
*BER **09** 23:20:19.1±4.5, 67.89N×20.41E, ML1.5, ML2.1(NAO), Suspected explosion*
*NAO **09** 23:20:20.9±17.0, 67.80N×20.99E, ML2.1*

ISC 09 23:20:16.5±0.7**, 67.83N**±0.03×**20.2E**±0.1**, n17,** σ**0**^{s}**70**/21**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	19	*i* P	Pg	23 20 19.8	+0.6
KUA				*i* S	Sg	23 20 21.6	+0.5
NIKU	Nikkaluokta	0.45	276	*i* P	Pg	23 20 24.7	-0.8
DUNU	Dundret	0.72	169	*i* P	Pg	23 20 31.1	+0.2
MASU	Masugnsbyn	0.78	118	*i* P	Pg	23 20 32.2	+0.2
KIF	Kilpisjarvi	1.21	10	*e*P	Pb	23 20 39.8	-0.1
KIF				*e*S	Sb	23 20 56.1	+0.2
KTK1	Kautokeino	1.63	42	*e*P	Pn	23 20 46.8	+0.2
KTK1				AML	AML	23 21 11.4	
	comp=Z,7.7nm,0.2s						
TRO	Tromso	1.88	346	*e*P	Pn	23 20 49.9	-0.2
TRO				*e*SN	Sn	23 21 14.9	0.0
TRO				AML	AML	23 21 17.2	
	comp=Z,11nm,0.5s						
SGF	Sodankyl	2.44	96	*e*P	Pn	23 20 59.0	+0.8
SGF				*e*S	Sn	23 21 29.2	-0.1
ARA0	ARCESS Array S	2.59	46	*e*P	Pn	23 21 00.6	+0.3
ARA0				*e*SB	Sb	23 21 34.5	-1.5
ARA0	ARCESS Array S	2.59	46	Pn	Pn	23 21 00.6	+0.3
	baz=233,slow=14						
ARA0				Lg		23 21 34.5	
	baz=224,slow=28						
KEV	Kevo	3.14	49	*e*P	Pn	23 21 09.5	+1.3
KEV				*e*S	Sn	23 21 46.7	-0.2
OUL	Oulu	3.57	138	*e*PB	Pb	23 21 20.5	+0.1
OUL				*e*SG	Sg	23 22 07.3	-8.1
OUL				MSG		23 22 11.8	
	comp=Z,1.4nm,0.3s						
APA0	Apatity Array	4.87	87	Pn	Pn	23 21 31.0	-1.8
	baz=257,slow=18						
APA0	Apatity Array	4.87	87	*e*P	Pn	23 21 31.0	-1.8
FIA0	FINESS Array S	6.88	156	Lg		23 23 51.4	
	baz=354,slow=28						
FIA0	FINESS Array S	6.88	156	*e*SG		23 23 51.4	
FIA0	FINESS Array S	6.88	156	Lg		23 23 51.4	
	baz=354,slow=28						

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*MOS **09** 23:28:27.9±3.2, 41.30N×47.20E, h10^{km}, mb4.0/1, Error ellipse: s-maj=17.8km s-min=8.8km az=87.0*
*TIF **09** 23:28:30.6, 41.46N×47.52E, h10^{km}, Mpv4.8*

ISC 09 23:28:31.7±0.8**, 41.46N**±0.04×**47.90E**±0.07**, h10**^{km}**, n17,** σ**1**^{s}**30**/28**, 2C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKT	Akhty	0.13	278	PG	Pg	23 28 33.0	-1.8
KSMR	Kasumkent	0.22	51	⇓*i*PG	Pg	23 28 38.8	+2.3
KSMR				pmax	pmax		
	comp=Z,2μm,0.2s						
URKR	Urkarakh	0.73	344	*e*PG	Pg	23 28 38.5	-7.9
KMKR	Kumukh	0.90	319	⇓*i*PG	Pg	23 28 43.0	-6.7
KMKR				*i* S	Sb	23 28 53.0	-7.6
KMKR				pmax	pmax		
	comp=Z,2μm,0.3s						
MNSR	Manas	1.25	354	⇑*i*PG	Pg	23 28 55.8	-0.9
MNSR				*i* S	Sb	23 29 12.0	+1.2
XNZR	Khunzakh	1.40	321	PG	Pg	23 28 54.0	-5.7
BUJR	Buynaksk	1.48	337	*e*PG	Pg	23 28 58.3	-3.1
BUJR				*i* S	Sb	23 29 17.0	-0.7
BUJR				pmax	pmax		
	comp=Z,295nm,0.1s						
MAK	Makhachkala	1.52	349	*e*PN	Pn	23 29 00.0	+0.8
MAK				*i* S	Sb	23 29 19.5	+0.6
DBC	Dubki	1.75	333	*e*PN	Pn	23 29 02.0	-0.4
DBC				*e*S	Sn	23 29 26.5	+1.7
DBC				pmax	pmax		
	comp=Z,261nm,0.2s						
VAD	Vardenisi	2.08	233	*e*P	Pn	23 29 06.0	-1.1
VAD				*e*S	Sn	23 29 34.0	+0.7
GRS	Goris	2.27	212	*e*P	Pn	23 29 10.0	+0.2
GRS				*e*S	Sn	23 29 41.0	+2.9
MTA	Mtatsminda	2.34	277	*i* P	Pn	23 29 10.7	-0.2
MTA				*i* S	Sn	23 29 40.0	+0.1
TI2	Plekhanov	2.38	278	*e*PN	Pn	23 29 12.0	+0.6
TBLG	Delisi	2.38	278	*i* P	Pn	23 29 11.7	+0.2
TBLG				*i* S	Sn	23 29 42.2	+1.2
STE	Stepanavan	2.68	261	*e*P	Pn	23 29 16.0	+0.3
STE				*i* S	Sn	23 29 46.0	-2.5
GOF	Gofitskoye	5.05	317	*e*PN	Pn	23 29 38.0	-11
AB31	Akbulak array	11.50	43	Pn	P	23 31 16.9	-2.1
	comp=Z,0.5nm,0.3s,baz=228,slow=13,SNR=16						
AB31				⇑Sn	S	23 33 20.0	-8.6
	comp=Z,1.7nm,0.7s,baz=231,slow=23,SNR=4.3						

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*NEIC **09** 23:39:23.7, 18.28N×100.94W, h64^{km}, MD3.8(MEX), After MEX.*

MEX 09 23:39:23.7±1.0**, 18.28N×100.94W, h64**^{km}±33^{km}**, MD4.0, 1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.83	217	⇑*i*P	P	23 39 39.1	-0.8
ZIIG				*i* S	S	23 39 49.1	-3.0
CAIG	El Cayaco	1.38	152	*i* P	P	23 39 44.9	-2.6
CAIG				*i* S	S	23 40 03.0	-2.0
MOIG	Morelia	1.41	350	*e*P	P	23 39 46.4	-1.5
MOIG				*i* S	S	23 40 03.3	-2.4
PPM	Popocatepetl	2.33	70	*e*P	P	23 39 58.5	-2.0
PPM				*e*P		23 39 58.8	
PPM				*i* S	S	23 40 26.2	-1.7
PPM	Popocatepetl	2.33	70	*e*P	P	23 39 58.8	-1.8
PPM				*i* S	S	23 40 26.2	-1.7
SFJM	Santa Fe	2.96	318	*e*P	P	23 40 09.0	-0.5
SFJM				*i* S	S	23 40 45.0	+1.1
OXX	Oaxaca	4.19	106	*e*P	P	23 40 24.5	-2.2
OXX				*i* S	S	23 41 12.5	-2.3

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*NEIC **10** 00:00:42.8, 36.75N×28.79E, h7^{km}, MD3.3(ATH), After ATH.*
*ATH **10** 00:00:42.8, 36.75N×28.79E, h7^{km}, MD3.3/4*
*ISK **10** 00:00:43.7, 36.48N×28.81E, h12^{km}, MD3.3*

ISC 10 00:00:44.5±0.6**, 36.50N**±0.04×**28.86E**±0.04**, h12**^{km}**, n16,** σ**0**^{s}**84**/25**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.66	244	⇑*i*PG	Pg	00 00 56.8	-1.0
ARG				*e*SB	Sb	00 01 08.5	+2.3
KSL	Kastellorizon	0.68	121	*e*PG	Pg	00 00 59.0	+0.8
KSL				*e*SB	Sb	00 01 12.0	+5.1
YER	Yerkesik	0.78	324	*i* PG	Pg	00 00 59.2	-1.0
ELL	Elmali	0.88	74	*i* PG	Pg	00 01 01.9	-0.2
MLSB	Milas	1.17	313	*i* PN	Pn	00 01 06.5	-0.2
MLSB				*i* SN	Sn	00 01 22.8	+0.2
DNZL	Cakiroluk	1.19	7	⇑*i*P	Pb	00 01 06.6	+0.1
DNZL				*i* S	Sb	00 01 22.8	+1.1
DENT	Denizli	1.25	6	PN	Pn	00 01 07.5	-0.3
DENT				SN	Sn	00 01 25.7	+1.0
BDRM	Kayabasi	1.27	297	*i* P	Pb	00 01 07.8	0.0
BDRM				*i* S	Sb	00 01 24.3	+0.4
AYDN	Tasoluk	1.40	326	⇑*i*P	Pn	00 01 10.2	+0.3
AYDN				*i* S	Sb	00 01 28.2	+0.6
KARP	Karpathos	1.68	236	*e*PB	Pb	00 01 14.0	-0.8
KARP				*e*SN	Sn	00 01 40.5	+5.1
BCK	Bucak	1.68	55	PN	Pn	00 01 15.1	+1.2
ISP	Isparta	1.88	44	PN	Pn	00 01 16.5	-0.2
MANT	Manisa	2.00	353	⇑*i*P	Pn	00 01 17.0	-1.4
MANT				*i* S	Sn	00 01 42.6	-1.0
SMG	Samos	2.02	307	*e*PG	Pg	00 01 18.0	-6.7
IZM	Izmir	2.28	327	PN	Pn	00 01 21.7	-0.8
HDMB	Hadim	2.95	80	*e*PN	Pn	00 01 31.7	-0.4

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*MOS **10** 00:04:35.8±0.5, 36.58N×70.54E, h153^{km}, mb3.6/4, Error ellipse: s-maj=26.4km s-min=12.2km az=99.6*
*IDC **10** 00:04:36.9±21.0, 36.61N×70.74E, h149^{km}±126^{km}, mb3.3/5, mb1 3.4/7, mb1mx3.2/20, ML3.5/2, Error ellipse: s-maj=198.0km s-min=39.5km az=3.0*
*NNC **10** 00:04:41.3±12.0, 36.92N×70.35E, h165^{km}±166^{km}, mpv4.5, Error ellipse: s-maj=180.6km s-min=94.2km az=64.0*
*NEIC **10** 00:04:46.3±2.2, 37.30N×70.84E, h200^{km}, mb3.8/3, Error ellipse: s-maj=38.2km s-min=19.7km az=158.0*

ISC 10 00:04:32.5±0.7**, 36.36N**±0.04×**70.66E**±0.07**, h137**^{km}±10^{km}**, n43,** σ**1**^{s}**09**/52**, mb3.5**/6**, 4C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.73	132	*e*P	P	00 05 57.9	+1.5
THN				*e*S	S	00 07 03.6	+2.1
DLH	Dalhousie	5.81	129	*e*P	P	00 05 56.0	-1.4
DLH				*e*S	S	00 07 03.0	-0.4
AML	Almayashu	6.22	21	P	P	00 06 03.7	+0.7
	SNR=90						
UCH	Uchtor	6.57	26	P	P	00 06 08.0	+0.1
	SNR=11						
KZA	Kyzart	6.72	31	P	P	00 06 10.1	+0.2
	SNR=5.2						
KK31	Karatay Array	6.73	359	⇓P	P	00 06 10.1	+0.1
	12nm,0.3s,baz=172,slow=11,SNR=840						
KK31				⇑S	S	00 07 21.1	-4.6
	25nm,0.5s						
KKAR	Karatay Array	6.73	359	PN	P	00 06 10.1	+0.1
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
EKS2	Erkin-Say	6.73	20	P	P	00 06 10.9	+0.9
	SNR=38						
AAK	Ala-Archa	6.93	24	P	P	00 06 13.2	+0.6
	SNR=10						
SDNR	Sundarnagar	7.14	131	*e*P	P	00 06 16.0	+0.5
SDNR				*e*S	S	00 07 34.0	-1.6
CHMS	Chumysh	7.34	24	P	P	00 06 18.4	+0.3
	SNR=6.7						
USP	Ospenovka	7.50	22	P	P	00 06 21.1	+0.7
	SNR=24						
SMLA	Simla	7.52	132	⇑*i*P	P	00 06 31.6	+11
SMLA				*i* S	S	00 07 52.7	+7.9
	comp=Z,76nm,0.2s						
TKM2	Tokmak 2	7.57	29	P	P	00 06 21.4	+0.1
	SNR=8.7						
KLP	Kalpa	7.93	125	*e*P	P	00 06 25.1	-1.1
KLP				*e*S	S	00 07 52.7	-2.0
KLP				AML	AML	00 07 56.4	
	comp=E,109nm,0.2s						
KLP				AML	AML	00 07 57.8	
	comp=N,71nm,0.4s						
DDI	Dehra Dun	8.63	132	*e*S	S	00 08 10.1	-1.4
VAN	Vannovskaya	10.15	283	P	P	00 06 56.6	+1.1
VAN				S	S	00 08 46.3	-1.2
MKAR	Makanchi Array	13.56	36	P	P	00 07 40.6	+0.6
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=8.5						
MKAR	Makanchi Array	13.56	36	P	P	00 07 39.6	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KOLN	Koldanda	13.91	124	*e*P	P	00 07 45.1	+0.5
	comp=Z,7.3nm,0.2s						
GKN	Gorkha	14.46	121	*e*P	P	00 07 52.0	+0.3
	comp=Z,35nm,0.5s						
DMN	Daman	15.03	121	*e*P	P	00 07 59.3	+0.4
	comp=Z,12nm,0.4s						
KKN	Kakani	15.04	121	*e*P	P	00 07 59.6	+0.6
	comp=Z,23nm,0.5s						
AB31	Akbulak array	15.07	332	⇑P	P	00 07 58.8	-0.4
	comp=Z,1.4nm,0.3s,baz=145,slow=12,SNR=68						
AB31				⇑S	S	00 10 38.1	-4.5
	comp=Z,3.2nm,0.9s,baz=144,slow=26,SNR=4.3						
AB31	Akbulak array	15.07	332	*e*P	P	00 07 59.2	0.0
PKI	Pulchoki	15.27	121	*e*P	P	00 08 03.2	+1.4
	comp=Z,17nm,0.3s						
KURK	Kurchatov	15.45	19	*e*P	P	00 08 01.1	-2.8
	comp=Z,2.4nm,0.8s						
ZRNK	Zerenda	16.63	356	⇓P	P	00 08 17.9	-0.7
	comp=Z,1.2nm,0.6s						
ZRNK	Zerenda	16.63	356	P	P	00 08 17.8	-0.7
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	Zerenda	16.63	356	*e*P	P	00 08 17.9	-0.7
	comp=Z,2.0nm,0.5s						
BVAR	Borovoye Array	16.66	359	P	P	00 08 17.5	-1.5
	comp=Z,0.3nm,0.3s,baz=190,slow=9.0,SNR=5.8						
BRVK	Borovoye	16.70	359	*e*P	P	00 08 16.8	-2.5
	comp=Z,2.7nm,0.6s						
ARU	Arti	21.67	342	⇓*i*P	P	00 09 12.0	-0.8
ARU				*e*S	S	00 13 02.2	+3.1
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
FINES	FINESS Array B	37.45	326	P	P	00 11 34.0	+0.2
	comp=Z,0.5nm,0.5s,mb3.4,baz=121,slow=11,SNR=6.9						
FINES	FINESS Array B	37.45	326	P	P	00 11 34.0	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	41.17	338	P	P	00 12 04.8	+0.4
	comp=Z,2.0nm,0.9s,mb3.8,baz=108,slow=12,SNR=3.9						
ARCES	ARCESS Array B	41.17	338	P	P	00 12 04.8	+0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MOX	Moxa	43.98	308	*e*P	P	00 12 30.0	+2.6
NB2	NORSAR Subarra	44.33	323	P	P	00 12 29.4	-0.6
	comp=Z,0.4nm,0.4s,mb3.4,baz=98,slow=7.4						
NOA	NORSAR Array B	44.33	323	P	P	00 12 30.2	+0.2
	comp=Z,0.4nm,0.4s,mb3.4,baz=96,slow=7.8,SNR=7.0						
INK	Inuvik	74.08	9	P	P	00 15 54.8	+0.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=344,slow=7.2,SNR=5.8						
INK	Inuvik	74.08	9	P	P	00 15 54.8	+0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	81.39	2	P	P	00 16 35.1	+0.3
	comp=Z,0.3nm,0.4s,mb3.3,baz=352,slow=5.2,SNR=5.7						

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*BJI **10** 00:14:14.2, 23.80S×179.80W, h515^{km}, mB4.8, mb4.5*
*NEIC **10** 00:14:14.2±1.3, 23.75S×179.83W, h516^{km}±15^{km}, mb4.6/31, Error ellipse: s-maj=9.7km s-min=6.1km az=165.0*
*IDC **10** 00:14:15.9±1.2, 23.77S×179.95W, h528^{km}±11^{km}, mb4.1/17, mb1 4.2/19, mb1mx4.2/20, Error ellipse: s-maj=16.9km s-min=10.2km az=165.0*

ISC 10 00:14:11.7±1.5**, 23.84S**±0.07×**179.82W**±0.05**,** **h496**^{km}±18^{km}**, n95,** σ**0**^{s}**95**/79**, mb4.6**/48**, 1C-13D, South of**

Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.61	190	P	P	00 17 18.2	-0.1
	5.9nm,0.3s,baz=50,slow=2.3,SNR=23						
URZ				S	S	00 19 48.1	-0.8
	6.7nm,0.3s,baz=41,slow=23,SNR=16						
SNZO	South Karori	18.02	193	eP	P	00 17 53.8	+1.7
	121nm,1.2s						
RAR	Rarotonga	18.70	86	P	P	00 17 59.2	+0.4
	0.5nm,0.3s,baz=306,slow=7.0,SNR=4.0						
RPZ	Rata Peaks	21.20	199	P	P	00 18 20.1	-2.1
	14nm,0.5s,mb4.8,baz=356,slow=4.0,SNR=9.7						
ARMA	Armidale	26.20	249	eP	P	00 19 09.1	+1.7
PAE	Paea	28.90	83	eP	P	00 19 30.2	-1.1
	45nm,1.1s,mb4.8						
PPT	Papeete	28.93	83	P	P	00 19 30.7	-0.8
	18nm,0.3s,mb4.9,baz=179,slow=11,SNR=4.3						
PPT	Papeete	28.93	83	eP	P	00 19 30.6	-0.9
	44nm,1.2s,mb4.8						
CNB	Canberra Magne	29.02	240	⇓iP	P	00 19 33.6	+1.4
	56nm,0.7s,mb5.1						
TIAR	Tiarei	29.15	83	eP	P	00 19 32.5	-0.9
	141nm,1.1s,mb5.3						
TVO	Taravao	29.17	84	eP	P	00 19 32.6	-0.9
	50nm,0.8s,mb5.0						
PMOR	Pomariorio Ree	31.31	80	eP	P	00 19 51.5	-0.4
	77nm,1.5s,mb4.9						
CTA	Charters Tower	31.64	270	⇓iP	P	00 19 55.8	+1.1
	57nm,0.8s,mb5.0						
CTA	Charters Tower	31.64	270	P	P	00 19 55.8	+1.1
	42nm,0.4s,mb5.2,baz=98,slow=11,SNR=77						
CTAO	Charters Tower	31.64	270	⇓eP	P	00 19 55.6	+0.9
	74nm,0.6s,mb5.3						
TOO	Toolangi	32.62	237	eP	P	00 20 03.9	+1.1
	17nm,0.5s,mb4.7						
TAU	Tasmania Unive	33.10	227	eP	P	00 20 07.7	+1.0
	21nm,0.5s,mb4.8						
PMG	Port Moresby	34.63	289	P	P	00 20 20.5	+0.6
	67nm,0.8s,mb5.1,baz=92,slow=4.1,SNR=15						
PMG	Port Moresby	34.63	289	⇓eP	P	00 20 20.4	+0.5
	124nm,1.0s,mb5.3						
STKA	Stephens Creek	34.90	248	⇓iP	P	00 20 22.9	+0.9
	19nm,0.7s,mb4.6						
STKA	Stephens Creek	34.90	248	P	P	00 20 22.9	+0.9
	22nm,0.7s,mb4.7,baz=91,slow=9.6,SNR=46						
ASAR	Alice Springs	42.21	261	P	P	00 21 21.9	+0.2
	58nm,0.9s,mb5.0,baz=94,slow=8.2,SNR=336						
ASAR				ScP		00 26 06.1	
	5.8nm,0.9s,baz=113,slow=3.6,SNR=15						
ASAR				S	S	00 27 02.4	-3.7
	1.7nm,0.9s,baz=98,slow=14,SNR=4.0						
ASPA	Alice Springs	42.21	261	⇓iP	P	00 21 21.8	+0.1
ASPA				eSCP		00 26 06.6	
ASPA				eS	S	00 27 03.6	-2.5
ASPA				eSCS	ScS	00 30 25.7	-0.7
WB2	Warramunga Arr	42.56	266	⇓iP	P	00 21 24.1	-0.4
WB2				eS	S	00 27 05.4	-5.8
WRA	Warramunga Arr	42.57	266	P	P	00 21 24.0	-0.7
	31nm,0.4s,mb5.1,baz=96,slow=8.4,SNR=154						
WRA				PcP	PcP	00 23 05.2	-1.2
	2.3nm,0.8s,baz=103,slow=3.2,SNR=4.5						
WRA				ScP		00 26 07.6	
	3.1nm,0.8s,baz=104,slow=4.1,SNR=6.5						
WRA				S	S	00 27 05.5	-5.9
	1.2nm,0.8s,baz=102,slow=14,SNR=4.0						
FORT	Forrest	46.49	250	⇓iP	P	00 21 54.0	-1.0
	583nm,0.6s						
KAKA	Kakadu	46.51	275	eP	P	00 21 54.0	-1.3
	37nm,0.8s,mb4.9						
KAKA				eSCP		00 26 23.8	
FITZ	Fitzroy Crossi	51.00	265	eP	P	00 22 28.3	-0.7
	36nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	51.00	265	P	P	00 22 28.5	-0.4
	34nm,0.7s,mb4.8,baz=112,slow=2.6,SNR=53						
SBA	Scott Base	54.45	183	eP	P	00 22 54.4	+1.4
	12nm,0.9s,mb4.2						
VNDA	Vanda	54.45	185	P	P	00 22 53.3	+0.2
	1.9nm,0.6s,mb3.6,baz=1.1,slow=7.2,SNR=8.2						
KLBR	Kellerberrin	55.16	247	⇓iP	P	00 22 57.3	-1.3
	57nm,0.8s,mb5.0						
NWAO	Narrogin (SRO)	55.41	245	P	P	00 22 59.2	-1.1
	20nm,0.9s,mb4.4,baz=120,slow=4.2,SNR=5.5						
NWAO	Narrogin (SRO)	55.41	245	eP	P	00 22 58.4	-1.9
	33nm,1.1s,mb4.6						
MUN	Mundaring	56.41	246	⇓iP	P	00 23 06.2	-1.0
	24nm,0.8s,mb4.6						
CASY	Casey	60.24	206	⇓iP	P	00 23 31.1	-1.4
QSPA	South Pole Qui	66.25	180	eP	P	00 24 11.2	+0.4
	9.6nm,0.7s,mb4.5						
MAJO	Matsushiro	71.94	325	P	P	00 24 44.1	-1.5
	3.5nm,0.4s,mb4.2						
MAW	Mawson	77.87	200	⇓iP	P	00 25 18.0	0.0
	7.0nm,0.8s,mb4.1						
MAW	Mawson	77.87	200	P	P	00 25 18.1	+0.1
	8.1nm,0.7s,mb4.2,baz=124,slow=6.5,SNR=23						
SSE	Sheshan	78.57	311	⇑P	P	00 25 22.2	-0.3
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.0						
MDJ	Mudanjiang	82.30	326	P	P	00 25 42.0	+0.5
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,111nm,4.6s						
MDJ	Mudanjiang	82.30	326	P	P	00 25 41.2	-0.2
	comp=Z,7.2nm,0.6s,mb4.4						
CMB	Columbia Colle	83.04	43	eP	P	00 25 44.9	-0.5
	comp=Z,9.6nm,0.9s,mb4.3						
WHN	Wuhan	83.09	308	eP	P	00 25 43.0	-2.7
WDC	Whiskeytown Da	83.30	40	eP	P	00 25 47.0	+0.4
	comp=Z,13nm,1.1s,mb4.4						
YBH	Yreka Blue Hor	83.93	39	P	P	00 25 50.3	+0.6
	comp=Z,2.7nm,0.7s,mb3.9,baz=45,slow=3.1,SNR=9.9						
CN2	Changchun	83.93	324	eP	P	00 25 49.7	+0.1
CN2				eAP	pP	00 27 44.0	+4.2
CN2				eXP	sP	00 28 38.3	+8.5
CN2				eS	S	00 35 29.4	-1.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
WCN	Washoe City	84.20	43	eP	P	00 25 51.0	-0.1
	comp=Z,14nm,1.0s,mb4.4						
TIA	Tai’an	84.31	314	eP	P	00 25 51.0	-0.7
TIA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.6						
NVAR	Mina Array Bea	84.59	44	P	P	00 25 53.4	+0.4
	comp=Z,2.6nm,0.8s,mb3.9,baz=209,slow=6.1,SNR=8.8						
NVAR	Mina Array Bea	84.59	44	P	P	00 25 53.4	+0.4
TPH	Tonopah	85.08	45	eP	P	00 25 54.8	-0.6
	comp=Z,6.9nm,0.9s,mb4.3						
TUC	Tucson	86.35	52	eP	P	00 26 02.6	+1.0
	comp=Z,13nm,1.0s,mb4.5						
ENH	Enshi	86.54	305	eP	P	00 26 03.0	+0.4
	comp=Z,27nm,1.0s,mb4.9						
WVOR	Wild Horse Val	86.76	41	eP	P	00 26 03.0	-0.3
	comp=Z,5.7nm,0.9s,mb4.3						
PLCA	Paso Flores	88.19	134	P	P	00 26 12.2	+2.1
	comp=Z,1.0nm,0.6s,mb3.7,baz=256,slow=8.6,SNR=3.8						
MSU	Marysvale	88.62	47	eP	P	00 26 12.9	+0.8
XAN	Xi’an	88.83	308	P	P	00 26 13.8	+0.5
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	89.66	290	P	P	00 26 18.8	+1.4
	comp=Z,7.2nm,0.9s,mb4.5,baz=134,slow=3.1,SNR=28						
HLID	Hailey	89.94	41	eP	P	00 26 18.4	+0.3
	comp=Z,5.4nm,1.1s,mb4.3						
LAZ	Ladron	90.04	52	eP	P	00 26 19.0	+0.1
LTX	Lajitas	90.26	58	eP	P	00 26 19.9	0.0
	comp=Z,7.6nm,0.9s,mb4.5						
TXAR	Lajitas Array	90.26	58	P	P	00 26 20.2	+0.2
	comp=Z,3.6nm,0.8s,mb4.3,baz=214,slow=6.5,SNR=49						
TXAR	Lajitas Array	90.26	58	P	P	00 26 20.2	+0.2
HIA	Hailar	90.44	325	eP	P	00 26 23.5	+3.2
	comp=Z,7.1nm,0.4s,mb4.8						
HWUT	Hardware Ranch	90.66	44	eP	P	00 26 21.1	-0.4
	comp=Z,3.2nm,0.6s,mb4.4						
ANMO	Albuquerque	90.79	52	eP	P	00 26 22.1	-0.2
	comp=Z,4.4nm,1.0s,mb4.3						
GDL2	Guadalupe Moun	91.04	55	eP	P	00 26 23.9	+0.4
CD2	Chengdu	91.18	303	P	P	00 26 25.2	+1.0
ILAR	Eielson Array	91.93	13	P	P	00 26 27.0	+0.2
	comp=Z,0.1nm,0.5s,baz=227,slow=7.9,SNR=4.2						
PDAR	Pinedale Array	92.53	44	P	P	00 26 30.4	+0.3
	comp=Z,1.5nm,0.8s,mb4.1,baz=243,slow=3.3,SNR=12						
SDCO	Great Sand Dun	92.80	50	eP	P	00 26 31.2	-0.3
	comp=Z,2.3nm,0.8s,mb4.3						
ISCO	Idaho Springs	93.68	48	P	P	00 26 36.0	+0.5
KEV	Kevo	131.39	348	ep	PKPdf	00 32 27.8	+1.5
	comp=Z,0.3nm,0.3s						
ARCES	ARCESS Array B	131.86	348	PKP	PKPdf	00 32 26.2	-1.0
	comp=Z,0.7nm,0.5s,baz=72,slow=3.8,SNR=5.5						
ARCES				SKPbc		00 35 04.6	
	comp=Z,3.7nm,0.8s,slow=2.4,SNR=8.5						
FINES	FINESS Array B	138.44	342	PKP	PKPdf	00 32 40.5	+1.0
	comp=Z,0.5nm,0.7s,baz=135,slow=2.7,SNR=4.3						
FINES				SKPbc		00 35 24.9	
	comp=Z,4.2nm,0.8s,baz=63,slow=4.3,SNR=12						
FINES	FINESS Array B	138.44	342	PKP	PKPdf	00 32 40.5	+1.0
FINES				SKPbc		00 35 24.9	
NB2	NORSAR Subarra	142.04	351	PKP		00 32 41.2	
	comp=Z,0.8nm,0.7s,baz=20,slow=3.6						
NOA	NORSAR Array B	142.04	351	PKhKP		00 32 40.8	
	comp=Z,1.7nm,1.1s,baz=31,slow=2.7,SNR=4.4						
NOA				SKPbc		00 35 34.1	
	comp=Z,0.9nm,0.7s,baz=16,slow=4.2,SNR=4.5						
MALT	Malatya	144.47	303	ePKP	PKPdf	00 32 51.8	+1.1
AKASG	Malin Array Be	145.01	327	PKP	PKPdf	00 32 51.4	+0.1
	comp=Z,1.1nm,0.3s,baz=37,slow=4.2,SNR=11						
AKASG				SKPbc		00 35 41.6	
	comp=Z,7.7nm,1.0s,baz=37,slow=2.9,SNR=9.7						
ASF	Jabal al Asfar	146.66	293	PKPbc	PKPbc	00 32 58.3	+1.7
	comp=Z,6.3nm,0.8s,baz=301,slow=2.1,SNR=12						
KWP	Kalwaria	148.79	331	ePKPdf	PKPdf	00 32 58.2	+0.7
KWP				ePKPbc	PKPdf	00 33 02.5	+5.0
KWP				e		00 35 09.3	
HARR	Harsova	149.28	319	S	SKS	00 39 23.1	+5.6
MLR	Muntele Rosu	149.97	322	PKPbc	PKPdf	00 33 04.5	+5.0
	baz=338,slow=11						
DPC	Dobruska-Polom	150.70	339	ePKP1	PKPdf	00 33 07.2	+6.8
MORC	Moravsky Berou	150.76	337	ePKPbc	PKPdf	00 33 07.1	+6.6
CLL	Collm	150.84	343	⇓iPKP1	PKPdf	00 33 07.2	+6.6
BRG	Berggiesshubel	150.98	342	i P	PKPdf	00 33 07.7	+6.9
PVCC	Panska Ves	151.10	341	ePKP1	PKPdf	00 33 08.3	+7.3
VYHS	Vyhne	151.30	334	ePKP	PKPdf	00 33 08.4	+7.1
VYHS				e		00 33 19.5	
PSZ	Piszkesteto	151.31	332	ePKPab	PKPab	00 33 19.3	-1.3
KHC	Kasperske Hory	152.64	341	ePKP2	PKPab	00 33 25.3	-0.9
GERES	GERESS Array B	152.85	340	PKPbc	PKPdf	00 33 11.5	+8.0
	comp=Z,0.4nm,0.6s,baz=45,slow=1.9,SNR=4.3						
GERES				PKPab	PKPab	00 33 25.3	-1.8
	comp=Z,0.3nm,0.6s,baz=34,slow=3.5,SNR=4.0						

IDC ***10*** *00:23:34.2±1.4,45.33N×137.17E,h331^{km}±21^{km},mb3.2/9, mb1 3.3/10,mb1mx3.1/23,Error ellipse: s-maj=29.3km s-min=19.0km az=54.0*

SKHL ***10*** *00:23:35.7±1.6,45.29N×136.88E,h330^{km}±10^{km},mb3.8/4, msh4.0/1*

NEIC ***10*** *00:23:36.1±6.7,45.35N×137.13E,h351^{km}±70^{km},mb3.3/2, Error ellipse: s-maj=23.4km s-min=18.4km az=95.0*

ISC 10 00:23:33.6±0.6**,45.2N**±0.1×**137.1E**±0.1**,h343**^{km}±5^{km}**,n19, σ0^{s}78**/21**,mb3.4**/11**,Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEY	Ternei	0.40	246	i P	P	00 24 17.0	0.0
TEY				AMB	AMB	00 24 17.3	
	17nm,0.5s						
TEY				i S	S	00 24 50.0	-1.1
TEY				A		00 24 51.0	
	50nm,0.7s						
TEY				A		00 24 51.0	
	60nm,0.7s						
ASAJ	Asahikawa	4.06	104	P	P	00 24 44.1	+1.0
	6.0nm,0.3s,baz=275,slow=8.8,SNR=17						
ASAJ				S	S	00 25 37.2	-0.6
	baz=219,slow=26,SNR=2.5						
GRNR	Gornyy	5.59	355	eP	P	00 25 00.5	+0.5
GRNR				AMB	AMB	00 25 02.0	
	17nm,0.8s						
TYV	Tymovskoe	6.77	31	eP	P	00 25 15.0	+1.2
TYV				AMB	AMB	00 25 15.7	
	17nm,0.7s						
YASR	Yasnyy	10.05	327	eP	P	00 25 53.5	+0.6
YASR				AMB	AMB	00 25 57.3	
	3.0nm,0.5s						
KROS	Kirovskiy	11.32	328	eP	P	00 26 08.5	+0.3
SONM	Songino Array	21.24	288	P	P	00 27 54.4	+0.6
	7.3nm,1.2s,mb3.8,baz=81,slow=9.5,SNR=15						
MKAR	Makanchi Array	37.47	293	P	P	00 30 16.6	+0.3
	1.2nm,0.8s,mb3.2,baz=83,slow=10,SNR=6.9						
KURK	Kurchatov	38.67	300	eP	P	00 30 26.5	+0.3
BVAR	Borovoye Array	42.92	305	P	P	00 31 00.8	+0.3
	0.8nm,0.3s,mb3.3,baz=80,slow=11,SNR=7.9						
INK	Inuvik	48.74	30	eP	P	00 31 45.0	-0.7
	0.9nm,0.5s,mb3.3						
ARCES	ARCESS Array B	55.22	337	P	P	00 32 32.2	-0.9
	2.2nm,0.9s,mb3.5,baz=60,slow=9.8,SNR=3.8						
ARCES	ARCESS Array B	55.22	337	P	P	00 32 32.2	-0.9
KAF	Kangasniemi	59.60	329	ep	P	00 33 01.6	-2.0
	0.4nm,0.4s,mb3.2						
FINES	FINESS Array B	60.12	329	P	P	00 33 06.2	-0.8
	1.0nm,0.5s,mb3.5,baz=56,slow=7.7,SNR=12						
NOA	NORSAR Array B	65.42	334	P	P	00 33 40.9	-0.4
	0.3nm,0.6s,mb3.1,baz=41,slow=5.9,SNR=3.2						
AKASG	Malin Array Be	65.94	318	P	P	00 33 44.5	-0.3
	1.2nm,0.5s,mb3.9,baz=42,slow=6.7,SNR=4.0						
ASAR	Alice Springs	68.60	183	P	P	00 34 02.8	+1.1
	0.5nm,0.4s,mb3.6,baz=354,slow=6.4,SNR=7.1						
GERES	GERESS Array B	74.11	325	P	P	00 34 34.4	+0.4
	0.2nm,0.5s,mb3.1,baz=36,slow=8.4,SNR=2.5						

IDC 10 00:49:25.1±2.1**,6.57S×130.28E,mb3.9**/1**,mb1 4.1**/4**, mb1mx3.8**/12**,ML3.8**/3**,Error ellipse: s-maj=87.0km s-min=27.5km az=78.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.32	201	Pn	P	00 52 23.4	-1.4
	0.6nm,0.3s,baz=22,slow=12,SNR=25						
FITZ				Sn	S	00 54 24.4	-20
	1.0nm,0.3s,baz=180,slow=16,SNR=9.6						
WRA	Warramunga Arr	13.86	164	Pn	P	00 52 41.6	-3.8
	0.7nm,0.3s,baz=345,slow=13,SNR=11						
WRA				Sn	S	00 55 04.9	-16
	0.9nm,0.3s,baz=343,slow=21,SNR=10						
ASAR	Alice Springs	17.35	169	P	P	00 53 28.6	-1.8
	0.4nm,0.3s,baz=344,slow=9.0,SNR=18						
ASAR				S	S	00 56 28.1	-15
	0.2nm,0.3s,baz=345,slow=25,SNR=5.8						
MKAR	Makanchi Array	68.02	327	P	P	01 00 26.3	-2.1
	0.8nm,0.5s,baz=121,slow=7.9,SNR=9.6						

NEIC ***10*** *01:17:46.6,27.98S×70.84W,h161^{km},MD3.3(GUC),After GUC.*

GUC 10 01:17:46.6±0.8**,27.98S×70.84W,h161**^{km}±7^{km}**,MD3.3, ML3.7,2C-2D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.60	173	⇑iP	P	01 18 09.4	-0.7
VACH				i S	S	01 18 27.8	-0.3
VACH				AML	AML	01 18 31.5	
	comp=E,1µm,0.1s						
CPCH	Copiapo	0.76	35	⇓iP	P	01 18 11.2	+0.2
CPCH				i S	S	01 18 29.1	-0.6
CPCH				AML	AML	01 18 31.4	
	comp=E,3µm,0.1s						
TLL	Tololo Astrono	2.18	179	⇓iP	P	01 18 25.8	+0.9
TLL				i S	S	01 18 55.1	+0.8
TLL				AML	AML	01 19 06.5	
	comp=N,74nm,0.5s						
CMCH	Combarbala	3.18	182	⇑iP	P	01 18 37.6	+0.2
CMCH				i S	S	01 19 16.3	-0.1
CMCH				AML	AML	01 19 25.0	
	comp=N,220nm,0.5s						
LVC	Limon Verde	5.62	19	ePn	P	01 19 06.6	-2.7

IDC ***10*** *01:32:38.7±1.1,15.67S×72.31W,mb3.7/3,mb1 4.0/5, mb1mx3.7/18,ML3.1/1,MS3.1/1,Ms1 3.1/1,ms1mx2.7/25, Error ellipse: s-maj=47.1km s-min=23.8km az=65.0*

ISC 10 01:32:41.1±1.1**,15.9S**±0.1×**72.4W**±0.2**,h33**^{km}**,n7,σ1^{s}36**/6**, mb3.6**/3**,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.10	97	Pn	Pn	01 33 43.5	+0.3
	0.7nm,0.3s,baz=271,slow=12,SNR=22						
LVC	Limon Verde	7.47	155	Pn	Pn	01 34 29.4	-1.3
	2.0nm,0.3s,baz=332,slow=8.8,SNR=17						
LVC				Sn	Sn	01 35 55.5	+0.3
	1.7nm,0.3s,baz=134,slow=18,SNR=6.9						
CPUP	Villa Florida	17.46	129	LR	LR	01 43 53.7	
	comp=Z,56nm,18.2s,baz=157,slow=38						
PLCA	Paso Flores	24.84	177	P	P	01 38 05.3	+3.4
	2.6nm,0.9s,mb3.8,baz=337,slow=9.4,SNR=6.9						
TXAR	Lajitas Array	54.14	326	P	P	01 42 05.6	0.0
	0.2nm,0.6s,mb3.3,baz=153,slow=8.1,SNR=3.4						
YKA	Yellowknife Ar	84.81	342	P	P	01 45 13.0	-0.2
	0.7nm,0.8s,mb3.9,baz=133,slow=4.6,SNR=5.1						
SONM	Songino Array	148.10	2	PKPbc	PKPdf	01 52 25.3	+5.1
	1.4nm,0.7s,baz=338,slow=1.4,SNR=11						

IDC 10 01:38:07.0±71.0**,24.29S×178.74E,h643**^{km}±368^{km}**, mb2.9**/4**,mb1 3.0**/4**,mb1mx2.8**/14**,Error ellipse: s-maj=884.0km s-min=98.6km az=81.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	30.33	271	P	P	01 43 29.7	-1.2
	4.9nm,0.5s,baz=94,slow=11,SNR=10						
STKA	Stephens Creek	33.51	249	P	P	01 43 56.0	-1.5
	1.1nm,0.9s,baz=100,slow=11,SNR=3.8						
ASAR	Alice Springs	40.84	261	P	P	01 44 55.9	-1.2
	0.6nm,0.6s,baz=98,slow=7.5,SNR=6.9						
WRA	Warramunga Arr	41.23	267	P	P	01 44 58.7	-1.6
	2.0nm,0.6s,baz=104,slow=8.3,SNR=8.2						

GUC ***10*** *01:37:38.1±0.0,36.46N×70.78E,h207^{km},mb5.5(NEIC), MW6.0(NEIC)*

ORF ***10*** *01:46:53.2,34.99N×74.03E,h30^{km},mb5.6*

BGS ***10*** *01:47:24.0±1.3,37.00N×69.17E,h33^{km},mb5.2*

BJI ***10*** *01:47:31.5,36.57N×70.76E,h204^{km},mB5.6,mb5.4*

MOS ***10*** *01:47:31.4±1.0,36.48N×70.78E,h202^{km},mb5.6/53, MS5.0/12,Error ellipse: s-maj=6.6km s-min=4.1km az=112.7*

MOS Felt (IV) at Dushanbe; (III-IV) at Tashkent; (II) at Chimkent.

IGIL ***10*** *01:47:32.5,36.50N×70.80E,h200^{km},MS4.8*

NEIC ***10*** *01:47:32.8±0.1,36.44N×70.80E,mb5.3/162,MW6.0, Error ellipse: s-maj=3.9km s-min=2.4km az=189.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{18} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.1×10^{18} NP1:ϕ_s279°, δ25°,λ80°. NP2:ϕ_s110°,δ65°,λ95°. Principal axes: T 1.15, Plg69°, Azm29°; N -.1, Plg4°, Azm288°; P -1.05, Plg20°, Azm196°;*

NEIC At least two people injured in Mansehra, Pakistan. Felt in Balkh, Kabul, Kondoz and Takhar, Afghanistan. Also felt at Chitral, Islamabad, Lahore, Peshawar, Rawalpindi and Swat, Pakistan; Gurgaon, India; and Ashgabat, Turkmenistan. Felt [IV] at Dushanbe, Tajikistan. Also felt [IV] at Tashkent, Uzbekistan. Felt [II] at Shymkent, Kazakhstan.

HRVD ***10*** *01:47:32.8±0.1,36.52N×70.60E,h206^{km},MW6.0/74, Centroid moment Tensor Solution. LP body waves: s70,c170;Mantle waves: s74,c190; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.78±.01; $M_{\theta\theta}$-0.70±.01; $M_{\phi\phi}$-0.08±.01; $M_{r\theta}$0.84±.01; $M_{\theta\phi}$0.17±.01; $M_{\phi r}$-0.42±.01; Best double couple: $M_0$1.21×10^{18} NP1: ϕ_s277°,δ20°,λ74°. NP2:ϕ_s114°,δ71°,λ96°. Principal axes: T 1.23, Plg64°, Azm33°; N -.05, Plg5°, Azm292°; P -1.18, Plg25°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***10*** *01:47:33.1±0.4,36.41N×70.82E,h211^{km}±3^{km},mb5.2/20, mb1 5.3/22,mb1mx5.3/22 Error ellipse: s-maj=11.2km s-min=7.3km az=26.0*

KNET ***10*** *01:47:42.9±1.5,37.40N×71.24E,h251^{km}±29^{km},ml7.2, Error ellipse: s-maj=18.6km s-min=15.3km az=64.0*

NNC ***10*** *01:47:43.4±1.8,37.42N×70.48E,h196^{km}±13^{km},mpv6.7, Error ellipse: s-maj=18.0km s-min=13.6km az=71.0*

ISC 10 01:47:31.3±0.1**,36.42N**±0.01×**70.76E**±0.01**,h207**^{km}**, h207**^{km}±.7^{km}**:pP-P,n957,σ0^{s}98**/1022**,mb5.2**/249**, 248C-50D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.75	160	⇑P	P	01 48 19.8	+0.9
CEP				S	S	01 48 54.0	-1.7
CHCP	Chirah Chowk	3.43	143	⇑P	P	01 48 28.0	+1.0
THW	Thamme Wali	3.70	167	⇓P	P	01 48 30.7	+0.4
SBDP	Sheikh Budin	4.11	179	⇑P	P	01 48 35.0	-0.3
DRP	Derazinda	4.69	186	⇓P	P	01 48 42.7	+0.2
DRP				S	S	01 49 36.0	-1.8
SARP	Sargodha	4.76	160	⇓P	P	01 48 43.3	-0.1
TAS	Tashkent	5.03	347	i PN	P	01 48 46.0	-0.9
TAS				pmax	pmax		
	comp=Z,21µm,2.0s						
TAS	Tashkent	5.03	347	⇑iP	P	01 48 46.0	-0.9
KSH	Kashi	5.15	52	i PR		01 48 49.7	
KSH				eXP		01 49 32.5	
KSH				S	S	01 49 48.0	-0.3
KSH				eSS	SS	01 49 57.2	-11
KSH				LR	LR		
	comp=N,112µm,5.5s						
THN	Thein Dam	5.71	133	⇓iP	P	01 48 55.6	0.0
THN				eS	S	01 50 00.5	-0.6
DLH	Dalhousie	5.78	130	eP	P	01 48 54.0	-2.5
AML	Almayashu	6.14	21	P	P	01 49 01.0	-0.2
PONG	Pong	6.19	135	eP	P	01 49 02.0	+0.2
PONG				eS	S	01 50 09.0	-3.3
UCH	Uchtor	6.49	25	P	P	01 49 05.7	+0.1
	SNR=1384						
KZA	Kyzart	6.64	30	P	P	01 49 07.1	-0.5
	SNR=157						
EKS2	Erkin-Say	6.66	20	P	P	01 49 07.5	-0.4
	SNR=5168						
KK31	Karatay Array	6.68	358	⇓P	P	01 49 07.3	-0.8
	comp=N,2µm,0.2s,baz=187,slow=16						
KK31				⇑S	S	01 50 12.0	-12
	comp=N,10µm,0.6s,baz=177,slow=15,SNR=16						
KKAR	Karatay Array	6.68	358	ePN	P	01 49 07.3	-0.9
KKAR				pmax	pmax		
	comp=Z,625nm,0.4s						
AAK	Ala-Archa	6.84	24	P	P	01 49 10.2	0.0
	SNR=420						
BHK	Bhakra	6.85	135	e	P	01 49 16.0	+5.6
BHK				eS	S	01 50 24.0	-3.7
FRU	Bishkek	7.06	24	⇓iPN	P	01 49 13.0	-0.1
FRU				i S	S	01 50 30.0	-2.6
FRU				pmax	pmax		
	comp=Z,20µm,6.0s						
FRU				smax			
	comp=E,75µm,4.0s						
SDNR	Sundarnagar	7.12	132	eP	P	01 49 13.6	-0.2
SDNR				eS	S	01 50 31.0	-2.9
ULHL	Ulahol	7.20	34	P	P	01 49 14.2	-0.8
	SNR=671						
CHMS	Chumysh	7.25	24	P	P	01 49 14.9	-0.7
	SNR=4485						
USP	Ospenovka	7.42	22	⇑P	P	01 49 16.4	-1.4
	SNR=237						
TKM2	Tokmak 2	7.49	28	P	P	01 49 18.4	-0.2
	SNR=1423						
SMLA	Simla	7.50	133	⇓i	P	01 49 28.1	+9.3
SMLA				i S	S	01 50 38.9	-3.9
	comp=E,9µm,0.4s						
KLP	Kalpa	7.90	126	eP	P	01 49 24.9	+0.9
KLP				eS	S	01 50 49.6	-2.5
KKR	Kurukshetra	8.20	140	eP	P	01 49 28.6	+0.7
AAA	Alma-Ata	8.33	33	ePN	P	01 49 29.0	-0.7
DDI	Dehra Dun	8.61	133	⇑eP	P	01 49 32.3	-0.9
DDI				eS	S	01 51 06.6	-2.0
KHET	Khetri	9.35	151	eP	P	01 49 41.6	-1.2
KHET				eS	S	01 51 21.4	-4.3
KHET				eS	S	01 51 21.8	-3.9
KHET				e		01 51 25.1	
	comp=N,3µm,0.8s						
KHET				e		01 51 25.4	
	comp=E,3µm,0.8s						
JOSI	Joshimath	9.38	126	eP	P	01 49 44.2	+0.9
JOSI				eS	S	01 51 24.2	-2.4
NDI	New Delhi	9.44	143	⇓iP	P	01 49 42.3	-1.7
	comp=E,629nm,0.9s						
NDI				eS	S	01 51 24.0	-3.8

JASL	**Jaisalmer**	**9.46**	**179**	*e*P	**P**	**01 49 43.0**	**-1.3**
AYAN	**Aya Nagar**	**9.56**	**144**	*e*P	**P**	**01 49 45.2**	**-0.4**
AYAN				*e*S	**S**	**01 51 26.8**	**-3.9**
KUDL	**Kundal**	**9.56**	**148**	*e*P	**P**	**01 49 44.7**	**-1.0**
SONA	**Sohna**	**9.74**	**145**	*e*P	**P**	**01 49 47.1**	**-0.8**
SONA				*e*S	**S**	**01 51 29.3**	**-5.4**
SONA				*e*		01 51 35.4	
	comp=E,4µm,0.5s						
SONA				*e*		01 51 35.4	
	comp=N,2µm,0.6s						
VAN	**Vannovskaya**	**10.21**	**282**	*e*P	**P**	**01 49 51.7**	**-2.3**
AJM	**Ajmer**	**10.45**	**160**	*e*P	**P**	**01 49 56.3**	**-0.7**
AJM				AMb	AMB	01 49 59.8	
	comp=Z,914nm,0.9s						
AJM				*e*		01 51 49.6	
PTH	**Pithoragarh**	**10.48**	**128**	*e*P	**P**	**01 49 57.3**	**-0.1**
PTH				*e*S	**S**	**01 51 50.0**	**-2.0**
LGTI	**Lohaghat**	**10.57**	**128**	⇓*e*P	**P**	**01 49 58.0**	**-0.6**
LGTI				*e*S	**S**	**01 51 50.7**	**-3.3**
AGRA	**Agra**	**11.00**	**144**	*e*P	**P**	**01 50 03.4**	**-0.8**
AGRA				*e*S	**S**	**01 52 00.5**	**-3.7**
JHNI	**Jhansi**	**12.79**	**146**	⇑*i*P	**P**	**01 50 28.0**	**+1.3**
JHNI				*e*S	**S**	**01 52 42.0**	**-3.2**
MK31	**Makanchi Array**	**13.47**	**36**	⇓P	**P**	**01 50 38.0**	**+2.8**
	comp=Z,1µm,0.8s						
MKAR	**Makanchi Array**	**13.47**	**36**	P	**P**	**01 50 34.0**	**-1.3**
	comp=Z,27nm,0.3s,baz=213,slow=14,SNR=221						
MKAR				PP	Px	01 51 27.9	
	comp=Z,12nm,0.3s,baz=221,slow=13,SNR=6.2						
KOLN	**Koldanda**	**13.87**	**125**	*e*P	**P**	**01 50 39.5**	**-0.8**
	comp=Z,1µm,0.6s						
KOLN				*e*S	**S**	**01 53 04.6**	**-5.1**
BHPL	**Bhopal**	**14.34**	**154**	*e*P	**P**	**01 50 47.9**	**+1.7**
BHPL				*e*		01 53 19.5	
VLK	**Valmikinagar**	**14.35**	**126**	*i* P	**P**	**01 50 47.0**	**+0.7**
GKN	**Gorkha**	**14.42**	**122**	*e*P	**P**	**01 50 46.3**	**-0.8**
	comp=Z,2µm,0.5s						
GKN	**Gorkha**	**14.42**	**122**	*e*S	**S**	**01 53 18.4**	**-3.6**
ALBI	**Allahabad**	**14.57**	**136**	⇓*e*	**P**	**01 50 47.5**	**-1.4**
WMQ	**Urumqi**	**14.90**	**55**	⇓*i*P	**P**	**01 50 53.1**	**+0.2**
WMQ				XP		01 51 45.5	
WMQ				S	**S**	**01 53 32.1**	**-0.5**
WMQ				PCP	PcP	01 55 49.1	0.0
WMQ				SCP		01 59 02.0	
WMQ				PCS		01 59 22.1	
WMQ				SCS	ScS	02 02 39.1	+0.3
WMQ				AMB	AMB		
	comp=Z,817nm,8.2s						
DMN	**Daman**	**14.99**	**122**	*e*P	**P**	**01 50 54.2**	**0.0**
	comp=Z,2µm,0.7s						
DMN	**Daman**	**14.99**	**122**	*e*P	**P**	**01 50 54.4**	**+0.2**
KKN	**Kakani**	**15.00**	**121**	*e*P	**P**	**01 50 54.0**	**-0.3**
	comp=Z,2µm,0.6s						
AB31	**Akbulak array**	**15.06**	**332**	P	**P**	**01 50 53.3**	**-1.7**
	comp=Z,181nm,0.4s,baz=144,slow=12,SNR=7180						
AB31				⇑S	**S**	**01 53 31.2**	**-5.1**
	comp=Z,1µm,0.7s,baz=158,slow=24,SNR=7.8						
AB31	**Akbulak array**	**15.06**	**332**	P	**P**	**01 50 53.2**	**-1.7**
AB31				S	**S**	**01 53 31.1**	**-5.2**
AB31				pmax	pmax		
	comp=Z,26nm,0.2s						
PKI	**Pulchoki**	**15.22**	**121**	*e*P	**P**	**01 50 56.8**	**-0.3**
	comp=Z,3µm,0.7s						
PKI	**Pulchoki**	**15.22**	**121**	*e*S	**S**	**01 53 36.3**	**-3.7**
GUN	**Gumba**	**15.34**	**119**	*e*P	**P**	**01 50 58.4**	**-0.1**
KURK	**Kurchatov**	**15.37**	**19**	P	**P**	**01 50 58.7**	**0.0**
	comp=Z,348nm,0.8s,baz=201,slow=9.2,SNR=1337						
KURK				⇑S	**S**	**01 53 41.9**	**-1.2**
	comp=Z,465nm,1.2s						
KURK	**Kurchatov**	**15.37**	**19**	*e*P	**P**	**01 50 56.5**	**-2.1**
	comp=Z,691nm,0.8s						
KURK				*e*S	**S**	**01 53 43.9**	**+0.8**
JBP	**Jabalpur**	**15.43**	**146**	⇓*i*P	**P**	**01 50 59.0**	**-0.6**
JBP				*i*		01 53 41.0	
VOSK	**Vostochnaya**	**16.30**	**0**	⇑P	**P**	**01 51 09.0**	**-1.0**
	comp=Z,782nm,1.1s						
VOSK				⇓S	**S**	**01 53 59.8**	**-4.1**
	comp=Z,772nm,0.8s						
VOSK	**Vostochnaya**	**16.30**	**0**	P	**P**	**01 51 09.0**	**-1.0**
VOSK				S	**S**	**01 53 59.8**	**-4.2**
VOSK				pmax	pmax		
	comp=Z,900nm,1.2s						
VOSK	**Vostochnaya**	**16.30**	**0**	*i* P	**P**	**01 51 09.0**	**-1.0**
ZRNK	**Zerenda**	**16.58**	**356**	⇑P	**P**	**01 51 12.5**	**-0.8**
	comp=Z,604nm,0.9s						
ZRNK				⇓S	**S**	**01 54 06.0**	**-4.0**
	comp=Z,972nm,1.4s						
ZRNK	**Zerenda**	**16.58**	**356**	P	**P**	**01 51 12.4**	**-0.9**
ZRNK				S	**S**	**01 54 08.4**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,704nm,0.9s						
ZRNK	**Zerenda**	**16.58**	**356**	⇑*e*P	**P**	**01 51 12.2**	**-1.1**
	comp=Z,617nm,0.5s						
AKL	**Akola**	**16.59**	**159**	*e*P	**P**	**01 51 15.4**	**+1.8**
	comp=Z,1µm,1.1s						
AKL				*e*		01 54 13.9	
BVA0	**Borovoye Array**	**16.61**	**359**	P	**P**	**01 51 12.9**	**-0.7**
	comp=Z,84nm,1.0s,baz=161,slow=10.0,SNR=2475						
BVA0				⇑S	**S**	**01 54 07.4**	**-3.2**
	comp=Z,122nm,1.0s						
BVA0	**Borovoye Array**	**16.61**	**359**	P	**P**	**01 51 12.9**	**-0.7**
BVA0				S	**S**	**01 54 10.8**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,11nm,0.4s						
BVAR	**Borovoye Array**	**16.61**	**359**	P	**P**	**01 51 12.7**	**-0.9**
	comp=Z,122nm,0.3s,baz=162,slow=13,SNR=806						
BRVK	**Borovoye**	**16.64**	**359**	*e*P	**P**	**01 51 13.3**	**-0.7**
	comp=Z,585nm,0.6s						
BRVK				*e*S	**S**	**01 54 17.0**	**+5.6**
NGP	**Nagpur**	**16.84**	**152**	*e*P	**P**	**01 51 18.3**	**+1.7**
NGP				*e*		01 54 14.6	
	comp=Z,553nm,0.8s						
BLSP	**Bilaspur**	**17.33**	**142**	*i* P	**P**	**01 51 20.0**	**-1.9**
BLSP				*i*		01 54 25.5	
BLSP				*e*		01 54 26.0	
BOM	**Bombay**	**17.55**	**174**	*e*P	**P**	**01 51 25.7**	**+1.4**
BOM				*e*S	**S**	**01 54 42.5**	**+12**
	comp=Z,1µm,0.6s						
SLGI	**Shiliguri**	**17.87**	**118**	*i* P	**P**	**01 51 28.3**	**+0.7**
POO	**Poona**	**18.03**	**170**	⇓*e*P	**P**	**01 51 30.0**	**+0.7**
POO				*e*		01 54 50.0	
BOK	**Bokaro**	**18.12**	**130**	*i* P	**P**	**01 51 31.0**	**+0.7**
BOK				*i*		01 54 42.0	
LSA	**Lhasa**	**18.34**	**106**	P	**P**	**01 51 35.1**	**+2.6**
LSA				S	**S**	**01 54 50.0**	**+3.5**
LSA	**Lhasa**	**18.34**	**106**	⇑*e*P	**P**	**01 51 35.1**	**+2.6**
LSA				pmax	pmax		
	comp=Z,680nm,0.8s						
LSA	**Lhasa**	**18.34**	**106**	⇑*e*P	**P**	**01 51 35.1**	**+2.6**
	comp=Z,956nm,0.8s						
LATR	**Latur**	**18.65**	**163**	*e*P	**P**	**01 51 38.1**	**+2.4**
	comp=Z,1µm,1.2s						
LATR				*e*		01 54 56.6	
MAK	**Makhachkala**	**19.02**	**297**	*d* *i*P	**P**	**01 51 40.0**	**+0.6**
MAK				*i* S	**S**	**01 55 01.5**	**+1.9**
MAK				pmax	pmax		
	comp=E,2µm,8.0s						
MAK				pmax	pmax		
	comp=Z,3µm,8.0s						
MAK				smax			
	comp=N,24µm,8.0s						
MAK				smax			
	comp=E,12µm,8.0s						
KAD	**Karad**	**19.27**	**170**	⇓*i*P	**P**	**01 51 43.4**	**+1.2**
KAD				*i* S	**S**	**01 55 18.9**	**+14**
HYB	**Hyderabad**	**20.14**	**158**	*i* P	**P**	**01 51 52.0**	**+1.0**
	comp=E,1µm,1.0s						
HYB				*e*		01 51 53.5	
HYB				*e*PP	PP	01 52 24.0	+6.1
HYB				*e*		01 52 41.0	
HYB				*e*sP		01 52 56.0	
HYB				*e*S	**S**	**01 55 22.0**	**+1.5**
HYB				LR	LR	02 00 34.0	
	comp=E,12nm,14.0s						
HYB				*e*ScS	ScS	02 02 56.0	+1.3
HYB				*e*PKPPKP		02 27 23.0	
HYB	**Hyderabad**	**20.14**	**158**	*e*P	**P**	**01 51 52.0**	**+1.0**
	comp=E,1µm,1.0s						
HYB				*e*		01 51 53.5	
HYB				*e*		01 52 41.0	
HYB				*e*sP		01 52 56.0	
HYB				*e*S	**S**	**01 55 24.0**	**+3.5**
NVS	**Novosibirsk**	**20.33**	**21**	*i* P	**P**	**01 51 52.1**	**-0.5**
NVS				*i*		01 52 51.8	
NVS				*i* S	**S**	**01 55 27.3**	**+3.7**
NVS				pmax	pmax		
	comp=N,637nm,0.9s						
NVS				pmax	pmax		
	comp=Z,885nm,0.9s						
NVS				pmax	pmax		
	comp=E,281nm,0.8s						
NVS				smax			
	comp=N,804nm,1.0s						
NVS				smax			
	comp=E,1µm,1.2s						
UMR	**Umm Al-Rimmam**	**20.48**	**257**	*e*P	**P**	**01 51 54.4**	**+0.1**
UMR				AMb	AMB	01 52 02.3	
	comp=Z,3µm,0.4s						
CAL	**Calcutta**	**20.57**	**127**	*e*	**P**	**01 51 48.2**	**-7.0**
CAL				*e*		01 55 24.7	
MIB	**Mutribah**	**20.68**	**258**	*e*P	**P**	**01 51 56.5**	**+0.3**
MIB				AMb	AMB	01 51 59.5	
	comp=Z,1µm,0.7s						
QRN	**Al-Qurain**	**20.69**	**255**	*e*P	**P**	**01 51 56.3**	**0.0**
QRN				AMb	AMB	01 51 58.5	
	comp=Z,1µm,0.4s						
GNI	**Garni**	**20.74**	**288**	P	**P**	**01 51 59.8**	**+3.1**
	comp=Z,233nm,0.7s,baz=174,slow=1.0,SNR=22						
GNI	**Garni**	**20.74**	**288**	P	**P**	**01 51 59.8**	**+3.0**
GNI				pmax	pmax		
	comp=Z,233nm,0.7s						
GNI	**Garni**	**20.74**	**288**	P	**P**	**01 51 59.8**	**+3.1**
RDF	**Al-Radifah**	**20.89**	**256**	*e*P	**P**	**01 51 58.9**	**+0.5**
RDF				AMb	AMB	01 52 00.8	
	comp=Z,1µm,1.0s						
GOA	**Goa**	**21.02**	**172**	*e*P	**P**	**01 52 00.3**	**+0.6**
GOA				*e*		01 55 41.4	
SHL	**Shillong**	**21.05**	**115**	⇑*e*P	**P**	**01 51 59.5**	**-0.4**
SHL				*e*		01 55 44.0	
AGT	**Agartala**	**21.62**	**120**	⇓*i*P	**P**	**01 52 11.0**	**+5.5**
AGT				*i*		01 52 27.0	
ARU	**Arti**	**21.65**	**341**	⇑*i*P	**P**	**01 52 06.3**	**+0.8**
ARU				*i*		01 52 40.0	
ARU				*i* S	**S**	**01 55 54.2**	**+7.0**
ARU				*i* SSS	Sx	01 56 43.5	
ARU				pmax	pmax		
	comp=Z,542nm,1.2s,mb6.0						
ARU	**Arti**	**21.65**	**341**	⇑*e*P	**P**	**01 52 06.2**	**+0.7**
	comp=Z,375nm,0.7s,mb6.0						
ARU				*e*S	**S**	**01 55 52.1**	**+4.9**
VIS	**Vishakhapatnam**	**21.69**	**146**	*e*P	**P**	**01 52 08.2**	**+2.0**
GOF	**Gofitskoye**	**22.63**	**301**	*c* *i*P	**P**	**01 52 17.0**	**+1.9**
GOF				*i*		01 52 52.0	
GOF				*i* S	**S**	**01 56 12.0**	**+7.9**
GOF				pmax	pmax		
	comp=Z,10µm,4.0s						
GOF				pmax	pmax		
	comp=Z,210nm,1.3s,mb5.5						
GOF				pmax	pmax		
	comp=Z,6µm,3.0s						
GOF				smax			
	comp=N,2µm,1.4s						
GOF				smax			
	comp=N,36µm,10.0s						
GOF				MLR	MLR		
	comp=Z,8µm,10.0s						
CUD	**Cuddapah**	**22.99**	**160**	*e*P	**P**	**01 52 20.6**	**+1.6**
CUD				*e*		01 52 22.9	
CUD				*e*		01 52 24.2	
CUD				*e*		01 53 03.3	
CUD				*e*		01 53 22.1	
CUD				*e*S	**S**	**01 56 15.2**	**+4.6**
CUD				*e*		01 57 17.3	
IMP	**Imphal**	**23.01**	**114**	⇓*e*P	**P**	**01 52 22.0**	**+3.0**
GTA	**Gaotai**	**23.07**	**74**	P	**P**	**01 52 22.2**	**+2.7**
GTA				AP		01 53 00.9	
GTA				XP		01 53 26.7	
GTA				PCP	PcP	01 56 01.1	-2.3
GTA				S	**S**	**01 56 19.1**	**+7.4**
GTA				SS	SS	01 57 29.0	+10
GTA				SCP		01 59 18.8	
GTA				PCS		01 59 39.3	
GTA				LR	LR		
	comp=N,2µm,8.0s						
GTA				LR	LR		
	comp=E,2µm,9.9s						
GTA				LR	LR		
	comp=Z,2µm,11.0s						
RYDS	**Riyadh**	**24.06**	**246**	P	**P**	**01 52 26.4**	**-2.5**
SOC	**Sochi**	**24.74**	**296**	*i* P	**P**	**01 52 35.4**	**+0.3**
SOC				*e**PP		01 53 14.5	
SOC				*e*		01 53 23.9	
SOC				*i* S	**S**	**01 56 41.3**	**+1.8**
SOC				pmax	pmax		
	comp=Z,636nm,2.9s,mb5.7						
SOC				pmax	pmax		
	comp=N,33nm,1.7s						
SOC				pmax	pmax		
	comp=E,407nm,3.4s						
SOC				pmax	pmax		
	comp=Z,162nm,1.3s,mb5.5						
SOC				pmax	pmax		
	comp=N,63nm,1.7s						
SOC				pmax	pmax		
	comp=E,82nm,1.0s						
SOC				smax			
	comp=N,2µm,5.5s						
SOC				smax			
	comp=E,2µm,4.1s						
SOC				MLR	MLR		
	comp=Z,2µm,15.0s						
SOC				MLR	MLR		
	comp=N,1µm,12.0s						
SOC				MLR	MLR		
	comp=E,1µm,13.0s						
MDRS	**Chennai**	**24.76**	**157**	*e*P	**P**	**01 52 37.0**	**+1.4**
SOKR	**Solikamsk**	**24.88**	**343**	*c* *i*P	**P**	**01 52 36.6**	**+0.4**
SOKR				*i* S	**S**	**01 56 35.6**	**-6.0**
SOKR				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,3µm,20.0s						
MZLS	**Mizel**	**25.22**	**248**	P	**P**	**01 52 39.8**	**+0.1**
RAYN	**Ar Rayn**	**25.29**	**246**	P	**P**	**01 52 40.4**	**0.0**
	comp=Z,2µm,0.9s						
MALT	**Malatya**	**25.70**	**284**	*e*P	**P**	**01 52 45.6**	**+1.5**
	comp=Z,80nm,1.2s,mb5.2						
MALT				*e*	pP	01 53 23.1	-1.6
ARSS	**Ar Rass**	**25.71**	**254**	P	**P**	**01 52 44.0**	**-0.3**
HILS	**Ha’il**	**26.11**	**258**	P	**P**	**01 52 47.9**	**0.0**
MOY	**Mondy**	**26.30**	**45**	*e*P	**P**	**01 52 50.8**	**+1.4**
MOY				*e*	pP	01 53 35.9	+5.7
ANN	**Anapa**	**26.51**	**299**	*c* *i*P	**P**	**01 52 50.9**	**-0.4**
ANN				*e**PP	pP	01 53 28.7	-3.6
ANN				*e**SP	sP	01 53 45.2	-12
ANN				*e*S	**S**	**01 57 11.3**	**+3.0**
ANN				*e*SS		01 58 21.6	
ANN				pmax	pmax		
	comp=Z,54nm,0.5s,mb5.4						
ANN	**Anapa**	**26.51**	**299**	*i* P	**P**	**01 52 50.7**	**-0.6**
LZH	**Lanzhou**	**26.61**	**81**	⇑P	**P**	**01 52 54.0**	**+1.6**
LZH				AP	pP	01 53 39.3	+5.9
LZH				XP	sP	01 53 58.0	+0.1
LZH				S	**S**	**01 57 17.0**	**+6.9**
LZH				SCS	ScS	02 03 21.0	+1.4
LZH				LR	LR		
	comp=N,5µm,11.2s						
LZH				LR	LR		
	comp=Z,6µm,14.2s						
PECR	**Pechory**	**26.82**	**326**	⇑*i*P	**P**	**01 52 54.4**	**+0.3**
PECR				*i* *PP	pP	01 53 31.0	-4.1
PECR				*i*		01 53 58.4	
PECR				*i* S	**S**	**01 57 13.2**	**-0.1**
PECR				*i*		01 58 22.4	
PECR				*e*SS	SS	01 58 49.0	+2.1
PECR				pmax	pmax		
	comp=Z,2µm,4.0s						
PECR				smax			
	comp=N,6µm,14.0s						
AFFS	**‘Afif**	**26.93**	**250**	P	**P**	**01 52 55.3**	**-0.2**
VOR	**Voronezh**	**27.09**	**314**	*e*P	**P**	**01 52 56.0**	**-0.6**
VOR				*e**PP	pP	01 53 32.0	-5.7
VOR				*e*		01 53 55.0	
VOR				pmax	pmax		
	comp=Z,360nm,2.0s,mb5.7						
VOR				pmax	pmax		
	comp=N,140nm,1.6s						
CD2	**Chengdu**	**27.92**	**92**	⇑*i*P	**P**	**01 53 05.8**	**+1.5**
CD2				AP	pP	01 53 43.5	-2.2
CD2				PP	PP	01 54 07.5	+5.3
CD2				XP	sP	01 54 10.2	+0.2
CD2				S	**S**	**01 57 28.9**	**-2.3**
CD2				XS		01 58 43.0	
CD2				LR	LR		
	comp=N,4µm,11.2s						
CD2				LR	LR		
	comp=Z,2µm,10.6s						
ASF	**Jabal al Asfar**	**28.21**	**271**	P	**P**	**01 53 07.9**	**+1.0**
	comp=Z,7.5nm,0.8s,mb4.3,baz=329,slow=3.8,SNR=12						
ASF				pP	pP	01 53 48.8	+0.4
	comp=Z,11nm,0.5s,baz=251,slow=2.9,SNR=3.1						
IRK	**Irkutsk**	**28.40**	**46**	*e*P	**P**	**01 53 08.7**	**+0.4**
IRK				*e*	pP	01 53 52.9	+3.0
IRK				*e*		01 54 14.0	
SONM	**Songino Array**	**28.54**	**55**	P	**P**	**01 53 10.5**	**+0.9**
	comp=Z,160nm,0.9s,mb5.7,baz=264,slow=8.7,SNR=192						
SONM				pP	pP	01 53 52.6	+1.4
	comp=Z,61nm,0.8s,baz=256,slow=10,SNR=3.0						
SONM				sP	sP	01 54 15.9	+0.5
	comp=Z,46nm,1.0s,baz=247,slow=9.4,SNR=1.3						
SONM				ScP		01 59 37.1	
	comp=Z,6.6nm,0.8s,baz=223,slow=1.9,SNR=4.2						
SONM				P3KPbc		02 25 23.1	
	comp=Z,1.6nm,0.5s,baz=100,slow=3.3,SNR=14						
SONM	**Songino Array**	**28.54**	**55**	P	**P**	**01 53 10.5**	**+0.9**
SONM				pP	pP	01 53 52.6	+1.4
SONM				sP	sP	01 54 15.9	+0.5
SONM				ScP		01 59 37.1	
SONM				*e*		02 25 23.1	
HRI	**Mount Hermon**	**28.83**	**274**	P	**P**	**01 53 13.6**	**+1.3**
KSHT	**Keshet**	**28.84**	**274**	P	**P**	**01 53 13.3**	**+0.8**
KBRS	**Khaybar**	**28.86**	**257**	P	**P**	**01 53 13.7**	**+1.0**
SIM	**Simferopol’**	**28.87**	**299**	*c* *i*P	**P**	**01 53 11.9**	**-0.7**
SIM				*e**PP	pP	01 53 53.0	-1.3
SIM				*i* S	**S**	**01 57 45.8**	**-0.4**
SIM				*e**SS		01 58 58.0	
SIM				pmax	pmax		
	comp=Z,300nm,2.7s,mb5.5						
SIM	**Simferopol’**	**28.87**	**299**	⇑*e*P	**P**	**01 53 12.2**	**-0.4**
TATS	**Tathlith**	**29.24**	**242**	P	**P**	**01 53 15.4**	**-0.7**
HMDT	**Nahal Hemdat**	**29.29**	**272**	P	**P**	**01 53 16.9**	**+0.4**
MMLI	**Mount Malkishu**	**29.32**	**273**	P	**P**	**01 53 17.2**	**+0.5**
HNTI	**Hanita**	**29.33**	**274**	P	**P**	**01 53 17.5**	**+0.7**
MUKL	**Al Mukalla**	**29.40**	**227**	⇑*i*P	**P**	**01 53 17.5**	**0.0**
KMI	**Kunming**	**29.56**	**103**	⇑*i*P	**P**	**01 53 19.6**	**+0.7**
KMI				AP	pP	01 54 02.2	+1.3
KMI				XP	sP	01 54 24.5	-0.5
KMI				PP	PP	01 54 28.5	+5.0
KMI				PPP	PPP	01 54 48.9	+8.3
KMI				PCP	PcP	01 56 18.7	+0.1
KMI				S	**S**	**01 57 58.8**	**+1.5**
KMI				XS		01 59 12.5	
KMI				SS	SS	01 59 51.8	+1.8
KMI				AMB	AMB		
	comp=Z,99nm,1.0s,mb5.4						
KMI				AMB	AMB		
	comp=Z,944nm,9.3s						
KMI				LR	LR		
	comp=N,2µm,16.2s						
KMI				LR	LR		
	comp=E,2µm,15.4s						
KMI				LR	LR		
	comp=Z,2µm,21.5s						
MOS	**Moscow**	**29.60**	**321**	⇑*i*P	**P**	**01 53 18.8**	**-0.2**
MOS				*e**PP	pP	01 53 59.2	-1.7
MOS				*e*		01 54 27.9	
MOS				*e*		01 56 18.4	
MOS				*e*S	**S**	**01 57 57.4**	**-0.2**
MOS				*e**SS		01 59 05.9	
MOS				*e*		02 03 34.3	
MOS				pmax	pmax		
	comp=Z,4µm,3.2s						
MOS				pmax	pmax		
	comp=Z,381nm,0.7s,mb6.1						
MOS				pmax	pmax		
	comp=N,334nm,1.3s						
MOS				pmax	pmax		
	comp=E,407nm,1.1s						
DRGI	**Dragot**	**29.61**	**271**	P	**P**	**01 53 19.5**	**+0.2**
OFRI	**‘Ofer**	**29.62**	**273**	P	**P**	**01 53 20.1**	**+0.8**
SLTI	**Sal’it**	**29.69**	**272**	P	**P**	**01 53 21.6**	**+1.6**
OBN	**Obninsk**	**29.88**	**320**	*c* *i*P	**P**	**01 53 21.0**	**-0.4**
OBN				*i* *PP	pP	01 54 01.9	-1.5
OBN				*i* S	**S**	**01 58 02.4**	**+0.5**
OBN				pmax	pmax		
	comp=Z,579nm,1.5s,mb6.0						
OBN	**Obninsk**	**29.88**	**320**	⇑*e*P	**P**	**01 53 21.1**	**-0.2**
	comp=Z,239nm,0.4s,mb6.2						
ANTO	**Ankara**	**29.91**	**288**	P	**P**	**01 53 24.0**	**+2.1**
TBKS	**Tabuk**	**29.93**	**264**	P	**P**	**01 53 23.1**	**+1.0**
JMQS	**Jabal Moqyreh**	**30.20**	**266**	P	**P**	**01 53 25.0**	**+0.6**
CSS	**Prodhromos**	**30.32**	**279**	P	**P**	**01 53 25.1**	**-0.4**
	comp=Z,14nm,0.6s,mb4.8						
CSS				*e*pP	pP	01 54 06.7	-0.8
PRNI	**Paran**	**30.35**	**269**	P	**P**	**01 53 26.4**	**+0.7**
CHG	**Chiang Mai**	**30.35**	**118**	⇑P	**P**	**01 53 25.7**	**-0.2**
	comp=Z,71nm,1.0s,mb5.2						
BLJS	**Baljurashi**	**30.38**	**245**	P	**P**	**01 53 26.4**	**+0.3**
PALK	**Pallekele**	**30.40**	**160**	P	**P**	**01 53 27.3**	**+1.0**
	comp=Z,428nm,0.8s,mb6.1,SNR=9.4						
PALK	**Pallekele**	**30.40**	**160**	*e*P	**P**	**01 53 27.4**	**+1.1**
	comp=Z,63nm,0.7s,mb5.3						
DJNS	**Zahran al Janu**	**30.41**	**239**	P	**P**	**01 53 26.3**	**-0.1**
AQBJ	**Aqaba**	**30.54**	**268**	P	**P**	**01 53 27.7**	**+0.3**
YNBS	**Yanbu‘ al Bahr**	**30.58**	**256**	P	**P**	**01 53 28.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.58**	**118**	P	**P**	**01 53 28.2**	**+0.3**
	comp=Z,73nm,0.8s,mb5.4,baz=300,slow=8.4,SNR=164						
CMAR				pP	pP	01 54 10.2	+0.1
	comp=Z,56nm,1.1s,baz=296,slow=9.8,SNR=2.0						
CMAR				ScP		01 59 42.2	
	comp=Z,8.3nm,0.8s,baz=284,slow=4.9,SNR=3.9						
MBH	**Mount Berech**	**30.62**	**268**	P	**P**	**01 53 28.5**	**+0.3**
EIL	**Elat**	**30.64**	**268**	P	**P**	**01 53 28.5**	**+0.2**
KMTI	**Karmit**	**30.66**	**269**	P	**P**	**01 53 28.9**	**+0.4**
UMJS	**Umm Lajj**	**30.67**	**258**	P	**P**	**01 53 29.9**	**+1.2**
JMOS	**Jabal al Moall**	**30.70**	**267**	P	**P**	**01 53 29.0**	**+0.1**
BTO	**Baotou**	**30.83**	**70**	*e*P	**P**	**01 53 30.8**	**+1.0**
HAQS	**Haql**	**30.89**	**267**	P	**P**	**01 53 31.0**	**+0.4**
AYUS	**‘Aynunah**	**30.97**	**265**	P	**P**	**01 53 31.4**	**+0.2**
BDAS	**Al Bad‘**	**31.00**	**265**	P	**P**	**01 53 31.7**	**+0.2**
LTHS	**Al Lith**	**31.01**	**247**	P	**P**	**01 53 32.0**	**+0.4**
XAN	**Xi’an**	**31.13**	**83**	P	**P**	**01 53 32.9**	**+0.4**
XAN				XP	sP	01 54 36.9	-2.0
XAN				PP	PP	01 54 40.0	-3.2
XAN				S	**S**	**01 58 23.5**	**+1.7**
XAN				SCP		01 59 43.7	
XAN				SS	SS	02 00 26.3	+1.1
XAN				LR	LR		
	comp=N,1µm,13.6s						
XAN				LR	LR		
	comp=E,1µm,14.5s						
XAN				LR	LR		
	comp=Z,3µm,14.2s						
BDT	**Bhumibol Dam**	**31.44**	**120**	⇑P	**P**	**01 53 36.0**	**+0.6**
	comp=Z,76nm,1.0s,mb5.3						
NANT	**Nan**	**31.62**	**116**	⇑P	**P**	**01 53 36.0**	**-1.0**
	comp=Z,148nm,0.9s,mb5.5						
ISP	**Isparta**	**31.95**	**285**	⇑*i*P	**P**	**01 53 39.4**	**-0.3**
HHC	**Hu-ho-hao-te**	**31.97**	**69**	*e*P	**P**	**01 53 40.8**	**+1.0**
HHC				XP	sP	01 54 44.0	-2.3
HHC				PP	PP	01 54 57.3	+3.7
HHC				PCP	PcP	01 56 22.1	-2.7
HHC				S	**S**	**01 58 36.6**	**+1.8**
HHC				XS		01 59 52.4	
HHC				AMB	AMB		
	comp=Z,51nm,1.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,1µm,5.5s						
HHC				LR	LR		
	comp=N,2µm,11.8s						
HHC				LR	LR		
	comp=E,3µm,16.6s						
HHC				LR	LR		
	comp=Z,2µm,13.3s						
LBOS		**32.03**	**232**	*e*P	**P**	**01 53 40.5**	**0.0**
GYA	**Guiyang**	**32.04**	**98**	⇑*i*P	**P**	**01 53 41.2**	**+0.6**
GYA				XP	sP	01 54 44.4	-2.7
GYA				PP	PP	01 54 59.8	+5.1
GYA				S	**S**	**01 58 38.9**	**+2.9**
GYA				AMB	AMB		
	comp=Z,1µm,7.5s						

GYA				LR	LR		
	comp=N,2µm,17.7s						
GYA				LR	LR		
	comp=E,2µm,15.6s						
GYA				LR	LR		
	comp=Z,1µm,15.8s						
KIS	**Kishinev**	**32.69**	**302**α	iP	**P**	**01 53 44.0**	**-2.0**
KIS				i *PP	pP	01 54 28.0	-0.7
KIS				e		01 54 50.0	
KIS				ePPP	PP	01 55 01.0	-2.0
KIS				i S	**S**	**01 58 44.0**	**-1.9**
KIS				eSS		02 00 00.0	
KIS				e		02 03 44.0	
KIS				pmax	pmax		
	comp=Z,400nm,2.0s,mb5.6						
KIS				pmax	pmax		
	comp=N,1µm,4.0s						
KIS				pmax	pmax		
	comp=Z,1µm,4.0s						
KIS				smax			
	comp=E,2µm,8.0s						
KIS				smax			
	comp=N,4µm,9.0s						
KIS				MLR	MLR		
	comp=Z,2µm,16.0s						
ENH	**Enshi**	**32.77**	**89**⇑	eP	**P**	**01 53 47.5**	**+0.7**
	comp=Z,517nm,1.0s,mb6.0						
ENH				e		01 59 46.9	
AKASG	**Malin Array Be**	**32.85**	**309**	P	**P**	**01 53 46.5**	**-0.8**
	comp=Z,52nm,0.5s,mb5.4,baz=86,slow=7.3,SNR=101						
AKASG				pP	pP	01 54 29.7	-0.3
	comp=Z,98nm,0.7s,baz=90,slow=7.4,SNR=6.5						
AKASG				S	**S**	**01 58 49.4**	**+1.1**
	comp=Z,25nm,1.0s,baz=91,slow=17,SNR=4.3						
AKASG				ScP		01 59 48.8	
	comp=Z,18nm,0.6s,baz=73,slow=3.6,SNR=5.4						
KIEV	**Kiev**	**32.86**	**309**	P	**P**	**01 53 47.0**	**-0.3**
KSL	**Kastellorizon**	**33.02**	**282**	eP	**P**	**01 53 47.0**	**-1.8**
HARR	**Harsova**	**33.26**	**298**⇓	iP	**P**	**01 53 52.1**	**+1.3**
HARR	**Harsova**	**33.26**	**298**⇓	iP	**P**	**01 53 52.1**	**+1.3**
NST	**Nakhon Sawan**	**33.30**	**121**	⇓P	**P**	**01 53 52.3**	**+0.9**
	comp=Z,150nm,1.0s,mb5.5						
PRD	**Provadia**	**33.70**	**295**	i P	**P**	**01 53 55.0**	**+0.5**
BRD	**Bordesti**	**33.89**	**299**⇑	iP	**P**	**01 53 59.5**	**+3.3**
VRI	**Vrincioaia**	**34.10**	**300**⇓	iP	**P**	**01 53 59.7**	**+1.7**
VRI	**Vrincioaia**	**34.10**	**300**⇑	iP	**P**	**01 54 00.4**	**+2.5**
ARG	**Arkhangelos**	**34.15**	**283**	eP	**P**	**01 53 58.5**	**0.0**
ARG	**Arkhangelos**	**34.15**	**283**	P	**P**	**01 54 00.1**	**+1.6**
ISR	**Istrita**	**34.24**	**299**⇓	iP	**P**	**01 54 02.0**	**+2.9**
ISR	**Istrita**	**34.24**	**299**⇑	iP	**P**	**01 54 02.6**	**+3.5**
JMB	**Yambol**	**34.35**	**294**	i P	**P**	**01 54 02.0**	**+1.9**
KMPD	**K-Podol'skiy**	**34.38**	**305**	P	**P**	**01 54 00.0**	**-0.3**
MNK	**Minsk**	**34.45**	**315**⇓	eP	**P**	**01 53 58.0**	**-2.9**
MNK				e		01 55 06.0	
MNK				ePPP	PP	01 55 18.0	-6.2
MNK				eS	**S**	**01 59 08.0**	**-5.0**
MNK				e*SS		02 00 24.0	
MNK				eSSS	SS	02 01 40.0	-0.1
MNK				pmax	pmax		
	comp=Z,400nm,1.0s,mb5.9						
BUC1	**Bucharest**	**34.63**	**297**⇓	iP	**P**	**01 54 04.6**	**+2.1**
BUC1	**Bucharest**	**34.63**	**297**⇓	iP	**P**	**01 54 04.6**	**+2.1**
MLR	**Muntele Rosu**	**34.65**	**299**	P	**P**	**01 54 04.3**	**+1.6**
	comp=Z,58nm,0.7s,mb5.2,baz=100,slow=2.0,SNR=53						
MLR				pP	pP	01 54 46.7	+0.9
	comp=Z,219nm,0.9s,baz=79,slow=3.6,SNR=5.2						
MLR	**Muntele Rosu**	**34.65**	**299**⇓	iP	**P**	**01 54 04.8**	**+2.1**
MLR	**Muntele Rosu**	**34.65**	**299**	P	**P**	**01 54 04.3**	**+1.6**
MLR				*PP	pP	01 54 46.7	+0.9
MLR				pmax	pmax		
	comp=Z,58nm,0.7s						
MLR	**Muntele Rosu**	**34.65**	**299**⇓	iP	**P**	**01 54 04.8**	**+2.2**
KKTK	**Khon Kaen**	**34.76**	**117**	⇓P	**P**	**01 54 05.0**	**+1.2**
	comp=Z,2µm,0.4s						
PUL	**Pulkovo**	**34.87**	**325**c	iP	**P**	**01 54 04.4**	**0.0**
PUL				i		01 55 13.0	
PUL				eS	**S**	**01 59 18.9**	**-0.5**
PUL				i		02 04 00.8	
PUL				pmax	pmax		
	comp=N,173nm,0.5s						
PUL				pmax	pmax		
	comp=Z,371nm,0.5s,mb6.2						
PUL				pmax	pmax		
	comp=E,540nm,0.8s						
PUL				smax			
	comp=N,2µm,2.1s						
PUL				smax			
	comp=Z,2µm,3.1s						
PUL				smax			
	comp=E,6µm,3.9s						
PUL	**Pulkovo**	**34.87**	**325**⇑	iP	**P**	**01 54 04.4**	**0.0**
ALN	**Alexandroupoli**	**34.92**	**291**	eP	**P**	**01 54 03.8**	**-1.1**
PRK	**Paraskevi**	**34.99**	**288**	eP	**P**	**01 54 07.0**	**+1.4**
KARP	**Karpathos**	**35.07**	**282**	eP	**P**	**01 54 06.0**	**-0.3**
IDID	**Didziasalis**	**35.26**	**317**	i P	**P**	**01 54 07.5**	**-0.2**
IDID				AMPb	AMB	01 54 11.1	
	comp=Z,53nm,1.2s,mb5.0						
IDID				epP	pP	01 54 51.5	+0.6
IDID				esP	sP	01 55 14.1	-0.8
RDO	**Rodhopi**	**35.27**	**292**	eP	**P**	**01 54 10.0**	**+2.1**
MTUR	**Matau**	**35.28**	**299**⇑	iP	**P**	**01 54 11.0**	**+3.0**
MTUR	**Matau**	**35.28**	**299**⇑	iP	**P**	**01 54 11.0**	**+3.0**
IIGN	**Ignalina**	**35.56**	**316**	i P	**P**	**01 54 10.3**	**+0.1**
IIGN				AMPb	AMB	01 54 14.6	
	comp=Z,71nm,0.6s,mb5.4						
IIGN				esP	sP	01 55 16.9	-0.5
BJT	**Baijiatuau**	**35.56**	**70**	eP	**P**	**01 54 11.1**	**+0.7**
BJT				pmax	pmax		
	comp=Z,72nm,0.7s						
BJT	**Baijiatuau**	**35.56**	**70**	eP	**P**	**01 54 11.1**	**+0.7**
	comp=Z,72nm,0.7s,mb5.3						
BJI	**Beijing**	**35.56**	**70**	P	**P**	**01 54 11.6**	**+1.2**
BJI				AP	pP	01 54 53.1	-0.6
BJI				XP	sP	01 55 16.3	-1.4
BJI				PP	PP	01 55 35.6	-1.2
BJI				S	**S**	**01 59 31.4**	**+1.2**
BJI				XS		02 00 50.6	
BJI				AMB	AMB		
	comp=Z,78nm,0.8s,mb5.3						
BJI				AMB	AMB		
	comp=Z,2µm,10.7s						
IZAR	**Zarasai**	**35.64**	**317**	i P	**P**	**01 54 10.8**	**0.0**
IZAR				AMPb	AMB	01 54 14.3	
	comp=Z,60nm,1.1s,mb5.0						
IZAR				epP	pP	01 54 52.9	-1.3
ISAL	**Salakas**	**35.66**	**317**	i P	**P**	**01 54 11.0**	**0.0**
ISAL				AMPb	AMB	01 54 14.7	
	comp=Z,51nm,1.1s,mb5.0						
ISAL				esP	sP	01 55 17.7	-0.6
RZN	**Rozhen**	**35.81**	**293**	i P	**P**	**01 54 13.0**	**+0.5**
APE	**Apeiranthos**	**35.99**	**285**	eP	**P**	**01 54 14.0**	**0.0**
APE	**Apeiranthos**	**35.99**	**285**	i Pr		01 54 13.8	
LVV	**L'vov**	**36.06**	**307**	i P	**P**	**01 54 14.6**	**+0.2**
LVV				i S	**S**	**01 59 38.3**	**+0.7**
LVV	**L'vov**	**36.06**	**307**⇑	iP	**P**	**01 54 14.4**	**0.0**
PGB	**Panagyurishte**	**36.12**	**294**	i P	**P**	**01 54 17.0**	**+2.0**
VSU	**Vasula**	**36.13**	**322**	P	**P**	**01 54 14.7**	**-0.3**
THR4	**Thira Island,**	**36.24**	**284**	eP	**P**	**01 54 15.6**	**-0.5**
THR6	**Thira Island,**	**36.26**	**284**	eP	**P**	**01 54 15.4**	**-0.9**
NPS	**Neapolis**	**36.37**	**282**	eP	**P**	**01 54 16.8**	**-0.4**
XRY	**Khrisi**	**36.41**	**281**	eP	**P**	**01 54 18.0**	**+0.5**
MMB	**Musomiste**	**36.56**	**293**	i P	**P**	**01 54 20.0**	**+1.3**
WHN	**Wuhan**	**36.59**	**86**	⇑P	**P**	**01 54 19.7**	**+0.6**
WHN				S	**S**	**01 59 49.5**	**+3.6**
WHN				XS		02 01 06.0	
WHN				SCS	ScS	02 04 09.5	-0.1
WHN				AMB	AMB		
	comp=Z,242nm,1.3s,mb5.6						
WHN				AMB	AMB		
	comp=Z,2µm,11.1s						
WHN				LR	LR		
	comp=N,3µm,12.2s						
WHN				LR	LR		
	comp=E,2µm,13.7s						
WHN				LR	LR		
	comp=Z,2µm,13.0s						
SRS	**Serrai**	**36.73**	**292**	eP	**P**	**01 54 20.2**	**+0.1**
VTS	**Vitosha**	**36.82**	**295**	i P	**P**	**01 54 21.0**	**+0.1**
VTS	**Vitosha**	**36.82**	**295**	P	**P**	**01 54 22.4**	**+1.5**
KWP	**Kalwaria**	**36.91**	**306**⇑	eP	**P**	**01 54 22.2**	**+0.6**
KWP				epP	pP	01 55 04.9	-0.2
KWP				ePcP	PcP	01 56 38.3	-0.6
KWP				eS	**S**	**01 59 51.5**	**+1.0**
KWP				eSS		02 01 05.2	
KWP				eSS	SS	02 02 42.8	+9.2
IDI	**Anoyia**	**36.93**	**282**	P	**P**	**01 54 23.1**	**+1.2**
SOH	**Sokhos**	**36.95**	**292**	eP	**P**	**01 54 23.0**	**+1.0**
PLG	**Polygyros**	**36.95**	**291**	eP	**P**	**01 54 22.5**	**+0.5**
SUW	**Suwalki**	**37.03**	**314**⇑	eP	**P**	**01 54 22.1**	**-0.5**
SUW				e*PP	pP	01 55 06.1	0.0
SUW				e		01 55 51.6	
SUW				eS	**S**	**01 59 52.0**	**-0.4**
SUW				e*SS		02 01 06.4	
PTL	**Penteli**	**37.07**	**287**	eP	**P**	**01 54 23.5**	**+0.4**
TIA	**Tai'an**	**37.08**	**76**	P	**P**	**01 54 24.1**	**+1.0**
TIA				S	**S**	**01 59 54.8**	**+1.6**
TIA				SCP		02 00 04.2	
TIA				AMB	AMB		
	comp=Z,129nm,1.2s,mb5.3						
TIA				AMB	AMB		
	comp=Z,894nm,7.0s						
TIA				LR	LR		
	comp=N,2µm,11.0s						
TIA				LR	LR		
	comp=E,1µm,11.0s						
MPAR	**Parnis Oros**	**37.15**	**287**	eP	**P**	**01 54 24.0**	**+0.3**
UZH	**Uzhgorod**	**37.15**	**305**c	iP	**P**	**01 54 23.0**	**-0.6**
UZH				eS	**S**	**01 59 56.0**	**+1.8**
UZH	**Uzhgorod**	**37.15**	**305**⇑	iP	**P**	**01 54 23.0**	**-0.6**
KNT	**Kendrikon**	**37.24**	**292**	eP	**P**	**01 54 24.6**	**+0.2**
THE	**Thessaloniki**	**37.27**	**291**	eP	**P**	**01 54 26.8**	**+2.1**
NSAL	**Nisos Salamina**	**37.41**	**287**	eP	**P**	**01 54 26.0**	**+0.1**
NAIG	**Nisos Aigina**	**37.42**	**287**	eP	**P**	**01 54 32.0**	**+6.0**
VAM	**Vamos**	**37.44**	**283**	eP	**P**	**01 54 25.5**	**-0.7**
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**01 54 26.1**	**+0.2**
	comp=E,82nm,0.5s,mb5.6,baz=112,slow=9.6,SNR=616						
FINES				pP	pP	01 55 10.1	+0.6
	comp=E,50nm,0.7s,baz=117,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**01 54 26.1**	**+0.2**
FINES				*PP	pP	01 55 10.1	+0.6
FINES				pmax	pmax		
	comp=Z,82nm,0.5s						
VAY	**Valandovo**	**37.46**	**293**⇑	iP	**P**	**01 54 25.2**	**-1.1**
VAY				i	pP	01 55 09.8	-0.1
LVZ	**Lovozero**	**37.47**	**338**c	eP	**P**	**01 54 26.1**	**+0.1**
LVZ				e*SP	sP	01 55 32.9	-0.8
LVZ				i		01 55 55.5	
LVZ				eS	**S**	**02 00 00.1**	**+1.3**
LVZ				e*SS		02 01 10.6	
LVZ				i SS	SS	02 02 50.2	+4.5
LVZ				pmax	pmax		
	comp=N,38nm,0.6s						
LVZ				pmax	pmax		
	comp=Z,136nm,0.6s,mb5.7						
LVZ				pmax	pmax		
	comp=E,56nm,0.9s						
LVZ				pmax	pmax		
	comp=N,896nm,3.8s						
LVZ				pmax	pmax		
	comp=Z,2µm,3.8s						
LVZ				pmax	pmax		
	comp=E,969nm,4.1s						
LVZ				smax			
	comp=Z,207nm,8.8s						
LVZ				smax			
	comp=N,1µm,9.2s						
LVZ				smax			
	comp=E,809nm,10.9s						
LVZ	**Lovozero**	**37.47**	**338**⇑	iP	**P**	**01 54 26.0**	**0.0**
HIA	**Hailar**	**37.50**	**54**	P	**P**	**01 54 27.8**	**+1.3**
HIA				sP	sP	01 55 32.8	-1.3
HIA				ScP		02 00 08.5	
HIA	**Hailar**	**37.50**	**54**	eP	**P**	**01 54 27.6**	**+1.1**
HIA				pmax	pmax		
	comp=Z,110nm,0.8s						
HIA	**Hailar**	**37.50**	**54**	eP	**P**	**01 54 27.6**	**+1.1**
	comp=Z,109nm,0.8s,mb5.4						
BOLS	**Boljevac**	**37.59**	**297**⇑	iP	**P**	**01 54 28.0**	**+0.6**
KAF	**Kangasniemi**	**37.59**	**327**	ep	**P**	**01 54 25.1**	**-2.0**
	comp=Z,20nm,0.4s,mb5.0						
KAF	**Kangasniemi**	**37.59**	**327**	eP	**P**	**01 54 25.1**	**-2.0**
KAF				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.0						
APA	**Apatity**	**37.64**	**338**⇑	iP	**P**	**01 54 26.8**	**-0.7**
APA				i *PP	pP	01 55 07.8	-3.3
APA				i *SP	sP	01 55 33.2	-2.0
APA				i		01 55 58.0	
APA				i S	**S**	**02 00 00.0**	**-1.4**
APA				i		02 02 49.0	
APA				pmax	pmax		
	comp=Z,77nm,0.6s,mb5.4						
APA				pmax	pmax		
	comp=Z,2µm,6.0s						
APA				smax			
	comp=N,3µm,6.0s						
APA				smax			
	comp=E,4µm,6.0s						
APA				MLR	MLR		
	comp=Z,6µm,10.0s						
GRG	**Griva**	**37.64**	**292**	eP	**P**	**01 54 27.1**	**-0.7**
CRVS	**Cervenica-Dubn**	**37.70**	**305**	eP	**P**	**01 54 28.6**	**+0.4**
CRVS				e		01 55 25.1	
LIT	**Litokhoron**	**37.72**	**291**	eP	**P**	**01 54 28.0**	**-0.4**
BARS	**Barje**	**37.80**	**295**⇑	iP	**P**	**01 54 29.4**	**+0.3**
AGG	**Agios Georgios**	**38.04**	**289**	eP	**P**	**01 54 30.8**	**-0.4**
SVIS	**Svilajnac**	**38.07**	**298**⇑	iP	**P**	**01 54 31.6**	**+0.3**
VLI	**Veliai**	**38.09**	**285**	eP	**P**	**01 54 30.0**	**-1.6**
WAR	**Warsaw**	**38.12**	**311**⇑	eP	**P**	**01 54 32.2**	**+0.5**
	comp=Z,2.1nm,2.9s						
WAR				epP	pP	01 55 14.7	-0.7
WAR				ePP	PP	01 56 02.1	-2.7
WAR				eS	**S**	**02 00 09.5**	**+0.7**
WAR				eSS		02 01 24.4	
WAR				eSS	SS	02 03 11.1	+11
KYTH	**Kithira**	**38.13**	**284**	eP	**P**	**01 54 30.5**	**-1.4**
SKO	**Skopje**	**38.20**	**294**⇑	iP	**P**	**01 54 32.6**	**+0.2**
SKO				i	pP	01 55 17.4	+1.3
KECS	**Kecovo**	**38.35**	**304**	eP	**P**	**01 54 34.6**	**+1.0**
KECS				e	pP	01 55 15.2	-2.2
KECS				e		01 56 01.8	
QIZ	**Qiongzhong**	**38.38**	**106**	P	**P**	**01 54 34.0**	**-0.1**
QIZ				XP	sP	01 55 39.9	-2.1
QIZ				PP	PP	01 56 14.1	+6.0
QIZ				S	**S**	**02 00 11.3**	**-1.7**
QIZ				XS		02 01 27.4	
QIZ				AMB	AMB		
	comp=Z,62nm,1.6s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,837nm,11.0s						
QIZ	**Qiongzhong**	**38.38**	**106**	P	**P**	**01 54 34.6**	**+0.4**
QIZ				sP	sP	01 55 40.5	-1.5
QIZ	**Qiongzhong**	**38.38**	**106**⇑	eP	**P**	**01 54 34.3**	**+0.1**
	comp=Z,68nm,1.0s,mb5.1						
QIZ				e		02 00 11.6	
FNA	**Florina**	**38.44**	**292**	eP	**P**	**01 54 34.3**	**-0.1**
EVR	**Evrytania**	**38.46**	**289**	eP	**P**	**01 54 34.5**	**-0.2**
GRUS	**Gruza**	**38.48**	**297**⇑	iP	**P**	**01 54 33.8**	**-0.9**
BEO	**Belgrade**	**38.57**	**299**⇓	iP	**P**	**01 54 35.7**	**+0.3**
MEV	**Metsovon**	**38.73**	**290**	eP	**P**	**01 54 37.8**	**+0.9**
PSZ	**Piszkesteto**	**38.76**	**304**⇑	iP	**P**	**01 54 38.4**	**+1.4**
PSZ	**Piszkesteto**	**38.76**	**304**⇑	eP	**P**	**01 54 37.8**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.3						
PSZ	**Piszkesteto**	**38.76**	**304**⇑	eP	**P**	**01 54 37.8**	**+0.8**
	comp=Z,96nm,0.9s,mb5.3						
OJC	**Ojcow**	**38.80**	**307**⇑	iP	**P**	**01 54 37.2**	**-0.1**
OJC				e*PP	pP	01 55 21.7	+0.5
OJC				e*SP	sP	01 55 45.5	+0.2
OJC				i S	**S**	**02 00 19.2**	**+0.2**
OJC				eSS	SS	02 03 20.4	+7.3
OJC				MLR	MLR		
	comp=Z,2µm,17.2s						
OJC	**Ojcow**	**38.80**	**307**⇑	iP	**P**	**01 54 37.2**	**-0.1**
	comp=Z,400nm,2.2s,mb5.6						
OJC				epP	pP	01 55 21.7	+0.5
OJC				esP	sP	01 55 45.5	+0.2
OJC				i S	**S**	**02 00 19.2**	**+0.2**
OJC				eSS	SS	02 03 20.4	+7.3
OHR	**Ohrid**	**38.81**	**293**⇑	iP	**P**	**01 54 36.8**	**-0.7**
OHR				i	pP	01 55 19.9	-1.4
DIVS	**Divcibare**	**38.98**	**297**⇓	iP	**P**	**01 54 39.3**	**+0.5**
HOPOS	**Hopovo Monaste**	**38.98**	**299**⇑	iP	**P**	**01 54 39.0**	**+0.1**
GZH	**Guangzhou**	**38.98**	**98**	P	**P**	**01 54 37.7**	**-1.4**
GZH				S	**S**	**02 00 22.7**	**+0.8**
GZH				AMB	AMB		
	comp=Z,1µm,5.5s						
GZH				LR	LR		
	comp=N,2µm,14.1s						
GZH				LR	LR		
	comp=E,911nm,11.4s						
GZH				LR	LR		
	comp=Z,2µm,14.9s						
JAN	**Janina**	**39.04**	**290**	eP	**P**	**01 54 38.0**	**-1.4**
PVY	**Plav**	**39.18**	**295**⇑	iP	**P**	**01 54 41.5**	**+0.9**
IVA	**Berane**	**39.20**	**296**⇑	iP	**P**	**01 54 41.6**	**+0.9**
NVSS	**Nova Varos 2**	**39.26**	**297**⇓	iP	**P**	**01 54 42.0**	**+0.8**
LKD	**Levkas**	**39.39**	**289**	eP	**P**	**01 54 41.8**	**-0.5**
VYHS	**Vyhne**	**39.45**	**304**	eP	**P**	**01 54 43.6**	**+0.9**
VYHS				e		01 55 22.2	
VYHS				e		01 57 11.1	
VYHS				eS	**S**	**02 00 29.3**	**+0.6**
VYHS				e		02 01 38.2	
VYHS				eSS	SS	02 03 29.8	+4.2
VYHS	**Vyhne**	**39.45**	**304**	eP	**P**	**01 54 43.6**	**+0.9**
VYHS				e		01 55 22.2	
VYHS				eS	**S**	**02 00 29.3**	**+0.6**
VYHS				eSS	SS	02 03 29.8	+4.2
IGT	**Igoumenitsa**	**39.46**	**290**	eP	**P**	**01 54 41.7**	**-1.1**
PLE	**Pljevlja**	**39.50**	**296**⇑	iP	**P**	**01 54 43.5**	**+0.3**
VLS	**Valsamata**	**39.56**	**288**	eP	**P**	**01 54 41.5**	**-2.2**
NJ2	**Nanjing**	**39.68**	**82**	eP	**P**	**01 54 45.9**	**+1.2**
NJ2				AP	pP	01 55 29.5	+0.8
NJ2				XP	sP	01 55 53.0	+0.2
NJ2				PP	PP	01 56 24.6	+2.4
NJ2				S	**S**	**02 00 36.0**	**+3.7**
NJ2				XS		02 01 52.0	
NJ2				SCS	ScS	02 04 26.0	-1.3
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.1						
NJ2				LR	LR		
	comp=N,3µm,25.6s						
NJ2				LR	LR		
	comp=E,3µm,17.0s						
NJ2				LR	LR		
	comp=Z,3µm,12.0s						
PKSM	**Moragy**	**39.72**	**301**	P	**P**	**01 54 45.7**	**+0.8**
TTG	**Podgorica**	**39.73**	**295**⇑	iP	**P**	**01 54 44.2**	**-0.9**
KOLL	**Kolacno**	**39.73**	**305**	epP	pP	01 55 28.2	-0.8
ULC	**Ulcinj**	**39.81**	**294**⇑	iP	**P**	**01 54 45.1**	**-0.6**
KEK	**Kerkira**	**39.82**	**291**	eP	**P**	**01 54 45.5**	**-0.3**
SRO	**Srobarova**	**39.83**	**303**	eP	**P**	**01 54 47.8**	**+2.0**
SRO				e	pP	01 55 30.1	+0.3
RAC	**Raciborz**	**39.83**	**307**⇑	eP	**P**	**01 54 46.5**	**+0.7**
RAC				e*PP	pP	01 55 28.3	-1.5
RAC				e*SP	sP	01 55 53.0	-0.9
RAC				e		01 56 22.7	
RAC				eS	**S**	**02 00 33.6**	**-0.8**
RAC				e*SS		02 01 50.4	
RAC				eSS	SS	02 03 40.4	+7.4
RAC				MLR	MLR		
	comp=Z,2µm,17.3s						
OKC	**Ostrava-Krasne**	**39.87**	**307**⇑	iP	**P**	**01 54 45.9**	**-0.2**
OKC				eAP	pP	01 55 30.0	-0.1
OKC				ePP	PP	01 56 20.9	-3.1
OKC				eS	**S**	**02 00 34.7**	**-0.2**
OKC				e		02 01 44.1	
SNG	**Songkhla**	**39.87**	**130**	P	**P**	**01 54 38.0**	**-8.5**
	comp=Z,452nm,0.9s,mb5.9						
UPM	**Unac-Piva**	**39.87**	**296**⇑	iP	**P**	**01 54 46.1**	**0.0**
DL2	**Dalian**	**39.92**	**71**	⇑P	**P**	**01 54 48.0**	**+1.3**
DL2				eS	**S**	**02 00 37.0**	**+1.2**
DL2				eXS		02 01 53.0	
DL2				AMB	AMB		
	comp=Z,42nm,0.6s,mb5.0						
DL2				AMB	AMB		
	comp=Z,1µm,8.0s						
DL2				LR	LR		
	comp=E,2µm,15.0s						
BUM	**Brajici-Budva**	**40.02**	**295**⇑	iP	**P**	**01 54 47.2**	**-0.2**
BRY	**Bratogost**	**40.18**	**296**⇑	iP	**P**	**01 54 49.5**	**+0.7**
JAVC	**Velka Javorina**	**40.20**	**305**	P	**P**	**01 54 50.3**	**+1.4**
MORC	**Moravsky Berou**	**40.26**	**307**⇑	eP	**P**	**01 54 49.6**	**+0.3**
	comp=E,31nm,0.8s,mb4.8						
HCY	**Herceg Novi**	**40.28**	**295**⇑	iP	**P**	**01 54 50.8**	**+1.2**
SMOL	**Smolenice**	**40.38**	**305**	eP	**P**	**01 54 51.0**	**+0.7**
SMOL				e	pP	01 55 34.3	-0.1
GKP	**Gorka Klasztor**	**40.48**	**312**⇑	eP	**P**	**01 54 51.5**	**+0.4**
	comp=E,2.4nm,3.5s						
GKP				epP	pP	01 55 35.4	+0.2
GKP				eS	**S**	**02 00 43.1**	**-0.9**
GKP				eSS		02 02 00.8	
GKP				eSS	SS	02 03 52.6	+6.3
ZST	**Bratislava**	**40.62**	**304**	i P	**P**	**01 54 53.2**	**+0.9**
ZST				e	pP	01 55 34.9	-1.4
ZST				ePP	PP	01 56 29.5	-2.0
SNY	**Shenyang**	**40.79**	**66**	⇑P	**P**	**01 54 53.9**	**+0.1**
SNY				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.1						
SNY				AMB	AMB		
	comp=Z,1µm,7.1s						
SNY				LR	LR		
	comp=N,2µm,18.0s						
SNY				LR	LR		
	comp=Z,1µm,18.6s						
STON	**Ston**	**40.80**	**296**⇑	iP	**P**	**01 54 53.2**	**-0.6**
KEV	**Kevo**	**40.81**	**338**	ep	**P**	**01 54 51.6**	**-2.0**
VRAC	**Vranov**	**40.89**	**306**	P	**P**	**01 54 56.0**	**+1.5**
DPC	**Dobruska-Polom**	**41.03**	**307**⇑	iP	**P**	**01 54 56.3**	**+0.7**
DPC				eAP	pP	01 55 48.1	+8.3
DPC				e		01 57 34.6	
DPC				eS	**S**	**02 00 51.9**	**-0.1**
DPC				e		02 02 01.2	
DPC				eSS	SS	02 04 00.8	+3.3
DPC	**Dobruska-Polom**	**41.03**	**307**⇑	iP	**P**	**01 54 56.3**	**+0.7**
DPC				eS	**S**	**02 00 51.9**	**-0.1**
DPC				e		02 04 00.8	
KRUC	**Moravsky**	**41.03**	**305**	P	**P**	**01 54 56.9**	**+1.2**
KSP	**Ksiaz**	**41.04**	**308**⇑	eP	**P**	**01 54 55.7**	**0.0**
KSP				e*PP	pP	01 55 40.2	+0.4
KSP				e*SP	sP	01 56 01.3	-2.6
KSP				e		01 56 31.5	
KSP				eS	**S**	**02 00 48.0**	**-4.1**
KSP				eSS	SS	02 03 59.5	+1.8
KSP	**Ksiaz**	**41.04**	**308**⇑	eP	**P**	**01 54 55.7**	**0.0**
KSP				epP	pP	01 55 40.2	+0.4
KSP				esP	sP	01 56 01.3	-2.6
KSP				ePP	PP	01 56 31.5	-4.2
KSP				eS	**S**	**02 00 48.0**	**-4.1**
KSP				eSS		02 01 57.0	
KSP				eSS	SS	02 03 59.5	+1.8
CLNS	**Chul'man**	**41.10**	**43**⇑	iP	**P**	**01 54 57.2**	**+1.1**
CLNS				e		01 56 05.7	
CLNS				ePPP	Px	01 56 53.8	
CLNS				eSS	SS	02 03 59.0	+0.3
CLNS				pmax	pmax		
	comp=Z,165nm,0.8s,mb5.5						
CLNS				pmax	pmax		
	comp=N,50nm,0.7s						
CLNS				pmax	pmax		
	comp=E,93nm,0.9s						
CLNS	**Chul'man**	**41.10**	**43**	eP	**P**	**01 54 57.2**	**+1.1**
VKA	**Vienna**	**41.13**	**304**⇑	iP	**P**	**01 54 57.2**	**+0.7**
	comp=E,940nm,3.0s						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**01 54 56.9**	**+0.5**
	comp=E,180nm,0.6s,mb5.7,baz=109,slow=7.3,SNR=1207						
ARCES				pP	pP	01 55 40.6	+0.1
	comp=E,90nm,0.7s,baz=108,slow=7.7,SNR=3.3						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**01 54 56.9**	**+0.5**
ARCES				*PP	pP	01 55 40.6	+0.1
ARCES				pmax	pmax		
	comp=Z,180nm,0.6s						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**01 54 56.9**	**+0.5**
ARCES				pP	pP	01 55 40.6	+0.1
SISC	**Sisak**	**41.37**	**300**	i P	**P**	**01 55 02.3**	**+3.9**
BRT	**Bari-Castellan**	**41.53**	**293**	eP	**P**	**01 55 00.5**	**+0.8**
KTK1	**Kautokeino**	**41.62**	**336**⇑	iP	**P**	**01 55 01.2**	**+1.2**
KTK1				AMb	AMB	01 55 03.6	
	comp=Z,296nm,0.6s,mb5.9						
KTK1				epP	pP	01 55 44.1	-0.2
KTK1				esP	sP	01 56 08.3	0.0
KTK1	**Kautokeino**	**41.62**	**336**⇑	iP	**P**	**01 55 01.2**	**+1.2**
	comp=Z,296nm,0.6s,mb5.9						
ARSA	**Arzberg**	**41.76**	**303**⇑	iP	**P**	**01 55 01.6**	**+0.1**
	comp=Z,730nm,3.4s						
ARSA				i	pP	01 55 47.6	+1.9
	comp=Z,190nm,2.2s						
CN2	**Changchun**	**41.81**	**62**	eP	**P**	**01 55 02.6**	**+0.6**
CN2				eAP	pP	01 55 49.3	+3.0

CN2				*e*XP	sP	01 56 08.1	-2.2
CN2				*e*S	**S**	**02 01 04.0**	**+0.4**
CN2				XS		02 02 19.9	
CN2				SS	SS	02 04 11.6	0.0
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,2μm,10.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
SSE	**Sheshan**	**41.88**	**82**	⇑P	**P**	**01 55 04.1**	**+1.4**
SSE				XP	sP	01 56 10.3	-0.7
SSE				S	**S**	**02 01 05.9**	**+1.3**
SSE				XS		02 02 25.0	
SSE				SCS	ScS	02 04 44.6	+4.1
SSE				AMB	AMB		
	comp=Z,95nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=N,1μm,17.0s						
SSE				LR	LR		
	comp=E,398nm,17.0s						
SSE				LR	LR		
	comp=Z,1μm,19.3s						
PVCC	**Panska Ves**	**42.14**	**308**	⇑*i*P	**P**	**01 55 05.0**	**+0.4**
PVCC				*e*AP	pP	01 55 49.8	+0.9
PVCC				*e*S	**S**	**02 01 10.1**	**+1.9**
PVCC				*e*		02 02 17.7	
PVCC				*e*SS	SS	02 04 27.3	+10
BOJS	**Bojanci**	**42.15**	**300**	*e*P	**P**	**01 55 04.9**	**+0.2**
BOJS				*e*pP	pP	01 55 50.5	+1.5
BOJS				*e*sP	sP	01 56 12.1	-0.9
BOJS				*e*		01 57 53.5	
IPM	**Ipoh**	**42.15**	**132**	⇑*e*P	**P**	**01 55 06.3**	**+1.1**
	comp=Z,92nm,0.7s,mb5.3						
PRU	**Pruhonice**	**42.19**	**307**	⇑*i*P	**P**	**01 55 05.3**	**+0.3**
PRU				*e*AP	pP	01 55 48.8	-0.5
PRU				*e*XP	sP	01 56 12.7	-0.6
PRU				*e*		01 57 48.2	
PRU				*e*S	**S**	**02 01 09.8**	**+0.9**
PRU				*e*XS		02 02 24.0	
PRU				*e*SS	SS	02 04 36.0	+18
PRU	**Pruhonice**	**42.19**	**307**	⇑*i*P	**P**	**01 55 05.3**	**+0.3**
PRU				*e**PP	pP	01 55 48.8	-0.5
PRU				*e*		01 56 12.7	
PRU				*e*S	**S**	**02 01 09.8**	**+0.9**
PRU				*e*		02 02 24.0	
PRU				*e*		02 04 36.0	
TIP	**Timpagrande**	**42.24**	**291**	⇑*e*P	**P**	**01 55 05.1**	**-0.4**
TIP				*e*pP	pP	01 55 48.2	-1.6
PRA	**Prague**	**42.26**	**307**	⇑P	**P**	**01 55 05.0**	**-0.5**
PRA				AP	pP	01 55 51.0	+1.2
PRA				*e*		01 57 53.0	
PRA				*e*		02 06 38.0	
ORI	**Oriolo Calabro**	**42.26**	**292**	⇑*i*P	**P**	**01 55 05.8**	**+0.1**
FGMS	**Monte Sant'Ang**	**42.28**	**295**	⇑*i*P	**P**	**01 55 05.5**	**-0.3**
QZH	**Quanzhou**	**42.31**	**92**	*i* PR		01 55 05.6	
QZH				XP	sP	01 56 13.0	-1.6
QZH				S	**S**	**02 01 14.0**	**+2.9**
QZH				XS		02 02 29.0	
QZH				SCS	ScS	02 04 46.0	+2.8
QZH				AMB	AMB		
	comp=Z,170nm,0.9s,mb5.5						
QZH				AMB	AMB		
	comp=Z,2μm,7.0s						
QZH				LR	LR		
	comp=N,2μm,9.2s						
QZH				LR	LR		
	comp=E,2μm,11.9s						
QZH				LR	LR		
	comp=Z,2μm,12.9s						
VISS	**Visnje**	**42.39**	**301**	*e*P	**P**	**01 55 07.0**	**+0.3**
VISS				*e*pP	pP	01 55 52.5	+1.4
VISS				*e*sP	sP	01 56 14.3	-0.7
TDS	**Terranova Siba**	**42.44**	**291**	⇓*i*P	**P**	**01 55 08.5**	**+1.3**
OBKA	**Obir**	**42.50**	**302**	⇑*i*P	**P**	**01 55 08.2**	**+0.6**
	comp=Z,1μm,3.3s						
OBKA				*i*	pP	01 55 54.0	+2.1
	comp=Z,644nm,3.2s						
BRG	**Berggiesshubel**	**42.52**	**308**	⇑*i*P	**P**	**01 55 08.0**	**+0.3**
BRG				*PP	pP	01 55 53.9	+1.9
BRG				*SP	sP	01 56 16.0	0.0
BRG				*e*		01 57 34.0	
BRG				S	**S**	**02 01 16.0**	**+2.2**
BRG				SS	SS	02 04 30.0	+5.9
BRG				pmax	pmax		
	comp=Z,90nm,1.3s,mb5.0						
BRG	**Berggiesshubel**	**42.52**	**308**	⇑*i*P	**P**	**01 55 08.0**	**+0.3**
	comp=Z,90nm,1.3s,mb5.0						
BRG				*e*		01 55 19.9	
BRG				pP	pP	01 55 53.9	+1.9
BRG				sP	sP	01 56 16.0	0.0
BRG				*e*		01 57 34.0	
BRG				*i*		01 57 54.0	
BRG				S	**S**	**02 01 16.0**	**+2.2**
BRG				sS		02 02 26.0	
BRG				SS	SS	02 04 30.0	+5.9
NVLJ	**Novalja**	**42.55**	**299**	⇑*i*P	**P**	**01 55 07.1**	**-0.9**
RGNG	**Rignano Grg**	**42.56**	**295**	⇑*i*P	**P**	**01 55 08.1**	**0.0**
RUE	**Ruedersdorf**	**42.57**	**311**	⇑*e*P	**P**	**01 55 07.6**	**-0.4**
	comp=Z,54nm,0.7s,mb5.1						
LJU	**Ljubljana**	**42.58**	**301**	*e*P	**P**	**01 55 08.7**	**+0.5**
LJU				*e*pP	pP	01 55 53.8	+1.3
LJU				*e*sP	sP	01 56 16.1	-0.4
LJU				*e*PcP	PcP	01 56 56.0	-1.1
LJU				*e*S	**S**	**02 01 18.2**	**+3.6**
LJU				*e*sS		02 02 26.4	
LJU				*e*ScS	ScS	02 04 44.5	-0.1
KMR	**Kremsmunster**	**42.61**	**304**	*c* *i*P	**P**	**01 55 09.0**	**+0.6**
KMR	**Kremsmunster**	**42.61**	**304**	*i* Pu		01 55 09.0	
FG4	**Candela**	**42.72**	**294**	*e*P	**P**	**01 55 09.8**	**+0.4**
CUC	**Castrocucco**	**42.75**	**292**	P	**P**	**01 55 10.8**	**+1.1**
SLCN	**Sala Consilina**	**42.80**	**293**	⇑*i*P	**P**	**01 55 13.4**	**+3.3**
GEC2	**GERESS Array S**	**42.82**	**305**	*e*P	**P**	**01 55 10.9**	**+0.8**
GEC2				pmax	pmax		
	comp=Z,74nm,1.8s,mb4.8						
GEC2	**GERESS Array S**	**42.82**	**305**	*e*P	**P**	**01 55 10.9**	**+0.8**
	comp=Z,74nm,1.8s,mb4.8						
GERES	**GERESS Array B**	**42.82**	**305**	P	**P**	**01 55 10.3**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=90,slow=6.7,SNR=23						
GERES				pP	pP	01 55 54.7	+0.2
	comp=Z,28nm,1.0s,baz=90,slow=5.3,SNR=4.8						
GERES				ScP		02 00 29.3	
	comp=Z,20nm,1.1s,baz=92,slow=4.3,SNR=4.6						
RGN	**Rugen**	**42.84**	**314**	*e*P	**P**	**01 55 11.0**	**+0.8**
	comp=Z,1μm,1.1s,mb6.2						
RGN				*e*pP	pP	01 55 54.6	+0.1
RGN				*e*sP	sP	01 56 18.9	+0.4
FG2	**Serracapriola**	**42.84**	**295**	⇓*i*P	**P**	**01 55 11.6**	**+1.2**
FG5	**Orsara di Pugl**	**42.87**	**294**	*e*P	**P**	**01 55 11.5**	**+0.8**
KHC	**Kasperske Hory**	**42.88**	**306**	⇑*i*P	**P**	**01 55 10.3**	**-0.3**
KHC						01 55 22.5	
KHC				*e*AP	pP	01 55 55.0	0.0
KHC				*e*XP	sP	01 56 18.4	-0.5
KHC				*e*PP	PP	01 56 55.2	+0.5
KHC				*e*		01 57 56.9	
KHC				*e*S	**S**	**02 01 20.9**	**+2.0**
KHC				*e*XS		02 02 37.3	
KHC				*e*SS	ScS	02 04 47.6	+1.2
KHC	**Kasperske Hory**	**42.88**	**306**	⇑*i*P	**P**	**01 55 10.3**	**-0.3**
KHC				*e**PP	pP	01 55 55.0	0.0
KHC				*e*		01 56 18.4	
KHC				*e*		01 56 55.2	
KHC				*e*S	**S**	**02 01 20.9**	**+2.0**
KHC				*e*		02 02 37.3	
KHC				*e*		02 04 47.6	
KHC	**Kasperske Hory**	**42.88**	**306**	⇑*i*P	**P**	**01 55 10.3**	**-0.3**
KHC				*e*		01 55 22.5	
KHC				*e*pP	pP	01 55 55.0	0.0
KHC				*e*		01 56 18.4	
KHC				*e*PP	PP	01 56 55.2	+0.5
KHC				*e*		01 57 56.9	
KHC				*e*S	**S**	**02 01 20.9**	**+2.0**
KHC				*e*		02 02 37.3	
KHC				*e*		02 04 47.6	
MGR	**Morigerati**	**42.92**	**292**	⇑*i*P	**P**	**01 55 10.9**	**-0.1**
JAVS	**Javornik**	**42.92**	**301**	*e*P	**P**	**01 55 11.0**	**+0.1**
JAVS				*e*pP	pP	01 55 56.7	+1.4
JAVS				*e*sP	sP	01 56 19.9	+0.6
SGO	**Sicignano**	**43.00**	**293**	⇑*i*P	**P**	**01 55 12.0**	**+0.3**
VOY	**Vojsko**	**43.02**	**301**	*e*P	**P**	**01 55 11.8**	**+0.1**
VOY				*e*		01 55 26.5	
VOY				*e*	pP	01 55 56.2	0.0
CLL	**Collm**	**43.09**	**309**	⇑P	**P**	**01 55 12.0**	**-0.3**
	comp=Z,logA/T=2.2,mb5.4						
CLL				*e**PP	pP	01 55 57.0	+0.3
CLL				*e**SP	sP	01 56 21.0	+0.4
CLL				*e*PP	PP	01 57 00.0	+3.2
CLL				*e*		01 57 22.0	
CLL				*e**PPP		01 57 36.0	
CLL				*e**SPP		01 58 03.0	
CLL				*e*S	**S**	**02 01 23.0**	**+1.0**
CLL				*e**SS		02 02 46.0	
CLL				*e*SS	SS	02 04 46.0	+11
CLL	**Collm**	**43.09**	**309**	⇑*i*P	**P**	**01 55 12.0**	**-0.3**
CLL				*e**SP	sP	01 56 21.0	+0.4
CLL				*e*S	**S**	**02 01 23.0**	**+1.0**
CLL				pmax	pmax		
	comp=Z,404nm,2.5s,mb5.4						
CLL				MLR	MLR		
	comp=Z,1μm,19.0s						
CLL	**Collm**	**43.09**	**309**	⇑*i*P	**P**	**01 55 12.0**	**-0.3**
	comp=Z,404nm,2.5s,mb5.4						
CLL				*e*sP	sP	01 56 21.0	+0.4
CLL				*e*sPP		01 58 03.0	
CLL				*e*S	**S**	**02 01 23.0**	**+1.0**
MRB1	**Monte Rocchett**	**43.12**	**294**	⇑*i*P	**P**	**01 55 12.8**	**+0.1**
CSSN	**Cassano Irpino**	**43.15**	**294**	⇓*i*P	**P**	**01 55 14.0**	**+1.2**
TRI	**Trieste**	**43.15**	**301**	⇑*i*P	**P**	**01 55 12.4**	**-0.4**
PSB1	**Pescosannita**	**43.22**	**294**	P	**P**	**01 55 14.5**	**+1.0**
ROBS	**Robic**	**43.25**	**302**	*e*P	**P**	**01 55 13.4**	**-0.2**
ROBS				*e*pP	pP	01 55 59.1	+1.0
KBA	**Koelnbreinsper**	**43.25**	**303**	⇑*i*P	**P**	**01 55 14.0**	**+0.4**
	comp=Z,759nm,3.4s						
KBA				*i*	pP	01 55 59.6	+1.5
	comp=Z,236nm,1.3s						
SCLL	**Scilla**	**43.26**	**290**	⇑*i*P	**P**	**01 55 14.0**	**+0.2**
TRO	**Tromso**	**43.27**	**336**	⇑*i*P	**P**	**01 55 12.5**	**-0.9**
TRO				*e*S	**S**	**02 01 18.6**	**-5.7**
TRO				*e*SS	SS	02 04 47.7	+10
TRO				AMS	AMS	02 05 50.4	
	comp=Z,3μm,20.7s						
WET	**Wettzell**	**43.33**	**306**	*e*P	**P**	**01 55 14.6**	**+0.4**
WET				pmax	pmax		
	comp=Z,219nm,2.7s,mb5.1						
WET	**Wettzell**	**43.33**	**306**	*e*P	**P**	**01 55 14.6**	**+0.4**
	comp=Z,219nm,2.7s,mb5.1						
PTCC	**Patocco-Chiusa**	**43.34**	**302**	⇑*i*P	**P**	**01 55 14.0**	**-0.2**
MTTG	**Motta San Giov**	**43.34**	**289**	*e*P	**P**	**01 55 15.1**	**+0.6**
COP	**Copenhagen**	**43.37**	**315**	⇑*i*P	**P**	**01 55 14.7**	**+0.3**
	comp=Z,74nm,0.7s,mb5.2						
COP				*i*		01 55 37.0	
COP				*i* S	**S**	**02 01 27.9**	**+2.0**
COP				*i*		02 02 41.6	
COP				*i*		02 04 43.2	
COP				*i*		02 05 00.1	
	comp=Z,430nm,18.0s						
GMNA	**Gemona**	**43.43**	**302**	*e*P	**P**	**01 55 15.7**	**+0.6**
CII	**Carovilli**	**43.49**	**295**	⇑*i*P	**P**	**01 55 15.4**	**-0.1**
NKC	**Novy Kostel**	**43.52**	**307**	⇑*i*P	**P**	**01 55 15.9**	**+0.2**
NKC				*e*AP	pP	01 56 00.9	+0.7
NKC				*e*XP	sP	01 56 23.2	-0.9
NKC				*e*PP	PP	01 57 00.3	-0.7
NKC				*e*		01 58 03.7	
NKC				*e*S	**S**	**02 01 29.9**	**+1.8**
NKC				*e*XS		02 02 42.9	
NKC				*e*		02 04 46.3	
NKC	**Novy Kostel**	**43.52**	**307**	⇑*i*P	**P**	**01 55 15.9**	**+0.2**
NKC				*e**PP	pP	01 56 00.9	+0.7
NKC				*e*		01 56 23.2	
NKC				*e*		01 57 00.3	
NKC				*e*S	**S**	**02 01 29.9**	**+1.8**
NKC				*e*		02 02 42.9	
NKC				*e*		02 04 46.3	
RNI2	**Rionero Sannit**	**43.60**	**295**	P	**P**	**01 55 17.6**	**+1.1**
AOI	**Ancona**	**43.63**	**298**	P	**P**	**01 55 16.9**	**+0.2**
FVI	**Forni Avoltri**	**43.70**	**302**	⇑*i*P	**P**	**01 55 16.8**	**-0.4**
INTR	**Introdacqua**	**43.72**	**295**	P	**P**	**01 55 17.7**	**+0.3**
MOR8	**Moi Rana**	**43.80**	**331**	⇑*i*P	**P**	**01 55 17.2**	**-0.5**
MOR8				AMb	AMB	01 55 19.0	
	comp=Z,392nm,0.7s,mb5.9						
MOR8	**Moi Rana**	**43.80**	**331**	⇑*i*P	**P**	**01 55 17.2**	**-0.5**
	comp=Z,392nm,0.7s,mb5.8						
TERO	**Teramo**	**43.81**	**296**	*i* P	**P**	**01 55 18.0**	**-0.1**
SLNA	**Salina**	**43.85**	**290**	⇑*i*P	**P**	**01 55 18.6**	**+0.1**
SDI	**San Donato**	**43.85**	**295**	⇑*i*P	**P**	**01 55 18.8**	**+0.3**
AGST	**Augusta-Monte**	**43.90**	**288**	⇑*i*P	**P**	**01 55 19.2**	**+0.2**
CING	**Cingoli**	**43.95**	**298**	⇑*i*P	**P**	**01 55 20.3**	**+1.0**
VVLD	**Villa Vallelon**	**43.95**	**295**	P	**P**	**01 55 19.5**	**+0.2**
AQU	**L'Aquila**	**44.01**	**296**	P	**P**	**01 55 21.0**	**+1.3**
AQU	**L'Aquila**	**44.01**	**296**	*e*P	**P**	**01 55 20.7**	**+1.0**
MOX	**Moxa**	**44.02**	**308**	*i* P	**P**	**01 55 21.0**	**+1.4**
	comp=Z,logA/T=2.1,mb5.2						
MOX				pP	pP	01 56 05.0	+0.8
MOX				*i*		01 56 30.0	
MOX				sPP		01 58 18.0	
MOX				S	**S**	**02 01 36.0**	**+0.7**
MOX				*e*		02 02 57.0	
MOX				LQ		02 05 06.0	
MOX				L		02 16 31.0	
MOX	**Moxa**	**44.02**	**308**	*c* *e*P	**P**	**01 55 21.0**	**+1.4**
MOX				*e*	pP	01 56 05.1	+0.9
MOX				*e*		01 56 30.1	
MOX				pmax	pmax		
	comp=Z,312nm,2.3s,mb5.2						
MOX				MLR	MLR		
	comp=Z,900nm,22.0s						
MOX	**Moxa**	**44.02**	**308**	⇑*e*P	**P**	**01 55 21.0**	**+1.4**
	comp=Z,312nm,2.3s,mb5.2						
MOX				*e*	pP	01 56 05.1	+0.9
MOX				*e*		01 56 30.1	
MOX				*e*		01 58 18.0	
SSY	**Sortino**	**44.05**	**288**	P	**P**	**01 55 18.8**	**-1.3**
SEST	**Monte Rota**	**44.06**	**302**	P	**P**	**01 55 20.3**	**+0.2**
PTQR	**Pietraquaria**	**44.08**	**296**	⇑*i*P	**P**	**01 55 20.9**	**+0.6**
INCN	**Inchon**	**44.10**	**71**	*e*P	**P**	**01 55 20.6**	**+0.2**
	comp=Z,51nm,0.6s,mb5.0						
ARV	**Arcevia**	**44.11**	**298**	⇑*i*P	**P**	**01 55 20.6**	**+0.1**
NRCA	**Norcia**	**44.12**	**297**	⇑*i*P	**P**	**01 55 21.3**	**+0.7**
YAK	**Yakutsk**	**44.14**	**35**	*c* *i*P	**P**	**01 55 20.5**	**0.0**
YAK				*e*		01 57 00.0	
YAK				*e*		01 57 12.4	
YAK				*e*S	**S**	**02 01 34.8**	**-2.2**
YAK				*e*SS	SS	02 04 50.1	-3.1
YAK				pmax	pmax		
	comp=E,74nm,0.8s						
YAK				pmax	pmax		
	comp=Z,463nm,0.8s,mb5.9						
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				smax			
	comp=E,51nm,1.1s						
YAK				smax			
	comp=Z,14nm,0.9s						
YAK				smax			
	comp=N,48nm,1.8s						
YAK	**Yakutsk**	**44.14**	**35**	⇑*i*P	**P**	**01 55 20.5**	**0.0**
	comp=N,1μm,0.8s,mb6.3						
PZI	**Palazzolo**	**44.17**	**288**	⇑*i*P	**P**	**01 55 21.2**	**+0.1**
FSSB	**Fossombrone**	**44.19**	**298**	⇑*i*P	**P**	**01 55 21.3**	**+0.2**
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**01 55 21.6**	**-0.4**
	comp=N,114nm,0.7s,mb5.3,baz=95,slow=7.4						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**01 55 21.6**	**-0.4**
	baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**01 55 21.4**	**-0.6**
	comp=N,82nm,0.6s,mb5.2,baz=97,slow=7.8,SNR=423						
NOA				pP	pP	01 56 07.6	+0.9
	comp=N,48nm,0.6s,baz=97,slow=8.2,SNR=2.5						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**01 55 21.4**	**-0.6**
NOA				*PP	pP	01 56 07.6	+1.0
NOA				pmax	pmax		
	comp=Z,82nm,0.6s						
GRA1	**Grafenberg Arr**	**44.36**	**307**	*e*P	**P**	**01 55 23.5**	**+1.1**
	comp=Z,618nm,2.4s,mb5.5						
GRA1				*e*PP	PP	01 57 10.2	+0.9
GRA1				*e*S	**S**	**02 01 45.6**	**+5.4**
GRF	**Grafenberg Arr**	**44.36**	**307**	*e*P	**P**	**01 55 23.5**	**+1.1**
GRF				*e*		01 57 10.2	
GRF				*e*S	**S**	**02 01 45.6**	**+5.4**
GRF				pmax	pmax		
	comp=Z,618nm,2.4s,mb5.5						
RSM	**Repubblica di**	**44.38**	**298**	*e*P	**P**	**01 55 20.4**	**-2.2**
WTTA	**Wattenberg**	**44.38**	**303**	⇑*i*P	**P**	**01 55 22.1**	**-0.5**
	comp=Z,508nm,3.2s						
WTTA				*i*	pP	01 56 07.6	+0.4
	comp=Z,404nm,2.5s						
STOK	**Stokkvaagen**	**44.39**	**331**	⇑*i*P	**P**	**01 55 22.5**	**0.0**
STOK				AMb	AMB	01 55 27.8	
	comp=Z,153nm,1.3s,mb5.2						
STOK	**Stokkvaagen**	**44.39**	**331**	⇑*i*P	**P**	**01 55 22.5**	**0.0**
	comp=Z,153nm,1.3s,mb5.2						
CERT	**Cerreto**	**44.40**	**296**	*i* P	**P**	**01 55 24.6**	**+1.7**
ASS	**Assisi**	**44.40**	**297**	⇑*i*P	**P**	**01 55 23.5**	**+0.7**
WATA	**Walderalm**	**44.41**	**303**	⇑*i*P	**P**	**01 55 22.8**	**0.0**
	comp=Z,25nm,0.9s,mb4.5						
WATA				*i*	pP	01 56 08.7	+1.2
	comp=Z,71nm,1.1s						
MURB	**Monte Urbino**	**44.45**	**298**	*i* P	**P**	**01 55 24.7**	**+1.4**
NSS	**Namsos**	**44.47**	**328**	*e*P	**P**	**01 55 18.4**	**-4.7**
NSS				*e*S	**S**	**02 01 40.5**	**-1.0**
NSS				*e*SS	SS	02 05 07.1	+7.9
NSS				AMS	AMS	02 06 52.4	
	comp=Z,2μm,17.9s						
NAO	**NORSAR Subarra**	**44.50**	**323**	P	**P**	**01 55 22.4**	**-0.9**
MNS	**Montasola**	**44.52**	**296**	*e*P	**P**	**01 55 23.3**	**-0.5**
CTI	**Castel Tesino**	**44.56**	**302**	P	**P**	**01 55 23.9**	**-0.1**
CSLB	**Castelbuono**	**44.60**	**290**	*e*P	**P**	**01 55 24.5**	**0.0**
BSEG	**Bad Segeberg**	**44.61**	**313**	*e*P	**P**	**01 55 24.8**	**+0.5**
BSEG				*e**PP	pP	01 56 11.7	+2.7
BSEG				pmax	pmax		
	comp=Z,101nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**44.61**	**60**	P	**P**	**01 55 24.8**	**+0.3**
MDJ				AP	pP	01 56 11.8	+2.7
MDJ				XP	sP	01 56 32.0	-0.9
MDJ				PP	PP	01 57 12.4	+0.5
MDJ				SCP		02 00 36.7	
MDJ				S	**S**	**02 01 44.1**	**+0.2**
MDJ				XS		02 02 59.8	
MDJ				AMB	AMB		
	comp=Z,1μm,9.3s						
MDJ	**Mudanjiang**	**44.61**	**60**	*e*P	**P**	**01 55 22.6**	**-1.8**
	comp=Z,24nm,0.6s,mb4.7						
GIB	**Gibilmanna**	**44.61**	**290**	⇑*i*P	**P**	**01 55 24.3**	**-0.3**
LOF	**Lofoten**	**44.63**	**333**	⇑*i*P	**P**	**01 55 25.8**	**+1.5**
LOF				AMb	AMB	01 55 29.4	
	comp=Z,153nm,0.6s,mb5.5						
LOF	**Lofoten**	**44.63**	**333**	⇑*i*P	**P**	**01 55 25.8**	**+1.5**
	comp=Z,153nm,0.6s,mb5.5						
TATO	**Taipei**	**44.63**	**90**	*e*P	**P**	**01 55 26.1**	**+1.2**
	comp=Z,102nm,1.0s,mb5.1						
SQTA	**Sankt Quirin**	**44.68**	**303**	⇑*i*P	**P**	**01 55 24.2**	**-0.7**
	comp=Z,40nm,1.1s,mb4.7						
SQTA				*i*	pP	01 56 08.5	-1.1
	comp=Z,80nm,1.3s						
CLZ	**Clausthal**	**44.70**	**310**	*e*P	**P**	**01 55 25.4**	**+0.4**
	comp=Z,79nm,1.1s,mb5.0						
MOTA	**Moosalm**	**44.73**	**303**	⇑*i*P	**P**	**01 55 24.6**	**-0.8**
	comp=Z,20nm,0.8s,mb4.5						
MOTA				*i*	pP	01 56 10.2	+0.2
	comp=Z,50nm,1.1s						
APPI	**Appiano**	**44.78**	**302**	P	**P**	**01 55 24.9**	**-0.9**
CRE	**Caprese Michel**	**44.79**	**298**	*e*P	**P**	**01 55 27.6**	**+1.7**
SFI	**Santa Sofia**	**44.81**	**299**	⇑*i*P	**P**	**01 55 26.9**	**+0.9**
PGD	**Poggio Sodo**	**44.90**	**299**	*e*P	**P**	**01 55 28.5**	**+1.7**
TRON	**Trondheim**	**44.97**	**326**	*e*P	**P**	**01 55 27.8**	**+0.7**
TRON				*e*pP	pP	01 56 10.8	-1.0
TRON				*e*sP	sP	01 56 33.7	-1.8
VMG	**Vicchio**	**45.01**	**299**	⇑*i*P	**P**	**01 55 29.0**	**+1.3**
KONO	**Kongsberg**	**45.03**	**321**	⇑*i*P	Px	01 56 02.0	
KONO				AMb	AMB	01 56 07.6	
	comp=Z,104nm,1.6s,mb4.9						
TOLF	**Tolfa**	**45.09**	**296**	⇑*i*P	**P**	**01 55 25.9**	**-2.4**
FAVR	**Favara**	**45.09**	**289**	⇑*i*P	**P**	**01 55 30.3**	**+1.9**
SEI	**Scarperia**	**45.12**	**299**	⇓*i*P	**P**	**01 55 29.7**	**+1.2**
HDH	**Heidenheim**	**45.15**	**305**	*e*P	**P**	**01 55 29.0**	**+0.3**
HDH	**Heidenheim**	**45.15**	**305**	P	**P**	**01 55 29.5**	**+0.8**
MUD	**Monsted U'grnd**	**45.20**	**317**	*i* P	**P**	**01 55 29.5**	**+0.6**
	comp=Z,44nm,1.2s,mb4.7						
MUD				*i*		01 56 34.2	
MUD				*e*		01 57 18.1	
MUD				*i* S	**S**	**02 01 50.2**	**-1.9**
MUD				*i*		02 05 19.5	
BJO	**Bjornoya**	**45.24**	**343**	*e*P	**P**	**01 55 28.2**	**-1.0**
BJO				*e*S	**S**	**02 01 53.4**	**+0.9**
BJO				*e*SS	SS	02 05 21.3	+8.0
BJO				AMS	AMS	02 06 35.4	
	comp=Z,2μm,19.1s						
CSNT	**Castellina Chi**	**45.29**	**298**	⇑*i*P	**P**	**01 55 29.9**	**0.0**
ZCCA	**Zocca**	**45.33**	**299**	⇑*i*P	**P**	**01 55 31.4**	**+1.2**
MABI	**Malga Bissina**	**45.34**	**302**	P	**P**	**01 55 30.2**	**0.0**
CLTB	**Caltabellotta**	**45.35**	**290**	P	**P**	**01 55 30.0**	**-0.4**
UBR	**Uberruh**	**45.35**	**304**	*e*P	**P**	**01 55 29.9**	**-0.4**
UBR	**Uberruh**	**45.35**	**304**	P	**P**	**01 55 30.1**	**-0.2**
KLR	**Kul'dur**	**45.35**	**54**	*d* *i*P	**P**	**01 55 30.5**	**+0.3**
KLR				*e*	pP	01 56 17.2	+2.1
KLR				*e*		01 56 36.0	
KLR				*e*		01 57 24.5	
KLR				*e*S	**S**	**02 01 55.0**	**+0.7**
KLR				*e*		02 05 20.0	
KLR				pmax	pmax		
	comp=E,57nm,1.6s						
KLR				pmax	pmax		
	comp=Z,130nm,1.6s,mb5.0						
KLR				pmax	pmax		
	comp=E,1μm,7.5s						
KLR				pmax	pmax		
	comp=Z,2μm,7.5s						
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
BRMO	**Bormio**	**45.36**	**302**	*e*P	**P**	**01 55 30.0**	**-0.3**
SAL	**Salo**	**45.41**	**301**	*e*P	**P**	**01 55 31.4**	**+0.7**
FUORN	**Ofenpass**	**45.41**	**303**	⇑*i*P	**P**	**01 55 30.5**	**-0.3**
	comp=Z,138nm,2.1s,mb4.9						
SIND	**Sindeldorf**	**45.44**	**306**	*e*P	**P**	**01 55 31.2**	**+0.2**
SIND	**Sindeldorf**	**45.44**	**306**	P	**P**	**01 55 31.5**	**+0.5**
DOMB	**Dombas**	**45.45**	**324**	⇑*i*P	**P**	**01 55 30.6**	**-0.3**
DOMB				AMb	AMB	01 55 36.0	
	comp=Z,131nm,1.6s,mb5.0						
DOMB				*e*pP	pP	01 56 14.2	-1.6
DOMB	**Dombas**	**45.45**	**324**	⇑*i*P	**P**	**01 55 30.6**	**-0.3**
	comp=Z,131nm,1.5s,mb5.0						
MMGO	**Monte Magaggia**	**45.50**	**290**	*e*P	**P**	**01 55 31.4**	**-0.2**
MFNL	**Monte Finestre**	**45.51**	**290**	*e*P	**P**	**01 55 33.5**	**+1.8**
DAVA	**Damuels**	**45.56**	**304**	⇑*i*P	**P**	**01 55 31.4**	**-0.6**
	comp=Z,737nm,3.4s						
DAVA				*i*	pP	01 56 17.5	+0.7
	comp=Z,194nm,1.3s						
KGM	**Kluang**	**45.56**	**131**	⇑*i*P	**P**	**01 55 33.0**	**+0.6**
	comp=Z,169nm,0.8s,mb5.4						
GRFL	**Gerfalco**	**45.59**	**298**	*e*P	**P**	**01 55 32.3**	**+0.1**
MTGR	**Montagna Grand**	**45.60**	**290**	P	**P**	**01 55 32.3**	**-0.1**
GSCL	**Gusciola**	**45.61**	**299**	⇑*i*P	**P**	**01 55 33.6**	**+1.2**
BERNI	**Berninapass**	**45.61**	**302**	⇑*i*P	**P**	**01 55 32.0**	**-0.4**
	comp=Z,49nm,0.9s,mb4.8						
MAON	**Monte Argentar**	**45.63**	**297**	⇑*i*P	**P**	**01 55 31.9**	**-0.7**
DAVOX	**Davos**	**45.64**	**303**	⇑*i*P	**P**	**01 55 32.0**	**-0.6**
	comp=Z,34nm,0.5s,mb5.0						
BDI	**Bagni Di Lucca**	**45.66**	**299**	P	**P**	**01 55 33.2**	**+0.4**
ERBM	**Eremo**	**45.72**	**300**	⇑*i*P	**P**	**01 55 35.0**	**+1.8**
BUCH	**Bad Urach**	**45.73**	**305**	*e*P	**P**	**01 55 34.1**	**+0.8**
BUCH	**Bad Urach**	**45.73**	**305**	P	**P**	**01 55 35.1**	**+1.8**
MAIM		**45.77**	**299**	P	**P**	**01 55 32.9**	**-0.7**
PII	**Pisa**	**45.78**	**299**	*e*P	**P**	**01 55 33.5**	**-0.2**
VLC	**Villacollemand**	**45.79**	**299**	⇑*e*P	**P**	**01 55 34.0**	**+0.2**
	comp=Z,73nm,0.9s,mb5.0						
STU	**Stuttgart**	**45.79**	**306**	P	**P**	**01 55 34.6**	**+0.9**
STU	**Stuttgart**	**45.79**	**306**	*e*P	**P**	**01 55 34.5**	**+0.7**
	comp=Z,42nm,0.8s,mb4.8						
KAMOR	**Kamor**	**45.82**	**304**	⇑*i*P	**P**	**01 55 33.6**	**-0.4**
	comp=Z,135nm,0.9s,mb5.3						
VALM		**45.85**	**299**	P	**P**	**01 55 34.1**	**-0.2**
TIXI	**Tiksi**	**45.92**	**22**	⇑*i*P	**P**	**01 55 34.8**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,550nm,0.8s,mb5.9						
TIXI				pmax	pmax		
	comp=N,31nm,0.5s						
TIXI				pmax	pmax		
	comp=E,175nm,0.6s						
TIXI	**Tiksi**	**45.92**	**22**	⇑*e*P	**P**	**01 55 34.7**	**+0.2**
TOD	**Tromm**	**45.93**	**307**	⇑*e*P	**P**	**01 55 35.1**	**+0.3**
TOD	**Tromm**	**45.93**	**307**	*e*P	**P**	**01 55 35.0**	**+0.2**
PLONS	**Plons**	**45.94**	**303**	⇑*i*P	**P**	**01 55 34.1**	**-0.8**

	comp=E,262nm,2.1s,mb5.2						
GRAM		45.95	300	P	P	01 55 36.1	+1.1
GUT	Gutenstein	45.95	305	eP	P	01 55 34.5	-0.5
GUT	Gutenstein	45.95	305	P	P	01 55 35.6	+0.6
VINC	Vinca	45.96	299	P	P	01 55 33.5	-1.6
VDL	Val di Lei	45.97	303	⇓P	P	01 55 36.2	+1.0
BACM		45.98	299	P	P	01 55 35.9	+0.6
SWS	Schriesheim	46.01	307	eP	P	01 55 35.3	-0.1
LBG	Lerchenberg	46.07	306	eP	P	01 55 36.0	+0.1
LBG	Lerchenberg	46.07	306	P	P	01 55 36.1	+0.2
SISB	Singen-Sch Ber	46.11	304	P	P	01 55 37.2	+1.0
CODM		46.12	300	P	P	01 55 36.8	+0.5
WEIN	Weingarten	46.12	304	⇑iP	P	01 55 35.5	-0.8
	comp=E,191nm,2.2s,mb5.0						
SPAK	Spaichingen	46.16	305	eP	P	01 55 36.5	-0.1
SPAK	Spaichingen	46.16	305	eP	P	01 55 36.3	-0.3
STEIN	Stein am Rhein	46.17	304	⇑iP	P	01 55 36.1	-0.6
	comp=E,278nm,2.7s,mb5.1						
WILA	Wila	46.19	304	⇑P	P	01 55 36.9	0.0
MOL	Molde	46.20	325	⇑iP	P	01 55 38.8	+2.1
MOL				AMb	AMB	01 55 44.3	
	comp=Z,125nm,2.1s,mb4.9						
MOL	Molde	46.20	325	⇑iP	P	01 55 38.8	+2.1
	comp=Z,125nm,2.1s,mb4.9						
LLS	Linth-Limmern	46.22	303	⇑iP	P	01 55 36.4	-0.7
	comp=Z,162nm,2.6s,mb4.9						
BOB	Bobbio (Coli)	46.32	300	⇑iP	P	01 55 39.0	+1.1
MUGIO	Muggio	46.37	302	⇑iP	P	01 55 36.9	-1.4
	comp=Z,40nm,0.4s,mb5.1						
SLE	Schleitheim	46.41	304	⇑iP	P	01 55 38.0	-0.5
	comp=Z,159nm,2.6s,mb4.9						
ZUR	Zurich	46.42	304	⇓P	P	01 55 39.5	+0.9
BFO	Black Forest	46.42	305	eP	P	01 55 38.2	-0.5
BFO				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.5						
BFO	Black Forest	46.42	305	eP	P	01 55 38.2	-0.5
	comp=Z,27nm,1.1s,mb4.5						
KTD	Kalmit	46.43	307	eP	P	01 55 39.5	+0.8
KTD	Kalmit	46.43	307	eP	P	01 55 40.2	+1.5
MUO	Muotathal	46.45	303	⇑iP	P	01 55 38.4	-0.5
	comp=Z,100nm,0.5s,mb5.4						
FUSIO	Fusio	46.53	303	⇑iP	P	01 55 38.8	-0.7
	comp=Z,76nm,0.9s,mb5.0						
VLA	Vladivostok	46.55	62	⇓iP	P	01 55 39.0	-0.7
VLA				e	sP	01 56 45.0	-3.3
VLA				i		01 57 25.0	
VLA				eS	S	02 02 11.0	-0.5
VLA				eSS	ScS	02 05 10.0	+0.2
VLA				pmax	pmax		
	comp=Z,1µm,9.0s						
VLA				pmax	pmax		
	comp=Z,1µm,12.0s						
VLA				pmax	pmax		
	comp=N,500nm,9.0s						
VLA				pmax	pmax		
	comp=E,1µm,9.0s						
VLA				smax			
	comp=N,1µm,14.0s						
VLA				smax			
	comp=E,1µm,14.0s						
VLA				MLR	MLR		
	comp=Z,1µm,14.0s						
VLA				MLR	MLR		
	comp=N,4µm,13.0s						
VLA				MLR	MLR		
	comp=E,1µm,10.0s						
VAI	Varese	46.57	302	⇑iP	P	01 55 39.2	-0.6
BNALP	Bannalp	46.61	303	⇑iP	P	01 55 39.5	-0.6
	comp=E,159nm,2.0s,mb5.0						
BLS5	Blasjo	46.62	321	⇑iP	P	01 55 41.3	+1.2
BLS5				AMb	AMB	01 55 46.8	
	comp=Z,123nm,1.5s,mb5.0						
BLS5				epP	pP	01 56 25.0	-0.1
BLS5	Blasjo	46.62	321	⇑iP	P	01 55 41.3	+1.2
	comp=Z,123nm,1.5s,mb5.0						
LANF	Langenberg	46.66	306	eP	P	01 55 41.0	+0.5
ABH	Alteburg	46.70	307	⇑eP	P	01 55 41.0	+0.3
ABH	Alteburg	46.70	307	eP	P	01 55 41.5	+0.8
SULZ	Sulz-Cheisache	46.70	304	⇑iP	P	01 55 40.0	-0.8
	comp=Z,81nm,0.9s,mb5.0						
GENL	Genova Univers	46.73	300	P	P	01 55 39.6	-1.4
STR	Strasbourg	46.75	306	eP	P	01 55 41.7	+0.5
KIZ	Kirchzarten	46.76	305	eP	P	01 55 40.8	-0.4
KIZ	Kirchzarten	46.76	305	P	P	01 55 41.0	-0.2
HASLI	Hasliberg	46.82	303	⇑iP	P	01 55 40.9	-0.8
	comp=Z,241nm,2.0s,mb5.2						
WIT	Witteveen	46.87	312	eP	P	01 55 42.4	+0.4
	comp=Z,130nm,2.1s,mb4.9						
WTSB	Winterswijk	46.89	310	eP	P	01 55 42.3	+0.1
	comp=Z,44nm,1.6s,mb4.5						
WTSB	Winterswijk	46.89	310	P	P	01 55 42.8	+0.6
LIBD	Limburg	46.93	305	eP	P	01 55 42.7	+0.1
LIBD	Limburg	46.93	305	eP	P	01 55 42.1	-0.5
STAV	Stavanger	47.02	320	eP	P	01 55 43.0	-0.1
STAV				AMb	AMB	01 55 48.3	
	comp=Z,86nm,1.6s,mb4.8						
STAV	Stavanger	47.02	320	eP	P	01 55 43.0	-0.1
	comp=Z,86nm,1.5s,mb4.9						
RUP	Ruppelstein	47.03	307	⇑eP	P	01 55 43.5	+0.1
RUP	Ruppelstein	47.03	307	eP	P	01 55 43.2	-0.1
WLS	Welschbruch	47.05	306	eP	P	01 55 42.5	-1.0
MMK	Mattmark	47.08	302	⇑P	P	01 55 43.4	-0.4
MCGN	Macugnaga	47.09	302	eP	P	01 55 43.9	+0.1
CDF	Champ du Feu	47.10	306	eP	P	01 55 43.6	-0.3
	comp=Z,26nm,0.8s,mb4.3						
BBS	Basel-Blauen	47.12	304	eP	P	01 55 43.8	-0.2
BBS	Basel-Blauen	47.12	304	P	P	01 55 44.4	+0.4
PGF	Pioggiola	47.14	297	eP	P	01 55 43.6	-0.7
	comp=Z,40nm,0.8s,mb4.5						
PGF				epP	pP	01 56 27.9	-1.6
ORO	Oropa	47.16	302	⇓iP	P	01 55 42.6	-1.8
HSP	Hornsund	47.17	345	eP	P	01 55 45.3	+1.2
RUND	Rundenannen	47.17	322	⇑iP	P	01 55 44.4	+0.1
RUND				AMb	AMB	01 55 47.5	
	comp=Z,200nm,0.9s,mb5.5						
RUND				epP	pP	01 56 29.2	-0.3
RUND				esP	sP	01 56 52.6	-0.3
BER	Bergen	47.19	322	eP	P	01 55 44.4	0.0
BER				AMb	AMB	01 55 46.8	
	comp=Z,103nm,1.1s,mb5.1						
BER				epP	pP	01 56 29.2	-0.4
BER				esP	sP	01 56 52.8	-0.3
BER	Bergen	47.19	322	eP	P	01 55 44.4	0.0
	comp=Z,430nm,1.7s,mb5.5						
WIMIS	Wimmis	47.19	303	⇑iP	P	01 55 43.9	-0.7
	comp=Z,178nm,2.5s,mb5.0						
EGD	Espegrend	47.24	322	eP	P	01 55 44.6	-0.2
EGD				AMb	AMB	01 55 50.2	
	comp=Z,112nm,2.1s,mb4.8						
EGD				esP	sP	01 56 53.0	-0.5
EGD	Espegrend	47.24	322	eP	P	01 55 44.6	-0.2
	comp=Z,467nm,1.3s,mb5.7						
LKBD	Leukerbad	47.24	303	⇑iP	P	01 55 44.4	-0.7
	comp=Z,100nm,0.9s,mb5.1						
ASK	Askoy	47.26	322	eP	P	01 55 44.7	-0.3
ASK				AMb	AMB	01 56 03.8	
	comp=Z,115nm,2.3s,mb4.8						
ASK				epP	pP	01 56 30.3	+0.2
ASK				esP	sP	01 56 53.3	-0.3
ASK	Askoy	47.26	322	eP	P	01 55 44.7	-0.3
	comp=Z,445nm,1.5s,mb5.6						
MOF	Molkenrain	47.30	305	eP	P	01 55 45.4	0.0
FIN	Finale Ligure	47.31	300	⇑iP	P	01 55 44.5	-1.1
TRAV		47.34	302	P	P	01 55 43.9	-1.9
RORO		47.43	300	P	P	01 55 45.3	-1.3
DIX	Grande Dixence	47.45	302	⇑iP	P	01 55 47.1	+0.4
	comp=Z,83nm,0.9s,mb5.1						
SENIN	Lac Senin	47.47	303	⇑iP	P	01 55 46.3	-0.5
	comp=Z,64nm,0.6s,mb5.1						
SENIN	Lac Senin	47.47	303	⇑iP	P	01 55 46.4	-0.4
HINF	Hinteralfeld	47.49	305	eP	P	01 55 46.0	-0.9
	comp=Z,49nm,0.9s,mb4.5						
HINF				epP	pP	01 56 30.9	-1.3
ROB	Roburent	47.52	300	P	P	01 55 45.9	-1.4
HGN	Heimansgroeve	47.59	309	eP	P	01 55 47.7	0.0
	comp=Z,14nm,2.2s						
HGN				ex	x	01 56 55.7	
HGN				ex	x	01 58 45.5	
HGN				eS	S	02 02 27.6	+1.5
LOMF	Lomont	47.59	304	eP	P	01 55 46.9	-0.9
IMI	Imperia	47.60	299	eP	P	01 55 47.7	-0.2
TORNY	Torny	47.62	303	⇑iP	P	01 55 47.5	-0.5
	comp=Z,225nm,2.0s,mb5.1						
GRYON	Gryon	47.62	303	⇑iP	P	01 55 47.5	-0.5
	comp=Z,155nm,1.3s,mb5.2						
WLF	Walferdange	47.62	307	P	P	01 55 48.5	+0.5
WLF				pmax	pmax		
	comp=Z,76nm,1.2s,mb4.9						
WLF	Walferdange	47.62	307	⇑eP	P	01 55 48.3	+0.3
	comp=Z,162nm,1.0s,mb5.3						
MONE	Monesi	47.65	300	P	P	01 55 48.0	-0.3
AIGLE	Aigle	47.71	303	⇑iP	P	01 55 48.1	-0.6
	comp=Z,282nm,2.1s,mb5.2						
SALAN	Lac Salanfe	47.74	303	⇑iP	P	01 55 48.5	-0.4
	comp=Z,42nm,0.4s,mb5.2						
NEGI	Negi	47.74	299	P	P	01 55 48.0	-1.0
RSP	Reno Superiore	47.76	301	P	P	01 55 48.1	-0.9
LSD	Ceresole Reale	47.76	302	P	P	01 55 49.0	-0.1
HAU	Haudompre	47.79	305	eP	P	01 55 48.5	-0.8
	comp=Z,29nm,0.5s,mb4.5						
HAU				eR			
	comp=Z,1µm,23.0s						
EMV	Vieux Emosson	47.80	302	⇑P	P	01 55 49.8	+0.4
SAOF	Saorge	47.82	300	eP	P	01 55 49.6	0.0
BHB	Bricherasio	47.82	301	P	P	01 55 47.6	-2.0
ENR	Entracque	47.85	300	P	P	01 55 49.7	-0.2
AUTN	L’Aution	47.90	300	eP	P	01 55 51.2	+1.0
STV2	Anna di Valdie	47.92	300	P	P	01 55 48.5	-1.8
STV	Sta Anna Valdi	47.92	300	P	P	01 55 49.3	-1.0
FENE	Fenestrelle	47.92	301	P	P	01 55 48.9	-1.5
SBF	Sospel	47.93	299	eP	P	01 55 49.5	-0.9
	comp=Z,134nm,0.7s,mb5.1						
THEF	They Montfort	47.98	305	eP	P	01 55 50.3	-0.5
AURF	Auriere	48.00	300	eP	P	01 55 53.0	+2.0
PZZ	Prazzo	48.01	300	P	P	01 55 49.3	-1.8
TOUF	Mont Tournerai	48.02	300	eP	P	01 55 51.9	+0.7
LPG	La Plagne	48.03	302	eP	P	01 55 51.0	-0.2
	comp=Z,107nm,0.8s,mb5.0						
LPL	La Plagne	48.04	302	eP	P	01 55 51.5	+0.3
	comp=Z,30nm,0.5s,mb4.6						
LPL				epP	pP	01 56 35.9	-0.7
MVIF	Mont Vial	48.12	300	eP	P	01 55 52.4	+0.5
GIMEL	Gimel	48.14	303	⇑iP	P	01 55 51.8	-0.2
	comp=Z,281nm,2.1s,mb5.2						
RRL	Cesana Torines	48.14	301	P	P	01 55 51.9	-0.1
BNI	Bardonecchia	48.18	301	eP	P	01 55 51.3	-1.0
	comp=Z,120nm,1.0s,mb5.2						
BNI				epP	pP	01 56 35.6	-2.1
MBDF	Montbardon	48.19	301	eP	P	01 55 52.3	-0.1
	comp=Z,88nm,0.6s,mb5.0						
SURF	Saint Ours	48.22	300	eP	P	01 55 53.1	+0.5
CABF	La Chapelle	48.24	303	eP	P	01 55 52.4	-0.4
	comp=Z,60nm,0.6s,mb4.8						
CABF				epP	pP	01 56 37.3	-0.9
CALN	Calern	48.34	299	eP	P	01 55 53.3	-0.3
GIVF	Givet	48.40	308	eP	P	01 55 54.1	+0.2
MEZF	Maizieres J’vi	48.54	306	eP	P	01 55 55.2	+0.2
	comp=Z,40nm,0.5s,mb4.7						
FRF	La Foret Royal	48.56	299	eP	P	01 55 54.7	-0.5
KMBO	Kilima Mbogo	48.63	227	P	P	01 55 57.4	+1.2
	comp=Z,49nm,0.6s,mb5.0,baz=34,slow=12,SNR=183						
KMBO	Kilima Mbogo	48.63	227	⇓eP	P	01 55 57.2	+1.0
	comp=Z,66nm,0.8s,mb5.0						
KBS	Kingsbay	48.65	347	⇑iP	P	01 55 56.0	+0.5
KBS				AMb	AMB	01 56 00.1	
	comp=Z,265nm,0.6s,mb5.7						
KBS				epP	pP	01 56 40.6	-0.4
KBS				ePP	PP	01 57 48.0	-2.1
KBS				eS	S	02 02 42.1	+1.6
KBS				eSS	SS	02 06 14.8	+4.4
KBS				AMS	AMS	02 07 34.4	
	comp=Z,2µm,20.0s						
KBS	Kingsbay	48.65	347	P	P	01 55 56.4	+0.8
KBS				pP	pP	01 56 41.2	+0.2
KBS				PP	Px	01 58 54.0	
KBS				sS		02 03 60.0	
KBS	Kingsbay	48.65	347	⇑iP	P	01 55 56.3	+0.8
KBS				e*PP	pP	01 56 41.1	+0.1
KBS				pmax	pmax		
	comp=Z,170nm,0.7s,mb5.5						
KBS	Kingsbay	48.65	347	⇑iP	P	01 55 56.0	+0.5
	comp=Z,265nm,0.6s,mb5.7						
ORIF	Oris-en-Rattie	48.76	301	eP	P	01 55 56.2	-0.6
	comp=Z,25nm,0.7s,mb4.4						
ORIF				eR			
	comp=Z,2µm,21.8s						
GRN	Grenoble	48.78	302	eP	P	01 55 55.4	-1.5
BAIF	Baives	48.79	308	eP	P	01 55 57.2	+0.3
BAIF				epP	pP	01 56 42.0	-0.4
TAVF	Tavernes	48.96	299	eP	P	01 55 59.0	+0.7
CAUP	Cauayan	48.97	99	eP	P	01 56 00.7	+2.0
VILF	Villemus	49.14	300	eP	P	01 56 00.5	+0.9
SMRF	Simiane la Rot	49.20	300	eP	P	01 55 59.9	-0.3
	comp=Z,34nm,0.8s,mb4.4						
PUYF	Puyloubier	49.23	299	eP	P	01 56 01.2	+0.8
BERF	Bertagne	49.30	299	eP	P	01 55 57.7	-3.2
TREF	Trevaresse	49.43	300	eP	P	01 56 00.9	-1.0
BALP	Baler	49.45	101	eP	P	01 56 03.9	+1.5
GELF	Grande-Etoile	49.46	299	eP	P	01 56 02.2	+0.1
PRAF	Pradon	49.53	300	eP	P	01 56 01.8	-0.9
LUBP	Lubang	49.56	104	eP	P	01 56 04.5	+1.3
LOR	Lormes	49.59	305	eP	P	01 56 02.2	-0.8
	comp=Z,19nm,0.7s,mb4.2						
LOR				epP	pP	01 56 46.9	-1.8
LOR				eR			
	comp=Z,1µm,21.5s						
VIVF	Saint-Julien-l	49.61	301	eP	P	01 56 02.5	-0.7
	comp=Z,40nm,0.7s,mb4.6						
VIVF				epP	pP	01 56 47.8	-1.1
SMF	Signal de Mont	49.74	304	eP	P	01 56 03.3	-0.9
	comp=Z,67nm,0.7s,mb4.8						
SMF				epP	pP	01 56 48.5	-1.4
SSF	Saint Saulge	49.87	304	eP	P	01 56 04.1	-1.1
MENF	Mencas	49.99	309	eP	P	01 56 05.1	-0.9
AVF	Avril sur Loir	50.03	304	eP	P	01 56 05.4	-1.0
	comp=Z,68nm,0.7s,mb4.8						
PLDF	La Plantade	50.05	303	eP	P	01 56 07.2	+0.6
YEL1	Yell	50.35	322	P	P	01 56 07.8	-0.8
AGO	Saint Agoulin	50.36	303	eP	P	01 56 09.9	+1.0
LASF	Ste Croix	50.38	301	eP	P	01 56 08.8	-0.2
	comp=Z,84nm,0.9s,mb4.8						
HYF	Humbligny	50.39	305	eP	P	01 56 09.1	0.0
BGF	Bois d’Agland	50.43	304	eP	P	01 56 08.8	-0.6
	comp=Z,30nm,0.7s,mb4.5						
LRW	Lerwick	50.44	322	P	P	01 56 08.6	-0.7
LRW				AMb	AMB	01 56 34.6	
	comp=Z,140nm,1.7s,mb5.0						
SAN1	Sandwick	50.48	322	P	P	01 56 08.7	-0.9
LBL	Lubilhac	50.49	302	eP	P	01 56 10.1	+0.2
PYM	Petit Puy Mans	50.52	303	eP	P	01 56 11.3	+1.2
WAL1	Walls	50.65	322	P	P	01 56 10.1	-0.7
KKM	Kota Kinabalu	51.35	115	⇓eP	P	01 56 18.2	+1.5
	comp=Z,158nm,0.9s,mb5.4						
CAF	Calviac	51.38	302	eP	P	01 56 16.1	-0.4
	comp=Z,59nm,0.8s,mb4.7						
OWE	Westray	51.47	321	P	P	01 56 16.3	-0.7
EJON	La Jonquera	51.51	299	P	P	01 56 17.6	0.0
	comp=Z,317nm,2.4s,mb5.3						
SKP1	Kophill	51.58	311	P	P	01 56 17.2	-0.7
LRDF	Laroque-de-Fa	51.62	300	eP	P	01 56 18.3	0.0
RJF	Les Rejaudoux	51.65	303	eP	P	01 56 18.6	+0.1
	comp=Z,84nm,1.0s,mb4.8						
RJF				epP	pP	01 57 03.6	-0.9
RJF				eR			
	comp=Z,991nm,22.2s						
OHO	Hoy	51.65	320	P	P	01 56 17.6	-0.8
MTLF	Montolieu	51.72	300	eP	P	01 56 18.3	-0.8
	comp=Z,35nm,0.8s,mb4.6						
MTLF				epP	pP	01 57 03.7	-1.4
MME1	Meikle Cairn	51.75	318	P	P	01 56 18.1	-1.0
MLA1	Latheron	51.80	320	P	P	01 56 19.1	-0.3
LHO	Holmfirth	51.82	314	eP	P	01 56 21.0	+1.3
MCD	Coleburn Disti	51.86	319	P	P	01 56 19.1	-0.7
LDF	La Druitiere	51.88	307	eP	P	01 56 19.2	-1.0
	comp=Z,39nm,0.7s,mb4.7						
LDF				epP	pP	01 57 04.4	-1.8
ORE	Reay	51.96	320	P	P	01 56 20.1	-0.6
LPEF	Le Peyrat	52.05	300	eP	P	01 56 22.1	+0.5
EBL	Broad Law	52.06	317	P	P	01 56 20.2	-1.2
FLN	La Foliniere	52.06	307	eP	P	01 56 20.1	-1.4
	comp=Z,43nm,0.8s,mb4.7						
FLN				eR			
	comp=Z,1µm,19.2s						
EDI	Edinburgh	52.12	317	P	P	01 56 20.7	-1.2
EDI				AMb	AMB	01 56 23.9	
	comp=Z,129nm,2.9s,mb4.8						
VALF	Valcebollere	52.14	299	eP	P	01 56 21.2	-1.0
SWN1	Swindon	52.23	311	P	P	01 56 21.7	-1.0
EBH	Black Hill	52.23	317	P	P	01 56 22.2	-0.5
ESK	Eskdalemuir	52.24	316	P	P	01 56 21.7	-1.1
ESK				pmax	pmax		
	comp=Z,47nm,1.0s,mb4.9						
ESK	Eskdalemuir	52.24	316	eP	P	01 56 20.8	-1.9
	comp=Z,44nm,0.8s,mb4.9						
LFF	La Frestale	52.28	302	eP	P	01 56 23.0	-0.2
	comp=Z,56nm,0.7s,mb4.8						
MVH1	Achvaich	52.29	319	P	P	01 56 21.9	-1.2
OTO	Tongue	52.30	320	P	P	01 56 22.5	-0.6
MBAR	Mbarara	52.30	234	⇓eP	P	01 56 22.9	-0.9
	comp=Z,87nm,0.6s,mb5.4						
GRR	Gorron	52.40	307	eP	P	01 56 23.1	-0.9
	comp=Z,39nm,0.7s,mb4.7						
MFF	Saint Martin d	52.41	305	eP	P	01 56 23.1	-1.0
	comp=Z,26nm,0.7s,mb4.5						
CDU1	Dunnerdale	52.44	315	P	P	01 56 23.2	-1.0
CSF	Scaffel	52.44	315	P	P	01 56 23.7	-0.5
MDO	Dochfour	52.47	319	P	P	01 56 23.3	-1.1
JNW	Jan Mayen West	52.55	336	eP	P	01 56 26.0	+1.1
JNW				e	pP	01 57 12.0	+1.0
HAE	Alders End	52.56	312	P	P	01 56 23.9	-1.3
HAE				AMb	AMB	01 56 42.6	
	comp=Z,180nm,1.2s,mb5.4						
JMIC	Jan Mayen	52.58	336	⇑iP	P	01 56 25.8	+0.7
JMIC				eS	S	02 03 34.1	-0.4
JMIC				eSS	SS	02 07 16.2	+1.1
JMIC				AMS	AMS	02 09 51.1	
	comp=Z,1µm,19.9s						
SWK	Warminster	52.59	311	P	P	01 56 24.5	-0.9
PCOU	Corrie	52.61	317	P	P	01 56 24.2	-1.3
MLS	Moulis	52.62	300	eP	P	01 56 24.3	-1.5
HLM1	Long Mynd	52.65	312	P	P	01 56 23.8	-2.0
HLM1				AMb	AMB	01 56 29.3	
	comp=Z,60nm,2.0s,mb4.7						
EAB	Aberfoyle	52.70	317	P	P	01 56 25.7	-0.4
EAB				AMb	AMB	01 56 30.6	
	comp=Z,89nm,1.8s,mb4.9						
PCA1	Carrot	52.75	317	P	P	01 56 25.7	-0.8
HGH	Gray Hill	52.81	311	P	P	01 56 25.4	-1.6
HGH				AMb	AMB	01 56 29.9	
	comp=Z,145nm,2.0s,mb5.1						
SMD	Mendips	52.84	311	P	P	01 56 26.1	-1.2
MCH1	Michaelchurch	52.84	312	P	P	01 56 25.9	-1.4
JQE	Queens East	52.94	308	P	P	01 56 26.3	-1.8
JLP	Les Platons	52.97	308	P	P	01 56 27.1	-1.2
JRS	Jersey	52.98	308	P	P	01 56 26.6	-1.7
HTR	Trewern Hill	52.98	312	P	P	01 56 27.2	-1.1
HTR				AMb	AMB	01 56 31.7	
	comp=Z,118nm,0.8s,mb5.4						
YSS	Yuzh-Sakhalins	53.03	55	αeP	P	01 56 27.8	-0.9
YSS				e*PP	pP	01 57 14.4	-0.6
YSS				e*SP	sP	01 57 34.3	-3.5
YSS				e		01 58 36.0	
YSS				eS	S	02 03 42.0	+1.2
YSS				e*SS		02 05 06.0	
YSS				eSS	SS	02 07 24.0	+1.1
YSS				pmax	pmax		
	comp=Z,160nm,0.5s,mb5.7						
YSS				pmax	pmax		
	comp=E,120nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2µm,13.0s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,1µm,12.0s						
YSS	Yuzh-Sakhalins	53.03	55	eP	P	01 56 28.8	+0.1
	comp=E,149nm,0.5s,mb5.7						
YSS				epP	pP	01 57 15.6	+0.6
JVM	Valle D.L. Mar	53.05	308	P	P	01 56 27.6	-1.2
WPM1	Penmaenmawr	53.08	314	P	P	01 56 28.7	-0.3
WPM1				AMb	AMB	01 56 33.1	
	comp=E,115nm,2.9s,mb4.8						
EPF	Esparros	53.12	300	eP	P	01 56 27.6	-1.9
	comp=E,24nm,0.6s,mb4.5						
EPOB	Poblet	53.14	298	P	P	01 56 28.9	-0.7
	comp=E,476nm,2.9s,mb5.4						
MAJO	Matsushiro	53.16	68	P	P	01 56 28.9	-0.9
MAJO				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.1						
MAJO	Matsushiro	53.16	68	⇑eP	P	01 56 28.7	-1.1
	comp=Z,102nm,0.8s,mb5.3						
MAT	Matsushiro	53.16	68	P	P	01 56 28.3	-1.5
MAT				S	S	02 03 39.0	-3.7
MAT	Matsushiro	53.16	68	eP	P	01 56 28.0	-1.8
	comp=Z,35nm,1.0s,mb4.7						
MAT				eS	S	02 03 39.0	-3.7
GAL1	Galloway	53.18	316	P	P	01 56 28.7	-1.1
WME	Myndd Eilian	53.28	314	P	P	01 56 29.7	-0.8
WME				AMb	AMB	01 56 33.9	
	comp=Z,55nm,2.1s,mb4.6						
LABF	Labassere	53.30	300	eP	P	01 56 30.2	-0.6
WIM	Isle of Man	53.32	315	P	P	01 56 29.9	-0.9
WLF1	Llynfaes	53.36	314	P	P	01 56 30.4	-0.7
WLF1				AMb	AMB	01 56 34.6	
	comp=Z,89nm,2.1s,mb4.8						
VIEF	Viey	53.39	300	eP	P	01 56 30.9	-0.5
WCB1	Church Bay	53.43	314	P	P	01 56 31.2	-0.4
WCB1				AMb	AMB	01 56 35.1	
	comp=Z,66nm,2.2s,mb4.7						
YRE	Yr Eifl	53.45	313	P	P	01 56 31.4	-0.4
YRC	Rhoscolyn	53.48	314	P	P	01 56 30.9	-1.0
SGMF	Saint Gilles	53.53	307	eP	P	01 56 31.6	-0.8
	comp=Z,33nm,0.6s,mb4.8						
GMK	Mull of Kintyr	53.57	316	P	P	01 56 31.6	-0.9
EBR	Ebro Roquetas	53.73	298	eP	P	01 56 35.0	+1.0
EIBI	Ibiza	53.73	295	P	P	01 56 32.4	-1.6
	comp=Z,224nm,1.7s,mb5.4						
ETSF	Etsaut	53.79	300	eP	P	01 56 33.7	-0.7
	comp=Z,94nm,0.6s,mb5.2						
FDAF	Les Forges d’A	53.82	300	eP	P	01 56 33.7	-0.9
GCL	Cushendall	53.93	316	P	P	01 56 34.8	-0.4
ROSF	Rostrenen	53.97	308	eP	P	01 56 34.5	-1.0
	comp=Z,40nm,0.6s,mb4.8						
ROSF				epP	pP	01 57 20.0	-1.9
QUIF	Quistinic	54.02	307	eP	P	01 56 34.3	-1.6
	comp=Z,30nm,0.5s,mb4.8						
GMM	Mts of Mourne	54.03	315	P	P	01 56 34.6	-1.3
ESAC	San Caprasio	54.12	299	P	P	01 56 37.1	+0.4
	comp=Z,395nm,2.3s,mb5.5						
SJPF	Ste Jean	54.19	301	eP	P	01 56 36.4	-0.8
	comp=Z,19nm,0.6s,mb4.5						
EALK	Alkurruntz	54.35	301	P	P	01 56 38.0	-0.4
	comp=Z,532nm,2.8s,mb5.6						
CSA1	St Austell	54.42	310	P	P	01 56 38.5	-0.2
MA2	Magadan	54.55	38	c iP	P	01 56 39.4	-0.2
MA2				i *SP	sP	01 57 48.8	-0.1
MA2				e		01 58 46.0	
MA2				i S	S	02 04 01.7	+0.8
MA2				pmax	pmax		
	comp=E,50nm,1.2s						
MA2				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.2						
MA2	Magadan	54.55	38	⇑eP	P	01 56 39.3	-0.3
	comp=Z,136nm,0.8s,mb5.5						
EMOS	Mosqueruela	54.58	297	P	P	01 56 39.8	-0.3
	comp=Z,634nm,3.1s						
SEY	Seymchan	54.59	34	eP	P	01 56 40.5	+0.6
SEY				e		01 57 47.6	
SEY				e		01 58 45.7	
SEY				e		02 04 01.7	
SEY				e		02 05 16.6	
SEY				pmax	pmax		
	comp=E,40nm,0.9s						
SEY				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.2						
CRQ2	Rosemanowes 2	54.64	310	P	P	01 56 39.3	-1.1
DMUB	Kingscourt	54.66	315	eP	P	01 56 39.5	-1.0
CGH1	Goonhilly	54.67	310	P	P	01 56 39.2	-1.4
CCA1	Carnmenellis	54.67	310	P	P	01 56 39.8	-0.8
CGW	Gweek	54.69	310	P	P	01 56 39.7	-1.1
DAG	Danmarks Havn	54.76	344	⇓iP	P	01 56 40.8	-0.1
	comp=Z,102nm,0.8s,mb5.4						
EBEN	Beniarda	54.99	295	P	P	01 56 42.3	-0.8
	comp=Z,494nm,2.9s,mb5.5						
DCN	Croghan	55.02	314	eP	P	01 56 41.6	-1.5
ETOR	Torete	55.55	298	P	P	01 56 45.9	-1.2
	comp=Z,782nm,3.2s						
ELAN	Lanestosa	55.67	302	P	P	01 56 48.6	+0.7
	comp=Z,669nm,2.8s,mb5.7						
ETOB	Tobarra	55.98	296	P	P	01 56 49.5	-0.6
	comp=Z,455nm,2.4s,mb5.6						
YUK	Yuzh-Kuril’sk	56.01	57	eP	P	01 56 48.0	-2.3

YUK				_e_		01 57 43.0	
YUK				_e_		01 57 58.5	
YUK				pmax	pmax		
	comp=E,2µm,5.0s						
YUK				pmax	pmax		
	comp=Z,2µm,5.0s						
YUK				pmax	pmax		
	comp=Z,210nm,0.4s,mb6.0						
EMUR	**La Murta**	**56.05**	**295**	P	**P**	**01 56 50.1**	**-0.6**
	comp=Z,522nm,3.1s						
EVIA	**Vianos**	**56.67**	**296**	P	**P**	**01 56 55.1**	**+0.1**
	comp=Z,14nm,0.5s,mb4.8						
SCO	**Scoresbysund**	**57.05**	**336**	_i_ P	**P**	**01 56 57.6**	**+0.3**
	comp=Z,16nm,0.7s,mb4.8						
SCO				_i_	sP	01 58 05.6	-1.2
SCO				_i_	**S**	**02 04 38.8**	**+4.8**
SCO				_i_ S		02 05 56.8	
VAL	**Valentia**	**57.16**	**313⇑**	_i_P	**P**	**01 56 58.5**	**+0.2**
ESDC	**Sonseca Array**	**57.33**	**298**	P	**P**	**01 56 58.2**	**-1.4**
	comp=Z,6.6nm,0.5s,mb4.5,baz=57,slow=7.3,SNR=64						
ESDC				pP	pP	01 57 45.6	-0.9
	comp=Z,62nm,0.9s,baz=60,slow=7.5,SNR=5.2						
ESDC	**Sonseca Array**	**57.33**	**298**	P	**P**	**01 56 58.7**	**-0.9**
	comp=Z,18nm,0.9s,mb4.7						
EQES	**Quesada**	**57.41**	**295**	P	**P**	**01 56 59.9**	**-0.3**
	comp=Z,514nm,2.4s,mb5.7						
EPON	**Pontenova**	**58.17**	**303**	P	**P**	**01 57 06.0**	**+0.5**
	comp=Z,647nm,2.5s,mb5.8						
EADA	**Adamuz**	**58.36**	**296**	P	**P**	**01 57 05.9**	**-0.9**
	comp=Z,513nm,3.6s						
MATI	**Mati**	**58.36**	**106**	_e_P	**P**	**01 57 09.0**	**+1.9**
ECAL	**Calabor**	**58.41**	**301**	P	**P**	**01 57 06.6**	**-0.6**
	comp=Z,342nm,2.6s,mb5.5						
ELOJ	**Sierra Loja**	**58.46**	**295**	P	**P**	**01 57 06.4**	**-1.1**
	comp=Z,6.0nm,0.6s,mb4.4						
PBRG	**Braganca**	**58.47**	**301**	_e_P	**P**	**01 57 08.2**	**+0.6**
PBRG				_i_ pP	pP	01 57 54.5	-0.2
ERUA	**La Rua**	**58.52**	**302**	P	**P**	**01 57 07.8**	**-0.1**
	comp=Z,11nm,0.6s,mb4.7						
EINC	**Incio**	**58.56**	**302**	P	**P**	**01 57 07.4**	**-0.8**
STS	**Santiago**	**59.29**	**303**	P	**P**	**01 57 12.6**	**-0.6**
	comp=Z,194nm,2.0s,mb5.4						
PVRL	**Vila Real**	**59.34**	**301**	_e_P	**P**	**01 57 14.3**	**+0.7**
PVRL				_i_ pP	pP	01 58 00.7	-0.2
ELOB	**Lobios**	**59.35**	**302**	P	**P**	**01 57 13.5**	**-0.2**
	comp=Z,469nm,2.1s,mb5.8						
MTE	**Manteigas**	**59.57**	**300**	_e_P	**P**	**01 57 15.1**	**-0.1**
MTE				_i_ pP	pP	01 58 02.1	-0.4
MTE				_e_S	**S**	**02 05 10.6**	**+3.5**
MTE	**Manteigas**	**59.57**	**300**	_e_P	**P**	**01 57 15.1**	**-0.1**
	comp=Z,86nm,0.8s,mb5.4						
EZAM	**Zamans**	**59.67**	**302**	P	**P**	**01 57 15.7**	**-0.1**
	comp=Z,12nm,0.6s,mb4.7						
PVIS	**Viseu**	**59.69**	**300**	_e_P	**P**	**01 57 15.8**	**-0.2**
PVIS				_i_ pP	pP	01 58 03.4	0.0
PCBR	**Castelo Branco**	**59.75**	**299**	_e_P	**P**	**01 57 17.2**	**+0.8**
PCBR				_i_ pP	pP	01 58 03.6	-0.2
ESPR	**Espera**	**59.81**	**296**	P	**P**	**01 57 15.4**	**-1.5**
	comp=Z,456nm,2.8s,mb5.6						
EBAD	**Badajoz**	**59.87**	**298**	P	**P**	**01 57 16.4**	**-0.8**
	comp=Z,494nm,2.6s,mb5.7						
EMIN	**Mina Concepcio**	**60.03**	**297**	P	**P**	**01 57 16.8**	**-1.5**
	comp=Z,511nm,2.8s,mb5.7						
SKR	**Severo-Kuril's**	**60.16**	**47**	_e_P	**P**	**01 57 13.5**	**-5.5**
SKR				_e_		01 58 24.0	
SKR				_e_S	**S**	**02 05 14.0**	**-0.4**
SKR				_e_PS	tx	02 05 32.0	
SKR				pmax	pmax		
	comp=E,1µm,6.0s						
SKR				pmax	pmax		
	comp=Z,1µm,6.0s						
SKR				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.5						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=N,1µm,14.0s						
SKR				MLR	MLR		
	comp=E,2µm,14.0s						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s						
PTOM	**Tomar**	**60.50**	**299**	_e_P	**P**	**01 57 20.8**	**-0.6**
PTOM				_i_ pP	pP	01 58 08.6	-0.4
EGRO	**El Granado**	**60.71**	**297**	P	**P**	**01 57 22.4**	**-0.5**
	comp=Z,513nm,2.6s,mb5.7						
PET	**Petropavlovsk**	**60.73**	**44α**	_i_P	**P**	**01 57 20.6**	**-2.2**
PET				_e_*SP	sP	01 58 28.1	-4.5
PET				_e_		01 59 40.0	
PET				_e_S	**S**	**02 05 21.2**	**-0.3**
PET				_e_*SS		02 06 44.5	
PET				pmax	pmax		
	comp=Z,84nm,1.1s,mb5.3						
PET				pmax	pmax		
	comp=Z,1µm,6.9s						
PET				pmax	pmax		
	comp=Z,1µm,13.2s						
PET				pmax	pmax		
	comp=Z,800nm,11.8s						
PET				pmax	pmax		
	comp=Z,600nm,14.5s						
PET	**Petropavlovsk**	**60.73**	**44**	_e_P	**P**	**01 57 20.5**	**-2.2**
	comp=Z,130nm,1.1s,mb5.5						
PALC	**Alcoutim**	**60.74**	**297**	_e_P	**P**	**01 57 22.9**	**-0.2**
PALC				_i_ pP	pP	01 58 09.2	-1.4
PBEJ	**Beja**	**60.78**	**297**	_e_P	**P**	**01 57 22.6**	**-0.7**
PBEJ				_i_ pP	pP	01 58 10.5	-0.4
MOE	**Montemor**	**60.91**	**298**	_e_P	**P**	**01 57 24.2**	**0.0**
MOE				_e_pP	pP	01 58 11.8	0.0
SUMG	**Summit**	**61.08**	**341⇑**	_e_P	**P**	**01 57 25.5**	**+0.6**
	comp=Z,253nm,0.9s,mb5.8						
PLOU	**Loures**	**61.33**	**299**	_e_P	**P**	**01 57 27.3**	**+0.3**
PLOU				_i_ pP	pP	01 58 14.0	-0.7
LIS	**Lisbon**	**61.40**	**299**	_e_P	**P**	**01 57 27.5**	**+0.1**
LIS				_e_S	**S**	**02 05 32.5**	**+2.3**
LIS				_e_S	**S**	**02 05 32.5**	**+2.3**
LIS				AMS	AMS	02 30 01.8	
	comp=E,739nm,21.7s						
PTEO	**Sao Teotonio**	**61.60**	**297**	_e_P	**P**	**01 57 28.9**	**+0.1**
PTEO				_i_ pP	pP	01 58 15.7	-0.8
LSZ	**Lusaka**	**65.26**	**226**	P	**P**	**01 57 53.0**	**0.0**
LSZ				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.1						
LSZ	**Lusaka**	**65.26**	**226⇓**	_e_P	**P**	**01 57 52.8**	**-0.2**
	comp=Z,49nm,0.7s,mb5.2						
RES	**Resolute Bay**	**68.77**	**356**	P	**P**	**01 58 14.2**	**+0.2**
RES				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
RES	**Resolute Bay**	**68.77**	**356**	_e_P	**P**	**01 58 14.0**	**-0.1**
	comp=Z,15nm,0.6s,mb4.8						
EFAM	**Famara**	**69.12**	**291**	P	**P**	**01 58 15.9**	**-1.0**
	comp=Z,85nm,0.8s,mb5.4						
SMY	**Shemya**	**69.14**	**39**	P	**P**	**01 58 16.5**	**-0.1**
SMY				pmax	pmax		
	comp=Z,100nm,0.7s,mb5.5						
SMY	**Shemya**	**69.14**	**39**	_e_P	**P**	**01 58 15.3**	**-1.4**
	comp=Z,148nm,0.7s,mb5.7						
EBAJ	**Bajamar**	**71.53**	**292**	P	**P**	**01 58 31.8**	**+0.3**
	comp=Z,550nm,2.5s,mb5.7						
CCAN	**Las Canadas**	**71.90**	**292**	P	**P**	**01 58 35.1**	**+1.4**
	comp=Z,79nm,1.6s,mb5.1						
IMA	**Indian Mountai**	**72.26**	**17⇑**	_e_P	**P**	**01 58 35.4**	**+0.2**
IMA				_e_*PP	pP	01 59 25.1	+0.8
IMA				pmax	pmax		
	comp=Z,490nm,0.7s,mb6.2						
IMA	**Indian Mountai**	**72.26**	**17⇑**	_e_P	**P**	**01 58 35.4**	**+0.2**
	comp=Z,490nm,0.7s,mb6.2						
IMA				_e_pP	pP	01 59 25.1	+0.8
EGOM	**La Gomera**	**72.38**	**292**	P	**P**	**01 58 37.1**	**+0.5**
	comp=Z,312nm,2.3s,mb5.5						
CHIE	**El Hierro**	**73.17**	**292**	P	**P**	**01 58 42.3**	**+1.1**
	comp=Z,23nm,1.1s,mb4.7						
INK	**Inuvik**	**74.02**	**9⇑**	_i_P	**P**	**01 58 45.9**	**+0.6**
INK				pmax	pmax		
	comp=Z,190nm,0.5s						
INK	**Inuvik**	**74.02**	**9⇑**	_i_P	**P**	**01 58 45.9**	**+0.6**
	comp=Z,185nm,0.5s,mb6.0						
LBTB	**Lobatse**	**74.49**	**222**	P	**P**	**01 58 49.4**	**+0.5**
LBTB				P		01 58 49.4	
DBIC	**Dimbokro**	**74.50**	**267**	P	**P**	**01 58 47.8**	**-1.3**
	comp=Z,42nm,0.6s,mb5.3,baz=26,slow=6.2,SNR=81						
DBIC				pP	pP	01 59 37.2	-1.3
	comp=Z,66nm,1.1s,baz=46,slow=8.6,SNR=3.5						
DBIC	**Dimbokro**	**74.50**	**267**	P	**P**	**01 58 47.8**	**-1.4**
DBIC				S	S	02 08 03.3	-2.3
DBIC	**Dimbokro**	**74.50**	**267**	P	**P**	**01 58 47.8**	**-1.4**
DBIC				*PP	pP	01 59 37.2	-1.3
DBIC				pmax	pmax		
	comp=Z,42nm,0.6s						
KIC	**Kosan Boka**	**74.59**	**267**	_e_P	**P**	**01 58 48.3**	**-1.4**
	comp=Z,188nm,0.5s,mb6.0						
COLA	**College**	**74.61**	**16⇑**	_i_P	**P**	**01 58 49.0**	**+0.3**
COLA				_e_*PP	pP	01 59 38.5	+0.4
COLA				pmax	pmax		
	comp=Z,270nm,0.8s,mb5.9						
COLA	**College**	**74.61**	**16⇑**	_i_P	**P**	**01 58 49.0**	**+0.3**
	comp=Z,268nm,0.8s,mb5.9						
COLA				_e_pP	pP	01 59 38.5	+0.4
TIC	**Toumodi**	**74.65**	**267**	_e_P	**P**	**01 58 48.6**	**-1.4**
	comp=Z,82nm,0.3s,mb5.9						
TSUM	**Tsumeb**	**74.72**	**232**	_e_P	**P**	**01 58 50.5**	**+0.2**
	comp=Z,34nm,0.5s,mb5.2						
LIC	**Lamto**	**74.90**	**267**	_e_P	**P**	**01 58 49.8**	**-1.6**
	comp=Z,179nm,0.8s,mb5.7						
LIC	**Lamto**	**74.90**	**267**	_e_P	**P**	**01 58 49.9**	**-1.5**
	comp=Z,34nm,0.6s,mb5.2						
LIC				_e_pP	pP	01 59 37.9	-2.9
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**01 58 49.9**	**-0.5**
	comp=Z,118nm,1.1s,mb5.4,baz=318,slow=4.7,SNR=403						
ILAR				pP	pP	01 59 40.4	+0.6
	comp=Z,31nm,0.9s,baz=334,slow=5.1,SNR=3.4						
ILAR				PP	PP	02 01 42.9	+0.4
	comp=Z,17nm,0.8s,baz=319,slow=8.0,SNR=4.4						
ILAR				PKKPbc		02 18 12.4	
	comp=Z,0.5nm,0.6s,baz=186,slow=2.0,SNR=6.2						
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**01 58 49.9**	**-0.5**
ILAR				*PP	pP	01 59 40.4	+0.6
ILAR						02 01 42.9	
ILAR				pmax	pmax		
	comp=Z,118nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**75.00**	**126⇑**	_i_P	**P**	**01 58 51.4**	**-0.5**
	comp=Z,61nm,0.8s,mb5.3						
FITZ				_e_pP	pP	01 59 41.7	+0.4
FITZ				_i_ S	S	02 08 09.1	-1.8
FITZ	**Fitzroy Crossi**	**75.00**	**126**	S	S	02 08 14.5	+3.6
	comp=Z,16nm,1.0s,baz=187,slow=22,SNR=9.6						
KAKA	**Kakadu**	**75.83**	**118⇑**	_i_P	**P**	**01 58 56.0**	**-0.6**
	comp=Z,211nm,0.8s,mb5.8						
SPU	**Mount Spurr**	**76.68**	**20**	_e_P	**P**	**01 58 59.8**	**-0.6**
DAWY	**Dawson**	**77.05**	**13⇑**	_i_P	**P**	**01 59 02.8**	**+0.5**
RSO	**Redoubt South**	**77.08**	**20**	_e_P	**P**	**01 59 03.4**	**+0.8**
PMR	**Palmer**	**77.11**	**18**	_e_P	**P**	**01 59 02.4**	**-0.3**
PMR				pmax	pmax		
	comp=Z,250nm,1.1s,mb5.8						
PMR	**Palmer**	**77.11**	**18**	_e_P	**P**	**01 59 02.4**	**-0.3**
	comp=Z,246nm,1.2s,mb5.7						
SLKM	**Skilak Lake**	**77.74**	**19**	_e_P	**P**	**01 59 05.9**	**-0.3**
KDAK	**Kodiak Island**	**79.35**	**22⇑**	_e_P	**P**	**01 59 15.2**	**+0.3**
	comp=Z,395nm,0.9s,mb6.0						
KDAK				_e_pP	pP	02 00 04.7	-0.3
MUN	**Mundaring**	**80.25**	**142**	_e_P	**P**	**01 59 18.9**	**-1.4**
	comp=Z,30nm,0.9s,mb4.9						
MUN				_e_pP	pP	02 00 11.0	+0.6
MUN				_e_SKS	S	02 09 00.9	-5.7
KLBR	**Kellerberrin**	**80.71**	**141**	_e_P	**P**	**01 59 21.1**	**-1.7**
	comp=Z,29nm,0.7s,mb5.0						
KLBR				_e_pP	pP	02 00 11.3	-1.7
YKW3	**Yellowknife Ar**	**81.27**	**3⇑**	_e_P	**P**	**01 59 25.1**	**+0.1**
YKW3				_e_pP	pP	02 00 16.6	+1.3
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**01 59 25.7**	**+0.3**
	comp=Z,293nm,1.1s,mb5.8,baz=350,slow=5.4,SNR=449						
YKA				pP	pP	02 00 17.4	+1.7
	comp=Z,50nm,0.6s,baz=349,slow=5.5,SNR=6.7						
YKA				PKKPbc		02 17 56.1	
	comp=Z,2.2nm,0.6s,baz=171,slow=2.2,SNR=17						
YKA				PKPPKP		02 26 02.3	
	comp=Z,0.4nm,0.8s,baz=162,slow=2.3,SNR=3.7						
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**01 59 25.7**	**+0.3**
YKA				pP	pP	02 00 17.4	+1.7
YKA				PKKPbc		02 17 56.1	
YKA				P'P'		02 26 02.4	
NWAO	**Narrogin (SRO)**	**81.52**	**142**	_e_P	**P**	**01 59 25.8**	**-1.2**
NWAO				_e_*PP	pP	02 00 18.5	+1.2
NWAO				pmax	pmax		
	comp=Z,32nm,0.8s						
NWAO	**Narrogin (SRO)**	**81.52**	**142**	_e_P	**P**	**01 59 25.8**	**-1.2**
	comp=Z,32nm,0.8s,mb5.0						
NWAO				_e_pP	pP	02 00 18.5	+1.2
SCHQ	**Schefferville**	**82.10**	**337**	P	**P**	**01 59 29.6**	**+0.1**
	comp=Z,33nm,0.7s,mb5.1,baz=26,slow=5.6,SNR=57						
SCHQ				pP	pP	02 00 20.0	+0.2
	comp=Z,37nm,0.8s,baz=16,slow=2.6,SNR=5.0						
WRA	**Warramunga Arr**	**82.11**	**122**	P	**P**	**01 59 29.4**	**-0.7**
	comp=Z,126nm,0.6s,mb5.7,baz=325,slow=4.8,SNR=326						
WRA				pP	pP	02 00 21.6	+1.0
	comp=Z,31nm,0.7s,baz=321,slow=4.8,SNR=2.8						
WRA				S	S	02 09 27.7	+1.9
	comp=Z,3.2nm,1.0s,baz=324,slow=9.5,SNR=5.5						
WRA				PKKPbc		02 17 58.3	
	comp=Z,1.8nm,0.7s,baz=127,slow=2.3,SNR=7.0						
WB2	**Warramunga Arr**	**82.12**	**122⇑**	_i_P	**P**	**01 59 29.5**	**-0.7**
WB2				_e_S	S	02 09 23.2	-2.7
DLBC	**Dease Lake**	**83.91**	**11**	PKKPbc		02 17 55.0	
	comp=Z,2.9nm,1.0s,baz=177,slow=9.5,SNR=4.4						
DLBC	**Dease Lake**	**83.91**	**11**	_e_P	**P**	**01 59 39.8**	**+1.3**
DLBC				_e_pP	pP	02 00 31.1	+2.0
DLBC				_e_sP	sP	02 00 52.6	+1.9
SIT	**Sitka**	**84.31**	**14⇑**	_e_P	**P**	**01 59 41.9**	**+1.4**
SIT				_e_*PP	pP	02 00 32.8	+1.7
SIT				_e_*SP	sP	02 00 52.1	-0.6
SIT				pmax	pmax		
	comp=Z,82nm,0.6s,mb5.6						
SIT	**Sitka**	**84.31**	**14⇑**	_e_P	**P**	**01 59 41.9**	**+1.4**
	comp=Z,82nm,0.6s,mb5.6						
SIT				_e_pP	pP	02 00 32.8	+1.7
SIT				_e_sP	sP	02 00 52.1	-0.6
FCC	**Fort Churchill**	**84.34**	**352**	_e_P	**P**	**01 59 41.1**	**+0.5**
FCC				_e_*PP	pP	02 00 32.8	+1.6
FCC				_e_*SP	sP	02 00 52.0	-0.8
FCC				pmax	pmax		
	comp=Z,92nm,1.0s,mb5.5						
FCC	**Fort Churchill**	**84.34**	**352**	_e_P	**P**	**01 59 41.1**	**+0.5**
	comp=Z,92nm,1.1s,mb5.4						
FCC				_e_pP	pP	02 00 32.8	+1.6
FCC				_e_sP	sP	02 00 52.0	-0.8
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**01 59 40.4**	**-1.2**
	comp=Z,97nm,0.7s,mb5.7,baz=315,slow=4.6,SNR=436						
ASAR				pP	pP	02 00 32.5	+0.3
	comp=Z,70nm,1.2s,baz=316,slow=5.1,SNR=2.5						
ASAR				S	S	02 09 42.0	-6.3
	comp=Z,3.5nm,0.7s,baz=316,slow=6.4,SNR=11						
ASAR				PKKPbc		02 17 52.3	
	comp=Z,0.7nm,0.5s,baz=130,slow=2.7,SNR=8.3						
ASAR				PKPPKP		02 25 57.7	
	comp=Z,0.7nm,0.9s,baz=153,slow=3.1,SNR=4.3						
PMG	**Port Moresby**	**84.77**	**106⇑**	_e_P	**P**	**01 59 43.1**	**-0.7**
PMG				_e_*PP	pP	02 00 31.5	-2.9
PMG				pmax	pmax		
	comp=Z,57nm,0.8s						
PMG	**Port Moresby**	**84.77**	**106⇑**	_e_P	**P**	**01 59 43.1**	**-0.7**
	comp=Z,57nm,0.8s,mb5.3						
PMG				_e_pP	pP	02 00 31.5	-2.9
FORT	**Forrest**	**85.75**	**133⇑**	_i_P	**P**	**01 59 48.0**	**-0.3**
	comp=Z,220nm,0.6s,mb6.1						
FORT				_i_ SKS	SKS	02 10 02.0	+11
FORT				_e_sSKS		02 11 19.1	
FFC	**Flin Flon**	**89.01**	**356**	_e_P	**P**	**02 00 03.9**	**+0.7**
FFC				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.5						
FFC	**Flin Flon**	**89.01**	**356**	_e_P	**P**	**02 00 03.9**	**+0.7**
	comp=Z,69nm,0.9s,mb5.5						
BBB	**Bella Bella**	**90.24**	**11**	P	**P**	**02 00 09.9**	**+0.9**
	comp=Z,25nm,1.0s,mb5.0,baz=342,slow=7.3,SNR=8.6						
CTA	**Charters Tower**	**90.68**	**114⇑**	_i_P	**P**	**02 00 11.2**	**-0.6**
	comp=Z,61nm,0.6s,mb5.7						
CTA				_e_pP	pP	02 01 03.7	+0.8
CTAO	**Charters Tower**	**90.68**	**114**	_e_P	**P**	**02 00 11.3**	**-0.5**
CTAO				_e_*PP	pP	02 01 02.6	-0.3
CTAO				pmax	pmax		
	comp=Z,66nm,0.7s,mb5.7						
CTAO	**Charters Tower**	**90.68**	**114**	_e_P	**P**	**02 00 11.3**	**-0.5**
	comp=Z,67nm,0.7s,mb5.7						
CTAO				_e_pP	pP	02 01 02.6	-0.4
ULM	**Lac du Bonnet**	**92.90**	**351**	P	**P**	**02 00 21.1**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0,baz=9.7,slow=5.3,SNR=9.7						
ULM				PKKPbc		02 17 34.9	
	comp=Z,2.5nm,0.6s,baz=251,slow=4.2,SNR=3.5						
PNT	**Penticton**	**94.14**	**7**	P	**P**	**02 00 27.8**	**+0.8**
VDB	**Vedder Mountai**	**94.17**	**8**	P	**P**	**02 00 27.1**	**0.0**
ACCN	**Adirondack Com**	**94.23**	**335**	_e_P	**P**	**02 00 30.3**	**+2.7**
ACCN				_e_pP	pP	02 01 19.4	+0.6
ACCN				_e_sP	sP	02 01 40.0	-0.4
SNB	**Saturna Island**	**94.28**	**9**	P	**P**	**02 00 29.3**	**+1.7**
PGC	**Sidney**	**94.37**	**9⇑**	_e_P	**P**	**02 00 29.1**	**+1.0**
	comp=Z,56nm,1.0s,mb5.5						
PGC				_e_pP	pP	02 01 21.5	+2.2
SADO	**Sadowa**	**94.72**	**339**	PKKPbc		02 17 26.5	
	comp=Z,1.8nm,0.5s,baz=217,slow=4.6,SNR=4.1						
RPW	**Rockport**	**94.80**	**8**	P	**P**	**02 00 30.6**	**+0.5**
STKA	**Stephens Creek**	**94.89**	**126**	_e_S	SKS	02 10 42.3	-2.7
STKA	**Stephens Creek**	**94.89**	**126**	P	**P**	**02 00 29.5**	**-1.4**
	comp=Z,8.4nm,0.6s,mb5.1,baz=325,slow=5.1,SNR=17						
STKA	**Stephens Creek**	**94.89**	**126**	_e_P	**P**	**02 00 29.4**	**-1.5**
	comp=Z,8.4nm,0.6s,mb5.0						
STKA				_e_S	SKS	02 10 42.3	-2.7
OCWA	**Octopus Mounta**	**95.15**	**10**	_e_P	**P**	**02 00 33.4**	**+1.7**
	comp=Z,59nm,0.8s,mb5.8						
OCWA				_e_pP	pP	02 01 26.1	+3.2
NLW	**Nelson Butte**	**95.30**	**7**	_e_P	**P**	**02 00 33.4**	**+1.0**
NLW				_e_pP	pP	02 01 26.1	+2.5
DGMT	**Dagmar**	**95.37**	**357**	_e_P	**P**	**02 00 33.6**	**+0.9**
	comp=Z,74nm,1.0s,mb5.8						
NEW	**Newport**	**95.40**	**5**	P	**P**	**02 00 33.9**	**+1.1**
	comp=Z,17nm,0.7s,mb5.3,baz=349,slow=4.6,SNR=24						
NEW	**Newport**	**95.40**	**5**	P	**P**	**02 00 33.9**	**+1.1**
NEW				pmax	pmax		
	comp=Z,17nm,0.7s						
NEW	**Newport**	**95.40**	**5⇑**	_e_P	**P**	**02 00 33.6**	**+0.7**
	comp=Z,20nm,0.7s,mb5.4						
GNW	**Green Mountain**	**95.51**	**9**	_e_P	**P**	**02 00 34.8**	**+1.4**
DPW	**Davenport**	**95.71**	**6**	_e_P	**P**	**02 00 35.1**	**+0.9**
DPW				_e_*PP	pP	02 01 26.6	+1.2
RMW	**Rattlesnake Mo**	**95.74**	**9**	P	**P**	**02 00 36.0**	**+1.6**
RMW	**Rattlesnake Mo**	**95.74**	**9**	_e_P	**P**	**02 00 35.4**	**+1.0**
BINY	**Binghamton**	**96.07**	**336**	P	**P**	**02 00 36.7**	**+0.7**
	comp=Z,28nm,1.7s,mb5.2						
BINY				pP	pP	02 01 24.7	-2.4
FMW	**Mount Fremont**	**96.28**	**9**	P	**P**	**02 00 37.6**	**+0.8**
LON	**Longmire**	**96.44**	**9**	_e_P	**P**	**02 00 38.4**	**+0.8**
LON				_e_*PP	pP	02 01 30.8	+2.1
BMW	**Boistfort Moun**	**96.53**	**10**	P	**P**	**02 00 45.2**	**+7.2**
SHW	**Mount Saint He**	**96.94**	**9**	_e_P	**P**	**02 00 41.8**	**+1.9**
CHMT	**Chamberlain Mo**	**96.97**	**3**	_e_P	**P**	**02 00 40.6**	**+0.6**
HAWA	**Hanford**	**97.05**	**7**	_e_P	**P**	**02 00 41.0**	**+0.7**
	comp=Z,7.8nm,0.8s,mb5.0						
HRY	**Holter Researc**	**97.22**	**2**	_e_P	**P**	**02 00 42.1**	**+1.0**
LAO	**LASA Array**	**97.23**	**358**	_e_P	**P**	**02 00 42.6**	**+1.4**
	comp=Z,44nm,1.1s,mb5.6						
LNOR	**Lincton Mounta**	**97.68**	**6**	_e_P	**P**	**02 00 46.4**	**+3.1**
BOZ	**Bozeman (W)**	**98.28**	**2**	_e_P	**P**	**02 00 47.0**	**+1.0**
BOZ				_e_*PP	pP	02 01 38.4	+1.2
BOZ				_e_		02 04 48.6	
BOZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.3						
BOZ	**Bozeman (W)**	**98.28**	**2**	_e_P	**P**	**02 00 47.0**	**+1.1**
	comp=Z,14nm,0.8s,mb5.3						
BOZ				_e_pP	pP	02 01 38.4	+1.2
BOZ				_e_PP	PP	02 04 48.6	-2.0
MCMT	**McKenzie Canyo**	**99.07**	**3**	_e_Pdif	**P**	**02 00 50.6**	**+1.0**
QLMT	**Earthquake Lak**	**99.11**	**2**	_e_Pdif	**P**	**02 00 50.9**	**+1.2**
JFWS	**Jewell Farm**	**99.17**	**346**	P	**P**	**02 00 52.7**	**+2.6**
JFWS				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.3						
JFWS	**Jewell Farm**	**99.17**	**346**	Pdif	**P**	**02 00 50.1**	**0.0**
	comp=Z,10nm,0.6s,mb5.3						
HSO	**Harness Mounta**	**99.44**	**10**	_e_P	**P**	**02 00 55.4**	**+4.1**
HLID	**Hailey**	**100.26**	**4**	_e_Pdif	P	02 00 55.9	+0.9
	comp=Z,1.9nm,0.8s						
HUMO	**Hull Mountain**	**100.36**	**10**	_e_Pdif	P	02 00 56.6	+1.1
	comp=Z,9.2nm,1.0s						
TPAW	**Teton Pass**	**100.45**	**1**	_e_Pdif	P	02 00 57.6	+1.7
WVOR	**Wild Horse Val**	**101.06**	**7**	P	P	02 01 00.5	+1.9
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WVOR	**Wild Horse Val**	**101.06**	**7**	_e_Pdif	P	02 00 59.3	+0.7
	comp=Z,6.6nm,0.9s						
PDAR	**Pinedale Array**	**101.19**	**0**	P	P	02 00 59.8	+0.6
	comp=Z,1.5nm,0.7s,baz=55,slow=3.3,SNR=12						
PDAR				PKKPbc		02 17 07.5	
	comp=Z,1.1nm,0.5s,baz=135,slow=4.5,SNR=4.5						
PDAR				SKKPbc		02 20 30.9	
	comp=Z,0.7nm,0.7s,baz=166,slow=6.1,SNR=4.3						
PDAR				PKPPKP		02 25 24.8	
	comp=Z,0.2nm,0.3s,SNR=4.0						
YBH	**Yreka Blue Hor**	**101.25**	**10**	P	P	02 01 01.2	+1.7
	comp=Z,2.8nm,0.9s,baz=286,slow=2.1,SNR=7.1						
YBH				PP	PP	02 05 09.7	-3.7
	comp=Z,3.1nm,0.7s,baz=293,slow=6.3,SNR=4.8						
YBH				PKKPbc		02 17 09.9	
	comp=Z,0.7nm,0.4s,baz=304,slow=5.7,SNR=5.2						
YBH	**Yreka Blue Hor**	**101.25**	**10**	P	P	02 01 01.2	+1.7
YBH						02 05 09.7	
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HVU	**Hansel Valley**	**102.11**	**3**	P	Pdif	02 01 05.1	+1.8
HVU	**Hansel Valley**	**102.11**	**3**	_e_Pdif	Pdif	02 01 04.5	+1.3
HWUT	**Hardware Ranch**	**102.32**	**2**	_e_Pdif	Pdif	02 01 05.7	+1.5
	comp=Z,6.4nm,0.8s						
SPUT	**South Promonto**	**102.59**	**2**	_e_Pdif	Pdif	02 01 06.7	+1.3
TCUT	**Toone Canyon**	**102.81**	**2**	_e_Pdif	Pdif	02 01 08.8	+2.4
DAU	**Daniels Canyon**	**103.52**	**2**	P	Pdif	02 01 13.8	+4.3
DAU	**Daniels Canyon**	**103.52**	**2**	_e_Pdif	Pdif	02 01 10.2	+0.7
DUG	**Dugway**	**103.69**	**3**	P	Pdif	02 01 12.4	+2.1
DUG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DUG	**Dugway**	**103.69**	**3**	_e_Pdif	Pdif	02 01 11.5	+1.2
	comp=Z,7.3nm,1.2s						
MAW	**Mawson**	**103.87**	**183**	_e_P	Pdif	02 01 14.5	+4.1
	comp=Z,2.4nm,0.6s						
MAW	**Mawson**	**103.87**	**183**	Pdiff	Pdif	02 01 14.1	+3.6
	comp=Z,2.7nm,0.6s,baz=22,slow=8.0,SNR=13						
MAW				PKiKP		02 05 27.2	
	comp=Z,2.8nm,0.6s,baz=36,slow=3.3,SNR=6.6						
MAW				PKKPbc		02 17 04.0	
	comp=Z,1.2nm,0.7s,baz=166,slow=5.5,SNR=6.8						
MAW	**Mawson**	**103.87**	**183**	P	Pdif	02 01 14.1	+3.7
MAW				_i_		02 05 27.2	
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CBKS	**Cedar Bluff**	**104.63**	**352**	_e_P	Pdif	02 01 16.3	+1.9
NVAR	**Mina Array Bea**	**105.06**	**7**	Pdiff	Pdif	02 01 17.8	+1.5
	comp=Z,1.4nm,0.6s,baz=2.4,slow=4.6,SNR=10						
NVAR				PP	PP	02 05 40.1	-1.7
	comp=Z,3.0nm,0.8s,baz=342,slow=5.7,SNR=5.0						
NVAR				PKKPbc		02 16 59.5	
	comp=Z,3.9nm,0.6s,baz=166,slow=4.8,SNR=18						
NVAR				PKPPKP		02 25 18.8	
	comp=Z,0.4nm,0.6s,baz=174,slow=3.0,SNR=3.6						
NVAR	**Mina Array Bea**	**105.06**	**7**	Pdif	Pdif	02 01 17.8	+1.4
NVAR				PP	PP	02 05 40.1	-1.7
NVAR				PKKPbc		02 16 59.5	
NVAR				P'P'		02 25 18.8	
TPH	**Tonopah**	**105.51**	**7**	P	Pdif	02 01 23.7	+5.4
TPH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TPH	**Tonopah**	**105.51**	**7**	_e_Pdif	Pdif	02 01 20.4	+2.0
	comp=Z,2.3nm,0.8s						
MTUM	**Tungsten Hills**	**106.09**	**8**	Pdif	Pdif	02 01 22.2	+1.3
NEN	**Nelson**	**108.11**	**5**	Pdif	Pdif	02 01 36.7	+6.9
TXAR	**Lajitas Array**	**114.39**	**355**	PKP	PKPdf	02 05 48.2	+1.8
	comp=Z,0.7nm,0.5s,baz=89,slow=2.1,SNR=4.9						
TXAR				PP	PP	02 06 44.1	-5.8
	comp=Z,2.1nm,0.8s,baz=117,slow=2.8,SNR=5.0						
TXAR				PKKPbc		02 16 29.0	
	comp=Z,1.8nm,0.7s,baz=185,slow=6.6,SNR=11						
VNA1	**Neumayer--Stat**	**120.40**	**202⇑**	_i_Pdif	Pdif	02 02 20.3	-2.8
VNA1				_e_		02 05 54.7	
VNA1				_e_		02 07 17.6	
SDV	**Santo Domingo**	**122.15**	**313**	_e_PKPdf	PKPdf	02 06 04.3	+2.5
BDFB	**Brasilia**	**122.17**	**274**	PKP	PKPdf	02 06 04.3	+2.5
	comp=Z,1.5nm,0.4s,baz=99,slow=2.8,SNR=3.8						
BDFB				PKKPbc		02 16 02.0	
	comp=Z,4.2nm,0.7s,baz=4.8,slow=3.8,SNR=5.2						
VNDA	**Vanda**	**125.47**	**165**	PKP	PKPdf	02 06 06.9	+0.2
	comp=Z,5.2nm,0.7s,baz=288,slow=4.6,SNR=12						
VNDA	**Vanda**	**125.47**	**165**	PKIKP	PKPdf	02 06 06.9	+0.2
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
QSPA	South Pole Qui	126.21	180	ePKP	PKPdf	02 06 08.7	+0.7
ROSC	El Rosal	127.55	314	PKP	PKPdf	02 06 13.6	+1.3
	comp=Z,28nm,0.7s,baz=58,slow=4.9,SNR=13						
ROSC				SKPbc		02 09 13.9	
	comp=Z,21nm,0.6s,baz=154,slow=17,SNR=5.8						
SAML	Samuel	130.12	292	ePKPdf	PKPdf	02 06 18.3	+1.1
CPUP	Villa Florida	135.02	268	PKP	PKPdf	02 06 26.2	+0.2
	comp=Z,14nm,0.6s,baz=72,slow=2.1,SNR=32						
CPUP				SKPbc		02 09 36.5	
	comp=Z,19nm,1.1s,baz=43,slow=6.2,SNR=4.1						
LPAZ	La Paz	138.46	288	PKP	PKPdf	02 06 34.1	+1.5
	comp=Z,5.6nm,0.7s,baz=84,slow=3.5,SNR=19						
LPAZ				SKPbc		02 09 54.1	
	comp=Z,7.0nm,0.8s,baz=87,slow=2.1,SNR=4.3						
LPAZ				SKKPbc		02 18 31.6	
	comp=Z,5.3nm,1.1s,baz=204,slow=6.9,SNR=6.9						
PMOR	Pomariorio Ree	139.53	68	ePKiKP	PKPdf	02 06 34.6	0.0
	comp=Z,86nm,1.3s						
PPT	Papeete	139.80	73	PKP	PKPdf	02 06 36.1	+1.1
	comp=Z,25nm,0.6s,baz=266,slow=13,SNR=4.1						
PPT	Papeete	139.80	73	ePKiKP	PKPdf	02 06 35.7	+0.7
	comp=Z,168nm,2.2s						
PPT	Papeete	139.80	73	PKIKP	PKPdf	02 06 36.1	+1.1
PPT				pmax	pmax		
	comp=Z,25nm,0.6s						
PAE	Paea	139.85	73	ePKiKP	PKPdf	02 06 35.4	+0.3
	comp=Z,124nm,1.5s						
TIAR	Tiarei	139.97	73	ePKiKP	PKPdf	02 06 35.8	+0.5
	comp=Z,56nm,0.7s						
TVO	Taravao	140.18	73	ePKiKP	PKPdf	02 06 36.4	+0.7
	comp=Z,68nm,0.7s						
ARE	Arequipa	141.12	291	eP	PKPdf	02 06 38.5	+1.2
LVC	Limon Verde	142.58	280	ePKP	PKPdf	02 06 37.0	-2.6
TRQA	Tornquist	142.66	253	ePKP	PKPdf	02 06 37.8	-1.6
TBI	Tubuai	143.03	81	ePKiKP	PKPdf	02 06 40.6	+0.1
	comp=Z,156nm,1.0s						
MDZ	Mendoza	146.76	264	eP	PKPdf	02 06 51.3	+4.7
TLL	Tololo Astrono	147.43	270	i P	PKPdf	02 06 49.9	+2.1
CMCH	Combarbala	147.94	268	⇓iP	PKPdf	02 06 50.9	+2.4
FCH	Farellones	148.04	264	⇓iP	PKPdf	02 06 51.7	+3.0
LMEL	Las Melosas	148.12	263	⇑iP	PKPdf	02 06 53.1	+4.3
CLCH	Cerro Calan	148.26	264	i P	PKPdf	02 06 51.5	+2.5
PLCA	Paso Flores	149.62	250	PKP	PKPdf	02 06 53.1	+2.1
	comp=Z,5.5nm,0.6s,baz=108,slow=2.1,SNR=29						
PLCA				PKPbc	PKPdf	02 06 58.8	+7.8
	comp=Z,70nm,1.1s,baz=116,slow=3.6,SNR=39						

NEIC ***10*** *02:21:06.2, 37.15N×3.70E, MG3.9(MDD), After MDD.*

MDD 10 02:21:03.0±1.2**, 37.00N×3.91E, mb4.0**/7**, Error ellipse: s-maj=14.9km s-min=6.5km az=83.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.92	204	P	Pg	02 21 19.2	-2.2
AKET	Djebel Ketaf	0.95	181	P	Pg	02 21 20.5	-1.5
EMHD	Djebel Mahouad	1.10	224	P	Pb	02 21 23.5	-1.2
EIBI	Ibiza	2.86	316	P	Pn	02 21 48.5	-2.3
	5.8nm,0.2s,SNR=12						
EIBI				S	Sn	02 22 20.1	-6.4
	4.2nm,0.2s						
ETOB	Tobarra	4.62	293	P	Pn	02 22 13.4	-2.4
	1.0nm,0.4s,SNR=7.1						
ETOB				S	Sn	02 23 03.5	-7.5
	8.0nm,0.9s						
EMOS	Mosqueruela	4.80	316	P	Pn	02 22 15.3	-3.0
	10nm,0.7s,SNR=7.8						
EMOS				S	Sn	02 23 07.0	-8.5
	6.5nm,0.9s,SNR=7.9						
EMOS	Mosqueruela	4.80	316	P	Pn	02 22 15.3	-3.0
EMOS				S	Sn	02 23 05.9	-10
EPOB	Poblet	4.87	334	P	Pn	02 22 16.5	-2.8
	8.1nm,0.5s,SNR=7.9						
EPOB				S	Sn	02 23 09.9	-7.4
	5.3nm,0.9s,SNR=7.9						
EMIR	Miracle	5.25	340	P	Pn	02 22 22.3	-2.3
	2.6nm,0.1s,SNR=7.9						
EJON	La Jonquera	5.50	352	P	Pn	02 22 25.8	-2.4
	1.3nm,0.1s,SNR=13						
ETOR	Torete	6.01	311	P	Pn	02 22 33.3	-2.2
	0.7nm,0.3s,SNR=7.9						
ETOR	Torete	6.01	311	P	Pn	02 22 33.3	-2.2

BJI ***10*** *02:31:03.9, 28.50N×57.10E, h24^{km}, mB5.0, mb4.7, Ms5.0, Msz4.6*

THR ***10*** *02:31:03.3±0.7, 28.33N×57.05E, h18^{km}±20^{km}, ML4.3*

NEIC ***10*** *02:31:03.9±0.3, 28.49N×57.07E, mb5.0/90, Error ellipse: s-maj=8.9km s-min=5.3km az=185.0*

IDC ***10*** *02:31:06.8±2.2, 28.52N×57.00E, h43^{km}±18^{km}, mb4.2/18, mb1 4.4/20, mb1mx4.4/23, ML3.3/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/26, Error ellipse: s-maj=16.8km s-min=14.9km az=18.0*

MOS ***10*** *02:31:17.6±0.8, 28.72N×56.91E, h155^{km}, mb4.5/20, Error ellipse: s-maj=16.2km s-min=6.2km az=122.2*

ISC 10 02:31:01.8±0.3**, 28.30N**±0.04×**56.99E**±0.03**, h25^{km}, h25^{km}**±.6^{km}**:pP-P, n320,** σ**1^{s}06**/330**, mb4.8**/128**, MS3.8**/1**, 82C-16D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	3.53	271	ePN	Pn	02 32 00.3	+3.8
GHIR				AMP		02 32 48.5	
	comp=N,1μm,0.6s						
ZHSF	Zahedan	3.56	68	ePN	Pn	02 31 59.3	+2.4
NASN	Na'in	5.76	322	ePN	Pn	02 32 29.9	+2.0
NASN				eSG	Sn	02 34 01.8	+28
NASN				AMP		02 34 25.5	
	comp=N,66nm,0.7s						
UMR	Umm Al-Rimmam	8.22	281	eP	P	02 33 02.7	+0.2
UMR				eS	Sn	02 34 29.4	-6.2
UMR				AML	AML	02 34 34.0	
	comp=Z,340nm,0.4s						
RDF	Al-Radifah	8.32	277	eP	P	02 33 04.1	+0.2
RDF				eS	Sn	02 34 32.1	-6.0
RDF				AML	AML	02 34 36.2	
	comp=Z,248nm,0.3s						
DAMV	Damavand	8.46	331	ePN	P	02 33 07.3	+1.4
MIB	Mutribah	8.58	282	eP	P	02 33 07.5	0.0
MIB				eS	Sn	02 34 38.0	-6.5
MIB				AML	AML	02 34 42.5	
	comp=Z,178nm,0.4s						
THKV	Tehran--Karaj	9.19	327	ePN	P	02 33 18.0	+2.0
RYDS	Riyadh	10.15	249	P	P	02 33 25.6	-3.6
RAYN	Ar Rayn	11.38	248	Pn	P	02 33 43.3	-2.7
	comp=Z,803nm,0.6s						
MZLS	Mizel	11.40	251	P	P	02 33 44.2	-2.2
ARSS	Ar Rass	12.49	262	P	P	02 33 58.7	-2.2
AFFS	'Afif	13.30	254	P	P	02 34 10.1	-1.6
HILS	Ha'il	13.48	270	P	P	02 34 12.7	-1.3
TATS	Tathlith	15.11	238	P	P	02 34 33.3	-2.2
TVAN	Van	15.24	316	i P	P	02 34 36.9	-0.2
GNI	Garni	15.55	323	P	P	02 34 45.7	+4.7
	comp=Z,3.2nm,0.3s,baz=110,slow=2.8,SNR=13						
GNI				LR	LR	02 41 22.2	
	comp=Z,247nm,20.2s,baz=334,slow=40						
GNI	Garni	15.55	323	P	P	02 34 45.7	+4.6
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,247nm,20.2s						
KBRS	Khaybar	15.99	265	P	P	02 34 47.6	+0.7
BLJS	Baljurashi	16.35	243	P	P	02 34 50.9	-0.5
ERZM	Erzurum	17.33	316	i P	P	02 35 06.8	+3.1
HAJJ	Hajjah	17.62	227	⇓eP	P	02 35 06.0	-1.5
ASF	Jabal al Asfar	17.79	287	P	P	02 35 10.6	+1.2
	comp=Z,1.0nm,0.3s,baz=343,slow=5.7,SNR=25						
ASF				LR	LR	02 43 52.5	
	comp=Z,278nm,19.1s,baz=65,slow=43						
NDI	New Delhi	17.79	84	eP	P	02 35 11.0	+1.6
UMJS	Umm Lajj	17.84	265	P	P	02 35 12.3	+2.2
LBOS		18.04	220	⇓eP	P	02 35 12.5	-0.2
ELZG	Elazig	18.12	309	i P	P	02 35 15.8	+2.2
MALT	Malatya	18.42	308	eP	P	02 35 19.0	+1.7
	comp=Z,44nm,1.0s						
MALT				e		02 35 29.0	
MALT				eS	S	02 38 16.2	-23
GZT	Gaziantep	18.63	304	i P	P	02 35 20.7	+0.9
JMOS	Jabal al Moall	19.21	278	P	P	02 35 28.8	+2.0
BDAS	Al Bad'	19.26	276	P	P	02 35 29.8	+2.4
COBT	Iskenderun	19.31	300	i P	P	02 35 28.6	+0.8
HAQS	Haql	19.37	278	P	P	02 35 30.8	+2.2
GOF	Gofitskoye	20.08	330	⇑iP	P	02 35 36.0	-0.2
GOF				pmax	pmax		
	comp=Z,35nm,1.4s						
SOC	Sochi	20.63	322	eP	P	02 35 42.1	+0.1
SOC				eS	S	02 39 12.4	-14
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,21nm,0.8s						
NIG	Nigde	21.08	303	eP	P	02 35 49.2	+2.5
AVNT	Avonos	21.16	305	i P	P	02 35 47.7	+0.3
YOZ	Yozgat	21.18	308	eP	P	02 35 48.2	+0.6
CSS	Prodhromos	21.19	294	⇑P	P	02 35 48.8	+1.1
	comp=Z,0.8nm,0.6s						
CSS	Prodhromos	21.19	294	⇑eP	P	02 35 48.8	+1.1
MAMC	Mammari	21.32	295	⇓P	P	02 35 51.1	+2.0
MAMC	Mammari	21.32	295	⇓iP	P	02 35 51.1	+2.0
SZAC	Souni-Zanaja	21.51	293	⇑P	P	02 35 52.6	+1.6
	comp=Z,1.6nm,0.7s						
SZAC	Souni-Zanaja	21.51	293	⇑iP	P	02 35 52.6	+1.6
ALFC	Alevga	21.81	294	⇓P	P	02 35 55.9	+1.9
ALFC	Alevga	21.81	294	⇓eP	P	02 35 55.9	+1.9
CTKT	Corum	21.98	310	i P	P	02 35 55.1	-0.6
KAMT	Kaman	22.20	306	eP	P	02 35 59.4	+1.5
BOYT	Boyabat	22.28	312	i P	P	02 35 59.4	+0.7
ANN	Anapa	22.67	322	eP	P	02 36 03.1	+0.7
ANN				e		02 36 45.2	
ANN				eS	S	02 39 51.2	-13
ANN				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
KONT	Konya--Tatoy	22.70	301	eP	P	02 36 04.9	+2.0
ELDT	Eldivan	22.86	308	i P	P	02 36 04.7	+0.4
LOD	Lodumlu	23.08	306	eP	P	02 36 08.7	+2.2
BALT	Daday	23.34	311	i P	P	02 36 09.1	+0.1
KIZT	Kizilcal	23.36	303	eP	P	02 36 12.2	+3.0
KOLN	Koldanda	23.48	85	eP	P	02 36 12.0	+1.5
	comp=Z,26nm,0.9s,mb4.7						
SAFT	Safranbolu	23.68	309	eP	P	02 36 12.2	-0.1
SGKT	Sivrigoynuk	23.85	307	i P	P	02 36 14.5	+0.6
ELL	Elmali	24.28	297	eP	P	02 36 18.8	+0.6
ESKT	Eskisehir	24.33	304	eP	P	02 36 20.5	+1.9
ESKT	Eskisehir	24.33	304	i P	P	02 36 19.8	+1.1
GKN	Gorkha	24.36	84	eP	P	02 36 20.5	+1.4
	comp=Z,21nm,0.6s,mb4.7						
MDU	Mudurnu	24.40	307	eP	P	02 36 21.1	+1.8
SIM	Simferopol'	24.64	319	eP	P	02 36 21.5	-0.1
SIM				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.9						
ALT	Altintas	24.72	303	eP	P	02 36 24.1	+1.6
HENT	Hendek	24.75	307	i P	P	02 36 23.3	+0.6
DMN	Daman	24.83	85	eP	P	02 36 24.7	+1.1
	comp=Z,20nm,0.7s,mb4.8						
KKN	Kakani	24.95	84	eP	P	02 36 25.6	+0.8
	comp=Z,45nm,0.6s,mb5.2						
GPA	Golpazari	24.98	306	eP	P	02 36 25.7	+0.8
PKI	Pulchoki	25.10	85	eP	P	02 36 26.8	+0.7
	comp=Z,26nm,0.6s,mb4.9						
DNZL	Cakiroluk	25.16	299	i P	P	02 36 27.0	+0.3
GUN	Gumba	25.46	84	eP	P	02 36 30.4	+0.8
	comp=Z,89nm,0.8s,mb5.4						
MANT	Manisa	25.73	301	i P	P	02 36 32.3	+0.3
ULDT	Uludag	25.78	305	i P	P	02 36 32.4	0.0
ZRNK	Zerenda	26.19	17	eP	P	02 36 35.4	-0.6
	comp=Z,7.3nm,0.7s,mb4.3						
ZRNK				e	pP	02 36 43.9	+0.5
BVAR	Borovoye Array	26.62	18	P	P	02 36 39.3	-0.7
	comp=Z,6.9nm,0.6s,mb4.3,baz=202,slow=8.0,SNR=53						
BVAR				ScP		02 43 39.4	
	comp=Z,0.6nm,0.9s,baz=217,slow=7.2,SNR=4.0						
BRVK	Borovoye	26.62	18	⇑eP	P	02 36 39.5	-0.5
	comp=Z,9.6nm,0.8s,mb4.4						
KDAG	Bornova	26.70	300	i P	P	02 36 37.9	-3.0
MKAR	Makanchi Array	27.07	40	P	P	02 36 43.9	-0.4
	comp=Z,2.4nm,0.8s,mb3.8,baz=229,slow=8.7,SNR=19						
MKAR	Makanchi Array	27.07	40	P	P	02 36 43.9	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	27.73	30	⇑eP	P	02 36 49.5	-0.7
	comp=Z,4.0nm,0.9s,mb4.0						
SANT	Santorini	27.74	295	eP	P	02 36 49.1	-1.3
	comp=Z,17nm,0.5s,mb4.9						
ARU	Arti	28.14	2	⇑iP	P	02 36 52.7	-1.1
ARU				e		02 37 46.8	
ARU				e		02 40 07.5	
ARU				eS	S	02 41 23.5	-12
ARU				e		02 47 25.9	
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
ARU	Arti	28.14	2	P	P	02 36 52.0	-1.8
WMQ	Urumqi	29.05	50	⇑P	P	02 37 01.7	-0.5
WMQ				AP	pP	02 37 09.0	-0.5
WMQ				XP	sP	02 37 12.7	-0.1
WMQ				PP	PP	02 37 54.9	-1.5
WMQ				S	S	02 41 48.9	-1.8
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,127nm,7.1s						
VRI	Vrincioaia	29.59	315	⇑iP	P	02 37 12.5	+5.5
MLR	Muntele Rosu	29.93	313	P	P	02 37 10.8	+0.8
	comp=Z,3.5nm,0.6s,mb4.3,baz=350,slow=11,SNR=12						
MLR				ScP		02 43 50.3	
	comp=Z,1.6nm,1.1s,baz=146,slow=7.3,SNR=4.0						
MLR	Muntele Rosu	29.93	313	P	P	02 37 10.8	+0.8
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MLR	Muntele Rosu	29.93	313	P	P	02 37 10.8	+0.8
MLR				ScP		02 43 50.3	
OBN	Obninsk	30.60	337	deP	P	02 37 15.2	-0.6
OBN				e		02 38 26.3	
OBN				i S	S	02 42 01.3	-14
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.8						
OBN	Obninsk	30.60	337	P	P	02 37 13.3	-2.5
	comp=Z,18nm,0.6s,mb5.1						
PALK	Pallekele	30.65	129	P	P	02 37 15.3	-1.4
	comp=Z,31nm,1.4s,mb4.9						
PALK				epP	pP	02 37 22.6	-1.5
AKASG	Malin Array Be	30.67	324	P	P	02 37 14.9	-1.6
	comp=Z,13nm,0.8s,mb4.8,baz=130,slow=8.4,SNR=39						
AKASG	Malin Array Be	30.67	324	P	P	02 37 14.9	-1.6
AKASG				pmax	pmax		
	comp=Z,13nm,0.8s						
SKO	Skopje	31.87	305	i P	P	02 37 27.0	-0.2
BOLS	Boljevac	32.00	308	⇑iP	P	02 37 28.4	+0.1
NVS	Novosibirsk	32.63	28	eP	P	02 37 31.6	-2.0
NVS				pmax	pmax		
	comp=Z,19nm,1.9s,mb4.7						
KWP	Kalwaria	33.69	319	eP	P	02 37 42.3	-0.6
CRVS	Cervenica-Dubn	34.12	317	i P	P	02 37 46.4	-0.2
PSZ	Piszkesteto	34.71	315	eP	P	02 37 51.4	-0.3
	comp=Z,6.8nm,0.9s,mb4.6						
PSZ				esP	sP	02 38 02.6	+0.2
KMBO	Kilima Mbogo	34.85	216	P	P	02 37 56.2	+3.0
	comp=Z,4.3nm,0.8s,mb4.4,baz=34,slow=13,SNR=18						
KMBO	Kilima Mbogo	34.85	216	eP	P	02 37 56.3	+3.0
	comp=Z,5.8nm,0.9s,mb4.5						
KMBO				pP	pP	02 38 03.6	+2.9
TIP	Timpagrande	34.92	299	⇑iP	P	02 37 53.8	+0.3
TIP				epP	pP	02 38 01.3	+0.3
TIP				esP	sP	02 38 05.4	+1.1
VYHS	Vyhne	35.57	315	i P	P	02 37 58.8	-0.2
SUW	Suwalki	35.60	326	eP	P	02 37 58.4	-0.8
OJC	Ojcow	35.64	318	⇑iP	P	02 37 59.3	-0.3
SLCN	Sala Consilina	35.91	301	⇓iP	P	02 38 03.6	+1.6
MGR	Morigerati	35.94	300	⇑iP	P	02 38 02.8	+0.5
SGO	Sicignano	36.18	301	⇑iP	P	02 38 05.3	+1.1
FG5	Orsara di Pugl	36.29	302	eP	P	02 38 07.4	+2.2
SMOL	Smolenice	36.46	315	i P	P	02 38 06.1	-0.4
OKC	Ostrava-Krasne	36.48	317	⇑eP	P	02 38 05.8	-0.8
ZST	Bratislava	36.56	314	eP	P	02 38 08.3	+0.9
MORC	Moravsky Berou	36.82	317	eP	P	02 38 08.5	-1.0
	comp=Z,15nm,0.8s,mb4.9						
GTA	Gaotai	36.94	61	eP	P	02 38 11.0	+0.3
GTA				AP	pP	02 38 18.2	0.0
GTA				XP	sP	02 38 21.1	-0.2
GTA				PP	PP	02 39 34.1	-2.9
GTA				PCP	PcP	02 40 35.1	+3.0
GTA				S	S	02 43 49.3	-4.4
GTA				SCP		02 44 18.2	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,181nm,4.2s						
CII	Carovilli	37.07	303	⇓iP	P	02 38 13.7	+2.0
ARSA	Arzberg	37.31	312	⇑iP	P	02 38 13.7	0.0
	comp=Z,9.6nm,1.1s,mb4.5						
SDI	San Donato	37.43	303	eP	P	02 38 16.0	+1.2
TERO	Teramo	37.70	304	⇑iP	P	02 38 17.7	+0.7
DPC	Dobruska-Polom	37.76	317	eP	P	02 38 16.9	-0.5
PTQR	Pietraquaria	37.78	303	⇓iP	P	02 38 19.2	+1.6
AQU	L'Aquila	37.82	304	⇑iP	P	02 38 19.2	+1.2
	comp=Z,44nm,1.0s,mb5.1						
CING	Cingoli	38.11	305	⇑iP	P	02 38 20.4	0.0
GKP	Gorka Klasztor	38.35	322	eP	P	02 38 20.8	-1.6
KBA	Koelnbreinsper	38.71	311	⇑iP	P	02 38 25.6	+0.2
	comp=Z,12nm,0.7s,mb4.7						
PRU	Pruhonice	38.72	316	⇑eP	P	02 38 24.5	-1.0
RSM	Repubblica di	38.73	306	eP	P	02 38 26.7	+1.1
PVCC	Panska Ves	38.88	317	⇑eP	P	02 38 26.3	-0.5
GEC2	GERESS Array S	38.92	314	eP	P	02 38 26.8	-0.3
GEC2				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
GEC2	GERESS Array S	38.92	314	eP	P	02 38 26.8	-0.3
	comp=Z,16nm,0.9s,mb4.8						
GERES	GERESS Array B	38.92	314	P	P	02 38 26.8	-0.3
	comp=Z,7.3nm,0.7s,mb4.5,baz=117,slow=8.3,SNR=82						
GERES				PcP	PcP	02 40 37.6	-0.6
	comp=Z,1.1nm,0.7s,baz=146,slow=4.8,SNR=4.8						
GERES				ScP		02 44 22.9	
	comp=Z,1.0nm,0.7s,baz=135,slow=3.8,SNR=8.7						
GERES	GERESS Array B	38.92	314	P	P	02 38 26.8	-0.3
GERES						02 40 37.6	
GERES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FVI	Forni Avoltri	38.98	310	⇓iP	P	02 38 27.7	0.0
FINES	FINESS Array B	39.00	337	P	P	02 38 27.2	-0.5
	comp=Z,9.0nm,0.6s,mb4.7,baz=137,slow=10,SNR=99						
FINES				PP	PP	02 39 58.6	-2.6
	comp=Z,3.8nm,0.8s,baz=129,slow=12,SNR=4.2						
FINES	FINESS Array B	39.00	337	P	P	02 38 27.2	-0.5
FINES						02 39 58.6	
FINES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CRE	Caprese Michel	39.04	305	⇑iP	P	02 38 28.9	+0.7
KHC	Kasperske Hory	39.07	314	⇑iP	P	02 38 28.0	-0.4
PGD	Poggio Sodo	39.24	306	⇑iP	P	02 38 31.3	+1.4
BRG	Berggiesshubel	39.36	317	i P	P	02 38 30.3	-0.5
BRG				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
BRG	Berggiesshubel	39.36	317	i P	P	02 38 30.3	-0.5
	comp=Z,12nm,0.8s,mb4.7						
BRG				e		02 38 45.3	
VMG	Vicchio	39.38	306	⇑iP	P	02 38 33.0	+2.0
KAF	Kangasniemi	39.40	338	ep	P	02 38 28.9	-2.1
	comp=Z,1.8nm,0.4s,mb4.2						
KAF	Kangasniemi	39.40	338	eP	P	02 38 28.9	-2.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
CSNT	Castellina Chi	39.50	305	⇓iP	P	02 38 31.6	-0.4
WET	Wettzell	39.52	314	eP	P	02 38 31.3	-0.9
WET				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
WET	Wettzell	39.52	314	eP	P	02 38 31.3	-0.9
	comp=Z,11nm,1.0s,mb4.5						
SEI	Scarperia	39.52	306	⇑iP	P	02 38 33.7	+1.4
ZCCA	Zocca	39.84	306	⇑iP	P	02 38 36.7	+1.9
WTTA	Wattenberg	39.88	311	⇑iP	P	02 38 34.7	-0.5
	comp=Z,31nm,0.9s,mb5.0						
WATA	Walderalm	39.94	311	⇑iP	P	02 38 34.9	-0.7
	comp=Z,20nm,1.0s,mb4.8						
CLL	Collm	40.06	317	⇑P	P	02 38 36.5	-0.1
	comp=Z,logA/T=1.5,mb5.0						
CLL	Collm	40.06	317	⇑iP	P	02 38 36.5	-0.1
CLL				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
CLL	Collm	40.06	317	⇑iP	P	02 38 36.5	-0.1
	comp=Z,29nm,1.0s,mb5.0						
BDI	Bagni Di Lucca	40.07	306	⇑iP	P	02 38 36.5	-0.3
NKC	Novy Kostel	40.08	316	⇑eP	P	02 38 36.4	-0.4
GSCL	Gusciola	40.11	306	⇑iP	P	02 38 38.4	+1.3
MAIM		40.13	306	P	P	02 38 36.5	-0.7
SQTA	Sankt Quirin	40.16	311	⇑iP	P	02 38 36.8	-0.7
	comp=Z,26nm,0.7s,mb5.1						
MOY	Mondy	40.18	42	eP	P	02 38 38.4	+0.8
VLC	Villacollemand	40.23	306	⇑iP	P	02 38 37.7	-0.3
	comp=Z,16nm,0.7s,mb4.9						
VLC				pP	pP	02 38 44.8	-0.8
ERBM	Eremo	40.25	306	eP	P	02 38 39.0	+0.8
MOTA	Moosalm	40.26	311	⇓iP	P	02 38 37.3	-0.9
	comp=Z,11nm,0.6s,mb4.8						
VALM		40.35	306	P	P	02 38 39.2	+0.2
VINC	Vinca	40.40	306	P	P	02 38 38.8	-0.6
MABI	Malga Bissina	40.42	309	⇑iP	P	02 38 39.9	+0.3
BACM		40.47	306	P	P	02 38 40.0	-0.1
GRAM		40.50	306	P	P	02 38 41.1	+0.9
BRMO	Bormio	40.59	309	⇑iP	P	02 38 41.0	0.0
GRA1	Grafenberg Arr	40.70	314	eP	P	02 38 41.9	0.0
	comp=Z,37nm,0.9s,mb5.0						
GRF	Grafenberg Arr	40.70	314	eP	P	02 38 41.9	0.0
GRF				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.0						
MOX	Moxa	40.71	316	i P	P	02 38 41.7	-0.2
MOX	Moxa	40.71	316	eP	P	02 38 41.7	-0.2
KMI	Kunming	40.81	83	eP	P	02 38 43.5	+0.5
KMI				S	S	02 44 53.6	+1.4
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
BOB	Bobbio (Coli)	40.98	307	⇑iP	P	02 38 45.1	+0.9
DAVA	Damuels	41.06	311	⇑iP	P	02 38 44.3	-0.5
	comp=Z,40nm,0.8s,mb5.1						
PGF	Pioggiola	41.08	303	eP	P	02 38 45.8	+0.8
ZAK	Zakamensk	41.20	45	eP	P	02 38 45.9	-0.1
GENL	Genova Univers	41.27	306	P	P	02 38 45.3	-1.3
VAI	Varese	41.59	308	⇑iP	P	02 38 48.2	-1.0
CLZ	Clausthal	41.79	317	eP	P	02 38 51.2	+0.5
	comp=Z,42nm,0.9s,mb5.1						
FIN	Finale Ligure	41.79	306	P	P	02 38 49.8	-1.1
COP	Copenhagen	41.88	323	i P	P	02 38 51.7	+0.3
	comp=Z,20nm,0.5s,mb5.0						
RORO		41.89	306	P	P	02 38 51.2	-0.5
IMI	Imperia	42.00	305	P	P	02 38 52.2	-0.3
ROB	Roburent	42.04	306	P	P	02 38 53.3	+0.4
MONE	Monesi	42.11	306	P	P	02 38 52.4	-1.1
MCGN	Macugnaga	42.15	308	⇓iP	P	02 38 53.3	-0.5
SAOF	Saorge	42.24	305	⇑eP	P	02 38 54.2	-0.4
TRAV		42.26	308	P	P	02 38 52.8	-1.9
SBF	Sospel	42.32	305	⇑iP	P	02 38 55.2	0.0
	comp=Z,133nm,0.7s,mb5.3						
AUTN	L'Aution	42.34	305	⇑eP	P	02 38 55.3	0.0
ENR	Entracque	42.36	306	P	P	02 38 55.0	-0.5
STV2	Anna di Valdie	42.43	306	P	P	02 38 55.2	-0.9
STV	Sta Anna Valdi	42.43	306	P	P	02 38 55.2	-0.9
BSEG	Bad Segeberg	42.43	320	eP	P	02 38 55.8	-0.2
BSEG				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
TOUF	Mont Tournerai	42.47	305	⇑eP	P	02 38 56.6	+0.2
MVIF	Mont Vial	42.53	305	⇑eP	P	02 38 56.8	-0.1
BHB	Bricherasio	42.53	307	P	P	02 38 55.1	-1.8
RSP	Reno Superiore	42.56	307	P	P	02 38 54.6	-2.6
PZZ	Prazzo	42.61	306	P	P	02 38 56.2	-1.4
LSD	Ceresole Reale	42.67	307	P	P	02 38 57.4	-0.6
SONM	Songino Array	42.69	49	P	P	02 38 58.5	+0.4
	comp=Z,2.2nm,0.9s,mb3.9,baz=262,slow=8.4,SNR=14						
FENE	Fenestrelle	42.69	307	P	P	02 38 57.0	-1.2
SURF	Saint Ours	42.82	306	eP	P	02 38 59.7	+0.4
MBDF	Montbardon	42.87	306	⇑iP	P	02 38 59.2	-0.5
	comp=Z,50nm,0.6s,mb5.1						
FRF	La Foret Royal	42.87	305	eP	P	02 38 59.2	-0.5
	comp=Z,23nm,0.9s,mb4.6						
RRL	Cesana Torines	42.88	307	P	P	02 38 59.5	-0.2
LMR	La Mourre	42.95	304	eP	P	02 38 59.8	-0.6
	comp=Z,13nm,0.8s,mb4.4						
LPG	La Plagne	42.95	307	eP	P	02 39 00.1	-0.3
	comp=Z,69nm,0.7s,mb5.2						
BNI	Bardonecchia	42.96	307	eP	P	02 38 59.6	-0.9

	comp=Z,48nm,0.7s,mb5.3						
LPL	**La Plagne**	**42.97**	**308**	⇑*i*P	**P**	**02 39 00.2**	**-0.3**
	comp=Z,47nm,0.7s,mb5.0						
CDF	**Champ du Feu**	**42.98**	**312**	⇑*i*P	**P**	**02 38 59.1**	**-1.5**
	comp=Z,12nm,0.8s,mb4.3						
LOMF	**Lomont**	**43.12**	**310**	⇑*e*P	**P**	**02 39 00.9**	**-0.8**
HINF	**Hinteralfeld**	**43.17**	**311**	*e*P	**P**	**02 39 00.8**	**-1.3**
	comp=Z,11nm,0.8s,mb4.3						
RUP	**Ruppelstein**	**43.35**	**314**	⇑*e*P	**P**	**02 39 02.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**43.52**	**307**	⇑*i*P	**P**	**02 39 03.3**	**-1.6**
	comp=Z,16nm,0.6s,mb4.6						
CABF	**La Chapelle**	**43.53**	**309**	⇑*i*P	**P**	**02 39 04.9**	**-0.1**
	comp=Z,44nm,0.8s,mb5.0						
HAU	**Haudompre**	**43.53**	**311**	⇑*i*P	**P**	**02 39 03.8**	**-1.2**
	comp=Z,15nm,0.7s,mb4.5						
GRN	**Grenoble**	**43.64**	**307**	*e*P	**P**	**02 39 04.6**	**-1.3**
SMRF	**Simiane la Rot**	**43.67**	**305**	*e*P	**P**	**02 39 05.9**	**-0.3**
	comp=Z,13nm,0.7s,mb4.5						
MUD	**Monsted U'grnd**	**43.87**	**324**	⇓*i*P	**P**	**02 39 08.0**	**+0.4**
	comp=Z,14nm,0.4s,mb5.0						
WTSB	**Winterswijk**	**43.96**	**317**	⇑*e*P	**P**	**02 39 08.5**	**+0.1**
	comp=Z,28nm,0.7s,mb5.1						
HGN	**Heimansgroeve**	**44.25**	**315**	⇑*e*P	**P**	**02 39 11.1**	**+0.2**
	comp=Z,13nm,1.0s,mb4.6						
VIVF	**Saint-Julien-l**	**44.37**	**306**	⇑*i*P	**P**	**02 39 11.1**	**-0.7**
	comp=Z,54nm,1.0s,mb4.9						
MEZF	**Maizieres J'vi**	**44.46**	**312**	*e*P	**P**	**02 39 11.9**	**-0.6**
	comp=Z,21nm,0.7s,mb4.7						
NB2	**NORSAR Subarra**	**44.66**	**330**	P	**P**	**02 39 12.6**	**-1.4**
	comp=Z,7.9nm,0.7s,mb4.7,baz=115,slow=7.9						
NOA	**NORSAR Array B**	**44.66**	**330**	P	**P**	**02 39 12.8**	**-1.1**
	comp=Z,6.4nm,0.7s,mb4.6,baz=118,slow=7.6,SNR=55						
NOA	**NORSAR Array B**	**44.66**	**330**	P	**P**	**02 39 12.8**	**-1.2**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NOA	**NORSAR Array B**	**44.66**	**330**	P	**P**	**02 39 12.8**	**-1.2**
GIVF	**Givet**	**44.84**	**314**	⇑*i*P	**P**	**02 39 15.9**	**+0.3**
	comp=Z,67nm,0.9s,mb5.2						
LASF	**Ste Croix**	**44.91**	**305**	⇑*i*P	**P**	**02 39 15.8**	**-0.4**
	comp=Z,44nm,0.9s,mb5.0						
KEV	**Kevo**	**44.93**	**346**	*e*p	**P**	**02 39 10.1**	**-6.0**
	comp=Z,0.9nm,0.4s,mb4.0						
KEV	**Kevo**	**44.93**	**346**	*e*P	**P**	**02 39 10.1**	**-6.0**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
SMF	**Signal de Mont**	**45.08**	**309**	⇑*i*P	**P**	**02 39 16.9**	**-0.6**
	comp=Z,106nm,0.8s,mb5.4						
ARCES	**ARCESS Array B**	**45.09**	**345**	P	**P**	**02 39 16.6**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.3,baz=141,slow=7.8,SNR=15						
ARCES	**ARCESS Array B**	**45.09**	**345**	P	**P**	**02 39 16.7**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LOR	**Lormes**	**45.12**	**310**	⇑*i*P	**P**	**02 39 16.9**	**-0.9**
	comp=Z,42nm,0.8s,mb5.0						
PLDF	**La Plantade**	**45.18**	**308**	⇑*e*P	**P**	**02 39 17.8**	**-0.5**
BAIF	**Baives**	**45.23**	**314**	*e*P	**P**	**02 39 19.1**	**+0.5**
	comp=Z,65nm,1.0s,mb5.1						
SSF	**Saint Saulge**	**45.34**	**309**	⇑*i*P	**P**	**02 39 19.0**	**-0.6**
	comp=Z,60nm,0.8s,mb5.2						
LBL	**Lubilhac**	**45.40**	**307**	⇑*e*P	**P**	**02 39 19.9**	**-0.2**
AVF	**Avril sur Loir**	**45.42**	**309**	⇑*i*P	**P**	**02 39 19.4**	**-0.8**
	comp=Z,26nm,0.8s,mb4.8						
AGO	**Saint Agoulin**	**45.52**	**308**	⇑*e*P	**P**	**02 39 20.8**	**-0.2**
PYM	**Petit Puy Mans**	**45.59**	**308**	⇑*e*P	**P**	**02 39 21.3**	**-0.3**
BGF	**Bois d'Agland**	**45.75**	**309**	⇑*i*P	**P**	**02 39 22.3**	**-0.6**
	comp=Z,46nm,0.7s,mb5.2						
HYF	**Humbligny**	**45.95**	**310**	⇑*i*P	**P**	**02 39 24.3**	**-0.1**
MTLF	**Montolieu**	**46.08**	**304**	⇑*i*P	**P**	**02 39 25.8**	**+0.3**
	comp=Z,77nm,0.9s,mb5.3						
CAF	**Calviac**	**46.22**	**306**	⇑*i*P	**P**	**02 39 26.6**	**0.0**
	comp=Z,77nm,0.7s,mb5.4						
LPEF	**Le Peyrat**	**46.31**	**304**	⇑*e*P	**P**	**02 39 27.9**	**+0.6**
RJF	**Les Rejaudoux**	**46.62**	**307**	⇑*i*P	**P**	**02 39 29.9**	**+0.2**
	comp=Z,113nm,0.7s,mb5.6						
EPOB	**Poblet**	**46.96**	**301**	P	**P**	**02 39 33.6**	**+1.1**
	comp=Z,38nm,1.2s,mb5.2						
LFF	**La Frestale**	**47.16**	**306**	⇑*i*P	**P**	**02 39 34.1**	**+0.1**
	comp=Z,151nm,0.6s,mb5.8						
EBR	**Ebro Roquetas**	**47.43**	**301**	*e*P	**P**	**02 39 33.5**	**-2.7**
EPF	**Esparros**	**47.46**	**304**	*e*P	**P**	**02 39 35.3**	**-1.1**
MFF	**Saint Martin d**	**47.82**	**309**	⇑*i*P	**P**	**02 39 38.1**	**-1.1**
	comp=Z,26nm,0.9s,mb5.0						
LDF	**La Druitiere**	**47.89**	**311**	⇑*i*P	**P**	**02 39 38.4**	**-1.3**
	comp=Z,20nm,0.6s,mb5.0						
ESAC	**San Caprasio**	**48.11**	**302**	P	**P**	**02 39 43.0**	**+1.6**
	comp=Z,39nm,1.0s,mb5.4						
ETSF	**Etsaut**	**48.12**	**304**	*e*P	**P**	**02 39 41.8**	**+0.2**
	comp=Z,45nm,0.9s,mb5.2						
FLN	**La Foliniere**	**48.14**	**311**	⇑*i*P	**P**	**02 39 40.4**	**-1.2**
	comp=Z,46nm,0.9s,mb5.2						
EMOS	**Mosqueruela**	**48.19**	**300**	P	**P**	**02 39 44.0**	**+1.8**
	comp=Z,59nm,1.3s,mb5.5						
GRR	**Gorron**	**48.37**	**311**	*e*P	**P**	**02 39 42.4**	**-1.0**
	comp=Z,24nm,0.7s,mb5.0						
LARF	**Larrau**	**48.43**	**304**	⇑*e*P	**P**	**02 39 44.3**	**+0.3**
SJPF	**Ste Jean**	**48.60**	**304**	*e*P	**P**	**02 39 45.5**	**+0.2**
	comp=Z,29nm,0.6s,mb5.2						
EALK	**Alkurruntz**	**48.80**	**304**	P	**P**	**02 39 47.2**	**+0.4**
	comp=Z,36nm,1.8s,mb5.1						
ETOB	**Tobarra**	**49.18**	**298**	P	**P**	**02 39 50.0**	**+0.2**
	comp=Z,55nm,2.1s,mb5.2						
ETOR	**Torete**	**49.36**	**301**	P	**P**	**02 39 52.6**	**+1.5**
	comp=Z,16nm,1.1s,mb5.0						
SGMF	**Saint Gilles**	**49.50**	**311**	⇑*i*P	**P**	**02 39 51.2**	**-0.9**
	comp=Z,33nm,0.7s,mb5.2						
QUIF	**Quistinic**	**49.90**	**310**	*e*P	**P**	**02 39 54.0**	**-1.2**
	comp=Z,50nm,1.0s,mb5.2						
EVIA	**Vianos**	**49.92**	**298**	P	**P**	**02 39 55.9**	**+0.4**
	comp=Z,10nm,0.6s,mb5.0						
ROSF	**Rostrenen**	**49.98**	**311**	*e*P	**P**	**02 39 54.6**	**-1.2**
	comp=Z,35nm,0.9s,mb5.1						
ELAN	**Lanestosa**	**50.21**	**304**	P	**P**	**02 39 57.5**	**-0.1**
	comp=Z,72nm,1.9s,mb5.4						
ESK	**Eskdalemuir**	**50.40**	**320**	*e*P	**P**	**02 39 57.5**	**-1.4**
	comp=Z,8.3nm,0.7s,mb4.9						
EQES	**Quesada**	**50.47**	**297**	P	**P**	**02 39 59.1**	**-0.6**
	comp=Z,22nm,1.4s,mb5.0						
ESDC	**Sonseca Array**	**50.93**	**300**	P	**P**	**02 40 02.9**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.3,baz=68,slow=7.6,SNR=30						
ESDC	**Sonseca Array**	**50.93**	**300**	P	**P**	**02 40 03.3**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4						
EADA	**Adamuz**	**51.60**	**298**	P	**P**	**02 40 08.7**	**+0.4**
	comp=Z,31nm,1.6s,mb5.0						
HIA	**Hailar**	**51.63**	**48**	*e*P	**P**	**02 40 07.4**	**-0.9**
	comp=Z,8.6nm,1.0s,mb4.6						
HIA				*e*sP	sP	02 40 17.7	-1.2
DCN	**Croghan**	**52.63**	**317**	*e*P	**P**	**02 40 14.5**	**-1.3**
ECAL	**Calabor**	**52.76**	**303**	P	**P**	**02 40 16.2**	**-0.6**
	comp=Z,25nm,1.0s,mb5.1						
PBRG	**Braganca**	**52.77**	**303**	*e*P	**P**	**02 40 17.5**	**+0.5**
ESPR	**Espera**	**52.81**	**296**	P	**P**	**02 40 15.9**	**-1.5**
	comp=Z,26nm,1.7s,mb4.9						
EPON	**Pontenova**	**52.91**	**305**	P	**P**	**02 40 18.2**	**+0.2**
	comp=Z,43nm,1.1s,mb5.3						
NJ2	**Nanjing**	**52.97**	**70**	*e*P	**P**	**02 40 21.9**	**+3.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
ERUA	**La Rua**	**53.00**	**303**	P	**P**	**02 40 19.0**	**+0.2**
	comp=Z,16nm,0.9s,mb4.9						
EMIN	**Mina Concepcio**	**53.30**	**298**	P	**P**	**02 40 19.3**	**-1.6**
	comp=Z,13nm,1.4s,mb4.7						
EBAD	**Badajoz**	**53.40**	**299**	P	**P**	**02 40 20.1**	**-1.6**
	comp=Z,27nm,1.7s,mb4.9						
MTE	**Manteigas**	**53.56**	**301**	*e*P	**P**	**02 40 24.1**	**+1.3**
PVRL	**Vila Real**	**53.57**	**302**	*e*P	**P**	**02 40 23.3**	**+0.4**
PCBR	**Castelo Branco**	**53.59**	**300**	*e*P	**P**	**02 40 24.1**	**+1.0**
	comp=Z,24nm,1.0s,mb5.1						
ELOB	**Lobios**	**53.74**	**303**	P	**P**	**02 40 24.3**	**+0.1**
	comp=Z,48nm,1.5s,mb5.2						
PVIS	**Viseu**	**53.78**	**301**	*e*P	**P**	**02 40 26.0**	**+1.6**
	comp=Z,45nm,1.4s,mb5.2						
STS	**Santiago**	**53.98**	**304**	P	**P**	**02 40 25.6**	**-0.2**
	comp=Z,15nm,0.7s,mb5.0						
EZAM	**Zamans**	**54.18**	**303**	P	**P**	**02 40 27.5**	**+0.2**
	comp=Z,9.4nm,0.6s,mb4.9						
PBEJ	**Beja**	**54.19**	**298**	*e*P	**P**	**02 40 27.6**	**+0.2**
PTOM	**Tomar**	**54.34**	**300**	*e*P	**P**	**02 40 29.7**	**+1.2**
	comp=Z,59nm,1.4s,mb5.3						
SSE	**Sheshan**	**55.14**	**70**	⇓P	**P**	**02 40 33.1**	**-1.4**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,100nm,5.2s						
CN2	**Changchun**	**55.96**	**54**	*e*P	**P**	**02 40 40.0**	**-0.3**
CN2				XP	sP	02 40 50.3	-0.7
MDJ	**Mudanjiang**	**58.77**	**53**	P	**P**	**02 40 57.6**	**-2.6**
MDJ				S	**S**	**02 49 00.5**	**-1.5**
MDJ				SS	SS	02 52 53.9	-3.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,44nm,5.8s						
KLR	**Kul'dur**	**59.46**	**47**	*e*P	**P**	**02 41 07.4**	**+2.5**
DBIC	**Dimbokro**	**62.12**	**262**	P	**P**	**02 41 23.2**	**-0.2**
	comp=Z,5.7nm,1.1s,mb4.6,baz=94,slow=9.4,SNR=5.4						
DBIC	**Dimbokro**	**62.12**	**262**	P	**P**	**02 41 23.2**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DBIC	**Dimbokro**	**62.12**	**262**	P	**P**	**02 41 23.2**	**-0.2**
SUMG	**Summit**	**64.88**	**341**	*e*P	**P**	**02 41 40.3**	**-0.4**
	comp=Z,9.1nm,0.9s,mb4.8						
RES	**Resolute Bay**	**75.65**	**353**	P	**P**	**02 42 41.3**	**-4.6**
	comp=Z,8.9nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**80.81**	**116**	*e*P	**P**	**02 43 16.1**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**80.81**	**116**	P	**P**	**02 43 16.4**	**+1.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=200,slow=7.1,SNR=8.3						
INK	**Inuvik**	**83.37**	**4**	*e*P	**P**	**02 43 26.5**	**-1.1**
	comp=Z,3.1nm,0.9s,mb4.3						
SCHQ	**Schefferville**	**84.22**	**331**	P	**P**	**02 43 32.6**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.4,baz=42,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**85.38**	**10**	P	**P**	**02 43 36.9**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.2,baz=321,slow=4.4,SNR=15						
ILAR	**Eielson Array**	**85.38**	**10**	P	**P**	**02 43 36.9**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAWY	**Dawson**	**87.05**	**7**	*e*P	**P**	**02 43 45.7**	**-0.2**
PMR	**Palmer**	**87.97**	**12**	*e*P	**P**	**02 43 49.5**	**-0.8**
	comp=Z,5.8nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**88.75**	**113**	P	**P**	**02 43 56.6**	**+1.5**
	comp=Z,1.2nm,0.7s,mb4.3,baz=316,slow=4.1,SNR=8.1						
WRA	**Warramunga Arr**	**88.75**	**113**	P	**P**	**02 43 56.6**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKW3	**Yellowknife Ar**	**89.21**	**356**	P	**P**	**02 43 56.1**	**-0.2**
YKA	**Yellowknife Ar**	**89.28**	**356**	P	**P**	**02 43 56.6**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.4,baz=357,slow=5.1,SNR=9.1						
YKA	**Yellowknife Ar**	**89.28**	**356**	P	**P**	**02 43 56.6**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FCC	**Fort Churchill**	**89.99**	**345**	*e*P	**P**	**02 44 00.0**	**0.0**
	comp=Z,6.4nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**90.30**	**117**	P	**P**	**02 44 03.4**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.6,baz=305,slow=4.8,SNR=30						
TXAR	**Lajitas Array**	**119.78**	**341**	PKP	PKPdf	02 49 54.4	-0.4
	comp=Z,0.1nm,0.7s,baz=80,slow=5.5,SNR=3.1						

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*NEIC **10** 03:06:10.4±0.7, 5.72S×35.39E, h10^{km}, mb4.5/4, Error ellipse: s-maj=19.2km s-min=13.7km az=109.0*

*IDC **10** 03:06:11.1±1.5, 5.43S×35.87E, mb3.9/5, mb1 4.1/6, mb1mx3.9/17, ML3.8/1, Error ellipse: s-maj=40.2km s-min=27.8km az=100.0*

ISC 10 03:06:10.3±0.8**, 5.33S**±0.07×**35.54E**±0.07**, h10**^{km}**, n16,** σ**1^{s}30**/23**, mb4.1**/9**, Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.51**	**22**	Pn	**Pn**	**03 07 19.6**	**-0.7**
	5.1nm,0.3s,baz=203,slow=17,SNR=34						
KMBO				Sn	**Sn**	**03 08 15.4**	**+2.0**
	12nm,0.3s,baz=256,slow=21,SNR=5.6						
KMBO				Lg		03 08 35.0	
	18nm,0.3s,baz=267,slow=23,SNR=13						
KMBO	**Kilima Mbogo**	**4.51**	**22**	*e*Pn	**Pn**	**03 07 18.6**	**-1.7**
KMBO				*e*		03 07 21.9	
KMBO				*e*Pb	**Pb**	**03 07 33.0**	**+3.8**
KMBO				*e*Pg	**Pg**	**03 07 39.0**	**-1.2**
KMBO				*e*Sn	**Sn**	**03 08 11.7**	**-1.7**
KMBO				*e*Sg	**Sg**	**03 08 33.3**	**-7.1**
MBAR	**Mbarara**	**6.71**	**314**	*e*Pn	**Pn**	**03 07 50.4**	**-1.0**
MBAR				*e*Sn	**Sn**	**03 09 02.8**	**-5.9**
MBAR				*e*Sg	**Sg**	**03 09 53.3**	**-0.4**
LSZ	**Lusaka**	**12.25**	**216**	*e*P	**P**	**03 08 59.1**	**-8.7**
LSZ				*e*S	**S**	**03 11 10.8**	**-15**
LSZ				*e*Lg		03 12 23.4	
MALT	**Malatya**	**43.50**	**3**	*e*P	**P**	**03 14 18.3**	**+2.6**
	5.6nm,1.2s,mb4.2						
MALT				*e*	pP	03 14 23.1	+4.4
AKASG	**Malin Array Be**	**56.07**	**355**	P	**P**	**03 15 52.5**	**+0.7**
	0.8nm,0.5s,mb4.0,baz=184,slow=6.0,SNR=5.3						
GERES	**GERESS Array B**	**57.23**	**343**	P	**P**	**03 16 01.5**	**+1.3**
	0.5nm,0.7s,mb3.7,baz=158,slow=7.2,SNR=5.4						
ARU	**Arti**	**64.38**	**14**	P	**P**	**03 16 49.1**	**+0.5**
	4.9nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**66.31**	**33**	P	**P**	**03 17 00.8**	**-0.4**
	30nm,0.5s,baz=222,slow=6.1,SNR=54						
MKAR	**Makanchi Array**	**66.31**	**33**	P	**P**	**03 17 00.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**66.78**	**67**	P	**P**	**03 17 03.2**	**-1.5**
	1.8nm,0.6s,mb4.3,baz=255,slow=10,SNR=7.2						
KURK	**Kurchatov**	**66.97**	**28**	*e*P	**P**	**03 17 05.1**	**-0.3**
	2.1nm,0.9s,mb4.2						
NOA	**NORSAR Array B**	**68.84**	**348**	P	**P**	**03 17 18.3**	**+1.5**
	0.9nm,0.7s,mb3.8,baz=152,slow=5.8,SNR=3.6						
SONM	**Songino Array**	**81.26**	**40**	P	**P**	**03 18 29.5**	**+1.4**
	0.8nm,0.9s,mb3.6,baz=252,slow=3.9,SNR=4.2						
QSPA	**South Pole Qui**	**84.73**	**180**	*e*P	**P**	**03 18 43.7**	**-1.6**
	5.6nm,1.1s,mb4.6						
NVAR	**Mina Array Bea**	**139.38**	**328**	PKP	PKPdf	03 25 42.6	+1.1
	0.3nm,0.6s,baz=121,slow=1.6,SNR=3.9						

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*NEIC **10** 03:14:16.9±0.6, 24.34S×67.48W, h220^{km}±19^{km}, mb3.9/2, MD4.0(GUC), Error ellipse: s-maj=19.0km s-min=10.5km az=84.0*

*IDC **10** 03:14:19.9±1.4, 23.94S×67.03W, h173^{km}±19^{km}, mb1 3.5/5, mb1mx3.3/17, Error ellipse: s-maj=25.2km s-min=21.1km az=49.0*

ISC 10 03:14:16.5±0.7**, 24.24S**±0.07×**67.3W**±0.1**, h197**^{km}±15^{km}**, n12,** σ**1^{s}37**/16**, mb4.0**/1**, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.18**	**318**	P	**P**	**03 14 58.5**	**+1.4**
	52nm,0.3s,baz=140,slow=5.9,SNR=734						
LVC				S	**S**	**03 15 29.0**	**+0.5**
	70nm,0.3s,baz=2.5,slow=19,SNR=27						
LVC	**Limon Verde**	**2.18**	**318**	P	**P**	**03 14 58.5**	**+1.4**
LVC				S	**S**	**03 15 29.0**	**+0.5**
ANCH	**Antofagasta**	**2.88**	**280**	⇑*i*P	**P**	**03 15 06.0**	**+0.9**
ANCH				*i* S	**S**	**03 15 41.5**	**-1.1**
CPCH	**Copiapo**	**4.14**	**221**	⇑*i*P	**P**	**03 15 17.9**	**-2.7**
CPCH				*i* S	**S**	**03 16 06.2**	**-3.9**
LPAZ	**La Paz**	**7.94**	**354**	P	**P**	**03 16 11.2**	**+1.4**
	3.5nm,0.3s,baz=155,slow=7.1,SNR=64						
LPAZ				S	**S**	**03 17 37.1**	**-1.3**
	0.2nm,0.3s,baz=132,slow=18,SNR=2.7						
CPUP	**Villa Florida**	**9.28**	**105**	P	**P**	**03 16 28.1**	**+0.8**
	0.1nm,0.3s,baz=309,slow=13,SNR=2.8						
TRQA	**Tornquist**	**14.51**	**163**	*e*P	**P**	**03 17 32.2**	**-1.6**
SAML	**Samuel**	**15.71**	**15**	*e*P	**P**	**03 17 47.7**	**-1.1**
	1.9nm,0.6s						
PLCA	**Paso Flores**	**16.67**	**189**	P	**P**	**03 18 08.0**	**+7.7**
	0.2nm,0.3s,baz=3.2,slow=14,SNR=3.3						
BDFB	**Brasilia**	**20.05**	**68**	P	**P**	**03 18 35.3**	**-0.8**
	0.6nm,0.3s,baz=239,slow=9.7,SNR=10						
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**03 24 45.4**	**+2.3**
	1.8nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**146.90**	**40**	PKPbc	PKPbc	03 33 39.5	+4.6
	0.9nm,0.6s,baz=302,slow=2.5,SNR=5.5						

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*IDC **10** 03:33:36.1±1.3, 30.07N×89.14E, mb3.5/4, mb1 3.8/6, mb1mx3.6/19, ML3.7/2, Error ellipse: s-maj=44.3km s-min=23.4km az=54.0*

ISC 10 03:33:39.4±2.5**, 30.1N**±0.1×**89.2E**±0.3**, h38**^{km}±28^{km}**, n7,** σ**0^{s}86**/8**, mb3.6**/4**, 1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**5.09**	**151**	⇓*e*PN	**P**	**03 34 56.0**	**+0.7**
SHL				*e*SN	**S**	**03 35 49.0**	**-4.6**
CMAR	**Chiang Mai Arr**	**14.59**	**140**	Pn	**P**	**03 37 04.2**	**-1.0**
	0.3nm,0.3s,baz=309,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**17.54**	**344**	P	**P**	**03 37 42.2**	**-0.3**
	0.1nm,0.3s,baz=153,slow=13,SNR=8.9						
SONM	**Songino Array**	**22.16**	**32**	P	**P**	**03 38 33.8**	**+0.4**
	1.7nm,0.7s,mb3.6,baz=220,slow=11,SNR=11						
NOA	**NORSAR Array B**	**58.43**	**326**	P	**P**	**03 43 32.8**	**-0.6**
	0.3nm,0.8s,mb3.4,baz=77,slow=7.4,SNR=3.5						
GERES	**GERESS Array B**	**58.80**	**312**	P	**P**	**03 43 36.7**	**+0.5**
	0.5nm,0.7s,mb3.7,baz=79,slow=6.8,SNR=4.9						
WRA	**Warramunga Arr**	**66.06**	**133**	P	**P**	**03 44 25.1**	**+0.2**
	0.7nm,0.9s,mb3.7,baz=326,slow=6.2,SNR=4.3						

DJA 10 03:44:34.0±0.5**, 8.08S**×**115.63E, h2**^{km}**, ML3.8**/1**, 1C-5D, Error ellipse: s-maj=7.6km s-min=3.8km az=15.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.63**	**130**	⇓*i*Pg	Pg	03 44 49.0	+2.5
KEDI				*e*Sg	Sg	03 45 00.3	+5.4
RATI	**Rata**	**0.64**	**188**	*e*Pg	Pg	03 44 51.2	+4.3
RATI				⇑*e*Sg	Sg	03 45 02.8	+7.3
INGI	**Ingas**	**0.87**	**213**	⇓*e*Pg	Pg	03 44 55.1	+3.7
	163nm,0.2s						
INGI				⇓*e*Sg	Sg	03 45 11.2	+8.1
KELI	**Kelakatan**	**1.13**	**263**	⇓*e*Pg	Pg	03 45 02.5	+5.9
KELI				⇓*e*Sg	Sg	03 45 23.5	+12

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*BER **10** 04:03:44.8±5.2, 69.69N×15.37E, h22^{km}±29^{km}, MD2.7, ML1.6, ML2.0(NAO)*

*NAO **10** 04:03:45.3±6.7, 69.15N×16.01E, h20^{km}±35^{km}, ML2.0*

ISC 10 04:03:42.9±2.4**, 69.4N**±0.1×**15.8E**±0.2**, h10**^{km}±12^{km}**, n5,** σ**1^{s}06**/10**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	**Tromso**	**1.11**	**77**	*e*P	**Pb**	**04 04 03.2**	**-0.6**
TRO				*e*S	**Sb**	**04 04 19.5**	**+1.4**
TRO				AML	AML	04 04 22.4	
	comp=Z,9.3nm,0.3s						
LOF	**Lofoten**	**1.53**	**214**	*e*P	**Pn**	**04 04 10.9**	**+0.5**
LOF				*e*S	**Sb**	**04 04 31.0**	**+0.8**
LOF				AML	AML	04 04 35.6	
	comp=Z,12nm,0.2s						
KTK1	**Kautokeino**	**2.67**	**95**	*e*P	**Pn**	**04 04 27.6**	**+0.8**
KTK1				*e*Sg	**Sg**	**04 05 12.4**	**+0.5**
KTK1				AML	AML	04 05 17.3	
	comp=Z,10nm,0.6s						
MOR8	**Moi Rana**	**3.29**	**190**	*e*S	**Sn**	**04 05 14.1**	**-1.1**
ARA0	**ARCESS Array S**	**3.41**	**83**	Pn	**Pn**	**04 04 36.7**	**-0.6**
	baz=268,slow=12						
ARA0				Pg	**Pg**	**04 04 47.1**	**-3.9**
	baz=263,slow=14						
ARA0				Sn	**Sn**	**04 05 17.6**	**-0.6**
	baz=266,slow=22						
ARA0				Lg		04 05 31.4	
	baz=270,slow=28						

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*IDC **10** 04:03:52.6±3.2, 4.09S×133.95E, mb3.7/1, mb1 3.8/4, mb1mx3.6/12, ML3.5/3, Error ellipse: s-maj=131.0km s-min=29.7km az=82.0*

ISC 10 04:03:56.5±2.1**, 4.1S**±0.2×**133.7E**±0.4**, h33**^{km}**, n5,** σ**1^{s}54**/5**, mb3.7**/1**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.75**	**178**	Pn	**P**	**04 07 37.9**	**+0.3**
	0.2nm,0.3s,baz=357,slow=13,SNR=11						
WB2	**Warramunga Arr**	**15.75**	**178**	*e*P	**P**	**04 07 38.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.99**	**209**	Pn	**P**	**04 07 40.7**	**0.0**
	0.1nm,0.3s,baz=46,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**19.44**	**179**	P	**P**	**04 08 20.4**	**-2.8**
	0.2nm,0.3s,baz=5.5,slow=11,SNR=16						
MKAR	**Makanchi Array**	**67.93**	**325**	P	**P**	**04 14 54.2**	**+0.1**
	0.6nm,0.8s,mb3.7,baz=129,slow=7.8,SNR=4.5						

WEL 10 04:14:34.7±0.4**, 36.95S**×**177.03E, h258**^{km}±4^{km}**, ML3.5**/1**, Error ellipse: s-maj=6.0km s-min=5.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.19**	**121**	PN	P	04 15 11.4	-0.6
MXZ				SN	S	04 15 40.3	-0.7
URZ	**Urewera**	**1.31**	**177**	PN	P	04 15 11.9	-0.9
URZ				SN	S	04 15 41.9	-0.5
MWZ	**Matawai**	**1.44**	**164**	PN	P	04 15 13.6	-0.1
MWZ				SN	S	04 15 44.0	0.0
PUZ	**Puketiti**	**1.49**	**139**	PN	P	04 15 14.1	0.0
PUZ				SN	S	04 15 43.8	-0.9
KNZ	**Kokohu**	**2.13**	**166**	PN	P	04 15 19.3	-0.1
KNZ				SN	S	04 15 53.0	-1.1
BKZ	**Black Stump Fm**	**2.25**	**191**	PN	P	04 15 19.9	-0.6
BKZ				SN	S	04 15 55.3	-0.8
MGZ	**Maungaku**	**2.36**	**209**	PN	P	04 15 21.9	+0.4
NGZ	**Ngauruhoe**	**2.49**	**206**	PN	P	04 15 22.8	-0.1
CNZ	**Chateau**	**2.53**	**207**	PN	P	04 15 22.9	-0.3
TUVZ	**Tukino**	**2.56**	**205**	PN	P	04 15 23.3	-0.2
FWVZ	**Far West T-bar**	**2.58**	**206**	PN	P	04 15 23.7	-0.1
WNVZ	**Wahianoa**	**2.63**	**205**	PN	P	04 15 24.0	-0.2
MOVZ	**Moawhango**	**2.65**	**202**	PN	P	04 15 23.7	-0.8
VRZ	**Vera Road**	**2.81**	**219**	PN	P	04 15 26.7	+0.6
TSZ	**Takapari Road**	**3.22**	**195**	PN	P	04 15 29.3	-1.2
TSZ				SN	S	04 16 13.2	-0.7
MRZ	**Mangatainoka R**	**3.88**	**196**	PN	P	04 15 36.0	-1.9
KIW	**Kapiti Island**	**4.24**	**202**	*e*PN	P	04 15 39.8	-2.4
KIW				SN	S	04 16 30.9	-3.9
MTW	**Mount Morrison**	**4.37**	**195**	PN	P	04 15 41.4	-2.3
CAW	**Cannon Point**	**4.42**	**200**	PN	P	04 15 41.9	-2.5
TUWZ	**Tuamarina**	**5.08**	**207**	PN	P	04 15 49.4	-2.8
NNZ	**Nelson**	**5.12**	**213**	PN	P	04 15 49.5	-3.2
NNZ				SN	S	04 16 49.5	-4.2
QRZ	**Quartz Range**	**5.22**	**221**	*e*PN	P	04 15 50.4	-3.6
BSWZ	**Blackbirch Sta**	**5.35**	**206**	*e*PN	P	04 15 52.0	-3.5
THZ	**Tophouse**	**5.77**	**212**	*e*PN	P	04 15 56.9	-3.9
THZ				SN	S	04 17 03.5	-4.5
LTZ	**Lake Taylor**	**6.88**	**211**	PN	P	04 16 11.2	-3.4
MQZ	**McQueen's Vall**	**7.53**	**205**	SN	S	04 17 40.2	-7.4

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*NEIC **10** 04:15:08.4, 27.65S×70.67W, h38^{km}, MD3.9(GUC), After GUC.*

NEIC Felt [II] at Copiapo.

GUC 10 04:15:08.4±0.3**, 27.65S**×**70.67W, h38**^{km}±6^{km}**, MD3.9, ML3.8, 1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.40**	**44**	*e*P	P	04 15 17.7	-0.1
CPCH				*i* S	S	04 15 24.7	+0.4
CPCH				AMP		04 15 25.5	
	comp=E,40μm,0.1s						
VACH	**Vallenar**	**0.93**	**185**	⇓*i*P	P	04 15 25.3	+0.3
VACH				*i* S	S	04 15 38.2	+0.9
LSCH	**La Serena**	**2.31**	**193**	*e*P	P	04 15 44.5	-0.3
TLL	**Tololo Astrono**	**2.51**	**183**	*e*P	P	04 15 48.8	+1.0
CPN1	**Cerro Paranal**	**3.02**	**5**	*i* S	S	04 16 31.5	+1.2
CPN1				AMP		04 16 44.5	
	comp=E,70nm,0.4s						

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*NEIC **10** 04:17:41.9, 31.09S×68.44W, h150^{km}, mb4.4/1, MD3.9(GUC), After GUC.*

GUC 10 04:17:41.9±1.1**, 31.09S**×**68.44W, h150**^{km}**, MD3.9, ML3.8, 2C-5D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.82**	**191**	⇑*i*P	P	04 18 13.5	-1.8
MDZ				*i* S	S	04 18 35.7	-5.3
MDZ				*i*		04 18 41.7	
CMCH	**Combarbala**	**2.20**	**267**	⇓*i*P	P	04 18 20.3	+0.5
CMCH				*i* S	S	04 18 48.6	-0.2
CMCH				*i* S	S	04 18 48.9	0.0
CMCH				AML	AML	04 18 50.9	
	comp=E,759nm,0.4s						
CMCH	**Combarbala**	**2.20**	**267**	⇓*i*P	P	04 18 20.3	+0.5
CMCH				*i* S	S	04 18 48.9	0.0
TLL	**Tololo Astrono**	**2.24**	**294**	⇑*i*P	P	04 18 21.5	+1.2
TLL				*i* S	S	04 18 50.3	+0.5
TLL				AML	AML	04 18 55.9	
	comp=N,305nm,0.5s						
FCH	**Farellones**	**2.73**	**215**	*i* P	P	04 18 27.8	+1.3
FCH				*i* S	S	04 19 02.0	+1.5
CHCH	**Chadas Angostu**	**3.39**	**213**	⇓*i*P	P	04 18 34.7	-0.4
CHCH				*i* S	S	04 19 15.4	-0.5

CACH	**El Canelo**	3.52	211	⇓*i*P	P	04 18 36.7	0.0
CACH				*i* S	S	04 19 19.6	+0.7
CICH	**Cipreses**	3.62	207	⇓*i*P	P	04 18 37.7	-0.4
TRQA	**Tornquist**	8.75	144	*e*Pn	P	04 19 43.2	-3.0
	comp=N,5.8nm,0.6s						

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*NEIC **10** 04:28:59.5, 16.39N×98.03W, h9^{km}, MD4.0(MEX), After MEX.*

MEX 10 04:28:58.2±1.2**, 16.26N×98.02W, h6^{km}**±11^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.17	322	*i* P	Pg	04 29 00.8	-1.0
PNIG				*i* S	Sg	04 29 03.6	-0.6
VHO	**Vista Hermosa**	1.47	56	*i* P	Pn	04 29 21.4	-4.0
VHO				*i* S	Sb	04 29 39.5	-5.0
VHO	**Vista Hermosa**	1.47	56	*i* P	Pn	04 29 21.4	-4.0
VHO				*i* S	Sb	04 29 37.3	-7.2
OXX	**Oaxaca**	1.49	56	*i* P	Pn	04 29 22.5	-3.0
OXX				*i* S	Sb	04 29 39.0	-5.8
HUIG	**Huatulco**	1.90	105	*i* P	Pn	04 29 29.3	-2.1
HUIG				*i* S	Sn	04 29 51.8	-4.1
HUIG	**Huatulco**	1.90	105	*e*P	Pn	04 29 31.0	-0.5
HUIG				*e*S	Sn	04 29 52.5	-3.4
CAIG	**El Cayaco**	2.30	290	*e*P	Pn	04 29 34.0	-3.1
CAIG				*e*S	Sn	04 29 59.7	-6.3
YAIG	**Yautepec**	2.78	339	*e*P	Pn	04 29 38.6	-5.4
YAIG				*e*S	Sn	04 30 11.4	-6.8
IISM	**Ciudad Serdan**	2.79	13	*e*P	Pn	04 29 40.0	-4.1
PPM	**Popocatepetl**	2.85	348	*e*P	Pn	04 29 41.8	-3.3
PPM				*i* P		04 29 42.0	
PPM				*i* S	Sn	04 30 12.0	-8.2
PPM				*e*S	Sn	04 30 15.9	-4.3
PPM	**Popocatepetl**	2.85	348	*e*P	Pn	04 29 41.8	-3.3
PPM				*e*S	Sn	04 30 15.9	-4.3
CMIG	**Matias Romero**	3.12	74	*e*P	Pn	04 29 44.4	-4.4
CMIG				*e*S	Sn	04 30 21.1	-5.6
IIZ	**Mezontepec**	3.14	338	*e*P	Pn	04 29 50.0	+0.8
UNM	**Universidad Na**	3.25	340	*e*P	Pn	04 29 48.0	-2.7
EVV	**El Vigia**	3.36	49	*e*P	Pn	04 29 47.0	-5.3
ZIIG	**Zihuatanejo**	3.56	293	*e*P	Pn	04 29 54.0	-1.2
ZIIG				*i* S	Sn	04 30 31.5	-6.6
ZIIG	**Zihuatanejo**	3.56	293	*e*P	Pn	04 29 57.7	+2.5
ZIIG				*i* S	Sn	04 30 27.5	-11
MOIG	**Morelia**	4.55	319	*e*P	Pn	04 30 19.9	+11
MOIG				*i* S	Sn	04 31 00.4	-2.6

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*THE **10** 04:30:00.8, 38.03N×20.39E, h10^{km}, ML3.5*

*NEIC **10** 04:30:02.8, 38.09N×20.60E, h10^{km}, MD3.6(ATH), ML3.5(THE), After ATH.*

*ATH **10** 04:30:02.8, 38.09N×20.60E, h10^{km}, MD3.6/3*

ISC 10 04:30:00.5±1.1**, 37.98N**±0.06×**20.41E**±0.08**, h10^{km}, n13, σ1^{s}03**/16**, 1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	0.24	37	⇓*i*PG	**Pg**	**04 30 05.5**	**-0.1**
LKD	**Levkas**	0.75	15	*e*Pg	**Pg**	**04 30 13.8**	**-1.7**
EVR	**Evrytania**	1.44	49	*e*PB	**Pb**	**04 30 26.5**	**-0.5**
ITM	**Ithomi**	1.45	123	*e*PB	**Pb**	**04 30 29.0**	**+1.9**
IGT	**Igoumenitsa**	1.55	358	*e*Pb	**Pb**	**04 30 28.7**	**-0.1**
IGT				*e*Sb	**Sb**	**04 30 50.2**	**+1.9**
AGG	**Agios Georgios**	1.83	55	*e*Pb	**Pb**	**04 30 33.2**	**-0.5**
	comp=Z,5.0nm,0.7s						
AGG				*e*Sb	**Sb**	**04 30 58.5**	**+1.9**
MEV	**Metsovon**	1.91	19	*e*Pb	**Pb**	**04 30 34.7**	**-0.3**
	comp=Z,6.9nm,0.7s						
MEV				*e*Sb	**Sb**	**04 30 59.4**	**+0.5**
FNA	**Florina**	2.90	15	*e*Pn	**Pn**	**04 30 47.3**	**-0.3**
	comp=Z,1.1nm,0.5s						
AOS	**Alonnisos**	2.97	65	*e*Pn	**Pn**	**04 30 47.9**	**-0.7**
TIP	**Timpagrande**	3.10	294	*e*Pn	**Pn**	**04 30 51.4**	**+0.9**
GRG	**Griva**	3.35	27	*e*Pn	**Pn**	**04 30 53.5**	**-0.4**
OUR	**Ouranopolis**	3.64	49	*e*Pn	**Pn**	**04 30 57.1**	**-1.0**
KNT	**Kendrikon**	3.71	30	*e*Pn	**Pn**	**04 30 58.3**	**-0.8**

DJA 10 04:39:25.2±1.2**, 7.33S×119.47E, h160^{km}**±20^{km}**, MD4.5**/2**, 4C-2D, Error ellipse: s-maj=63.7km s-min=8.6km az=127.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NINI	**Niniconang**	2.90	6	⇓*e*P	P	04 40 12.4	+0.1
NINI				⇑*e*S	S	04 40 48.9	+0.5
KEDI	**Kedomdong**	3.52	251	⇑*e*Pn	P	04 40 20.6	+0.4
KEDI				⇑*e*Sn	S	04 41 03.6	+1.1
BUNI	**Buntu Taipa**	3.74	13	⇓*e*P	P	04 40 23.3	+0.1
TANI	**Tanete Lipujan**	3.86	359	⇑*e*P	P	04 40 24.6	-0.1
TANI	**Tanete Lipujan**	3.86	359	*e*P	P	04 40 24.9	+0.2

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*NEIC **10** 04:57:19.8, 37.81S×179.28E, h20^{km}, ML3.8(WEL), After WEL.*

WEL 10 04:57:20.1±0.5**, 37.78S×179.26E, h28^{km}**±3^{km}**, ML3.9**/10**, 1C-1D, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	0.79	286	⇑PN	Pn	04 57 34.7	-0.6
MXZ				SN	Sn	04 57 45.4	-0.8
MXZ	**Matakaoa Point**	0.79	286	P	Pb	04 57 34.8	-0.3
MXZ				S	Sb	04 57 45.4	0.0
PUZ	**Puketiti**	0.84	249	⇓PN	Pn	04 57 35.7	-0.4
PUZ				SN	Sn	04 57 46.8	-0.9
PUZ	**Puketiti**	0.84	249	P	Pb	04 57 35.7	-0.4
PUZ				S	Sb	04 57 47.1	0.0
MWZ	**Matawai**	1.47	247	PN	Pn	04 57 44.1	-1.1
MWZ	**Matawai**	1.47	247	P	Pn	04 57 44.2	-1.0
KNZ	**Kokohu**	1.75	225	PN	Pn	04 57 47.9	-1.3
KNZ	**Kokohu**	1.75	225	P	Pn	04 57 48.0	-1.2
URZ	**Urewera**	1.76	254	PN	Pn	04 57 48.8	-0.5
URZ				*e*SN	Sn	04 58 08.9	-2.1
URZ	**Urewera**	1.76	254	P	Pn	04 57 49.4	+0.1
BKZ	**Black Stump Fm**	2.57	237	PN	Pn	04 57 59.6	-1.3
BKZ				SN	Sn	04 58 28.8	-2.9
BKZ	**Black Stump Fm**	2.57	237	*e*P	Pn	04 57 59.6	-1.3
KUZ	**Kuaotunu**	3.00	289	PN	Pn	04 58 05.3	-1.7
KUZ	**Kuaotunu**	3.00	289	P	Pn	04 58 05.5	-1.5
MOVZ	**Moawhango**	3.19	238	*e*PN	Pn	04 58 07.6	-2.1
NGZ	**Ngauruhoe**	3.19	243	*e*PN	Pn	04 58 07.6	-2.1
NGZ	**Ngauruhoe**	3.19	243	P	Pn	04 58 08.0	-1.7
CNZ	**Chateau**	3.24	243	*e*PN	Pn	04 58 08.3	-2.1
CNZ	**Chateau**	3.24	243	P	Pn	04 58 08.7	-1.6
FWVZ	**Far West T-bar**	3.26	242	*e*PN	Pn	04 58 07.2	-3.5
FWVZ	**Far West T-bar**	3.26	242	*e*P	Pn	04 58 08.8	-1.8
TSZ	**Takapari Road**	3.43	227	PN	Pn	04 58 09.6	-3.5
TSZ	**Takapari Road**	3.43	227	*e*P	Pn	04 58 09.8	-3.3
BFZ	**Birch Farm**	3.72	218	PN	Pn	04 58 13.2	-4.0
BFZ	**Birch Farm**	3.72	218	*e*P	Pn	04 58 13.2	-4.0
MRZ	**Mangatainoka R**	4.05	224	SN	Sn	04 59 02.0	-7.1
KIW	**Kapiti Island**	4.56	226	*e*PN	Pn	04 58 24.0	-5.2
CAW	**Cannon Point**	4.64	223	*e*PN	Pn	04 58 23.7	-6.6
MRW	**Makara Radio**	4.93	224	SN	Sn	04 59 23.6	-7.5
TUWZ	**Tuamarina**	5.49	227	SN	Sn	04 59 36.5	-8.7
NNZ	**Nelson**	5.70	231	SN	Sn	04 59 42.0	-8.4
QRZ	**Quartz Range**	6.04	238	*e*PN	Pn	04 58 44.6	-5.4
QRZ				SN	Sn	04 59 49.2	-10
MQZ	**McQueen's Vall**	7.76	218	*e*PN	Pn	04 59 07.0	-7.1
MQZ				SN	Sn	05 00 26.5	-15
WVZ	**Waitaha Valley**	8.38	228	SN	Sn	05 00 42.9	-14

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*MDD **10** 05:09:45.0±0.5, 41.18N×7.85W, mbLg1.3/6, Error ellipse: s-maj=5.7km s-min=2.5km az=105.0, PRXIMO*

*INMG **10** 05:09:45.5±0.7, 41.16N×7.77W, ML0.8, Error ellipse: s-maj=7.2km s-min=1.5km az=108.0*

ISC 10 05:09:43.9±1.1**, 41.20N**±0.04×**7.9W**±0.1**, h8^{km}**±7^{km}**, n10, σ0^{s}29**/11**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVRL	**Vila Real**	0.15	59	*e*Pg	**Pg**	**05 09 47.6**	**+0.4**
PVRL				*e*Sg	**Sg**	**05 09 49.5**	**+0.1**
	31nm,0.1s						
PVRL	**Vila Real**	0.15	59	Pg	**Pg**	**05 09 47.6**	**+0.4**
PVRL				Lg		05 09 49.5	
	15nm,0.1s						
PVIS	**Viseu**	0.48	181	*e*Pg	**Pg**	**05 09 53.6**	**-0.1**
PVIS				*e*Sg	**Sg**	**05 09 59.8**	**-0.4**
	5.6nm,0.1s						
PVIS	**Viseu**	0.48	181	Pg	**Pg**	**05 09 53.6**	**-0.1**
PVIS				Lg		05 09 59.8	
	2.8nm,0.1s						
ELOB	**Lobios**	0.68	349	Pg	**Pg**	**05 09 57.7**	**+0.1**
	SNR=7.9						
ELOB				Lg		05 10 07.9	
	1.5nm,0.1s,SNR=7.9						
PBRG	**Braganca**	1.05	54	*e*S	**Sb**	**05 10 17.4**	**-0.2**
	1.8nm,0.1s						
PBRG	**Braganca**	1.05	54	Lg		05 10 17.4	
	0.9nm,0.1s						
EZAM	**Zamans**	1.13	328	Lg		05 10 22.1	
	2.7nm,0.3s,SNR=7.9						
ECAL	**Calabor**	1.14	49	Pg	**Pg**	**05 10 06.1**	**-0.5**
	SNR=7.9						
ECAL				Lg		05 10 21.3	
	6.0nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	1.39	167	*e*P	**Pn**	**05 10 09.9**	**+0.2**
PCBR				*e*S	**Sb**	**05 10 27.9**	**+0.3**

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*IDC **10** 05:16:46.6±11.0, 13.15N×143.53E, h204^{km}±112^{km}, mb3.5/8, mb1 3.7/8, mb1mx3.5/19, Error ellipse: s-maj=39.0km s-min=20.3km az=68.0*

*NEIC **10** 05:16:58.5±1.1, 13.03N×143.29E, h320^{km}±11^{km}, mb4.1/3, Error ellipse: s-maj=27.8km s-min=20.9km az=72.0*

ISC 10 05:16:57.4±1.2**, 13.0N**±0.2×**143.3E**±0.2**, h325^{km}**±14^{km}**, n14, σ0^{s}94**/13**, mb3.7**/11**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	1.68	68	*e*P	**P**	**05 17 44.7**	**+0.1**
WRA	**Warramunga Arr**	33.87	195	P	**P**	**05 23 11.7**	**-0.3**
	0.6nm,0.8s,mb2.9,baz=18,slow=9.4,SNR=3.9						
SONM	**Songino Array**	46.35	326	P	**P**	**05 24 53.3**	**-0.1**
	1.2nm,1.0s,mb3.0,baz=146,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	60.85	317	P	**P**	**05 26 38.6**	**+0.6**
	0.7nm,0.6s,mb3.3,baz=89,slow=9.8,SNR=7.6						
KURK	**Kurchatov**	64.05	320	*e*P	**P**	**05 26 57.0**	**-1.7**
	1.7nm,0.3s,mb4.2						
BVAR	**Borovoye Array**	69.44	322	P	**P**	**05 27 32.4**	**+0.1**
	2.0nm,0.4s,mb4.2,baz=109,slow=7.6,SNR=18						
BRVK	**Borovoye**	69.51	322	*e*P	**P**	**05 27 33.8**	**+1.1**
	2.8nm,0.4s,mb4.3						
ILAR	**Eielson Array**	69.79	25	P	**P**	**05 27 32.1**	**-2.2**
	0.3nm,0.4s,mb3.3,baz=251,slow=5.7,SNR=6.4						
ZRNK	**Zerenda**	70.27	322	*e*P	**P**	**05 27 37.4**	**0.0**
	1.0nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	87.18	342	P	**P**	**05 29 08.5**	**+0.7**
	1.1nm,0.7s,mb3.8,baz=63,slow=8.1,SNR=6.5						
ARCES	**ARCESS Array B**	87.18	342	P	**P**	**05 29 08.5**	**+0.7**
NVAR	**Mina Array Bea**	88.53	51	P	**P**	**05 29 16.1**	**+1.3**
	0.6nm,0.5s,mb3.7,baz=265,slow=4.1,SNR=4.5						
FINES	**FINESS Array B**	91.05	335	P	**P**	**05 29 25.8**	**-0.2**
	2.6nm,1.0s,mb4.1,baz=72,slow=6.0,SNR=7.8						
LPAZ	**La Paz**	149.47	100	PKPbc	PKPdf	05 36 13.2	+9.0
	0.7nm,0.6s,baz=261,slow=3.4,SNR=4.6						

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*BJI **10** 05:26:50.9, 2.81S×150.36E, h15^{km}, mB5.4, mb5.3, Ms5.1, Msz4.9*

*MOS **10** 05:26:51.8±0.8, 3.13S×150.35E, h33^{km}, mb5.3/22, MS4.6/5, Error ellipse: s-maj=16.7km s-min=8.6km az=87.5*

*HRVD **10** 05:26:53.2±0.2, 3.11S×150.33E, h12^{km}, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s48,c73;Mantle waves: s67,c135; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.09±.02; M$_{\theta\theta}$1.05±.02; M$_{\phi\phi}$-0.96±.02; M$_{r\theta}$-0.01±.06; M$_{\theta\phi}$0.53±.02; M$_{\phi r}$-0.08±.06; Best double couple: M$_0$1.14×10^{17} NP1: ϕ_s301°, δ86°, λ-2°. NP2: ϕ_s31°, δ88°, λ-176°. Principal axes: T 1.18, Plg1°, Azm166°; N -.09, Plg85°, Azm60°; P -1.1, Plg4°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 05:26:53.2±0.2, 3.20S×150.29E, mb5.2/44, MS4.9/5 Error ellipse: s-maj=7.8km s-min=4.7km az=107.0*

*IDC **10** 05:26:56.4±2.5, 3.25S×150.33E, h58^{km}±22^{km}, mb4.5/24, mb1 4.6/26, mb1mx4.6/27, ML3.7/2, MS4.6/7, Ms1 4.6/7, ms1mx4.3/27, Error ellipse: s-maj=15.5km s-min=9.4km az=106.0*

ISC 10 05:26:51.3±0.2**, 3.20S**±0.03×**150.27E**±0.04**, h27^{km}, h27^{km}**±1.6^{km}**:pP-P, n205, σ0^{s}96**/198**, mb5.2**/96**, MS4.8**/29**, 9C-8D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	6.90	206	P	**Pn**	**05 28 35.7**	**+2.2**
	5.9nm,0.3s,slow=5.3,SNR=16						
PMG				LR	LR	05 31 09.9	
	comp=Z,4µm,20.8s,baz=53,slow=37						
PMG	**Port Moresby**	6.90	206	P	**Pn**	**05 28 35.7**	**+2.2**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,4µm,20.8s						
PMG	**Port Moresby**	6.90	206	*e*P	**Pn**	**05 28 35.0**	**+1.5**
	comp=Z,362nm,0.8s						
CTA	**Charters Tower**	17.24	193	⇑*i*P	**P**	**05 30 53.5**	**+1.4**
	comp=Z,34nm,1.0s						
CTA				*e*S	S	05 34 35.2	+34
CTA	**Charters Tower**	17.24	193	P	**P**	**05 30 52.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=10,slow=12,SNR=12						
CTA				LR	LR	05 37 01.1	
	comp=Z,1µm,19.2s,baz=13,slow=35						
CTAO	**Charters Tower**	17.24	193	*e*P	**P**	**05 30 53.5**	**+1.3**
	comp=Z,80nm,1.2s						
GUMO	**Guam**	17.52	342	*e*P	**P**	**05 30 57.9**	**+2.3**
	comp=Z,255nm,1.0s						
SAPN	**Saipan**	18.83	346	⇓*e*P	**P**	**05 31 11.9**	**+0.1**
ANA2	**Anatahan**	19.93	347	⇓*e*P	**P**	**05 31 24.1**	**-0.2**
ANAT	**Anatahan**	19.95	347	*e*P	**P**	**05 31 24.4**	**-0.2**
KAKA	**Kakadu**	20.04	241	⇓*i*P	**P**	**05 31 23.2**	**-2.3**
	comp=Z,253nm,1.4s						
KAKA				*e*pP		05 31 33.4	
KAKA				*e*S	**S**	**05 35 15.6**	**+12**
SARN	**Sarigan**	20.26	347	*e*P	**P**	**05 31 27.0**	**-0.8**
KWAJ	**Kwajalein Atol**	21.00	55	*e*P	**P**	**05 31 34.5**	**-0.9**
	comp=Z,314nm,1.0s,mb5.6						
WB2	**Warramunga Arr**	22.77	222	*e*P	**P**	**05 31 52.9**	**-0.2**
WB2				*e*pP		05 32 05.5	
WB2				*e*S	**S**	**05 36 03.9**	**+8.2**
WRA	**Warramunga Arr**	22.77	222	P	**P**	**05 31 52.8**	**-0.4**
	comp=Z,16nm,1.1s,mb4.4,baz=49,slow=9.8,SNR=32						
WRA				S	**S**	**05 36 00.5**	**+4.6**
	comp=Z,1.3nm,1.1s,baz=41,slow=19,SNR=3.7						
WRA				LR	LR	05 41 01.0	
	comp=Z,1µm,19.4s,MS4.4,baz=45,slow=37						
WRA	**Warramunga Arr**	22.77	222	P	**P**	**05 31 52.8**	**-0.4**
WRA				S	**S**	**05 36 00.5**	**+4.6**
WRA				pmax	pmax		
	comp=Z,16nm,1.1s						
WRA				smax			
	comp=Z,1.0nm,1.1s						
WRA				MLR	MLR		
	comp=Z,1µm,19.4s						
DZM	**Mont Dzumac**	24.47	141	*e*P	**P**	**05 32 09.2**	**-0.4**
ASAR	**Alice Springs**	25.78	216	P	**P**	**05 32 21.7**	**-0.3**
	comp=Z,16nm,1.0s,mb4.5,baz=53,slow=8.2,SNR=48						
ASPA	**Alice Springs**	25.78	216	*e*P	**P**	**05 32 22.4**	**+0.3**
ASPA				*e*S	S	05 37 18.4	+31
FITZ	**Fitzroy Crossi**	28.31	237	*e*P	**P**	**05 32 44.2**	**-1.0**
	comp=Z,61nm,0.9s,mb5.2						
FITZ				*e*pP	pP	05 32 53.5	+0.5
FITZ				*e*S	**S**	**05 37 36.1**	**+7.6**
FITZ	**Fitzroy Crossi**	28.31	237	P	**P**	**05 32 44.3**	**-1.0**
	comp=Z,14nm,0.7s,mb4.7,baz=58,slow=4.0,SNR=27						
STKA	**Stephens Creek**	29.67	195	*e*P	**P**	**05 33 00.2**	**+2.8**
	comp=Z,9.2nm,1.8s,mb4.2						
STKA				*e*S	**S**	**05 37 54.7**	**+4.6**
STKA	**Stephens Creek**	29.67	195	P	**P**	**05 32 56.7**	**-0.6**
	comp=Z,5.5nm,1.1s,mb4.2,baz=8.1,slow=7.1,SNR=3.4						
STKA	**Stephens Creek**	29.67	195	P	**P**	**05 32 56.7**	**-0.7**
STKA				*e*S	**S**	**05 37 54.7**	**+4.6**
CNB	**Canberra Magne**	31.97	181	*e*P	**P**	**05 33 17.9**	**+0.3**
	comp=Z,51nm,1.0s,mb5.3						
TOO	**Toolangi**	34.49	187	*e*P	**P**	**05 33 43.8**	**+4.4**
	comp=Z,22nm,1.0s,mb5.0						
TOO				*e*S	**S**	**05 39 12.7**	**+7.4**
FORT	**Forrest**	34.53	215	⇑*i*P	**P**	**05 33 38.9**	**-1.0**
	comp=Z,86nm,0.6s,mb5.9						
FORT				*e*S	**S**	**05 39 04.7**	**-1.3**
JHJ	**Hachijo jima 2**	37.46	345	P	**P**	**05 34 05.4**	**+0.9**
	comp=Z,62nm,0.3s,mb5.9,baz=246,slow=19,SNR=3.5						
JHJ				LR	LR	05 46 13.0	
	comp=Z,1µm,21.3s,MS4.7,baz=136,slow=31						
JNU	**Nakatsue**	40.51	335	P	**P**	**05 34 29.5**	**-0.5**
	comp=Z,64nm,0.9s,mb5.2,baz=123,slow=3.0,SNR=20						
MAJO	**Matsushiro**	41.10	345	*e*P	**P**	**05 34 32.4**	**-2.4**
	comp=Z,15nm,0.7s,mb4.7						
MAT	**Matsushiro**	41.10	345	P	**P**	**05 34 31.0**	**-3.8**
MAT				S	**S**	**05 40 45.0**	**-0.8**
MAT	**Matsushiro**	41.10	345	*e*P	**P**	**05 34 31.0**	**-3.8**
	comp=Z,20nm,1.0s,mb4.7						
MAT				*e*S	**S**	**05 40 46.0**	**+0.2**
MAT				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
KLBR	**Kellerberrin**	41.64	224	*e*P	**P**	**05 34 37.8**	**-1.5**
	comp=Z,51nm,0.9s,mb5.2						
URZ	**Urewera**	42.65	148	P	**P**	**05 34 47.0**	**-0.6**
	comp=Z,23nm,1.1s,mb4.8,baz=352,slow=7.1,SNR=3.0						
URZ				LR	LR	05 50 27.5	
	comp=Z,1µm,20.2s,MS4.8,baz=196,slow=33						
NWAO	**Narrogin (SRO)**	42.78	222	P	**P**	**05 34 48.2**	**-0.4**
	comp=Z,12nm,0.8s,mb4.7,baz=49,slow=11,SNR=4.2						
NWAO	**Narrogin (SRO)**	42.78	222	P	**P**	**05 34 48.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	42.78	222	*e*P	**P**	**05 34 49.2**	**+0.5**
NWAO				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
MUN	**Mundaring**	42.93	224	*e*P	**P**	**05 34 49.0**	**-0.9**
	comp=Z,20nm,0.8s,mb4.9						
SSE	**Sheshan**	43.94	323	⇓P	**P**	**05 34 58.5**	**+0.4**
SSE				S	**S**	**05 41 27.7**	**+0.2**
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,97nm,5.1s						
SSE				LR	LR		
	comp=N,556nm,22.6s,MS4.7						
SSE				LR	LR		
	comp=E,814nm,22.7s,MS4.7						
SSE				LR	LR		
	comp=Z,903nm,26.0s,MS4.6						
RPZ	**Rata Peaks**	44.36	158	P	**P**	**05 35 00.5**	**-0.8**
	comp=Z,20nm,0.9s,mb4.8,baz=270,slow=5.1,SNR=3.3						
RPZ				LR	LR	05 51 14.0	
	comp=Z,2µm,19.9s,MS5.1,baz=320,slow=33						
QIZ	**Qiongzhong**	45.48	301	P	**P**	**05 35 11.3**	**+0.7**
QIZ				S	**S**	**05 41 57.6**	**+7.7**
QIZ				LR	LR		
	comp=N,624nm,23.4s						
QIZ				LR	LR		
	comp=E,413nm,16.0s						
QIZ				LR	LR		
	comp=Z,545nm,25.0s,MS4.4						
QIZ	**Qiongzhong**	45.48	301	*e*P	**P**	**05 35 11.2**	**+0.6**
	comp=Z,23nm,0.9s,mb5.0						
NJ2	**Nanjing**	46.02	322	*e*P	**P**	**05 35 10.5**	**-4.2**
NJ2				AP	pP	05 35 20.4	-2.4
NJ2				XP	sP	05 35 24.3	-1.7
NJ2				PP	PP	05 36 58.7	-4.2
NJ2				S	**S**	**05 41 52.0**	**-5.5**
NJ2				XS		05 42 08.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.6						
NJ2				LR	LR		
	comp=N,1µm,18.8s						
NJ2				LR	LR		
	comp=E,2µm,25.4s						
NJ2				LR	LR		
	comp=Z,2µm,19.6s,MS5.0						
INCN	**Inchon**	46.04	334	*e*P	**P**	**05 35 15.3**	**+0.5**
	comp=Z,26nm,0.6s,mb5.3						
ASAJ	**Asahikawa**	47.60	353	P	**P**	**05 35 26.7**	**-0.3**
	comp=Z,46nm,0.9s,mb5.5,baz=240,slow=25,SNR=20						
ASAJ	**Asahikawa**	47.60	353	P	**P**	**05 35 26.7**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,46nm,0.9s						
WHN	**Wuhan**	47.96	317	P	**P**	**05 35 30.3**	**+0.2**
WHN				S	**S**	**05 42 33.3**	**+8.3**
WHN				LR	LR		
	comp=N,1µm,16.5s						
WHN				LR	LR		
	comp=E,350nm,9.7s						
WHN				LR	LR		
	comp=Z,2µm,19.7s,MS5.0						
VLA	**Vladivostok**	49.00	342	*e*P	**P**	**05 35 38.0**	**+0.2**
VLA				*e*		05 38 21.0	
VLA				*e*		05 42 45.0	
DL2	**Dalian**	49.53	331	P	**P**	**05 35 41.8**	**-0.2**
DL2				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.3						
TIA	**Tai'an**	49.94	325	P	**P**	**05 35 44.4**	**-0.8**
TIA				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.3						
YSS	**Yuzh-Sakhalins**	50.37	353	*e*P	**P**	**05 35 47.0**	**-1.3**
YSS				S	**S**	**05 43 00.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
YSS				MLR	MLR		
	comp=N,700nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	50.37	353	*e*P	**P**	**05 35 47.7**	**-0.7**
	comp=Z,28nm,0.6s,mb5.5						
YSS				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
SNY	**Shenyang**	50.95	334	⇑P	**P**	**05 35 52.1**	**-0.7**
SNY				S	**S**	**05 43 11.2**	**+4.7**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SNY				AMB	AMB		
	comp=Z,180nm,5.3s						
SNY				LR	LR		
	comp=N,530nm,18.8s,MS4.7						
SNY				LR	LR		
	comp=E,630nm,22.7s,MS4.7						
SNY				LR	LR		
	comp=Z,860nm,27.0s,MS4.6						
MDJ	**Mudanjiang**	51.07	341	P	**P**	**05 35 53.4**	**-0.2**
MDJ				AP	pP	05 35 58.6	-3.2
MDJ				XP	sP	05 36 02.2	-2.7
MDJ				PCP	PcP	05 37 07.0	-2.5
MDJ				PP	PP	05 37 49.8	-1.3
MDJ				SCP		05 41 02.5	
MDJ				S	**S**	**05 43 11.4**	**+3.4**
MDJ				SCS	ScS	05 45 42.5	+3.3
MDJ				AMB	AMB		
	comp=Z,38nm,0.9s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,115nm,3.2s						
MDJ				LR	LR		
	comp=N,1µm,19.4s,MS5.0						
MDJ				LR	LR		
	comp=E,546nm,17.2s,MS5.0						
MDJ				LR	LR		
	comp=Z,1µm,22.6s						
MDJ	**Mudanjiang**	51.07	341	*e*P	**P**	**05 35 53.0**	**-0.6**
	comp=Z,30nm,0.8s,mb5.3						
ENH	**Enshi**	51.22	314	*e*P	**P**	**05 35 54.5**	**-0.5**
	comp=Z,41nm,1.0s,mb5.3						
GYA	**Guiyang**	51.42	308	⇑*i*P	**P**	**05 35 57.4**	**+0.8**
GYA				PP	PP	05 37 53.4	-1.1
GYA				S	**S**	**05 43 16.5**	**+3.3**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,360nm,3.6s						
GYA				LR	LR		
	comp=N,860nm,18.6s,MS4.9						
GYA				LR	LR		
	comp=E,560nm,15.3s,MS4.9						
GYA				LR	LR		
	comp=Z,850nm,16.2s,MS4.9						
RAR	**Rarotonga**	51.74	115	LR	LR	05 55 01.1	
	comp=Z,359nm,20.2s,MS4.4,baz=126,slow=33						
CN2	**Changchun**	51.83	337	*e*P	**P**	**05 35 58.6**	**-0.8**
CN2				*e*AP	pP	05 36 05.7	-1.9
CN2				PP	PP	05 37 56.4	-1.5
CN2				*e*S	**S**	**05 43 19.1**	**+0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		

	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.8						
NST	**Nakhon Sawan**	**53.01**	**292**	P	**P**	**05 36 09.5**	**+0.8**
BJT	**Baijiatuau**	**53.17**	**327**	*e*P	**P**	**05 36 08.9**	**-0.6**
	comp=E,42nm,1.3s,mb5.2						
BJI	**Beijing**	**53.18**	**327**	P	**P**	**05 36 08.9**	**-0.7**
BJI				XP	sP	05 36 17.9	-3.0
BJI				S	**S**	**05 43 33.1**	**-3.9**
BJI				AMB	AMB		
	comp=Z,21nm,1.8s,mb4.8						
BJI				LR	LR		
	comp=N,710nm,21.3s,MS4.8						
BJI				LR	LR		
	comp=E,587nm,22.4s,MS4.8						
BJI				LR	LR		
	comp=Z,1µm,21.2s,MS4.8						
NANT	**Nan**	**53.44**	**296**	P	**P**	**05 36 11.8**	**+0.1**
XAN	**Xi'an**	**53.73**	**317**	P	**P**	**05 36 12.9**	**-0.8**
XAN				AP	pP	05 36 21.4	-0.4
XAN				XP	sP	05 36 24.5	-0.5
XAN				S	**S**	**05 43 48.9**	**+4.3**
XAN				AMB	AMB		
	comp=Z,37nm,1.4s,mb5.1						
XAN				LR	LR		
	comp=N,326nm,21.6s,MS4.6						
XAN				LR	LR		
	comp=E,550nm,26.5s,MS4.6						
XAN				LR	LR		
	comp=Z,670nm,26.8s,MS4.6						
SKR	**Severo-Kuril's**	**53.90**	**5**	*e*P	**P**	**05 36 11.5**	**-3.2**
SKR				*e*		05 38 18.0	
SKR				*e*PPP	PPP	05 39 24.0	-2.9
SKR				*e*S	**S**	**05 43 50.0**	**+3.3**
SKR				*e*PS	PS	05 44 08.0	+7.4
SKR				*e*SS	SS	05 47 27.0	-0.4
SKR				pmax	pmax		
	comp=Z,130nm,0.9s,mb5.9						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=Z,1µm,10.0s,MS5.2						
SKR				MLR	MLR		
	comp=N,1µm,16.0s						
SKR				MLR	MLR		
	comp=E,2µm,16.0s						
KMI	**Kunming**	**54.00**	**304**	⇑*i*P	**P**	**05 36 17.1**	**+1.3**
KMI				PP	PP	05 38 17.9	-0.8
KMI				S	**S**	**05 43 51.3**	**+2.9**
KMI				AMB	AMB		
	comp=Z,21nm,1.7s,mb4.8						
KMI				LR	LR		
	comp=N,530nm,19.2s,MS4.7						
KMI				LR	LR		
	comp=E,467nm,23.9s,MS4.7						
KMI				LR	LR		
	comp=Z,928nm,31.6s						
KLR	**Kul'dur**	**54.63**	**345**	*e*P	**P**	**05 36 19.7**	**-0.4**
KLR				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**54.91**	**295**	P	**P**	**05 36 23.4**	**+0.8**
	comp=Z,10nm,0.9s,mb4.9,baz=108,slow=4.9,SNR=38						
CMAR	**Chiang Mai Arr**	**54.91**	**295**	P	**P**	**05 36 23.4**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CHG	**Chiang Mai**	**55.02**	**296**	⇓P	**P**	**05 36 24.4**	**+1.0**
	comp=Z,21nm,1.0s,mb5.1						
CD2	**Chengdu**	**55.78**	**311**	⇑*i*P	**P**	**05 36 28.6**	**-0.1**
CD2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.4						
HHC	**Hu-ho-hao-te**	**56.29**	**325**	*e*P	**P**	**05 36 32.0**	**-0.2**
HHC				AP	pP	05 36 38.3	-2.1
HHC				XP	sP	05 36 42.4	-1.1
HHC				PP	PP	05 38 38.3	-0.8
HHC				PCS		05 41 24.7	
HHC				S	**S**	**05 44 21.9**	**+3.2**
HHC				XS		05 44 32.2	
HHC				SCS	ScS	05 46 11.0	-4.9
HHC				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
HHC				AMB	AMB		
	comp=Z,178nm,3.7s						
HHC				LR	LR		
	comp=N,489nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,510nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,824nm,17.8s,MS4.9						
PET	**Petropavlovsk**	**56.46**	**6**	*e*P	**P**	**05 36 32.2**	**-1.0**
PET				*e*S	**S**	**05 44 25.1**	**+4.3**
PET				pmax	pmax		
	comp=Z,100nm,9.2s						
PET				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.5						
PET				smax			
	comp=N,500nm,28.0s						
PET	**Petropavlovsk**	**56.46**	**6**	*e*P	**P**	**05 36 32.1**	**-1.2**
	comp=N,51nm,0.9s,mb5.5						
BTO	**Baotou**	**57.02**	**324**	*e*P	**P**	**05 36 36.8**	**-0.7**
BTO				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.5						
LZH	**Lanzhou**	**58.33**	**316**	⇑P	**P**	**05 36 47.3**	**+0.6**
LZH				AP	pP	05 36 59.4	+4.4
LZH				PP	PP	05 39 01.2	+3.6
LZH				S	**S**	**05 44 51.0**	**+5.3**
LZH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=Z,3µm,18.7s,MS5.4						
HIA	**Hailar**	**58.56**	**337**	*e*P	**P**	**05 36 47.9**	**-0.2**
	comp=Z,48nm,1.0s,mb5.5						
SMY	**Shemya**	**59.24**	**17**	*e*P	**P**	**05 36 52.4**	**-0.4**
	comp=Z,94nm,0.9s,mb5.8						
PPT	**Papeete**	**60.62**	**108**	*e*L		05 52 02.5	
	comp=Z,2µm,37.2s						
PPT				*e*R		05 55 20.9	
	comp=Z,1µm,29.8s						
PAE	**Paea**	**60.63**	**108**	*e*P	**P**	**05 37 10.5**	**+7.8**
	comp=Z,13nm,0.9s,mb5.0						
TIAR	**Tiarei**	**60.84**	**108**	*e*P	**P**	**05 37 09.0**	**+4.8**
	comp=Z,85nm,1.1s,mb5.8						
TVO	**Taravao**	**60.95**	**108**	*e*P	**P**	**05 37 12.5**	**+7.6**
	comp=Z,39nm,1.0s,mb5.5						
TBI	**Tubuai**	**61.52**	**115**	*e*L		05 53 59.4	
	comp=Z,2µm,31.8s						
TBI				*e*R		05 56 13.4	
	comp=Z,781nm,30.8s,baz=279						
PMOR	**Pomariorio Ree**	**61.99**	**105**	*e*P	**P**	**05 37 20.0**	**+8.0**
	comp=Z,44nm,1.4s,mb5.4						
MA2	**Magadan**	**62.58**	**0**	*e*P	**P**	**05 37 14.2**	**-1.2**
MA2				*e*		05 39 31.0	
MA2				*e*S	**S**	**05 45 38.6**	**-1.2**
MA2				*e*SS	SS	05 49 40.4	-5.7
MA2				pmax	pmax		
	comp=N,20nm,0.9s						
MA2				pmax	pmax		
	comp=E,10.0nm,0.9s						
MA2				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
MA2				MLR	MLR		
	comp=Z,3µm,26.0s,MS5.3						
MA2	**Magadan**	**62.58**	**0**	*e*P	**P**	**05 37 14.2**	**-1.2**
	comp=Z,52nm,1.0s,mb5.6						
GTA	**Gaotai**	**62.77**	**318**	*e*P	**P**	**05 37 17.6**	**+0.7**
GTA				PP	PP	05 39 38.7	+2.0
GTA				S	**S**	**05 45 43.7**	**+1.2**
GTA				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.3						
GTA				AMB	AMB		
	comp=Z,213nm,5.7s						
GTA				LR	LR		
	comp=N,202nm,19.4s,MS4.4						
GTA				LR	LR		
	comp=E,143nm,16.7s,MS4.4						
CLNS	**Chul'man**	**63.28**	**345**	*e*P	**P**	**05 37 20.1**	**+0.1**
CLNS				*e**PP	pP	05 37 25.2	-3.1
CLNS				*e*		05 37 55.1	
CLNS				*e*		05 39 37.4	
CLNS				*e*PPP	PPP	05 41 05.5	-6.6
CLNS				*e*S	**S**	**05 45 48.1**	**-0.6**
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				smax			
	comp=N,9.0nm,0.9s						
CLNS				smax			
	comp=Z,12nm,0.7s						
CLNS				smax			
	comp=E,18nm,0.8s						
SONM	**Songino Array**	**63.64**	**329**	P	**P**	**05 37 22.9**	**+0.3**
	comp=E,4.5nm,0.8s,mb4.6,baz=150,slow=6.1,SNR=30						
LSA	**Lhasa**	**65.25**	**305**	P	**P**	**05 37 34.8**	**+1.5**
LSA	**Lhasa**	**65.25**	**305**	*e*P	**P**	**05 37 34.8**	**+1.5**
	comp=E,63nm,1.4s,mb5.5						
LSA				LR	LR		
	comp=Z,1µm,21.0s,MS5.0						
ZAK	**Zakamensk**	**66.83**	**329**	⇓*i*P	**P**	**05 37 42.5**	**-0.5**
YAK	**Yakutsk**	**66.93**	**350**	*e*P	**P**	**05 37 42.0**	**-1.5**
YAK				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK	**Yakutsk**	**66.93**	**350**	*e*P	**P**	**05 37 43.2**	**-0.3**
	comp=E,30nm,0.6s,mb5.5						
BOD	**Bodaibo**	**67.42**	**340**	*e*P	**P**	**05 37 45.6**	**-1.0**
PKI	**Pulchoki**	**69.45**	**301**	*e*P	**P**	**05 38 00.2**	**+0.4**
	comp=E,125nm,1.3s,mb5.7						
KKN	**Kakani**	**69.61**	**301**	*e*P	**P**	**05 38 01.5**	**+0.7**
	comp=E,76nm,1.1s,mb5.5						
DMN	**Daman**	**69.72**	**301**	*e*P	**P**	**05 38 02.2**	**+0.8**
	comp=E,121nm,1.2s,mb5.7						
GKN	**Gorkha**	**70.22**	**301**	*e*P	**P**	**05 38 04.8**	**+0.4**
	comp=E,94nm,1.1s,mb5.6						
KOLN	**Koldanda**	**71.05**	**301**	*e*P	**P**	**05 38 09.5**	**0.0**
	comp=E,55nm,0.9s,mb5.5						
WMQ	**Urumqi**	**72.86**	**318**	⇑*i*P	**P**	**05 38 20.5**	**+0.5**
WMQ				PP	PP	05 41 05.0	+0.7
WMQ				S	S	05 47 41.9	-1.3
WMQ				SKS	SKS	05 48 17.5	-9.2
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,391nm,25.0s,MS4.7						
WMQ				LR	LR		
	comp=E,390nm,25.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,404nm,23.8s,MS4.6						
HYB	**Hyderabad**	**73.58**	**289**	*i* P	**P**	**05 38 24.0**	**-0.7**
HYB	**Hyderabad**	**73.58**	**289**	*e*P	**P**	**05 38 24.0**	**-0.7**
VNDA	**Vanda**	**74.52**	**177**	P	**P**	**05 38 29.8**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=314,slow=7.0,SNR=7.7						
VNDA	**Vanda**	**74.52**	**177**	P	**P**	**05 38 29.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SBA	**Scott Base**	**75.11**	**176**	P	**P**	**05 38 42.0**	**+10**
SVW	**Sparrevohn**	**76.36**	**24**	*e*P	**P**	**05 38 40.5**	**+0.7**
MKAR	**Makanchi Array**	**77.47**	**319**	P	**P**	**05 38 46.8**	**+0.5**
	comp=Z,7.4nm,0.9s,mb4.6,baz=100,slow=7.4,SNR=32						
MKAR	**Makanchi Array**	**77.47**	**319**	P	**P**	**05 38 46.8**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SPU	**Mount Spurr**	**77.86**	**25**	*e*P	**P**	**05 38 47.7**	**-0.4**
SLKM	**Skilak Lake**	**78.31**	**26**	*e*P	**P**	**05 38 50.6**	**0.0**
PMS	**Palmer South**	**78.95**	**25**	*e*P	**P**	**05 38 53.7**	**-0.4**
PWA	**Palmer West**	**79.01**	**25**	*e*P	**P**	**05 38 53.2**	**-1.2**
PMR	**Palmer**	**79.29**	**25**	*e*P	**P**	**05 38 55.5**	**-0.4**
NVS	**Novosibirsk**	**79.62**	**327**	*i* P	**P**	**05 38 56.6**	**-1.2**
NVS				pmax	pmax		
	comp=N,20nm,1.5s						
NVS				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
NVS				pmax	pmax		
	comp=E,27nm,1.4s						
IMA	**Indian Mountai**	**79.81**	**20**	*e*P	**P**	**05 38 59.2**	**+0.6**
	comp=E,241nm,1.3s,mb6.0						
KSH	**Kashi**	**79.98**	**311**	*e*P	**P**	**05 39 02.2**	**+2.1**
KSH				*e*AP	pP	05 39 11.0	+2.4
KSH				*e*PP	PP	05 42 07.3	+3.8
KSH				*e*S	S	05 49 01.3	+0.4
KSH				*e*SKS	SKS	05 49 09.1	-9.4
KSH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
KSH				LR	LR		
	comp=N,470nm,11.9s,MS5.2						
KSH				LR	LR		
	comp=E,520nm,14.1s,MS5.2						
KURK	**Kurchatov**	**80.96**	**322**	*i* P	**P**	**05 39 05.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
KURK	**Kurchatov**	**80.96**	**322**	*e*P	**P**	**05 39 05.2**	**+0.2**
	comp=Z,26nm,1.0s,mb5.1						
COLA	**College**	**81.32**	**22***c*	*i*P	**P**	**05 39 05.4**	**-1.3**
COLA	**College**	**81.32**	**22**	*e*P	**P**	**05 39 05.4**	**-1.3**
	comp=Z,48nm,1.1s,mb5.3						
COLA				LR	LR		
	comp=Z,614nm,20.0s,MS5.0						
ILAR	**Eielson Array**	**81.65**	**23**	P	**P**	**05 39 06.8**	**-1.5**
	comp=Z,14nm,1.0s,mb4.8,baz=253,slow=5.3,SNR=72						
ILAR	**Eielson Array**	**81.65**	**23**	P	**P**	**05 39 06.9**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,14nm,1.0s						
SIT	**Sitka**	**84.25**	**32**	*e*P	**P**	**05 39 24.9**	**+3.1**
DAWY	**Dawson**	**84.38**	**25**	*e*P	**P**	**05 39 22.8**	**+0.5**
KKAR	**Karatay Array**	**84.70**	**314**	*i* P	**P**	**05 39 25.4**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,132nm,1.4s,mb5.9						
VIB	**Van Inlet**	**84.91**	**36**	T		07 12 39.2	
	SNR=26						
VOSK	**Vostochnaya**	**86.05**	**323**	P	**P**	**05 39 30.5**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.4						
MAW	**Mawson**	**86.07**	**203**	*e*P	**P**	**05 39 30.1**	**-0.6**
	comp=Z,10nm,0.8s,mb5.1						
MAW	**Mawson**	**86.07**	**203**	P	**P**	**05 39 29.8**	**-0.9**
	comp=Z,10nm,0.9s,mb5.1,baz=57,slow=6.6,SNR=11						
MAW	**Mawson**	**86.07**	**203**	P	**P**	**05 39 29.8**	**-0.9**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BVA0	**Borovoye Array**	**86.45**	**323**	*i* P	**P**	**05 39 32.9**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**86.45**	**323**	P	**P**	**05 39 32.5**	**-0.5**
	comp=Z,10nm,0.8s,mb5.1,baz=104,slow=6.1,SNR=40						
BRVK	**Borovoye**	**86.52**	**323**	*e*P	**P**	**05 39 33.1**	**-0.1**
	comp=Z,14nm,0.9s,mb5.2						
QSPA	**South Pole Qui**	**86.75**	**180**	*e*P	**P**	**05 39 35.1**	**+1.3**
	comp=Z,11nm,0.9s,mb5.1						
ZRNK	**Zerenda**	**87.27**	**323**	P	**P**	**05 39 36.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.2						
DLBC	**Dease Lake**	**87.32**	**31**	P	**P**	**05 39 38.1**	**+1.1**
	comp=Z,7.6nm,1.0s,mb4.9,baz=241,slow=4.6,SNR=16						
DLBC	**Dease Lake**	**87.32**	**31**	*e*P	**P**	**05 39 38.0**	**+1.0**
DLBC				*e*pP	pP	05 39 47.2	+1.6
BBB	**Bella Bella**	**87.36**	**38**	P	**P**	**05 39 37.4**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.8,baz=220,slow=17,SNR=2.9						
INK	**Inuvik**	**87.88**	**21**	P	**P**	**05 39 39.1**	**-0.4**
	comp=Z,14nm,1.0s,mb5.2,baz=256,slow=3.9,SNR=26						
INK	**Inuvik**	**87.88**	**21**	P	**P**	**05 39 39.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,14nm,1.0s						
INK	**Inuvik**	**87.88**	**21**	*e*P	**P**	**05 39 39.0**	**-0.4**
	comp=Z,32nm,1.1s,mb5.5						
HUMO	**Hull Mountain**	**89.76**	**47**	*e*P	**P**	**05 39 50.4**	**+1.3**
	comp=Z,19nm,1.1s,mb5.3						
HUMO				*e*pP	pP	05 39 58.8	+1.3
YBH	**Yreka Blue Hor**	**89.88**	**48**	P	**P**	**05 39 49.6**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.7,baz=2.8,slow=1.2,SNR=9.4						
YBH	**Yreka Blue Hor**	**89.88**	**48**	P	**P**	**05 39 49.6**	**0.0**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YBH	**Yreka Blue Hor**	**89.88**	**48**	*e*P	**P**	**05 39 50.0**	**+0.4**
	comp=Z,13nm,1.1s,mb5.2						
YBH				*e*pP	pP	05 39 59.0	+0.9
PGC	**Sidney**	**89.91**	**41**	P	**P**	**05 39 50.8**	**+1.2**
WDC	**Whiskeytown Da**	**89.92**	**50**	*e*P	**P**	**05 39 50.6**	**+0.8**
	comp=Z,12nm,1.2s,mb5.1						
RMW	**Rattlesnake Mo**	**90.93**	**43**	P	**P**	**05 39 54.7**	**+0.4**
CMB	**Columbia Colle**	**91.43**	**52**	*e*P	**P**	**05 39 57.6**	**+0.8**
	comp=Z,2.0nm,0.9s,mb4.5						
BEKR	**Beckwourth**	**91.54**	**50**	*e*P	**P**	**05 39 58.2**	**+0.9**
	comp=Z,10nm,1.1s,mb5.1						
BEKR				*e*pP	pP	05 40 06.4	+0.6
MOD	**Modoc**	**91.69**	**48**	*e*P	**P**	**05 39 58.7**	**+0.8**
	comp=Z,20nm,1.3s,mb5.3						
NLW	**Nelson Butte**	**91.95**	**42**	*e*P	**P**	**05 40 01.0**	**+2.1**
WCN	**Washoe City**	**91.98**	**51**	*e*P	**P**	**05 39 58.8**	**-0.5**
	comp=Z,14nm,1.1s,mb5.2						
WCN				*e*pP	pP	05 40 08.1	+0.3
HAWA	**Hanford**	**92.43**	**44**	*e*P	**P**	**05 40 02.5**	**+1.3**
	comp=Z,5.9nm,1.0s,mb4.9						
AB31	**Akbulak array**	**92.61**	**319**	*i* P	**P**	**05 40 00.9**	**-1.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**93.08**	**52**	P	**P**	**05 40 04.5**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.4,baz=225,slow=5.0,SNR=4.8						
MWC	**Mount Wilson**	**93.16**	**56**	P	**P**	**05 40 06.0**	**+1.1**
MNV	**Mina**	**93.20**	**52**	*e*P	**P**	**05 40 03.5**	**-1.5**
	comp=Z,5.1nm,1.1s,mb4.9						
DPW	**Davenport**	**93.38**	**42**	*e*P	**P**	**05 40 06.0**	**+0.5**
ARU	**Arti**	**93.59**	**326**	⇓*i*P	**P**	**05 40 05.0**	**-1.3**
ARU				*e*		05 43 50.2	
ARU				*e*SS	SS	05 57 31.7	-0.4
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
ARU				MLR	MLR		
	comp=Z,600nm,21.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,100nm,23.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,400nm,20.0s,MS4.9						
ARU	**Arti**	**93.59**	**326**	*e*P	**P**	**05 40 04.0**	**-2.2**
	comp=E,20nm,1.4s,mb5.3						
NEW	**Newport**	**94.11**	**42**	P	**P**	**05 40 09.1**	**+0.2**
	comp=E,3.3nm,0.9s,mb4.8,baz=245,slow=7.6,SNR=5.4						
NEW	**Newport**	**94.11**	**42**	P	**P**	**05 40 09.1**	**+0.2**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	**Newport**	**94.11**	**42**	*e*P	**P**	**05 40 09.3**	**+0.5**
	comp=Z,6.3nm,1.1s,mb5.0						
YKW3	**Yellowknife Ar**	**95.18**	**28**	*e*P	**P**	**05 40 13.1**	**-0.3**
YKA	**Yellowknife Ar**	**95.19**	**28**	P	**P**	**05 40 13.2**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.7,baz=272,slow=4.5,SNR=9.3						
YKA	**Yellowknife Ar**	**95.19**	**28**	P	**P**	**05 40 13.2**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**95.19**	**28**	P	**P**	**05 40 13.2**	**-0.3**
NEN	**Nelson**	**95.82**	**55**	P	**P**	**05 40 16.8**	**-0.2**
HLID	**Hailey**	**96.04**	**47**	*e*P	**P**	**05 40 20.3**	**+2.4**
	comp=Z,1.9nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**99.63**	**47**	P	**P**	**05 40 33.5**	**-0.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=270,slow=1.5,SNR=5.7						
VNA1	**Neumayer--Stat**	**104.92**	**187**	*e*	Px	05 41 10.2	
VNA1	**Neumayer--Stat**	**104.92**	**187**	*e*	Px	05 41 15.1	
VNA1	**Neumayer--Stat**	**104.92**	**187**	⇓*i*Pdif	Pdif	05 40 57.2	+0.2
VNA1				*e*		05 41 10.2	
VNA1				*e*		05 41 15.1	
CLL	**Collm**	**120.23**	**330**	*e*PKIKP	PKPdf	05 45 46.0	+1.0
KHC	**Kasperske Hory**	**121.27**	**328**	*e*PKIKP	PKPdf	05 45 40.0	-7.1
GERES	**GERESS Array B**	**121.37**	**328**	PKP	PKPdf	05 45 42.5	-4.8
	comp=Z,1.0nm,0.7s,baz=90,slow=1.3,SNR=6.5						
GERES	**GERESS Array B**	**121.37**	**328**	PKIKP	PKPdf	05 45 42.5	-4.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**122.56**	**144**	PKP	PKPdf	05 45 45.0	-4.7
	comp=Z,3.0nm,0.9s,baz=306,slow=2.3,SNR=2.9						
PLCA	**Paso Flores**	**122.56**	**144**	PKIKP	PKPdf	05 45 45.0	-4.7
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**123.76**	**342**	PKP	PKPdf	05 45 46.5	-5.3
	comp=Z,1.6nm,1.0s,baz=90,slow=2.1,SNR=2.9						
EKA	**Eskdalemuir Ar**	**123.76**	**342**	PKIKP	PKPdf	05 45 46.5	-5.2
EKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DAVOX	**Davos**	**124.67**	**328**	PKP	PKPdf	05 45 50.0	-3.7
	comp=Z,2.2nm,0.6s,baz=355,slow=16,SNR=3.7						
CDF	**Champ du Feu**	**124.93**	**331**	*e*PKP2	PKPdf	05 45 50.0	-4.2
HINF	**Hinteralfeld**	**125.54**	**330**	*e*PKP2	PKPdf	05 45 51.6	-3.8
HAU	**Haudompre**	**125.66**	**331**	*e*PKP2	PKPdf	05 45 52.2	-3.4
CABF	**La Chapelle**	**126.75**	**330**	*e*PKP2	PKPdf	05 45 54.7	-3.0
	comp=Z,24nm,1.2s						
LOR	**Lormes**	**127.37**	**332**	*e*PKP2	PKPdf	05 46 00.9	+2.0
SSF	**Saint Saulge**	**127.69**	**332**	*e*PKP2	PKPdf	05 46 01.6	+2.1
SMF	**Signal de Mont**	**127.83**	**331**	*e*PKP2	PKPdf	05 46 01.8	+2.0
TRQA	**Tornquist**	**129.24**	**147**	*e*PKPdf	PKPdf	05 46 01.1	-1.7
ROSC	**El Rosal**	**135.49**	**86**	PKP	PKPdf	05 46 12.7	-2.4
	comp=Z,14nm,0.9s,baz=164,slow=13,SNR=5.3						
LPAZ	**La Paz**	**137.40**	**118**	PKhKP		05 46 06.0	
	comp=Z,1.1nm,0.9s,baz=324,slow=4.0,SNR=3.6						
LPAZ				PKP	PKPdf	05 46 16.4	-2.0
	comp=Z,6.8nm,0.9s,baz=288,slow=3.1,SNR=8.5						
LPAZ	**La Paz**	**137.40**	**118**	PKHKP		05 46 06.1	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPAZ	**La Paz**	**137.40**	**118**	PKP	PKPdf	05 46 16.4	-2.0
SDV	**Santo Domingo**	**138.96**	**80**	*e*PKPdf	PKPdf	05 46 18.5	-2.9
CPUP	**Villa Florida**	**140.32**	**139**	PKP	PKPdf	05 46 16.8	-6.9
	comp=Z,2.6nm,1.1s,baz=198,slow=9.6,SNR=4.0						
CPUP	**Villa Florida**	**140.32**	**139**	PKIKP	PKPdf	05 46 16.8	-6.8
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP	**Villa Florida**	**140.32**	**139**	PKP	PKPdf	05 46 16.8	-6.9
SAML	**Samuel**	**144.54**	**110**	*e*PKPdf	PKPdf	05 46 25.3	-6.1
BDFB	**Brasilia**	**153.97**	**136**	PKPbc	PKPdf	05 46 48.4	+2.4
	comp=Z,6.0nm,0.9s,baz=153,slow=8.1,SNR=4.5						
BDFB	**Brasilia**	**153.97**	**136**	PKIKP	PKPdf	05 46 48.4	+2.4
BDFB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DBIC	**Dimbokro**	**154.98**	**279**	PKPab	PKPab	05 47 08.2	-1.3
	comp=Z,8.8nm,1.0s,baz=79,slow=12,SNR=3.4						
DBIC	**Dimbokro**	**154.98**	**279**	PKP2	PKPab	05 47 08.2	-1.2
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.0s						

IGQ 10 05:28:03.5, 3.04S×78.23W, h12^{km}±4^{km}, mb4.5, 5C-5D,
Error ellipse: s-maj=15.3km s-min=3.9km az=168.4,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.53**	**352**	P	Pn	05 28 31.3	+0.4
PATA	**Patacocha**	**1.53**	**353**	⇑P	Pn	05 28 31.8	+0.9
PATA				S	Sb	05 28 53.1	+2.4
IGUA	**Igualata**	**1.59**	**345**	⇑P	Pn	05 28 34.1	+2.5
RETU	**Refugio**	**1.59**	**352**	⇓P	Pn	05 28 32.8	+1.1
RETU				S	Sn	05 28 54.5	+2.3
CUSU	**Cusua**	**1.60**	**351**	⇓P	Pn	05 28 33.0	+1.2
CUSU				S	Sn	05 28 55.5	+2.9
RUN2	**Runtun**	**1.61**	**354**	⇑P	Pn	05 28 32.7	+0.7
JUIV	**Juive**	**1.62**	**352**	⇓P	Pn	05 28 33.1	+1.0
PISA	**Pisayambo**	**1.97**	**356**	P	Pn	05 28 38.7	+1.6
PISA				S	Sn	05 29 05.2	+3.3
QIL1	**Quilotoa**	**2.28**	**342**	P	Pn	05 28 46.0	+4.4
MARY	**Rancho Maria**	**2.30**	**354**	⇓P	Pn	05 28 44.8	+3.0
MARY				S	Sn	05 29 16.0	+5.7
TAMB	**Tambo**	**2.33**	**357**	⇑P	Pn	05 28 44.4	+2.1
TAMB				S	Sn	05 29 15.6	+4.6
VC1	**Cotopaxi 1**	**2.38**	**356**	P	Pn	05 28 45.8	+2.7
NAS1	**Nasa**	**2.40**	**354**	⇑P	Pn	05 28 46.4	+3.1
NAS1				S	Sn	05 29 17.4	+4.6
ANTI	**Antisana**	**2.57**	**2**	P	Pn	05 28 47.4	+1.7
JUA2	**San Juan 2**	**2.83**	**352**	P	Pn	05 28 53.2	+3.8
CGGP	**Crater GGP**	**2.86**	**353**	P	Pn	05 28 55.7	+5.8
GGP	**Refugio Guagua**	**2.86**	**353**	P	Pn	05 28 54.9	+5.0
PINO	**Pino**	**2.88**	**353**	P	Pn	05 28 55.6	+5.5
YANA	**Yana**	**2.92**	**353**	P	Pn	05 28 55.3	+4.6
YANA				S	Sn	05 29 35.8	+10
CONE	**Cono NE Rev Vo**	**3.00**	**11**	P	Pn	05 28 54.7	+2.8
CAYR	**Refugio Cayamb**	**3.04**	**4**	P	Pn	05 28 54.6	+2.2
CAYR				S	Sn	05 29 34.7	+5.6
CAYA	**Cayambe**	**3.10**	**5**	⇓P	Pn	05 28 57.2	+4.0
CAYA				S	Sn	05 29 37.1	+6.6
COTA	**Cotacachi**	**3.35**	**358**	P	Pn	05 29 03.7	+6.9

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*NEIC **10** 05:30:02.6, 36.22S×178.00E, h193^{km}, After WEL.*

WEL 10 05:30:01.9±0.3,**36.20S**×**177.91E**,**h199**^{km}±3^{km},**ML4.2**/2, **Error ellipse: s-maj=5.2km s-min=3.2km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.40	167	PN	P	05 30 34.6	-0.3
MXZ				SN	S	05 30 59.5	-1.0
MXZ	Matakaoa Point	1.40	167	P	P	05 30 34.7	-0.3
MXZ				S	S	05 30 58.4	-2.0
PUZ	Puketiti	1.89	172	PN	P	05 30 39.2	-0.3
PUZ				SN	S	05 31 07.5	-1.0
PUZ	Puketiti	1.89	172	*e*P	P	05 30 39.3	-0.2
PUZ				S	S	05 31 07.2	-1.3
URZ	Urewera	2.15	197	PN	P	05 30 42.2	-0.1
URZ				SN	S	05 31 13.1	-0.3
URZ	Urewera	2.15	197	P	P	05 30 42.4	+0.1
MWZ	Matawai	2.15	188	PN	P	05 30 42.1	-0.2
MWZ				SN	S	05 31 13.1	-0.3
MWZ	Matawai	2.15	188	P	P	05 30 42.4	+0.1
MWZ				S	S	05 31 13.4	0.0
KNZ	Kokohu	2.82	184	PN	P	05 30 49.2	-0.7
KNZ				SN	S	05 31 26.0	-0.9
KNZ	Kokohu	2.82	184	*e*P	P	05 30 49.3	-0.6
KNZ				S	S	05 31 26.0	-0.9
BKZ	Black Stump Fm	3.16	200	PN	P	05 30 53.5	-0.4
BKZ	Black Stump Fm	3.16	200	*e*P	P	05 30 53.7	-0.3
TSZ	Takapari Road	4.14	201	*e*PN	P	05 31 04.1	-2.0
TSZ				SN	S	05 31 53.6	-2.2
TSZ	Takapari Road	4.14	201	*e*P	P	05 31 04.4	-1.7
KIW	Kapiti Island	5.21	206	*e*PN	P	05 31 16.9	-2.8
MTW	Mount Morrison	5.29	200	*e*PN	P	05 31 17.9	-2.8
MTW	Mount Morrison	5.29	200	P	P	05 31 17.9	-2.9
TUWZ	Tuamarina	6.07	209	*e*PN	P	05 31 26.9	-3.8
NNZ	Nelson	6.13	214	SN	S	05 32 37.9	-3.5
QRZ	Quartz Range	6.25	221	*e*P	P	05 31 32.6	-0.6
THZ	Tophouse	6.78	214	*e*PN	P	05 31 37.6	-2.4
KHZ	Kahutara	7.07	207	SN	S	05 32 58.7	-4.6
MQZ	McQueen's Vall	8.51	207	SN	S	05 33 29.7	-7.3
WVZ	Waitaha Valley	8.81	217	SN	S	05 33 39.4	-4.6

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*NDI **10** 05:31:53.8±2.5,34.08N×72.27E,h28^{km}±287^{km},ML4.1, mb4.2(NEIC),Fault plane solution: NP1:φ$_s$20°,δ40°,λ90°.*
*BJI **10** 05:31:55.7,33.62N×72.88E,h64^{km},ML4.0*
*IDC **10** 05:31:55.6±3.9,33.84N×72.78E,h16^{km}±5^{km},mb3.9/5, mb1 3.9/7,mb1mx3.8/20,ML4.0/2,Error ellipse: s-maj=76.4km s-min=39.7km az=170.0*
*NEIC **10** 05:31:59.1±2.5,33.96N×72.84E,h35^{km},mb4.2/4,Error ellipse: s-maj=44.9km s-min=18.6km az=146.0*
*NNC **10** 05:32:06.3±7.0,34.23N×71.85E,h78^{km}±55^{km},mpv4.7, Error ellipse: s-maj=74.0km s-min=38.4km az=49.0*
ISC 10 05:31:54.2±0.5,**33.87N**±0.04×**72.55E**±0.07,**h14**^{km}, **h14**^{km}±.9^{km}**:pP-P,n48,**σ1^{s}**20**/63,**mb3.9**/5,**7C-2D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	0.53	265	⇑P	Pb	05 32 12.7	+7.9
CEP				S	Sb	05 32 23.0	+11
CHCP	Chirah Chowk	0.63	109	⇑P	Pb	05 32 06.0	-0.5
THW	Thamme Wali	1.27	212	⇓P	Pb	05 32 25.8	+8.5
SARP	Sargodha	1.94	177	P	Pn	05 32 32.8	+5.6
SBDP	Sheikh Budin	2.14	224	⇑P	Pn	05 32 38.0	+8.0
JMU	Jammu	2.28	120	*e*P	Sn	05 33 00.0	-0.1
DRP	Derazinda	2.90	224	P	Pn	05 32 48.8	+8.0
THN	Thein Dam	3.02	117	*e*P	Pn	05 32 44.9	+2.4
THN				*e*S	Sn	05 33 22.1	+3.3
	583nm,0.2s						
DLH	Dalhousie	3.16	114	*e*	Pn	05 32 33.0	-12
DLH				*e*S	Sn	05 33 22.0	-0.3
PONG	Pong	3.44	123	*e*P	Pn	05 32 50.0	+1.5
PONG				*e*	Sn	05 33 38.3	+8.8
BHK	Bhakra	4.08	126	*e*	Pg	05 33 18.5	+2.9
BHK				*e*	Sg	05 34 10.5	+0.5
SDNR	Sundarnagar	4.41	121	*e*P	Pn	05 33 02.2	-0.2
SDNR				*e*	Sn	05 34 06.2	+12
KLP	Kalpa	5.34	114	*e*P	Pn	05 33 15.6	+0.1
KLP				*e*S	Sn	05 34 16.5	-1.0
KLP				AML	AML	05 34 42.9	
	comp=E,471nm,0.8s						
KLP				AML	AML	05 34 43.4	
	comp=N,374nm,0.7s						
DDI	Dehra Dun	5.86	126	*e*P	Pn	05 33 22.2	-0.6
DDI				*e*	Sg	05 35 02.5	-6.8
KSH	Kashi	6.27	25	*e*P	Pn	05 33 31.2	+2.6
KSH				*e*S	Sn	05 34 38.3	-2.5
KHET	Khetri	6.42	153	*e*P	Pn	05 33 30.0	-0.7
KHET				*e*S	Sn	05 34 40.2	-4.3
NDI	New Delhi	6.53	141	*e*P	Pn	05 33 31.5	-0.8
NDI				*e*S	Sn	05 34 44.0	-3.3
KUDL	Kundal	6.63	148	*e*P	Pn	05 33 33.5	-0.2
KUDL				*e*S	Sn	05 34 46.0	-3.8
AYAN	Aya Nagar	6.65	143	*e*P	Pn	05 33 33.8	-0.1
AYAN				*e*S	Sn	05 34 45.0	-5.3
SONA	Sohna	6.82	144	*e*P	Pn	05 33 36.4	0.0
SONA				*e*		05 35 14.0	
AML	Almayashu	8.30	6	P	P	05 33 58.6	+1.6
	SNR=43						
KZA	Kyzart	8.47	14	P	P	05 33 60.0	+0.6
	SNR=8.6						
UCH	Uchtor	8.49	10	P	P	05 34 00.3	+0.7
	SNR=24						
EKS2	Erkin-Say	8.83	6	P	P	05 34 05.7	+1.3
	SNR=14						
AAK	Ala-Archa	8.88	9	P	P	05 34 07.4	+2.2
	SNR=7.1						
TKM2	Tokmak 2	9.35	14	P	P	05 34 11.8	+0.2
	SNR=7.2						
KK31	Karatay Array	9.36	351	P	P	05 34 12.2	+0.5
	comp=N,13nm,0.4s,baz=170,slow=12,SNR=266						
KK31				⇓S	Sn	05 35 52.3	-5.4
	comp=N,2.1nm,0.3s,baz=146,slow=20,SNR=7.5						
KOLN	Koldanda	11.27	120	*e*P	P	05 34 34.0	-4.0
	comp=N,8.8nm,0.3s						
GKN	Gorkha	11.91	116	*e*P	P	05 34 42.6	-4.0
	comp=N,18nm,0.4s						
DMN	Daman	12.47	117	*e*P	P	05 34 49.4	-4.7
	comp=N,21nm,0.6s						
KKN	Kakani	12.50	116	*e*P	P	05 34 50.1	-4.5
PKI	Pulchoki	12.72	116	*e*P	P	05 34 52.7	-4.7
	comp=N,26nm,0.5s						
MKAR	Makanchi Array	14.88	27	Pn	P	05 35 23.3	-2.4
	comp=N,0.2nm,0.3s,baz=213,slow=17,SNR=5.5						
KURK	Kurchatov	17.41	13	*e*P	P	05 35 57.6	-0.6
	comp=N,1.6nm,0.4s						
AB31	Akbulak array	18.00	332	⇑P	P	05 36 04.7	-0.7
	comp=N,1.2nm,0.5s,baz=150,slow=12,SNR=34						
AB31				⇑S	S	05 39 17.6	-5.7
	comp=N,0.4nm,0.4s						
VOSK	Vostochnaya	18.88	357	⇑P	P	05 36 14.9	-1.4
	comp=N,2.9nm,0.7s						
BVA0	Borovoye Array	19.21	356	P	P	05 36 19.7	-0.5
	comp=N,1.1nm,0.6s,baz=164,slow=10,SNR=43						
BVAR	Borovoye Array	19.21	356	P	P	05 36 19.4	-0.8
	comp=N,2.0nm,0.3s,baz=166,slow=11,SNR=68						
ZRNK	Zerenda	19.24	353	⇑P	P	05 36 20.3	-0.3
	comp=N,5.5nm,0.6s						
ZRNK	Zerenda	19.24	353	*e*P	P	05 36 19.6	-1.0
	comp=N,12nm,0.5s						
BRVK	Borovoye	19.25	356	*e*P	P	05 36 19.8	-0.9
	comp=N,12nm,0.6s						
AKASG	Malin Array Be	35.61	311	P	P	05 38 52.2	-1.0
	comp=N,0.6nm,0.3s,mb3.9,baz=72,slow=5.9,SNR=5.6						
FINES	FINESS Array B	40.38	327	P	P	05 39 34.6	+1.7
	comp=N,2.4nm,1.0s,mb3.9,baz=168,slow=20,SNR=3.5						
FINES				pP	pP	05 39 38.7	+1.6
	comp=N,0.6nm,0.5s,baz=105,slow=9.0,SNR=1.8						
ARCES	ARCESS Array B	44.05	338	P	P	05 40 03.5	+0.7
	comp=N,1.0nm,0.5s,mb3.9,baz=114,slow=8.1,SNR=12						
ARCES				pP	pP	05 40 08.2	+1.2
	comp=N,0.7nm,0.4s,baz=110,slow=8.1,SNR=2.3						
ARCES	ARCESS Array B	44.05	338	P	P	05 40 03.5	+0.7
ARCES				pP	pP	05 40 08.2	+1.2
NB2	NORSAR Subarra	47.25	324	P	P	05 40 28.3	0.0
	comp=N,1.3nm,0.6s,mb4.0,baz=97,slow=7.4						
NOA	NORSAR Array B	47.25	324	P	P	05 40 28.1	-0.2
	comp=N,1.1nm,0.5s,mb4.0,baz=97,slow=7.7,SNR=8.6						
INK	Inuvik	76.29	10	P	P	05 43 43.6	+0.1
	comp=N,0.5nm,0.3s,mb3.9,baz=6.1,slow=6.3,SNR=8.6						
INK				pP	pP	05 43 47.7	-0.3
	comp=N,0.5nm,0.3s,baz=318,slow=2.3,SNR=1.7						

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*BJI **10** 05:36:26.5,17.40N×83.40W,h2^{km},mB4.4,Ms4.9,Msz4.6*
*IDC **10** 05:36:26.2±0.7,17.45N×83.33W,mb4.0/19,mb1 4.2/20, mb1mx4.1/25,ML4.0/1,Error ellipse: s-maj=23.3km s-min=14.4km az=57.0*
*NEIC **10** 05:36:26.5±2.7,17.41N×83.41W,h2^{km}±17^{km},mb4.4/34, Error ellipse: s-maj=7.9km s-min=5.8km az=74.0*
ISC 10 05:36:26.1±0.4,**17.47N**±0.05×**83.32W**±0.05,**h10**^{km}**,n106,** σ1^{s}**00**/103,**mb4.2**/41,**MS4.6**/1,**2C,North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOR	Soroa	5.30	3	*e*P	Pn	05 37 46.8	-0.4
	baz=191						
SOR				*e*S	Sn	05 38 44.6	-4.5
	comp=N,10μm,0.5s						
	comp=E,10μm,0.5s						
TEIG	Tepich	5.43	301	Pn	Pn	05 37 47.2	-1.9
	comp=E,0.0nm,0.3s,baz=293,slow=24,SNR=20						
TEIG				Sn	Sn	05 38 45.4	-7.1
	comp=E,0.0nm,0.3s,baz=38,slow=24,SNR=14						
LMGC	Las Mercedes	6.51	66	*e*P	Pn	05 38 02.2	-2.2
	baz=232						
LMGC				*e*S	Sn	05 39 23.9	+4.4
	comp=N,3μm,8.2s						
JTS	JuntasAbangare	7.31	193	Pn	Pn	05 38 14.7	-0.9
	comp=N,2.3nm,0.3s,baz=45,slow=14,SNR=16						
JTS	JuntasAbangare	7.31	193	*e*P	Pn	05 38 14.3	-1.3
	comp=N,5.6nm,0.6s						
JTS				*e*		05 38 21.6	
CMIG	Matias Romero	11.05	270	*e*P	P	05 39 04.2	-3.2
EVV	El Vigia	11.49	277	*i* P	P	05 39 08.0	-5.4
PPM	Popocatepetl	14.63	279	*e*P	P	05 39 55.0	-0.1
SDV	Santo Domingo	15.01	123	*e*P	P	05 39 54.8	-5.4
	comp=N,19nm,0.8s						
LRAL	Lakeview Retre	15.85	349	*e*P	P	05 40 09.4	-1.5
	comp=N,8.2nm,0.7s						
COW	Cow Castle Cre	16.02	8	P	P	05 40 10.9	-2.2
HKT	Hockley	16.88	320	*e*P	P	05 40 20.2	-3.9
	comp=N,5.2nm,0.8s						
NATX	Nacogdoches	17.55	326	P	P	05 40 30.9	-1.6
OTAV	Otavalo	17.79	164	*e*P	P	05 40 36.0	+0.4
	comp=N,4.9nm,1.1s						
OTAV				*e*		05 40 46.6	
OXF	Oxford	17.82	343	*e*P	P	05 40 37.1	+1.3
	comp=N,126nm,1.0s						
OXF				*e*		05 40 42.9	
CPCT	Cooper Cave	17.94	357	*e*P	P	05 40 37.2	-0.1
CPCT				*e*		05 40 44.9	
UALR	University of	19.02	337	P	P	05 40 47.5	-3.1
	comp=N,15nm,0.8s						
UTMT	University of	19.43	346	P	P	05 40 54.3	-1.0
	comp=N,90nm,1.0s						
UTMT				*e*		05 41 03.7	
ELN	Prospectdale	19.81	6	P	P	05 41 00.5	+0.8
BLA	Blacksburg	19.83	7	*e*P	P	05 40 59.8	-0.1
	comp=N,10nm,1.2s						
BLA				*e*		05 41 08.4	
JCT	Junction City	19.83	314	*e*P	P	05 40 59.1	-0.8
	comp=N,27nm,0.6s						
PWV	Princeton	19.89	5	*e*P	P	05 41 01.9	+1.3
FWV	Forest Hill	20.15	6	*e*P	P	05 41 04.0	+0.7
USIN	University of	20.77	350	P	P	05 41 07.9	-1.9
	comp=N,12nm,0.6s						
FVM	French Village	21.36	344	*e*P	P	05 41 16.8	+1.0
	comp=N,78nm,1.2s,mb4.9						
FVM				*e*		05 41 25.1	
CCM	Cathedral Cave	21.65	343	*e*P	P	05 41 19.4	+0.7
	comp=N,20nm,0.9s,mb4.6						
CCM				*e*		05 41 26.2	
BLO	Bloomington	21.80	353	*e*P	P	05 41 20.2	0.0
	comp=N,23nm,0.8s,mb4.7						
SLM	Saint Louis	21.93	345	P	P	05 41 21.7	+0.1
WMOK	Wichita Mounta	22.05	324	*e*P	P	05 41 23.1	+0.3
	comp=N,17nm,0.7s,mb4.6						
WMOK				*e*		05 41 31.5	
LTX	Lajitas	22.05	306	*e*P	P	05 41 20.2	-2.5
	comp=N,14nm,1.0s,mb4.4						
TXAR	Lajitas Array	22.05	306	P	P	05 41 23.1	+0.4
	comp=N,8.1nm,0.9s,mb4.2,baz=127,slow=9.6,SNR=35						
TXAR				PcP	PcP	05 45 20.1	-1.4
	comp=N,0.5nm,0.6s,baz=153,slow=2.8,SNR=3.8						
TXAR	Lajitas Array	22.05	306	P	P	05 41 23.1	+0.4
TXAR				PcP	PcP	05 45 20.1	-1.4
CLNB	Carlsbad	23.70	312	*e*P	P	05 41 40.1	+1.1
CLNB				*e*		05 41 48.1	
GDL2	Guadalupe Moun	24.01	312	*e*P	P	05 41 42.7	+0.7
KSU1	Kansas State U	24.46	334	*e*P	P	05 41 46.9	+0.5
KSU1				*e*		05 41 54.8	
CBKS	Cedar Bluff	25.64	329	*e*P	P	05 41 56.3	-1.2
	comp=N,6.7nm,0.6s,mb4.3						
BNM	Barren Site	26.66	313	P	P	05 42 08.0	+1.0
ANMO	Albuquerque	26.98	315	*e*P	P	05 42 10.4	+0.4
	comp=N,2.7nm,0.7s,mb3.9						
ANMO				*e*		05 42 18.5	
LAZ	Ladron	27.15	313	*e*P	P	05 42 12.2	+0.6
SDCO	Great Sand Dun	28.05	320	*e*P	P	05 42 20.7	+1.1
	comp=N,18nm,1.2s,mb4.6						
SDCO				*e*		05 42 28.0	
TUC	Tucson	28.85	306	*e*P	P	05 42 31.9	+5.0
	comp=N,2.8nm,0.9s,mb4.0						
TUC				*e*		05 42 39.6	
WUAZ	Wupatki	30.71	311	P	P	05 42 43.5	0.0
	comp=N,15nm,1.1s,mb4.8						
WUAZ				*e*		05 42 51.5	
SRU	San Rafael	32.02	318	*e*P	P	05 42 55.2	+0.3
MSU	Marysvale	32.77	316	*e*P	P	05 43 02.0	+0.5
MSU				*e*		05 43 10.3	
MVU	Marysvale	32.79	316	*e*P	P	05 43 02.3	+0.7
	comp=N,5.5nm,0.8s,mb4.5						
MVU				*e*		05 43 10.2	
DAU	Daniels Canyon	33.22	319	*e*P	P	05 43 06.2	+0.8
JLU	Jordanelle	33.45	319	*e*P	P	05 43 07.9	+0.5
JLU				*e*		05 43 15.9	
BW06	Boulder Array	33.66	324	*e*P	P	05 43 08.9	-0.2
	comp=N,1.4nm,1.1s,mb3.8						
BW06				*e*		05 43 16.7	
PDAR	Pinedale Array	33.66	324	P	P	05 43 09.4	+0.2
	comp=N,1.2nm,0.8s,mb3.9,baz=135,slow=10,SNR=10						
PDAR	Pinedale Array	33.66	324	P	P	05 43 09.4	+0.2
DUG	Dugway	34.09	318	*e*P	P	05 43 12.4	-0.5
	comp=N,3.8nm,0.6s,mb4.5						
DUG				*e*		05 43 21.5	
HWUT	Hardware Ranch	34.11	321	*e*P	P	05 43 13.0	-0.1
	comp=N,2.6nm,0.7s,mb4.3						
HWUT				*e*		05 43 21.8	
ULM	Lac du Bonnet	34.22	346	P	P	05 43 14.2	+0.3
	comp=N,1.7nm,0.8s,mb4.0,baz=168,slow=9.3,SNR=2.2						
SPUT	South Promonto	34.48	320	*e*P	P	05 43 16.9	+0.7
AHID	Auburn Hatcher	34.54	323	*e*P	P	05 43 16.3	-0.4
	comp=N,2.8nm,0.7s,mb4.3						
AHID				*e*		05 43 25.8	
LAO	LASA Array	34.74	332	*e*P	P	05 43 18.9	+0.5
	comp=N,11nm,0.9s,mb4.8						
REDW	Red Top Meadow	34.77	324	*e*P	P	05 43 18.7	0.0
REDW				*e*		05 43 27.2	
TPAW	Teton Pass	34.91	324	*e*P	P	05 43 20.4	+0.5
TPAW				*e*		05 43 28.9	
HVU	Hansel Valley	34.95	320	*e*P	P	05 43 18.6	-1.7
HVU				*e*		05 43 29.8	
MOOW	Moose Ponds	34.96	324	*e*P	P	05 43 20.6	+0.3
DGMT	Dagmar	35.29	336	*e*P	P	05 43 22.2	-1.0
	comp=N,7.2nm,0.5s,mb4.9						
DGMT				*e*		05 43 30.6	
BOZ	Bozeman (W)	36.67	326	*e*P	P	05 43 35.1	+0.4
	comp=N,2.7nm,1.0s,mb4.0						
BOZ				*e*		05 43 43.1	
LPAZ	La Paz	36.73	155	P	P	05 43 36.6	+1.0
	comp=N,1.7nm,1.1s,mb3.8,baz=22,slow=12,SNR=4.1						
MCMT	McKenzie Canyo	36.81	324	*e*P	P	05 43 37.5	+1.5
MNV	Mina	36.87	312	*e*P	P	05 43 36.3	-0.3
	comp=N,3.6nm,0.8s,mb4.2						
MNV				*e*		05 43 44.8	
HLID	Hailey	36.96	321	*e*P	P	05 43 37.8	+0.5
	comp=N,3.6nm,1.1s,mb4.1						
HLID				*e*		05 43 47.6	
NVAR	Mina Array Bea	36.98	312	P	P	05 43 38.6	+1.1
	comp=N,1.4nm,0.7s,mb3.9,baz=113,slow=9.3,SNR=8.1						
NVAR	Mina Array Bea	36.98	312	P	P	05 43 38.6	+1.1
CHMT	Chamberlain Mo	38.34	327	*e*P	P	05 43 50.2	+1.4
CHMT				*e*		05 43 58.0	
WVOR	Wild Horse Val	39.00	317	*e*P	P	05 43 54.9	+0.5
	comp=N,19nm,1.0s,mb4.8						
WVOR				*e*		05 44 03.7	
SCHQ	Schefferville	39.38	15	P	P	05 43 57.5	0.0
	comp=N,3.6nm,0.8s,mb4.2,baz=213,slow=9.6,SNR=3.7						
SCHQ	Schefferville	39.38	15	P	P	05 43 57.5	0.0
OHCM	Honcut	39.61	311	*e*P	P	05 44 00.2	+0.7
OHCM				*e*		05 44 08.1	
LNOR	Lincton Mounta	40.54	322	*e*P	P	05 44 08.8	+1.7
LNOR				*e*		05 44 17.4	
NEW	Newport	41.24	326	P	P	05 44 12.3	-0.5
	comp=N,1.8nm,0.7s,mb3.8,baz=135,slow=5.7,SNR=3.3						
NEW	Newport	41.24	326	*e*P	P	05 44 13.4	+0.6
	comp=N,4.2nm,0.9s,mb4.1						
NEW				*e*		05 44 21.1	
YBH	Yreka Blue Hor	41.41	314	P	P	05 44 13.5	-0.8
	comp=N,1.3nm,0.9s,mb3.6,baz=111,slow=2.0,SNR=4.5						
YBH	Yreka Blue Hor	41.41	314	*e*P	P	05 44 13.4	-0.9
	comp=N,2.0nm,0.6s,mb3.9						
YBH				*e*		05 44 21.3	
HUMO	Hull Mountain	41.93	315	P	P	05 44 18.2	-0.4
HUMO				*e*		05 44 25.6	
LON	Longmire	43.08	321	*e*P	P	05 44 28.8	+0.9
RPW	Rockport	43.77	323	P	P	05 44 33.2	-0.3
BDFB	Brasilia	47.90	131	P	P	05 45 06.7	-0.1
	comp=N,3.5nm,1.0s,mb4.3,baz=339,slow=14,SNR=3.0						
YKA	Yellowknife Ar	49.98	342	P	P	05 45 21.6	-0.5
	comp=N,0.4nm,0.6s,mb3.7,baz=138,slow=8.4,SNR=2.9						
YKA	Yellowknife Ar	49.98	342	P	P	05 45 21.6	-0.5
DLBC	Dease Lake	53.27	331	P	P	05 45 47.9	+0.8
	comp=N,2.9nm,0.8s,mb4.3,baz=130,slow=8.2,SNR=10						
DLBC	Dease Lake	53.27	331	*e*P	P	05 45 47.6	+0.6
DLBC				*e*		05 45 56.1	
RES	Resolute Bay	57.58	356	*e*P	P	05 46 15.8	-2.2
PLCA	Paso Flores	59.11	169	P	P	05 46 27.9	-1.2
	comp=N,2.6nm,1.1s,mb4.2,baz=335,slow=16,SNR=2.3						
PLCA	Paso Flores	59.11	169	P	P	05 46 27.9	-1.2
INK	Inuvik	59.72	341	P	P	05 46 32.0	-1.0
	comp=N,1.4nm,1.1s,mb3.9,baz=94,slow=8.7,SNR=2.6						
INK	Inuvik	59.72	341	*e*P	P	05 46 33.1	+0.1
	comp=N,4.8nm,0.9s,mb4.5						
INK				*e*		05 46 40.9	
DAWY	Dawson	59.85	335	*e*P	P	05 46 33.1	-0.9
ILAR	Eielson Array	63.15	335	P	P	05 46 56.1	0.0
	comp=N,2.0nm,0.7s,mb4.3,baz=119,slow=4.8,SNR=20						
ILAR				PcP	PcP	05 47 33.5	-0.1
	comp=N,3.4nm,1.0s,baz=90,slow=4.9,SNR=4.8						
IMA	Indian Mountai	66.21	335	*e*P	P	05 47 16.1	+0.2
	comp=N,25nm,0.7s,mb5.3						
IMA				*e*		05 47 25.0	
EKA	Eskdalemuir Ar	70.24	37	P	P	05 47 41.6	+0.4
	comp=N,0.8nm,0.7s,mb3.8,baz=270,slow=6.4,SNR=3.1						
ESDC	Sonseca Array	70.98	53	P	P	05 47 46.5	+0.5
	comp=N,1.0nm,0.7s,mb3.9,baz=296,slow=6.3,SNR=5.6						
NOA	NORSAR Array B	77.06	30	P	P	05 48 20.3	-0.5
	comp=N,0.4nm,0.8s,mb3.4,baz=246,slow=7.1,SNR=2.5						
NOA	NORSAR Array B	77.06	30	P	P	05 48 20.3	-0.5
ARCES	ARCESS Array B	80.15	20	P	P	05 48 36.2	-1.3
	comp=N,1.7nm,0.9s,mb4.0,baz=318,slow=13,SNR=2.3						
FINES	FINESS Array B	83.72	27	P	P	05 48 58.4	+2.2
	comp=N,1.2nm,0.8s,mb4.1,baz=164,slow=10,SNR=2.8						
CN2	Changchun	113.58	338	*e*PKP	PKPdf	05 55 03.1	-4.7
WMQ	Urumqi	118.45	7	⇑PKP	PKPdf	05 55 13.5	-3.8
WMQ				XPKP		05 55 21.5	
WMQ				PP	PP	05 56 35.5	-0.4
WMQ				PKS	PKS	05 58 48.9	-1.0
WMQ				LR	LR		
	comp=N,180nm,29.0s,MS4.6						
WMQ				LR	LR		
	comp=E,134nm,32.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,246nm,34.0s,MS4.6						
SSE	Sheshan	126.27	334	⇑PKP	PKPdf	05 55 32.2	-0.5
CMAR	Chiang Mai Arr	144.23	356	PKP	PKPdf	05 56 03.5	-2.7
	comp=Z,0.6nm,0.3s,baz=349,slow=4.6,SNR=3.2						
WRA	Warramunga Arr	144.29	260	PKP	PKPdf	05 56 03.4	-2.8
	comp=Z,1.3nm,0.7s,baz=87,slow=2.5,SNR=4.7						
ASAR	Alice Springs	144.68	254	PKP	PKPdf	05 56 03.9	-2.9
	comp=Z,0.9nm,0.6s,baz=103,slow=3.6,SNR=11						

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*IDC **10** 05:36:33.9±0.6,17.38N×83.46W,mb4.3/19,mb1 4.5/20, mb1mx4.4/25,ML4.1/1,MS4.0/1,Ms1 4.0/1,ms1mx3.4/19, Error ellipse: s-maj=22.5km s-min=13.6km az=59.0*
*CASC **10** 05:36:39.2±0.8,17.51N×84.25W,h2^{km},MD4.9, mb4.4(NEIC)*
ISC 10 05:36:35.1±0.4,**17.62N**±0.04×**83.5W**±0.1,**h10**^{km}**,n39,** σ1^{s}**30**/29,**mb4.2**/19,**North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	Tepich	5.25	300	Pn	Pn	05 37 55.0	-0.5
	0.0nm,0.3s,baz=107,slow=19,SNR=12						
FORC	Fortuna	7.20	190	*e*P	Pn	05 38 23.9	+0.9
JTS	JuntasAbangare	7.43	191	Pn	Pn	05 38 21.2	-5.0
	3.3nm,0.3s,baz=12,slow=10.0,SNR=14						
ICR	Volcan Irazu	7.60	183	*e*P	Pn	05 38 30.4	+1.8
LAJ	Bijagual	7.74	185	*e*P	Pn	05 38 33.5	+3.0
JCR	Jicaral	7.89	192	*e*P	Pn	05 38 32.6	0.0
JCR				*e*S	Sn	05 40 00.9	-2.0
BUS	Buena Vista	8.02	182	*e*P	P	05 38 37.6	+3.1
ROSC	El Rosal	15.52	144	LR	LR	05 46 21.4	
	comp=Z,615nm,20.1s,baz=3.2,slow=38						
TXAR	Lajitas Array	21.86	306	P	P	05 41 28.0	-1.8
	8.3nm,0.9s,mb4.2,baz=128,slow=10,SNR=43						
TXAR	Lajitas Array	21.86	306	P	P	05 41 28.0	-1.8
PDAR	Pinedale Array	33.47	324	P	P	05 43 16.5	+0.1
	6.0nm,1.1s,mb4.4,baz=128,slow=10,SNR=16						
PDAR				PcP	PcP	05 45 56.8	-1.0
	1.0nm,1.0s,baz=129,slow=5.8,SNR=3.5						
PDAR	Pinedale Array	33.47	324	PcP	PcP	05 45 56.8	-1.0
ULM	Lac du Bonnet	34.05	346	P	P	05 43 20.9	-0.5
	4.6nm,0.8s,mb4.4,baz=140,slow=8.7,SNR=4.5						
NVAR	Mina Array Bea	36.78	311	P	P	05 43 46.6	+1.9
	1.7nm,0.7s,mb4.0,baz=112,slow=9.7,SNR=7.2						
NVAR				PcP	PcP	05 46 07.2	-0.2
	0.8nm,0.6s,baz=121,slow=4.5,SNR=4.6						
NVAR	Mina Array Bea	36.78	311	PcP	PcP	05 46 07.2	-0.2
LPAZ	La Paz	36.92	155	P	P	05 43 44.3	-1.9
	2.5nm,1.1s,mb4.0,baz=331,slow=13,SNR=6.0						
SCHQ	Schefferville	39.28	15	P	P	05 44 06.8	+1.2
	4.1nm,0.5s,mb4.4,baz=212,slow=7.3,SNR=17						
SCHQ				PcP	PcP	05 46 13.8	-1.2
	1.8nm,0.5s,baz=240,slow=8.1,SNR=4.5						
SCHQ	Schefferville	39.28	15	PcP	PcP	05 46 13.8	-1.2
NEW	Newport	41.04	326	P	P	05 44 21.4	+1.2
	6.1nm,1.0s,mb4.2,baz=132,slow=11,SNR=6.4						
YBH	Yreka Blue Hor	41.21	314	P	P	05 44 20.9	-0.7
	2.2nm,0.7s,mb3.9,baz=68,slow=7.0,SNR=11						
BDFB	Brasilia	48.09	131	P	P	05 45 14.2	-3.0
	3.6nm,0.9s,mb4.4,baz=332,slow=5.4,SNR=4.0						
YKA	Yellowknife Ar	49.80	342	P	P	05 45 29.1	-0.7
	1.4nm,0.6s,mb4.2,baz=135,slow=8.3,SNR=8.9						
YKA				PcP	PcP	05 46 49.4	-1.4
	1.6nm,0.9s,baz=144,slow=4.3,SNR=4.0						
YKA	Yellowknife Ar	49.80	342	PcP	PcP	05 46 49.4	-1.4
DLBC	Dease Lake	53.08	331	P	P	05 45 55.8	+1.2
	7.9nm,0.8s,mb4.7,baz=120,slow=7.6,SNR=18						
PLCA	Paso Flores	59.28	169	P	P	05 46 35.1	-4.2
	3.8nm,0.9s,mb4.4,baz=344,slow=8.8,SNR=5.4						
INK	Inuvik	59.54	341	P	P	05 46 39.9	-0.9
	3.8nm,0.9s,mb4.5,baz=121,slow=9.0,SNR=12						
ILAR	Eielson Array	62.96	335	P	P	05 47 03.6	-0.3
	14nm,1.0s,mb5.0,baz=111,slow=4.5,SNR=45						
EKA	Eskdalemuir Ar	70.20	37	P	P	05 47 48.7	-1.3
	1.1nm,0.7s,mb3.9,baz=264,slow=7.6,SNR=5.1						
NB2	NORSAR Subarra	77.00	30	P	P	05 48 28.4	-1.1
	2.1nm,0.9s,mb4.1,baz=284,slow=5.6						
NOA	NORSAR Array B	77.00	30	P	P	05 48 29.0	-0.5
	1.1nm,0.8s,mb3.8,baz=284,slow=5.6,SNR=5.5						
ARCES	ARCESS Array B	80.06	20	P	P	05 48 47.2	+1.2
	1.8nm,0.9s,mb4.0,baz=270,slow=4.9,SNR=5.7						
GERES	GERESS Array B	81.53	42	P	P	05 48 54.9	+0.7
	0.5nm,0.4s,mb3.8,baz=281,slow=6.8,SNR=4.8						
FINES	FINESS Array B	83.65	27	P	P	05 49 05.2	+0.4
	0.9nm,0.6s,mb4.1,baz=243,slow=4.3,SNR=6.8						
CMAR	Chiang Mai Arr	144.07	356	PKP	PKPbc	05 56 10.0	-1.1
	3.9nm,1.2s,baz=336,slow=4.7,SNR=5.2						
WB2	Warramunga Arr	144.18	260	*e*P	PKPbc	05 56 10.6	-0.7
WRA	Warramunga Arr	144.19	260	PKP	PKPbc	05 56 10.5	-0.8
	2.0nm,0.8s,baz=87,slow=3.7,SNR=12						
ASAR	Alice Springs	144.59	254	PKP	PKPbc	05 56 11.2	-1.2
	7.0nm,0.7s,baz=104,slow=3.5,SNR=56						
ASPA	Alice Springs	144.60	254	*e*P	PKPbc	05 56 11.7	-0.7
FORT	Forrest	148.53	240	*e*P	PKPdf	05 56 19.1	-2.9
	58nm,0.6s						

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*BJI **10** 05:37:04.4,2.99S×150.47E,h16^{km},mB5.4,mb5.1,Ms5.1,* *Msz5.0*

HRVD **10** *05:37:06.3±0.2, 3.11S×150.36E,* $h12^{km}\pm1^{km}$, *MW5.5/67, Centroid moment Tensor Solution. LP body waves: s51,c76;Mantle waves: s67,c140; Half duration:* $1^{s}3$ *Moment tensor: Scale* 10^{17}*Nm;* M_{rr}*-0.32±.04;* $M_{\theta\theta}$*1.44±.04;* $M_{\phi\phi}$*-1.12±.04;* $M_{r\theta}$*-0.25±.09;* $M_{\theta\phi}$*1.28±.03;* $M_{\phi r}$*-0.16±.09; Best double couple:* M_0*1.83×*10^{17} *NP1:* ϕ_s*293°,δ83°,λ3°. NP2:*ϕ_s*202°,δ87°,λ173°. Principal axes: T 2.01, Plg7°, Azm157°; N -.35, Plg83°, Azm355°; P -1.65, Plg2°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS **10** *05:37:06.9±0.9, 3.11S×150.22E,* $h33^{km}$*, mb5.4/21, MS4.9/4 Error ellipse: s-maj=16.9km s-min=8.4km az=95.0*

NEIC **10** *05:37:06.3±0.2, 3.16S×150.29E, mb5.2/39, Error ellipse: s-maj=8.5km s-min=4.8km az=102.0*

IDC **10** *05:37:09.7±3.6, 3.22S×150.21E,* $h44^{km}\pm33^{km}$*, mb4.5/23, mb1 4.7/25, mb1mx4.7/26, ML3.6/2, MS4.8/14, Ms1 4.8/14, ms1mx4.6/24, Error ellipse: s-maj=19.9km s-min=12.8km az=83.0*

ISC 10 05:37:04.9±0.2**, 3.16S**±0.03×**150.26E**±0.05**,** $\mathbf{h19^{km}}$**,** $\mathbf{h19^{km}}\pm1.0^{km}$**:pP-P, n181,** $\sigma\mathbf{1^{s}04}$/164**, mb5.1**/80**, MS4.9**/25**, 9C-6D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.93**	**206**	P	**Pn**	**05 38 49.6**	**+1.4**
	5.4nm,0.3s,baz=33,slow=8.9,SNR=24						
PMG				LR	LR	05 40 52.9	
	comp=Z,3μm,18.5s,baz=200,slow=33						
PMG	**Port Moresby**	**6.93**	**206**	*e*P	**Pn**	**05 38 49.2**	**+1.0**
CTA	**Charters Tower**	**17.27**	**193**	⇓*i*P	**P**	**05 41 07.9**	**+1.0**
	46nm,1.5s						
CTA				*e*S	**S**	**05 44 20.0**	**+3.0**
CTA	**Charters Tower**	**17.27**	**193**	P	**P**	**05 41 07.6**	**+0.7**
	0.2nm,0.3s,baz=13,slow=12,SNR=16						
CTA				LR	LR	05 47 04.2	
	comp=Z,2μm,19.6s,baz=14,slow=35						
CTAO	**Charters Tower**	**17.27**	**193**	*e*P	**P**	**05 41 08.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,190nm,1.5s						
CTAO	**Charters Tower**	**17.27**	**193**	*e*P	**P**	**05 41 08.1**	**+1.2**
	comp=Z,198nm,1.5s						
GUMO	**Guam**	**17.48**	**342**	*e*P	**P**	**05 41 09.4**	**-0.1**
SAPN	**Saipan**	**18.79**	**346**	⇓*e*P	**P**	**05 41 26.4**	**+0.7**
KAKA	**Kakadu**	**20.05**	**241**	*e*P	**P**	**05 41 38.5**	**-1.6**
	comp=Z,147nm,0.8s						
KAKA				*e*S	**S**	**05 45 25.8**	**+6.7**
SARN	**Sarigan**	**20.23**	**347**	*e*P	**P**	**05 41 41.9**	**0.0**
KWAJ	**Kwajalein Atol**	**20.99**	**55**	*e*P	**P**	**05 41 45.7**	**-4.1**
	comp=Z,311nm,1.0s						
WB2	**Warramunga Arr**	**22.79**	**222**	*e*P	**P**	**05 42 07.1**	**-0.8**
WB2				*e*S	**S**	**05 46 18.5**	**+7.3**
WRA	**Warramunga Arr**	**22.80**	**222**	P	**P**	**05 42 07.3**	**-0.7**
	comp=Z,13nm,0.8s,mb4.4,baz=47,slow=9.8,SNR=33						
WRA				LR	LR	05 51 14.8	
	comp=Z,3μm,21.2s,MS4.7,baz=55,slow=37						
DZM	**Mont Dzumac**	**24.50**	**141**	*e*P	**P**	**05 42 23.7**	**-0.8**
ASAR	**Alice Springs**	**25.80**	**216**	P	**P**	**05 42 34.4**	**-2.4**
	comp=Z,20nm,0.9s,mb4.7,baz=52,slow=7.9,SNR=41						
ASAR				LR	LR	05 53 31.2	
	comp=Z,3μm,18.7s,MS4.8,baz=39,slow=38						
ASPA	**Alice Springs**	**25.80**	**216**	*e*P	**P**	**05 42 36.1**	**-0.7**
ASPA				*i* S	Sx	05 47 33.3	
FITZ	**Fitzroy Crossi**	**28.33**	**237**	*e*P	**P**	**05 42 57.7**	**-2.2**
	comp=Z,21nm,0.6s,mb5.0						
FITZ				*i*		05 43 07.8	
FITZ	**Fitzroy Crossi**	**28.33**	**237**	P	**P**	**05 42 58.6**	**-1.3**
	comp=Z,21nm,0.7s,mb4.9,baz=43,slow=6.0,SNR=29						
FITZ				LR	LR	05 55 03.3	
	comp=Z,3μm,18.3s,MS5.0,baz=79,slow=38						
STKA	**Stephens Creek**	**29.71**	**195**	*e*P	**P**	**05 43 14.9**	**+2.7**
	comp=Z,8.3nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**29.71**	**195**	P	**P**	**05 43 10.7**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=347,slow=14,SNR=2.5						
STKA				LR	LR	05 55 19.3	
	comp=Z,2μm,19.2s,baz=14,slow=37						
STKA	**Stephens Creek**	**29.71**	**195**	P	**P**	**05 43 10.7**	**-1.6**
STKA				LR	LR	05 55 19.3	
CBIJ	**Chichi jima**	**31.07**	**346**	LR	LR	05 54 46.4	
	comp=Z,2μm,21.8s,MS4.8,baz=3.8,slow=34						
CNB	**Canberra Magne**	**32.01**	**181**	*e*P	**P**	**05 43 33.4**	**+1.0**
	comp=Z,48nm,1.0s,mb5.3						
TGY	**Tagaytay City**	**33.76**	**301**	LR	LR	05 54 41.8	
	comp=Z,1μm,21.5s,MS4.6,baz=104,slow=31						
TOO	**Toolangi**	**34.53**	**187**	*e*P	**P**	**05 43 55.1**	**+0.8**
	comp=Z,24nm,1.0s,mb5.1						
FORT	**Forrest**	**34.56**	**215**	⇓*i*P	**P**	**05 43 53.2**	**-1.5**
	comp=Z,139nm,0.8s,mb5.9						
FORT				*e*S	Sx	05 49 57.2	
JOW	**Kunigami**	**36.61**	**326**	LR	LR	05 56 12.5	
	comp=Z,2μm,19.9s,MS4.9,baz=154,slow=31						
JNU	**Nakatsue**	**40.48**	**335**	P	**P**	**05 44 43.8**	**-0.5**
	comp=Z,38nm,0.9s,mb5.1,baz=100,slow=5.6,SNR=16						
JNU				LR	LR	05 58 45.5	
	comp=Z,1μm,21.7s,MS4.7,baz=197,slow=32						
JNU	**Nakatsue**	**40.48**	**335**	P	**P**	**05 44 43.8**	**-0.5**
JNU				LR	LR	05 58 45.5	
MAJO	**Matsushiro**	**41.07**	**345**	*e*P	**P**	**05 44 46.9**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**41.07**	**345**	*e*P	**P**	**05 44 46.9**	**-2.2**
	comp=Z,31nm,1.0s,mb4.9						
MAT	**Matsushiro**	**41.07**	**345**	P	**P**	**05 44 46.9**	**-2.2**
MAT	**Matsushiro**	**41.07**	**345**	*e*P	**P**	**05 44 47.0**	**-2.1**
	comp=Z,16nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**41.66**	**224**	*e*P	**P**	**05 44 53.2**	**-0.9**
	comp=Z,38nm,0.9s,mb5.0						
URZ	**Urewera**	**42.69**	**148**	P	**P**	**05 45 02.6**	**+0.2**
	comp=Z,21nm,0.9s,mb4.9,baz=33,slow=7.0,SNR=5.3						
NWAO	**Narrogin (SRO)**	**42.80**	**222**	P	**P**	**05 45 02.1**	**-1.4**
	comp=Z,23nm,1.1s,mb4.8,baz=328,slow=2.1,SNR=4.5						
NWAO				LR	LR	06 03 42.6	
	comp=Z,3μm,18.8s,MS5.2,baz=50,slow=37						
NWAO	**Narrogin (SRO)**	**42.80**	**222**	*e*P	**P**	**05 45 01.9**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,27nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.80**	**222**	*e*P	**P**	**05 45 01.9**	**-1.6**
	comp=Z,27nm,1.1s,mb4.9						
MUN	**Mundaring**	**42.95**	**224**	*e*P	**P**	**05 45 04.9**	**+0.2**
	comp=Z,16nm,1.0s,mb4.7						
SSE	**Sheshan**	**43.91**	**323**	⇓P	**P**	**05 45 15.0**	**+2.6**
SSE				AP	pP	05 45 21.5	+3.3
SSE				S	**S**	**05 51 46.6**	**+4.3**
SSE				XS		05 51 56.9	
SSE				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,164nm,6.4s						
SSE				LR	LR		
	comp=N,978nm,23.5s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,23.5s,MS4.9						
SSE				LR	LR		
	comp=Z,2μm,22.9s,MS4.9						
RPZ	**Rata Peaks**	**44.39**	**158**	P	**P**	**05 45 14.9**	**-1.3**
	comp=Z,33nm,0.9s,mb5.0,baz=209,slow=15,SNR=4.2						
QIZ	**Qiongzhong**	**45.46**	**301**	P	**P**	**05 45 25.9**	**+0.9**
QIZ				*e*S	**S**	**05 52 03.4**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.6						
QIZ				LR	LR		
	comp=N,799nm,20.9s,MS4.7						
QIZ				LR	LR		
	comp=E,502nm,20.1s,MS4.7						
QIZ				LR	LR		
	comp=Z,1μm,26.7s						
QIZ	**Qiongzhong**	**45.46**	**301**	*e*P	**P**	**05 45 26.1**	**+1.0**
	comp=Z,9.6nm,0.7s,mb4.7						
NJ2	**Nanjing**	**45.99**	**322**	*e*P	**P**	**05 45 30.8**	**+1.7**
NJ2				AP	pP	05 45 40.7	+5.8
NJ2				XP	sP	05 45 44.6	+7.3
NJ2				PP	PP	05 47 19.0	+1.7
NJ2				S	**S**	**05 52 14.0**	**+1.7**
NJ2				XS		05 52 30.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				LR	LR		
	comp=Z,3μm,23.2s,MS5.1						
INCN	**Inchon**	**46.01**	**334**	*e*P	**P**	**05 45 29.9**	**+0.8**
	comp=Z,90nm,1.2s,mb5.6						
ASAJ	**Asahikawa**	**47.56**	**353**	P	**P**	**05 45 41.6**	**+0.3**
	comp=Z,38nm,0.9s,mb5.4,baz=238,slow=13,SNR=11						
WHN	**Wuhan**	**47.93**	**317**	⇓P	**P**	**05 45 45.3**	**+0.9**
WHN				S	**S**	**05 52 46.0**	**+6.2**
WHN				LR	LR		
	comp=N,840nm,16.1s						
WHN				LR	LR		
	comp=E,2μm,24.8s						
WHN				LR	LR		
	comp=Z,4μm,22.0s						
DL2	**Dalian**	**49.49**	**331**	P	**P**	**05 45 56.5**	**+0.2**
DL2				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.4						
YSS	**Yuzh-Sakhalins**	**50.34**	**353**	P	**P**	**05 46 02.4**	**-0.3**
YSS				*e*S	**S**	**05 53 18.0**	**+4.8**
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**50.34**	**353**	*e*P	**P**	**05 46 02.2**	**-0.4**
	comp=Z,19nm,0.6s,mb5.3						
SNY	**Shenyang**	**50.92**	**334**	⇑P	**P**	**05 46 06.9**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SNY				LR	LR		
	comp=N,1μm,22.4s						
SNY				LR	LR		
	comp=E,550nm,15.4s						
SNY				LR	LR		
	comp=Z,1μm,24.7s,MS4.9						
MDJ	**Mudanjiang**	**51.03**	**341**	P	**P**	**05 46 07.7**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,232nm,7.0s						
MDJ				LR	LR		
	comp=N,1μm,32.7s,MS4.8						
MDJ				LR	LR		
	comp=E,772nm,28.4s,MS4.8						
MDJ				LR	LR		
	comp=Z,1μm,24.0s,MS4.9						
MDJ	**Mudanjiang**	**51.03**	**341**	*e*P	**P**	**05 46 07.8**	**-0.2**
	comp=Z,40nm,0.9s,mb5.3						
MDJ				*e*pP	pP	05 46 13.1	-0.8
ENH	**Enshi**	**51.19**	**314**	*e*P	**P**	**05 46 09.4**	**0.0**
	comp=Z,44nm,1.1s,mb5.3						
GYA	**Guiyang**	**51.39**	**308**	⇑*i*P	**P**	**05 46 11.7**	**+0.7**
GYA				AP	pP	05 46 17.0	+0.1
GYA				XP	sP	05 46 20.4	+1.2
GYA				PP	PP	05 48 08.2	-0.7
GYA				S	**S**	**05 53 26.5**	**-1.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				LR	LR		
	comp=N,730nm,18.0s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,17.0s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,18.0s,MS5.2						
CN2	**Changchun**	**51.79**	**337**	*e*P	**P**	**05 46 13.5**	**-0.3**
CN2				*e*XP	sP	05 46 24.0	+2.0
CN2				*e*S	**S**	**05 53 34.5**	**+1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,10.0s						
CN2				LR	LR		
	comp=N,800nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
BJT	**Baijiatuau**	**53.13**	**327**	*e*P	**P**	**05 46 22.9**	**-1.0**
BJT				pmax	pmax		
	comp=Z,78nm,1.7s						
BJT	**Baijiatuau**	**53.13**	**327**	*e*P	**P**	**05 46 22.9**	**-0.9**
	comp=Z,78nm,1.8s,mb5.3						
BJI	**Beijing**	**53.14**	**327**	P	**P**	**05 46 23.0**	**-1.0**
BJI				S	**S**	**05 53 52.2**	**+0.4**
BJI				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.7						
BJI				AMB	AMB		
	comp=Z,95nm,3.1s						
BJI				LR	LR		
	comp=N,1μm,21.9s,MS5.0						
BJI				LR	LR		
	comp=E,808nm,22.6s,MS5.0						
BJI				LR	LR		
	comp=Z,1μm,21.8s,MS5.0						
NANT	**Nan**	**53.41**	**296**	P	**P**	**05 46 27.0**	**+0.8**
XAN	**Xi’an**	**53.70**	**317**	P	**P**	**05 46 27.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,33nm,1.4s,mb5.1						
XAN				LR	LR		
	comp=N,356nm,21.3s,MS4.7						
XAN				LR	LR		
	comp=E,648nm,19.4s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,21.7s,MS4.9						
KMI	**Kunming**	**53.97**	**304**	⇑*i*P	**P**	**05 46 31.3**	**+1.1**
KMI				AP	pP	05 46 36.9	+0.8
KMI				XP	sP	05 46 41.2	+2.8
KMI				PP	PP	05 48 33.5	+0.3
KMI				S	**S**	**05 54 06.3**	**+3.0**
KMI				XS		05 54 18.6	
KMI				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,103nm,3.5s						
KMI				LR	LR		
	comp=N,530nm,20.9s						
KMI				LR	LR		
	comp=E,467nm,26.5s						
KLR	**Kul’dur**	**54.59**	**345**	*e*P	**P**	**05 46 33.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**54.89**	**295**	P	**P**	**05 46 37.2**	**+0.1**
	comp=E,14nm,0.9s,mb5.0,baz=108,slow=5.5,SNR=52						
CMAR				LR	LR	06 09 55.4	
	comp=E,329nm,18.2s,MS4.4,baz=125,slow=36						
CHG	**Chiang Mai**	**55.00**	**295**	⇑P	**P**	**05 46 38.2**	**+0.4**
	comp=E,23nm,1.1s,mb5.1						
HHC	**Hu-ho-hao-te**	**56.25**	**325**	*e*P	**P**	**05 46 46.4**	**-0.2**
HHC				AP	pP	05 46 52.4	-0.1
HHC				PP	PP	05 48 55.4	+1.9
HHC				S	**S**	**05 54 36.6**	**+3.0**
HHC				XS		05 54 47.3	
HHC				SCS	ScS	05 56 27.2	-4.1
HHC				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,242nm,5.5s						
HHC				LR	LR		
	comp=N,489nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,510nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,824nm,17.8s,MS4.9						
PET	**Petropavlovsk**	**56.42**	**6**	*e*P	**P**	**05 46 47.1**	**-0.5**
PET				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.5						
PET	**Petropavlovsk**	**56.42**	**6**	*e*P	**P**	**05 46 47.4**	**-0.2**
	comp=Z,32nm,0.8s,mb5.4						
BTO	**Baotou**	**56.99**	**324**	*e*P	**P**	**05 46 51.1**	**-0.8**
LZH	**Lanzhou**	**58.30**	**316**	⇑P	**P**	**05 47 02.0**	**+0.9**
LZH				AP	pP	05 47 07.0	-0.1
LZH				XP	sP	05 47 12.6	+3.3
LZH				PP	PP	05 49 13.1	+1.1
LZH				S	**S**	**05 55 04.1**	**+3.5**
LZH				SS	SS	05 58 58.0	+3.7
LZH				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.8						
LZH				AMB	AMB		
	comp=Z,301nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,20.0s						
HIA	**Hailar**	**58.53**	**337**	*e*P	**P**	**05 47 02.3**	**-0.2**
HIA				pmax	pmax		
	comp=Z,32nm,1.0s						
HIA	**Hailar**	**58.53**	**337**	*e*P	**P**	**05 47 02.3**	**-0.2**
	comp=Z,32nm,1.0s,mb5.3						
MA2	**Magadan**	**62.55**	**0**	*e*P	**P**	**05 47 29.1**	**-0.7**
MA2				*e*S	**S**	**05 55 51.6**	**-3.1**
MA2				*e*SSS	SSS	06 02 37.9	-6.2
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
MA2				pmax	pmax		
	comp=N,10.0nm,0.8s						
MA2				pmax	pmax		
	comp=E,3.0nm,0.8s						
MA2				MLR	MLR		
	comp=Z,900nm,21.0s,MS4.9						
MA2	**Magadan**	**62.55**	**0**	*e*P	**P**	**05 47 28.8**	**-1.0**
	comp=Z,30nm,0.8s,mb5.5						
MA2				*e*pP	pP	05 47 34.1	-1.7
GTA	**Gaotai**	**62.74**	**318**	*e*P	**P**	**05 47 31.9**	**+0.5**
GTA				AP	pP	05 47 37.6	+0.2
GTA				XP	sP	05 47 40.3	+0.7
GTA				PP	PP	05 49 52.2	+1.0
GTA				PPP	PPP	05 51 24.6	+2.9
GTA				S	**S**	**05 56 00.6**	**+3.2**
GTA				XS		05 56 10.2	
GTA				PS	PS	05 56 21.2	+3.5
GTA				SS	SS	06 00 08.9	+4.5
GTA				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.2						
GTA				AMB	AMB		
	comp=Z,141nm,5.3s						
GTA				LR	LR		
	comp=N,210nm,14.4s						
GTA				LR	LR		
	comp=E,281nm,20.5s						
SHL	**Shillong**	**63.30**	**301**	⇑*e*P	**P**	**05 47 33.0**	**-2.2**
SHL				*e*S	**S**	**05 56 08.0**	**+3.4**
SONM	**Songino Array**	**63.60**	**329**	P	**P**	**05 47 37.0**	**+0.1**
	comp=E,4.0nm,0.8s,mb4.5,baz=142,slow=6.4,SNR=23						
LSA	**Lhasa**	**65.23**	**305**	P	**P**	**05 47 49.6**	**+1.8**
LSA	**Lhasa**	**65.23**	**305**	*e*P	**P**	**05 47 49.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
LSA	**Lhasa**	**65.23**	**305**	*e*P	**P**	**05 47 49.4**	**+1.6**
	comp=Z,38nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**66.79**	**329**	⇓*e*P	**P**	**05 47 56.9**	**-0.5**
YAK	**Yakutsk**	**66.89**	**350**	*e*P	**P**	**05 47 57.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK	**Yakutsk**	**66.89**	**350**	*e*P	**P**	**05 47 57.4**	**-0.5**
	comp=N,48nm,0.8s,mb5.6						
BOD	**Bodaibo**	**67.38**	**340**	*e*P	**P**	**05 47 59.6**	**-1.4**
BOD				*e*	pP	05 48 04.8	-2.3
MOY	**Mondy**	**68.72**	**330**	*e*P	**P**	**05 48 10.5**	**+1.0**
PKI	**Pulchoki**	**69.42**	**301**	*e*P	**P**	**05 48 14.5**	**+0.2**
	comp=N,113nm,1.4s,mb5.6						
KKN	**Kakani**	**69.59**	**301**	*e*P	**P**	**05 48 15.6**	**+0.3**
	comp=N,63nm,1.1s,mb5.5						
DMN	**Daman**	**69.69**	**301**	*e*P	**P**	**05 48 16.6**	**+0.7**
	comp=N,168nm,1.4s,mb5.8						
GKN	**Gorkha**	**70.19**	**301**	*e*P	**P**	**05 48 19.2**	**+0.3**
	comp=N,121nm,1.2s,mb5.7						
KOLN	**Koldanda**	**71.02**	**301**	*e*P	**P**	**05 48 24.0**	**0.0**
	comp=N,66nm,0.9s,mb5.5						
HYB	**Hyderabad**	**73.56**	**289**	*i* P	**P**	**05 48 40.0**	**+0.7**
HYB	**Hyderabad**	**73.56**	**289**	*e*P	**P**	**05 48 40.0**	**+0.7**
MIR	**Mirnyy**	**74.55**	**200**	⇑*e*P	**P**	**05 48 44.2**	**+0.2**
MIR				*e*		05 58 20.0	
MIR				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
MIR				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
VNDA	**Vanda**	**74.56**	**177**	P	**P**	**05 48 44.7**	**+0.7**
	comp=Z,7.4nm,1.1s,mb4.5,baz=359,slow=5.2,SNR=7.0						
VNDA				LR	LR	06 19 48.6	
	comp=Z,649nm,18.2s,MS5.0,baz=347,slow=34						
VNDA	**Vanda**	**74.56**	**177**	P	**P**	**05 48 44.7**	**+0.7**
VNDA				LR	LR	06 19 48.5	
JOSI	**Joshimath**	**75.11**	**303**	*e*P	**P**	**05 48 48.5**	**+0.4**
SBA	**Scott Base**	**75.15**	**176**	*e*P	**P**	**05 48 50.5**	**+3.2**
SBA				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
SBA	**Scott Base**	**75.15**	**176**	*e*P	**P**	**05 48 50.5**	**+3.2**
	comp=Z,23nm,1.6s,mb4.8						
KLP	**Kalpa**	**76.42**	**303**	*e*P	**P**	**05 48 56.2**	**+0.8**
KLP				AMb	AMB	05 48 57.9	
	comp=Z,31nm,1.3s,mb5.1						
NDI	**New Delhi**	**76.72**	**300**	*e*	**P**	**05 48 56.0**	**-1.2**
SONA	**Sohna**	**76.75**	**300**	*e*P	**P**	**05 48 56.2**	**-1.2**
SONA				AMb	AMB	05 48 58.0	
	comp=Z,11nm,0.7s,mb4.9						
AYAN	**Aya Nagar**	**76.76**	**300**	*e*P	**P**	**05 48 56.9**	**-0.5**
AYAN				AMb	AMB	05 48 57.8	
	comp=Z,13nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**77.43**	**319**	P	**P**	**05 49 00.9**	**+0.2**
	comp=Z,7.6nm,1.0s,mb4.6,baz=100,slow=7.4,SNR=37						
MKAR	**Makanchi Array**	**77.43**	**319**	*i* P	**P**	**05 49 01.1**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,25nm,1.1s						
KHET	**Khetri**	**77.83**	**299**	*e*P	**P**	**05 49 03.5**	**+0.2**
KHET				AMb	AMB	05 49 05.0	
	comp=Z,22nm,1.5s,mb4.9						
SLKM	**Skilak Lake**	**78.28**	**26**	*e*P	**P**	**05 49 05.5**	**+0.4**
PMR	**Palmer**	**79.26**	**25**	*e*P	**P**	**05 49 09.9**	**-0.5**
PMR				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
PMR	**Palmer**	**79.26**	**25**	*e*P	**P**	**05 49 09.9**	**-0.5**
	comp=Z,18nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**79.58**	**327**	*e*P	**P**	**05 49 10.9**	**-1.4**
NVS				pmax	pmax		
	comp=Z,46nm,2.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
IMA	**Indian Mountai**	**79.78**	**20**	*e*P	**P**	**05 49 12.0**	**-1.1**
IMA				*e**PP	pP	05 49 19.3	0.0
KSH	**Kashi**	**79.95**	**311**	*e*P	**P**	**05 49 17.0**	**+2.4**
KSH				*e*AP	pP	05 49 24.0	+3.2
KSH				*e*XP	sP	05 49 26.1	+3.3
KSH				*e*PP	PP	05 52 21.0	+3.0
KSH				*e*S	S	05 59 19.2	+3.3
KSH				*e*SKS	SKS	05 59 28.4	-4.1
KSH				*e*XS		05 59 33.0	
KSH				*e*SCS	ScS	05 59 38.0	+2.9
KSH				*e*PS	PS	06 00 08.2	+4.8
KSH				*e*SS	SS	06 04 33.0	+4.1
KSH				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5						
KSH				AMB	AMB		
	comp=Z,390nm,4.1s						
KURK	**Kurchatov**	**80.93**	**322**	*e*P	**P**	**05 49 19.3**	**-0.2**
	comp=Z,36nm,1.1s,mb5.2						
KURK				*e*pP	pP	05 49 25.1	-0.6
COLA	**College**	**81.29**	**22**	*e*P	**P**	**05 49 20.8**	**-0.4**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
COLA	**College**	**81.29**	**22**	*e*P	**P**	**05 49 20.8**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**81.62**	**23**	P	**P**	**05 49 21.6**	**-1.2**
	comp=Z,4.9nm,0.9s,mb4.5,baz=255,slow=5.4,SNR=28						
FRU	**Bishkek**	**81.66**	**314**	*e*P	**P**	**05 49 25.0**	**+1.5**
DAWY	**Dawson**	**84.35**	**25**	*e*P	**P**	**05 49 37.8**	**+0.9**
KKAR	**Karatay Array**	**84.67**	**314**	*i* P	**P**	**05 49 39.7**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.7						
VIB	**Van Inlet**	**84.88**	**36**	T		07 23 01.6	
	SNR=14						
VOSK	**Vostochnaya**	**86.01**	**323**	P	**P**	**05 49 45.0**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.3						
VOSK	**Vostochnaya**	**86.01**	**323**	*i* P	**P**	**05 49 45.1**	**-0.3**
MAW	**Mawson**	**86.10**	**203**	⇑*i*P	**P**	**05 49 46.2**	**+0.7**
	comp=Z,19nm,1.0s,mb5.3						
MAW	**Mawson**	**86.10**	**203**	P	**P**	**05 49 45.8**	**+0.2**
	comp=Z,27nm,1.0s,mb5.4,baz=79,slow=7.0,SNR=9.6						
MAW				LR	LR	06 25 41.6	
	comp=Z,984nm,21.4s,MS5.2,baz=78,slow=34						
BVA0	**Borovoye Array**	**86.42**	**323**	*i* P	**P**	**05 49 47.3**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**86.42**	**323**	P	**P**	**05 49 47.0**	**-0.4**
	comp=Z,8.2nm,0.8s,mb5.0,baz=104,slow=6.1,SNR=33						
BRVK	**Borovoye**	**86.49**	**323**	*e*P	**P**	**05 49 47.8**	**0.0**
	comp=Z,12nm,0.8s,mb5.2						
QSPA	**South Pole Qui**	**86.79**	**180**	*e*P	**P**	**05 49 49.4**	**+0.7**
	comp=Z,17nm,0.9s,mb5.3						
ZRNK	**Zerenda**	**87.23**	**323**	*e*P	**P**	**05 49 50.8**	**-0.6**
	comp=Z,21nm,1.0s,mb5.3						
ZRNK				*e*pP	pP	05 49 56.6	-1.0
DLBC	**Dease Lake**	**87.29**	**31**	P	**P**	**05 49 52.4**	**+0.9**
	comp=Z,3.5nm,0.8s,mb4.6,baz=265,slow=5.6,SNR=6.3						
DLBC	**Dease Lake**	**87.29**	**31**	*e*P	**P**	**05 49 52.9**	**+1.3**
INK	**Inuvik**	**87.84**	**21**	P	**P**	**05 49 54.0**	**+0.1**
	comp=Z,6.2nm,1.0s,mb4.8,baz=259,slow=6.6,SNR=9.5						
INK	**Inuvik**	**87.84**	**21**	*e*P	**P**	**05 49 53.7**	**-0.3**

INK				pmax	pmax		
	comp=Z,20nm,1.1s						
INK	**Inuvik**	**87.84**	**21**	*e*P	**P**	**05 49 53.7**	**-0.3**
	comp=Z,20nm,1.2s,mb5.2						
HUMO	**Hull Mountain**	**89.75**	**47**	*e*P	**P**	**05 50 04.8**	**+1.2**
	comp=Z,12nm,1.2s,mb5.1						
YBH	**Yreka Blue Hor**	**89.86**	**48**	P	**P**	**05 50 05.0**	**+0.8**
	comp=Z,2.7nm,1.1s,mb4.5,baz=102,slow=5.2,SNR=4.6						
YBH	**Yreka Blue Hor**	**89.86**	**48**	*e*P	**P**	**05 50 05.6**	**+1.4**
YBH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YBH	**Yreka Blue Hor**	**89.86**	**48**	*e*P	**P**	**05 50 05.6**	**+1.4**
	comp=Z,8.6nm,1.2s,mb5.0						
MOD	**Modoc**	**91.67**	**48**	*e*P	**P**	**05 50 13.6**	**+1.1**
	comp=Z,7.2nm,1.0s,mb5.0						
AB31	**Akbulak array**	**92.58**	**319**	*i* P	**P**	**05 50 15.4**	**-1.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**93.07**	**52**	P	**P**	**05 50 19.8**	**+0.8**
	comp=Z,0.4nm,0.5s,mb4.1,baz=241,slow=9.3,SNR=3.0						
MNV	**Mina**	**93.19**	**52**	P	**P**	**05 50 18.7**	**-0.9**
MNV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb5.0						
MNV	**Mina**	**93.19**	**52**	P	**P**	**05 50 18.7**	**-0.9**
	comp=Z,6.9nm,1.3s,mb4.9						
ARU	**Arti**	**93.55**	**326**	⇑*i*P	**P**	**05 50 19.6**	**-1.2**
ARU				*e*	PP	05 54 04.0	-4.4
ARU				*e*S	SKS	06 00 52.5	-6.9
ARU				*e*PS	PS	06 02 43.7	-2.9
ARU				*e*SS	SS	06 07 37.3	-10
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.3						
ARU				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.3						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS5.2						
ARU				MLR	MLR		
	comp=E,800nm,20.0s,MS5.2						
ARU	**Arti**	**93.55**	**326**	*e*P	**P**	**05 50 19.6**	**-1.2**
	comp=E,17nm,1.2s,mb5.3						
NEW	**Newport**	**94.08**	**42**	P	**P**	**05 50 24.3**	**+0.8**
	comp=E,2.3nm,0.8s,mb4.7,baz=350,slow=2.3,SNR=3.1						
NEW	**Newport**	**94.08**	**42**	*e*P	**P**	**05 50 24.4**	**+0.9**
NEW				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NEW	**Newport**	**94.08**	**42**	*e*P	**P**	**05 50 24.4**	**+0.9**
	comp=Z,9.1nm,1.4s,mb5.0						
YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**05 50 28.3**	**+0.3**
	comp=Z,1.9nm,1.0s,mb4.5,baz=279,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**05 50 28.3**	**+0.3**
NEN	**Nelson**	**95.81**	**55**	P	**P**	**05 50 36.3**	**+4.6**
PDAR	**Pinedale Array**	**99.61**	**47**	P	**P**	**05 50 48.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=304,slow=3.3,SNR=2.3						
ACSO	**Alum Creek Sta**	**119.52**	**45**	*e*P	PKPdf	05 55 59.6	+1.7
KHC	**Kasperske Hory**	**121.23**	**328**	*e*PKP	PKPdf	05 56 04.0	+2.9
GERES	**GERESS Array B**	**121.33**	**328**	PKP	PKPdf	05 55 57.7	-3.6
	comp=Z,2.7nm,0.8s,baz=90,slow=2.7,SNR=4.5						
GRF	**Grafenberg Arr**	**122.09**	**330**	*e*PKIKP	PKPdf	05 56 05.6	+2.9
PLCA	**Paso Flores**	**122.60**	**144**	PKP	PKPdf	05 56 01.6	-2.2
	comp=Z,2.2nm,0.7s,baz=200,slow=5.7,SNR=7.1						
SSPA	**Standing Stone**	**122.86**	**42**	*e*P	PKPdf	05 56 01.5	-2.8
SSPA				*e*pPKPdf		05 56 06.2	
JSC	**Jenkinsville**	**123.03**	**51**	*e*PKIKP	PKPdf	05 56 08.0	+3.2
NCB	**Newcomb**	**123.52**	**37**	*e*P	PKPdf	05 56 07.6	+2.0
EKA	**Eskdalemuir Ar**	**123.72**	**342**	PKP	PKPdf	05 56 03.7	-2.0
	comp=Z,1.2nm,0.9s,baz=14,slow=2.9,SNR=3.0						
DAVOX	**Davos**	**124.64**	**328**	PKP	PKPdf	05 56 05.5	-2.2
	comp=Z,5.3nm,0.9s,baz=162,slow=6.4,SNR=3.0						
JTS	**JuntasAbangare**	**124.77**	**80**	P	PKPdf	05 56 06.8	-2.0
HINF	**Hinteralfeld**	**125.50**	**330**	*e*PKP1	PKPdf	05 56 06.3	-3.0
	comp=Z,23nm,1.2s						
HAU	**Haudompre**	**125.62**	**331**	*e*PKP1	PKPdf	05 56 06.6	-3.0
CABF	**La Chapelle**	**126.71**	**330**	*e*PKP1	PKPdf	05 56 08.4	-3.2
	comp=Z,16nm,1.1s						
LOR	**Lormes**	**127.34**	**332**	*e*PKP1	PKPdf	05 56 10.2	-2.6
	comp=Z,19nm,1.2s						
SSF	**Saint Saulge**	**127.65**	**332**	*e*PKP1	PKPdf	05 56 10.9	-2.6
	comp=Z,15nm,1.0s						
SMF	**Signal de Mont**	**127.79**	**331**	*e*PKP1	PKPdf	05 56 11.0	-2.8
LDF	**La Druitiere**	**128.11**	**335**	*e*PKP1	PKPdf	05 56 10.2	-4.2
GRR	**Gorron**	**128.58**	**336**	*e*PKP1	PKPdf	05 56 11.5	-3.8
	comp=Z,32nm,1.3s						
VIVF	**Saint-Julien-l**	**128.64**	**329**	*e*PKP1	PKPdf	05 56 11.8	-3.7
SMRF	**Simiane la Rot**	**128.76**	**328**	*e*PKP1	PKPdf	05 56 13.5	-2.2
	comp=Z,38nm,1.3s						
RJF	**Les Rejaudoux**	**129.88**	**331**	*e*PKP1	PKPdf	05 56 14.2	-3.6
NNA	**Nana**	**130.82**	**109**	*e*P	PKPdf	05 56 24.1	+3.7
ROSC	**El Rosal**	**135.49**	**86**	PKP	PKPdf	05 56 27.7	-1.5
	comp=Z,5.8nm,0.7s,baz=84,slow=9.2,SNR=2.9						
LPAZ	**La Paz**	**137.42**	**118**	PKP	PKPdf	05 56 30.5	-2.1
	comp=Z,2.2nm,1.0s,baz=267,slow=5.7,SNR=8.0						
SDV	**Santo Domingo**	**138.96**	**80**	*e*P	PKPdf	05 56 31.5	-4.0
SDV				*e*pPKPdf		05 56 38.8	
CPUP	**Villa Florida**	**140.36**	**139**	PKP	PKPdf	05 56 34.5	-3.3
	comp=Z,1.9nm,0.8s,baz=281,slow=4.8,SNR=5.1						
CPUP	**Villa Florida**	**140.36**	**139**	PKP	PKPdf	05 56 34.5	-3.3
SAML	**Samuel**	**144.56**	**110**	*e*PKPdf	PKPdf	05 56 40.5	-4.9
BDFB	**Brasilia**	**154.00**	**136**	PKPbc	PKPdf	05 57 04.0	+3.9
	comp=Z,4.6nm,0.8s,baz=106,slow=5.5,SNR=5.8						

MAN 10 05:49:50.1, 18.44N×120.88E, h1^{km}, mb3.5, ML2.2, MS1.7, Luzon

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IDC 10 05:59:33.2±2.9, 30.32S×138.46E, mb1 3.2/3, mb1mx3.2/10, ML2.8/3, Error ellipse: s-maj=65.0km s-min=14.9km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.11**	**121**	Pn	Pn	06 00 23.2	-1.2
	0.6nm,0.3s,baz=302,slow=13,SNR=9.9						
STKA				Pg	Pg	06 00 29.9	-5.4
	2.5nm,0.3s,baz=303,slow=13,SNR=26						
STKA				Sn	Sn	06 01 00.7	-2.2
	2.0nm,0.3s,baz=306,slow=14,SNR=3.9						
STKA				Lg		06 01 12.7	
	2.0nm,0.3s,baz=201,slow=21,SNR=64						
ASAR	**Alice Springs**	**7.77**	**327**	Pn	Pn	06 01 28.6	-1.7
	0.2nm,0.3s,baz=148,slow=12,SNR=8.8						
ASAR				Sn	Sn	06 02 56.5	-3.7
	0.1nm,0.3s,baz=152,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**10.98**	**339**	Pn	P	06 02 12.0	-2.8
	0.1nm,0.3s,baz=155,slow=12,SNR=6.9						
WRA				Sn	S	06 04 14.5	-5.0
	0.1nm,0.3s,baz=160,slow=24,SNR=3.4						

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*JMA **10** 06:12:58.7±0.1, 39.67N×142.13E, h48^{km}±1^{km}, M3.1*

ISC 10 06:12:58.3±1.3, 39.67N±0.04×142.1E±0.1, h49^{km}±9^{km}, n10, σ0^{s}35/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyako 2**	**0.25**	**248**	P	**P**	**06 13 07.3**	**+0.3**
MIYJ				S	**S**	**06 13 13.1**	**0.0**
JTH	**Tanohata**	**0.34**	**323**	P	**P**	**06 13 08.0**	**+0.3**
JTH				S	**S**	**06 13 14.3**	**-0.1**
JOM	**Ohasama**	**0.67**	**253**	P	**P**	**06 13 12.2**	**+0.5**
JOM				S	**S**	**06 13 21.8**	**+0.2**
OFUJ	**Ofunato**	**0.69**	**211**	P	**P**	**06 13 12.0**	**+0.1**
OFUJ				*e*S	**S**	**06 13 21.5**	**-0.4**
JKZ	**Kuzumaki**	**0.69**	**297**	P	**P**	**06 13 12.4**	**+0.5**
JKZ				S	**S**	**06 13 21.9**	**0.0**
JANG	**Nango**	**0.84**	**327**	P	**P**	**06 13 14.0**	**0.0**
JANG				S	**S**	**06 13 24.9**	**-0.8**
JMK	**Ichinoseki**	**1.00**	**225**	P	**P**	**06 13 16.5**	**+0.2**
JMK				S	**S**	**06 13 29.6**	**0.0**
JAH	**Hinai**	**1.26**	**295**	P	**P**	**06 13 20.2**	**+0.3**
JAH				*e*S	**S**	**06 13 35.9**	**0.0**
JIO	**Ouri**	**1.36**	**207**	P	**P**	**06 13 21.1**	**-0.3**
JIO				*e*S	**S**	**06 13 37.7**	**-0.7**
JTM	**Tenmabayashi**	**1.38**	**324**	P	**P**	**06 13 21.7**	**0.0**
JTM				*e*S	**S**	**06 13 38.6**	**-0.4**

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*NIED **10** 06:13:00, 39.70N×142.00E, h53^{km}, Mw5.6 Best double couple: $M_0$3.28×10^{17} NP1:ϕ_s14°, δ70°, λ91°. NP2:ϕ_s190°, δ20°, λ86°.*

*ORF **10** 06:13:24.7, 38.55N×142.50E, h30^{km}, mb6.0*

*BGS **10** 06:13:28.4±1.1, 39.25N×142.53E, h47^{km}, mb5.6*

*BJI **10** 06:13:29.7, 39.59N×141.92E, h60^{km}, mB5.9, mb5.8, Ms5.4, Msz5.4*

*MOS **10** 06:13:29.1±0.9, 39.74N×142.03E, h43^{km}, mb6.1/35, MS5.2/32, Error ellipse: s-maj=9.5km s-min=4.6km az=105.4*

*JMA **10** 06:13:30.9±0.1, 39.67N×142.13E, h48^{km}±1^{km}, M5.8 Broadband fault plane solution: P waves. NP1:ϕ_s188°, δ20°, λ89°. NP2:ϕ_s9°, δ70°, λ90°. Principal axes: T Plg65°, Azm280°; N Plg0°, Azm9°; P Plg25°, Azm99°;*

*IDC **10** 06:13:31.1±0.5, 39.61N×142.01E, h53^{km}±3^{km}, mb5.2/37, mb1 5.3/42, mb1mx5.3/43, MS4.9/24, Ms1 4.9/24, ms1mx4.9/29 Error ellipse: s-maj=9.2km s-min=6.3km az=104.0*

*HRVD **10** 06:13:33.2±0.2, 39.75N×142.12E, h46^{km}, MW5.6/73, Centroid moment Tensor Solution. LP body waves: s58,c125;Mantle waves: s73,c155; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.31±.06; $M_{\theta\theta}$-0.05±.05; $M_{\phi\phi}$-2.26±.04; $M_{r\theta}$0.63±.04; $M_{\theta\phi}$-0.35±.04; $M_{\phi r}$2.37±.03; Best double couple: $M_0$3.37×10^{17} NP1: ϕ_s184°, δ22°, λ82°. NP2:ϕ_s13°, δ68°, λ93°. Principal axes: T 3.38, Plg66°, Azm289°; N -.01, Plg3°, Azm192°; P -3.37, Plg23°, Azm101°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 06:13:33.2±0.5, 39.63N×141.96E, h70^{km}±4^{km}, mb5.7/182, MW5.7, MW5.6(NIED) Error ellipse: s-maj=3.2km s-min=2.2km az=172.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}3.20; $M_{\theta\theta}$-2.04; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.06; $M_{\theta\phi}$-2.04; $M_{\phi r}$1.55; Best double couple: $M_0$3.8×10^{17} NP1:ϕ_s250°, δ40°, λ120°. NP2:ϕ_s33°, δ56°, λ67°. Principal axes: T 3.76, Plg69°, Azm252°; N .08, Plg19°, Azm46°; P -3.84, Plg9°, Azm139°;*

NEIC Felt in northeastern Honshu. Recorded [5L JMA] in Iwate; [4 JMA] in Aomori; [3 JMA] in Miyagi; [2 JMA] in Akita, Fukushima and Yamagata; [1 JMA] in Ibaraki Prefectures. Also recorded [2 JMA] in the Chitose-Ebetsu-Monbetsu area, Hokkaido and in southwestern Hokkaido; [1 JMA] in south-central and eastern Hokkaido.

ISC 10 06:13:30.5±0.1, 39.72N±0.02×142.02E±0.02, h53^{km}, h53^{km}±1.3^{km}:pP-P, n1032, σ0^{s}87/1051, mb5.8/310, MS5.2/55, 312C-53D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyako 2**	**0.21**	**227**	P	**P**	**06 13 39.6**	**+0.4**
JTH	**Tanohata**	**0.25**	**331**	⇓P	**P**	**06 13 40.3**	**+0.8**
JTH				S	**S**	**06 13 46.7**	**+0.7**
JKZ	**Kuzumaki**	**0.59**	**297**	⇓P	**P**	**06 13 44.7**	**+1.6**
JKZ				*e*S	**S**	**06 13 54.1**	**+1.8**
JOM	**Ohasama**	**0.62**	**247**	⇓P	**P**	**06 13 44.5**	**+1.2**
JOM				S	**S**	**06 13 54.2**	**+1.4**
OFUJ	**Ofunato**	**0.70**	**203**	⇓P	**P**	**06 13 44.4**	**+0.1**
OFUJ				S	**S**	**06 13 53.8**	**-0.8**
JANG	**Nango**	**0.76**	**329**	⇓P	**P**	**06 13 46.4**	**+1.2**
JANG				S	**S**	**06 13 57.5**	**+1.4**
JMK	**Ichinoseki**	**0.99**	**219**	⇓P	**P**	**06 13 48.8**	**+0.5**
JMK				*e*S	**S**	**06 14 02.0**	**+0.5**
JRG	**Rokugo**	**1.12**	**254**	⇓P	**P**	**06 13 51.3**	**+1.2**
JAH	**Hinai**	**1.16**	**294**	⇓P	**P**	**06 13 52.5**	**+1.8**
JAH				*e*S	**S**	**06 14 08.8**	**+3.0**
JTM	**Tenmabayashi**	**1.29**	**326**	⇓P	**P**	**06 13 53.9**	**+1.3**
JIO	**Ouri**	**1.37**	**203**	⇓P	**P**	**06 13 53.4**	**-0.3**
JYK	**Kaneyama**	**1.52**	**239**	⇓P	**P**	**06 13 56.7**	**+0.9**
JSI2	**Shiura 2**	**1.82**	**318**	⇓P	**P**	**06 14 01.7**	**+1.8**
JYS	**Shirataka**	**2.14**	**226**	⇓P	**P**	**06 14 05.4**	**+0.9**
JKB	**Kayabe**	**2.29**	**341**	⇓P	**P**	**06 14 07.3**	**+0.6**
JAW	**Awa shima**	**2.50**	**241**	⇓P	**P**	**06 14 10.4**	**+0.7**
JNS	**Sasagawa**	**2.84**	**229**	P	**P**	**06 14 15.0**	**+0.5**
JOSM	**Okushiri--Mats**	**3.05**	**322**	⇓P	**P**	**06 14 18.1**	**+0.7**
JCH	**Churui**	**3.06**	**19**	⇓P	**P**	**06 14 17.2**	**-0.4**
JSB	**Shiboa**	**3.21**	**212**	P	**P**	**06 14 20.8**	**+1.1**
JSH	**Shimam**	**3.28**	**334**	⇓P	**P**	**06 14 21.6**	**+0.9**
JSD	**Sado**	**3.38**	**241**	⇓P	**P**	**06 14 22.3**	**+0.2**
JIZZ	**Izumozaki**	**3.39**	**231**	⇓P	**P**	**06 14 23.7**	**+1.4**
JHK	**Hiroka**	**3.41**	**225**	⇓P	**P**	**06 14 23.2**	**+0.6**
JAK	**Akkeshi**	**3.84**	**31**	⇓P	**P**	**06 14 26.4**	**-2.2**
JAG	**Ashikaga**	**3.86**	**212**	P	**P**	**06 14 29.2**	**+0.3**
JJN	**Nakama**	**4.00**	**230**	P	**P**	**06 14 32.0**	**+1.2**
JGK	**Kuni**	**4.13**	**221**	P	**P**	**06 14 34.5**	**+1.9**
JKK2	**Kamakawa 2**	**4.18**	**7**	P	**P**	**06 14 33.3**	**-0.1**
JSZ	**Suzu**	**4.30**	**240**	P	**P**	**06 14 35.2**	**+0.2**
JNK	**Nakash**	**4.36**	**27**	⇓P	**P**	**06 14 33.1**	**-2.8**
MAJO	**Matsushiro**	**4.37**	**225**	⇓*i*P	**P**	**06 14 36.9**	**+0.9**
MAT	**Matsushiro**	**4.37**	**225**	P	**P**	**06 14 36.9**	**+0.8**
MAT				*e*S	**S**	**06 15 26.6**	**+0.3**
MAT	**Matsushiro**	**4.37**	**225**	*e*P	**P**	**06 14 37.0**	**+0.9**
MAT				S	**S**	**06 15 28.0**	**+1.7**
JHG	**Hegura jima**	**4.40**	**246**	P	**P**	**06 14 36.6**	**+0.1**
ASAJ	**Asahikawa**	**4.41**	**5**	P	**P**	**06 14 36.5**	**-0.2**
	54nm,0.3s,baz=231,slow=13,SNR=67						
ASAJ				S	**S**	**06 15 28.4**	**+1.1**
	173nm,0.3s,baz=182,slow=29,SNR=5.3						
ASAJ				LR	LR	06 16 50.5	
	comp=Z,20µm,21.7s,baz=192,slow=44						
ASAJ	**Asahikawa**	**4.41**	**5**	P	**P**	**06 14 36.5**	**-0.2**
ASAJ				S	**S**	**06 15 28.5**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,54nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,20µm,21.7s						
JRY	**Ryogami san**	**4.45**	**215**	P	**P**	**06 14 37.2**	**+0.1**
JNG	**Nsakai**	**4.53**	**224**	P	**P**	**06 14 39.3**	**+1.0**
JTT	**Ttatey**	**4.83**	**231**	P	**P**	**06 14 43.6**	**+1.1**
JNT	**Takato**	**4.92**	**220**	P	**P**	**06 14 44.7**	**+1.0**
JJH	**Hakui**	**4.98**	**238**	P	**P**	**06 14 45.1**	**+0.6**
JOD2	**Odawara 2**	**5.02**	**209**	P	**P**	**06 14 43.6**	**-1.6**
JYN	**Shimob**	**5.04**	**214**	P	**P**	**06 14 45.9**	**+0.5**
JGN	**Niukaw**	**5.10**	**228**	P	**P**	**06 14 47.8**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**5.18**	**32**	⇑*i*P	**P**	**06 14 44.0**	**-3.3**
YUK				*i* S	**S**	**06 15 40.0**	**-6.4**
YUK				pmax	pmax		
	comp=E,3µm,1.0s						
YUK				pmax	pmax		
	comp=Z,4µm,1.0s						
YUK				pmax	pmax		
	comp=N,3µm,3.0s						
YUK				pmax	pmax		
	comp=N,1µm,0.5s						
YUK				pmax	pmax		
	comp=E,230nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2µm,0.5s						
YUK				smax			
	comp=N,17µm,0.5s						
YUK				smax			
	comp=E,28µm,0.5s						
YUK				smax			
	comp=N,82µm,1.7s						
YUK				smax			
	comp=E,68µm,1.0s						
YUK				MLR	MLR		
	comp=Z,14µm,16.0s						
JNY	**Yasuok**	**5.47**	**219**	P	**P**	**06 14 51.9**	**+0.6**
JIZS	**Izushimoda**	**5.59**	**208**	P	**P**	**06 14 51.0**	**-2.0**
JKG	**Kaga**	**5.66**	**234**	P	**P**	**06 14 55.2**	**+1.2**
JGM	**Miyama**	**5.81**	**228**	P	**P**	**06 14 57.9**	**+1.8**
JFM	**Mihama**	**6.36**	**231**	P	**P**	**06 15 05.4**	**+1.5**
JHJ	**Hachijo jima 2**	**6.83**	**196**	P	**P**	**06 15 07.7**	**-2.7**
	comp=Z,92nm,0.3s,baz=21,slow=1.4,SNR=16						
JHJ				S	**S**	**06 16 22.1**	**-5.6**
	comp=Z,202nm,0.3s,baz=77,slow=22,SNR=6.1						
JKY	**Yasaka**	**6.84**	**235**	P	**P**	**06 15 11.9**	**+1.3**
JWT	**Wachi**	**6.88**	**232**	P	**P**	**06 15 12.9**	**+1.8**
KUR	**Kuril'sk**	**7.00**	**36**	⇓*i*P	**P**	**06 15 09.2**	**-3.6**
KUR				*e*S	**S**	**06 16 26.0**	**-5.8**
KUR				pmax	pmax		
	comp=N,410nm,0.7s						
KUR				pmax	pmax		
	comp=E,340nm,0.7s						
KUR				pmax	pmax		
	comp=Z,800nm,0.7s						
KUR				pmax	pmax		
	comp=N,5µm,1.4s						
KUR				pmax	pmax		
	comp=E,3µm,1.4s						
KUR				pmax	pmax		
	comp=Z,8µm,1.4s						
KUR				smax			
	comp=N,4µm,0.6s						
KUR				smax			
	comp=E,4µm,0.6s						
KUR				smax			
	comp=N,12µm,1.4s						
KUR				smax			
	comp=E,18µm,1.4s						
JKSM	**Kasumi**	**7.15**	**237**	P	**P**	**06 15 15.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.25**	**4**	α*e*P	**P**	**06 15 14.8**	**-1.5**
YSS				*i* S	**S**	**06 16 34.0**	**-4.0**
YSS				pmax	pmax		
	comp=N,470nm,1.0s						
YSS				pmax	pmax		
	comp=E,120nm,1.0s						
YSS				pmax	pmax		
	comp=Z,450nm,1.0s						
YSS				smax			
	comp=N,1µm,1.0s						
YSS				smax			
	comp=E,780nm,1.0s						
YSS				MLR	MLR		
	comp=Z,6µm,13.0s						
YSS				MLR	MLR		
	comp=N,7µm,12.0s						
YSS				MLR	MLR		
	comp=E,6µm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.25**	**4**	⇑*i*P	**P**	**06 15 15.0**	**-1.3**
JKS	**Kasai**	**7.42**	**233**	P	**P**	**06 15 19.7**	**+1.1**
JAD	**Aida**	**7.87**	**235**	P	**P**	**06 15 26.5**	**+1.7**
VLA	**Vladivostok**	**8.33**	**297**	⇑*i*P	**P**	**06 15 32.0**	**+0.8**
VLA				*i* S	**S**	**06 17 11.0**	**+6.1**
VLA				pmax	pmax		
	comp=N,2µm,2.4s						
VLA				pmax	pmax		
	comp=E,3µm,2.4s						
VLA				pmax	pmax		
	comp=Z,2µm,2.4s						
VLA				smax			
	comp=N,4µm,7.0s						
VLA				smax			
	comp=E,5µm,7.0s						
VLA				MLR	MLR		
	comp=Z,3µm,13.0s						
VLA				MLR	MLR		
	comp=N,5µm,12.0s						
VLA				MLR	MLR		
	comp=E,2µm,10.0s						
JHS	**Saijyo**	**8.51**	**239**	P	**P**	**06 15 35.3**	**+1.6**
JGT	**Gotsu**	**9.02**	**242**	P	**P**	**06 15 42.6**	**+1.9**
UGL	**Uglegorsk**	**9.36**	**0**	*e*P	**P**	**06 15 43.0**	**-2.3**
UGL				pmax	pmax		
	comp=N,157nm,0.8s						
UGL				pmax	pmax		
	comp=E,145nm,0.8s						
UGL				pmax	pmax		
	comp=Z,120nm,0.8s						
UGL				MLR	MLR		
	comp=N,9µm,20.0s						
UGL				MLR	MLR		
	comp=E,11µm,20.0s						
UGL				MLR	MLR		
	comp=Z,6µm,20.0s						
JHM	**Kurahashi**	**9.42**	**237**	P	**P**	**06 15 46.3**	**+0.2**
JHIK	**Hikimi**	**9.58**	**240**	P	**P**	**06 15 49.5**	**+1.2**
JKD	**Kudamatsu**	**9.90**	**238**	P	**P**	**06 15 53.4**	**+0.7**
JKI	**Kunimi**	**10.36**	**237**	P	**P**	**06 15 59.6**	**+0.6**
MDJ	**Mudanjiang**	**10.44**	**302**	P	**P**	**06 16 01.7**	**+1.6**
MDJ				S	**S**	**06 17 56.8**	**+0.3**
MDJ				SCP		06 25 28.4	
MDJ				PCS		06 25 34.4	
MDJ				SCS	ScS	06 29 04.2	+2.1
MDJ				LR	LR		
	comp=Z,19µm,17.6s						
MDJ	**Mudanjiang**	**10.44**	**302**	*e*P	**P**	**06 16 01.3**	**+1.2**
	comp=Z,2µm,1.1s						
JUS	**Usuki**	**10.61**	**234**	P	**P**	**06 16 02.0**	**-0.4**
JFA	**Akaike**	**10.82**	**240**	P	**P**	**06 16 05.5**	**+0.3**
JKIT	**Kitakata**	**11.09**	**234**	P	**P**	**06 16 08.9**	**0.0**
JNU	**Nakatsue**	**11.13**	**237**	P	**P**	**06 16 08.4**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=57,slow=16,SNR=60						
JNU	**Nakatsue**	**11.13**	**237**	P	**P**	**06 16 08.9**	**-0.5**
TYV	**Tymovskoe**	**11.15**	**2**	*e*P	**P**	**06 16 07.0**	**-2.7**
TYV				*e*S	**S**	**06 18 11.0**	**-2.8**
TYV				pmax	pmax		
	comp=Z,216nm,1.0s						
TYV				smax			
	comp=E,5µm,8.0s						
JFI	**Itaya**	**11.26**	**240**	P	**P**	**06 16 11.2**	**0.0**
JTU	**Tsushima**	**11.33**	**247**	P	**P**	**06 16 13.4**	**+1.3**
JTA	**Tamana**	**11.45**	**237**	P	**P**	**06 16 13.4**	**-0.4**
JZO	**Okuchi**	**11.95**	**234**	P	**P**	**06 16 19.8**	**-0.7**
KLR	**Kul'dur**	**12.00**	**326**	*e*P	**P**	**06 16 20.0**	**-1.1**
KLR				*e*		06 18 41.5	
KLR				pmax	pmax		
	comp=Z,120nm,1.8s						
KLR				pmax	pmax		
	comp=E,1µm,10.0s						
KLR				pmax	pmax		
	comp=Z,3µm,10.0s						
KLR				MLR	MLR		
	comp=E,7µm,14.0s						
KLR				MLR	MLR		
	comp=Z,12µm,14.0s						
NGSJ	**Nagasaki 2**	**12.14**	**238**	P	**P**	**06 16 23.4**	**+0.4**
INCN	**Inchon**	**12.25**	**264**	*e*P	**P**	**06 16 25.0**	**+0.5**
	comp=Z,201nm,1.0s						
JTSR	**Tashiro 2**	**12.43**	**230**	P	**P**	**06 16 27.0**	**+0.1**
JSU	**Suzuyama**	**12.47**	**232**	P	**P**	**06 16 27.8**	**+0.3**
CBIJ	**Chichi jima**	**12.59**	**179**	P	**P**	**06 16 26.0**	**-3.1**
	comp=Z,21nm,0.3s,baz=331,slow=19,SNR=3.6						
CBIJ				S	**S**	**06 18 32.4**	**-16**
	comp=Z,13nm,0.3s,baz=159,slow=15,SNR=2.7						
CBIJ				LR	LR	06 21 12.7	
	comp=Z,2µm,19.3s,baz=88,slow=37						
JTN	**Tanegashima 3**	**12.77**	**228**	P	**P**	**06 16 31.1**	**-0.4**
CN2	**Changchun**	**13.03**	**294**	*e*P	**P**	**06 16 34.5**	**-0.3**
CN2				XP		06 16 51.0	
CN2				*e*S	**S**	**06 18 58.7**	**-0.2**
CN2				AMB	AMB		
	comp=Z,70nm,1.0s						
CN2				LR	LR		
	comp=N,7µm,17.0s						
CN2				LR	LR		
	comp=E,10µm,17.0s						
SNY	**Shenyang**	**14.14**	**285**	⇑P	**P**	**06 16 49.7**	**+0.4**
SNY				AP		06 16 58.3	
SNY				XP		06 17 06.4	
SNY				AMB	AMB		
	comp=Z,90nm,1.2s						
SNY				AMB	AMB		
	comp=Z,980nm,9.9s						
SKR	**Severo-Kuril's**	**14.77**	**37**	*e*P	**P**	**06 16 48.0**	**-9.4**
SKR				pmax	pmax		
	comp=Z,90nm,0.7s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
SKR				MLR	MLR		
	comp=E,2µm,14.0s						
SKR				MLR	MLR		
	comp=Z,6µm,14.0s						
DL2	**Dalian**	**15.81**	**274**	⇑P	**P**	**06 17 11.0**	**+0.1**
DL2				AMB	AMB		
	comp=Z,2µm,6.0s						
JOW	**Kunigami**	**17.22**	**226**	P	**P**	**06 17 25.6**	**-3.0**
	comp=Z,1.5nm,0.3s,baz=40,slow=13,SNR=9.9						
PET	**Petropavlovsk**	**17.51**	**35**	*e*P	**P**	**06 17 32.6**	**+0.4**
PET				*e*S	**S**	**06 20 49.1**	**+6.0**
PET				pmax	pmax		
	comp=N,145nm,1.4s						
PET				pmax	pmax		
	comp=Z,139nm,1.4s						
PET				pmax	pmax		
	comp=Z,700nm,13.0s						
PET				pmax	pmax		
	comp=N,700nm,9.6s						
PET				smax			
	comp=E,2µm,9.2s						
PET				MLR	MLR		
	comp=Z,4µm,16.0s						
PET	**Petropavlovsk**	**17.51**	**35**	*e*P	**P**	**06 17 27.4**	**-4.8**
	comp=Z,69nm,1.0s						
HIA	**Hailar**	**18.48**	**308**	*e*P	**P**	**06 17 40.0**	**-4.2**
	comp=Z,350nm,1.0s						
SSE	**Sheshan**	**19.01**	**250**	⇑P	**P**	**06 17 47.1**	**-3.4**
SSE				XP		06 18 04.6	
SSE				S	**S**	**06 21 12.6**	**-4.3**
SSE				XS		06 21 34.0	

SSE				AMB	AMB		
	comp=Z,206nm,1.0s						
BJI	**Beijing**	**19.82**	**279**	P	**P**	**06 17 55.8**	**-3.5**
BJI				S	**S**	**06 21 32.3**	**-2.2**
BJI				AMB	AMB		
	comp=Z,419nm,0.9s						
BJI				AMB	AMB		
	comp=Z,1119µm,3.0s						
BJT	**Baijiatuau**	**19.83**	**279**	P	**P**	**06 17 56.1**	**-3.3**
BJT				SKiKP		06 37 22.7	
BJT	**Baijiatuau**	**19.83**	**279**	⇑*e*P	**P**	**06 17 55.2**	**-4.1**
	comp=Z,315nm,0.8s						
TIA	**Tai’an**	**19.92**	**268**	⇑P	**P**	**06 17 57.1**	**-3.3**
TIA				AP		06 18 05.9	
TIA				S	**S**	**06 21 34.2**	**-2.4**
TIA				AMB	AMB		
	comp=Z,514nm,1.1s						
TIA				LR	LR		
	comp=N,4µm,13.0s						
TIA				LR	LR		
	comp=E,7µm,13.0s						
NJ2	**Nanjing**	**20.24**	**255**	⇑P	**P**	**06 18 00.6**	**-3.1**
NJ2				AP		06 18 16.2	
NJ2				PP	PP	06 18 23.7	-1.1
NJ2				XP		06 18 26.1	
NJ2				S	**S**	**06 21 44.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,150nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,3µm,5.6s						
NJ2				LR	LR		
	comp=N,12µm,17.1s						
NJ2				LR	LR		
	comp=E,9µm,23.4s						
CLNS	**Chul’man**	**20.47**	**332**	*e*P	**P**	**06 18 03.9**	**-2.1**
CLNS				*e*PPP		06 18 18.9	
CLNS				*e*S	**S**	**06 21 43.0**	**-4.2**
CLNS				*e*SS	SS	06 22 11.1	-8.5
CLNS				*e*		06 22 18.3	
CLNS				pmax	pmax		
	comp=Z,407nm,1.0s						
CLNS				pmax	pmax		
	comp=N,289nm,1.1s						
CLNS				pmax	pmax		
	comp=E,161nm,1.1s						
CLNS				smax			
	comp=E,83nm,0.9s						
CLNS				smax			
	comp=Z,45nm,1.0s						
CLNS				smax			
	comp=N,149nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,6µm,16.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,4µm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,500nm,14.0s,MS4.9						
CLNS	**Chul’man**	**20.47**	**332**	*e*P	**P**	**06 18 04.5**	**-1.5**
MA2	**Magadan**	**20.63**	**13**	*c i*P	**P**	**06 18 06.5**	**-1.1**
MA2				*i* S	**S**	**06 21 46.9**	**-3.3**
MA2				*e*SS	SS	06 22 29.9	+6.5
MA2				pmax	pmax		
	comp=E,30nm,0.8s						
MA2				pmax	pmax		
	comp=Z,200nm,0.8s						
MA2				pmax	pmax		
	comp=N,100nm,0.9s						
MA2				MLR	MLR		
	comp=Z,5µm,16.5s,MS5.0						
MA2	**Magadan**	**20.63**	**13**	⇑*i*P	**P**	**06 18 06.6**	**-1.0**
TATO	**Taipei**	**22.66**	**236**	*e*P	**P**	**06 18 25.7**	**-2.4**
	comp=Z,303nm,0.9s,mb5.7						
TIY	**Taiyuan**	**23.13**	**275**	⇑P	**P**	**06 18 30.6**	**-1.9**
HHC	**Hu-ho-hao-te**	**23.21**	**283**	*e*P	**P**	**06 18 30.1**	**-3.2**
HHC				PP	PP	06 19 02.2	-3.2
HHC				S	**S**	**06 22 39.1**	**+1.6**
HHC				SS	SS	06 23 23.6	-2.7
HHC				AMB	AMB		
	comp=Z,127nm,1.2s,mb5.2						
YAK	**Yakutsk**	**23.57**	**345**	*c i*P	**P**	**06 18 35.0**	**-1.6**
YAK				*e**PP		06 18 51.7	
YAK				*e*		06 22 25.1	
YAK				*e*S	**S**	**06 22 39.3**	**-4.3**
YAK				*e*		06 29 37.2	
YAK				pmax	pmax		
	comp=Z,661nm,1.0s,mb6.0						
YAK				pmax	pmax		
	comp=N,300nm,0.8s						
YAK				pmax	pmax		
	comp=E,175nm,1.3s						
YAK				smax			
	comp=E,164nm,1.1s						
YAK				smax			
	comp=Z,144nm,0.8s						
YAK				smax			
	comp=N,249nm,1.0s						
YAK				MLR	MLR		
	comp=Z,2µm,15.0s,MS4.6						
YAK				MLR	MLR		
	comp=N,1µm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,849nm,20.0s,MS4.5						
YAK	**Yakutsk**	**23.57**	**345**	⇑*i*P	**P**	**06 18 35.0**	**-1.6**
SEY	**Seymchan**	**24.07**	**12**	*e*P	**P**	**06 18 42.4**	**+1.1**
SEY				pmax	pmax		
	comp=N,900nm,1.0s						
SEY				pmax	pmax		
	comp=E,400nm,1.0s						
SEY				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.5						
WHN	**Wuhan**	**24.34**	**256**	P	**P**	**06 18 41.2**	**-3.1**
WHN				XP		06 18 59.7	
WHN				S	**S**	**06 22 56.0**	**-1.0**
WHN				AMB	AMB		
	comp=Z,3µm,5.1s						
WHN				LR	LR		
	comp=N,2µm,18.4s,MS5.3						
WHN				LR	LR		
	comp=E,9µm,18.5s,MS5.3						
WHN				LR	LR		
	comp=Z,10µm,15.6s,MS5.4						
BTO	**Baotou**	**24.41**	**282**	*e*P	**P**	**06 18 42.1**	**-2.8**
BTO				AMB	AMB		
	comp=Z,113nm,1.1s,mb5.2						
QZH	**Quanzhou**	**24.58**	**240**	P	**P**	**06 18 45.2**	**-1.6**
QZH				AP		06 19 00.8	
QZH				S	**S**	**06 23 03.7**	**+2.5**
QZH				AMB	AMB		
	comp=Z,430nm,1.1s,mb5.9						
QZH				LR	LR		
	comp=N,5µm,18.0s,MS5.2						
QZH				LR	LR		
	comp=E,5µm,17.3s,MS5.2						
QZH				LR	LR		
	comp=Z,7µm,20.4s,MS5.2						
FX1	**Attu Island--F**	**24.99**	**48**	P	**P**	**06 18 50.8**	**+0.4**
	comp=Z,124nm,0.6s,mb5.6,baz=279,slow=3.2,SNR=44						
FX1				S	**S**	**06 23 26.4**	**+19**
	comp=Z,6.2nm,0.4s,baz=36,slow=19,SNR=3.1						
FX1				LR	LR	06 30 29.2	
	comp=Z,55nm,18.1s,baz=337,slow=41						
SMY	**Shemya**	**25.48**	**49**	*e*P	**P**	**06 18 55.7**	**+0.7**
BOD	**Bodaibo**	**25.57**	**324**	⇓*i*P	**P**	**06 18 54.7**	**-1.1**
BBP	**Basco**	**25.79**	**228**	*e*P	pP	06 19 14.7	+3.3
SONM	**Songino Array**	**26.78**	**299**	P	**P**	**06 19 06.1**	**-1.0**
	comp=Z,57nm,0.7s,mb5.2,baz=95,slow=7.4,SNR=109						
SONM				ScP		06 26 04.0	
	comp=Z,7.3nm,1.2s,baz=117,slow=5.5,SNR=4.2						
XAN	**Xi’an**	**26.98**	**268**	P	**P**	**06 19 06.6**	**-2.5**
XAN				AMB	AMB		
	comp=Z,72nm,1.2s,mb5.1						
SGCP	**Mt. Cagua**	**27.51**	**225**	*e*P	**P**	**06 19 15.8**	**+1.7**
CVP	**Callao Caves**	**28.07**	**224**	⇓*e*P	**P**	**06 19 17.6**	**-1.5**
ENH	**Enshi**	**28.14**	**261**	P	**P**	**06 19 17.4**	**-2.2**
ENH				SKiKP		06 37 26.9	
ENH	**Enshi**	**28.14**	**261**	*e*P	**P**	**06 19 17.3**	**-2.4**
	comp=Z,439nm,0.9s,mb6.1						
APYP	**Conner**	**28.26**	**226**	*e*P	**P**	**06 19 20.7**	**-0.1**
IRK	**Irkutsk**	**28.73**	**308**	*e*P	**P**	**06 19 23.6**	**-1.0**
IRK				*e*	pP	06 19 39.8	+1.7
ZAK	**Zakamensk**	**29.06**	**304**	⇓*i*P	**P**	**06 19 26.6**	**-1.1**
BALP	**Baler**	**29.83**	**223**	*e*P	**P**	**06 19 41.7**	**+6.9**
LZH	**Lanzhou**	**30.19**	**275**	*e*P	**P**	**06 19 36.2**	**-1.7**
LZH				AP	pP	06 19 48.0	-3.4
LZH				XP	sP	06 19 53.0	-4.9
LZH				PP	PP	06 20 33.4	-4.5
LZH				S	**S**	**06 24 27.0**	**-5.1**
LZH				SS	SS	06 26 05.0	-8.2
LZH				AMB	AMB		
	comp=Z,350nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1µm,5.1s						
LZH				LR	LR		
	comp=E,9µm,14.2s						
LZH				LR	LR		
	comp=Z,13µm,16.6s,MS5.7						
PVCP	**Virac**	**30.41**	**216**	*e*P	**P**	**06 19 40.9**	**+1.0**
MOY	**Mondy**	**30.64**	**307**	*e*P	**P**	**06 19 41.2**	**-0.5**
TGY	**Tagaytay City**	**31.53**	**222**	P	**P**	**06 19 48.9**	**-1.0**
	comp=Z,147nm,0.3s,mb6.3,baz=180,slow=2.0,SNR=3.3						
TGY	**Tagaytay City**	**31.53**	**222**	P	**P**	**06 19 48.9**	**-1.0**
TGY				pmax	pmax		
	comp=Z,147nm,0.3s						
GYA	**Guiyang**	**32.23**	**257**	⇑*i*P	**P**	**06 19 54.1**	**-1.8**
GYA				AP	pP	06 20 08.0	-1.5
GYA				XP	sP	06 20 14.8	-1.3
GYA				PP	PP	06 21 05.4	+1.2
GYA				S	**S**	**06 25 00.3**	**-3.8**
GYA				XS		06 25 29.0	
GYA				SCS	ScS	06 30 18.0	-0.9
GYA				AMB	AMB		
	comp=Z,400nm,1.0s,mb6.2						
GYA				AMB	AMB		
	comp=Z,810nm,4.8s						
GYA				LR	LR		
	comp=N,2µm,17.6s,MS5.2						
GYA				LR	LR		
	comp=E,3µm,18.6s,MS5.2						
CD2	**Chengdu**	**32.24**	**266**	⇓*i*P	**P**	**06 19 53.6**	**-2.3**
CD2				AP	pP	06 20 04.1	-5.5
CD2				PCP	PcP	06 22 40.5	-3.0
CD2				S	**S**	**06 24 58.4**	**-5.8**
CD2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.8						
CD2				LR	LR		
	comp=N,4µm,12.0s						
GTA	**Gaotai**	**32.32**	**283**	⇑*i*P	**P**	**06 19 55.2**	**-1.4**
GTA				AP	pP	06 20 06.3	-3.9
GTA				XP	sP	06 20 12.8	-4.0
GTA				PP	PP	06 21 03.7	-1.6
GTA				PPP	PPP	06 21 18.9	-2.0
GTA				PCP	PcP	06 22 43.6	0.0
GTA				S	**S**	**06 25 04.0**	**-1.5**
GTA				XS		06 25 24.2	
GTA				SCP		06 26 22.5	
GTA				PCS		06 26 27.5	
GTA				SS	SS	06 27 00.4	-2.5
GTA				SCS	ScS	06 30 19.5	+0.3
GTA				AMB	AMB		
	comp=Z,406nm,7.6s						
GTA				LR	LR		
	comp=N,2µm,17.5s,MS5.2						
GTA				LR	LR		
	comp=E,4µm,17.5s,MS5.2						
GTA				LR	LR		
	comp=Z,5µm,18.2s,MS5.3						
QIZ	**Qiongzhong**	**34.53**	**243**	⇑*i*P	**P**	**06 20 15.5**	**-0.3**
QIZ				S	**S**	**06 25 41.1**	**+1.3**
QIZ				SCP		06 26 22.4	
QIZ				AMB	AMB		
	comp=Z,530nm,8.4s						
QIZ	**Qiongzhong**	**34.53**	**243**	P	**P**	**06 20 15.5**	**-0.2**
QIZ				pP	pP	06 20 32.9	+3.4
QIZ				PP	Px	06 21 51.6	
QIZ	**Qiongzhong**	**34.53**	**243**	*e*P	**P**	**06 20 13.8**	**-2.0**
	comp=Z,33nm,0.9s,mb5.3						
MIDW	**Midway**	**35.30**	**96**	*e*P	**P**	**06 20 20.9**	**-1.4**
	comp=Z,126nm,1.3s,mb5.7						
KMI	**Kunming**	**35.91**	**258**	⇑*i*P	**P**	**06 20 26.7**	**-0.8**
KMI				AP	pP	06 20 41.0	-0.3
KMI				XP	sP	06 20 45.8	-2.1
KMI				PP	PP	06 21 48.6	-1.6
KMI				PPP	PPP	06 22 08.6	-1.6
KMI				PCP	PcP	06 22 53.4	-0.5
KMI				S	**S**	**06 25 58.0**	**-3.2**
KMI				XS		06 26 21.9	
KMI				PCS		06 26 40.9	
KMI				SS	SS	06 28 25.1	-0.2
KMI				SCS	ScS	06 30 37.4	-0.9
KMI				AMB	AMB		
	comp=Z,218nm,1.4s,mb5.9						
KMI				AMB	AMB		
	comp=Z,1µm,3.9s						
KMI				LR	LR		
	comp=N,2µm,23.4s						
KMI				LR	LR		
	comp=E,4µm,18.1s						
WMQ	**Urumqi**	**40.12**	**294**	⇑*i*P	**P**	**06 21 02.9**	**+0.5**
WMQ				AP	pP	06 21 15.1	-1.2
WMQ				XP	sP	06 21 20.8	-1.9
WMQ				PP	PP	06 22 39.9	+1.0
WMQ				S	**S**	**06 27 05.9**	**+1.1**
WMQ				XS		06 27 26.1	
WMQ				LR	LR		
	comp=N,1µm,12.0s,MS5.2						
WMQ				LR	LR		
	comp=E,2µm,15.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,3µm,15.0s,MS5.2						
NANT	**Nan**	**41.18**	**252**	⇑P	**P**	**06 21 11.0**	**-0.4**
	comp=Z,538nm,1.0s						
CHRT	**Chiangrai**	**41.19**	**254**	⇑P	**P**	**06 21 11.5**	**0.0**
	comp=Z,2µm,0.5s						
KKTK	**Khon Kaen**	**41.25**	**247**	⇑P	**P**	**06 21 11.5**	**-0.5**
	comp=Z,2µm,0.4s						
NVS	**Novosibirsk**	**41.38**	**312**	*i* P	**P**	**06 21 11.8**	**-0.8**
NVS				*e*PPP	PcP	06 23 08.9	-1.8
NVS				pmax	pmax		
	comp=E,274nm,1.7s						
NVS				pmax	pmax		
	comp=Z,339nm,1.7s,mb5.7						
CHG	**Chiang Mai**	**42.47**	**253**	⇑P	**P**	**06 21 22.1**	**+0.1**
	comp=Z,150nm,0.9s,mb5.6						
CHTO	**Chiang Mai**	**42.47**	**253**	P	**P**	**06 21 21.8**	**-0.2**
CHTO				pP	pP	06 21 39.5	+3.5
CHTO				SKiKP		06 37 50.0	
LSA	**Lhasa**	**42.51**	**273**	P	**P**	**06 21 23.0**	**+0.8**
LSA	**Lhasa**	**42.51**	**273**	*e*P	**P**	**06 21 23.1**	**+0.9**
	comp=Z,196nm,1.0s,mb5.8						
CMAR	**Chiang Mai Arr**	**42.69**	**253**	P	**P**	**06 21 23.8**	**-0.1**
	comp=Z,32nm,0.9s,mb5.1,baz=47,slow=6.3,SNR=133						
CMAR				sP	sP	06 21 41.8	-2.4
	comp=Z,41nm,0.9s,baz=41,slow=8.3,SNR=6.2						
CMAR				PcP	PcP	06 23 14.6	-0.9
	comp=Z,21nm,0.9s,baz=27,slow=3.0,SNR=4.9						
CMAR				ScP		06 27 00.5	
	comp=Z,7.4nm,0.9s,baz=18,slow=3.4,SNR=8.5						
CMAR				LR	LR	06 40 50.2	
	comp=Z,928nm,18.2s,MS4.7,baz=55,slow=38						
IMP	**Imphal**	**42.81**	**265**	⇑*i*P	**P**	**06 21 22.0**	**-2.8**
SVW	**Sparrevohn**	**43.10**	**39**	*e*P	**P**	**06 21 27.9**	**+1.3**
MKAR	**Makanchi Array**	**43.15**	**300**	P	**P**	**06 21 27.1**	**-0.1**
	comp=Z,300nm,0.7s,mb6.1,baz=84,slow=9.4,SNR=884						
MKAR				PcP	PcP	06 23 13.9	-2.8
	comp=Z,46nm,0.9s,baz=59,slow=3.0,SNR=4.4						
MKAR				ScP		06 27 01.5	
	comp=Z,7.4nm,0.8s,baz=72,slow=3.8,SNR=3.9						
MKAR				S	**S**	**06 27 48.2**	**-1.1**
	comp=Z,2.7nm,1.0s,baz=84,slow=13,SNR=2.3						
MKAR				LR	LR	06 40 06.3	
	comp=Z,5µm,21.0s,MS5.4,baz=81,slow=37						
MKAR	**Makanchi Array**	**43.15**	**300**	P	**P**	**06 21 27.2**	**0.0**
MKAR						06 23 13.9	
MKAR				S	**S**	**06 27 48.3**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,300nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,46nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,5µm,21.0s						
BDT	**Bhumibol Dam**	**43.41**	**252**	⇑P	**P**	**06 21 29.5**	**-0.3**
	comp=Z,42nm,1.0s,mb5.1						
NST	**Nakhon Sawan**	**43.62**	**249**	⇓P	**P**	**06 21 31.8**	**+0.4**
	comp=Z,150nm,1.0s,mb5.7						
SHL	**Shillong**	**43.97**	**267**	⇑*e*P	**P**	**06 21 32.0**	**-2.2**
	comp=Z,30nm,1.0s,mb5.0						
SHL				*e*		06 27 52.0	
IMA	**Indian Mountai**	**44.15**	**32**	*e*P	**P**	**06 21 35.4**	**+0.4**
RSO	**Redoubt South**	**44.52**	**40**	*e*P	**P**	**06 21 38.7**	**+0.6**
KURK	**Kurchatov**	**44.70**	**306**	*i* P	**P**	**06 21 39.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,362nm,1.0s,mb6.2						
KURK	**Kurchatov**	**44.70**	**306**	⇑*i*P	**P**	**06 21 39.2**	**-0.4**
	comp=Z,637nm,0.9s,mb6.5						
KDAK	**Kodiak Island**	**44.81**	**44**	*e*P	**P**	**06 21 39.8**	**-0.6**
	comp=Z,98nm,1.0s,mb5.6						
SPU	**Mount Spurr**	**44.83**	**39**	*e*P	**P**	**06 21 40.8**	**+0.3**
AGT	**Agartala**	**45.35**	**265**	⇓*i*	**P**	**06 21 52.0**	**+6.7**
AGT				*i*	pP	06 22 11.0	+12
SLKM	**Skilak Lake**	**45.77**	**40**	*e*P	**P**	**06 21 46.9**	**-1.2**
NNT	**Nongplab**	**45.98**	**246**	P	**P**	**06 21 50.5**	**+0.1**
PMS	**Palmer South**	**46.03**	**39**	*e*P	**P**	**06 21 50.0**	**-0.1**
PMR	**Palmer**	**46.20**	**38**	*e*P	**P**	**06 21 51.4**	**-0.1**
COLA	**College**	**46.57**	**34**	*e*P	**P**	**06 21 54.8**	**+0.5**
ILAR	**Eielson Array**	**46.98**	**34**	P	**P**	**06 21 57.2**	**-0.3**
	comp=Z,27nm,0.7s,mb5.3,baz=269,slow=6.2,SNR=391						
ILAR				S	**S**	**06 28 42.1**	**-2.1**
	comp=Z,0.5nm,0.9s,baz=264,slow=8.2,SNR=2.4						
ILAR				LR	LR	06 44 03.8	
	comp=Z,815nm,19.0s,MS4.7,baz=294,slow=39						
ILAR	**Eielson Array**	**46.98**	**34**	P	**P**	**06 21 57.3**	**-0.3**
ILAR				S	**S**	**06 28 42.2**	**-2.0**
ILAR				pmax	pmax		
	comp=Z,27nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,815nm,19.0s						
GUN	**Gumba**	**47.42**	**274**	*e*P	**P**	**06 22 01.8**	**+0.3**
	comp=Z,2µm,0.9s						
BUNI	**Buntu Taipa**	**47.56**	**210**	⇑*e*Pn	**P**	**06 22 01.3**	**-1.5**
	comp=Z,80nm,1.0s,mb5.4						
AAA	**Alma-Ata**	**47.77**	**297**	*e*P	**P**	**06 22 04.0**	**0.0**
KKN	**Kakani**	**47.94**	**274**	*e*P	**P**	**06 22 05.5**	**-0.1**
	comp=Z,1µm,0.9s						
PKI	**Pulchoki**	**47.95**	**273**	*e*P	**P**	**06 22 05.4**	**-0.3**
	comp=Z,615nm,1.2s,mb6.5						
DMN	**Daman**	**48.16**	**274**	*e*P	**P**	**06 22 07.2**	**-0.1**
	comp=Z,577nm,0.9s,mb6.6						
GKN	**Gorkha**	**48.33**	**274**	*e*P	**P**	**06 22 07.0**	**-1.6**
	comp=Z,1µm,1.2s,mb6.8						
NINI	**Niniconang**	**48.48**	**210**	⇑*e*Pn	**P**	**06 22 09.1**	**-0.8**
	comp=Z,491nm,0.8s,mb6.3						
ULHL	**Ulahol**	**48.60**	**295**	P	**P**	**06 22 10.6**	**0.0**
	SNR=46						
TKM2	**Tokmak 2**	**48.82**	**297**	P	**P**	**06 22 12.7**	**+0.6**
	SNR=258						
VOSK	**Vostochnaya**	**48.88**	**310**	P	**P**	**06 22 11.9**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,150nm,1.0s,mb6.0						
VOSK	**Vostochnaya**	**48.88**	**310**	*i* P	**P**	**06 22 11.0**	**-1.5**
BVA0	**Borovoye Array**	**49.15**	**311**	*i* P	**P**	**06 22 14.1**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**49.15**	**311**	P	**P**	**06 22 14.2**	**-0.4**
	comp=Z,98nm,0.8s,mb5.9,baz=80,slow=9.0,SNR=422						
BVAR				PcP	PcP	06 23 36.0	-1.6
	comp=Z,59nm,0.7s,baz=90,slow=4.4,SNR=7.2						
BVAR				S	**S**	**06 29 12.1**	**-2.7**
	comp=Z,2.5nm,1.1s,baz=102,slow=21,SNR=2.1						
BVAR				LR	LR	06 44 04.2	
	comp=Z,42nm,19.7s,baz=165,slow=37						
BRVK	**Borovoye**	**49.21**	**311**	*e*P	**P**	**06 22 14.3**	**-0.7**
	comp=Z,148nm,0.9s,mb6.0						
KOLN	**Koldanda**	**49.24**	**275**	*e*P	**P**	**06 22 15.7**	**+0.1**
	comp=Z,992nm,1.0s,mb6.8						
KZA	**Kyzart**	**49.35**	**296**	P	**P**	**06 22 17.6**	**+1.3**
	SNR=28						
CHMS	**Chumysh**	**49.37**	**297**	P	**P**	**06 22 16.2**	**-0.3**
	SNR=40						
USP	**Ospenovka**	**49.45**	**297**	P	**P**	**06 22 16.8**	**-0.2**
	SNR=134						
FRU	**Bishkek**	**49.52**	**297**	⇑*i*P	**P**	**06 22 18.0**	**+0.4**
FRU				*i*	pP	06 22 36.0	+4.2
FRU				*i*		06 23 38.0	
FRU				*e*S	**S**	**06 29 18.0**	**-2.1**
FRU				pmax	pmax		
	comp=Z,400nm,1.8s,mb6.2						
FRU				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.2						
AAK	**Ala-Archa**	**49.68**	**297**	P	**P**	**06 22 18.7**	**-0.1**
	SNR=42						
KSH	**Kashi**	**49.79**	**292**	⇑*i*P	**P**	**06 22 21.0**	**+1.3**
KSH				*e*AP	pP	06 22 33.3	-0.6
KSH				*e*XP	sP	06 22 39.4	-0.6
KSH				*e*PCP	PcP	06 23 42.0	+1.9
KSH				*e*PP	PP	06 24 18.2	+2.8
KSH				*e*PPP	PPP	06 25 13.0	+1.4
KSH				*e*SCP		06 27 31.2	
KSH				S	**S**	**06 29 25.0**	**+1.1**
KSH				*e*PS	PS	06 29 36.2	-4.2
KSH				*e*XS		06 29 45.3	
KSH				*e*SCS	ScS	06 32 04.5	+1.2
KSH				*e*SS	SS	06 32 55.0	+1.7
KSH				AMB	AMB		
	comp=Z,2µm,5.2s						
KSH				LR	LR		
	comp=N,4µm,13.9s,MS5.6						
KSH				LR	LR		
	comp=E,3µm,16.4s,MS5.6						
UCH	**Uchtor**	**49.81**	**296**	P	**P**	**06 22 20.3**	**+0.5**
	SNR=52						
ZRNK	**Zerenda**	**49.98**	**311**	⇑*i*P	**P**	**06 22 20.4**	**-0.5**
	comp=E,271nm,0.9s,mb6.3						
EKS2	**Erkin-Say**	**50.16**	**297**	P	**P**	**06 22 22.3**	**-0.2**
	SNR=99						
DAWY	**Dawson**	**50.30**	**34**	*e*P	**P**	**06 22 23.2**	**-0.1**
AML	**Almayashu**	**50.41**	**296**	P	**P**	**06 22 25.1**	**+0.7**
	SNR=145						
PTH	**Pithoragarh**	**50.96**	**279**	*e*P	**P**	**06 22 26.1**	**-2.7**
PTH				*e*		06 24 30.9	
LGTI	**Lohaghat**	**50.99**	**278**	⇑*e*P	**P**	**06 22 30.5**	**+1.5**
KLP	**Kalpa**	**51.52**	**282**	*i* P	**P**	**06 22 32.8**	**-0.1**
INK	**Inuvik**	**51.79**	**28**	LR	LR	06 45 30.2	
	comp=E,1µm,21.7s,MS4.9,baz=282,slow=37						
INK	**Inuvik**	**51.79**	**28**	⇑*i*P	**P**	**06 22 34.6**	**+0.2**
	comp=E,97nm,0.9s,mb5.7						
ALBI	**Allahabad**	**51.87**	**273**	*e*P	**P**	**06 22 33.0**	**-2.7**
KKAR	**Karatay Array**	**52.23**	**299**	*i* P	**P**	**06 22 37.2**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,132nm,0.8s,mb5.9						
DDI	**Dehra Dun**	**52.23**	**281**	⇑*e*P	**P**	**06 22 36.2**	**-2.1**
SDNR	**Sundarnagar**	**52.50**	**282**	*e*P	**P**	**06 22 39.0**	**-1.2**
DLH	**Dalhousie**	**52.76**	**284**	*e*P	**P**	**06 22 39.0**	**-3.2**
KAKA	**Kakadu**	**52.91**	**192**	⇑*i*P	**P**	**06 22 41.5**	**-2.1**
	comp=Z,96nm,1.2s,mb5.6						
BHK	**Bhakra**	**52.95**	**283**	*e*	**P**	**06 22 46.9**	**+3.2**
THN	**Thein Dam**	**53.00**	**284**	*e*P	**P**	**06 22 42.6**	**-1.4**
	comp=Z,45nm,0.9s,mb5.4						
PONG	**Pong**	**53.05**	**284**	*e*P	**P**	**06 22 43.0**	**-1.4**
ASOR	**Ausora**	**53.22**	**279**	*i* P	**P**	**06 22 44.6**	**-1.1**
BLSP	**Bilaspur**	**53.34**	**269**	⇑*i*P	**P**	**06 22 45.3**	**-1.3**
KKR	**Kurukshetra**	**53.34**	**281**	*i* P	**P**	**06 22 45.7**	**-0.9**
KEDI	**Kedomdong**	**53.63**	**212**	⇑*e*P	**P**	**06 22 46.5**	**-2.4**
	comp=Z,168nm,1.0s,mb5.6						
NDI	**New Delhi**	**53.67**	**279**	*i* P	**P**	**06 22 47.0**	**-2.0**
	comp=Z,214nm,0.7s,mb6.2						
NDI				*e*S	**S**	**06 30 18.0**	**+0.7**
AYAN	**Aya Nagar**	**53.84**	**279**	*i* P	**P**	**06 22 49.0**	**-1.2**
AYAN				*e*		06 22 50.4	
	comp=Z,278nm,0.8s						
AGRA	**Agra**	**53.85**	**277**	*i* P	**P**	**06 22 49.0**	**-1.4**
AGRA				*e*		06 22 50.0	
	comp=Z,121nm,0.3s						
SONA	**Sohna**	**53.99**	**279**	⇑*i*P	**P**	**06 22 49.8**	**-1.5**
SONA				*i* P		06 22 50.3	
SONA				*e*		06 22 51.7	
	comp=Z,334nm,0.7s						
SIT	**Sitka**	**54.06**	**42**	*e*P	**P**	**06 22 52.0**	**+0.5**
	comp=Z,40nm,0.9s,mb5.3						
KELI	**Kelakatan**	**54.08**	**214**	⇑*e*P	**P**	**06 22 44.4**	**-7.8**
	comp=Z,95nm,1.2s,mb5.3						
RATI	**Rata**	**54.09**	**213**	*e*P	**P**	**06 22 50.0**	**-2.3**
INGI	**Ingas**	**54.34**	**213**	⇓*e*P	**P**	**06 22 51.3**	**-2.8**
KUDL	**Kundal**	**54.50**	**279**	*i* P	**P**	**06 22 53.6**	**-1.5**
KUDL				*e*		06 22 55.1	
	comp=Z,107nm,0.8s						
SOKR	**Solikamsk**	**54.52**	**321**	*c i*P	**P**	**06 22 53.0**	**-1.7**
SOKR				*i* S	**S**	**06 30 26.7**	**-1.5**
SOKR				pmax	pmax		
	comp=Z,230nm,1.0s,mb6.2						
SOKR				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.9						
ARU	**Arti**	**54.69**	**317**	⇑*i*P	**P**	**06 22 55.4**	**-0.7**
ARU				*i*	pP	06 23 11.3	+0.8
ARU				*i*		06 23 56.0	
ARU				*i*		06 24 56.9	

ARU				*e*PPP	PPP	06 26 07.3	-5.7
ARU				*i* S	**S**	**06 30 32.0**	**+1.5**
ARU				*i*		06 32 34.4	
ARU				*i* SS	SS	06 34 14.0	+0.4
ARU				pmax	pmax		
	comp=Z,723nm,0.9s,mb6.7						
ARU				MLR	MLR		
	comp=E,4µm,18.0s,MS5.5						
ARU				MLR	MLR		
	comp=Z,5µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=N,2µm,17.0s,MS5.5						
ARU	**Arti**	**54.69**	**317**	⇑*i*P	**P**	**06 22 55.3**	**-0.7**
	comp=N,584nm,0.8s,mb6.7						
KHET	**Khetri**	**55.05**	**279**	*i* P	**P**	**06 22 57.8**	**-1.3**
DLBC	**Dease Lake**	**56.23**	**39**	LR	LR	06 48 02.2	
	comp=N,690nm,19.5s,MS4.8,baz=314,slow=37						
DLBC	**Dease Lake**	**56.23**	**39**	*e*P	**P**	**06 23 07.6**	**+0.4**
DLBC				*e*pP	pP	06 23 20.1	-1.5
AB31	**Akbulak array**	**56.60**	**309**	P	**P**	**06 23 08.8**	**-1.1**
AB31				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.5						
AJM	**Ajmer**	**56.76**	**278**	⇑*i*P	**P**	**06 23 09.0**	**-2.4**
SPITS	**Spitsbergen Ar**	**57.99**	**349**	P	**P**	**06 23 18.4**	**-0.9**
	comp=Z,43nm,0.9s,mb5.5,baz=117,slow=13,SNR=32						
AKL	**Akola**	**58.08**	**271**	⇑*i*	**P**	**06 23 22.0**	**+1.3**
KBS	**Kingsbay**	**58.10**	**350**	⇑*i*P	**P**	**06 23 19.2**	**-1.0**
KBS				AMb	AMB	06 23 22.1	
	comp=Z,178nm,1.0s,mb6.1						
KBS				*e*S	**S**	**06 31 13.4**	**-2.0**
KBS	**Kingsbay**	**58.10**	**350**	⇑*i*P	**P**	**06 23 19.2**	**-1.0**
	comp=Z,178nm,1.0s,mb6.0						
HYB	**Hyderabad**	**58.78**	**267**	⇑*i*P	**P**	**06 23 24.5**	**-1.2**
	comp=Z,240nm,1.0s,mb6.2						
HYB				*e*pP	pP	06 23 42.5	+2.3
HYB				*e*S	**S**	**06 31 23.0**	**-2.1**
HYB	**Hyderabad**	**58.78**	**267**	⇑*e*P	**P**	**06 23 24.0**	**-1.7**
	comp=Z,240nm,1.0s,mb6.2						
HYB				*e*	pP	06 23 42.5	+2.3
HYB				*e*S		06 31 40.0	
HSP	**Hornsund**	**58.92**	**348**	*e*P	**P**	**06 23 25.5**	**-0.4**
JASL	**Jaisalmer**	**59.37**	**281**	*i* P	**P**	**06 23 28.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**59.52**	**198**	⇑*i*P	**P**	**06 23 29.2**	**-1.6**
	comp=Z,67nm,1.0s,mb5.6						
FITZ				*i* PCP	PcP	06 24 16.7	-0.8
FITZ				*e*S	**S**	**06 31 34.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**59.52**	**198**	P	**P**	**06 23 29.1**	**-1.6**
	comp=Z,78nm,1.0s,mb5.7,baz=12,slow=7.7,SNR=66						
CTA	**Charters Tower**	**59.63**	**175**	⇓*i*P	**P**	**06 23 29.5**	**-2.0**
	comp=Z,14nm,1.5s,mb4.8						
CTA	**Charters Tower**	**59.63**	**175**	P	**P**	**06 23 29.2**	**-2.3**
	comp=Z,12nm,0.9s,mb4.9,baz=356,slow=5.2,SNR=8.4						
CTA				LR	LR	06 47 03.3	
	comp=Z,2µm,19.3s,MS5.3,baz=198,slow=34						
CTAO	**Charters Tower**	**59.63**	**175**	*e*P	**P**	**06 23 29.0**	**-2.5**
	comp=Z,9.0nm,0.8s,mb4.8						
LATR	**Latur**	**59.74**	**269**	⇑*i*P	**P**	**06 23 31.2**	**-1.1**
	comp=Z,346nm,1.1s,mb6.3						
WB2	**Warramunga Arr**	**59.78**	**188**	⇑*i*P	**P**	**06 23 29.9**	**-2.6**
WB2				*e*S	**S**	**06 31 34.6**	**-3.4**
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**06 23 29.7**	**-2.8**
	comp=Z,83nm,0.8s,mb5.8,baz=6.2,slow=7.2,SNR=223						
WRA				ScP		06 28 12.8	
	comp=Z,5.1nm,1.2s,baz=5.4,slow=4.4,SNR=4.6						
WRA				S	**S**	**06 31 33.5**	**-4.5**
	comp=Z,9.1nm,1.2s,baz=7.2,slow=13,SNR=12						
WRA				PKP2bc		06 53 06.6	
	comp=Z,4.3nm,0.9s,baz=221,slow=2.3,SNR=7.0						
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**06 23 29.7**	**-2.8**
WRA				S	**S**	**06 31 33.5**	**-4.5**
WRA				pmax	pmax		
	comp=Z,83nm,0.9s						
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**06 23 29.7**	**-2.8**
WRA				ScP		06 28 12.8	
WRA				S	**S**	**06 31 33.5**	**-4.5**
WRA				⇑*e*		06 53 06.6	
BBB	**Bella Bella**	**59.82**	**45**	LR	LR	06 46 00.8	
	comp=Z,566nm,19.9s,MS4.7,baz=297,slow=32						
LVZ	**Lovozero**	**59.87**	**335**	*ce*P	**P**	**06 23 29.9**	**-2.6**
LVZ				*i*		06 25 42.1	
LVZ				*e*S	**S**	**06 31 36.4**	**-2.1**
LVZ				*i* SS	SS	06 35 31.2	-5.3
LVZ				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.8						
LVZ				pmax	pmax		
	comp=N,26nm,0.8s						
LVZ				pmax	pmax		
	comp=E,21nm,1.1s						
LVZ				pmax	pmax		
	comp=Z,661nm,3.3s						
LVZ				pmax	pmax		
	comp=N,309nm,4.8s						
LVZ				pmax	pmax		
	comp=E,465nm,5.4s						
LVZ				smax			
	comp=Z,461nm,19.2s						
LVZ				smax			
	comp=N,312nm,14.3s						
LVZ				smax			
	comp=E,368nm,16.9s						
LVZ				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.1						
LVZ				MLR	MLR		
	comp=N,760nm,15.0s,MS5.1						
LVZ				MLR	MLR		
	comp=E,776nm,17.0s,MS5.1						
LVZ	**Lovozero**	**59.87**	**335**	⇑*e*P	**P**	**06 23 30.8**	**-1.7**
RES	**Resolute Bay**	**59.88**	**15**	*e*P	**P**	**06 23 31.1**	**-1.5**
	comp=E,96nm,0.8s,mb5.9						
CUD	**Cuddapah**	**60.38**	**264**	⇑*e*P	**P**	**06 23 35.7**	**-1.0**
CUD				*e*	pP	06 23 53.6	+2.4
CUD				*e*		06 27 22.0	
CUD				*e*		06 29 41.5	
APA	**Apatity**	**60.45**	**335**	⇑*i*P	**P**	**06 23 31.8**	**-4.7**
APA				*i*		06 23 53.0	
APA				*i*		06 24 18.8	
APA				*e*		06 25 46.0	
APA				*e*PPP	PPP	06 27 23.0	+3.7
APA				*e*S	**S**	**06 31 46.0**	**+0.1**
APA				*i* PS	PS	06 32 00.0	-9.0
APA				*e*SS	SS	06 35 39.0	-6.6
APA				pmax	pmax		
	comp=Z,117nm,1.0s,mb5.9						
APA				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.2						
KEV	**Kevo**	**61.11**	**339**	*e*p	**P**	**06 23 38.1**	**-2.8**
YKW3	**Yellowknife Ar**	**61.22**	**31**	*e*P	**P**	**06 23 40.5**	**-1.3**
YKA	**Yellowknife Ar**	**61.26**	**31**	P	**P**	**06 23 41.1**	**-0.9**
	comp=Z,15nm,0.8s,mb5.2,baz=299,slow=6.8,SNR=45						
YKA				S	**S**	**06 31 55.8**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=297,slow=11,SNR=2.3						
YKA				PKPPKP		06 52 56.1	
	comp=Z,1.8nm,0.8s,baz=119,slow=1.9,SNR=5.5						
YKA				LR	LR	06 54 30.1	
	comp=Z,444nm,18.6s,MS4.6,baz=280,slow=40						
ARCES	**ARCESS Array B**	**61.66**	**339**	P	**P**	**06 23 43.7**	**-0.9**
	comp=Z,42nm,0.8s,mb5.6,baz=56,slow=8.7,SNR=86						
ARCES				LR	LR	06 55 12.3	
	comp=Z,2µm,19.8s,MS5.2,baz=0.7,slow=40						
ARCES	**ARCESS Array B**	**61.66**	**339**	P	**P**	**06 23 43.7**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,42nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,2µm,19.8s						
ARCES	**ARCESS Array B**	**61.66**	**339**	P	**P**	**06 23 43.7**	**-1.0**
POO	**Poona**	**61.76**	**271**	⇑*e*P	**P**	**06 23 44.0**	**-2.0**
	comp=Z,250nm,1.0s,mb6.3						
PECR	**Pechory**	**62.02**	**321**	*c i*P	**P**	**06 23 46.4**	**-0.8**
PECR				*e*		06 26 02.4	
PECR				*e*S	**S**	**06 32 05.7**	**-0.3**
PECR				*e*PS	PS	06 32 27.0	-3.5
PECR				pmax	pmax		
	comp=Z,900nm,4.0s						
PECR				smax			
	comp=N,1µm,14.0s						
PECR				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.1						
KTK1	**Kautokeino**	**62.62**	**339**	⇑*i*P	**P**	**06 23 51.0**	**-0.1**
KTK1				AMb	AMB	06 23 53.2	
	comp=Z,222nm,1.6s,mb6.0						
KTK1				*e*pP	pP	06 24 08.8	+3.1
KTK1				*e*PP	PP	06 26 07.9	-3.0
KTK1	**Kautokeino**	**62.62**	**339**	⇑*i*P	**P**	**06 23 51.0**	**-0.1**
	comp=Z,222nm,1.6s,mb6.0						
DAG	**Danmarks Havn**	**63.14**	**355**	⇓*i*P	**P**	**06 23 53.7**	**-0.8**
	comp=Z,53nm,0.7s,mb5.8						
TRO	**Tromso**	**63.34**	**341**	*e*P	**P**	**06 23 53.6**	**-2.3**
TRO				*e*S	**S**	**06 32 21.2**	**-1.1**
TRO				AMS	AMS	06 56 21.8	
	comp=Z,1µm,20.3s,MS5.0						
PALK	**Pallekele**	**63.43**	**257**	P	**P**	**06 23 56.0**	**-1.2**
	comp=Z,361nm,1.0s,mb6.5,SNR=9.0						
PALK	**Pallekele**	**63.43**	**257**	*e*P	**P**	**06 23 55.6**	**-1.6**
	comp=Z,348nm,2.0s,mb6.1						
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**06 23 55.5**	**-2.1**
	comp=Z,52nm,0.9s,mb5.6,baz=11,slow=6.1,SNR=316						
ASAR				S	**S**	**06 32 21.4**	**-3.7**
	comp=Z,2.4nm,1.2s,baz=3.6,slow=10.0,SNR=4.2						
ASAR				LR	LR	06 51 16.2	
	comp=Z,654nm,18.9s,MS4.8,baz=23,slow=36						
ASAR				PKPPKP		06 52 46.4	
	comp=Z,1.0nm,0.8s,baz=164,slow=2.6,SNR=8.7						
ASAR				PKP2bc		06 52 57.5	
	comp=Z,3.0nm,0.8s,baz=179,slow=2.3,SNR=10						
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**06 23 55.5**	**-2.1**
ASAR				S	**S**	**06 32 21.4**	**-3.7**
ASAR				P'P'		06 52 46.4	
ASAR				⇑*e*		06 52 57.5	
ASPA	**Alice Springs**	**63.51**	**188**	⇑*i*P	**P**	**06 23 55.5**	**-2.1**
ASPA				*e*S	**S**	**06 32 21.9**	**-3.3**
PGC	**Sidney**	**64.15**	**47**	*e*P	**P**	**06 24 00.7**	**-0.6**
	comp=Z,23nm,0.9s,mb5.2						
PGC				*e*pP	pP	06 24 13.4	-2.6
GNW	**Green Mountain**	**65.08**	**48**	*e*P	**P**	**06 24 07.2**	**-0.1**
GNW				*e*pP	pP	06 24 20.8	-1.3
JCW	**Jim Creek**	**65.25**	**47**	P	**P**	**06 24 08.7**	**+0.2**
RPW	**Rockport**	**65.35**	**47**	*e*P	**P**	**06 24 08.5**	**-0.5**
MOS	**Moscow**	**65.39**	**323**	⇑*i*P	**P**	**06 24 08.7**	**-0.5**
MOS				*e**PP	pP	06 24 26.6	+2.6
MOS				*e*		06 24 41.4	
MOS				*e*		06 26 29.5	
MOS				*e*PPP	PPP	06 28 04.5	-5.7
MOS				*e*S	S	06 32 47.0	-0.8
MOS				*e*		06 33 08.4	
MOS				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.8						
MOS				pmax	pmax		
	comp=E,340nm,1.1s						
MOS				MLR	MLR		
	comp=Z,5µm,15.6s,MS5.8						
MOS				MLR	MLR		
	comp=N,2µm,16.6s,MS5.5						
MOS				MLR	MLR		
	comp=E,2µm,17.1s,MS5.5						
MOS	**Moscow**	**65.39**	**323**	*e*P	**P**	**06 24 08.6**	**-0.6**
BMW	**Boistfort Moun**	**65.42**	**49**	*e*P	**P**	**06 24 10.2**	**+0.6**
BMW				*e*pP	pP	06 24 22.5	-1.9
TRD	**Trivandrum**	**65.47**	**260**	*e*P	**P**	**06 24 09.6**	**-0.8**
TRD				*e*		06 24 10.5	
	comp=Z,266nm,1.0s						
DZM	**Mont Dzumac**	**65.57**	**155**	⇑*i*P	**P**	**06 24 10.8**	**-0.1**
RMW	**Rattlesnake Mo**	**65.72**	**48**	*e*P	**P**	**06 24 11.4**	**0.0**
RMW				*e*pP	pP	06 24 24.5	-1.7
LOF	**Lofoten**	**65.78**	**341**	*e*P	**P**	**06 24 12.2**	**+0.7**
LOF				AMb	AMB	06 24 14.9	
	comp=Z,120nm,1.0s,mb5.9						
LOF				*e*PP	PP	06 26 36.4	-2.5
LOF	**Lofoten**	**65.78**	**341**	*e*P	**P**	**06 24 12.2**	**+0.7**
	comp=Z,120nm,1.0s,mb5.9						
PNT	**Penticton**	**65.93**	**45**	P	**P**	**06 24 12.4**	**-0.4**
FMW	**Mount Fremont**	**66.08**	**48**	P	**P**	**06 24 14.2**	**+0.4**
LON	**Longmire**	**66.10**	**48**	*e*P	**P**	**06 24 13.6**	**-0.3**
PUL	**Pulkovo**	**66.13**	**329**	*e*P	**P**	**06 24 13.6**	**-0.3**
PUL				*i*		06 26 38.0	
PUL				*e*S	S	06 32 55.6	-1.2
PUL				pmax	pmax		
	comp=Z,315nm,0.7s,mb6.5						
PUL				pmax	pmax		
	comp=N,469nm,1.3s						
PUL				pmax	pmax		
	comp=E,431nm,0.9s						
PUL				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.4						
PUL				MLR	MLR		
	comp=N,2µm,21.0s						
PUL	**Pulkovo**	**66.13**	**329**	*e*P	**P**	**06 24 13.5**	**-0.4**
KAF	**Kangasniemi**	**66.15**	**332**	*e*p	**P**	**06 24 11.2**	**-2.7**
	comp=N,80nm,0.7s,mb5.9						
KAF	**Kangasniemi**	**66.15**	**332**	*e*P	**P**	**06 24 11.2**	**-2.7**
KAF				pmax	pmax		
	comp=Z,80nm,0.7s,mb5.9						
SHW	**Mount Saint He**	**66.16**	**49**	*e*P	**P**	**06 24 15.0**	**+0.8**
NLW	**Nelson Butte**	**66.21**	**47**	*e*P	**P**	**06 24 14.4**	**-0.1**
OBN	**Obninsk**	**66.24**	**323**	*c i*P	**P**	**06 24 13.9**	**-0.7**
OBN				*i* *PP	pP	06 24 29.1	-0.4
OBN				*e*		06 26 41.2	
OBN				*e*S	S	06 32 58.3	+0.1
OBN				pmax	pmax		
	comp=Z,591nm,1.4s,mb6.4						
OBN				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.7						
OBN	**Obninsk**	**66.24**	**323**	*e*P	**P**	**06 24 13.7**	**-1.0**
	comp=Z,416nm,1.0s,mb6.4						
COR	**Corvallis**	**66.40**	**51**	P	**P**	**06 24 14.1**	**-1.7**
	comp=Z,17nm,0.6s,mb5.3						
FINES	**FINESS Array B**	**66.67**	**332**	P	**P**	**06 24 16.4**	**-0.8**
	comp=Z,164nm,0.7s,mb6.2,baz=56,slow=6.9,SNR=468						
FINES				LR	LR	06 55 21.3	
	comp=Z,2µm,21.8s,MS5.4,baz=223,slow=38						
FINES	**FINESS Array B**	**66.67**	**332**	P	**P**	**06 24 16.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,164nm,0.7s						
FINES				MLR	MLR		
	comp=Z,2µm,21.8s						
KEBM	**Edson Butte**	**66.71**	**53**	*e*P	**P**	**06 24 18.3**	**+0.5**
EBG	**Ellensburg**	**66.72**	**48**	P	**P**	**06 24 18.4**	**+0.6**
SSOR	**Sweet Springs**	**66.75**	**50**	*e*P	**P**	**06 24 18.3**	**+0.3**
VOR	**Voronezh**	**66.92**	**319**	*e*P	**P**	**06 24 17.7**	**-1.3**
VOR				pmax	pmax		
	comp=Z,450nm,1.3s,mb6.3						
VOR				pmax	pmax		
	comp=N,200nm,1.4s						
MOR8	**Moi Rana**	**67.02**	**340**	⇑*i*P	**P**	**06 24 17.3**	**-2.0**
MOR8				AMb	AMB	06 24 18.2	
	comp=Z,277nm,0.7s,mb6.4						
MOR8				*e*pP	pP	06 24 35.4	+1.2
MOR8	**Moi Rana**	**67.02**	**340**	⇑*i*P	**P**	**06 24 17.3**	**-2.0**
	comp=Z,277nm,0.7s,mb6.4						
HSO	**Harness Mounta**	**67.11**	**52**	*e*P	**P**	**06 24 21.5**	**+1.2**
MAK	**Makhachkala**	**67.19**	**307**	⇓*i*P	**P**	**06 24 20.0**	**-0.8**
MAK				*e*		06 26 56.0	
MAK				S	S	06 33 05.5	-4.4
MAK				pmax	pmax		
	comp=Z,350nm,1.3s,mb6.2						
MAK				pmax	pmax		
	comp=Z,1µm,4.0s						
VGB	**Gordon Butte**	**67.38**	**49**	*e*P	**P**	**06 24 22.1**	**+0.2**
DPW	**Davenport**	**67.52**	**46**	*e*P	**P**	**06 24 22.4**	**-0.4**
DPW				*e*pP	pP	06 24 35.9	-1.7
JMIC	**Jan Mayen**	**67.59**	**350**	P	**P**	**06 24 22.9**	**0.0**
	comp=Z,25nm,0.7s,mb5.4,baz=47,slow=3.9,SNR=7.5						
JMIC	**Jan Mayen**	**67.59**	**350**	⇑*i*P	**P**	**06 24 23.0**	**+0.2**
JMIC				*e*S	S	06 33 13.2	-1.0
HAWA	**Hanford**	**67.61**	**48**	*e*P	**P**	**06 24 23.3**	**0.0**
	comp=Z,41nm,1.4s,mb5.3						
HAWA				*e*pP	pP	06 24 36.3	-1.9
HUMO	**Hull Mountain**	**67.70**	**53**	*e*P	**P**	**06 24 24.3**	**+0.3**
	comp=Z,20nm,1.4s,mb5.0						
HUMO				*e*pP	pP	06 24 37.5	-1.4
NEW	**Newport**	**67.89**	**45**	P	**P**	**06 24 25.1**	**0.0**
	comp=Z,11nm,0.9s,mb4.9,baz=321,slow=5.1,SNR=15						
NEW				pP	pP	06 24 38.5	-1.5
	comp=Z,38nm,1.1s,baz=315,slow=7.3,SNR=11						
NEW				LR	LR	06 49 41.5	
	comp=Z,713nm,21.2s,MS4.9,baz=329,slow=32						
NEW	**Newport**	**67.89**	**45**	*e*P	**P**	**06 24 24.8**	**-0.2**
	comp=Z,17nm,1.0s,mb5.0						
NEW				*e*pP	pP	06 24 38.1	-1.9
SUMG	**Summit**	**68.00**	**0**	*e*P	**P**	**06 24 25.6**	**+0.1**
	comp=Z,106nm,0.8s,mb5.9						
VIPM	**Ingram Point**	**68.04**	**50**	P	**P**	**06 24 26.6**	**+0.5**
KHMM	**Horse Mountain**	**68.19**	**55**	*e*P	**P**	**06 24 27.8**	**+0.7**
YBH	**Yreka Blue Hor**	**68.34**	**53**	P	**P**	**06 24 28.9**	**+0.8**
	comp=Z,5.6nm,0.8s,mb4.7,baz=349,slow=3.9,SNR=22						
YBH				pP	pP	06 24 41.4	-1.5
	comp=Z,32nm,1.1s,baz=39,slow=1.6,SNR=14						
YBH	**Yreka Blue Hor**	**68.34**	**53**	P	**P**	**06 24 28.9**	**+0.9**
YBH				*PP	pP	06 24 41.4	-1.5
YBH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YBH	**Yreka Blue Hor**	**68.34**	**53**	*e*P	**P**	**06 24 28.6**	**+0.6**
	comp=Z,19nm,1.2s,mb5.0						
VSU	**Vasula**	**68.39**	**329**	⇑*i*P	**P**	**06 24 27.5**	**-0.5**
LNOR	**Lincton Mounta**	**68.61**	**48**	*e*P	**P**	**06 24 29.9**	**+0.3**
GOF	**Gofitskoye**	**68.68**	**311**	⇓*i*P	**P**	**06 24 30.0**	**-0.1**
GOF				pmax	pmax		
	comp=Z,274nm,1.2s,mb6.1						
GOF				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.5						
NSS	**Namsos**	**68.94**	**339**	*e*P	**P**	**06 24 28.9**	**-2.4**
NSS				AMS	AMS	06 59 21.3	
	comp=Z,2µm,19.8s,MS5.3						
WDC	**Whiskeytown Da**	**69.10**	**54**	*e*P	**P**	**06 24 32.7**	**-0.1**
	comp=Z,66nm,1.8s,mb5.3						
WDC				*e*pP	pP	06 24 46.3	-1.4
TI2	**Plekhanov**	**69.57**	**308**	*c i*P	**P**	**06 24 35.0**	**-0.6**
TI2				*e*		06 27 13.2	
TI2				pmax	pmax		
	comp=Z,2µm,2.0s,mb6.6						
MOD	**Modoc**	**69.72**	**52**	*e*P	**P**	**06 24 36.5**	**0.0**
	comp=Z,26nm,1.4s,mb5.0						
NSHM	**Saint Helena R**	**70.24**	**56**	*e*P	**P**	**06 24 40.2**	**+0.5**
NSHM				*e*pP	pP	06 24 53.1	-1.5
IZAR	**Zarasai**	**70.41**	**327**	*i* P	**P**	**06 24 40.0**	**-0.4**
IZAR				AMPb	AMB	06 24 41.4	
	comp=Z,60nm,0.8s,mb5.6						
IZAR				*e*pP	pP	06 24 59.2	+3.9
WVOR	**Wild Horse Val**	**70.41**	**51**	*e*P	**P**	**06 24 40.8**	**+0.1**
	comp=Z,26nm,1.0s,mb5.1						
OHCM	**Honcut**	**70.48**	**55**	*e*P	**P**	**06 24 40.6**	**-0.6**
OHCM				*e*pP	pP	06 24 54.1	-2.0
IDID	**Didziasalis**	**70.49**	**327**	*i* P	**P**	**06 24 40.6**	**-0.4**
IDID				AMPb	AMB	06 24 42.7	
	comp=Z,88nm,1.2s,mb5.6						
GNI	**Garni**	**70.50**	**306**	P	**P**	**06 24 41.5**	**+0.2**
	comp=Z,63nm,1.0s,mb5.5,baz=184,slow=1.8,SNR=34						
GNI				LR	LR	06 58 58.0	
	comp=Z,2µm,19.6s,MS5.3,baz=49,slow=39						
GNI	**Garni**	**70.50**	**306**	P	**P**	**06 24 41.5**	**+0.2**
GNI				pmax	pmax		
	comp=Z,63nm,1.0s						
GNI				MLR	MLR		
	comp=Z,2µm,19.6s						
MNK	**Minsk**	**70.57**	**326**	⇑*e*P	**P**	**06 24 39.0**	**-2.4**
MNK				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.7						
MNK				pmax	pmax		
	comp=N,870nm,1.5s						
MNK				pmax	pmax		
	comp=E,900nm,1.7s						
ISAL	**Salakas**	**70.58**	**327**	*i* P	**P**	**06 24 41.1**	**-0.4**
ISAL				AMPb	AMB	06 24 43.2	
	comp=Z,147nm,1.1s,mb5.8						
ISAL				*e*pP	pP	06 24 59.8	+3.4
IIGN	**Ignalina**	**70.69**	**327**	*i* P	**P**	**06 24 41.9**	**-0.3**
IIGN				AMPb	AMB	06 24 44.0	
	comp=Z,103nm,1.4s,mb5.6						
IIGN				*e*pP	pP	06 25 00.3	+3.2
CHMT	**Chamberlain Mo**	**70.79**	**45**	*e*P	**P**	**06 24 42.0**	**-0.9**
CHMT				*e*pP	pP	06 24 55.8	-2.1
BEKR	**Beckwourth**	**70.87**	**54**	*e*P	**P**	**06 24 43.4**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9						
BEKR				*e*pP	pP	06 24 57.0	-1.5
LKC	**Lake Chabot**	**71.04**	**56**	*e*P	**P**	**06 24 44.7**	**+0.1**
LKC				*e*pP	pP	06 24 58.0	-1.5
FFC	**Flin Flon**	**71.20**	**33**	*e*P	**P**	**06 24 44.4**	**-0.8**
	comp=Z,64nm,1.0s,mb5.5						
STKA	**Stephens Creek**	**71.23**	**180**	⇑*i*P	**P**	**06 24 44.5**	**-1.4**
	comp=Z,18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**71.23**	**180**	P	**P**	**06 24 44.6**	**-1.3**
	comp=Z,18nm,0.8s,mb5.1,baz=348,slow=8.3,SNR=27						
STKA				LR	LR	06 53 17.1	
	comp=Z,855nm,21.5s,MS5.0,baz=26,slow=34						
FORT	**Forrest**	**71.33**	**193**	⇑*i*P	**P**	**06 24 44.9**	**-1.5**
	comp=Z,224nm,1.0s,mb6.0						
FCC	**Fort Churchill**	**71.39**	**27**	*e*P	**P**	**06 24 45.3**	**-1.0**
	comp=Z,81nm,1.2s,mb5.5						
SOC	**Sochi**	**71.47**	**312**	*i* P	**P**	**06 24 46.3**	**-0.8**
SOC				*e*	pP	06 25 04.5	+2.5
SOC				*e*		06 27 25.5	
SOC				*e*PPP	PPP	06 29 02.8	-6.8
SOC				*e*S	S	06 33 54.4	-5.8
SOC				*e*		06 34 45.0	
SOC				*e*SSS	SSS	06 41 39.0	-6.5
SOC				pmax	pmax		
	comp=N,47nm,0.9s						
SOC				pmax	pmax		
	comp=Z,196nm,0.9s,mb6.0						
SOC				pmax	pmax		
	comp=E,90nm,0.8s						
SOC				pmax	pmax		
	comp=Z,680nm,1.9s,mb6.2						
SOC				pmax	pmax		
	comp=N,192nm,1.8s						
SOC				pmax	pmax		
	comp=E,260nm,2.1s						
SOC				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,894nm,18.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,643nm,17.0s,MS5.2						
PAHR	**Pah Rah Range**	**71.57**	**54**	*e*P	**P**	**06 24 48.0**	**+0.3**
	comp=E,66nm,1.5s,mb5.3						
WCN	**Washoe City**	**71.58**	**54**	*e*P	**P**	**06 24 47.9**	**+0.1**
	comp=E,13nm,0.9s,mb4.8						
WCN				*e*pP	pP	06 25 01.5	-1.3
HRY	**Holter Researc**	**71.69**	**44**	*e*P	**P**	**06 24 48.3**	**+0.1**
MOL	**Molde**	**71.71**	**340**	⇑*i*P	**P**	**06 24 49.0**	**+0.9**
MOL				AMb	AMB	06 24 51.4	
	comp=Z,182nm,1.5s,mb5.8						
MOL				*e*pP	pP	06 25 06.3	+3.2
MOL	**Molde**	**71.71**	**340**	⇑*i*P	**P**	**06 24 49.0**	**+0.9**
	comp=Z,182nm,1.5s,mb5.8						
NB2	**NORSAR Subarra**	**71.90**	**337**	P	**P**	**06 24 48.6**	**-0.7**
	comp=Z,172nm,0.8s,mb6.0,baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**71.90**	**337**	P	**P**	**06 24 48.6**	**-0.7**
	baz=39,slow=6.2						
NOA	**NORSAR Array B**	**71.90**	**337**	P	**P**	**06 24 48.9**	**-0.4**
	comp=Z,124nm,0.8s,mb5.9,baz=37,slow=5.9,SNR=485						
NOA				LR	LR	06 59 17.4	
	comp=Z,1µm,20.6s,MS5.2,baz=30,slow=38						
NOA	**NORSAR Array B**	**71.90**	**337**	P	**P**	**06 24 48.9**	**-0.4**
NOA				pmax	pmax		
	comp=Z,124nm,0.8s						
NOA				MLR	MLR		
	comp=Z,1µm,20.7s						
CMB	**Columbia Colle**	**71.94**	**55**	P	**P**	**06 24 50.2**	**+0.3**
CMB				pP	pP	06 25 03.6	-1.3
CMB				S	S	06 34 08.0	+2.3
CMB				SPn		06 36 15.1	
CMB	**Columbia Colle**	**71.94**	**55**	*e*P	**P**	**06 24 50.0**	**+0.1**
	comp=Z,19nm,1.0s,mb5.0						
CMB				*e*pP	pP	06 25 02.8	-2.1
ANN	**Anapa**	**72.02**	**314**	*c i*P	**P**	**06 24 49.6**	**-0.7**
ANN				*e*	pP	06 25 08.1	+2.8
ANN				*e*		06 27 30.8	
ANN				*e*S	S	06 34 07.5	+0.9
ANN				pmax	pmax		
	comp=Z,290nm,1.3s,mb6.0						
ANN				MLR	MLR		
	comp=Z,918nm,15.0s,MS5.2						
ANN				MLR	MLR		
	comp=N,1µm,16.0s,MS5.2						
ANN				MLR	MLR		
	comp=E,505nm,16.0s,MS5.2						
ANN	**Anapa**	**72.02**	**314**	⇑*i*P	**P**	**06 24 49.6**	**-0.7**
HLID	**Hailey**	**72.21**	**48**	*e*P	**P**	**06 24 51.8**	**+0.4**
	comp=E,6.2nm,0.8s						
HLID				*e*pP	pP	06 25 05.0	-1.4
LCCM	**Lewis and Clar**	**72.21**	**45**	P	**P**	**06 24 51.7**	**+0.3**
TVAN	**Van**	**72.29**	**306**	*i* P	**P**	**06 24 52.5**	**+0.5**
MCMT	**McKenzie Canyo**	**72.31**	**46**	*e*P	**P**	**06 24 51.9**	**-0.1**
BOZ	**Bozeman (W)**	**72.46**	**45**	*e*P	**P**	**06 24 53.1**	**+0.2**
	comp=E,19nm,0.8s,mb5.1						
BOZ				*e*pP	pP	06 25 06.8	-1.1
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**06 24 52.1**	**-0.8**
	comp=E,105nm,0.7s,mb5.9,baz=42,slow=6.1,SNR=358						
AKASG				PP	PP	06 27 33.6	-2.8
	comp=E,14nm,0.8s,baz=39,slow=8.7,SNR=4.0						
AKASG				LR	LR	07 00 19.7	
	comp=E,1µm,19.5s,MS5.2,baz=45,slow=39						
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**06 24 52.1**	**-0.8**
AKASG						06 27 33.6	
AKASG				pmax	pmax		

```
        comp=Z,105nm,0.7s
AKASG                               pmax    pmax
        comp=Z,14nm,0.8s
AKASG                               MLR     MLR
        comp=Z,1µm,19.5s
LRV   Little Rabbit     72.49  57  eP      P       06 24 53.7 +0.5
ERZM  Erzurum           72.72 308  i P     P       06 24 55.0 +0.5
EZM   Erzurum           72.73 308  eP      P       06 24 55.6 +1.1
SUW   Suwalki           72.89 327  eP      P       06 24 54.7 -0.5
SUW                                ePcP    PcP     06 25 05.3 -7.0
SUW                                epP     pP      06 25 11.7 +1.5
SUW                                eS      S       06 34 15.9 -0.3
SUW                                eSS             06 34 36.6
NVAR  Mina Array Bea    73.01  54   P      P       06 24 56.8 +0.6
        comp=Z,12nm,0.7s,mb4.9,baz=299,slow=4.7,SNR=76
NVAR                                pP     pP      06 25 10.4 -0.8
        comp=Z,27nm,0.9s,baz=294,slow=4.8,SNR=14
OMM   Old Mammoth Mi    73.07  55  eP      P       06 24 57.0 +0.4
QLMT  Earthquake Lak    73.09  45  eP      P       06 24 56.9 +0.4
VRT   Varto             73.09 307  eP      P       06 24 58.1 +1.4
MNV   Mina              73.10  54  eP      P       06 24 56.3 -0.5
        comp=Z,26nm,1.4s,mb5.0
MNV                                epP     pP      06 25 10.6 -1.2
FOO   Floro             73.18 340  eP      P       06 24 56.7  0.0
FOO                                 AMb    AMB     06 24 58.8
        comp=Z,117nm,1.5s,mb5.6
FOO                                epP     pP      06 25 15.4 +3.7
FOO   Floro             73.18 340  eP      P       06 24 56.7  0.0
        comp=Z,117nm,1.5s,mb5.6
HYA   Hoyanger          73.23 339  eP      P       06 24 57.7 +0.7
HYA                                 AMb    AMB     06 24 59.1
        comp=Z,197nm,1.4s,mb5.8
HYA   Hoyanger          73.23 339  eP      P       06 24 57.7 +0.7
        comp=Z,197nm,1.4s,mb5.8
YMR   Madison River     73.45  45  eP      P       06 24 59.0 +0.3
KONO  Kongsberg         73.50 337⇑iP       Px      06 25 32.6
KONO                                AMb    AMB     06 25 33.8
        comp=Z,94nm,0.8s,mb5.8
MTUM  Tungsten Hills    73.50  55  eP      P       06 24 59.5 +0.3
GUMT  Gumushane         73.52 309  eP      P       06 24 59.8 +0.6
SUE   Sulen             73.71 340⇑iP       P       06 24 59.8  0.0
SUE                                 AMb    AMB     06 25 02.0
        comp=Z,145nm,1.3s,mb5.7
SUE                                epP     pP      06 25 18.6 +3.8
SUE   Sulen             73.71 340⇑iP       P       06 24 59.8  0.0
        comp=Z,145nm,1.3s,mb5.8
SIM   Simferopol'       73.75 315c iP      P       06 25 00.6 +0.2
SIM                                eS      S       06 34 25.3 -0.8
SIM                                 pmax   pmax
        comp=Z,100nm,15.1s
SIM                                 MLR    MLR
        comp=Z,2µm,17.4s,MS5.4
KELT  Kelkit            73.85 309  i P     P       06 25 01.9 +0.7
TPH   Tonopah           73.90  54  eP      P       06 25 01.7 +0.3
        comp=Z,18nm,0.8s,mb5.1
TPH                                epP     pP      06 25 15.2 -1.3
BEST  Besiri            74.01 306  i P     P       06 25 02.4 +0.3
ASK   Askoy             74.07 339⇑iP       P       06 25 02.2 +0.3
ASK                                 AMb    AMB     06 25 03.1
        comp=Z,264nm,1.1s,mb6.1
ASK   Askoy             74.07 339⇑iP       P       06 25 02.2 +0.3
        comp=Z,1µm,1.1s,mb6.7
BER   Bergen            74.12 339  eP      P       06 25 02.4 +0.1
BER                                 AMb    AMB     06 25 03.7
        comp=Z,185nm,1.3s,mb5.8
BER                                epP     pP      06 25 21.3 +4.1
BER   Bergen            74.12 339  eP      P       06 25 02.4 +0.1
        comp=Z,740nm,1.4s,mb6.4
MOOW  Moose Ponds       74.16  46  eP      P       06 25 03.6 +0.8
TPAW  Teton Pass        74.21  46  eP      P       06 25 03.9 +0.8
EGD   Espegrend         74.24 339  eP      P       06 25 03.5 +0.5
EGD                                 AMb    AMB     06 25 04.7
        comp=Z,150nm,1.4s,mb5.7
EGD   Espegrend         74.24 339  eP      P       06 25 03.5 +0.5
        comp=Z,589nm,1.0s,mb6.5
HVU   Hansel Valley     74.26  49  eP      P       06 25 04.1 +0.6
REDW  Red Top Meadow    74.35  46  eP      P       06 25 04.6 +0.7
KLBR  Kellerberrin      74.44 201⇑iP       P       06 25 02.6 -2.1
        comp=Z,53nm,1.1s,mb5.4
DGMT  Dagmar            74.45  39  eP      P       06 25 03.7 -0.7
        comp=Z,79nm,1.0s,mb5.6
AHID  Auburn Hatcher    74.59  47  eP      P       06 25 05.9 +0.6
        comp=Z,23nm,1.1s,mb5.0
BLS5  Blasjo            74.61 338⇑iP       P       06 25 05.8 +0.8
BLS5                                AMb    AMB     06 25 08.0
        comp=Z,123nm,1.1s,mb5.7
BLS5                               epP     pP      06 25 23.9 +3.8
BLS5  Blasjo            74.61 338⇑iP       P       06 25 05.8 +0.8
        comp=Z,123nm,1.1s,mb5.8
LAO   LASA Array        74.64  42  eP      P       06 25 05.2 -0.4
        comp=Z,87nm,1.1s,mb5.6
BGU   Big Grassy Mou    74.66  49  eP      P       06 25 06.2 +0.4
SPUT  South Promonto    74.75  49  eP      P       06 25 06.6 +0.3
DAC   Darwin (Calif)    74.77  55   P      P       06 25 07.1 +0.5
ELZG  Elazig            75.05 308  i P     P       06 25 08.9 +0.9
BORG  Borgarnes         75.05 353   P      P       06 25 08.4 +0.9
        comp=Z,124nm,0.8s,mb5.9,baz=26,slow=3.3,SNR=37
BORG  Borgarnes         75.05 353  eP      P       06 25 08.5 +1.0
        comp=Z,286nm,1.3s,mb6.0
WAR   Warsaw            75.07 327⇑eP       P       06 25 08.6 +0.7
WAR                                e       pP      06 25 21.6 -1.3
WAR                                e*PP    pP      06 25 27.8 +4.9
WAR                                e               06 27 55.5
WAR                                eS      S       06 34 42.9 +2.3
HWUT  Hardware Ranch    75.07  48  eP      P       06 25 08.7 +0.5
        comp=Z,25nm,1.1s,mb5.0
HWUT                               epP     pP      06 25 22.3 -0.9
KMY   Karmoy            75.12 339⇑iP       P       06 25 08.2 +0.2
KMY                                 AMb    AMB     06 25 10.5
        comp=Z,121nm,1.7s,mb5.6
KMY                                epP     pP      06 25 26.9 +3.8
KMY   Karmoy            75.12 339⇑iP       P       06 25 08.2 +0.2
        comp=Z,121nm,1.7s,mb5.5
DUG   Dugway            75.25  50  eP      P       06 25 09.7 +0.5
        comp=Z,31nm,1.1s,mb5.2
DUG                                epP     pP      06 25 23.5 -0.7
MUN   Mundaring         75.25 203  eP      P       06 25 07.6 -1.7
        comp=Z,12nm,1.0s,mb4.8
BW06  Boulder Array     75.45  46  eP      P       06 25 10.2  0.0
        comp=Z,15nm,0.7s,mb5.0
PDAR  Pinedale Array    75.45  46   P      P       06 25 10.6 +0.3
        comp=Z,14nm,0.6s,mb5.1,baz=271,slow=2.1,SNR=168
PDAR                                LR     LR      06 56 32.8
        comp=Z,333nm,21.0s,MS4.6,baz=328,slow=34
TCUT  Toone Canyon      75.48  48  eP      P       06 25 10.8 +0.3
MYA   Malataya          75.50 308  eP      P       06 25 11.8 +1.2
LVV   L'vov             75.50 324  i P     P       06 25 10.0 -0.4
LVV                                i S     S       06 34 45.0 -0.3
MALT  Malatya           75.50 308  eP      P       06 25 11.2 +0.6
MALT  Malatya           75.50 308  eP      P       06 25 11.2 +0.6
        comp=Z,187nm,1.2s,mb5.9
BOYT  Boyabat           75.60 312  i P     P       06 25 11.7 +0.6
MWC   Mount Wilson      75.75  57  eP      P       06 25 12.0 -0.1
MWC                                epP     pP      06 25 26.1 -1.1
COP   Copenhagen        75.75 333⇑iP       P       06 25 11.9 +0.2
        comp=Z,139nm,0.7s,mb6.0
COP                                i       pP      06 25 23.3 -3.4
COP                                i               06 28 02.5
COP                                i               06 34 49.2
        comp=Z,1µm,20.0s
BZK   Bozkurt           75.76 313  eP      P       06 25 12.2 +0.2
JLU   Jordanelle        75.78  49  eP      P       06 25 12.8 +0.6
GKP   Gorka Klasztor    75.84 329⇑eP       P       06 25 12.6 +0.3
        comp=Z,0.3nm,0.8s
GKP                                ePcP    PcP     06 25 19.4 -5.6
GKP                                epP     pP      06 25 25.3 -2.0
GKP                                ePP     PP      06 28 00.4 -4.2
GKP                                eS      S       06 34 49.9 +0.8
GKP                                eSS     Sx      06 35 12.6
NWAO  Narrogin (SRO)    75.84 201   P      P       06 25 11.2 -1.5
        comp=Z,34nm,0.9s,mb5.3,baz=23,slow=7.6,SNR=10
NWAO  Narrogin (SRO)    75.84 201   P      P       06 25 11.2 -1.5
NWAO                                pmax   pmax
        comp=Z,34nm,0.9s
NWAO  Narrogin (SRO)    75.84 201  eP      P       06 25 10.8 -1.9
        comp=Z,37nm,1.1s,mb5.2
DAU   Daniels Canyon    76.02  49  eP      P       06 25 14.2 +0.6
DAU                                epP     pP      06 25 28.3 -0.4
HASS  Wahat al Ahsa'    76.05 291   P      P       06 25 12.8 -1.2
MPU   Maple Canyon      76.06  49  eP      P       06 25 14.2 +0.4
CTKT  Corum             76.18 312  i P     P       06 25 15.0 +0.5
MUD   Monsted U'grnd    76.22 335⇑iP       P       06 25 14.5 +0.2
        comp=Z,49nm,0.7s,mb5.5
MUD                                i       pP      06 25 29.6 +0.2
KWP   Kalwaria          76.23 324⇑eP       P       06 25 15.2 +0.7
KWP                                e               06 25 23.0
KWP                                e*PP    pP      06 25 27.2 -2.4
KWP                                eS      S       06 34 54.4 +1.0
KWP                                e*SS            06 35 11.9
RGN   Rugen             76.33 332  eP      P       06 25 15.3 +0.3
        comp=Z,122nm,0.7s,mb5.9
BALT  Daday             76.39 313  i P     P       06 25 16.3 +0.7
GZT   Gaziantep         76.64 308  i P     P       06 25 18.0 +0.9
MVU   Marysvale         76.69  51  eP      P       06 25 18.4 +1.0
        comp=Z,14nm,1.0s,mb4.8
MVU                                epP     pP      06 25 32.1 -0.4
MSU   Marysvale         76.71  51  eP      P       06 25 18.5 +1.1
KAHT  Ahir Dag          76.88 308  i P     P       06 25 19.0 +0.5
NEN   Nelson            76.91  55  eP      P       06 25 19.0 +0.3
NEN                                epP     pP      06 25 32.7 -1.0
GAZ   Gaziantep         76.97 308  eP      P       06 25 19.9 +0.9
SAFT  Safranbolu        76.97 313  eP      P       06 25 19.3 +0.4
VRI   Vrincioaia        77.00 320⇓iP       P       06 25 19.8 +0.9
VRI   Vrincioaia        77.00 320⇓iP       P       06 25 19.8 +0.8
ULM   Lac du Bonnet     77.00  34   P      P       06 25 18.2 -0.7
        comp=Z,37nm,0.9s,mb5.3,baz=314,slow=6.9,SNR=33
ELDT  Eldivan           77.05 312  i P     P       06 25 19.8 +0.4
OJC   Ojcow             77.08 326⇑iP       P       06 25 19.7 +0.4
OJC                                eS      S       06 35 02.8 +0.2
OJC                                 MLR    MLR
        comp=Z,2µm,18.3s,MS5.5
OJC   Ojcow             77.08 326⇑iP       P       06 25 19.7 +0.4
        comp=Z,300nm,0.9s,mb6.2
OJC                                eS      S       06 35 02.8 +0.2
LDFC  Landfair          77.10  55  eP      P       06 25 19.4 -0.4
UZH   Uzhgorod          77.14 324  eP      P       06 25 19.0 -0.7
UZH                                eS      S       06 35 04.0 +0.7
UZH   Uzhgorod          77.14 324  eP      P       06 25 18.0 -1.7
PFO   Pinyon Flat Ob    77.17  57  eP      P       06 25 19.6 -0.5
        comp=Z,13nm,1.2s,mb4.7
HARR  Harsova           77.20 318⇑iP       P       06 25 20.5 +0.4
HARR  Harsova           77.20 318⇓iP       P       06 25 20.6 +0.5
SRU   San Rafael        77.30  50  eP      P       06 25 21.0 +0.2
CRVS  Cervenica-Dubn    77.32 324  i P     P       06 25 21.1 +0.4
AVNT  Avonos            77.35 310  i P     P       06 25 21.3 +0.3
RSSD  Black Hills       77.52  42   P      P       06 25 22.1 +0.2
RSSD                                pP     pP      06 25 35.8 -1.1
RSSD                                S      S       06 35 07.5 +0.1
RSSD                                SPn            06 37 25.1
ISR   Istrita           77.61 319⇓iP       P       06 25 23.2 +0.8
ISR   Istrita           77.61 319⇓iP       P       06 25 23.2 +0.9
BAR   Barrett           77.61  58  eP      P       06 25 22.1 -0.6
KAMT  Kaman             77.63 311  eP      P       06 25 22.7 +0.1
MLR   Muntele Rosu      77.65 320   P      P       06 25 22.9 +0.3
        comp=Z,76nm,1.2s,mb5.5,baz=359,slow=4.9,SNR=69
MLR   Muntele Rosu      77.65 320⇑iP       P       06 25 22.9 +0.3
MLR   Muntele Rosu      77.65 320   P      P       06 25 22.9 +0.3
MLR                                 pmax   pmax
        comp=Z,76nm,1.2s
MLR   Muntele Rosu      77.65 320⇑iP       P       06 25 22.9 +0.4
SGKT  Sivrigoynuk       77.78 313  i P     P       06 25 24.0 +0.6
RUE   Ruedersdorf       77.79 331  eP      P       06 25 23.1  0.0
        comp=Z,152nm,1.0s,mb5.9
ANTO  Ankara            77.83 312  eP      P       06 25 23.8 +0.1
LOD   Lodumlu           77.83 312  eP      P       06 25 24.3 +0.6
RAC   Raciborz          77.87 327  eP      P       06 25 24.6 +0.9
RAC                                 MLR    MLR
        comp=Z,3µm,19.7s,MS5.6
BSEG  Bad Segeberg      77.89 333  eP      P       06 25 24.0 +0.3
BSEG                                pmax   pmax
        comp=Z,194nm,0.9s,mb6.0
BSEG  Bad Segeberg      77.89 333  eP      P       06 25 24.0 +0.3
NIG   Nigde             77.93 310  eP      P       06 25 25.3 +1.0
CEYT  Ceyhan            77.97 308  eP      P       06 25 25.5 +1.0
COBT  Iskenderun        77.98 308  i P     P       06 25 24.9 +0.4
KECS  Kecovo            78.07 325  i P     P       06 25 25.2 +0.4
OKC   Ostrava-Krasne    78.07 327⇑iP       P       06 25 25.1 +0.3
OKC                                eAP     pP      06 25 43.4 +3.5
OKC                                eS      S       06 35 11.9 -1.4
OKC                                 LM             07 02 30.0
        comp=Z,2.2nm,17.8s
KSP   Ksiaz             78.07 328⇑iP       P       06 25 25.3 +0.5
KSP                                e*PP    pP      06 25 40.8 +0.9
KSP                                 MLR    MLR
        comp=Z,4µm,22.6s,MS5.7
KSP   Ksiaz             78.07 328⇑iP       P       06 25 25.3 +0.5
KSP                                epP     pP      06 25 40.8 +0.9
KSP                                eS              06 34 36.0
LIKS  Likavka           78.25 326  eP      P       06 25 27.0 +1.2
HENT  Hendek            78.26 314  i P     P       06 25 25.5 -0.5
MTUR  Matau             78.28 320⇓iP       P       06 25 26.3 +0.3
MTUR  Matau             78.28 320⇓iP       P       06 25 26.0  0.0
MDU   Mudurnu           78.32 313  eP      P       06 25 26.6 +0.2
BUC   Bucharest         78.33 319⇑iP       P       06 25 27.0 +0.7
MORC  Moravsky Berou    78.37 327  eP      P       06 25 26.7 +0.3
        comp=Z,167nm,0.9s,mb6.0
BUC1  Bucharest         78.41 319⇑iP       P       06 25 27.0 +0.3
DPC   Dobruska-Polom    78.44 328⇑iP       P       06 25 27.6 +0.8
DPC                                eAP     pP      06 25 46.3 +4.4
DPC                                eS      S       06 35 18.5 +1.3
DPC                                 LM             07 01 50.0
        comp=Z,2.1nm,22.5s
PRD   Provadia          78.51 317  eP      P       06 25 27.0 -0.4
MVH1  Achvaich          78.68 342⇑eP       P       06 25 27.9  0.0
RTO   Tolsta            78.73 344⇑eP       P       06 25 28.5 +0.3
PSZ   Piszkesteto       78.75 324⇑iP       P       06 25 29.4 +0.8
PSZ   Piszkesteto       78.75 324  eP      P       06 25 29.0 +0.4
        comp=Z,151nm,1.0s,mb5.9
REB   Eisghbrachaidh    78.76 343⇑iP       P       06 25 28.5 +0.1
MCD   Coleburn Disti    78.77 342⇑iP       P       06 25 28.4  0.0
VYHS  Vyhne             78.79 325  i P     P       06 25 29.4 +0.6
VYHS                               ePP     Px      06 28 05.2
KOLL  Kolacno           78.92 326  i P     P       06 25 30.2 +0.7
MME1  Meikle Cairn      78.94 342⇑eP       P       06 25 29.2 -0.2
HRT   Hereke            78.94 314  eP      P       06 25 30.0 +0.2
BRG   Berggiesshubel    78.99 329⇑iP       P       06 25 29.9 +0.1
BRG                                e       pP      06 25 49.7 +4.8
BRG                                e               06 28 29.2
BRG                                 pmax   pmax
        comp=Z,117nm,0.9s,mb5.8
BRG                                 MLR    MLR
        comp=Z,3µm,16.1s,MS5.7
BRG                                 MLR    MLR
        comp=N,2µm,17.1s,MS5.6
BRG                                 MLR    MLR
        comp=E,800nm,17.1s,MS5.6
BRG   Berggiesshubel    78.99 329⇑iP       P       06 25 29.9 +0.1
        comp=E,117nm,0.9s,mb5.8
BRG                                e       pP      06 25 49.7 +4.8
BRG                                e               06 28 29.2
CLL   Collm             79.01 330  ⇑P      P       06 25 30.0 +0.1
        comp=E,logA/T=2.4,mb6.1
CLL                                eS      S       06 35 25.0 +1.8
CLL   Collm             79.01 330⇑iP       P       06 25 30.0 +0.1
CLL                                eS      S       06 35 25.0 +1.8
CLL                                 pmax   pmax
        comp=Z,228nm,0.9s,mb6.1
CLL                                 MLR    MLR
        comp=Z,1µm,22.0s,MS5.2
CLL   Collm             79.01 330⇑iP       P       06 25 30.0 +0.1
        comp=Z,228nm,0.9s,mb6.1
CLL                                eS      S       06 35 25.0 +1.8
PVCC  Panska Ves        79.01 329⇑iP       P       06 25 30.6 +0.7
PVCC                                LM             07 03 20.0
        comp=Z,2.3nm,17.0s
KIZT  Kizilcal          79.01 312  eP      P       06 25 30.3 +0.1
ISK   Istanbul-Kandi    79.11 315  eP      P       06 25 30.4 -0.3
RRR   Rubha Reidh       79.11 343⇑iP       P       06 25 30.3  0.0
VRAC  Vranov            79.13 327   P      P       06 25 31.4 +0.7
        comp=Z,100nm,0.8s,mb5.8,baz=44,slow=5.3,SNR=128
WUAZ  Wupatki           79.14  53  eP      P       06 25 31.8 +0.8
        comp=Z,21nm,0.9s,mb5.1
WUAZ                               epP     pP      06 25 45.4 -0.8
MDO   Dochfour          79.16 342⇑iP       P       06 25 30.3 -0.3
ESKT  Eskisehir         79.17 313  eP      P       06 25 30.7 -0.3
ESKT  Eskisehir         79.17 313  i P     P       06 25 30.4 -0.7
SZH   Strazhica         79.23 318  eP      P       06 25 31.0 -0.3
RRH   Rhenigidale       79.25 344⇑iP       P       06 25 31.2 +0.2
YLV   Yalova            79.28 314  eP      P       06 25 30.5 -1.1
KONT  Konya--Tatoy      79.36 311  eP      P       06 25 32.2 +0.1
SMOL  Smolenice         79.39 326  eP      P       06 25 33.4 +1.4
PRU   Pruhonice         79.44 329⇑iP       P       06 25 32.6 +0.3
        comp=Z,207nm,1.1s,mb6.0
PRU                                eAP     pP      06 25 48.3 +0.8
PRU                                eS      S       06 35 27.3 -0.6
PRU                                 LM             07 03 10.0
        comp=Z,2.5nm,21.0s
PRU   Pruhonice         79.44 329⇑iP       P       06 25 32.6 +0.3
PRU                                e*PP    pP      06 25 48.3 +0.8
PRU                                eS      S       06 35 27.3 -0.6
PRU                                 pmax   pmax
        comp=Z,207nm,1.1s,mb6.0
PRU                                 MLR    MLR
        comp=Z,2µm,21.0s,MS5.5
JMB   Yambol            79.45 317  eP      P       06 25 32.0 -0.5
BUD   Budapest          79.47 325  eP      P       06 25 32.7 +0.2
RW3   Ridgway           79.52  49  eP      P       06 25 33.9 +0.9
SRO   Srobarova         79.53 325  i P     P       06 25 34.2 +1.4
CLZ   Clausthal         79.56 332  eP      P       06 25 33.3 +0.4
        comp=Z,245nm,1.2s,mb6.0
PVL   Pavlikeni         79.57 318  eP      P       06 25 33.0 -0.1
ISCO  Idaho Springs     79.65  46  eP      P       06 25 34.2 +0.6
        comp=Z,51nm,1.4s,mb5.3
ULDT  Uludag            79.70 314  i P     P       06 25 33.9  0.0
ZST   Bratislava        79.77 326  i P     P       06 25 35.0 +0.9
ZST                                e       pP      06 25 53.3 +4.0
EDRB  Edirne            79.81 317  eP      P       06 25 34.9 +0.5
ALT   Altintas          79.91 313  eP      P       06 25 35.1 +0.1
MZLS  Mizel             79.98 293   P      P       06 25 35.3 -0.4
VKA   Vienna            80.05 327⇑iP       P       06 25 36.4 +0.8
        comp=Z,493nm,2.0s,mb6.1
WIT   Witteveen         80.05 334  eP      P       06 25 36.4 +0.9
        comp=Z,551nm,1.1s,mb6.4
MOX   Moxa              80.07 331⇑iP       P       06 25 35.8 +0.2
        comp=Z,logA/T=2.1,mb5.8
MOX                                 S              06 36 00.0
MOX                                 QM             07 02 57.0
MOX                                 RM             07 06 30.0
MOX   Moxa              80.07 331⇑iP       P       06 25 35.8 +0.2
MOX                                 pmax   pmax
        comp=Z,163nm,1.4s,mb5.8
MOX                                 MLR    MLR
        comp=Z,900nm,20.0s,MS5.1
MOX   Moxa              80.07 331⇑iP       P       06 25 35.8 +0.2
        comp=Z,163nm,1.4s,mb5.8
NKC   Novy Kostel       80.08 330⇑iP       P       06 25 35.9 +0.2
NKC                                 LM             07 04 00.0
        comp=Z,1.6nm,17.7s
RAYN  Ar Rayn           80.08 292   P      P       06 25 35.1 -1.2
        comp=Z,733nm,0.9s,mb6.6,SNR=84
ARSS  Ar Rass           80.20 295   P      P       06 25 36.2 -0.7
BNT   Bandirma          80.22 315  eP      P       06 25 36.4 -0.3
HILS  Ha'il             80.25 297   P      P       06 25 37.2 +0.1
DIM   Dimitrovgrad      80.30 317  eP      P       06 25 38.0 +0.9
SART  Tekirdag          80.39 316  i P     P       06 25 37.5  0.0
PCOU  Corrie            80.41 341⇑iP       P       06 25 37.8 +0.5
ASF   Jabal al Asfar    80.41 304   P      P       06 25 38.4 +0.5
        comp=Z,33nm,0.9s,mb5.2,baz=266,slow=2.2,SNR=31
ASF                                 PP     PP      06 28 40.8 -2.1
        comp=Z,38nm,1.2s,baz=164,slow=2.0,SNR=5.7
HRI   Mount Hermon      80.43 305   P      P       06 25 38.2 +0.2
KHC   Kasperske Hory    80.51 329⇑iP       P       06 25 38.4 +0.4
KHC                                eAP     pP      06 25 57.6 +4.4
KHC                                 LM             07 04 00.0
        comp=Z,2.2nm,18.5s
ISP   Isparta           80.51 312  eP      P       06 25 38.2 -0.1
ISP   Isparta           80.51 312⇑iP       P       06 25 37.8 -0.5
POB1  Observatory       80.62 342⇑eP       P       06 25 38.8 +0.4
KDZ   Kurdzhali         80.65 317  eP      P       06 25 40.0 +1.1
PGB   Panagyurishte     80.65 319  eP      P       06 25 39.0 +0.1
GEC2  GERESS Array S    80.68 328  eP      P       06 25 39.1 +0.2
GEC2                                pmax   pmax
        comp=Z,78nm,0.9s,mb5.6
GEC2  GERESS Array S    80.68 328  eP      P       06 25 39.1 +0.2
        comp=Z,78nm,0.9s,mb5.6
GERES GERESS Array B    80.68 328   P      P       06 25 39.0  0.0
        comp=Z,45nm,0.8s,mb5.4,baz=34,slow=4.8,SNR=227
GERES GERESS Array B    80.68 328   P      P       06 25 39.0 +0.1
GERES                               pmax   pmax
        comp=Z,45nm,0.8s
PLD   Plovdiv           80.69 318  eP      P       06 25 39.0 -0.1
PMSU  Muirshiel         80.69 342⇑eP       P       06 25 39.0 +0.1
PCA1  Carrot            80.71 341⇑iP       P       06 25 39.3 +0.4
WTSB  Winterswijk       80.72 334⇑eP       P       06 25 39.0 -0.1
        comp=Z,80nm,1.1s,mb5.6
EKA   Eskdalemuir Ar    80.76 341   P      P       06 25 39.1 -0.1
        comp=Z,32nm,0.8s,mb5.3,baz=23,slow=4.8,SNR=68
EKA                                 PP     PP      06 28 42.9 -2.7
        comp=Z,27nm,1.0s,baz=27,slow=7.5,SNR=8.9
EKA   Eskdalemuir Ar    80.76 341   P      P       06 25 39.2  0.0
EKA                                                06 28 42.9
EKA                                 pmax   pmax
        comp=Z,32nm,0.8s
EKA                                 pmax   pmax
        comp=Z,27nm,1.0s
WET   Wettzell          80.78 329  eP      P       06 25 40.0 +0.6
WET                                 pmax   pmax
        comp=Z,144nm,1.1s,mb5.8
WET   Wettzell          80.78 329  eP      P       06 25 40.0 +0.6
        comp=Z,144nm,1.1s,mb5.8
ESK   Eskdalemuir       80.79 341  eP      P       06 25 38.9 -0.5
        comp=Z,36nm,0.8s,mb5.4
CSS   Prodhromos        80.79 308  eP      P       06 25 39.4 -0.4
        comp=Z,66nm,0.9s,mb5.6
BOLS  Boljevac          80.82 321⇑iP       P       06 25 39.2 -0.6
SVIS  Svilajnac         80.83 321⇑iP       P       06 25 39.7 -0.1
ALN   Alexandroupoli    80.85 316  eP      P       06 25 39.9 -0.2
HOPOS Hopovo Monaste    80.86 323⇑iP       P       06 25 40.5 +0.5
BBH   Bruntsheil        80.88 340⇑iP       P       06 25 40.0 +0.2
HNTI  Hanita            80.90 306   P      P       06 25 40.6 +0.1
LEF   Lefka             80.95 308  eP      P       06 25 40.1 -0.6
GRA1  Grafenberg Arr    80.98 330  eP      P       06 25 41.3 +0.8
        comp=Z,348nm,0.9s,mb6.3
GRA1                               eSS     SS      06 40 50.4  -12
GRF   Grafenberg Arr    80.98 330  eP      P       06 25 41.3 +0.8
GRF                                 pmax   pmax
        comp=Z,348nm,0.9s,mb6.3
GRF                                 MLR    MLR
        comp=Z,1µm,21.3s,MS5.2
RZN   Rozhen            80.98 318  eP      P       06 25 41.0 +0.3
BHH   Howats Hill       80.99 341⇑iP       P       06 25 40.6 +0.2
BTA   Talkin            81.02 340⇑iP       P       06 25 40.9 +0.3
BWH   Wardlaw           81.03 341⇑iP       P       06 25 40.7 +0.1
VTS   Vitosha           81.10 319  eP      P       06 25 41.5 +0.2
SDCO  Great Sand Dun    81.13  48  eP      P       06 25 41.8 +0.2
        comp=Z,16nm,1.0s,mb4.9
SDCO                               epP     pP      06 25 56.2 -0.6
MANT  Manisa            81.17 313  i P     P       06 25 41.5 -0.2
MMLI  Mount Malkishu    81.17 305   P      P       06 25 42.3 +0.4
ARSA  Arzberg           81.18 326⇑iP       P       06 25 42.1 +0.5
        comp=Z,310nm,2.2s,mb5.8
BDL   Dobcross Hall     81.18 340⇑iP       P       06 25 41.8 +0.3
HMDT  Nahal Hemdat      81.23 305   P      P       06 25 42.6 +0.4
BBO1  Bothel            81.32 340⇑iP       P       06 25 42.6 +0.4
GMK   Mull of Kintyr    81.35 342⇑iP       P       06 25 42.5 +0.2
RAR   Rarotonga         81.36 127   LR     LR      06 55 46.8
        comp=Z,908nm,19.0s,MS5.2,baz=164,slow=31
GRUS  Gruza             81.38 321⇓iP       P       06 25 42.8 +0.1
DNZL  Cakiroluk         81.45 312  i P     P       06 25 43.4 +0.2
SLTI  Sal'it            81.55 305   P      P       06 25 44.1 +0.3
DIVS  Divcibare         81.57 322⇓iP       P       06 25 43.8 +0.1
MMB   Musomiste         81.57 318  eP      P       06 25 44.0 +0.3
GAL1  Galloway          81.57 341⇑iP       P       06 25 43.6 +0.1
AFFS  'Afif             81.61 294   P      P       06 25 43.8 -0.4
ELL   Elmali            81.61 311  eP      P       06 25 43.7 -0.4
BARS  Barje             81.63 320⇓iP       P       06 25 43.2 -0.9
TUC   Tucson            81.63  55  eP      P       06 25 44.1 -0.2
        comp=Z,19nm,1.4s,mb4.8
GCL   Cushendall        81.72 342⇑iP       P       06 25 44.6 +0.3
DRGI  Dragot            81.75 304   P      P       06 25 45.2 +0.3
PERS  Pernice           81.83 326  eP      P       06 25 45.3 +0.3
SIND  Sindeldorf        81.88 331⇑eP       P       06 25 45.2  0.0
KDAG  Bornova           81.95 314  i P     P       06 25 45.2 -0.6
TOD   Tromm             81.97 331⇑eP       P       06 25 45.9 +0.3
SRS   Serrai            81.98 318  eP      P       06 25 45.8 -0.1
LHO   Holmfirth         82.02 339  i P     P       06 25 46.5 +0.7
HGN   Heimansgroeve     82.02 334⇑eP       P       06 25 45.6 -0.3
        comp=Z,56nm,0.8s,mb5.5
SWS   Schriesheim       82.10 331⇑eP       P       06 25 46.4 +0.1
AYDN  Tasoluk           82.13 313  i P     P       06 25 47.4 +0.6
NVSS  Nova Varos 2      82.15 322⇓iP       P       06 25 47.2 +0.5
OBKA  Obir              82.17 326⇑iP       P       06 25 46.8  0.0
        comp=Z,167nm,1.8s,mb5.7
ABH   Alteburg          82.19 332⇑eP       P       06 25 47.0 +0.2
WIM   Isle of Man       82.22 341⇑iP       P       06 25 47.1 +0.3
WIM                                 AMb    AMB     06 25 48.6
        comp=Z,163nm,1.0s,mb5.9
KBA   Koelnbreinsper    82.23 327⇑iP       P       06 25 47.4 +0.4
        comp=Z,291nm,1.5s,mb6.0
HDH   Heidenheim        82.27 330⇑eP       P       06 25 47.3 +0.1
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YER	Yerkesik	82.27	312	eP	P	06 25 48.1	+0.6
KNT	Kendrikon	82.31	318	eP	P	06 25 47.7	+0.1
SOH	Sokhos	82.32	318	eP	P	06 25 47.3	-0.4
OUR	Ouranopolis	82.35	317	eP	P	06 25 47.7	-0.1
VAY	Valandovo	82.36	319	⇑iP	P	06 25 46.9	-0.9
PLE	Pljevlja	82.43	322	⇑iP	P	06 25 49.1	+1.0
GMM	Mts of Mourne	82.45	342	⇑iP	P	06 25 48.1	+0.1
SKO	Skopje	82.45	320	⇑iP	P	06 25 49.2	+0.9
	comp=Z,0.2nm,1.1s						
SKO	Skopje	82.45	320	⇑iP	P	06 25 49.0	+0.7
	comp=Z,200nm,1.1s,mb6.0						
KTD	Kalmit	82.47	332	eP	P	06 25 48.4	+0.2
KTD	Kalmit	82.47	332	eP	P	06 25 48.0	-0.2
LAZ	Ladron	82.47	51	eP	P	06 25 49.4	+0.9
ANMO	Albuquerque	82.50	50	P	P	06 25 49.9	+1.3
ANMO				pP	pP	06 26 03.8	-0.2
ANMO				SPn		06 36 56.8	
ANMO	Albuquerque	82.50	50c	iP	P	06 25 49.9	+1.2
ANMO	Albuquerque	82.50	50	eP	P	06 25 49.7	+1.0
	comp=Z,26nm,1.2s,mb5.0						
ANMO				epP	pP	06 26 03.6	-0.3
STU	Stuttgart	82.51	331	eP	P	06 25 48.3	-0.1
	comp=Z,204nm,0.8s,mb6.2						
RUP	Ruppelstein	82.52	332	⇑eP	P	06 25 48.8	+0.3
RUP	Ruppelstein	82.52	332	eP	P	06 25 48.7	+0.2
IVA	Berane	82.53	321	⇑iP	P	06 25 49.3	+0.6
LJU	Ljubljana	82.55	326	iP	P	06 25 48.3	-0.4
LJU				ePP	PP	06 29 00.4	+0.1
LJU				eS	S	06 36 02.5	+2.5
ZFRI	Zfri	82.58	304	P	P	06 25 49.5	+0.3
VISS	Visnje	82.60	326	eP	P	06 25 48.7	-0.3
SCHQ	Schefferville	82.63	16	P	P	06 25 48.6	-0.3
	comp=Z,35nm,0.9s,mb5.4,baz=349,slow=5.4,SNR=29						
SCHQ				LR	LR	07 04 33.5	
	comp=Z,742nm,21.5s,MS5.0,baz=168,slow=37						
BOJS	Bojanci	82.66	325	eP	P	06 25 49.2	-0.1
BOJS				e		06 25 50.8	
THE	Thessaloniki	82.66	318	eP	P	06 25 48.9	-0.4
PVY	Plav	82.70	321	⇑iP	P	06 25 49.2	-0.3
BUCH	Bad Urach	82.71	330	⇑eP	P	06 25 50.0	+0.5
GRG	Griva	82.71	318	eP	P	06 25 49.4	-0.2
LENM	Lemitar	82.73	51	eP	P	06 25 50.5	+0.6
LBG	Lerchenberg	82.74	331	⇑eP	P	06 25 50.0	+0.4
WATA	Walderalm	82.75	329	⇑iP	P	06 25 50.2	+0.5
	comp=Z,324nm,1.8s,mb6.1						
UPM	Unac-Piva	82.76	322	⇑iP	P	06 25 49.6	-0.2
PTCC	Patocco-Chiusa	82.76	327	⇑iP	P	06 25 49.0	-0.7
WTTA	Wattenberg	82.78	328	⇑iP	P	06 25 50.4	+0.6
	comp=Z,656nm,2.9s,mb6.2						
BDRM	Kayabasi	82.80	313	iP	P	06 25 50.1	0.0
WME	Myndd Eilian	82.80	340	⇑eP	P	06 25 50.0	+0.2
WME				AMb	AMB	06 25 51.5	
	comp=Z,72nm,1.4s,mb5.5						
WPM1	Penmaenmawr	82.82	340	⇑eP	P	06 25 50.2	+0.3
WPM1				AMb	AMB	06 25 51.9	
	comp=Z,170nm,1.0s,mb6.0						
ROBS	Robic	82.82	327	iP	P	06 25 49.0	-1.1
PRNI	Paran	82.83	304	P	P	06 25 51.0	+0.6
VOY	Vojsko	82.83	326	eP	P	06 25 49.2	-0.9
LPM	Los Pinos Moun	82.83	51	eP	P	06 25 51.0	+0.7
KZIT	Kziot	82.84	304	P	P	06 25 50.7	+0.2
FVI	Forni Avoltri	82.85	327	⇑iP	P	06 25 49.2	-1.0
LANF	Langenberg	82.85	332	eP	P	06 25 50.4	+0.2
JAVS	Javornik	82.87	326	eP	P	06 25 49.7	-0.6
WLF	Walferdange	82.87	333	eP	P	06 25 50.2	-0.1
	comp=Z,50nm,0.9s,mb5.5						
WCB1	Church Bay	82.88	341	⇑eP	P	06 25 50.2	0.0
WCB1				AMb	AMB	06 25 53.0	
	comp=Z,56nm,1.1s,mb5.5						
GMNA	Gemona	82.91	327	⇑iP	P	06 25 49.6	-0.9
WLF1	Llynfaes	82.92	340	⇑eP	P	06 25 50.6	+0.2
MOTA	Moosalm	82.93	329	⇑iP	P	06 25 51.2	+0.6
	comp=Z,140nm,1.0s,mb6.0						
BNM	Barren Site	82.95	51	eP	P	06 25 51.9	+0.9
GIVF	Givet	82.96	334	⇑iP	P	06 25 50.5	-0.2
	comp=Z,140nm,1.1s,mb5.6						
DMUB	Kingscourt	82.99	342	⇑iP	P	06 25 51.4	+0.7
SQTA	Sankt Quirin	82.99	329	⇓iP	P	06 25 51.5	+0.6
	comp=Z,148nm,1.3s,mb5.9						
YRC	Rhoscolyn	83.00	341	⇑eP	P	06 25 50.8	0.0
YRC				AMb	AMB	06 25 54.8	
	comp=Z,68nm,1.6s,mb5.4						
KBRS	Khaybar	83.00	298	P	P	06 25 52.0	+0.6
ARG	Arkhangelos	83.01	312	eP	P	06 25 51.5	+0.3
NKY	Niksic	83.01	322	⇑iP	P	06 25 50.5	-0.6
UBR	Uberruh	83.05	330	⇑eP	P	06 25 51.3	+0.1
GUT	Gutenstein	83.11	330	⇑eP	P	06 25 51.7	+0.2
TRI	Trieste	83.14	326	⇑iP	P	06 25 50.9	-0.8
BRY	Bratogost	83.16	322	⇑iP	P	06 25 51.1	-0.8
KMTI	Karmit	83.17	304	P	P	06 25 52.3	+0.1
TTG	Podgorica	83.17	321	⇑iP	P	06 25 51.7	-0.3
STR	Strasbourg	83.19	331	eP	P	06 25 52.4	+0.5
BFO	Black Forest	83.20	331	eP	P	06 25 52.2	+0.3
BFO				pmax	pmax		
	comp=Z,117nm,1.0s,mb5.9						
BFO	Black Forest	83.20	331	eP	P	06 25 52.2	+0.3
	comp=Z,117nm,1.0s,mb5.9						
BAIF	Baives	83.21	334	⇑iP	P	06 25 51.9	0.0
	comp=Z,95nm,1.0s,mb5.5						
YRE	Yr Eifl	83.21	340	⇑eP	P	06 25 52.2	+0.3
AQBJ	Aqaba	83.21	303	P	P	06 25 52.9	+0.5
HLM1	Long Mynd	83.21	339	⇑eP	P	06 25 52.2	+0.3
HLM1				AMb	AMB	06 25 55.7	
	comp=Z,64nm,1.2s,mb5.5						
SPAK	Spaichingen	83.21	331	⇑eP	P	06 25 52.4	+0.4
SPAK	Spaichingen	83.21	331	eP	P	06 25 52.2	+0.2
TBKS	Tabuk	83.23	301	P	P	06 25 53.1	+0.5
JMQS	Jabal Moqyreh	83.23	302	P	P	06 25 53.0	+0.4
AOS	Alonnisos	83.25	316	eP	P	06 25 52.0	-0.4
MBH	Mount Berech	83.26	303	P	P	06 25 53.0	+0.4
LIT	Litokhoron	83.30	318	eP	P	06 25 52.1	-0.5
EIL	Elat	83.32	303	P	P	06 25 53.2	+0.3
FNA	Florina	83.36	319	eP	P	06 25 52.6	-0.3
SSP1	Stoney Pound	83.37	339	⇑iP	P	06 25 53.1	+0.4
OHR	Ohrid	83.41	319	⇑iP	P	06 25 53.2	0.0
BUM	Brajici-Budva	83.45	321	⇑iP	P	06 25 53.3	0.0
DAVA	Damuels	83.46	329	⇑iP	P	06 25 53.8	+0.5
	comp=Z,330nm,1.2s,mb6.2						
WLS	Welschbruch	83.49	332	eP	P	06 25 53.7	+0.3
CDF	Champ du Feu	83.52	332	⇑iP	P	06 25 53.8	+0.3
	comp=Z,230nm,1.0s,mb5.9						
HCY	Herceg Novi	83.53	322	⇑iP	P	06 25 53.3	-0.4
ULC	Ulcinj	83.53	321	⇑iP	P	06 25 53.8	+0.1
STEIN	Stein am Rhein	83.54	330	⇑iP	P	06 25 53.7	+0.1
	comp=Z,256nm,1.2s,mb6.2						
JMOS	Jabal al Moall	83.55	303	P	P	06 25 54.3	+0.2
HAE	Alders End	83.55	339	⇑iP	P	06 25 54.0	+0.5
HAE				AMb	AMB	06 25 55.0	
	comp=Z,163nm,0.9s,mb6.2						
CBKS	Cedar Bluff	83.56	44	eP	P	06 25 53.2	-0.8
	comp=Z,84nm,1.4s,mb5.7						
NVLJ	Novalja	83.56	325	⇑iP	P	06 25 53.1	-0.7
STON	Ston	83.58	322	⇑iP	P	06 25 53.1	-0.9
DCN	Croghan	83.58	342	⇑iP	P	06 25 54.5	+0.8
SLE	Schleitheim	83.60	331	⇑iP	P	06 25 53.9	0.0
	comp=Z,132nm,1.2s,mb5.9						
WEIN	Weingarten	83.61	330	⇑iP	P	06 25 54.0	0.0
	comp=Z,170nm,1.4s,mb6.0						
KAMOR	Kamor	83.61	330	⇑iP	P	06 25 54.4	+0.4
	comp=Z,274nm,1.2s,mb6.2						
LIBD	Limburg	83.62	331	⇑eP	P	06 25 54.5	+0.5
LIBD	Limburg	83.62	331	eP	P	06 25 54.4	+0.4
TRULL	Truellikon	83.63	330	⇑iP	P	06 25 54.3	+0.2
	comp=Z,395nm,1.2s,mb6.4						
KIZ	Kirchzarten	83.66	331	⇑eP	P	06 25 54.3	+0.1
MCH1	Michaelchurch	83.71	339	⇑iP	P	06 25 54.8	+0.4
HTR	Trewern Hill	83.71	339	⇑iP	P	06 25 54.8	+0.4
HTR				AMb	AMB	06 25 55.9	
	comp=Z,102nm,0.8s,mb6.0						
WILA	Wila	83.73	330	⇑iP	P	06 25 54.7	+0.1
	comp=Z,145nm,1.2s,mb6.0						
FLACH	Flaach	83.73	330	⇑iP	P	06 25 54.7	+0.1
	comp=Z,210nm,1.2s,mb6.2						
HAQS	Haql	83.74	303	P	P	06 25 55.3	+0.2
CTI	Castel Tesino	83.76	328	⇑iP	P	06 25 54.0	-0.8
PLONS	Plons	83.85	330	⇑iP	P	06 25 55.5	+0.3
	comp=Z,326nm,1.2s,mb6.3						
FUORN	Ofenpass	83.85	329	⇑iP	P	06 25 56.2	+1.0
	comp=Z,635nm,1.2s,mb6.6						
DAVOX	Davos	83.88	329	P	P	06 25 55.7	+0.4
	comp=Z,105nm,0.8s,mb6.0,baz=30,slow=3.0,SNR=144						
DAVOX	Davos	83.88	329	⇑iP	P	06 25 56.0	+0.7
	comp=Z,267nm,1.2s,mb6.2						
ZUR	Zurich	83.90	330	⇑iP	P	06 25 55.5	+0.1
	comp=Z,182nm,1.2s,mb6.1						
BRMO	Bormio	83.93	329	⇑iP	P	06 25 56.4	+0.8
SULZ	Sulz-Cheisache	83.94	331	⇑iP	P	06 25 55.9	+0.2
	comp=Z,585nm,1.2s,mb6.6						
HGH	Gray Hill	83.98	339	⇑iP	P	06 25 55.9	+0.1
HGH				AMb	AMB	06 25 57.0	
	comp=Z,130nm,0.8s,mb6.1						
URZ	Urewera	84.01	153	LR	LR	06 59 55.3	
	comp=Z,1µm,18.3s,MS5.4,baz=255,slow=33						
MOF	Molkenrain	84.04	331	eP	P	06 25 56.3	+0.2
BDAS	Al Bad‘	84.05	302	P	P	06 25 56.9	+0.3
TATS	Tathlith	84.06	290	P	P	06 25 57.3	+0.4
MPAR	Parnis Oros	84.07	316	eP	P	06 25 55.5	-1.0
AYUS	‘Aynunah	84.10	302	P	P	06 25 57.1	+0.2
BERNI	Berninapass	84.12	329	⇑iP	P	06 25 57.3	+0.7
	comp=Z,222nm,1.2s,mb6.2						
THEF	They Montfort	84.14	332	eP	P	06 25 56.8	+0.2
LLS	Linth-Limmern	84.16	330	⇑iP	P	06 25 57.1	+0.3
	comp=Z,248nm,1.2s,mb6.2						
HINF	Hinteralfeld	84.17	331	⇑iP	P	06 25 56.7	-0.1
	comp=Z,82nm,1.0s,mb5.5						
AGG	Agios Georgios	84.17	317	eP	P	06 25 55.9	-1.1
MEV	Metsovon	84.18	318	eP	P	06 25 57.0	0.0
HAU	Haudompre	84.20	332	⇑iP	P	06 25 57.0	+0.1
	comp=Z,119nm,0.9s,mb5.7						
HAU				eR			
	comp=Z,2µm,21.8s						
MUO	Muotathal	84.21	330	⇑iP	P	06 25 57.4	+0.4
	comp=Z,412nm,1.2s,mb6.4						
MABI	Malga Bissina	84.21	328	⇑iP	P	06 25 56.4	-0.6
BBS	Basel-Blauen	84.22	331	⇑eP	P	06 25 57.4	+0.3
BBS	Basel-Blauen	84.22	331	eP	P	06 25 57.3	+0.2
MEZF	Maizieres J’vi	84.24	333	⇑iP	P	06 25 57.7	+0.6
	comp=Z,304nm,1.0s,mb6.1						
BALST	Balsthal	84.26	331	⇑iP	P	06 25 57.5	+0.2
	comp=Z,433nm,1.2s,mb6.4						
VDL	Val di Lei	84.28	329	⇑iP	P	06 25 58.0	+0.6
	comp=Z,244nm,1.2s,mb6.2						
DBAS	Duba	84.28	301	P	P	06 25 57.9	+0.1
MKIT	Kithairon Oros	84.30	316	eP	P	06 25 56.5	-1.2
BNALP	Bannalp	84.37	330	⇑iP	P	06 25 58.2	+0.4
	comp=Z,339nm,1.2s,mb6.3						
BOURR	Bourrignon	84.39	331	⇑iP	P	06 25 58.2	+0.3
	comp=Z,233nm,1.2s,mb6.2						
JAN	Janina	84.47	318	eP	P	06 25 58.0	-0.5
EVR	Evrytania	84.53	317	eP	P	06 25 59.5	+0.7
HASLI	Hasliberg	84.57	330	⇑iP	P	06 25 59.1	+0.3
	comp=Z,635nm,1.2s,mb6.6						
LOMF	Lomont	84.57	331	eP	P	06 25 59.1	+0.3
SAL	Salo	84.57	328	⇑iP	P	06 25 58.5	-0.4
FUSIO	Fusio	84.62	330	⇑iP	P	06 25 59.5	+0.4
	comp=Z,300nm,1.2s,mb6.3						
UMJS	Umm Lajj	84.69	298	P	P	06 26 00.6	+0.6
YNBS	Yanbu‘ al Bahr	84.82	297	P	P	06 26 01.0	+0.4
IGT	Igoumenitsa	84.83	319	eP	P	06 26 00.1	-0.2
WIMIS	Wimmis	84.85	330	⇑iP	P	06 26 00.3	+0.1
	comp=Z,225nm,1.2s,mb6.2						
MUGIO	Muggio	84.91	329	⇑iP	P	06 26 00.0	-0.5
	comp=Z,377nm,1.2s,mb6.4						
MUGIO	Muggio	84.91	329	⇑iP	P	06 26 00.1	-0.4
KEK	Kerkira	84.96	319	eP	P	06 26 01.0	0.0
KSU1	Kansas State U	84.99	42	eP	P	06 26 00.4	-0.7
TORNY	Torny	85.01	331	⇑iP	P	06 26 01.3	+0.3
	comp=Z,257nm,1.2s,mb6.2						
VAI	Varese	85.06	329	⇑iP	P	06 26 01.1	-0.2
LKBD	Leukerbad	85.08	330	⇑iP	P	06 26 01.5	+0.1
	comp=Z,153nm,1.0s,mb6.1						
NPS	Neapolis	85.12	313	eP	P	06 26 01.0	-0.9
RSM	Repubblica di	85.12	326	⇑iP	P	06 26 02.5	+0.8
FSSB	Fossombrone	85.17	326	⇑iP	P	06 26 02.2	+0.3
DJNS	Zahran al Janu	85.18	289	P	P	06 26 03.6	+1.1
BLJS	Baljurashi	85.19	292	P	P	06 26 03.4	+0.9
SENIN	Lac Senin	85.22	330	⇑iP	P	06 26 02.4	+0.3
	comp=Z,200nm,1.2s,mb6.1						
MMK	Mattmark	85.23	330	⇑iP	P	06 26 02.7	+0.6
	comp=Z,208nm,1.2s,mb6.1						
CING	Cingoli	85.24	325	⇑iP	P	06 26 02.2	-0.1
ARV	Arcevia	85.26	325	⇑iP	P	06 26 02.4	+0.1
LKD	Levkas	85.28	318	eP	P	06 26 02.3	-0.3
FGMS	Monte Sant’Ang	85.31	323	⇑iP	P	06 26 02.5	-0.1
XRY	Khrisi	85.35	312	eP	P	06 26 02.0	-1.0
BRT	Bari-Castellan	85.35	321	eP	P	06 26 03.0	+0.2
AIGLE	Aigle	85.37	331	⇑iP	P	06 26 02.8	0.0
	comp=Z,188nm,1.2s,mb6.1						
GRYON	Gryon	85.39	330	⇑iP	P	06 26 03.1	+0.2
	comp=Z,151nm,0.9s,mb6.1						
DIX	Grande Dixence	85.42	330	⇑iP	P	06 26 03.7	+0.7
	comp=Z,177nm,1.2s,mb6.0						
PPT	Papeete	85.42	117	eP	P	06 26 05.6	+1.9
	comp=Z,13nm,1.4s,mb4.9						
CABF	La Chapelle	85.47	331	⇑iP	P	06 26 03.6	+0.3
	comp=Z,190nm,1.2s,mb5.8						
GIMEL	Gimel	85.47	331	⇑iP	P	06 26 03.6	+0.3
	comp=Z,131nm,1.2s,mb5.9						
PAE	Paea	85.48	117	eP	P	06 26 05.8	+1.8
	comp=Z,60nm,1.3s,mb5.6						
VMG	Vicchio	85.48	327	⇑iP	P	06 26 05.1	+1.6
SEI	Scarperia	85.49	327	⇓iP	P	06 26 05.0	+1.6
RGNG	Rignano Grg	85.50	323	⇑iP	P	06 26 03.4	-0.2
IDI	Anoyia	85.51	313	P	P	06 26 02.6	-1.1
	comp=Z,72nm,1.0s,mb5.9,baz=31,slow=8.5,SNR=24						
SALAN	Lac Salanfe	85.53	330	⇑iP	P	06 26 03.8	+0.2
	comp=Z,111nm,0.8s,mb6.1						
VLI	Veliai	85.55	315	eP	P	06 26 02.5	-1.4
TIAR	Tiarei	85.57	117	eP	P	06 26 06.4	+2.0
	comp=Z,37nm,0.9s,mb5.6						
VAL	Valentia	85.57	343	⇓iP	P	06 26 03.5	-0.1
ORO	Oropa	85.57	330	⇑iP	P	06 26 03.2	-0.6
ERBM	Eremo	85.59	327	⇑iP	P	06 26 04.9	+1.0
EMV	Vieux Emosson	85.62	330	⇑iP	P	06 26 04.4	+0.3
	comp=Z,174nm,1.2s,mb6.1						
TERO	Teramo	85.66	325	⇑iP	P	06 26 04.3	-0.1
GDL2	Guadalupe Moun	85.66	51	eP	P	06 26 05.0	+0.4
GDL2				epP	pP	06 26 18.8	-1.2
GRAM		85.67	328	P	P	06 26 04.2	-0.1
VLS	Valsamata	85.71	318	eP	P	06 26 04.0	-0.7
CSA1	St Austell	85.71	339	⇑eP	P	06 26 04.7	+0.3
LOR	Lormes	85.72	333	⇑iP	P	06 26 04.7	+0.2
	comp=Z,487nm,1.0s,mb6.4						
LOR				eR			
	comp=Z,2µm,21.0s						
VALM		85.72	328	P	P	06 26 04.7	+0.2
ITM	Ithomi	85.75	316	eP	P	06 26 04.5	-0.4
TRAV		85.76	330	P	P	06 26 04.4	-0.4
LTHS	Al Lith	85.78	293	P	P	06 26 05.9	+0.4
TVO	Taravao	85.79	117	eP	P	06 26 07.5	+2.0
	comp=Z,28nm,1.2s,mb5.4						
VLC	Villacollemand	85.81	327	eP	P	06 26 04.5	-0.6
	comp=Z,45nm,1.0s,mb5.7						
VAM	Vamos	85.81	314	eP	P	06 26 05.5	+0.3
CODM		85.84	328	P	P	06 26 05.0	-0.2
BACM		85.84	328	P	P	06 26 05.0	-0.2
FLN	La Foliniere	85.85	336	⇑iP	P	06 26 05.3	+0.2
	comp=Z,173nm,0.9s,mb6.0						
FLN				eR			
	comp=Z,2µm,22.8s						
LDF	La Druitiere	85.89	336	⇑iP	P	06 26 05.4	+0.1
	comp=Z,156nm,0.9s,mb5.9						
CLNB	Carlsbad	85.91	51	eP	P	06 26 06.2	+0.4
JLP	Les Platons	85.92	337	⇑iP	P	06 26 05.9	+0.4
VINC	Vinca	85.92	327	P	P	06 26 04.7	-0.9
JQE	Queens East	85.94	337	⇑iP	P	06 26 05.9	+0.4
CCA1	Carnmenellis	85.95	340	⇑eP	P	06 26 05.8	+0.2
CRQ2	Rosemanowes 2	85.96	340	⇑eP	P	06 26 05.9	+0.4
FG5	Orsara di Pugl	85.96	323	eP	P	06 26 06.8	+1.0
JRS	Jersey	85.96	337	⇑iP	P	06 26 06.0	+0.4
AQU	L’Aquila	85.96	325	eP	P	06 26 05.8	0.0
	comp=Z,88nm,0.9s,mb6.0						
MAIM		85.97	327	P	P	06 26 04.5	-1.3
JVM	Valle D.L. Mar	85.97	337	⇑iP	P	06 26 06.1	+0.4
CSNT	Castellina Chi	85.99	326	⇑iP	P	06 26 05.1	-0.8
SSF	Saint Saulge	86.02	333	⇑iP	P	06 26 06.3	+0.4
	comp=Z,245nm,0.9s,mb6.1						
CMA1	Manaccan	86.02	339	⇑eP	P	06 26 06.2	+0.3
CGW	Gweek	86.03	340	⇑eP	P	06 26 06.3	+0.4
LSD	Ceresole Reale	86.03	330	P	P	06 26 06.8	+0.7
CII	Carovilli	86.06	324	⇑iP	P	06 26 06.8	+0.5
CGH1	Goonhilly	86.06	340	⇑eP	P	06 26 06.5	+0.4
CPZ	Penzance	86.08	340	⇑eP	P	06 26 06.7	+0.6
HYF	Humbligny	86.14	334	⇑iP	P	06 26 07.3	+0.8
LPL	La Plagne	86.15	330	⇑iP	P	06 26 07.3	+0.7
	comp=Z,235nm,0.9s,mb6.1						
LPG	La Plagne	86.16	330	⇑iP	P	06 26 07.4	+0.7
	comp=Z,266nm,0.9s,mb6.2						
CPI2	Carpinone	86.16	323	eP	P	06 26 07.6	+0.8
GENL	Genova Univers	86.19	328	P	P	06 26 07.1	+0.2
PTQR	Pietraquaria	86.23	324	⇑iP	P	06 26 07.3	+0.2
RSP	Reno Superiore	86.25	330	P	P	06 26 05.7	-1.5
SMF	Signal de Mont	86.26	333	⇑iP	P	06 26 07.5	+0.4
	comp=Z,519nm,1.3s,mb6.3						
MRLC	Muro Lucano	86.27	322	⇑iP	P	06 26 07.7	+0.4
SDI	San Donato	86.29	324	⇑iP	P	06 26 07.0	-0.4
GRR	Gorron	86.30	336	⇑iP	P	06 26 07.8	+0.5
	comp=Z,282nm,0.8s,mb6.2						
AVF	Avril sur Loir	86.30	333	⇑iP	P	06 26 07.8	+0.5
	comp=Z,558nm,0.8s,mb6.5						
ORI	Oriolo Calabro	86.35	321	eP	P	06 26 08.7	+0.9
LBOS		86.37	285	⇑eP	P	06 26 09.1	+0.7
GRFL	Gerfalco	86.39	326	⇑iP	P	06 26 07.1	-0.8
CSSN	Cassano Irpino	86.40	323	eP	P	06 26 07.3	-0.7
FENE	Fenestrelle	86.43	330	P	P	06 26 07.7	-0.3
SLCN	Sala Consilina	86.48	322	⇓iP	P	06 26 09.1	+0.7
SGO	Sicignano	86.51	322	eP	P	06 26 08.0	-0.5
BHB	Bricherasio	86.51	330	P	P	06 26 06.7	-1.8
BNI	Bardonecchia	86.56	330	eP	P	06 26 08.7	0.0
	comp=Z,27nm,0.8s,mb5.5						
DHBB	Dhamar BB	86.57	286	⇑eP	P	06 26 10.5	+1.2
RRL	Cesana Torines	86.63	330	P	P	06 26 08.8	-0.2
GDM	Grand’Maison	86.64	330	eP	P	06 26 09.5	+0.4
FIN	Finale Ligure	86.66	329	P	P	06 26 07.5	-1.7
MEH	Mehetia	86.67	116	eP	P	06 26 11.7	+1.9
	comp=Z,27nm,1.2s,mb5.4						
BGF	Bois d’Agland	86.68	333	⇑iP	P	06 26 09.6	+0.4
	comp=Z,184nm,1.1s,mb5.9						
TDS	Terranova Siba	86.72	321	eP	P	06 26 09.8	+0.2
ROB	Roburent	86.72	329	P	P	06 26 08.4	-1.1
GRN	Grenoble	86.75	331	eP	P	06 26 10.4	+0.8
MBDF	Montbardon	86.80	330	⇑iP	P	06 26 09.5	-0.3
	comp=Z,57nm,0.9s,mb5.5						
RORO		86.80	329	P	P	06 26 08.7	-1.2
PZZ	Prazzo	86.85	330	P	P	06 26 08.1	-2.0
TIP	Timpagrande	86.89	321	eP	P	06 26 10.1	-0.3
PLDF	La Plantade	86.91	332	eP	P	06 26 11.2	+0.8
SGMF	Saint Gilles	86.94	337	⇑iP	P	06 26 11.0	+0.6
	comp=Z,276nm,0.9s,mb6.2						
MONE	Monesi	86.95	329	P	P	06 26 09.6	-1.0
ENR	Entracque	86.96	329	P	P	06 26 08.5	-2.1
ORIF	Oris-en-Rattie	86.98	330	⇑iP	P	06 26 11.0	+0.3
	comp=Z,119nm,1.2s,mb5.7						
ORIF				eR			
	comp=Z,1µm,19.0s						
STV2	Anna di Valdie	86.98	329	P	P	06 26 08.7	-2.1
STV	Sta Anna Valdi	86.98	329	P	P	06 26 08.8	-1.9
SURF	Saint Ours	86.98	330	eP	P	06 26 10.9	+0.1
AGO	Saint Agoulin	87.02	333	eP	P	06 26 11.6	+0.7
IMI	Imperia	87.04	329	⇑iP	P	06 26 10.3	-0.7
WMOK	Wichita Mounta	87.07	46	eP	P	06 26 11.2	-0.2
	comp=Z,36nm,1.4s,mb5.4						
WMOK				epP	pP	06 26 25.5	-1.3
ROSF	Rostrenen	87.08	338	⇑iP	P	06 26 11.8	+0.7
	comp=Z,345nm,1.0s,mb6.2						
SAOF	Saorge	87.11	329	eP	P	06 26 09.9	-1.5
AUTN	L’Aution	87.15	329	eP	P	06 26 10.4	-1.2
NEGI	Negi	87.16	329	P	P	06 26 08.8	-2.8
SBF	Sospel	87.26	329	⇑iP	P	06 26 11.4	-0.7
	comp=Z,78nm,0.7s,mb5.8						
COLF	Collangettes	87.28	332	eP	P	06 26 12.4	+0.3
PYM	Petit Puy Mans	87.32	333	eP	P	06 26 13.0	+0.6
MVIF	Mont Vial	87.34	329	eP	P	06 26 12.0	-0.5
QUIF	Quistinic	87.42	337	⇑iP	P	06 26 13.1	+0.3
	comp=Z,133nm,1.1s,mb5.8						
OCF	Saint Nazaire	87.48	331	eP	P	06 26 13.8	+0.6
OG26	St.-Nazaire-De	87.48	331	eP	P	06 26 13.8	+0.6
VIVF	Saint-Julien-l	87.48	331	⇑iP	P	06 26 13.6	+0.4
	comp=Z,204nm,1.2s,mb5.9						
CALN	Calern	87.57	329	eP	P	06 26 13.2	-0.4
MFF	Saint Martin d	87.65	335	⇑iP	P	06 26 14.7	+0.8
	comp=Z,334nm,1.0s,mb6.2						
LBL	Lubilhac	87.68	332	eP	P	06 26 15.2	+1.1
PGF	Pioggiola	87.71	327	⇑iP	P	06 26 13.7	-0.6
	comp=Z,31nm,0.7s,mb5.3						
FRF	La Foret Royal	87.82	329	eP	P	06 26 14.1	-0.7
	comp=Z,41nm,0.9s,mb5.4						
SMRF	Simiane la Rot	87.89	330	eP	P	06 26 15.4	+0.3
VILF	Villemus	87.94	330	eP	P	06 26 15.1	-0.3
TAVF	Tavernes	88.01	330	eP	P	06 26 15.3	-0.4
LMR	La Mourre	88.07	329	⇑iP	P	06 26 15.5	-0.5
	comp=Z,83nm,0.9s,mb5.7						
SOI	Samo	88.09	320	⇑iP	P	06 26 16.1	-0.2
LTX	Lajitas	88.11	53	eP	P	06 26 16.7	+0.1
	comp=Z,25nm,1.3s,mb5.3						
TXAR	Lajitas Array	88.11	53	P	P	06 26 17.0	+0.5
	comp=Z,3.6nm,0.6s,mb4.8,baz=292,slow=3.2,SNR=72						
TXAR				pP	pP	06 26 31.3	-0.7
	comp=Z,17nm,1.0s,baz=304,slow=3.3,SNR=12						
TXAR				LR	LR	07 01 41.8	
	comp=Z,440nm,18.9s,MS4.9,baz=195,slow=33						
TXAR	Lajitas Array	88.11	53	P	P	06 26 17.0	+0.5
TXAR				pP	pP	06 26 31.3	-0.7
LRYF	La Roche-sur-Y	88.12	336	eP	P	06 26 16.6	+0.4
PRAF	Pradon	88.19	330	eP	P	06 26 14.9	-1.7
PUYF	Puyloubier	88.22	330	eP	P	06 26 16.7	0.0
RJF	Les Rejaudoux	88.23	333	⇑iP	P	06 26 17.4	+0.7
	comp=Z,188nm,1.1s,mb5.9						
RJF				eR			
	comp=Z,1µm,22.0s						
TREF	Trevaresse	88.26	330	eP	P	06 26 15.6	-1.3
CAF	Calviac	88.37	333	⇑iP	P	06 26 18.4	+1.0
	comp=Z,171nm,1.1s,mb5.9						
GELF	Grande-Etoile	88.45	330	eP	P	06 26 17.9	+0.1
LASF	Ste Croix	88.45	331	⇑iP	P	06 26 18.4	+0.6
	comp=Z,48nm,1.0s,mb5.4						
CCM	Cathedral Cave	88.48	39	eP	P	06 26 17.6	-0.4
	comp=Z,66nm,1.0s,mb5.8						
SLM	Saint Louis	88.51	38	eP	P	06 26 18.2	0.0
	comp=Z,53nm,0.8s,mb5.9						
LFF	La Frestale	88.82	334	⇑iP	P	06 26 20.4	+0.9
	comp=Z,162nm,0.9s,mb6.0						
FVM	French Village	88.93	39	eP	P	06 26 20.3	+0.1
	comp=Z,78nm,1.4s,mb5.8						
MSNY	Massena	89.38	25	eP	P	06 26 21.8	-0.4
JCT	Junction City	89.61	50	eP	P	06 26 23.4	-0.2
	comp=Z,13nm,0.7s,mb5.4						
MTLF	Montolieu	89.69	332	⇑iP	P	06 26 24.2	+0.5
	comp=Z,65nm,0.8s,mb5.7						
BLO	Bloomington	89.80	36	eP	P	06 26 24.6	+0.3
	comp=Z,54nm,1.4s,mb5.7						
ERPA	Erie	90.06	30	eP	P	06 26 25.3	-0.1
	comp=Z,182nm,1.4s,mb6.2						
EJON	La Jonquera	90.21	331	P	P	06 26 26.4	+0.2
	comp=Z,37nm,1.1s,mb5.6						
ALLY	Alegheny Colle	90.40	30	eP	P	06 26 27.7	+0.6
MLS	Moulis	90.43	332	eP	P	06 26 27.6	+0.5
ACSO	Alum Creek Sta	90.46	33	eP	P	06 26 27.4	+0.1
	comp=Z,59nm,1.1s,mb5.8						
NCB	Newcomb	90.50	25	eP	P	06 26 27.2	-0.3
	comp=Z,73nm,1.4s,mb5.8						
SALF	Salau	90.56	332	eP	P	06 26 27.6	-0.2
MELF	Melles	90.62	333	eP	P	06 26 28.1	+0.1
EPF	Esparros	90.63	333	⇑iP	P	06 26 28.1	0.0
	comp=Z,55nm,1.0s,mb5.5						
RESF	Ens	90.83	333	eP	P	06 26 30.3	+1.3
GLAT	Glass	90.84	39	eP	P	06 26 29.7	+0.5
VIEF	Viey	90.87	333	eP	P	06 26 30.4	+1.2
UTMT	University of	90.99	39	P	P	06 26 29.2	-0.7
ETSF	Etsaut	91.06	333	⇑iP	P	06 26 31.1	+1.0
	comp=Z,56nm,0.8s,mb5.7						
LARF	Larrau	91.08	334	eP	P	06 26 30.4	+0.2
SJPF	Ste Jean	91.09	334	eP	P	06 26 31.1	+0.8
	comp=Z,30nm,0.9s,mb5.3						
EALK	Alkurruntz	91.10	334	P	P	06 26 30.6	+0.3
	comp=Z,63nm,1.3s,mb5.8						
FDAF	Les Forges d’A	91.13	333	eP	P	06 26 31.5	+1.1
EMIR	Miracle	91.18	332	P	P	06 26 30.6	-0.1
	comp=Z,49nm,1.0s,mb5.8						
ACCN	Adirondack Com	91.21	25	eP	P	06 26 30.7	0.0
HNH	Hanover	91.36	24	eP	P	06 26 31.8	+0.3
	comp=Z,1.8nm,0.9s						
BINY	Binghamton	91.47	27	eP	P	06 26 31.7	-0.3
	comp=Z,48nm,1.3s,mb5.7						
ELAN	Lanestosa	91.72	336	P	P	06 26 32.7	-0.4
	comp=Z,38nm,1.0s,mb5.7						
EPOB	Poblet	91.83	332	P	P	06 26 33.8	+0.1
	comp=Z,60nm,1.2s,mb5.8						
ESAC	San Caprasio	92.06	333	P	P	06 26 35.5	+0.8
	comp=Z,108nm,1.0s,mb6.1						
SSPA	Standing Stone	92.14	29	eP	P	06 26 35.6	+0.4
	comp=Z,11nm,0.9s,mb5.2						

OXF	Oxford	92.18	40	eP	P	06 26 35.2	-0.3
	comp=Z,89nm,1.4s,mb5.9						
MCWV	Mont Chateau	92.22	31	eP	P	06 26 36.0	+0.4
	comp=Z,54nm,1.5s,mb5.7						
HKT	Hockley	92.29	47	eP	P	06 26 36.4	+0.3
HKT				e		06 26 44.1	
HKT				epP	pP	06 26 50.1	-1.5
EBR	Ebro Roquetas	92.51	332	eP	P	06 26 37.3	+0.5
HRV	Harvard--Oak R	92.67	24	eP	P	06 26 37.6	+0.1
	comp=Z,51nm,1.4s,mb5.8						
EPON	Pontenova	92.76	338	P	P	06 26 37.2	-0.7
	comp=Z,110nm,1.2s,mb6.2						
WES	Weston	92.86	24	eP	P	06 26 38.3	-0.1
	comp=Z,82nm,1.4s,mb6.0						
EMOS	Mosqueruela	93.26	332	P	P	06 26 40.9	+0.6
	comp=Z,42nm,1.0s,mb5.8						
ETOR	Torete	93.42	334	P	P	06 26 41.4	+0.4
	comp=Z,67nm,1.2s,mb6.0						
FWV	Forest Hill	93.60	33	eP	P	06 26 42.0	+0.1
ERUA	La Rua	93.62	338	P	P	06 26 42.4	+0.6
	comp=Z,10nm,0.7s,mb5.4						
PWV	Princeton	93.71	33	eP	P	06 26 42.4	+0.1
CPCT	Cooper Cave	93.76	36	eP	P	06 26 42.4	-0.3
ELN	Prospectdale	93.93	33	eP	P	06 26 42.7	-0.7
PBRG	Braganca	94.03	337	eP	P	06 26 43.6	-0.1
	comp=Z,36nm,1.1s,mb5.7						
BLA	Blacksburg	94.08	33	eP	P	06 26 44.1	0.0
	comp=Z,24nm,1.1s,mb5.5						
LRAL	Lakeview Retre	94.56	40	eP	P	06 26 45.6	-0.7
	comp=Z,5.1nm,0.8s,mb5.0						
PVRL	Vila Real	94.81	338	eP	P	06 26 47.5	+0.2
	comp=Z,44nm,1.6s,mb5.6						
ESDC	Sonseca Array	95.09	334	P	P	06 26 48.7	+0.1
	comp=Z,9.7nm,0.7s,mb5.3,baz=19,slow=3.9,SNR=33						
ESDC				PP	PP	06 30 37.5	-3.2
	comp=Z,8.3nm,0.9s,baz=25,slow=7.5,SNR=8.4						
ESDC				LR	LR	07 15 02.8	
	comp=Z,994nm,18.7s,MS5.3,baz=30,slow=39						
ESDC	Sonseca Array	95.09	334	P	P	06 26 48.7	+0.1
	comp=Z,8.8nm,0.7s,mb5.3						
ETOB	Tobarra	95.17	332	P	P	06 26 49.9	+0.9
	comp=Z,16nm,1.0s,mb5.4						
PVIS	Viseu	95.38	337	eP	P	06 26 49.7	-0.2
	comp=Z,52nm,1.2s,mb5.8						
EVIA	Vianos	95.52	333	P	P	06 26 51.5	+0.9
	comp=Z,20nm,0.8s,mb5.6						
MTE	Manteigas	95.56	337	eP	P	06 26 50.8	0.0
	comp=Z,44nm,1.9s,mb5.6						
	comp=Z,937nm,19.8s						
PCBR	Castelo Branco	96.06	337	eP	P	06 26 54.1	+1.1
JSC	Jenkinsville	96.20	35	eP	P	06 26 53.3	-0.5
EQES	Quesada	96.46	333	P	P	06 26 55.9	+1.0
	comp=Z,7.2nm,0.7s,mb5.2						
EADA	Adamuz	96.65	334	P	P	06 26 55.6	-0.2
	comp=Z,12nm,0.9s,mb5.3						
EMIN	Mina Concepcio	97.70	335	P	P	06 27 01.4	+0.8
	comp=Z,6.6nm,0.8s,mb5.2						
PBEJ	Beja	97.84	336	eP	P	06 27 01.3	+0.1
ESPR	Espera	98.26	334	P	P	06 27 04.1	+1.0
	comp=Z,15nm,0.9s,mb5.5						
KMBO	Kilima Mbogo	102.07	279	P	Pdif	06 27 20.7	-0.1
	comp=Z,12nm,0.9s,baz=33,slow=8.2,SNR=28						
KMBO				PP	PP	06 31 31.5	-3.7
	comp=Z,5.6nm,1.0s,baz=42,slow=12,SNR=7.1						
KMBO	Kilima Mbogo	102.07	279	ePdif	Pdif	06 27 20.1	-0.8
	comp=Z,16nm,1.0s						
VNDA	Vanda	117.61	175	PKP	PKPdf	06 32 09.2	-0.3
	comp=Z,2.2nm,1.0s,baz=307,slow=4.4,SNR=5.7						
VNDA	Vanda	117.61	175	PKIKP	PKPdf	06 32 09.2	-0.3
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	Mawson	122.16	206	⇑iPKP	PKPdf	06 32 18.7	+0.2
	comp=Z,12nm,0.8s						
MAW	Mawson	122.16	206	PKP	PKPdf	06 32 18.2	-0.3
	comp=Z,14nm,0.8s,baz=25,slow=2.9,SNR=34						
MAW	Mawson	122.16	206	PKIKP	PKPdf	06 32 18.2	-0.3
MAW				pmax	pmax		
	comp=Z,14nm,0.8s						
SDV	Santo Domingo	122.96	39	ePKP	PKPdf	06 32 22.0	+0.7
ROSC	El Rosal	124.43	46	PKP	PKPdf	06 32 25.5	+1.3
	comp=Z,8.4nm,0.7s,baz=193,slow=11,SNR=5.4						
DBIC	Dimbokro	124.63	319	PKP	PKPdf	06 32 24.3	-0.3
	comp=Z,19nm,0.9s,baz=24,slow=4.7,SNR=14						
DBIC				PP	PP	06 34 08.3	-8.1
	comp=Z,20nm,0.9s,baz=6.0,slow=9.1,SNR=8.0						
DBIC	Dimbokro	124.63	319	PKPdf	PKPdf	06 32 25.0	+0.4
DBIC				PP	PP	06 34 10.5	-5.9
DBIC	Dimbokro	124.63	319	PKIKP	PKPdf	06 32 24.3	-0.3
DBIC						06 34 08.3	
DBIC				pmax	pmax		
	comp=Z,19nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,20nm,0.9s						
TIC	Toumodi	124.73	319	ePKIKP	PKPdf	06 32 24.9	+0.1
	comp=Z,175nm,1.2s						
KIC	Kosan Boka	124.83	318	ePKIKP	PKPdf	06 32 25.2	+0.2
	comp=Z,116nm,1.0s						
LIC	Lamto	125.09	319	ePKIKP	PKPdf	06 32 25.8	+0.3
	comp=Z,50nm,0.9s						
LIC	Lamto	125.09	319	ePKIKP	PKPdf	06 32 25.6	+0.1
	comp=Z,72nm,0.9s						
LBTB	Lobatse	125.39	265	PKPdf	PKPdf	06 32 26.9	+1.1
LBTB				PKPdf	PKPdf	06 32 26.9	+1.1
QSPA	South Pole Qui	129.46	180	ePKP	PKPdf	06 32 32.0	-0.2
SYO	Syowa Base	130.81	208	⇓P	PKPdf	06 32 34.7	-0.3
SAML	Samuel	141.98	43	ePKP	PKPdf	06 32 51.7	-5.2
ARE	Arequipa	142.78	61	eP	PKPdf	06 32 57.0	-1.2
LPAZ	La Paz	144.87	57	PKP	PKPdf	06 33 02.0	+0.2
	comp=Z,6.3nm,0.6s,baz=343,slow=4.8,SNR=45						
LPAZ	La Paz	144.87	57	PKIKP	PKPdf	06 33 02.1	+0.3
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RCBR	Riachuelo	146.21	356	ePKPdf	PKPdf	06 33 05.6	+1.3
RCBR				ePKPbc	PKPbc	06 33 06.7	+1.3
LVC	Limon Verde	148.72	66	PKPbc	PKPdf	06 33 11.3	+3.2
	comp=Z,22nm,0.8s,baz=291,slow=3.5,SNR=31						
LVC	Limon Verde	148.72	66	PKPdf	PKPdf	06 33 11.0	+2.9
LVC	Limon Verde	148.72	66	ePKPdf	PKPdf	06 33 09.6	+1.5
TLL	Tololo Astrono	151.59	81	i P	PKPdf	06 33 14.4	+2.1
CMCH	Combarbala	151.90	83	⇑iP	PKPdf	06 33 14.1	+1.3
CLCH	Cerro Calan	153.19	87	⇑iP	PKPdf	06 33 15.4	+0.9
FCH	Farellones	153.35	86	⇓iP	PKPdf	06 33 16.7	+2.0
BDFB	Brasilia	154.46	23	PKP	PKPdf	06 33 16.6	0.0
	comp=Z,5.1nm,1.0s,baz=356,slow=3.0,SNR=4.6						
BDFB				PKPbc	PKPdf	06 33 26.7	+10
	comp=Z,6.7nm,0.8s,baz=134,slow=5.9,SNR=8.5						
BDFB				PKPab	PKPab	06 33 41.8	-0.2
	comp=Z,12nm,0.8s,baz=324,slow=4.5,SNR=7.4						
USHA	Ushuaia	154.66	137	PKPbc	PKPdf	06 33 26.4	+11
	comp=Z,9.8nm,1.0s,baz=218,slow=8.1,SNR=2.7						
USHA				PKPab	PKPab	06 33 40.4	-1.4
	comp=Z,17nm,1.0s,baz=312,slow=3.0,SNR=4.7						
PLCA	Paso Flores	155.18	103	PKP	PKPdf	06 33 16.9	0.0
	comp=Z,1.7nm,0.9s,baz=331,slow=3.5,SNR=4.0						
PLCA				PKPab	PKPab	06 33 42.1	-2.3
	comp=Z,6.6nm,1.0s,baz=225,slow=2.8,SNR=5.7						
PLCA	Paso Flores	155.18	103	PKIKP	PKPdf	06 33 16.9	0.0
PLCA						06 33 42.1	
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PLCA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CPUP	Villa Florida	159.04	56	PKP	PKPdf	06 33 22.5	+0.2
	comp=Z,6.8nm,1.2s,baz=252,slow=1.6,SNR=5.1						
CPUP				PKPab	PKPab	06 34 00.2	-1.2
	comp=Z,5.2nm,0.8s,baz=306,slow=3.6,SNR=9.0						
CPUP	Villa Florida	159.04	56	PKIKP	PKPdf	06 33 22.5	+0.2
CPUP						06 34 00.2	
CPUP				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CPUP	Villa Florida	159.04	56	PKP	PKPdf	06 33 22.5	+0.2
CPUP				PKPab	PKPab	06 34 00.2	-1.3

IDC ***10*** *06:24:26.4±0.4, 19.58S×173.36W, mb5.2/23, mb1 5.3/24, mb1mx5.3/24, ML5.4/1, MS4.6/4, Ms1 4.7/4, ms1mx4.2/25, Error ellipse: s-maj=18.6km s-min=12.7km az=137.0*

MOS ***10*** *06:24:28.9±2.8, 19.66S×173.39W, h10^{km}, mb5.4/13, Error ellipse: s-maj=18.3km s-min=15.0km az=107.9*

BJI ***10*** *06:24:31.7, 19.74S×172.71W, h57^{km}, mB5.5, mb5.4, Ms5.1, Msz5.0*

HRVD ***10*** *06:24:32.5±0.3, 19.90S×172.78W, h14^{km}, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s29,c45;Mantle waves: s57,c98; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.87±.37; $M_{\theta\theta}$-0.27±.26; $M_{\phi\phi}$6.13±.28; $M_{r\theta}$-2.31±.56; $M_{\theta\phi}$2.33±.19; $M_{\phi r}$-1.16±.47; Best double couple: $M_0$6.93×10^{16} NP1: ϕ_s180°,δ40°,λ-118°. NP2:ϕ_s35°,δ55°,λ-69°. Principal axes: T 7.15, Plg8°, Azm110°; N -.45, Plg17°, Azm202°; P -6.71, Plg71°, Azm356°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *06:24:32.5±0.1, 19.66S×173.32W, mb5.2/43, MS4.9/9 Error ellipse: s-maj=8.3km s-min=4.1km az=144.0*

BGS ***10*** *06:24:34.2±2.3, 19.60S×173.31W, h44^{km}*

ISC 10 06:24:31.1±0.2**, 19.79S**±0.05×**173.22W**±0.04**, h45**^{km}**, h45**^{km}±1.2^{km}**:pP-P, n347,** σ**1s01**/180**, mb5.2**/80**, MS5.0**/17**, 18C-19D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	12.68	99	Pn	P	06 27 21.6	-10
	23nm,0.3s,baz=253,slow=7.1,SNR=62						
RAR				Sn	S	06 29 29.8	-22
	2.9nm,0.3s,slow=19,SNR=3.2						
RAR	Rarotonga	12.68	99	eP	P	06 27 20.9	-10
DZM	Mont Dzumac	19.13	260	eP	P	06 28 52.2	-1.1
URZ	Urewera	20.23	202	P	P	06 29 03.7	-1.4
	42nm,0.4s,baz=16,slow=4.1,SNR=43						
URZ				S	S	06 32 35.4	-9.3
	39nm,1.3s,baz=119,slow=19,SNR=4.8						
URZ	Urewera	20.23	202	eP	P	06 29 04.5	-0.6
TBI	Tubuai	22.37	103	eP	P	06 29 25.9	-0.9
	365nm,1.0s,mb5.8						
TBI				eL		06 33 30.4	
	1µm,26.2s						
TBI				eR		06 34 26.2	
	3µm,42.0s,baz=273						
PAE	Paea	22.48	89	eP	P	06 29 26.7	-1.2
	281nm,1.2s,mb5.6						
PPT	Papeete	22.50	88	P	P	06 29 27.3	-0.9
	290nm,1.2s,mb5.6,baz=242,slow=5.9,SNR=19						
PPT	Papeete	22.50	88	eP	P	06 29 27.1	-1.1
	179nm,1.2s,mb5.4						
PPT	Papeete	22.50	88	eL		06 33 28.1	
	4µm,26.8s						
PPT				eR		06 34 23.9	
	3µm,27.0s,baz=260						
PPT	Papeete	22.50	88	P	P	06 29 27.3	-0.9
PPT				pmax	pmax		
	comp=Z,290nm,1.3s						
TIAR	Tiarei	22.72	88	eP	P	06 29 29.2	-1.1
	comp=Z,424nm,1.1s,mb5.8						
TVO	Taravao	22.77	89	eP	P	06 29 29.7	-1.2
	comp=Z,276nm,1.1s,mb5.6						
MEH	Mehetia	23.88	90	eP	P	06 29 40.9	-0.6
	comp=Z,56nm,1.1s,mb4.9						
PMOR	Pomariorio Ree	24.62	83	eP	P	06 29 47.2	-1.6
	comp=Z,65nm,1.3s,mb5.0						
THZ	Tophouse	24.88	205	eP	P	06 29 51.2	+0.2
WVZ	Waitaha Valley	26.86	207	eP	P	06 30 12.4	+2.9
RPZ	Rata Peaks	27.25	205	P	P	06 30 13.4	+0.3
	comp=Z,20nm,0.9s,mb4.7,baz=24,slow=21,SNR=4.2						
AXZ	Alexandra	29.23	206	eP	P	06 30 36.2	+5.4
RKT	Rikitea	35.68	102	eP	P	06 31 26.4	-0.9
	comp=Z,238nm,1.3s,mb6.0						
CNB	Canberra Magne	36.36	237	eP	P	06 31 31.9	-1.0
	comp=Z,49nm,1.0s,mb5.4						
CTA	Charters Tower	38.03	262	eP	P	06 31 45.4	-1.6
	comp=Z,75nm,0.9s,mb5.4						
CTA				i sP	sP	06 32 00.6	-4.2
CTAO	Charters Tower	38.03	262	eP	P	06 31 44.9	-2.1
	comp=Z,117nm,0.9s,mb5.6						
PMG	Port Moresby	39.61	279	P	P	06 31 58.4	-1.7
	comp=Z,47nm,0.8s,mb5.2,baz=128,slow=5.0,SNR=8.5						
PMG	Port Moresby	39.61	279	P	P	06 31 58.4	-1.8
PMG				pmax	pmax		
	comp=Z,47nm,0.9s						
PMG	Port Moresby	39.61	279	P	P	06 31 59.0	-1.2
	comp=Z,45nm,0.8s,mb5.2						
STKA	Stephens Creek	42.14	244	⇓iP	P	06 32 20.1	-0.8
	comp=Z,30nm,0.9s,mb4.9						
STKA	Stephens Creek	42.14	244	P	P	06 32 19.7	-1.3
	comp=Z,32nm,0.9s,mb5.0,baz=87,slow=8.0,SNR=30						
ASAR	Alice Springs	49.05	255	P	P	06 33 14.3	-1.6
	comp=Z,87nm,0.9s,mb5.8,baz=86,slow=8.6,SNR=216						
ASPA	Alice Springs	49.05	255	⇓iP	P	06 33 14.4	-1.6
ASPA				eS	S	06 40 10.3	-6.0
WB2	Warramunga Arr	49.14	260	eP	P	06 33 14.3	-2.4
WB2				eS	S	06 40 10.4	-7.1
WRA	Warramunga Arr	49.15	260	P	P	06 33 14.5	-2.3
	comp=Z,166nm,1.4s,mb5.9,baz=96,slow=7.4,SNR=73						
WRA				PcP	PcP	06 34 39.8	-0.2
	comp=Z,9.7nm,1.0s,baz=94,slow=4.2,SNR=4.0						
WRA	Warramunga Arr	49.15	260	P	P	06 33 14.5	-2.3
WRA						06 34 39.8	
WRA				pmax	pmax		
	comp=Z,166nm,1.4s						
WRA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KAKA	Kakadu	52.51	269	⇓iP	P	06 33 39.9	-2.4
	comp=Z,44nm,1.0s,mb5.3						
KAKA				eS	S	06 40 39.2	-25
FORT	Forrest	53.69	246	⇓iP	P	06 33 49.1	-1.8
	comp=Z,87nm,0.6s,mb5.9						
FITZ	Fitzroy Crossi	57.58	261	⇓iP	P	06 34 17.2	-1.8
	comp=Z,21nm,1.0s,mb5.1						
FITZ				i sP	sP	06 34 32.5	-4.5
FITZ				eS	Sx	06 40 28.0	
SBA	Scott Base	58.92	185	eP	P	06 34 29.3	+1.7
	comp=Z,28nm,0.9s,mb5.3						
VNDA	Vanda	59.05	186	P	P	06 34 30.4	+1.7
	comp=Z,15nm,1.0s,mb5.0,baz=8.3,slow=7.3,SNR=15						
VNDA	Vanda	59.05	186	P	P	06 34 30.4	+1.8
VNDA				pmax	pmax		
	comp=Z,15nm,1.0s						
KLBR	Kellerberrin	62.41	244	⇓iP	P	06 34 51.2	-0.8
	comp=Z,104nm,0.9s,mb6.0						
NWAO	Narrogin (SRO)	62.69	242	eP	P	06 34 52.7	-1.2
MUN	Mundaring	63.67	243	⇓iP	P	06 35 00.4	0.0
	comp=Z,63nm,0.9s,mb5.7						
CASY	Casey	66.53	205	eP	P	06 35 17.6	-0.5
	comp=Z,44nm,1.1s,mb5.4						
MAJO	Matsushiro	72.41	321	eP	P	06 35 53.0	-1.6
	comp=Z,9.4nm,0.7s,mb4.8						
MAT	Matsushiro	72.41	321	P	P	06 35 53.9	-0.7
MAT	Matsushiro	72.41	321	eP	P	06 35 54.0	-0.6
	comp=Z,22nm,1.0s,mb5.0						
SMY	Shemya	73.05	352	eP	P	06 35 57.4	-0.7
FX1	Attu Island--F	73.32	351	P	P	06 35 57.8	-1.8
	comp=Z,26nm,0.9s,mb5.2,baz=171,slow=7.9,SNR=7.7						
FX1	Attu Island--F	73.32	351	P	P	06 35 57.8	-1.9
FX1				pmax	pmax		
	comp=Z,26nm,0.9s						
MIR	Mirnyy	73.52	205	⇓eP	P	06 36 02.0	+1.4
MIR				e		06 36 27.5	
MIR				pmax	pmax		
	comp=Z,65nm,1.4s,mb5.4						
LRV	Little Rabbit	74.54	41	eP	P	06 36 06.9	-0.2
NSHM	Saint Helena R	74.93	39	eP	P	06 36 08.7	-0.6
PFO	Pinyon Flat Ob	75.80	46	eP	P	06 36 13.5	-0.9
CMB	Columbia Colle	75.95	40	eP	P	06 36 14.4	-0.7
	comp=Z,22nm,1.1s,mb5.0						
CMB				LR	LR		
	comp=Z,436nm,19.0s,MS4.8						
OHCM	Honcut	76.12	39	eP	P	06 36 15.2	-1.0
WDC	Whiskeytown Da	76.32	37	eP	P	06 36 16.2	-1.1
	comp=Z,30nm,1.3s,mb5.1						
PET	Petropavlovsk	76.50	343	eP	P	06 36 18.4	+0.5
PET				e	pP	06 36 33.3	+2.2
PET				pmax	pmax		
	comp=N,32nm,1.3s						
PET				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.2						
OMM	Old Mammoth Mi	76.55	41	eP	P	06 36 18.1	-0.5
DAC	Darwin (Calif)	76.62	43	eP	P	06 36 18.8	-0.2
MTUM	Tungsten Hills	76.66	42	eP	P	06 36 19.0	-0.1
YBH	Yreka Blue Hor	76.99	36	eP	P	06 36 20.7	-0.3
	comp=Z,24nm,1.2s,mb5.0						
BEKR	Beckwourth	77.13	39	eP	P	06 36 20.7	-1.1
	comp=Z,22nm,1.2s,mb5.0						
WCN	Washoe City	77.13	40	eP	P	06 36 21.5	-0.3
	comp=Z,29nm,1.2s,mb5.1						
YSS	Yuzh-Sakhalins	77.37	331	⇓eP	P	06 36 23.7	+0.7
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.7						
YSS				pmax	pmax		
	comp=E,40nm,1.1s						
HUMO	Hull Mountain	77.44	36	eP	P	06 36 23.0	-0.4
	comp=E,21nm,1.2s,mb5.0						
NVAR	Mina Array Bea	77.48	41	P	P	06 36 24.0	+0.2
	comp=E,20nm,1.0s,mb5.0,baz=215,slow=7.2,SNR=80						
NVAR				LR	LR	07 07 43.9	
	comp=E,454nm,18.1s,MS4.8,baz=30,slow=34						
LDFC	Landfair	77.55	45	eP	P	06 36 23.0	-1.3
MNV	Mina	77.57	41	eP	P	06 36 23.2	-1.1
	comp=E,45nm,1.2s,mb5.3						
MNV				LR	LR		
	comp=Z,449nm,19.0s,MS4.8						
TPH	Tonopah	77.94	42	eP	P	06 36 26.0	-0.3
	comp=Z,42nm,1.2s,mb5.2						
NEN	Nelson	78.06	45	eP	P	06 36 26.4	-0.6
MOD	Modoc	78.46	37	eP	P	06 36 28.7	-0.4
	comp=Z,29nm,1.2s,mb5.1						
TUC	Tucson	79.05	50	eP	P	06 36 32.8	+0.3
	comp=Z,25nm,1.1s,mb5.0						
SSOR	Sweet Springs	79.21	34	eP	P	06 36 31.3	-1.8
WVOR	Wild Horse Val	79.76	38	eP	P	06 36 35.5	-0.6
	comp=Z,23nm,1.1s,mb5.0						
WVOR				LR	LR		
	comp=Z,629nm,20.0s,MS5.0						
BMW	Boistfort Moun	79.91	33	eP	P	06 36 35.7	-1.2
VIPM	Ingram Point	79.97	35	P	P	06 36 37.7	+0.5
WUAZ	Wupatki	80.34	47	eP	P	06 36 39.8	+0.4
	comp=Z,20nm,1.3s,mb4.9						
SSE	Sheshan	80.74	308	⇑P	P	06 36 42.6	+1.0
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
GNW	Green Mountain	80.85	32	eP	P	06 36 41.4	-0.4
FMW	Mount Fremont	81.01	33	P	P	06 36 43.3	+0.6
PGC	Sidney	81.29	31	eP	P	06 36 43.3	-0.8
	comp=Z,36nm,1.2s,mb5.2						
RMW	Rattlesnake Mo	81.29	32	P	P	06 36 44.7	+0.5
MVU	Marysvale	81.40	44	eP	P	06 36 45.5	+0.6
	comp=Z,23nm,1.1s,mb5.0						
MSU	Marysvale	81.43	44	eP	P	06 36 46.0	+0.9
RSO	Redoubt South	81.67	10	eP	P	06 36 45.2	-0.6
BBB	Bella Bella	81.72	26	P	P	06 36 46.4	+0.1
	comp=Z,13nm,0.9s,mb4.8,baz=276,slow=5.0,SNR=6.8						
HAWA	Hanford	81.77	34	eP	P	06 36 46.3	-0.3
	comp=Z,32nm,1.4s,mb5.0						
SVW	Sparrevohn	81.85	9	eP	P	06 36 46.7	-0.1
DUG	Dugway	81.96	42	eP	P	06 36 47.3	-0.4
	comp=Z,13nm,1.3s,mb4.7						
DUG				LR	LR		
	comp=Z,457nm,19.0s,MS4.9						
USHA	Ushuaia	82.22	146	LR	LR	07 02 43.8	
	comp=Z,467nm,20.6s,MS4.8,baz=298,slow=28						
WTV	Waterville	82.39	33	P	P	06 36 50.1	+0.2
NLW	Nelson Butte	82.45	33	eP	P	06 36 49.7	-0.4
NLW				epP	pP	06 37 01.8	-1.6
SPU	Mount Spurr	82.47	10	eP	P	06 36 48.4	-1.5
MDJ	Mudanjiang	82.59	323	P	P	06 36 52.8	+1.9
MDJ				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,387nm,7.5s						
MDJ				LR	LR		
	comp=N,243nm,19.5s,MS4.8						
MDJ				LR	LR		
	comp=E,279nm,20.3s,MS4.8						
MDJ				LR	LR		
	comp=Z,450nm,20.3s,MS4.8						
MDJ	Mudanjiang	82.59	323	eP	P	06 36 52.4	+1.5
	comp=Z,107nm,1.6s,mb5.6						
MPU	Maple Canyon	82.61	43	eP	P	06 36 51.7	+0.6
LAZ	Ladron	82.73	50	eP	P	06 36 52.7	+0.8
LENM	Lemitar	82.74	50	eP	P	06 36 52.9	+1.0
SPUT	South Promonto	82.81	42	eP	P	06 36 51.0	-1.1
SRU	San Rafael	82.84	44	eP	P	06 36 52.6	+0.3
HVU	Hansel Valley	82.87	41	eP	P	06 36 52.5	+0.1
HLID	Hailey	82.91	39	eP	P	06 36 52.6	0.0
	comp=Z,24nm,1.2s,mb5.1						
HLID				LR	LR		
	comp=Z,368nm,20.0s,MS4.8						
LTX	Lajitas	82.92	56	eP	P	06 36 53.7	+0.8
	comp=Z,44nm,1.2s,mb5.4						
TXAR	Lajitas Array	82.92	56	P	P	06 36 53.6	+0.7
	comp=Z,19nm,1.0s,mb5.1,baz=211,slow=7.3,SNR=83						
NJ2	Nanjing	82.95	308	eP	P	06 36 53.3	+0.3
PMS	Palmer South	82.96	11	eP	P	06 36 52.2	-0.2
BNM	Barren Site	82.98	50	eP	P	06 36 53.9	+0.8
JLU	Jordanelle	83.05	43	eP	P	06 36 53.8	+0.4
LPM	Los Pinos Moun	83.06	50	eP	P	06 36 54.3	+0.8
DAU	Daniels Canyon	83.07	43	eP	P	06 36 53.9	+0.4
PWA	Palmer West	83.28	11	eP	P	06 36 53.7	-0.3
TCUT	Toone Canyon	83.36	42	eP	P	06 36 54.9	0.0
PMR	Palmer	83.36	11	eP	P	06 36 54.2	-0.3
DPW	Davenport	83.41	34	eP	P	06 36 54.2	-0.8
DPW				epP	pP	06 37 07.3	-1.1
ANMO	Albuquerque	83.49	49	eP	P	06 36 56.5	+0.8
	comp=Z,67nm,1.7s,mb5.4						
ANMO				LR	LR		
	comp=Z,506nm,19.0s,MS4.9						
HWUT	Hardware Ranch	83.53	42	eP	P	06 36 55.5	-0.3
	comp=Z,6.9nm,1.1s,mb4.7						
PNT	Penticton	83.61	32	P	P	06 36 56.3	+0.3
GDL2	Guadalupe Moun	83.71	53	eP	P	06 36 57.6	+0.7
MAW	Mawson	83.71	199	⇓iP	P	06 36 58.1	+2.0
	comp=Z,28nm,1.0s,mb5.3						
MAW	Mawson	83.71	199	P	P	06 36 58.0	+1.9
	comp=Z,44nm,1.1s,mb5.5,baz=117,slow=5.7,SNR=36						
MAW	Mawson	83.71	199	P	P	06 36 58.0	+1.9
MAW				pmax	pmax		
	comp=Z,44nm,1.1s						
CLNB	Carlsbad	84.10	53	eP	P	06 36 59.6	+0.7
NEW	Newport	84.23	34	eP	P	06 36 58.4	-0.7
NEW				LR	LR		
	comp=Z,771nm,20.0s,MS5.1						
KLR	Kul'dur	84.28	327	eP	P	06 37 00.0	+0.6
RW3	Ridgway	84.28	46	eP	P	06 37 00.4	+0.7
RW3				epP	pP	06 37 13.0	0.0
AHID	Auburn Hatcher	84.45	41	eP	P	06 37 01.0	+0.6
CN2	Changchun	84.55	320	eP	P	06 37 02.5	+1.7
CN2				eAP	pP	06 37 15.6	+1.4
CN2				XP	sP	06 37 20.9	+1.9
CN2				eS	S	06 47 24.5	+1.7
CN2				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.3						
CN2				AMB	AMB		
	comp=Z,500nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.7						
MCMT	McKenzie Canyo	84.56	38	eP	P	06 37 01.3	+0.4
SNY	Shenyang	84.62	318	⇓P	P	06 37 03.0	+1.7
SNY				AMB	AMB		
	comp=Z,30nm,2.1s,mb5.0						
REDW	Red Top Meadow	84.93	40	eP	P	06 37 02.6	-0.2
REDW				epP	pP	06 37 15.3	-0.9
TPAW	Teton Pass	84.94	40	eP	P	06 37 03.0	+0.2
MOOW	Moose Ponds	85.21	40	eP	P	06 37 04.5	+0.4
QLMT	Earthquake Lak	85.39	39	eP	P	06 37 06.4	+1.4
BW06	Boulder Array	85.41	41	eP	P	06 37 04.9	-0.2
	comp=Z,12nm,1.2s,mb4.9						
PDAR	Pinedale Array	85.41	41	P	P	06 37 05.3	+0.2
	comp=Z,7.1nm,1.1s,mb4.7,baz=207,slow=3.3,SNR=32						
PDAR				PKKPbc		06 55 09.2	
	comp=Z,0.1nm,0.4s,baz=90,slow=3.0,SNR=4.1						
CHMT	Chamberlain Mo	85.52	37	eP	P	06 37 05.2	-0.4
YMR	Madison River	85.58	39	eP	P	06 37 07.1	+1.2
WHN	Wuhan	85.69	304	P	P	06 37 09.0	+2.2
DLBC	Dease Lake	85.70	21	P	P	06 37 06.5	+0.3
	comp=Z,6.8nm,1.0s,mb4.8,baz=228,slow=6.4,SNR=18						
DLBC	Dease Lake	85.70	21	eP	P	06 37 06.3	+0.1
BOZ	Bozeman (W)	85.73	38	eP	P	06 37 06.2	-0.4
	comp=Z,24nm,1.3s,mb5.3						
BOZ				epP	pP	06 37 19.9	-0.1
HRY	Holter Researc	86.21	37	eP	P	06 37 09.4	+0.5
JCT	Junction City	86.43	56	eP	P	06 37 10.2	-0.3
	comp=Z,26nm,1.3s,mb5.3						
PLCA	Paso Flores	86.46	132	P	P	06 37 11.8	+1.5
	comp=Z,16nm,1.1s,mb5.2,baz=245,slow=5.0,SNR=12						
PLCA	Paso Flores	86.46	132	P	P	06 37 11.8	+1.5
PLCA				pmax	pmax		
	comp=Z,16nm,1.1s						
COLA	College	86.62	11	eP	P	06 37 10.6	+0.1
ILAR	Eielson Array	86.69	11	P	P	06 37 10.8	-0.1
	comp=Z,12nm,0.8s,mb5.2,baz=220,slow=5.6,SNR=110						
ILAR	Eielson Array	86.69	11	P	P	06 37 10.8	-0.1

ILAR				pmax	pmax		
	comp=Z,12nm,0.8s						
IMA	**Indian Mountai**	86.86	8	eP	P	06 37 12.7	+1.0
DAWY	**Dawson**	87.61	14	eP	P	06 37 15.6	+0.3
SYO	**Syowa Base**	88.36	191	⇑P	P	06 37 19.6	+0.8
BJT	**Baijiatuau**	88.59	314	eP	P	06 37 22.2	+1.5
	comp=Z,118nm,1.4s,mb6.0						
BJI	**Beijing**	88.60	314	P	P	06 37 22.5	+1.8
BJI				AP	pP	06 37 36.8	+2.6
BJI				AMB	AMB		
	comp=Z,56nm,1.7s,mb5.6						
WMOK	**Wichita Mounta**	89.02	53	eP	P	06 37 22.7	-0.1
WMOK				LR	LR		
	comp=Z,633nm,21.0s,MS5.0						
VNA1	**Neumayer--Stat**	89.19	175	e	PcP	06 37 24.8	+0.3
VNA1	**Neumayer--Stat**	89.19	175	e	pP	06 37 37.4	+1.1
VNA1	**Neumayer--Stat**	89.19	175	e	sP	06 37 42.0	+1.1
VNA1	**Neumayer--Stat**	89.19	175	⇓iP	P	06 37 23.4	+0.6
VNA1				e		06 37 24.8	
VNA1				e	pP	06 37 37.4	+1.1
VNA1				e		06 37 42.0	
VNA1				e		06 40 56.3	
VNA1				e		06 42 20.5	
HKT	**Hockley**	89.35	58	eP	P	06 37 25.0	+0.6
ENH	**Enshi**	89.40	302	eP	P	06 37 26.5	+1.8
	comp=Z,168nm,1.4s,mb6.2						
XAN	**Xi’an**	91.32	306	P	P	06 37 35.7	+2.1
XAN				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.4						
DGMT	**Dagmar**	91.54	38	eP	P	06 37 34.7	+0.5
JTS	**JuntasAbangare**	91.82	80	eP	P	06 37 37.2	+0.9
	comp=Z,102nm,1.3s,mb6.0						
JTS				epP	pP	06 37 49.5	-0.3
HHC	**Hu-ho-hao-te**	92.12	313	eP	P	06 37 38.7	+1.6
HHC				XP	sP	06 37 55.2	0.0
HHC				SKS	SKS	06 48 01.5	-3.2
HHC				S	S	06 48 30.8	-2.4
HHC				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.7						
HHC				AMB	AMB		
	comp=Z,275nm,6.8s						
HHC				LR	LR		
	comp=N,118nm,15.7s						
HHC				LR	LR		
	comp=E,124nm,29.7s						
HHC				LR	LR		
	comp=Z,195nm,20.2s,MS4.5						
CLNS	**Chul’man**	92.14	331	eP	P	06 37 37.0	+0.2
CLNS				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.7						
CLNS				pmax	pmax		
	comp=N,13nm,1.0s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
INK	**Inuvik**	92.47	14	P	P	06 37 37.8	-0.2
	comp=E,11nm,1.0s,mb5.1,baz=214,slow=6.2,SNR=26						
INK	**Inuvik**	92.47	14	P	P	06 37 37.8	-0.2
INK				pmax	pmax		
	comp=Z,11nm,1.0s						
INK	**Inuvik**	92.47	14	eP	P	06 37 37.6	-0.5
	comp=Z,29nm,1.3s,mb5.5						
KMI	**Kunming**	93.06	295	eP	P	06 37 42.6	+0.8
KMI				AP	pP	06 37 57.3	+1.9
KMI				XP	sP	06 38 01.0	+1.1
KMI				S	S	06 48 40.2	-1.6
KMI				AMB	AMB		
	comp=Z,20nm,1.6s,mb5.3						
KMI				LR	LR		
	comp=N,254nm,16.6s						
KMI				LR	LR		
	comp=E,231nm,21.9s						
KMI				LR	LR		
	comp=Z,310nm,22.9s						
BTO	**Baotou**	93.09	312	eP	P	06 37 42.5	+0.9
YKA	**Yellowknife Ar**	94.03	23	P	P	06 37 45.2	0.0
	comp=Z,3.4nm,0.8s,mb4.8,baz=236,slow=4.2,SNR=14						
YKA	**Yellowknife Ar**	94.03	23	P	P	06 37 45.2	-0.1
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	94.03	23	P	P	06 37 45.2	0.0
CMAR	**Chiang Mai Arr**	94.14	288	P	P	06 37 48.4	+1.6
	comp=Z,17nm,1.1s,mb5.4,baz=106,slow=2.9,SNR=40						
CMAR				LR	LR	07 17 34.3	
	comp=Z,184nm,19.1s,MS4.6,baz=340,slow=34						
CHG	**Chiang Mai**	94.26	288	⇑P	P	06 37 50.1	+2.8
	comp=Z,16nm,1.0s,mb5.4						
LVC	**Limon Verde**	94.96	116	P	P	06 37 53.5	+3.0
	comp=Z,10nm,1.1s,mb5.2,baz=234,slow=1.9,SNR=4.6						
LVC				LR	LR	07 10 33.3	
	comp=Z,279nm,20.0s,MS4.7,baz=211,slow=29						
LVC	**Limon Verde**	94.96	116	eP	P	06 37 53.0	+2.5
FFC	**Flin Flon**	95.65	34	eP	P	06 37 52.6	-0.2
ULM	**Lac du Bonnet**	97.21	39	P	P	06 37 59.9	-0.2
	comp=Z,2.9nm,0.8s,mb4.8,baz=263,slow=4.9,SNR=3.9						
LPAZ	**La Paz**	98.14	110	P	P	06 38 08.4	+3.4
	comp=Z,1.5nm,0.9s,mb4.5,baz=45,slow=1.4,SNR=2.9						
LPAZ	**La Paz**	98.14	110	P	P	06 38 08.4	+3.4
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	98.20	318	P	P	06 38 05.5	+0.9
	comp=Z,0.4nm,0.6s,mb4.1,baz=63,slow=2.8,SNR=3.6						
MKAR	**Makanchi Array**	113.98	313	PKiKP		06 43 06.5	
	comp=Z,1.1nm,0.7s,baz=73,slow=2.3,SNR=11						
MKAR				PKKPbc		06 53 46.9	
	comp=Z,0.9nm,0.8s,baz=270,slow=3.6,SNR=5.5						
MKAR	**Makanchi Array**	113.98	313	i PKIKP	PKPdf	06 43 06.5	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	113.98	313	PKPdf	PKPdf	06 43 06.5	+1.2
MKAR				PKKPbc		06 53 46.9	
BVAR	**Borovoye Array**	121.40	321	PKP	PKPdf	06 43 20.5	+1.0
	comp=Z,3.4nm,0.9s,baz=135,slow=2.1,SNR=15						
ARU	**Arti**	127.12	327	ePKIKP	PKPdf	06 43 31.4	+1.0
ARU	**Arti**	127.12	327	ePKP	PKPdf	06 43 31.4	+1.0
ARCES	**ARCESS Array B**	128.95	352	PKP	PKPdf	06 43 34.8	+1.2
	comp=Z,5.6nm,1.1s,baz=44,slow=2.6,SNR=9.4						
ARCES	**ARCESS Array B**	128.95	352	PKIKP	PKPdf	06 43 34.8	+1.2
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FINES	**FINESS Array B**	136.24	347	PKP	PKPdf	06 43 50.4	+2.9
	comp=Z,1.2nm,0.7s,baz=63,slow=4.3,SNR=7.3						
FINES	**FINESS Array B**	136.24	347	PKIKP	PKPdf	06 43 50.4	+2.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	138.67	357	PKP	PKPdf	06 43 53.8	+1.8
	comp=Z,2.6nm,1.1s,baz=2.0,slow=3.7,SNR=3.4						
NOA	**NORSAR Array B**	138.67	357	PKIKP	PKPdf	06 43 53.8	+1.9
NOA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SUW	**Suwalki**	143.59	344	ePKIKP	PKPdf	06 44 00.5	-0.2
KMBO	**Kilima Mbogo**	143.60	239	PKP	PKPdf	06 44 02.8	+0.9
	comp=Z,3.9nm,0.9s,baz=95,slow=4.8,SNR=9.7						
KMBO	**Kilima Mbogo**	143.60	239	ePKP	PKPdf	06 44 02.5	+0.6
MZLS	**Mizel**	144.17	284	P	PKPbc	06 44 04.3	+2.2
ERZM	**Erzurum**	144.23	312	i P	PKPbc	06 44 04.5	+2.7
AKASG	**Malin Array Be**	144.41	335	PKP	PKPdf	06 44 02.4	+0.2
	comp=Z,18nm,1.0s,baz=30,slow=3.5,SNR=47						
AKASG	**Malin Array Be**	144.41	335	PKIKP	PKPdf	06 44 02.4	+0.2
AKASG				pmax	pmax		
	comp=Z,18nm,1.0s						
BEST	**Besiri**	145.07	309	i P	PKPdf	06 44 06.6	+2.7
DJNS	**Zahran al Janu**	145.17	273	P	PKPdf	06 44 08.0	+3.4
WCB1	**Church Bay**	145.35	12	⇑eP	PKPdf	06 44 05.7	+1.8
WCB1				AMb	AMB	06 44 07.5	
	comp=Z,93nm,1.4s						
WME	**Myndd Eilian**	145.38	12	⇑eP	PKPdf	06 44 05.9	+2.0
WME				AMb	AMB	06 44 07.1	
	comp=Z,38nm,1.3s						
WLF1	**Llynfaes**	145.46	12	⇑eP	PKPdf	06 44 06.0	+2.1
YRC	**Rhoscolyn**	145.46	12	⇑eP	PKPdf	06 44 06.0	+2.0
YRC				AMb	AMB	06 44 07.8	
	comp=Z,86nm,1.4s						
TATS	**Tathlith**	145.49	276	P	PKPdf	06 44 08.7	+3.6
WPM1	**Penmaenmawr**	145.58	11	⇑eP	PKPdf	06 44 06.6	+2.4
WPM1				AMb	AMB	06 44 08.6	
	comp=Z,180nm,1.4s						
KELT	**Kelkit**	145.59	313	i P	PKPdf	06 44 08.7	+4.0
GKP	**Gorka Klasztor**	145.62	349	ePKP	PKPdf	06 44 07.1	+2.8
GKP				LR	LR		
	comp=Z,2µm,18.9s,MS6.0						
YLL	**Llanberis**	145.65	12	⇑eP	PKPdf	06 44 06.7	+2.3
LHO	**Holmfirth**	145.65	9	i P	PKPdf	06 44 06.8	+2.5
YRE	**Yr Eifl**	145.75	12	⇑eP	PKPdf	06 44 06.9	+2.4
YRE				AMb	AMB	06 44 08.8	
	comp=Z,72nm,1.9s						
WAR	**Warsaw**	145.75	344	ePKP	PKPdf	06 44 08.1	+3.6
WAR				LR	LR		
	comp=Z,2µm,21.3s,MS5.9						
BSEG	**Bad Segeberg**	145.81	356	ePKP2	PKPab	06 44 07.6	0.0
BSEG	**Bad Segeberg**	145.81	356	ePKPbc	PKPbc	06 44 07.6	+2.2
ARSS	**Ar Rass**	145.94	287	P	PKPdf	06 44 09.6	+4.0
AFFS	**‘Afif**	146.19	284	P	PKPdf	06 44 09.5	+3.3
SIM	**Simferopol’**	146.20	324	d iPKP2	PKPab	06 44 09.5	0.0
SIM				pmax	pmax		
	comp=Z,40nm,1.0s						
ELZG	**Elazig**	146.50	311	i P	PKPdf	06 44 11.8	+5.5
MALT	**Malatya**	146.97	311	ePKPdf	PKPdf	06 44 10.0	+3.0
MALT				ePKPbc	PKPbc	06 44 12.5	+3.8
HILS	**Ha’il**	147.12	290	P	PKPdf	06 44 13.3	+5.6
BLJS	**Baljurashi**	147.28	276	P	PKPdf	06 44 12.0	+4.0
SVST	**Sivas**	147.34	314	i P	PKPdf	06 44 14.1	+6.5
KWP	**Kalwaria**	147.62	341	ePKP2	PKPab	06 44 13.0	-1.8
BOYT	**Boyabat**	147.82	318	i P	PKPdf	06 44 14.7	+6.3
WTSB	**Winterswijk**	147.89	360	eP	PKPdf	06 44 13.7	+5.6
	comp=Z,32nm,1.0s						
CLZ	**Clausthal**	147.89	356	ePKPbc	PKPdf	06 44 13.8	+5.7
OJC	**Ojcow**	147.92	344	⇓ePKP2	PKPab	06 44 13.6	-2.4
GZT	**Gaziantep**	147.99	310	i P	PKPdf	06 44 15.1	+6.3
KSP	**Ksiaz**	148.11	349	ePKP2	PKPab	06 44 14.2	-2.5
CLL	**Collm**	148.16	353	ePKIKP	PKPdf	06 44 11.0	+2.5
CLL				i PKP1	PKPdf	06 44 14.2	+5.7
CLL				ePKP2	PKPab	06 44 17.0	+0.1
CLL	**Collm**	148.16	353	i PKP	PKPdf	06 44 14.2	+5.7
CTKT	**Corum**	148.33	317	i P	PKPdf	06 44 15.5	+6.4
KAHT	**Ahir Dag**	148.37	311	i P	PKPdf	06 44 16.0	+6.7
LTHS	**Al Lith**	148.43	277	P	PKPdf	06 44 17.4	+7.5
BRG	**Berggiesshubel**	148.47	351	ePKIKP	PKPdf	06 44 11.8	+2.8
BRG				i		06 44 15.4	
BRG				pmax	pmax		
	comp=Z,40nm,1.1s						
DPC	**Dobruska-Polom**	148.57	348	i PKP1	PKPdf	06 44 15.8	+6.6
CRVS	**Cervenica-Dubn**	148.64	341	ePKP	PKPdf	06 44 16.4	+7.0
OKC	**Ostrava-Krasne**	148.67	346	i PKP1	PKPdf	06 44 15.9	+6.5
BALT	**Daday**	148.69	320	i P	PKPdf	06 44 16.9	+7.2
PVCC	**Panska Ves**	148.71	350	i PKP1	PKPdf	06 44 16.1	+6.7
PVCC				eAPKP		06 44 30.2	
MORC	**Moravsky Berou**	148.87	346	ePKPdf	PKPdf	06 44 11.1	+1.4
MORC				ePKPbc	PKPdf	06 44 16.1	+6.4
MOX	**Moxa**	148.97	354	ePKP2	PKPab	06 44 16.3	-4.0
MOX				pmax	pmax		
	comp=Z,53nm,1.6s						
MBAR	**Mbarara**	148.98	232	ePKPdf	PKPdf	06 44 13.1	+2.0
MBAR				ePKPbc	PKPdf	06 44 17.2	+6.2
HGN	**Heimansgroeve**	149.08	1	eP	PKPdf	06 44 16.8	+6.8
	comp=Z,14nm,1.0s						
PRU	**Pruhonice**	149.24	350	i PKP1	PKPdf	06 44 16.9	+6.6
AVNT	**Avonos**	149.24	314	i P	PKPdf	06 44 17.6	+6.9
ELDT	**Eldivan**	149.27	318	i P	PKPdf	06 44 18.0	+7.4
NKC	**Novy Kostel**	149.29	353	i PKP1	PKPdf	06 44 17.4	+7.0
COBT	**Iskenderun**	149.29	309	i P	PKPdf	06 44 18.0	+7.2
KECS	**Kecovo**	149.31	342	ePKP	PKPdf	06 44 18.1	+7.6
KBRS	**Khaybar**	149.51	287	P	PKPdf	06 44 19.0	+7.5
HARR	**Harsova**	149.57	329	⇑iP	PKPdf	06 44 18.8	+7.8
GIVF	**Givet**	149.71	2	ePKP1	PKPdf	06 44 17.8	+6.7
	comp=Z,148nm,1.2s						
BAIF	**Baives**	149.73	3	ePKP1	PKPdf	06 44 18.0	+6.9
	comp=Z,134nm,1.2s						
VYHS	**Vyhne**	149.75	344	ePKP	PKPdf	06 44 18.9	+7.7
VYHS				e		06 44 32.3	
KOLL	**Kolacno**	149.78	345	ePKP	PKPdf	06 44 19.4	+8.2
KOLL				e		06 44 24.2	
MLR	**Muntele Rosu**	149.87	333	⇑iP	PKPdf	06 44 19.3	+7.8
ISR	**Istrita**	149.90	331	⇑iP	PKPdf	06 44 19.4	+7.9
GRA1	**Grafenberg Arr**	149.95	354	ePKPbc	PKPdf	06 44 19.1	+7.6
GRF	**Grafenberg Arr**	149.95	354	ePKP2	PKPab	06 44 19.1	-5.2
ABH	**Alteburg**	149.97	359	⇓eP	PKPdf	06 44 19.0	+7.5
PSZ	**Piszkesteto**	149.99	342	⇓ePKP/F		06 44 19.2	
PSZ	**Piszkesteto**	149.99	342	ePKPdf	PKPdf	06 44 13.6	+2.0
PSZ				ePKPbc	PKPdf	06 44 19.0	+7.4
SGKT	**Sivrigoynuk**	150.07	319	i P	PKPdf	06 44 19.8	+7.8
RUP	**Ruppelstein**	150.15	360	⇓eP	PKPdf	06 44 19.8	+8.0
WLF	**Walferdange**	150.19	1	ePKPdf	PKPdf	06 44 12.4	+0.6
WLF				ePKPbc	PKPdf	06 44 19.7	+7.9
TOD	**Tromm**	150.21	357	⇓eP	PKPdf	06 44 19.4	+7.5
KHC	**Kasperske Hory**	150.22	351	i PKIKP	PKPdf	06 44 11.5	-0.4
KHC				ePKP1	PKPdf	06 44 19.6	+7.7
QURS	**Qurayyt al Mil**	150.23	299	P	PKPdf	06 44 21.6	+9.1
WET	**Wettzell**	150.30	352	ePKIKP	PKPdf	06 44 19.5	+7.5
WET	**Wettzell**	150.30	352	ePKPbc	PKPdf	06 44 19.5	+7.5
SWS	**Schriesheim**	150.33	357	eP	PKPdf	06 44 19.8	+7.7
ROSF	**Rostrenen**	150.38	14	ePKP1	PKPdf	06 44 18.7	+6.5
	comp=Z,120nm,1.5s						
ZST	**Bratislava**	150.45	346	ePKP	PKPdf	06 44 21.3	+9.0
ZST				e		06 44 27.6	
GEC2	**GERESS Array S**	150.48	351	ePKIKP	PKPdf	06 44 20.2	+7.9
GEC2	**GERESS Array S**	150.48	351	ePKPbc	PKPdf	06 44 20.2	+7.9
GERES	**GERESS Array B**	150.48	351	PKPbc	PKPdf	06 44 19.4	+7.1
	comp=Z,11nm,0.9s,slow=1.3,SNR=34						
GERES	**GERESS Array B**	150.48	351	PKIKP	PKPdf	06 44 19.4	+7.1
GERES				pmax	pmax		
	comp=Z,11nm,0.9s						
FLN	**La Foliniere**	150.51	10	ePKP1	PKPdf	06 44 19.2	+6.9
	comp=Z,206nm,1.2s						
SRO	**Srobarova**	150.51	344	ePKP	PKPdf	06 44 21.4	+9.0
KTD	**Kalmit**	150.52	358	eP	PKPdf	06 44 19.9	+7.6
SGMF	**Saint Gilles**	150.61	13	ePKP1	PKPdf	06 44 19.3	+6.8
	comp=Z,111nm,1.3s						
HENT	**Hendek**	150.62	321	i P	PKPdf	06 44 20.4	+7.6
LDF	**La Druitiere**	150.73	9	ePKP1	PKPdf	06 44 19.7	+7.0
	comp=Z,138nm,1.2s						
YNBS	**Yanbu‘ al Bahr**	150.76	285	P	PKPdf	06 44 22.3	+8.8
QUIF	**Quistinic**	150.80	14	ePKP1	PKPdf	06 44 19.6	+6.8
	comp=Z,198nm,1.6s						
GRR	**Gorron**	150.81	10	ePKP1	PKPdf	06 44 20.1	+7.3
	comp=Z,101nm,1.2s						
LANF	**Langenberg**	150.86	359	PKP	PKPdf	06 44 21.5	+8.6
HRI	**Mount Hermon**	150.94	303	P	PKPdf	06 44 15.6	+2.1
HDH	**Heidenheim**	151.14	355	eP	PKPdf	06 44 21.6	+8.3
LBG	**Lerchenberg**	151.14	357	eP	PKPdf	06 44 21.8	+8.5
UMJS	**Umm Lajj**	151.32	287	P	PKPdf	06 44 24.0	+10
MEZF	**Maizieres J’vi**	151.32	2	ePKP1	PKPdf	06 44 21.9	+8.3
	comp=Z,79nm,1.0s						
BUCH	**Bad Urach**	151.33	356	eP	PKPdf	06 44 22.0	+8.4
HMDT	**Nahal Hemdat**	151.44	302	P	PKPdf	06 44 16.7	+2.4
WLS	**Welschbruch**	151.44	359	PKP	PKPdf	06 44 22.9	+9.2
CDF	**Champ du Feu**	151.44	359	ePKP1	PKPdf	06 44 21.9	+8.2
	comp=Z,84nm,1.2s						
ESKT	**Eskisehir**	151.44	319	i P	PKPdf	06 44 22.6	+8.6
MMLI	**Mount Malkishu**	151.46	302	P	PKPdf	06 44 16.8	+2.5
BFO	**Black Forest**	151.50	358	ePKIKP	PKPdf	06 44 22.5	+8.7
BFO	**Black Forest**	151.50	358	ePKPbc	PKPdf	06 44 22.5	+8.7
TBKS	**Tabuk**	151.60	293	P	PKPdf	06 44 24.2	+10
THEF	**They Montfort**	151.62	1	PKP	PKPdf	06 44 23.1	+9.1
ARSA	**Arzberg**	151.69	347	⇑iP	PKPdf	06 44 16.0	+1.8
ARSA				i		06 44 23.1	
GUT	**Gutenstein**	151.72	357	eP	PKPdf	06 44 22.7	+8.5
HAU	**Haudompre**	151.85	1	ePKP1	PKPdf	06 44 22.8	+8.4
	comp=Z,50nm,1.0s						
MZDA	**Masada**	151.86	300	P	PKPdf	06 44 17.3	+2.4
KIZ	**Kirchzarten**	151.88	358	eP	PKPdf	06 44 23.2	+8.8
MOF	**Molkenrain**	152.00	359	PKP	PKPdf	06 44 23.8	+9.2
HINF	**Hinteralfeld**	152.04	360	ePKP1	PKPdf	06 44 23.0	+8.3
	comp=Z,31nm,1.1s						
JMQS	**Jabal Moqyreh**	152.04	295	P	PKPdf	06 44 25.4	+10
UBR	**Uberruh**	152.04	355	eP	PKPdf	06 44 23.6	+8.9
ULDT	**Uludag**	152.09	321	i P	PKPdf	06 44 24.3	+9.3
CSS	**Prodhromos**	152.11	308	PKPdf	PKPdf	06 44 15.4	+0.2
CSS				ePKPbc	PKPdf	06 44 24.2	+9.1
KBA	**Koelnbreinsper**	152.25	350	⇑iP	PKPdf	06 44 12.5	-2.5
KBA				i		06 44 24.1	
DBAS	**Duba**	152.27	291	P	PKPdf	06 44 25.5	+10
MOTA	**Moosalm**	152.29	354	⇑iP	PKPdf	06 44 17.2	+2.2
MOTA				i		06 44 24.4	
WTTA	**Wattenberg**	152.31	353	⇓iP	PKPdf	06 44 18.1	+3.0
WTTA				i		06 44 24.9	
HYF	**Humbligny**	152.38	6	ePKP1	PKPdf	06 44 24.3	+9.1
SQTA	**Sankt Quirin**	152.40	353	⇑iP	PKPdf	06 44 18.4	+3.2
SQTA				i		06 44 24.9	
PRNI	**Paran**	152.43	298	P	PKPdf	06 44 18.7	+2.9
DAVA	**Damuels**	152.45	355	⇑iP	PKPdf	06 44 15.8	+0.5
DAVA				i		06 44 25.2	
LOR	**Lormes**	152.49	4	ePKP1	PKPdf	06 44 24.3	+9.0
	comp=Z,78nm,1.3s						
LOMF	**Lomont**	152.51	360	PKP	PKPdf	06 44 25.0	+10
JMOS	**Jabal al Moall**	152.64	295	P	PKPdf	06 44 26.6	+10
EIL	**Elat**	152.65	297	P	PKPdf	06 44 19.0	+2.9
MBH	**Mount Berech**	152.65	297	P	PKPdf	06 44 19.1	+3.0
MFF	**Saint Martin d**	152.66	10	ePKP1	PKPdf	06 44 24.3	+8.7
	comp=Z,119nm,1.5s						
SSF	**Saint Saulge**	152.66	5	ePKP1	PKPdf	06 44 24.7	+9.1
	comp=Z,127nm,1.3s						
KMTI	**Karmit**	152.73	298	P	PKPdf	06 44 19.0	+2.8
BDAS	**Al Bad‘**	152.81	294	P	PKPdf	06 44 26.9	+10
HAQS	**Haql**	152.82	295	P	PKPdf	06 44 26.6	+10
AVF	**Avril sur Loir**	152.92	5	ePKP1	PKPdf	06 44 24.8	+8.9
	comp=Z,23nm,1.1s						
SMF	**Signal de Mont**	153.10	4	ePKP1	PKPdf	06 44 25.3	+9.1
	comp=Z,28nm,1.2s						
BGF	**Bois d’Agland**	153.10	6	ePKP1	PKPdf	06 44 25.4	+9.2
	comp=Z,33nm,0.9s						
CABF	**La Chapelle**	153.24	1	ePKP1	PKPdf	06 44 26.5	+10
	comp=Z,96nm,1.4s						
RJF	**Les Rejaudoux**	154.18	9	ePKP1	PKPdf	06 44 27.8	+10
KDAG	**Bornova**	154.32	321	i P	PKPdf	06 44 43.7	+26
LPL	**La Plagne**	154.34	0	ePKP1	PKPdf	06 44 29.3	+11
LFF	**La Frestale**	154.42	10	ePKP1	PKPdf	06 44 28.1	+10
SKO	**Skopje**	154.63	334	ePKP	PKPdf	06 44 45.0	+27
BNI	**Bardonecchia**	154.81	0	ePKPdf	PKPdf	06 44 22.0	+3.5
BNI				ePKPbc	PKPdf	06 44 29.9	+11
BNI				ePKPab	PKPab	06 44 45.3	+0.5
ORIF	**Oris-en-Rattie**	154.93	2	ePKP1	PKPdf	06 44 29.9	+11
VIVF	**Saint-Julien-l**	154.94	4	ePKP1	PKPdf	06 44 29.8	+11
	comp=Z,55nm,1.5s						

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*IDC **10** 06:31:27.9±0.7,19.49S×173.44W,mb4.2/13,mb1 4.4/14, mb1mx4.3/21,ML4.6/1,Error ellipse: s-maj=33.3km s-min=16.4km az=138.0*

*NEIC **10** 06:31:34.5±0.3,19.52S×173.46W,h45^{km},mb4.6/10, Error ellipse: s-maj=14.1km s-min=7.6km az=138.0*

ISC 10 06:31:31.5±0.5,**19.6S**±0.1×**173.5W**±0.1,**h33**^{km},**n29**, σ**0^{s}62**/27,**mb4.3**/19,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	12.93	100	Pn	P	06 34 21.7	-14
	3.3nm,0.3s,baz=268,slow=6.9,SNR=13						
URZ	**Urewera**	20.33	202	P	P	06 36 06.4	-1.1
	21nm,1.0s,baz=285,slow=6.1,SNR=4.0						
CTA	**Charters Tower**	37.84	262	eP	P	06 38 47.8	+0.8
	8.1nm,0.7s,mb4.6						
CTAO	**Charters Tower**	37.84	262	eP	P	06 38 47.0	0.0
	11nm,0.8s,mb4.7						
CTAO				epP	pP	06 39 00.6	+3.8
STKA	**Stephens Creek**	42.02	244	eP	P	06 39 21.5	-0.1
	3.5nm,0.9s,mb4.0						
STKA	**Stephens Creek**	42.02	244	P	P	06 39 21.6	0.0
	4.8nm,0.9s,mb4.1,baz=88,slow=13,SNR=5.4						
ASAR	**Alice Springs**	48.88	255	P	P	06 40 15.9	-0.3
	9.0nm,0.7s,mb4.9,baz=86,slow=8.7,SNR=41						
ASPA	**Alice Springs**	48.88	255	eP	P	06 40 15.7	-0.6
WB2	**Warramunga Arr**	48.95	260	eP	P	06 40 16.9	0.0
WRA	**Warramunga Arr**	48.96	260	P	P	06 40 16.1	-0.9
	3.2nm,0.5s,mb4.6,baz=97,slow=8.6,SNR=20						
FORT	**Forrest**	53.57	246	eP	P	06 40 52.0	+0.4
	26nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	57.39	261	eP	P	06 41 19.3	-0.1
	2.3nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	57.39	261	P	P	06 41 19.0	-0.4
	2.6nm,0.7s,mb4.4,baz=146,slow=7.3						
SBA	**Scott Base**	59.09	185	eP	P	06 41 31.3	+0.8
	6.6nm,0.9s,mb4.7						
VNDA	**Vanda**	59.22	186	P	P	06 41 31.6	+0.2
	1.5nm,0.9s,mb4.0,baz=1.9,slow=5.0,SNR=4.4						
KLBR	**Kellerberrin**	62.30	244	eP	P	06 41 52.9	0.0
	14nm,0.8s,mb5.1						
YBH	**Yreka Blue Hor**	76.97	37	P	P	06 43 22.0	-0.6
	0.2nm,0.3s,mb3.5,baz=228,slow=12,SNR=3.6						
NVAR	**Mina Array Bea**	77.48	41	P	P	06 43 25.4	-0.2
	1.1nm,0.7s,mb3.9,baz=214,slow=7.5,SNR=7.6						
MNV	**Mina**	77.58	41	eP	P	06 43 25.4	-0.6
	1.0nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	83.00	56	P	P	06 43 55.1	0.0
	1.8nm,1.0s,mb4.1,baz=216,slow=7.8,SNR=9.3						
MAW	**Mawson**	83.83	199	eP	P	06 43 59.3	+0.9
	3.1nm,0.9s,mb4.4						
MAW	**Mawson**	83.83	199	P	P	06 43 59.2	+0.8
	3.6nm,0.9s,mb4.5,baz=138,slow=1.7,SNR=5.2						
DLBC	**Dease Lake**	85.60	21	P	P	06 44 07.4	-0.1
	0.8nm,0.8s,mb4.0,baz=332,slow=20,SNR=3.4						
COLA	**College**	86.47	11	eP	P	06 44 11.9	+0.4
	4.2nm,0.8s,mb4.7						
ILAR	**Eielson Array**	86.55	11	P	P	06 44 11.9	-0.1
	1.0nm,0.7s,mb4.2,baz=218,slow=5.5,SNR=13						
INK	**Inuvik**	92.33	14	P	P	06 44 39.4	+0.1
	0.3nm,0.7s,mb3.8,baz=248,slow=8.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	93.87	288	P	P	06 44 49.2	+1.9
	1.3nm,0.6s,mb4.5,baz=100,slow=5.5,SNR=4.2						
CLL	**Collm**	147.94	352	i PKP1	PKPdf	06 51 15.5	+5.4
GERES	**GERESS Array B**	150.25	350	PKPbc	PKPdf	06 51 19.1	+5.3
	0.3nm,0.3s,baz=270,slow=1.3,SNR=3.8						

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*IDC **10** 06:37:23.6±1.6,2.71S×141.71E,mb3.6/4,mb1 3.8/5, mb1mx3.7/13,ML3.6/1,MS4.4/1,Ms1 4.4/1,ms1mx3.6/19, Error ellipse: s-maj=70.6km s-min=25.6km az=100.0*

ISC 10 06:37:26.6±1.5,**2.8S**±0.2×**141.8E**±0.5,**h33**^{km},**n6**,σ**0^{s}82**/5, **mb3.5**/4,**MS4.4**/1,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	18.55	203	P	P	06 41 42.2	-0.7
	0.2nm,0.3s,baz=18,slow=13,SNR=3.8						
ASAR	**Alice Springs**	22.12	200	P	P	06 42 21.7	+0.8
	0.5nm,0.6s,mb3.1,baz=27,slow=10,SNR=3.2						
ASAJ	**Asahikawa**	46.71	1	LR	LR	07 05 37.1	
	comp=Z,422nm,19.1s,MS4.4,baz=165,slow=36						
MKAR	**Makanchi Array**	71.79	321	P	P	06 48 47.2	-0.4
	1.0nm,0.8s,mb3.8,baz=104,slow=8.0,SNR=4.8						
BVAR	**Borovoye Array**	81.18	325	P	P	06 49 41.0	+0.6
	0.5nm,0.5s,mb3.7,baz=108,slow=9.1,SNR=3.9						
ILAR	**Eielson Array**	84.63	24	P	P	06 49 57.5	-0.2
	0.3nm,0.6s,mb3.6,baz=269,slow=5.5,SNR=5.9						

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*LDG **10** 06:59:12.9±0.1,44.50N×7.28E,h2^{km},Md2.4/2,Ml2.4/8, Error ellipse: s-maj=2.5km s-min=1.2km az=62.0*

*NEIC **10** 06:59:13.0,44.48N×7.25E,h12^{km},ML2.7(GEN), ML2.4(LDG),ML2.1(STR),After GEN.*

*STR **10** 06:59:13.0±0.3,44.49N×7.25E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 06:59:12.2±0.3,**44.48N**±0.02×**7.23E**±0.03,**h13**^{km}±3^{km}, **n30**,σ**0^{s}63**/61,**4C**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Prazzo**	0.09	285	⇑P	Pg	06 59 16.1	+0.8
PZZ				S	Sb	06 59 17.9	+0.4
STV2	**Anna di Valdie**	0.24	163	⇑P	Pg	06 59 18.2	+0.5
STV2				S	Sg	06 59 21.3	0.0
STV	**Sta Anna Valdi**	0.25	164	⇑P	Pg	06 59 18.3	+0.6
STV				S	Sg	06 59 21.4	0.0
ENR	**Entracque**	0.29	151	P	Pg	06 59 18.9	+0.4
SURF	**Saint Ours**	0.30	270	Pg	Pg	06 59 19.1	+0.5
SURF				Sg	Sg	06 59 23.8	+0.9
BHB	**Bricherasio**	0.36	4	⇑P	Pg	06 59 19.9	+0.1
BHB				S	Sg	06 59 24.9	0.0
MBDF	**Montbardon**	0.41	307	ePg	Pg	06 59 21.2	+0.5
MBDF				eSg	Sg	06 59 27.0	+0.6
	56nm,0.3s						
ROB	**Roburent**	0.50	112	P	Pb	06 59 22.7	+0.4
ROB				S	Sb	06 59 28.5	-0.6
AUTN	**L’Aution**	0.51	163	Pg	Pg	06 59 22.9	+0.3
AUTN				Sg	Sg	06 59 29.9	+0.4
RRL	**Cesana Torines**	0.54	324	P	Pb	06 59 23.6	+0.5
RRL				S	Sb	06 59 30.7	+0.3
SAOF	**Saorge**	0.55	154	Pg	Pg	06 59 23.2	-0.2
SAOF				Sg	Sg	06 59 30.4	-0.5
MONE	**Monesi**	0.55	136	P	Pb	06 59 22.7	-0.5
MONE				S	Sb	06 59 30.3	-0.4
FENE	**Fenestrelle**	0.56	348	P	Pb	06 59 23.9	+0.5
FENE				S	Sb	06 59 31.3	+0.3
MVIF	**Mont Vial**	0.59	185	Pg	Pg	06 59 24.7	+0.5
MVIF				Sg	Sg	06 59 32.5	+0.3
AURF	**Auriere**	0.60	173	Pg	Pg	06 59 24.5	+0.1
AURF				Sg	Sg	06 59 32.8	+0.3
SBF	**Sospel**	0.64	166	ePg	Pg	06 59 25.3	+0.2
SBF				eSg	Sg	06 59 34.0	+0.2
	12nm,0.2s						

RSP	Reno Superiore	0.67	2	P	Pb	06 59 25.0	-0.3
RSP				S	Sb	06 59 34.4	+0.2
RORO		0.71	121	P	Pb	06 59 25.9	0.0
RORO				S	Sb	06 59 35.0	-0.1
NEGI	Negi	0.72	151	P	Pb	06 59 26.4	+0.3
NEGI				S	Sb	06 59 35.3	-0.3
IMI	Imperia	0.74	140	*e*Pg	Pg	06 59 26.8	-0.4
IMI				*e*Sg	Sg	06 59 36.9	-0.4
FIN	Finale Ligure	0.75	111	P	Pb	06 59 26.9	+0.2
FIN				S	Sb	06 59 36.5	-0.1
LSD	Ceresole Reale	0.98	357	P	Pb	06 59 32.1	+1.6
LSD				S	Sb	06 59 43.7	+0.6
FRF	La Foret Royal	1.01	205	*e*Pg	Pg	06 59 33.0	+0.4
FRF				*e*Sg	Sg	06 59 45.2	-0.9
	10.0nm,0.2s						
ORIF	Oris-en-Rattie	1.06	295	*e*Pg	Pg	06 59 32.9	-0.6
ORIF				*e*Sg	Sg	06 59 46.3	-1.3
	8.4nm,0.2s						
LPG	La Plagne	1.07	342	*e*Pg	Pg	06 59 33.1	-0.7
LPG				*e*Sg	Sg	06 59 46.8	-1.3
	7.6nm,0.3s						
LPL	La Plagne	1.09	341	*e*Pg	Pg	06 59 34.1	-0.1
LPL				*e*Sg	Sg	06 59 47.4	-1.5
	11nm,0.3s						
LMR	La Mourre	1.26	205	*e*Pg	Pg	06 59 36.8	-0.7
LMR				*e*Sg	Sg	06 59 53.2	-1.1
	11nm,0.3s						
SMRF	Simiane la Rot	1.29	248	*e*Pg	Pg	06 59 38.5	+0.4
SMRF				*e*Sg	Sg	06 59 56.3	+0.9
	11nm,0.3s						
VIVF	Saint-Julien-l	1.86	283	*e*Pn	Pn	06 59 44.9	+0.7
VIVF				*e*Pg	Pg	06 59 48.3	-1.2
VIVF				*e*Sn	Sn	07 00 07.4	-0.3
VIVF				*e*Sg	Sg	07 00 12.9	-1.4
	3.5nm,0.3s						
PGF	Pioggiola	2.32	146	*e*Pn	Pn	06 59 50.4	-0.4
PGF				*e*Sn	Sn	07 00 15.2	-4.2
	1.2nm,0.3s						

IDC 10 07:44:55.6±7.2**, 18.63S**×**178.07W, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/15**, Error ellipse: s-maj=309.0km s-min=39.0km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.82	260	P	P	07 53 11.8	-1.7
	0.2nm,0.3s,baz=97,slow=7.5,SNR=12						
ASAR	Alice Springs	44.91	255	P	P	07 53 12.3	-1.9
	0.6nm,0.7s,baz=85,slow=8.8,SNR=6.8						
ILAR	Eielson Array	86.51	13	P	P	07 57 40.0	-1.3
	0.2nm,0.5s,baz=202,slow=4.9,SNR=4.5						

JMA ***10*** *08:15:59.3±0.4, 47.79N×147.54E, h491^{km}, M3.3*

IDC ***10*** *08:16:00.7±4.3, 48.24N×146.25E, h490^{km}±53^{km}, mb2.7/9, mb1 3.1/10, mb1mx3.0/22, Error ellipse: s-maj=25.4km s-min=15.0km az=135.0*

NEIC ***10*** *08:16:01.4±0.9, 48.33N×146.10E, h500^{km}±12^{km}, mb3.9/3, Error ellipse: s-maj=21.7km s-min=13.1km az=144.0*

ISC 10 08:15:59.0±0.8**, 48.1N**±0.1×**146.2E**±0.2**, h483**^{km}±11^{km}**, n24, σ1^{s}29**/26**, mb3.2**/10**, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.59	245	*e*Pn	P	08 17 10.5	+4.1
JWK2	Keihoku	4.05	228	P	P	08 17 22.8	+5.5
JTKR	Abashiri--Toko	4.41	202	P	P	08 17 23.2	+2.7
NEM2	Nemuro 2	4.74	184	P	P	08 17 22.9	-0.5
NEM2				*e*S	S	08 18 29.6	-0.6
JAK	Akkeshi	5.20	192	P	P	08 17 28.2	+0.5
JAK				*e*S	S	08 18 37.0	-0.9
JCH	Churui	5.83	201	*e*S	S	08 18 48.0	-0.8
JNBK	Urakawa-nobuka	6.29	204	*e*S	S	08 18 56.1	-1.1
JANG	Nango	8.41	205	*e*S	S	08 19 37.5	+0.4
MDJ	Mudanjiang	11.98	259	P	P	08 18 38.4	-0.1
	8.9nm,0.6s						
KS15	Wonju Array Si	17.10	238	P	P	08 19 34.4	+3.7
FX1	Attu Island--F	17.77	64	P	P	08 19 39.1	+1.7
	0.9nm,0.3s,baz=288,slow=3.2,SNR=4.3						
SONM	Songino Array	26.44	284	P	P	08 21 03.4	+6.1
	0.4nm,0.4s,mb3.2,baz=76,slow=9.9,SNR=4.2						
ILAR	Eielson Array	38.47	39	P	P	08 22 37.3	-1.7
	0.2nm,0.7s,mb2.7,baz=270,slow=8.1,SNR=3.3						
MKAR	Makanchi Array	42.12	293	P	P	08 23 09.1	+0.5
	0.7nm,0.5s,mb3.3,baz=70,slow=8.3,SNR=7.9						
KURK	Kurchatov	42.66	300	P	P	08 23 11.2	-1.6
	1.4nm,0.4s,mb3.7						
INK	Inuvik	43.05	32	P	P	08 23 13.9	-1.8
	0.4nm,0.3s,mb3.3,baz=41,slow=4.6,SNR=12						
INK	Inuvik	43.05	32	*e*P	P	08 23 13.5	-2.2
	0.7nm,0.4s,mb3.4						
NVAR	Mina Array Bea	65.88	59	P	P	08 25 57.5	+0.3
	0.3nm,0.6s,mb3.1,baz=313,slow=3.9,SNR=4.5						
NVAR	Mina Array Bea	65.88	59	P	P	08 25 57.5	+0.2
PDAR	Pinedale Array	67.64	51	P	P	08 26 07.5	-0.5
	0.4nm,0.4s,mb3.4,baz=311,slow=1.6,SNR=5.5						
WRA	Warramunga Arr	68.55	192	P	P	08 26 13.8	-0.1
	0.4nm,0.6s,mb3.1,baz=6.5,slow=6.7,SNR=11						
ASAR	Alice Springs	72.27	192	P	P	08 26 37.1	+1.4
	0.9nm,0.7s,mb3.4,baz=8.2,slow=5.7,SNR=13						
TXAR	Lajitas Array	80.80	56	P	P	08 27 22.8	+0.6
	0.3nm,0.6s,mb3.0,baz=283,slow=3.8,SNR=5.9						
TXAR	Lajitas Array	80.80	56	P	P	08 27 22.8	+0.6

BJI ***10*** *08:17:44.4, 39.40N×42.94E, h41^{km}, mB4.4, mb4.9, Ms4.1, Msz4.2*

TIF ***10*** *08:17:45.5, 39.72N×44.35E, h3^{km}, Mpv5.3*

ISK ***10*** *08:17:46.9, 39.65N×43.82E, h5^{km}, MD4.0*

IDC ***10*** *08:17:46.7±1.9, 39.83N×43.99E, mb3.9/12, mb1 4.0/13, mb1mx3.9/20, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/22, Error ellipse: s-maj=37.6km s-min=8.4km az=170.0*

MOS ***10*** *08:17:47.2±1.7, 39.85N×43.96E, h10^{km}, mb4.0/6, Error ellipse: s-maj=14.0km s-min=7.7km az=108.0*

NEIC ***10*** *08:17:48.4±1.1, 39.80N×43.93E, h10^{km}, mb4.4/5, Error ellipse: s-maj=22.9km s-min=7.8km az=171.0*

ISC 10 08:17:46.4±0.3**, 39.73N**±0.03×**43.91E**±0.04**, h5**^{km}**, n84, σ1^{s}40**/102**, mb3.9**/17**, MS3.5**/4**, 7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERE	Yerevan	0.64	45	*i* P	Pg	08 17 57.0	-2.2
ERE				*e*S	Sg	08 18 02.0	-5.7
AGRT	Agri	0.72	261	*i* PG	Pg	08 18 00.4	-0.4
GNI	Garni	0.77	57	Pg	Pg	08 17 59.1	-2.7
	124nm,0.3s,baz=231,slow=2.3,SNR=158						
GNI				Lg		08 18 10.0	
	629nm,0.3s,baz=345,slow=18,SNR=39						
TVAN	Van	1.26	198	*i* P	Pb	08 18 08.3	-1.9
TVAN	Van	1.26	198	*i* P	Pb	08 18 09.3	-0.9
TVAN				*i* S	Sb	08 18 32.4	+5.8
STE	Stepanavan	1.33	16	*i* P	Pb	08 18 09.0	-2.4
STE				*i* S	Sb	08 18 29.4	+0.8
VANT	Van	1.34	198	PN	Pn	08 18 13.4	+1.6
VANT				SN	Sn	08 18 31.6	+1.4
VAD	Vardenisi	1.48	71	*e*P	Pn	08 18 09.0	-4.8
AKH	Akhalkalaki	1.71	350	⇓*i*P	Pn	08 18 18.2	+1.1
AKH				*i* S	Sn	08 18 44.4	+4.8
GRS	Goris	1.89	95	*e*P	Pn	08 18 14.0	-5.7
GRS				*e*S	Sn	08 18 38.0	-6.2
VRT	Varto	1.93	253	PN	Pn	08 18 20.9	+0.6
VRT				SN	Sn	08 18 46.1	+0.8
ERZM	Erzurum	1.96	276	*i* P	Pn	08 18 22.2	+1.5
ERZM	Erzurum	1.96	276	*i* P	Pn	08 18 22.8	+2.1
ERZM				*i* S	Sg	08 18 59.4	+7.7
EZM	Erzurum	1.97	276	PN	Pn	08 18 21.9	+1.1
MTA	Mtatsminda	2.08	19	⇓*i*P	Pn	08 18 22.9	+0.6
MTA				*i* S	Sn	08 18 51.6	+2.7
TBLG	Delisi	2.10	17	⇓*i*P	Pn	08 18 23.6	+0.9
TBLG				*i* S	Sn	08 18 52.8	+3.3
TI2	Plekhanov	2.10	18	*i* PN	Pn	08 18 24.0	+1.3
TI2				*i* S	Sn	08 18 52.0	+2.4
TI2				pmax	pmax		
	comp=Z,2μm,1.5s						
HKR	Hakkari	2.15	183	*e*PN	Pn	08 18 24.2	+0.8
BTMT	Batman	2.43	232	*e*PN	Pn	08 18 30.4	+3.0
DUS	Dusheti	2.44	14	⇓*i*P	Pn	08 18 29.1	+1.6
DUS				*i* S	Sn	08 19 04.4	+6.4
BEST	Besiri	2.76	229	*i* P	Pn	08 18 32.9	+0.8
BEST	Besiri	2.76	229	*i* P	Pn	08 18 34.3	+2.3
BEST				*i* S	Sg	08 19 17.1	-1.1
BINT	Bingol	2.78	253	*e*PN	Pn	08 18 33.9	+1.4
ZEI	Tsey	3.04	360	*e*PN	Pn	08 18 42.0	+5.9
ZEI				*e*		08 19 12.0	
ZEI				*e*		08 19 18.0	
EZC	Erzincan	3.15	272	*e*PN	Pn	08 18 43.8	+6.1
DIY	Diyarbakir	3.41	239	*e*PN	Pn	08 18 41.4	+0.1
KELT	Kelkit	3.60	278	*i* P	Pn	08 18 52.3	+8.3
KELT	Kelkit	3.60	278	*i* P	Pg	08 18 55.3	-3.0
ELZG	Elazig	4.02	254	*i* P	Pn	08 18 49.9	-0.2
MAK	Makhachkala	4.22	39	*e*PG	Pg	08 19 20.0	+9.4
MAK				*e*S	Sg	08 19 59.0	-7.8
MYA	Malataya	4.49	254	*e*PN	Pn	08 18 57.2	+0.5
MALT	Malatya	4.49	253	*e*PN	Pn	08 18 57.1	+0.3
MALT	Malatya	4.49	253	*e*P	Pn	08 18 56.5	-0.3
SOC	Sochi	4.97	322	*i* PN	Pn	08 19 07.2	+3.7
SOC				*e*S	Sn	08 20 11.2	+9.1
SOC				pmax	pmax		
	comp=Z,16nm,0.5s						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				pmax	pmax		
	comp=Z,126nm,1.5s						
SOC				pmax	pmax		
	comp=N,102nm,1.6s						
SOC				pmax	pmax		
	comp=E,127nm,2.4s						
SOC				MLR	MLR		
	comp=Z,1μm,14.0s						
SOC				MLR	MLR		
	comp=N,1μm,13.0s						
SOC				MLR	MLR		
	comp=E,657nm,12.0s						
GZT	Gaziantep	5.51	247	*i* P	Pg	08 19 27.7	-8.7
KAHT	Ahir Dag	5.89	251	*i* P	Pn	08 19 16.5	0.0
ANN	Anapa	6.98	319	*e*P	Pn	08 19 35.4	+3.6
ANN				*e*S	Sn	08 21 01.9	+9.4
ANN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ANN				MLR	MLR		
	comp=Z,612nm,12.0s						
ANN				MLR	MLR		
	comp=N,880nm,14.0s						
ANN				MLR	MLR		
	comp=E,250nm,13.0s						
BALT	Daday	8.20	286	*i* P	P	08 19 46.5	-2.4
VOR	Voronezh	12.44	346	P	P	08 20 46.0	-1.0
VOR				pmax	pmax		
	comp=Z,60nm,1.8s						
AKASG	Malin Array Be	15.05	322	Pn	P	08 21 20.0	-1.3
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=5.5						
OBN	Obninsk	16.16	345	*d* *i*P	P	08 21 33.7	-1.9
OBN				*e*S	S	08 24 35.8	+0.6
OBN				pmax	pmax		
	comp=Z,67nm,1.5s						
OBN				MLR	MLR		
	comp=Z,400nm,13.0s						
MOS	Moscow	16.55	347	*e*P	P	08 21 37.3	-3.4
KWP	Kalwaria	17.98	310	P	P	08 21 56.7	-1.8
CRVS	Cervenica-Dubn	18.44	307	*e*P	P	08 22 05.4	+1.1
PSZ	Piszkesteto	19.11	303	*e*P	P	08 22 12.8	+0.4
ARU	Arti	19.30	25	⇓*i*P	P	08 22 11.8	-2.8
ARU				*e*S	S	08 25 51.2	+4.3
ARU				pmax	pmax		
	comp=Z,19nm,1.0s						
ARU				MLR	MLR		
	comp=N,70nm,16.0s						
ARU				MLR	MLR		
	comp=Z,90nm,16.0s						
ARU				MLR	MLR		
	comp=E,60nm,15.0s						
ARU	Arti	19.30	25	*e*P	P	08 22 11.7	-2.9
	comp=E,28nm,1.2s						
OJC	Ojcow	19.93	310	*e*P	P	08 22 24.6	+2.7
VYHS	Vyhne	19.95	304	*e*P	P	08 22 21.0	-1.0
TIP	Timpagrande	20.95	277	*e*P	P	08 22 30.5	-2.0
VRAC	Vranov	21.60	305	P	P	08 22 39.8	+0.8
	comp=E,4.6nm,0.3s,mb4.4,baz=276,slow=21,SNR=3.7						
KSP	Ksiaz	22.25	309	*e*P	P	08 22 44.2	-1.3
BRVK	Borovoye	22.40	45	*e*P	P	08 22 47.1	+0.2
	comp=E,7.0nm,0.8s,mb4.1						
BVAR	Borovoye Array	22.44	45	P	P	08 22 47.1	-0.3
	comp=E,1.4nm,0.8s,mb3.5,baz=230,slow=11,SNR=5.7						
AQU	L'Aquila	23.10	286	P	P	08 22 54.9	+1.0
	comp=E,10nm,0.4s,mb4.6						
FRU	Bishkek	23.23	72	*e*P	P	08 22 55.0	-0.1
GERES	GERESS Array B	23.33	303	P	P	08 22 55.4	-0.7
	comp=E,1.4nm,0.7s,mb3.5,baz=76,slow=5.5,SNR=4.2						
GERES	GERESS Array B	23.33	303	P	P	08 22 55.4	-0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	24.35	339	P	P	08 23 05.1	-0.8
	comp=Z,3.2nm,0.7s,mb3.9,baz=141,slow=12,SNR=16						
FINES				LR	LR	08 33 09.4	
	comp=Z,184nm,19.2s,MS3.6,baz=339,slow=38						
FINES	FINESS Array B	24.35	339	P	P	08 23 05.1	-0.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,184nm,19.2s						
FINES	FINESS Array B	24.35	339	P	P	08 23 05.1	-0.8
CLL	Collm	24.37	309	P	P	08 23 05.0	-1.1
KAF	Kangasniemi	24.84	340	*e*p	P	08 23 11.1	+0.5
	comp=Z,3.5nm,0.7s,mb4.0						
KAF	Kangasniemi	24.84	340	*e*P	P	08 23 11.1	+0.5
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
DAVOX	Davos	25.62	297	P	P	08 23 16.9	-1.2
	comp=Z,2.6nm,0.7s,mb3.9,baz=86,slow=6.9,SNR=4.5						
KURK	Kurchatov	26.57	54	*e*P	P	08 23 26.8	-0.1
	comp=Z,20nm,1.3s,mb4.5						
HFS	Hagfors	27.79	327	P	P	08 23 36.3	-1.7
	comp=Z,1.3nm,0.7s,mb3.7,baz=107,slow=15,SNR=4.4						
HFS	Hagfors	27.79	327	P	P	08 23 36.3	-1.6
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	28.61	63	P	P	08 23 45.2	-0.3
	comp=Z,1.2nm,0.8s,mb3.7,baz=270,slow=6.1,SNR=10.0						
MKAR				LR	LR	08 35 43.2	
	comp=Z,62nm,18.3s,MS3.2,baz=13,slow=38						
MKAR	Makanchi Array	28.61	63	P	P	08 23 45.2	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,62nm,18.3s						
MKAR	Makanchi Array	28.61	63	P	P	08 23 45.2	-0.3
NOA	NORSAR Array B	29.31	328	P	P	08 23 49.1	-2.5
	comp=Z,0.1nm,0.3s,mb3.0,baz=338,slow=12,SNR=2.5						
NOA				LR	LR	08 36 29.6	
	comp=Z,90nm,19.9s,MS3.4,baz=245,slow=38						
NOA	NORSAR Array B	29.31	328	P	P	08 23 49.1	-2.5
ARCES	ARCESS Array B	31.43	348	P	P	08 24 08.3	-2.0
	comp=Z,1.8nm,0.8s,mb4.0,baz=124,slow=6.5,SNR=4.4						
ARCES				LR	LR	08 37 14.4	
	comp=Z,176nm,18.5s,MS3.8,baz=269,slow=37						
ARCES	ARCESS Array B	31.43	348	P	P	08 24 08.3	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,176nm,18.5s						
WMQ	Urumqi	32.63	68	*e*P	P	08 24 21.3	+0.2
WMQ				AP	pP	08 24 31.4	+8.9
WMQ				XP	sP	08 24 34.9	+12
WMQ				PP	PP	08 25 30.6	+0.8
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.4						
WMQ				LR	LR		
	comp=N,92nm,20.4s						
ESDC	Sonseca Array	36.48	286	P	P	08 24 51.5	-2.7
	comp=N,3.3nm,1.0s,mb4.2,baz=68,slow=6.9,SNR=5.0						
SONM	Songino Array	44.73	58	P	P	08 26 02.6	+0.5
	comp=N,0.4nm,1.0s,mb3.2,baz=288,slow=9.1,SNR=2.0						
BTO	Baotou	49.42	66	*e*P	P	08 26 40.2	+1.1
CN2	Changchun	58.59	57	*e*P	P	08 27 46.6	+0.3
NJ2	Nanjing	59.59	72	*e*P	P	08 27 48.9	-4.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
SSE	Sheshan	61.78	72	⇓P	P	08 28 08.9	+0.5
SSE				AMB	AMB		
	comp=Z,28nm,0.7s						
SSE				AMB	AMB		
	comp=Z,66nm,4.3s						
KS15	Wonju Array Si	63.27	62	*e*P	P	08 28 17.6	-0.6
ULM	Lac du Bonnet	83.68	335	P	P	08 30 15.8	-1.1
	comp=Z,1.6nm,0.6s,mb4.3,baz=90,slow=2.0,SNR=3.9						

IDC ***10*** *08:29:03.9±0.5, 18.70S×69.83W, h84^{km}±3^{km}, mb4.0/16, mb1 4.2/19, mb1mx4.2/22, MS3.2/3, Ms1 3.2/3, ms1mx2.9/19, Error ellipse: s-maj=18.5km s-min=9.0km az=73.0*

NEIC ***10*** *08:29:03.6±0.4, 18.69S×69.82W, mb4.5/6, Error ellipse: s-maj=12.9km s-min=7.3km az=67.0*

NEIC Felt [III] at Arica and Chapiquina; [II] at Putre. Also felt [II] at Tacna, Peru.

ISC 10 08:29:01.8±0.3**, 18.70S**±0.04×**69.81W**±0.08**, h83**^{km}**, h83**^{km}±2.6^{km}**:pP-P, n47, σ1^{s}29**/46**, mb4.3**/22**, 1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	2.75	324	⇓*i*P	P	08 29 45.8	+1.0
ARE				*i* S	S	08 30 08.2	-8.8
LPAZ	La Paz	2.89	34	P	P	08 29 53.3	+6.6
	23nm,0.3s,baz=238,slow=6.5,SNR=681						
LPAZ				S	S	08 30 07.7	-13
	baz=217,slow=15						
LVC	Limon Verde	3.98	168	P	P	08 30 03.4	+1.5
	37nm,0.3s,baz=338,slow=9.3,SNR=478						
LVC				S	S	08 30 47.2	-0.4
	122nm,0.3s,baz=210,slow=22,SNR=20						
ANCH	Antofagasta	4.99	186	*e*P	P	08 30 13.3	-2.5
ANCH				*i* S	S	08 31 04.3	-8.3
CPN1	Cerro Paranal	5.92	185	*e*P	P	08 30 25.9	-2.6
CPN1				*i* S	S	08 31 26.8	-9.0
NNA	Nana	9.52	314	*e*P	P	08 31 15.2	-2.8
	20nm,0.4s						
TLL	Tololo Astrono	11.45	184	*e*P	P	08 31 37.8	-6.2
SAML	Samuel	11.63	34	*e*P	P	08 31 45.6	-0.8
	3.1nm,0.7s						
CPUP	Villa Florida	13.80	126	P	P	08 32 15.7	+0.7
	0.2nm,0.3s,baz=319,slow=12,SNR=16						
CPUP				LR	LR	08 38 47.4	
	comp=Z,58nm,20.3s,baz=323,slow=42						
CPUP	Villa Florida	13.80	126	*e*P	P	08 32 15.0	0.0
	6.0nm,0.8s						
TRQA	Tornquist	20.46	162	*e*P	P	08 33 34.8	-0.1
	24nm,1.0s						
OTAV	Otavalo	20.65	335	*e*P	P	08 33 40.0	+3.0
	35nm,1.0s						
BDFB	Brasilia	21.04	85	P	P	08 33 40.7	-0.2
	5.8nm,0.5s,mb4.2,baz=270,slow=9.7,SNR=8.3						
BDFB				LR	LR	08 42 43.5	
	comp=Z,80nm,19.6s,baz=290,slow=39						
PLCA	Paso Flores	21.96	182	P	P	08 33 52.4	+2.5
	8.1nm,1.1s,mb4.0,baz=0.2,slow=11,SNR=9.4						
PLCA	Paso Flores	21.96	182	P	P	08 33 52.4	+2.5
ROSC	El Rosal	23.83	349	LR	LR	08 44 15.4	
	comp=Z,98nm,20.5s,baz=60,slow=38						
SJG	San Juan	36.76	6	P	P	08 36 04.5	+1.3
	16nm,0.3s,mb5.4,baz=315,slow=13,SNR=3.9						
TXAR	Lajitas Array	57.86	325	P	P	08 38 46.5	-0.9
	0.4nm,0.8s,mb3.5,baz=143,slow=6.3,SNR=4.8						
FVM	French Village	59.62	341	P	P	08 38 56.6	-2.9
	10nm,0.7s,mb5.0						
SADO	Sadowa	63.73	353	P	P	08 39 25.9	-1.2
	6.7nm,1.0s,mb4.4,baz=157,slow=7.7,SNR=3.8						
SDCO	Great Sand Dun	65.42	329	*e*P	P	08 39 38.0	-0.1
	4.0nm,0.7s,mb4.4						
LIC	Lamto	68.46	75	*e*P	P	08 39 55.5	-2.0
	111nm,2.0s						
TIC	Toumodi	68.63	75	*e*P	P	08 39 59.0	+0.5
	11nm,0.2s,mb5.3						
KIC	Kosan Boka	68.77	75	*e*P	P	08 39 57.9	-1.6
	83nm,1.2s						
DBIC	Dimbokro	68.79	75	P	P	08 39 58.5	-1.1
	2.9nm,0.6s,mb4.3,baz=205,slow=6.3,SNR=6.7						
DBIC				pP	pP	08 40 22.6	+1.3
	7.8nm,1.0s,baz=218,slow=6.7,SNR=3.7						
MSU	Marysvale	69.41	326	*e*P	P	08 40 02.9	0.0
MVU	Marysvale	69.42	326	*e*P	P	08 40 03.2	+0.1
	2.7nm,0.7s,mb4.2						
DAU	Daniels Canyon	70.33	328	*e*P	P	08 40 09.0	+0.5
PDAR	Pinedale Array	71.28	330	P	P	08 40 13.8	-0.4
	0.6nm,0.7s,mb3.5,baz=135,slow=7.6,SNR=6.8						
PDAR				sP	sP	08 40 45.2	+0.3
	1.1nm,0.9s,baz=131,slow=7.3,SNR=4.1						
ULM	Lac du Bonnet	72.41	343	P	P	08 40 19.7	-1.1
	2.5nm,0.5s,mb4.3,baz=152,slow=9.4,SNR=7.2						
ULM				pP	pP	08 40 42.2	-0.6
	1.8nm,0.4s,baz=160,slow=5.9,SNR=2.4						
NVAR	Mina Array Bea	72.78	322	P	P	08 40 24.4	+1.3
	3.5nm,1.2s,mb4.1,baz=144,slow=8.3,SNR=8.4						
NVAR				pP	pP	08 40 45.4	+0.2
	0.9nm,0.8s,baz=137,slow=8.0,SNR=4.4						
NVAR				sP	sP	08 40 55.0	+1.0
	0.9nm,0.8s,baz=138,slow=7.2,SNR=4.3						
SCHQ	Schefferville	73.28	2	P	P	08 40 25.2	-0.5
	5.6nm,0.8s,mb4.5,baz=176,slow=4.5,SNR=6.5						
MCMT	McKenzie Canyo	74.39	330	P	P	08 40 33.1	+0.6
MOD	Modoc	76.23	324	*e*P	P	08 40 43.0	+0.1
	1.9nm,0.6s,mb4.0						
YBH	Yreka Blue Hor	77.49	322	P	P	08 40 49.8	-0.2
	1.1nm,1.0s,mb3.5,baz=288,slow=3.2,SNR=4.7						
DPW	Davenport	79.16	329	*e*P	P	08 40 59.5	+0.5
VNDA	Vanda	79.44	190	P	P	08 41 02.0	+2.0
	0.5nm,0.6s,mb3.5,baz=148,slow=3.7,SNR=5.8						
TSUM	Tsumeb	81.66	107	P	P	08 41 14.4	+1.6
	8.8nm,0.9s,mb4.6,baz=204,slow=5.1,SNR=9.4						
ESDC	Sonseca Array	84.45	45	P	P	08 41 28.6	+2.0
	1.1nm,0.6s,mb3.9,baz=246,slow=5.2,SNR=6.1						
ESDC				pP	pP	08 41 50.7	+1.6
	1.9nm,0.6s,baz=248,slow=5.3,SNR=4.7						
MAW	Mawson	87.24	164	P	P	08 41 41.4	+1.8
	3.2nm,0.8s,mb4.3,baz=230,slow=7.4,SNR=5.7						
YKA	Yellowknife Ar	88.28	341	P	P	08 41 45.4	+0.6
	5.4nm,0.5s,mb4.8,baz=132,slow=4.7,SNR=48						
YKA				pP	pP	08 42 07.0	-0.5
	2.0nm,0.6s,baz=131,slow=4.7,SNR=4.7						
YKA				sP	sP	08 42 17.1	+0.9
	2.2nm,0.6s,baz=133,slow=4.6,SNR=4.1						
INK	Inuvik	98.04	340	P	P	08 42 29.4	-0.1
	2.4nm,1.3s,mb4.6,baz=134,slow=6.3,SNR=3.6						
STKA	Stephens Creek	121.39	211	PKP	PKPdf	08 47 47.6	+1.7
	3.1nm,1.0s,baz=236,slow=3.6,SNR=3.1						
ASAR	Alice Springs	131.95	210	PKP	PKPdf	08 48 07.8	+1.4
	0.7nm,0.7s,baz=131,slow=1.7,SNR=9.0						
ASAR				pPKP		08 48 31.5	
	0.3nm,0.6s,baz=131,slow=2.1,SNR=2.3						
WRA	Warramunga Arr	134.88	213	PKhKP		08 48 00.9	
	0.3nm,0.8s,baz=164,slow=1.3,SNR=6.0						
WRA				PKP	PKPdf	08 48 13.4	+1.4
	1.3nm,0.5s,baz=139,slow=1.6,SNR=26						
WRA				pPKP		08 48 38.3	
	0.4nm,0.6s,baz=144,slow=1.7,SNR=1.7						
SONM	Songino Array	150.78	5	PKPbc	PKPdf	08 48 47.0	+8.3
	8.7nm,0.8s,baz=324,slow=1.5,SNR=20						
SONM				PKPab	PKPab	08 48 54.8	+0.8
	2.0nm,0.7s,baz=326,slow=3.2,SNR=3.6						
CMAR	Chiang Mai Arr	169.33	90	PKPab	PKPab	08 50 15.4	+0.7
	1.6nm,1.0s,baz=265,slow=5.6,SNR=4.1						

IDC ***10*** *08:41:20.8±0.8, 40.86N×78.97E, mb4.0/11, mb1 4.2/13, mb1mx4.1/21, ML4.1/2, MS3.4/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=19.1km s-min=15.4km az=65.0*

BJI ***10*** *08:41:21.8, 40.86N×78.87E, h34^{km}, mB4.6, mb4.4, ML4.5, Ms3.7*

MOS ***10*** *08:41:24.0±0.9, 40.88N×78.98E, h33^{km}, mb4.2/10, Error ellipse: s-maj=22.4km s-min=8.8km az=110.7*

NEIC ***10*** *08:41:27.7±1.7, 40.96N×79.00E, h49^{km}±14^{km}, mb4.2/3, Error ellipse: s-maj=19.1km s-min=9.9km az=211.0*

NNC ***10*** *08:41:28.4±1.7, 41.45N×79.08E, mpv4.1, Error ellipse: s-maj=18.9km s-min=7.5km az=149.0*

ISC 10 08:41:24.9±0.5**, 40.54N**±0.02×**79.20E**±0.05**, h64**^{km}±7^{km}**, n80, σ1^{s}29**/95**, mb3.9**/12**, 4C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	2.81	308	P	P	08 42 08.0	-0.4
	SNR=312						
AAA	Alma-Ata	3.21	329	*e*PN	P	08 42 09.0	-5.1
AAA				*e*PG	P	08 42 14.8	+0.7
AAA				*i* SG	S	08 42 52.5	+1.2
KZA	Kyzart	3.35	299	P	P	08 42 15.0	-1.1
	SNR=57						
TKM2	Tokmak 2	3.60	313	P	P	08 42 18.4	-1.2
	SNR=24						

UCH	**Uchtor**	3.91	297	P	P	08 42 22.7	-1.3
	SNR=20						
AAK	**Ala-Archa**	4.10	302	P	P	08 42 28.2	+1.5
	SNR=12						
FRU	**Bishkek**	4.13	305	*e*PN	P	08 42 29.0	+2.0
FRU				*i*		08 42 33.0	
FRU				*i*		08 42 42.0	
FRU				*i* S	S	08 43 25.0	+11
FRU				pmax	pmax		
	comp=Z,420nm,1.9s						
FRU				smax			
	comp=E,2µm,2.0s						
CHMS	**Chumysh**	4.14	308	P	P	08 42 32.4	+5.3
	SNR=32						
AML	**Almayashu**	4.44	293	P	P	08 42 32.4	+1.0
	SNR=15						
USP	**Ospenovka**	4.44	309	P	P	08 42 39.5	+8.1
	SNR=6.2						
EKS2	**Erkin-Say**	4.59	299	P	P	08 42 36.5	+3.0
	SNR=9.6						
MK31	**Makanchi Array**	6.64	19	⇑Pn	P	08 42 58.6	-3.4
	comp=E,4.2nm,0.4s,baz=200,slow=12,SNR=145						
MK31				⇓Sn	S	08 44 09.7	-7.3
	comp=E,16nm,0.5s						
MKAR	**Makanchi Array**	6.64	19	Pn	P	08 42 58.2	-3.9
	comp=E,4.9nm,0.3s,baz=201,slow=13,SNR=84						
MKAR				Sn	S	08 44 08.8	-8.2
	comp=E,3.2nm,0.3s,baz=208,slow=16,SNR=4.8						
MKAR				Lg		08 44 47.5	
	comp=E,5.0nm,0.3s,baz=192,slow=29,SNR=5.5						
MKAR	**Makanchi Array**	6.64	19	Pn	P	08 42 58.2	-3.9
MKAR				Sn	S	08 44 08.8	-8.2
MKAR				Lg		08 44 47.5	
KK31	**Karatay Array**	6.98	294	Pg	Px	08 43 26.7	
	comp=E,22nm,0.8s,baz=101,slow=14,SNR=83						
KK31				⇓Lg		08 44 54.9	
	comp=E,38nm,0.6s						
KKAR	**Karatay Array**	6.98	294	PN	P	08 43 12.0	+5.3
WMQ	**Urumqi**	7.11	60	P	P	08 43 08.0	-0.5
WMQ				S	S	08 44 28.5	-0.1
WMQ				Smax			
	comp=N,92nm,0.8s						
WMQ				Smax			
	comp=E,124nm,0.8s						
CHCP	**Chirah Chowk**	8.35	216	P	P	08 43 27.4	+1.9
DLH	**Dalhousie**	8.39	199	*e*P	P	08 43 25.0	-1.2
DLH				*e*		08 45 01.0	
THN	**Thein Dam**	8.56	200	*e*	S	08 45 09.2	+4.7
CEP	**Cherat**	8.87	223	P	P	08 43 33.8	+1.0
CEP				S	S	08 45 15.0	+2.8
PONG	**Pong**	8.96	198	*e*P	P	08 43 33.0	-1.0
KLP	**Kalpa**	9.02	185	*e*P	P	08 43 32.8	-2.0
KLP				*e*S	S	08 45 13.6	-2.2
KLP				AML	AML	08 45 20.0	
	comp=E,113nm,0.7s						
KLP				AML	AML	08 45 20.3	
	comp=N,78nm,0.9s						
SDNR	**Sundarnagar**	9.20	192	*e*P	P	08 43 39.0	+1.8
SDNR				*e*S	S	08 45 22.0	+1.8
THW	**Thamme Wali**	9.78	220	⇓P	P	08 43 45.9	+0.8
KURK	**Kurchatov**	10.19	358	⇑Pn	P	08 43 43.1	-7.5
	comp=N,5.6nm,0.7s,baz=179,slow=10,SNR=11						
KURK	**Kurchatov**	10.19	358	*e*P	P	08 43 45.9	-4.7
	comp=N,4.4nm,0.6s						
DDI	**Dehra Dun**	10.24	186	*e*P	P	08 43 52.0	+0.6
DDI				*e*S	S	08 45 44.6	-0.9
SBDP	**Sheikh Budin**	10.64	222	P	P	08 43 56.4	-0.5
DRP	**Derazinda**	11.39	222	P	P	08 44 06.8	-0.2
NDI	**New Delhi**	11.94	188	*e*P	P	08 44 13.0	-1.3
NDI				*e*S	S	08 46 22.0	-4.6
SONA	**Sohna**	12.38	189	*e*P	P	08 44 19.1	-1.2
SONA				*e*S	S	08 46 33.4	-3.9
SONA				*e*S	S	08 46 33.4	-3.8
SONA				*e*		08 46 38.1	
	comp=N,22nm,0.4s						
SONA				*e*		08 46 38.2	
	comp=E,30nm,0.4s						
KUDL	**Kundal**	12.56	191	*e*P	P	08 44 21.6	-1.1
KUDL				*e*S	S	08 46 35.7	-5.9
KUDL				*e*		08 46 44.1	
	comp=Z,20nm,0.6s						
KHET	**Khetri**	12.75	194	*e*P	P	08 44 23.6	-1.5
KHET				*e*S	S	08 46 40.5	-5.4
KHET				*e*		08 46 47.2	
	comp=E,19nm,0.3s						
KHET				*e*		08 46 47.2	
	comp=N,17nm,0.2s						
KOLN	**Koldanda**	13.24	163	*e*P	P	08 44 31.9	+0.3
	comp=N,10nm,0.4s						
GKN	**Gorkha**	13.28	159	*e*P	P	08 44 32.2	+0.1
	comp=N,20nm,0.4s						
VOSK	**Vostochnaya**	13.42	338	⇓Pn	P	08 44 29.0	-4.8
	comp=N,8.4nm,1.1s						
VOSK				⇓Lg		08 48 08.6	
	comp=N,36nm,1.1s						
KKN	**Kakani**	13.67	157	*e*P	P	08 44 37.3	+0.1
	comp=N,19nm,0.6s						
GUN	**Gumba**	13.75	154	*e*P	P	08 44 39.6	+1.4
	comp=N,35nm,0.5s						
DMN	**Daman**	13.79	157	*e*P	P	08 44 38.6	-0.1
	comp=N,17nm,0.6s						
BVA0	**Borovoye Array**	13.86	337	Pn	P	08 44 34.8	-4.6
	comp=N,1.5nm,0.8s,baz=141,slow=15,SNR=20						
BVAR	**Borovoye Array**	13.86	337	Pn	P	08 44 34.8	-4.6
	comp=N,0.8nm,0.3s,baz=146,slow=11,SNR=18						
BVAR				Lg		08 48 26.7	
	comp=N,0.5nm,0.3s,baz=153,slow=23,SNR=5.7						
PKI	**Pulchoki**	13.91	156	*e*P	P	08 44 40.4	0.0
	comp=N,48nm,0.8s						
BRVK	**Borovoye**	13.92	337	P	P	08 44 36.0	-4.2
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s						
BRVK	**Borovoye**	13.92	337	*e*P	P	08 44 35.1	-5.1
	comp=Z,7.3nm,0.8s						
ZRNK	**Zerenda**	14.23	334	⇑Pn	P	08 44 39.2	-5.0
	comp=Z,13nm,1.0s						
ZRNK	**Zerenda**	14.23	334	P	P	08 44 39.2	-5.1
ZRNK				pmax	pmax		
	comp=Z,13nm,1.0s						
ZRNK	**Zerenda**	14.23	334	*e*P	P	08 44 39.1	-5.1
	comp=Z,9.9nm,0.8s						
NVS	**Novosibirsk**	14.56	9	*i* P	P	08 44 51.5	+2.9
NVS				pmax	pmax		
	comp=Z,27nm,0.7s						
NVS				pmax	pmax		
	comp=N,36nm,0.6s						
GTA	**Gaotai**	15.84	87	*e*P	P	08 45 05.8	+0.6
GTA				S	S	08 48 03.7	+5.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s						
GTA				LR	LR		
	comp=N,81nm,12.2s						
GTA				LR	LR		
	comp=E,89nm,14.8s						
AB31	**Akbulak array**	16.16	309	P	P	08 45 05.0	-4.0
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SHL	**Shillong**	18.30	141	*e*P	P	08 45 37.5	+1.7
ZAK	**Zakamensk**	19.47	52	⇑*i*P	P	08 45 49.2	+0.3
SONM	**Songino Array**	20.75	60	P	P	08 46 03.9	+1.5
	comp=Z,20nm,0.7s,baz=256,slow=11,SNR=104						
ARU	**Arti**	20.84	327	⇓*i*P	P	08 46 01.5	-1.8
ARU				*e*		08 46 14.7	
ARU				*e*S	S	08 49 47.3	+0.2
ARU				*e*SS	SS	08 50 08.6	-14
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s						
ARU				MLR	MLR		
	comp=N,70nm,19.0s						
ARU				MLR	MLR		
	comp=E,100nm,15.0s						
ARU	**Arti**	20.84	327	*e*P	P	08 46 01.6	-1.7
	comp=E,25nm,0.8s						
HHC	**Hu-ho-hao-te**	24.47	79	*e*P	P	08 46 41.9	+3.0
HHC				AMB	AMB		
	comp=Z,69nm,4.3s						
HHC				LR	LR		
	comp=N,67nm,11.8s						
HHC				LR	LR		
	comp=E,116nm,6.9s						
CMAR	**Chiang Mai Arr**	27.80	137	P	P	08 47 16.6	+6.6
	comp=E,0.5nm,0.4s,mb3.5,baz=323,slow=9.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	27.80	137	P	P	08 47 16.7	+6.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	31.56	312	*e*P	P	08 47 42.8	-0.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	35.77	304	P	P	08 48 17.9	-1.6
	comp=Z,1.6nm,0.3s,mb4.4,baz=68,slow=9.2,SNR=3.0						
AKASG	**Malin Array Be**	35.77	304	P	P	08 48 17.9	-1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	38.04	321	P	P	08 48 38.5	+0.2
	comp=Z,2.4nm,0.6s,mb4.1,baz=101,slow=9.7,SNR=8.4						
FINES	**FINESS Array B**	38.04	321	P	P	08 48 38.5	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	40.11	334	P	P	08 48 55.3	-0.2
	comp=Z,1.1nm,0.5s,mb3.8,baz=96,slow=11,SNR=12						
ARCES	**ARCESS Array B**	40.11	334	P	P	08 48 55.3	-0.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	45.20	321	P	P	08 49 36.3	-0.5
	comp=Z,1.3nm,0.6s,mb3.9,baz=86,slow=7.9						
NOA	**NORSAR Array B**	45.20	321	P	P	08 49 37.1	+0.3
	comp=Z,1.6nm,0.7s,mb4.0,baz=86,slow=7.8,SNR=6.2						
NOA				LR	LR	09 08 49.9	
	comp=Z,47nm,20.4s,baz=95,slow=37						
NOA	**NORSAR Array B**	45.20	321	P	P	08 49 37.1	+0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,47nm,20.4s						
GERES	**GERESS Array B**	45.99	303	P	P	08 49 43.7	+0.4
	comp=Z,0.4nm,0.2s,mb3.9,baz=117,slow=11,SNR=2.7						
INK	**Inuvik**	68.74	12	*e*P	P	08 52 22.2	-1.0
	comp=Z,3.0nm,1.0s,mb4.2						
ILAR	**Eielson Array**	69.00	19	P	P	08 52 25.1	+0.2
	comp=Z,0.7nm,1.0s,mb3.5,baz=319,slow=4.9,SNR=4.9						
ILAR	**Eielson Array**	69.00	19	P	P	08 52 25.1	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	76.72	7	P	P	08 53 10.3	+0.1
	comp=Z,1.2nm,0.7s,mb3.9,slow=7.0,SNR=4.6						
YKA	**Yellowknife Ar**	76.72	7	P	P	08 53 10.3	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	79.03	128	P	P	08 53 27.8	+4.0
	comp=Z,0.7nm,0.9s,mb3.6,baz=331,slow=5.5,SNR=7.6						
WRA	**Warramunga Arr**	79.03	128	P	P	08 53 27.8	+4.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	81.64	131	P	P	08 53 42.9	+5.2
	comp=Z,0.9nm,1.0s,mb3.6,baz=322,slow=5.1,SNR=5.9						
LVC	**Limon Verde**	147.72	294	PKPbc	PKPdf	09 01 05.2	+5.7
	comp=Z,0.8nm,0.5s,baz=141,slow=6.5,SNR=3.4						
TRQA	**Tornquist**	150.02	262	PKPbc	PKPdf	09 01 12.2	+9.4

IDC 10 08:50:49.2±5.0,12.47N×88.57W,h137^{km}±66^{km},mb2.5/1, mb1 3.1/2,mb1mx2.9/20,Error ellipse: s-maj=154.0km s-min=37.3km az=52.0,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	4.16	121	P	P	08 51 51.3	-0.9
	4.3nm,0.3s,baz=301,slow=22,SNR=45						
JTS				S	S	08 52 33.1	-7.3
	1.6nm,0.3s,baz=290,slow=14,SNR=2.8						
TXAR	**Lajitas Array**	21.88	322	P	P	08 55 31.4	-0.5
	0.3nm,0.7s,baz=138,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	138.23	254	PKP	PKPdf	09 09 58.6	-0.5
	0.3nm,0.4s,baz=87,slow=2.5,SNR=10.0						
ASAR	**Alice Springs**	138.26	248	PKP	PKPdf	09 09 58.8	-0.3
	0.6nm,0.8s,baz=100,slow=2.0,SNR=6.5						

WEL 10 09:20:29.8±0.2,38.33S×177.02E,h65^{km}±2^{km},ML3.5/1, 2C-2D,Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	0.10	48	⇓P*	P	09 20 38.9	-0.5
URZ				S*	S	09 20 46.0	-0.4
EDRZ	**Edgecumbe**	0.31	315	P*	P	09 20 40.3	-0.2
EDRZ				S*	S	09 20 48.9	+0.5
MWZ	**Matawai**	0.40	91	⇓P*	P	09 20 41.0	-0.3
MWZ				S*	S	09 20 49.9	+0.1
TAZ	**Tarawera**	0.41	283	P*	P	09 20 41.5	+0.2
LIRZ	**Lichensteins R**	0.59	303	P*	P	09 20 42.5	-0.8
UTU	**Utuhina**	0.67	283	P*	P	09 20 44.3	+0.3
WIZ	**White Island**	0.81	10	*e*P*	P	09 20 44.6	-1.2
TGRZ	**Tauranga**	0.84	315	P*	P	09 20 45.6	-0.6
KNZ	**Kokohu**	0.86	144	PN	P	09 20 46.0	-0.5
BKZ	**Black Stump Fm**	0.93	206	P*	P	09 20 47.2	-0.2
PUZ	**Puketiti**	1.01	76	PN	P	09 20 48.2	-0.2
PUZ				SN	S	09 21 02.6	+0.4
MXZ	**Matakaoa Point**	1.27	54	P*	P	09 20 52.4	+0.4
NGZ	**Ngauruhoe**	1.39	232	P*	P	09 20 53.7	0.0
NGZ				P*	P	09 20 53.8	+0.1
NGZ				S*	S	09 21 10.1	-1.3
CNZ	**Chateau**	1.44	232	P*	P	09 20 54.3	-0.1
WPVZ	**Whakapapa**	1.45	232	P*	P	09 20 54.6	+0.1
MOVZ	**Moawhango**	1.46	222	⇑P*	P	09 20 54.0	-0.6
MOVZ				S*	S	09 21 12.1	-0.9
FWVZ	**Far West T-bar**	1.47	230	⇑P*	P	09 20 54.8	0.0
PWZ	**Pawanui**	1.71	184	PN	P	09 20 55.4	-2.5
KUZ	**Kuaotunu**	1.88	326	PN	P	09 20 59.2	-1.2
TSZ	**Takapari Road**	1.92	205	PN	P	09 20 58.3	-2.5
WAZ	**Wanganui**	2.13	227	PN	P	09 21 03.9	+0.1
KIW	**Kapiti Island**	3.01	212	*e*PN	P	09 21 12.3	-4.0
MQZ	**McQueen's Vall**	6.31	210	SN	S	09 23 01.5	-12

IDC 10 09:20:34.5±3.3,17.93S×178.17W,h630^{km}±41^{km},mb3.2/4, mb1 3.4/4,mb1mx3.0/15,Error ellipse: s-maj=86.9km s-min=18.8km az=156.0

ISC 10 09:20:32.2±4.1,17.6S±1.0×178.3W±0.4,h611^{km}±57^{km},n8, σ0^{s}24/7,mb3.8/4,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.85	241	P	P	09 27 08.2	0.0
	3.4nm,0.8s,mb3.9,baz=100,slow=8.6,SNR=9.9						
WB2	**Warramunga Arr**	44.75	259	⇑*i*P	P	09 27 55.1	+0.3
WRA	**Warramunga Arr**	44.76	259	P	P	09 27 54.6	-0.3
	2.4nm,0.4s,mb4.1,baz=97,slow=7.1,SNR=121						
WRA				PcP	PcP	09 29 22.2	-1.6
	0.6nm,0.8s,baz=83,slow=3.4,SNR=5.3						
ASAR	**Alice Springs**	44.95	254	P	P	09 27 56.4	+0.1
	4.2nm,0.4s,mb4.3,baz=92,slow=7.7,SNR=62						
ASAR				PcP	PcP	09 29 22.9	-1.5
	0.9nm,0.5s,baz=104,slow=3.7,SNR=8.9						
ASAR				S	S	09 33 51.7	0.0
	0.8nm,0.7s,baz=86,slow=14,SNR=6.6						
ASPA	**Alice Springs**	44.95	254	*e*P	P	09 27 56.2	-0.1
TXAR	**Lajitas Array**	85.76	58	P	P	09 32 09.5	0.0
	0.3nm,0.7s,mb3.0,baz=212,slow=6.3,SNR=5.1						
GERES	**GERESS Array B**	147.30	345	PKPbc	PKPdf	09 39 10.0	+5.5
	0.3nm,0.2s,baz=108,slow=3.1,SNR=3.5						
DAVOX	**Davos**	150.08	349	PKPbc	PKPdf	09 39 16.5	+7.6
	2.0nm,0.4s,baz=346,slow=12,SNR=5.2						

NEIC 10 09:25:24.4±5.4,20.89S×178.71W,h606^{km}±70^{km},mb4.2/3, Error ellipse: s-maj=30.0km s-min=20.0km az=207.0

IDC 10 09:25:27.4±2.9,21.06S×178.67W,h651^{km}±42^{km},mb3.0/7, mb1 3.3/8,mb1mx3.1/16,Error ellipse: s-maj=45.8km s-min=12.3km az=157.0

ISC 10 09:25:24.5±2.4,20.9S±0.2×178.8W±0.1,h621^{km}±34^{km}, n14,σ0^{s}74/15,mb3.7/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	17.64	191	P	P	09 28 56.1	-0.8
	0.8nm,0.3s,baz=83,slow=8.1,SNR=4.7						
CTAO	**Charters Tower**	32.71	265	*e*P	P	09 31 10.2	+0.6
	3.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	36.94	245	P	P	09 31 45.7	+1.4
	2.1nm,0.6s,mb3.8,baz=84,slow=14,SNR=4.4						
STKA	**Stephens Creek**	36.94	245	P	P	09 31 45.7	+1.4
ASAR	**Alice Springs**	43.70	257	P	P	09 32 38.8	+0.4
	1.8nm,0.4s,mb4.0,baz=92,slow=7.7,SNR=42						
ASAR				S	S	09 38 25.4	-0.1
	1.9nm,0.7s,baz=94,slow=16,SNR=25						
WB2	**Warramunga Arr**	43.80	263	*e*P	P	09 32 38.9	-0.3
WRAB	**Tennant Creek**	43.80	263	*e*P	P	09 32 38.3	-0.9
	2.4nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	43.81	263	P	P	09 32 38.8	-0.4
	1.5nm,0.3s,mb4.0,baz=97,slow=7.6,SNR=96						
WRA				S	S	09 38 26.7	-0.3
	0.3nm,0.6s,baz=98,slow=13,SNR=3.8						
QSPA	**South Pole Qui**	69.15	180	*e*P	P	09 35 31.5	+0.4
	6.3nm,0.7s,mb4.2						
YBH	**Yreka Blue Hor**	81.08	39	P	P	09 36 38.3	+0.9
	1.2nm,0.9s,mb3.3,baz=164,slow=7.4,SNR=5.3						
NVAR	**Mina Array Bea**	81.84	44	P	P	09 36 41.8	+0.3
	0.1nm,0.4s,mb2.7,baz=216,slow=7.8,SNR=3.9						
ILAR	**Eielson Array**	88.89	13	P	P	09 37 13.2	-1.4
	0.9nm,0.9s,mb3.6,baz=229,slow=5.7,SNR=7.4						
PDAR	**Pinedale Array**	89.78	44	P	P	09 37 19.3	0.0
	0.4nm,0.9s,mb3.2,baz=297,slow=3.3,SNR=3.8						
AKASG	**Malin Array Be**	143.02	330	PKP	PKPdf	09 43 46.6	-1.7
	1.8nm,0.5s,baz=39,slow=4.3,SNR=10						

IDC 10 09:38:57.0±2.9,33.73S×178.78E,mb3.6/2,mb1 3.8/3, mb1mx3.7/13,ML3.5/1,Error ellipse: s-maj=63.7km s-min=44.6km az=81.0

ISC 10 09:38:42.5±2.9,33.6S±0.1×179.1W±0.4,h10^{km},n7, σ0^{s}74/8,mb3.5/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	4.96	205	*e*P	Pn	09 39 59.6	+0.7
MWZ	**Matawai**	5.47	209	*e*P	Pn	09 40 05.3	-0.8
MWZ				S	Sn	09 41 10.2	+0.4
URZ	**Urewera**	5.58	212	Pn	Pn	09 40 08.9	+1.2
	2.1nm,0.3s,baz=146,slow=9.4,SNR=12						
URZ				Sn	Sn	09 41 12.4	-0.3
	2.6nm,0.3s,baz=303,slow=18,SNR=7.2						
URZ	**Urewera**	5.58	212	*e*P	Pn	09 40 05.7	-2.0
ASAR	**Alice Springs**	42.11	271	P	P	09 46 36.9	+0.3
	0.5nm,0.6s,mb3.4,baz=110,slow=7.1,SNR=7.0						
WRA	**Warramunga Arr**	43.39	276	P	P	09 46 46.9	-0.2
	0.4nm,0.3s,mb3.6,baz=117,slow=7.8,SNR=16						
AKASG	**Malin Array Be**	153.16	318	PKPbc	PKPab	09 58 53.9	0.0
	0.3nm,0.3s,baz=89,slow=5.4,SNR=4.2						

IDC 10 09:42:58.7±3.3,34.53N×24.08E,mb3.7/2,mb1 3.8/5, mb1mx3.6/22,ML3.9/3,Error ellipse: s-maj=47.2km s-min=26.1km az=166.0

NEIC 10 09:42:59.0,34.45N×24.18E,h5^{km},MD3.8(ATH),After ATH.

ATH 10 09:42:59.0,34.45N×24.18E,h5^{km},MD3.8/5

ISC 10 09:42:59.5±2.0,34.5N±0.2×24.3E±0.1,h5^{km},n14, σ1^{s}34/14,mb3.6/2,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	0.35	336	*e*P	Pg	09 43 06.0	-0.5
VAM	**Vamos**	0.88	357	*e*PG	Pg	09 43 16.7	-0.5
IDI	**Anoyia**	0.92	34	Pg	Pg	09 43 18.1	+0.1
	7.7nm,0.3s,baz=203,slow=16,SNR=22						
IDI				Lg		09 43 39.3	
	56nm,0.3s,baz=102,slow=19,SNR=11						
XRY	**Khrisi**	1.23	73	*e*PN	Pn	09 43 23.0	-0.4
NPS	**Neapolis**	1.33	56	*e*PB	Pb	09 43 27.0	+2.4
KYTH	**Kithira**	2.02	331	*e*PN	Pn	09 43 36.3	+1.7
SANT	**Santorini**	2.09	28	*e*Pn	Pn	09 43 34.8	-0.8
VLI	**Veliai**	2.44	334	*e*PN	Pn	09 43 43.5	+2.8
GERES	**GERESS Array B**	16.32	334	Pn	P	09 46 51.7	+0.9
	0.2nm,0.3s,baz=152,slow=17,SNR=4.6						
DAVOX	**Davos**	16.37	323	Pn	P	09 46 50.2	-1.3
	0.2nm,0.3s,baz=338,slow=19,SNR=2.3						
AKASG	**Malin Array Be**	16.57	11	Pn	P	09 46 51.2	-2.9
	1.2nm,0.3s,baz=205,slow=10,SNR=5.5						
NB2	**NORSAR Subarra**	27.83	346	P	P	09 48 46.9	-4.6
	0.8nm,0.5s,mb3.6,baz=149,slow=9.3						
NOA	**NORSAR Array B**	27.83	346	P	P	09 48 47.5	-4.0
	0.6nm,0.9s,mb3.2,baz=150,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	44.74	56	P	P	09 51 15.0	-0.4
	1.2nm,0.7s,mb3.9,baz=260,slow=7.4,SNR=7.7						

NEIC 10 09:46:13.7±0.6,50.40N×18.85E,h5^{km},ML3.5(SZGRF), ML3.2(BRG),ML3.2(VIE),Error ellipse: s-maj=8.1km s-min=6.8km az=147.0

WAR 10 09:46:14.9,50.26N×18.88E,ML3.1,Mining Induced

PRU 10 09:46:15.5,50.25N×18.81E

IDC 10 09:46:16.8±0.9,50.39N×18.47E,mb3.6/1,mb1 3.5/8, mb1mx3.4/21,ML3.2/7,MS3.4/1,Ms1 3.4/1,ms1mx2.3/27, Error ellipse: s-maj=17.2km s-min=7.1km az=137.0

BGR 10 09:46:19.8±1.8,50.23N×18.63E,h1^{km},ML3.5/5,Error ellipse: s-maj=15.6km s-min=12.2km az=110.0

ISC 10 09:46:12.3±0.4,50.39N±0.03×18.74E±0.03,n42,σ1^{s}59/78, mb3.8/1,MS3.5/1,4C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	0.47	230	*e*PG	Pg	09 46 25.0	+3.4
RAC				*e*SG	Sg	09 46 32.0	+4.2
RAC	**Raciborz**	0.47	230	*e*Pg	Pg	09 46 25.0	+3.4
RAC				*e*Sg	Sg	09 46 32.2	+4.4
OKC	**Ostrava-Krasne**	0.67	215	*e*PG	Pg	09 46 27.5	+1.8
OKC				*e*SG	Sg	09 46 36.5	+1.9
OJC	**Ojcow**	0.70	103	⇑*i*PG	Pg	09 46 26.8	+0.6
OJC				⇑*i*SG	Sg	09 46 35.1	-0.4
MORC	**Moravsky Berou**	0.98	232	*e*P	Pb	09 46 33.2	+1.3
MORC				*e*S	Sg	09 46 46.2	+1.1
LIKS	**Likavka**	1.36	170	*e*PN	Pn	09 46 37.8	-0.7
LIKS				*e*SN	Sn	09 46 55.3	-2.2
NIE	**Niedzica**	1.40	133	*e*PG	Pg	09 46 38.0	-2.3
NIE				*e*SG	Sg	09 46 57.0	-2.0
DPC	**Dobruska-Polom**	1.55	270	*e*PG	Pg	09 46 44.1	+0.8
DPC				*e*SG	Sg	09 47 05.7	+1.7
	269nm,0.9s						
KSP	**Ksiaz**	1.63	287	*e*PN	Pn	09 46 46.0	+3.6
KSP				*i* PG	Pg	09 46 47.8	+3.0
KSP				*e*SG	Sg	09 47 11.8	+5.3
KSP	**Ksiaz**	1.63	287	*e*Pn	Pn	09 46 46.1	+3.7
KSP				*i* Pg	Pg	09 46 47.8	+3.0
KSP				*e*Sg	Sg	09 47 10.7	+4.2
VRAC	**Vranov**	1.76	233	Pg	Pg	09 46 46.1	-1.4
	12nm,0.3s,baz=60,slow=15,SNR=62						
VRAC				Lg		09 47 09.1	
	13nm,0.3s,baz=155,slow=20,SNR=3.6						
KOLL	**Kolacno**	1.82	187	*e*PN	Pn	09 46 45.3	+0.1
KOLL				*e*SN	Sn	09 47 11.0	+1.7
VYHS	**Vyhne**	1.89	178	*e*PN	Pn	09 46 46.0	-0.2
VYHS				*e*SN	Sn	09 47 09.8	-1.3
CRVS	**Cervenica-Dubn**	2.31	129	*e*SN	Sn	09 47 23.9	+2.3
PSZ	**Piszkesteto**	2.58	163	⇑*e*PB	Pb	09 47 01.8	+2.5
PSZ				*e*Sn	Sn	09 47 26.5	-2.1
PSZ	**Piszkesteto**	2.58	163	*e*Pn	Pn	09 46 56.2	+0.2
KWP	**Kalwaria**	2.67	105	*e*PN	Pn	09 47 02.0	+4.7
KWP				*e*PG	Pg	09 47 05.0	-0.6
KWP				*e*SN	Sn	09 47 31.0	+0.2
KWP				*e*SG	Sg	09 47 43.0	+1.9
KWP	**Kalwaria**	2.67	105	*e*Pn	Pn	09 46 52.5	-4.8
KWP				*e*Pg	Pg	09 47 05.2	-0.4
KWP				*e*Sn	Sn	09 47 30.8	0.0
KWP				*e*Sg	Sg	09 47 42.6	+1.5
PRU	**Pruhonice**	2.73	263	*e*PN	Pn	09 46 58.8	+0.6
PRU				*e*PG	Pg	09 47 04.6	-2.2
PRU				*i*		09 47 07.1	
PRU				SG	Sg	09 47 40.7	-2.5
	31nm,0.6s						
GKP	**Gorka Klasztor**	3.04	343	*e*PG	Pg	09 47 12.0	-1.0
GKP				*e*SG	Sg	09 47 59.0	+5.6
GKP	**Gorka Klasztor**	3.04	343	*e*Pn	Pn	09 46 55.6	-7.0
GKP				*e*Sg	Sg	09 47 59.2	+5.8
BRG	**Berggiesshubel**	3.10	281	*e*Pg	Pg	09 47 13.9	-0.2
BRG				*e*Sg	Sg	09 47 56.9	+1.5
BRG	**Berggiesshubel**	3.10	281	P	Pn	09 47 12.1	+8.7
BRG				*e*Pg	Pg	09 47 15.4	+1.3
BRG				*e*Sg	Sg	09 47 57.5	+2.1
KHC	**Kasperske Hory**	3.58	251	*e*PN	Pn	09 47 11.5	+1.3
KHC						09 47 18.1	
KHC				PG	Pg	09 47 20.9	-2.8
KHC				*e*SG	Sg	09 48 08.4	-3.0
KHC	**Kasperske Hory**	3.58	251	*e*Pn	Pn	09 47 11.5	+1.3
KHC				*e*		09 47 18.1	
KHC				Pg	Pg	09 47 20.9	-2.8
KHC				*e*Sg	Sg	09 48 08.4	-3.0
GEC2	**GERESS Array S**	3.62	247	*e*Sg	Sg	09 48 10.1	-2.9
GERES	**GERESS Array B**	3.62	247	Pn	Pn	09 47 12.3	+1.4
	0.4nm,0.3s,baz=61,slow=14,SNR=5.2						

GERES				Pg	Pg	09 47 21.3	-3.3
	2.3nm,0.3s,baz=64,slow=18,SNR=16						
GERES				Lg		09 48 09.7	
	6.4nm,0.3s,baz=62,slow=29,SNR=19						
CLL	**Collm**	3.75	286	*e*PG	Pg	09 47 28.0	+0.7
CLL				*e*SG	Sg	09 48 17.0	-0.3
WET	**Wettzell**	4.00	254	*e*Sg	Sg	09 48 23.2	-2.3
TANN	**Tannenbergstha**	4.02	273	*e*Sg	Sg	09 48 26.2	+0.1
WERD	**Werda**	4.12	273	*e*Pg	Pg	09 47 33.5	-1.0
KBA	**Koelnbreinsper**	4.87	229	⇑*i*PN	Pn	09 47 28.4	-0.2
KBA				*i* SG	Sg	09 48 49.5	-4.9
	23nm,0.8s						
GRF	**Grafenberg Arr**	4.90	265	*e*Sg	Sg	09 48 53.3	-2.1
AKASG	**Malin Array Be**	6.69	83	Pn	Pn	09 47 55.9	+1.6
	0.6nm,0.3s,baz=267,slow=12,SNR=2.5						
AKASG				Pg	Pg	09 48 16.7	-9.2
	1.4nm,0.3s,baz=271,slow=15,SNR=6.3						
AKASG				Sn	Sn	09 49 05.8	-6.4
	1.4nm,0.3s,baz=261,slow=23,SNR=3.2						
AKASG				Lg		09 49 48.8	
	1.1nm,0.3s,baz=270,slow=29,SNR=5.1						
DAVOX	**Davos**	6.90	242	Pn	Pn	09 47 57.0	-0.2
	0.4nm,0.3s,baz=46,slow=14,SNR=4.2						
DAVOX				Lg		09 49 53.1	
	0.6nm,0.3s,baz=57,slow=24,SNR=5.3						
HFS	**Hagfors**	10.18	346	Pn	P	09 48 36.3	-6.4
	0.0nm,0.3s,baz=172,slow=10,SNR=3.6						
NOA	**NORSAR Array B**	11.48	341	Pn	P	09 48 56.2	-4.2
	0.3nm,0.3s,baz=149,slow=9.4,SNR=3.9						
NOA	**NORSAR Array B**	11.48	341	Pn	P	09 48 56.2	-4.2
FINES	**FINESS Array B**	11.81	17	Pn	P	09 49 02.5	-2.4
	0.3nm,0.3s,baz=188,slow=12,SNR=6.5						
ARCES	**ARCESS Array B**	19.48	7	Pn	P	09 50 41.3	-1.9
	0.2nm,0.3s,baz=193,slow=12,SNR=8.8						
KMBO	**Kilima Mbogo**	53.70	157	LR	LR	10 18 27.5	
	comp=Z,36nm,18.3s,MS3.5,baz=90,slow=36						
SONM	**Songino Array**	54.17	56	P	P	09 55 43.5	+2.3
	0.8nm,0.9s,mb3.8,baz=301,slow=8.4,SNR=3.8						

IDC 10 09:46:17.2±46.0**, 16.77S**×**170.81W, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.7**/17**, Error ellipse: s-maj=913.0km s-min=184.1km az=81.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	45.55	242	P	P	09 54 39.4	-1.3
	5.7nm,1.3s,baz=94,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	51.97	258	P	P	09 55 28.0	-2.6
	0.3nm,0.6s,baz=98,slow=6.7,SNR=7.1						
ASAR	**Alice Springs**	52.07	253	P	P	09 55 29.1	-2.1
	1.0nm,0.6s,baz=90,slow=8.5,SNR=24						

IDC 10 09:50:46.6±6.3**, 4.24N**×**64.12E, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.5**/16**, Error ellipse: s-maj=793.0km s-min=75.6km az=34.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	72.98	112	P	P	10 02 19.0	-1.6
	0.9nm,0.6s,baz=292,slow=5.2,SNR=7.8						
ASAR	**Alice Springs**	73.34	116	P	P	10 02 20.6	-2.0
	0.8nm,0.7s,baz=289,slow=5.8,SNR=9.0						
TXAR	**Lajitas Array**	144.62	341	PKP	PKPdf	10 10 25.6	-2.2
	0.3nm,0.9s,baz=18,slow=2.9,SNR=3.2						

NEIC ***10*** *09:54:53.1±4.0, 4.35S×153.74E, h116^{km}±28^{km}, mb4.3/4, Error ellipse: s-maj=41.8km s-min=21.0km az=87.0*

IDC ***10*** *09:54:54.9±7.6, 4.45S×153.62E, h121^{km}±55^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.7/15, MS3.0/1, Ms1 3.0/1, ms1mx2.5/15, Error ellipse: s-maj=60.4km s-min=31.3km az=88.0*

ISC 10 09:54:54.2±5.1**, 4.4S**±0.2×**153.5E**±0.3**, h132**^{km}±39^{km}**, n12, σ0^{s}79**/12**, mb4.0**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	8.06	231	P	P	09 56 49.9	+0.3
	7.5nm,0.3s,baz=38,slow=7.0,SNR=26						
PMG				S	S	09 58 19.2	-0.3
	3.5nm,0.3s,baz=123,slow=17,SNR=6.2						
CTA	**Charters Tower**	17.14	204	LR	LR	10 04 15.3	
	comp=Z,54nm,21.6s,baz=223,slow=33						
WRAB	**Tennant Creek**	24.25	229	*e*P	P	10 00 00.9	+0.5
	18nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	24.27	229	P	P	10 00 01.7	+1.1
	6.5nm,0.6s,mb4.4,baz=54,slow=9.9,SNR=93						
ASAR	**Alice Springs**	26.95	223	P	P	10 00 25.2	-0.3
	1.1nm,0.7s,mb3.6,baz=55,slow=9.0,SNR=15						
STKA	**Stephens Creek**	29.55	201	P	P	10 00 47.5	-1.3
	1.5nm,0.7s,mb3.8,baz=27,slow=15,SNR=6.4						
FITZ	**Fitzroy Crossi**	30.50	241	*e*P	P	10 00 57.0	-0.4
	3.8nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	30.50	241	P	P	10 00 57.1	-0.3
	5.7nm,0.9s,mb4.3,baz=64,slow=2.9,SNR=12						
MKAR	**Makanchi Array**	80.50	319	P	P	10 06 54.1	+0.8
	0.6nm,0.8s,mb3.3,baz=108,slow=4.6,SNR=4.5						
KURK	**Kurchatov**	83.90	322	*e*P	P	10 07 09.1	-1.5
	6.2nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	85.57	180	*e*P	P	10 07 18.4	+0.2
	1.0nm,0.4s,mb3.9						
MAW	**Mawson**	86.23	203	P	P	10 07 22.3	+0.7
	2.3nm,0.7s,mb4.0,baz=59,slow=5.6,SNR=5.7						

IDC ***10*** *10:25:48.0±2.6, 34.83N×25.54E, mb4.0/6, mb1 4.1/9, mb1mx3.9/23, ML4.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=59.5km s-min=13.4km az=29.0*

NEIC ***10*** *10:25:52.2, 34.79N×24.94E, h10^{km}, mb4.2/1, MD4.0(ATH), After ATH.*

ATH ***10*** *10:25:52.2, 34.79N×24.94E, h10^{km}±4^{km}, MD4.0/12*

ISC 10 10:25:51.2±0.7**, 34.49N**±0.05×**25.13E**±0.06**, h49**^{km}±8^{km}**, n57, σ1^{s}20**/58**, mb3.9**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	0.60	50	*e*PG	P	10 26 04.0	+0.3
IDI	**Anoyia**	0.82	346	Pg	P	10 26 02.2	-4.4
	162nm,0.3s,baz=172,slow=18,SNR=514						
IDI				Lg		10 26 10.7	
	685nm,0.3s,baz=307,slow=20,SNR=40						
NPS	**Neapolis**	0.86	27	*e*PG	P	10 26 06.0	-1.2
GVD	**Gavdhos**	0.93	292	*e*P	P	10 26 05.5	-2.6
VAM	**Vamos**	1.19	320	*e*PG	P	10 26 08.5	-3.3
THR6	**Thira Island,**	1.87	7	*e*P	P	10 26 21.5	0.0
THR6				*e*S	S	10 26 48.2	+4.3
SANT	**Santorini**	1.89	8	*e*Pn	P	10 26 20.6	-1.2
THR1	**Thera Island**	1.89	8	*e*P	P	10 26 21.6	-0.1
THR1				*e*S	S	10 26 44.5	+0.1
THR3	**Thira Island,**	1.93	7	*e*P	P	10 26 21.9	-0.4
THR5	**Thira Island,**	1.93	5	*e*P	P	10 26 22.2	-0.1
THR4	**Thira Island,**	1.98	6	*e*P	P	10 26 23.2	+0.3
KYTH	**Kithira**	2.47	317	*e*PG	P	10 26 31.6	+1.6
APE	**Apeiranthos**	2.59	7	*e*PB	P	10 26 31.5	-0.2
VLI	**Veliai**	2.85	322	*e*PB	P	10 26 34.5	-0.9
ARG	**Arkhangelos**	2.99	54	*e*PB	P	10 26 42.0	+4.6
NSAL	**Nisos Salamina**	3.67	339	*e*PN	P	10 26 47.5	+0.6
ITM	**Ithomi**	3.74	317	*e*PB	P	10 26 49.0	+1.1
MPAR	**Parnis Oros**	3.82	343	*e*PN	P	10 26 48.5	-0.6
MKIT	**Kithairon Oros**	3.98	338	*e*PN	P	10 26 51.4	0.0
KDAG	**Bornova**	4.27	23	*i* P	P	10 26 56.3	+0.9
DNZL	**Cakiroluk**	4.50	44	*i* P	P	10 27 01.0	+2.4
AGG	**Agios Georgios**	5.05	334	*e*P	P	10 27 07.7	+1.3
EVR	**Evrytania**	5.16	330	*e*PB	P	10 27 11.5	+3.6
LIT	**Litokhoron**	5.98	340	*e*P	P	10 27 19.6	+0.2
ULDT	**Uludag**	6.48	28	*i* P	P	10 27 27.3	+0.9
MMB	**Musomiste**	7.17	352	*e*P	P	10 27 35.0	-1.1
RZN	**Rozhen**	7.19	358	*e*P	P	10 27 35.0	-1.3
SKO	**Skopje**	8.01	340	*e*Pn	P	10 27 40.0	-7.7
TIP	**Timpagrande**	8.18	307	*e*P	P	10 27 44.0	-5.9
VTS	**Vitosha**	8.23	350	*e*P	P	10 27 46.0	-4.6
HMDT	**Nahal Hemdat**	8.98	102	Sn	S	10 29 42.5	+0.7
DRGI	**Dragot**	9.09	106	Sn	S	10 29 42.2	-2.3
MZDA	**Masada**	9.17	107	Sn	S	10 29 45.8	-0.7
KMTI	**Karmit**	9.22	116	Sn	S	10 29 47.3	-0.5
PRNI	**Paran**	9.31	114	Sn	S	10 29 49.2	-0.8
MBH	**Mount Berech**	9.53	117	Sn	S	10 29 55.5	+0.2
EIL	**Elat**	9.62	117	Sn	S	10 29 54.3	-3.2
HAQS	**Haql**	9.94	120	P	P	10 28 15.6	+1.3
JMOS	**Jabal al Moall**	10.01	119	P	P	10 28 16.8	+1.7
BDAS	**Al Bad‘**	10.44	123	P	P	10 28 21.4	+0.4
JMQS	**Jabal Moqyreh**	10.72	118	P	P	10 28 26.5	+1.6
MLR	**Muntele Rosu**	11.00	3	LR	LR	10 32 58.6	
	comp=Z,107nm,19.1s,baz=67,slow=40						
TBKS	**Tabuk**	11.58	120	P	P	10 28 38.2	+1.7
DBAS	**Duba**	11.81	125	P	P	10 28 39.0	-0.6
UMJS	**Umm Lajj**	14.02	128	P	P	10 29 07.3	-1.5
AKASG	**Malin Array Be**	16.47	9	Pn	P	10 29 40.8	+0.5
	2.0nm,0.3s,baz=203,slow=11,SNR=13						
GERES	**GERESS Array B**	16.66	333	Pn	P	10 29 43.6	+1.0
	0.6nm,0.3s,baz=150,slow=11,SNR=13						
DAVOX	**Davos**	16.84	321	Pn	P	10 29 50.0	+5.2
	0.2nm,0.3s,baz=153,slow=11,SNR=6.2						
KHC	**Kasperske Hory**	16.94	333	*e*P	P	10 29 47.0	+0.9
HFS	**Hagfors**	26.72	347	P	P	10 31 26.2	-1.4
	1.1nm,0.7s,mb3.5,baz=124,slow=10,SNR=3.8						
FINES	**FINESS Array B**	26.98	1	P	P	10 31 27.4	-2.5
	0.8nm,0.7s,mb3.4,baz=270,slow=12,SNR=3.1						
NB2	**NORSAR Subarra**	28.04	346	P	P	10 31 39.2	-0.4
	0.5nm,0.5s,mb3.4,baz=159,slow=9.3						
NOA	**NORSAR Array B**	28.04	346	P	P	10 31 38.5	-1.2
	1.7nm,0.9s,mb3.6,baz=152,slow=8.7,SNR=4.0						
EKA	**Eskdalemuir Ar**	28.57	326	P	P	10 31 45.6	+1.1
	1.5nm,0.8s,mb3.8,baz=132,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	35.10	0	P	P	10 32 39.6	-1.8
	2.2nm,0.9s,mb4.1,baz=180,slow=11,SNR=5.6						
ZRNK	**Zerenda**	35.99	46	*e*P	P	10 32 50.4	+1.3
	2.5nm,0.6s,mb4.3						
SCHQ	**Schefferville**	63.68	320	P	P	10 36 19.9	+0.5
	4.3nm,0.8s,mb4.5,baz=63,slow=6.9,SNR=4.8						

BJI ***10*** *10:26:12.8, 27.25N×103.76E, h6^{km}, mB5.3, mb5.1, ML5.1, Ms5.5, Msz5.3*

HRVD ***10*** *10:26:14.7±0.2, 27.16N×103.78E, h15^{km}±1^{km}, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s45,c80;Mantle waves: s62,c122; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.03; $M_{\theta\theta}$0.98±.03; $M_{\phi\phi}$-0.83±.03; $M_{r\theta}$0.11±.07; $M_{\theta\phi}$-0.79±.03; $M_{\phi r}$0.00±.07; Best double couple: $M_0$1.2×10^{17} NP1:ϕ_s156°, δ85°, λ1°. NP2:ϕ_s66°, δ89°, λ175°. Principal axes: T 1.28, Plg4°, Azm21°; N -.16, Plg85°, Azm230°; P -1.12, Plg2°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *10:26:14.7±2.8, 27.27N×103.87E, h6^{km}±17^{km}, mb5.1/79, MS5.1/94 Error ellipse: s-maj=5.8km s-min=5.0km az=221.0*

NEIC At least 4 people killed, nearly 200 seriously injured, 400 slightly injured, more than 120,000 homeless, 18,556 houses destroyed and 65,601 damaged in Ludian County, Yunnan. Twenty-two reservoirs damaged in Yunnan Province.

MOS ***10*** *10:26:18.7±1.1, 27.25N×103.82E, h49^{km}, mb5.2/38, MS5.1/33, Error ellipse: s-maj=11.2km s-min=5.7km az=115.3*

IDC ***10*** *10:26:18.9±2.5, 27.29N×103.82E, h35^{km}±19^{km}, mb4.7/29, mb1 4.8/30, mb1mx4.8/32, ML4.2/1, MS4.8/20, Ms1 4.8/20, ms1mx4.6/27, Error ellipse: s-maj=16.4km s-min=9.7km az=47.0*

ISC 10 10:26:13.6±1.0**, 27.23N**±0.02×**103.82E**±0.02**, h10**^{km}±6^{km}**, h13**^{km}±1.8^{km}**:pP-P, n448, σ1^{s}25**/385**, mb5.0**/124**, MS5.0**/127**, 20C-18D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	2.31	205	*e*PG	Pn	10 26 53.0	+0.7
KMI				SG	Sn	10 27 23.3	+2.2
CD2	**Chengdu**	3.67	359	P	Pn	10 27 13.2	+1.5
CD2				S	Sn	10 27 59.5	+3.9
CD2				LR	LR		
	comp=Z,46µm,9.6s						
ENH	**Enshi**	5.83	57	*e*P	Pn	10 27 44.8	+2.5
	comp=Z,95nm,0.9s						
XAN	**Xi’an**	8.09	32	P	P	10 28 13.4	-0.6
XAN				S	Sn	10 29 40.6	-5.8
XAN				LR	LR		
	comp=N,14µm,6.7s						
XAN				LR	LR		
	comp=E,24µm,7.5s						
XAN				LR	LR		
	comp=Z,19µm,8.8s						
LZH	**Lanzhou**	8.83	0	*e*P	P	10 28 25.6	+1.2
LZH				S	Sn	10 30 04.0	-1.0
LZH				LR	LR		
	comp=E,26µm,8.0s						
NANT	**Nan**	8.87	200	P	P	10 28 23.5	-1.3
	comp=E,231nm,1.8s						
IMP	**Imphal**	9.22	257	*e*P	P	10 28 25.0	-4.7
CHG	**Chiang Mai**	9.50	209	⇑P	P	10 28 33.9	+0.3
	comp=E,61nm,1.2s						
GZH	**Guangzhou**	9.56	113	P	P	10 28 34.9	+0.4
GZH				S	Sn	10 30 21.3	-1.8
WHN	**Wuhan**	9.80	68	*e*P	P	10 28 36.3	-1.5
WHN				AP		10 28 39.7	
WHN				XP		10 28 41.5	
WHN				S	Sn	10 30 23.7	-5.3
CM31	**Chiang Mai Arr**	9.82	208	*e*P	P	10 28 37.1	-0.9
	comp=E,157nm,1.4s						
CMAR	**Chiang Mai Arr**	9.82	208	Pn	P	10 28 38.7	+0.7
	comp=E,0.6nm,0.3s,baz=21,slow=11,SNR=56						
CMAR				Lg		10 31 33.3	
	comp=E,0.3nm,0.3s,baz=18,slow=29,SNR=3.6						
CMAR				LR	LR	10 32 48.9	
	comp=E,6µm,20.4s,baz=25,slow=40						
QIZ	**Qiongzhong**	9.86	145	*e*P	P	10 28 35.6	-3.0
	comp=E,28nm,0.8s						
SHL	**Shillong**	10.83	264	*e*P	P	10 28 47.0	-4.9
SHL				*e*		10 31 20.0	
BDT	**Bhumibol Dam**	10.89	205	P	P	10 28 54.0	+1.3
	comp=E,16nm,1.0s						
LSA	**Lhasa**	11.42	285	P	P	10 28 57.0	-2.9
LSA				AP		10 29 02.1	
LSA				XP		10 29 11.5	
LSA				AMB	AMB		
	comp=Z,110nm,0.7s						
LSA				LR	LR		
	comp=N,5µm,11.5s						
LSA				LR	LR		
	comp=E,4µm,11.5s						
LSA	**Lhasa**	11.42	285	*e*P	P	10 28 56.3	-3.6
	comp=E,21nm,0.6s						
NST	**Nakhon Sawan**	12.00	197	P	P	10 29 09.0	+1.2
GTA	**Gaotai**	12.60	346	*e*P	P	10 29 14.7	-1.1
GTA				AP		10 29 18.9	
GTA				XP		10 29 22.1	
GTA				PP	PP	10 29 24.8	-1.1
GTA				S	S	10 31 32.3	-5.0
GTA				SS	SS	10 31 46.4	-5.7
GTA				LG2		10 32 57.5	
GTA				SCS	ScS	10 42 03.1	+2.4
GTA				AMB	AMB		
	comp=Z,139nm,3.8s						
GTA				LR	LR		
	comp=N,8µm,13.7s						
GTA				LR	LR		
	comp=E,17µm,13.3s						
GTA				LR	LR		
	comp=Z,4µm,14.1s						
TIY	**Taiyuan**	12.73	33	⇓P	P	10 29 16.7	-0.8
TIY				S	S	10 31 36.0	-4.4
TIY				LR	LR		
	comp=Z,11µm,13.0s						
QZH	**Quanzhou**	13.47	96	P	P	10 29 30.1	+2.7
NJ2	**Nanjing**	13.93	66	⇑P	P	10 29 34.8	+1.4
NJ2				AP		10 29 38.2	
NJ2				XP		10 29 41.6	
NJ2				PP	PP	10 29 46.2	+1.7
NJ2				S	S	10 32 14.0	+4.9
NJ2				XS		10 32 19.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BTO	**Baotou**	14.30	19	*e*P	P	10 29 35.7	-2.5
BTO				S	S	10 32 20.5	+2.7
BTO				AMB	AMB		
	comp=Z,192nm,1.7s						
TIA	**Tai’an**	14.42	48	P	P	10 29 40.4	+0.5
TIA				AMB	AMB		
	comp=Z,83nm,1.0s						
TIA				LR	LR		
	comp=N,10µm,10.0s						
TIA				LR	LR		
	comp=E,8µm,6.8s						
CAL	**Calcutta**	14.81	255	*e*	S	10 32 23.9	-6.1
HHC	**Hu-ho-hao-te**	15.02	23	*e*P	P	10 29 44.4	-3.3
HHC				AP		10 29 50.4	
HHC				XP		10 29 51.8	
HHC				PP	PP	10 29 54.9	-4.8
HHC				AMB	AMB		
	comp=Z,89nm,1.3s						
HHC				LR	LR		
	comp=N,8µm,13.7s						
HHC				LR	LR		
	comp=E,8µm,10.1s						
HHC				LR	LR		
	comp=Z,6µm,14.3s						
SSE	**Sheshan**	15.65	72	⇑P	P	10 29 57.5	+1.5
SSE				S	S	10 32 49.1	-0.8
SSE				AMB	AMB		
	comp=Z,42nm,0.7s						
SSE				LR	LR		
	comp=Z,14µm,9.7s						
PKI	**Pulchoki**	16.36	275	*e*P	P	10 29 59.2	-5.9
	comp=Z,230nm,0.8s						
BJT	**Baijiatuau**	16.36	36	*e*P	P	10 30 05.2	+0.2
	comp=Z,127nm,0.8s						
BJI	**Beijing**	16.38	36	P	P	10 30 05.6	+0.3
BJI				S	S	10 33 11.6	+4.8
BJI				AMB	AMB		
	comp=Z,140nm,1.4s						
BJI				LR	LR		
	comp=N,7µm,11.3s						
BJI				LR	LR		
	comp=E,8µm,11.7s						
BJI				LR	LR		
	comp=Z,5µm,22.9s						
KKN	**Kakani**	16.46	276	*e*P	P	10 30 00.6	-5.8
	comp=Z,444nm,0.9s						
DMN	**Daman**	16.62	276	*e*P	P	10 30 03.0	-5.4
	comp=Z,291nm,0.8s						
GKN	**Gorkha**	17.02	277	*e*P	P	10 30 07.3	-6.2
	comp=Z,399nm,1.0s						
KOLN	**Koldanda**	17.95	276	*e*P	P	10 30 17.3	-7.7
	comp=Z,326nm,1.1s						
DL2	**Dalian**	18.89	47	⇑P	P	10 30 38.0	+1.4
DL2				S	S	10 34 10.0	+6.0
DL2				LR	LR		
	comp=N,12µm,12.0s						
DL2				LR	LR		
	comp=E,4µm,12.0s						
SNG	**Songkhla**	20.17	189	P	P	10 30 42.5	-8.7
	comp=E,266nm,1.0s						
BLSP	**Bilaspur**	20.34	260	*e*	P	10 30 45.3	-7.7
TGY	**Tagaytay City**	20.63	126	LR	LR	10 38 13.4	
	comp=E,1µm,21.8s,MS4.3,baz=346,slow=35						
SONM	**Songino Array**	20.67	5	P	P	10 30 54.7	-1.5
	comp=E,31nm,0.8s,baz=187,slow=9.9,SNR=56						
SONM				Lg		10 37 18.1	
	comp=E,3.2nm,0.9s,baz=188,slow=22,SNR=2.7						
ULN	**Ulaanbaatar**	20.76	6	PFAKE		10 31 10.0	+13
ULN				LR	LR		
	comp=Z,5µm,19.0s,MS4.9						
PTH	**Pithoragarh**	20.89	282	*e*	P	10 30 53.0	-5.6
WMQ	**Urumqi**	21.07	326	⇓*i*P	P	10 30 58.9	-1.4
WMQ				AP		10 31 03.0	
WMQ				XP		10 31 05.9	
WMQ				PP	PP	10 31 21.9	-1.4
WMQ				S	S	10 34 47.7	-2.1
WMQ				XS		10 34 54.2	
WMQ				SS	SS	10 35 19.9	-2.6
WMQ				AMB	AMB		
	comp=Z,155nm,0.6s,mb5.5						
WMQ				LR	LR		
	comp=Z,3µm,20.6s,MS4.7						
VIS	**Vishakhapatnam**	21.14	248	*e*P	P	10 30 58.0	-3.2
JOSI	**Joshimath**	21.49	285	*e*P	P	10 31 04.0	-0.7
INCN	**Inchon**	21.77	56	*e*P	P	10 31 06.5	-0.9
	comp=Z,98nm,0.9s,mb5.2						
INCN				LR	LR		
	comp=Z,3µm,20.0s,MS4.6						
SNY	**Shenyang**	21.77	43	⇑P	P	10 31 07.1	-0.3
SNY				AP		10 31 16.2	
SNY				S	S	10 35 05.9	+2.8
SNY				LR	LR		
	comp=N,6µm,14.3s,MS5.3						
SNY				LR	LR		
	comp=E,7µm,14.7s,MS5.3						
SNY				LR	LR		
	comp=Z,7µm,15.7s,MS5.2						
JBP	**Jabalpur**	21.93	265	⇑*e*P	P	10 31 07.1	-2.1
JBP				*e*		10 35 05.7	
KLP	**Kalpa**	22.67	287	*e*P	P	10 31 14.6	-1.9
KLP				*e*		10 31 17.3	
	comp=Z,68nm,1.4s						
IPM	**Ipoh**	22.68	187	⇑*e*P	P	10 31 17.2	+0.5
	comp=Z,104nm,0.8s,mb5.3						
KS15	**Wonju Array Si**	22.68	57	*e*P	P	10 31 16.8	+0.3
DDI	**Dehra Dun**	22.78	284	*e*	P	10 31 13.2	-4.3
DDI				*e*		10 35 21.3	
AGRA	**Agra**	23.00	276	*e*P	P	10 31 17.7	-2.0
AGRA				*e*		10 31 21.5	
	comp=Z,67nm,0.8s						
ZAK	**Zakamensk**	23.13	359	*e*P	P	10 31 20.3	-0.4
NGP	**Nagpur**	23.37	260	*e*P	P	10 31 24.1	+0.7
NGP				*e*		10 35 31.4	
	comp=Z,259nm,1.6s						
NDI	**New Delhi**	23.53	280	*e*P	P	10 31 24.0	-0.9
	comp=Z,53nm,0.6s,mb5.2						
NDI				*e*		10 35 31.0	
AYAN	**Aya Nagar**	23.62	279	*e*P	P	10 31 23.7	-2.0
AYAN				*e*		10 31 28.3	
	comp=Z,60nm,1.6s						
SONA	**Sohna**	23.67	279	*e*P	P	10 31 24.6	-1.6
SONA				*e*		10 31 27.6	
	comp=Z,42nm,1.5s						
SDNR	**Sundarnagar**	23.76	287	*e*P	P	10 31 25.8	-1.3
SDNR				*e*S	S	10 35 43.2	+4.2
CN2	**Changchun**	24.04	41	⇑P	P	10 31 31.2	+1.5
CN2				*e*XP		10 31 38.6	
CN2				*e*S	S	10 35 39.8	-3.9
CN2				*e*SS	SS	10 36 38.1	+3.2
CN2				PCS		10 38 49.3	
CN2				LR	LR		
	comp=N,6µm,14.0s,MS5.4						
CN2				LR	LR		
	comp=E,7µm,14.0s,MS5.4						
CN2				LR	LR		
	comp=Z,6µm,14.0s,MS5.2						
JNU	**Nakatsue**	24.08	69	P	P	10 31 30.9	+0.7
	comp=Z,347nm,1.5s,mb5.6,baz=298,slow=3.7,SNR=17						
KKM	**Kota Kinabalu**	24.14	149	*e*P	P	10 31 33.0	+2.0
BHPL	**Bhopal**	24.19	266	*e*P	P	10 31 28.2	-3.1
BHPL				*e*P		10 31 31.4	
	comp=Z,97nm,1.4s						
BHPL				AMb	AMB	10 31 33.9	
	comp=Z,114nm,1.7s,mb5.0						
KUDL	**Kundal**	24.20	279	*e*P	P	10 31 29.3	-2.2
KUDL				AMb	AMB	10 31 32.3	
	comp=Z,50nm,0.8s,mb5.0						
BHK	**Bhakra**	24.23	286	*e*	P	10 31 36.3	+4.7
BHK				*e*S	S	10 35 53.1	+6.1
MOY	**Mondy**	24.50	356	*e*P	P	10 31 35.6	+1.5
PONG	**Pong**	24.66	288	*e*P	P	10 31 36.0	+0.2
KHET	**Khetri**	24.81	278	*e*P	P	10 31 35.4	-1.9
KHET				*e*		10 31 38.3	
	comp=Z,32nm,0.6s						
IRK	**Irkutsk**	24.99	1	*e*P	P	10 31 40.1	+1.3
KGM	**Kluang**	25.07	181	⇓*e*P	P	10 31 42.5	+2.6
HIA	**Hailar**	25.21	25	*e*P	P	10 31 41.0	+0.1
	comp=Z,178nm,0.8s,mb5.7						
HIA				LR	LR		
	comp=Z,7µm,22.0s,MS5.1						
HYB	**Hyderabad**	25.29	253	*i* P	P	10 31 40.0	-1.9
	comp=Z,242nm,1.2s,mb5.6						
HYB				*e*pP	pP	10 31 45.0	+0.2
HYB				*e*S	S	10 36 16.0	+11
HYB				LR	LR	10 41 52.0	
	comp=Z,3.4nm,16.0s						
HYB	**Hyderabad**	25.29	253	*e*P	P	10 31 40.0	-1.9
	comp=Z,242nm,1.2s,mb5.6						
HYB				*e*		10 31 45.0	
HYB				*e*S	S	10 36 16.0	+11
MKAR	**Makanchi Array**	25.87	325	P	P	10 31 45.5	-1.6
	comp=Z,34nm,0.9s,mb4.9,baz=123,slow=8.6,SNR=81						
MKAR				ScP		10 38 51.7	
	comp=Z,8.8nm,0.8s,baz=124,slow=4.4,SNR=13						
MKAR	**Makanchi Array**	25.87	325	P	P	10 31 45.5	-1.6
MKAR				pmax	pmax		
	comp=Z,34nm,0.9s						
MKAR				pmax	pmax		

	comp=Z,9.0nm,0.9s						
AJM	Ajmer	26.02	275	⇓*i*P	P	10 31 47.0	-1.7
	comp=Z,41nm,0.9s,mb5.0						
KSH	Kashi	26.18	305	*e*P	P	10 31 51.2	+1.2
KSH				*e*AP	pP	10 31 57.2	+4.3
KSH				*e*XP	sP	10 32 00.0	+5.7
KSH				*e*PCP	PcP	10 35 14.0	-3.7
KSH				*e*S	S	10 36 21.3	+1.7
KSH				*e*XS		10 36 30.1	
KSH				*e*PS		10 36 39.3	
KSH				*e*SCP		10 38 52.1	
KSH				*e*PCS		10 38 53.0	
KSH				AMB	AMB		
	comp=Z,580nm,5.7s						
CUD	Cuddapah	26.57	247	*e*P	P	10 31 52.1	-1.7
CUD				*e*S	S	10 36 32.9	+6.6
CUD				*e*		10 40 22.8	
LATR	Latur	26.57	256	⇑*i*P	P	10 31 53.0	-0.8
	comp=Z,125nm,1.4s,mb5.2						
MDJ	Mudanjiang	26.97	43	P	P	10 31 57.3	0.0
MDJ				AP	pP	10 32 00.2	0.0
MDJ				XP	sP	10 32 01.6	+0.1
MDJ				PCP	PcP	10 35 18.8	-0.7
MDJ				S	S	10 36 33.5	+0.8
MDJ				XS		10 36 38.9	
MDJ				SCP		10 38 59.5	
MDJ				PCS		10 39 01.3	
MDJ				SCS	ScS	10 42 51.0	+3.0
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,117nm,4.9s						
MDJ				LR	LR		
	comp=N,7µm,15.4s,MS5.4						
MDJ				LR	LR		
	comp=E,5µm,14.9s,MS5.4						
MDJ				LR	LR		
	comp=Z,5µm,15.4s,MS5.2						
MDJ	Mudanjiang	26.97	43	*e*P	P	10 31 55.6	-1.7
	comp=Z,16nm,0.9s,mb4.5						
MDJ				LR	LR		
	comp=Z,5µm,21.0s,MS5.0						
AAA	Alma-Ata	27.00	313	*e*P	P	10 32 01.0	+3.4
ULHL	Ulahol	27.02	311	P	P	10 31 59.6	+1.9
	SNR=12						
KZA	Kyzart	27.62	310	P	P	10 32 05.5	+2.3
	SNR=25						
UCH	Uchtor	28.18	310	P	P	10 32 10.5	+2.2
	SNR=8.0						
FRU	Bishkek	28.35	311	*e*P	P	10 32 11.0	+1.2
FRU				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.0						
FRU				MLR	MLR		
	comp=E,4µm,13.0s						
FRU				MLR	MLR		
	comp=Z,2µm,13.0s,MS5.0						
AAK	Ala-Archa	28.36	310	P	P	10 32 11.7	+1.8
	SNR=8.3						
USP	Ospenovka	28.61	312	P	P	10 32 13.2	+1.0
	SNR=22						
AML	Almayashu	28.71	309	P	P	10 32 14.6	+1.5
	SNR=11						
EKS2	Erkin-Say	28.86	310	P	P	10 32 13.8	-0.6
	SNR=20						
PALK	Pallekele	29.58	232	*e*P	P	10 32 19.5	-1.6
	comp=Z,21nm,0.9s,mb4.9						
KURK	Kurchatov	30.29	328	P	P	10 32 25.3	-1.8
KURK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
KURK	Kurchatov	30.29	328	*e*P	P	10 32 24.6	-2.5
	comp=Z,15nm,0.6s,mb4.9						
MAJO	Matsushiro	30.51	64	*e*P	P	10 32 27.2	-1.9
	comp=Z,7.0nm,0.8s,mb4.5						
MAJO				LR	LR		
	comp=Z,4µm,20.0s,MS5.1						
MAT	Matsushiro	30.51	64	P	P	10 32 28.0	-1.2
MAT				S	S	10 37 18.0	-11
MAT	Matsushiro	30.51	64	*e*P	P	10 32 28.0	-1.2
	comp=Z,7.5nm,0.8s,mb4.6						
MAT				*e*S	S	10 37 19.0	-10
MAT				LR	LR		
	comp=Z,4µm,20.0s,MS5.1						
KLR	Kul'dur	30.75	37	*e*P	P	10 32 30.8	-0.4
KLR				*e*S	S	10 37 28.5	-4.5
KLR				*e*		10 39 34.0	
KLR				MLR	MLR		
	comp=E,4µm,11.0s						
KLR				MLR	MLR		
	comp=Z,8µm,11.0s,MS5.6						
KKAR	Karatay Array	31.25	309	*e*P	P	10 32 33.3	-2.4
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
BOD	Bodaibo	31.41	10	*e*P	P	10 32 36.4	-0.5
NVS	Novosibirsk	31.42	337	*e*P	P	10 32 36.9	-0.1
NVS				pmax	pmax		
	comp=N,36nm,1.8s						
NVS				pmax	pmax		
	comp=E,31nm,1.8s						
NVS				pmax	pmax		
	comp=Z,63nm,1.8s,mb5.1						
JHJ	Hachijo jima 2	31.54	70	LR	LR	10 45 08.2	
	comp=Z,3µm,20.4s,MS5.0,baz=307,slow=36						
CLNS	Chul'man	33.19	21	*e*P	P	10 32 52.8	+0.4
CLNS				*e*S	S	10 37 58.1	-13
CLNS				pmax	pmax		
	comp=N,23nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				smax			
	comp=E,11nm,1.0s						
CLNS				smax			
	comp=Z,7.0nm,0.8s						
CLNS				smax			
	comp=N,15nm,0.9s						
CLNS				MLR	MLR		
	comp=N,6µm,12.0s,MS5.5						
CLNS				MLR	MLR		
	comp=Z,7µm,12.0s,MS5.6						
CLNS				MLR	MLR		
	comp=E,400nm,11.0s,MS5.5						
CBIJ	Chichi jima	34.05	81	LR	LR	10 45 30.4	
	comp=E,2µm,20.6s,MS4.8,baz=165,slow=34						
VOSK	Vostochnaya	35.29	325	P	P	10 33 09.3	-1.3
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ASAJ	Asahikawa	35.34	51	P	P	10 33 11.2	+0.1
	comp=Z,37nm,1.1s,mb5.2,baz=118,slow=4.9,SNR=8.4						
ASAJ				LR	LR	10 48 00.8	
	comp=Z,2µm,19.5s,MS4.9,baz=21,slow=37						
ASAJ	Asahikawa	35.34	51	P	P	10 33 11.3	+0.2
ASAJ				pmax	pmax		
	comp=Z,37nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,2µm,19.5s						
BVA0	Borovoye Array	35.75	325	P	P	10 33 13.7	-0.8
BVAR	Borovoye Array	35.75	325	P	P	10 33 15.2	+0.7
	comp=Z,6.2nm,0.6s,mb4.8,baz=108,slow=9.4,SNR=23						
BVAR				PcP	PcP	10 35 41.5	-1.3
	comp=Z,2.7nm,0.5s,baz=146,slow=5.2,SNR=4.2						
BVAR				ScP		10 39 24.1	
	comp=Z,3.2nm,0.8s,baz=135,slow=4.2,SNR=7.4						
BRVK	Borovoye	35.82	325	*e*P	P	10 33 12.9	-2.3
	comp=Z,20nm,0.7s,mb5.1						
YSS	Yuzh-Sakhalins	36.29	47	*e*P	P	10 33 18.9	-0.2
YSS				*e*S	S	10 38 57.0	-2.1
YSS				*e*SSS	SSS	10 41 45.0	-7.1
YSS				MLR	MLR		
	comp=Z,4µm,14.0s,MS5.4						
YSS				MLR	MLR		
	comp=N,4µm,13.0s,MS5.4						
YSS				MLR	MLR		
	comp=E,2µm,14.0s,MS5.4						
YSS	Yuzh-Sakhalins	36.29	47	PFAKE		10 33 30.0	+11
YSS				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
ZRNK	Zerenda	36.42	324	P	P	10 33 19.8	-0.4
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ZRNK	Zerenda	36.42	324	*e*P	P	10 33 19.3	-0.8
	comp=Z,12nm,0.8s,mb4.9						
YAK	Yakutsk	38.82	19	*e*P	P	10 33 39.9	-0.3
YAK				*e**PP	pP	10 33 50.6	+7.4
YAK				*e*		10 35 08.7	
YAK				*e*		10 35 50.5	
YAK				*e*S	S	10 39 35.5	-2.0
YAK				*e*SS	SS	10 42 20.6	+0.9
YAK				*e*		10 43 44.9	
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=E,10.0nm,1.2s						
YAK				smax			
	comp=N,7.0nm,1.3s						
YAK				MLR	MLR		
	comp=N,2µm,12.0s,MS5.1						
YAK				MLR	MLR		
	comp=Z,2µm,12.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,848nm,10.0s,MS5.1						
YAK	Yakutsk	38.82	19	*e*P	P	10 33 37.3	-2.9
	comp=E,99nm,0.7s,mb5.7						
YAK				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
AB31	Akbulak array	40.15	315	*i* P	P	10 33 50.1	-1.3
AB31				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
ARU	Arti	43.40	325	⇓*i*P	P	10 34 17.4	-0.4
ARU				*e*		10 36 01.2	
ARU				*i*		10 36 09.5	
ARU				*e*S	S	10 40 37.6	-7.8
ARU				*e*SS	SS	10 43 46.1	-6.3
ARU				*e*		10 44 15.6	
ARU				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.3						
ARU				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,1µm,16.5s						
ARU	Arti	43.40	325	*e*P	P	10 34 17.2	-0.6
	comp=E,61nm,1.0s,mb5.3						
ARU				LR	LR		
	comp=Z,327nm,20.0s,MS4.2						
MA2	Magadan	45.48	31	*e*P	P	10 34 34.9	+0.3
MA2				*e*S	S	10 41 05.7	-10
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
MA2				pmax	pmax		
	comp=N,4.0nm,1.1s						
MA2				pmax	pmax		
	comp=E,5.0nm,0.8s						
MA2				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.8						
SOKR	Solikamsk	45.52	329	*d i*P	P	10 34 34.8	-0.1
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.9						
TIXI	Tiksi	46.59	11	PFAKE		10 34 50.0	+6.8
TIXI				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
PET	Petropavlovsk	47.74	42	*e*P	P	10 34 52.7	+0.2
PET				*e*		10 41 58.8	
PET				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,18.2s						
PET				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.3						
PET	Petropavlovsk	47.74	42	PFAKE		10 35 00.0	+7.5
PET				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
KAKA	Kakadu	48.42	141	*e*P	P	10 34 58.4	+0.1
	comp=Z,13nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	49.78	152	*e*P	P	10 35 07.9	-0.8
	comp=Z,10nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	49.78	152	P	P	10 35 07.9	-0.8
	comp=Z,14nm,0.8s,mb5.1,baz=349,slow=9.5,SNR=9.1						
FITZ				LR	LR	10 56 50.5	
	comp=Z,326nm,21.1s,MS4.3,baz=317,slow=37						
GNI	Garni	49.98	301	P	P	10 35 11.3	+1.3
	comp=Z,5.8nm,0.5s,mb4.9,baz=147,slow=15,SNR=10						
GNI				LR	LR	11 00 24.4	
	comp=Z,776nm,18.8s,MS4.7,baz=82,slow=41						
GNI	Garni	49.98	301	P	P	10 35 11.3	+1.3
GNI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GNI				MLR	MLR		
	comp=Z,777nm,18.8s						
GNI	Garni	49.98	301	P	P	10 35 11.3	+1.3
GNI				LR	LR	11 00 24.4	
GOF	Gofitskoye	51.02	307	⇓*i*P	P	10 35 19.0	+1.2
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
ERZM	Erzurum	52.59	301	*i* P	P	10 35 31.6	+1.8
SOC	Sochi	53.47	306	*e*P	P	10 35 36.2	0.0
SOC				*e*S	S	10 43 04.1	-3.0
SOC				*e*SSS	SSS	10 48 34.4	-2.3
SOC				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.2						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,14nm,1.1s						
SOC				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,2µm,18.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,574nm,16.0s,MS5.2						
MOS	Moscow	54.65	321	*e*P	P	10 35 45.0	+0.3
MOS				*e*		10 36 51.7	
MOS				*e*		10 37 46.8	
MOS				*e*S	S	10 43 20.1	-2.8
MOS				*e*		10 43 39.9	
MOS				pmax	pmax		
	comp=Z,232nm,0.8s						
MOS				MLR	MLR		
	comp=Z,2µm,14.9s,MS5.3						
MOS				MLR	MLR		
	comp=N,700nm,14.3s						
ANN	Anapa	55.01	307	*d i*P	P	10 35 47.0	-0.5
ANN				*e*		10 36 55.5	
ANN				*e*		10 37 46.5	
ANN				*e*S	S	10 43 21.1	-6.7
ANN				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.6						
ANN				MLR	MLR		
	comp=N,831nm,17.0s,MS5.0						
ANN				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.1						
ANN				MLR	MLR		
	comp=E,785nm,16.0s,MS5.0						
MALT	Malatya	55.07	299	*e*P	P	10 35 48.2	+0.2
	comp=E,57nm,1.6s,mb5.3						
OBN	Obninsk	55.23	320	*e*P	P	10 35 49.3	+0.3
OBN				*i*		10 36 03.2	
OBN				*e*		10 37 52.3	
OBN				*i* S	S	10 43 34.7	+4.1
OBN				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.5						
OBN				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.1						
OBN	Obninsk	55.23	320	*e*P	P	10 35 48.3	-0.6
OBN				LR	LR		
	comp=Z,363nm,20.0s,MS4.5						
WRAB	Tennant Creek	55.43	145	*e*P	P	10 35 48.1	-2.7
	comp=Z,77nm,1.3s,mb5.6						
WRA	Warramunga Arr	55.43	145	P	P	10 35 50.1	-0.8
	comp=Z,17nm,0.9s,mb5.1,baz=334,slow=8.5,SNR=59						
WRA	Warramunga Arr	55.43	145	P	P	10 35 50.1	-0.8
WRA				pmax	pmax		
	comp=Z,17nm,0.9s						
WB2	Warramunga Arr	55.44	145	⇑*i*P	P	10 35 50.1	-0.8
PMG	Port Moresby	55.59	125	P	P	10 35 52.9	+0.8
	comp=Z,23nm,0.8s,mb5.2,baz=322,slow=14,SNR=3.6						
PMG	Port Moresby	55.59	125	P	P	10 35 52.9	+0.8
PMG				LR	LR		
	comp=Z,360nm,19.0s,MS4.5						
GZT	Gaziantep	55.90	298	*i* P	P	10 35 53.2	-0.9
FX1	Attu Island--F	56.47	43	*e*P	P	10 35 55.8	-2.1
SMY	Shemya	57.05	43	PFAKE		10 36 10.0	+8.0
SMY				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
SIM	Simferopol'	57.33	308	*e*P	P	10 36 04.6	+0.4
SIM				*e*S	S	10 43 50.5	-8.2
SIM				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SIM				MLR	MLR		
	comp=Z,2µm,22.8s,MS5.1						
ASF	Jabal al Asfar	57.51	292	P	P	10 36 04.9	-0.7
	comp=Z,7.8nm,0.7s,mb4.9,baz=298,slow=5.0,SNR=9.6						
ASF				LR	LR	11 02 55.6	
	comp=Z,853nm,21.3s,MS4.8,baz=128,slow=38						
APA	Apatity	57.67	335	⇑*i*P	P	10 36 04.9	-1.3
APA				*i*		10 36 15.7	
APA				*i*		10 37 02.2	
APA				*e*S	S	10 43 56.0	-6.8
APA				*e*SSS	SSS	10 50 03.0	-8.3
APA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
APA				MLR	MLR		
	comp=Z,4µm,14.0s,MS5.6						
ASPA	Alice Springs	58.34	147	*e*P	P	10 36 11.0	-0.5
ASAR	Alice Springs	58.34	147	P	P	10 36 10.4	-1.1
	comp=Z,16nm,0.8s,mb5.1,baz=326,slow=6.3,SNR=70						
ASAR				LR	LR	11 02 16.8	
	comp=Z,285nm,21.9s,MS4.3,baz=322,slow=37						
BALT	Daday	58.37	304	*i* P	P	10 36 11.8	+0.4
AKASG	Malin Array Be	59.89	315	P	P	10 36 21.6	-0.3
	comp=Z,7.3nm,0.6s,mb4.9,baz=68,slow=6.5,SNR=22						
AKASG				LR	LR	11 02 35.2	
	comp=Z,788nm,20.2s,MS4.8,baz=100,slow=36						
AKASG	Malin Array Be	59.89	315	P	P	10 36 21.6	-0.3
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,788nm,20.3s						
KLBR	Kellerberrin	59.98	166	*e*P	P	10 36 23.1	+0.3
	comp=Z,38nm,1.3s,mb5.3						
MUN	Mundaring	60.05	168	*e*P	P	10 36 23.8	+0.6
	comp=Z,18nm,1.2s,mb5.0						
KEV	Kevo	60.18	337	*e*p	P	10 36 19.2	-4.4
HENT	Hendek	60.34	303	*i* P	P	10 36 25.0	-0.1
KAF	Kangasniemi	60.52	328	*e*p	P	10 36 23.3	-2.7
	comp=Z,0.8nm,0.3s,mb4.3						
KAF	Kangasniemi	60.52	328	*e*P	P	10 36 23.3	-2.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
FINES	FINESS Array B	60.66	327	P	P	10 36 25.4	-1.6
	comp=Z,3.0nm,0.4s,mb4.8,baz=104,slow=7.0,SNR=36						
FINES				LR	LR	11 02 50.5	
	comp=Z,1µm,20.3s,MS5.1,baz=262,slow=36						
FINES	FINESS Array B	60.66	327	*i* P	P	10 36 25.5	-1.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES	ARCESS Array B	60.70	337	P	P	10 36 24.8	-2.3
	comp=Z,4.0nm,0.3s,mb5.0,baz=90,slow=7.7,SNR=27						
ARCES	ARCESS Array B	60.70	337	P	P	10 36 24.8	-2.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NWAO	Narrogin (SRO)	61.16	167	PFAKE		10 36 40.0	+9.2
NWAO				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
KTK1	Kautokeino	61.51	336	*e*P	P	10 36 30.4	-2.3
FORT	Forrest	62.15	156	*e*P	P	10 36 38.1	+0.6
	comp=Z,58nm,0.8s,mb5.8						
VRI	Vrincioaia	62.32	310	⇓*i*P	P	10 36 39.9	+1.5
CTA	Charters Tower	62.46	134	*e*P	P	10 36 39.2	-0.5
	comp=Z,9.1nm,0.6s,mb5.1						
CTA	Charters Tower	62.46	134	P	P	10 36 39.5	-0.3
	comp=Z,10nm,0.6s,mb5.1,baz=318,slow=8.3,SNR=16						
CTA	Charters Tower	62.46	134	P	P	10 36 39.5	-0.2
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	Charters Tower	62.46	134	*e*P	P	10 36 37.6	-2.1
	comp=Z,11nm,0.6s,mb5.2						
CTAO				LR	LR		
	comp=Z,337nm,19.0s,MS4.5						
BJO	Bjornoya	62.57	342	AMS	AMS	11 05 38.4	
	comp=Z,627nm,17.2s,MS4.8						
ISR	Istrita	62.60	309	⇓*i*P	P	10 36 42.5	+2.2
MLR	Muntele Rosu	62.94	309	P	P	10 36 41.6	-0.9
	comp=Z,20nm,0.7s,mb5.3,baz=18,slow=6.4,SNR=20						
MLR	Muntele Rosu	62.94	309	P	P	10 36 41.6	-0.9
MLR				pmax	pmax		
	comp=Z,20nm,0.7s						
TRO	Tromso	63.00	337	*e*P	P	10 36 40.1	-2.5
TRO				*e*PP	PP	10 38 59.0	-3.8
TRO				*e*S	S	10 45 11.5	+0.3
TRO				AMS	AMS	11 06 26.2	
	comp=Z,640nm,16.8s,MS4.9						
SUW	Suwalki	63.08	319	*e*P	P	10 36 43.6	+0.3
SUW				MLR	MLR		
	comp=Z,1µm,22.5s,MS5.0						
SUW	Suwalki	63.08	319	P	P	10 36 40.5	-2.8
	comp=Z,79nm,0.9s,mb5.8						
KBS	Kingsbay	63.84	348	*e*P	P	10 36 46.7	-1.2
KBS				*e*S	S	10 45 18.2	-3.3
KBS				*e*SS	SS	10 49 30.9	-0.4
KBS				AMS	AMS	11 04 44.3	
	comp=Z,737nm,17.2s,MS4.9						
KBS	Kingsbay	63.84	348	PFAKE		10 37 00.0	+12
KBS				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
KWP	Kalwaria	64.20	314	P	P	10 36 52.2	+1.5
KWP				MLR	MLR		
	comp=Z,1µm,21.9s,MS5.0						
RZN	Rozhen	64.69	306	*e*P	P	10 36 53.0	-1.0
LOF	Lofoten	65.15	336	*e*P	P	10 36 56.5	-0.1
LOF				*e*pP	pP	10 36 58.0	-1.7
CRVS	Cervenica-Dubn	65.16	314	*i* P	P	10 36 59.6	+2.6
MOR8	Moi Rana	65.18	333	*e*P	P	10 36 55.6	-1.2
MOR8	Moi Rana	65.18	333	*e*P	P	10 36 54.4	-2.4
MMB	Musomiste	65.43	306	*e*P	P	10 36 58.0	-0.8
VTS	Vitosha	65.54	307	*e*P	P	10 36 59.8	+0.3
KECS	Kecovo	65.89	314	*e*P	P	10 37 01.4	-0.2
OJC	Ojcow	65.90	316	*e*P	P	10 37 02.6	+0.9
OJC				*e*S	S	10 45 40.5	-6.8
OJC				MLR	MLR		
	comp=Z,2µm,22.4s,MS5.3						
IDI	Anoyia	66.32	299	P	P	10 37 02.8	-1.8
	comp=Z,8.4nm,0.3s,mb5.2,baz=25,slow=10.0,SNR=4.3						
NSS	Namsos	66.56	332	*e*P	P	10 37 04.4	-1.3
NSS				AMS	AMS	11 06 48.4	
	comp=Z,728nm,19.4s,MS4.9						
HFS	Hagfors	66.86	327	P	P	10 37 05.9	-1.7
	comp=Z,11nm,0.7s,mb5.0,baz=79,slow=7.6,SNR=27						
HFS				PcP	PcP	10 37 34.7	-1.7
	comp=Z,7.7nm,0.8s,baz=100,slow=9.0,SNR=4.3						
HFS	Hagfors	66.86	327	P	P	10 37 05.9	-1.7
HFS						10 37 34.7	
HFS				pmax	pmax		
	comp=Z,11nm,0.7s						
HFS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VYHS	Vyhne	66.95	314	*e*P	P	10 37 09.5	+1.1
SKO	Skopje	66.97	307	*i* P	P	10 37 09.4	+0.7
OKC	Ostrava-Krasne	67.03	315	*e*P	P	10 37 10.0	+1.1
OKC				LM		11 06 40.0	
	comp=Z,1.3nm,16.1s						
MORC	Moravsky Berou	67.42	316	*e*P	P	10 37 09.2	-2.1
	comp=Z,12nm,1.0s,mb4.9						
NB2	NORSAR Subarra	67.80	328	P	P	10 37 10.4	-3.2
	comp=Z,9.4nm,0.7s,mb4.9,baz=75,slow=6.5						
NB2	NORSAR Subarra	67.80	328	P	P	10 37 10.4	-3.2
	baz=75,slow=6.5						
NOA	NORSAR Array B	67.80	328	P	P	10 37 10.7	-2.8
	comp=Z,8.2nm,0.8s,mb4.8,baz=75,slow=6.4,SNR=26						
NOA				LR	LR	11 06 39.9	
	comp=Z,748nm,19.3s,MS4.9,baz=85,slow=36						
NOA	NORSAR Array B	67.80	328	P	P	10 37 10.7	-2.9
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,748nm,19.3s						
KSP	Ksiaz	67.90	317	*e*P	P	10 37 14.6	+0.3
KSP				*e*S	S	10 46 06.0	-5.4
KSP				MLR	MLR		
	comp=Z,3µm,19.5s,MS5.5						

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KSP   Ksiaz            67.90 317  eP     P      10 37 14.6 +0.3
KSP                               ePP    pP     10 37 18.7 +1.3
KSP                               e             10 40 42.0
KSP                               eS     S      10 46 06.0  -5.4
KSP                                LR    LR
      comp=Z,3µm,19.5s,MS5.5
DPC   Dobruska-Polom   68.02 316  eP     P      10 37 15.9 +0.8
DPC                                LM           11 07 00.0
      comp=Z,2.0nm,21.2s
VRAC  Vranov           68.15 315   P     P      10 37 16.3 +0.3
      comp=Z,7.3nm,0.5s,mb5.0,baz=54,slow=6.0,SNR=11
STKA  Stephens Creek   68.92 146  eP     P      10 37 19.8  -1.2
      comp=Z,4.5nm,0.6s,mb4.6
STKA  Stephens Creek   68.92 146   P     P      10 37 20.5  -0.5
      comp=Z,5.5nm,1.0s,mb4.4,baz=309,slow=6.5,SNR=4.7
STKA                               LR    LR     11 11 37.3
      comp=Z,490nm,19.3s,MS4.8,baz=172,slow=39
KONO  Kongsberg        68.98 327   AMS   AMS    11 08 46.7
      comp=Z,632nm,19.7s,MS4.9
KONO  Kongsberg        68.98 327   PFAKE        10 37 30.0 +9.1
KONO                               LR    LR
      comp=Z,103nm,19.0s,MS4.1
PRU   Pruhonice        69.22 316  eP     P      10 37 23.7 +1.2
      comp=Z,7.9nm,0.6s,mb4.8
PRU                                LM           11 08 10.0
      comp=Z,1.3nm,13.0s
PRU   Pruhonice        69.22 316  eP     P      10 37 23.7 +1.2
PRU                                pmax  pmax
      comp=Z,8.0nm,0.6s,mb4.8
PRU                                MLR   MLR
      comp=Z,1µm,13.0s,MS5.3
BRG   Berggiesshubel   69.31 317  i P    P      10 37 23.8 +0.7
BRG                                MLR   MLR
      comp=Z,1µm,16.2s,MS5.3
BRG                                MLR   MLR
      comp=N,5µm,26.1s
BRG                                MLR   MLR
      comp=E,2µm,26.1s
BRG   Berggiesshubel   69.31 317  i P    P      10 37 23.8 +0.7
      comp=E,11nm,1.0s,mb4.8
BRG                               i      pP     10 37 27.8 +1.6
BRG                               e             10 37 31.8
BRG                                LR    LR
      comp=Z,1µm,16.2s,MS5.3
ARSA  Arzberg          69.44 313⇑iP     P      10 37 23.1  -0.9
      comp=Z,11nm,1.2s,mb4.7
CLL   Collm            69.74 318   P     P      10 37 24.0  -1.7
CLL                               i *PP  pP     10 37 26.6  -2.2
CLL   Collm            69.74 318  eP     P      10 37 24.0  -1.7
CLL                                pmax  pmax
      comp=Z,18nm,1.2s,mb4.9
CLL                                MLR   MLR
      comp=Z,800nm,27.6s,MS4.8
CLL   Collm            69.74 318  eP     P      10 37 24.0  -1.7
      comp=Z,18nm,1.2s,mb4.9
CLL                                LR    LR
      comp=Z,800nm,27.6s,MS4.8
KMBO  Kilima Mbogo     69.81 258   P     P      10 37 24.9  -1.9
      comp=Z,11nm,1.0s,mb4.7,baz=46,slow=10,SNR=15
KMBO                               LR    LR     11 07 16.7
      comp=Z,637nm,21.4s,MS4.8,baz=271,slow=35
KMBO  Kilima Mbogo     69.81 258  eP     P      10 37 24.4  -2.4
      comp=Z,13nm,1.0s,mb4.8
KMBO                               LR    LR
      comp=Z,929nm,21.0s,MS5.0
LCI   Lecce            69.86 306  eP     P      10 37 26.8 +0.2
CRES  Cresnjevec ost   69.94 312  eP     P      10 37 28.2 +1.2
KHC   Kasperske Hory   70.08 316  eP     P      10 37 28.6 +0.8
KHC                                LM           11 08 40.0
      comp=Z,1.8nm,18.6s
GEC2  GERESS Array S   70.10 315  eP     P      10 37 27.1  -0.8
GEC2                               pmax  pmax
      comp=Z,10.0nm,0.8s,mb4.8
GEC2  GERESS Array S   70.10 315  eP     P      10 37 27.1  -0.8
      comp=Z,10.0nm,0.8s,mb4.8
GERES GERESS Array B   70.10 315   P     P      10 37 27.5  -0.5
      comp=Z,7.1nm,0.7s,mb4.7,baz=68,slow=5.4,SNR=21
GERES GERESS Array B   70.10 315   P     P      10 37 27.5  -0.4
GERES                              pmax  pmax
      comp=Z,7.0nm,0.7s
BOJS  Bojanci          70.17 312  eP     P      10 37 29.7 +1.3
OBKA  Obir             70.31 313⇓iP     P      10 37 30.9 +1.6
      comp=Z,10nm,0.8s,mb4.8
IMA   Indian Mountai   70.31  25  eP     P      10 37 28.3  -0.6
BRT   Bari-Castellan   70.34 307  eP     P      10 37 30.2 +0.7
VISS  Visnje           70.35 312  eP     P      10 37 28.6  -0.9
NKC   Novy Kostel      70.42 317  eP     P      10 37 30.4 +0.5
NKC                                LM           11 08 50.0
      comp=Z,1.4nm,15.7s
BSEG  Bad Segeberg     70.44 321  eP     P      10 37 29.5  -0.4
BSEG                               pmax  pmax
      comp=Z,20nm,1.1s,mb5.0
WET   Wettzell         70.51 316  eP     P      10 37 29.7  -0.7
WET                                pmax  pmax
      comp=Z,8.0nm,1.0s,mb4.6
WET   Wettzell         70.51 316  eP     P      10 37 29.7  -0.7
      comp=Z,8.0nm,1.0s,mb4.6
MOX   Moxa             70.79 318  i P    P      10 37 33.6 +1.5
MOX                                S     S      10 46 33.0   -13
MOX                                SSS   SSS    10 54 57.0   +32
MOX                                L            11 13 26.0
MOX   Moxa             70.79 318  eP     P      10 37 33.6 +1.5
MOX                                MLR   MLR
      comp=Z,800nm,19.0s,MS5.0
VOY   Vojsko           70.90 312  eP     P      10 37 32.7  -0.1
VOY                               e      pP     10 37 37.0 +1.0
KBA   Koelnbreinsper   70.91 314⇓iP     P      10 37 33.3 +0.4
      comp=Z,17nm,0.9s,mb5.0
ROBS  Robic            71.08 313  eP     P      10 37 34.3 +0.4
CLZ   Clausthal        71.11 319  eP     P      10 37 33.4  -0.7
      comp=Z,17nm,0.8s,mb5.0
TIP   Timpagrande      71.23 305  eP     P      10 37 31.8  -3.2
GRA1  Grafenberg Arr   71.35 317  eP     P      10 37 35.1  -0.4
      comp=Z,19nm,0.9s,mb5.0
GRA1                               LR    LR
      comp=Z,1µm,18.4s,MS5.3
GRF   Grafenberg Arr   71.35 317  eP     P      10 37 35.1  -0.4
GRF                                pmax  pmax
      comp=Z,19nm,0.9s,mb5.0
GRF                                MLR   MLR
      comp=Z,1µm,18.4s,MS5.3
TDS   Terranova Siba   71.37 306  eP     P      10 37 36.8 +0.9
JMIC  Jan Mayen        71.40 341   LR    LR     11 10 32.3
      comp=Z,563nm,20.6s,MS4.8,baz=275,slow=37
JMIC  Jan Mayen        71.40 341   AMS   AMS    11 09 39.8
      comp=Z,548nm,18.9s,MS4.8
SVW   Sparrevohn       71.42  30  eP     P      10 37 36.1 +0.3
FVI   Forni Avoltri    71.43 313  eP     P      10 37 36.3 +0.3
SGO   Sicignano        71.80 307⇑iP     P      10 37 38.9 +0.5
WTTA  Wattenberg       71.94 314⇑iP     P      10 37 38.2  -0.9
      comp=Z,15nm,0.7s,mb5.0
WATA  Walderalm        71.95 314⇓iP     P      10 37 40.5 +1.4
      comp=Z,6.8nm,0.9s,mb4.6
CII   Carovilli        72.10 308  eP     P      10 37 38.2  -2.0
      comp=Z,26nm,0.9s,mb5.2
SQTA  Sankt Quirin     72.22 314⇓iP     P      10 37 39.7  -1.1
      comp=Z,10.0nm,0.8s,mb4.8
MOTA  Moosalm          72.25 314⇑iP     P      10 37 39.4  -1.5
      comp=Z,12nm,1.1s,mb4.7
TERO  Teramo           72.27 309⇓iP     P      10 37 41.8 +0.7
ARV   Arcevia          72.41 310⇑iP     P      10 37 43.4 +1.4
MTTG  Motta San Giov   72.42 304⇑iP     P      10 37 43.2 +1.1
FSSB  Fossombrone      72.45 310  eP     P      10 37 43.6 +1.4
AQU   L'Aquila         72.50 309  eP     P      10 37 44.0 +1.5
PTQR  Pietraquaria     72.62 309⇓iP     P      10 37 44.4 +1.2
TOD   Tromm            72.85 317  eP     P      10 37 44.0  -0.4
STU   Stuttgart        72.92 316  eP     P      10 37 44.2  -0.6
RSO   Redoubt South    72.97  30  eP     P      10 37 45.4 +0.5
SPU   Mount Spurr      72.97  29   P     P      10 37 44.6  -0.3
MNS   Montasola        72.99 309  eP     P      10 37 45.5 +0.1
SFI   Santa Sofia      73.00 311  eP     P      10 37 47.6 +2.2
COLA  College          73.03  25  eP     P      10 37 44.8  -0.3
BRMO  Bormio           73.03 314  eP     P      10 37 46.4 +0.9
DAVA  Damuels          73.04 315⇑iP     P      10 37 46.0 +0.4
      comp=Z,8.5nm,1.0s,mb4.6
PGD   Poggio Sodo      73.10 311  eP     P      10 37 48.0 +2.0
VMG   Vicchio          73.19 311  eP     P      10 37 49.1 +2.6
DAVOX Davos            73.23 314   P     P      10 37 46.3  -0.4
      comp=Z,12nm,0.6s,mb5.0,baz=94,slow=5.0,SNR=25
KTD   Kalmit           73.39 317  eP     P      10 37 48.7 +1.2
SPAK  Spaichingen      73.42 316  eP     P      10 37 45.2  -2.6
ZCCA  Zocca            73.42 312⇑iP     P      10 37 50.0 +2.1
ILAR  Eielson Array    73.44  25   P     P      10 37 46.0  -1.6
      comp=Z,4.7nm,0.9s,mb4.4,baz=282,slow=4.2,SNR=40
ILAR                               LR    LR     11 12 45.8
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      comp=Z,903nm,18.5s,MS5.1,baz=306,slow=38
ILAR  Eielson Array    73.44  25   P     P      10 37 46.0  -1.5
ILAR                               pmax  pmax
      comp=Z,5.0nm,0.9s
ILAR                               MLR   MLR
      comp=Z,903nm,18.5s
CSNT  Castellina Chi   73.54 311  eP     P      10 37 48.8 +0.3
VAE   Valguarnera      73.56 304   P     P      10 37 50.4 +1.7
      comp=Z,4.6nm,0.5s,mb4.7,baz=17,slow=19,SNR=1.7
BFO   Black Forest     73.62 316  eP     P      10 37 47.8  -1.1
BFO                                pmax  pmax
      comp=Z,17nm,1.1s,mb4.9
BFO   Black Forest     73.62 316  eP     P      10 37 47.8  -1.1
      comp=Z,17nm,1.1s,mb4.9
GSCL  Gusciola         73.68 312  eP     P      10 37 51.9 +2.6
LANF  Langenberg       73.69 317  eP     P      10 37 48.5  -0.8
RUP   Ruppelstein      73.86 318  eP     P      10 37 51.0 +0.8
PMS   Palmer South     74.03  29  eP     P      10 37 49.9  -1.1
PMR   Palmer           74.05  28  eP     P      10 37 47.8  -3.3
SLKM  Skilak Lake      74.08  30   P     P      10 37 50.8  -0.5
WLS   Welschbruch      74.19 317  eP     P      10 37 51.3  -0.9
KDAK  Kodiak Island    74.21  33  eP     P      10 37 50.9  -1.2
      comp=Z,22nm,0.8s,mb5.2
KDAK                               LR    LR
      comp=Z,291nm,22.0s,MS4.5
CDF   Champ du Feu     74.23 317  eP     P      10 37 53.1 +0.7
      comp=Z,33nm,1.0s,mb4.9
BOB   Bobbio (Coli)    74.28 312⇑iP     P      10 37 53.7 +0.9
VAI   Varese           74.29 314  eP     P      10 37 52.9 +0.1
HINF  Hinteralfeld     74.73 316  eP     P      10 37 55.7 +0.4
      comp=Z,21nm,1.0s,mb4.7
MCGN  Macugnaga        74.76 314⇑iP     P      10 37 56.3 +0.7
HAU   Haudompre        74.97 316  eP     P      10 37 57.1 +0.4
HAU                               eR
      comp=Z,559nm,18.5s
GIVF  Givet            75.02 319  eP     P      10 37 57.8 +0.8
THEF  They Montfort    75.10 317  eP     P      10 37 55.8  -1.6
MBAR  Mbarara          75.27 262  eP     P      10 37 56.5  -2.7
      comp=Z,17nm,1.2s,mb4.9
MBAR                               LR    LR
      comp=Z,148nm,22.0s,MS4.2
BAIF  Baives           75.40 319  eP     P      10 38 00.1 +1.0
      comp=Z,35nm,1.1s,mb4.9
PGF   Pioggiola        75.45 310  eP     P      10 38 00.5 +0.9
      comp=Z,67nm,1.1s,mb5.2
MEZF  Maizieres J'vi   75.55 317  eP     P      10 38 00.8 +0.8
IMI   Imperia          75.64 312⇓iP     P      10 38 01.6 +1.0
CABF  La Chapelle      75.70 315  eP     P      10 38 01.5 +0.6
      comp=Z,16nm,0.9s,mb4.7
LPG   La Plagne        75.73 314  eP     P      10 38 02.5 +1.3
      comp=Z,54nm,0.8s,mb5.2
LPL   La Plagne        75.74 314  eP     P      10 38 02.5 +1.3
      comp=Z,47nm,0.7s,mb5.2
SAOF  Saorge           75.83 312  eP     P      10 38 03.3 +1.6
INK   Inuvik           75.89  19  eP     P      10 37 59.9  -1.7
      comp=Z,24nm,0.8s,mb5.2
AUTN  L'Aution         75.91 312  eP     P      10 38 02.7 +0.5
SBF   Sospel           75.96 312  eP     P      10 38 03.1 +0.6
BNI   Bardonecchia     75.97 314  eP     P      10 38 02.5   0.0
      comp=Z,14nm,0.8s,mb5.0
AURF  Auriere          76.02 312  eP     P      10 38 02.3  -0.5
TOUF  Mont Tournerai   76.02 312  eP     P      10 38 02.7  -0.1
MBDF  Montbardon       76.04 313  eP     P      10 38 03.6 +0.7
      comp=Z,15nm,0.6s,mb4.8
MVIF  Mont Vial        76.13 312  eP     P      10 38 03.9 +0.5
ORIF  Oris-en-Rattie   76.54 314  eP     P      10 38 06.5 +0.8
ORIF                              eR
      comp=Z,2µm,19.8s
DAWY  Dawson           76.57  24  eP     P      10 38 03.7  -1.8
FRF   La Foret Royal   76.61 312  eP     P      10 38 06.6 +0.5
LMR   La Mourre        76.79 312  eP     P      10 38 07.6 +0.5
      comp=Z,63nm,1.2s,mb5.1
LOR   Lormes           76.80 316  eP     P      10 38 07.3 +0.2
      comp=Z,15nm,1.0s,mb4.6
LOR                               eR
      comp=Z,966nm,20.8s
TAVF  Tavernes         76.97 312  eP     P      10 38 07.5  -0.6
EKA   Eskdalemuir Ar   77.00 326   P     P      10 38 06.9  -1.2
      comp=Z,5.1nm,0.7s,mb4.5,baz=63,slow=5.0,SNR=9.6
EKA   Eskdalemuir Ar   77.00 326   P     P      10 38 06.9  -1.2
EKA                                pmax  pmax
      comp=Z,5.0nm,0.7s
ESK   Eskdalemuir      77.04 326   PFAKE        10 38 20.0   +12
ESK                                LR    LR
      comp=Z,174nm,20.0s,MS4.4
SMF   Signal de Mont   77.08 316  eP     P      10 38 09.3 +0.6
      comp=Z,56nm,1.0s,mb5.2
SSF   Saint Saulge     77.11 316  eP     P      10 38 09.4 +0.6
      comp=Z,32nm,0.9s,mb4.9
SMRF  Simiane la Rot   77.13 313  eP     P      10 38 10.1 +1.1
      comp=Z,18nm,0.9s,mb4.7
SUMG  Summit           77.19 349  eP     P      10 38 07.5  -1.3
      comp=Z,10nm,0.8s,mb4.8
PUYF  Puyloubier       77.24 312  eP     P      10 38 05.2  -4.4
AVF   Avril sur Loir   77.32 316  eP     P      10 38 10.6 +0.6
      comp=Z,40nm,0.9s,mb5.0
VIVF  Saint-Julien-l   77.34 314  eP     P      10 38 10.9 +0.8
PLDF  La Plantade      77.52 315  eP     P      10 38 09.5  -1.6
BGF   Bois d'Agland    77.74 316  eP     P      10 38 12.7 +0.4
      comp=Z,56nm,1.4s,mb5.0
AGO   Saint Agoulin    77.79 316  eP     P      10 38 12.3  -0.3
PYM   Petit Puy Mans   78.00 315  eP     P      10 38 14.9 +1.2
LBL   Lubilhac         78.08 315  eP     P      10 38 13.0  -1.2
LASF  Ste Croix        78.21 314  eP     P      10 38 16.1 +1.2
      comp=Z,53nm,1.1s,mb5.1
LDF   La Druitiere     78.59 319  eP     P      10 38 18.5 +1.6
      comp=Z,24nm,0.8s,mb4.9
FLN   La Foliniere     78.72 319  eP     P      10 38 18.4 +0.8
      comp=Z,22nm,1.0s,mb4.8
FLN                               eR
      comp=Z,2µm,22.0s
CAF   Calviac          78.97 315  eP     P      10 38 20.5 +1.4
      comp=Z,36nm,1.0s,mb4.9
GRR   Gorron           79.12 319  eP     P      10 38 20.8 +1.0
      comp=Z,30nm,0.8s,mb4.9
RJF   Les Rejaudoux    79.14 315  eP     P      10 38 21.5 +1.5
      comp=Z,45nm,1.0s,mb5.0
RJF                               eR
      comp=Z,1µm,21.2s
MFF   Saint Martin d   79.55 317  eP     P      10 38 23.3 +1.1
      comp=Z,28nm,1.0s,mb4.8
MTLF  Montolieu        79.60 313  eP     P      10 38 23.6 +1.1
      comp=Z,27nm,1.1s,mb4.8
LFF   La Frestale      79.79 315  eP     P      10 38 25.0 +1.5
      comp=Z,39nm,1.0s,mb5.0
SGMF  Saint Gilles     80.17 319  eP     P      10 38 27.0 +1.5
      comp=Z,38nm,0.8s,mb5.0
ROSF  Rostrenen        80.54 320  eP     P      10 38 28.9 +1.4
      comp=Z,78nm,1.1s,mb5.2
QUIF  Quistinic        80.69 319  eP     P      10 38 29.4 +1.1
ETSF  Etsaut           81.60 314  eP     P      10 38 32.7  -0.4
      comp=Z,18nm,0.9s,mb4.7
SJPF  Ste Jean         81.92 314  eP     P      10 38 35.5 +0.7
      comp=Z,16nm,0.8s,mb4.7
SIT   Sitka            82.44  28  eP     P      10 38 38.4 +1.2
DLBC  Dease Lake       83.64  25  eP     P      10 38 44.3 +1.0
LSZ   Lusaka           84.60 250  eP     P      10 38 48.1  -1.0
      comp=Z,8.4nm,0.9s,mb4.9
LSZ                                LR    LR
      comp=Z,798nm,20.0s,MS5.1
YKW3  Yellowknife Ar   85.40  17  eP     P      10 38 51.8  -0.2
ESDC  Sonseca Array    85.44 313   P     P      10 38 54.6 +1.8
      comp=Z,1.9nm,0.7s,mb4.3,baz=80,slow=7.8,SNR=4.4
ESDC                               LR    LR     11 18 56.2
      comp=Z,401nm,18.6s,MS4.8,baz=20,slow=37
ESLA  Sonseca Array    85.44 313   PFAKE        10 39 00.0 +7.2
ESLA                               LR    LR
      comp=Z,4µm,20.0s,MS5.8
YKA   Yellowknife Ar   85.46  17   P     P      10 38 52.1  -0.2
      comp=Z,9.1nm,0.7s,mb5.0,baz=327,slow=4.9,SNR=35
YKA                                LR    LR     11 22 31.3
      comp=Z,628nm,19.2s,MS5.0,baz=315,slow=40
OCWA  Octopus Mounta   93.80  30   PFAKE        10 39 40.0 +8.0
OCWA                               LR    LR
      comp=Z,478nm,21.0s,MS4.9
GNW   Green Mountain   94.54  30   P     P      10 39 36.7 +1.2
NLW   Nelson Butte     95.21  28   P     P      10 39 38.4  -0.1
FFC   Flin Flon        95.42  15  eP     P      10 39 39.1  -0.2
      comp=Z,5.9nm,0.8s,mb5.1
FFC                                LR    LR
      comp=Z,172nm,20.0s,MS4.5
DPW   Davenport        96.25  27  eP     P      10 39 44.2 +0.9
NEW   Newport          96.37  26   P     P      10 39 43.9 +0.1
      comp=Z,1.9nm,0.7s,mb4.6
NEW                                LR    LR
      comp=Z,756nm,22.0s,MS5.1
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COR   Corvallis        96.58  32   PFAKE        10 40 00.0   +15
COR                                LR    LR
      comp=Z,506nm,21.0s,MS5.0
HAWA  Hanford          96.88  29   PFAKE        10 40 00.0   +14
HAWA                               LR    LR
      comp=Z,608nm,20.0s,MS5.1
SCHQ  Schefferville    97.89 355   LR    LR     11 30 51.1
      comp=Z,496nm,18.0s,MS5.0,baz=46,slow=40
SCHQ  Schefferville    97.89 355   PFAKE        10 40 00.0   +10
SCHQ                               LR    LR
      comp=Z,894nm,22.0s,MS5.2
MSO   Missoula         98.77  25   PFAKE        10 40 10.0   +15
MSO                                LR    LR
      comp=Z,542nm,22.0s,MS5.0
YBH   Yreka Blue Hor   99.02  33   PFAKE        10 40 10.0   +14
YBH                                LR    LR
      comp=Z,460nm,22.0s,MS4.9
MAW   Mawson           99.36 195   LR    LR     11 20 32.7
      comp=Z,253nm,19.9s,MS4.7,baz=41,slow=33
MAW   Mawson           99.36 195   PFAKE        10 40 10.0   +13
MAW                                LR    LR
      comp=Z,578nm,20.0s,MS5.1
WDC   Whiskeytown Da   99.97  34   PFAKE        10 40 10.0   +10
WDC                                LR    LR
      comp=Z,380nm,22.0s,MS4.9
MOD   Modoc           100.04  32   PFAKE        10 40 10.0 +9.4
MOD                                LR    LR
      comp=Z,492nm,22.0s,MS5.0
WVOR  Wild Horse Val  100.39  31   PFAKE        10 40 10.0 +7.8
WVOR                               LR    LR
      comp=Z,691nm,22.0s,MS5.1
DGMT  Dagmar          100.57  19   PFAKE        10 40 10.0 +7.2
DGMT                               LR    LR
      comp=Z,858nm,22.0s,MS5.2
BOZ   Bozeman (W)     100.63  24   PFAKE        10 40 10.0 +6.8
BOZ                                LR    LR
      comp=Z,777nm,20.0s,MS5.2
MCMT  McKenzie Canyo  100.87  26   Pdif  P      10 40 04.4 +0.2
HOPS  Hopland         100.90  35   PFAKE        10 40 20.0   +15
HOPS                               LR    LR
      comp=Z,304nm,20.0s,MS4.8
ULM   Lac du Bonnet   100.91  13   PFAKE        10 40 20.0   +16
ULM                                LR    LR
      comp=Z,947nm,19.0s,MS5.3
HLID  Hailey          101.30  27   PFAKE        10 40 20.0   +14
HLID                               LR    LR
      comp=Z,658nm,20.0s,MS5.2
LAO   LASA Array      101.57  21   PFAKE        10 40 20.0   +13
LAO                                LR    LR
      comp=Z,828nm,21.0s,MS5.2
CMB   Columbia Colle  102.99  34   PFAKE        10 40 30.0   +16
CMB                                LR    LR
      comp=Z,263nm,19.0s,MS4.8
AHID  Auburn Hatcher  103.29  26   PFAKE        10 40 30.0   +15
AHID                               LR    LR
      comp=Z,429nm,21.0s,MS5.0
DBIC  Dimbokro        103.34 285   PFAKE        10 40 30.0   +14
DBIC                               LR    LR
      comp=Z,545nm,20.0s,MS5.1
NVAR  Mina Array Bea  103.71  33   PP    PP     10 44 36.9 +0.7
      comp=Z,0.6nm,0.6s,baz=307,slow=7.4,SNR=5.4
NVAR                               PKKPbc       10 56 10.7
      comp=Z,0.8nm,0.9s,baz=135,slow=3.8,SNR=5.2
MNV   Mina            103.78  33   PFAKE        10 40 30.0   +13
MNV                                LR    LR
      comp=Z,417nm,19.0s,MS5.0
BW06  Boulder Array   103.87  25   PFAKE        10 40 30.0   +12
BW06                               LR    LR
      comp=Z,611nm,19.0s,MS5.2
PDAR  Pinedale Array  103.87  25   PP    PP     10 44 21.8   -15
      comp=Z,0.6nm,1.0s,baz=326,slow=6.5,SNR=3.7
HWUT  Hardware Ranch  104.09  27   PFAKE        10 40 30.0   +11
HWUT                               LR    LR
      comp=Z,557nm,20.0s,MS5.1
TPH   Tonopah         104.51  32   PFAKE        10 40 30.0 +9.4
TPH                                LR    LR
      comp=Z,280nm,19.0s,MS4.8
DUG   Dugway          104.76  28   PFAKE        10 40 30.0 +8.3
DUG                                LR    LR
      comp=Z,380nm,20.0s,MS4.9
DAC   Darwin (Calif)  105.76  34   PFAKE        10 44 50.0
DAC                                LR    LR
      comp=Z,256nm,20.0s,MS4.8
PQI   Presque Isle    106.08 354   PFAKE        10 44 50.0
PQI                                LR    LR
      comp=Z,3µm,21.0s,MS5.9
MVU   Marysvale       106.43  29   PFAKE        10 44 50.0
MVU                                LR    LR
      comp=Z,412nm,19.0s,MS5.0
ISCO  Idaho Springs   107.90  23   PFAKE        10 45 00.0
ISCO                               LR    LR
      comp=Z,621nm,20.0s,MS5.2
PFO   Pinyon Flat Ob  108.44  35   PFAKE        10 45 00.0
PFO                                LR    LR
      comp=Z,117nm,21.0s,MS4.4
JFWS  Jewell Farm     109.02  11   PFAKE        10 45 00.0
JFWS                               LR    LR
      comp=Z,732nm,21.0s,MS5.2
NCB   Newcomb         109.13 359   PFAKE        10 45 00.0
NCB                                LR    LR
      comp=Z,465nm,19.0s,MS5.1
SDCO  Great Sand Dun  109.76  24   PFAKE        10 45 00.0
SDCO                               LR    LR
      comp=Z,570nm,20.0s,MS5.1
VNDA  Vanda           109.97 169   PFAKE        10 45 00.0
VNDA                               LR    LR
      comp=Z,426nm,20.0s,MS5.0
HRV   Harvard--Oak R  110.49 356   PFAKE        10 45 00.0   +11
HRV                                LR    LR
      comp=Z,554nm,21.0s,MS5.1
WES   Weston          110.59 356   PFAKE        10 45 00.0   +11
WES                                LR    LR
      comp=Z,496nm,22.0s,MS5.0
CBKS  Cedar Bluff     110.71  20   PFAKE        10 45 00.0   +10
CBKS                               LR    LR
      comp=Z,842nm,20.0s,MS5.3
ERPA  Erie            110.92   3   PFAKE        10 45 00.0   +10
ERPA                               LR    LR
      comp=Z,669nm,22.0s,MS5.2
ANMO  Albuquerque     111.85  27   PFAKE        10 45 00.0 +8.1
ANMO                               LR    LR
      comp=Z,650nm,19.0s,MS5.2
TUC   Tucson          112.25  31   PFAKE        10 45 00.0 +7.2
TUC                                LR    LR
      comp=Z,354nm,19.0s,MS5.0
PPT   Papeete         112.29  99  eSP    SP     10 55 10.6 +3.2
PPT                               eSS    SS     11 01 19.9 +4.1
PPT                               eR            11 18 35.1
      comp=Z,385nm,22.5s
SSPA  Standing Stone  112.47   1   PFAKE        10 45 00.0 +7.0
SSPA                               LR    LR
      comp=Z,454nm,20.0s,MS5.1
ACSO  Alum Creek Sta  112.59   6   PFAKE        10 45 00.0 +6.7
ACSO                               LR    LR
      comp=Z,672nm,22.0s,MS5.2
MCWV  Mont Chateau    113.38   3   PFAKE        10 45 10.0   +15
MCWV                               LR    LR
      comp=Z,892nm,19.0s,MS5.4
CCM   Cathedral Cave  113.54  13   PFAKE        10 45 10.0   +15
CCM                                LR    LR
      comp=Z,529nm,21.0s,MS5.1
TBI   Tubuai          114.50 105  ePP    PP     10 45 56.1   0.0
TBI                               eSS    SS     11 01 50.5 +5.3
TBI                               eR            11 20 26.3
      comp=Z,364nm,28.0s
WMOK  Wichita Mounta  114.77  20   PFAKE        10 45 10.0   +12
WMOK                               LR    LR
      comp=Z,842nm,19.0s,MS5.4
CBN   Corbin          114.90   1   PFAKE        10 45 10.0   +12
CBN                                LR    LR
      comp=Z,892nm,20.0s,MS5.4
GDL2  Guadalupe Moun  115.09  26   PKP   PKPdf  10 44 56.5  -1.9
BLA   Blacksburg      115.78   4   PFAKE        10 45 10.0   +10
BLA                                LR    LR
      comp=Z,647nm,20.0s,MS5.2
MIAR  Mount Ida       116.39  16   PFAKE        10 45 10.0 +9.1
MIAR                               LR    LR
      comp=Z,845nm,21.0s,MS5.3
QSPA  South Pole Qui  117.01 180  ePKP   PKPdf  10 44 58.4  -2.7
OXF   Oxford          117.33  12   PFAKE        10 45 10.0 +7.3
OXF                                LR    LR
      comp=Z,767nm,19.0s,MS5.3
MYNC  Murphy          117.58   7   PFAKE        10 45 10.0 +6.8
MYNC                               LR    LR
      comp=Z,869nm,19.0s,MS5.4
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LTX	Lajitas	117.90	27	PFAKE		10 45 10.0	+6.1
LTX				LR	LR		
	comp=Z,475nm,19.0s,MS5.1						
TXAR	Lajitas Array	117.90	27	PKP	PKPdf	10 45 02.0	-1.9
	comp=Z,0.5nm,0.5s,baz=160,slow=0.6,SNR=12						
JCT	Junction City	118.34	23	*e*PKP	PKPdf	10 45 02.4	-2.3
JCT				LR	LR		
	comp=Z,588nm,19.0s,MS5.2						
NATX	Nacogdoches	118.75	18	PFAKE		10 45 20.0	+14
NATX				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
LRAL	Lakeview Retre	119.20	10	PFAKE		10 45 20.0	+14
LRAL				LR	LR		
	comp=Z,749nm,20.0s,MS5.3						
BBSR	BB Station	119.73	349	PFAKE		10 45 20.0	+13
BBSR				LR	LR		
	comp=Z,482nm,20.0s,MS5.1						
NHSC	New Hope	119.88	4	PFAKE		10 45 20.0	+12
NHSC				LR	LR		
	comp=Z,689nm,21.0s,MS5.3						
HKT	Hockley	120.12	20	PFAKE		10 45 20.0	+12
HKT				LR	LR		
	comp=Z,603nm,20.0s,MS5.2						
VNA1	Neumayer--Stat	122.73	202	⇓*i*P	Pdif	10 41 55.6	+16
VNA1	Neumayer--Stat	122.73	202	*e*	Pdif	10 42 06.3	+26
VNA1	Neumayer--Stat	122.73	202	*e*	Pdif	10 42 10.4	+30
VNA1	Neumayer--Stat	122.73	202	*e*	PKPdf	10 45 20.5	+8.3
DWPF	Disney	124.75	6	PFAKE		10 45 30.0	+13
DWPF				LR	LR		
	comp=Z,682nm,21.0s,MS5.3						
SJG	San Juan	133.90	347	PFAKE		10 45 50.0	+15
SJG				LR	LR		
	comp=Z,270nm,21.0s,MS4.9						
RCBR	Riachuelo	136.20	292	PFAKE		10 45 50.0	+11
RCBR				LR	LR		
	comp=Z,254nm,19.0s,MS5.0						
SDV	Santo Domingo	143.70	351	*e*PKP	PKPdf	10 45 46.8	-5.9
SDV				LR	LR		
	comp=Z,251nm,20.0s,MS5.0						
ROSC	El Rosal	148.06	357	PKPbc	PKPdf	10 46 02.5	+2.3
	comp=Z,16nm,0.4s,baz=92,slow=14,SNR=7.7						
BDFB	Brasilia	151.43	288	PKPbc	PKPdf	10 46 09.2	+4.0
	comp=Z,7.1nm,0.6s,baz=41,slow=5.1,SNR=6.0						
BDFB	Brasilia	151.43	288	PKIKP	PKPdf	10 46 09.2	+3.9
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OTAV	Otavalo	152.61	5	PKP	PKPdf	10 46 04.0	-3.1
CPUP	Villa Florida	163.14	269	PKP	PKPdf	10 46 18.6	-0.8
	comp=Z,0.9nm,0.5s,baz=158,slow=3.6,SNR=4.5						
CPUP	Villa Florida	163.14	269	PKP	PKPdf	10 46 18.6	-0.8
CPUP				LR	LR		
	comp=Z,396nm,20.0s						
NNA	Nana	164.83	2	PFAKE		10 46 30.0	+8.6
NNA				LR	LR		
	comp=Z,80nm,21.0s						
PLCA	Paso Flores	165.75	198	PFAKE		10 46 30.0	+8.5
PLCA				LR	LR		
	comp=Z,376nm,21.0s						
LPAZ	La Paz	166.80	324	PKP	PKPdf	10 46 24.1	+1.1
	comp=Z,1.2nm,0.8s,baz=2.4,slow=2.5,SNR=2.6						
LPAZ	La Paz	166.80	324	PKP	PKPdf	10 46 24.1	+1.1
LPAZ				LR	LR		
	comp=Z,380nm,20.0s						
LVC	Limon Verde	171.96	303	PFAKE		10 46 40.0	+14
LVC				LR	LR		
	comp=Z,353nm,19.0s						

IDC 10 10:31:02.9±1.0,27.32N×103.88E,mb4.0/7,mb1 4.2/7, mb1mx3.9/17,Error ellipse: s-maj=56.7km s-min=19.0km az=63.0

BJI 10 10:31:03.6,27.17N×103.81E,h8^{km},ML4.3

NEIC 10 10:31:03.7±1.0,27.18N×103.94E,h10^{km},mb4.7/2,Error ellipse: s-maj=37.3km s-min=17.2km az=68.0

ISC 10 10:31:00.8±0.6,27.10N±0.05×103.81E±0.06,h8^{km},n11, $\sigma 1\overset{s}{.}19$/13,mb4.2/8,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.19	206	*e*PG	Pg	10 31 44.0	-0.6
KMI				SG	Sg	10 32 13.5	-0.2
GYA	Guiyang	2.63	103	PG	Pg	10 31 51.3	-2.0
GYA				SG	Sg	10 32 29.0	+0.6
GYA				Smax			
	comp=N,220nm,0.8s						
GYA				Smax			
	comp=E,620nm,0.6s						
SONM	Songino Array	20.80	5	P	P	10 35 45.0	0.0
	comp=E,2.2nm,0.5s,baz=182,slow=9.7,SNR=4.8						
HIA	Hailar	25.33	25	*e*P	P	10 36 28.7	-0.8
	comp=E,18nm,0.8s,mb4.6						
MKAR	Makanchi Array	25.97	325	P	P	10 36 37.4	+1.9
	comp=E,2.4nm,0.7s,mb3.9,baz=124,slow=13,SNR=6.1						
WRAB	Tennant Creek	55.33	144	P	P	10 40 36.8	-0.9
	comp=E,6.1nm,0.8s,mb4.7						
WRA	Warramunga Arr	55.33	144	P	P	10 40 39.6	+1.9
	comp=E,1.8nm,0.7s,mb4.2,baz=332,slow=8.4,SNR=10.0						
ASAR	Alice Springs	58.24	147	P	P	10 41 00.7	+2.4
	comp=E,1.1nm,0.8s,mb3.9,baz=327,slow=5.9,SNR=4.6						
ARCES	ARCESS Array B	60.81	337	P	P	10 41 14.6	-0.8
	comp=E,1.7nm,0.8s,mb4.2,baz=91,slow=8.1,SNR=11						
HFS	Hagfors	66.96	327	P	P	10 41 55.1	-0.7
	comp=E,0.9nm,0.4s,mb4.2,baz=135,slow=6.3,SNR=4.1						
ILAR	Eielson Array	73.56	25	P	P	10 42 35.7	0.0
	comp=E,2.5nm,1.4s,mb4.0,baz=284,slow=4.0,SNR=5.4						

ZUR 10 10:31:00.1,47.65N×9.05E,h13^{km},ML1.8/6

LEDBW 10 10:31:01.3±0.1,47.65N×9.03E,h11^{km}±1^{km},ML1.9,Error ellipse: s-maj=1.4km s-min=1.0km az=101.0

ISC 10 10:31:01.5±0.5,47.66N±0.03×9.01E±0.05,h11^{km}±4^{km}, n13,$\sigma 0\overset{s}{.}50$/24,7C-1D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISB	Singen-Sch Ber	0.05	313	⇑*i*P	Pg	10 31 03.7	+0.1
SISB				S	Sg	10 31 05.5	+0.5
STEIN	Stein am Rhein	0.10	279	⇑*i*Pg	Pg	10 31 04.3	+0.1
	5.9nm,0.4s						
STEIN				*i* Sg	Sg	10 31 06.7	+0.6
	5.9nm,0.4s						
WEIN	Weingarten	0.13	189	⇓*i*Pg	Pg	10 31 04.4	-0.3
	34nm,0.2s						
WEIN				*i* Sg	Sg	10 31 06.9	+0.1
	34nm,0.2s						
TRULL	Truellikon	0.23	269	⇑*i*Pg	Pg	10 31 06.5	+0.1
	4.7nm,0.3s						
TRULL				*i* Sg	Sg	10 31 10.1	+0.5
	4.7nm,0.3s						
WILA	Wila	0.25	197	⇑*i*Pg	Pg	10 31 06.5	-0.3
	9.8nm,0.2s						
WILA				*i* Sg	Sg	10 31 10.4	0.0
	9.8nm,0.2s						
SLE	Schleitheim	0.37	288	⇑*i*Pg	Pg	10 31 08.8	-0.3
	1.9nm,0.5s						
SLE				*i* Sg	Sg	10 31 14.0	-0.2
	1.9nm,0.5s						
ZUR	Zurich	0.41	226	⇑*i*Pg	Pg	10 31 09.5	-0.4
	1.5nm,0.1s						
ZUR				*i* Sg	Sg	10 31 15.5	0.0
	1.5nm,0.1s						
GUT	Gutenstein	0.42	9	⇑*i*P	Pg	10 31 09.6	-0.5
GUT				*i* S	Sg	10 31 15.7	-0.2
UBR	Uberruh	0.74	88	⇑*e*P	Pb	10 31 15.5	-0.4
UBR				S	Sb	10 31 25.6	-0.2
UBR				*i* S	Sb	10 31 28.1	+2.3
KIZ	Kirchzarten	0.80	293	*e*P	Pb	10 31 17.4	+0.5
KIZ				S	Sb	10 31 27.5	0.0
BUCH	Bad Urach	0.83	16	P	Pb	10 31 17.2	-0.2
LBG	Lerchenberg	1.02	352	PG	Pg	10 31 20.9	-1.1
HDH	Heidenheim	1.23	40	S	Sb	10 31 40.6	+0.7

TIF 10 10:35:39.8,39.76N×44.15E,h14^{km},Mpv4.5, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERE	Yerevan	0.50	32	*i* P	Pb	10 35 49.8	0.0
ERE				*i* S	Sb	10 35 57.3	+0.7
VAD	Vardenisi	1.29	70	*e*P	Pb	10 36 06.0	+2.6
VAD				*i* S	Sb	10 36 28.0	+8.4
GRS	Goris	1.71	97	*e*P	Pn	10 36 10.0	+0.5
GRS				*e*S	Sn	10 36 34.0	+2.8

BER 10 10:37:14.5±3.4,57.89N×27.51E,ML2.3(NAO), Suspected explosion

NAO 10 10:37:12.3±10.0,57.89N×27.38E,ML2.3,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	3.63	350	Pn	Pn	10 38 08.7	-2.3
	baz=163,slow=18						
FIA0				Sn	Sn	10 38 53.6	-1.6
	baz=168,slow=37						
FIA0				Lg		10 39 05.9	
	baz=164,slow=37						
HFS	Hagfors	7.42	293	Sn	Sn	10 40 25.0	-5.4
	baz=105,slow=28						
HFS				Lg		10 41 03.7	
	baz=87,slow=28						

IDC 10 11:11:55.6±3.3,6.76N×72.99W,h166^{km}±25^{km},mb3.3/6, mb1 3.7/7,mb1mx3.4/21,Error ellipse: s-maj=51.4km s-min=17.1km az=75.0

NEIC 10 11:11:55.9±0.7,6.78N×72.98W,h170^{km}±7^{km},mb4.1/1, Error ellipse: s-maj=13.2km s-min=9.1km az=87.0

ISC 10 11:11:54.7±0.7,6.81N±0.08×72.96W±0.10,h172^{km}±8^{km}, n12,$\sigma 0\overset{s}{.}62$/12,mb3.6/6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.37	215	P	P	11 12 36.5	+0.5
	84nm,0.3s,baz=100,slow=19,SNR=62						
ROSC				S	S	11 13 07.1	-0.6
	209nm,0.3s,baz=131,slow=17,SNR=12						
SDV	Santo Domingo	3.10	48	*e*Pn	P	11 12 45.7	+1.0
SDV				*e*S	S	11 13 22.7	-0.5
SAML	Samuel	18.44	148	*e*P	P	11 15 58.9	-0.8
	3.6nm,0.5s						
LPAZ	La Paz	23.44	168	P	P	11 16 50.5	+0.9
	0.9nm,0.5s,mb3.5,baz=336,slow=6.4,SNR=5.8						
TXAR	Lajitas Array	36.59	312	P	P	11 18 46.0	+0.2
	0.7nm,0.5s,mb3.5,baz=126,slow=8.8,SNR=15						
ULM	Lac du Bonnet	47.35	340	P	P	11 20 12.1	-0.7
	2.1nm,0.4s,mb4.1,baz=142,slow=5.2,SNR=8.2						
PDAR	Pinedale Array	48.18	324	P	P	11 20 19.6	+0.2
	0.6nm,0.6s,mb3.4,baz=127,slow=8.4,SNR=6.1						
NVAR	Mina Array Bea	51.60	315	P	P	11 20 45.7	+0.2
	0.1nm,0.3s,mb2.9,baz=119,slow=7.8,SNR=4.7						
NVAR	Mina Array Bea	51.60	315	P	P	11 20 45.7	+0.2
YKA	Yellowknife Ar	63.33	340	P	P	11 22 06.9	-0.3
	1.4nm,0.6s,mb4.0,baz=132,slow=6.4,SNR=12						
ASAR	Alice Springs	149.23	234	PKPbc	PKPdf	11 31 24.8	+5.8
	1.0nm,0.8s,baz=124,slow=2.9,SNR=7.1						
WRA	Warramunga Arr	150.47	241	PKPbc	PKPdf	11 31 27.9	+6.9
	0.8nm,0.7s,baz=109,slow=2.5,SNR=17						

IDC 10 11:49:18.3±0.9,27.33N×103.75E,mb3.9/7,mb1 4.0/8, mb1mx3.9/18,ML3.7/1,Error ellipse: s-maj=47.1km s-min=17.5km az=66.0

BJI 10 11:49:20.5,27.31N×103.71E,h10^{km},mB4.9,mb4.4, ML4.4,Ms4.2,Msz4.0

NEIC 10 11:49:20.2±0.6,27.26N×103.62E,h10^{km},mb4.4/4,Error ellipse: s-maj=15.6km s-min=11.0km az=93.0

ISC 10 11:49:17.4±0.4,27.13N±0.04×103.59E±0.05,h10^{km},n28, $\sigma 0\overset{s}{.}99$/38,mb4.2/10,1D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.14	201	*e*PG	Pg	11 49 59.6	-0.5
KMI				SG	Sg	11 50 28.8	+0.2
GYA	Guiyang	2.83	103	⇓*i*P	Pn	11 50 08.1	+4.6
GYA				PG	Pg	11 50 12.3	-1.5
GYA				S	Sn	11 50 42.2	+4.2
GYA				SG	Sg	11 50 47.7	-3.9
GYA				Smax			
	comp=N,1µm,0.7s						
GYA				Smax			
	comp=E,710nm,0.7s						
CD2	Chengdu	3.77	2	P	Pn	11 50 19.5	+2.6
CD2				PG	Pg	11 50 28.6	-4.1
CD2				S	Sn	11 51 01.0	-0.8
CD2				SG	Sg	11 51 17.8	-5.1
CD2				Smax			
	comp=N,2µm,0.6s						
CD2				Smax			
	comp=E,2µm,0.5s						
CD2				LR	LR		
	comp=E,3µm,4.5s						
CD2				LR	LR		
	comp=Z,740nm,3.6s						
ENH	Enshi	6.05	57	*e*Pn	Pn	11 50 50.0	+0.9
	comp=Z,66nm,0.9s						
ENH				*e*S	Sn	11 51 53.9	-5.4
XAN	Xi’an	8.28	32	P	P	11 51 19.4	-1.0
XAN				S	Sn	11 52 46.6	-8.3
XAN				LG2		11 53 32.4	
XAN				Smax			
	comp=N,214nm,1.4s						
XAN				Smax			
	comp=E,188nm,1.1s						
XAN				LR	LR		
	comp=N,270nm,6.9s						
XAN				LR	LR		
	comp=E,363nm,6.4s						
CMAR	Chiang Mai Arr	9.63	207	Pn	P	11 51 43.6	+4.4
	comp=E,0.2nm,0.3s,baz=16,slow=12,SNR=7.4						
CMAR				Lg		11 54 37.9	
	comp=E,0.2nm,0.3s,baz=11,slow=28,SNR=3.6						
WHN	Wuhan	10.03	68	*e*P	P	11 51 45.5	+0.9
WHN				S	S	11 53 29.3	-9.0
WHN				LR	LR		
	comp=N,1µm,9.2s						
WHN				LR	LR		
	comp=E,880nm,7.8s						
WHN				LR	LR		
	comp=Z,980nm,12.5s						
PKI	Pulchoki	16.16	276	*e*P	P	11 53 05.5	-0.8
	comp=Z,17nm,0.6s						
KKN	Kakani	16.27	277	*e*P	P	11 53 07.1	-0.5
	comp=Z,20nm,0.5s						
DMN	Daman	16.43	276	*e*P	P	11 53 08.9	-0.8
	comp=Z,34nm,1.0s						
BJT	Baijiatuau	16.56	36	*e*P	P	11 53 11.9	+0.6
	comp=Z,8.2nm,0.5s						
BJI	Beijing	16.58	36	P	P	11 53 11.9	+0.4
BJI				AMB	AMB		
	comp=Z,12nm,0.8s						
GKN	Gorkha	16.83	277	*e*P	P	11 53 15.9	+1.1
KOLN	Koldanda	17.76	277	*e*P	P	11 53 28.3	+1.9
	comp=Z,14nm,0.6s						
SONM	Songino Array	20.79	5	P	P	11 54 00.6	-0.5
	comp=Z,1.1nm,0.4s,baz=192,slow=12,SNR=8.6						
CN2	Changchun	24.25	41	*e*P	P	11 54 36.8	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
HIA	Hailar	25.38	25	*e*P	P	11 54 46.4	+0.2
	comp=Z,11nm,0.7s,mb4.5						
MKAR	Makanchi Array	25.83	325	P	P	11 54 51.0	+0.5
	comp=Z,3.0nm,0.8s,mb3.9,baz=130,slow=13,SNR=10						
KURK	Kurchatov	30.26	328	P	P	11 55 30.0	-0.6
	comp=Z,2.8nm,0.8s,mb4.0						
WRAB	Tennant Creek	55.47	144	*e*P	P	11 58 54.4	-0.5
	comp=Z,8.7nm,0.9s,mb4.8						
WRA	Warramunga Arr	55.47	144	P	P	11 58 55.2	+0.2
	comp=Z,0.9nm,0.7s,mb3.9,baz=334,slow=8.4,SNR=16						
WB2	Warramunga Arr	55.48	144	*e*P	P	11 58 55.1	+0.1
ASAR	Alice Springs	58.37	147	P	P	11 59 16.5	+1.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=325,slow=6.4,SNR=7.5						
FINES	FINESS Array B	60.63	327	P	P	11 59 29.9	-0.6
	comp=Z,0.8nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=5.1						
FINES	FINESS Array B	60.63	327	P	P	11 59 29.9	-0.6
ARCES	ARCESS Array B	60.70	337	P	P	11 59 30.4	-0.6
	comp=Z,2.2nm,0.8s,mb4.3,baz=89,slow=7.8,SNR=8.0						
NB2	NORSAR Subarra	67.78	328	P	P	12 00 15.5	-1.6
	comp=Z,0.7nm,0.6s,mb3.9,baz=76,slow=6.2						
NOA	NORSAR Array B	67.78	328	P	P	12 00 15.8	-1.3
	comp=Z,0.4nm,0.5s,mb3.7,baz=75,slow=6.4,SNR=4.1						

IDC 10 12:26:35.3±1.3,4.01S×134.23E,mb3.5/2,mb1 4.1/6, mb1mx3.8/13,ML3.9/4,MS3.3/2,Ms1 3.3/2,ms1mx2.8/15, Error ellipse: s-maj=68.9km s-min=27.0km az=70.0

NEIC 10 12:26:40.2±1.1,4.23S×134.01E,h35^{km},mb3.9/3,Error ellipse: s-maj=26.5km s-min=15.5km az=90.0

ISC 10 12:26:38.2±1.0,4.29S±0.08×134.0E±0.2,h35^{km},n13, $\sigma 0\overset{s}{.}99$/14,mb3.6/2,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	8.51	191	*e*P	P	12 28 42.2	+0.3
	9.6nm,0.4s						
KAKA				*e*S	S	12 30 17.4	-0.4
PMG	Port Moresby	14.01	112	LR	LR	12 35 37.9	
	comp=Z,83nm,18.7s,baz=272,slow=39						
WRAB	Tennant Creek	15.55	179	*e*P	P	12 30 16.6	-0.1
	7.9nm,0.5s						
WRA	Warramunga Arr	15.56	179	Pn	P	12 30 13.3	-3.5
	0.2nm,0.3s,baz=0.4,slow=13,SNR=10						
WB2	Warramunga Arr	15.56	179	*e*P	P	12 30 15.4	-1.4
WB2				*i*		12 30 22.4	
WB2				*e*S	S	12 32 59.4	-8.9
FITZ	Fitzroy Crossi	15.99	210	*e*P	P	12 30 23.1	+0.8
	2.4nm,0.4s						
FITZ	Fitzroy Crossi	15.99	210	Pn	P	12 30 21.4	-0.9
	1.1nm,0.3s,baz=31,slow=11,SNR=40						
ASAR	Alice Springs	19.27	180	P	P	12 31 04.2	+1.5
	0.7nm,0.3s,baz=6.0,slow=11,SNR=95						
ASPA	Alice Springs	19.27	180	*e*P	P	12 31 04.1	+1.3
CTA	Charters Tower	19.72	144	P	P	12 31 08.5	+0.7
	0.6nm,0.3s,baz=326,slow=12,SNR=6.8						
CTA				LR	LR	12 39 27.2	
	comp=Z,103nm,18.5s,baz=6.8,slow=39						
CTAO	Charters Tower	19.72	144	*e*P	P	12 31 07.5	-0.3
	4.1nm,0.6s						
MKAR	Makanchi Array	68.25	325	P	P	12 37 37.7	+0.1
	0.3nm,0.8s,mb3.4,baz=127,slow=7.2,SNR=2.8						
ILAR	Eielson Array	89.22	25	P	P	12 39 30.8	-0.7
	0.4nm,0.9s,mb3.7,baz=252,slow=2.9,SNR=4.1						

IDC 10 12:48:11.5±0.7,27.42N×103.72E,mb4.2/16,mb1 4.2/17, mb1mx4.2/23,ML3.7/1,MS3.5/5,Ms1 3.6/5,ms1mx3.2/20, Error ellipse: s-maj=25.5km s-min=15.0km az=58.0

BJI 10 12:48:12.7,27.22N×103.69E,h6^{km},mB4.9,mb4.8,ML4.5, Ms4.5,Msz4.1

NEIC 10 12:48:13.4±0.5,27.31N×103.57E,h10^{km},mb4.6/10,Error ellipse: s-maj=11.5km s-min=10.2km az=65.0

MOS 10 12:48:16.6±1.2,27.27N×103.63E,h53^{km},mb4.5/13,Error ellipse: s-maj=24.2km s-min=10.9km az=104.6

ISC 10 12:48:10.1±0.3,27.20N±0.03×103.49E±0.04,h6^{km},n69, $\sigma 1\overset{s}{.}18$/77,mb4.4/28,MS3.9/7,3C-2D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.17	198	*e*PG	Pg	12 48 53.3	-0.2
KMI				SG	Sg	12 49 22.3	-0.2
KMI				Smax			
	comp=N,1µm,1.0s						
KMI				Smax			
	comp=E,1µm,1.0s						
GYA	Guiyang	2.93	104	⇓*i*P	Pn	12 49 02.0	+3.9
GYA				PG	Pg	12 49 06.6	-2.0
GYA				S	Sn	12 49 36.7	+2.7
GYA				SG	Sg	12 49 41.5	-6.1
GYA				Smax			
	comp=N,2µm,0.8s						
GYA				Smax			
	comp=E,2µm,0.9s						
CD2	Chengdu	3.71	4	P	Pn	12 49 13.3	+4.1
CD2				PG	Pg	12 49 23.0	-1.2
CD2				SG	Sg	12 50 11.7	-1.9
CD2				Smax			
	comp=N,2µm,0.6s						
CD2				Smax			
	comp=E,3µm,0.6s						
CD2				LR	LR		
	comp=E,8µm,5.1s						
CD2				LR	LR		
	comp=Z,3µm,8.2s						
ENH	Enshi	6.09	58	*e*Pn	Pn	12 49 44.6	+1.7
	comp=Z,82nm,1.0s						
XAN	Xi’an	8.27	33	P	P	12 50 13.2	-0.3
XAN				S	Sn	12 51 39.4	-8.9
XAN				LG2		12 52 35.4	
XAN				Smax			
	comp=N,334nm,1.3s						
XAN				Smax			
	comp=E,326nm,1.5s						
XAN				LR	LR		
	comp=N,1µm,10.3s						
XAN				LR	LR		
	comp=E,2µm,10.8s						
XAN				LR	LR		
	comp=Z,1µm,12.1s						
CMAR	Chiang Mai Arr	9.65	207	Pn	P	12 50 37.7	+4.9
	comp=Z,0.2nm,0.3s,baz=15,slow=12,SNR=13						
CMAR				Lg		12 53 26.7	
	baz=31,slow=33,SNR=3.3						
CMAR				LR	LR	12 54 55.8	
	comp=Z,65nm,19.2s,baz=25,slow=41						
CMAR	Chiang Mai Arr	9.65	207	P	P	12 50 37.7	+4.9
CMAR				MLR	MLR		
	comp=Z,65nm,19.2s						
QIZ	Qiongzhong	10.01	143	*e*P	P	12 50 36.0	-1.6
QIZ				S	Sn	12 52 23.1	-8.3
QIZ				LR	LR		
	comp=N,1µm,12.2s						
QIZ				LR	LR		
	comp=E,2µm,11.6s						
QIZ				LR	LR		
	comp=Z,1µm,9.0s						
WHN	Wuhan	10.08	68	P	P	12 50 41.0	+2.4
WHN				LR	LR		
	comp=N,3µm,9.3s						
WHN				LR	LR		
	comp=E,2µm,10.8s						
WHN				LR	LR		
	comp=Z,2µm,13.4s						
TIY	Taiyuan	12.91	33	⇑P	P	12 51 16.0	-1.0
TIY				LR	LR		
	comp=N,1µm,9.0s						
TIY				LR	LR		
	comp=Z,625nm,10.0s						
BTO	Baotou	14.42	20	*e*P	P	12 51 35.4	-1.5
BTO				LR	LR		
	comp=N,2µm,11.3s						
BTO				LR	LR		
	comp=E,1µm,10.3s						
TIA	Tai’an	14.66	49	*e*P	P	12 51 40.2	+0.2
HHC	Hu-ho-hao-te	15.16	24	*e*P	P	12 51 46.6	+0.1
HHC				AP		12 51 50.0	
HHC				XP		12 51 52.5	
HHC				AMB	AMB		
	comp=Z,11nm,0.8s						
HHC				AMB	AMB		
	comp=Z,119nm,4.5s						
HHC				LR	LR		
	comp=N,394nm,10.9s						
HHC				LR	LR		
	comp=E,304nm,7.6s						
HHC				LR	LR		
	comp=Z,302nm,13.1s						
PKI	Pulchoki	16.07	275	*e*P	P	12 51 59.1	+0.7
	comp=Z,35nm,0.8s						
KKN	Kakani	16.18	276	*e*P	P	12 52 00.4	+0.7
	comp=Z,51nm,0.6s						
DMN	Daman	16.34	276	*e*P	P	12 52 01.6	-0.2
BJT	Baijiatuau	16.56	36	*e*P	P	12 52 04.7	+0.2
	comp=Z,20nm,0.7s						
BJI	Beijing	16.58	36	P	P	12 52 05.6	+0.8
BJI				S	S	12 55 01.2	-7.5
BJI				AMB	AMB		
	comp=Z,28nm,1.2s						
BJI				LR	LR		
	comp=N,511nm,8.7s						
BJI				LR	LR		
	comp=E,307nm,9.0s						
GKN	Gorkha	16.74	277	*e*P	P	12 52 04.5	-2.4
KOLN	Koldanda	17.66	276	*e*P	P	12 52 11.4	-7.1
	comp=E,36nm,1.1s						
SONM	Songino Array	20.73	6	P	P	12 52 53.8	-0.1
	comp=E,6.2nm,0.8s,baz=190,slow=12,SNR=38						
SNY	Shenyang	21.99	43	⇑P	P	12 53 09.4	+2.7
SNY				S	S	12 57 13.7	+9.0
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
SNY				LR	LR		
	comp=N,510nm,18.1s,MS4.1						

SNY				LR	LR		
	comp=E,430nm,19.6s,MS4.1						
SNY				LR	LR		
	comp=Z,300nm,14.9s,MS3.8						
JOW	**Kunigami**	**22.07**	**85**	P	**P**	**12 53 07.5**	**-0.1**
	comp=Z,19nm,0.8s,mb4.6,baz=76,slow=25,SNR=3.0						
ZAK	**Zakamensk**	**23.15**	**360**	⇓*i*P	**P**	**12 53 19.8**	**+1.7**
ZAK				*e*		12 53 37.5	
CN2	**Changchun**	**24.26**	**41**	*e*P	**P**	**12 53 30.6**	**+1.7**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
HIA	**Hailar**	**25.36**	**25**	*e*P	**P**	**12 53 40.1**	**+0.7**
	comp=Z,40nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**25.73**	**325**	P	**P**	**12 53 44.5**	**+1.6**
	comp=Z,4.6nm,0.8s,mb4.1,baz=129,slow=10,SNR=25						
MKAR	**Makanchi Array**	**25.73**	**325**	*i* P	**P**	**12 53 44.0**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**30.16**	**328**	*e*P	**P**	**12 54 22.9**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**35.61**	**325**	P	**P**	**12 55 10.1**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=117,slow=9.9,SNR=6.2						
BRVK	**Borovoye**	**35.68**	**325**	*e*P	**P**	**12 55 09.6**	**-1.4**
	comp=Z,5.4nm,1.0s,mb4.4						
YAK	**Yakutsk**	**38.95**	**19**	*e*P	**P**	**12 55 38.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
YAK	**Yakutsk**	**38.95**	**19**	*e*P	**P**	**12 55 38.1**	**-0.2**
	comp=Z,30nm,0.7s,mb5.1						
AB31	**Akbulak array**	**39.97**	**315**	*i* P	**P**	**12 55 49.2**	**+2.2**
ARU	**Arti**	**43.26**	**325**	*e*P	**P**	**12 56 15.4**	**+1.6**
ARU				*e*		12 57 52.5	
ARU				*e*		12 58 09.5	
ARU				*e*S	**S**	**13 02 28.1**	**-13**
ARU				*e*SS	SS	13 05 38.3	-8.9
ARU				*e*		13 06 08.4	
ARU	**Arti**	**43.26**	**325**	*e*P	**P**	**12 56 15.3**	**+1.5**
	comp=Z,5.2nm,0.5s,mb4.5						
TIXI	**Tiksi**	**46.68**	**11**	*e*P	**P**	**12 56 40.4**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,142nm,13.0s,MS4.1						
MALT	**Malatya**	**54.83**	**299**	P	**P**	**12 57 45.5**	**+2.2**
	comp=Z,2.2nm,0.5s,mb4.4						
OBN	**Obninsk**	**55.06**	**320**	*e*P	**P**	**12 57 49.6**	**+4.7**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
WRAB	**Tennant Creek**	**55.58**	**144**	*e*P	**P**	**12 57 47.7**	**-1.4**
	comp=Z,12nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**55.58**	**144**	P	**P**	**12 57 49.1**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3,baz=334,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**55.58**	**144**	P	**P**	**12 57 49.1**	**0.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**55.59**	**144**	*e*P	**P**	**12 57 48.8**	**-0.3**
BRTR	**Keskin Array B**	**58.27**	**302**	P	**P**	**12 58 07.9**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=72,slow=7.8,SNR=4.5						
BRTR				LR	LR	13 29 09.6	
	comp=Z,31nm,19.7s,MS3.4,baz=55,slow=42						
ASAR	**Alice Springs**	**58.48**	**147**	P	**P**	**12 58 09.9**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=333,slow=6.4,SNR=9.9						
AKASG	**Malin Array Be**	**59.71**	**315**	P	**P**	**12 58 17.5**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=70,slow=6.4,SNR=2.9						
AKASG	**Malin Array Be**	**59.71**	**315**	P	**P**	**12 58 17.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**60.09**	**337**	*e*p	**P**	**12 58 16.2**	**-4.0**
	comp=Z,4.2nm,0.7s,mb4.6						
KEV	**Kevo**	**60.09**	**337**	*e*P	**P**	**12 58 16.2**	**-4.0**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**60.53**	**327**	P	**P**	**12 58 23.2**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.4,baz=112,slow=10,SNR=7.0						
FINES				LR	LR	13 24 38.2	
	comp=Z,77nm,20.1s,MS3.8,baz=347,slow=36						
FINES	**FINESS Array B**	**60.53**	**327**	P	**P**	**12 58 23.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,77nm,20.1s						
ARCES	**ARCESS Array B**	**60.61**	**337**	P	**P**	**12 58 23.1**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.5,baz=83,slow=9.8,SNR=8.4						
ARCES	**ARCESS Array B**	**60.61**	**337**	P	**P**	**12 58 23.1**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**63.00**	**347**	P	**P**	**12 58 37.5**	**-2.1**
	comp=Z,3.5nm,1.0s,mb4.4,baz=200,slow=40,SNR=2.3						
HFS	**Hagfors**	**66.73**	**327**	P	**P**	**12 59 02.4**	**-1.5**
	comp=Z,2.0nm,0.5s,mb4.4,baz=135,slow=6.3,SNR=7.8						
HFS	**Hagfors**	**66.73**	**327**	P	**P**	**12 59 02.4**	**-1.5**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.67**	**328**	P	**P**	**12 59 09.7**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=76,slow=6.2						
NOA	**NORSAR Array B**	**67.67**	**328**	P	**P**	**12 59 09.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=75,slow=6.2,SNR=8.8						
NOA				LR	LR	13 28 40.0	
	comp=Z,59nm,18.6s,MS3.8,baz=50,slow=36						
NOA	**NORSAR Array B**	**67.67**	**328**	P	**P**	**12 59 09.4**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,59nm,18.6s						
KMBO	**Kilima Mbogo**	**69.52**	**258**	LR	LR	13 31 47.2	
	comp=Z,54nm,19.2s,MS3.8,baz=86,slow=38						
GERES	**GERESS Array B**	**69.91**	**315**	P	**P**	**12 59 25.0**	**+1.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=45,slow=3.8,SNR=7.7						
GERES	**GERESS Array B**	**69.91**	**315**	P	**P**	**12 59 25.0**	**+1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DAVOX	**Davos**	**73.04**	**314**	P	**P**	**12 59 43.9**	**+1.2**
	comp=Z,3.8nm,0.6s,mb4.5,baz=78,slow=4.0,SNR=9.0						
ILAR	**Eielson Array**	**73.59**	**25**	P	**P**	**12 59 44.6**	**-0.9**
	comp=Z,1.0nm,1.0s,mb3.7,baz=279,slow=5.9,SNR=5.7						
ILAR	**Eielson Array**	**73.59**	**25**	P	**P**	**12 59 44.6**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	**Inuvik**	**76.01**	**19**	*e*P	**P**	**12 59 59.4**	**-0.1**
	comp=Z,5.9nm,0.9s,mb4.5						
DAWY	**Dawson**	**76.72**	**24**	*e*P	**P**	**13 00 03.7**	**+0.3**
VNA2	**Neumayer--Watz**	**122.26**	**201**	⇑*i*	PKPdf	13 07 15.3	+7.3
SDV	**Santo Domingo**	**143.68**	**350**	*e*PKPdf	PKPdf	13 07 44.9	-4.5

IDC 10 12:49:00.0±2.0**,6.22S**×**129.71E,mb4.0**/1**,mb1 3.8**/4**, mb1mx3.6**/13**,ML3.2**/3**,Error ellipse: s-maj=84.6km s-min=27.1km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.47**	**198**	Pn	P	12 52 00.9	-0.8
	0.2nm,0.3s,baz=25,slow=12,SNR=20						
FITZ				Sn	S	12 54 05.6	-17
	0.2nm,0.3s,baz=234,slow=7.9,SNR=3.8						
WRA	**Warramunga Arr**	**14.37**	**162**	Pn	P	12 52 24.1	-2.9
	0.1nm,0.3s,baz=339,slow=12,SNR=3.0						
WRA				Sn	S	12 54 49.6	-19
	0.2nm,0.3s,baz=346,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**17.81**	**167**	P	P	12 53 08.6	-2.6
	0.2nm,0.3s,baz=344,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**67.42**	**327**	P	P	12 59 57.5	-2.1
	0.7nm,0.4s,baz=119,slow=7.9,SNR=10						

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*IDC **10** 12:54:20.0±3.5,24.31S×179.87E,h488^{km}±34^{km},mb3.2/8, mb1 3.5/8,mb1mx3.3/15,Error ellipse: s-maj=101.0km s-min=19.1km az=160.0*

*NEIC **10** 12:54:34.9±3.6,24.38S×179.38E,h678^{km}±49^{km},mb4.2/3, Error ellipse: s-maj=26.7km s-min=23.9km az=112.0*

ISC 10 12:54:35.4±0.8**,24.4S**±0.3×**179.3E**±0.1**,h700**^{km}**,n13, σ0^{s}29**/12**,mb3.7**/10**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.81**	**271**	P	**P**	**13 00 01.1**	**+0.2**
	4.3nm,0.4s,mb4.3,baz=92,slow=10,SNR=11						
CTAO	**Charters Tower**	**30.81**	**271**	*e*P	**P**	**13 00 00.3**	**-0.6**
	5.7nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**33.91**	**249**	P	**P**	**13 00 26.5**	**0.0**
	2.8nm,1.2s,mb3.7,baz=100,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**41.29**	**261**	P	**P**	**13 01 26.4**	**+0.3**
	0.6nm,0.5s,mb3.4,baz=92,slow=7.0,SNR=11						
WB2	**Warramunga Arr**	**41.69**	**267**	*e*P	**P**	**13 01 29.4**	**+0.1**
WRAB	**Tennant Creek**	**41.70**	**267**	*e*P	**P**	**13 01 28.9**	**-0.4**
	4.6nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**41.70**	**267**	P	**P**	**13 01 29.4**	**0.0**
	2.0nm,0.5s,mb3.9,baz=101,slow=8.2,SNR=37						
WRA				ScP		13 06 16.7	
	0.8nm,0.7s,baz=98,slow=3.8,SNR=7.3						
FITZ	**Fitzroy Crossi**	**50.12**	**266**	P	**P**	**13 02 33.1**	**+0.4**
	2.3nm,0.8s,mb3.7,baz=113,slow=9.6,SNR=7.4						
QSPA	**South Pole Qui**	**65.67**	**180**	*e*P	**P**	**13 04 15.2**	**-0.1**
	3.1nm,0.8s,mb3.6						
NVAR	**Mina Array Bea**	**85.58**	**44**	P	**P**	**13 06 03.7**	**-0.4**
	0.3nm,0.6s,mb3.0,baz=225,slow=8.9,SNR=3.7						
TXAR	**Lajitas Array**	**91.27**	**58**	P	**P**	**13 06 30.9**	**+0.2**
	0.4nm,0.3s,mb3.5,baz=211,slow=5.3,SNR=3.2						
PDAR	**Pinedale Array**	**93.52**	**44**	P	**P**	**13 06 41.1**	**+0.3**
	0.3nm,0.7s,mb3.2,baz=256,slow=3.7,SNR=3.2						
HFS	**Hagfors**	**142.91**	**348**	PKhKP	PKPdf	13 12 52.6	+1.2
	1.1nm,0.4s,baz=27,slow=3.2,SNR=11						

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*IDC **10** 12:54:59.0±1.6,27.16N×103.69E,mb3.2/3,mb1 3.4/3, mb1mx3.3/17,Error ellipse: s-maj=83.2km s-min=26.4km az=64.0*

*BJI **10** 12:55:01.7,27.14N×103.70E,h6^{km},ML3.6*

ISC 10 12:54:56.9±1.0**,27.20N**±0.06×**103.6E**±0.2**,h6**^{km}**,n5, σ1^{s}30**/8**,mb3.2**/2**,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.20**	**200**	*e*PG	**Pg**	**12 55 40.7**	**-0.1**
KMI				SG	**Sg**	**12 56 09.2**	**-0.9**
CD2	**Chengdu**	**3.70**	**3**	P	**Pn**	**12 56 00.3**	**+4.4**
CD2				PG	**Pg**	**12 56 09.8**	**-1.0**
CD2				SG	**Sg**	**12 56 58.2**	**-2.0**
CD2				Smax			
	comp=N,500nm,0.5s						
CD2				Smax			
	comp=E,450nm,0.7s						
SONM	**Songino Array**	**20.72**	**5**	P	**P**	**12 59 41.8**	**+1.2**
	comp=E,0.4nm,0.6s,baz=180,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**25.76**	**325**	P	**P**	**13 00 32.0**	**+2.0**
	comp=E,0.5nm,0.7s,mb3.2,baz=135,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**55.54**	**144**	P	**P**	**13 04 35.6**	**0.0**
	comp=E,0.1nm,0.4s,mb3.2,baz=334,slow=8.2,SNR=3.1						

IDC 10 13:01:11.7±3.9**,30.09S**×**178.32W,mb3.9**/4**,mb1 4.0**/4**, mb1mx3.8**/14**,Error ellipse: s-maj=135.0km s-min=64.8km az=164.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.47**	**279**	P	P	13 07 53.6	-1.2
	1.8nm,0.6s,baz=135,slow=8.6,SNR=4.2						
STKA	**Stephens Creek**	**34.28**	**257**	P	P	13 08 00.4	-1.3
	3.8nm,1.1s,baz=95,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**42.85**	**267**	P	P	13 09 10.8	-2.6
	0.3nm,0.4s,baz=104,slow=6.8,SNR=6.7						
WRA	**Warramunga Arr**	**43.80**	**272**	P	P	13 09 19.0	-2.2
	0.8nm,0.6s,baz=110,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**144.76**	**340**	PKP	PKPdf	13 20 49.5	-2.1
	0.9nm,0.4s,baz=56,slow=5.0,SNR=7.2						

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*IDC **10** 13:27:32.4±0.8,27.41N×103.89E,mb3.9/12,mb1 4.0/13, mb1mx4.0/19,Error ellipse: s-maj=26.4km s-min=15.5km az=71.0*

*BJI **10** 13:27:33.9,27.30N×103.67E,h10^{km},mB4.8,mb4.6, ML4.3,Ms4.5,Msz4.2*

*NEIC **10** 13:27:34.2±0.5,27.34N×103.64E,h10^{km},mb4.4/9,Error ellipse: s-maj=14.0km s-min=11.7km az=89.0*

ISC 10 13:27:31.3±0.3**,27.17N**±0.04×**103.49E**±0.04**,h10**^{km}**,n42, σ1^{s}11**/51**,mb4.1**/20**,MS3.9**/1**,1C-1D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.15**	**198**	*e*PG	**Pg**	**13 28 13.9**	**-0.3**
KMI				SG	**Sg**	**13 28 42.6**	**-0.2**
KMI				Smax			
	comp=N,798nm,1.0s						
KMI				Smax			
	comp=E,1µm,1.1s						
GYA	**Guiyang**	**2.92**	**103**	⇓*i*P	**Pn**	**13 28 22.4**	**+3.6**
GYA				PG	**Pg**	**13 28 26.5**	**-3.2**
GYA				S	**Sn**	**13 28 55.4**	**+1.0**
GYA				SG	**Sg**	**13 29 00.8**	**-7.9**
GYA				Smax			
	comp=N,2µm,0.7s						
GYA				Smax			
	comp=E,960nm,0.8s						
CD2	**Chengdu**	**3.73**	**4**	P	**Pn**	**13 28 33.6**	**+3.3**
CD2				PG	**Pg**	**13 28 43.1**	**-2.8**
CD2				S	**Sn**	**13 29 18.5**	**+3.6**
CD2				SG	**Sg**	**13 29 31.2**	**-4.5**
CD2				Smax			
	comp=N,2µm,0.7s						
CD2				Smax			
	comp=E,2µm,0.6s						
CD2				LR	LR		
	comp=E,2µm,5.4s						
CD2				LR	LR		
	comp=Z,2µm,8.2s						
ENH	**Enshi**	**6.11**	**58**	*e*Pn	**Pn**	**13 29 04.5**	**+0.6**
	comp=Z,123nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.63**	**207**	Pn	**P**	**13 29 59.0**	**+5.9**
	baz=17,slow=14,SNR=11						
CMAR				Lg		13 32 50.2	
	comp=Z,0.2nm,0.3s,baz=15,slow=30,SNR=4.8						
WHN	**Wuhan**	**10.10**	**68**	*e*P	**P**	**13 30 00.7**	**+1.2**
WHN				S	**S**	**13 31 43.4**	**-11**
WHN				LR	LR		
	comp=N,2µm,10.6s						
WHN				LR	LR		
	comp=E,2µm,7.8s						
WHN				LR	LR		
	comp=Z,1µm,12.3s						
TIY	**Taiyuan**	**12.94**	**33**	*e*P	**P**	**13 30 36.0**	**-2.0**
TIY				LR	LR		
	comp=N,575nm,10.0s						
TIA	**Tai'an**	**14.68**	**49**	*e*P	**P**	**13 31 00.8**	**-0.2**
PKI	**Pulchoki**	**16.07**	**276**	*e*P	**P**	**13 31 19.3**	**+0.3**
	comp=N,19nm,0.7s						
KKN	**Kakani**	**16.18**	**276**	*e*P	**P**	**13 31 20.6**	**+0.2**
	comp=N,44nm,0.8s						
DMN	**Daman**	**16.34**	**276**	*e*P	**P**	**13 31 22.3**	**-0.1**
	comp=N,26nm,0.7s						
BJT	**Baijiatuau**	**16.58**	**36**	*e*P	**P**	**13 31 25.6**	**+0.1**
	comp=N,20nm,0.8s						
BJI	**Beijing**	**16.60**	**36**	P	**P**	**13 31 26.4**	**+0.7**
BJI				AMB	AMB		
	comp=Z,23nm,1.1s						
BJI				LR	LR		
	comp=N,327nm,10.8s						
BJI				LR	LR		
	comp=E,213nm,10.0s						
GKN	**Gorkha**	**16.74**	**277**	*e*P	**P**	**13 31 27.0**	**-0.5**
	comp=E,14nm,0.4s						
SONM	**Songino Array**	**20.75**	**6**	P	**P**	**13 32 13.6**	**-1.1**
	comp=E,2.0nm,0.4s,baz=187,slow=11,SNR=17						
WMQ	**Urumqi**	**20.95**	**327**	*e*P	**P**	**13 32 17.5**	**+0.8**
SNY	**Shenyang**	**22.01**	**43**	⇑P	**P**	**13 32 29.6**	**+2.1**
SNY				S	**S**	**13 36 29.6**	**+4.3**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
SNY				AMB	AMB		
	comp=Z,90nm,5.1s						
SNY				LR	LR		
	comp=N,290nm,14.7s,MS3.9						
SNY				LR	LR		
	comp=E,210nm,13.1s,MS3.9						
DDI	**Dehra Dun**	**22.51**	**284**	*e*	**P**	**13 32 34.5**	**+2.0**
CN2	**Changchun**	**24.28**	**41**	*e*P	**P**	**13 32 50.7**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
HIA	**Hailar**	**25.39**	**25**	*e*P	**P**	**13 33 01.0**	**+0.8**
	comp=Z,20nm,0.7s,mb4.8						
MKAR	**Makanchi Array**	**25.75**	**325**	P	**P**	**13 33 05.1**	**+1.5**
	comp=Z,2.0nm,0.6s,mb3.9,baz=124,slow=11,SNR=11						
KURK	**Kurchatov**	**30.18**	**328**	*e*P	**P**	**13 33 43.2**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**35.63**	**326**	P	**P**	**13 34 31.7**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=210,slow=36,SNR=2.4						
ZRNK	**Zerenda**	**36.30**	**325**	P	**P**	**13 34 36.9**	**+0.1**
	comp=Z,0.9nm,0.3s,mb4.2						
ARU	**Arti**	**43.27**	**325**	P	**P**	**13 35 33.4**	**-1.1**
WRAB	**Tennant Creek**	**55.56**	**144**	*e*P	**P**	**13 37 08.5**	**-0.9**
	comp=Z,10.0nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**55.56**	**144**	P	**P**	**13 37 09.4**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=333,slow=8.4,SNR=11						
WB2	**Warramunga Arr**	**55.56**	**144**	*e*P	**P**	**13 37 09.7**	**+0.2**
BRTR	**Keskin Array B**	**58.28**	**302**	P	**P**	**13 37 28.8**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=95,slow=4.5,SNR=2.5						
ASAR	**Alice Springs**	**58.45**	**147**	P	**P**	**13 37 30.3**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=325,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**60.55**	**327**	P	**P**	**13 37 44.4**	**+0.4**
	comp=Z,1.1nm,0.8s,mb4.1,baz=183,slow=38,SNR=4.5						
ARCES	**ARCESS Array B**	**60.63**	**337**	P	**P**	**13 37 44.2**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.4,baz=88,slow=6.8,SNR=8.7						
ARCES	**ARCESS Array B**	**60.63**	**337**	P	**P**	**13 37 44.2**	**-0.2**
NB2	**NORSAR Subarra**	**67.69**	**328**	P	**P**	**13 38 29.8**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=73,slow=6.5						
NOA	**NORSAR Array B**	**67.69**	**328**	P	**P**	**13 38 29.6**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=74,slow=6.4,SNR=6.2						
KMBO	**Kilima Mbogo**	**69.51**	**258**	P	**P**	**13 38 47.1**	**+4.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=79,slow=5.2,SNR=4.0						
GERES	**GERESS Array B**	**69.93**	**315**	P	**P**	**13 38 47.5**	**+2.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=76,slow=5.5,SNR=3.5						
COLA	**College**	**73.20**	**25**	P	**P**	**13 39 02.2**	**-1.6**
	comp=Z,3.5nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**73.61**	**25**	P	**P**	**13 39 05.2**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=287,slow=4.6,SNR=4.9						
PMR	**Palmer**	**74.24**	**28**	*e*P	**P**	**13 39 09.3**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.4						
INK	**Inuvik**	**76.04**	**19**	*e*P	**P**	**13 39 19.3**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.2						
DAWY	**Dawson**	**76.74**	**24**	*e*P	**P**	**13 39 23.4**	**-0.7**

IDC 10 13:47:47.5±2.0**,1.91N**×**126.93E,mb3.7**/3**,mb1 3.9**/3**, mb1mx3.6**/15**,Error ellipse: s-maj=153.0km s-min=24.4km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.90**	**162**	P	P	13 52 52.4	-1.9
	1.2nm,0.5s,baz=339,slow=11,SNR=13						
WB2	**Warramunga Arr**	**22.90**	**162**	*e*P	P	13 52 53.8	-0.5
ASAR	**Alice Springs**	**26.31**	**165**	P	P	13 53 25.7	-1.1
	0.6nm,0.7s,baz=355,slow=16,SNR=12						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	13 57 50.1	-2.4
	0.6nm,0.5s,baz=119,slow=8.1,SNR=7.9						

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*NIED **10** 13:49:00,41.70N×139.40E,h11^{km},Mw4.2 Best double couple: $M_0$2.19×10^{15} NP1:ϕ_s41°,δ60°,λ139°. NP2:ϕ_s154°, δ55°,λ37°.*

*IDC **10** 13:49:20.8±0.6,41.74N×139.27E,mb4.2/18,mb1 4.4/18, mb1mx4.3/24,ML3.0/1,MS3.3/4,Ms1 3.3/4,ms1mx2.8/30, Error ellipse: s-maj=17.5km s-min=16.0km az=155.0*

*JMA **10** 13:49:23.0,41.72N×139.35E,h23^{km}±1^{km},M4.5*

JMA Felt II J1.

*BJI **10** 13:49:24.0,41.79N×139.17E,h26^{km},mB4.7,mb4.3, Ms4.3*

*MOS **10** 13:49:26.3±1.1,41.60N×139.40E,h57^{km},mb4.6/11,Error ellipse: s-maj=22.9km s-min=10.6km az=91.0*

*NEIC **10** 13:49:27.5±0.9,41.73N×139.26E,h49^{km}±9^{km},mb4.7/10, MW4.2(NIED),Error ellipse: s-maj=9.5km s-min=8.4km az=101.0*

NEIC Recorded [2 JMA] in southwestern Hokkaido and [1 JMA] in Aomori Prefecture, Honshu.

ISC 10 13:49:22.7±0.6**,41.72N**±0.03×**139.35E**±0.04**,h25**^{km}±4^{km}**, n85,**σ**0^{s}99**/85**,mb4.3**/29**,MS3.8**/4**,12C-4D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.38**	**14**	⇑P	**Pb**	**13 49 30.8**	**-0.1**
JOSM				*e*S	**Sb**	**13 49 36.2**	**-0.2**
JSR	**Shiriuchi**	**0.82**	**103**	⇓P	**Pb**	**13 49 38.4**	**+0.2**
JSR				*e*S	**Sb**	**13 49 49.2**	**+0.3**
JYM2	**Yakumo 2**	**0.86**	**62**	⇑P	**Pb**	**13 49 38.9**	**0.0**
JYM2				*e*S	**Sb**	**13 49 50.1**	**+0.1**
JSI2	**Shiura 2**	**1.03**	**129**	⇓P	**Pn**	**13 49 41.6**	**-0.2**
JSH	**Shimam**	**1.06**	**29**	⇑P	**Pn**	**13 49 41.7**	**-0.4**
JIW	**Iwasaki**	**1.23**	**156**	P	**Pn**	**13 49 44.3**	**-0.3**
JKB	**Kayabe**	**1.27**	**82**	⇑P	**Pn**	**13 49 45.2**	**+0.1**
JKB				*e*S	**Sn**	**13 50 01.1**	**-0.4**
JOT	**Ohata**	**1.32**	**104**	⇓P	**Pn**	**13 49 45.5**	**-0.3**
JNB	**Noboribetsu**	**1.46**	**59**	⇑P	**Pn**	**13 49 47.7**	**-0.2**
JNB				*e*S	**Sn**	**13 50 06.1**	**-0.3**
ASAJ	**Asahikawa**	**3.38**	**44**	Pn	**Pn**	**13 50 17.4**	**+2.1**
	1.1nm,0.3s,baz=277,slow=7.1,SNR=6.6						
ASAJ				Sn	**Sn**	**13 50 59.0**	**+3.9**
	4.3nm,0.3s,baz=255,slow=7.2,SNR=5.6						
ASAJ				LR	LR	13 51 26.1	
	comp=Z,219nm,19.7s,baz=337,slow=37						
ASAJ	**Asahikawa**	**3.38**	**44**	P	**Pn**	**13 50 17.4**	**+2.1**
ASAJ						13 50 59.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,219nm,19.7s						
MAJO	**Matsushiro**	**5.24**	**190**	*e*Pn	**Pn**	**13 50 43.1**	**+1.5**
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**5.24**	**190**	P	**Pn**	**13 50 41.4**	**-0.3**
MAT				*e*S	**Sn**	**13 51 41.9**	**-0.2**
MAT	**Matsushiro**	**5.24**	**190**	*e*P	**Pn**	**13 50 42.0**	**+0.3**
	comp=Z,5.6nm,0.5s						
MAT				S	**Sn**	**13 51 42.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.78**	**24**	*e*P	**Pn**	**13 50 54.0**	**+4.8**
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=N,1µm,11.0s						
YSS				MLR	MLR		
	comp=E,500nm,12.0s						
YSS	**Yuzh-Sakhalins**	**5.78**	**24**	*e*P	**Pn**	**13 50 52.6**	**+3.5**
	comp=E,14nm,0.8s						
MDJ	**Mudanjiang**	**7.70**	**295**	P	**Pn**	**13 51 15.0**	**-1.2**
	comp=E,6.4nm,0.9s						
KLR	**Kul'dur**	**9.21**	**327**	*e*P	**P**	**13 51 41.0**	**+3.8**
KLR				MLR	MLR		
	comp=E,800nm,14.0s						
KLR				MLR	MLR		
	comp=Z,500nm,12.0s						
KS15	**Wonju Array Si**	**9.83**	**248**	*e*P	**P**	**13 51 47.3**	**+1.7**
KS15				*e*S	**Sn**	**13 53 37.5**	**+1.3**
JNU	**Nakatsue**	**10.90**	**221**	LR	LR	13 55 43.0	
	comp=Z,119nm,20.8s,baz=217,slow=35						
SSE	**Sheshan**	**18.02**	**240**	⇓P	**P**	**13 53 31.8**	**-1.5**
SSE				AP		13 53 44.0	
SSE				S	**S**	**13 56 46.8**	**-3.9**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s						
SSE				AMB	AMB		
	comp=Z,99nm,4.1s						
NJ2	**Nanjing**	**18.98**	**246**	*e*P	**P**	**13 53 43.0**	**-1.9**
NJ2				AP		13 53 52.6	
NJ2				XP		13 53 58.8	
NJ2				PP	PP	13 54 00.0	-1.5
NJ2				S	**S**	**13 57 08.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,460nm,3.5s						
NJ2				LR	LR		
	comp=N,370nm,13.0s						
NJ2				LR	LR		
	comp=E,460nm,11.0s						
HHC	**Hu-ho-hao-te**	**20.87**	**277**	*e*P	**P**	**13 54 07.8**	**+2.5**
HHC				AP		13 54 14.8	
HHC				XP		13 54 18.8	
HHC				AMB	AMB		
	comp=Z,13nm,0.4s						
HHC				AMB	AMB		
	comp=Z,103nm,4.9s						
YAK	**Yakutsk**	**21.16**	**347**	*e*P	**P**	**13 54 11.4**	**+3.3**
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6						
YAK	**Yakutsk**	**21.16**	**347**	*e*P	**P**	**13 54 04.8**	**-3.2**
	comp=Z,58nm,0.9s,mb4.9						
YAK				*e*		13 54 11.6	
SONM	**Songino Array**	**24.06**	**296**	P	**P**	**13 54 37.6**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.1,baz=106,slow=9.0,SNR=3.5						
SONM				PcP	PcP	13 58 19.5	0.0
	comp=Z,0.2nm,0.5s,baz=86,slow=2.4,SNR=3.8						

MKAR	Makanchi Array	40.41	297	P	P	13 56 58.3	-2.0
	comp=Z,0.7nm,1.1s,mb3.3,baz=67,slow=9.2,SNR=4.0						
MKAR				PcP	PcP	13 59 03.9	+0.1
	comp=Z,1.1nm,1.1s,baz=72,slow=4.6,SNR=3.4						
MKAR	Makanchi Array	40.41	297	P	P	13 56 58.3	-2.1
MKAR						13 59 03.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	Kurchatov	41.89	304	eP	P	13 57 11.1	-1.2
	comp=Z,2.3nm,0.7s,mb3.9						
IMA	Indian Mountai	43.55	33	eP	P	13 57 25.9	+0.2
	comp=Z,30nm,0.9s,mb5.0						
SPU	Mount Spurr	44.58	40	eP	P	13 57 31.0	-3.0
COLA	College	46.05	35	eP	P	13 57 40.6	-5.1
	comp=Z,13nm,1.1s,mb4.8						
COLA				e		13 57 45.6	
BVAR	Borovoye Array	46.32	309	P	P	13 57 47.8	-0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=76,slow=6.8,SNR=5.1						
BVAR				PcP	PcP	13 59 23.9	+0.4
	comp=Z,1.8nm,0.6s,baz=90,slow=3.0,SNR=8.1						
ILAR	Eielson Array	46.47	35	P	P	13 57 48.8	-0.3
	comp=Z,5.4nm,0.9s,mb4.5,baz=280,slow=6.1,SNR=54						
ILAR	Eielson Array	46.47	35	P	P	13 57 48.8	-0.3
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZRNK	Zerenda	47.14	309	eP	P	13 57 54.2	-0.3
	comp=Z,3.4nm,0.6s,mb4.5						
DAWY	Dawson	49.80	35	P	P	13 58 15.0	+0.1
INK	Inuvik	50.99	29	⇑eP	P	13 58 24.0	0.0
	comp=Z,16nm,0.5s,mb5.2						
ARU	Arti	51.84	316	⇑iP	P	13 58 30.8	+0.2
ARU				e		13 59 41.8	
ARU				e		14 00 28.2	
ARU				eS	S	14 05 52.2	+2.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARU				MLR	MLR		
	comp=N,30nm,15.0s,MS3.8						
ARU				MLR	MLR		
	comp=Z,60nm,15.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,70nm,16.0s,MS3.8						
ARU	Arti	51.84	316	eP	P	13 58 30.6	0.0
	comp=E,8.0nm,0.8s,mb4.7						
ARCES	ARCESS Array B	59.06	338	P	P	13 59 21.8	-0.8
	comp=E,1.0nm,0.6s,mb4.0,baz=45,slow=6.9,SNR=6.8						
ARCES	ARCESS Array B	59.06	338	P	P	13 59 21.8	-0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	60.59	31	P	P	13 59 32.9	-0.2
	comp=Z,1.2nm,0.6s,mb4.2,baz=302,slow=6.6,SNR=5.9						
YKA				PcP	PcP	14 00 17.1	-0.1
	comp=Z,0.8nm,0.6s,baz=308,slow=3.7,SNR=4.7						
YKA	Yellowknife Ar	60.59	31	P	P	13 59 32.9	-0.2
YKA						14 00 17.1	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	60.59	31	P	P	13 59 32.9	-0.2
YKA				PcP	PcP	14 00 17.1	0.0
WRA	Warramunga Arr	61.52	185	P	P	13 59 39.0	-1.1
	comp=Z,1.3nm,0.7s,mb4.2,baz=1.6,slow=7.3,SNR=14						
WRA	Warramunga Arr	61.52	185	P	P	13 59 39.0	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	Obninsk	63.42	321	eP	P	13 59 52.2	0.0
OBN				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
KAF	Kangasniemi	63.43	331	ep	P	13 59 51.0	-1.2
	comp=Z,3.4nm,0.5s,mb4.7						
KAF	Kangasniemi	63.43	331	eP	P	13 59 51.0	-1.2
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
FINES	FINESS Array B	63.94	331	P	P	13 59 55.1	-0.3
	comp=Z,5.9nm,0.6s,mb4.8,baz=56,slow=6.9,SNR=26						
FINES				LR	LR	14 29 00.6	
	comp=Z,39nm,18.4s,MS3.6,baz=151,slow=37						
FINES	FINESS Array B	63.94	331	P	P	13 59 55.1	-0.3
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,39nm,18.4s						
ASAR	Alice Springs	65.25	186	P	P	14 00 04.7	+0.1
	comp=Z,1.4nm,0.8s,mb4.0,baz=3.2,slow=5.1,SNR=6.9						
NB2	NORSAR Subarra	69.26	336	P	P	14 00 29.1	-0.1
	comp=Z,12nm,1.1s,mb4.7,baz=37,slow=6.2						
NOA	NORSAR Array B	69.26	336	P	P	14 00 29.1	-0.1
	comp=Z,4.4nm,0.7s,mb4.5,baz=39,slow=6.2,SNR=20						
NOA				LR	LR	14 35 24.8	
	comp=Z,32nm,19.3s,MS3.6,baz=65,slow=40						
NOA	NORSAR Array B	69.26	336	P	P	14 00 29.1	-0.1
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,32nm,19.3s						
AKASG	Malin Array Be	69.65	320	P	P	14 00 31.5	-0.2
	comp=Z,4.6nm,0.9s,mb4.4,baz=46,slow=4.4,SNR=6.1						
AKASG	Malin Array Be	69.65	320	P	P	14 00 31.5	-0.2
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOZ	Bozeman (W)	72.46	44	eP	P	14 00 47.0	-1.8
	comp=Z,2.9nm,0.8s,mb4.3						
FRB	Frobisher Bay	72.57	13	P	P	14 00 48.9	-0.1
	comp=Z,8.4nm,0.8s,mb4.7,baz=341,slow=5.7,SNR=2.9						
FRB	Frobisher Bay	72.57	13	P	P	14 00 48.9	-0.1
FRB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVAR	Mina Array Bea	73.46	53	P	P	14 00 55.9	+1.1
	comp=Z,1.8nm,1.0s,mb4.0,baz=311,slow=4.0,SNR=9.6						
OJC	Ojcow	74.28	325	eP	P	14 01 00.4	+1.2
BRTR	Keskin Array B	74.59	310	P	P	14 01 01.9	+0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=84,slow=4.0,SNR=4.1						
BRTR	Keskin Array B	74.59	310	P	P	14 01 01.9	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	Pinedale Array	75.52	45	P	P	14 01 06.9	+0.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=304,slow=1.7,SNR=17						
CLL	Collm	76.26	329	P	P	14 01 11.0	+0.5
ULM	Lac du Bonnet	76.46	33	P	P	14 01 11.3	-0.4
	comp=Z,4.8nm,0.9s,mb4.4,baz=269,slow=3.1,SNR=3.7						
ULM	Lac du Bonnet	76.46	33	P	P	14 01 11.3	-0.4
GERES	GERESS Array B	77.91	327	P	P	14 01 20.1	+0.4
	comp=Z,0.7nm,0.7s,mb3.7,baz=333,slow=3.0,SNR=3.6						
GERES	GERESS Array B	77.91	327	P	P	14 01 20.1	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAVOX	Davos	81.11	328	P	P	14 01 37.9	+0.9
	comp=Z,1.2nm,0.3s,mb4.3,baz=352,slow=6.7,SNR=3.3						
GDL2	Guadalupe Moun	85.96	50	eP	P	14 02 03.1	+1.1
GDL2				e	pP	14 02 10.9	+1.0
TXAR	Lajitas Array	88.48	51	P	P	14 02 14.7	+0.4
	comp=Z,0.7nm,0.3s,mb4.4,baz=333,slow=6.0,SNR=3.3						
LPAZ	La Paz	145.35	51	PKPbc	PKPbc	14 09 01.0	+1.8
	comp=Z,0.7nm,0.5s,baz=351,slow=5.8,SNR=5.8						
LPAZ	La Paz	145.35	51	PKIKP	PKPdf	14 09 01.0	-2.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	145.35	51	PKPbc	PKPbc	14 09 01.0	+1.8
VNA2	Neumayer--Watz	146.30	199	⇑i	PKPbc	14 09 05.7	+5.8
VNA2	Neumayer--Watz	146.30	199	⇑i	PKPbc	14 09 13.3	+13
VNA2	Neumayer--Watz	146.30	199	⇑i	PKPbc	14 09 25.8	+26
VNA1	Neumayer--Stat	146.70	199	⇑i	PKPbc	14 09 06.7	+5.8
VNA1	Neumayer--Stat	146.70	199	⇑i	PKPbc	14 09 14.6	+14
LVC	Limon Verde	149.63	60	ePKPbc	PKPdf	14 09 13.5	+3.3
PLCA	Paso Flores	157.54	98	PKPab	PKPab	14 09 51.9	+1.4
	comp=Z,0.8nm,0.5s,baz=348,slow=6.6,SNR=2.9						
PLCA	Paso Flores	157.54	98	PKP2	PKPab	14 09 51.9	+1.4
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NAO **10** 13:49:34.8±5.7, 67.58N×20.59E, ML2.2*

*HEL **10** 13:49:35.7±0.2, 67.86N×20.07E, ML1.7, ML1.9(UPP), ML1.6(BER), Explosion*

*BER **10** 13:49:37.5±2.1, 67.75N×20.26E, ML1.6, ML2.2(NAO), Suspected explosion*

ISC 10 13:49:34.6±0.6, 67.83N±0.03×20.11E±0.08, n14, σ0^{s}89/22, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.15	36	iP	Pg	13 49 37.5	-0.1
KUA				iS	Sg	13 49 39.5	-0.1
NIKU	Nikkaluokta	0.41	275	iP	Pg	13 49 42.6	-0.2
DUNU	Dundret	0.74	166	iP	Pg	13 49 49.5	+0.1
DUNU				iS	Sg	13 49 58.9	-0.3
KIF	Kilpisjarvi	1.20	12	eP	Pb	13 49 58.6	+0.6
KIF				eS	Sb	13 50 12.7	-1.3
PAJU	Pajala	1.42	124	eS	Sb	13 50 19.0	-1.2
KTK1	Kautokeino	1.66	43	eP	Pn	13 50 05.9	+0.8
KTK1				eSN	Sn	13 50 29.1	+1.7
KTK1				AML	AML	13 50 31.0	
	comp=Z,5.9nm,0.4s						
SGF	Sodankyl	2.49	96	eP	Pn	13 50 18.5	+1.5
SGF				eS	Sn	13 50 47.9	-0.6
SGF				eSB	Sb	13 50 51.5	+0.3
SGF				MSG		13 50 54.8	
	comp=Z,2.5nm,0.3s						
LOF	Lofoten	2.49	280	e	Sg	13 50 57.4	-0.2
LOF				AML	AML	13 50 59.2	
	comp=Z,5.7nm,0.4s						
LOF	Lofoten	2.49	280	eSg	Sg	13 50 57.4	-0.2
LOF				AML	AML	13 50 59.2	
	comp=Z,5.7nm,0.4s						
ARA0	ARCESS Array S	2.61	47	Pn	Pn	13 50 18.9	+0.1
	baz=231,slow=14						
ARA0				Sn	Sn	13 50 51.8	+0.1
	baz=223,slow=28						
ARA0	ARCESS Array S	2.61	47	eP	Pn	13 50 18.9	+0.1
ARA0				eS	Sn	13 50 51.8	+0.1
MOR8	Moi Rana	2.78	236	eSG	Sg	13 50 59.2	-8.0
MOR8				AML	AML	13 51 01.4	
	comp=Z,10nm,0.3s						
KEV	Kevo	3.16	49	eS	Sn	13 51 03.0	-2.6
OUL	Oulu	3.61	137	eS	Sn	13 51 17.4	+0.5

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*IDC **10** 14:03:52.3±9.4, 35.66N×72.70E, mb3.7/3, mb1 3.7/5, mb1mx3.5/20, ML4.0/1, Error ellipse: s-maj=161.0km s-min=49.3km az=149.0*

*NNC **10** 14:04:26.2±8.2, 38.24N×70.56E, mpv3.9, Error ellipse: s-maj=89.4km s-min=57.2km az=102.0*

ISC 10 14:04:19.2±1.3, 37.71N±0.06×72.2E±0.2, h112^{km}±20^{km}, n16, σ1^{s}09/19, mb3.6/3, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	4.56	14	P	P	14 05 27.8	+0.5
	SNR=34						
UCH	Uchtor	4.85	21	P	P	14 05 31.7	+0.5
	SNR=13						
KZA	Kyzart	4.95	27	P	P	14 05 33.2	+0.6
	SNR=7.5						
EKS2	Erkin-Say	5.09	13	P	S	14 06 31.0	-1.5
	SNR=5.5						
AAK	Ala-Archa	5.22	19	P	P	14 05 36.9	+0.7
	SNR=5.4						
KK31	Karatay Array	5.54	347	⇑P	P	14 05 40.4	-0.2
	6.5nm,0.3s,baz=162,slow=12,SNR=118						
KK31				⇑S	S	14 06 38.9	-4.7
	21nm,0.5s,baz=152,slow=21,SNR=19						
CHMS	Chumysh	5.63	19	P	P	14 05 42.0	+0.2
	SNR=8.7						
THN	Thein Dam	6.00	150	eP	P	14 05 48.8	+2.0
	117nm,0.2s						
THN				eS	S	14 06 53.7	-1.0
DLH	Dalhousie	6.00	148	e	S	14 06 49.0	-5.9
SDNR	Sundarnagar	7.33	146	e	P	14 06 04.2	-0.9
MKAR	Makanchi Array	11.74	36	Pn	P	14 07 03.2	-0.9
	baz=225,slow=12,SNR=3.2						
AB31	Akbulak array	14.55	326	⇑P	P	14 07 38.3	-2.2
	1.1nm,0.6s,baz=128,slow=13,SNR=29						
AB31				⇑S	S	14 10 06.1	-13
	2.3nm,0.6s,baz=139,slow=23,SNR=10						
BVAR	Borovoye Array	15.37	356	Pn	P	14 07 53.5	+2.6
	0.5nm,0.3s,baz=159,slow=12,SNR=11						
FINES	FINESS Array B	37.04	325	P	P	14 11 19.7	+0.3
	1.0nm,0.8s,mb3.8,baz=153,slow=17,SNR=3.1						
ARCES	ARCESS Array B	40.41	337	P	P	14 11 47.4	+0.2
	0.5nm,0.5s,mb3.6,baz=111,slow=7.7,SNR=5.3						
NOA	NORSAR Array B	44.01	322	P	P	14 12 16.7	+0.1
	0.4nm,0.4s,mb3.5,baz=102,slow=7.3,SNR=3.4						

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*NEIC **10** 14:11:04.7, 37.66S×176.34E, h195^{km}, After WEL.*

WEL 10 14:11:04.1±0.4, 37.45S×176.17E, h176^{km}±7^{km}, ML3.9/3, 1C, Error ellipse: s-maj=8.0km s-min=6.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	Matawai	1.39	130	PN	P	14 11 34.8	-0.3
MWZ				SN	S	14 11 58.1	-0.9
MWZ	Matawai	1.39	130	P	P	14 11 35.1	+0.1
MWZ				S	S	14 11 59.0	0.0
MXZ	Matakaoa Point	1.71	95	ePN	P	14 11 37.6	-0.5
MXZ				SN	S	14 12 05.1	+0.8
MXZ	Matakaoa Point	1.71	95	P	P	14 11 38.1	0.0
MXZ				S	S	14 12 04.6	+0.3
BKZ	Black Stump Fm	1.74	172	PN	P	14 11 38.4	0.0
BKZ	Black Stump Fm	1.74	172	P	P	14 11 38.4	0.0
PUZ	Puketiti	1.77	111	PN	P	14 11 38.2	-0.5
PUZ				SN	S	14 12 04.6	-0.9
PUZ	Puketiti	1.77	111	eP	P	14 11 38.3	-0.5
KNZ	Kokohu	1.97	143	⇑PN	P	14 11 40.5	-0.4
KNZ				SN	S	14 12 07.3	-1.9
KNZ	Kokohu	1.97	143	P	P	14 11 40.5	-0.3
MOVZ	Moawhango	1.98	189	PN	P	14 11 40.9	-0.1
WAZ	Wanganui	2.48	202	ePN	P	14 11 46.8	0.0
WAZ	Wanganui	2.48	202	eP	P	14 11 47.8	+0.9
TSZ	Takapari Road	2.61	183	PN	P	14 11 47.0	-1.4
TSZ				SN	S	14 12 19.7	-2.9
TSZ	Takapari Road	2.61	183	P	P	14 11 47.1	-1.3
PWZ	Pawanui	2.63	168	PN	P	14 11 47.1	-1.6
PWZ				SN	S	14 12 18.4	-4.6
PWZ	Pawanui	2.63	168	P	P	14 11 47.2	-1.5
PWZ				S	S	14 12 18.5	-4.5
MRZ	Mangatainoka R	3.24	188	PN	P	14 11 53.3	-2.8
MRZ				SN	S	14 12 31.7	-4.5
MRZ	Mangatainoka R	3.24	188	P	P	14 11 53.5	-2.7
MRZ				S	S	14 12 32.3	-4.0
KIW	Kapiti Island	3.55	196	ePN	P	14 11 56.7	-3.3
KIW	Kapiti Island	3.55	196	P	P	14 11 56.9	-3.1
MTW	Mount Morrison	3.74	188	ePN	P	14 11 58.5	-3.9
MTW	Mount Morrison	3.74	188	P	P	14 11 58.7	-3.8
CAW	Cannon Point	3.75	193	ePN	P	14 11 59.1	-3.6
CAW	Cannon Point	3.75	193	P	P	14 11 59.2	-3.4
MRW	Makara Radio	3.94	196	ePN	P	14 12 01.6	-3.4
MRW				SN	S	14 12 46.7	-5.4
MRW	Makara Radio	3.94	196	P	P	14 12 01.8	-3.3
WEL	Wellington	3.98	195	ePN	P	14 12 01.8	-3.7
WEL	Wellington	3.98	195	P	P	14 12 01.9	-3.7
MSWZ	Moikau Station	4.03	190	ePN	P	14 12 01.6	-4.5
BHW	Baring Head	4.08	194	ePN	P	14 12 02.5	-4.3
BHW	Baring Head	4.08	194	P	P	14 12 02.7	-4.1
TUWZ	Tuamarina	4.33	203	ePN	P	14 12 06.2	-3.8
THZ	Tophouse	4.99	209	ePN	P	14 12 15.2	-3.4
THZ	Tophouse	4.99	209	eP	P	14 12 15.7	-2.9
KHZ	Kahutara	5.36	201	ePN	P	14 12 18.7	-4.7
KHZ	Kahutara	5.36	201	eP	P	14 12 19.0	-4.4
LTZ	Lake Taylor	6.11	208	ePN	P	14 12 28.4	-4.8
LTZ	Lake Taylor	6.11	208	eP	P	14 12 28.5	-4.7
MQZ	McQueen's Vall	6.80	202	ePN	P	14 12 36.2	-6.2
MQZ				SN	S	14 13 47.8	-11

NEIC 10 14:17:18.0, 37.45N×117.08W, h6^{km}, ML3.5(REN), 1C, After REN., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPH	Tonopah	0.64	350	⇑iP	Pg	14 17 31.0	+0.3
MTUM	Tungsten Hills	1.18	266	eP	Pb	14 17 41.1	+0.7
DAC	Darwin (Calif)	1.24	199	eP	Pb	14 17 41.5	+0.1
DAC				eS	Sb	14 17 56.3	-1.2
MNV	Mina	1.30	320	eP	Pb	14 17 42.6	+0.2
OMM	Old Mammoth Mi	1.53	277	eP	Pn	14 17 45.9	0.0
NEN	Nelson	2.54	134	ePn	Pn	14 18 00.1	-0.5
CMB	Columbia Colle	2.68	284	ePn	Pn	14 18 01.2	-1.3
CMB				ePg	Pg	14 18 07.2	-4.4
WCN	Washoe City	2.80	312	ePn	Pn	14 18 04.0	-0.1
LDFC	Landfair	2.85	145	Pn	Pn	14 18 05.4	+0.5
PAHR	Pah Rah Range	2.89	322	Pn	Pn	14 18 05.0	-0.4
LRV	Little Rabbit	3.31	253	Pn	Pn	14 18 10.9	-0.6
MWC	Mount Wilson	3.31	194	Pn	Pn	14 18 10.7	-0.8
BEKR	Beckwourth	3.52	314	ePn	Pn	14 18 14.2	-0.2
PFO	Pinyon Flat Ob	3.87	172	ePn	Pn	14 18 16.1	-3.2
MVU	Marysvale	3.99	73	Pn	Pn	14 18 18.1	-3.0
MSU	Marysvale	4.02	73	Pn	Pn	14 18 20.6	-0.9
MSU				ePg	Pg	14 18 33.6	-4.6
DUG	Dugway	4.32	49	ePn	Pn	14 18 24.7	-1.0
BGU	Big Grassy Mou	4.69	41	Pn	Pn	14 18 29.6	-1.4
WUAZ	Wupatki	4.99	111	Pn	Pn	14 18 33.8	-1.5
SRU	San Rafael	5.42	70	Pn	Pn	14 18 43.2	+1.8
HWUT	Hardware Ranch	5.95	44	Pn	Pn	14 18 46.9	-1.9

PGC 10 14:53:36.1, 67.04N×136.09W, h20^{km}, ML3.1/2, Richardson Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	Inuvik	1.61	37	Pn	Pn	14 54 02.9	-0.9
INK				Sn	Sn	14 54 24.2	+0.1
INK				Trac		14 54 25.9	
	comp=Z,91nm,0.1s						
DAWY	Dawson	3.29	206	Pn	Pn	14 54 25.3	-2.5
DAWY				Sn	Sn	14 55 03.7	-3.1
DAWY				Sg	Sn	14 55 18.3	+12
DAWY				Trac		14 55 22.0	
	comp=Z,39nm,0.1s						
WHY	Whitehorse	6.43	175	Pn	Pn	14 55 09.4	-2.9
WHY				Sn	Sn	14 56 21.4	-4.5
WHY				Sg	Sn	14 56 56.3	+30
WHY				Trac		14 56 57.8	
	comp=Z,4.0nm,0.5s						
YKW3	Yellowknife Ar	10.17	106	Pn	P	14 55 55.8	-8.2
YKW3				Pn	P	14 55 57.9	-6.1
YKW3				Sn	S	14 57 45.0	-14
YKW3				Sn	S	14 57 47.5	-11
YKW3				Trac		14 59 03.1	
	comp=Z,3.0nm,0.5s						

IDC 10 15:02:59.5±49.0, 13.59S×169.00E, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, Error ellipse: s-maj=838.0km s-min=117.4km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	31.00	229	P	P	15 09 18.7	-2.3
	1.5nm,0.8s,baz=54,slow=8.7,SNR=4.2						
WRA	Warramunga Arr	33.73	254	P	P	15 09 43.4	-1.6
	0.4nm,0.3s,baz=86,slow=9.0,SNR=7.9						
ASAR	Alice Springs	34.65	248	P	P	15 09 50.5	-2.3
	0.8nm,0.4s,baz=75,slow=9.3,SNR=26						

IDC 10 15:08:38.7±10.0, 4.33S×153.55E, h117^{km}±63^{km}, mb3.5/3, mb1 3.8/4, mb1mx3.4/14, Error ellipse: s-maj=82.3km s-min=66.2km az=25.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.11	231	P	P	15 10 34.0	-1.0
	3.6nm,0.3s,baz=42,slow=6.5,SNR=18						
PMG				S	S	15 12 04.2	-1.4
	2.0nm,0.3s,baz=354,slow=11,SNR=6.0						
WB2	Warramunga Arr	24.31	229	eP	P	15 13 46.7	-0.1
WRA	Warramunga Arr	24.32	229	P	P	15 13 45.7	-1.1
	3.3nm,0.5s,baz=54,slow=10.0,SNR=41						
ASAR	Alice Springs	27.00	223	P	P	15 14 09.8	-2.1
	0.4nm,0.6s,baz=55,slow=9.0,SNR=8.0						
STKA	Stephens Creek	29.61	201	P	P	15 14 33.0	-2.3
	1.0nm,0.8s,baz=176,slow=18,SNR=3.4						
FITZ	Fitzroy Crossi	30.54	241	P	P	15 14 41.6	-2.0
	2.2nm,0.8s						

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*IDC **10** 15:12:44.1±1.0, 35.29S×105.77W, mb3.9/7, mb1 4.3/7, mb1mx4.1/17, MS4.1/19, Ms1 4.1/19, ms1mx4.0/29, Error ellipse: s-maj=33.2km s-min=22.8km az=17.0*

*NEIC **10** 15:12:45.5±0.6, 35.27S×105.80W, h10^{km}, mb4.7/3, Error ellipse: s-maj=23.0km s-min=15.2km az=68.0*

ISC 10 15:12:43.2±0.7, 35.4S±0.1×105.9W±0.2, h10^{km}, n38, σ1^{s}12/19, mb4.1/10, MS4.2/19, 3C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	28.24	112	P	P	15 18 38.8	+0.5
	0.9nm,0.6s,mb3.6,baz=264,slow=8.0,SNR=3.4						
PLCA				LR	LR	15 26 35.3	
	comp=Z,197nm,21.5s,MS3.7,baz=82,slow=30						
USHA	Ushuaia	32.32	139	LR	LR	15 29 26.2	
	comp=Z,738nm,19.3s,MS4.4,baz=127,slow=31						
LVC	Limon Verde	34.58	79	P	P	15 19 34.4	+0.1
	1.7nm,0.9s,mb4.0,baz=256,slow=12,SNR=2.0						
LVC				LR	LR	15 29 55.1	
	comp=Z,318nm,21.6s,MS4.0,baz=249,slow=30						
LVC	Limon Verde	34.58	79	P	P	15 19 34.4	+0.1
LPAZ	La Paz	38.66	70	P	P	15 20 08.7	-0.1
	0.7nm,0.7s,mb3.5,baz=236,slow=6.8,SNR=3.5						
LPAZ				LR	LR	15 32 45.4	
	comp=Z,172nm,19.6s,MS3.9,baz=264,slow=31						
CPUP	Villa Florida	42.33	92	P	P	15 20 37.7	-1.3
	0.8nm,0.7s,mb3.5,baz=273,slow=7.7,SNR=3.2						
CPUP				LR	LR	15 34 44.7	
	comp=Z,180nm,18.4s,MS4.0,baz=86,slow=31						
CPUP	Villa Florida	42.33	92	P	P	15 20 37.7	-1.3
JTS	JuntasAbangare	49.54	28	LR	LR	15 37 32.6	
	comp=Z,383nm,18.7s,MS4.4,baz=165,slow=30						
ROSC	El Rosal	49.81	43	LR	LR	15 38 39.2	
	comp=Z,389nm,19.6s,MS4.4,baz=221,slow=31						
QSPA	South Pole Qui	54.85	180	eP	P	15 22 13.4	-1.9
	4.4nm,0.8s,mb4.5						
BDFB	Brasilia	55.06	85	LR	LR	15 43 52.6	
	comp=Z,234nm,18.2s,MS4.3,baz=93,slow=34						
VNDA	Vanda	56.27	195	LR	LR	15 42 54.6	
	comp=Z,112nm,18.1s,MS4.0,baz=273,slow=32						
VNA1	Neumayer--Stat	59.55	157	⇑i	P	15 22 50.6	+1.9
VNA2	Neumayer--Watz	59.73	158	⇑i	P	15 22 52.1	+2.2
URZ	Urewera	59.98	242	LR	LR	15 42 08.6	
	comp=Z,290nm,21.8s,MS4.4,baz=195,slow=29						
SNAA	Sanae	60.80	159	⇑i	P	15 22 55.6	-1.6
TXAR	Lajitas Array	64.38	2	P	P	15 23 22.1	+0.5
	0.5nm,0.3s,mb4.0,baz=180,slow=4.5,SNR=3.6						
TXAR				LR	LR	15 45 58.4	
	comp=Z,42nm,20.1s,MS3.6,baz=355,slow=31						
SJG	San Juan	65.19	42	LR	LR	15 49 55.0	
	comp=Z,91nm,18.6s,MS4.0,baz=106,slow=34						
LAZ	Ladron	69.40	359	P	P	15 23 44.8	-8.5
MSU	Marysvale	73.72	355	eP	P	15 24 18.4	-0.7
NVAR	Mina Array Bea	74.30	350	P	P	15 24 23.5	+1.1
	1.4nm,0.8s,mb4.0,baz=163,slow=8.2,SNR=7.9						
DAU	Daniels Canyon	75.55	356	eP	P	15 24 29.7	+0.1
MAW	Mawson	77.01	176	LR	LR	15 56 03.6	
	comp=Z,95nm,18.2s,MS4.2,baz=199,slow=34						
PDAR	Pinedale Array	77.82	357	P	P	15 24 42.1	-0.1
	2.9nm,1.0s,mb4.2,baz=166,slow=6.1,SNR=9.6						
HLID	Hailey	78.92	354	eP	P	15 24 48.1	-0.1
	7.1nm,0.8s,mb4.7						
MCMT	McKenzie Canyo	80.05	355	eP	P	15 24 53.5	-0.8
BOZ	Bozeman (W)	80.79	356	eP	P	15 25 02.0	+3.8
	11nm,1.2s,mb4.7						
BOZ				e		15 25 16.6	
SADO	Sadowa	83.37	19	LR	LR	16 00 20.5	
	comp=Z,82nm,18.0s,MS4.2,baz=270,slow=34						
STKA	Stephens Creek	87.89	232	LR	LR	15 57 47.3	
	comp=Z,241nm,21.1s,MS4.6,baz=206,slow=31						
CTA	Charters Tower	92.20	244	LR	LR	16 01 57.0	
	comp=Z,132nm,19.1s,MS4.4,baz=282,slow=32						
SCHQ	Schefferville	95.90	22	LR	LR	16 05 13.8	
	comp=Z,64nm,18.9s,MS4.1,baz=98,slow=33						
PMG	Port Moresby	98.12	252	LR	LR	16 05 34.9	
	comp=Z,88nm,18.2s,MS4.3,baz=90,slow=32						
ASAR	Alice Springs	98.44	233	LR	LR	16 05 25.8	
	comp=Z,145nm,19.0s,MS4.5,baz=199,slow=32						
BRTR	Keskin Array B	147.83	70	PKPbc	PKPdf	15 32 29.9	+1.7
	1.2nm,0.7s,baz=198,slow=3.9,SNR=7.9						
MALT	Malatya	151.42	73	ePKPbc	PKPdf	15 32 40.5	+6.6
CMAR	Chiang Mai Arr	152.28	239	PKPbc	PKPdf	15 32 44.0	+8.3
	0.8nm,0.9s,baz=231,slow=30,SNR=4.2						
CMAR				PKPab	PKPab	15 32 51.1	-0.7
	2.5nm,1.0s,baz=187,slow=1.7,SNR=9.3						
SONM	Songino Array	153.01	307	PKPbc	PKPdf	15 32 43.6	+7.7
	0.9nm,0.6s,baz=304,slow=4.5,SNR=2.7						
BVAR	Borovoye Array	162.14	7	PKPab	PKPab	15 33 40.2	+7.2
	1.3nm,0.8s,baz=315,slow=2.0,SNR=6.1						

*IDC **10** 15:16:32.3±2.9,9.73N×73.42W,h54^{km}±26^{km},mb4.0/23, mb1 4.2/26,mb1mx4.2/30,ML3.8/2,MS3.6/2,Ms1 3.6/2, ms1mx3.1/26,Error ellipse: s-maj=17.0km s-min=12.4km az=63.0*
*NEIC **10** 15:16:33.5±0.8,9.65N×73.40W,h68^{km}±8^{km},mb4.6/17, Error ellipse: s-maj=7.4km s-min=6.2km az=47.0*
ISC 10 15:16:29.2±0.9,**9.80N**±0.04×**73.46W**±0.05,**h41**^{km}±8^{km}, **n68**,σ1^{s}05/67,**mb4.4**/36,**MS3.9**/1,**7C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**2.93**	**108**	*e*Pn	**P**	**15 17 15.8**	**+1.3**
ROSC	**El Rosal**	**4.98**	**190**	P	**P**	**15 17 45.8**	**+2.3**
	35nm,0.3s,baz=24,slow=5.1,SNR=31						
ROSC				S	**S**	**15 18 53.2**	**+13**
	110nm,0.3s,baz=42,slow=22,SNR=3.6						
PCJ	**Portland Cotta**	**8.68**	**336**	*e*P	**P**	**15 18 35.6**	**+0.6**
PCJ				*e*S	**S**	**15 20 07.9**	**-4.8**
CMJ	**Castle Mountai**	**8.76**	**341**	⇑*e*P	**P**	**15 18 35.0**	**-1.2**
GWJ	**Greenwich**	**8.82**	**339**	⇑*e*P	**P**	**15 18 35.4**	**-1.6**
STH	**Stony Hill**	**8.85**	**339**	⇑*e*P	**P**	**15 18 36.2**	**-1.3**
STH				*e*S	**S**	**15 20 07.7**	**-9.3**
MCJ	**Malvern**	**9.06**	**334**	⇑*e*P	**P**	**15 18 43.1**	**+2.8**
BNJ	**Bonny Gate**	**9.13**	**339**	⇑*e*P	**P**	**15 18 40.4**	**-0.9**
BNJ				*e*S	**S**	**15 20 15.7**	**-8.1**
BBJ	**Bamboo Saint A**	**9.30**	**337**	⇑*e*P	**P**	**15 18 43.8**	**+0.2**
OTAV	**Otavalo**	**10.72**	**208**	P	**P**	**15 19 03.4**	**+0.1**
	14nm,1.0s						
SJG	**San Juan**	**10.89**	**40**	P	**P**	**15 18 59.3**	**-6.2**
	6.5nm,0.3s,baz=250,slow=20,SNR=4.1						
SJG				S	**S**	**15 21 06.4**	**-0.7**
	4.7nm,0.3s,baz=328,slow=19,SNR=3.5						
SJG				LR	LR	15 23 24.4	
	comp=Z,214nm,19.2s,baz=118,slow=38						
JTS	**JuntasAbangare**	**11.33**	**273**	P	**P**	**15 19 13.4**	**+1.8**
	2.5nm,0.3s,baz=86,slow=23,SNR=8.8						
JTS				S	**S**	**15 21 16.0**	**-1.8**
	0.9nm,0.3s,baz=343,slow=20,SNR=2.8						
JTS	**JuntasAbangare**	**11.33**	**273**	*e*P	**P**	**15 19 14.3**	**+2.8**
SAML	**Samuel**	**21.25**	**151**	*e*P	**P**	**15 21 12.5**	**-1.6**
	27nm,0.9s,mb4.6						
NNA	**Nana**	**21.90**	**189**	*e*P	**P**	**15 21 18.0**	**-2.7**
	21nm,0.8s,mb4.6						
LPAZ	**La Paz**	**26.45**	**168**	P	**P**	**15 22 03.9**	**-0.6**
	3.5nm,0.7s,mb4.0,baz=330,slow=5.3,SNR=13						
LPAZ	**La Paz**	**26.45**	**168**	*e*P	**P**	**15 22 03.2**	**-1.3**
	10nm,0.9s,mb4.3						
LPAZ				*e*		15 26 02.6	
BDFB	**Brasilia**	**35.69**	**135**	P	**P**	**15 23 25.1**	**-0.8**
	3.7nm,0.6s,mb4.5,baz=285,slow=6.9,SNR=2.8						
CPUP	**Villa Florida**	**39.18**	**157**	P	**P**	**15 23 54.6**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=12,slow=9.5,SNR=3.3						
SDCO	**Great Sand Dun**	**40.06**	**319**	*e*P	**P**	**15 24 04.4**	**+2.2**
	4.8nm,0.7s,mb4.3						
ULM	**Lac du Bonnet**	**44.40**	**340**	P	**P**	**15 24 37.4**	**-0.2**
	3.6nm,0.9s,mb4.1,baz=139,slow=10.0,SNR=4.9						
SCHQ	**Schefferville**	**45.23**	**5**	P	**P**	**15 24 44.4**	**+0.2**
	3.0nm,0.5s,mb4.4,baz=178,slow=7.0,SNR=8.1						
PDAR	**Pinedale Array**	**45.51**	**323**	P	**P**	**15 24 46.9**	**+0.3**
	3.6nm,0.9s,mb4.3,baz=135,slow=7.7,SNR=12						
PDAR				PcP	PcP	15 26 23.9	-1.4
	1.0nm,0.6s,baz=118,slow=5.2,SNR=4.1						
PDAR	**Pinedale Array**	**45.51**	**323**	P	**P**	**15 24 46.9**	**+0.3**
PDAR				PcP	PcP	15 26 23.9	-1.4
TCUT	**Toone Canyon**	**45.74**	**320**	P	**P**	**15 24 50.4**	**+2.0**
QLMT	**Earthquake Lak**	**47.81**	**324**	P	**P**	**15 25 04.2**	**-0.5**
QLMT				*e*		15 25 10.5	
NVAR	**Mina Array Bea**	**49.20**	**313**	P	**P**	**15 25 17.1**	**+1.6**
	0.8nm,0.8s,mb3.8,baz=130,slow=7.0,SNR=2.0						
NVAR				PcP	PcP	15 26 39.4	+0.8
	1.0nm,0.6s,baz=115,slow=5.8,SNR=4.0						
PLCA	**Paso Flores**	**50.34**	**177**	P	**P**	**15 25 22.6**	**-1.7**
	0.8nm,0.5s,mb4.0,baz=345,slow=11,SNR=3.3						
PLCA	**Paso Flores**	**50.34**	**177**	*e*P	**P**	**15 25 21.0**	**-3.3**
	4.2nm,0.9s,mb4.5						
YBH	**Yreka Blue Hor**	**53.59**	**315**	P	**P**	**15 25 47.5**	**-1.1**
	0.8nm,0.4s,mb4.0,baz=66,slow=7.9,SNR=2.7						
YKA	**Yellowknife Ar**	**60.38**	**339**	P	**P**	**15 26 35.6**	**-0.9**
	2.0nm,0.6s,mb4.3,baz=131,slow=7.3,SNR=14						
DLBC	**Dease Lake**	**64.57**	**331**	P	**P**	**15 27 05.4**	**+1.0**
	0.7nm,0.3s,mb4.1,baz=175,slow=23,SNR=4.0						
DLBC				LR	LR	15 57 41.1	
	comp=Z,72nm,18.2s,MS3.9,baz=44,slow=38						
SUMG	**Summit**	**66.15**	**11**	*e*P	**P**	**15 27 14.4**	**+0.2**
	16nm,1.1s,mb5.0						
DBIC	**Dimbokro**	**67.87**	**87**	P	**P**	**15 27 24.1**	**-2.0**
	1.6nm,0.4s,mb4.4,baz=30,slow=23,SNR=5.1						
ESDC	**Sonseca Array**	**68.04**	**51**	P	**P**	**15 27 26.4**	**-0.3**
	1.2nm,0.6s,mb4.1,baz=264,slow=6.6,SNR=4.7						
INK	**Inuvik**	**70.14**	**340**	P	**P**	**15 27 39.0**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=78,slow=5.6,SNR=12						
INK	**Inuvik**	**70.14**	**340**	*e*P	**P**	**15 27 39.1**	**0.0**
	3.4nm,0.7s,mb4.4						
SJPF	**Ste Jean**	**70.41**	**48**	*e*P	**P**	**15 27 41.4**	**+0.2**
	16nm,0.7s,mb4.7						
ESK	**Eskdalemuir**	**70.79**	**35**	P	**P**	**15 27 42.9**	**-0.3**
EKA	**Eskdalemuir Ar**	**70.82**	**35**	P	**P**	**15 27 43.0**	**-0.5**
	6.4nm,0.8s,mb4.6,baz=254,slow=4.4,SNR=13						
GRR	**Gorron**	**71.19**	**42**	*e*P	**P**	**15 27 45.7**	**-0.1**
	17nm,0.7s,mb4.8						
FLN	**La Foliniere**	**71.48**	**42**	*e*P	**P**	**15 27 47.7**	**+0.2**
MFF	**Saint Martin d**	**71.48**	**44**	*e*P	**P**	**15 27 47.7**	**+0.1**
	22nm,0.7s,mb4.9						
EPF	**Esparros**	**71.55**	**48**	*e*P	**P**	**15 27 48.5**	**+0.5**
	11nm,0.7s,mb4.6						
LDF	**La Druitiere**	**71.70**	**42**	*e*P	**P**	**15 27 48.8**	**0.0**
	11nm,0.7s,mb4.6						
MTLF	**Montolieu**	**72.93**	**48**	*e*P	**P**	**15 27 56.2**	**-0.1**
	16nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**73.90**	**44**	*e*P	**P**	**15 28 01.5**	**-0.4**
	5.7nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**74.02**	**44**	*e*P	**P**	**15 28 02.1**	**-0.4**
ILAR	**Eielson Array**	**74.14**	**335**	P	**P**	**15 28 03.4**	**+0.5**
	1.2nm,0.7s,mb4.0,baz=108,slow=4.1,SNR=7.8						
SMF	**Signal de Mont**	**74.23**	**44**	*e*P	**P**	**15 28 03.5**	**-0.3**
	11nm,0.8s,mb4.5						
LOR	**Lormes**	**74.27**	**44**	*e*P	**P**	**15 28 03.7**	**-0.3**
	4.7nm,0.5s,mb4.4						
ORIF	**Oris-en-Rattie**	**75.61**	**46**	*e*P	**P**	**15 28 12.9**	**+1.1**
DAVOX	**Davos**	**78.38**	**44**	P	**P**	**15 28 28.2**	**+0.9**
	4.6nm,1.0s,mb4.4,baz=7.4,slow=2.9,SNR=4.6						
NB2	**NORSAR Subarra**	**78.92**	**30**	P	**P**	**15 28 30.8**	**+0.9**
	4.2nm,0.7s,mb4.5,baz=270,slow=5.6						
NOA	**NORSAR Array B**	**78.92**	**30**	P	**P**	**15 28 30.9**	**+1.0**
	3.4nm,0.6s,mb4.5,baz=272,slow=5.7,SNR=14						
HFS	**Hagfors**	**80.16**	**30**	P	**P**	**15 28 37.0**	**+0.4**
	2.4nm,0.6s,mb4.3,baz=270,slow=4.3,SNR=12						
GERES	**GERESS Array B**	**80.84**	**42**	P	**P**	**15 28 41.1**	**+0.6**
	1.1nm,0.5s,mb4.0,baz=270,slow=4.0,SNR=9.5						
TBI	**Tubuai**	**81.23**	**244**	*e*L		15 29 13.1	
TBI				*e*R		15 31 06.6	
	251nm,25.5s						
ARCES	**ARCESS Array B**	**84.02**	**20**	P	**P**	**15 28 56.6**	**+0.3**
	3.9nm,0.8s,mb4.6,baz=288,slow=3.8,SNR=8.3						
FINES	**FINESS Array B**	**86.00**	**28**	P	**P**	**15 29 05.8**	**-0.4**
	2.0nm,0.9s,mb4.3,baz=153,slow=13,SNR=4.2						
FINES	**FINESS Array B**	**86.00**	**28**	P	**P**	**15 29 05.8**	**-0.4**
MLR	**Muntele Rosu**	**89.61**	**44**	P	**P**	**15 29 25.7**	**+1.7**
	3.8nm,0.7s,mb4.8,baz=185,slow=2.6,SNR=8.4						
ASAR	**Alice Springs**	**150.46**	**239**	PKP	PKPdf	15 36 14.4	+2.6
	0.8nm,0.6s,baz=93,slow=1.2,SNR=8.7						
ASAR				PKPbc	PKPdf	15 36 18.9	+7.1
	1.7nm,0.5s,baz=116,slow=3.2,SNR=31						
ASPA	**Alice Springs**	**150.47**	**239**	*e*P	PKPdf	15 36 19.1	+7.3
CMAR	**Chiang Mai Arr**	**150.94**	**15**	PKPbc	PKPdf	15 36 20.4	+7.7
	2.9nm,0.8s,baz=326,slow=2.9,SNR=18						
CMAR				PKPab	PKPab	15 36 27.1	-1.1
	4.4nm,0.8s,baz=327,slow=4.1,SNR=14						
WB2	**Warramunga Arr**	**151.34**	**246**	⇑*i*P	PKPdf	15 36 21.3	+8.1
WRAB	**Tennant Creek**	**151.34**	**246**	*e*PKPbc	PKPdf	15 36 19.3	+6.1
WRA	**Warramunga Arr**	**151.35**	**246**	PKPbc	PKPdf	15 36 21.6	+8.3
	4.4nm,0.7s,baz=101,slow=2.7,SNR=34						
WRA				PKPab	PKPab	15 36 26.5	-3.3
	4.7nm,0.8s,baz=102,slow=3.0,SNR=27						

*NEIC **10** 15:38:41.5,37.96N×0.65W,h7^{km},MN2.5(MDD),After MDD.*
NEIC Felt [III] at Guardamar and Torrevieja; [II] at Benijofar, San Miguel de Salinas and Santa Pola; [I] at Pilar de la Horadada and Rojales.
MDD 10 15:38:41.5±0.6,**37.96N**×**0.65W**,**h7**^{km}±2^{km},**mbLg2.5**/16, **1C-2D,Error ellipse: s-maj=6.8km s-min=2.7km az=136.0,PRXIMO II FAR SANTA POLA SAN MIGUEL DE LAS SALINAS I ROJALES PILAR DE LA HORADADA,Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EXTO	**Torrevieja**	**0.05**	**318**	P	Pg	15 38 43.0	0.0
EXTO				S	Sg	15 38 44.1	0.0
EMUR	**La Murta**	**0.48**	**256**	⇓Pg	Pg	15 38 50.3	-0.8
	33nm,0.3s,SNR=18						
EMUR				Lg		15 38 57.0	
	314nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**0.82**	**24**	⇓Pg	Pg	15 38 56.6	-1.2
	76nm,0.4s,SNR=18						
EBEN				Lg		15 39 07.7	
	89nm,0.5s,SNR=8.9						
ETOB	**Tobarra**	**0.98**	**314**	⇑Pg	Pg	15 38 59.9	-1.3
	41nm,0.2s,SNR=18						
ETOB				Lg		15 39 13.3	
	40nm,0.4s,SNR=10						
EVIA	**Vianos**	**1.61**	**296**	Pg	Pg	15 39 10.5	-3.1
	37nm,0.3s,SNR=22						
EVIA				Lg		15 39 32.9	
	52nm,0.3s,SNR=10						
EIBI	**Ibiza**	**1.89**	**55**	Pn	Pn	15 39 12.7	-1.9
	9.0nm,0.2s,SNR=17						
EIBI				Sn	Sn	15 39 33.8	-5.1
	60nm,0.4s,SNR=7.8						
EQES	**Quesada**	**1.92**	**266**	Pn	Pn	15 39 14.6	-0.4
	1.5nm,0.1s,SNR=7.9						
EQES				Pg	Pg	15 39 17.1	-2.8
	21nm,0.2s,SNR=7.9						
EQES				Lg		15 39 39.2	
	38nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.41**	**3**	Pn	Pn	15 39 20.8	-1.2
	1.3nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	15 39 25.4	-4.2
	2.8nm,0.2s,SNR=15						
EMOS				Sn	Sn	15 39 47.9	-4.1
	3.2nm,0.4s,SNR=7.9						
EMOS				Lg		15 39 58.9	
	11nm,0.5s,SNR=7.9						
ERON	**Agron**	**2.68**	**250**	Pn	Pn	15 39 23.7	-2.1
	2.1nm,0.3s,SNR=7.9						
ERON				Pg	Pg	15 39 29.2	-5.8
	3.0nm,0.2s,SNR=7.9						
ERON				Sn	Sn	15 39 55.1	-3.8
	2.0nm,0.4s,SNR=7.9						
ERON				Lg		15 40 06.1	
	1.9nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**2.89**	**263**	Pn	Pn	15 39 26.3	-2.6
	2.3nm,0.2s,SNR=7.9						
ELUQ				Sn	Sn	15 40 00.8	-3.5
	4.1nm,0.4s,SNR=7.9						
ETOR	**Torete**	**3.06**	**340**	Pg	Pg	15 39 37.5	-5.1
	8.7nm,0.3s,SNR=20						
ETOR				Sn	Sn	15 40 05.0	-3.5
	1.9nm,0.7s,SNR=7.9						
ETOR				Lg		15 40 18.4	
	6.4nm,0.3s,SNR=4.5						
ETOR	**Torete**	**3.06**	**340**	Pg	Pg	15 39 37.5	-5.1
ETOR				Sn	Sn	15 40 05.0	-3.5
ETOR				Lg		15 40 18.4	
ESDC	**Sonseca Array**	**3.10**	**305**	Pn	Pn	15 39 29.3	-2.6
	2.3nm,0.3s,baz=118,slow=14,SNR=5.1						
ESDC				Pg	Pg	15 39 38.1	-5.4
	15nm,0.4s,baz=118,slow=18,SNR=16						
ESDC				Sn	Sn	15 40 06.5	-3.2
	1.9nm,0.3s,baz=118,slow=25,SNR=7.9						
ESDC				Lg		15 40 20.0	
	5.7nm,0.3s,baz=120,slow=30,SNR=14						
ESLA	**Sonseca Array**	**3.10**	**305**	*e*Pn	Pn	15 39 37.2	+5.3
EADA	**Adamuz**	**3.11**	**275**	Pn	Pn	15 39 29.4	-2.5
	1.0nm,0.2s,SNR=8.3						
EADA				Pg	Pg	15 39 37.3	-6.2
	3.7nm,0.3s,SNR=7.3						
EADA				Sn	Sn	15 40 06.2	-3.5
	4.2nm,0.4s,SNR=7.9						
EADA				Lg		15 40 20.1	
	9.9nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**3.64**	**21**	Pn	Pn	15 39 37.2	-2.3
	2.5nm,0.3s,SNR=8.0						
EPOB				Pg	Pg	15 39 48.0	-6.2
	3.9nm,0.5s,SNR=7.9						
EPOB				Sn	Sn	15 40 18.7	-4.6
	2.9nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	**3.76**	**2**	Pn	Pn	15 39 38.7	-2.5
	1.7nm,0.2s,SNR=7.9						
ESAC				Pg	Pg	15 39 50.2	-6.4
	14nm,0.3s,SNR=7.3						
ESAC				Sn	Sn	15 40 21.5	-4.8
	26nm,0.4s,SNR=7.9						
ESAC				Lg		15 40 41.5	
	39nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.77**	**270**	Pn	Pn	15 39 52.3	-3.2
	0.5nm,0.3s,SNR=7.9						
EMIN				Pg	Pg	15 40 06.9	-10
	2.3nm,0.5s,SNR=7.9						
EMIN				Sn	Sn	15 40 45.9	-6.0
	2.9nm,0.9s,SNR=7.9						
EMIN				Lg		15 41 13.8	
	2.0nm,0.7s,SNR=7.9						
EBAD	**Badajoz**	**5.07**	**281**	Pn	Pn	15 39 56.6	-3.1
	0.1nm,0.2s,SNR=7.9						
EBAD				Pg	Pg	15 40 14.7	-7.9
	6.5nm,1.0s,SNR=7.9						
EBAD				Sn	Sn	15 40 52.2	-7.1
	6.0nm,0.6s,SNR=7.9						
EBAD				Lg		15 41 22.8	
	3.2nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**5.30**	**353**	Pn	Pn	15 40 00.8	-2.2
	1.8nm,0.3s,SNR=7.9						
EALK				Pg	Pg	15 40 16.6	-11
	4.1nm,0.8s,SNR=7.9						
EALK				Sn	Sn	15 40 56.9	-8.2
	5.9nm,0.5s,SNR=7.9						
EALK				Lg		15 41 31.7	
	12nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**5.68**	**339**	Pn	Pn	15 40 05.9	-2.5
	2.4nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	15 40 25.8	-9.1
	3.1nm,1.0s,SNR=7.9						
ELAN				Lg		15 41 43.5	
	16nm,0.9s,SNR=7.9						
ECAL	**Calabor**	**6.14**	**312**	Pn	Pn	15 40 12.0	-2.9
	4.3nm,0.3s,SNR=7.9						
ECAL				Pg	Pg	15 40 33.7	-10
	SNR=7.9						
ECAL				Lg		15 41 57.6	
	9.2nm,0.6s,SNR=7.9						

IDC 10 15:40:36.1±10.0,**4.71S**×**153.20E**,**h156**^{km}±65^{km},**mb3.2**/3, **mb1 3.3**/4,**mb1mx3.1**/14,**MS3.4**/2,**Ms1 3.4**/2,**ms1mx3.1**/9, **Error ellipse: s-maj=98.4km s-min=78.7km az=178.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.60**	**232**	P	P	15 42 24.0	-1.1
	1.3nm,0.3s,baz=49,slow=9.7,SNR=6.7						
PMG				S	S	15 43 50.1	+0.1
	0.4nm,0.3s,baz=254,slow=19,SNR=3.0						
PMG				LR	LR	15 45 10.9	
	comp=Z,45nm,18.8s,baz=62,slow=36						
WRA	**Warramunga Arr**	**23.80**	**229**	P	P	15 45 35.2	-0.8
	0.7nm,0.4s,baz=55,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.48**	**223**	P	P	15 45 58.4	-2.6
	0.2nm,0.9s,baz=63,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**29.14**	**201**	P	P	15 46 23.2	-1.6
	0.9nm,0.4s,baz=339,slow=8.6,SNR=3.6						
TGY	**Tagaytay City**	**37.07**	**301**	LR	LR	16 00 19.5	
	comp=Z,390nm,21.9s,baz=19,slow=32						

*IGIL **10** 16:22:12.4,36.80N×7.20W,h21^{km},ML3.7*
*INMG **10** 16:22:13.8±1.0,36.75N×7.14W,h21^{km}±4^{km},ML3.1,Error ellipse: s-maj=5.2km s-min=2.0km az=46.0*
*LDG **10** 16:22:14.4±0.2,36.88N×7.02W,h10^{km},Ml3.7/4,Error ellipse: s-maj=4.0km s-min=2.0km az=24.0*
*NEIC **10** 16:22:14.0,36.79N×7.12W,h58^{km},MG4.0(MDD),After MDD.*
MDD 10 16:22:14.3±0.8,**36.79N**×**7.08W**,**h29**^{km}±8^{km},**mb4.3**/25, **5D,Error ellipse: s-maj=9.0km s-min=3.3km az=34.0, PRXIMO,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERIP	**Rio Piedras**	**0.60**	**346**	⇓P	Pb	16 22 26.0	-0.2
	81nm,0.0s,SNR=18						
ERIP				S	Sb	16 22 34.0	-0.3
	2µm,0.1s,SNR=7.9						
SCRT	**Cerro San Cris**	**0.74**	**102**	S	Sb	16 22 38.4	0.0
PALC	**Alcoutim**	**0.74**	**335**	*e*Pg	Pb	16 22 27.9	-0.7
PALC				*e*Sg	Sb	16 22 37.9	-0.5
	1µm,0.2s						
PALC	**Alcoutim**	**0.74**	**335**	P	Pb	16 22 27.9	-0.7
PALC				S	Sb	16 22 37.9	-0.5
	591nm,0.2s						
EGRO	**El Granado**	**0.81**	**336**	⇓P	Pb	16 22 28.8	-0.9
	37nm,0.0s,SNR=18						
EGRO				S	Sb	16 22 39.4	-0.9
	361nm,0.1s,SNR=35						
GIBL	**Gibalbin**	**0.89**	**87**	P	Pn	16 22 36.2	+5.3
GIBL				S	Sb	16 22 44.7	+2.2
CNIL	**Conil**	**0.92**	**117**	P	Pn	16 22 36.4	+5.0
CNIL				S	Sb	16 22 40.2	-3.3
ESPR	**Espera**	**0.98**	**85**	⇓P	Pn	16 22 30.7	-1.5
	4.0nm,0.1s,SNR=18						
ESPR				S	Sb	16 22 44.1	-1.1
	2µm,0.2s,SNR=33						
ESPR	**Espera**	**0.98**	**85**	⇓Pn	Pn	16 22 30.7	-1.5
ESPR				Sn	Sn	16 22 45.3	+0.1
EMIN	**Mina Concepcio**	**1.03**	**18**	⇓P	Pn	16 22 32.2	-0.7
	3.0nm,0.1s,SNR=18						
EMIN				S	Sn	16 22 44.8	-1.6
	218nm,0.1s,SNR=20						
EJIF	**Jimena Fronter**	**1.34**	**104**	P	Pn	16 22 36.7	-0.6
	0.2nm,0.2s,SNR=7.9						
EJIF				S	Sn	16 22 53.0	-1.3
	0.7nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.34**	**104**	Pn	Pn	16 22 37.7	+0.4
EJIF				Sn	Sn	16 22 53.2	-1.1
LIJA	**Lijar**	**1.35**	**85**	P	Pn	16 22 36.0	-1.5
LIJA				S	Sn	16 22 55.0	+0.5
PBEJ	**Beja**	**1.38**	**333**	*e*P	Pn	16 22 36.5	-1.5
PTEO	**Sao Teotonio**	**1.52**	**300**	*e*P	Pn	16 22 37.9	-2.0
REAL	**Reales**	**1.53**	**101**	P	Pn	16 22 42.0	+1.9
REAL				S	Sn	16 22 55.3	-4.0
EMIJ	**Mijas**	**1.86**	**96**	P	Pn	16 22 42.9	-2.0
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	Sn	16 23 05.6	-2.1
	18nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.96**	**1**	P	Pn	16 22 44.8	-1.4
	18nm,0.2s,SNR=7.9						
EBAD				S	Sn	16 23 06.5	-3.7
	20nm,0.1s,SNR=8.9						
MOE	**Montemor**	**2.00**	**330**	*e*Pn	Pn	16 22 45.3	-1.6
MOE				*e*Sn	Sn	16 23 08.6	-2.6
ELOJ	**Sierra Loja**	**2.37**	**80**	P	Pn	16 22 51.0	-1.1
	9.2nm,0.3s,SNR=4.9						
ELOJ				S	Sn	16 23 17.5	-3.0
	9.7nm,0.2s,SNR=9.2						
ELUQ	**Luque**	**2.37**	**70**	P	Pn	16 22 49.0	-3.2
	17nm,0.3s,SNR=4.6						
ELUQ				S	Sn	16 23 17.4	-3.2
	14nm,0.2s,SNR=7.3						
EADA	**Adamuz**	**2.42**	**55**	P	Pn	16 22 48.4	-4.4
	10.0nm,0.3s,SNR=39						
EADA				S	Sn	16 23 18.6	-3.1
	21nm,0.1s,SNR=5.6						
EADA	**Adamuz**	**2.42**	**55**	Pn	Pn	16 22 48.5	-4.3
EADA				Sn	Sn	16 23 18.6	-3.1
LIS	**Lisbon**	**2.53**	**320**	*e*P	Pn	16 22 49.6	-4.8
LIS				*e*S	Sn	16 23 17.3	-7.3
LIS				AML	AML	16 23 23.4	
	comp=E,388nm,0.3s						
ERON	**Agron**	**2.63**	**84**	P	Pn	16 22 53.5	-2.3
	comp=E,18nm,0.3s,SNR=7.1						
ERON				S	Sn	16 23 24.0	-3.2
	comp=E,26nm,0.3s,SNR=7.5						
ERON	**Agron**	**2.63**	**84**	Pn	Pn	16 22 52.8	-3.0
ERON				Sn	Sn	16 23 24.6	-2.6
PLOU	**Loures**	**2.66**	**322**	*e*Pn	Pn	16 22 54.2	-2.1
PLOU				*e*Sn	Sn	16 23 23.4	-4.5
	comp=E,74nm,0.1s						
PLOU	**Loures**	**2.66**	**322**	P	Pn	16 22 54.2	-2.1
PLOU				S	Sn	16 23 23.4	-4.5
	comp=E,37nm,0.1s						
PTOM	**Tomar**	**3.01**	**340**	*e*Pn	Pn	16 22 58.9	-2.4
PTOM				*e*Sn	Sn	16 23 32.4	-4.4
	comp=E,84nm,0.5s						
PTOM	**Tomar**	**3.01**	**340**	P	Pn	16 22 58.9	-2.4
PTOM				S	Sn	16 23 32.4	-4.4
	comp=E,42nm,0.5s						
PCBR	**Castelo Branco**	**3.06**	**354**	*e*Pn	Pn	16 23 00.0	-1.9
PCBR				*e*Sn	Sn	16 23 34.3	-3.7
	comp=E,37nm,0.1s						
PCBR	**Castelo Branco**	**3.06**	**354**	P	Pn	16 23 00.0	-1.9
PCBR				S	Sn	16 23 34.3	-3.7
	comp=E,18nm,0.1s						
EQES	**Quesada**	**3.35**	**71**	P	Pn	16 23 02.3	-3.8
	comp=E,2.5nm,0.4s,SNR=9.1						
EQES				S	Sn	16 23 41.5	-3.9
	comp=E,13nm,0.3s,SNR=5.8						
MTE	**Manteigas**	**3.62**	**354**	*e*Pn	Pn	16 23 07.5	-2.4
MTE				*e*Sn	Sn	16 23 47.6	-4.6
	comp=E,94nm,0.8s						
MTE	**Manteigas**	**3.62**	**354**	P	Pn	16 23 07.5	-2.4
MTE				S	Sn	16 23 47.6	-4.6
	comp=E,47nm,0.8s						
MTE	**Manteigas**	**3.62**	**354**	*e*Pn	Pn	16 23 07.6	-2.3
ESDC	**Sonseca Array**	**3.78**	**39**	P	Pn	16 23 10.7	-1.4
	comp=E,4.0nm,0.2s,baz=223,slow=13,SNR=39						
ESDC				S	Sn	16 23 49.3	-7.0
	comp=E,4.6nm,0.2s,baz=222,slow=23,SNR=9.0						
PVIS	**Viseu**	**3.97**	**351**	*e*Pn	Pn	16 23 12.1	-2.8
PVIS				*e*Sn	Sn	16 23 55.9	-5.1
EVIA	**Vianos**	**4.07**	**62**	P	Pn	16 23 14.5	-1.8
	comp=E,2.7nm,0.3s,SNR=7.5						
EVIA				S	Sn	16 23 56.7	-6.8
	comp=E,17nm,0.3s,SNR=12						
PVRL	**Vila Real**	**4.51**	**354**	*e*Pn	Pn	16 23 19.6	-2.9
PVRL				*e*Sn	Sn	16 24 08.3	-6.3
ETOB	**Tobarra**	**4.76**	**65**	P	Pn	16 23 20.7	-5.4
	comp=E,2.9nm,0.3s,SNR=13						
ETOB				S	Sn	16 24 14.1	-6.8
	comp=E,16nm,0.3s,SNR=11						
ETOB	**Tobarra**	**4.76**	**65**	Pn	Pn	16 23 20.7	-5.3
ETOB				Sn	Sn	16 24 14.2	-6.8
EMUR	**La Murta**	**4.77**	**76**	S	Sn	16 24 14.5	-6.7
	comp=E,6.5nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.01**	**3**	*e*Pn	Pn	16 23 26.6	-3.0
PBRG				*e*Sn	Sn	16 24 20.7	-6.7
	comp=E,23nm,0.5s						
PBRG	**Braganca**	**5.01**	**3**	P	Pn	16 23 26.6	-3.0
PBRG				S	Sn	16 24 20.7	-6.7
	comp=E,12nm,0.5s						
ELOB	**Lobios**	**5.13**	**352**	P	Pn	16 23 27.8	-3.4
	comp=E,3.2nm,0.3s,SNR=5.9						
ELOB				S	Sn	16 24 21.8	-8.4
	comp=E,5.9nm,0.3s,SNR=5.2						
ECAL	**Calabor**	**5.15**	**3**	P	Pn	16 23 28.8	-2.7
	comp=E,12nm,0.2s,SNR=52						
ECAL				S	Sn	16 24 23.7	-7.1
	comp=E,20nm,0.3s,SNR=8.5						
ECAL	**Calabor**	**5.15**	**3**	Pn	Pn	16 23 28.8	-2.7
ECAL				Sn	Sn	16 24 19.3	-12
EZAM	**Zamans**	**5.50**	**347**	P	Pn	16 23 33.4	-3.1
	comp=E,4.1nm,0.4s,SNR=6.0						
ERUA	**La Rua**	**5.59**	**359**	P	Pn	16 23 34.6	-3.2
	comp=E,4.9nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**5.59**	**359**	Pn	Pn	16 23 33.5	-4.3
ETOR	**Torete**	**5.62**	**43**	P	Pn	16 23 36.3	-1.9
	comp=E,3.6nm,0.2s,SNR=9.8						
ETOR				S	Sn	16 24 32.4	-10
	comp=E,3.9nm,0.4s,SNR=4.1						
ETOR	**Torete**	**5.62**	**43**	Pn	Pn	16 23 35.7	-2.4
ETOR				Sn	Sn	16 24 32.4	-10
EBEN	**Beniarda**	**5.75**	**69**	P	Pn	16 23 36.9	-3.2
	comp=E,0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	16 24 36.1	-10
	comp=E,39nm,1.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.28**	**53**	P	Pn	16 23 42.4	-5.1
	comp=E,0.6nm,0.1s,SNR=7.9						
EMOS				S	Sn	16 24 50.0	-9.2
	comp=E,2.9nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**7.01**	**22**	P	Pn	16 23 53.6	-4.2
	comp=E,1.7nm,0.2s,SNR=7.9						
ELAN				S	Sn	16 25 06.7	-11
	comp=E,2.9nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**7.02**	**69**	S	Sn	16 25 07.2	-10

	comp=E,20nm,0.6s,SNR=7.9						
ESAC	San Caprasio	7.11	44	P	Pn	16 23 56.4	-2.7
	comp=E,5.4nm,0.3s,SNR=7.9						
ESAC				S	Sn	16 25 09.8	-10
	comp=E,13nm,0.4s,SNR=7.9						
EALK	Alkurruntz	7.71	32	P	Pn	16 24 04.3	-3.3
	comp=E,0.6nm,0.1s,SNR=5.3						
EALK				S	Sn	16 25 25.0	-10
	comp=E,6.7nm,0.3s,SNR=8.5						
SJPF	Ste Jean	7.75	34	*e*Pn	Pn	16 24 05.1	-3.0
SJPF				*e*Sn	Sn	16 25 25.4	-10
	comp=E,6.4nm,0.3s						
ETSF	Etsaut	7.89	37	*e*Pn	Pn	16 24 07.4	-2.7
ETSF				*e*Sn	Sn	16 25 28.6	-11
	comp=E,3.1nm,0.2s						
EPF	Esparros	8.44	40	*e*Pn	P	16 24 13.5	-4.2
EPF				*e*Sn	Sn	16 25 41.8	-11
	comp=E,3.5nm,0.3s						
MTLF	Montolieu	9.67	45	*e*Pn	P	16 24 29.7	-4.9
LFF	La Frestale	10.06	34	*e*Pn	P	16 24 35.1	-4.9
CAF	Calviac	10.67	38	*e*Pn	P	16 24 43.4	-4.9
RJF	Les Rejaudoux	10.69	35	*e*Pn	P	16 24 43.6	-5.0
MFF	Saint Martin d	11.08	26	*e*Pn	P	16 24 48.7	-5.3
ROSF	Rostrenen	11.87	12	*e*Pn	P	16 24 59.1	-5.6
ROSF				*e*Sn	S	16 27 03.5	-14
	comp=E,3.9nm,0.4s						
GRR	Gorron	12.46	20	*e*Pn	P	16 25 07.8	-4.7

MEX 10 16:41:09.6±0.7, 17.96N×98.73W, h52^{km}±34^{km}, MD3.5, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YAIG	Yautepec	0.95	340	⇑*i*P	P	16 41 25.3	-1.6
YAIG				*i* S	S	16 41 37.7	-2.1
PPM	Popocatepetl	1.10	5	*i* P	P	16 41 28.0	-1.0
PPM				*i* P		16 41 28.2	
PPM				*i* S	S	16 41 41.0	-2.5
PPM				*i* S	S	16 41 41.6	-1.9
IIZ	Mezontepec	1.31	338	*i* P	P	16 41 31.5	-0.6

MOS 10 16:51:58.4±0.6, 55.61N×162.59E, h77^{km}, mb4.2/1, Error ellipse: s-maj=32.2km s-min=12.9km az=71.1

KRSC 10 16:51:59.7±0.7, 55.60N×162.39E, h71^{km}±4^{km}, ML4.2

ISC 10 16:51:59.6±0.6, 55.61N±0.03×162.42E±0.05, h79^{km}±9^{km}, n35, σ0^{s}90/67, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.64	20	P	P	16 52 15.0	+0.3
KBTR				S	S	16 52 26.1	+0.2
KBTR	Krutoberegovo	0.64	20	*i* P	P	16 52 15.0	+0.3
KBTR				*i* S	S	16 52 26.2	+0.3
KBG	Krutoberegovo	0.66	14	*i* P	P	16 52 15.0	0.0
KBG				*i* S	S	16 52 26.0	-0.4
KBG				Smax			
	6μm,0.9s						
CIRR	Tsirk	1.07	299	*i* P	P	16 52 19.8	+0.2
CIRR				*i* S	S	16 52 34.6	-0.1
LGNR	Loginova	1.08	297	*i* P	P	16 52 20.4	+0.6
LGNR				*i* S	S	16 52 35.7	+0.7
MKZ	Mys Kozlova	1.13	201	P	P	16 52 20.0	-0.4
MKZ				S	S	16 52 34.8	-1.3
MKZ	Mys Kozlova	1.13	201	*e*P	P	16 52 20.0	-0.4
MKZ				*e*S	S	16 52 35.0	-1.1
SVLR	Shiveluch	1.18	326	*e*P	P	16 52 21.6	+0.6
SVLR				*e*S	S	16 52 37.3	+0.2
KRSR	Krestovskiy	1.21	301	*i* P	P	16 52 21.3	-0.1
KRSR				*e*S	S	16 52 36.2	-1.6
KLY	Klyuchi	1.22	306	P	P	16 52 20.1	-1.5
KLY				S	S	16 52 35.4	-2.6
KLY	Klyuchi	1.22	306	*i* P	P	16 52 20.1	-1.5
KLY				*i* S	S	16 52 35.8	-2.2
KMNR	Kamenistaya	1.24	278	*e*P	P	16 52 22.3	+0.4
KMNR				*e*S	S	16 52 39.1	+0.5
TUMR	Tumrok	1.34	257	*i* P	P	16 52 23.8	+0.5
TUMR				*i* S	S	16 52 41.5	+0.7
KOZR	Kozyr	1.49	289	PN	P	16 52 25.9	+0.6
KOZR				S	S	16 52 45.3	+1.0
KOZ	Kozyrevsk	1.50	288	P	P	16 52 25.9	+0.5
KOZ				S	S	16 52 45.3	+0.8
KOZ	Kozyrevsk	1.50	288	*i* P	P	16 52 26.1	+0.7
KOZ				*e*S	S	16 52 45.2	+0.7
SRDR	Sredinnyy	1.68	296	*e*P	P	16 52 27.7	0.0
SRDR				*i* S	S	16 52 48.9	+0.5
BKI	Bering	2.07	100	*e*P	P	16 52 34.3	+1.3
BKI				*i* S	S	16 52 57.9	+0.3
BKI				Smax			
	120nm,0.3s						
ESO	Esso	2.12	280	*e*P	P	16 52 33.6	-0.2
ESO				*e*S	S	16 52 58.6	-0.5
ESO				Smax			
	60nm,0.5s						
KII	Karymskiy	2.33	229	*e*P	P	16 52 37.4	+0.7
KII				*e*S	S	16 53 06.3	+2.0
SPN	Mys Shipunski	2.88	210	P	P	16 52 43.0	-1.4
SPN				S	S	16 53 14.7	-3.4
SPN	Mys Shipunski	2.88	210	*e*P	P	16 52 43.0	-1.4
SPN				*e*S	S	16 53 14.6	-3.5
NLC	Nalytchevo	3.04	218	P	P	16 52 46.6	0.0
NLC				S	S	16 53 20.1	-1.8
NLC	Nalytchevo	3.04	218	*e*P	P	16 52 46.5	-0.1
NLC				*i* S	S	16 53 20.2	-1.7
SDLR	Sedlovina	3.12	223	*e*P	P	16 52 47.8	+0.1
SMAR	Somma	3.16	223	*i* P	P	16 52 48.8	+0.5
SMAR				*e*S	S	16 53 25.8	+0.8
AVH	Avacha	3.19	224	*e*P	P	16 52 49.1	+0.4
AVH				*e*S	S	16 53 26.1	+0.5
UGLR	Uglovaya	3.20	223	*e*P	P	16 52 49.1	+0.3
UGLR				*e*S	S	16 53 25.8	-0.1
KOK	Koryaka	3.21	225	*e*P	P	16 52 49.7	+0.8
GNL	Ganaly	3.23	235	*e*P	P	16 52 49.8	+0.5
PET	Petropavlovsk	3.40	222	P	P	16 52 51.8	+0.1
PET				S	S	16 53 30.1	-1.0
PET	Petropavlovsk	3.40	222	*e*P	P	16 52 51.8	+0.1
PET				*e*S	S	16 53 30.0	-1.1
OSSR	Ossora	3.66	5	*e*P	P	16 52 54.8	-0.5
OSSR				*e*S	S	16 53 35.3	-2.2
OSSR				Smax			
	70nm,0.3s						
RUS	Russkaya	3.93	217	*e*P	P	16 52 58.5	-0.5
RUS				*e*S	S	16 53 42.0	-2.2
GRL	Gorelyy	3.99	222	*e*P	P	16 53 01.2	+1.3
GRL				*e*S	S	16 53 45.2	-0.5

ATH 10 16:59:26.1, 37.02N×27.74E, h31^{km}, MD2.9/3

ISK 10 16:59:28.3, 37.06N×27.73E, h7^{km}, MD3.0

ISC 10 16:59:26.8±1.4, 36.90N±0.05×27.69E±0.07, h7^{km}±10^{km}, n9, σ0^{s}94/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.53	64	*i* PG	Pg	16 59 37.3	-0.1
YER				*i* SG	Sg	16 59 44.2	-0.2
NISR	Nisiros	0.54	238	*e*PN	Pn	16 59 39.2	-1.3
ARG	Arkhangelos	0.77	153	*e*PN	Pn	16 59 43.0	-0.8
ARG				*e*SN	Sn	16 59 55.5	-0.2
DENT	Denizli	1.37	51	PN	Pn	16 59 52.4	+0.1
DENT				SN	Sn	17 00 10.5	-0.3
KARP	Karpathos	1.42	198	*e*PN	Pn	16 59 53.5	+0.4
IZM	Izmir	1.53	347	PN	Pn	16 59 54.3	-0.4
APE	Apeiranthos	1.74	276	*e*PN	Pn	17 00 00.7	+3.0
ELL	Elmali	1.79	94	*e*PN	Pn	17 00 00.3	+2.0
AKS	Akhisar	1.98	3	PN	Pn	17 00 00.8	-0.3

IDC 10 17:03:22.9±6.4, 0.01S×127.54E, h199^{km}±83^{km}, mb3.3/3, mb1 3.3/4, mb1mx3.0/16, Error ellipse: s-maj=117.0km s-min=41.2km az=121.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.07	186	P	P	17 07 20.6	-1.4
	0.1nm,0.3s,baz=194,slow=14,SNR=3.6						
FITZ				S	S	17 10 37.2	+3.2
	0.1nm,0.3s,baz=202,slow=16,SNR=4.2						
WRA	Warramunga Arr	20.90	162	P	P	17 07 49.4	-1.4
	1.2nm,0.5s,baz=339,slow=11,SNR=12						
ASAR	Alice Springs	24.31	166	P	P	17 08 22.6	-1.2
	0.4nm,0.3s,baz=342,slow=7.6,SNR=24						
STKA	Stephens Creek	34.37	159	P	P	17 09 50.8	-2.1
	1.2nm,0.4s,baz=333,slow=9.0,SNR=5.6						

JSN 10 17:19:15.9±0.8, 18.17N×77.21W, h21^{km}±4^{km}, MD4.0, 6C-4D, Fault plane solution: NP1:φs239.5°, δ44°, λ22.2°., Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBJ	Bamboo Saint A	0.22	344	⇓*i*P	Pb	17 19 20.9	-0.5
BNJ	Bonny Gate	0.28	59	⇓*i*P	Pb	17 19 21.9	-0.5
CVJ	Coleyville	0.32	280	⇑*i*P	Pb	17 19 22.2	-0.7
STH	Stony Hill	0.39	104	⇑*e*P	Pb	17 19 23.5	-0.5
STH				*i* S	Sb	17 19 29.6	-0.1
STH				*i* S	Sb	17 19 30.1	+0.5
PCJ	Portland Cotta	0.43	174	⇓*i*P	Pb	17 19 24.2	-0.5
PCJ				*i* S	Sb	17 19 30.1	-0.7
GWJ	Greenwich	0.47	102	⇑*i*P	Pb	17 19 24.8	-0.5
HOJ	Hope	0.47	111	⇑*i*P	Pb	17 19 24.9	-0.4
MCJ	Malvern	0.52	242	⇑*i*P	Pb	17 19 25.7	-0.5
MCJ				*i* S	Sb	17 19 33.6	+0.3
CMJ	Castle Mountai	0.79	93	⇑*i*P	Pb	17 19 30.2	-0.6
NEJ	Negril	1.07	274	⇓*e*P	Pb	17 19 34.4	-1.2

MOS 10 17:29:15.9±0.6, 53.81N×161.64E, h11^{km}, mb4.2/1, Error ellipse: s-maj=22.2km s-min=11.8km az=76.1

KRSC 10 17:29:18.1±1.3, 53.86N×161.54E, h24^{km}±4^{km}, ML4.2

ISC 10 17:29:18.2±0.6, 53.85N±0.03×161.57E±0.06, h24^{km}, n39, σ1^{s}12/78, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.71	7	P	Pb	17 29 31.0	-0.9
MKZ				S	Sb	17 29 40.4	-0.9
MKZ	Mys Kozlova	0.71	7	*i* P	Pb	17 29 30.9	-1.0
MKZ				*e*S	Sb	17 29 40.3	-1.0
SPN	Mys Shipunski	1.20	231	*e*P	Pn	17 29 38.2	-1.5
SPN				*i* S	Sb	17 29 52.6	-2.6
KII	Karymskiy	1.27	279	P	Pn	17 29 39.7	-1.0
KII				S	Sn	17 29 55.3	-1.8
KII	Karymskiy	1.27	279	*i* P	Pn	17 29 39.7	-1.0
KII				*e*S	Sn	17 29 55.1	-2.0
NLC	Nalytchevo	1.50	244	P	Pn	17 29 43.0	-1.0
NLC				S	Sn	17 30 00.6	-2.3
NLC	Nalytchevo	1.50	244	*e*P	Pn	17 29 42.7	-1.3
NLC				*i* S	Sn	17 30 01.1	-1.8
TUMR	Tumrok	1.66	330	*e*P	Pn	17 29 46.0	-0.3
TUMR				*e*S	Sn	17 30 05.9	-1.1
SDLR	Sedlovina	1.70	251	*i* P	Pn	17 29 46.4	-0.5
SDLR				*i* S	Sn	17 30 07.5	-0.7
SMAR	Somma	1.76	252	*e*P	Pn	17 29 47.3	-0.4
SMAR				*e*S	Sn	17 30 07.7	-1.8
UGLR	Uglovaya	1.76	250	*e*P	Pn	17 29 47.3	-0.5
UGLR				*e*S	Sn	17 30 08.9	-0.8
AVH	Avacha	1.79	252	*e*P	Pn	17 29 47.9	-0.3
AVH				*i* S	Sn	17 30 10.5	+0.1
KOK	Koryaka	1.84	253	*i* P	Pn	17 29 48.5	-0.4
KOK				*i* S	Sn	17 30 12.8	+1.2
PET	Petropavlovsk	1.93	246	P	Pn	17 29 49.5	-0.7
PET				S	Sn	17 30 12.5	-1.5
PET	Petropavlovsk	1.93	246	*e*P	Pn	17 29 49.5	-0.7
PET				*e*S	Sn	17 30 12.2	-1.8
PET	Petropavlovsk	1.93	246	⇑*i*PN	Pn	17 29 49.6	-0.6
PET				*e*S	Sn	17 30 12.1	-1.9
PET				pmax	pmax		
	comp=Z,53nm,0.4s						
PET				smax			
	comp=N,422nm,0.5s						
KMNR	Kamenistaya	2.06	338	*i* P	Pn	17 29 53.0	+1.0
KMNR				*e*S	Sn	17 30 17.3	+0.1
GNL	Ganaly	2.16	267	*e*P	Pn	17 29 53.6	+0.1
GNL				*e*S	Sn	17 30 19.6	-0.2
LGNR	Loginova	2.29	348	*e*P	Pn	17 29 56.1	+0.7
LGNR				*e*S	Sn	17 30 24.4	+1.2
CIRR	Tsirk	2.32	348	*e*P	Pn	17 29 57.2	+1.5
CIRR				*e*S	Sn	17 30 25.2	+1.4
RUS	Russkaya	2.33	234	*e*P	Pn	17 29 56.4	+0.5
RUS				*e*S	Sn	17 30 25.6	+1.6
KOZ	Kozyrevsk	2.42	337	P	Pn	17 29 58.5	+1.3
KOZ				S	Sn	17 30 28.2	+1.9
KOZ	Kozyrevsk	2.42	337	*i* P	Pn	17 29 58.5	+1.3
KOZ				*e*S	Sn	17 30 26.9	+0.6
KOZR	Kozyr	2.42	337	PN	Pn	17 29 58.5	+1.3
KOZR				S	Sn	17 30 28.2	+1.8
KRSR	Krestovskiy	2.44	347	*i* P	Pn	17 29 57.2	-0.3
KRSR				*i* S	Sn	17 30 25.9	-1.0
KBTR	Krutoberegovo	2.47	16	P	Pn	17 29 57.4	-0.5
KBTR				S	Sn	17 30 26.6	-1.0
KBTR	Krutoberegovo	2.47	16	*e*P	Pn	17 29 57.5	-0.4
KBTR				*e*S	Sn	17 30 26.9	-0.7
GRL	Gorelyy	2.48	240	*e*P	Pn	17 29 59.2	+1.2
GRL				*i* S	Sn	17 30 28.5	+0.7
KBG	Krutoberegovo	2.50	15	*e*P	Pn	17 29 58.0	-0.3
KBG				*e*S	Sn	17 30 27.5	-0.8
KBG				Smax			
	comp=N,580nm,1.0s						
KLY	Klyuchi	2.52	348	P	Pn	17 29 58.3	-0.4
KLY				S	Sn	17 30 27.7	-1.3
KLY	Klyuchi	2.52	348	*e*P	Pn	17 29 58.1	-0.6
KLY				*e*S	Sn	17 30 27.6	-1.4
ESO	Esso	2.66	323	*e*P	Pn	17 30 00.5	-0.1
ESO				*e*S	Sn	17 30 31.0	-1.4
ESO				Smax			
	comp=N,80nm,1.0s						
SRDR	Sredinnyy	2.69	337	*e*P	Pn	17 30 01.4	+0.3
SRDR				*e*S	Sn	17 30 33.7	+0.4
SVLR	Shiveluch	2.74	356	*e*P	Pn	17 30 02.5	+0.8
SVLR				*e*S	Sn	17 30 35.0	+0.5
APC	Apacha	2.80	252	*i* P	Pn	17 30 04.0	+1.3
APC				*i* S	Sn	17 30 37.4	+1.3
APC				Smax			
	comp=N,90nm,0.8s						
BKI	Bering	2.90	60	*i* P	Pn	17 30 02.7	-1.3
BKI				*i* S	Sn	17 30 33.7	-4.8
BKI				Smax			
	comp=N,110nm,0.3s						
MIPR	Malaya Ipel'ka	3.31	243	*e*P	Pn	17 30 11.8	+2.0
MIPR				*e*S	Sn	17 30 50.5	+1.7
PAU	Pauzhetka	3.76	232	P	Pn	17 30 18.0	+1.8
PAU				*e*S	Sn	17 31 02.0	+1.8
SKR	Severo-Kuril's	4.62	229	*e*P	Pn	17 30 28.4	0.0
SKR				*e*S	Sn	17 31 17.0	-4.9

NEIC 10 17:38:28.4, 32.19S×70.01W, h151^{km}, MD3.1(GUC), After GUC.

GUC 10 17:38:28.4±0.7, 32.19S×70.01W, h151^{km}±7^{km}, MD3.1, ML3.5, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.69	225	⇑*i*P	P	17 38 51.2	-0.2
JACH				*i* S	S	17 39 08.8	-0.2
CMCH	Combarbala	1.32	320	⇓*i*P	P	17 38 56.7	+0.2
CMCH				*i* S	S	17 39 18.5	+0.2
CMCH				AML	AML	17 39 19.0	
	comp=N,1μm,0.5s						
RCDM	Rinconada Maip	1.46	207	*i* P	P	17 38 58.1	+0.1
RCDM				*i* S	S	17 39 20.6	-0.1
RCDM				AML	AML	17 39 21.5	
	comp=E,661nm,0.3s						
PCH	Pirque	1.49	196	⇑*i*P	P	17 38 58.3	+0.1
PCH				*i* S	S	17 39 21.4	+0.1
CHCH	Chadas Angostu	1.82	197	⇑*i*P	P	17 39 02.2	+0.3
CHCH				*i* S	S	17 39 27.2	-0.4
CACH	El Canelo	1.98	194	⇑*i*P	P	17 39 04.7	+1.0
CACH				*i* S	S	17 39 32.0	+1.1
TLL	Tololo Astrono	2.13	341	⇓*i*P	P	17 39 06.1	+0.6
TLL				*i* S	S	17 39 34.3	+0.3
TLL				AML	AML	17 39 39.8	
	comp=N,92nm,0.4s						
CICH	Cipreses	2.15	189	⇑*i*P	P	17 39 05.8	+0.1
CICH				*i* S	S	17 39 34.7	+0.2
SFDO	San Fernando	2.56	199	⇑*i*P	P	17 39 11.0	+0.1
SFDO				*i* S	S	17 39 42.7	-0.7

IDC 10 18:00:31.8±2.2, 43.38N×105.13W, mb4.0/2, mb1 3.9/5, mb1mx3.6/21, ML3.6/3, Error ellipse: s-maj=52.8km s-min=9.9km az=155.0

NEIC 10 18:00:33.2±0.8, 43.77N×105.06W, ML3.4, Error ellipse: s-maj=13.3km s-min=9.7km az=151.0, Suspected Mining explosion.

NEIC 70 km [40 miles] SSE of Gillette.

ISC 10 18:00:32.0±0.9, 43.74N±0.09×105.1W±0.1, n13, σ1^{s}16/13, mb4.1/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	3.44	255	Pn	Pn	18 01 28.2	+0.3
	3.8nm,0.3s,baz=76,slow=16,SNR=73						
PDAR				Lg		18 02 14.2	
	4.7nm,0.3s,baz=79,slow=32,SNR=4.6						
BW06	Boulder Array	3.44	255	*e*P	Pn	18 01 27.5	-0.5
ISCO	Idaho Springs	3.96	186	Pn	Pn	18 01 35.8	+0.4
MOOW	Moose Ponds	4.13	272	*e*P	Pn	18 01 38.3	+0.6
REDW	Red Top Meadow	4.24	267	*e*Pn	Pn	18 01 39.3	0.0
TPAW	Teton Pass	4.29	269	*e*P	Pn	18 01 40.5	+0.3
BOZ	Bozeman (W)	5.07	294	*e*Pn	Pn	18 01 49.2	-1.9
	1.5nm,0.6s						
HWUT	Hardware Ranch	5.26	248	*e*Pn	Pn	18 01 52.4	-1.4
	5.5nm,0.5s						
HLID	Hailey	6.80	272	*e*Pn	Pn	18 02 15.9	+0.4
	2.0nm,0.5s						
ULM	Lac du Bonnet	9.03	41	Pn	P	18 02 44.5	-2.2
	1.2nm,0.3s,baz=220,slow=13,SNR=8.0						
YKA	Yellowknife Ar	19.60	347	P	P	18 05 06.7	+2.4
	0.1nm,0.3s,baz=154,slow=8.9,SNR=5.2						
ARCES	ARCESS Array B	61.37	18	P	P	18 10 51.3	-0.1
	1.1nm,0.5s,mb4.2,baz=339,slow=7.7,SNR=9.9						
MKAR	Makanchi Array	89.62	355	P	P	18 13 34.0	+1.6
	0.6nm,0.7s,mb3.9,baz=13,slow=4.5,SNR=5.9						

LDG 10 18:09:50.9±0.1, 47.92N×6.49E, h19^{km}, Md2.0/2, Ml2.1/6, Error ellipse: s-maj=1.4km s-min=1.2km az=169.0

STR 10 18:09:51.1±0.1, 47.92N×6.51E, h10^{km}±1^{km}, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 10 18:09:51.2±0.4, 47.92N±0.03×6.51E±0.04, h19^{km}, n14, σ0^{s}91/29, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAU	Haudompre	0.14	307	*e*Pg	Pb	18 09 55.1	-0.4
HAU				*e*Sg	Sb	18 09 58.3	-0.1
	46nm,0.3s						
HINF	Hinteralfeld	0.25	115	*e*Pg	Pb	18 09 57.1	0.0
HINF				*e*Sg	Sb	18 10 01.0	0.0
	13nm,0.2s						
MOF	Molkenrain	0.42	99	Pg	Pb	18 10 00.1	+0.2
MOF				Sg	Sb	18 10 05.7	-0.1
THEF	They Montfort	0.47	311	Pg	Pb	18 10 00.4	-0.3
THEF				Sg	Sb	18 10 06.7	-0.3
LOMF	Lomont	0.61	160	Pg	Pb	18 10 02.8	-0.2
LOMF				Sg	Sb	18 10 11.4	+0.3
CDF	Champ du Feu	0.71	46	*e*Pn	Pn	18 10 04.5	-1.6
CDF				*e*Pg	Pb	18 10 05.1	+0.4
CDF				*e*Sg	Sb	18 10 14.9	+0.9
	3.7nm,0.2s						
WLS	Welschbruch	0.75	48	Pg	Pb	18 10 05.4	0.0
RFYF	Reffroy	0.99	316	*e*Pg	Pb	18 10 10.1	+0.5
	baz=136						
RFYF				*e*Sg	Sb	18 10 22.4	+0.2
	7.7nm,0.2s,baz=138						
SFTF	Sexfontaines	1.03	287	*e*Pn	Pn	18 10 08.7	-2.0
SFTF				*e*Pg	Pb	18 10 10.1	-0.1
SFTF				*e*Sg	Sb	18 10 22.7	-0.6
	5.4nm,0.2s						
MEZF	Maizieres J'vi	1.14	301	*e*Pg	Pb	18 10 12.3	+0.3
MEZF				*e*Sg	Sb	18 10 26.9	+0.5
	4.1nm,0.3s						
CABF	La Chapelle	1.34	193	*e*Pn	Pn	18 10 13.1	-2.1
CABF				*e*Pg	Pn	18 10 16.3	+1.1
CABF				*e*Sg	Sb	18 10 32.0	-0.4
	2.0nm,0.3s						
LOR	Lormes	1.91	251	*e*Pg	Pn	18 10 26.2	+2.9
LOR				*e*Sg	Sn	18 10 50.8	+3.7
	1.5nm,0.2s						
SSF	Saint Saulge	2.21	248	*e*Pg	Pn	18 10 31.6	+3.9
SMF	Signal de Mont	2.22	236	*e*Pg	Pn	18 10 32.2	+4.4
SMF				*e*Sg	Sn	18 10 59.8	+4.8
	1.9nm,0.3s						

IDC 10 18:12:50.6±7.5, 31.97S×179.24E, h311^{km}±114^{km}, mb3.4/4, mb1 3.5/5, mb1mx3.3/14, Error ellipse: s-maj=204.0km s-min=70.9km az=104.0

NEIC 10 18:12:54.7±3.0, 32.52S×179.42E, h382^{km}±16^{km}, mb3.7/3, Error ellipse: s-maj=54.5km s-min=20.4km az=63.0

ISC 10 18:12:50.0±1.4, 32.3S±0.1×179.8E±0.2, h372^{km}±17^{km}, n32, σ1^{s}00/41, mb3.5/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.38	193	*e*P	P	18 14 14.7	-0.7
MXZ				S	S	18 15 23.0	+0.6
MXZ	Matakaoa Point	5.38	193	P	P	18 14 18.4	+3.0
MXZ				S	S	18 15 23.1	+0.7
PUZ	Puketiti	5.89	192	*e*P	P	18 14 20.0	-1.0
PUZ				S	S	18 15 31.9	-0.5
PUZ	Puketiti	5.89	192	*e*P	P	18 14 20.2	-0.8
PUZ				S	S	18 15 31.9	-0.5
MWZ	Matawai	6.29	196	*e*P	P	18 14 24.6	-1.0
MWZ				S	S	18 15 41.9	+1.2
MWZ	Matawai	6.29	196	*e*P	P	18 14 27.7	+2.1
URZ	Urewera	6.33	199	P	P	18 14 27.1	+1.1
	2.5nm,0.3s,baz=27,slow=11,SNR=73						
URZ				S	S	18 15 42.3	+0.8
	5.3nm,0.3s,baz=79,slow=24,SNR=14						
URZ	Urewera	6.33	199	*e*P	P	18 14 24.6	-1.4
URZ	Urewera	6.33	199	*e*P	P	18 14 27.1	+1.1
KNZ	Kokohu	6.92	194	*e*P	P	18 14 34.0	+1.2
KNZ	Kokohu	6.92	194	P	P	18 14 34.1	+1.3
PWZ	Pawanui	8.06	196	*e*P	P	18 14 46.3	+0.2
PWZ	Pawanui	8.06	196	*e*P	P	18 14 46.1	0.0
TSZ	Takapari Road	8.33	201	*e*P	P	18 14 49.2	-0.1
TSZ	Takapari Road	8.33	201	*e*P	P	18 14 49.4	+0.1
MRZ	Mangatainoka R	9.00	201	*e*P	P	18 14 55.9	-1.2
MRZ				S	S	18 16 35.7	-1.8
MRZ	Mangatainoka R	9.00	201	*e*P	P	18 14 56.4	-0.7
MTW	Mount Morrison	9.48	200	*e*P	P	18 15 02.4	-0.4
NNZ	Nelson	10.27	208	*e*P	P	18 15 11.9	-0.3
NNZ				S	S	18 17 05.7	+1.0
NNZ	Nelson	10.27	208	*e*P	P	18 15 11.3	-0.9
THZ	Tophouse	10.92	208	*e*P	P	18 15 18.1	-1.9
THZ				S	S	18 17 18.2	-0.4
THZ	Tophouse	10.92	208	*e*P	P	18 15 19.0	-1.0
KHZ	Kahutara	11.25	204	*e*P	P	18 15 22.5	-1.3
KHZ	Kahutara	11.25	204	*e*P	P	18 15 23.0	-0.8
STKA	Stephens Creek	32.25	260	P	P	18 18 48.7	+1.9
	1.4nm,0.9s,mb3.2,baz=90,slow=9.1,SNR=4.4						
STKA	Stephens Creek	32.25	260	P	P	18 18 48.7	+1.9
CTA	Charters Tower	32.32	284	P	P	18 18 47.8	+0.3
	1.3nm,0.4s,mb3.5,baz=99,slow=13,SNR=7.5						
CTAO	Charters Tower	32.32	284	*e*P	P	18 18 47.8	+0.3
	1.8nm,0.5s,mb3.6						
ASAR	Alice Springs	41.17	270	P	P	18 20 01.2	+0.2
	1.0nm,0.4s,mb3.4,baz=107,slow=7.4,SNR=19						
WRAB	Tennant Creek	42.33	275	*e*P	P	18 20 09.7	-0.8
	3.2nm,0.6s,mb3.6						
WRA	Warramunga Arr	42.33	275	P	P	18 20 10.1	-0.4
	1.5nm,0.4s,mb3.5,baz=112,slow=7.9,SNR=17						
VNDA	Vanda	46.02	185	*e*P	P	18 20 39.6	+0.7
	1.1nm,0.3s,mb3.5						

IDC 10 19:01:13.5±1.7, 2.09S×126.91E, mb3.5/4, mb1 3.5/5, mb1mx3.4/16, ML3.3/1, Error ellipse: s-maj=218.0km s-min=21.6km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.17	158	P	P	19 05 40.6	-0.7
	0.1nm,0.3s,baz=334,slow=11,SNR=5.9						
ASAR	Alice Springs	22.49	163	P	P	19 06 14.9	-1.2
	0.1nm,0.6s,baz=354,slow=8.2,SNR=2.7						
STKA	Stephens Creek	32.70	156	P	P	19 07 46.3	-3.7
	1.9nm,0.9s,baz=338,slow=14,SNR=2.9						
MKAR	Makanchi Array	62.46	327	P	P	19 11 39.2	-1.8
	0.5nm,0.7s,baz=113,slow=9.2,SNR=4.4						
BVAR	Borovoye Array	72.30	328	P	P	19 12 40.6	-2.2
	0.4nm,0.5s,baz=101,slow=7.6,SNR=3.9						

*IDC **10** 19:10:17.7±0.6,52.30S×14.02E,mb4.5/13,mb1 4.6/13, mb1mx4.5/16,MS4.6/17,Ms1 4.6/17,ms1mx4.5/21,Error ellipse: s-maj=23.8km s-min=16.9km az=43.0*

*HRVD **10** 19:10:19.5±0.2,52.35S×14.11E,h12km,MW5.2/60, Centroid moment Tensor Solution. LP body waves: s32,c49;Mantle waves: s60,c103; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.11±.14; $M_{\theta\theta}$6.59±.13; $M_{\phi\phi}$-0.49±.14; $M_{r\theta}$0.24±.37; $M_{\theta\phi}$-1.12±.13; $M_{\phi r}$-0.74±.42; Best double couple: $M_0$6.49×10^{16} NP1: ϕ_s92°,δ44°,λ-100°. NP2:ϕ_s286°,δ47°,λ-80°. Principal axes: T 6.77, Plg2°, Azm9°; N -.57, Plg7°, Azm99°; P -6.21, Plg83°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **10** 19:10:19.4,52.50S×13.70E,h10km,mB5.2,Ms5.0, Msz5.0*

*NEIC **10** 19:10:19.5±0.3,52.50S×13.70E,h10km,mb4.9/8, MS4.8/3,Error ellipse: s-maj=11.3km s-min=9.9km az=78.0*

ISC 10 19:10:17.9±0.4**,52.48S**±0.06×**13.7E**±0.1**,h10km,n72,** σ**1ˢ09**/42**,mb4.6**/15**,MS4.6**/18**,9C-6D,Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.61**	**195**		**P**	**19 14 56.0**	**-3.4**
SNAA	**Sanae**	**20.61**	**195**	⇑*i*	**P**	**19 15 00.2**	**+0.8**
SNAA	**Sanae**	**20.61**	**195**	⇓*i*	**P**	**19 15 15.0**	**+16**
SNAA	**Sanae**	**20.61**	**195**	S	**S**	**19 18 43.0**	**-1.8**
SNAA	**Sanae**	**20.61**	**195**	⇑*i*P	**P**	**19 14 53.8**	**-5.6**
SNAA				P		19 14 56.0	
SNAA				⇑*i*P		19 15 00.2	
SNAA				⇓*i*P		19 15 15.0	
SNAA				S	**S**	**19 18 43.0**	**-1.8**
SUR	**Sutherland**	**20.74**	**17**	P	**P**	**19 14 59.2**	**-1.8**
	16nm,1.0s,baz=197,slow=12,SNR=3.5						
SUR				LR	LR	19 21 11.0	
	comp=Z,2µm,19.1s,MS4.5,baz=16,slow=32						
SUR	**Sutherland**	**20.74**	**17**	*e*P	**P**	**19 14 59.5**	**-1.5**
VNA1	**Neumayer--Stat**	**20.78**	**201**	⇓*i*	**P**	**19 14 56.3**	**-4.9**
VNA1	**Neumayer--Stat**	**20.78**	**201**	⇑*i*	**P**	**19 14 58.3**	**-2.9**
VNA1	**Neumayer--Stat**	**20.78**	**201**	⇓*i*	**P**	**19 15 06.3**	**+5.1**
VNA1	**Neumayer--Stat**	**20.78**	**201**		**P**	**19 15 17.2**	**+16**
VNA1	**Neumayer--Stat**	**20.78**	**201**	P	**P**	**19 14 53.5**	**-7.7**
VNA1				⇓*i*P		19 14 56.3	
VNA1				⇑*i*P		19 14 58.3	
VNA1				⇓*i*P		19 15 06.3	
VNA1				P		19 15 17.2	
VNA2	**Neumayer--Watz**	**20.81**	**199**	⇑*i*	**P**	**19 15 17.8**	**+16**
VNA2	**Neumayer--Watz**	**20.81**	**199**	⇑*i*P	**P**	**19 15 05.1**	**+3.6**
VNA2				⇑*i*P		19 15 17.8	
VNA2				*i* S	**S**	**19 18 50.8**	**+2.0**
MAW	**Mawson**	**27.87**	**142**	*e*P	**P**	**19 16 09.2**	**+0.1**
	8.1nm,1.0s,mb4.3						
MAW	**Mawson**	**27.87**	**142**	P	**P**	**19 16 09.6**	**+0.5**
	9.5nm,0.9s,mb4.4,baz=271,slow=12,SNR=15						
MAW				LR	LR	19 25 00.7	
	comp=Z,2µm,20.8s,MS4.7,baz=289,slow=32						
TSUM	**Tsumeb**	**33.35**	**7**	LR	LR	19 28 13.8	
	comp=Z,1µm,19.8s,MS4.7,baz=208,slow=32						
LSZ	**Lusaka**	**38.86**	**23**	P	**P**	**19 17 45.6**	**+0.7**
CASY	**Casey**	**46.04**	**146**	*e*P	**P**	**19 18 42.8**	**0.0**
	27nm,1.5s,mb5.0						
VNDA	**Vanda**	**48.76**	**171**	P	**P**	**19 19 04.7**	**+0.7**
	6.1nm,0.9s,mb4.7,baz=224,slow=8.3,SNR=22						
VNDA				LR	LR	19 38 25.0	
	comp=Z,2µm,20.4s,MS5.1,baz=194,slow=34						
VNDA	**Vanda**	**48.76**	**171**	*e*P	**P**	**19 19 04.0**	**0.0**
	8.5nm,1.0s,mb4.7						
VNDA				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
SBA	**Scott Base**	**48.88**	**173**	*e*P	**P**	**19 19 04.1**	**-0.7**
	comp=Z,8.0nm,0.9s,mb4.8						
SBA				LR	LR		
	comp=Z,943nm,19.0s,MS4.8						
TRQA	**Tornquist**	**52.77**	**254**	*e*P	**P**	**19 19 35.0**	**0.0**
	comp=Z,16nm,1.4s,mb4.8						
KMBO	**Kilima Mbogo**	**54.82**	**29**	LR	LR	19 42 14.3	
	comp=Z,716nm,18.4s,MS4.8,baz=99,slow=35						
KMBO	**Kilima Mbogo**	**54.82**	**29**	*e*P	**P**	**19 19 51.5**	**+1.1**
PLCA	**Paso Flores**	**55.90**	**246**	P	**P**	**19 19 59.6**	**+1.8**
	comp=Z,3.5nm,1.1s,mb4.3,baz=147,slow=9.1,SNR=3.4						
PLCA				LR	LR	19 39 42.4	
	comp=Z,402nm,19.0s,MS4.5,baz=134,slow=31						
PLCA	**Paso Flores**	**55.90**	**246**	*e*P	**P**	**19 19 56.1**	**-1.7**
PLCA				LR	LR		
	comp=Z,479nm,20.0s,MS4.6						
CPUP	**Villa Florida**	**58.17**	**267**	P	**P**	**19 20 13.6**	**-0.5**
	comp=Z,9.0nm,0.9s,mb4.8,baz=149,slow=5.3,SNR=15						
CPUP				LR	LR	19 39 49.3	
	comp=Z,261nm,21.7s,MS4.3,baz=163,slow=30						
CPUP	**Villa Florida**	**58.17**	**267**	*e*P	**P**	**19 20 13.6**	**-0.6**
	comp=Z,22nm,1.3s,mb5.0						
BDFB	**Brasilia**	**60.59**	**283**	P	**P**	**19 20 31.3**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.7,baz=153,slow=2.3,SNR=4.9						
BDFB				LR	LR	19 41 33.1	
	comp=Z,268nm,18.6s,MS4.4,baz=136,slow=31						
DBIC	**Dimbokro**	**61.01**	**339**	P	**P**	**19 20 31.8**	**-2.1**
	comp=Z,4.8nm,0.8s,mb4.7,baz=170,slow=12,SNR=5.2						
DBIC				LR	LR	19 44 37.7	
	comp=Z,604nm,18.0s,MS4.8,baz=167,slow=34						
DBIC	**Dimbokro**	**61.01**	**339**	P	**P**	**19 20 31.8**	**-2.1**
DBIC				LR	LR	19 44 37.7	
LVC	**Limon Verde**	**67.97**	**261**	P	**P**	**19 21 20.9**	**+1.8**
	comp=Z,6.8nm,0.9s,mb4.7,baz=117,slow=4.1,SNR=7.2						
LVC	**Limon Verde**	**67.97**	**261**	*e*P	**P**	**19 21 18.9**	**-0.2**
	comp=Z,24nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**72.08**	**121**	LR	LR	19 46 24.7	
	comp=Z,333nm,18.7s,MS4.6,baz=192,slow=30						
LPAZ	**La Paz**	**72.31**	**266**	P	**P**	**19 21 47.5**	**+2.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=115,slow=2.5,SNR=13						
LPAZ	**La Paz**	**72.31**	**266**	*e*P	**P**	**19 21 45.6**	**0.0**
	comp=Z,27nm,1.4s,mb5.0						
ARE	**Arequipa**	**74.22**	**264**	*e*P	**P**	**19 21 55.7**	**-1.0**
STKA	**Stephens Creek**	**84.48**	**138**	P	**P**	**19 22 51.4**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.6,baz=194,slow=4.9,SNR=4.4						
ASAR	**Alice Springs**	**88.07**	**128**	P	**P**	**19 23 09.6**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.8,baz=203,slow=4.9,SNR=27						
ASAR				LR	LR	19 55 16.7	
	comp=Z,234nm,19.8s,MS4.6,baz=207,slow=31						
FITZ	**Fitzroy Crossi**	**88.45**	**118**	LR	LR	19 58 28.8	
	comp=Z,114nm,18.2s,MS4.3,baz=239,slow=33						
TIP	**Timpagrande**	**91.32**	**2**	*e*P	**P**	**19 23 26.0**	**+1.6**
WRA	**Warramunga Arr**	**91.43**	**126**	P	**P**	**19 23 24.9**	**-0.5**
	comp=Z,0.6nm,0.6s,mb4.1,baz=211,slow=3.8,SNR=5.4						
WRA				LR	LR	20 00 41.9	
	comp=Z,284nm,20.3s,MS4.7,baz=195,slow=33						
ROSC	**El Rosal**	**92.62**	**274**	LR	LR	20 01 50.1	
	comp=Z,231nm,19.3s,MS4.6,baz=221,slow=33						
ESDC	**Sonseca Array**	**93.06**	**346**	P	**P**	**19 23 32.8**	**+0.4**
	comp=Z,0.2nm,0.2s,mb4.1,baz=184,slow=3.7,SNR=6.9						
ESDC				LR	LR	20 03 24.3	
	comp=Z,240nm,19.3s,MS4.7,baz=140,slow=34						
BRTR	**Keskin Array B**	**93.45**	**15**	LR	LR	20 11 44.3	
	comp=Z,162nm,18.4s,MS4.5,baz=210,slow=40						
CTA	**Charters Tower**	**96.81**	**136**	LR	LR	20 03 58.2	
	comp=Z,216nm,18.6s,MS4.7,baz=207,slow=33						
WMQ	**Urumqi**	**115.07**	**50**	⇑PKP	PKPdf	19 28 56.4	-5.2
NJ2	**Nanjing**	**123.61**	**80**	*e*PKP	PKPdf	19 29 14.9	-3.6
TXAR	**Lajitas Array**	**129.14**	**269**	PKP	PKPdf	19 29 28.8	-0.4
	comp=Z,0.4nm,0.2s,baz=127,slow=4.5,SNR=3.5						
CN2	**Changchun**	**135.21**	**73**	*e*PKP	PKPdf	19 29 41.1	+0.9
MSU	**Marysvale**	**140.52**	**271**	PKP	PKPdf	19 29 49.5	-0.4
PDAR	**Pinedale Array**	**141.47**	**279**	PKhKP		19 29 42.7	
	comp=Z,0.9nm,1.0s,baz=117,slow=3.3,SNR=4.7						
PDAR				PP	PP	19 32 58.1	+2.8
	comp=Z,0.7nm,1.1s,baz=45,slow=2.1,SNR=3.9						
MNV	**Mina**	**144.13**	**266**	PKP	PKPdf	19 29 54.9	-1.2
NVAR	**Mina Array Bea**	**144.22**	**266**	PKP	PKPdf	19 29 53.9	-2.4
	comp=Z,2.4nm,1.1s,baz=198,slow=2.9,SNR=8.8						
BOZ	**Bozeman (W)**	**144.29**	**281**	PKP	PKPdf	19 29 53.7	-2.5
RES	**Resolute Bay**	**144.54**	**334**	*e*PKP	PKPdf	19 29 53.4	-2.5
MCMT	**McKenzie Canyo**	**144.60**	**279**	*e*PKP	PKPdf	19 29 55.0	-1.8
HLID	**Hailey**	**144.86**	**276**	*e*PKP	PKPdf	19 29 56.0	-1.3
CMB	**Columbia Colle**	**145.24**	**264**	*e*PKP	PKPdf	19 29 57.0	-1.2
CHMT	**Chamberlain Mo**	**145.91**	**282**	*e*PKP	PKPdf	19 29 58.9	-0.1
OHCM	**Honcut**	**146.72**	**265**	*e*PKP	PKPdf	19 30 01.2	+0.6
WVOR	**Wild Horse Val**	**146.81**	**272**	*e*PKPbc	PKPbc	19 30 02.0	+2.9
WDC	**Whiskeytown Da**	**148.12**	**266**	PKPbc	PKPdf	19 30 04.7	+1.9
DPW	**Davenport**	**149.32**	**281**	PKPbc	PKPdf	19 30 07.0	+2.5
HUMO	**Hull Mountain**	**149.55**	**269**	*e*PKPbc	PKPdf	19 30 09.3	+4.3
LON	**Longmire**	**150.99**	**277**	*e*PKPbc	PKPdf	19 30 11.8	+4.7
YKA	**Yellowknife Ar**	**151.25**	**311**	PKPbc	PKPdf	19 30 10.6	+3.6
	comp=Z,3.7nm,0.8s,baz=92,slow=2.2,SNR=18						
YKA				PKPab	PKPab	19 30 18.2	-2.1
	comp=Z,2.9nm,0.8s,baz=94,slow=2.3,SNR=12						
YKA	**Yellowknife Ar**	**151.25**	**311**	PKPbc	PKPdf	19 30 10.7	+3.6
YKA				PKPab	PKPab	19 30 18.2	-2.1
YKW3	**Yellowknife Ar**	**151.26**	**311**	*e*PKPbc	PKPdf	19 30 10.5	+3.5
BMW	**Boistfort Moun**	**151.72**	**275**	*e*PKPbc	PKPdf	19 30 14.4	+6.1
ILAR	**Eielson Array**	**164.16**	**329**	PKPab	PKPab	19 31 14.6	-1.0
	comp=Z,1.7nm,1.1s,baz=29,slow=2.9,SNR=9.9						

*NEIC **10** 19:38:46.4,16.90N×100.23W,h10km,MD3.7(MEX),After MEX.*

MEX 10 19:38:46.5±1.0**,16.90N×100.23W,h10km,MD3.8,1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.15**	**348**	⇓*i*P	Pg	19 38 48.7	-1.3
CAIG				*i* S	Sg	19 38 52.0	-0.3
ZIIG	**Zihuatanejo**	**1.37**	**301**	*i* P	Pn	19 39 08.1	-3.7
ZIIG				*i* S	Sb	19 39 25.8	-3.5
YAIG	**Yautepec**	**2.25**	**29**	*i* P	Pn	19 39 21.6	-2.7
YAIG				*i* S	Sn	19 39 49.0	-3.3
PPM	**Popocatepetl**	**2.64**	**35**	*e*P	Pn	19 39 25.0	-5.0
PPM				*e*P		19 39 26.5	
PPM				*i* S	Sn	19 40 00.0	-2.4
PPM				*i* S	Sn	19 40 00.3	-2.1
PPM	**Popocatepetl**	**2.64**	**35**	*e*P	Pn	19 39 25.0	-5.0
PPM				*i* S	Sn	19 40 00.0	-2.4
OXX	**Oaxaca**	**3.36**	**86**	*e*P	Pn	19 39 40.0	-0.2
SFJM	**Santa Fe**	**4.45**	**324**	*e*P	Pn	19 39 53.0	-2.7

IDC 10 19:45:21.1±13.0**,41.39S×124.80E,mb3.6**/1**,mb1 3.8**/4**, mb1mx3.6**/12**,ML3.5**/2**,Error ellipse: s-maj=186.0km s-min=39.7km az=16.0,South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**10.38**	**322**	Pn	P	19 47 50.5	-3.7
	0.5nm,0.3s,baz=140,slow=14,SNR=8.2						
NWAO				Sn	S	19 49 50.0	-2.5
	0.4nm,0.3s,baz=170,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**16.46**	**60**	Pn	P	19 49 12.7	-2.3
	0.2nm,0.3s,baz=235,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**19.24**	**26**	P	P	19 49 48.6	-0.8
	0.1nm,0.3s,baz=200,slow=11,SNR=9.0						
WRA	**Warramunga Arr**	**22.86**	**24**	P	P	19 50 25.4	-1.8
	1.5nm,0.7s,baz=198,slow=12,SNR=9.3						

*BJI **10** 19:58:53.7,18.20S×66.70W,h279km,mB4.9*

*IDC **10** 19:58:53.6±0.7,18.19S×66.73W,h278km±6km,mb3.9/14, mb1 4.1/18,mb1mx4.1/20,Error ellipse: s-maj=14.7km s-min=8.5km az=78.0*

*NEIC **10** 19:58:53.7±0.7,18.17S×66.74W,h280km±7km,mb4.7/17, Error ellipse: s-maj=12.1km s-min=6.0km az=70.0*

ISC 10 19:58:53.3±0.5**,18.22S**±0.03×**66.79W**±0.07**,h291**km±5km**, n82,** σ**1ˢ16**/77**,mb4.4**/28**,5C-2D,Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.31**	**326**	P	**P**	**19 59 43.6**	**+1.4**
	261nm,0.3s,baz=135,slow=6.4,SNR=4034						
LPAZ				S	**S**	**20 00 20.6**	**+0.3**
	35nm,0.3s,baz=342,slow=21,SNR=9.9						
LPAZ	**La Paz**	**2.31**	**326**	⇑*i*P	**P**	**19 59 43.5**	**+1.3**
LVC	**Limon Verde**	**4.80**	**204**	P	**P**	**20 00 09.3**	**+0.6**
	66nm,0.3s,baz=10,slow=7.8,SNR=776						
LVC				S	**S**	**20 01 06.8**	**-0.9**
	97nm,0.3s,baz=174,slow=20,SNR=29						
LVC	**Limon Verde**	**4.80**	**204**	*e*P	**P**	**20 00 09.0**	**+0.3**
ARE	**Arequipa**	**4.82**	**291**	⇑*i*P	**P**	**20 00 09.6**	**+0.7**
ARE				*e*S	**S**	**20 01 09.4**	**+1.4**
ANCH	**Antofagasta**	**6.40**	**211**	*e*P	**P**	**20 00 26.4**	**-1.4**
ANCH				*e*S	**S**	**20 01 36.5**	**-5.5**
CPN1	**Cerro Paranal**	**7.21**	**207**	*e*P	**P**	**20 00 37.5**	**-0.3**
CPN1				*e*S	**S**	**20 01 56.2**	**-3.6**
CPCH	**Copiapo**	**9.67**	**199**	*e*P	**P**	**20 01 09.2**	**+0.9**
CPCH				*e*S	**S**	**20 02 53.4**	**-1.2**
NNA	**Nana**	**11.51**	**301**	*e*P	**P**	**20 01 29.4**	**-1.7**
	82nm,0.6s						
CPUP	**Villa Florida**	**11.91**	**134**	P	**P**	**20 01 35.6**	**-0.4**
	0.9nm,0.3s,baz=328,slow=11,SNR=47						
CPUP	**Villa Florida**	**11.91**	**134**	*e*P	**P**	**20 01 35.3**	**-0.7**
	89nm,1.3s						
TLL	**Tololo Astrono**	**12.44**	**196**	*e*P	**P**	**20 01 43.0**	**+0.5**
TLL				*e*S	**S**	**20 03 55.8**	**-0.6**
MDZ	**Mendoza**	**14.72**	**187**	*e*P	**P**	**20 02 10.8**	**+0.7**
FCH	**Farellones**	**15.37**	**191**	*i* P	**P**	**20 02 17.8**	**+0.3**
FCH				*e*S	**S**	**20 05 04.9**	**+4.5**
BDFB	**Brasilia**	**18.15**	**85**	P	**P**	**20 02 47.2**	**+0.2**
	3.8nm,0.3s,baz=270,slow=11,SNR=21						
TRQA	**Tornquist**	**20.21**	**169**	*e*P	**P**	**20 03 06.2**	**-1.2**
	27nm,0.6s						
OTAV	**Otavalo**	**21.63**	**327**	*e*P	**P**	**20 03 21.6**	**+0.2**
	15nm,0.9s,mb4.3						
PLCA	**Paso Flores**	**22.67**	**187**	P	**P**	**20 03 31.7**	**+0.5**
	9.3nm,0.7s,mb4.2,baz=9.0,slow=11,SNR=40						
PLCA	**Paso Flores**	**22.67**	**187**	*e*P	**P**	**20 03 31.1**	**-0.1**
	13nm,0.8s,mb4.3						
ROSC	**El Rosal**	**24.10**	**341**	P	**P**	**20 03 45.7**	**+0.8**
	22nm,0.7s,mb4.6,baz=159,slow=16,SNR=7.3						
SDV	**Santo Domingo**	**27.20**	**352**	*e*P	**P**	**20 04 08.5**	**-4.5**
	5.9nm,0.8s,mb4.1						
JTS	**JuntasAbangare**	**33.52**	**326**	P	**P**	**20 05 08.1**	**0.0**
	4.9nm,0.5s,mb4.3,baz=150,slow=4.4,SNR=5.4						
JSC	**Jenkinsville**	**53.99**	**345**	P	**P**	**20 07 47.8**	**-2.0**
CPCT	**Cooper Cave**	**55.96**	**343**	P	**P**	**20 08 01.7**	**-2.1**
NATX	**Nacogdoches**	**56.43**	**331**	*e*P	**P**	**20 08 06.9**	**-0.2**
	29nm,0.6s,mb4.9						
ELN	**Prospectdale**	**56.70**	**347**	P	**P**	**20 08 07.7**	**-1.2**
PWV	**Princeton**	**56.87**	**346**	P	**P**	**20 08 08.7**	**-1.4**
JCT	**Junction City**	**57.91**	**326**	*e*P	**P**	**20 08 16.7**	**-0.7**
	7.4nm,0.7s,mb4.2						
LTX	**Lajitas**	**59.17**	**322**	*e*P	**P**	**20 08 25.8**	**-0.4**
TXAR	**Lajitas Array**	**59.17**	**322**	P	**P**	**20 08 26.0**	**-0.2**
	3.5nm,0.7s,mb3.9,baz=145,slow=8.7,SNR=13						
TXAR	**Lajitas Array**	**59.17**	**322**	P	**P**	**20 08 26.0**	**-0.2**
FVM	**French Village**	**60.16**	**339**	*e*P	**P**	**20 08 30.7**	**-2.1**
	20nm,0.6s,mb4.8						
CCM	**Cathedral Cave**	**60.51**	**338**	*e*P	**P**	**20 08 32.9**	**-2.3**
	48nm,1.2s,mb4.9						
BINY	**Binghamton**	**60.71**	**352**	*e*P	**P**	**20 08 35.1**	**-1.3**
	19nm,0.5s,mb4.9						
WMOK	**Wichita Mounta**	**60.81**	**330**	*e*P	**P**	**20 08 35.8**	**-1.4**
VNA1	**Neumayer--Stat**	**62.72**	**161**	⇑*i*P	**P**	**20 08 51.0**	**+1.8**
VNA2	**Neumayer--Watz**	**63.09**	**161**	⇓*i*P	**P**	**20 08 56.2**	**+4.5**
SADO	**Sadowa**	**63.69**	**350**	P	**P**	**20 08 53.6**	**-2.2**
	6.6nm,0.5s,mb4.6,baz=176,slow=8.6,SNR=4.2						
BNM	**Barren Site**	**64.43**	**324**	*e*P	**P**	**20 09 01.5**	**+0.6**
SNAA	**Sanae**	**64.73**	**162**	⇓*i*P	**P**	**20 09 02.9**	**+0.7**
SNAA	**Sanae**	**64.73**	**162**	⇑*i*	PcP	20 09 34.5	+1.1
LAZ	**Ladron**	**64.90**	**324**	*e*P	**P**	**20 09 04.3**	**+0.5**
ANMO	**Albuquerque**	**64.92**	**325**	*e*P	**P**	**20 09 04.3**	**+0.3**
	1.8nm,0.6s,mb3.9						
LIC	**Lamto**	**65.57**	**74**	*e*P	**P**	**20 09 11.0**	**+2.6**
	130nm,2.3s,mb5.3						
TIC	**Toumodi**	**65.74**	**74**	*e*P	**P**	**20 09 10.4**	**+0.9**
	9.7nm,0.2s,mb5.1						
KIC	**Kosan Boka**	**65.89**	**74**	*e*P	**P**	**20 09 09.2**	**-1.2**
	30nm,0.7s,mb5.1						
DBIC	**Dimbokro**	**65.90**	**74**	P	**P**	**20 09 08.5**	**-2.0**
	2.2nm,0.5s,mb4.1,baz=174,slow=10.0,SNR=13						
DBIC	**Dimbokro**	**65.90**	**74**	P	**P**	**20 09 08.5**	**-2.0**
SDCO	**Great Sand Dun**	**66.51**	**327**	*e*P	**P**	**20 09 14.4**	**+0.4**
	22nm,1.2s,mb4.8						
RW3	**Ridgway**	**68.03**	**326**	*e*P	**P**	**20 09 24.2**	**+0.8**
SRU	**San Rafael**	**70.18**	**325**	*e*P	**P**	**20 09 37.3**	**+0.8**
MSU	**Marysvale**	**70.67**	**324**	*e*P	**P**	**20 09 41.0**	**+1.5**
QSPA	**South Pole Qui**	**71.96**	**180**	*e*P	**P**	**20 09 48.2**	**+1.7**
	18nm,0.7s,mb4.8						
DUG	**Dugway**	**72.19**	**325**	*e*P	**P**	**20 09 49.8**	**+1.2**
BW06	**Boulder Array**	**72.33**	**328**	*e*P	**P**	**20 09 49.5**	**+0.2**
PDAR	**Pinedale Array**	**72.33**	**328**	P	**P**	**20 09 49.7**	**+0.4**
	2.8nm,0.4s,mb4.2,baz=123,slow=8.7,SNR=26						
SCHQ	**Schefferville**	**72.75**	**360**	P	**P**	**20 09 50.2**	**-1.4**
	2.1nm,0.5s,mb4.0,baz=200,slow=6.5,SNR=6.1						
SCHQ	**Schefferville**	**72.75**	**360**	P	**P**	**20 09 50.2**	**-1.4**
ULM	**Lac du Bonnet**	**72.84**	**341**	P	**P**	**20 09 51.0**	**-1.1**
	4.3nm,0.4s,mb4.4,baz=154,slow=7.4,SNR=14						
ULM	**Lac du Bonnet**	**72.84**	**341**	*e*P	**P**	**20 09 50.5**	**-1.7**
	6.7nm,0.6s,mb4.5						
MNV	**Mina**	**74.11**	**320**	P	**P**	**20 10 00.7**	**+0.9**
NVAR	**Mina Array Bea**	**74.20**	**320**	P	**P**	**20 10 01.3**	**+1.0**
	1.6nm,0.8s,mb3.7,baz=127,slow=6.9,SNR=9.6						
HLID	**Hailey**	**75.39**	**326**	*e*P	**P**	**20 10 08.1**	**+1.2**
	4.9nm,1.1s,mb4.0						
VNDA	**Vanda**	**80.40**	**190**	P	**P**	**20 10 35.2**	**+1.7**
	1.7nm,0.7s,mb3.9,baz=134,slow=4.4,SNR=6.6						
VNDA	**Vanda**	**80.40**	**190**	P	**P**	**20 10 35.2**	**+1.7**
ESDC	**Sonseca Array**	**82.10**	**44**	P	**P**	**20 10 44.3**	**+1.3**
	0.7nm,0.5s,mb3.6,baz=254,slow=6.5,SNR=5.3						
MAW	**Mawson**	**86.87**	**163**	P	**P**	**20 11 07.7**	**+1.7**
	4.1nm,0.5s,mb4.5,baz=231,slow=7.2,SNR=17						
MAW	**Mawson**	**86.87**	**163**	*e*P	**P**	**20 11 05.9**	**0.0**
	14nm,1.1s,mb4.7						
YKA	**Yellowknife Ar**	**88.79**	**340**	P	**P**	**20 11 15.9**	**+0.8**
	3.1nm,0.5s,mb4.4,baz=129,slow=4.6,SNR=28						
YKW3	**Yellowknife Ar**	**88.84**	**340**	*e*P	**P**	**20 11 15.7**	**+0.4**
ILAR	**Eielson Array**	**102.16**	**334**	PP	PP	20 16 31.4	-1.5
	0.9nm,0.8s,baz=114,slow=7.2,SNR=7.3						
STKA	**Stephens Creek**	**123.24**	**209**	PKP	PKPdf	20 17 18.2	+2.2
	1.2nm,0.7s,baz=282,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**133.73**	**207**	PKhKP		20 17 24.4	
	0.3nm,0.6s,baz=144,slow=2.5,SNR=7.5						
ASAR				PKP	PKPdf	20 17 38.5	+2.1
	1.5nm,0.6s,baz=130,slow=1.9,SNR=19						
ASAR				SKPbc		20 20 40.8	
	1.1nm,0.8s,baz=136,slow=3.8,SNR=8.3						
WRA	**Warramunga Arr**	**136.78**	**210**	PKhKP		20 17 32.3	
	0.5nm,0.5s,baz=148,slow=3.1,SNR=13						
WRA				PKP	PKPdf	20 17 43.7	+1.6
	2.6nm,0.5s,baz=149,slow=1.6,SNR=23						
MKAR	**Makanchi Array**	**141.82**	**35**	PKP	PKPdf	20 17 49.1	-1.2
	0.6nm,0.9s,baz=18,slow=3.8,SNR=5.0						
MKAR				SKPbc		20 21 00.5	
	0.7nm,0.8s,baz=303,slow=2.1,SNR=4.0						
MKAR	**Makanchi Array**	**141.82**	**35**	PKP	PKPdf	20 17 49.1	-1.2
MKAR				SKPbc		20 21 00.5	
FITZ	**Fitzroy Crossi**	**141.89**	**199**	PKhKP		20 17 48.9	
	3.9nm,0.6s,baz=175,slow=4.8,SNR=14						
WMQ	**Urumqi**	**146.65**	**35**	*e*PKP	PKPdf	20 17 58.3	-0.6
WMQ				APKP		20 19 10.9	
WMQ				XPKP		20 19 39.1	
SONM	**Songino Array**	**149.94**	**9**	PKPbc	PKPdf	20 18 11.5	+7.6
	2.1nm,0.5s,baz=340,slow=3.2,SNR=7.0						
CN2	**Changchun**	**152.49**	**341**	*e*PKP	PKPdf	20 18 07.6	-0.2
SSE	**Sheshan**	**165.28**	**332**	⇑PKP	PKPdf	20 18 22.1	-0.9
NJ2	**Nanjing**	**165.31**	**341**	*e*PKP	PKPdf	20 18 22.6	-0.4

*NEIC **10** 20:03:16.2±1.2,30.29N×83.32E,h10km,mb4.0/2,Error ellipse: s-maj=30.3km s-min=12.9km az=47.0*

*IDC **10** 20:03:21.7±7.4,30.41N×83.57E,h46km±70km,mb3.3/5, mb1 3.6/7,mb1mx3.4/20,ML3.7/2,MS2.8/1,Ms1 3.0/1, ms1mx2.3/20,Error ellipse: s-maj=58.2km s-min=20.3km az=52.0*

*NDI **10** 20:03:25.7±4.2,31.27N×83.25E,h10km,MD3.6, mb4.0(NEIC)*

ISC 10 20:03:23.2±1.2**,30.54N**±0.10×**83.76E**±0.08**,h78**km±15km**, n16,** σ**1ˢ18**/17**,mb3.5**/6**,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.23**	**253**	*e*P	**P**	**20 04 13.0**	**+0.2**
PTH				*e*S	**S**	**20 04 51.4**	**+1.1**
LGTI	**Lohaghat**	**3.24**	**251**	*e*P	**P**	**20 04 19.5**	**+6.6**
LGTI				*e*		20 05 03.5	
DDI	**Dehra Dun**	**4.94**	**269**	*e*P	**P**	**20 04 35.0**	**-1.5**
NDI	**New Delhi**	**5.99**	**254**	*e*	**P**	**20 05 08.5**	**+18**
NDI				*e*		20 06 21.0	
LSA	**Lhasa**	**6.45**	**96**	*e*P	**P**	**20 04 57.3**	**-0.2**
	32nm,0.9s						
SHL	**Shillong**	**8.71**	**123**	*e*	**P**	**20 05 22.0**	**-6.5**
MKAR	**Makanchi Array**	**16.27**	**356**	P	**P**	**20 07 09.5**	**+1.5**
	0.3nm,0.3s,baz=180,slow=11,SNR=19						
MKAR	**Makanchi Array**	**16.27**	**356**	P	**P**	**20 07 09.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**18.29**	**128**	P	**P**	**20 07 31.8**	**-1.3**
	0.1nm,0.3s,baz=314,slow=12,SNR=4.6						
CMAR				LR	LR	20 16 18.4	
	comp=Z,29nm,21.5s,baz=160,slow=42						
KURK	**Kurchatov**	**20.52**	**351**	*e*P	**P**	**20 07 54.5**	**-2.7**
	7.5nm,0.9s						
SONM	**Songino Array**	**24.48**	**39**	P	**P**	**20 08 38.0**	**+2.1**
	1.1nm,0.6s,mb3.4,baz=225,slow=8.7,SNR=4.0						
ZRNK	**Zerenda**	**24.86**	**338**	*e*P	**P**	**20 08 38.8**	**-0.9**
	3.3nm,0.9s,mb3.8						
FINES	**FINESS Array B**	**48.32**	**327**	P	**P**	**20 11 58.2**	**-0.1**
	0.8nm,0.7s,mb3.7,baz=90,slow=11,SNR=4.1						
NOA	**NORSAR Array B**	**55.42**	**326**	P	**P**	**20 12 50.8**	**-0.7**
	0.1nm,0.5s,mb3.1,baz=30,slow=7.7,SNR=2.8						
WRA	**Warramunga Arr**	**69.87**	**129**	P	**P**	**20 14 28.6**	**+0.7**
	0.8nm,0.6s,mb3.7,baz=325,slow=6.0,SNR=7.0						
ASAR	**Alice Springs**	**72.23**	**132**	P	**P**	**20 14 42.6**	**+0.7**
	0.5nm,0.7s,mb3.4,baz=319,slow=6.0,SNR=6.0						

IDC 10 20:16:12.5±12.0**,3.18N×127.97E,h137**km±112km**, mb3.8**/6**,mb1 3.9**/6**,mb1mx3.6**/18**,MS3.3**/3**,Ms1 3.4**/3**, ms1mx3.0**/27**,1C,Error ellipse: s-maj=94.6km s-min=16.1km az=59.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**7.00**	**340**	⇑*e*P	P	20 17 33.5	-20
PMG	**Port Moresby**	**22.85**	**123**	LR	LR	20 28 29.5	
	comp=Z,73nm,21.3s,baz=34,slow=32						
WRA	**Warramunga Arr**	**23.82**	**165**	P	P	20 21 13.3	-0.8
	11nm,0.7s,baz=346,slow=10,SNR=26						
ASAR	**Alice Springs**	**27.31**	**168**	P	P	20 21 45.0	-1.5
	1.0nm,0.5s,baz=359,slow=9.2,SNR=19						
ASAR				PcP	PcP	20 25 00.0	-2.8
	0.4nm,0.5s,baz=356,slow=2.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**32.21**	**300**	P	P	20 22 26.4	-3.6
	1.0nm,0.8s,baz=127,slow=6.8,SNR=4.3						
CMAR				LR	LR	20 35 54.2	
	comp=Z,29nm,20.1s,baz=284,slow=37						
STKA	**Stephens Creek**	**37.20**	**161**	P	P	20 23 10.1	-2.1
	3.2nm,0.5s,baz=334,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**58.71**	**325**	P	P	20 25 56.8	-1.3
	1.3nm,0.4s,baz=118,slow=8.3,SNR=34						
BVAR	**Borovoye Array**	**68.45**	**327**	P	P	20 26 59.3	-2.5
	0.8nm,0.6s,baz=117,slow=6.6,SNR=6.1						
NOA	**NORSAR Array B**	**99.82**	**334**	LR	LR	21 22 36.6	
	comp=Z,24nm,19.8s,baz=35,slow=40						

IDC 10 20:21:52.6±2.9**,18.40N×148.10E,mb3.9**/7**,mb1 3.9**/7**, mb1mx3.7**/21**,Error ellipse: s-maj=108.0km s-min=23.1km az=81.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**21.30**	**317**	P	P	20 26 42.9	-0.2
	6.7nm,0.9s,baz=46,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**40.42**	**200**	P	P	20 29 32.6	-1.8
	0.8nm,0.6s,baz=24,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**44.04**	**199**	P	P	20 30 02.3	-1.8
	0.3nm,0.5s,baz=18,slow=6.7,SNR=3.7						
SONM	**Songino Array**	**44.81**	**321**	P	P	20 30 07.2	-2.8
	1.2nm,0.4s,baz=135,slow=8.7,SNR=4.9						
MKAR	**Makanchi Array**	**60.31**	**314**	P	P	20 32 02.3	-3.1
	0.3nm,0.5s,baz=93,slow=8.0,SNR=3.6						
BVAR	**Borovoye Array**	**68.16**	**321**	P	P	20 32 54.5	-2.1
	1.9nm,0.5s,baz=94,slow=7.6,SNR=23						
FINES	**FINESS Array B**	**88.10**	**336**	P	P	20 34 45.9	-0.1
	0.4nm,0.5s,baz=90,slow=3.8,SNR=4.6						

IDC 10 20:30:05.0±9.3**,7.15S×127.98E,h56**km±90km**,mb3.6**/3**, mb1 3.8**/6**,mb1mx3.7**/13**,ML3.6**/3**,Error ellipse: s-maj=118.0km s-min=26.2km az=52.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.12**	**192**	P	P	20 32 39.4	-4.5
	0.2nm,0.3s,baz=37,slow=11,SNR=10						
FITZ				S	S	20 34 28.4	-19
	0.5nm,0.3s,baz=356,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**14.14**	**155**	P	P	20 33 24.1	+0.1
	0.4nm,0.3s,baz=332,slow=14,SNR=14						
WRA				S	S	20 35 49.0	-11
	0.7nm,0.3s,baz=332,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**17.38**	**162**	P	P	20 34 05.7	+0.3
	0.6nm,0.3s,baz=340,slow=12,SNR=34						
ASAR				S	S	20 37 07.1	-7.8
	0.2nm,0.3s,baz=318,slow=21,SNR=7.5						
STKA	**Stephens Creek**	**27.69**	**154**	P	P	20 35 47.6	-2.5

	1.3nm,0.4s,baz=328,slow=10,SNR=6.0						
CMAR	Chiang Mai Arr	38.31	312	P	P	20 37 21.1	-1.0
	0.5nm,0.5s,baz=138,slow=9.5,SNR=5.9						
MKAR	Makanchi Array	67.27	328	P	P	20 40 53.4	-2.5
	0.5nm,0.5s,baz=126,slow=7.7,SNR=10						

JMA 10 20:46:15.0±0.2, 22.98N×122.98E, h80^{km}, M3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	1.31	35	P	P	20 46 38.1	-0.3
HATJ				S	S	20 46 55.6	-0.1
YOJ	Yonaguni jima	1.48	1	P	P	20 46 40.5	0.0
YOJ				*e*S	S	20 46 58.5	-0.8
IRIF	Iriomote-Funau	1.51	27	P	P	20 46 40.8	-0.2
IRIF				S	S	20 47 00.4	+0.2
JKRS	Kuro-shima	1.57	37	P	P	20 46 41.8	+0.1
JKRS				S	S	20 47 01.9	+0.5
JIJ	Ishigaki jima	1.74	38	P	P	20 46 43.6	-0.4
JIJ				S	S	20 47 05.3	-0.1
JTJ	Tarama	2.29	43	P	P	20 46 51.2	-0.3
JTJ				*e*S	S	20 47 18.8	+0.3
JMJ	Miyako jima 2	2.80	49	P	P	20 46 58.1	-0.5

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*IDC **10** 21:00:53.2±1.4, 10.72S×118.96E, mb3.7/2, mb1 3.7/5, mb1mx3.6/14, ML3.2/3, Error ellipse: s-maj=56.2km s-min=23.3km az=59.0*

*DJA **10** 21:00:55.7±1.1, 11.09S×118.50E, h112^{km}±71^{km}, MD4.8/3, ML4.8/3, Error ellipse: s-maj=199.7km s-min=32.6km az=32.0*

ISC 10 21:00:55.2±1.5, 11.5S±0.5×118.1E±0.5, h99^{km}±32^{km}, n9, σ0^{s}83/16, mb3.6/2, 3C-1D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	Rata	3.74	317	⇑*e*Pn	P	21 01 52.5	+0.4
	217nm,0.2s						
RATI				*e*Sn	S	21 02 34.5	-0.8
INGI	Ingas	3.94	312	⇑*e*Pn	P	21 01 56.1	+1.2
	340nm,0.3s						
INGI				*e*Sn	S	21 02 39.8	-0.5
KELI	Kelakatan	4.82	312	⇓*e*Pn	P	21 02 08.1	+1.2
	61nm,0.3s						
KELI				⇑*e*Sn	S	21 03 01.2	-0.8
FITZ	Fitzroy Crossi	9.81	133	*e*P	P	21 03 14.0	-0.9
	1.6nm,0.6s						
FITZ				*e*S	S	21 04 54.9	-9.0
FITZ	Fitzroy Crossi	9.81	133	Pn	P	21 03 13.4	-1.5
	0.4nm,0.3s,baz=338,slow=14,SNR=15						
FITZ				Sn	S	21 04 55.0	-8.9
	0.8nm,0.3s,baz=182,slow=20,SNR=10						
WRA	Warramunga Arr	17.73	120	P	P	21 04 57.8	+0.4
	0.0nm,0.3s,baz=293,slow=13,SNR=2.4						
WRA				S	S	21 08 01.7	-7.1
	0.1nm,0.3s,baz=290,slow=25,SNR=3.3						
ASAR	Alice Springs	19.30	131	P	P	21 05 19.9	+5.0
	0.1nm,0.3s,baz=310,slow=10,SNR=14						
ASAR				S	S	21 08 42.8	0.0
	0.1nm,0.3s,baz=313,slow=24,SNR=5.1						
NWAO	Narrogin (SRO)	21.34	182	P	P	21 05 51.1	+15
	2.8nm,0.4s,mb4.0,baz=10,slow=13,SNR=8.0						
MKAR	Makanchi Array	66.28	334	P	P	21 11 41.2	+6.1
	0.2nm,0.4s,mb3.3,baz=124,slow=6.8,SNR=3.4						

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*IDC **10** 21:10:08.6±4.3, 20.74N×94.68E, h86^{km}±40^{km}, mb3.2/4, mb1 3.4/5, mb1mx3.2/18, Error ellipse: s-maj=46.8km s-min=21.2km az=60.0*

*NEIC **10** 21:10:10.6±1.3, 21.06N×95.10E, h100^{km}±12^{km}, mb4.1/2, Error ellipse: s-maj=25.1km s-min=9.5km az=55.0*

ISC 10 21:10:06.8±0.8, 21.0N±0.1×94.8E±0.1, h89^{km}±13^{km}, n16, σ0^{s}90/17, mb3.4/4, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHG	Chiang Mai	4.44	119	⇑P	P	21 11 13.8	+0.5
	14nm,0.5s						
CM31	Chiang Mai Arr	4.63	122	*e*P	P	21 11 16.0	+0.1
CMAR	Chiang Mai Arr	4.63	122	P	P	21 11 16.1	+0.2
	0.9nm,0.3s,baz=295,slow=14,SNR=24						
SHL	Shillong	5.29	330	*e*PN	P	21 11 25.0	+0.1
SHL				*e*SN	S	21 12 24.0	-1.1
BDT	Bhumibol Dam	5.44	133	P	P	21 11 27.0	+0.1
LSA	Lhasa	9.28	340	*e*P	P	21 12 21.9	+2.4
	1.6nm,0.5s						
PKI	Pulchoki	10.79	309	*e*P	P	21 12 39.6	-0.4
	9.6nm,0.3s						
KKN	Kakani	11.01	310	*e*P	P	21 12 42.6	-0.3
	8.2nm,0.4s						
DMN	Daman	11.04	309	*e*P	P	21 12 43.4	+0.2
	5.2nm,0.3s						
GKN	Gorkha	11.60	309	*e*P	P	21 12 50.3	-0.5
	28nm,0.3s						
KOLN	Koldanda	12.24	306	*e*P	P	21 12 59.1	-0.3
	11nm,0.3s						
ENH	Enshi	16.11	52	P	P	21 13 48.0	-1.3
	5.5nm,0.4s						
MKAR	Makanchi Array	27.68	341	P	P	21 15 50.1	+1.6
	0.3nm,0.6s,mb3.0,baz=171,slow=8.4,SNR=4.1						
WRA	Warramunga Arr	56.13	134	P	P	21 19 39.1	-0.6
	0.6nm,0.9s,mb3.6,baz=318,slow=7.6,SNR=5.4						
ASAR	Alice Springs	58.48	137	P	P	21 19 55.0	-1.2
	0.2nm,0.5s,mb3.4,baz=315,slow=7.0,SNR=5.7						
GERES	GERESS Array B	68.73	316	P	P	21 21 04.0	+1.1
	0.5nm,0.6s,mb3.5,baz=79,slow=6.8,SNR=3.5						

NEIC 10 21:45:31.0±4.7, 43.15N×127.75W, h10^{km}, mb3.0/1, Error ellipse: s-maj=53.2km s-min=8.2km az=71.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	2.52	95	*e*P	Pn	21 46 11.0	-1.7
MPOR	Mary's Peak	3.33	64	P	Pn	21 46 21.1	-3.2
HSO	Harness Mounta	3.42	82	*e*P	Pn	21 46 23.3	-2.3
HUMO	Hull Mountain	3.56	97	*e*P	Pn	21 46 25.6	-2.0
BBOR	Butler Butte	3.73	92	P	Pn	21 46 29.1	-0.8
KMOR	Kings Mountain	3.94	49	P	Pn	21 46 30.4	-2.5
HBO	Huckleberry Mo	4.01	78	P	Pn	21 46 32.9	-1.1
SSOR	Sweet Springs	4.18	64	P	Pn	21 46 35.1	-1.3
NLO	Nicolai Mounta	4.25	45	P	Pn	21 46 35.6	-1.8
BMW	Boistfort Moun	4.63	42	P	Pn	21 46 40.2	-2.5
RVW	Rose Valley	4.67	48	P	Pn	21 46 41.4	-1.9
LVP	Lakeview Peak	4.80	51	P	Pn	21 46 43.6	-1.6
FL2	Flat Top 2	4.91	50	P	Pn	21 46 45.2	-1.6
VLL	Laurance Lake	4.93	60	P	Pn	21 46 45.9	-1.2
SHW	Mount Saint He	4.97	50	*e*P	Pn	21 46 45.8	-1.9
ERK	Elk Rock	4.98	49	P	Pn	21 46 45.8	-1.9
HSR	South Ridge	4.99	51	P	Pn	21 46 46.7	-1.2
JLK	June Lake	4.99	51	P	Pn	21 46 46.2	-1.7
VFP	Flag Point	5.01	62	P	Pn	21 46 47.2	-0.9
ESD	East Dome	5.03	51	P	Pn	21 46 47.2	-1.1
CDFW	Cedar Flats	5.04	52	P	Pn	21 46 46.8	-1.7
TDL	Tradedollar La	5.08	49	P	Pn	21 46 47.4	-1.7
OCWA	Octopus Mounta	5.24	27	P	Pn	21 46 47.3	-4.2
ASR	Mount Adams--S	5.32	54	P	Pn	21 46 51.0	-1.5
LON	Longmire	5.54	47	*e*P	Pn	21 46 53.7	-1.9
LON				*e*S	Sn	21 47 50.1	-10
REMR	Mount Rainier-	5.57	47	P	Pn	21 46 54.6	-1.5
GL2	New Goldendale	5.69	58	P	Pn	21 46 55.8	-2.0
FMW	Mount Fremont	5.73	47	P	Pn	21 46 56.7	-1.7
TBM	Table Mountain	6.46	49	P	Pn	21 47 07.3	-1.3
HAWA	Hanford	6.69	58	*e*P	Pn	21 47 09.1	-2.7
RPW	Rockport	6.86	37	*e*P	Pn	21 47 11.0	-3.2
NLW	Nelson Butte	7.16	44	P	Pn	21 47 15.6	-2.9
DPW	Davenport	8.20	52	*e*P	P	21 47 29.7	-3.3
SDCO	Great Sand Dun	17.75	100	P	P	21 49 40.0	+0.1
	0.9nm,0.7s						

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*KRSC **10** 22:40:43.1±1.5, 52.12N×154.09E, h482^{km}±7^{km}, ML4.0*

*MOS **10** 22:40:46.6±1.2, 52.52N×153.96E, h430^{km}, mb3.9/5, Error ellipse: s-maj=25.8km s-min=12.5km az=59.7*

*BJI **10** 22:40:47.6, 52.70N×153.80E, h419^{km}, mB4.8, mb4.5*

*NEIC **10** 22:40:47.7±0.6, 52.66N×153.77E, h420^{km}±8^{km}, mb4.5/4, Error ellipse: s-maj=13.6km s-min=6.8km az=143.0*

*IDC **10** 22:40:49.8±3.0, 52.68N×153.78E, h445^{km}±37^{km}, mb3.3/10, mb1 3.6/11, mb1mx3.2/24, Error ellipse: s-maj=19.3km s-min=10.5km az=143.0*

ISC 10 22:40:47.1±0.3, 52.55N±0.06×153.9E±0.1, h430^{km}±5^{km}, n83, σ1^{s}00/99, mb3.9/15, 1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	1.80	98	*i* P	P	22 41 45.5	+0.4
ALID	Alaid	1.99	147	*e*P	P	22 41 47.1	+1.0
APC	Apacha	2.04	78	*i* P	P	22 41 46.4	-0.1
APC				*e*S	S	22 42 32.4	-0.8
APC				Smax			
	60nm,1.0s						
PAU	Pauzhetka	2.13	120	*i* P	P	22 41 47.5	+0.5
PAU				*e*S	S	22 42 34.0	-0.1
PAU				Smax			
	180nm,1.0s						
SKR	Severo-Kuril's	2.34	142	*e*PN	P	22 41 45.2	-3.2
SKR				*e*S	S	22 42 33.2	-3.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
GRL	Gorelyy	2.58	88	*i* P	P	22 41 51.0	+1.1
GRL				*e*S	S	22 42 39.9	+0.4
GNL	Ganaly	2.72	63	*i* P	P	22 41 51.1	+0.2
RUS	Russkaya	2.85	91	P	P	22 41 51.4	-0.5
RUS				S	S	22 42 40.5	-2.5
RUS	Russkaya	2.85	91	*i* P	P	22 41 51.2	-0.7
RUS				*i* S	S	22 42 40.2	-2.8
PET	Petropavlovsk	2.95	79	P	P	22 41 52.8	+0.1
PET				S	S	22 42 43.0	-1.4
PET	Petropavlovsk	2.95	79	*e*P	P	22 41 52.3	-0.4
PET				*e*S	S	22 42 43.4	-1.0
PET	Petropavlovsk	2.95	79	⇓*i*PN	P	22 41 52.6	-0.1
PET				*e*S	S	22 42 43.3	-1.1
PET				pmax	pmax		
	comp=Z,166nm,1.2s						
PET				pmax	pmax		
	comp=E,44nm,1.4s						
PET				pmax	pmax		
	comp=N,53nm,0.7s						
PET				smax			
	comp=E,47nm,0.7s						
PET				smax			
	comp=N,41nm,0.6s						
PET	Petropavlovsk	2.95	79	*e*P	P	22 41 52.2	-0.5
KOK	Koryaka	2.99	74	*i* P	P	22 41 53.5	+0.6
AVH	Avacha	3.04	74	*i* P	P	22 41 53.7	+0.3
SMAR	Somma	3.08	75	*i* P	P	22 41 54.3	+0.6
SMAR				*e*S	S	22 42 46.1	-0.1
UGLR	Uglovaya	3.08	76	*i* P	P	22 41 54.4	+0.7
UGLR				*e*S	S	22 42 46.7	+0.5
SDLR	Sedlovina	3.13	75	*i* P	P	22 41 54.2	+0.1
SDLR				*e*S	S	22 42 46.7	-0.2
NLC	Nalytchevo	3.39	77	P	P	22 41 55.9	-0.3
NLC				S	S	22 42 49.0	-1.7
NLC	Nalytchevo	3.39	77	*e*P	P	22 41 55.5	-0.7
NLC				*e*S	S	22 42 48.9	-1.8
KII	Karymskiy	3.67	64	P	P	22 41 59.1	+0.5
KII				S	S	22 42 53.8	-1.2
KII	Karymskiy	3.67	64	*i* P	P	22 41 59.1	+0.5
SPN	Mys Shipunski	3.78	79	P	P	22 41 58.0	-1.6
SPN				S	S	22 42 51.6	-5.1
SPN	Mys Shipunski	3.78	79	*i* P	P	22 41 58.0	-1.6
SPN				*i* S	S	22 42 51.5	-5.2
ESO	Esso	4.42	38	*i* P	P	22 42 06.2	+0.7
ESO				*e*S	S	22 43 06.2	-1.0
TUMR	Tumrok	4.62	51	*i* P	P	22 42 08.5	+1.0
TUMR				*e*S	S	22 43 11.6	+1.0
KMNR	Kamenistaya	4.94	47	*i* P	P	22 42 11.0	+0.4
KOZ	Kozyrevsk	4.98	43	*i* P	P	22 42 11.9	+0.9
KOZR	Kozyr	4.99	43	PN	P	22 42 11.9	+0.8
SRDR	Sredinnyy	5.09	40	*e*P	P	22 42 12.9	+0.7
MKZ	Mys Kozlova	5.11	64	P	P	22 42 10.2	-2.1
MKZ				S	S	22 43 13.4	-5.9
MKZ	Mys Kozlova	5.11	64	*i* P	P	22 42 10.3	-2.0
MKZ				*e*S	S	22 43 13.0	-6.3
LGNR	Loginova	5.34	46	*i* P	P	22 42 15.7	+1.0
LGNR				*e*S	S	22 43 23.3	-0.2
KRSR	Krestovskiy	5.37	44	*e*P	P	22 42 16.1	+1.1
KRSR				*e*S	S	22 43 24.5	+0.4
CIRR	Tsirk	5.39	46	*i* P	P	22 42 15.8	+0.7
KLY	Klyuchi	5.47	44	P	P	22 42 17.7	+1.7
KLY				S	S	22 43 26.6	+0.7
KLY	Klyuchi	5.47	44	*e*P	P	22 42 17.7	+1.7
KLY				*e*S	S	22 43 28.2	+2.3
SVLR	Shiveluch	5.88	44	*e*P	P	22 42 21.0	+0.7
KBTR	Krutoberegovo	6.39	51	P	P	22 42 23.5	-2.2
KBTR				S	S	22 43 37.9	-5.6
KBTR	Krutoberegovo	6.39	51	*e*P	P	22 42 23.8	-1.9
MA2	Magadan	7.25	347	*e*PN	P	22 42 34.6	-0.5
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ	Asahikawa	11.27	226	P	P	22 43 21.6	+1.3
	comp=Z,1.0nm,0.3s,baz=28,slow=2.8,SNR=9.1						
ASAJ				S	S	22 45 28.9	+6.6
	comp=Z,1.1nm,0.3s,baz=163,slow=30,SNR=3.0						
ASAJ	Asahikawa	11.27	226	PN	P	22 43 21.6	+1.4
ASAJ				S	S	22 45 28.9	+6.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	11.72	81	P	Px	22 43 45.6	
MDJ	Mudanjiang	17.84	253	P	P	22 44 26.5	-2.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,64nm,5.3s						
MAJO	Matsushiro	19.44	221	*e*P	P	22 44 46.5	+2.1
	comp=Z,15nm,0.6s						
MAT	Matsushiro	19.44	221	P	P	22 44 46.4	+2.0
MAT	Matsushiro	19.44	221	*e*P	P	22 44 46.0	+1.6
	comp=Z,12nm,0.7s						
HIA	Hailar	21.64	275	*e*P	P	22 45 04.8	-0.5
	comp=Z,13nm,0.6s,mb4.5						
IMA	Indian Mountai	28.98	42	*e*P	P	22 46 10.0	-0.8
	comp=Z,9.9nm,0.6s,mb4.3						
ILAR	Eielson Array	31.87	44	P	P	22 46 35.0	-0.7
	comp=Z,1.3nm,0.6s,mb3.4,baz=267,slow=9.2,SNR=17						
ILAR	Eielson Array	31.87	44	P	P	22 46 35.0	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	36.59	37	P	P	22 47 15.0	-0.4
	comp=Z,2.3nm,0.3s,mb4.0,baz=290,slow=7.5,SNR=41						
INK	Inuvik	36.59	37	P	P	22 47 15.0	-0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	Inuvik	36.59	37	P	P	22 47 15.0	-0.4
MKAR	Makanchi Array	44.92	293	P	P	22 48 22.3	-0.5
	comp=Z,2.9nm,0.5s,mb3.9,baz=62,slow=7.4,SNR=67						
MKAR	Makanchi Array	44.92	293	P	P	22 48 22.3	-0.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	44.92	293	P	P	22 48 22.3	-0.5
YKA	Yellowknife Ar	46.07	40	P	P	22 48 31.0	-0.5
	comp=Z,0.9nm,0.5s,mb3.4,baz=304,slow=7.6,SNR=6.7						
YKA	Yellowknife Ar	46.07	40	P	P	22 48 31.0	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	47.69	306	P	P	22 48 43.2	-0.8
	comp=Z,2.0nm,0.5s,mb3.7,baz=63,slow=9.9,SNR=16						
CMAR	Chiang Mai Arr	54.38	253	P	P	22 49 33.5	-0.3
	comp=Z,0.5nm,0.5s,mb3.0,baz=33,slow=7.5,SNR=4.6						
CMAR	Chiang Mai Arr	54.38	253	P	P	22 49 33.6	-0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKN	Kakani	55.60	272	*e*P	P	22 49 41.8	-0.6
	comp=Z,11nm,0.5s,mb4.5						
PKI	Pulchoki	55.68	272	*e*P	P	22 49 42.2	-0.7
	comp=Z,8.3nm,0.6s,mb4.2						
DMN	Daman	55.84	272	*e*P	P	22 49 43.3	-0.7
	comp=Z,15nm,0.7s,mb4.4						
GKN	Gorkha	55.84	273	*e*P	P	22 49 43.0	-1.0
NVAR	Mina Array Bea	59.45	66	P	P	22 50 09.2	+0.7
	comp=Z,0.5nm,0.5s,mb3.1,baz=291,slow=7.8,SNR=4.7						
PDAR	Pinedale Array	61.04	57	P	P	22 50 19.1	+0.2
	comp=Z,1.5nm,0.8s,mb3.5,baz=335,slow=2.7,SNR=12						
WRA	Warramunga Arr	74.16	199	P	P	22 51 39.7	+0.1
	comp=Z,1.9nm,0.5s,mb4.0,baz=14,slow=6.3,SNR=10						
WRA	Warramunga Arr	74.16	199	P	P	22 51 39.7	+0.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	Alice Springs	77.87	199	P	P	22 52 00.8	+0.9
	comp=Z,1.8nm,0.4s,mb4.0,baz=13,slow=5.1,SNR=28						
SET4	Mosteiros	89.95	360	*i* S	S	23 03 16.8	+3.6
PSAN	Santo Antonio	89.97	360	*e*S	S	23 03 15.4	+2.0
SET2	Ginetes	89.98	360	*e*S	S	23 03 17.4	+3.9
PFET	Feteiras	90.00	360	*i* S	S	23 03 16.3	+2.6
MESC	Monte Escuro	90.03	359	*i* S	S	23 03 10.2	-3.7
LFA	Lagoa do Fogo	90.05	359	*e*S	S	23 03 10.4	-3.7
FAC	Faja de Cima	90.05	360	*i* S	S	23 03 14.2	+0.1
CML	Cha da Macela	90.05	360	*i* S	S	23 03 11.9	-2.2
PCNG	Congro	90.05	359	*e*S	S	23 03 09.2	-4.9
	comp=Z,20nm,0.3s						
VIF	Vila Franca	90.08	359	*i* S	S	23 03 09.7	-4.6
	comp=Z,24nm,0.2s						
PRCH	Ribeira Ch	90.09	359	*i* S	S	23 03 10.3	-4.2
	comp=Z,214nm,0.2s						

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*MDD **10** 23:01:05.5±2.1, 37.14N×19.12W, mb4.6/14, Error ellipse: s-maj=26.9km s-min=9.0km az=122.0, PRXIMO*

*INMG **10** 23:01:10.7±2.2, 37.91N×19.18W, h10^{km}, ML3.2, Error ellipse: s-maj=25.1km s-min=16.1km az=145.0*

*CSEM **10** 23:01:15.3, 36.30N×17.68W, h2^{km}, ML4.7*

ISC 10 23:00:56.2±0.4, 37.60N±0.04×19.16W±0.03, h10^{km}, n41, σ1^{s}06/66, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	Pico do Norte,	4.74	265	*e*P	Px	23 02 44.9	
PSMN				*i* S	Sn	23 03 01.1	-4.2
PFAV	Pico das Favas	6.34	283	*e*S	Sn	23 03 45.3	-0.1
	14nm,0.2s						
PVNV	Vila Nova	6.40	283	*e*S	Sn	23 03 47.6	+0.7
RIB2	Ribeirinha	6.41	282	*i* S	Sn	23 03 46.6	-0.4
	20nm,0.2s						
PPAD	Pico dos Padre	6.50	282	*i* S	Sn	23 03 49.1	-0.2
	16nm,0.1s						
ASBA	Santa Barbara	6.53	282	*e*S	Sn	23 03 49.8	-0.3
	16nm,0.1s						
PLOU	Loures	7.98	78	*e*Sn	Sn	23 04 28.1	+1.7
	35nm,0.2s						
PLOU	Loures	7.98	78	S	Sn	23 04 28.1	+1.7
	18nm,0.2s						
PTEO	Sao Teotonio	8.29	87	*e*Pn	P	23 03 08.3	+8.9
PTEO				*e*Sn	Sn	23 04 36.0	+1.9
	15nm,0.5s						
PTEO	Sao Teotonio	8.29	87	P	P	23 03 08.3	+8.9
PTEO				S	Sn	23 04 36.0	+1.9
	7.7nm,0.5s						
MOE	Montemor	8.58	81	*e*Pn	P	23 03 12.0	+8.6
MOE				*e*Sn	Sn	23 04 41.9	+0.6
PTOM	Tomar	8.66	73	*e*Pn	P	23 03 11.7	+7.2
PTOM				*e*Sn	Sn	23 04 43.0	-0.2
	19nm,0.3s						
PTOM	Tomar	8.66	73	P	P	23 03 11.7	+7.2
PTOM				S	Sn	23 04 43.0	-0.2
	9.3nm,0.3s						
EZAM	Zamans	9.24	57	P	P	23 03 22.5	+10
	0.6nm,0.2s,SNR=7.9						
EZAM				S	Sn	23 04 57.8	+0.1
	5.2nm,0.5s,SNR=5.4						
EGRO	El Granado	9.28	87	P	P	23 03 19.1	+6.0
	0.7nm,0.2s,SNR=8.4						
EGRO				S	Sn	23 04 57.8	-0.8
	5.4nm,0.3s,SNR=6.9						
PALC	Alcoutim	9.29	87	*e*Pn	P	23 03 21.6	+8.4
PALC				*e*Sn	Sn	23 04 59.9	+1.1
	8.8nm,0.3s						
PALC	Alcoutim	9.29	87	P	P	23 03 21.6	+8.4
PALC				S	Sn	23 04 59.9	+1.1
	4.4nm,0.3s						
PVIS	Viseu	9.29	67	*e*Sn	Sn	23 04 57.8	-1.1
	11nm,0.1s						
PVIS	Viseu	9.29	67	S	Sn	23 04 57.8	-1.1
	5.3nm,0.1s						
EBAJ	Bajamar	9.34	165	P	P	23 03 14.8	+1.0
	5.5nm,0.2s,SNR=6.8						
EBAJ				S	Sn	23 04 46.4	-14
	SNR=7.9						
PCBR	Castelo Branco	9.40	73	*e*Pn	P	23 03 22.2	+7.4
PCBR				*e*Sn	Sn	23 05 01.1	-0.6
	4.3nm,0.1s						
PCBR	Castelo Branco	9.40	73	P	P	23 03 22.2	+7.4
PCBR				S	Sn	23 05 01.1	-0.6
	2.2nm,0.1s						
CICO	Icod de los Vi	9.45	167	P	P	23 03 16.6	+1.2
	11nm,0.1s,SNR=7.9						
MTE	Manteigas	9.47	69	*e*Sn	Sn	23 05 02.2	-1.1
	7.9nm,0.4s						
MTE	Manteigas	9.47	69	S	Sn	23 05 02.2	-1.1
	4.0nm,0.4s						
CHIO	Chio	9.54	167	P	P	23 03 17.0	+0.3
	13nm,0.1s,SNR=7.9						
CHIO				S	Sn	23 04 51.6	-13
	SNR=7.9						
CRAJ	Montana Rajada	9.55	166	P	P	23 03 17.4	+0.5
	6.5nm,0.1s,SNR=7.9						
CRAJ				S	Sn	23 04 52.7	-13
	SNR=7.9						
EGOM	La Gomera	9.55	170	P	P	23 03 16.0	-0.9
	5.7nm,0.2s,SNR=8.9						
EGOM				S	Sn	23 04 48.0	-17
	SNR=7.9						
ELOB	Lobios	9.55	60	P	P	23 03 26.2	+9.4
	3.6nm,0.7s,SNR=5.3						
ELOB				S	Sn	23 05 07.6	+2.2
	4.1nm,0.5s						
PVRL	Vila Real	9.59	64	*e*Sn	Sn	23 05 03.8	-2.4
	11nm,0.2s						
PVRL	Vila Real	9.59	64	S	Sn	23 05 03.8	-2.4
	5.5nm,0.2s						
CCAN	Las Canadas	9.59	166	P	P	23 03 17.5	0.0
	1.1nm,0.1s,SNR=25						
CCAN				S	Sn	23 04 53.7	-13
	SNR=7.9						
EBAD	Badajoz	9.64	79	P	P	23 03 24.3	+6.3
	5.5nm,0.5s,SNR=9.5						
EBAD				S	Sn	23 05 07.3	-0.2
	3.2nm,0.3s,SNR=6.3						
STS	Santiago	9.68	54	P	P	23 03 27.8	+9.2
	2.8nm,0.1s,SNR=7.9						
STS				S	Sn	23 05 09.6	+1.1
	SNR=7.9						
CHIE	El Hierro	9.89	174	P	P	23 03 20.3	-1.3
	2.6nm,0.1s,SNR=7.9						
CHIE				S	Sn	23 04 57.5	-16
	SNR=7.9						
EMIN	Mina Concepcio	9.90	85	P	P	23 03 28.3	+6.6
	3.5nm,0.3s,SNR=11						
EMIN				S	Sn	23 05 12.7	-1.3
	11nm,1.2s						
ECAL	Calabor	10.50	62	P	P	23 03 38.4	+8.5
	0.8nm,0.2s,SNR=6.4						
ECAL				S	S	23 05 28.7	+0.1
	5.0nm,0.3s						
ESPR	Espera	10.64	90	S	S	23 05 31.2	-0.8
	SNR=7.9						
EPON	Pontenova	10.79	54	P	P	23 03 43.8	+10
	9.2nm,0.8s,SNR=6.5						
EPON				S	S	23 05 36.6	+0.9
EADA	Adamuz	11.54	83	P	P	23 03 50.7	+6.6
	4.4nm,0.6s,SNR=5.7						
EADA				S	S	23 05 51.1	-3.1
	8.0nm,1.2s						
ESDC	Sonseca Array	12.07	75	P	P	23 03 57.8	+6.6
	baz=267,slow=13,SNR=7.9						
ESDC				S	S	23 06 05.7	-1.2
	baz=265,slow=23,SNR=11						

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*IDC **10** 23:28:46.1±2.3, 50.34N×179.25E, mb3.9/8, mb1 4.1/9, mb1mx3.9/23, ML3.3/1, Error ellipse: s-maj=66.2km s-min=13.0km az=19.0*

*NEIC **10** 23:28:49.9, 50.15N×179.02E, h40^{km}, mb3.8/1, ML3.5(AEIC), After AEIC.*

ISC 10 23:28:49.4±1.8, 50.4N±0.2×178.99E±0.09, h38^{km}±11^{km}, n24, σ0^{s}61/28, mb3.9/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	Kanaga Island	2.76	58	P	P	23 29 32.4	0.0
KIMD				S	S	23 30 04.8	0.0
KIWB	Kanaga Island	2.85	57	P	P	23 29 33.6	0.0
KIKV	Kanaga Island	2.86	56	P	P	23 29 33.7	+0.1
KINC	Kanaga Island	2.91	56	P	P	23 29 34.8	+0.4
KIRH	Kanaga Island	2.91	56	P	P	23 29 34.9	+0.5
ADAG	Mount Adagdak	3.21	58	P	P	23 29 39.3	+0.6
GSTD	Great Sitkin T	3.50	59	P	P	23 29 43.1	+0.3
GSTD				S	S	23 30 23.5	0.0
GSMY	Great Sitkin M	3.54	60	P	P	23 29 43.3	0.0

GSIG	Igitkin Island	3.59	61	P	P	23 29 43.7	-0.4
FX1	Attu Island--F	4.42	307	Pn	P	23 29 56.1	+0.3
	4.7nm,0.3s,baz=276,slow=4.1,SNR=56						
FX1				Sn	S	23 30 45.6	-1.2
	8.0nm,0.3s,baz=337,slow=23,SNR=12						
FX1	Attu Island--F	4.42	307	*e*P	P	23 29 56.5	+0.6
FX1				*e*S	S	23 30 40.4	-6.4
ATKA	Atka Island	4.66	64	P	P	23 29 57.6	-1.6
YKA	Yellowknife Ar	36.95	45	P	P	23 35 56.0	-0.2
	0.6nm,0.4s,mb3.8,baz=282,slow=8.7,SNR=5.6						
YKA	Yellowknife Ar	36.95	45	P	P	23 35 56.0	-0.2
HLID	Hailey	44.58	72	P	P	23 37 04.6	+5.5
	1.1nm,0.6s,mb3.9						
PDAR	Pinedale Array	47.96	70	P	P	23 37 25.6	-0.3
	0.6nm,0.7s,mb3.7,baz=327,slow=4.1,SNR=7.2						
ARCES	ARCESS Array B	58.85	349	P	P	23 38 45.5	-0.4
	4.5nm,1.1s,mb4.4,slow=8.1,SNR=4.0						
MKAR	Makanchi Array	59.56	308	P	P	23 38 50.7	-0.4
	0.6nm,0.7s,mb3.7,baz=56,slow=6.7,SNR=6.1						
MKAR	Makanchi Array	59.56	308	P	P	23 38 50.7	-0.4
TXAR	Lajitas Array	60.21	79	P	P	23 38 55.4	-0.4
	0.3nm,0.4s,mb3.7,baz=270,slow=4.5,SNR=3.9						
FINES	FINESS Array B	66.46	346	P	P	23 39 35.9	-0.4
	1.6nm,0.8s,mb4.1,baz=37,slow=9.5,SNR=7.0						
NB2	NORSAR Subarra	68.52	354	P	P	23 39 49.8	+0.6
	2.3nm,0.8s,mb4.2,baz=9.0,slow=6.5						
NOA	NORSAR Array B	68.52	354	P	P	23 39 50.1	+0.9
	1.2nm,0.7s,mb3.9,baz=8.3,slow=6.3,SNR=9.3						
BRTR	Keskin Array B	85.27	334	P	P	23 41 24.6	+1.6
	0.7nm,0.6s,mb4.0,slow=1.2,SNR=5.4						

*PRU **10** 23:31:45.7, 46.67N×10.39E*

*ZUR **10** 23:31:45.1, 46.64N×10.35E, h10^{km}, ML2.1/5*

*ROM **10** 23:31:47.0±0.3, 46.51N×10.49E, h5^{km}, MD2.6/4, ML1.7/4, Error ellipse: s-maj=2.4km s-min=1.3km az=0.0*

ISC 10 23:31:44.6±0.4, **46.67N**±0.02×**10.42E**±0.03, **h0**^{km}±7^{km}, **n16, σ0^{s}68**/31, **7C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUORN	Ofenpass	0.12	246	⇑*i*Pg	Pg	23 31 47.6	+0.7
	98nm,0.5s						
FUORN				*e*Sg	Sg	23 31 49.3	+0.9
	98nm,0.5s						
BRMO	Bormio	0.19	189	⇑*i*PG	Pg	23 31 48.9	+0.5
BRMO				SG	Sg	23 31 51.4	+0.4
	93nm,0.2s						
BERNI	Berninapass	0.37	227	⇑*i*Pg	Pg	23 31 51.8	-0.2
	6.4nm,0.3s						
BERNI				*e*Sg	Sg	23 31 56.7	-0.3
	6.4nm,0.3s						
DAVOX	Davos	0.39	287	⇓*i*Pg	Pg	23 31 52.2	-0.1
	8.2nm,0.3s						
DAVOX				*i* Sg	Sg	23 31 57.4	0.0
	8.2nm,0.3s						
MABI	Malga Bissina	0.62	174	*e*PG	Pg	23 31 56.6	-0.3
MABI				SG	Sg	23 32 04.6	-0.5
VDL	Val di Lei	0.68	255	*e*Pg	Pg	23 31 57.4	-0.7
	1.3nm,0.2s						
DAVA	Damuels	0.72	330	⇑*i*PG	Pg	23 31 59.1	+0.2
DAVA				*i* SG	Sg	23 32 08.7	+0.2
SQTA	Sankt Quirin	0.78	44	⇑*i*PG	Pg	23 32 00.0	0.0
SQTA				*i* SG	Sg	23 32 10.5	+0.1
	12nm,0.2s						
PLONS	Plons	0.81	299	*e*Pg	Pg	23 32 00.2	-0.5
	1.4nm,0.5s						
MOTA	Moosalm	0.82	35	⇓*i*PG	Pg	23 32 01.0	0.0
MOTA				*i* SG	Sg	23 32 13.0	+1.0
	4.4nm,0.1s						
WTTA	Wattenberg	1.03	54	⇑*i*PG	Pg	23 32 04.8	-0.3
WTTA				*i* SG	Sg	23 32 19.5	+0.8
	3.7nm,0.3s						
CTI	Castel Tesino	1.05	126	*e*PG	Pg	23 32 05.3	-0.3
CTI				SG	Sg	23 32 19.6	-0.1
	13nm,0.2s						
SAL	Salo	1.06	176	*e*PG	Pg	23 32 05.6	-0.2
SAL				SG	Sg	23 32 20.2	+0.2
	43nm,0.3s						
FVI	Forni Avoltri	1.63	92	*e*PN	Pn	23 32 15.8	+1.1
FVI				SN	Sn	23 32 37.2	+0.5
	10.0nm,0.4s						
KBA	Koelnbreinsper	2.05	77	⇑*i*PG	Pg	23 32 24.0	-1.5
KBA				*i* SG	Sg	23 32 53.3	+0.5
	3.9nm,0.4s						
KHC	Kasperske Hory	3.25	40	*e*PG	Pg	23 32 46.4	-3.2
KHC				*e*SN	Sn	23 33 16.9	-1.0
KHC				*e*SG	Sg	23 33 28.9	-4.0

*IDC **10** 23:45:12.4±1.9, 39.02N×44.86E, mb3.5/5, mb1 3.7/8, mb1mx3.6/20, ML3.7/3, MS3.5/5, Ms1 3.5/5, ms1mx3.0/21, Error ellipse: s-maj=25.3km s-min=20.6km az=110.0*

*ISK **10** 23:45:19.1, 39.68N×44.28E, h5^{km}, MD4.1*

*MOS **10** 23:45:19.1±2.3, 39.28N×44.43E, h33^{km}, mb3.9/3, Error ellipse: s-maj=21.3km s-min=12.1km az=104.8*

*NEIC **10** 23:45:22.4±2.3, 39.74N×43.98E, h2^{km}±15^{km}, mb4.2/7, Error ellipse: s-maj=29.0km s-min=9.0km az=159.0*

ISC 10 23:45:21.8±1.2, **39.68N**±0.04×**44.12E**±0.06, **h8**^{km}±9^{km}, **n44, σ1^{s}24**/45, **mb3.7**/10, **MS3.4**/5, **1D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNI	Garni	0.67	46	Pg	Pg	23 45 35.8	+0.5
	159nm,0.3s,baz=323,slow=5.0,SNR=16						
GNI	Garni	0.67	46	PG	Pg	23 45 35.8	+0.5
GNI				pmax	pmax		
	comp=Z,159nm,0.3s						
KARS	Kars	1.22	320	*i* PN	Pn	23 45 44.8	-0.3
KARS				*i* SN	Sn	23 46 05.2	+3.3
TVAN	Van	1.28	206	*i* P	Pb	23 45 45.0	-0.7
TVAN				*i* S	Sb	23 46 01.8	-0.3
VANT	Van	1.36	205	*i* PN	Pn	23 45 48.0	+0.9
VRT	Varto	2.08	256	*e*PN	Pn	23 45 57.9	+0.4
VRT				*e*SN	Sn	23 46 27.2	+3.4
HKR	Hakkari	2.12	188	PN	Pn	23 45 57.9	-0.1
ERZM	Erzurum	2.13	277	*i* P	Pn	23 45 59.4	+1.2
EZM	Erzurum	2.14	277	PN	Pn	23 45 59.4	+1.2
BTMT	Batman	2.53	235	*e*PN	Pn	23 46 06.4	+2.5
BINT	Bingol	2.93	255	*e*PN	Pn	23 46 09.9	+0.3
EZC	Erzincan	3.32	273	*e*PN	Pn	23 46 20.5	+5.4
DIY	Diyarbakir	3.53	241	*e*PN	Pn	23 46 18.9	+0.8
GUMT	Gumushane	3.64	284	*e*PN	Pn	23 46 20.2	+0.5
KELT	Kelkit	3.77	279	*i* P	Pn	23 46 27.8	+6.3
KELT				*i* S	Sg	23 47 19.0	-8.4
MALT	Malatya	4.64	255	*e*Pn	Pn	23 46 31.9	-2.0
SOC	Sochi	5.11	321	*e*P	Pn	23 46 42.2	+1.7
SOC				pmax	pmax		
	comp=Z,23nm,0.7s						
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				MLR	MLR		
	comp=Z,781nm,13.0s						
SOC				MLR	MLR		
	comp=N,699nm,14.0s						
SOC				MLR	MLR		
	comp=E,512nm,13.0s						
GZT	Gaziantep	5.64	248	*i* P	Pg	23 47 02.6	-12
GZT				*i* S	Sg	23 48 28.9	-0.7
BRTR	Keskin Array B	8.08	274	Pn	P	23 47 21.4	-0.8
	comp=E,0.1nm,0.3s,baz=96,slow=12,SNR=8.9						
MLR	Muntele Rosu	14.58	299	Pn	P	23 49 00.2	+10
	comp=E,0.1nm,0.3s,baz=333,slow=20,SNR=2.7						
AKASG	Malin Array Be	15.19	321	Pn	P	23 48 56.4	-1.7
	comp=E,0.8nm,0.3s,baz=135,slow=12,SNR=2.9						
AKASG	Malin Array Be	15.19	321	P	P	23 48 56.4	-1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	16.25	344	*e*P	P	23 49 10.5	-1.3
OBN				pmax	pmax		
	comp=Z,39nm,1.6s						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s						
OBN	Obninsk	16.25	344	*e*P	P	23 49 11.6	-0.2
	comp=Z,36nm,1.3s						
ARU	Arti	19.27	25	⇓*i*P	P	23 49 47.5	-1.7
ARU				pmax	pmax		
	comp=Z,20nm,1.9s						
ARU				MLR	MLR		
	comp=N,100nm,16.0s						
ARU				MLR	MLR		
	comp=Z,60nm,16.0s						
ARU				MLR	MLR		
	comp=E,30nm,14.0s						
ARU	Arti	19.27	25	*e*P	P	23 49 45.7	-3.6
	comp=E,21nm,1.4s						
TIP	Timpagrande	21.11	277	*e*P	P	23 50 06.1	-3.1
ZRNK	Zerenda	21.58	44	*e*P	P	23 50 14.4	+0.7
	comp=E,11nm,1.5s,mb4.0						
BRVK	Borovoye	22.31	45	*e*P	P	23 50 22.6	+1.5
	comp=E,2.9nm,0.8s,mb3.8						
BVAR	Borovoye Array	22.36	45	P	P	23 50 22.5	+1.0
	comp=E,0.7nm,0.7s,mb3.2,baz=243,slow=6.6,SNR=5.4						
AQU	L'Aquila	23.27	287	*e*P	P	23 50 30.7	+0.2
	comp=E,18nm,1.3s,mb4.3						
GERES	GERESS Array B	23.50	303	P	P	23 50 31.2	-1.5
	comp=E,0.3nm,0.5s,mb3.0,baz=113,slow=10,SNR=6.6						
FINES	FINESS Array B	24.45	339	P	P	23 50 41.4	-0.4
	comp=E,1.5nm,0.5s,mb3.6,baz=146,slow=11,SNR=10.0						
FINES				LR	LR	00 00 46.9	
	comp=E,98nm,19.0s,MS3.3,baz=159,slow=37						
FINES	FINESS Array B	24.45	339	P	P	23 50 41.4	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,98nm,19.0s						
KAF	Kangasniemi	24.94	340	*e*p	P	23 50 42.3	-4.2
	comp=Z,2.4nm,0.7s,mb3.8						
KAF	Kangasniemi	24.94	340	*e*P	P	23 50 42.3	-4.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
DAVOX	Davos	25.79	297	P	P	23 50 53.1	-1.5
	comp=Z,1.0nm,0.5s,mb3.6,baz=124,slow=17,SNR=4.7						
KURK	Kurchatov	26.46	54	*e*P	P	23 51 00.8	-0.1
	comp=Z,5.4nm,1.0s,mb4.0						
MKAR	Makanchi Array	28.49	63	P	P	23 51 07.1	-12
	comp=Z,0.6nm,1.0s,mb3.2,baz=254,slow=10,SNR=2.9						
NOA	NORSAR Array B	29.44	327	LR	LR	00 04 25.4	
	comp=Z,66nm,18.3s,MS3.3,baz=125,slow=38						
ARCES	ARCESS Array B	31.51	348	LR	LR	00 05 11.2	
	comp=Z,103nm,21.2s,MS3.5,baz=74,slow=37						
KMBO	Kilima Mbogo	41.10	190	LR	LR	00 08 55.5	
	comp=Z,90nm,19.2s,MS3.6,baz=90,slow=35						
BOD	Bodaibo	47.21	43	*e*P	P	23 53 54.9	-1.7
ILAR	Eielson Array	75.53	5	LR	LR	00 37 36.0	
	comp=Z,21nm,18.7s,MS3.5,baz=227,slow=41						

*NIED **10** 23:54:00, 34.70N×138.50E, h11^{km}, Mw3.8 Best double couple: M$_0$5.42×10^{14} NP1:φ$_s$70°, δ52°, λ89°. NP2:φ$_s$252°, δ38°, λ91°.*

*IDC **10** 23:54:00.5±2.5, 34.47N×139.27E, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, Error ellipse: s-maj=141.0km s-min=29.2km az=78.0*

*NEIC **10** 23:54:03.4±8.6, 34.37N×138.70E, h12^{km}±56^{km}, mb4.3/1, Error ellipse: s-maj=63.9km s-min=19.8km az=76.0*

NEIC Recorded [1 JMA] in Shizuoka Prefecture and on Kozu-shima.

*JMA **10** 23:54:07.2±0.1, 34.69N×138.56E, h24^{km}±2^{km}, M3.9 Broadband fault plane solution: P waves. NP1:φ$_s$288°, δ43°, λ132°. NP2:φ$_s$56°, δ59°, λ58°. Principal axes: T Plg61°, Azm275°; N Plg27°, Azm74°; P Plg9°, Azm169°;*

JMA Felt I J1.

ISC 10 23:54:06.8±0.4, **34.65N**±0.03×**138.54E**±0.03, **h29**^{km}±3^{km}, **n22, σ0^{s}90**/32, **mb3.7**/5, **2C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMA	Omae zaki	0.27	260	P	Pb	23 54 14.0	+0.2
OMA				S	Sb	23 54 18.9	+0.3
JIZS	Izushimoda	0.28	77	⇑P	Pb	23 54 13.5	-0.5
JIZS				S	Sb	23 54 17.6	-1.3
JSG	Sagara	0.29	274	⇓P	Pb	23 54 14.3	+0.2
JSG				S	Sb	23 54 19.5	+0.4
JKKG	Kakegawa	0.49	286	P	Pb	23 54 16.7	-0.3
JKKG				S	Sb	23 54 23.5	-0.5
SHZ3	Shizuoka 3	0.49	327	⇓P	Pb	23 54 16.7	-0.4
KTJJ	Kamata 2	0.51	57	⇑P	Pb	23 54 17.2	-0.2
KTJJ				S	Sb	23 54 24.0	-0.6
TK04	Tokai 4	0.61	244	S	Sb	23 54 27.9	+0.6
TK03	Tokai 3	0.68	225	P	Pb	23 54 20.9	+0.8
JIM2	Oshima 3	0.74	85	P	Pb	23 54 21.4	+0.3
JOD2	Odawara 2	0.76	36	⇓P	Pb	23 54 21.1	-0.3
JOD2				S	Sb	23 54 31.4	0.0
JYN	Shimob	0.84	0	⇓P	Pb	23 54 22.3	-0.5
JYN				S	Sb	23 54 33.7	-0.1
JMY	Miyake jima 2	1.00	126	⇓P	Pn	23 54 25.6	+0.7
JMY				S	Sb	23 54 39.7	+1.5
TK01	Tokai 1	1.19	222	S	Sn	23 54 40.7	-2.2
MAJO	Matsushiro	1.91	352	*e*P	Pn	23 54 39.6	+1.7
MAT	Matsushiro	1.91	352	P	Pn	23 54 39.6	+1.6
MAT				*e*S	Sn	23 55 03.5	+2.3
MAT	Matsushiro	1.91	352	*e*P	Pn	23 54 40.0	+2.0
MAT				*e*S	Sn	23 55 05.0	+3.8
KURK	Kurchatov	45.61	310	P	P	00 02 25.2	-0.8
	2.9nm,0.8s,mb4.3						
BVAR	Borovoye Array	50.48	313	P	P	00 03 03.6	-0.3
	0.5nm,0.6s,mb3.7,baz=97,slow=12,SNR=4.8						
WRA	Warramunga Arr	54.44	185	P	P	00 03 28.6	-5.2
	0.3nm,0.6s,mb3.4,baz=16,slow=9.5,SNR=3.5						
FINES	FINESS Array B	69.82	332	P	P	00 05 14.8	-1.4
	0.6nm,0.5s,mb3.8,baz=72,slow=6.0,SNR=5.1						
NB2	NORSAR Subarra	75.45	336	P	P	00 05 48.7	-0.6
	0.1nm,0.8s,mb2.8,baz=49,slow=5.8						
NOA	NORSAR Array B	75.45	336	P	P	00 05 49.1	-0.2
	3.5nm,1.2s,mb4.2,baz=42,slow=5.8,SNR=5.8						

*IDC **10** 23:57:13.9±1.8, 19.26S×176.92W, mb4.1/5, mb1 4.4/5, mb1mx4.0/15, Error ellipse: s-maj=146.0km s-min=22.7km az=153.0*

ISC 10 23:57:17.8±1.6, **19.0S**±0.9×**177.1W**±0.5, **h33**^{km}, **n7, σ0^{s}39**/7, **mb4.1**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.18	243	P	P	00 04 44.1	-0.2
	0.6nm,0.2s,mb3.9,baz=82,slow=7.1,SNR=6.5						
WRA	Warramunga Arr	45.63	260	P	P	00 05 37.1	-0.2
	0.8nm,0.3s,mb4.1,baz=97,slow=7.1,SNR=13						
ASAR	Alice Springs	45.66	255	P	P	00 05 38.1	+0.6
	12nm,0.5s,mb5.1,baz=92,slow=8.4,SNR=210						
ASPA	Alice Springs	45.67	255	*e*P	P	00 05 38.0	+0.5
FITZ	Fitzroy Crossi	54.04	261	*e*P	P	00 06 41.0	-0.6
	1.6nm,0.3s,mb4.4						
NVAR	Mina Array Bea	79.39	43	P	P	00 09 22.5	+0.1
	0.7nm,0.9s,mb3.6,baz=207,slow=10,SNR=3.4						
TXAR	Lajitas Array	85.57	57	P	P	00 09 54.4	-0.1
	0.3nm,0.7s,mb3.7,baz=225,slow=5.3,SNR=5.0						

*BJI **11** 00:27:15.6, 55.70S×26.80W, h10^{km}, Ms4.7, Msz5.0*

*IDC **11** 00:27:15.1±0.7, 55.67S×26.89W, mb4.5/7, mb1 4.6/7, mb1mx4.3/14, MS3.9/4, Ms1 3.9/4, ms1mx3.5/16, Error ellipse: s-maj=32.7km s-min=19.3km az=50.0*

*NEIC **11** 00:27:16.6±0.4, 55.70S×26.77W, h10^{km}, mb4.6/9, Error ellipse: s-maj=15.1km s-min=8.7km az=48.0*

*SYO **11** 00:27:16.6, 55.70S×26.77W, h10^{km}, MB4.6*

ISC 11 00:27:15.9±0.9, **55.8S**±0.1×**27.0W**±0.3, **h10**^{km}, **n40, σ0^{s}90**/21, **mb4.4**/12, **MS4.1**/5, **1C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.98	159	⇑*i*	P	00 31 21.1	+6.4
EFI	East Falkland	18.77	270	P	P	00 31 37.5	+0.6
SNAA	Sanae	18.92	156	⇓*i*P	P	00 31 36.9	-1.8
SNAA				*e*		00 31 48.4	
USHA	Ushuaia	23.37	255	P	P	00 32 24.7	-0.2
	9.0nm,0.8s,mb4.3,baz=63,slow=11,SNR=4.4						
TRQA	Tornquist	29.34	292	*e*P	P	00 33 19.7	-1.0
	5.4nm,0.6s,mb4.5						
SYO	Syowa Base	31.70	141	⇓P	P	00 33 33.5	-7.7
QSPA	South Pole Qui	34.45	180	*e*P	P	00 34 04.8	-0.3
	5.6nm,0.7s,mb4.6						
CPUP	Villa Florida	36.74	311	P	P	00 34 23.5	-1.5
	8.3nm,1.0s,mb4.5,baz=161,slow=6.6,SNR=17						
CPUP				LR	LR	00 47 06.6	
	comp=Z,65nm,19.8s,MS3.4,baz=154,slow=32						
CPUP	Villa Florida	36.74	311	*e*P	P	00 34 23.6	-1.5
	5.7nm,0.7s,mb4.5						
MAW	Mawson	40.28	144	P	P	00 34 54.5	+0.4
	1.7nm,0.6s,mb4.0,baz=264,slow=12,SNR=7.9						
MAW	Mawson	40.28	144	*e*P	P	00 34 53.9	-0.2
	1.9nm,0.7s,mb3.9						
SUR	Sutherland	40.45	75	LR	LR	00 46 36.3	
	comp=Z,832nm,19.2s,MS4.6,baz=76,slow=29						
BDFB	Brasilia	43.21	330	LR	LR	00 49 51.0	
	comp=Z,100nm,19.4s,MS3.7,baz=284,slow=31						
LVC	Limon Verde	45.28	300	*e*P	P	00 35 35.2	-0.1
	10nm,0.6s,mb4.8						
SBA	Scott Base	46.34	184	*e*P	P	00 35 43.7	+0.7
	5.5nm,0.8s,mb4.5						
VNDA	Vanda	46.83	183	P	P	00 35 46.8	0.0
	6.4nm,0.7s,mb4.7,baz=190,slow=6.1,SNR=38						
VNDA	Vanda	46.83	183	*e*P	P	00 35 46.8	0.0
	6.0nm,0.7s,mb4.6						
LPAZ	La Paz	50.34	305	P	P	00 36 14.9	+0.1
	5.4nm,0.7s,mb4.7,baz=147,slow=7.1,SNR=30						
LPAZ	La Paz	50.34	305	*e*P	P	00 36 14.8	0.0
	6.2nm,0.8s,mb4.7						
OTAV	Otavalo	69.62	303	*e*P	P	00 38 28.9	+1.6
	3.6nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	74.83	69	LR	LR	01 09 00.4	
	comp=Z,54nm,19.4s,MS3.9,baz=277,slow=34						
STKA	Stephens Creek	92.13	170	P	P	00 40 27.2	+0.9
	0.8nm,0.5s,mb4.3,baz=232,slow=12,SNR=3.0						
STKA	Stephens Creek	92.13	170	P	P	00 40 27.2	+0.9
ASAR	Alice Springs	99.19	162	P	P	00 40 59.5	+0.9
	0.5nm,0.7s,mb4.2,baz=162,slow=2.9,SNR=5.2						
NOA	NORSAR Array B	120.32	20	PKP	PKPdf	00 46 06.2	-3.1
	1.3nm,1.1s,baz=207,slow=2.0,SNR=3.5						
FINES	FINESS Array B	124.10	28	PKP	PKPdf	00 46 13.4	-3.3
	1.2nm,0.8s,baz=149,slow=22,SNR=4.6						
ARCES	ARCESS Array B	130.66	22	PKP	PKPdf	00 46 24.9	-4.0
	1.2nm,0.7s,baz=135,slow=1.7,SNR=4.9						
BVAR	Borovoye Array	134.53	57	PKP	PKPdf	00 46 33.1	-3.4
	0.6nm,0.5s,baz=180,slow=4.4,SNR=5.4						
YKA	Yellowknife Ar	136.07	318	PKP	PKPdf	00 46 35.4	-3.7
	0.4nm,0.6s,baz=141,slow=1.9,SNR=5.7						
YKA	Yellowknife Ar	136.07	318	PKP	PKPdf	00 46 35.4	-3.7
MKAR	Makanchi Array	136.68	71	PKP	PKPdf	00 46 37.8	-2.8
	0.5nm,0.8s,baz=241,slow=1.9,SNR=3.4						
WMQ	Urumqi	137.73	78	⇓PKP	PKPdf	00 46 37.2	-5.5
WMQ				PP	PP	00 49 26.7	-3.9
WMQ				LR	LR		
	comp=E,26nm,22.0s						
WMQ				LR	LR		
	comp=Z,196nm,29.4s						
LZH	Lanzhou	141.52	100	*e*PKP	PKPdf	00 46 49.3	-0.4
LZH				XPKP		00 46 54.1	
LZH				LR	LR		
	comp=N,193nm,18.0s						
LZH				LR	LR		
	comp=Z,245nm,20.1s,MS5.0						
INK	Inuvik	145.69	321	PKPbc	PKPbc	00 46 53.6	0.0
	comp=Z,4.2nm,0.6s,baz=99,slow=5.0,SNR=19						
INK	Inuvik	145.69	321	*e*PKPdf	PKPdf	00 46 53.4	-2.4
NJ2	Nanjing	146.36	121	*e*PKP	PKPdf	00 46 52.2	-5.9
ILAR	Eielson Array	150.04	312	PKPbc	PKPdf	00 47 05.2	+2.2
	comp=Z,3.8nm,0.8s,baz=126,slow=1.2,SNR=32						
SONM	Songino Array	150.58	86	PKPbc	PKPdf	00 47 06.7	+2.3
	comp=Z,2.1nm,0.5s,baz=225,slow=1.7,SNR=7.5						
MCK	McKinley	150.71	310	*e*PKPbc	PKPdf	00 47 07.2	+3.1
CN2	Changchun	158.69	113	*e*PKP	PKPdf	00 47 10.0	-5.5

*IDC **11** 00:53:25.9±21.0, 12.28N×141.87E, h138^{km}±203^{km}, mb3.5/7, mb1 3.6/7, mb1mx3.4/20, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=48.4km s-min=30.5km az=49.0*

*NEIC **11** 00:53:25.6±1.7, 12.29N×141.85E, h136^{km}±19^{km}, mb3.9/3, Error ellipse: s-maj=24.8km s-min=17.2km az=103.0*

ISC 11 00:53:24.3±2.5, **12.3N**±0.2×**141.8E**±0.2, **h138**^{km}±28^{km}, **n14, σ0^{s}71**/13, **mb3.7**/10, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.25	67	P	P	00 54 15.3	0.0
CTA	Charters Tower	32.49	172	LR	LR	01 13 03.9	
	comp=Z,56nm,19.6s,baz=227,slow=36						
ASAR	Alice Springs	36.58	192	P	P	01 00 18.5	-0.2
	0.1nm,0.4s,mb2.8,baz=11,slow=9.4,SNR=3.1						
CMAR	Chiang Mai Arr	41.70	284	P	P	01 01 01.9	+0.7
	0.8nm,0.9s,mb3.4,baz=101,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	60.36	317	P	P	01 03 20.4	-0.6
	0.8nm,1.0s,mb3.5,baz=82,slow=10,SNR=2.5						
MKAR	Makanchi Array	60.36	317	P	P	01 03 20.4	-0.6
KURK	Kurchatov	63.66	321	*e*P	P	01 03 42.0	-0.9
	1.6nm,0.7s,mb4.0						
KURK				*e*		01 03 51.3	
BVAR	Borovoye Array	69.09	322	P	P	01 04 17.7	+0.6
	1.1nm,0.4s,mb3.9,baz=113,slow=9.0,SNR=10						
BRVK	Borovoye	69.16	322	*e*P	P	01 04 16.3	-1.3
	1.1nm,0.6s,mb3.8						
ZRNK	Zerenda	69.91	322	*e*P	P	01 04 22.6	+0.4
	0.9nm,0.6s,mb3.7						
ZRNK				*e*		01 04 31.3	
ILAR	Eielson Array	71.00	25	P	P	01 04 28.3	-0.2
	0.8nm,0.7s,mb3.5,baz=256,slow=5.9,SNR=7.2						
ARCES	ARCESS Array B	87.37	342	P	P	01 05 57.6	+1.3
	3.0nm,1.0s,mb4.1,baz=60,slow=9.8,SNR=3.9						
FINES	FINESS Array B	91.04	334	P	P	01 06 14.0	+0.2
	1.8nm,0.9s,mb4.1,baz=108,slow=6.0,SNR=7.3						
FINES	FINESS Array B	91.04	334	P	P	01 06 14.0	+0.2

IDC 11 01:01:40.0±4.5, **56.23S**×**141.32W, mb4.2**/2, **mb1 4.5**/2, **mb1mx3.8**/13, **Error ellipse: s-maj=720.0km s-min=101.0km az=167.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	67.81	260	P	P	01 12 40.2	-1.5
	4.4nm,1.2s,baz=143,slow=6.9,SNR=7.6						
WRA	Warramunga Arr	70.55	263	P	P	01 12 56.3	-2.4
	1.4nm,0.7s,baz=143,slow=5.2,SNR=7.3						
MKAR	Makanchi Array	151.71	269	PKPbc	PKPdf	01 21 35.3	+4.6
	2.0nm,1.0s,baz=129,slow=4.2,SNR=6.5						

IDC 11 01:10:45.3±1.9, **52.32N**×**171.93E, mb3.2**/3, **mb1 3.6**/3, **mb1mx3.3**/21, **Error ellipse: s-maj=107.0km s-min=19.0km az=141.0, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	Attu Island--F	0.94	53	Pn	Pn	01 11 04.4	-1.2
	30nm,0.3s,baz=184,slow=4.6,SNR=17						
FX1				Lg		01 11 16.9	
	144nm,0.3s,baz=80,slow=21,SNR=25						
ILAR	Eielson Array	24.32	43	P	P	01 16 04.4	-0.7
	0.2nm,0.5s,baz=240,slow=7.3,SNR=2.5						
YKA	Yellowknife Ar	38.72	45	P	P	01 18 11.0	-1.3
	0.3nm,0.8s,baz=295,slow=8.8,SNR=2.9						
TXAR	Lajitas Array	64.09	75	P	P	01 21 21.1	-2.1
	0.2nm,0.5s,baz=302,slow=5.2,SNR=5.1						

*WAR **11** 01:18:13.8, 51.41N×16.24E, ML2.7, Mining Induced*

*IDC **11** 01:18:13.5±1.3, 51.33N×16.40E, mb1 3.6/2, mb1mx3.2/17, ML2.6/3, Error ellipse: s-maj=22.6km s-min=10.5km az=108.0*

*PRU **11** 01:18:15.4, 51.32N×16.23E*

ISC 11 01:18:11.4±0.7, **51.38N**±0.04×**16.24E**±0.04, **n16, σ1^{s}44**/30, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.54	176	*i* PG	Pg	01 18 24.1	+1.9
KSP				*e*SG	Sg	01 18 32.1	+2.8
DPC	Dobruska-Polom	1.03	177	*e*PG	Pg	01 18 33.6	+1.6
DPC				*e*SG	Sg	01 18 47.1	+1.3
	8.1nm,0.3s						
PVCC	Panska Ves	1.36	232	*e*PG	Pg	01 18 39.5	+1.0
PVCC				*e*SG	Sg	01 18 58.0	+1.4
PRU	Pruhonice	1.76	218	PG	Pg	01 18 46.0	-0.6
PRU				*e*		01 19 02.5	
PRU				SG	Sg	01 19 10.0	-0.1
	6.9nm,0.5s						
OKC	Ostrava-Krasne	1.96	141	*e*PG	Pg	01 18 50.4	-0.2
OKC				*e*SG	Sg	01 19 15.0	-1.8
CLL	Collm	2.03	269	*i* PN	Pn	01 18 50.6	+3.3
CLL				*e*PG	Pg	01 18 54.0	+2.0
CLL				*e*SG	Sg	01 19 18.0	-1.1
VRAC	Vranov	2.08	174	Pg	Pg	01 18 50.7	-2.4
	1.2nm,0.3s,baz=339,slow=17,SNR=4.9						

VRAC				Lg		01 19 20.3	
	1.6nm,0.3s,baz=87,slow=16,SNR=8.6						
OJC	**Ojcow**	**2.54**	**116**	*e*PG	**Pg**	**01 19 02.0**	**-0.1**
OJC				*e*SG	**Sg**	**01 19 36.0**	**0.0**
NKC	**Novy Kostel**	**2.67**	**246**	*e*PG	**Pg**	**01 19 03.8**	**-0.8**
NKC				*e*SG	**Sg**	**01 19 39.7**	**-0.5**
KHC	**Kasperske Hory**	**2.83**	**218**	*e*PN	**Pn**	**01 18 59.9**	**+1.3**
KHC				*e*PG	**Pg**	**01 19 05.7**	**-2.1**
KHC				*e*SN	**Sn**	**01 19 33.5**	**-0.4**
KHC				*e*SG	**Sg**	**01 19 43.5**	**-2.0**
SMOL	**Smolenice**	**2.97**	**165**	*e*SG	**Sg**	**01 19 49.8**	**-0.5**
GERES	**GERESS Array B**	**3.02**	**214**	Pn	**Pn**	**01 19 02.8**	**+1.4**
	0.2nm,0.3s,baz=39,slow=14,SNR=5.0						
GERES				Pg	**Pg**	**01 19 08.9**	**-2.8**
	1.2nm,0.3s,baz=25,slow=17,SNR=27						
GERES				Lg		01 19 51.3	
	1.0nm,0.3s,baz=33,slow=27,SNR=7.3						
VYHS	**Vyhne**	**3.34**	**149**	*e*SG	**Sg**	**01 19 57.8**	**-4.8**
ARSA	**Arzberg**	**4.16**	**187**	⇑*i*PN	**Pn**	**01 19 19.8**	**+2.2**
ARSA				*i* SG	**Sg**	**01 20 28.7**	**-1.2**
	2.4nm,0.6s						
FINES	**FINESS Array B**	**11.45**	**24**	Pn	**P**	**01 20 54.7**	**-4.4**
	0.1nm,0.3s,baz=216,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**18.74**	**10**	P	**P**	**01 22 32.4**	**-1.1**
	0.1nm,0.3s,baz=188,slow=13,SNR=2.9						

*MDD **11** 01:18:23.5±0.5, 36.51N×3.50W, h0^{km}±3^{km}, mbLg3.2/21, Error ellipse: s-maj=3.8km s-min=2.5km az=166.0, PRXIMO III CAR ZAR II LA BITA VLEZ DE BENAUDALLA I IT OL NERJA ADRA*

MDD EMS: III MOTRIL CASTELL DE FERRO A.

*INMG **11** 01:18:23.6±1.0, 36.50N×3.54W, ML3.2, Error ellipse: s-maj=2.1km s-min=1.6km az=78.0*

*NEIC **11** 01:18:23.7, 36.50N×3.53W, h2^{km}, MN3.1(MDD), After MDD.*

NEIC Felt [III] at Almunecar, Castell de Ferro, Molvizar, Motril and Salobrena; [II] at La Rabita and Velez de Benaudalla; [I] at Adra, Albunol, Guajar-Faraguit and Nerja, Spain. Also felt at Polopos.

*LDG **11** 01:18:27.8±0.3, 36.66N×3.59W, h10^{km}, Ml3.2/2, Error ellipse: s-maj=5.5km s-min=2.5km az=179.0*

ISC 11 01:18:24.2±0.5**, 36.77N**±0.03×**3.57W**±0.02**, h11**^{km}±3^{km}**, n91, σ1^{s}32**/143**, 3C-2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EXAL	**Albunol**	**0.29**	**85**	Pg	**Pg**	**01 18 30.9**	**+0.6**
EXAL				Lg		01 18 34.4	
ERON	**Agron**	**0.32**	**323**	⇑Pg	**Pn**	**01 18 34.1**	**-0.1**
	275nm,0.3s,SNR=18						
ERON				Lg		01 18 41.7	
	180nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.32**	**323**	⇓Pg	**Pn**	**01 18 34.1**	**-0.1**
ERON				Lg		01 18 41.7	
ELOJ	**Sierra Loja**	**0.60**	**309**	Pg	**Pg**	**01 18 38.5**	**+2.2**
	62nm,0.3s,SNR=72						
ELOJ				Lg		01 18 50.2	
	88nm,0.2s,SNR=23						
EMAL	**Malaga-Limoner**	**0.69**	**270**	⇑Pg	**Pg**	**01 18 37.8**	**-0.3**
	247nm,0.1s,SNR=18						
EMAL				Lg		01 18 46.8	
	2μm,0.1s,SNR=7.9						
ELUQ	**Luque**	**0.97**	**325**	Pg	**Pn**	**01 18 46.8**	**+3.3**
	94nm,0.2s,SNR=33						
ELUQ				Lg		01 19 03.5	
	90nm,0.2s						
ELUQ	**Luque**	**0.97**	**325**	Pg	**Pn**	**01 18 47.0**	**+3.5**
ELUQ				Lg		01 19 03.5	
EMIJ	**Mijas**	**0.99**	**259**	⇑Pg	**Pg**	**01 18 41.5**	**-2.6**
	119nm,0.2s,SNR=18						
EMIJ				Lg		01 18 54.5	
	136nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.11**	**21**	⇓Pg	**Pg**	**01 18 48.8**	**+2.5**
	318nm,0.4s,SNR=18						
EQES				Lg		01 19 06.4	
	169nm,0.2s						
EQES	**Quesada**	**1.11**	**21**	Pg	**Pg**	**01 18 48.8**	**+2.5**
EQES				Lg		01 19 06.4	
REAL	**Reales**	**1.35**	**258**	Pg	**Pg**	**01 18 46.6**	**-4.5**
REAL				Lg		01 19 08.5	
LIJA	**Lijar**	**1.48**	**276**	Pg	**Pg**	**01 18 53.8**	**0.0**
LIJA				Lg		01 19 18.9	
EMEL	**Melilla**	**1.55**	**161**	Pg	**Pg**	**01 18 47.4**	**-7.7**
	89nm,0.3s,SNR=8.0						
EMEL				Lg		01 19 04.3	
	313nm,0.1s,SNR=12						
EJIF	**Jimena Fronter**	**1.56**	**259**	Pn	**Pn**	**01 18 50.9**	**-1.1**
	0.2nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**1.61**	**330**	Pn	**Pn**	**01 18 55.9**	**+3.2**
	0.6nm,0.1s,SNR=164						
EADA				Pg	**Pg**	**01 18 57.7**	**+1.3**
	24nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**01 19 18.5**	**+4.9**
	322nm,0.4s						
EADA	**Adamuz**	**1.61**	**330**	Pn	**Pn**	**01 18 56.1**	**+3.3**
EADA				Sn	**Sn**	**01 19 18.5**	**+4.9**
ESPR	**Espera**	**1.84**	**274**	Pg	**Pg**	**01 18 58.5**	**-2.5**
	20nm,0.2s,SNR=39						
ESPR				Lg		01 19 23.2	
	30nm,0.3s,SNR=5.7						
ESPR	**Espera**	**1.84**	**274**	Pg	**Pg**	**01 18 58.5**	**-2.4**
ESPR				Lg		01 19 23.2	
CNIL	**Conil**	**2.04**	**260**	Pn	**Pn**	**01 19 00.6**	**+1.7**
EVIA	**Vianos**	**2.05**	**24**	Pg	**Pg**	**01 19 03.2**	**-2.0**
	359nm,0.6s,SNR=115						
EVIA				Sn	**Sn**	**01 19 29.2**	**+4.5**
	185nm,0.5s,SNR=6.8						
EVIA	**Vianos**	**2.05**	**24**	Pg	**Pg**	**01 19 04.1**	**-1.0**
EVIA				Sn	**Sn**	**01 19 29.2**	**+4.5**
EMUR	**La Murta**	**2.14**	**59**	Pn	**Pn**	**01 18 59.8**	**-0.5**
	19nm,0.3s,SNR=31						
EMUR				Sn	**Sn**	**01 19 25.4**	**-1.7**
	53nm,0.4s,SNR=5.0						
EMUR	**La Murta**	**2.14**	**59**	Pn	**Pn**	**01 19 00.1**	**-0.3**
EMUR				Sn	**Sn**	**01 19 25.2**	**-1.9**
CART	**Cartagena**	**2.21**	**67**	Pn	**Pn**	**01 18 58.8**	**-2.4**
CART				Sn	**Sn**	**01 19 19.3**	**-9.4**
ETOB	**Tobarra**	**2.46**	**40**	Pn	**Pn**	**01 19 07.5**	**+2.5**
	5.1nm,0.3s,SNR=40						
ETOB				Pg	**Pg**	**01 19 11.9**	**-1.5**
	12nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**01 19 38.7**	**+3.4**
	75nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.46**	**40**	Pn	**Pn**	**01 19 07.6**	**+2.6**
ETOB				Pg	**Pg**	**01 19 13.1**	**-0.3**
ETOB				Sn	**Sn**	**01 19 38.7**	**+3.4**
EMIN	**Mina Concepcio**	**2.67**	**293**	Pn	**Pn**	**01 19 08.3**	**+0.4**
	11nm,0.3s,SNR=100						
EMIN				Sn	**Sn**	**01 19 41.4**	**+0.9**
	78nm,0.6s,SNR=5.0						
EMIN				Lg		01 19 55.0	
	8.9nm,0.2s,SNR=9.2						
EMIN	**Mina Concepcio**	**2.67**	**293**	Pn	**Pn**	**01 19 08.3**	**+0.4**
EMIN				Sn	**Sn**	**01 19 39.4**	**-1.1**
EMIN				Lg		01 19 55.0	
ESDC	**Sonseca Array**	**2.92**	**354**	Pn	**Pn**	**01 19 13.8**	**+2.4**
	2.5nm,0.3s,baz=173,slow=12,SNR=20						
ESDC				Sn	**Sn**	**01 19 49.2**	**+2.4**
	6.1nm,0.4s,baz=177,slow=16,SNR=107						
ESLA	**Sonseca Array**	**2.92**	**354**	*e*P	**Pn**	**01 19 14.3**	**+2.9**
PALC	**Alcoutim**	**3.20**	**284**	*e*Pn	**Pn**	**01 19 15.4**	**0.0**
PALC				*e*Sn	**Sn**	**01 19 53.6**	**-0.3**
	34nm,0.3s						
PALC	**Alcoutim**	**3.20**	**284**	Pn	**Pn**	**01 19 15.4**	**0.0**
PALC				Sn	**Sn**	**01 19 53.6**	**-0.3**
	17nm,0.3s						
EGRO	**El Granado**	**3.22**	**285**	Pn	**Pn**	**01 19 15.8**	**+0.1**
	19nm,0.3s,SNR=57						
EGRO				Sn	**Sn**	**01 19 52.9**	**-1.5**
	26nm,0.4s,SNR=5.7						
EGRO	**El Granado**	**3.22**	**285**	Pn	**Pn**	**01 19 16.1**	**+0.4**
EGRO				Sn	**Sn**	**01 19 52.9**	**-1.5**
EBEN	**Beniarda**	**3.28**	**53**	Pn	**Pn**	**01 19 15.6**	**-1.0**
	0.4nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**01 19 55.2**	**-0.7**
	SNR=7.9						
EBAD	**Badajoz**	**3.38**	**307**	Pn	**Pn**	**01 19 19.0**	**+1.1**
	5.4nm,0.3s,SNR=43						
EBAD				Sn	**Sn**	**01 19 57.3**	**-1.1**
	24nm,0.4s,SNR=6.8						
EBAD				Lg		01 20 16.7	
	5.3nm,0.1s,SNR=11						
EBAD	**Badajoz**	**3.38**	**307**	Pn	**Pn**	**01 19 19.2**	**+1.3**
EBAD				Sn	**Sn**	**01 19 57.3**	**-1.1**
EBAD				Lg		01 20 16.7	
PBEJ	**Beja**	**3.65**	**291**	*e*Pn	**Pn**	**01 19 21.9**	**+0.1**
PBEJ				*e*Sn	**Sn**	**01 20 05.8**	**+0.6**
	32nm,0.5s						
PBEJ	**Beja**	**3.65**	**291**	Pn	**Pn**	**01 19 21.9**	**+0.1**
PBEJ				Sn	**Sn**	**01 20 05.8**	**+0.6**
	16nm,0.5s						
MOE	**Montemor**	**4.18**	**296**	*e*Pn	**Pn**	**01 19 29.6**	**+0.2**
MOE				*e*Sn	**Sn**	**01 20 19.4**	**+0.6**
PTEO	**Sao Teotonio**	**4.19**	**282**	*e*Pn	**Pn**	**01 19 29.0**	**-0.5**
PTEO				*e*Sn	**Sn**	**01 20 17.8**	**-1.3**
	40nm,0.7s						
PTEO	**Sao Teotonio**	**4.19**	**282**	Pn	**Pn**	**01 19 29.0**	**-0.5**
PTEO				Sn	**Sn**	**01 20 17.8**	**-1.3**
	20nm,0.7s						
ETOR	**Torete**	**4.21**	**16**	Pn	**Pn**	**01 19 31.7**	**+1.8**
	7.3nm,0.6s,SNR=20						
ETOR				Pg	**Pg**	**01 19 45.1**	**-3.2**
	12nm,0.4s,SNR=9.6						
ETOR				Sn	**Sn**	**01 20 21.2**	**+1.6**
	59nm,0.4s,SNR=5.0						
ETOR				Lg		01 20 45.5	
	7.2nm,0.2s,SNR=7.8						
ETOR	**Torete**	**4.21**	**16**	Pn	**Pn**	**01 19 31.7**	**+1.8**
ETOR				Pg	**Pg**	**01 19 45.1**	**-3.2**
ETOR				Sn	**Sn**	**01 20 21.2**	**+1.6**
ETOR				Lg		01 20 43.9	
EMOS	**Mosqueruela**	**4.33**	**33**	Pn	**Pn**	**01 19 32.3**	**+0.8**
	4.6nm,0.5s,SNR=6.9						
EMOS				Pg	**Pg**	**01 19 46.7**	**-4.0**
	16nm,0.5s,SNR=8.8						
EMOS				Sn	**Sn**	**01 20 21.7**	**-0.9**
	25nm,0.9s,SNR=7.9						
EMOS				Lg		01 20 48.6	
	72nm,1.0s,SNR=5.0						
EMOS	**Mosqueruela**	**4.33**	**33**	Pn	**Pn**	**01 19 32.4**	**+0.8**
EMOS				Pg	**Pg**	**01 19 48.8**	**-1.9**
EMOS				Sn	**Sn**	**01 20 21.7**	**-0.9**
EMOS				Lg		01 20 48.6	
PCBR	**Castelo Branco**	**4.34**	**316**	*e*Sn	**Sn**	**01 20 24.2**	**+1.3**
	50nm,0.7s						
PCBR	**Castelo Branco**	**4.34**	**316**	Sn	**Sn**	**01 20 24.2**	**+1.3**
	25nm,0.7s						
EIBI	**Ibiza**	**4.49**	**58**	Pn	**Pn**	**01 19 32.3**	**-1.5**
	22nm,0.8s,SNR=21						
EIBI				Sn	**Sn**	**01 20 19.1**	**-7.5**
	70nm,1.2s,SNR=5.0						
EIBI	**Ibiza**	**4.49**	**58**	Pn	**Pn**	**01 19 31.9**	**-1.8**
EIBI				Sn	**Sn**	**01 20 19.1**	**-7.5**
PTOM	**Tomar**	**4.76**	**308**	*e*Pn	**Pn**	**01 19 38.4**	**+0.8**
PTOM				*e*Sg	**Sg**	**01 21 01.9**	**-0.8**
	47nm,0.5s						
PTOM	**Tomar**	**4.76**	**308**	Pn	**Pn**	**01 19 38.4**	**+0.8**
PTOM				Lg		01 21 01.9	
	23nm,0.5s						
MTE	**Manteigas**	**4.78**	**321**	*e*Pn	**Pn**	**01 19 38.9**	**+1.0**
MTE				*e*Sg	**Sg**	**01 21 02.4**	**-1.0**
	74nm,0.6s						
MTE	**Manteigas**	**4.78**	**321**	Pn	**Pn**	**01 19 38.9**	**+1.0**
MTE				Lg		01 21 02.4	
	37nm,0.6s						
MTE	**Manteigas**	**4.78**	**321**	*e*P	**Pn**	**01 19 38.4**	**+0.5**
	8.6nm,0.4s						
PLOU	**Loures**	**4.90**	**297**	*e*Pn	**Pn**	**01 19 39.4**	**-0.2**
PLOU				*e*Sn	**Sn**	**01 20 36.5**	**-0.4**
EBR	**Ebro Roquetas**	**5.14**	**37**	*e*SNSN		01 21 01.5	
EBR	**Ebro Roquetas**	**5.14**	**37**	*e*SG	**Sg**	**01 21 18.2**	**+2.9**
PVIS	**Viseu**	**5.20**	**321**	*e*Pn	**Pn**	**01 19 44.6**	**+0.9**
PVIS				*e*Sn	**Sn**	**01 20 45.3**	**+1.0**
PVIS				*e*Sg	**Sg**	**01 21 16.4**	**-0.7**
	31nm,0.7s						
PVIS	**Viseu**	**5.20**	**321**	Pn	**Pn**	**01 19 44.6**	**+0.9**
PVIS				Sn	**Sn**	**01 20 45.3**	**+1.0**
PVIS				Lg		01 21 16.4	
	15nm,0.7s						
ESAC	**San Caprasio**	**5.50**	**25**	Pg	**Pg**	**01 20 09.7**	**-4.3**
	17nm,0.3s,SNR=6.7						
PVRL	**Vila Real**	**5.54**	**326**	*e*Pn	**Pn**	**01 19 50.0**	**+1.4**
PVRL				*e*Sg	**Sg**	**01 21 27.3**	**-1.3**
	23nm,0.5s						
PVRL	**Vila Real**	**5.54**	**326**	Pn	**Pn**	**01 19 50.0**	**+1.4**
PVRL				Lg		01 21 27.3	
	12nm,0.5s						
PBRG	**Braganca**	**5.60**	**335**	*e*Pn	**Pn**	**01 19 50.9**	**+1.5**
PBRG				*e*Sg	**Sg**	**01 21 30.0**	**-0.6**
	29nm,0.6s						
PBRG	**Braganca**	**5.60**	**335**	Pn	**Pn**	**01 19 50.9**	**+1.5**
PBRG				Lg		01 21 30.0	
	14nm,0.6s						
ECAL	**Calabor**	**5.72**	**336**	Pn	**Pn**	**01 19 53.8**	**+2.7**
	4.9nm,0.3s,SNR=6.2						
ECAL				Sn	**Sn**	**01 20 55.5**	**-2.0**
	0.7nm,0.4s,SNR=7.9						
ECAL				Lg		01 21 34.6	
	26nm,0.5s,SNR=5.2						
EPOB	**Poblet**	**5.83**	**37**	Pn	**Pn**	**01 19 53.1**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.17**	**327**	Pn	**Pn**	**01 19 59.0**	**+1.5**
	18nm,0.6s,SNR=7.9						
ELOB				Sn	**Sn**	**01 21 06.1**	**-2.7**
	1.9nm,0.2s,SNR=7.9						
ELOB				Lg		01 21 47.4	
	14nm,0.4s,SNR=5.3						
ERUA	**La Rua**	**6.26**	**335**	Pn	**Pn**	**01 19 60.0**	**+1.2**
	2.1nm,0.3s,SNR=11						
ERUA				Sn	**Sn**	**01 21 08.1**	**-2.9**
	1.4nm,0.3s,SNR=7.9						
ERUA				Lg		01 21 52.4	
	19nm,0.6s,SNR=6.6						
ELAN	**Lanestosa**	**6.46**	**1**	Pn	**Pn**	**01 20 02.7**	**+1.2**
	3.0nm,0.3s,SNR=9.4						
ELAN				Sn	**Sn**	**01 21 16.4**	**+0.5**
	13nm,0.6s,SNR=5.3						
ELAN				Lg		01 21 58.0	
	14nm,0.7s,SNR=5.0						
ETSF	**Etsaut**	**6.54**	**20**	*e*Pn	**Pn**	**01 20 03.0**	**+0.2**
ETSF				*e*Sn	**Sn**	**01 21 15.1**	**-3.0**
	4.4nm,0.5s						
SJPF	**Ste Jean**	**6.59**	**15**	*e*Pn	**Pn**	**01 20 03.9**	**+0.5**
SJPF				*e*Sn	**Sn**	**01 21 16.2**	**-3.0**
	5.7nm,0.5s						
EALK	**Alkurruntz**	**6.63**	**13**	Pn	**Pn**	**01 20 04.6**	**+0.6**
	7.8nm,0.5s,SNR=12						
EALK				Sn	**Sn**	**01 21 19.6**	**-0.8**
	SNR=7.9						
EPF	**Esparros**	**6.94**	**24**	*e*Pn	**Pn**	**01 20 07.2**	**-1.1**
EPON	**Pontenova**	**7.10**	**338**	Pn	**Pn**	**01 20 12.2**	**+1.6**
	8.4nm,0.9s,SNR=4.7						
EPON				Sn	**Sn**	**01 21 31.6**	**-0.6**
	SNR=7.9						
STS	**Santiago**	**7.21**	**329**	Pn	**Pn**	**01 20 12.3**	**+0.1**
	SNR=7.9						
STS				Sn	**Sn**	**01 21 31.0**	**-3.9**
	SNR=7.9						
STS	**Santiago**	**7.21**	**329**	Pn	**Pn**	**01 20 13.7**	**+1.5**
STS				Sn	**Sn**	**01 21 31.0**	**-3.9**
MTLF	**Montolieu**	**7.92**	**32**	*e*Pn	**Pn**	**01 20 22.3**	**+0.3**
LFF	**La Frestale**	**8.79**	**20**	*e*Pn	**P**	**01 20 34.4**	**+0.3**
CAF	**Calviac**	**9.20**	**26**	*e*Pn	**P**	**01 20 39.6**	**-0.1**
LASF	**Ste Croix**	**9.23**	**35**	*e*Pn	**P**	**01 20 39.2**	**-1.1**
MFF	**Saint Martin d**	**10.15**	**13**	*e*Pn	**P**	**01 20 52.5**	**-0.4**
QUIF	**Quistinic**	**11.15**	**1**	*e*Pn	**P**	**01 21 05.6**	**-0.9**
PGF	**Pioggiola**	**11.27**	**55**	*e*Pn	**P**	**01 21 07.5**	**-0.7**
SGMF	**Saint Gilles**	**11.50**	**3**	*e*Pn	**P**	**01 21 10.9**	**-0.4**
ROSF	**Rostrenen**	**11.56**	**1**	*e*Pn	**P**	**01 21 11.0**	**-1.1**
LPG	**La Plagne**	**11.68**	**38**	*e*Pg	Px	01 22 05.6	
LPL	**La Plagne**	**11.68**	**38**	*e*Pg	Px	01 22 05.4	
GRR	**Gorron**	**11.78**	**9**	*e*Pn	**P**	**01 21 14.9**	**-0.2**
LDF	**La Druitiere**	**12.09**	**11**	*e*Pn	**P**	**01 21 19.5**	**+0.3**
FLN	**La Foliniere**	**12.20**	**10**	*e*Pn	**P**	**01 21 19.5**	**-1.2**

IDC 11 01:25:47.9±48.0**, 16.43S**×**177.02W, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.7**/15**, Error ellipse: s-maj=902.0km s-min=175.8km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.51**	**240**	P	P	01 33 29.6	-0.8
	1.6nm,0.8s,baz=109,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**46.22**	**258**	P	P	01 34 14.2	-2.7
	0.8nm,0.7s,baz=97,slow=7.9,SNR=4.0						
ASAR	**Alice Springs**	**46.48**	**253**	P	P	01 34 17.4	-1.6
	3.5nm,0.4s,baz=88,slow=8.0,SNR=59						

*NIED **11** 01:32:00, 43.60N×147.30E, h62^{km}, Mw3.9 Best double couple: $M_0$7.75×10^{14} NP1:ϕ_s151°, δ55°, λ56°. NP2:ϕ_s20°, δ47°, λ128°.*

*JMA **11** 01:32:12.7±0.2, 43.65N×147.30E, h36^{km}, M4.3*

*MOS **11** 01:32:13.0±1.4, 44.01N×147.25E, h69^{km}, mb4.1/5, Error ellipse: s-maj=20.6km s-min=14.7km az=72.2*

*NEIC **11** 01:32:14.7±1.6, 43.85N×147.18E, h70^{km}±15^{km}, mb4.0/1, Error ellipse: s-maj=18.7km s-min=12.3km az=106.0*

*IDC **11** 01:32:16.8±3.6, 43.96N×147.11E, h85^{km}±32^{km}, mb3.5/10, mb1 3.7/11, mb1mx3.5/23, Error ellipse: s-maj=27.8km s-min=20.8km az=150.0*

ISC 11 01:32:12.5±0.9**, 43.78N**±0.07×**147.29E**±0.09**, h67**^{km}±7^{km}**, n42, σ0^{s}84**/52**, mb3.7**/10**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.06**	**285**	⇓*i*PN	**P**	**01 32 31.2**	**-0.7**
YUK				*i* S	**S**	**01 32 44.9**	**-1.4**
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.6s						
YUK				pmax	pmax		
	comp=N,580nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,20μm,0.8s						
YUK				smax			
	comp=N,7μm,0.4s						
YUK				smax			
	comp=E,4μm,0.5s						
NEM2	**Nemuro 2**	**1.20**	**250**	P	**P**	**01 32 33.2**	**-0.4**
NEM2				*e*S	**S**	**01 32 48.2**	**-1.2**
KUR	**Kuril'sk**	**1.52**	**16**	*e*PN	**P**	**01 32 37.8**	**-0.3**
KUR				*e*S	**S**	**01 32 57.0**	**0.0**
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
JRA	**Rausu**	**1.57**	**277**	P	**P**	**01 32 39.4**	**+0.5**
JRA				*e*S	**S**	**01 32 58.7**	**+0.3**
JNK	**Nakash**	**1.87**	**265**	P	**P**	**01 32 43.1**	**+0.2**
JNK				*e*S	**S**	**01 33 06.0**	**+0.6**
JAK	**Akkeshi**	**2.04**	**248**	P	**P**	**01 32 44.9**	**-0.4**
JAK				*e*S	**S**	**01 33 08.8**	**-0.8**
JTKR	**Abashiri--Toko**	**2.45**	**276**	P	**P**	**01 32 51.9**	**+0.8**
JAR	**Ashorobuto**	**2.60**	**261**	P	**P**	**01 32 53.7**	**+0.5**
JAR				*e*S	**S**	**01 33 25.0**	**+1.3**
JOB	**Onbets**	**2.67**	**252**	P	**P**	**01 32 54.2**	**+0.1**
JOB				*e*S	**S**	**01 33 25.0**	**-0.3**
JMP	**Maruseppu**	**2.85**	**276**	P	**P**	**01 32 57.5**	**+0.8**
JCH	**Churui**	**3.10**	**249**	P	**P**	**01 32 59.4**	**-0.7**
JCH				*e*S	**S**	**01 33 34.9**	**-1.2**
JKK2	**Kamakawa 2**	**3.29**	**273**	P	**P**	**01 33 04.3**	**+1.5**
ASAJ	**Asahikawa**	**3.41**	**277**	P	**P**	**01 33 05.5**	**+1.1**
	comp=E,4.7nm,0.3s,baz=96,slow=13,SNR=10						
ASAJ	**Asahikawa**	**3.41**	**277**	P	**P**	**01 33 05.9**	**+1.4**
ASAJ	**Asahikawa**	**3.41**	**277**	PN	**P**	**01 33 05.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JFR	**Furan**	**3.47**	**261**	P	**P**	**01 33 06.6**	**+1.2**
JEM	**Erimo**	**3.51**	**241**	P	**P**	**01 33 06.7**	**+0.8**
JEM				*e*S	**S**	**01 33 46.7**	**+0.3**
JSE	**Soyaes**	**3.57**	**291**	P	**P**	**01 33 07.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.65**	**247**	P	**P**	**01 33 07.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.50**	**316**	*e*P	**P**	**01 33 19.6**	**-0.2**
SKR	**Severo-Kuril's**	**9.15**	**38**	*e*PN	**P**	**01 34 19.2**	**-4.8**
MAJO	**Matsushiro**	**10.02**	**227**	*e*P	**P**	**01 34 34.9**	**-0.9**
ILAR	**Eielson Array**	**41.41**	**36**	P	**P**	**01 39 53.4**	**+0.1**
	comp=Z,1.0nm,0.9s,mb3.6,baz=249,slow=7.3,SNR=9.6						
ILAR	**Eielson Array**	**41.41**	**36**	P	**P**	**01 39 53.4**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**44.66**	**298**	P	**P**	**01 40 20.0**	**+0.1**
	comp=Z,5.7nm,0.5s,mb4.6,baz=82,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**44.66**	**298**	P	**P**	**01 40 20.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**46.33**	**30**	P	**P**	**01 40 33.1**	**+0.3**
	comp=Z,0.9nm,0.3s,mb3.9,baz=292,slow=7.6,SNR=8.3						
INK	**Inuvik**	**46.33**	**30**	P	**P**	**01 40 33.1**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**46.33**	**30**	*e*P	**P**	**01 40 32.4**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**55.73**	**34**	P	**P**	**01 41 43.3**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.7,baz=300,slow=6.9,SNR=6.8						
FINES	**FINESS Array B**	**64.90**	**333**	P	**P**	**01 42 44.5**	**-1.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=45,slow=5.4,SNR=7.0						
FINES	**FINESS Array B**	**64.90**	**333**	P	**P**	**01 42 44.5**	**-1.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**68.22**	**193**	P	**P**	**01 43 08.9**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=0.8,slow=5.5,SNR=5.3						
NB2	**NORSAR Subarra**	**69.62**	**339**	P	**P**	**01 43 14.5**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**01 43 15.0**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.6,baz=32,slow=6.4,SNR=4.7						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**01 43 15.0**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.62**	**324**	P	**P**	**01 43 27.1**	**-1.0**
	comp=Z,1.4nm,0.7s,mb3.9,baz=39,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**71.62**	**324**	P	**P**	**01 43 27.1**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**78.99**	**331**	*e*P	**P**	**01 44 10.0**	**-0.1**
GERES	**GERESS Array B**	**79.19**	**331**	P	**P**	**01 44 11.0**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=4.2,SNR=3.4						
TXAR	**Lajitas Array**	**82.55**	**56**	P	**P**	**01 44 31.2**	**+1.9**
	comp=Z,0.3nm,0.9s,mb3.1,baz=305,slow=4.2,SNR=4.2						
TXAR	**Lajitas Array**	**82.55**	**56**	P	**P**	**01 44 31.2**	**+1.9**

*STR **11** 01:41:22.4±0.5, 44.40N×6.76E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **11** 01:41:22.9±0.1, 44.42N×6.85E, h2^{km}, Md1.8/3, Ml1.7/6, Error ellipse: s-maj=2.0km s-min=1.0km az=72.0*

ISC 11 01:41:21.9±0.5**, 44.42N**±0.02×**6.81E**±0.04**, h13**^{km}±5^{km}**, n13, σ0^{s}53**/25**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.06**	**3**	Pg	**Pg**	**01 41 25.0**	**+0.4**
SURF				Sg	**Sg**	**01 41 26.6**	**+0.2**
MBDF	**Montbardon**	**0.31**	**355**	*e*Pg	**Pg**	**01 41 29.0**	**+0.5**
MBDF				*e*Sg	**Sg**	**01 41 33.3**	**+0.4**
	6.7nm,0.2s						
TOUF	**Mont Tournerai**	**0.51**	**142**	Pg	**Pg**	**01 41 32.0**	**-0.4**
AUTN	**L'Aution**	**0.61**	**133**	Pg	**Pg**	**01 41 34.7**	**+0.3**
AUTN				Sg	**Sg**	**01 41 43.1**	**+0.4**
SBF	**Sospel**	**0.72**	**141**	*e*Pg	**Pg**	**01 41 36.2**	**-0.1**
SBF				*e*Pn	**Pn**	**01 41 38.1**	**+0.7**
SBF				*e*Sg	**Sg**	**01 41 45.4**	**-0.6**
	3.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.83**	**307**	*e*Pg	**Pg**	**01 41 38.1**	**-0.5**
ORIF				*e*Sg	**Sg**	**01 41 49.5**	**-0.2**
	2.2nm,0.3s						
FRF	**La Foret Royal**	**0.87**	**188**	*e*Pg	**Pg**	**01 41 39.1**	**-0.2**
FRF				*e*Sg	**Sg**	**01 41 50.4**	**-0.6**
	2.0nm,0.2s						
SMRF	**Simiane la Rot**	**0.99**	**244**	*e*Pg	**Pg**	**01 41 42.5**	**+0.7**
SMRF				*e*Sg	**Sg**	**01 41 56.1**	**+1.0**
	4.3nm,0.4s						
LPG	**La Plagne**	**1.08**	**358**	*e*Pg	**Pg**	**01 41 43.4**	**-0.1**
LPG				*e*Sg	**Sg**	**01 41 57.7**	**-0.3**
	2.0nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**1.10**	**357**	*e*Pg	**Pg**	**01 41 43.8**	**-0.1**
LPL				*e*Sg	**Sg**	**01 41 58.2**	**-0.4**
	1.2nm,0.3s						
LMR	**La Mourre**	**1.11**	**191**	*e*Pg	**Pg**	**01 41 43.7**	**-0.4**
LMR				*e*Sg	**Sg**	**01 41 58.8**	**-0.1**
	3.4nm,0.2s						
VIVF	**Saint-Julien-l**	**1.59**	**287**	*e*Pn	**Pn**	**01 41 50.7**	**+0.9**
VIVF				*e*Sg	**Sg**	**01 42 13.6**	**-1.2**
	1.8nm,0.4s						
PGF	**Pioggiola**	**2.46**	**139**	*e*Pn	**Pn**	**01 42 01.9**	**-0.4**

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*IDC **11** 03:21:45.4±1.1,6.17S×151.04E,mb4.1/7,mb1 4.4/8, mb1mx4.1/14,ML2.6/1,MS3.0/3,Ms1 3.0/3,ms1mx2.8/17, Error ellipse: s-maj=50.6km s-min=19.8km az=132.0*

*NEIC **11** 03:21:52.8±0.8,6.09S×150.72E,h55^{km},mb4.1/3,Error ellipse: s-maj=41.6km s-min=13.7km az=132.0*

ISC 11 03:21:50.6±4.7,**6.1S**±0.2×**150.9E**±0.3,**h52**^{km}±39^{km}**,n16,** σ**0^{s}.94**/17,**mb4.0**/7,**MS3.1**/1,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95**	**229**	Pn	**P**	**03 23 04.0**	**-0.2**
	1.7nm,0.3s,baz=60,slow=3.7,SNR=5.6						
PMG				Sn	**S**	**03 24 01.6**	**+0.7**
	6.9nm,0.3s,baz=240,slow=22,SNR=6.6						
PMG				LR	LR	03 25 16.4	
	comp=Z,79nm,18.9s,baz=149,slow=42						
PMG	**Port Moresby**	**4.95**	**229**	*e*P	**P**	**03 23 00.5**	**-3.8**
PMG				Sn	**S**	**03 24 01.6**	**+0.7**
PMG				LR	LR	03 25 16.4	
CTA	**Charters Tower**	**14.59**	**198**	LR	LR	03 29 14.6	
	comp=Z,62nm,20.4s,baz=233,slow=31						
WB2	**Warramunga Arr**	**21.16**	**228**	*e*P	**P**	**03 26 32.6**	**-1.0**
WRA	**Warramunga Arr**	**21.16**	**228**	P	**P**	**03 26 33.0**	**-0.7**
	6.9nm,0.6s,mb4.2,baz=53,slow=10,SNR=41						
ASAR	**Alice Springs**	**23.91**	**221**	P	**P**	**03 27 01.4**	**+0.7**
	2.4nm,0.4s,mb4.0,baz=57,slow=8.2,SNR=32						
ASAR				LR	LR	03 37 03.4	
	comp=Z,71nm,20.5s,MS3.1,baz=28,slow=38						
ASPA	**Alice Springs**	**23.91**	**221**	*e*P	**P**	**03 27 01.6**	**+0.9**
STKA	**Stephens Creek**	**27.05**	**198**	*e*P	**P**	**03 27 30.1**	**-0.2**
	4.5nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.05**	**198**	P	**P**	**03 27 30.0**	**-0.3**
	4.9nm,0.7s,mb4.2,baz=21,slow=8.6,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.39**	**242**	*e*P	**P**	**03 27 33.1**	**-0.4**
	3.9nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.39**	**242**	P	**P**	**03 27 33.2**	**-0.3**
	5.1nm,0.9s,mb4.0,baz=71,slow=6.6,SNR=12						
VNDA	**Vanda**	**71.57**	**178**	P	**P**	**03 33 07.0**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=331,slow=7.0,SNR=3.9						
VNDA	**Vanda**	**71.57**	**178**	*e*P	**P**	**03 33 07.5**	**-0.3**
	0.9nm,0.9s,mb3.7						
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**03 34 17.3**	**+0.4**
	0.9nm,0.7s,mb4.0,baz=249,slow=5.2,SNR=14						
INK	**Inuvik**	**90.37**	**21**	P	**P**	**03 34 46.2**	**-0.9**
NVAR	**Mina Array Bea**	**94.38**	**52**	P	**P**	**03 35 09.0**	**+2.8**
	0.5nm,0.8s,mb4.0,baz=243,slow=6.0,SNR=3.9						

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*BJI **11** 03:25:14.4,17.48S×69.66W,h104^{km},mB5.1*

*NEIC **11** 03:25:14.2±0.8,18.02S×69.25W,h102^{km}±9^{km},mb4.6/9, Error ellipse: s-maj=12.3km s-min=7.8km az=81.0*

NEIC Felt [II] at Tacna, Peru.

*SYO **11** 03:25:14.1,18.02S×69.25W,h102^{km},MB4.6*

*IDC **11** 03:25:17.2±0.5,18.15S×69.24W,h129^{km}±4^{km},mb4.1/11, mb1 4.2/14,mb1mx4.2/17,MS3.0/1,Ms1 3.0/1, ms1mx2.7/17,Error ellipse: s-maj=13.8km s-min=7.5km az=101.0*

ISC 11 03:25:15.6±0.4,**18.00S**±0.05×**69.15W**±0.09,**h131**^{km}, **h131**^{km}±1.7^{km}**:pP-P,n53,**σ**1^{s}.09**/42,**mb4.5**/16,**4C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.96**	**30**	P	**P**	**03 25 55.0**	**+5.4**
	89nm,0.3s,baz=185,slow=3.4,SNR=2213						
LPAZ				S	**S**	**03 26 21.6**	**+6.2**
	52nm,0.3s,baz=135,slow=24,SNR=11						
LPAZ	**La Paz**	**1.96**	**30**	*e*P	**P**	**03 25 54.8**	**+5.2**
LVC	**Limon Verde**	**4.60**	**177**	P	**P**	**03 26 23.6**	**-0.7**
	78nm,0.3s,baz=357,slow=7.6,SNR=872						
LVC				S	**S**	**03 27 11.6**	**-5.6**
	87nm,0.3s,baz=143,slow=23,SNR=14						
LVC				LR	LR	03 27 42.3	
	comp=Z,149nm,18.5s,baz=319,slow=33						
LVC	**Limon Verde**	**4.60**	**177**	*e*P	**P**	**03 26 23.2**	**-1.1**
ANCH	**Antofagasta**	**5.78**	**192**	⇑*i*P	**P**	**03 26 35.2**	**-4.9**
ANCH				*i* S	**S**	**03 27 36.0**	**-10**
NNA	**Nana**	**9.53**	**308**	*e*P	**P**	**03 27 27.1**	**-3.6**
	41nm,0.3s						
SAML	**Samuel**	**10.70**	**34**	*e*P	**P**	**03 27 45.9**	**-0.3**
	2.0nm,0.4s						
CPUP	**Villa Florida**	**13.73**	**129**	P	**P**	**03 28 25.3**	**-0.5**
	0.2nm,0.3s,baz=320,slow=11,SNR=13						
CPUP	**Villa Florida**	**13.73**	**129**	*e*P	**P**	**03 28 25.1**	**-0.7**
	3.1nm,0.6s						
OTAV	**Otavalo**	**20.30**	**332**	*e*P	**P**	**03 29 43.6**	**+0.5**
BDFB	**Brasilia**	**20.37**	**87**	P	**P**	**03 29 44.9**	**+1.1**
	18nm,0.4s,baz=272,slow=9.1,SNR=35						
TRQA	**Tornquist**	**20.95**	**164**	*e*P	**P**	**03 29 48.5**	**-1.0**
	60nm,0.9s						
PLCA	**Paso Flores**	**22.69**	**183**	P	**P**	**03 30 06.5**	**0.0**
	23nm,1.0s,mb4.6,baz=6.4,slow=13,SNR=34						
PLCA				PcP	PcP	03 33 55.8	-0.5
	2.3nm,1.1s,baz=338,slow=5.4,SNR=2.9						
PLCA	**Paso Flores**	**22.69**	**183**	*e*P	**P**	**03 30 06.5**	**0.0**
	34nm,1.1s,mb4.7						
RCBR	**Riachuelo**	**34.64**	**74**	*e*P	**P**	**03 31 52.9**	**-1.5**
USHA	**Ushuaia**	**36.77**	**179**	P	**P**	**03 32 11.7**	**-0.2**
	11nm,0.6s,mb4.6,baz=9.8,slow=4.5,SNR=11						
TXAR	**Lajitas Array**	**57.65**	**324**	P	**P**	**03 34 53.7**	**-0.9**
	0.1nm,0.4s,baz=137,slow=5.9,SNR=4.8						
TXAR				pP	pP	03 35 26.0	+0.1
	0.7nm,0.7s,baz=152,slow=7.5,SNR=8.0						
SSPA	**Standing Stone**	**58.89**	**352**	*e*P	**P**	**03 35 01.4**	**-1.7**
	9.7nm,1.3s,mb4.5						
FVM	**French Village**	**59.17**	**340**	*e*P	**P**	**03 35 04.1**	**-1.0**
	6.3nm,0.6s,mb4.6						
VNA1	**Neumayer--Stat**	**63.65**	**161**	⇑*i*P	**P**	**03 35 36.0**	**+1.4**
VNA1	**Neumayer--Stat**	**63.65**	**161**	*e*	pP	03 36 02.3	-4.1
VNA1	**Neumayer--Stat**	**63.65**	**161**	*e*	PcP	03 36 06.6	-2.8
VNA1	**Neumayer--Stat**	**63.65**	**161**	*e*	sP	03 36 13.6	-7.2
SNAA	**Sanae**	**65.65**	**161**	⇓*i*P	**P**	**03 35 46.3**	**-1.3**
SNAA				*e*		03 36 13.0	
SNAA				*e*	pP	03 36 17.1	-2.4
SNAA				*e*		03 36 24.4	
LIC	**Lamto**	**67.68**	**75**	*e*P	**P**	**03 36 00.9**	**-0.3**
	91nm,1.7s,mb5.2						
TIC	**Toumodi**	**67.84**	**75**	*e*P	**P**	**03 36 02.1**	**-0.2**
	107nm,1.2s,mb5.4						
KIC	**Kosan Boka**	**67.99**	**75**	*e*P	**P**	**03 36 03.1**	**-0.1**
	50nm,0.6s,mb5.4						
DBIC	**Dimbokro**	**68.00**	**75**	P	**P**	**03 36 03.3**	**+0.1**
	16nm,0.8s,mb4.8,baz=232,slow=7.9,SNR=35						
PDAR	**Pinedale Array**	**70.98**	**330**	P	**P**	**03 36 21.5**	**+0.6**
	0.2nm,0.4s,baz=106,slow=6.6,SNR=3.2						
PDAR				pP	pP	03 36 53.0	-0.3
	0.6nm,0.9s,baz=122,slow=8.5,SNR=2.5						
ULM	**Lac du Bonnet**	**71.92**	**342**	P	**P**	**03 36 25.5**	**-0.8**
	2.6nm,0.4s,mb4.3,baz=149,slow=7.2,SNR=9.7						
ULM				pP	pP	03 36 58.5	-0.4
	2.1nm,0.5s,baz=145,slow=9.8,SNR=2.4						
QSPA	**South Pole Qui**	**72.18**	**180**	*e*P	**P**	**03 36 27.7**	**+0.3**
	8.9nm,0.5s,mb4.8						
SCHQ	**Schefferville**	**72.56**	**1**	P	**P**	**03 36 29.6**	**-0.4**
	1.9nm,0.5s,mb4.1,baz=178,slow=1.6,SNR=7.1						
NVAR	**Mina Array Bea**	**72.61**	**321**	P	**P**	**03 36 31.4**	**+0.8**
	0.4nm,0.7s,baz=184,slow=6.9,SNR=4.5						
NVAR				pP	pP	03 37 05.0	+1.7
	0.7nm,0.7s,baz=157,slow=6.6,SNR=3.6						
SBA	**Scott Base**	**79.21**	**190**	*e*P	**P**	**03 37 08.5**	**+1.5**
	5.8nm,1.1s,mb4.1						
SYO	**Syowa Base**	**79.85**	**160**	⇑P	**P**	**03 37 10.8**	**+0.2**
VNDA	**Vanda**	**80.24**	**190**	P	**P**	**03 37 13.8**	**+1.2**
	2.4nm,0.8s,mb3.9,baz=129,slow=4.7,SNR=14						
VNDA	**Vanda**	**80.24**	**190**	*e*P	**P**	**03 37 13.9**	**+1.3**
	3.3nm,0.9s,mb4.0						
ESDC	**Sonseca Array**	**83.52**	**45**	P	**P**	**03 37 32.7**	**+2.5**
	0.3nm,0.4s,mb3.4,baz=253,slow=4.7,SNR=5.6						
MAW	**Mawson**	**87.73**	**163**	*e*P	**P**	**03 37 51.1**	**+0.9**
	5.0nm,0.7s,mb4.5						
MAW	**Mawson**	**87.73**	**163**	P	**P**	**03 37 51.2**	**+1.0**
	5.6nm,0.6s,mb4.5,baz=219,slow=5.5,SNR=23						
YKA	**Yellowknife Ar**	**87.82**	**341**	P	**P**	**03 37 51.5**	**+0.7**
	1.7nm,0.5s,mb4.2,baz=133,slow=4.6,SNR=34						
YKA				pP	pP	03 38 25.0	+0.5
	2.7nm,0.8s,baz=134,slow=5.0,SNR=7.4						
YKW3	**Yellowknife Ar**	**87.88**	**341**	*e*P	**P**	**03 37 51.5**	**+0.5**
ZRNK	**Zerenda**	**132.34**	**33**	*e*P	PKPdf	03 44 16.9	+2.7
ASAR	**Alice Springs**	**132.87**	**209**	PKP	PKPdf	03 44 16.9	+0.9
	0.9nm,0.5s,baz=139,slow=2.0,SNR=11						
WRA	**Warramunga Arr**	**135.81**	**213**	PKP	PKPdf	03 44 23.1	+1.5
	1.3nm,0.4s,baz=148,slow=1.7,SNR=5.8						
FITZ	**Fitzroy Crossi**	**141.29**	**203**	PKhKP		03 44 25.6	
	1.1nm,0.4s,baz=172,slow=7.2,SNR=7.8						
MKAR	**Makanchi Array**	**142.89**	**33**	PKP	PKPdf	03 44 35.7	+2.2
	0.3nm,0.4s,baz=333,slow=2.0,SNR=6.0						
WMQ	**Urumqi**	**147.70**	**32**	PKP	PKPdf	03 44 46.1	+4.3
WMQ				PKP2	PKPab	03 44 53.6	+4.0
WMQ				APKP		03 45 14.1	
WMQ				XPKP		03 45 26.6	
WMQ				PP	PP	03 48 20.1	+3.9
SONM	**Songino Array**	**150.02**	**6**	PKPbc	PKPdf	03 44 53.4	+8.1
	3.7nm,0.4s,baz=316,slow=1.5,SNR=17						
CN2	**Changchun**	**151.48**	**338**	*e*PKP	PKPdf	03 44 50.1	+2.5
LZH	**Lanzhou**	**160.94**	**18**	*e*PKP	PKPdf	03 45 04.5	+4.5
SSE	**Sheshan**	**163.94**	**326**	⇑PKP	PKPdf	03 45 04.1	+1.0
SSE				PP	PP		
	comp=Z,152nm,5.5s						
NJ2	**Nanjing**	**164.25**	**334**	*e*PKP	PKPdf	03 45 05.5	+2.1

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*IDC **11** 03:25:34.5±3.6,5.08S×144.79E,h112^{km}±35^{km},mb3.4/6, mb1 3.6/8,mb1mx3.6/14,Error ellipse: s-maj=25.6km s-min=24.9km az=100.0*

*NEIC **11** 03:25:35.0±2.2,5.10S×144.78E,h117^{km}±23^{km},mb4.1/2, Error ellipse: s-maj=23.5km s-min=15.2km az=128.0*

ISC 11 03:25:33.4±3.3,**5.1S**±0.2×**144.7E**±0.1,**h116**^{km}±33^{km}**,n11,** σ**0^{s}.51**/13,**mb3.6**/6,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**151**	P	**P**	**03 26 46.8**	**+0.6**
	7.4nm,0.3s,baz=32,slow=4.9,SNR=14						
PMG				S	**S**	**03 27 41.9**	**-0.2**
	2.2nm,0.3s,baz=122,slow=22,SNR=3.7						
PMG	**Port Moresby**	**4.90**	**151**	*e*P	**P**	**03 26 46.6**	**+0.5**
PMG				S	**S**	**03 27 41.9**	**-0.2**
WB2	**Warramunga Arr**	**17.88**	**214**	*e*P	**P**	**03 29 35.7**	**-0.6**
WRA	**Warramunga Arr**	**17.89**	**214**	P	**P**	**03 29 35.6**	**-0.8**
	0.3nm,0.3s,baz=37,slow=12,SNR=9.3						
ASAR	**Alice Springs**	**21.20**	**208**	P	**P**	**03 30 11.6**	**+0.3**
	0.7nm,0.7s,mb3.1,baz=33,slow=12,SNR=4.9						
FITZ	**Fitzroy Crossi**	**22.70**	**234**	*e*P	**P**	**03 30 27.2**	**+1.1**
	2.6nm,0.6s,mb3.7						
FITZ	**Fitzroy Crossi**	**22.70**	**234**	P	**P**	**03 30 26.5**	**+0.4**
	5.0nm,0.9s,mb3.9,baz=77,slow=3.4,SNR=11						
CMAR	**Chiang Mai Arr**	**50.85**	**299**	P	**P**	**03 34 24.9**	**+0.2**
	1.9nm,0.9s,mb4.1,baz=122,slow=5.6,SNR=5.7						
VNDA	**Vanda**	**72.94**	**176**	P	**P**	**03 36 51.8**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=325,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**75.39**	**321**	P	**P**	**03 37 06.1**	**0.0**
	0.2nm,0.4s,mb3.2,baz=95,slow=9.4,SNR=5.6						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**03 37 58.9**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=254,slow=4.6,SNR=9.3						

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*MDD **11** 04:01:50.6±0.2,42.31N×2.37E,mbLg1.3/11,Error ellipse: s-maj=2.4km s-min=1.5km az=176.0,PRXIMO*

*LDG **11** 04:01:50.8±0.3,42.33N×2.45E,h2^{km},Md2.0/2,Ml2.0/6, Error ellipse: s-maj=4.6km s-min=1.8km az=142.0*

ISC 11 04:01:49.1±0.7,**42.35N**±0.04×**2.37E**±0.04,**h14**^{km}±5^{km}, **n17,**σ**1^{s}.03**/23,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBRU	**Bruguera**	**0.15**	**247**	Pg	**Pg**	**04 01 53.1**	**+0.1**
CBRU				Lg		04 01 55.4	
	19nm,0.1s						
FILF	**Fillols**	**0.26**	**34**	Pg	**Pg**	**04 01 55.3**	**+0.4**
FILF				Lg		04 01 58.9	
VALF	**Valcebollere**	**0.26**	**283**	Pg	**Pg**	**04 01 55.5**	**+0.5**
VALF				Lg		04 01 59.3	
CLLI	**Llivia**	**0.32**	**295**	Pg	**Pg**	**04 01 56.6**	**+0.6**
CLLI				Lg		04 02 01.2	
	7.6nm,0.1s						
EJON	**La Jonquera**	**0.40**	**75**	Pg	**Pg**	**04 01 58.2**	**+0.7**
	3.3nm,0.1s,SNR=7.9						
EJON				Lg		04 02 03.8	
	9.6nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**0.41**	**70**	Pg	**Pg**	**04 01 58.2**	**+0.6**
SJAF				Lg		04 02 04.0	
CFON	**Fontmartina**	**0.58**	**175**	Pg	**Pg**	**04 02 00.4**	**-0.7**
CFON				Lg		04 02 07.7	
	4.5nm,0.1s						
CORG	**Organya**	**0.79**	**262**	Pg	**Pg**	**04 02 05.7**	**+0.7**
SALF	**Salau**	**0.96**	**296**	Lg		04 02 21.8	
MTLF	**Montolieu**	**1.00**	**354**	*e*Pg	**Pg**	**04 02 10.1**	**+0.8**
MTLF				*e*Sg	**Sg**	**04 02 24.0**	**+1.3**
	2.0nm,0.2s						
MELF	**Melles**	**1.30**	**295**	Lg		04 02 31.6	
EPOB	**Poblet**	**1.38**	**225**	Pg	**Pg**	**04 02 15.6**	**-1.2**
	1.5nm,0.2s,SNR=7.9						
EPOB				Lg		04 02 33.7	
	2.9nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.64**	**295**	*e*Pg	**Pg**	**04 02 23.0**	**+1.0**
EPF				*e*Sg	**Sg**	**04 02 44.9**	**+0.9**
	2.1nm,0.2s						
LASF	**Ste Croix**	**2.05**	**32**	*e*Sg	**Sg**	**04 02 54.6**	**-2.7**
	1.1nm,0.3s						
ETSF	**Etsaut**	**2.23**	**285**	*e*Pg	**Pg**	**04 02 33.4**	**-0.2**
ETSF				*e*Sg	**Sg**	**04 03 02.6**	**-0.8**
	3.5nm,0.5s						
CAF	**Calviac**	**2.59**	**355**	*e*Pg	**Pg**	**04 02 39.2**	**-1.7**
CAF				*e*Sn	**Sn**	**04 03 02.5**	**-0.3**
CAF				*e*Sg	**Sg**	**04 03 12.1**	**-3.3**
	1.2nm,0.3s						
SJPF	**Ste Jean**	**2.75**	**287**	*e*Pn	**Pn**	**04 02 35.0**	**+1.3**
SJPF				*e*Pg	**Pg**	**04 02 43.0**	**-1.1**
SJPF				*e*Sn	**Sn**	**04 03 07.5**	**+0.5**
SJPF				*e*Sg	**Sg**	**04 03 19.4**	**-1.5**
	0.9nm,0.3s						

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*THE **11** 04:04:14.0,38.33N×22.05E,h10^{km},ML3.4*

*NEIC **11** 04:04:14.0,38.38N×21.94E,h27^{km},MD3.2(ATH), ML3.4(THE),After ATH.*

*ATH **11** 04:04:14.0,38.38N×21.94E,h27^{km}±17^{km},MD3.2/5*

ISC 11 04:04:14.1±0.7,**38.37N**±0.05×**21.95E**±0.08,**h10**^{km}**,n8,** σ**0^{s}.77**/9,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.56**	**349**	*e*PN	**Pg**	**04 04 25.2**	**-0.3**
AGG	**Agios Georgios**	**0.72**	**25**	*e*Pg	**Pg**	**04 04 27.3**	**-1.3**
	comp=Z,34nm,0.1s						
AGG				*e*Sg	**Sg**	**04 04 38.6**	**+0.2**
LKD	**Levkas**	**1.07**	**289**	*e*Pg	**Pg**	**04 04 35.2**	**-0.4**
VLS	**Valsamata**	**1.08**	**260**	*e*PN	**Pn**	**04 04 35.0**	**-0.3**
ITM	**Ithomi**	**1.18**	**181**	*e*PN	**Pn**	**04 04 36.5**	**-0.2**
NSAL	**Nisos Salamina**	**1.28**	**110**	*e*PN	**Pn**	**04 04 38.2**	**+0.1**
MEV	**Metsovon**	**1.52**	**339**	*e*Pb	**Pb**	**04 04 43.8**	**+1.7**
VLI	**Veliai**	**1.82**	**154**	*e*PN	**Pn**	**04 04 46.5**	**+0.6**

CASC 11 04:13:23.0±1.6,**12.19N**×**88.05W,h12**^{km}±8^{km}**,MD3.8,2C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.10**	**11**	*e*P	Pb	04 13 42.1	-1.3
CNCH				*e*S	Sb	04 13 58.4	+1.0
VSM	**San Miguel**	**1.25**	**350**	*e*P	Pb	04 13 45.1	-0.9
VSM				*e*S	Sb	04 14 03.1	+1.3
BLLM	**Bellamira**	**1.25**	**352**	*e*P	Pb	04 13 45.1	-1.0
BLLM				*e*S	Sb	04 14 03.0	+0.9
SNVI	**San Vicente**	**1.61**	**331**	⇑*e*P	Pn	04 13 51.5	+0.1
SNVI				*e*S	Sn	04 14 12.8	+0.6
LCBS	**La Ceiba**	**1.71**	**328**	⇑*e*P	Pn	04 13 52.0	-1.0
LCBS				*e*S	Sn	04 14 14.4	-0.5
LFRS	**El Faro**	**1.73**	**325**	*e*P	Pn	04 13 51.7	-1.5
LFRS				*e*S	Sn	04 14 16.0	+0.7
LBRS	**Las Brisas**	**1.82**	**328**	*e*P	Pn	04 13 53.9	-0.5
SBLS	**San Blas**	**2.24**	**317**	*e*P	Pn	04 14 00.1	-0.4
SBLS				*e*S	Sn	04 14 29.9	+1.5
RTR	**El Retiro**	**2.30**	**318**	*e*P	Pn	04 14 01.1	-0.3
RBDL	**Robledal**	**2.49**	**320**	*e*P	Pn	04 14 03.3	-0.7
RBDL				*e*S	Sn	04 14 34.5	0.0
JCR	**Jicaral**	**3.71**	**129**	*e*P	Pn	04 14 19.5	-1.9
PRS1	**Puriscal**	**4.28**	**121**	*e*P	Pn	04 14 29.3	-0.2
URSC	**Urasca**	**4.80**	**119**	*e*P	Pn	04 14 37.2	+0.3
URSC				*e*S	Sn	04 15 31.1	-2.1

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*HEL **11** 04:35:04.1±0.1,67.85N×20.28E,ML1.7,ML2.2(UPP), ML1.8(BER),Explosion*

*BER **11** 04:35:05.6±3.4,67.85N×20.11E,ML1.8,Suspected explosion*

ISC 11 04:35:02.3±0.6,**67.86N**±0.03×**20.18E**±0.08,**n13,**σ**1^{s}.11**/20, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**32**	*i* P	**Pg**	**04 35 05.5**	**+0.9**
KUA				*i* S	**Sg**	**04 35 07.7**	**+1.6**
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	**Pg**	**04 35 10.4**	**-0.5**
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	**Pg**	**04 35 17.9**	**-0.4**
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	**Pb**	**04 35 25.7**	**+0.6**
KIF				*e*S	**Sb**	**04 35 40.9**	**0.0**
PAJU	**Pajala**	**1.41**	**125**	*e*P	**Pb**	**04 35 28.4**	**-0.8**
PAJU				*e*S	**Sb**	**04 35 47.7**	**+0.1**
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	**Pn**	**04 35 32.9**	**+0.6**
KTK1				*e*SN	**Sn**	**04 35 58.2**	**+4.0**
TRO	**Tromso**	**1.84**	**346**	*e*SG	**Sg**	**04 36 01.2**	**-2.4**
TRO				AML	AML	04 36 04.6	
	comp=Z,12nm,0.4s						
SGF	**Sodankyl**	**2.46**	**97**	*e*P	**Pn**	**04 35 45.0**	**+0.6**
SGF				*e*S	**Sn**	**04 36 15.0**	**-0.6**
SGF				MSG		04 36 22.2	
	comp=Z,2.1nm,0.2s						
LOF	**Lofoten**	**2.52**	**279**	*e*SG	**Sg**	**04 36 25.2**	**-0.8**
LOF				AML	AML	04 36 30.1	
	comp=Z,7.5nm,0.6s						
MOR8	**Moi Rana**	**2.82**	**236**	*e*SG	**Sn**	**04 36 27.0**	**+2.5**
MOR8				AML	AML	04 36 29.2	
	comp=Z,14nm,0.4s						
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**04 35 54.4**	**+0.5**
KEV				*e*S	**Sn**	**04 36 30.9**	**-1.6**
KEV				MSG		04 36 45.7	
	comp=Z,2.0nm,0.3s						
MSF	**Maaselka**	**4.00**	**115**	*e*P	**Pn**	**04 36 06.0**	**-0.2**
MSF				*e*S	**Sn**	**04 36 51.1**	**-3.5**
MSF				MSG		04 37 16.6	
	comp=Z,1.5nm,0.3s						
NSS	**Namsos**	**4.71**	**229**	*e*SG	**Sn**	**04 37 31.4**	**+19**

NEIC 11 04:38:15.2,54.93N×**153.18W,h13**^{km}**,ML3.5**(AEIC), **After AEIC.,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAHL	**Cahill**	**3.34**	**340**	P	Pn	04 39 02.2	-6.1
CAHL				S	Sn	04 39 40.9	-7.3
KABR	**Katmai Barrier**	**3.36**	**344**	P	Pn	04 39 02.4	-6.1
KABR				S	Sn	04 39 39.4	-9.3
KJL	**Kejulik**	**3.40**	**338**	P	Pn	04 39 03.4	-5.7
ANCK	**Angle Creek**	**3.52**	**340**	P	Pn	04 39 04.7	-6.0
KAHG	**Katmai Hook Gl**	**3.65**	**349**	P	Pn	04 39 07.8	-4.8
KAPH	**Katmai Pasha**	**3.73**	**351**	P	Pn	04 39 08.4	-5.4
KAPH				S	Sn	04 39 50.4	-7.7
MCNL	**McNeil River**	**4.31**	**352**	P	Pn	04 39 16.2	-5.8
AGU	**Augustine-Summ**	**4.44**	**358**	P	Pn	04 39 18.9	-5.0
XLV	**Seldovia**	**4.60**	**9**	P	Pn	04 39 20.4	-5.9
XLV				S	Sn	04 40 10.6	-10
CNPM	**China Poot**	**4.73**	**12**	P	Pn	04 39 21.2	-6.7
OPT	**Oil Point**	**4.73**	**360**	P	Pn	04 39 22.4	-5.7
DOL	**Dolgoi Island**	**5.00**	**276**	P	Pn	04 39 26.6	-5.2
BLHA	**Black Hill**	**5.13**	**282**	P	Pn	04 39 27.2	-6.5
ILIM	**Iliamna**	**5.16**	**1**	P	Pn	04 39 27.8	-6.3
BALA	**Baldy Mountain**	**5.53**	**277**	P	Pn	04 39 33.0	-6.3
RSO	**Redoubt South**	**5.55**	**2**	*e*P	Pn	04 39 33.2	-6.4
SEW	**Seward**	**5.56**	**20**	P	Pn	04 39 33.3	-6.4
REF	**Redoubt East F**	**5.58**	**2**	P	Pn	04 39 33.5	-6.5
BKG	**Blockade Glaci**	**6.17**	**4**	P	Pn	04 39 41.7	-6.7
SVW	**Sparrevohn**	**6.33**	**349**	P	Pn	04 39 43.8	-6.8
PMS	**Palmer South**	**6.61**	**15**	P	Pn	04 39 47.8	-6.8
SUA	**Susitna One**	**6.68**	**10**	P	Pn	04 39 47.5	-7.9
EYAK	**Cordova Ski Ar**	**6.89**	**32**	P	Pn	04 39 51.0	-7.5
DIV	**Divide**	**7.35**	**29**	*e*P	Pn	04 39 57.1	-7.8
SML	**Sawmill**	**7.35**	**18**	P	Pn	04 39 58.2	-6.7
BMRM	**Bremner River**	**7.57**	**33**	P	Pn	04 40 00.3	-7.7
WAX	**Waxell Ridge**	**7.82**	**41**	P	Pn	04 40 04.5	-7.0
TGL	**Tana Glacier**	**8.03**	**39**	P	P	04 40 08.1	-6.3
GLB	**Gilahina Butte**	**8.19**	**33**	P	P	04 40 09.9	-6.7
BALM	**Baldy**	**8.39**	**39**	P	P	04 40 12.6	-6.8
PCA	**Pinnacle**	**8.66**	**48**	P	P	04 40 16.3	-6.9
TRF	**Thorofare Moun**	**8.67**	**9**	P	P	04 40 15.7	-7.6
PNL	**Peninsula**	**8.84**	**52**	P	P	04 40 18.7	-6.9
PAX	**Paxson**	**8.98**	**23**	P	P	04 40 21.0	-6.7

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*IDC **11** 05:00:06.7±1.2,13.80N×146.53E,mb3.9/7,mb1 4.2/7, mb1mx3.9/19,Error ellipse: s-maj=36.1km s-min=28.4km az=110.0*

*NEIC **11** 05:00:10.9±6.9,13.79N×146.49E,h28^{km}±47^{km},mb4.3/2, Error ellipse: s-maj=23.2km s-min=17.2km az=78.0*

ISC 11 05:00:12.0±3.3,**13.8N**±0.2×**146.4E**±0.2,**h51**^{km}±27^{km}**,n13,** σ**0^{s}.80**/11,**mb4.0**/9,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.50**	**263**	*e*P	**P**	**05 00 37.3**	**+0.2**
WRA	**Warramunga Arr**	**35.54**	**200**	P	**P**	**05 07 05.8**	**-0.6**
	1.8nm,1.0s,mb4.0,baz=20,slow=9.1,SNR=6.6						
CMAR	**Chiang Mai Arr**	**45.73**	**282**	P	**P**	**05 08 31.1**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=69,slow=6.6,SNR=4.1						
SONM	**Songino Array**	**47.45**	**324**	P	**P**	**05 08 43.3**	**-0.2**
	1.6nm,0.9s,mb4.0,baz=143,slow=6.2,SNR=4.3						
MKAR	**Makanchi Array**	**62.40**	**316**	P	**P**	**05 10 32.0**	**+0.1**
	1.8nm,0.3s,mb4.7,baz=94,slow=8.0,SNR=6.9						
KURK	**Kurchatov**	**65.41**	**320**	*e*P	**P**	**05 10 50.3**	**-1.2**
	5.5nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**67.77**	**25**	P	**P**	**05 11 04.8**	**-1.3**
	0.3nm,0.6s,mb3.5,baz=254,slow=5.9,SNR=4.8						
BRVK	**Borovoye**	**70.77**	**322**	*e*P	**P**	**05 11 25.0**	**+0.2**
ZRNK	**Zerenda**	**71.54**	**321**	*e*P	**P**	**05 11 29.3**	**-0.1**
	1.7nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**85.64**	**52**	P	**P**	**05 12 48.1**	**+1.5**
	0.4nm,0.6s,mb3.8,baz=271,slow=7.2,SNR=3.8						
ARCES	**ARCESS Array B**	**87.36**	**342**	P	**P**	**05 12 55.2**	**+0.9**
	0.8nm,0.6s,mb4.2,baz=56,slow=8.7,SNR=3.9						
DBIC	**Dimbokro**	**144.98**	**304**	PKPbc	PKPbc	05 19 46.9	+2.1
	3.3nm,0.6s,baz=15,slow=9.3,SNR=5.1						
DBIC	**Dimbokro**	**144.98**	**304**	PKPbc	PKPbc	05 19 46.9	+2.1

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*HEL **11** 05:25:12.6±0.4,67.19N×20.72E,ML1.9,ML2.1(BER), ML2.4(NAO),Explosion*

*NAO **11** 05:25:13.3±2.5,67.15N×20.66E,ML2.4*

*BER **11** 05:25:15.4±3.3,67.18N×20.54E,ML2.1,ML2.4(NAO), Suspected explosion*

ISC 11 05:25:10.1±0.8,**67.11N**±0.03×**20.6E**±0.2,**n11,**σ**1^{s}.01**/21, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.91**	**2**	*e*P	**Pn**	**05 25 44.5**	**+0.2**
KIF				*e*S	**Sn**	**05 26 09.1**	**-0.2**
KTK1	**Kautokeino**	**2.15**	**26**	*e*P	**Pn**	**05 25 49.1**	**+1.4**
KTK1				*e*S	**Sn**	**05 26 14.9**	**-0.6**
KTK1				AML	AML	05 26 19.1	
	comp=Z,23nm,0.4s						
SGF	**Sodankyl**	**2.32**	**79**	*e*P	**Pn**	**05 25 50.2**	**+0.1**
SGF				*e*S	**Sn**	**05 26 19.7**	**-0.2**
SGF				MSG		05 26 26.0	
	comp=Z,5.9nm,0.3s						
OUL	**Oulu**	**2.96**	**131**	*e*P	**Pn**	**05 26 00.3**	**+1.1**
OUL				*e*S	**Sn**	**05 26 36.3**	**+0.3**
OUL				MSG		05 26 51.0	
	comp=Z,3.9nm,0.3s						
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn	**Pn**	**05 26 02.0**	**+1.6**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**05 26 38.0**	**-0.1**
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**3.04**	**34**	*e*P	**Pn**	**05 26 02.0**	**+1.6**
ARA0				*e*S	**Sn**	**05 26 38.0**	**-0.1**
KEV	**Kevo**	**3.56**	**39**	*e*P	**Pn**	**05 26 07.0**	**-0.8**
KEV				*e*S	**Sn**	**05 26 48.2**	**-3.0**

KEV				MSG		05 27 04.8	
	comp=Z,2.6nm,0.3s						
FIA0	**FINESS Array S**	**6.16**	**155**	*e*S	**Sn**	**05 27 56.0**	**-0.7**
FIA0				*e*SG	**Sg**	**05 28 27.2**	**-8.0**
FIA0	**FINESS Array S**	**6.16**	**155**	Sn	**Sn**	**05 27 56.0**	**-0.7**
	baz=349,slow=22						
FIA0				Lg		05 28 27.2	
	baz=343,slow=28						
HFS	**Hagfors**	**7.64**	**207**	Pn	**Pn**	**05 27 05.7**	**+0.3**
	baz=36,slow=12						
HFS				Sn	**Sn**	**05 28 30.2**	**-3.6**
	baz=31,slow=22						
HFS	**Hagfors**	**7.64**	**207**	*e*P	**Pn**	**05 27 05.7**	**+0.3**
HFS				*e*S	**Sn**	**05 28 30.2**	**-3.6**

FUNV ***11*** *05:25:23.8, 10.42N×62.40W, h16^{km}, MW3.0*
TRN ***11*** *05:25:24.6, 10.21N×62.27W, h74^{km}, MD3.8*
ISC 11 05:25:23.4±0.4**, 10.39N**±0.03×**62.43W**±0.02**, h16^{km}, n22, σ1$\overset{s}{.}$09**/35**, 3C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.33**	**39**	⇑*i*P	**Pb**	**05 25 29.3**	**-1.1**
GUIV				*e*S	**Sb**	**05 25 34.3**	**-0.9**
GUNV	**Guanoco**	**0.55**	**246**	⇓*i*P	**Pb**	**05 25 35.0**	**+0.8**
GUNV				*e*S	**Sb**	**05 25 42.9**	**+1.3**
TCE	**Chacachacare**	**0.74**	**65**	*e*P	**Pb**	**05 25 40.3**	**+2.9**
ALNG	**Atlantic LNG**	**0.76**	**106**	*e*P	**Pb**	**05 25 38.3**	**+0.5**
BUAY	**Buenos Aires**	**0.79**	**111**	*e*P	**Pb**	**05 25 38.7**	**+0.4**
BUAY				*e*S	**Sb**	**05 25 49.6**	**+1.1**
CRUV	**Carupano**	**0.84**	**290**	*e*P	**Pb**	**05 25 39.5**	**+0.4**
CRUV				*e*S	**Sb**	**05 25 49.4**	**-0.6**
SIPA	**Siparia**	**0.94**	**105**	*e*P	**Pb**	**05 25 41.7**	**+0.8**
SIPA				*e*S	**Sb**	**05 25 51.2**	**-1.8**
TPP	**Pointe-a-Pierr**	**0.97**	**94**	*e*P	**Pb**	**05 25 41.5**	**+0.1**
TRN	**Trinidad (W)**	**1.04**	**76**	*e*P	**Pb**	**05 25 41.2**	**-1.4**
TRN				*e*S	**Sb**	**05 25 55.7**	**-0.3**
ITEV	**Isla Los Testi**	**1.18**	**324**	*e*P	**Pb**	**05 25 45.7**	**+0.7**
ITEV				*e*S	**Sb**	**05 26 01.3**	**+1.5**
TBH	**Brigand Hill**	**1.35**	**86**	*e*P	**Pn**	**05 25 47.0**	**-0.8**
ORIV	**Oritupano**	**1.63**	**216**	*e*P	**Pn**	**05 25 52.1**	**+0.3**
ORIV				*e*S	**Sn**	**05 26 12.6**	**+0.1**
BOT	**Bacolet**	**1.85**	**65**	*e*P	**Pn**	**05 25 55.0**	**0.0**
GRW	**Mount Saint Ca**	**1.92**	**23**	*e*P	**Pn**	**05 25 56.2**	**+0.3**
GRW				*e*S	**Sn**	**05 26 21.8**	**+2.0**
GRHS	**Sauteurs**	**1.98**	**23**	*e*P	**Pn**	**05 25 58.3**	**+1.5**
GRHS				*e*S	**Sn**	**05 26 22.1**	**+0.6**
PCRV	**Puerto La Cruz**	**2.18**	**265**	*e*P	**Pn**	**05 25 59.0**	**-0.6**
GRCU	**Cariacou**	**2.28**	**25**	*e*P	**Pn**	**05 26 01.5**	**+0.4**
GRCU				*e*S	**Sn**	**05 26 30.0**	**+0.9**
IBAV	**Isla La Blanqu**	**2.54**	**304**	*e*P	**Pn**	**05 26 03.2**	**-1.7**
IBAV				*e*S	**Sn**	**05 26 33.3**	**-2.4**
BIM	**Bigot**	**4.31**	**18**	⇑*e*P	**Pn**	**05 26 29.5**	**-0.6**
BIM				*e*S	**Sn**	**05 27 17.3**	**-3.3**
MVM	**Montagne Vaucl**	**4.40**	**20**	⇑*e*P	**Pn**	**05 26 30.6**	**-0.7**
CRM	**Caravelle**	**4.58**	**19**	*e*P	**Pn**	**05 26 33.7**	**-0.2**
CAOV	**Caicara del Or**	**4.90**	**232**	*e*P	**Pn**	**05 26 37.0**	**-1.4**

ROM ***11*** *05:36:44.8±0.4, 46.30N×13.52E, h5^{km}, MD2.4/2, ML1.6/4, Error ellipse: s-maj=2.4km s-min=1.9km az=90.0*
LJU ***11*** *05:36:45.0, 46.33N×13.57E, h8^{km}, ML1.9*
ISC 11 05:36:45.0±0.3**, 46.33N**±0.02×**13.58E**±0.02**, h8^{km}, n28, σ0$\overset{s}{.}$75**/52**, 8C-5D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.10**	**209**	⇑*i*Pg	**Pg**	**05 36 47.2**	**-0.3**
ROBS				*i* Sg	**Sg**	**05 36 48.7**	**-0.5**
	comp=Z,545nm,0.1s						
LSR	**Lussari**	**0.15**	**345**	⇓*e*Pg	**Pg**	**05 36 48.4**	**+0.2**
LSR				*e*Sg	**Sg**	**05 36 51.5**	**+1.1**
CADS	**Cadrg**	**0.15**	**135**	⇓*i*Pg	**Pg**	**05 36 48.3**	**0.0**
CADS				*i* Sg	**Sg**	**05 36 50.9**	**+0.3**
	comp=Z,452nm,0.1s						
DRE	**Drenchia**	**0.17**	**165**	⇓*i*Pg	**Pg**	**05 36 48.3**	**-0.3**
DRE				*i* Sg	**Sg**	**05 36 51.0**	**0.0**
PTCC	**Patocco-Chiusa**	**0.17**	**294**	⇓*i*PG	**Pg**	**05 36 48.5**	**-0.2**
PTCC				SG	**Sg**	**05 36 51.4**	**+0.2**
	comp=Z,107nm,0.2s						
COLI	**Coloredo**	**0.25**	**215**	*e*Pg	**Pg**	**05 36 49.7**	**-0.4**
COLI				*e*Sg	**Sg**	**05 36 54.1**	**+0.6**
GMNA	**Gemona**	**0.25**	**256**	*e*PG	**Pg**	**05 36 50.9**	**+0.8**
GMNA				SG	**Sg**	**05 36 55.5**	**+2.0**
	comp=Z,194nm,0.3s						
BAD	**Bernadia**	**0.25**	**248**	⇑*i*Pg	**Pg**	**05 36 49.8**	**-0.5**
BAD				*i* Sg	**Sg**	**05 36 53.8**	**0.0**
BOO	**Bordano**	**0.33**	**268**	⇓*e*Pg	**Pg**	**05 36 51.0**	**-0.8**
BOO				*e*Sg	**Sg**	**05 36 56.0**	**-0.4**
BUA	**Buia**	**0.34**	**250**	⇑*i*Pg	**Pg**	**05 36 51.4**	**-0.5**
PLRO	**Paularo**	**0.37**	**306**	⇑*e*Pg	**Pg**	**05 36 52.4**	**-0.2**
PLRO				*e*Sg	**Sg**	**05 36 58.4**	**+0.9**
VOY	**Vojsko**	**0.37**	**144**	*e*Pg	**Pg**	**05 36 52.2**	**-0.4**
VOY				*e*Sg	**Sg**	**05 36 57.9**	**+0.3**
ZOU	**Zoufplan**	**0.48**	**298**	⇑*e*Pg	**Pg**	**05 36 55.0**	**+0.3**
ZOU				*e*Sg	**Sg**	**05 37 02.5**	**+1.5**
JAVS	**Javornik**	**0.55**	**143**	*i* Pg	**Pg**	**05 36 55.3**	**-0.9**
JAVS				*i* Sg	**Sg**	**05 37 04.2**	**+0.6**
FVI	**Forni Avoltri**	**0.61**	**296**	*e*PG	**Pg**	**05 36 57.1**	**-0.2**
FVI				SG	**Sg**	**05 37 06.0**	**+0.5**
	comp=Z,16nm,0.3s						
TRI	**Trieste**	**0.64**	**168**	*e*PG	**Pg**	**05 36 58.5**	**+0.7**
TRI				SG	**Sg**	**05 37 06.4**	**0.0**
	comp=Z,42nm,0.4s						
OBKA	**Obir**	**0.69**	**75**	⇑*i*PG	**Pg**	**05 36 59.1**	**+0.2**
OBKA				*i* SG	**Sg**	**05 37 09.5**	**+1.4**
	comp=Z,7.5nm,0.1s						
KBA	**Koelnbreinsper**	**0.76**	**348**	⇑*i*PG	**Pg**	**05 37 00.1**	**-0.2**
KBA				*i* SG	**Sg**	**05 37 10.3**	**-0.2**
	comp=Z,7.8nm,0.2s						
CEY	**Cerknica**	**0.84**	**135**	*e*Sg	**Sg**	**05 37 13.8**	**+0.8**
	comp=Z,14nm,0.3s						
KNDS	**Knezji Dol**	**0.98**	**145**	*i* Sg	**Sg**	**05 37 18.4**	**+0.7**
	comp=Z,6.0nm,0.1s						
PDKS	**Podkum**	**1.02**	**104**	*i* Pg	**Pg**	**05 37 04.8**	**-0.5**
PDKS				*e*Sg	**Sg**	**05 37 20.1**	**+1.2**
	comp=Z,11nm,0.1s						
VISS	**Visnje**	**1.02**	**121**	*e*Sg	**Sg**	**05 37 20.1**	**+1.0**
PERS	**Pernice**	**1.10**	**74**	*e*Pg	**Pg**	**05 37 06.3**	**-0.8**
PERS				*e*Sg	**Sg**	**05 37 21.7**	**-0.1**
LEGS	**Legarje**	**1.27**	**107**	*e*Pg	**Pg**	**05 37 09.3**	**-1.1**
LEGS				*e*Sg	**Sg**	**05 37 27.8**	**+0.6**
CRES	**Cresnjevec ost**	**1.40**	**111**	*i* Pg	**Pg**	**05 37 11.8**	**-1.2**
CRES				*e*Sg	**Sg**	**05 37 31.3**	**-0.4**
BOJS	**Bojanci**	**1.43**	**125**	*i* Pg	**Pg**	**05 37 12.2**	**-1.4**
BOJS				*i* Sg	**Sg**	**05 37 32.0**	**-0.7**
	comp=Z,5.0nm,0.2s						
GOLS	**Golise**	**1.46**	**102**	*e*Pg	**Pg**	**05 37 13.0**	**-1.1**
GOLS				*e*Sg	**Sg**	**05 37 34.1**	**+0.6**
WTTA	**Wattenberg**	**1.63**	**306**	⇑*i*PG	**Pg**	**05 37 15.9**	**-1.6**
WTTA				*i* SG	**Sg**	**05 37 38.2**	**-1.1**
	comp=Z,4.9nm,0.5s						

IDC 11 05:59:32.8±3.4**, 30.52S**×**138.29E, mb1 3.1**/3**, mb1mx3.1**/10**, ML2.6**/3**, Error ellipse: s-maj=68.2km s-min=15.5km az=42.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.14**	**116**	Pn	Pn	06 00 23.6	-0.9
	0.3nm,0.3s,baz=297,slow=12,SNR=7.7						
STKA				Pg	Pg	06 00 32.0	-3.5
	0.7nm,0.3s,baz=298,slow=15,SNR=10						
STKA				Sn	Sn	06 01 01.1	-2.1
	1.2nm,0.3s,baz=301,slow=15,SNR=4.2						
STKA				Lg		06 01 10.9	
	1.8nm,0.3s,baz=359,slow=20,SNR=5.2						
ASAR	**Alice Springs**	**7.87**	**329**	Pn	Pn	06 01 29.0	-2.3
	0.1nm,0.3s,baz=149,slow=12,SNR=4.9						
ASAR				Sn	Sn	06 02 59.1	-3.0
	0.2nm,0.3s,baz=160,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**11.12**	**340**	Pn	P	06 02 12.5	-3.8
	0.1nm,0.3s,baz=155,slow=13,SNR=5.9						
WRA				Sn	S	06 04 19.2	-3.4
	0.1nm,0.3s,baz=166,slow=24,SNR=3.7						

DJA 11 06:03:12.5±0.9**, 7.11S**×**115.41E, h80^{km}, ML3.8**/4**, 3C-5D, Error ellipse: s-maj=20.8km s-min=13.5km az=0.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	**1.43**	**220**	⇓*i*Pn	P	06 03 36.4	-1.0
	42nm,0.8s						
KELI				⇓*e*Sn	S	06 03 54.0	-1.8
KEDI	**Kedomdong**	**1.54**	**153**	⇑*i*Pn	P	06 03 37.7	-1.1
	46nm,0.1s						
KEDI				⇓*e*Sn	S	06 03 51.6	-6.6
RATI	**Rata**	**1.61**	**176**	⇑*i*Pn	P	06 03 39.3	-0.4
	68nm,0.2s						
RATI				⇓*e*Sn	S	06 03 56.5	-3.3
INGI	**Ingas**	**1.72**	**189**	⇑*i*Pn	P	06 03 44.3	+3.1
	244nm,0.2s						
INGI				⇓*e*Sn	S	06 04 02.6	+0.3

ISK ***11*** *06:13:09.0, 36.93N×27.77E, h7^{km}, MD3.3*
NEIC ***11*** *06:13:12.8, 36.63N×27.71E, h25^{km}, MD3.2(ATH), After ATH.*
ATH ***11*** *06:13:12.8, 36.63N×27.71E, h25^{km}±13^{km}, MD3.2/6*
ISC 11 06:13:09.1±1.0**, 36.89N**±0.05×**27.80E**±0.05**, h4^{km}**±9^{km}**, n15, σ0$\overset{s}{.}$97**/19**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.33**	**302**	*i* P	**Pg**	**06 13 16.4**	**+0.6**
BDRM				*i* S	**Sg**	**06 13 21.3**	**+1.0**
MLSB	**Milas**	**0.41**	**358**	*i* PG	**Pg**	**06 13 16.9**	**-0.4**
YER	**Yerkesik**	**0.46**	**57**	*i* PG	**Pg**	**06 13 18.3**	**0.0**
NISR	**Nisiros**	**0.60**	**243**	*e*PB	**Pb**	**06 13 22.5**	**+0.6**
ARG	**Arkhangelos**	**0.72**	**158**	*e*PN	**Pn**	**06 13 23.6**	**-2.2**
AYDN	**Tasoluk**	**0.78**	**5**	⇑*i*P	**Pg**	**06 13 24.0**	**-0.6**
AYDN				*i* S	**Sg**	**06 13 34.7**	**-0.2**
DNZL	**Cakiroluk**	**1.28**	**51**	*i* P	**Pb**	**06 13 32.3**	**-1.1**
DNZL				*i* S	**Sb**	**06 13 51.8**	**+1.7**
DENT	**Denizli**	**1.31**	**48**	PN	**Pn**	**06 13 33.9**	**-0.4**
DENT				SN	**Sn**	**06 13 52.6**	**+0.2**
KARP	**Karpathos**	**1.43**	**201**	*e*PN	**Pn**	**06 13 36.0**	**0.0**
IZM	**Izmir**	**1.57**	**344**	PN	**Pn**	**06 13 37.4**	**-0.5**
KSL	**Kastellorizon**	**1.62**	**117**	*e*PN	**Pn**	**06 13 41.0**	**+2.4**
ELL	**Elmali**	**1.70**	**94**	PN	**Pn**	**06 13 40.4**	**+0.6**
APE	**Apeiranthos**	**1.82**	**276**	*e*PN	**Pn**	**06 13 41.1**	**-0.5**
AKS	**Akhisar**	**1.99**	**0**	PN	**Pn**	**06 13 43.0**	**-0.9**
PRK	**Paraskevi**	**2.65**	**333**	*e*PN	**Pn**	**06 14 00.0**	**+6.7**

BJI ***11*** *06:26:15.9, 4.89S×151.89E, h71^{km}, mb4.8*
IDC ***11*** *06:26:15.5±4.7, 5.41S×151.70E, h62^{km}±40^{km}, mb4.2/13, mb1 4.4/15, mb1mx4.4/16, ML3.8/2, MS3.9/8, Ms1 3.9/8, ms1mx3.7/15, Error ellipse: s-maj=26.5km s-min=18.1km az=85.0*
NEIC ***11*** *06:26:17.5±2.0, 5.33S×151.63E, h80^{km}±18^{km}, mb4.6/16, Error ellipse: s-maj=13.7km s-min=10.8km az=100.0*
ISC 11 06:26:13.0±2.5**, 5.37S**±0.07×**151.67E**±0.08**, h51^{km}**±21^{km}**, n62, σ0$\overset{s}{.}$87**/56**, mb4.7**/31**, MS3.9**/7**, 2C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.01**	**228**	P	**P**	**06 27 42.3**	**+0.9**
	11nm,0.3s,baz=35,slow=10,SNR=29						
PMG				S	**S**	**06 28 49.5**	**-0.2**
	17nm,0.3s,baz=176,slow=20,SNR=9.4						
CTA	**Charters Tower**	**15.55**	**199**	*e*P	**P**	**06 29 54.5**	**+4.0**
	5.3nm,0.8s						
CTA	**Charters Tower**	**15.55**	**199**	P	**P**	**06 29 53.6**	**+3.1**
	0.3nm,0.3s,baz=28,slow=10,SNR=7.6						
CTA				LR	LR	06 35 10.3	
	comp=Z,511nm,20.9s,baz=26,slow=34						
CTAO	**Charters Tower**	**15.55**	**199**	*e*P	**P**	**06 29 54.1**	**+3.6**
	6.1nm,0.8s						
KAKA	**Kakadu**	**20.36**	**248**	⇑*i*P	**P**	**06 30 46.7**	**-1.3**
	30nm,0.6s						
WB2	**Warramunga Arr**	**22.22**	**228**	⇓*i*P	**P**	**06 31 06.7**	**+0.1**
WB2				*e*S	**S**	**06 35 08.3**	**+5.3**
WRA	**Warramunga Arr**	**22.23**	**228**	P	**P**	**06 31 06.1**	**-0.6**
	10nm,0.7s,mb4.4,baz=51,slow=10,SNR=39						
ASAR	**Alice Springs**	**24.98**	**221**	P	**P**	**06 31 33.3**	**-0.3**
	22nm,0.7s,mb4.8,baz=55,slow=9.1,SNR=103						
ASAR				LR	LR	06 40 46.9	
	comp=Z,152nm,21.4s,MS3.5,baz=68,slow=35						
ASPA	**Alice Springs**	**24.98**	**222**	*e*P	**P**	**06 31 34.1**	**+0.5**
STKA	**Stephens Creek**	**28.01**	**198**	P	**P**	**06 32 02.2**	**+0.7**
	5.7nm,1.0s,mb4.1,baz=347,slow=7.3,SNR=5.5						
STKA				LR	LR	06 43 31.5	
	comp=Z,296nm,18.1s,MS3.9,baz=120,slow=37						
FITZ	**Fitzroy Crossi**	**28.40**	**241**	⇑*i*P	**P**	**06 32 04.1**	**-1.0**
	22nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.40**	**241**	P	**P**	**06 32 04.1**	**-1.0**
	29nm,0.9s,mb4.9,baz=90,slow=3.9,SNR=29						
FITZ				LR	LR	06 45 35.5	
	comp=Z,105nm,18.4s,MS3.5,baz=78,slow=41						
ENH	**Enshi**	**53.73**	**314**	*e*P	**P**	**06 35 32.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**57.10**	**296**	P	**P**	**06 35 57.4**	**+0.3**
	3.8nm,1.0s,mb4.4,baz=109,slow=5.3,SNR=8.4						
PPT	**Papeete**	**58.63**	**107**	*e*S	**S**	**06 44 07.7**	**+1.3**
PPT				*e*R		06 53 19.0	
	54nm,21.5s						
TIAR	**Tiarei**	**58.85**	**107**	*e*P	**P**	**06 36 09.3**	**+0.1**
	56nm,1.0s,mb5.5						
PMOR	**Pomariorio Ree**	**60.09**	**104**	*e*P	**P**	**06 36 17.7**	**-0.1**
	50nm,1.0s,mb5.5						
SONM	**Songino Array**	**66.21**	**328**	P	**P**	**06 36 57.9**	**+0.1**
	3.9nm,0.6s,mb4.6,baz=146,slow=4.7,SNR=22						
LSA	**Lhasa**	**67.64**	**305**	*e*P	**P**	**06 37 07.8**	**+0.8**
	8.5nm,1.0s,mb4.7						
PKI	**Pulchoki**	**71.76**	**301**	*e*P	**P**	**06 37 32.3**	**+0.1**
KKN	**Kakani**	**71.93**	**301**	*e*P	**P**	**06 37 33.2**	**0.0**
	15nm,0.7s,mb5.0						
DMN	**Daman**	**72.03**	**301**	*e*P	**P**	**06 37 33.7**	**-0.1**
	22nm,0.8s,mb5.1						
VNDA	**Vanda**	**72.31**	**178**	P	**P**	**06 37 33.7**	**-1.0**
	0.6nm,0.7s,mb3.6,baz=321,slow=7.0,SNR=3.6						
VNDA	**Vanda**	**72.31**	**178**	P	**P**	**06 37 33.7**	**-1.0**
GKN	**Gorkha**	**72.53**	**301**	*e*P	**P**	**06 37 36.2**	**-0.7**
	24nm,0.8s,mb5.2						
SBA	**Scott Base**	**72.87**	**177**	*e*P	**P**	**06 37 38.5**	**+0.5**
	10.0nm,1.6s,mb4.5						
KOLN	**Koldanda**	**73.36**	**301**	*e*P	**P**	**06 37 41.2**	**-0.6**
	18nm,0.8s,mb5.0						
WMQ	**Urumqi**	**75.40**	**318**	*e*P	**P**	**06 37 53.7**	**+0.5**
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**06 38 18.8**	**0.0**
	4.1nm,0.9s,mb4.4,baz=106,slow=5.4,SNR=23						
MKAR				LR	LR	07 13 49.3	
	comp=Z,65nm,18.8s,MS4.0,baz=100,slow=36						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**06 38 18.8**	**0.0**
MKAR				LR	LR	07 13 49.3	
MCK	**McKinley**	**81.82**	**23**	*e*P	**P**	**06 38 25.2**	**-2.6**
	1.9nm,0.8s,mb4.1						
COLA	**College**	**82.80**	**22**	*e*P	**P**	**06 38 32.5**	**-0.3**
	5.9nm,0.9s,mb4.6						
ULHL	**Ulahol**	**82.89**	**314**	P	**P**	**06 38 34.9**	**+1.1**
	SNR=6.0						
ILAR	**Eielson Array**	**83.11**	**22**	P	**P**	**06 38 33.0**	**-1.5**
	1.5nm,0.6s,mb4.2,baz=251,slow=4.7,SNR=29						
ILAR				LR	LR	07 13 48.2	
	comp=Z,74nm,19.9s,MS4.1,baz=72,slow=34						
TKM2	**Tokmak 2**	**83.51**	**314**	P	**P**	**06 38 37.6**	**+0.6**
	SNR=5.5						
KURK	**Kurchatov**	**83.52**	**322**	*e*P	**P**	**06 38 35.9**	**-1.0**
	5.1nm,0.8s,mb4.7						
KZA	**Kyzart**	**83.57**	**313**	P	**P**	**06 38 39.2**	**+1.9**
	SNR=6.5						
UCH	**Uchtor**	**84.14**	**313**	P	**P**	**06 38 41.3**	**+1.2**
	SNR=8.7						
USP	**Ospenovka**	**84.38**	**314**	P	**P**	**06 38 41.7**	**+0.4**
	SNR=12						
QSPA	**South Pole Qui**	**84.59**	**180**	*e*P	**P**	**06 38 40.9**	**-0.7**
	5.7nm,0.9s,mb4.7						
QSPA				*e*		06 48 32.2	
MAW	**Mawson**	**84.61**	**203**	P	**P**	**06 38 41.3**	**-0.7**
	1.3nm,0.7s,mb4.2,baz=59,slow=10,SNR=4.6						
AML	**Almayashu**	**84.71**	**313**	P	**P**	**06 38 45.0**	**+1.9**
	SNR=20						
EKS2	**Erkin-Say**	**84.76**	**314**	P	**P**	**06 38 44.2**	**+1.0**
	SNR=11						
BVAR	**Borovoye Array**	**89.02**	**323**	P	**P**	**06 39 02.6**	**-1.1**
	1.8nm,0.6s,mb4.6,baz=104,slow=6.1,SNR=14						
BRVK	**Borovoye**	**89.09**	**323**	*e*P	**P**	**06 39 02.5**	**-1.4**
INK	**Inuvik**	**89.39**	**21**	*e*P	**P**	**06 39 04.9**	**-0.1**
	0.9nm,0.6s,mb4.3						
RMW	**Rattlesnake Mo**	**91.57**	**43**	*e*P	**P**	**06 39 15.6**	**-0.1**
HAWA	**Hanford**	**93.02**	**44**	P	**P**	**06 39 21.9**	**-0.5**
	1.8nm,0.4s,mb4.8						
NVAR	**Mina Array Bea**	**93.32**	**52**	P	**P**	**06 39 24.9**	**+1.0**
	3.9nm,0.8s,mb4.9,baz=253,slow=4.6,SNR=35						
WVOR	**Wild Horse Val**	**93.36**	**48**	*e*P	**P**	**06 39 23.8**	**-0.3**
	6.1nm,1.0s,mb5.0						
TPH	**Tonopah**	**94.15**	**52**	*e*P	**P**	**06 39 28.1**	**+0.4**
	2.1nm,0.4s,mb4.9						
TPH				*e*		06 39 35.5	
NEW	**Newport**	**94.77**	**42**	LR	LR	07 17 03.4	
	comp=Z,94nm,18.5s,MS4.3,baz=269,slow=32						
NEW	**Newport**	**94.77**	**42**	*e*P	**P**	**06 39 30.0**	**-0.3**
	6.4nm,1.2s,mb4.9						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**06 39 39.0**	**+1.4**
	0.3nm,0.6s,mb3.9,baz=276,slow=4.7,SNR=3.5						
YKA				LR	LR	07 17 07.9	
	comp=Z,68nm,20.9s,MS4.1,baz=280,slow=32						
BOZ	**Bozeman (W)**	**98.50**	**45**	*e*P	**P**	**06 39 47.0**	**-0.3**
	1.6nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**100.06**	**48**	P	P	06 39 54.1	-0.4
	1.9nm,0.8s,baz=270,slow=2.2,SNR=18						
CLL	**Collm**	**122.80**	**330**	*e*PKIKP	PKPdf	06 45 05.0	+1.4
GERES	**GERESS Array B**	**123.94**	**328**	PKP	PKPdf	06 45 06.8	+1.0
	2.0nm,0.6s,baz=90,slow=1.3,SNR=18						
EKA	**Eskdalemuir Ar**	**126.24**	**342**	PKP	PKPdf	06 45 10.8	+0.8
	2.0nm,1.0s,baz=14,slow=3.4,SNR=3.6						
DAVOX	**Davos**	**127.24**	**328**	PKP	PKPdf	06 45 13.8	+1.5
	1.5nm,0.4s,baz=231,slow=6.5						
CPUP	**Villa Florida**	**137.78**	**140**	PKP	PKPdf	06 45 33.9	+1.3
	0.8nm,0.8s,baz=227,slow=17,SNR=3.3						
BDFB	**Brasilia**	**151.44**	**137**	PKPbc	PKPdf	06 46 03.0	+7.0
	6.0nm,0.7s,baz=203,slow=3.0,SNR=12						
BDFB				PKPab	PKPab	06 46 11.2	-1.7
	6.1nm,0.9s,baz=213,slow=5.3,SNR=7.2						

IGQ ***11*** *06:35:58.6, 3.09S×75.82W, h12^{km}±14^{km}, mb4.3, Error ellipse: s-maj=14.7km s-min=9.5km az=52.3*
NEIC ***11*** *06:36:01.7±1.2, 2.71S×75.43W, h126^{km}±14^{km}, mb3.8/2, Error ellipse: s-maj=29.9km s-min=9.3km az=55.0*
IDC ***11*** *06:36:09.3±6.9, 2.78S×75.23W, h207^{km}±75^{km}, mb3.2/7, mb1 3.5/8, mb1mx3.3/20, Error ellipse: s-maj=73.8km s-min=22.3km az=70.0*
ISC 11 06:36:00.4±0.9**, 3.03S**±0.10×**75.7W**±0.1**, h135^{km}**±10^{km}**, n23, σ1$\overset{s}{.}$02**/25**, mb3.5**/6**, 2C-3D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATA	**Patacocha**	**3.11**	**299**	P	**P**	**06 36 49.2**	**-0.2**
ARRY	**Arrayan**	**3.13**	**299**	⇓P	**P**	**06 36 48.9**	**-0.7**
RUN2	**Runtun**	**3.13**	**301**	P	**P**	**06 36 49.3**	**-0.4**
JUIV	**Juive**	**3.17**	**300**	P	**P**	**06 36 50.0**	**-0.2**
CUSU	**Cusua**	**3.18**	**300**	⇑P	**P**	**06 36 50.0**	**-0.3**
CUSU				S	**S**	**06 37 26.5**	**-1.9**
PISA	**Pisayambo**	**3.31**	**306**	P	**P**	**06 36 52.6**	**+0.6**
CONE	**Cono NE Rev Vo**	**3.51**	**327**	⇑P	**P**	**06 36 55.5**	**+0.7**
TAMB	**Tambo**	**3.52**	**311**	⇓P	**P**	**06 36 55.9**	**+1.1**
ANTI	**Antisana**	**3.54**	**316**	P	**P**	**06 36 54.8**	**-0.3**
VC1	**Cotopaxi 1**	**3.58**	**311**	⇓P	**P**	**06 36 56.6**	**+1.0**
NAS1	**Nasa**	**3.64**	**311**	P	**P**	**06 36 58.5**	**+2.1**
OTAV	**Otavalo**	**4.24**	**320**	*e*P	**P**	**06 37 04.2**	**-0.2**
NNA	**Nana**	**8.97**	**187**	*e*P	**P**	**06 38 07.3**	**-0.6**
NNA				*e*S	**S**	**06 39 33.2**	**-14**
SAML	**Samuel**	**13.78**	**116**	*e*P	**P**	**06 39 10.1**	**-1.0**
	1.1nm,0.4s						
LPAZ	**La Paz**	**15.14**	**151**	P	**P**	**06 39 32.3**	**+3.9**
	0.2nm,0.3s,baz=310,slow=7.9,SNR=7.4						
LVC	**Limon Verde**	**20.55**	**162**	P	**P**	**06 40 34.3**	**+4.2**
	10.0nm,1.0s,baz=37,slow=8.2,SNR=8.1						
LVC	**Limon Verde**	**20.55**	**162**	*e*P	**P**	**06 40 34.0**	**+3.9**
	4.8nm,0.7s						
PLCA	**Paso Flores**	**37.82**	**174**	P	**P**	**06 43 06.6**	**+1.2**
	1.1nm,0.6s,mb3.7,baz=350,slow=8.9,SNR=4.4						
TXAR	**Lajitas Array**	**41.87**	**322**	P	**P**	**06 43 39.9**	**+1.0**
	0.2nm,0.5s,mb3.0,baz=137,slow=8.4,SNR=6.9						
ULM	**Lac du Bonnet**	**55.83**	**344**	P	**P**	**06 45 23.9**	**-2.0**
	1.5nm,0.5s,mb4.0,baz=143,slow=7.2,SNR=3.7						
NVAR	**Mina Array Bea**	**56.98**	**321**	P	**P**	**06 45 34.9**	**+0.7**
	0.5nm,0.5s,mb3.6,baz=131,slow=8.6,SNR=6.6						
YKA	**Yellowknife Ar**	**71.67**	**342**	P	**P**	**06 47 07.9**	**-1.1**
	0.4nm,0.4s,mb3.5,baz=141,slow=6.3,SNR=7.1						
ILAR	**Eielson Array**	**84.80**	**336**	P	**P**	**06 48 20.4**	**0.0**
	0.4nm,1.0s,mb3.1,baz=100,slow=3.6,SNR=4.4						

IDC 11 06:50:32.7±1.8**, 41.20N**×**108.22E, mb3.5**/1**, mb1 3.5**/3**, mb1mx3.3**/20**, ML3.5**/2**, Error ellipse: s-maj=61.0km s-min=20.8km az=73.0, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**6.76**	**349**	Pn	Pn	06 52 13.1	-2.5
	0.4nm,0.3s,baz=174,slow=14,SNR=5.0						
SONM				Pg	Pg	06 52 35.7	-12
	0.9nm,0.3s,baz=178,slow=17,SNR=7.6						
SONM				Sn	Sn	06 53 29.8	-4.4
	1.2nm,0.3s,baz=177,slow=26,SNR=8.3						
SONM				Lg		06 54 09.1	
	0.8nm,0.3s,baz=158,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**19.43**	**295**	P	P	06 55 00.8	-2.4
	0.1nm,0.3s,baz=102,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**68.80**	**155**	P	P	07 01 38.7	-2.1
	0.3nm,0.6s,baz=348,slow=5.8,SNR=4.3						

IDC 11 07:06:23.6±17.0**, 23.24S**×**174.19W, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.9**/15**, Error ellipse: s-maj=325.0km s-min=139.5km az=84.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.82**	**267**	P	P	07 13 34.3	-1.0
	2.6nm,0.4s,baz=92,slow=13,SNR=6.6						
STKA	**Stephens Creek**	**39.91**	**248**	P	P	07 13 58.2	-2.8
	1.0nm,0.6s,baz=96,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**47.40**	**259**	P	P	07 14 59.3	-2.4
	0.4nm,0.3s,baz=93,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**47.78**	**264**	P	P	07 15 02.6	-2.1
	1.3nm,0.3s,baz=100,slow=6.9,SNR=46						
FITZ	**Fitzroy Crossi**	**56.20**	**263**	P	P	07 16 06.8	-1.1
	baz=139,slow=9.3						

DJA 11 07:29:14.4±1.1**, 8.91S**×**117.36E, h80^{km}, MD4.8**/4**, ML4.3**/4**, 7D, Error ellipse: s-maj=41.4km s-min=26.6km az=8.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**1.30**	**289**	⇓*i*Pn	P	07 29 35.2	-2.3
	277nm,0.2s						
KEDI				⇓*i*Sn	S	07 29 54.5	-0.4
RATI	**Rata**	**1.81**	**276**	⇓*i*Pn	P	07 29 42.8	-1.6
	124nm,0.2s						
INGI	**Ingas**	**2.19**	**272**	⇓*i*Pn	P	07 29 49.2	-0.3
	502nm,0.2s						
INGI	**Ingas**	**2.19**	**272**	⇓*i*P	P	07 29 49.4	-0.1
INGI				⇓*i*Sn	S	07 30 12.0	-3.5
KELI	**Kelakatan**	**2.92**	**283**	⇓*i*Pn	P	07 30 01.5	+1.8
	46nm,0.2s						

NEIC ***11*** *07:55:08.4±1.2, 19.74S×70.88W, h46^{km}±12^{km}, mb4.1/4, Error ellipse: s-maj=18.9km s-min=9.2km az=76.0*
IDC ***11*** *07:55:09.1±3.3, 19.78S×70.85W, h54^{km}±33^{km}, mb3.4/6, mb1 3.7/8, mb1mx3.6/15, ML3.8/2, MS2.8/1, Ms1 3.0/1, ms1mx2.6/10, Error ellipse: s-maj=36.9km s-min=17.3km az=81.0*
ISC 11 07:55:07.0±1.5**, 19.77S**±0.07×**70.9W**±0.2**, h48^{km}**±15^{km}**, n19, σ0$\overset{s}{.}$87**/18**, mb3.8**/8**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**3.33**	**351**	*e*P	**P**	**07 55 57.1**	**-0.9**
LVC	**Limon Verde**	**3.40**	**147**	P	**P**	**07 55 58.8**	**-0.1**
	11nm,0.3s,baz=324,slow=10.0,SNR=104						
LVC				S	**S**	**07 56 38.1**	**-0.2**
	18nm,0.3s,baz=316,slow=10,SNR=11						
LVC	**Limon Verde**	**3.40**	**147**	P	**P**	**07 55 58.8**	**-0.1**
LVC				S	**S**	**07 56 38.1**	**-0.2**
LPAZ	**La Paz**	**4.37**	**38**	P	**P**	**07 56 14.5**	**+1.9**
	0.7nm,0.3s,baz=232,slow=8.5,SNR=13						
LPAZ				LR	LR	07 58 01.2	
	comp=Z,122nm,19.2s,baz=162,slow=40						
LPAZ	**La Paz**	**4.37**	**38**	*e*P	**P**	**07 56 13.6**	**+1.0**
LPAZ				LR	LR	07 58 01.2	
PLCA	**Paso Flores**	**20.89**	**179**	P	**P**	**07 59 47.8**	**+0.2**

	1.3nm,0.6s,baz=20,slow=11,SNR=6.4						
PLCA	Paso Flores	20.89	179	*e*P	P	07 59 47.9	+0.3
	3.6nm,1.1s						
BDFB	Brasilia	22.21	83	P	P	07 59 60.0	-0.8
	2.6nm,0.7s,mb3.8,baz=241,slow=8.9,SNR=4.0						
TXAR	Lajitas Array	58.14	326	P	P	08 04 57.8	-0.6
	0.1nm,0.4s,mb3.2,baz=151,slow=8.2,SNR=5.7						
QSPA	South Pole Qui	70.41	180	*e*P	P	08 06 18.0	+0.5
	1.8nm,0.7s,mb4.1						
DUG	Dugway	71.28	327	*e*P	P	08 06 24.6	+1.2
	1.6nm,0.8s,mb4.0						
PDAR	Pinedale Array	71.68	331	P	P	08 06 26.4	+0.7
	0.3nm,0.5s,mb3.5,baz=136,slow=6.2,SNR=4.7						
HWUT	Hardware Ranch	71.73	329	*e*P	P	08 06 26.3	+0.2
	1.8nm,0.7s,mb4.1						
ULM	Lac du Bonnet	73.12	344	P	P	08 06 32.1	-2.0
	0.7nm,0.4s,mb3.9,baz=153,slow=6.8,SNR=3.4						
YKA	Yellowknife Ar	88.94	341	P	P	08 07 57.4	+0.2
	1.1nm,0.9s,mb4.2,baz=134,slow=5.2,SNR=7.4						
YKA				pP	pP	08 08 06.5	-4.9
	0.6nm,0.6s,baz=140,slow=4.4,SNR=5.0						
YKA				sP	sP	08 08 12.5	-3.9
	0.5nm,0.6s,baz=136,slow=4.5,SNR=3.2						
YKA	Yellowknife Ar	88.94	341	P	P	08 07 57.4	+0.2
YKA				pP	pP	08 08 06.5	-4.9
YKA				sP	sP	08 08 12.5	-3.9
WRA	Warramunga Arr	133.41	214	PKP	PKPdf	08 14 20.3	+1.4
	0.4nm,0.8s,baz=154,slow=1.8,SNR=4.7						
MKAR	Makanchi Array	145.28	33	PKPbc	PKPbc	08 14 40.9	+1.0
	0.9nm,0.7s,baz=339,slow=4.4,SNR=8.5						
MKAR	Makanchi Array	145.28	33	PKPbc	PKPbc	08 14 40.9	+1.0

GUC 11 08:03:13.8±0.5**,31.45S**×**68.58W,h150**^{km}**,MD3.7,ML3.4, 1C,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	2.09	277	*i* P	P	08 03 50.6	+0.2
CMCH				*i* S	S	08 04 18.5	0.0
CMCH				AMP		08 04 20.1	
	comp=E,602nm,0.5s						
FCH	Farellones	2.36	217	⇑*i*P	P	08 03 54.6	+0.8
FCH				*i* S	S	08 04 25.6	+1.2
FCH				AMP		08 04 29.2	
	comp=N,56nm,0.2s						
CLCH	Cerro Calan	2.55	220	*i* P	P	08 03 56.3	+0.2
CLCH				*i* S	S	08 04 28.4	-0.1
CLCH				AMP		08 04 36.2	
	comp=N,102nm,0.4s						
RCDM	Rinconada Maip	2.77	222	*i* P	P	08 03 58.6	-0.3
RCDM				*i* S	S	08 04 33.2	-0.2
RCDM				AMP		08 04 36.0	
	comp=N,122nm,0.4s						

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*IDC **11** 08:11:07.8±1.3, 41.08N×107.68E, mb3.7/2, mb1 3.6/4, mb1mx3.4/20, ML3.4/2, Error ellipse: s-maj=50.9km s-min=18.1km az=72.0*

*BJI **11** 08:11:10.8, 41.09N×107.46E, h14^{km}, ML3.5, Ms2.8, Msz2.7*

ISC 11 08:11:07.9±0.9**,41.14N**±0.08×**107.68E**±0.07**,h14**^{km}**,n7,** σ**1**$\overset{s}{.}$**21**/11**,mb3.7**/2**,Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTO	Baotou	1.85	106	*e*PG	Pg	08 11 46.2	+1.2
BTO				SG	Sg	08 12 12.3	+2.5
BTO				Smax			
	comp=N,542nm,0.3s						
BTO				Smax			
	comp=E,329nm,0.3s						
HHC	Hu-ho-hao-te	2.96	94	*e*PG	Pg	08 12 05.0	-2.0
HHC				SG	Sg	08 12 45.0	-1.4
HHC				Smax			
	comp=N,234nm,0.5s						
HHC				Smax			
	comp=E,160nm,0.4s						
GTA	Gaotai	6.26	257	*e*PG	Pg	08 12 56.3	-17
GTA				LR	LR		
	comp=N,126nm,17.6s						
GTA				LR	LR		
	comp=E,144nm,27.5s						
GTA				LR	LR		
	comp=Z,46nm,7.6s						
SONM	Songino Array	6.76	353	Pn	Pn	08 12 49.8	+0.6
	comp=Z,0.3nm,0.3s,baz=172,slow=14,SNR=6.0						
SONM				Pg	Pg	08 13 13.6	-9.3
	comp=Z,1.3nm,0.3s,baz=173,slow=15,SNR=4.4						
SONM				Sn	Sn	08 14 06.8	+0.1
	comp=Z,2.4nm,0.3s,baz=177,slow=27,SNR=11						
SONM				Lg		08 14 43.1	
	comp=Z,2.2nm,0.3s,baz=170,slow=28,SNR=5.9						
MKAR	Makanchi Array	19.09	296	P	P	08 15 32.6	+0.1
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=2.6						
WRA	Warramunga Arr	65.62	152	P	P	08 21 52.8	-1.0
	comp=Z,0.5nm,0.5s,mb3.8,baz=335,slow=8.0,SNR=4.5						
ASAR	Alice Springs	68.92	154	P	P	08 22 14.7	+0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=333,slow=6.4,SNR=5.6						

BJI 11 08:12:17.3,27.15N×**103.69E,h18**^{km}**,ML3.9,Ms3.7, Msz3.7,2D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.19	203	*e*PG	Pn	08 12 56.6	+3.1
KMI				SG	Sn	08 13 25.2	+4.8
KMI				Smax			
	comp=N,209nm,1.0s						
KMI				Smax			
	comp=E,243nm,1.2s						
GYA	Guiyang	2.75	104	⇓*i*P	Pn	08 13 04.6	+3.2
GYA				PG	Pn	08 13 09.0	+7.6
GYA				S	Sn	08 13 40.8	+6.3
GYA				SG	Sn	08 13 44.6	+10
GYA				Smax			
	comp=N,430nm,0.9s						
CD2	Chengdu	3.75	1	⇓P	Pn	08 13 16.2	+0.6
CD2				PG	Pn	08 13 25.5	+10
CD2				S	Sn	08 14 01.0	+1.2
CD2				SG	Sn	08 14 14.0	+14
CD2				Smax			
	comp=N,343nm,0.6s						
CD2				Smax			
	comp=E,660nm,1.0s						
XAN	Xi'an	8.21	32	P	P	08 14 16.0	-2.5
XAN				AP		08 14 24.8	
XAN				LR	LR		
	comp=N,144nm,6.0s						
XAN				LR	LR		
	comp=E,240nm,7.6s						
XAN				LR	LR		
	comp=Z,268nm,6.0s						

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*BGR **11** 08:14:31.4±0.4, 49.37N×6.90E, h1^{km}, ML1.9/2, Error ellipse: s-maj=6.7km s-min=4.4km az=27.0*

*STR **11** 08:14:31.0±0.6, 49.37N×6.82E, h1^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **11** 08:14:31.0±0.1, 49.40N×6.85E, h1^{km}, Md2.7/2, Ml2.8/8, Error ellipse: s-maj=2.2km s-min=2.0km az=179.0, Suspected Mining induced.*

*NEIC **11** 08:14:31.0, 49.40N×6.85E, h1^{km}, ML2.8(LDG), After LDG.*

ISC 11 08:14:28.8±0.5**,49.38N**±0.02×**6.85E**±0.04**,n22,** σ**1**$\overset{s}{.}$**21**/46**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.53	302	*e*Pg	Pg	08 14 42.7	+3.4
	SNR=5.6						
WLF				*e*Sg	Sg	08 14 48.8	+2.3
WLF	Walferdange	0.53	302	*e*P	Pg	08 14 42.9	+3.5
CDF	Champ du Feu	1.01	164	*e*Pg	Pg	08 14 50.2	+1.3
CDF				*e*Sg	Sg	08 15 03.0	+0.6
WLS	Welschbruch	1.03	161	Pg	Pg	08 14 50.6	+1.4
WLS				Sg	Sg	08 15 04.8	+1.9
RFYF	Reffroy	1.18	231	*e*Pg	Pg	08 14 54.9	+2.7
RFYF				*e*Sg	Sg	08 15 09.5	+1.6
	28nm,0.2s						
THEF	They Montfort	1.29	206	Pg	Pg	08 14 55.1	+0.6
THEF				Sg	Sg	08 15 12.3	+0.7
HAU	Haudompre	1.42	194	*e*Pg	Pg	08 14 57.9	+0.9
HAU				*e*Sg	Sg	08 15 15.2	-0.7
BFO	Black Forest	1.44	136	*e*Pg	Pg	08 14 57.9	+0.4
	SNR=6.7						
BFO				*e*Sg	Sg	08 15 15.3	-1.4
BFO	Black Forest	1.44	136	*e*Pg	Pg	08 14 57.8	+0.3
BFO				*e*Sg	Sg	08 15 16.4	-0.2
MEZF	Maizieres J'vi	1.47	234	*e*Pg	Pg	08 14 58.6	+0.4
MEZF				*e*Sg	Sg	08 15 18.0	+0.2
	28nm,0.4s						
GIVF	Givet	1.50	300	*e*Pn	Pn	08 14 55.9	-1.1
GIVF				*e*Pg	Pg	08 14 59.4	+0.8
GIVF				*e*Sg	Sg	08 15 18.4	-0.2
	22nm,0.4s						
HGN	Heimansgroeve	1.50	337	*e*Pg	Pg	08 14 59.3	+0.5
	11nm,0.6s						
HGN				*e*Sg	Sg	08 15 18.8	0.0
HGN				*e*Rg		08 15 39.6	
MOF	Molkenrain	1.54	173	Pg	Pg	08 14 59.8	+0.2
MOF				Sg	Sg	08 15 20.3	+0.2
HINF	Hinteralfeld	1.57	180	*e*Pg	Pg	08 15 00.5	+0.5
HINF				*e*Sg	Sg	08 15 20.4	-0.5
SFTF	Sexfontaines	1.68	226	*e*Pg	Pg	08 15 01.3	-0.9
SFTF				*e*Sg	Sg	08 15 24.2	-0.4
	19nm,0.4s						
BAIF	Baives	1.84	293	*e*Pn	Pn	08 15 01.3	-0.6
BAIF				*e*Pg	Pg	08 15 06.8	+1.3
BAIF				*e*Sg	Sg	08 15 28.6	-1.4
	6.3nm,0.3s						
CABF	La Chapelle	2.82	191	*e*Pn	Pn	08 15 15.6	-0.3
CABF				*e*Pg	Pg	08 15 23.7	-1.3
CABF				*e*Sg	Sg	08 16 00.0	-2.6
	23nm,0.6s						
LOR	Lormes	2.91	224	*e*Pn	Pn	08 15 17.0	-0.1
LOR				*e*Pg	Pg	08 15 24.1	-2.7
LOR				*e*Sn	Sn	08 15 51.9	-1.4
LOR				*e*Sg	Sg	08 16 02.2	-3.3
	13nm,0.5s						
SSF	Saint Saulge	3.22	225	*e*Pn	Pn	08 15 20.6	-1.0
SSF				*e*Sn	Sn	08 15 56.8	-4.4
SSF				*e*Sg	Sg	08 16 12.2	-3.8
	9.1nm,0.4s						
MOX	Moxa	3.33	66	*e*Sg	Sg	08 16 15.2	-4.3
CLZ	Clausthal	3.33	41	*e*Sg	Sg	08 16 17.0	-2.7
GEC2	GERESS Array S	4.54	94	*e*Pn	Pn	08 15 40.3	0.0
	SNR=4.4						

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*NEIC **11** 08:21:32.1±4.4, 23.82S×179.74W, h544^{km}±45^{km}, mb4.3/5, Error ellipse: s-maj=47.1km s-min=16.8km az=217.0*

*IDC **11** 08:21:34.5±8.4, 23.99S×179.91W, h556^{km}±90^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.2/17, Error ellipse: s-maj=68.3km s-min=26.1km az=34.0*

ISC 11 08:21:30.0±4.4**,23.7S**±0.4×**179.6W**±0.6**,h550**^{km}**,n17,** σ**0**$\overset{s}{.}$**44**/14**,mb4.0**/9**,2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.81	190	P	P	08 24 37.6	+0.5
	0.7nm,0.3s,baz=306,slow=23,SNR=3.4						
RPZ	Rata Peaks	21.42	199	P	P	08 25 39.6	-0.3
	7.1nm,0.6s,mb4.5,baz=23,slow=7.7,SNR=2.3						
CTA	Charters Tower	31.84	270	⇓*i*P	P	08 27 12.5	+0.9
	3.9nm,0.3s,mb4.4						
CTA	Charters Tower	31.84	270	P	P	08 27 12.5	+0.9
	5.4nm,0.3s,mb4.5,baz=88,slow=11,SNR=17						
CTAO	Charters Tower	31.84	270	*e*P	P	08 27 12.3	+0.8
	5.2nm,0.4s,mb4.4						
STKA	Stephens Creek	35.15	248	P	P	08 27 38.7	-0.4
	4.2nm,1.2s,mb3.8,baz=72,slow=3.2,SNR=3.0						
STKA	Stephens Creek	35.15	248	P	P	08 27 38.7	-0.4
ASAR	Alice Springs	42.44	260	P	P	08 28 38.2	0.0
	1.6nm,0.5s,mb3.8,baz=98,slow=7.1,SNR=21						
WB2	Warramunga Arr	42.78	266	⇓*i*P	P	08 28 40.7	-0.3
WRA	Warramunga Arr	42.79	266	P	P	08 28 40.7	-0.3
	3.8nm,0.4s,mb4.3,baz=103,slow=8.3,SNR=238						
KAKA	Kakadu	46.70	275	*e*P	P	08 29 10.9	-0.4
	2.9nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	51.21	265	P	P	08 29 45.5	+0.6
	5.3nm,0.9s,mb3.9,baz=128,slow=5.4,SNR=11						
SBA	Scott Base	54.62	184	*e*P	P	08 30 08.3	-0.1
	1.7nm,0.9s,mb3.3						
QSPA	South Pole Qui	66.40	180	*e*P	P	08 31 19.7	-6.0
	6.9nm,1.4s,mb4.0						
ARCES	ARCESS Array B	131.75	348	PKP	PKPdf	08 39 44.2	+4.3
	1.2nm,1.0s,baz=45,slow=3.8,SNR=3.7						
HFS	Hagfors	142.40	349	PKP	PKPdf	08 40 01.2	+1.8
	1.7nm,0.4s,baz=63,slow=3.3,SNR=11						
AKASG	Malin Array Be	144.98	328	PKPbc	PKPbc	08 40 09.7	+4.8
	0.6nm,0.3s,baz=47,slow=4.7,SNR=3.9						

DJA 11 08:35:33.1±0.8**,9.47S**×**116.08E,h160**^{km}**,MD4.8**/4**, ML3.6**/2**,5C-3D,Error ellipse: s-maj=31.3km s-min=17.0km az=179.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.92	324	⇑*i*Pn	P	08 35 57.9	-0.4
RATI				⇑*i*Sn	S	08 36 16.4	-1.4
KEDI	Kedomdong	0.97	2	⇑*i*Pn	P	08 35 59.2	+0.5
	46nm,0.2s						
KEDI				⇓*i*Sn	S	08 36 16.0	-2.5
INGI	Ingas	1.13	305	⇓*i*Pn	P	08 35 58.7	-1.4
	143nm,0.2s						
INGI				⇓*i*Sn	S	08 36 19.2	-1.7
KELI	Kelakatan	2.00	308	⇑*i*Pn	P	08 36 10.5	+1.3
KELI				⇑*i*Sn	S	08 36 34.8	-2.2

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*TAP **11** 08:57:27.5, 24.31N×122.83E, h21^{km}±2^{km}, ML3.1*

JMA 11 08:57:26.8±0.2**,24.32N**×**122.99E,h45**^{km}**,M2.6,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.14	8	P	P	08 57 34.2	+0.1
YOJ				S	S	08 57 39.5	+0.1
IRIF	Iriomote-Funau	0.68	89	P	P	08 57 40.0	0.0
IRIF				S	S	08 57 49.7	-0.1
JKRS	Kuro-shima	0.93	95	P	P	08 57 44.0	+0.3
JKRS				*e*S	S	08 57 56.6	+0.5
JIJ	Ishigaki jima	1.05	87	P	P	08 57 44.8	-0.5
JIJ				*e*S	S	08 57 58.3	-0.8

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*IDC **11** 08:57:53.3±0.7, 0.11S×17.55W, mb4.1/11, mb1 4.3/12, mb1mx4.0/24, ML4.5/1, MS3.7/19, Ms1 3.7/19, ms1mx3.6/28, Error ellipse: s-maj=29.1km s-min=16.9km az=144.0*

*NEIC **11** 08:57:55.5±0.6, 0.07S×17.50W, h15^{km}, mb4.6/2, Error ellipse: s-maj=24.2km s-min=12.8km az=149.0*

ISC 11 08:57:53.1±0.5**,0.0S**±0.1×**17.47W**±0.09**,h10**^{km}**,n28,** σ**0**$\overset{s}{.}$**91**/18**,mb4.2**/13**,MS3.8**/18**,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIC	Lamto	13.88	63	*e*P	P	09 01 12.2	-0.3
	110nm,1.4s						
TIC	Toumodi	14.08	62	*e*P	P	09 01 14.0	-1.0
	27nm,0.2s						
KIC	Kosan Boka	14.20	63	*e*P	P	09 01 16.2	-0.4
	124nm,1.1s						
DBIC	Dimbokro	14.23	62	Pn	P	09 01 15.7	-1.4
	2.4nm,0.3s,baz=227,slow=13,SNR=26						
DBIC				Sn	S	09 03 41.7	-14
	0.7nm,0.3s,baz=286,slow=23,SNR=4.7						
DBIC				LR	LR	09 05 00.3	
	comp=Z,156nm,20.8s,baz=222,slow=30						
BDFB	Brasilia	33.91	241	P	P	09 04 37.8	-0.9
	6.0nm,0.7s,mb4.6,baz=52,slow=4.7,SNR=7.7						
BDFB				LR	LR	09 15 36.1	
	comp=Z,106nm,19.0s,MS3.6,baz=110,slow=31						
TSUM	Tsumeb	39.30	121	P	P	09 05 24.9	+0.7
	3.2nm,0.9s,mb4.0,baz=233,slow=23,SNR=5.0						
TSUM				LR	LR	09 18 29.2	
	comp=Z,147nm,19.1s,MS3.8,baz=319,slow=31						
SAML	Samuel	46.38	258	*e*P	P	09 06 21.2	-0.6
	7.5nm,1.0s,mb4.6						
CPUP	Villa Florida	46.44	233	P	P	09 06 22.0	-0.2
	7.1nm,1.2s,mb4.5,baz=90,slow=8.2,SNR=7.6						
CPUP				LR	LR	09 26 03.6	
	comp=Z,89nm,19.8s,MS3.7,baz=343,slow=36						
SJG	San Juan	51.11	293	LR	LR	09 23 11.7	
	comp=Z,92nm,19.4s,MS3.8,baz=94,slow=30						
LPAZ	La Paz	52.49	249	P	P	09 07 08.2	-0.7
	1.0nm,0.8s,mb3.8,baz=108,slow=5.1,SNR=4.5						
LPAZ				LR	LR	09 28 22.3	
	comp=Z,63nm,20.4s,MS3.6,baz=104,slow=35						
KMBO	Kilima Mbogo	54.73	91	LR	LR	09 28 05.5	
	comp=Z,72nm,20.2s,MS3.7,baz=90,slow=33						
GERES	GERESS Array B	55.60	24	P	P	09 07 32.0	+0.6
	0.5nm,0.3s,mb4.0,baz=225,slow=7.5,SNR=5.5						
ROSC	El Rosal	57.00	276	LR	LR	09 29 04.8	
	comp=Z,124nm,21.8s,MS4.0,baz=180,slow=33						
MLR	Muntele Rosu	59.29	34	P	P	09 07 58.0	+0.5
	4.9nm,1.0s,mb4.5,baz=271,slow=19,SNR=4.8						
ASF	Jabal al Asfar	60.41	52	LR	LR	09 36 07.8	
	comp=Z,65nm,18.1s,MS3.8,baz=346,slow=38						
BRTR	Keskin Array B	61.06	43	P	P	09 08 10.1	+0.5
	1.7nm,0.9s,mb4.2,baz=270,slow=8.6,SNR=5.1						
BRTR				LR	LR	09 38 01.8	
	comp=Z,38nm,18.0s,MS3.6,baz=185,slow=39						
PLCA	Paso Flores	62.82	223	LR	LR	09 33 13.4	
	comp=Z,181nm,18.1s,MS4.3,baz=282,slow=34						
AKASG	Malin Array Be	64.16	31	P	P	09 08 30.7	+0.6
	0.4nm,0.3s,mb3.9,baz=230,slow=7.4,SNR=6.6						
AKASG				LR	LR	09 38 57.6	
	comp=Z,49nm,18.1s,MS3.7,baz=200,slow=38						
NOA	NORSAR Array B	64.75	15	LR	LR	09 39 16.4	
	comp=Z,57nm,18.5s,MS3.8,baz=230,slow=38						
FINES	FINESS Array B	69.64	21	P	P	09 09 06.2	+1.6
	1.0nm,0.7s,mb3.9,baz=243,slow=12,SNR=2.9						
FINES				LR	LR	09 38 31.0	
	comp=Z,55nm,19.8s,MS3.8,baz=184,slow=35						
ULM	Lac du Bonnet	82.61	321	LR	LR	09 40 16.6	
	comp=Z,51nm,20.0s,MS3.9,baz=12,slow=31						
TXAR	Lajitas Array	86.69	299	P	P	09 10 39.3	+0.3
	1.3nm,0.9s,mb4.2,baz=121,slow=7.3,SNR=10						
TXAR				LR	LR	09 45 29.1	
	comp=Z,24nm,18.5s,MS3.6,baz=40,slow=33						
QSPA	South Pole Qui	90.04	180	*e*P	P	09 10 56.7	+2.9
	4.9nm,1.1s,mb4.8						
PDAR	Pinedale Array	91.56	313	P	P	09 11 00.8	-0.7
	0.3nm,0.8s,mb3.7,baz=97,slow=7.3,SNR=2.8						
PDAR				LR	LR	09 45 58.1	
	comp=Z,44nm,19.4s,MS3.9,baz=79,slow=32						
NEW	Newport	96.45	318	LR	LR	09 49 54.2	
	comp=Z,46nm,20.1s,MS4.0,baz=284,slow=32						
MKAR	Makanchi Array	96.71	43	LR	LR	10 01 12.2	
	comp=Z,35nm,18.8s,MS3.9,baz=43,slow=39						
ASAR	Alice Springs	143.57	132	PKP	PKPdf	09 17 28.3	-3.7
	0.5nm,0.7s,baz=225,slow=2.2,SNR=6.3						
WRA	Warramunga Arr	146.00	127	PKPbc	PKPbc	09 17 34.9	+0.6
	0.7nm,0.6s,baz=239,slow=2.8,SNR=10						

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*CASC **11** 09:01:39.4±2.5, 13.97N×93.55W, h104^{km}±85^{km}, MD4.4, ML4.5*

*MEX **11** 09:01:46.0±0.7, 14.34N×93.37W, h24^{km}±999^{km}, MD4.4*

*NEIC **11** 09:01:46.1, 14.33N×93.36W, h23^{km}, mb3.8/5, MD4.4(MEX), After MEX.*

*IDC **11** 09:01:59.1±4.8, 14.74N×93.09W, h153^{km}±55^{km}, mb3.4/6, mb1 3.7/8, mb1mx3.5/21, MS3.3/2, Ms1 3.3/2, ms1mx2.8/19, Error ellipse: s-maj=83.4km s-min=25.5km az=42.0*

ISC 11 09:01:43.1±1.5**,14.36N**±0.06×**93.32W**±0.04**,h24**^{km}±11^{km}**, n36,** σ**1**$\overset{s}{.}$**31**/47**,mb3.8**/8**,MS3.3**/2**,1C-1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPX	Tapachula	1.15	62	*i* P	Pn	09 02 04.5	+0.6
TPX				*i* S	Sb	09 02 19.0	+0.2
JAT	Jato	1.63	91	⇓*e*P	Pn	09 02 10.8	0.0
JAT				*e*S	Sn	09 02 35.9	+4.8
JAT				AML	AML	09 02 37.0	
	comp=E,4µm,0.7s						
CCIG	Comitan	2.22	31	⇑*i*P	Pn	09 02 21.0	+1.8
CCIG				*i* S	Sn	09 02 46.1	0.0
IXG	Ixpaco	2.78	94	*e*P	Pn	09 02 26.6	-0.6
IXG				*e*S	Sn	09 03 04.2	+3.8
IXG				AML	AML	09 03 10.8	
	comp=E,4µm,0.5s						
CMIG	Matias Romero	3.10	331	*e*P	Pn	09 02 30.8	-1.0
CMIG				*i* S	Sn	09 03 07.2	-1.3
MRL	Marmol	3.58	78	*e*P	Pn	09 02 38.3	-0.2
RTR	El Retiro	3.59	97	*e*P	Pn	09 02 37.8	-0.9
RTR				*e*S	Sn	09 03 21.0	+0.2
SBLS	San Blas	3.62	98	*e*P	Pn	09 02 37.3	-1.8
SBLS				*e*S	Sn	09 03 21.4	-0.2
TUIG	Tuzandepetl	3.80	344	*e*P	Pn	09 02 41.1	-0.6
TUIG				*i* S	Sn	09 03 24.8	-1.4
LFRS	El Faro	4.20	100	*e*P	Pn	09 02 44.5	-2.8
LFRS				*e*S	Sn	09 03 35.7	-0.5
OXX	Oaxaca	4.25	310	*e*P	Pn	09 02 47.0	-1.1
OXX				*i* S	Sn	09 03 33.0	-4.6
EVV	El Vigia	4.51	335	*i* P	Pn	09 02 55.0	+3.2
EVV				*i* S	Sn	09 03 40.0	-4.2
PPM	Popocatepetl	6.91	313	*e*P	Pn	09 03 26.0	+0.4
ZIIG	Zihuatanejo	8.47	293	*e*P	P	09 03 46.3	-1.1
JTS	JuntasAbangare	9.12	115	P	P	09 04 07.4	+11
	comp=E,0.6nm,0.3s,baz=294,slow=12,SNR=4.4						
JTS	JuntasAbangare	9.12	115	*e*P	P	09 04 06.7	+10
	comp=E,31nm,1.3s						
JCT	Junction City	17.11	341	*e*P	P	09 05 44.7	+2.2
	comp=E,12nm,1.1s						
LTX	Lajitas	17.71	329	P	P	09 05 53.1	+3.1
	comp=E,7.2nm,1.2s						
TXAR	Lajitas Array	17.71	329	P	P	09 05 51.7	+1.8
	comp=E,0.1nm,0.3s,baz=151,slow=12,SNR=21						
CLNB	Carlsbad	20.26	333	*e*P	P	09 06 19.9	+0.2
OTAV	Otavalo	20.33	132	P	P	09 06 26.5	+5.9
GDL2	Guadalupe Moun	20.42	332	*e*P	P	09 06 22.4	+1.0
ROSC	El Rosal	20.95	115	P	P	09 06 30.0	+3.1
	comp=E,7.0nm,0.4s,baz=142,slow=20,SNR=4.1						
BNM	Barren Site	23.09	331	*e*P	P	09 06 49.2	+1.0
LPM	Los Pinos Moun	23.23	331	*e*P	P	09 06 51.3	+1.8
LAZ	Ladron	23.54	330	*e*P	P	09 06 53.6	+1.1
ANMO	Albuquerque	23.68	332	*e*P	P	09 06 55.1	+1.2
	comp=E,2.9nm,1.0s,mb3.7						
TUC	Tucson	23.94	321	*e*P	P	09 06 55.2	-1.3
	comp=E,2.0nm,0.8s,mb3.6						
SDCO	Great Sand Dun	25.68	337	*e*P	P	09 07 13.0	0.0
	comp=E,5.0nm,1.3s,mb3.9						
PDAR	Pinedale Array	31.57	337	P	P	09 08 05.7	-0.4
	comp=E,0.4nm,0.7s,mb3.4,baz=129,slow=9.5,SNR=4.4						
NVAR	Mina Array Bea	32.59	322	P	P	09 08 15.3	+0.3
	comp=E,0.6nm,0.7s,mb3.6,baz=131,slow=8.9,SNR=4.0						
HLID	Hailey	34.25	332	*e*P	P	09 08 29.2	-0.1
MCMT	McKenzie Canyo	34.60	335	*e*P	P	09 08 33.1	+0.8
ULM	Lac du Bonnet	35.85	357	P	P	09 08 40.6	-2.3
	comp=E,2.4nm,0.8s,mb4.2,baz=194,slow=12,SNR=2.7						
ULM				LR	LR	09 27 05.1	
	comp=E,30nm,18.6s,MS3.1,baz=337,slow=42						
YKA	Yellowknife Ar	50.39	347	P	P	09 10 38.1	-2.1
	comp=E,2.1nm,0.7s,mb4.3,baz=150,slow=7.4,SNR=15						
ILAR	Eielson Array	62.01	337	P	P	09 12 00.7	-2.9
	comp=E,0.4nm,0.8s,mb3.6,baz=140,slow=5.0,SNR=6.5						
ILAR				LR	LR	09 40 27.0	
	comp=E,30nm,18.4s,MS3.5,baz=267,slow=37						

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*IDC **11** 09:11:07.2±2.3, 35.74N×120.53W, mb3.3/1, mb1 3.5/3, mb1mx3.3/20, ML3.3/2, Error ellipse: s-maj=29.1km s-min=20.6km az=107.0*

NEIC 11 09:11:04.0,35.56N×**120.80W,h7**^{km}**,ML3.4**(NCEDC)**,1D, After NCEDC.,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.88	348	⇓*i*P	Pb	09 11 20.9	-0.4
LKC	Lake Chabot	2.40	335	*e*Pn	Pn	09 11 42.5	-2.0
SAC	San Andreas	2.40	328	*e*Pn	Pn	09 11 41.0	-3.5
CMB	Columbia Colle	2.49	8	*e*Pn	Pn	09 11 44.4	-1.4
OMM	Old Mammoth Mi	2.52	35	*e*Pn	Pn	09 11 45.6	-0.5
MTUM	Tungsten Hills	2.54	45	*e*Pn	Pn	09 11 46.6	+0.1
MWC	Mount Wilson	2.62	120	*e*Pn	Pn	09 11 45.2	-2.3
DAC	Darwin (Calif)	2.70	74	*e*Pn	Pn	09 11 47.7	-1.0
NSHM	Saint Helena R	3.29	334	Pn	Pn	09 11 55.4	-1.7
NVAR	Mina Array Bea	3.49	34	Pn	Pn	09 12 00.1	+0.1
	2.8nm,0.3s,baz=212,slow=16,SNR=23						
NVAR				Pg	Pg	09 12 05.1	-8.7
	3.6nm,0.3s,baz=216,slow=17,SNR=9.3						
NVAR				Lg		09 12 49.4	
	2.7nm,0.3s,baz=222,slow=27,SNR=4.6						
MNV	Mina	3.56	36	*e*Pn	Pn	09 11 59.9	-1.1
OHCM	Honcut	3.81	352	*e*Pn	Pn	09 12 02.9	-1.6
TPH	Tonopah	3.81	48	*e*Pn	Pn	09 12 04.0	-0.5
WCN	Washoe City	3.83	12	Pn	Pn	09 12 03.8	-1.0

PFO	Pinyon Flat Ob	4.08	117	ePn	Pn	09 12 03.3	-5.0
BEKR	Beckwourth	4.32	5	ePn	Pn	09 12 10.9	-0.8
BAR	Barrett	4.47	129	ePn	Pn	09 12 09.7	-4.2
NEN	Nelson	4.85	87	Pn	Pn	09 12 15.3	-4.0
MOD	Modoc	6.35	3	Pn	Pn	09 12 36.7	-3.6
MSU	Marysvale	7.50	64	ePn	Pn	09 12 52.1	-4.5
DUG	Dugway	7.83	51	ePn	Pn	09 12 57.4	-3.7
TXAR	Lajitas Array	15.73	108	Pn	P	09 14 51.7	+4.0
	0.0nm,0.3s,baz=293,slow=9.5,SNR=3.8						
TXAR	Lajitas Array	15.73	108	Pn	P	09 14 51.7	+4.0
ILAR	Eielson Array	33.18	340	P	P	09 17 44.6	+1.5
	0.2nm,0.5s,baz=154,slow=9.0,SNR=5.6						

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*IDC **11** 09:12:46.8±0.9, 10.71N×126.00E, mb3.8/7, mb1 4.0/7, mb1mx3.7/19, Error ellipse: s-maj=64.3km s-min=18.8km az=76.0*

*MAN **11** 09:12:55.7, 10.62N×125.73E, h25^{km}, mb4.7, ML3.5, MS3.5*

*NEIC **11** 09:13:01.1±8.1, 10.54N×125.83E, h121^{km}±73^{km}, mb4.2/4, Error ellipse: s-maj=49.4km s-min=13.3km az=69.0*

ISC 11 09:12:48.6±0.6, 10.67N±0.06×126.27E±0.06, h25^{km}, n28, $\sigma 1^{s}20$/29, mb4.0/11, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	1.17	221	⇑eP	Pn	09 13 10.7	+1.1
BESP	Borongan	1.23	319	eP	Pn	09 13 14.1	+3.6
PLP	Palo	1.35	291	i P	Pn	09 13 12.4	+0.1
MSLP	Maasin	1.48	249	eP	Pn	09 13 13.9	-0.2
OCLP	Ormoc	1.67	283	eP	Pn	09 13 17.7	+0.9
OCLP				eS	Sn	09 13 36.5	-1.0
LLP	Lapu-Lapu	2.29	261	eP	Pn	09 13 24.0	-1.6
CNP	Catarman	2.41	319	eP	Pn	09 13 29.6	+2.2
BIPH	Bislig	2.47	178	⇑iP	Pn	09 13 35.0	+6.7
TBP	Tagbilaran	2.56	248	eP	Pn	09 13 29.7	+0.2
CGP	Cagayan de Oro	2.69	215	eP	Pn	09 13 33.0	+1.6
BUKP	Musuan	3.02	203	eP	Pn	09 13 40.5	+4.4
RCP	Roxas	3.57	285	⇑eP	Pn	09 13 44.2	+0.4
PAGZ	Pagadian	4.00	226	eP	Pn	09 13 48.3	-1.6
OTRP	Odiongan	4.49	292	eP	Pn	09 13 58.3	+1.4
CAUP	Cauayan	7.58	326	eP	Pn	09 14 40.8	+0.3
FITZ	Fitzroy Crossi	28.60	181	P	P	09 18 45.6	+0.4
	0.6nm,0.5s,mb3.6,baz=18,slow=16,SNR=2.7						
WRA	Warramunga Arr	31.44	165	P	P	09 19 10.2	-0.3
	0.5nm,0.7s,mb3.5,baz=345,slow=9.4,SNR=4.6						
ASAR	Alice Springs	34.94	168	P	P	09 19 41.5	+0.7
	0.3nm,0.4s,mb3.5,baz=348,slow=7.1,SNR=12						
MKAR	Makanchi Array	51.71	323	P	P	09 21 54.8	-1.1
	2.5nm,0.5s,mb4.4,baz=119,slow=8.1,SNR=24						
KURK	Kurchatov	55.74	325	eP	P	09 22 24.2	-1.4
	3.0nm,0.7s,mb4.4						
ZRNK	Zerenda	62.09	325	eP	P	09 23 07.4	-2.3
	1.1nm,0.6s,mb4.2						
ILAR	Eielson Array	79.08	26	P	P	09 24 53.8	+1.6
	0.3nm,0.7s,mb3.3,baz=229,slow=4.4,SNR=4.4						
ARCES	ARCESS Array B	83.82	340	P	P	09 25 17.0	+0.1
	1.3nm,0.8s,mb4.1,baz=45,slow=1.7,SNR=3.6						
ARCES	ARCESS Array B	83.82	340	P	P	09 25 17.0	+0.1
FINES	FINESS Array B	85.54	332	P	P	09 25 24.8	-0.9
	1.3nm,0.8s,mb4.2,baz=90,slow=3.8,SNR=7.1						
FINES	FINESS Array B	85.54	332	P	P	09 25 24.8	-0.9
VNDA	Vanda	90.33	173	eP	P	09 25 48.9	+0.5
	0.5nm,0.8s,mb3.9						
SBA	Scott Base	91.23	172	P	P	09 25 50.4	-2.1
	5.7nm,1.6s,mb4.7						

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*IDC **11** 09:13:04.1±0.5, 10.71N×126.05E, mb4.3/17, mb1 4.4/17, mb1mx4.3/23, Error ellipse: s-maj=25.7km s-min=12.5km az=72.0*

*NEIC **11** 09:13:13.8±4.6, 10.58N×125.82E, h75^{km}±42^{km}, mb4.6/3, Error ellipse: s-maj=22.8km s-min=7.0km az=62.0*

ISC 11 09:13:12.1±0.4, 10.56N±0.05×125.85E±0.06, h75^{km}, n40, $\sigma 1^{s}06$/40, mb4.2/20, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.85	205	eS	S	09 13 39.8	-2.3
MSLP	Maasin	1.06	246	eS	S	09 13 47.9	+1.3
BUTP	Butuan	1.60	188	eP	P	09 13 38.3	-0.8
BUTP				eS	S	09 14 04.3	+5.3
LLP	Lapu-Lapu	1.87	263	eS	P	09 13 41.0	-1.6
TBP	Tagbilaran	2.14	246	eS	P	09 13 46.7	+0.3
CNP	Catarman	2.26	329	eS	S	09 14 18.1	+3.3
BIPH	Bislig	2.42	168	i S	P	09 13 51.8	+1.5
BUKP	Musuan	2.78	196	eS	S	09 14 34.2	+6.4
SNPH	Sibulan	2.85	245	⇓iP	P	09 13 56.7	+0.4
RCP	Roxas	3.20	288	eS	P	09 14 01.5	+0.1
OTRP	Odiongan	4.16	296	eS	P	09 14 16.2	+1.6
CBIJ	Chichi jima	22.53	41	P	P	09 18 01.1	-5.4
	48nm,0.3s,mb5.3,baz=225,slow=17,SNR=3.9						
KAKA	Kakadu	24.01	164	⇓iP	P	09 18 22.9	+1.9
	37nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	27.18	290	P	P	09 18 50.6	-0.1
	1.2nm,0.6s,mb3.6,baz=93,slow=8.2,SNR=6.3						
FITZ	Fitzroy Crossi	28.48	180	eP	P	09 19 02.3	-0.2
	1.6nm,0.5s,mb3.8						
FITZ	Fitzroy Crossi	28.48	180	P	P	09 19 02.7	+0.2
	2.4nm,0.6s,mb3.9,baz=204,slow=22,SNR=11						
WRA	Warramunga Arr	31.45	165	P	P	09 19 27.5	-1.2
	1.1nm,0.5s,mb3.8,baz=345,slow=9.3,SNR=13						
WB2	Warramunga Arr	31.45	165	eP	P	09 19 27.8	-1.0
ASAR	Alice Springs	34.92	167	P	P	09 19 58.9	+0.1
	1.3nm,0.4s,mb4.1,baz=348,slow=7.0,SNR=25						
ASAR				PcP	PcP	09 22 30.8	+0.6
	0.3nm,0.5s,baz=348,slow=3.2,SNR=3.9						
CTA	Charters Tower	36.49	147	P	P	09 20 11.9	-0.1
	2.8nm,0.7s,mb4.3,baz=281,slow=16,SNR=3.2						
SONM	Songino Array	40.60	340	P	P	09 20 46.3	+0.4
	0.4nm,0.4s,mb3.6,baz=161,slow=11,SNR=3.8						
STKA	Stephens Creek	44.81	161	P	P	09 21 21.5	+1.0
	2.5nm,0.5s,mb4.2,baz=349,slow=8.5,SNR=5.1						
MKAR	Makanchi Array	51.54	323	P	P	09 22 12.4	-0.1
	6.8nm,0.6s,mb4.9,baz=121,slow=8.4,SNR=30						
KURK	Kurchatov	55.59	326	eP	P	09 22 41.4	-0.8
	8.5nm,1.0s,mb4.7						
BVAR	Borovoye Array	61.19	325	P	P	09 23 20.3	-0.8
	2.3nm,0.9s,mb4.2,baz=108,slow=9.4,SNR=6.9						
BRVK	Borovoye	61.26	325	eP	P	09 23 19.8	-1.9
ZRNK	Zerenda	61.94	325	eP	P	09 23 24.9	-1.3
ZRNK				e		09 23 36.9	
URZ	Urewera	68.16	139	P	P	09 24 05.4	-1.1
	28nm,1.1s,mb5.0,baz=317,slow=2.9,SNR=4.0						
ILAR	Eielson Array	79.36	26	P	P	09 25 10.7	-0.4
	1.3nm,0.9s,mb3.8,baz=238,slow=5.2,SNR=12						
ARCES	ARCESS Array B	83.78	340	P	P	09 25 34.3	+0.4
	0.7nm,0.5s,mb3.8,baz=85,slow=7.6,SNR=5.9						
INK	Inuvik	84.17	22	P	P	09 25 37.1	+1.3
	1.1nm,0.6s,mb3.9,baz=294,slow=3.7,SNR=6.0						
INK	Inuvik	84.17	22	eP	P	09 25 37.5	+1.7
KAF	Kangasniemi	85.18	332	ep	P	09 25 33.5	-7.5
FINES	FINESS Array B	85.44	332	P	P	09 25 42.4	+0.1
	1.3nm,0.4s,mb4.2,baz=72,slow=4.8,SNR=15						
AKASG	Malin Array Be	86.08	321	P	P	09 25 45.0	-0.7
	1.7nm,0.6s,mb4.2,baz=56,slow=5.1,SNR=4.9						
VNDA	Vanda	90.27	173	P	P	09 26 06.2	+1.1
	0.8nm,0.6s,mb4.1,baz=316,slow=5.8,SNR=8.9						
VNDA	Vanda	90.27	173	eP	P	09 26 06.6	+1.4
SBA	Scott Base	91.18	172	P	P	09 26 09.4	0.0
YKA	Yellowknife Ar	93.66	24	P	P	09 26 22.4	+1.4
	1.2nm,0.8s,mb4.2,baz=304,slow=4.8,SNR=6.1						
TXAR	Lajitas Array	117.95	49	PKP	PKPdf	09 31 53.5	+2.8
	0.1nm,0.4s,baz=346,slow=3.7,SNR=4.2						

MAN 11 09:15:28.3, 10.62N×125.73E, h1^{km}, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.87	196	⇓iP	Pg	09 15 44.8	-0.9
PLP	Palo	0.91	306	eP	Pg	09 15 46.4	0.0
PLP				eS	Sg	09 15 59.5	+0.9
MSLP	Maasin	0.98	240	eP	Pb	09 15 47.5	-0.3
MSLP				eS	Sg	09 16 04.2	+3.2
BESP	Borongan	1.01	344	eP	Pb	09 15 48.0	-0.2
OCLP	Ormoc	1.18	291	eP	Pb	09 16 09.4	+18
BUTP	Butuan	1.65	184	eP	Pn	09 15 58.9	+0.4
GUIM	Jordan	3.08	270	eP	Pn	09 16 40.8	+22

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*MAN **11** 09:31:29.8, 5.65N×127.36E, h31^{km}, mb4.6, ML3.4, MS3.3*

*IDC **11** 09:32:02.4±16.0, 5.07N×126.95E, h418^{km}±214^{km}, mb3.1/6, mb1 3.3/6, mb1mx3.1/18, Error ellipse: s-maj=76.3km s-min=26.0km az=65.0*

ISC 11 09:31:28.3±1.5, 5.5N±0.1×127.4E±0.1, h70^{km}±17^{km}, n14, $\sigma 1^{s}25$/19, mb3.7/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	1.79	322	eP	P	09 31 57.6	-0.2
MATI				eS	S	09 32 17.6	-1.8
KCP	Kidapawan	2.71	303	⇓eP	P	09 32 09.9	-0.7
KCP				i S	S	09 32 42.5	+0.3
BIPH	Bislig	2.82	339	⇑iP	P	09 32 11.9	-0.2
BIPH				i S	S	09 32 40.9	-4.2
BUKP	Musuan	3.28	315	eP	P	09 32 20.5	+1.9
BUKP				eS	S	09 32 55.0	-1.5
BUTP	Butuan	3.83	333	eP	P	09 32 26.9	+0.6
BUTP				eS	S	09 33 13.8	+3.3
IPIL	Ipil	5.28	295	eP	P	09 32 48.2	+1.9
FITZ	Fitzroy Crossi	23.55	184	eP	P	09 36 34.0	+0.7
	2.4nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	23.55	184	P	P	09 36 33.6	+0.3
	1.2nm,0.5s,mb3.5,baz=12,slow=11,SNR=9.3						
WRA	Warramunga Arr	26.23	165	P	P	09 36 59.7	+0.9
	3.3nm,0.4s,mb4.1,baz=342,slow=10,SNR=56						
WB2	Warramunga Arr	26.23	165	eP	P	09 36 59.3	+0.5
ASAR	Alice Springs	29.71	168	P	P	09 37 28.6	-1.6
	0.3nm,0.4s,mb3.3,baz=350,slow=7.6,SNR=6.0						
STKA	Stephens Creek	39.59	161	P	P	09 38 52.8	-1.8
	1.2nm,0.4s,mb4.0,baz=340,slow=9.5,SNR=9.5						
SONM	Songino Array	45.82	340	P	P	09 39 46.3	+1.3
	0.2nm,0.4s,mb3.2,baz=150,slow=12,SNR=2.2						
MKAR	Makanchi Array	56.47	324	P	P	09 41 04.7	-0.8
	0.7nm,0.4s,mb4.1,baz=115,slow=7.8,SNR=3.6						

ATH 11 09:38:41.5, 34.31N×26.39E, h11^{km}, MD3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	Khrisi	0.80	315	ePG	Pg	09 38 56.5	-1.2
NPS	Neapolis	1.15	326	ePN	Pn	09 39 03.2	-0.2
KARP	Karpathos	1.39	27	ePB	Pb	09 39 07.5	+0.5
VAM	Vamos	2.11	302	ePN	Pn	09 39 19.1	+1.9

KRSC 11 09:53:49.6±0.8, 50.11N×155.88E, h225^{km}±5^{km}, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.59	15	eP	P	09 54 18.5	-1.7
ALID	Alaid	0.79	345	eP	P	09 54 20.3	-0.7
ALID				eS	S	09 54 43.2	-2.2
PAU	Pauzhetka	1.48	23	eP	P	09 54 25.6	-0.2
PAU				eS	S	09 54 52.6	-1.1
GRL	Gorelyy	2.81	29	eP	P	09 54 39.1	+0.3
GRL				eS	S	09 55 14.5	-2.5
RUS	Russkaya	2.85	34	eP	P	09 54 39.4	0.0
RUS				eS	S	09 55 15.9	-2.1
PET	Petropavlovsk	3.39	30	eP	P	09 54 46.1	+0.5
PET				eS	S	09 55 27.2	-1.8
UGLR	Uglovaya	3.60	29	eP	P	09 54 48.9	+0.8
UGLR				eS	S	09 55 32.5	-1.0
KOK	Koryaka	3.62	27	eP	P	09 54 49.1	+0.8
KOK				eS	S	09 55 32.4	-1.4
AVH	Avacha	3.63	28	eP	P	09 54 48.6	+0.2
AVH				eS	S	09 55 31.9	-2.0
SMAR	Somma	3.64	29	eP	P	09 54 48.8	+0.2
SMAR				eS	S	09 55 32.0	-2.3
SDLR	Sedlovina	3.68	29	eP	P	09 54 48.9	-0.1
SDLR				eS	S	09 55 33.1	-2.0
NLC	Nalytchevo	3.75	34	eP	P	09 54 48.8	-1.0
NLC				eS	S	09 55 32.4	-4.2
GNL	Ganaly	3.81	19	eP	P	09 54 50.5	-0.1
GNL				eS	S	09 55 33.5	-4.4
SPN	Mys Shipunski	3.95	39	eP	P	09 54 52.3	0.0
SPN				eS	S	09 55 37.8	-3.1
MKZ	Mys Kozlova	5.72	37	i P	P	09 55 12.5	-1.8
TUMR	Tumrok	5.79	25	eP	P	09 55 14.1	-1.2
KBTR	Krutoberegovo	7.39	32	i P	P	09 55 33.6	-2.2

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*IDC **11** 10:00:03.2±1.4, 51.97S×139.41E, mb3.8/5, mb1 4.0/5, mb1mx3.9/10, MS4.2/1, Ms1 4.2/1, ms1mx3.2/18, Error ellipse: s-maj=119.0km s-min=23.8km az=81.0*

ISC 11 10:00:02.8±1.2, 52.0S±0.2×13 9E± , h10^{km}, n7, $\sigma 0^{s}53$/5, mb3.6/4, MS4.2/1, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	20.12	5	P	P	10 04 39.8	+0.3
	8.4nm,1.2s,baz=200,slow=4.0,SNR=3.3						
VNDA	Vanda	27.00	169	P	P	10 05 46.1	0.0
	0.6nm,0.8s,mb3.2,baz=316,slow=6.4,SNR=4.9						
ASAR	Alice Springs	28.55	349	P	P	10 06 00.7	0.0
	1.0nm,0.8s,mb3.6,baz=166,slow=10.0,SNR=9.7						
WRA	Warramunga Arr	32.18	351	P	P	10 06 32.3	-0.7
	0.5nm,0.5s,mb3.6,baz=174,slow=8.6,SNR=9.6						
FITZ	Fitzroy Crossi	35.48	337	P	P	10 07 01.8	+0.4
	1.3nm,0.8s,mb3.9,baz=175,slow=9.3,SNR=3.4						
PMG	Port Moresby	42.88	11	LR	LR	10 25 48.9	
	comp=Z,324nm,19.5s,MS4.2,baz=238,slow=36						
ARCES	ARCESS Array B	145.43	325	PKPbc	PKPbc	10 19 40.5	+0.6
	1.6nm,0.9s,baz=80,slow=5.5,SNR=4.2						

IDC 11 10:00:50.8±8.1, 3.08S×154.84E, mb3.9/4, mb1 4.1/6, mb1mx3.8/16, ML3.8/2, Error ellipse: s-maj=126.0km s-min=74.3km az=43.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	9.89	230	Pn	P	10 03 15.6	-1.7
	2.6nm,0.3s,baz=44,slow=4.6,SNR=8.5						
CTA	Charters Tower	18.87	206	P	P	10 05 12.0	-2.9
	0.3nm,0.3s,baz=45,slow=11,SNR=2.7						
WRA	Warramunga Arr	26.10	228	P	P	10 06 26.4	-1.9
	1.7nm,0.4s,baz=54,slow=9.9,SNR=26						
ASAR	Alice Springs	28.79	223	P	P	10 06 50.4	-2.3
	0.3nm,0.5s,baz=55,slow=8.7,SNR=7.0						
STKA	Stephens Creek	31.24	202	P	P	10 07 12.9	-1.6
	2.7nm,1.0s,baz=4.8,slow=12,SNR=3.9						
FITZ	Fitzroy Crossi	32.27	240	P	P	10 07 21.4	-2.2
	1.0nm,0.7s,baz=84,slow=10,SNR=3.5						

DJA 11 10:06:49.3±0.2, 3.82S×119.50E, h2^{km}, MD4.4/3, 5C-7D, Error ellipse: s-maj=8.7km s-min=3.0km az=65.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TANI	Tanete Lipujan	0.40	344	⇓iPn	Pn	10 06 58.6	-3.0
	36nm,0.2s						
TANI	Tanete Lipujan	0.40	344	⇑iPn	Pn	10 06 58.7	-2.9
	36nm,0.2s						
TANI	Tanete Lipujan	0.40	344	⇓iP	Pg	10 06 58.7	+1.4
TANI	Tanete Lipujan	0.40	344	⇓iP	Pg	10 06 58.7	+1.4
TANI				⇑iSn	Sn	10 07 06.6	-3.1
TANI				⇑iSn	Sn	10 07 06.6	-3.1
NINI	Niniconang	0.65	156	⇓ePn	Pn	10 07 02.4	-2.8
	524nm,0.2s						
NINI	Niniconang	0.65	156	⇓iP	Pg	10 07 02.5	+0.2
NINI				⇑iSn	Sn	10 07 12.2	-4.0
BUNI	Buntu Taipa	0.84	79	⇓iPn	Pn	10 07 05.6	-2.3
	32nm,0.2s						
BUNI	Buntu Taipa	0.84	79	⇑iP	Pg	10 07 06.1	0.0
BUNI				⇓iSn	Sn	10 07 16.9	-4.1

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*NEIC **11** 10:14:12.8±4.7, 0.75S×133.12E, h22^{km}±33^{km}, mb4.6/15, Error ellipse: s-maj=20.0km s-min=9.4km az=75.0*

*IDC **11** 10:14:13.4±4.0, 0.73S×133.24E, h29^{km}±28^{km}, mb4.1/9, mb1 4.3/11, mb1mx4.2/18, ML4.5/2, MS3.9/8, Ms1 3.9/8, ms1mx3.5/19, Error ellipse: s-maj=40.0km s-min=12.5km az=79.0*

ISC 11 10:14:13.1±2.8, 0.91S±0.05×132.9E±0.2, h36^{km}±25^{km}, n36, $\sigma 1^{s}31$/38, mb4.4/19, MS4.0/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.73	182	eP	P	10 17 00.7	-0.3
	36nm,0.6s						
KAKA				eS	S	10 19 07.8	-3.9
FITZ	Fitzroy Crossi	18.52	202	eP	P	10 18 28.8	0.0
	16nm,0.8s						
FITZ				eS	S	10 21 45.2	-5.5
FITZ	Fitzroy Crossi	18.52	202	P	P	10 18 29.2	+0.4
	1.5nm,0.3s,baz=26,slow=10,SNR=20						
FITZ				S	S	10 21 48.6	-2.0
	1.2nm,0.3s,baz=184,slow=17,SNR=6.0						
FITZ				LR	LR	10 25 59.1	
	comp=Z,134nm,20.7s,baz=58,slow=38						
WRA	Warramunga Arr	18.97	176	P	P	10 18 33.9	-0.4
	1.1nm,0.3s,baz=355,slow=12,SNR=64						
WRA				S	S	10 21 58.9	-2.0
	0.5nm,0.3s,baz=353,slow=22,SNR=5.8						
WB2	Warramunga Arr	18.97	176	eP	P	10 18 33.6	-0.7
WB2				eS	S	10 21 58.9	-2.0
ASAR	Alice Springs	22.65	178	P	P	10 19 14.2	+1.7
	52nm,1.1s,mb4.9,baz=3.9,slow=9.8,SNR=89						
ASAR				S	S	10 23 22.5	+9.1
	3.1nm,0.9s,slow=22,SNR=5.6						
ASPA	Alice Springs	22.65	178	eP	P	10 19 14.1	+1.6
ASPA				eS	S	10 23 22.3	+8.9
CTA	Charters Tower	23.11	146	eP	P	10 19 19.3	+2.2
	9.1nm,1.0s,mb4.2						
CTA	Charters Tower	23.11	146	P	P	10 19 17.4	+0.4
	15nm,1.0s,mb4.3,baz=335,slow=7.7,SNR=7.5						
CTA				LR	LR	10 29 38.4	
	comp=Z,701nm,18.4s,MS4.2,baz=96,slow=40						
CTAO	Charters Tower	23.11	146	eP	P	10 19 18.5	+1.4
	19nm,1.1s,mb4.4						
STKA	Stephens Creek	31.88	166	eP	P	10 20 37.3	-0.1
	3.3nm,0.6s,mb4.3						
STKA	Stephens Creek	31.88	166	P	P	10 20 36.8	-0.6
	3.8nm,0.5s,mb4.5,baz=335,slow=9.5,SNR=8.4						
STKA				LR	LR	10 35 35.9	
	comp=Z,363nm,18.8s,MS4.1,baz=125,slow=40						
KLBR	Kellerberrin	33.71	204	eP	P	10 20 55.8	+2.5
	29nm,1.0s,mb5.2						
BJT	Baijiatuau	43.50	341	eP	P	10 22 14.6	-0.4
	5.1nm,0.6s,mb4.4						
BJI	Beijing	43.52	341	P	P	10 22 14.5	-0.7
	13nm,1.3s,mb4.5						
BJI				sP	sP	10 22 43.5	+14
BJI				S	S	10 28 53.4	+12
BJI				LR	LR		
	comp=Z,70nm,21.4s,MS3.5						
SONM	Songino Array	53.75	338	P	P	10 23 34.1	-0.1
	comp=Z,0.9nm,0.9s,mb3.7,baz=166,slow=5.1,SNR=7.5						
MKAR	Makanchi Array	64.87	324	P	P	10 24 50.1	-0.9
	comp=Z,1.8nm,0.6s,mb4.3,baz=113,slow=8.1,SNR=11						
KURK	Kurchatov	68.96	326	eP	P	10 25 16.6	-0.1
	comp=Z,12nm,1.2s,mb4.7						
BVAR	Borovoye Array	74.56	326	P	P	10 25 49.9	-0.1
	comp=Z,3.5nm,0.8s,mb4.3,baz=101,slow=7.6,SNR=9.6						
BRVK	Borovoye	74.63	326	eP	P	10 25 50.1	-0.3
	comp=Z,4.5nm,0.8s,mb4.5						
ZRNK	Zerenda	75.30	326	eP	P	10 25 54.6	+0.3
	comp=Z,4.8nm,0.9s,mb4.4						
VNDA	Vanda	78.13	174	P	P	10 26 10.8	+1.0
	comp=Z,1.1nm,0.8s,mb3.9,baz=312,slow=4.5,SNR=8.0						
VNDA				LR	LR	11 00 50.2	
	comp=Z,94nm,18.9s,MS4.1,baz=324,slow=36						
VNDA	Vanda	78.13	174	eP	P	10 26 11.1	+1.3
	comp=Z,4.2nm,1.2s,mb4.2						
VNDA				LR	LR	11 00 50.2	
SBA	Scott Base	78.97	173	eP	P	10 26 16.3	+1.8
	comp=Z,15nm,1.6s,mb4.7						
MAW	Mawson	81.64	201	P	P	10 26 30.2	+1.5
	comp=Z,1.7nm,0.9s,mb4.0,baz=42,slow=2.6,SNR=4.5						
MAW				LR	LR	11 01 05.7	
	comp=Z,108nm,18.4s,MS4.2,baz=53,slow=34						
PMR	Palmer	85.08	28	eP	P	10 26 47.1	+0.8
	comp=Z,5.0nm,0.7s,mb4.8						
SML	Sawmill	85.49	28	eP	P	10 26 45.4	-2.9
MCK	McKinley	85.58	26	eP	P	10 26 47.0	-1.7
	comp=Z,1.9nm,0.7s,mb4.4						
ILAR	Eielson Array	86.64	25	P	P	10 26 51.2	-2.7
	comp=Z,0.8nm,0.9s,mb4.0,baz=254,slow=5.2,SNR=8.9						
QSPA	South Pole Qui	89.03	180	eP	P	10 27 06.8	+1.7
	comp=Z,5.4nm,1.0s,mb4.8						
QSPA				eP		10 27 07.0	
GNI	Garni	89.16	310	LR	LR	11 13 53.0	
	comp=Z,22nm,19.6s,MS3.6,baz=172,slow=40						
VIB	Van Inlet	93.46	37	T		12 10 54.5	
	SNR=5.0						
ARCES	ARCESS Array B	96.88	340	LR	LR	11 17 35.8	
	comp=Z,39nm,21.7s,MS3.9,baz=181,slow=39						
FINES	FINESS Array B	98.79	332	LR	LR	11 15 10.1	
	comp=Z,46nm,19.3s,MS4.0,baz=12,slow=37						
CPUP	Villa Florida	151.18	161	PKPbc	PKPdf	10 34 05.0	+7.6
	comp=Z,3.5nm,1.1s,baz=238,slow=1.2,SNR=4.1						
LPAZ	La Paz	153.12	130	PKPbc	PKPdf	10 34 09.7	+9.2
	comp=Z,0.7nm,0.8s,baz=225,slow=5.7,SNR=2.4						

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*NEIC **11** 10:53:56.8±4.8, 10.37S×124.32E, h50^{km}±54^{km}, Error ellipse: s-maj=56.3km s-min=25.4km az=202.0*

*IDC **11** 10:54:02.7±8.9, 10.84S×124.08E, h121^{km}±103^{km}, mb3.9/1, mb1 3.3/4, mb1mx3.1/13, ML3.1/3, Error ellipse: s-maj=77.6km s-min=46.5km az=25.0*

ISC 11 10:53:56.3±3.3, 10.6S±0.2×124.2E±0.2, h66^{km}±37^{km}, n5, $\sigma 0^{s}95$/9, mb4.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	7.63	169	eP	P	10 55 47.4	+0.3
	2.5nm,0.7s						
FITZ				eS	S	10 57 12.5	-0.4
FITZ	Fitzroy Crossi	7.63	169	P	P	10 55 47.5	+0.4
	0.3nm,0.3s,baz=357,slow=9.7,SNR=17						
FITZ				S	S	10 57 11.5	-1.4
	0.5nm,0.3s,baz=202,slow=3.7,SNR=9.4						
WRA	Warramunga Arr	13.54	135	P	P	10 57 06.7	-0.3
	0.1nm,0.3s,baz=305,slow=14,SNR=7.4						
WRA				S	S	10 59 34.9	-1.3
	0.1nm,0.3s,baz=305,slow=24,SNR=5.1						
ASAR	Alice Springs	16.01	146	P	P	10 57 40.0	+1.2
	0.1nm,0.3s,baz=315,slow=12,SNR=11						
ASAR				S	S	11 00 35.2	+1.3
	baz=320,slow=22,SNR=5.2						
MKAR	Makanchi Array	68.23	330	P	P	11 04 51.5	-0.5
	1.8nm,0.6s,mb4.0,baz=135,slow=7.5,SNR=18						

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*WAR **11** 11:04:29.8, 51.45N×16.16E, ML2.7, Mining Induced*

*PRU **11** 11:04:30.3, 51.38N×16.19E*

ISC 11 11:04:26.4±1.3, 51.48N±0.06×16.18E±0.05, n9, $\sigma 1^{s}22$/18, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.64	174	ePG	Pg	11 04 41.0	+1.9
KSP				eSG	Sg	11 04 49.0	+1.3
DPC	Dobruska-Polom	1.13	175	ePG	Pg	11 04 49.8	+0.8
DPC				eSG	Sg	11 05 04.4	+0.3
	18nm,0.4s						
PVCC	Panska Ves	1.39	228	ePG	Pg	11 04 55.2	+1.0
PVCC				eSG	Sg	11 05 13.6	+0.9
PRU	Pruhonice	1.82	216	PG	Pg	11 05 02.1	-0.6
PRU				SG	Sg	11 05 25.4	-1.5
	22nm,0.3s						
CLL	Collm	2.00	266	e	Pn	11 05 10.0	+8.3
CLL				eSG	Sg	11 05 33.0	+0.1
OKC	Ostrava-Krasne	2.06	142	eSG	Sg	11 05 33.7	-1.4
OJC	Ojcow	2.62	117	ePG	Pg	11 05 18.0	-0.6
OJC				eSG	Sg	11 05 53.0	-0.5
NKC	Novy Kostel	2.67	244	eSG	Sg	11 05 54.2	-1.2
KHC	Kasperske Hory	2.88	216	ePN	Pn	11 05 16.7	+2.3
KHC				ePG	Pg	11 05 21.7	-2.2
KHC				eSN	Sn	11 05 50.0	-0.2
KHC				eSG	Sg	11 05 58.5	-3.8

IDC 11 11:47:31.4±3.3, 30.04N×67.14E, mb3.5/4, mb1 3.8/4, mb1mx3.4/21, MS3.4/2, Ms1 3.5/2, ms1mx2.7/15, Error ellipse: s-maj=115.0km s-min=36.8km az=81.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	20.45	31	P	P	11 52 10.3	-2.8
	0.6nm,0.4s,baz=213,slow=9.9,SNR=5.7						
BVAR	Borovoye Array	23.09	5	P	P	11 52 39.4	-0.1
	0.9nm,0.6s,baz=180,slow=10,SNR=6.5						
FINES	FINESS Array B	41.33	331	LR	LR	12 16 08.4	
	comp=Z,63nm,19.1s,baz=125,slow=42						
NOA	NORSAR Array B	47.81	327	LR	LR	12 19 25.2	

	comp=Z,35nm,18.1s,baz=225,slow=40						
ILAR	Eielson Array	81.84	14	P	P	11 59 51.3	-1.9
	0.8nm,1.2s,baz=334,slow=4.2,SNR=4.3						
ASAR	Alice Springs	83.41	122	P	P	12 00 01.2	-0.9
	0.3nm,0.6s,baz=313,slow=5.3,SNR=4.7						

IDC 11 12:01:31.1±1.6, 19.63S×172.99W, mb3.9/4, mb1 4.1/5, mb1mx3.9/18, ML4.3/1, Error ellipse: s-maj=71.1km s-min=28.7km az=165.0

ISC 11 12:01:33.6±0.9, 20.0S±0.4×172.83W±0.08, h33^{km}, n5, σ0^s.69/6, mb3.9/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	12.28	98	Pn	P	12 04 29.5	+0.5
	1.8nm,0.3s,baz=273,slow=11,SNR=10						
RAR				Sn	S	12 06 45.4	-0.3
	0.4nm,0.3s,baz=219,slow=22,SNR=1.8						
CTA	Charters Tower	38.37	263	P	P	12 08 53.0	-0.6
	1.9nm,0.6s,mb4.0,baz=93,slow=11,SNR=3.0						
ASAR	Alice Springs	49.34	256	P	P	12 10 22.8	+0.8
	3.7nm,1.2s,mb4.3,baz=92,slow=7.6,SNR=8.5						
WRA	Warramunga Arr	49.47	261	P	P	12 10 22.6	-0.4
	0.5nm,0.3s,mb4.0,baz=97,slow=6.9,SNR=7.8						
ILAR	Eielson Array	86.87	11	P	P	12 14 15.7	0.0
	0.2nm,0.7s,mb3.4,baz=224,slow=5.5,SNR=5.3						

BJI 11 12:30:01.0, 17.70N×61.50W, h29^{km}, mB4.5, Ms4.8, Msz4.5
TRN 11 12:30:03.5, 17.60N×61.58W, h11^{km}, MD4.4
NEIC 11 12:30:03.8±0.2, 17.69N×61.51W, mb4.6/28, Error ellipse: s-maj=5.9km s-min=4.5km az=79.0
IDC 11 12:30:06.2±1.1, 17.67N×61.53W, h50^{km}±11^{km}, mb4.2/23, mb1 4.3/24, mb1mx4.3/29, ML4.8/2, MS4.1/20, Ms1 4.1/20, ms1mx4.1/23, Error ellipse: s-maj=11.4km s-min=7.2km az=46.0

ISC 11 12:30:02.4±0.2, 17.86N±0.02×61.43W±0.03, h29^{km}, h29^{km}±1.1^{km}:pP-P, n122, σ0^s.99/122, mb4.5/47, MS4.2/23, 4C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	Codrington	0.44	240	⇑*i*P	Pb	12 30 11.5	-0.4
CPB				*e*S	Sb	12 30 15.5	-2.9
BPA	Boggy Peak	0.91	207	⇑*i*P	Pn	12 30 17.4	-1.9
BPA				*e*S	Sb	12 30 27.1	-4.2
NVRH	Round Hill, Ne	1.31	239	*e*P	Pn	12 30 25.6	+0.6
NVRH				*e*S	Sn	12 30 43.0	+1.4
SKI	Saint Kitts	1.36	247	⇓*i*P	Pn	12 30 26.3	+0.6
SKI				*e*S	Sn	12 30 44.2	+1.4
STAT	Sint Eustatius	1.52	256	⇑*e*P	Pn	12 30 29.5	+1.4
STAT				*e*S	Sn	12 30 48.4	+1.3
DEG	La Desirade	1.58	167	*e*P	Pn	12 30 28.1	-0.8
DEG				*e*S	Sn	12 30 47.5	-1.0
SFG	Saint Francois	1.61	172	*e*P	Pn	12 30 29.1	-0.3
SABT	Saba	1.75	262	*e*P	Pn	12 30 32.3	+1.0
MGG	Marie-Galante	1.94	177	*e*P	Pn	12 30 34.5	+0.5
DWS	Wesley	2.28	177	*e*P	Pn	12 30 41.4	+2.5
DWS				*e*S	Sn	12 31 06.2	-0.1
BBL	Barber's Block	2.32	181	*e*P	Pn	12 30 39.6	+0.1
BBL	Barber's Block	2.32	181	*e*P	Pn	12 30 40.3	+0.7
BBL				*e*S	Sn	12 31 13.0	+5.6
MDN	Morne-Daniel	2.53	179	*e*P	Pn	12 30 43.6	+1.1
MDN				*e*S	Sn	12 31 13.0	+0.4
DBCT	Belle View Cho	2.58	178	*e*P	Pn	12 30 45.0	+1.8
DPMT	Pointe Michel	2.59	179	*e*	Pn	12 30 45.8	+2.5
DSTT	Stowe	2.60	177	*e*P	Pn	12 30 45.3	+1.8
DSTT				*e*S	Sn	12 31 15.1	+0.6
FDF	Fort de France	3.12	175	*e*P	Pn	12 30 50.7	-0.2
CRM	Caravelle	3.13	171	*e*P	Pn	12 30 50.1	-0.9
MVM	Montagne Vaucl	3.33	171	⇑*e*P	Pn	12 30 53.2	-0.6
BIM	Bigot	3.34	174	*e*P	Pn	12 30 54.4	+0.3
SLW	Petit Monier	3.85	173	*e*P	Pn	12 31 00.4	-0.8
SJG	San Juan	4.50	274	P	Pn	12 31 10.2	-0.3
	120nm,0.3s,baz=111,slow=14,SNR=89						
SJG				S	Sn	12 32 01.4	-1.1
	81nm,0.3s,baz=296,slow=17,SNR=10.0						
SJG	San Juan	4.50	274	*e*P	Pn	12 31 10.2	-0.3
GRHS	Sauteurs	5.61	182	*e*P	Pn	12 31 27.2	+1.1
GRW	Mount Saint Ca	5.67	182	*e*P	Pn	12 31 26.5	-0.5
TRN	Trinidad (W)	7.17	180	*e*P	Pn	12 31 48.5	+0.4
TPP	Pointe-a-Pierr	7.50	180	*e*P	Pn	12 31 52.4	-0.3
SDV	Santo Domingo	12.64	226	*e*P	P	12 33 01.0	-2.2
	53nm,1.3s						
ROSC	El Rosal	18.07	226	P	P	12 34 12.4	-0.9
	2.4nm,0.3s,baz=290,slow=13,SNR=15						
ROSC				S	S	12 37 33.8	+3.0
	1.2nm,0.3s,baz=71,slow=23,SNR=2.2						
JTS	JuntasAbangare	24.01	255	P	P	12 35 15.3	-0.6
	3.0nm,0.4s,mb4.1,baz=101,slow=21,SNR=2.3						
JTS				LR	LR	12 43 34.9	
	comp=Z,353nm,20.4s,MS3.8,baz=304,slow=34						
OTAV	Otavalo	24.23	226	*e*P	P	12 35 17.4	-0.7
	16nm,0.8s,mb4.5						
BLA	Blacksburg	25.51	323	*e*P	P	12 35 30.9	+0.8
	41nm,1.2s,mb4.8						
PWV	Princeton	25.95	322	*e*P	P	12 35 35.3	+1.0
SAML	Samuel	26.69	184	*e*P	P	12 35 38.0	-3.2
	14nm,0.7s,mb4.6						
LRAL	Lakeview Retre	27.49	308	*e*P	P	12 35 47.4	-1.0
SADO	Sadowa	30.66	335	P	P	12 36 16.6	0.0
	13nm,0.8s,mb4.8,baz=140,slow=8.3,SNR=6.5						
CCM	Cathedral Cave	32.92	314	*e*P	P	12 36 35.6	-0.9
	4.3nm,0.6s,mb4.6						
HKT	Hockley	33.55	297	*e*P	P	12 36 41.4	-0.7
LPAZ	La Paz	34.57	191	P	P	12 36 47.5	-3.5
	1.7nm,0.8s,mb4.1,baz=14,slow=10,SNR=6.5						
LPAZ				LR	LR	12 51 47.9	
	comp=Z,277nm,22.0s,MS4.0,baz=197,slow=38						
LPAZ	La Paz	34.57	191	*e*P	P	12 36 47.7	-3.2
	3.2nm,0.9s,mb4.2						
BDFB	Brasilia	35.82	158	P	P	12 37 01.4	-0.2
	1.4nm,0.4s,mb4.2,baz=200,slow=5.3,SNR=3.5						
BDFB				LR	LR	12 51 14.9	
	comp=Z,345nm,18.0s,MS4.2,baz=331,slow=36						
JCT	Junction City	37.02	297	*e*P	P	12 37 10.4	-1.2
	41nm,1.1s,mb5.2						
JCT				*e*pP	pP	12 37 19.5	-0.8
SCHQ	Schefferville	37.13	355	P	P	12 37 14.2	+1.9
	2.2nm,0.6s,mb4.2,baz=182,slow=7.3,SNR=4.0						
SCHQ				LR	LR	12 51 03.8	
	comp=Z,176nm,20.7s,MS3.8,baz=179,slow=34						
CBKS	Cedar Bluff	39.27	310	*e*P	P	12 37 29.9	-0.5
	14nm,0.8s,mb4.8						
LTX	Lajitas	40.16	294	*e*P	P	12 37 38.9	+1.2
	2.4nm,0.4s,mb4.3						
TXAR	Lajitas Array	40.16	294	P	P	12 37 37.1	-0.6
	1.1nm,0.4s,mb3.9,baz=318,slow=32,SNR=11						
TXAR				PcP	PcP	12 39 41.9	-0.5
	1.1nm,0.7s,baz=121,slow=5.3,SNR=3.2						
TXAR				LR	LR	12 59 45.6	
	comp=Z,60nm,18.1s,MS3.5,baz=100,slow=44						
CLNB	Carlsbad	40.77	299	*e*P	P	12 37 42.1	-0.7
LVC	Limon Verde	40.88	191	P	P	12 37 40.4	-3.4
	6.1nm,0.8s,mb4.3,baz=333,slow=5.0,SNR=7.4						
LVC	Limon Verde	40.88	191	*e*P	P	12 37 40.0	-3.8
	6.8nm,0.8s,mb4.3						
ULM	Lac du Bonnet	42.44	327	P	P	12 37 56.5	+0.2
	7.3nm,0.6s,mb4.5,baz=129,slow=8.6,SNR=14						
ULM				LR	LR	12 55 01.9	
	comp=Z,282nm,19.6s,MS4.2,baz=120,slow=35						
ULM	Lac du Bonnet	42.44	327	*e*P	P	12 37 56.0	-0.3
	7.2nm,0.6s,mb4.5						
SDCO	Great Sand Dun	43.26	306	*e*P	P	12 38 03.1	-0.1
	7.9nm,1.1s,mb4.4						
BNM	Barren Site	43.38	301	*e*P	P	12 38 04.6	+0.5
ANMO	Albuquerque	43.39	302	*e*P	P	12 38 04.3	+0.1
	2.0nm,0.6s,mb4.0						
ANMO				*e*pP	pP	12 38 11.4	-1.6
LPM	Los Pinos Moun	43.41	301	*e*P	P	12 38 04.5	+0.1
LENM	Lemitar	43.66	301	*e*P	P	12 38 06.5	+0.1
CPUP	Villa Florida	44.11	175	P	P	12 38 07.9	-2.2
	5.0nm,0.9s,mb4.3,baz=11,slow=8.3,SNR=9.1						
RW3	Ridgway	45.06	307	*e*P	P	12 38 18.3	+0.7
FRB	Frobisher Bay	46.10	356	P	P	12 38 26.8	+1.2
	18nm,0.9s,mb5.0,baz=195,slow=6.2,SNR=6.0						
TUC	Tucson	46.57	298	*e*P	P	12 38 29.6	-0.1
	20nm,1.0s,mb5.0						
LAO	LASA Array	46.66	318	*e*P	P	12 38 30.6	+0.4
	7.9nm,0.8s,mb4.7						
WUAZ	Wupatki	47.45	302	*e*P	P	12 38 37.1	+0.5
	40nm,1.5s,mb5.1						
PDAR	Pinedale Array	47.60	312	P	P	12 38 37.9	+0.2
	5.1nm,0.7s,mb4.7,baz=116,slow=8.1,SNR=52						
PDAR				LR	LR	12 58 12.6	
	comp=Z,286nm,21.6s,MS4.2,baz=127,slow=35						
BW06	Boulder Array	47.60	312	*e*P	P	12 38 37.5	-0.2
	5.5nm,0.8s,mb4.6						
FFC	Flin Flon	48.08	330	*e*P	P	12 38 40.5	-0.7
DAU	Daniels Canyon	48.24	309	*e*P	P	12 38 43.2	+0.5
JLU	Jordanelle	48.43	309	*e*P	P	12 38 44.5	+0.3
MSU	Marysvale	48.56	306	*e*P	P	12 38 45.5	+0.3
MSU				*e*pP	pP	12 38 54.3	+0.2
REDW	Red Top Meadow	48.67	312	*e*P	P	12 38 45.9	-0.1
MOOW	Moose Ponds	48.70	313	*e*P	P	12 38 46.1	-0.1
HWUT	Hardware Ranch	48.74	310	*e*P	P	12 38 46.0	-0.5
	1.8nm,0.6s,mb4.3						
TPAW	Teton Pass	48.78	313	*e*P	P	12 38 46.9	+0.1
DUG	Dugway	49.37	308	*e*P	P	12 38 51.5	+0.1
	8.0nm,1.1s,mb4.7						
QLMT	Earthquake Lak	49.48	314	*e*P	P	12 38 53.4	+1.3
BOZ	Bozeman (W)	49.84	315	*e*P	P	12 38 54.7	-0.2
	4.5nm,1.1s,mb4.4						
BOZ				*e*pP	pP	12 39 03.8	-0.2
NEN	Nelson	50.27	302	*e*P	P	12 38 58.2	-0.1
NEN				*e*pP	pP	12 39 08.0	+0.6
HRY	Holter Researc	50.29	316	*e*P	P	12 38 58.5	+0.2
MCMT	McKenzie Canyo	50.45	314	*e*P	P	12 39 00.4	+0.8
HLID	Hailey	51.24	312	*e*P	P	12 39 05.6	0.0
	4.4nm,1.1s,mb4.3						
PFO	Pinyon Flat Ob	51.43	299	*e*P	P	12 39 07.5	+0.4
BAR	Barrett	51.56	298	*e*P	P	12 39 07.7	-0.5
MNV	Mina	53.20	305	*e*P	P	12 39 20.0	-0.3
	12nm,1.2s,mb4.7						
MNV				*e*pP	pP	12 39 30.0	+0.6
NVAR	Mina Array Bea	53.31	305	P	P	12 39 20.9	-0.3
	2.6nm,0.7s,mb4.3,baz=87,slow=7.6,SNR=20						
NVAR				LR	LR	13 01 49.8	
	comp=Z,264nm,21.8s,MS4.2,baz=210,slow=36						
OMM	Old Mammoth Mi	53.78	304	*e*P	P	12 39 24.9	+0.2
ESDC	Sonseca Array	53.90	54	LR	LR	12 57 10.0	
	comp=Z,152nm,20.3s,MS4.0,baz=270,slow=30						
NEW	Newport	54.16	317	P	P	12 39 26.9	-0.3
	7.7nm,0.7s,mb4.7,baz=112,slow=6.2,SNR=13						
NEW	Newport	54.16	317	*e*P	P	12 39 26.5	-0.8
	14nm,1.0s,mb4.8						
LNOR	Lincton Mounta	54.42	314	*e*P	P	12 39 28.4	-0.8
CMB	Columbia Colle	54.91	304	*e*P	P	12 39 32.6	-0.4
	1.7nm,0.7s,mb4.2						
DBIC	Dimbokro	56.20	94	P	P	12 39 42.0	-0.5
	9.3nm,0.9s,mb4.8,baz=274,slow=7.9,SNR=7.1						
DBIC				LR	LR	12 58 54.1	
	comp=Z,442nm,20.8s,MS4.5,baz=222,slow=31						
SUMG	Summit	56.30	8	*e*P	P	12 39 43.2	+0.7
	7.3nm,0.9s,mb4.7						
YBH	Yreka Blue Hor	57.00	308	P	P	12 39 46.1	-1.8
	1.3nm,0.6s,mb4.2,baz=141,slow=14,SNR=4.5						
YKA	Yellowknife Ar	57.66	334	P	P	12 39 51.3	-0.9
	7.1nm,0.7s,mb4.8,baz=107,slow=7.4,SNR=34						
YKA				LR	LR	13 03 26.5	
	comp=Z,262nm,21.7s,MS4.3,baz=110,slow=35						
YKW3	Yellowknife Ar	57.69	334	*e*P	P	12 39 51.2	-1.3
YKW3				*e*pP	pP	12 40 00.0	-1.5
PLCA	Paso Flores	58.91	188	P	P	12 39 58.5	-2.8
	3.1nm,0.8s,mb4.4,baz=8.7,slow=8.7,SNR=7.6						
PLCA				LR	LR	13 04 46.7	
	comp=Z,140nm,20.6s,MS4.1,baz=28,slow=35						
DLBC	Dease Lake	63.77	327	*e*P	P	12 40 33.9	+0.1
MOX	Moxa	65.67	42	*e*P	P	12 40 42.0	-4.2
MOX				S	S	12 49 57.0	+28
MOX				L		13 05 02.0	
NB2	NORSAR Subarra	66.14	31	P	P	12 40 50.4	+1.4
	1.0nm,0.8s,mb3.9,baz=266,slow=6.2						
NOA	NORSAR Array B	66.14	31	P	P	12 40 50.1	+1.1
	2.3nm,0.9s,mb4.2,baz=264,slow=6.5,SNR=5.1						
NOA				LR	LR	13 04 17.4	
	comp=Z,214nm,21.4s,MS4.3,baz=275,slow=31						
INK	Inuvik	66.93	337	*e*P	P	12 40 53.0	-1.0
	17nm,1.2s,mb5.0						
DAWY	Dawson	68.83	333	*e*P	P	12 41 06.0	+0.1
ILAR	Eielson Array	72.08	333	P	P	12 41 25.4	-0.2
	4.5nm,0.7s,mb4.5,baz=105,slow=4.5,SNR=53						
ILAR				LR	LR	13 15 27.2	
	comp=Z,124nm,18.2s,MS4.2,baz=108,slow=38						
ARCES	ARCESS Array B	72.34	22	P	P	12 41 28.1	+1.0
	3.7nm,0.8s,mb4.3,baz=292,slow=6.5,SNR=6.5						
ARCES				LR	LR	13 06 04.4	
	comp=Z,68nm,21.7s,MS3.9,baz=278,slow=30						
COLA	College	72.48	333	*e*P	P	12 41 27.5	-0.5
	11nm,1.2s,mb4.7						
USHA	Ushuaia	72.64	184	P	P	12 41 27.5	-1.6
	5.7nm,0.8s,mb4.5,baz=352,slow=11,SNR=2.6						
FINES	FINESS Array B	73.31	30	P	P	12 41 33.9	+1.1
	2.5nm,0.8s,mb4.2,baz=270,slow=5.7,SNR=5.6						
FINES				LR	LR	13 08 49.1	
	comp=Z,162nm,20.3s,MS4.3,baz=176,slow=32						
FINES	FINESS Array B	73.31	30	P	P	12 41 33.9	+1.1
FINES				LR	LR	13 08 49.1	
KAF	Kangasniemi	73.34	29	*e*p	P	12 41 33.6	+0.6
	0.4nm,0.3s,mb3.8						
IMA	Indian Mountai	74.75	335	*e*P	P	12 41 40.7	-0.4
	40nm,1.3s,mb5.2						
SPU	Mount Spurr	74.83	330	*e*P	P	12 41 41.2	-0.5
AKASG	Malin Array Be	76.80	41	LR	LR	13 12 42.1	
	comp=Z,188nm,20.0s,MS4.4,baz=275,slow=33						
BRTR	Keskin Array B	82.58	51	P	P	12 42 26.8	+2.5
	0.6nm,0.4s,mb4.0,baz=270,slow=5.8,SNR=2.8						
BRTR				LR	LR	13 16 15.9	
	comp=Z,110nm,20.0s,MS4.2,baz=280,slow=34						
GNI	Garni	90.43	47	LR	LR	13 24 02.3	
	comp=Z,54nm,18.9s,MS4.0,baz=149,slow=36						
KMBO	Kilima Mbogo	98.61	88	LR	LR	13 25 24.8	
	comp=Z,252nm,18.8s,MS4.7,baz=277,slow=34						
WMQ	Urumqi	112.42	24	*e*PKP	PKPdf	12 48 32.2	-8.5
WMQ				XPKP		12 48 46.7	
WMQ				LR	LR		
	comp=N,61nm,20.2s,MS4.3						
WMQ				LR	LR		
	comp=E,62nm,19.1s,MS4.3						
CN2	Changchun	118.32	354	*e*PKP	PKPdf	12 48 45.9	-6.4
LZH	Lanzhou	124.57	14	*e*PKP	PKPdf	12 48 57.8	-6.8
LZH				LR	LR		
	comp=N,215nm,18.0s						
LZH				LR	LR		
	comp=Z,257nm,20.0s,MS4.9						
NJ2	Nanjing	130.37	360	*e*PKP	PKPdf	12 49 09.3	-6.6
KMI	Kunming	134.58	20	*e*PKP	PKPdf	12 49 16.7	-7.3
KMI				LR	LR		
	comp=Z,90nm,21.5s,MS4.5						
ARMA	Armidale	147.47	241	*e*P	PKPdf	12 49 46.4	-0.2
ASAR	Alice Springs	164.55	245	PKP	PKPdf	12 50 04.4	-4.5
	comp=Z,0.9nm,0.9s,baz=180,slow=2.9,SNR=5.9						
ASAR				PKPab	PKPab	12 50 59.6	-1.4
	comp=Z,1.9nm,0.8s,baz=111,slow=4.4,SNR=12						
WRA	Warramunga Arr	164.94	260	PKP	PKPdf	12 50 05.4	-3.9
	comp=Z,0.8nm,0.9s,baz=47,slow=0.5,SNR=4.9						
WRA				PKPab	PKPab	12 51 01.0	-1.7
	comp=Z,0.7nm,0.8s,baz=104,slow=4.9,SNR=5.1						

IDC 11 12:30:18.2±7.1, 17.40S×175.13W, h213^{km}±69^{km}, mb3.6/5, mb1 3.8/6, mb1mx3.5/16, Error ellipse: s-maj=56.2km s-min=20.2km az=160.0
NEIC 11 12:30:18.4±4.0, 17.40S×175.15W, h217^{km}±39^{km}, mb4.4/1, Error ellipse: s-maj=39.0km s-min=14.2km az=159.0

ISC 11 12:30:17.1±1.0, 17.4S±0.3×175.2W±0.1, h217^{km}, n11, σ0^s.38/7, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	15.03	107	P	P	12 33 40.0	-0.1
	0.2nm,0.3s,baz=202,slow=4.1,SNR=3.6						
STKA	Stephens Creek	41.59	241	P	P	12 37 45.4	0.0
	2.7nm,0.7s,mb3.8,baz=61,slow=9.6,SNR=4.8						
STKA	Stephens Creek	41.59	241	*e*P	P	12 37 44.5	-0.9
WRA	Warramunga Arr	47.77	259	P	P	12 38 34.1	-0.3
	1.4nm,0.7s,mb3.4,baz=96,slow=7.0,SNR=19						
ASAR	Alice Springs	47.91	254	P	P	12 38 36.0	+0.5
	9.1nm,0.7s,mb4.2,baz=88,slow=8.5,SNR=120						
NVAR	Mina Array Bea	76.93	42	P	P	12 41 47.2	0.0
	0.8nm,0.8s,mb3.4,baz=203,slow=6.9,SNR=2.9						
MAW	Mawson	85.38	199	P	P	12 42 31.0	+0.4
	1.1nm,0.7s,mb3.7,baz=123,slow=3.2,SNR=3.3						
BRTR	Keskin Array B	146.54	318	PKPbc	PKPbc	12 49 35.0	+2.4
	0.8nm,0.7s,baz=72,slow=4.6,SNR=3.9						
GERES	GERESS Array B	147.80	349	PKPbc	PKPdf	12 49 37.2	+4.4
	0.3nm,0.4s,baz=333,slow=2.2,SNR=4.6						
DAVOX	Davos	150.39	353	PKPbc	PKPdf	12 49 44.2	+7.2
	0.7nm,0.3s,baz=334,slow=21,SNR=3.6						
DAVOX	Davos	150.39	353	PKPbc	PKPdf	12 49 44.2	+7.2

TRN 11 12:39:22.5, 17.58N×61.61W, h25^{km}, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	Codrington	0.21	286	⇑*i*P	Pb	12 39 29.8	+1.5
CPB				*e*S	Sb	12 39 34.7	+2.5
BPA	Boggy Peak	0.58	204	*e*P	Pb	12 39 35.5	+1.5
BPA				*e*S	Sb	12 39 46.2	+4.4
SKI	Saint Kitts	1.10	257	*e*P	Pn	12 39 43.4	+0.8
SKI				*e*S	Sb	12 40 00.0	+3.2
MGG	Marie-Galante	1.68	170	*e*P	Pn	12 39 52.5	+1.7

IDC 11 12:50:39.0±18.0, 8.68S×111.18E, h213^{km}±189^{km}, mb3.1/4, mb1 3.3/4, mb1mx3.1/14, Error ellipse: s-maj=109.0km s-min=35.9km az=54.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	16.89	125	P	P	12 54 22.0	-2.7
FITZ				S	S	12 57 09.0	-15
WRA	Warramunga Arr	25.05	119	P	P	12 55 43.8	-1.8
	1.0nm,0.5s,baz=291,slow=12,SNR=18						
ASAR	Alice Springs	26.37	127	P	P	12 55 56.2	-1.4
	0.8nm,0.6s,baz=303,slow=8.0,SNR=9.2						
SONM	Songino Array	56.42	356	P	P	12 59 57.9	-2.6
	0.1nm,0.3s,baz=178,slow=8.2,SNR=3.6						
MKAR	Makanchi Array	60.93	338	P	P	13 00 29.7	-1.8
	0.6nm,0.4s,baz=150,slow=7.6,SNR=8.6						

IDC 11 13:34:34.5±2.2, 17.00S×176.09W, mb3.9/7, mb1 4.2/7, mb1mx4.0/15, MS3.8/13, Ms1 3.8/13, ms1mx3.7/25, Error ellipse: s-maj=137.0km s-min=22.9km az=146.0

ISC 11 13:34:45.8±1.7, 17.0S±0.7×176.3W±0.5, h100^{km}, n16, σ1^s.07/7, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	16.15	108	LR	LR	13 43 07.7	
	comp=Z,265nm,22.0s,baz=314,slow=32						
URZ	Urewera	22.02	194	LR	LR	13 47 08.0	
	comp=Z,229nm,19.6s,baz=200,slow=34						
STKA	Stephens Creek	40.89	241	P	P	13 42 19.8	+0.2
	16nm,1.3s,mb4.7,baz=56,slow=3.6,SNR=4.5						
STKA				LR	LR	13 56 29.8	
	comp=Z,147nm,19.4s,baz=30,slow=32						
WRA	Warramunga Arr	46.83	258	P	P	13 43 09.4	+1.8
	0.8nm,0.9s,mb3.4,baz=89,slow=6.7,SNR=5.0						
ASAR	Alice Springs	47.03	253	P	P	13 43 07.2	-2.0
	1.5nm,0.6s,mb3.9,baz=85,slow=8.5,SNR=30						
ASAR				LR	LR	14 01 18.1	
	comp=Z,106nm,18.3s,baz=241,slow=34						
NWAO	Narrogin (SRO)	61.47	241	LR	LR	14 10 19.2	
	comp=Z,117nm,18.4s,baz=188,slow=35						
NVAR	Mina Array Bea	77.32	43	P	P	13 46 31.1	-0.1
	0.5nm,0.7s,mb3.4,baz=236,slow=6.5,SNR=3.4						
NVAR				LR	LR	14 17 20.9	
	comp=Z,38nm,18.1s,baz=25,slow=33						
TXAR	Lajitas Array	83.75	57	P	P	13 47 10.6	+5.1
	0.4nm,0.3s,mb3.8,baz=250,slow=5.1,SNR=3.1						
TXAR				LR	LR	14 16 42.0	
	comp=Z,50nm,20.2s,baz=185,slow=30						
ILAR	Eielson Array	84.51	12	P	P	13 47 08.0	-0.3
	0.6nm,0.8s,mb3.6,baz=228,slow=6.6,SNR=6.2						
ILAR				LR	LR	14 26 23.8	
	comp=Z,27nm,18.1s,baz=67,slow=37						
PDAR	Pinedale Array	85.25	43	P	P	13 47 12.9	+0.3
	0.5nm,1.0s,mb3.4,baz=211,slow=5.3,SNR=3.7						
PDAR				LR	LR	14 17 25.6	
	comp=Z,38nm,19.1s,baz=358,slow=30						
CMAR	Chiang Mai Arr	90.50	289	LR	LR	14 22 06.4	
	comp=Z,38nm,20.3s,baz=310,slow=32						
YKA	Yellowknife Ar	92.61	24	LR	LR	14 21 51.8	
	comp=Z,79nm,19.4s,baz=240,slow=31						
ULM	Lac du Bonnet	96.86	40	LR	LR	14 24 19.5	
	comp=Z,70nm,19.3s,baz=7.3,slow=31						
LVC	Limon Verde	98.80	117	LR	LR	14 24 39.5	
	comp=Z,64nm,19.8s,baz=198,slow=30						
KHC	Kasperske Hory	146.92	348	*e*P	PKPdf	13 54 16.0	+1.6
KHC						13 54 21.5	
GERES	GERESS Array B	147.16	348	PKPbc	PKPdf	13 54 21.0	+6.2
	0.3nm,0.2s,baz=45,slow=2.8,SNR=5.3						

DJA 11 13:47:03.3±1.8, 8.70S×115.92E, h34^{km}, MD5.2/4, 1C-7D, Error ellipse: s-maj=43.8km s-min=13.6km az=130.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.28	43	⇑*i*Pn	P	13 47 10.3	-0.6
KEDI				⇓*i*Sn	S	13 47 21.8	+5.5
RATI	Rata	0.38	266	⇓*i*Pn	P	13 47 19.8	+7.6
RATI				⇓*i*Sn	S	13 47 29.2	+11
INGI	Ingas	0.77	261	⇓*i*Pn	P	13 47 16.7	-1.0
	154nm,0.2s						
INGI				⇓*i*Sn	S	13 47 26.6	-1.7
KELI	Kelakatan	1.49	289	⇓*i*Pn	P	13 47 26.8	-1.2
KELI				⇓*i*Sn	S	13 47 39.1	-7.4

IDC 11 13:47:54.2±8.0, 16.76S×174.73W, h153^{km}±70^{km}, mb4.0/14, mb1 4.2/14, mb1mx4.1/19, Error ellipse: s-maj=27.8km s-min=14.6km az=140.0
NEIC 11 13:47:54.2±3.9, 16.67S×174.81W, h151^{km}±34^{km}, mb4.2/11, Error ellipse: s-maj=14.1km s-min=7.8km az=134.0

ISC 11 13:47:52.9±0.3, 16.7S±0.1×174.8W±0.1, h151^{km}, n79, σ0^s.74/38, mb4.1/24, 4C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.20	241	*e*P	P	13 55 33.0	+0.5
	7.3nm,0.9s,mb4.3						
STKA	Stephens Creek	42.20	241	P	P	13 55 32.9	+0.3
	5.9nm,0.7s,mb4.4,baz=90,slow=9.5,SNR=11						
WRA	Warramunga Arr	48.21	258	P	P	13 56 20.0	-0.3
	1.1nm,0.5s,mb3.8,baz=94,slow=6.7,SNR=6.0						
WRA				PcP	PcP	13 57 44.7	-0.8
	2.5nm,1.1s,baz=81,slow=4.1,SNR=5.4						
ASAR	Alice Springs	48.40	253	P	P	13 56 21.6	-0.1
	18nm,0.6s,mb4.9,baz=88,slow=8.4,SNR=251						
ASAR				PcP	PcP	13 57 45.4	-0.7
	1.8nm,0.7s,baz=89,slow=5.9,SNR=4.9						
ASPA	Alice Springs	48.41	253	*e*P	P	13 56 21.8	0.0
FITZ	Fitzroy Crossi	56.60	259	P	P	13 57 21.7	-0.8
	1.5nm,0.9s,mb3.8,baz=159,slow=12,SNR=5.7						
SBA	Scott Base	61.88	184	*e*P	P	13 57 57.6	-0.5
	2.1nm,0.8s,mb4.0						
VNDA	Vanda	61.97	186	P	P	13 57 57.4	-1.3
	1.2nm,0.8s,mb3.8,baz=21,slow=4.9,SNR=8.3						
QSPA	South Pole Qui	73.37	180	*e*P	P	13 59 08.2	-1.2
	4.6nm,0.9s,mb4.2						
MTUM	Tungsten Hills	75.42	43	*e*P	P	13 59 21.5	-0.4
MTUM				*e*		13 59 31.4	
YBH	Yreka Blue Hor	75.45	38	P	P	13 59 22.2	+0.2
	5.8nm,0.6s,mb4.4,baz=171,slow=1.7,SNR=11						
NVAR	Mina Array Bea	76.20	42	P	P	13 59 26.1	-0.1
	12nm,1.2s,mb4.4,baz=231,slow=11,SNR=29						
MNV	Mina	76.30	42	*e*P	P	13 59 26.1	-0.7
	9.7nm,1.4s,mb4.2						
TPH	Tonopah	76.71	43	*e*P	P	13 59 29.0	-0.1
	3.9nm,0.7s,mb4.2						
NEN	Nelson	77.01	46	*e*P	P	13 59 30.7	-0.1
WVOR	Wild Horse Val	78.29	39	*e*P	P	13 59 37.6	-0.1
	6.6nm,1.0s,mb4.2						
RMW	Rattlesnake Mo	79.54	33	*e*P	P	13 59 43.9	-0.4
PMR	Palmer	80.65	12	P	P	13 59 49.8	-0.1
	4.4nm,0.7s,mb4.2						
HLID	Hailey	81.49	40	*e*P	P	13 59 55.1	+0.4
	5.2nm,1.0s,mb4.1						
BNM	Barren Site	82.20	51	*e*P	P	13 59 59.1	+0.4
TXAR	Lajitas Array	82.47	56	P	P	13 59 60.0	-0.2
	1.1nm,0.7s,mb3.6,baz=219,slow=8.0,SNR=6.3						
MCK	McKinley	82.63	11	*e*P	P	14 00 00.1	-0.1
	3.1nm,0.7s,mb4.2						
GDL2	Guadalupe Moun	83.09	54	*e*P	P	14 00 03.6	+0.4
MCMT	McKenzie Canyo	83.11	39	*e*P	P	14 00 03.4	+0.3
DLBC	Dease Lake	83.39	22	P	P	14 00 04.5	+0.4
	3.5nm,0.9s,mb4.1,baz=213,slow=8.8,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COLA	**College**	83.87	11	*e*P	P	14 00 06.3	0.0
	8.4nm,0.8s,mb4.5						
ILAR	**Eielson Array**	83.96	12	P	P	14 00 06.5	-0.3
	1.5nm,0.5s,mb4.0,baz=230,slow=6.0,SNR=37						
QLMT	**Earthquake Lak**	83.98	40	*e*P	P	14 00 08.2	+0.8
PDAR	**Pinedale Array**	84.14	42	P	P	14 00 07.8	-0.4
	2.5nm,0.6s,mb4.1,baz=217,slow=2.8,SNR=29						
SDCO	**Great Sand Dun**	84.59	48	*e*P	P	14 00 10.1	-0.6
	1.0nm,0.7s,mb3.6						
DAWY	**Dawson**	85.00	15	*e*P	P	14 00 12.6	+0.5
MAW	**Mawson**	86.14	199	P	P	14 00 16.9	-0.6
	2.4nm,0.6s,mb4.1,baz=144,slow=7.0,SNR=7.2						
INK	**Inuvik**	89.84	14	P	P	14 00 34.3	-0.8
	2.2nm,1.0s,mb4.0,baz=249,slow=2.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	91.70	289	P	P	14 00 46.5	+1.5
	0.7nm,0.9s,mb3.7,baz=86,slow=3.3,SNR=4.7						
VNA3	**Neumayer Olymp**	91.71	175	⇑*i*	P	14 00 45.5	+1.7
VNA2	**Neumayer--Watz**	92.19	176	⇑*i*	P	14 00 48.2	+2.2
VNA1	**Neumayer--Stat**	92.40	176	⇑*i*	P	14 00 50.5	+3.5
MDZ	**Mendoza**	93.91	126	*e*P	P	14 01 00.6	+5.9
MKAR	**Makanchi Array**	110.72	314	PKiKP		14 06 07.9	
	0.7nm,0.4s,baz=203,slow=1.1,SNR=6.9						
ZRNK	**Zerenda**	118.86	322	*e*P	PKPdf	14 06 23.5	+0.3
ARCES	**ARCESS Array B**	125.67	351	PKP	PKPdf	14 06 35.7	-0.2
	2.3nm,0.7s,baz=315,slow=1.7,SNR=7.4						
ARCES	**ARCESS Array B**	125.67	351	PKP	PKPdf	14 06 35.7	-0.2
FINES	**FINESS Array B**	132.87	346	PKP	PKPdf	14 06 50.6	+0.7
	2.2nm,0.9s,baz=14,slow=5.7,SNR=4.5						
NOA	**NORSAR Array B**	135.48	356	PKP	PKPdf	14 06 57.5	+2.8
	0.7nm,0.9s,baz=322,slow=24,SNR=2.6						
KMBO	**Kilima Mbogo**	143.73	244	PKP	PKPdf	14 07 10.7	-0.1
	2.6nm,0.6s,baz=71,slow=7.8,SNR=8.4						
OJC	**Ojcow**	144.52	344	*e*PKP	PKPdf	14 07 10.1	-1.0
CLZ	**Clausthal**	144.67	354	*e*PKPbc	PKPbc	14 07 11.9	+0.6
KSP	**Ksiaz**	144.76	348	*e*PKP	PKPdf	14 07 12.0	+0.5
CLL	**Collm**	144.89	351	⇓*i*PKP1	PKPbc	14 07 12.4	+0.5
BRG	**Berggiesshubel**	145.17	350	⇑*i*P	PKPdf	14 07 13.9	+1.7
DPC	**Dobruska-Polom**	145.22	347	*e*PKP	PKPdf	14 07 14.4	+2.1
OKC	**Ostrava-Krasne**	145.29	345	*e*PKP	PKPdf	14 07 14.4	+1.9
PVCC	**Panska Ves**	145.39	349	*e*PKP	PKPdf	14 07 14.8	+2.2
MOX	**Moxa**	145.72	353	*i* P	PKPdf	14 07 15.5	+2.3
PRU	**Pruhonice**	145.92	349	*e*PKP	PKPdf	14 07 15.8	+2.3
NKC	**Novy Kostel**	146.01	352	*e*PKP	PKPdf	14 07 16.5	+2.8
BRTR	**Keskin Array B**	146.23	319	PKPbc	PKPbc	14 07 17.9	+2.2
	7.9nm,1.0s,baz=138,slow=2.9,SNR=17						
GIVF	**Givet**	146.66	0	*e*PKP1	PKPbc	14 07 18.1	+1.8
BAIF	**Baives**	146.69	1	*e*PKP1	PKPbc	14 07 18.3	+2.0
GRA1	**Grafenberg Arr**	146.70	353	*e*PKPbc	PKPbc	14 07 18.8	+2.4
KHC	**Kasperske Hory**	146.91	350	*e*PKP	PKPdf	14 07 19.1	+4.0
WET	**Wettzell**	147.01	351	*e*PKPbc	PKPdf	14 07 20.2	+4.9
GEC2	**GERESS Array S**	147.17	350	*e*PKPbc	PKPdf	14 07 19.3	+3.7
GERES	**GERESS Array B**	147.17	350	PKPbc	PKPdf	14 07 19.6	+4.1
	4.6nm,0.8s,baz=27,slow=3.0,SNR=26						
FLN	**La Foliniere**	147.67	7	*e*PKP1	PKPdf	14 07 20.3	+3.9
	19nm,0.9s						
GRR	**Gorron**	147.99	8	*e*PKP1	PKPdf	14 07 21.4	+4.4
	14nm,0.7s						
CDF	**Champ du Feu**	148.30	357	*e*PKP1	PKPdf	14 07 22.6	+5.1
	22nm,0.9s						
BFO	**Black Forest**	148.33	356	*e*PKPbc	PKPdf	14 07 22.6	+5.1
HAU	**Haudompre**	148.74	358	*e*PKP1	PKPdf	14 07 23.6	+5.4
HINF	**Hinteralfeld**	148.91	358	*e*PKP1	PKPdf	14 07 23.8	+5.3
LOR	**Lormes**	149.48	2	*e*PKP1	PKPdf	14 07 25.5	+6.1
	15nm,0.8s						
SSF	**Saint Saulge**	149.67	2	*e*PKP1	PKPdf	14 07 26.1	+6.4
	28nm,1.0s						
AVF	**Avril sur Loir**	149.94	2	*e*PKP1	PKPdf	14 07 26.3	+6.2
	8.5nm,0.9s						
CABF	**La Chapelle**	150.14	359	*e*PKP1	PKPdf	14 07 27.8	+7.4
	42nm,0.9s						
TCF	**Toulx Ste Croi**	150.37	4	*e*PKP1	PKPdf	14 07 27.5	+6.8
	22nm,1.1s						
ORIF	**Oris-en-Rattie**	151.84	359	*e*PKP1	PKPdf	14 07 31.3	+8.3
	9.6nm,1.0s						
VIVF	**Saint-Julien-l**	151.91	1	*e*PKP1	PKPdf	14 07 31.4	+8.3
MBDF	**Montbardon**	152.00	358	*e*PKP1	PKPdf	14 07 31.6	+8.4
	5.4nm,0.7s						
ESDC	**Sonseca Array**	155.75	17	PKPab	PKPab	14 07 57.6	-0.7
	0.4nm,0.3s,baz=325,slow=1.1,SNR=5.1						

IDC 11 13:48:53.6±2.1**,4.67S**×**128.30E,mb3.6**/1**,mb1 3.5**/3**, mb1mx3.3**/15**,ML3.0**/2**,Error ellipse: s-maj=125.0km s-min=30.4km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	16.28	159	Pn	P	13 52 41.6	-3.8
	0.1nm,0.3s,baz=338,slow=14,SNR=7.7						
ASAR	**Alice Springs**	19.64	165	P	P	13 53 25.1	-1.7
	0.1nm,0.3s,baz=343,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	65.37	327	P	P	13 59 37.9	-2.2
	0.5nm,0.7s,baz=132,slow=7.8,SNR=4.6						

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*NEIC **11** 13:57:36.7±3.4,22.88S×179.38W,h449^{km}±37^{km},mb3.8/8, Error ellipse: s-maj=28.3km s-min=13.2km az=222.0*

*IDC **11** 13:57:38.6±5.5,22.93S×179.39W,h470^{km}±60^{km},mb3.5/9, mb1 3.6/10,mb1mx3.4/19,Error ellipse: s-maj=37.4km s-min=17.7km az=45.0*

ISC 11 13:57:38.0±5.3**,23.0S**±0.2×**179.5W**±0.2**,h475**^{km}±57^{km}**, n21,**σ**0**^{s}**69**/20**,mb3.9**/12**,1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	15.52	190	P	P	14 00 53.6	-0.8
	3.4nm,0.3s,baz=324,slow=2.9,SNR=16						
RPZ	**Rata Peaks**	22.12	198	P	P	14 01 58.5	+0.3
	20nm,0.8s,mb4.7,baz=31,slow=9.4,SNR=3.4						
CTA	**Charters Tower**	31.96	269	*e*P	P	14 03 26.1	+1.0
	5.3nm,0.3s,mb4.5						
CTA	**Charters Tower**	31.96	269	P	P	14 03 26.3	+1.2
	7.8nm,0.4s,mb4.5,baz=94,slow=11,SNR=31						
CTAO	**Charters Tower**	31.96	269	*e*P	P	14 03 26.3	+1.2
	8.5nm,0.6s,mb4.3						
PMG	**Port Moresby**	34.66	287	P	P	14 03 49.1	+1.3
	14nm,1.1s,mb4.3,baz=139,slow=11,SNR=3.5						
STKA	**Stephens Creek**	35.52	247	*e*P	P	14 03 55.5	+0.7
	1.4nm,0.6s,mb3.6						
STKA	**Stephens Creek**	35.52	247	P	P	14 03 55.3	+0.5
	1.4nm,0.5s,mb3.7,baz=90,slow=8.1,SNR=7.7						
ASAR	**Alice Springs**	42.66	260	P	P	14 04 53.1	0.0
	4.1nm,0.8s,mb3.9,baz=94,slow=7.2,SNR=64						
ASPA	**Alice Springs**	42.67	259	*e*P	P	14 04 52.6	-0.6
WB2	**Warramunga Arr**	42.94	265	⇓*i*P	P	14 04 54.9	-0.5
WRA	**Warramunga Arr**	42.95	265	P	P	14 04 55.0	-0.4
	1.3nm,0.3s,mb3.8,baz=90,slow=6.2,SNR=99						
KAKA	**Kakadu**	46.75	274	*e*P	P	14 05 24.1	-1.0
	4.1nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	51.38	265	*e*P	P	14 05 58.6	-1.2
	2.6nm,0.6s,mb3.7						
FITZ	**Fitzroy Crossi**	51.38	265	P	P	14 05 59.4	-0.3
	3.0nm,0.5s,mb3.9,baz=94,slow=4.6,SNR=23						
SBA	**Scott Base**	55.33	184	*e*P	P	14 06 28.1	+0.9
	1.8nm,0.9s,mb3.4						
VNDA	**Vanda**	55.34	185	P	P	14 06 27.4	+0.1
	0.4nm,0.5s,mb3.0,baz=14,slow=7.0,SNR=3.2						
VNDA	**Vanda**	55.34	185	P	P	14 06 27.1	-0.2
	0.5nm,0.7s,mb3.0						
QSPA	**South Pole Qui**	67.11	180	*e*P	P	14 07 44.4	+0.2
	1.4nm,0.7s,mb3.7						
PDAR	**Pinedale Array**	91.69	44	P	P	14 09 54.3	-0.2
	0.2nm,0.6s,mb3.2,baz=194,slow=3.7,SNR=3.8						
AKASG	**Malin Array Be**	144.44	328	PKP	PKPdf	14 16 19.1	+0.3
	2.2nm,0.6s,baz=42,slow=4.3,SNR=6.2						

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*NEIC **11** 13:59:06.4±1.7,3.56N×76.49W,h44^{km}±16^{km},mb3.5/1, Error ellipse: s-maj=35.7km s-min=15.0km az=131.0*

IDC 11 13:59:01.0±1.8**,3.51N**×**76.55W,mb3.1**/1**,mb1 3.6**/2**, mb1mx3.4**/21**,ML2.7**/1**,MS2.9**/1**,Ms1 2.9**/1**,ms1mx2.5**/9**, Error ellipse: s-maj=50.1km s-min=19.0km az=143.0, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	2.59	59	Pn	Pn	13 59 45.1	+0.2
	33nm,0.3s,baz=265,slow=18,SNR=14						
ROSC				Lg		14 00 23.2	
	51nm,0.3s,baz=65,slow=23,SNR=9.3						
ROSC				LR	LR	14 00 58.2	
	comp=Z,225nm,20.1s,baz=277,slow=45						
ROSC	**El Rosal**	2.59	59	Pn	Pn	13 59 45.1	+0.2
ROSC				Lg		14 00 23.2	
ROSC				LR	LR	14 00 58.2	
OTAV	**Otavalo**	3.77	210	*e*P	Pn	14 00 03.4	+1.8
LPAZ	**La Paz**	21.36	157	P	P	14 03 50.8	-1.5
	0.7nm,0.7s,baz=325,slow=12,SNR=2.7						
LPAZ	**La Paz**	21.36	157	*e*P	P	14 03 51.1	-1.2
	2.3nm,1.0s						
ASAR	**Alice Springs**	144.41	233	PKP	PKPdf	14 18 38.0	-3.9
	2.3nm,0.9s,baz=118,slow=3.7,SNR=28						
WRA	**Warramunga Arr**	145.74	239	PKPbc	PKPbc	14 18 42.7	-0.5
	1.7nm,0.8s,baz=119,slow=3.5,SNR=9.0						

IDC 11 14:12:26.3±5.0**,16.56S**×**176.47W,mb3.9**/3**,mb1 4.1**/3**, mb1mx3.7**/15**,Error ellipse: s-maj=169.0km s-min=98.8km az=153.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	40.90	240	P	P	14 20 10.8	-1.1
	1.0nm,0.6s,baz=91,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	46.71	258	P	P	14 20 57.1	-2.0
	0.2nm,0.3s,baz=94,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	46.95	253	P	P	14 20 58.9	-2.0
	4.4nm,0.4s,baz=89,slow=7.9,SNR=182						
ASAR				PcP	PcP	14 22 31.6	-2.3
	0.2nm,0.5s,baz=101,slow=4.1,SNR=4.6						

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*BJI **11** 14:24:46.9,50.37N×87.55E,h12^{km},mB4.6,mb4.2,ML4.9, Ms4.5,Msz4.0*

*MOS **11** 14:24:46.9±2.1,49.99N×87.64E,h15^{km},mb4.1/7,Error ellipse: s-maj=12.0km s-min=8.8km az=115.1*

*NEIC **11** 14:24:48.5±0.5,50.29N×87.73E,h10^{km},mb4.2/5,Error ellipse: s-maj=14.6km s-min=7.3km az=198.0*

*NNC **11** 14:24:50.7±6.1,50.27N×87.39E,h5^{km}±24^{km},mpv4.6, Error ellipse: s-maj=54.6km s-min=23.0km az=97.0*

*IDC **11** 14:24:51.7±2.8,50.25N×87.84E,h36^{km}±24^{km},mb3.6/9, mb1 3.8/10,mb1mx3.7/20,ML4.4/3,Error ellipse: s-maj=17.2km s-min=13.1km az=51.0*

ISC 11 14:24:46.6±0.3**,50.33N**±0.03×**87.70E**±0.04**,h10**^{km}**,n64,** σ**1**^{s}**53**/81**,mb4.1**/14**,MS3.4**/1**,10C-4D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTR	**Artybash**	1.49	350	*i* PN	Pg	14 25 18.9	+2.5
UKR	**Ust'-Kan**	1.96	289	*i* PN	Pg	14 25 25.9	+0.1
UKR				*i* S	Sg	14 25 53.3	+1.3
TASR	**Tashtagol**	2.43	3	*e*PN	Pg	14 25 36.0	+0.8
TASR				*e*S	Sg	14 26 09.9	+2.3
ELT	**Yel'tsovka**	3.07	343	*e*PN	Pg	14 25 48.2	+0.3
ELT				*e*S	Sg	14 26 25.4	-3.4
CERR	**Cheremushki**	3.42	41	*e*PN	Pb	14 25 47.4	+0.4
CERR				*i*	Pg	14 25 55.0	0.0
CERR				*i* S	Sg	14 26 37.9	-2.7
MK31	**Makanchi Array**	5.05	227	⇑Pn	Pn	14 26 06.2	+2.0
	39nm,0.5s,baz=50,slow=12,SNR=1105						
MK31				⇑Pg	Pg	14 26 19.1	-8.2
	71nm,0.5s,baz=43,slow=19,SNR=7.4						
MK31				⇑Sn	Sn	14 27 01.8	-1.5
	63nm,0.4s,baz=62,slow=32,SNR=5.0						
MK31				⇑Lg		14 27 23.3	
	364nm,0.6s,baz=54,slow=28,SNR=16						
MKAR	**Makanchi Array**	5.05	227	Pn	Pn	14 26 06.2	+1.9
	30nm,0.3s,baz=49,slow=15,SNR=486						
MKAR				Sn	Sn	14 27 03.5	+0.2
	66nm,0.3s,baz=48,slow=25,SNR=7.2						
MKAR				Lg		14 27 23.4	
	132nm,0.3s,baz=58,slow=29,SNR=19						
NVS	**Novosibirsk**	5.27	331	*i* PN	Pn	14 26 11.4	+4.0
NVS				*i*	Pg	14 26 26.8	-5.1
NVS				*i* S	Sg	14 27 37.4	-4.7
KURK	**Kurchatov**	5.81	277	⇑Pn	Pn	14 26 16.4	+1.5
	35nm,0.5s						
KURK				⇓Lg		14 27 49.4	
	252nm,0.6s						
KURK	**Kurchatov**	5.81	277	*i* PN	Pn	14 26 16.4	+1.5
KURK				pmax	pmax		
	comp=Z,24nm,0.5s						
KURK	**Kurchatov**	5.81	277	*e*P	Pn	14 26 16.3	+1.4
	comp=Z,79nm,0.5s						
KRAR	**Krasnoyarsk**	6.48	27	PN	Pb	14 26 41.6	+2.3
WMQ	**Urumqi**	6.52	180	P	Pn	14 26 24.5	-0.4
WMQ				S	Sn	14 27 32.5	-7.6
MOY	**Mondy**	8.49	76	*e*P	P	14 26 47.4	-5.2
MOY				*e*S	Sn	14 28 27.6	-1.8
MOY				pmax	pmax		
	comp=Z,32nm,0.7s						
MOY				pmax	pmax		
	comp=N,369nm,1.7s						
ZAK	**Zakamensk**	9.96	84	*e*P	P	14 27 11.7	-1.1
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
VOSK	**Vostochnaya**	10.69	289	⇑Pn	P	14 27 21.0	-1.8
	comp=Z,9.4nm,0.5s						
VOSK				⇑Sn	S	14 29 16.8	-6.8
	comp=Z,20nm,0.6s						
VOSK	**Vostochnaya**	10.69	289	P	P	14 27 20.9	-1.9
VOSK						14 29 16.7	
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVA0	**Borovoye Array**	11.08	291	⇓Pn	P	14 27 27.0	-1.1
	comp=Z,2.8nm,0.6s,baz=108,slow=15,SNR=143						
BVA0				Sn	S	14 29 27.4	-5.8
	comp=Z,6.2nm,0.8s,baz=96,slow=22,SNR=15						
BVAR	**Borovoye Array**	11.08	291	Pn	P	14 27 27.2	-0.9
	comp=Z,11nm,0.3s,baz=104,slow=15,SNR=201						
BVAR				Sn	S	14 29 25.5	-7.6
	comp=Z,6.6nm,0.3s,baz=99,slow=20,SNR=13						
TKM2	**Tokmak 2**	11.14	233	P	P	14 27 29.6	+0.6
	SNR=9.9						
BRVK	**Borovoye**	11.15	291	P	P	14 27 28.1	-1.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	11.15	291	*e*P	P	14 27 28.0	-1.1
	comp=Z,15nm,0.4s						
ULHL	**Ulahol**	11.32	229	P	P	14 27 32.6	+1.3
	SNR=9.2						
USP	**Ospenovka**	11.47	237	P	P	14 27 31.2	-2.3
	SNR=20						
KBK	**Karagaybulak**	11.66	234	P	P	14 27 37.2	+1.2
	SNR=8.1						
ZRNK	**Zerenda**	11.91	290	⇓Pn	P	14 27 38.2	-1.2
	comp=Z,6.7nm,0.5s						
ZRNK				⇓Sn	S	14 29 46.6	-6.7
	comp=Z,50nm,1.1s						
ZRNK	**Zerenda**	11.91	290	P	P	14 27 38.1	-1.2
ZRNK						14 29 45.5	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	11.91	290	*e*P	P	14 27 37.9	-1.5
	comp=Z,14nm,0.4s						
UCH	**Uchtor**	12.19	233	P	P	14 27 45.5	+2.3
	SNR=7.8						
EKS2	**Erkin-Say**	12.27	237	P	P	14 27 43.3	-1.0
	SNR=7.2						
SONM	**Songino Array**	12.51	94	Pn	P	14 27 46.7	-0.7
	comp=Z,0.1nm,0.3s,baz=285,slow=12,SNR=13						
SONM				Lg		14 31 17.6	
	comp=Z,0.4nm,0.3s,baz=275,slow=26,SNR=3.8						
KK31	**Karatay Array**	13.82	245	⇑P	P	14 28 01.6	-3.1
	comp=Z,9.4nm,0.6s,baz=50,slow=9.9,SNR=45						
KKAR	**Karatay Array**	13.82	245	*i* P	P	14 28 01.7	-3.0
KKAR				*i*		14 30 28.3	
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	17.92	277	⇑P	P	14 28 55.4	-1.9
	comp=Z,3.8nm,0.5s						
AB31	**Akbulak array**	17.92	277	P	P	14 28 57.0	-0.3
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	18.33	301	⇑*i*P	P	14 29 02.0	-0.4
ARU				*i* S	S	14 32 21.8	-2.2
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU				MLR	MLR		
	comp=Z,80nm,18.0s						
ARU	**Arti**	18.33	301	*e*P	P	14 29 02.0	-0.4
	comp=Z,7.1nm,0.6s						
HIA	**Hailar**	20.63	81	*e*P	P	14 29 29.2	+0.7
	comp=Z,22nm,1.2s						
BJI	**Beijing**	22.42	106	P	P	14 29 48.6	+1.9
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
GKN	**Gorkha**	22.42	187	*e*P	P	14 29 51.3	+4.5
	comp=Z,13nm,0.5s,mb4.6						
GUN	**Gumba**	22.44	184	*e*P	P	14 29 50.9	+4.0
KKN	**Kakani**	22.59	186	*e*P	P	14 29 51.6	+3.2
	comp=Z,18nm,0.6s,mb4.7						
DMN	**Daman**	22.78	186	*e*P	P	14 29 52.9	+2.6
PKI	**Pulchoki**	22.80	185	*e*P	P	14 29 52.5	+2.0
OBN	**Obninsk**	30.76	299	P	P	14 31 10.0	+6.1
OBN				*e*		14 32 10.9	
SOC	**Sochi**	32.96	277	*e*P	P	14 31 21.5	-1.8
SOC				*e*		14 32 29.7	
SOC				*e*S	S	14 36 30.2	-10
SOC				*e*SS	SS	14 38 35.3	-4.3
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,86nm,21.0s,MS3.4						
SOC				MLR	MLR		
	comp=N,7.0nm,16.0s						
SOC				MLR	MLR		
	comp=E,57nm,25.0s						
CMAR	**Chiang Mai Arr**	33.05	160	P	P	14 31 21.7	-2.6
	comp=E,2.1nm,1.1s,mb4.0,baz=341,slow=8.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	33.05	160	P	P	14 31 21.7	-2.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FINES	**FINESS Array B**	34.96	312	P	P	14 31 40.9	+0.5
	comp=Z,1.2nm,0.9s,mb3.8,baz=333,slow=34,SNR=3.7						
FINES	**FINESS Array B**	34.96	312	P	P	14 31 40.9	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
QIZ	**Qiongzhong**	35.87	143	*e*P	P	14 31 47.9	-0.7
	comp=Z,11nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	36.34	294	P	P	14 31 53.4	+1.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=329,slow=5.7,SNR=2.4						
AKASG	**Malin Array Be**	36.34	294	P	P	14 31 53.4	+1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	38.86	276	P	P	14 32 14.9	+1.4
	comp=Z,1.6nm,0.7s,mb3.9,baz=90,slow=6.2,SNR=4.7						
BRTR	**Keskin Array B**	38.86	276	P	P	14 32 14.9	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	41.97	315	P	P	14 32 39.0	+0.3
	comp=Z,1.4nm,0.6s,mb3.8,baz=66,slow=7.9						
NOA	**NORSAR Array B**	41.97	315	P	P	14 32 39.3	+0.6
	comp=Z,0.9nm,0.7s,mb3.5,baz=65,slow=7.8,SNR=4.5						
NOA	**NORSAR Array B**	41.97	315	P	P	14 32 39.3	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	57.70	24	P	P	14 34 39.2	+0.2
	comp=Z,0.4nm,0.8s,mb3.5,baz=324,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	81.16	136	P	P	14 37 02.2	-1.5
	comp=Z,1.3nm,0.8s,mb3.9,baz=341,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	81.16	136	P	P	14 37 02.2	-1.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	84.24	138	P	P	14 37 18.2	-1.3
	comp=Z,0.3nm,0.8s,mb3.5,baz=320,slow=4.8,SNR=4.2						
NVAR	**Mina Array Bea**	88.69	20	P	P	14 37 42.6	+1.6
	comp=Z,0.5nm,0.6s,mb4.0,baz=342,slow=4.1,SNR=3.6						
CPUP	**Villa Florida**	144.09	299	PKP	PKPdf	14 44 21.1	-4.1
	comp=Z,1.3nm,0.6s,baz=88,slow=2.4,SNR=4.6						

IDC 11 15:06:52.6±1.6**,5.79S**×**130.47E,mb4.0**/2**,mb1 4.2**/5**, mb1mx3.9**/13**,ML3.9**/3**,Error ellipse: s-maj=77.6km s-min=23.2km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	13.12	201	Pn	P	15 10 01.3	-1.7
	0.8nm,0.3s,baz=24,slow=9.7,SNR=40						
FITZ				Sn	S	15 12 14.0	-17
	1.7nm,0.3s,baz=181,slow=22,SNR=9.3						
WRA	**Warramunga Arr**	14.57	165	Pn	P	15 10 18.6	-3.5
	0.4nm,0.3s,baz=347,slow=14,SNR=35						
WRA				Sn	S	15 12 52.1	-13
	1.3nm,0.3s,baz=330,slow=25,SNR=9.3						
ASAR	**Alice Springs**	18.08	170	P	P	15 11 07.2	+0.1
	0.5nm,0.3s,baz=345,slow=9.7,SNR=52						
ASAR				S	S	15 14 16.4	-11
	0.4nm,0.3s,baz=352,slow=27,SNR=6.6						
STKA	**Stephens Creek**	27.97	160	P	P	15 12 44.4	-2.7
	2.6nm,1.0s,baz=352,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	67.48	326	P	P	15 17 50.5	-2.1
	0.4nm,0.4s,baz=120,slow=8.2,SNR=12						

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*NIED **11** 15:09:00,41.00N×146.00E,h5^{km},Mw3.9 Best double couple: M$_0$8.86×10^{14} NP1:φ$_s$226°,δ63°,λ-90°. NP2:φ$_s$45°, δ27°,λ-91°.*

*IDC **11** 15:09:51.7±1.1,40.82N×145.79E,mb3.8/7,mb1 3.9/8, mb1mx3.7/22,ML3.1/1,Error ellipse: s-maj=30.0km s-min=26.0km az=84.0*

*MOS **11** 15:09:52.1±1.9,40.83N×145.89E,h33^{km},mb4.0/5,Error ellipse: s-maj=50.9km s-min=20.5km az=104.6*

*JMA **11** 15:09:53.8±0.2,41.03N×145.99E,h54^{km}±3^{km},M3.8*

ISC 11 15:09:54.6±1.5**,41.01N**±0.03×**145.76E**±0.05**,h32**^{km}±13^{km}**, n35,**σ**1**^{s}**26**/56**,mb3.7**/7**,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	2.14	339	P	Pn	15 10 28.8	-0.1
JAK				*e*S	Sn	15 10 54.9	+0.2
JEM	**Erimo**	2.20	298	P	Pn	15 10 31.2	+1.4
JEM				*e*S	Sn	15 10 57.2	+1.0
NEM2	**Nemuro 2**	2.36	360	P	Pn	15 10 31.3	-0.7
NEM2				*e*S	Sn	15 10 57.2	-3.0
JOB	**Onbets**	2.38	324	P	Pn	15 10 32.8	+0.5
JOB				*e*S	Sn	15 11 00.6	-0.1
JCH	**Churui**	2.41	313	P	Pn	15 10 33.4	+0.7
JCH				*e*S	Sn	15 11 00.9	-0.5
JNBK	**Urakawa-nobuka**	2.59	300	P	Pn	15 10 37.0	+1.7
JNBK				*e*S	Sn	15 11 07.5	+1.5
JNK	**Nakash**	2.69	344	P	Pn	15 10 35.5	-1.3
JNK				*e*S	Sn	15 11 06.9	-1.7
JAR	**Ashorobuto**	2.73	328	P	Pn	15 10 36.9	-0.4
JAR				*e*S	Sn	15 11 08.5	-1.0
JRA	**Rausu**	2.97	351	P	Pn	15 10 39.9	-0.8
JRA				*e*S	Sn	15 11 13.9	-1.8
YUK	**Yuzh-Kuril'sk**	3.03	1	P	Pn	15 10 31.7	-10
YUK				*e*S	Sn	15 11 13.2	-4.0
YUK				smax			
	comp=N,2µm,1.0s						
YUK				smax			
	comp=E,2µm,1.0s						
YUK				smax			
	comp=N,280nm,0.6s						
YUK				smax			
	comp=E,230nm,0.5s						
JBT2	**Biratori 2**	3.09	306	P	Pn	15 10 43.2	+0.7
JBT2				*e*S	Sn	15 11 21.3	+2.5
JFR	**Furan**	3.19	314	P	Pn	15 10 44.4	+0.5
JFR				*e*S	Sn	15 11 20.3	-1.0
JTKR	**Abashiri--Toko**	3.26	336	P	Pn	15 10 45.4	+0.5
JTKR				*e*S	Sn	15 11 23.5	+0.4
JANG	**Nango**	3.29	260	P	Pn	15 10 44.2	-1.0
JANG				*e*S	Sn	15 11 21.1	-2.6
JOT	**Ohata**	3.57	278	P	Pn	15 10 49.4	+0.1
JOT				*e*S	Sn	15 11 29.1	-1.9
JKK2	**Kamakawa 2**	3.63	323	P	Pn	15 10 51.2	+1.1
JKK2				*e*S	Sn	15 11 31.9	-0.5
JKB	**Kayabe**	3.66	285	P	Pn	15 10 51.5	+1.0
JKB				*e*S	Sn	15 11 31.8	-1.3
JEW	**Eniwo**	3.70	301	P	Pn	15 10 52.6	+1.5
JEW				*e*S	Sn	15 11 35.1	+0.9
JOM	**Ohasama**	3.75	247	P	Pn	15 10 50.6	-1.1
JOM				*e*S	Sn	15 11 32.0	-3.3
ASAJ	**Asahikawa**	3.89	324	Pn	Pn	15 10 52.9	-0.9
	comp=E,0.9nm,0.3s,baz=113,slow=7.7,SNR=7.0						
ASAJ				Sn	Sn	15 11 40.2	+1.3
	comp=E,2.9nm,0.3s,baz=260,slow=12,SNR=5.0						
ASAJ	**Asahikawa**	3.89	324	P	Pn	15 10 52.9	-0.9
ASAJ						15 11 40.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	7.39	235	P	Pn	15 11 41.0	-2.2
MAT				S	Sn	15 13 07.8	+1.0
SONM	**Songino Array**	28.69	297	P	P	15 15 55.9	+5.2
	comp=Z,0.8nm,0.8s,mb3.5,baz=68,slow=6.7,SNR=5.5						
ZAK	**Zakamensk**	30.74	302	*e*P	P	15 16 15.0	+6.1

ILAR	Eielson Array	44.32	34	P	P	15 18 03.1	+0.2
	comp=Z,0.6nm,0.9s,mb3.3,baz=260,slow=7.8,SNR=6.2						
ILAR	Eielson Array	44.32	34	P	P	15 18 03.2	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	44.99	300	P	P	15 18 09.7	+1.1
	comp=Z,0.8nm,0.9s,mb3.5,baz=89,slow=9.4,SNR=5.1						
MKAR	Makanchi Array	44.99	300	P	P	15 18 09.7	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	61.56	192	P	P	15 20 09.0	-2.2
	comp=Z,1.7nm,0.7s,mb4.3,baz=6.2,slow=6.7,SNR=8.6						
WRA	Warramunga Arr	61.56	192	P	P	15 20 09.0	-2.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	66.85	333	P	P	15 20 46.9	+1.9
	comp=Z,1.3nm,0.8s,mb4.0,baz=79,slow=9.7,SNR=2.4						
FINES	FINESS Array B	66.85	333	P	P	15 20 46.9	+1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	Mina Array Bea	69.94	56	P	P	15 21 06.0	+1.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=278,slow=6.4,SNR=2.3						
NOA	NORSAR Array B	71.78	339	P	P	15 21 16.7	+1.3
	comp=Z,0.9nm,0.8s,mb3.8,baz=39,slow=5.6,SNR=3.0						
NOA	NORSAR Array B	71.78	339	P	P	15 21 16.7	+1.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

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*IDC **11** 15:10:25.2±4.5,4.65S×153.71E,h108^{km}±37^{km},mb4.3/12, mb1 4.4/14,mb1mx4.4/17,MS3.3/2,Ms1 3.3/2, ms1mx3.0/23,Error ellipse: s-maj=27.2km s-min=14.7km az=88.0*

*BJI **11** 15:10:26.8,4.60S×153.60E,h130^{km},mb4.9*

*NEIC **11** 15:10:27.9±2.5,4.63S×153.58E,h131^{km}±21^{km},mb4.5/15, Error ellipse: s-maj=17.4km s-min=9.7km az=86.0*

ISC 11 15:10:26.1±3.2,4.67S±0.08×153.6E±0.1,h125^{km}±27^{km}, n50,σ0^{s}95/50,mb4.6/28,6C,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.92	233	P	P	15 12 20.9	+1.1
	36nm,0.3s,baz=41,slow=7.0,SNR=119						
PMG				S	S	15 13 47.8	-0.4
	6.9nm,0.3s,baz=170,slow=19,SNR=4.4						
CTA	Charters Tower	16.91	204	*e*P	P	15 14 21.2	+4.6
	6.2nm,0.8s						
CTA	Charters Tower	16.91	204	P	P	15 14 20.9	+4.3
	0.2nm,0.3s,baz=13,slow=12,SNR=3.2						
CTAO	Charters Tower	16.91	204	*e*P	P	15 14 21.0	+4.4
KAKA	Kakadu	22.39	248	*e*P	P	15 15 14.6	-0.3
	18nm,0.5s,mb4.7						
KAKA				*e*S	S	15 19 15.0	+7.5
WB2	Warramunga Arr	24.11	229	*e*P	P	15 15 32.2	+0.7
WB2				*e*S	S	15 19 48.9	+12
WRA	Warramunga Arr	24.11	229	P	P	15 15 32.2	+0.6
	44nm,0.7s,mb4.9,baz=53,slow=9.7,SNR=90						
ARMA	Armidale	25.68	184	*e*P	P	15 15 46.8	+0.5
ASAR	Alice Springs	26.77	223	P	P	15 15 55.9	-0.5
	4.8nm,0.7s,mb4.1,baz=54,slow=8.6,SNR=14						
ASAR				PcP	PcP	15 19 16.2	-0.4
	1.5nm,0.8s,baz=62,slow=2.3,SNR=5.9						
ASAR				LR	LR	15 26 51.2	
	comp=Z,38nm,19.2s,baz=16,slow=37						
STKA	Stephens Creek	29.31	201	*e*P	P	15 16 18.0	-1.2
	7.3nm,0.8s,mb4.4						
STKA	Stephens Creek	29.31	201	P	P	15 16 18.1	-1.1
	10nm,0.8s,mb4.5,baz=1.7,slow=9.8,SNR=16						
STKA				LR	LR	15 26 57.6	
	comp=Z,84nm,19.4s,baz=206,slow=34						
FITZ	Fitzroy Crossi	30.40	242	⇑*i*P	P	15 16 27.6	-1.4
	16nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	30.40	242	P	P	15 16 27.7	-1.3
	19nm,0.7s,mb4.8,baz=80,slow=3.4,SNR=23						
FORT	Forrest	35.38	220	⇑*i*P	P	15 17 11.1	-0.6
	189nm,0.7s						
KLBR	Kellerberrin	42.96	227	*e*P	P	15 18 13.3	-1.3
	142nm,2.0s,mb5.3						
JNU	Nakatsue	43.30	332	P	P	15 18 16.4	-0.9
	29nm,1.0s,mb5.0,baz=67,slow=8.1,SNR=8.7						
ENH	Enshi	54.63	312	*e*P	P	15 19 44.3	-0.1
	20nm,1.1s,mb5.1						
GYA	Guiyang	54.93	307	⇑*i*P	P	15 19 46.4	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CMAR	Chiang Mai Arr	58.52	295	P	P	15 20 12.5	+0.4
	comp=Z,4.8nm,1.0s,mb4.5,baz=108,slow=4.9,SNR=16						
CD2	Chengdu	59.24	310	⇑*i*P	P	15 20 16.6	-0.3
CD2				AMB	AMB		
	comp=Z,26nm,0.6s,mb5.4						
SONM	Songino Array	66.63	327	P	P	15 21 05.0	-0.4
	comp=Z,2.1nm,0.5s,mb4.2,baz=139,slow=5.8,SNR=30						
SONM				PcP	PcP	15 21 32.1	-1.4
	comp=Z,0.8nm,0.6s,baz=159,slow=4.2,SNR=4.3						
CASY	Casey	68.37	197	⇑*i*P	P	15 21 14.8	-1.1
LSA	Lhasa	68.80	304	*e*P	P	15 21 20.0	+0.8
	comp=Z,10nm,1.3s,mb4.5						
GUN	Gumba	72.72	301	*e*P	P	15 21 43.2	+0.4
VNDA	Vanda	72.94	178	P	P	15 21 43.1	0.0
	comp=Z,2.2nm,1.0s,mb3.9,baz=330,slow=6.3,SNR=11						
VNDA	Vanda	72.94	178	*e*P	P	15 21 43.6	+0.4
	comp=Z,2.8nm,1.1s,mb4.0						
PKI	Pulchoki	73.03	301	*e*P	P	15 21 44.4	-0.2
	comp=Z,6.9nm,0.6s,mb4.7						
KKN	Kakani	73.20	301	*e*P	P	15 21 45.3	-0.3
	comp=Z,14nm,0.6s,mb4.9						
DMN	Daman	73.30	300	*e*P	P	15 21 46.3	+0.1
	comp=Z,23nm,0.8s,mb5.0						
SBA	Scott Base	73.47	177	*e*P	P	15 21 47.2	+0.9
	comp=Z,2.5nm,1.0s,mb4.0						
GKN	Gorkha	73.80	301	*e*P	P	15 21 48.7	-0.4
	comp=Z,30nm,1.1s,mb5.0						
MCK	McKinley	80.44	22	*e*P	P	15 22 23.9	-1.3
	comp=Z,2.2nm,0.8s,mb4.0						
MKAR	Makanchi Array	80.73	319	P	P	15 22 27.1	0.0
	comp=Z,6.3nm,1.0s,mb4.4,baz=96,slow=7.4,SNR=24						
ILAR	Eielson Array	81.75	22	P	P	15 22 30.2	-1.8
	comp=Z,1.1nm,0.7s,mb3.8,baz=260,slow=4.9,SNR=11						
KURK	Kurchatov	84.14	322	*e*P	P	15 22 43.8	-0.6
	comp=Z,7.7nm,1.0s,mb4.5						
VIB	Van Inlet	84.17	35	T		16 56 15.8	
	SNR=5.3						
TKM2	Tokmak 2	84.40	314	P	P	15 22 46.9	+1.0
	SNR=9.6						
KZA	Kyzart	84.48	313	P	P	15 22 48.4	+2.1
	SNR=7.9						
CHMS	Chumysh	85.02	314	P	P	15 22 49.7	+0.7
	SNR=6.5						
UCH	Uchtor	85.05	313	P	P	15 22 51.4	+2.2
	SNR=5.2						
USP	Ospenovka	85.25	314	P	P	15 22 51.2	+1.0
	SNR=7.4						
QSPA	South Pole Qui	85.29	180	*e*P	P	15 22 50.7	+1.1
	comp=Z,5.0nm,0.5s,mb4.7						
AML	Almayashu	85.63	313	P	P	15 22 53.7	+1.7
	SNR=10						
MAW	Mawson	85.99	203	⇑*i*P	P	15 22 53.3	+0.1
	comp=Z,8.5nm,0.7s,mb4.8						
MAW	Mawson	85.99	203	P	P	15 22 53.6	+0.5
	comp=Z,9.4nm,0.6s,mb4.9,baz=90,slow=6.3,SNR=28						
BRVK	Borovoye	89.67	323	*e*P	P	15 23 10.2	-0.9
	comp=Z,2.6nm,0.8s,mb4.4						
ZRNK	Zerenda	90.42	323	*e*P	P	15 23 12.6	-2.0
	comp=Z,4.7nm,1.0s,mb4.6						
NVAR	Mina Array Bea	91.39	52	P	P	15 23 20.1	+0.6
	comp=Z,0.8nm,1.1s,mb3.8,baz=264,slow=4.6,SNR=3.9						
BDFB	Brasilia	150.60	134	PKPbc	PKPdf	15 30 04.6	+6.0
	comp=Z,3.2nm,0.4s,baz=272,slow=3.0,SNR=5.9						
DBIC	Dimbokro	158.45	276	PKPab	PKPab	15 30 46.6	-0.5
	comp=Z,2.8nm,0.5s,baz=21,slow=5.7,SNR=5.9						

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*NEIC **11** 15:18:51.8±0.8,20.61S×68.98W,h105^{km}±9^{km},mb3.9/2, Error ellipse: s-maj=16.8km s-min=10.1km az=78.0*

*IDC **11** 15:18:52.8±1.8,20.61S×68.84W,h111^{km}±16^{km},mb3.3/2, mb1 3.4/4,mb1mx3.3/16,Error ellipse: s-maj=37.4km s-min=16.2km az=103.0*

ISC 11 15:18:51.7±0.9,20.66S±0.05×69.0W±0.2,h133^{km}±13^{km}, n13,σ1^{s}24/14,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.94	177	P	P	15 19 25.4	-0.2
	50nm,0.3s,baz=18,slow=10,SNR=261						
LVC				S	S	15 19 51.9	+0.5
	119nm,0.3s,baz=245,slow=22,SNR=47						
LVC	Limon Verde	1.94	177	*e*P	P	15 19 25.2	-0.4
LVC				S	S	15 19 51.9	+0.5
LPAZ	La Paz	4.43	11	P	P	15 19 57.8	-0.6
	2.6nm,0.3s,baz=206,slow=7.2,SNR=40						
LPAZ				S	S	15 20 51.3	+1.8
	1.4nm,0.3s,baz=259,slow=15,SNR=4.2						
LPAZ	La Paz	4.43	11	*e*P	P	15 19 58.0	-0.3
LPAZ				S	S	15 20 51.3	+1.8
ARE	Arequipa	4.79	330	*e*P	P	15 20 00.5	-2.6
CPUP	Villa Florida	12.11	120	P	P	15 21 39.2	-1.6
	0.2nm,0.3s,baz=339,slow=14,SNR=4.1						
CPUP	Villa Florida	12.11	120	*e*P	P	15 21 40.0	-0.9
	2.5nm,0.9s						
PLCA	Paso Flores	20.05	183	P	P	15 23 18.2	+1.8
	3.2nm,0.8s,baz=357,slow=13,SNR=6.0						
PLCA	Paso Flores	20.05	183	*e*P	P	15 23 17.6	+1.2
	5.4nm,1.1s						
BDFB	Brasilia	20.57	79	P	P	15 23 21.6	-0.1
	1.5nm,0.4s,baz=290,slow=7.2,SNR=3.5						
ASAR	Alice Springs	130.60	208	PKP	PKPdf	15 37 50.9	+3.3
	0.2nm,0.8s,baz=106,slow=1.5,SNR=4.0						
MKAR	Makanchi Array	145.01	35	PKP	PKPdf	15 38 16.7	+3.7
	0.8nm,0.5s,baz=315,slow=1.7,SNR=8.6						
SONM	Songino Array	152.64	7	PKPbc	PKPdf	15 38 36.1	+11
	0.4nm,0.5s,baz=330,slow=2.6,SNR=4.4						

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*NEIC **11** 15:27:36.4±4.0,5.90N×127.20E,h101^{km}±40^{km},mb4.4/4, Error ellipse: s-maj=61.6km s-min=8.5km az=73.0*

*IDC **11** 15:27:40.2±8.6,5.80N×127.01E,h134^{km}±80^{km},mb3.7/9, mb1 3.8/9,mb1mx3.6/19,Error ellipse: s-maj=91.7km s-min=14.3km az=69.0*

ISC 11 15:27:37.4±1.0,5.8N±0.1×127.0E±0.2,h125^{km}±8^{km},n18, σ0^{s}99/22,mb4.0/12,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.33	326	*e*P	P	15 28 03.0	-0.6
MATI				*e*S	S	15 28 22.5	-1.1
BIPH	Bislig	2.42	345	⇑*i*P	P	15 28 17.7	+0.7
BIPH				*i* S	S	15 28 43.2	-3.7
BUKP	Musuan	2.80	317	*e*P	P	15 28 22.0	+0.1
BUKP				*e*S	S	15 28 56.0	+0.1
BUTP	Butuan	3.40	336	*e*P	P	15 28 32.1	+2.1
BUTP				*e*S	S	15 29 13.3	+3.2
TATO	Taipei	19.75	345	P	P	15 31 57.4	-2.3
FITZ	Fitzroy Crossi	23.82	183	*e*P	P	15 32 40.9	+0.9
	1.8nm,0.8s,mb3.5						
FITZ	Fitzroy Crossi	23.82	183	P	P	15 32 41.0	+1.0
	1.7nm,0.5s,mb3.6,baz=20,slow=9.5,SNR=9.6						
WRA	Warramunga Arr	26.61	164	P	P	15 33 06.1	-0.1
	2.6nm,0.5s,mb4.0,baz=346,slow=10,SNR=19						
ASAR	Alice Springs	30.09	167	P	P	15 33 36.2	-1.1
	0.5nm,0.7s,mb3.3,baz=347,slow=6.9,SNR=13						
ASAR				PcP	PcP	15 36 36.2	+0.2
	0.2nm,0.7s,baz=350,slow=2.3,SNR=5.2						
STKA	Stephens Creek	40.00	161	P	P	15 35 01.8	+0.3
	3.7nm,1.0s,mb4.2,baz=322,slow=7.1,SNR=5.6						
SONM	Songino Array	45.41	341	P	P	15 35 46.3	+1.2
	0.3nm,0.3s,mb3.4,baz=149,slow=7.8,SNR=6.0						
MKAR	Makanchi Array	56.00	324	P	P	15 37 05.0	-0.2
	1.2nm,0.4s,mb4.2,baz=119,slow=7.8,SNR=24						
KURK	Kurchatov	60.13	327	*e*P	P	15 37 33.6	-0.3
	2.7nm,0.5s,mb4.5						
BVAR	Borovoye Array	65.72	326	P	P	15 38 10.6	-0.1
	2.9nm,0.8s,mb4.2,baz=117,slow=6.6,SNR=16						
BRVK	Borovoye	65.79	326	*e*P	P	15 38 10.8	-0.5
	8.3nm,1.1s,mb4.5						
ZRNK	Zerenda	66.45	326	*e*P	P	15 38 15.3	-0.2
	4.0nm,1.0s,mb4.2						
VNDA	Vanda	85.47	173	P	P	15 40 02.1	+0.4
	0.6nm,0.9s,mb3.5,baz=321,slow=7.3,SNR=4.0						
ARCES	ARCESS Array B	88.58	340	P	P	15 40 16.8	0.0
	7.4nm,1.2s,mb4.6,baz=63,slow=5.4,SNR=4.8						

TRN 11 15:27:53.7,17.55N×61.77W,h22^{km},MD3.7,M3.5(FDF), 1C-1D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	Codrington	0.10	328	⇑*i*P	Pb	15 27 59.5	+1.6
BPA	Boggy Peak	0.51	190	*e*P	Pb	15 28 05.5	+1.5
BPA				*e*S	Sb	15 28 15.0	+4.2
STAT	Sint Eustatius	1.16	267	*e*P	Pn	15 28 15.4	+0.6
STAT				*e*S	Sb	15 28 33.1	+3.6
DEG	La Desirade	1.40	151	⇓*e*P	Pn	15 28 15.1	-3.3
DEG				*e*S	Sn	15 28 34.2	-2.1
SABT	Saba	1.41	273	*e*P	Pn	15 28 20.1	+1.7
SABT				*e*S	Sn	15 28 38.8	+2.3
MGG	Marie-Galante	1.68	165	*e*P	Pn	15 28 21.1	-1.2
DWS	Wesley	2.02	167	*e*P	Pn	15 28 26.9	-0.2
DWS				*e*S	Sn	15 28 54.6	+2.6
BBL	Barber's Block	2.03	172	*e*P	Pn	15 28 27.9	+0.6
BBL	Barber's Block	2.03	172	*e*P	Pn	15 28 28.7	+1.4
BBL				*e*S	Sn	15 28 57.9	+5.6
MDN	Morne-Daniel	2.25	171	*e*P	Pn	15 28 32.7	+2.2

MEX 11 15:38:52.6±0.4,15.88N×95.50W,h40^{km}±11^{km},MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.60	260	*i* P	P	15 39 03.0	-1.7
HUIG				*i* S	S	15 39 11.0	-2.5
CMIG	Matias Romero	1.34	26	*e*P	P	15 39 13.0	-2.3
CMIG				*i* S	S	15 39 29.3	-2.8
OXX	Oaxaca	1.68	316	*i* P	P	15 39 18.0	-2.0
OXX				*i* S	S	15 39 37.5	-3.0

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*NEIC **11** 15:39:14.8,36.78N×27.64E,h5^{km},MD3.3(ATH),After ATH.*

*ATH **11** 15:39:14.7,36.79N×27.64E,h5^{km},MD3.3/5*

*ISK **11** 15:39:17.0,37.24N×27.94E,h13^{km},MD3.1*

ISC 11 15:39:12.8±0.7,36.92N±0.05×27.76E±0.06,h5^{km},n13, σ1^{s}25/15,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	Milas	0.37	2	*i* PG	Pg	15 39 21.3	+1.0
YER	Yerkesik	0.47	63	*i* PG	Pg	15 39 22.5	+0.2
YER				*i* SG	Sg	15 39 28.5	-0.1
ARG	Arkhangelos	0.77	157	*e*PG	Pg	15 39 27.9	-0.2
SMG	Samos	1.07	317	*e*PG	Pg	15 39 35.5	+1.2
DENT	Denizli	1.31	50	PG	Pg	15 39 36.4	-2.6
DENT				SG	Sg	15 39 51.9	-4.6
KARP	Karpathos	1.46	200	*e*PB	Pb	15 39 40.2	+0.2
IZM	Izmir	1.52	345	PN	Pn	15 39 40.7	-0.1
ELL	Elmali	1.73	95	*e*PN	Pn	15 39 46.8	+2.9
APE	Apeiranthos	1.79	275	*e*PN	Pn	15 39 50.9	+6.3
APE	Apeiranthos	1.79	275	*e*PG	Pg	15 39 46.0	-2.5
AKS	Akhisar	1.95	1	*e*PN	Pn	15 39 46.3	-0.7
PRK	Paraskevi	2.60	334	*e*PN	Pn	15 40 02.5	+6.3
PRK	Paraskevi	2.60	334	*e*Pn	Pn	15 40 03.1	+6.9

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*NSSC **11** 15:48:10.7,39.58N×39.98E,h39^{km}*

*GRAL **11** 15:48:16.4±3.1,39.04N×39.97E,h15^{km},MD4.8*

*BJI **11** 15:48:19.0,38.21N×38.38E,h7^{km},mB5.4,mb5.2,Ms5.7, Msz5.4*

*ISK **11** 15:48:23.9,38.37N×39.22E,h5^{km},ML5.5*

*IGIL **11** 15:48:25.3,38.40N×39.20E,h2^{km},MS5.3*

*PDG **11** 15:48:25.1±0.3,38.41N×39.21E,h6^{km}±2^{km}*

*IDC **11** 15:48:25.8±0.5,38.42N×39.26E,mb4.9/22,mb1 5.0/30, mb1mx5.0/31,ML4.0/8,MS5.2/23,Ms1 5.3/23, ms1mx5.2/24,Error ellipse: s-maj=10.8km s-min=8.7km az=179.0*

*HRVD **11** 15:48:26.8±0.1,38.50N×39.09E,h14^{km}±1^{km},MW5.6/68, Centroid moment Tensor Solution. LP body waves: s51,c96;Mantle waves: s68,c151; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13±.05; $M_{\theta\theta}$-2.67±.06; $M_{\phi\phi}$2.79±.05; $M_{r\theta}$0.38±.11; $M_{\theta\phi}$2.29±.05; $M_{\phi r}$-0.29±.10; Best double couple: $M_0$3.6×10^{17} NP1: ϕ_s245°,δ83°,λ-4°. NP2:ϕ_s335°,δ86°,λ-173°. Principal axes: T 3.63, Plg2°, Azm110°; N -.07, Plg82°, Azm4°; P -3.56, Plg8°, Azm200°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **11** 15:48:26.5,38.37N×39.10E,h10^{km},mb5.3*

*MOS **11** 15:48:26.3±1.3,38.52N×39.27E,h10^{km},mb5.5/40, MS5.2/47,Error ellipse: s-maj=5.5km s-min=3.3km az=118.7*

*ZUR_RM **11** 15:48:26,38.38N×39.26E,h4^{km},Mw5.7/18,Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$-2.94; $M_{\phi\phi}$2.90; $M_{r\theta}$1.33; $M_{\theta\phi}$2.63; $M_{\phi r}$-0.23; Best double couple: $M_0$4.14×10^{17} NP1:ϕ_s245°,δ81°,λ-15°. NP2:ϕ_s337°,δ75°,λ-171°. Principal axes: T 3.931, Plg4°, Azm292°; N .415, Plg73°, Azm35°; P -4.346, Plg17°, Azm200°;*

*NEIC **11** 15:48:26.8±0.7,38.38N×39.26E,h7^{km}±4^{km},mb5.3/120, MS5.5/105,MW5.6 Error ellipse: s-maj=2.9km s-min=2.5km az=191.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46; $M_{\theta\theta}$-2.01; $M_{\phi\phi}$2.47; $M_{r\theta}$0.08; $M_{\theta\phi}$1.53; $M_{\phi r}$-0.55; Best double couple: $M_0$2.8×10^{17} NP1:ϕ_s242°,δ79°,λ1°. NP2:ϕ_s152°,δ89°, λ169°. Principal axes: T 3.01, Plg8°, Azm107°; N -.5, Plg79°, Azm327°; P -2.51, Plg7°, Azm198°;*

NEIC One person killed, 11 people injured and several houses damaged in the Elazig-Sivrice area.

*NIC **11** 15:48:31.3±0.3,38.71N×38.79E,h25^{km},mb5.9,ML5.8, Eartquake Turkey 33 km S Elazig.*

ISC 11 15:48:25.0±0.1,38.34N±0.01×39.25E±0.01,h7^{km}, (h14^{km}±1.3^{km}:pP-P),n875,σ1^{s}09/884,mb5.3/209, MS5.4/151,136C-67D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MALT	Malatya	0.65	268	*i* PG	Pg	15 48 36.9	-1.2
MALT				*i* SG	Sg	15 48 47.1	+0.3
MALT	Malatya	0.65	268	Pg	Pg	15 48 37.2	-0.9
MYA	Malataya	0.65	269	*i* PG	Pg	15 48 36.8	-1.3
DIY	Diyarbakir	0.89	120	*i* PG	Pg	15 48 42.8	0.0
BINT	Bingol	1.11	61	*i* PN	Pn	15 48 45.7	-1.1
BINT	Bingol	1.11	61	Pn	Pn	15 48 45.1	-1.7
EZC	Erzincan	1.47	17	*i* PN	Pn	15 48 50.6	-1.4
EZC	Erzincan	1.47	17	Pn	Pn	15 48 49.9	-2.1
BTMT	Batman	1.77	94	*i* PN	Pn	15 48 55.7	-0.5
VRT	Varto	1.95	65	*i* PN	Pn	15 49 00.2	+1.4
VRT	Varto	1.95	65	Pn	Pn	15 48 59.8	+1.0
GAZ	Gaziantep	1.99	235	*i* PN	Pn	15 48 59.9	+0.4
GAZ	Gaziantep	1.99	235	Pn	Pn	15 49 00.0	+0.5
GUMT	Gumushane	2.12	5	*i* PN	Pn	15 49 01.9	+0.5
GUMT	Gumushane	2.12	5	Pn	Pn	15 49 00.9	-0.5
EZM	Erzurum	2.27	46	*i* PN	Pn	15 49 04.1	+0.7
DRWC	Darouich	2.68	231	⇓P	Pn	15 49 09.2	-0.2
DRWC				⇓S	Sn	15 49 51.8	+9.5
TOKT	Tokat	2.88	314	PN	Pn	15 49 13.0	+0.8
TOKT	Tokat	2.88	314	Pn	Pn	15 49 12.7	+0.5
CEYT	Ceyhan	3.08	246	PN	Pn	15 49 16.2	+1.2
BTCH	Batrach	3.20	225	⇓P	Pn	15 49 16.4	-0.3
BTCH				⇓S	Sn	15 50 04.7	+9.1
VANT	Van	3.25	87	PN	Pn	15 49 17.2	-0.3
VANB	Van	3.26	84	PN	Pn	15 49 18.0	+0.5
VANB	Van	3.26	84	Pn	Pn	15 49 18.5	+1.0
YOZ	Yozgat	3.33	294	PN	Pn	15 49 18.9	+0.4
YOZ	Yozgat	3.33	294	Pn	Pn	15 49 19.4	+0.9
HTY	Hatay	3.33	229	PN	Pn	15 49 18.6	0.0
HTY	Hatay	3.33	229	Pn	Pn	15 49 19.0	+0.4
ARNB	Al Arnab	3.61	228	⇑P	Pn	15 49 22.8	+0.3
ARNB				⇑S	Sn	15 50 15.1	+9.3
HKR	Hakkari	3.63	101	PN	Pn	15 49 23.0	+0.2
HKR	Hakkari	3.63	101	Pn	Pn	15 49 23.1	+0.3
WRDH	Warideh	3.63	220	⇑P	Pn	15 49 23.0	+0.2
WRDH				⇑S	Sn	15 50 16.3	+10
SLNF	Slenfeh	3.66	222	⇑P	Pn	15 49 23.4	+0.1
SLNF				⇑S	Sn	15 50 16.3	+9.2
NIG	Nigde	3.66	268	PN	Pn	15 49 24.2	+0.9
NIG	Nigde	3.66	268	Pn	Pn	15 49 24.6	+1.3
KFRA	Kufra	3.69	213	⇓P	Pn	15 49 24.1	+0.4
KARS	Kars	3.74	51	PN	Pn	15 49 24.0	-0.4
KARS	Kars	3.74	51	Pn	Pn	15 49 25.0	+0.6
BIDA	Albida	4.07	216	⇓P	Pn	15 49 29.1	0.0
RABH	Abou Rabah	4.23	204	⇓P	Pn	15 49 32.7	+1.3
KAMT	Kaman	4.45	285	*e*PN	Pn	15 49 34.4	0.0
KAMT	Kaman	4.45	285	Pn	Pn	15 49 35.0	+0.6
HAWK	Haweek	4.45	212	⇑P	Pn	15 49 35.6	+1.2
BRTR	Keskin Array B	4.58	289	Pn	Pn	15 49 36.5	+0.1
	20nm,0.3s,baz=117,slow=11,SNR=412						
BRTR				Sn	Sn	15 50 30.5	-0.1
	baz=98,slow=20,SNR=2.2						
BRTR				Lg		15 50 52.5	
	11nm,0.3s,baz=114,slow=26,SNR=3.8						
BRTR				LR	LR	15 51 38.7	
	comp=Z,137μm,18.1s,baz=115,slow=42						
GNI	Garni	4.63	65	Pn	Pn	15 49 37.9	+0.8
	35nm,0.3s,baz=311,slow=3.0,SNR=34						
GNI				Lg		15 50 54.9	
	baz=64,slow=17,SNR=1.7						
GNI	Garni	4.63	65	P	Pn	15 49 37.9	+0.9
GNI				pmax	pmax		
	comp=Z,35nm,0.3s						
BYBT	Boyabat	4.65	314	*e*PN	Pn	15 49 37.5	+0.1
BYBT	Boyabat	4.65	314	Pn	Pn	15 49 37.8	+0.4
TOS	Tosya	4.85	305	*e*PN	Pn	15 49 41.0	+0.8
MARH	Ras Al Marh	4.85	208	⇓P	Pn	15 49 40.3	+0.1
HWQ	Hawqa	4.85	214	*e*PN	Pn	15 49 40.4	+0.2
HWQ				SN	Sn	15 50 40.1	+2.8
IKL	Isikli	4.91	246	*e*PN	Pn	15 49 41.4	+0.4
IKL	Isikli	4.91	246	Pn	Pn	15 49 41.5	+0.5
CANT	Cankiri	4.91	299	*e*PN	Pn	15 49 41.6	+0.6
SOC	Sochi	5.25	4	*i* P	Pn	15 49 43.7	-2.1
SOC				*e*S	Sn	15 50 45.0	-2.3
SOC				pmax	pmax		
	comp=N,2μm,1.2s						
SOC				pmax	pmax		
	comp=E,1μm,1.2s						
SOC				pmax	pmax		
	comp=Z,2μm,1.2s						
SOC				MLR	MLR		
	comp=Z,36μm,13.0s						
SOC				MLR	MLR		
	comp=N,41μm,12.0s						
SOC				MLR	MLR		
	comp=E,15μm,9.0s						
SOC	Sochi	5.25	4	⇓*i*P	Pn	15 49 43.7	-2.1
ANTO	Ankara	5.25	289	*e*PN	Pn	15 49 45.5	-0.3
LOD	Lodumlu	5.28	289	*e*PN	Pn	15 49 46.9	+0.7
BHL	Bhannes	5.30	214	*e*PN	Pn	15 49 46.9	+0.4
BHL				SN	Sn	15 50 55.5	+6.9
PHNC	Paralimni	5.36	233	⇓P	Pn	15 49 48.8	+1.5
	comp=E,114nm,1.9s						
PHNC				S	Sn	15 50 49.0	-1.0
PHNC	Paralimni	5.36	233	⇓*i*P	Pn	15 49 48.8	+1.5
PHNC				S	Sn	15 50 49.0	-1.0
QASN	Qassioun	5.37	208	⇑P	Pn	15 49 48.0	+0.5
BZK	Bozkurt	5.41	314	*e*PN	Pn	15 49 48.4	+0.4
KONT	Konya--Tatoy	5.45	268	PN	Pn	15 49 48.2	-0.4
KONT	Konya--Tatoy	5.45	268	Pn	Pn	15 49 49.9	+1.3
TOTH	TOTAH	5.47	206	⇑P	Pn	15 49 49.2	+0.3
TOTH				⇑S	Sn	15 51 00.6	+7.7
BRBR	Barbar	5.60	210	⇑P	Pn	15 49 51.7	+0.9
BRBR				⇑S	Sn	15 51 05.2	+9.0
ZALF	Zalf	5.63	197	⇓P	Pn	15 49 50.9	-0.2
ZALF				⇓S	Sn	15 51 05.2	+8.4
MAMC	Mammari	5.79	239	P	Pn	15 49 53.8	+0.5
MATL	Matirih	5.79	215	*e*PN	Pn	15 49 52.6	-0.8
KIZT	Kizilcal	5.80	278	*e*PN	Pn	15 49 54.4	+0.9
HRI	Mount Hermon	5.81	211	P	Pn	15 49 54.5	+0.7
SAFT	Safranbolu	5.83	302	*e*PN	Pn	15 49 54.3	+0.4
CSS	Prodhromos	5.83	236	P	Pn	15 49 53.9	-0.1
	comp=E,53nm,2.1s						
CSS				S	Sn	15 50 59.7	-2.3
CSS	Prodhromos	5.83	236	*e*P	Pn	15 49 49.2	-4.9
	comp=E,143nm,0.5s						
CSS				S	Sn	15 50 59.7	-2.3
SALA	Sala	5.98	201	⇓P	Pn	15 49 56.3	+0.2
SALA				⇓S	Sn	15 51 12.9	+7.2
KSHT	Keshet	6.04	209	P	Pn	15 49 57.1	+0.2
HNTI	Hanita	6.21	214	P	Pn	15 49 59.1	-0.2
ALFC	Alevga	6.21	241	P	Pn	15 49 59.3	-0.1
ALFC				S	Sn	15 51 08.8	-2.7
SZAC	Souni-Zanaja	6.25	237	⇑P	Pn	15 50 00.4	+0.5
	comp=E,25nm,1.2s						
SZAC				S	Sn	15 51 14.6	+2.2
SZAC	Souni-Zanaja	6.25	237	⇑*i*P	Pn	15 50 00.4	+0.5
SZAC				S	Sn	15 51 14.6	+2.2
TCHB	Talchebab	6.26	206	⇑P	Pn	15 49 59.9	-0.1
TCHB				⇑S	Sn	15 51 20.7	+8.1

ASF	Jabal al Asfar	6.45	198	Pn	Pn	15 50 02.4	-0.3
	comp=E,5.2nm,0.3s,baz=265,slow=6.3,SNR=166						
ASF				Lg		15 51 53.4	
	comp=E,16nm,0.3s,baz=246,slow=20,SNR=3.0						
AKMC	Akamas	6.47	241	P	Pn	15 50 02.8	-0.2
HAF	Haifa	6.53	213	P	Pn	15 50 05.2	+1.3
PPCY	Paphos	6.54	240	P	Pn	15 50 04.3	+0.3
MDU	Mudurnu	6.58	291	*e*PN	Pn	15 50 05.1	+0.6
ANN	Anapa	6.60	349	*c* *i*P	Pn	15 50 05.8	+1.0
ANN				*e*S	Sn	15 51 19.6	-1.5
ANN				pmax	pmax		
	comp=Z,113nm,1.0s						
ANN				MLR	MLR		
	comp=Z,24µm,12.1s						
ANN				MLR	MLR		
	comp=N,24µm,10.8s						
ANN				MLR	MLR		
	comp=E,4µm,21.0s						
ANN	Anapa	6.60	349	⇑*i*P	Pn	15 50 05.8	+1.0
ESKT	Eskisehir	6.66	283	*e*PN	Pn	15 50 06.4	+0.8
MMLI	Mount Malkishu	6.67	209	P	Pn	15 50 06.1	+0.3
OFRI	‘Ofer	6.68	213	P	Pn	15 50 06.2	+0.2
HMDT	Nahal Hemdat	6.79	208	P	Pn	15 50 07.9	+0.3
ISP	Isparta	6.91	269	*e*PN	Pn	15 50 09.5	+0.2
ISP	Isparta	6.91	269	*e*P	Pn	15 50 11.4	+2.1
SLTI	Sal’it	6.99	211	P	Pn	15 50 10.8	+0.4
QURS	Qurayyt al Mil	7.12	193	P	Pn	15 50 11.4	-0.7
GOF	Gofitskoye	7.28	22	*e*P	Pn	15 50 11.0	-3.4
GOF				pmax	pmax		
	comp=Z,3µm,11.0s						
DRGI	Dragot	7.44	206	P	Pn	15 50 16.6	0.0
ELL	Elmali	7.59	261	*e*PN	Pn	15 50 18.9	+0.1
SIM	Simferopol’	7.64	331	*e*P	Pn	15 50 20.4	+1.0
MZDA	Masada	7.71	206	P	Pn	15 50 20.5	+0.1
MAK	Makhachkala	7.79	51	⇓*i*P	Pn	15 50 25.7	+4.2
MAK				pmax	pmax		
	comp=N,800nm,2.0s						
MAK				pmax	pmax		
	comp=E,500nm,2.0s						
MAK				pmax	pmax		
	comp=Z,2µm,2.0s						
MAK				pmax	pmax		
	comp=N,816nm,1.7s						
MAK				pmax	pmax		
	comp=E,2µm,1.7s						
MAK				pmax	pmax		
	comp=Z,2µm,1.7s						
MAK				MLR	MLR		
	comp=Z,64µm,8.0s						
HRT	Hereke	7.81	292	*e*PN	Pn	15 50 21.7	-0.1
KZIT	Kziot	8.43	210	P	P	15 50 30.7	+0.3
ZFRI	Zfri	8.46	205	P	P	15 50 30.5	-0.4
PRNI	Paran	8.71	205	P	P	15 50 33.2	-1.1
KMTI	Karmit	9.03	206	P	P	15 50 37.9	-0.8
MBH	Mount Berech	9.25	204	P	P	15 50 39.5	-2.3
EIL	Elat	9.35	204	P	P	15 50 42.7	-0.6
JMOS	Jabal al Moall	9.77	202	P	P	15 50 48.4	-0.7
JMQS	Jabal Moqyreh	9.84	198	P	P	15 50 49.3	-0.7
PSN	Preselentsi	9.92	306	*i* P	P	15 50 52.0	+1.0
HAQS	Haql	9.93	202	P	P	15 50 50.8	-0.5
TIRR	Tirgusor	10.18	310	P	P	15 50 52.5	-2.0
PRD	Provadia	10.21	302	*i* P	P	15 50 53.5	-1.6
TBKS	Tabuk	10.34	193	P	P	15 50 55.5	-1.3
BDAS	Al Bad‘	10.47	201	P	P	15 50 58.5	-0.1
JMB	Yambol	10.50	297	P	P	15 51 00.0	+1.0
HARR	Harsova	10.59	310	⇑*i*P	P	15 50 58.2	-2.0
HARR	Harsova	10.59	310	⇑*i*P	P	15 50 58.4	-1.9
AYUS	‘Aynunah	10.66	199	P	P	15 51 00.7	-0.4
MIB	Mutribah	10.83	139	*e*P	P	15 50 59.9	-3.7
MIB				AML	AML	15 53 42.8	
	comp=Z,104nm,0.7s						
RDO	Rodhopi	10.93	289	P	P	15 51 04.4	-0.4
APE	Apeiranthos	10.95	268	*e*P	P	15 51 08.6	+3.5
DIM	Dimitrovgrad	11.13	294	P	P	15 51 10.0	+2.4
HILS	Ha’il	11.13	168	P	P	15 51 05.2	-2.5
SANT	Santorini	11.15	264	*e*P	P	15 51 08.6	+0.7
SZH	Strazhica	11.23	300	P	P	15 51 08.0	-0.9
UMR	Umm Al-Rimmam	11.23	139	*e*P	P	15 51 04.7	-4.2
UMR				*e*S	S	15 53 03.2	-13
UMR				AML	AML	15 54 11.0	
	comp=Z,103nm,0.8s						
KIS	Kishinev	11.56	322	*e*P	P	15 51 10.0	-3.4
KIS				*i* S	S	15 53 23.0	-0.8
BUC1	Bucharest	11.61	305	⇓*i*P	P	15 51 14.2	+0.1
BUC1	Bucharest	11.61	305	⇓*i*P	P	15 51 14.3	+0.3
PVL	Pavlikeni	11.62	299	P	P	15 51 17.3	+3.1
RZN	Rozhen	11.64	291	*i* P	P	15 51 12.5	-2.0
RDF	Al-Radifah	11.65	141	*e*P	P	15 51 09.8	-4.9
RDF				*e*S	S	15 53 12.9	-13
RDF				AML	AML	15 54 06.0	
	comp=Z,92nm,0.6s						
ISR	Istrita	11.66	310	⇑*i*P	P	15 51 15.6	+0.9
PLD	Plovdiv	11.74	293	P	P	15 51 14.5	-1.4
IDI	Anoyia	11.91	260	Pn	P	15 51 17.2	-1.0
	comp=Z,4.2nm,0.3s,baz=88,slow=12,SNR=28						
VRI	Vrincioaia	11.95	313	⇑*i*P	P	15 51 17.4	-1.3
VRI	Vrincioaia	11.95	313	⇑*i*P	P	15 51 17.6	-1.2
MLR	Muntele Rosu	12.21	310	Pn	P	15 51 20.6	-1.7
	comp=Z,0.1nm,0.3s,baz=122,slow=6.6,SNR=13						
MLR				LR	LR	15 57 12.9	
	comp=Z,28µm,20.1s,baz=288,slow=43						
PGB	Panagyurishte	12.24	295	P	P	15 51 23.3	+0.7
MMB	Musomiste	12.35	290	*i* P	P	15 51 23.7	-0.4
VAM	Vamos	12.40	261	*e*P	P	15 51 30.5	+5.6
GVD	Gavdhos	12.68	259	*e*P	P	15 51 27.4	-1.1
	comp=Z,175nm,0.8s						
ARSS	Ar Rass	12.87	164	P	P	15 51 28.7	-2.4
VTS	Vitosha	12.93	294	P	P	15 51 32.0	+0.1
VTS	Vitosha	12.93	294	P	P	15 51 32.7	+0.8
VLI	Veliai	13.05	268	*e*P	P	15 51 34.0	+0.5
VAY	Valandovo	13.16	288	⇑*i*P	P	15 51 34.1	-0.9
UMJS	Umm Lajj	13.17	188	P	P	15 51 36.2	+1.1
VOR	Voronezh	13.39	360	*e*P	P	15 51 39.0	+1.1
VOR				*e*		15 54 10.3	
VOR				pmax	pmax		
	comp=Z,160nm,1.8s						
VOR				pmax	pmax		
	comp=N,370nm,1.6s						
VOR				pmax	pmax		
	comp=E,30nm,1.6s						
KPJ	Monastery St.	13.46	292	⇓*i*P	P	15 51 40.7	+1.8
EVR	Evrytania	13.65	278	*e*P	P	15 51 43.5	+2.1
ITM	Ithomi	13.76	271	*e*P	P	15 51 44.5	+1.7
BARS	Barje	13.98	294	⇑*i*P	P	15 51 45.9	+0.2
YNBS	Yanbu‘ al Bahr	14.00	185	P	P	15 51 45.2	-0.8
SKO	Skopje	14.10	291	⇑*i*P	P	15 51 48.8	+1.6
BOLS	Boljevac	14.14	298	⇑*i*P	P	15 51 48.7	+0.9
AKASG	Malin Array Be	14.26	333	Pn	P	15 51 46.5	-2.8
	comp=E,1.3nm,0.3s,baz=147,slow=13,SNR=19						
AKASG	Malin Array Be	14.26	333	P	P	15 51 46.5	-2.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OHR	Ohrid	14.47	287	⇑*i*P	P	15 51 53.0	+0.9
VLS	Valsamata	14.67	275	*e*P	P	15 51 57.5	+2.8
AFFS	‘Afif	14.72	166	P	P	15 51 56.7	+1.2
SVIS	Svilajnac	14.79	299	⇓*i*P	P	15 51 57.3	+1.1
VAN	Vannovskaya	14.85	86	*e*P	P	15 51 55.7	-1.4
VAN				*e*S	S	15 54 43.3	+0.6
GRUS	Gruza	15.02	298	⇓*i*P	P	15 51 59.6	+0.3
QSH	Qafa e Shtames	15.18	288	*e*Pn	P	15 52 03.4	+2.0
KEK	Kerkira	15.19	281	*e*P	P	15 52 03.0	+1.5
PVY	Plav	15.27	292	⇓*i*Pn	P	15 52 05.0	+2.4
PRZA	Preza	15.35	288	*e*Pn	P	15 52 08.5	+4.9
IVA	Berane	15.38	293	⇓*i*Pn	P	15 52 06.7	+2.8
BEO	Belgrade	15.47	301	⇓*i*P	P	15 52 06.0	+0.9
DIVS	Divcibare	15.58	298	⇓*i*P	P	15 52 07.5	+0.9
NVSS	Nova Varos 2	15.64	295	⇓*i*P	P	15 52 07.5	+0.1
ULC	Ulcinj	15.71	290	⇓*i*Pn	P	15 52 10.7	+2.4
TTG	Podgorica	15.77	291	⇓*i*Pn	P	15 52 11.4	+2.3
LVV	L’vov	15.82	321	*e*P	P	15 52 09.0	-0.6
HASS	Wahat al Ahsa’	15.82	143	P	P	15 52 08.2	-1.6
PLE	Pljevlja	15.83	295	⇓*i*Pn	P	15 52 12.3	+2.5
UZH	Uzhgorod	16.00	315	*e*P	P	15 52 11.0	-1.0
BUM	Brajici-Budva	16.02	291	⇓*i*Pn	P	15 52 14.3	+2.1
NKY	Niksic	16.02	293	⇓*i*Pn	P	15 52 14.8	+2.5
UPM	Unac-Piva	16.15	294	⇓*i*Pn	P	15 52 16.3	+2.4
HCY	Herceg Novi	16.33	291	⇓*i*Pn	P	15 52 17.5	+1.3
BRY	Bratogost	16.36	293	⇓*i*Pn	P	15 52 18.6	+1.9
KWP	Kalwaria	16.37	319	*e*P	P	15 52 16.7	+0.1
KWP				MLR	MLR		
	comp=Z,7µm,20.5s						
KWP	Kalwaria	16.37	319	*e*P	P	15 52 16.7	+0.1
KWP				*e*pP		15 52 20.7	
KWP				*e*S	S	15 55 30.1	+12
KWP				*e*SS	SS	15 55 34.7	-3.1
LCI	Lecce	16.48	284	⇓*i*P	P	15 52 18.0	-0.1
CRVS	Cervenica-Dubn	16.61	315	*e*PN	P	15 52 19.3	-0.5
OBN	Obninsk	16.88	355	*d* *i*P	P	15 52 19.8	-3.3
OBN				*i* S	S	15 55 30.7	+0.8
OBN				pmax	pmax		
	comp=Z,531nm,2.6s						
OBN				pmax	pmax		
	comp=Z,144nm,1.3s						
OBN				MLR	MLR		
	comp=Z,12µm,13.0s						
OBN	Obninsk	16.88	355	*e*P	P	15 52 19.9	-3.1
	comp=Z,135nm,1.3s						
KECS	Kecovo	16.95	313	*e*PN	P	15 52 24.9	+0.9
STON	Ston	16.97	292	*i* Pn	P	15 52 23.7	-0.6
STON				*i* Sn	S	15 55 30.1	-2.0
PSZ	Piszkesteto	17.03	310	⇑*i*P	P	15 52 24.8	-0.2
PSZ				*e*SS	SS	15 55 48.7	-5.6
PSZ	Piszkesteto	17.03	310	*e*P	P	15 52 23.8	-1.2
PSZ				pmax	pmax		
	comp=Z,81nm,1.3s						
PSZ	Piszkesteto	17.03	310	*e*P	P	15 52 23.8	-1.2
	comp=Z,87nm,1.4s						
BRT	Bari-Castellan	17.17	285	⇓*i*P	P	15 52 26.4	-0.5
BUD	Budapest	17.37	308	⇑*e*P	P	15 52 31.4	+2.1
MOS	Moscow	17.44	357	⇑*i*P	P	15 52 29.3	-0.8
MOS				*e*S	S	15 55 49.4	+6.6
MOS				pmax	pmax		
	comp=Z,650nm,1.3s						
MOS				MLR	MLR		
	comp=Z,23µm,11.3s						
MOS				MLR	MLR		
	comp=N,18µm,11.7s						
TIP	Timpagrande	17.56	280	*e*P	P	15 52 30.9	-0.9
ORI	Oriolo Calabro	17.75	283	⇓*i*P	P	15 52 35.5	+1.4
GRI	Girifalco	17.86	279	*e*P	P	15 52 37.2	+1.8
VYHS	Vyhne	17.92	311	*e*P	P	15 52 36.2	+0.1
VYHS				*e*S	S	15 56 07.6	+14
MNK	Minsk	17.94	338	*e*P	P	15 52 33.0	-3.3
MNK				*e*S	S	15 55 50.0	-4.2
MNK				MLR	MLR		
	comp=N,9µm,14.0s						
MNK				MLR	MLR		
	comp=Z,12µm,15.0s						
MNK				MLR	MLR		
	comp=E,6µm,14.0s						
SRO	Srobarova	17.94	309	*e*P	P	15 52 38.1	+1.7
KOLL	Kolacno	18.21	311	*e*P	P	15 52 41.2	+1.3
OJC	Ojcow	18.24	317	*e*P	P	15 52 37.6	-2.6
OJC				*e*S	S	15 55 56.7	-4.3
OJC				MLR	MLR		
	comp=Z,15µm,17.9s						
CUC	Castrocucco	18.24	283	P	P	15 52 41.1	+0.8
PECR	Pechory	18.27	9	*d* *i*P	P	15 52 38.0	-2.5
PECR				*e*S	S	15 56 05.2	+3.5
PECR				pmax	pmax		
	comp=Z,2µm,5.0s						
PECR				pmax	pmax		
	comp=N,2µm,6.0s						
PECR				smax			
	comp=N,9µm,3.6s						
PECR				MLR	MLR		
	comp=Z,6µm,16.0s						
PECR				MLR	MLR		
	comp=N,15µm,15.0s						
PECR				MLR	MLR		
	comp=Z,4µm,17.0s						
PECR				MLR	MLR		
	comp=N,8µm,14.0s						
SLCN	Sala Consilina	18.37	284	*e*P	P	15 52 45.9	+4.0
RGNG	Rignano Grg	18.42	288	⇓*i*P	P	15 52 42.5	0.0
SISC	Sisak	18.43	300	*i* P	P	15 52 45.4	+2.9
AB31	Akbulak array	18.43	47	*i* P	P	15 52 39.3	-3.3
AB31				pmax	pmax		
	comp=Z,239nm,1.5s						
MGR	Morigerati	18.44	283	⇓*i*P	P	15 52 43.0	+0.3
SCLL	Scilla	18.47	277	⇓*i*P	P	15 52 43.2	+0.1
MRLC	Muro Lucano	18.48	285	*e*P	P	15 52 44.8	+1.7
MTTG	Motta San Giov	18.52	276	⇑*i*P	P	15 52 43.1	-0.6
SGO	Sicignano	18.61	284	⇑*i*P	P	15 52 45.6	+0.8
FG5	Orsara di Pugl	18.65	287	⇑*i*P	P	15 52 45.9	+0.7
ATN	Antennamare	18.68	277	⇑*i*P	P	15 52 46.3	+0.6
SMOL	Smolenice	18.77	310	*e*P	P	15 52 47.2	+0.5
CSSN	Cassano Irpino	18.83	285	⇓*i*P	P	15 52 47.7	+0.3
WAR	Warsaw	18.84	323	*e*P	P	15 52 46.6	-0.8
WAR				*e*S	S	15 56 16.5	+2.0
WAR				MLR	MLR		
	comp=Z,7µm,22.2s						
WAR	Warsaw	18.84	323	*e*P	P	15 52 46.6	-0.8
WAR				*e*pP		15 52 52.8	
WAR				*e*S	S	15 56 16.5	+2.0
WAR				*e*S	S	15 56 22.3	+7.8
WAR				*e*SS	SS	15 56 25.2	-14
WAR				*e*SS	SS	15 56 25.5	-14
ZST	Bratislava	18.84	309	*i* P	P	15 52 48.1	+0.6
ZST				*e*		16 01 16.5	
MRB1	Monte Rocchett	18.87	286	*i* P	P	15 52 49.8	+1.9
OKC	Ostrava-Krasne	18.95	314	⇑*i*P	P	15 52 47.1	-1.7
OKC				*e*		15 53 09.8	
OKC				*e*S	S	15 56 24.1	+7.0
OKC				LM		16 01 40.0	
	comp=Z,10nm,12.6s						
OKC	Ostrava-Krasne	18.95	314	⇑*i*P	P	15 52 47.1	-1.7
OKC				*e*S	S	15 56 24.1	+7.0
OKC				MLR	MLR		
	comp=Z,10µm,12.6s						
SOP	Sopron	18.98	307	⇑*i*P	P	15 52 49.7	+0.5
ECTS	Castiglione	18.99	276	⇑*i*P	P	15 52 49.6	+0.3
AGST	Augusta-Monte	19.01	274	⇓*i*P	P	15 52 51.0	+1.4
RAC	Raciborz	19.05	315	*e*P	P	15 52 49.2	-0.8
RAC				*e*S	S	15 56 18.0	-1.3
RAC				MLR	MLR		
	comp=Z,10µm,26.1s						
RAC				MLR	MLR		
	comp=N,12µm,16.9s						
RAC				MLR	MLR		
	comp=E,11µm,20.1s						
SLNA	Salina	19.12	278	⇑*i*P	P	15 52 51.2	+0.3
CRES	Cresnjevec ost	19.14	301	P	P	15 52 51.4	+0.3
SUW	Suwalki	19.15	330	*e*P	P	15 52 49.4	-1.8
SUW				*e*S	S	15 56 25.9	+4.3
SUW				MLR	MLR		
	comp=Z,13µm,19.3s						
SUW	Suwalki	19.15	330	*e*P	P	15 52 49.4	-1.8
SUW				*e*pP		15 52 54.2	
SUW				*e*S	S	15 56 25.9	+4.3
SUW				*e*SS	SS	15 56 31.1	-16
SSY	Sortino	19.15	274	⇑*i*P	P	15 52 47.6	-3.7
BOJS	Bojanci	19.20	300	⇑*e*P	P	15 52 51.2	-0.6
BOJS				*e*S	S	15 56 33.4	+11
DOBS	Dobrina	19.21	302	P	P	15 52 52.1	+0.1
LEGS	Legarje	19.26	301	P	P	15 52 52.9	+0.4
MORC	Moravsky Berou	19.27	313	*e*P	P	15 52 50.5	-2.1
	comp=Z,182nm,1.7s						
PZI	Palazzolo	19.27	274	⇓*i*P	P	15 52 51.2	-1.5
NVLJ	Novalja	19.27	297	⇑*i*P	P	15 52 50.3	-2.3
GROS	Grobnik	19.27	302	P	P	15 52 52.8	+0.1
MNO	Monte Soro	19.31	276	⇓*i*P	P	15 52 53.5	+0.3
SGG	Gregorio Mates	19.32	287	*e*P	P	15 52 54.6	+1.4
VKA	Vienna	19.35	308	⇑*i*P	P	15 52 52.9	-0.7
	comp=Z,1µm,2.5s						
VKA				*i*		15 56 34.8	
VKA				MLRZ		16 03 30.0	
	comp=Z,14nm,14.0s						
CII	Carovilli	19.38	288	*e*P	P	15 52 54.7	+0.8
ARSA	Arzberg	19.50	305	⇑*i*P	P	15 52 54.4	-0.9
	comp=Z,591nm,3.1s						
PDKS	Podkum	19.51	301	P	P	15 52 55.7	+0.3
PERS	Pernice	19.58	303	P	P	15 52 56.2	0.0
VRAC	Vranov	19.61	311	P	P	15 52 56.4	-0.1
	comp=Z,0.3nm,0.3s,baz=121,slow=9.7,SNR=30						
VRAC				LR	LR	16 02 21.9	
	comp=Z,10µm,18.6s,baz=115,slow=43						
VAE	Valguarnera	19.61	275	P	P	15 52 57.2	+0.6
	comp=Z,2.7nm,0.3s,baz=79,slow=3.9,SNR=21						
VAE				LR	LR	16 02 20.9	
	comp=Z,7µm,18.7s,baz=108,slow=42						
KRUC	Moravsky	19.62	310	P	P	15 52 56.5	-0.2
MSC	Monte Massico	19.62	286	⇑*i*P	P	15 52 55.8	-1.0
INTR	Introdacqua	19.69	289	⇑*i*P	P	15 52 57.8	+0.3
CSLB	Castelbuono	19.81	277	⇑*i*P	P	15 52 58.1	-0.8
CEY	Cerknica	19.82	300	P	P	15 52 58.7	-0.2
LJU	Ljubljana	19.82	301	⇑*e*P	P	15 52 58.3	-0.5
LJU				*e*S	S	15 56 45.3	+8.8
GIB	Gibilmanna	19.83	277	*e*P	P	15 52 58.6	-0.5
WDD	Wield Dalam	19.86	270	P	P	15 53 00.0	+0.5
OBKA	Obir	19.92	302	⇑*i*P	P	15 52 59.5	-0.5
	comp=Z,1µm,4.1s						
TERO	Teramo	19.95	291	⇑*i*P	P	15 53 00.4	+0.1
AQU	L’Aquila	20.08	290	*e*P	P	15 53 01.0	-0.7
AQU	L’Aquila	20.08	290	*e*P	P	15 53 01.6	-0.1
JAVS	Javornik	20.10	300	⇑*e*P	P	15 53 01.0	-0.9
MCT	Mte Cammarata	20.19	276	*e*P	P	15 52 59.2	-3.7
DPC	Dobruska-Polom	20.23	314	⇑*i*P	P	15 53 01.2	-2.1
DPC				*e*		15 53 23.9	
DPC				*e*S	S	15 56 51.9	+6.8
DPC				LM		16 02 30.0	
	comp=Z,8.0nm,10.6s						
VOY	Vojsko	20.24	300	*e*P	P	15 53 03.0	-0.4
TRI	Trieste	20.26	299	⇓*i*P	P	15 53 02.8	-0.8
CING	Cingoli	20.30	293	⇑*i*P	P	15 53 03.6	-0.4
CERT	Cerreto	20.38	288	*e*P	P	15 53 08.3	+3.4
USI	Ustica	20.39	279	⇓*i*P	P	15 53 04.0	-1.0
DRE	Drenchia	20.45	301	⇓*e*P	P	15 53 06.0	+0.5
KSP	Ksiaz	20.48	315	*e*P	P	15 53 04.4	-1.5
KSP				*e**PP		15 53 11.8	
KSP				*e*S	S	15 56 54.6	+4.4
KSP				MLR	MLR		
	comp=Z,21µm,25.4s,MS5.4						
ARV	Arcevia	20.50	293	⇑*i*P	P	15 53 05.3	-0.8
ROBS	Robic	20.55	301	⇑*e*P	P	15 53 05.7	-0.9
LSR	Lussari	20.60	301	⇓*e*P	P	15 53 07.0	-0.1
MNS	Montasola	20.61	290	⇑*i*P	P	15 53 06.3	-1.0
COLI	Coloredo	20.62	300	⇑*e*P	P	15 53 08.0	+0.7
KMR	Kremsmunster	20.65	306	*c* *i*P	P	15 53 07.9	+0.3
KMR	Kremsmunster	20.65	306	*i* Pu		15 53 07.9	
PTCC	Patocco-Chiusa	20.70	301	⇑*i*P	P	15 53 08.0	-0.1
MFNL	Monte Finestre	20.72	277	*e*P	P	15 53 10.6	+2.1
BAD	Bernadia	20.73	301	⇓*i*P	P	15 53 08.0	-0.5
GMNA	Gemona	20.74	301	⇑*i*P	P	15 53 08.7	+0.1
MURB	Monte Urbino	20.78	292	*i* P	P	15 53 08.9	-0.1
MTGR	Montagna Grand	20.83	277	*e*P	P	15 53 08.2	-1.4
BOO	Bordano	20.85	301	⇓*e*P	P	15 53 09.0	-0.7
PLRO	Paularo	20.87	302	⇑*i*P	P	15 53 11.0	+1.1
KBA	Koelnbreinsper	20.87	303	⇑*i*P	P	15 53 10.0	+0.1
	comp=Z,362nm,1.9s						
RSM	Repubblica di	20.90	294	⇓*i*P	P	15 53 10.6	+0.3
MPRI	Monte Prat	20.91	301	⇓*i*P	P	15 53 10.0	-0.3
ZOU	Zoufplan	20.99	301	⇑*i*P	P	15 53 11.0	-0.1
PRU	Pruhonice	21.10	311	⇑*i*P	P	15 53 11.7	-0.6
	comp=Z,125nm,1.2s,mb5.1						
PRU				*e*		15 54 22.0	
PRU				*e*S	S	15 57 09.7	+7.3
PRU				LM		16 03 20.0	
	comp=Z,12nm,15.0s						
PRU	Pruhonice	21.10	311	⇑*i*P	P	15 53 11.7	-0.6
PRU				*e*S	S	15 57 09.7	+7.3
PRU				pmax	pmax		
	comp=Z,125nm,1.2s,mb5.1						
PRU				MLR	MLR		
	comp=Z,12µm,15.0s,MS5.4						
PRU	Pruhonice	21.10	311	⇑*i*P	P	15 53 11.7	-0.6
	comp=Z,125nm,1.2s,mb5.1						
PRU				*e*		15 54 22.0	
PRU				*e*S	S	15 57 09.7	+7.3
PRU				*e*S	S	15 57 10.3	+7.9
PRU				LR	LR		
	comp=Z,12µm,15.0s,MS5.4						
TOLF	Tolfa	21.11	289	⇑*i*P	P	15 53 12.3	-0.1
FVI	Forni Avoltri	21.13	301	⇑*i*P	P	15 53 12.4	-0.1
MLNI	Malnisio	21.14	300	⇓*i*P	P	15 53 12.0	-0.7
GEC2	GERESS Array S	21.18	308	*e*P	P	15 53 12.5	-0.6
GEC2				pmax	pmax		
	comp=Z,105nm,1.2s,mb5.0						
GEC2	GERESS Array S	21.18	308	*e*P	P	15 53 12.5	-0.6
	comp=Z,105nm,1.2s,mb5.0						
GERES	GERESS Array B	21.18	308	P	P	15 53 12.5	-0.6
	comp=Z,34nm,0.9s,mb4.7,baz=113,slow=10,SNR=189						
GERES				ScP		16 00 56.6	
	comp=Z,0.3nm,0.6s,baz=117,slow=3.0,SNR=4.0						
CSMI	Casera Mimoias	21.19	301	⇓*e*P	P	15 53 13.0	-0.2
BRSN	Barisano	21.21	295	*e*P	P	15 53 15.0	+1.7
CRE	Caprese Michel	21.23	293	⇑*i*P	P	15 53 13.4	-0.2
GKP	Gorka Klasztor	21.28	322	*e*P	P	15 53 13.2	-0.9
GKP				*e*S	S	15 57 10.1	+4.2
GKP				*e**SS		15 57 14.2	
GKP				MLR	MLR		
	comp=Z,14µm,17.2s,MS5.4						
PVCC	Panska Ves	21.31	313	⇑*i*P	P	15 53 13.6	-0.8
PVCC				LM		16 03 30.0	
	comp=Z,9.7nm,10.7s						
SFI	Santa Sofia	21.33	294	⇓*i*P	P	15 53 15.3	+0.7
KHC	Kasperske Hory	21.36	309	⇑*i*P	P	15 53 14.2	-0.7
KHC				AP		15 53 20.0	
KHC						15 53 26.0	
KHC				*e*S	S	15 57 13.7	+6.5
KHC				LM		16 03 30.0	
	comp=Z,10nm,13.2s						
KHC	Kasperske Hory	21.36	309	⇑*i*P	P	15 53 14.2	-0.7
KHC				*e*		15 53 20.0	
KHC				*e*S	S	15 57 13.7	+6.5
KHC				MLR	MLR		
	comp=Z,10µm,13.2s,MS5.4						
KHC	Kasperske Hory	21.36	309	⇑*i*P	P	15 53 14.2	-0.7
KHC				*e*		15 53 20.0	
KHC				*e*		15 53 26.0	
KHC				*e*S	S	15 57 13.7	+6.5
KHC				LR	LR		
	comp=Z,10µm,13.2s,MS5.4						
PGD	Poggio Sodo	21.42	294	⇑*i*P	P	15 53 16.3	+0.8
VMG	Vicchio	21.55	294	⇑*i*P	P	15 53 18.1	+1.3
CSNT	Castellina Chi	21.70	293	⇑*i*P	P	15 53 17.0	-1.3
SEI	Scarperia	21.70	294	⇑*i*P	P	15 53 19.6	+1.3
VSU	Vasula	21.71	342	*i* P	P	15 53 17.9	-0.5
VSU	Vasula	21.71	342	*i* Pr		15 53 17.9	
MAON	Monte Argentar	21.76	290	⇑*i*P	P	15 53 20.4	+1.4
CTI	Castel Tesino	21.78	300	⇑*i*P	P	15 53 19.2	+0.1
WET	Wettzell	21.79	308	*e*P	P	15 53 18.4	-0.8
WET				pmax	pmax		
	comp=Z,96nm,1.5s,mb5.0						
WET	Wettzell	21.79	308	*e*P	P	15 53 18.4	-0.8
	comp=Z,96nm,1.5s,mb5.0						
BRG	Berggiesshubel	21.82	313	*i* P	P	15 53 19.2	-0.3
BRG				*e*		15 53 27.4	
BRG				S	S	15 57 27.0	+11
BRG				pmax	pmax		
	comp=Z,128nm,2.1s,mb5.0						
BRG				MLR	MLR		
	comp=Z,9µm,10.5s,MS5.5						
BRG				MLR	MLR		
	comp=N,9µm,12.0s,MS5.4						
BRG				MLR	MLR		
	comp=E,3µm,12.0s,MS5.4						
BRG	Berggiesshubel	21.82	313	*i* P	P	15 53 19.2	-0.3
	comp=E,128nm,2.1s,mb5.0						
BRG				*e*		15 53 27.4	
BRG				S	S	15 57 27.0	+11
BRG				LR	LR		
	comp=Z,9µm,10.5s,MS5.5						
GRFL	Gerfalco	21.90	292	⇓*i*P	P	15 53 19.5	-0.9
ZCCA	Zocca	22.00	295	*e*P	P	15 53 23.0	+1.7
WTTA	Wattenberg	22.05	303	⇑*i*P	P	15 53 21.9	+0.1
	comp=Z,1µm,4.5s						
WATA	Walderalm	22.10	303	⇑*i*P	P	15 53 22.2	-0.2
	comp=Z,198nm,1.2s,mb5.4						
WATA				*i*		15 53 39.4	
	comp=Z,89nm,0.9s						
ARU	Arti	22.19	29	⇓*i*P	P	15 53 21.8	-1.4
ARU				*i*		15 53 41.6	
ARU				*i* S	S	15 57 26.1	+3.4
ARU				*i* SS	SS	15 57 52.8	-9.2
ARU				pmax	pmax		
	comp=Z,542nm,1.4s,mb5.8						
ARU				MLR	MLR		
	comp=Z,10µm,20.5s,MS5.2						
ARU				MLR	MLR		
	comp=N,5µm,22.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,6µm,19.0s,MS5.1						
ARU	Arti	22.19	29	*e*P	P	15 53 21.5	-1.6
	comp=E,976nm,1.5s,mb6.0						
ARU				LR	LR		
	comp=Z,3µm,21.0s,MS4.7						
PUL	Pulkovo	22.19	348	*e*P	P	15 53 25.5	+2.4

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PUL                                pmax   pmax
        comp=Z,427nm,1.1s,mb5.8
PUL                                pmax   pmax
        comp=N,904nm,0.9s
PUL                                pmax   pmax
        comp=E,335nm,0.8s
PUL                                MLR    MLR
        comp=Z,5µm,15.0s,MS5.0
PUL                                MLR    MLR
        comp=N,6µm,18.0s,MS5.3
PUL                                MLR    MLR
        comp=E,8µm,14.0s,MS5.3
BDI   Bagni Di Lucca   22.24 294⇑iP    P      15 53 23.3 -0.4
PII   Pisa             22.27 293 eP    P      15 53 23.4 -0.7
GSCL  Gusciola         22.28 295⇑iP    P      15 53 24.9 +0.8
MAIM                   22.31 294  P    P      15 53 23.0 -1.4
SQTA  Sankt Quirin     22.32 302⇑iP    P      15 53 24.6 +0.1
        comp=E,418nm,2.0s,mb5.5
BERN  Bernov           22.40 311 ⇑P    P      15 53 32.0 +6.7
VLC   Villacollemand   22.40 294 eP    P      15 53 24.0 -1.3
        comp=E,88nm,1.0s,mb5.2
ERBM  Eremo            22.41 295⇑iP    P      15 53 26.7 +1.2
MOTA  Moosalm          22.42 303⇑iP    P      15 53 25.0 -0.5
        comp=E,413nm,2.0s,mb5.5
NKC   Novy Kostel      22.44 311⇑iP    P      15 53 25.3 -0.4
NKC                              eS    S      15 57 34.8 +7.5
NKC                               LM          16 03 40.0
        comp=E,10nm,12.5s
SAL   Salo             22.48 298 eP    P      15 53 27.8 +1.7
FUR   Furstenfeldbru   22.51 305 eP    P      15 53 26.6 +0.3
FUR                               pmax   pmax
        comp=Z,520nm,1.2s,mb5.8
FUR   Furstenfeldbru   22.51 305 eP    P      15 53 26.6 +0.3
        comp=Z,520nm,1.2s,mb5.8
VALM                   22.52 295  P    P      15 53 27.0 +0.5
CLL   Collm            22.54 314  P    P      15 53 27.7 +1.1
        comp=Z,logA/T=1.8,mb5.0
CLL                              e            15 53 34.0
CLL                              eS    S      15 57 38.0 +8.9
CLL   Collm            22.54 314 i P   P      15 53 27.7 +1.1
CLL                               pmax   pmax
        comp=Z,79nm,1.4s,mb5.0
CLL                               MLR    MLR
        comp=Z,8µm,21.2s,MS5.1
CLL   Collm            22.54 314 i P   P      15 53 27.7 +1.1
        comp=Z,79nm,1.4s,mb5.0
CLL                              eS    S      15 57 38.0 +8.9
CLL                               LR     LR
        comp=Z,8µm,21.2s,MS5.1
MABI  Malga Bissina    22.56 299⇑iP    P      15 53 30.9 +4.1
VINC  Vinca            22.57 294  P    P      15 53 26.1 -0.9
BACM                   22.64 295  P    P      15 53 27.4 -0.2
RUE   Ruedersdorf      22.64 317 eP    P      15 53 28.7 +1.1
        comp=Z,189nm,1.2s,mb5.4
GRAM                   22.66 295  P    P      15 53 28.2 +0.3
BRMO  Bormio           22.73 300⇑iP    P      15 53 29.9 +1.4
CODM                   22.81 295  P    P      15 53 29.0 -0.3
FUORN Ofenpass         22.83 301⇑iP    P      15 53 30.6 +1.1
        comp=Z,437nm,1.9s,mb5.6
BERNI Berninapass      22.95 300⇑iP    P      15 53 32.1 +1.4
        comp=Z,331nm,2.4s,mb5.3
GRA1  Grafenberg Arr   23.00 309 eP    P      15 53 31.4 +0.3
        comp=Z,525nm,1.3s,mb5.8
GRA1                             eS    S      15 57 43.7 +6.4
GRA1                              LR     LR
        comp=Z,6µm,19.3s,MS5.0
GRF   Grafenberg Arr   23.00 309 eP    P      15 53 31.4 +0.3
GRF                              eS    S      15 57 43.7 +6.4
GRF                               pmax   pmax
        comp=Z,525nm,1.3s,mb5.8
GRF                               MLR    MLR
        comp=Z,6µm,19.3s,MS5.0
MOX   Moxa             23.09 311 i P   P      15 53 32.5 +0.5
        comp=Z,logA/T=1.7,mb4.9
MOX                              i            15 53 48.0
MOX                               SS     SS   15 57 51.0  -33
MOX                               L           16 04 50.0
MOX   Moxa             23.09 311ceP    P      15 53 32.5 +0.5
MOX                               pmax   pmax
        comp=Z,82nm,1.8s,mb4.9
MOX                               MLR    MLR
        comp=Z,9µm,20.0s,MS5.2
MOX   Moxa             23.09 311⇑eP    P      15 53 32.5 +0.5
        comp=Z,82nm,1.8s,mb4.9
MOX                              e            15 53 48.0
MOX                               LR     LR
        comp=Z,9µm,20.0s,MS5.2
DAVOX Davos            23.12 301  P    P      15 53 33.3 +1.0
        comp=Z,45nm,0.9s,mb4.9,baz=99,slow=6.6,SNR=60
DAVOX Davos            23.12 301⇑iP    P      15 53 33.1 +0.8
        comp=Z,171nm,1.4s,mb5.3
BOB   Bobbio (Coli)    23.13 296⇑iP    P      15 53 34.0 +1.6
UBR   Uberruh          23.15 303 eP    P      15 53 32.2 -0.4
UBR   Uberruh          23.15 303  P    P      15 53 33.2 +0.6
DAVA  Damuels          23.22 302⇑iP    P      15 53 32.8 -0.5
        comp=Z,511nm,2.6s,mb5.5
HDH   Heidenheim       23.31 305 eP    P      15 53 33.8 -0.3
PGF   Pioggiola        23.34 290 eP    P      15 53 33.9 -0.6
        comp=Z,630nm,1.3s,mb5.6
VDL   Val di Lei       23.34 300⇑iP    P      15 53 35.7 +1.2
        comp=Z,294nm,1.2s,mb5.6
GENL  Genova Univers   23.44 295  P    P      15 53 34.5 -0.9
KAMOR Kamor            23.48 302⇑iP    P      15 53 35.9 +0.1
        comp=Z,502nm,1.2s,mb5.8
PLONS Plons            23.50 301⇑iP    P      15 53 36.1  0.0
        comp=Z,413nm,1.3s,mb5.7
MUGIO Muggio           23.55 298⇑iP    P      15 53 36.6 +0.1
        comp=Z,146nm,1.7s,mb5.1
LLS   Linth-Limmern    23.72 301⇑iP    P      15 53 38.3 +0.2
        comp=Z,205nm,1.2s,mb5.4
VAI   Varese           23.73 298⇑iP    P      15 53 38.0 -0.3
BUCH  Bad Urach        23.82 305 eP    P      15 53 39.1  0.0
BUCH  Bad Urach        23.82 305  P    P      15 53 39.6 +0.5
WEIN  Weingarten       23.86 302⇑iP    P      15 53 39.5  0.0
        comp=Z,378nm,1.3s,mb5.7
FUSIO Fusio            23.89 300⇑iP    P      15 53 39.8  0.0
        comp=Z,121nm,1.3s,mb5.2
GUT   Gutenstein       23.89 304 eP    P      15 53 39.8  0.0
GUT   Gutenstein       23.89 304  P    P      15 53 40.3 +0.5
WILA  Wila             23.89 302⇑iP    P      15 53 39.8  0.0
        comp=Z,258nm,1.3s,mb5.5
SIND  Sindeldorf       23.89 307 eP    P      15 53 39.3 -0.5
SIND  Sindeldorf       23.89 307  P    P      15 53 41.2 +1.4
SISB  Singen-Sch Ber   23.91 303  P    P      15 53 40.8 +0.8
RGN   Rugen            23.92 321  P    P      15 53 42.4 +2.3
        comp=Z,195nm,0.9s,mb5.5
STEIN Stein am Rhein   23.97 303⇑iP    P      15 53 40.6 +0.1
        comp=Z,563nm,1.3s,mb5.8
STEIN Stein am Rhein   23.97 303⇑iP    P      15 53 40.7 +0.2
FIN   Finale Ligure    23.97 294⇑iP    P      15 53 39.5 -1.1
MUO   Muotathal        23.99 301⇑iP    P      15 53 41.0 +0.2
        comp=Z,439nm,1.3s,mb5.7
STU   Stuttgart        24.00 305 eP    P      15 53 40.6 -0.3
        comp=Z,104nm,1.0s,mb5.2
SOKR  Solikamsk        24.02  22diP    P      15 53 39.7 -1.2
SOKR                             i S   S      15 57 54.7 -0.3
SOKR                              pmax   pmax
        comp=Z,270nm,1.6s,mb5.4
SOKR                              MLR    MLR
        comp=Z,7µm,20.0s,MS5.1
RORO                   24.07 294  P    P      15 53 41.3 -0.2
KKAR  Karatay Array    24.09  69 i P   P      15 53 42.2 +0.4
KKAR                              pmax   pmax
        comp=Z,419nm,1.4s,mb5.7
TRULL Truellikon       24.09 303⇑iP    P      15 53 41.9 +0.2
        comp=Z,721nm,1.3s,mb6.0
ZUR   Zurich           24.10 302⇑iP    P      15 53 41.9 +0.1
        comp=Z,268nm,1.4s,mb5.5
SPAK  Spaichingen      24.11 304 eP    P      15 53 42.3 +0.3
BNALP Bannalp          24.12 301⇑iP    P      15 53 42.1 +0.1
        comp=Z,246nm,1.3s,mb5.5
FLACH Flaach           24.15 302⇑iP    P      15 53 42.3  0.0
        comp=Z,542nm,1.3s,mb5.8
IMI   Imperia          24.18 293⇑iP    P      15 53 42.5 -0.2
ROB   Roburent         24.22 294  P    P      15 53 42.3 -0.7
LBG   Lerchenberg      24.23 305 eP    P      15 53 42.6 -0.6
LBG   Lerchenberg      24.23 305  P    P      15 53 44.4 +1.2
SLE   Schleitheim      24.23 303⇑iP    P      15 53 43.2  0.0
        comp=Z,475nm,1.3s,mb5.8
ORO   Oropa            24.25 298 eP    P      15 53 43.3  0.0
CLZ   Clausthal        24.26 313 eP    P      15 53 44.2 +0.8
        comp=Z,41nm,1.0s,mb4.8
HASLI Hasliberg        24.28 300⇑iP    P      15 53 43.6 -0.1
        comp=Z,309nm,1.3s,mb5.6
MCGN  Macugnaga        24.28 298 eP    P      15 53 42.7 -1.0
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MONE  Monesi           24.29 294  P    P      15 53 43.6 -0.2
MMK   Mattmark         24.31 299 ⇓P    P      15 53 44.9 +1.0
NEGI  Negi             24.32 293  P    P      15 53 44.0  0.0
TRAV                   24.40 297  P    P      15 53 43.7 -1.1
SULZ  Sulz-Cheisache   24.44 302⇑iP    P      15 53 45.0 -0.2
        comp=Z,567nm,1.2s,mb5.9
SULZ  Sulz-Cheisache   24.44 302⇑iP    P      15 53 45.1 -0.1
BFO   Black Forest     24.46 304 eP    P      15 53 45.9 +0.6
BFO                               pmax   pmax
        comp=Z,114nm,1.5s,mb5.1
BFO   Black Forest     24.46 304 eP    P      15 53 45.9 +0.6
        comp=Z,114nm,1.5s,mb5.1
TOD   Tromm            24.47 307 eP    P      15 53 45.3 -0.1
TOD   Tromm            24.47 307  P    P      15 53 46.5 +1.1
SWS   Schriesheim      24.50 307 eP    P      15 53 45.2 -0.5
SBF   Sospel           24.51 293 eP    P      15 53 46.3 +0.4
        comp=Z,421nm,1.3s,mb5.5
AUTN  L'Aution         24.52 294 eP    P      15 53 46.7 +0.7
ENR   Entracque        24.54 294  P    P      15 53 46.2 +0.1
FINES FINESS Array B   24.54 345  P    P      15 53 46.7 +0.7
        comp=Z,36nm,1.1s,mb4.8,baz=152,slow=8.6,SNR=37
FINES                             LR     LR   16 05 41.0
        comp=Z,8µm,18.1s,MS5.2,baz=332,slow=42
FINES FINESS Array B   24.54 345  P    P      15 53 46.7 +0.7
FINES                             pmax   pmax
        comp=Z,36nm,1.1s
FINES                             MLR    MLR
        comp=Z,8µm,18.1s
FINES FINESS Array B   24.54 345  P    P      15 53 46.7 +0.7
FINES                             LR     LR   16 05 41.0
REVF  Revere           24.55 293 eP    P      15 53 46.5 +0.2
LKBD  Leukerbad        24.59 299⇑iP    P      15 53 46.1 -0.5
        comp=Z,195nm,1.1s,mb5.5
STV2  Anna di Valdie   24.60 294  P    P      15 53 45.6 -1.2
STV   Sta Anna Valdi   24.61 294  P    P      15 53 45.6 -1.2
TOUF  Mont Tournerai   24.65 294 eP    P      15 53 48.1 +0.9
KIZ   Kirchzarten      24.65 303 eP    P      15 53 46.7 -0.5
KIZ   Kirchzarten      24.65 303  P    P      15 53 47.8 +0.6
BHB   Bricherasio      24.68 296  P    P      15 53 46.2 -1.4
BALST Balsthal         24.68 302⇑iP    P      15 53 47.2 -0.3
        comp=Z,367nm,1.4s,mb5.7
DIX   Grande Dixence   24.70 298⇑iP    P      15 53 47.5 -0.2
        comp=Z,148nm,1.0s,mb5.5
RSP   Reno Superiore   24.71 296  P    P      15 53 45.4 -2.4
MVIF  Mont Vial        24.71 293 eP    P      15 53 48.5 +0.6
PZZ   Prazzo           24.78 295  P    P      15 53 47.2 -1.2
LSD   Ceresole Reale   24.81 297  P    P      15 53 48.6 -0.2
BBS   Basel-Blauen     24.83 302 eP    P      15 53 48.6 -0.4
BBS   Basel-Blauen     24.83 302  P    P      15 53 50.7 +1.7
FENE  Fenestrelle      24.84 296  P    P      15 53 47.4 -1.6
KTD   Kalmit           24.85 306 eP    P      15 53 48.2 -0.9
KTD   Kalmit           24.85 306  P    P      15 53 50.8 +1.7
LIBD  Limburg          24.90 303 eP    P      15 53 49.0 -0.6
CALN  Calern           24.90 293 eP    P      15 53 50.4 +0.7
GRYON Gryon            24.93 299⇑iP    P      15 53 49.1 -0.8
        comp=Z,161nm,1.3s,mb5.4
LANF  Langenberg       24.94 305 eP    P      15 53 48.4 -1.6
COP   Copenhagen       24.96 323 i P   P      15 53 50.5 +0.4
        comp=Z,80nm,1.3s,mb5.1
COP                              i S   S      15 58 17.5 +6.4
        comp=Z,830nm,16.0s
SURF  Saint Ours       24.98 295 eP    P      15 53 51.4 +1.0
BOURR Bourrignon       25.01 302⇑iP    P      15 53 50.3 -0.3
        comp=Z,318nm,1.3s,mb5.7
SALAN Lac Salanfe      25.01 299⇑iP    P      15 53 49.8 -0.8
        comp=Z,93nm,1.1s,mb5.2
MBDF  Montbardon       25.03 295 eP    P      15 53 50.9 +0.1
        comp=Z,142nm,1.0s,mb5.2
RRL   Cesana Torines   25.03 296  P    P      15 53 50.1 -0.8
EMV   Vieux Emosson    25.05 298 ⇓P    P      15 53 51.4 +0.4
FRF   La Foret Royal   25.07 292 eP    P      15 53 51.3  0.0
        comp=Z,310nm,1.3s,mb5.4
LPG   La Plagne        25.10 297 eP    P      15 53 51.3 -0.2
        comp=Z,84nm,0.8s,mb5.0
TORNY Torny            25.10 300⇑iP    P      15 53 50.7 -0.8
        comp=Z,103nm,1.1s,mb5.3
KAF   Kangasniemi      25.10 346 ep    P      15 53 51.9 +0.5
        comp=Z,0.9nm,0.4s
LPL   La Plagne        25.11 297 eP    P      15 53 51.4 -0.2
        comp=Z,85nm,1.0s,mb4.9
BNI   Bardonecchia     25.11 296 eP    P      15 53 51.4 -0.3
        comp=Z,229nm,1.2s,mb5.6
WLS   Welschbruch      25.11 304 eP    P      15 53 50.1 -1.5
MOF   Molkenrain       25.15 303 eP    P      15 53 51.0 -1.0
BSEG  Bad Segeberg     25.16 318 eP    P      15 53 52.9 +0.9
BSEG                              pmax   pmax
        comp=Z,70nm,1.2s,mb5.1
CDF   Champ du Feu     25.16 304 eP    P      15 53 51.0 -1.1
        comp=Z,54nm,0.9s,mb4.8
LMR   La Mourre        25.17 292 eP    P      15 53 51.5 -0.7
        comp=Z,299nm,1.3s,mb5.4
ZRNK  Zerenda          25.19  45 eP    P      15 53 52.4 +0.1
LOMF  Lomont           25.27 301 eP    P      15 53 52.5 -0.6
ABH   Alteburg         25.33 307 eP    P      15 53 53.1 -0.5
ABH   Alteburg         25.33 307  P    P      15 53 54.0 +0.4
HINF  Hinteralfeld     25.33 302 eP    P      15 53 53.0 -0.7
        comp=Z,148nm,1.0s,mb5.2
BRANT Les Verrieres    25.45 300⇑iP    P      15 53 54.5 -0.3
        comp=Z,118nm,1.3s,mb5.3
TAVF  Tavernes         25.50 293 eP    P      15 53 55.1 -0.2
OG25  Le Caire         25.51 294 eP    P      15 53 54.8 -0.6
GDM   Grand'Maison     25.52 296 eP    P      15 53 54.5 -1.0
GIMEL Gimel            25.54 299⇑iP    P      15 53 55.0 -0.7
        comp=Z,97nm,1.1s,mb5.2
RUP   Ruppelstein      25.59 307 eP    P      15 53 55.3 -0.8
RUP   Ruppelstein      25.59 307  P    P      15 53 56.3 +0.2
ORIF  Oris-en-Rattie   25.67 296 eP    P      15 53 55.6 -1.3
        comp=Z,99nm,0.9s,mb5.0
ORIF                             eR
        comp=Z,12µm,21.0s
CABF  La Chapelle      25.67 299 eP    P      15 53 56.5 -0.4
        comp=Z,304nm,1.2s,mb5.4
HAU   Haudompre        25.70 303 eP    P      15 53 56.1 -1.0
        comp=Z,141nm,1.2s,mb5.1
HAU                              eR
        comp=Z,9µm,20.8s
VILF  Villemus         25.75 293  P    P      15 53 58.6 +0.9
PUYF  Puyloubier       25.76 292 eP    P      15 53 58.3 +0.5
BERF  Bertagne         25.77 292 eP    P      15 53 56.8 -1.0
GRN   Grenoble         25.79 296 eP    P      15 53 56.9 -1.1
SMRF  Simiane la Rot   25.86 293 eP    P      15 53 58.4 -0.3
        comp=Z,261nm,1.1s,mb5.4
BRVK  Borovoye         25.94  45 eP    P      15 53 58.6 -0.7
        comp=Z,177nm,1.4s,mb5.4
GELF  Grande-Etoile    25.96 292 eP    P      15 53 59.9 +0.3
THEF  They Montfort    25.97 303 eP    P      15 53 58.3 -1.4
BVAR  Borovoye Array   25.99  45  P    P      15 53 59.7 -0.1
        comp=Z,56nm,1.0s,mb5.0,baz=236,slow=5.3,SNR=128
BVAR                              LR     LR   16 05 33.8
        comp=Z,88nm,21.3s,baz=110,slow=40
TREF  Trevaresse       25.99 293 eP    P      15 54 00.5 +0.6
OCF   Saint Nazaire    26.07 295 eP    P      15 53 59.5 -1.1
OG26  St.-Nazaire-De   26.07 295 eP    P      15 53 59.5 -1.1
PRAF  Pradon           26.15 293 eP    P      15 54 00.3 -1.1
WLF   Walferdange      26.15 306 eP    P      15 54 00.0 -1.3
WLF                               pmax   pmax
        comp=Z,120nm,1.2s,mb5.3
WLF   Walferdange      26.15 306 eP    P      15 54 00.0 -1.3
        comp=Z,117nm,1.3s,mb5.2
VOSK  Vostochnaya      26.21  46  P    P      15 54 01.0 -0.8
VOSK                              pmax   pmax
        comp=Z,105nm,1.2s,mb5.2
VOSK  Vostochnaya      26.21  46 i P   P      15 54 01.0 -0.8
WTSB  Winterswijk      26.38 312⇓eP    P      15 54 04.4 +0.9
        comp=Z,41nm,1.3s,mb4.8
WTSB                             eS    S      15 58 38.5 +3.7
WTSB  Winterswijk      26.38 312  P    P      15 54 05.3 +1.9
AML   Almayashu        26.46  71  P    P      15 54 06.2 +2.0
        SNR=25
EKS2  Erkin-Say        26.49  70  P    P      15 54 05.9 +1.4
        SNR=42
VIVF  Saint-Julien-l   26.52 295 eP    P      15 54 03.5 -1.3
        comp=Z,62nm,0.9s,mb4.8
HGN   Heimansgroeve    26.56 309⇓eP    P      15 54 05.3 +0.3
        comp=Z,16nm,1.2s,mb4.4
HGN                              eS    S      15 58 41.3 +3.5
MEZF  Maizieres J'vi   26.64 303 eP    P      15 54 04.9 -0.9
        comp=Z,103nm,1.0s,mb5.0
MUD   Monsted U'grnd   26.93 322 i P   P      15 54 09.5 +1.1
        comp=Z,38nm,1.4s,mb4.7
MUD                              i S   S      15 59 07.4  +24
USP   Ospenovka        27.00  68  P    P      15 54 10.0 +0.8
        SNR=16
AAK   Ala-Archa        27.02  70  P    P      15 54 14.1 +4.7
        SNR=27
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UCH   Uchtor           27.06  70  P    P      15 54 13.8 +4.0
        SNR=8.7
GIVF  Givet            27.09 307 eP    P      15 54 09.2 -0.7
        comp=Z,76nm,1.2s,mb4.8
LASF  Ste Croix        27.10 294 eP    P      15 54 09.2 -0.9
        comp=Z,134nm,1.3s,mb5.0
FRU   Bishkek          27.10  69αeP    P      15 54 12.0 +1.9
FRU                              eS    S      15 58 56.0 +9.3
FRU                               pmax   pmax
        comp=Z,460nm,1.8s,mb5.7
FRU                               smax
        comp=N,2µm,11.0s
HFS   Hagfors          27.14 332  P    P      15 54 10.9 +0.6
        comp=N,21nm,1.0s,mb4.6,baz=127,slow=7.4,SNR=14
HFS   Hagfors          27.14 332  P    P      15 54 10.9 +0.6
HFS                               pmax   pmax
        comp=Z,21nm,1.0s
CHMS  Chumysh          27.19  69  P    P      15 54 11.2 +0.2
        SNR=40
SMF   Signal de Mont   27.21 299 eP    P      15 54 09.8 -1.3
        comp=Z,64nm,1.0s,mb4.8
COLF  Collangettes     27.24 297 eP    P      15 54 10.4 -1.0
LOR   Lormes           27.26 301 eP    P      15 54 10.0 -1.5
        comp=Z,115nm,1.2s,mb5.0
LOR                              eR
        comp=Z,16µm,17.8s
PLDF  La Plantade      27.32 298 eP    P      15 54 12.0 -0.1
KBK   Karagaybulak     27.35  70  P    P      15 54 13.8 +1.4
        SNR=25
BAIF  Baives           27.47 307 eP    P      15 54 09.9 -3.5
        comp=Z,98nm,1.2s,mb4.9
SSF   Saint Saulge     27.48 300 eP    P      15 54 12.3 -1.2
        comp=Z,84nm,1.0s,mb4.9
LBL   Lubilhac         27.55 296 eP    P      15 54 13.0 -1.2
AVF   Avril sur Loir   27.56 299 eP    P      15 54 12.9 -1.4
        comp=Z,156nm,1.1s,mb5.3
KZA   Kyzart           27.61  71  P    P      15 54 16.7 +1.9
        SNR=39
TKM2  Tokmak 2         27.82  69  P    P      15 54 18.0 +1.3
        SNR=31
EJON  La Jonquera      27.86 290  P    P      15 54 18.8 +1.7
        comp=Z,40nm,1.0s,mb5.0
SJAF  Saint Jean de    27.86 290 eP    P      15 54 18.9 +1.9
BGF   Bois d'Agland    27.89 299 eP    P      15 54 15.6 -1.7
LRDF  Laroque-de-Fa    28.09 291 eP    P      15 54 17.5 -1.6
MTLF  Montolieu        28.30 292 eP    P      15 54 19.9 -1.1
        comp=Z,120nm,1.4s,mb5.0
TCF   Toulx Ste Croi   28.32 298 eP    P      15 54 20.1 -1.0
        comp=Z,54nm,1.1s,mb4.8
ULHL  Ulahol           28.34  70  P    P      15 54 22.1 +0.8
        SNR=16
CAF   Calviac          28.38 295 eP    P      15 54 20.8 -0.9
        comp=Z,48nm,1.3s,mb4.7
KONO  Kongsberg        28.45 328 eP    Px     15 54 55.5
KONO                              AMS    AMS  16 09 55.1
        comp=Z,4µm,18.5s,MS5.1
KONO  Kongsberg        28.45 328  PFAKE       15 54 30.0 +7.8
KONO                              LR     LR
        comp=Z,755nm,19.0s,MS4.3
KSH   Kashi            28.47  76 eP    P      15 54 24.1 +1.6
KSH                              ePP   PP     15 55 13.0 -1.1
KSH                              eS    S      15 59 10.0 +1.2
KSH                               AMB    AMB
        comp=Z,90nm,1.2s,mb5.3
KSH                               LR     LR
        comp=N,4µm,6.3s
KSH                               LR     LR
        comp=E,7µm,12.4s
LPEF  Le Peyrat        28.55 291 eP    P      15 54 21.9 -1.3
NAO01 NORSAR Array S   28.66 331 eP    P      15 54 24.1  0.0
        comp=E,69nm,1.4s,mb5.2
NAO01                             LR     LR
        comp=Z,11µm,22.0s,MS5.4
NB2   NORSAR Subarra   28.66 332  P    P      15 54 23.0 -1.1
        comp=Z,29nm,1.2s,mb4.9,baz=126,slow=9.3
NB2   NORSAR Subarra   28.66 332  P    P      15 54 23.0 -1.1
        baz=126,slow=9.3
NOA   NORSAR Array B   28.66 332  P    P      15 54 23.3 -0.8
        comp=Z,14nm,1.2s,mb4.6,baz=128,slow=9.1,SNR=6.7
NOA                               LR     LR   16 08 17.9
        comp=Z,9µm,19.2s,MS5.4,baz=135,slow=42
RJF   Les Rejaudoux    28.77 296 eP    P      15 54 24.5 -0.7
        comp=Z,90nm,1.2s,mb5.1
RJF                              eR
        comp=Z,14µm,17.2s
AAA   Alma-Ata         28.79  68 eP    P      15 54 25.5 +0.1
AAA                              eS    S      15 59 22.5 +8.7
AAA                               smax
        comp=N,1µm,10.0s
AAA                               MLR    MLR
        comp=Z,6µm,14.0s,MS5.3
JASL  Jaisalmer        28.85 104 eP    P      15 54 25.4 -0.7
LFF   La Frestale      29.32 295 eP    P      15 54 28.1 -2.1
APA   Apatity          29.46 355⇑eP    P      15 54 32.0 +0.8
APA                              i            15 55 25.7
APA                              i S   S      15 59 24.0 -0.4
APA                               pmax   pmax
        comp=Z,400nm,12.0s
APA                               MLR    MLR
        comp=Z,10µm,13.0s,MS5.6
BLS5  Blasjo           29.67 326 eP    P      15 54 32.7 -0.5
BLS5                             epP   pP     15 54 35.0 -0.3
BLS5                              AMb    AMB  15 54 40.3
        comp=Z,39nm,1.6s,mb4.9
BLS5  Blasjo           29.67 326 eP    P      15 54 32.7 -0.5
        comp=Z,39nm,1.6s,mb4.9
EPF   Esparros         29.69 292 eP    P      15 54 32.3 -1.2
RESF  Ens              29.71 291 eP    P      15 54 32.5 -1.2
LVZ   Lovozero         29.72 356 eP    P      15 54 32.6 -0.9
LVZ                              eS    S      15 59 26.4 -2.1
LVZ                               pmax   pmax
        comp=Z,219nm,2.2s,mb5.5
LVZ                               pmax   pmax
        comp=N,142nm,2.6s
LVZ                               pmax   pmax
        comp=E,168nm,6.6s
LVZ                               smax
        comp=Z,610nm,17.2s
LVZ                               smax
        comp=N,1µm,15.2s
LVZ                               smax
        comp=E,804nm,13.4s
LVZ                               MLR    MLR
        comp=N,3µm,14.0s,MS5.2
LVZ                               MLR    MLR
        comp=E,3µm,13.0s,MS5.2
LVZ                               MLR    MLR
        comp=Z,4µm,13.0s,MS5.3
EGRA  Graus            29.78 290  P    P      15 54 32.5 -1.8
        comp=Z,35nm,1.3s,mb4.9
ODD1  Odda             29.85 327 eP    P      15 54 34.2 -0.6
ODD1                              AMb    AMB  15 54 41.2
        comp=Z,57nm,1.5s,mb5.1
ODD1  Odda             29.85 327 eP    P      15 54 34.2 -0.6
        comp=Z,57nm,1.5s,mb5.1
MFF   Saint Martin d   29.95 299 eP    P      15 54 34.0 -1.8
LDF   La Druitiere     30.06 303 eP    P      15 54 33.5 -3.2
        comp=Z,62nm,1.3s,mb4.9
KURK  Kurchatov        30.31  53 i P   P      15 54 38.4 -0.5
KURK                              pmax   pmax
        comp=Z,115nm,1.1s,mb5.5
KURK  Kurchatov        30.31  53 eP    P      15 54 38.0 -0.9
        comp=Z,237nm,1.1s,mb5.8
FLN   La Foliniere     30.31 303 eP    P      15 54 38.4 -0.5
FLN                              eR
        comp=Z,10µm,20.8s
ETSF  Etsaut           30.36 291 eP    P      15 54 37.9 -1.6
        comp=Z,25nm,0.9s,mb4.6
ESAC  San Caprasio     30.42 289  P    P      15 54 40.0 +0.1
        comp=Z,150nm,1.3s,mb5.6
GRR   Gorron           30.53 302 eP    P      15 54 38.6 -2.3
EMOS  Mosqueruela      30.61 286  P    P      15 54 41.9 +0.2
        comp=Z,167nm,1.5s,mb5.7
EBEN  Beniarda         30.73 283  P    P      15 54 42.9 +0.1
        comp=Z,110nm,1.2s,mb5.6
NSS   Namsos           30.77 337 eS    S      15 59 44.9 -0.2
NSS                               AMS    AMS  16 09 47.8
        comp=Z,4µm,16.7s,MS5.2
SJPF  Ste Jean         30.83 292 eP    P      15 54 42.0 -1.6
        comp=Z,49nm,1.3s,mb4.9
SDNR  Sundarnagar      31.51  91 eP    P      15 54 49.0 -0.7
SGMF  Saint Gilles     31.65 302 eP    P      15 54 48.9 -1.9
        comp=Z,61nm,1.1s,mb5.0
EMUR  La Murta         31.70 282  P    P      15 54 50.6 -0.7
        comp=Z,48nm,0.8s,mb5.4
ETOR  Torete           31.73 288  P    P      15 54 50.2 -1.3
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	comp=Z,50nm,1.3s,mb5.2						
ETOB	**Tobarra**	31.75	284	P	P	15 54 51.8	0.0
	comp=Z,175nm,1.9s,mb5.6						
KKR	**Kurukshetra**	32.02	94	*e*P	P	15 54 54.4	+0.2
KKR				AMb	AMB	15 55 01.6	
	comp=Z,148nm,0.5s,mb6.1						
KHET	**Khetri**	32.07	98	*e*P	P	15 54 54.4	-0.3
ARCES	**ARCESS Array B**	32.12	351	P	P	15 54 54.6	-0.1
	comp=Z,20nm,1.0s,mb4.9,baz=162,slow=7.7,SNR=20						
ARCES				LR	LR	16 09 05.6	
	comp=Z,8µm,18.8s,MS5.5,baz=179,slow=39						
ARCES	**ARCESS Array B**	32.12	351	P	P	15 54 54.6	-0.1
ARCES				pmax	pmax		
	comp=Z,20nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,8µm,18.8s						
KEV	**Kevo**	32.15	352	*e*p	P	15 54 52.0	-3.0
MKAR	**Makanchi Array**	32.46	61	P	P	15 54 57.2	-0.6
	comp=Z,25nm,0.9s,mb5.0,baz=270,slow=6.4,SNR=75						
MKAR				LR	LR	16 09 39.1	
	comp=Z,5µm,20.1s,MS5.2,baz=266,slow=39						
MKAR	**Makanchi Array**	32.46	61	*i* P	P	15 54 56.8	-1.0
MKAR				pmax	pmax		
	comp=Z,49nm,0.9s						
EVIA	**Vianos**	32.48	284	P	P	15 54 57.9	-0.2
	comp=Z,72nm,1.4s,mb5.3						
KLP	**Kalpa**	32.50	90	*e*P	P	15 54 58.2	-0.1
KLP				AMb	AMB	15 55 07.5	
	comp=Z,36nm,1.6s,mb5.0						
KUDL	**Kundal**	32.57	97	*e*P	P	15 54 58.3	-0.7
KUDL				*e*		15 55 03.8	
	comp=Z,35nm,1.4s						
DDI	**Dehra Dun**	32.84	92	*e*P	P	15 55 01.7	+0.4
NDI	**New Delhi**	32.89	96	*e*P	P	15 55 01.5	-0.3
AYAN	**Aya Nagar**	32.91	96	*e*P	P	15 55 01.6	-0.4
AYAN				*e*		15 55 06.7	
	comp=Z,46nm,1.5s						
SONA	**Sohna**	32.98	96	*e*P	P	15 55 01.9	-0.8
SONA				*e*		15 55 07.3	
	comp=Z,27nm,1.6s						
EKA	**Eskdalemuir Ar**	32.99	315	P	P	15 55 01.7	-0.7
	comp=Z,4.5nm,0.8s,mb4.5,baz=104,slow=6.9,SNR=8.9						
ESK	**Eskdalemuir**	33.02	315	PFAKE		15 55 10.0	+7.4
ESK				LR	LR		
	comp=Z,1µm,21.0s,MS4.6						
ESDC	**Sonseca Array**	33.37	286	P	P	15 55 03.9	-1.9
	comp=Z,3.2nm,0.3s,mb4.7,baz=75,slow=8.8,SNR=33						
ESDC				LR	LR	16 10 05.5	
	comp=Z,4µm,18.7s,MS5.1,baz=90,slow=39						
ESLA	**Sonseca Array**	33.37	286	*e*P	P	15 55 04.5	-1.4
	comp=Z,4.3nm,0.8s,mb4.4						
ESLA				LR	LR		
	comp=Z,24µm,19.0s,MS5.9						
NVS	**Novosibirsk**	33.77	46	⇑*i*P	P	15 55 08.9	-0.3
NVS				*e*		15 56 23.6	
NVS				*e*		15 57 48.8	
NVS				*i* S	S	16 00 28.6	-3.4
NVS				*i*		16 02 54.3	
NVS				pmax	pmax		
	comp=Z,269nm,1.5s,mb6.0						
NVS				pmax	pmax		
	comp=N,148nm,1.4s						
NVS				pmax	pmax		
	comp=E,108nm,1.4s						
NVS				pmax	pmax		
	comp=Z,82nm,1.8s,mb5.4						
NVS				pmax	pmax		
	comp=N,102nm,1.7s						
NVS				pmax	pmax		
	comp=E,61nm,1.9s						
NVS				smax			
	comp=N,119nm,2.1s						
NVS				smax			
	comp=E,88nm,2.3s						
ERON	**Agron**	33.88	281	P	P	15 55 08.9	-1.4
	comp=E,68nm,1.1s,mb5.5						
JOSI	**Joshimath**	33.92	91	*e*	P	15 55 15.1	+4.3
ELUQ	**Luque**	34.09	283	P	P	15 55 11.5	-0.6
	comp=E,32nm,1.1s,mb5.2						
ELOJ	**Sierra Loja**	34.11	282	P	P	15 55 11.5	-0.8
	comp=E,72nm,1.4s,mb5.4						
AGRA	**Agra**	34.14	97	*e*P	P	15 55 12.2	-0.5
AGRA				AMb	AMB	15 55 17.8	
	comp=Z,52nm,0.3s,mb5.9						
EADA	**Adamuz**	34.18	284	P	P	15 55 12.5	-0.4
	comp=Z,110nm,1.2s,mb5.7						
EMIJ	**Mijas**	34.75	281	P	P	15 55 15.7	-2.1
	comp=Z,212nm,1.7s,mb5.8						
DCN	**Croghan**	35.04	311	*e*P	P	15 55 20.0	-0.1
EJIF	**Jimena Fronter**	35.32	281	P	P	15 55 22.6	0.0
ESPR	**Espera**	35.50	282	P	P	15 55 23.4	-0.8
	comp=Z,75nm,1.3s,mb5.5						
BHPL	**Bhopal**	35.80	104	*e*P	P	15 55 26.6	-0.3
BHPL				AMb	AMB	15 55 31.9	
	comp=Z,72nm,1.7s,mb5.3						
PVRL	**Vila Real**	35.86	290	*e*P	P	15 55 27.0	-0.2
	comp=Z,57nm,1.6s,mb5.2						
EMIN	**Mina Concepcio**	35.88	284	P	P	15 55 26.8	-0.7
	comp=Z,9.8nm,0.7s,mb4.8						
MTE	**Manteigas**	35.91	288	*e*P	P	15 55 27.2	-0.4
	comp=Z,62nm,1.1s,mb5.5						
MTE				*e*S	S	16 01 05.5	+0.2
PCBR	**Castelo Branco**	35.98	287	*e*P	P	15 55 27.5	-0.8
	comp=Z,66nm,1.3s,mb5.4						
PCBR	**Castelo Branco**	35.98	287	*e*P	P	15 55 27.1	-1.2
PVIS	**Viseu**	36.10	289	*e*P	P	15 55 28.9	-0.4
	comp=Z,64nm,1.5s,mb5.3						
PVIS	**Viseu**	36.10	289	*e*P	P	15 55 27.7	-1.6
STS	**Santiago**	36.19	293	P	P	15 55 29.5	-0.4
WMQ	**Urumqi**	36.50	66	⇓P	P	15 55 33.3	+0.7
WMQ				AP	pP	15 55 37.3	+2.5
WMQ				XP	sP	15 55 40.1	+4.4
WMQ				PP	PP	15 56 57.3	+0.8
WMQ				S	S	16 01 14.3	0.0
WMQ				AMB	AMB		
	comp=Z,142nm,1.2s,mb5.7						
WMQ				LR	LR		
	comp=N,10µm,23.0s,MS5.6						
WMQ				LR	LR		
	comp=E,2µm,19.4s,MS5.6						
WMQ				LR	LR		
	comp=Z,4µm,22.0s,MS5.2						
EGRO	**El Granado**	36.56	284	P	P	15 55 31.6	-1.5
	comp=Z,18nm,0.9s,mb4.9						
PALC	**Alcoutim**	36.58	284	*e*P	P	15 55 33.1	-0.2
	comp=Z,113nm,1.6s,mb5.5						
PBEJ	**Beja**	36.72	285	*e*P	P	15 55 33.8	-0.7
	comp=Z,73nm,1.3s,mb5.3						
PBEJ	**Beja**	36.72	285	*e*P	P	15 55 33.7	-0.8
PTOM	**Tomar**	36.73	287	*e*P	P	15 55 34.3	-0.3
	comp=Z,95nm,1.3s,mb5.5						
PTOM	**Tomar**	36.73	287	*e*P	P	15 55 34.1	-0.5
BJO	**Bjornoya**	37.48	351	*e*SS	SS	16 04 13.9	+13
BJO				AMS	AMS	16 13 47.2	
	comp=Z,2µm,19.3s,MS4.9						
LIS	**Lisbon**	37.51	286	*e*PP	PP	15 57 06.4	-2.8
LIS				*e*S	S	16 01 29.5	-0.3
LIS				*e*S	S	16 01 30.1	+0.3
LIS				AMS	AMS	16 12 51.6	
	comp=E,4µm,17.2s						
LIS	**Lisbon**	37.51	286	*e*PP	PP	15 57 06.4	-2.8
LIS				*e*S	S	16 01 30.1	+0.2
KOLN	**Koldanda**	38.31	92	*e*P	P	15 55 47.9	-0.1
	comp=E,192nm,1.5s,mb5.6						
GKN	**Gorkha**	39.02	91	*e*P	P	15 55 53.9	0.0
	comp=E,172nm,1.2s,mb5.7						
KMBO	**Kilima Mbogo**	39.31	183	P	P	15 55 59.1	+2.6
	comp=E,5.4nm,1.1s,mb4.2,baz=9.2,slow=9.3,SNR=10						
KMBO				LR	LR	16 11 34.7	
	comp=E,6µm,18.2s,MS5.5,baz=196,slow=35						
KMBO	**Kilima Mbogo**	39.31	183	*e*P	P	15 55 59.3	+2.8
	comp=E,16nm,1.3s,mb4.6						
KMBO				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
MBAR	**Mbarara**	39.54	193	*e*P	P	15 55 57.8	-0.6
	comp=Z,22nm,1.1s,mb4.8						
MBAR				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
DMN	**Daman**	39.57	92	*e*P	P	15 55 58.5	0.0
	comp=Z,163nm,1.1s,mb5.7						
KKN	**Kakani**	39.63	91	*e*P	P	15 55 59.1	+0.2
	comp=Z,76nm,1.1s,mb5.3						
PKI	**Pulchoki**	39.83	92	*e*P	P	15 56 00.1	-0.5
	comp=Z,159nm,1.3s,mb5.6						
HYB	**Hyderabad**	40.12	110	*i* P	P	15 56 02.0	-1.1
HYB				*e*PP	PP	15 57 34.0	-5.2
HYB				*e*S	S	16 02 11.0	+1.6
HYB				LR	LR	16 15 30.0	
	comp=Z,6.8nm,18.0s						
HYB	**Hyderabad**	40.12	110	*e*P	P	15 55 56.0	-7.1
HYB				*e*S	S	16 02 08.0	-1.4
JMIC	**Jan Mayen**	40.81	338	*e*P	P	15 56 08.0	-0.2
JMIC				*e*PP	PP	15 57 40.0	-5.6
JMIC				*e*S	S	16 02 19.0	-0.3
JMIC				AMS	AMS	16 15 24.2	
	comp=Z,3µm,17.1s,MS5.2						
KBS	**Kingsbay**	42.17	352	*e*P	P	15 56 16.4	-2.8
KBS				*e*PP	PP	15 57 56.4	-3.6
KBS				*e*S	S	16 02 38.7	-0.4
KBS				*e*SS	SS	16 05 48.0	+6.9
KBS				AMS	AMS	16 17 19.3	
	comp=Z,3µm,15.5s,MS5.2						
KBS	**Kingsbay**	42.17	352	PFAKE		15 56 30.0	+11
KBS				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
LSA	**Lhasa**	43.39	85	P	P	15 56 30.4	+0.6
LSA				S	S	16 02 55.6	-2.0
LSA				AMB	AMB		
	comp=Z,220nm,11.3s						
LSA				LR	LR		
	comp=N,1µm,22.9s						
LSA				LR	LR		
	comp=E,5µm,32.0s						
LSA				LR	LR		
	comp=Z,4µm,32.0s						
LSA	**Lhasa**	43.39	85	*e*P	P	15 56 30.4	+0.6
	comp=Z,15nm,0.9s,mb4.7						
BORG	**Borgarnes**	43.64	327	PFAKE		15 56 40.0	+8.7
BORG				LR	LR		
	comp=Z,484nm,21.0s,MS4.4						
DAG	**Danmarks Havn**	45.78	344	⇑*i*P	P	15 56 49.1	+0.7
	comp=Z,42nm,1.2s,mb5.2						
SHL	**Shillong**	45.88	90	*e*P	P	15 56 48.0	-1.8
SHL				*e*		16 03 29.3	
ZAK	**Zakamensk**	45.97	53	⇓*i*P	P	15 56 50.9	+0.7
ZAK				*e*		15 58 27.0	
IRK	**Irkutsk**	46.26	50	*e*P	P	15 56 52.6	+0.2
IRK				*e*		15 58 39.4	
IRK				*e*		16 03 40.3	
GTA	**Gaotai**	46.37	69	*e*P	P	15 56 53.4	-0.1
GTA				AP	pP	15 56 59.6	+3.9
GTA				XP	sP	15 57 02.4	+5.8
GTA				PCP	PcP	15 58 30.0	+1.0
GTA				PPP	PPP	15 59 25.2	-1.6
GTA				PCS		16 02 22.6	
GTA				S	S	16 03 44.7	+4.3
GTA				XS		16 03 51.6	
GTA				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,230nm,6.1s						
GTA				LR	LR		
	comp=N,2µm,21.8s,MS5.1						
GTA				LR	LR		
	comp=E,2µm,19.1s,MS5.1						
GTA				LR	LR		
	comp=Z,2µm,19.5s,MS5.0						
SONM	**Songino Array**	48.52	56	P	P	15 57 09.9	-0.4
	comp=Z,10nm,0.7s,mb5.0,baz=283,slow=7.9,SNR=56						
SONM				PcP	PcP	15 58 36.7	+0.1
	comp=Z,6.8nm,0.9s,baz=247,slow=4.4,SNR=5.9						
ULN	**Ulaanbaatar**	48.95	56	PFAKE		15 57 30.0	+16
ULN				LR	LR		
	comp=Z,8µm,19.0s,MS5.7						
SUMG	**Summit**	50.25	337	*e*P	P	15 57 25.0	+1.8
	comp=Z,58nm,1.2s,mb5.5						
LZH	**Lanzhou**	50.54	71	⇑P	P	15 57 26.5	+0.6
LZH				AP	pP	15 57 29.7	+1.5
LZH				XP	sP	15 57 31.2	+2.1
LZH				PP	PP	15 59 22.7	0.0
LZH				S	S	16 04 38.5	-0.5
LZH				AMB	AMB		
	comp=Z,171nm,1.3s,mb5.8						
LZH				AMB	AMB		
	comp=Z,789nm,5.2s						
LZH				LR	LR		
	comp=E,5µm,14.7s						
LZH				LR	LR		
	comp=Z,7µm,16.9s,MS5.7						
LZH	**Lanzhou**	50.54	71	⇑P	P	15 57 26.5	+0.6
	comp=Z,171nm,1.3s,mb5.8						
LZH				pP	pP	15 57 29.7	+1.5
LZH				sP	sP	15 57 31.2	+2.1
LZH				PP	PP	15 59 22.7	0.0
LZH				S	S	16 04 38.5	-0.5
LZH				sS		16 04 45.4	
LZH				SS	SS	16 08 08.6	-1.7
LZH				LR	LR		
	comp=Z,7µm,16.9s,MS5.7						
BOD	**Bodaibo**	50.76	42	*e*P	P	15 57 25.3	-2.0
DBIC	**Dimbokro**	50.79	243	P	P	15 57 27.4	-0.7
	comp=Z,28nm,0.8s,mb5.3,baz=30,slow=8.4,SNR=21						
DBIC				LR	LR	16 23 57.0	
	comp=Z,3µm,18.7s,MS5.3,baz=23,slow=42						
DBIC	**Dimbokro**	50.79	243	P	P	15 57 27.5	-0.6
DBIC				pmax	pmax		
	comp=Z,28nm,0.8s						
DBIC				MLR	MLR		
	comp=Z,3µm,18.7s						
TIC	**Toumodi**	50.92	243	*e*P	P	15 57 27.7	-1.4
	comp=Z,294nm,1.1s,mb6.1						
KIC	**Kosan Boka**	50.93	243	*e*P	P	15 57 27.7	-1.5
	comp=Z,384nm,1.1s,mb6.2						
LIC	**Lamto**	51.23	243	*e*P	P	15 57 30.0	-1.4
	comp=Z,260nm,1.0s,mb6.1						
LIC	**Lamto**	51.23	243	*e*P	P	15 57 29.9	-1.5
	comp=Z,100nm,1.0s,mb5.7						
CD2	**Chengdu**	52.65	77	P	P	15 57 41.5	-0.5
CD2				S	S	16 05 14.0	+5.9
CD2				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.2						
CD2				LR	LR		
	comp=N,3µm,20.1s						
CD2				LR	LR		
	comp=Z,3µm,26.0s						
BTO	**Baotou**	53.29	64	*e*P	P	15 57 46.8	+0.2
BTO				S	S	16 05 25.0	+8.3
BTO				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
TIXI	**Tiksi**	54.01	23	*e*P	P	15 57 51.5	+0.1
TIXI				*e*S	S	16 05 30.0	+4.0
TIXI				pmax	pmax		
	comp=N,35nm,1.3s						
TIXI				pmax	pmax		
	comp=Z,178nm,1.3s,mb5.8						
TIXI				pmax	pmax		
	comp=E,61nm,1.5s						
TIXI	**Tiksi**	54.01	23	*i* Pr		15 57 52.1	
HHC	**Hu-ho-hao-te**	54.28	63	*e*P	P	15 57 54.4	+0.6
HHC				AP	pP	15 57 57.6	+1.5
HHC				XP	sP	15 58 00.6	+3.6
HHC				PP	PP	15 59 56.8	-0.5
HHC				S	S	16 05 33.8	+3.7
HHC				SCS	ScS	16 07 41.0	+0.7
HHC				SS	SS	16 09 15.8	+4.1
HHC				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.2						
HHC				LR	LR		
	comp=N,2µm,18.6s,MS5.4						
HHC				LR	LR		
	comp=E,1µm,16.7s,MS5.4						
LSZ	**Lusaka**	54.33	193	*e*P	P	15 57 54.8	+0.3
	comp=E,41nm,1.3s,mb5.2						
LSZ				LR	LR		
	comp=Z,10µm,19.0s,MS5.9						
KMI	**Kunming**	54.62	84	⇑*e*P	P	15 57 55.7	-0.8
KMI				AP	pP	15 57 59.2	+0.4
KMI				S	S	16 05 32.0	-2.8
KMI				SS	SS	16 09 17.2	0.0
KMI				AMB	AMB		
	comp=Z,27nm,2.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,449nm,5.6s						
KMI				LR	LR		
	comp=N,2µm,24.3s						
KMI				LR	LR		
	comp=E,2µm,18.8s						
KMI				LR	LR		
	comp=Z,2µm,28.0s,MS5.1						
KMI	**Kunming**	54.62	84	⇑*e*P	P	15 57 55.7	-0.8
	comp=Z,27nm,2.0s,mb4.9						
KMI				pP	pP	15 57 59.2	+0.4
KMI				S	S	16 05 32.0	-2.8
KMI				SS	SS	16 09 17.2	0.0
KMI				LR	LR		
	comp=Z,2µm,28.0s,MS5.1						
CHG	**Chiang Mai**	54.98	93	PG	P	15 57 57.9	-1.3
	comp=Z,22nm,1.3s,mb5.0						
CHTO	**Chiang Mai**	54.98	93	P	P	15 57 58.0	-1.3
CM31	**Chiang Mai Arr**	55.17	93	*e*P	P	15 57 59.1	-1.6
CM31				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
CMAR	**Chiang Mai Arr**	55.17	93	P	P	15 57 58.8	-1.9
	comp=Z,8.8nm,0.9s,mb4.8,baz=299,slow=8.0,SNR=26						
CMAR				LR	LR	16 27 10.6	
	comp=Z,1µm,21.2s,MS5.0,baz=295,slow=42						
CMAR	**Chiang Mai Arr**	55.17	93	P	P	15 57 58.8	-1.9
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,1µm,21.2s						
BDT	**Bhumibol Dam**	55.91	95	P	P	15 58 02.5	-3.4
TIY	**Taiyuan**	56.17	66	*e*P	P	15 58 07.0	-0.6
TIY				S	S	16 06 02.0	+6.6
TIY				LR	LR		
	comp=N,2µm,16.0s						
TIY				LR	LR		
	comp=Z,2µm,15.0s,MS5.3						
NANT	**Nan**	56.36	92	P	P	15 58 08.5	-0.7
HIA	**Hailar**	56.50	51	*e*P	P	15 58 09.9	+0.1
HIA				pmax	pmax		
	comp=Z,50nm,0.9s						
HIA	**Hailar**	56.50	51	*e*P	P	15 58 09.9	+0.1
	comp=Z,50nm,0.9s,mb5.5						
CLNS	**Chul’man**	56.71	41	*e*P	P	15 58 13.1	+1.9
CLNS				*e**PP	pP	15 58 19.2	+5.7
CLNS				*e*		15 59 05.4	
CLNS				*e*		16 00 12.7	
CLNS				*e*S	S	16 05 57.3	-4.9
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.5						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.9s						
CLNS				smax			
	comp=Z,218nm,11.2s						
CLNS				smax			
	comp=N,488nm,12.1s						
CLNS				smax			
	comp=E,79nm,13.5s						
CLNS				MLR	MLR		
	comp=N,3µm,15.0s,MS5.5						
CLNS				MLR	MLR		
	comp=E,400nm,15.0s,MS5.5						
CLNS				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.8						
GYA	**Guiyang**	57.01	81	⇑*i*P	P	15 58 12.6	-1.2
GYA				AP	pP	15 58 18.2	+2.1
GYA				XP	sP	15 58 19.4	+2.5
GYA				PP	PP	16 00 20.6	-1.4
GYA				S	S	16 06 09.8	+3.2
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,160nm,3.8s						
GYA				LR	LR		
	comp=N,2µm,21.9s,MS5.3						
GYA				LR	LR		
	comp=E,2µm,21.6s,MS5.3						
GYA				LR	LR		
	comp=Z,2µm,20.1s,MS5.2						
YAK	**Yakutsk**	57.18	34	*e*P	P	15 58 13.0	-1.5
	comp=Z,132nm,1.1s,mb5.9						
YAK				LR	LR		
	comp=Z,7µm,19.0s,MS5.8						
ENH	**Enshi**	57.32	75	*e*P	P	15 58 14.7	-1.2
	comp=Z,90nm,1.3s,mb5.6						
BJI	**Beijing**	57.83	62	P	P	15 58 19.0	-0.3
BJI				S	S	16 06 20.3	+3.1
BJI				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
BJI				LR	LR		
	comp=Z,4µm,22.0s,MS5.4						
BJI	**Beijing**	57.83	62	P	P	15 58 19.0	-0.3
	comp=Z,21nm,1.2s,mb5.0						
BJI				S	S	16 06 20.3	+3.1
BJI				LR	LR		
	comp=Z,4µm,22.0s,MS5.4						
BJT	**Baijiatuau**	57.83	62	*e*P	P	15 58 18.1	-1.3
BJT				pmax	pmax		
	comp=Z,110nm,1.6s						
BJT	**Baijiatuau**	57.83	62	*e*P	P	15 58 18.1	-1.3
	comp=Z,111nm,1.6s,mb5.6						
KKTK	**Khon Kaen**	59.42	93	P	P	15 58 29.0	-1.7
	comp=Z,309nm,0.5s						
TIA	**Tai’an**	60.20	66	*e*P	P	15 58 35.7	-0.2
TSUM	**Tsumeb**	60.75	204	P	P	15 58 39.5	-0.3
	comp=Z,8.5nm,1.0s,mb4.8,baz=357,slow=8.2,SNR=11						
TSUM	**Tsumeb**	60.75	204	P	P	15 58 39.5	-0.3
TSUM				LR	LR		
	comp=Z,9µm,20.0s,MS5.9						
WHN	**Wuhan**	60.87	73	*e*P	P	15 58 40.0	-0.5
WHN				S	S	16 07 08.0	+11
WHN				LR	LR		
	comp=N,2µm,18.1s,MS5.7						
WHN				LR	LR		
	comp=E,5µm,16.2s,MS5.7						
WHN				LR	LR		
	comp=Z,5µm,17.2s,MS5.8						
DL2	**Dalian**	62.11	61	P	P	15 58 47.5	-1.3
DL2				S	S	16 07 18.0	+5.7
DL2				AMB	AMB		
	comp=Z,46nm,1.1s,mb5.5						
DL2				LR	LR		
	comp=N,2µm,15.0s,MS5.5						
DL2				LR	LR		
	comp=E,870nm,12.0s,MS5.5						
CN2	**Changchun**	62.36	55	*e*P	P	15 58 50.0	-0.4
CN2				*e*AP	pP	15 58 55.0	+2.3
CN2				*e*S	S	16 07 19.2	+3.7
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,5µm,21.0s,MS5.7						
QIZ	**Qiongzhong**	63.42	86	P	P	15 58 57.0	-0.7
QIZ				XP	sP	15 59 06.2	+5.4
QIZ				PCP	PcP	15 59 36.5	+2.1
QIZ				S	S	16 07 31.0	+1.9
QIZ				SS	SS	16 11 44.3	+6.6
QIZ				AMB	AMB		
	comp=Z,15nm,1.3s,mb5.0						
QIZ				LR	LR		
	comp=N,1µm,23.5s						
QIZ				LR	LR		
	comp=E,1µm,14.7s						
QIZ				LR	LR		
	comp=Z,1µm,23.2s,MS5.0						
QIZ	**Qiongzhong**	63.42	86	P	P	15 58 55.1	-2.6
NJ2	**Nanjing**	63.46	69	*e*P	P	15 58 57.4	-0.4
NJ2				AP	pP	15 59 01.6	+1.5
NJ2				XP	sP	15 59 03.9	+3.0
NJ2				PP	PP	16 01 17.6	-1.5
NJ2				S	S	16 07 24.0	-5.5
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.6						
NJ2				LR	LR		
	comp=N,4µm,24.6s,MS5.6						
NJ2				LR	LR		
	comp=E,3µm,25.6s,MS5.6						
NJ2				LR	LR		
	comp=Z,4µm,26.2s,MS5.5						
KLR	**Kul’dur**	63.64	47	*e*P	P	15 58 58.2	-0.4
KLR				*e*		15 58 58.5	
KLR				*e*S	S	16 07 31.0	-0.3
KLR				*e*		16 08 53.0	
KLR				*e*		16 14 30.0	
LBTB	**Lobatse**	64.31	194	*e*P	P	15 59 04.0	+0.5
	comp=Z,17nm,0.8s,mb5.1						

LBTB				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
MDJ	**Mudanjiang**	**64.59**	**52**	P	**P**	**15 59 04.8**	**-0.2**
MDJ				AP	pP	15 59 09.2	+1.9
MDJ				XP	sP	15 59 12.2	+4.1
MDJ				PP	PP	16 01 24.4	-4.6
MDJ				S	**S**	**16 07 45.5**	**+2.3**
MDJ				SCS	ScS	16 08 53.5	-2.6
MDJ				SS	SS	16 11 54.6	-0.9
MDJ				AMB	AMB		
	comp=Z,136nm,4.3s						
MDJ				LR	LR		
	comp=N,4µm,19.9s,MS5.8						
MDJ				LR	LR		
	comp=E,3µm,18.9s,MS5.8						
MDJ				LR	LR		
	comp=Z,2µm,17.9s,MS5.4						
SSE	**Sheshan**	**65.66**	**69**	⇑P	**P**	**15 59 10.0**	**-2.1**
SSE				AP	pP	15 59 13.0	-1.4
SSE				PP	PP	16 01 38.0	-0.9
SSE				S	S	16 07 55.2	-1.4
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,532nm,6.8s						
SSE				LR	LR		
	comp=N,2µm,26.7s,MS5.2						
SSE				LR	LR		
	comp=E,426nm,26.7s,MS5.2						
SSE	**Sheshan**	**65.66**	**69**	⇑P	**P**	**15 59 10.0**	**-2.1**
	comp=E,30nm,0.8s,mb5.4						
SSE				pP	pP	15 59 13.0	-1.4
SSE				PP	PP	16 01 38.0	-0.9
SSE				S	S	16 07 55.2	-1.4
SSE				SS	SS	16 12 33.4	+21
SSE				LR	LR		
	comp=Z,1µm,28.8s,MS4.9						
SEY	**Seymchan**	**65.92**	**27**	*e*P	**P**	**15 59 14.5**	**+1.3**
SEY				*e*		15 59 46.6	
SEY				*e*		16 01 40.2	
SEY				*e*S	S	16 08 01.7	+2.5
SEY				PS	PS	16 08 29.6	+8.0
SEY						16 09 11.8	
SEY				*e*SS	SS	16 12 17.6	+2.1
SEY				SSS	SSS	16 15 09.5	-0.7
SEY				pmax	pmax		
	comp=N,150nm,1.2s						
SEY				pmax	pmax		
	comp=Z,760nm,1.2s						
SEY				pmax	pmax		
	comp=E,230nm,1.1s						
SEY				smax			
	comp=N,2µm,10.2s						
SEY				smax			
	comp=E,480nm,7.5s						
SEY				MLR	MLR		
	comp=N,9µm,19.0s,MS6.0						
SEY				MLR	MLR		
	comp=Z,9µm,19.0s,MS6.0						
SEY				MLR	MLR		
	comp=E,2µm,17.0s,MS6.0						
INCN	**Inchon**	**66.24**	**60**	*e*P	**P**	**15 59 14.7**	**-1.0**
	comp=E,62nm,1.1s,mb5.5						
INCN				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
KS15	**Wonju Array Si**	**67.11**	**60**	*e*P	**P**	**15 59 21.2**	**0.0**
MA2	**Magadan**	**67.36**	**31**	*c i*P	**P**	**15 59 22.6**	**+0.2**
MA2				*e*		15 59 28.3	
MA2				*e*S	S	16 08 14.6	-2.1
MA2				*e*PS	PS	16 08 43.1	+2.4
MA2				*e*		16 09 18.0	
MA2				*e*SSS	SSS	16 15 35.6	-0.6
MA2				pmax	pmax		
	comp=N,20nm,1.2s						
MA2				pmax	pmax		
	comp=E,30nm,1.2s						
MA2				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.6						
MA2				MLR	MLR		
	comp=N,10µm,22.0s,MS6.2						
MA2				MLR	MLR		
	comp=E,13µm,22.0s,MS6.2						
MA2				MLR	MLR		
	comp=Z,11µm,22.0s,MS6.0						
MA2	**Magadan**	**67.36**	**31**	*e*P	**P**	**15 59 22.6**	**+0.2**
	comp=Z,152nm,1.3s,mb5.9						
MA2				LR	LR		
	comp=Z,6µm,19.0s,MS5.8						
SCHQ	**Schefferville**	**67.80**	**323**	P	**P**	**15 59 24.8**	**-0.5**
	comp=Z,21nm,0.2s,mb5.8,baz=58,slow=8.0,SNR=48						
SCHQ				LR	LR	16 31 23.6	
	comp=Z,2µm,18.7s,MS5.3,baz=62,slow=38						
SCHQ	**Schefferville**	**67.80**	**323**	*e*P	**P**	**15 59 24.8**	**-0.5**
	comp=Z,31nm,0.2s,mb6.0						
SCHQ				LR	LR		
	comp=Z,769nm,21.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**71.08**	**45**	*e*P	**P**	**15 59 44.5**	**-1.0**
YSS				*e*		16 00 07.8	
YSS				*e*S	S	16 09 06.0	+5.1
YSS				*e*PPS	PPS	16 09 47.0	+4.0
YSS				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.4						
YSS				smax			
	comp=N,1µm,11.0s						
YSS	**Yuzh-Sakhalins**	**71.08**	**45**	*e*P	**P**	**15 59 45.4**	**-0.1**
	comp=N,52nm,1.4s,mb5.3						
YSS				LR	LR		
	comp=Z,4µm,21.0s,MS5.6						
SUR	**Sutherland**	**72.42**	**196**	P	**P**	**15 59 55.2**	**+1.4**
	comp=Z,8.5nm,0.8s,mb4.7						
SUR	**Sutherland**	**72.42**	**196**	P	**P**	**15 59 55.2**	**+1.4**
SUR				LR	LR		
	comp=Z,875nm,22.0s,MS5.0						
ASAJ	**Asahikawa**	**72.67**	**47**	P	**P**	**15 59 55.0**	**0.0**
JOW	**Kunigami**	**73.18**	**69**	LR	LR	16 36 47.3	
	comp=Z,2µm,19.7s,MS5.3,baz=118,slow=40						
INK	**Inuvik**	**73.53**	**357**	P	**P**	**16 00 00.4**	**+0.8**
	comp=Z,15nm,1.1s,mb4.8,baz=350,slow=6.3						
INK	**Inuvik**	**73.53**	**357**	P	**P**	**16 00 00.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,15nm,1.1s						
EMMW	**East Machias**	**74.22**	**315**	*e*P	**P**	**16 00 04.2**	**+0.2**
	comp=Z,222nm,1.2s,mb6.0						
EMMW				LR	LR		
	comp=Z,4µm,21.0s,MS5.7						
TNA	**Tin City**	**74.29**	**11**	*e*P	**P**	**16 00 05.2**	**+1.1**
	comp=Z,25nm,1.1s,mb5.0						
TNA				LR	LR		
	comp=Z,926nm,21.0s,MS5.0						
MAJO	**Matsushiro**	**74.47**	**56**	*e*P	**P**	**16 00 05.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
MAJO				MLR	MLR		
	comp=Z,290nm,19.0s,MS4.6						
MAJO	**Matsushiro**	**74.47**	**56**	*e*P	**P**	**16 00 05.7**	**0.0**
	comp=Z,34nm,1.3s,mb5.1						
MAJO				LR	LR		
	comp=Z,290nm,19.0s,MS4.6						
MAT	**Matsushiro**	**74.47**	**56**	P	**P**	**16 00 05.6**	**-0.1**
MAT				S	S	16 09 41.0	+1.4
MAT	**Matsushiro**	**74.47**	**56**	*e*P	**P**	**16 00 06.0**	**+0.3**
	comp=Z,29nm,1.3s,mb5.0						
MAT				*e*S	S	16 09 41.0	+1.4
MAT				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
TGY	**Tagaytay City**	**74.94**	**84**	LR	LR	16 39 41.4	
	comp=Z,1µm,19.4s,MS5.2,baz=281,slow=41						
PET	**Petropavlovsk**	**74.98**	**33**	*e*P	**P**	**16 00 09.6**	**+1.3**
PET				*e*		16 00 23.6	
PET				*e*		16 02 58.3	
PET				*e*PPP	PPP	16 04 39.6	-3.7
PET				*e*S	S	16 09 43.7	-1.2
PET				*e*PS	PS	16 10 19.5	-1.9
PET				*e*SS	SS	16 14 40.8	+5.3
PET				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
PET				pmax	pmax		
	comp=Z,100nm,8.2s						
PET				pmax	pmax		
	comp=Z,200nm,6.1s						
PET				pmax	pmax		
	comp=Z,100nm,14.1s						
PET				smax			
	comp=N,300nm,19.1s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
PET				MLR	MLR		
	comp=Z,3µm,19.0s						
PET	**Petropavlovsk**	**74.98**	**33**	PFAKE		16 00 20.0	+12
PET				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
IMA	**Indian Mountai**	**75.44**	**5**	*e*P	**P**	**16 00 11.2**	**+0.6**
IMA				pmax	pmax		
	comp=Z,360nm,1.5s,mb6.1						
IMA	**Indian Mountai**	**75.44**	**5**	*e*P	**P**	**16 00 12.5**	**+1.9**
ANM	**Nome**	**75.61**	**11**	*e*P	**P**	**16 00 14.1**	**+2.5**
COLA	**College**	**76.97**	**3**	*e*P	**P**	**16 00 20.3**	**+1.0**
COLA				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.5						
COLA				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.2						
COLA	**College**	**76.97**	**3**	*e*P	**P**	**16 00 21.2**	**+1.9**
ILAR	**Eielson Array**	**77.11**	**3**	P	**P**	**16 00 20.8**	**+0.7**
	comp=Z,13nm,1.2s,mb4.8,baz=327,slow=3.1,SNR=49						
ILAR				PP	PP	16 03 18.9	+3.7
	comp=Z,7.0nm,1.2s,baz=350,slow=7.0,SNR=7.8						
ILAR				LR	LR	16 35 21.1	
	comp=Z,947nm,21.4s,MS5.1,baz=195,slow=36						
ILAR	**Eielson Array**	**77.11**	**3**	P	**P**	**16 00 20.8**	**+0.8**
ILAR						16 03 18.9	
ILAR				pmax	pmax		
	comp=Z,13nm,1.2s						
ILAR				MLR	MLR		
	comp=Z,947nm,21.4s						
YKW3	**Yellowknife Ar**	**77.27**	**348**	*e*P	**P**	**16 00 22.2**	**+1.3**
YKA	**Yellowknife Ar**	**77.33**	**348**	P	**P**	**16 00 21.4**	**+0.2**
	comp=Z,5.9nm,0.9s,mb4.5,baz=19,slow=6.0,SNR=24						
YKA				LR	LR	16 36 31.2	
	comp=Z,2µm,20.1s,MS5.3,baz=355,slow=37						
YKA	**Yellowknife Ar**	**77.33**	**348**	P	**P**	**16 00 21.4**	**+0.1**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,2µm,20.1s						
YKA	**Yellowknife Ar**	**77.33**	**348**	P	**P**	**16 00 21.4**	**+0.2**
YKA				LR	LR	16 36 31.2	
WES	**Weston**	**77.87**	**315**	PFAKE		16 00 40.0	+15
WES				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
HRV	**Harvard--Oak R**	**77.92**	**315**	PFAKE		16 00 40.0	+15
HRV				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
DAWY	**Dawson**	**77.93**	**359**	*e*P	**P**	**16 00 26.3**	**+1.8**
MCK	**McKinley**	**78.06**	**4**	*e*P	**P**	**16 00 26.2**	**+0.9**
MCK				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
MCK				MLR	MLR		
	comp=Z,790nm,21.0s,MS5.0						
MCK	**McKinley**	**78.06**	**4**	*e*P	**P**	**16 00 26.2**	**+1.0**
	comp=Z,64nm,1.5s,mb5.3						
MCK				LR	LR		
	comp=Z,794nm,21.0s,MS5.0						
NCB	**Newcomb**	**78.39**	**317**	PFAKE		16 00 40.0	+12
NCB				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
THY	**Trims Highway**	**78.51**	**2**	*e*P	**P**	**16 00 29.2**	**+1.5**
PWA	**Palmer West**	**80.08**	**4**	*e*P	**P**	**16 00 38.7**	**+2.4**
SVW	**Sparrevohn**	**80.16**	**7**	*e*P	**P**	**16 00 38.9**	**+2.2**
PMR	**Palmer**	**80.18**	**4**	*e*P	**P**	**16 00 38.2**	**+1.3**
PMR				pmax	pmax		
	comp=Z,73nm,1.4s,mb5.4						
PMR				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.2						
PMR	**Palmer**	**80.18**	**4**	*e*P	**P**	**16 00 38.2**	**+1.4**
	comp=Z,73nm,1.4s,mb5.4						
PMR				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
BBSR	**BB Station**	**80.28**	**304**	PFAKE		16 00 50.0	+12
BBSR				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
SADO	**Sadowa**	**80.38**	**321**	P	**P**	**16 00 39.7**	**+1.5**
	comp=Z,11nm,1.0s,mb4.8,baz=35,slow=6.3,SNR=4.3						
SADO	**Sadowa**	**80.38**	**321**	P	**P**	**16 00 39.7**	**+1.5**
SPU	**Mount Spurr**	**80.40**	**6**	*e*P	**P**	**16 00 38.9**	**+0.9**
PMS	**Palmer South**	**80.51**	**4**	*e*P	**P**	**16 00 41.6**	**+3.0**
BINY	**Binghamton**	**80.55**	**317**	PFAKE		16 00 50.0	+11
BINY				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
FIB	**Fire Island**	**80.55**	**5**	PFAKE		16 00 50.0	+11
FIB				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
FX1	**Attu Island--F**	**80.74**	**26**	*e*P	**P**	**16 00 40.6**	**+0.6**
DIV	**Divide**	**80.80**	**2**	*e*P	**P**	**16 00 42.1**	**+2.0**
	comp=Z,340nm,1.4s,mb6.1						
DIV				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
RSO	**Redoubt South**	**81.06**	**6**	*e*P	**P**	**16 00 42.8**	**+1.3**
SMY	**Shemya**	**81.19**	**26**	PFAKE		16 00 50.0	+7.6
SMY				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
SLKM	**Skilak Lake**	**81.20**	**5**	*e*P	**P**	**16 00 43.9**	**+1.7**
EYAK	**Cordova Ski Ar**	**81.38**	**2**	*e*P	**P**	**16 00 44.4**	**+1.2**
FFC	**Flin Flon**	**81.52**	**338**	*e*P	**P**	**16 00 44.9**	**+0.9**
FFC				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
FFC				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.6						
FFC	**Flin Flon**	**81.52**	**338**	*e*P	**P**	**16 00 44.9**	**+0.9**
	comp=Z,34nm,1.4s,mb5.1						
FFC				LR	LR		
	comp=Z,676nm,20.0s,MS5.0						
RCBR	**Riachuelo**	**82.06**	**256**	PFAKE		16 01 00.0	+12
RCBR				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
ERPA	**Erie**	**82.71**	**319**	PFAKE		16 01 00.0	+10
ERPA				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
CBIJ	**Chichi jima**	**82.94**	**61**	LR	LR	16 43 16.9	
	comp=Z,1µm,18.3s,MS5.3,baz=320,slow=40						
DLBC	**Dease Lake**	**83.17**	**354**	P	**P**	**16 00 54.4**	**+1.9**
	comp=Z,17nm,1.2s,mb4.9,baz=18,slow=5.3,SNR=9.9						
DLBC	**Dease Lake**	**83.17**	**354**	*e*P	**P**	**16 00 54.8**	**+2.3**
ULM	**Lac du Bonnet**	**83.35**	**333**	P	**P**	**16 00 53.8**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9,baz=34,slow=5.3,SNR=9.7						
ULM				LR	LR	16 42 16.4	
	comp=Z,1µm,18.5s,MS5.4,baz=132,slow=39						
ULM	**Lac du Bonnet**	**83.35**	**333**	*e*P	**P**	**16 00 54.1**	**+0.5**
	comp=Z,22nm,1.1s,mb5.1						
KDAK	**Kodiak Island**	**83.72**	**6**	*e*P	**P**	**16 00 55.8**	**+0.6**
	comp=Z,37nm,1.0s,mb5.5						
KDAK				LR	LR		
	comp=Z,265nm,20.0s,MS4.6						
CBN	**Corbin**	**84.10**	**315**	PFAKE		16 01 10.0	+12
CBN				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
UNV	**Unalaska Valle**	**85.53**	**15**	PFAKE		16 01 20.0	+16
UNV				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
ACSO	**Alum Creek Sta**	**85.62**	**319**	*e*P	**P**	**16 01 05.3**	**0.0**
	comp=Z,40nm,1.1s,mb5.6						
ACSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
FWV	**Forest Hill**	**86.44**	**316**	*e*P	**P**	**16 01 10.0**	**+0.7**
BLA	**Blacksburg**	**86.49**	**316**	PFAKE		16 01 20.0	+10
BLA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
ELN	**Prospectdale**	**86.66**	**316**	*e*P	**P**	**16 01 10.6**	**+0.1**
PWV	**Princeton**	**86.74**	**316**	*e*P	**P**	**16 01 09.3**	**-1.5**
JFWS	**Jewell Farm**	**87.04**	**325**	PFAKE		16 01 20.0	+7.9
JFWS				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
DGMT	**Dagmar**	**87.67**	**337**	PFAKE		16 01 30.0	+15
DGMT				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
WCI	**Wyandotte Cave**	**88.82**	**320**	PFAKE		16 01 30.0	+9.2
WCI				LR	LR		
	comp=Z,452nm,19.0s,MS4.9						
JSC	**Jenkinsville**	**89.10**	**314**	*e*P	**P**	**16 01 22.5**	**+0.3**
NHSC	**New Hope**	**89.34**	**313**	PFAKE		16 01 40.0	+17
NHSC				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
LAO	**LASA Array**	**89.88**	**337**	*e*P	**P**	**16 01 27.6**	**+2.0**
	comp=Z,56nm,1.2s,mb5.8						
LAO				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
CPCT	**Cooper Cave**	**90.01**	**317**	*e*P	**P**	**16 01 26.6**	**+0.2**
SLM	**Saint Louis**	**90.43**	**323**	*e*P	**P**	**16 01 29.5**	**+1.2**
SLM				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.6						
SLM	**Saint Louis**	**90.43**	**323**	*e*P	**P**	**16 01 29.5**	**+1.2**
	comp=Z,23nm,0.7s,mb5.6						
SJG	**San Juan**	**90.44**	**294**	PFAKE		16 01 40.0	+11
SJG				LR	LR		
	comp=Z,412nm,19.0s,MS4.9						
NEW	**Newport**	**91.25**	**344**	*e*P	**P**	**16 01 33.9**	**+2.1**
NEW				pmax	pmax		
	comp=Z,36nm,1.0s						
NEW				MLR	MLR		
	comp=Z,2µm,19.0s						
NEW	**Newport**	**91.25**	**344**	*e*P	**P**	**16 01 33.9**	**+2.1**
	comp=Z,36nm,1.1s,mb5.6						
NEW				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
CCM	**Cathedral Cave**	**91.37**	**323**	*e*P	**P**	**16 01 31.7**	**-1.0**
CCM				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3						
CCM				MLR	MLR		
	comp=Z,470nm,20.0s,MS4.9						
CCM	**Cathedral Cave**	**91.37**	**323**	*e*P	**P**	**16 01 31.7**	**-1.0**
	comp=Z,17nm,1.0s,mb5.3						
CCM				LR	LR		
	comp=Z,473nm,20.0s,MS4.9						
CHMT	**Chamberlain Mo**	**91.63**	**342**	P	**P**	**16 01 35.0**	**+1.4**
DPW	**Davenport**	**91.85**	**345**	*e*P	**P**	**16 01 36.1**	**+1.5**
MSO	**Missoula**	**91.88**	**342**	PFAKE		16 01 50.0	+15
MSO				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
RPW	**Rockport**	**91.92**	**347**	*e*P	**P**	**16 01 36.4**	**+1.5**
NLW	**Nelson Butte**	**92.06**	**346**	*e*P	**P**	**16 01 37.9**	**+2.3**
BOZ	**Bozeman (W)**	**92.39**	**340**	*e*P	**P**	**16 01 39.5**	**+2.4**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
BOZ				MLR	MLR		
	comp=Z,3µm,21.0s,MS5.7						
BOZ	**Bozeman (W)**	**92.39**	**340**	*e*P	**P**	**16 01 39.5**	**+2.4**
	comp=Z,10nm,1.3s,mb5.0						
BOZ				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
RMW	**Rattlesnake Mo**	**92.92**	**347**	P	**P**	**16 01 41.5**	**+2.0**
GNW	**Green Mountain**	**92.99**	**348**	*e*P	**P**	**16 01 41.6**	**+1.8**
OCWA	**Octopus Mounta**	**93.03**	**349**	PFAKE		16 01 50.0	+10
OCWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
QLMT	**Earthquake Lak**	**93.09**	**340**	*e*P	**P**	**16 01 43.2**	**+2.8**
LRAL	**Lakeview Retre**	**93.18**	**317**	*e*P	**P**	**16 01 41.5**	**+0.4**
	comp=Z,20nm,1.4s,mb5.3						
LRAL				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
OXF	**Oxford**	**93.28**	**320**	PFAKE		16 01 50.0	+8.5
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
MCMT	**McKenzie Canyo**	**93.47**	**341**	*e*P	**P**	**16 01 44.0**	**+1.9**
HAWA	**Hanford**	**93.53**	**345**	*e*P	**P**	**16 01 43.3**	**+0.9**
	comp=Z,14nm,1.1s,mb5.3						
HAWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
LON	**Longmire**	**93.61**	**347**	*e*P	**P**	**16 01 44.8**	**+2.1**
DWPF	**Disney**	**93.72**	**310**	PFAKE		16 02 00.0	+16
DWPF				LR	LR		
	comp=Z,254nm,20.0s,MS4.7						
LNOR	**Lincton Mounta**	**93.77**	**344**	*e*P	**P**	**16 01 44.8**	**+1.3**
MOOW	**Moose Ponds**	**93.89**	**339**	*e*P	**P**	**16 01 46.4**	**+2.3**
TPAW	**Teton Pass**	**94.19**	**339**	*e*P	**P**	**16 01 48.4**	**+3.0**
BW06	**Boulder Array**	**94.44**	**338**	PFAKE		16 02 00.0	+13
BW06				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
PDAR	**Pinedale Array**	**94.44**	**338**	P	**P**	**16 01 46.5**	**-0.2**
	comp=Z,1.6nm,1.0s,mb4.4,baz=27,slow=3.3,SNR=11						
PDAR				PP	PP	16 05 38.8	+2.0
	comp=Z,2.3nm,1.1s,baz=37,slow=7.4,SNR=5.9						
PDAR				LR	LR	16 49 48.3	
	comp=Z,2µm,18.2s,MS5.6,baz=29,slow=39						
CBKS	**Cedar Bluff**	**94.47**	**329**	PFAKE		16 02 00.0	+13
CBKS				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
AHID	**Auburn Hatcher**	**94.90**	**339**	PFAKE		16 02 00.0	+11
AHID				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
HLID	**Hailey**	**95.06**	**341**	PFAKE		16 02 00.0	+11
HLID				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
MIAR	**Mount Ida**	**95.31**	**323**	PFAKE		16 02 00.0	+9.1
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
ISCO	**Idaho Springs**	**95.83**	**334**	PFAKE		16 02 10.0	+17
ISCO				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
COR	**Corvallis**	**95.96**	**348**	PFAKE		16 02 10.0	+16
COR				LR	LR		
	comp=Z,368nm,22.0s,MS4.8						
HWUT	**Hardware Ranch**	**96.10**	**338**	*e*P	**P**	**16 01 56.3**	**+2.0**
	comp=Z,8.5nm,1.2s,mb5.0						
HWUT				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
DAU	**Daniels Canyon**	**97.11**	**338**	*e*P	**P**	**16 01 56.7**	**-2.2**
WVOR	**Wild Horse Val**	**97.13**	**344**	*e*P	**P**	**16 02 01.5**	**+2.6**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.8						
WVOR				MLR	MLR		
	comp=Z,3µm,21.0s,MS5.7						
WVOR	**Wild Horse Val**	**97.13**	**344**	*e*P	**P**	**16 02 01.4**	**+2.5**
	comp=Z,4.2nm,1.0s,mb4.8						
WVOR				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
BDFB	**Brasilia**	**97.43**	**256**	LR	LR	16 48 52.7	
	comp=Z,3µm,18.9s,MS5.8,baz=309,slow=37						
WMOK	**Wichita Mounta**	**97.53**	**326**	PFAKE		16 02 10.0	+9.1
WMOK				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
SDCO	**Great Sand Dun**	**97.62**	**333**	PFAKE		16 02 10.0	+8.8
SDCO				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
DUG	**Dugway**	**97.76**	**339**	PFAKE		16 02 10.0	+8.2
DUG				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
RW3	**Ridgway**	**97.94**	**334**	*e*P	**P**	**16 02 04.2**	**+1.5**
MOD	**Modoc**	**97.99**	**345**	PFAKE		16 02 10.0	+7.2
MOD				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
NATX	**Nacogdoches**	**98.11**	**322**	PFAKE		16 02 20.0	+16
NATX				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
FITZ	**Fitzroy Crossi**	**98.26**	**106**	LR	LR	16 49 02.8	
	comp=Z,341nm,19.8s,MS4.8,baz=3.3,slow=37						
PV10	**Paradox Valley**	**98.27**	**335**	*e*P	**P**	**16 02 05.5**	**+1.3**
PV01	**Paradox Valley**	**98.34**	**335**	*e*P	**P**	**16 02 06.0**	**+1.5**
YBH	**Yreka Blue Hor**	**98.63**	**346**	PFAKE		16 02 20.0	+14
YBH				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
MSU	**Marysvale**	**99.13**	**338**	*e*P	**P**	**16 02 11.1**	**+3.1**
WDC	**Whiskeytown Da**	**99.71**	**346**	PFAKE		16 02 20.0	+9.4
WDC				LR	LR		
	comp=Z,941nm,21.0s,MS5.3						
SDV	**Santo Domingo**	**99.76**	**289**	PFAKE		16 02 20.0	+8.5
SDV				LR	LR		
	comp=Z,768nm,22.0s,MS5.2						
HKT	**Hockley**	**100.17**	**321**	PFAKE		16 02 20.0	+7.0
HKT				LR	LR		
	comp=Z,419nm,19.0s,MS5.0						
ANMO	**Albuquerque**	**100.45**	**332**	PFAKE		16 02 30.0	+16
ANMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
MNV	**Mina**	**100.83**	**342**	PFAKE		16 02 30.0	+14
MNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
NVAR	**Mina Array Bea**	**100.86**	**342**	P	P	16 02 19.1	+3.2
	comp=Z,0.3nm,0.4s,baz=18,slow=4.7,SNR=3.8						
NVAR				PP	PP	16 06 25.2	-1.5
	comp=Z,0.5nm,0.4s,baz=34,slow=5.8,SNR=5.8						
TPH	**Tonopah**	**100.93**	**341**	PFAKE		16 02 30.0	+14
TPH				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
NWAO	**Narrogin (SRO)**	**101.33**	**123**	PFAKE		16 02 30.0	+12
NWAO				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
HOPS	**Hopland**	**101.35**	**346**	PFAKE		16 02 30.0	+12
HOPS				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
JCT	**Junction City**	**101.60**	**325**	PFAKE		16 02 30.0	+11
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
CMB	**Columbia Colle**	**101.72**	**344**	PFAKE		16 02 30.0	+10
CMB				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
DAC	**Darwin (Calif)**	**102.73**	**341**	PFAKE		16 02 40.0	+16
DAC				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
LTX	**Lajitas**	**104.28**	**327**	PFAKE		16 02 40.0	+8.7

LTX				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
TUC	Tucson	104.38	334	PFAKE		16 02 40.0	+8.3
TUC				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
PFO	Pinyon Flat Ob	104.94	339	PFAKE		16 02 50.0	+16
PFO				LR	LR		
	comp=Z,607nm,19.0s,MS5.2						
MIDW	Midway	105.45	33	PFAKE		16 07 00.0	
MIDW				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
MAW	Mawson	107.13	171	PFAKE		16 07 00.0	
MAW				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
JTS	JuntasAbangare	108.99	301	PFAKE		16 07 10.0	
JTS				LR	LR		
	comp=Z,182nm,22.0s,MS4.6						
PMG	Port Moresby	109.81	86	PFAKE		16 07 10.0	
PMG				LR	LR		
	comp=Z,513nm,22.0s,MS5.1						
CPUP	Villa Florida	110.70	252	PFAKE		16 07 10.0	+8.8
CPUP				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
SNAA	Sanae	113.67	193	⇓*i*P	Pdif	16 03 17.1	+5.5
SNAA	Sanae	113.67	193	⇑*i*	PKPdf	16 07 07.6	+1.6
VNA1	Neumayer--Stat	113.92	196	⇑*i*P	Pdif	16 03 19.2	+6.4
VNA1	Neumayer--Stat	113.92	196	⇑*i*	Pdif	16 03 22.5	+10
VNA1	Neumayer--Stat	113.92	196	⇑*i*	PKPdf	16 07 08.3	+1.8
VNA2	Neumayer--Watz	113.95	195	⇑*i*P	Pdif	16 03 19.7	+6.8
VNA2	Neumayer--Watz	113.95	195	⇑*i*	Pdif	16 03 22.0	+9.1
VNA2	Neumayer--Watz	113.95	195	⇑*i*	Pdif	16 03 24.0	+11
VNA2	Neumayer--Watz	113.95	195	⇑*i*	PKPdf	16 07 09.6	+3.0
CTAO	Charters Tower	115.28	96	PFAKE		16 07 20.0	+10
CTAO				LR	LR		
	comp=Z,966nm,22.0s,MS5.4						
LVC	Limon Verde	117.56	262	PFAKE		16 07 30.0	+15
LVC				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
NNA	Nana	117.77	277	PFAKE		16 07 30.0	+15
NNA				LR	LR		
	comp=Z,184nm,19.0s,MS4.7						
PAYG	Puerto Ayora	120.52	296	PFAKE		16 07 30.0	+9.4
PAYG				LR	LR		
	comp=Z,404nm,19.0s,MS5.1						
EFI	East Falkland	123.08	227	PFAKE		16 07 30.0	+5.5
EFI				LR	LR		
	comp=Z,385nm,20.0s,MS5.0						
PLCA	Paso Flores	127.16	244	PKP	PKPdf	16 07 32.1	-0.5
	comp=Z,7.4nm,1.0s,baz=9.9,slow=0.5,SNR=10.0						
PLCA	Paso Flores	127.16	244	PKP	PKPdf	16 07 32.1	-0.5
PLCA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
QSPA	South Pole Qui	128.17	180	*e*PKP	PKPdf	16 07 32.9	-0.9
VNDA	Vanda	134.04	165	PFAKE		16 08 00.0	+15
VNDA				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
SBA	Scott Base	134.84	166	PFAKE		16 08 00.0	+14
SBA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
SNZO	South Karori	145.94	109	PFAKE		16 08 20.0	+15
SNZO				LR	LR		
	comp=Z,822nm,20.0s,MS5.5						
PMOR	Pomariorio Ree	155.91	17	*e*PKPab	PKPab	16 08 41.4	-8.0
	comp=Z,38nm,1.3s						
PPT	Papeete	157.91	23	*e*PP	PP	16 12 35.6	-3.1
PPT				*e*R		17 02 01.1	
	comp=Z,1µm,22.2s						
RKT	Rikitea	164.04	340	*e*SS	SS	16 33 31.2	-7.5
RKT				*e*R		17 05 01.7	
	comp=Z,4µm,37.2s						

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*IDC **11** 15:56:37.2±1.9, 35.73N×75.61E, mb3.8/4, mb1 3.9/6, mb1mx3.6/20, ML3.6/2, Error ellipse: s-maj=44.0km s-min=29.1km az=47.0*

*NEIC **11** 15:56:37.7±1.5, 35.51N×75.28E, h10^{km}, mb3.9/2, Error ellipse: s-maj=35.4km s-min=20.1km az=59.0*

ISC 11 15:56:36.5±1.0**, 35.7N**±0.1×**75.6E**±0.2**, h10^{km}, n13, σ1^{s}01**/13**, mb3.6**/4**, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOLN	Koldanda	10.39	137	*e*P	P	15 59 09.5	+0.8
	18nm,0.7s						
GKN	Gorkha	10.81	133	*e*P	P	15 59 14.9	+0.4
	24nm,0.5s						
KKN	Kakani	11.35	131	*e*P	P	15 59 21.2	-0.7
	9.9nm,0.4s						
DMN	Daman	11.38	132	*e*P	P	15 59 21.6	-0.7
	61nm,1.2s						
PKI	Pulchoki	11.59	131	*e*P	P	15 59 24.3	-0.8
	26nm,0.9s						
MKAR	Makanchi Array	12.18	22	Pn	P	15 59 31.2	-1.8
	0.2nm,0.3s,baz=207,slow=15,SNR=7.1						
KURK	Kurchatov	15.19	7	P	P	16 00 16.7	+4.0
	14nm,1.1s						
BVAR	Borovoye Array	17.74	350	P	P	16 00 45.5	+0.3
	0.4nm,0.3s,baz=154,slow=10,SNR=7.7						
BRVK	Borovoye	17.79	349	P	P	16 00 44.9	-0.8
	4.8nm,0.8s						
SONM	Songino Array	25.79	52	P	P	16 02 11.1	+2.0
	0.8nm,0.8s,mb3.3,baz=258,slow=8.1,SNR=2.3						
FINES	FINESS Array B	40.28	326	P	P	16 04 15.2	+0.1
	2.2nm,1.0s,mb3.9,baz=111,slow=12,SNR=3.1						
ARCES	ARCESS Array B	43.36	337	P	P	16 04 40.0	-0.1
	1.3nm,0.5s,mb3.9,baz=106,slow=8.8,SNR=9.8						
WRA	Warramunga Arr	78.40	125	P	P	16 08 39.6	+0.5
	0.6nm,1.0s,mb3.5,baz=328,slow=4.9,SNR=1.6						

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*NEIC **11** 16:06:51.2, 33.70S×69.85W, h6^{km}, ML2.6(GUC), After GUC.*

GUC 11 16:06:51.2±0.7**, 33.70S×69.85W, h6^{km}**±1^{km}**, MD3.6, ML2.6, 7C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.33	244	⇓*i*P	Pg	16 06 58.3	+0.5
LMEL				*i* S	Sg	16 07 03.6	+1.3
LMEL				AML	AML	16 07 04.7	
	comp=N,4µm,0.2s						
FCH	Farellones	0.53	315	⇓*i*P	Pg	16 07 02.4	+0.6
FCH				*i* S	Sg	16 07 10.4	+1.6
FCH				AML	AML	16 07 11.7	
	comp=N,967nm,0.2s						
PCH	Pirque	0.56	278	⇑*i*P	Pg	16 07 03.0	+0.6
PCH				*i* S	Sg	16 07 11.7	+1.8
CLCH	Cerro Calan	0.65	298	⇑*i*P	Pg	16 07 04.6	+0.3
CLCH				*i* S	Sg	16 07 14.7	+1.8
CLCH				AML	AML	16 07 15.9	
	comp=N,574nm,0.3s						
CHCH	Chadas Angostu	0.71	251	⇑*i*P	Pg	16 07 05.4	+0.1
CHCH				*i* S	Sg	16 07 15.5	+0.7
CACH	El Canelo	0.75	236	⇑*i*P	Pg	16 07 06.0	-0.2
CACH				*i* S	Sg	16 07 17.3	+1.2
CICH	Cipreses	0.78	217	⇑*i*P	Pb	16 07 06.6	-0.1
CICH				*i* S	Sg	16 07 17.9	+0.8
RCDM	Rinconada Maip	0.83	285	⇓*i*P	Pb	16 07 07.4	-0.1
RCDM				*i* S	Sb	16 07 19.5	+0.8
RCDM				AML	AML	16 07 20.6	
	comp=N,158nm,0.3s						
MDZ	Mendoza	1.17	46	*e*P	Pb	16 07 13.8	+0.4
JACH	Jahuel	1.19	328	⇑*i*P	Pb	16 07 14.6	+0.8
JACH				*i* S	Sb	16 07 31.7	+2.4
LNV	Longovilo	1.32	259	⇓*i*P	Pb	16 07 15.7	-0.3
LNV				*i* S	Sb	16 07 33.7	+0.6
SFDO	San Fernando	1.33	226	*i* P	Pb	16 07 16.6	+0.5
SFDO				*i* S	Sb	16 07 35.2	+2.0
LCCH	Las Cruces	1.45	279	⇑*i*P	Pn	16 07 18.2	+0.1
LCCH				*i* S	Sb	16 07 37.8	+0.9

DJA 11 16:13:01.9±0.9**, 9.52S×117.25E, h80^{km}, MD4.6**/3**, ML4.1**/3**, 2C-6D, Error ellipse: s-maj=29.5km s-min=21.0km az=28.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.52	312	⇓*i*Pn	P	16 13 27.7	-0.3
	146nm,0.2s						
KEDI				⇓*i*Sn	S	16 13 46.7	-0.5
RATI	Rata	1.87	295	⇓*i*Pn	P	16 13 32.0	-0.6
	108nm,0.2s						
RATI	Rata	1.87	295	⇑*i*P	P	16 13 32.3	-0.3
RATI				⇑*i*Sn	S	16 13 53.5	-1.8
INGI	Ingas	2.19	288	⇓*i*Pn	P	16 13 36.9	-0.2
	162nm,0.2s						
INGI	Ingas	2.19	288	⇓*i*P	P	16 13 37.0	-0.1
INGI				⇓*i*Sn	S	16 14 01.5	-1.6

TAP 11 17:01:10.3, 25.54N×122.29E, h282^{km}, ML4.1, Taiwan region

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WEL 11 17:32:59.5±0.5**, 45.22S×167.08E, h20^{km}, ML4.2**/8**, 1C-1D, Error ellipse: s-maj=4.7km s-min=2.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.27	168	⇓P*	Pb	17 33 05.2	-0.4
DCZ				S*	Sb	17 33 10.4	+0.7
MLZ	Mavora Lakes	0.78	100	P*	Pb	17 33 13.3	-1.0
MLZ				S*	Sb	17 33 24.5	0.0
WHZ	Wether Hill Ro	0.91	138	P*	Pb	17 33 15.9	-0.6
WHZ				S*	Sb	17 33 29.5	+1.4
WKZ	Wanaka	1.43	75	PN	Pn	17 33 24.1	-0.5
WKZ				*e*SN	Sn	17 33 43.4	+0.5
AXZ	Alexandra	1.59	93	PN	Pn	17 33 26.3	-0.6
AXZ				SN	Sn	17 33 47.1	0.0
JCZ	Jackson Bay	1.66	47	PN	Pn	17 33 27.6	-0.3
JCZ				SN	Sn	17 33 49.2	+0.5
TUZ	Tuapeka	1.94	113	*e*PN	Pn	17 33 30.6	-1.3
TUZ				*e*SN	Sn	17 33 57.8	+1.9
LBZ	Lake Benmore	2.36	70	⇑PN	Pn	17 33 36.3	-1.6
LBZ				SN	Sn	17 34 05.3	-1.4
ODZ	Otahua Downs	2.53	87	PN	Pn	17 33 38.3	-2.0
ODZ				*e*SN	Sn	17 34 08.3	-2.6
WVZ	Waitaha Valley	3.40	52	*e*PN	Pn	17 33 48.0	-4.7
MQZ	McQueen’s Vall	4.27	71	*e*PN	Pn	17 34 01.1	-3.9
MQZ				*e*SN	Sn	17 34 47.6	-7.2
CRLZ	Canterbury Las	4.30	70	*e*PN	Pn	17 34 00.9	-4.6
DSZ	Denniston Nort	4.88	46	*e*PN	Pn	17 34 10.0	-3.8
THZ	Tophouse	5.47	53	*e*PN	Pn	17 34 17.3	-4.7
QRZ	Quartz Range	5.94	44	*e*PN	Pn	17 34 23.3	-5.3
NNZ	Nelson	6.10	51	*e*PN	Pn	17 34 26.8	-4.1

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*NEIC **11** 17:39:13.4, 36.19N×25.38E, h5^{km}, ML3.8(ATH), After ATH.*

*ATH **11** 17:39:13.4, 36.19N×25.38E, h5^{km}, MD3.8/9, ML3.8*

*IDC **11** 17:39:14.7±1.1, 36.14N×25.48E, mb3.7/3, mb1 3.9/6, mb1mx3.6/23, ML3.7/3, Error ellipse: s-maj=30.4km s-min=10.8km az=124.0*

ISC 11 17:39:14.1±0.4**, 36.13N**±0.03×**25.40E**±0.04**, h5^{km}, n39, σ1^{s}22**/42**, mb3.6**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THR6	Thira Island,	0.22	0	*e*P	Pg	17 39 18.1	-0.6
THR1	Thera Island	0.24	12	*e*P	Pg	17 39 18.2	-0.8
SANT	Santorini	0.24	12	*e*P	Pg	17 39 17.8	-1.3
THR3	Thira Island,	0.28	1	*e*P	Pg	17 39 19.0	-0.7
THR5	Thira Island,	0.29	352	*e*P	Pg	17 39 19.2	-0.7
THR4	Thira Island,	0.33	0	*e*P	Pg	17 39 19.2	-1.5
NPS	Neapolis	0.89	168	*e*PN	Pn	17 39 32.8	-0.2
IDI	Anoyia	0.94	206	Pg	Pg	17 39 31.8	-1.0
	18nm,0.3s,baz=25,slow=13,SNR=53						
IDI				Lg		17 39 48.5	
	795nm,0.3s,baz=287,slow=21,SNR=84						
APE	Apeiranthos	0.94	7	*e*PB	Pb	17 39 30.9	-1.6
VAM	Vamos	1.21	234	*e*PG	Pg	17 39 36.6	-1.7
XRY	Khrisi	1.28	169	*e*PB	Pb	17 39 39.0	+0.7
KARP	Karpathos	1.55	112	*e*PN	Pn	17 39 41.6	-0.9
GVD	Gavdhos	1.68	220	*e*P	Pn	17 39 46.9	+2.6
BDRM	Kayabasi	1.89	60	*e*P	Pn	17 39 50.2	+2.8
BDRM				*i* S	Sn	17 40 13.7	+1.8
KYTH	Kithira	1.92	275	*e*PN	Pn	17 39 49.0	+1.3
VLI	Veliai	2.07	287	*e*PN	Pn	17 39 50.0	+0.1
ARG	Arkhangelos	2.21	87	*e*PG	Pg	17 39 55.2	-3.0
ATH	Athens Observa	2.28	324	*e*PG	Pg	17 39 54.3	-5.2
AYDN	Tasoluk	2.51	52	*e*P	Pg	17 40 03.6	-0.5
AYDN				*i* S	Sg	17 40 41.9	+4.3
KDAG	Bornova	2.71	33	*i* P	Pg	17 40 07.6	-0.7
KDAG				*i* S	Sg	17 40 48.6	+4.2
LKR	Lokris	3.16	324	*e*PN	Pn	17 40 06.3	+0.8
PRK	Paraskevi	3.19	12	*e*PB	Pb	17 40 05.5	-5.4
AOS	Alonnisos	3.26	339	*e*P	Pn	17 40 07.6	+0.7
DNZL	Cakiroluk	3.31	61	*e*P	Pg	17 40 16.2	-4.1
DNZL				*i* S	Sg	17 41 05.1	+0.7
XOR	Xorichti	3.67	332	*e*P	Pn	17 40 13.4	+0.6
AGG	Agios Georgios	3.78	321	*e*P	Pn	17 40 15.8	+1.6
EVR	Evrytania	3.98	315	*e*PB	Pb	17 40 19.1	-5.4
LIT	Litokhoron	4.58	331	*e*P	Pn	17 40 25.8	+0.2
SART	Tekirdag	4.76	17	*i* P	Pn	17 40 29.1	+0.8
SART				*i* S	Sx	17 40 51.8	
MEV	Metsovon	4.91	319	*e*P	Pn	17 40 32.5	+2.1
BRTR	Keskin Array B	7.43	59	Pn	Pn	17 41 07.0	+1.0
	0.1nm,0.3s,baz=263,slow=12,SNR=3.8						
TIP	Timpagrande	7.50	297	*e*P	Pn	17 41 05.5	-1.3
AKASG	Malin Array Be	14.82	10	Pn	P	17 42 49.9	+3.8
	1.8nm,0.3s,baz=204,slow=11,SNR=5.6						
GERES	GERESS Array B	15.33	330	Pn	P	17 42 58.1	+5.4
	0.2nm,0.3s,baz=148,slow=13,SNR=14						
KHC	Kasperske Hory	15.61	330	*e*P	P	17 43 02.0	+5.7
EKA	Eskdalemuir Ar	27.37	324	P	P	17 45 02.2	+0.3
	0.7nm,0.5s,mb3.5,baz=118,slow=9.5,SNR=4.0						
MKAR	Makanchi Array	43.08	57	P	P	17 47 16.4	-0.2
	0.4nm,0.3s,mb3.6,baz=268,slow=7.6,SNR=12						
CMAR	Chiang Mai Arr	66.27	84	P	P	17 50 04.5	-1.1
	0.4nm,0.5s,mb3.7,baz=297,slow=8.1,SNR=3.8						
ASAR	Alice Springs	118.03	100	PKP	PKPdf	17 58 02.8	-2.0
	0.5nm,1.0s,baz=280,slow=1.3,SNR=5.1						

IDC 11 17:49:21.9±5.7**, 8.08S×158.24E, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.6**/13**, Error ellipse: s-maj=164.0km s-min=33.0km az=113.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.97	240	P	P	17 54 57.3	-0.9
	0.4nm,0.4s,baz=66,slow=9.1,SNR=8.7						
ASAR	Alice Springs	28.00	234	P	P	17 55 13.9	-2.8
	0.2nm,0.4s,baz=61,slow=10.0,SNR=3.8						
SONM	Songino Array	72.00	326	P	P	18 00 48.7	-0.8
	1.5nm,0.7s,baz=138,slow=5.9,SNR=12						
MKAR	Makanchi Array	86.34	318	P	P	18 02 04.5	-2.8
	0.5nm,0.8s,baz=112,slow=6.5,SNR=4.7						

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*IDC **11** 18:01:22.2±0.8, 22.68S×175.12W, h58^{km}±7^{km}, mb3.8/8, mb1 4.1/9, mb1mx3.9/17, Error ellipse: s-maj=31.2km s-min=19.6km az=141.0*

*NEIC **11** 18:01:22.0±0.7, 22.66S×175.11W, mb4.6/4, Error ellipse: s-maj=19.3km s-min=16.2km az=175.0*

ISC 11 18:01:20.6±0.8**, 22.7S**±0.2×**175.2W**±0.2**, h58^{km}, (h56^{km}**±1.5^{km}**:pP-P), n14, σ0^{s}62**/14**, mb4.2**/10**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.35	87	P	P	18 04 28.6	-13
	2.4nm,0.3s,baz=293,slow=19,SNR=7.1						
RAR				S	S	18 06 50.3	-30
	2.4nm,0.3s,baz=80,slow=18,SNR=4.3						
CTA	Charters Tower	35.96	267	*e*P	P	18 08 18.7	+1.0
	6.4nm,0.9s,mb4.5						
CTA	Charters Tower	35.96	267	P	P	18 08 18.4	+0.6
	7.2nm,0.8s,mb4.6,baz=86,slow=7.5,SNR=7.6						
CTAO	Charters Tower	35.96	267	*e*P	P	18 08 18.6	+0.9
	6.4nm,0.7s,mb4.7						
STKA	Stephens Creek	39.30	247	P	P	18 08 45.2	-0.2
	2.0nm,1.0s,mb3.8,baz=22,slow=20,SNR=4.4						
ASAR	Alice Springs	46.63	258	P	P	18 09 45.4	+0.2
	2.1nm,0.8s,mb4.1,baz=96,slow=7.0,SNR=34						
WB2	Warramunga Arr	46.94	263	*e*P	P	18 09 46.8	-0.8
WRA	Warramunga Arr	46.95	263	P	P	18 09 47.2	-0.5
	2.3nm,0.6s,mb4.3,baz=96,slow=8.4,SNR=46						
SBA	Scott Base	55.88	185	*e*P	P	18 10 54.7	+0.5
	3.0nm,1.0s,mb4.3						
SBA				*e*pP	pP	18 11 10.3	+0.6
VNDA	Vanda	55.98	186	P	P	18 10 54.4	-0.6
	1.1nm,1.0s,mb3.9,baz=13,slow=5.0,SNR=4.5						
MAW	Mawson	80.38	199	P	P	18 13 27.8	+1.0
	1.8nm,0.7s,mb4.1,baz=164,slow=9.6,SNR=4.3						
MAW				pP	pP	18 13 43.1	-0.1
	2.3nm,0.7s,baz=76,slow=5.8,SNR=4.6						
NVAR	Mina Array Bea	80.85	42	P	P	18 13 29.4	-0.5
	1.3nm,0.9s,mb3.9,baz=218,slow=7.1,SNR=7.4						
NVAR				pP	pP	18 13 46.6	+0.3
	1.8nm,1.0s,baz=214,slow=8.1,SNR=5.3						
SNAA	Sanae	85.73	178	*e*P	P	18 13 53.3	-0.5
	5.6nm,1.2s,mb4.7						
SNAA				*e*pPKP	pP	18 14 08.8	-1.7
ILAR	Eielson Array	89.89	12	P	P	18 14 14.6	+0.6
	1.5nm,1.1s,mb4.2,baz=224,slow=4.5,SNR=7.8						
ILAR				pP	pP	18 14 30.8	0.0
	1.2nm,1.0s,baz=225,slow=5.4,SNR=4.9						

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*IDC **11** 18:09:51.5±3.4, 47.29N×149.80E, h303^{km}±35^{km}, mb3.3/4, mb1 3.4/5, mb1mx3.0/22, Error ellipse: s-maj=35.7km s-min=24.1km az=102.0*

ISC 11 18:09:51.6±3.4**, 47.3N**±0.3×**149.7E**±0.6**, h317^{km}**±38^{km}**, n5, σ1^{s}70**/5**, mb3.6**/4**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	Asahikawa	5.88	240	P	P	18 11 20.6	0.0
	0.8nm,0.3s,baz=92,slow=11,SNR=4.9						
FINES	FINESS Array B	62.50	333	P	P	18 19 43.2	0.0
	1.2nm,0.6s,mb3.7,baz=27,slow=8.5,SNR=9.9						
PDAR	Pinedale Array	66.31	52	P	P	18 20 06.6	-1.1
	0.6nm,0.9s,mb3.3,baz=315,slow=4.2,SNR=4.5						
ASAR	Alice Springs	72.06	195	P	P	18 20 42.9	-0.2
	0.5nm,0.6s,mb3.3,baz=17,slow=6.2,SNR=8.2						
TXAR	Lajitas Array	79.25	58	P	P	18 21 24.5	+1.3
	3.0nm,1.0s,mb4.0,baz=308,slow=4.8,SNR=4.9						

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*HEL **11** 18:25:18.7±0.1, 58.81N×18.06E, ML2.3, ML3.3(UPP), ML2.7(NAO), Explosion*

*NAO **11** 18:25:21.9±2.9, 59.13N×17.97E, ML2.7*

*BER **11** 18:25:21.4±4.6, 58.99N×17.98E, ML2.7(NAO)*

*IDC **11** 18:25:22.2±2.1, 59.12N×17.97E, mb1 3.3/4, mb1mx3.1/20, ML3.0/4, Error ellipse: s-maj=28.4km s-min=6.6km az=180.0*

ISC 11 18:25:17.0±0.4**, 58.83N**±0.03×**18.18E**±0.05**, n35, σ1^{s}04**/55**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.20	333	*i* P	Pg	18 25 22.0	+0.9
NYNU				*i* S	Sg	18 25 24.5	+0.7
VIKU	Vikbolandet	0.84	248	*i* P	Pg	18 25 32.5	-1.4
NRTU	Norrtaelje	0.88	15	*e*P	Pg	18 25 35.2	+0.5
ESKU	Eskilstuna	1.01	294	*e*P	Pb	18 25 35.6	-1.5
GOTU	Gotland	1.16	170	*e*P	Pb	18 25 39.6	-0.1
BACU	Backbrunna	1.17	332	*e*P	Pb	18 25 39.4	-0.5
FLYU	Flymyra	1.31	353	*e*P	Pb	18 25 42.6	+0.3
OSTU	Oestervaala	1.51	340	*e*P	Pn	18 25 45.6	+0.2
GRAU	Graesoe	1.52	7	*e*P	Pn	18 25 46.5	+0.9
GRAU				*e*S	Sb	18 26 06.7	+1.1
LNKU	Linkoeping	1.53	248	*e*P	Pn	18 25 44.9	-0.9
AAL	Aland	1.64	33	*e*P	Pn	18 25 48.8	+1.5
EKSU	Eksjoe	1.98	232	*e*P	Pn	18 25 52.6	+0.5
OSKU	Oskarshamn	1.98	215	*e*P	Pn	18 25 52.9	+0.8
OSKU				*e*S	Sn	18 26 18.7	+0.8
FALU	Falun	2.06	326	*e*P	Pn	18 25 53.8	+0.6
FALU				*e*S	Sn	18 26 20.9	+1.0
IGGU	Iggoen	2.10	348	*e*P	Pn	18 25 54.4	+0.6
HFS	Hagfors	2.64	302	Pn	Pn	18 26 02.0	+0.4
	baz=120,slow=14						
HFS				Sn	Sn	18 26 30.5	-4.3
	baz=131,slow=28						
HFS				Lg		18 26 36.8	
	baz=119,slow=28						
HFS	Hagfors	2.64	302	*e*P	Pn	18 26 02.0	+0.4
HFS				*e*S	Sn	18 26 30.5	-4.3
HFS				*e*SB	Sb	18 26 36.8	-1.3
HFS	Hagfors	2.64	302	Pn	Pn	18 26 02.0	+0.4
	0.7nm,0.3s,baz=127,slow=16,SNR=66						
HFS				Lg		18 26 36.5	
	2.6nm,0.3s,baz=121,slow=30,SNR=29						
BLEU	Blekinge	2.83	208	*e*P	Pn	18 26 04.6	+0.3
NUR	Nurmij rvi	3.69	60	*e*P	Pn	18 26 17.3	+0.8
NUR				*e*S	Sn	18 27 01.5	+0.1
NOA	NORSAR Array B	4.15	305	Pn	Pn	18 26 21.7	-1.4
	0.5nm,0.3s,baz=153,slow=14,SNR=3.3						
NOA				Pg	Pg	18 26 30.9	-8.9
	1.1nm,0.3s,baz=139,slow=12,SNR=4.7						
NOA				Lg		18 27 23.4	
	2.3nm,0.3s,baz=132,slow=21,SNR=7.6						
PVF	Pernaja	4.26	63	*e*P	Pn	18 26 25.2	+0.6
PVF				*e*S	Sn	18 27 15.6	-0.1
PVF				MSG		18 27 36.5	
	comp=Z,4.8nm,0.2s						
VSU	Vasula	4.48	91	*e*SG	Sg	18 27 40.2	-6.1
FIA0	FINESS Array S	4.74	53	*e*P	Pn	18 26 31.4	-0.1
FIA0				*e*S	Sn	18 27 26.2	-1.7
FIA0				*e*SG	Sg	18 27 46.0	-8.9
FIA0				MSG		18 27 50.4	
	comp=Z,3.3nm,0.2s						
FIA0	FINESS Array S	4.74	53	Pn	Pn	18 26 32.6	+1.2
	baz=237,slow=12						
FIA0				Sn	Sn	18 27 28.0	0.0
	baz=228,slow=28						
FIA0				Lg		18 27 44.8	
	baz=249,slow=37						
FINES	FINESS Array B	4.74	53	Pn	Pn	18 26 32.6	+1.2
	comp=Z,0.6nm,0.3s,baz=239,slow=16,SNR=29						
FINES				Pg	Pg	18 26 42.8	-8.9
	comp=Z,0.4nm,0.3s,baz=237,slow=13,SNR=8.5						
FINES				Sn	Sn	18 27 28.6	+0.6
	comp=Z,1.0nm,0.3s,baz=245,slow=22,SNR=7.2						
FINES				Lg		18 27 44.2	
	comp=Z,2.0nm,0.3s,baz=243,slow=26,SNR=10						
VJF	Virojoki	5.05	66	*e*P	Pn	18 26 36.4	+0.5
KAF	Kangasniemi	5.20	47	*e*P	Pn	18 26 38.5	+0.6
KAF				*e*S	Sn	18 27 37.8	-1.7
KAF				MSG		18 28 05.9	
	comp=Z,2.6nm,0.2s						
SUF	Sumiainen	5.52	42	*e*P	Pn	18 26 42.3	-0.2
SUF				*e*S	Sn	18 27 44.8	-2.8
SUF				*e*SG	Sg	18 28 09.6	-11
SUF				MSG		18 28 19.5	
	comp=Z,2.5nm,0.2s						
KJN	Kajaani	6.97	37	*e*P	Pn	18 27 01.3	-1.6
KJN				MSG		18 28 57.5	
	comp=Z,3.7nm,0.3s						
APA0	Apatity Array	11.02	31	Pn	P	18 27 56.0	-2.7
	baz=227,slow=12						
APA0	Apatity Array	11.02	31	*e*P	P	18 27 56.0	-2.7
ARA0	ARCESS Array S	11.20	13	Pn	P	18 27 57.3	-4.0
	baz=193,slow=14						
ARA0				Sn	S	18 29 56.4	-12
	baz=192,slow=28						
ARA0	ARCESS Array S	11.20	13	*e*P	P	18 27 57.3	-4.0
ARA0				*e*S	S	18 29 56.4	-12
ARCES	ARCESS Array B	11.20	13	Pn	P	18 27 57.0	-4.2
	comp=Z,0.6nm,0.3s,baz=193,slow=13,SNR=40						

WEL 11 18:25:44.6±0.3**, 45.02S×167.42E, h112^{km}**±3^{km}**, ML3.5**/3**, 2C-3D, Error ellipse: s-maj=2.9km s-min=2.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.49	202	PN	P	18 26 01.3	-0.5
DCZ				SN	S	18 26 13.6	-1.2
MLZ	Mavora Lakes	0.63	122	PN	P	18 26 02.5	-0.2
MLZ				SN	S	18 26 16.3	-0.2
WHZ	Wether Hill Ro	0.95	157	⇑PN	P	18 26 05.4	-0.4
WHZ				SN	S	18 26 21.0	-0.7
WKZ	Wanaka	1.15	81	PN	P	18 26 07.9	-0.1
WKZ				SN	S	18 26 24.8	-0.8
JCZ	Jackson Bay	1.35	46	⇓PN	P	18 26 09.6	-0.6
AXZ	Alexandra	1.38	101	⇑PN	P	18 26 10.1	-0.5
AXZ				SN	S	18 26 27.8	-2.4
TUZ	Tuapeka	1.82	122	⇓PN	P	18 26 15.2	-0.7
TUZ				SN	S	18 26 36.2	-3.2
LBZ	Lake Benmore	2.07	73	PN	P	18 26 17.2	-1.9
LBZ				SN	S	18 26 41.7	-3.4
ODZ	Otahua Downs	2.29	92	⇓PN	P	18 26 20.3	-1.8
ODZ				SN	S	18 26 46.2	-4.0
MQZ	McQueen’s Vall	3.98	73	SN	S	18 27 23.9	-6.9

IDC ***11*** *18:56:40.5±1.2, 27.38N×104.18E, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, ML3.3/1, MS2.8/1, Ms1 3.0/1, ms1mx2.7/21, Error ellipse: s-maj=48.1km s-min=21.4km az=69.0*
BJI ***11*** *18:56:41.8, 27.24N×103.61E, h13^{km}, mb4.2, ML3.9, Ms3.9, Msz3.8*
NEIC ***11*** *18:56:41.1±0.7, 27.05N×103.61E, h10^{km}, mb3.7/1, Error ellipse: s-maj=14.9km s-min=11.3km az=110.0*
ISC 11 18:56:37.5±0.5**, 27.12N**±0.04×**103.60E**±0.05**, h10^{km}, n20, σ$1\overset{s}{.}$43**/26**, mb3.7**/4**, 1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.14	201	*e*PG	Pg	18 57 19.8	-0.4
KMI				SG	Sg	18 57 48.4	-0.3
GYA	Guiyang	2.82	103	⇓*i*P	Pn	18 57 28.8	+5.4
GYA				PG	Pg	18 57 33.2	-0.5
GYA				S	Sn	18 58 05.4	+7.6
GYA				SG	Sg	18 58 10.0	-1.3
GYA				Smax			
	comp=N,350nm,1.0s						
GYA				Smax			
	comp=E,180nm,0.7s						
CD2	Chengdu	3.78	2	P	Pn	18 57 41.0	+3.9
CD2				PG	Pg	18 57 49.8	-3.1
CD2				SG	Sg	18 58 36.0	-7.2
CD2				Smax			
	comp=N,386nm,1.0s						
CD2				Smax			
	comp=E,744nm,1.0s						
ENH	Enshi	6.05	57	*e*P	Pn	18 58 11.1	+1.9
	comp=E,22nm,0.9s						
XAN	Xi'an	8.28	32	P	P	18 58 40.0	-0.5
XAN				AP		18 58 47.0	
XAN				AMB	AMB		
	comp=Z,12nm,0.7s						
XAN				LR	LR		
	comp=N,247nm,7.0s						
XAN				LR	LR		
	comp=E,356nm,6.1s						
XAN				LR	LR		
	comp=Z,447nm,7.0s						
CMAR	Chiang Mai Arr	9.63	207	Pn	P	18 59 07.8	+8.5
	comp=Z,0.1nm,0.3s,baz=23,slow=14,SNR=5.7						
CMAR				LR	LR	19 02 58.6	
	comp=Z,54nm,19.9s,baz=10.0,slow=37						
LSA	Lhasa	11.26	286	*e*P	P	18 59 23.3	+1.8
	comp=Z,1.6nm,0.6s						
HHC	Hu-ho-hao-te	15.19	24	*e*P	P	19 00 21.0	+7.3
GUN	Gumba	15.75	277	*e*P	P	19 00 25.9	+4.8
PKI	Pulchoki	16.17	276	*e*P	P	19 00 26.8	+0.3
	comp=Z,6.1nm,0.6s						
KKN	Kakani	16.28	277	*e*P	P	19 00 27.4	-0.5
	comp=Z,10nm,0.6s						
GKN	Gorkha	16.84	277	*e*P	P	19 00 32.2	-2.8
KOLN	Koldanda	17.77	277	*e*P	P	19 00 37.5	-9.1
SONM	Songino Array	20.79	5	P	P	19 01 21.2	0.0
	comp=Z,0.5nm,0.4s,baz=189,slow=11,SNR=6.3						
CN2	Changchun	24.25	41	*e*P	P	19 02 01.1	+5.6
MKAR	Makanchi Array	25.84	325	P	P	19 02 14.0	+3.3
	comp=Z,1.1nm,0.7s,mb3.5,baz=130,slow=11,SNR=14						
KURK	Kurchatov	30.27	328	P	P	19 02 49.9	-0.8
	comp=Z,1.2nm,0.9s,mb3.6						
BRVK	Borovoye	35.80	325	P	P	19 03 37.2	-1.5
WRA	Warramunga Arr	55.46	144	P	P	19 06 15.9	+1.0
	comp=Z,0.9nm,0.7s,mb3.9,baz=334,slow=8.3,SNR=7.1						
ASAR	Alice Springs	58.36	147	P	P	19 06 37.6	+2.2
	comp=Z,0.8nm,0.9s,mb3.8,baz=328,slow=6.9,SNR=9.1						

NEIC ***11*** *19:15:22.4, 13.05N×89.42W, h35^{km}, ML4.2(SNET), After SNET.*
NEIC Felt [III] at San Salvador.
CASC 11 19:15:22.3±1.2**, 13.02N**×**89.43W, h34^{km}**±8^{km}**, MD3.8, ML3.7, 7C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	Serv Nac Est T	0.69	16	*e*P	P	19 15 35.7	+0.1
SNET				*e*S	S	19 15 45.8	+0.6
SNET				*i*		19 15 50.1	
	comp=Z,10µm,0.2s						
LFRS	El Faro	0.70	31	⇑*e*P	P	19 15 35.9	+0.2
BOQS	Boqueron	0.72	12	⇑*e*P	P	19 15 36.5	+0.5
BOQS				*e*S	S	19 15 47.0	+0.9
LCBS	La Ceiba	0.77	35	⇑*e*P	P	19 15 36.7	0.0
LBRS	Las Brisas	0.81	28	⇑*e*P	P	19 15 37.9	+0.7
LBRS				*e*S	S	19 15 48.9	+0.7
SNVI	San Vicente	0.82	44	*e*P	P	19 15 37.6	+0.1
SNVI				*e*S	S	19 15 49.8	+1.2
SBLS	San Blas	0.83	347	⇑*e*P	P	19 15 37.9	+0.4
SBLS				*e*S	S	19 15 50.1	+1.3
SNJE	San Jose	0.86	349	*e*P	P	19 15 38.1	+0.2
SNJE				*e*S	S	19 15 50.2	+0.8
RTR	El Retiro	0.90	347	*e*P	P	19 15 38.8	+0.4
RTR				*e*S	S	19 15 51.4	+1.0
RBDL	Robledal	1.11	347	⇑*e*P	P	19 15 42.1	+0.5
RBDL				*e*S	S	19 15 57.3	+1.3
VSM	San Miguel	1.20	70	*e*P	P	19 15 43.0	+0.2
VSM				*e*S	S	19 15 59.1	+1.0
BLLM	Bellamira	1.24	70	*e*P	P	19 15 43.7	+0.4
BLLM				*e*S	S	19 15 59.5	+0.4
MTO2	Montecristo 2	1.37	3	*i* P	P	19 15 45.8	+0.4
MTO2				*e*S	S	19 16 04.0	+1.5
CAHU	Cacacuatique	1.40	58	*e*P	P	19 15 45.6	-0.1
IXG	Ixpaco	1.52	319	*e*P	P	19 15 46.9	-0.5
IXG				*e*S	S	19 16 05.4	-0.7
IXG				*e*S	S	19 16 06.5	+0.4
IXG				AML	AML	19 16 10.9	
	comp=N,4µm,0.3s						
CNCH	Conchagua	1.58	81	*e*P	P	19 15 47.8	-0.5
CNCH				*e*S	S	19 16 07.9	+0.2
NBG	Las Nubes	1.79	330	*e*P	P	19 15 51.9	+0.6
NBG				*e*S	S	19 16 13.9	+0.8
NBG				AML	AML	19 16 18.8	
	comp=N,2µm,0.4s						
NBG				AML	AML	19 16 19.5	
	comp=E,2µm,0.4s						
MRL	Marmol	2.05	353	⇑*i*P	P	19 15 55.8	+0.9
MRL				*e*S	S	19 16 20.6	+1.0
MRL				AML	AML	19 16 29.4	
	comp=N,123nm,0.4s						
MRL				AML	AML	19 16 38.2	
	comp=E,91nm,0.7s						
JCR	Jicaral	5.28	126	*e*P	P	19 16 38.9	-1.9
JCR				*e*S	S	19 17 39.5	-1.9
CGA2	Cerro Gallo 2	5.71	121	*e*P	P	19 16 47.0	+0.1
LAJ	Bijagual	6.08	121	*e*P	P	19 16 46.8	-5.3

JMA 11 19:25:51.7±0.2**, 25.85N**×**123.84E, h172^{km}, M3.6, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTJ	Tarama	1.44	147	P	P	19 26 22.7	0.0
JTJ				*e*S	S	19 26 46.6	-0.1
JIJ	Ishigaki jima	1.50	169	P	P	19 26 23.0	-0.4
JIJ				S	S	19 26 46.8	-1.1
IRIF	Iriomote-Funau	1.51	184	P	P	19 26 23.4	-0.1
IRIF				*e*S	S	19 26 48.1	+0.1
JKRS	Kuro-shima	1.61	175	P	P	19 26 24.3	-0.2
JKRS				S	S	19 26 49.5	-0.3
JMJ	Miyako jima 2	1.67	128	P	P	19 26 25.0	-0.1
JMJ				*e*S	S	19 26 50.2	-0.6
HATJ	Hateruma jima	1.79	181	P	P	19 26 26.2	-0.1
HATJ				*e*S	S	19 26 52.9	0.0

NEIC ***11*** *19:41:54.6, 32.14S×71.82W, h20^{km}, ML3.1(GUC), After GUC.*
GUC 11 19:41:54.6±0.9**, 32.14S**×**71.82W, h20^{km}**±5^{km}**, MD3.7, ML3.1, 6C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILCH	Illapel	0.74	48	⇑*i*P	Pb	19 42 08.3	-0.4
ILCH				*i* S	Sb	19 42 18.7	+0.2
ILCH				AMP		19 42 21.9	
	comp=E,821nm,0.2s						
PTCH	Petorca	0.76	100	⇑*i*P	Pb	19 42 08.9	-0.1
PTCH				*i* S	Sb	19 42 19.3	+0.3
PTCH				AMP		19 42 23.2	
	comp=E,1µm,0.2s						
JACH	Jahuel	1.17	118	⇑*i*P	Pb	19 42 15.3	-0.7
JACH				*i* S	Sb	19 42 31.0	+0.2
CMCH	Combarbala	1.19	36	⇑*i*P	Pb	19 42 15.4	-0.8
CMCH				*i* S	Sb	19 42 31.1	-0.1
CMCH				AMP		19 42 37.4	
	comp=E,1µm,0.6s						
LCCH	Las Cruces	1.35	171	*e*P	Pn	19 42 17.7	-0.9
LCCH				*i* S	Sb	19 42 36.0	+0.1
PEL	Peldehue	1.39	137	*e*P	Pn	19 42 18.5	-0.6
PEL				*i* S	Sb	19 42 37.2	+0.2
PEL				AMP		19 42 38.9	
	comp=N,524nm,0.6s						
RCDM	Rinconada Maip	1.59	148	*e*P	Pn	19 42 21.8	-0.3
RCDM				*i* S	Sn	19 42 42.4	+0.1
RCDM				AMP		19 42 43.4	
	comp=E,554nm,0.2s						
CLCH	Cerro Calan	1.66	140	*e*P	Pn	19 42 22.7	-0.3
CLCH				*i* S	Sn	19 42 44.6	+0.8
CLCH				AMP		19 42 48.4	
	comp=E,534nm,0.4s						
FCH	Farellones	1.75	133	*e*P	Pn	19 42 24.4	+0.1
FCH				*i* S	Sn	19 42 47.3	+1.0
FCH				AMP		19 42 49.4	
	comp=E,274nm,0.2s						
PCH	Pirque	1.84	144	⇑*i*P	Pn	19 42 25.5	-0.2
PCH				*i* S	Sn	19 42 50.7	+2.1
LNV	Longovilo	1.85	169	⇓*i*P	Pn	19 42 26.6	+0.9
LNV				*i* S	Sn	19 42 50.0	+1.3
CHCH	Chadas Angostu	2.04	152	⇑*i*P	Pn	19 42 28.7	+0.1
TLL	Tololo Astrono	2.15	24	*e*P	Pn	19 42 31.6	+1.6
TLL				*i* S	Sn	19 42 58.8	+2.4
TLL				AMP		19 43 06.4	
	comp=N,254nm,0.7s						
LMEL	Las Melosas	2.18	142	*e*P	Pn	19 42 30.9	+0.4
LMEL				*i* S	Sn	19 42 59.1	+1.9
LMEL				AMP		19 43 03.5	
	comp=N,261nm,0.1s						
CICH	Cipreses	2.47	152	*e*P	Pn	19 42 34.9	+0.2

NSSC ***11*** *19:43:40.6, 39.62N×39.33E, h35^{km}±1^{km}*
ISK ***11*** *19:43:50.5, 38.48N×39.18E, h4^{km}, MD3.6*
ISC 11 19:43:51.2±0.4**, 38.45N**±0.04×**39.19E**±0.03**, h4^{km}, n27, σ$1\overset{s}{.}$12**/38**, 1C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.17	287	⇑*i*P	Pg	19 43 55.7	+1.0
ELZG				*i* S	Sg	19 44 01.9	+5.0
MYA	Malataya	0.61	259	*i* PG	Pg	19 44 03.2	-0.3
MALT	Malatya	0.61	258	*i* PG	Pg	19 44 02.2	-1.3
MALT				*i* SG	Sg	19 44 12.1	+0.4
MALT	Malatya	0.61	258	*i* P	Pg	19 44 03.1	-0.4
MALT				*i* S	Sg	19 44 12.8	+1.1
DIY	Diyarbakir	0.99	124	*i* PG	Pg	19 44 10.5	-0.4
DIY				*i* SG	Sg	19 44 24.8	+0.7
BINT	Bingol	1.10	67	*i* PN	Pn	19 44 12.3	-1.0
EZC	Erzincan	1.39	20	PN	Pn	19 44 14.9	-2.5
GZT	Gaziantep	1.69	230	*i* P	Pn	19 44 21.9	+0.2
GZT				*i* S	Sn	19 44 47.8	+3.8
KELT	Kelkit	1.70	2	*i* P	Pn	19 44 23.3	+1.5
KELT				*i* S	Sn	19 44 48.8	+4.5
BEST	Besiri	1.73	108	*i* P	Pn	19 44 22.0	-0.3
BEST				*i* S	Sn	19 44 46.1	+1.0
BTMT	Batman	1.83	97	PN	Pn	19 44 22.7	-1.0
VRT	Varto	1.95	69	PN	Pn	19 44 26.1	+0.6
KAHT	Ahir Dag	2.00	247	*i* P	Pn	19 44 26.8	+0.6
GAZ	Gaziantep	2.02	231	PN	Pn	19 44 27.0	+0.6
GUMT	Gumushane	2.02	6	PN	Pn	19 44 25.3	-1.2
SVST	Sivas	2.19	308	*i* P	Pn	19 44 31.6	+2.8
EZM	Erzurum	2.23	49	*e*PN	Pn	19 44 29.6	+0.2
ERZM	Erzurum	2.23	49	*i* P	Pn	19 44 31.7	+2.2
SVSK	Karacayir	2.25	311	PN	Pn	19 44 29.6	-0.1
DRWC	Darouich	2.71	228	⇓P	Pn	19 44 35.5	-0.8
DRWC				⇓S	Sn	19 45 14.8	+4.8
TOKT	Tokat	2.77	313	*e*PN	Pn	19 44 37.6	+0.4
YOZ	Yozgat	3.24	293	*e*PN	Pn	19 44 43.8	-0.1
BTCH	Batrach	3.25	223	⇑P	Pn	19 44 43.2	-0.8
BTCH				⇑S	Sn	19 45 29.5	+5.9
AVNT	Avonos	3.41	277	*i* P	Pn	19 44 44.3	-2.0
ARNB	Al Arnab	3.64	226	⇑P	Pn	19 44 48.7	-0.9
ARNB				⇑S	Sn	19 45 37.7	+4.1
SLNF	Slenfeh	3.71	221	⇓P	Pn	19 44 49.6	-0.9
SLNF				⇓S	Sn	19 45 40.9	+5.7
KAMT	Kaman	4.37	284	*e*PN	Pn	19 45 00.0	+0.1

STR ***11*** *19:52:30.2±0.7, 47.33N×6.97E, h10^{km}±1^{km}, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***11*** *19:52:30.3±0.2, 47.34N×7.06E, h2^{km}, Md2.1/2, Ml2.1/8, Error ellipse: s-maj=4.0km s-min=2.5km az=115.0*
ZUR ***11*** *19:52:30.1, 47.37N×7.02E, h9^{km}, ML1.3/4*
ISC 11 19:52:29.7±0.5**, 47.36N**±0.02×**6.97E**±0.04**, h12^{km}**±4^{km}**, n18, σ$0\overset{s}{.}$89**/32**, 3C, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOMF	Lomont	0.10	267	Pg	Pg	19 52 33.5	+0.8
LOMF				Sg	Sg	19 52 35.6	+1.0
BOURR	Bourrignon	0.18	78	⇑*i*Pg	Pg	19 52 33.5	-0.5
	1.8nm,0.5s						
BOURR				*i* Sg	Sg	19 52 35.9	-0.9
	1.8nm,0.5s						
HINF	Hinteralfeld	0.47	350	*e*Pg	Pg	19 52 39.6	+0.2
HINF				*e*Sg	Sg	19 52 46.8	+1.0
	2.7nm,0.3s						
BALST	Balsthal	0.49	92	⇑*i*Pg	Pg	19 52 39.2	-0.7
	3.3nm,2.2s						
MOF	Molkenrain	0.51	13	Pg	Pg	19 52 40.4	+0.3
BRANT	Les Verrieres	0.54	219	⇑*i*Pg	Pg	19 52 41.4	+0.7
	4.1nm,2.7s						
BRANT				*i* Sg	Sg	19 52 49.4	+1.4
	4.1nm,2.7s						
TORNY	Torny	0.58	181	*e*Pg	Pg	19 52 41.8	+0.2
	6.6nm,3.2s						
TORNY				*e*Sg	Sg	19 52 50.1	+0.6
	6.6nm,3.2s						
HAU	Haudompre	0.77	327	*e*Pg	Pg	19 52 46.1	+0.7
HAU				*e*Pn	Pn	19 52 47.0	+0.8
HAU				*e*Sg	Sg	19 52 56.9	+1.1
	15nm,0.2s						
CABF	La Chapelle	0.96	219	*e*Pg	Pg	19 52 49.4	+0.4
CABF				*e*Sg	Sg	19 53 01.1	-0.8
	3.3nm,0.2s						
CDF	Champ du Feu	1.08	11	*e*Pg	Pg	19 52 50.4	-1.0
CDF				*e*Pn	Pn	19 52 50.9	+0.3
CDF				*e*Sn	Sn	19 53 05.7	+0.3
	1.4nm,0.2s						
WLS	Welschbruch	1.09	14	Pg	Pg	19 52 51.0	-0.6
THEF	They Montfort	1.09	323	Pg	Pg	19 52 52.3	+0.6
THEF				Sg	Sg	19 53 06.8	+0.4
BFO	Black Forest	1.34	43	*e*Sg	Sg	19 53 10.4	-4.0
SFTF	Sexfontaines	1.56	304	*e*Sg	Sg	19 53 21.4	-0.2
	2.7nm,0.3s						
RFYF	Reffroy	1.62	322	*e*Pg	Pg	19 53 01.7	-0.5
	baz=150						
RFYF				*e*Sn	Sn	19 53 19.8	+0.5
RFYF				*e*Sg	Sg	19 53 23.2	-0.7
	4.8nm,0.3s						
MEZF	Maizieres J'vi	1.73	312	*e*Sg	Sg	19 53 26.7	-0.6
	6.8nm,0.4s						
LOR	Lormes	2.12	269	*e*Pg	Pg	19 53 10.6	-1.5
LOR				*e*Sg	Sg	19 53 37.9	-2.4
	1.3nm,0.2s						
SSF	Saint Saulge	2.38	264	*e*Sg	Sg	19 53 47.1	-1.9
	0.7nm,0.3s						

NDI ***11*** *19:58:14.4±3.5, 23.20N×70.28E, h8^{km}±30^{km}, MD3.8, ML3.8*
ISC 11 19:58:09.3±0.7**, 23.20N**±0.05×**70.51E**±0.04**, h10^{km}, n20, σ$1\overset{s}{.}$28**/20**, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHJ	Bhuj	0.79	274	*e*P	Pb	19 58 24.3	-0.4
BHJ				*e*S	Sb	19 58 34.8	-0.4
JASL	Jaisalmer	3.72	5	*e*S	Sn	19 59 54.1	+1.6
BOM	Bombay	4.79	153	*e*P	Pn	19 59 29.2	+5.9
BOM				*e*S	Sn	20 00 22.2	+2.6
	46nm,0.4s						
AJM	Ajmer	4.97	48	*e*	Pn	19 59 23.1	-2.8
AJM				*e*S	Sn	20 00 29.1	+5.0
AJM				AML	AML	20 00 44.7	
	comp=E,178nm,0.5s						
AJM				AML	AML	20 00 45.1	
	comp=N,132nm,0.4s						
POO	Poona	5.60	146	*e*	x	20 00 05.0	
BHPL	Bhopal	6.36	88	*e*	x	20 00 55.3	
KHET	Khetri	6.81	43	*e*P	Pn	19 59 56.1	+4.3
KHET				*e*S	Sn	20 01 09.5	-0.6
KHET				*e*		20 01 39.5	
	comp=N,74nm,0.6s						
KHET				*e*		20 01 39.9	
	comp=E,92nm,0.6s						
KUDL	Kundal	7.30	46	*e*P	Pn	20 00 02.5	+3.9
KUDL				*e*S	Sn	20 01 23.5	+1.1
LATR	Latur	7.39	129	*e*S	Sn	20 01 23.8	-0.9
SONA	Sohna	7.77	48	*e*S	Sn	20 01 34.0	-0.1
SONA				*e*		20 02 11.1	
	comp=E,58nm,0.5s						
SONA				*e*		20 02 11.1	
	comp=N,38nm,0.6s						
AGRA	Agra	7.83	58	*e*S	Sn	20 01 34.8	-0.9
AGRA				AML	AML	20 02 24.3	
	comp=N,68nm,0.2s						
AGRA				AML	AML	20 02 25.0	
	comp=E,93nm,0.3s						
AYAN	Aya Nagar	7.95	47	*e*	x	20 01 46.9	
NDI	New Delhi	8.13	46	*e*	x	20 02 20.0	
HYB	Hyderabad	9.49	126	*e*P	Px	20 00 46.0	
KLP	Kalpa	10.77	38	*e*S	S	20 02 44.2	-4.2
KLP				AML	AML	20 04 03.7	
	comp=N,62nm,0.5s						
KLP				AML	AML	20 04 04.4	
	comp=E,61nm,0.9s						
KOLN	Koldanda	12.66	66	*e*P	P	20 01 13.1	+0.8
GKN	Gorkha	13.61	67	*e*P	P	20 01 20.0	-4.9
DMN	Daman	13.90	69	*e*P	P	20 01 21.7	-7.0
KKN	Kakani	14.09	68	*e*P	P	20 01 24.0	-7.3
	comp=E,14nm,0.7s						
PKI	Pulchoki	14.15	69	*e*P	P	20 01 23.6	-8.4
	comp=E,4.1nm,0.2s						

NEIC ***11*** *20:40:40.6±1.4, 23.93N×94.46E, h98^{km}±14^{km}, mb4.0/3, Error ellipse: s-maj=23.6km s-min=9.5km az=57.0*
IDC ***11*** *20:40:41.5±3.8, 24.11N×94.84E, h100^{km}±36^{km}, mb3.4/6, mb1 3.5/7, mb1mx3.3/21, Error ellipse: s-maj=56.0km s-min=14.9km az=65.0*
ISC 11 20:40:38.1±0.9**, 23.84N**±0.10×**94.34E**±0.09**, h91^{km}**±10^{km}**, n19, σ$0\overset{s}{.}$79**/21**, mb3.8**/9**, 1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.01	338	*e*P	P	20 40 58.0	-0.3
SHL	Shillong	2.82	308	⇓*e*PN	P	20 41 20.5	-1.8
SHL				*e*SN	S	20 41 50.5	-4.9
LSA	Lhasa	6.50	335	*e*P	P	20 42 12.9	0.0
LSA				*e*S	S	20 43 16.4	-10
CMAR	Chiang Mai Arr	6.86	140	P	P	20 42 18.9	+1.0
	0.2nm,0.3s,baz=314,slow=14,SNR=8.7						
PKI	Pulchoki	8.87	297	*e*P	P	20 42 45.4	+0.1
	6.4nm,0.2s						
KKN	Kakani	9.06	298	*e*P	P	20 42 48.7	+0.9
	17nm,0.2s						
DMN	Daman	9.14	296	*e*P	P	20 42 48.4	-0.4
	6.0nm,0.2s						
GKN	Gorkha	9.67	297	*e*P	P	20 42 56.8	+0.7
	23nm,0.3s						
KOLN	Koldanda	10.44	294	*e*P	P	20 43 06.9	+0.4
	9.8nm,0.3s						
ENH	Enshi	14.93	61	*e*P	P	20 44 06.2	+0.7
	7.1nm,0.7s						
MKAR	Makanchi Array	24.87	340	P	P	20 45 54.2	+0.7
	2.5nm,0.5s,mb3.9,baz=153,slow=9.3,SNR=34						
SONM	Songino Array	25.80	19	P	P	20 45 58.7	-3.5
	0.2nm,0.4s,mb2.9,baz=205,slow=11,SNR=3.5						
KURK	Kurchatov	29.48	340	*e*P	P	20 46 35.1	-0.4
	1.6nm,0.9s,mb3.6						
BVAR	Borovoye Array	34.34	334	P	P	20 47 18.0	+0.2
	0.4nm,0.5s,mb3.5,baz=139,slow=16,SNR=3.6						
ZRNK	Zerenda	34.84	333	*e*P	P	20 47 22.2	0.0
	0.9nm,0.4s,mb4.0						
ARU	Arti	41.68	331	*e*P	P	20 48 19.8	+0.8
	3.6nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	51.67	141	P	P	20 49 37.3	-0.8
	1.2nm,0.9s,mb3.9,baz=264,slow=7.3,SNR=2.6						
WRA	Warramunga Arr	58.42	135	P	P	20 50 26.3	-0.5
	0.9nm,0.7s,mb3.9,baz=323,slow=7.4,SNR=13						
ASAR	Alice Springs	60.86	138	P	P	20 50 43.0	-0.5
	0.5nm,0.6s,mb3.8,baz=318,slow=6.9,SNR=7.5						

IDC ***11*** *20:53:55.9±1.5, 27.36N×101.42E, mb3.3/4, mb1 3.6/4, mb1mx3.4/17, Error ellipse: s-maj=84.0km s-min=23.6km az=65.0*
BJI ***11*** *20:53:56.4, 27.31N×101.16E, h11^{km}, ML3.3*
NEIC ***11*** *20:54:03.1±2.0, 27.41N×101.51E, h51^{km}±21^{km}, mb3.6/1, Error ellipse: s-maj=26.7km s-min=13.2km az=77.0*
ISC 11 20:53:55.4±0.9**, 27.26N**±0.08×**101.4E**±0.2**, h10^{km}, n9, σ$0\overset{s}{.}$99**/10**, mb3.6**/4**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.43	151	*e*P	Pn	20 54 41.7	+5.8
KMI				PG	Pg	20 54 43.9	-0.1
KMI				SG	Sg	20 55 16.1	-0.3
KMI				Smax			
	comp=N,123nm,0.8s						
KMI				Smax			
	comp=E,102nm,1.2s						
GYA	Guiyang	4.75	98	P	Pn	20 55 13.3	+4.5
GYA				Smax			
	comp=N,40nm,0.6s						
GYA				Smax			
	comp=E,50nm,0.9s						
ENH	Enshi	7.69	65	*e*P	Pn	20 55 51.0	+0.7
	comp=E,7.0nm,0.4s						
CMAR	Chiang Mai Arr	9.05	195	Pg	Px	20 56 47.4	
	comp=E,0.0nm,0.3s,baz=6.2,slow=17,SNR=7.2						
SONM	Songino Array	20.91	9	P	P	20 58 38.6	-1.8
	comp=E,0.3nm,0.6s,baz=189,slow=13,SNR=2.9						
MKAR	Makanchi Array	24.65	327	P	P	20 59 17.6	+0.2
	comp=E,0.9nm,0.8s,mb3.4,baz=130,slow=10,SNR=7.3						
KURK	Kurchatov	29.15	330	*e*P	P	20 59 59.1	+0.4
	comp=E,1.0nm,0.6s,mb3.7						
WRA	Warramunga Arr	56.73	142	P	P	21 03 41.1	-0.9
	comp=E,0.4nm,0.5s,mb3.7,baz=330,slow=7.8,SNR=12						
ASAR	Alice Springs	59.55	145	P	P	21 04 03.5	+1.7
	comp=E,0.3nm,0.6s,mb3.5,baz=324,slow=6.6,SNR=5.9						

NEIC ***11*** *20:57:29.9, 36.44N×26.66E, h132^{km}, mb3.7/16, After ATH.*
ATH ***11*** *20:57:29.9, 36.44N×26.66E, h132^{km}±10^{km}*
IDC ***11*** *20:57:30.7±0.9, 36.21N×26.65E, h134^{km}±18^{km}, mb3.1/1, mb1 3.5/7, mb1mx3.2/24, Error ellipse: s-maj=27.1km s-min=13.9km az=163.0*
ISK ***11*** *20:57:31.6, 36.53N×26.57E, h110^{km}, MD3.5*
NIC ***11*** *20:57:32.5±0.2, 36.53N×26.93E, h25^{km}, mb4.4, ML3.9, MW3.2*
ISC 11 20:57:29.2±0.2**, 36.36N**±0.03×**26.65E**±0.02**, h141^{km}**±3^{km}**, n106, σ$1\overset{s}{.}$09**/122**, mb3.6**/4**, 7C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.91	153	*e*P	P	20 57 53.5	+0.9
KAP	Karpathos	0.91	152	*e*P	P	20 57 53.5	+0.9
BDRM	Kayabasi	0.95	42	*i* P	P	20 57 52.7	-0.1
BDRM				*i* S	S	20 58 08.5	-2.5
SANT	Santorini	0.96	271	*e*P	P	20 57 53.0	0.0
THR1	Thera Island	0.96	271	*e*P	P	20 57 53.1	+0.1
THR6	Thira Island,	1.01	270	*e*P	P	20 57 53.8	+0.4
THR5	Thira Island,	1.05	273	*e*P	P	20 57 54.0	+0.2
ARG	Arkhangelos	1.20	97	⇑*i*P	P	20 57 56.1	+0.9
MLSB	Milas	1.30	44	PN	P	20 57 56.1	-0.2
MLSB				SN	S	20 58 13.9	-3.1
NPS	Neapolis	1.39	218	⇓*i*P	P	20 57 58.0	+0.8
YER	Yerkesik	1.52	59	PN	P	20 57 59.7	+1.1
YER				SN	S	20 58 19.7	-1.5
AYDN	Tasoluk	1.63	37	*i* P	P	20 58 00.3	+0.5
XRY	Khrisi	1.68	208	⇓*i*P	P	20 58 02.0	+1.6
IDI	Anoyia	1.79	234	P	P	20 58 02.3	+0.7
	69nm,0.3s,baz=346,slow=23,SNR=1235						

IDI				S	S	20 58 24.8	-1.8
	91nm,0.3s,baz=1.3,slow=23,SNR=10						
IZM	Izmir	2.09	13	PN	P	20 58 04.8	-0.4
KDAG	Bornova	2.10	13	iP	P	20 58 07.0	+1.7
VAM	Vamos	2.21	245	eP	P	20 58 07.5	+0.8
DNZL	Cakiroluk	2.33	55	iP	P	20 58 09.2	+0.9
DENT	Denizli	2.36	53	PN	P	20 58 09.4	+0.7
KSL	Kastellorizon	2.38	94	eP	P	20 58 10.0	+1.1
KSL				eS	S	20 58 38.0	-1.2
GVD	Gavdhos	2.58	235	eP	P	20 58 13.5	+1.9
MANT	Manisa	2.61	35	iP	P	20 58 12.2	+0.2
ELL	Elmali	2.65	81	PN	P	20 58 14.1	+1.7
AKS	Akhisar	2.68	20	PN	P	20 58 12.1	-0.7
KYTH	Kithira	2.92	269	eP	P	20 58 16.1	+0.2
VLI	Veliai	3.01	278	⇓iP	P	20 58 17.1	0.0
BCK	Bucak	3.34	70	PN	P	20 58 22.7	+1.3
ITM	Ithomi	3.88	284	eP	P	20 58 29.1	+0.6
ULDT	Uludag	4.25	27	iP	P	20 58 33.3	-0.1
AGG	Agios Georgios	4.34	309	eP	P	20 58 35.4	+0.8
SART	Tekirdag	4.34	5	iP	P	20 58 34.0	-0.7
EVR	Evrytania	4.61	305	eP	P	20 58 39.2	+0.9
AKMC	Akamas	4.81	104	⇑P	P	20 58 40.3	-0.6
AKMC	Akamas	4.81	104	⇑iP	P	20 58 40.3	-0.6
PPCY	Paphos	4.87	106	P	P	20 58 41.2	-0.4
ALFC	Alevga	4.98	102	⇑P	P	20 58 42.6	-0.6
	5.7nm,0.2s						
ALFC				S	S	20 59 37.2	-3.1
ALFC	Alevga	4.98	102	⇑iP	P	20 58 42.6	-0.6
ALFC				S	S	20 59 37.2	-3.1
LKD	Levkas	5.31	298	eP	P	20 58 47.4	-0.1
SZAC	Souni-Zanaja	5.33	106	⇑P	P	20 58 47.3	-0.4
	5.8nm,0.2s						
SZAC				S	S	20 59 46.5	-2.0
SZAC	Souni-Zanaja	5.33	106	⇑iP	P	20 58 47.3	-0.4
SZAC				S	S	20 59 46.5	-2.0
MAMC	Mammari	5.47	101	P	P	20 58 49.4	-0.2
MEV	Metsovon	5.48	310	eP	P	20 58 51.5	+1.7
CSS	Prodhromos	5.61	102	P	P	20 58 51.1	-0.5
	1.3nm,0.3s						
CSS				S	S	20 59 53.4	-2.0
IGT	Igoumenitsa	5.91	304	eP	P	20 58 55.7	+0.2
FNA	Florina	6.05	318	eP	P	20 58 58.1	+0.8
BRTR	Keskin Array B	6.46	57	P	P	20 59 05.2	+2.3
	0.4nm,0.3s,baz=229,slow=14,SNR=9.4						
BRTR				S	S	21 00 17.2	+1.5
	0.4nm,0.3s,baz=221,slow=24,SNR=4.1						
HNTI	Hanita	7.74	113	P	P	20 59 19.7	-0.5
HAF	Haifa	7.77	115	P	P	20 59 19.6	-1.1
OFRI	‘Ofer	7.83	116	P	P	20 59 21.1	-0.3
KSDI	Kefar Szold	8.06	110	P	P	20 59 24.6	+0.1
HRI	Mount Hermon	8.08	110	P	P	20 59 24.3	-0.5
MMLI	Mount Malkishu	8.23	116	P	P	20 59 26.4	-0.4
TIP	Timpagrande	8.32	293	eP	P	20 59 25.3	-2.7
HMDT	Nahal Hemdat	8.41	117	P	P	20 59 29.3	+0.2
KZIT	Kziot	8.44	128	P	P	20 59 29.4	-0.2
RTMM	Retamin	8.53	126	P	P	20 59 30.1	-0.7
MASH	Mash‘abbe Sade	8.63	126	P	P	20 59 32.0	-0.1
DRGI	Dragot	8.68	121	P	P	20 59 32.7	0.0
TDS	Terranova Siba	8.78	295	ePn	P	20 59 32.2	-1.9
MZDA	Masada	8.82	122	P	P	20 59 34.8	+0.1
KMTI	Karmit	9.20	130	P	P	20 59 39.0	-0.6
PRNI	Paran	9.20	128	P	P	20 59 39.5	-0.2
AGST	Augusta-Monte	9.21	279	ePn	P	20 59 38.2	-1.5
AGST				eSn	S	21 01 06.3	-16
SSY	Sortino	9.33	278	ePn	P	20 59 39.6	-1.7
SSY				eSn	S	21 01 08.6	-16
ASF	Jabal al Asfar	9.45	113	P	P	20 59 43.9	+0.9
	1.0nm,0.3s,baz=347,slow=19,SNR=7.7						
MGR	Morigerati	9.51	297	ePn	P	20 59 41.5	-2.2
MBH	Mount Berech	9.53	131	P	P	20 59 44.8	+0.7
SLCN	Sala Consilina	9.54	298	ePn	P	20 59 43.4	-0.7
SLCN				eSn	S	21 01 19.2	-11
EIL	Elat	9.64	131	P	P	20 59 45.5	0.0
SLNA	Salina	9.65	287	ePn	P	20 59 43.6	-2.0
MRLC	Muro Lucano	9.78	300	ePn	P	20 59 45.5	-1.8
MRLC				eSn	S	21 01 23.8	-12
SGO	Sicignano	9.83	299	ePn	P	20 59 46.6	-1.4
VAE	Valguarnera	9.87	280	P	P	20 59 49.5	+1.1
	1.2nm,0.3s,baz=79,slow=5.2,SNR=3.9						
HAQS	Haql	10.08	134	P	P	20 59 51.8	+0.5
JMOS	Jabal al Moall	10.10	133	P	P	20 59 52.9	+1.3
JMOS				S	S	21 01 37.8	-5.3
JMQS	Jabal Moqyreh	10.77	131	P	P	21 00 01.9	+1.5
AYUS	‘Aynunah	10.93	136	P	P	21 00 02.6	+0.1
VRAC	Vranov	14.88	334	P	P	21 00 56.1	+2.8
	0.5nm,0.3s,baz=144,slow=7.8,SNR=4.4						
PGF	Pioggiola	14.96	300	eP	P	21 00 57.3	+2.9
	4.0nm,0.5s						
GERES	GERESS Array B	15.67	327	P	P	21 01 04.4	+1.1
	0.2nm,0.3s,baz=144,slow=12,SNR=12						
KHC	Kasperske Hory	15.94	327	eP	P	21 01 07.0	+0.4
DAVOX	Davos	16.27	315	P	P	21 01 12.8	+2.1
	0.4nm,0.3s,baz=141,slow=14,SNR=5.6						
FRF	La Foret Royal	16.92	301	eP	P	21 01 17.1	-1.6
	8.6nm,0.9s						
MBDF	Montbardon	17.24	305	eP	P	21 01 22.5	-0.1
	7.5nm,0.8s						
LPG	La Plagne	17.55	307	eP	P	21 01 25.9	-0.5
	4.7nm,0.4s						
LPL	La Plagne	17.57	307	eP	P	21 01 26.2	-0.4
	3.1nm,0.5s						
ORIF	Oris-en-Rattie	17.90	305	eP	P	21 01 29.4	-0.9
	0.6nm,0.3s						
CABF	La Chapelle	18.45	310	eP	P	21 01 34.7	-1.6
	10nm,0.6s						
HINF	Hinteralfeld	18.57	314	eP	P	21 01 41.3	+3.7
CDF	Champ du Feu	18.64	316	eP	P	21 01 38.1	-0.3
VIVF	Saint-Julien-l	18.68	304	eP	P	21 01 37.8	-1.0
	3.7nm,0.5s						
HAU	Haudompre	18.96	314	eP	P	21 01 41.3	-0.4
	2.8nm,0.4s						
SMF	Signal de Mont	19.87	308	eP	P	21 01 50.7	-0.5
MEZF	Maizieres J’vi	19.95	314	eP	P	21 01 51.6	-0.5
	8.4nm,0.6s						
MTLF	Montolieu	19.97	298	eP	P	21 01 51.2	-1.1
	6.1nm,0.8s						
LOR	Lormes	20.11	310	eP	P	21 01 53.8	+0.1
AVF	Avril sur Loir	20.24	308	eP	P	21 01 54.8	-0.2
	4.0nm,0.5s						
SSF	Saint Saulge	20.25	309	eP	P	21 01 54.4	-0.7
	8.7nm,0.5s						
BGF	Bois d’Agland	20.47	307	eP	P	21 01 57.5	+0.2
BAIF	Baives	21.22	317	eP	P	21 02 04.7	-0.1
LFF	La Frestale	21.38	302	eP	P	21 02 09.0	+2.6
MFF	Saint Martin d	22.43	305	eP	P	21 02 17.8	+1.1
	2.1nm,0.4s,mb3.6						
LDF	La Druitiere	23.09	310	eP	P	21 02 23.4	+0.4
	1.1nm,0.3s,mb3.5						
FLN	La Foliniere	23.38	310	eP	P	21 02 26.3	+0.6
	3.4nm,0.3s,mb4.0						
GRR	Gorron	23.48	309	eP	P	21 02 27.2	+0.5
MKAR	Makanchi Array	42.10	58	P	P	21 05 09.9	+1.3
	0.3nm,0.4s,mb3.3,baz=276,slow=8.5,SNR=9.1						

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*ISK **11** 21:10:24.2, 38.49N×39.28E, h5^{km}, MD3.5*

ISC 11 21:10:24.8±0.5**, 38.51N**±0.05×**39.32E**±0.03**, h5^{km}, n18,** σ**0^{s}90**/26**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.26	268	⇑iP	Pg	21 10 30.3	+0.3
ELZG				iS	Sg	21 10 35.1	+1.5
MYA	Malataya	0.72	256	iPG	Pg	21 10 38.4	-0.8
MALT	Malatya	0.73	255	iPG	Pg	21 10 37.6	-1.7
MALT				iSG	Sg	21 10 48.0	-1.0
MALT	Malatya	0.73	255	iP	Pg	21 10 38.3	-1.0
MALT				iS	Sg	21 10 48.6	-0.4
DIY	Diyarbakir	0.94	130	iPG	Pg	21 10 43.2	-0.3
DIY				iSG	Sg	21 10 56.4	+0.3
BINT	Bingol	0.99	68	PG	Pg	21 10 44.2	-0.3
EZC	Erzincan	1.30	17	PN	Pn	21 10 48.4	-1.2
KELT	Kelkit	1.64	358	eP	Pn	21 10 58.5	+4.1
BEST	Besiri	1.66	111	iP	Pn	21 10 54.7	0.0
BEST				iS	Sb	21 11 20.1	+3.7
BTMT	Batman	1.73	100	PN	Pn	21 10 54.8	-1.0
GZT	Gaziantep	1.80	231	iP	Pn	21 10 56.5	-0.2
GZT				iS	Sn	21 11 24.9	+4.7
VRT	Varto	1.84	69	ePN	Pn	21 10 58.3	+1.0
GUMT	Gumushane	1.96	4	ePN	Pn	21 10 59.2	+0.2
EZM	Erzurum	2.12	48	ePN	Pn	21 11 01.9	+0.7
ERZM	Erzurum	2.12	48	eP	Pn	21 11 05.8	+4.5
ERZM				iS	Sg	21 11 43.2	+7.9
KAHT	Ahir Dag	2.12	246	eP	Pn	21 11 02.3	+1.0
KAHT				iS	Sn	21 11 29.2	+0.9
GAZ	Gaziantep	2.13	232	PN	Pn	21 11 00.8	-0.7
SVSK	Karacayir	2.29	309	ePN	Pn	21 11 03.4	-0.3

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*NEIC **11** 21:24:28.2, 30.97S×71.57W, h25^{km}, ML3.2(GUC), After GUC.*

GUC 11 21:24:28.2±0.8**, 30.97S×71.57W, h25^{km}**±6^{km}**, MD3.8, ML3.2, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	0.53	113	⇑iP	Pb	21 24 38.8	-0.1
CMCH				iS	Sb	21 24 46.9	+0.7
CMCH				AMP		21 24 47.8	
	comp=E,5µm,0.5s						
ILCH	Illapel	0.75	153	⇑iP	Pb	21 24 41.2	-1.4
ILCH				iS	Sb	21 24 51.8	-0.6
ILCH				AMP		21 24 54.1	
	comp=N,750nm,0.2s						
LSCH	La Serena	1.09	15	iP	Pn	21 24 47.4	-0.6
LSCH				iS	Sb	21 25 01.6	-0.5
LSCH				AMP		21 25 07.6	
	comp=E,855nm,0.3s						
PTCH	Petorca	1.41	157	eP	Pn	21 24 52.2	-0.3
PTCH				iS	Sn	21 25 10.2	-0.2
PTCH				AMP		21 25 15.3	
	comp=E,1µm,0.4s						
PEL	Peldehue	2.30	161	iS	Sn	21 25 34.8	+1.7
CLCH	Cerro Calan	2.58	160	iS	Sn	21 25 41.1	+0.9
CLCH				AMP		21 25 52.8	
	comp=N,247nm,0.4s						
FCH	Farellones	2.59	156	eP	Pn	21 25 11.0	+1.5
FCH				iS	Sn	21 25 42.9	+2.3
FCH				AMP		21 25 51.2	
	comp=E,74nm,0.2s						
LMEL	Las Melosas	3.10	158	eP	Pn	21 25 17.0	+0.3
LMEL				iS	Sn	21 25 53.6	+0.2
LMEL				AMP		21 26 03.9	
	comp=N,91nm,0.2s						

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*IDC **11** 21:36:55.9±1.1, 2.60N×128.06E, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, Error ellipse: s-maj=86.6km s-min=17.6km az=71.0*

*NEIC **11** 21:36:56.7±0.9, 2.72N×128.55E, h10^{km}, mb4.1/3, Error ellipse: s-maj=55.8km s-min=10.7km az=71.0*

ISC 11 21:36:58.5±1.0**, 2.6N**±0.2×**128.1E**±0.5**, h33^{km}, n10,** σ**0^{s}68**/10**, mb3.9**/8**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.73	187	P	P	21 41 38.7	-0.2
	1.0nm,0.6s,baz=356,slow=6.0,SNR=3.3						
WRA	Warramunga Arr	23.23	165	P	P	21 42 04.5	+0.5
	3.4nm,0.5s,mb4.0,baz=344,slow=11,SNR=39						
ASAR	Alice Springs	26.72	168	P	P	21 42 37.3	+0.2
	0.5nm,0.5s,mb3.3,baz=356,slow=8.5,SNR=12						
ASAR				PcP	PcP	21 45 59.8	-0.7
	0.3nm,0.7s,baz=348,slow=1.7,SNR=3.7						
STKA	Stephens Creek	36.62	161	P	P	21 44 04.0	+0.2
	3.2nm,0.7s,mb4.2,baz=358,slow=9.2,SNR=11						
STKA	Stephens Creek	36.62	161	eP	P	21 44 02.7	-1.0
LSA	Lhasa	44.20	311	eP	P	21 45 10.3	+3.8
	2.3nm,0.6s,mb4.1						
SONM	Songino Array	48.79	341	P	P	21 45 42.9	+0.5
	0.6nm,0.5s,mb3.9,baz=153,slow=8.1,SNR=7.0						
MKAR	Makanchi Array	59.25	325	P	P	21 46 59.2	+0.1
	1.0nm,0.5s,mb4.1,baz=119,slow=8.2,SNR=11						
KURK	Kurchatov	63.41	327	eP	P	21 47 26.7	-0.5
	1.0nm,0.7s,mb4.0						
ZRNK	Zerenda	69.73	326	eP	P	21 48 06.5	-0.6
	0.6nm,0.6s,mb3.7						

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*IDC **11** 21:44:11.2±12.0, 21.91N×143.20E, h325^{km}±133^{km}, mb3.0/6, mb1 3.3/6, mb1mx3.0/22, Error ellipse: s-maj=37.2km s-min=22.0km az=76.0*

ISC 11 21:44:07.6±1.1**, 21.9N**±0.2×**143.1E**±0.3**, h300^{km}, n6,** σ**1^{s}72**/6**, mb3.4**/6**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	39.15	320	P	P	21 51 09.4	+1.3
	0.2nm,0.4s,mb2.9,baz=106,slow=10,SNR=2.9						
WRA	Warramunga Arr	42.47	192	P	P	21 51 35.4	-0.2
	0.3nm,0.7s,mb2.6,baz=16,slow=8.8,SNR=6.1						
ILAR	Eielson Array	61.87	27	P	P	21 53 55.4	-1.7
	1.0nm,0.8s,mb3.5,baz=265,slow=5.4,SNR=7.0						
BVAR	Borovoye Array	62.48	319	P	P	21 54 00.3	-0.9
	0.7nm,0.4s,mb3.7,baz=91,slow=7.3,SNR=5.2						
FINES	FINESS Array B	82.97	334	P	P	21 55 60.0	-0.2
	1.5nm,0.9s,mb3.8,baz=63,slow=6.2,SNR=3.9						
NVAR	Mina Array Bea	83.05	51	P	P	21 56 02.9	+1.9
	0.6nm,0.7s,mb3.5,baz=280,slow=3.9,SNR=4.9						

ISC 11 22:02:14.0±1.8**, 36.86N**±0.10×**27.78E**±0.06**, h10^{km}, n7,** σ**1^{s}27**/12**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.34	307	iP	Pg	22 02 20.4	-0.7
BDRM				iS	Sg	22 02 25.7	0.0
MLSB	Milas	0.43	359	ePG	Pg	22 02 22.3	-0.6
YER	Yerkesik	0.48	55	ePG	Pg	22 02 22.4	-1.4
AYDN	Tasoluk	0.80	5	iP	Pb	22 02 28.1	-1.5
AYDN				iS	Sb	22 02 38.3	-1.9
DNZL	Cakiroluk	1.30	50	eP	Pb	22 02 39.2	+1.0
DNZL				iS	Sb	22 02 54.4	-0.4
KDAG	Bornova	1.59	345	eP	Pn	22 02 43.2	+0.7
KDAG				iS	Sb	22 03 04.2	+1.0
MANT	Manisa	1.74	20	eP	Pn	22 02 46.7	+2.1
MANT				iS	Sn	22 03 09.1	+2.1

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*MOS **11** 23:02:16.4±0.7, 6.40S×79.14W, h33^{km}, mb5.6/11, Error ellipse: s-maj=99.9km s-min=18.6km az=50.8*

*IGQ **11** 23:02:19.9, 3.15S×81.07W, h42^{km}±35^{km}, mb5.0, Error ellipse: s-maj=26.5km s-min=7.4km az=128.5*

*HRVD **11** 23:02:24.6±0.2, 3.17S×81.05W, h27^{km}, MW5.2/49, Centroid moment Tensor Solution. LP body waves: s40,c75;Mantle waves: s49,c98; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.57±.03; M$_{\theta\theta}$1.12±.02; M$_{\phi\phi}$-0.55±.03; M$_{r\theta}$0.06±.04; M$_{\theta\phi}$0.03±.02; M$_{\phi r}$0.12±.07; Best double couple: M$_0$.9×10^{17} NP1:ϕ_s124°, δ57°, λ-36°. NP2:ϕ_s236°, δ60°, λ-141°. Principal axes: T 1.12, Plg2°, Azm359°; N -.44, Plg42°, Azm267°; P -.68, Plg48°, Azm91°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **11** 23:02:24.2±0.4, 3.05S×80.76W, h40^{km}±2^{km}, mb4.5/19, mb1 4.7/22, mb1mx4.7/24, ML3.9/3, MS4.5/14, Ms1 4.5/14, ms1mx4.4/20 Error ellipse: s-maj=15.5km s-min=7.6km az=64.0*

*SYO **11** 23:02:24.6, 3.08S×80.80W, h42^{km}, MB5.2, MS4.6*

*NEIC **11** 23:02:24.6±0.1, 3.08S×80.80W, mb5.2/119, MS4.6/100, MD5.0(IGQ), Error ellipse: s-maj=4.8km s-min=3.0km az=223.0*

NEIC Felt [II] at Tumbes, Peru. Felt lightly at Guayaquil, Ecuador.

*BJI **11** 23:02:27.0, 3.10S×80.80W, h42^{km}, mB5.3, Ms5.0, Msz5.0*

ISC 11 23:02:23.4±0.6**, 3.06S**±0.03×**80.88W**±0.03**, h43^{km}**±4^{km}**, h42^{km}**±.8^{km}**:pP-P, n435,** σ**0^{s}88**/334**, mb5.2**/146**, MS4.6**/108**, 27C-25D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	2.02	10	⇑P	P	23 02 53.6	-2.1
IGUA	Igualata	2.73	55	⇓P	P	23 03 05.2	-0.5
ARRY	Arrayan	2.87	58	⇑P	P	23 03 06.8	-1.0
CUSU	Cusua	2.88	56	P	P	23 03 08.2	+0.2
PATA	Patacocha	2.89	58	⇓P	P	23 03 08.6	+0.6
JUIV	Juive	2.91	56	⇓P	P	23 03 07.9	-0.4
RETU	Refugio	2.91	57	⇑P	P	23 03 08.7	+0.4
RETU				S	S	23 03 43.2	+0.9
QIL1	Quilotoa	2.93	42	⇑P	P	23 03 07.1	-1.6
ULBA	Ulba	2.94	57	P	P	23 03 09.1	+0.3
RUN2	Runtun	2.95	57	⇓P	P	23 03 09.3	+0.4
PISA	Pisayambo	3.19	52	P	P	23 03 12.8	+0.5
MARY	Rancho Maria	3.32	46	P	P	23 03 15.0	+0.8
NAS1	Nasa	3.40	45	⇑P	P	23 03 16.2	+0.9
TAMB	Tambo	3.44	47	⇑P	P	23 03 16.5	+0.7
VC1	Cotopaxi 1	3.45	46	⇑P	P	23 03 16.9	+0.9
JUA2	San Juan 2	3.62	39	⇑P	P	23 03 18.5	0.0
CGGP	Crater GGP	3.65	39	P	P	23 03 18.8	-0.1
GGP	Refugio Guagua	3.66	39	⇑P	P	23 03 18.4	-0.5
PINO	Pino	3.67	38	⇓P	P	23 03 18.8	-0.3
CUPA	Cupa	3.67	22	P	P	23 03 20.0	+0.9
YANA	Yana	3.72	38	⇑P	P	23 03 19.0	-0.8
ANTI	Antisana	3.75	46	⇓P	P	23 03 21.0	+0.7
JOR1	San Jorge 1	3.77	36	⇑P	P	23 03 17.2	-3.4
OTAV	Otavalo	4.07	37	eP	P	23 03 23.3	-1.5
ELAGU	Cayambe Volc	4.17	44	P	P	23 03 27.0	+0.8
CAYR	Refugio Cayamb	4.19	43	⇓P	P	23 03 27.5	+1.0
COTA	Cotacachi	4.22	37	⇑P	P	23 03 26.6	-0.3
EPALM	Reventador vol	4.23	48	P	P	23 03 26.9	-0.1
CAYA	Cayambe	4.24	43	P	P	23 03 27.4	+0.2
CONE	Cono NE Rev Vo	4.39	48	P	P	23 03 29.4	+0.1
PAYG	Puerto Ayora	9.69	284	eP	P	23 04 41.7	-1.6
NNA	Nana	9.73	156	eP	P	23 04 40.6	-3.2
ROSC	El Rosal	10.23	40	Pn	P	23 04 49.1	-1.5
	1.3nm,0.3s,baz=70,slow=23,SNR=2.2						
ROSC				Sn	S	23 06 52.8	+7.8
	1.9nm,0.3s,baz=211,slow=22,SNR=2.6						
AZU	Azuero	10.79	3	⇑eP	P	23 04 58.9	+0.6
PTP1	Petroterminal	11.29	352	⇓eP	P	23 05 09.0	+3.9
DVD	David	11.52	352	⇓eP	P	23 05 10.8	+2.7
UPA	Univ. de Panam	12.03	6	⇑eP	P	23 05 16.3	+1.3
UPA				AMb	AMB	23 05 20.0	
	comp=Z,266nm,1.6s						
JEF	Cerro Jefe	12.29	7	eP	P	23 05 20.6	+2.2
CNI	Changuinola	12.50	353	eP	P	23 05 24.0	+2.7
JTS	JuntasAbangare	13.87	343	Pn	P	23 05 40.7	+1.3
	comp=Z,0.5nm,0.3s,baz=161,slow=9.4,SNR=30						
JTS				Sn	S	23 07 52.9	-20
	comp=Z,0.3nm,0.3s,baz=318,slow=20,SNR=1.8						
JTS				LR	LR	23 10 17.1	
	comp=Z,4µm,19.2s,baz=168,slow=34						
JTS	JuntasAbangare	13.87	343	eP	P	23 05 41.2	+1.8
	comp=Z,223nm,1.3s						
SDV	Santo Domingo	15.65	41	eP	P	23 06 01.7	-1.0
	comp=Z,46nm,1.2s						
ARE	Arequipa	16.21	146	eP	P	23 06 10.0	+0.3
LPAZ	La Paz	18.17	137	P	P	23 06 33.0	-1.3
	comp=Z,2.6nm,0.3s,baz=327,slow=12,SNR=40						
LPAZ				S	S	23 09 53.9	+1.6
	comp=Z,0.1nm,0.3s,baz=140,slow=18,SNR=1.5						
LPAZ	La Paz	18.17	137	eP	P	23 06 32.3	-2.0
	comp=Z,25nm,0.7s						
SAML	Samuel	18.54	109	eP	P	23 06 33.6	-5.2
	comp=Z,1.3nm,0.4s						
LVC	Limon Verde	22.64	150	P	P	23 07 20.5	-1.5
	comp=Z,15nm,0.7s,mb4.5,baz=308,slow=7.2,SNR=20						
LVC				S	S	23 11 34.2	+12
	comp=Z,1.5nm,0.8s,baz=41,slow=23,SNR=1.9						
LVC				LR	LR	23 17 32.2	
	comp=Z,2µm,19.8s,MS4.5,baz=313,slow=40						
LVC	Limon Verde	22.64	150	eP	P	23 07 22.5	+0.5
	comp=Z,34nm,1.1s,mb4.7						
LVC				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
TEIG	Tepich	24.25	343	P	P	23 07 38.9	+1.3
	comp=Z,0.0nm,0.3s,baz=322,slow=24,SNR=3.8						
TEIG	Tepich	24.25	343	P	P	23 07 39.0	+1.3
TEIG				LR	LR		
	comp=Z,1.0nm,19.0s						
MGP	Maguayo	24.96	33	eP	P	23 07 45.4	+0.9
SJG	San Juan	25.56	34	P	P	23 07 49.7	-0.5
	comp=Z,62nm,0.9s,mb5.1,baz=227,slow=5.3,SNR=13						
SJG				pP	pP	23 07 59.2	-2.2
	comp=Z,47nm,1.0s,baz=281,slow=6.7,SNR=3.4						
SJG				S	S	23 12 29.9	+18
	comp=Z,16nm,0.3s,baz=309,slow=17,SNR=8.2						
SJG	San Juan	25.56	34	eP	P	23 07 50.3	+0.1
	comp=Z,46nm,0.9s,mb5.0						
SJG				LR	LR		
	comp=Z,1µm,22.0s,MS4.4						
MTP	Monte Pirata	25.88	35	P	P	23 07 51.5	-1.6
DWPF	Disney	30.99	359	PFAKE		23 08 50.0	+11
DWPF				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
CPUP	Villa Florida	32.34	138	P	P	23 08 49.9	-1.1
	comp=Z,2.1nm,0.5s,mb4.2,baz=334,slow=8.2,SNR=9.4						
CPUP				pP	pP	23 09 00.1	-2.6
	comp=Z,5.9nm,0.9s,baz=334,slow=7.1,SNR=9.1						
CPUP				PcP	PcP	23 11 37.1	-1.0
	comp=Z,1.8nm,0.6s,baz=344,slow=3.7,SNR=2.9						
CPUP				LR	LR	23 24 19.7	
	comp=Z,808nm,19.8s,MS4.4,baz=337,slow=41						
CPUP	Villa Florida	32.34	138	eP	P	23 08 49.5	-1.5
	comp=Z,35nm,1.9s,mb4.9						
CPUP				LR	LR		
	comp=Z,807nm,20.0s,MS4.4						
BDFB	Brasilia	34.69	113	P	P	23 09 10.2	-1.0
	comp=Z,12nm,1.0s,mb4.8,baz=278,slow=8.5,SNR=10						
BDFB				pP	pP	23 09 21.1	-2.0
	comp=Z,7.4nm,0.9s,baz=283,slow=8.0,SNR=4.8						
BDFB				PcP	PcP	23 11 43.6	-1.3
	comp=Z,3.6nm,0.7s,baz=279,slow=5.5,SNR=3.0						
HKT	Hockley	35.80	337	eP	P	23 09 20.8	+0.1
	comp=Z,16nm,1.1s,mb4.9						
HKT				e	pP	23 09 34.9	+2.4
HKT				ePcP	PcP	23 11 45.8	-2.1
HKT				LR	LR		
	comp=Z,374nm,21.0s,MS4.1						
NHSC	New Hope	35.97	1	eP	P	23 09 21.6	-0.5
	comp=Z,92nm,1.1s,mb5.6						
NHSC				epP	pP	23 09 33.2	-0.8
NHSC				LR	LR		
	comp=Z,1µm,21.0s,MS4.6						
LRAL	Lakeview Retre	36.36	351	eP	P	23 09 24.2	-1.2
	comp=Z,8.7nm,0.6s,mb4.9						
LRAL				ePcP	PcP	23 11 48.6	-1.0
LRAL				epPcP		23 12 01.8	
LRAL				LR	LR		
	comp=Z,413nm,19.0s,MS4.2						
NATX	Nacogdoches	37.02	340	PFAKE		23 09 40.0	+9.1
NATX				LR	LR		
	comp=Z,474nm,20.0s,MS4.3						
JSC	Jenkinsville	37.14	359	eP	P	23 09 30.4	-1.5
JSC				epP	pP	23 09 42.6	-1.1
JCT	Junction City	37.93	333	eP	P	23 09 39.6	+1.1
	comp=Z,69nm,1.3s,mb5.2						
JCT				epP	pP	23 09 50.5	+0.1
JCT				LR	LR		
	comp=Z,385nm,19.0s,MS4.2						
OXF	Oxford	38.22	349	eP	P	23 09 40.3	-0.6
	comp=Z,16nm,0.9s,mb4.7						
SWET	Sewanee	38.36	353	eP	P	23 09 40.7	-1.4
SWET				epP	pP	23 09 53.0	-1.1
SWET				epPcP		23 12 06.3	
BBSR	BB Station	38.43	22	PFAKE		23 09 50.0	+7.3
BBSR				LR	LR		
	comp=Z,538nm,20.0s,MS4.4						
CPCT	Cooper Cave	38.45	355	eP	P	23 09 42.0	-0.9
CPCT				epP	pP	23 09 54.2	-0.5
PLCA	Paso Flores	38.65	167	P	P	23 09 43.6	-0.8
	comp=Z,2.4nm,0.6s,mb4.1,baz=358,slow=7.9,SNR=6.7						
PLCA				pP	pP	23 09 55.0	-1.4
	comp=Z,4.4nm,0.8s,baz=326,slow=5.3,SNR=5.8						
PLCA				PcP	PcP	23 11 55.9	-0.7
	comp=Z,6.4nm,1.1s,baz=350,slow=4.1,SNR=3.9						
PLCA				pPcP		23 12 08.8	
	comp=Z,3.4nm,0.8s,baz=354,slow=3.9,SNR=4.3						
PLCA				LR	LR	23 23 15.8	
	comp=Z,1µm,18.8s,MS4.7,baz=17,slow=32						
PLCA	Paso Flores	38.65	167	P	P	23 09 43.6	-0.8
PLCA				pP	pP	23 09 55.0	-1.4
PLCA				PcP	PcP	23 11 55.9	-0.7
PLCA				pPcP		23 12 08.8	
PLCA				LR	LR	23 23 15.8	
TRQA	Tornquist	38.89	156	eP	P	23 09 45.0	-1.4
	comp=Z,21nm,1.2s,mb4.7						
TRQA				ePcP	PcP	23 11 56.3	-1.0
TRQA				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
LTX	Lajitas	38.91	327	PFAKE		23 10 00.0	+13
LTX				LR	LR		
	comp=Z,326nm,19.0s,MS4.2						
TXAR	Lajitas Array	38.91	327	P	P	23 09 47.1	+0.4
	comp=Z,3.7nm,1.0s,mb4.1,baz=146,slow=10,SNR=7.2						
TXAR				PcP	PcP	23 11 57.7	+0.3
	comp=Z,8.2nm,0.8s,baz=156,slow=6.9,SNR=12						
TXAR				pPcP		23 12 09.8	

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      comp=Z,4.2nm,0.7s,baz=149,slow=7.3,SNR=6.6
TXAR                            LR     LR     23 24 34.2
      comp=Z,448nm,20.2s,MS4.3,baz=165,slow=34
TXAR  Lajitas Array   38.91 327 P      P      23 09 47.1 +0.4
TXAR                            PcP    PcP    23 11 57.7 +0.3
TXAR                            pPcP          23 12 09.8
TXAR                            LR     LR     23 24 34.2
UALR  University of   39.14 345 eP     P      23 09 48.4 -0.2
      comp=Z,15nm,1.0s,mb4.7
UALR                            epP    pP     23 09 59.7 -0.8
UALR                            ePcP   PcP    23 11 57.6 -0.6
MIAR  Mount Ida       39.26 343 eP     P      23 09 49.5 -0.1
      comp=Z,9.4nm,0.8s,mb4.6
MIAR                            LR     LR
      comp=Z,362nm,20.0s,MS4.2
BLA   Blacksburg      40.06   1 eP     P      23 09 55.5 -0.7
      comp=Z,34nm,1.1s,mb5.0
BLA                             epP    pP     23 10 08.1 -0.1
BLA                             ePcP   PcP    23 11 59.1 -2.0
BLA                             epPcP         23 12 13.5
BLA                             LR     LR
      comp=Z,944nm,20.0s,MS4.6
ELN   Prospectdale    40.08   0 eP     P      23 09 55.6 -0.7
ELN                             epP    pP     23 10 07.5 -0.7
ELN                             e             23 11 49.6
PWV   Princeton       40.19 360 eP     P      23 09 56.4 -0.8
FWV   Forest Hill     40.43   0 eP     P      23 09 58.4 -0.8
CBN   Corbin          41.18   4 PFAKE         23 10 20.0  +15
CBN                             LR     LR
      comp=Z,686nm,20.0s,MS4.5
WMOK  Wichita Mounta  41.19 337 eP     P      23 10 05.3 -0.2
      comp=Z,12nm,0.9s,mb4.5
WMOK                            LR     LR
      comp=Z,319nm,21.0s,MS4.2
USIN  University of   41.30 352 eP     P      23 10 04.6 -1.7
      comp=Z,23nm,0.6s,mb5.0
USIN                            epP    pP     23 10 16.3 -2.0
USIN                            ePcP   PcP    23 12 03.6 -1.4
USIN                            epPcP         23 12 16.4
CLNB  Carlsbad        41.35 330 eP     P      23 10 08.3 +1.4
WCI   Wyandotte Cave  41.38 354 eP     P      23 10 05.3 -1.7
      comp=Z,17nm,0.9s,mb4.7
WCI                             epP    pP     23 10 17.7 -1.3
WCI                             ePcP   PcP    23 12 04.2 -1.1
WCI                             epPcP         23 12 16.8
WCI                             LR     LR
      comp=Z,499nm,19.0s,MS4.4
GDL2  Guadalupe Moun  41.55 329 eP     P      23 10 09.2 +0.7
FVM   French Village  41.78 349 eP     P      23 10 09.4 -1.0
      comp=Z,9.7nm,0.7s,mb4.5
FVM                             epP    pP     23 10 21.3 -1.1
FVM                             ePcP   PcP    23 12 05.9 -0.8
CCM   Cathedral Cave  42.02 348 eP     P      23 10 11.2 -1.1
      comp=Z,17nm,0.9s,mb4.7
CCM                             epP    pP     23 10 23.5 -0.9
CCM                             LR     LR
      comp=Z,388nm,20.0s,MS4.3
SLM   Saint Louis     42.38 349 eP     P      23 10 14.5 -0.8
SLM                             epP    pP     23 10 26.1 -1.2
MCWV  Mont Chateau    42.51   1 PFAKE         23 10 30.0  +14
MCWV                            LR     LR
      comp=Z,1µm,22.0s,MS4.7
ACSO  Alum Creek Sta  43.12 358 eP     P      23 10 19.3 -2.1
      comp=Z,64nm,1.0s,mb5.3
ACSO                            epPcP  pP     23 10 32.3 -1.1
ACSO                            LR     LR
      comp=Z,728nm,19.0s,MS4.6
BNM   Barren Site     44.25 329 eP     P      23 10 31.6 +1.0
BNM                             epPcP         23 12 27.1
LPM   Los Pinos Moun  44.38 329 eP     P      23 10 32.6 +1.0
KSU1  Kansas State U  44.38 342 eP     P      23 10 31.4 -0.1
KSU1                            epP    pP     23 10 44.8 +1.2
LENM  Lemitar         44.44 329 eP     P      23 10 32.5 +0.5
LENM                            epP    pP     23 10 46.0 +1.9
LENM                            ePcP   PcP    23 12 15.5 -0.1
LAZ   Ladron          44.71 329 eP     P      23 10 35.6 +1.3
LAZ                             ePcP   PcP    23 12 16.7 +0.1
ANMO  Albuquerque     44.79 330 eP     P      23 10 35.8 +1.0
      comp=Z,30nm,0.7s,mb5.2
ANMO                            ePcP   PcP    23 12 16.5 -0.3
ANMO                            LR     LR
      comp=Z,360nm,20.0s,MS4.3
RCBR  Riachuelo       44.92  95 PFAKE         23 10 50.0  +14
RCBR                            LR     LR
      comp=Z,4µm,19.0s,MS5.3
ERPA  Erie            44.97   1 PFAKE         23 10 50.0  +14
ERPA                            LR     LR
      comp=Z,812nm,21.0s,MS4.6
CBKS  Cedar Bluff     45.15 339 eP     P      23 10 38.7 +1.0
      comp=Z,75nm,1.4s,mb5.3
CBKS                            ePcP   PcP    23 12 18.2 +0.1
CBKS                            epPcP         23 12 29.5
CBKS                            LR     LR
      comp=Z,342nm,22.0s,MS4.2
TUC   Tucson          45.18 323 eP     P      23 10 38.5 +0.5
      comp=Z,8.2nm,0.9s,mb4.6
TUC                             epP    pP     23 10 51.7 +1.6
TUC                             LR     LR
      comp=Z,1µm,20.0s,MS4.9
BINY  Binghamton      45.26   5 eP     P      23 10 37.4 -1.1
      comp=Z,39nm,1.1s,mb5.2
BINY                            epP    pP     23 10 47.6 -3.0
WES   Weston          46.05  10 PFAKE         23 11 00.0  +15
WES                             LR     LR
      comp=Z,491nm,20.0s,MS4.5
HRV   Harvard--Oak R  46.13  10 PFAKE         23 11 00.0  +15
HRV                             LR     LR
      comp=Z,457nm,22.0s,MS4.4
JFWS  Jewell Farm     46.53 351 eP     P      23 10 46.7 -1.9
      comp=Z,37nm,0.6s,mb5.5
JFWS                            LR     LR
      comp=Z,425nm,19.0s,MS4.4
SDCO  Great Sand Dun  46.58 333 eP     P      23 10 49.9 +0.9
      comp=Z,21nm,0.8s,mb5.1
SDCO                            ePcP   PcP    23 12 22.8 -0.2
SDCO                            LR     LR
      comp=Z,367nm,20.0s,MS4.3
NCB   Newcomb         47.19   7 PFAKE         23 11 10.0  +16
NCB                             LR     LR
      comp=Z,273nm,20.0s,MS4.2
SADO  Sadowa          47.64   2 P      P      23 10 55.0 -2.3
      comp=Z,10nm,0.8s,mb4.9,baz=211,slow=5.5,SNR=6.7
SADO                            pP     pP     23 11 06.8 -2.6
      comp=Z,11nm,0.9s,baz=202,slow=4.9,SNR=4.0
SADO                            PcP    PcP    23 12 24.7 -2.0
      comp=Z,4.0nm,0.6s,baz=112,slow=3.2,SNR=2.4
SADO  Sadowa          47.64   2 P      P      23 10 55.0 -2.3
SADO                            pP     pP     23 11 06.8 -2.6
SADO                            PcP    PcP    23 12 24.7 -2.0
WUAZ  Wupatki         47.83 326 eP     P      23 11 00.1 +1.2
      comp=Z,54nm,1.1s,mb5.5
WUAZ                            ePcP   PcP    23 12 27.2 -0.3
MSNY  Massena         48.14   6 eP     P      23 10 59.5 -1.7
ISCO  Idaho Springs   48.32 334 PFAKE         23 11 10.0 +7.4
ISCO                            LR     LR
      comp=Z,239nm,20.0s,MS4.2
PV01  Paradox Valley  48.34 331 eP     P      23 11 03.7 +0.9
PV01                            ePcP   PcP    23 12 29.3  0.0
PV10  Paradox Valley  48.76 330 eP     P      23 11 05.7 -0.3
EMMW  East Machias    49.04  13 PFAKE         23 11 20.0  +12
EMMW                            LR     LR
      comp=Z,2µm,21.0s,MS5.1
BAR   Barrett         49.11 319 eP     P      23 11 08.7 -0.1
PFO   Pinyon Flat Ob  49.56 320 PFAKE         23 11 20.0 +7.7
PFO                             LR     LR
      comp=Z,109nm,19.0s,MS3.9
LDFC  Landfair        49.69 323 eP     P      23 11 13.9 +0.6
NEN   Nelson          49.92 324 eP     P      23 11 15.5 +0.5
SRU   San Rafael      50.06 330 eP     P      23 11 16.4 +0.4
MSU   Marysvale       50.46 328 eP     P      23 11 19.8 +0.7
MSU                             epP    pP     23 11 32.1 +0.9
MSU                             ePcP   PcP    23 12 36.0 -1.0
RSSD  Black Hills     51.35 339 PFAKE         23 11 40.0  +14
RSSD                            LR     LR
      comp=Z,511nm,22.0s,MS4.5
DAU   Daniels Canyon  51.42 330 eP     P      23 11 25.9 -0.4
DAU                             epP    pP     23 11 41.5 +3.0
JLU   Jordanelle      51.66 330 eP     P      23 11 28.8 +0.7
DAC   Darwin (Calif)  52.00 322 PFAKE         23 11 40.0 +9.3
DAC                             LR     LR
      comp=Z,580nm,20.0s,MS4.6
TCUT  Toone Canyon    52.03 331 eP     P      23 11 31.3 +0.4
TCUT                            ePcP   PcP    23 12 40.9 -1.9
DUG   Dugway          52.04 329 eP     P      23 11 31.4 +0.4
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      comp=Z,17nm,1.0s,mb4.9
DUG                             LR     LR
      comp=Z,751nm,21.0s,MS4.7
EFI   East Falkland   52.08 162 PFAKE         23 11 40.0 +8.9
EFI                             LR     LR
      comp=Z,394nm,20.0s,MS4.4
BW06  Boulder Array   52.46 334 PFAKE         23 11 50.0  +16
BW06                            LR     LR
      comp=Z,639nm,21.0s,MS4.6
PDAR  Pinedale Array  52.46 334 P      P      23 11 33.5 -0.6
      comp=Z,14nm,0.8s,mb5.0,baz=135,slow=8.4,SNR=96
PDAR                            pP     pP     23 11 45.4 -0.9
      comp=Z,6.0nm,0.8s,baz=127,slow=7.4,SNR=7.0
PDAR                            PcP    PcP    23 12 43.4 -1.0
      comp=Z,3.0nm,0.7s,baz=129,slow=6.4,SNR=5.0
PDAR                            pPcP          23 12 56.5
      comp=Z,2.3nm,0.8s,baz=135,slow=6.3,SNR=2.2
PDAR                            LR     LR     23 34 56.0
      comp=Z,522nm,18.5s,MS4.6,baz=326,slow=37
HWUT  Hardware Ranch  52.48 331 eP     P      23 11 34.0 -0.2
      comp=Z,47nm,0.8s,mb5.5
HWUT                            epP    pP     23 11 46.7 +0.2
HWUT                            ePcP   PcP    23 12 43.9 -0.5
HWUT                            LR     LR
      comp=Z,671nm,19.0s,MS4.7
USHA  Ushuaia         52.60 171 P      P      23 11 33.6 -1.3
      comp=Z,8.2nm,0.6s,mb4.8,baz=357,slow=6.4,SNR=12
USHA                            pP     pP     23 11 45.6 -1.6
      comp=Z,6.6nm,0.7s,baz=336,slow=9.5,SNR=2.8
SPUT  South Promonto  52.69 330 eP     P      23 11 36.2 +0.4
TPH   Tonopah         52.97 324 eP     P      23 11 38.6 +0.6
      comp=Z,16nm,0.9s,mb4.9
TPH                             epP    pP     23 11 51.6 +1.4
TPH                             ePcP   PcP    23 12 46.4 +0.1
TPH                             LR     LR
      comp=Z,515nm,19.0s,MS4.6
AHID  Auburn Hatcher  53.16 332 eP     P      23 11 39.3  0.0
      comp=Z,38nm,1.1s,mb5.2
AHID                            LR     LR
      comp=Z,587nm,20.0s,MS4.6
HVU   Hansel Valley   53.20 330 eP     P      23 11 39.6  0.0
MTUM  Tungsten Hills  53.29 323 eP     P      23 11 41.3 +0.9
REDW  Red Top Meadow  53.51 333 eP     P      23 11 42.0 +0.1
WUWY  Wally Ulrich    53.60 333 eP     P      23 11 42.8 +0.3
TPAW  Teton Pass      53.66 333 eP     P      23 11 42.9 -0.1
OMM   Old Mammoth Mi  53.72 323 eP     P      23 11 44.3 +0.8
OMM                             epP    pP     23 11 57.3 +1.5
MNV   Mina            53.75 324 PFAKE         23 12 00.0  +16
MNV                             LR     LR
      comp=Z,548nm,19.0s,MS4.6
MOOW  Moose Ponds     53.77 333 eP     P      23 11 43.5 -0.3
NVAR  Mina Array Bea  53.84 324 P      P      23 11 44.7 +0.3
      comp=Z,13nm,0.7s,mb5.0,baz=133,slow=7.3,SNR=95
NVAR                            pP     pP     23 11 55.7 -0.9
      comp=Z,10nm,0.8s,baz=135,slow=5.8,SNR=12
NVAR                            LR     LR     23 34 43.2
      comp=Z,526nm,19.4s,MS4.6,baz=275,slow=36
NVAR  Mina Array Bea  53.84 324 P      P      23 11 44.7 +0.3
NVAR                            pP     pP     23 11 55.7 -0.9
NVAR                            LR     LR     23 34 43.1
LAO   LASA Array      54.35 339 eP     P      23 11 47.6 -0.4
LAO                             epP    pP     23 12 00.8 +0.5
LAO                             LR     LR
      comp=Z,287nm,19.0s,MS4.4
BMN   Battle Mountai  54.56 326 PFAKE         23 12 00.0  +10
BMN                             LR     LR
      comp=Z,1µm,19.0s,MS4.9
YMR   Madison River   54.59 334 eP     P      23 11 50.1 +0.4
ULM   Lac du Bonnet   54.64 348 P      P      23 11 48.7 -1.4
      comp=Z,39nm,0.7s,mb5.6,baz=158,slow=7.9,SNR=65
ULM                             pP     pP     23 12 00.9 -1.5
      comp=Z,51nm,1.1s,baz=157,slow=9.1,SNR=10
ULM   Lac du Bonnet   54.64 348 eP     P      23 11 48.6 -1.5
      comp=Z,53nm,0.7s,mb5.7
ULM                             epP    PcP    23 12 50.6 -1.9
ULM                             LR     LR
      comp=Z,422nm,21.0s,MS4.5
CMB   Columbia Colle  54.84 322 PFAKE         23 12 00.0 +8.3
CMB                             LR     LR
      comp=Z,378nm,20.0s,MS4.5
QLMT  Earthquake Lak  54.92 334 eP     P      23 11 53.2 +1.0
DGMT  Dagmar          55.20 341 PFAKE         23 12 10.0  +16
DGMT                            LR     LR
      comp=Z,400nm,19.0s,MS4.5
WCN   Washoe City     55.26 324 eP     P      23 11 55.3 +0.5
      comp=Z,38nm,1.3s,mb5.3
PAHR  Pah Rah Range   55.31 324 eP     P      23 11 55.3 +0.2
      comp=Z,201nm,2.4s,mb5.7
HLID  Hailey          55.34 331 eP     P      23 11 55.2  0.0
      comp=Z,30nm,1.0s,mb5.3
HLID                            LR     LR
      comp=Z,510nm,20.0s,MS4.6
BOZ   Bozeman (W)     55.65 334 eP     P      23 11 56.9 -0.5
      comp=Z,73nm,1.3s,mb5.5
BOZ                             LR     LR
      comp=Z,402nm,20.0s,MS4.5
RKT   Rikitea         55.95 244 eP     P      23 12 00.2 +0.2
      comp=Z,126nm,1.0s,mb5.9
BEKR  Beckwourth      55.98 324 eP     P      23 12 00.3 +0.3
      comp=Z,17nm,0.8s,mb5.1
BEKR                            epP    pP     23 12 13.0 +0.6
HRY   Holter Researc  56.57 335 eP     P      23 12 03.7 -0.4
WVOR  Wild Horse Val  56.71 327 eP     P      23 12 04.8 -0.3
      comp=Z,66nm,1.2s,mb5.5
WVOR                            ePcP   PcP    23 12 59.6 -1.1
WVOR                            LR     LR
      comp=Z,1µm,19.0s,MS5.1
HOPS  Hopland         57.09 321 PFAKE         23 12 20.0  +12
HOPS                            LR     LR
      comp=Z,503nm,21.0s,MS4.6
MOD   Modoc           57.27 326 eP     P      23 12 08.7 -0.4
      comp=Z,22nm,0.8s,mb5.2
MOD                             LR     LR
      comp=Z,477nm,20.0s,MS4.6
CHMT  Chamberlain Mo  57.34 334 eP     P      23 12 08.9 -0.6
MSO   Missoula        57.58 334 PFAKE         23 12 20.0 +8.8
MSO                             LR     LR
      comp=Z,294nm,20.0s,MS4.4
WDC   Whiskeytown Da  57.73 323 eP     P      23 12 10.0 -2.4
      comp=Z,9.4nm,1.1s,mb4.7
WDC                             LR     LR
      comp=Z,254nm,22.0s,MS4.3
YBH   Yreka Blue Hor  58.55 324 eP     P      23 12 16.6 -1.4
      comp=Z,21nm,0.8s,mb5.2
YBH                             LR     LR
      comp=Z,477nm,20.0s,MS4.6
BSMT  Bassoo Peak     58.73 334 P      P      23 12 19.6 +0.4
SCHQ  Schefferville   58.85   9 P      P      23 12 17.4 -2.5
      comp=Z,10.0nm,1.1s,mb4.8,baz=189,slow=7.0,SNR=6.1
SCHQ                            pP     pP     23 12 29.1 -3.3
      comp=Z,9.4nm,0.9s,baz=192,slow=5.9,SNR=5.4
SCHQ                            LR     LR     23 35 59.1
      comp=Z,269nm,20.6s,MS4.3,baz=353,slow=34
SCHQ  Schefferville   58.85   9 eP     P      23 12 17.6 -2.3
      comp=Z,39nm,1.4s,mb5.2
SCHQ                            LR     LR
      comp=Z,707nm,21.0s,MS4.8
LNOR  Lincton Mounta  58.91 330 eP     P      23 12 19.9 -0.6
KRMB  Red Mountain    59.12 323 eP     P      23 12 22.5 +0.5
HUMO  Hull Mountain   59.24 325 eP     P      23 12 21.4 -1.4
      comp=Z,4.2nm,0.6s,mb4.7
HUMO                            LR     LR
      comp=Z,486nm,20.0s,MS4.6
SACV  Santiago Islan  59.45  71 PFAKE         23 12 40.0  +15
SACV                            LR     LR
      comp=Z,112nm,21.0s,MS4.0
HAWA  Hanford         59.90 330 eP     P      23 12 26.7 -0.6
      comp=Z,12nm,0.7s,mb5.0
HAWA                            LR     LR
      comp=Z,402nm,19.0s,MS4.6
VGB   Gordon Butte    59.93 329 eP     P      23 12 27.0 -0.5
NEW   Newport         60.08 333 eP     P      23 12 28.0 -0.5
      comp=Z,14nm,0.7s,mb5.1
NEW                             LR     LR
      comp=Z,420nm,20.0s,MS4.6
DPW   Davenport       60.30 332 eP     P      23 12 29.9 -0.1
DPW                             epP    pP     23 12 43.3 +0.8
COR   Corvallis       60.68 326 PFAKE         23 12 40.0 +7.3
COR                             LR     LR
      comp=Z,537nm,19.0s,MS4.7
LON   Longmire        61.29 329 eP     P      23 12 36.1 -0.6
NLW   Nelson Butte    61.46 331 eP     P      23 12 38.1 +0.2
RMW   Rattlesnake Mo  61.76 330 eP     P      23 12 39.4 -0.5
BMW   Boistfort Moun  61.85 328 eP     P      23 12 40.6 +0.1
PNT   Penticton       61.98 332 P      P      23 12 42.0 +0.7
RPW   Rockport        62.29 331 P      P      23 12 43.1 -0.3
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GNW   Green Mountain  62.35 329 eP     P      23 12 42.2 -1.6
OCWA  Octopus Mounta  63.17 329 PFAKE         23 13 00.0  +11
OCWA                            LR     LR
      comp=Z,1µm,20.0s,MS5.1
SNB   Saturna Island  63.32 330 P      P      23 12 51.0 +0.7
PGC   Sidney          63.38 330 eP     P      23 12 50.8 +0.1
      comp=Z,39nm,0.8s,mb5.6
PGC                             epP    pP     23 13 03.1 -0.1
PMOR  Pomariorio Ree  67.02 255 eP     P      23 13 15.2 +0.7
      comp=Z,53nm,1.2s,mb5.4
MEH   Mehetia         67.36 252 eP     P      23 13 17.7 +1.0
      comp=Z,7.5nm,0.9s,mb4.7
CHIE  El Hierro       67.76  59 P      P      23 13 16.4 -2.6
      comp=Z,34nm,0.8s,mb5.4
TVO   Taravao         68.48 252 eP     P      23 13 23.9 +0.2
      comp=Z,19nm,0.8s,mb5.2
EGOM  La Gomera       68.52  58 P      P      23 13 22.4 -1.3
      comp=Z,60nm,3.1s
TIAR  Tiarei          68.56 252 eP     P      23 13 24.8 +0.6
      comp=Z,19nm,0.8s,mb5.1
PAE   Paea            68.79 252 eP     P      23 13 26.3 +0.7
      comp=Z,134nm,1.5s,mb5.7
YKA   Yellowknife Ar  70.20 344 P      P      23 13 32.2 -1.3
      comp=Z,3.8nm,0.8s,mb4.4,baz=136,slow=6.4,SNR=17
YKA                             pP     pP     23 13 44.1 -2.1
      comp=Z,1.9nm,0.7s,baz=134,slow=6.8,SNR=4.4
YKA                             LR     LR     23 49 15.4
      comp=Z,314nm,18.3s,MS4.6,baz=95,slow=40
YKA   Yellowknife Ar  70.20 344 P      P      23 13 32.2 -1.3
YKA                             pP     pP     23 13 44.1 -2.1
YKA                             LR     LR     23 49 15.4
YKW3  Yellowknife Ar  70.26 344 eP     P      23 13 31.6 -2.2
DLBC  Dease Lake      72.63 335 eP     P      23 13 48.5 +0.4
SIT   Sitka           74.16 332 PFAKE         23 14 10.0  +13
SIT                             LR     LR
      comp=Z,561nm,19.0s,MS4.9
LIC   Lamto           76.29  83 eP     P      23 14 09.3 -0.9
      comp=Z,103nm,1.0s,mb5.7
LIC   Lamto           76.29  83 eP     P      23 14 09.7 -0.5
      comp=Z,10.0nm,0.6s,mb4.9
TIC   Toumodi         76.33  82 eP     P      23 14 08.9 -1.5
      comp=Z,172nm,1.1s,mb5.9
DBIC  Dimbokro        76.50  82 P      P      23 14 10.3 -1.0
      comp=Z,31nm,1.1s,mb5.2,baz=243,slow=6.6,SNR=12
DBIC                            pP     pP     23 14 21.6 -2.5
      comp=Z,9.5nm,0.9s,baz=249,slow=5.0,SNR=3.3
DBIC                            LR     LR     23 45 31.0
      comp=Z,404nm,20.6s,MS4.7,baz=233,slow=34
DBIC  Dimbokro        76.50  82 eP     P      23 14 10.8 -0.6
      comp=Z,40nm,1.0s,mb5.3
DBIC                            LR     LR
      comp=Z,562nm,21.0s,MS4.8
KIC   Kosan Boka      76.59  83 eP     P      23 14 11.1 -0.7
      comp=Z,302nm,1.2s,mb6.1
RAR   Rarotonga       78.55 249 LR     LR     23 40 49.7
      comp=Z,187nm,18.6s,MS4.5,baz=90,slow=29
PBEJ  Beja            78.58  50 eP     P      23 14 22.6 +0.2
      comp=Z,33nm,1.4s,mb5.1
PALC  Alcoutim        78.76  51 eP     P      23 14 23.0 -0.4
      comp=Z,36nm,1.2s,mb5.2
EGRO  El Granado      78.77  51 P      P      23 14 23.5  0.0
      comp=Z,13nm,1.0s,mb4.8
PVIS  Viseu           79.18  48 eP     P      23 14 25.8 +0.2
      comp=Z,96nm,1.7s,mb5.5
PCBR  Castelo Branco  79.29  49 eP     P      23 14 26.2  0.0
      comp=Z,47nm,1.6s,mb5.2
EBAD  Badajoz         79.40  50 P      P      23 14 26.1 -0.7
      comp=Z,9.3nm,1.0s,mb4.7
INK   Inuvik          79.86 343 eP     P      23 14 28.3 -0.4
      comp=Z,23nm,0.9s,mb5.1
ESPR  Espera          79.90  52 P      P      23 14 30.4 +0.8
      comp=Z,11nm,0.9s,mb4.8
ERUA  La Rua          80.12  46 P      P      23 14 30.3 -0.3
      comp=Z,40nm,3.0s
SUMG  Summit          80.12  12 eP     P      23 14 29.6 -0.5
      comp=Z,73nm,1.1s,mb5.5
SUMG                            epP    pP     23 14 40.2 -2.8
PBRG  Braganca        80.28  47 eP     P      23 14 31.4 -0.1
      comp=Z,71nm,1.2s,mb5.5
ECAL  Calabor         80.31  47 P      P      23 14 32.2 +0.5
      comp=Z,32nm,1.0s,mb5.2
EPON  Pontenova       80.33  45 P      P      23 14 31.6 -0.1
      comp=Z,33nm,1.1s,mb5.2
EMIJ  Mijas           80.70  52 P      P      23 14 34.0 +0.1
      comp=Z,18nm,0.9s,mb5.0
DIV   Divide          80.83 334 PFAKE         23 14 50.0  +16
DIV                             LR     LR
      comp=Z,864nm,21.0s,MS5.1
EADA  Adamuz          81.15  51 P      P      23 14 36.4 +0.2
      comp=Z,14nm,1.1s,mb4.8
ELOJ  Sierra Loja     81.30  52 P      P      23 14 38.2 +1.3
      comp=Z,16nm,1.0s,mb4.9
VNA1  Neumayer--Stat  81.41 161⇑i      P      23 14 37.2 +0.3
VNA1  Neumayer--Stat  81.41 161⇑i      P      23 14 40.1 +3.2
VNA1  Neumayer--Stat  81.41 161⇑i      pP     23 14 51.3 +1.5
ERON  Agron           81.54  52 P      P      23 14 39.3 +1.0
      comp=Z,3.4nm,0.4s,mb4.6
VNA2  Neumayer--Watz  81.76 161⇑i      P      23 14 39.3 +0.6
VNA2  Neumayer--Watz  81.76 161⇑i      P      23 14 41.4 +2.7
VNA2  Neumayer--Watz  81.76 161⇑i      pP     23 14 54.0 +2.4
ESDC  Sonseca Array   81.91  49 P      P      23 14 40.3 +0.2
      comp=Z,25nm,1.1s,mb5.0,baz=267,slow=5.4,SNR=33
ESDC                            pP     pP     23 14 52.1 -1.0
      comp=Z,3.5nm,0.8s,baz=269,slow=5.5,SNR=5.2
ESLA  Sonseca Array   81.91  49 eP     P      23 14 40.4 +0.3
      comp=Z,7.2nm,1.1s,mb4.5
ESLA                            epP    pP     23 14 54.3 +1.3
ESLA                            LR     LR
      comp=Z,1µm,20.0s,MS5.3
SML   Sawmill         82.23 334 eP     P      23 14 40.7 -0.6
EQES  Quesada         82.26  51 P      P      23 14 42.1 +0.2
      comp=Z,12nm,1.0s,mb4.8
SLKM  Skilak Lake     82.63 332 eP     P      23 14 43.0 -0.3
DCN   Croghan         82.72  35⇑iP     P      23 14 42.9 -1.1
ILAR  Eielson Array   82.75 337 P      P      23 14 43.2 -0.6
      comp=Z,16nm,1.2s,mb4.9,baz=136,slow=3.3,SNR=43
ILAR                            pP     pP     23 14 56.2 -0.6
      comp=Z,2.7nm,0.8s,baz=132,slow=2.8,SNR=6.6
ILAR                            PP     PP     23 17 56.5 +0.4
      comp=Z,0.5nm,0.7s,baz=114,slow=5.9,SNR=5.7
ILAR                            LR     LR     23 52 48.9
      comp=Z,385nm,19.8s,MS4.8,baz=135,slow=36
EVIA  Vianos          82.84  51 P      P      23 14 47.0 +2.2
      comp=Z,47nm,1.1s,mb5.4
SCO   Scoresbysund    82.92  17 i P    sP     23 15 14.9  +13
      comp=Z,13nm,0.6s
KDAK  Kodiak Island   82.92 329 PFAKE         23 15 00.0  +15
KDAK                            LR     LR
      comp=Z,65nm,20.0s,MS4.0
ELAN  Lanestosa       82.96  46 P      P      23 14 46.2 +0.8
      comp=Z,36nm,1.1s,mb5.3
DMUB  Kingscourt      83.08  35 eP     P      23 14 45.1 -0.7
COLA  College         83.17 337 PFAKE         23 15 00.0  +14
COLA                            LR     LR
      comp=Z,427nm,20.0s,MS4.8
MCK   McKinley        83.19 335 eP     P      23 14 45.5 -0.7
      comp=Z,11nm,1.1s,mb4.8
MCK                             epP    pP     23 14 56.2 -2.8
MCK                             LR     LR
      comp=Z,147nm,20.0s,MS4.3
SNAA  Sanae           83.36 162        P      23 14 44.7 -2.1
SNAA  Sanae           83.36 162⇑i      P      23 14 46.4 -0.4
SNAA  Sanae           83.36 162⇑i      P      23 14 56.4  +10
SNAA  Sanae           83.36 162⇑iP     P      23 14 46.4 -0.4
ETOR  Torete          83.55  49 P      P      23 14 49.5 +1.0
      comp=Z,49nm,1.2s,mb5.5
ETOB  Tobarra         83.58  51 P      P      23 14 49.5 +0.8
      comp=Z,19nm,0.9s,mb5.2
RSO   Redoubt South   83.80 332 eP     P      23 14 49.0 -0.3
QUIF  Quistinic       84.04  41 eP     P      23 14 51.1 +0.3
ROSF  Rostrenen       84.06  41 eP     P      23 14 51.0 +0.2
EALK  Alkurruntz      84.35  46 P      P      23 14 53.2 +0.8
      comp=Z,73nm,1.3s,mb5.7
SGMF  Saint Gilles    84.51  41 eP     P      23 14 53.1  0.0
      comp=Z,49nm,1.1s,mb5.2
SJPF  Ste Jean        84.53  46 eP     P      23 14 54.0 +0.6
      comp=Z,131nm,1.3s,mb5.6
EBEN  Beniarda        84.61  51 P      P      23 14 54.4 +0.5
      comp=Z,40nm,1.0s,mb5.5
EMOS  Mosqueruela     84.66  49 P      P      23 14 55.6 +1.5
      comp=Z,34nm,1.1s,mb5.4
ESAC  San Caprasio    84.87  48 P      P      23 14 56.1 +1.0
      comp=Z,18nm,0.5s,mb5.5
ETSF  Etsaut          84.98  47 eP     P      23 14 56.2 +0.6
      comp=Z,57nm,1.2s,mb5.3
EBR   Ebro Roquetas   85.46  49 eTs           23 15 07.0
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ESK	Eskdalemuir	85.50	34	PFAKE		23 15 10.0	+12
ESK				LR	LR		
	comp=Z,57nm,21.0s,MS3.9						
GRR	Gorron	85.65	41	eP	P	23 14 58.9	+0.1
	comp=Z,67nm,1.2s,mb5.5						
EPF	Esparros	85.66	47	eP	P	23 14 59.5	+0.6
MFF	Saint Martin d	85.84	43	eP	P	23 14 59.8	+0.1
	comp=Z,102nm,1.3s,mb5.6						
IMA	Indian Mountai	85.86	337	eP	P	23 14 59.0	-0.4
	comp=Z,39nm,1.1s,mb5.5						
IMA				epP	pP	23 15 09.4	-3.0
FLN	La Foliniere	85.96	41	eP	P	23 15 00.6	+0.4
	comp=Z,147nm,1.3s,mb5.8						
FLN				eR			
	comp=Z,307nm,21.2s						
EPOB	Poblet	85.97	48	P	P	23 15 01.0	+0.5
	comp=Z,2.4nm,0.9s,mb4.4						
LDF	La Druitiere	86.17	41	eP	P	23 15 01.5	+0.2
	comp=Z,178nm,1.3s,mb5.8						
LFF	La Frestale	86.21	45	eP	P	23 15 01.8	+0.2
EMIR	Miracle	86.37	48	P	P	23 15 03.7	+1.3
	comp=Z,6.8nm,0.9s,mb4.9						
RJF	Les Rejaudoux	86.81	44	eP	P	23 15 04.4	-0.1
	comp=Z,110nm,1.7s,mb5.5						
RJF				eR			
	comp=Z,209nm,19.8s						
DAG	Danmarks Havn	86.81	12	⇑iP	P	23 15 03.8	-0.1
	comp=Z,35nm,1.3s,mb5.4						
QSPA	South Pole Qui	87.02	180	eP	P	23 15 05.8	+1.0
	comp=Z,21nm,0.6s,mb5.5						
QSPA				LR	LR		
	comp=Z,427nm,20.0s,MS4.8						
MTLF	Montolieu	87.06	46	eP	P	23 15 05.2	-0.6
	comp=Z,11nm,0.8s,mb4.8						
CAF	Calviac	87.14	45	eP	P	23 15 05.9	-0.3
TCF	Toulx Ste Croi	87.41	44	eP	P	23 15 07.0	-0.4
HYF	Humbligny	87.82	43	eP	P	23 15 09.7	+0.3
BGF	Bois d'Agland	87.88	43	eP	P	23 15 09.4	-0.3
	comp=Z,58nm,1.2s,mb5.4						
AVF	Avril sur Loir	88.25	43	eP	P	23 15 10.8	-0.6
	comp=Z,36nm,1.4s,mb5.1						
LASF	Ste Croix	88.32	46	eP	P	23 15 11.9	+0.1
	comp=Z,24nm,1.2s,mb5.0						
SSF	Saint Saulge	88.39	43	eP	P	23 15 11.4	-0.7
	comp=Z,26nm,1.3s,mb5.0						
SMF	Signal de Mont	88.57	43	eP	P	23 15 12.4	-0.6
	comp=Z,34nm,1.4s,mb5.2						
LOR	Lormes	88.65	43	eP	P	23 15 12.8	-0.5
	comp=Z,30nm,1.3s,mb5.1						
LOR				eR			
	comp=Z,261nm,21.5s						
VIVF	Saint-Julien-l	88.98	45	eP	P	23 15 15.1	+0.2
	comp=Z,42nm,1.3s,mb5.3						
BAIF	Baives	89.16	40	eP	P	23 15 15.6	-0.1
	comp=Z,48nm,1.4s,mb5.3						
SMRF	Simiane la Rot	89.55	46	eP	P	23 15 17.9	+0.3
	comp=Z,51nm,1.3s,mb5.4						
GIVF	Givet	89.56	40	eP	P	23 15 17.9	+0.3
	comp=Z,117nm,1.3s,mb5.8						
MEZF	Maizieres J'vi	89.57	42	eP	P	23 15 17.4	-0.2
	comp=Z,95nm,1.4s,mb5.6						
ORIF	Oris-en-Rattie	89.84	45	eP	P	23 15 19.5	+0.5
	comp=Z,61nm,1.3s,mb5.5						
ORIF				eR			
	comp=Z,238nm,20.5s						
CABF	La Chapelle	90.11	44	eP	P	23 15 20.3	+0.1
	comp=Z,35nm,1.1s,mb5.3						
LMR	La Mourre	90.17	47	eP	P	23 15 20.3	-0.3
	comp=Z,52nm,1.4s,mb5.4						
FRF	La Foret Royal	90.29	47	eP	P	23 15 20.7	-0.4
	comp=Z,59nm,1.2s,mb5.5						
HGN	Heimansgroeve	90.32	39	eP	P	23 15 21.4	+0.2
	comp=Z,12nm,1.2s,mb5.1						
WLF	Walferdange	90.38	40	eP	P	23 15 22.2	+0.8
	comp=Z,41nm,1.2s,mb5.6						
WLF				epP	pP	23 15 31.8	-2.8
HAU	Haudompre	90.39	42	eP	P	23 15 21.2	-0.3
	comp=Z,28nm,1.2s,mb5.2						
HAU				eR			
	comp=Z,134nm,20.5s						
BNI	Bardonecchia	90.41	45	eP	P	23 15 22.5	+0.8
	comp=Z,20nm,1.2s,mb5.3						
MBDF	Montbardon	90.46	45	eP	P	23 15 22.2	+0.3
	comp=Z,32nm,1.2s,mb5.2						
RRL	Cesana Torines	90.48	45	P	P	23 15 22.7	+0.7
LPL	La Plagne	90.48	45	eP	P	23 15 22.6	+0.6
	comp=Z,26nm,1.1s,mb5.2						
LPG	La Plagne	90.49	45	eP	P	23 15 22.9	+0.9
	comp=Z,32nm,1.1s,mb5.2						
PZZ	Prazzo	90.68	46	P	P	23 15 23.8	+0.8
FENE	Fenestrelle	90.68	45	P	P	23 15 23.4	+0.5
HINF	Hinteralfeld	90.72	42	eP	P	23 15 22.8	-0.2
LSD	Ceresole Reale	90.78	45	P	P	23 15 24.5	+1.1
STV	Sta Anna Valdi	90.82	46	P	P	23 15 23.1	-0.5
STV2	Anna di Valdie	90.82	46	P	P	23 15 23.3	-0.3
RSP	Reno Superiore	90.83	45	P	P	23 15 23.9	+0.3
SBF	Sospel	90.88	46	eP	P	23 15 23.5	-0.4
	comp=Z,98nm,1.3s,mb5.7						
ENR	Entracque	90.89	46	P	P	23 15 24.9	+1.0
WTSB	Winterswijk	90.95	38	eP	P	23 15 24.2	+0.2
	comp=Z,12nm,1.3s,mb5.1						
WTSB				ex	x	23 15 37.2	
CDF	Champ du Feu	91.04	42	eP	P	23 15 24.5	0.0
	comp=Z,32nm,1.2s,mb5.2						
NEGI	Negi	91.07	46	P	P	23 15 25.1	+0.3
MONE	Monesi	91.12	46	P	P	23 15 25.0	0.0
TRAV		91.19	45	P	P	23 15 24.1	-1.2
IMI	Imperia	91.21	46	P	P	23 15 23.8	-1.6
ROB	Roburent	91.22	46	P	P	23 15 25.3	-0.2
RORO		91.35	46	P	P	23 15 26.6	+0.6
FIN	Finale Ligure	91.45	46	P	P	23 15 26.1	-0.5
TNA	Tin City	91.53	335	PFAKE		23 15 40.0	+14
TNA				LR	LR		
	comp=Z,135nm,19.0s,MS4.4						
SBA	Scott Base	91.65	191	eP	P	23 15 27.7	+0.9
	comp=Z,15nm,1.4s,mb5.1						
BFO	Black Forest	91.73	42	eP	P	23 15 27.5	-0.2
BFO				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.9						
BFO	Black Forest	91.73	42	eP	P	23 15 27.5	-0.2
	comp=Z,7.0nm,1.2s,mb4.9						
CODM		92.64	46	P	P	23 15 30.8	-1.2
VNDA	Vanda	92.74	191	P	P	23 15 32.7	+1.0
	comp=Z,1.5nm,0.6s,mb4.6,baz=122,slow=2.7,SNR=17						
VNDA				pP	pP	23 15 45.0	0.0
	comp=Z,1.5nm,0.8s,baz=237,slow=0.5,SNR=6.2						
VNDA				LR	LR	23 54 19.3	
	comp=Z,145nm,18.5s,MS4.5,baz=124,slow=34						
VNDA	Vanda	92.74	191	eP	P	23 15 32.8	+1.0
	comp=Z,2.5nm,0.9s,mb4.6						
VNDA				LR	LR		
	comp=Z,220nm,19.0s,MS4.6						
GRAM		92.80	46	P	P	23 15 30.4	-2.3
VINC	Vinca	92.85	46	P	P	23 15 31.8	-1.2
KONO	Kongsberg	92.86	31	e	S	23 27 01.9	+30
KONO				AMb	AMB	23 54 05.2	
	comp=Z,139nm,21.5s						
KONO	Kongsberg	92.86	31	PFAKE		23 15 40.0	+7.4
KONO				LR	LR		
	comp=Z,26nm,19.0s,MS3.7						
VALM		92.92	46	P	P	23 15 31.8	-1.6
MAIM		93.09	46	P	P	23 15 32.6	-1.5
BSEG	Bad Segeberg	93.16	36	eP	P	23 15 34.8	+0.7
BSEG				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.4						
CLZ	Clausthal	93.16	38	eP	P	23 15 35.4	+1.2
	comp=Z,34nm,1.3s,mb5.6						
KBS	Kingsbay	93.52	11	eP	P	23 15 35.4	+0.1
KBS				eS	S	23 26 39.3	+1.9
KBS				AMS	AMS	23 55 22.3	
	comp=Z,232nm,20.6s,MS4.6						
NOA	NORSAR Array B	93.67	29	P	P	23 15 36.6	+0.4
	comp=Z,1.8nm,1.0s,mb4.5,baz=270,slow=4.4,SNR=2.7						
GRA1	Grafenberg Arr	93.67	41	eP	P	23 15 37.7	+1.1
	comp=Z,43nm,1.5s,mb5.7						
GRF	Grafenberg Arr	93.67	41	eP	P	23 15 37.7	+1.1
GRF				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.7						
FUR	Furstenfeldbru	93.70	42	eP	P	23 15 37.6	+0.9
FUR				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.6						
FUR	Furstenfeldbru	93.70	42	eP	P	23 15 37.6	+0.9
	comp=Z,44nm,1.8s,mb5.6						
MOX	Moxa	93.93	40	i P	P	23 15 38.5	+0.8
	comp=Z,logA/T=1.3,mb5.5						
MOX				pP	pP	23 15 50.0	-0.9
MOX				L		23 57 02.0	
MOX	Moxa	93.93	40	eP	P	23 15 38.5	+0.8
MOX				e	pP	23 15 50.4	-0.5
MOX				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.5						
MOX				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.3						
MOX	Moxa	93.93	40	eP	P	23 15 38.5	+0.8
	comp=Z,30nm,1.4s,mb5.5						
MOX				e	pP	23 15 50.4	-0.5
MOX				LR	LR		
	comp=Z,100nm,18.0s,MS4.3						
NKC	Novy Kostel	94.46	40	⇓eP	P	23 15 41.0	+0.9
NKC				eAP	pP	23 15 52.5	-0.8
WET	Wettzell	94.76	41	eP	P	23 15 41.8	+0.3
WET				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.5						
WET	Wettzell	94.76	41	eP	P	23 15 41.8	+0.3
	comp=Z,30nm,1.5s,mb5.5						
CLL	Collm	94.80	39	⇓P	P	23 15 42.3	+0.7
	comp=Z,logA/T=1.4,mb5.6						
CLL				i *PP	pP	23 15 53.9	-0.9
CLL	Collm	94.80	39	⇓iP	P	23 15 42.3	+0.7
CLL				i *PP	pP	23 15 53.9	-0.9
CLL				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.6						
CLL	Collm	94.80	39	⇓iP	P	23 15 42.3	+0.7
	comp=Z,28nm,1.2s,mb5.6						
CLL				i pP	pP	23 15 53.9	-0.9
KHC	Kasperske Hory	95.22	41	⇓iP	P	23 15 43.7	+0.1
KHC				eAP	pP	23 15 58.1	+1.3
GEC2	GERESS Array S	95.30	41	eP	P	23 15 44.6	+0.6
GEC2				pmax	pmax		
	comp=Z,16nm,2.0s,mb5.1						
GEC2	GERESS Array S	95.30	41	eP	P	23 15 44.6	+0.6
	comp=Z,16nm,2.0s,mb5.1						
GERES	GERESS Array B	95.30	41	P	P	23 15 44.3	+0.2
	comp=Z,1.0nm,0.8s,mb4.3,baz=270,slow=4.0,SNR=9.7						
GERES				pP	pP	23 15 56.4	-0.8
	comp=Z,0.9nm,0.8s,baz=243,slow=3.0,SNR=5.1						
CADS	Cadrg	95.39	44	⇓iP	P	23 15 44.7	+0.2
BRG	Berggiesshubel	95.40	39	eP	P	23 15 55.0	+11
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
BRG	Berggiesshubel	95.40	39	P	P	23 15 55.0	+11
BRG				e		23 26 36.0	
JAVS	Javornik	95.62	44	⇓iP	P	23 15 46.0	+0.5
PVCC	Panska Ves	95.81	40	⇓eP	P	23 15 47.7	+1.4
PRU	Pruhonice	95.82	40	⇓iP	P	23 15 46.9	+0.6
	comp=Z,20nm,1.5s,mb5.3						
PRU				AP	pP	23 15 58.1	-1.4
PRU	Pruhonice	95.82	40	⇓iP	P	23 15 46.9	+0.6
PRU				*PP	pP	23 15 58.1	-1.4
PRU				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.3						
CEY	Cerknica	95.88	45	⇓iP	P	23 15 47.0	+0.3
KSP	Ksiaz	96.89	39	eP	P	23 15 51.8	+0.6
KSP				e*PP	pP	23 16 04.2	-0.2
DPC	Dobruska-Polom	96.94	40	⇓iP	P	23 15 52.5	+1.1
DPC				eAP	pP	23 16 04.3	-0.3
TSUM	Tsumeb	96.98	110	PFAKE		23 16 00.0	+7.6
TSUM				LR	LR		
	comp=Z,820nm,20.0s,MS5.2						
MIDW	Midway	97.15	298	PFAKE		23 16 00.0	+7.1
MIDW				LR	LR		
	comp=Z,550nm,19.0s,MS5.1						
SYO	Syowa Base	97.65	162	⇓P	P	23 15 54.4	+0.2
SYO	Syowa Base	97.65	162	⇑pP	pP	23 16 09.3	+1.9
MORC	Moravsky Berou	97.77	40	eP	P	23 15 55.4	+0.2
	comp=Z,5.1nm,1.1s,mb5.0						
OKC	Ostrava-Krasne	98.15	40	⇓eP	P	23 15 58.4	+1.5
OKC				eAP	pP	23 16 08.9	-1.2
ARCES	ARCESS Array B	98.55	20	LR	LR	23 57 14.6	
	comp=Z,107nm,21.0s,MS4.3,baz=180,slow=33						
MAW	Mawson	105.05	166	PFAKE		23 20 50.0	
MAW				LR	LR		
	comp=Z,245nm,20.0s,MS4.7						
LSZ	Lusaka	107.52	107	PFAKE		23 21 00.0	
LSZ				LR	LR		
	comp=Z,640nm,21.0s,MS5.2						
OBN	Obninsk	107.93	32	PFAKE		23 21 00.0	
OBN				LR	LR		
	comp=Z,42nm,21.0s,MS4.0						
TIXI	Tiksi	108.96	350	PFAKE		23 21 00.0	
TIXI				LR	LR		
	comp=Z,148nm,20.0s,MS4.5						
PET	Petropavlovsk	110.37	326	PFAKE		23 21 00.0	+9.4
PET				LR	LR		
	comp=Z,164nm,19.0s,MS4.6						
MA2	Magadan	111.16	335	PFAKE		23 21 10.0	+18
MA2				LR	LR		
	comp=Z,97nm,19.0s,MS4.4						
MBAR	Mbarara	111.55	92	PFAKE		23 21 10.0	+16
MBAR				LR	LR		
	comp=Z,185nm,19.0s,MS4.7						
YAK	Yakutsk	116.88	344	PFAKE		23 21 20.0	+17
YAK				LR	LR		
	comp=Z,215nm,19.0s,MS4.8						
KMBO	Kilima Mbogo	118.02	93	PFAKE		23 21 20.0	+14
KMBO				LR	LR		
	comp=Z,916nm,20.0s,MS5.4						
YSS	Yuzh-Sakhalins	122.25	326	PFAKE		23 21 30.0	+16
YSS				LR	LR		
	comp=Z,146nm,19.0s,MS4.7						
BOD	Bodaibo	124.14	350	ePKIKP	PKPdf	23 21 19.9	+2.6
ZRNK	Zerenda	124.39	22	ePKPdf	PKPdf	23 21 18.7	+0.8
ZRNK				epPKPdf		23 21 29.8	
BRVK	Borovoye	124.77	21	PFAKE		23 21 30.0	+11
BRVK				LR	LR		
	comp=Z,53nm,19.0s,MS4.2						
BVAR	Borovoye Array	124.83	21	PKP	PKPdf	23 21 19.0	+0.2
	comp=Z,1.1nm,0.6s,baz=270,slow=1.5,SNR=9.5						
BVAR				pPKP		23 21 32.2	
	comp=Z,1.0nm,0.8s,baz=90,slow=3.0,SNR=12						
NVS	Novosibirsk	126.78	11	i PKIKP	PKPdf	23 21 22.2	-0.3
NVS				i		23 21 31.9	
NVS				pmax	pmax		
	comp=Z,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,14nm,2.1s						
STKA	Stephens Creek	126.78	226	PKP	PKPdf	23 21 22.6	-0.6
	comp=E,4.2nm,1.0s,baz=230,slow=1.9,SNR=3.3						
KURK	Kurchatov	129.46	17	ePKPdf	PKPdf	23 21 28.9	+1.2
KURK				epPKPdf		23 21 40.7	
KURK				LR	LR		
	comp=Z,44nm,20.0s,MS4.2						
PMG	Port Moresby	130.56	255	PFAKE		23 21 40.0	+9.2
PMG				LR	LR		
	comp=Z,209nm,19.0s,MS4.8						
MDJ	Mudanjiang	130.67	331	PFAKE		23 21 40.0	+10
MDJ				LR	LR		
	comp=Z,295nm,20.0s,MS5.0						
HIA	Hailar	130.71	342	PFAKE		23 21 40.0	+10
HIA				LR	LR		
	comp=Z,370nm,21.0s,MS5.1						
ZAK	Zakamensk	132.71	356	ePKIKP	PKPdf	23 21 33.2	-0.7
CN2	Changchun	133.20	334	ePKP	PKPdf	23 21 36.7	+1.7
CN2				PP	PP	23 24 05.4	-0.5
CN2				LR	LR		
	comp=Z,800nm,22.0s,MS5.4						
MKAR	Makanchi Array	134.04	16	PKP	PKPdf	23 21 37.0	+0.4
	comp=Z,2.2nm,0.6s,baz=8.9,slow=3.4,SNR=17						
MKAR				pPKP		23 21 49.2	
	comp=Z,2.6nm,0.7s,baz=12,slow=3.2,SNR=10						
MKAR	Makanchi Array	134.04	16	PKP	PKPdf	23 21 37.0	+0.4
MKAR				pPKP		23 21 49.2	
SONM	Songino Array	134.95	353	PKP	PKPdf	23 21 39.4	+1.3
	comp=Z,2.0nm,0.6s,baz=330,slow=1.5,SNR=17						
SONM				pPKP		23 21 51.3	
	comp=Z,3.6nm,0.7s,baz=338,slow=1.1,SNR=12						
SONM				PP	PP	23 24 14.0	-3.0
	comp=Z,1.9nm,1.1s,slow=4.9,SNR=6.4						
ASAR	Alice Springs	136.96	230	PKhKP		23 21 34.8	
	comp=Z,0.7nm,0.5s,baz=122,slow=2.9,SNR=11						
ASAR				PKP	PKPdf	23 21 43.4	+0.9
	comp=Z,2.5nm,0.8s,baz=136,slow=2.5,SNR=14						
ASAR				pPKP		23 21 55.4	
	comp=Z,2.5nm,0.7s,baz=121,slow=2.1,SNR=7.5						
WMQ	Urumqi	138.16	12	PKP	PKPdf	23 21 44.7	+0.6
WMQ				XPKP		23 22 02.7	
WMQ				PP	PP	23 24 38.2	+0.8
WMQ				PKS	PKS	23 25 19.7	+0.5
WMQ				SKS	SKS	23 28 50.2	+1.9
WMQ				LR	LR		
	comp=N,101nm,20.4s,MS4.6						
WMQ				LR	LR		
	comp=E,54nm,19.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,133nm,21.2s,MS4.7						
WRAB	Tennant Creek	138.55	235	ePKPdf	PKPdf	23 21 46.4	+0.9
WRA	Warramunga Arr	138.55	235	PKhKP		23 21 38.1	
	comp=Z,3.3nm,0.7s,baz=123,slow=1.9,SNR=6.0						
WRA				PKP	PKPdf	23 21 46.2	+0.7
	comp=Z,3.3nm,0.7s,baz=114,slow=2.1,SNR=19						
WRA				pPKP		23 21 59.2	
	comp=Z,2.4nm,0.7s,baz=117,slow=1.6,SNR=5.9						
BJT	Baijiatuau	140.09	339	PFAKE		23 22 00.0	+12
BJT				LR	LR		
	comp=Z,412nm,20.0s,MS5.2						
HHC	Hu-ho-hao-te	140.74	345	ePKP	PKPdf	23 21 49.0	+0.1
HHC				LR	LR		
	comp=N,130nm,21.4s						
HHC				LR	LR		
	comp=E,248nm,41.6s						
HHC				LR	LR		
	comp=Z,109nm,23.0s,MS4.5						
GTA	Gaotai	143.81	359	ePKP	PKPdf	23 21 53.1	-1.1
SDNR	Sundarnagar	144.84	34	eP	PKPdf	23 21 55.6	-0.7
KLP	Kalpa	145.52	33	eP	PKPdf	23 21 58.1	+0.7
NJ2	Nanjing	145.71	329	ePKP	PKPdf	23 21 59.0	+1.2
NJ2				APKP		23 22 10.4	
NJ2				XPKP		23 22 15.1	
NJ2				PP	PP	23 25 21.0	-2.0
NJ2				PKS	PKS	23 25 35.0	+2.8
NJ2				SKS	SKS	23 29 03.0	+2.6
KKR	Kurukshetra	145.90	36	eP	PKPdf	23 21 59.0	+0.9
RTK	Rohtak	146.33	38	eP	PKPdf	23 22 00.4	+1.5
DDI	Dehra Dun	146.34	34	eP	PKPdf	23 22 01.5	+2.6
FITZ	Fitzroy Crossi	146.46	230	PKPbc	PKPbc	23 22 00.6	-0.1
	comp=Z,27nm,1.1s,baz=164,slow=2.7,SNR=30						
FITZ				pPKPbc		23 22 14.8	
	comp=Z,18nm,1.1s,baz=219,slow=1.9,SNR=6.0						
KHET	Khetri	146.63	39	eP	PKPdf	23 21 58.7	-0.7
LZH	Lanzhou	146.84	353	⇓PKP	PKPdf	23 22 02.5	+2.9
LZH				APKP		23 22 16.2	
LZH				XPKP		23 22 20.1	
LZH				ePP	PP	23 25 31.5	+1.8
LZH				SKKS		23 32 16.6	
LZH				SS	SS	23 44 26.7	+3.6
LZH				PP	PP		
	comp=Z,121nm,7.2s						
LZH				LR	LR		
	comp=E,145nm,18.1s						
LZH				LR	LR		
	comp=Z,253nm,20.0s,MS5.0						
LZH	Lanzhou	146.84	353	⇓PKP	PKPdf	23 22 02.5	+2.9
LZH				PKP	PKPdf	23 22 07.2	+7.6
LZH				pPKP		23 22 16.2	
LZH				sPKP		23 22 20.1	
LZH				ePP	PP	23 25 31.5	+1.8
LZH				SKKS		23 32 16.6	
LZH				SS	SS	23 44 26.7	+3.6
LZH				LR	LR		
	comp=Z,250nm,20.0s,MS5.0						
BHGR	Bahadurgarh	146.90	37	eP	PKPdf	23 22 00.6	+0.7
JOSI	Joshimath	146.98	32	eP	PKPdf	23 22 02.1	+2.1
KUDL	Kundal	147.01	39	eP	PKPdf	23 22 01.5	+1.4
KUDL				i		23 22 15.3	
AYAN	Aya Nagar	147.16	37	eP	PKPdf	23 22 02.0	+1.7
SONA	Sohna	147.30	38	eP	PKPdf	23 22 01.5	+0.9
XAN	Xi'an	147.85	345	PKP	PKPdf	23 22 02.2	+0.9
XAN				APKP		23 22 15.0	
PTH	Pithoragarh	148.12	32	eP	PKPdf	23 22 03.9	+2.1
LGTI	Lohaghat	148.22	32	⇑e	PKPdf	23 22 07.3	+5.3
WHN	Wuhan	149.10	334	ePKP	PKPdf	23 22 07.2	+3.8
ENH	Enshi	151.21	341	ePKPbc	PKPdf	23 22 13.2	+6.5
ENH				epPKPbc		23 22 24.5	
ENH				LR	LR		
	comp=Z,358nm,21.0s,MS5.2						
KOLN	Koldanda	151.30	30	eP	PKPdf	23 22 08.2	+1.4
	comp=Z,70nm,1.0s						
GKN	Gorkha	151.60	28	eP	PKPdf	23 22 08.2	+0.9
	comp=Z,111nm,0.8s						
CD2	Chengdu	151.95	352	PKP	PKPdf	23 22 15.8	+8.1
KKN	Kakani	152.08	27	eP	PKPdf	23 22 09.0	+1.0
	comp=Z,50nm,0.8s						
DMN	Daman	152.15	27	eP	PKPdf	23 22 09.9	+1.8
	comp=Z,87nm,1.2s						
PKI	Pulchoki	152.32	27	eP	PKPdf	23 22 08.5	+0.1
	comp=Z,41nm,0.8s						
LSA	Lhasa	152.44	15	ePKP	PKPdf	23 22 09.2	+0.7
LSA	Lhasa	152.44	15	ePKPdf	PKPdf	23 22 08.8	+0.3
LSA				ePKPbc	PKPdf	23 22 17.2	+8.8
LSA				LR	LR		
	comp=Z,231nm,20.0s,MS5.0						
SHL	Shillong	156.56	17	e	PKPdf	23 22 21.5	+7.4
QIZ	Qiongzhong	160.97	327	PFAKE		23 22 30.0	+11
QIZ				LR	LR		
	comp=Z,355nm,19.0s						
CMAR	Chiang Mai Arr	164.69	1	PKP	PKPdf	23 22 24.7	+1.5
	comp=Z,4.8nm,1.1s,baz=287,slow=2.0,SNR=16						
CMAR				pPKP		23 22 37.6	
	comp=Z,3.2nm,1.0s,baz=292,slow=1.6,SNR=6.3						
CMAR				PKPab	PKPab	23 23 19.1	-1.9
	comp=Z,5.0nm,1.0s,baz=344,slow=5.3,SNR=11						
CMAR				PP	PP	23 27 04.0	-4.6
	comp=Z,1.4nm,0.9s,baz=350,slow=8.4,SNR=6.7						

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*HEL **11** 23:21:31.4±0.1, 67.85N×20.10E, ML1.8, ML2.3(UPP), ML1.8(BER), Explosion*

*BER **11** 23:21:31.7±3.9, 67.82N×20.29E, ML1.8, Suspected explosion*

ISC 11 23:21:30.4±0.6**, 67.84N**±0.03×**20.14E**±0.09**, n15, σ0.68/21, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	32	i P	Pg	23 21 33.7	+0.5
KUA				i S	Sg	23 21 35.5	+0.3
NIKU	Nikkaluokta	0.42	275	i P	Pg	23 21 38.7	-0.1
DUNU	Dundret	0.74	167	i P	Pg	23 21 45.0	-0.2
MASU	Masugnsbyn	0.81	117	i P	Pg	23 21 46.0	-0.5
KIF	Kilpisjarvi	1.20	12	eP	Pb	23 21 53.6	-0.2
KIF				eS	Sb	23 22 09.8	+0.2
PAJU	Pajala	1.41	124	eP	Pb	23 21 56.6	-0.7
ERTU	Ertsjaerv	1.52	147	eP	Pn	23 21 58.7	-0.2
KTK1	Kautokeino	1.65	43	eP	Pn	23 22 00.6	-0.2
KTK1				eSG	Sg	23 22 22.3	-3.0
KTK1				AML	AML	23 22 26.2	
	comp=Z,14nm,0.3s						
TRO	Tromso	1.86	347	eP	Pn	23 22 03.5	-0.3
TRO				eSN	Sn	23 22 28.5	+0.2
TRO				AML	AML	23 22 31.2	
	comp=Z,14nm,0.4s						
SGF	Sodankyl	2.48	96	eP	Pn	23 22 14.2	+1.6
SGF				eS	Sn	23 22 44.7	+0.7
SGF				MSG		23 22 50.1	
	comp=Z,2.5nm,0.2s						
LOF	Lofoten	2.50	280	e	Sg	23 22 53.9	+0.1
LOF				AML	AML	23 22 55.2	
	comp=Z,9.2nm,0.4s						
LOF	Lofoten	2.50	280	eSg	Sg	23 22 53.9	+0.1
LOF				AML	AML	23 22 55.2	
	comp=Z,9.2nm,0.4s						
MOR8	Moi Rana	2.79	236	eSG	Sg	23 22 54.5	-8.9
MOR8				AML	AML	23 22 55.8	
	comp=Z,13nm,0.3s						
KEV	Kevo	3.15	49	eP	Pn	23 22 22.8	+0.5
KEV				eS	Sn	23 23 00.9	-0.4
KEV				MSG		23 23 09.2	
	comp=Z,2.5nm,0.2s						
NSS	Namsos	4.69	229	eSG	Sg	23 23 57.3	-9.1
NSS				AML	AML	23 23 59.5	
	comp=Z,6.0nm,0.4s						

ISK 11 23:36:06.0, 38.45N×39.15E, h5km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MYA	Malataya	0.58	258	i PG	Pg	23 36 18.2	+0.5
MALT	Malatya	0.59	256	i PG	Pg	23 36 17.4	-0.3
MALT				i SG	Sg	23 36 26.4	+0.8
DIY	Diyarbakir	1.01	123	i PG	Pg	23 36 25.8	-0.5
DIY				i SG	Sg	23 36 40.4	+0.6
BINT	Bingol	1.13	68	PN	Pn	23 36 27.9	-0.5
EZC	Erzincan	1.39	22	PN	Pn	23 36 31.8	-0.4
BTMT	Batman	1.86	97	PN	Pn	23 36 38.3	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRT	Varto	1.98	69	ePN	Pn	23 36 40.4	-0.1
GAZ	Gaziantep	2.00	231	ePN	Pn	23 36 42.2	+1.4
EZM	Erzurum	2.25	49	PN	Pn	23 36 44.5	+0.1

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*THE **11** 23:55:17.9, 37.97N×20.44E, h5^{km}, ML3.0*
*NEIC **11** 23:55:17.5, 38.02N×20.58E, h6^{km}, MD3.3(ATH), ML3.0(THE), After ATH.*
*ATH **11** 23:55:17.5, 38.02N×20.58E, h6^{km}±2^{km}, MD3.3/5*
ISC 11 23:55:16.8±1.5, 37.96N±0.08×20.5E±0.1, h6^{km}, n9, σ0^{s}88/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	16	ePG	Pg	23 55 20.9	-0.6
ITM	Ithomi	1.37	124	ePB	Pb	23 55 43.0	+0.6
EVR	Evrytania	1.40	46	ePB	Pb	23 55 42.1	-0.9
IGT	Igoumenitsa	1.58	355	ePb	Pb	23 55 45.0	-1.1
IGT				eSb	Sb	23 56 07.3	+1.1
JAN	Janina	1.72	9	ePB	Pb	23 55 48.5	0.0
AGG	Agios Georgios	1.78	53	ePb	Pb	23 55 49.5	0.0
	comp=Z,1.9nm,0.1s						
AGG				eSb	Sb	23 56 13.0	+0.9
KEK	Kerkira	1.84	343	ePN	Pn	23 55 51.0	+1.7
MEV	Metsovon	1.91	17	ePb	Pb	23 55 50.9	-0.8
	comp=Z,3.2nm,0.6s						
FNA	Florina	2.90	13	ePn	Pn	23 56 03.8	-0.7

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*NEIC **11** 23:59:14.0, 31.07S×71.32W, h56^{km}, MD3.5(GUC), After GUC.*
GUC 11 23:59:14.0±0.9, 31.07S×71.32W, h56^{km}±8^{km}, MD3.5, ML3.2, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	0.29	111	⇓iP	P	23 59 24.3	+0.6
CMCH				i S	S	23 59 31.8	+1.1
CMCH				AMP		23 59 32.6	
	comp=N,8μm,0.1s						
ILCH	Illapel	0.58	167	⇓iP	P	23 59 26.8	+0.2
ILCH				i S	S	23 59 36.1	+0.2
ILCH				AMP		23 59 37.3	
	comp=E,2μm,0.2s						
TLL	Tololo Astrono	1.00	27	⇑iP	P	23 59 32.9	+0.8
TLL				i S	S	23 59 46.9	+1.3
TLL				AMP		23 59 49.7	
	comp=N,1μm,0.4s						
LSCH	La Serena	1.16	3	i P	P	23 59 34.5	+0.2
LSCH				i S	S	23 59 49.6	+0.3
LSCH				AMP		23 59 54.9	
	comp=N,412nm,0.4s						
PTCH	Petorca	1.24	164	⇑iP	P	23 59 35.8	+0.4
PTCH				i S	S	23 59 51.4	+0.1
PTCH				AMP		23 59 55.6	
	comp=E,2μm,0.1s						
FCH	Farellones	2.42	159	eP	P	23 59 54.0	+2.0
FCH				i S	S	00 00 23.2	+2.7
FCH				AMP		00 00 34.3	
	comp=E,98nm,0.2s						

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*PRU **12** 00:47:22.3, 51.49N×16.16E*
*NEIC **12** 00:47:24.6±0.9, 51.28N×16.00E, h5^{km}, ML2.5(SZGRF), Error ellipse: s-maj=10.4km s-min=8.0km az=206.0*
*WAR **12** 00:47:25.9, 51.51N×16.13E, ML2.7, Mining Induced*
ISC 12 00:47:21.4±0.5, 51.41N±0.03×16.09E±0.03, n17, σ1^{s}34/40, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	167	i Pg	Pg	00 47 34.9	+1.9
KSP				eSg	Sg	00 47 43.5	+2.9
DPC	Dobruska-Polom	1.07	172	ePG	Pg	00 47 43.6	+0.9
DPC				eSG	Sg	00 47 59.2	+2.3
	9.4nm,0.2s						
PVCC	Panska Ves	1.30	228	ePG	Pg	00 47 47.8	+0.4
BRG	Berggiesshubel	1.45	249	i Pn	Pn	00 47 50.5	+1.5
BRG				i Pg	Pg	00 47 50.9	+0.5
BRG				i Sg	Sg	00 48 11.4	+1.6
PRU	Pruhonice	1.73	215	ePN	Pn	00 47 53.5	+0.6
PRU				PG	Pg	00 47 55.3	-0.6
PRU				e		00 48 12.4	
PRU				SG	Sg	00 48 20.1	+1.2
	23nm,0.4s						
MORC	Moravsky Berou	1.88	150	ePn	Pn	00 47 55.4	+0.4
CLL	Collm	1.94	268	i PN	Pn	00 47 54.9	-1.0
CLL				ePG	Pg	00 47 58.0	-2.1
CLL				e		00 48 01.0	
CLL				eSG	Sg	00 48 25.0	-0.9
CLL	Collm	1.94	268	i Pn	Pn	00 47 54.9	-1.0
CLL				ePg	Pg	00 47 58.0	-2.1
CLL				eSg	Sg	00 48 25.0	-0.9
GKP	Gorka Klasztor	2.00	20	ePn	Pn	00 48 02.5	+5.7
GKP				ePg	Pg	00 48 05.3	+4.0
GKP				eSn	Sn	00 48 23.9	+1.1
GKP				eSg	Sg	00 48 28.2	+0.3
OKC	Ostrava-Krasne	2.04	139	ePG	Pg	00 48 01.0	-1.3
OKC				eSG	Sg	00 48 28.2	-1.3
NKC	Novy Kostel	2.59	244	ePN	Pn	00 48 05.7	+0.4
NKC				eSG	Sg	00 48 47.7	+0.1
OJC	Ojcow	2.64	115	ePG	Pg	00 48 13.0	-1.0
OJC				eSG	Sg	00 48 48.0	-1.2
KHC	Kasperske Hory	2.79	216	ePN	Pn	00 48 08.8	+0.7
KHC				ePG	Pg	00 48 14.3	-2.8
KHC				eSN	Sn	00 48 44.9	+1.9
KHC				eSG	Sg	00 48 53.1	-1.2
MOX	Moxa	2.92	257	Pn	Pn	00 48 10.4	+0.3
MOX				i Pg	Pg	00 48 18.1	-1.7
MOX				i Sg	Sg	00 48 58.1	-0.7
GEC2	GERESS Array S	2.99	212	ePg	Pg	00 48 19.8	-1.3
GEC2				eSg	Sg	00 49 00.2	-0.7
ARSA	Arzberg	4.17	185	i SG	Sg	00 49 37.6	-2.8
	2.2nm,0.4s						
ARSA	Arzberg	4.17	185	i P	Pn	00 48 30.9	+3.1
ARSA				i Sg	Sg	00 49 37.6	-2.8

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*IDC **12** 01:03:36.5±1.4, 51.71N×166.81W, mb3.4/5, mb1 3.8/7, mb1mx3.6/25, ML3.3/2, Error ellipse: s-maj=40.6km s-min=17.6km az=4.0*
*NEIC **12** 01:03:40.8, 51.80N×166.43W, h31^{km}, ML3.2(AEIC), After AEIC.*
ISC 12 01:03:37.6±1.3, 51.80N±0.05×166.55W±0.06, h13^{km}±11^{km}, n32, σ0^{s}79/43, mb3.3/5, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	Nikolski	1.83	311	P	Pn	01 04 09.6	+0.5
NIKO				S	Sn	01 04 32.4	+0.1
OKER	East Rim	1.89	332	P	Pn	01 04 11.0	+1.1
OKER				S	Sn	01 04 34.9	+1.2
MGOD	Makushin Gods	2.00	355	P	Pn	01 04 12.8	+1.3
UNV	Unalaska Valle	2.05	1	P	Pn	01 04 11.8	-0.4
UNV				S	Sn	01 04 36.9	-0.8
MNAT	Makushin Natee	2.09	358	P	Pn	01 04 13.2	+0.4
MNAT				S	Sn	01 04 37.9	-0.8
MSW	Makushin Switc	2.12	356	P	Pn	01 04 13.2	0.0
MSW				S	Sn	01 04 39.5	0.0
MCIR	Makushin Cirqu	2.16	355	P	Pn	01 04 14.4	+0.6
MCIR				S	Sn	01 04 41.8	+1.2
MTBL	Makushin Table	2.17	358	P	Pn	01 04 14.3	+0.4
MTBL				S	Sn	01 04 41.5	+0.6
LVA	Lava Point	2.38	7	P	Pn	01 04 17.3	+0.3
AKLV	Akutan Long Va	2.39	8	P	Pn	01 04 16.3	-0.8
AKLV				S	Sn	01 04 45.0	-1.5
AKGG	Akutan Green G	2.42	8	P	Pn	01 04 18.2	+0.6
AKGG				S	Sn	01 04 47.1	-0.2
WFAR	Faris Peak	2.94	21	P	Pn	01 04 25.1	+0.2
WPOG	Pogromni	3.00	21	P	Pn	01 04 25.9	+0.1
WPOG				S	Sn	01 05 00.9	-1.1
WESN	West Dahl Nort	3.01	22	P	Pn	01 04 25.9	0.0
DRIA	Deer Island	4.08	37	P	Pn	01 04 40.0	-1.1
DTNA	Dutton South F	4.22	36	P	Pn	01 04 42.4	-0.8
HAG	Hague Volcano	4.48	36	P	Pn	01 04 46.7	-0.1
BLHA	Black Hill	4.73	32	P	Pn	01 04 49.8	-0.6
ATKA	Atka Island	4.74	278	P	Pn	01 04 49.7	-0.8
SPIA	Saint Paul Isl	5.80	340	P	Pn	01 05 05.7	+0.3
GSMY	Great Sitkin M	5.89	276	P	Pn	01 05 06.2	-0.5
GSTD	Great Sitkin T	5.94	276	P	Pn	01 05 07.0	-0.4
KIKV	Kanaga Island	6.58	275	P	Pn	01 05 15.9	-0.6
KIMD	Kanaga Island	6.63	274	P	Pn	01 05 16.0	-1.1
FX1	Attu Island--F	12.45	283	Pn	P	01 06 37.1	-0.1
	0.5nm,0.3s,baz=244,slow=23,SNR=3.6						
FX1				Sn	S	01 08 40.5	-16
	0.3nm,0.3s,baz=235,slow=13,SNR=2.8						
SML	Sawmill	14.09	38	P	P	01 06 57.5	-1.2
ILAR	Eielson Array	16.50	31	Pn	P	01 07 31.4	+1.4
	0.1nm,0.3s,baz=219,slow=13,SNR=3.0						
DLBC	Dease Lake	21.70	58	P	P	01 08 33.9	+4.0
	0.7nm,0.5s,mb3.4,baz=176,slow=9.1,SNR=3.7						
INK	Inuvik	22.90	31	P	P	01 08 42.5	+1.0
	2.0nm,0.9s,mb3.6,baz=246,slow=10.0,SNR=3.0						
NVAR	Mina Array Bea	35.91	93	P	P	01 10 40.5	+1.3
	0.3nm,0.8s,mb3.3,baz=312,slow=11,SNR=2.7						
PDAR	Pinedale Array	38.80	80	P	P	01 11 04.4	+1.0
	0.3nm,0.6s,mb3.2,baz=315,slow=6.3,SNR=4.3						
TXAR	Lajitas Array	51.01	91	P	P	01 12 40.5	-0.5
	0.2nm,0.5s,mb3.3,baz=299,slow=4.4,SNR=5.6						

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*IDC **12** 01:09:07.7±2.2, 32.61S×67.36W, mb1 3.9/3, mb1mx3.6/15, ML4.1/3, Error ellipse: s-maj=49.8km s-min=33.3km az=131.0*
*GUC **12** 01:09:30.2±0.9, 31.86S×67.66W, h105^{km}±114^{km}, ML3.8*
ISC 12 01:09:28.6±1.5, 31.81S±0.08×67.7W±0.1, h150^{km}, n10, σ0^{s}95/13, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	2.65	234	⇑iP	P	01 10 13.5	+1.4
FCH				i S	S	01 10 45.0	-0.4
FCH				AMP		01 10 53.2	
	comp=E,144nm,0.8s						
CLCH	Cerro Calan	2.85	236	i P	P	01 10 15.2	+0.4
CLCH				i S	S	01 10 49.1	-1.0
CLCH				AMP		01 10 57.9	
	comp=E,332nm,0.7s						
CMCH	Combarbala	2.87	282	⇓iP	P	01 10 15.7	+0.8
CMCH				i S	S	01 10 50.7	+0.3
CMCH				AMP		01 11 29.6	
	comp=N,666nm,0.5s						
RCDM	Rinconada Maip	3.09	236	AMP		01 11 01.8	
	comp=E,155nm,0.1s						
CHCH	Chadas Angostu	3.25	229	i P	P	01 10 19.9	0.0
CHCH				i S	S	01 10 58.5	-0.7
CICH	Cipreses	3.38	221	i P	P	01 10 21.9	+0.4
LVC	Limon Verde	9.22	353	Pn	P	01 11 33.2	-5.9
	comp=E,0.8nm,0.3s,baz=160,slow=11,SNR=8.7						
LVC				Sn	S	01 13 11.9	-9.4
	comp=E,0.4nm,0.3s,baz=92,slow=0.4,SNR=3.2						
CPUP	Villa Florida	10.60	62	Pn	P	01 11 43.2	-14
	comp=E,0.2nm,0.3s,baz=252,slow=15,SNR=5.4						
CPUP				Lg		01 14 48.4	
	comp=E,0.4nm,0.3s,baz=196,slow=18,SNR=2.8						
LPAZ	La Paz	15.46	359	Pn	P	01 12 58.7	-1.0
	comp=E,0.3nm,0.3s,baz=180,slow=8.1,SNR=5.4						
WRA	Warramunga Arr	124.37	205	PKP	PKPdf	01 28 07.8	-2.3
	comp=E,0.2nm,0.4s,baz=168,slow=1.7,SNR=4.8						

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*IDC **12** 01:11:28.9±2.3, 34.54N×26.15E, h62^{km}±14^{km}, mb3.8/8, mb1 3.7/14, mb1mx3.6/25, Error ellipse: s-maj=31.2km s-min=13.0km az=6.0*
*NEIC **12** 01:11:28.7, 34.83N×26.07E, h30^{km}, mb4.0/7, MD3.6(ATH), After ATH.*
*ATH **12** 01:11:28.7, 34.83N×26.07E, h30^{km}±12^{km}, MD3.6/6*
ISC 12 01:11:23.4±0.7, 34.37N±0.08×26.21E±0.04, h30^{km}, n49, σ1^{s}65/55, mb4.0/13, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.66	320	⇓iPB	Pb	01 11 36.4	0.0
KARP	Karpathos	1.41	33	ePN	Pn	01 11 51.0	+3.6
IDI	Anoyia	1.42	310	P	Pn	01 11 49.5	+1.9
	8.7nm,0.3s,baz=136,slow=8.7,SNR=78						
IDI				S	Sn	01 12 07.6	+2.2
	9.6nm,0.3s,baz=88,slow=13,SNR=7.8						
GVD	Gavdhos	1.81	285	ePn	Pn	01 11 54.6	+1.4
VAM	Vamos	1.95	303	ePN	Pn	01 11 58.0	+2.8
SANT	Santorini	2.09	343	Pn	Pn	01 11 58.8	+1.7
THR6	Thira Island,	2.09	342	eP	Pn	01 11 59.2	+2.0
THR3	Thira Island,	2.14	342	eP	Pn	01 11 59.5	+1.6
THR5	Thira Island,	2.16	341	eP	Pn	01 11 59.6	+1.5
ARG	Arkhangelos	2.42	40	ePN	Pn	01 12 04.0	+2.2
KYTH	Kithira	3.22	307	ePN	Pn	01 12 15.5	+2.2
VLI	Veliai	3.55	312	ePN	Pn	01 12 18.0	0.0
CSS	Prodhromos	5.90	82	ePn	Pn	01 12 48.6	-2.5
	25nm,1.1s						
BRTR	Keskin Array B	7.99	46	P	Pn	01 13 20.9	+0.4
	0.1nm,0.3s,baz=233,slow=12,SNR=4.1						
BRTR				S	Sn	01 14 48.9	-1.8
	0.1nm,0.3s,baz=354,slow=12,SNR=3.1						
BRTR	Keskin Array B	7.99	46	P	Pn	01 13 20.9	+0.4
BRTR				S	Sn	01 14 48.9	-1.8
TIP	Timpagrande	8.97	305	ePn	P	01 13 30.6	-3.6
TIP				eSn	Sn	01 15 07.4	-7.8
ASF	Jabal al Asfar	9.21	101	P	P	01 13 40.3	+2.9
	0.5nm,0.3s,baz=149,slow=10,SNR=3.7						
ASF				S	Sn	01 15 14.4	-6.7
	0.7nm,0.3s,baz=248,slow=20,SNR=4.1						
MTTG	Motta San Giov	9.24	296	ePn	P	01 13 35.3	-2.6
AGST	Augusta-Monte	9.37	291	ePn	P	01 13 36.0	-3.6
PZI	Palazzolo	9.54	290	ePn	P	01 13 38.6	-3.5
VAE	Valguarnera	10.06	291	P	P	01 13 48.1	-1.0
	0.9nm,0.3s,baz=275,slow=5.2,SNR=3.9						
VAE				S	S	01 15 33.6	-8.3
	0.7nm,0.3s,baz=282,slow=21,SNR=3.0						
MALT	Malatya	10.61	65	eP	P	01 13 53.8	-2.8
MRLC	Muro Lucano	10.63	310	ePn	P	01 13 55.3	-1.5
AKASG	Malin Array Be	16.47	7	P	P	01 15 14.9	+1.1
	1.2nm,0.3s,baz=193,slow=11,SNR=7.6						
MORC	Moravsky Berou	16.66	340	P	P	01 15 11.3	-5.1
	4.0nm,1.2s						
GERES	GERESS Array B	17.19	331	P	P	01 15 23.3	+0.4
	0.1nm,0.3s,baz=139,slow=14,SNR=4.7						
DAVOX	Davos	17.49	320	P	P	01 15 25.2	-1.5
	0.1nm,0.3s,baz=144,slow=13,SNR=2.7						
MBDF	Montbardon	18.17	310	eP	P	01 15 37.5	+2.3
LPG	La Plagne	18.55	313	eP	P	01 15 41.0	+1.1
LPL	La Plagne	18.58	313	eP	P	01 15 41.0	+0.8
CABF	La Chapelle	19.52	315	eP	P	01 15 48.7	-2.6
CDF	Champ du Feu	19.89	321	eP	P	01 15 53.2	-2.1
	15nm,1.0s						
BGF	Bois d’Agland	21.45	312	eP	P	01 16 12.6	+1.3
	9.1nm,0.7s,mb3.9						
LDF	La Druitiere	24.16	314	eP	P	01 16 36.9	-1.0
	3.0nm,0.5s,mb3.7						
FLN	La Foliniere	24.45	314	eP	P	01 16 40.4	-0.3
ESDC	Sonseca Array	24.60	291	P	P	01 16 42.1	-0.2
	1.2nm,0.6s,mb3.6,baz=81,slow=9.8,SNR=4.7						
HFS	Hagfors	27.04	346	P	P	01 17 02.3	-2.5
	4.6nm,1.1s,mb3.9,baz=135,slow=8.4,SNR=5.5						
FINES	FINESS Array B	27.09	360	P	P	01 17 03.7	-1.5
	5.2nm,1.2s,mb3.9,baz=180,slow=11,SNR=3.4						
FINES	FINESS Array B	27.09	360	P	P	01 17 03.7	-1.5
EKA	Eskdalemuir Ar	29.18	325	P	P	01 17 23.5	-0.7
	0.8nm,0.3s,mb3.9,baz=130,slow=11,SNR=5.2						
ARCES	ARCESS Array B	35.22	360	P	P	01 18 14.9	-1.9
	2.1nm,0.9s,mb4.0,baz=172,slow=8.6,SNR=4.3						
ZRNK	Zerenda	35.44	45	eP	P	01 18 18.3	-0.5
	2.8nm,0.9s,mb4.2						
BRVK	Borovoye	36.22	45	eP	P	01 18 25.8	+0.4
	1.4nm,0.6s,mb4.1						
KURK	Kurchatov	41.01	50	eP	P	01 19 05.2	-0.1
	2.5nm,0.6s,mb4.0						
MKAR	Makanchi Array	43.49	56	P	P	01 19 26.0	+0.4
	3.0nm,0.6s,mb4.2,baz=279,slow=6.0,SNR=26						
MKAR	Makanchi Array	43.49	56	P	P	01 19 26.0	+0.4
SONM	Songino Array	59.32	51	P	P	01 21 24.8	0.0
	0.6nm,0.6s,mb3.8,baz=289,slow=6.6,SNR=6.5						
SCHQ	Schefferville	64.35	320	P	P	01 21 56.8	-1.5
	3.1nm,0.8s,mb4.4,baz=59,slow=4.3,SNR=3.7						
SUR	Sutherland	66.59	185	P	P	01 22 16.8	+3.7

WEL 12 01:14:31.7±1.1, 45.31S×166.49E, h12^{km}, ML3.6/4, Error ellipse: s-maj=9.5km s-min=6.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.49	110	P*	Pb	01 14 41.2	-0.6
DCZ				S*	Sb	01 14 47.5	-1.1
DCZ				S*	Sb	01 14 47.6	-1.1
WHZ	Wether Hill Ro	1.18	120	P*	Pb	01 14 51.9	-1.6
WHZ				S*	Sb	01 15 10.3	+1.9
WHZ				S*	Sb	01 15 10.5	+2.0
MLZ	Mavora Lakes	1.19	92	P*	Pb	01 14 52.7	-0.9
MLZ				S*	Sb	01 15 08.2	-0.6
WKZ	Wanaka	1.85	76	PN	Pn	01 15 05.2	+1.6
WKZ				SN	Sn	01 15 30.0	+2.9
AXZ	Alexandra	2.00	90	ePN	Pn	01 15 04.4	-1.4
AXZ				SN	Sn	01 15 32.7	+1.7
JCZ	Jackson Bay	2.04	53	ePN	Pn	01 15 06.7	+0.5
JCZ				eSN	Sn	01 15 32.0	+0.3
TUZ	Tuapeka	2.29	107	PN	Pn	01 15 09.3	-0.6
TUZ				SN	Sn	01 15 37.2	-1.2
LBZ	Lake Benmore	2.79	72	PN	Pn	01 15 17.0	+0.1
ODZ	Otahua Downs	2.95	86	PN	Pn	01 15 18.3	-1.0

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*IDC **12** 01:15:55.8±5.7, 4.63S×153.80E, h99^{km}±47^{km}, mb3.8/9, mb1 4.1/10, mb1mx4.0/14, MS3.0/2, Ms1 3.0/2, ms1mx2.8/19, Error ellipse: s-maj=38.3km s-min=19.3km az=85.0*
*BJI **12** 01:15:56.9, 4.60S×153.60E, h118^{km}, mb4.6*
*NEIC **12** 01:15:58.0±2.6, 4.60S×153.62E, h118^{km}±21^{km}, mb4.4/14, Error ellipse: s-maj=20.3km s-min=10.7km az=81.0*
ISC 12 01:15:56.8±2.9, 4.64S±0.08×153.6E±0.1, h119^{km}±23^{km}, h117^{km}±4.3^{km}:pP-P, n34, σ0^{s}95/34, mb4.3/21, 2C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.96	233	P	P	01 17 51.7	+0.6
	23nm,0.3s,baz=46,slow=6.7,SNR=38						
PMG				S	S	01 19 20.9	+0.8
	8.3nm,0.3s,baz=156,slow=2.3,SNR=4.8						
PMG	Port Moresby	7.96	233	ePn	P	01 17 51.3	+0.2
PMG				eSn	S	01 19 17.7	-2.4
CTA	Charters Tower	16.94	204	LR	LR	01 24 51.9	
	comp=Z,63nm,21.4s,baz=232,slow=32						
CTAO	Charters Tower	16.94	204	P	P	01 19 53.0	+4.9
	4.8nm,0.8s						
KAKA	Kakadu	22.43	248	eP	P	01 20 46.3	-0.2
	7.7nm,0.6s,mb4.2						
WRAB	Tennant Creek	24.14	229	eP	P	01 21 03.8	+0.7
	35nm,0.7s,mb4.8						
WB2	Warramunga Arr	24.15	229	eP	P	01 21 03.5	+0.3
WRA	Warramunga Arr	24.16	229	P	P	01 21 04.8	+1.5
	17nm,0.7s,mb4.5,baz=54,slow=9.8,SNR=119						
ARMA	Armidale	25.71	184	eP	P	01 21 18.6	+0.8
ASAR	Alice Springs	26.82	223	P	P	01 21 27.4	-0.6
	2.0nm,0.6s,mb3.8,baz=53,slow=9.1,SNR=20						
ASAR				LR	LR	01 31 08.7	
	comp=Z,36nm,21.1s,baz=128,slow=34						
STKA	Stephens Creek	29.35	201	eP	P	01 21 50.0	-0.8
	3.6nm,0.6s,mb4.2						
STKA	Stephens Creek	29.35	201	P	P	01 21 49.9	-0.9
	6.1nm,0.8s,mb4.3,baz=29,slow=14,SNR=13						
FITZ	Fitzroy Crossi	30.45	242	eP	P	01 21 59.0	-1.6
	6.1nm,0.6s,mb4.4						
FORT	Forrest	35.42	220	eP	P	01 22 42.7	-0.7
	73nm,0.7s						
TAU	Tasmania Unive	38.52	187	eP	P	01 23 09.7	+0.6
	48nm,1.1s,mb5.2						
NJ2	Nanjing	49.23	320	eP	P	01 24 36.5	+1.2
NJ2				AP	pP	01 25 02.0	-1.2
NJ2				XP	sP	01 25 15.6	-0.8
NJ2				S	S	01 31 32.0	+1.3
NJ2				XS		01 32 17.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
CN2	Changchun	54.49	335	eP	P	01 25 16.2	+1.7
CMAR	Chiang Mai Arr	58.54	295	P	P	01 25 44.5	+0.9
	comp=Z,0.6nm,0.4s,mb4.0,baz=103,slow=5.1,SNR=4.3						
LZH	Lanzhou	61.68	315	⇓P	P	01 26 04.5	-0.3
	comp=Z,39nm,1.5s,mb5.2						
LZH				pP	pP	01 26 33.2	-0.6
LZH				sP	sP	01 26 47.5	+0.5
LZH				PP	PP	01 28 23.6	-0.4
LZH				LR	LR		
	comp=Z,260nm,17.5s						
SONM	Songino Array	66.62	327	P	P	01 26 36.4	-0.3
	comp=Z,0.4nm,0.5s,mb3.5,baz=138,slow=6.3,SNR=7.0						
CASY	Casey	68.41	197	eP	P	01 26 46.8	-0.7
	comp=Z,2.9nm,0.8s,mb4.2						
VNDA	Vanda	72.96	178	P	P	01 27 15.0	+0.4
	comp=Z,1.5nm,1.1s,mb3.8,baz=315,slow=4.9,SNR=5.9						
VNDA	Vanda	72.96	178	eP	P	01 27 14.9	+0.3
	comp=Z,2.0nm,1.0s,mb3.9						
WMQ	Urumqi	76.17	317	⇑P	P	01 27 32.2	-1.5
WMQ				PCP	PcP	01 27 44.2	-1.4
WMQ				AP	pP	01 28 03.7	-0.1
WMQ				XP	sP	01 28 17.7	+0.9
WMQ				PP	PP	01 30 26.3	-1.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
MKAR	Makanchi Array	80.74	319	P	P	01 27 58.6	+0.1
	comp=Z,0.7nm,0.5s,mb3.7,baz=96,slow=5.9,SNR=8.5						
ILAR	Eielson Array	81.71	22	P	P	01 28 02.4	-0.9
	comp=Z,0.4nm,0.7s,mb3.4,baz=251,slow=5.6,SNR=4.6						
KURK	Kurchatov	84.14	322	eP	P	01 28 15.6	-0.3
	comp=Z,2.2nm,1.1s,mb3.9						
QSPA	South Pole Qui	85.32	180	eP	P	01 28 22.1	+1.0
	comp=Z,27nm,0.5s,mb5.4						
MAW	Mawson	86.03	203	P	P	01 28 25.5	+0.7
	comp=Z,4.3nm,0.7s,mb4.5,baz=105,slow=6.0,SNR=11						
MAW	Mawson	86.03	203	eP	P	01 28 24.5	-0.2
	comp=Z,4.5nm,0.7s,mb4.5						
BRVK	Borovoye	89.66	323	eP	P	01 28 42.1	-0.3
	comp=Z,1.9nm,0.9s,mb4.2						
ZRNK	Zerenda	90.42	323	eP	P	01 28 44.0	-1.9
	comp=Z,1.4nm,0.9s,mb4.1						
SYO	Syowa Base	94.08	199	⇑P	pP	01 29 25.4	-8.3
BDFB	Brasilia	150.60	134	PKPbc	PKPdf	01 35 36.2	+6.1
	comp=Z,1.2nm,0.5s,baz=279,slow=1.2,SNR=3.9						

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*IDC **12** 02:23:38.6±0.9, 65.91N×146.65W, mb3.7/5, mb1 3.8/8, mb1mx3.6/20, ML3.6/3, Error ellipse: s-maj=17.6km s-min=9.0km az=100.0*
*NEIC **12** 02:23:39.2, 65.87N×146.56W, h7^{km}, ML3.6(AEIC), ML3.6(PMR), After AEIC.*
NEIC Felt at Fairbanks.
ISC 12 02:23:37.6±0.9, 65.92N±0.03×146.61W±0.08, h4^{km}±7^{km}, n52, σ1^{s}07/63, mb3.7/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRP	Porcupine Dome	0.61	132	P	Pg	02 23 49.9	+0.1
FYU	Fort Yukon	0.85	40	P	Pg	02 23 56.3	+1.7
IL1	Eielson Array	1.16	186	P	Pb	02 24 00.3	+0.4
IL1				S	Sb	02 24 15.8	+0.5
ILAR	Eielson Array	1.16	186	Pg	Pg	02 24 00.5	-0.4
	295nm,0.3s,baz=8.9,slow=17,SNR=5854						
ILAR				Lg		02 24 16.2	
	444nm,0.3s,baz=7.6,slow=28,SNR=70						
COLA	College	1.18	207	P	Pb	02 24 00.7	+0.5
COLA				S	Sb	02 24 17.9	+2.3
CCB	Clear Creek Bu	1.38	202	P	Pb	02 24 04.3	+0.7
CCB				S	Sb	02 24 22.1	+0.5
HDA	Harding Lake	1.53	186	P	Pn	02 24 06.1	+0.2
BM3	Burnt Mountain	1.70	27	P	Pn	02 24 08.9	+0.6
BM3				S	Sb	02 24 33.9	+3.1
NEA	Nenana	1.71	219	P	Pn	02 24 07.9	-0.5
NEA				S	Sb	02 24 32.5	+1.5
COLD	Coldfoot	1.94	314	P	Pn	02 24 13.2	+1.4
MLY	Manley	1.94	244	P	Pn	02 24 12.1	+0.3
MLY				S	Sn	02 24 38.2	+1.3
MCK	McKinley	2.42	205	P	Pn	02 24 18.0	-0.6
MCK				S	Sn	02 24 49.0	+0.1
THY	Trims Highway	2.54	171	P	Pn	02 24 20.7	+0.3
THY				S	Sn	02 24 50.7	-1.5
DHY	Denali Highway	2.88	187	P	Pn	02 24 25.5	+0.3
IMA	Indian Mountai	2.90	276	eP	Pn	02 24 25.3	-0.1
IM3	Indian Mountai	2.93	274	P	Pn	02 24 25.7	-0.2
TRF	Thorofare Moun	2.94	214	P	Pn	02 24 25.5	-0.6
PAX	Paxson	3.01	170	P	Pn	02 24 26.7	-0.3
KTH	Kantishna Hill	3.02	220	P	Pn	02 24 25.9	-1.2
KTH				S	Sn	02 25 02.9	-1.3
SDG	Sourdough	3.44	172	P	Pn	02 24 33.2	0.0
BCA3	Beaver Creek A	3.55	142	P	Pn	02 24 34.0	-0.7
BCA3				S	Sn	02 25 20.1	+2.4
CUT	Chulitna	3.88	206	P	Pn	02 24 38.3	-1.1
SCM	Sheep Creek Mo	4.12	185	P	Pn	02 24 43.5	+0.6

SML	Sawmill	4.20	191	P	Pn	02 24 44.2	+0.2
KLU	Klutina	4.46	176	P	Pn	02 24 47.8	+0.1
PMR	Palmer	4.49	196	eP	Pn	02 24 50.2	+2.1
PWA	Palmer West	4.53	200	eP	Pn	02 24 47.6	-1.0
KNK	Knik Glacier	4.60	191	P	Pn	02 24 51.1	+1.4
GLB	Gilahina Butte	4.67	163	P	Pn	02 24 51.4	+0.8
CFI	College Fiord	4.79	187	P	Pn	02 24 51.0	-1.3
VLZ	Valdez	4.81	178	P	Pn	02 24 53.0	+0.3
DIV	Divide	4.83	175	P	Pn	02 24 49.5	-3.4
PMS	Palmer South	4.88	197	eP	Pn	02 24 53.4	-0.2
BMRM	Bremner River	5.06	169	P	Pn	02 24 57.3	+1.2
TT01	Tatalina	5.08	238	P	Pn	02 24 55.1	-1.4
BALM	Baldy	5.26	157	P	Pn	02 24 57.5	-1.6
SPU	Mount Spurr	5.35	210	P	Pn	02 24 59.9	-0.3
CVA	Cordova	5.41	176	P	Pn	02 24 59.1	-2.0
INK	Inuvik	5.64	59	Pn	Pn	02 25 02.5	-1.7
	1.0nm,0.3s,baz=235,slow=15,SNR=16						
INK				Lg		02 26 35.5	
	30nm,0.3s,baz=120,slow=26,SNR=14						
INK	Inuvik	5.64	59	eP	Pn	02 25 01.8	-2.5
SEW	Seward	5.98	194	P	Pn	02 25 10.0	+0.8
SVW	Sparrevohn	6.29	224	eP	Pn	02 25 11.9	-1.6
CNPM	China Poot	6.76	200	P	Pn	02 25 19.8	-0.4
DLBC	Dease Lake	10.75	126	Pn	P	02 26 14.2	-1.1
	0.2nm,0.3s,baz=326,slow=15,SNR=4.1						
DLBC				Lg		02 29 11.5	
	0.4nm,0.3s,baz=194,slow=6.1,SNR=7.7						
DLBC	Dease Lake	10.75	126	Pn	P	02 26 14.2	-1.1
DLBC				Lg		02 29 11.5	
YKA	Yellowknife Ar	14.25	89	Pn	P	02 26 57.1	-4.8
	0.2nm,0.3s,baz=300,slow=12,SNR=5.7						
YKA				Sn	S	02 29 32.6	-8.9
	0.1nm,0.3s,baz=309,slow=22,SNR=3.5						
NVAR	Mina Array Bea	31.99	135	P	P	02 30 07.2	+0.5
	0.6nm,0.7s,mb3.5,baz=307,slow=7.4,SNR=4.5						
NVAR	Mina Array Bea	31.99	135	P	P	02 30 07.2	+0.5
TXAR	Lajitas Array	45.03	123	P	P	02 31 56.9	+1.0
	0.8nm,0.8s,mb3.6,baz=329,slow=5.9,SNR=9.7						
FINES	FINESS Array B	52.82	4	P	P	02 32 55.2	-0.4
	0.8nm,0.4s,mb4.0,baz=14,slow=7.9,SNR=9.5						
MKAR	Makanchi Array	61.49	324	P	P	02 33 56.5	-0.8
	0.4nm,0.8s,mb3.6,baz=46,slow=5.2,SNR=2.8						
AKASG	Malin Array Be	63.66	3	P	P	02 34 10.6	-0.9
	0.5nm,0.5s,mb3.8,baz=358,slow=8.1,SNR=4.8						

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*NEIC **12** 02:40:26.6, 29.45S×69.54W, h128^{km}, After GUC.*

GUC 12 02:40:26.6±0.9**, 29.45S×69.54W, h128^{km}**±26^{km}**, ML3.9, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	Tololo Astrono	1.31	237	⇓iP	P	02 40 54.0	+1.1
TLL				iS	S	02 41 13.8	+1.0
TLL				AMP		02 41 15.1	
	comp=E,725nm,0.4s						
VACH	Vallenar	1.38	309	⇑iP	P	02 40 50.7	-3.0
VACH				iS	S	02 41 10.9	-3.4
VACH				AMP		02 41 12.3	
	comp=N,5μm,0.1s						
LSCH	La Serena	1.55	253	eP	P	02 40 55.8	+0.2
LSCH				iS	S	02 41 17.0	-0.6
LSCH				AMP		02 41 18.1	
	comp=N,513nm,0.3s						
CMCH	Combarbala	2.13	216	⇑iP	P	02 41 02.4	-0.1
CMCH				iS	S	02 41 29.5	-0.3
CMCH				AMP		02 41 31.0	
	comp=N,699nm,0.6s						
CPCH	Copiapo	2.21	341	eP	P	02 41 03.5	0.0
CPCH				iS	S	02 41 31.1	-0.5
CPCH				AMP		02 41 33.8	
	comp=E,3μm,0.1s						
FCH	Farellones	3.92	189	eP	P	02 41 26.5	+0.3

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*BGR **12** 03:20:15.4±0.5, 49.37N×6.91E, h1^{km}, ML1.4/1, Error ellipse: s-maj=5.6km s-min=3.3km az=57.0*

*LDG **12** 03:20:15.4±0.4, 49.38N×6.88E, h1^{km}, Md2.4/2, Ml2.3/6, Error ellipse: s-maj=6.4km s-min=2.7km az=165.0, Suspected Mining induced.*

ISC 12 03:20:14.4±0.8**, 49.33N**±0.03×**6.87E**±0.05**, n12,** σ**0^{s}75**/21**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	Walferdange	0.57	306	ePg	Pg	03 20 26.5	+0.6
	SNR=3.3						
LANF	Langenberg	0.71	119	ePg	Pg	03 20 28.4	-0.2
	SNR=2.6						
CDF	Champ du Feu	0.96	164	ePg	Pg	03 20 34.5	+1.0
CDF				eSg	Sg	03 20 47.2	+0.9
	6.8nm,0.2s						
WLS	Welschbruch	0.97	161	ePg	Pg	03 20 34.7	+0.9
	SNR=3.9						
WLS				eSg	Sg	03 20 47.0	+0.2
	SNR=2.9						
RFYF	Reffroy	1.16	233	ePg	Pg	03 20 38.7	+1.2
RFYF				eSg	Sg	03 20 53.7	+0.8
	9.1nm,0.3s						
THEF	They Montfort	1.25	208	ePg	Pg	03 20 39.2	-0.2
	SNR=2.5						
THEF				eSg	Sg	03 20 56.5	+0.4
	SNR=5.5						
HAU	Haudompre	1.37	195	ePg	Pg	03 20 42.0	+0.2
HAU				eSg	Sg	03 20 59.4	-0.6
	3.5nm,0.2s						
BFO	Black Forest	1.39	136	ePg	Pg	03 20 42.0	-0.2
	SNR=1.3						
BFO				eSg	Sg	03 20 60.0	-0.7
	SNR=3.5						
MOF	Molkenrain	1.49	173	ePg	Pg	03 20 44.0	-0.2
	SNR=2.5						
MOF				eSg	Sg	03 21 03.7	-0.3
	SNR=2.6						
HINF	Hinteralfeld	1.52	180	ePg	Pg	03 20 44.3	-0.3
HINF				eSg	Sg	03 21 04.7	-0.2
	6.0nm,0.2s						
HGN	Heimansgroeve	1.56	337	ePn	Pn	03 20 42.9	-0.6
	SNR=1.5						
SFTF	Sexfontaines	1.66	228	ePg	Pg	03 20 45.3	-2.1
SFTF				eSg	Sg	03 21 08.5	-1.0
	1.9nm,0.2s						

NIED 12 03:43:00, 45.20N×150.40E, h8^{km}, Mw3.9 Best double couple: M$_0$7.3×10^{14} **NP1:**ϕ_s249°, δ75°, λ99°. **NP2:**ϕ_s39°, δ17°, λ61°.**, Kuril Islands**

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*MDD **12** 04:00:48.9±0.6, 43.15N×0.55W, h14^{km}±6^{km}, mbLg1.3/3, Error ellipse: s-maj=4.8km s-min=2.7km az=1.0, PRXIMO*

*STR **12** 04:00:48.6±0.0, 43.25N×0.42W, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **12** 04:00:48.6±0.2, 43.16N×0.55W, h10^{km}, Md1.9/3, Error ellipse: s-maj=4.8km s-min=2.1km az=6.0*

ISC 12 04:00:47.9±1.0**, 43.15N**±0.07×**0.55W**±0.04**, h14^{km}, n9,** σ**0^{s}73**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	Montagne du Re	0.14	127	Pg	Pg	04 00 52.2	+0.5
REYF				Sg	Sg	04 00 54.9	+0.6
REYF	Montagne du Re	0.14	127	Pg	Pg	04 00 52.5	+0.8
REYF				Lg		04 00 55.1	
ETSF	Etsaut	0.26	182	ePg	Pg	04 00 54.2	+0.6
ETSF				eSg	Sg	04 00 57.6	+0.2
	21nm,0.2s						
FDAF	Les Forges d'A	0.34	183	Pg	Pg	04 00 55.6	+0.6
FDAF				Lg		04 01 00.3	
SJPF	Ste Jean	0.50	266	ePg	Pg	04 00 58.1	-0.1
SJPF				eSg	Sg	04 01 04.9	-0.1
	3.6nm,0.3s						
VIEF	Viey	0.50	123	Pg	Pg	04 00 57.8	-0.4
VIEF				Sg	Sg	04 01 04.7	-0.3
VIEF	Viey	0.50	123	Pg	Pg	04 00 57.9	-0.3
VIEF				Lg		04 01 04.7	
EPF	Esparros	0.66	100	ePg	Pg	04 01 01.4	+0.1
EPF				eSg	Sg	04 01 10.0	-0.3
	1.6nm,0.2s						
ESAC	San Caprasio	1.43	178	Pg	Pg	04 01 14.0	-2.6
	0.4nm,0.2s,SNR=7.9						
ESAC				Lg		04 01 34.3	
	40nm,1.2s,SNR=7.9						

IDC 12 04:08:01.2±33.0**, 21.32N×146.24E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/21**, Error ellipse: s-maj=641.0km s-min=206.5km az=179.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.62	197	P	P	04 15 58.4	-2.8
	0.8nm,0.5s,baz=19,slow=8.4,SNR=16						
ASAR	Alice Springs	46.30	196	P	P	04 16 29.8	-0.9
	0.5nm,0.8s,baz=16,slow=7.7,SNR=3.1						
STKA	Stephens Creek	53.08	185	P	P	04 17 20.7	-2.0
	3.0nm,0.9s,baz=350,slow=6.1,SNR=4.2						

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*NNC **12** 04:37:52.3±2.5, 41.22N×72.48E, mpv3.6, Error ellipse: s-maj=44.5km s-min=17.5km az=39.0*

ISC 12 04:37:47.5±2.8**, 40.5N**±0.2×**72.1E**±0.1**, h10^{km}, n13,** σ**1^{s}12**/14**, 3C, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	2.03	36	P	Pn	04 38 19.5	-2.7
	SNR=68						
EKS2	Erkin-Say	2.50	30	P	Pn	04 38 27.4	-1.6
	SNR=60						
UCH	Uchtor	2.51	46	P	Pn	04 38 29.0	-0.1
	SNR=221						
AAK	Ala-Archa	2.79	40	P	Pn	04 38 33.2	+0.1
	SNR=57						
KK31	Karatay Array	2.85	336	⇑Pn	Pn	04 38 35.5	+1.5
	24nm,0.6s,baz=136,slow=13,SNR=156						
KK31				⇑Sn	Sn	04 39 09.3	+0.6
	77nm,0.6s,baz=151,slow=26,SNR=7.5						
KZA	Kyzart	2.86	56	P	Pn	04 38 35.0	+1.0
	SNR=76						
KBK	Karagaybulak	3.04	44	P	Pn	04 38 37.5	+0.9
	SNR=22						
CHMS	Chumysh	3.19	38	P	Pn	04 38 38.8	0.0
	SNR=48						
USP	Ospenovka	3.29	32	P	Pn	04 38 39.4	-0.8
	SNR=20						
TKM2	Tokmak 2	3.57	46	P	Pn	04 38 44.1	-0.1
	SNR=27						
ULHL	Ulahol	3.58	60	P	Pn	04 38 45.6	+1.3
	SNR=8.1						
MK31	Makanchi Array	9.70	46	⇑Pn	P	04 40 06.0	-4.2
	1.2nm,0.7s,baz=49,slow=30,SNR=4.4						
AB31	Akbulak array	12.26	320	P	P	04 40 43.8	-1.2
	1.0nm,0.7s,baz=129,slow=12,SNR=16						

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*LDG **12** 04:58:38.5±0.1, 44.43N×6.77E, h2^{km}, Md2.2/2, Ml2.1/7, Error ellipse: s-maj=1.9km s-min=1.2km az=75.0*

*STR **12** 04:58:39.5±0.8, 44.44N×6.83E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 04:58:37.4±0.4**, 44.43N**±0.02×**6.75E**±0.04**, h13^{km}**±4^{km}**, n15,** σ**0^{s}78**/30**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	Saint Ours	0.07	41	Pg	Pg	04 58 40.5	+0.4
SURF				Sg	Sg	04 58 41.7	-0.2
MBDF	Montbardon	0.30	3	ePg	Pg	04 58 44.6	+0.8
MBDF				eSg	Sg	04 58 48.7	+0.7
	7.1nm,0.2s						
TOUF	Mont Tournerai	0.55	139	Pg	Pg	04 58 48.8	+0.2
MVIF	Mont Vial	0.61	151	Pg	Pg	04 58 53.8	+4.1
MVIF				Sg	Sg	04 58 58.6	+0.7
AUTN	L'Aution	0.65	131	Pg	Pg	04 58 50.7	+0.1
AUTN				Sg	Sg	04 58 59.0	-0.4
CALN	Calern	0.68	172	Pg	Pg	04 58 53.9	+2.7
CALN				Sg	Sg	04 59 00.9	+0.4
SBF	Sospel	0.75	139	ePg	Pg	04 58 52.5	0.0
SBF				eSg	Sg	04 59 01.7	-1.0
	5.7nm,0.3s						
ORIF	Oris-en-Rattie	0.79	309	ePg	Pg	04 58 53.8	+0.5
ORIF				eSg	Sg	04 59 03.3	-0.7
	4.4nm,0.2s						
FRF	La Foret Royal	0.87	185	ePg	Pg	04 58 54.9	0.0
FRF				eSg	Sg	04 59 05.9	-0.7
	5.0nm,0.2s						
SMRF	Simiane la Rot	0.96	242	ePn	Pn	04 58 58.1	+1.7
SMRF				eSg	Sg	04 59 09.9	+0.4
	8.0nm,0.3s						
LPG	La Plagne	1.07	0	ePg	Pg	04 58 58.7	-0.1
LPG				eSg	Sg	04 59 12.6	-0.6
	4.9nm,0.3s						
LPL	La Plagne	1.09	359	ePg	Pg	04 58 59.0	-0.2
LPL				eSg	Sg	04 59 13.4	-0.4
	2.6nm,0.4s						
LMR	La Mourre	1.11	189	ePg	Pg	04 58 59.5	-0.1
LMR				eSg	Sg	04 59 13.6	-0.9
	12nm,0.3s						
VIVF	Saint-Julien-l	1.54	287	ePn	Pn	04 59 05.6	+0.8
VIVF				ePg	Pg	04 59 07.1	-1.2
VIVF				eSg	Sg	04 59 28.0	-0.9
	1.9nm,0.4s						
PGF	Pioggiola	2.49	138	ePn	Pn	04 59 18.6	+0.2
PGF				eSn	Sn	04 59 47.7	-1.2
	1.1nm,0.3s						

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*IDC **12** 05:22:23.4±0.8, 5.32S×122.60E, mb4.1/8, mb1 4.2/10, mb1mx4.1/17, ML3.7/2, MS3.1/4, Ms1 3.1/4, ms1mx3.0/23, Error ellipse: s-maj=57.7km s-min=15.7km az=65.0*

*NEIC **12** 05:22:25.8±5.7, 5.32S×122.61E, h15^{km}±36^{km}, mb4.4/2, Error ellipse: s-maj=24.5km s-min=9.6km az=64.0*

*DJA **12** 05:22:26.3±1.0, 5.31S×122.77E, h66^{km}±114^{km}, ML4.5/3, Error ellipse: s-maj=49.0km s-min=42.7km az=112.0*

ISC 12 05:22:26.0±0.5**, 5.31S**±0.10×**122.65E**±0.08**, h33^{km}, n25,** σ**0^{s}70**/25**, mb4.1**/9**, MS3.0**/2**, 2C-4D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUNI	Buntu Taipa	2.84	305	⇑ePn	Pn	05 23 10.7	+0.4
	67nm,0.2s						
BUNI				⇓eSn	Sn	05 23 43.3	-0.4
NINI	Niniconang	3.02	287	⇑ePn	Pn	05 23 13.7	+1.0
	394nm,0.4s						
NINI				⇓eSn	Sn	05 23 48.1	0.0
TANI	Tanete Lipujan	3.75	300	⇓ePn	Pn	05 23 23.6	+0.4
	106nm,0.2s						
TANI				⇓eSn	Sn	05 24 05.7	-1.1
KAKA	Kakadu	12.10	128	eP	P	05 25 18.3	-0.9
	13nm,0.7s						
FITZ	Fitzroy Crossi	13.04	167	eP	P	05 25 30.5	-1.2
	3.0nm,0.5s						
FITZ	Fitzroy Crossi	13.04	167	Pn	P	05 25 30.6	-1.2
	0.2nm,0.3s,baz=341,slow=6.0,SNR=7.3						
FITZ				LR	LR	05 32 03.8	
	comp=Z,50nm,18.4s,baz=48,slow=44						
WRAB	Tennant Creek	18.46	143	eP	P	05 26 41.5	+0.1
	16nm,1.0s						
WRA	Warramunga Arr	18.46	143	P	P	05 26 40.9	-0.4
	0.4nm,0.3s,baz=312,slow=13,SNR=21						
WRA				PcP	PcP	05 31 10.7	-0.4
	0.0nm,0.3s,baz=327,slow=1.5,SNR=4.8						
WRA				LR	LR	05 33 48.9	
	comp=Z,71nm,21.4s,baz=80,slow=37						
WRA	Warramunga Arr	18.46	143	P	P	05 26 40.9	-0.5
WRA				PcP	PcP	05 31 10.7	-0.4
WRA				LR	LR	05 33 48.9	
WB2	Warramunga Arr	18.47	143	eP	P	05 26 41.8	+0.4
ASPA	Alice Springs	21.23	150	eP	P	05 27 15.6	+4.2
ASAR	Alice Springs	21.23	150	P	P	05 27 12.6	+1.1
	9.8nm,0.8s,mb4.2,baz=333,slow=12,SNR=27						
ASAR				PcP	PcP	05 31 16.1	-0.1
	1.1nm,0.6s,baz=336,slow=1.6,SNR=8.0						
CTA	Charters Tower	27.25	125	LR	LR	05 38 39.7	
	comp=Z,68nm,19.3s,MS3.2,baz=47,slow=36						
STKA	Stephens Creek	31.83	148	P	P	05 28 50.0	-0.2
	3.8nm,0.9s,mb4.2,baz=311,slow=11,SNR=3.2						
STKA	Stephens Creek	31.83	148	eP	P	05 28 49.6	-0.6
CMAR	Chiang Mai Arr	33.23	316	P	P	05 29 02.9	+0.4
	1.0nm,0.8s,mb3.8,baz=151,slow=7.6,SNR=3.5						
CMAR				LR	LR	05 43 31.9	
	comp=Z,15nm,19.1s,MS2.7,baz=110,slow=38						
SONM	Songino Array	54.82	347	P	P	05 31 55.3	+0.1
	1.4nm,0.9s,mb4.0,baz=160,slow=8.4,SNR=5.1						
MKAR	Makanchi Array	62.97	330	P	P	05 32 51.6	-0.2
	1.4nm,0.7s,mb4.2,baz=134,slow=8.2,SNR=15						
KURK	Kurchatov	67.41	331	eP	P	05 33 19.1	-1.2
	4.5nm,0.8s,mb4.5						
BVAR	Borovoye Array	72.85	330	P	P	05 33 54.2	+0.8
	3.0nm,0.9s,mb4.2,baz=220,slow=37,SNR=3.6						
MAW	Mawson	73.92	200	P	P	05 33 59.7	+0.3
	1.2nm,0.8s,mb3.9,baz=321,slow=19,SNR=3.0						
VNDA	Vanda	75.07	172	P	P	05 34 06.5	+0.6
	0.7nm,0.6s,mb3.8,baz=306,slow=7.1,SNR=7.6						
VNDA	Vanda	75.07	172	P	P	05 34 06.5	+0.6
CPUP	Villa Florida	148.55	180	PKPbc	PKPdf	05 42 13.6	+7.0
	1.4nm,0.9s,baz=225,slow=4.3,SNR=4.3						
CPUP	Villa Florida	148.55	180	PKPbc	PKPdf	05 42 13.6	+7.0

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*FUNV **12** 05:22:37.4, 6.71N×73.28W, h165^{km}, MW3.4*

*IDC **12** 05:22:38.8±1.4, 6.78N×73.03W, h160^{km}±15^{km}, mb3.5/9, mb1 3.8/12, mb1mx3.6/22, Error ellipse: s-maj=20.0km s-min=13.1km az=62.0*

*NEIC **12** 05:22:39.1±0.7, 6.74N×72.98W, h168^{km}±7^{km}, mb3.9/11, Error ellipse: s-maj=9.8km s-min=8.2km az=98.0*

ISC 12 05:22:37.9±0.4**, 6.82N**±0.04×**72.98W**±0.04**, h168^{km}**±5^{km}**, n38,** σ**1^{s}04**/44**, mb3.8**/15**, 2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	1.23	33	⇑iP	P	05 23 08.2	+1.6
ROSC	El Rosal	2.37	215	P	P	05 23 20.0	+1.1
	158nm,0.3s,baz=5.1,slow=4.3,SNR=477						
ROSC				S	S	05 23 49.1	-1.3
	210nm,0.3s,baz=136,slow=19,SNR=7.7						
SDV	Santo Domingo	3.10	48	ePn	P	05 23 29.5	+1.6
SDV				eSn	S	05 24 06.8	+0.5
ELOV	Elorza	3.48	87	⇑iP	P	05 23 34.2	+1.5
ELOV				eS	S	05 24 15.1	+0.3
VIRV	Villa del Rosa	3.70	9	⇓eP	P	05 23 35.0	-0.5
VIRV				eS	S	05 24 17.3	-2.6
CURV	Curarigua	4.36	43	eP	P	05 23 44.8	+0.8
CURV				eS	S	05 24 34.5	-0.4
SIQV	Siquisique	4.93	39	⇓iP	P	05 23 52.0	+0.6
SIQV				eS	S	05 24 47.7	-0.7
BAUV	El Baul	5.33	66	eS	S	05 24 57.4	-0.4
MONV	Montecano	5.90	30	eP	P	05 24 04.4	+0.1
MONV				eS	S	05 25 08.8	-2.5
TURV	Turiamo	6.23	54	eP	P	05 24 08.9	+0.3
TURV				eS	S	05 25 17.5	-1.6
OTAV	Otavalo	8.52	220	ePn	P	05 24 38.6	-0.4
OTAV				eSn	S	05 26 11.4	-2.2
TERV	Terraza Guagua	8.93	219	⇓iP	Px	05 23 51.9	
TERV				eS	Sx	05 24 47.1	
JTS	JuntasAbangare	12.33	287	P	P	05 25 30.3	+1.6
	0.2nm,0.3s,baz=339,slow=6.4,SNR=3.4						
JTS	JuntasAbangare	12.33	287	eP	P	05 25 30.4	+1.6
SJG	San Juan	13.05	30	P	P	05 25 38.3	+0.4
	1.4nm,0.3s,baz=216,slow=17,SNR=3.3						
SJG	San Juan	13.05	30	eP	P	05 25 37.8	-0.2
	9.7nm,0.6s						
SAML	Samuel	18.46	148	eP	P	05 26 42.0	-1.5
	5.7nm,0.7s						
NNA	Nana	19.08	192	P	P	05 26 45.4	-4.5
	5.1nm,0.8s						
LPAZ	La Paz	23.46	168	P	P	05 27 34.5	+1.1
	0.8nm,0.7s,mb3.2,baz=342,slow=9.4,SNR=3.9						
LPAZ				pP		05 28 07.5	
	2.7nm,1.1s,baz=331,slow=8.4,SNR=3.6						
LPAZ	La Paz	23.46	168	eP	P	05 27 27.9	-5.5
	3.0nm,1.2s,mb3.6						
LPAZ				e		05 28 06.9	
LPAZ				pP		05 28 07.5	
BDFB	Brasilia	33.31	132	P	P	05 29 02.4	+0.5
	2.1nm,0.5s,mb4.1,baz=297,slow=8.8,SNR=7.7						
WMOK	Wichita Mounta	36.56	323	eP	P	05 29 28.0	-1.2
	1.0nm,0.7s,mb3.5						
TXAR	Lajitas Array	36.56	312	P	P	05 29 28.8	-0.5
	0.3nm,0.5s,mb3.2,baz=130,slow=8.8,SNR=7.8						
SDCO	Great Sand Dun	42.63	321	eP	P	05 30 20.7	+1.3
	2.6nm,0.9s,mb3.9						
WUAZ	Wupatki	45.32	315	eP	P	05 30 42.0	+1.1
	7.0nm,1.2s,mb4.2						
ULM	Lac du Bonnet	47.33	340	P	P	05 30 55.9	-0.5
	2.9nm,0.4s,mb4.3,baz=142,slow=6.3,SNR=11						
SCHQ	Schefferville	48.13	5	P	P	05 31 03.0	+0.5
	4.2nm,0.7s,mb4.2,baz=174,slow=6.1,SNR=10						
SCHQ	Schefferville	48.13	5	eP	P	05 31 03.0	+0.4
	3.9nm,0.6s,mb4.2						
PDAR	Pinedale Array	48.16	324	P	P	05 31 03.1	+0.2
	0.5nm,0.5s,mb3.4,baz=132,slow=10,SNR=6.0						
HLID	Hailey	51.52	322	eP	P	05 31 28.9	+0.4
	0.8nm,0.6s,mb3.5						
NVAR	Mina Array Bea	51.58	315	P	P	05 31 29.6	+0.6
	0.4nm,0.7s,mb3.2,baz=96,slow=8.2,SNR=3.1						
YKA	Yellowknife Ar	63.31	340	P	P	05 32 50.3	-0.6
	1.6nm,0.6s,mb4.1,baz=133,slow=6.5,SNR=14						
DBIC	Dimbokro	67.60	86	P	P	05 33 18.5	-0.6
	2.8nm,0.8s,mb4.1,baz=202,slow=15,SNR=4.8						
DBIC	Dimbokro	67.60	86	P	P	05 33 18.5	-0.6
SUMG	Summit	68.96	11	eP	P	05 33 26.5	0.0
	6.6nm,0.7s,mb4.5						
INK	Inuvik	73.07	340	eP	P	05 33 51.2	+0.1
	1.1nm,0.7s,mb3.7						
ASAR	Alice Springs	149.22	234	PKPbc	PKPdf	05 42 08.6	+5.8
	0.4nm,0.4s,baz=118,slow=3.6,SNR=6.7						
WRA	Warramunga Arr	150.46	241	PKPbc	PKPdf	05 42 11.6	+6.8
	0.4nm,0.3s,baz=107,slow=2.7,SNR=19						
WRA				pPKPbc		05 42 55.5	
	0.3nm,0.4s,baz=107,slow=2.7,SNR=2.1						

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*PRU **12** 05:25:01.4, 50.48N×18.87E*

WAR 12 05:25:01.3, 50.28N×18.87E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.60	95	i PG	Pg	05 25 12.9	-0.4
OJC				i SG	Sg	05 25 22.6	+1.4
OKC	Ostrava-Krasne	0.64	227	ePG	Pg	05 25 16.4	+2.3
OKC				eSG	Sg	05 25 27.1	+4.4
NIE	Niedzica	1.27	132	ePG	Pg	05 25 26.0	-0.7
NIE				eSG	Sg	05 25 44.0	+0.4
DPC	Dobruska-Polom	1.64	273	ePG	Pg	05 25 31.3	-2.6
DPC				eSG	Sg	05 25 54.7	-1.0
	17nm,0.6s						
KSP	Ksiaz	1.74	290	ePG	Pg	05 25 34.0	-2.0
KSP				eSG	Sg	05 25 57.0	-2.1
PRU	Pruhonice	2.80	266	eSG	Sg	05 26 31.7	-2.8
KHC	Kasperske Hory	3.62	254	ePG	Pg	05 26 09.5	-4.1
KHC				eSG	Sg	05 26 58.0	-3.9

IDC 12 05:29:33.7±11.0**, 18.91S×174.48W, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.9**/18**, Error ellipse: s-maj=288.0km s-min=39.1km az=38.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	36.97	262	P	P	05 36 45.9	-1.0
	1.2nm,0.3s,baz=73,slow=11,SNR=2.9						
ASAR	Alice Springs	48.12	255	P	P	05 38 16.6	-1.0
	3.8nm,0.6s,baz=84,slow=8.8,SNR=31						
WRA	Warramunga Arr	48.12	260	P	P	05 38 15.1	-2.6
	1.0nm,0.3s,baz=101,slow=7.6,SNR=54						
FITZ	Fitzroy Crossi	56.54	260	P	P	05 39 17.2	-3.4
	1.2nm,0.7s,baz=97,slow=8.1,SNR=6.5						
VNDA	Vanda	59.80	186	P	P	05 39 40.4	-2.3
	0.2nm,0.4s,baz=49,slow=9.3,SNR=2.8						

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*ATH **12** 05:31:50.7, 38.19N×22.21E, h56^{km}±6^{km}, MD3.1/10*

*THE **12** 05:31:52.1, 38.26N×22.32E, h20^{km}, ML3.0*

*NEIC **12** 05:31:52.1, 38.26N×22.32E, h20^{km}, MD3.1(ATH), ML3.0(THE), After THE.*

ISC 12 05:31:51.2±0.7**, 38.23N**±0.04×**22.22E**±0.04**, h60^{km}**±11^{km}**, n20,** σ**0^{s}76**/28**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.62	254	eP	P	05 32 04.0	-0.6
RLS				eS	S	05 32 14.0	-0.5
LKR	Lokris	0.74	55	eP	P	05 32 06.1	+0.1
LKR				eS	S	05 32 17.2	+0.2
EVR	Evrytania	0.76	335	eP	P	05 32 06.8	+0.6
AGG	Agios Georgios	0.79	6	ePg	P	05 32 06.4	-0.3
	comp=Z,16nm,0.1s						
AGG				eSg	S	05 32 17.4	-0.8
MKIT	Kithairon Oros	0.82	93	eP	P	05 32 07.4	+0.4
MKIT				eS	S	05 32 20.0	+1.2
NSAL	Nisos Salamina	1.03	108	eP	P	05 32 10.0	+0.1

ITM	**Ithomi**	**1.08**	**193**	*e*P	**P**	**05 32 11.5**	**+1.0**
NAIG	**Nisos Aigina**	**1.11**	**115**	*e*P	**P**	**05 32 11.2**	**+0.3**
MPAR	**Parnis Oros**	**1.20**	**93**	*e*P	**P**	**05 32 12.5**	**+0.4**
MPAR				*e*S	**S**	**05 32 28.5**	**+0.9**
VLS	**Valsamata**	**1.29**	**268**	*e*P	**P**	**05 32 13.0**	**-0.5**
PTL	**Penteli**	**1.31**	**98**	*e*P	**P**	**05 32 13.6**	**-0.2**
LKD	**Levkas**	**1.32**	**291**	*e*Pb	**P**	**05 32 14.2**	**+0.2**
NEO	**Neokhori**	**1.33**	**36**	*e*P	**P**	**05 32 13.8**	**-0.3**
XOR	**Xorichti**	**1.36**	**33**	*e*Pb	**P**	**05 32 14.1**	**-0.4**
XOR				*e*Sb	**S**	**05 32 30.7**	**-1.1**
AOS	**Alonnisos**	**1.60**	**54**	*e*Pb	**P**	**05 32 17.3**	**-0.5**
	comp=Z,5.1nm,0.5s						
AOS				*e*Sb	**S**	**05 32 36.6**	**-0.9**
VLI	**Veliai**	**1.61**	**159**	*e*P	**P**	**05 32 17.4**	**-0.6**
VLI				*e*S	**S**	**05 32 36.3**	**-1.5**
MEV	**Metsovon**	**1.73**	**334**	*e*Pb	**P**	**05 32 21.8**	**+2.2**
	comp=Z,3.4nm,0.5s						
JAN	**Janina**	**1.78**	**323**	*e*P	**P**	**05 32 21.5**	**+1.3**
KEK	**Kerkira**	**2.40**	**309**	*e*P	**P**	**05 32 29.0**	**0.0**
SOH	**Sokhos**	**2.73**	**18**	*e*Pn	**P**	**05 32 33.2**	**-0.5**

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*TRN **12** 05:42:45.7, 16.79N×61.02W, h27^{km}, MD3.5, M2.9(FDF)*
*NEIC **12** 05:42:45.6, 16.93N×60.88W, h24^{km}, MD2.7(FDF), After FDF.*
ISC 12 05:42:46.8±1.4**, 16.83N**±0.06×**60.9W**±0.1**, h33**^{km}**, n10,** σ0^{s}**60**/16**, 1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.54**	**197**	⇑*e*P	**P**	**05 42 56.9**	**-0.9**
DEG				S	**S**	**05 43 06.1**	**+0.4**
BPA	**Boggy Peak**	**0.94**	**283**	*e*P	**P**	**05 43 04.6**	**+0.9**
BPA				*e*S	**S**	**05 43 15.3**	**-0.8**
MGG	**Marie-Galante**	**0.99**	**204**	*e*P	**P**	**05 43 04.6**	**+0.2**
CPB	**Codrington**	**1.20**	**312**	*e*P	**P**	**05 43 08.3**	**+1.0**
CPB				*e*S	**S**	**05 43 22.4**	**-0.3**
BBL	**Barber's Block**	**1.41**	**203**	*e*P	**P**	**05 43 10.3**	**0.0**
BBL				*e*S	**S**	**05 43 28.3**	**+0.4**
MDN	**Morne-Daniel**	**1.58**	**198**	*e*P	**P**	**05 43 11.9**	**-0.8**
DSTT	**Stowe**	**1.62**	**194**	*e*P	**P**	**05 43 12.6**	**-0.7**
DSTT				*e*S	**S**	**05 43 34.1**	**+0.8**
CRM	**Caravelle**	**2.06**	**181**	*e*P	**P**	**05 43 19.7**	**0.0**
FDF	**Fort de France**	**2.10**	**187**	*e*P	**P**	**05 43 20.4**	**+0.2**
FDF				*e*S	**S**	**05 43 45.1**	**-0.3**
MVM	**Montagne Vaucl**	**2.26**	**180**	*e*P	**P**	**05 43 22.5**	**-0.1**

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*MDD **12** 05:46:22.7±0.6, 42.31N×7.85W, h17^{km}±7^{km}, mbLg1.9/11, Error ellipse: s-maj=5.2km s-min=4.5km az=136.0, PRXIMO*
*INMG **12** 05:46:23.6±0.7, 42.32N×7.86W, h15^{km}±17^{km}, ML1.6, Error ellipse: s-maj=1.5km s-min=1.2km az=104.0*
ISC 12 05:46:23.3±0.7**, 42.36N**±0.04×**7.84W**±0.06**, h15**^{km}**, n15,** σ0^{s}**83**/15**, 2C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EINC	**Incio**	**0.47**	**50**	Pg	**Pb**	**05 46 33.0**	**+0.2**
	1.4nm,0.1s,SNR=7.9						
EINC				Lg		05 46 40.1	
	12nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**0.51**	**198**	Pg	**Pb**	**05 46 32.6**	**-0.9**
	5.6nm,0.1s,SNR=22						
ELOB				Lg		05 46 39.0	
	52nm,0.1s,SNR=5.0						
ERUA	**La Rua**	**0.52**	**86**	⇑Pg	**Pb**	**05 46 33.8**	**+0.2**
	9.7nm,0.2s,SNR=18						
ERUA				Lg		05 46 40.7	
	17nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**0.67**	**252**	⇑Pg	**Pb**	**05 46 35.3**	**-0.8**
	8.3nm,0.1s,SNR=18						
EZAM				Lg		05 46 43.8	
	7.5nm,0.2s,SNR=5.0						
STS	**Santiago**	**0.74**	**316**	Pg	**Pb**	**05 46 38.9**	**+1.5**
	4.7nm,0.1s,SNR=7.9						
STS				Lg		05 46 47.8	
	16nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.92**	**116**	Pg	**Pb**	**05 46 40.4**	**0.0**
	2.0nm,0.1s,SNR=12						
ECAL				Lg		05 46 52.6	
	16nm,0.2s,SNR=5.0						
PBRG	**Braganca**	**0.99**	**124**	*e*P	**Pb**	**05 46 41.3**	**-0.3**
PBRG				*e*S	**Sb**	**05 46 54.2**	**+0.1**
	8.1nm,0.1s						
PBRG	**Braganca**	**0.99**	**124**	Pg	**Pb**	**05 46 41.3**	**-0.3**
PBRG				Lg		05 46 54.2	
	4.1nm,0.1s						
PVRL	**Vila Real**	**1.08**	**175**	*e*Pg	**Pb**	**05 46 42.5**	**-0.7**
PVRL				*e*Sg	**Sb**	**05 46 56.3**	**-0.6**
	15nm,0.2s						
PVRL	**Vila Real**	**1.08**	**175**	Pg	**Pb**	**05 46 42.5**	**-0.7**
PVRL				Lg		05 46 56.3	
	7.3nm,0.2s						
EPON	**Pontenova**	**1.10**	**27**	Pg	**Pb**	**05 46 42.6**	**-0.8**
	0.8nm,0.1s,SNR=5.8						
EPON				Lg		05 46 58.1	
	6.1nm,0.3s,SNR=5.0						
PVIS	**Viseu**	**1.64**	**181**	*e*Sg	**Sn**	**05 47 13.2**	**+0.5**
	3.9nm,0.1s						
PVIS	**Viseu**	**1.64**	**181**	Lg		05 47 13.2	
	1.9nm,0.1s						
MTE	**Manteigas**	**1.97**	**173**	*e*Sg	**Sn**	**05 47 23.0**	**+2.0**
	2.4nm,0.2s						
MTE	**Manteigas**	**1.97**	**173**	Lg		05 47 23.0	
	1.2nm,0.2s						

IDC 12 05:59:33.8±2.8**, 30.21S**×**138.58E, mb1 3.3**/4**, mb1mx3.3**/11**, ML2.7**/4**, Error ellipse: s-maj=76.1km s-min=15.2km az=43.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.08**	**123**	Pn	Pn	06 00 24.2	-0.4
	0.3nm,0.3s,baz=309,slow=15,SNR=6.5						
STKA				Sn	Sn	06 01 01.9	-0.8
	1.1nm,0.3s,baz=328,slow=19,SNR=6.2						
STKA				Lg		06 01 11.0	
	1.4nm,0.3s,baz=258,slow=14,SNR=4.9						
ASAR	**Alice Springs**	**7.73**	**326**	Pn	Pn	06 01 27.6	-2.7
	0.1nm,0.3s,baz=151,slow=12,SNR=6.3						
ASAR				Sn	Sn	06 02 56.3	-3.4
	0.1nm,0.3s,baz=150,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**10.91**	**338**	Pn	P	06 02 11.0	-3.4
	0.1nm,0.3s,baz=159,slow=13,SNR=6.1						
WRA				Sn	S	06 04 13.5	-5.0
	0.1nm,0.3s,baz=162,slow=24,SNR=3.2						
FITZ	**Fitzroy Crossi**	**16.85**	**313**	Pn	P	06 03 32.7	0.0
	0.1nm,0.3s,baz=138,slow=15,SNR=2.8						

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*PRU **12** 06:00:43.1, 49.91N×18.57E*
*WAR **12** 06:00:43.0, 49.96N×18.56E, ML2.7, Mining Induced*
*NEIC **12** 06:00:43.7±1.0, 50.07N×18.46E, h5^{km}, ML3.1(SZGRF), Error ellipse: s-maj=15.2km s-min=9.5km az=185.0*
*BGR **12** 06:00:47.7±1.1, 49.88N×18.39E, h1^{km}, ML3.2/9, Error ellipse: s-maj=11.1km s-min=10.0km az=139.0*
ISC 12 06:00:41.5±0.5**, 49.97N**±0.03×**18.46E**±0.03**, n30,** σ1^{s}**35**/55**, 1C, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.20**	**305**	*e*PG	**Pg**	**06 00 49.0**	**+3.4**
RAC				*e*SG	**Sg**	**06 00 54.0**	**+5.7**
RAC	**Raciborz**	**0.20**	**305**	*e*Pg	**Pg**	**06 00 49.4**	**+3.8**
RAC				*e*Sg	**Sg**	**06 00 54.3**	**+6.0**
OKC	**Ostrava-Krasne**	**0.24**	**237**	*e*PG	**Pg**	**06 00 49.3**	**+3.1**
OKC				*e*SG	**Sg**	**06 00 55.1**	**+5.7**
MORC	**Moravsky Berou**	**0.62**	**252**	*e*Pg	**Pg**	**06 00 55.8**	**+1.9**
OJC	**Ojcow**	**0.90**	**73**	*e*PG	**Pg**	**06 00 59.0**	**-0.5**
OJC				*e*SG	**Sg**	**06 01 10.0**	**-1.5**
OJC	**Ojcow**	**0.90**	**73**	*e*Pg	**Pg**	**06 00 58.9**	**-0.6**
OJC				*e*Sg	**Sg**	**06 01 10.4**	**-1.1**
NIE	**Niedzica**	**1.33**	**114**	*e*PG	**Pg**	**06 01 07.0**	**-0.9**
NIE				*i* SG	**Sg**	**06 01 25.4**	**-0.2**
KOLL	**Kolacno**	**1.39**	**181**	*e*PN	**Pn**	**06 01 09.4**	**+1.2**
KOLL				*e*SN	**Sn**	**06 01 28.5**	**+1.0**
DPC	**Dobruska-Polom**	**1.42**	**286**	*e*PG	**Pg**	**06 01 10.0**	**+0.1**
DPC				*e*SG	**Sg**	**06 01 30.9**	**+2.0**
	56nm,0.5s						
KSP	**Ksiaz**	**1.64**	**303**	*e*PN	**Pn**	**06 01 13.0**	**+1.3**
KSP				*e*PG	**Pg**	**06 01 16.0**	**+1.8**
KSP				*e*SG	**Sg**	**06 01 38.0**	**+2.0**
KSP	**Ksiaz**	**1.64**	**303**	*e*Pn	**Pn**	**06 01 13.2**	**+1.5**
KSP				*e*Pg	**Pg**	**06 01 15.9**	**+1.7**
KSP				*e*Sg	**Sg**	**06 01 37.8**	**+1.8**
PSZ	**Piszkesteto**	**2.26**	**155**	⇑*i*PB	**Pb**	**06 01 25.7**	**+2.8**
PSZ				*e*Sn	**Sn**	**06 01 54.0**	**+4.4**
PRU	**Pruhonice**	**2.53**	**272**	*e*PN	**Pn**	**06 01 24.6**	**+0.2**
PRU				*e*PG	**Pg**	**06 01 29.9**	**-2.0**
PRU				*e*SG	**Sg**	**06 02 04.6**	**-1.0**
	24nm,0.8s						
PVCC	**Panska Ves**	**2.56**	**284**	*e*SG	**Sg**	**06 02 06.7**	**+0.1**
BRG	**Berggiesshubel**	**3.02**	**289**	*e*Pg	**Pg**	**06 01 40.3**	**-1.5**
BRG				*e*Sg	**Sg**	**06 02 22.7**	**+0.5**
BRG	**Berggiesshubel**	**3.02**	**289**	*i* P	**Pn**	**06 01 39.6**	**+8.1**
BRG				*e*		06 01 46.0	
BRG				*i*		06 02 22.4	
KHC	**Kasperske Hory**	**3.28**	**257**	*e*PN	**Pn**	**06 01 35.9**	**+0.7**
KHC				*e*PG	**Pg**	**06 01 43.6**	**-3.4**
KHC				*e*SG	**Sg**	**06 02 29.2**	**-1.6**
GEC2	**GERESS Array S**	**3.30**	**252**	*e*Pg	**Pg**	**06 01 45.2**	**-2.2**
GEC2				*e*Sg	**Sg**	**06 02 31.7**	**+0.4**
GEC2	**GERESS Array S**	**3.30**	**252**	*e*Pg	**Pg**	**06 01 45.2**	**-2.2**
GEC2				*e*Sg	**Sg**	**06 02 31.7**	**+0.3**
ARSA	**Arzberg**	**3.34**	**217**	*i* SG	**Sg**	**06 02 32.6**	**-0.2**
	5.2nm,0.7s						
ARSA	**Arzberg**	**3.34**	**217**	*i* P	**Pg**	**06 01 48.8**	**+0.6**
ARSA				*i* Sg	**Sg**	**06 02 32.6**	**-0.2**
CLL	**Collm**	**3.72**	**293**	*e*Pg	**Pg**	**06 01 55.3**	**-0.5**
CLL				*e*Sg	**Sg**	**06 02 46.2**	**+0.8**
WET	**Wettzell**	**3.72**	**259**	*e*Sg	**Sg**	**06 02 43.6**	**-1.9**
NKC	**Novy Kostel**	**3.88**	**276**	*e*SG	**Sg**	**06 02 49.2**	**-1.3**
TANN	**Tannenbergstha**	**3.88**	**279**	*e*Sg	**Sg**	**06 02 49.6**	**-1.0**
GUNZ	**Gunzen**	**3.96**	**278**	*e*Pg	**Pg**	**06 01 58.6**	**-1.9**
GUNZ				*e*Sg	**Sg**	**06 02 53.0**	**-0.2**
WERD	**Werda**	**3.98**	**279**	*e*Sg	**Sg**	**06 02 54.7**	**+0.8**
MOX	**Moxa**	**4.44**	**281**	*e*Pg	**Pg**	**06 02 09.0**	**-1.0**
MOX				*e*Sg	**Sg**	**06 03 11.5**	**+2.3**
MOX	**Moxa**	**4.44**	**281**	Pn	**Pg**	**06 02 07.5**	**-2.5**
MOX				Sn	**Sg**	**06 03 15.5**	**+6.3**
GRF	**Grafenberg Arr**	**4.69**	**269**	*e*Sg	**Sg**	**06 03 17.0**	**-0.6**

IDC 12 06:18:35.1±5.3**, 7.45S**×**121.15E, h546**^{km}±83^{km}**, mb2.7**/3**, mb1 2.7**/5**, mb1mx2.6**/16**, Error ellipse: s-maj=165.0km s-min=26.8km az=51.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.45**	**158**	P	P	06 21 08.1	-0.5
	0.3nm,0.3s,baz=346,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**17.82**	**135**	P	P	06 22 11.2	-0.7
	0.2nm,0.3s,baz=313,slow=10,SNR=13						
ASAR	**Alice Springs**	**20.24**	**144**	P	P	06 22 33.9	-0.8
	0.2nm,0.3s,baz=319,slow=9.5,SNR=3.4						
STKA	**Stephens Creek**	**30.88**	**145**	P	P	06 24 07.5	-1.3
	0.6nm,0.3s,baz=331,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**64.09**	**331**	P	P	06 28 15.8	-1.6
	0.6nm,0.6s,baz=135,slow=7.5,SNR=5.9						

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*NEIC **12** 06:28:06.1, 16.97N×95.36W, h102^{km}, MD4.0(MEX), After MEX.*
MEX 12 06:28:06.5±1.3**, 16.97N**×**95.37W, h98**^{km}±12^{km}**, MD4.0, 1C, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.48**	**76**	⇑*i*P	P	06 28 21.0	-1.1
CMIG				*i* S	S	06 28 32.0	-1.8
OXX	**Oaxaca**	**1.30**	**275**	*i* P	P	06 28 29.5	-1.2
OXX				*i* S	S	06 28 48.0	-0.8
VHO	**Vista Hermosa**	**1.31**	**275**	*i* P	P	06 28 29.2	-1.5
VHO				*i* S	S	06 28 46.6	-2.2
HUIG	**Huatulco**	**1.39**	**211**	*i* P	P	06 28 29.1	-2.7
HUIG				*i* S	S	06 28 47.4	-3.1
TUIG	**Tuzandepetl**	**1.39**	**40**	*i* P	P	06 28 30.9	-0.8
TUIG				*i* S	S	06 28 48.7	-1.8
EVV	**El Vigia**	**1.48**	**1**	*i* P	P	06 28 30.2	-2.6
EVV				*i* S	S	06 28 48.5	-3.8
IISM	**Ciudad Serdan**	**2.77**	**317**	*e*P	P	06 28 48.0	-2.1
IISM				*i* S	S	06 29 20.0	-2.7
CCIG	**Comitan**	**3.17**	**102**	*e*P	P	06 28 55.2	-0.5
CCIG				*i* S	S	06 29 32.2	-0.5
PPM	**Popocatepetl**	**3.73**	**304**	*e*P	P	06 29 04.5	+1.2

IDC 12 06:51:14.1±3.4**, 10.46S**×**124.94E, mb3.8**/2**, mb1 3.7**/5**, mb1mx3.5**/13**, ML2.8**/3**, Error ellipse: s-maj=67.4km s-min=49.6km az=58.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.62**	**175**	Pn	Pn	06 53 07.3	-1.9
	0.2nm,0.3s,baz=357,slow=17,SNR=9.3						
FITZ				Sn	Sn	06 54 34.0	-3.4
	0.1nm,0.3s,baz=345,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**13.07**	**137**	Pn	P	06 54 20.7	-3.2
	0.1nm,0.3s,baz=312,slow=14,SNR=5.9						
WRA				Sn	S	06 56 46.3	-5.0
	0.1nm,0.3s,baz=316,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**15.67**	**148**	Pn	P	06 54 57.0	-1.0
	0.0nm,0.3s,baz=321,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**26.30**	**147**	P	P	06 56 52.4	-0.9
	5.2nm,1.2s,baz=350,slow=6.1,SNR=3.5						
VNDA	**Vanda**	**69.69**	**172**	P	P	07 02 24.8	-2.5
	0.4nm,0.8s,baz=323,slow=5.1,SNR=3.1						

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*IDC **12** 07:00:18.9±0.6, 0.15S×125.18E, mb4.1/13, mb1 4.2/14, mb1mx4.1/18, ML3.6/1, MS3.2/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=40.7km s-min=14.1km az=65.0*
*BJI **12** 07:00:22.6, 0.20S×125.20E, h25^{km}, mB5.0, mb4.8, Ms4.6, Msz4.4*
*NEIC **12** 07:00:22.6±0.3, 0.23S×125.19E, h25^{km}, mb4.8/10, Error ellipse: s-maj=21.8km s-min=7.3km az=70.0*
*SYO **12** 07:00:22.6, 0.23S×125.19E, h25^{km}, MB4.8*
ISC 12 07:00:22.2±0.4**, 0.28S**±0.07×**125.1E**±0.2**, h33**^{km}**, n37,** σ1^{s}**25**/33**, mb4.4**/24**, MS3.5**/6**, 2C-1D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.71**	**178**	*e*P	**P**	**07 04 28.8**	**+0.7**
	2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.71**	**178**	P	**P**	**07 04 29.2**	**+1.1**
	0.2nm,0.3s,baz=5.5,slow=10,SNR=4.4						
FITZ				LR	LR	07 10 17.1	
	comp=Z,46nm,20.5s,baz=80,slow=34						
WRAB	**Tennant Creek**	**21.53**	**156**	*e*P	**P**	**07 05 06.6**	**-4.1**
	14nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**21.53**	**156**	P	**P**	**07 05 09.0**	**-1.7**
	7.4nm,1.2s,mb4.0,baz=334,slow=11,SNR=27						
WRA				PcP	PcP	07 09 12.6	-0.3
	0.3nm,0.6s,baz=315,slow=1.3,SNR=4.8						
WB2	**Warramunga Arr**	**21.54**	**156**	*e*P	**P**	**07 05 08.6**	**-2.1**
ASAR	**Alice Springs**	**24.76**	**160**	P	**P**	**07 05 43.5**	**+1.0**
	0.9nm,0.5s,mb3.6,baz=348,slow=12,SNR=11						
ASAR				PcP	PcP	07 09 19.4	-0.3
	2.0nm,0.9s,baz=347,slow=2.3,SNR=11						
ASAR				LR	LR	07 14 57.9	
	comp=Z,65nm,19.8s,MS3.1,baz=140,slow=35						
SSE	**Sheshan**	**31.43**	**354**	P	**P**	**07 06 44.9**	**+2.1**
SSE				XP	sP	07 06 57.4	+0.6
SSE				S	**S**	**07 11 51.6**	**+4.5**
SSE				XS		07 12 06.8	
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				LR	LR		
	comp=N,75nm,19.6s,MS3.4						
SSE				LR	LR		
	comp=E,43nm,19.6s,MS3.4						
SSE				LR	LR		
	comp=Z,80nm,21.4s,MS3.4						
CMAR	**Chiang Mai Arr**	**31.74**	**307**	P	**P**	**07 06 46.0**	**+0.4**
	comp=Z,0.9nm,0.9s,mb3.6,baz=144,slow=9.0,SNR=5.4						
CMAR				PcP	PcP	07 09 37.8	+1.0
	comp=Z,2.1nm,1.1s,baz=173,slow=2.8,SNR=5.5						
CMAR				LR	LR	07 19 22.1	
	comp=Z,50nm,19.9s,MS3.2,baz=125,slow=36						
NJ2	**Nanjing**	**32.70**	**350**	*e*P	**P**	**07 06 55.4**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
STKA	**Stephens Creek**	**35.08**	**155**	P	**P**	**07 07 14.3**	**-0.2**
	comp=Z,8.9nm,1.1s,mb4.6,baz=309,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**35.08**	**155**	*e*P	**P**	**07 07 14.1**	**-0.3**
LZH	**Lanzhou**	**41.23**	**334**	*e*P	**P**	**07 08 07.2**	**+1.4**
LZH				AP	pP	07 08 14.8	-0.9
LZH				XP	sP	07 08 18.3	-1.5
LZH				PP	PP	07 09 46.5	+2.5
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				LR	LR		
	comp=N,383nm,13.2s						
LZH				LR	LR		
	comp=Z,496nm,17.2s,MS4.4						
LZH	**Lanzhou**	**41.23**	**334**	*e*P	**P**	**07 08 07.2**	**+1.4**
	comp=Z,27nm,1.3s,mb4.7						
LZH				pP	pP	07 08 14.8	-0.9
LZH				sP	sP	07 08 18.3	-1.5
LZH				PP	PP	07 09 46.5	+2.5
CN2	**Changchun**	**43.89**	**0**	*e*P	**P**	**07 08 29.6**	**+2.1**
SONM	**Songino Array**	**50.62**	**344**	P	**P**	**07 09 18.6**	**-1.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=158,slow=7.8,SNR=6.9						
WMQ	**Urumqi**	**55.14**	**328**	⇓P	**P**	**07 09 53.1**	**-0.7**
WMQ				AP	pP	07 10 00.8	-3.1
WMQ				XP	sP	07 10 04.1	-3.7
WMQ				PCP	PcP	07 10 53.6	-1.0
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
WMQ				LR	LR		
	comp=E,47nm,20.8s						
WMQ				LR	LR		
	comp=Z,31nm,20.8s,MS3.4						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**07 10 26.1**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=122,slow=8.3,SNR=25						
MKAR				LR	LR	07 36 35.4	
	comp=Z,35nm,19.8s,MS3.5,baz=181,slow=36						
YAK	**Yakutsk**	**62.25**	**2**	*e*P	**P**	**07 10 42.1**	**-0.8**
	comp=Z,21nm,0.6s,mb5.5						
KURK	**Kurchatov**	**64.28**	**329**	*e*P	**P**	**07 10 54.0**	**-2.5**
	comp=Z,6.1nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**69.82**	**328**	P	**P**	**07 11 30.7**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=9.7						
BRVK	**Borovoye**	**69.89**	**328**	*e*P	**P**	**07 11 31.4**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**70.51**	**328**	*e*P	**P**	**07 11 34.3**	**-1.3**
	comp=Z,8.5nm,1.1s,mb4.6						
VNDA	**Vanda**	**79.68**	**172**	P	**P**	**07 12 28.4**	**+0.7**
	comp=Z,1.0nm,1.1s,mb3.7,baz=301,slow=9.9,SNR=3.1						
SBA	**Scott Base**	**80.61**	**172**	*e*P	**P**	**07 12 33.5**	**+0.8**
	comp=Z,1.6nm,0.5s,mb4.2						
IMA	**Indian Mountai**	**86.69**	**24**	*e*P	**P**	**07 13 04.8**	**+1.3**
	comp=Z,11nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**87.84**	**269**	P	**P**	**07 13 11.7**	**+1.3**
	comp=Z,0.5nm,0.5s,mb4.0,baz=264,slow=11,SNR=5.0						
SYO	**Syowa Base**	**88.12**	**201**	⇑P	**P**	**07 13 11.9**	**+1.5**
SYO	**Syowa Base**	**88.12**	**201**	⇑sP	sP	07 13 25.9	+1.5
ILAR	**Eielson Array**	**89.40**	**25**	P	**P**	**07 13 16.0**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.9,baz=239,slow=4.6,SNR=4.9						
BRTR	**Keskin Array B**	**91.31**	**310**	P	**P**	**07 13 25.6**	**-0.5**
	comp=Z,0.8nm,0.6s,mb4.2,baz=117,slow=6.4,SNR=3.5						
AKASG	**Malin Array Be**	**93.95**	**321**	P	**P**	**07 13 36.9**	**-1.0**
	comp=Z,0.3nm,0.3s,mb4.2,baz=63,slow=2.1,SNR=4.6						
INK	**Inuvik**	**94.47**	**21**	P	**P**	**07 13 40.2**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.5,baz=327,slow=4.8,SNR=4.5						
INK	**Inuvik**	**94.47**	**21**	*e*P	**P**	**07 13 39.7**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.6						
TXAR	**Lajitas Array**	**125.31**	**54**	PKP	PKPdf	07 19 22.9	+2.4
	comp=Z,0.4nm,0.9s,baz=225,slow=1.8,SNR=4.9						
TXAR	**Lajitas Array**	**125.31**	**54**	PKP	PKPdf	07 19 22.9	+2.4
CPUP	**Villa Florida**	**153.44**	**175**	PKPbc	PKPdf	07 20 20.6	+10
	comp=Z,1.0nm,0.8s,baz=272,slow=20,SNR=2.6						
LPAZ	**La Paz**	**158.99**	**142**	PKP	PKPdf	07 20 20.9	+3.3
	comp=Z,0.7nm,0.8s,baz=337,slow=5.7,SNR=3.4						
LPAZ				PKPab	PKPab	07 20 58.4	+2.0
	comp=Z,0.6nm,0.5s,baz=184,slow=6.1,SNR=5.0						

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*ISK **12** 07:20:24.0, 38.44N×39.10E, h5^{km}, MD3.5*
ISC 12 07:20:25.7±0.6**, 38.39N**±0.04×**39.09E**±0.04**, h9**^{km}±5^{km}**, n20,** σ1^{s}**03**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.14**	**324**	*i* P	**Pg**	**07 20 28.9**	**0.0**
ELZG				*i* S	**Sg**	**07 20 31.9**	**+0.8**
MALT	**Malatya**	**0.52**	**262**	*i* PG	**Pg**	**07 20 34.9**	**-1.4**
MALT				*i* SG	**Sg**	**07 20 44.4**	**+1.0**
MALT	**Malatya**	**0.52**	**262**	*i* P	**Pg**	**07 20 35.9**	**-0.4**
MALT				*i* S	**Sg**	**07 20 42.4**	**-1.0**
MYA	**Malataya**	**0.52**	**263**	*i* PG	**Pg**	**07 20 36.0**	**-0.3**
DIY	**Diyarbakir**	**1.02**	**118**	*i* PG	**Pg**	**07 20 44.9**	**-1.3**
DIY				*i* SG	**Sg**	**07 21 00.7**	**+0.8**
BINT	**Bingol**	**1.20**	**66**	*i* PN	**Pn**	**07 20 47.6**	**-1.1**
EZC	**Erzincan**	**1.47**	**22**	PN	**Pn**	**07 20 50.2**	**-2.3**
GZT	**Gaziantep**	**1.59**	**230**	*i* P	**Pn**	**07 20 54.9**	**+0.7**
GZT				*i* S	**Sb**	**07 21 19.9**	**+5.1**
KELT	**Kelkit**	**1.76**	**4**	*e*P	**Pn**	**07 20 57.9**	**+1.2**
KELT				*e*S	**Sn**	**07 21 26.7**	**+7.3**
BEST	**Besiri**	**1.79**	**105**	*e*P	**Pn**	**07 20 56.7**	**-0.4**
BEST				*e*S	**Sn**	**07 21 21.8**	**+1.6**
BTMT	**Batman**	**1.90**	**95**	PN	**Pn**	**07 20 57.3**	**-1.3**
GAZ	**Gaziantep**	**1.92**	**231**	PN	**Pn**	**07 20 59.8**	**+0.9**
VRT	**Varto**	**2.05**	**68**	PN	**Pn**	**07 21 00.2**	**-0.6**
GUMT	**Gumushane**	**2.09**	**8**	*e*PN	**Pn**	**07 21 01.0**	**-0.4**
SVST	**Sivas**	**2.16**	**310**	*e*P	**Pn**	**07 21 06.3**	**+3.9**
SVST				*e*S	**Sn**	**07 21 38.3**	**+8.8**
SVSK	**Karacayir**	**2.23**	**314**	*e*PN	**Pn**	**07 21 03.8**	**+0.4**
EZM	**Erzurum**	**2.33**	**49**	*e*PN	**Pn**	**07 21 04.1**	**-0.7**
ERZM	**Erzurum**	**2.33**	**49**	*e*P	**Pn**	**07 21 08.7**	**+3.8**
ERZM				*e*S	**Sg**	**07 21 44.4**	**+1.0**
TOKT	**Tokat**	**2.76**	**315**	*e*PN	**Pn**	**07 21 10.6**	**-0.3**
HKR	**Hakkari**	**3.77**	**101**	*e*PN	**Pn**	**07 21 25.9**	**+0.7**

IDC 12 07:20:47.2±6.6**, 51.30N**×**177.58E, h120**^{km}±101^{km}**, mb3.1**/5**, mb1 3.5**/6**, mb1mx3.2**/24**, ML2.6**/1**, Error ellipse: s-maj=86.2km s-min=50.9km az=84.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**3.15**	**302**	P	P	07 21 36.1	-0.3
	2.6nm,0.3s,baz=84,slow=19,SNR=12						
FX1				S	S	07 22 12.8	-0.9
	3.9nm,0.3s,baz=267,slow=20,SNR=2.4						
ILAR	**Eielson Array**	**22.75**	**40**	P	P	07 25 37.8	-1.3
	0.5nm,0.5s,baz=236,slow=7.8,SNR=10.0						
INK	**Inuvik**	**28.83**	**36**	P	P	07 26 34.5	-1.2
	0.7nm,0.8s,baz=103,slow=15,SNR=1.8						
NVAR	**Mina Array Bea**	**45.81**	**80**	P	P	07 28 57.0	-1.3
	0.2nm,0.5s,baz=317,slow=7.4,SNR=3.9						
PDAR	**Pinedale Array**	**48.48**	**70**	P	P	07 29 17.4	-1.8
	1.0nm,0.7s,baz=311,slow=5.0,SNR=13						
TXAR	**Lajitas Array**	**60.90**	**79**	P	P	07 30 47.3	-2.1
	0.2nm,0.5s,baz=292,slow=6.4,SNR=6.5						

DJA 12 07:34:06.6±1.0**, 8.27S**×**117.09E, h60**^{km}±54^{km}**, MD4.5**/3**, ML4.0**/3**, 6C, Error ellipse: s-maj=481.7km s-min=27.1km az=159.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.99**	**257**	⇑*i*Pn	P	07 34 24.5	-0.2
	136nm,0.2s						
KEDI				⇑*i*Sn	S	07 34 37.4	-0.8
RATI	**Rata**	**1.61**	**254**	⇑*i*Pn	P	07 34 32.3	-1.0
	99nm,0.2s						
RATI				⇑*i*Sn	S	07 34 51.7	-1.3
INGI	**Ingas**	**2.00**	**254**	⇑*i*Pn	P	07 34 37.9	-0.8
	236nm,0.2s						
INGI				⇑*i*Sn	S	07 35 00.2	-2.3

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*NEIC **12** 08:00:19.2, 18.33N×100.78W, h17^{km}, MD3.8(MEX), After MEX.*
MEX 12 08:00:18.8±1.1**, 18.36N**×**100.85W, h57**^{km}±23^{km}**, MD3.8, 1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.95**	**218**	⇑*i*P	P	08 00 34.3	-1.9
ZIIG				*i* S	S	08 00 47.5	-1.7
PLIG	**Platanillo**	**1.28**	**88**	*i* P	P	08 00 38.7	-2.2
PLIG				*i* S	S	08 00 55.4	-2.0
MOIG	**Morelia**	**1.35**	**346**	*i* P	P	08 00 40.1	-1.8
MOIG				*i* S	S	08 00 55.9	-3.1
CAIG	**El Cayaco**	**1.42**	**157**	*i* P	P	08 00 40.1	-2.8

CAIG				*i*S	S	08 00 54.5	-6.2
CRX	**Cerrillo**	1.52	47	*i*P	P	08 00 43.5	-0.8
IIZ	**Mezontepec**	1.73	61	*e*P	P	08 00 46.0	-1.2
YAIG	**Yautepec**	1.77	73	*e*P	P	08 00 44.2	-3.5
YAIG				*i*S	S	08 01 05.4	-3.6
YAIG	**Yautepec**	1.77	73	*e*P	P	08 00 44.2	-3.5
YAIG				*i*S	S	08 01 01.4	-7.6
PPM	**Popocatepetl**	2.23	71	*e*P	P	08 00 51.8	-2.3
PPM				*i*P		08 00 52.5	
PPM				*i*S	S	08 01 19.2	-1.1
PPM	**Popocatepetl**	2.23	71	*e*P	P	08 00 51.8	-2.3
PPM				*i*S	S	08 01 19.2	-1.1
IISM	**Ciudad Serdan**	3.35	79	*i*P	P	08 01 09.0	-1.1
CMIG	**Matias Romero**	5.83	102	*i*P	P	08 01 42.0	-2.6
CMIG				*i*S	S	08 02 43.9	-7.1
CMIG	**Matias Romero**	5.83	102	*e*P	P	08 01 42.5	-2.1
CMIG				*i*S	S	08 02 40.8	-10

IDC 12 08:07:25.5±1.9**, 1.09S**×**136.86E, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.8**/14**, ML3.6**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.4**/21**, Error ellipse: s-maj=69.8km s-min=24.5km az=72.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	18.90	187	P	P	08 11 48.6	-1.4
	0.2nm,0.3s,baz=8.7,slow=12,SNR=18						
CTA	**Charters Tower**	21.00	155	P	P	08 12 10.2	-2.9
	1.4nm,0.4s,baz=329,slow=12,SNR=3.2						
ASAR	**Alice Springs**	22.62	187	P	P	08 12 28.4	-1.1
	3.1nm,0.7s,baz=15,slow=11,SNR=26						
ASAR				LR	LR	08 19 52.1	
	comp=Z,63nm,22.0s,baz=188,slow=33						
STKA	**Stephens Creek**	30.95	172	P	P	08 13 43.7	-2.8
	2.7nm,0.8s,baz=340,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	67.39	323	P	P	08 18 22.9	-2.0
	0.3nm,0.5s,baz=108,slow=8.1,SNR=5.1						

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*NEIC **12** 08:15:34.3±11.0, 5.04S×153.04E, h2^{km}±66^{km}, mb4.5/7, Error ellipse: s-maj=28.6km s-min=15.9km az=72.0*

*IDC **12** 08:15:40.4±5.2, 5.14S×153.06E, h45^{km}±45^{km}, mb3.7/10, mb1 3.9/12, mb1mx3.9/16, ML3.5/2, MS3.9/4, Ms1 3.9/4, ms1mx3.3/21, Error ellipse: s-maj=35.5km s-min=22.4km az=86.0*

ISC 12 08:15:38.0±4.5**, 5.0S**±0.1×**153.0E**±0.2**, h35**^{km}±36^{km}**, n26, σ1^{s}01**/24**, mb4.1**/16**, MS4.1**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.21	233	P	P	08 17 24.6	+0.9
	2.6nm,0.3s,baz=272,slow=1.0,SNR=6.8						
PMG				S	S	08 18 44.5	-0.8
	7.3nm,0.3s,baz=351,slow=17,SNR=12						
PMG	**Port Moresby**	7.21	233	*e*Pn	P	08 17 20.0	-3.7
PMG				S	S	08 18 44.5	-0.8
CTA	**Charters Tower**	16.32	203	P	P	08 19 26.7	+0.4
	0.2nm,0.3s,baz=38,slow=17,SNR=2.9						
CTA				LR	LR	08 24 30.6	
	comp=Z,127nm,20.0s,baz=322,slow=33						
CTA	**Charters Tower**	16.32	203	P	P	08 19 26.7	+0.4
CTA				LR	LR	08 24 30.6	
KAKA	**Kakadu**	21.68	248	*e*P	P	08 20 27.3	-0.5
	17nm,0.4s,mb4.8						
WRAB	**Tennant Creek**	23.40	229	*e*P	P	08 20 46.4	+1.6
	7.4nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	23.40	229	*e*P	P	08 20 46.5	+1.7
WRA	**Warramunga Arr**	23.41	229	P	P	08 20 45.0	0.0
	1.5nm,1.0s,mb3.4,baz=55,slow=10,SNR=13						
WRA				PcP	PcP	08 24 31.1	-1.3
	0.5nm,0.5s,baz=52,slow=2.7,SNR=5.0						
ASAR	**Alice Springs**	26.09	223	P	P	08 21 09.7	-0.8
	0.6nm,0.5s,mb3.4,baz=58,slow=9.1,SNR=6.5						
ASAR				LR	LR	08 30 50.7	
	comp=Z,82nm,19.0s,MS3.3,baz=41,slow=35						
STKA	**Stephens Creek**	28.75	200	P	P	08 21 29.6	-5.0
	1.9nm,0.7s,mb3.9,baz=20,slow=10,SNR=3.5						
FITZ	**Fitzroy Crossi**	29.69	242	*e*P	P	08 21 41.6	-1.5
	4.6nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	29.69	242	P	P	08 21 42.0	-1.1
	4.2nm,0.7s,mb4.3,baz=66,slow=5.2,SNR=13						
URZ	**Urewera**	39.70	150	LR	LR	08 36 34.7	
	comp=Z,503nm,18.2s,MS4.4,baz=222,slow=32						
RPZ	**Rata Peaks**	41.69	160	LR	LR	08 37 00.8	
	comp=Z,765nm,21.3s,MS4.5,baz=109,slow=31						
CMAR	**Chiang Mai Arr**	58.13	295	P	P	08 25 31.4	+0.5
	2.0nm,0.4s,mb4.5,baz=113,slow=5.0,SNR=8.1						
SONM	**Songino Array**	66.61	328	P	P	08 26 27.8	+0.7
	0.6nm,0.4s,mb3.9,baz=142,slow=5.4,SNR=8.2						
VNDA	**Vanda**	72.58	178	P	P	08 27 02.0	-1.1
	0.3nm,0.6s,mb3.4,baz=354,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	80.61	319	P	P	08 27 48.8	+0.1
	3.5nm,0.9s,mb4.3,baz=98,slow=7.4,SNR=17						
ILAR	**Eielson Array**	82.32	22	P	P	08 27 55.7	-1.6
	0.4nm,0.7s,mb3.5,baz=268,slow=5.2,SNR=6.9						
KURK	**Kurchatov**	84.06	322	*e*P	P	08 28 06.7	+0.3
	8.2nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	84.92	180	*e*P	P	08 28 11.7	+1.6
	0.8nm,0.5s,mb4.1						
MAW	**Mawson**	85.41	203	P	P	08 28 12.0	-0.7
	0.8nm,0.6s,mb4.0,baz=69,slow=8.6,SNR=3.0						
BRVK	**Borovoye**	89.60	323	P	P	08 28 34.3	+1.0
	1.9nm,0.8s,mb4.5						
ZRNK	**Zerenda**	90.35	323	*e*P	P	08 28 35.7	-1.1
	2.3nm,0.9s,mb4.5						
LPAZ	**La Paz**	134.16	118	PKP	PKPdf	08 34 56.0	+2.8
	0.5nm,0.7s,baz=271,slow=3.7,SNR=3.4						
BDFB	**Brasilia**	150.78	135	PKPbc	PKPdf	08 35 29.0	+7.0
	1.4nm,0.6s,baz=15,slow=1.1,SNR=4.0						

TRN 12 08:40:22.5, 17.56N×61.73W, h22^{km}, MD3.7, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	**Codrington**	0.12	310	⇑*i*P	Pb	08 40 28.3	+1.5
CPB				*e*S	Sb	08 40 32.1	+2.2
BPA	**Boggy Peak**	0.53	193	*e*P	Pb	08 40 34.1	+1.1
BPA				*e*S	Sb	08 40 44.5	+4.3
SKI	**Saint Kitts**	0.99	257	*e*P	Pb	08 40 42.4	+1.6
SKI				*e*S	Sb	08 40 57.8	+4.3
STAT	**Sint Eustatius**	1.19	267	⇑*e*P	Pn	08 40 45.1	+1.1
STAT				*e*S	Sb	08 41 02.8	+3.5
SABT	**Saba**	1.44	272	*e*P	Pn	08 40 49.1	+1.4
SABT				*e*S	Sn	08 41 07.8	+1.7
MGG	**Marie-Galante**	1.68	166	*e*P	Pn	08 40 51.3	+0.2
BBL	**Barber's Block**	2.04	173	*e*P	Pn	08 40 56.4	+0.2
BBL				*e*S	Sn	08 41 23.8	+2.5
MDN	**Morne-Daniel**	2.26	172	*e*P	Pn	08 40 57.4	-1.9
DBCT	**Belle View Cho**	2.31	171	*e*P	Pn	08 41 01.8	+1.7
DPMT	**Pointe Michel**	2.31	172	*e*P	Pn	08 41 02.1	+2.0
DSTT	**Stowe**	2.34	170	*e*P	Pn	08 41 01.9	+1.4
DSTT				*e*S	Sn	08 41 36.1	+7.2

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*NIED **12** 08:48:00, 34.30N×141.60E, h26^{km}, Mw4.5 Best double couple: M$_0$6.09×10^{15} NP1:ϕ$_s$126°, δ82°, λ38°. NP2:ϕ$_s$30°, δ52°, λ170°.*

*JMA **12** 08:48:37.0±0.2, 34.31N×141.59E, h27^{km}±2^{km}, M3.8*

*BJI **12** 08:48:38.2, 34.32N×141.19E, h17^{km}, mB5.0, mb4.5, Ms4.4, Msz4.1*

*MOS **12** 08:48:38.4±1.5, 34.57N×141.58E, h33^{km}, mb4.5/2, Error ellipse: s-maj=26.3km s-min=13.2km az=101.9*

*NEIC **12** 08:48:41.0±2.9, 34.28N×141.37E, h32^{km}±20^{km}, mb4.7/21, MW4.5(NIED), Error ellipse: s-maj=7.5km s-min=6.6km az=118.0*

*IDC **12** 08:48:42.6±0.5, 34.33N×141.46E, h47^{km}±4^{km}, mb3.9/16, mb1 4.2/19, mb1mx4.1/26, MS3.8/12, Ms1 3.8/12, ms1mx3.5/28, Error ellipse: s-maj=12.3km s-min=6.5km az=127.0*

ISC 12 08:48:39.8±0.7**, 34.29N**±0.03×**141.40E**±0.05**, h37**^{km}±6^{km}**, h44**^{km}±1.8^{km}**:pP-P, n92, σ1^{s}11**/97**, mb4.4**/40**, MS3.9**/12**, 2C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.51	316	⇑P	P	08 48 49.0	-1.5
BSO1				S	S	08 48 57.4	-0.7
BSO2	**Boso 2**	0.71	311	*e*S	S	08 49 04.1	+0.9
BSO3	**Boso 3**	0.90	305	P	P	08 48 55.9	-0.1
BSO3				*e*S	S	08 49 09.0	+1.0
BSO4	**Boso 4**	1.12	309	P	P	08 48 59.6	+0.4
BSO4				*e*S	S	08 49 15.1	+1.4
CHOJ	**Chosi**	1.48	343	⇑P	P	08 49 03.1	-1.3
CHOJ				*e*S	S	08 49 20.6	-2.2
JIM2	**Oshima 3**	1.68	285	P	P	08 49 07.2	-0.1
JHJ	**Hachijo jima 2**	1.78	230	P	P	08 49 10.3	+1.6
	82nm,0.3s,baz=63,slow=2.3,SNR=28						
JHJ				S	S	08 49 33.8	+3.5
	152nm,0.3s,baz=246,slow=23,SNR=12						
JIZS	**Izushimoda**	2.13	282	P	P	08 49 14.1	+0.5
JOD2	**Odawara 2**	2.14	298	P	P	08 49 13.8	0.0
MAJO	**Matsushiro**	3.45	312	*e*P	P	08 49 33.0	+0.6
MAT	**Matsushiro**	3.45	312	P	P	08 49 32.8	+0.4
MAT				S	S	08 50 13.5	+1.0
MAT	**Matsushiro**	3.45	312	*e*P	P	08 49 33.0	+0.6
MAT				*e*S	S	08 50 14.0	+1.5
CBIJ	**Chichi jima**	7.20	174	P	P	08 50 24.6	-0.6
	24nm,0.3s,baz=294,slow=23,SNR=4.2						
CBIJ				S	S	08 51 45.9	-0.8
	20nm,0.3s,baz=287,slow=19,SNR=3.5						
CBIJ				LR	LR	08 53 25.5	
	comp=Z,602nm,18.1s,baz=58,slow=39						
JNU	**Nakatsue**	8.85	265	P	P	08 50 49.8	+1.7
	0.7nm,0.3s,baz=40,slow=11,SNR=3.6						
ASAJ	**Asahikawa**	9.86	5	P	P	08 50 56.5	-5.5
	2.0nm,0.3s,baz=240,slow=6.0,SNR=8.0						
ASAJ				S	S	08 52 38.5	-14
	0.4nm,0.3s,baz=112,slow=27,SNR=2.3						
ASAJ				LR	LR	08 56 02.1	
	comp=Z,467nm,18.4s,baz=172,slow=45						
YSS	**Yuzh-Sakhalins**	12.70	4	*e*P	P	08 51 33.0	-7.5
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	12.70	4	*e*P	P	08 51 34.4	-6.1
	comp=E,21nm,0.8s						
MDJ	**Mudanjiang**	13.76	322	P	P	08 51 52.9	-1.5
MDJ				S	S	08 54 25.7	-1.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,83nm,6.1s						
MDJ				LR	LR		
	comp=N,505nm,13.1s						
MDJ				LR	LR		
	comp=E,495nm,12.9s						
MDJ				LR	LR		
	comp=Z,416nm,12.0s						
CN2	**Changchun**	15.60	312	*e*P	P	08 52 18.9	+0.5
CN2				*e*S	S	08 55 11.4	+1.3
CN2				LR	LR		
	comp=N,500nm,16.0s						
CN2				LR	LR		
	comp=E,600nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
NJ2	**Nanjing**	19.00	270	*e*P	P	08 53 00.2	-0.8
GUMO	**Guam**	20.84	170	*e*P	P	08 53 19.2	-1.6
	comp=Z,409nm,1.4s						
GUMO				*e*		08 53 39.7	
HIA	**Hailar**	21.91	320	P	P	08 53 26.2	-5.1
	comp=Z,5.2nm,0.8s,mb4.0						
MA2	**Magadan**	26.04	11	*e*P	P	08 54 10.2	-0.9
	comp=Z,9.1nm,0.7s,mb4.4						
ENH	**Enshi**	27.22	270	*e*P	P	08 54 21.3	-0.9
	comp=Z,8.8nm,0.7s,mb4.4						
ENH				*e*		08 54 52.2	
YAK	**Yakutsk**	28.75	349	P	P	08 54 34.5	-1.1
SONM	**Songino Array**	29.39	308	P	P	08 54 41.6	+0.2
	comp=Z,1.5nm,0.7s,mb3.8,baz=107,slow=9.1,SNR=14						
SONM				pP	pP	08 54 54.6	+2.7
	comp=Z,5.9nm,0.8s,baz=111,slow=8.2,SNR=18						
BOD	**Bodaibo**	29.88	330	*e*P	P	08 54 42.3	-3.4
LZH	**Lanzhou**	30.63	284	*e*P	P	08 54 52.3	-0.3
LZH				AP	pP	08 54 59.6	-3.5
LZH				XP	sP	08 55 03.2	-4.8
LZH				PP	PP	08 55 52.4	-1.3
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,391nm,12.2s						
LZH				LR	LR		
	comp=Z,586nm,15.1s,MS4.4						
LZH	**Lanzhou**	30.63	284	*e*P	P	08 54 52.3	-0.3
	comp=Z,29nm,1.3s,mb5.0						
LZH				pP	pP	08 54 59.6	-3.5
LZH				sP	sP	08 55 03.2	-4.8
LZH				PP	PP	08 55 52.4	-1.3
LZH				LR	LR		
	comp=Z,590nm,15.1s,MS4.4						
ZAK	**Zakamensk**	32.03	312	*e*P	P	08 55 04.7	-0.1
ZAK				*e*		08 55 18.7	
KMI	**Kunming**	34.63	265	*e*P	P	08 55 26.0	-1.6
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
KMI	**Kunming**	34.63	265	*e*P	P	08 55 26.0	-1.6
	comp=Z,11nm,0.6s,mb5.0						
CMAR	**Chiang Mai Arr**	40.86	258	P	P	08 56 19.4	-0.4
	comp=Z,1.1nm,0.5s,mb3.7,baz=45,slow=7.3,SNR=6.8						
CMAR				LR	LR	09 15 29.8	
	comp=Z,79nm,19.9s,MS3.6,baz=50,slow=39						
WMQ	**Urumqi**	42.13	300	⇓P	P	08 56 31.3	+1.4
WMQ				AP	pP	08 56 38.8	-1.9
WMQ				XP	sP	08 56 42.3	-3.0
WMQ				PP	PP	08 58 12.3	+1.7
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,17nm,6.9s						
WMQ				LR	LR		
	comp=N,100nm,20.2s,MS3.8						
WMQ				LR	LR		
	comp=E,79nm,21.6s,MS3.8						
WMQ				LR	LR		
	comp=Z,54nm,18.8s,MS3.5						
MKAR	**Makanchi Array**	45.62	304	P	P	08 56 58.5	+0.4
	comp=Z,2.2nm,0.6s,mb4.3,baz=86,slow=9.4,SNR=12						
MKAR				pP	pP	08 57 11.3	+2.4
	comp=Z,6.4nm,0.8s,baz=85,slow=11,SNR=12						
MKAR				LR	LR	09 17 35.4	
	comp=Z,92nm,19.0s,MS3.7,baz=254,slow=38						
MKAR	**Makanchi Array**	45.62	304	P	P	08 56 58.5	+0.4
MKAR				pP	pP	08 57 11.3	+2.4
MKAR				LR	LR	09 17 35.4	
KURK	**Kurchatov**	47.66	310	*e*P	P	08 57 13.4	-0.6
PKI	**Pulchoki**	47.99	278	*e*P	P	08 57 15.6	-1.4
	comp=Z,18nm,1.0s,mb5.0						
KKN	**Kakani**	48.01	278	*e*P	P	08 57 16.0	-1.2
	comp=Z,18nm,0.9s,mb5.1						
DMN	**Daman**	48.23	278	*e*P	P	08 57 16.6	-2.2
	comp=Z,30nm,1.1s,mb5.2						
GKN	**Gorkha**	48.46	279	*e*P	P	08 57 20.4	-0.2
KOLN	**Koldanda**	49.40	279	*e*P	P	08 57 21.6	-6.3
PMR	**Palmer**	50.85	35	*e*P	P	08 57 37.9	-0.6
	comp=Z,14nm,1.3s,mb4.7						
COLA	**College**	51.42	31	*e*P	P	08 57 43.1	+0.3
	comp=Z,3.8nm,0.8s,mb4.4						
ILAR	**Eielson Array**	51.83	31	P	P	08 57 44.2	-1.6
	comp=Z,4.5nm,0.8s,mb4.4,baz=269,slow=6.3,SNR=48						
ILAR				LR	LR	09 17 19.7	
	comp=Z,33nm,19.9s,MS3.4,baz=61,slow=33						
BVAR	**Borovoye Array**	52.44	314	P	P	08 57 49.3	-1.3
	comp=Z,2.1nm,0.9s,mb4.1,baz=95,slow=18,SNR=4.8						
ZRNK	**Zerenda**	53.28	314	*e*P	P	08 57 55.8	-1.1
	comp=Z,14nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	54.22	199	*e*P	P	08 58 04.6	+0.4
	comp=Z,5.2nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	54.22	199	LR	LR	09 20 36.1	
	comp=Z,64nm,18.4s,MS3.7,baz=180,slow=35						
WRAB	**Tennant Creek**	54.33	188	*e*P	P	08 58 02.9	-2.2
	comp=Z,18nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	54.34	188	P	P	08 58 05.0	-0.1
	comp=Z,2.1nm,0.6s,mb4.3,baz=1.4,slow=7.5,SNR=33						
WRA				pP	pP	08 58 18.1	+1.9
	comp=Z,5.0nm,0.7s,baz=3.7,slow=7.7,SNR=11						
KKAR	**Karatay Array**	54.53	302	*i*P	P	08 58 05.8	-0.4
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
DAWY	**Dawson**	55.12	32	*e*P	P	08 58 09.7	-0.5
INK	**Inuvik**	56.84	26	P	P	08 58 21.6	-1.0
	comp=Z,6.3nm,0.7s,mb4.8,baz=293,slow=6.5,SNR=17						
INK	**Inuvik**	56.84	26	*e*P	P	08 58 21.6	-0.9
	comp=Z,9.5nm,0.9s,mb4.8						
ASAR	**Alice Springs**	58.07	188	P	P	08 58 31.9	+0.1
	comp=Z,2.3nm,1.0s,mb4.2,baz=1.0,slow=6.6,SNR=11						
ASAR				pP	pP	08 58 44.2	+1.4
	comp=Z,2.7nm,0.7s,baz=14,slow=12,SNR=7.9						
ARU	**Arti**	58.43	320	*e*P	P	08 58 31.7	-2.1
ARU	**Arti**	58.43	320	*e*P	P	08 58 32.0	-1.7
	comp=Z,7.7nm,0.8s,mb4.8						
AB31	**Akbulak array**	59.72	311	P	P	08 58 41.3	-1.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
DLBC	**Dease Lake**	60.81	37	*e*P	P	08 58 50.7	+0.5
ARCES	**ARCESS Array B**	66.56	340	LR	LR	09 34 44.8	
	comp=Z,113nm,19.2s,MS4.1,baz=29,slow=42						
GNW	**Green Mountain**	69.13	46	*e*P	P	08 59 45.4	+1.4
FINES	**FINESS Array B**	71.24	333	P	P	08 59 56.5	-0.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=45,slow=5.4,SNR=5.9						
FINES				pP	pP	09 00 09.7	+1.8
	comp=Z,8.1nm,1.1s,baz=90,slow=3.8,SNR=5.8						
FINES	**FINESS Array B**	71.24	333	P	P	08 59 56.5	-0.1
FINES				pP	pP	09 00 09.7	+1.8
GNI	**Garni**	73.35	307	LR	LR	09 35 58.9	
	comp=Z,129nm,18.1s,MS4.2,baz=134,slow=39						
BEKR	**Beckwourth**	74.53	52	*e*P	P	09 00 16.3	0.0
	comp=Z,5.9nm,0.9s,mb4.5						
FFC	**Flin Flon**	76.02	32	*e*P	P	09 00 24.3	-0.2
	comp=Z,7.4nm,1.0s,mb4.6						
HLID	**Hailey**	76.26	47	*e*P	P	09 00 26.5	+0.4
	comp=Z,2.2nm,1.0s,mb4.0						
AKASG	**Malin Array Be**	76.47	323	P	P	09 00 26.2	-0.9
	comp=Z,1.5nm,0.5s,mb4.2,baz=46,slow=6.1,SNR=6.3						
AKASG				pP	pP	09 00 41.2	+2.7
	comp=Z,3.3nm,0.6s,baz=48,slow=6.3,SNR=3.6						
NVAR	**Mina Array Bea**	76.65	53	P	P	09 00 28.0	-0.4
	comp=Z,1.6nm,0.8s,mb4.0,baz=296,slow=4.2,SNR=13						
NVAR				pP	pP	09 00 41.8	+2.0
	comp=Z,1.7nm,0.9s,baz=271,slow=4.4,SNR=5.9						
NVAR				LR	LR	09 27 22.7	
	comp=Z,34nm,21.5s,MS3.6,baz=275,slow=30						
NB2	**NORSAR Subarra**	76.72	338	P	P	09 00 28.0	-0.3
	comp=Z,2.5nm,0.6s,mb4.3,baz=40,slow=5.8						
NOA	**NORSAR Array B**	76.72	338	P	P	09 00 28.5	+0.2
	comp=Z,2.2nm,0.7s,mb4.2,baz=39,slow=5.7,SNR=8.1						
NOA				pP	pP	09 00 41.8	+2.1
	comp=Z,3.1nm,0.7s,baz=39,slow=5.7,SNR=8.9						
NOA				LR	LR	09 37 22.9	
	comp=Z,130nm,19.7s,MS4.2,baz=15,slow=38						
NOA	**NORSAR Array B**	76.72	338	P	P	09 00 28.5	+0.2
NOA				pP	pP	09 00 41.8	+2.1
NOA				LR	LR	09 37 22.9	
TPH	**Tonopah**	77.56	52	*e*P	P	09 00 34.9	+1.4
	comp=Z,4.8nm,1.1s,mb4.3						
MALT	**Malatya**	78.47	309	*e*P	P	09 00 40.6	+2.1
	comp=Z,8.4nm,1.1s,mb4.6						
MALT				*e*		09 00 44.8	
MALT				*e*	pP	09 00 53.5	+3.6
BGU	**Big Grassy Mou**	78.61	48	*e*P	P	09 00 39.6	+0.4
HWUT	**Hardware Ranch**	79.10	47	*e*P	P	09 00 42.9	+1.0
	comp=Z,11nm,1.2s,mb4.7						
HWUT				*e*	pP	09 00 54.4	+1.1
DUG	**Dugway**	79.17	49	*e*P	P	09 00 43.3	+1.0
	comp=Z,8.5nm,1.0s,mb4.6						
DUG				*e*	pP	09 00 54.5	+0.8
PDAR	**Pinedale Array**	79.60	45	P	P	09 00 45.6	+1.0
	comp=Z,1.0nm,0.9s,mb3.7,baz=297,slow=3.3,SNR=8.1						
DAU	**Daniels Canyon**	80.00	48	*e*P	P	09 00 48.3	+1.6
DAU				*e*		09 01 03.0	
BRTR	**Keskin Array B**	80.67	312	P	P	09 00 51.1	+0.8
	comp=Z,0.8nm,0.5s,mb3.9,baz=146,slow=4.5,SNR=4.0						
BRTR				pP	pP	09 01 05.0	+3.2
	comp=Z,1.5nm,0.6s,baz=107,slow=3.9,SNR=4.3						
SRU	**San Rafael**	81.23	48	*e*P	P	09 00 54.3	+1.0
SRU				*e*	pP	09 01 08.8	+4.0
PV10	**Paradox Valley**	82.60	48	*e*P	P	09 01 02.1	+1.8
PV10				*e*		09 01 17.5	
PV01	**Paradox Valley**	83.04	48	*e*P	P	09 01 03.6	+1.0
PV01				*e*	pP	09 01 15.4	+1.3
RW3	**Ridgway**	83.51	48	*e*P	P	09 01 07.1	+2.1
RW3				*e*		09 01 22.1	
KHC	**Kasperske Hory**	84.88	329	*e*P	P	09 01 13.0	+1.4
GERES	**GERESS Array B**	85.04	328	P	P	09 01 13.1	+0.7
	comp=Z,0.3nm,0.3s,mb4.0,baz=45,slow=5.7,SNR=17						
GERES				pP	pP	09 01 26.4	+2.4
	comp=Z,0.6nm,0.6s,baz=346,slow=5.5,SNR=3.2						
SCHQ	**Schefferville**	87.98	16	LR	LR	09 44 16.0	
	comp=Z,42nm,19.1s,MS3.9,baz=57,slow=38						
KSU1	**Kansas State U**	89.38	41	*e*P	P	09 01 34.5	+0.9
TXAR	**Lajitas Array**	91.80	52	P	P	09 01 46.0	+0.9
	comp=Z,0.5nm,0.7s,mb4.0,baz=291,slow=2.5,SNR=7.7						
TXAR				pP	pP	09 02 00.1	+3.2
	comp=Z,0.3nm,0.8s,baz=297,slow=2.8,SNR=3.1						
TXAR				LR	LR	09 43 23.0	
	comp=Z,44nm,19.6s,MS3.9,baz=120,slow=36						
LPAZ	**La Paz**	148.01	63	PKPbc	PKPdf	09 08 24.6	+6.0
	comp=Z,2.2nm,0.7s,baz=321,slow=3.7,SNR=14						
LPAZ	**La Paz**	148.01	63	*e*PKPdf	PKPdf	09 08 22.5	+3.9
LPAZ				*e*PKPbc	PKPdf	09 08 24.7	+6.1

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*CASC **12** 09:01:37.0±2.5, 12.34N×88.14W, h17^{km}±15^{km}, MD3.8*

ISC 12 09:01:35.9±2.0**, 12.32N**±0.09×**88.13W**±0.09**, h11**^{km}±12^{km}**, n13, σ1^{s}07**/22**, 7C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	0.99	17	⇑*e*P	Pb	09 01 54.4	-0.2
BLLM	**Bellamira**	1.12	355	⇑*e*P	Pb	09 01 56.7	-0.1
LCBS	**La Ceiba**	1.56	328	⇑*e*P	Pn	09 02 03.1	-0.6
LCBS				*e*S	Sb	09 02 25.1	+1.1
LFRS	**El Faro**	1.58	325	⇓*e*P	Pn	09 02 03.2	-0.8
LFRS				*e*S	Sb	09 02 25.7	+1.1
SBLS	**San Blas**	2.10	316	⇓*e*P	Pn	09 02 10.2	-1.2
SBLS				*e*S	Sn	09 02 39.2	+1.5
SNJE	**San Jose**	2.11	317	*e*P	Pn	09 02 09.9	-1.6
RTR	**El Retiro**	2.15	317	⇑*e*P	Pn	09 02 11.2	-1.0
RTR				*e*S	Sn	09 02 38.6	-0.5
VCR	**Vista de Mar**	3.28	131	*e*P	Pn	09 02 30.0	+1.8
VCR				*e*S	Sn	09 03 09.0	+1.4
JCR	**Jicaral**	3.84	129	⇑*e*P	Pn	09 02 37.3	+1.0
JCR				*e*S	Sn	09 03 20.3	-1.6
PRS1	**Puriscal**	4.41	121	*e*P	Pn	09 02 45.1	+0.8
PRS1				*e*S	Sn	09 03 35.4	-0.7
LAJ	**Bijagual**	4.63	121	*e*P	Pn	09 02 42.4	-5.0
LAJ				*e*S	Sn	09 03 34.3	-7.4
URSC	**Urasca**	4.93	120	⇑*e*P	Pn	09 02 52.5	+0.8
BUS	**Buena Vista**	5.09	122	⇑*e*P	Pn	09 02 53.9	-0.1
BUS				*e*S	Sn	09 03 52.4	-1.1

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*NEIC **12** 09:10:35.2, 15.78N×97.53W, h10^{km}, MD4.1(MEX), After MEX.*

*MEX **12** 09:10:36.2±1.1, 15.82N×97.51W, h15^{km}±13^{km}, MD4.2*

ISC 12 09:10:33.7±1.0**, 15.85N**±0.06×**97.45W**±0.04**, h15**^{km}**, n17, σ1^{s}21**/30**, 1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.85	309	⇓*i*P	Pb	09 10 49.1	-0.4
PNIG				*i*S	Sb	09 10 59.6	-0.8
HUIG	**Huatulco**	1.29	94	*e*P	Pb	09 10 58.1	+1.0
HUIG				*i*S	Sb	09 11 12.7	-0.6
VHO	**Vista Hermosa**	1.39	29	*i*P	Pn	09 10 57.9	-0.7
VHO				*i*S	Sb	09 11 15.7	-0.5
VHO	**Vista Hermosa**	1.39	29	*i*P	Pn	09 10 57.9	-0.7
VHO				*i*S	Sb	09 11 13.4	-2.8
OXX	**Oaxaca**	1.41	29	*i*P	Pn	09 10 58.5	-0.3
OXX				*i*S	Sb	09 11 17.5	+0.9
CMIG	**Matias Romero**	2.75	63	*i*P	Pn	09 11 17.2	-0.8
CMIG				*i*S	Sn	09 11 52.2	+1.0
CAIG	**El Cayaco**	2.96	294	*i*P	Pn	09 11 21.5	+0.5
CAIG				*i*S	Sn	09 11 49.9	-6.6
IISM	**Ciudad Serdan**	3.12	1	*e*P	Pn	09 11 24.0	+0.7
EVV	**El Vigia**	3.27	37	*e*P	Pn	09 11 26.0	+0.5
YAIG	**Yautepec**	3.37	333	*i*P	Pn	09 11 28.3	+1.4
YAIG				*i*S	Sn	09 12 04.6	-2.3
YAIG	**Yautepec**	3.37	333	*e*P	Pn	09 11 32.4	+5.5
YAIG				*i*S	Sn	09 12 04.6	-2.3
PPM	**Popocatepetl**	3.39	341	*e*P	Pn	09 11 26.9	-0.2
PPM				*e*P		09 11 30.0	
PPM				*i*S	Sn	09 12 10.5	+3.0
PPM	**Popocatepetl**	3.39	341	*e*P	Pn	09 11 30.0	+2.9
TUIG	**Tuzandepetl**	3.62	53	*e*P	Pn	09 11 29.1	-1.2

TUIG				iS	Sn	09 12 12.9	-0.2
UNM	Universidad Na	3.83	335	eP	Pn	09 11 35.0	+1.6
LVIG	Laguna Verde	3.97	14	eP	Pn	09 11 32.6	-2.8
LVIG				iS	Sn	09 12 23.3	+1.2
LVIG	Laguna Verde	3.97	14	eP	Pn	09 11 32.6	-2.8
LVIG				iS	Sn	09 12 26.8	+4.6

IDC 12 09:27:32.1±1.4**,6.51S**×**129.49E,mb3.7**/2**,mb1 3.8**/5**,**
mb1mx3.6/13**,ML3.3**/3**,Error ellipse: s-maj=59.9km**
s-min=27.3km az=82.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.12	198	Pn	P	09 30 28.0	-1.1
	0.1nm,0.3s,baz=27,slow=9.0,SNR=3.6						
FITZ				Sn	S	09 32 31.4	-15
	0.4nm,0.3s,baz=178,slow=20,SNR=5.8						
WRA	Warramunga Arr	14.16	161	Pn	P	09 30 53.3	-3.0
	0.3nm,0.3s,baz=339,slow=13,SNR=25						
WRA				Sn	S	09 33 15.8	-19
	0.4nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	Alice Springs	17.58	166	P	P	09 31 37.8	-2.5
	0.1nm,0.3s,baz=342,slow=8.8,SNR=5.3						
ASAR				S	S	09 34 39.1	-16
	0.1nm,0.3s,baz=356,slow=24,SNR=3.6						
MKAR	Makanchi Array	67.54	327	P	P	09 38 30.3	-2.1
	0.3nm,0.4s,baz=127,slow=8.1,SNR=5.6						
ILAR	Eielson Array	93.12	25	P	P	09 40 47.7	-1.2
	0.2nm,0.7s,baz=260,slow=5.5,SNR=3.7						

IDC 12 09:38:46.6±16.0**,0.43S**×**129.71E,mb3.9**/2**,mb1 4.0**/3**,**
mb1mx3.5/15**,ML3.6**/1**,Error ellipse: s-maj=260.0km**
s-min=105.3km az=148.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	12.48	168	eP	P	09 41 34.7	-14
	5.2nm,0.6s						
KAKA				eS	S	09 43 05.1	-64
FITZ	Fitzroy Crossi	18.01	193	P	P	09 42 57.4	-2.8
	baz=12,slow=9.3						
WRA	Warramunga Arr	19.91	167	P	P	09 43 19.6	-3.3
	0.2nm,0.3s,baz=349,slow=11,SNR=12						
ASAR	Alice Springs	23.45	170	P	P	09 43 59.4	+0.6
	0.6nm,0.4s,baz=351,slow=11,SNR=14						
STKA	Stephens Creek	33.23	161	P	P	09 45 24.9	-2.8
	3.3nm,0.9s,baz=338,slow=11,SNR=2.7						

*IDC **12** 10:11:43.9±2.2,7.58S×147.64E,h76^{km}±17^{km},mb3.6/7,*
mb1 3.8/8,mb1mx3.7/12,MS3.0/1,Ms1 3.0/1,ms1mx2.7/12,
Error ellipse: s-maj=33.2km s-min=16.2km az=106.0
*NEIC **12** 10:11:43.7±2.8,7.70S×147.84E,h84^{km}±20^{km},mb4.0/4,*
Error ellipse: s-maj=30.3km s-min=22.4km az=72.0
ISC 12 10:11:46.2±1.5**,7.8S**±0.1×**147.5E**±0.1**,h102**^{km}±13^{km}**,n16,**
σ**1^{s}.12**/24**,mb3.8**/7**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.68	191	P	P	10 12 13.6	-1.6
	41nm,0.3s,baz=344,slow=7.1,SNR=59						
PMG				S	S	10 12 37.5	+0.7
	130nm,0.3s,baz=319,slow=12,SNR=8.4						
PMG	Port Moresby	1.68	191	P	P	10 12 13.6	-1.6
PMG				ePn	P	10 12 13.8	-1.4
PMG				S	S	10 12 37.5	+0.7
WRAB	Tennant Creek	17.57	225	eP	P	10 15 46.3	+0.1
	6.2nm,0.8s						
WRAB				eS	S	10 18 49.4	-6.5
WB2	Warramunga Arr	17.58	225	eP	P	10 15 47.4	+1.2
WB2				eS	S	10 18 55.7	-0.3
WRA	Warramunga Arr	17.59	225	P	P	10 15 46.3	0.0
	0.6nm,0.3s,baz=55,slow=12,SNR=24						
WRA				S	S	10 18 55.9	-0.3
	0.2nm,0.3s,baz=47,slow=21,SNR=6.2						
WRA	Warramunga Arr	17.59	225	P	P	10 15 46.3	0.0
WRA				S	S	10 18 55.9	-0.3
ASAR	Alice Springs	20.50	218	P	P	10 16 17.9	-0.2
	1.0nm,0.4s,baz=52,slow=9.3,SNR=23						
ASAR				pP		10 16 30.1	
	2.8nm,0.6s,baz=44,slow=14,SNR=20						
ASAR				S	S	10 20 06.2	+10
	1.4nm,0.8s,baz=44,slow=24,SNR=7.0						
FITZ	Fitzroy Crossi	23.62	242	eP	P	10 16 50.7	+1.8
	3.1nm,0.4s,mb4.0						
FITZ	Fitzroy Crossi	23.62	242	P	P	10 16 50.2	+1.3
	2.8nm,0.4s,mb4.0,baz=30,slow=6.1,SNR=25						
FITZ				LR	LR	10 26 47.1	
	comp=Z,34nm,18.1s,baz=173,slow=38						
STKA	Stephens Creek	24.62	192	P	P	10 17 00.8	+2.3
	5.8nm,1.1s,mb3.9,baz=22,slow=11,SNR=2.9						
STKA	Stephens Creek	24.62	192	eP	P	10 16 55.2	-3.4
CMAR	Chiang Mai Arr	54.51	299	P	P	10 21 05.8	-0.3
	1.1nm,0.6s,mb4.1,baz=122,slow=5.2,SNR=4.7						
VNDA	Vanda	70.15	177	P	P	10 22 48.5	-0.8
	0.4nm,0.6s,mb3.4,baz=335,slow=6.5,SNR=3.4						
MKAR	Makanchi Array	79.15	321	P	P	10 23 39.4	-1.9
	0.8nm,0.7s,mb3.7,baz=110,slow=6.0,SNR=6.9						
QSPA	South Pole Qui	82.23	180	eP	P	10 23 56.6	-0.4
	1.5nm,0.6s,mb4.0						
ILAR	Eielson Array	86.89	23	P	P	10 24 22.5	+2.2
	0.5nm,1.0s,mb3.4,baz=270,slow=3.6,SNR=3.7						
ILAR				pP	pP	10 24 35.5	-12
	0.7nm,0.8s,baz=248,slow=4.5,SNR=4.1						

*ISK **12** 11:00:29.4,38.70N×25.92E,h6^{km},MD3.2*
*ATH **12** 11:00:30.8,38.59N×25.74E,h10^{km},MD3.2/3*
ISC 12 11:00:30.1±0.9**,38.79N**±0.03×**25.91E**±0.07**,h10**^{km}**,n17,**
σ**1^{s}.14**/25**,2C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.54	32	ePB	Pb	11 00 45.5	+4.3
EZN	Ezine	1.09	17	ePN	Pn	11 00 52.3	+0.9
IZM	Izmir	1.13	110	PN	Pn	11 00 51.5	-0.5
IZM				SN	Sn	11 01 06.3	-1.4
KDAG	Bornova	1.13	109	⇑iP	Pn	11 00 51.6	-0.5
KDAG				iS	Sb	11 01 05.6	-0.4
SMG	Samos	1.30	145	ePB	Pb	11 00 54.0	-0.3
AKS	Akhisar	1.49	86	PN	Pn	11 00 57.1	-0.1
AKS				SN	Sn	11 01 18.1	+1.3
APE	Apeiranthos	1.74	190	PN	Pn	11 00 59.7	-1.0
APE	Apeiranthos	1.74	190	ePB	Pn	11 00 59.6	-1.1
BALB	Balikesir	1.75	60	ePN	Pn	11 01 01.8	+0.9
AYDN	Tasoluk	1.92	125	iP	Pn	11 01 02.0	-1.2
AYDN				iS	Sn	11 01 27.1	-0.5
MANT	Manisa	2.10	97	iP	Pg	11 01 10.6	-1.5
MANT				iS	Sn	11 01 34.1	+1.9
BDRM	Kayabasi	2.11	144	iP	Pn	11 01 07.8	+1.8
BDRM				iS	Sn	11 01 33.7	+1.3
SART	Tekirdag	2.14	27	iP	Pg	11 01 11.9	-1.0
SART				iS	Sg	11 01 40.2	-1.2
BNT	Bandirma	2.21	44	ePN	Pn	11 01 07.8	+0.4
MRMT	Marmara Adasi	2.23	35	ePN	Pn	11 01 09.1	+1.3
KCT	Karacabey	2.40	51	ePN	Pn	11 01 11.3	+1.1
ULDT	Uludag	2.84	61	⇑iP	Pg	11 01 24.1	-2.8
ULDT				iS	Sn	11 01 51.4	+0.2

IDC 12 11:13:19.1±3.2**,32.72S**×**178.45W,mb3.7**/2**,mb1 4.0**/3**,**
mb1mx3.7/14**,ML3.7**/1**,Error ellipse: s-maj=73.1km**
s-min=46.6km az=120.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.61	212	Pn	Pn	11 14 56.6	-3.3
	1.4nm,0.3s,baz=100,slow=12,SNR=7.1						
URZ				Sn	Sn	11 16 04.7	-12
	1.3nm,0.3s,baz=133,slow=20,SNR=5.7						
ASAR	Alice Springs	42.65	270	P	P	11 21 17.6	-1.6
	0.3nm,0.5s,baz=114,slow=7.5,SNR=4.9						
WRA	Warramunga Arr	43.85	275	P	P	11 21 27.3	-1.6
	0.9nm,0.4s,baz=114,slow=7.9,SNR=32						
FINES	FINESS Array B	147.17	338	PKPbc	PKPdf	11 33 02.7	-0.3
	0.4nm,0.4s,baz=14,slow=5.7,SNR=4.7						

*IDC **12** 11:18:06.9±1.4,5.88S×151.03E,mb3.7/6,mb1 4.0/6,*
mb1mx3.8/13,MS3.0/1,Ms1 3.0/1,ms1mx2.4/15,Error
ellipse: s-maj=61.9km s-min=22.5km az=131.0
ISC 12 11:18:10.8±1.2**,5.9S**±0.3×**150.9E**±0.3**,h33**^{km}**,n7,**σ**1^{s}.14**/6**,**
mb3.6/6**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	14.80	197	LR	LR	11 26 30.6	
	comp=Z,56nm,20.0s,baz=46,slow=34						
WRA	Warramunga Arr	21.30	228	P	P	11 22 56.6	-0.4
	1.3nm,0.7s,mb3.4,baz=52,slow=10,SNR=7.9						
ASAR	Alice Springs	24.07	221	P	P	11 23 24.7	+0.3
	1.1nm,0.6s,mb3.5,baz=56,slow=8.7,SNR=8.9						
FITZ	Fitzroy Crossi	27.48	242	P	P	11 23 56.2	-0.1
	1.7nm,0.8s,mb3.6,baz=347,slow=8.4,SNR=3.0						
MKAR	Makanchi Array	79.93	319	P	P	11 30 19.0	+0.8
	0.3nm,0.8s,mb3.2,baz=135,slow=4.1,SNR=2.4						
ILAR	Eielson Array	83.89	22	P	P	11 30 36.9	-1.5
	0.5nm,0.7s,mb3.8,baz=244,slow=5.5,SNR=8.4						
NVAR	Mina Array Bea	94.25	52	P	P	11 31 29.1	+0.9
	0.4nm,0.9s,mb3.9,baz=252,slow=5.7,SNR=2.7						

*HEL **12** 11:44:46.1±0.2,59.70N×22.28E,ML2.4,ML2.0(UPP),*
ML2.8(NAO),Explosion
*NAO **12** 11:44:47.9±2.2,60.00N×22.08E,ML2.8*
*IDC **12** 11:44:47.1±1.6,59.86N×22.27E,mb1 3.4/4,*
mb1mx3.2/20,ML3.2/4,Error ellipse: s-maj=19.2km
s-min=6.5km az=160.0
*BER **12** 11:44:47.3±4.0,59.79N×22.30E,ML2.8(NAO),*
Suspected explosion
ISC 12 11:44:46.2±1.0**,60.0N**±0.1×**22.11E**±0.07**,n19,**σ**1^{s}.47**/30**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.08	281	eP	Pb	11 45 08.3	+0.8
AAL				eS	Sb	11 45 24.3	+2.4
NUR	Nurmij rvi	1.37	67	eP	Pb	11 45 11.5	-1.0
NUR				eS	Sb	11 45 29.4	-1.0
PVF	Pernaja	1.95	72	eP	Pn	11 45 20.9	0.0
PVF				eS	Sn	11 45 46.1	-0.4
FIA0	FINESS Array S	2.44	51	eP	Pn	11 45 29.7	+1.8
FIA0				eSB	Sb	11 46 02.7	+1.4
FIA0				MSG		11 46 03.8	
	comp=Z,18nm,0.3s						
FIA0	FINESS Array S	2.44	51	Pn	Pn	11 45 29.7	+1.8
	baz=216,slow=16						
FIA0				Lg		11 46 03.0	
	baz=230,slow=28						
FINES	FINESS Array B	2.44	51	Pn	Pn	11 45 29.4	+1.5
	comp=Z,2.8nm,0.3s,baz=226,slow=14,SNR=62						
FINES				Lg		11 46 02.5	
	comp=Z,0.8nm,0.3s,baz=232,slow=23,SNR=3.8						
OSTU	Oestervaala	2.50	278	eP	Pn	11 45 30.1	+1.2
VSU	Vasula	2.83	121	eSG	Sg	11 46 06.3	-14
KAF	Kangasniemi	2.95	42	eSB	Sb	11 46 16.9	+0.6
FALU	Falun	3.17	282	eP	Pn	11 45 39.7	+1.3
SUF	Sumiainen	3.36	34	eP	Pn	11 45 43.3	+2.2
SUF				MSG		11 46 43.7	
	comp=Z,7.2nm,0.4s						
HUSU	Husum	3.63	339	eP	Pn	11 45 48.3	+3.3
HFS	Hagfors	4.22	276	Pn	Pn	11 45 52.1	-1.2
	baz=91,slow=16						
HFS				Sn	Sn	11 46 43.5	-0.5
	baz=76,slow=28						
HFS				Lg		11 46 58.7	
	baz=87,slow=28						
HFS	Hagfors	4.22	276	eP	Pn	11 45 52.1	-1.2
HFS				eS	Sn	11 46 43.5	-0.5
HFS				eSG		11 46 58.7	
HFS	Hagfors	4.22	276	Pn	Pn	11 45 53.0	-0.3
	comp=Z,0.4nm,0.3s,baz=96,slow=15,SNR=32						
HFS				Sn	Sn	11 46 43.3	-0.7
	comp=Z,0.4nm,0.3s,baz=84,slow=28,SNR=8.8						
HFS				Lg		11 46 59.6	
	comp=Z,0.7nm,0.3s,baz=96,slow=30,SNR=9.3						
NOA	NORSAR Array B	5.49	286	Pn	Pn	11 46 10.4	-0.8
	comp=Z,0.9nm,0.3s,baz=103,slow=9.9,SNR=7.5						
NOA				Sn	Sn	11 47 13.3	-2.6
	comp=Z,0.5nm,0.3s,baz=158,slow=20,SNR=3.4						
NOA				Lg		11 47 39.2	
	comp=Z,1.6nm,0.3s,baz=131,slow=25,SNR=7.1						
ARA0	ARCESS Array S	9.69	7	Pn	P	11 47 07.3	-2.5
	baz=184,slow=10						
ARA0				Sn	Sn	11 48 53.1	-7.5
	baz=185,slow=22						
ARA0				Lg		11 49 53.8	
	baz=190,slow=28						
ARA0	ARCESS Array S	9.69	7	eP	P	11 47 07.3	-2.5
ARA0				eS	Sn	11 48 53.1	-7.5
ARA0				eSG		11 49 53.8	
ARCES	ARCESS Array B	9.69	7	Pn	P	11 47 07.7	-2.2
	comp=Z,0.5nm,0.3s,baz=190,slow=12,SNR=17						
ARCES				Sn	Sn	11 48 52.9	-7.7
	comp=Z,0.7nm,0.3s,baz=187,slow=23,SNR=9.8						
ARCES				Lg		11 49 53.9	
	comp=Z,0.6nm,0.3s,baz=199,slow=25,SNR=4.2						

*NNC **12** 11:55:24.9±0.4,42.22N×79.66E,mpv3.6,Error ellipse:*
s-maj=6.1km s-min=2.5km az=136.0
*BJI **12** 11:55:28.8,42.20N×79.81E,h22^{km},ML3.6*
ISC 12 11:55:27.0±0.7**,42.23N**±0.08×**79.94E**±0.07**,h10**^{km}**,n16,**
σ**1^{s}.29**/19**,4C-2D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	2.75	272	P	Pn	11 56 10.8	-1.1
	SNR=422						
TKM2	Tokmak 2	3.29	284	P	Pn	11 56 18.7	-0.9
	SNR=78						
KZA	Kyzart	3.49	269	P	Pn	11 56 22.5	0.0
	SNR=23						
KBK	Karagaybulak	3.72	278	P	Pn	11 56 24.9	-0.9
	SNR=18						
CHMS	Chumysh	3.91	283	P	Pn	11 56 30.3	+1.9
	SNR=12						
UCH	Uchtor	4.03	272	P	Pn	11 56 30.1	-0.1
	SNR=12						
KSH	Kashi	4.05	229	ePG	Pb	11 56 38.1	0.0
KSH				SG	Sb	11 57 31.0	+3.6
KSH				Smax			
	comp=N,100nm,0.7s						
KSH				Smax			
	comp=E,190nm,0.7s						
AAK	Ala-Archa	4.05	278	P	Pn	11 56 36.5	+5.9
	SNR=10						
USP	Ospenovka	4.14	286	P	Pn	11 56 29.7	-2.1
	SNR=12						
EKS2	Erkin-Say	4.58	278	P	Pn	11 56 44.8	+6.7
	SNR=16						
AML	Almayashu	4.64	271	P	Pn	11 56 49.7	+11
	SNR=7.0						
MK31	Makanchi Array	4.87	19	⇑Pn	Pn	11 56 43.1	+1.1
	comp=E,2.6nm,0.3s,baz=204,slow=13,SNR=80						
MK31				⇓Sn	Sn	11 57 40.6	+1.5
	comp=E,3.2nm,0.3s,baz=199,slow=26,SNR=4.4						
MK31				⇓Lg		11 57 59.9	
	comp=E,6.4nm,0.3s,baz=203,slow=31						
WMQ	Urumqi	5.90	72	eP	Pn	11 56 56.7	+0.1
WMQ				S	Sn	11 58 04.1	-1.0
WMQ				SG	Sg	11 58 34.2	-9.2
WMQ				Smax			
	comp=N,30nm,1.0s						
WMQ				Smax			
	comp=E,37nm,1.0s						
KURK	Kurchatov	8.54	354	⇑Lg		11 59 47.8	
	comp=E,5.8nm,0.4s,baz=280,slow=13,SNR=612						
ZRNK	Zerenda	13.01	329	⇑Pn	P	11 58 28.7	-5.8
	comp=E,0.7nm,0.4s						
AB31	Akbulak array	15.61	304	⇑P	P	11 59 03.8	-4.7
	comp=E,2.4nm,1.1s,baz=112,slow=12,SNR=5.8						

*IDC **12** 12:01:27.6±2.9,30.40S×176.83W,mb4.0/4,mb1 4.1/5,*
mb1mx3.9/16,ML3.1/1,Error ellipse: s-maj=63.2km
s-min=35.3km az=118.0
ISC 12 12:01:29.8±5.2**,30.5S**±0.1×**176.7W**±0.8**,h33**^{km}**,n8,**
σ**0^{s}.78**/7**,mb4.0**/4**,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	9.23	212	Pn	P	12 03 43.5	0.0
	0.2nm,0.3s,baz=36,slow=8.7,SNR=2.4						
URZ				Sn	Sn	12 05 27.4	-0.1
	0.8nm,0.3s,baz=224,slow=23,SNR=9.6						
CTA	Charters Tower	34.90	279	P	P	12 08 20.9	+0.5
	1.5nm,0.5s,mb4.2,baz=25,slow=19,SNR=3.1						
STKA	Stephens Creek	35.51	257	P	P	12 08 27.1	+1.6
	1.9nm,0.9s,mb4.0,baz=107,slow=14,SNR=3.6						
ASAR	Alice Springs	44.19	267	P	P	12 09 37.5	0.0
	0.6nm,0.7s,mb3.4,baz=104,slow=7.4,SNR=8.6						
WB2	Warramunga Arr	45.18	272	eP	P	12 09 44.5	-1.0
WRA	Warramunga Arr	45.19	272	P	P	12 09 44.8	-0.8
	3.1nm,0.8s,mb4.2,baz=111,slow=8.1,SNR=23						
KAF	Kangasniemi	145.03	341	ep	PKPdf	12 21 04.5	+1.6
FINES	FINESS Array B	145.64	341	PKPbc	PKPbc	12 21 06.1	+1.4
	0.7nm,0.4s,baz=56,slow=5.0,SNR=11						

*IDC **12** 12:24:08.6±2.2,0.22N×122.16E,h172^{km}±20^{km},mb4.1/11,*
mb1 4.2/12,mb1mx4.0/21,MS3.6/2,Ms1 3.6/2,
ms1mx3.0/27,Error ellipse: s-maj=43.2km s-min=9.8km
az=59.0
*NEIC **12** 12:24:09.5±3.5,0.35N×122.39E,h190^{km}±36^{km},mb4.5/16,*
Error ellipse: s-maj=25.4km s-min=7.5km az=60.0
*SYO **12** 12:24:09.4,0.35N×122.39E,h190^{km},MB4.5*
*BJI **12** 12:24:10.4,0.30N×122.40E,h189^{km},mB4.2,mb4.4*
ISC 12 12:24:06.1±1.7**,0.30N**±0.07×**122.3E**±0.1**,h171**^{km}±17^{km}**,**
n49,σ**0^{s}.90**/48**,mb4.5**/25**,4C-4D,Minahassa Peninsula,**
Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPIL	Ipil	7.44	2	eP	S	12 27 15.6	-0.6
KAKA	Kakadu	16.36	142	eP	P	12 27 47.2	-0.5
	33nm,0.6s						
FITZ	Fitzroy Crossi	18.59	170	⇑iP	P	12 28 12.0	-0.8
	7.0nm,0.4s						
FITZ	Fitzroy Crossi	18.59	170	P	P	12 28 12.1	-0.7
	2.4nm,0.3s,baz=2.3,slow=6.6,SNR=88						
QIZ	Qiongzhong	22.25	327	eP	P	12 28 49.7	+0.1
	13nm,1.1s,mb4.3						
WRAB	Tennant Creek	23.33	150	eP	P	12 29 00.8	+0.6
	20nm,0.7s,mb4.7						
WRA	Warramunga Arr	23.34	150	P	P	12 29 00.7	+0.5
	14nm,0.6s,mb4.6,baz=328,slow=10,SNR=106						
WRA				ScP		12 36 05.5	
	0.4nm,0.7s,baz=323,slow=2.3,SNR=6.6						
WB2	Warramunga Arr	23.34	150	eP	P	12 29 00.5	+0.2
KKTK	Khon Kaen	24.94	311	⇑P	P	12 29 15.8	+0.5
	370nm,0.9s						
ASPA	Alice Springs	26.37	155	eP	P	12 29 28.4	-0.1
ASAR	Alice Springs	26.37	155	P	P	12 29 28.6	0.0
	2.7nm,0.6s,mb4.1,baz=344,slow=14,SNR=42						
ASAR				PcP	PcP	12 32 49.8	-0.4
	0.8nm,0.4s,baz=347,slow=2.1,SNR=9.4						
ASAR				ScP		12 36 13.5	
	0.5nm,0.5s,baz=336,slow=2.8,SNR=6.9						
NANT	Nan	28.04	312	⇓P	P	12 29 42.5	-1.3
	138nm,0.5s						
CM31	Chiang Mai Arr	29.17	310	eP	P	12 29 54.1	+0.3
	4.5nm,0.6s,mb4.4						
CMAR	Chiang Mai Arr	29.17	310	P	P	12 29 54.4	+0.6
	8.9nm,1.1s,mb4.4,baz=133,slow=7.1,SNR=30						
CHG	Chiang Mai	29.37	310	P	P	12 29 55.9	+0.3
CTA	Charters Tower	31.02	132	P	P	12 30 10.4	+0.3
	5.3nm,0.8s,mb4.3,baz=309,slow=12,SNR=4.5						
CTAO	Charters Tower	31.02	132	eP	P	12 30 07.8	-2.3
	20nm,1.3s,mb4.7						
KMI	Kunming	31.07	324	eP	P	12 30 11.9	+1.4
KMI				S	S	12 35 01.1	-0.8
KMI				SS	SS	12 37 07.9	+6.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,352nm,6.2s						
KMI	Kunming	31.07	324	eP	P	12 30 11.9	+1.4
	comp=Z,5.0nm,0.8s,mb4.3						
KMI				pP	pP	12 31 00.8	+14
KMI				S	S	12 35 01.1	-0.8
KMI				SS	SS	12 37 07.9	+6.9
KMI				LR	LR		
	comp=Z,120nm,19.8s						
ENH	Enshi	32.19	339	eP	P	12 30 20.9	+0.7
	comp=Z,7.4nm,0.7s,mb4.5						
JHJ	Hachijo jima 2	36.56	25	LR	LR	12 45 16.6	
	comp=Z,91nm,18.6s,baz=136,slow=34						
STKA	Stephens Creek	36.86	152	eP	P	12 31 00.2	+0.4
	comp=Z,10nm,0.8s,mb4.5						
STKA	Stephens Creek	36.86	152	P	P	12 31 00.6	+0.8
	comp=Z,13nm,0.8s,mb4.6,baz=314,slow=6.6,SNR=17						
KS15	Wonju Array Si	37.31	7	eP	P	12 31 02.7	-0.8
LSA	Lhasa	41.64	317	eP	P	12 31 39.4	+0.1
	comp=Z,32nm,0.6s,mb5.1						
LSA				e	pP	12 32 12.6	-4.1
CN2	Changchun	43.40	3	eP	P	12 31 56.0	+2.6
GUN	Gumba	44.38	311	eP	P	12 31 52.4	-9.0
PKI	Pulchoki	44.55	311	eP	P	12 31 58.8	-4.1
	comp=Z,15nm,0.8s,mb4.7						
KKN	Kakani	44.76	311	eP	P	12 31 59.0	-5.5
DMN	Daman	44.80	310	eP	P	12 32 00.8	-4.1
GKN	Gorkha	45.36	311	eP	P	12 32 02.4	-6.9
	comp=Z,7.5nm,0.3s,mb4.8						
KOLN	Koldanda	46.04	310	eP	P	12 32 14.7	+0.1
	comp=Z,19nm,0.7s,mb4.8						
SONM	Songino Array	49.31	346	P	P	12 32 40.7	+1.1
	comp=Z,3.3nm,1.1s,mb3.9,baz=165,slow=8.6,SNR=11						
YSS	Yuzh-Sakhalins	49.79	18	eP	P	12 32 39.5	-3.8
	comp=Z,50nm,1.5s,mb4.9						
WMQ	Urumqi	53.16	329	⇑iP	P	12 33 09.8	+1.2
WMQ				AP	pP	12 33 55.8	+8.2
WMQ				PCP	PcP	12 34 14.8	+0.4
WMQ				PP	PP	12 35 13.8	+2.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,18nm,7.5s						
MKAR	Makanchi Array	57.98	329	P	P	12 33 43.0	0.0
	comp=Z,7.9nm,0.5s,mb4.8,baz=123,slow=9.0,SNR=87						
MKAR				LR	LR	12 57 26.1	
	comp=Z,49nm,19.6s,baz=331,slow=34						
RPZ	Rata Peaks	61.69	142	P	P	12 34 09.4	+0.9
	comp=Z,18nm,1.0s,mb4.8,baz=29,slow=20,SNR=3.0						
KURK	Kurchatov	62.35	330	eP	P	12 34 12.0	-0.7
	comp=Z,12nm,0.5s,mb5.0						
URZ	Urewera	63.25	134	P	P	12 34 19.1	+0.4
	comp=Z,24nm,1.1s,mb4.9,baz=221,slow=16,SNR=3.8						
BVAR	Borovoye Array	67.85	329	P	P	12 34 47.6	-0.3
	comp=Z,5.6nm,1.2s,mb4.2,baz=135,slow=6.3,SNR=8.8						
BRVK	Borovoye	67.92	329	eP	P	12 34 46.5	-1.9
	comp=Z,3.7nm,0.9s,mb4.1						
ZRNK	Zerenda	68.53	329	eP	P	12 34 51.1	-1.0
	comp=Z,5.2nm,0.8s,mb4.3						
VNDA	Vanda	80.65	172	P	P	12 36 01.1	+0.2
	comp=Z,0.5nm,0.5s,baz=326,slow=5.7,SNR=7.5						
VNDA	Vanda	80.65	172	eP	P	12 35 59.4	-1.5
	comp=Z,0.6nm,0.6s						
SYO	Syowa Base	87.65	201	⇓P	P	12 36 30.5	-5.4
SYO	Syowa Base	87.65	201	⇓P	P	12 36 35.5	-0.4
SYO	Syowa Base	87.65	201	⇓PcP	PcP	12 36 37.9	-0.1
SYO	Syowa Base	87.65	201	⇑PKiKP		12 41 36.1	
QSPA	South Pole Qui	90.23	180	P	P	12 36 47.0	-0.9
	comp=Z,4.1nm,1.3s,mb4.2						

*FUNV **12** 12:24:27.0,10.82N×61.45W,h33^{km},MW2.6*
*TRN **12** 12:24:29.2,10.92N×61.29W,h34^{km},MD2.9*
ISC 12 12:24:26.0±0.9**,10.79N**±0.04×**61.53W**±0.05**,h75**^{km}±10^{km}**,**
n15,σ**1^{s}.18**/23**,2C,Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.19	137	⇑iP	P	12 24 36.9	-0.2
TRN				eS	S	12 24 42.4	-3.0
TCE	Chacachacare	0.23	247	eP	P	12 24 39.8	+2.4
TCE	Chacachacare	0.23	247	eP	P	12 24 42.4	+5.0
TCE				eS	S	12 24 49.2	+3.3
TPP	Pointe-a-Pierr	0.47	170	eP	P	12 24 40.4	+1.3
TPP				eS	S	12 24 44.5	-4.4
TBH	Brigand Hill	0.55	123	eP	P	12 24 41.1	+1.2
GUIV	Guiria	0.69	258	⇑eP	P	12 24 41.9	+0.5
GUIV				eS	S	12 24 52.1	-0.7
GRW	Mount Saint Ca	1.37	355	eP	P	12 24 49.5	-0.5
GRW				eS	S	12 25 05.5	-2.2
GRHS	Sauteurs	1.43	356	eP	P	12 24 53.0	+2.2
GRHS				eS	S	12 25 08.6	-0.5
GUNV	Guanoco	1.52	246	eP	P	12 24 52.7	+0.8
GUNV				eS	S	12 25 11.7	+0.7
ITEV	Isla Los Testi	1.67	290	eS	S	12 25 14.3	-0.1
CRUV	Carupano	1.68	266	eP	P	12 24 54.0	0.0
CRUV				eS	S	12 25 14.4	-0.2

ORIV	**Oritupano**	2.52	227	*e*P	P	12 25 05.9	+0.3
ORIV				*e*S	S	12 25 34.5	-0.7
RIOV	**Rio Grande**	2.71	186	*e*P	P	12 25 08.0	-0.5
RIOV				*e*S	S	12 25 38.4	-1.8
CAOV	**Caicara del Or**	5.85	234	*e*P	Px	12 25 50.4	
CAOV				*e*S	Sx	12 26 52.2	
BAUV	**El Baul**	6.67	255	*e*P	Px	12 26 01.3	
BAUV				*e*S	Sx	12 27 11.5	

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*MAN **12** 12:29:30.0, 15.03N×119.43E, h6^{km}, mb3.8, ML2.6, MS2.2*

*IDC **12** 12:29:33.7±0.8, 14.80N×119.45E, h35^{km}±6^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.5/18, ML3.3/1, Error ellipse: s-maj=37.4km s-min=14.5km az=59.0*

*NEIC **12** 12:29:34.7±1.3, 14.55N×119.46E, h60^{km}±15^{km}, Error ellipse: s-maj=24.4km s-min=12.9km az=205.0*

ISC 12 12:29:32.9±0.5**, 15.01N**±0.04×**119.48E**±0.05**, h36**^{km}**, h36**^{km}±2.3^{km}**:pP-P, n30,** σ**1^{s}22**/33**, mb4.0**/7**, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	0.87	29	*e*P	P	12 29 46.6	-2.1
BOLP	**Bolinao**	1.43	17	*e*P	P	12 29 55.7	-1.1
LUBP	**Lubang**	1.47	149	*e*P	P	12 29 57.2	-0.1
TGY	**Tagaytay City**	1.67	122	⇓*i*P	P	12 30 00.8	+0.5
TGY				*i* S	S	12 30 14.4	-6.3
TGY	**Tagaytay City**	1.67	122	Pn	P	12 30 00.2	-0.1
	382nm,0.3s,baz=320,slow=4.6,SNR=21						
TGY				Sn	S	12 30 26.3	+5.6
	311nm,0.3s,baz=360,slow=16,SNR=8.2						
BCPH	**Baguio City Da**	1.73	38	⇑*i*P	P	12 30 00.6	-0.5
BCPH				*i* S	S	12 30 23.3	+1.1
BALP	**Baler**	2.15	70	*e*P	P	12 30 05.1	-1.9
BALP				*e*S	S	12 30 30.8	-1.9
LQP	**Lukban**	2.19	114	⇓*e*P	P	12 30 07.3	-0.2
POLP	**Polilio Island**	2.40	96	*e*P	P	12 30 10.8	+0.3
ABRA	**Dolores**	2.88	24	*e*P	P	12 30 17.4	-0.1
CAUP	**Cauayan**	2.97	49	*e*P	P	12 30 19.0	+0.3
SJMP	**San Jose**	2.99	148	*e*P	P	12 30 21.2	+2.1
BUSP	**Coron**	3.07	167	*e*P	P	12 30 20.6	+0.5
GQP	**Guinayangan**	3.08	110	*e*P	P	12 30 20.7	+0.5
APYP	**Conner**	3.31	31	*e*P	P	12 30 24.9	+1.4
PALP	**Palanan**	3.49	54	*e*P	P	12 30 28.5	+2.3
CVP	**Callao Caves**	3.50	40	*e*P	P	12 30 29.7	+3.5
AUQP	**San Andres**	3.52	118	*e*P		12 30 36.6	
ENPP	**El Nido**	3.78	181	*e*P	P	12 30 29.9	-0.3
PVCP	**Virac**	4.74	107	*e*P	P	12 30 44.4	+0.5
QIZ	**Qiongzhong**	10.05	295	P	P	12 31 58.2	+0.3
	27nm,1.3s						
CMAR	**Chiang Mai Arr**	19.96	283	P	P	12 34 03.5	-1.4
	0.0nm,0.3s,baz=104,slow=11,SNR=2.9						
MAJO	**Matsushiro**	27.18	34	P	P	12 35 15.0	-0.2
	10nm,1.4s,mb4.2						
SONM	**Songino Array**	34.48	344	P	P	12 36 19.7	+0.3
	0.3nm,0.5s,mb3.5,baz=167,slow=9.7,SNR=3.3						
SONM				pP	pP	12 36 28.5	-1.3
	0.7nm,0.8s,baz=159,slow=11,SNR=3.6						
WRAB	**Tennant Creek**	37.67	157	*e*P	P	12 36 39.9	-6.9
	12nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	37.68	157	P	P	12 36 43.4	-3.3
	2.2nm,0.9s,mb3.9,baz=330,slow=10.0,SNR=20						
WRA				pP	pP	12 36 54.1	-3.1
	1.4nm,0.6s,baz=336,slow=9.5,SNR=5.7						
WRA	**Warramunga Arr**	37.68	157	P	P	12 36 43.4	-3.4
WRA				pP	pP	12 36 54.1	-3.1
ASAR	**Alice Springs**	40.94	160	P	P	12 37 11.3	-2.5
	1.6nm,0.9s,mb3.6,baz=336,slow=6.8,SNR=9.4						
ASAR				pP	pP	12 37 22.8	-1.6
	0.8nm,0.5s,baz=340,slow=7.3,SNR=4.6						
ARCES	**ARCESS Array B**	77.45	339	P	P	12 41 27.1	+1.2
	2.8nm,0.9s,mb4.2,baz=66,slow=8.9,SNR=4.4						
NOA	**NORSAR Array B**	85.56	332	P	P	12 42 09.2	+0.9
	0.5nm,0.6s,mb4.0,baz=54,slow=2.1,SNR=3.3						
NOA				pP	pP	12 42 20.8	+1.2
	1.1nm,0.7s,baz=65,slow=4.8,SNR=3.7						

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*BJI **12** 12:30:46.8, 14.33N×120.28E, h45^{km}, mB4.2, mb4.4, Ms4.3, Msz4.2*

*MAN **12** 12:30:50.3, 15.08N×119.69E, h3^{km}, mb5.3, ML4.3, MS4.6*

*IDC **12** 12:30:52.3±0.6, 14.90N×119.60E, h34^{km}±4^{km}, mb4.0/18, mb1 4.1/18, mb1mx4.0/24, MS3.7/2, Ms1 3.9/2, ms1mx3.1/28, Error ellipse: s-maj=26.1km s-min=9.8km az=69.0*

*NEIC **12** 12:30:53.3±0.3, 14.94N×119.94E, h45^{km}, mb4.5/9, Error ellipse: s-maj=15.2km s-min=6.5km az=70.0*

ISC 12 12:30:50.8±0.3**, 14.91N**±0.03×**119.47E**±0.05**, h37**^{km}**, h37**^{km}±2.1^{km}**:pP-P, n60,** σ**1^{s}41**/69**, mb4.3**/25**, MS4.1**/3**, 2C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	0.96	26	*e*P	P	12 31 04.4	-3.6
LUBP	**Lubang**	1.39	147	*e*P	P	12 31 15.8	+1.7
LUBP				*e*S	S	12 31 39.4	+8.0
BOLP	**Bolinao**	1.53	16	*e*P	P	12 31 24.3	+8.3
TGY	**Tagaytay City**	1.63	119	⇑*i*P	P	12 31 19.3	+1.8
TGY				*i* S	S	12 31 33.4	-4.1
TGY	**Tagaytay City**	1.63	119	Pn	P	12 31 18.8	+1.3
	1μm,0.3s,baz=271,slow=1.3,SNR=11						
TGY				Sn	S	12 31 44.7	+7.2
	880nm,0.3s,baz=261,slow=23,SNR=6.9						
BCPH	**Baguio City Da**	1.81	36	⇓*e*P	P	12 31 18.0	-2.1
BCPH				*i* S	S	12 31 40.8	-1.3
LQP	**Lukban**	2.15	111	⇓*e*P	P	12 31 25.0	0.0
LQP				*e*S	S	12 31 54.0	+3.3
BALP	**Baler**	2.19	68	*e*P	P	12 31 23.5	-2.0
POLP	**Polilio Island**	2.39	94	*e*P	P	12 31 29.2	+0.8
POLP				*e*S	S	12 32 01.6	+4.7
SJMP	**San Jose**	2.91	146	*e*P	P	12 31 39.4	+3.6
SJMP				*e*S	S	12 32 16.4	+6.4
BUSP	**Coron**	2.97	166	*e*P	P	12 31 38.7	+2.0
ABRA	**Dolores**	2.98	23	*e*P	P	12 31 36.8	+0.1
CAUP	**Cauayan**	3.04	48	*e*P	P	12 31 36.3	-1.3
GQP	**Guinayangan**	3.05	109	*e*P	P	12 31 38.6	+0.8
APYP	**Conner**	3.40	30	*e*P	P	12 31 45.1	+2.4
APYP				*e*S	S	12 32 24.4	+2.1
AUQP	**San Andres**	3.48	116	*e*P	P	12 31 49.7	+5.8
OTRP	**Odiongan**	3.54	135	*e*P	P	12 31 45.2	+0.4
PIP	**Pasuquin**	3.57	18	⇓*i*P	P	12 31 44.3	-1.0
PIP				*e*S	S	12 32 31.8	+5.0
ENPP	**El Nido**	3.68	181	*e*P	P	12 31 48.4	+1.6
ENPP				*e*S	S	12 32 28.9	-0.6
PVCP	**Virac**	4.72	105	*e*P	P	12 32 01.6	0.0
BATP	**Bataraza**	6.29	195	*e*P	S	12 33 31.3	-3.7
NJ2	**Nanjing**	17.08	358	*e*P	P	12 34 50.5	+2.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
CMAR	**Chiang Mai Arr**	19.98	283	P	P	12 35 27.6	+4.6
	comp=Z,3.3nm,0.9s,baz=98,slow=9.5,SNR=9.8						
CMAR				LR	LR	12 42 56.9	
	comp=Z,130nm,18.7s,baz=105,slow=36						
CD2	**Chengdu**	21.48	321	*e*P	P	12 35 43.4	+5.1
KS15	**Wonju Array Si**	23.66	17	P	P	12 35 59.8	+0.1
LZH	**Lanzhou**	25.30	329	*e*P	P	12 36 19.3	+3.6
LZH				AP	pP	12 36 30.8	+5.1
LZH				XP	sP	12 36 36.5	+6.5
LZH				PP	PP	12 37 00.7	+5.9
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.6						
LZH				LR	LR		
	comp=N,425nm,10.5s						
LZH				LR	LR		
	comp=Z,687nm,13.4s,MS4.3						
LZH	**Lanzhou**	25.30	329	*e*P	P	12 36 19.3	+3.6
	comp=Z,25nm,1.3s,mb4.6						
LZH				pP	pP	12 36 30.8	+5.1
LZH				sP	sP	12 36 36.5	+6.5
LZH				PP	PP	12 37 00.7	+5.9
LZH				LR	LR		
	comp=Z,690nm,13.4s,MS4.3						
CN2	**Changchun**	29.25	9	*e*P	P	12 36 52.0	+0.5
FITZ	**Fitzroy Crossi**	33.36	169	P	P	12 37 26.9	-1.0
	comp=Z,2.8nm,0.9s,mb4.2,baz=358,slow=7.8,SNR=4.5						
SONM	**Songino Array**	34.58	344	P	P	12 37 37.6	-0.5
	comp=Z,1.1nm,0.5s,mb4.1,baz=164,slow=12,SNR=8.7						
SONM				pP	pP	12 37 47.4	-1.1
	comp=Z,2.8nm,0.9s,baz=162,slow=9.8,SNR=8.4						
ASAJ	**Asahikawa**	35.14	29	P	P	12 37 43.5	+0.5
	comp=Z,3.5nm,0.6s,mb4.5,baz=186,slow=12,SNR=3.8						
WRAB	**Tennant Creek**	37.59	157	*e*P	P	12 38 01.4	-2.5
	comp=Z,14nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	37.59	157	P	P	12 38 01.5	-2.4
	comp=Z,7.9nm,0.7s,mb4.5,baz=337,slow=9.4,SNR=22						
WRA				pP	pP	12 38 11.9	-2.6
	comp=Z,5.6nm,0.6s,baz=336,slow=9.4,SNR=8.2						
WRA				PcP	PcP	12 40 21.4	-0.3
	comp=Z,0.8nm,1.1s,baz=341,slow=3.2,SNR=4.5						
WB2	**Warramunga Arr**	37.59	157	*e*P	P	12 38 01.5	-2.5
WMQ	**Urumqi**	39.53	323	⇑*i*P	P	12 38 23.0	+3.2
WMQ				AP	pP	12 38 35.3	+4.9
WMQ				XP	sP	12 38 41.0	+6.0
WMQ				PP	PP	12 39 59.5	+4.8
WMQ				*e*S	S	12 44 24.0	+4.4
WMQ				XS		12 44 44.5	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,10.0nm,6.0s						
WMQ				LR	LR		
	comp=N,255nm,19.5s,MS4.2						
WMQ				LR	LR		
	comp=E,132nm,16.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,183nm,18.0s,MS4.0						
ASPA	**Alice Springs**	40.85	160	*e*P	P	12 38 29.3	-1.7
ASAR	**Alice Springs**	40.85	160	P	P	12 38 29.6	-1.3
	comp=Z,5.3nm,0.8s,mb4.2,baz=334,slow=7.2,SNR=15						
ASAR				pP	pP	12 38 41.6	+0.1
	comp=Z,4.1nm,0.5s,baz=335,slow=7.7,SNR=7.4						
ASAR				PcP	PcP	12 40 31.7	-0.3
	comp=Z,1.2nm,0.8s,baz=341,slow=3.1,SNR=4.4						
CTA	**Charters Tower**	43.62	142	P	P	12 38 53.3	-0.5
	comp=Z,2.4nm,0.7s,mb4.0,baz=5.9,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	44.36	324	P	P	12 39 00.6	+1.2
	comp=Z,1.0nm,0.8s,mb3.6,baz=120,slow=9.8,SNR=4.7						
MKAR				pP	pP	12 39 09.2	-0.8
	comp=Z,1.1nm,0.8s,baz=129,slow=9.3,SNR=6.0						
MKAR				PcP	PcP	12 40 43.5	0.0
	comp=Z,1.1nm,0.7s,baz=106,slow=4.4,SNR=6.2						
NWAO	**Narrogin (SRO)**	47.61	183	P	P	12 39 25.6	+0.3
	comp=Z,17nm,0.9s,mb5.1,baz=62,slow=21,SNR=2.5						
MA2	**Magadan**	50.17	20	*e*P	P	12 39 43.2	-1.5
	comp=Z,8.7nm,0.9s,mb4.8						
STKA	**Stephens Creek**	51.13	156	P	P	12 39 50.8	-1.5
	comp=Z,1.8nm,0.5s,mb4.2,baz=335,slow=13,SNR=3.8						
STKA	**Stephens Creek**	51.13	156	*e*P	P	12 39 50.7	-1.7
BVAR	**Borovoye Array**	54.11	326	P	P	12 40 14.8	+0.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=213,slow=35,SNR=3.8						
BRVK	**Borovoye**	54.18	326	*e*P	P	12 40 15.5	+0.7
	comp=Z,7.2nm,1.1s,mb4.5						
BRVK				*e*	pP	12 40 25.4	-0.3
ZRNK	**Zerenda**	54.84	325	*e*P	P	12 40 19.6	0.0
	comp=Z,3.5nm,0.8s,mb4.4						
ZRNK				*e*	pP	12 40 28.9	-1.6
MCK	**McKinley**	77.47	27	*e*P	P	12 42 41.8	-2.1
	comp=Z,5.4nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	77.54	339	P	P	12 42 44.7	+0.5
	comp=Z,3.0nm,0.8s,mb4.3,baz=72,slow=3.8,SNR=5.1						
PMR	**Palmer**	77.69	29	*e*P	P	12 42 40.6	-4.5
	comp=Z,5.7nm,0.9s,mb4.5						
ILAR	**Eielson Array**	78.19	26	P	P	12 42 46.8	-1.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=256,slow=4.8,SNR=8.5						
FINES	**FINESS Array B**	78.66	331	P	P	12 42 50.9	+0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=59,slow=8.1,SNR=6.5						
INK	**Inuvik**	82.41	21	P	P	12 43 09.1	-1.1
	comp=Z,1.2nm,1.0s,mb3.8,baz=310,slow=1.6,SNR=2.1						
INK	**Inuvik**	82.41	21	*e*P	P	12 43 08.8	-1.4
	comp=Z,1.7nm,0.9s,mb4.0						
NB2	**NORSAR Subarra**	85.65	332	P	P	12 43 27.0	+0.4
	comp=Z,1.2nm,0.6s,mb4.3,baz=67,slow=4.8						
NOA	**NORSAR Array B**	85.65	332	P	P	12 43 27.4	+0.7
	comp=Z,1.5nm,0.6s,mb4.4,baz=68,slow=5.1,SNR=7.7						
NOA				pP	pP	12 43 39.5	+1.5
	comp=Z,3.1nm,0.8s,baz=67,slow=4.9,SNR=8.3						
NOA				LR	LR	13 27 47.9	
	comp=Z,58nm,18.1s,MS4.0,baz=345,slow=40						
YKA	**Yellowknife Ar**	92.12	22	P	P	12 43 57.6	+0.2
	comp=Z,0.8nm,0.6s,mb4.2,baz=307,slow=4.5,SNR=4.7						
YKA				pP	pP	12 44 09.0	+0.2
	comp=Z,0.5nm,0.7s,baz=256,slow=23,SNR=4.0						
YKA	**Yellowknife Ar**	92.12	22	P	P	12 43 57.6	+0.3
YKA				pP	pP	12 44 09.0	+0.2
VNDA	**Vanda**	95.40	172	P	P	12 44 13.7	+1.6
	comp=Z,0.6nm,0.8s,mb4.1,baz=320,slow=4.9,SNR=4.0						
PLCA	**Paso Flores**	152.83	163	PKPbc	PKPdf	12 50 47.2	+10
	comp=Z,4.0nm,0.8s,baz=134,slow=2.4,SNR=10						
PLCA	**Paso Flores**	152.83	163	PKPbc	PKPdf	12 50 47.2	+10

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*NEIC **12** 12:38:43.3±5.5, 20.44S×177.50W, h411^{km}±50^{km}, mb4.0/8, Error ellipse: s-maj=46.8km s-min=13.7km az=223.0*

*IDC **12** 12:38:49.2±4.2, 20.66S×177.69W, h464^{km}±42^{km}, mb3.4/7, mb1 3.5/8, mb1mx3.3/17, Error ellipse: s-maj=32.2km s-min=16.7km az=70.0*

ISC 12 12:38:42.9±4.4**, 20.4S**±0.1×**177.5W**±0.2**, h423**^{km}±47^{km}**, n22,** σ**0^{s}56**/21**, mb3.8**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	18.41	193	P	P	12 42 30.2	-0.5
	1.2nm,0.3s,baz=169,slow=21,SNR=4.8						
URZ				S	S	12 45 34.9	0.0
	0.2nm,0.3s,baz=324,slow=14,SNR=2.7						
CTA	**Charters Tower**	33.94	264	*e*P	P	12 44 51.5	+1.3
	5.1nm,0.3s,mb4.3						
CTA	**Charters Tower**	33.94	264	P	P	12 44 51.8	+1.5
	8.3nm,0.5s,mb4.4,baz=102,slow=11,SNR=24						
CTAO	**Charters Tower**	33.94	264	*e*P	P	12 44 51.5	+1.3
	8.7nm,0.5s,mb4.3						
STKA	**Stephens Creek**	38.23	244	P	P	12 45 26.5	+0.6
	3.4nm,1.0s,mb3.6,baz=92,slow=11,SNR=4.0						
STKA	**Stephens Creek**	38.23	244	*e*P	P	12 45 26.1	+0.2
ASAR	**Alice Springs**	44.97	257	P	P	12 46 20.1	-0.1
	4.1nm,0.5s,mb4.0,baz=95,slow=7.9,SNR=54						
ASAR				PcP	PcP	12 47 52.4	-0.9
	0.9nm,0.6s,baz=99,slow=3.7,SNR=6.1						
ASPA	**Alice Springs**	44.97	257	*e*P	P	12 46 19.9	-0.3
WB2	**Warramunga Arr**	45.04	262	*e*P	P	12 46 20.4	-0.3
WRAB	**Tennant Creek**	45.04	262	*e*P	P	12 46 20.7	-0.1
WRA	**Warramunga Arr**	45.05	262	P	P	12 46 20.5	-0.3
	2.1nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=104						
KAKA	**Kakadu**	48.45	271	*e*P	P	12 46 46.8	-0.2
	13nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	53.48	262	*e*P	P	12 47 23.6	-0.5
	1.2nm,0.4s,mb3.5						
FITZ	**Fitzroy Crossi**	53.48	262	P	P	12 47 23.8	-0.3
	1.3nm,0.4s,mb3.5,baz=138,slow=4.7,SNR=16						
SBA	**Scott Base**	58.01	184	*e*P	P	12 47 56.1	+1.1
	2.7nm,0.7s,mb3.7						
VNDA	**Vanda**	58.06	185	P	P	12 47 55.6	+0.3
	0.6nm,0.6s,mb3.1,baz=1.2,slow=6.9,SNR=7.1						
VNDA	**Vanda**	58.06	185	*e*P	P	12 47 54.6	-0.7
	2.7nm,1.2s,mb3.5						
QSPA	**South Pole Qui**	69.68	180	*e*P	P	12 49 10.0	+0.5
	6.8nm,0.7s,mb4.3						
MAW	**Mawson**	81.82	200	P	P	12 50 16.4	-0.4
	0.8nm,0.7s,mb3.6,baz=146,slow=3.6,SNR=3.5						
SNAA	**Sanae**	88.11	178	*e*P	P	12 50 46.9	-0.5
	0.5nm,0.6s,mb3.4						
BVAR	**Borovoye Array**	119.27	320	PKP	PKPdf	12 56 43.6	+1.2
	0.7nm,0.3s,baz=116,slow=3.1,SNR=4.9						
ARCES	**ARCESS Array B**	128.89	350	PKP	PKPdf	12 57 02.8	+2.2
	3.2nm,0.9s,baz=90,slow=2.4,SNR=3.4						

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*BER **12** 12:47:31.8±4.9, 59.79N×18.54E, ML2.1(NAO), Suspected explosion*

NAO 12 12:47:32.4±1.4**, 60.20N×18.43E, ML2.1, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	**Hagfors**	2.37	270	Pn	Pn	12 48 13.2	+0.1
	baz=86,slow=16						
HFS				Lg		12 48 46.0	
	baz=101,slow=37						
FIA0	**FINESS Array S**	3.95	68	Pn	Pn	12 48 34.2	-1.4
	baz=236,slow=12						
FIA0				Lg		12 49 36.4	
	baz=227,slow=28						

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*ISK **12** 12:53:43.5, 36.93N×27.76E, h10^{km}, MD3.3*

*NEIC **12** 12:53:44.7, 36.97N×27.74E, h13^{km}, MD3.4(ATH), After ATH.*

*ATH **12** 12:53:44.7, 36.97N×27.74E, h13^{km}±4^{km}, MD3.4/9*

ISC 12 12:53:44.8±0.6**, 36.98N**±0.03×**27.77E**±0.04**, h11**^{km}±4^{km}**, n23,** σ**0^{s}91**/31**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.27	289	*i* P	Pg	12 53 50.5	-0.1
BDRM				*i* S	Sg	12 53 54.8	+0.4
MLSB	**Milas**	0.32	2	*i* PG	Pg	12 53 51.3	-0.2
MLSB				*i* SG	Sg	12 53 57.2	+1.3
YER	**Yerkesik**	0.44	69	*i* PG	Pg	12 53 53.2	-0.7
YER				*i* SG	Sg	12 54 00.0	+0.1
NISR	**Nisiros**	0.63	235	*e*PB	Pb	12 53 56.6	-0.7
AYDN	**Tasoluk**	0.69	8	⇑*i*P	Pb	12 53 58.4	0.0
AYDN				*i* S	Sb	12 54 07.5	-0.1
ARG	**Arkhangelos**	0.81	159	*e*PB	Pb	12 53 59.0	-1.5
ARG				*e*SB	Sb	12 54 12.5	+1.3
SMG	**Samos**	1.04	315	*e*PG	Pg	12 54 04.1	-1.6
DNZL	**Cakiroluk**	1.25	55	⇑*i*P	Pb	12 54 08.1	+0.2
DNZL				*i* S	Sb	12 54 28.0	+4.2
DENT	**Denizli**	1.27	52	PN	Pn	12 54 08.6	0.0
IZM	**Izmir**	1.47	344	PN	Pn	12 54 10.5	-1.0
KDAG	**Bornova**	1.48	345	⇑*i*P	Pn	12 54 10.8	-0.8
KDAG				*i* S	Sb	12 54 32.2	+1.6
KARP	**Karpathos**	1.51	199	*e*PN	Pn	12 54 11.0	-0.9
MANT	**Manisa**	1.64	22	⇑*i*P	Pn	12 54 13.5	-0.3
MANT				*i* S	Sn	12 54 33.5	-1.5
KSL	**Kastellorizon**	1.68	119	*e*PN	Pn	12 54 16.0	+1.6
ELL	**Elmali**	1.73	97	*e*PN	Pn	12 54 14.8	-0.4
APE	**Apeiranthos**	1.79	274	*e*PN	Pn	12 54 15.3	-0.7
APE	**Apeiranthos**	1.79	274	*e*PN	Pn	12 54 17.0	+1.0
AKS	**Akhisar**	1.90	1	*e*PN	Pn	12 54 17.0	-0.6
BCK	**Bucak**	2.31	77	*e*PN	Pn	12 54 23.8	+0.4
ISP	**Isparta**	2.35	68	*e*PN	Pn	12 54 24.0	0.0
NPS	**Neapolis**	2.44	226	*e*PN	Pn	12 54 26.6	+1.3
PRK	**Paraskevi**	2.55	333	*e*PN	Pn	12 54 28.5	+1.6
XRY	**Khrisi**	2.69	219	*e*PB	Pn	12 54 29.0	+0.2

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*BJI **12** 12:55:13.6, 4.00S×141.87E, h44^{km}, mB5.3, mb5.1, Ms5.0, Msz4.8*

*MOS **12** 12:55:14.8±0.8, 3.89S×141.47E, h42^{km}, mb5.3/8, Error ellipse: s-maj=24.1km s-min=10.1km az=109.8*

*SYO **12** 12:55:14.9, 3.91S×141.67E, h34^{km}, MB5.0, MS4.6*

*NEIC **12** 12:55:15.0±0.3, 3.91S×141.67E, mb5.0/21, MS4.6/3, Error ellipse: s-maj=13.2km s-min=6.9km az=94.0*

*HRVD **12** 12:55:15.0±0.2, 3.74S×141.61E, h38^{km}, MW5.2/52, Centroid moment Tensor Solution. LP body waves: s39,c70;Mantle waves: s52,c91; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.62±.03; $M_{\theta\theta}$-0.69±.02; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$-0.24±.02; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$0.23±.03; Best double couple: M_0.77×10^{17} NP1:ϕ_s90°, δ36°, λ65°. NP2:ϕ_s299°, δ58°, λ107°. Principal axes: T .72, Plg72°, Azm249°; N .1, Plg14°, Azm110°; P -.82, Plg12°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **12** 12:55:19.4±2.5, 4.07S×141.38E, h62^{km}±24^{km}, mb4.4/14, mb1 4.5/17, mb1mx4.5/18, ML4.0/3, MS4.4/12, Ms1 4.4/12, ms1mx4.3/14 Error ellipse: s-maj=16.1km s-min=9.4km az=91.0*

ISC 12 12:55:14.3±1.1**, 3.94S**±0.03×**141.53E**±0.05**, h37**^{km}±10^{km}**, h34**^{km}±1.1^{km}**:pP-P, n122,** σ**1^{s}01**/125**, mb5.0**/49**, MS4.4**/23**, 16C-7D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.79	134	P	P	12 57 09.5	+1.6
	3.4nm,0.3s,baz=325,slow=5.3,SNR=19						
PMG				S	S	12 58 37.9	+2.0
	6.2nm,0.3s,baz=148,slow=22,SNR=7.0						
PMG				LR	LR	12 59 37.6	
	comp=Z,1μm,19.1s,baz=298,slow=33						
PMG	**Port Moresby**	7.79	134	*e*P	P	12 57 08.7	+0.7
	33nm,0.6s						
KAKA	**Kakadu**	12.54	226	*e*P	P	12 58 10.9	-2.2
	188nm,0.5s						
KAKA				*e*S	S	13 00 27.8	-4.7
CTA	**Charters Tower**	16.69	164	*e*P	P	12 59 10.5	+3.4
	10nm,1.0s						
CTA				*e*S	S	13 02 22.9	+12
CTA	**Charters Tower**	16.69	164	P	P	12 59 09.1	+1.9
	0.1nm,0.3s,baz=328,slow=15,SNR=6.2						
CTA				LR	LR	13 05 51.3	
	comp=Z,2μm,19.2s,baz=349,slow=38						
CTAO	**Charters Tower**	16.69	164	*e*P	P	12 59 08.9	+1.8
	45nm,1.4s						
WRAB	**Tennant Creek**	17.37	203	*e*P	P	12 59 15.1	-0.5
	64nm,0.7s						
WB2	**Warramunga Arr**	17.38	203	*e*P	P	12 59 14.6	-1.1
WB2				*e*S	S	13 02 24.9	-1.1
WRA	**Warramunga Arr**	17.38	203	P	P	12 59 15.0	-0.7
	2.1nm,0.3s,baz=30,slow=13,SNR=73						
WRA				S	S	13 02 25.1	-1.0
	0.8nm,0.3s,baz=18,slow=22,SNR=7.1						
WRA				LR	LR	13 06 28.1	
	comp=Z,4μm,18.2s,baz=25,slow=39						
WRA	**Warramunga Arr**	17.38	203	P	P	12 59 15.0	-0.8
WRA				S	S	13 02 25.1	-1.0
WRA				LR	LR	13 06 28.1	
BUTP	**Butuan**	20.40	309	*e*P	P	12 59 51.3	+0.3
ASAR	**Alice Springs**	20.95	200	P	P	12 59 56.7	+0.2
	14nm,0.6s,baz=28,slow=11,SNR=118						
ASAR				S	S	13 03 45.1	+2.2
	22nm,0.9s,baz=19,slow=25,SNR=3.7						
ASAR				LR	LR	13 08 32.2	
	comp=Z,2μm,18.3s,MS4.6,baz=9.5,slow=38						
ASAR	**Alice Springs**	20.95	200	P	P	12 59 56.7	+0.2
ASAR				S	S	13 03 45.1	+2.2
ASAR				LR	LR	13 08 32.2	
ASPA	**Alice Springs**	20.95	200	*e*P	P	12 59 56.6	+0.1
ASPA				*e*S	S	13 03 44.4	+1.5
FITZ	**Fitzroy Crossi**	20.98	227	*e*P	P	12 59 56.1	-0.8
	25nm,0.6s						
FITZ				*e*S	S	13 03 45.2	+1.6
FITZ	**Fitzroy Crossi**	20.98	227	P	P	12 59 56.0	-0.9
	18nm,0.8s,baz=52,slow=7.8,SNR=3.1						
FITZ				S	S	13 03 43.3	-0.3
	111nm,1.1s,baz=157,slow=11,SNR=5.5						
FITZ				LR	LR	13 08 29.8	
	comp=Z,1μm,18.0s,MS4.3,baz=67,slow=38						
PAGZ	**Pagadian**	21.57	303	*e*P	P	13 00 02.8	0.0
BESP	**Borongan**	22.24	314	*e*P	P	13 00 09.8	+0.3
RCP	**Roxas**	24.22	310	⇑*e*P	P	13 00 30.6	+1.7
TGY	**Tagaytay City**	27.18	312	P	P	13 00 57.5	+0.7
	121nm,0.3s,mb5.8,baz=306,slow=7.9,SNR=3.2						
STKA	**Stephens Creek**	27.79	180	P	P	13 01 02.2	0.0
	2.0nm,0.4s,mb4.1,baz=318,slow=14,SNR=2.1						
STKA				LR	LR	13 14 19.9	
	comp=Z,661nm,18.4s,MS4.2,baz=101,slow=41						
STKA	**Stephens Creek**	27.79	180	P	P	13 01 01.2	-0.9
CBIJ	**Chichi jima**	30.86	1	LR	LR	13 11 17.8	
	comp=Z,385nm,20.2s,MS4.0,baz=205,slow=31						
KLBR	**Kellerberrin**	35.44	216	*e*P	P	13 02 09.3	+0.1
	37nm,1.1s,mb5.2						
JNU	**Nakatsue**	38.22	345	P	P	13 02 33.0	+0.5
	9.3nm,0.9s,mb4.5,baz=207,slow=14,SNR=4.0						
QIZ	**Qiongzhong**	38.65	307	P	P	13 02 36.3	0.0
QIZ				S	S	13 08 37.4	+7.3
QIZ				LR	LR		
	comp=Z,701nm,21.1s,MS4.5						
SSE	**Sheshan**	39.88	332	P	P	13 02 46.7	+0.3
SSE				XP	sP	13 02 59.5	-2.1
SSE				S	S	13 08 49.2	+0.7
SSE				SS	SS	13 11 45.2	+5.7
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1						
SSE				LR	LR		
	comp=N,195nm,25.3s,MS4.0						
SSE				LR	LR		
	comp=E,242nm,25.3s,MS4.0						
SSE				LR	LR		
	comp=Z,393nm,27.4s,MS4.1						
SSE	**Sheshan**	39.88	332	P	P	13 02 46.7	+0.3
	comp=Z,29nm,0.8s,mb5.1						
SSE				sP	sP	13 02 59.5	-2.1
SSE				S	S	13 08 49.2	+0.7
SSE				sS		13 09 02.7	
SSE				SS	SS	13 11 45.2	+5.7
SSE				LR	LR		
	comp=Z,390nm,27.4s,MS4.1						
MAT	**Matsushiro**	40.40	356	P	P	13 02 48.6	-2.0
MAT				S	S	13 08 51.0	-5.1
MAT	**Matsushiro**	40.40	356	*e*P	P	13 02 49.0	-1.6
	comp=Z,8.0nm,1.0s,mb4.4						

MAT				*e*S	**S**	**13 08 51.0**	**-5.1**
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
NJ2	**Nanjing**	**41.79**	**331**	*e*P	**P**	**13 03 03.2**	**+1.0**
NJ2				AP	pP	13 03 15.5	+2.7
NJ2				XP	sP	13 03 20.4	+3.0
NJ2				S	**S**	**13 09 21.0**	**+4.1**
NJ2				SS	SS	13 12 24.0	+5.7
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.0						
URZ	**Urewera**	**47.09**	**141**	P	**P**	**13 03 43.6**	**-1.0**
	comp=Z,7.7nm,0.7s,mb4.8,baz=154,slow=19,SNR=5.6						
RPZ	**Rata Peaks**	**47.43**	**151**	P	**P**	**13 03 48.1**	**+0.9**
	comp=Z,28nm,1.1s,mb5.1,baz=36,slow=15,SNR=5.2						
KMI	**Kunming**	**47.47**	**310**	*e*P	**P**	**13 03 48.4**	**+0.6**
KMI				S	**S**	**13 10 35.0**	**-3.8**
KMI				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.6						
KMI				LR	LR		
	comp=Z,387nm,26.0s,MS4.3						
KMI	**Kunming**	**47.47**	**310**	*e*P	**P**	**13 03 48.4**	**+0.6**
	comp=Z,14nm,1.6s,mb4.6						
KMI				S	**S**	**13 10 35.0**	**-3.8**
KMI				LR	LR		
	comp=Z,390nm,26.0s,MS4.3						
CMAR	**Chiang Mai Arr**	**47.49**	**299**	P	**P**	**13 03 48.4**	**+0.3**
	comp=Z,3.1nm,0.9s,mb4.3,baz=122,slow=6.7,SNR=18						
CMAR				LR	LR	13 22 09.1	
	comp=Z,182nm,20.0s,MS4.0,baz=110,slow=34						
ASAJ	**Asahikawa**	**47.85**	**1**	P	**P**	**13 03 51.0**	**+0.5**
	comp=Z,9.5nm,1.1s,mb4.7,baz=278,slow=16,SNR=2.6						
XAN	**Xi'an**	**48.72**	**323**	P	**P**	**13 03 57.0**	**-0.4**
XAN				AP	pP	13 04 06.5	-1.6
XAN				AMB	AMB		
	comp=Z,32nm,1.6s,mb5.1						
BJT	**Baijiatuau**	**49.57**	**334**	*e*P	**P**	**13 04 03.8**	**-0.1**
	comp=Z,24nm,0.9s,mb5.2						
BJT				*e*pP	pP	13 04 15.8	+1.2
CN2	**Changchun**	**49.69**	**345**	*e*P	**P**	**13 04 05.0**	**+0.3**
CN2				*e*AP	pP	13 04 14.5	-0.9
CN2				*e*S	**S**	**13 11 09.5**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=E,600nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.6						
CD2	**Chengdu**	**49.99**	**317**	⇓*i*P	**P**	**13 04 08.0**	**+0.7**
CD2				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**50.69**	**1**	P	**P**	**13 04 11.0**	**-1.4**
HHC	**Hu-ho-hao-te**	**52.33**	**331**	*e*P	**P**	**13 04 24.6**	**-0.2**
HHC				S	**S**	**13 11 44.8**	**-1.3**
HHC				SS	SS	13 15 21.8	-0.6
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,216nm,5.7s						
HHC				LR	LR		
	comp=N,149nm,23.0s,MS4.2						
HHC				LR	LR		
	comp=E,224nm,19.6s,MS4.2						
HHC				LR	LR		
	comp=Z,257nm,16.3s,MS4.3						
LZH	**Lanzhou**	**53.17**	**322**	⇑P	**P**	**13 04 31.6**	**+0.5**
LZH				AP	pP	13 04 41.7	-0.3
LZH				XP	sP	13 04 45.6	-0.8
LZH				PP	PP	13 06 33.5	+0.8
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				LR	LR		
	comp=N,574nm,13.1s						
LZH				LR	LR		
	comp=Z,737nm,17.3s,MS4.8						
LZH	**Lanzhou**	**53.17**	**322**	⇑P	**P**	**13 04 31.6**	**+0.5**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	13 04 41.7	-0.3
LZH				sP	sP	13 04 45.6	-0.8
LZH				PP	PP	13 06 33.5	+0.8
LZH				LR	LR		
	comp=Z,740nm,17.3s,MS4.8						
KLR	**Kul'dur**	**53.63**	**352**	*e*P	**P**	**13 04 33.0**	**-1.4**
SHL	**Shillong**	**56.35**	**304**	*e*P	**P**	**13 04 51.5**	**-2.9**
GTA	**Gaotai**	**57.74**	**322**	P	**P**	**13 05 04.6**	**+0.5**
GTA				AP	pP	13 05 14.7	-0.4
GTA				XP	sP	13 05 20.7	+1.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
PET	**Petropavlovsk**	**58.57**	**12**	*d* *i*P	**P**	**13 05 15.5**	**+5.8**
PET				*e*S	**S**	**13 13 10.8**	**+1.6**
PET				*e*SS	SS	13 17 04.0	+0.3
PET				pmax	pmax		
	comp=Z,100nm,6.2s						
PET				smax			
	comp=N,100nm,15.0s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.9						
LSA	**Lhasa**	**58.68**	**308**	P	**P**	**13 05 12.4**	**+1.6**
SONM	**Songino Array**	**60.05**	**333**	P	**P**	**13 05 20.6**	**+0.6**
	comp=Z,3.4nm,0.9s,mb4.4,baz=149,slow=7.2,SNR=21						
PKI	**Pulchoki**	**62.47**	**304**	*e*P	**P**	**13 05 36.1**	**-0.5**
	comp=Z,55nm,1.3s,mb5.5						
KKN	**Kakani**	**62.66**	**304**	*e*P	**P**	**13 05 37.8**	**0.0**
	comp=Z,70nm,1.1s,mb5.7						
DMN	**Daman**	**62.74**	**304**	*e*P	**P**	**13 05 38.4**	**0.0**
	comp=Z,80nm,1.1s,mb5.8						
GKN	**Gorkha**	**63.26**	**304**	*e*P	**P**	**13 05 41.7**	**-0.2**
	comp=Z,86nm,1.1s,mb5.8						
ZAK	**Zakamensk**	**63.31**	**334**	⇓*i*P	**P**	**13 05 41.3**	**-0.6**
MA2	**Magadan**	**63.74**	**5**	*e*P	**P**	**13 05 43.9**	**-0.6**
MA2				pmax	pmax		
	comp=Z,20nm,2.3s,mb4.7						
MA2				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
KOLN	**Koldanda**	**64.04**	**303**	*e*P	**P**	**13 05 46.7**	**-0.3**
	comp=Z,146nm,1.7s,mb5.7						
IRK	**Irkutsk**	**64.25**	**336**	*e*P	**P**	**13 05 48.1**	**+0.1**
MOY	**Mondy**	**65.24**	**334**	*e*P	**P**	**13 05 55.5**	**+1.1**
BOD	**Bodaibo**	**65.43**	**344**	*e*P	**P**	**13 05 48.6**	**-6.9**
YAK	**Yakutsk**	**66.42**	**354**	*c* *i*P	**P**	**13 06 00.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
SEY	**Seymchan**	**67.20**	**5**	*e*P	**P**	**13 06 07.2**	**+0.6**
SEY						13 06 33.8	
SEY						13 08 34.2	
SEY				PPP	PPP	13 10 08.4	-5.2
SEY				*e*S	S	13 15 00.6	+3.5
SEY				*e*		13 16 04.1	
SEY				*e*SS	SS	13 19 16.5	-2.0
SEY				SSS	SSS	13 22 13.7	-2.5
SEY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SEY				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
SEY				MLR	MLR		
	comp=N,320nm,18.0s						
SEY				MLR	MLR		
	comp=E,140nm,29.0s						
WMQ	**Urumqi**	**67.73**	**321**	⇑*i*P	**P**	**13 06 10.7**	**+0.4**
WMQ				AP	pP	13 06 21.1	-0.4
WMQ				XP	sP	13 06 25.1	-0.4
WMQ				PCP	PcP	13 06 37.7	+0.7
WMQ				PP	PP	13 08 41.7	0.0
WMQ				S	S	13 15 03.7	-0.1
WMQ				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.1						
WMQ				LR	LR		
	comp=N,284nm,20.1s,MS4.5						
WMQ				LR	LR		
	comp=E,108nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,157nm,20.0s,MS4.2						
PPT	**Papeete**	**68.70**	**107**	*e*S	S	13 15 22.1	+6.3
PPT				*e*R		13 27 33.5	
	comp=Z,413nm,24.8s						
DDI	**Dehra Dun**	**69.46**	**304**	*e*	**P**	**13 06 20.7**	**-0.5**
MKAR	**Makanchi Array**	**72.49**	**322**	P	**P**	**13 06 39.9**	**+0.8**
	comp=Z,17nm,0.8s,mb5.0,baz=117,slow=8.1,SNR=95						
MKAR				LR	LR	13 37 10.0	
	comp=Z,180nm,21.9s,MS4.3,baz=17,slow=35						
MKAR	**Makanchi Array**	**72.49**	**322**	*i* P	**P**	**13 06 39.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,77nm,1.4s						
MKAR	**Makanchi Array**	**72.49**	**322**	P	**P**	**13 06 39.9**	**+0.8**
MKAR				LR	LR	13 37 10.0	
KSH	**Kashi**	**73.98**	**313**	*e*P	**P**	**13 06 49.5**	**+1.4**
KSH				*e*AP	pP	13 07 02.1	+2.8
KSH				*e*XP	sP	13 07 07.1	+3.7
KSH				*e*PP	PP	13 09 38.1	+3.0
KSH				*e*S	S	13 16 18.6	+2.2
KSH				*e*SKS	SKS	13 16 51.2	+3.7
KSH				*e*SS	SS	13 21 09.0	+5.4
KSH				LR	LR		
	comp=N,240nm,5.2s						
KSH				LR	LR		
	comp=E,260nm,4.4s						
VNDA	**Vanda**	**74.32**	**176**	P	**P**	**13 06 49.3**	**-0.1**
	comp=E,3.6nm,0.6s,mb4.5,baz=325,slow=6.2,SNR=33						
VNDA				LR	LR	13 40 26.6	
	comp=E,346nm,18.8s,MS4.7,baz=350,slow=36						
VNDA	**Vanda**	**74.32**	**176**	*e*P	**P**	**13 06 48.9**	**-0.5**
	comp=E,13nm,1.3s,mb4.7						
VNDA				*e*pP	pP	13 06 57.9	-2.7
VNDA				LR	LR		
	comp=Z,537nm,20.0s,MS4.8						
SBA	**Scott Base**	**75.05**	**175**	*e*P	**P**	**13 06 54.4**	**+0.8**
	comp=Z,32nm,1.4s,mb5.0						
SBA				*e*pP	pP	13 07 05.0	+0.2
SBA				LR	LR		
	comp=Z,329nm,19.0s,MS4.7						
KZA	**Kyzart**	**75.34**	**315**	P	**P**	**13 06 58.0**	**+2.2**
	SNR=28						
TKM2	**Tokmak 2**	**75.38**	**316**	P	**P**	**13 06 56.9**	**+0.9**
	SNR=9.1						
NVS	**Novosibirsk**	**75.67**	**329**	⇑*i*P	**P**	**13 06 57.8**	**+0.3**
NVS				pmax	pmax		
	comp=Z,47nm,1.7s,mb5.1						
NVS				pmax	pmax		
	comp=E,30nm,1.6s						
NVS				pmax	pmax		
	comp=E,24nm,1.4s						
UCH	**Uchtor**	**75.90**	**315**	P	**P**	**13 07 00.7**	**+1.6**
	SNR=12						
CHMS	**Chumysh**	**75.99**	**316**	P	**P**	**13 07 00.3**	**+0.8**
	SNR=6.3						
USP	**Ospenovka**	**76.25**	**316**	P	**P**	**13 07 01.5**	**+0.4**
	SNR=14						
KURK	**Kurchatov**	**76.35**	**324**	*i* P	**P**	**13 07 01.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
KURK	**Kurchatov**	**76.35**	**324**	*e*P	**P**	**13 07 00.6**	**-0.8**
	comp=Z,74nm,1.6s,mb5.4						
AML	**Almayashu**	**76.45**	**315**	P	**P**	**13 07 03.7**	**+1.5**
	SNR=17						
EKS2	**Erkin-Say**	**76.56**	**315**	P	**P**	**13 07 03.9**	**+1.1**
	SNR=5.2						
KKAR	**Karatay Array**	**78.98**	**315**	*i* P	**P**	**13 07 16.2**	**0.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.4						
KDAK	**Kodiak Island**	**80.75**	**30**	*e*P	**P**	**13 07 24.9**	**-0.5**
	comp=Z,9.6nm,1.0s,mb4.7						
KDAK				*e*pP	pP	13 07 34.9	-1.8
VOSK	**Vostochnaya**	**81.50**	**325**	P	**P**	**13 07 28.9**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
BVA0	**Borovoye Array**	**81.93**	**325**	*i* P	**P**	**13 07 31.6**	**0.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**81.93**	**325**	P	**P**	**13 07 32.4**	**+0.8**
	comp=Z,62nm,1.1s,mb5.4,baz=117,slow=6.6,SNR=96						
BRVK	**Borovoye**	**82.00**	**325**	*e*P	**P**	**13 07 31.9**	**-0.1**
	comp=Z,20nm,0.8s,mb5.1						
MAW	**Mawson**	**82.05**	**202**	⇑*i*P	**P**	**13 07 32.7**	**+0.7**
	comp=Z,15nm,0.9s,mb4.9						
MAW	**Mawson**	**82.05**	**202**	P	**P**	**13 07 33.2**	**+1.2**
	comp=Z,18nm,0.8s,mb5.0,baz=72,slow=5.9,SNR=36						
MAW				LR	LR	13 43 50.5	
	comp=Z,278nm,18.7s,MS4.7,baz=66,slow=36						
ZRNK	**Zerenda**	**82.71**	**324**	P	**P**	**13 07 35.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
ZRNK	**Zerenda**	**82.71**	**324**	⇑*e*P	**P**	**13 07 35.5**	**-0.1**
	comp=Z,36nm,1.2s,mb5.3						
PMR	**Palmer**	**83.78**	**27**	*e*P	**P**	**13 07 38.6**	**-2.2**
	comp=Z,9.9nm,1.2s,mb4.8						
PMR				*e*pP	pP	13 07 49.2	-3.0
SML	**Sawmill**	**84.21**	**27**	*e*P	**P**	**13 07 41.9**	**-1.2**
SML				*e*pP	pP	13 07 52.3	-2.1
MCK	**McKinley**	**84.60**	**25**	*e*P	**P**	**13 07 43.0**	**-2.0**
	comp=Z,3.2nm,1.1s,mb4.4						
MCK				*e*pP	pP	13 07 53.4	-2.9
DIV	**Divide**	**85.16**	**28**	*e*P	**P**	**13 07 46.0**	**-1.8**
	comp=Z,13nm,0.8s,mb5.1						
DIV				*e*pP	pP	13 07 56.5	-2.8
COLA	**College**	**85.43**	**24**	*e*P	**P**	**13 07 48.0**	**-1.0**
COLA	**College**	**85.43**	**24**	*e*P	**P**	**13 07 47.5**	**-1.6**
	comp=Z,5.2nm,0.8s,mb4.7						
COLA				*e*pP	pP	13 07 57.8	-2.7
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**13 07 48.9**	**-1.9**
	comp=Z,1.1nm,0.7s,mb4.2,baz=252,slow=4.8,SNR=9.1						
ILAR				LR	LR	13 47 22.3	
	comp=Z,99nm,19.1s,MS4.2,baz=238,slow=36						
AB31	**Akbulak array**	**87.48**	**320**	*i* P	**P**	**13 07 58.5**	**-0.9**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.3						
DAWY	**Dawson**	**88.75**	**26**	*e*P	**P**	**13 08 04.2**	**-0.9**
DAWY				*e*pP	pP	13 08 15.0	-1.7
ARU	**Arti**	**89.37**	**327**	⇑*i*P	**P**	**13 08 07.0**	**-1.2**
ARU				*e*		13 11 38.4	
ARU				*e*S	S	13 18 36.2	-17
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
ARU	**Arti**	**89.37**	**327**	*e*P	**P**	**13 08 06.6**	**-1.6**
	comp=Z,9.7nm,1.1s,mb5.0						
SYO	**Syowa Base**	**90.61**	**201**	⇓P	**P**	**13 08 13.9**	**+0.1**
SNAA	**Sanae**	**101.06**	**191**	⇑*i*	P	13 09 10.5	+9.2
SNAA	**Sanae**	**101.06**	**191**	⇓*i*	PP	13 13 10.6	-2.3
SNAA	**Sanae**	**101.06**	**191**	⇑*i*Pdif	P	13 09 00.2	-1.1
SNAA				*e*		13 09 13.1	
SNAA				*e*		13 20 38.7	
SOC	**Sochi**	**101.27**	**314**	*e*P	P	13 09 02.6	-0.3
SOC				*e*		13 13 10.3	
SOC				*e*S	S	13 20 33.0	-2.9
SOC				*e*SS	SS	13 27 35.7	-4.9
SOC				pmax	pmax		
	comp=Z,20nm,0.8s						
SOC				pmax	pmax		
	comp=N,16nm,0.6s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				MLR	MLR		
	comp=Z,195nm,19.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,207nm,23.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,130nm,25.0s,MS4.6						
OBN	**Obninsk**	**101.77**	**325**	*e*P	P	13 08 59.9	-5.0
OBN				*e*		13 13 12.1	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.3						
VNA2	**Neumayer--Watz**	**102.50**	**190**	⇑*i*	Pdif	13 09 20.1	+12
VNA2	**Neumayer--Watz**	**102.50**	**190**	⇓*i*	Pdif	13 09 24.5	+17
VNA2	**Neumayer--Watz**	**102.50**	**190**	⇑*i*Pdif	Pdif	13 09 10.4	+2.6
VNA2				*e*		13 13 30.8	
VNA2				*e*		13 13 48.6	
VNA3	**Neumayer Olymp**	**102.60**	**189**	⇓*i*	Pdif	13 09 24.7	+16
VNA3	**Neumayer Olymp**	**102.60**	**189**	⇑*i*Pdif	Pdif	13 09 10.8	+2.6
VNA3				*e*		13 09 20.2	
VNA1	**Neumayer--Stat**	**102.89**	**190**	⇑*i*	Pdif	13 09 22.4	+13
VNA1	**Neumayer--Stat**	**102.89**	**190**	⇑*i*Pdif	Pdif	13 09 12.9	+3.4
VNA1				*e*		13 13 32.5	
LPAZ	**La Paz**	**144.44**	**125**	PKP	PKPdf	13 14 48.4	+0.6
	comp=Z,2.1nm,0.9s,baz=234,slow=0.9,SNR=7.3						
LPAZ	**La Paz**	**144.44**	**125**	*e*PKP	PKPdf	13 14 47.5	-0.2
CPUP	**Villa Florida**	**144.80**	**150**	PKP	PKPdf	13 14 47.8	-0.4
	comp=Z,1.1nm,0.5s,baz=103,slow=2.8,SNR=2.3						
DBIC	**Dimbokro**	**146.43**	**276**	PKPbc	PKPbc	13 14 53.6	+1.0
	comp=Z,9.7nm,1.2s,baz=79,slow=2.4,SNR=3.6						
SDV	**Santo Domingo**	**147.67**	**80**	*e*PKPdf	PKPdf	13 14 53.0	-0.3

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*BJI **12** 13:38:50.5, 7.00S×129.40E, h126^{km}, mB4.3, mb4.7*
*NEIC **12** 13:38:50.5±1.8, 6.95S×129.45E, h126^{km}±16^{km}, mb4.2/15, Error ellipse: s-maj=18.7km s-min=11.1km az=62.0*
*SYO **12** 13:38:50.5, 6.95S×129.45E, h126^{km}, MB4.2*
*IDC **12** 13:38:51.0±3.5, 6.99S×129.35E, h128^{km}±32^{km}, mb3.8/8, mb1 4.2/12, mb1mx4.1/16, Error ellipse: s-maj=27.2km s-min=13.3km az=62.0*
ISC 12 13:38:50.1±1.5**, 6.94S**±0.05×**129.57E**±0.07**, h138**^{km}±15^{km}**, n39, σ1**^{s}**28**/45**, mb4.0**/15**, 1C-5D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.37**	**154**	⇓*i*P	**P**	**13 40 24.2**	**+1.5**
	126nm,0.2s						
KAKA				*e*S	**S**	**13 41 27.3**	**-7.3**
FITZ	**Fitzroy Crossi**	**11.74**	**199**	⇑*i*P	**P**	**13 41 34.2**	**-0.1**
	8.6nm,0.3s						
FITZ				*e*S	**S**	**13 43 37.4**	**-5.5**
FITZ	**Fitzroy Crossi**	**11.74**	**199**	P	**P**	**13 41 34.0**	**-0.3**
	4.3nm,0.3s,baz=24,slow=9.1,SNR=131						
FITZ				S	**S**	**13 43 37.8**	**-5.1**
	12nm,0.3s,baz=183,slow=24,SNR=11						
WRAB	**Tennant Creek**	**13.73**	**161**	*e*P	**P**	**13 41 58.0**	**-2.0**
	71nm,0.9s						
WRAB				*e*S	**S**	**13 44 20.8**	**-8.6**
WRA	**Warramunga Arr**	**13.73**	**161**	P	**P**	**13 41 58.3**	**-1.8**
	5.3nm,0.3s,baz=343,slow=13,SNR=107						
WRA				S	**S**	**13 44 22.5**	**-7.1**
	5.7nm,0.3s,baz=339,slow=22,SNR=8.4						
WB2	**Warramunga Arr**	**13.74**	**161**	⇓*i*P	**P**	**13 41 58.0**	**-2.2**
WB2				*e*S	**S**	**13 44 23.9**	**-5.8**
ASAR	**Alice Springs**	**17.15**	**166**	P	**P**	**13 42 43.1**	**+0.3**
	7.3nm,0.3s,baz=348,slow=11,SNR=484						
ASAR				S	**S**	**13 45 48.1**	**+0.9**
	1.7nm,0.3s,baz=332,slow=21,SNR=6.5						
ASPA	**Alice Springs**	**17.15**	**166**	*e*P	**P**	**13 42 43.7**	**+0.9**
ASPA				*e*S	**S**	**13 45 46.6**	**-0.6**
PMG	**Port Moresby**	**17.58**	**99**	P	**P**	**13 42 49.9**	**+1.8**
	0.9nm,0.3s,baz=304,slow=7.3,SNR=4.7						
PMG				S	**S**	**13 45 55.8**	**-1.1**
	0.9nm,0.3s,baz=9.8,slow=22,SNR=5.5						
PMG	**Port Moresby**	**17.58**	**99**	*e*P	**P**	**13 42 49.0**	**+1.0**
	25nm,0.9s						
CTA	**Charters Tower**	**20.80**	**131**	*e*P	**P**	**13 43 23.2**	**+1.1**
	5.9nm,0.8s						
CTA	**Charters Tower**	**20.80**	**131**	P	**P**	**13 43 23.6**	**+1.5**
	8.4nm,0.9s,baz=301,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**20.80**	**131**	*e*P	**P**	**13 43 23.4**	**+1.3**
	11nm,0.9s						
FORT	**Forrest**	**23.76**	**183**	*e*P	**P**	**13 43 53.3**	**+2.3**
	97nm,0.5s						
STKA	**Stephens Creek**	**27.23**	**157**	⇓*i*P	**P**	**13 44 23.2**	**-0.1**
	5.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**13 44 23.4**	**+0.1**
	8.3nm,0.5s,mb4.7,baz=332,slow=9.0,SNR=26						
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**13 46 08.2**	**+0.3**
	2.3nm,0.7s,mb4.0,baz=136,slow=7.4,SNR=13						
NJ2	**Nanjing**	**40.09**	**346**	*e*P	**P**	**13 46 15.8**	**+2.1**
LZH	**Lanzhou**	**49.15**	**332**	*e*P	**P**	**13 47 27.6**	**+1.7**
LZH				PP	PP	13 49 22.6	+1.5
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.6						
LZH	**Lanzhou**	**49.15**	**332**	*e*P	**P**	**13 47 27.6**	**+1.7**
	comp=Z,23nm,1.5s,mb4.6						
LZH				pP	pP	13 47 47.3	-10
LZH				sP	sP	13 47 55.4	-18
LZH				PP	PP	13 49 22.6	+1.5
LZH				LR	LR		
	comp=Z,340nm,17.5s						
CN2	**Changchun**	**50.63**	**356**	*e*P	**P**	**13 47 39.7**	**+2.6**
SONM	**Songino Array**	**58.25**	**342**	P	**P**	**13 48 31.6**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.7,baz=162,slow=7.8,SNR=4.8						
SONM				pP	pP	13 49 13.2	+8.1
	comp=Z,1.4nm,0.9s,baz=158,slow=6.7,SNR=5.2						
WMQ	**Urumqi**	**63.11**	**327**	⇓P	**P**	**13 49 04.8**	**-0.5**
WMQ				AP	pP	13 49 34.8	-3.9
WMQ				PCP	PcP	13 49 41.3	-0.1
WMQ				XP	sP	13 49 48.6	-5.2
WMQ				PP	PP	13 51 26.3	-0.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,30nm,7.8s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**13 49 35.4**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.2,baz=120,slow=8.1,SNR=35						
MKAR				pP	pP	13 50 17.3	+7.5
	comp=Z,1.8nm,0.8s,baz=129,slow=8.1,SNR=5.3						
KURK	**Kurchatov**	**72.24**	**329**	*e*P	**P**	**13 50 00.5**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.2						
VNDA	**Vanda**	**72.56**	**173**	P	**P**	**13 50 03.6**	**+0.2**
	comp=Z,1.8nm,0.7s,mb3.9,baz=323,slow=5.7,SNR=14						
VNDA	**Vanda**	**72.56**	**173**	*e*P	**P**	**13 50 03.0**	**-0.4**
	comp=Z,2.2nm,0.8s,mb3.9						
SBA	**Scott Base**	**73.45**	**172**	*e*P	**P**	**13 50 09.1**	**+0.4**
	comp=Z,1.7nm,0.7s,mb3.9						
MAW	**Mawson**	**74.86**	**201**	P	**P**	**13 50 16.3**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.7,baz=284,slow=15,SNR=2.7						
MAW	**Mawson**	**74.86**	**201**	P	**P**	**13 50 16.2**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**13 50 32.7**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=117,slow=3.3,SNR=6.3						
BRVK	**Borovoye**	**77.85**	**328**	P	**P**	**13 50 32.9**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.7						
ZRNK	**Zerenda**	**78.48**	**327**	*e*P	**P**	**13 50 36.1**	**-1.2**
	comp=Z,1.7nm,0.6s,mb3.9						
QSPA	**South Pole Qui**	**83.04**	**180**	*e*P	**P**	**13 51 01.3**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.9						
SYO	**Syowa Base**	**83.57**	**201**	⇓P	**P**	**13 51 05.8**	**+2.2**
ARU	**Arti**	**85.43**	**328**	*e*P	**P**	**13 51 11.5**	**-1.6**
	comp=Z,3.6nm,0.9s,mb4.1						
LVC	**Limon Verde**	**145.51**	**149**	PKPbc	PKPbc	13 58 16.1	+2.8
	comp=Z,3.0nm,0.7s,baz=243,slow=2.3,SNR=2.4						
CPUP	**Villa Florida**	**146.26**	**169**	PKPbc	PKPbc	13 58 17.0	+1.9
	comp=Z,2.2nm,0.6s,baz=229,slow=1.8,SNR=6.9						
LPAZ	**La Paz**	**151.03**	**143**	PKPbc	PKPdf	13 58 30.5	+9.0
	comp=Z,0.9nm,0.4s,baz=60,slow=1.5,SNR=7.2						

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*DJA **12** 14:01:28.4±1.0, 0.40S×126.13E, h33^{km}, MD5.0/4, ML6.0/3, Error ellipse: s-maj=94.6km s-min=22.1km az=151.0*
*BJI **12** 14:01:31.6, 1.16S×125.32E, h50^{km}, mB5.2, mb4.9, Ms4.9, Msz4.5*
*MOS **12** 14:01:36.6±1.1, 0.28S×124.96E, h33^{km}, mb5.3/15, Error ellipse: s-maj=24.7km s-min=9.3km az=120.4*
*IDC **12** 14:01:39.2±2.4, 0.21S×125.07E, h36^{km}±18^{km}, mb4.6/22, mb1 4.6/23, mb1mx4.6/24, ML4.5/2, MS3.9/6, Ms1 4.0/6, ms1mx3.6/23, Error ellipse: s-maj=20.9km s-min=9.8km az=70.0*
*HRVD **12** 14:01:40.0±0.3, 0.44S×125.25E, h36^{km}±1^{km}, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s28,c41;Mantle waves: s44,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.56±.24; $M_{\theta\theta}$-1.94±.16; $M_{\phi\phi}$-1.62±.20; $M_{r\theta}$0.63±.21; $M_{\theta\phi}$-3.12±.13; $M_{\phi r}$2.26±.23; Best double couple: $M_0$4.91×10^{16} NP1:ϕ_s248°,δ36°,λ125°. NP2:ϕ_s28°,δ61°,λ67°. Principal axes: T 4.46, Plg66°, Azm256°; N .91, Plg20°, Azm39°; P -5.37, Plg13°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **12** 14:01:40.0, 0.27S×125.18E, h50^{km}, MB5.0*
*NEIC **12** 14:01:40.0±1.1, 0.27S×125.18E, h50^{km}±10^{km}, mb5.0/32, Error ellipse: s-maj=9.1km s-min=5.5km az=62.0*
*CSEM **12** 14:01:42.0, 0.63N×124.71E, h33^{km}, mb5.7*
ISC 12 14:01:37.7±0.8**, 0.21S**±0.03×**125.20E**±0.04**, h41**^{km}±7^{km}**, h44**^{km}±3.2^{km}**:pP-P, n193, σ1**^{s}**20**/185**, mb5.0**/75**, MS4.2**/13**, 23C-13D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**5.96**	**235**	*e*Pn	**P**	**14 03 04.7**	**-0.9**
	1μm,0.4s						
BUNI				⇑*i*Sn	**S**	**14 04 15.2**	**+1.7**
TANI	**Tanete Lipujan**	**6.64**	**241**	⇑*i*Pn	**P**	**14 03 15.4**	**+0.2**
	303nm,0.3s						
TANI				⇑*i*Sn	**S**	**14 04 35.4**	**+5.0**
NINI	**Niniconang**	**6.86**	**232**	⇑*e*Pn	**P**	**14 03 18.4**	**+0.1**
	1μm,0.5s						
NINI				⇑*e*Sn	**S**	**14 04 37.4**	**+1.4**
KCP	**Kidapawan**	**7.17**	**359**	⇑*e*P	**P**	**14 03 27.8**	**+5.1**
DAV	**Davao City (W)**	**7.24**	**3**	*e*P	**P**	**14 03 40.0**	**+16**
BUKP	**Musuan**	**8.04**	**359**	*e*P	**P**	**14 03 38.8**	**+4.1**
PAGZ	**Pagadian**	**8.21**	**347**	*e*P	**P**	**14 03 38.3**	**+1.3**
IPIL	**Ipil**	**8.37**	**342**	*e*P	**P**	**14 03 40.7**	**+1.5**
KKM	**Kota Kinabalu**	**10.91**	**305**	⇓*e*P	**P**	**14 04 21.0**	**+6.6**
BATP	**Bataraza**	**11.59**	**321**	*e*P	**P**	**14 04 27.3**	**+3.8**
CUYO	**Cuyo Island**	**11.75**	**339**	*e*P	**P**	**14 04 29.0**	**+3.3**

KAKA	**Kakadu**	**14.32**	**150**	*e*P	**P**	**14 04 57.5**	**-2.3**
	34nm,0.8s						
TGY	**Tagaytay City**	**14.83**	**344**	Pn	**P**	**14 05 15.6**	**+9.0**
	8.6nm,0.3s,baz=198,slow=7.0,SNR=4.0						
TGY				LR	LR	14 11 50.8	
	comp=Z,464nm,19.1s,baz=143,slow=41						
BALP	**Baler**	**16.25**	**347**	*e*P	**P**	**14 05 29.7**	**+5.0**
FITZ	**Fitzroy Crossi**	**17.78**	**179**	*e*P	**P**	**14 05 43.8**	**-0.1**
	12nm,0.8s						
FITZ				*e*S	**S**	**14 09 02.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**17.78**	**179**	P	**P**	**14 05 44.0**	**0.0**
	0.5nm,0.3s,baz=7.8,slow=7.7,SNR=20						
FITZ				LR	LR	14 13 11.0	
	comp=Z,174nm,21.2s,baz=16,slow=39						
APYP	**Conner**	**18.38**	**348**	*e*P	**P**	**14 05 45.0**	**-6.4**
WRAB	**Tennant Creek**	**21.55**	**156**	*e*P	**P**	**14 06 22.5**	**-3.1**
	52nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**21.56**	**156**	P	**P**	**14 06 23.4**	**-2.3**
	19nm,1.2s,mb4.4,baz=332,slow=11,SNR=24						
WRA				S	**S**	**14 10 22.8**	**+5.6**
	7.8nm,1.1s,baz=335,slow=15,SNR=5.6						
WRA				ScP		14 14 01.9	
	1.4nm,0.9s,baz=336,slow=3.2,SNR=5.1						
WB2	**Warramunga Arr**	**21.56**	**156**	*e*P	**P**	**14 06 23.8**	**-1.9**
WB2				*e*S	**S**	**14 10 15.7**	**-1.5**
KGM	**Kluang**	**21.99**	**276**	⇑*e*P	**P**	**14 06 31.5**	**+1.5**
PMG	**Port Moresby**	**23.69**	**113**	P	**P**	**14 06 49.5**	**+2.7**
	6.2nm,0.5s,mb4.3,baz=45,slow=1.4,SNR=4.4						
QIZ	**Qiongzhong**	**24.35**	**323**	*e*P	**P**	**14 06 53.7**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
QIZ				LR	LR		
	comp=E,406nm,14.4s						
QIZ				LR	LR		
	comp=Z,546nm,21.5s						
QIZ	**Qiongzhong**	**24.35**	**323**	*e*P	**P**	**14 06 53.3**	**+0.1**
	comp=Z,17nm,0.9s,mb4.5						
IPM	**Ipoh**	**24.61**	**281**	⇓*e*P	**P**	**14 06 56.0**	**+0.2**
	comp=Z,23nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**14 06 57.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.4,baz=342,slow=11,SNR=42						
ASAR				PcP	PcP	14 10 34.2	0.0
	comp=Z,2.8nm,0.4s,baz=348,slow=1.8,SNR=14						
ASAR				S	**S**	**14 11 17.6**	**+3.1**
	comp=Z,3.1nm,1.0s,baz=357,slow=20,SNR=2.3						
ASAR				ScP		14 14 11.0	
	comp=Z,1.3nm,0.9s,baz=359,slow=3.6,SNR=4.4						
ASPA	**Alice Springs**	**24.80**	**161**	*e*P	**P**	**14 06 57.2**	**-0.3**
ASPA				*e*S	**S**	**14 11 16.3**	**+1.8**
JOW	**Kunigami**	**27.05**	**6**	P	**P**	**14 07 20.1**	**+1.7**
	comp=Z,80nm,1.1s,mb5.2,baz=212,slow=14,SNR=5.7						
KKTK	**Khon Kaen**	**27.52**	**308**	⇓P	**P**	**14 07 22.0**	**-0.9**
	comp=Z,463nm,0.6s						
CTA	**Charters Tower**	**28.55**	**135**	P	**P**	**14 07 33.1**	**+1.1**
	comp=Z,3.0nm,0.8s,mb4.1,baz=315,slow=15,SNR=2.6						
NANT	**Nan**	**30.59**	**309**	⇑P	**P**	**14 07 47.5**	**-2.7**
	comp=Z,62nm,1.0s,mb5.4						
BDT	**Bhumibol Dam**	**31.09**	**305**	P	**P**	**14 07 54.0**	**-0.6**
SSE	**Sheshan**	**31.37**	**353**	P	**P**	**14 07 58.6**	**+1.6**
SSE				XP	sP	14 08 17.8	+4.3
SSE				S	**S**	**14 13 03.5**	**+3.3**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.2						
SSE				LR	LR		
	comp=N,216nm,22.7s,MS3.8						
SSE				LR	LR		
	comp=E,97nm,22.7s,MS3.8						
SSE				LR	LR		
	comp=Z,282nm,23.5s,MS3.9						
SSE	**Sheshan**	**31.37**	**353**	P	**P**	**14 07 58.6**	**+1.6**
	comp=Z,32nm,0.8s,mb5.2						
SSE				sP	sP	14 08 17.8	+4.3
SSE				S	**S**	**14 13 03.5**	**+3.3**
SSE				sS		14 13 23.7	
SSE				SS	SS	14 15 21.7	+33
CM31	**Chiang Mai Arr**	**31.78**	**307**	*e*P	**P**	**14 07 59.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**31.78**	**307**	P	**P**	**14 08 00.2**	**-0.5**
	comp=Z,17nm,1.2s,mb4.8,baz=135,slow=7.6,SNR=47						
CMAR				PcP	PcP	14 10 52.2	+0.9
	comp=Z,6.0nm,0.8s,baz=164,slow=1.9,SNR=18						
CMAR				ScP		14 14 32.8	
	comp=Z,1.2nm,0.9s,baz=155,slow=2.7,SNR=4.6						
CMAR				LR	LR	14 20 59.2	
	comp=Z,197nm,20.9s,MS3.8,baz=120,slow=37						
CHG	**Chiang Mai**	**31.97**	**308**	⇑P	**P**	**14 08 01.6**	**-0.8**
	comp=Z,9.5nm,1.0s,mb4.6						
NJ2	**Nanjing**	**32.65**	**350**	*e*P	**P**	**14 08 06.7**	**-1.4**
NJ2				PCS		14 14 38.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,2µm,21.1s,MS4.7						
NJ2				LR	LR		
	comp=E,960nm,25.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,970nm,23.7s,MS4.4						
KMI	**Kunming**	**33.26**	**321**	*e*P	**P**	**14 08 14.3**	**+0.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				LR	LR		
	comp=Z,281nm,24.5s,MS3.9						
KMI	**Kunming**	**33.26**	**321**	*e*P	**P**	**14 08 14.3**	**+0.8**
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				S	S	14 13 52.2	+22
NWAO	**Narrogin (SRO)**	**33.40**	**192**	P	**P**	**14 08 14.6**	**0.0**
	comp=Z,19nm,1.1s,mb5.0,baz=228,slow=22,SNR=2.8						
JNU	**Nakatsue**	**33.58**	**9**	P	**P**	**14 08 16.4**	**+0.2**
	comp=Z,16nm,0.9s,mb4.9,baz=102,slow=2.8						
ENH	**Enshi**	**33.80**	**335**	*e*P	**P**	**14 08 16.5**	**-1.6**
	comp=Z,21nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**35.10**	**155**	⇑*i*P	**P**	**14 08 29.5**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**35.10**	**155**	P	**P**	**14 08 29.8**	**+0.5**
	comp=Z,18nm,1.0s,mb5.0,baz=326,slow=5.1,SNR=13						
XAN	**Xi’an**	**37.34**	**337**	P	**P**	**14 08 46.0**	**-2.1**
KS15	**Wonju Array Si**	**37.55**	**4**	*e*P	**P**	**14 08 51.4**	**+1.6**
MAJO	**Matsushiro**	**38.51**	**17**	*e*P	**P**	**14 08 57.8**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.5						
MAT	**Matsushiro**	**38.51**	**17**	P	**P**	**14 08 57.8**	**-0.1**
MAT				S	**S**	**14 14 51.4**	**+1.0**
MAT	**Matsushiro**	**38.51**	**17**	*e*P	**P**	**14 08 58.0**	**+0.1**
	comp=Z,7.5nm,0.8s,mb4.5						
MAT				*e*S	**S**	**14 14 51.0**	**+0.6**
BJT	**Baijiatuau**	**40.88**	**349**	*e*P	**P**	**14 09 17.6**	**+0.2**
	comp=Z,13nm,0.8s,mb4.6						
BJI	**Beijing**	**40.90**	**349**	P	**P**	**14 09 19.8**	**+2.1**
BJI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
BJI				LR	LR		
	comp=E,254nm,23.4s						
BJI				LR	LR		
	comp=Z,314nm,26.2s,MS4.0						
BJI	**Beijing**	**40.90**	**349**	P	**P**	**14 09 19.8**	**+2.1**
	comp=Z,20nm,1.2s,mb4.6						
BJI				S	**S**	**14 15 14.6**	**-12**
SHL	**Shillong**	**41.13**	**311**	*e*	**P**	**14 09 16.5**	**-3.2**
LZH	**Lanzhou**	**41.22**	**333**	⇓P	**P**	**14 09 21.6**	**+1.3**
LZH				AP	pP	14 09 33.5	+1.7
LZH				XP	sP	14 09 39.1	+2.3
LZH				PP	PP	14 11 01.4	+2.8
LZH				AMB	AMB		
	comp=Z,48nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,161nm,5.2s						
LZH				LR	LR		
	comp=N,702nm,13.5s						
LZH				LR	LR		
	comp=Z,983nm,17.6s,MS4.7						
LZH	**Lanzhou**	**41.22**	**333**	⇓P	**P**	**14 09 21.6**	**+1.3**
	comp=Z,48nm,1.3s,mb5.0						
LZH				pP	pP	14 09 33.5	+1.7
LZH				sP	sP	14 09 39.1	+2.3
LZH				PP	PP	14 11 01.4	+2.8
TOO	**Toolangi**	**41.63**	**155**	*e*P	**P**	**14 09 25.6**	**+1.9**
	comp=Z,5.9nm,0.7s,mb4.3						
CN2	**Changchun**	**43.82**	**0**	*e*P	**P**	**14 09 41.6**	**+0.1**
CN2				*e*AP	pP	14 09 54.6	+1.5
CN2				PCP	PcP	14 11 28.7	+0.7
CN2				*e*S	**S**	**14 16 10.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
LSA	**Lhasa**	**44.02**	**315**	P	**P**	**14 09 44.1**	**+0.7**
LSA	**Lhasa**	**44.02**	**315**	*e*P	**P**	**14 09 43.5**	**+0.2**
	comp=Z,32nm,0.7s,mb5.2						
MDJ	**Mudanjiang**	**44.80**	**4**	P	**P**	**14 09 50.3**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,129nm,5.3s						
MDJ	**Mudanjiang**	**44.80**	**4**	*e*P	**P**	**14 09 49.5**	**+0.1**
	comp=Z,26nm,1.0s,mb5.0						
GTA	**Gaotai**	**45.77**	**332**	*e*P	**P**	**14 09 58.5**	**+1.3**
GTA				AP	pP	14 10 10.7	+1.9
GTA				XP	sP	14 10 15.6	+1.9
GTA				S	**S**	**14 16 39.5**	**+2.4**
GTA				XS		14 17 01.6	
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,144nm,5.7s						
GTA				LR	LR		
	comp=N,157nm,15.7s,MS4.2						
GTA				LR	LR		
	comp=E,191nm,17.6s,MS4.2						
GTA				LR	LR		
	comp=Z,211nm,18.7s,MS4.1						
ASAJ	**Asahikawa**	**46.78**	**17**	P	**P**	**14 10 05.4**	**+0.3**
	comp=Z,4.5nm,0.4s,mb4.8,baz=222,slow=13,SNR=12						
PKI	**Pulchoki**	**47.12**	**309**	*e*P	**P**	**14 10 06.8**	**-1.2**
	comp=Z,17nm,0.5s,mb5.2						
KKN	**Kakani**	**47.33**	**309**	*e*P	**P**	**14 10 08.4**	**-1.2**
	comp=Z,19nm,0.4s,mb5.4						
DMN	**Daman**	**47.38**	**309**	*e*P	**P**	**14 10 09.0**	**-1.0**
	comp=Z,51nm,0.8s,mb5.5						
GKN	**Gorkha**	**47.93**	**309**	*e*P	**P**	**14 10 12.6**	**-1.8**
	comp=Z,34nm,0.4s,mb5.8						
KOLN	**Koldanda**	**48.63**	**308**	*e*P	**P**	**14 10 18.8**	**-0.9**
	comp=Z,77nm,0.6s,mb5.9						
HYB	**Hyderabad**	**49.13**	**293**	*i* P	**P**	**14 10 21.5**	**-2.2**
HIA	**Hailar**	**49.51**	**355**	*e*P	**P**	**14 10 26.2**	**0.0**
	comp=Z,22nm,0.9s,mb5.2						
KLR	**Kul’dur**	**49.57**	**6**	*e*P	**P**	**14 10 22.0**	**-4.7**
SONM	**Songino Array**	**50.57**	**344**	P	**P**	**14 10 33.3**	**-1.1**
	comp=Z,8.7nm,0.8s,mb4.8,baz=158,slow=8.5,SNR=30						
LGTI	**Lohaghat**	**52.02**	**309**	⇓*e*P	**P**	**14 10 46.0**	**+0.5**
ZAK	**Zakamensk**	**53.76**	**343**	*e*P	**P**	**14 10 56.3**	**-1.9**
ZAK				*e*		14 11 59.5	
DDI	**Dehra Dun**	**54.11**	**309**	*e*P	**P**	**14 10 59.2**	**-1.9**
WMQ	**Urumqi**	**55.13**	**328**	⇑*i*P	**P**	**14 11 08.3**	**0.0**
WMQ				PCP	PcP	14 12 09.3	+0.2
WMQ				PP	PP	14 13 13.3	0.0
WMQ				S	**S**	**14 18 47.5**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,24nm,6.4s						
WMQ				LR	LR		
	comp=N,280nm,23.8s,MS4.3						
WMQ				LR	LR		
	comp=E,184nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,228nm,24.6s,MS4.2						
IRK	**Irkutsk**	**55.15**	**344**	*e*P	**P**	**14 11 09.0**	**+0.7**
SDNR	**Sundarnagar**	**55.45**	**309**	*e*P	**P**	**14 11 09.0**	**-1.8**
THN	**Thein Dam**	**56.81**	**310**	*e*P	**P**	**14 11 16.7**	**-3.9**
CLNS	**Chul’man**	**56.87**	**360**	*e*P	**P**	**14 11 24.7**	**+4.1**
CLNS				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,17nm,0.8s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
BOD	**Bodaibo**	**58.54**	**353**	*e*P	**P**	**14 11 31.9**	**-0.4**
KSH	**Kashi**	**59.81**	**317**	*e*P	**P**	**14 11 43.2**	**+1.8**
KSH				*e*AP	pP	14 11 56.0	+2.7
KSH				*e*XP	sP	14 12 01.1	+3.0
KSH				*e*S	**S**	**14 19 49.8**	**+1.7**
KSH				*e*SCS	ScS	14 21 27.0	+2.4
KSH				*e*SS	SS	14 23 45.0	-0.7
PET	**Petropavlovsk**	**59.93**	**23**	*e*P	**P**	**14 11 41.5**	**-0.5**
PET				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**14 11 40.5**	**-1.8**
	comp=Z,11nm,0.4s,mb5.2,baz=123,slow=7.6,SNR=89						
MKAR				PcP	PcP	14 12 26.4	-1.5
	comp=Z,6.1nm,0.8s,baz=117,slow=5.4,SNR=3.5						
MKAR				LR	LR	14 39 13.7	
	comp=Z,273nm,20.1s,MS4.4,baz=132,slow=38						
MKAR	**Makanchi Array**	**59.96**	**327**	*i* P	**P**	**14 11 40.8**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**14 11 40.5**	**-1.8**
MKAR				PcP	PcP	14 12 26.4	-1.5
ULHL	**Ulahol**	**60.98**	**320**	P	**P**	**14 11 50.1**	**+0.8**
	SNR=9.4						
KZA	**Kyzart**	**61.54**	**320**	P	**P**	**14 11 53.0**	**-0.1**
	SNR=39						
TKM2	**Tokmak 2**	**61.73**	**321**	P	**P**	**14 11 53.3**	**-1.1**
	SNR=24						
KBK	**Karagaybulak**	**62.02**	**320**	P	**P**	**14 11 58.2**	**+2.0**
	SNR=7.2						
UCH	**Uchtor**	**62.09**	**319**	P	**P**	**14 11 57.8**	**+1.1**
	SNR=33						
YAK	**Yakutsk**	**62.17**	**2**	*e*P	**P**	**14 11 56.8**	**-0.3**
YAK				*e**PP	pP	14 12 11.8	+2.8
YAK				*e*		14 12 30.8	
YAK				*e*S	**S**	**14 20 23.3**	**+5.4**
YAK				*e*		14 21 45.0	
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				smax			
	comp=N,11nm,1.2s						
YAK				smax			
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**62.17**	**2**	*e*P	**P**	**14 11 56.4**	**-0.6**
	comp=E,44nm,0.7s,mb5.7						
AAK	**Ala-Archa**	**62.30**	**320**	P	**P**	**14 11 55.0**	**-3.1**
	SNR=8.6						
CHMS	**Chumysh**	**62.31**	**320**	P	**P**	**14 11 58.4**	**+0.2**
	SNR=7.9						
AML	**Almayashu**	**62.58**	**319**	P	**P**	**14 11 59.4**	**-0.7**
	SNR=59						
USP	**Ospenovka**	**62.60**	**320**	P	**P**	**14 11 59.1**	**-1.1**
	SNR=27						
EKS2	**Erkin-Say**	**62.77**	**320**	P	**P**	**14 12 00.4**	**-0.9**
	SNR=20						
MA2	**Magadan**	**62.87**	**14**	*c* *i*P	**P**	**14 12 02.8**	**+1.0**
MA2				*e*		14 12 19.0	
MA2				*e*S	**S**	**14 20 25.9**	**-0.8**
MA2				*e*		14 21 47.9	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
MA2	**Magadan**	**62.87**	**14**	*e*P	**P**	**14 12 01.9**	**+0.1**
	comp=Z,10nm,0.7s,mb5.1						
KURK	**Kurchatov**	**64.27**	**329**	*i* P	**P**	**14 12 09.1**	**-1.9**
KURK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
KURK	**Kurchatov**	**64.27**	**329**	*e*P	**P**	**14 12 07.4**	**-3.6**
	comp=Z,28nm,0.6s,mb5.5						
NVS	**Novosibirsk**	**64.72**	**335**	⇓*i*P	**P**	**14 12 12.3**	**-1.5**
NVS				*e*		14 12 52.1	
NVS				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,15nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.9s						
KKAR	**Karatay Array**	**65.11**	**319**	*i* P	**P**	**14 12 15.4**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
SEY	**Seymchan**	**66.19**	**13**	*e*P	**P**	**14 12 25.5**	**+2.3**
SEY						14 12 54.5	
SEY						14 14 45.0	
SEY				PPP	PPP	14 16 22.9	-3.8
SEY				*e*S	S	14 21 07.1	-0.4
SEY				PS	PS	14 21 34.0	-1.1
SEY						14 22 20.1	
SEY				SS	SS	14 25 26.3	+1.1
SEY				*e*SSS	SSS	14 28 22.0	+1.2
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
VOSK	**Vostochnaya**	**69.35**	**328**	P	**P**	**14 12 41.8**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
VOSK	**Vostochnaya**	**69.35**	**328**	*i* P	**P**	**14 12 41.9**	**-1.1**
BVA0	**Borovoye Array**	**69.81**	**328**	*i* P	**P**	**14 12 44.3**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**69.81**	**328**	P	**P**	**14 12 44.8**	**-1.0**
	comp=Z,15nm,0.9s,mb4.9,baz=135,slow=10,SNR=44						
BRVK	**Borovoye**	**69.88**	**328**	*e*P	**P**	**14 12 44.5**	**-1.8**
	comp=Z,40nm,1.1s,mb5.3						
ZRNK	**Zerenda**	**70.50**	**328**	P	**P**	**14 12 48.6**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
ZRNK	**Zerenda**	**70.50**	**328**	*e*P	**P**	**14 12 48.2**	**-1.9**
	comp=Z,31nm,0.8s,mb5.3						
AB31	**Akbulak array**	**74.25**	**322**	*i* P	**P**	**14 13 11.0**	**-1.3**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ARU	**Arti**	**77.45**	**329**	⇑*i*P	**P**	**14 13 29.8**	**-0.6**
ARU				*e*	pP	14 13 39.5	-3.2
ARU				*e*		14 16 22.7	
ARU				*e*S	S	14 23 11.8	-5.0
ARU				*e*SS	SS	14 28 21.3	+2.4
ARU				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
ARU	**Arti**	**77.45**	**329**	*e*P	**P**	**14 13 29.1**	**-1.3**
	comp=Z,26nm,0.8s,mb5.2						
MAW	**Mawson**	**79.55**	**200**	P	**P**	**14 13 42.0**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.3,baz=57,slow=8.0,SNR=6.9						
VNDA	**Vanda**	**79.74**	**172**	P	**P**	**14 13 42.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=320,slow=6.4,SNR=7.8						
RAYN	**Ar Rayn**	**80.64**	**294**	P	**P**	**14 13 47.5**	**-0.9**
	comp=Z,85nm,0.9s,mb5.7,SNR=12						
MZLS	**Mizel**	**80.94**	**294**	P	**P**	**14 13 49.2**	**-0.8**
TATS	**Tathlith**	**82.27**	**290**	P	**P**	**14 13 57.2**	**+0.3**
GNI	**Garni**	**82.83**	**310**	P	**P**	**14 14 00.1**	**+0.7**
	comp=Z,4.5nm,0.4s,mb4.9,baz=160,slow=12,SNR=3.2						
ARSS	**Ar Rass**	**82.86**	**296**	P	**P**	**14 13 59.9**	**+0.1**
AFFS	**‘Afif**	**82.95**	**294**	P	**P**	**14 14 00.7**	**+0.3**
BLJS	**Baljurashi**	**84.05**	**290**	P	**P**	**14 14 07.4**	**+1.3**
HILS	**Ha’il**	**84.24**	**297**	P	**P**	**14 14 07.6**	**+0.7**
GOF	**Gofitskoye**	**84.61**	**315**	⇑*i*P	**P**	**14 14 09.0**	**+0.7**
GOF				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
KDAK	**Kodiak Island**	**86.02**	**32**	*e*P	**P**	**14 14 15.1**	**+0.1**
	comp=Z,19nm,1.2s,mb5.2						
RSO	**Redoubt South**	**86.25**	**29**	P	**P**	**14 14 16.0**	**0.0**
KBRS	**Khaybar**	**86.43**	**296**	P	**P**	**14 14 19.4**	**+1.6**
YNBS	**Yanbu‘ al Bahr**	**87.54**	**294**	P	**P**	**14 14 24.7**	**+1.5**
MALT	**Malatya**	**87.59**	**308**	*e*P	**P**	**14 14 23.7**	**+0.6**
	comp=Z,40nm,1.1s,mb5.6						
KMBO	**Kilima Mbogo**	**87.94**	**269**	P	**P**	**14 14 26.5**	**+1.1**
	comp=Z,19nm,1.0s,mb5.3,baz=58,slow=6.3,SNR=33						
KMBO	**Kilima Mbogo**	**87.94**	**269**	*e*P	**P**	**14 14 25.9**	**+0.5**
	comp=Z,26nm,1.0s,mb5.4						
PMR	**Palmer**	**88.11**	**28**	*e*P	**P**	**14 14 25.5**	**+0.5**
	comp=Z,4.6nm,0.9s,mb4.7						
UMJS	**Umm Lajj**	**88.18**	**295**	P	**P**	**14 14 27.5**	**+1.3**
SYO	**Syowa Base**	**88.22**	**201**	⇑P	**P**	**14 14 27.2**	**+1.8**
MCK	**McKinley**	**88.35**	**26**	*e*P	**P**	**14 14 26.0**	**-0.1**
	comp=Z,4.4nm,1.1s,mb4.6						
ANN	**Anapa**	**88.56**	**315**	*e*P	**P**	**14 14 27.0**	**-0.6**
ANN				pmax	pmax		
	comp=Z,111nm,0.7s						
ASF	**Jabal al Asfar**	**88.67**	**302**	P	**P**	**14 14 29.5**	**+1.1**
	comp=Z,23nm,0.8s,mb5.6,baz=323,slow=2.9,SNR=29						
ASF				LR	LR	14 54 55.5	
	comp=Z,66nm,21.9s,MS4.0,baz=331,slow=36						
MOS	**Moscow**	**88.80**	**326**	*e*P	**P**	**14 14 28.6**	**+0.2**
MOS				pmax	pmax		
	comp=Z,138nm,0.9s						
COLA	**College**	**88.89**	**25**	P	**P**	**14 14 28.7**	**0.0**
TBKS	**Tabuk**	**88.91**	**298**	P	**P**	**14 14 30.7**	**+1.1**
ILAR	**Eielson Array**	**89.30**	**25**	P	**P**	**14 14 29.9**	**-0.6**
	comp=Z,2.7nm,1.0s,mb4.5,baz=242,slow=4.9,SNR=20						
OBN	**Obninsk**	**89.39**	**325**	*c* *i*P	**P**	**14 14 30.9**	**-0.3**
OBN				*e*		14 17 59.0	
OBN				pmax	pmax		
	comp=Z,78nm,0.8s,mb6.1						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
OBN	**Obninsk**	**89.39**	**325**	*e*P	**P**	**14 14 30.7**	**-0.5**
	comp=Z,75nm,0.8s,mb6.1						
JMQS	**Jabal Moqyreh**	**89.51**	**299**	P	**P**	**14 14 33.6**	**+1.1**
JMOS	**Jabal al Moall**	**90.18**	**299**	P	**P**	**14 14 36.3**	**+0.7**
BDAS	**Al Bad‘**	**90.19**	**298**	P	**P**	**14 14 36.2**	**+0.6**
HAQS	**Haql**	**90.34**	**299**	P	**P**	**14 14 37.0**	**+0.7**
APA	**Apatity**	**90.88**	**337**	⇓*i*P	**P**	**14 14 39.0**	**+1.0**
APA				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.4						
SIM	**Simferopol’**	**90.92**	**315**	*e*P	**P**	**14 14 39.0**	**+0.3**
SIM				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.7						
SIM				MLR	MLR		
	comp=Z,120nm,21.2s,MS4.3						
BRTR	**Keskin Array B**	**91.34**	**310**	P	**P**	**14 14 40.4**	**-0.4**
	comp=Z,6.2nm,0.8s,mb5.0,baz=117,slow=5.5,SNR=18						
CSS	**Prodhromos**	**91.66**	**305**	*e*P	**P**	**14 14 41.4**	**-1.0**
	comp=Z,36nm,0.8s,mb5.8						
DAWY	**Dawson**	**92.56**	**26**	*e*P	**P**	**14 14 46.7**	**+0.9**
DAWY				*e*		14 14 55.5	
ARCES	**ARCESS Array B**	**93.59**	**340**	P	**P**	**14 14 50.4**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.8,baz=326,slow=4.4,SNR=5.0						
AKASG	**Malin Array Be**	**93.96**	**321**	P	**P**	**14 14 51.3**	**-1.1**
	comp=Z,7.6nm,0.7s,mb5.3,baz=64,slow=4.6,SNR=22						
KAF	**Kangasniemi**	**94.35**	**332**	*e*p	**P**	**14 14 50.5**	**-3.5**
	comp=Z,2.6nm,0.7s,mb4.8						
KAF	**Kangasniemi**	**94.35**	**332**	*e*P	**P**	**14 14 50.5**	**-3.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
INK	**Inuvik**	**94.37**	**21**	*e*P	**P**	**14 14 53.0**	**-0.9**
	comp=Z,12nm,1.1s,mb5.2						
FINES	**FINESS Array B**	**94.55**	**332**	P	**P**	**14 14 54.2**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.6,baz=112,slow=10,SNR=5.9						
VSU	**Vasula**	**94.62**	**329**	*e*P	**P**	**14 14 56.0**	**+0.8**
MLR	**Muntele Rosu**	**96.65**	**316**	P	**P**	**14 15 05.3**	**+0.5**
	comp=Z,9.9nm,0.7s,mb5.4,baz=281,slow=1.8,SNR=24						
MLR				LR	LR	15 01 32.9	
	comp=Z,86nm,19.6s,MS4.2,baz=212,slow=37						
SUW	**Suwalki**	**97.23**	**324**	*e*P	**P**	**14 15 07.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**99.18**	**320**	PDIF	**P**	**14 15 16.9**	**+0.7**
CRVS				*e*		14 15 23.2	
CRVS	**Cervenica-Dubn**	**99.18**	**320**	*i* P	**P**	**14 15 16.9**	**+0.7**
CRVS				*e*		14 15 23.2	
VYHS	**Vyhne**	**100.96**	**319**	PDIF	P	14 15 23.8	-0.5
VYHS	**Vyhne**	**100.96**	**319**	*e*P	P	14 15 23.8	-0.5
SNAA	**Sanae**	**101.04**	**195**	⇓*i*P	P	14 15 22.8	-1.3
SNAA	**Sanae**	**101.04**	**195**	⇓*i*	P	14 15 35.3	+11
SNAA	**Sanae**	**101.04**	**195**	⇑*i*	P	14 15 38.8	+15
SNAA	**Sanae**	**101.04**	**195**	⇓*i*		14 19 46.7	
NOA	**NORSAR Array B**	**101.60**	**333**	P	P	14 15 25.9	-0.9
	comp=Z,0.2nm,0.7s,baz=31,slow=11,SNR=3.2						
VRAC	**Vranov**	**102.22**	**321**	P	Pdif	14 15 30.8	+0.9
	comp=Z,1.6nm,0.3s,baz=82,slow=7.1,SNR=3.7						
VNA2	**Neumayer--Watz**	**102.65**	**194**	⇑*i*	Pdif	14 15 41.7	+10
VNA2	**Neumayer--Watz**	**102.65**	**194**	⇓*i*	Pdif	14 15 47.6	+16
VNA2	**Neumayer--Watz**	**102.65**	**194**	⇑*i*	PP	14 19 43.2	-4.5
VNA2	**Neumayer--Watz**	**102.65**	**194**	⇑*i*Pdif	Pdif	14 15 29.3	-2.0
VNA2				*e*		14 19 51.8	
VNA3	**Neumayer Olymp**	**102.99**	**194**	⇑*i*P	Pdif	14 15 31.6	-1.2
VNA3	**Neumayer Olymp**	**102.99**	**194**	⇑*i*	PP	14 19 42.4	-8.0
VNA3	**Neumayer Olymp**	**102.99**	**194**	⇑*i*		14 19 51.8	
VNA1	**Neumayer--Stat**	**103.05**	**194**	⇓*i*P	Pdif	14 15 31.0	-2.1
BRG	**Berggiesshubel**	**103.45**	**323**	*e*P	Pdif	14 15 35.8	+0.5
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRG	**Berggiesshubel**	**103.45**	**323**	*e*P	Pdif	14 15 35.8	+0.5
	comp=Z,7.4nm,1.2s						
GERES	**GERESS Array B**	**104.17**	**321**	Pdiff	Pdif	14 15 38.3	-0.3
	comp=Z,0.5nm,0.6s,baz=72,slow=4.2,SNR=6.7						
DAVOX	**Davos**	**107.25**	**319**	Pdiff	Pdif	14 15 53.4	+1.3
	comp=Z,1.0nm,0.3s,baz=56,slow=10,SNR=5.9						
PV10	**Paradox Valley**	**117.49**	**46**	*e*PKP	PKPdf	14 20 22.9	+3.4
SCHQ	**Schefferville**	**124.67**	**8**	PKP	PKPdf	14 20 35.9	+2.8
	comp=Z,4.7nm,0.6s,baz=6.3,slow=4.5,SNR=5.8						
DBIC	**Dimbokro**	**129.77**	**278**	PKP	PKPdf	14 20 46.5	+2.6
	comp=Z,3.4nm,0.5s,baz=24,slow=7.7,SNR=5.6						
JTS	**JuntasAbangare**	**148.39**	**71**	PKPbc	PKPdf	14 21 23.9	+6.6
	comp=Z,14nm,0.9s,baz=315,slow=5.1,SNR=8.7						
JTS	**JuntasAbangare**	**148.39**	**71**	*e*PKPdf	PKPdf	14 21 18.4	+1.1
JTS				*e*PKPbc	PKPdf	14 21 23.5	+6.2
JTS				PKPbc	PKPdf	14 21 23.9	+6.6
CPUP	**Villa Florida**	**153.50**	**175**	PKPbc	PKPdf	14 21 35.7	+11
	comp=Z,3.8nm,0.8s,baz=200,slow=1.2,SNR=3.3						
CPUP	**Villa Florida**	**153.50**	**175**	PKPbc	PKPdf	14 21 35.7	+11

*HEL **12** 14:02:26.3±0.2,59.73N×22.26E,ML2.2,ML2.7(UPP), ML2.6(NAO),Explosion*

*IDC **12** 14:02:27.5±1.6,59.89N×22.31E,mb1 3.4/4, mb1mx3.2/20,ML3.2/4,Error ellipse: s-maj=20.4km s-min=5.8km az=159.0*

*NAO **12** 14:02:28.4±2.0,59.96N×21.98E,ML2.6*

*BER **12** 14:02:29.2±4.8,59.86N×22.12E,ML2.6(NAO), Suspected explosion*

ISC 12 14:02:26.0±0.6,**59.92N**±0.07×**22.20E**±0.05,**n22**,σ1^{s}35/40,
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.14**	**284**	*e*P	**Pb**	**14 02 48.2**	**0.0**
AAL				*e*S	**Sb**	**14 03 04.2**	**+0.9**
NUR	**Nurmij rvi**	**1.36**	**63**	*e*P	**Pb**	**14 02 51.3**	**-0.8**
NRTU	**Norrtaelje**	**1.82**	**264**	*e*P	**Pn**	**14 02 58.7**	**-0.1**
NRTU				*e*S	**Sn**	**14 03 24.3**	**+1.3**
GRAU	**Graesoe**	**1.88**	**284**	*e*P	**Pn**	**14 03 00.2**	**+0.5**
GRAU				*e*S	**Sn**	**14 03 26.7**	**+2.3**
PVF	**Pernaja**	**1.93**	**70**	*e*P	**Pn**	**14 03 00.9**	**+0.4**
PVF				*e*S	**Sn**	**14 03 25.5**	**-0.3**
FLYU	**Flymyra**	**2.17**	**277**	*e*P	**Pn**	**14 03 04.5**	**+0.5**
FIA0	**FINESS Array S**	**2.44**	**50**	*e*P	**Pn**	**14 03 09.5**	**+1.7**
FIA0				*e*SB	**Sb**	**14 03 42.6**	**+1.2**
FIA0				MSG		14 03 44.7	
	comp=Z,6.8nm,0.1s						
FIA0	**FINESS Array S**	**2.44**	**50**	Pn	**Pn**	**14 03 09.5**	**+1.7**
	baz=215,slow=16						
FIA0				Sn	**Sn**	**14 03 42.4**	**+3.5**
	baz=226,slow=22						
FINES	**FINESS Array B**	**2.44**	**50**	Pn	**Pn**	**14 03 09.5**	**+1.7**
	comp=Z,3.2nm,0.3s,baz=223,slow=14,SNR=96						
FINES				Lg		14 03 42.4	
	comp=Z,7.4nm,0.3s,baz=225,slow=29,SNR=36						
OSTU	**Oestervaala**	**2.56**	**279**	*e*P	**Pn**	**14 03 10.0**	**+0.6**
BACU	**Backbrunna**	**2.57**	**271**	*e*P	**Pn**	**14 03 09.9**	**+0.3**
IGGU	**Iggoen**	**2.60**	**294**	*e*P	**Pn**	**14 03 11.0**	**+1.0**
VSU	**Vasula**	**2.76**	**120**	*e*SB	**Sn**	**14 03 46.1**	**-0.7**
SUF	**Sumiainen**	**3.39**	**32**	*e*P	**Pn**	**14 03 23.1**	**+1.7**
SUF				MSG		14 04 18.0	
	comp=Z,6.0nm,0.4s						
HFS	**Hagfors**	**4.27**	**277**	*e*P	**Pn**	**14 03 33.0**	**-0.8**
HFS				*e*PG	**Pg**	**14 03 42.7**	**-8.6**
HFS				*e*S	**Sn**	**14 04 23.8**	**-1.4**
HFS				*e*SG		14 04 39.1	
HFS	**Hagfors**	**4.27**	**277**	Pn	**Pn**	**14 03 33.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=101,slow=15,SNR=32						
HFS				Pg	**Pg**	**14 03 43.2**	**-8.1**
	comp=Z,0.4nm,0.3s,baz=90,slow=16,SNR=12						
HFS				Sn	**Sn**	**14 04 24.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=84,slow=28,SNR=7.5						
HFS				Lg		14 04 40.6	
	comp=Z,0.8nm,0.3s,baz=95,slow=35,SNR=11						
HFS	**Hagfors**	**4.27**	**277**	Pn	**Pn**	**14 03 33.0**	**-0.8**
	baz=90,slow=14						
HFS				Pg	**Pg**	**14 03 42.7**	**-8.6**
	baz=80,slow=14						
HFS				Sn	**Sn**	**14 04 23.8**	**-1.4**
	baz=78,slow=37						
HFS				Lg		14 04 39.1	
	baz=93,slow=37						
NB2	**NORSAR Subarra**	**5.55**	**286**	*e*P	**Pn**	**14 03 49.4**	**-2.5**
NB2				*e*S	**Sn**	**14 04 54.9**	**-2.4**
NB2				*e*SG	**Sg**	**14 05 18.9**	**-12**
NOA	**NORSAR Array B**	**5.55**	**286**	Pn	**Pn**	**14 03 50.5**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=95,slow=12,SNR=7.0						
NOA				Sn	**Sn**	**14 04 54.9**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=99,slow=17,SNR=4.3						
NOA				Lg		14 05 19.4	
	comp=Z,1.8nm,0.3s,baz=165,slow=21,SNR=8.4						
ARA0	**ARCESS Array S**	**9.75**	**7**	Pn	**P**	**14 04 47.5**	**-3.0**
	baz=185,slow=12						
ARA0				Sn	**Sn**	**14 06 32.6**	**-9.3**
	baz=186,slow=22						
ARA0				Lg		14 07 32.7	
	baz=179,slow=28						
ARA0	**ARCESS Array S**	**9.75**	**7**	*e*P	**P**	**14 04 47.5**	**-3.0**
ARA0				*e*S	**Sn**	**14 06 32.6**	**-9.3**
ARA0				*e*SG		14 07 32.7	
ARCES	**ARCESS Array B**	**9.75**	**7**	Pn	**P**	**14 04 47.6**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=19						
ARCES				Sn	**Sn**	**14 06 33.3**	**-8.7**
	comp=Z,0.6nm,0.3s,baz=187,slow=22,SNR=7.0						
ARCES				Lg		14 07 32.9	
	comp=Z,0.6nm,0.3s,baz=173,slow=28,SNR=5.6						

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*IDC **12** 14:11:02.8±0.4,16.16S×73.56W,h38^{km}±3^{km},mb4.5/18, mb1 4.6/21,mb1mx4.6/22,ML5.0/3,MS4.4/24,Ms1 4.4/24, ms1mx4.4/29,Error ellipse: s-maj=18.2km s-min=10.5km az=71.0*

*HRVD **12** 14:11:03.0±0.3,16.33S×74.14W,h45^{km}±1^{km},MW5.2/55, Centroid moment Tensor Solution. LP body waves: s34,c51;Mantle waves: s55,c95; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.47±.03; M$_{\theta\theta}$0.23±.02; M$_{\phi\phi}$-0.70±.03; M$_{r\theta}$-0.11±.02; M$_{\theta\phi}$0.47±.02; M$_{\phi r}$-0.48±.03; Best double couple: M$_0$.9×10^{17} NP1:ϕ_s302°,δ42°,λ32°. NP2:ϕ_s187°,δ69°,λ127°. Principal axes: T .79, Plg51°, Azm140°; N .23, Plg35°, Azm352°; P -1.01, Plg16°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **12** 14:11:03.8,15.88S×73.66W,h40^{km},mB4.9,Ms5.0, Msz5.0*

*SYO **12** 14:11:03.0,16.13S×73.58W,h44^{km},MB5.0,MS4.6*

*NEIC **12** 14:11:03.0±0.8,16.13S×73.58W,h44^{km}±7^{km},mb5.0/33, MS4.6/19,Error ellipse: s-maj=10.5km s-min=5.0km az=69.0*

NEIC Felt [IV] at Atico and [II] at Arequipa.

ISC 12 14:11:00.6±0.2,**16.06S**±0.04×**73.51W**±0.07,**h37^{km}**, **h37^{km}**±.7^{km}**:pP-P**,**n159**,σ**1^{s}20**/113,**mb4.9**/45,**MS4.6**/41,
14C-7D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.98**	**102**	⇓*i*P	**P**	**14 11 37.2**	**+4.8**
ARE				*e*S	**S**	**14 12 04.7**	**+8.5**
NNA	**Nana**	**5.18**	**321**	*e*Pn	**P**	**14 12 15.6**	**-2.2**
	18nm,0.4s						
NNA				*e*Sn	**S**	**14 13 20.5**	**+3.4**
LPAZ	**La Paz**	**5.18**	**93**	Pn	**P**	**14 12 25.7**	**+8.0**
	28nm,0.3s,baz=270,slow=11,SNR=326						
LPAZ				Sn	**S**	**14 13 32.2**	**+15**
	baz=32,slow=18,SNR=2.1						
LPAZ				LR	LR	14 14 45.4	
	comp=Z,9μm,20.2s,baz=272,slow=43						
LPAZ	**La Paz**	**5.18**	**93**	*e*Pn	**P**	**14 12 24.5**	**+6.8**
LPAZ				*e*Sn	**S**	**14 13 27.9**	**+11**
LVC	**Limon Verde**	**7.84**	**147**	Pn	**P**	**14 12 54.8**	**-0.2**
	20nm,0.3s,baz=312,slow=9.6,SNR=137						
LVC				Sn	**S**	**14 14 17.9**	**-5.5**
	39nm,0.3s,baz=101,slow=21,SNR=6.6						
LVC				Lg		14 15 02.4	
	22nm,0.3s,baz=221,slow=19,SNR=5.6						
LVC				LR	LR	14 16 20.8	
	comp=Z,2μm,18.1s,baz=320,slow=41						
LVC	**Limon Verde**	**7.84**	**147**	*e*Pn	**P**	**14 12 54.4**	**-0.5**
	131nm,0.8s						
LVC				*e*Sn	**S**	**14 14 16.8**	**-6.6**
SAML	**Samuel**	**12.31**	**56**	⇓*e*P	**P**	**14 13 56.1**	**-0.3**
TLL	**Tololo Astrono**	**14.26**	**170**	⇑*i*P	**P**	**14 14 21.9**	**-0.3**
OTAV	**Otavalo**	**16.91**	**343**	P	**P**	**14 14 59.3**	**+3.1**
	37nm,0.9s						
PEL	**Peldehue**	**17.20**	**172**	⇑*i*P	**P**	**14 14 59.9**	**+0.1**
MDZ	**Mendoza**	**17.28**	**167**	*e*P	**P**	**14 15 02.7**	**+2.0**
FCH	**Farellones**	**17.44**	**171**	⇑*i*P	**P**	**14 15 02.1**	**-0.7**
LMEL	**Las Melosas**	**17.96**	**171**	⇑*i*P	**P**	**14 15 08.7**	**-0.6**
CPUP	**Villa Florida**	**18.21**	**127**	P	**P**	**14 15 11.0**	**-1.4**
	0.3nm,0.3s,baz=326,slow=11,SNR=19						
CPUP				LR	LR	14 23 38.2	
	comp=Z,2μm,19.9s,baz=324,slow=42						
CPUP	**Villa Florida**	**18.21**	**127**	*e*P	**P**	**14 15 10.5**	**-2.0**
	49nm,1.1s						
ROSC	**El Rosal**	**20.79**	**358**	P	**P**	**14 15 42.8**	**+1.4**
	45nm,1.0s,baz=195,slow=9.6,SNR=14						
ROSC				LR	LR	14 24 48.4	
	comp=Z,801nm,19.6s,MS4.1,baz=215,slow=40						
TRQA	**Tornquist**	**24.16**	**157**	*e*P	**P**	**14 16 12.6**	**-1.9**
	59nm,1.2s,mb4.9						
BDFB	**Brasilia**	**24.53**	**93**	P	**P**	**14 16 19.5**	**+1.2**
	33nm,1.0s,mb4.8,baz=270,slow=11,SNR=23						
BDFB				LR	LR	14 26 41.4	
	comp=Z,1μm,20.4s,MS4.4,baz=266,slow=38						
PLCA	**Paso Flores**	**24.72**	**175**	P	**P**	**14 16 19.4**	**-0.6**
	198nm,1.4s,mb5.4,baz=346,slow=10,SNR=36						
PLCA				LR	LR	14 25 07.7	
	comp=Z,369nm,21.3s,MS3.9,baz=343,slow=34						
PLCA	**Paso Flores**	**24.72**	**175**	*e*P	**P**	**14 16 18.8**	**-1.1**
	191nm,1.5s,mb5.4						
SDV	**Santo Domingo**	**24.94**	**7**	*e*P	**P**	**14 16 22.3**	**0.0**
	35nm,0.9s,mb4.9						
SDV				*e*		14 16 34.7	
JTS	**JuntasAbangare**	**28.52**	**336**	P	**P**	**14 17 00.2**	**+5.0**
	3.7nm,0.8s,mb4.2,baz=243,slow=14,SNR=2.1						
JTS				LR	LR	14 28 18.0	
	comp=Z,722nm,19.9s,MS4.3,baz=157,slow=36						
SJG	**San Juan**	**34.72**	**12**	P	**P**	**14 17 49.0**	**-0.4**
	15nm,0.6s,mb5.1,baz=297,slow=21,SNR=4.6						
SJG	**San Juan**	**34.72**	**12**	*e*P	**P**	**14 17 46.6**	**-2.8**
	20nm,0.5s,mb5.3						
SJG				LR	LR		
	comp=Z,492nm,20.0s,MS4.2						
TEIG	**Tepich**	**38.86**	**338**	pP	pP	14 18 35.6	+0.7
	comp=Z,0.0nm,0.4s,baz=327,slow=24,SNR=1.2						
USHA	**Ushuaia**	**38.90**	**175**	P	**P**	**14 18 23.0**	**-1.3**
	comp=Z,20nm,0.9s,mb4.8,baz=330,slow=4.9,SNR=6.3						
USHA				pP	pP	14 18 33.9	-0.9
	comp=Z,29nm,1.0s,baz=313,slow=2.6,SNR=5.6						
DWPF	**Disney**	**44.57**	**350**	PFAKE		14 19 20.0	+8.9
DWPF				LR	LR		
	comp=Z,451nm,21.0s,MS4.4						
COW	**Cow Castle Cre**	**49.63**	**352**	P	**P**	**14 19 54.1**	**+3.3**
HKT	**Hockley**	**50.55**	**335**	P	**P**	**14 19 57.5**	**-0.3**
	comp=Z,25nm,1.3s,mb5.0						
HKT				*e*	pP	14 20 08.2	-0.3
CPCT	**Cooper Cave**	**52.27**	**349**	P	**P**	**14 20 09.5**	**-1.2**
CPCT				*e*	pP	14 20 20.5	-1.0
SWET	**Sewanee**	**52.33**	**347**	*e*P	**P**	**14 20 09.8**	**-1.4**
SWET				*e*	pP	14 20 20.6	-1.3
JCT	**Junction City**	**52.74**	**331**	P	**P**	**14 20 13.2**	**-1.1**
	comp=Z,17nm,1.1s,mb4.9						
JCT				*e*	pP	14 20 22.4	-2.7
ELN	**Prospectdale**	**53.43**	**353**	*e*P	**P**	**14 20 19.7**	**+0.3**
ELN				*e*	pP	14 20 30.0	-0.2
PWV	**Princeton**	**53.58**	**353**	*e*P	**P**	**14 20 19.7**	**-0.7**
PWV				*e*	pP	14 20 30.6	-0.7
LTX	**Lajitas**	**53.70**	**327**	P	**P**	**14 20 20.3**	**-1.2**
	comp=Z,14nm,0.8s,mb4.9						
LTX				*e*	pP	14 20 31.0	-1.2
LTX				LR	LR		
	comp=Z,454nm,19.0s,MS4.5						
TXAR	**Lajitas Array**	**53.70**	**327**	P	**P**	**14 20 21.0**	**-0.5**
	comp=Z,0.8nm,0.3s,mb4.1,baz=146,slow=9.0,SNR=4.4						
TXAR				pP	pP	14 20 32.6	+0.4
	comp=Z,10nm,0.8s,baz=141,slow=8.0,SNR=8.1						
TXAR				LR	LR	14 42 14.6	
	comp=Z,401nm,18.9s,MS4.5,baz=170,slow=35						
TXAR	**Lajitas Array**	**53.70**	**327**	P	**P**	**14 20 21.0**	**-0.5**
TXAR				pP	pP	14 20 32.6	+0.4
TXAR				LR	LR	14 42 14.6	
WCI	**Wyandotte Cave**	**55.31**	**348**	*e*P	**P**	**14 20 31.8**	**-1.3**
	comp=Z,86nm,1.3s,mb5.6						
WMOK	**Wichita Mounta**	**55.93**	**335**	*e*P	**P**	**14 20 37.2**	**-0.4**
	comp=Z,42nm,1.8s,mb5.2						
WMOK				LR	LR		
	comp=Z,231nm,19.0s,MS4.3						
FVM	**French Village**	**56.05**	**344**	*e*P	**P**	**14 20 36.4**	**-2.0**
	comp=Z,15nm,0.9s,mb5.0						
CCM	**Cathedral Cave**	**56.34**	**343**	P	**P**	**14 20 43.6**	**+3.1**
	comp=Z,9.8nm,1.0s,mb4.8						
CCM				*e*		14 20 49.9	
GDL2	**Guadalupe Moun**	**56.35**	**329**	*e*P	**P**	**14 20 39.0**	**-1.6**
GDL2				*e*	pP	14 20 50.7	-0.9
ACSO	**Alum Creek Sta**	**56.69**	**351**	P	**P**	**14 20 40.9**	**-2.1**
	comp=Z,32nm,0.9s,mb5.3						
ACSO				LR	LR		
	comp=Z,456nm,19.0s,MS4.6						
RKT	**Rikitea**	**57.98**	**253**	*e*S	**S**	**14 28 38.8**	**-9.4**
RKT				*e*R		14 37 43.7	
	comp=Z,1μm,27.0s						
BINY	**Binghamton**	**58.01**	**358**	*e*P	**P**	**14 20 52.0**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0						
BINY				*e*PP	PP	14 23 01.1	-1.4
LPM	**Los Pinos Moun**	**59.18**	**328**	*e*P	**P**	**14 21 03.1**	**+2.6**
LPM				*e*		14 21 11.0	
LPM				*e*		14 21 33.8	
LAZ	**Ladron**	**59.51**	**328**	*e*P	**P**	**14 21 02.8**	**0.0**
LAZ				*e*	pP	14 21 13.3	-0.4
ANMO	**Albuquerque**	**59.60**	**329**	*e*P	**P**	**14 21 02.4**	**-1.0**
	comp=Z,12nm,1.1s,mb4.8						
ANMO				*e*	pP	14 21 13.8	-0.5
ANMO				LR	LR		
	comp=Z,384nm,22.0s,MS4.5						
TUC	**Tucson**	**59.89**	**324**	*e*P	**P**	**14 21 05.4**	**-0.1**
	comp=Z,8.6nm,1.1s,mb4.7						
SADO	**Sadowa**	**60.75**	**355**	P	**P**	**14 21 11.3**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.7,baz=162,slow=8.1,SNR=2.9						
SADO				LR	LR	14 47 14.7	
	comp=Z,240nm,21.5s,MS4.3,baz=276,slow=36						
SADO	**Sadowa**	**60.75**	**355**	P	**P**	**14 21 11.3**	**+0.2**
SADO				LR	LR	14 47 14.7	
SDCO	**Great Sand Dun**	**61.38**	**331**	*e*P	**P**	**14 21 14.3**	**-1.2**
	comp=Z,28nm,1.1s,mb5.3						
SDCO				*e*	pP	14 21 26.6	+0.1
SDCO				LR	LR		
	comp=Z,461nm,20.0s,MS4.6						
WUAZ	**Wupatki**	**62.59**	**326**	P	**P**	**14 21 23.9**	**+0.3**
	comp=Z,17nm,1.1s,mb5.1						
WUAZ				*e*	pP	14 21 35.1	+0.5
PFO	**Pinyon Flat Ob**	**64.15**	**321**	*e*P	**P**	**14 21 39.1**	**+5.2**
	comp=Z,14nm,1.0s,mb4.9						
PFO				*e*		14 21 45.6	
NEN	**Nelson**	**64.62**	**323**	*e*P	**P**	**14 21 40.4**	**+3.4**
NEN				*e*		14 21 47.4	
NEN				*e*		14 21 55.9	
SRU	**San Rafael**	**64.87**	**329**	P	**P**	**14 21 38.9**	**+0.4**
SRU				*e*	pP	14 21 48.6	-1.0
SRU				*e*		14 21 57.3	
MSU	**Marysvale**	**65.26**	**327**	*e*P	**P**	**14 21 41.8**	**+0.8**
MSU				*e*	pP	14 21 52.0	-0.2
DAU	**Daniels Canyon**	**66.23**	**329**	*e*P	**P**	**14 21 48.2**	**+1.0**
DAU				*e*	pP	14 21 58.9	+0.6
JLU	**Jordanelle**	**66.47**	**329**	*e*P	**P**	**14 21 48.6**	**-0.1**
JLU				*e*	pP	14 22 00.9	+1.0
VNA3	**Neumayer Olymp**	**66.60**	**162**	⇑*i*P	**P**	**14 21 51.5**	**+2.5**
VNA3	**Neumayer Olymp**	**66.60**	**162**	⇓*i*	pP	14 22 02.1	+2.0
VNA3	**Neumayer Olymp**	**66.60**	**162**	⇑*i*	sP	14 22 06.2	+2.0
VNA1	**Neumayer--Stat**	**66.84**	**161**	⇑*i*P	**P**	**14 21 53.7**	**+3.2**
VNA1	**Neumayer--Stat**	**66.84**	**161**	⇑*i*	pP	14 22 04.3	+2.6
DUG	**Dugway**	**66.84**	**328**	*e*P	**P**	**14 21 51.0**	**-0.1**
	comp=Z,15nm,0.9s,mb5.0						
DUG				*e*	pP	14 22 03.1	+1.0
TCUT	**Toone Canyon**	**66.85**	**330**	P	**P**	**14 21 50.4**	**-0.7**
TCUT				*e*		14 21 56.5	
TCUT				*e*	pP	14 22 03.0	+0.8
VNA2	**Neumayer--Watz**	**67.20**	**161**	⇑*i*P	**P**	**14 21 54.9**	**+2.1**
VNA2	**Neumayer--Watz**	**67.20**	**161**	⇑*i*	pP	14 22 05.6	+1.7
VNA2	**Neumayer--Watz**	**67.20**	**161**	⇑*i*	sP	14 22 09.8	+1.8
VNA2	**Neumayer--Watz**	**67.20**	**161**	⇓*i*	PcP	14 22 22.1	+1.5
PDAR	**Pinedale Array**	**67.26**	**332**	P	**P**	**14 21 55.5**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=120,slow=7.3,SNR=2.6						
PDAR				pP	pP	14 22 06.1	+1.3
	comp=Z,2.7nm,1.2s,baz=146,slow=5.3,SNR=4.4						
PDAR				LR	LR	14 51 45.7	
	comp=Z,242nm,20.9s,baz=144,slow=36						
HWUT	**Hardware Ranch**	**67.30**	**330**	*e*P	**P**	**14 21 53.8**	**-0.1**
	comp=Z,9.3nm,1.0s,mb4.8						
HWUT				*e*	pP	14 22 05.4	+0.4
HWUT				*e*		14 22 13.4	
HWUT				LR	LR		
	comp=Z,647nm,20.0s,MS4.8						
BGU	**Big Grassy Mou**	**67.50**	**329**	*e*P	**P**	**14 21 53.0**	**-2.2**
TPH	**Tonopah**	**67.68**	**324**	*e*P	**P**	**14 21 57.2**	**+0.8**
	comp=Z,9.4nm,1.0s,mb4.8						
TPH				*e*	pP	14 22 07.5	0.0
MTUM	**Tungsten Hills**	**67.96**	**323**	*e*P	**P**	**14 21 59.1**	**+1.0**
MTUM				*e*	pP	14 22 09.1	-0.2
HVU	**Hansel Valley**	**68.02**	**329**	*e*P	**P**	**14 21 58.7**	**+0.3**
HVU				*e*	pP	14 22 08.9	-0.6
REDW	**Red Top Meadow**	**68.32**	**332**	P	**P**	**14 22 01.0**	**+0.8**
REDW				*e*	pP	14 22 11.9	+0.5
OMM	**Old Mammoth Mi**	**68.39**	**322**	*e*P	**P**	**14 22 01.9**	**+1.1**
OMM				*e*	pP	14 22 11.9	0.0
MNV	**Mina**	**68.46**	**324**	P	**P**	**14 22 01.5**	**+0.3**
	comp=Z,5.8nm,1.1s,mb4.5						
MNV				*e*	pP	14 22 12.2	-0.1
NVAR	**Mina Array Bea**	**68.54**	**324**	P	**P**	**14 22 02.4**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=124,slow=6.5,SNR=3.3						
NVAR				pP	pP	14 22 13.8	+1.0
	comp=Z,2.4nm,0.9s,baz=151,slow=8.9,SNR=9.5						
NVAR	**Mina Array Bea**	**68.54**	**324**	P	**P**	**14 22 02.4**	**+0.7**
NVAR				pP	pP	14 22 13.8	+1.0
MOOW	**Moose Ponds**	**68.57**	**332**	*e*P	**P**	**14 22 01.1**	**-0.7**
MOOW				*e*	pP	14 22 13.3	+0.3
SNAA	**Sanae**	**68.81**	**161**	⇓*i*	pP	14 22 13.1	-0.9
SNAA	**Sanae**	**68.81**	**161**	⇑*i*	sP	14 22 17.1	-0.9
SNAA	**Sanae**	**68.81**	**161**	⇑*i*P	**P**	**14 22 02.0**	**-0.9**
SNAA				*i* S	S	14 31 03.9	+1.3
LRV	**Little Rabbit**	**68.81**	**320**	P	**P**	**14 21 59.5**	**-4.0**
LRV				*e*		14 22 14.9	
ULM	**Lac du Bonnet**	**68.89**	**345**	P	**P**	**14 22 02.5**	**-1.1**
	comp=Z,1.7nm,0.4s,mb4.3,baz=157,slow=7.4,SNR=3.4						
ULM				pP	pP	14 22 14.0	-0.9
	comp=Z,7.6nm,0.8s,baz=160,slow=4.1,SNR=7.4						
ULM				LR	LR	14 55 16.7	
	comp=Z,165nm,21.2s,MS4.2,baz=183,slow=38						
ULM	**Lac du Bonnet**	**68.89**	**345**	*e*P	**P**	**14 22 01.5**	**-2.2**
	comp=Z,26nm,1.1s,mb5.1						
ULM				*e*	pP	14 22 13.2	-1.6
HLID	**Hailey**	**70.15**	**330**	*e*P	**P**	**14 22 08.3**	**-3.1**
	comp=Z,4.7nm,0.9s,mb4.4						
HLID				*e*		14 22 23.7	
MCMT	**McKenzie Canyo**	**70.36**	**331**	*e*P	**P**	**14 22 14.0**	**+1.2**
MCMT				*e*	pP	14 22 26.2	+2.3
BOZ	**Bozeman (W)**	**70.44**	**333**	P	**P**	**14 22 12.4**	**-0.8**
	comp=Z,13nm,1.3s,mb4.7						
BOZ				*e*	pP	14 22 25.7	+1.3
BEKR	**Beckwourth**	**70.69**	**323**	*e*P	**P**	**14 22 14.6**	**-0.3**
	comp=Z,10nm,1.2s,mb4.6						
SCHQ	**Schefferville**	**70.83**	**4**	P	**P**	**14 22 15.4**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=168,slow=2.5,SNR=4.2						
TBI	**Tubuai**	**71.16**	**250**	*e*S	S	14 31 21.9	-9.0
TBI				*e*R		14 43 56.7	
	comp=Z,624nm,31.7s						
LIC	**Lamto**	**71.28**	**78**	*e*P	**P**	**14 22 18.7**	**-0.1**
	comp=Z,91nm,1.0s,mb5.7						
TIC	**Toumodi**	**71.42**	**77**	*e*P	**P**	**14 22 18.8**	**-0.9**
	comp=Z,140nm,1.3s,mb5.8						
DBIC	**Dimbokro**	**71.59**	**77**	P	**P**	**14 22 21.1**	**+0.5**
	comp=Z,33nm,1.0s,mb5.2,baz=221,slow=5.8,SNR=20						
DBIC				pP	pP	14 22 31.7	-0.1
	comp=Z,20nm,1.0s,baz=180,slow=5.5,SNR=3.9						
DBIC				LR	LR	14 52 32.7	
	comp=Z,636nm,18.8s,MS4.9,baz=226,slow=35						
DBIC	**Dimbokro**	**71.59**	**77**	*e*P	**P**	**14 22 20.5**	**-0.1**
	comp=Z,42nm,0.9s,mb5.4						
DBIC				LR	LR		
	comp=Z,747nm,19.0s,MS5.0						
KIC	**Kosan Boka**	**71.59**	**78**	*e*P	**P**	**14 22 20.8**	**+0.1**
	comp=Z,147nm,0.8s						
CHMT	**Chamberlain Mo**	**72.14**	**333**	P	**P**	**14 22 22.0**	**-1.3**
PPT	**Papeete**	**72.34**	**256**	*e*S	S	14 31 35.6	-8.9
PPT				*e*L		14 40 44.7	
PPT				*e*R		14 44 20.1	
	comp=Z,845nm,24.0s,baz=98						
NEW	**Newport**	**74.89**	**331**	P	**P**	**14 22 40.7**	**+1.3**
	comp=Z,1.3nm,0.2s,mb4.4,baz=35,slow=11,SNR=3.9						
NEW				pP	pP	14 22 50.8	+0.2
	comp=Z,1.1nm,0.5s,baz=84,slow=14,SNR=1.4						
NEW				LR	LR	14 57 16.6	
	comp=Z,175nm,20.0s,MS4.3,baz=136,slow=37						
NEW	**Newport**	**74.89**	**331**	P	**P**	**14 22 40.7**	**+1.3**
NEW				pP	pP	14 22 50.8	+0.2
NEW				LR	LR	14 57 16.6	
DPW	**Davenport**	**75.11**	**331**	*e*P	**P**	**14 22 41.4**	**+0.7**
RMW	**Rattlesnake Mo**	**76.57**	**329**	*e*P	**P**	**14 22 49.0**	**0.0**
SBA	**Scott Base**	**80.35**	**191**	PFAKE		14 23 20.0	+11
SBA				LR	LR		
	comp=Z,428nm,19.0s,MS4.8						
RAR	**Rarotonga**	**80.94**	**251**	LR	LR	14 49 56.4	
	comp=Z,479nm,21.0s,MS4.8,baz=260,slow=29						
VNDA	**Vanda**	**81.41**	**190**	P	**P**	**14 23 15.4**	**+0.6**
	comp=Z,6.4nm,1.0s,mb4.5,baz=128,slow=5.0,SNR=32						
VNDA				pP	pP	14 23 26.9	+0.8
	comp=Z,4.5nm,0.8s,baz=181,slow=4.9,SNR=9.5						
VNDA	**Vanda**	**81.41**	**190**	*e*P	**P**	**14 23 15.3**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7						
VNDA				*e*	pP	14 23 25.5	-0.6
VNDA				LR	LR		
	comp=Z,299nm,19.0s,MS4.7						
BBB	**Bella Bella**	**82.74**	**330**	P	**P**	**14 23 24.3**	**+2.2**
BBB				LR	LR	14 57 49.0	
	comp=Z,173nm,20.7s,MS4.4,baz=67,slow=34						
SYO	**Syowa Base**	**83.08**	**160**	⇓P	**P**	**14 23 23.4**	**-0.1**
SYO	**Syowa Base**	**83.08**	**160**	⇓pP	pP	14 23 33.9	-0.9
YKA	**Yellowknife Ar**	**84.66**	**342**	P	**P**	**14 23 31.1**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.7,baz=136,slow=5.3,SNR=14						
YKA				pP	pP	14 23 41.7	-1.2
	comp=Z,2.6nm,0.7s,baz=140,slow=4.6,SNR=5.2						
YKA				LR	LR	15 05 54.3	
	comp=Z,171nm,19.4s,MS4.5,baz=95,slow=39						
ESDC	**Sonseca Array**	**85.15**	**47**	P	**P**	**14 23 36.9**	**+2.3**
	comp=Z,5.7nm,0.8s,mb4.7,baz=255,slow=5.4,SNR=16						
ESDC				pP	pP	14 23 48.6	+2.7
	comp=Z,3.7nm,0.8s,baz=259,slow=5.2,SNR=3.2						
ESDC				LR	LR	14 59 34.8	
	comp=Z,190nm,20.4s,MS4.5,baz=245,slow=34						
ESLA	**Sonseca Array**	**85.15**	**47**	PFAKE		14 23 50.0	+15
ESLA				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
TSUM	**Tsumeb**	**85.84**	**109**	*e*P	**P**	**14 23 39.4**	**+1.0**
	comp=Z,15nm,0.9s,mb5.2						
TSUM				*e*		14 23 56.2	
TSUM				LR	LR		
	comp=Z,439nm,19.0s,MS4.9						
DLBC	**Dease Lake**	**87.41**	**334**	P	**P**	**14 23 46.1**	**+1.1**
	comp=Z,4.3nm,0.7s,mb4.8,baz=151,slow=7.6,SNR=16						
DLBC				LR	LR	15 03 46.4	
	comp=Z,180nm,21.4s,MS4.5,baz=344,slow=36						
DLBC	**Dease Lake**	**87.41**	**334**	*e*P	**P**	**14 23 46.1**	**+1.0**
DLBC				*e*	pP	14 23 57.3	+0.8
MAW	**Mawson**	**90.74**	**165**	⇑*i*P	**P**	**14 24 00.8**	**+0.1**
	comp=Z,6.8nm,0.9s,mb5.0						
MAW	**Mawson**	**90.74**	**165**	P	**P**	**14 24 00.9**	**+0.3**
	comp=Z,6.9nm,0.8s,mb5.0,baz=212,slow=5.6,SNR=12						
MAW				LR	LR	15 03 31.2	
	comp=Z,254nm,18.7s,MS4.7,baz=224,slow=35						
SUMG	**Summit**	**91.43**	**10**	*e*P	**P**	**14 24 04.2**	**+0.4**
	comp=Z,24nm,1.0s,mb5.5						
SUMG				*e*		14 24 20.8	
ESK	**Eskdalemuir**	**92.31**	**33**	PFAKE		14 24 20.0	+12
ESK				LR	LR		
	comp=Z,58nm,19.0s,MS4.0						
INK	**Inuvik**	**94.39**	**341**	P	**P**	**14 24 17.2**	**-0.1**
	comp=Z,4.0nm,1.1s,mb4.8,baz=50,slow=1.9,SNR=4.2						
INK				LR	LR	15 09 56.3	
	comp=Z,226nm,20.6s,MS4.6,baz=116,slow=37						
URZ	**Urewera**	**94.68**	**228**	LR	LR	14 56 44.7	
	comp=Z,178nm,19.6s,MS4.5,baz=359,slow=29						
RPZ	**Rata Peaks**	**96.32**	**221**	LR	LR	14 57 28.0	
	comp=Z,308nm,18.9s,MS4.8,baz=285,slow=29						
PMR	**Palmer**	**97.31**	**332**	PFAKE		14 24 40.0	+9.2
PMR				LR	LR		
	comp=Z,217nm,22.0s,MS4.6						
ILAR	**Eielson Array**	**97.49**	**336**	P	**P**	**14 24 33.5**	**+1.9**
	comp=Z,0.3nm,0.7s,mb3.8,baz=90,slow=2.7,SNR=3.8						
ILAR				LR	LR	15 11 05.4	
	comp=Z,140nm,18.2s,MS4.5,baz=124,slow=37						
COLA	**College**	**97.92**	**335**	PFAKE		14 24 50.0	+17
COLA				LR	LR		
	comp=Z,168nm,20.0s,MS4.5						
MCK	**McKinley**	**97.96**	**334**	PFAKE		14 24 50.0	+16
MCK				LR	LR		
	comp=Z,114nm,22.0s,MS4.3						
VAE	**Valguarnera**	**97.98**	**53**	LR	LR	15 07 45.2	
	comp=Z,232nm,18.4s,MS4.7,baz=220,slow=35						
GERES	**GERESS Array B**	**100.11**	**42**	P	P	14 24 44.6	+0.8
	comp=Z,0.4nm,0.3s,baz=225,slow=4.2,SNR=4.9						
KMBO	**Kilima Mbogo**	**109.60**	**97**	PFAKE		14 29 40.0	
KMBO				LR	LR		
	comp=Z,417nm,19.0s,MS5.0						
ASAR	**Alice Springs**	**132.29**	**215**	PKP	PKPdf	14 30 12.4	+0.6
	comp=Z,1.4nm,0.6s,baz=131,slow=2.0,SNR=17						
ASAR				SKPbc		14 33 35.0	
	comp=Z,0.6nm,0.9s,baz=131,slow=4.6,SNR=4.2						
BVAR	**Borovoye Array**	**133.50**	**29**	PKP	PKPdf	14 30 15.8	+2.5
	comp=Z,0.8nm,0.7s,baz=225,slow=2.1,SNR=4.1						
WRA	**Warramunga Arr**	**134.96**	**218**	PKP	PKPdf	14 30 17.8	+0.9
	comp=Z,3.4nm,0.7s,baz=145,slow=1.6,SNR=13						
FITZ	**Fitzroy Crossi**	**141.17**	**210**	PKP	PKPdf	14 30 29.0	+0.7
	comp=Z,3.6nm,0.8s,baz=202,slow=5.4,SNR=2.3						
MKAR	**Makanchi Array**	**143.35**	**28**	PKhKP		14 30 30.4	

	comp=Z,3.2nm,0.8s,baz=336,slow=2.9,SNR=19						
KSH	**Kashi**	**144.58**	**43**	*e*PKP	PKPdf	14 30 35.7	+2.1
KSH				*e*APKP		14 30 46.1	
KSH				*e*XPKP		14 30 52.1	
KSH				*e*SKKS		14 40 43.0	
CBIJ	**Chichi jima**	**145.15**	**294**	PKPbc	PKPbc	14 30 38.9	+3.6
	comp=Z,35nm,0.4s,baz=272,slow=22,SNR=2.5						
HIA	**Hailar**	**145.16**	**345**	*e*PKPdf	PKPdf	14 30 34.9	+0.6
HIA				*e*		14 30 46.5	
MAJO	**Matsushiro**	**145.25**	**312**	*e*P	PKPdf	14 30 34.7	-0.2
MAJO				*e*		14 30 46.2	
MAJO				*e*		14 30 50.8	
MAT	**Matsushiro**	**145.25**	**312**	PKP	PKPdf	14 30 35.6	+0.7
MAT	**Matsushiro**	**145.25**	**312**	*e*PKP	PKPdf	14 30 36.0	+1.1
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS5.1						
THN	**Thein Dam**	**147.71**	**54**	*e*P	PKPdf	14 30 43.9	+4.8
	comp=Z,21nm,0.7s						
CN2	**Changchun**	**147.99**	**334**	*e*PKP	PKPdf	14 30 40.9	+1.7
CN2				PP	PP	14 34 16.4	+2.0
WMQ	**Urumqi**	**148.05**	**26**	PKP	PKPdf	14 30 41.0	+1.7
WMQ				PKP2	PKPab	14 30 49.0	+1.7
WMQ				APKP		14 30 51.7	
WMQ				XPKP		14 30 55.5	
WMQ				LR	LR		
	comp=N,160nm,27.6s,MS4.8						
WMQ				LR	LR		
	comp=E,116nm,26.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,113nm,29.6s,MS4.5						
SONM	**Songino Array**	**148.31**	**0**	PKP	PKPdf	14 30 41.9	+2.4
	comp=Z,7.5nm,0.8s,baz=344,slow=2.1,SNR=38						
SONM				PKPbc	PKPdf	14 30 45.6	+6.1
	comp=Z,7.5nm,0.8s,baz=344,slow=2.1,SNR=40						
SONM				pPKPbc		14 30 58.2	
	comp=Z,12nm,1.0s,baz=333,slow=2.8,SNR=7.2						
SDNR	**Sundarnagar**	**149.05**	**55**	*e*P	PKPdf	14 30 47.0	+5.7
NDI	**New Delhi**	**150.25**	**60**	*e*	PKPdf	14 30 49.0	+5.7
KS15	**Wonju Array Si**	**151.51**	**322**	*e*PKPbc	PKPdf	14 30 52.8	+8.0
KS15				*e*		14 31 04.5	
KOLN	**Koldanda**	**155.82**	**57**	*e*P	PKPab	14 31 23.6	+3.2
GKN	**Gorkha**	**156.56**	**56**	*e*P	PKPab	14 31 23.2	-0.3
	comp=Z,34nm,1.1s						
DMN	**Daman**	**157.10**	**56**	*e*P	PKPab	14 31 24.5	-1.4
KKN	**Kakani**	**157.16**	**56**	*e*P	PKPab	14 31 26.6	+0.5
PKI	**Pulchoki**	**157.36**	**56**	*e*P	PKPab	14 31 26.7	-0.3
SSE	**Sheshan**	**159.89**	**321**	PKP	PKPdf	14 30 57.4	+1.3
SSE				PP	PP	14 35 20.9	+0.6
SSE				SS	SS	14 55 24.5	+1.0
SSE				LR	LR		
	comp=N,96nm,29.0s,MS4.5						
SSE				LR	LR		
	comp=E,55nm,29.0s,MS4.5						
SSE				LR	LR		
	comp=Z,85nm,22.7s						
LZH	**Lanzhou**	**159.91**	**6**	*e*PKP	PKPdf	14 30 57.1	+1.1
LZH				APKP		14 31 09.2	
LZH				XPKP		14 31 12.6	
LZH				LR	LR		
	comp=N,289nm,18.5s						
LZH				LR	LR		
	comp=Z,349nm,20.3s,MS5.2						
NJ2	**Nanjing**	**160.51**	**327**	*e*PKP	PKPdf	14 30 57.5	+0.8
CMAR	**Chiang Mai Arr**	**172.41**	**71**	PKP	PKPdf	14 31 08.2	+1.8
	comp=Z,0.9nm,0.8s,baz=321,slow=2.0,SNR=4.1						
CMAR				PKPab	PKPab	14 32 33.8	+0.9
	comp=Z,1.6nm,0.8s,baz=284,slow=5.8,SNR=8.8						
CMAR				PP	PP	14 36 23.9	-1.2
	comp=Z,0.8nm,0.5s,baz=280,slow=6.4,SNR=5.4						

*IDC **12** 14:13:22.9±1.2, 0.33S×124.84E, mb3.6/4, mb1 3.8/5, mb1mx3.6/16, ML3.3/1, Error ellipse: s-maj=111.0km s-min=20.3km az=69.0*

ISC 12 14:13:25.5±1.2**, 0.2S**±0.2×**125.2E**±0.6**, h33^{km}, n5,** σ**1^{s}00**/5**,** **mb3.6**/4**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.80**	**179**	P	**P**	**14 17 32.6**	**+0.2**
	0.1nm,0.3s,baz=21,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**21.56**	**156**	P	**P**	**14 18 13.4**	**-0.9**
	0.8nm,0.7s,mb3.3,baz=331,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**24.81**	**161**	P	**P**	**14 18 47.0**	**+0.8**
	0.9nm,1.0s,mb3.2,baz=347,slow=12,SNR=5.9						
SONM	**Songino Array**	**50.56**	**344**	P	**P**	**14 22 23.7**	**+0.7**
	0.5nm,0.7s,mb3.5,baz=153,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**14 23 30.3**	**-0.7**
	1.1nm,0.4s,mb4.2,baz=122,slow=8.2,SNR=22						

*THE **12** 14:28:20.4, 38.78N×21.20E, h10^{km}, ML3.4*
*NEIC **12** 14:28:20.4, 38.78N×21.20E, MD3.4(ATH), ML3.5(THE), After THE.*
*ATH **12** 14:28:20.3, 38.83N×21.14E, h9^{km}±3^{km}, MD3.4/15*

ISC 12 14:28:20.5±0.4**, 38.83N**±0.03×**21.09E**±0.04**, h10^{km}, n30,** σ**1^{s}25**/38**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.36**	**250**	*e*Pg	**Pg**	**14 28 28.5**	**+0.5**
EVR	**Evrytania**	**0.57**	**81**	*e*PB	**Pb**	**14 28 30.0**	**-2.1**
EVR				*e*SB	**Sb**	**14 28 38.6**	**-1.4**
VLS	**Valsamata**	**0.76**	**211**	*e*PB	**Pb**	**14 28 34.4**	**-1.0**
VLS				*e*SB	**Sb**	**14 28 47.1**	**+1.5**
RLS	**Riolos of Patr**	**0.83**	**159**	*e*PG	**Pg**	**14 28 35.3**	**-1.9**
JAN	**Janina**	**0.84**	**348**	*e*PB	**Pb**	**14 28 36.8**	**0.0**
IGT	**Igoumenitsa**	**0.91**	**320**	*e*Pg	**Pg**	**14 28 38.4**	**-0.4**
IGT				*e*Sg	**Sg**	**14 28 55.5**	**+4.5**
MEV	**Metsovon**	**0.96**	**7**	*e*Pg	**Pg**	**14 28 38.6**	**-1.1**
	comp=Z,29nm,0.2s						
MEV				*e*Sg	**Sg**	**14 28 54.1**	**+1.6**
AGG	**Agios Georgios**	**0.99**	**79**	*e*Pg	**Pg**	**14 28 37.6**	**-2.7**
	comp=Z,35nm,0.1s						
KEK	**Kerkira**	**1.33**	**312**	*e*PB	**Pb**	**14 28 46.0**	**+0.9**
LKR	**Lokris**	**1.51**	**96**	*e*PG	**Pn**	**14 28 47.2**	**-0.6**
LKR				*e*SB	**Sb**	**14 29 08.7**	**+1.5**
KZN	**Kozani**	**1.56**	**20**	*e*PG	**Pn**	**14 28 48.6**	**0.0**
LIT	**Litokhoron**	**1.67**	**40**	*e*Pb	**Pb**	**14 28 50.6**	**-0.3**
	comp=Z,8.0nm,0.5s						
LIT				*e*Sb	**Sb**	**14 29 12.6**	**+0.7**
XOR	**Xorichti**	**1.72**	**71**	*e*Pb	**Pb**	**14 28 50.5**	**-1.3**
NEO	**Neokhori**	**1.73**	**73**	*e*PG	**Pn**	**14 28 51.6**	**+0.7**
NEO				*e*SB	**Sb**	**14 29 15.6**	**+1.9**
ITM	**Ithomi**	**1.78**	**158**	*e*PN	**Pn**	**14 28 53.0**	**+1.3**
MKIT	**Kithairon Oros**	**1.82**	**110**	*e*PN	**Pn**	**14 28 52.7**	**+0.4**
NSAL	**Nisos Salamina**	**2.09**	**116**	*e*PN	**Pn**	**14 28 56.7**	**+0.7**
NAIG	**Nisos Aigina**	**2.17**	**119**	*e*PG	**Pn**	**14 29 00.0**	**+2.7**
MPAR	**Parnis Oros**	**2.19**	**107**	*e*PN	**Pn**	**14 28 58.0**	**+0.5**
AOS	**Alonnisos**	**2.20**	**80**	*e*Pn	**Pn**	**14 28 56.4**	**-1.3**
	comp=Z,2.1nm,0.4s						
PAIG	**Paliouri**	**2.29**	**61**	*e*Pn	**Pn**	**14 28 58.1**	**-0.8**
PTL	**Penteli**	**2.32**	**109**	*e*PN	**Pn**	**14 29 01.0**	**+1.6**
PLG	**Polygyros**	**2.39**	**49**	*e*PB	**Pn**	**14 28 59.5**	**-0.8**
VLI	**Veliai**	**2.57**	**145**	*e*PN	**Pn**	**14 29 04.8**	**+1.8**
SOH	**Sokhos**	**2.65**	**41**	*e*Pn	**Pn**	**14 29 04.5**	**+0.4**
SOH				*e*Sn	**Sn**	**14 29 37.3**	**+0.8**
OUR	**Ouranopolis**	**2.69**	**55**	*e*Pn	**Pn**	**14 29 04.3**	**-0.4**
	comp=Z,2.4nm,0.5s						
KNT	**Kendrikon**	**2.71**	**30**	*e*Pn	**Pn**	**14 29 05.5**	**+0.6**
KYTH	**Kithira**	**2.98**	**148**	*e*PB	**Pb**	**14 29 11.5**	**-1.9**
SKO	**Skopje**	**3.15**	**5**	*e*Pn	**Pg**	**14 29 20.0**	**-3.4**
TIP	**Timpagrande**	**3.39**	**277**	*e*Pn	**Pn**	**14 29 13.3**	**-1.3**

ECX 12 14:44:30.0±0.7**, 30.55N×114.45W, h4^{km}, MD3.8, ML3.8, 1C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.00**	**300**	*e*P	Pb	14 44 47.5	-2.0
SPX				*e*S	Sb	14 45 01.5	-1.5
ECBX	**El Chinero**	**1.06**	**331**	*e*P	Pb	14 44 47.5	-3.0
ECBX				*e*S	Sb	14 45 02.5	-2.0
EMX	**El Mayor**	**1.59**	**335**	*e*P	Pn	14 44 57.7	-1.4
EMX				*e*S	Sb	14 45 18.8	-1.2
EMX				⇑*e*		14 45 40.1	
	comp=E,803nm,0.9s						
EMX				⇓*e*		14 45 56.6	
	comp=N,619nm,0.9s						
RDX	**Rancho Dowling**	**1.89**	**318**	*e*P	Pn	14 45 02.6	-0.7
RDX				*e*S	Sn	14 45 27.7	-0.1
ECNX	**Esteban Cantu**	**2.15**	**302**	*e*P	Pn	14 45 06.8	-0.3
ECNX				*e*S	Sn	14 45 37.3	+2.8
PGX	**Piedras Gordas**	**2.21**	**310**	*e*P	Pn	14 45 07.5	-0.5
PGX				*e*S	Sn	14 45 37.0	+0.8
PBX	**Punta Banda**	**2.29**	**302**	*e*P	Pn	14 45 08.4	-0.7
ENX	**Ensenada**	**2.32**	**306**	*e*P	Pn	14 45 08.7	-0.8
ENX				*e*S	Sn	14 45 40.1	+1.3
ENX				⇓*e*		14 45 50.4	
	comp=N,493nm,0.7s						
RMX	**La Rumorosa**	**2.48**	**326**	*e*P	Pn	14 45 11.5	-0.3
RMX				*e*S	Sn	14 45 46.6	+3.8
CBX	**Cerro Bola**	**2.58**	**314**	*e*PN	Pn	14 45 12.3	-1.0
CBX				*e*S	Sn	14 45 49.7	+4.1

ECX 12 14:52:53.2±0.5**, 30.54N×114.49W, h2^{km}, MD3.5, ML3.5, 3D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.98**	**301**	*e*P	Pb	14 53 10.3	-2.2
SPX				*e*S	Sb	14 53 24.6	-1.1
EMX	**El Mayor**	**1.58**	**336**	*e*P	Pn	14 53 20.5	-1.8
RDX	**Rancho Dowling**	**1.86**	**318**	*e*P	Pn	14 53 25.5	-0.9
RDX				*e*S	Sn	14 53 50.6	-0.3
RDX				⇓*e*		14 53 58.0	
	comp=N,722nm,0.6s						
ECNX	**Esteban Cantu**	**2.12**	**302**	*e*PN	Pn	14 53 29.5	-0.6
ECNX				*e*S	Sn	14 53 57.8	+0.4
PGX	**Piedras Gordas**	**2.19**	**311**	*e*PN	Pn	14 53 30.5	-0.6
PGX				*e*S	Sn	14 53 59.3	+0.1
PBX	**Punta Banda**	**2.26**	**302**	*e*PN	Pn	14 53 31.1	-0.9
PBX				*e*S	Sn	14 54 03.5	+2.6
PBX				⇓*e*		14 54 07.0	
	comp=N,263nm,0.3s						
ENX	**Ensenada**	**2.29**	**306**	*e*PN	Pn	14 53 31.7	-0.9
ENX				*e*S	Sn	14 54 04.7	+2.9
ENX				⇓*e*		14 54 12.1	
	comp=E,379nm,0.6s						
ENX				*e*		14 54 13.0	
	comp=N,238nm,0.8s						
CBX	**Cerro Bola**	**2.56**	**314**	*e*PN	Pn	14 53 35.7	-0.7
CBX				*e*S	Sn	14 54 12.6	+4.0

*JMA **12** 15:00:49.7±0.2, 24.78N×122.37E, h83^{km}, M3.0*
*TAP **12** 15:00:52.2, 24.64N×122.31E, h80^{km}±1^{km}, ML3.9*

ISC 12 15:00:49.1±2.3**, 24.6N**±0.3×**122.3E**±0.1**, h82^{km}**±19^{km}**, n6,** σ**0^{s}45**/12**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**104**	P	**P**	**15 01 05.4**	**+0.3**
YOJ				S	**S**	**15 01 16.9**	**0.0**
IRIF	**Iriomote-Funau**	**1.36**	**102**	P	**P**	**15 01 12.7**	**-0.5**
IRIF				S	**S**	**15 01 30.4**	**-0.6**
HATJ	**Hateruma jima**	**1.51**	**112**	P	**P**	**15 01 15.5**	**+0.4**
HATJ				*e*S	**S**	**15 01 34.8**	**+0.5**
JKRS	**Kuro-shima**	**1.63**	**104**	P	**P**	**15 01 16.8**	**+0.1**
JKRS				S	**S**	**15 01 37.1**	**+0.1**
JIJ	**Ishigaki jima**	**1.72**	**99**	P	**P**	**15 01 17.4**	**-0.5**
JIJ				S	**S**	**15 01 38.4**	**-0.7**
JTJ	**Tarama**	**2.21**	**89**	P	**P**	**15 01 24.7**	**+0.2**
JTJ				S	**S**	**15 01 51.5**	**+0.7**

*IDC **12** 15:05:55.6±10.0, 5.57S×154.47E, h146^{km}±74^{km}, mb3.2/3, mb1 3.5/4, mb1mx3.2/14, Error ellipse: s-maj=103.0km s-min=39.4km az=102.0*

ISC 12 15:05:53.0±5.9**, 5.7S**±0.3×**154.7E**±0.4**, h145^{km}**±44^{km}**, n6,** σ**0^{s}94**/7**, mb3.4**/4**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.30**	**243**	P	**P**	**15 07 51.3**	**-0.1**
	1.2nm,0.3s,baz=36,slow=9.1,SNR=5.7						
PMG				S	**S**	**15 09 24.1**	**+0.2**
	0.5nm,0.3s,baz=270,slow=11,SNR=2.8						
WB2	**Warramunga Arr**	**24.31**	**232**	*e*P	**P**	**15 10 59.3**	**+0.7**
WRA	**Warramunga Arr**	**24.32**	**232**	P	**P**	**15 10 59.2**	**+0.5**
	2.9nm,1.0s,mb3.8,baz=58,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**26.82**	**226**	P	**P**	**15 11 21.6**	**-0.2**
	0.4nm,0.8s,mb3.1,baz=54,slow=8.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**30.90**	**244**	*e*P	**P**	**15 11 56.9**	**-1.5**
	1.1nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**82.18**	**319**	P	**P**	**15 17 59.6**	**+0.4**
	0.3nm,0.7s,mb3.1,baz=102,slow=7.1,SNR=3.1						

*IDC **12** 15:11:33.8±1.3, 55.88S×25.87W, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, Error ellipse: s-maj=63.8km s-min=29.5km az=58.0*
*NEIC **12** 15:11:40.8±4.1, 55.77S×25.97W, h54^{km}±40^{km}, mb4.4/8, Error ellipse: s-maj=25.5km s-min=15.0km az=45.0*

ISC 12 15:11:47.6±4.5**, 55.8S**±0.1×**25.6W**±0.3**, h143^{km}**±48^{km}**, n17,** σ**1^{s}15**/15**, mb4.1**/8**, 3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.69**	**160**	⇑*i*	**P**	**15 15 35.6**	**+1.7**
VNA3	**Neumayer Olymp**	**16.92**	**162**	⇓*i*	**P**	**15 15 35.8**	**-0.9**
VNA2	**Neumayer--Watz**	**17.08**	**159**	⇑*i*	**P**	**15 15 38.3**	**-0.4**
SNAA	**Sanae**	**18.60**	**157**	⇑*i*	**P**	**15 15 56.0**	**+0.1**
SNAA	**Sanae**	**18.60**	**157**	*e*P	**P**	**15 15 53.2**	**-2.7**
	10nm,1.4s						
EFI	**East Falkland**	**19.52**	**269**	P	**P**	**15 15 59.2**	**-6.5**
	15nm,0.8s						
QSPA	**South Pole Qui**	**34.42**	**180**	*e*P	**P**	**15 18 22.1**	**-0.4**
	8.0nm,0.7s,mb4.6						
CPUP	**Villa Florida**	**37.34**	**309**	P	**P**	**15 18 47.2**	**-0.4**
	1.8nm,0.8s,mb3.8,baz=171,slow=15,SNR=3.3						
CPUP	**Villa Florida**	**37.34**	**309**	*e*P	**P**	**15 18 46.9**	**-0.7**
	2.2nm,0.8s,mb3.8						
LVC	**Limon Verde**	**45.96**	**298**	*e*P	**P**	**15 19 59.4**	**+1.6**
	3.8nm,0.7s,mb4.1						
VNDA	**Vanda**	**46.84**	**182**	P	**P**	**15 20 04.2**	**+0.2**
	0.9nm,0.9s,mb3.4,baz=189,slow=8.7,SNR=8.2						
TSUM	**Tsumeb**	**48.81**	**59**	P	**P**	**15 20 21.5**	**+1.5**
	2.5nm,1.1s,mb3.8						
RCBR	**Riachuelo**	**50.53**	**347**	P	**P**	**15 20 31.3**	**-1.9**
	14nm,1.0s,mb4.5						
LPAZ	**La Paz**	**50.98**	**303**	P	**P**	**15 20 37.1**	**+0.6**
	1.1nm,0.8s,mb3.6,baz=91,slow=8.1,SNR=5.4						
SACV	**Santiago Islan**	**70.54**	**2**	*e*P	**P**	**15 22 48.1**	**-0.7**
	34nm,0.8s,mb5.1						
SONM	**Songino Array**	**149.83**	**85**	PKPbc	PKPdf	15 31 25.0	+11
	0.3nm,0.5s,baz=214,slow=5.2,SNR=2.5						
ILAR	**Eielson Array**	**150.62**	**312**	PKPbc	PKPdf	15 31 25.2	+10
	1.1nm,0.8s,baz=117,slow=1.7,SNR=10.0						

*JMA **12** 15:39:44.6±0.2, 33.32N×140.94E, h44^{km}, M3.2*
*IDC **12** 15:39:48.3±2.6, 33.04N×140.68E, h62^{km}±22^{km}, mb3.4/3, mb1 3.7/4, mb1mx3.3/21, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/39, Error ellipse: s-maj=41.6km s-min=27.1km az=93.0*

ISC 12 15:39:44.6±0.9**, 33.31N**±0.04×**140.93E**±0.08**, h61^{km}**±9^{km}**, n19,** σ**0^{s}79**/27**, mb3.8**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.95**	**258**	P	**P**	**15 40 02.2**	**0.0**
JHJ2				S	**S**	**15 40 15.6**	**+0.2**
JHJ	**Hachijo jima 2**	**0.98**	**259**	P	**P**	**15 40 02.4**	**-0.2**
	102nm,0.3s,baz=193,slow=1.8,SNR=50						
JHJ				S	**S**	**15 40 15.3**	**-0.7**
	150nm,0.3s,baz=53,slow=23,SNR=36						
BSO1	**Boso 1**	**1.34**	**2**	P	**P**	**15 40 07.0**	**-0.6**
BSO1				S	**S**	**15 40 24.4**	**-0.3**
JMY	**Miyake jima 2**	**1.40**	**303**	P	**P**	**15 40 08.3**	**-0.1**
BSO2	**Boso 2**	**1.44**	**354**	S	**S**	**15 40 26.6**	**-0.5**
BSO3	**Boso 3**	**1.52**	**347**	P	**P**	**15 40 10.6**	**+0.5**
BSO3				S	**S**	**15 40 29.2**	**+0.2**
BSO4	**Boso 4**	**1.74**	**344**	S	**S**	**15 40 34.7**	**+0.5**
NJJJ	**Nii jima 2**	**1.75**	**309**	P	**P**	**15 40 13.7**	**+0.5**
JIZS	**Izushimoda**	**2.21**	**310**	P	**P**	**15 40 20.1**	**+0.5**
JIZS				S	**S**	**15 40 46.2**	**+0.5**
KTJJ	**Kamata 2**	**2.23**	**317**	P	**P**	**15 40 19.8**	**-0.2**
KTJJ				S	**S**	**15 40 45.6**	**-0.7**
JOD2	**Odawara 2**	**2.47**	**322**	P	**P**	**15 40 23.1**	**-0.3**
JOD2				S	**S**	**15 40 50.5**	**-1.9**
SHZ3	**Shizuoka 3**	**2.85**	**309**	P	**P**	**15 40 30.2**	**+1.4**
JYN	**Shimob**	**2.94**	**319**	P	**P**	**15 40 30.8**	**+0.8**
JYN				S	**S**	**15 41 04.5**	**+0.3**
MAT	**Matsushiro**	**3.92**	**326**	P	**P**	**15 40 45.3**	**+1.5**
MAT				S	**S**	**15 41 27.7**	**-1.2**
ASAJ	**Asahikawa**	**10.87**	**6**	P	**P**	**15 42 25.9**	**+6.3**
	0.2nm,0.3s,baz=177,slow=19,SNR=2.7						
ASAJ				LR	LR	15 48 00.6	
	comp=Z,82nm,18.3s,baz=335,slow=44						
TGY	**Tagaytay City**	**26.38**	**228**	LR	LR	15 53 13.9	
	comp=Z,94nm,19.8s,baz=163,slow=31						
MKAR	**Makanchi Array**	**45.84**	**305**	P	**P**	**15 48 03.7**	**+1.4**
	0.3nm,0.6s,mb3.4,baz=103,slow=8.0,SNR=3.3						
WRA	**Warramunga Arr**	**53.33**	**188**	P	**P**	**15 48 58.9**	**-1.0**
	1.1nm,0.5s,mb4.0,baz=4.2,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**57.06**	**188**	P	**P**	**15 49 26.1**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=4.8,slow=7.2,SNR=9.1						

*BJI **12** 15:59:40.9, 11.58S×166.85E, h202^{km}, mB5.7, mb5.5*
*HRVD **12** 15:59:41.9±0.1, 11.94S×166.64E, h206^{km}, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s64,c130;Mantle waves: s73,c172; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.74±.05; $M_{\theta\theta}$1.10±.06; $M_{\phi\phi}$-3.84±.06; $M_{r\theta}$2.54±.05; $M_{\theta\phi}$-0.68±.06; $M_{\phi r}$-1.33±.05; Best double couple: $M_0$4.47×10^{17} NP1:ϕ_s37°, δ46°, λ142°. NP2:ϕ_s155°, δ64°, λ50°. Principal axes: T 4.84, Plg53°, Azm16°; N -.73, Plg35°, Azm175°; P -4.11, Plg10°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **12** 15:59:41.3±0.5, 11.94S×166.76E, h198^{km}±4^{km}, mb5.0/29, mb1 5.1/30, mb1mx5.1/30, MS4.5/10, Ms1 4.5/10, ms1mx4.3/23 Error ellipse: s-maj=7.9km s-min=6.4km az=153.0*
*NEIC **12** 15:59:41.9±0.1, 11.91S×166.72E, mb5.5/78, MW5.8, Error ellipse: s-maj=4.2km s-min=3.3km az=114.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{17} Nm; M_{rr}3.67; $M_{\theta\theta}$1.12; $M_{\phi\phi}$-4.79; $M_{r\theta}$2.12; $M_{\theta\phi}$-1.20; $M_{\phi r}$-0.97; Best double couple: $M_0$5.1×10^{17} NP1:ϕ_s39°, δ49°, λ133°. NP2:ϕ_s164°, δ56°, λ52°. Principal axes: T 5.08, Plg59°, Azm16°; N -.01, Plg31°, Azm187°; P -5.06, Plg4°, Azm280°;*
*SYO **12** 15:59:41.8, 11.91S×166.72E, h206^{km}, MB5.5*
*MOS **12** 15:59:43.9±1.0, 11.84S×166.67E, h231^{km}, mb5.7/31, Error ellipse: s-maj=10.9km s-min=7.9km az=71.9*

ISC 12 15:59:40.6±1.0**, 11.96S**±0.03×**166.68E**±0.03**, h206^{km}**±9^{km}**, h204^{km}**±1.5^{km}**:pP-P, n704,** σ**0^{s}80**/330**, mb5.4**/116**, 149C-58D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.06**	**181**	*e*P	**P**	**16 02 01.7**	**+0.3**
DZM				*e*S	**S**	**16 03 52.7**	**+1.0**
PMG	**Port Moresby**	**19.35**	**276**	P	**P**	**16 03 53.6**	**+1.2**
	4.8nm,0.3s,baz=62,slow=7.0,SNR=26						
PMG				S	**S**	**16 07 25.9**	**+11**
	0.3nm,0.3s,baz=276,slow=21,SNR=3.8						
PMG				ScP		16 11 24.9	
	0.2nm,0.3s,baz=69,slow=6.3,SNR=4.6						
PMG	**Port Moresby**	**19.35**	**276**	⇓*i*P	**P**	**16 03 53.4**	**+1.0**
PMG				*e*S	**S**	**16 07 15.2**	**-0.1**
PMG				pmax	pmax		
	comp=Z,200nm,0.9s						
PMG	**Port Moresby**	**19.35**	**276**	⇓*i*P	**P**	**16 03 53.4**	**+1.0**
	comp=Z,198nm,0.9s						
PMG				*e*S	**S**	**16 07 15.2**	**-0.1**
PMG				*e*ScP		16 11 21.4	
KWAJ	**Kwajalein Atol**	**20.64**	**3**	*e*P	**P**	**16 04 05.5**	**0.0**
	comp=Z,762nm,0.9s						
CTA	**Charters Tower**	**21.21**	**245**	⇓*i*P	**P**	**16 04 12.9**	**+1.9**
	comp=Z,128nm,0.9s,mb5.5						
CTA				*e*S	**S**	**16 07 55.6**	**+6.3**
CTA				*i* PCP	PcP	16 08 09.9	+0.5
CTA				*i* SCP		16 11 28.5	
CTA				*i* SCS	ScS	16 15 14.6	+6.6
CTA	**Charters Tower**	**21.21**	**245**	P	**P**	**16 04 12.9**	**+1.9**
	comp=Z,170nm,0.9s,mb5.6,baz=73,slow=12,SNR=125						
CTA				pP		16 04 46.2	
	comp=Z,58nm,0.8s,baz=78,slow=9.9,SNR=6.1						
CTA				S	**S**	**16 08 01.7**	**+12**
	comp=Z,4.5nm,0.8s,baz=261,slow=19,SNR=3.9						
CTA				PcP	PcP	16 08 10.0	+0.6
	comp=Z,12nm,0.8s,baz=120,slow=2.8,SNR=5.4						
CTA				ScP		16 11 28.6	
	comp=Z,17nm,0.9s,baz=4.9,slow=3.8,SNR=7.0						
CTA				PKiKP		16 15 55.2	
	comp=Z,7.5nm,1.2s,baz=259,slow=5.2,SNR=3.2						
CTAO	**Charters Tower**	**21.21**	**245**	P	**P**	**16 04 12.9**	**+1.9**
CTAO				S	**S**	**16 07 55.9**	**+6.6**
CTAO	**Charters Tower**	**21.21**	**245**	⇓*i*P	**P**	**16 04 12.7**	**+1.7**
CTAO				*e*		16 08 09.3	
CTAO				pmax	pmax		
	comp=Z,170nm,0.8s,mb5.6						
CTAO	**Charters Tower**	**21.21**	**245**	⇓*i*P	**P**	**16 04 12.7**	**+1.6**
	comp=Z,168nm,0.8s,mb5.6						
CTAO				*e*PcP	PcP	16 08 09.3	-0.1
RIV	**Riverview**	**25.98**	**211**	*e*P	**P**	**16 04 54.8**	**-1.4**
RIV				*e*pP	pP	16 05 37.6	+0.8
URZ	**Urewera**	**27.80**	**162**	P	**P**	**16 05 12.3**	**-0.4**
	comp=Z,76nm,0.6s,mb5.5,baz=352,slow=4.6,SNR=38						
URZ				S	**S**	**16 09 41.2**	**+2.3**
	comp=Z,19nm,0.9s,baz=165,slow=20,SNR=5.4						
URZ				ScP		16 11 46.9	
	comp=Z,14nm,0.3s,baz=167,slow=21,SNR=16						
URZ				LR	LR	16 14 06.8	
	comp=Z,485nm,20.0s,baz=1.6,slow=31						
URZ	**Urewera**	**27.80**	**162**	P	**P**	**16 05 11.8**	**-0.9**
URZ	**Urewera**	**27.80**	**162**	*e*P	**P**	**16 05 11.8**	**-0.9**
PUZ	**Puketiti**	**27.99**	**160**	*e*P	**P**	**16 05 11.7**	**-2.7**
PUZ	**Puketiti**	**27.99**	**160**	*e*P	**P**	**16 05 13.2**	**-1.2**
MWZ	**Matawai**	**28.00**	**162**	*e*P	**P**	**16 05 12.9**	**-1.6**
MWZ	**Matawai**	**28.00**	**162**	P	**P**	**16 05 13.8**	**-0.7**
CNB	**Canberra Magne**	**28.06**	**211**	*e*P	**P**	**16 05 15.2**	**+0.2**
	comp=Z,45nm,1.0s,mb5.0						
CNB				*e*pP	pP	16 05 59.4	+3.1
CNB				*e*SCP		16 11 45.4	
MGZ	**Maungaku**	**28.07**	**165**	*e*P	**P**	**16 05 15.9**	**+0.9**
DRZ	**Dome Shelter**	**28.33**	**165**	P	**P**	**16 05 19.4**	**+2.0**
TUVZ	**Tukino**	**28.35**	**165**	P	**P**	**16 05 18.9**	**+1.3**
KNZ	**Kokohu**	**28.67**	**162**	P	**P**	**16 05 19.4**	**-1.1**
KNZ	**Kokohu**	**28.67**	**162**	*e*P	**P**	**16 05 19.4**	**-1.1**
TSZ	**Takapari Road**	**29.17**	**165**	P	**P**	**16 05 24.3**	**-0.6**
TSZ	**Takapari Road**	**29.17**	**165**	P	**P**	**16 05 24.0**	**-0.9**
QRZ	**Quartz Range**	**29.22**	**171**	*e*P	**P**	**16 05 26.4**	**+1.1**
QRZ	**Quartz Range**	**29.22**	**171**	*e*P	**P**	**16 05 26.8**	**+1.5**
PWZ	**Pawanui**	**29.38**	**164**	*e*P	**P**	**16 05 25.4**	**-1.3**
KIW	**Kapiti Island**	**29.69**	**167**	*e*P	**P**	**16 05 28.8**	**-0.7**
KIW	**Kapiti Island**	**29.69**	**167**	P	**P**	**16 05 29.0**	**-0.5**
NNZ	**Nelson**	**29.74**	**170**	P	**P**	**16 05 30.2**	**+0.3**
NNZ	**Nelson**	**29.74**	**170**	*e*P	**P**	**16 05 30.8**	**+0.9**
SNZO	**South Karori**	**30.08**	**168**	*e*P	**P**	**16 05 32.1**	**-0.7**
THZ	**Tophouse**	**30.19**	**171**	P	**P**	**16 05 33.8**	**0.0**
THZ	**Tophouse**	**30.19**	**171**	*e*P	**P**	**16 05 33.8**	**0.0**
STKA	**Stephens Creek**	**30.43**	**225**	*e*P	**P**	**16 05 36.8**	**+0.8**
	comp=Z,54nm,0.9s,mb5.2						
STKA				*i* pP	pP	16 06 17.0	-1.1
STKA				*i* PCP	PcP	16 08 29.9	-0.4
STKA				*i* S	**S**	**16 10 21.4**	**+0.9**
STKA				*i* SCP		16 11 54.0	
STKA				*i* SCS	ScS	16 15 47.1	+0.2
STKA	**Stephens Creek**	**30.43**	**225**	P	**P**	**16 05 36.1**	**+0.1**
	comp=Z,48nm,0.8s,mb5.2,baz=39,slow=7.6,SNR=51						
STKA				pP	pP	16 06 17.1	-1.0
	comp=Z,29nm,0.8s,baz=46,slow=11,SNR=3.9						
STKA				PcP	PcP	16 08 30.1	-0.2
	comp=Z,7.4nm,0.7s,baz=28,slow=5.7,SNR=3.2						
STKA				ScP		16 11 54.3	
	comp=Z,10nm,0.9s,baz=87,slow=2.5,SNR=5.2						
STKA				PKiKP		16 16 00.1	
	comp=Z,3.7nm,0.7s,baz=276,slow=21,SNR=3.9						
STKA				LR	LR	16 17 33.8	
	comp=Z,2µm,18.3s,baz=313,slow=35						
KHZ	**Kahutara**	**30.93**	**170**	*e*P	**P**	**16 05 39.0**	**-1.3**
LTZ	**Lake Taylor**	**31.10**	**172**	P	**P**	**16 05 41.6**	**-0.1**
LTZ	**Lake Taylor**	**31.10**	**172**	P	**P**	**16 05 41.8**	**+0.1**
TOO	**Toolangi**	**31.79**	**213**	*e*P	**P**	**16 05 48.3**	**+0.5**
	comp=Z,29nm,1.1s,mb4.7						
TOO				*e*pP	pP	16 06 32.3	+2.1
TOO				*i* S	x	16 09 23.9	
TOO				*i* sS	x	16 11 33.4	
TOO				*i* SS		16 11 57.7	
RPZ	**Rata Peaks**	**31.87**	**174**	P	**P**	**16 05 48.5**	**0.0**
	comp=Z,210nm,0.8s,mb5.7,baz=116,slow=5.9,SNR=65						

RPZ	**Rata Peaks**	31.87	174	P	P	16 05 47.9	-0.5
RPZ	**Rata Peaks**	31.87	174	*e*P	P	16 05 47.9	-0.5
CRLZ	**Canterbury Las**	31.92	172	P	P	16 05 48.7	-0.2
WB2	**Warramunga Arr**	32.03	252	⇓*i*P	P	16 05 49.1	-1.0
WB2				*i* pP	pP	16 06 34.1	+1.6
WB2				*i* PCP	PcP	16 08 34.7	0.0
WB2				*e*S	S	16 10 43.9	-1.7
WB2				*i* SCP		16 12 00.8	
WB2				*i* PCS		16 12 18.4	
WB2				*i* SCS	ScS	16 15 57.0	+2.0
WRAB	**Tennant Creek**	32.03	252	⇓*i*P	P	16 05 48.9	-1.2
	comp=Z,81nm,0.8s,mb5.3						
WRAB				*e*PcP	PcP	16 08 34.9	+0.2
WRAB				*e*ScP		16 12 00.6	
WRA	**Warramunga Arr**	32.05	252	P	P	16 05 49.3	-0.9
	comp=Z,31nm,0.6s,mb5.0,baz=84,slow=9.1,SNR=265						
WRA				pP	pP	16 06 27.6	-5.0
	comp=Z,10nm,0.7s,baz=79,slow=9.1,SNR=3.2						
WRA				PcP	PcP	16 08 35.3	+0.6
	comp=Z,16nm,0.7s,baz=80,slow=3.1,SNR=13						
WRA				S	S	16 10 44.7	-1.0
	comp=Z,7.4nm,1.1s,baz=85,slow=15,SNR=4.6						
WRA				ScP		16 12 00.4	
	comp=Z,27nm,1.0s,baz=78,slow=3.6,SNR=24						
WRA				PKiKP		16 16 01.1	
	comp=Z,4.2nm,0.8s,baz=6.5,slow=0.5,SNR=34						
MQZ	**McQueen’s Vall**	32.06	172	P	P	16 05 49.8	-0.2
MQZ	**McQueen’s Vall**	32.06	172	*e*P	P	16 05 49.7	-0.3
LBZ	**Lake Benmore**	32.46	175	P	P	16 05 52.4	-1.1
ASAR	**Alice Springs**	33.22	245	P	P	16 05 59.1	-1.1
	comp=Z,36nm,0.6s,mb5.0,baz=69,slow=9.6,SNR=294						
ASAR				pP	pP	16 06 37.4	-5.5
	comp=Z,17nm,0.8s,baz=73,slow=9.7,SNR=3.7						
ASAR				PcP	PcP	16 08 38.1	+0.2
	comp=Z,18nm,0.8s,baz=78,slow=3.0,SNR=16						
ASAR				S	S	16 11 02.4	-1.5
	comp=Z,4.4nm,0.9s,baz=76,slow=14,SNR=4.0						
ASAR				ScP		16 12 04.3	
	comp=Z,38nm,1.0s,baz=82,slow=3.2,SNR=37						
ASAR				PKiKP		16 16 01.9	
	comp=Z,1.9nm,0.6s,baz=118,slow=1.4,SNR=18						
ASPA	**Alice Springs**	33.22	245	⇓*i*P	P	16 05 59.1	-1.1
ASPA				*i* pP	pP	16 06 43.4	+0.5
ASPA				*e*PCP	PcP	16 08 37.7	-0.2
ASPA				*e*S	S	16 11 02.2	-1.8
ASPA				*e*SCP		16 12 04.1	
ASPA				*e*SCS	ScS	16 16 02.0	+0.9
AXZ	**Alexandra**	33.27	177	P	P	16 06 00.3	-0.2
GUMO	**Guam**	33.34	319	*e*P	P	16 06 00.8	-0.5
	comp=Z,115nm,0.6s,mb5.6						
RAR	**Rarotonga**	33.38	110	P	P	16 06 00.5	-1.2
	comp=Z,9.5nm,0.6s,mb4.5,baz=232,slow=12,SNR=3.2						
KAKA	**Kakadu**	33.48	265	⇓*i*P	P	16 06 01.9	-0.6
	comp=Z,68nm,0.5s,mb5.4						
KAKA				*i* pP	pP	16 06 40.8	-4.5
KAKA				*i* PCP	PcP	16 08 37.8	-0.9
KAKA				*e*S	S	16 11 06.6	-1.5
KAKA				*e*SCP		16 12 05.5	
TUZ	**Tuapeka**	33.98	176	P	P	16 06 07.1	+0.6
TUZ	**Tuapeka**	33.98	176	*e*P	P	16 06 07.1	+0.6
ADE	**Adelaide**	34.18	223	⇑*i*P	P	16 06 09.4	+1.1
FITZ	**Fitzroy Crossi**	40.04	256	⇓*i*P	P	16 06 57.5	+0.1
	comp=Z,43nm,0.7s,mb5.0						
FITZ				*i* pP	pP	16 07 43.4	+2.2
FITZ				*i* PCP	PcP	16 08 59.3	+0.7
FITZ				*i* SCP		16 12 30.2	
FITZ				*i* S	S	16 12 47.1	-0.3
FITZ				*i* SCS	ScS	16 16 43.9	+4.7
FITZ	**Fitzroy Crossi**	40.04	256	P	P	16 06 57.8	+0.4
	comp=Z,40nm,0.6s,mb5.0,baz=90,slow=4.5,SNR=125						
FITZ				pP	pP	16 07 37.0	-4.2
	comp=Z,40nm,1.1s,baz=74,slow=2.9,SNR=3.3						
FITZ				PcP	PcP	16 08 59.4	+0.8
	comp=Z,18nm,0.6s,baz=157,slow=3.8,SNR=4.1						
FITZ				ScP		16 12 30.2	
	comp=Z,3.8nm,0.8s,baz=52,slow=4.9,SNR=4.4						
FITZ				S	S	16 12 47.9	+0.5
	comp=Z,9.3nm,1.2s,baz=328,slow=18,SNR=6.1						
FITZ				PKiKP		16 16 07.6	
	comp=Z,1.0nm,0.6s,baz=233,slow=5.1,SNR=4.2						
FITZ				LR	LR	16 23 36.1	
	comp=Z,736nm,18.3s,baz=91,slow=36						
FORT	**Forrest**	40.28	236	*e*P	P	16 07 00.0	+0.7
	comp=Z,452nm,0.8s,mb6.0						
FORT				*e*pP	pP	16 07 43.7	+0.5
FORT				*e*S	S	16 12 50.7	-0.2
PPT	**Papeete**	42.60	103	P	P	16 07 18.1	-0.3
	comp=Z,36nm,0.6s,mb5.0,baz=274,slow=4.6,SNR=9.3						
CBIJ	**Chichi jima**	45.52	329	P	P	16 07 41.0	-0.6
	comp=Z,188nm,0.5s,mb5.7,baz=291,slow=18,SNR=11						
CBIJ				PKiKP		16 16 12.9	
	comp=Z,48nm,0.4s,baz=291,slow=21,SNR=3.8						
KIP	**Kipapa**	47.98	46	*e*P	P	16 07 60.0	-0.8
	comp=Z,164nm,1.3s,mb5.2						
HKL	**Haleakala**	48.80	49	*e*P	P	16 08 07.1	+0.1
KLBR	**Kellerberrin**	49.00	238	*e*P	P	16 08 07.9	-0.5
	comp=Z,17nm,0.4s,mb4.7						
NWAO	**Narrogin (SRO)**	49.72	237	P	P	16 08 14.5	+0.6
	comp=Z,30nm,0.9s,mb4.6,baz=105,slow=8.8,SNR=17						
NWAO				LR	LR	16 30 14.6	
	comp=Z,1µm,18.2s,baz=69,slow=37						
NWAO	**Narrogin (SRO)**	49.72	237	*e*P	P	16 08 13.8	-0.1
	comp=Z,44nm,1.0s,mb4.7						
MUN	**Mundaring**	50.37	238	*e*P	P	16 08 19.1	+0.3
	comp=Z,45nm,0.9s,mb4.8						
MUN				*e*S	S	16 15 14.4	-0.2
JHJ	**Hachijo jima 2**	51.65	331	P	P	16 08 27.1	-1.2
	comp=Z,94nm,0.4s,mb5.6,baz=208,slow=12,SNR=13						
JHJ				PcP	PcP	16 09 39.2	0.0
	comp=Z,121nm,0.7s,baz=231,slow=21,SNR=5.4						
JOW	**Kunigami**	53.64	316	P	P	16 08 43.8	+0.6
	comp=Z,98nm,0.6s,mb5.5,baz=166,slow=7.4,SNR=26						
MAJO	**Matsushiro**	55.20	332	⇑*i*P	P	16 08 53.1	-1.1
MAJO				pmax	pmax		
	comp=Z,170nm,1.0s,mb5.5						
MAJO	**Matsushiro**	55.20	332	⇑*i*P	P	16 08 53.1	-1.1
	comp=Z,168nm,1.0s,mb5.5						
MAT	**Matsushiro**	55.20	332	P	P	16 08 53.0	-1.2
MAT				S	S	16 16 16.0	-3.6
MAT	**Matsushiro**	55.20	332	*e*P	P	16 08 53.0	-1.2
	comp=Z,217nm,1.2s,mb5.6						
MAT				*e*S	S	16 16 17.0	-2.6
MAT				LR	LR		
	comp=Z,350nm,20.0s						
JNU	**Nakatsue**	56.35	324	P	P	16 09 02.0	-0.4
	comp=Z,77nm,0.6s,mb5.4,baz=78,slow=5.5,SNR=75						
TATO	**Taipei**	57.35	310	P	P	16 09 08.8	-0.8
YUK	**Yuzh-Kuril’sk**	58.86	343	*e*P	P	16 09 18.0	-1.9
YUK				pmax	pmax		
	comp=N,4µm,2.4s						
YUK				pmax	pmax		
	comp=E,2µm,3.3s						
SSE	**Sheshan**	61.14	316	P	P	16 09 36.5	+1.0
SSE				XP	sP	16 10 47.4	+2.3
SSE				S	S	16 17 39.0	+2.3
SSE				XS		16 19 02.0	
SSE				AMB	AMB		
	comp=Z,132nm,0.8s,mb5.6						
SSE				AMB	AMB		
	comp=Z,1µm,4.7s						
SSE	**Sheshan**	61.14	316	P	P	16 09 36.5	+1.0
	comp=Z,132nm,0.8s,mb5.6						
SSE				sP	sP	16 10 47.4	+2.3
SSE				S	S	16 17 39.0	+2.3
SSE				sS		16 19 02.0	
SSE				LR	LR		
	comp=Z,290nm,24.9s						
KS15	**Wonju Array Si**	61.15	325	⇑*i*P	P	16 09 35.1	-0.3
INCN	**Inchon**	61.88	325	⇓*i*P	P	16 09 40.5	+0.2
	comp=Z,51nm,0.6s,mb5.3						
INCN				*e*PcP	PcP	16 10 19.0	-0.1
YSS	**Yuzh-Sakhalins**	62.43	342	α*i*P	P	16 09 43.3	-0.6
YSS				*e*S	S	16 17 53.0	+0.3
YSS				*e*SS	SS	16 22 04.0	+1.7
YSS				pmax	pmax		
	comp=N,260nm,1.4s						
YSS				pmax	pmax		
	comp=E,260nm,1.4s						
YSS				pmax	pmax		
	comp=Z,450nm,1.4s,mb5.9						
YSS				pmax	pmax		
	comp=N,800nm,4.0s						
YSS				pmax	pmax		
	comp=Z,1µm,4.0s						
YSS				smax			
	comp=N,500nm,12.0s						
YSS				smax			
	comp=E,500nm,10.0s						
YSS				pmax	pmax		
	comp=N,600nm,12.0s						
YSS	**Yuzh-Sakhalins**	62.43	342	⇑*e*P	P	16 09 43.4	-0.5
	comp=N,378nm,1.4s,mb5.8						
YSS				*e*PcP	PcP	16 10 21.3	+0.2
NJ2	**Nanjing**	63.30	315	*e*P	P	16 09 50.3	+0.5
NJ2				AP	pP	16 10 38.9	+1.3
NJ2				XP	sP	16 11 00.3	+0.6
NJ2				PP	PP	16 12 17.0	+4.1
NJ2				S	S	16 18 10.0	+6.2
NJ2				XS		16 19 24.0	
VLA	**Vladivostok**	63.36	332	*d* *i*P	P	16 09 50.0	-0.1
VLA				*i*		16 11 06.0	
VLA				*i*		16 12 08.0	
VLA				*i* S	S	16 18 08.0	+3.6
VLA				*i* PS	x	16 18 35.0	
VLA				pmax	pmax		
	comp=N,1µm,4.0s						
VLA				pmax	pmax		
	comp=Z,2µm,4.0s						
VLA				pmax	pmax		
	comp=Z,600nm,4.0s						
VLA				smax			
	comp=N,1µm,10.0s						
VLA				smax			
	comp=E,2µm,10.0s						
QIZ	**Qiongzhong**	63.91	298	⇓P	P	16 09 55.0	+1.0
QIZ				XP	sP	16 11 05.5	+1.6
QIZ				S	S	16 18 18.2	+6.7
QIZ				AMB	AMB		
	comp=Z,52nm,1.1s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,257nm,5.4s						
QIZ	**Qiongzhong**	63.91	298	*e*P	P	16 09 54.9	+0.9
	comp=Z,30nm,0.8s,mb5.0						
KGM	**Kluang**	64.45	278	⇓*e*P	P	16 09 58.5	+0.9
SMY	**Shemya**	64.74	5	*e*P	P	16 09 58.4	-0.4
FX1	**Attu Island--F**	64.81	4	⇓*i*P	P	16 09 58.3	-0.9
PET	**Petropavlovsk**	65.08	355	α*i*P	P	16 10 00.1	-0.9
PET				*e*		16 10 30.6	
PET				*i* S	S	16 18 27.3	+2.0
PET				*e*SS	SS	16 22 44.2	+0.7
PET				pmax	pmax		
	comp=Z,1µm,5.1s						
PET				pmax	pmax		
	comp=N,500nm,2.4s						
PET				pmax	pmax		
	comp=N,73nm,1.3s						
PET				pmax	pmax		
	comp=Z,186nm,1.3s,mb5.6						
PET				pmax	pmax		
	comp=E,300nm,2.8s						
PET				pmax	pmax		
	comp=N,300nm,17.1s						
PET				pmax	pmax		
	comp=Z,700nm,15.6s						
PET				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.9						
PET				pmax	pmax		
	comp=Z,300nm,11.5s						
PET				smax			
	comp=E,500nm,9.8s						
PET				smax			
	comp=E,500nm,20.5s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
PET	**Petropavlovsk**	65.08	355	⇑*i*P	P	16 09 59.8	-1.2
MDJ	**Mudanjiang**	65.58	332	P	P	16 10 04.7	+0.4
MDJ				XP	sP	16 11 13.3	-1.1
MDJ				PP	PP	16 12 32.8	-0.2
MDJ				S	S	16 18 35.6	+4.2
MDJ				AMB	AMB		
	comp=Z,163nm,1.6s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,924nm,7.4s						
MDJ	**Mudanjiang**	65.58	332	*e*P	P	16 10 04.6	+0.3
	comp=Z,320nm,1.4s,mb5.8						
VNDA	**Vanda**	65.61	181	P	P	16 10 04.0	-0.1
	comp=Z,30nm,0.7s,mb5.0,baz=358,slow=6.8,SNR=96						
VNDA				LR	LR	16 35 03.3	
	comp=Z,380nm,19.0s,baz=8.9,slow=32						
VNDA	**Vanda**	65.61	181	P	P	16 10 03.6	-0.4
VNDA				S	S	16 18 33.9	+2.6
VNDA	**Vanda**	65.61	181	⇑*e*P	P	16 10 03.5	-0.5
VNDA				pmax	pmax		
	comp=Z,23nm,0.9s						
VNDA	**Vanda**	65.61	181	⇑*e*P	P	16 10 03.5	-0.5
	comp=Z,44nm,0.8s,mb5.1						
CASY	**Casey**	65.87	202	*e*P	P	16 10 04.3	-1.5
	comp=Z,83nm,0.8s,mb5.4						
SBA	**Scott Base**	65.89	180	⇑*e*P	P	16 10 06.4	+0.6
SBA				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.5						
SBA	**Scott Base**	65.89	180	⇑*e*P	P	16 10 06.4	+0.6
	comp=Z,121nm,0.9s,mb5.5						
SNY	**Shenyang**	66.59	326	⇑P	P	16 10 06.3	-4.5
SNY				S	S	16 18 47.2	+3.5
SNY				AMB	AMB		
	comp=Z,100nm,1.9s,mb5.1						
SNY				AMB	AMB		
	comp=Z,580nm,6.7s						
CN2	**Changchun**	66.99	329	⇑P	P	16 10 13.4	+0.1
CN2				PCP	PcP	16 10 38.4	-1.7
CN2				*e*AP	pP	16 11 03.0	+1.4
CN2				*e*XP	sP	16 11 23.2	-0.2
CN2				*e*S	S	16 18 49.6	+1.1
CN2				*e*SS	SS	16 23 06.4	-6.9
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
IPM	**Ipoh**	67.30	280	⇓*e*P	P	16 10 16.0	+0.3
	comp=Z,26nm,0.8s,mb4.9						
NIKO	**Nikolski**	67.99	16	⇑*i*P	P	16 10 17.9	-1.5
KLR	**Kul’dur**	68.25	336	⇓*i*P	P	16 10 20.9	-0.1
KLR				*e*	pP	16 11 10.5	+1.0
KLR				*e*S	S	16 19 05.5	+2.1
KLR				pmax	pmax		
	comp=E,500nm,7.5s						
KLR				pmax	pmax		
	comp=Z,2µm,7.5s						
KLR				pmax	pmax		
	comp=N,130nm,1.6s						
KLR				pmax	pmax		
	comp=Z,330nm,1.6s,mb5.7						
KKTK	**Khon Kaen**	69.11	293	⇓P	P	16 10 27.5	+0.7
	comp=Z,309nm,0.9s,mb5.9						
ENH	**Enshi**	69.18	309	⇑*e*P	P	16 10 26.5	-0.5
	comp=Z,153nm,1.0s,mb5.6						
UNV	**Unalaska Valle**	69.41	17	⇑*i*P	P	16 10 26.2	-1.8
	comp=Z,340nm,1.1s,mb5.9						
GYA	**Guiyang**	69.68	304	⇑*i*P	P	16 10 30.3	+0.2
GYA				AP	pP	16 11 18.6	-0.2
GYA				XP	sP	16 11 40.2	-0.4
GYA				PP	PP	16 13 09.4	+1.2
GYA				S	S	16 19 21.6	+1.1
GYA				XS		16 20 46.8	
GYA				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,320nm,4.8s						
BJT	**Baijiatuau**	69.75	321	⇑*e*P	P	16 10 30.4	+0.1
	comp=Z,53nm,0.7s,mb5.3						
BJI	**Beijing**	69.76	321	P	P	16 10 30.6	+0.3
BJI				XP	sP	16 11 38.6	-2.2
BJI				S	S	16 19 23.7	+2.5
BJI				AMB	AMB		
	comp=Z,121nm,1.4s,mb5.3						
BJI				AMB	AMB		
	comp=Z,1µm,5.1s						
BJI	**Beijing**	69.76	321	P	P	16 10 30.6	+0.3
	comp=Z,121nm,1.4s,mb5.3						
BJI				sP	sP	16 11 38.6	-2.2
BJI				S	S	16 19 23.7	+2.5
XAN	**Xi’an**	71.41	312	P	P	16 10 40.0	-0.3
XAN				AMB	AMB		
	comp=Z,125nm,1.7s,mb5.3						
NANT	**Nan**	71.85	294	⇑P	P	16 10 42.0	-1.2
	comp=Z,50nm,1.0s,mb5.1						
KMI	**Kunming**	72.37	301	*e*P	P	16 10 47.7	+1.5
KMI				PCP	PcP	16 11 01.0	-2.2
KMI				AP	pP	16 11 30.0	-5.2
KMI				S	S	16 19 57.7	+6.3
KMI				PS	PS	16 20 56.4	+2.1
KMI				XS		16 21 20.9	
KMI				SS	SS	16 24 36.9	+0.4
KMI				SSS	SSS	16 27 51.5	+3.1
KMI				AMB	AMB		
	comp=Z,106nm,1.4s,mb5.3						
KMI				AMB	AMB		
	comp=Z,386nm,3.7s						
KMI	**Kunming**	72.37	301	*e*P	P	16 10 47.7	+1.5
	comp=Z,106nm,1.4s,mb5.3						
KMI				PcP	PcP	16 11 01.0	-2.2
KMI				pP	pP	16 11 30.0	-5.2
KMI				S	S	16 19 57.7	+6.3
KMI				PS	PS	16 20 56.4	+2.1
KMI				sS		16 21 20.9	
KMI				SS	SS	16 24 36.9	+0.4
KMI				SSS	SSS	16 27 51.5	+3.1
MA2	**Magadan**	72.43	352	⇑*i*P	P	16 10 44.7	-1.3
MA2				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.5						
MA2	**Magadan**	72.43	352	⇑*i*P	P	16 10 44.7	-1.3
	comp=Z,160nm,1.4s,mb5.5						
MIR	**Mirnyy**	72.61	204	⇑*e*P	P	16 10 46.4	-0.5
MIR				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.3						
BDT	**Bhumibol Dam**	72.87	292	P	P	16 10 51.0	+1.6
CHRT	**Chiangrai**	73.03	295	⇑P	P	16 10 51.5	+1.2
	comp=Z,532nm,0.8s,mb6.2						
HHC	**Hu-ho-hao-te**	73.11	319	*e*P	P	16 10 51.3	+0.9
HHC				AP	pP	16 11 42.4	+3.0
HHC				XP	sP	16 11 59.5	-1.7
HHC				S	S	16 19 53.8	-5.7
HHC				SKS	SKS	16 20 28.5	-3.0
HHC				SCS	ScS	16 20 35.1	-0.2
HHC				SS	SS	16 24 42.4	-5.5
HHC				AMB	AMB		
	comp=Z,102nm,1.7s,mb5.2						
HHC				AMB	AMB		
	comp=Z,194nm,5.4s						
CM31	**Chiang Mai Arr**	73.31	294	*e*P	P	16 10 52.4	+0.5
	comp=Z,76nm,0.9s,mb5.3						
CMAR	**Chiang Mai Arr**	73.31	294	P	P	16 10 52.9	+0.9
	comp=Z,27nm,0.7s,mb5.0,baz=125,slow=4.9,SNR=102						
CMAR				pP	pP	16 11 40.1	-0.9
	comp=Z,9.5nm,0.9s,baz=117,slow=4.4,SNR=2.3						
CHG	**Chiang Mai**	73.42	294	⇑P	P	16 10 52.3	-0.3
	comp=Z,58nm,1.0s,mb5.2						
HIA	**Hailar**	73.61	330	*e*P	P	16 10 53.0	-0.1
	comp=Z,301nm,1.3s,mb5.8						
CD2	**Chengdu**	73.88	307	⇓*i*P	P	16 10 56.0	+1.0
CD2				AMB	AMB		
	comp=Z,254nm,1.4s,mb5.7						
BTO	**Baotou**	73.97	319	*e*P	P	16 10 55.8	+0.4
BTO				AMB	AMB		
	comp=Z,222nm,1.6s,mb5.5						
SEY	**Seymchan**	75.47	353	*i* P	P	16 11 04.7	+1.3
SEY						16 11 18.0	
SEY						16 13 55.5	
SEY				PPP	PPP	16 15 49.4	+5.3
SEY				*e*S	S	16 20 32.1	+7.0
SEY				*e*SS	SS	16 25 18.9	-4.3
SEY				SSS	SSS	16 28 31.1	-8.9
SEY				pmax	pmax		
	comp=Z,180nm,1.0s,mb5.7						
SEY				pmax	pmax		
	comp=N,70nm,0.7s						
SEY				smax			
	comp=N,260nm,17.6s						
SEY				smax			
	comp=E,950nm,22.9s						
LZH	**Lanzhou**	76.04	312	⇑P	P	16 11 08.5	+1.4
LZH				AP	pP	16 11 58.0	+1.5
LZH				XP	sP	16 12 19.6	+1.4
LZH				PP	PP	16 14 04.7	+2.8
LZH				S	S	16 20 35.1	+3.3
LZH				XS		16 22 00.6	
LZH				SS	SS	16 25 36.4	+3.7
LZH				AMB	AMB		
	comp=Z,305nm,1.3s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1µm,5.2s						
LZH	**Lanzhou**	76.04	312	⇑P	P	16 11 08.5	+1.4
	comp=Z,305nm,1.3s,mb5.8						
LZH				pP	pP	16 11 58.0	+1.5
LZH				sP	sP	16 12 19.6	+1.4
LZH				PP	PP	16 14 04.7	+2.8
LZH				S	S	16 20 35.1	+3.3
LZH				sS		16 22 00.6	
LZH				SS	SS	16 25 36.4	+3.7
LZH				LR	LR		
	comp=Z,2µm,18.2s						
CLNS	**Chul’man**	76.75	338	*e*P	P	16 11 11.8	+1.2
CLNS				pmax	pmax		
	comp=N,53nm,1.1s						
CLNS				pmax	pmax		
	comp=E,21nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.4						
KDAK	**Kodiak Island**	77.09	21	⇑*i*P	P	16 11 11.6	-0.9
	comp=Z,68nm,0.9s,mb5.3						
KDAK				*e*PP	PP	16 14 04.9	-5.0
QSPA	**South Pole Qui**	78.06	180	⇑*i*P	P	16 11 17.9	+0.5
	comp=Z,110nm,0.9s,mb5.5						
QSPA				*e*	PKKP	16 30 14.9	+38
SVW	**Sparrevohn**	78.69	18	*e*P	P	16 11 21.1	0.0
RSO	**Redoubt South**	79.07	19	*e*P	P	16 11 22.3	-0.9
YAK	**Yakutsk**	79.22	343	⇑*i*P	P	16 11 23.7	-0.3
YAK				*e*		16 11 32.8	
YAK				*e*S	S	16 21 05.7	+0.5
YAK				*i*		16 21 18.9	
YAK				pmax	pmax		
	comp=Z,184nm,1.6s,mb5.5						
YAK				pmax	pmax		
	comp=N,59nm,1.4s						
YAK				pmax	pmax		
	comp=E,48nm,1.5s						
YAK				smax			
	comp=N,17nm,1.7s						
YAK				smax			
	comp=E,9.0nm,1.5s						
YAK	**Yakutsk**	79.22	343	⇑*i*P	P	16 11 23.6	-0.4
	comp=E,229nm,0.7s,mb5.9						
TNA	**Tin City**	79.59	10	⇑*i*P	P	16 11 25.8	-0.1
	comp=E,156nm,1.5s,mb5.4						
SPU	**Mount Spurr**	79.84	19	*e*P	P	16 11 25.7	-1.6
SONM	**Songino Array**	79.94	324	P	P	16 11 28.8	+0.7
	comp=E,23nm,0.4s,mb5.1,baz=146,slow=4.5,SNR=143						
SONM				PKKPbc		16 30 11.8	
	comp=E,0.5nm,0.7s,baz=264,slow=3.3,SNR=4.2						
SLKM	**Skilak Lake**	79.94	20	*e*P	P	16 11 27.4	-0.4
SLKM				*e*		16 14 30.1	
MID	**Middleton Isla**	80.54	22	*e*P	P	16 11 31.4	+0.4
PMS	**Palmer South**	80.70	20	*e*P	P	16 11 31.6	-0.2
PMR	**Palmer**	81.09	20	⇑*i*P	P	16 11 33.2	-0.7
PMR				*e*		16 14 37.7	
PMR				pmax	pmax		
	comp=Z,390nm,1.4s,mb5.8						
PMR	**Palmer**	81.09	20	*e*P	P	16 11 33.8	-0.1
SML	**Sawmill**	81.52	20	⇑*i*P	P	16 11 35.6	-0.5
SML				*e*		16 14 40.7	
EYAK	**Cordova Ski Ar**	81.53	22	⇑*i*P	P	16 11 35.8	-0.4
BOD	**Bodaibo**	81.74	335	⇓*i*P	P	16 11 36.6	-0.7
SHL	**Shillong**	81.75	298	⇑*e*P	Px	16 11 55.7	
SHL				*e*S	S	16 21 31.7	-0.2
DIV	**Divide**	81.92	21	⇑*i*P	P	16 11 37.9	-0.2
	comp=Z,311nm,0.8s,mb6.0						
HOPS	**Hopland**	82.61	48	⇑*i*P	P	16 11 42.2	+0.1
	comp=Z,319nm,1.4s,mb5.9						
MCK	**McKinley**	82.71	18	⇑*i*P	P	16 11 41.4	-0.8
MCK				pmax	pmax		
	comp=Z,150nm,1.3s,mb5.6						
MCK	**McKinley**	82.71	18	⇑*i*P	P	16 11 41.4	-0.8
	comp=Z,154nm,1.3s,mb5.6						
MCK				*e*PP	PP	16 14 45.7	-11
NSHM	**Saint Helena R**	82.77	48	*e*P	P	16 11 43.1	+0.1
KHMM	**Horse Mountain**	82.84	46	⇑*i*P	P	16 11 44.1	+0.8
LKC	**Lake Chabot**	82.89	49	*e*P	P	16 11 43.6	-0.1
ZAK	**Zakamensk**	82.97	325	⇓*i*P	P	16 11 43.7	-0.1
ZAK				*e*		16 21 45.3	
KRMB	**Red Mountain**	82.97	45	⇑*i*P	P	16 11 44.6	+0.7
IMA	**Indian Mountai**	83.14	15	⇑*i*P	P	16 11 45.0	+0.7
IMA				pmax	pmax		
	comp=Z,610nm,1.1s,mb6.2						
IMA	**Indian Mountai**	83.14	15	*e*P	P	16 11 44.9	+0.6
IRK	**Irkutsk**	83.31	327	*e*P	P	16 11 45.0	-0.5

IRK				*e*S	S	16 21 47.6	+0.5
THY	**Trims Highway**	**83.50**	**20**	⇑*i*P	**P**	**16 11 46.4**	**+0.2**
WDC	**Whiskeytown Da**	**83.57**	**46**	⇑*i*P	**P**	**16 11 47.2**	**+0.1**
WDC				pmax	pmax		
	comp=Z,220nm,1.5s,mb5.7						
WDC	**Whiskeytown Da**	**83.57**	**46**	⇑*i*P	**P**	**16 11 47.2**	**+0.1**
	comp=Z,224nm,1.6s,mb5.7						
WDC				*e*pP	pP	16 12 37.3	-0.1
LSA	**Lhasa**	**83.61**	**302**	P	**P**	**16 11 49.2**	**+1.6**
LSA	**Lhasa**	**83.61**	**302**	*e*P	**P**	**16 11 49.2**	**+1.7**
	comp=Z,40nm,0.8s,mb5.2						
SIT	**Sitka**	**83.63**	**28**	⇑*i*P	**P**	**16 11 46.6**	**-0.4**
SIT				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.6						
SIT	**Sitka**	**83.63**	**28**	*e*P	**P**	**16 11 46.8**	**-0.2**
COLA	**College**	**83.86**	**18**	P	**P**	**16 11 47.3**	**-0.7**
COLA	**College**	**83.86**	**18**	*e*P	**P**	**16 11 47.3**	**-0.7**
YBH	**Yreka Blue Hor**	**83.88**	**45**	P	**P**	**16 11 49.3**	**+0.7**
	comp=Z,50nm,1.0s,mb5.2,baz=196,slow=2.4,SNR=52						
YBH				pP	pP	16 12 39.0	+0.1
	comp=Z,14nm,1.0s,baz=205,slow=6.0,SNR=2.5						
YBH	**Yreka Blue Hor**	**83.88**	**45**	⇑*i*P	**P**	**16 11 49.0**	**+0.4**
YBH				pmax	pmax		
	comp=Z,120nm,1.1s						
YBH	**Yreka Blue Hor**	**83.88**	**45**	⇑*i*P	**P**	**16 11 49.0**	**+0.4**
	comp=Z,116nm,1.2s,mb5.5						
YBH				*e*pP	pP	16 12 38.7	-0.2
OHCM	**Honcut**	**83.88**	**48**	*e*P	**P**	**16 11 48.5**	**-0.1**
OHCM				pP	pP	16 12 35.0	-4.0
HUMO	**Hull Mountain**	**84.03**	**44**	⇑*i*P	**P**	**16 11 49.6**	**+0.2**
	comp=Z,94nm,1.1s,mb5.4						
HUMO				*e*pP	pP	16 12 38.7	-1.0
ILAR	**Eielson Array**	**84.08**	**18**	P	**P**	**16 11 48.4**	**-0.6**
	comp=Z,136nm,0.7s,mb5.8,baz=232,slow=5.6,SNR=669						
ILAR				pP	pP	16 12 39.9	+0.5
	comp=Z,7.8nm,0.7s,baz=233,slow=5.9,SNR=1.4						
ILAR				PKiKP		16 17 02.0	
	comp=Z,1.3nm,0.6s,baz=270,slow=3.0,SNR=6.7						
ILAR				S	S	16 21 51.9	-2.6
	comp=Z,1.0nm,0.8s,baz=234,slow=7.9,SNR=7.4						
ILAR				LR	LR	16 41 21.5	
	comp=Z,143nm,22.0s,baz=132,slow=30						
MAW	**Mawson**	**84.23**	**202**	⇓*i*P	**P**	**16 11 50.2**	**+0.5**
	comp=Z,15nm,0.9s,mb4.7						
MAW				*i* pP	pP	16 12 27.8	-12
MAW				*e*SKS	SKS	16 21 51.7	+2.0
MAW	**Mawson**	**84.23**	**202**	P	**P**	**16 11 49.8**	**+0.1**
	comp=Z,14nm,0.8s,mb4.8,baz=101,slow=6.7,SNR=26						
MAW				PKKPbc		16 30 02.3	
	comp=Z,1.0nm,0.4s,baz=356,slow=2.8,SNR=6.3						
MAW				LR	LR	16 45 11.3	
	comp=Z,286nm,19.3s,baz=81,slow=32						
MAW	**Mawson**	**84.23**	**202**	⇑*i*P	**P**	**16 11 49.5**	**-0.2**
MAW				pmax	pmax		
	comp=Z,30nm,1.0s						
CMB	**Columbia Colle**	**84.23**	**49**	⇑*i*P	**P**	**16 11 50.3**	**-0.2**
CMB				pmax	pmax		
	comp=Z,92nm,1.1s,mb5.4						
CMB	**Columbia Colle**	**84.23**	**49**	⇑*i*P	**P**	**16 11 50.3**	**-0.2**
	comp=Z,92nm,1.1s,mb5.4						
HSO	**Harness Mounta**	**84.29**	**43**	*e*P	**P**	**16 11 51.0**	**+0.4**
MWC	**Mount Wilson**	**84.78**	**54**	⇑*i*P	**P**	**16 11 53.0**	**-0.3**
MWC				*e**PP	pP	16 12 44.8	+1.1
BBB	**Bella Bella**	**84.81**	**34**	P	**P**	**16 11 52.6**	**-0.3**
	comp=Z,39nm,1.1s,mb5.0,baz=233,slow=6.3,SNR=9.2						
MOY	**Mondy**	**84.84**	**325**	*e*P	**P**	**16 11 54.0**	**+0.9**
BEKR	**Beckwourth**	**84.88**	**48**	⇑*i*P	**P**	**16 11 53.8**	**+0.2**
	comp=Z,130nm,1.1s,mb5.6						
BEKR				*e*pP	pP	16 12 44.3	+0.3
WCN	**Washoe City**	**85.13**	**48**	⇑*i*P	**P**	**16 11 55.3**	**+0.4**
WCN				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.3						
WCN	**Washoe City**	**85.13**	**48**	⇑*i*P	**P**	**16 11 55.3**	**+0.4**
	comp=Z,62nm,1.0s,mb5.3						
OMM	**Old Mammoth Mi**	**85.14**	**50**	⇑*i*P	**P**	**16 11 55.3**	**+0.3**
SSOR	**Sweet Springs**	**85.21**	**42**	*e*P	**P**	**16 11 54.8**	**-0.3**
OCWA	**Octopus Mounta**	**85.23**	**39**	⇑*i*P	**P**	**16 11 55.9**	**+0.7**
	comp=Z,146nm,1.1s,mb5.6						
BMW	**Boistfort Moun**	**85.33**	**41**	*e*P	**P**	**16 11 55.8**	**+0.1**
MTUM	**Tungsten Hills**	**85.37**	**50**	⇑*i*P	**P**	**16 11 56.6**	**+0.4**
MTUM				*e*pP	pP	16 12 46.8	+0.2
BAR	**Barrett**	**85.41**	**55**	⇑*i*P	**P**	**16 11 56.2**	**-0.2**
PAHR	**Pah Rah Range**	**85.53**	**48**	⇑*i*P	**P**	**16 11 57.4**	**+0.5**
	comp=Z,121nm,1.3s,mb5.5						
MOD	**Modoc**	**85.62**	**46**	⇑*i*P	**P**	**16 11 57.5**	**+0.2**
	comp=Z,111nm,1.2s,mb5.5						
MOD				*e*pP	pP	16 12 46.7	-1.0
DAC	**Darwin (Calif)**	**85.78**	**52**	⇑*i*P	**P**	**16 11 58.4**	**+0.3**
DAC				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.5						
DAC	**Darwin (Calif)**	**85.78**	**52**	⇑*i*P	**P**	**16 11 58.4**	**+0.2**
	comp=Z,119nm,1.4s,mb5.4						
SHW	**Mount Saint He**	**85.85**	**41**	*e*P	**P**	**16 11 58.5**	**+0.2**
PFO	**Pinyon Flat Ob**	**85.86**	**55**	*e*P	**P**	**16 11 58.4**	**-0.2**
PFO				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.4						
PFO	**Pinyon Flat Ob**	**85.86**	**55**	*e*P	**P**	**16 11 58.4**	**-0.2**
	comp=Z,63nm,1.2s,mb5.2						
NVAR	**Mina Array Bea**	**85.91**	**50**	P	**P**	**16 11 59.2**	**+0.4**
	comp=Z,24nm,0.8s,mb5.0,baz=220,slow=5.0,SNR=134						
NVAR				pP	pP	16 12 48.2	-1.1
	comp=Z,9.4nm,0.9s,baz=215,slow=5.9,SNR=3.5						
NVAR	**Mina Array Bea**	**85.91**	**50**	P	**P**	**16 11 59.2**	**+0.4**
NVAR				pP	pP	16 12 48.2	-1.1
GNW	**Green Mountain**	**86.00**	**40**	⇑*i*P	**P**	**16 11 59.1**	**+0.1**
MNV	**Mina**	**86.03**	**50**	⇑*i*P	**P**	**16 11 59.0**	**-0.3**
MNV				*e**PP	pP	16 12 50.1	+0.3
MNV				*e*		16 15 20.7	
MNV				pmax	pmax		
	comp=Z,260nm,1.5s,mb5.7						
MNV	**Mina**	**86.03**	**50**	⇑*i*P	**P**	**16 11 59.0**	**-0.3**
	comp=Z,261nm,1.5s,mb5.7						
MNV				*e*pP	pP	16 12 50.1	+0.3
MNV				*e*PP	PP	16 15 20.7	-2.7
PGC	**Sidney**	**86.03**	**39**	⇑*i*P	**P**	**16 11 58.6**	**-0.5**
	comp=Z,358nm,1.4s,mb5.9						
DAWY	**Dawson**	**86.07**	**21**	⇑*i*P	**P**	**16 11 58.3**	**-0.6**
DAWY				*e*PP	PP	16 15 18.4	-4.7
LON	**Longmire**	**86.33**	**41**	⇑*i*P	**P**	**16 12 00.2**	**-0.4**
LON	**Longmire**	**86.33**	**41**	P	**P**	**16 12 00.5**	**0.0**
MCW	**Mount Constitu**	**86.42**	**39**	P	**P**	**16 12 01.7**	**+0.8**
VGB	**Gordon Butte**	**86.56**	**42**	*e*P	**P**	**16 12 01.5**	**-0.2**
RMW	**Rattlesnake Mo**	**86.60**	**40**	*e*P	**P**	**16 12 02.2**	**+0.4**
TPH	**Tonopah**	**86.61**	**50**	⇑*i*P	**P**	**16 12 02.4**	**+0.3**
TPH				*e*		16 15 25.5	
TPH				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.4						
TPH	**Tonopah**	**86.61**	**50**	⇑*i*P	**P**	**16 12 02.4**	**+0.3**
	comp=Z,116nm,1.4s,mb5.4						
TPH				*e*PP	PP	16 15 25.5	-3.1
CMW	**Cultus Mountai**	**86.76**	**39**	P	**P**	**16 12 03.3**	**+0.7**
DLBC	**Dease Lake**	**86.77**	**28**	P	**P**	**16 12 01.8**	**-0.6**
	comp=Z,65nm,1.2s,mb5.2,baz=232,slow=7.2,SNR=44						
DLBC	**Dease Lake**	**86.77**	**28**	⇑*i*P	**P**	**16 12 01.4**	**-1.0**
WVOR	**Wild Horse Val**	**86.96**	**46**	⇑*i*P	**P**	**16 12 04.0**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,440nm,1.7s,mb5.9						
WVOR	**Wild Horse Val**	**86.96**	**46**	⇑*i*P	**P**	**16 12 04.0**	**+0.3**
	comp=Z,436nm,1.8s,mb5.9						
WVOR				*e*pP	pP	16 12 53.0	-1.3
MBW	**Mount Baker**	**87.03**	**39**	P	**P**	**16 12 04.2**	**+0.4**
RPW	**Rockport**	**87.14**	**39**	*e*P	**P**	**16 12 04.1**	**-0.3**
LDFC	**Landfair**	**87.35**	**53**	⇑*i*P	**P**	**16 12 06.2**	**+0.5**
HAWA	**Hanford**	**87.68**	**42**	⇑*i*P	**P**	**16 12 07.3**	**+0.3**
	comp=Z,76nm,1.0s,mb5.5						
NEN	**Nelson**	**87.72**	**53**	⇑*i*P	**P**	**16 12 07.8**	**+0.3**
NEN				*e*PP	PP	16 15 34.1	-3.8
NLW	**Nelson Butte**	**87.74**	**40**	*e*P	**P**	**16 12 07.3**	**+0.1**
WTV	**Waterville**	**87.85**	**40**	P	**P**	**16 12 07.9**	**+0.1**
PKI	**Pulchoki**	**87.87**	**299**	*e*P	**P**	**16 12 08.7**	**+0.3**
	comp=Z,312nm,1.3s,mb6.0						
KKN	**Kakani**	**88.04**	**299**	*e*P	**P**	**16 12 09.4**	**+0.3**
	comp=Z,156nm,0.9s,mb5.8						
DMN	**Daman**	**88.14**	**299**	*e*P	**P**	**16 12 10.1**	**+0.5**
	comp=Z,200nm,0.7s,mb6.0						
LNOR	**Lincton Mounta**	**88.32**	**42**	*e*P	**P**	**16 12 09.7**	**-0.3**
GKN	**Gorkha**	**88.64**	**299**	*e*P	**P**	**16 12 11.3**	**-0.7**
	comp=Z,149nm,0.8s,mb5.9						
DPW	**Davenport**	**89.03**	**41**	*e*P	**P**	**16 12 13.5**	**+0.2**
NEW	**Newport**	**89.84**	**40**	P	**P**	**16 12 17.1**	**+0.1**
	comp=Z,25nm,0.8s,mb5.1,baz=234,slow=3.3,SNR=50						
NEW	**Newport**	**89.84**	**40**	⇑*i*P	**P**	**16 12 16.8**	**-0.3**
NEW				pmax	pmax		
	comp=Z,77nm,1.1s						
NEW	**Newport**	**89.84**	**40**	⇑*i*P	**P**	**16 12 16.8**	**-0.2**
	comp=Z,78nm,1.1s,mb5.5						
TUC	**Tucson**	**90.11**	**57**	P	**P**	**16 12 19.8**	**+1.1**
TUC				pP	pP	16 13 11.4	+1.8
TUC				ScS	ScS	16 22 58.8	+4.3
TUC	**Tucson**	**90.11**	**57**	⇑*i*P	**P**	**16 12 19.5**	**+0.8**
TUC				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.5						
TUC	**Tucson**	**90.11**	**57**	⇑*i*P	**P**	**16 12 19.5**	**+0.8**
	comp=Z,133nm,1.6s,mb5.5						
TUC				*e*pP	pP	16 13 08.8	-0.8
HLID	**Hailey**	**90.26**	**46**	⇑*i*P	**P**	**16 12 19.6**	**+0.5**
	comp=Z,44nm,0.9s,mb5.3						
HLID				*e*pP	pP	16 13 11.0	+1.0
WUAZ	**Wupatki**	**90.41**	**54**	⇑*i*P	**P**	**16 12 20.7**	**+0.6**
	comp=Z,144nm,1.3s,mb5.6						
WUAZ				*e*PP	PP	16 15 54.4	-4.9
INK	**Inuvik**	**90.46**	**19**	P	**P**	**16 12 18.5**	**-1.0**
	comp=Z,5.2nm,0.7s,mb4.5,baz=217,slow=4.2,SNR=21						
INK				PKiKP		16 17 12.6	
	comp=Z,2.5nm,0.7s,baz=34,slow=3.1,SNR=7.1						
INK	**Inuvik**	**90.46**	**19**	⇑*e*P	**P**	**16 12 17.8**	**-1.7**
INK				pmax	pmax		
	comp=Z,68nm,1.5s						
INK	**Inuvik**	**90.46**	**19**	⇑*e*P	**P**	**16 12 17.8**	**-1.7**
	comp=Z,68nm,1.5s,mb5.3						
DUG	**Dugway**	**90.50**	**49**	⇑*i*P	**P**	**16 12 20.8**	**+0.4**
DUG				pmax	pmax		
	comp=Z,100nm,1.3s,mb5.5						
DUG	**Dugway**	**90.50**	**49**	⇑*i*P	**P**	**16 12 20.8**	**+0.4**
	comp=Z,102nm,1.3s,mb5.5						
DUG				*e*pP	pP	16 13 11.7	+0.4
BGU	**Big Grassy Mou**	**90.53**	**48**	⇑*i*P	**P**	**16 12 20.9**	**+0.4**
BGU				*e*pP	pP	16 13 09.4	-2.0
MSU	**Marysvale**	**90.54**	**51**	⇑*i*P	**P**	**16 12 21.9**	**+1.3**
MSU				*e*pP	pP	16 13 13.1	+1.6
HVU	**Hansel Valley**	**90.94**	**48**	⇑*i*P	**P**	**16 12 23.0**	**+0.6**
HVU				*e*		16 16 01.6	
HVU	**Hansel Valley**	**90.94**	**48**	⇑*i*P	**P**	**16 12 23.0**	**+0.7**
HVU				*e*pP	pP	16 13 13.9	+0.6
HVU				*e*PP	PP	16 16 01.6	-1.6
SPUT	**South Promonto**	**91.06**	**48**	⇑*i*P	**P**	**16 12 23.3**	**+0.4**
SPUT				*e*PP	PP	16 16 00.8	-3.4
SYO	**Syowa Base**	**91.18**	**197**	⇓P	**P**	**16 12 13.6**	**-9.2**
SYO	**Syowa Base**	**91.18**	**197**	⇓P	**P**	**16 12 22.1**	**-0.7**
MPU	**Maple Canyon**	**91.33**	**49**	⇑*i*P	**P**	**16 12 24.8**	**+0.6**
MPU				*e*pP	pP	16 13 16.7	+1.5
CTU	**Camp Tracy**	**91.41**	**49**	⇑*i*P	**P**	**16 12 24.9**	**+0.3**
CTU				*e*pP	pP	16 13 16.6	+1.1
JLU	**Jordanelle**	**91.61**	**49**	⇑*i*P	**P**	**16 12 25.8**	**+0.2**
MCMT	**McKenzie Canyo**	**91.68**	**45**	*e*P	**P**	**16 12 26.5**	**+0.8**
DAU	**Daniels Canyon**	**91.71**	**49**	*e*P	**P**	**16 12 26.5**	**+0.5**
DAU				*e*		16 16 05.0	
HYB	**Hyderabad**	**91.76**	**287**	*i* P	**P**	**16 12 27.0**	**+0.3**
	comp=Z,80nm,1.0s,mb5.6						
HYB	**Hyderabad**	**91.76**	**287**	*e*P	**P**	**16 12 27.0**	**+0.3**
	comp=Z,80nm,1.0s,mb5.6						
TCUT	**Toone Canyon**	**91.77**	**48**	⇑*i*P	**P**	**16 12 26.0**	**-0.2**
TCUT				*e*pP	pP	16 13 18.0	+0.8
TCUT				*e*PP	PP	16 16 06.3	-3.6
HWUT	**Hardware Ranch**	**91.77**	**48**	⇑*i*P	**P**	**16 12 25.5**	**-0.8**
	comp=Z,21nm,0.9s,mb5.1						
HWUT				*e*PP	PP	16 16 06.3	-3.6
SRU	**San Rafael**	**91.94**	**51**	⇑*i*P	**P**	**16 12 27.0**	**-0.1**
SRU				*e*		16 16 06.4	
CHMT	**Chamberlain Mo**	**91.96**	**43**	*e*P	**P**	**16 12 26.7**	**-0.3**
QLMT	**Earthquake Lak**	**92.66**	**45**	*e*P	**P**	**16 12 31.2**	**+0.9**
TPAW	**Teton Pass**	**92.67**	**46**	⇑*i*P	**P**	**16 12 30.8**	**+0.4**
REDW	**Red Top Meadow**	**92.71**	**46**	⇑*i*P	**P**	**16 12 30.7**	**+0.1**
HRY	**Holter Researc**	**92.85**	**43**	*e*P	**P**	**16 12 30.9**	**-0.2**
MOOW	**Moose Ponds**	**92.88**	**46**	⇑*i*P	**P**	**16 12 31.6**	**+0.3**
MOOW				*e*PP	PP	16 16 18.4	-0.3
PV10	**Paradox Valley**	**92.90**	**52**	*e*P	**P**	**16 12 31.8**	**+0.2**
PV10				*e*pP	pP	16 13 19.2	-3.3
PV10				*e*sP	sP	16 13 37.2	-6.9
PV01	**Paradox Valley**	**93.21**	**52**	*e*P	**P**	**16 12 33.2**	**+0.3**
PDAR	**Pinedale Array**	**93.50**	**47**	P	**P**	**16 12 34.0**	**-0.1**
	comp=Z,3.9nm,0.5s,mb4.7,baz=225,slow=2.1,SNR=17						
PDAR				LR	LR	16 49 43.0	
	comp=Z,113nm,18.3s,baz=108,slow=32						
RW3	**Ridgway**	**93.91**	**52**	*e*P	**P**	**16 12 37.0**	**+0.9**
RW3				*e*pP	pP	16 13 28.6	+1.5
ANMO	**Albuquerque**	**94.21**	**55**	⇑*e*P	**P**	**16 12 38.1**	**+0.6**
ANMO	**Albuquerque**	**94.21**	**55**	⇑*i*P	**P**	**16 12 37.3**	**-0.2**
	comp=Z,32nm,1.5s,mb5.1						
DDI	**Dehra Dun**	**94.76**	**300**	*e*P	**P**	**16 12 43.9**	**+3.7**
MKAR	**Makanchi Array**	**94.81**	**317**	P	**P**	**16 12 40.5**	**+0.5**
	comp=Z,46nm,0.5s,mb5.8,baz=92,slow=6.4,SNR=561						
MKAR				pP	pP	16 13 25.2	-5.8
	comp=Z,16nm,1.1s,baz=109,slow=5.9,SNR=1.2						
MKAR				PKiKP		16 17 21.0	
	comp=Z,2.3nm,1.1s,baz=78,slow=2.5,SNR=7.0						
MKAR				PKKP	PKKP	16 29 35.1	+25
	comp=Z,5.5nm,0.5s,baz=273,slow=3.2,SNR=41						
MKAR	**Makanchi Array**	**94.81**	**317**	*i* P	**P**	**16 12 40.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,241nm,1.2s						
YKA	**Yellowknife Ar**	**95.36**	**27**	P	**P**	**16 12 40.8**	**-1.3**
	comp=Z,18nm,0.8s,mb5.2,baz=258,slow=4.8,SNR=45						
YKA				PP	PP	16 16 30.6	-6.3
	comp=Z,1.3nm,0.9s,baz=255,slow=8.0,SNR=4.8						
YKA				PKiKP		16 17 21.3	
	comp=Z,0.8nm,0.5s,baz=254,slow=1.4,SNR=7.0						
YKA				LR	LR	16 47 52.3	
	comp=Z,172nm,21.6s,baz=295,slow=30						
YKW3	**Yellowknife Ar**	**95.37**	**27**	⇑*i*P	**P**	**16 12 40.8**	**-1.4**
LTX	**Lajitas**	**95.46**	**61**	⇑*e*P	**P**	**16 12 43.5**	**+0.1**
LTX				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
LTX	**Lajitas**	**95.46**	**61**	⇑*e*P	**P**	**16 12 43.5**	**+0.1**
	comp=Z,16nm,1.1s,mb5.1						
TXAR	**Lajitas Array**	**95.46**	**61**	P	**P**	**16 12 43.5**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.6,baz=225,slow=5.3,SNR=13						
TXAR				LR	LR	16 51 54.6	
	comp=Z,229nm,18.9s,baz=245,slow=33						
SDCO	**Great Sand Dun**	**95.51**	**53**	⇑*i*P	**P**	**16 12 43.3**	**-0.1**
	comp=Z,24nm,1.4s,mb5.2						
NVS	**Novosibirsk**	**95.93**	**325**	⇑*i*P	**P**	**16 12 43.4**	**-1.4**
NVS				*e*S	SKS	16 23 00.3	+0.4
NVS				pmax	pmax		
	comp=Z,68nm,1.7s,mb5.6						
NVS				pmax	pmax		
	comp=N,28nm,1.8s						
NVS				pmax	pmax		
	comp=E,31nm,1.6s						
NVS				pmax	pmax		
	comp=Z,30nm,2.2s,mb5.1						
NVS				smax			
	comp=E,33nm,2.0s						
SNAA	**Sanae**	**96.27**	**183**	⇑*i*	pP	16 13 36.9	-0.1
SNAA	**Sanae**	**96.27**	**183**	⇑*i*	sP	16 13 58.0	-0.5
SNAA	**Sanae**	**96.27**	**183**	⇑*i*	tx	16 29 29.2	
SNAA	**Sanae**	**96.27**	**183**	*e*P	**P**	**16 12 44.7**	**-1.4**
SNAA	**Sanae**	**96.27**	**183**	⇑*i*P	**P**	**16 12 45.0**	**-1.1**
LAO	**LASA Array**	**96.61**	**44**	⇑*i*P	**P**	**16 12 48.6**	**+0.4**
	comp=E,40nm,1.3s,mb5.5						
VNA3	**Neumayer Olymp**	**96.96**	**181**	⇑*i*P	**P**	**16 12 51.1**	**+1.9**
VNA3	**Neumayer Olymp**	**96.96**	**181**	⇑*i*	pP	16 13 38.3	-1.9
VNA3	**Neumayer Olymp**	**96.96**	**181**	⇑*i*	sP	16 14 03.2	+1.5
VNA2	**Neumayer--Watz**	**97.22**	**182**	⇓*i*	sP	16 14 03.7	+0.8
VNA2	**Neumayer--Watz**	**97.22**	**182**	⇑*i*	tx	16 18 33.1	
VNA2	**Neumayer--Watz**	**97.22**	**182**	⇓*i*	tx	16 18 38.1	
VNA2	**Neumayer--Watz**	**97.22**	**182**		tx	16 23 10.5	
VNA2	**Neumayer--Watz**	**97.22**	**182**	⇑*i*	tx	16 29 28.2	
VNA2	**Neumayer--Watz**	**97.22**	**182**	⇑*i*P	**P**	**16 12 51.4**	**+1.0**
VNA2				*e*	pP	16 13 39.9	-1.5
VNA2				*e*		16 18 19.5	
VNA2				*e*		16 20 42.6	
VNA2				*e*		16 23 10.5	
VNA1	**Neumayer--Stat**	**97.52**	**182**	⇑*i*P	**P**	**16 12 50.6**	**-1.2**
VNA1	**Neumayer--Stat**	**97.52**	**182**	⇓*i*	pP	16 13 37.6	-5.2
VNA1	**Neumayer--Stat**	**97.52**	**182**	⇑*i*	sP	16 14 03.5	-0.8
KURK	**Kurchatov**	**97.92**	**320**	⇑*i*P	**P**	**16 12 52.9**	**-1.2**
	comp=E,61nm,1.5s,mb5.7						
KSH	**Kashi**	**98.03**	**309**	*e*P	**P**	**16 12 57.4**	**+2.6**
KSH				*e*AP	pP	16 13 47.0	+1.2
KSH				*e*XP	sP	16 14 09.2	+1.9
KSH				*e*PP	PP	16 17 02.0	+3.2
KSH				*e*SKS	SKS	16 23 13.5	+2.2
KSH				*e*S	S	16 24 02.4	+2.7
KSH				*e*XS		16 25 32.1	
TKM2	**Tokmak 2**	**98.81**	**312**	P	**P**	**16 12 59.5**	**+1.1**
	SNR=8.2						
KZA	**Kyzart**	**98.95**	**311**	P	**P**	**16 13 00.5**	**+1.5**
	SNR=8.5						
JCT	**Junction City**	**98.96**	**61**	⇓*e*P	**P**	**16 12 57.6**	**-1.7**
JCT				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.4						
JCT	**Junction City**	**98.96**	**61**	⇓*e*P	**P**	**16 12 57.6**	**-1.7**
	comp=Z,22nm,1.1s,mb5.4						
CHMS	**Chumysh**	**99.44**	**312**	P	**P**	**16 13 02.2**	**+1.1**
	SNR=6.4						
USP	**Ospenovka**	**99.66**	**312**	P	**P**	**16 13 02.1**	**0.0**
	SNR=6.4						
AML	**Almayashu**	**100.10**	**311**	P	P	16 13 05.0	+0.8
	SNR=8.6						
EKS2	**Erkin-Say**	**100.11**	**312**	P	P	16 13 04.2	+0.1
	SNR=5.9						
FFC	**Flin Flon**	**100.43**	**36**	*e*P	P	16 13 04.2	-1.0
	comp=Z,33nm,1.1s						
KKAR	**Karatay Array**	**102.54**	**312**	*i* P	Pdif	16 13 14.5	-0.5
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VOSK	**Vostochnaya**	**102.85**	**322**	P	Pdif	16 13 14.9	-1.2
VOSK				pmax	pmax		
	comp=Z,21nm,1.5s						
VOSK	**Vostochnaya**	**102.85**	**322**	*i* P	Pdif	16 13 14.0	-2.1
BVA0	**Borovoye Array**	**103.22**	**322**	*i* P	Pdif	16 13 17.1	-0.6
BVAR	**Borovoye Array**	**103.22**	**322**	Pdiff	Pdif	16 13 17.2	-0.6
	comp=Z,2.3nm,0.5s,baz=108,slow=4.7,SNR=16						
BVAR				PP	PP	16 17 27.2	-10
	comp=Z,2.4nm,0.8s,baz=101,slow=7.6,SNR=4.2						
BVAR				PKiKP		16 17 37.5	
	comp=Z,2.0nm,0.6s,baz=128,slow=1.0,SNR=7.3						
BVAR				PKKPbc		16 29 12.2	
	comp=Z,0.9nm,0.5s,baz=283,slow=4.3,SNR=5.0						
BRVK	**Borovoye**	**103.29**	**322**	⇑*i*Pdif	Pdif	16 13 16.4	-1.6
	comp=Z,26nm,1.6s						
BRVK				*e*PP	PP	16 17 32.4	-5.6
ULM	**Lac du Bonnet**	**103.84**	**41**	Pdiff	Pdif	16 13 19.8	-0.7
	comp=Z,3.7nm,0.9s,baz=307,slow=4.8,SNR=6.0						
ULM				PKiKP		16 17 36.1	
	comp=Z,3.6nm,0.5s,baz=244,slow=1.8,SNR=9.1						
ZRNK	**Zerenda**	**104.06**	**322**	P	Pdif	16 13 20.3	-1.1
ZRNK				pmax	pmax		
	comp=Z,18nm,1.7s						
ZRNK	**Zerenda**	**104.06**	**322**	*e*P	Pdif	16 13 20.3	-1.1
	comp=Z,5.8nm,0.9s						
AB31	**Akbulak array**	**109.88**	**318**	*i* P	Pdif	16 13 46.6	-0.5
ARU	**Arti**	**109.89**	**326**	*e*PKPdf		16 17 48.4	
SADO	**Sadowa**	**115.47**	**46**	PKP	PKPdf	16 17 58.7	+0.7
	comp=Z,9.3nm,0.8s,baz=269,slow=3.6,SNR=5.7						
SADO	**Sadowa**	**115.47**	**46**	PKP	PKPdf	16 17 58.7	+0.7
FRB	**Frobisher Bay**	**115.63**	**24**	PKP	PKPdf	16 17 58.5	+0.6
	comp=Z,10nm,0.7s,baz=337,slow=2.9,SNR=13						
APA	**Apatity**	**116.58**	**342**	⇑*i*PKIKP	PKPdf	16 18 00.2	+0.6
APA				*e*	PP	16 19 08.0	-6.2
APA				*e*		16 24 34.0	
APA				*e*PS	SP	16 28 36.0	+3.9
APA				*e*PPS	tx	16 29 54.0	
APA				*e*SS	SS	16 34 55.0	-4.9
APA				pmax	pmax		
	comp=Z,24nm,1.1s						
KEV	**Kevo**	**116.91**	**345**	*e*p	PKPdf	16 18 00.3	+0.1
	comp=Z,3.0nm,0.3s						
KEV	**Kevo**	**116.91**	**345**	*e*PKIKP	PKPdf	16 18 00.3	+0.1
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ARCES	**ARCESS Array B**	**117.44**	**346**	PKP	PKPdf	16 18 02.1	+0.9
	comp=Z,17nm,0.4s,baz=87,slow=2.2,SNR=253						
ARCES				SKP		16 21 20.1	
	comp=Z,5.1nm,0.9s,baz=333,slow=2.7,SNR=5.0						
ARCES				PKKPbc		16 28 24.8	
	comp=Z,2.6nm,0.6s,baz=180,slow=1.2,SNR=8.9						
ARCES	**ARCESS Array B**	**117.44**	**346**	PKP	PKPdf	16 18 02.1	+0.9
ARCES				SKP		16 21 20.1	
ARCES				PKKPbc		16 28 24.8	
SUMG	**Summit**	**117.59**	**8**	*e*PKPdf	PKPdf	16 18 02.8	+1.4
LPAZ	**La Paz**	**118.97**	**116**	PKP	PKPdf	16 18 07.4	+2.0
	comp=Z,3.5nm,0.5s,baz=25,slow=3.7,SNR=15						
LPAZ				SKP		16 21 24.4	
	comp=Z,1.7nm,0.7s,baz=207,slow=6.8,SNR=5.3						
LPAZ				PKKPbc		16 28 22.5	
	comp=Z,2.0nm,0.8s,baz=28,slow=1.2,SNR=7.1						
LPAZ	**La Paz**	**118.97**	**116**	*e*PKPdf	PKPdf	16 18 06.8	+1.4
ROSC	**El Rosal**	**119.34**	**91**	PKP	PKPdf	16 18 08.2	+2.0
	comp=Z,20nm,0.4s,baz=270,slow=20,SNR=5.9						
SCHQ	**Schefferville**	**120.30**	**33**	PKP	PKPdf	16 18 08.1	+1.0
	comp=Z,6.3nm,0.6s,baz=304,slow=2.8,SNR=21						
SCHQ	**Schefferville**	**120.30**	**33**	*e*PKPdf	PKPdf	16 18 07.4	+0.3
SCHQ				*e*PP	PP	16 19 30.2	-9.4
GNI	**Garni**	**121.93**	**310**	PKP	PKPdf	16 18 13.0	+2.4
	comp=Z,7.7nm,0.5s,baz=93,slow=5.5,SNR=7.2						
GNI	**Garni**	**121.93**	**310**	PKP	PKPdf	16 18 13.0	+2.4
OBN	**Obninsk**	**122.05**	**329**	*c i*PKIKP	PKPdf	16 18 11.4	+0.9
OBN				*e**PP		16 19 28.9	
OBN				*e*		16 19 48.5	
OBN				*e*		16 24 55.0	
OBN				pmax	pmax		
	comp=Z,110nm,1.6s						
OBN	**Obninsk**	**122.05**	**329**	*e*PKPdf	PKPdf	16 18 11.6	+1.1
RYDS	**Riyadh**	**122.09**	**291**	P	PKPdf	16 18 13.8	+2.5
VOR	**Voronezh**	**122.11**	**324**	*e*PKIKP	PKPdf	16 18 12.0	+1.3
VOR				pmax	pmax		
	comp=Z,190nm,1.7s						
KAF	**Kangasniemi**	**122.41**	**339**	*e*p	PKPdf	16 18 09.5	-1.5
	comp=Z,14nm,0.5s						
KAF	**Kangasniemi**	**122.41**	**339**	*e*PKIKP	PKPdf	16 18 09.5	-1.5
KAF				pmax	pmax		
	comp=Z,14nm,0.5s						
CPUP	**Villa Florida**	**122.74**	**132**	PKP	PKPdf	16 18 13.2	+0.7
	comp=Z,3.9nm,0.6s,baz=6.2,slow=1.5,SNR=18						
CPUP				SKP		16 21 30.0	
	comp=Z,2.8nm,1.0s,baz=144,slow=3.4,SNR=2.6						
CPUP				PKKPbc		16 28 06.3	
	comp=Z,0.8nm,0.5s,baz=84,slow=4.6,SNR=5.3						
CPUP				PKKP	PKKP	16 28 44.4	+25
	comp=Z,1.0nm,0.7s,baz=29,slow=4.9,SNR=3.2						
CPUP	**Villa Florida**	**122.74**	**132**	*e*PKIKP	PKPdf	16 18 13.0	+0.5
FINES	**FINESS Array B**	**122.95**	**339**	PKP	PKPdf	16 18 13.2	+1.2
	comp=Z,9.7nm,0.4s,baz=72,slow=2.0,SNR=47						
FINES				SKP		16 21 30.5	
	comp=Z,4.5nm,1.0s,baz=158,slow=10,SNR=4.9						
FINES				PKKPbc		16 28 05.7	
	comp=Z,1.5nm,0.6s,baz=180,slow=1.9,SNR=8.7						
MZLS	**Mizel**	**123.40**	**291**	P	PKPdf	16 18 16.3	+2.4
SDV	**Santo Domingo**	**123.63**	**87**	*e*PKPdf	PKPdf	16 18 15.3	+0.8
SDV				*e*SKP		16 21 32.6	
VSU	**Vasula**	**124.67**	**336**	⇑*i*PKP	PKPdf	16 18 16.1	+0.7
SOC	**Sochi**	**124.68**	**315**	*i* PKIKP	PKPdf	16 18 15.1	-0.8
SOC				*e*		16 20 04.2	
SOC				*e*PPP	PPP	16 22 45.3	-5.4
SOC				*e*SSS	SSS	16 41 28.6	+3.2
SOC				pmax	pmax		
	comp=Z,49nm,1.0s						
SOC				pmax	pmax		
	comp=N,61nm,1.2s						
SOC				pmax	pmax		
	comp=E,34nm,1.1s						
TATS	**Tathlith**	**125.01**	**286**	P	PKPdf	16 18 19.8	+2.7
ARSS	**Ar Rass**	**125.11**	**293**	P	PKPdf	16 18 19.4	+2.2
AFFS	**‘Afif**	**125.42**	**291**	P	PKPdf	16 18 19.8	+1.9
ANN	**Anapa**	**125.82**	**317**	*e*PKIKP	PKPdf	16 18 16.8	-1.2
ANN				pmax	pmax		
	comp=Z,87nm,1.8s						
ANN				MLR	MLR		
	comp=Z,143nm,14.0s						
ANN				MLR	MLR		
	comp=N,135nm,11.0s						
ANN				MLR	MLR		
	comp=E,140nm,12.0s						
SAML	**Samuel**	**126.26**	**110**	*e*PKPdf	PKPdf	16 18 19.9	+0.3
HILS	**Ha’il**	**126.29**	**295**	P	PKPdf	16 18 21.9	+2.5
BLJS	**Baljurashi**	**126.79**	**286**	P	PKPdf	16 18 23.7	+3.2
BORG	**Borgarnes**	**126.98**	**4**	*e*PKPdf	PKPdf	16 18 21.7	+2.0
MALT	**Malatya**	**127.13**	**309**	*e*PKPdf	PKPdf	16 18 22.7	+1.9
MALT				*e*PP	PP	16 20 18.0	-7.9
NB2	**NORSAR Subarra**	**127.81**	**345**	PKPdf	PKPdf	16 18 22.0	+0.6
	comp=E,67nm,1.4s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**127.81**	**345**	PKPd		16 18 22.0	
	baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**127.81**	**345**	⇓PKP	PKPdf	16 18 22.0	+0.6
NOA	**NORSAR Array B**	**127.81**	**345**	PKP	PKPdf	16 18 22.1	+0.7
	comp=E,9.4nm,0.8s,baz=32,slow=2.0,SNR=29						
NOA				SKPbc		16 21 26.0	
	comp=E,1.9nm,0.7s,baz=28,slow=4.2,SNR=4.5						
NOA				SKP		16 21 40.9	
	comp=E,1.7nm,0.8s,baz=27,slow=4.0,SNR=3.6						
HFS	**Hagfors**	**127.92**	**343**	PKP	PKPdf	16 18 22.5	+0.8
	comp=E,8.8nm,0.5s,baz=102,slow=6.2,SNR=32						

SIM	**Simferopol’**	**127.95**	**318**	*i* PKIKP	PKPdf	16 18 24.0	+1.8
SIM				*e*		16 20 35.0	
SIM				pmax	pmax		
	comp=Z,80nm,12.6s						
NAO01	**NORSAR Array S**	**128.06**	**345**	*e*PKPdf	PKPdf	16 18 23.2	+1.2
AKASG	**Malin Array Be**	**128.12**	**327**	PKP	PKPdf	16 18 22.9	+0.6
	comp=Z,6.6nm,0.7s,baz=42,slow=1.6,SNR=38						
AKASG				PP	PP	16 20 26.1	-6.3
	comp=Z,2.5nm,0.7s,baz=49,slow=6.4,SNR=9.6						
AKASG				SKPbc		16 21 26.4	
	comp=Z,13nm,0.9s,baz=43,slow=4.4,SNR=13						
KMBO	**Kilima Mbogo**	**128.12**	**259**	PKP	PKPdf	16 18 25.5	+2.2
	comp=Z,6.2nm,0.8s,baz=58,slow=4.9,SNR=19						
KMBO				SKPbc		16 21 29.0	
	comp=Z,3.2nm,1.0s,baz=57,slow=3.1,SNR=5.6						
KMBO	**Kilima Mbogo**	**128.12**	**259**	*e*PKPdf	PKPdf	16 18 25.1	+1.7
KBRS	**Khaybar**	**128.69**	**293**	P	PKPdf	16 18 26.8	+2.7
SJG	**San Juan**	**128.75**	**76**	PKP	PKPdf	16 18 25.0	+0.7
	comp=Z,36nm,0.3s,baz=341,slow=16,SNR=29						
SJG				SKPbc		16 21 27.4	
	comp=Z,19nm,0.7s,baz=326,slow=20,SNR=5.0						
SJG	**San Juan**	**128.75**	**76**	*e*PKPdf	PKPdf	16 18 24.6	+0.2
SJG				*e*SKP		16 21 26.5	
SUW	**Suwalki**	**129.08**	**333**	*e*PKP	PKPdf	16 18 25.7	+1.7
SUW				*e*PP	PP	16 20 31.8	-7.1
SUW				*e*PKS	PKS	16 21 49.4	-10
MTP	**Monte Pirata**	**129.31**	**76**	*e*PKPdf	PKPdf	16 18 25.3	-0.2
ASF	**Jabal al Asfar**	**129.80**	**302**	PKP	PKPdf	16 18 28.9	+2.9
	comp=Z,6.2nm,0.8s,baz=350,slow=1.7,SNR=12						
ASF				SKPbc		16 21 34.3	
	comp=Z,32nm,1.0s,baz=52,slow=0.8,SNR=14						
YNBS	**Yanbu‘ al Bahr**	**129.96**	**292**	P	PKPdf	16 18 30.0	+3.4
BRTR	**Keskin Array B**	**130.25**	**312**	PKP	PKPdf	16 18 28.2	+1.6
	comp=Z,5.2nm,0.6s,baz=141,slow=4.2,SNR=20						
BRTR				PP	PP	16 20 43.8	-2.8
	comp=Z,2.1nm,0.9s,baz=108,slow=7.8,SNR=4.6						
BRTR				SKPbc		16 21 34.5	
	comp=Z,26nm,1.1s,baz=90,slow=2.5,SNR=13						
KIS	**Kishinev**	**130.29**	**323**	α *i*PKIKP	PKPdf	16 18 27.0	+0.4
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
UMJS	**Umm Lajj**	**130.50**	**293**	P	PKPdf	16 18 31.1	+3.5
LSZ	**Lusaka**	**130.79**	**238**	*e*PKPdf	PKPdf	16 18 30.2	+1.9
LSZ				*e*SKP		16 21 34.3	
TBKS	**Tabuk**	**130.80**	**297**	P	PKPdf	16 18 31.1	+3.1
WAR	**Warsaw**	**131.23**	**333**	*i* PKIKP	PKPdf	16 18 31.6	+3.4
WAR				*e*		16 20 51.8	
WAR	**Warsaw**	**131.23**	**333**	*e*PKP	PKPdf	16 18 30.4	+2.2
WAR				*e*PKPdf	PKPdf	16 18 31.6	+3.4
WAR				*e*PP	PP	16 20 51.8	-1.0
WAR				*e*PKS	PKS	16 21 58.3	-4.8
JMQS	**Jabal Moqyreh**	**131.27**	**298**	P	PKPdf	16 18 31.5	+2.6
LVV	**L’vov**	**131.35**	**328**	*i* PKIKP	PKPdf	16 18 29.0	+0.5
JMOS	**Jabal al Moall**	**131.89**	**298**	P	PKPdf	16 18 33.5	+3.4
CSS	**Prodhromos**	**132.00**	**307**	*e*PKPdf	PKPdf	16 18 30.5	+0.3
BDAS	**Al Bad‘**	**132.02**	**298**	P	PKPdf	16 18 32.0	+1.7
HAQS	**Haql**	**132.06**	**298**	P	PKPdf	16 18 32.3	+1.8
GKP	**Gorka Klasztor**	**132.12**	**336**	*e*PKP	PKPdf	16 18 31.6	+1.7
GKP				*e*PP	PP	16 20 56.6	-1.4
GKP				*e*PKS	PKS	16 22 00.1	-4.6
KWP	**Kalwaria**	**132.14**	**329**	*e*PKIKP	PKPdf	16 18 31.5	+1.5
KWP				*e*		16 20 57.4	
KWP	**Kalwaria**	**132.14**	**329**	*e*P	PKPdf	16 18 31.0	+1.0
KWP				*e*PKP	PKPdf	16 18 31.5	+1.5
KWP				*e*PP	PP	16 20 57.4	-0.8
KWP				*e*PKS	PKS	16 21 58.5	-6.3
MLR	**Muntele Rosu**	**132.78**	**323**	PKP	PKPdf	16 18 32.6	+1.3
	comp=Z,13nm,1.1s,baz=359,slow=1.7,SNR=21						
MLR				SKPab		16 21 44.3	
	comp=Z,24nm,1.1s,baz=31,slow=4.5,SNR=9.9						
UZH	**Uzhgorod**	**132.98**	**328**	*i* PKIKP	PKPdf	16 18 35.0	+3.4
UZH				MLR	MLR		
	comp=Z,280nm,22.0s						
OJC	**Ojcow**	**133.18**	**331**	*e*PKIKP	PKPdf	16 18 33.3	+1.4
OJC				*e*		16 20 59.0	
OJC				*e*PPS	PPS	16 33 00.0	-4.4
OJC				MLR	MLR		
	comp=Z,100nm,19.9s						
OJC	**Ojcow**	**133.18**	**331**	*e*PKP	PKPdf	16 18 33.3	+1.4
OJC				*e*PP	PP	16 20 59.0	-5.5
OJC				*i*		16 21 45.0	
OJC				*e*PPS	PPS	16 33 00.0	-4.4
OJC				*e*SS	SS	16 38 36.5	+7.8
OJC				LR	LR		
	comp=Z,100nm,19.9s						
CRVS	**Cervenica-Dubn**	**133.24**	**329**	*e*PKP	PKPdf	16 18 33.3	+1.2
CRVS				*e*PP	PP	16 21 00.3	-4.6
CRVS	**Cervenica-Dubn**	**133.24**	**329**	*e*PKP		16 21 45.7	
CRVS				*e*		16 21 54.6	
FDF	**Fort de France**	**133.45**	**81**	*e*P	PKPdf	16 18 34.3	+0.9
BIM	**Bigot**	**133.51**	**81**	*e*P	PKPdf	16 18 34.4	+1.0
BSEG	**Bad Segeberg**	**134.11**	**341**	*e*PKPdf	PKPdf	16 18 35.0	+1.5
BSEG				*e*PP	PP	16 21 06.5	-4.2
BSEG				*e*SKPdf		16 21 48.1	
OKC	**Ostrava-Krasne**	**134.21**	**332**	*e*PKIKP	PKPdf	16 18 35.6	+1.8
OKC				*e*PP	PP	16 21 08.5	-2.9
OKC				*e*SKP		16 21 48.5	
KSP	**Ksiaz**	**134.31**	**334**	*e*PKIKP	PKPdf	16 18 35.7	+1.8
KSP				*e*		16 21 08.0	
KSP				*e*		16 33 12.0	
KSP	**Ksiaz**	**134.31**	**334**	*e*PKP	PKPdf	16 18 35.7	+1.8
KSP				*e*PP	PP	16 21 08.0	-4.0
KSP				*e*		16 21 49.0	
KSP				*e*		16 33 12.0	
KSP				*e*SS	SS	16 38 48.0	+5.8
MBAR	**Mbarara**	**134.51**	**257**	*e*PKPdf	PKPdf	16 18 37.5	+2.2
MORC	**Moravsky Berou**	**134.53**	**332**	*e*PKPdf	PKPdf	16 18 36.2	+1.8
MORC				*e*PP	PP	16 21 08.4	-4.9
DPC	**Dobruska-Polom**	**134.66**	**334**	*e*PKIKP	PKPdf	16 18 36.0	+1.4
DPC				*e*PP	PP	16 21 11.5	-2.6
DPC				*e*SKP		16 21 50.3	
PSZ	**Piszkesteto**	**134.67**	**329**	⇑*i*PKP/D		16 18 36.2	
PSZ				*i*		16 21 11.2	
PSZ	**Piszkesteto**	**134.67**	**329**	*e*PKIKP	PKPdf	16 18 36.1	+1.4
VYHS	**Vyhne**	**134.81**	**330**	*e*PKP	PKPdf	16 18 36.2	+1.3
VYHS				*e*PP	PP	16 21 13.5	-1.5
VYHS	**Vyhne**	**134.81**	**330**	*i* PKP		16 21 51.0	
VYHS				*e*SKKSDF		16 38 47.1	
KOLL	**Kolacno**	**134.96**	**330**	*e*PKP	PKPdf	16 18 36.8	+1.6
KOLL	**Kolacno**	**134.96**	**330**	*i* PKP		16 21 52.1	
BRG	**Berggiesshubel**	**135.26**	**336**	*e*PKHKP		16 18 27.1	
BRG				*i*		16 18 38.0	
BRG						16 21 14.1	
BRG				SS	SS	16 38 56.0	+2.4
BRG				pmax	pmax		
	comp=Z,76nm,1.5s						
BRG	**Berggiesshubel**	**135.26**	**336**	*e*PKP	PKPdf	16 18 27.1	-8.6
BRG				*i*		16 18 38.0	
BRG				PP	PP	16 21 14.1	-3.5
BRG				SKP		16 21 52.0	
BRG				*e*		16 23 06.0	
BRG				SS	SS	16 38 56.0	+2.4
PVCC	**Panska Ves**	**135.27**	**335**	*e*PKIKP	PKPdf	16 18 37.0	+1.3
PVCC				*e*PP	PP	16 21 15.1	-2.6
PVCC				*e*SKP		16 21 51.8	
VRAC	**Vranov**	**135.30**	**332**	PKP	PKPdf	16 18 37.6	+1.7
	comp=Z,12nm,1.1s,baz=27,slow=2.0,SNR=12						
VRAC				PP	PP	16 21 16.5	-1.4
	comp=Z,10.0nm,1.0s,baz=61,slow=10,SNR=11						
VRAC				SKP		16 21 52.6	
	comp=Z,30nm,1.1s,baz=73,slow=3.3,SNR=12						
CLL	**Collm**	**135.30**	**337**	*e*PKIKP	PKPdf	16 18 37.0	+1.2
	comp=Z,logA/T=1.6						
CLL				*e*PP	PP	16 21 15.0	-2.8
CLL				*i*		16 21 51.7	
CLL				*e*		16 23 29.0	
CLL				*e*PPS	PPS	16 33 27.0	+2.4
CLL				*e*		16 34 28.0	
CLL				*e*SS	SS	16 39 04.0	+10
CLL				*e*SSS	SSS	16 44 01.0	+1.8
CLL	**Collm**	**135.30**	**337**	*e*PKIKP	PKPdf	16 18 37.0	+1.2
CLL				pmax	pmax		
	comp=Z,53nm,1.3s						
CLL	**Collm**	**135.30**	**337**	*e*PKP	PKPdf	16 18 37.0	+1.2
CLL				*i* SKP		16 21 51.7	
EAB	**Aberfoyle**	**135.32**	**353**	*e*P	PKPdf	16 18 37.9	+2.3
EAB				AMb	AMB	16 18 39.0	
	comp=Z,52nm,1.0s						
ESY	**Stoneypath**	**135.35**	**351**	*e*P	PKPdf	16 18 36.9	+1.2
ESY				AMb	AMB	16 18 40.6	
	comp=Z,54nm,1.7s						
EDI	**Edinburgh**	**135.43**	**352**	*e*P	PKPdf	16 18 36.0	+0.1
SMOL	**Smolenice**	**135.47**	**331**	*e*PKP	PKPdf	16 18 38.8	+2.6
SMOL	**Smolenice**	**135.47**	**331**	*e*PKP		16 21 54.0	
SRO	**Srobarova**	**135.53**	**330**	*e*PKP		16 21 54.1	
EAU	**Auchinoon**	**135.54**	**352**	*e*P	PKPdf	16 18 37.5	+1.4
EAU				AMb	AMB	16 18 39.5	
	comp=Z,97nm,1.4s						
PRU	**Pruhonice**	**135.69**	**334**	*e*PKHKP		16 18 27.4	
PRU				*e*PKIKP	PKPdf	16 18 37.8	+1.2
PRU				*e*PP	PP	16 21 16.3	-3.9
PRU				*e*SKP		16 21 53.0	
CLZ	**Clausthal**	**135.84**	**339**	*e*PKPdf	PKPdf	16 18 38.5	+1.7
CLZ				*e*PP	PP	16 21 17.8	-3.2
CLZ				*e*SKPdf		16 21 53.8	
ZST	**Bratislava**	**135.85**	**331**	*e*PKP	PKPdf	16 18 39.1	+2.2
ZST				*e*PP	PP	16 21 18.2	-3.0
ZST	**Bratislava**	**135.85**	**331**	*i* PKP		16 21 54.8	
EKA	**Eskdalemuir Ar**	**136.00**	**352**	PKhKP		16 18 25.1	
	comp=Z,1.9nm,0.6s,baz=4.2,slow=1.9,SNR=7.8						
EKA				PKP	PKPdf	16 18 38.5	+1.5
	comp=Z,6.2nm,0.6s,slow=2.1,SNR=17						
EKA				SKP		16 21 53.3	
	comp=Z,30nm,1.0s,slow=2.1,SNR=18						
ESK	**Eskdalemuir**	**136.02**	**352**	*e*P	PKPdf	16 18 38.4	+1.4
ESK	**Eskdalemuir**	**136.02**	**352**	*e*PKPpre		16 18 32.1	
ESK				*e*PKPdf	PKPdf	16 18 37.9	+0.9
ESK				*e*SKP		16 21 51.0	
BDFB	**Brasilia**	**136.06**	**128**	PKhKP		16 18 30.4	
	comp=Z,1.8nm,0.4s,baz=138,slow=16,SNR=4.4						
BDFB				PKP	PKPdf	16 18 39.3	+1.2
	comp=Z,6.7nm,0.5s,baz=254,slow=2.6,SNR=8.2						
BDFB				SKPbc		16 21 52.5	
	comp=Z,33nm,1.2s,baz=331,slow=2.2,SNR=11						
BOLS	**Boljevac**	**136.07**	**323**	⇓*i*P	PKPdf	16 18 27.6	-10
WIT	**Witteveen**	**136.20**	**343**	*e*PKP	PKPdf	16 18 40.6	+3.2
WIT				*e*SKP		16 21 57.9	
MOX	**Moxa**	**136.36**	**337**	*i* P	PKPdf	16 18 39.7	+2.0
	comp=Z,logA/T=1.4						
MOX				PP	PP	16 21 23.0	-1.1
MOX				PKS	PKS	16 21 57.0	-16
MOX				SS	SS	16 39 15.0	+8.4
MOX				LQ		17 01 21.0	
MOX				LR	LR	17 04 27.0	
MOX				L		17 21 15.0	
MOX	**Moxa**	**136.36**	**337**	*e*PKIKP	PKPdf	16 18 39.7	+2.0
MOX				*e*		16 21 22.9	
MOX				pmax	pmax		
	comp=Z,33nm,1.4s						
MOX				MLR	MLR		
	comp=Z,100nm,21.0s						
MOX	**Moxa**	**136.36**	**337**	*e*P	PKPdf	16 18 39.7	+2.0
MOX				*e*		16 21 22.9	
MOX				*e*		16 21 57.2	
MOX				LR	LR		
	comp=Z,100nm,21.0s						
NKC	**Novy Kostel**	**136.36**	**336**	*e*PKIKP	PKPdf	16 18 39.1	+1.3
KPJ	**Monastery St.**	**136.74**	**321**	*i* P		16 21 57.0	
KHC	**Kasperske Hory**	**136.75**	**334**	*e*PKHKP		16 18 30.4	
KHC				*e*PKIKP	PKPdf	16 18 39.8	+1.3
KHC				*e*PP	PP	16 21 21.9	-4.5
KHC				*e*SKP		16 21 56.6	
GRUS	**Gruza**	**136.76**	**324**	⇓*i*P	PKPdf	16 18 28.2	-10
RHK1	**Bakonya**	**136.81**	**328**	⇑*e*P	PKPdf	16 18 40.5	+1.8
WTSB	**Winterswijk**	**136.90**	**342**	*e*PKP	PKPdf	16 18 40.6	+2.0
	comp=Z,52nm,1.2s						
WTSB				*e*PP	PP	16 21 25.7	-1.5
WTSB				*e*SKP		16 21 56.8	
WTSB				*e*PKS	PKS	16 22 14.9	+1.5
GEC2	**GERESS Array S**	**136.92**	**334**	*e*PKPdf	PKPdf	16 18 40.2	+1.4
GEC2				*e*PP	PP	16 21 24.6	-2.8
GEC2				*e*SKPdf		16 21 56.9	
GERES	**GERESS Array B**	**136.92**	**334**	PKhKP		16 18 31.6	
	comp=Z,1.8nm,0.6s,slow=1.3,SNR=16						
GERES				PKP	PKPdf	16 18 40.6	+1.8
	comp=Z,5.8nm,0.7s,baz=90,slow=1.3,SNR=28						
GERES				SKP		16 21 57.5	
	comp=Z,21nm,0.8s,baz=45,slow=3.8,SNR=30						
WET	**Wettzell**	**137.04**	**335**	*e*PKPdf	PKPdf	16 18 40.4	+1.4
WET				*e*PP	PP	16 21 24.2	-4.0
WET				*e*SKPdf		16 21 57.1	
HPK	**Haverah Park**	**137.08**	**350**	*e*P	PKPdf	16 18 40.6	+1.6
GRA1	**Grafenberg Arr**	**137.27**	**337**	*e*PKPdf	PKPdf	16 18 40.8	+1.4
GRA1				*e*PP	PP	16 21 26.4	-3.4
GRA1				*e*SKPdf		16 21 58.7	
GRF	**Grafenberg Arr**	**137.27**	**337**	*e*PKIKP	PKPdf	16 18 40.8	+1.4
GRF				*e*		16 21 26.4	
ARSA	**Arzberg**	**137.28**	**331**	⇑*i*P	PKPdf	16 18 40.3	+0.8
ARSA				*i*		16 21 29.0	
ARSA				*i*		16 21 58.1	
SKO	**Skopje**	**137.44**	**321**	*i* PKP	PKPdf	16 18 41.0	+1.0
SKO	**Skopje**	**137.44**	**321**	⇓*i*P		16 21 59.0	
	comp=Z,0.1nm,1.0s						
LHO	**Holmfirth**	**137.52**	**350**	*e*P	PKPdf	16 18 35.2	-4.5
PERS	**Pernice**	**137.91**	**331**	*e*PP	PP	16 21 32.2	-2.0
KWE	**Weaver Farm**	**138.02**	**350**	*e*P	PKPdf	16 18 35.1	-5.5
HGN	**Heimansgroeve**	**138.22**	**342**	*e*PKP	PKPdf	16 18 42.7	+1.6
	comp=Z,22nm,1.5s						
HGN				*e*PP	PP	16 21 33.2	-2.8
HGN				*e*PKS		16 22 00.5	
HGN	**Heimansgroeve**	**138.22**	**342**	*e*SS	SS	16 39 26.8	-1.7
OHR	**Ohrid**	**138.33**	**320**	⇑*i*PKP	PKPdf	16 18 42.5	+0.9
OHR	**Ohrid**	**138.33**	**320**	⇓*i*P		16 22 01.3	
IDI	**Anoyia**	**138.37**	**310**	PKhKP		16 18 33.0	
	comp=Z,11nm,0.7s,baz=193,slow=5.2,SNR=8.7						
IDI				PKP	PKPdf	16 18 44.7	+2.8
	comp=Z,18nm,0.8s,baz=93,slow=8.6,SNR=5.6						
IDI				SKP		16 21 59.8	
	comp=Z,13nm,0.9s,baz=16,slow=7.4,SNR=2.3						
KBA	**Koelnbreinsper**	**138.41**	**332**	⇑*i*P	PKPdf	16 18 37.5	-4.1
KBA				*i*		16 21 27.4	
KBA				*i*		16 21 36.6	
FUR	**Furstenfeldbru**	**138.47**	**335**	*e*PKPdf	PKPdf	16 18 42.7	+1.0
FUR				*e*PP	PP	16 21 34.2	-3.4
FUR				*e*SKPdf		16 22 02.2	
LJU	**Ljubljana**	**138.62**	**331**	*e*PKPdf	PKPdf	16 18 43.0	+1.0
LJU				*e*PKiKP		16 18 45.8	
LJU				*e*PP	PP	16 21 35.7	-2.8
LJU				*e*SKPdf		16 22 03.0	
LJU				*e*PKSdf		16 22 18.7	
BOJS	**Bojanci**	**138.65**	**329**	*e*PKPdf	PKPdf	16 18 43.4	+1.3
BOJS				*e*PKiKP		16 18 46.0	
BOJS				*e*PP	PP	16 21 36.7	-2.0
BOJS				*e*SKPdf		16 22 02.3	
STU	**Stuttgart**	**138.80**	**337**	*e*PKIKP	PKPdf	16 18 43.2	+0.9
PTCC	**Patocco-Chiusa**	**138.91**	**332**	*e*PKP	PKPdf	16 18 37.6	-4.9
VOY	**Vojsko**	**138.93**	**331**	*e*PP	PP	16 21 36.5	-3.9
VOY				*e*SKPdf		16 22 02.7	
ROBS	**Robic**	**138.96**	**332**	*e*PKPdf	PKPdf	16 18 43.0	+0.3
WATA	**Walderalm**	**138.99**	**334**	⇓*i*P	PKPdf	16 18 40.5	-2.2
WATA				*i*		16 21 39.0	
WATA				*i*		16 22 03.2	
WTTA	**Wattenberg**	**139.02**	**334**	⇓*i*P	PKPdf	16 18 40.3	-2.4
WTTA				*i*		16 21 39.8	
WTTA				*i*		16 22 03.5	
FVI	**Forni Avoltri**	**139.03**	**332**	*e*PKP	PKPdf	16 18 34.8	-8.0
GMNA	**Gemona**	**139.06**	**332**	⇑*i*PKP	PKPdf	16 18 43.8	+1.0
WLF	**Walferdange**	**139.11**	**341**	*e*PKPpre		16 18 34.4	
WLF				*e*PKPdf	PKPdf	16 18 45.5	+2.7
WLF				*e*SKP		16 22 03.4	
LANF	**Langenberg**	**139.13**	**339**	PKP	PKPdf	16 18 36.1	-6.8
GIVF	**Givet**	**139.14**	**342**	*e*PKP1	PKPdf	16 18 36.9	-6.0
MOTA	**Moosalm**	**139.19**	**335**	⇓*i*P	PKPdf	16 18 36.5	-6.5
MOTA				*i*		16 21 39.5	
MOTA				*i*		16 22 01.9	
MCH1	**Michaelchurch**	**139.20**	**350**	*e*P	PKPdf	16 18 35.3	-7.6
SQTA	**Sankt Quirin**	**139.24**	**334**	⇓*i*P	PKPdf	16 18 37.2	-5.9
SQTA				*i*		16 21 41.0	
SQTA				*i*		16 22 04.3	
BAIF	**Baives**	**139.36**	**343**	*e*PKP1	PKPdf	16 18 35.4	-7.9
BFO	**Black Forest**	**139.49**	**338**	*e*PKPdf	PKPdf	16 18 43.5	-0.1
BFO				*e*PP	PP	16 21 40.3	-3.3
BFO				*e*SKPdf		16 22 02.6	
NVLJ	**Novalja**	**139.50**	**329**	*i* PKP	PKPdf	16 18 44.2	+0.5
DAVA	**Damuels**	**139.74**	**335**	⇓*i*P	PKPdf	16 18 38.4	-5.6
DAVA				*i*		16 21 43.4	
DAVA				*i*		16 22 05.0	
WLS	**Welschbruch**	**139.77**	**339**	PKP	PKPdf	16 18 38.4	-5.7
CDF	**Champ du Feu**	**139.80**	**339**	*e*PKP1	PKPdf	16 18 36.3	-7.8
CTI	**Castel Tesino**	**139.95**	**333**	⇑*i*PKP	PKPdf	16 18 43.7	-0.7
DAVOX	**Davos**	**140.14**	**335**	PKhKP		16 18 38.9	
	comp=Z,17nm,0.5s,baz=265,slow=3.6,SNR=25						
DAVOX				PP	PP	16 21 46.3	-1.2
	comp=Z,11nm,1.2s,baz=35,slow=5.5,SNR=7.5						
DAVOX				SKPbc		16 22 07.1	
	comp=Z,26nm,0.8s,baz=336,slow=1.7,SNR=14						
BRMO	**Bormio**	**140.18**	**334**	⇑*i*PKP	PKPdf	16 18 40.1	-4.7
HEX	**Exmoor**	**140.23**	**351**	*e*P	PKPdf	16 18 39.5	-5.3
MOF	**Molkenrain**	**140.32**	**338**	PKP	PKPdf	16 18 39.1	-5.9
HINF	**Hinteralfeld**	**140.46**	**339**	*e*PKP1	PKPdf	16 18 39.8	-5.5
	comp=Z,59nm,0.9s						
HAU	**Haudompre**	**140.47**	**339**	*e*PKP1	PKPdf	16 18 38.8	-6.5
	comp=Z,46nm,0.9s						
HAU				*e*R			
	comp=Z,172nm,21.5s						
MEZF	**Maizieres J’vi**	**140.48**	**341**	*e*PKP1	PKPdf	16 18 38.9	-6.4
	comp=Z,54nm,0.7s						
LOMF	**Lomont**	**140.86**	**338**	PKP	PKPdf	16 18 38.9	-7.1
RGNG	**Rignano Grg**	**141.09**	**325**	*e*PKP	PKPdf	16 18 43.8	-2.7
FSSB	**Fossombrone**	**141.18**	**329**	⇓*i*PKP	PKPdf	16 18 45.0	-1.7
CING	**Cingoli**	**141.20**	**329**	*e*PKP	PKPdf	16 18 49.6	+2.9
ARV	**Arcevia**	**141.24**	**329**	⇓*i*PKP	PKPdf	16 18 45.1	-1.7
VAI	**Varese**	**141.34**	**335**	⇓*i*PKP	PKPdf	16 18 42.1	-4.8
SFI	**Santa Sofia**	**141.48**	**330**	⇓*i*PKP	PKPdf	16 18 43.9	-3.3
ZCCA	**Zocca**	**141.56**	**332**	*e*PKP	PKPdf	16 18 45.3	-2.0
PGD	**Poggio Sodo**	**141.56**	**330**	*e*PKP	PKPdf	16 18 44.7	-2.6
MCGN	**Macugnaga**	**141.58**	**336**	⇑*i*PKP	PKPdf	16 18 44.0	-3.3
VMG	**Vicchio**	**141.59**	**331**	*e*PKP	PKPdf	16 18 44.9	-2.4
SEI	**Scarperia**	**141.60**	**331**	⇑*i*PKP	PKPdf	16 18 45.2	-2.1
MURB	**Monte Urbino**	**141.62**	**329**	⇑*i*PKP	PKPdf	16 18 45.2	-2.2
CRE	**Caprese Michel**	**141.64**	**330**	⇓*i*PKP	PKPdf	16 18 43.8	-3.7
ASS	**Assisi**	**141.70**	**329**	⇓*i*PKP	PKPdf	16 18 43.5	-4.0
GSCL	**Gusciola**	**141.74**	**332**	*e*PKP	PKPdf	16 18 44.9	-2.7
MRLC	**Muro Lucano**	**141.74**	**324**	*e*PKP	PKPdf	16 18 47.7	0.0
CABF	**La Chapelle**	**141.75**	**338**	*e*PKP1	PKPdf	16 18 43.5	-4.0
	comp=Z,47nm,0.7s						
ERBM	**Eremo**	**141.77**	**332**	⇓*i*PKP	PKPdf	16 18 45.1	-2.5
CII	**Carovilli**	**141.77**	**326**	*e*PKP	PKPdf	16 18 46.1	-1.6
OG01	**Vacheresse**	**141.77**	**337**	PKP	PKPdf	16 18 45.8	-1.8
FLN	**La Foliniere**	**141.78**	**346**	*e*PKP1	PKPdf	16 18 42.9	-4.6
	comp=Z,56nm,0.6s						
FLN				*e*R			
	comp=Z,63nm,21.2s						
INTR	**Introdacqua**	**141.79**	**327**	⇓*i*PKP	PKPdf	16 18 44.4	-3.3
AQU	**L’Aquila**	**141.82**	**327**	*e*PKIKP	PKPdf	16 18 44.9	-2.9
ORO	**Oropa**	**141.85**	**336**	*e*PKP	PKPdf	16 18 44.4	-3.4
LDF	**La Druitiere**	**141.85**	**346**	*e*PKP1	PKPdf	16 18 43.0	-4.6
	comp=Z,72nm,0.9s						
SLCN	**Sala Consilina**	**141.89**	**323**	⇑*i*PKP	PKPdf	16 18 45.7	-2.3
BOB	**Bobbio (Coli)**	**141.93**	**333**	*e*PKP	PKPdf	16 18 38.9	-9.0
TDS	**Terranova Siba**	**141.93**	**322**	*e*PKP	PKPdf	16 18 45.2	-2.8
CSSN	**Cassano Irpino**	**141.94**	**324**	*e*PKP	PKPdf	16 18 46.3	-1.8
LOR	**Lormes**	**141.94**	**341**	*e*PKP1	PKPdf	16 18 43.9	-3.9
	comp=Z,28nm,0.5s						
LOR				*e*R			
	comp=Z,188nm,23.0s						
BDI	**Bagni Di Lucca**	**141.96**	**332**	⇑*i*PKP	PKPdf	16 18 43.7	-4.3
TIP	**Timpagrande**	**141.97**	**321**	*e*PKPpre	PKPdf	16 18 45.2	-3.0
SGO	**Sicignano**	**141.97**	**324**	*e*PKP	PKPdf	16 18 44.9	-3.3
VLC	**Villacollemand**	**141.98**	**332**	*e*PKPpre	PKPdf	16 18 44.1	-3.9
BACM		**142.03**	**332**	P	PKPdf	16 18 43.8	-4.3
TRAV		**142.04**	**336**	P	PKPdf	16 18 44.7	-3.4
CODM		**142.04**	**333**	P	PKPdf	16 18 44.3	-3.8
PTQR	**Pietraquaria**	**142.05**	**327**	*e*PKP	PKPdf	16 18 45.5	-2.7
CSNT	**Castellina Chi**	**142.07**	**330**	*e*PKP	PKPdf	16 18 44.4	-3.8
VINC	**Vinca**	**142.10**	**332**	P	PKPdf	16 18 43.7	-4.5
MGR	**Morigerati**	**142.10**	**323**	⇑*i*PKP	PKPdf	16 18 45.4	-3.0
MAIM		**142.12**	**332**	P	PKPdf	16 18 43.7	-4.6
MNS	**Montasola**	**142.17**	**328**	*e*PKP	PKPdf	16 18 44.9	-3.5
GRR	**Gorron**	**142.22**	**346**	*e*PKP1	PKPdf	16 18 44.9	-3.4
	comp=Z,87nm,0.8s						
SSF	**Saint Saulge**	**142.24**	**341**	*e*PKP1	PKPdf	16 18 44.5	-3.8
	comp=Z,63nm,0.8s						
PII	**Pisa**	**142.25**	**331**	*e*PKP	PKPdf	16 18 44.6	-3.8
LSD	**Ceresole Reale**	**142.32**	**336**	P	PKPdf	16 18 46.8	-1.8
HYF	**Humbligny**	**142.32**	**342**	*e*PKP1	PKPdf	16 18 47.7	-0.8
CERT	**Cerreto**	**142.32**	**327**	⇓*i*PKP	PKPdf	16 18 47.0	-1.7
GRI	**Girifalco**	**142.39**	**321**	⇓*i*PKP	PKPdf	16 18 47.7	-1.2
GENL	**Genova Univers**	**142.42**	**334**	P	PKPdf	16 18 46.6	-2.1
LPL	**La Plagne**	**142.44**	**337**	*e*PKP1	PKPdf	16 18 45.8	-2.9
	comp=Z,40nm,0.5s						
LPG	**La Plagne**	**142.44**	**337**	*e*PKP1	PKPdf	16 18 45.9	-2.8
	comp=Z,75nm,0.9s						
GRFL	**Gerfalco**	**142.47**	**330**	⇓*i*PKP	PKPdf	16 18 46.0	-2.9
OG05	**Jujurieux**	**142.47**	**338**	PKP	PKPdf	16 18 46.9	-1.9
SMF	**Signal de Mont**	**142.50**	**340**	*e*PKP1	PKPdf	16 18 45.5	-3.3
	comp=Z,68nm,0.7s						
AVF	**Avril sur Loir**	**142.53**	**341**	*e*PKP1	PKPdf	16 18 45.8	-3.0
	comp=Z,16nm,0.5s						
RSP	**Reno Superiore**	**142.53**	**336**	P	PKPdf	16 18 46.9	-2.0
FENE	**Fenestrelle**	**142.71**	**336**	P	PKPdf	16 18 47.2	-2.0
SGMF	**Saint Gilles**	**142.71**	**348**	*e*PKP1	PKPdf	16 18 46.0	-3.1
	comp=Z,61nm,0.4s						
TOLF	**Tolfa**	**142.75**	**328**	⇑*i*PKP	PKPdf	16 18 47.0	-2.4
ROSF	**Rostrenen**	**142.77**	**349**	*e*PKP1	PKPdf	16 18 45.8	-3.4
	comp=Z,24nm,0.6s						
BNI	**Bardonecchia**	**142.84**	**336**	*e*PKIKP	PKPdf	16 18 48.5	-0.9
BGF	**Bois d’Agland**	**142.90**	**341**	*e*PKP1	PKPdf	16 18 46.8	-2.7
	comp=Z,104nm,0.6s						
FIN	**Finale Ligure**	**142.91**	**334**	⇓*i*PKP	PKPdf	16 18 47.4	-2.1
RRL	**Cesana Torines**	**142.91**	**336**	P	PKPdf	16 18 49.0	-0.6
GDM	**Grand’Maison**	**142.94**	**337**	PKP	PKPdf	16 18 48.6	-1.0
ROB	**Roburent**	**142.98**	**334**	P	PKPdf	16 18 47.2	-2.5
GRN	**Grenoble**	**143.04**	**337**	PKP	PKPdf	16 18 49.2	-0.6
RORO		**143.04**	**334**	P	PKPbc	16 18 47.4	-0.7
MBDF	**Montbardon**	**143.08**	**336**	*e*PKP1	PKPbc	16 18 47.1	-1.0
	comp=Z,84nm,0.6s						
PZZ	**Prazzo**	**143.13**	**335**	P	PKPbc	16 18 47.7	-0.5
QUIF	**Quistinic**	**143.16**	**349**	*e*PKP1	PKPbc	16 18 47.0	-1.3
	comp=Z,62nm,0.8s						
PLDF	**La Plantade**	**143.17**	**340**	PKP	PKPdf	16 18 49.5	-0.5
MONE	**Monesi**	**143.20**	**334**	P	PKPbc	16 18 48.2	-0.3
ENR	**Entracque**	**143.22**	**335**	P	PKPbc	16 18 47.3	-1.3
STV2	**Anna di Valdie**	**143.25**	**335**	P	PKPbc	16 18 47.4	-1.3
STV	**Sta Anna Valdi**	**143.25**	**335**	P	PKPbc	16 18 47.4	-1.3
AGO	**Saint Agoulin**	**143.25**	**341**	PKP	PKPdf	16 18 49.1	-1.0
SURF	**Saint Ours**	**143.26**	**336**	PKP	PKPdf	16 18 49.3	-0.9
ORIF	**Oris-en-Rattie**	**143.27**	**337**	*e*PKP1	PKPbc	16 18 48.4	-0.3
	comp=Z,208nm,0.7s						
ORIF				*e*R			
	comp=Z,116nm,20.8s						
IMI	**Imperia**	**143.28**	**334**	⇓*i*PKP	PKPdf	16 18 49.3	-1.0
TCF	**Toulx Ste Croi**	**143.33**	**342**	*e*PKP1	PKPbc	16 18 48.3	-0.5
MTTG	**Motta San Giov**	**143.34**	**320**	⇓*i*PKP	PKPdf	16 18 49.8	-0.8
AUTN	**L’Aution**	**143.41**	**335**	PKP	PKPdf	16 18 49.8	-0.7
NEGI	**Negi**	**143.41**	**334**	P	PKPbc	16 18 48.7	-0.4
TOUF	**Mont Tournerai**	**143.47**	**335**	PKP	PKPdf	16 18 49.9	-0.7
SBF	**Sospel**	**143.51**	**334**	*e*PKP1	PKPbc	16 18 48.3	-1.2
	comp=Z,547nm,0.9s						
COLF	**Collangettes**	**143.54**	**340**	PKP	PKPdf	16 18 50.1	-0.6
PYM	**Petit Puy Mans**	**143.56**	**341**	PKP	PKPdf	16 18 50.7	0.0
MVIF	**Mont Vial**	**143.61**	**335**	PKP	PKPdf	16 18 50.1	-0.7
REVF	**Revere**	**143.64**	**334**	PKP	PKPdf	16 18 50.4	-0.5
OG25	**Le Caire**	**143.65**	**336**	PKP	PKPdf	16 18 50.4	-0.5
MFF	**Saint Martin d**	**143.71**	**345**	*e*PKP1	PKPbc	16 18 49.4	-0.6
	comp=Z,270nm,0.8s						
VIVF	**Saint-Julien-l**	**143.77**	**338**	*e*PKP1	PKPbc	16 18 50.1	-0.1
OCF	**Saint Nazaire**	**143.77**	**337**	PKP	PKPdf	16 18 51.8	+0.7
OG26	**St.-Nazaire-De**	**143.77**	**337**	PKP	PKPdf	16 18 51.8	+0.7
ECTS	**Castiglione**	**143.78**	**320**	*e*PKP	PKPdf	16 18 51.3	-0.1
CALN	**Calern**	**143.83**	**335**	PKP	PKPdf	16 18 51.1	-0.1
PGF	**Pioggiola**	**143.87**	**332**	*e*PKP1	PKPbc	16 18 49.8	-0.8
	comp=Z,309nm,0.7s						
LBL	**Lubilhac**	**143.94**	**340**	PKP	PKPdf	16 18 52.1	+0.7
MNO	**Monte Soro**	**144.01**	**321**	⇓*i*PKP	PKPdf	16 18 52.3	+0.6
FRNF	**Fournols**	**144.03**	**341**	PKP	PKPdf	16 18 53.2	+1.7
LRYF	**La Roche-sur-Y**	**144.08**	**346**	PKP	PKPdf	16 18 51.7	+0.1
AGST	**Augusta-Monte**	**144.09**	**319**	⇓*i*PKP	PKPdf	16 18 52.1	+0.2
FRF	**La Foret Royal**	**144.09**	**335**	*e*PKP1	PKPbc	16 18 50.7	-0.5
	comp=Z,541nm,0.9s						
SMRF	**Simiane la Rot**	**144.18**	**336**	*e*PKP1	PKPbc	16 18 51.6	+0.2
	comp=Z,261nm,0.9s						
SSY	**Sortino**	**144.25**	**319**	⇑*i*PKP	PKPdf	16 18 52.4	+0.2
LMR	**La Mourre**	**144.34**	**335**	*e*PKP1	PKPbc	16 18 51.6	-0.3
	comp=Z,503nm,0.6s						
GIB	**Gibilmanna**	**144.38**	**321**	*e*PKP	PKPdf	16 18 50.0	-2.4
PZI	**Palazzolo**	**144.39**	**319**	⇑*i*PKP	PKPdf	16 18 53.2	+0.8
USI	**Ustica**	**144.43**	**323**	⇑*i*PKP	PKPdf	16 18 52.8	+0.3
RJF	**Les Rejaudoux**	**144.43**	**342**	*e*PKP1	PKPbc	16 18 52.2	+0.1
RJF				*e*R			
	comp=Z,191nm,22.0s						
OSPF	**L’Ospedale**	**144.46**	**330**	PKP	PKPdf	16 18 53.3	+0.9
VAE	**Valguarnera**	**144.47**	**320**	PKhKP		16 18 49.3	
	comp=Z,7.3nm,0.7s,baz=66,slow=16,SNR=3.1						
VAE				PKP	PKPdf	16 18 54.5	+1.9
	comp=Z,51nm,1.1s,baz=7.3,slow=1.8,SNR=7.1						
VAE				SKPab		16 22 26.0	

	comp=Z,20nm,0.9s,baz=217,slow=20,SNR=3.7						
CAF	Calviac	144.60	341	ePKP1	PKPbc	16 18 53.0	+0.4
LASF	Ste Croix	144.74	338	ePKP1	PKPbc	16 18 53.4	+0.4
	comp=Z,932nm,1.4s						
LFF	La Frestale	144.99	342	ePKP1	PKPbc	16 18 54.0	+0.3
	comp=Z,384nm,0.6s						
FAVR	Favara	145.06	321	⇓iPKP	PKPdf	16 18 56.8	+3.3
ERC	Erice	145.22	323	⇓iPKP	PKPdf	16 18 55.6	+1.8
MTLF	Montolieu	145.96	340	ePKP1	PKPbc	16 18 57.1	+1.0
	comp=Z,375nm,0.8s						
LRDF	Laroque-de-Fa	146.20	339	PKP	PKPdf	16 18 58.8	+3.5
PTS	Pantelleria	146.38	322	⇓iPKP	PKPdf	16 18 59.4	+3.6
LPEF	Le Peyrat	146.41	340	PKP	PKPdf	16 18 59.4	+3.7
SJAF	Saint Jean de	146.47	338	PKP	PKPdf	16 18 59.1	+3.3
EJON	La Jonquera	146.50	338	PKP	PKPdf	16 18 57.6	+1.7
FILF	Fillols	146.52	338	PKP	PKPdf	16 18 59.3	+3.4
MLS	Moulis	146.67	341	PKP	PKPdf	16 18 59.9	+3.8
SALF	Salau	146.82	340	PKP	PKPdf	16 18 59.9	+3.6
EPF	Esparros	146.85	342	ePKP1	PKPbc	16 18 59.2	+1.0
VALF	Valcebollere	146.85	339	PKP	PKPdf	16 19 00.6	+4.2
MELF	Melles	146.86	341	PKP	PKPdf	16 19 00.5	+4.1
LABF	Labassere	146.91	342	PKP	PKPdf	16 18 59.0	+2.5
REYF	Montagne du Re	147.03	342	PKP	PKPdf	16 19 01.0	+4.3
RESF	Ens	147.05	341	PKP	PKPdf	16 19 01.9	+5.2
ORDF	Ordiarp	147.06	343	PKP	PKPdf	16 19 00.3	+3.6
VIEF	Viey	147.08	342	PKP	PKPdf	16 19 02.0	+5.2
EALK	Alkurruntz	147.21	344	PKP	PKPdf	16 19 01.1	+4.1
SJPF	Ste Jean	147.23	344	ePKP1	PKPdf	16 19 00.4	+3.4
ETSF	Etsaut	147.24	343	ePKP1	PKPdf	16 19 00.9	+3.9
	comp=Z,312nm,1.1s						
FDAF	Les Forges d'A	147.31	342	PKP	PKPdf	16 19 02.3	+5.1
EGRA	Graus	147.61	341	PKP	PKPdf	16 19 03.4	+5.8
ELAN	Lanestosa	147.68	346	PKP	PKPdf	16 19 01.6	+3.9
EPOB	Poblet	148.11	339	PKP	PKPdf	16 19 03.4	+4.9
ESAC	San Caprasio	148.29	342	PKP	PKPdf	16 19 04.5	+5.7
EPON	Pontenova	148.29	351	PKP	PKPdf	16 19 04.1	+5.3
EBR	Ebro Roquetas	148.78	340	ePKPDF	PKPdf	16 19 06.5	+6.9
STS	Santiago	148.91	353	PKP	PKPdf	16 19 05.7	+6.0
ERUA	La Rua	149.20	351	PKP	PKPdf	16 19 06.2	+5.9
EMOS	Mosqueruela	149.52	340	PKP	PKPdf	16 19 08.2	+7.4
ECAL	Calabor	149.58	350	PKP	PKPdf	16 19 06.1	+5.2
ETOR	Torete	149.59	343	PKP	PKPdf	16 19 08.0	+7.1
EZAM	Zamans	149.65	353	PKP	PKPdf	16 19 07.3	+6.3
ELOB	Lobios	149.85	352	PKP	PKPdf	16 19 08.0	+6.7
EIBI	Ibiza	150.05	337	PKP	PKPdf	16 19 09.2	+7.5
PGRA	Graciosa	150.05	23	ePKP	PKPdf	16 19 09.7	+8.0
CALA	Caldeira	150.15	25	ePKP	PKPdf	16 19 10.0	+8.2
ROSA	Rosais	150.22	24	ePKP	PKPdf	16 19 10.0	+8.1
PICO	Pico	150.33	24	ePKP	PKPdf	16 19 10.2	+8.1
PMAN	Manadas	150.35	24	ePKP	PKPdf	16 19 10.4	+8.2
PPNO	Prainha do Nor	150.42	24	ePKP	PKPdf	16 19 10.7	+8.4
PID	Ribeirinha	150.51	24	ePKP	PKPdf	16 19 11.1	+8.7
PBIS	Biscoitos	150.56	23	ePKP	PKPdf	16 19 11.2	+8.7
ASBA	Santa Barbara	150.57	23	i PKP	PKPdf	16 19 11.3	+8.8
PVNV	Vila Nova	150.60	22	ePKP	PKPdf	16 19 11.3	+8.8
PPAD	Pico dos Padre	150.60	23	ePKP	PKPdf	16 19 11.3	+8.8
ADH	Angra Heroismo	150.66	23	ePKP	PKPdf	16 19 11.5	+8.9
PFAV	Pico das Favas	150.67	22	i PKP	PKPdf	16 19 11.3	+8.7
RIB2	Ribeirinha	150.67	22	ePKP	PKPdf	16 19 11.6	+9.0
EBEN	Beniarda	150.92	339	PKP	PKPdf	16 19 11.6	+8.6
ESDC	Sonseca Array	151.17	345	PKP	PKPdf	16 19 05.3	+2.0
	comp=Z,1.6nm,0.7s,baz=358,slow=2.8,SNR=11						
ESDC				PKPbc	PKPdf	16 19 12.0	+8.7
	comp=Z,12nm,0.6s,baz=14,slow=3.0,SNR=40						
ESDC				PKPab	PKPab	16 19 20.8	+0.4
	comp=Z,19nm,0.5s,baz=12,slow=3.9,SNR=35						
ESDC				PP	PP	16 22 50.9	-1.9
	comp=Z,0.6nm,0.4s,baz=9.8,slow=6.9,SNR=4.1						
ESLA	Sonseca Array	151.17	345	ePKPdf	PKPdf	16 19 05.6	+2.3
ESLA				ePKPbc	PKPdf	16 19 11.9	+8.6
ESLA				ePKPab	PKPab	16 19 20.5	+0.1
ESLA				epPKPdf		16 19 49.8	
MTE	Manteigas	151.21	351	ePKPbc	PKPdf	16 19 11.6	+8.2
MTE				ePKPab	PKPab	16 19 19.6	-1.0
MTE	Manteigas	151.21	351	ePKPdf	PKPdf	16 19 04.9	+1.5
MTE				ePKPbc	PKPdf	16 19 11.8	+8.4
MTE				ePKPab	PKPab	16 19 20.9	+0.4
ETOB	Tobarra	151.43	340	PKP	PKPdf	16 19 12.0	+8.2
RCBR	Riachuelo	151.43	127	ePKPdf	PKPdf	16 19 05.3	+0.8
RCBR				ePKPbc	PKPdf	16 19 11.9	+7.4
EVIA	Vianos	151.73	342	PKP	PKPdf	16 19 13.1	+8.9
EMUR	La Murta	152.05	339	PKP	PKPdf	16 19 13.1	+8.4
PMAT	Coroa da Mata	152.05	21	ePKP	PKPdf	16 19 14.6	+10
CML	Cha da Macela	152.06	21	i PKP	PKPdf	16 19 14.8	+10
LFA	Lagoa do Fogo	152.08	21	i PKP	PKPdf	16 19 15.6	+11
EQES	Quesada	152.67	342	PKP	PKPdf	16 19 14.5	+8.9
EBAD	Badajoz	152.72	349	PKP	PKPdf	16 19 14.9	+9.2
EADA	Adamuz	152.75	345	PKP	PKPdf	16 19 15.0	+9.3
PLOU	Loures	152.93	353	ePKPbc	PKPdf	16 19 14.3	+8.4
PLOU				ePKPab	PKPab	16 19 28.0	+0.2
ELUQ	Luque	153.24	344	PKP	PKPdf	16 19 15.9	+10
PBEJ	Beja	153.58	350	ePKPdf	PKPdf	16 19 08.9	+2.1
PBEJ				ePKPbc	PKPdf	16 19 17.2	+10
PBEJ				ePKPab	PKPab	16 19 31.4	+0.8
EMIN	Mina Concepcio	153.62	348	PKP	PKPdf	16 19 09.2	+2.4
ERON	Agron	153.62	343	PKP	PKPdf	16 19 15.8	+8.9
EGRO	El Granado	154.00	349	PKP	PKPdf	16 19 17.9	+11
PALC	Alcoutim	154.06	349	ePKPbc	PKPdf	16 19 18.1	+11
PALC				ePKPab	PKPab	16 19 33.2	+0.6
PTEO	Sao Teotonio	154.19	352	ePKPbc	PKPdf	16 19 18.2	+11
PTEO				ePKPab	PKPab	16 19 33.1	-0.1
ESPR	Espera	154.30	346	PKP	PKPdf	16 19 09.9	+2.1
KIC	Kosan Boka	169.87	237	ePKIKP	PKPdf	16 19 24.3	+0.4
	comp=Z,489nm,1.6s						
KIC				ePKP1	PKPab	16 20 42.8	+1.0
LIC	Lamto	170.03	236	ePKIKP	PKPdf	16 19 24.4	+0.4
	comp=Z,239nm,1.7s						
LIC				ePKP1	PKPab	16 20 43.3	+0.8
LIC	Lamto	170.03	236	ePKIKP	PKPdf	16 19 25.4	+1.4
	comp=Z,333nm,1.7s						
DBIC	Dimbokro	170.13	239	PKP	PKPdf	16 19 25.7	+1.7
	comp=Z,9.7nm,0.7s,baz=9.5,slow=2.2,SNR=12						
DBIC				PKPab	PKPab	16 20 43.5	+0.6
	comp=Z,15nm,0.8s,baz=113,slow=3.3,SNR=9.6						
TIC	Toumodi	170.26	238	ePKIKP	PKPdf	16 19 24.5	+0.4
	comp=Z,633nm,1.7s						
TIC				ePKP1	PKPab	16 20 44.1	+0.6

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*CASC **12** 16:01:12.2±1.9, 13.93N×90.77W, h88^{km}±10^{km}, MD3.5, ML4.2*

ISC 12 16:01:11.3±1.2**, 13.91N**±0.09×**90.81W**±0.05**, h98**^{km}±11^{km}**, n15, σ0^{s}.75**/26**, 10C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	Ixpaco	0.43	52	⇑eP	P	16 01 25.5	-1.1
IXG				eS	S	16 01 36.2	-1.9
IXG				AML	AML	16 01 40.0	
	comp=E,17µm,0.4s						
PCG	Pacaya	0.52	22	⇓eP	P	16 01 27.0	-0.3
FUG	Fuego 3	0.54	356	⇑eP	P	16 01 26.7	-0.7
NBG	Las Nubes	0.81	33	⇑eP	P	16 01 30.3	+0.4
NBG				eS	S	16 01 45.8	+2.1
NBG				AML	AML	16 01 47.5	
	comp=E,6µm,0.5s						
CUSS	Cusmapa	0.83	90	⇓eP	P	16 01 29.4	-0.7
JAT	Jato	0.90	297	⇑eP	P	16 01 31.2	+0.4
JAT				eS	S	16 01 46.2	+0.8
JAT				AML	AML	16 01 48.0	
	comp=E,2µm,0.3s						
RBDL	Robledal	1.11	79	⇑eP	P	16 01 33.4	+0.2
RBDL				eS	S	16 01 50.0	+0.5
RTR	El Retiro	1.13	90	⇑eP	P	16 01 33.5	+0.1
RTR				eS	S	16 01 50.0	+0.1
SBLS	San Blas	1.15	93	⇑eP	P	16 01 33.7	0.0
SBLS				eS	S	16 01 50.4	0.0
SNJE	San Jose	1.17	92	⇑eP	P	16 01 33.8	-0.2
SNJE				eS	S	16 01 50.4	-0.4
BOQS	Boqueron	1.49	96	⇑eP	P	16 01 37.8	0.0
BOQS				eS	S	16 01 57.9	+0.4
MRL	Marmol	1.58	43	eP	P	16 01 39.7	+0.8
MRL				eS	S	16 01 58.0	-1.4
LFRS	El Faro	1.72	99	⇑eP	P	16 01 40.6	0.0
LFRS				eS	S	16 02 03.2	+0.8
LCBS	La Ceiba	1.79	98	eP	P	16 01 41.6	-0.1
LCBS				eS	S	16 02 04.7	+0.7
CNCH	Conchagua	2.96	102	eP	P	16 01 57.0	-0.5

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*MAN **12** 16:04:59.7, 12.78N×125.13E, h11^{km}, mb4.9, ML3.8, MS3.9*

ISC 12 16:04:59.3±1.2**, 12.80N**±0.03×**125.13E**±0.05**, h12**^{km}±7^{km}**, n27, σ1^{s}.25**/36**, 4C-1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	Catarman	0.54	237	eP	Pg	16 05 10.4	+0.2
CNP				eS	Sg	16 05 17.9	+0.4
BESP	Borongan	1.23	166	eP	Pb	16 05 20.8	-1.3
BESP				eS	Sb	16 05 40.5	+2.8
PVCP	Virac	1.23	310	eP	Pb	16 05 22.3	+0.2
PVCP				eS	Sb	16 05 40.2	+2.4
MMPH	Masbate	1.53	253	⇑iP	Pn	16 05 26.1	-0.6
MMPH				i S	Sb	16 05 45.7	-0.8
PLP	Palo	1.63	185	eP	Pn	16 05 26.8	-1.3
PLP				eS	Sn	16 05 49.5	+0.3
OCLP	Ormoc	1.81	196	eP	Pn	16 05 30.6	-0.1
OCLP				eS	Sn	16 05 58.0	+4.2
AUQP	San Andres	2.44	283	eP	Pn	16 05 34.3	-5.4
RCP	Roxas	2.64	242	⇑eP	Pn	16 05 42.1	-0.3
RCP				eS	Sn	16 06 13.0	-1.7
MSLP	Maasin	2.66	186	eP	Pn	16 05 45.0	+2.2
MSLP				eS	Sn	16 06 19.2	+3.8
LLP	Lapu-Lapu	2.72	205	eP	Pn	16 05 41.0	-2.6
GQP	Guinayangan	2.83	293	⇑iP	Pn	16 05 46.2	+0.9
GQP				eS	Sn	16 06 20.1	+0.5
SCPH	Surigao	3.02	173	⇑iP	Pn	16 05 47.4	-0.5
OTRP	Odiongan	3.06	262	eP	Pn	16 05 48.5	0.0
GUIM	Jordan	3.29	229	eP	Pn	16 05 51.3	-0.6
POLP	Polilio Island	3.64	302	eP	Pn	16 05 58.8	+2.0
LQP	Lukban	3.73	291	⇓eP	Pn	16 05 59.0	+1.1
BUTP	Butuan	3.84	173	eP	Pn	16 05 45.0	-15
SNPH	Sibulan	3.91	209	eP	Pn	16 06 01.0	+0.5
SJMP	San Jose	3.93	265	eP	Pn	16 06 02.3	+1.4
BALP	Baler	4.51	311	eP	Pn	16 06 10.3	+1.2
BUSP	Coron	4.88	261	eP	Pn	16 06 12.9	-1.4
BUKP	Musuan	4.89	181	eP	Pn	16 06 15.2	+0.7
PALP	Palanan	4.98	329	eP	Pn	16 06 15.2	-0.6
CAUP	Cauayan	5.21	323	eP	Pn	16 06 17.2	-1.9
PAGZ	Pagadian	5.21	199	eP	Pn	16 06 19.3	+0.2
APYP	Conner	6.27	324	eP	Pn	16 06 33.1	-0.9
ABRA	Dolores	6.43	319	eP	Pn	16 06 34.1	-2.1

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*NEIC **12** 16:09:55.8, 41.00S×172.91E, h191^{km}, After WEL.*

*WEL **12** 16:09:56.3±0.3, 41.02S×172.94E, h188^{km}±2^{km}, ML3.6/6, Error ellipse: s-maj=2.8km s-min=2.2km az=0.0*

ISC 12 16:09:53.8±0.6**, 41.03S**±0.05×**172.92E**±0.06**, h195**^{km}±5^{km}**, n58, σ1^{s}.11**/82**, 11C-4D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRZ	Quartz Range	0.36	304	⇑PN	P	16 10 21.2	+1.0
QRZ				SN	S	16 10 39.5	-1.1
QRZ	Quartz Range	0.36	304	P	P	16 10 21.2	+1.0
QRZ				S	S	16 10 39.8	-0.8
NNZ	Nelson	0.39	119	⇑PN	P	16 10 21.7	+1.4
NNZ				SN	S	16 10 40.7	-0.1
THZ	Tophouse	0.73	181	⇑PN	P	16 10 23.4	+1.8
THZ				SN	S	16 10 43.7	+0.5
THZ	Tophouse	0.73	181	P	P	16 10 23.5	+1.9
THZ				S	S	16 10 44.0	+0.8
TUWZ	Tuamarina	0.87	118	PN	P	16 10 24.2	+1.8
TUWZ				SN	S	16 10 44.9	+0.3
BSWZ	Blackbirch Sta	0.99	134	PN	P	16 10 25.1	+2.0
DSZ	Denniston Nort	1.10	229	PN	P	16 10 25.0	+1.0
DSZ				SN	S	16 10 46.4	-1.0
DSZ	Denniston Nort	1.10	229	P	P	16 10 25.1	+1.1
DSZ				S	S	16 10 46.4	-1.0
MRW	Makara Radio	1.36	99	⇑PN	P	16 10 27.5	+1.3
MRW	Makara Radio	1.36	99	P	P	16 10 27.5	+1.3
SNZO	South Karori	1.38	102	⇑PN	P	16 10 27.5	+1.2
SNZO				SN	S	16 10 51.0	-0.4
SNZO	South Karori	1.38	102	P	P	16 10 27.6	+1.3
WEL	Wellington	1.42	101	PN	P	16 10 27.9	+1.3
WEL				SN	S	16 10 51.4	-0.7
WEL	Wellington	1.42	101	P	P	16 10 28.0	+1.3
KHZ	Kahutara	1.46	162	⇓PN	P	16 10 28.5	+1.4
KHZ				SN	S	16 10 52.6	-0.2
KHZ	Kahutara	1.46	162	P	P	16 10 28.5	+1.4
KIW	Kapiti Island	1.52	84	⇑PN	P	16 10 28.7	+1.1
KIW				SN	S	16 10 53.1	-0.6
KIW	Kapiti Island	1.52	84	P	P	16 10 28.7	+1.1
KIW				S	S	16 10 53.1	-0.5
BHW	Baring Head	1.52	105	⇑PN	P	16 10 28.7	+1.1
BHW				SN	S	16 10 52.6	-1.1
BHW	Baring Head	1.52	105	P	P	16 10 28.7	+1.1
CAW	Cannon Point	1.62	93	⇑PN	P	16 10 29.7	+1.1
CAW				SN	S	16 10 54.9	-0.6
CAW	Cannon Point	1.62	93	P	P	16 10 29.7	+1.1
MSWZ	Moikau Station	1.80	103	⇑PN	P	16 10 31.4	+1.1
LTZ	Lake Taylor	1.82	195	⇓PN	P	16 10 31.8	+1.3
LTZ				SN	S	16 10 57.4	-1.2
LTZ	Lake Taylor	1.82	195	P	P	16 10 31.8	+1.4
LTZ				S	S	16 10 57.4	-1.3
WAZ	Wanganui	2.03	52	PN	P	16 10 33.5	+1.0
WAZ				SN	S	16 11 03.6	+1.1
WAZ	Wanganui	2.03	52	P	P	16 10 33.6	+1.1
MRZ	Mangatainoka R	2.05	81	⇑PN	P	16 10 33.6	+0.8
MRZ				SN	S	16 11 02.2	-0.7
MRZ	Mangatainoka R	2.05	81	P	P	16 10 33.6	+0.8
VRZ	Vera Road	2.37	37	ePN	P	16 10 35.2	-1.2
VRZ				SN	S	16 11 07.9	-1.3
TSZ	Takapari Road	2.51	68	PN	P	16 10 38.3	+0.4
TSZ	Takapari Road	2.51	68	eP	P	16 10 38.5	+0.5
CRLZ	Canterbury Las	2.55	185	PN	P	16 10 38.5	+0.1
CRLZ				SN	S	16 11 11.2	-1.7
CRLZ	Canterbury Las	2.55	185	eP	P	16 10 38.5	+0.1
WVZ	Waitaha Valley	2.61	218	⇓PN	P	16 10 39.3	+0.1
WVZ				SN	S	16 11 11.7	-2.5
WVZ	Waitaha Valley	2.61	218	eP	P	16 10 39.3	+0.2
MQZ	McQueen's Vall	2.68	184	PN	P	16 10 39.7	-0.3
MQZ				SN	S	16 11 13.2	-2.4
MQZ	McQueen's Vall	2.68	184	eP	P	16 10 39.7	-0.2
FWVZ	Far West T-bar	2.69	50	eSN	S	16 11 14.2	-1.4
MOVZ	Moawhango	2.71	54	PN	P	16 10 39.9	-0.4
RPZ	Rata Peaks	3.02	207	⇓PN	P	16 10 44.1	+0.3
RPZ	Rata Peaks	3.02	207	P	P	16 10 44.2	+0.3
PWZ	Pawanui	3.17	73	PN	P	16 10 46.2	+0.5
BKZ	Black Stump Fm	3.31	57	PN	P	16 10 46.7	-0.8
BKZ				SN	S	16 11 26.5	-2.5
BKZ	Black Stump Fm	3.31	57	eP	P	16 10 46.8	-0.7
LBZ	Lake Benmore	3.91	210	⇑PN	P	16 10 54.5	-0.5
KNZ	Kokohu	4.16	63	ePN	P	16 10 57.5	-0.6
URZ	Urewera	4.26	51	PN	P	16 10 57.4	-1.9
URZ	Urewera	4.26	51	eP	P	16 10 57.5	-1.7
JCZ	Jackson Bay	4.33	224	PN	P	16 10 59.3	-0.8
ODZ	Otahua Downs	4.34	202	PN	P	16 11 00.3	0.0
ODZ	Otahua Downs	4.34	202	P	P	16 11 00.4	0.0
MWZ	Matawai	4.46	54	ePN	P	16 11 00.1	-1.8
MWZ	Matawai	4.46	54	eP	P	16 11 01.3	-0.5
PUZ	Puketiti	5.07	56	ePN	P	16 11 09.3	-0.4
TUZ	Tuapeka	5.47	205	ePN	P	16 11 14.3	-0.5
TUZ	Tuapeka	5.47	205	eP	P	16 11 14.3	-0.5

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*HEL **12** 16:10:11.5±0.1, 59.76N×22.25E, ML2.1, ML2.3(UPP), ML2.9(NAO), Explosion*

*IDC **12** 16:10:11.5±1.6, 59.78N×22.37E, mb1 3.5/4, mb1mx3.3/20, ML3.3/4, Error ellipse: s-maj=19.5km s-min=6.4km az=159.0*

*NAO **12** 16:10:13.7±2.1, 59.99N×21.94E, ML2.9*

*BER **12** 16:10:14.4±4.1, 59.87N×22.02E, ML2.9(NAO), Suspected explosion*

ISC 12 16:10:11.3±0.8**, 59.94N**±0.09×**22.17E**±0.07**, n26, σ1^{s}.22**/40**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	Aland	1.11	283	eP	Pb	16 10 33.2	0.0
AAL				eS	Sb	16 10 49.3	+1.2
NUR	Nurmij rvi	1.36	64	eP	Pb	16 10 36.3	-1.1
NRTU	Norrtaelje	1.81	263	eP	Pn	16 10 43.8	-0.2
GRAU	Graesoe	1.86	284	eP	Pn	16 10 45.1	+0.5
PVF	Pernaja	1.94	70	eP	Pn	16 10 45.9	0.0
PVF				eS	Sn	16 11 10.8	-0.5
FLYU	Flymyra	2.16	277	eP	Pn	16 10 49.5	+0.5
NYNU	Nynaeshamn	2.32	248	eP	Pn	16 10 51.2	-0.1
FIA0	FINESS Array S	2.44	50	Pn	Pn	16 10 54.5	+1.4
	baz=218,slow=16						
FIA0				Sn	Sn	16 11 27.5	+3.4
	baz=233,slow=28						
FIA0	FINESS Array S	2.44	50	eP	Pn	16 10 54.7	+1.6
FIA0				eSB	Sb	16 11 27.7	+1.0
FINES	FINESS Array B	2.44	50	Pn	Pn	16 10 54.5	+1.4
	3.3nm,0.3s,baz=223,slow=14,SNR=110						
FINES				Lg		16 11 27.3	
	6.8nm,0.3s,baz=226,slow=25,SNR=4.2						
OSTU	Oestervaala	2.54	279	eP	Pn	16 10 55.0	+0.5
OSTU				eS	Sn	16 11 28.1	+1.6
BACU	Backbrunna	2.55	270	eP	Pn	16 10 54.9	+0.3
VSU	Vasula	2.78	120	eSB	Sb	16 11 31.2	-5.1
ARNU	Arnoeviken	2.93	309	eP	Pn	16 11 01.4	+1.4
KAF	Kangasniemi	2.97	41	eSB	Sb	16 11 41.5	-0.3
KAF				MSG		16 11 44.3	
	comp=Z,4.4nm,0.2s						
FALU	Falun	3.21	283	eP	Pn	16 11 04.2	+0.2
SUF	Sumiainen	3.38	33	eP	Pn	16 11 07.7	+1.2
SUF				MSG		16 12 03.0	
	comp=Z,4.3nm,0.3s						
ROTU	Roteberg	3.46	298	eP	Pn	16 11 08.3	+0.8
HFS	Hagfors	4.25	276	eP	Pn	16 11 18.1	-0.7
HFS				ePG	Pg	16 11 27.6	-8.6
HFS				eS	Sn	16 12 07.0	-2.9
HFS				eSG		16 12 23.2	
HFS	Hagfors	4.25	276	Pn	Pn	16 11 17.8	-1.1
	comp=Z,0.4nm,0.3s,baz=96,slow=13,SNR=38						
HFS				Pg	Pg	16 11 27.5	-8.7
	comp=Z,0.4nm,0.3s,baz=90,slow=16,SNR=13						
HFS				Sn	Sn	16 12 09.2	-0.8
	comp=Z,0.4nm,0.3s,baz=84,slow=28,SNR=9.6						
HFS				Lg		16 12 26.2	
	comp=Z,0.8nm,0.3s,baz=95,slow=30,SNR=10						
HFS	Hagfors	4.25	276	Pn	Pn	16 11 18.1	-0.7
	baz=83,slow=12						
HFS				Pg	Pg	16 11 27.6	-8.6
	baz=92,slow=16						
HFS				Sn	Sn	16 12 07.0	-2.9
	baz=75,slow=28						
HFS				Lg		16 12 23.2	
	baz=94,slow=37						
NOA	NORSAR Array B	5.53	286	Pn	Pn	16 11 35.4	-1.5
	comp=Z,0.7nm,0.3s,baz=95,slow=12,SNR=8.7						
NOA				Sn	Sn	16 12 39.9	-2.1
	comp=Z,0.6nm,0.3s,baz=99,slow=17,SNR=4.3						
NOA				Lg		16 13 05.6	
	comp=Z,2.0nm,0.3s,baz=54,slow=18,SNR=8.0						
ARA0	ARCESS Array S	9.74	7	Pn	P	16 12 32.5	-3.0
	baz=186,slow=12						
ARA0				Sn	Sn	16 14 18.6	-8.2
	baz=186,slow=22						
ARA0				Lg		16 15 17.5	
	baz=178,slow=37						
ARA0	ARCESS Array S	9.74	7	eP	P	16 12 32.5	-3.0
ARA0				eS	Sn	16 14 18.6	-8.2
ARA0				eSG		16 15 17.5	
ARCES	ARCESS Array B	9.74	7	Pn	P	16 12 32.4	-3.1
	comp=Z,0.6nm,0.3s,baz=191,slow=12,SNR=20						
ARCES				Sn	Sn	16 14 19.0	-7.8
	comp=Z,0.6nm,0.3s,baz=186,slow=23,SNR=8.6						
ARCES				Lg		16 15 23.4	
	comp=Z,0.7nm,0.3s,baz=175,slow=30,SNR=5.3						
AKASG	Malin Array Be	10.09	154	Lg		16 15 19.0	
	comp=Z,0.6nm,0.3s,baz=79,slow=30,SNR=3.3						

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*NNC **12** 16:20:16.1±5.4, 44.09N×81.38E, mpv3.3, Error ellipse: s-maj=50.8km s-min=28.9km az=4.0*

BJI 12 16:20:23.4, 44.30N×81.18E, h11^{km}**, ML3.6, 6C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	Makanchi Array	2.61	17	⇓Pn	Pn	16 21 04.7	-1.6
	5.5nm,0.3s,baz=200,slow=14,SNR=451						
MK31				⇑Sn	Sn	16 21 35.2	-3.1
	6.3nm,0.2s,baz=198,slow=27,SNR=6.1						
MK31				⇑Lg		16 21 43.3	
	16nm,0.3s,baz=192,slow=30,SNR=8.8						
WMQ	Urumqi	4.72	94	eP	Pn	16 21 36.1	-0.2
WMQ				S	Sn	16 22 32.4	+0.7
WMQ				SG	Sg	16 22 53.5	-7.1
WMQ				Smax			
	comp=N,26nm,0.7s						
WMQ				Smax			
	comp=E,30nm,0.7s						
KURK	Kurchatov	6.65	346	⇑Pn	Pn	16 21 58.4	-5.1
	comp=E,2.2nm,1.2s,baz=137,slow=14,SNR=3.4						
KK31	Karatay Array	7.82	265	⇓Pn	Pn	16 22 45.3	+25
	comp=E,0.5nm,0.3s,baz=76,slow=16,SNR=3.8						
KK31				⇓Lg		16 24 23.6	
	comp=E,4.5nm,0.5s,baz=76,slow=29,SNR=11						
VOSK	Vostochnaya	10.80	325	⇑Lg		16 25 57.3	
	comp=E,2.8nm,0.7s						
BVA0	Borovoye Array	11.26	325	⇑Lg		16 26 01.2	
	comp=E,0.5nm,0.7s,baz=139,slow=24,SNR=3.9						
BRVK	Borovoye	11.33	324	⇑Lg		16 26 18.9	
	comp=E,2.9nm,0.9s						
ZRNK	Zerenda	11.81	321	⇓Lg		16 26 26.7	
	comp=E,4.8nm,1.0s						

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*NEIC **12** 16:28:02.0, 35.32S×70.34W, h13^{km}, ML2.7(GUC), After GUC.*

GUC 12 16:28:02.0±0.7**, 35.32S×70.34W, h13**^{km}**, MD3.7, ML2.7, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	Cipreses	1.00	356	i P	Pb	16 28 19.7	-1.0
CICH				i S	Sb	16 28 33.9	+0.3
CACH	El Canelo	1.22	350	i P	Pb	16 28 23.2	-1.3
CACH				i S	Sb	16 28 39.2	-0.7
CHCH	Chadas Angostu	1.41	349	eP	Pn	16 28 26.7	-0.7
LMEL	Las Melosas	1.48	4	eP	Pn	16 28 28.1	-0.3
LMEL				AMP		16 28 51.9	
	comp=E,71nm,0.2s						
LNV	Longovilo	1.62	327	⇑iP	Pn	16 28 29.6	-1.0
LNV				i S	Sn	16 28 50.8	-0.6
RCDM	Rinconada Maip	1.87	348	eP	Pn	16 28 34.3	+0.2
RCDM				i S	Sn	16 28 58.2	+0.5
RCDM				AMP		16 29 02.0	
	comp=E,156nm,0.1s						
CLCH	Cerro Calan	1.93	355	eP	Pn	16 28 34.7	-0.2
CLCH				AMP		16 29 08.6	
	comp=N,124nm,0.7s						
FCH	Farellones	1.99	1	eP	Pn	16 28 37.4	+1.6
FCH				i S	Sn	16 29 03.3	+2.5
FCH				AMP		16 29 14.4	
	comp=N,79nm,0.4s						
PEL	Peldehue	2.19	352	eP	Pn	16 28 39.0	+0.3
PEL				AMP		16 29 18.8	
	comp=N,178nm,0.5s						

IDC 12 16:34:35.6±5.8**, 5.95S×151.14E, h71**^{km}±48^{km}**, mb3.5**/4**, mb1 3.8**/5**, mb1mx3.5**/14**, ML2.7**/1**, Error ellipse: s-maj=100.0km s-min=32.9km az=131.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.23	229	P	P	16 35 51.1	-1.9
	1.8nm,0.3s,baz=47,slow=9.3,SNR=9.0						
PMG				S	S	16 36 51.5	-1.1
	4.0nm,0.3s,baz=49,slow=21,SNR=5.7						
WB2	Warramunga Arr	21.44	228	eP	P	16 39 17.7	-2.1
WB2				e		16 39 23.3	
WRA	Warramunga Arr	21.45	228	P	P	16 39 17.8	-2.1
	1.1nm,0.5s,baz=53,slow=10,SNR=8.7						
ASAR	Alice Springs	24.20	222	P	P	16 39 45.2	-1.5
	2.8nm,0.6s,baz=54,slow=8.9,SNR=32						
FITZ	Fitzroy Crossi	27.66	242	eP	P	16 40 18.4	-0.8
	0.8nm,0.3s						
FITZ				e		16 40 24.9	
FITZ	Fitzroy Crossi	27.66	242	P	P	16 40 17.6	-1.6
	1.1nm,0.4s,baz=49,slow=11,SNR=11						
ILAR	Eielson Array	83.84	22	P	P	16 46 57.3	-1.1
	0.6nm,0.9s,baz=257,slow=5.7,SNR=5.0						

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*IDC **12** 16:35:07.8±0.8, 52.03S×16.89E, mb4.1/7, mb1 4.1/8, mb1mx4.0/16, ML3.1/1, MS3.9/2, Ms1 3.9/2, ms1mx3.4/20, Error ellipse: s-maj=31.4km s-min=21.1km az=49.0*

*NEIC **12** 16:35:09.3±0.4, 51.99S×16.98E, h10^{km}, mb4.5/12, Error*

ellipse: s-maj=16.7km s-min=8.5km az=96.0

ISC 12 16:35:07.5±0.5**,51.96S**±0.07×**16.9E**±0.2**,h10^{km},n33,** σ**1^{s}12**/24**,mb4.4**/15**,MS4.2**/1**,4C,Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	Sutherland	19.77	10	P	P	16 39 38.5	-2.0
	0.1nm,0.3s,baz=176,slow=15,SNR=2.2						
SUR				LR	LR	16 45 30.8	
	comp=Z,200nm,21.4s,baz=253,slow=31						
SUR	Sutherland	19.77	10	eP	P	16 39 37.8	-2.7
	34nm,1.4s						
SNAA	Sanae	21.65	197		P	16 39 55.3	-4.4
SNAA	Sanae	21.65	197	⇑i	P	16 39 57.6	-2.1
SNAA	Sanae	21.65	197	eP	P	16 39 57.6	-2.0
	28nm,1.2s,mb4.6						
VNA1	Neumayer--Stat	21.99	202	⇑i	P	16 40 03.9	+0.9
VNA2	Neumayer--Watz	21.99	201	⇑iP	P	16 40 03.6	+0.6
VNA3	Neumayer Olymp	22.73	202	⇑i	P	16 40 11.5	+1.3
MAW	Mawson	27.06	143	P	P	16 40 51.0	-0.5
	2.0nm,0.9s,mb3.7,baz=294,slow=13,SNR=3.6						
TSUM	Tsumeb	32.70	1	P	P	16 41 43.0	+0.9
	6.6nm,1.3s,mb4.4						
LSZ	Lusaka	37.69	18	eP	P	16 42 24.8	+0.1
	1.8nm,0.8s,mb3.9						
QSPA	South Pole Qui	38.27	180	eP	P	16 42 28.2	-0.8
	6.5nm,1.0s,mb4.3						
VNDA	Vanda	48.96	170	P	P	16 43 54.1	-1.0
	2.1nm,1.0s,mb4.1,baz=218,slow=9.5,SNR=12						
SBA	Scott Base	49.12	172	eP	P	16 43 56.5	+0.1
	8.1nm,1.0s,mb4.7						
MBAR	Mbarara	52.48	18	eP	P	16 44 23.1	+0.3
	10.0nm,1.4s,mb4.5						
CPUP	Villa Florida	60.19	265	P	P	16 45 16.2	-1.5
	0.5nm,0.4s,mb3.9,baz=122,slow=7.4,SNR=3.0						
DBIC	Dimbokro	61.31	335	P	P	16 45 26.9	+1.4
	9.0nm,1.0s,mb4.8,baz=139,slow=5.7,SNR=3.4						
DBIC	Dimbokro	61.31	335	P	P	16 45 26.9	+1.4
BDFB	Brasilia	62.42	280	P	P	16 45 31.7	-1.3
	1.9nm,0.5s,mb4.5,baz=133,slow=1.3,SNR=2.2						
RCBR	Riachuelo	63.18	297	P	P	16 45 33.8	-4.2
	35nm,1.3s,mb5.3						
LVC	Limon Verde	70.02	259	LR	LR	17 10 16.7	
	comp=Z,137nm,20.7s,MS4.2,baz=212,slow=30						
LPAZ	La Paz	74.33	264	P	P	16 46 48.6	+1.6
	0.7nm,0.5s,mb3.9,baz=166,slow=3.5,SNR=6.3						
LPAZ	La Paz	74.33	264	eP	P	16 46 48.2	+1.3
	9.7nm,1.5s,mb4.5						
SAML	Samuel	76.92	272	eP	P	16 47 01.6	-0.1
	5.9nm,0.9s,mb4.5						
SAML				e		16 47 08.8	
ASAR	Alice Springs	86.78	125	P	P	16 47 54.1	+1.2
	0.9nm,0.8s,mb4.1,baz=205,slow=4.6,SNR=13						
ELN	Prospectdale	122.64	290	ePKPdf	PKPdf	16 54 09.2	+3.1
FWV	Forest Hill	122.91	290	ePKPdf	PKPdf	16 54 01.6	-5.0
CCM	Cathedral Cave	129.39	284	ePKPdf	PKPdf	16 54 19.0	-0.1
FFC	Flin Flon	144.43	299	eP	PKPbc	16 54 44.0	+1.6
NVAR	Mina Array Bea	146.24	264	PKPbc	PKPbc	16 54 50.9	+3.3
	2.8nm,0.8s,baz=135,slow=5.1,SNR=8.9						
CHMT	Chamberlain Mo	147.74	281	ePKPdf	PKPdf	16 54 52.0	+0.3
WVOR	Wild Horse Val	148.79	270	ePKPdf	PKPdf	16 54 51.7	-1.8
WVOR				ePKPbc	PKPdf	16 54 58.2	+4.7
YKA	Yellowknife Ar	152.41	311	PKPbc	PKPdf	16 55 03.8	+5.5
	0.9nm,0.7s,baz=63,slow=2.8,SNR=4.6						

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*BGR **12** 16:35:27.2±0.2,49.84N×8.47E,h10^{km},ML2.3/8,Error ellipse: s-maj=2.2km s-min=2.2km az=144.0*

*LEDBW **12** 16:35:27.8±0.2,49.84N×8.50E,h10^{km},ML2.4,Error ellipse: s-maj=8.0km s-min=2.0km az=31.0*

*STR **12** 16:35:28.8±0.7,49.88N×8.08E,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **12** 16:35:28.0±0.2,49.86N×8.36E,h2^{km},Md2.9/1,Ml2.8/11, Error ellipse: s-maj=3.0km s-min=2.3km az=95.0*

*NEIC **12** 16:35:28.8,49.88N×8.08E,h5^{km},ML2.8(LDG), ML2.4(LEDBW),ML2.4(STR),ML2.2(SZGRF),After STR.*

*BNS **12** 16:35:29.5±0.3,49.99N×8.58E,h10^{km},ML2.0*

ISC 12 16:35:24.9±0.3**,49.88N**±0.02×**8.48E**±0.02**,h11**^{km}±2^{km}**, n47,**σ**1^{s}28**/94**,1C,Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOD	Tromm	0.34	142	⇑iPg	Pg	16 35 33.9	+1.9
TOD				i Sg	Sg	16 35 38.4	+1.5
SWS	Schriesheim	0.42	160	Pg	Pg	16 35 35.1	+1.6
SWS				Sg	Sg	16 35 40.4	+1.1
ABH	Alteburg	0.60	271	Pg	Pg	16 35 39.5	+2.4
KOE	Koppel	0.73	319	ePg	Pg	16 35 42.6	+3.0
KOE				eSg	Sg	16 35 52.4	+3.0
	97nm,0.5s						
SIND	Sindeldorf	0.91	125	Pn	Pn	16 35 44.5	+1.0
SIND				Sg	Sg	16 35 57.3	+2.1
RUP	Ruppelstein	0.94	260	Pg	Pg	16 35 45.8	+2.1
LANF	Langenberg	1.00	206	ePg	Pg	16 35 45.7	+0.7
	SNR=4.3						
LANF				Pn	Pn	16 35 45.8	+1.0
LANF				eSg	Sg	16 35 58.6	+0.3
	SNR=2.8						
LANF				Sn	Sn	16 35 59.2	+0.3
LANF	Langenberg	1.00	206	P	Pn	16 35 45.8	+1.0
LANF				S	Sn	16 35 59.2	+0.3
LANF	Langenberg	1.00	206	Pg	Pg	16 35 45.9	+0.9
LANF				Sg	Sg	16 35 59.6	+1.3
STU	Stuttgart	1.20	157	eSg	Sg	16 36 04.5	-0.6
	SNR=1.8						
LBG	Lerchenberg	1.23	170	Sg	Sg	16 36 06.9	+0.9
STB	Steinbach	1.27	305	ePg	Pg	16 35 51.7	+1.3
STB				eSg	Sg	16 36 08.6	+1.2
	21nm,0.5s						
TUBL	Tuebingen Lnz	1.41	163	Sg	Sg	16 36 12.1	0.0
WLF	Walferdange	1.52	263	ePn	Pn	16 35 54.8	+2.5
	SNR=2.2						
WLF				eSg	Sg	16 36 14.5	-1.2
	SNR=8.9						
BUCH	Bad Urach	1.54	158	Pg	Pg	16 35 56.3	+0.6
BUCH				Sg	Sg	16 36 16.3	0.0
BUCH	Bad Urach	1.54	158	S	Sg	16 36 16.3	0.0
BFO	Black Forest	1.55	184	ePn	Pn	16 35 54.2	+1.5
	SNR=7.5						
BFO				eSg	Sg	16 36 15.5	-1.2
	SNR=2.6						
BFO	Black Forest	1.55	184	ePn	Pn	16 35 54.1	+1.4
BFO				eSg	Sg	16 36 16.7	0.0
KLL	Kalltalsperre	1.59	300	ePg	Pg	16 35 57.0	+0.3
KLL				eSg	Sg	16 36 15.4	-2.5
WLS	Welschbruch	1.64	207	Pg	Pg	16 35 57.3	-0.4
WLS				Sg	Sg	16 36 18.8	-0.8
CDF	Champ du Feu	1.67	209	ePn	Pn	16 35 55.1	+0.8
CDF				ePg	Pg	16 35 58.2	0.0
CDF				eSn	Sn	16 36 15.6	-0.2
CDF				eSg	Sg	16 36 18.9	-1.5
	13nm,0.2s						
HDH	Heidenheim	1.72	138	Sg	Sg	16 36 21.6	-0.7
GRA1	Grafenberg Arr	1.79	95	ePg	Pg	16 36 01.6	+0.9
GRA1				eSg	Sg	16 36 23.8	-0.8
GRF	Grafenberg Arr	1.79	95	ePg	Pg	16 36 01.6	+0.9
GRF				eSg	Sg	16 36 23.7	-0.9
	SNR=3.6						
KIZ	Kirchzarten	1.96	191	Pg	Pg	16 36 04.8	+0.7
KIZ				Sg	Sg	16 36 29.4	-0.8
MOX	Moxa	2.16	68	ePg	Pg	16 36 07.6	-0.4
	SNR=4.3						
MOX				eSg	Sg	16 36 36.0	-0.8
	SNR=1.9						
MOX	Moxa	2.16	68	ePg	Pg	16 36 07.6	-0.4
MOX				eSg	Sg	16 36 36.0	-0.8
MOF	Molkenrain	2.21	204	Pg	Pg	16 36 09.4	+0.3
CLZ	Clausthal	2.30	31	eSn	Sn	16 36 33.6	+1.5
	SNR=4.0						
CLZ				eSg	Sg	16 36 41.8	+0.1
	SNR=3.7						
HINF	Hinteralfeld	2.33	208	ePn	Pn	16 36 04.7	+0.9
HINF				ePg	Pg	16 36 11.3	-0.1
HINF				eSn	Sn	16 36 31.7	-0.9
HINF				eSg	Sg	16 36 39.4	-3.0
	12nm,0.2s						
THEF	They Montfort	2.33	226	Pn	Pn	16 36 04.1	+0.3
THEF				Sg	Sg	16 36 39.2	-3.2
HAU	Haudompre	2.34	218	ePn	Pn	16 36 04.6	+0.6
HAU				ePg	Pg	16 36 10.8	-0.9
HAU				eSg	Sg	16 36 39.4	-3.5
	13nm,0.3s						
WTSB	Winterswijk	2.35	334	eSg	Sg	16 36 42.9	-0.2
	SNR=2.2						
GIVF	Givet	2.37	277	eSn	Sn	16 36 32.3	-1.4
GIVF				eSg	Sg	16 36 40.6	-3.2
	10nm,0.3s						
GUNZ	Gunzen	2.53	77	ePg	Pg	16 36 15.2	-0.2
	SNR=6.0						
GUNZ				eSn	Sn	16 36 38.7	+0.9
	SNR=1.1						
GUNZ				eSg	Sg	16 36 47.3	-1.8
	SNR=1.6						
WERD	Werda	2.53	75	ePg	Pg	16 36 15.3	-0.2
	SNR=4.3						
WERD				eSg	Sg	16 36 47.3	-1.8
TANN	Tannenbergstha	2.62	77	ePg	Pg	16 36 17.2	0.0
	SNR=6.0						
TANN				eSg	Sg	16 36 50.4	-1.7
	SNR=3.8						
CLL	Collm	3.22	62	eSn	Sn	16 36 55.4	+0.1
	SNR=1.0						
CLL				eSg	Sg	16 37 10.1	-2.1
	SNR=2.2						
CLL	Collm	3.22	62	eSG	Sg	16 37 07.0	-5.2
GEC2	GERESS Array S	3.57	105	ePn	Pn	16 36 23.2	+1.8
	SNR=2.2						
GEC2				eSn	Sn	16 37 02.1	-2.0
	SNR=1.5						
GEC2				eSg	Sg	16 37 19.6	-4.1
	SNR=1.2						
BRG	Berggiesshubel	3.64	72	ePg	Pg	16 36 34.7	-2.9
BRG				eSg	Sg	16 37 22.9	-3.2
CABF	La Chapelle	3.64	207	ePn	Pn	16 36 23.2	+0.7
CABF				eSg	Sg	16 37 21.3	-4.8
	2.8nm,0.3s						
LOR	Lormes	4.03	231	ePn	Pn	16 36 27.6	-0.4
LOR				eSn	Sn	16 37 12.1	-3.6
LOR				eSg	Sg	16 37 31.9	-7.1
	3.9nm,0.3s						
SSF	Saint Saulge	4.34	231	ePn	Pn	16 36 32.1	-0.4
SSF				eSn	Sn	16 37 19.5	-4.3
SSF				eSg	Sg	16 37 41.2	-8.4
	1.9nm,0.3s						
SMF	Signal de Mont	4.48	226	ePn	Pn	16 36 33.6	-0.8
SMF				eSg	Sg	16 37 46.3	-7.7
	2.6nm,0.3s						
AVF	Avril sur Loir	4.61	230	ePn	Pn	16 36 35.7	-0.5
AVF				eSn	Sn	16 37 25.6	-4.8
	1.2nm,0.3s						
HYF	Humbligny	4.67	238	ePn	Pn	16 36 36.1	-1.1

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*NAO **12** 16:36:27.3±4.2,68.55N×17.92E,ML1.8*

*NEIC **12** 16:36:28.4,69.10N×17.32E,h0^{km},MD2.4(BER),After BER.*

NEIC Felt at Stronglandseidet.

*BER **12** 16:36:29.4±4.5,69.15N×17.19E,h15^{km},MD2.4,ML1.7, ML1.8(NAO)*

ISC 12 16:36:27.3±0.9**,69.2N**±0.1×**17.2E**±0.2**,h15**^{km}**,n8,** σ**1^{s}25**/15**,Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	Tromso	0.77	53	eP	Pb	16 36 40.0	-1.8
TRO				eS	Sb	16 36 52.3	+0.6
LOF	Lofoten	1.70	233	eP	Pn	16 36 57.2	+0.5
LOF				eSg	Sg	16 37 18.8	-5.2
LOF				AML	AML	16 37 20.7	
	comp=Z,12nm,0.4s						
LOF	Lofoten	1.70	233	eP	Pn	16 36 57.2	+0.5
LOF				eS	Sn	16 37 19.2	+1.0
KTK1	Kautokeino	2.18	92	eP	Pn	16 37 04.0	+0.5
KTK1				eSg	Sg	16 37 33.9	-5.9
KTK1				AML	AML	16 37 37.0	
	comp=Z,12nm,0.4s						
KTK1	Kautokeino	2.18	92	eP	Pn	16 37 04.0	+0.5
KTK1				eSg	Sg	16 37 34.8	-5.1
ARA0	ARCESS Array S	2.97	79	Pn	Pn	16 37 14.5	-0.3
	baz=254,slow=14						
ARA0				Sn	Sn	16 37 51.4	+0.9
	baz=253,slow=28						
ARA0				Lg		16 37 58.2	
	baz=266,slow=28						
MOR8	Moi Rana	3.20	200	eSg	Sn	16 37 59.3	+3.1
MOR8	Moi Rana	3.20	200	eP	Pn	16 37 15.4	-2.6
MOR8				eSg	Sn	16 38 00.7	+4.5

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*JMA **12** 16:51:10.9±0.6,32.40N×139.30E,h259^{km}±5^{km},M3.6*

*IDC **12** 16:51:12.3±1.9,32.34N×138.87E,h223^{km}±32^{km},mb3.3/4, mb1 3.4/5,mb1mx3.1/22,Error ellipse: s-maj=133.0km s-min=17.7km az=88.0*

ISC 12 16:51:11.9±0.7**,32.41N**±0.08×**139.3E**±0.2**,h244**^{km}±7^{km}**, n18,**σ**0^{s}81**/21**,mb3.5**/4**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	0.81	29	P	P	16 51 46.6	+1.1
	6.1nm,0.3s,baz=57,slow=22,SNR=9.8						
JHJ				S	S	16 52 11.1	-0.7
	27nm,0.3s,baz=64,slow=22,SNR=9.9						
JHJ2	Mitsune	0.82	31	P	P	16 51 46.5	+0.9
BSO3	Boso 3	2.58	22	P	P	16 52 00.1	+0.1
BSO1	Boso 1	2.63	31	P	P	16 52 00.6	+0.1
BSO1				S	S	16 52 38.2	0.0
BSO4	Boso 4	2.71	18	P	P	16 52 01.3	0.0
SHZ3	Shizuoka 3	2.80	341	P	P	16 52 02.4	+0.1
JOD2	Odawara 2	2.85	356	P	P	16 52 03.2	+0.4
JYN	Shimob	3.14	348	P	P	16 52 06.6	+0.5
JNY	Yasuok	3.18	338	P	P	16 52 06.5	+0.1
JHU	Hanno	3.43	360	P	P	16 52 08.6	-0.7
JRY	Ryogami san	3.61	355	P	P	16 52 11.7	+0.3
JYT	Yasato	3.88	11	P	P	16 52 13.0	-1.5
JYT				S	S	16 52 59.8	-3.3
MAT	Matsushiro	4.22	348	P	P	16 52 17.8	-0.8
ASAJ	Asahikawa	11.97	11	P	P	16 53 57.9	+1.8
	0.7nm,0.3s,baz=226,slow=13,SNR=5.2						
FITZ	Fitzroy Crossi	51.90	197	P	P	16 59 57.1	-0.5
	5.5nm,1.2s,mb3.8,baz=76,slow=5.7,SNR=2.7						
WRA	Warramunga Arr	52.27	186	P	P	16 59 59.8	-0.6
	0.4nm,0.4s,mb3.2,baz=1.5,slow=7.9,SNR=16						
ASAR	Alice Springs	56.00	186	P	P	17 00 27.0	-0.2
	0.2nm,0.6s,mb2.9,baz=2.8,slow=5.9,SNR=7.3						
ARCES	ARCESS Array B	67.71	340	P	P	17 01 44.8	+0.6
	3.5nm,1.1s,mb3.9,baz=63,slow=6.0,SNR=2.3						

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*BJI **12** 16:52:15.3,49.98N×87.72E,h19^{km},mB4.7,mb4.4,ML5.2, Ms4.7,Msz4.2*

*IDC **12** 16:52:15.5±0.6,49.79N×88.13E,mb4.1/19,mb1 4.3/22, mb1mx4.3/24,ML4.4/3,MS3.5/2,Ms1 3.5/2,ms1mx2.9/28, Error ellipse: s-maj=12.5km s-min=9.9km az=167.0*

*NNC **12** 16:52:16.1±1.7,49.76N×87.90E,mpv5.1,Error ellipse: s-maj=16.7km s-min=9.7km az=68.0*

*LDG **12** 16:52:16.4±0.3,49.71N×87.96E,h10^{km},Mb4.6/11, Ms3.0/1,Error ellipse: s-maj=19.3km s-min=10.0km az=17.0*

*MOS **12** 16:52:17.4±2.1,49.66N×87.91E,h20^{km},mb4.2/13,Error ellipse: s-maj=11.1km s-min=6.6km az=117.0*

*NEIC **12** 16:52:18.3±2.6,49.83N×88.04E,h17^{km}±16^{km},mb4.5/31, Error ellipse: s-maj=8.3km s-min=4.8km az=206.0*

ISC 12 16:52:17.3±0.2**,49.75N**±0.03×**87.88E**±0.04**,h20**^{km}**, (h20**^{km}±.5^{km}**:pP-P),n142,**σ**1^{s}41**/159**,mb4.4**/51**,MS3.8**/6**, 11C-5D,Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	Aktash	0.60	344	i PG	Pb	16 52 28.9	0.0
AKAR				i S	Sb	16 52 36.8	-0.1
KTNR	Kaitanak	1.61	285	i PN	Pn	16 52 47.3	+2.3
KTNR				i		16 52 52.1	
KTNR				i S	Sn	16 53 10.0	+4.6
UKR	Ust'-Kan	2.32	302	ePN	Pn	16 52 59.8	+4.6
UKR				eS	Sn	16 53 31.7	+8.3
TASR	Tashtagol	3.02	360	ePN	Pn	16 53 08.2	+3.1
TASR				eS	Sn	16 53 51.2	+10
ELT	Yel'tsovka	3.67	344	ePN	Pn	16 53 17.2	+2.9
ELT				e		16 53 28.4	
ELT				eS	Sn	16 54 09.3	+12
MK31	Makanchi Array	4.76	234	⇑Pn	Pn	16 53 31.9	+2.1
	82nm,0.4s,baz=62,slow=13,SNR=4856						
MK31				⇑Pg	Pn	16 53 43.9	+14
	402nm,0.6s,baz=56,slow=20,SNR=46						
MK31				⇑Lg		16 54 46.3	
	1µm,0.7s,baz=51,slow=32,SNR=9.7						
MKAR	Makanchi Array	4.76	234	Pn	Pn	16 53 31.8	+1.9
	36nm,0.3s,baz=60,slow=13,SNR=709						
MKAR				Sn	Sn	16 54 28.7	+3.5
	118nm,0.3s,baz=90,slow=15,SNR=5.0						
MKAR				Lg		16 54 49.9	
	140nm,0.3s,baz=58,slow=32,SNR=5.5						
MKAR				LR	LR	16 54 54.9	
	comp=Z,369nm,20.7s,baz=93,slow=32						
MKAR	Makanchi Array	4.76	234	PN	Pn	16 53 31.8	+1.9
MKAR						16 54 28.7	
MKAR				pmax	pmax		
	comp=Z,36nm,0.3s						
MKAR				smax			
	comp=N,118nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,369nm,20.7s						
SHRR	Shira	4.96	16	ePN	Pn	16 53 34.1	+1.4
SHRR				eS	Sn	16 54 48.2	+18
SHRR				pmax	pmax		
	comp=Z,155nm,0.6s						
NVS	Novosibirsk	5.84	333	i PN	Pn	16 53 44.7	-0.4
NVS				i		16 54 05.7	
NVS				i		16 54 53.1	
WMQ	Urumqi	5.93	181	⇓iP	Pn	16 53 46.8	+0.4
WMQ				S	Sn	16 54 53.5	-1.0
WMQ				SG	Sn	16 55 22.0	+27
WMQ				Smax			
	comp=N,965nm,0.9s						
WMQ				Smax			
	comp=E,1µm,0.8s						
KURK	Kurchatov	6.02	283	⇑Pn	Pn	16 53 47.9	+0.2
	comp=E,69nm,0.6s,baz=91,slow=11,SNR=743						
KURK				⇑Sn	Sn	16 54 57.6	+0.8
	comp=E,345nm,1.0s,baz=34,slow=7.6,SNR=8.7						
KURK				⇑Lg		16 55 25.7	
	comp=E,925nm,0.7s,baz=9.6,slow=16,SNR=13						
KURK	Kurchatov	6.02	283	i PN	Pn	16 53 47.8	+0.1
KURK				pmax	pmax		
	comp=Z,69nm,0.6s						
KURK	Kurchatov	6.02	283	ePn	Pn	16 53 47.9	+0.2
KURK				eSn	Sn	16 54 59.3	+2.5
MOY	Mondy	8.54	72	eP	P	16 54 30.2	+7.2
MOY				eS	Sn	16 55 59.7	-0.1
MOY				pmax	pmax		
	comp=Z,66nm,0.8s						
MOY				pmax	pmax		
	comp=N,805nm,1.2s						
TKM2	Tokmak 2	10.89	236	P	P	16 54 54.0	-1.2
	SNR=16						
VOSK	Vostochnaya	11.01	292	⇑Pn	P	16 54 54.5	-2.2
	comp=N,13nm,0.6s						
VOSK				⇑Sn	S	16 56 53.8	-6.5
	comp=N,58nm,1.1s						
VOSK				⇓Lg		16 58 02.9	
	comp=N,124nm,0.9s						
VOSK	Vostochnaya	11.01	292	P	P	16 54 54.4	-2.3
VOSK						16 56 53.7	
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ULHL	Ulahol	11.03	232	P	P	16 54 59.9	+2.8
	SNR=8.5						
USP	Ospenovka	11.26	240	P	P	16 54 57.5	-2.7
	SNR=25						
CHMS	Chumysh	11.30	238	P	P	16 54 58.1	-2.6
	SNR=7.3						
BVA0	Borovoye Array	11.41	293	Pn	P	16 55 00.4	-1.8
	comp=Z,0.3nm,0.7s,baz=98,slow=20,SNR=235						
BVAR	Borovoye Array	11.41	293	Pn	P	16 55 00.4	-1.8
	comp=Z,3.8nm,0.3s,baz=103,slow=15,SNR=57						
BVAR				Sn	S	16 57 04.8	-5.3
	comp=Z,11nm,0.3s,baz=94,slow=22,SNR=17						
BVAR				Lg		16 58 19.0	
	comp=Z,3.1nm,0.3s,baz=114,slow=26,SNR=2.1						
KBK	Karagaybulak	11.42	237	P	P	16 55 00.8	-1.6
	SNR=16						
BRVK	Borovoye	11.48	293	eP	P	16 55 01.5	-1.6
	comp=Z,18nm,0.5s						
BRVK				eS	S	16 57 03.2	-8.5
FRU	Bishkek	11.48	238	eP	P	16 55 16.0	+13
KZA	Kyzart	11.66	234	P	P	16 55 06.3	+0.7
	SNR=27						
AAK	Ala-Archa	11.68	238	P	P	16 55 06.5	+0.6
	SNR=10						
UCH	Uchtor	11.95	236	P	P	16 55 08.6	-0.9
	SNR=6.4						
ZRNK	Zerenda	12.22	292	⇑Pn	P	16 55 11.3	-1.9
	comp=Z,26nm,0.6s						
ZRNK				⇓Sn	S	16 57 24.5	-5.4
	comp=Z,49nm,0.7s						
ZRNK				⇑Lg		16 58 41.8	
	comp=Z,104nm,0.8s						
ZRNK	Zerenda	12.22	292	P	P	16 55 11.2	-2.0
ZRNK						16 57 24.5	
ZRNK				pmax	pmax		
	comp=Z,16nm,0.6s						
ZRNK	Zerenda	12.22	292	eP	P	16 55 11.2	-2.1
SONM	Songino Array	12.36	92	Pn	P	16 55 11.2	-3.9
	comp=Z,0.2nm,0.3s,baz=281,slow=13,SNR=37						
SONM				Lg		16 58 41.2	
	comp=Z,1.6nm,0.3s,baz=275,slow=32,SNR=4.3						
AML	Almayashu	12.46	238	P	P	16 55 15.7	-0.7
	SNR=14						
KK31	Karatay Array	13.68	248	⇑Pn	P	16 55 28.5	-4.0
	comp=Z,5.8nm,0.5s,baz=50,slow=13,SNR=134						
KKAR	Karatay Array	13.68	248	i P	P	16 55 28.5	-4.0
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BOD	Bodaibo	17.33	52	eP	P	16 56 14.6	-4.9
LZH	Lanzhou	17.92	134	eP	P	16 56 28.1	+1.2
LZH				AP		16 56 30.5	
LZH				PP	PP	16 56 43.1	+1.3
LZH				eS	S	16 59 45.6	+2.0
LZH				SS	SS	17 00 08.7	+2.0
LZH				AMB	AMB		
	comp=Z,39nm,1.3s						
LZH				AMB	AMB		
	comp=Z,153nm,4.1s						
LZH				LR	LR		
	comp=N,906nm,8.5s						
LZH				LR	LR		
	comp=Z,1µm,10.5s						
LZH	Lanzhou	17.92	134	eP	P	16 56 28.1	+1.2
	comp=Z,39nm,1.3s						
LZH				pP		16 56 30.5	
LZH				sP		16 56 32.6	
LZH				PP	PP	16 56 43.1	+1.3
LZH				eS	S	16 59 45.6	+2.0
LZH				sS		16 59 53.2	
LZH				SS	SS	17 00 08.7	+2.0
AB31	Akbulak array	18.12	279	P	P	16 56 27.7	-1.6
	comp=Z,4.5nm,0.5s,baz=228,slow=18,SNR=106						
AB31	Akbulak array	18.12	279	i P	P	16 56 27.7	-1.6
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	Arti	18.73	302	⇓iP	P	16 56 36.7	-0.1
ARU				i S	S	17 00 10.4	+8.6
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU				MLR	MLR		
	comp=N,30nm,14.0s						
ARU				MLR	MLR		
	comp=E,100nm,16.5s						
ARU	Arti	18.73	302	eP	P	16 56 36.1	-0.7
	comp=E,20nm,0.6s						
ARU				eS	S	16 59 48.4	-13
SDNR	Sundarnagar	19.98	208	eP	P	16 56 54.0	+2.7
LSA	Lhasa	20.18	172	eP	P	16 56 53.8	+0.5
LSA	Lhasa	20.18	172	eP	P	16 56 51.7	-1.6
	comp=E,9.0nm,0.6s						
SOKR	Solikamsk	20.31	311	eP	P	16 56 53.1	-1.4
SOKR				eS	S	17 00 27.8	-8.2
SOKR				pmax	pmax		
	comp=Z,20nm,1.4s						
SOKR				MLR	MLR		
	comp=Z,300nm,4.0s						
HIA	Hailar	20.62	79	eP	P	16 56 56.7	-1.1
	comp=Z,17nm,1.0s						
GKN	Gorkha	21.86	188	eP	P	16 57 11.4	+0.9
	comp=Z,17nm,0.5s,mb4.7						
KKN	Kakani	22.02	186	eP	P	16 57 11.4	-0.7
	comp=Z,38nm,0.6s,mb5.0						
XAN	Xi'an	22.06	127	P	P	16 57 11.0	-1.5
BJI	Beijing	22.15	105	P	P	16 57 13.9	+0.5
BJI				AMB	AMB		

	comp=Z,12nm,0.9s,mb4.3						
BJI				LR	LR		
	comp=N,1µm,10.5s,MS4.7						
BJI				LR	LR		
	comp=E,889nm,10.5s,MS4.7						
BJI				LR	LR		
	comp=Z,132nm,24.9s						
BJT	**Baijiatuau**	**22.16**	**105**	*e*P	**P**	**16 57 12.5**	**-1.0**
	comp=Z,15nm,0.8s,mb4.5						
KOLN	**Koldanda**	**22.19**	**190**	*e*P	**P**	**16 57 15.6**	**+1.8**
	comp=Z,44nm,0.9s,mb4.9						
DMN	**Daman**	**22.21**	**187**	*e*P	**P**	**16 57 12.9**	**-1.1**
	comp=Z,23nm,0.7s,mb4.7						
PKI	**Pulchoki**	**22.23**	**186**	*e*P	**P**	**16 57 13.6**	**-0.6**
	comp=Z,62nm,1.0s,mb5.0						
SHL	**Shillong**	**24.34**	**171**	*e*P	**P**	**16 57 31.2**	**-3.6**
ENH	**Enshi**	**25.38**	**132**	*e*P	**P**	**16 57 47.5**	**+2.8**
	comp=Z,6.4nm,0.7s,mb4.3						
SNY	**Shenyang**	**25.93**	**94**	⇓P	**P**	**16 57 51.2**	**+1.5**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
YAK	**Yakutsk**	**25.95**	**46**	*e*P	**P**	**16 57 48.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
YAK	**Yakutsk**	**25.95**	**46**	*e*P	**P**	**16 57 47.5**	**-2.3**
	comp=Z,24nm,0.8s,mb4.8						
CN2	**Changchun**	**26.20**	**89**	*e*P	**P**	**16 57 51.0**	**-1.2**
CN2				LR	LR		
	comp=Z,400nm,14.0s,MS4.1						
KMI	**Kunming**	**27.16**	**149**	*e*P	**P**	**16 58 01.8**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.1						
KMI				S	**S**	**17 02 39.4**	**+2.4**
KMI				LR	LR		
	comp=Z,60nm,28.1s,MS3.0						
OBN	**Obninsk**	**31.14**	**300**	*e*P	**P**	**16 58 36.8**	**+0.2**
OBN				*i*		16 59 34.7	
OBN				*e*S	**S**	**17 03 42.1**	**+2.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.5						
OBN	**Obninsk**	**31.14**	**300**	*e*P	**P**	**16 58 33.2**	**-3.4**
	comp=Z,27nm,1.1s,mb5.0						
OBN				*e*	pP	16 58 38.7	-3.7
CMAR	**Chiang Mai Arr**	**32.46**	**160**	P	**P**	**16 58 47.7**	**-0.7**
	comp=Z,1.7nm,1.0s,mb3.8,baz=336,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**32.46**	**160**	P	**P**	**16 58 47.7**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SOC	**Sochi**	**33.15**	**278**	*e*P	**P**	**16 58 54.5**	**+0.3**
SOC				*e*		17 00 10.2	
SOC				*e*S	**S**	**17 04 06.5**	**-5.0**
SOC				*e*SS	SS	17 06 07.8	-5.1
SOC				*e*SSS	SSS	17 06 41.5	+4.3
SOC				pmax	pmax		
	comp=N,59nm,0.9s						
SOC				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=E,23nm,0.7s						
SOC				MLR	MLR		
	comp=Z,183nm,17.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,165nm,19.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,104nm,21.0s,MS3.8						
ARCES	**ARCESS Array B**	**35.09**	**327**	P	**P**	**16 59 10.6**	**-0.1**
	comp=E,2.0nm,0.9s,mb4.0,baz=90,slow=12,SNR=3.1						
ARCES	**ARCESS Array B**	**35.09**	**327**	P	**P**	**16 59 10.6**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KAF	**Kangasniemi**	**35.23**	**314**	*e*p	**P**	**16 59 12.8**	**+0.9**
QIZ	**Qiongzhong**	**35.33**	**142**	*e*P	**P**	**16 59 12.8**	**-0.5**
FINES	**FINESS Array B**	**35.44**	**313**	P	**P**	**16 59 13.8**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=68,slow=10,SNR=9.6						
FINES	**FINESS Array B**	**35.44**	**313**	P	**P**	**16 59 13.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SIM	**Simferopol’**	**36.09**	**283**	*e*P	**P**	**16 59 23.0**	**+3.6**
SIM				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
MA2	**Magadan**	**36.33**	**50**	*e*P	**P**	**16 59 14.7**	**-6.6**
	comp=Z,6.5nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**36.69**	**295**	P	**P**	**16 59 24.0**	**-0.4**
	comp=Z,5.6nm,0.5s,mb4.7,baz=57,slow=8.8,SNR=20						
AKASG	**Malin Array Be**	**36.69**	**295**	P	**P**	**16 59 24.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MALT	**Malatya**	**36.72**	**271**	*e*P	**P**	**16 59 21.3**	**-3.5**
	comp=Z,3.3nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**39.03**	**276**	P	**P**	**16 59 44.5**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.3,baz=77,slow=7.2,SNR=5.8						
BRTR	**Keskin Array B**	**39.03**	**276**	P	**P**	**16 59 44.5**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
JHJ	**Hachijo jima 2**	**41.43**	**94**	LR	LR	17 18 21.4	
	comp=Z,98nm,19.3s,MS3.7,baz=328,slow=38						
ASF	**Jabal al Asfar**	**41.44**	**265**	P	**P**	**17 00 06.2**	**+2.1**
	comp=Z,2.3nm,0.7s,mb4.0,baz=182,slow=5.1,SNR=2.9						
OJC	**Ojcow**	**42.37**	**298**	*e*P	**P**	**17 00 16.0**	**+4.6**
NB2	**NORSAR Subarra**	**42.47**	**315**	P	**P**	**17 00 11.5**	**-0.6**
	comp=Z,2.5nm,0.5s,mb4.1,baz=67,slow=7.9						
NOA	**NORSAR Array B**	**42.47**	**315**	P	**P**	**17 00 11.8**	**-0.3**
	comp=Z,1.3nm,1.0s,mb3.5,baz=78,slow=6.8,SNR=8.6						
NOA	**NORSAR Array B**	**42.47**	**315**	P	**P**	**17 00 11.8**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VYHS	**Vyhne**	**43.73**	**296**	*e*P	**P**	**17 00 27.0**	**+4.5**
VYHS				*e*	pP	17 00 33.4	+4.9
VYHS				*e*PP	PP	17 02 09.4	+3.2
DPC	**Dobruska-Polom**	**44.29**	**300**	*e*P	**P**	**17 00 31.9**	**+4.9**
KHC	**Kasperske Hory**	**46.44**	**299**	*e*P	**P**	**17 00 48.2**	**+4.1**
GERES	**GERESS Array B**	**46.51**	**299**	P	**P**	**17 00 45.2**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=37,slow=7.5,SNR=7.1						
MOX	**Moxa**	**46.77**	**302**	*e*P	**P**	**17 00 52.0**	**+5.3**
GRA1	**Grafenberg Arr**	**47.47**	**301**	*e*P	**P**	**17 00 56.8**	**+4.5**
	comp=Z,8.0nm,0.8s,mb4.7						
GRF	**Grafenberg Arr**	**47.47**	**301**	*e*P	**P**	**17 00 56.8**	**+4.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
HINF	**Hinteralfeld**	**50.92**	**301**	*e*P	**P**	**17 01 21.5**	**+2.7**
HAU	**Haudompre**	**51.09**	**301**	*e*P	**P**	**17 01 23.9**	**+3.7**
	comp=Z,4.3nm,0.6s,mb4.3						
MEZF	**Maizieres J’vi**	**51.52**	**303**	*e*P	**P**	**17 01 27.8**	**+4.4**
LPL	**La Plagne**	**52.31**	**299**	*e*P	**P**	**17 01 29.2**	**-0.2**
	comp=Z,4.4nm,0.5s,mb4.4						
LPG	**La Plagne**	**52.31**	**299**	*e*P	**P**	**17 01 28.8**	**-0.6**
	comp=Z,10nm,0.7s,mb4.6						
BNI	**Bardonecchia**	**52.62**	**298**	*e*P	**P**	**17 01 31.8**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.8						
MBDF	**Montbardon**	**52.76**	**298**	*e*P	**P**	**17 01 32.4**	**-0.4**
	comp=Z,24nm,0.6s,mb5.0						
SBF	**Sospel**	**52.89**	**297**	*e*P	**P**	**17 01 34.9**	**+1.1**
LOR	**Lormes**	**52.89**	**302**	*e*P	**P**	**17 01 35.4**	**+1.6**
ORIF	**Oris-en-Rattie**	**53.15**	**298**	*e*P	**P**	**17 01 36.1**	**+0.4**
	comp=Z,10nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**53.46**	**302**	*e*P	**P**	**17 01 39.7**	**+1.8**
	comp=Z,6.6nm,0.7s,mb4.4						
FLN	**La Foliniere**	**54.35**	**306**	*e*P	**P**	**17 01 43.1**	**-1.3**
	comp=Z,12nm,0.5s,mb4.7						
RES	**Resolute Bay**	**55.84**	**1**	*e*P	**P**	**17 01 52.7**	**-2.3**
	comp=Z,20nm,1.0s,mb5.1						
QUIF	**Quistinic**	**56.28**	**306**	*e*P	**P**	**17 02 01.4**	**+3.0**
	comp=Z,9.0nm,0.5s,mb4.7						
ILAR	**Eielson Array**	**58.18**	**24**	P	**P**	**17 02 10.3**	**-1.3**
	comp=Z,1.0nm,1.0s,mb3.8,baz=317,slow=4.8,SNR=6.0						
ILAR	**Eielson Array**	**58.18**	**24**	P	**P**	**17 02 10.4**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	**Inuvik**	**58.29**	**17**	P	**P**	**17 02 11.2**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.2,baz=0.2,slow=6.2,SNR=3.6						
INK	**Inuvik**	**58.29**	**17**	P	**P**	**17 02 11.3**	**-1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**58.29**	**17**	*e*P	**P**	**17 02 10.8**	**-1.6**
	comp=Z,7.4nm,1.1s,mb4.6						
INK				*e*	pP	17 02 16.7	-1.9
ESDC	**Sonseca Array**	**62.11**	**299**	P	**P**	**17 02 38.5**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.5,baz=45,slow=6.8,SNR=9.6						
KMBO	**Kilima Mbogo**	**66.64**	**237**	P	**P**	**17 03 10.9**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=51,slow=6.5,SNR=6.9						
KMBO	**Kilima Mbogo**	**66.64**	**237**	*e*P	**P**	**17 03 07.6**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**66.69**	**11**	P	**P**	**17 03 11.4**	**+3.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=337,slow=6.9,SNR=4.2						
YKA	**Yellowknife Ar**	**66.69**	**11**	P	**P**	**17 03 11.4**	**+3.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCHQ	**Schefferville**	**73.66**	**345**	P	**P**	**17 03 53.8**	**+3.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=252,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**75.36**	**143**	P	**P**	**17 04 03.3**	**+2.1**
	baz=337,slow=7.1						
DPW	**Davenport**	**80.19**	**17**	P	**P**	**17 04 27.1**	**-0.1**
ULM	**Lac du Bonnet**	**80.33**	**2**	P	**P**	**17 04 28.8**	**+0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=256,slow=4.2,SNR=2.6						
ULM	**Lac du Bonnet**	**80.33**	**2**	P	**P**	**17 04 28.8**	**+0.8**
WRAB	**Tennant Creek**	**80.65**	**136**	P	**P**	**17 04 28.1**	**-2.1**
	comp=Z,9.9nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**80.66**	**136**	P	**P**	**17 04 29.5**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=341,slow=5.7,SNR=5.6						
WRA	**Warramunga Arr**	**80.66**	**136**	P	**P**	**17 04 29.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHMT	**Chamberlain Mo**	**81.99**	**14**	*e*P	**P**	**17 04 36.0**	**-0.7**
CHMT				*e*	pP	17 04 42.5	-0.6
BOZ	**Bozeman (W)**	**83.48**	**14**	P	**P**	**17 04 43.9**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**83.73**	**138**	P	**P**	**17 04 44.7**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=337,slow=5.3,SNR=11						
MCMT	**McKenzie Canyo**	**84.09**	**15**	*e*P	**P**	**17 04 47.8**	**+0.3**
PDAR	**Pinedale Array**	**86.61**	**13**	P	**P**	**17 04 59.7**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=14,slow=3.7,SNR=2.1						
PDAR	**Pinedale Array**	**86.61**	**13**	P	**P**	**17 04 59.7**	**-0.3**
HWUT	**Hardware Ranch**	**87.44**	**14**	*e*P	**P**	**17 05 04.3**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.7						
DUG	**Dugway**	**88.60**	**16**	*e*P	**P**	**17 05 10.2**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**89.20**	**20**	P	**P**	**17 05 11.2**	**-1.4**
	comp=Z,0.8nm,0.8s,mb4.1,baz=304,slow=5.3,SNR=4.0						
SDCO	**Great Sand Dun**	**92.08**	**11**	*e*P	**P**	**17 05 26.5**	**+0.6**
	comp=Z,0.9nm,0.8s,mb4.2						
VNDA	**Vanda**	**134.74**	**163**	PKP	PKPdf	17 11 34.8	-2.7
	comp=Z,0.6nm,1.1s,baz=265,slow=3.1,SNR=3.6						
VNDA	**Vanda**	**134.74**	**163**	PKIKP	PKPdf	17 11 34.8	-2.7
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CPUP	**Villa Florida**	**144.47**	**298**	PKhKP		17 11 50.9	
	comp=Z,1.9nm,0.6s,baz=279,slow=4.5,SNR=6.3						
CPUP	**Villa Florida**	**144.47**	**298**	PKIKP	PKPdf	17 11 50.9	-5.2
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**144.47**	**298**	*e*P	PKPbc	17 11 49.0	-2.7
LVC	**Limon Verde**	**147.34**	**318**	PKPbc	PKPdf	17 12 01.2	+0.1
	comp=Z,2.6nm,0.7s,baz=143,slow=5.1,SNR=2.7						

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*NEIC **12** 16:54:08.1±2.0, 24.36S×179.98W, h483^{km}±23^{km}, mb4.2/13, Error ellipse: s-maj=15.3km s-min=11.9km az=204.0*

*IDC **12** 16:54:09.2±1.9, 24.38S×179.99W, h495^{km}±19^{km}, mb3.4/12, mb1 3.6/13, mb1mx3.5/18, Error ellipse: s-maj=18.2km s-min=16.1km az=164.0*

ISC 12 16:54:05.4±2.8**, 24.28S**±0.08×**180.0E**±0.1**, h455**^{km}±31^{km}**, n48, σ0^{s}.80**/38**, mb3.9**/20**, 2C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**13.83**	**186**	*e*P	**P**	**16 57 06.0**	**+0.6**
PUZ				S	**S**	**16 59 30.9**	**+0.7**
URZ	**Urewera**	**14.15**	**189**	P	**P**	**16 57 07.7**	**-1.0**
	4.3nm,0.3s,baz=95,slow=5.0,SNR=22						
URZ				S	**S**	**16 59 36.4**	**0.0**
	2.5nm,0.3s,baz=247,slow=24,SNR=14						
URZ	**Urewera**	**14.15**	**189**	*e*P	**P**	**16 57 07.5**	**-1.2**
SNZO	**South Karori**	**17.55**	**193**	*e*P	**P**	**16 57 43.3**	**+0.2**
	30nm,0.6s						
RPZ	**Rata Peaks**	**20.73**	**199**	P	**P**	**16 58 12.9**	**-0.9**
	15nm,0.5s,baz=15,slow=0.5,SNR=14						
CTAO	**Charters Tower**	**31.46**	**271**	*e*P	**P**	**16 59 50.6**	**+1.1**
STKA	**Stephens Creek**	**34.57**	**249**	P	**P**	**17 00 16.2**	**+0.5**
	1.2nm,0.7s,mb3.4,baz=232,slow=22,SNR=2.3						
STKA	**Stephens Creek**	**34.57**	**249**	P	**P**	**17 00 16.2**	**+0.5**
PMG	**Port Moresby**	**34.60**	**290**	P	**P**	**17 00 17.4**	**+1.3**
	7.3nm,0.7s,mb4.2,baz=76,slow=4.2,SNR=4.3						
PMG	**Port Moresby**	**34.60**	**290**	P	**P**	**17 00 17.3**	**+1.2**
PMG				P		17 00 17.4	
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**17 01 16.6**	**+0.2**
	0.7nm,0.4s,mb3.4,baz=93,slow=6.2,SNR=46						
ASPA	**Alice Springs**	**41.96**	**261**	*e*P	**P**	**17 01 16.7**	**+0.3**
WB2	**Warramunga Arr**	**42.35**	**267**	*e*P	**P**	**17 01 19.4**	**-0.2**
WRAB	**Tennant Creek**	**42.36**	**267**	*e*P	**P**	**17 01 19.0**	**-0.6**
	4.3nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**42.37**	**267**	P	**P**	**17 01 19.4**	**-0.2**
	2.6nm,0.4s,mb4.0,baz=98,slow=8.3,SNR=48						
WRA				ScP		17 06 06.4	
	2.6nm,0.8s,baz=99,slow=3.8,SNR=6.6						
KAKA	**Kakadu**	**46.37**	**276**	*e*P	**P**	**17 01 49.7**	**-1.3**
	11nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.78**	**266**	*e*P	**P**	**17 02 24.0**	**-0.3**
	2.1nm,0.9s,mb3.5						
FITZ	**Fitzroy Crossi**	**50.78**	**266**	P	**P**	**17 02 23.8**	**-0.5**
	1.6nm,0.5s,mb3.6,baz=131,slow=8.3,SNR=8.6						
VNDA	**Vanda**	**54.01**	**185**	P	**P**	**17 02 46.6**	**-0.3**
	0.3nm,0.5s,mb2.9,baz=31,slow=5.6,SNR=3.4						
VNDA	**Vanda**	**54.01**	**185**	P	**P**	**17 02 46.0**	**-0.9**
QSPA	**South Pole Qui**	**65.81**	**180**	*e*P	**P**	**17 04 05.2**	**-0.1**
	5.6nm,1.3s,mb4.0						
MAW	**Mawson**	**77.39**	**200**	P	**P**	**17 05 12.6**	**-0.3**
	0.9nm,0.5s,mb3.5,baz=153,slow=5.9,SNR=5.6						
MAW	**Mawson**	**77.39**	**200**	*e*P	**P**	**17 05 11.7**	**-1.2**
	1.3nm,0.6s,mb3.6						
QIZ	**Qiongzhong**	**80.75**	**296**	P	**P**	**17 05 37.5**	**+5.9**
	36nm,1.4s,mb4.7						
CMB	**Columbia Colle**	**83.48**	**43**	*e*P	**P**	**17 05 44.6**	**-0.5**
	4.6nm,0.9s,mb4.0						
SNAA	**Sanae**	**84.29**	**179**	⇑*i*P	**P**	**17 05 46.6**	**-1.8**
	0.1nm,0.9s						
YBH	**Yreka Blue Hor**	**84.39**	**39**	P	**P**	**17 05 49.8**	**+0.3**
	3.7nm,1.1s,mb3.9,baz=135,slow=5.7,SNR=3.2						
VNA3	**Neumayer Olymp**	**84.50**	**177**	⇑*i*	**P**	**17 05 50.7**	**+1.3**
VNA2	**Neumayer--Watz**	**84.92**	**178**		**P**	**17 05 53.4**	**+1.9**
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**17 05 52.9**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=231,slow=7.1,SNR=5.3						
TUC	**Tucson**	**86.76**	**52**	*e*P	**P**	**17 06 01.9**	**+0.6**
	6.7nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**87.20**	**41**	*e*P	**P**	**17 06 02.9**	**-0.2**
	3.2nm,0.9s,mb4.0						
HLID	**Hailey**	**90.39**	**41**	*e*P	**P**	**17 06 17.7**	**-0.2**
	2.2nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**17 06 19.6**	**+0.2**
	2.3nm,0.6s,mb4.3,baz=212,slow=6.1,SNR=22						
HWUT	**Hardware Ranch**	**91.09**	**44**	*e*P	**P**	**17 06 25.2**	**+4.0**
	2.1nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**17 06 29.4**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=223,slow=1.5,SNR=5.6						
MKAR	**Makanchi Array**	**112.39**	**313**	PKiKP		17 11 46.9	
	0.3nm,0.4s,baz=159,slow=0.8,SNR=4.5						
ARCES	**ARCESS Array B**	**132.25**	**348**	PKP	PKPdf	17 12 23.7	-2.2
	2.5nm,0.8s,baz=63,slow=1.8,SNR=7.5						
FINES	**FINESS Array B**	**138.79**	**341**	PKhKP		17 12 29.6	
	0.9nm,0.6s,baz=90,slow=1.9,SNR=4.3						
FINES				PKP	PKPdf	17 12 37.9	-0.2
	0.6nm,0.4s,baz=106,slow=1.5,SNR=6.1						
FINES				SKPbc		17 15 24.5	
	1.2nm,0.5s,baz=60,slow=4.5,SNR=13						
FINES	**FINESS Array B**	**138.79**	**341**	PKP	PKPdf	17 12 29.6	-8.5
FINES				PKP	PKPdf	17 12 37.9	-0.2
FINES				SKPbc		17 15 24.5	
NOA	**NORSAR Array B**	**142.45**	**351**	PKhKP		17 12 39.5	
	0.3nm,0.5s,baz=4.9,slow=3.8,SNR=3.1						
NOA	**NORSAR Array B**	**142.45**	**351**	PKP	PKPdf	17 12 39.5	-5.0
AKASG	**Malin Array Be**	**145.28**	**327**	PKPbc	PKPbc	17 12 49.7	-0.9
	1.0nm,0.3s,baz=42,slow=3.6,SNR=7.6						
BRTR	**Keskin Array B**	**147.79**	**307**	PKPbc	PKPdf	17 12 57.5	+3.3
	0.9nm,0.6s,baz=119,slow=4.1,SNR=4.4						
KSP	**Ksiaz**	**150.63**	**339**	*e*PKP	PKPdf	17 13 04.5	+6.2
CLL	**Collm**	**151.21**	**343**	*i* PKP1	PKPdf	17 13 05.5	+6.4
BRG	**Berggiesshubel**	**151.34**	**341**	*i* P	PKPdf	17 13 05.9	+6.6
GERES	**GERESS Array B**	**153.20**	**340**	PKPbc	PKPdf	17 13 10.0	+8.0
	0.4nm,0.5s,baz=27,slow=3.0,SNR=3.8						

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*MOS **12** 17:01:15.9±0.7, 49.55N×156.16E, h30^{km}, mb4.1/2, Error ellipse: s-maj=31.1km s-min=7.6km az=70.0*

*KRSC **12** 17:01:16.6±2.5, 49.52N×156.24E, h33^{km}±9^{km}, ML4.5*

*IDC **12** 17:01:17.9±0.8, 49.69N×155.54E, h54^{km}±7^{km}, mb3.5/9, mb1 3.9/11, mb1mx3.6/24, Error ellipse: s-maj=31.3km s-min=17.6km az=133.0*

*NEIC **12** 17:01:18.8±1.2, 49.70N×155.60E, h61^{km}±10^{km}, mb4.3/2, Error ellipse: s-maj=13.2km s-min=8.2km az=155.0*

ISC 12 17:01:17.5±0.5**, 49.56N**±0.04×**156.25E**±0.09**, h53**^{km}**, h53**^{km}±1.3^{km}**:pP-P, n58, σ1^{s}.14**/86**, mb3.9**/11**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril’s**	**1.13**	**356**	⇑*i*PN	**P**	**17 01 33.4**	**-3.9**
SKR				*i* S	**S**	**17 01 47.5**	**-4.5**
SKR				pmax	pmax		
	comp=Z,690nm,0.5s						
SKR				pmax	pmax		
	comp=N,660nm,0.2s						
SKR				pmax	pmax		
	comp=E,210nm,0.2s						
SKR				pmax	pmax		
	comp=Z,1µm,1.0s						
SKR				smax			
	comp=N,2µm,0.2s						
SKR				smax			
	comp=E,5µm,0.2s						
SKR				smax			
	comp=N,4µm,3.0s						
SKR				smax			
	comp=E,4µm,1.0s						
ALID	**Alaid**	**1.39**	**341**	*e*P	**P**	**17 01 41.0**	**0.0**
ALID				*e*S	**S**	**17 01 59.2**	**+0.8**
PAU	**Pauzhetka**	**1.94**	**10**	*i* P	**P**	**17 01 49.1**	**+0.4**
PAU				*e*S	**S**	**17 02 12.6**	**+0.7**
PAU				Smax			
	comp=E,2µm,0.5s						
MIPR	**Malaya Ipel’ka**	**2.74**	**7**	*e*P	**P**	**17 02 00.1**	**0.0**
MIPR				*e*S	**S**	**17 02 31.3**	**-0.8**
GRL	**Gorelyy**	**3.21**	**20**	*e*P	**P**	**17 02 07.4**	**+0.7**
GRL				*e*S	**S**	**17 02 44.3**	**+0.3**
RUS	**Russkaya**	**3.21**	**26**	P	**P**	**17 02 06.2**	**-0.6**
RUS				S	**S**	**17 02 43.5**	**-0.6**
RUS	**Russkaya**	**3.21**	**26**	*e*P	**P**	**17 02 06.3**	**-0.5**
RUS				*e*S	**S**	**17 02 43.4**	**-0.7**
APC	**Apacha**	**3.42**	**9**	*e*P	**P**	**17 02 09.2**	**-0.5**
APC				*e*S	**S**	**17 02 47.9**	**-1.4**
PET	**Petropavlovsk**	**3.78**	**23**	P	**P**	**17 02 15.0**	**+0.2**
PET				S	**S**	**17 02 58.7**	**+0.2**
PET	**Petropavlovsk**	**3.78**	**23**	*e*P	**P**	**17 02 14.9**	**+0.1**
PET				*e*S	**S**	**17 02 58.7**	**+0.2**
PET	**Petropavlovsk**	**3.78**	**23**	*e*PN	**P**	**17 02 16.0**	**+1.2**
PET				*e*S	**S**	**17 03 00.8**	**+2.3**
PET				pmax	pmax		
	comp=Z,22nm,0.7s						
PET				smax			
	comp=E,239nm,0.7s						
PET				smax			
	comp=N,213nm,0.6s						
PET	**Petropavlovsk**	**3.78**	**23**	*e*Pn	**P**	**17 02 14.8**	**0.0**
PET				*e*Sn	**S**	**17 02 56.9**	**-1.5**
UGLR	**Uglovaya**	**3.99**	**23**	*e*P	**P**	**17 02 19.8**	**+2.0**
UGLR				*e*S	**S**	**17 03 03.2**	**-0.6**
AVH	**Avacha**	**4.02**	**22**	*e*P	**P**	**17 02 20.4**	**+2.2**
AVH				*e*S	**S**	**17 03 04.9**	**+0.4**
KOK	**Koryaka**	**4.02**	**21**	*e*P	**P**	**17 02 20.4**	**+2.2**
KOK				*e*S	**S**	**17 03 04.2**	**-0.4**
SMAR	**Somma**	**4.04**	**22**	*e*P	**P**	**17 02 20.3**	**+1.9**
SMAR				*e*S	**S**	**17 03 04.4**	**-0.5**
SDLR	**Sedlovina**	**4.07**	**23**	*e*P	**P**	**17 02 20.4**	**+1.5**
SDLR				*e*S	**S**	**17 03 05.6**	**-0.1**
NLC	**Nalytchevo**	**4.10**	**27**	P	**P**	**17 02 17.9**	**-1.4**
NLC				S	**S**	**17 03 04.5**	**-2.0**
NLC	**Nalytchevo**	**4.10**	**27**	*e*P	**P**	**17 02 18.4**	**-0.9**
NLC				*e*S	**S**	**17 03 06.5**	**0.0**
SPN	**Mys Shipunski**	**4.26**	**32**	P	**P**	**17 02 21.8**	**+0.3**
SPN				S	**S**	**17 03 10.9**	**+0.4**
SPN	**Mys Shipunski**	**4.26**	**32**	*e*P	**P**	**17 02 21.2**	**-0.3**
SPN				*e*S	**S**	**17 03 10.4**	**-0.1**
GNL	**Ganaly**	**4.27**	**14**	*e*P	**P**	**17 02 22.5**	**+0.8**
GNL				*e*S	**S**	**17 03 11.2**	**+0.4**
KII	**Karymskiy**	**4.90**	**23**	P	**P**	**17 02 30.2**	**-0.3**
KII	**Karymskiy**	**4.90**	**23**	*e*P	**P**	**17 02 30.1**	**-0.4**
KII				*e*S	**S**	**17 03 23.6**	**-3.0**
MKZ	**Mys Kozlova**	**6.04**	**32**	P	**P**	**17 02 45.0**	**-1.3**
MKZ				S	**S**	**17 03 50.1**	**-4.8**
MKZ	**Mys Kozlova**	**6.04**	**32**	*e*P	**P**	**17 02 44.8**	**-1.5**
MKZ				*e*S	**S**	**17 03 52.8**	**-2.1**
TUMR	**Tumrok**	**6.21**	**21**	*e*P	**P**	**17 02 49.7**	**+1.0**
TUMR				*e*S	**S**	**17 03 57.0**	**-2.2**
KMNR	**Kamenistaya**	**6.66**	**20**	*e*P	**P**	**17 02 56.2**	**+1.1**
KOZ	**Kozyrevsk**	**6.87**	**17**	P	**P**	**17 02 57.9**	**-0.1**
KOZ	**Kozyrevsk**	**6.87**	**17**	*e*P	**P**	**17 02 58.4**	**+0.4**
KOZR	**Kozyr**	**6.88**	**17**	PN	**P**	**17 02 57.9**	**-0.3**
SRDR	**Sredinnyy**	**7.08**	**16**	*e*P	**P**	**17 03 01.6**	**+0.6**
KUR	**Kuril’sk**	**7.15**	**236**	*e*PN	**P**	**17 02 59.5**	**-2.4**
KUR				*e*S	**S**	**17 04 25.0**	**+2.5**
KUR				pmax	pmax		
	comp=Z,60nm,0.6s						
KUR				smax			
	comp=N,50nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
KLY	**Klyuchi**	**7.27**	**20**	P	**P**	**17 03 04.4**	**+0.9**
KLY	**Klyuchi**	**7.27**	**20**	*e*P	**P**	**17 03 04.2**	**+0.7**
KBTR	**Krutoberegovo**	**7.75**	**28**	P	**P**	**17 03 09.4**	**-0.8**
KBTR	**Krutoberegovo**	**7.75**	**28**	*e*P	**P**	**17 03 09.7**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.37**	**259**	P	**P**	**17 03 26.0**	**-6.6**
ASAJ	**Asahikawa**	**10.82**	**245**	P	**P**	**17 03 51.9**	**-0.3**
	comp=E,1.1nm,0.3s,baz=78,slow=13,SNR=15						
ASAJ	**Asahikawa**	**10.82**	**245**	PN	**P**	**17 03 51.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**11.11**	**66**	P	**P**	**17 03 55.8**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=110,slow=22,SNR=3.7						
FX1				S	**S**	**17 05 52.5**	**-7.3**
	comp=Z,2.7nm,0.3s,baz=73,slow=22,SNR=3.9						
YAK	**Yakutsk**	**19.29**	**320**	P	**P**	**17 05 34.7**	**-5.5**
JNU	**Nakatsue**	**24.98**	**238**	P	**P**	**17 06 37.6**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.0,baz=92,slow=40,SNR=2.8						
ILAR	**Eielson Array**	**33.04**	**41**	P	**P**	**17 07 50.1**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=265,slow=10.0,SNR=3.8						
ILAR				pP	pP	17 08 03.2	0.0
	comp=Z,0.6nm,0.8s,baz=258,slow=9.4,SNR=3.9						
ILAR	**Eielson Array**	**33.04**	**41**	P	**P**	**17 07 50.1**	**+0.6**
ILAR				*PP	pP	17 08 03.2	0.0
ILAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.54**	**296**	P	**P**	**17 09 44.2**	**-4.9**
	comp=N,0.3nm,0.5s,mb3.6,baz=45,slow=6.9,SNR=3.5						
KURK	**Kurchatov**	**47.59**	**303**	*e*P	**P**	**17 09 45.1**	**-4.3**
BRVK	**Borovoye**	**50.75**	**309**	P	**P**	**17 10 08.5**	**-5.2**
	comp=N,2.1nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.45**	**309**	*e*P	**P**	**17 10 14.0**	**-5.0**
	comp=N,2.6nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**59.31**	**66**	P	**P**	**17 11 17.1**	**+1.2**
	comp=N,0.7nm,0.7s,mb3.8,baz=278,slow=10,SNR=5.1						
PDAR	**Pinedale Array**	**61.42**	**57**	P	**P**	**17 11 30.8**	**+0.6**
	comp=N,1.4nm,1.1s,mb4.0,baz=333,slow=3.3,SNR=6.4						
PDAR				pP	pP	17 11 46.1	+1.2
	comp=N,0.2nm,0.7s,baz=84,slow=40,SNR=4.1						
FINES	**FINESS Array B**	**62.37**	**336**	P	**P**	**17 11 31.8**	**-4.6**
	comp=N,0.7nm,0.8s,mb3.8,baz=34,slow=10.0,SNR=3.0						
FINES	**FINESS Array B**	**62.37**	**336**	P	**P**	**17 11 31.8**	**-4.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**71.88**	**202**	P	**P**	**17 12 34.3**	**-2.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=11,slow=6.2,SNR=4.2						
WRA	**Warramunga Arr**	**71.88**	**202**	P	**P**	**17 12 34.3**	**-2.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**74.31**	**63**	P	**P**	**17 12 51.0**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=283,slow=4.9,SNR=7.5						
TXAR				pP	pP	17 13 06.2	+0.3
	comp=Z,0.5nm,0.7s,baz=304,slow=4.5,SNR=3.4						
TXAR	**Lajitas Array**	**74.31**	**63**	P	**P**	**17 12 51.0**	**+0.2**
TXAR				pP	pP	17 13 06.2	+0.3
ASAR	**Alice Springs**	**75.56**	**201**	P	**P**	**17 12 56.8**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=16,slow=5.3,SNR=11						
ASAR				pP	pP	17 13 11.8	-1.4
	comp=Z,0.3nm,0.6s,baz=12,slow=5.0,SNR=1.7						

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*ISK **12** 17:13:03.8, 38.45N×39.13E, h5^{km}, MD3.6*

*NEIC **12** 17:13:09.0±7.1, 38.41N×39.17E, h17^{km}±49^{km}, mb3.9/3, Error ellipse: s-maj=13.1km s-min=12.4km az=99.0*

*IDC **12** 17:13:12.8±3.0, 38.36N×38.93E, h42^{km}±33^{km}, mb3.4/5, mb1 3.5/8, mb1mx3.5/18, ML3.6/3, Error ellipse: s-maj=26.1km s-min=22.8km az=148.0*

ISC 12 17:13:05.3±0.3**, 38.43N**±0.04×**39.16E**±0.03**, h5**^{km}**, n32,**

σ1^{s}05/38,mb3.7/7,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.16	296	⇑iP	Pg	17 13 08.0	-0.5
ELZG				i S	Sg	17 13 15.0	+4.2
MYA	Malataya	0.59	260	i PG	Pg	17 13 15.8	-1.3
MALT	Malatya	0.59	259	i PG	Pg	17 13 15.5	-1.6
MALT				i SG	Sg	17 13 24.9	-0.1
DIY	Diyarbakir	0.99	122	i PG	Pg	17 13 24.3	-0.9
DIY				i SG	Sg	17 13 39.9	+1.5
BINT	Bingol	1.13	66	ePN	Pn	17 13 26.6	-1.1
EZC	Erzincan	1.41	21	PN	Pn	17 13 29.7	-2.0
GZT	Gaziantep	1.66	230	⇑iP	Pn	17 13 35.8	+0.5
GZT				i S	Sb	17 13 60.0	+2.8
KELT	Kelkit	1.72	2	i P	Pn	17 13 37.7	+1.6
KELT				i S	Sn	17 14 08.1	+9.4
BEST	Besiri	1.75	107	i P	Pn	17 13 36.0	-0.5
BEST				i S	Sn	17 13 59.4	0.0
BTMT	Batman	1.84	97	PN	Pn	17 13 36.7	-1.2
VRT	Varto	1.98	69	ePN	Pn	17 13 40.6	+0.8
GAZ	Gaziantep	1.99	232	PN	Pn	17 13 40.3	+0.3
GUMT	Gumushane	2.04	7	ePN	Pn	17 13 40.4	-0.4
EZM	Erzurum	2.26	49	ePN	Pn	17 13 43.2	-0.6
TOKT	Tokat	2.77	314	ePN	Pn	17 13 51.0	-0.2
HKR	Hakkari	3.71	102	ePN	Pn	17 14 04.6	0.0
KAMT	Kaman	4.36	284	ePN	Pn	17 14 13.8	+0.1
BRTR	Keskin Array B	4.49	288	P	Pn	17 14 16.9	+1.3
	3.5nm,0.3s,baz=117,slow=14,SNR=56						
BRTR				Lg		17 15 29.6	
	baz=100,slow=21,SNR=2.4						
TOS	Tosya	4.74	305	ePN	Pn	17 14 19.4	+0.2
CSS	Prodhromos	5.83	235	ePn	Pn	17 14 34.4	0.0
ASF	Jabal al Asfar	6.51	197	P	Pn	17 14 43.4	-0.8
	0.7nm,0.3s,baz=247,slow=19,SNR=6.5						
ASF				Lg		17 16 35.4	
	1.9nm,0.3s,baz=74,slow=23,SNR=3.6						
AKASG	Malin Array Be	14.15	333	P	P	17 16 30.4	+2.0
	0.5nm,0.3s,baz=135,slow=12,SNR=3.8						
MORC	Moravsky Berou	19.16	313	eP	P	17 17 32.2	+0.3
	2.2nm,0.9s						
GERES	GERESS Array B	21.07	308	P	P	17 17 52.5	-0.1
	0.2nm,0.3s,mb2.9,baz=117,slow=8.8,SNR=10.0						
ARU	Arti	22.14	29	eP	P	17 18 02.3	-1.1
	3.8nm,0.7s,mb3.9						
FINES	FINESS Array B	24.43	345	P	P	17 18 26.1	+0.5
	0.7nm,0.5s,mb3.3,baz=146,slow=14,SNR=5.3						
BRVK	Borovoye	25.93	46	P	P	17 18 40.6	+0.8
KURK	Kurchatov	30.31	53	eP	P	17 19 19.2	-0.4
	4.7nm,0.9s,mb4.2						
MKAR	Makanchi Array	32.48	61	P	P	17 19 41.7	+3.1
	1.3nm,0.7s,mb3.9,baz=276,slow=6.5,SNR=13						
MKAR	Makanchi Array	32.48	61	P	P	17 19 41.7	+3.1
SONM	Songino Array	48.53	56	P	P	17 21 52.4	+1.4
	0.3nm,0.5s,mb3.5,baz=297,slow=8.3,SNR=4.2						
DBIC	Dimbokro	50.77	243	P	P	17 22 07.6	-1.0
	3.0nm,0.9s,mb4.2,baz=27,slow=11,SNR=2.5						

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*NEIC **12** 17:15:11.9±2.6,8.11S×119.67E,h162^{km}±26^{km},mb4.4/7, Error ellipse: s-maj=20.8km s-min=13.5km az=63.0*

*SYO **12** 17:15:11.9,8.11S×119.67E,h162^{km},MB4.4*

*DJA **12** 17:15:11.0±0.9,8.46S×119.57E,h240^{km},ML4.9/5,Error ellipse: s-maj=32.0km s-min=8.5km az=144.0*

*IDC **12** 17:15:16.1±2.0,8.05S×120.00E,h198^{km}±18^{km},mb3.5/5, mb1 3.8/7,mb1mx3.6/15,Error ellipse: s-maj=47.1km s-min=9.6km az=55.0*

ISC 12 17:15:12.1±1.1,**8.11S**±0.10×**119.62E**±0.07,**h181**^{km}±12^{km}, **n24,**σ**1^{s}27**/36,**mb4.2**/7,**8C-3D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	3.49	264	⇑iPn	P	17 16 08.9	+1.4
	510nm,0.2s						
KEDI				⇑iSn	S	17 16 52.3	+2.0
NINI	Niniconang	3.66	2	⇑iPn	P	17 16 16.0	+6.3
	114nm,0.7s						
RATI	Rata	4.09	261	⇑iPn	P	17 16 15.2	+0.1
	318nm,0.2s						
RATI				⇑iSn	S	17 17 03.3	-0.5
INGI	Ingas	4.49	261	⇑iPn	P	17 16 20.6	+0.4
	602nm,0.3s						
INGI				⇓iSn	S	17 17 11.6	-1.2
KELI	Kelakatan	5.08	268	⇓iPn	P	17 16 30.1	+2.2
	40nm,0.2s						
KELI				⇑iSn	S	17 17 24.7	-1.9
FITZ	Fitzroy Crossi	11.53	150	⇓iP	P	17 17 51.2	-1.1
	5.5nm,0.8s						
FITZ				eS	S	17 19 51.5	-6.6
FITZ	Fitzroy Crossi	11.53	150	P	P	17 17 51.7	-0.6
	0.7nm,0.3s,baz=354,slow=8.0,SNR=31						
FITZ				S	S	17 19 51.5	-6.6
	1.4nm,0.3s,baz=179,slow=20,SNR=3.0						
KAKA	Kakadu	13.37	111	eP	P	17 18 15.6	-0.2
	3.7nm,0.3s						
KAKA				eS	S	17 20 33.9	-6.6
WRA	Warramunga Arr	18.48	131	P	P	17 19 15.1	-1.8
	1.8nm,0.3s,baz=302,slow=12,SNR=77						
WRA				S	S	17 22 34.0	+0.7
	0.5nm,0.3s,baz=307,slow=24,SNR=7.3						
WRA				ScP		17 26 54.5	
	baz=333,slow=1.9,SNR=2.6						
WRAB	Tennant Creek	18.48	131	eP	P	17 19 14.9	-1.9
	10nm,0.6s						
WRAB				eS	S	17 22 33.4	0.0
WB2	Warramunga Arr	18.49	131	⇑iP	P	17 19 15.1	-1.8
WB2				e		17 19 17.2	
WB2				eS	S	17 22 35.6	+2.1
ASPA	Alice Springs	20.66	140	eP	P	17 19 38.7	-0.3
ASPA				eS	S	17 23 26.9	+13
ASAR	Alice Springs	20.66	140	P	P	17 19 38.8	-0.3
	4.6nm,0.4s,baz=316,slow=10.0,SNR=169						
ASAR				S	S	17 23 17.1	+2.8
	0.9nm,0.7s,baz=321,slow=22,SNR=5.6						
ASAR				ScP		17 26 59.2	
	0.4nm,0.6s,baz=320,slow=1.5,SNR=4.0						
FORT	Forrest	23.89	162	eP	P	17 20 10.7	+0.2
	39nm,0.7s,mb5.0						
PMG	Port Moresby	27.24	95	P	P	17 20 44.2	+2.6
	9.9nm,0.8s,mb4.5						
STKA	Stephens Creek	31.26	142	eP	P	17 21 16.7	-0.4
	5.0nm,0.6s,mb4.4						
STKA	Stephens Creek	31.26	142	P	P	17 21 16.6	-0.4
	5.5nm,0.6s,mb4.5,baz=333,slow=6.9,SNR=16						
DGAR	Diego Garcia	46.72	267	P	P	17 23 24.7	-0.3
	367nm,1.1s						
SONM	Songino Array	56.91	349	P	P	17 24 40.8	+0.4
	0.8nm,0.6s,mb3.7,baz=167,slow=8.0,SNR=9.0						
MKAR	Makanchi Array	63.95	332	P	P	17 25 28.7	+0.6
	0.7nm,0.5s,mb3.8,baz=157,slow=7.7,SNR=13						
MKAR	Makanchi Array	63.95	332	P	P	17 25 28.7	+0.6
MA2	Magadan	71.90	16	P	P	17 26 15.0	-2.0
	4.3nm,0.8s,mb4.2						
VNDA	Vanda	72.77	171	P	P	17 26 22.7	+0.8
	0.3nm,0.5s,mb3.3,baz=313,slow=8.1,SNR=5.8						
VNDA	Vanda	72.77	171	P	P	17 26 22.7	+0.8

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*ISK **12** 17:39:51.4,37.04N×27.59E,h6^{km},MD3.3*

*NEIC **12** 17:39:53.4,36.87N×27.65E,h2^{km},MD3.2(ATH),After ATH.*

*ATH **12** 17:39:53.4,36.87N×27.65E,h2^{km}±1^{km},MD3.2/5*

ISC 12 17:39:52.1±0.6,**36.87N**±0.04×**27.64E**±0.05,**h12**^{km}±6^{km}, **n13,**σ**0^{s}99**/18,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.25	322	i P	Pg	17 39 58.1	+0.5
BDRM				i S	Sg	17 40 02.6	+1.3
NISR	Nisiros	0.48	238	ePG	Pg	17 40 02.5	+0.5
YER	Yerkesik	0.58	62	i PG	Pg	17 40 02.8	-1.1
YER				i SG	Sg	17 40 11.3	-0.5
ARG	Arkhangelos	0.76	149	ePG	Pg	17 40 07.5	0.0
AYDN	Tasoluk	0.81	14	i P	Pb	17 40 07.6	-0.1
AYDN				i S	Sb	17 40 18.1	-0.2
SMG	Samos	1.05	323	ePB	Pb	17 40 12.6	+0.8
KARP	Karpathos	1.37	196	ePG	Pg	17 40 19.1	-0.5
DNZL	Cakiroluk	1.39	53	⇑iP	Pn	17 40 18.4	+1.0
DNZL				i S	Sb	17 40 36.9	+1.8
DENT	Denizli	1.42	51	PN	Pn	17 40 18.4	+0.5
DENT				SN	Sn	17 40 36.4	-0.1
IZM	Izmir	1.56	349	PN	Pn	17 40 17.7	-2.1
ELL	Elmali	1.82	93	ePN	Pn	17 40 24.5	+0.8
AKS	Akhisar	2.01	4	ePN	Pn	17 40 24.6	-1.7
PRK	Paraskevi	2.61	336	ePG	Pg	17 40 43.1	-1.1

WEL 12 17:48:35.5±0.3,**45.20S**×**167.32E,h73**^{km}±3^{km},**ML3.6**/5, **2C-4D,Error ellipse: s-maj=2.8km s-min=1.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.30	202	⇑PN	P	17 48 46.7	-0.4
DCZ				SN	S	17 48 55.4	-0.3
MLZ	Mavora Lakes	0.62	104	⇑PN	P	17 48 49.4	-0.5
MLZ				SN	S	17 49 00.2	-0.5
WHZ	Wether Hill Ro	0.82	148	⇓PN	P	17 48 51.9	-0.3
WHZ				SN	S	17 49 03.9	-0.8
WKZ	Wanaka	1.26	73	⇓PN	P	17 48 57.8	-0.1
WKZ				SN	S	17 49 14.1	-0.4
AXZ	Alexandra	1.43	93	⇓PN	P	17 48 59.6	-0.6
AXZ				SN	S	17 49 16.6	-1.7
JCZ	Jackson Bay	1.53	43	PN	P	17 49 00.5	-1.0
JCZ				SN	S	17 49 19.4	-1.2
TUZ	Tuapeka	1.79	116	PN	P	17 49 04.1	-0.9
TUZ				SN	S	17 49 24.7	-2.1
ODZ	Otahua Downs	2.36	87	⇓PN	P	17 49 10.9	-2.0
ODZ				SN	S	17 49 35.9	-4.9
RPZ	Rata Peaks	3.06	62	PN	P	17 49 19.6	-3.2
RPZ				SN	S	17 49 53.6	-4.8

GUC 12 17:51:44.0±0.4,**38.13S**×**72.26W,h115**^{km}**,ML3.6, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMCH	Temuco	0.68	205	eP	P	17 52 03.5	+0.8
TMCH				i S	S	17 52 17.6	+0.6
TMCH				AMP		17 52 26.7	
	comp=E,842nm,0.5s						
CCHI	Chillan	1.54	5	i P	P	17 52 11.8	-0.2
CCHI				i S	S	17 52 32.8	-0.2
CCHI				AMP		17 52 34.5	
	comp=N,958nm,0.4s						
CCHI				AMP		17 52 34.8	
	comp=N,2μm,0.3s						
LNV	Longovilo	4.22	10	i P	P	17 52 45.1	-2.5
CHCH	Chadas Angostu	4.39	18	eP	P	17 52 49.4	-0.4
LMEL	Las Melosas	4.59	22	i P	P	17 52 53.9	+1.3
FCH	Farellones	5.05	19	eP	P	17 52 59.1	+0.2

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*IDC **12** 18:08:45.7±1.2,25.51N×90.66E,mb3.8/4,mb1 3.9/5, mb1mx3.7/19,ML3.5/1,Error ellipse: s-maj=48.7km s-min=21.2km az=68.0*

ISC 12 18:08:45.5±2.0,**25.5N**±0.2×**90.8E**±0.4,**h10**^{km}**,n6,**σ**0^{s}74**/5, **mb3.8**/4,**India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	10.27	131	Pn	P	18 11 15.5	-0.7
	0.1nm,0.3s,baz=315,slow=13,SNR=4.2						
MKAR	Makanchi Array	22.34	344	P	P	18 13 44.4	-0.6
	2.7nm,0.6s,mb3.9,baz=156,slow=11,SNR=30						
SONM	Songino Array	25.49	25	P	P	18 14 15.8	+0.4
	0.9nm,0.5s,mb3.5,baz=211,slow=10.0,SNR=13						
WRA	Warramunga Arr	61.86	133	P	P	18 19 07.8	+0.2
	0.5nm,0.4s,mb4.0,baz=325,slow=6.9,SNR=36						
ASAR	Alice Springs	64.24	136	P	P	18 19 24.0	+0.6
	1.0nm,1.0s,mb3.8,baz=316,slow=6.3,SNR=17						
CPUP	Villa Florida	151.36	261	PKPbc	PKPdf	18 28 41.1	+4.3
	2.1nm,1.1s,baz=104,slow=4.2,SNR=2.8						

DJA 12 18:20:45.7±1.0,**8.57S**×**116.02E,h109**^{km}±7^{km},**MD5.6**/4, **ML3.5**/1,**2C-4D,Error ellipse: s-maj=38.8km s-min=15.2km az=162.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	0.12	48	⇓iPn	P	18 21 00.7	-0.3
	20nm,0.2s						
KEDI				⇓iSn	S	18 21 11.4	-0.9
RATI	Rata	0.51	252	⇓iPn	P	18 21 02.3	-0.4
	44nm,0.2s						
RATI				⇑iSn	S	18 21 14.7	-0.8
INGI	Ingas	0.90	254	ePn	P	18 21 05.7	-0.4
	86nm,0.2s						
INGI				⇑iSn	S	18 21 20.3	-1.2
KELI	Kelakatan	1.55	283	⇓iPn	P	18 21 13.1	-0.5

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*NEIC **12** 18:46:03.6±1.8,14.05S×170.05E,h584^{km}±20^{km}, mb4.3/17,Error ellipse: s-maj=11.8km s-min=10.5km az=221.0*

*BJI **12** 18:46:05.0,14.10S×170.10E,h583^{km},mB4.2,mb4.5*

*IDC **12** 18:46:05.5±1.5,14.06S×169.90E,h608^{km}±16^{km}, mb3.6/12,mb1 3.8/12,mb1mx3.7/17,Error ellipse: s-maj=15.5km s-min=10.8km az=159.0*

ISC 12 18:46:03.0±3.0,**14.1S**±0.1×**170.1E**±0.1,**h590**^{km}±39^{km}, **n65,**σ**0^{s}92**/41,**mb4.3**/27,**4D,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	23.50	252	P	P	18 50 30.1	-0.2
	4.9nm,0.6s,mb4.3,baz=96,slow=11,SNR=9.2						
CTAO	Charters Tower	23.50	252	eP	P	18 50 30.0	-0.3
	6.4nm,0.8s,mb4.3						
URZ	Urewera	24.83	167	P	P	18 50 41.6	-0.2
	23nm,0.6s,mb5.0,baz=10.0,slow=3.4,SNR=23						
SNZO	South Karori	27.38	172	eP	P	18 51 03.0	-1.1
	41nm,0.5s,mb5.3						
CNB	Canberra Magne	28.14	218	eP	P	18 51 11.7	+0.9
	16nm,0.6s,mb4.8						
RPZ	Rata Peaks	29.49	179	P	P	18 51 23.1	+0.9
	21nm,0.6s,mb5.0,baz=37,slow=1.9,SNR=14						
STKA	Stephens Creek	31.46	231	P	P	18 51 40.0	+1.0
	3.0nm,0.7s,mb4.1,baz=23,slow=10,SNR=5.9						
STKA				ScP		18 57 00.6	
	2.1nm,0.6s,baz=300,slow=23,SNR=4.9						
STKA	Stephens Creek	31.46	231	eP	P	18 51 38.3	-0.8
TOO	Toolangi	31.97	219	eP	P	18 51 44.7	+1.4
	7.7nm,0.5s,mb4.6						
WB2	Warramunga Arr	34.59	255	⇓iP	P	18 52 04.6	-0.7
WRAB	Tennant Creek	34.59	255	eP	P	18 52 04.6	-0.8
	10.0nm,0.6s,mb4.6						
WRA	Warramunga Arr	34.60	255	P	P	18 52 05.0	-0.5
	4.1nm,0.3s,mb4.5,baz=82,slow=6.7,SNR=140						
WRA				S	S	18 56 49.8	-5.8
	1.0nm,1.0s,baz=91,slow=21,SNR=5.9						
WRA				ScP		18 57 12.7	
	2.1nm,0.8s,baz=84,slow=3.9,SNR=8.5						
ASAR	Alice Springs	35.42	249	P	P	18 52 12.2	0.0
	16nm,0.8s,mb4.7,baz=77,slow=9.3,SNR=193						
ASAR				S	S	18 57 02.2	-5.5
	1.3nm,0.6s,baz=76,slow=16,SNR=17						
ASAR				ScP		18 57 14.9	
	2.7nm,0.8s,baz=94,slow=3.7,SNR=15						
ASPA	Alice Springs	35.42	249	⇓iP	P	18 52 12.0	-0.2
KAKA	Kakadu	36.64	268	eP	P	18 52 22.0	-0.3
	5.2nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	42.79	259	eP	P	18 53 11.6	-0.1
	5.6nm,1.7s,mb3.8						
VNDA	Vanda	63.53	182	P	P	18 55 37.4	-0.4
	4.6nm,0.8s,mb3.8,baz=358,slow=6.8,SNR=34						
VNDA	Vanda	63.53	182	eP	P	18 55 37.2	-0.6
	3.1nm,0.6s,mb3.8						
SBA	Scott Base	63.75	181	eP	P	18 55 40.0	+0.9
	16nm,0.8s,mb4.4						
NJ2	Nanjing	67.18	314	eP	P	18 56 03.0	+1.8
CN2	Changchun	70.57	327	eP	P	18 56 23.0	+1.9
QSPA	South Pole Qui	75.89	180	eP	P	18 56 50.8	+0.2
	7.7nm,0.7s,mb4.2						
LZH	Lanzhou	79.95	311	⇓P	P	18 57 13.1	+0.1
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.3						
LZH	Lanzhou	79.95	311	⇓P	P	18 57 13.1	+0.1
	comp=Z,21nm,1.3s,mb4.3						
LZH				pP	pP	18 59 23.9	+5.8
LZH				sP	sP	19 00 25.6	+9.0
SLKM	Skilak Lake	80.88	19	eP	P	18 57 16.3	-1.0
PMR	Palmer	82.06	18	eP	P	18 57 22.8	-0.4
	comp=Z,6.5nm,0.7s,mb4.3						
DIV	Divide	82.78	20	eP	P	18 57 25.9	-0.9
	comp=Z,15nm,0.8s,mb4.6						
YBH	Yreka Blue Hor	83.09	44	P	P	18 57 29.7	+0.9
	comp=Z,8.3nm,1.2s,mb4.2,baz=236,slow=3.6,SNR=5.1						
HUMO	Hull Mountain	83.31	43	eP	P	18 57 30.7	+0.9
	comp=Z,6.3nm,0.8s,mb4.2						
MAW	Mawson	83.44	202	P	P	18 57 30.4	+0.5
	comp=Z,1.9nm,1.0s,mb3.6,baz=108,slow=6.4,SNR=7.8						
MAW	Mawson	83.44	202	eP	P	18 57 29.4	-0.6
	comp=Z,1.6nm,0.7s,mb3.7						
SONM	Songino Array	83.65	323	P	P	18 57 31.4	0.0
	comp=Z,0.4nm,0.9s,baz=117,slow=3.2,SNR=2.6						
MCK	McKinley	83.77	17	eP	P	18 57 30.3	-1.3
	comp=Z,1.6nm,0.6s,mb3.7						
MTUM	Tungsten Hills	84.24	49	eP	P	18 57 35.8	+1.3
NVAR	Mina Array Bea	84.84	48	P	P	18 57 38.5	+1.0
	comp=Z,3.2nm,0.7s,mb4.1,baz=217,slow=6.0,SNR=23						
ILAR	Eielson Array	85.14	17	P	P	18 57 36.2	-2.1
	comp=Z,2.4nm,0.7s,mb4.0,baz=236,slow=5.2,SNR=19						
ILAR				pP	pP	18 59 46.5	+1.3
	comp=Z,1.4nm,1.0s,baz=237,slow=6.1,SNR=5.4						
BOZ	Bozeman (W)	92.00	43	eP	P	18 58 10.0	-0.7
	comp=Z,1.3nm,0.9s,mb4.0						
PDAR	Pinedale Array	92.56	47	P	P	18 58 13.6	+0.2
	comp=Z,0.4nm,0.3s,mb3.9,baz=264,slow=8.2,SNR=2.7						
SNAA	Sanae	94.27	182	eP	P	18 58 18.9	-1.5
	comp=Z,1.1nm,0.8s,mb4.0						
ARCES	ARCESS Array B	120.34	346	PKP	PKPdf	19 03 47.4	-0.1
	comp=Z,1.2nm,0.6s,baz=90,slow=1.2,SNR=9.1						
FINES	FINESS Array B	126.15	340	PKP	PKPdf	19 03 58.3	-0.4
	comp=Z,0.8nm,0.6s,baz=6.3,slow=17,SNR=3.1						
NOA	NORSAR Array B	130.72	347	PKP	PKPdf	19 04 09.0	+1.5
	comp=Z,0.4nm,0.8s,baz=66,slow=2.6,SNR=2.5						
NOA	NORSAR Array B	130.72	347	PKP	PKPdf	19 04 09.0	+1.5
CDF	Champ du Feu	142.97	341	ePKP1	PKPdf	19 04 28.6	-1.4
	comp=Z,7.3nm,0.8s						
MEZF	Maizieres J'vi	143.56	343	ePKP1	PKPbc	19 04 30.9	+0.6
	comp=Z,8.5nm,0.6s						
HAU	Haudompre	143.62	341	ePKP1	PKPbc	19 04 30.9	+0.4
HINF	Hinteralfeld	143.63	341	ePKP1	PKPbc	19 04 30.7	+0.2
FLN	La Foliniere	144.60	349	ePKP1	PKPbc	19 04 33.7	+0.5
	comp=Z,14nm,0.7s						
LDF	La Druitiere	144.69	349	ePKP1	PKPbc	19 04 33.9	+0.4
CABF	La Chapelle	144.94	341	ePKP1	PKPbc	19 04 35.6	+1.3
	comp=Z,17nm,0.9s						
LOR	Lormes	145.01	344	ePKP1	PKPbc	19 04 35.4	+0.9
	comp=Z,7.5nm,0.5s						
GRR	Gorron	145.03	349	ePKP1	PKPbc	19 04 35.2	+0.7
SSF	Saint Saulge	145.30	344	ePKP1	PKPbc	19 04 36.3	+1.1
	comp=Z,8.4nm,0.6s						
SGMF	Saint Gilles	145.43	351	ePKP1	PKPbc	19 04 36.2	+0.7
	comp=Z,35nm,0.9s						
SMF	Signal de Mont	145.59	343	ePKP1	PKPbc	19 04 36.7	+0.8
AVF	Avril sur Loir	145.59	344	ePKP1	PKPbc	19 04 36.6	+0.7
LPL	La Plagne	145.69	339	ePKP1	PKPbc	19 04 37.8	+1.6
	comp=Z,2.5nm,0.5s						
LPG	La Plagne	145.70	339	ePKP1	PKPbc	19 04 38.0	+1.8
	comp=Z,3.3nm,0.5s						
BGF	Bois d'Agland	145.94	344	ePKP1	PKPbc	19 04 38.0	+1.2
	comp=Z,13nm,0.6s						
TCF	Toulx Ste Croi	146.36	345	ePKP1	PKPbc	19 04 39.0	+1.2
MBDF	Montbardon	146.36	338	ePKP1	PKPbc	19 04 39.2	+1.4
	comp=Z,4.2nm,0.7s						
ORIF	Oris-en-Rattie	146.50	339	ePKP1	PKPbc	19 04 39.8	+1.6
	comp=Z,5.6nm,0.7s						
MFF	Saint Martin d	146.61	348	ePKP1	PKPbc	19 04 39.7	+1.4
	comp=Z,12nm,0.7s						
FRF	La Foret Royal	147.41	337	ePKP1	PKPdf	19 04 42.5	+4.8
ETSF	Etsaut	150.22	346	ePKP1	PKPdf	19 04 50.0	+7.9
	comp=Z,12nm,0.9s						

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*NEIC **12** 18:58:33.7±1.4,23.27N×93.92E,h71^{km}±14^{km},mb4.0/2, Error ellipse: s-maj=24.4km s-min=10.2km az=58.0*

*IDC **12** 18:58:35.5±4.1,23.32N×94.08E,h87^{km}±35^{km},mb3.3/4, mb1 3.5/5,mb1mx3.2/18,Error ellipse: s-maj=56.8km s-min=18.0km az=66.0*

ISC 12 18:58:30.6±0.8,**23.27N**±0.08×**93.80E**±0.09,**h63**^{km}±13^{km}, **n15,**σ**0^{s}91**/18,**mb3.6**/5,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	2.88	323	ePN	P	18 59 15.2	0.0
SHL				eSN	S	18 59 45.2	-3.6
CHG	Chiang Mai	6.54	132	PN	P	19 00 06.5	+0.2
CHG				SG	Sx	19 01 47.9	
CMAR	Chiang Mai Arr	6.78	134	P	P	19 00 09.9	+0.1
	0.4nm,0.3s,baz=310,slow=14,SNR=14						
CMAR				S	S	19 01 26.1	-0.2
	0.4nm,0.3s,baz=315,slow=24,SNR=7.9						
LSA	Lhasa	6.83	340	ePn	P	19 00 11.6	+1.2
	5.7nm,0.3s						
LSA				eSn	S	19 01 25.8	-1.6
PKI	Pulchoki	8.71	301	eP	P	19 00 36.2	-0.1
	14nm,0.6s						
KKN	Kakani	8.91	302	eP	P	19 00 39.8	+0.7
	5.4nm,0.2s						
DMN	Daman	8.97	301	eP	P	19 00 39.6	-0.2
	6.7nm,0.4s						
GKN	Gorkha	9.52	302	eP	P	19 00 47.4	0.0
	27nm,0.4s						
KOLN	Koldanda	10.24	298	eP	P	19 00 56.9	-0.4
	6.9nm,0.3s						
ENH	Enshi	15.64	60	P	P	19 02 09.0	+0.5
	16nm,1.2s						
MKAR	Makanchi Array	25.24	341	P	P	19 03 54.2	+2.1
	0.9nm,0.7s,mb3.4,baz=148,slow=11,SNR=7.3						
SONM	Songino Array	26.49	19	P	P	19 04 03.1	-0.7
	0.6nm,0.6s,mb3.3,baz=203,slow=9.9,SNR=5.0						
ZRNK	Zerenda	35.12	334	P	P	19 05 20.8	+1.0
	1.5nm,1.0s,mb3.9						
WRA	Warramunga Arr	58.38	134	P	P	19 08 20.8	-1.3
	0.4nm,0.7s,mb3.6,baz=323,slow=7.4,SNR=5.8						
ASAR	Alice Springs	60.78	137	P	P	19 08 38.0	-0.6
	0.6nm,0.5s,mb4.0,baz=321,slow=6.8,SNR=7.7						

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*IDC **12** 19:03:32.5±3.3,25.27N×123.32E,h131^{km}±37^{km},mb3.3/6, mb1 3.4/9,mb1mx3.3/26,MS3.0/1,Ms1 3.2/1,ms1mx2.2/12, Error ellipse: s-maj=25.8km s-min=21.2km az=67.0*

*NEIC **12** 19:03:34.6±0.9,25.18N×123.30E,h151^{km}±10^{km},mb3.9/3, Error ellipse: s-maj=18.1km s-min=11.8km az=158.0*

*JMA **12** 19:03:35.5±0.2,25.07N×123.31E,h145^{km}±4^{km},M3.7*

ISC 12 19:03:33.3±0.4,**25.21N**±0.07×**123.32E**±0.04,**h152**^{km}±6^{km}, **n30,**σ**1^{s}05**/42,**mb3.6**/9,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.79	201	P	P	19 03 57.3	+0.4
YOJ				S	S	19 04 14.3	-0.8
IRIF	Iriomote-Funau	0.94	157	P	P	19 03 58.2	+0.3
IRIF				S	S	19 04 16.1	-0.8
JIJ	Ishigaki jima	1.12	138	P	P	19 04 00.0	+0.5
JIJ				S	S	19 04 18.5	-1.2
JKRS	Kuro-shima	1.15	147	P	P	19 04 00.5	+0.7
JKRS				S	S	19 04 19.5	-0.7
HATJ	Hateruma jima	1.23	159	S	S	19 04 20.5	-1.0
JTJ	Tarama	1.37	114	P	P	19 04 03.3	+1.3
JTJ				S	S	19 04 24.1	-0.1
TATO	Taipei	1.68	263	ePn	P	19 04 06.3	+1.1
TATO				eSn	S	19 04 29.6	-0.3
JMJ	Miyako jima 2	1.83	102	P	P	19 04 08.6	+1.7
JMJ				S	S	19 04 33.3	+0.5
JOGS	Gusukube	1.94	103	P	P	19 04 10.2	+2.1
JOGS				S	S	19 04 35.9	+0.9
JKE	Kume jima 2	3.32	70	P	P	19 04 26.3	+0.8
JKE				S	S	19 05 06.6	+1.1
JAGN	Aguni-jima	3.79	68	P	P	19 04 31.6	0.0
JAGN				S	S	19 05 15.5	-1.0
NAH1	Naha	4.06	75	S	S	19 05 21.6	-1.3
JJT2	Tamagusuku 2	4.10	76	P	P	19 04 36.4	+0.7
JIH	Iheya	4.56	65	P	P	19 04 41.6	-0.1
JOW	Kunigami	4.74	69	P	P	19 04 43.4	-0.7
	12nm,0.3s,baz=254,slow=12,SNR=28						
JOW				S	S	19 05 35.5	-3.3
	12nm,0.3s,baz=113,slow=23,SNR=6.7						
JOW	Kunigami	4.74	69	P	P	19 04 43.6	-0.5
JOW				S	S	19 05 36.1	-2.7
JTK	Tokunoshima	5.66	62	P	P	19 04 55.1	-1.2
JAM	Amami Oshima	6.46	59	P	P	19 05 05.1	-1.9
JMZ	Minamidaito 2	7.16	83	S	S	19 06 29.0	-7.8
JNU	Nakatsue	10.28	38	P	P	19 05 59.9	+2.1
	0.5nm,0.3s,baz=252,slow=11,SNR=4.6						
JHJ	Hachijo jima 2	16.39	57	P	P	19 07 20.2	+4.5
	7.3nm,0.3s,baz=53,slow=22,SNR=4.1						
CMAR	Chiang Mai Arr	23.59	258	P	P	19 08 31.6	+0.4
	0.6nm,0.7s,mb3.2,baz=62,slow=8.1,SNR=5.1						
CMAR				LR	LR	19 17 41.1	

	comp=Z,36nm,21.1s,baz=135,slow=36						
ASAJ	Asahikawa	24.54	35	P	P	19 08 39.8	-0.2
	1.8nm,0.5s,mb3.9,baz=317,slow=20,SNR=3.4						
SONM	Songino Array	26.25	334	P	P	19 08 55.3	-0.6
	0.2nm,0.4s,mb3.1,baz=143,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	38.99	314	P	P	19 10 45.4	-0.8
	1.1nm,0.5s,mb3.8,baz=102,slow=9.4,SNR=20						
MA2	Magadan	39.31	22	P	P	19 10 50.3	+1.6
	9.9nm,1.0s,mb4.4						
KURK	Kurchatov	42.59	319	P	P	19 11 16.3	+0.7
	2.6nm,1.1s,mb3.8						
WRA	Warramunga Arr	46.14	166	P	P	19 11 44.3	0.0
	1.9nm,1.1s,mb3.7,baz=347,slow=8.7,SNR=6.2						
BVAR	Borovoye Array	48.14	320	P	P	19 11 58.0	-1.5
	0.2nm,0.4s,mb3.1,baz=90,slow=5.8,SNR=2.9						
ZRNK	Zerenda	48.94	319	P	P	19 12 04.5	-1.1
	1.1nm,0.8s,mb3.5						

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*TAP **12** 19:11:34.5,22.78N×121.37E,h11^{km}±1^{km},ML3.6*

TAP Felt II J at Chenggung.

*JMA **12** 19:11:35.0±0.3,23.16N×121.40E,h162^{km},M3.1*

ISC 12 19:11:33.7±0.6,**22.75N**±0.02×**121.49E**±0.02,**h13**^{km}±3^{km}, **n49,**σ**0.^{s}97**/90,**6C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTN	Taitung	0.31	272	P	Pg	19 11 40.9	+0.5
TTN				S	Sg	19 11 44.5	-0.4
CHKT	Chengkung	0.37	343	i P	Pg	19 11 42.2	+0.7
CHKT				S	Sg	19 11 47.1	+0.4
TWG	Pinlang	0.39	281	i P	Pg	19 11 41.1	-0.7
TWG				S	Sg	19 11 45.7	-1.6
ECL	Taimali	0.51	253	⇑iP	Pb	19 11 43.9	-0.2
ECL				S	Sb	19 11 49.9	-1.2
ELDTW	Lidau	0.62	316	⇑iP	Pb	19 11 44.5	-1.3
ELDTW				S	Sb	19 11 51.7	-2.4
TAW	Tawu	0.67	235	eP	Pb	19 11 47.6	+0.9
TAW				S	Sb	19 11 55.3	-0.2
EAST	Anshuo	0.69	239	P	Pb	19 11 47.5	+0.4
EHY	Hungye	0.77	349	eP	Pb	19 11 48.1	-0.4
EHY				S	Sb	19 11 57.6	-0.9
SSD	Sandimen	0.79	270	⇑iP	Pb	19 11 47.6	-1.2
SSD				S	Sb	19 11 57.0	-2.1
STYT	Tauyuan	0.79	302	⇑iP	Pb	19 11 47.5	-1.3
STYT				S	Sb	19 11 56.0	-3.1
SCZT	Fangliau	0.88	245	P	Pb	19 11 50.6	+0.3
SCZT				S	Sb	19 12 01.9	+0.1
SGST	Jiashian	0.90	292	⇑iP	Pb	19 11 50.0	-0.6
SGST				S	Sb	19 12 01.4	-0.8
SGLT	Jiouru	0.92	269	eP	Pb	19 11 51.5	+0.6
SGLT				S	Sb	19 12 03.3	+0.5
WTP	Ta-pu	0.95	302	⇑iP	Pb	19 11 50.7	-0.7
WTP				S	Sb	19 12 03.4	-0.2
TWM1	Shoushan	0.98	275	eP	Pb	19 11 52.7	+0.6
TWM1				S	Sb	19 12 05.7	+0.9
CHN1	Nanshi	0.98	297	P	Pb	19 11 52.0	-0.2
CHN1				S	Sb	19 12 04.8	0.0
HEN	Hengchun	1.01	223	eP	Pb	19 11 54.9	+2.3
CHN4	Tsaushan	1.02	306	P	Pb	19 11 52.1	-0.6
CHN4				S	Sb	19 12 06.2	+0.5
TWK	Hsinying	1.06	300	P	Pb	19 11 52.8	-0.5
TWK				S	Sb	19 12 07.7	+0.9
ESL	Shilin	1.06	357	eP	Pb	19 11 52.8	-0.7
ESL				S	Sb	19 12 09.3	+2.3
CHN3	Shinhua	1.08	288	eP	Pb	19 11 54.7	+0.9
CHN3				S	Sb	19 12 10.1	+2.5
TWP	Hsiaoliuchiu	1.11	249	eP	Pb	19 11 55.6	+1.4
CHN5	Tsauling	1.13	319	i P	Pb	19 11 54.2	-0.3
CHN5				S	Sb	19 12 10.4	+1.5
CHN2	Minshiung	1.22	310	P	Pb	19 11 56.4	+0.4
CHN2				S	Sb	19 12 12.1	+0.7
CHY	Chiayi	1.23	308	P	Pb	19 11 56.4	0.0
CHY				S	Sb	19 12 11.9	0.0
SCLT	Jiali	1.27	290	eP	Pb	19 11 57.3	+0.4
SCLT				S	Sb	19 12 13.2	+0.3
WGK	Gukeng	1.27	318	P	Pb	19 11 57.1	+0.2
WGK				S	Sb	19 12 14.0	+1.1
TYC	Yuchr	1.29	334	P	Pb	19 11 58.1	+0.8
TYC				S	Sb	19 12 14.4	+0.8
CHN8	Yiju	1.32	297	eP	Pb	19 11 57.5	-0.3
CHN8				S	Sb	19 12 14.8	+0.4
TWD	Chiawan	1.33	4	eP	Pb	19 11 58.1	+0.1
WNT	Mingjian	1.35	327	P	Pn	19 11 58.7	+0.5
WNT				S	Sb	19 12 15.8	+0.6
WHF	Hehuan Shan	1.41	352	eP	Pn	19 11 58.5	-0.6
WHF				S	Sb	19 12 15.7	-1.4
WSF	Szhu	1.46	308	eP	Pn	19 11 59.6	-0.3
WSF				S	Sb	19 12 17.8	-0.8
TCU	Taichung	1.58	332	eP	Pn	19 12 02.8	+1.2
NNS	Nan Shan	1.69	357	eP	Pn	19 12 04.1	+1.0
NNS				S	Sn	19 12 25.8	+1.0
ENA	Nanau	1.69	8	eP	Pn	19 12 03.5	+0.3
WDGT	Dungji	1.76	287	eP	Pn	19 12 03.0	-1.2
WDGT				S	Sn	19 12 23.0	-3.5
NSY	Sanyi	1.79	338	eP	Pn	19 12 06.2	+1.6
NSY				S	Sn	19 12 28.5	+1.2
TWC	Suao	1.89	10	eP	Pn	19 12 06.8	+0.8
TWC				S	Sn	19 12 30.6	+0.9
ENTT	Nioudou	1.89	2	eP	Pn	19 12 05.7	-0.3
NSK	Sanguang	1.93	357	eP	Pn	19 12 07.3	+0.8
NSK				S	Sn	19 12 29.4	-1.3
NSTT	Nanjuang	1.93	347	eP	Pn	19 12 06.9	+0.3
NSTT				S	Sn	19 12 31.1	+0.3
PNG	Penghu	1.96	295	eP	Pn	19 12 05.9	-1.0
PNG				S	Sn	19 12 28.2	-3.3
YOJ	Yonaguni jima	2.21	39	P	Pn	19 12 10.7	+0.1
YOJ				S	Sn	19 12 38.0	+0.1
NWF	Wu-fen Shan	2.33	7	eP	Pn	19 12 11.4	-0.9
NWF				S	Sn	19 12 38.9	-2.2
IRIF	Iriomote-Funau	2.60	52	P	Pn	19 12 16.3	+0.2
IRIF				eS	Sn	19 12 47.7	-0.1
JKRS	Kuro-shima	2.75	57	P	Pn	19 12 18.7	+0.3
JKRS				S	Sn	19 12 52.1	+0.4
JIJ	Ishigaki jima	2.92	56	P	Pn	19 12 20.1	-0.7
JIJ				S	Sn	19 12 55.2	-0.8
JTJ	Tarama	3.50	57	eS	Sn	19 13 08.6	-2.0

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*NNC **12** 19:14:23.7±10.0,37.83N×70.92E,mpv3.3,Error ellipse: s-maj=118.8km s-min=78.3km az=93.0*

ISC 12 19:14:19.0±1.1,**37.42N**±0.08×**72.3E**±0.3,**h201**^{km}±54^{km}, **n11,**σ**0.^{s}42**/14,**2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	4.83	13	P	P	19 15 31.9	-0.1
	SNR=44						
UCH	Uchtor	5.11	19	P	P	19 15 35.5	+0.1
	SNR=13						
KZA	Kyzart	5.19	25	P	P	19 15 36.0	-0.6
	SNR=19						
EKS2	Erkin-Say	5.36	12	P	P	19 15 39.4	+0.7
	SNR=7.2						
AAK	Ala-Archa	5.48	18	P	P	19 15 40.6	+0.3
	SNR=10						
ULHL	Ulahol	5.71	31	P	P	19 15 43.0	-0.3
	SNR=8.3						
THN	Thein Dam	5.73	149	eP	P	19 15 44.3	+0.8
	28nm,0.4s						
THN				eS	S	19 16 48.6	-0.6
KK31	Karatay Array	5.83	347	⇓P	P	19 15 44.4	-0.4
	1.8nm,0.5s,baz=158,slow=11,SNR=52						
KK31				S	S	19 16 46.3	-5.2
	10nm,0.3s,baz=165,slow=22,SNR=26						
CHMS	Chumysh	5.89	18	P	P	19 15 45.6	+0.1
	SNR=5.8						
TKM2	Tokmak 2	6.06	24	P	P	19 15 48.0	+0.2
	SNR=7.7						
AB31	Akbulak array	14.81	327	⇓P	P	19 17 40.0	+0.2
	0.9nm,0.4s,baz=2.0,slow=27,SNR=38						
AB31				S	S	19 20 18.4	-0.3
	0.8nm,0.6s,baz=131,slow=24,SNR=5.6						

MAN 12 19:28:27.1,9.74N×124.77E,h13^{km},mb4.2,ML3.1,MS2.8, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	0.40	13	eP	Pg	19 28 35.2	-0.2
MSLP				eS	Sg	19 28 46.0	+5.1
SCPH	Surigao	0.71	87	⇑eP	Pb	19 28 40.9	+0.1
TBP	Tagbilaran	0.90	267	eP	Pb	19 28 43.6	-0.4
TBP				eS	Sb	19 28 56.3	+0.7
LLP	Lapu-Lapu	0.97	306	⇓eP	Pb	19 28 43.0	-2.3
OCLP	Ormoc	1.31	353	eP	Pb	19 28 50.1	-0.9
PAGZ	Pagadian	2.33	216	eP	Pn	19 29 05.0	-0.7
PAGZ				eS	Sn	19 29 34.5	+0.1
IPIL	Ipil	2.91	228	eP	Pn	19 29 14.0	-0.1
IPIL				eS	Sn	19 29 50.8	+1.5

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*STR **12** 19:33:55.8±0.3,44.34N×7.29E,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **12** 19:33:55.6±0.1,44.35N×7.30E,h2^{km},Md2.4/2,Ml2.4/9, Error ellipse: s-maj=2.4km s-min=1.2km az=64.0*

*NEIC **12** 19:33:55.7,44.35N×7.30E,h11^{km},ML2.6(GEN), ML2.4(LDG),ML2.2(STR),After GEN.*

ISC 12 19:33:54.8±0.3,**44.35N**±0.02×**7.25E**±0.02,**h11**^{km}**,n32,** σ**0.^{s}87**/60,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STV2	Anna di Valdie	0.11	151	P	Pg	19 33 58.6	+0.8
STV2				S	Sg	19 34 00.5	+0.7
STV	Sta Anna Valdi	0.11	152	P	Pg	19 33 58.7	+0.9
STV				S	Sg	19 34 00.5	+0.7
ENR	Entracque	0.17	134	P	Pg	19 33 59.2	+0.5
PZZ	Prazzo	0.19	326	P	Pg	19 34 00.3	+1.2
PZZ				S	Sg	19 34 03.4	+1.3
TOUF	Mont Tournerai	0.33	180	Pg	Pg	19 34 02.5	+0.8
TOUF				Sg	Sg	19 34 06.5	+0.2
SURF	Saint Ours	0.34	294	Pg	Pg	19 34 02.9	+1.0
SURF				Sg	Sg	19 34 08.3	+1.7
AUTN	L'Aution	0.37	160	Pg	Pg	19 34 03.0	+0.5
AUTN				Sg	Sg	19 34 07.9	+0.3
ROB	Roburent	0.45	96	P	Pg	19 34 04.0	0.0
ROB				S	Sg	19 34 09.4	-0.7
MONE	Monesi	0.45	126	P	Pg	19 34 04.0	0.0
MONE				S	Sg	19 34 09.6	-0.5
MVIF	Mont Vial	0.45	189	Pg	Pg	19 34 04.8	+0.7
MVIF				Sg	Sg	19 34 11.2	+0.9
BHB	Bricherasio	0.50	1	P	Pg	19 34 04.2	-0.7
SBF	Sospel	0.50	164	ePg	Pg	19 34 05.3	+0.3
SBF				eSg	Sg	19 34 11.9	+0.1
	29nm,0.2s						
MBDF	Montbardon	0.51	318	ePg	Pg	19 34 05.8	+0.6
MBDF				eSg	Sg	19 34 13.1	+0.9
	39nm,0.3s						
NEGI	Negi	0.59	146	P	Pb	19 34 06.8	+0.1
NEGI				S	Sg	19 34 14.4	-0.5
RORO		0.63	111	P	Pb	19 34 06.9	-0.5
RORO				S	Sb	19 34 14.9	-1.1
IMI	Imperia	0.63	133	P	Pb	19 34 07.3	-0.1
IMI				S	Sb	19 34 15.5	-0.5
CALN	Calern	0.65	204	Pg	Pg	19 34 08.9	+1.0
CALN				Sg	Sg	19 34 17.4	+0.8
RRL	Cesana Torines	0.67	330	P	Pb	19 34 08.5	+0.5
RRL				S	Sb	19 34 17.8	+0.9
FENE	Fenestrelle	0.70	349	P	Pb	19 34 08.7	+0.2
FENE				S	Sb	19 34 17.9	+0.1
FIN	Finale Ligure	0.70	101	P	Pb	19 34 08.4	-0.2
RSP	Reno Superiore	0.81	0	P	Pb	19 34 10.2	-0.1
FRF	La Foret Royal	0.90	209	ePg	Pg	19 34 12.6	-0.2
FRF				eSg	Sg	19 34 24.3	-0.5
	16nm,0.2s						
LSD	Ceresole Reale	1.11	357	P	Pb	19 34 16.1	+0.5
ORIF	Oris-en-Rattie	1.13	301	ePg	Pg	19 34 17.3	-0.2
ORIF				eSg	Sg	19 34 31.6	-1.1
	6.1nm,0.3s						
LMR	La Mourre	1.14	208	ePg	Pg	19 34 17.1	-0.6
LMR				eSg	Sg	19 34 31.9	-1.1
	20nm,0.2s						
LPG	La Plagne	1.21	343	ePg	Pg	19 34 17.8	-1.2
LPG				eSg	Sg	19 34 33.5	-1.6
	6.0nm,0.4s						
LPL	La Plagne	1.23	343	ePg	Pg	19 34 19.4	0.0
SMRF	Simiane la Rot	1.26	254	ePg	Pg	19 34 20.3	+0.2
SMRF				eSg	Sg	19 34 36.3	-0.6
	15nm,0.2s						
VIVF	Saint-Julien-l	1.91	286	ePn	Pn	19 34 28.6	+0.9
VIVF				eSn	Sn	19 34 52.3	+0.4
	6.1nm,0.5s						
VIVF				eSg	Sg	19 34 56.7	-1.8
PGF	Pioggiola	2.20	144	ePn	Pn	19 34 30.9	-1.0
PGF				eSn	Sn	19 34 55.7	-3.6
	2.1nm,0.3s						
LASF	Ste Croix	2.46	265	ePn	Pn	19 34 35.5	0.0
LASF				ePg	Pg	19 34 41.4	-2.5
LASF				eSn	Sn	19 35 03.9	-1.9
	0.4nm,0.2s						
MTLF	Montolieu	3.78	256	ePn	Pn	19 34 54.3	0.0
MTLF				eSn	Sn	19 35 36.2	-3.0
	0.7nm,0.2s						

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*ISK **12** 19:37:40.8,37.01N×27.59E,h5^{km},MD3.3*

*NEIC **12** 19:37:42.5,36.87N×27.48E,h26^{km},MD3.4(ATH),After ATH.*

*ATH **12** 19:37:42.5,36.87N×27.48E,h26^{km}±2^{km},MD3.4/7*

ISC 12 19:37:41.4±0.8,**36.90N**±0.03×**27.62E**±0.04,**h10**^{km}±5^{km}, **n17,**σ**0.^{s}80**/24,**1C-1D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.21	320	i P	Pg	19 37 46.8	+0.8
BDRM				i S	Sg	19 37 49.7	+0.5
NISR	Nisiros	0.49	234	ePB	Pb	19 37 51.5	0.0
YER	Yerkesik	0.58	66	i PG	Pg	19 37 52.0	-1.1
YER				i SG	Sg	19 38 00.6	-0.4
AYDN	Tasoluk	0.79	15	i P	Pb	19 37 56.1	-0.5
AYDN				i S	Sb	19 38 06.7	-0.5
ARG	Arkhangelos	0.80	149	⇓iPN	Pn	19 37 56.7	-1.7
ARG				eSN	Sn	19 38 10.4	+0.1
SMG	Samos	1.02	323	ePN	Pn	19 38 01.1	-0.5
DNZL	Cakiroluk	1.39	55	⇑iP	Pn	19 38 06.8	0.0
DNZL				i S	Sb	19 38 25.6	+1.2
KARP	Karpathos	1.40	195	ePN	Pn	19 38 07.0	0.0
KARP				eSN	Sn	19 38 25.5	-0.1
DENT	Denizli	1.42	53	i PN	Pn	19 38 07.3	+0.1
IZM	Izmir	1.52	349	i PN	Pn	19 38 07.5	-1.3
APE	Apeiranthos	1.68	276	i PN	Pn	19 38 11.3	+0.3
APE				i SN	Sn	19 38 32.8	+0.1
APE	Apeiranthos	1.68	276	ePN	Pn	19 38 10.8	-0.2
KSL	Kastellorizon	1.75	115	ePN	Pn	19 38 15.0	+3.0
ELL	Elmali	1.84	94	PN	Pn	19 38 14.4	+1.0
AKS	Akhisar	1.98	4	ePN	Pn	19 38 14.9	-0.4
BCK	Bucak	2.44	76	ePN	Pn	19 38 22.2	+0.3
PRK	Paraskevi	2.57	336	ePN	Pn	19 38 24.6	+0.8

TRN 12 19:39:24.2,17.68N×62.76W,h109^{km},MD3.6,2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKI	Saint Kitts	0.34	177	⇑iP	P	19 39 40.9	+0.6
SKI				eS	S	19 39 53.4	+1.1
CPB	Codrington	0.89	92	⇑iP	P	19 39 46.1	+1.5
CPB				eS	S	19 40 00.2	+0.4
BPA	Boggy Peak	1.06	126	eP	P	19 39 47.9	+1.5
BPA				eS	S	19 40 05.8	+2.9
DEG	La Desirade	2.12	130	eP	P	19 39 59.5	+0.3
DEG				eS	S	19 40 25.2	-0.3
MGG	Marie-Galante	2.23	141	eP	P	19 40 01.7	+1.0

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*ISK **12** 19:45:41.0,36.89N×27.62E,h10^{km},MD3.3*

*NEIC **12** 19:45:43.3,36.87N×27.50E,h28^{km},MD3.3(ATH),After ATH.*

*ATH **12** 19:45:43.3,36.87N×27.50E,h28^{km}±4^{km},MD3.3/7*

ISC 12 19:45:42.8±0.7,**36.92N**±0.04×**27.60E**±0.05,**h16**^{km}±8^{km}, **n21,**σ**0.^{s}99**/29,**1C-1D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.19	319	i P	Pb	19 45 47.6	0.0
BDRM				i S	Sb	19 45 51.6	+0.9
MLSB	Milas	0.40	20	i PG	Pb	19 45 50.1	-0.9
MLSB				i SG	Sb	19 45 56.5	-0.1
MLSB	Milas	0.40	20	Pg	Pb	19 45 49.0	-2.0
MLSB				Sg	Sb	19 45 55.0	-1.6
NISR	Nisiros	0.49	231	ePB	Pb	19 45 52.5	0.0
YER	Yerkesik	0.58	68	i PG	Pb	19 45 53.1	-1.1
YER				i SG	Sb	19 46 00.7	-1.2
YER	Yerkesik	0.58	68	Pg	Pb	19 45 53.1	-1.1
YER				Sg	Sb	19 46 02.1	+0.2
AYDN	Tasoluk	0.77	16	i P	Pb	19 45 57.1	-0.3
AYDN				i S	Sb	19 46 08.1	+0.8
ARG	Arkhangelos	0.82	149	⇓iPN	Pn	19 45 57.5	-2.0
ARG				eSN	Sn	19 46 11.5	+0.3
SMG	Samos	1.00	322	ePN	Pn	19 46 03.0	+0.9
DNZL	Cakiroluk	1.39	56	⇑iP	Pn	19 46 07.3	-0.2
DNZL				i S	Sb	19 46 27.0	+1.9
DENT	Denizli	1.41	53	i PN	Pn	19 46 08.0	0.0
DENT	Denizli	1.41	53	Pn	Pn	19 46 08.6	+0.6
KARP	Karpathos	1.42	195	ePN	Pn	19 46 08.5	+0.5
IZM	Izmir	1.50	350	i PN	Pn	19 46 08.8	-0.5
APE	Apeiranthos	1.67	276	PN	Pn	19 46 11.1	-0.5
APE	Apeiranthos	1.67	276	ePN	Pn	19 46 11.5	-0.1
KSL	Kastellorizon	1.77	115	ePN	Pn	19 46 15.7	+2.6
ELL	Elmali	1.86	95	ePN	Pn	19 46 13.8	-0.6
ELL	Elmali	1.86	95	Pn	Pn	19 46 15.8	+1.4
AKS	Akhisar	1.96	5	ePN	Pn	19 46 15.7	-0.2
PRK	Paraskevi	2.55	336	ePN	Pn	19 46 23.9	-0.4

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*MAN **12** 19:58:25.0,19.17N×121.10E,h1^{km},mb4.6,ML3.5,MS3.5*

*NEIC **12** 19:58:28.5±3.1,19.16N×121.24E,h42^{km}±32^{km},mb4.3/5, Error ellipse: s-maj=31.6km s-min=9.7km az=69.0*

*IDC **12** 19:58:29.4±5.8,19.18N×121.32E,h51^{km}±58^{km},mb3.5/8, mb1 3.8/9,mb1mx3.5/24,ML3.6/1,MS3.2/3,Ms1 3.3/3, ms1mx2.8/26,Error ellipse: s-maj=50.3km s-min=15.6km az=71.0*

ISC 12 19:58:27.5±0.8,**19.25N**±0.05×**121.06E**±0.07,**h45**^{km}±9^{km}, **n27,**σ**1.^{s}22**/36,**mb3.9**/13,**MS3.3**/1,**1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	1.01	205	⇑iP	P	19 58 43.7	-1.7
PIP				eS	S	19 58 57.8	-0.9
SGCP	Mt. Cagua	1.37	137	eP	P	19 58 50.7	+0.1
SGCP				eS	S	19 59 08.2	+0.4
APYP	Conner	1.39	173	eP	P	19 58 50.6	-0.4
APYP				eS	S	19 59 09.2	+0.8
BBP	Basco	1.46	35	eP	P	19 58 51.6	-0.3
BBP				eS	S	19 59 14.3	+4.3
ABRA	Dolores	1.62	192	eP	P	19 58 54.4	+0.2
ABRA				eS	S	19 59 14.4	+0.3
CVP	Callao Caves	1.70	155	eP	P	19 58 55.0	-0.2
CVP				eS	S	19 59 16.2	+0.4
CAUP	Cauayan	2.40	162	eP	P	19 59 08.3	+3.0
CAUP				eS	S	19 59 44.6	+11
PALP	Palanan	2.53	149	eP	P	19 59 05.1	-2.0
PALP				eS	S	19 59 40.9	+4.1
BOLP	Bolinao	3.05	201	eP	P	19 59 19.8	+5.2
BOLP				eS	S	19 59 56.9	+6.7
BALP	Baler	3.52	172	eP	P	19 59 24.0	+2.8
BALP				eS	S	20 00 08.3	+6.2
PVCP	Virac	6.35	152	eP	P	20 00 06.0	+5.0
PVCP				eS	S	20 01 13.3	+0.2
JOW	Kunigami	10.05	40	P	P	20 00 49.9	-2.4
	1.3nm,0.3s,baz=176,slow=11,SNR=4.6						
JOW				LR	LR	20 04 24.7	
	comp=Z,233nm,20.9s,baz=142,slow=36						
JNU	Nakatsue	16.37	31	LR	LR	20 08 58.4	
	comp=Z,62nm,18.5s,baz=204,slow=39						
BJT	Baijiatuau	21.12	350	P	P	20 03 14.7	+4.1
	10nm,1.0s,mb4.1						
BJI	Beijing	21.14	350	P	P	20 03 15.1	+4.3
	8.0nm,0.9s,mb4.0						
SONM	Songino Array	30.91	341	P	P	20 04 41.9	-0.2
	0.7nm,0.9s,mb3.5,baz=162,slow=11,SNR=5.3						
FITZ	Fitzroy Crossi	37.39	173	P	P	20 05 36.5	-1.5
	3.0nm,1.1s,mb4.1,baz=161,slow=8.2,SNR=3.0						
WRA	Warramunga Arr	41.06	161	P	P	20 06 06.1	-2.4
	0.5nm,0.5s,mb3.4,baz=341,slow=9.2,SNR=7.5						
MKAR	Makanchi Array	41.91	320	P	P	20 06 16.3	+1.1
	1.5nm,0.7s,mb3.8,baz=112,slow=8.5,SNR=15						
ASAR	Alice Springs	44.45	163	P	P	20 06 35.5	-0.7
	0.3nm,0.4s,mb3.3,baz=347,slow=7.1,SNR=7.7						
KURK	Kurchatov	45.88	323	eP	P	20 06 47.2	+0.1
	5.3nm,1.0s,mb4.4						
KURK				e	pP	20 07 00.4	+0.7
BVAR	Borovoye Array	51.48	323	P	P	20 07 32.0	+1.5
	0.5nm,0.5s,mb3.8,baz=108,slow=9.1,SNR=3.3						
ZRNK	Zerenda	52.24	323	eP	P	20 07 36.4	+0.3
	3.6nm,1.2s,mb4.2						
ARU	Arti	59.02	325	P	P	20 08 24.4	-0.5
	4.5nm,0.9s,mb4.5						
INK	Inuvik	77.83	22	P	P	20 10 21.4	-0.1
	2.1nm,0.9s,mb4.0,baz=290,slow=6.4,SNR=3.0						
MLR	Muntele Rosu	80.00	315	P	P	20 10 34.8	+1.1
	0.4nm,0.4s,mb3.7,baz=213,slow=19,SNR=3.0						
NOA	NORSAR Array B	82.52	333	LR	LR	20 52 44.6	
	comp=Z,14nm,20.4s,MS3.3,baz=55,slow=39						

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*BUG **12** 20:15:25.1,51.60N×6.87E,h1^{km},ML1.5*

*BNS **12** 20:15:25.0±1.1,51.62N×6.89E,h1^{km},ML2.0*

*BGR **12** 20:15:25.4±0.5,51.56N×6.74E,h1^{km},ML2.1/4,Error ellipse: s-maj=6.7km s-min=4.4km az=99.0*

*LDG **12** 20:15:27.5±0.2,51.50N×6.66E,h1^{km},Ml2.7/6,Error ellipse: s-maj=4.7km s-min=3.4km az=39.0,Suspected Mining induced.*

*NEIC **12** 20:15:27.5,51.50N×6.66E,h1^{km},ML2.7(LDG),After LDG.*

ISC 12 20:15:23.4±0.5,**51.56N**±0.02×**6.59E**±0.05,**n27,**σ**1.^{s}22**/45, **1C,Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTSB	Winterswijk	0.43	18	ePg	Pg	20 15 33.0	+1.0
	SNR=7.9						
WTSB				eSg	Sg	20 15 38.0	+0.4
	SNR=14						
WTSB	Winterswijk	0.43	18	ePg	Pg	20 15 32.6	+0.6
	21nm,0.3s						
BUG	Bochum--Univer	0.44	105	⇑ePg	Pg	20 15 31.8	-0.4
BUG				Sg	Sg	20 15 36.7	-1.4
BUG	Bochum--Univer	0.44	105	ePg	Pg	20 15 31.9	-0.3
BUG				eSg	Sg	20 15 36.3	-1.8
BNS	Bensberg	0.70	148	ePg	Pg	20 15 37.7	+0.4
BNS				eSg	Sg	20 15 47.8	+1.1
	118nm,0.4s						
HGN	Heimansgroeve	0.90	208	ePg	Pg	20 15 44.5	+3.3
	18nm,0.2s,baz=35						
HGN				eSg	Sg	20 15 59.1	+5.9
KLL	Kalltalsperre	0.93	191	ePg	Pg	20 15 44.4	+2.4
KLL				eSg	Sg	20 15 58.9	+4.6
	38nm,0.5s						
STB	Steinbach	0.98	170	ePg	Pg	20 15 45.0	+2.1
STB				eSg	Sg	20 15 57.8	+1.9
	48nm,0.7s						
IBBN	Ibbenburen	1.04	44	eSg	Sg	20 15 57.1	-1.0
	SNR=3.3						
KOE	Koppel	1.35	147	eSg	Sg	20 16 07.9	-0.2
GIVF	Givet	1.84	218	ePn	Pn	20 15 58.8	+2.4
GIVF				eSg	Sg	20 16 25.5	+1.0
WLF	Walferdange	1.92	188	ePg	Pg	20 16 02.2	+0.6
	SNR=1.9						
WLF				eSg	Sg	20 16 26.7	-0.5
	SNR=3.3						
BAIF	Baives	2.13	226	ePn	Pn	20 16 01.9	+1.3
BAIF				eSg	Sg	20 16 33.4	-0.8
CDF	Champ du Feu	3.18	172	ePn	Pn	20 16 15.7	+0.1
CDF				eSg	Sg	20 17 05.5	-3.8
MEZF	Maizieres J'vi	3.21	198	ePn	Pn	20 16 16.7	+0.6
MEZF				eSg	Sg	20 17 08.0	-2.4
	5.5nm,0.4s						
HINF	Hinteralfeld	3.75	177	ePn	Pn	20 16 22.4	-1.3
LOR	Lormes	4.65	204	ePn	Pn	20 16 36.5	0.0
LOR				eSn	Sn	20 17 26.9	-5.1
LOR				eSg	Sg	20 17 55.2	-2.9
	4.2nm,0.5s						
SSF	Saint Saulge	4.93	205	ePn	Pn	20 16 40.3	-0.2
SSF				eSg	Sg	20 18 00.3	-7.2
	4.6nm,0.4s						
CABF	La Chapelle	4.96	184	ePn	Pn	20 16 40.5	-0.4
AVF	Avril sur Loir	5.22	205	ePn	Pn	20 16 43.7	-0.9
SMF	Signal de Mont	5.24	201	ePn	Pn	20 16 44.1	-0.7
LDF	La Druitiere	5.24	238	ePn	Pn	20 16 45.2	+0.4
LDF				eSn	Sn	20 17 43.2	-3.7
	0.8nm,0.3s						

FLN	**La Foliniere**	5.33	241	*e*Pn	**Pn**	**20 16 46.5**	**+0.3**
FLN				*e*Pg	**Pg**	**20 17 06.2**	**-3.7**
BGF	**Bois d'Agland**	5.58	208	*e*Pn	**Pn**	**20 16 49.0**	**-0.6**
GRR	**Gorron**	5.75	239	*e*Pn	**Pn**	**20 16 52.1**	**0.0**
GRR				*e*Sn	**Sn**	**20 17 54.8**	**-5.0**
	3.0nm,0.2s						
MFF	**Saint Martin d**	6.64	224	*e*Pn	**Pn**	**20 17 04.9**	**+0.3**
QUIF	**Quistinic**	7.29	244	*e*Pn	**Pn**	**20 17 12.3**	**-1.5**

TRN 12 20:17:23.4, 11.72N×58.94W, h35^{km}, MD4.0, MD4.3(FDF), **2C-1D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	2.64	246	*e*P	P	20 18 06.1	+1.5
TRN				*e*S	S	20 18 35.1	-0.7
GRW	**Mount Saint Ca**	2.70	280	*e*P	P	20 18 06.8	+1.3
GRW				*e*S	S	20 18 37.1	-0.2
MVM	**Montagne Vaucl**	3.40	326	⇑*e*P	P	20 18 15.3	-0.1
BIM	**Bigot**	3.47	323	⇑*e*P	P	20 18 16.5	+0.1
BIM				*e*S	S	20 18 55.4	-1.4
CRM	**Caravelle**	3.58	328	*e*P	P	20 18 17.9	0.0
FDF	**Fort de France**	3.69	325	⇓*e*P	P	20 18 19.7	+0.2
FDF				*e*S	S	20 19 00.8	-1.6
DSTT	**Stowe**	4.19	327	*e*P	P	20 18 26.5	-0.2
DSTT				*e*S	S	20 19 14.6	-0.6

IDC 12 20:25:28.5±3.2**, 32.49S×178.41W, mb4.0**/3**, mb1 4.2**/4**, mb1mx3.9**/15**, ML3.8**/1**, Error ellipse: s-maj=69.8km s-min=46.3km az=119.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	6.82	211	Pn	Pn	20 27 08.1	-4.2
	1.6nm,0.3s,baz=185,slow=12,SNR=8.0						
URZ				Sn	Sn	20 28 23.8	-7.9
	1.7nm,0.3s,baz=148,slow=22,SNR=7.1						
ASAR	**Alice Springs**	42.69	269	P	P	20 33 27.4	-1.5
	0.6nm,0.7s,baz=111,slow=7.6,SNR=8.8						
WRA	**Warramunga Arr**	43.87	275	P	P	20 33 36.7	-1.8
	1.0nm,0.3s,baz=113,slow=8.2,SNR=40						
FITZ	**Fitzroy Crossi**	52.04	272	P	P	20 34 40.4	-1.8
	4.2nm,1.2s,baz=359,slow=8.7,SNR=2.2						
FINES	**FINESS Array B**	146.97	339	PKPbc	PKPbc	20 45 11.5	-0.3
	1.3nm,0.7s,baz=63,slow=3.1,SNR=4.5						

WEL 12 20:42:18.6±0.3**, 41.13S×173.12E, h132^{km}**±2^{km}**, ML3.6**/4**, 8C, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	**Nelson**	0.22	114	⇑PN	P	20 42 37.0	+0.1
NNZ				SN	S	20 42 50.6	-0.2
QRZ	**Quartz Range**	0.54	304	⇑PN	P	20 42 37.9	-0.4
QRZ				SN	S	20 42 52.0	-1.3
THZ	**Tophouse**	0.65	194	⇑PN	P	20 42 39.1	+0.1
THZ				SN	S	20 42 54.4	-0.2
TUWZ	**Tuamarina**	0.69	116	PN	P	20 42 39.5	+0.2
BSWZ	**Blackbirch Sta**	0.82	136	PN	P	20 42 40.5	+0.3
BSWZ				*e*SN	S	20 42 55.4	-1.3
DSZ	**Denniston Nort**	1.16	238	PN	P	20 42 42.7	-0.8
DSZ				*e*SN	S	20 42 60.0	-2.5
MRW	**Makara Radio**	1.20	95	⇑PN	P	20 42 43.6	-0.3
MRW				SN	S	20 43 01.5	-1.6
SNZO	**South Karori**	1.21	99	⇑PN	P	20 42 43.7	-0.4
SNZO				SN	S	20 43 02.0	-1.4
KHZ	**Kahutara**	1.32	166	PN	P	20 42 44.8	-0.5
KHZ				SN	S	20 43 03.9	-1.9
BHW	**Baring Head**	1.35	102	PN	P	20 42 45.0	-0.6
BHW				SN	S	20 43 04.0	-2.3
KIW	**Kapiti Island**	1.38	79	⇑PN	P	20 42 45.6	-0.4
CAW	**Cannon Point**	1.47	90	PN	P	20 42 46.2	-0.7
CAW				SN	S	20 43 07.1	-1.6
MSWZ	**Moikau Station**	1.63	101	PN	P	20 42 47.9	-0.8
MSWZ				SN	S	20 43 09.3	-2.5
LTZ	**Lake Taylor**	1.77	201	PN	P	20 42 49.2	-1.1
LTZ				SN	S	20 43 12.0	-2.5
MTW	**Mount Morrison**	1.80	92	⇑PN	P	20 42 49.7	-1.0
MTW				SN	S	20 43 13.1	-2.0
WAZ	**Wanganui**	1.98	47	SN	S	20 43 19.8	+0.9
VRZ	**Vera Road**	2.37	33	PN	P	20 42 56.7	-1.1
MQZ	**McQueen's Vall**	2.60	187	⇑PN	P	20 42 58.2	-2.6
MQZ				SN	S	20 43 27.7	-5.3
WVZ	**Waitaha Valley**	2.63	222	SN	S	20 43 28.2	-5.4
LBZ	**Lake Benmore**	3.91	213	PN	P	20 43 14.5	-3.6
ODZ	**Otahua Downs**	4.31	204	*e*PN	P	20 43 20.2	-3.3
ODZ				*e*SN	S	20 44 06.9	-6.5

IDC ***12*** *20:49:18.9±1.6, 21.46S×173.83W, mb3.7/3, mb1 4.2/4, mb1mx3.9/17, ML4.5/1, Error ellipse: s-maj=96.2km s-min=27.5km az=163.0*

ISC 12 20:49:21.2±1.1**, 22.0S**±0.6×**173.7W**±0.2**, h33^{km}, n5, $\sigma 1^{s}21$**/4**, mb3.8**/3**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	12.93	89	Pn	**P**	**20 52 25.3**	**-0.1**
	2.2nm,0.3s,baz=277,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	48.14	257	P	**P**	**20 58 01.1**	**+0.8**
	1.8nm,1.0s,mb4.1,baz=91,slow=8.1,SNR=7.0						
WRA	**Warramunga Arr**	48.42	262	P	**P**	**20 58 01.6**	**-0.9**
	0.6nm,0.8s,mb3.7,baz=98,slow=6.7,SNR=6.6						
NVAR	**Mina Array Bea**	79.41	41	P	**P**	**21 01 25.9**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=200,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	146.23	334	PKPbc	PKPbc	21 08 58.9	+0.7
	1.7nm,0.7s,baz=45,slow=4.1,SNR=4.6						

IDC 12 21:38:45.9±11.0**, 25.56S×179.01W, h405^{km}**±121^{km}**, mb3.3**/5**, mb1 3.5**/6**, mb1mx3.3**/16**, Error ellipse: s-maj=164.0km s-min=56.1km az=77.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	13.09	194	P	P	21 41 37.5	-2.4
	2.6nm,0.3s,baz=267,slow=2.6,SNR=12						
URZ				S	S	21 43 55.7	-3.2
	1.1nm,0.3s,baz=105,slow=20,SNR=9.2						
CTA	**Charters Tower**	32.41	272	P	P	21 44 40.7	-0.9
	2.3nm,0.4s,baz=78,slow=10,SNR=4.9						
STKA	**Stephens Creek**	34.98	250	P	P	21 45 01.9	-1.3
	1.3nm,0.4s,baz=97,slow=12,SNR=6.0						
ASAR	**Alice Springs**	42.68	262	P	P	21 46 05.3	-1.1
	2.3nm,1.0s,baz=93,slow=7.8,SNR=16						
WB2	**Warramunga Arr**	43.20	268	*e*P	P	21 46 08.8	-1.8
WRA	**Warramunga Arr**	43.21	268	P	P	21 46 08.8	-1.9
	0.8nm,0.4s,baz=101,slow=8.0,SNR=17						
FITZ	**Fitzroy Crossi**	51.61	267	P	P	21 47 13.2	-1.8
	2.5nm,1.1s,baz=139,slow=9.5,SNR=6.1						

IDC ***12*** *21:45:49.6±1.4, 51.63N×166.53W, mb3.7/6, mb1 3.9/7, mb1mx3.7/24, ML3.6/1, Error ellipse: s-maj=38.4km s-min=24.2km az=163.0*

NEIC ***12*** *21:45:53.7, 51.81N×166.37W, h18^{km}, ML2.9(AEIC), After AEIC.*

ISC 12 21:45:52.3±2.3**, 51.80N**±0.05×**166.6W**±0.1**, h25^{km}**±18^{km}**, n16, $\sigma 0^{s}61$**/21**, mb3.6**/6**, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	2.00	356	P	**Pn**	**21 46 25.5**	**+0.4**
MGOD				S	**Sn**	**21 46 50.5**	**+0.8**
UNV	**Unalaska Valle**	2.05	2	P	**Pn**	**21 46 25.4**	**-0.4**
UNV				S	**Sn**	**21 46 50.6**	**-0.3**
MNAT	**Makushin Natee**	2.09	359	P	**Pn**	**21 46 26.4**	**0.0**
MNAT				S	**Sn**	**21 46 50.5**	**-1.3**
MSW	**Makushin Switc**	2.12	357	P	**Pn**	**21 46 26.8**	**0.0**
MSW				S	**Sn**	**21 46 53.0**	**+0.4**
MCIR	**Makushin Cirqu**	2.16	356	P	**Pn**	**21 46 28.1**	**+0.7**
MTBL	**Makushin Table**	2.17	359	P	**Pn**	**21 46 28.0**	**+0.4**
AHB	**Akutan Harbor**	2.37	11	P	**Pn**	**21 46 30.1**	**-0.3**
AHB				S	**Sn**	**21 46 58.3**	**-0.6**
GSIG	**Igitkin Island**	5.77	275	P	**Pn**	**21 47 18.1**	**-0.5**
KIMD	**Kanaga Island**	6.59	274	P	**Pn**	**21 47 29.8**	**-0.4**
ILAR	**Eielson Array**	16.52	31	Pn	**P**	**21 49 43.9**	**+0.3**
	0.1nm,0.3s,baz=226,slow=11,SNR=4.0						
INK	**Inuvik**	22.92	31	P	**P**	**21 50 54.6**	**-0.2**
	2.7nm,0.8s,mb3.8,baz=239,slow=8.3,SNR=5.9						
PDAR	**Pinedale Array**	38.84	80	P	**P**	**21 53 16.7**	**0.0**
	0.6nm,0.5s,mb3.6,baz=323,slow=3.0,SNR=6.1						
SONM	**Songino Array**	53.04	303	P	**P**	**21 55 10.3**	**+1.2**
	0.2nm,0.4s,mb3.4,baz=73,slow=5.4,SNR=4.0						
BVAR	**Borovoye Array**	65.14	326	P	**P**	**21 56 33.6**	**+1.0**
	0.4nm,0.4s,mb3.8,baz=56,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	65.42	315	P	**P**	**21 56 34.2**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=34,slow=5.2,SNR=2.9						
ASAR	**Alice Springs**	91.36	232	P	**P**	**21 58 56.1**	**-0.9**
	0.6nm,0.9s,mb3.9,baz=37,slow=3.3,SNR=4.6						

IDC ***12*** *22:07:02.1±4.2, 7.11S×127.91E, h226^{km}±37^{km}, mb3.1/3, mb1 3.4/6, mb1mx3.2/13, Error ellipse: s-maj=76.2km s-min=17.6km az=64.0*

NEIC ***12*** *22:07:03.5±1.7, 7.20S×127.92E, h235^{km}±16^{km}, mb3.9/5, Error ellipse: s-maj=29.7km s-min=13.6km az=58.0*

ISC 12 22:07:00.1±1.8**, 7.1S**±0.1×**127.8E**±0.1**, h218^{km}**±18^{km}**, n15, $\sigma 1^{s}10$**/21**, mb3.5**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	7.19	141	*e*P	**P**	**22 08 44.5**	**+0.9**
	12nm,0.2s						
KAKA				*e*S	**S**	**22 10 03.4**	**-1.0**
FITZ	**Fitzroy Crossi**	11.14	191	*e*P	**P**	**22 09 35.2**	**+0.7**
	1.0nm,0.3s						
FITZ				*e*S	**S**	**22 11 34.1**	**-1.7**
FITZ	**Fitzroy Crossi**	11.14	191	P	**P**	**22 09 35.4**	**+0.8**
	0.3nm,0.3s,baz=321,slow=9.5,SNR=8.4						
FITZ				S	**S**	**22 11 30.5**	**-5.3**
	0.5nm,0.3s,baz=4.5,slow=15,SNR=2.8						
WRAB	**Tennant Creek**	14.26	154	P	**P**	**22 10 13.4**	**-0.3**
	8.6nm,0.7s						
WRA	**Warramunga Arr**	14.26	154	P	**P**	**22 10 12.8**	**-0.9**
	1.0nm,0.3s,baz=328,slow=12,SNR=84						
WRA				S	**S**	**22 12 48.4**	**+1.6**
	0.7nm,0.3s,baz=328,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	14.27	154	*e*P	**P**	**22 10 13.5**	**-0.3**
WB2				*e*		22 10 16.0	
WB2				*e*S	**S**	**22 12 48.3**	**+1.4**
ASAR	**Alice Springs**	17.49	161	P	**P**	**22 10 51.5**	**-0.4**
	0.8nm,0.3s,baz=342,slow=12,SNR=27						
ASAR				S	**S**	**22 14 02.0**	**+4.6**
	0.1nm,0.3s,baz=332,slow=21,SNR=4.4						
ASPA	**Alice Springs**	17.49	161	*e*P	**P**	**22 10 51.6**	**-0.2**
ASPA				*e*S	**S**	**22 14 05.0**	**+7.7**
STKA	**Stephens Creek**	27.82	154	P	**P**	**22 12 29.8**	**-1.5**
	1.7nm,0.4s,mb4.0,baz=330,slow=12,SNR=6.8						
STKA	**Stephens Creek**	27.82	154	P	**P**	**22 12 29.8**	**-1.5**
STKA				*e*P		22 12 30.0	
CM31	**Chiang Mai Arr**	38.14	312	P	**P**	**22 14 02.8**	**+2.7**
	2.7nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	67.12	328	P	**P**	**22 17 32.2**	**0.0**
	0.3nm,0.8s,mb3.0,baz=114,slow=7.4,SNR=3.0						
VNDA	**Vanda**	72.62	173	P	**P**	**22 18 03.7**	**-1.3**
	0.2nm,0.7s,mb2.9,baz=320,slow=12,SNR=3.2						
QSPA	**South Pole Qui**	82.88	180	P	**P**	**22 19 01.5**	**+0.5**
	1.0nm,0.7s,mb3.6						
CPUP	**Villa Florida**	146.40	172	PKPbc	PKPbc	22 26 16.6	+0.8
	0.6nm,0.4s,baz=168,slow=3.2,SNR=3.8						

NEIC ***12*** *22:08:22.9, 43.05N×6.89E, h2^{km}, ML2.8(LDG), ML2.7(STR), After LDG.*

STR ***12*** *22:08:25.3±0.6, 43.16N×6.92E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 12 22:08:22.9±0.1**, 43.05N×6.89E, h2^{km}, Md2.9**/2**, Ml2.8**/12**, Error ellipse: s-maj=2.0km s-min=1.4km az=156.0, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMR	**La Mourre**	0.40	315	*e*Pg	Pg	22 08 30.6	-0.3
LMR				*e*Sg	Sg	22 08 35.2	-1.0
FRF	**La Foret Royal**	0.54	341	*e*Pg	Pg	22 08 33.1	-0.6
FRF				*e*Sg	Sg	22 08 40.3	-0.6
	62nm,0.2s						
CALN	**Calern**	0.70	360	Pg	Pg	22 08 36.6	-0.3
CALN				Sg	Sg	22 08 45.7	-0.6
REVF	**Revere**	0.77	26	Pg	Pg	22 08 38.4	+0.1
REVF				Sg	Sg	22 08 47.4	-1.2
MVIF	**Mont Vial**	0.87	12	Pg	Pg	22 08 40.0	-0.2
MVIF				Sg	Sg	22 08 51.1	-0.7
SBF	**Sospel**	0.90	26	*e*Pg	Pg	22 08 40.0	-0.9
SBF				*e*Sg	Sg	22 08 51.4	-1.6
	96nm,0.2s						
NEGI	**Negi**	0.99	36	P	Pb	22 08 41.0	-1.4
NEGI				S	Sb	22 08 52.8	-3.0
TOUF	**Mont Tournerai**	1.00	15	Pg	Pg	22 08 42.0	-0.8
TOUF				Sg	Sg	22 08 53.8	-2.3
AUTN	**L'Aution**	1.02	22	Pg	Pg	22 08 42.1	-1.2
AUTN				Sg	Sg	22 08 55.0	-1.9
IMI	**Imperia**	1.12	40	*e*Pg	Pg	22 08 43.1	-2.2
IMI				*e*Sg	Sg	22 08 56.6	-3.8
MONE	**Monesi**	1.21	31	P	Pb	22 08 44.5	-1.6
STV	**Sta Anna Valdi**	1.23	15	P	Pb	22 08 45.6	-1.0
STV				S	Sb	22 09 01.3	-1.6
STV2	**Anna di Valdie**	1.24	15	P	Pb	22 08 45.5	-1.1
STV2				S	Sb	22 09 01.2	-1.7
ENR	**Entracque**	1.24	18	P	Pb	22 08 45.5	-1.2
ENR				S	Sb	22 09 01.4	-1.5
SMRF	**Simiane la Rot**	1.33	314	*e*Pg	Pg	22 08 48.1	-1.4
SMRF				*e*Sg	Sg	22 09 05.7	-1.6
	66nm,0.3s						
ROB	**Roburent**	1.43	29	P	Pn	22 08 48.3	-1.7
ROB				S	Sb	22 09 05.9	-2.7
SURF	**Saint Ours**	1.43	358	Pg	Pg	22 08 50.1	-1.4
SURF				Sg	Sg	22 09 08.0	-2.6
PZZ	**Prazzo**	1.46	6	P	Pn	22 08 49.3	-1.1
PZZ				S	Sb	22 09 08.6	-0.9
FIN	**Finale Ligure**	1.50	39	P	Pn	22 08 48.7	-2.3
FIN				S	Sb	22 09 06.0	-4.5
PGF	**Pioggiola**	1.63	107	*e*Pn	Pn	22 08 51.0	-1.8
PGF				*e*Sn	Sn	22 09 10.4	-4.2
	14nm,0.2s						
MBDF	**Montbardon**	1.68	357	*e*Pg	Pg	22 08 54.0	-2.4
MBDF				*e*Sg	Sg	22 09 15.2	-3.6
	39nm,0.4s						
BHB	**Bricherasio**	1.81	8	P	Pn	22 08 53.1	-2.3
RRL	**Cesana Torines**	1.87	358	P	Pn	22 08 57.0	+0.8
RRL				S	Sn	22 09 20.5	-0.2
FENE	**Fenestrelle**	1.98	3	P	Pn	22 08 57.3	-0.5
ORIF	**Oris-en-Rattie**	2.01	339	*e*Pg	Pg	22 09 00.4	-2.6
ORIF				*e*Sg	Sg	22 09 23.4	-6.3
	7.8nm,0.2s						
RSP	**Reno Superiore**	2.12	7	P	Pn	22 08 57.7	-2.1
RSP				S	Sn	22 09 24.7	-2.3
LSD	**Ceresole Reale**	2.42	4	P	Pn	22 09 05.4	+1.4
LSD				S	Sn	22 09 37.4	+2.8
VIVF	**Saint-Julien-l**	2.42	319	*e*Pn	Pn	22 09 01.5	-2.5
VIVF				*e*Pg	Pg	22 09 07.0	-4.1
VIVF				*e*Sg	Sg	22 09 38.9	-4.4
	5.6nm,0.2s						
LASF	**Ste Croix**	2.43	296	*e*Pn	Pn	22 09 01.5	-2.8
LASF				*e*Pg	Pg	22 09 07.3	-4.2
LASF				*e*Sg	Sg	22 09 39.2	-4.8
	5.0nm,0.2s						
LPG	**La Plagne**	2.45	358	*e*Pg	Pg	22 09 08.3	-3.5
LPG				*e*Sg	Sg	22 09 40.2	-4.3
	2.3nm,0.2s						
LPL	**La Plagne**	2.47	357	*e*Pg	Pg	22 09 08.7	-3.5
LPL				*e*Sg	Sg	22 09 40.6	-4.5
	5.1nm,0.3s						
MTLF	**Montolieu**	3.43	276	*e*Pn	Pn	22 09 15.5	-3.0
MTLF				*e*Pg	Pg	22 09 26.5	-4.9
MTLF				*e*Sn	Sn	22 09 54.9	-5.4
MTLF				*e*Sg	Sg	22 10 09.8	-7.4
	1.8nm,0.2s						
CABF	**La Chapelle**	3.61	351	*e*Pg	Pg	22 09 30.1	-4.8
CAF	**Calviac**	3.96	300	*e*Pn	Pn	22 09 22.6	-3.4
CAF				*e*Pg	Pg	22 09 36.2	-5.7
CAF				*e*Sn	Sn	22 10 07.4	-6.2
CAF				*e*Sg	Sg	22 10 26.4	-8.3
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	4.48	302	*e*Sn	Sn	22 10 19.2	-7.6
	1.2nm,0.2s						
AVF	**Avril sur Loir**	4.51	327	*e*Pg	Pg	22 09 46.5	-6.4
TCF	**Toulx Ste Croi**	4.65	316	*e*Pg	Pg	22 09 48.4	-7.4
SSF	**Saint Saulge**	4.67	330	*e*Pg	Pg	22 09 49.7	-6.5
LOR	**Lormes**	4.73	334	*e*Pg	Pg	22 09 50.0	-7.4
HYF	**Humbligny**	5.18	326	*e*Pg	Pg	22 09 57.9	-8.4

NEIC 12 22:13:28.7, 50.22N×179.01E, h1^{km}, ML3.5(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	2.83	55	P	Pn	22 14 13.6	-2.3
KIMD				S	Sn	22 14 48.3	-2.8
KIWB	**Kanaga Island**	2.93	54	P	Pn	22 14 14.8	-2.5
KIKV	**Kanaga Island**	2.93	54	P	Pn	22 14 14.9	-2.3
KIKV				S	Sn	22 14 51.4	-2.2
KINC	**Kanaga Island**	2.98	53	P	Pn	22 14 15.8	-2.2
KINC				S	Sn	22 14 52.5	-2.4
KIRH	**Kanaga Island**	2.98	54	P	Pn	22 14 16.2	-1.8
ADAG	**Mount Adagdak**	3.28	56	P	Pn	22 14 20.6	-1.7
GSTD	**Great Sitkin T**	3.56	57	P	Pn	22 14 24.1	-2.2
GSTD				S	Sn	22 15 08.1	-1.6
GSMY	**Great Sitkin M**	3.61	58	P	Pn	22 14 24.5	-2.4
GSMY				S	Sn	22 15 08.2	-2.6
GSTR	**Great Sitkin T**	3.63	57	P	Pn	22 14 25.4	-1.8
GSIG	**Igitkin Island**	3.65	59	P	Pn	22 14 24.8	-2.7
GSIG				S	Sn	22 15 08.4	-3.5
ATKA	**Atka Island**	4.71	62	P	Pn	22 14 38.9	-3.7

NEIC ***12*** *22:13:57.9±3.1, 8.83S×127.86E, h107^{km}±34^{km}, mb4.3/4, Error ellipse: s-maj=28.5km s-min=22.2km az=171.0*

IDC ***12*** *22:14:00.6±10.0, 8.96S×127.87E, h145^{km}±117^{km}, mb2.9/1, mb1 3.4/4, mb1mx3.2/13, ML3.7/3, Error ellipse: s-maj=76.1km s-min=42.4km az=19.0*

ISC 12 22:13:54.8±1.8**, 8.72S**±0.07×**127.80E**±0.10**, h95^{km}**±21^{km}**, n10, $\sigma 1^{s}34$**/17**, mb3.0**/1**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	6.00	132	*e*P	**P**	**22 15 23.0**	**+0.4**
	3.6nm,0.3s						
KAKA				*e*S	**S**	**22 16 33.9**	**+3.3**
FITZ	**Fitzroy Crossi**	9.56	192	*e*P	**P**	**22 16 12.3**	**+1.1**
	8.1nm,1.8s						
FITZ				*e*S	**S**	**22 17 57.9**	**+0.3**
FITZ	**Fitzroy Crossi**	9.56	192	P	**P**	**22 16 12.0**	**+0.8**
	0.3nm,0.3s,baz=338,slow=12,SNR=7.8						
FITZ				S	**S**	**22 17 56.4**	**-1.3**
	0.3nm,0.3s,baz=184,slow=18,SNR=3.3						
WRAB	**Tennant Creek**	12.82	151	*e*P	**P**	**22 16 53.0**	**-1.8**
	13nm,0.8s						
WRA	**Warramunga Arr**	12.83	151	P	**P**	**22 16 54.1**	**-0.6**
	1.3nm,0.3s,baz=319,slow=13,SNR=21						
WRA				S	**S**	**22 19 13.1**	**-2.5**
	0.4nm,0.3s,baz=333,slow=22,SNR=5.3						
WB2	**Warramunga Arr**	12.83	151	*e*P	**P**	**22 16 54.0**	**-0.8**
WB2				*e*		22 17 04.8	
WB2				*e*S	**S**	**22 19 13.8**	**-2.0**
ASAR	**Alice Springs**	15.97	159	P	**P**	**22 17 35.2**	**+0.1**
	0.3nm,0.3s,baz=341,slow=13,SNR=8.3						
ASAR				S	**S**	**22 20 31.0**	**+2.0**
	0.1nm,0.3s,baz=320,slow=21,SNR=3.7						
ASPA	**Alice Springs**	15.97	159	*e*P	**P**	**22 17 36.8**	**+1.6**
ASPA				*e*S	**S**	**22 20 30.3**	**+1.3**
PMG	**Port Moresby**	19.13	94	P	**P**	**22 18 13.2**	**+0.2**
	17nm,1.1s						
MKAR	**Makanchi Array**	68.50	328	P	**P**	**22 24 48.7**	**-0.2**
	0.1nm,0.5s,mb3.0,baz=114,slow=7.3,SNR=3.0						

STR ***12*** *22:16:47.6±0.1, 45.54N×6.69E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ZUR ***12*** *22:16:47.1, 45.61N×6.90E, h4^{km}, ML2.0/6*

NEIC ***12*** *22:16:48.0, 45.54N×6.91E, h2^{km}, ML2.8(GEN), ML2.7(STR), ML2.6(LDG), After LDG.*

LDG 12 22:16:48.0±0.1**, 45.54N×6.91E, h2^{km}, Md2.6**/2**, Ml2.6**/22**, 5C-3D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	**La Plagne**	0.13	258	*e*Pg	Pg	22 16 49.6	-1.0
LPL				*e*Sg	Sg	22 16 52.5	+0.2
	592nm,0.2s						
LSD	**Ceresole Reale**	0.19	116	P	Pg	22 16 52.3	+0.4
LSD				S	Sg	22 16 55.2	+0.7
RSL	**Roselend**	0.25	306	Pg	Pg	22 16 51.3	-1.6
RSL				Sg	Sg	22 16 53.7	-2.5
RSP	**Reno Superiore**	0.46	148	P	Pg	22 16 57.1	-0.1
RSP				S	Sg	22 17 03.8	+0.4
BNI	**Bardonecchia**	0.52	198	*e*Pg	Pg	22 16 57.0	-1.3
BNI				*e*Sg	Sg	22 17 03.6	-1.6
EMV	**Vieux Emosson**	0.52	359	⇑*i*Pg	Pg	22 16 57.2	-1.2
	2.6nm,0.4s						
EMV				*i* Sg	Sg	22 17 03.7	-1.7
	2.6nm,0.4s						
FENE	**Fenestrelle**	0.52	168	P	Pg	22 16 57.7	-0.7
FENE				S	Sg	22 17 04.6	-0.9
TRAV		0.59	93	P	Pg	22 16 59.5	-0.3
TRAV				S	Sg	22 17 07.6	-0.1
SALAN	**Lac Salanfe**	0.60	4	⇑*i*Pg	Pg	22 16 58.7	-1.4
	1.4nm,0.2s						
SALAN				*e*Sg	Sg	22 17 06.3	-1.8
	1.4nm,0.2s						
RRL	**Cesana Torines**	0.63	188	P	Pg	22 16 59.6	-0.9
RRL				S	Sg	22 17 09.0	0.0
DIX	**Grande Dixence**	0.64	33	*e*Pg	Pg	22 16 59.8	-1.0
	2.1nm,0.3s						
GRYON	**Gryon**	0.72	11	⇑*i*Pg	Pg	22 17 01.1	-1.3
	0.4nm,0.1s						
BHB	**Bricherasio**	0.74	160	P	Pg	22 17 02.1	-0.7
BHB				S	Sg	22 17 12.0	-0.7
AIGLE	**Aigle**	0.80	2	⇑*i*Pg	Pg	22 17 02.3	-1.7
	1.7nm,0.3s						
OG01	**Vacheresse**	0.80	349	Pg	Pg	22 17 02.3	-1.8
OG01				Sg	Sg	22 17 13.8	-1.0
MBDF	**Montbardon**	0.82	187	*e*Pg	Pg	22 17 02.8	-1.6
MBDF				*e*Sg	Sg	22 17 14.0	-1.3
	32nm,0.2s						
SENIN	**Lac Senin**	0.86	18	⇑*i*Pg	Pg	22 17 03.8	-1.5
	1.6nm,0.4s						
ORIF	**Oris-en-Rattie**	0.96	230	*e*Pg	Pg	22 17 05.4	-1.7
ORIF				*e*Sg	Sg	22 17 17.7	-2.2
	46nm,0.3s						
PZZ	**Prazzo**	1.05	172	P	Pb	22 17 07.8	-0.6
PZZ				S	Sb	22 17 20.6	-1.8
SURF	**Saint Ours**	1.06	184	Pg	Pg	22 17 07.8	-1.4
SURF				Sg	Sg	22 17 22.3	-1.1
GIMEL	**Gimel**	1.09	336	⇓*i*P*P		22 17 07.8	
	1.5nm,0.3s						
GIMEL	**Gimel**	1.09	336	⇓*i*P	Pb	22 17 07.9	-1.3
CABF	**La Chapelle**	1.21	332	*e*Pg	Pg	22 17 10.2	-2.0
CABF				*e*Sg	Sg	22 17 26.8	-1.6
	28nm,0.2s						
TORNY	**Torny**	1.23	2	⇓*i*P*P		22 17 10.9	
	3.3nm,0.4s						
STV2	**Anna di Valdie**	1.33	167	P	Pb	22 17 11.9	-1.4
STV2				S	Sb	22 17 28.3	-2.4
STV	**Sta Anna Valdi**	1.33	167	P	Pb	22 17 11.9	-1.4
STV				S	Sb	22 17 28.4	-2.4
ENR	**Entracque**	1.36	164	P	Pb	22 17 12.4	-1.5
ENR				S	Sb	22 17 29.9	-1.9
ROB	**Roburent**	1.42	151	P	Pn	22 17 14.0	-1.0
ROB				S	Sb	22 17 32.1	-1.3
BRANT	**Les Verrieres**	1.43	348	*e*Pn	Pn	22 17 14.2	-0.8
	2.9nm,0.9s						
MONE	**Monesi**	1.58	157	P	Pn	22 17 15.0	-2.2
FIN	**Finale Ligure**	1.62	145	P	Pn	22 17 17.7	-0.1
SBF	**Sospel**	1.72	167	*e*Pg	Pg	22 17 19.5	-2.8
SBF				*e*Sg	Sg	22 17 43.1	-2.2
	14nm,0.3s						
VIVF	**Saint-Julien-l**	1.72	247	*e*Pn	Pn	22 17 17.4	-1.8
VIVF				*e*Pg	Pg	22 17 19.7	-2.7
VIVF				*e*Sg	Sg	22 17 42.1	-3.3
	10nm,0.3s						
IMI	**Imperia**	1.77	156	P	Pn	22 17 17.6	-2.4
NEGI	**Negi**	1.79	161	P	Pn	22 17 19.8	-0.3
CALN	**Calern**	1.79	180	Pg	Pg	22 17 21.6	-2.1
SMRF	**Simiane la Rot**	1.83	212	*e*Pn	Pn	22 17 18.8	-2.0
SMRF				*e*Pg	Pg	22 17 22.5	-2.1
SMRF				*e*Sg	Sg	22 17 45.4	-3.6
	7.9nm,0.4s						
FRF	**La Foret Royal**	1.99	185	*e*Pg	Pg	22 17 24.9	-2.8
FRF				*e*Sg	Sg	22 17 51.2	-3.0
	3.8nm,0.2s						

LMR	La Mourre	2.23	188	*e*Pg	Pg	22 17 29.1	-3.3
LMR				*e*Sg	Sg	22 17 57.8	-4.3
	6.1nm,0.3s						
HINF	Hinteralfeld	2.28	359	*e*Pn	Pn	22 17 24.7	-2.4
HINF				*e*Pg	Pg	22 17 30.2	-3.2
HINF				*e*Sg	Sg	22 17 59.3	-4.5
	5.5nm,0.2s						
SMF	Signal de Mont	2.40	298	*e*Pn	Pn	22 17 26.9	-2.0
SMF				*e*Pg	Pg	22 17 32.9	-3.1
SMF				*e*Sg	Sg	22 18 01.3	-6.7
	13nm,0.3s						
HAU	Haudompre	2.50	351	*e*Pn	Pn	22 17 27.9	-2.4
HAU				*e*Pg	Pg	22 17 34.3	-3.5
HAU				*e*Sg	Sg	22 18 06.2	-4.8
	6.4nm,0.2s						
LASF	Ste Croix	2.62	237	*e*Pn	Pn	22 17 29.7	-2.4
LASF				*e*Pg	Pg	22 17 36.2	-4.1
LASF				*e*Sg	Sg	22 18 09.9	-5.3
	1.0nm,0.2s						
LOR	Lormes	2.73	310	*e*Pn	Pn	22 17 31.2	-2.4
	baz=128						
LOR				*e*Pg	Pg	22 17 38.8	-3.6
LOR				*e*Sg	Sg	22 18 11.9	-6.9
	8.7nm,0.4s,baz=137						
AVF	Avril sur Loir	2.77	298	*e*Pn	Pn	22 17 32.3	-1.9
AVF				*e*Pg	Pg	22 17 39.2	-4.1
AVF				*e*Sg	Sg	22 18 11.7	-8.5
	6.5nm,0.3s						
SSF	Saint Saulge	2.81	304	*e*Pn	Pn	22 17 32.6	-2.1
SSF				*e*Pg	Pg	22 17 40.0	-4.0
SSF				*e*Sg	Sg	22 18 15.3	-6.1
	5.1nm,0.3s						
CDF	Champ du Feu	2.88	5	*e*Pn	Pn	22 17 32.9	-2.9
CDF				*e*Pg	Pg	22 17 41.7	-3.8
CDF				*e*Sg	Sg	22 18 17.7	-6.3
	1.5nm,0.2s						
BGF	Bois d’Agland	3.01	291	*e*Pn	Pn	22 17 35.2	-2.4
BGF				*e*Pg	Pg	22 17 43.3	-4.7
BGF				*e*Sg	Sg	22 18 19.4	-8.7
	11nm,0.4s						
MEZF	Maizieres J’vi	3.22	337	*e*Pg	Pg	22 17 48.1	-4.2
MEZF				*e*Sg	Sg	22 18 29.2	-6.1
	2.0nm,0.3s						
TCF	Toulx Ste Croi	3.36	284	*e*Pn	Pn	22 17 40.0	-2.6
TCF				*e*Pg	Pg	22 17 50.4	-4.8
TCF				*e*Sn	Sn	22 18 17.8	-5.9
TCF				*e*Sg	Sg	22 18 33.1	-6.9
	4.2nm,0.3s						
HYF	Humbligny	3.42	302	*e*Sg	Sg	22 18 36.0	-5.9
CAF	Calviac	3.48	262	*e*Pn	Pn	22 17 41.8	-2.5
CAF				*e*Sg	Sg	22 18 37.4	-6.4
	1.2nm,0.4s						
RJF	Les Rejaudoux	3.80	268	*e*Pn	Pn	22 17 45.8	-3.1
RJF				*e*Sg	Sg	22 18 47.2	-7.5
	2.2nm,0.4s						
BAIF	Baives	4.87	339	*e*Pn	Pn	22 18 01.1	-3.0
MFF	Saint Martin d	5.02	285	*e*Pn	Pn	22 18 02.9	-3.3
LDF	La Druitiere	5.69	305	*e*Pn	Pn	22 18 12.3	-3.3
GRR	Gorron	6.03	301	*e*Pn	Pn	22 18 16.7	-3.7

IDC 12 22:24:47.0±2.1**, 2.66S**×**138.38E, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.5**/10**, ML3.4**/1**, Error ellipse: s-maj=96.4km s-min=31.3km az=84.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.62	193	P	P	22 28 53.4	-2.3
	0.1nm,0.3s,baz=18,slow=13,SNR=4.4						
ASAR	Alice Springs	21.33	191	P	P	22 29 35.5	-2.3
	0.8nm,0.5s,baz=22,slow=9.3,SNR=4.0						
MKAR	Makanchi Array	69.55	323	P	P	22 35 57.4	-2.4
	0.2nm,0.4s,baz=108,slow=7.0,SNR=4.6						
CPUP	Villa Florida	147.42	153	PKPbc	PKPdf	22 44 33.9	+0.9
	2.4nm,1.1s,baz=146,slow=3.9,SNR=3.2						

IDC 12 22:47:01.7±9.4**, 2.09N**×**128.78E, h151**^{km}±89^{km}**, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.6**/15**, Error ellipse: s-maj=145.0km s-min=17.9km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.56	166	P	P	22 51 48.0	-2.0
	1.0nm,0.3s,baz=337,slow=11,SNR=10						
WB2	Warramunga Arr	22.56	166	*e*P	P	22 51 48.2	-1.8
ASAR	Alice Springs	26.08	169	P	P	22 52 23.2	0.0
	0.7nm,0.8s,baz=328,slow=11,SNR=5.6						
ASAR				PcP	PcP	22 55 45.2	-2.2
	0.3nm,0.8s,baz=358,slow=2.2,SNR=4.3						
STKA	Stephens Creek	35.90	161	P	P	22 53 47.0	-2.1
	4.0nm,1.1s,baz=355,slow=10,SNR=3.5						
SONM	Songino Array	49.51	340	P	P	22 55 37.5	-1.3
	1.6nm,0.6s,baz=152,slow=8.3,SNR=15						
MKAR	Makanchi Array	60.07	325	P	P	22 56 52.6	-2.5
	4.4nm,0.5s,baz=115,slow=8.3,SNR=84						
ARCES	ARCESS Array B	92.69	340	P	P	22 59 55.5	-1.8
	6.8nm,1.1s,baz=67,slow=9.2,SNR=4.6						

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*IGQ **12** 22:52:41.3, 2.39S×75.88W, h12^{km}±19^{km}, mb4.3, Error ellipse: s-maj=18.1km s-min=4.2km az=34.1*

*NEIC **12** 22:52:45.2±0.8, 2.26S×75.93W, h168^{km}±9^{km}, mb4.2/6, Error ellipse: s-maj=14.0km s-min=7.0km az=72.0*

*IDC **12** 22:52:52.4±3.0, 1.92S×75.12W, h256^{km}±34^{km}, mb3.4/8, mb1 3.7/10, mb1mx3.5/21, Error ellipse: s-maj=56.2km s-min=11.2km az=70.0*

ISC 12 22:52:44.1±0.5**, 2.32S**±0.05×**76.00W**±0.07**, h170**^{km}±7^{km}**, n48, σ1**$\overset{s}{.}$**11**/52**, mb4.0**/13**, 5C-9D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULBA	Ulba	2.56	290	⇑P	P	22 53 26.8	-0.7
PATA	Patacocha	2.56	288	⇑P	P	22 53 27.1	-0.5
PATA				S	S	22 53 57.7	-3.3
RUN2	Runtun	2.57	290	P	P	22 53 26.9	-0.8
ARRY	Arrayan	2.58	288	⇑P	P	22 53 27.0	-0.9
ARRY				S	S	22 53 59.1	-2.3
RETU	Refugio	2.59	289	P	P	22 53 27.4	-0.6
JUIV	Juive	2.62	290	P	P	22 53 27.3	-0.9
CUSU	Cusua	2.63	289	P	P	22 53 27.9	-0.5
PISA	Pisayambo	2.69	298	⇓P	P	22 53 29.0	-0.2
EPALM	Reventador vol	2.71	320	P	P	22 53 28.2	-1.2
IGUA	Igualata	2.76	287	P	P	22 53 30.1	+0.1
CONE	Cono NE Rev Vo	2.77	324	⇑P	P	22 53 29.4	-0.8
TAMB	Tambo	2.87	304	⇓P	P	22 53 31.6	+0.4
TAMB				S	S	22 54 07.8	+0.2
VC1	Cotopaxi 1	2.92	305	⇓P	P	22 53 32.7	+0.7
NAS1	Nasa	2.99	304	⇓P	P	22 53 33.9	+1.1
ELAGU	Cayambe Volc	3.03	319	P	P	22 53 32.9	-0.4
CAYR	Refugio Cayamb	3.07	319	⇓P	P	22 53 34.1	+0.3
CAYA	Cayambe	3.10	320	P	P	22 53 34.5	+0.3
QIL1	Quilotoa	3.28	297	P	P	22 53 38.4	+1.9
JUA2	San Juan 2	3.34	309	P	P	22 53 38.4	+1.1
GGP	Refugio Guagua	3.36	309	P	P	22 53 39.2	+1.7
CGGP	Crater GGP	3.37	309	⇑P	P	22 53 39.0	+1.4
YANA	Yana	3.38	310	⇓P	P	22 53 38.5	+0.8
PINO	Pino	3.38	309	⇓P	P	22 53 38.7	+1.0
JOR1	San Jorge 1	3.50	311	⇓P	P	22 53 38.3	-1.0
COTA	Cotacachi	3.52	318	P	P	22 53 41.1	+1.5
OTAV	Otavalo	3.53	316	*e*Pn	P	22 53 40.3	+0.6
ROSC	El Rosal	7.32	13	P	P	22 54 29.9	+0.5
	5.4nm,0.3s,baz=83,slow=17,SNR=5.5						
NNA	Nana	9.64	185	*e*P	P	22 55 00.1	+0.1
NNA				*e*S	S	22 56 29.6	-17
SDV	Santo Domingo	12.35	26	*e*P	P	22 55 34.6	-0.6
SAML	Samuel	14.35	118	*e*P	P	22 55 59.4	-1.2
LPAZ	La Paz	15.89	151	P	P	22 56 22.1	+2.2
	0.5nm,0.3s,baz=337,slow=11,SNR=12						
LPAZ				S	S	22 59 09.9	-0.7
	0.0nm,0.3s,baz=178,slow=17,SNR=2.5						
LVC	Limon Verde	21.31	162	P	P	22 57 21.2	+2.7
	4.9nm,0.5s,mb4.1,baz=338,slow=6.1,SNR=8.5						
CPUP	Villa Florida	29.86	145	P	P	22 58 35.5	-2.3
	0.8nm,0.7s,mb3.6,baz=19,slow=13,SNR=2.5						
TRQA	Tornquist	37.82	162	P	P	22 59 45.4	-0.4
	4.4nm,1.0s,mb4.0						
PLCA	Paso Flores	38.55	173	P	P	22 59 52.8	+1.0
	3.1nm,0.8s,mb4.0,baz=339,slow=17,SNR=5.8						
PLCA	Paso Flores	38.55	173	*e*P	P	22 59 52.4	+0.5
	6.1nm,1.0s,mb4.2						
TXAR	Lajitas Array	41.14	322	P	P	23 00 14.0	+0.8
	0.5nm,0.3s,mb3.6,baz=141,slow=12,SNR=2.8						
PDAR	Pinedale Array	54.13	330	P	P	23 01 52.3	-1.4
	0.2nm,0.4s,mb3.2,baz=143,slow=7.4,SNR=3.5						
HWUT	Hardware Ranch	54.34	328	P	P	23 01 54.2	-1.0
	1.7nm,0.7s,mb3.9						
ULM	Lac du Bonnet	55.08	345	P	P	23 01 57.5	-3.0
	2.2nm,0.7s,mb4.0,baz=113,slow=19,SNR=3.1						
NVAR	Mina Array Bea	56.25	321	P	P	23 02 09.2	+0.1
	1.7nm,0.7s,mb4.0,baz=113,slow=7.2,SNR=5.1						
YKA	Yellowknife Ar	70.92	342	P	P	23 03 40.0	-4.4
	2.1nm,0.9s,mb3.9,baz=138,slow=6.2,SNR=7.1						
YKA	Yellowknife Ar	70.92	342	P	P	23 03 40.0	-4.4
DBIC	Dimbokro	71.57	82	*e*P	P	23 03 48.3	-0.8
	2.9nm,0.5s,mb4.3						
SUMG	Summit	78.44	11	*e*P	P	23 04 27.3	+0.2
	16nm,0.7s,mb4.8						
SNAA	Sanae	82.55	162	⇓*i*	P	23 04 49.2	+0.4
QSPA	South Pole Qui	87.75	180	*e*P	P	23 05 15.9	+1.7
	3.0nm,0.8s,mb4.2						
QSPA				*e*		23 07 56.5	
WRA	Warramunga Arr	142.91	232	PKP	PKPdf	23 11 56.3	-1.9
	0.2nm,0.4s,baz=116,slow=3.1,SNR=5.7						

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*ISK **12** 23:08:20.1, 36.86N×27.64E, h7^{km}, MD3.4*

*NEIC **12** 23:08:22.3, 36.89N×27.54E, h17^{km}, MD3.4(ATH), After ATH.*

*ATH **12** 23:08:22.2, 36.89N×27.55E, h17^{km}±7^{km}, MD3.4/7*

ISC 12 23:08:21.4±0.8**, 36.87N**±0.04×**27.67E**±0.04**, h10**^{km}±6^{km}**, n19, σ0**$\overset{s}{.}$**79**/25**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	317	*i* P	Pg	23 08 27.1	+0.2
BDRM				*i* S	Sg	23 08 31.8	+1.2
MLSB	Milas	0.43	11	*i* PG	Pg	23 08 29.4	-0.7
MLSB				*i* SG	Sg	23 08 36.1	+0.1
NISR	Nisiros	0.51	239	*e*PB	Pb	23 08 31.5	-0.4
YER	Yerkesik	0.56	62	*i* PG	Pg	23 08 31.8	-0.8
YER				*i* SG	Sg	23 08 40.4	+0.3
ARG	Arkhangelos	0.75	151	*e*PN	Pn	23 08 36.0	-1.8
ARG				*e*SN	Sn	23 08 50.8	+1.6
ARG	Arkhangelos	0.75	151	*e*Pn	Pn	23 08 36.0	-1.8
ARG				*e*Sn	Sn	23 08 51.0	+1.8
AYDN	Tasoluk	0.80	12	*i* P	Pb	23 08 36.8	-0.2
AYDN				*i* S	Sb	23 08 47.5	-0.1
SMG	Samos	1.07	322	*e*PN	Pn	23 08 41.5	-0.8
DNZL	Cakiroluk	1.37	53	*i* P	Pn	23 08 47.3	+0.7
KARP	Karpathos	1.39	197	*e*PB	Pb	23 08 46.8	-0.1
DENT	Denizli	1.40	51	PN	Pn	23 08 47.3	+0.3
IZM	Izmir	1.56	348	PN	Pn	23 08 49.0	-0.3
KSL	Kastellorizon	1.70	115	*e*PN	Pn	23 08 55.0	+3.6
APE	Apeiranthos	1.73	277	*e*PN	Pn	23 08 50.9	-0.8
APE	Apeiranthos	1.73	277	*e*PN	Pn	23 08 53.0	+1.3
ELL	Elmali	1.80	93	*e*PN	Pn	23 08 52.8	0.0
AKS	Akhisar	2.01	3	*e*PN	Pn	23 08 56.2	+0.5
BCK	Bucak	2.40	75	*e*PN	Pn	23 09 01.0	-0.4
PRK	Paraskevi	2.61	335	*e*PN	Pn	23 09 04.2	-0.2

ATH 12 23:18:27.9, 34.94N×**19.26E, h31**^{km}**, MD3.5**/4**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	Ithomi	3.11	43	*e*PN	Pn	23 19 17.0	+0.9
KYTH	Kithira	3.35	65	*e*PN	Pn	23 19 19.7	+0.1
VLI	Veliai	3.48	58	*e*PN	Pn	23 19 23.9	+2.6
VAM	Vamos	4.07	82	*e*PN	Pn	23 19 31.2	+1.4

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*IDC **12** 23:53:20.5±2.7, 32.07S×71.33W, h56^{km}±25^{km}, mb4.4/3, mb1 4.3/7, mb1mx3.9/16, ML4.4/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/18, Error ellipse: s-maj=30.8km s-min=19.3km az=102.0*

*GUC **12** 23:53:21.2±1.0, 32.13S×71.48W, h72^{km}±6^{km}, MD4.2, ML4.4*

*NEIC **12** 23:53:21.9±0.3, 32.14S×71.46W, h71^{km}±3^{km}, mb4.3/7, MD4.2(GUC), Error ellipse: s-maj=8.5km s-min=2.9km az=92.0*

NEIC Felt [III] at La Ligua, Puchuncavi, Quillota, Vina del Mar and Valparaiso; [II] at Los Vilos.

ISC 12 23:53:20.8±0.5**, 32.14S**±0.02×**71.53W**±0.08**, h79**^{km}±4^{km}**, n50, σ0**$\overset{s}{.}$**75**/63**, mb4.4**/10**, 17C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCH	Petorca	0.52	104	⇑*i*P	P	23 53 34.7	-0.1
PTCH				*i* S	S	23 53 44.5	-0.7
PTCH				AML	AML	23 53 45.7	
	comp=N,197µm,0.5s						
ILCH	Illapel	0.58	31	⇑*i*P	P	23 53 35.6	+0.1
ILCH				*i* S	S	23 53 45.6	-0.6
ILCH				AML	AML	23 53 46.1	
	comp=N,27µm,0.3s						
IHA	Instituto Hidr	0.89	186	⇑*i*P	P	23 53 38.4	-0.3
JACH	Jahuel	0.96	125	⇑*i*P	P	23 53 39.4	-0.2
CMCH	Combarbala	1.06	25	⇑*i*P	P	23 53 41.1	+0.3
CMCH				*i* S	S	23 53 55.2	-0.5
LCCH	Las Cruces	1.34	182	⇓*i*P	P	23 53 44.3	-0.2
PUEX	Pudahuel	1.45	154	*e*P	P	23 53 46.2	+0.1
PUEX				*i* S	S	23 54 05.1	+0.5
PUEX				AML	AML	23 54 05.5	
	comp=N,10µm,0.6s						
RCDM	Rinconada Maip	1.48	156	*e*P	P	23 53 46.3	-0.1
RCDM				AML	AML	23 54 05.5	
	comp=E,10µm,0.1s						
DSCH	Colegio Aleman	1.50	148	⇑*i*P	P	23 53 46.6	+0.1
DSCH				*i* S	S	23 54 05.2	-0.4
DSCH				AML	AML	23 54 06.5	
	comp=E,9µm,0.3s						
SAN	Santiago	1.50	151	⇑*i*P	P	23 53 46.6	0.0
SAN				AML	AML	23 54 05.9	
	comp=N,4µm,0.6s						
CLCH	Cerro Calan	1.51	147	⇑*i*P	P	23 53 46.8	+0.1
CLCH				*i* S	S	23 54 05.8	-0.1
CLCH				AML	AML	23 54 07.1	
	comp=E,6µm,0.4s						
OVCH	Ovalle	1.55	10	⇓*i*P	P	23 53 47.5	+0.2
OVCH				*i* S	S	23 54 06.9	+0.1
OVCH				AML	AML	23 54 11.8	
	comp=E,9µm,0.3s						
FCH	Farellones	1.58	139	⇑*i*P	P	23 53 47.9	+0.2
FCH				*i* S	S	23 54 08.2	+0.7
FCH				AML	AML	23 54 11.2	
	comp=E,3µm,0.2s						
ANTU	Antumapu	1.61	153	*e*P	P	23 53 48.1	-0.1
ANTU				*i* S	S	23 54 08.2	-0.1
ANTU				AML	AML	23 54 09.3	
	comp=E,7µm,0.1s						
PCH	Pirque	1.71	150	⇓*i*P	P	23 53 49.4	+0.1
LNV	Longovilo	1.82	177	⇑*i*P	P	23 53 50.3	-0.6
CHCH	Chadas Angostu	1.94	158	⇑*i*P	P	23 53 52.8	+0.3
LMEL	Las Melosas	2.04	147	⇓*i*P	P	23 53 54.4	+0.6
LMEL				*i* S	S	23 54 18.8	+0.6
LMEL				AML	AML	23 54 20.1	
	comp=N,5µm,0.3s						
TLL	Tololo Astrono	2.06	18	⇑*i*P	P	23 53 54.8	+0.7
TLL				*i* S	S	23 54 19.1	+0.5
TLL				AML	AML	23 54 21.6	
	comp=E,5µm,0.5s						
CACH	El Canelo	2.12	159	⇓*i*P	P	23 53 55.8	+0.8
LSCH	La Serena	2.23	6	⇓*i*P	P	23 53 56.5	-0.1
LSCH				AML	AML	23 54 26.3	
	comp=E,3µm,0.2s						
CICH	Cipreses	2.37	157	⇑*i*P	P	23 53 58.9	+0.4
MDZ	Mendoza	2.38	109	*e*P	P	23 54 01.0	+2.4
MDZ				*e*		23 54 07.2	
MDZ				*i*		23 54 20.0	
MDZ				*i*		23 54 22.9	
MDZ				*i* S	S	23 54 31.0	+4.3
SFDO	San Fernando	2.51	170	⇑*i*P	P	23 54 00.2	-0.2
NICH	Los Niches	2.87	175	⇑*i*P	P	23 54 05.2	-0.3
TALC	Talca	3.25	182	⇑*i*P	P	23 54 10.1	-0.7
VACH	Vallenar	3.61	11	⇑*i*P	P	23 54 11.2	-4.6
VACH				*i* S	S	23 54 51.7	-5.7
CCHI	Chillan	4.48	186	*e*P	P	23 54 27.1	-0.7
PLCA	Paso Flores	8.62	175	P	P	23 55 23.6	-1.1
	comp=E,1.2nm,0.3s,baz=340,slow=14,SNR=24						
PLCA				S	S	23 57 12.2	+11
	comp=E,0.4nm,0.3s,baz=243,slow=13,SNR=4.3						
LVC	Limon Verde	9.77	14	P	P	23 55 35.7	-4.8
	comp=E,0.6nm,0.3s,baz=175,slow=9.4,SNR=8.5						
LVC				S	S	23 57 20.6	-8.6
	comp=E,0.6nm,0.3s,baz=163,slow=19,SNR=3.3						
LVC				LR	LR	23 59 26.7	
	comp=E,117nm,21.3s,baz=168,slow=38						
TRQA	Tornquist	9.80	130	*e*Pn	P	23 55 38.7	-2.2
	comp=E,2.3nm,0.6s						
CPUP	Villa Florida	13.68	69	P	P	23 56 27.6	-4.9
	comp=E,0.5nm,0.3s,baz=253,slow=14,SNR=9.4						
CPUP	Villa Florida	13.68	69	*e*P	P	23 56 28.0	-4.5
LPAZ	La Paz	16.08	12	P	P	23 57 04.2	+0.9
	comp=E,0.5nm,0.3s,baz=190,slow=9.1,SNR=22						
LPAZ	La Paz	16.08	12	*e*P	P	23 57 04.5	+1.1
	comp=E,5.9nm,0.8s						
USHA	Ushuaia	22.79	175	P	P	23 58 19.3	+2.1
	comp=E,22nm,1.0s,mb4.4,baz=9.7,slow=0.6,SNR=7.3						
SAML	Samuel	24.34	20	*e*P	P	23 58 32.6	+0.1
	comp=E,4.7nm,0.6s,mb4.0						
SAML				*e*		23 58 43.4	
SAML				*e*		23 58 49.6	
SAML				*e*		23 59 26.5	
BDFB	Brasilia	26.96	58	P	P	23 58 55.8	-1.2
	comp=E,8.6nm,0.7s,mb4.4,baz=242,slow=8.2,SNR=14						
BDFB				LR	LR	00 09 26.0	
	comp=E,92nm,19.5s,baz=121,slow=36						
SNAA	Sanae	53.15	158	*e*P	P	00 02 32.3	-0.1
	comp=E,6.7nm,1.0s,mb4.6						
QSPA	South Pole Qui	58.10	180	*e*P	P	00 03 08.5	+0.8
	comp=E,5.3nm,0.7s,mb4.7						
QSPA				*e*	pP	00 03 32.3	+4.3
VNDA	Vanda	66.01	191	*e*P	P	00 04 01.3	+0.8
	comp=E,1.0nm,0.9s,mb3.6						
TXAR	Lajitas Array	68.33	330	P	P	00 04 16.5	+0.7
	comp=E,0.2nm,0.6s,baz=139,slow=9.6,SNR=2.5						
LIC	Lamto	73.78	72	*e*P	P	00 04 48.1	-0.7
	comp=E,63nm,1.6s,mb5.1						
TIC	Toumodi	74.03	71	*e*P	P	00 04 47.7	-2.5
	comp=E,158nm,1.6s						
KIC	Kosan Boka	74.09	72	*e*P	P	00 04 50.2	-0.4
	comp=E,15nm,0.6s,mb4.9						
DBIC	Dimbokro	74.18	71	P	P	00 04 50.5	-0.5
	comp=E,3.0nm,0.5s,mb4.3,baz=221,slow=7.8,SNR=14						
DBIC	Dimbokro	74.18	71	*e*P	P	00 04 50.5	-0.6
	comp=E,4.2nm,0.6s,mb4.3						
MAW	Mawson	74.84	164	*e*P	P	00 04 53.6	-0.2
	comp=E,2.6nm,1.0s,mb3.9						
WRA	Warramunga Arr	122.60	209	PKP	PKPdf	00 12 08.8	+1.1
	comp=E,0.6nm,0.8s,baz=161,slow=1.8,SNR=4.7						
WRA				pPKP		00 12 28.9	
	comp=E,0.4nm,0.5s,baz=170,slow=1.5,SNR=6.8						
MKAR	Makanchi Array	155.19	46	PKPab	PKPab	00 13 31.2	-0.5
	comp=E,0.9nm,0.7s,baz=311,slow=3.7,SNR=5.2						

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*NEIC **13** 00:21:13.9±1.4, 5.39S×129.11E, h220^{km}±14^{km}, mb4.3/10, Error ellipse: s-maj=15.2km s-min=8.0km az=66.0*

*IDC **13** 00:21:16.3±2.6, 5.53S×129.00E, h237^{km}±25^{km}, mb3.9/11, mb1 4.0/14, mb1mx3.9/18, Error ellipse: s-maj=21.6km s-min=8.8km az=65.0*

ISC 13 00:21:11.9±1.3**, 5.30S**±0.05×**129.2E**±0.1**, h215**^{km}±13^{km}**, n34, σ0**$\overset{s}{.}$**87**/35**, mb4.1**/16**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	8.00	157	⇓*i*P	P	00 23 06.3	+0.5
	392nm,0.8s						
KAKA				*e*S	S	00 24 30.7	-4.2
FITZ	Fitzroy Crossi	13.20	195	*e*P	P	00 24 11.4	-1.0
	27nm,0.5s						
FITZ	Fitzroy Crossi	13.20	195	P	P	00 24 11.6	-0.7
	5.2nm,0.3s,baz=19,slow=10,SNR=91						
FITZ				S	S	00 26 35.9	+1.0
	0.7nm,0.3s,baz=173,slow=15,SNR=3.5						
WRAB	Tennant Creek	15.38	162	*e*P	P	00 24 38.3	-1.1
	177nm,0.9s						
WRA	Warramunga Arr	15.38	162	P	P	00 24 38.5	-1.0
	6.4nm,0.3s,baz=341,slow=12,SNR=190						
WRA				S	S	00 27 24.3	+0.5
	2.9nm,0.3s,baz=339,slow=20,SNR=8.1						
WB2	Warramunga Arr	15.39	162	⇓*i*P	P	00 24 38.4	-1.1
WB2				*e*S	S	00 27 24.5	+0.6
PMG	Port Moresby	18.24	104	P	P	00 25 14.5	+2.8
	1.9nm,0.3s,baz=303,slow=5.4,SNR=6.7						
PMG	Port Moresby	18.24	104	*e*P	P	00 25 14.4	+2.7
	14nm,0.4s						
ASAR	Alice Springs	18.81	167	P	P	00 25 18.0	+0.5
	2.8nm,0.3s,baz=347,slow=11,SNR=105						
ASAR				S	S	00 28 35.5	+0.2
	2.6nm,0.3s,baz=349,slow=21,SNR=15						
ASPA	Alice Springs	18.81	167	*e*P	P	00 25 18.0	+0.5
ASPA				*e*S	S	00 28 35.2	-0.2
CTA	Charters Tower	22.14	133	*e*P	P	00 25 52.7	+2.0
	9.2nm,0.7s,mb4.4						
CTA	Charters Tower	22.14	133	P	P	00 25 52.9	+2.2
	10nm,0.6s,mb4.5,baz=304,slow=11,SNR=14						
CTAO	Charters Tower	22.14	133	*e*P	P	00 25 52.4	+1.7
	7.9nm,0.5s,mb4.5						
STKA	Stephens Creek	28.87	158	P	P	00 26 52.0	-0.8
	3.8nm,0.8s,mb4.1,baz=295,slow=14,SNR=3.1						
CMAR	Chiang Mai Arr	38.06	309	P	P	00 28 12.3	+0.7
	2.7nm,0.7s,mb3.9,baz=132,slow=7.3,SNR=12						
JNU	Nakatsue	38.24	2	P	P	00 28 13.0	+0.1
	3.5nm,0.7s,mb4.0,baz=117,slow=4.5,SNR=3.9						
ENH	Enshi	40.11	333	P	P	00 28 28.1	-0.2
	5.3nm,0.6s,mb4.2						
MAJO	Matsushiro	42.46	11	P	P	00 28 46.7	-0.8
	4.2nm,0.4s,mb4.2						
LSA	Lhasa	50.45	316	*e*P	P	00 29 51.1	+1.2
	3.2nm,0.4s,mb4.0						
RPZ	Rata Peaks	53.04	143	P	P	00 30 09.1	+0.2
	14nm,0.7s,mb4.5,baz=19,slow=11,SNR=4.0						
URZ	Urewera	54.39	134	P	P	00 30 17.9	-0.9
	13nm,0.7s,mb4.5,slow=16,SNR=3.5						
SONM	Songino Array	56.59	342	P	P	00 30 34.9	+0.5
	2.0nm,0.8s,mb3.8,baz=161,slow=7.4,SNR=13						
MKAR	Makanchi Array	66.39	327	P	P	00 31 40.0	+0.3
	8.6nm,0.7s,mb4.5,baz=123,slow=8.2,SNR=59						
KURK	Kurchatov	70.67	329	*e*P	P	00 32 06.2	+0.1
	7.8nm,0.9s,mb4.3						
VNDA	Vanda	74.22	173	P	P	00 32 25.5	-1.0
	1.4nm,0.6s,mb3.8,baz=324,slow=5.6,SNR=16						
VNDA	Vanda	74.22	173	*e*P	P	00 32 25.1	-1.4
	1.2nm,0.6s,mb3.7						
MAW	Mawson	76.25	201	P	P	00 32 37.5	-0.5
	1.9nm,0.8s,mb3.8,baz=63,slow=9.0,SNR=3.5						
QSPA	South Pole Qui	84.67	180	*e*P	P	00 33 21.7	-0.3
	2.1nm,0.8s,mb3.9						
ILAR	Eielson Array	92.14	25	P	P	00 33 56.8	-0.9
	0.6nm,0.8s,mb3.6,baz=237,slow=5.2,SNR=4.7						
TXAR	Lajitas Array	124.70	58	PKP	PKPdf	00 39 48.0	+1.4
	0.3nm,0.6s,baz=288,slow=4.0,SNR=6.4						
LVC	Limon Verde	147.07	148	PKPbc	PKPdf	00 40 32.7	+5.1
	3.3nm,0.3s,baz=245,slow=2.9,SNR=12						
CPUP	Villa Florida	147.93	169	PKPbc	PKPdf	00 40 33.6	+4.7
	3.2nm,0.6s,baz=220,slow=3.2,SNR=11						
LPAZ	La Paz	152.53	142	PKPbc	PKPdf	00 40 46.2	+10
	0.8nm,0.3s,baz=101,slow=0.6,SNR=6.2						
LPAZ				PKPab	PKPab	00 40 58.1	+1.0
	2.2nm,0.7s,baz=186,slow=3.9,SNR=8.6						
LPAZ	La Paz	152.53	142	PKPbc	PKPdf	00 40 46.2	+10
LPAZ				PKPab	PKPab	00 40 58.1	+1.0

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*IDC **13** 00:29:24.4±26.0, 22.40S×178.76W, h403^{km}±169^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.3/17, Error ellipse: s-maj=308.0km s-min=23.7km az=44.0*

ISC 13 00:29:22.0±6.3**, 22.4S**±0.6×**178.6W**±0.8**, h400**^{km}**, n6, σ1**$\overset{s}{.}$**08**/6**, mb3.6**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	16.21	192	P	P	00 32 49.0	0.0
	0.8nm,0.3s,baz=350,slow=6.1,SNR=4.2						
CTA	Charters Tower	32.76	267	P	P	00 35 22.7	+1.6
	5.1nm,0.3s,mb4.3,baz=93,slow=11,SNR=5.7						
ASAR	Alice Springs	43.54	259	P	P	00 36 49.1	-0.6
	1.4nm,0.4s,mb3.6,baz=97,slow=8.2,SNR=15						
WRA	Warramunga Arr	43.78	264	P	P	00 36 51.2	-0.6
	2.2nm,0.3s,mb3.9,baz=96,slow=8.4,SNR=57						
FITZ	Fitzroy Crossi	52.22	264	P	P	00 37 55.6	-0.5
	2.4nm,0.7s,mb3.5,baz=136,slow=3.0,SNR=6.7						
VNDA	Vanda	55.96	185	P	P	00 38 22.2	+0.2
	0.3nm,0.7s,mb2.8,baz=357,slow=7.8,SNR=3.9						

NEIC 13 01:19:24.4±0.6**, 42.29N**×**106.96W, h5**^{km}**, ML3.5, Error**

ellipse: s-maj=7.9km s-min=6.9km az=106.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BW06	Boulder Array	1.98	285	eP	Pn	01 19 57.9	-1.1
BW06				eS	Sn	01 20 24.0	-0.4
ISCO	Idaho Springs	2.69	157	Pn	Pn	01 20 09.4	+0.4
ISCO				i Pg	Pg	01 20 12.9	-5.1
RSSD	Black Hills	2.81	48	ePn	Pn	01 20 09.7	-1.1
WUWY	Wally Ulrich	3.05	295	eP	Pn	01 20 15.3	+1.2
REDW	Red Top Meadow	3.06	292	ePn	Pn	01 20 14.4	+0.1
AHID	Auburn Hatcher	3.10	280	P	Pn	01 20 16.6	+1.7
MOOW	Moose Ponds	3.14	299	ePn	Pn	01 20 15.3	-0.2
TPAW	Teton Pass	3.17	294	ePn	Pn	01 20 15.7	-0.2
HWUT	Hardware Ranch	3.50	260	ePn	Pn	01 20 18.3	-2.4
TCUT	Toone Canyon	3.53	252	ePn	Pn	01 20 19.2	-1.9
DAU	Daniels Canyon	3.74	241	ePn	Pn	01 20 24.0	0.0
YMR	Madison River	3.76	311	Pn	Pn	01 20 26.6	+2.3
JLU	Jordanelle	3.77	245	ePn	Pn	01 20 24.1	-0.4
RW3	Ridgway	4.08	188	ePn	Pn	01 20 23.3	-5.4
RW3				ePg	Pg	01 20 37.8	-7.9
QLMT	Earthquake Lak	4.12	310	Pn	Pn	01 20 30.9	+1.4
SRU	San Rafael	4.18	222	ePn	Pn	01 20 28.8	-1.4
MPU	Maple Canyon	4.20	239	Pn	Pn	01 20 30.6	+0.1
MPU				eS	Sn	01 21 30.7	+10
SPUT	South Promonto	4.22	258	ePn	Pn	01 20 27.8	-3.1
PV01	Paradox Valley	4.33	197	ePn	Pn	01 20 30.8	-1.7
HVU	Hansel Valley	4.36	265	P	Pn	01 20 30.8	-2.1
LAO	LASA Array	4.43	7	ePn	Pn	01 20 31.6	-2.1
NLU	North Lily Min	4.51	241	ePn	Pn	01 20 33.8	-1.2
NLU				ePg	Pg	01 20 45.0	-9.5
BGU	Big Grassy Mou	4.75	255	Pn	Pn	01 20 38.1	-0.3
BOZ	Bozeman (W)	4.76	316	ePn	Pn	01 20 40.4	+1.9
DUG	Dugway	4.88	247	ePn	Pn	01 20 38.6	-1.7
MCMT	McKenzie Canyo	4.97	303	P	Pn	01 20 40.2	-1.3
MSU	Marysvale	5.49	228	ePn	Pn	01 20 47.4	-1.4
HLID	Hailey	5.62	286	Pn	Pn	01 20 48.5	-2.1
HRY	Holter Researc	5.63	323	P	Pn	01 20 55.1	+4.4
DGMT	Dagmar	6.48	17	ePg	Pg	01 21 21.7	-12
	16nm,0.6s						

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*SNSN **13** 01:56:40.8, 29.18N×34.67E, Ml1.9*
*GII **13** 01:56:42.9±1.0, 29.24N×34.91E, h5^{km}±30^{km}, ML1.4/1*
ISC 13 01:56:42.0±1.2**, 29.19N**±0.06×**34.8E**±0.1**, h10^{km}, n12, σ1^{s}06**/15**, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAQS	Haql	0.19	133	P	Pg	01 56 45.8	-0.4
HAQS				S	Sg	01 56 49.7	+0.7
JMOS	Jabal al Moall	0.29	93	P	Pg	01 56 47.9	-0.3
EIL	Elat	0.51	18	Pg	Pg	01 56 51.6	-0.7
MBH	Mount Berech	0.62	12	Pg	Pg	01 56 54.3	-0.2
BDAS	Al Bad‘	0.81	159	P	Pb	01 56 56.4	-1.2
KMTI	Karmit	0.92	357	Pg	Pg	01 56 58.9	-1.5
KMTI				Sg	Sg	01 57 12.3	-0.4
JMQS	Jabal Moqyreh	1.01	107	P	Pb	01 57 01.2	0.0
PRNI	Paran	1.18	10	Pg	Pg	01 57 03.6	-2.0
SVTA	Shivta	1.74	356	Sn	Sn	01 57 36.6	+1.6
KZIT	Kziot	1.75	349	Pn	Pn	01 57 13.0	+0.4
KZIT				Sn	Sn	01 57 36.5	+1.4
MASH	Mash‘abbe Sade	1.80	0	Pn	Pn	01 57 14.3	+0.8
TBKS	Tabuk	1.83	121	P	Pn	01 57 15.6	+1.8

IDC 13 02:02:45.9±5.9**, 6.05S×155.52E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, Error ellipse: s-maj=169.0km s-min=32.1km az=107.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.79	234	P	P	02 08 10.6	-0.4
	0.7nm,0.3s,baz=60,slow=9.1,SNR=10						
ASAR	Alice Springs	27.19	228	P	P	02 08 30.6	-2.8
	0.4nm,0.4s,baz=56,slow=9.3,SNR=4.9						
SONM	Songino Array	68.83	327	P	P	02 13 52.4	-1.9
	2.1nm,0.6s,baz=137,slow=6.2,SNR=19						

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*BJI **13** 02:11:34.8, 44.58N×78.85E, h33^{km}, ML3.8*
*NNC **13** 02:11:39.1±3.6, 44.48N×79.64E, mpv3.0, Error ellipse: s-maj=38.0km s-min=17.8km az=149.0*
ISC 13 02:11:40.8±0.7**, 44.53N**±0.10×**79.72E**±0.07**, h10^{km}, n18, σ1^{s}11**/16**, 5C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.89	38	⇑Pn	Pn	02 12 31.7	+3.9
	1.5nm,0.2s,baz=210,slow=15,SNR=145						
MK31				⇓Lg		02 13 09.4	
	40nm,0.6s,baz=221,slow=29,SNR=14						
TKM2	Tokmak 2	3.40	243	P	Pn	02 12 39.3	+4.2
	SNR=11						
ULHL	Ulahol	3.42	229	P	Pn	02 12 35.1	-0.2
	SNR=11						
CHMS	Chumysh	3.92	249	P	Pn	02 12 41.1	-1.3
	SNR=10						
KBK	Karagaybulak	3.94	243	P	Pn	02 12 42.1	-0.7
	SNR=34						
USP	Ospenovka	3.98	253	P	Pn	02 12 42.2	-1.1
	SNR=22						
KZA	Kyzart	4.08	235	P	Pb	02 12 53.5	+1.0
	SNR=8.3						
AAK	Ala-Archa	4.25	245	P	Pb	02 12 56.9	+1.6
	SNR=5.3						
UCH	Uchtor	4.44	241	P	Pb	02 13 00.8	+2.1
	SNR=8.1						
EKS2	Erkin-Say	4.71	249	P	Pn	02 12 52.4	-1.2
	SNR=5.9						
AML	Almayashu	5.01	243	P	Pn	02 12 57.3	-0.7
	SNR=8.3						
WMQ	Urumqi	5.78	94	eP	Pn	02 13 09.2	+0.5
WMQ				S	Sn	02 14 15.5	-0.4
WMQ				Smax			
	comp=N,16nm,0.5s						
WMQ				Smax			
	comp=E,14nm,0.7s						
KURK	Kurchatov	6.23	354	⇑Pn	Pn	02 13 15.5	+0.3
	comp=E,0.5nm,0.7s,baz=197,slow=11,SNR=3.4						
KURK				⇓Lg		02 15 01.2	
	comp=E,8.9nm,0.6s,baz=55,slow=9.4,SNR=8.9						
KK31	Karatay Array	6.82	261	⇓Pg	Pb	02 13 39.8	+0.5
	comp=E,0.9nm,0.3s,baz=66,slow=12,SNR=12						
KK31				⇑Lg		02 15 13.8	
	comp=E,4.3nm,0.4s,baz=76,slow=29,SNR=12						
VOSK	Vostochnaya	10.03	328	⇓Lg		02 16 55.8	
	comp=E,12nm,1.4s						
BVA0	Borovoye Array	10.49	327	⇓Lg		02 17 15.4	
	comp=E,0.8nm,0.8s,baz=140,slow=18,SNR=3.8						
ZRNK	Zerenda	10.99	324	⇑Lg		02 17 31.6	
	comp=E,12nm,1.2s						
AB31	Akbulak array	14.31	296	⇑P	P	02 15 01.8	-3.7
	comp=E,1.0nm,0.8s,slow=0.1,SNR=6.3						

DJA 13 02:37:09.1±1.2**, 9.23S×116.65E, h2^{km}, ML3.6**/2**, 5C-1D, Error ellipse: s-maj=27.6km s-min=24.3km az=103.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.91	324	⇑ePn	Pn	02 37 25.7	-3.0
	48nm,0.3s						
KEDI				⇑iSn	Sn	02 37 38.8	-3.7
RATI	Rata	1.22	294	⇑ePn	Pn	02 37 29.5	-3.6
	141nm,0.2s						
RATI				⇑eSn	Sn	02 37 45.0	-5.3
KELI	Kelakatan	2.36	295	⇑ePn	Pn	02 37 47.4	-2.1
KELI				⇓iSn	Sn	02 38 06.0	-13

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*MAN **13** 03:03:10.8, 20.20N×122.02E, h32^{km}, mb4.3, ML3.1, MS2.9*
*IDC **13** 03:03:10.2±1.2, 20.37N×122.24E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, MS3.2/2, Ms1 3.2/2, ms1mx2.5/34, Error ellipse: s-maj=30.1km s-min=23.6km az=71.0*
ISC 13 03:03:10.0±1.6**, 20.09N**±0.05×**122.3E**±0.1**, h19^{km}**±15^{km}**, n12, σ1^{s}21**/15**, mb3.6**/4**, MS3.2**/1**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.45	320	eP	Pb	03 03 19.3	+0.2
BBP				eS	Sb	03 03 25.2	-0.2
CVP	Callao Caves	2.41	190	eP	Pn	03 03 51.0	+1.8
CVP				eS	Sn	03 04 17.5	-1.1
APYP	Conner	2.42	204	eP	Pn	03 03 48.6	-0.8
APYP				eS	Sn	03 04 17.3	-1.5
ABRA	Dolores	2.84	212	eP	Pn	03 03 55.3	-0.1
PALP	Palanan	3.02	177	eP	Pn	03 03 57.2	-0.7
CAUP	Cauayan	3.16	188	eP	Pn	03 04 01.8	+1.9
JOW	Kunigami	8.68	38	Pn	P	03 05 16.1	-1.6
	baz=235,slow=12						
JOW				Sn	Sn	03 06 49.7	-6.3
	0.7nm,0.3s,baz=135,slow=20,SNR=2.5						
JOW				LR	LR	03 08 44.2	
	comp=Z,99nm,18.9s,baz=354,slow=39						
CMAR	Chiang Mai Arr	22.08	270	P	P	03 08 07.2	+1.4
	1.1nm,0.5s,mb3.6,baz=80,slow=8.7,SNR=4.5						
FITZ	Fitzroy Crossi	38.10	175	LR	LR	03 26 07.8	
	comp=Z,44nm,21.6s,MS3.2,baz=15,slow=36						
WRA	Warramunga Arr	41.51	163	P	P	03 10 59.8	+1.9
	0.9nm,0.7s,mb3.5,baz=343,slow=9.1,SNR=6.5						
MKAR	Makanchi Array	42.02	319	P	P	03 11 01.1	-0.7
	1.2nm,0.7s,mb3.6,baz=112,slow=9.4,SNR=7.5						
ASAR	Alice Springs	44.95	165	P	P	03 11 30.9	+4.9
	0.7nm,0.8s,mb3.5,baz=339,slow=6.8,SNR=5.8						

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*NIED **13** 03:25:00, 39.10N×144.40E, h5^{km}, Mw3.9 Best double couple: M$_0$8.13×10^{14} NP1:φ$_s$187°, δ62°, λ-93°. NP2:φ$_s$14°, δ29°, λ-84°.*
*IDC **13** 03:25:19.5±0.8, 38.85N×144.70E, mb3.8/11, mb1 4.0/13, mb1mx3.9/26, ML3.9/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/35, Error ellipse: s-maj=24.3km s-min=17.6km az=109.0*
*MOS **13** 03:25:22.6±1.5, 39.09N×144.63E, h33^{km}, mb4.2/5, Error ellipse: s-maj=40.0km s-min=13.3km az=85.4*
*NEIC **13** 03:25:23.8±4.3, 38.88N×144.71E, h28^{km}±30^{km}, mb4.2/2, Error ellipse: s-maj=16.4km s-min=10.9km az=120.0*
*JMA **13** 03:25:24.5±0.2, 39.07N×144.39E, h44^{km}, M4.2*
ISC 13 03:25:22.3±1.5**, 39.12N**±0.04×**144.51E**±0.05**, h27^{km}**±12^{km}**, n49, σ1^{s}27**/67**, mb3.9**/12**, MS4.4**/1**, 1C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyako 2	2.13	283	P	Pn	03 25 57.8	+0.9
MIYJ				S	Sn	03 26 22.4	-0.4
JTH	Tanohata	2.21	292	P	Pn	03 25 58.7	+0.8
JTH				eS	Sn	03 26 24.5	-0.1
OFUJ	Ofunato	2.21	270	P	Pn	03 25 58.5	+0.4
OFUJ				S	Sn	03 26 23.7	-1.1
JOM	Ohasama	2.52	279	P	Pn	03 26 03.4	+0.9
JOM				eS	Sn	03 26 32.5	-0.2
JMK	Ichinoseki	2.57	267	P	Pn	03 26 03.8	+0.6
JMK				S	Sn	03 26 32.8	-1.1
JANG	Nango	2.63	299	P	Pn	03 26 04.3	+0.3
JMM	Marumori	3.18	248	P	Pn	03 26 11.2	-0.6
JMM				eS	Sn	03 26 45.7	-3.5
JYK	Kaneyama	3.24	268	P	Pn	03 26 13.7	+1.0
JYK				eS	Sn	03 26 51.2	+0.3
JOT	Ohata	3.48	311	P	Pn	03 26 16.9	+0.8
JOT				S	Sn	03 26 56.1	-0.8
JCH	Churui	3.59	346	P	Pn	03 26 17.5	-0.2
JCH				eS	Sn	03 26 57.4	-2.4
JKB	Kayabe	3.83	317	P	Pn	03 26 21.7	+0.7
NEM2	Nemuro 2	4.34	12	P	Pn	03 26 25.7	-2.6
NEM2				S	Sn	03 27 13.3	-5.3
JOSM	Okushiri--Mats	4.84	309	P	Pn	03 26 37.0	+1.6
JTKR	Abashiri--Toko	4.86	355	P	Pn	03 26 35.0	-0.7
JTKR				S	Sn	03 27 28.2	-3.7
YUK	Yuzh-Kuril’sk	5.01	11	⇑iP	Pn	03 26 35.7	-2.1
YUK				eS	Sn	03 27 29.4	-6.1
YUK				pmax	pmax		
	comp=N,140nm,0.3s						
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
YUK				smax			
	comp=N,490nm,0.3s						
YUK				smax			
	comp=E,210nm,0.4s						
YUK				smax			
	comp=E,1µm,0.8s						
JHR	Hokuryu	5.07	336	P	Pn	03 26 40.4	+1.8
JHR				eS	Sn	03 27 38.0	+1.0
ASAJ	Asahikawa	5.19	345	Pn	Pn	03 26 40.6	+0.3
	comp=E,3.7nm,0.3s,baz=192,slow=7.9,SNR=19						
ASAJ				Sn	Sn	03 27 38.0	-2.0
	comp=E,1.7nm,0.3s,baz=40,slow=13,SNR=4.7						
ASAJ	Asahikawa	5.19	345	P	Pn	03 26 40.6	+0.3
ASAJ						03 27 38.1	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JRY	Ryogami san	5.43	237	P	Pn	03 26 41.7	-2.0
JRY				eS	Sn	03 27 40.3	-5.8
MAJO	Matsushiro	5.62	245	ePn	Pn	03 26 46.2	-0.2
	comp=Z,23nm,0.6s						
MAT	Matsushiro	5.62	245	P	Pn	03 26 46.3	0.0
MAT				eS	Sn	03 27 46.5	-4.2
MAT	Matsushiro	5.62	245	eP	Pn	03 26 46.0	-0.3
	comp=Z,14nm,0.5s						
MAT				S	Sn	03 27 47.0	-3.7
JOD2	Odawara 2	5.80	230	P	Pn	03 26 49.1	+0.2
JOD2				eS	Sn	03 27 47.0	-8.2
KUR	Kuril’sk	6.59	21	eP	Pn	03 26 58.0	-2.1
KUR				eS	Sn	03 28 08.5	-6.6
KUR				smax			
	comp=N,80nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
JHJ	Hachijo jima 2	7.11	214	Pn	Pn	03 27 02.3	-5.0
	comp=E,4.6nm,0.3s,baz=73,slow=18,SNR=3.5						
JHJ				Sn	Sn	03 28 17.0	-11
	comp=E,2.3nm,0.3s,baz=31,slow=19,SNR=4.4						
JNU	Nakatsue	12.54	246	LR	LR	03 33 21.8	
	comp=E,86nm,21.4s,baz=230,slow=38						
MA2	Magadan	20.85	9	P	P	03 30 04.8	+0.4
	comp=E,5.4nm,0.4s						
SONM	Songino Array	28.75	300	P	P	03 31 22.5	+2.9
	comp=E,0.4nm,0.7s,mb3.3,baz=90,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	45.12	301	P	P	03 33 39.3	+1.4
	comp=E,2.8nm,1.1s,mb4.0,baz=74,slow=8.8,SNR=9.4						
MKAR	Makanchi Array	45.12	301	P	P	03 33 39.3	+1.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR	Eielson Array	46.41	33	P	P	03 33 48.5	+0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=265,slow=6.6,SNR=9.3						
ILAR	Eielson Array	46.41	33	P	P	03 33 48.5	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	46.60	307	eP	P	03 33 50.0	+0.5
	comp=Z,1.5nm,0.7s,mb4.0						
BVAR	Borovoye Array	51.00	312	P	P	03 34 25.4	+1.9
	comp=Z,1.2nm,0.6s,mb4.0,baz=80,slow=8.8,SNR=4.5						
INK	Inuvik	51.41	28	P	P	03 34 27.3	+0.8
	comp=Z,1.4nm,0.5s,mb4.1,baz=304,slow=6.0,SNR=10.0						
INK	Inuvik	51.41	28	P	P	03 34 27.3	+0.9
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	51.41	28	P	P	03 34 27.3	+0.8
WRA	Warramunga Arr	59.52	191	P	P	03 35 23.0	-2.7
	comp=Z,1.4nm,1.0s,mb4.0,baz=9.3,slow=7.0,SNR=5.9						
WRA	Warramunga Arr	59.52	191	P	P	03 35 23.0	-2.7
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FITZ	Fitzroy Crossi	59.60	201	P	P	03 35 23.4	-2.9
	comp=Z,0.4nm,0.4s,mb3.9,baz=33,slow=9.0,SNR=5.6						
YKA	Yellowknife Ar	60.76	32	P	P	03 35 33.5	-0.1
	comp=Z,0.3nm,0.7s,mb3.5,baz=310,slow=7.2,SNR=4.4						
YKA	Yellowknife Ar	60.76	32	P	P	03 35 33.5	-0.1
FINES	FINESS Array B	68.09	333	P	P	03 36 22.2	+0.9
	comp=Z,1.6nm,0.6s,mb4.3,baz=56,slow=6.9,SNR=13						
FINES	FINESS Array B	68.09	333	P	P	03 36 22.2	+1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	68.09	333	P	P	03 36 22.2	+0.9
GERES	GERESS Array B	82.19	330	P	P	03 37 42.9	+1.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=27,slow=3.0,SNR=3.6						
URZ	Urewera	82.62	155	LR	LR	04 08 35.2	
	comp=Z,178nm,21.9s,MS4.4,baz=136,slow=32						
TXAR	Lajitas Array	86.91	54	P	P	03 38 07.3	+1.3
	comp=Z,0.2nm,0.5s,mb3.6,baz=315,slow=3.5,SNR=3.6						
TXAR	Lajitas Array	86.91	54	P	P	03 38 07.3	+1.3

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*IDC **13** 03:55:00.8±5.3, 2.90N×123.03E, h469^{km}±73^{km}, mb3.1/7, mb1 3.2/7, mb1mx3.0/17, Error ellipse: s-maj=82.0km s-min=14.6km az=70.0*
ISC 13 03:54:57.9±0.9**, 3.0N**±0.3×**123.1E**±0.7**, h450^{km}, n7, σ0^{s}56**/7**, mb3.5**/7**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.09	173	P	P	03 59 10.6	+0.5
	1.0nm,0.4s,mb3.7,baz=31,slow=7.5,SNR=7.9						
WRA	Warramunga Arr	25.31	155	P	P	03 59 47.9	-0.9
	0.6nm,0.3s,mb3.4,baz=338,slow=9.8,SNR=9.1						
ASAR	Alice Springs	28.50	159	P	P	04 00 16.6	-0.2
	0.4nm,0.3s,mb3.3,baz=336,slow=6.8,SNR=4.9						
STKA	Stephens Creek	38.87	154	P	P	04 01 45.1	+0.9
	3.3nm,0.9s,mb3.8,baz=324,slow=20,SNR=3.7						
SONM	Songino Array	46.96	345	P	P	04 02 48.6	+0.4
	2.3nm,0.7s,mb3.7,baz=159,slow=8.7,SNR=20						
MKAR	Makanchi Array	56.16	327	P	P	04 03 55.1	-0.4
	1.1nm,0.3s,mb3.6,baz=118,slow=8.8,SNR=12						
VNDA	Vanda	83.15	172	P	P	04 06 35.6	-0.3
	0.6nm,1.0s,mb3.1,baz=335,slow=6.1,SNR=3.9						

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*IDC **13** 04:07:35.9±10.0, 15.42S×174.94W, h230^{km}±93^{km}, mb3.4/8, mb1 3.8/8, mb1mx3.6/15, Error ellipse: s-maj=31.2km s-min=19.7km az=139.0*
*NEIC **13** 04:07:41.2±6.2, 15.44S×175.01W, h282^{km}±58^{km}, mb3.9/3, Error ellipse: s-maj=19.2km s-min=13.7km az=118.0*
ISC 13 04:07:36.5±0.6**, 15.5S**±0.2×**175.0W**±0.2**, h250^{km}, n16, σ0^{s}40**/11**, mb3.7**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.32	257	P	P	04 15 54.7	-0.2
	1.4nm,0.6s,mb3.5,baz=90,slow=7.3,SNR=29						
ASAR	Alice Springs	48.62	252	P	P	04 15 57.8	+0.6
	7.1nm,0.5s,mb4.3,baz=88,slow=8.0,SNR=88						
SBA	Scott Base	63.08	184	P	P	04 17 39.0	+0.1
	1.8nm,0.7s,mb3.8						
VNDA	Vanda	63.17	185	P	P	04 17 39.5	-0.1
	0.3nm,0.5s,mb3.2,baz=13,slow=6.6,SNR=5.4						
VNDA	Vanda	63.17	185	eP	P	04 17 39.0	-0.5
	2.2nm,1.0s,mb3.7						
QSPA	South Pole Qui	74.59	180	eP	P	04 18 49.1	-0.2
	3.9nm,1.0s,mb4.0						
NVAR	Mina Array Bea	75.41	43	P	P	04 18 54.8	+0.1
	1.4nm,0.8s,mb3.6,baz=214,slow=8.1,SNR=9.4						
TXAR	Lajitas Array	81.93	57	P	P	04 19 30.6	+0.7
	0.4nm,0.7s,mb3.1,baz=217,slow=6.3,SNR=5.1						
ILAR	Eielson Array	82.80	12	P	P	04 19 32.9	-0.7
	0.3nm,0.5s,mb3.2,baz=226,slow=5.4,SNR=7.3						
PDAR	Pinedale Array	83.34	42	P	P	04 19 36.7	-0.1
	1.2nm,0.7s,mb3.8,baz=218,slow=3.0,SNR=14						
MAW	Mawson	87.25	199	P	P	04 19 55.3	-0.1
	1.4nm,0.8s,mb3.8,baz=137,slow=6.5,SNR=4.4						
KMBO	Kilima Mbogo	144.11	246	PKP	PKPdf	04 26 44.4	+1.2
	2.2nm,1.1s,baz=83,slow=8.1,SNR=3.7						
BRTR	Keskin Array B	145.20	320	PKPbc	PKPbc	04 26 46.6	+1.6
	1.8nm,1.0s,baz=71,slow=1.9,SNR=5.2						
GERES	GERESS Array B	145.94	350	PKPbc	PKPbc	04 26 47.8	+1.3
	1.0nm,0.8s,baz=342,slow=3.1,SNR=2.3						
GERES	GERESS Array B	145.94	350	PKPbc	PKPbc	04 26 47.8	+1.2
DAVOX	Davos	148.50	354	PKPbc	PKPdf	04 26 55.4	+5.8
	2.5nm,0.7s,baz=291,slow=5.3,SNR=5.2						

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*IDC **13** 04:35:07.5±0.9, 13.66N×120.93E, h123^{km}±5^{km}, mb3.7/7, mb1 3.8/7, mb1mx3.5/18, Error ellipse: s-maj=35.8km s-min=18.8km az=62.0*
*NEIC **13** 04:35:07.9±0.9, 13.61N×120.90E, h128^{km}±7^{km}, Error ellipse: s-maj=23.6km s-min=14.0km az=56.0*
*MAN **13** 04:35:08.6, 13.67N×120.60E, h106^{km}, mb4.3, ML3.1, MS2.9*
ISC 13 04:35:07.5±0.4**, 13.68N**±0.05×**120.60E**±0.07**, h128^{km}**±4^{km}**, n24, σ0^{s}95**/31**, mb3.9**/8**, 1C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.35	280	eP	P	04 35 25.6	-0.1
LUBP				eS	S	04 35 38.3	-1.2
TGY	Tagaytay City	0.54	38	⇓iP	P	04 35 26.8	+0.1
TGY				i S	S	04 35 40.7	-0.5
TGY	Tagaytay City	0.54	38	P	P	04 35 26.7	+0.1
	457nm,0.3s,baz=177,slow=4.3,SNR=25						
TGY				S	S	04 35 40.5	-0.8
	821nm,0.3s,baz=340,slow=20,SNR=19						
LQP	Lukban	1.01	64	⇑iP	P	04 35 30.8	+0.2
LQP				eS	S	04 35 51.2	+3.2
SJMP	San Jose	1.31	157	eP	P	04 35 33.9	+0.2
SJMP				eS	S	04 35 52.5	-1.2
POLP	Polilio Island	1.67	51	eP	P	04 35 38.5	+0.8
BUSP	Coron	1.71	193	eP	P	04 35 38.4	+0.2
BUSP				eS	S	04 36 00.9	-0.8
GQP	Guinayangan	1.81	83	⇓eP	P	04 35 38.9	-0.5
OTRP	Odiongan	1.90	133	eP	P	04 35 40.8	+0.3
AUQP	San Andres	2.05	100	eP	P	04 35 52.3	+10
ENPP	El Nido	2.71	205	eP	P	04 35 51.9	+0.9
ENPP				eS	S	04 36 25.6	+1.6
CUYO	Cuyo Island	2.84	172	eP	P	04 35 52.9	+0.2
PVCP	Virac	3.46	91	eP	P	04 36 01.5	+0.6
CAUP	Cauayan	3.46	20	eP	P	04 36 06.5	+5.5
CMAR	Chiang Mai Arr	21.34	286	P	P	04 39 48.5	+2.8
	4.5nm,0.6s,mb4.0,baz=96,slow=7.9,SNR=20						
WRA	Warramunga Arr	36.04	158	P	P	04 41 55.6	-2.8
	0.2nm,0.5s,mb3.0,baz=339,slow=9.4,SNR=4.4						
SONM	Songino Array	36.05	344	P	P	04 41 57.8	-0.4
	2.1nm,0.8s,mb3.8,baz=160,slow=9.8,SNR=15						
MKAR	Makanchi Array	45.99	324	P	P	04 43 20.1	+0.6
	3.1nm,0.7s,mb4.1,baz=131,slow=9.1,SNR=25						
KURK	Kurchatov	50.16	326	eP	P	04 43 51.7	0.0
	18nm,0.6s,mb4.9						
BVAR	Borovoye Array	55.74	326	P	P	04 44 32.4	-0.6
	1.8nm,0.7s,mb4.0,baz=113,slow=11,SNR=5.9						
BRVK	Borovoye	55.81	326	eP	P	04 44 33.0	-0.6
ARCES	ARCESS Array B	79.07	339	P	P	04 46 58.0	-0.6
	4.5nm,1.0s,mb4.1,baz=68,slow=6.5,SNR=8.0						
YKA	Yellowknife Ar	92.84	22	P	P	04 48 06.3	-0.1
	0.2nm,0.5s,mb3.5,baz=308,slow=4.4,SNR=6.3						
YKA	Yellowknife Ar	92.84	22	P	P	04 48 06.3	-0.1

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*NEIC **13** 04:46:50.1±3.3, 17.92S×178.47W, h558^{km}±36^{km}, mb3.8/10, Error ellipse: s-maj=17.7km s-min=13.8km az=133.0*
*IDC **13** 04:46:51.5±2.6, 17.87S×178.51W, h570^{km}±30^{km}, mb3.1/10, mb1 3.3/10, mb1mx3.3/15, Error ellipse: s-maj=28.9km s-min=11.5km az=155.0*
ISC 13 04:46:49.3±2.7**, 17.9S**±0.1×**178.5W**±0.1**, h560^{km}**±32^{km}**, n29, σ0^{s}65**/25**, mb3.6**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.53	241	P	P	04 53 26.7	+1.2
	2.3nm,0.6s,mb3.9,baz=81,slow=8.7,SNR=5.4						
WB2	Warramunga Arr	44.51	260	eP	P	04 54 12.7	-0.5
WRAB	Tennant Creek	44.51	260	eP	P	04 54 12.5	-0.7
	4.4nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.52	260	P	P	04 54 13.0	-0.3
	2.6nm,0.7s,mb3.9,baz=92,slow=7.8,SNR=52						
WRA				PcP	PcP	04 55 44.2	-0.5
	0.7nm,0.4s,baz=90,slow=3.7,SNR=7.5						
WRA				S	S	05 00 08.5	-0.2
	0.4nm,0.9s,baz=100,slow=15,SNR=3.1						
ASAR	Alice Springs	44.68	254	P	P	04 54 14.9	+0.4
	baz=88,slow=8.3						
ASAR				PcP	PcP	04 55 44.9	-0.3
	1.1nm,0.5s,baz=102,slow=4.0,SNR=6.7						
ASAR				S	S	05 00 11.4	+0.5
	0.7nm,0.9s,baz=90,slow=16,SNR=3.8						
ASPA	Alice Springs	44.69	254	eP	P	04 54 14.8	+0.3
KAKA	Kakadu	47.52	269	eP	P	04 54 35.8	-0.4
	6.4nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	52.92	261	eP	P	04 55 15.8	0.0
	3.0nm,1.4s,mb3.4						
FITZ	Fitzroy Crossi	52.92	261	P	P	04 55 15.9	+0.1
	0.8nm,0.3s,mb3.5,baz=149,slow=6.3,SNR=16						
VNDA	Vanda	60.42	185	P	P	04 56 06.0	-0.2
	0.2nm,0.6s,mb2.6,baz=344,slow=8.2,SNR=3.6						
QSPA	South Pole Qui	72.13	180	eP	P	04 57 17.9	-0.4
	3.6nm,0.8s,mb3.9						
NVAR	Mina Array Bea	79.51	44	P	P	04 57 59.8	+0.4
	0.6nm,0.7s,mb3.0,baz=225,slow=7.7,SNR=5.0						
WVOR	Wild Horse Val	81.49	40	eP	P	04 58 09.5	0.0

	0.8nm,0.6s,mb3.3						
MAW	**Mawson**	**83.81**	**200**	P	**P**	**04 58 20.9**	**+0.4**
	0.8nm,0.6s,mb3.4,baz=142,slow=6.8,SNR=6.9						
MAW	**Mawson**	**83.81**	**200**	*e*P	**P**	**04 58 20.7**	**+0.2**
	1.1nm,0.6s,mb3.6						
HLID	**Hailey**	**84.71**	**41**	P	**P**	**04 58 26.3**	**+0.8**
	0.5nm,0.4s,mb3.4						
ILAR	**Eielson Array**	**85.93**	**13**	P	**P**	**04 58 29.7**	**-1.2**
	0.6nm,0.5s,mb3.5,baz=223,slow=5.3,SNR=7.3						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**04 58 33.8**	**+1.3**
	0.6nm,0.6s,mb3.4,baz=212,slow=6.1,SNR=9.5						
BW06	**Boulder Array**	**87.44**	**43**	P	**P**	**04 58 38.1**	**-0.4**
	0.9nm,0.7s,mb3.5						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**04 58 38.7**	**+0.2**
	0.8nm,0.8s,mb3.4,baz=227,slow=3.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P	**P**	**04 58 46.3**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=88,slow=3.8,SNR=4.3						
SNAA	**Sanae**	**90.58**	**179**	*e*P	**P**	**04 58 51.7**	**-0.8**
	0.8nm,0.5s,mb3.9						
INK	**Inuvik**	**91.93**	**15**	*e*P	**P**	**04 58 57.7**	**-1.0**
	2.6nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**109.07**	**314**	PKiKP		05 04 15.5	
	0.4nm,0.5s,baz=108,slow=0.4,SNR=3.9						
ARCES	**ARCESS Array B**	**126.31**	**350**	PKP	PKPdf	05 04 48.3	+0.3
	3.5nm,1.0s,slow=0.9,SNR=3.8						
BRTR	**Keskin Array B**	**144.72**	**315**	PKP	PKPdf	05 05 24.5	+2.1
	1.5nm,0.4s,baz=108,slow=3.7,SNR=6.5						
CLL	**Collm**	**145.46**	**347**	*i* PKP1	PKPbc	05 05 26.0	+1.4
BRG	**Berggiesshubel**	**145.66**	**346**	*e*P	PKPdf	05 05 27.0	+3.3
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	PKPdf	05 05 32.1	+5.1
	1.9nm,0.4s,baz=22,slow=2.9,SNR=15						

PRU 13 05:30:05.3,51.45N×16.04E
WAR 13 05:30:05.0,51.47N×16.03E,ML2.8,Mining Induced
NEIC 13 05:30:05.3±1.3,51.37N×16.05E,h5^{km},ML2.9(VIE), ML2.6(BRG),Error ellipse: s-maj=15.2km s-min=7.0km az=192.0
ISC 13 05:30:02.6±0.8,51.47N±0.04×16.01E±0.03,n15,σ1^{s}20/35, 1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**164**	*e*PG	**Pg**	**05 30 17.0**	**+1.4**
KSP				*i* SG	**Sg**	**05 30 25.8**	**+1.6**
KSP	**Ksiaz**	**0.65**	**164**	*e*Pg	**Pg**	**05 30 16.9**	**+1.3**
KSP				*i* Sg	**Sg**	**05 30 25.8**	**+1.6**
DPC	**Dobruska-Polom**	**1.14**	**170**	*e*PG	**Pg**	**05 30 25.5**	**+0.2**
DPC				*e*SG	**Sg**	**05 30 40.5**	**+0.1**
	31nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**225**	*e*PG	**Pg**	**05 30 29.5**	**+0.7**
PVCC				*e*SG	**Sg**	**05 30 47.8**	**+1.6**
BRG	**Berggiesshubel**	**1.43**	**246**	*e*Pg	**Pg**	**05 30 32.1**	**+0.9**
BRG				*i* Sg	**Sg**	**05 30 51.6**	**+1.3**
PRU	**Pruhonice**	**1.75**	**213**	PG	**Pg**	**05 30 36.4**	**-1.2**
PRU				*i*		05 30 53.6	
PRU				SG	**Sg**	**05 30 59.6**	**-1.3**
	18nm,0.3s						
CLL	**Collm**	**1.89**	**266**	*i* PG	**Pg**	**05 30 39.0**	**-1.4**
CLL				*e*SG	**Sg**	**05 31 06.0**	**+0.4**
MORC	**Moravsky Berou**	**1.95**	**149**	*e*Pn	**Pn**	**05 30 36.4**	**-1.0**
MORC				*e*Sn	**Sn**	**05 31 04.3**	**+1.4**
OKC	**Ostrava-Krasne**	**2.12**	**139**	*e*PG	**Pg**	**05 30 43.9**	**-1.1**
OKC				*e*SG	**Sg**	**05 31 10.8**	**-2.5**
NKC	**Novy Kostel**	**2.58**	**243**	*e*SG	**Sg**	**05 31 28.5**	**+0.2**
OJC	**Ojcow**	**2.71**	**116**	*e*PN	**Pn**	**05 30 49.0**	**+0.9**
OJC				*i* PG	**Pg**	**05 30 58.2**	**+1.6**
OJC				*e*SN	**Sn**	**05 31 19.2**	**-2.8**
OJC				*i* SG	**Sg**	**05 31 32.9**	**+0.2**
OJC	**Ojcow**	**2.71**	**116**	*e*Pn	**Pn**	**05 30 48.8**	**+0.7**
OJC				*i* Pg	**Pg**	**05 30 58.2**	**+1.6**
OJC				*e*Sn	**Sn**	**05 31 19.1**	**-2.9**
OJC				*i* Sg	**Sg**	**05 31 32.9**	**+0.2**
KHC	**Kasperske Hory**	**2.81**	**215**	*e*PN	**Pn**	**05 30 49.8**	**+0.2**
KHC				*e*PG	**Pg**	**05 30 56.1**	**-2.6**
KHC				*e*SN	**Sn**	**05 31 25.0**	**+0.3**
KHC				*e*SG	**Sg**	**05 31 34.3**	**-1.9**
MOX	**Moxa**	**2.90**	**255**	*e*Pg	**Pg**	**05 30 59.6**	**-0.8**
MOX				*e*Sg	**Sg**	**05 31 38.6**	**-0.4**
MOA	**Molln**	**3.80**	**198**	⇑*i*PN	**Pn**	**05 31 04.7**	**+1.1**
MOA				*i* SG	**Sg**	**05 32 08.9**	**-0.1**
	4.4nm,0.4s						

NEIC 13 06:11:07.1±1.3,13.37N×90.88W,h10^{km},MD4.3(MEX), Error ellipse: s-maj=47.0km s-min=10.9km az=217.0
CASC 13 06:11:09.2±1.8,13.53N×90.71W,h34^{km}±12^{km},MD4.1, ML4.7
MEX 13 06:11:17.3±0.5,13.61N×91.44W,h27^{km}±15^{km},MD4.3
ISC 13 06:11:07.9±0.7,13.44N±0.06×90.77W±0.04,h46^{km}±26^{km}, n39,σ0^{s}97/59,17C-9D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.79**	**23**	⇑*e*P	**P**	**06 11 22.7**	**-0.1**
IXG				*e*S	**S**	**06 11 33.1**	**-0.6**
IXG				AML	AML	06 11 38.0	
	comp=E,206μm,0.6s						
CUSS	**Cusmapa**	**0.93**	**60**	⇑*e*P	**P**	**06 11 24.6**	**-0.1**
CUSS				*e*S	**S**	**06 11 36.1**	**-1.0**
PCG	**Pacaya**	**0.96**	**9**	⇓*e*P	**P**	**06 11 25.4**	**+0.2**
PCG				*e*S	**S**	**06 11 37.8**	**-0.2**
FUG	**Fuego 3**	**1.00**	**356**	⇓*i*P	**P**	**06 11 25.9**	**+0.1**
RTR	**El Retiro**	**1.18**	**67**	⇑*i*P	**P**	**06 11 28.9**	**+0.6**
SBLS	**San Blas**	**1.18**	**70**	⇑*i*P	**P**	**06 11 28.7**	**+0.4**
SBLS				*e*S	**S**	**06 11 43.4**	**-0.1**
SNJE	**San Jose**	**1.21**	**69**	⇑*i*P	**P**	**06 11 29.1**	**+0.5**
SNJE				*e*S	**S**	**06 11 43.6**	**-0.6**
NBG	**Las Nubes**	**1.21**	**20**	⇓*e*P	**P**	**06 11 29.7**	**+1.0**
NBG				*e*S	**S**	**06 11 45.0**	**+0.8**
NBG				AML	AML	06 11 48.9	
	comp=E,50μm,0.5s						
RBDL	**Robledal**	**1.25**	**57**	⇑*e*P	**P**	**06 11 29.8**	**+0.6**
BOQS	**Boqueron**	**1.48**	**78**	⇑*e*P	**P**	**06 11 33.0**	**+0.4**
BOQS				*e*S	**S**	**06 11 51.1**	**+0.1**
SNET	**Serv Nac Est T**	**1.52**	**80**	⇑*e*P	**P**	**06 11 33.5**	**+0.4**
SNET				*e*S	**S**	**06 11 51.7**	**-0.1**
SNET				*i*		06 11 53.2	
	comp=Z,11μm,0.3s						
MTO2	**Montecristo 2**	**1.67**	**55**	⇑*i*P	**P**	**06 11 35.4**	**+0.2**
MTO2				*e*S	**S**	**06 11 55.1**	**-0.4**
LFRS	**El Faro**	**1.67**	**84**	⇑*e*P	**P**	**06 11 35.4**	**+0.1**
LBRS	**Las Brisas**	**1.71**	**80**	⇓*e*P	**P**	**06 11 36.4**	**+0.6**
LBRS				*e*S	**S**	**06 11 56.4**	**-0.1**
LCBS	**La Ceiba**	**1.76**	**83**	⇑*e*P	**P**	**06 11 36.8**	**+0.3**
LCBS				*e*S	**S**	**06 11 58.3**	**+0.6**
SNVI	**San Vicente**	**1.89**	**85**	⇓*e*P	**P**	**06 11 39.1**	**+0.8**
SNVI				*e*S	**S**	**06 12 01.6**	**+0.6**
TPX	**Tapachula**	**2.05**	**315**	*i* P	**P**	**06 11 40.5**	**-0.2**
TPX				*i* S	**S**	**06 11 58.5**	**-6.6**
VSM	**San Miguel**	**2.43**	**90**	⇓*e*P	**P**	**06 11 46.6**	**+0.6**
BLLM	**Bellamira**	**2.46**	**90**	⇑*e*P	**P**	**06 11 47.0**	**+0.5**
BLLM				*e*S	**S**	**06 12 16.2**	**+0.6**
CAHU	**Cacacuatique**	**2.51**	**82**	⇓*e*P	**P**	**06 11 47.2**	**0.0**
CNCH	**Conchagua**	**2.86**	**93**	⇑*e*P	**P**	**06 11 52.1**	**-0.1**
CCIG	**Comitan**	**3.12**	**335**	*i* P	**P**	**06 11 57.3**	**+1.5**
CCIG				*i* S	**S**	**06 12 29.8**	**-2.4**
PYN	**Poneloya**	**3.80**	**106**	⇑*e*P	**P**	**06 12 03.7**	**-1.8**
TEL3	**Telica 3**	**3.92**	**102**	⇑*e*P	**P**	**06 12 06.2**	**-1.0**
TELN	**Telica**	**3.93**	**102**	⇑*e*P	**P**	**06 12 06.2**	**-1.1**
MIRN	**Miramar**	**4.08**	**104**	⇓*e*P	**P**	**06 12 07.9**	**-1.5**
COPN	**Copaltepe**	**4.26**	**107**	⇓*e*P	**P**	**06 12 10.8**	**-1.3**
MGAN	**Managua**	**4.59**	**106**	*e*P	**P**	**06 12 14.7**	**-2.0**
MGAN				*i*		06 13 07.8	
	comp=N,147nm,0.3s						
MGAN				*e*S	**S**	**06 13 08.0**	**-1.5**
TICN	**Ticuantepe**	**4.64**	**107**	*e*P	**P**	**06 12 16.0**	**-1.4**
CMIG	**Matias Romero**	**5.38**	**313**	*i* P	**P**	**06 12 27.1**	**-0.6**
CMIG				*i* S	**S**	**06 13 19.8**	**-9.3**
JTS	**JuntasAbangare**	**6.50**	**118**	*e*Pn	**P**	**06 12 43.7**	**+0.4**
	comp=N,6.8nm,0.3s						
JTS				*e*Sn	**S**	**06 14 14.4**	**+17**
JCR	**Jicaral**	**6.59**	**122**	⇑*e*P	**P**	**06 12 46.1**	**+1.5**
OXX	**Oaxaca**	**6.79**	**303**	*e*P	**P**	**06 12 47.0**	**-0.5**
CGA2	**Cerro Gallo 2**	**7.05**	**118**	*e*P	**P**	**06 12 51.6**	**+0.5**
PRS1	**Puriscal**	**7.20**	**118**	*e*P	**P**	**06 12 55.4**	**+2.2**
LAJ	**Bijagual**	**7.42**	**118**	*e*P	**P**	**06 12 53.6**	**-2.6**
LAJ				*e*S	**S**	**06 14 12.4**	**-7.5**
URSC	**Urasca**	**7.73**	**117**	*e*P	**P**	**06 13 03.1**	**+2.6**
URSC				*e*S	**S**	**06 14 28.4**	**+0.8**
PPM	**Popocatepetl**	**9.39**	**308**	*e*P	**P**	**06 13 24.9**	**+1.4**
PPM	**Popocatepetl**	**9.39**	**308**	*e*P	**P**	**06 13 27.3**	**+3.9**

IDC 13 06:29:18.2±0.9,10.69N×125.13E,mb3.8/7,mb1 4.0/7, mb1mx3.8/18,MS3.4/10,Ms1 3.4/10,ms1mx3.2/27,Error ellipse: s-maj=46.4km s-min=18.9km az=67.0
MAN 13 06:29:19.6,10.72N×124.94E,h2^{km},mb4.9,ML3.8,MS3.9
NEIC 13 06:29:28.2±0.6,10.65N×125.02E,h80^{km},mb4.5/1,Error ellipse: s-maj=33.4km s-min=11.5km az=65.0
ISC 13 06:29:19.8±0.4,10.71N±0.03×124.89E±0.04,h10^{km},n35, σ1^{s}36/36,mb4.0/10,MS3.4/8,3C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.44**	**320**	*e*P	**Pg**	**06 29 29.7**	**+1.0**
OCLP				*e*S	**Sg**	**06 29 40.6**	**+5.9**
PLP	**Palo**	**0.46**	**11**	*e*P	**Pg**	**06 29 29.1**	**-0.1**
PLP				*i* S	**Sg**	**06 29 36.6**	**+1.2**
MSLP	**Maasin**	**0.58**	**183**	*e*P	**Pg**	**06 29 31.0**	**-0.5**
MSLP				*e*S	**Sg**	**06 29 41.0**	**+1.8**
LLP	**Lapu-Lapu**	**0.99**	**247**	⇓*e*P	**Pb**	**06 29 37.0**	**-1.7**
LLP				*e*S	**Sb**	**06 29 50.0**	**-1.6**
BESP	**Borongan**	**1.03**	**31**	*e*P	**Pb**	**06 29 38.1**	**-1.2**
BESP				*e*S	**Sb**	**06 29 54.0**	**+1.3**
TBP	**Tagbilaran**	**1.43**	**225**	⇓*e*P	**Pn**	**06 29 46.5**	**+0.5**
TBP				*i* S	**Sb**	**06 30 07.1**	**+2.6**
CNP	**Catarman**	**1.80**	**353**	*e*P	**Pn**	**06 29 51.7**	**+0.4**
BUTP	**Butuan**	**1.88**	**157**	*e*P	**Pn**	**06 29 53.5**	**+1.1**
SNPH	**Sibulan**	**2.12**	**230**	⇑*e*P	**Pn**	**06 29 58.0**	**+2.1**
SNPH				*i* S	**Sn**	**06 30 34.0**	**+11**
GUIM	**Jordan**	**2.27**	**268**	*e*P	**Pn**	**06 29 58.7**	**+0.8**
RCP	**Roxas**	**2.27**	**292**	⇑*e*P	**Pn**	**06 29 59.4**	**+1.4**
DCPH	**Dipolog City**	**2.60**	**216**	*e*P	**Pn**	**06 30 03.6**	**+0.9**
DCPH				*e*S	**Sn**	**06 30 33.2**	**-1.5**
BUKP	**Musuan**	**2.82**	**177**	*e*P	**Pn**	**06 30 05.5**	**-0.4**
BIPH	**Bislig**	**2.90**	**150**	⇑*e*P	**Pn**	**06 30 08.4**	**+1.4**
BIPH				*e*S	**Sn**	**06 30 45.8**	**+3.5**
PVCP	**Virac**	**2.96**	**346**	*e*P	**Pn**	**06 30 09.4**	**+1.7**
PAGZ	**Pagadian**	**3.21**	**208**	*e*P	**Pn**	**06 30 12.1**	**+0.7**
PAGZ				*e*S	**Sn**	**06 30 49.5**	**-0.7**
TGY	**Tagaytay City**	**5.12**	**311**	LR	LR	06 33 30.8	
	comp=Z,366nm,18.2s,baz=263,slow=48						
JOW	**Kunigami**	**16.35**	**11**	LR	LR	06 37 56.8	
	comp=Z,212nm,21.6s,baz=215,slow=32						
JNU	**Nakatsue**	**22.97**	**13**	LR	LR	06 42 06.5	
	comp=Z,92nm,18.2s,MS3.3,baz=236,slow=34						
KAKA	**Kakadu**	**24.43**	**162**	*e*P	**P**	**06 34 39.2**	**-0.8**
	11nm,0.6s,mb4.5						
JHJ	**Hachijo jima 2**	**26.17**	**29**	LR	LR	06 42 04.8	
	comp=Z,43nm,21.5s,MS3.0,baz=321,slow=29						
CMAR	**Chiang Mai Arr**	**26.24**	**290**	P	**P**	**06 34 58.0**	**+0.8**
	0.6nm,0.4s,mb3.5,baz=104,slow=7.2,SNR=4.6						
CMAR				LR	LR	06 46 02.7	
	comp=Z,52nm,20.1s,MS3.1,baz=100,slow=38						
FITZ	**Fitzroy Crossi**	**28.64**	**179**	LR	LR	06 47 49.0	
	comp=Z,32nm,20.7s,MS2.9,baz=241,slow=39						
WRA	**Warramunga Arr**	**31.85**	**163**	P	**P**	**06 35 43.2**	**-4.2**
	0.6nm,0.7s,mb3.5,baz=342,slow=9.5,SNR=9.4						
ASAR	**Alice Springs**	**35.29**	**166**	P	**P**	**06 36 14.9**	**-2.3**
	1.2nm,0.6s,mb4.0,baz=342,slow=6.7,SNR=10.0						
ASAJ	**Asahikawa**	**36.63**	**22**	LR	LR	06 49 09.8	
	comp=Z,58nm,21.5s,MS3.3,baz=58,slow=33						
SONM	**Songino Array**	**40.14**	**341**	P	**P**	**06 36 56.0**	**-1.7**
	0.4nm,0.7s,mb3.3,baz=158,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**50.86**	**323**	P	**P**	**06 38 21.6**	**-1.3**
	2.7nm,0.8s,mb4.2,baz=126,slow=7.9,SNR=18						
KURK	**Kurchatov**	**54.94**	**326**	*e*P	**P**	**06 38 51.5**	**-1.8**
	9.9nm,0.9s,mb4.8						
BRVK	**Borovoye**	**60.61**	**326**	*e*P	**P**	**06 39 30.9**	**-2.2**
	3.9nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**79.63**	**26**	P	**P**	**06 41 27.6**	**-1.2**
	0.2nm,0.6s,mb3.2,baz=252,slow=6.7,SNR=4.6						
RAR	**Rarotonga**	**80.46**	**114**	LR	LR	07 13 46.9	
	comp=Z,97nm,20.4s,MS4.1,baz=266,slow=33						
FINES	**FINESS Array B**	**84.86**	**332**	LR	LR	07 22 50.4	
	comp=Z,26nm,19.4s,MS3.6,baz=178,slow=38						
VNDA	**Vanda**	**90.54**	**172**	P	**P**	**06 42 21.6**	**-1.3**
	0.9nm,0.9s,mb4.1,baz=333,slow=4.7,SNR=5.3						
NOA	**NORSAR Array B**	**91.76**	**334**	LR	LR	07 26 00.6	
	comp=Z,23nm,21.2s,MS3.6,baz=5.0,slow=37						

IDC 13 06:59:17.2±0.6,19.85N×146.60E,mb4.0/13,mb1 4.2/14, mb1mx4.1/24,ML4.1/1,Error ellipse: s-maj=23.3km s-min=16.2km az=104.0
NEIC 13 06:59:28.5±0.4,19.78N×146.50E,h90^{km},mb4.2/4,Error ellipse: s-maj=14.2km s-min=10.6km az=102.0
ISC 13 06:59:20.5±0.5,19.81N±0.09×146.5E±0.1,h33^{km},n23, σ0^{s}87/22,mb4.1/17,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**19.27**	**317**	P	**P**	**07 03 44.7**	**-0.4**
	0.4nm,0.3s,baz=128,slow=11,SNR=5.3						
WRAB	**Tennant Creek**	**41.26**	**198**	P	**P**	**07 07 03.7**	**-0.8**
	3.2nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**41.27**	**198**	P	**P**	**07 07 04.4**	**-0.2**
	0.8nm,0.5s,mb3.6,baz=15,slow=8.3,SNR=13						
SONM	**Songino Array**	**42.79**	**320**	P	**P**	**07 07 16.8**	**0.0**
	1.2nm,0.5s,mb3.9,baz=133,slow=7.7,SNR=12						
FITZ	**Fitzroy Crossi**	**42.89**	**210**	P	**P**	**07 07 18.0**	**0.0**
	2.3nm,0.8s,mb3.9,baz=116,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**44.93**	**196**	P	**P**	**07 07 34.1**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=14,slow=7.4,SNR=3.9						
LSA	**Lhasa**	**50.85**	**293**	P	**P**	**07 08 22.5**	**+2.2**
	8.5nm,0.5s,mb4.9						
MKAR	**Makanchi Array**	**58.28**	**313**	P	**P**	**07 09 14.6**	**+0.3**
	1.2nm,0.7s,mb4.1,baz=93,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	**58.28**	**313**	P	**P**	**07 09 14.6**	**+0.3**
ILAR	**Eielson Array**	**62.31**	**26**	P	**P**	**07 09 39.5**	**-2.0**
	1.9nm,0.7s,mb4.3,baz=259,slow=5.1,SNR=19						
DAWY	**Dawson**	**65.41**	**28**	*e*P	**P**	**07 10 01.5**	**-0.3**
BVAR	**Borovoye Array**	**66.14**	**320**	P	**P**	**07 10 06.2**	**-0.4**
	1.8nm,0.5s,mb4.4,baz=87,slow=7.3,SNR=14						
BRVK	**Borovoye**	**66.20**	**320**	*e*P	**P**	**07 10 06.6**	**-0.4**
	1.8nm,0.6s,mb4.3						
INK	**Inuvik**	**68.05**	**23**	P	**P**	**07 10 17.2**	**-1.2**
	2.0nm,0.7s,mb4.3,baz=290,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**76.65**	**28**	P	**P**	**07 11 09.2**	**-0.2**
	1.3nm,0.6s,mb4.1,baz=288,slow=5.7,SNR=14						
YKA	**Yellowknife Ar**	**76.65**	**28**	P	**P**	**07 11 09.2**	**-0.2**
NVAR	**Mina Array Bea**	**81.84**	**52**	P	**P**	**07 11 39.2**	**+1.2**
	0.8nm,0.6s,mb3.8,baz=281,slow=4.2,SNR=11						
HWUT	**Hardware Ranch**	**85.57**	**47**	*e*P	**P**	**07 11 57.9**	**+1.1**
	1.1nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**86.22**	**335**	P	**P**	**07 11 59.0**	**-0.4**
	0.7nm,0.4s,mb4.3,baz=77,slow=3.6,SNR=8.7						
PDAR	**Pinedale Array**	**86.49**	**46**	P	**P**	**07 12 02.0**	**+0.8**
	0.3nm,0.8s,mb3.6,baz=270,slow=3.0,SNR=3.9						
ULM	**Lac du Bonnet**	**91.25**	**35**	P	**P**	**07 12 24.5**	**+0.8**
	1.0nm,0.7s,mb4.2,baz=339,slow=5.5,SNR=3.3						
ULM	**Lac du Bonnet**	**91.25**	**35**	P	**P**	**07 12 24.5**	**+0.8**
LPAZ	**La Paz**	**146.89**	**90**	PKPbc	PKPbc	07 19 03.9	+3.9
	0.7nm,0.5s,baz=267,slow=2.4,SNR=9.7						

NEIC 13 07:03:30.6±0.5,5.27N×127.86E,mb4.6/5,Error ellipse: s-maj=33.3km s-min=7.1km az=69.0
IDC 13 07:03:31.0±0.9,5.21N×127.72E,h36^{km}±5^{km},mb4.1/10, mb1 4.3/10,mb1mx4.0/19,Error ellipse: s-maj=55.9km s-min=11.6km az=69.0
ISC 13 07:03:28.5±0.8,5.3N±0.1×127.8E±0.3,h35^{km}, h35^{km}±2.0^{km}:pP-P,n20,σ0^{s}70/20,mb4.3/13,2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**3.20**	**333**	⇓*e*P	P	07 04 45.9	+28
BIPH				*e*S	**S**	**07 04 52.3**	**-2.8**
FITZ	**Fitzroy Crossi**	**23.36**	**185**	*e*P	**P**	**07 08 35.9**	**+1.0**
	4.2nm,1.0s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.36**	**185**	P	**P**	**07 08 34.2**	**-0.7**
	3.5nm,0.6s,mb4.0,baz=13,slow=11,SNR=13						
WRAB	**Tennant Creek**	**25.89**	**166**	*e*P	**P**	**07 08 58.8**	**-0.5**
	10nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**25.90**	**166**	P	**P**	**07 08 59.0**	**-0.3**
	5.0nm,0.6s,mb4.2,baz=344,slow=10,SNR=24						
WRA				pP	pP	07 09 09.6	+0.6
	2.9nm,0.9s,baz=341,slow=10,SNR=3.6						
WRA				sP	sP	07 09 14.6	+1.5
	3.9nm,0.8s,baz=344,slow=10,SNR=7.5						
WB2	**Warramunga Arr**	**25.90**	**166**	*e*P	**P**	**07 08 58.8**	**-0.5**
ASAR	**Alice Springs**	**29.40**	**169**	P	**P**	**07 09 30.8**	**-0.2**
	5.0nm,0.5s,mb4.5,baz=355,slow=8.6,SNR=78						
ASAR				PcP	PcP	07 12 36.7	0.0
	0.2nm,0.6s,baz=340,slow=2.7,SNR=2.4						
ASAR	**Alice Springs**	**29.40**	**169**	P	**P**	**07 09 30.8**	**-0.2**
ASAR				PcP	PcP	07 12 36.7	0.0
ASPA	**Alice Springs**	**29.40**	**169**	*e*P	**P**	**07 09 30.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.07**	**297**	P	**P**	**07 09 46.2**	**+0.3**
	1.4nm,0.7s,mb3.9,baz=114,slow=7.6,SNR=5.9						
STKA	**Stephens Creek**	**39.24**	**161**	⇓*i*P	**P**	**07 10 55.9**	**+0.5**
	7.7nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**39.24**	**161**	P	**P**	**07 10 56.0**	**+0.6**
	12nm,0.7s,mb4.8,baz=344,slow=7.3,SNR=21						
SONM	**Songino Array**	**46.18**	**340**	P	**P**	**07 11 53.0**	**+1.2**
	0.8nm,0.7s,mb3.8,baz=157,slow=8.1,SNR=5.7						
SONM				pP	pP	07 12 03.1	+1.1
	0.6nm,0.7s,baz=149,slow=7.2,SNR=3.1						
SONM	**Songino Array**	**46.18**	**340**	P	**P**	**07 11 53.0**	**+1.2**
SONM				pP	pP	07 12 03.1	+1.1
MKAR	**Makanchi Array**	**56.90**	**324**	P	**P**	**07 13 13.2**	**+0.7**
	2.2nm,0.5s,mb4.4,baz=125,slow=8.1,SNR=22						
MKAR				pP	pP	07 13 23.0	0.0
	1.1nm,0.4s,baz=120,slow=7.6,SNR=7.9						
KURK	**Kurchatov**	**61.02**	**327**	*e*P	**P**	**07 13 40.5**	**-0.4**
	2.9nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**66.61**	**326**	P	**P**	**07 14 17.9**	**+0.5**
	2.5nm,0.6s,mb4.4,baz=127,slow=7.4,SNR=16						
BRVK	**Borovoye**	**66.68**	**326**	*e*P	**P**	**07 14 17.8**	**0.0**
	3.4nm,0.7s,mb4.5						
MAW	**Mawson**	**85.60**	**200**	P	**P**	**07 16 04.4**	**+0.2**
	1.9nm,0.9s,mb4.3,baz=94,slow=4.8,SNR=3.8						
ARCES	**ARCESS Array B**	**89.35**	**340**	P	**P**	**07 16 21.8**	**-0.5**
	2.4nm,0.8s,mb4.5,baz=72,slow=5.7,SNR=3.7						

IDC 13 07:15:59.5±6.1,23.35S×179.73W,h439^{km}±66^{km},mb3.4/6, mb1 3.7/7,mb1mx3.4/17,Error ellipse: s-maj=42.6km s-min=21.4km az=7.0
NEIC 13 07:16:05.7±3.0,23.71S×179.76W,h519^{km}±34^{km},Error ellipse: s-maj=27.5km s-min=15.3km az=197.0
ISC 13 07:16:05.6±4.9,23.7S±0.3×179.9W±0.2,h525^{km}±59^{km}, n14,σ0^{s}55/11,mb4.0/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.73**	**189**	P	**P**	**07 19 12.1**	**-0.5**
	3.1nm,0.3s,baz=280,slow=2.9,SNR=15						
RPZ	**Rata Peaks**	**21.32**	**198**	P	**P**	**07 20 16.4**	**+0.7**
	6.9nm,0.4s,mb4.6,baz=25,slow=12,SNR=10						
CTAO	**Charters Tower**	**31.62**	**270**	*e*P	**P**	**07 21 47.4**	**+0.8**
	7.3nm,0.4s,mb4.6						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**07 23 13.9**	**+0.3**
	2.2nm,0.7s,mb3.8,baz=101,slow=7.1,SNR=19						
WB2	**Warramunga Arr**	**42.55**	**266**	*e*P	**P**	**07 23 16.0**	**-0.3**
WRAB	**Tennant Creek**	**42.55**	**266**	*e*P	**P**	**07 23 15.9**	**-0.4**
	5.0nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**07 23 16.2**	**-0.3**
	2.8nm,0.4s,mb4.2,baz=94,slow=8.4,SNR=62						
WRA				PcP	PcP	07 25 00.2	+2.8
	0.7nm,1.0s,baz=88,slow=3.7,SNR=2.7						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P	**P**	**07 24 20.5**	**-0.1**
	1.1nm,0.4s,mb3.5,baz=174,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**84.52**	**44**	P	**P**	**07 27 43.1**	**-0.8**
	0.4nm,0.7s,mb3.1,baz=207,slow=6.7,SNR=4.4						
SNAA	**Sanae**	**84.85**	**179**	P	**P**	**07 27 44.5**	**-0.3**
TXAR	**Lajitas Array**	**90.21**	**58**	P	**P**	**07 28 11.9**	**+1.0**
	0.6nm,0.7s,mb3.6,baz=214,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**131.73**	**348**	PKP	PKPdf	07 34 18.3	+0.4
	2.7nm,0.9s,baz=45,slow=3.4,SNR=6.6						
AKASG	**Malin Array Be**	**144.89**	**328**	PKP	PKPdf	07 34 43.0	+1.0
	1.0nm,0.3s,baz=40,slow=4.2,SNR=7.4						
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc	PKPdf	07 34 51.9	+5.1
	0.5nm,0.4s,baz=90,slow=1.4,SNR=3.2						

IDC 13 07:18:34.8±4.1,17.01S×128.39E,mb1 3.3/3, mb1mx3.2/10,ML2.1/3,Error ellipse: s-maj=61.0km s-min=14.7km az=1.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.84**	**247**	Pn	Pn	07 19 19.9	-2.4
	0.1nm,0.3s,baz=58,slow=11,SNR=11						
FITZ				Pg	Pg	07 19 26.9	-4.7
	0.4nm,0.3s,baz=58,slow=9.5,SNR=27						
FITZ				Sn	Sn	07 20 02.9	+5.2
	3.1nm,0.3s,baz=345,slow=21,SNR=30						
FITZ				Lg		07 20 06.4	
	3.2nm,0.3s,baz=345,slow=22,SNR=26						
WRA	**Warramunga Arr**	**6.35**	**118**	Pn	Pn	07 20 08.8	-3.2
	0.1nm,0.3s,baz=285,slow=13,SNR=7.6						
WRA				Sn	Sn	07 21 23.4	-2.9
	0.1nm,0.3s,baz=329,slow=36,SNR=4.6						
WRA				Lg		07 21 57.8	
	0.1nm,0.3s,baz=293,slow=29,SNR=2.8						
ASAR	**Alice Springs**	**8.40**	**143**	Pn	P	07 20 39.9	-0.8
	0.0nm,0.3s,baz=327,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**19.04**	**143**	P	P	07 22 58.2	-2.7
	0.1nm,0.3s,baz=308,slow=12,SNR=2.9						

BJI 13 07:28:44.0,24.52N×102.63E,h17^{km},ML3.5,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.61**	**9**	*e*PG	Pb	07 28 55.3	-0.5
KMI				SG	Sb	07 29 05.0	+1.1
KMI				Smax			
	comp=N,551nm,0.6s						
KMI				Smax			
	comp=E,636nm,0.4s						

IDC 13 07:47:19.2±2.8,32.86S×178.39W,mb4.1/3,mb1 4.3/4, mb1mx3.9/15,ML3.9/1,Error ellipse: s-maj=61.7km s-min=43.7km az=125.0
ISC 13 07:47:22.7±2.9,33.12S±0.10×178.5W±0.4,h33^{km},n8, σ0^{s}76/9,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.61**	**207**	P	**P**	**07 48 46.8**	**+0.9**
PUZ				S	**S**	**07 49 50.4**	**+0.3**
MWZ	**Matawai**	**6.13**	**211**	P	**P**	**07 48 52.2**	**-1.1**
URZ	**Urewera**	**6.26**	**214**	Pn	**Pn**	**07 48 55.8**	**+0.6**
	2.8nm,0.3s,baz=355,slow=6.7,SNR=16						
URZ				Sn	**Sn**	**07 50 06.3**	**-0.1**
	3.3nm,0.3s,baz=131,slow=22,SNR=7.2						
URZ	**Urewera**	**6.26**	**214**	P	**P**	**07 48 54.5**	**-0.6**
CTA	**Charters Tower**	**33.94**	**284**	P	**P**	**07 54 06.3**	**+1.3**
	1.7nm,0.4s,mb4.3,baz=119,slow=9.9,SNR=5.1						
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**	**07 55 17.4**	**-0.4**
	1.1nm,0.7s,mb3.7,baz=110,slow=7.6,SNR=9.9						
WRA	**Warramunga Arr**	**43.87**	**275**	P	**P**	**07 55 27.0**	**-0.9**
	1.5nm,0.4s,mb4.1,baz=114,slow=8.0,SNR=30						
FINES	**FINESS Array B**	**147.54**	**338**	PKPbc	PKPdf	08 07 03.4	+3.4
	1.1nm,0.4s,baz=56,slow=4.4,SNR=10						

BJI 13 07:52:54.5,53.91N×165.04W,h16^{km},mB5.0,mb5.0, Ms4.6,Msz4.2
IDC 13 07:52:57.0±2.1,53.94N×164.23W,h38^{km}±16^{km},mb4.2/20, mb1 4.4/23,mb1mx4.3/27,ML3.9/3,MS3.7/18,Ms1 3.7/18, ms1mx3.6/25,Error ellipse: s-maj=20.7km s-min=10.7km az=172.0
NEIC 13 07:52:57.2±0.4,53.88N×164.14W,h42^{km}±3^{km},mb4.8/26, MS4.1/3,ML4.4(PMR),ML4.4(AEIC),Error ellipse: s-maj=6.1km s-min=2.6km az=163.0
NEIC Felt [II] at False Pass.
MOS 13 07:52:59.8±0.8,54.73N×164.74W,h33^{km},mb4.9/10, Error ellipse: s-maj=32.5km s-min=10.7km az=101.9
ISC 13 07:52:54.1±0.3,53.71N±0.04×164.00W±0.04,h33^{km}, (h33^{km}±2.7^{km}:pP-P),n197,σ1^{s}08/193,mb4.7/76,MS3.8/22, 2C-8D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.84**	**336**	P	**P**	**07 53 10.3**	**+0.8**
WESS	**West Dahl Sout**	**0.88**	**332**	P	**P**	**07 53 10.9**	**+0.8**
WESN	**West Dahl Nort**	**0.93**	**339**	P	**P**	**07 53 11.8**	**+1.1**
WFAR	**Faris Peak**	**0.95**	**332**	P	**P**	**07 53 11.9**	**+0.8**
WPOG	**Pogromni**	**0.99**	**334**	P	**P**	**07 53 12.6**	**+0.8**
SSLS	**Shishaldin Sou**	**1.01**	**0**	P	**P**	**07 53 12.7**	**+0.7**
SSLW	**Shishaldin Wes**	**1.07**	**356**	P	**P**	**07 53 13.5**	**+0.7**
SSLN	**Shishaldin Nor**	**1.11**	**0**	P	**P**	**07 53 14.4**	**+1.1**
AKA	**Akutan**	**1.13**	**293**	P	**P**	**07 53 14.6**	**+1.0**
AHB	**Akutan Harbor**	**1.15**	**292**	P	**P**	**07 53 15.0**	**+1.1**
WTUG	**Tugumak**	**1.17**	**349**	P	**P**	**07 53 15.1**	**+1.0**

FALS	**False Pass**	**1.20**	**16**	P	**P**	**07 53 15.4**	**+0.8**
FALS				S	**S**	**07 53 29.9**	**-0.2**
AKLV	**Akutan Long Va**	**1.24**	**292**	P	**P**	**07 53 16.1**	**+0.9**
AKLV				S	**S**	**07 53 31.9**	**+0.8**
AKGG	**Akutan Green G**	**1.28**	**294**	P	**P**	**07 53 16.8**	**+1.1**
LVA	**Lava Point**	**1.28**	**292**	P	**P**	**07 53 17.0**	**+1.2**
UNV	**Unalaska Valle**	**1.49**	**276**	P	**P**	**07 53 19.1**	**+0.2**
UNV				S	**S**	**07 53 38.2**	**+0.8**
MNAT	**Makushin Natee**	**1.60**	**277**	P	**P**	**07 53 21.1**	**+0.7**
MTBL	**Makushin Table**	**1.61**	**280**	P	**P**	**07 53 21.6**	**+1.1**
DRIA	**Deer Island**	**1.62**	**38**	P	**P**	**07 53 21.3**	**+0.6**
MSW	**Makushin Switc**	**1.66**	**278**	P	**P**	**07 53 22.1**	**+0.8**
MGOD	**Makushin Gods**	**1.71**	**274**	P	**P**	**07 53 23.1**	**+1.2**
DT1	**Dutton Round H**	**1.73**	**35**	P	**P**	**07 53 23.3**	**+1.1**
MCIR	**Makushin Cirqu**	**1.73**	**279**	P	**P**	**07 53 23.5**	**+1.2**
DTNA	**Dutton South F**	**1.77**	**35**	P	**P**	**07 53 23.9**	**+1.0**
DOL	**Dolgoi Island**	**1.91**	**40**	P	**P**	**07 53 26.0**	**+1.1**
HAG	**Hague Volcano**	**2.02**	**36**	P	**P**	**07 53 28.2**	**+1.7**
PN7A	**Pavlof North-7**	**2.09**	**33**	P	**P**	**07 53 29.4**	**+2.0**
PVV	**Pavlof Volcano**	**2.11**	**37**	P	**P**	**07 53 29.3**	**+1.6**
BLHA	**Black Hill**	**2.29**	**29**	P	**P**	**07 53 31.1**	**+0.7**
OKER	**East Rim**	**2.43**	**266**	P	**P**	**07 53 34.2**	**+1.9**
SDPT	**Sand Point**	**2.63**	**50**	*e*P	**P**	**07 53 37.3**	**+2.1**
NIKO	**Nikolski**	**3.00**	**258**	P	**P**	**07 53 42.3**	**+1.8**
KDAK	**Kodiak Island**	**7.63**	**53**	*e*P	**P**	**07 54 43.3**	**-2.3**
SVW	**Sparrevohn**	**8.68**	**28**	*e*P	**P**	**07 55 00.0**	**-0.3**
RSO	**Redoubt South**	**9.12**	**38**	*e*P	**P**	**07 55 08.1**	**+1.8**
SPU	**Mount Spurr**	**9.87**	**36**	*e*P	**P**	**07 55 16.4**	**-0.1**
SLKM	**Skilak Lake**	**10.12**	**42**	*e*P	**P**	**07 55 18.9**	**-1.0**
PMS	**Palmer South**	**10.82**	**40**	*e*P	**P**	**07 55 27.5**	**-2.1**
PMR	**Palmer**	**11.20**	**39**	*e*P	**P**	**07 55 35.9**	**+1.2**
SML	**Sawmill**	**11.63**	**40**	*e*P	**P**	**07 55 37.8**	**-2.8**
EYAK	**Cordova Ski Ar**	**12.03**	**48**	*e*P	**P**	**07 55 41.7**	**-4.2**
DIV	**Divide**	**12.29**	**46**	*e*P	**P**	**07 55 46.6**	**-2.8**
MCK	**McKinley**	**12.70**	**32**	*e*P	**P**	**07 55 53.1**	**-1.9**
THY	**Trims Highway**	**13.56**	**37**	*e*P	**P**	**07 56 04.6**	**-1.5**
FX1	**Attu Island--F**	**13.67**	**276**	Pn	**P**	**07 56 09.8**	**+2.1**
	2.0nm,0.3s,baz=314,slow=24,SNR=8.5						
COLA	**College**	**13.85**	**30**	*e*P	**P**	**07 56 07.8**	**-2.1**
COLA	**College**	**13.85**	**30**	*e*P	**P**	**07 56 06.9**	**-3.1**
ILAR	**Eielson Array**	**14.07**	**31**	Pn	**P**	**07 56 09.8**	**-3.0**
	0.2nm,0.3s,baz=228,slow=12,SNR=16						
ILAR				LR	LR	08 01 54.8	
	comp=Z,418nm,20.5s,baz=250,slow=39						
ILAR				ScP		08 05 01.9	
	baz=149,slow=3.3,SNR=4.1						
DLBC	**Dease Lake**	**19.41**	**62**	P	**P**	**07 57 21.1**	**+1.3**
	0.1nm,0.3s,baz=262,slow=13,SNR=24						
DLBC				LR	LR	08 04 47.7	
	comp=Z,126nm,20.7s,baz=274,slow=37						
DLBC	**Dease Lake**	**19.41**	**62**	*e*P	**P**	**07 57 20.5**	**+0.6**
INK	**Inuvik**	**20.46**	**33**	P	**P**	**07 57 28.4**	**-2.7**
	8.7nm,0.6s,baz=244,slow=8.1,SNR=18						
INK				LR	LR	08 06 08.0	
	comp=Z,526nm,19.2s,MS3.9,baz=106,slow=39						
INK	**Inuvik**	**20.46**	**33**	P	**P**	**07 57 31.3**	**+0.3**
	2.9nm,0.4s						
BBB	**Bella Bella**	**21.54**	**79**	LR	LR	08 04 04.6	
	comp=Z,153nm,18.7s,MS3.4,baz=49,slow=31						
MA2	**Magadan**	**25.14**	**302**	*de*P	**P**	**07 58 16.1**	**-1.1**
MA2				pmax	pmax		
	comp=Z,22nm,1.9s,mb4.4						
YKW3	**Yellowknife Ar**	**26.89**	**51**	*e*P	**P**	**07 58 33.3**	**-0.1**
YKA	**Yellowknife Ar**	**26.90**	**51**	P	**P**	**07 58 33.8**	**+0.3**
	comp=Z,1.8nm,0.5s,mb3.9,baz=273,slow=9.3,SNR=21						
YKA				LR	LR	08 10 08.6	
	comp=Z,223nm,20.6s,MS3.7,baz=255,slow=38						
YKA	**Yellowknife Ar**	**26.90**	**51**	P	**P**	**07 58 33.8**	**+0.3**
YKA				LR	LR	08 10 08.6	
NEW	**Newport**	**29.57**	**81**	LR	LR	08 09 31.7	
	comp=Z,107nm,19.4s,MS3.5,baz=288,slow=34						
MOD	**Modoc**	**31.14**	**94**	*e*P	**P**	**07 59 13.0**	**+1.2**
WVOR	**Wild Horse Val**	**31.81**	**92**	*e*P	**P**	**07 59 19.1**	**+1.5**
	comp=Z,4.4nm,0.8s,mb4.3						
HLID	**Hailey**	**33.66**	**87**	P	**P**	**07 59 34.6**	**+1.0**
NVAR	**Mina Array Bea**	**34.53**	**97**	P	**P**	**07 59 44.1**	**+3.0**
	comp=Z,0.9nm,0.9s,mb3.7,baz=315,slow=7.2,SNR=5.0						
NVAR				PcP	PcP	08 02 15.9	+0.1
	comp=Z,1.0nm,0.8s,baz=324,slow=2.1,SNR=4.5						
NVAR				LR	LR	08 11 33.7	
	comp=Z,94nm,18.5s,MS3.6,baz=30,slow=32						
MNV	**Mina**	**34.62**	**97**	P	**P**	**07 59 42.9**	**+1.0**
YAK	**Yakutsk**	**34.74**	**311**	*e*P	**P**	**07 59 40.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ASAJ	**Asahikawa**	**35.60**	**277**	P	**P**	**07 59 49.0**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8,baz=35,slow=7.9,SNR=8.1						
DUG	**Dugway**	**36.65**	**90**	*e*P	**P**	**08 00 00.7**	**+1.6**
	comp=Z,1.9nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**37.01**	**84**	P	**P**	**08 00 02.9**	**+0.8**
	comp=Z,1.1nm,1.1s,mb3.6,baz=307,slow=7.4,SNR=5.4						
PDAR				LR	LR	08 13 09.2	
	comp=Z,55nm,19.5s,MS3.4,baz=63,slow=33						
FCC	**Fort Churchill**	**37.56**	**53**	*e*P	**P**	**08 00 06.7**	**+0.1**
	comp=Z,19nm,0.9s,mb4.8						
RSSD	**Black Hills**	**39.45**	**79**	*e*P	**P**	**08 00 23.1**	**+0.6**
	comp=Z,2.9nm,0.8s,mb4.1						
PV10	**Paradox Valley**	**40.06**	**90**	*e*P	**P**	**08 00 29.1**	**+1.5**
PV01	**Paradox Valley**	**40.49**	**89**	*e*P	**P**	**08 00 31.3**	**+0.1**
ULM	**Lac du Bonnet**	**40.65**	**66**	P	**P**	**08 00 32.2**	**-0.1**
	comp=Z,5.4nm,1.0s,mb4.1,baz=281,slow=8.0,SNR=6.7						
ULM				LR	LR	08 18 56.7	
	comp=Z,69nm,19.4s,MS3.5,baz=272,slow=38						
ULM	**Lac du Bonnet**	**40.65**	**66**	*e*P	**P**	**08 00 31.9**	**-0.5**
SDCO	**Great Sand Dun**	**42.58**	**88**	*e*P	**P**	**08 00 49.7**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.7						
MDJ	**Mudanjiang**	**42.88**	**286**	P	**P**	**08 00 48.8**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,63nm,4.3s						
MDJ				LR	LR		
	comp=N,72nm,21.1s,MS3.6						
MDJ				LR	LR		
	comp=E,69nm,24.6s,MS3.6						
MDJ				LR	LR		
	comp=Z,88nm,23.9s,MS3.6						
MAJO	**Matsushiro**	**42.96**	**271**	*e*P	**P**	**08 00 50.6**	**-0.8**
MAT	**Matsushiro**	**42.96**	**271**	P	**P**	**08 00 51.4**	**0.0**
MAT	**Matsushiro**	**42.96**	**271**	*e*P	**P**	**08 00 51.0**	**-0.4**
	comp=Z,12nm,1.0s,mb4.6						
BOD	**Bodaibo**	**43.65**	**310**	*e*P	**P**	**08 00 52.5**	**-4.2**
CN2	**Changchun**	**45.74**	**288**	*e*P	**P**	**08 01 11.9**	**-1.8**
CN2				*e*AP	pP	08 01 22.5	-1.0
CN2				*e*S	**S**	**08 07 50.0**	**-4.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.2						
SUMG	**Summit**	**48.50**	**19**	*e*P	**P**	**08 01 34.0**	**-0.9**
	comp=Z,35nm,1.0s,mb5.3						
WMOK	**Wichita Mounta**	**48.60**	**85**	*e*P	**P**	**08 01 35.9**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**49.55**	**94**	P	**P**	**08 01 44.7**	**+1.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=294,slow=5.5,SNR=12						
TXAR				PcP	PcP	08 03 05.9	+0.6
	comp=Z,2.1nm,1.1s,baz=198,slow=1.4,SNR=3.7						
TXAR				LR	LR	08 21 35.5	
	comp=Z,63nm,18.8s,MS3.6,baz=60,slow=35						
TXAR	**Lajitas Array**	**49.55**	**94**	P	**P**	**08 01 44.7**	**+1.1**
TXAR				PcP	PcP	08 03 05.9	+0.6
TXAR				LR	LR	08 21 35.5	
SCHQ	**Schefferville**	**52.20**	**47**	P	**P**	**08 02 02.9**	**-0.4**
	comp=Z,13nm,1.1s,mb4.8,baz=333,slow=8.2,SNR=7.5						
SCHQ				LR	LR	08 24 25.7	
	comp=Z,93nm,19.1s,MS3.8,baz=344,slow=36						
ZAK	**Zakamensk**	**53.16**	**307**	*e*P	**P**	**08 02 09.3**	**-1.2**
SONM	**Songino Array**	**53.35**	**303**	P	**P**	**08 02 11.1**	**-0.9**
	comp=Z,5.3nm,1.1s,mb4.4,baz=51,slow=7.9,SNR=19						
SONM				PcP	PcP	08 03 19.3	+0.2
	comp=Z,4.3nm,0.9s,baz=46,slow=1.2,SNR=11						
JOW	**Kunigami**	**55.78**	**270**	P	**P**	**08 02 29.1**	**-0.8**
	comp=Z,25nm,1.0s,mb5.2,baz=187,slow=4.9,SNR=5.0						
JOW				LR	LR	08 25 43.9	
	comp=Z,67nm,19.9s,MS3.7,baz=329,slow=35						
KEV	**Kevo**	**56.59**	**355**	*e*p	**P**	**08 02 31.4**	**-3.8**
SSE	**Sheshan**	**56.85**	**279**	P	**P**	**08 02 37.3**	**-0.3**
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,159nm,5.0s						
ARCES	**ARCESS Array B**	**56.87**	**356**	P	**P**	**08 02 34.8**	**-2.5**
	comp=Z,4.7nm,0.9s,mb4.5,baz=20,slow=7.1,SNR=7.8						
ARCES				LR	LR	08 27 03.1	
	comp=Z,62nm,21.5s,MS3.7,baz=276,slow=36						
WHN	**Wuhan**	**61.24**	**283**	*e*P	**P**	**08 03 03.5**	**-4.6**
GTA	**Gaotai**	**62.69**	**300**	*e*P	**P**	**08 03 15.9**	**-1.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.4						
LZH	**Lanzhou**	**63.04**	**295**	⇓P	**P**	**08 03 19.5**	**-0.5**
LZH				AP	pP	08 03 30.3	+0.1
LZH				XP	sP	08 03 34.3	+0.3
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.2						
LZH				LR	LR		
	comp=N,263nm,14.9s						
LZH				LR	LR		
	comp=Z,297nm,17.8s,MS4.5						
LZH	**Lanzhou**	**63.04**	**295**	⇓P	**P**	**08 03 19.5**	**-0.5**
LZH				pP	pP	08 03 30.2	0.0
LZH				sP	sP	08 03 34.3	+0.3
KURK	**Kurchatov**	**63.46**	**321**	*i* P	**P**	**08 03 20.7**	**-1.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**63.46**	**321**	*e*P	**P**	**08 03 19.7**	**-2.8**
	comp=Z,14nm,1.2s,mb5.0						
KAF	**Kangasniemi**	**64.24**	**355**	*e*p	**P**	**08 03 22.2**	**-5.1**
	comp=Z,0.8nm,0.3s,mb4.2						
KAF	**Kangasniemi**	**64.24**	**355**	*e*P	**P**	**08 03 22.2**	**-5.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ENH	**Enshi**	**64.24**	**287**	*e*P	**P**	**08 03 26.3**	**-1.6**
BVA0	**Borovoye Array**	**64.42**	**327**	*i* P	**P**	**08 03 27.4**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**64.43**	**327**	P	**P**	**08 03 27.6**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
VOSK	**Vostochnaya**	**64.49**	**326**	P	**P**	**08 03 27.5**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
ARU	**Arti**	**64.83**	**335**	*e*P	**P**	**08 03 29.8**	**-1.4**
ARU				*e*		08 04 06.4	
ARU				*e*		08 05 53.3	
ARU				*e*S	**S**	**08 12 09.6**	**+1.3**
ARU	**Arti**	**64.83**	**335**	*e*P	**P**	**08 03 29.0**	**-2.2**
	comp=Z,8.2nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**64.92**	**355**	P	**P**	**08 03 29.7**	**-2.0**
	comp=Z,6.3nm,0.9s,mb4.7,baz=27,slow=8.5,SNR=11						
FINES				LR	LR	08 35 49.3	
	comp=Z,65nm,19.0s,MS3.8,baz=172,slow=40						
ZRNK	**Zerenda**	**64.93**	**328**	P	**P**	**08 03 30.4**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
MKAR	**Makanchi Array**	**65.17**	**316**	P	**P**	**08 03 31.6**	**-1.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=45,slow=6.9,SNR=16						
MKAR				LR	LR	08 33 34.3	
	comp=Z,99nm,20.7s,MS4.0,baz=32,slow=38						
MKAR	**Makanchi Array**	**65.17**	**316**	*i* P	**P**	**08 03 32.0**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**65.19**	**311**	⇓P	**P**	**08 03 36.5**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
WMQ				LR	LR		
	comp=Z,46nm,18.6s,MS3.7						
NB2	**NORSAR Subarra**	**65.54**	**3**	P	**P**	**08 03 33.8**	**-1.9**
	comp=Z,7.0nm,0.9s,mb4.7,baz=358,slow=6.5						
NOA	**NORSAR Array B**	**65.54**	**3**	P	**P**	**08 03 34.3**	**-1.4**
	comp=Z,4.6nm,0.8s,mb4.5,baz=357,slow=6.5,SNR=12						
NOA				LR	LR	08 33 44.1	
	comp=Z,32nm,20.4s,MS3.5,baz=5.0,slow=38						
CD2	**Chengdu**	**66.98**	**291**	⇓*i*P	**P**	**08 03 45.0**	**-0.4**
CD2				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.5						
GYA	**Guiyang**	**68.75**	**286**	⇑*i*P	**P**	**08 03 56.4**	**-0.1**
GYA				AP	pP	08 04 05.3	-1.5
GYA				XP	sP	08 04 09.5	-1.0
GYA				S	S	08 12 48.5	-7.6
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
GYA				LR	LR		
	comp=N,180nm,16.3s,MS4.5						
GYA				LR	LR		
	comp=E,160nm,17.4s,MS4.5						
GYA				LR	LR		
	comp=Z,190nm,15.7s,MS4.4						
OBN	**Obninsk**	**70.22**	**348**	*de*P	**P**	**08 04 03.6**	**-1.4**
OBN				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
AB31	**Akbulak array**	**70.92**	**331**	*i* P	**P**	**08 04 08.3**	**-1.0**
AB31				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
TKM2	**Tokmak 2**	**71.06**	**318**	P	**P**	**08 04 10.4**	**+0.1**
	SNR=5.6						
USP	**Ospenovka**	**71.20**	**319**	P	**P**	**08 04 10.8**	**-0.3**
	SNR=9.1						
CHMS	**Chumysh**	**71.33**	**319**	P	**P**	**08 04 11.9**	**0.0**
	SNR=5.7						
AAK	**Ala-Archa**	**71.74**	**319**	P	**P**	**08 04 14.6**	**+0.3**
	SNR=6.3						
EKS2	**Erkin-Say**	**72.00**	**319**	P	**P**	**08 04 15.9**	**0.0**
	SNR=12						
AML	**Almayashu**	**72.48**	**319**	P	**P**	**08 04 18.9**	**+0.2**
	SNR=19						
KKAR	**Karatay Array**	**72.86**	**321**	*i* P	**P**	**08 04 19.9**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
VOR	**Voronezh**	**73.15**	**345**	P	**P**	**08 04 15.0**	**-7.5**
VOR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.4						
LSA	**Lhasa**	**74.70**	**299**	P	**P**	**08 04 32.8**	**+0.9**
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
LSA	**Lhasa**	**74.70**	**299**	*e*P	**P**	**08 04 32.3**	**+0.4**
	comp=Z,22nm,0.9s,mb5.1						
AKASG	**Malin Array Be**	**75.37**	**351**	P	**P**	**08 04 34.1**	**-1.2**
	comp=Z,10nm,0.9s,mb4.8,baz=9.9,slow=5.7,SNR=21						
HGN	**Heimansgroeve**	**75.56**	**7**	*e*P	**P**	**08 04 35.9**	**-0.5**
	comp=Z,12nm,1.0s,mb4.8						
MOX	**Moxa**	**75.96**	**3**	*e*P	**P**	**08 04 38.0**	**-0.6**
GIVF	**Givet**	**76.14**	**7**	*e*P	**P**	**08 04 39.2**	**-0.5**
DPC	**Dobruska-Polom**	**76.32**	**360**	*e*P	**P**	**08 04 40.9**	**+0.2**
NKC	**Novy Kostel**	**76.39**	**2**	*e*P	**P**	**08 04 41.1**	**0.0**
FLN	**La Foliniere**	**76.96**	**11**	*e*P	**P**	**08 04 43.6**	**-0.8**
FLN				*e*R			
	comp=Z,92nm,19.8s						
LDF	**La Druitiere**	**77.17**	**11**	*e*P	**P**	**08 04 44.6**	**-1.0**
SGMF	**Saint Gilles**	**77.20**	**13**	*e*P	**P**	**08 04 45.1**	**-0.7**
GRR	**Gorron**	**77.28**	**11**	*e*P	**P**	**08 04 45.6**	**-0.6**
	comp=Z,38nm,1.2s,mb4.9						
KHC	**Kasperske Hory**	**77.52**	**2**	*e*P	**P**	**08 04 47.4**	**-0.1**
SHL	**Shillong**	**77.63**	**296**	*e*P	**P**	**08 04 44.0**	**-4.6**
MEZF	**Maizieres J’vi**	**77.75**	**7**	*e*P	**P**	**08 04 48.6**	**-0.2**
GERES	**GERESS Array B**	**77.81**	**2**	P	**P**	**08 04 48.5**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=14,slow=5.5,SNR=4.8						
CDF	**Champ du Feu**	**77.99**	**6**	*e*P	**P**	**08 04 49.7**	**-0.4**
	comp=Z,25nm,1.2s,mb4.7						
VYHS	**Vyhne**	**78.15**	**358**	*e*P	**P**	**08 04 51.4**	**+0.5**
HAU	**Haudompre**	**78.33**	**7**	*e*P	**P**	**08 04 51.6**	**-0.4**
	comp=Z,16nm,1.0s,mb4.6						
HAU				*e*R			
	comp=Z,77nm,21.0s						
HINF	**Hinteralfeld**	**78.56**	**6**	*e*P	**P**	**08 04 52.7**	**-0.5**
GUN	**Gumba**	**78.85**	**302**	*e*Pg	**P**	**08 04 55.2**	**0.0**
	comp=Z,46nm,0.8s,mb5.5						
LOR	**Lormes**	**78.87**	**8**	*e*P	**P**	**08 04 54.6**	**-0.4**
	comp=Z,21nm,1.0s,mb4.7						
LOR				*e*R			
	comp=Z,101nm,19.8s						
GOF	**Gofitskoye**	**78.94**	**341**	*e*P	**P**	**08 04 55.0**	**-0.4**
SSF	**Saint Saulge**	**79.05**	**9**	*e*P	**P**	**08 04 55.5**	**-0.4**
	comp=Z,14nm,0.9s,mb4.6						
KIS	**Kishinev**	**79.08**	**351**	*e*P	**P**	**08 04 55.0**	**-1.1**
MFF	**Saint Martin d**	**79.13**	**11**	*e*P	**P**	**08 04 56.2**	**-0.2**
	comp=Z,51nm,1.0s,mb5.1						
KKN	**Kakani**	**79.25**	**302**	*e*Pg	**P**	**08 04 57.3**	**-0.1**
	comp=Z,33nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**79.30**	**9**	*e*P	**P**	**08 04 56.8**	**-0.5**
	comp=Z,21nm,1.1s,mb4.7						
PKI	**Pulchoki**	**79.36**	**302**	*e*Pg	**P**	**08 04 57.6**	**-0.4**
	comp=Z,42nm,1.0s,mb5.3						
GKN	**Gorkha**	**79.39**	**303**	*e*Pg	**P**	**08 04 57.9**	**-0.3**
	comp=Z,63nm,1.0s,mb5.5						
CMAR	**Chiang Mai Arr**	**79.41**	**287**	P	**P**	**08 04 58.5**	**+0.1**
	comp=Z,6.4nm,0.8s,mb4.6,baz=18,slow=5.3,SNR=25						
CMAR				LR	LR	08 43 10.4	
	comp=Z,45nm,19.3s,MS3.8,baz=190,slow=38						
DMN	**Daman**	**79.48**	**303**	*e*Pg	**P**	**08 04 58.7**	**0.0**
	comp=Z,53nm,1.0s,mb5.4						
BGF	**Bois d’Agland**	**79.49**	**9**	*e*P	**P**	**08 04 57.8**	**-0.5**
SMF	**Signal de Mont**	**79.49**	**8**	*e*P	**P**	**08 04 57.8**	**-0.5**
	comp=Z,42nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**79.69**	**10**	*e*P	**P**	**08 04 59.1**	**-0.3**
CABF	**La Chapelle**	**79.70**	**7**	*e*P	**P**	**08 04 59.7**	**+0.2**
	comp=Z,31nm,1.1s,mb4.8						
JOSI	**Joshimath**	**79.72**	**308**	*e*P	**P**	**08 05 00.3**	**+0.3**
KOLN	**Koldanda**	**80.10**	**304**	*e*Pg	**P**	**08 05 01.5**	**-0.5**
	comp=Z,47nm,1.0s,mb5.4						
RJF	**Les Rejaudoux**	**80.59**	**10**	*e*P	**P**	**08 05 03.7**	**-0.6**
	comp=Z,47nm,1.2s,mb5.0						
RJF				*e*R			
	comp=Z,62nm,17.8s						
LPL	**La Plagne**	**80.84**	**7**	*e*P	**P**	**08 05 06.6**	**+1.1**
LPG	**La Plagne**	**80.86**	**7**	*e*P	**P**	**08 05 06.8**	**+1.1**
LFF	**La Frestale**	**80.87**	**11**	*e*P	**P**	**08 05 05.6**	**-0.1**
CAF	**Calviac**	**81.03**	**10**	*e*P	**P**	**08 05 06.4**	**-0.1**
	comp=Z,26nm,1.2s,mb4.7						
VIVF	**Saint-Julien-l**	**81.34**	**8**	*e*P	**P**	**08 05 08.3**	**+0.1**
	comp=Z,24nm,1.0s,mb4.8						
ORIF	**Oris-en-Rattie**	**81.37**	**7**	*e*P	**P**	**08 05 08.9**	**+0.5**
	comp=Z,9.6nm,0.7s,mb4.5						
ORIF				*e*R			
	comp=Z,52nm,19.5s						
MBDF	**Montbardon**	**81.63**	**7**	*e*P	**P**	**08 05 10.8**	**+1.1**
	comp=Z,28nm,0.9s,mb4.9						
LASF	**Ste Croix**	**82.04**	**9**	*e*P	**P**	**08 05 12.2**	**+0.4**
SMRF	**Simiane la Rot**	**82.29**	**8**	*e*P	**P**	**08 05 14.0**	**+0.9**
	comp=Z,46nm,1.1s,mb5.0						
RTK	**Rohtak**	**82.46**	**310**	*e*P	**P**	**08 05 13.1**	**-1.2**
MTLF	**Montolieu**	**82.61**	**10**	*e*P	**P**	**08 05 15.0**	**+0.2**
	comp=Z,29nm,1.0s,mb5.0						
ETSF	**Etsaut**	**82.73**	**12**	*e*P	**P**	**08 05 15.9**	**+0.5**
	comp=Z,23nm,1.0s,mb4.8						
LMR	**La Mourre**	**82.99**	**7**	*e*P	**P**	**08 05 17.0**	**+0.3**
	comp=Z,29nm,1.1s,mb4.9						
KUDL	**Kundal**	**83.18**	**309**	*e*P	**P**	**08 05 16.5**	**-1.5**
KUDL				*e*		08 05 19.4	
	comp=Z,24nm,1.5s						
AGRA	**Agra**	**83.28**	**308**	*e*P	**P**	**08 05 17.7**	**-0.9**
AGRA				*e*		08 05 17.9	
	comp=Z,52nm,0.2s						
KHET	**Khetri**	**83.56**	**310**	*e*P	**P**	**08 05 19.4**	**-0.4**
KHET				*e*		08 05 21.4	
PGB	**Panagyurishte**	**83.86**	**354**	*e*P	**P**	**08 05 28.0**	**+6.9**
VTS	**Vitosha**	**83.88**	**355**	*e*P	**P**	**08 05 28.0**	**+6.8**
PGF	**Pioggiola**	**83.93**	**5**	*e*P	**P**	**08 05 22.0**	**+0.6**
	comp=Z,68nm,1.1s,mb5.4						
KKB	**Krupnik**	**84.61**	**355**	*i* P	**P**	**08 05 26.0**	**+1.2**
RZN	**Rozhen**	**84.69**	**353**	*i* P	**P**	**08 05 26.0**	**+0.8**
MMB	**Musomiste**	**84.85**	**354**	*i* P	**P**	**08 05 27.0**	**+1.0**
ESDC	**Sonseca Array**	**85.41**	**15**	P	**P**	**08 05 30.2**	**+1.3**
	comp=Z,4.9nm,0.8s,mb4.7,baz=346,slow=4.7,SNR=13						
BRTR	**Keskin Array B**	**85.70**	**346**	P	**P**	**08 05 31.2**	**+0.9**
	comp=Z,10nm,0.9s,mb5.0,baz=45,slow=1.7,SNR=31						
BRTR				LR	LR	08 48 00.7	
	comp=Z,40nm,18.1s,MS3.9,baz=40,slow=39						
MALT	**Malatya**	**86.32**	**342**	*e*P	**P**	**08 05 34.3**	**+0.9**
	comp=Z,3.4nm,1.0s,mb4.5						
BHPL	**Bhopal**	**86.91**	**306**	*e*P	**P**	**08 05 35.3**	**-1.2**
WRA	**Warramunga Arr**	**90.41**	**236**	P	**P**	**08 05 53.0**	**-0.3**
	comp=Z,1.1nm,1.0s,mb4.1,baz=40,slow=5.3,SNR=5.4						
LBTB	**Lobatse**	**150.46**	**342**	*e*PKPbc	PKPdf	08 12 43.8	+7.2
VNA1	**Neumayer--Stat**	**159.84**	**157**	⇓*i*P	PKPdf	08 12 49.3	+1.6
VNA1	**Neumayer--Stat**	**159.84**	**157**	*e*	PKPab	08 13 27.4	-1.8
VNA2	**Neumayer--Watz**	**159.85**	**158**	⇓*i*P	PKPdf	08 12 49.6	+1.9
VNA2	**Neumayer--Watz**	**159.85**	**158**	*e*	PKPab	08 13 27.9	-1.3
SNAA	**Sanae**	**160.19**	**162**	⇑*i*P	PKPdf	08 12 49.9	+1.9
SNAA	**Sanae**	**160.19**	**162**	*e*	PKPab	08 13 28.9	-1.7

IDC 13 08:19:57.3±3.6, 6.74N×73.12W, h173^{km}±25^{km}, mb3.3/2, mb1 3.5/3, mb1mx3.0/21, Error ellipse: s-maj=119.0km s-min=31.1km az=107.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.22**	**213**	P	P	08 20 35.9	-0.9
	38nm,0.3s,baz=18,slow=4.3,SNR=117						
ROSC				S	S	08 21 08.1	+0.9
	54nm,0.3s,baz=357,slow=23,SNR=18						
SCHQ	**Schefferville**	**48.22**	**5**	P	P	08 28 20.5	-1.6
	1.3nm,0.6s,baz=211,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	P	08 30 07.4	-2.5
	0.4nm,0.6s,baz=131,slow=7.0,SNR=5.8						
WRA	**Warramunga Arr**	**150.29**	**241**	PKPbc	PKPdf	08 39 28.5	+5.3
	0.2nm,0.4s,baz=106,slow=2.8,SNR=6.6						

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*NIED **13** 08:54:00, 39.10N×144.40E, h5^{km}, Mw3.5 Best double couple: M$_0$2.31×10^{14} NP1:φ$_s$197°, δ56°, λ-89°. NP2:φ$_s$15°, δ34°, λ-92°.*

*IDC **13** 08:54:14.2±1.3, 38.90N×144.68E, mb3.7/6, mb1 3.8/7, mb1mx3.6/23, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.0/31, Error ellipse: s-maj=36.3km s-min=25.7km az=80.0*

*JMA **13** 08:54:18.9±0.2, 39.07N×144.43E, h44^{km}, M3.6*

*NEIC **13** 08:54:19.7±3.1, 38.88N×144.69E, h38^{km}±28^{km}, Error ellipse: s-maj=28.6km s-min=24.1km az=76.0*

ISC 13 08:54:18.9±0.8, 39.08N±0.04×144.43E±0.06, h44^{km}, n25, σ1^{s}13/33, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyako 2**	**2.08**	**284**	P	**P**	**08 54 52.5**	**+0.4**
OFUJ	**Ofunato**	**2.15**	**271**	P	**P**	**08 54 53.3**	**+0.3**
OFUJ				*e*S	**S**	**08 55 18.6**	**0.0**
JTH	**Tanohata**	**2.16**	**294**	P	**P**	**08 54 53.4**	**+0.2**
JTH				*e*S	**S**	**08 55 19.4**	**+0.5**
JOM	**Ohasama**	**2.47**	**280**	P	**P**	**08 54 58.2**	**+0.6**
JOM				S	**S**	**08 55 28.2**	**+1.5**
JMK	**Ichinoseki**	**2.50**	**268**	P	**P**	**08 54 58.5**	**+0.4**
JMK				*e*S	**S**	**08 55 27.8**	**+0.2**
JANG	**Nango**	**2.59**	**301**	P	**P**	**08 54 59.1**	**-0.3**
JMM	**Marumori**	**3.10**	**248**	P	**P**	**08 55 05.5**	**-1.1**
JMM				*e*S	**S**	**08 55 41.8**	**-1.0**
JYK	**Kaneyama**	**3.18**	**268**	P	**P**	**08 55 08.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**3.44**	**339**	P	**P**	**08 55 11.1**	**-0.3**
JNBK				*e*S	**S**	**08 55 50.4**	**-1.0**
JCH	**Churui**	**3.62**	**347**	*e*S	**S**	**08 55 52.7**	**-3.2**
JKB	**Kayabe**	**3.82**	**318**	*e*S	**S**	**08 55 59.4**	**-1.5**
NEM2	**Nemuro 2**	**4.39**	**13**	P	**P**	**08 55 20.7**	**-4.2**
NEM2				*e*S	**S**	**08 56 07.8**	**-7.6**
ASAJ	**Asahikawa**	**5.21**	**345**	Pn	**P**	**08 55 35.4**	**-1.0**
	1.8nm,0.3s,baz=234,slow=11,SNR=9.8						
ASAJ				Sn	**S**	**08 56 36.9**	**+0.8**
	0.5nm,0.3s,baz=46,slow=30,SNR=2.7						
MAJO	**Matsushiro**	**5.54**	**245**	*e*Pn	**P**	**08 55 41.0**	**0.0**
	22nm,0.4s						
MAT	**Matsushiro**	**5.54**	**245**	P	**P**	**08 55 41.0**	**0.0**
MAT				*e*S	**S**	**08 56 42.8**	**-1.5**
MAT	**Matsushiro**	**5.54**	**245**	*e*P	**P**	**08 55 41.0**	**0.0**
	15nm,0.5s						
JNU	**Nakatsue**	**12.46**	**246**	LR	LR	09 02 14.3	
	comp=Z,63nm,20.5s,baz=58,slow=38						
SONM	**Songino Array**	**28.72**	**300**	P	**P**	**09 00 16.7**	**+2.8**
	0.2nm,0.4s,mb3.2,baz=68,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**45.08**	**301**	P	**P**	**09 02 34.4**	**+2.2**
	1.5nm,1.0s,mb3.8,baz=85,slow=9.1,SNR=8.1						
ILAR	**Eielson Array**	**46.48**	**33**	P	**P**	**09 02 43.1**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=262,slow=7.1,SNR=4.8						
KURK	**Kurchatov**	**46.58**	**307**	*e*P	**P**	**09 02 45.4**	**+1.5**
	3.7nm,0.6s,mb4.5						
KURK				*e*	pP	09 02 54.9	-1.2
KURK				*e*		09 03 04.4	
BVAR	**Borovoye Array**	**50.98**	**312**	P	**P**	**09 03 17.3**	**-0.7**
	0.5nm,0.5s,mb3.7,baz=80,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**59.47**	**191**	P	**P**	**09 04 17.7**	**-2.2**
	0.7nm,1.0s,mb3.6,baz=7.8,slow=6.9,SNR=3.0						
FINES	**FINESS Array B**	**68.10**	**333**	P	**P**	**09 05 17.5**	**+1.8**
	1.5nm,0.7s,mb4.2,baz=63,slow=3.1,SNR=3.6						
FINES	**FINESS Array B**	**68.10**	**333**	P	**P**	**09 05 17.4**	**+1.8**

NEIC 13 09:00:06.6, 53.77N×164.06W, h31^{km}, ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.77**	**337**	P	Pn	09 00 20.1	-1.3

WESS	**West Dahl Sout**	**0.81**	**332**	P	Pn	09 00 20.7	-1.3
WESS				S	Sb	09 00 31.7	-1.2
WESN	**West Dahl Nort**	**0.86**	**339**	P	Pn	09 00 21.6	-1.0
WPOG	**Pogromni**	**0.93**	**335**	P	Pn	09 00 22.3	-1.2
SSLS	**Shishaldin Sou**	**0.95**	**2**	P	Pn	09 00 22.7	-1.2
AKA	**Akutan**	**1.08**	**291**	P	Pn	09 00 24.5	-1.2
AHB	**Akutan Harbor**	**1.09**	**289**	P	Pn	09 00 24.8	-1.2
WTUG	**Tugumak**	**1.10**	**350**	P	Pn	09 00 25.1	-1.0
WTUG				S	Sn	09 00 38.4	-1.9
FALS	**False Pass**	**1.16**	**19**	P	Pn	09 00 25.3	-1.6
FALS				S	Sn	09 00 40.1	-1.7
AKLV	**Akutan Long Va**	**1.19**	**290**	P	Pn	09 00 25.9	-1.5
AKLV				S	Sn	09 00 41.2	-1.3
AKGG	**Akutan Green G**	**1.22**	**292**	P	Pn	09 00 26.5	-1.3
UNV	**Unalaska Valle**	**1.45**	**274**	P	Pn	09 00 29.0	-2.1
MNAT	**Makushin Natee**	**1.56**	**275**	P	Pn	09 00 30.9	-1.7
MTBL	**Makushin Table**	**1.56**	**279**	P	Pn	09 00 31.6	-1.1
DRIA	**Deer Island**	**1.60**	**40**	P	Pn	09 00 31.3	-1.8
MSW	**Makushin Switc**	**1.62**	**276**	P	Pn	09 00 31.9	-1.6
MGOD	**Makushin Gods**	**1.67**	**272**	P	Pn	09 00 32.9	-1.3
MCIR	**Makushin Cirqu**	**1.69**	**277**	P	Pn	09 00 33.3	-1.2
DT1	**Dutton Round H**	**1.70**	**37**	P	Pn	09 00 33.1	-1.5
DTNA	**Dutton South F**	**1.74**	**37**	P	Pn	09 00 34.0	-1.2
DOL	**Dolgoi Island**	**1.89**	**42**	P	Pn	09 00 35.8	-1.5
HAG	**Hague Volcano**	**2.00**	**38**	P	Pn	09 00 38.1	-0.8
DAWY	**Dawson**	**16.27**	**41**	*e*P	P	09 03 54.3	+0.1

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*HEL **13** 09:00:38.0±0.3,64.75N×30.63E,ML2.5,ML2.1(BER), ML2.6(NAO),Explosion*
*NAO **13** 09:00:38.5±1.3,64.80N×30.16E,ML2.6*
*IDC **13** 09:00:39.6±1.8,64.68N×30.61E,mb1 3.5/4, mb1mx3.2/20,ML3.3/4,Error ellipse: s-maj=24.9km s-min=8.0km az=103.0*
*BER **13** 09:00:40.1±11.0,64.76N×30.27E,ML2.1,ML2.6(NAO), Suspected explosion*
ISC 13 09:00:37.0±1.0,64.82N±0.04×30.1E±0.2,n18,σ1^{s}41/31, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.19**	**338**	*e*P	**Pb**	**09 01 02.4**	**+2.3**
MSF				*e*S	**Sb**	**09 01 20.4**	**+4.6**
KJN	**Kajaani**	**1.28**	**236**	*e*P	**Pb**	**09 01 03.4**	**+1.6**
KJN				*e*S	**Sb**	**09 01 21.8**	**+3.1**
OUL	**Oulu**	**1.82**	**280**	*e*P	**Pn**	**09 01 13.4**	**+3.5**
OUL				*e*S	**Sn**	**09 01 39.6**	**+5.6**
SUF	**Sumiainen**	**2.75**	**222**	*e*S	**Sn**	**09 01 59.0**	**+1.3**
SUF				*e*S	**Sn**	**09 01 59.4**	**+1.7**
SUF				MSG		09 02 04.2	
	comp=Z,16nm,0.2s						
APA0	**Apatity Array**	**3.03**	**21**	Pn	**Pn**	**09 01 26.9**	**-0.2**
	baz=196,slow=12						
APA0				Sn	**Sn**	**09 02 04.3**	**-0.3**
	baz=210,slow=28						
APA0				Lg		09 02 15.2	
	baz=201,slow=37						
APA0	**Apatity Array**	**3.03**	**21**	*e*P	**Pn**	**09 01 26.9**	**-0.2**
APA0				*e*S	**Sn**	**09 02 04.3**	**-0.3**
APA0				*e*		09 02 15.2	
FIA0	**FINESS Array S**	**3.86**	**210**	Pn	**Pn**	**09 01 38.3**	**-0.6**
	baz=26,slow=16						
FIA0				Pg	**Pg**	**09 01 47.6**	**-6.5**
	baz=36,slow=14						
FIA0				Lg		09 02 39.7	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**3.86**	**210**	*e*SG	**Sg**	**09 02 38.6**	**-6.9**
FIA0				MSG		09 02 42.4	
	comp=Z,8.7nm,0.2s						
FINES	**FINESS Array B**	**3.86**	**210**	Pn	**Pn**	**09 01 38.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=39,slow=13,SNR=35						
FINES				Pg	**Pg**	**09 01 47.9**	**-6.1**
	comp=Z,2.3nm,0.3s,baz=35,slow=14,SNR=22						
FINES				Sn	**Sn**	**09 02 24.8**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=37,slow=21,SNR=4.8						
FINES				Lg		09 02 39.2	
	comp=Z,3.9nm,0.3s,baz=46,slow=26,SNR=11						
KTK1	**Kautokeino**	**5.00**	**330**	*e*P	**Pn**	**09 01 56.5**	**+1.3**
KTK1				AML	AML	09 03 25.7	
	comp=Z,5.6nm,0.4s						
ARA0	**ARCESS Array S**	**5.06**	**341**	Pn	**Pn**	**09 01 56.8**	**+0.8**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 02 54.6**	**-1.5**
	baz=155,slow=22						
ARA0				Lg		09 03 15.4	
	baz=49,slow=28						
ARCES	**ARCESS Array B**	**5.06**	**341**	Pn	**Pn**	**09 01 56.8**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=158,slow=15,SNR=45						
ARCES				Sn	**Sn**	**09 02 56.1**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=155,slow=23,SNR=7.6						
ARCES				Lg		09 03 18.0	
	comp=Z,1.8nm,0.3s,baz=153,slow=35,SNR=5.2						
MOR8	**Moi Rana**	**6.66**	**289**	*e*P	**Pn**	**09 02 16.4**	**-2.2**
MOR8	**Moi Rana**	**6.66**	**289**	*e*	**Pn**	**09 02 16.4**	**-2.2**
LOF	**Lofoten**	**7.41**	**304**	*e*SG	**Sg**	**09 04 32.3**	**-12**
HFS	**Hagfors**	**8.93**	**246**	Pn	**P**	**09 02 48.9**	**-1.3**
	baz=58,slow=14						
HFS				Sn	**Sn**	**09 04 26.1**	**-6.7**
	baz=50,slow=22						
HFS				Lg		09 05 14.1	
	baz=42,slow=28						
HFS	**Hagfors**	**8.93**	**246**	Pn	**P**	**09 02 49.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=59,slow=13,SNR=24						
HFS				Sn	**Sn**	**09 04 26.2**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=52,slow=26,SNR=3.9						
HFS				Lg		09 05 20.2	
	comp=Z,0.1nm,0.3s,baz=41,slow=31,SNR=3.6						
NOA	**NORSAR Array B**	**9.40**	**255**	Pn	**P**	**09 02 54.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=54,slow=12,SNR=2.8						

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*NEIC **13** 09:31:22.8,18.01N×98.84W,h20^{km},MD3.9(MEX),After MEX.*
MEX 13 09:31:23.0±1.5,18.06N×98.91W,h51^{km}±29^{km},MD3.9,1C, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YAIG	**Yautepec**	**0.82**	**349**	*i* P	P	09 31 36.4	-2.0
YAIG				*i* S	S	09 31 46.9	-2.9
PPM	**Popocatepetl**	**1.04**	**15**	*i* P	P	09 31 39.0	-2.5
PPM				⇑*i*P		09 31 39.9	
PPM				*i* S	S	09 31 54.0	-1.2
PPM				*i* S	S	09 31 54.1	-1.1
PPM	**Popocatepetl**	**1.04**	**15**	*i* P	P	09 31 39.0	-2.5
PPM				*i* S	S	09 31 54.0	-1.2
IIZ	**Mezontepec**	**1.17**	**344**	*e*P	P	09 31 42.0	-1.3
UNM	**Universidad Na**	**1.29**	**348**	*i* P	P	09 31 43.7	-1.4
UNM				*e*P		09 31 44.0	
UNM				*i* S	S	09 31 58.9	-2.7
UNM				*i* S	S	09 32 00.0	-1.5
UNM	**Universidad Na**	**1.29**	**348**	*i* P	P	09 31 43.7	-1.4
UNM				*i* S	S	09 32 00.0	-1.5
CRX	**Cerrillo**	**1.53**	**331**	*e*P	P	09 31 47.0	-1.5
CAIG	**El Cayaco**	**1.64**	**233**	*i* P	P	09 31 47.3	-2.7
CAIG				*i* S	S	09 32 07.7	-2.3
CAIG	**El Cayaco**	**1.64**	**233**	*i* P	P	09 31 47.3	-2.7
CAIG				*i* S	S	09 32 10.4	+0.4
IISM	**Ciudad Serdan**	**1.72**	**57**	*i* P	P	09 31 49.0	-2.1
IISM				*i* S	S	09 32 10.0	-2.0
PNIG	**Pinotepa**	**1.81**	**156**	*i* P	P	09 31 50.9	-1.6
PNIG				*i* S	S	09 32 09.8	-4.5
OXX	**Oaxaca**	**2.30**	**115**	*e*P	P	09 31 57.0	-2.3
CMIG	**Matias Romero**	**3.95**	**103**	*e*P	P	09 32 20.1	-2.6
CMIG				*i* S	S	09 33 02.4	-6.0

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*NEIC **13** 09:40:31.9,34.64N×25.54E,h10^{km},MD3.5(ATH),After ATH.*
ATH 13 09:40:31.9,34.64N×25.54E,h10^{km},MD3.5/3,1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.27**	**28**	⇓*i*PG	Pg	09 40 37.3	-0.2
NPS	**Neapolis**	**0.62**	**5**	*e*PB	Pb	09 40 43.5	-0.9
GVD	**Gavdhos**	**1.21**	**280**	*e*Pn	Pn	09 40 52.5	-2.4
GVD				*e*S	Sb	09 41 11.0	+0.9
VAM	**Vamos**	**1.34**	**305**	*e*PB	Pb	09 40 57.3	+0.6

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*HEL **13** 09:52:21.7±0.4,56.23N×23.80E,ML2.3,ML2.5(NAO), Explosion*
*BER **13** 09:52:24.2±4.8,56.39N×22.88E,ML2.5(NAO), Suspected explosion*
*NAO **13** 09:52:25.4±5.2,56.58N×22.77E,ML2.5*
ISC 13 09:52:25.7±2.5,56.8N±0.1×22.7E±0.2,n8,σ1^{s}06/18, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUR	**Nurmij rvi**	**3.84**	**15**	*e*PB	**Pb**	**09 53 35.2**	**+1.1**
NUR				*e*S	**Sn**	**09 54 17.9**	**+4.1**
NUR				*e*SG	**Sg**	**09 54 34.1**	**+0.6**
PVF	**Pernaja**	**4.08**	**22**	*e*PG	**Pg**	**09 53 42.1**	**-5.1**
PVF				*e*S	**Sn**	**09 54 21.0**	**+1.0**
PVF				*e*SG	**Sg**	**09 54 39.2**	**-2.5**
PVF				MSG		09 54 46.2	
	comp=Z,4.7nm,0.4s						
FIA0	**FINESS Array S**	**4.95**	**19**	*e*P	**Pn**	**09 53 42.7**	**-0.4**
FIA0				*e*S	**Sn**	**09 54 42.5**	**+0.5**
FIA0				*e*SG	**Sg**	**09 55 05.7**	**-4.9**
FIA0				MSG		09 55 20.3	
	comp=Z,3.0nm,0.4s						
FIA0	**FINESS Array S**	**4.95**	**19**	Pn	**Pn**	**09 53 42.4**	**-0.8**
	baz=196,slow=14						
FIA0				Sn	**Sn**	**09 54 43.4**	**+1.4**
	baz=188,slow=28						
FIA0				Lg		09 55 07.5	
	baz=208,slow=28						
KAF	**Kangasniemi**	**5.62**	**18**	*e*S	**Sn**	**09 54 59.0**	**+0.3**
KAF				*e*SG	**Sg**	**09 55 26.8**	**-5.9**
KAF				MSG		09 55 34.9	
	comp=Z,2.5nm,0.4s						
HFS	**Hagfors**	**5.78**	**309**	Pn	**Pn**	**09 53 53.9**	**-0.9**
	baz=152,slow=22						
HFS				Sn	**Sn**	**09 55 03.0**	**+0.3**
	baz=117,slow=28						
HFS				Lg		09 55 31.7	
	baz=123,slow=28						
HFS	**Hagfors**	**5.78**	**309**	*e*	**Pn**	**09 53 53.9**	**-0.9**
HFS				*e*		09 55 03.0	
HFS				*e*		09 55 31.7	
SUF	**Sumiainen**	**6.17**	**15**	*e*S	**Sn**	**09 55 11.8**	**-0.7**
SUF				*e*SG	**Sg**	**09 55 45.7**	**-5.3**
SUF				MSG		09 55 50.0	
	comp=Z,1.4nm,0.3s						

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*BER **13** 09:58:43.7±4.2,56.69N×23.66E,ML2.1(NAO), Suspected explosion*
NAO 13 09:58:45.3±5.1,56.88N×23.46E,ML2.1,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**4.78**	**15**	Pn	Pn	09 59 58.0	-2.2
	baz=195,slow=16						
FIA0				Pg	Pg	10 00 10.3	-10
	baz=182,slow=18						
FIA0				Sn	Sn	10 00 55.3	-1.9
	baz=190,slow=28						
FIA0				Lg		10 01 13.8	
	baz=181,slow=37						
HFS	**Hagfors**	**6.07**	**307**	Pn	Pn	10 00 15.2	-3.3
	baz=129,slow=16						
HFS				Sn	Sn	10 01 24.0	-5.6
	baz=115,slow=28						
HFS				Lg		10 01 56.6	
	baz=113,slow=28						

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*ISK **13** 09:58:52.7,36.92N×27.69E,h9^{km},MD3.0*
*NEIC **13** 09:58:54.7,36.92N×27.72E,h38^{km},MD2.9(ATH),After ATH.*
*ATH **13** 09:58:54.7,36.92N×27.72E,h38^{km}±8^{km},MD2.9/4*
ISC 13 09:58:53.6±0.8,36.91N±0.04×27.72E±0.05,h11^{km}±5^{km}, n11,σ0^{s}71/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.27**	**304**	*i* P	**Pg**	**09 58 59.6**	**+0.3**
BDRM				*i* S	**Sg**	**09 59 04.2**	**+1.1**
MLSB	**Milas**	**0.38**	**6**	*i* PG	**Pg**	**09 59 00.6**	**-0.9**
MLSB				*i* SG	**Sg**	**09 59 06.4**	**-0.4**
YER	**Yerkesik**	**0.50**	**64**	PG	**Pg**	**09 59 03.3**	**-0.4**
NISR	**Nisiros**	**0.56**	**238**	*e*PN	**Pn**	**09 59 07.0**	**-0.2**
NISR				*e*SN	**Sn**	**09 59 15.5**	**-0.9**
AYDN	**Tasoluk**	**0.76**	**9**	*i* P	**Pb**	**09 59 07.9**	**-0.3**
AYDN				*i* S	**Sb**	**09 59 17.7**	**-0.6**
ARG	**Arkhangelos**	**0.77**	**155**	*e*PN	**Pn**	**09 59 09.3**	**-0.8**
ARG				*e*SN	**Sn**	**09 59 22.4**	**+0.8**
SMG	**Samos**	**1.06**	**319**	*e*PN	**Pn**	**09 59 14.3**	**0.0**
SMG				*e*SN	**Sn**	**09 59 29.7**	**+0.6**
DNZL	**Cakiroluk**	**1.31**	**53**	*i* P	**Pb**	**09 59 19.1**	**+1.4**
DNZL				*i* S	**Sb**	**09 59 38.3**	**+4.0**
DENT	**Denizli**	**1.34**	**51**	*e*PN	**Pn**	**09 59 18.4**	**+0.1**
KARP	**Karpathos**	**1.44**	**199**	*e*PN	**Pn**	**09 59 20.1**	**+0.4**
APE	**Apeiranthos**	**1.76**	**276**	*e*PN	**Pn**	**09 59 23.9**	**-0.4**

MEX 13 10:23:11.7±1.4,18.08N×98.92W,h56^{km}±27^{km},MD3.8,1C, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YAIG	**Yautepec**	**0.79**	**350**	⇑*i*P	P	10 23 25.3	-1.7
YAIG				*i* S	S	10 23 35.9	-2.4
PPM	**Popocatepetl**	**1.02**	**16**	*e*P	P	10 23 27.6	-2.5
PPM				*i* P		10 23 28.0	
PPM				*e*S	S	10 23 42.2	-1.6
PPM				*i* S	S	10 23 43.0	-0.8
IIZ	**Mezontepec**	**1.15**	**345**	*i* P	P	10 23 30.0	-1.8
UNM	**Universidad Na**	**1.27**	**349**	*e*P	P	10 23 33.0	-0.6
CAIG	**El Cayaco**	**1.64**	**232**	*i* P	P	10 23 36.3	-2.5
CAIG				*i* S	S	10 23 57.6	-1.2
IISM	**Ciudad Serdan**	**1.72**	**58**	*i* P	P	10 23 38.0	-1.9
IISM				*i* S	S	10 23 59.0	-1.8
OXX	**Oaxaca**	**2.32**	**115**	*e*P	P	10 23 50.0	+1.7
ZIIG	**Zihuatanejo**	**2.47**	**259**	*e*P	P	10 23 48.3	-2.1
ZIIG				*i* S	S	10 24 16.5	-2.9
CMIG	**Matias Romero**	**3.98**	**104**	*e*P	P	10 24 08.0	-3.7
CMIG				*i* S	S	10 24 51.9	-5.6

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*NEIC **13** 10:28:57.8±6.2,17.92S×178.10W,h540^{km}±70^{km},mb3.6/4, Error ellipse: s-maj=28.2km s-min=15.9km az=104.0*
*IDC **13** 10:28:58.1±3.6,17.91S×178.11W,h541^{km}±41^{km},mb3.0/8, mb1 3.3/8,mb1mx3.2/15,Error ellipse: s-maj=28.7km s-min=14.0km az=151.0*
ISC 13 10:28:55.9±4.4,17.9S±0.1×178.1W±0.1,h528^{km}±50^{km}, n17,σ0^{s}73/17,mb3.4/11,3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**10 36 25.2**	**+0.3**
	0.3nm,0.5s,mb3.1,baz=96,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**10 36 25.9**	**0.0**
	1.8nm,0.6s,mb3.8,baz=88,slow=8.6,SNR=39						
ASAR				PcP	PcP	10 37 55.5	-0.6
	0.5nm,0.5s,baz=106,slow=3.8,SNR=5.1						
ASAR				S	**S**	**10 42 26.3**	**-0.1**
	0.5nm,1.1s,baz=85,slow=15,SNR=5.0						
SBA	**Scott Base**	**60.40**	**184**	*e*P	**P**	**10 38 15.3**	**0.0**
	3.8nm,1.0s,mb3.7						
VNDA	**Vanda**	**60.43**	**185**	P	**P**	**10 38 15.1**	**-0.4**
	0.6nm,0.7s,mb3.1,baz=354,slow=6.0,SNR=6.3						
VNDA	**Vanda**	**60.43**	**185**	*e*P	**P**	**10 38 14.8**	**-0.7**
	0.6nm,0.6s,mb3.1						
QSPA	**South Pole Qui**	**72.11**	**180**	*e*P	**P**	**10 39 27.3**	**-0.2**
	6.6nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**10 40 07.7**	**+0.2**
	0.8nm,0.7s,mb3.1,baz=227,slow=11,SNR=8.7						
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**10 40 07.7**	**+0.2**
MAW	**Mawson**	**83.92**	**200**	P	**P**	**10 40 30.6**	**+0.1**
	1.0nm,0.5s,mb3.6,baz=140,slow=1.8,SNR=5.3						
HLID	**Hailey**	**84.48**	**41**	P	**P**	**10 40 33.7**	**-0.1**
	0.7nm,0.7s,mb3.3						
TXAR	**Lajitas Array**	**85.79**	**58**	P	**P**	**10 40 41.0**	**+0.5**
	0.5nm,0.8s,mb3.2,baz=270,slow=2.5,SNR=5.4						
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**10 40 39.4**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=220,slow=5.4,SNR=14						
PDAR	**Pinedale Array**	**87.20**	**43**	P	**P**	**10 40 46.6**	**-0.2**
	0.3nm,0.6s,mb3.1,baz=225,slow=2.1,SNR=4.6						
SNAA	**Sanae**	**90.56**	**179**	⇓*i*P	**P**	**10 40 59.9**	**-1.9**
SNAA				*e*		11 08 11.5	
VNA2	**Neumayer--Watz**	**91.13**	**177**	⇓*i*	**P**	**10 41 06.2**	**+1.8**
VNA1	**Neumayer--Stat**	**91.36**	**177**	⇓*i*	**P**	**10 41 06.2**	**+0.7**
BRTR	**Keskin Array B**	**144.99**	**315**	PKP	PKPdf	10 47 34.8	+2.0
	1.1nm,0.6s,baz=135,slow=5.2,SNR=4.5						

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*IDC **13** 10:41:27.9±4.9,27.72N×111.74W,mb3.3/1,mb1 3.7/4, mb1mx3.5/21,ML3.6/3,MS3.4/7,Ms1 3.4/7,ms1mx3.3/13, Error ellipse: s-maj=68.2km s-min=17.9km az=20.0*
*NEIC **13** 10:41:33.2±2.2,28.09N×111.60W,h10^{km},mb3.9/1,Error ellipse: s-maj=29.2km s-min=8.5km az=202.0*
ISC 13 10:41:31.8±2.5,28.2N±0.2×111.5W±0.1,h10^{km},n22, σ0^{s}96/17,MS3.2/6,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	**Tucson**	**4.16**	**9**	*e*P	**Pn**	**10 42 35.4**	**-1.4**
PFO	**Pinyon Flat Ob**	**6.86**	**323**	P	**Pn**	**10 43 14.7**	**-0.3**
	34nm,1.7s						
TXAR	**Lajitas Array**	**7.00**	**79**	Pn	**Pn**	**10 43 16.4**	**-0.5**
	0.5nm,0.3s,baz=254,slow=14,SNR=18						
TXAR				Lg		10 45 16.9	
	1.3nm,0.3s,baz=254,slow=27,SNR=8.1						
TXAR				LR	LR	10 46 15.9	
	comp=Z,542nm,20.4s,baz=295,slow=40						
TXAR	**Lajitas Array**	**7.00**	**79**	Pn	**Pn**	**10 43 16.4**	**-0.5**
TXAR				Lg		10 45 16.9	
TXAR				LR	LR	10 46 15.9	
WUAZ	**Wupatki**	**7.31**	**1**	*e*P	**Pn**	**10 43 20.8**	**-0.5**
	42nm,1.1s						
GDL2	**Guadalupe Moun**	**7.38**	**55**	*e*P	**Pn**	**10 43 22.2**	**0.0**
NEN	**Nelson**	**7.96**	**340**	*e*P	**Pn**	**10 43 28.5**	**-1.8**
ANMO	**Albuquerque**	**8.01**	**31**	P	**P**	**10 43 31.1**	**+0.1**
PV10	**Paradox Valley**	**10.38**	**11**	P	**P**	**10 44 03.7**	**-0.1**
JCT	**Junction City**	**10.49**	**75**	*e*P	**P**	**10 44 05.7**	**+0.4**
NVAR	**Mina Array Bea**	**11.68**	**333**	Pn	**P**	**10 44 22.1**	**+0.6**
	0.1nm,0.3s,baz=162,slow=11,SNR=5.0						
HWUT	**Hardware Ranch**	**13.39**	**360**	*e*P	**P**	**10 44 44.7**	**+0.3**
BW06	**Boulder Array**	**14.64**	**6**	P	**P**	**10 45 03.5**	**+2.8**
	1.1nm,0.8s						
PDAR	**Pinedale Array**	**14.64**	**6**	Pn	**P**	**10 45 08.1**	**+7.3**
	0.1nm,0.3s,baz=180,slow=8.9,SNR=6.6						
MOD	**Modoc**	**15.44**	**335**	P	**P**	**10 45 11.9**	**+0.6**
	10nm,1.5s						
HLID	**Hailey**	**15.52**	**352**	P	**P**	**10 45 13.8**	**+1.5**
NEW	**Newport**	**20.51**	**349**	P	**P**	**10 46 11.9**	**-0.7**
	1.4nm,0.9s,baz=162,slow=13,SNR=3.6						
NEW				LR	LR	10 54 23.9	
	comp=Z,77nm,21.1s,MS3.0,baz=180,slow=37						
ULM	**Lac du Bonnet**	**25.05**	**24**	LR	LR	10 58 00.7	
	comp=Z,41nm,18.8s,MS3.0,baz=45,slow=39						
BBB	**Bella Bella**	**26.98**	**337**	LR	LR	10 59 29.4	
	comp=Z,55nm,20.9s,MS3.1,baz=252,slow=40						
SADO	**Sadowa**	**30.60**	**49**	LR	LR	11 01 16.7	
	comp=Z,78nm,21.1s,MS3.3,baz=258,slow=38						
YKA	**Yellowknife Ar**	**34.37**	**357**	LR	LR	11 02 32.4	
	comp=Z,54nm,18.7s,MS3.3,baz=210,slow=36						
ROSC	**El Rosal**	**42.26**	**116**	LR	LR	11 09 09.6	
	comp=Z,74nm,18.1s,MS3.6,baz=220,slow=39						

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*BGS **13** 10:48:38.3±2.2,30.94N×69.81E,h10^{km},mb5.6*
*HRVD **13** 10:48:38.9±0.2,30.76N×69.92E,h12^{km}±1^{km},MW5.3/61, Centroid moment Tensor Solution. LP body waves: s43,c75;Mantle waves: s61,c120; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.01±.02; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-0.05±.02; $M_{r\theta}$0.74±.13; $M_{\theta\phi}$-0.87±.02; $M_{\phi r}$-0.50±.10; Best double couple: $M_0$1.17×10^{17} NP1:ϕ_s186°,δ54°,λ12°. NP2:ϕ_s89°,δ80°,λ144°. Principal axes: T 1.42, Plg32°, Azm41°; N -.5, Plg53°, Azm256°; P -.92, Plg17°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 10:48:38.9±0.1,30.92N×69.77E,mb5.3/151,MS5.1/109 Error ellipse: s-maj=4.9km s-min=2.7km az=196.0*
NEIC Felt strongly at Multan.
*MOS **13** 10:48:39.2±0.9,30.99N×69.79E,h21^{km},mb5.5/40, MS5.0/41,Error ellipse: s-maj=8.5km s-min=4.7km az=111.5*
*IDC **13** 10:48:39.6±4.5,31.00N×69.91E,h15^{km}±27^{km},mb5.0/24, mb1 5.1/25,mb1mx5.1/25,ML5.1/1,MS4.9/22,Ms1 4.9/22, ms1mx4.8/28,Error ellipse: s-maj=17.7km s-min=12.9km az=37.0*
*BJI **13** 10:48:41.2,31.11N×70.28E,h11^{km},mB5.1,mb5.4,Ms5.4, Msz5.1*
*NNC **13** 10:48:46.3±2.9,31.24N×70.06E,h46^{km}±21^{km},Error ellipse: s-maj=25.3km s-min=21.8km az=168.0*
ISC 13 10:48:37.0±0.1,30.89N±0.02×69.81E±0.02,h12^{km}, h12^{km}±1.1^{km}:pP-P,n653,σ1^{s}12/625,mb5.3/219,MS5.0/157, 175C-28D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRP	**Derazinda**	**0.92**	**22**	P	**Pb**	**10 48 58.0**	**+3.6**
SBDP	**Sheikh Budin**	**1.65**	**31**	⇓P	**Pn**	**10 49 09.9**	**+3.9**
THW	**Thamme Wali**	**2.52**	**40**	⇑P	**Pn**	**10 49 21.4**	**+2.9**
SARP	**Sargodha**	**2.66**	**66**	P	**Pn**	**10 49 22.8**	**+2.3**
CEP	**Cherat**	**3.43**	**31**	⇑P	**Pn**	**10 49 34.4**	**+3.0**
CHCP	**Chirah Chowk**	**4.03**	**46**	⇑P	**Pn**	**10 49 42.2**	**+2.2**
JASL	**Jaisalmer**	**4.06**	**166**	*e*P	**Pn**	**10 49 41.2**	**+0.7**
JMU	**Jammu**	**4.71**	**66**	*i* P	**Pn**	**10 49 51.5**	**+1.9**
JMU				*i*		10 51 15.5	
THN	**Thein Dam**	**5.27**	**71**	*e*P	**Pn**	**10 49 59.2**	**+1.6**
THN				*e*		10 51 31.1	
PONG	**Pong**	**5.36**	**77**	*e*P	**Pn**	**10 50 02.0**	**+3.2**
PONG				*e*		10 51 04.0	
DLH	**Dalhousie**	**5.50**	**71**	*e*	Px	10 49 47.0	
DLH				*e*		10 51 15.0	
BHK	**Bhakra**	**5.69**	**83**	*e*	**Pn**	**10 50 10.0**	**+6.5**
BHK				*e*		10 51 11.0	
KHET	**Khetri**	**5.94**	**117**	*e*P	**Pn**	**10 50 05.7**	**-1.2**
KHET				*e*S	**Sn**	**10 51 11.7**	**-3.9**
RTK	**Rohtak**	**6.03**	**106**	*e*P	**Pn**	**10 50 08.1**	**-0.1**
RTK				*i*		10 50 38.6	
RTK				*e*		10 51 19.7	
RTK				*e*		10 52 08.9	
	comp=Z,15µm,1.0s						
AJM	**Ajmer**	**6.11**	**135**	⇓*i*P	**Pn**	**10 50 08.0**	**-1.4**
AJM				*i*		10 50 34.0	
KKR	**Kurukshetra**	**6.13**	**97**	*e*P	**Pn**	**10 50 10.8**	**+1.1**
KKR				*e*		10 52 12.9	
	comp=Z,15µm,0.9s						
SDNR	**Sundarnagar**	**6.17**	**82**	*e*P	**Pn**	**10 50 10.8**	**+0.6**
SDNR				*e*		10 51 51.0	
SMLA	**Simla**	**6.33**	**86**	⇑*i*	**Pn**	**10 50 23.4**	**+11**
SMLA				*i*		10 52 24.1	
AYAN	**Aya Nagar**	**6.80**	**109**	*e*P	**Pn**	**10 50 19.2**	**0.0**
AYAN				*e*S	**Sn**	**10 51 32.9**	**-4.5**
AYAN				*e*		10 52 30.8	
	comp=Z,6µm,1.0s						
NDI	**New Delhi**	**6.80**	**107**	⇑*e*P	**Pn**	**10 50 17.5**	**-1.7**
NDI				*e*S	**Sn**	**10 51 30.0**	**-7.4**
DDI	**Dehra Dun**	**7.13**	**92**	*e*P	**Pn**	**10 50 22.3**	**-1.5**
DDI				*e*		10 52 28.0	
ASOR	**Ausora**	**7.24**	**105**	*e*S	**Sn**	**10 51 45.1**	**-3.1**
ASOR				*e*		10 51 54.5	
	comp=Z,11µm,0.9s						
KLP	**Kalpa**	**7.26**	**83**	*e*P	**Pn**	**10 50 26.5**	**+0.8**
KLP				*e*		10 51 48.6	
BHJ	**Bhuj**	**7.60**	**181**	⇓*e*	**Pn**	**10 50 39.0**	**+8.6**
BHJ				*e*		10 53 05.7	
AGRA	**Agra**	**8.00**	**115**	*e*P	**Pn**	**10 50 36.7**	**+0.8**
AGRA				*e*S	**Sn**	**10 52 01.6**	**-5.7**
JOSI	**Joshimath**	**8.40**	**90**	*e*P	**P**	**10 50 42.1**	**+0.5**
JOSI				*e*		10 52 19.8	
PTH	**Pithoragarh**	**9.11**	**96**	*e*P	**P**	**10 50 49.9**	**-1.4**
PTH				*e*S	**Sn**	**10 52 27.9**	**-6.9**
LGTI	**Lohaghat**	**9.15**	**96**	*e*P	**P**	**10 50 50.0**	**-1.9**
LGTI				*e*		10 53 33.5	
KSH	**Kashi**	**9.98**	**29**	⇑*i*P	**P**	**10 51 05.0**	**+1.7**
KSH				*e*AP		10 51 09.5	
KSH				*e*XP		10 51 11.0	
KSH				*e*PP	PP	10 51 14.4	+3.2
KSH				*e*PPP	PPP	10 51 22.6	+4.4
KSH				S	**Sn**	**10 52 57.5**	**+1.3**
KSH				*e*XS		10 53 03.4	
KSH				*e*PCP	PcP	10 57 15.5	+1.5
KSH				*e*PCS		11 00 47.0	
BHPL	**Bhopal**	**10.20**	**136**	⇑*i*P	**P**	**10 51 03.4**	**-3.0**
BHPL				*i* S	**S**	**10 52 53.2**	**-8.5**
	comp=Z,971nm,1.0s						

AML	**Almayashu**	**11.65**	**14**	P	**P**	**10 51 25.0**	**-1.1**
	SNR=589						
ASH	**Ashkhabad**	**11.79**	**310**	*e*P	**P**	**10 51 31.0**	**+3.0**
JBP	**Jabalpur**	**11.89**	**128**	⇑*i*P	**P**	**10 51 24.8**	**-4.6**
JBP				*i* S	**S**	**10 53 28.5**	**-14**
UCH	**Uchtor**	**11.93**	**17**	P	**P**	**10 51 29.1**	**-0.8**
	SNR=203						
ALBI	**Allahabad**	**11.96**	**115**	⇓*e*	**P**	**10 51 25.5**	**-4.9**
KZA	**Kyzart**	**11.99**	**20**	P	**P**	**10 51 29.4**	**-1.4**
	SNR=102						
AKL	**Akola**	**12.04**	**146**	⇑*i*P	**P**	**10 51 31.1**	**-0.3**
AKL				*i*		10 53 38.8	
EKS2	**Erkin-Say**	**12.17**	**14**	P	**P**	**10 51 31.6**	**-1.6**
	SNR=40						
KK31	**Karatay Array**	**12.21**	**2**	⇑P	**P**	**10 51 31.8**	**-1.8**
	comp=Z,166nm,0.8s,baz=186,slow=17,SNR=828						
KK31				⇓S	**S**	**10 53 45.5**	**-5.2**
	comp=Z,244nm,1.1s,baz=187,slow=26,SNR=4.3						
KKAR	**Karatay Array**	**12.21**	**2**	*i* P	**P**	**10 51 31.8**	**-1.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BOM	**Bombay**	**12.24**	**166**	*e*P	**P**	**10 51 30.5**	**-3.8**
BOM				*e*		10 53 39.4	
AAK	**Ala-Archa**	**12.31**	**16**	P	**P**	**10 51 34.1**	**-0.9**
	SNR=88						
KOLN	**Koldanda**	**12.43**	**101**	*e*P	**P**	**10 51 34.5**	**-2.2**
	comp=Z,379nm,0.5s						
KOLN				*e*S	**S**	**10 53 49.4**	**-6.8**
KBK	**Karagaybulak**	**12.45**	**18**	P	**P**	**10 51 36.5**	**-0.3**
	SNR=21						
ULHL	**Ulahol**	**12.46**	**23**	P	**P**	**10 51 37.0**	**0.0**
	SNR=15						
FRU	**Bishkek**	**12.53**	**17**	⇑*i*P	**P**	**10 51 38.0**	**+0.1**
FRU				*e*		10 54 00.0	
FRU				pmax	pmax		
	comp=Z,460nm,2.0s						
CHMS	**Chumysh**	**12.72**	**17**	P	**P**	**10 51 39.1**	**-1.4**
	SNR=74						
NGP	**Nagpur**	**12.76**	**137**	*e*P	**P**	**10 51 36.8**	**-4.3**
NGP				*e*S	**S**	**10 53 52.4**	**-12**
	comp=Z,335nm,1.0s						
VLK	**Valmikinagar**	**12.80**	**103**	*i*	**P**	**10 51 44.0**	**+2.4**
VLK				*i*		10 53 05.0	
POO	**Poona**	**12.84**	**162**	⇑*i*P	**P**	**10 51 39.0**	**-3.2**
POO				*e*		10 53 59.0	
TKM2	**Tokmak 2**	**12.87**	**19**	P	**P**	**10 51 41.3**	**-1.2**
	SNR=121						
USP	**Ospenovka**	**12.91**	**16**	P	**P**	**10 51 41.0**	**-2.0**
	SNR=14						
GKN	**Gorkha**	**13.24**	**99**	*e*P	**P**	**10 51 43.0**	**-4.5**
	comp=Z,419nm,0.5s						
AAA	**Alma-Ata**	**13.61**	**23**	*e*P	**P**	**10 51 50.5**	**-1.7**
AAA				*e*S	**S**	**10 54 29.0**	**+4.7**
AAA				pmax	pmax		
	comp=Z,1µm,2.0s						
AAA				smax			
	comp=E,1µm,6.0s						
AAA				MLR	MLR		
	comp=Z,10µm,12.0s						
DMN	**Daman**	**13.75**	**100**	*e*P	**P**	**10 51 50.9**	**-3.4**
	comp=Z,114nm,0.5s						
LATR	**Latur**	**13.84**	**152**	*e*P	**P**	**10 51 52.8**	**-2.7**
	comp=Z,68nm,0.9s						
KKN	**Kakani**	**13.85**	**99**	*e*P	**P**	**10 51 51.7**	**-3.8**
	comp=Z,830nm,0.6s						
PKI	**Pulchoki**	**14.02**	**100**	*e*P	**P**	**10 51 54.1**	**-3.7**
	comp=Z,1µm,1.0s						
KAD	**Karad**	**14.09**	**163**	*e*P	**P**	**10 51 56.0**	**-2.8**
KAD				*i*		10 54 42.0	
HYB	**Hyderabad**	**15.59**	**147**	*i* P	**P**	**10 52 13.0**	**-5.4**
	comp=Z,160nm,1.0s						
HYB				*e*sP		10 52 23.0	
HYB				*e*PP	PP	10 52 33.0	+2.0
HYB				*e*		10 54 59.0	
HYB				*e*S	**S**	**10 55 09.0**	**-2.5**
HYB				LR	LR	10 56 40.0	
	comp=Z,8.7nm,16.0s						
HYB	**Hyderabad**	**15.59**	**147**	*e*P	**P**	**10 52 13.0**	**-5.4**
	comp=Z,160nm,1.0s						
HYB				*e*		10 52 23.0	
HYB				*e*sP		10 52 46.0	
HYB				*e*		10 54 59.0	
HYB				*e*S	**S**	**10 55 09.0**	**-2.5**
BOK	**Bokaro**	**15.93**	**112**	*i*	**P**	**10 52 30.0**	**+7.3**
BOK				*i*		10 55 06.0	
VIS	**Vishakhapatnam**	**17.97**	**134**	*e*P	**P**	**10 52 47.0**	**-1.4**
CUD	**Cuddapah**	**18.29**	**151**	*e*P	**P**	**10 52 50.1**	**-2.4**
CUD				*e*		10 52 58.1	
CUD				*e*		10 56 10.3	
CUD				*e*S	**S**	**10 56 21.6**	**+8.1**
CUD				*e*		10 56 58.6	
CUD				*e*		10 57 51.3	
LSA	**Lhasa**	**18.47**	**88**	P	**P**	**10 52 53.4**	**-1.2**
LSA				AP		10 53 01.1	
LSA				XP		10 53 06.9	
LSA				AMB	AMB		
	comp=Z,40nm,0.7s						
LSA				AMB	AMB		
	comp=Z,270nm,4.8s						
LSA				LR	LR		
	comp=N,5µm,12.4s						
LSA				LR	LR		
	comp=E,10µm,13.5s						
LSA				LR	LR		
	comp=Z,9µm,13.5s						
LSA	**Lhasa**	**18.47**	**88**	*e*P	**P**	**10 52 53.4**	**-1.3**
	comp=Z,91nm,1.0s						
LSA				*e*S	**S**	**10 56 15.6**	**-1.9**
CAL	**Calcutta**	**18.50**	**112**	*e*	**P**	**10 52 51.0**	**-4.1**
CAL				*e*S	**S**	**10 56 26.1**	**+7.9**
MK31	**Makanchi Array**	**18.59**	**28**	⇑P	**P**	**10 52 53.7**	**-2.2**
	comp=Z,77nm,0.7s						
MKAR	**Makanchi Array**	**18.59**	**28**	P	**P**	**10 52 54.2**	**-1.7**
	comp=Z,6.4nm,0.3s,baz=206,slow=8.6,SNR=348						
MKAR				LR	LR	11 01 11.9	
	comp=Z,6µm,19.4s,baz=223,slow=41						
MKAR	**Makanchi Array**	**18.59**	**28**	P	**P**	**10 52 54.2**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,6µm,19.4s						
UMR	**Umm Al-Rimmam**	**19.14**	**272**	*e*P	**P**	**10 53 02.8**	**+0.2**
UMR				AMb	AMB	10 53 09.7	
	comp=Z,312nm,0.7s						
WMQ	**Urumqi**	**19.16**	**43**	⇓P	**P**	**10 53 01.9**	**-0.9**
WMQ				AP		10 53 05.4	
WMQ				XP		10 53 08.8	
WMQ				PP	PP	10 53 18.8	-0.9
WMQ				PPP	PPP	10 53 27.8	-0.9
WMQ				S	**S**	**10 56 31.3**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,207nm,0.9s						
WMQ				LR	LR		
	comp=N,5µm,16.3s						
WMQ				LR	LR		
	comp=E,3µm,16.3s						
WMQ				LR	LR		
	comp=Z,5µm,16.3s						
RDF	**Al-Radifah**	**19.39**	**270**	*e*P	**P**	**10 53 05.4**	**-0.2**
RDF				AMb	AMB	10 53 09.5	
	comp=Z,485nm,0.9s						
MIB	**Mutribah**	**19.42**	**273**	*e*P	**P**	**10 53 05.6**	**-0.3**
MIB				AMb	AMB	10 53 12.1	
	comp=Z,611nm,0.9s						
AB31	**Akbulak array**	**19.81**	**341**	⇓P	**P**	**10 53 09.9**	**-0.3**
	comp=Z,32nm,0.5s,baz=150,slow=10,SNR=652						
AB31	**Akbulak array**	**19.81**	**341**	*i* P	**P**	**10 53 09.9**	**-0.3**
AB31				pmax	pmax		
	comp=Z,17nm,0.5s						
SHL	**Shillong**	**20.15**	**100**	*e*P	**P**	**10 53 10.0**	**-4.0**
SHL				*e*		10 56 43.0	
MDRS	**Chennai**	**20.18**	**149**	*e*	**P**	**10 53 16.0**	**+1.6**
MDRS				*e*		10 57 05.0	
MDRS				*e*		10 59 19.0	
AGT	**Agartala**	**20.26**	**105**	⇑*i*	**P**	**10 53 23.0**	**+7.8**
AGT				*i*		10 54 14.0	
KURK	**Kurchatov**	**20.87**	**16**	⇑P	**P**	**10 53 20.2**	**-1.1**
	comp=Z,74nm,0.9s						
KURK				⇑S	**S**	**10 57 06.5**	**-2.4**
	comp=Z,52nm,1.6s						
KURK	**Kurchatov**	**20.87**	**16**	⇑*e*P	**P**	**10 53 20.1**	**-1.2**
	comp=Z,173nm,0.9s						
KURK				S	**S**	**10 57 09.1**	**+0.1**
MAK	**Makhachkala**	**21.45**	**310**	*e*P	**P**	**10 53 32.0**	**+4.8**
MAK				*e*S	**S**	**10 57 26.0**	**+6.1**
MAK				*e*SS	SS	10 58 09.0	+14
MAK				pmax	pmax		
	comp=Z,1µm,6.0s						
MAK				smax			
	comp=N,3µm,14.0s						
MAK				smax			
	comp=E,2µm,14.0s						
MAK				MLR	MLR		
	comp=N,5µm,13.0s,MS5.5						
MAK				MLR	MLR		
	comp=E,12µm,13.0s,MS5.5						
MAK				MLR	MLR		
	comp=Z,13µm,13.0s,MS5.5						
RYDS	**Riyadh**	**21.57**	**258**	P	**P**	**10 53 30.0**	**+1.3**
VOSK	**Vostochnaya**	**21.84**	**2**	⇑P	**P**	**10 53 31.0**	**0.0**
	comp=Z,132nm,0.9s,mb5.3						
VOSK				⇑S	**S**	**10 57 22.4**	**-4.7**
	comp=Z,82nm,1.9s						
ZRNK	**Zerenda**	**22.06**	**359**	⇑P	**P**	**10 53 33.6**	**+0.4**
	comp=Z,315nm,1.2s,mb5.6						
ZRNK				⇓S	**S**	**10 57 30.5**	**-0.7**
	comp=Z,55nm,1.5s						
ZRNK	**Zerenda**	**22.06**	**359**	⇑*e*P	**P**	**10 53 33.3**	**+0.1**
	comp=Z,562nm,1.3s,mb5.8						
BVA0	**Borovoye Array**	**22.13**	**1**	⇑P	**P**	**10 53 34.2**	**+0.2**
	comp=Z,16nm,0.7s,mb4.6						
BVA0				⇑S	**S**	**10 57 29.7**	**-2.7**
	comp=Z,17nm,1.8s						
BVA0	**Borovoye Array**	**22.13**	**1**	P	**P**	**10 53 34.1**	**+0.2**
BVAR	**Borovoye Array**	**22.13**	**1**	P	**P**	**10 53 34.2**	**+0.3**
	comp=Z,88nm,0.6s,mb5.4,baz=164,slow=11,SNR=254						
BVAR				LR	LR	11 03 22.6	
	comp=Z,17nm,18.8s,baz=275,slow=40						
BRVK	**Borovoye**	**22.16**	**1**	P	**P**	**10 53 34.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,88nm,0.9s,mb5.2						
BRVK	**Borovoye**	**22.16**	**1**	⇑*i*P	**P**	**10 53 34.6**	**+0.3**
	comp=Z,189nm,0.8s,mb5.6						
IMP	**Imphal**	**22.16**	**100**	*i*	**P**	**10 53 39.0**	**+4.5**
GNI	**Garni**	**22.34**	**301**	P	**P**	**10 53 39.2**	**+3.1**
	comp=Z,121nm,0.8s,mb5.4,baz=8.1,slow=3.0,SNR=63						
GNI				LR	LR	11 03 05.8	
	comp=Z,2µm,20.1s,MS4.5,baz=104,slow=39						
GNI	**Garni**	**22.34**	**301**	P	**P**	**10 53 39.2**	**+3.1**
GNI				pmax	pmax		
	comp=Z,121nm,0.8s						
GNI				MLR	MLR		
	comp=Z,2µm,20.1s						
RAYN	**Ar Rayn**	**22.80**	**257**	P	**P**	**10 53 43.1**	**+2.3**
	comp=Z,513nm,1.1s,mb5.9,SNR=43						
TI2	**Plekhanov**	**22.83**	**305**	*e*P	**P**	**10 53 44.8**	**+3.8**
TI2				*e*S	**S**	**10 57 49.6**	**+4.3**
TI2				MLR	MLR		
	comp=N,2µm,12.0s,MS4.9						
TI2				MLR	MLR		
	comp=E,2µm,12.0s,MS4.9						
MZLS	**Mizel**	**22.84**	**259**	P	**P**	**10 53 44.1**	**+2.8**
BEST	**Besiri**	**24.50**	**294**	*i* P	**P**	**10 53 59.7**	**+2.4**
HILS	**Ha’il**	**24.69**	**269**	P	**P**	**10 54 02.2**	**+3.0**
ERZM	**Erzurum**	**24.79**	**299**	*i* P	**P**	**10 54 03.4**	**+3.4**
GOF	**Gofitskoye**	**25.26**	**312**	⇑*i*P	**P**	**10 54 06.0**	**+1.5**
GOF				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.8						
GOF				MLR	MLR		
	comp=Z,6µm,16.0s,MS5.2						
PALK	**Pallekele**	**25.61**	**154**	*e*P	**P**	**10 54 10.2**	**+2.1**
	comp=Z,69nm,1.1s,mb5.1						
NVS	**Novosibirsk**	**25.80**	**18**	⇑*i*P	**P**	**10 54 09.1**	**-0.3**
NVS				pmax	pmax		
	comp=Z,187nm,1.2s,mb5.5						
NVS				pmax	pmax		
	comp=N,344nm,1.6s						
GTA	**Gaotai**	**25.88**	**63**	⇑P	**P**	**10 54 12.8**	**+2.5**
GTA				AP	pP	10 54 16.6	+2.8
GTA				XP	sP	10 54 19.1	+3.7
GTA				PCP	PcP	10 57 41.0	+1.0
GTA				S	**S**	**10 58 41.1**	**+3.6**
GTA				SCP		11 01 20.3	
GTA				SCS	ScS	11 05 12.9	+6.7
GTA				AMB	AMB		
	comp=Z,72nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,296nm,6.1s						
TATS	**Tathlith**	**26.29**	**251**	P	**P**	**10 54 16.5**	**+2.2**
ELZG	**Elazig**	**26.37**	**295**	*i* P	**P**	**10 54 16.9**	**+2.1**
ARU	**Arti**	**26.73**	**346**	⇑*i*P	**P**	**10 54 19.2**	**+1.3**
ARU				*e*		10 55 01.0	
ARU				*e*PPP	PPP	10 55 12.2	-2.4
ARU				*e*S	**S**	**10 58 55.4**	**+4.0**
ARU				*e*SS	SS	11 00 00.5	-2.6
ARU				*e*SSS	SSS	11 00 21.9	+0.9
ARU				pmax	pmax		
	comp=Z,148nm,1.0s,mb5.5						
ARU				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,3µm,17.0s						
ARU	**Arti**	**26.73**	**346**	*e*P	**P**	**10 54 19.1**	**+1.1**
	comp=N,895nm,1.8s,mb6.0						
ARU				LR	LR		
	comp=Z,1µm,21.0s,MS4.5						
MALT	**Malatya**	**26.78**	**295**	*e*P	**P**	**10 54 20.1**	**+1.5**
	comp=Z,30nm,1.2s,mb4.7						
SOC	**Sochi**	**26.94**	**306**	*e*P	**P**	**10 54 22.8**	**+2.7**
SOC				*e*PPP	PPP	10 55 11.8	-5.9
SOC				*e*S	**S**	**10 58 52.8**	**-2.2**
SOC				*e*SS	SS	11 00 06.9	-1.5
SOC				*e*SSS	SSS	11 00 28.8	+2.3
SOC				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,12nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,2µm,16.0s,MS4.7						
SOC				MLR	MLR		
	comp=N,2µm,17.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,2µm,18.0s,MS4.8						
KBRS	**Khaybar**	**27.31**	**267**	P	**P**	**10 54 25.6**	**+2.0**
GZT	**Gaziantep**	**27.37**	**292**	*i* P	**P**	**10 54 25.8**	**+1.8**
BLJS	**Baljurashi**	**27.66**	**253**	P	**P**	**10 54 29.5**	**+2.7**
KAHT	**Ahir Dag**	**27.94**	**293**	*i* P	**P**	**10 54 30.5**	**+1.3**
ASF	**Jabal al Asfar**	**28.02**	**281**	P	**P**	**10 54 32.4**	**+2.4**
	comp=E,17nm,0.9s,mb4.7,baz=312,slow=2.7,SNR=17						
ASF				LR	LR	11 07 25.5	
	comp=E,2µm,19.1s,MS4.8,baz=313,slow=40						
LZH	**Lanzhou**	**28.77**	**70**	⇑P	**P**	**10 54 38.5**	**+1.8**
LZH				AP	pP	10 54 41.8	+1.6
LZH				XP	sP	10 54 43.3	+1.6
LZH				PP	PP	10 55 31.6	+2.0
LZH				*e*S	**S**	**10 59 25.4**	**+0.9**
LZH				XS		10 59 32.8	
LZH				AMB	AMB		
	comp=Z,95nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,312nm,4.3s						
LZH				LR	LR		
	comp=N,2µm,10.2s						
LZH				LR	LR		
	comp=Z,3µm,13.9s,MS5.0						
LZH	**Lanzhou**	**28.77**	**70**	⇑P	**P**	**10 54 38.5**	**+1.8**
	comp=Z,95nm,1.5s,mb5.3						
LZH				pP	pP	10 54 41.8	+1.6
LZH				sP	sP	10 54 43.3	+1.6
LZH				PP	PP	10 55 31.6	+2.0
LZH				*e*S	**S**	**10 59 25.4**	**+0.9**
LZH				sS		10 59 32.8	
LZH				SS	SS	11 00 53.6	+2.1
LZH				LR	LR		
	comp=Z,3µm,13.9s,MS5.0						
YNBS	**Yanbu‘ al Bahr**	**28.87**	**265**	P	**P**	**10 54 39.5**	**+1.8**
ANN	**Anapa**	**28.88**	**308**	*e*P	**P**	**10 54 36.9**	**-0.7**
ANN				*e**PP	pP	10 54 45.9	+4.8
ANN				*e*		10 55 42.4	
ANN				*e*S	**S**	**10 59 26.4**	**+0.2**
ANN				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
ANN				MLR	MLR		
	comp=N,2µm,12.0s,MS5.1						
ANN				MLR	MLR		
	comp=E,2µm,13.0s,MS5.1						
ANN				MLR	MLR		
	comp=Z,2µm,13.0s,MS4.8						
CHG	**Chiang Mai**	**28.95**	**108**	⇑P	**P**	**10 54 38.4**	**-0.1**
	comp=Z,62nm,0.8s,mb5.4						
TBKS	**Tabuk**	**28.99**	**273**	P	**P**	**10 54 41.0**	**+2.3**
CD2	**Chengdu**	**29.07**	**81**	P	**P**	**10 54 39.6**	**+0.1**
CD2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.3						
CM31	**Chiang Mai Arr**	**29.13**	**108**	*e*P	**P**	**10 54 40.8**	**+0.6**
	comp=Z,23nm,0.6s,mb5.1						
CMAR	**Chiang Mai Arr**	**29.13**	**108**	P	**P**	**10 54 40.2**	**+0.1**
	comp=Z,19nm,0.7s,mb4.9,baz=294,slow=9.7,SNR=50						
CMAR				ScP		11 01 29.5	
	comp=Z,3.7nm,0.9s,baz=294,slow=6.0,SNR=4.3						
CMAR				LR	LR	11 09 05.1	
	comp=Z,791nm,18.6s,MS4.4,baz=310,slow=42						
CHRT	**Chiangrai**	**29.13**	**105**	⇑P	**P**	**10 54 40.5**	**+0.4**
	comp=Z,316nm,0.5s,mb6.3						
JMQS	**Jabal Moqyreh**	**29.42**	**275**	P	**P**	**10 54 44.4**	**+1.7**
KMI	**Kunming**	**29.57**	**93**	*e*P	**P**	**10 54 45.1**	**+1.1**
KMI				AP	pP	10 54 48.3	+0.8
KMI				PPP	PPP	10 55 54.6	+0.9
KMI				S	**S**	**10 59 39.1**	**+1.7**
KMI				SS	SS	11 01 09.4	-1.3
KMI				AMB	AMB		
	comp=Z,136nm,0.9s,mb5.7						
KMI				LR	LR		
	comp=N,3µm,17.1s,MS5.1						
KMI				LR	LR		
	comp=E,3µm,15.1s,MS5.1						
KMI				LR	LR		
	comp=Z,2µm,17.1s,MS4.8						
KMI	**Kunming**	**29.57**	**93**	*e*P	**P**	**10 54 45.1**	**+1.1**
	comp=Z,136nm,0.9s,mb5.7						
KMI				pP	pP	10 54 48.3	+0.8
KMI				PPP	PPP	10 55 54.6	+0.9
KMI				S	**S**	**10 59 39.1**	**+1.7**
KMI				SS	SS	11 01 09.4	-1.3
KMI				LR	LR		
	comp=Z,2µm,17.1s,MS4.8						
AVNT	**Avonos**	**29.61**	**295**	*i* P	**P**	**10 54 45.0**	**+0.8**
BDT	**Bhumibol Dam**	**29.81**	**110**	P	**P**	**10 54 47.0**	**+0.8**
CTKT	**Corum**	**29.86**	**299**	*i* P	**P**	**10 54 46.8**	**+0.3**
BOYT	**Boyabat**	**29.90**	**300**	*i* P	**P**	**10 54 47.6**	**+0.8**
SOKR	**Solikamsk**	**30.00**	**347**	*c i*P	**P**	**10 54 48.5**	**+1.0**
SOKR				*i* S	**S**	**10 59 36.0**	**-7.8**
SOKR				*i* SS	SS	11 01 17.0	-3.6
SOKR				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,3µm,19.0s,MS4.9						
JMOS	**Jabal al Moall**	**30.02**	**276**	P	**P**	**10 54 49.4**	**+1.4**
BDAS	**Al Bad‘**	**30.19**	**274**	P	**P**	**10 54 51.1**	**+1.6**
HAQS	**Haql**	**30.20**	**276**	P	**P**	**10 54 50.8**	**+1.3**
NANT	**Nan**	**30.41**	**106**	⇑P	**P**	**10 54 50.0**	**-1.5**
	comp=Z,52nm,1.0s,mb5.2						
BRTR	**Keskin Array B**	**30.64**	**297**	P	**P**	**10 54 53.6**	**+0.3**
	comp=Z,19nm,0.7s,mb5.0,baz=112,slow=9.0,SNR=81						
BRTR				LR	LR	11 08 55.4	
	comp=Z,2µm,18.4s,MS4.8,baz=120,slow=40						
BRTR	**Keskin Array B**	**30.64**	**297**	P	**P**	**10 54 53.6**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,19nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,2µm,18.4s						
VOR	**Voronezh**	**30.66**	**322**	*e*P	**P**	**10 54 53.5**	**+0.1**
VOR				*e**SP	sP	10 55 05.0	+6.5
VOR				pmax	pmax		
	comp=E,90nm,1.5s						
VOR				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.5						
VOR				pmax	pmax		
	comp=N,90nm,1.4s						
CSS	**Prodhromos**	**30.78**	**287**	*e*P	**P**	**10 54 55.0**	**+0.4**
	comp=N,36nm,0.8s,mb5.2						
ELDT	**Eldivan**	**30.88**	**298**	*i* P	**P**	**10 54 56.4**	**+1.0**
MOY	**Mondy**	**30.94**	**39**	*e*P	**P**	**10 54 58.4**	**+2.5**
BALT	**Daday**	**31.04**	**300**	*i* P	**P**	**10 54 57.5**	**+0.7**
SIM	**Simferopol’**	**31.19**	**307**	*de*P	**P**	**10 54 59.6**	**+1.5**
SIM				*e*S	**S**	**11 00 01.6**	**-1.1**
SIM				*e*SS	SS	11 01 45.0	-3.3
SIM				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
NST	**Nakhon Sawan**	**31.58**	**112**	P	**P**	**10 55 02.0**	**+0.2**
ZAK	**Zakamensk**	**31.63**	**42**	⇓*i*P	**P**	**10 55 03.8**	**+1.9**
GYA	**Guiyang**	**32.54**	**88**	⇑*i*P	**P**	**10 55 10.8**	**+0.6**
GYA				S	**S**	**11 00 25.0**	**+0.9**
GYA				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.8						
GYA				AMB	AMB		
	comp=Z,180nm,5.1s						
GYA				LR	LR		
	comp=N,1µm,14.1s,MS4.9						
GYA				LR	LR		
	comp=E,1µm,14.1s,MS4.9						
GYA				LR	LR		
	comp=Z,2µm,15.9s,MS4.9						
SONM	**Songino Array**	**32.59**	**48**	P	**P**	**10 55 12.8**	**+2.5**
	comp=Z,80nm,0.8s,mb5.7,baz=253,slow=8.9,SNR=486						
ESKT	**Eskisehir**	**32.77**	**296**	*i* P	**P**	**10 55 12.0**	**0.0**
HENT	**Hendek**	**32.82**	**298**	*i* P	**P**	**10 55 13.5**	**+1.0**
IRK	**Irkutsk**	**33.00**	**40**	*e*P	**P**	**10 55 15.9**	**+2.0**
IRK				*e*		10 56 30.4	
XAN	**Xi’an**	**33.02**	**74**	P	**P**	**10 55 14.5**	**+0.3**
XAN				AP	pP	10 55 19.0	+1.2
XAN				S	**S**	**11 00 29.3**	**-2.1**
XAN				AMB	AMB		
	comp=Z,65nm,1.2s,mb5.4						
XAN				LR	LR		
	comp=N,7µm,20.2s,MS5.4						
XAN				LR	LR		
	comp=E,3µm,18.8s,MS5.4						
XAN				LR	LR		
	comp=Z,2µm,17.9s,MS5.0						
ULN	**Ulaanbaatar**	**33.02**	**48**	PFAKE		10 55 30.0	+16
ULN				LR	LR		
	comp=Z,6µm,20.0s,MS5.3						
KKTK	**Khon Kaen**	**33.39**	**108**	PG	**P**	**10 55 17.5**	**-0.1**
KKTK				SG	pP	10 55 21.0	-0.2
MOS	**Moscow**	**33.62**	**327**	*e*P	**P**	**10 55 19.2**	**0.0**
MOS				*e*		10 56 26.0	
MOS				*e*S	**S**	**11 00 38.4**	**-2.0**
MOS				pmax	pmax		
	comp=Z,500nm,1.7s,mb6.2						
MOS				pmax	pmax		
	comp=Z,380nm,1.5s,mb6.1						
MOS				MLR	MLR		
	comp=E,8µm,17.0s						
MOS				MLR	MLR		
	comp=Z,6µm,17.0s,MS5.4						
OBN	**Obninsk**	**33.78**	**326**	*c i*P	**P**	**10 55 20.8**	**+0.2**
OBN				*i*		10 56 36.6	
OBN				*i* S	**S**	**11 00 44.4**	**+1.5**
OBN				*i* SS	SS	11 02 40.8	-7.7
OBN				pmax	pmax		
	comp=Z,135nm,1.5s,mb5.7						
OBN				MLR	MLR		
	comp=Z,5µm,18.0s,MS5.3						
OBN	**Obninsk**	**33.78**	**326**	⇑*i*P	**P**	**10 55 20.7**	**+0.1**
	comp=Z,100nm,1.0s,mb5.7						
OBN				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
BTO	**Baotou**	**33.80**	**62**	*e*P	**P**	**10 55 23.5**	**+2.5**
BTO				S	**S**	**11 00 50.0**	**+6.6**
BTO				LR	LR		
	comp=N,2µm,9.0s						
BTO				LR	LR		
	comp=E,3µm,13.1s						
ENH	**Enshi**	**34.05**	**81**	⇑*i*P	**P**	**10 55 23.7**	**+0.5**
	comp=E,42nm,0.7s,mb5.5						
ENH				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
ULDT	**Uludag**	**34.12**	**297**	*i* P	**P**	**10 55 24.1**	**+0.4**
DNZL	**Cakiroluk**	**34.15**	**293**	*i* P	**P**	**10 55 23.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**34.99**	**62**	*e*P	**P**	**10 55 33.3**	**+2.1**
HHC				AP	pP	10 55 35.6	+0.9
HHC				XP	sP	10 55 37.8	+1.6
HHC				S	**S**	**11 01 05.3**	**+3.5**
HHC				XS		11 01 14.1	
HHC				AMB	AMB		
	comp=Z,59nm,1.4s,mb5.3						
HHC				LR	LR		
	comp=N,1µm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,984nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=Z,1µm,21.4s,MS4.6						

KIS	**Kishinev**	**35.26**	**309**	*e*P	**P**	**10 55 32.0**	**-1.4**
KIS				*e*		10 56 46.0	
KIS				*e*S	**S**	**11 01 01.0**	**-5.0**
KIS				*e*		11 01 12.0	
KIS				pmax	pmax		
	comp=Z,180nm,1.4s,mb5.8						
KIS				MLR	MLR		
	comp=Z,2µm,18.0s,MS4.8						
KDAG	**Bornova**	**35.54**	**294**	*i* P	**P**	**10 55 35.3**	**-0.7**
TIY	**Taiyuan**	**35.63**	**67**	⇑P	**P**	**10 55 37.0**	**+0.3**
TIY				S	**S**	**11 01 15.0**	**+3.1**
TIY				LR	LR		
	comp=N,5µm,14.0s						
TIY				LR	LR		
	comp=Z,2µm,16.0s,MS5.0						
SART	**Tekirdag**	**35.63**	**298**	*i* P	**P**	**10 55 36.1**	**-0.5**
AKASG	**Malin Array Be**	**35.96**	**315**	P	**P**	**10 55 39.1**	**-0.2**
	comp=Z,54nm,0.8s,mb5.5,baz=99,slow=7.0,SNR=138						
AKASG				LR	LR	11 13 32.5	
	comp=Z,2µm,18.7s,MS5.0,baz=95,slow=42						
AKASG	**Malin Array Be**	**35.96**	**315**	P	**P**	**10 55 39.1**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,54nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,2µm,18.7s						
ALN	**Alexandroupoli**	**36.50**	**298**	*e*P	**P**	**10 55 44.4**	**+0.4**
DIM	**Dimitrovgrad**	**36.93**	**300**	*i* P	**P**	**10 56 00.7**	**+13**
RZN	**Rozhen**	**37.53**	**299**	*i* P	**P**	**10 55 53.5**	**+0.9**
PGB	**Panagyurishte**	**37.97**	**301**	*i* P	**P**	**10 55 58.0**	**+1.7**
QIZ	**Qiongzhong**	**37.98**	**99**	P	**P**	**10 55 56.6**	**0.0**
QIZ				PP	PP	10 57 27.8	+1.3
QIZ				S	**S**	**11 01 49.1**	**+1.1**
QIZ				XS		11 02 03.3	
QIZ				AMB	AMB		
	comp=Z,36nm,2.1s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,128nm,3.6s						
QIZ				LR	LR		
	comp=N,2µm,18.0s,MS5.0						
QIZ				LR	LR		
	comp=E,957nm,14.1s,MS5.0						
QIZ				LR	LR		
	comp=Z,1µm,16.8s,MS4.8						
WHN	**Wuhan**	**38.10**	**79**	⇑P	**P**	**10 55 58.5**	**+0.9**
WHN				AMB	AMB		
	comp=Z,64nm,1.0s,mb5.3						
WHN				LR	LR		
	comp=N,3µm,17.4s,MS5.4						
WHN				LR	LR		
	comp=E,5µm,20.8s,MS5.4						
WHN				LR	LR		
	comp=Z,5µm,18.1s,MS5.3						
MMB	**Musomiste**	**38.27**	**299**	*i* P	**P**	**10 55 59.5**	**+0.7**
PAIG	**Paliouri**	**38.30**	**297**	*e*P	**P**	**10 55 59.8**	**+0.6**
GVD	**Gavdhos**	**38.35**	**288**	*e*P	**P**	**10 55 59.0**	**-0.6**
	comp=Z,60nm,1.0s,mb5.3						
SRS	**Serrai**	**38.36**	**298**	*e*P	**P**	**10 56 00.0**	**+0.4**
BJT	**Baijiatuau**	**38.49**	**63**	⇑*i*P	**P**	**10 56 03.0**	**+2.3**
	comp=Z,150nm,1.0s,mb5.7						
BJT				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
BJI	**Beijing**	**38.49**	**63**	P	**P**	**10 56 03.1**	**+2.4**
BJI				S	**S**	**11 02 00.3**	**+4.8**
BJI				AMB	AMB		
	comp=Z,112nm,0.9s,mb5.6						
BJI				LR	LR		
	comp=N,2µm,12.1s						
BJI				LR	LR		
	comp=E,2µm,17.2s						
BJI				LR	LR		
	comp=Z,2µm,26.8s						
BJI	**Beijing**	**38.49**	**63**	P	**P**	**10 56 03.1**	**+2.4**
	comp=Z,112nm,0.9s,mb5.6						
BJI				S	**S**	**11 02 00.3**	**+4.8**
BJI				LR	LR		
	comp=Z,2µm,26.8s,MS4.7						
VTS	**Vitosha**	**38.68**	**301**	*i* P	**P**	**10 56 03.5**	**+1.2**
XOR	**Xorichti**	**38.70**	**296**	*e*P	**P**	**10 56 02.1**	**-0.3**
KKB	**Krupnik**	**38.75**	**300**	*i* P	**P**	**10 56 03.5**	**+0.6**
KNT	**Kendrikon**	**38.89**	**299**	*e*P	**P**	**10 56 04.2**	**+0.2**
LVV	**L’vov**	**38.96**	**312**	⇑*i*P	**P**	**10 56 04.7**	**+0.2**
LVV				*e*S	**S**	**11 02 04.8**	**+2.3**
PUL	**Pulkovo**	**39.08**	**329**	*e*P	**P**	**10 56 05.6**	**+0.2**
PUL				*i*		10 57 34.3	
PUL				*i* PPP	PPP	10 57 59.3	-3.0
PUL				*i*		10 58 16.6	
PUL				pmax	pmax		
	comp=Z,121nm,0.6s,mb5.8						
PUL				pmax	pmax		
	comp=N,418nm,0.8s						
PUL				pmax	pmax		
	comp=E,429nm,0.9s						
PUL				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.1						
PUL				MLR	MLR		
	comp=N,2µm,21.0s						
PUL				MLR	MLR		
	comp=E,4µm,16.0s						
GRG	**Griva**	**39.26**	**298**	*e*P	**P**	**10 56 07.7**	**+0.5**
IPM	**Ipoh**	**39.34**	**125**	⇓*e*P	**P**	**10 56 09.0**	**+0.9**
	comp=E,47nm,0.7s,mb5.3						
GZH	**Guangzhou**	**39.37**	**91**	P	**P**	**10 56 08.8**	**+0.6**
GZH				S	**S**	**11 02 09.3**	**+0.3**
GZH				LR	LR		
	comp=N,2µm,13.7s						
GZH				LR	LR		
	comp=E,1µm,19.3s						
GZH				LR	LR		
	comp=Z,2µm,18.9s						
BOLS	**Boljevac**	**39.64**	**303**	⇑*i*P	**P**	**10 56 10.7**	**+0.4**
BARS	**Barje**	**39.70**	**301**	⇑*i*P	**P**	**10 56 11.0**	**+0.2**
KWP	**Kalwaria**	**39.77**	**312**	*e*P	**P**	**10 56 11.9**	**+0.6**
KWP				*e**PP	pP	10 56 17.2	+2.4
SKO	**Skopje**	**39.98**	**300**	*i* P	**P**	**10 56 13.2**	**+0.1**
FNA	**Florina**	**40.05**	**298**	*e*P	**P**	**10 56 13.8**	**+0.2**
MEV	**Metsovon**	**40.20**	**296**	*e*P	**P**	**10 56 15.2**	**+0.3**
BOD	**Bodaibo**	**40.42**	**35**	*e*P	**P**	**10 56 17.0**	**+0.5**
SUW	**Suwalki**	**40.47**	**319**	*e*P	**P**	**10 56 16.6**	**-0.3**
SUW				MLR	MLR		
	comp=Z,3µm,18.8s,MS5.2						
IGT	**Igoumenitsa**	**40.90**	**296**	*e*P	**P**	**10 56 19.8**	**-0.9**
NVSS	**Nova Varos 2**	**41.27**	**302**	⇓*i*P	**P**	**10 56 19.1**	**-4.5**
WAR	**Warsaw**	**41.31**	**316**	*e*P	**P**	**10 56 24.2**	**+0.3**
WAR				MLR	MLR		
	comp=Z,2µm,24.5s,MS4.9						
PSZ	**Piszkesteto**	**41.38**	**309**	⇑*i*P	**P**	**10 56 25.7**	**+1.2**
HIA	**Hailar**	**41.55**	**49**	⇑*i*P	**P**	**10 56 28.0**	**+2.2**
	comp=Z,132nm,1.1s,mb5.5						
HIA				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
NJ2	**Nanjing**	**41.56**	**75**	*e*P	**P**	**10 56 28.0**	**+1.8**
NJ2				PP	PP	10 58 08.3	+2.8
NJ2				S	**S**	**11 02 38.0**	**-3.7**
NJ2				SS	SS	11 05 39.0	-2.4
NJ2				LR	LR		
	comp=N,1µm,15.0s						
NJ2				LR	LR		
	comp=E,2µm,20.2s						
NJ2				LR	LR		
	comp=Z,2µm,18.0s,MS5.0						
FINES	**FINESS Array B**	**41.71**	**330**	P	**P**	**10 56 27.5**	**+0.5**
	comp=Z,21nm,0.5s,mb5.0,baz=121,slow=11,SNR=97						
FINES				PP	PP	10 58 03.7	-3.0
	comp=Z,10nm,0.7s,baz=112,slow=10,SNR=4.0						
FINES				LR	LR	11 15 47.6	
	comp=Z,3µm,18.3s,MS5.2,baz=292,slow=39						
FINES	**FINESS Array B**	**41.71**	**330**	P	**P**	**10 56 27.5**	**+0.5**
FINES						10 58 03.7	
FINES				pmax	pmax		
	comp=Z,21nm,0.5s						
FINES				pmax	pmax		
	comp=Z,11nm,0.7s						
FINES				MLR	MLR		
	comp=Z,3µm,18.3s						
FINES	**FINESS Array B**	**41.71**	**330**	P	**P**	**10 56 27.5**	**+0.5**
FINES				PP	PP	10 58 03.7	-3.0
FINES				LR	LR	11 15 47.6	
OJC	**Ojcow**	**41.72**	**312**	*e*P	**P**	**10 56 27.7**	**+0.5**
OJC				*e*S	**S**	**11 02 40.4**	**-3.3**
OJC				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.9						
KAF	**Kangasniemi**	**41.92**	**331**	*e*p	**P**	**10 56 28.0**	**-0.7**
	comp=Z,29nm,0.5s,mb5.2						
KAF	**Kangasniemi**	**41.92**	**331**	*e*P	**P**	**10 56 28.0**	**-0.7**
KAF				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.2						
VYHS	**Vyhne**	**42.14**	**310**	*i* P	**P**	**10 56 31.7**	**+1.0**
VYHS				*e*		10 56 42.2	
LVZ	**Lovozero**	**42.37**	**341**	*ce*P	**P**	**10 56 32.5**	**+0.2**
LVZ				*i*		10 58 12.0	
LVZ				*i*		10 58 24.6	
LVZ				*i* PPP	PPP	10 58 43.0	-3.0
LVZ				*e*S	**S**	**11 02 52.9**	**-0.2**
LVZ				*i* SS	SS	11 05 53.0	-3.1
LVZ				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.3						
LVZ				pmax	pmax		
	comp=N,14nm,0.8s						
LVZ				pmax	pmax		
	comp=E,27nm,1.1s						
LVZ				smax			
	comp=Z,36nm,9.8s						
LVZ				smax			
	comp=N,109nm,11.9s						
LVZ				smax			
	comp=E,125nm,11.6s						
LVZ				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.2						
LVZ				MLR	MLR		
	comp=N,1µm,13.0s,MS5.2						
LVZ				MLR	MLR		
	comp=E,2µm,14.0s,MS5.2						
SRO	**Srobarova**	**42.43**	**309**	*e*P	**P**	**10 56 34.5**	**+1.4**
RHK1	**Bakonya**	**42.49**	**306**	⇑*e*P	**P**	**10 56 34.1**	**+0.5**
APA	**Apatity**	**42.50**	**340**	⇑*i*P	**P**	**10 56 33.5**	**+0.1**
APA				*i*	pP	10 56 38.5	+1.5
APA				*i*		10 56 46.2	
APA				*i*		10 58 17.6	
APA				*i* PPP	PPP	10 58 32.2	-16
APA				*e*S	**S**	**11 02 50.0**	**-5.0**
APA				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.5						
APA				MLR	MLR		
	comp=Z,4µm,11.0s,MS5.6						
OKC	**Ostrava-Krasne**	**42.73**	**312**	*e*P	**P**	**10 56 36.4**	**+0.9**
OKC				LM		11 18 20.0	
	comp=Z,0.9nm,15.1s						
KGM	**Kluang**	**42.76**	**126**	⇓*e*P	**P**	**10 56 37.3**	**+1.0**
MORC	**Moravsky Berou**	**43.11**	**311**	⇑*i*P	**P**	**10 56 39.4**	**+0.8**
	comp=Z,42nm,0.7s,mb5.3						
ZST	**Bratislava**	**43.27**	**309**	*i* P	**P**	**10 56 40.9**	**+1.0**
ZST				*e*		10 56 51.9	
TIP	**Timpagrande**	**43.69**	**296**	*e*P	**P**	**10 56 43.1**	**-0.4**
SSE	**Sheshan**	**43.72**	**76**	P	**P**	**10 56 45.3**	**+1.5**
SSE				AP	pP	10 56 48.4	+1.0
SSE				S	**S**	**11 03 13.1**	**-0.1**
SSE				XS		11 03 17.8	
SSE				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.3						
SSE				AMB	AMB		
	comp=Z,239nm,3.9s						
SSE				LR	LR		
	comp=N,5µm,24.4s,MS5.4						
SSE				LR	LR		
	comp=E,1µm,24.3s,MS5.4						
SSE				LR	LR		
	comp=Z,3µm,15.0s						
SSE	**Sheshan**	**43.72**	**76**	P	**P**	**10 56 45.3**	**+1.5**
	comp=Z,80nm,1.4s,mb5.3						
SSE				pP	pP	10 56 48.4	+1.0
SSE				S	**S**	**11 03 13.1**	**-0.1**
SSE				sS		11 03 17.7	
SSE				SS	SS	11 06 28.0	+6.7
SSE				LR	LR		
	comp=Z,3µm,15.0s,MS5.3						
GKP	**Gorka Klasztor**	**43.76**	**316**	*e*P	**P**	**10 56 44.0**	**+0.2**
GKP				MLR	MLR		
	comp=Z,3µm,24.5s,MS5.1						
DPC	**Dobruska-Polom**	**43.95**	**312**	*e*P	**P**	**10 56 46.6**	**+1.2**
DPC				LM		11 18 40.0	
	comp=Z,1.1nm,19.9s						
TDS	**Terranova Siba**	**43.97**	**297**	⇓*i*P	**P**	**10 56 46.5**	**+0.8**
GRI	**Girifalco**	**43.99**	**295**	⇓*i*P	**P**	**10 56 46.3**	**+0.4**
KSP	**Ksiaz**	**44.02**	**313**	*e*P	**P**	**10 56 46.3**	**+0.4**
KSP				*e*S	**S**	**11 03 15.0**	**-2.3**
KSP				*e*SS	SS	11 06 38.0	+12
KSP				MLR	MLR		
	comp=Z,3µm,19.4s,MS5.3						
SNY	**Shenyang**	**44.02**	**60**	⇑P	**P**	**10 56 47.3**	**+1.2**
SNY				AP	pP	10 56 53.8	+4.1
SNY				XP	sP	10 56 57.6	+6.4
SNY				S	**S**	**11 03 21.8**	**+4.3**
SNY				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.6						
SNY				LR	LR		
	comp=N,1µm,15.6s,MS5.2						
SNY				LR	LR		
	comp=E,2µm,17.2s,MS5.2						
SNY				LR	LR		
	comp=Z,2µm,16.5s,MS5.2						
FGMS	**Monte Sant’Ang**	**44.09**	**300**	⇓*i*P	**P**	**10 56 46.8**	**+0.2**
ARSA	**Arzberg**	**44.29**	**308**	⇑*i*P	**P**	**10 56 48.9**	**+0.7**
	comp=Z,172nm,2.8s,mb5.3						
CRES	**Cresnjevec ost**	**44.31**	**306**	⇑*i*P	**P**	**10 56 48.9**	**+0.5**
CRES				*e*		10 59 05.5	
RGNG	**Rignano Grg**	**44.36**	**300**	⇑*i*P	**P**	**10 56 48.8**	**-0.1**
KMBO	**Kilima Mbogo**	**44.40**	**230**	P	**P**	**10 56 51.9**	**+2.4**
	comp=Z,12nm,0.8s,mb4.7,baz=38,slow=11,SNR=29						
KMBO				LR	LR	11 17 30.0	
	comp=Z,823nm,18.6s,MS4.7,baz=265,slow=39						
KMBO	**Kilima Mbogo**	**44.40**	**230**	*e*P	**P**	**10 56 52.1**	**+2.5**
	comp=Z,15nm,0.8s,mb4.8						
KMBO				LR	LR		
	comp=Z,899nm,20.0s,MS4.7						
SLCN	**Sala Consilina**	**44.43**	**298**	⇑*i*P	**P**	**10 56 52.0**	**+2.5**
MRLC	**Muro Lucano**	**44.51**	**298**	*e*P	**P**	**10 56 50.6**	**+0.5**
MGR	**Morigerati**	**44.52**	**297**	⇑*i*P	**P**	**10 56 50.0**	**-0.1**
FG5	**Orsara di Pugl**	**44.63**	**299**	⇑*i*P	**P**	**10 56 52.2**	**+1.1**
SGO	**Sicignano**	**44.66**	**298**	⇑*i*P	**P**	**10 56 51.8**	**+0.4**
CSSN	**Cassano Irpino**	**44.85**	**299**	⇑*i*P	**P**	**10 56 56.9**	**+4.0**
OBKA	**Obir**	**44.95**	**307**	⇑*i*P	**P**	**10 56 54.1**	**+0.6**
	comp=Z,192nm,3.0s						
LJU	**Ljubljana**	**44.96**	**306**	⇑*e*P	**P**	**10 56 54.1**	**+0.5**
PRU	**Pruhonice**	**45.06**	**311**	*e*P	**P**	**10 56 54.8**	**+0.4**
	comp=Z,20nm,0.8s,mb5.0						
PRU				LM		11 19 30.0	
PRU	**Pruhonice**	**45.06**	**311**	*e*P	**P**	**10 56 54.8**	**+0.4**
PRU				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
PVCC	**Panska Ves**	**45.08**	**312**	*e*P	**P**	**10 56 55.6**	**+1.1**
PVCC				LM		11 18 40.0	
	comp=Z,1.2nm,18.8s						
MOA	**Molln**	**45.15**	**308**	⇑*i*P	**P**	**10 56 55.5**	**+0.4**
	comp=Z,132nm,2.2s,mb5.4						
CN2	**Changchun**	**45.28**	**57**	⇑P	**P**	**10 56 57.5**	**+1.3**
CN2				*e*AP	pP	10 57 07.0	+7.2
CN2				PP	PP	10 58 41.5	-1.5
CN2				S	**S**	**11 03 33.3**	**-2.4**
CN2				*e*SS	SS	11 06 47.5	-2.7
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
CN2				LR	LR		
	comp=N,2µm,18.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,18.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
JAVS	**Javornik**	**45.29**	**306**	⇑*e*P	**P**	**10 56 56.3**	**+0.1**
CII	**Carovilli**	**45.32**	**300**	*e*P	**P**	**10 56 57.3**	**+0.8**
	comp=Z,26nm,0.8s,mb5.1						
VOY	**Vojsko**	**45.40**	**306**	*e*P	**P**	**10 56 57.2**	**+0.1**
VOY				*e*	pP	10 57 00.4	-0.3
BRG	**Berggiesshubel**	**45.50**	**313**	⇑*i*P	**P**	**10 56 58.8**	**+0.9**
BRG				*e*	pP	10 57 01.7	+0.2
BRG				*i* S	**S**	**11 03 42.0**	**+3.3**
BRG				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
BRG				MLR	MLR		
	comp=Z,1µm,13.3s,MS5.1						
BRG				MLR	MLR		
	comp=N,590nm,13.2s,MS5.0						
BRG				MLR	MLR		
	comp=E,950nm,13.2s,MS5.0						
BRG	**Berggiesshubel**	**45.50**	**313**	⇑*i*P	**P**	**10 56 58.8**	**+0.9**
	comp=E,25nm,0.8s,mb5.2						
BRG				*e*	pP	10 57 01.7	+0.2
BRG				*i*		10 57 28.6	
BRG				*i* S	**S**	**11 03 42.0**	**+3.3**
BRG				LR	LR		
	comp=Z,1µm,13.3s,MS5.1						
GEC2	**GERESS Array S**	**45.56**	**310**	*e*P	**P**	**10 56 58.6**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
GEC2	**GERESS Array S**	**45.56**	**310**	*e*P	**P**	**10 56 58.6**	**+0.3**
	comp=Z,26nm,1.0s,mb5.1						
GERES	**GERESS Array B**	**45.56**	**310**	P	**P**	**10 56 58.6**	**+0.3**
	comp=Z,13nm,0.7s,mb5.0,baz=90,slow=6.7,SNR=77						
GERES	**GERESS Array B**	**45.56**	**310**	P	**P**	**10 56 58.6**	**+0.3**
GERES				pmax	pmax		
	comp=Z,13nm,0.7s						
INTR	**Introdacqua**	**45.59**	**300**	⇓*i*P	**P**	**10 57 03.1**	**+4.4**
KHC	**Kasperske Hory**	**45.65**	**310**	*e*P	**P**	**10 56 59.0**	**0.0**
KHC				LM		11 19 20.0	
	comp=Z,1.0nm,16.1s						
ROBS	**Robic**	**45.67**	**306**	⇑*i*P	**P**	**10 56 59.3**	**+0.1**
KEV	**Kevo**	**45.70**	**341**	*e*p	**P**	**10 56 58.3**	**-0.9**
	comp=Z,5.5nm,0.4s,mb4.8						
KEV	**Kevo**	**45.70**	**341**	*e*P	**P**	**10 56 58.3**	**-0.9**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
KBA	**Koelnbreinsper**	**45.77**	**307**	⇑*i*P	**P**	**10 57 00.4**	**+0.4**
	comp=Z,112nm,2.1s,mb5.4						
PTCC	**Patocco-Chiusa**	**45.77**	**306**	⇑*i*P	**P**	**10 57 00.1**	**0.0**
CLNS	**Chul’man**	**45.80**	**39**	*c* *i*P	**P**	**10 57 02.2**	**+2.1**
CLNS				*e**PP	pP	10 57 12.8	+9.1
CLNS				*e*		10 58 55.0	
CLNS				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,26nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,16nm,1.4s						
CLNS				MLR	MLR		
	comp=N,900nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,400nm,15.0s,MS4.9						
CLNS				MLR	MLR		
	comp=Z,3µm,15.0s,MS5.4						
GMNA	**Gemona**	**45.85**	**306**	⇓*i*P	**P**	**10 57 03.0**	**+2.3**
AQU	**L’Aquila**	**45.93**	**301**	*e*P	**P**	**10 57 01.8**	**+0.4**
	comp=Z,73nm,1.0s,mb5.6						
PTQR	**Pietraquaria**	**45.96**	**300**	⇑*i*P	**P**	**10 57 02.5**	**+0.8**
ARCES	**ARCESS Array B**	**46.01**	**340**	P	**P**	**10 57 02.5**	**+0.9**
	comp=Z,39nm,0.8s,mb5.4,baz=122,slow=6.8,SNR=105						
ARCES				LR	LR	11 18 05.2	
	comp=Z,2µm,18.1s,MS5.1,baz=360,slow=38						
ARCES	**ARCESS Array B**	**46.01**	**340**	P	**P**	**10 57 02.6**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,39nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,2µm,18.1s						
ARE0	**ARCESS Array S**	**46.01**	**340**	*e*P	**P**	**10 57 01.6**	**0.0**
CING	**Cingoli**	**46.01**	**302**	⇑*i*P	**P**	**10 57 02.2**	**+0.2**
WET	**Wettzell**	**46.11**	**310**	*e*P	**P**	**10 57 02.6**	**-0.1**
WET				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
WET	**Wettzell**	**46.11**	**310**	*e*P	**P**	**10 57 02.6**	**-0.1**
	comp=Z,7.0nm,1.2s,mb4.5						
CLL	**Collm**	**46.12**	**313**	⇑P	**P**	**10 57 03.1**	**+0.3**
	comp=Z,logA/T=1.4,mb5.1						
CLL				*e*PCP	PcP	10 58 39.0	-0.4
CLL				*e*PP	PP	10 58 54.0	+2.7
CLL				*e*S	S	11 04 44.0	+56
CLL				*e*SS	SS	11 07 19.0	+14
CLL	**Collm**	**46.12**	**313**	⇑*i*P	**P**	**10 57 03.1**	**+0.3**
CLL				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
CLL				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.1						
CLL	**Collm**	**46.12**	**313**	⇑*i*P	**P**	**10 57 03.1**	**+0.3**
	comp=Z,30nm,1.1s,mb5.1						
CLL				LR	LR		
	comp=Z,2µm,18.0s,MS5.1						
FVI	**Forni Avoltri**	**46.16**	**307**	⇑*i*P	**P**	**10 57 03.2**	**+0.1**
ARV	**Arcevia**	**46.19**	**302**	⇑*i*P	**P**	**10 57 03.7**	**+0.4**
CERT	**Cerreto**	**46.28**	**300**	*e*P	**P**	**10 57 05.3**	**+1.2**
FSSB	**Fossombrone**	**46.29**	**303**	⇑*i*P	**P**	**10 57 04.6**	**+0.4**
KTK1	**Kautokeino**	**46.41**	**339**	*e*P	**P**	**10 57 05.2**	**+0.4**
KTK1				AMb	AMB	10 57 12.2	
	comp=Z,68nm,0.9s,mb5.6						
KTK1	**Kautokeino**	**46.41**	**339**	*e*P	**P**	**10 57 05.2**	**+0.4**
	comp=Z,68nm,0.9s,mb5.6						
NKC	**Novy Kostel**	**46.42**	**312**	*e*P	**P**	**10 57 06.0**	**+0.9**
NKC				LM		11 20 00.0	
	comp=Z,1.2nm,18.5s						
ASS	**Assisi**	**46.43**	**302**	*e*P	**P**	**10 57 05.8**	**+0.5**
INCN	**Inchon**	**46.87**	**66**	*e*P	**P**	**10 57 10.1**	**+1.2**
	comp=Z,69nm,1.1s,mb5.5						
INCN				LR	LR		
	comp=Z,972nm,19.0s,MS4.8						
CRE	**Caprese Michel**	**46.90**	**303**	⇓*i*P	**P**	**10 57 10.0**	**+1.1**
WTTA	**Wattenberg**	**46.94**	**308**	⇑*i*P	**P**	**10 57 08.8**	**-0.4**
	comp=Z,81nm,1.6s,mb5.4						
SFI	**Santa Sofia**	**46.95**	**303**	⇑*i*P	**P**	**10 57 10.4**	**+1.1**
CTI	**Castel Tesino**	**46.96**	**306**	⇑*i*P	**P**	**10 57 09.4**	**0.0**
MOX	**Moxa**	**46.97**	**312**	*i* P	**P**	**10 57 10.2**	**+0.8**
	comp=Z,logA/T=1.5,mb5.2						
MOX				S	**S**	**11 04 05.0**	**+5.3**
MOX				SS	SS	11 07 52.0	+33
MOX				L		11 20 20.0	
MOX	**Moxa**	**46.97**	**312**	*e*P	**P**	**10 57 10.2**	**+0.8**
MOX				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
MOX				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.8						
MOX	**Moxa**	**46.97**	**312**	*e*P	**P**	**10 57 10.2**	**+0.8**
	comp=Z,49nm,1.4s,mb5.2						
MOX				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
WATA	**Walderalm**	**46.98**	**308**	⇑*i*P	**P**	**10 57 08.8**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0						
PGD	**Poggio Sodo**	**47.04**	**303**	⇑*i*P	**P**	**10 57 11.4**	**+1.2**
GRA1	**Grafenberg Arr**	**47.20**	**311**	*e*P	**P**	**10 57 12.1**	**+0.8**
	comp=Z,74nm,0.9s,mb5.6						
GRA1				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
GRF	**Grafenberg Arr**	**47.20**	**311**	*e*P	**P**	**10 57 12.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.6						
GRF				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.0						
SQTA	**Sankt Quirin**	**47.23**	**308**	⇓*i*P	**P**	**10 57 10.9**	**-0.7**
	comp=Z,32nm,1.3s,mb5.1						
SEI	**Scarperia**	**47.29**	**303**	*e*P	**P**	**10 57 13.3**	**+1.2**
MOTA	**Moosalm**	**47.30**	**308**	⇑*i*P	**P**	**10 57 11.2**	**-0.9**
	comp=Z,25nm,1.1s,mb5.1						
CSNT	**Castellina Chi**	**47.38**	**302**	⇓*i*P	**P**	**10 57 12.5**	**-0.4**
ZCCA	**Zocca**	**47.54**	**304**	⇓*i*P	**P**	**10 57 17.9**	**+3.9**
CLZ	**Clausthal**	**47.79**	**314**	*e*P	**P**	**10 57 16.5**	**+0.6**
	comp=Z,74nm,1.2s,mb5.6						
GSCL	**Gusciola**	**47.82**	**304**	*e*P	**P**	**10 57 18.3**	**+2.0**
BRMO	**Bormio**	**47.83**	**307**	⇑*i*P	**P**	**10 57 15.9**	**-0.4**
BDI	**Bagni Di Lucca**	**47.84**	**303**	⇓*i*P	**P**	**10 57 15.9**	**-0.5**
KS15	**Wonju Array Si**	**47.85**	**66**	⇑*e*P	**P**	**10 57 17.3**	**+0.7**
FUORN	**Ofenpass**	**47.90**	**307**	⇑*i*P	**P**	**10 57 16.6**	**-0.2**
	comp=Z,38nm,0.9s,mb5.4						
PII	**Pisa**	**47.92**	**303**	⇓*i*P	**P**	**10 57 16.2**	**-0.8**
MAIM		**47.92**	**303**	P	**P**	**10 57 16.3**	**-0.8**
BSEG	**Bad Segeberg**	**47.93**	**317**	*e*P	**P**	**10 57 17.6**	**+0.6**
BSEG				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.6						
ERBM	**Eremo**	**47.94**	**304**	⇑*i*P	**P**	**10 57 18.1**	**+0.9**
TRO	**Tromso**	**48.06**	**339**	*e*P	**P**	**10 57 17.1**	**-0.7**
TRO				*e*S	**S**	**11 04 15.4**	**+0.6**
TRO				AMS	AMS	11 19 45.1	
	comp=Z,798nm,18.3s,MS4.7						
VALM		**48.06**	**304**	P	**P**	**10 57 18.3**	**+0.2**
BERNI	**Berninapass**	**48.08**	**307**	⇑*i*P	**P**	**10 57 18.1**	**-0.1**
	comp=Z,109nm,0.9s,mb5.9						
DAVA	**Damuels**	**48.13**	**308**	⇑*i*P	**P**	**10 57 18.1**	**-0.5**
	comp=Z,79nm,1.4s,mb5.5						
VINC	**Vinca**	**48.15**	**303**	P	**P**	**10 57 17.6**	**-1.2**
DAVOX	**Davos**	**48.15**	**307**	P	**P**	**10 57 18.3**	**-0.6**
	comp=Z,25nm,0.8s,mb5.3,baz=114,slow=7.9,SNR=23						
DAVOX	**Davos**	**48.15**	**307**	⇑*i*P	**P**	**10 57 18.3**	**-0.5**
	comp=Z,38nm,0.9s,mb5.4						
GRAM		**48.18**	**304**	P	**P**	**10 57 19.3**	**+0.3**
BACM		**48.19**	**304**	P	**P**	**10 57 19.3**	**+0.2**
MDJ	**Mudanjiang**	**48.20**	**56**	P	**P**	**10 57 18.8**	**-0.4**

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MDJ                                AP     pP      10 57 21.8  -1.1
MDJ                                PP     PP      10 59 10.8  -0.4
MDJ                                SCP            11 02 42.6
MDJ                                S      S       11 04 12.8  -4.4
MDJ                                SCS    ScS     11 07 08.1  -1.4
MDJ                                AMB    AMB
      comp=Z,61nm,1.5s,mb5.4
MDJ                                AMB    AMB
      comp=Z,163nm,5.9s
MDJ                                LR     LR
      comp=N,2µm,19.0s,MS5.1
MDJ                                LR     LR
      comp=E,1µm,20.1s,MS5.1
MDJ                                LR     LR
      comp=Z,2µm,16.9s,MS5.2
MDJ   Mudanjiang        48.20  56⇑iP     P       10 57 20.2  +0.9
      comp=Z,172nm,1.4s,mb5.9
MDJ                                LR     LR
      comp=Z,2µm,19.0s,MS5.2
MOR8  Moi Rana          48.30 333 eP     P       10 57 18.9  -0.7
MOR8                              epP    pP      10 57 22.1  -1.3
MOR8                               AMb    AMB     10 57 31.5
      comp=Z,56nm,1.0s,mb5.5
MOR8  Moi Rana          48.30 333 eP     P       10 57 18.9  -0.7
      comp=Z,56nm,1.0s,mb5.5
CODM                    48.34 304  P      P       10 57 20.1  -0.2
NB2   NORSAR Subarra    48.37 326  P      P       10 57 19.5  -0.8
      comp=Z,18nm,0.6s,mb5.3,baz=102,slow=7.9
NOA   NORSAR Array B    48.37 326  P      P       10 57 19.5  -0.8
      comp=Z,18nm,0.6s,mb5.2,baz=104,slow=7.8,SNR=64
NOA                                LR     LR      11 21 20.1
      comp=Z,3µm,18.4s,MS5.3,baz=110,slow=41
NOA   NORSAR Array B    48.37 326  P      P       10 57 19.5  -0.8
NOA                                pmax   pmax
      comp=Z,18nm,0.6s
NOA                                MLR    MLR
      comp=Z,3µm,18.4s
KAMOR Kamor             48.40 308⇑iP     P       10 57 20.2  -0.5
      comp=Z,75nm,0.9s,mb5.7
VDL   Val di Lei        48.45 307⇑iP     P       10 57 20.8  -0.3
      comp=Z,10µm,0.9s
PLONS Plons             48.48 307⇑iP     P       10 57 20.5  -0.8
      comp=Z,59nm,0.9s,mb5.6
NAO01 NORSAR Array S    48.49 326 eP     P       10 57 20.3  -0.9
NAO01                              LR     LR
      comp=Z,4µm,19.0s,MS5.4
STU   Stuttgart         48.54 310 eP     P       10 57 21.6  -0.2
      comp=Z,37nm,0.8s,mb5.5
MBAR  Mbarara           48.54 237 eP     P       10 57 22.7  +0.5
      comp=Z,4.3nm,0.9s,mb4.5
MBAR                               LR     LR
      comp=Z,313nm,20.0s,MS4.3
BOB   Bobbio (Coli)     48.59 304⇓iP     P       10 57 22.8  +0.5
LLS   Linth-Limmern     48.75 307⇑iP     P       10 57 22.7  -0.7
      comp=Z,10µm,0.9s
WILA  Wila              48.78 308⇑iP     P       10 57 23.0  -0.7
      comp=Z,46nm,0.9s,mb5.5
MUGIO Muggio            48.79 306⇑iP     P       10 57 22.6  -1.1
      comp=Z,59nm,0.9s,mb5.6
NSS   Namsos            48.82 331 eP     P       10 57 21.9  -1.8
NSS                                AMb    AMB     10 57 34.1
      comp=Z,40nm,1.2s,mb5.3
NSS                                AMS    AMS     11 20 19.2
      comp=Z,3µm,22.3s,MS5.2
NSS   Namsos            48.82 331 eP     P       10 57 21.9  -1.8
      comp=Z,40nm,1.2s,mb5.3
SPAK  Spaichingen       48.83 309⇑eP     P       10 57 23.1  -0.9
GENL  Genova Univers    48.97 304  P      P       10 57 24.9  -0.2
VAI   Varese            48.98 306⇑iP     P       10 57 24.4  -0.8
MUO   Muotathal         48.99 307⇑iP     P       10 57 24.9  -0.4
      comp=Z,79nm,0.9s,mb5.7
SLE   Schleitheim       49.05 308⇑iP     P       10 57 24.7  -1.0
      comp=Z,34nm,0.9s,mb5.3
BFO   Black Forest      49.13 309 eP     P       10 57 25.6  -0.7
BFO                                pmax   pmax
      comp=Z,33nm,1.1s,mb5.3
BFO   Black Forest      49.13 309 eP     P       10 57 25.6  -0.7
      comp=Z,33nm,1.1s,mb5.3
BNALP Bannalp           49.15 307⇑iP     P       10 57 25.9  -0.6
      comp=Z,12µm,0.9s
PGF   Pioggiola         49.16 301 eP     P       10 57 25.9  -0.7
      comp=Z,128nm,1.2s,mb5.5
YAK   Yakutsk           49.17  33c iP    P       10 57 26.5  +0.1
YAK                                pmax   pmax
      comp=Z,83nm,0.7s,mb5.9
YAK                                MLR    MLR
      comp=Z,2µm,16.0s,MS5.2
YAK   Yakutsk           49.17  33 eP     P       10 57 26.1  -0.3
      comp=Z,121nm,0.7s,mb6.0
YAK                                LR     LR
      comp=Z,1µm,20.0s,MS4.8
LOF   Lofoten           49.27 336 eP     P       10 57 28.4  +1.3
LOF                               epP    pP      10 57 31.4  +0.5
LOF                                AMb    AMB     10 57 32.9
      comp=Z,57nm,1.8s,mb5.3
LOF   Lofoten           49.27 336 eP     P       10 57 28.4  +1.3
      comp=Z,57nm,1.8s,mb5.3
SULZ  Sulz-Cheisache    49.31 308⇑iP     P       10 57 26.8  -1.0
      comp=Z,13µm,0.9s
HASLI Hasliberg         49.34 307⇑iP     P       10 57 27.3  -0.7
      comp=Z,67nm,0.9s,mb5.7
KLR   Kul'dur           49.40  50⇓iP     P       10 57 29.0  +0.6
KLR                               e               10 59 25.5
KLR                               eS     S       11 04 31.5  -2.4
KLR                                pmax   pmax
      comp=N,42nm,1.6s
KLR                                pmax   pmax
      comp=Z,80nm,1.6s,mb5.5
KLR                                MLR    MLR
      comp=Z,3µm,15.0s,MS5.3
LANF  Langenberg        49.45 310 eP     P       10 57 28.5  -0.2
MCGN  Macugnaga         49.52 306⇑iP     P       10 57 28.8  -0.6
FIN   Finale Ligure     49.53 304  P      P       10 57 28.4  -1.1
ORO   Oropa             49.55 306⇓iP     P       10 57 27.8  -1.9
WIMIS Wimmis            49.71 307⇑iP     P       10 57 30.3  -0.5
      comp=Z,98nm,0.9s,mb5.8
TRAV                    49.73 305  P      P       10 57 29.4  -1.5
LKBD  Leukerbad         49.73 307⇑iP     P       10 57 30.4  -0.6
      comp=Z,109nm,0.9s,mb5.9
ROB   Roburent          49.76 304  P      P       10 57 29.6  -1.7
WLS   Welschbruch       49.77 309 eP     P       10 57 30.4  -0.9
IMI   Imperia           49.80 303  P      P       10 57 30.6  -0.9
CDF   Champ du Feu      49.82 309⇑iP     P       10 57 31.0  -0.7
      comp=Z,28nm,0.9s,mb5.0
MONE  Monesi            49.87 304  P      P       10 57 30.6  -1.5
DIX   Grande Dixence    49.91 306⇑iP     P       10 57 32.0  -0.3
      comp=Z,37nm,0.9s,mb5.4
BOURR Bourrignon        49.92 308⇑iP     P       10 57 31.6  -0.8
      comp=Z,7µm,0.9s
NEGI  Negi              49.94 303  P      P       10 57 30.9  -1.7
MOF   Molkenrain        49.96 309 eP     P       10 57 32.0  -0.7
SENIN Lac Senin         49.96 307⇑iP     P       10 57 32.4  -0.3
      comp=Z,21µm,0.9s
WTSB  Winterswijk       50.01 314⇑eP     P       10 57 33.4  +0.4
      comp=Z,50nm,0.8s,mb5.6
ENR   Entracque         50.09 304  P      P       10 57 33.0  -0.8
RSP   Reno Superiore    50.11 305  P      P       10 57 31.3  -2.6
SBF   Sospel            50.13 303 eP     P       10 57 33.4  -0.6
      comp=Z,98nm,0.8s,mb5.6
BHB   Bricherasio       50.13 305  P      P       10 57 31.6  -2.5
LSD   Ceresole Reale    50.15 305  P      P       10 57 34.3  +0.2
HINF  Hinteralfeld      50.15 309⇑iP     P       10 57 33.4  -0.7
      comp=Z,24nm,0.7s,mb5.0
TORNY Torny             50.16 307⇑iP     P       10 57 34.0  -0.2
      comp=Z,70nm,0.9s,mb5.7
STV2  Anna di Valdie    50.16 304  P      P       10 57 33.9  -0.3
STV   Sta Anna Valdi    50.16 304  P      P       10 57 33.9  -0.4
AIGLE Aigle             50.20 307⇑iP     P       10 57 34.1  -0.5
      comp=Z,136nm,0.9s,mb6.0
LOMF  Lomont            50.20 308 eP     P       10 57 33.7  -0.8
FENE  Fenestrelle       50.26 305  P      P       10 57 33.5  -1.5
PZZ   Prazzo            50.29 304  P      P       10 57 33.3  -2.0
MOL   Molde             50.35 328 eP     P       10 57 37.7  +2.2
MOL                               epP    pP      10 57 38.7  -0.4
MOL                                AMb    AMB     10 57 39.4
      comp=Z,40nm,1.7s,mb5.2
MOL   Molde             50.35 328 eP     P       10 57 37.7  +2.2
      comp=Z,40nm,1.7s,mb5.2
LPG   La Plagne         50.42 306⇑iP     P       10 57 36.1  -0.2
      comp=Z,104nm,0.9s,mb5.5
LPL   La Plagne         50.44 306⇑iP     P       10 57 36.2  -0.2
      comp=Z,78nm,0.7s,mb5.5
RRL   Cesana Torines    50.46 305  P      P       10 57 35.2  -1.4
HAU   Haudompre         50.47 309⇑iP     P       10 57 36.2  -0.4
      comp=Z,83nm,0.9s,mb5.5
HAU                               eR
      comp=Z,1µm,23.0s
BRANT Les Verrieres     50.48 307⇑iP     P       10 57 36.6   0.0
      comp=Z,86nm,0.9s,mb5.8
WLF   Walferdange       50.49 311 eP     P       10 57 37.2  +0.5
      comp=Z,46nm,1.1s,mb5.4
MBDF  Montbardon        50.50 305⇑iP     P       10 57 35.9  -0.9
      comp=Z,69nm,0.8s,mb5.4
BNI   Bardonecchia      50.52 305 eP     P       10 57 36.2  -0.9
      comp=Z,28nm,1.0s,mb5.1
HGN   Heimansgroeve     50.58 312 eP     P       10 57 36.2  -1.2
      comp=Z,9.4nm,1.3s,mb4.6
THEF  They Montfort     50.70 309 eP     P       10 57 38.1  -0.2
FRF   La Foret Royal    50.73 303 eP     P       10 57 37.6  -1.1
      comp=Z,30nm,1.0s,mb4.9
CABF  La Chapelle       50.77 307⇑iP     P       10 57 39.0  +0.1
      comp=Z,195nm,1.1s,mb5.7
ORIF  Oris-en-Rattie    51.10 305 eP     P       10 57 40.6  -0.8
      comp=Z,26nm,0.7s,mb5.0
ORIF                              eR
      comp=Z,1µm,21.2s
OG05  Jujurieux         51.26 306⇑eP     P       10 57 42.4  -0.2
MEZF  Maizieres J'vi    51.30 310⇑iP     P       10 57 42.9  +0.1
      comp=Z,106nm,1.0s,mb5.4
GIVF  Givet             51.32 312⇑iP     P       10 57 43.7  +0.7
      comp=Z,169nm,1.2s,mb5.5
TIXI  Tiksi             51.36  20  PFAKE          10 57 50.0  +7.0
TIXI                               LR     LR
      comp=Z,812nm,20.0s,MS4.8
SMRF  Simiane la Rot    51.44 304 eP     P       10 57 43.1  -0.9
      comp=Z,21nm,0.8s,mb4.8
OCF   Saint Nazaire     51.55 305⇑eP     P       10 57 44.2  -0.7
OG26  St.-Nazaire-De    51.55 305⇑eP     P       10 57 44.2  -0.7
BAIF  Baives            51.72 312⇑iP     P       10 57 46.6  +0.5
      comp=Z,93nm,0.9s,mb5.4
VIVF  Saint-Julien-l    51.96 305⇑iP     P       10 57 47.4  -0.6
      comp=Z,130nm,1.1s,mb5.5
LOR   Lormes            52.22 308⇑iP     P       10 57 49.1  -0.8
      comp=Z,71nm,1.0s,mb5.3
LOR                               eR
      comp=Z,952nm,21.0s
SMF   Signal de Mont    52.30 307⇑iP     P       10 57 50.1  -0.4
      comp=Z,146nm,0.8s,mb5.6
SSF   Saint Saulge      52.48 308⇑iP     P       10 57 51.4  -0.4
      comp=Z,124nm,0.8s,mb5.6
PLDF  La Plantade       52.54 307 eP     P       10 57 51.9  -0.4
COLF  Collangettes      52.55 306⇑eP     P       10 57 52.0  -0.4
AVF   Avril sur Loir    52.62 308⇑iP     P       10 57 52.3  -0.6
      comp=Z,97nm,1.0s,mb5.4
LASF  Ste Croix         52.66 304⇑iP     P       10 57 52.6  -0.6
      comp=Z,69nm,1.1s,mb5.2
AGO   Saint Agoulin     52.87 307 eP     P       10 57 54.5  -0.3
LBL   Lubilhac          52.91 306 eP     P       10 57 54.9  -0.2
BGF   Bois d'Agland     52.99 307⇑iP     P       10 57 55.1  -0.6
      comp=Z,45nm,0.8s,mb5.1
PYM   Petit Puy Mans    53.00 306 eP     P       10 57 54.7  -1.0
HYF   Humbligny         53.04 308⇑iP     P       10 57 56.0   0.0
TCF   Toulx Ste Croi    53.47 307⇑iP     P       10 57 59.0  -0.2
      comp=Z,124nm,1.1s,mb5.4
CAF   Calviac           53.78 305⇑iP     P       10 58 01.3  -0.2
      comp=Z,68nm,0.9s,mb5.3
LRDF  Laroque-de-Fa     53.80 303 eP     P       10 58 00.7  -0.9
KBS   Kingsbay          53.87 348 eP     P       10 58 00.5  -1.2
KBS                               eP              10 58 01.5
KBS                                AMb    AMB     10 58 04.0
      comp=Z,90nm,1.3s,mb5.5
KBS                               ePP    PP      11 00 01.9  -2.7
KBS                               eS     S       11 05 36.3  +1.4
KBS                                AMS    AMS     11 24 22.0
      comp=Z,1µm,18.0s,MS5.0
KBS   Kingsbay          53.87 348 eP     P       10 58 01.5  -0.2
      comp=Z,90nm,1.3s
KBS                                LR     LR
      comp=Z,1111µm,18.0s
MTLF  Montolieu         53.95 303⇑iP     P       10 58 02.1  -0.6
      comp=Z,30nm,0.7s,mb5.0
RJF   Les Rejaudoux     54.10 306⇑iP     P       10 58 03.7  -0.1
      comp=Z,29nm,0.7s,mb5.0
RJF                               eR
      comp=Z,728nm,17.8s
LPEF  Le Peyrat         54.25 303⇑eP     P       10 58 04.3  -0.6
LDF   La Druitiere      54.70 310⇑iP     P       10 58 07.3  -0.9
      comp=Z,56nm,0.9s,mb5.3
LFF   La Frestale       54.71 306⇑iP     P       10 58 07.9  -0.4
      comp=Z,46nm,0.7s,mb5.3
MLS   Moulis            54.83 303⇑eP     P       10 58 07.7  -1.5
FLN   La Foliniere      54.91 310⇑iP     P       10 58 08.8  -0.9
      comp=Z,44nm,0.7s,mb5.3
FLN                               eR
      comp=Z,2µm,19.8s
MFF   Saint Martin d    55.03 308⇑iP     P       10 58 09.7  -0.9
      comp=Z,50nm,0.8s,mb5.3
EPOB  Poblet            55.18 301  P      P       10 58 10.9  -0.9
      comp=Z,40nm,1.0s,mb5.4
GRR   Gorron            55.21 310 eP     P       10 58 11.1  -0.8
      comp=Z,95nm,1.1s,mb5.4
EPF   Esparros          55.36 303⇑iP     P       10 58 11.2  -1.9
      comp=Z,22nm,0.8s,mb4.9
RESF  Ens               55.41 303 eP     P       10 58 12.7  -0.7
EGRA  Graus             55.55 302  P      P       10 58 13.1  -1.4
      comp=Z,33nm,0.8s,mb5.4
EBR   Ebro Roquetas     55.73 301 eP     P       10 58 15.0  -0.8
ESK   Eskdalemuir       55.76 319 eP     P       10 58 14.3  -1.5
      comp=Z,19nm,0.7s,mb5.2
ESK                                LR     LR
      comp=Z,293nm,20.0s,MS4.4
HAE   Alders End        55.76 315⇑iP     P       10 58 14.8  -1.0
HAE                                AMb    AMB     10 58 24.1
      comp=Z,98nm,2.0s,mb5.5
CDU1  Dunnerdale        55.86 317 eP     P       10 58 15.7  -0.8
HLM1  Long Mynd         55.90 315⇑eP     P       10 58 15.7  -1.1
HGH   Gray Hill         55.97 314⇑iP     P       10 58 16.3  -1.1
HGH                                AMb    AMB     10 58 28.2
      comp=Z,117nm,1.4s,mb5.7
ETSF  Etsaut            56.03 303⇑iP     P       10 58 17.3  -0.6
      comp=Z,72nm,0.7s,mb5.5
MCH1  Michaelchurch     56.04 315⇑iP     P       10 58 16.8  -1.0
SSP1  Stoney Pound      56.05 315⇑iP     P       10 58 17.2  -0.7
MAJO  Matsushiro        56.11  64 eP     P       10 58 17.6  -0.9
      comp=Z,21nm,0.8s,mb5.2
MAJO                               LR     LR
      comp=Z,779nm,20.0s,MS4.8
MAT   Matsushiro        56.11  64  P      P       10 58 17.8  -0.7
MAT                                S      S       11 06 03.4  -2.0
MAT   Matsushiro        56.11  64 eP     P       10 58 18.0  -0.5
      comp=Z,21nm,0.9s,mb5.2
MAT                               eS     S       11 06 03.0  -2.4
MAT                                LR     LR
      comp=Z,1µm,18.0s,MS5.0
HTR   Trewern Hill      56.20 315⇑iP     P       10 58 17.9  -1.0
HTR                                AMb    AMB     10 58 18.6
      comp=Z,86nm,0.6s,mb5.9
ESAC  San Caprasio      56.23 302  P      P       10 58 18.5  -0.8
      comp=Z,48nm,0.7s,mb5.6
SGMF  Saint Gilles      56.35 310⇑iP     P       10 58 19.7  -0.4
      comp=Z,126nm,1.0s,mb5.6
SJPF  Ste Jean          56.46 304⇑iP     P       10 58 19.7  -1.3
      comp=Z,29nm,0.8s,mb5.1
EMOS  Mosqueruela       56.55 300  P      P       10 58 21.5  -0.2
      comp=Z,107nm,1.7s,mb5.6
EALK  Alkurruntz        56.64 304  P      P       10 58 21.3  -0.9
      comp=Z,40nm,1.1s,mb5.4
EBEN  Beniarda          56.78 298  P      P       10 58 25.5  +2.1
      comp=Z,107nm,1.8s,mb5.6
ROSF  Rostrenen         56.81 310⇑iP     P       10 58 22.7  -0.7
      comp=Z,74nm,0.7s,mb5.5
QUIF  Quistinic         56.82 310⇑iP     P       10 58 22.6  -0.9
      comp=Z,38nm,0.7s,mb5.2
YSS   Yuzh-Sakhalins    56.99  51⇑iP     P       10 58 24.0  -0.7
YSS                               i *SP  sP      10 58 28.1  -1.7
YSS                               e               10 59 22.1
YSS                               e               11 00 33.0
YSS                               eS     S       11 06 12.0  -4.9
YSS                                pmax   pmax
      comp=E,60nm,0.9s
YSS                                pmax   pmax
      comp=Z,170nm,0.9s,mb6.1
YSS                                MLR    MLR
      comp=N,2µm,17.0s,MS5.4
YSS                                MLR    MLR
      comp=N,600nm,16.0s
YSS                                MLR    MLR
      comp=Z,2µm,16.0s,MS5.3
YSS                                MLR    MLR
      comp=E,600nm,14.0s,MS5.4
YSS   Yuzh-Sakhalins    56.99  51⇑iP     P       10 58 24.4  -0.3
      comp=E,156nm,0.8s,mb6.1
YSS                                LR     LR
      comp=Z,1µm,19.0s,MS5.0
SBD   Saint Breward     57.31 313⇑iP     P       10 58 17.3   -10
JMIC  Jan Mayen         57.34 338  AMS    AMS     11 27 10.9
      comp=Z,670nm,17.9s,MS4.8
EMUR  La Murta          57.78 298  P      P       10 58 32.1  +1.7
      comp=Z,34nm,1.6s,mb5.1
ETOB  Tobarra           57.80 299  P      P       10 58 35.4  +4.9
      comp=Z,70nm,1.5s,mb5.5
ELAN  Lanestosa         58.01 304  P      P       10 58 31.2  -0.7
      comp=Z,40nm,0.8s,mb5.5
EVIA  Vianos            58.52 299  P      P       10 58 33.6  -2.0
      comp=Z,88nm,1.6s,mb5.5
EQES  Quesada           59.18 298  P      P       10 58 39.0  -1.2
      comp=Z,58nm,1.2s,mb5.5
ESDC  Sonseca Array     59.32 300  P      P       10 58 40.0  -1.1
      comp=Z,4.6nm,0.6s,mb4.7,baz=62,slow=7.6,SNR=24
ESDC  Sonseca Array     59.32 300  P      P       10 58 37.8  -3.3
      comp=Z,13nm,1.3s,mb4.8
ESLA  Sonseca Array     59.32 300 eP     P       10 58 40.0  -1.1
      comp=Z,3.4nm,0.8s,mb4.4
ESLA                               LR     LR
      comp=Z,3µm,19.0s,MS5.4
MA2   Magadan           59.44  36ceP     P       10 58 41.6  -0.1
MA2                                pmax   pmax
      comp=Z,49nm,1.0s,mb5.5
MA2                                MLR    MLR
      comp=Z,900nm,16.0s,MS5.0
MA2   Magadan           59.44  36⇑eP     P       10 58 41.5  -0.1
      comp=Z,43nm,1.0s,mb5.4
MA2                                LR     LR
      comp=Z,852nm,19.0s,MS4.9
SEY   Seymchan          59.67  32 eP     P       10 58 44.6  +1.4
SEY                                               10 59 36.7
SEY                               e               11 00 52.8
SEY                               ePPP   PPP     11 02 26.6  +4.3
SEY                               eS     S       11 06 53.3  +1.6
SEY                                pmax   pmax
      comp=Z,130nm,0.8s,mb6.0
SEY                                pmax   pmax
      comp=E,60nm,0.9s
YUK   Yuzh-Kuril'sk     59.79  54  P      P       10 58 41.0  -3.3
YUK                                pmax   pmax
      comp=Z,1µm,2.0s,mb6.5
YUK                                pmax   pmax
      comp=N,110nm,0.5s
YUK                                pmax   pmax
      comp=Z,110nm,0.5s,mb6.1
YUK                                MLR    MLR
      comp=Z,4µm,17.0s,MS5.6
YUK                                MLR    MLR
      comp=N,2µm,15.0s,MS5.7
YUK                                MLR    MLR
      comp=E,4µm,15.0s,MS5.7
ERON  Agron             59.98 298  P      P       10 58 44.3  -1.4
      comp=E,4.6nm,0.6s,mb4.7
EADA  Adamuz            60.21 299  P      P       10 58 45.7  -1.6
      comp=E,3.3nm,0.5s,mb4.6
EPON  Pontenova         60.60 305  P      P       10 58 49.1  -0.8
      comp=E,11nm,0.4s,mb5.3
ECAL  Calabor           60.70 304  P      P       10 58 47.0  -3.5
      comp=E,2.3nm,0.4s,mb4.7
PBRG  Braganca          60.74 304 eP     P       10 58 50.4  -0.4
EMIJ  Mijas             60.85 297  P      P       10 58 46.1  -5.6
      comp=E,5.2nm,0.5s,mb4.9
ERUA  La Rua            60.86 304  P      P       10 58 50.4  -1.2
      comp=E,3.7nm,0.5s,mb4.8
LSZ   Lusaka            60.88 227 eP     P       10 58 53.0  +0.9
      comp=E,16nm,1.0s,mb5.1
LSZ                                LR     LR
      comp=Z,807nm,21.0s,MS4.8
ESPR  Espera            61.58 298  P      P       10 58 55.7  -0.9
      comp=Z,5.5nm,0.2s,mb5.3
PVRL  Vila Real         61.60 303 eP     P       10 58 56.3  -0.3
      comp=Z,23nm,0.9s,mb5.3
ELOB  Lobios            61.67 304  P      P       10 58 57.3  +0.2
      comp=Z,3.2nm,0.4s,mb4.8
MTE   Manteigas         61.73 302 eP     P       10 58 57.2  -0.4
      comp=Z,45nm,1.1s,mb5.5
MTE                               eS     S       11 07 19.4  +1.0
MTE   Manteigas         61.73 302 eP     P       10 58 57.0  -0.6
      comp=Z,29nm,0.8s,mb5.5
EBAD  Badajoz           61.85 300  P      P       10 58 56.5  -1.9
      comp=Z,4.6nm,0.6s,mb4.8
PCBR  Castelo Branco    61.86 302 eP     P       10 58 58.2  -0.2
      comp=Z,22nm,0.8s,mb5.3
PVIS  Viseu             61.89 303 eP     P       10 58 58.7   0.0
EMIN  Mina Concepcio    61.91 299  P      P       10 58 57.0  -1.8
      comp=Z,3.1nm,0.6s,mb4.6
EZAM  Zamans            62.03 304  P      P       10 58 57.2  -2.4
      comp=Z,3.6nm,0.3s,mb5.0
EGRO  El Granado        62.60 299  P      P       10 59 02.1  -1.3
      comp=Z,2.8nm,0.6s,mb4.6
PTOM  Tomar             62.61 302 eP     P       10 59 03.5  +0.1
      comp=Z,39nm,1.0s,mb5.5
PALC  Alcoutim          62.61 299 eP     P       10 59 03.0  -0.5
PBEJ  Beja              62.72 300 eP     P       10 59 03.7  -0.5
      comp=Z,10nm,0.7s,mb5.1
MOE   Montemor          62.92 300 eP     P       10 59 05.6  +0.1
BORG  Borgarnes         62.99 331  P      P       10 59 03.5  -2.1
      comp=Z,6.2nm,0.9s,mb4.8,baz=120,slow=8.1,SNR=1.9
BORG  Borgarnes         62.99 331 eP     P       10 59 05.0  -0.6
      comp=Z,10nm,0.9s,mb5.0
BORG                               LR     LR
      comp=Z,269nm,19.0s,MS4.4
PTEO  Sao Teotonio      63.52 300 eP     P       10 59 09.2  -0.3
PET   Petropavlovsk     65.32  42 eP     P       10 59 18.5  -2.4
PET                               e               11 01 44.0
PET                               eS     S       11 07 54.2  -8.7
PET                                pmax   pmax
      comp=Z,25nm,1.3s,mb5.1
PET                                pmax   pmax
      comp=Z,100nm,14.2s
PET                                pmax   pmax
      comp=Z,40nm,12.6s
PET                                smax
      comp=E,200nm,10.0s
PET                                MLR    MLR
      comp=Z,2µm,18.0s,MS5.4
PET   Petropavlovsk     65.32  42 eP     P       10 59 19.3  -1.7
      comp=Z,24nm,1.1s,mb5.1
PET                                LR     LR
      comp=Z,2µm,20.0s,MS5.3
SUMG  Summit            66.05 342⇑iP     P       10 59 26.7  +1.4
      comp=Z,48nm,0.8s,mb5.6
LBTB  Lobatse           69.86 222 eP     P       10 59 50.4  +0.6
      comp=Z,51nm,0.9s,mb5.5
LBTB                              epP    pP      10 59 53.4  -0.2
LBTB                               LR     LR
      comp=Z,926nm,20.0s,MS5.0
TSUM  Tsumeb            70.69 232 eP     P       10 59 55.6  +0.6
      comp=Z,12nm,0.8s,mb4.9
TSUM                              epP    pP      10 59 58.8   0.0
TSUM                               LR     LR
      comp=Z,1µm,22.0s,MS5.2
FITZ  Fitzroy Crossi    72.45 124 eP     P       11 00 04.7  -0.9
      comp=Z,9.6nm,0.9s,mb4.7
FITZ  Fitzroy Crossi    72.45 124  LR     LR      11 37 20.7
      comp=Z,166nm,19.8s,MS4.3,baz=288,slow=40
FX1   Attu Island--F    73.39  38  LR     LR      11 32 05.8
      comp=Z,40nm,19.2s,baz=5.0,slow=36
FX1   Attu Island--F    73.39  38 eP     P       11 00 10.3  -0.1
DBIC  Dimbokro          73.45 268  P      P       11 00 11.2  -0.3
      comp=Z,19nm,0.8s,mb5.1,baz=39,slow=6.2,SNR=15
DBIC                               LR     LR      11 35 07.0
      comp=Z,2µm,20.1s,MS5.3,baz=39,slow=38
DBIC  Dimbokro          73.45 268  P      P       11 00 11.3  -0.3
DBIC                               pmax   pmax
      comp=Z,19nm,0.8s
DBIC                               MLR    MLR
      comp=Z,2µm,20.1s
DBIC  Dimbokro          73.45 268 eP     P       11 00 11.1  -0.5
      comp=Z,22nm,0.8s,mb5.1
DBIC                               LR     LR
      comp=Z,2µm,20.0s,MS5.3
KIC   Kosan Boka        73.51 268 eP     P       11 00 11.6  -0.3
      comp=Z,124nm,0.9s,mb5.9
TIC   Toumodi           73.60 268 eP     P       11 00 12.1  -0.4
      comp=Z,105nm,0.8s,mb5.8
LIC   Lamto             73.82 268 eP     P       11 00 13.4  -0.3
      comp=Z,53nm,0.9s,mb5.2
LIC   Lamto             73.82 268 eP     P       11 00 13.2  -0.5
      comp=Z,77nm,0.9s,mb5.6
SMY   Shemya            73.96  38 eP     P       11 00 13.5  -0.2
KAKA  Kakadu            74.06 116⇑iP     P       11 00 14.9  -0.2
      comp=Z,12nm,0.6s,mb5.0
TNA   Tin City          74.13  21  PFAKE          11 00 30.0   +16
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TNA				LR	LR		
	comp=Z,565nm,20.0s,MS4.9						
NWAO	**Narrogin (SRO)**	**77.71**	**141**	LR	LR	11 33 59.2	
	comp=Z,670nm,20.9s,MS4.9,baz=139,slow=35						
SUR	**Sutherland**	**78.17**	**221**	*e*P	**P**	**11 00 38.5**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9						
SUR				LR	LR		
	comp=Z,365nm,22.0s,MS4.7						
INK	**Inuvik**	**79.59**	**9**	⇑*i*P	**P**	**11 00 45.9**	**+0.9**
	comp=Z,49nm,1.0s,mb5.4						
INK				*e*pP	pP	11 00 49.9	+1.1
WRA	**Warramunga Arr**	**79.95**	**120**	P	**P**	**11 00 47.7**	**-0.1**
	comp=Z,25nm,0.8s,mb5.2,baz=320,slow=5.1,SNR=75						
WRA				PKKPbc		11 19 34.4	
	comp=Z,0.8nm,0.6s,baz=132,slow=1.9,SNR=8.1						
WRA				PKPPKP		11 27 42.7	
	comp=Z,0.3nm,0.8s,baz=153,slow=1.9,SNR=6.4						
WRA				LR	LR	11 42 11.9	
	comp=Z,272nm,18.3s,MS4.6,baz=285,slow=40						
WRAB	**Tennant Creek**	**79.95**	**120**	*e*P	**P**	**11 00 47.5**	**-0.3**
	comp=Z,38nm,0.8s,mb5.4						
WRAB				LR	LR		
	comp=Z,154nm,20.0s,MS4.3						
WB2	**Warramunga Arr**	**79.95**	**120**	⇑*i*P	**P**	**11 00 47.7**	**-0.2**
FRB	**Frobisher Bay**	**80.11**	**343**	LR	LR	11 40 28.5	
	comp=Z,445nm,19.4s,MS4.8,baz=36,slow=39						
COLA	**College**	**80.14**	**15**	*e*P	**P**	**11 00 48.4**	**+0.4**
ILAR	**Eielson Array**	**80.44**	**15**	P	**P**	**11 00 49.2**	**-0.3**
	comp=Z,8.3nm,0.9s,mb4.7,baz=315,slow=3.9,SNR=86						
ILAR				PP	PP	11 03 51.8	-2.9
	comp=Z,3.2nm,0.8s,baz=316,slow=4.8,SNR=5.5						
ILAR				PKKPbc		11 19 30.7	
	comp=Z,0.8nm,0.7s,baz=190,slow=2.0,SNR=8.5						
ILAR				LR	LR	11 41 41.7	
	comp=Z,568nm,18.1s,MS5.0,baz=338,slow=40						
ILAR	**Eielson Array**	**80.44**	**15**	P	**P**	**11 00 49.3**	**-0.3**
ILAR						11 03 51.8	
ILAR						11 19 30.7	
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MCK	**McKinley**	**80.85**	**16**	⇑*e*P	**P**	**11 00 51.9**	**+0.2**
	comp=Z,9.5nm,1.0s,mb4.7						
MCK				LR	LR		
	comp=Z,372nm,22.0s,MS4.7						
THY	**Trims Highway**	**81.87**	**15**	*e*P	**P**	**11 00 57.6**	**+0.6**
ASPA	**Alice Springs**	**81.92**	**124**	*e*P	**P**	**11 00 58.0**	**-0.2**
ASAR	**Alice Springs**	**81.93**	**124**	P	**P**	**11 00 58.1**	**0.0**
	comp=Z,18nm,0.7s,mb5.1,baz=309,slow=5.2,SNR=96						
ASAR				PKKPbc		11 19 29.1	
	comp=Z,0.9nm,0.8s,baz=121,slow=2.6,SNR=7.1						
RSO	**Redoubt South**	**82.54**	**20**	*e*P	**P**	**11 01 01.3**	**+0.7**
UNV	**Unalaska Valle**	**82.60**	**30**	*e*P	**P**	**11 01 00.3**	**-0.7**
	comp=Z,113nm,1.0s,mb5.8						
UNV				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
PMR	**Palmer**	**82.60**	**18**	*e*P	**P**	**11 01 01.2**	**+0.3**
DAWY	**Dawson**	**82.60**	**12**	⇑*i*P	**P**	**11 01 01.6**	**+0.7**
FIB	**Fire Island**	**82.68**	**18**	PFAKE		11 01 10.0	+8.7
FIB				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
PMS	**Palmer South**	**82.78**	**18**	*e*P	**P**	**11 01 01.9**	**+0.1**
SLKM	**Skilak Lake**	**83.22**	**19**	*e*P	**P**	**11 01 03.9**	**-0.3**
DIV	**Divide**	**83.84**	**16**	⇑*i*P	**P**	**11 01 08.1**	**+0.9**
	comp=Z,34nm,0.8s,mb5.5						
DIV				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
PMG	**Port Moresby**	**84.10**	**105**	P	**P**	**11 01 09.3**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0						
PMG				LR	LR		
	comp=Z,285nm,22.0s,MS4.6						
EYAK	**Cordova Ski Ar**	**84.35**	**17**	⇑*i*P	**P**	**11 01 10.9**	**+1.1**
KDAK	**Kodiak Island**	**84.77**	**21**	⇑*i*P	**P**	**11 01 12.6**	**+0.6**
	comp=Z,28nm,0.9s,mb5.4						
KDAK				LR	LR		
	comp=Z,188nm,21.0s,MS4.5						
YKW3	**Yellowknife Ar**	**86.81**	**2**	⇑*i*P	**P**	**11 01 22.9**	**+1.0**
SCHQ	**Schefferville**	**86.85**	**337**	P	**P**	**11 01 23.3**	**+1.0**
	comp=Z,15nm,1.2s,mb5.1,baz=81,slow=5.4,SNR=5.4						
SCHQ				PP	PP	11 04 44.7	-2.7
	comp=Z,4.8nm,0.9s,baz=4.1,slow=5.2,SNR=4.5						
SCHQ				LR	LR	11 41 42.8	
	comp=Z,630nm,18.1s,MS5.1,baz=197,slow=37						
SCHQ	**Schefferville**	**86.85**	**337**	*e*P	**P**	**11 01 22.7**	**+0.4**
	comp=Z,12nm,0.9s,mb5.1						
SCHQ				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
YKA	**Yellowknife Ar**	**86.88**	**2**	P	**P**	**11 01 23.4**	**+1.2**
	comp=Z,14nm,0.7s,mb5.3,baz=347,slow=5.0,SNR=46						
YKA				LR	LR	11 44 24.3	
	comp=Z,676nm,20.5s,MS5.0,baz=345,slow=38						
YKA	**Yellowknife Ar**	**86.88**	**2**	P	**P**	**11 01 23.4**	**+1.1**
YKA				pmax	pmax		
	comp=Z,14nm,0.7s						
YKA				MLR	MLR		
	comp=Z,676nm,20.5s						
YKA	**Yellowknife Ar**	**86.88**	**2**	P	**P**	**11 01 23.4**	**+1.2**
YKA				LR	LR	11 44 24.3	
CTA	**Charters Tower**	**89.14**	**114**	*e*P	**P**	**11 01 34.5**	**+0.4**
	comp=Z,9.4nm,1.4s,mb4.9						
CTA	**Charters Tower**	**89.14**	**114**	LR	LR	11 47 07.0	
	comp=Z,339nm,19.8s,MS4.8,baz=295,slow=39						
CTAO	**Charters Tower**	**89.14**	**114**	*e*P	**P**	**11 01 34.0**	**-0.2**
	comp=Z,6.2nm,0.8s,mb5.0						
CTAO				LR	LR		
	comp=Z,371nm,20.0s,MS4.8						
DLBC	**Dease Lake**	**89.48**	**10**	*e*P	**P**	**11 01 36.2**	**+1.3**
SIT	**Sitka**	**89.86**	**13**	*e*P	**P**	**11 01 36.2**	**-0.4**
	comp=Z,10nm,0.9s,mb5.2						
SIT				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
STKA	**Stephens Creek**	**92.28**	**126**	P	**P**	**11 01 50.7**	**+2.3**
	comp=Z,2.4nm,0.7s,mb4.6,baz=298,slow=8.0,SNR=3.0						
STKA				LR	LR	11 43 11.4	
	comp=Z,848nm,21.7s,MS5.2,baz=285,slow=36						
STKA	**Stephens Creek**	**92.28**	**126**	P	**P**	**11 01 50.7**	**+2.3**
STKA				LR	LR	11 43 11.4	
FFC	**Flin Flon**	**94.45**	**355**	⇑*i*P	**P**	**11 01 58.8**	**+1.0**
	comp=Z,8.0nm,0.8s,mb5.2						
EMMW	**East Machias**	**95.29**	**331**	PFAKE		11 02 10.0	+8.1
EMMW				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
ULM	**Lac du Bonnet**	**98.23**	**351**	P	**P**	**11 02 15.8**	**+0.7**
	comp=Z,4.1nm,0.8s,mb5.0,baz=350,slow=4.8,SNR=6.0						
ULM				LR	LR	11 51 31.5	
	comp=Z,558nm,18.2s,MS5.1,baz=356,slow=38						
ULM	**Lac du Bonnet**	**98.23**	**351**	P	**P**	**11 02 15.8**	**+0.7**
ULM				LR	LR	11 51 31.5	
MAW	**Mawson**	**98.32**	**183**	*e*P	**P**	**11 02 19.5**	**+4.4**
	comp=Z,5.4nm,0.9s,mb5.1						
MAW	**Mawson**	**98.32**	**183**	P	**P**	**11 02 16.6**	**+1.5**
	comp=Z,4.9nm,0.9s,mb5.0,baz=348,slow=5.2,SNR=7.3						
MAW				LR	LR	11 39 19.0	
	comp=Z,491nm,21.3s,MS5.0,baz=6.4,slow=31						
NCB	**Newcomb**	**98.57**	**335**	PFAKE		11 02 30.0	+13
NCB				LR	LR		
	comp=Z,751nm,20.0s,MS5.2						
HRV	**Harvard--Oak R**	**98.78**	**332**	PFAKE		11 02 30.0	+12
HRV				LR	LR		
	comp=Z,617nm,19.0s,MS5.1						
OCWA	**Octopus Mounta**	**100.72**	**10**	PFAKE		11 02 40.0	+14
OCWA				LR	LR		
	comp=Z,534nm,20.0s,MS5.0						
BINY	**Binghamton**	**100.75**	**335**	PFAKE		11 02 40.0	+13
BINY				LR	LR		
	comp=Z,409nm,19.0s,MS5.0						
DGMT	**Dagmar**	**100.82**	**356**	PFAKE		11 02 40.0	+13
DGMT				LR	LR		
	comp=Z,572nm,21.0s,MS5.1						
NEW	**Newport**	**100.97**	**5**	PFAKE		11 02 40.0	+12
NEW				LR	LR		
	comp=Z,724nm,21.0s,MS5.2						
ERPA	**Erie**	**102.21**	**337**	PFAKE		11 02 40.0	+6.6
ERPA				LR	LR		
	comp=Z,628nm,20.0s,MS5.1						
MSO	**Missoula**	**102.57**	**3**	PFAKE		11 02 50.0	+15
MSO				LR	LR		
	comp=Z,624nm,21.0s,MS5.1						
HAWA	**Hanford**	**102.62**	**7**	PFAKE		11 02 50.0	+15
HAWA				LR	LR		
	comp=Z,612nm,19.0s,MS5.2						
LAO	**LASA Array**	**102.70**	**357**	PFAKE		11 02 50.0	+15
LAO				LR	LR		
	comp=Z,604nm,20.0s,MS5.1						
BBSR	**BB Station**	**103.75**	**322**	PFAKE		11 02 50.0	+10
BBSR				LR	LR		
	comp=Z,590nm,20.0s,MS5.1						
BOZ	**Bozeman (W)**	**103.82**	**1**	PFAKE		11 02 50.0	+10
BOZ				LR	LR		
	comp=Z,648nm,20.0s,MS5.2						
COR	**Corvallis**	**103.94**	**10**	PFAKE		11 02 50.0	+9.1
COR				LR	LR		
	comp=Z,648nm,20.0s,MS5.2						
JFWS	**Jewell Farm**	**104.31**	**345**	PFAKE		11 02 50.0	+7.4
JFWS				LR	LR		
	comp=Z,850nm,19.0s,MS5.3						
MCWV	**Mont Chateau**	**104.36**	**336**	PFAKE		11 02 50.0	+7.1
MCWV				LR	LR		
	comp=Z,673nm,19.0s,MS5.2						
CBN	**Corbin**	**104.75**	**334**	PFAKE		11 03 00.0	+15
CBN				LR	LR		
	comp=Z,937nm,21.0s,MS5.3						
ACSO	**Alum Creek Sta**	**104.88**	**339**	PFAKE		11 03 00.0	+15
ACSO				LR	LR		
	comp=Z,418nm,21.0s,MS5.0						
RSSD	**Black Hills**	**105.14**	**355**	*e*P		11 07 06.1	
RSSD				LR	LR		
	comp=Z,845nm,19.0s,MS5.3						
HLID	**Hailey**	**105.81**	**3**	PFAKE		11 07 10.0	
HLID				LR	LR		
	comp=Z,979nm,21.0s,MS5.3						
RCBR	**Riachuelo**	**106.44**	**273**	PFAKE		11 07 20.0	
RCBR				LR	LR		
	comp=Z,705nm,21.0s,MS5.2						
WVOR	**Wild Horse Val**	**106.63**	**7**	PFAKE		11 07 20.0	
WVOR				LR	LR		
	comp=Z,686nm,19.0s,MS5.2						
AHID	**Auburn Hatcher**	**106.71**	**1**	PFAKE		11 07 20.0	
AHID				LR	LR		
	comp=Z,720nm,21.0s,MS5.2						
BW06	**Boulder Array**	**106.71**	**360**	*e*PKP		11 07 04.2	
BW06				LR	LR		
	comp=Z,821nm,20.0s,MS5.3						
PDAR	**Pinedale Array**	**106.71**	**360**	PKiKP		11 07 04.0	
	comp=Z,1.0nm,0.6s,baz=59,slow=2.6,SNR=9.5						
PDAR				PKKPab		11 18 38.7	
	comp=Z,0.2nm,0.5s,baz=153,slow=3.3,SNR=4.5						
BLA	**Blacksburg**	**106.75**	**336**	PFAKE		11 07 20.0	
BLA				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
YBH	**Yreka Blue Hor**	**106.83**	**10**	PFAKE		11 07 20.0	
YBH				LR	LR		
	comp=Z,431nm,22.0s,MS5.0						
MOD	**Modoc**	**106.98**	**8**	PFAKE		11 07 20.0	
MOD				LR	LR		
	comp=Z,462nm,19.0s,MS5.0						
WCI	**Wyandotte Cave**	**107.71**	**340**	PFAKE		11 07 20.0	
WCI				LR	LR		
	comp=Z,597nm,21.0s,MS5.1						
HWUT	**Hardware Ranch**	**107.86**	**1**	*e*PKP		11 07 06.5	
HWUT				LR	LR		
	comp=Z,730nm,21.0s,MS5.2						
WDC	**Whiskeytown Da**	**107.98**	**10**	PFAKE		11 07 20.0	
WDC				LR	LR		
	comp=Z,478nm,19.0s,MS5.1						
BMN	**Battle Mountai**	**108.75**	**6**	PFAKE		11 07 20.0	
BMN				LR	LR		
	comp=Z,430nm,20.0s,MS5.0						
CCM	**Cathedral Cave**	**109.17**	**344**	PFAKE		11 07 20.0	
CCM				LR	LR		
	comp=Z,948nm,20.0s,MS5.4						
DUG	**Dugway**	**109.24**	**2**	PFAKE		11 07 20.0	
DUG				LR	LR		
	comp=Z,434nm,20.0s,MS5.0						
HOPS	**Hopland**	**109.45**	**11**	PFAKE		11 07 20.0	
HOPS				LR	LR		
	comp=Z,470nm,19.0s,MS5.1						
ISCO	**Idaho Springs**	**109.55**	**356**	PFAKE		11 07 20.0	
ISCO				LR	LR		
	comp=Z,569nm,20.0s,MS5.1						
CBKS	**Cedar Bluff**	**109.98**	**351**	PFAKE		11 07 20.0	
CBKS				LR	LR		
	comp=Z,638nm,20.0s,MS5.2						
NHSC	**New Hope**	**110.31**	**333**	PFAKE		11 07 20.0	+7.8
NHSC				LR	LR		
	comp=Z,612nm,20.0s,MS5.2						
NVAR	**Mina Array Bea**	**110.63**	**7**	PKiKP		11 07 12.8	
	comp=Z,2.0nm,0.6s,baz=359,slow=1.4,SNR=20						
NVAR				PKKPbc		11 18 13.9	
	comp=Z,0.2nm,0.4s,baz=180,slow=6.3,SNR=5.9						
NVAR				PKKPab		11 18 24.6	
	comp=Z,1.1nm,0.8s,baz=179,slow=7.0,SNR=7.1						
MNV	**Mina**	**110.64**	**7**	*e*PKP	PKPdf	11 07 12.5	-0.3
MNV				LR	LR		
	comp=Z,631nm,22.0s,MS5.2						
CMB	**Columbia Colle**	**110.78**	**9**	PFAKE		11 07 20.0	+7.0
CMB				LR	LR		
	comp=Z,529nm,19.0s,MS5.1						
TPH	**Tonopah**	**111.08**	**6**	PFAKE		11 07 20.0	+6.4
TPH				LR	LR		
	comp=Z,598nm,20.0s,MS5.2						
SDCO	**Great Sand Dun**	**111.58**	**356**	PFAKE		11 07 30.0	+15
SDCO				LR	LR		
	comp=Z,699nm,20.0s,MS5.2						
OXF	**Oxford**	**112.06**	**342**	PFAKE		11 07 30.0	+14
OXF				LR	LR		
	comp=Z,997nm,19.0s,MS5.4						
LRAL	**Lakeview Retre**	**112.75**	**339**	PFAKE		11 07 30.0	+13
LRAL				LR	LR		
	comp=Z,611nm,21.0s,MS5.2						
DAC	**Darwin (Calif)**	**112.83**	**6**	PFAKE		11 07 30.0	+13
DAC				LR	LR		
	comp=Z,538nm,22.0s,MS5.1						
MIAR	**Mount Ida**	**113.06**	**345**	PFAKE		11 07 30.0	+12
MIAR				LR	LR		
	comp=Z,567nm,19.0s,MS5.2						
SNAA	**Sanae**	**113.79**	**199**	*e*PKP	PKPdf	11 07 16.0	-2.2
WMOK	**Wichita Mounta**	**113.85**	**350**	*e*PKP	PKPdf	11 07 17.5	-1.7
WMOK				LR	LR		
	comp=Z,602nm,20.0s,MS5.2						
WUAZ	**Wupatki**	**113.94**	**1**	*e*PKP	PKPdf	11 07 18.3	-1.1
ANMO	**Albuquerque**	**114.42**	**357**	PFAKE		11 07 30.0	+10
ANMO				LR	LR		
	comp=Z,454nm,19.0s,MS5.1						
VNA2	**Neumayer--Watz**	**114.82**	**201**	⇓*i*Pdif	Pdif	11 03 43.6	+15
VNA2				*e*		11 07 20.4	
VNA2				*e*		11 08 18.3	
VNA1	**Neumayer--Stat**	**114.98**	**201**	⇑*i*Pdif	Pdif	11 03 18.3	-11
VNA1				*e*		11 07 20.2	
VNA1				*e*		11 08 17.6	
DWPF	**Disney**	**115.23**	**332**	PFAKE		11 07 30.0	+8.1
DWPF				LR	LR		
	comp=Z,573nm,19.0s,MS5.2						
SJG	**San Juan**	**115.46**	**313**	PFAKE		11 07 30.0	+7.4
SJG				LR	LR		
	comp=Z,264nm,20.0s,MS4.8						
PFO	**Pinyon Flat Ob**	**115.58**	**6**	PFAKE		11 07 30.0	+7.5
PFO				LR	LR		
	comp=Z,167nm,22.0s,MS4.6						
NATX	**Nacogdoches**	**115.98**	**345**	PFAKE		11 07 30.0	+6.6
NATX				LR	LR		
	comp=Z,881nm,19.0s,MS5.4						
TUC	**Tucson**	**117.15**	**1**	*e*PKPdf	PKPdf	11 07 24.7	-0.9
TUC				LR	LR		
	comp=Z,520nm,19.0s,MS5.2						
HKT	**Hockley**	**117.98**	**346**	PFAKE		11 07 40.0	+13
HKT				LR	LR		
	comp=Z,982nm,20.0s,MS5.4						
JCT	**Junction City**	**118.18**	**350**	PFAKE		11 07 40.0	+12
JCT				LR	LR		
	comp=Z,493nm,20.0s,MS5.1						
LTX	**Lajitas**	**119.79**	**353**	PKPdf	PKPdf	11 07 29.8	-0.9
LTX				LR	LR		
	comp=Z,626nm,21.0s,MS5.2						
TXAR	**Lajitas Array**	**119.79**	**353**	PKP	PKPdf	11 07 29.1	-1.6
	comp=Z,1.0nm,0.7s,baz=222,slow=1.0,SNR=12						
TXAR				PKKPbc		11 17 41.9	
	comp=Z,0.2nm,0.6s,baz=191,slow=6.4,SNR=4.5						
TXAR	**Lajitas Array**	**119.79**	**353**	PKP	PKPdf	11 07 29.1	-1.6
TXAR				PKKPbc		11 17 41.9	
VNDA	**Vanda**	**120.35**	**165**	PKP	PKPdf	11 07 28.5	-2.3
	comp=Z,2.0nm,0.6s,baz=265,slow=6.3,SNR=11						
VNDA				PKKPbc		11 17 38.2	
	comp=Z,1.0nm,0.8s,baz=141,slow=2.2,SNR=4.6						
VNDA	**Vanda**	**120.35**	**165**	*e*PKPdf	PKPdf	11 07 28.3	-2.5
VNDA				LR	LR		
	comp=Z,443nm,19.0s,MS5.1						
SBA	**Scott Base**	**121.42**	**166**	*e*PKPdf	PKPdf	11 07 32.1	-0.8
SBA				LR	LR		
	comp=Z,284nm,19.0s,MS4.9						
SDV	**Santo Domingo**	**125.21**	**310**	*e*PKPdf	PKPdf	11 07 39.9	-1.8
SDV				LR	LR		
	comp=Z,277nm,22.0s,MS4.9						
ROSC	**El Rosal**	**130.64**	**310**	PKP	PKPdf	11 07 51.4	-0.7
	comp=Z,28nm,0.9s,baz=243,slow=20,SNR=4.8						
SAML	**Samuel**	**131.15**	**286**	*e*PKPdf	PKPdf	11 07 51.9	-1.2
JTS	**JuntasAbangare**	**132.42**	**325**	PFAKE		11 08 10.0	+15
JTS				LR	LR		
	comp=Z,68nm,21.0s,MS4.3						
CPUP	**Villa Florida**	**133.72**	**262**	PKP	PKPdf	11 07 55.7	-1.8
	comp=Z,2.5nm,0.7s,baz=120,slow=3.3,SNR=7.7						
CPUP	**Villa Florida**	**133.72**	**262**	PKIKP	PKPdf	11 07 55.7	-1.8
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CPUP	**Villa Florida**	**133.72**	**262**	*e*PKPdf	PKPdf	11 07 55.8	-1.7
CPUP				LR	LR		
	comp=Z,540nm,19.0s,MS5.3						
OTAV	**Otavalo**	**136.80**	**310**	*e*PKPdf	PKPdf	11 08 05.0	+1.5
LPAZ	**La Paz**	**139.05**	**281**	PKP	PKPdf	11 08 07.3	-0.3
	comp=Z,1.9nm,0.8s,baz=344,slow=7.8,SNR=6.2						
LPAZ	**La Paz**	**139.05**	**281**	PKIKP	PKPdf	11 08 07.3	-0.3
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**139.05**	**281**	*e*PKPdf	PKPdf	11 08 07.5	-0.1
LPAZ				LR	LR		
	comp=Z,448nm,21.0s,MS5.2						
LVC	**Limon Verde**	**142.39**	**272**	PKP	PKPdf	11 08 11.5	-1.9
	comp=Z,3.0nm,0.8s,baz=347,slow=1.5,SNR=6.3						
LVC	**Limon Verde**	**142.39**	**272**	PKP	PKPdf	11 08 11.5	-1.9
LVC				LR	LR		
	comp=Z,246nm,19.0s,MS5.0						
NNA	**Nana**	**143.91**	**294**	PFAKE		11 08 30.0	+18
NNA				LR	LR		
	comp=Z,116nm,19.0s,MS4.7						
TLL	**Tololo Astrono**	**146.18**	**261**	*i* P	PKPbc	11 08 19.9	+2.3
LMEL	**Las Melosas**	**146.24**	**254**	*i* P	PKPbc	11 08 20.1	+2.5
FCH	**Farellones**	**146.25**	**255**	*i* P	PKPbc	11 08 20.3	+2.7
PLCA	**Paso Flores**	**146.62**	**242**	PKPbc	PKPbc	11 08 21.1	+2.8
	comp=Z,24nm,0.8s,baz=112,slow=5.8,SNR=17						
PLCA	**Paso Flores**	**146.62**	**242**	PKP2	PKPab	11 08 21.1	-0.6
PLCA				pmax	pmax		
	comp=Z,24nm,0.8s						
PLCA	**Paso Flores**	**146.62**	**242**	*e*PKPbc	PKPbc	11 08 21.0	+2.7

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*NIED **13** 11:42:00,27.80N×143.30E,h17^{km},Mw4.0 Best double couple: M$_0$1.24×10^{15} NP1:φ$_s$119°,δ78°,λ-19°. NP2: φ$_s$213°,δ71°,λ-168°.*

*JMA **13** 11:42:54.0±0.2,27.76N×143.25E,h27^{km}±2^{km},M3.8*

*IDC **13** 11:42:55.2±1.0,27.64N×142.95E,mb3.8/8,mb1 4.0/8, mb1mx3.9/21,Error ellipse: s-maj=26.7km s-min=15.9km az=117.0*

*NEIC **13** 11:43:00.8±2.0,27.61N×142.82E,h38^{km}±18^{km},mb4.6/4, MW4.0(NIED),Error ellipse: s-maj=21.5km s-min=9.8km az=84.0*

ISC 13 11:42:54.6±1.9**,27.80N**±0.04×**143.1E**±0.1**,h15**^{km}±12^{km}**, n21,**σ1^{s}**17**/24**,mb4.1**/12**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.07**	**229**	Pn	**Pn**	**11 43 14.7**	**-0.3**
	140nm,0.3s,baz=281,slow=23,SNR=25						
CBIJ				Sn	**Sn**	**11 43 30.4**	**+0.9**
	218nm,0.3s,baz=285,slow=20,SNR=15						
CBIJ	**Chichi jima**	**1.07**	**229**	P	**Pb**	**11 43 14.6**	**+0.4**
JHHJ	**Haha-jima-NKT**	**1.42**	**215**	S	**Sb**	**11 43 37.9**	**-0.1**
JHU	**Hanno**	**8.65**	**339**	P	**P**	**11 45 01.9**	**-0.3**
JHU				S	**Sn**	**11 46 38.4**	**-2.0**
JRY	**Ryogami san**	**8.92**	**338**	P	**P**	**11 45 05.4**	**-0.6**
JHO	**Hitachi**	**9.04**	**347**	P	**P**	**11 45 06.5**	**-1.0**
JAG	**Ashikaga**	**9.13**	**341**	P	**P**	**11 45 08.6**	**-0.2**
JAG				S	**Sn**	**11 46 46.6**	**-5.7**
MAJO	**Matsushiro**	**9.64**	**336**	*e*Pn	**P**	**11 45 18.0**	**+2.0**
SONM	**Songino Array**	**34.77**	**315**	P	**P**	**11 49 48.9**	**+2.5**
	0.3nm,0.4s,mb3.6,baz=124,slow=5.2,SNR=4.4						
WRAB	**Tennant Creek**	**48.20**	**191**	*e*P	**P**	**11 51 35.8**	**-0.9**
	6.4nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**48.21**	**191**	*e*P	**P**	**11 51 35.5**	**-1.3**
WRA	**Warramunga Arr**	**48.21**	**191**	P	**P**	**11 51 36.1**	**-0.7**
	2.3nm,0.5s,mb4.5,baz=12,slow=8.5,SNR=29						
FITZ	**Fitzroy Crossi**	**48.66**	**202**	P	**P**	**11 51 39.8**	**-0.5**
	3.7nm,0.8s,mb4.4,baz=19,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**50.64**	**309**	P	**P**	**11 51 54.8**	**-0.3**
	1.3nm,0.9s,mb3.9,baz=90,slow=9.5,SNR=9.2						
ASAR	**Alice Springs**	**51.93**	**191**	P	**P**	**11 52 03.9**	**-1.3**
	0.2nm,0.5s,mb3.3,baz=4.5,slow=7.3,SNR=7.5						
KURK	**Kurchatov**	**53.06**	**314**	*e*P	**P**	**11 52 13.2**	**-0.1**
	1.8nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**56.71**	**29**	P	**P**	**11 52 42.5**	**+2.9**
	0.2nm,0.9s,mb3.1,baz=243,slow=4.0,SNR=3.0						
BRVK	**Borovoye**	**58.12**	**317**	*e*P	**P**	**11 52 49.8**	**0.0**
	6.2nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**58.90**	**317**	*e*P	**P**	**11 52 55.6**	**+0.4**
	3.8nm,1.0s,mb4.4						
FINES	**FINESS Array B**	**77.66**	**334**	P	**P**	**11 54 53.2**	**+1.5**
	1.4nm,0.9s,mb3.9,baz=196,slow=28,SNR=2.2						
TXAR	**Lajitas Array**	**94.55**	**54**	P	**P**	**11 56 19.1**	**+3.1**
	0.2nm,0.3s,mb4.0,baz=105,slow=1.8,SNR=5.2						

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*JMA **13** 12:18:00.0±0.2,24.16N×121.84E,h84^{km},M2.4*

*TAP **13** 12:18:01.8,23.98N×121.80E,h49^{km}±1^{km},ML3.0*

ISC 13 12:17:60.0±2.2**,24.1N**±0.3×**121.8E**±0.1**,h49**^{km}**,n6,** σ**0^{s}67**/12**,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.17**	**71**	P	**P**	**12 18 20.8**	**+0.6**
YOJ				*e*S	**S**	**12 18 36.1**	**+0.8**
IRIF	**Iriomote-Funau**	**1.78**	**81**	P	**P**	**12 18 28.8**	**-0.1**
IRIF				*e*S	**S**	**12 18 50.8**	**+0.4**
HATJ	**Hateruma jima**	**1.83**	**90**	P	**P**	**12 18 29.7**	**+0.1**
HATJ				*e*S	**S**	**12 18 52.3**	**+0.7**
JKRS	**Kuro-shima**	**2.02**	**85**	P	**P**	**12 18 32.6**	**+0.3**
JKRS				*e*S	**S**	**12 18 56.9**	**+0.5**
JIJ	**Ishigaki jima**	**2.15**	**82**	P	**P**	**12 18 33.5**	**-0.7**
JIJ				S	**S**	**12 18 58.6**	**-1.2**
JTJ	**Tarama**	**2.70**	**77**	P	**P**	**12 18 41.7**	**-0.3**
JTJ				*e*S	**S**	**12 19 12.6**	**-1.1**

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*HRVD **13** 12:18:55.0±1.0,21.82S×175.55W,h166^{km}±12^{km}, MW4.9/33,Centroid moment Tensor Solution.Mantle waves: s33,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.75±.34; M$_{\theta\theta}$2.05±.50; M$_{\phi\phi}$-1.30±.43; M$_{r\theta}$0.19±.25; M$_{\theta\phi}$0.84±.38; M$_{\phi r}$1.47±.17; Best double couple: M$_0$2.47×10^{16} NP1:φ$_s$115°,δ55°,λ-21°. NP2: φ$_s$217°,δ73°,λ-143°. Principal axes: T 2.35, Plg11°, Azm343°; N .23, Plg50°, Azm239°; P -2.58, Plg38°, Azm82°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.*

*BJI **13** 12:18:55.0,21.90S×176.10W,h113^{km},mB5.0,mb5.1*

*NEIC **13** 12:18:55.0±2.1,21.92S×176.09W,h113^{km}±18^{km}, mb4.9/17,Error ellipse: s-maj=12.0km s-min=6.9km az=156.0*

*IDC **13** 12:18:58.5±0.7,21.97S×176.08W,h143^{km}±6^{km},mb4.2/13, mb1 4.4/15,mb1mx4.3/19,Error ellipse: s-maj=17.6km s-min=12.2km az=143.0*

ISC 13 12:18:56.6±0.3**,22.03S**±0.08×**176.13W**±0.07**,h138**^{km}**, h138**^{km}±3.2^{km}**:pP-P,n94,**σ**1^{s}12**/59**,mb4.5**/25**,7C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.23**	**90**	P	**P**	**12 22 24.7**	**-0.8**
	8.1nm,0.3s,baz=246,slow=5.4,SNR=8.2						
RAR				S	**S**	**12 24 58.9**	**-12**
	5.4nm,0.3s,baz=68,slow=17,SNR=3.5						
RAR	**Rarotonga**	**15.23**	**90**	*e*P	**P**	**12 22 23.1**	**-2.5**
	43nm,0.6s						
DZM	**Mont Dzumac**	**16.16**	**267**	*e*P	**P**	**12 22 42.6**	**+5.5**
URZ	**Urewera**	**17.19**	**198**	P	**P**	**12 22 48.5**	**-1.2**
	2.6nm,0.3s,baz=85,slow=2.9,SNR=13						
URZ				S	**S**	**12 25 46.6**	**-8.0**
	1.4nm,0.3s,baz=252,slow=21,SNR=7.0						
SNZO	**South Karori**	**20.72**	**200**	P	**P**	**12 23 33.7**	**+6.1**
RPZ	**Rata Peaks**	**24.10**	**203**	P	**P**	**12 24 01.5**	**+1.0**
	22nm,0.7s,mb4.8,baz=356,slow=4.4,SNR=6.7						
CNB	**Canberra Magne**	**32.87**	**239**	*e*P	**P**	**12 25 22.0**	**+2.6**
	19nm,1.2s,mb4.7						
CTA	**Charters Tower**	**35.10**	**266**	*e*P	**P**	**12 25 39.1**	**+0.5**

	27nm,0.8s,mb4.9						
CTA				*e*		12 25 46.9	
CTA	**Charters Tower**	**35.10**	**266**	P	**P**	**12 25 39.1**	**+0.5**
	27nm,0.6s,mb5.1,baz=96,slow=10,SNR=55						
CTAO	**Charters Tower**	**35.10**	**266**	*e*P	**P**	**12 25 38.4**	**-0.1**
	31nm,0.7s,mb5.0						
TOO	**Toolangi**	**36.45**	**236**	*e*P	**P**	**12 25 50.6**	**+0.8**
	5.5nm,0.7s,mb4.3						
PMG	**Port Moresby**	**37.39**	**284**	P	**P**	**12 25 58.3**	**+0.5**
	22nm,0.8s,mb4.8,baz=97,slow=6.7,SNR=6.5						
PMG	**Port Moresby**	**37.39**	**284**	*e*P	**P**	**12 25 55.8**	**-2.1**
	32nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**38.73**	**246**	*e*P	**P**	**12 26 09.5**	**+0.6**
	12nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**38.73**	**246**	P	**P**	**12 26 09.5**	**+0.6**
	13nm,0.9s,mb4.6,baz=86,slow=10,SNR=14						
ASAR	**Alice Springs**	**45.89**	**258**	P	**P**	**12 27 06.6**	**-0.5**
	19nm,0.8s,mb4.8,baz=91,slow=8.2,SNR=123						
ASPA	**Alice Springs**	**45.89**	**258**	*e*P	**P**	**12 27 06.6**	**-0.5**
WB2	**Warramunga Arr**	**46.12**	**263**	*e*P	**P**	**12 27 08.0**	**-0.9**
WRAB	**Tennant Creek**	**46.12**	**263**	*e*P	**P**	**12 27 07.5**	**-1.4**
	13nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**46.13**	**263**	P	**P**	**12 27 08.3**	**-0.8**
	6.4nm,0.6s,mb4.4,baz=100,slow=5.8,SNR=48						
WRA				PcP	PcP	12 28 42.3	-0.9
	2.5nm,0.8s,baz=94,slow=3.6,SNR=5.2						
KAKA	**Kakadu**	**49.80**	**272**	*e*P	**P**	**12 27 36.0**	**-1.5**
	11nm,0.6s,mb4.7						
FORT	**Forrest**	**50.31**	**248**	*e*P	**P**	**12 27 40.1**	**-1.1**
	186nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.56**	**263**	*e*P	**P**	**12 28 12.1**	**-0.8**
	9.8nm,0.8s,mb4.6						
VNDA	**Vanda**	**56.56**	**186**	P	**P**	**12 28 26.6**	**+0.1**
	1.5nm,0.8s,mb3.9,baz=359,slow=6.8,SNR=9.9						
VNDA	**Vanda**	**56.56**	**186**	*e*P	**P**	**12 28 22.2**	**-4.3**
KLBR	**Kellerberrin**	**59.00**	**246**	*e*P	**P**	**12 28 43.0**	**-1.2**
	13nm,0.7s,mb4.9						
MAT	**Matsushiro**	**72.47**	**323**	P	**P**	**12 30 09.1**	**-0.8**
MAT	**Matsushiro**	**72.47**	**323**	*e*P	**P**	**12 30 09.0**	**-0.9**
	4.5nm,0.8s,mb4.2						
YSS	**Yuzh-Sakhalins**	**78.04**	**333**	*e*P	**P**	**12 30 40.9**	**-0.4**
SSE	**Sheshan**	**80.00**	**309**	P	**P**	**12 30 54.3**	**+2.0**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,157nm,4.5s						
SSE	**Sheshan**	**80.00**	**309**	P	**P**	**12 30 54.3**	**+2.0**
	comp=Z,36nm,0.7s,mb5.1						
YBH	**Yreka Blue Hor**	**80.41**	**38**	P	**P**	**12 30 54.8**	**+0.5**
	comp=Z,2.1nm,1.1s,mb3.7,baz=189,slow=3.2,SNR=3.0						
MAW	**Mawson**	**80.72**	**199**	*e*P	**P**	**12 30 56.8**	**+1.5**
	comp=Z,5.3nm,0.6s,mb4.3						
MAW				*e*		12 31 07.5	
MAW				*e*pP	pP	12 31 32.5	+2.4
MAW	**Mawson**	**80.72**	**199**	P	**P**	**12 30 56.5**	**+1.1**
	comp=Z,6.2nm,0.6s,mb4.4,baz=124,slow=8.6,SNR=27						
MAW				pP	pP	12 31 32.3	+2.2
	comp=Z,3.6nm,0.6s,baz=149,slow=8.2,SNR=3.8						
NVAR	**Mina Array Bea**	**80.95**	**42**	P	**P**	**12 30 58.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=212,slow=7.2,SNR=3.6						
NVAR				pP	pP	12 31 33.0	+1.0
	comp=Z,1.6nm,0.7s,baz=228,slow=10,SNR=8.9						
NVAR	**Mina Array Bea**	**80.95**	**42**	P	**P**	**12 30 58.0**	**+0.8**
NVAR				pP	pP	12 31 33.0	+1.0
MNV	**Mina**	**81.05**	**42**	P	**P**	**12 30 57.5**	**-0.1**
MNV				*e*pP	pP	12 31 30.9	-1.6
MDJ	**Mudanjiang**	**82.77**	**324**	P	**P**	**12 31 07.0**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,61nm,4.1s						
CN2	**Changchun**	**84.57**	**322**	*e*P	**P**	**12 31 18.0**	**+2.5**
PMR	**Palmer**	**86.11**	**13**	*e*P	**P**	**12 31 21.9**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.1						
LTX	**Lajitas**	**86.42**	**57**	P	**P**	**12 31 24.4**	**-0.5**
TXAR	**Lajitas Array**	**86.42**	**57**	P	**P**	**12 31 23.8**	**-1.2**
	comp=Z,0.6nm,0.2s,mb3.9,baz=243,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**86.42**	**57**	P	**P**	**12 31 23.8**	**-1.2**
PLCA	**Paso Flores**	**86.96**	**133**	P	**P**	**12 31 26.1**	**-1.2**
	comp=Z,1.8nm,0.9s,mb3.9,baz=316,slow=4.1,SNR=3.0						
VNA2	**Neumayer--Watz**	**86.96**	**176**	⇑*i*	**P**	**12 31 30.0**	**+3.5**
VNA2	**Neumayer--Watz**	**86.96**	**176**	⇑*i*	pP	12 31 56.8	-5.1
VNA2	**Neumayer--Watz**	**86.96**	**176**		pP	12 32 04.8	+2.9
VNA2	**Neumayer--Watz**	**86.96**	**176**	⇓*i*P	**P**	**12 31 28.8**	**+2.3**
VNA2				*e*	pP	12 32 04.8	+2.9
VNA1	**Neumayer--Stat**	**87.18**	**176**	⇑*i*P	**P**	**12 31 30.2**	**+2.6**
VNA1	**Neumayer--Stat**	**87.18**	**176**	⇑*i*	pP	12 32 07.4	+4.5
MCMT	**McKenzie Canyo**	**88.00**	**39**	P	**P**	**12 31 33.0**	**+0.9**
BW06	**Boulder Array**	**88.89**	**43**	P	**P**	**12 31 36.2**	**-0.2**
PDAR	**Pinedale Array**	**88.89**	**43**	P	**P**	**12 31 36.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=180,slow=10,SNR=2.7						
SDCO	**Great Sand Dun**	**89.04**	**48**	P	**P**	**12 31 37.2**	**0.0**
COLA	**College**	**89.33**	**12**	*e*P	**P**	**12 31 37.3**	**-0.6**
	comp=Z,2.2nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**89.42**	**12**	P	**P**	**12 31 37.8**	**-0.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=232,slow=5.5,SNR=10						
ILAR				pP	pP	12 32 13.4	-0.4
	comp=Z,0.4nm,0.5s,baz=239,slow=5.5,SNR=1.7						
DAWY	**Dawson**	**90.45**	**15**	*e*P	**P**	**12 31 43.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.26**	**289**	P	**P**	**12 31 53.9**	**+1.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=105,slow=2.7,SNR=13						
LZH	**Lanzhou**	**95.08**	**307**	⇑P	**P**	**12 32 06.5**	**+1.4**
LZH				AP	pP	12 32 36.1	-4.6
LZH				XP	sP	12 32 47.5	-8.3
LZH				PP	PP	12 35 59.8	+1.6
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.3						
LZH	**Lanzhou**	**95.08**	**307**	⇑P	**P**	**12 32 06.5**	**+1.4**
	comp=Z,28nm,1.3s,mb5.3						
LZH				pP	pP	12 32 36.1	-4.6
LZH				sP	sP	12 32 47.5	-8.3
LZH				PP	PP	12 35 59.7	+1.5
LZH				LR	LR		
	comp=Z,260nm,14.8s						
WMQ	**Urumqi**	**109.24**	**310**	PDIF	Pdif	12 33 09.5	+1.5
WMQ				PP	PP	12 37 47.0	+1.3
WMQ				PP	PP		
	comp=Z,20nm,8.0s						
MKAR	**Makanchi Array**	**113.51**	**313**	PKiKP		12 37 18.3	
	comp=Z,1.3nm,0.6s,baz=115,slow=0.2,SNR=16						
KURK	**Kurchatov**	**116.30**	**317**	*e*PKP	PKPdf	12 37 23.5	0.0
BVAR	**Borovoye Array**	**121.36**	**320**	PKP	PKPdf	12 37 33.4	+0.1
	comp=Z,2.2nm,0.6s,baz=90,slow=1.5,SNR=16						
BRVK	**Borovoye**	**121.43**	**320**	*e*PKP	PKPdf	12 37 33.2	-0.2
ZRNK	**Zerenda**	**122.21**	**320**	*e*PKP	PKPdf	12 37 35.0	+0.2
ARU	**Arti**	**127.44**	**325**	*e*PKP	PKPdf	12 37 45.5	+0.7
ARCES	**ARCESS Array B**	**130.72**	**350**	PKP	PKPdf	12 37 51.3	+0.5
	comp=Z,2.3nm,0.8s,baz=18,slow=3.8,SNR=8.4						
ARCES				pPKP		12 38 29.7	
	comp=Z,1.1nm,0.6s,baz=68,slow=6.5,SNR=1.3						
KTK1	**Kautokeino**	**131.55**	**351**	*e*P	Pdif	12 34 42.1	-3.4
FINES	**FINESS Array B**	**137.71**	**344**	PKP	PKPdf	12 38 05.8	+1.8
	comp=Z,0.9nm,0.7s,baz=315,slow=2.0,SNR=4.0						
FINES	**FINESS Array B**	**137.71**	**344**	PKP	PKPdf	12 38 05.8	+1.8
SUW	**Suwalki**	**144.87**	**340**	*e*PKP	PKPdf	12 38 17.7	+0.9
AKASG	**Malin Array Be**	**145.18**	**332**	PKPbc	PKPbc	12 38 18.1	+0.2
	comp=Z,9.9nm,0.6s,baz=42,slow=4.1,SNR=32						
MBAR	**Mbarara**	**145.47**	**233**	*e*PKP	PKPdf	12 38 20.5	+1.5
MALT	**Malatya**	**146.24**	**307**	*e*PKPbc	PKPbc	12 38 21.7	+0.8
MALT				*e*PKPab	PKPab	12 38 23.5	-0.6
ASF	**Jabal al Asfar**	**149.02**	**296**	PKPbc	PKPdf	12 38 30.5	+6.2
	comp=Z,4.2nm,0.6s,baz=2.5,slow=3.6,SNR=9.4						
BRTR	**Keskin Array B**	**149.15**	**312**	PKPbc	PKPdf	12 38 30.4	+6.1
	comp=Z,5.5nm,0.6s,baz=136,slow=4.3,SNR=24						
KSP	**Ksiaz**	**149.64**	**344**	*e*PKP	PKPdf	12 38 31.3	+6.6
CLL	**Collm**	**149.92**	**349**	⇑*i*PKP1	PKPdf	12 38 32.0	+6.9
CLL				*i*		12 39 09.5	
DPC	**Dobruska-Polom**	**150.09**	**344**	*e*PKP1	PKPdf	12 38 32.9	+7.6
BRG	**Berggiesshubel**	**150.15**	**347**	*i* P	PKPdf	12 38 32.8	+7.4
BRG				*e*		12 39 10.2	
PVCC	**Panska Ves**	**150.34**	**346**	*e*PKP1	PKPdf	12 38 33.6	+7.9
PRU	**Pruhonice**	**150.85**	**346**	*e*PKP1	PKPdf	12 38 32.8	+6.3
VYHS	**Vyhne**	**151.01**	**339**	*i* PKP	PKPdf	12 38 35.2	+8.4
VYHS				*i*		12 38 43.2	
KHC	**Kasperske Hory**	**151.87**	**346**	*e*PKP1	PKPdf	12 38 36.6	+8.5
KHC				*e*PKP2	PKPab	12 38 46.2	-0.5
BAIF	**Baives**	**152.02**	**360**	*e*PKP2	PKPab	12 38 46.4	-0.9
	comp=Z,30nm,1.1s						
GERES	**GERESS Array B**	**152.12**	**346**	PKPbc	PKPdf	12 38 37.4	+8.9
	comp=Z,2.2nm,0.8s,baz=146,slow=4.8,SNR=7.6						
CDF	**Champ du Feu**	**153.53**	**355**	*e*PKP2	PKPab	12 38 52.7	-1.0
SSF	**Saint Saulge**	**155.02**	**1**	*e*PKP2	PKPab	12 38 59.1	-0.9
	comp=Z,22nm,1.1s						
AVF	**Avril sur Loir**	**155.29**	**1**	*e*PKP2	PKPab	12 39 00.0	-1.2
CABF	**La Chapelle**	**155.41**	**356**	*e*PKP2	PKPab	12 38 59.6	-2.1
SMF	**Signal de Mont**	**155.44**	**0**	*e*PKP2	PKPab	12 39 00.9	-0.9
	comp=Z,17nm,1.0s						
BGF	**Bois d’Agland**	**155.51**	**2**	*e*PKP2	PKPab	12 39 01.0	-1.2
MBDF	**Montbardon**	**157.23**	**355**	*e*PKP2	PKPab	12 39 09.2	-0.4
	comp=Z,13nm,1.0s						

JMA ***13*** *12:42:26.3±0.3, 22.84N×121.73E, h19^{km}*

TAP 13 12:42:27.0, 23.02N×121.49E, h20^{km}±1^{km}, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.00**	**44**	P	Pn	12 42 59.9	-0.4
YOJ				*e*S	Sn	12 43 24.8	-0.2
HATJ	**Hateruma jima**	**2.36**	**64**	*e*S	Sn	12 43 31.0	-3.2
IRIF	**Iriomote-Funau**	**2.44**	**57**	P	Pn	12 43 05.3	-1.2
IRIF				*e*S	Sn	12 43 34.3	-1.7
JKRS	**Kuro-shima**	**2.61**	**62**	P	Pn	12 43 07.4	-1.6
JKRS				*e*S	Sn	12 43 38.5	-1.9
JIJ	**Ishigaki jima**	**2.77**	**61**	P	Pn	12 43 09.5	-1.9
JIJ				*e*S	Sn	12 43 41.4	-3.2
JTJ	**Tarama**	**3.35**	**61**	P	Pn	12 43 18.3	-1.3
JTJ				*e*S	Sn	12 43 56.3	-3.0

IDC ***13*** *12:57:57.7±2.5, 7.11S×107.15E, mb3.8/6, mb1 3.9/6, mb1mx3.8/15, Error ellipse: s-maj=150.0km s-min=19.5km az=49.0*

ISC 13 12:58:01.4±2.7**, 6.9S**±0.8×**107.5E**±0.9**, h33^{km}, n8,** σ**0^{s}30**/7**, mb3.8**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.95**	**124**	P	**P**	**13 02 43.5**	**-0.5**
	1.7nm,0.8s,baz=297,slow=5.4,SNR=2.4						
WRA	**Warramunga Arr**	**29.14**	**119**	P	**P**	**13 04 01.9**	**+0.1**
	0.6nm,0.6s,mb3.5,baz=290,slow=11,SNR=7.1						
WB2	**Warramunga Arr**	**29.16**	**119**	*e*P	**P**	**13 04 02.3**	**+0.4**
ASAR	**Alice Springs**	**30.41**	**126**	P	**P**	**13 04 13.1**	**+0.1**
	0.2nm,0.5s,mb3.1,baz=304,slow=8.4,SNR=5.1						
STKA	**Stephens Creek**	**40.40**	**133**	P	**P**	**13 05 38.1**	**0.0**
	3.5nm,0.5s,mb4.3,baz=296,slow=7.7,SNR=11						
SONM	**Songino Array**	**54.45**	**359**	PcP	PcP	13 08 32.0	+0.9
	1.3nm,0.5s,baz=175,slow=3.6,SNR=10						
MKAR	**Makanchi Array**	**57.90**	**340**	P	**P**	**13 07 52.2**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=142,slow=8.6,SNR=4.7						
BVAR	**Borovoye Array**	**67.41**	**337**	P	**P**	**13 08 55.9**	**+0.3**
	0.5nm,0.3s,mb4.0,baz=148,slow=6.3,SNR=3.3						

BGR ***13*** *13:04:53.8±0.4, 49.42N×7.00E, h1^{km}, ML2.0/1, Error ellipse: s-maj=13.3km s-min=4.4km az=47.0*

LDG ***13*** *13:04:54.1±0.1, 49.34N×6.92E, h1^{km}, Md2.7/3, Ml2.9/14, Error ellipse: s-maj=2.0km s-min=1.4km az=53.0, Suspected Mining induced.*

NEIC ***13*** *13:04:55.2, 49.28N×6.84E, h1^{km}, ML2.9(LDG), ML2.4(STR), After STR.*

ISC 13 13:04:53.0±0.4**, 49.28N**±0.02×**6.75E**±0.03**, n23,** σ**1^{s}25**/58**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	**Walferdange**	**0.55**	**315**	*e*Pg	**Pg**	**13 05 05.4**	**+1.4**
	SNR=7.4						
WLF				*e*Sg	**Sg**	**13 05 12.9**	**+1.6**
	SNR=3.5						
WLF	**Walferdange**	**0.55**	**315**	*e*P	**Pg**	**13 05 05.1**	**+1.1**
LANF	**Langenberg**	**0.76**	**113**	Pg	**Pg**	**13 05 06.8**	**-1.3**
LANF				Sg	**Sg**	**13 05 20.2**	**+2.0**
CDF	**Champ du Feu**	**0.93**	**158**	*e*Pg	**Pg**	**13 05 12.3**	**+0.6**
CDF				*e*Sg	**Sg**	**13 05 25.2**	**+1.1**
	46nm,0.2s						
WLS	**Welschbruch**	**0.95**	**155**	Pg	**Pg**	**13 05 12.7**	**+0.7**
WLS				Sg	**Sg**	**13 05 24.7**	**0.0**
RFYF	**Reffroy**	**1.06**	**233**	*e*Pg	**Pg**	**13 05 17.0**	**+2.8**
	baz=50						
RFYF				*e*Sg	**Sg**	**13 05 32.1**	**+3.8**
	38nm,0.2s,baz=50						
THEF	**They Montfort**	**1.16**	**206**	Pg	**Pg**	**13 05 18.0**	**+1.7**
THEF				Sg	**Sg**	**13 05 34.7**	**+2.9**
LIBD	**Limburg**	**1.26**	**153**	Pg	**Pg**	**13 05 18.7**	**+0.5**
HAU	**Haudompre**	**1.30**	**192**	*e*Pg	**Pg**	**13 05 20.2**	**+1.3**
HAU				*e*Sg	**Sg**	**13 05 37.5**	**+1.3**
	35nm,0.4s						
MEZF	**Maizieres J’vi**	**1.36**	**236**	*e*Pg	**Pg**	**13 05 22.2**	**+2.0**
	baz=61						
MEZF				*e*Sg	**Sg**	**13 05 40.4**	**+2.1**
	27nm,0.5s						
BFO	**Black Forest**	**1.41**	**131**	*e*Pg	**Pg**	**13 05 20.3**	**-0.9**
	SNR=6.4						
BFO				*e*Sg	**Sg**	**13 05 38.3**	**-1.7**
	SNR=4.8						
MOF	**Molkenrain**	**1.45**	**170**	Pg	**Pg**	**13 05 21.9**	**0.0**
MOF				Sg	**Sg**	**13 05 42.0**	**+0.7**
HINF	**Hinteralfeld**	**1.46**	**177**	*e*Pg	**Pg**	**13 05 22.8**	**+0.6**
HINF				*e*Sg	**Sg**	**13 05 42.4**	**+0.7**
	43nm,0.3s						
GIVF	**Givet**	**1.50**	**304**	*e*Pn	**Pn**	**13 05 21.2**	**0.0**
GIVF				*e*Pg	**Pg**	**13 05 23.1**	**+0.2**
GIVF				*e*Sg	**Sg**	**13 05 43.0**	**+0.1**
	14nm,0.3s						
SFTF	**Sexfontaines**	**1.56**	**227**	*e*Pn	**Pn**	**13 05 22.9**	**+0.8**
	baz=48						
SFTF				*e*Pg	**Pg**	**13 05 25.0**	**+0.9**
SFTF				*e*Sg	**Sg**	**13 05 46.3**	**+1.4**
	20nm,0.4s						
HGN	**Heimansgroeve**	**1.58**	**341**	*e*Pg	**Pg**	**13 05 22.2**	**-2.4**
	SNR=2.6						
HGN				*e*Sg	**Sg**	**13 05 41.7**	**-3.9**
	SNR=2.4						
HGN	**Heimansgroeve**	**1.58**	**341**	*e*Pg	**Pg**	**13 05 22.1**	**-2.5**
	10nm,0.6s						
HGN				*e*Sg	**Sg**	**13 05 41.5**	**-4.1**
BAIF	**Baives**	**1.82**	**296**	*e*Pn	**Pn**	**13 05 26.5**	**+0.6**
BAIF				*e*Pg	**Pg**	**13 05 29.4**	**-0.1**
BAIF				*e*Sn	**Sn**	**13 05 48.6**	**-1.5**
BAIF				*e*Sg	**Sg**	**13 05 54.3**	**+0.5**
	18nm,0.5s						
CABF	**La Chapelle**	**2.70**	**190**	*e*Pn	**Pn**	**13 05 37.9**	**-0.6**
CABF				*e*Pg	**Pg**	**13 05 46.1**	**-0.9**
CABF				*e*Sn	**Sn**	**13 06 10.0**	**-2.4**
CABF				*e*Sg	**Sg**	**13 06 21.8**	**-1.2**
	25nm,0.7s						
LOR	**Lormes**	**2.78**	**225**	*e*Pn	**Pn**	**13 05 39.8**	**+0.2**
LOR				*e*Pg	**Pg**	**13 05 48.3**	**-0.3**
LOR				*e*Sn	**Sn**	**13 06 13.5**	**-0.9**
LOR				*e*Sg	**Sg**	**13 06 24.2**	**-1.5**
	6.8nm,0.3s						
SSF	**Saint Saulge**	**3.10**	**226**	*e*Pn	**Pn**	**13 05 44.0**	**-0.1**
SSF				*e*Pg	**Pg**	**13 05 54.0**	**-0.9**
SSF				*e*Sn	**Sn**	**13 06 20.8**	**-1.6**
SSF				*e*Sg	**Sg**	**13 06 36.5**	**+0.3**
	8.1nm,0.4s						
SMF	**Signal de Mont**	**3.28**	**218**	*e*Pn	**Pn**	**13 05 46.4**	**-0.2**
SMF				*e*Pg	**Pg**	**13 05 57.1**	**-1.3**
SMF				*e*Sn	**Sn**	**13 06 23.0**	**-3.9**
SMF				*e*Sg	**Sg**	**13 06 40.8**	**-1.3**
	4.9nm,0.3s						
AVF	**Avril sur Loir**	**3.37**	**224**	*e*Pn	**Pn**	**13 05 47.4**	**-0.6**
AVF				*e*Pg	**Pg**	**13 05 59.2**	**-1.1**
AVF				*e*Sn	**Sn**	**13 06 27.5**	**-1.8**
AVF				*e*Sg	**Sg**	**13 06 43.1**	**-2.2**
	3.9nm,0.5s						

NAO ***13*** *13:05:16.9±5.3, 61.66N×34.86E, ML2.2*

HEL 13 13:05:15.8±0.7**, 61.58N×35.12E, ML2.6, ML2.2**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAF	**Kangasniemi**	**4.21**	**281**	*e*P	Pn	13 06 21.2	-1.5
KAF				*e*S	Sn	13 07 09.0	-4.4
KAF				*e*SG	Sg	13 07 26.5	-10
KJN	**Kajaani**	**4.23**	**310**	*e*P	Pn	13 06 23.1	+0.1
KJN				*e*S	Sn	13 07 09.4	-4.3
KJN				*e*SG	Sg	13 07 25.4	-11
KJN				MSG		13 07 28.0	
	comp=Z,18nm,0.4s						
FIA0	**FINESS Array S**	**4.34**	**272**	Pn	Pn	13 06 21.4	-3.1
	baz=105,slow=16						
FIA0				Pg	Pg	13 06 32.6	-10
	baz=94,slow=18						
FIA0				Sn	Sn	13 07 12.0	-4.5
	baz=84,slow=28						
FIA0				Lg		13 07 29.0	
	baz=70,slow=37						
FIA0	**FINESS Array S**	**4.34**	**272**	*e*P	Pn	13 06 21.5	-3.0
FIA0				*e*S	Sn	13 07 11.0	-5.5
FIA0				*e*SG	Sg	13 07 28.1	-12
FIA0				MSG		13 07 31.8	
	comp=Z,13nm,0.4s						
SUF	**Sumiainen**	**4.36**	**289**	*e*P	Pn	13 06 24.8	0.0
SUF				*e*S	Sn	13 07 14.1	-3.1
SUF				*e*SG	Sg	13 07 29.4	-12
SUF				MSG		13 07 34.0	
	comp=Z,9.1nm,0.3s						
PVF	**Pernaja**	**4.62**	**261**	*e*S	Sn	13 07 17.1	-6.6
PVF				*e*SB	Sb	13 07 32.5	-1.7
PVF				*e*SG	Sg	13 07 38.9	-11
PVF				MSG		13 07 40.4	
	comp=Z,9.3nm,0.3s						
MSF	**Maaselka**	**5.12**	**331**	*e*P	Pn	13 06 33.4	-2.2
MSF				*e*S	Sn	13 07 28.7	-7.5
MSF				*e*SG	Sg	13 07 53.6	-12
NUR	**Nurmij rvi**	**5.20**	**263**	*e*S	Sn	13 07 30.4	-8.1
NUR				*e*SG	Sg	13 07 56.1	-13
OUL	**Oulu**	**5.44**	**314**	*e*S	Sn	13 07 39.1	-5.3
OUL				*e*SG	Sg	13 08 02.2	-15
OUL				MSG		13 08 12.2	
	comp=Z,8.2nm,0.3s						
ARA0	**ARCESS Array S**	**8.91**	**338**	Pn	P	13 07 24.0	-4.8
	baz=152,slow=16						
ARA0				Sn	Sn	13 09 00.4	-11
	baz=142,slow=28						
ARA0				Lg		13 09 53.8	
	baz=146,slow=37						
ARA0	**ARCESS Array S**	**8.91**	**338**	*e*P	P	13 07 24.0	-4.8
ARA0				*e*S	Sn	13 09 00.4	-11
ARA0				*e*		13 09 53.8	
HFS	**Hagfors**	**10.54**	**272**	Sn	S	13 09 41.0	-10
	baz=88,slow=37						
HFS				Lg		13 10 43.3	
	baz=78,slow=28						

IDC ***13*** *13:16:51.1±2.9, 30.56S×177.26W, mb4.2/5, mb1 4.3/6, mb1mx4.0/13, ML3.2/1, Error ellipse: s-maj=61.7km s-min=35.2km az=116.0*

NEIC ***13*** *13:16:58.5±1.9, 30.90S×177.17W, h65^{km}, Error ellipse: s-maj=37.9km s-min=19.9km az=100.0*

ISC 13 13:16:59.1±1.9**, 30.49S**±0.10×**178.0W**±0.3**, h33^{km}, n10,** σ**0^{s}49**/9**, mb4.1**/5**, 1C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.74**	**206**	Pn	**P**	**13 19 01.7**	**-4.4**
	0.3nm,0.3s,baz=146,slow=7.9,SNR=3.5						
URZ				Sn	**Sn**	**13 20 44.8**	**0.0**
	1.3nm,0.3s,baz=131,slow=19,SNR=10						
CTA	**Charters Tower**	**33.83**	**279**	P	**P**	**13 23 41.1**	**+0.7**
	3.5nm,0.6s,mb4.5,baz=105,slow=11,SNR=8.2						
STKA	**Stephens Creek**	**34.47**	**257**	P	**P**	**13 23 46.5**	**+0.7**
	4.3nm,0.9s,mb4.4,baz=91,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**13 24 57.5**	**-0.6**
	0.6nm,0.6s,mb3.5,baz=100,slow=7.3,SNR=6.2						
WB2	**Warramunga Arr**	**44.10**	**272**	*e*P	**P**	**13 25 05.9**	**-0.2**
WRA	**Warramunga Arr**	**44.11**	**272**	P	**P**	**13 25 05.9**	**-0.4**
	0.9nm,0.2s,mb4.1,baz=110,slow=8.0,SNR=18						
FITZ	**Fitzroy Crossi**	**52.37**	**270**	P	**P**	**13 26 10.1**	**-0.2**
	3.1nm,1.0s,mb4.2,baz=40,slow=9.8,SNR=2.6						
VNA2	**Neumayer--Watz**	**78.65**	**177**	⇑*i*	**P**	**13 28 58.8**	**+0.1**
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	13 36 29.8	-3.2
	7.4nm,1.1s,baz=45,slow=3.9,SNR=9.6						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	13 36 29.8	-3.2

IDC ***13*** *13:38:43.2±1.2, 14.13S×166.93E, h40^{km}±6^{km}, mb3.9/9, mb1 4.0/9, mb1mx4.0/14, MS3.4/2, Ms1 3.4/2, ms1mx3.0/17, Error ellipse: s-maj=33.0km s-min=20.3km az=120.0*

NEIC ***13*** *13:38:43.8±0.7, 14.05S×166.89E, mb4.3/3, Error ellipse: s-maj=19.3km s-min=14.7km az=107.0*

ISC 13 13:38:42.1±0.8**, 14.1S**±0.1×**166.8E**±0.2**, h40^{km}, (h40^{km}**±1.9^{km}**:pP-P), n13,** σ**0^{s}94**/12**, mb4.1**/11**, MS3.2**/2**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.54**	**250**	P	**P**	**13 43 20.9**	**+1.0**
	4.3nm,1.1s,baz=45,slow=10.0,SNR=2.8						
CTA				LR	LR	13 49 48.9	
	comp=Z,56nm,21.3s,MS2.9,baz=223,slow=32						
STKA	**Stephens Creek**	**29.09**	**228**	P	**P**	**13 44 42.0**	**+0.7**
	2.0nm,0.7s,mb4.0,baz=43,slow=5.2,SNR=4.3						
STKA				pP	pP	13 44 52.4	+0.3
	2.4nm,0.7s,baz=45,slow=6.9,SNR=1.4						
STKA				LR	LR	13 56 13.6	
	comp=Z,127nm,18.6s,MS3.6,baz=25,slow=36						
WRA	**Warramunga Arr**	**31.57**	**255**	P	**P**	**13 45 01.8**	**-1.5**
	1.1nm,0.8s,mb3.8,baz=85,slow=9.2,SNR=7.0						
WRA				pP	pP	13 45 14.5	+0.3
	0.7nm,0.8s,baz=85,slow=9.0,SNR=3.1						
WRA				PcP	PcP	13 47 52.4	-2.9
	0.6nm,0.9s,baz=92,slow=2.6,SNR=3.3						
ASAR	**Alice Springs**	**32.51**	**248**	P	**P**	**13 45 10.3**	**-1.2**
	1.8nm,0.6s,mb4.2,baz=75,slow=9.3,SNR=44						
ASAR				pP	pP	13 45 20.7	-1.7
	1.0nm,0.6s,baz=72,slow=9.2,SNR=5.0						
ASAR				PcP	PcP	13 47 56.1	-1.7
	0.4nm,0.6s,baz=77,slow=2.5,SNR=5.4						
ASAR				pScP		13 48 09.6	
	0.4nm,1.0s,baz=75,slow=2.0,SNR=4.0						
MAJO	**Matsushiro**	**57.14**	**333**	*e*P	**P**	**13 48 26.3**	**-1.1**
	3.6nm,0.6s,mb4.6						
VNDA	**Vanda**	**63.49**	**181**	P	**P**	**13 49 08.9**	**-1.2**
	3.0nm,1.4s,mb4.2,baz=18,slow=6.4,SNR=2.5						
SBA	**Scott Base**	**63.77**	**180**	*e*P	**P**	**13 49 12.2**	**+0.3**
	2.0nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**74.30**	**294**	P	**P**	**13 50 18.7**	**+1.0**
	0.9nm,0.6s,mb3.9,baz=116,slow=4.5,SNR=5.5						
QSPA	**South Pole Qui**	**75.94**	**180**	*e*P	**P**	**13 50 26.7**	**+0.8**
	3.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**81.73**	**324**	P	**P**	**13 50 58.5**	**+0.4**
	1.2nm,0.8s,mb3.9,baz=143,slow=6.2,SNR=7.2						
SONM				pP	pP	13 51 10.6	+0.6
	0.6nm,0.6s,baz=139,slow=5.6,SNR=2.9						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**13 51 19.1**	**-0.3**
	0.5nm,0.6s,mb3.9,baz=236,slow=5.6,SNR=6.4						
MKAR	**Makanchi Array**	**96.44**	**317**	P	**P**	**13 52 09.2**	**+0.9**
	1.3nm,0.7s,mb4.5,baz=96,slow=6.7,SNR=16						
MKAR				pP	pP	13 52 21.0	+0.4
	0.7nm,0.8s,baz=87,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	**119.53**	**345**	PKP	PKPdf	13 57 27.9	+0.6
	1.5nm,0.7s,slow=2.4,SNR=4.6						

ISK ***13*** *14:12:05.0, 38.60N×25.98E, h13^{km}, MD3.2*

NEIC ***13*** *14:12:05.5, 38.56N×25.91E, h22^{km}, MD3.3(ATH), After ATH.*

ATH ***13*** *14:12:05.5, 38.56N×25.91E, h22^{km}±7^{km}, MD3.3/5*

ISC 13 14:12:06.4±0.7**, 38.63N**±0.03×**25.92E**±0.06**, h22^{km}, n18,** σ**1^{s}06**/28**, 3C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.68**	**24**	⇑*i*PN	**Pn**	**14 12 19.7**	**-0.9**
PRK				*e*SN	**Sn**	**14 12 30.6**	**+0.1**
IZM	**Izmir**	**1.08**	**102**	*i* PG	**Pb**	**14 12 25.6**	**-0.7**
IZM				*i* SG	**Sb**	**14 12 39.8**	**-0.2**
KDAG	**Bornova**	**1.08**	**102**	⇑*i*P	**Pb**	**14 12 25.6**	**-0.7**
KDAG				*i* S	**Sb**	**14 12 39.7**	**-0.3**
SMG	**Samos**	**1.17**	**141**	*e*PN	**Pn**	**14 12 27.0**	**-0.7**
SMG				*e*SN	**Sn**	**14 12 42.7**	**-0.3**
LIA	**Limnos Island**	**1.39**	**336**	*e*PN	**Pn**	**14 12 32.7**	**+1.9**
AKS	**Akhisar**	**1.50**	**80**	PN	**Pn**	**14 12 31.6**	**-0.8**
APE	**Apeiranthos**	**1.59**	**191**	PN	**Pn**	**14 12 32.7**	**-0.9**
APE				SN	**Sn**	**14 12 54.1**	**+0.5**
APE	**Apeiranthos**	**1.59**	**191**	⇑*i*PN	**Pn**	**14 12 33.6**	**0.0**
AYDN	**Tasoluk**	**1.82**	**121**	*i* P	**Pn**	**14 12 42.1**	**+5.1**
AYDN				*i* S	**Sn**	**14 13 01.7**	**+2.0**
BALB	**Balikesir**	**1.83**	**56**	*e*PN	**Pn**	**14 12 37.0**	**-0.1**
BDRM	**Kayabasi**	**1.97**	**142**	*i* P	**Pn**	**14 12 38.6**	**-0.6**
BDRM				*i* S	**Sn**	**14 13 07.2**	**+3.7**
MLSB	**Milas**	**1.98**	**132**	*e*PN	**Pn**	**14 12 38.6**	**-0.7**
MANT	**Manisa**	**2.08**	**93**	*i* P	**Pn**	**14 12 44.1**	**+3.5**
MANT				*i* S	**Sn**	**14 13 08.9**	**+2.8**

SART	**Tekirdag**	2.28	25	*i* P	Pn	14 12 48.4	+4.9
SART				*i* S	Sn	14 13 18.4	+7.2
BNT	**Bandirma**	2.32	41	PN	Pn	14 12 43.1	-1.0
MRMT	**Marmara Adasi**	2.36	33	*e*PN	Pn	14 12 44.8	+0.1
RDO	**Rodhopi**	2.53	354	*e*PN	Pn	14 12 47.6	+0.4
DNZL	**Cakiroluk**	2.64	110	*i* P	Pn	14 12 54.8	+6.1
DNZL				*i* S	Sn	14 13 28.0	+7.7

JMA ***13*** *14:17:18.0±0.4, 21.95N×121.53E, h111km, M3.0*

TAP 13 14:17:18.6, 22.10N×121.24E, h35km, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	2.86	34	P	P	14 18 02.6	-0.3
YOJ				*e*S	S	14 18 37.3	+0.8
HATJ	**Hateruma jima**	3.06	50	P	P	14 18 04.2	-1.5
HATJ				*e*S	S	14 18 39.4	-2.2
IRIF	**Iriomote-Funau**	3.19	45	P	P	14 18 05.9	-1.7
IRIF				*e*S	S	14 18 43.5	-1.5
JKRS	**Kuro-shima**	3.32	50	P	P	14 18 08.3	-1.1
JKRS				*e*S	S	14 18 45.7	-2.5
JIJ	**Ishigaki jima**	3.49	49	P	P	14 18 09.7	-2.2
JIJ				*e*S	S	14 18 49.5	-3.1
JTJ	**Tarama**	4.06	51	P	P	14 18 17.9	-2.1
JTJ				*e*S	S	14 19 03.8	-3.2

WEL ***13*** *14:34:59.0±0.2, 37.33S×177.80E, h52km±2km, ML3.6/3, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0*

NEIC ***13*** *14:34:59.7, 37.35S×177.70E, h28km, ML3.8(WEL), After WEL.*

ISC 13 14:34:58.9±0.6, **37.38S**±0.04×**177.75E**±0.05, **h52km, n50, σ1s14**/65, **2D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	**White Island**	0.47	251	P*	P	14 35 10.9	+1.0
WIZ				S*	S	14 35 19.2	+1.3
MXZ	**Matakaoa Point**	0.48	113	P*	P	14 35 09.6	-0.5
MXZ				S*	S	14 35 18.5	+0.2
MXZ	**Matakaoa Point**	0.48	113	P	P	14 35 09.6	-0.5
MXZ				S	S	14 35 18.8	+0.6
PUZ	**Puketiti**	0.81	150	⇓PN	P	14 35 15.3	+1.1
PUZ				SN	S	14 35 25.5	+0.1
PUZ	**Puketiti**	0.81	150	P	P	14 35 15.3	+1.2
PUZ				S	S	14 35 28.7	+3.3
MWZ	**Matawai**	0.97	190	P*	P	14 35 16.9	+0.5
MWZ				S*	S	14 35 30.1	+0.6
MWZ	**Matawai**	0.97	190	P	P	14 35 16.9	+0.5
MWZ				S	S	14 35 28.4	-1.1
MARZ	**Manawahe**	1.04	234	P*	P	14 35 18.1	+0.6
EDRZ	**Edgecumbe**	1.08	227	S*	S	14 35 32.8	+0.6
MYRZ	**Mayor Island**	1.20	274	P*	P	14 35 20.0	+0.4
TGRZ	**Tauranga**	1.23	253	P*	P	14 35 20.5	+0.4
TGRZ				S*	S	14 35 36.8	+0.9
TGRZ	**Tauranga**	1.23	253	P	P	14 35 20.5	+0.4
KNZ	**Kokohu**	1.64	182	PN	P	14 35 25.8	-0.1
KNZ				SN	S	14 35 46.1	+0.2
KNZ	**Kokohu**	1.64	182	*e*P	P	14 35 25.9	0.0
KUZ	**Kuaotunu**	1.74	291	⇓PN	P	14 35 26.6	-0.6
KUZ				SN	S	14 35 47.0	-1.2
KUZ	**Kuaotunu**	1.74	291	P	P	14 35 26.6	-0.6
BKZ	**Black Stump Fm**	2.04	209	P*	P	14 35 32.1	+0.7
BKZ	**Black Stump Fm**	2.04	209	*e*P	P	14 35 32.3	+0.8
MKAZ	**Moumakai**	2.08	277	PN	P	14 35 32.1	+0.1
MKAZ	**Moumakai**	2.08	277	P	P	14 35 32.1	+0.1
OTAZ	**Otara**	2.29	280	PN	P	14 35 35.4	+0.3
OTAZ	**Otara**	2.29	280	P	P	14 35 35.5	+0.4
MTAZ	**Motutapu**	2.34	284	PN	P	14 35 36.0	+0.2
MGZ	**Maungaku**	2.38	226	P	P	14 35 37.8	+1.5
NGZ	**Ngauruhoe**	2.46	223	P*	P	14 35 38.7	+1.1
KAAZ	**Kauri Point**	2.49	282	PN	P	14 35 38.2	+0.2
KAAZ	**Kauri Point**	2.49	282	P	P	14 35 38.3	+0.4
TUVZ	**Tukino**	2.50	220	P*	P	14 35 38.6	+0.5
FWVZ	**Far West T-bar**	2.55	222	P*	P	14 35 39.7	+0.9
FWVZ	**Far West T-bar**	2.55	222	*e*P	P	14 35 40.0	+1.3
MOVZ	**Moawhango**	2.56	217	P*	P	14 35 39.0	+0.1
TSZ	**Takapari Road**	3.02	207	PN	P	14 35 43.7	-1.8
TSZ	**Takapari Road**	3.02	207	*e*P	P	14 35 44.0	-1.4
WCZ	**Waipu Caves**	3.09	297	PN	P	14 35 45.6	-0.8
WCZ	**Waipu Caves**	3.09	297	*e*P	P	14 35 45.6	-0.8
WAZ	**Wanganui**	3.21	221	PN	P	14 35 48.8	+0.7
WAZ	**Wanganui**	3.21	221	*e*P	P	14 35 48.9	+0.8
BFZ	**Birch Farm**	3.50	199	*e*P	P	14 35 50.0	-2.2
MRZ	**Mangatainoka R**	3.69	207	PN	P	14 35 52.1	-2.7
MRZ				SN	S	14 36 34.3	-3.2
MRZ	**Mangatainoka R**	3.69	207	*e*P	P	14 35 52.7	-2.1
MRZ				S	S	14 36 34.3	-3.2
OUZ	**Omahuta**	3.98	301	PN	P	14 35 58.0	-1.0
OUZ	**Omahuta**	3.98	301	*e*P	P	14 35 58.3	-0.7
KIW	**Kapiti Island**	4.12	211	PN	P	14 35 57.6	-3.3
KIW				SN	S	14 36 44.7	-3.7
SNZO	**South Karori**	4.58	210	PN	P	14 36 03.1	-4.3
SNZO	**South Karori**	4.58	210	*e*P	P	14 36 03.1	-4.3
QRZ	**Quartz Range**	5.32	228	PN	P	14 36 15.6	-2.1
QRZ	**Quartz Range**	5.32	228	*e*P	P	14 36 15.0	-2.7
THZ	**Tophouse**	5.76	219	PN	P	14 36 19.3	-4.5
THZ				SN	S	14 37 23.5	-5.9
THZ	**Tophouse**	5.76	219	*e*P	P	14 36 19.4	-4.4
THZ				*e*S	S	14 37 24.9	-4.6
MQZ	**McQueen's Vall**	7.42	210	SN	S	14 37 58.9	-12

IGQ 13 14:57:21.3, 1.95S×79.86W, h28km±4km, mb4.3, 7C-9D, Error ellipse: s-maj=4.8km s-min=1.4km az=100.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	1.12	322	⇑P	Pn	14 57 46.4	+5.0
IGUA	**Igualata**	1.30	70	P	Pn	14 57 46.4	+2.5
QIL1	**Quilotoa**	1.43	40	⇓P	Pn	14 57 47.6	+1.8
CUSU	**Cusua**	1.46	70	⇓P	Pn	14 57 48.4	+2.1
CUSU				S	Sn	14 58 06.5	+1.8
ARRY	**Arrayan**	1.47	73	⇓P	Pn	14 57 48.0	+1.6
JUIV	**Juive**	1.49	70	⇓P	Pn	14 57 48.5	+1.9
JUIV				S	Sn	14 58 07.5	+2.3
PATA	**Patacocha**	1.49	73	⇑P	Pn	14 57 48.8	+2.1
PATA				S	Sn	14 58 09.2	+3.8
RETU	**Refugio**	1.49	71	⇓P	Pn	14 57 49.0	+2.3
RETU				S	Sn	14 58 08.5	+3.1
ULBA	**Ulba**	1.53	71	⇓P	Pn	14 57 49.3	+2.0
RUN2	**Runtun**	1.54	70	P	Pn	14 57 49.5	+2.2
PISA	**Pisayambo**	1.71	59	P	Pn	14 57 51.8	+1.9
PISA				S	Sn	14 58 14.5	+3.4
MARY	**Rancho Maria**	1.82	49	P	Pn	14 57 53.8	+2.3
NAS1	**Nasa**	1.90	47	P	Pn	14 57 55.4	+2.9
TAMB	**Tambo**	1.94	50	⇓P	Pn	14 57 55.1	+2.0
VC1	**Cotopaxi 1**	1.95	48	⇓P	Pn	14 57 55.4	+2.2
VC1				S	Sn	14 58 23.8	+6.9
JUA2	**San Juan 2**	2.13	36	P	Pn	14 57 58.1	+2.4
CGGP	**Crater GGP**	2.16	35	P	Pn	14 57 58.9	+2.7
GGP	**Refugio Guagua**	2.17	36	⇑P	Pn	14 57 58.9	+2.6
PINO	**Pino**	2.17	35	⇑P	Pn	14 57 59.0	+2.6
YANA	**Yana**	2.23	35	⇑P	Pn	14 57 59.3	+2.1
ANTI	**Antisana**	2.25	49	⇑P	Pn	14 57 59.2	+1.6
CUPA	**Cupa**	2.32	9	P	Pn	14 58 00.3	+1.7
CAYR	**Refugio Cayamb**	2.69	44	⇑P	Pn	14 58 06.0	+2.3
COTA	**Cotacachi**	2.73	34	P	Pn	14 58 06.2	+1.9
COTA				S	Sn	14 58 42.3	+5.5
CAYA	**Cayambe**	2.74	43	P	Pn	14 58 06.1	+1.6
CONE	**Cono NE Rev Vo**	2.89	50	⇓P	Pn	14 58 07.6	+0.9

NEIC ***13*** *15:13:38.5, 40.64N×26.93E, MD3.9(ATH), ML3.8(THE), After THE.*

ISK ***13*** *15:13:44.4, 40.83N×26.43E, h10km, MD4.0, ML4.2*

ATH ***13*** *15:13:44.4, 40.84N×26.40E, h29km±4km, MD3.9/6*

THE ***13*** *15:13:46.5, 40.70N×26.23E, h9km, ML3.8*

ISC 13 15:13:42.7±0.5, **40.82N**±0.02×**26.31E**±0.02, **h3km**±4km, **n54, σ0s95**/73, **3C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	0.21	291	*e*Pg	Pg	15 13 50.7	+3.7
ALN				*e*Sg	Sg	15 13 55.0	+5.2
LPK	**Lapseki**	0.57	142	*i* PG	Pg	15 13 55.2	+1.1
RDO	**Rodhopi**	0.67	299	*e*PN	Pn	15 13 58.9	+0.2
RDO				*e*SN	Sn	15 14 09.2	-0.6
SART	**Tekirdag**	0.68	101	*i* P	Pg	15 13 56.9	+0.6
SART				*i* S	Sg	15 14 03.7	-1.6
EZN	**Ezine**	1.00	179	PG	Pg	15 14 03.3	+0.7
MRMT	**Marmara Adasi**	1.00	102	*i* PG	Pg	15 14 01.7	-1.1
MRMT				*i* SG	Sg	15 14 15.1	-1.1
EDRB	**Edirne**	1.07	18	*i* PG	Pg	15 14 05.0	+0.8
EDRB				*i* SG	Sg	15 14 19.7	+1.2
CRLT	**Corlu**	1.12	74	*i* PG	Pg	15 14 05.2	0.0
LIA	**Limnos Island**	1.26	223	⇑*i*PB	Pb	15 14 07.8	+1.0
LIA				*e*SN	Sn	15 14 26.8	+1.9
EDC	**Edincik**	1.28	111	*i* PN	Pn	15 14 08.2	+0.7
LOS	**Limnos**	1.29	227	*e*Pg	Pg	15 14 07.8	-0.7
LOS				*e*Sg	Sg	15 14 24.1	-1.5
BNT	**Bandirma**	1.31	110	*i* PN	Pn	15 14 08.0	0.0
SLVT	**Silivri**	1.50	74	*i* PN	Pn	15 14 10.7	+0.1
PRK	**Paraskevi**	1.57	181	*e*PN	Pn	15 14 12.8	+1.0
PRK				*e*SN	Sn	15 14 33.5	+0.6
CTT	**Catalca**	1.64	78	*i* PN	Pn	15 14 12.2	-0.5
KCT	**Karacabey**	1.66	109	*i* PN	Pn	15 14 13.2	+0.2
BALB	**Balikesir**	1.69	134	*i* PN	Pn	15 14 14.0	+0.6
OUR	**Ouranopolis**	1.84	255	*e*Pb	Pb	15 14 16.2	-0.5
BGKT	**Bogazkoy**	1.90	78	*i* PN	Pn	15 14 16.0	-0.4
NVR	**Nevrokopi**	1.92	287	⇑*i*PB	Pb	15 14 18.3	+0.2
ISK	**Istanbul-Kandi**	2.10	82	*i* PN	Pn	15 14 18.7	-0.6
KLYT	**Kilyos**	2.11	77	*e*PN	Pn	15 14 19.2	-0.3
BADT	**Buyukada**	2.13	88	*i* PN	Pn	15 14 19.0	-0.7
DST	**Dursunbey**	2.15	124	*i* PN	Pn	15 14 20.4	+0.4
PAIG	**Paliouri**	2.20	247	*e*Pn	Pn	15 14 20.6	0.0
PAIG				*e*Sn	Sn	15 14 46.6	-2.1
PLG	**Polygyros**	2.22	259	*e*PN	Pn	15 14 22.1	+1.1
SOH	**Sokhos**	2.24	271	*e*Pn	Pn	15 14 22.2	+0.9
SOH				*e*Sn	Sn	15 14 48.7	-1.1
AKS	**Akhisar**	2.26	149	*i* PN	Pn	15 14 22.1	+0.5
ULDT	**Uludag**	2.26	107	*i* P	Pn	15 14 21.7	+0.1
ULDT				*i* S	Sn	15 14 53.8	+3.4
YLV	**Yalova**	2.35	95	PN	Pn	15 14 22.2	-0.6
AOS	**Alonnisos**	2.49	229	*e*Pn	Pn	15 14 24.5	-0.4
KDAG	**Bornova**	2.53	163	*i* P	Pn	15 14 26.4	+1.0
KDAG				*i* S	Sg	15 15 06.7	-0.3
SILT	**Sile**	2.55	81	PN	Pn	15 14 25.1	-0.6
HRT	**Hereke**	2.55	89	*e*PN	Pn	15 14 24.8	-0.9
KNT	**Kendrikon**	2.60	279	*e*Pn	Pn	15 14 27.7	+1.3
	comp=Z,14nm,0.4s						
KNT				*e*Sn	Sn	15 14 58.0	-1.0
XOR	**Xorichti**	2.80	240	*e*Pn	Pn	15 14 28.8	-0.5
NEO	**Neokhori**	2.81	238	*e*PN	Pn	15 14 27.0	-2.4
VAY	**Valandovo**	2.87	281	*i* Pn	Pn	15 14 37.7	+7.5
VAY				*i* Sg	Sg	15 15 15.8	-2.4
MANT	**Manisa**	2.91	143	*i* P	Pn	15 14 31.2	+0.4
MANT				*i* S	Sg	15 15 15.0	-4.5
GRG	**Griva**	2.96	274	*e*Pn	Pn	15 14 32.7	+1.1
LIT	**Litokhoron**	3.00	257	*e*Pn	Pn	15 14 32.6	+0.5
	comp=Z,3.0nm,0.4s						
ALT	**Altintas**	3.42	120	*i* PN	Pn	15 14 38.7	+0.7
HENT	**Hendek**	3.49	89	*i* P	Pn	15 14 38.8	-0.3
HENT				*i* S	Sg	15 15 30.4	-8.3
AGG	**Agios Georgios**	3.55	241	*e*Pn	Pn	15 14 39.7	-0.2
	comp=Z,1.2nm,0.5s						
ESKT	**Eskisehir**	3.72	109	PN	Pn	15 14 42.6	+0.3
ESKT	**Eskisehir**	3.72	109	*i* P	Pn	15 14 42.5	+0.2
ESKT				*i* S	Sg	15 15 39.8	-6.7
FNA	**Florina**	3.74	271	*e*Pn	Pn	15 14 43.6	+0.9
DNZL	**Cakiroluk**	3.78	145	*i* P	Pn	15 14 43.3	0.0
SKO	**Skopje**	3.84	289	*e*Pn	Pn	15 14 52.2	+8.2
SKO				*i*		15 15 01.5	
BDRM	**Kayabasi**	3.86	166	*i* P	Pn	15 14 43.7	-0.6
BARS	**Barje**	3.90	302	⇓*i*Pn	Pn	15 14 46.7	+1.9
BARS				Sn	Sn	15 15 30.3	-1.5
BOLS	**Boljevac**	4.41	314	⇑*i*Pn	Pn	15 14 53.0	+0.8
KIZT	**Kizilcal**	4.71	113	*e*PN	Pn	15 14 56.2	-0.2
BALT	**Daday**	5.39	80	*i* P	Pn	15 15 04.9	-1.1
BALT				*i* S	Sn	15 16 01.4	-8.1

MDD ***13*** *15:15:01.7±0.5, 43.09N×0.37W, h4km±6km, mbLg1.1/7, Error ellipse: s-maj=4.5km s-min=2.3km az=171.0, PRXIMO*

STR ***13*** *15:15:01.0±0.3, 43.08N×0.36W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***13*** *15:15:01.6±0.1, 43.08N×0.36W, h2km, Md1.9/2, Ml1.7/1, Error ellipse: s-maj=2.0km s-min=0.9km az=163.0*

ISC 13 15:15:00.4±0.9, **43.11N**±0.06×**0.35W**±0.04, **h9km**±7km, **n13, σ0s73**/17, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	0.05	221	Pg	Pg	15 15 02.5	+0.2
REYF				Sg	Sg	15 15 03.1	-0.4
REYF	**Montagne du Re**	0.05	221	Pg	Pg	15 15 02.6	+0.4
ETSF	**Etsaut**	0.26	217	*e*Pg	Pg	15 15 06.1	+0.3
ETSF				*e*Sg	Sg	15 15 08.9	-0.5
	9.4nm,0.2s						
FDAF	**Les Forges d'A**	0.33	209	Pg	Pg	15 15 07.4	+0.3
FDAF				Sg	Sg	15 15 11.8	+0.2
FDAF	**Les Forges d'A**	0.33	209	Pg	Pg	15 15 07.4	+0.3
FDAF				Lg		15 15 11.8	
VIEF	**Viey**	0.35	129	Pg	Pg	15 15 08.2	+0.6
VIEF				Sg	Sg	15 15 12.4	-0.1
VIEF	**Viey**	0.35	129	Pg	Pg	15 15 08.2	+0.6
VIEF				Lg		15 15 12.4	
EPF	**Esparros**	0.51	98	*e*Pg	Pg	15 15 11.6	+0.8
EPF				*e*Sg	Sg	15 15 18.7	+1.0
	2.7nm,0.2s						
SJPF	**Ste Jean**	0.64	271	*e*Sg	Sg	15 15 22.0	+0.1
	1.5nm,0.3s						
EALK	**Alkurruntz**	0.85	278	Lg		15 15 27.8	
	64nm,1.5s,SNR=7.9						
EGRA	**Graus**	1.03	151	Lg		15 15 35.1	
	5.3nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	1.39	184	Pg	Pg	15 15 27.1	-1.0
	2.7nm,0.6s,SNR=7.9						
ESAC				Lg		15 15 46.3	
	64nm,1.3s,SNR=7.9						
MTLF	**Montolieu**	1.89	82	*e*Pn	Pn	15 15 33.3	0.0
MTLF				*e*Sg	Sg	15 16 01.4	-2.1
	0.8nm,0.2s						

BJI ***13*** *15:17:20.9, 23.39N×95.25E, h8km, mb4.3, ML3.9, Ms4.1, Msz3.7*

IDC ***13*** *15:17:21.1±0.8, 23.62N×95.58E, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, ML4.2/1, Error ellipse: s-maj=40.5km s-min=13.4km az=55.0*

NEIC ***13*** *15:17:25.3±3.4, 23.62N×95.62E, h28km±25km, mb4.2/4, Error ellipse: s-maj=25.5km s-min=7.3km az=56.0*

ISC 13 15:17:22.7±2.1, **23.46N**±0.09×**95.42E**±0.09, **h24km**±17km, **n39, σ1s26**/42, **mb4.1**/15, **1C-2D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	**Imphal**	1.89	314	⇓*e*P	Pn	15 17 57.0	+2.9
SHL	**Shillong**	3.84	304	⇑*e*PN	Pn	15 18 20.2	-1.7
SHL				*e*SN	Sn	15 19 06.2	-0.7
CHRT	**Chiangrai**	5.41	131	⇓P	Pn	15 18 44.5	+0.5
	1μm,0.8s						
CMAR	**Chiang Mai Arr**	5.97	146	Pn	Pn	15 18 51.6	-0.4
	1.5nm,0.3s,baz=329,slow=12,SNR=26						
CMAR				Pg	Pn	15 19 15.1	+23
	1.9nm,0.3s,baz=327,slow=18,SNR=24						
CMAR				Lg		15 20 31.7	
	3.0nm,0.3s,baz=327,slow=29,SNR=7.5						
NANT	**Nan**	6.77	132	P	Pn	15 19 02.0	-1.2
	56nm,1.0s						
BDT	**Bhumibol Dam**	7.04	151	P	Pn	15 19 10.0	+2.9
	31nm,0.8s						
LSA	**Lhasa**	7.29	329	P	Pn	15 19 11.4	+0.8
LSA				S	Sn	15 20 37.8	+4.3
LSA				Smax			
	comp=N,20nm,0.7s						
LSA				Smax			
	comp=E,10.0nm,0.8s						
LSA	**Lhasa**	7.29	329	*e*Pn	Pn	15 19 11.2	+0.6
	comp=E,9.3nm,0.6s						
LSA				Sn	Sn	15 20 25.2	-8.3
PKI	**Pulchoki**	9.92	296	*e*P	P	15 19 47.3	+0.2
	comp=E,36nm,0.7s						
KKN	**Kakani**	10.11	297	*e*P	P	15 19 49.6	-0.1
	comp=E,21nm,0.3s						
DMN	**Daman**	10.19	296	*e*P	P	15 19 50.8	0.0
	comp=E,9.6nm,0.3s						
GKN	**Gorkha**	10.72	297	*e*P	P	15 19 57.1	-0.9
	comp=E,57nm,0.5s						
KOLN	**Koldanda**	11.49	294	*e*P	P	15 20 06.1	-2.5
	comp=E,11nm,0.3s						
WMQ	**Urumqi**	21.28	344	*e*P	P	15 22 10.5	+0.8
ULHL	**Ulahol**	24.61	324	P	P	15 22 44.3	+1.9
	SNR=8.9						
TKM2	**Tokmak 2**	25.42	325	P	P	15 22 51.5	+1.4
	SNR=14						
UCH	**Uchtor**	25.55	322	P	P	15 22 53.1	+1.7
	SNR=13						
MKAR	**Makanchi Array**	25.56	339	P	P	15 22 50.8	-0.7
	comp=E,4.2nm,0.6s,mb4.2,baz=148,slow=9.8,SNR=37						
KBK	**Karagaybulak**	25.59	323	P	P	15 22 53.6	+1.8
	SNR=10						
AAK	**Ala-Archa**	25.82	323	P	P	15 22 55.7	+1.8
	SNR=5.3						
SONM	**Songino Array**	25.85	17	P	P	15 22 53.0	-1.1
	comp=E,0.5nm,0.6s,mb3.2,baz=192,slow=11,SNR=4.7						
USP	**Ospenovka**	26.24	324	P	P	15 22 58.3	+0.6
	SNR=13						
EKS2	**Erkin-Say**	26.24	322	P	P	15 22 59.3	+1.5
	SNR=13						
KURK	**Kurchatov**	30.18	339	P	P	15 23 31.9	-1.3
BVAR	**Borovoye Array**	35.10	334	P	P	15 24 15.2	-0.9
	comp=E,1.1nm,0.6s,mb4.0,baz=150,slow=12,SNR=8.3						
BRVK	**Borovoye**	35.17	334	*e*P	P	15 24 15.1	-1.6
	comp=E,1.6nm,0.5s,mb4.2						
ZRNK	**Zerenda**	35.63	332	*e*P	P	15 24 19.4	-1.2
	comp=E,1.7nm,0.6s,mb4.2						
ARU	**Arti**	42.49	330	*e*P	P	15 25 17.1	-0.5
	comp=E,2.5nm,0.6s,mb4.0						
ASF	**Jabal al Asfar**	51.95	293	P	P	15 26 33.5	+1.4
	comp=E,2.5nm,0.6s,mb4.3,baz=326,slow=9.1,SNR=3.8						
BRTR	**Keskin Array B**	54.06	303	P	P	15 26 47.5	-0.1
	comp=E,1.1nm,0.7s,mb3.9,baz=117,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	57.23	316	P	P	15 27 08.2	-2.2
	comp=E,2.5nm,0.7s,mb4.3,baz=77,slow=5.1,SNR=4.7						
WRA	**Warramunga Arr**	57.46	135	P	P	15 27 11.7	-0.7
	comp=E,2.1nm,0.8s,mb4.2,baz=324,slow=7.6,SNR=20						
WRAB	**Tennant Creek**	57.46	135	*e*P	P	15 27 12.1	-0.4
	comp=E,3.7nm,0.5s,mb4.7						
WB2	**Warramunga Arr**	57.47	135	*e*P	P	15 27 12.6	+0.1
FINES	**FINESS Array B**	59.81	329	P	P	15 27 26.7	-1.6
	comp=E,1.0nm,0.7s,mb3.9,baz=130,slow=24,SNR=3.4						
FINES	**FINESS Array B**	59.81	329	P	P	15 27 26.7	-1.6
ASAR	**Alice Springs**	59.93	139	P	P	15 27 29.9	+0.3
	comp=E,1.9nm,0.6s,mb4.3,baz=322,slow=6.7,SNR=27						
ARCES	**ARCESS Array B**	61.22	338	P	P	15 27 37.5	-0.2
	comp=E,1.7nm,0.9s,mb4.2,baz=90,slow=4.5,SNR=3.3						
VRAC	**Vranov**	65.43	315	P	P	15 28 07.5	+1.8
	comp=E,6.4nm,1.2s,mb4.5,baz=108,slow=8.0,SNR=3.7						

PRU ***13*** *15:30:57.8, 51.47N×16.11E*

WAR ***13*** *15:30:57.5, 51.52N×16.11E, ML2.8, Mining Induced*

NEIC ***13*** *15:31:03.8±0.8, 50.75N×15.73E, h5km, ML2.7(VIE), Error ellipse: s-maj=18.8km s-min=7.8km az=185.0*

ISC 13 15:30:54.9±0.9, **51.48N**±0.05×**16.10E**±0.04, **n14, σ1s29**/30, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.65	169	*e*PG	Pg	15 31 10.0	+2.0
KSP				*e*SG	Sg	15 31 19.0	+2.3
KSP	**Ksiaz**	0.65	169	*e*Pg	Pg	15 31 10.1	+2.1
KSP				*e*Sg	Sg	15 31 19.4	+2.7
KSP				*e*		15 31 25.0	
DPC	**Dobruska-Polom**	1.14	173	*e*PG	Pg	15 31 18.8	+1.0
DPC				*e*SG	Sg	15 31 34.2	+1.2
BRG	**Berggiesshubel**	1.49	247	*i* Pg	Pg	15 31 25.4	+0.8
BRG				*i* Sg	Sg	15 31 45.8	+1.4
PRU	**Pruhonice**	1.79	214	PN	Pn	15 31 28.3	+0.9
PRU				PG	Pg	15 31 30.3	-0.4
PRU				*e*		15 31 47.6	
PRU				SG	Sg	15 31 54.4	-0.2
	22nm,0.3s						
MORC	**Moravsky Berou**	1.94	151	*e*Pn	Pn	15 31 30.2	+0.7
MORC				*e*Sn	Sn	15 31 52.6	-2.3
CLL	**Collm**	1.95	266	*e*PG	Pg	15 31 36.0	+2.2
CLL				*e*SG	Sg	15 31 59.0	-0.7
OKC	**Ostrava-Krasne**	2.10	141	*e*PG	Pg	15 31 36.9	0.0
OKC				*e*SG	Sg	15 32 04.3	-0.6
NKC	**Novy Kostel**	2.63	243	*e*PG	Pg	15 31 47.2	-0.2
NKC				*e*SG	Sg	15 32 21.7	-0.7
OJC	**Ojcow**	2.67	117	*e*PG	Pg	15 31 48.0	-0.2
OJC				*e*SG	Sg	15 32 22.0	-1.7
OJC	**Ojcow**	2.67	117	*e*Pg	Pg	15 31 48.3	+0.1
OJC				*e*Sg	Sg	15 32 22.3	-1.4
KHC	**Kasperske Hory**	2.85	215	*e*PN	Pn	15 31 40.0	-2.6
KHC				*e*PG	Pg	15 31 49.5	-2.4
KHC				*e*SG	Sg	15 32 28.5	-1.5
MOX	**Moxa**	2.95	255	*e*Pg	Pg	15 31 52.9	-0.9
MOX				*e*Sg	Sg	15 32 32.7	-0.4
MOA	**Molln**	3.83	199	⇑*i*PN	Pn	15 31 57.9	+1.5
MOA				*i* SG	Sg	15 33 01.9	-0.4
	7.4nm,0.7s						

MAN 13 15:34:57.2, 17.67N×120.61E, h18km, mb4.6, ML3.5, MS3.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	0.10	102	*e*P	Pb	15 35 00.7	-0.2
ABRA				*e*S	Sb	15 35 02.6	-0.8
APYP	**Conner**	0.64	73	*e*P	Pb	15 35 07.9	-1.6
APYP				*e*S	Sb	15 35 13.4	-4.5
PIP	**Pasuquin**	0.65	1	⇑*i*P	Pb	15 35 10.8	+1.0
PIP				*i* S	Sb	15 35 21.8	+3.5
CVP	**Callao Caves**	1.16	88	*e*P	Pb	15 35 17.4	-1.0
BCPH	**Baguio City Da**	1.28	181	⇓*i*P	Pn	15 35 18.2	-2.2
BCPH				*i* S	Sb	15 35 34.6	-1.9
CAUP	**Cauayan**	1.37	122	*e*P	Pn	15 35 21.9	+0.3
BOLP	**Bolinao**	1.44	207	*e*P	Pn	15 35 22.2	-0.4
PALP	**Palanan**	1.84	109	*e*P	Pn	15 35 27.7	-0.7
PALP				*e*S	Sn	15 35 56.5	+5.2
BALP	**Baler**	2.13	154	*e*P	Pn	15 35 32.2	-0.3
BALP				*e*S	Sn	15 36 00.2	+1.4

IDC 13 15:44:56.7±26.0, **19.10S**×**174.06W, mb4.2**/4, **mb1 4.3**/4, **mb1mx4.0**/12, **Error ellipse: s-maj=491.0km s-min=157.1km az=74.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	37.34	262	P	P	15 52 12.2	-0.7
	2.6nm,0.9s,baz=93,slow=14,SNR=5.5						
STKA	**Stephens Creek**	41.73	243	P	P	15 52 48.0	-1.2
	0.8nm,0.5s,baz=109,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	48.46	255	P	P	15 53 40.9	-2.3
	3.1nm,0.5s,baz=96,slow=7.4,SNR=69						
WB2	**Warramunga Arr**	48.47	260	*e*P	P	15 53 40.4	-2.9
WRA	**Warramunga Arr**	48.48	260	P	P	15 53 40.9	-2.5
	1.3nm,0.3s,baz=97,slow=7.8,SNR=50						

OTT 13 15:58:19.3±0.2, **52.77N**×**67.24W, MN2.7**/4, **Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	2.08	6	PN	Pn	15 58 55.1	-0.8
SCHQ				SG	Sg	15 59 24.0	-4.5
SCHQ				Trac		15 59 25.7	
	comp=Z,22nm,0.2s						
MNQ	**Manicouagan**	2.44	204	PN	Pn	15 58 59.4	-1.6
MNQ				Trac		15 59 38.8	
	comp=Z,4.4nm,0.1s						
SMQ	**Clarke City**	2.58	172	PN	Pn	15 59 01.2	-1.8
SMQ				SN	Sn	15 59 36.2	+0.7
SMQ				Trac		15 59 39.8	
	comp=Z,11nm,0.2s						
ICQ	**Pointe Anglais**	3.25	180	PN	Pn	15 59 10.5	-2.2
ICQ				Trac		16 00 06.8	
	comp=Z,4.4nm,0.2s						
CNQ	**Baie Comeau**	3.51	189	PN	Pn	15 59 15.2	-1.2
CNQ				SN	Sn	15 59 58.8	-0.5
GSQ	**Grosses Roches**	3.87	179	PN	Pn	15 59 19.8	-1.6
LG4Q	**La Grande 4**	4.21	284	PN	Pn	15 59 23.8	-2.5
LMQ	**La Malbaie**	5.59	202	PN	Pn	15 59 42.1	-3.7
LMN	**Caledonia Moun**	7.11	166	PN	Pn	16 00 02.7	-4.4
VIMO	**Victor Mine**	10.00	277	PN	P	16 00 40.3	-7.0
SILO	**Sutton Inlier**	10.64	286	PN	P	16 00 47.7	-8.2

*NEIC **13** 16:12:00.3, 36.26N×22.31E, h18^{km}, MD3.5(ATH), After ATH.*

ATH 13 16:12:00.3, 36.26N×22.31E, h18^{km}±8^{km}, MD3.5/6**, 1C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.59**	**88**	*e*PN	Pn	16 12 12.0	-1.6
VLI	**Veliai**	**0.68**	**48**	*e*PN	Pn	16 12 13.5	-1.4
ITM	**Ithomi**	**0.97**	**342**	⇑*i*PB	Pb	16 12 18.2	0.0
ITM				*e*SN	Sn	16 12 33.0	+0.7
VAM	**Vamos**	**1.76**	**118**	*e*PN	Pn	16 12 32.6	+2.3
VLS	**Valsamata**	**2.35**	**325**	*e*PB	Pb	16 12 39.2	-2.7
EVR	**Evrytania**	**2.68**	**352**	*e*PB	Pb	16 12 45.7	-1.8

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*HEL **13** 16:25:03.3±0.2, 67.85N×20.12E, ML2.0(UPP), ML1.7(BER), Explosion*

*BER **13** 16:25:04.4±1.8, 67.82N×20.29E, ML1.7, Suspected explosion*

ISC 13 16:25:02.2±0.7**, 67.81N**±0.04×**20.14E**±0.08**, n12, σ0^{s}64**/17**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**27**	*i* P	**Pg**	**16 25 05.5**	**0.0**
KUA				*i* S	**Sg**	**16 25 07.5**	**-0.2**
NIKU	**Nikkaluokta**	**0.42**	**279**	*i* P	**Pg**	**16 25 10.3**	**-0.4**
NIKU				*i* S	**Sg**	**16 25 16.9**	**+0.5**
MASU	**Masugnsbyn**	**0.79**	**116**	*i* S	**Sg**	**16 25 28.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.23**	**11**	*e*P	**Pb**	**16 25 25.8**	**-0.2**
KIF				*e*S	**Sb**	**16 25 41.6**	**-0.6**
PAJU	**Pajala**	**1.39**	**123**	*e*P	**Pb**	**16 25 28.3**	**-0.5**
KTK1	**Kautokeino**	**1.67**	**42**	*e*P	**Pn**	**16 25 32.8**	**0.0**
KTK1				*e*SN	**Sn**	**16 25 55.0**	**-0.2**
KTK1				AML	AML	16 25 58.5	
	comp=Z,5.3nm,0.3s						
TRO	**Tromso**	**1.89**	**347**	*e*P	**Pn**	**16 25 35.3**	**-0.7**
TRO				*e*SN	**Sn**	**16 26 02.6**	**+1.8**
TRO				AML	AML	16 26 04.8	
	comp=Z,11nm,0.4s						
SGF	**Sodankyl**	**2.47**	**96**	*e*P	**Pn**	**16 25 45.3**	**+1.0**
LOF	**Lofoten**	**2.51**	**280**	*e*	**Sg**	**16 26 25.3**	**-0.5**
LOF				AML	AML	16 26 29.5	
	comp=Z,5.9nm,0.5s						
LOF	**Lofoten**	**2.51**	**280**	*e*Sg	**Sg**	**16 26 25.3**	**-0.5**
LOF				AML	AML	16 26 29.5	
	comp=Z,5.9nm,0.5s						
MOR8	**Moi Rana**	**2.78**	**236**	*e*SG	**Sg**	**16 26 27.0**	**-7.7**
MOR8				AML	AML	16 26 29.3	
	comp=Z,11nm,0.4s						
NSS	**Namsos**	**4.67**	**229**	*e*SG	**Sg**	**16 27 31.2**	**-6.5**
NSS				AML	AML	16 27 32.5	
	comp=Z,4.4nm,0.4s						

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*IDC **13** 16:30:34.0±8.3, 30.47N×141.96E, mb3.8/4, mb1 3.9/6, mb1mx3.6/22, ML3.5/2, Error ellipse: s-maj=319.0km s-min=21.7km az=70.0*

*JMA **13** 16:30:34.7±0.2, 30.61N×142.46E, h57^{km}, M3.9*

ISC 13 16:30:35.2±2.1**, 30.60N**±0.05×**142.2E**±0.2**, h33**^{km}±20^{km}**, n18, σ1^{s}18**/27**, mb3.9**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.23**	**322**	Pn	**Pn**	**16 31 24.5**	**-0.4**
	4.3nm,0.3s,baz=94,slow=19,SNR=4.2						
JHJ				Sn	**Sn**	**16 32 01.2**	**-1.5**
	7.1nm,0.3s,baz=90,slow=20,SNR=3.2						
CBIJ	**Chichi jima**	**3.49**	**180**	Pn	**Pn**	**16 31 27.5**	**-1.2**
	12nm,0.3s,baz=317,slow=19,SNR=3.3						
CBIJ				Sn	**Sn**	**16 32 06.5**	**-2.8**
	7.4nm,0.3s,baz=287,slow=19,SNR=2.6						
BSO1	**Boso 1**	**4.17**	**346**	P	**Pn**	**16 31 39.1**	**+0.8**
BSO1				*e*S	**Sn**	**16 32 25.9**	**-0.5**
BSO4	**Boso 4**	**4.64**	**341**	*e*S	**Sn**	**16 32 38.9**	**+0.5**
JOD2	**Odawara 2**	**5.32**	**332**	P	**Pn**	**16 31 56.0**	**+1.4**
JHU	**Hanno**	**5.77**	**336**	P	**Pn**	**16 32 01.4**	**+0.5**
JHU				*e*S	**Sn**	**16 33 05.9**	**-0.8**
JYT	**Yasato**	**5.85**	**344**	S	**Sn**	**16 33 07.7**	**-1.1**
JRY	**Ryogami san**	**6.05**	**334**	P	**Pn**	**16 32 05.5**	**+0.6**
JRY				S	**Sn**	**16 33 14.4**	**+0.5**
JHO	**Hitachi**	**6.14**	**348**	P	**Pn**	**16 32 04.6**	**-1.6**
JAG	**Ashikaga**	**6.24**	**339**	P	**Pn**	**16 32 07.0**	**-0.5**
JAG				*e*S	**Sn**	**16 33 15.8**	**-2.6**
MAT	**Matsushiro**	**6.79**	**332**	P	**Pn**	**16 32 15.7**	**+0.5**
MAT				S	**Sn**	**16 33 30.1**	**-2.0**
MAT	**Matsushiro**	**6.79**	**332**	P	**Pn**	**16 32 16.0**	**+0.8**
MAT				*e*S	**Sn**	**16 33 31.1**	**-1.0**
JFT	**Otama**	**7.07**	**348**	*e*S	**Sn**	**16 33 33.7**	**-5.5**
JMM	**Marumori**	**7.34**	**351**	P	**Pn**	**16 32 21.4**	**-1.5**
JMM				*e*S	**Sn**	**16 33 39.1**	**-6.8**
SONM	**Songino Array**	**32.26**	**312**	P	**P**	**16 37 04.6**	**+1.7**
	0.5nm,0.6s,mb3.5,baz=117,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**48.30**	**307**	P	**P**	**16 39 16.4**	**+1.3**
	0.7nm,0.7s,mb3.8,baz=85,slow=9.7,SNR=9.2						
WRA	**Warramunga Arr**	**50.81**	**190**	P	**P**	**16 39 35.0**	**+0.2**
	2.1nm,0.5s,mb4.3,baz=5.4,slow=7.6,SNR=7.4						
BVAR	**Borovoye Array**	**55.49**	**316**	P	**P**	**16 40 10.0**	**+0.9**
	0.3nm,0.3s,mb3.8,baz=101,slow=7.3,SNR=3.8						

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*IDC **13** 16:35:25.9±8.4, 7.15S×129.30E, h61^{km}±84^{km}, mb3.7/3, mb1 4.0/5, mb1mx3.6/13, ML4.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=93.9km s-min=35.0km az=56.0*

ISC 13 16:35:28.7±4.2**, 7.3S**±0.2×**129.3E**±0.4**, h107**^{km}±43^{km}**, n6, σ1^{s}34**/7**, mb3.7**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.50**	**159**	P	**P**	**16 38 35.4**	**-1.4**
	1.9nm,0.3s,baz=333,slow=13,SNR=93						
WRA				S	**S**	**16 40 55.6**	**-9.0**
	1.8nm,0.3s,baz=330,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.88**	**165**	P	**P**	**16 39 21.4**	**+1.7**
	0.7nm,0.3s,baz=345,slow=10,SNR=58						
ASAR				S	**S**	**16 42 22.1**	**-0.5**
	0.8nm,0.3s,baz=358,slow=29,SNR=7.0						
CTA	**Charters Tower**	**20.77**	**130**	P	**P**	**16 40 03.0**	**0.0**
	4.0nm,0.9s,baz=292,slow=16,SNR=3.8						
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**16 41 03.4**	**+0.6**
	1.5nm,0.4s,mb3.9,baz=335,slow=9.7,SNR=8.8						
JHJ	**Hachijo jima 2**	**41.38**	**13**	LR	LR	16 59 47.0	
	comp=Z,44nm,18.1s,baz=100,slow=35						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**16 46 18.6**	**-0.4**
	0.4nm,0.4s,mb3.6,baz=118,slow=7.8,SNR=6.9						

WEL 13 16:39:49.8±0.2**, 35.66S×179.66E, h268**^{km}±7^{km}**, ML3.5**/1**, Error ellipse: s-maj=8.2km s-min=6.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.66**	**205**	PN	P	16 40 40.2	-0.1
PUZ				SN	S	16 41 19.5	0.0
MWZ	**Matawai**	**3.17**	**212**	PN	P	16 40 46.0	+0.4
MWZ				SN	S	16 41 29.0	0.0
URZ	**Urewera**	**3.30**	**217**	PN	P	16 40 47.0	-0.1
URZ				SN	S	16 41 30.9	-0.8
MRZ	**Mangatainoka R**	**5.94**	**212**	PN	P	16 41 18.0	-0.1
MRZ				SN	S	16 42 27.6	+0.3

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*BJI **13** 16:51:51.0, 21.10S×179.00W, h638^{km}, mB4.5, mb4.6*

*NEIC **13** 16:51:52.0±1.8, 21.06S×179.04W, h639^{km}±21^{km}, mb4.4/16, Error ellipse: s-maj=12.7km s-min=11.2km az=195.0*

*IDC **13** 16:51:53.7±1.4, 21.19S×179.10W, h659^{km}±16^{km}, mb3.7/11, mb1 3.9/12, mb1mx3.7/18, Error ellipse: s-maj=17.6km s-min=11.3km az=162.0*

ISC 13 16:51:51.6±1.8**, 21.08S**±0.09×**179.18W**±0.08**, h646**^{km}±23^{km}**, n52, σ0^{s}91**/40**, mb4.2**/25**, 1C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.42**	**190**	P	**P**	**16 55 19.0**	**-2.5**
	2.5nm,0.3s,baz=298,slow=1.1,SNR=14						
URZ				S	**S**	**16 58 10.1**	**0.0**
	0.5nm,0.3s,baz=300,slow=20,SNR=6.8						
RPZ	**Rata Peaks**	**24.00**	**198**	P	**P**	**16 56 19.4**	**-1.4**
	4.0nm,0.4s,mb4.2,baz=27,slow=18,SNR=3.8						
CTA	**Charters Tower**	**32.34**	**265**	⇓*i*P	**P**	**16 57 33.4**	**+1.0**
	16nm,0.4s,mb4.9						
CTA	**Charters Tower**	**32.34**	**265**	P	**P**	**16 57 33.5**	**+1.2**
	19nm,0.4s,mb4.9,baz=93,slow=10,SNR=74						
CTAO	**Charters Tower**	**32.34**	**265**	*e*P	**P**	**16 57 33.2**	**+0.9**
	19nm,0.5s,mb4.9						
PMG	**Port Moresby**	**34.40**	**285**	P	**P**	**16 57 50.1**	**+0.6**
	28nm,0.6s,mb5.0,baz=85,slow=5.9,SNR=17						
PMG	**Port Moresby**	**34.40**	**285**	*e*P	**P**	**16 57 50.0**	**+0.4**
	33nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**36.54**	**245**	P	**P**	**16 58 08.4**	**+1.5**
	2.5nm,0.7s,mb3.9,baz=305,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**43.31**	**257**	P	**P**	**16 59 01.7**	**+0.6**
	17nm,0.5s,mb4.7,baz=92,slow=7.4,SNR=491						
ASAR				PcP	PcP	17 00 35.1	+0.2
	2.5nm,0.6s,baz=104,slow=3.8,SNR=7.8						
ASAR				ScP		17 03 29.0	
	2.3nm,0.7s,baz=103,slow=4.3,SNR=11						
ASAR				S	**S**	**17 04 44.4**	**-0.3**
	5.3nm,0.9s,baz=91,slow=16,SNR=23						
ASPA	**Alice Springs**	**43.31**	**257**	⇓*i*P	**P**	**16 59 01.7**	**+0.6**
ASPA				*e*S	**S**	**17 04 43.9**	**-0.8**
WB2	**Warramunga Arr**	**43.42**	**263**	⇓*i*P	**P**	**16 59 01.9**	**0.0**
WB2				*e*S	**S**	**17 04 44.3**	**-1.9**
WRAB	**Tennant Creek**	**43.42**	**263**	*e*P	**P**	**16 59 01.8**	**-0.2**
	42nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**43.43**	**263**	P	**P**	**16 59 02.0**	**0.0**
	19nm,0.6s,mb4.7,baz=97,slow=7.8,SNR=311						
WRA				S	**S**	**17 04 44.4**	**-1.9**
	2.6nm,0.9s,baz=98,slow=13,SNR=9.0						
KAKA	**Kakadu**	**46.92**	**272**	⇓*i*P	**P**	**16 59 28.1**	**-0.6**
	15nm,0.3s,mb4.8						
FORT	**Forrest**	**48.05**	**247**	*e*P	**P**	**16 59 37.1**	**+0.2**
	50nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.86**	**263**	*e*P	**P**	**17 00 04.9**	**+0.2**
	5.6nm,0.4s,mb4.2						
KLBR	**Kellerberrin**	**56.81**	**245**	*e*P	**P**	**17 00 39.1**	**+0.1**
	79nm,1.7s,mb4.6						
MUN	**Mundaring**	**58.08**	**245**	*e*P	**P**	**17 00 48.2**	**+0.7**
	6.7nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**69.00**	**180**	*e*P	**P**	**17 01 57.0**	**+1.4**
	1.9nm,0.5s,mb3.7						
MAJO	**Matsushiro**	**70.03**	**325**	*e*P	**P**	**17 02 01.2**	**-1.2**
	6.9nm,0.6s,mb4.3						
MAT	**Matsushiro**	**70.03**	**325**	P	**P**	**17 02 01.4**	**-0.9**
MAT	**Matsushiro**	**70.03**	**325**	*e*P	**P**	**17 02 01.0**	**-1.3**
MDJ	**Mudanjiang**	**80.36**	**326**	P	**P**	**17 02 58.8**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,68nm,4.3s						
YBH	**Yreka Blue Hor**	**81.43**	**39**	P	**P**	**17 03 04.2**	**-0.2**
	comp=Z,2.7nm,0.6s,mb3.9,baz=186,slow=2.6,SNR=7.7						
WVOR	**Wild Horse Val**	**84.28**	**40**	*e*P	**P**	**17 03 18.8**	**+0.2**
	comp=Z,2.6nm,0.9s,mb3.8						
ENH	**Enshi**	**85.45**	**305**	*e*P	**P**	**17 03 25.5**	**+1.0**
	comp=Z,5.9nm,0.7s,mb4.3						
SYO	**Syowa Base**	**85.92**	**193**	⇑P	**P**	**17 03 15.0**	**-11**
SNAA	**Sanae**	**87.47**	**179**	P	**P**	**17 03 33.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=194,slow=5.2,SNR=9.2						
SNAA	**Sanae**	**87.47**	**179**	P	**P**	**17 03 33.2**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.6						
HLID	**Hailey**	**87.48**	**41**	*e*P	**P**	**17 03 33.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.7						
TXAR	**Lajitas Array**	**88.30**	**58**	P	**P**	**17 03 38.6**	**+0.7**
	comp=Z,2.5nm,0.8s,mb3.9,baz=217,slow=6.3,SNR=18						
ILAR	**Eielson Array**	**89.12**	**13**	P	**P**	**17 03 39.6**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=226,slow=5.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**17 03 44.6**	**+2.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=121,slow=2.8,SNR=21						
BW06	**Boulder Array**	**90.14**	**44**	*e*P	**P**	**17 03 46.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**90.14**	**44**	P	**P**	**17 03 45.5**	**-0.5**
	comp=Z,2.5nm,1.1s,mb4.0,baz=243,slow=3.3,SNR=5.2						
MKAR	**Makanchi Array**	**110.79**	**313**	PKiKP		17 09 13.2	
	comp=Z,0.3nm,0.4s,baz=49,slow=2.3,SNR=7.5						
BRVK	**Borovoye**	**118.87**	**320**	*e*PKPdf	PKPdf	17 09 28.4	+0.1
ZRNK	**Zerenda**	**119.64**	**320**	*e*PKPdf	PKPdf	17 09 30.0	+0.3
ARU	**Arti**	**125.04**	**325**	*e*PKPdf	PKPdf	17 09 40.9	+0.9
ARCES	**ARCESS Array B**	**129.28**	**349**	PKP	PKPdf	17 09 47.9	+0.1
	comp=Z,2.0nm,0.7s,slow=1.2,SNR=13						
FINES	**FINESS Array B**	**136.00**	**343**	PKP	PKPdf	17 10 01.5	+1.1
	comp=Z,0.8nm,0.6s,baz=72,slow=4.4,SNR=5.1						
FINES				SKP		17 12 34.7	
	comp=Z,1.6nm,0.6s,baz=90,slow=3.8,SNR=11						
FINES	**FINESS Array B**	**136.00**	**343**	PKP	PKPdf	17 10 01.5	+1.1
FINES				SKP		17 12 34.7	
AKASG	**Malin Array Be**	**142.97**	**330**	PKP	PKPdf	17 10 11.8	-1.3
	comp=Z,8.8nm,0.4s,baz=43,slow=4.1,SNR=57						
MALT	**Malatya**	**143.39**	**306**	*e*PKPdf	PKPdf	17 10 15.4	+1.1
MBAR	**Mbarara**	**143.68**	**237**	*e*PKPdf	PKPdf	17 10 16.6	+1.0
BRTR	**Keskin Array B**	**146.39**	**311**	PKPbc	PKPbc	17 10 23.4	+2.1
	comp=Z,2.9nm,0.6s,baz=132,slow=3.9,SNR=14						
DPC	**Dobruska-Polom**	**148.32**	**341**	*e*P	PKPdf	17 10 28.5	+6.4
CLL	**Collm**	**148.35**	**345**	*i* PKP1	PKPdf	17 10 27.9	+5.8
BRG	**Berggiesshubel**	**148.52**	**344**	*i* P	PKPdf	17 10 28.7	+6.3
PRU	**Pruhonice**	**149.17**	**343**	*e*P	PKPdf	17 10 29.7	+6.3
	comp=Z,4.1nm,0.7s						
KHC	**Kasperske Hory**	**150.21**	**343**	*e*P	PKPdf	17 10 32.9	+7.8
GERES	**GERESS Array B**	**150.44**	**343**	PKPbc	PKPdf	17 10 32.7	+7.3
	comp=Z,1.8nm,0.6s,baz=14,slow=2.2,SNR=13						

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*NEIC **13** 17:10:23.3, 15.38N×95.61W, h16^{km}, MD3.7(MEX), After MEX.*

MEX 13 17:10:23.3±0.8**, 15.38N×95.61W, h16**^{km}±181^{km}**, MD3.6, 2C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.62**	**309**	⇑*e*P	Pb	17 10 33.0	-2.3
HUIG				*e*S	Sb	17 10 41.1	-2.4
CMIG	**Matias Romero**	**1.84**	**22**	⇑*e*P	Pn	17 10 51.2	-3.4
CMIG				*e*S	Sn	17 11 11.6	-6.0
OXX	**Oaxaca**	**2.00**	**328**	*e*P	Pn	17 10 55.5	-1.5
PPM	**Popocatepetl**	**4.67**	**322**	*e*P	Pn	17 11 54.0	+19

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*BJI **13** 17:19:31.1, 5.09S×129.65E, h160^{km}, mB5.0, mb5.2*

*DJA **13** 17:19:31.5±0.9, 4.64S×130.16E, h190^{km}±36^{km}, mb5.5/6, Error ellipse: s-maj=75.4km s-min=20.9km az=4.0*

*MOS **13** 17:19:38.5±0.8, 4.49S×129.18E, h181^{km}, mb5.1/6, Error ellipse: s-maj=26.0km s-min=10.1km az=114.4*

*HRVD **13** 17:19:41.2±0.4, 4.21S×129.51E, h188^{km}±3^{km}, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s19,c26;Mantle waves: s53,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.06±.20; M$_{\theta\theta}$-0.99±.17; M$_{\phi\phi}$-1.06±.22; M$_{r\theta}$0.45±.14; M$_{\theta\phi}$2.13±.17; M$_{\phi r}$3.82±.16; Best double couple: M$_0$4.71×10^{16} NP1:φ$_s$107°,δ31°,λ28°. NP2:φ$_s$353°,δ76°,λ118°. Principal axes: T 5.05, Plg51°, Azm294°; N -.68, Plg27°, Azm165°; P -4.37, Plg26°, Azm61°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 17:19:41.2±0.9, 4.44S×129.39E, h190^{km}±9^{km}, mb5.0/31 Error ellipse: s-maj=8.5km s-min=4.5km az=61.0*

*IDC **13** 17:19:42.3±2.0, 4.46S×129.34E, h200^{km}±19^{km}, mb4.6/16, mb1 4.6/20, mb1mx4.6/22, MS3.8/5, Ms1 3.9/5, ms1mx3.5/16, Error ellipse: s-maj=16.2km s-min=7.2km az=71.0*

ISC 13 17:19:34.7±0.2**, 4.33S**±0.03×**129.51E**±0.05**, h141**^{km}**, h141**^{km}±2.7^{km}**:pP-P, n152, σ1^{s}13**/162**, mb5.0**/64**, 22C-14D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.79**	**161**	⇑*i*P	**P**	**17 21 42.0**	**+2.3**
	329nm,0.5s						
KAKA				*e*S	**S**	**17 23 05.7**	**-12**
BUNI	**Buntu Taipa**	**9.19**	**274**	⇑*i*P	**P**	**17 21 49.4**	**+4.5**
	509nm,1.0s						
NINI	**Niniconang**	**9.72**	**269**	⇓*i*P	**P**	**17 21 57.6**	**+5.5**
TANI	**Tanete Lipujan**	**10.14**	**275**	⇓*i*P	**P**	**17 22 02.0**	**+4.4**
	156nm,1.1s						
KEDI	**Kedomdong**	**13.93**	**252**	⇓*i*P	**P**	**17 22 49.3**	**+2.2**
	465nm,0.3s						
KEDI				⇓*i*S	**S**	**17 25 25.6**	**+7.0**
FITZ	**Fitzroy Crossi**	**14.20**	**195**	*e*P	**P**	**17 22 51.0**	**+0.5**
	14nm,0.4s						
FITZ				*e*S	**S**	**17 25 20.6**	**-4.1**
FITZ	**Fitzroy Crossi**	**14.20**	**195**	P	**P**	**17 22 50.9**	**+0.4**
	3.6nm,0.3s,baz=20,slow=8.6,SNR=87						
FITZ				S	**S**	**17 25 19.5**	**-5.3**
	2.1nm,0.3s,baz=178,slow=11,SNR=4.1						
RATI	**Rata**	**14.55**	**252**	⇑*i*P	**P**	**17 22 55.6**	**+0.6**
	423nm,0.2s						
RATI				⇓*i*S	**S**	**17 25 39.2**	**+6.4**
SCPH	**Surigao**	**14.58**	**344**	⇑*e*P	**P**	**17 23 02.0**	**+6.7**
INGI	**Ingas**	**14.94**	**252**	⇑*i*P	**P**	**17 23 00.7**	**+0.7**
	2µm,0.3s						
INGI				⇓*i*S	**S**	**17 25 46.0**	**+4.2**
KELI	**Kelakatan**	**15.41**	**255**	⇑*i*P	**P**	**17 23 08.1**	**+2.3**
	432nm,0.4s						
KELI				⇓*i*S	**S**	**17 25 57.6**	**+5.1**
WRAB	**Tennant Creek**	**16.21**	**163**	*e*P	**P**	**17 23 15.4**	**-0.3**
	52nm,0.6s						
WRAB				*e*S	**S**	**17 26 01.1**	**-9.4**
WRA	**Warramunga Arr**	**16.22**	**164**	P	**P**	**17 23 16.0**	**+0.2**
	7.1nm,0.3s,baz=333,slow=13,SNR=97						
WRA				S	**S**	**17 26 04.6**	**-6.1**
	7.4nm,0.3s,baz=345,slow=22,SNR=17						
WRA				LR	LR	17 30 01.8	
	comp=Z,374nm,19.1s,baz=335,slow=38						
WB2	**Warramunga Arr**	**16.22**	**163**	*e*P	**P**	**17 23 15.7**	**-0.1**
WB2				*e*S	**S**	**17 26 05.5**	**-5.2**
KKM	**Kota Kinabalu**	**16.80**	**308**	⇓*e*P	**P**	**17 23 26.3**	**+3.3**
	122nm,0.5s						
PMG	**Port Moresby**	**18.23**	**107**	P	**P**	**17 23 43.0**	**+3.2**
	5.6nm,0.3s,baz=145,slow=1.6,SNR=29						
ASAR	**Alice Springs**	**19.69**	**168**	P	**P**	**17 23 55.2**	**+0.2**
	10.0nm,0.3s,baz=352,slow=12,SNR=745						
ASAR				S	**S**	**17 27 24.8**	**+0.6**
	3.1nm,0.3s,baz=349,slow=22,SNR=13						
ASAR				LR	LR	17 32 06.0	
	comp=Z,214nm,18.2s,baz=339,slow=38						
ASPA	**Alice Springs**	**19.69**	**168**	⇓*i*P	**P**	**17 23 55.4**	**+0.3**
ASPA				*e*		17 24 01.0	
ASPA				*e*S	**S**	**17 27 23.4**	**-0.8**
ASPA				*e*SCS	ScS	17 35 04.3	-6.5
TGY	**Tagaytay City**	**20.19**	**335**	P	**P**	**17 24 02.3**	**+2.0**
	341nm,0.8s,baz=243,slow=4.4,SNR=13						
CTA	**Charters Tower**	**22.62**	**135**	*e*P	**P**	**17 24 27.4**	**+3.1**
	28nm,0.6s,mb4.9						
CTA				*e*S	S	17 28 46.0	+28
CTA	**Charters Tower**	**22.62**	**135**	P	**P**	**17 24 27.6**	**+3.3**
	32nm,0.6s,mb4.9,baz=313,slow=11,SNR=86						
CTAO	**Charters Tower**	**22.62**	**135**	*e*P	**P**	**17 24 27.4**	**+3.1**
	44nm,0.8s,mb4.9						
CVP	**Callao Caves**	**23.17**	**341**	⇓*e*P	**P**	**17 24 32.6**	**+3.0**
FORT	**Forrest**	**26.34**	**183**	*e*P	**P**	**17 24 59.5**	**+0.1**
	98nm,0.7s,mb5.5						
KLBR	**Kellerberrin**	**29.28**	**201**	*e*P	**P**	**17 25 23.7**	**-2.2**
	67nm,1.6s,mb5.1						
STKA	**Stephens Creek**	**29.66**	**159**	⇑*i*P	**P**	**17 25 29.7**	**+0.4**
	17nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**29.66**	**159**	P	**P**	**17 25 29.1**	**-0.2**
	20nm,0.7s,mb5.0,baz=332,slow=9.0,SNR=37						
STKA				LR	LR	17 37 47.0	
	comp=Z,244nm,21.7s,baz=1.1,slow=37						
QIZ	**Qiongzhong**	**30.23**	**321**	P	**P**	**17 25 34.8**	**+0.4**
QIZ				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
NWAO	**Narrogin (SRO)**	**30.68**	**201**	P	**P**	**17 25 36.7**	**-1.5**
	comp=Z,4.8nm,0.5s,mb4.5,baz=87,slow=5.2,SNR=16						
NWAO	**Narrogin (SRO)**	**30.68**	**201**	P	**P**	**17 25 36.7**	**-1.5**
UBT	**Ubonrachathani**	**31.09**	**309**	P	**P**	**17 25 42.5**	**+0.5**
ARMA	**Armidale**	**33.30**	**144**	*e*P	**P**	**17 26 02.6**	**+1.5**
KKTK	**Khon Kaen**	**33.44**	**309**	⇑P	**P**	**17 26 02.0**	**-0.3**
	comp=Z,741nm,0.5s						
CBIJ	**Chichi jima**	**33.56**	**21**	P	**P**	**17 26 03.9**	**+0.6**
	comp=Z,48nm,0.5s,mb5.5,baz=189,slow=18,SNR=4.4						
NST	**Nakhon Sawan**	**35.22**	**305**	P	**P**	**17 26 18.0**	**+0.6**
SSE	**Sheshan**	**36.11**	**348**	P	**P**	**17 26 26.3**	**+1.5**
SSE				PP	PP	17 27 52.1	+0.7
SSE				S	**S**	**17 31 50.5**	**-2.6**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,95nm,5.0s						
SSE	**Sheshan**	**36.11**	**348**	P	**P**	**17 26 26.3**	**+1.5**
	comp=Z,41nm,0.7s,mb5.2						
SSE				pP	pP	17 27 04.4	+8.4
SSE				PP	PP	17 27 52.1	+0.7
SSE				S	**S**	**17 31 50.5**	**-2.6**
SSE				sS		17 32 58.4	
SSE				SS	SS	17 34 35.9	+10
SSE				LR	LR		
	comp=Z,40nm,22.3s						
TOO	**Toolangi**	**36.17**	**158**	*e*P	**P**	**17 26 26.7**	**+1.4**
	comp=Z,14nm,1.8s,mb4.3						
NANT	**Nan**	**36.51**	**310**	⇑P	**P**	**17 26 26.0**	**-2.3**
	comp=Z,150nm,0.5s,mb5.9						
BDT	**Bhumibol Dam**	**36.97**	**306**	P	**P**	**17 26 33.0**	**+0.9**
	comp=Z,20nm,0.8s,mb4.8						
JNU	**Nakatsue**	**37.27**	**2**	P	**P**	**17 26 35.8**	**+1.2**
	comp=Z,13nm,0.8s,mb4.6,baz=233,slow=2.4						
NJ2	**Nanjing**	**37.57**	**345**	*e*P	**P**	**17 26 38.0**	**+0.9**
NJ2				AP	pP	17 27 16.3	+7.9
NJ2				XP	sP	17 27 36.8	+12
NJ2				S	**S**	**17 32 13.0**	**-2.3**
NJ2				XS		17 33 19.0	
NJ2				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.4						
WHN	**Wuhan**	**37.58**	**338**	P	**P**	**17 26 39.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**37.68**	**308**	P	**P**	**17 26 39.1**	**+1.0**
	comp=Z,11nm,0.5s,mb4.7,baz=138,slow=7.5,SNR=92						
CMAR				LR	LR	17 42 39.4	
	comp=Z,100nm,20.0s,baz=225,slow=37						
GYA	**Guiyang**	**37.76**	**325**	⇑*i*P	**P**	**17 26 40.3**	**+1.6**
GYA				AP	pP	17 27 11.4	+1.4
GYA				XP	sP	17 27 27.6	+0.8
GYA				PP	PP	17 28 13.8	+4.0
GYA				PCP	PcP	17 28 53.5	+0.4
GYA				S	**S**	**17 32 19.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
CHRT	**Chiangrai**	**37.84**	**310**	⇓P	**P**	**17 26 41.0**	**+1.6**
	comp=Z,224nm,0.9s,mb5.8						
KMI	**Kunming**	**39.16**	**320**	⇑*e*P	**P**	**17 26 51.6**	**+1.3**
KMI				AP	pP	17 27 24.8	+3.0
KMI				XP	sP	17 27 40.8	+2.2
KMI				S	**S**	**17 32 38.0**	**-1.3**
KMI				SS	SS	17 35 33.8	+2.5
KMI				AMB	AMB		
	comp=Z,48nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,257nm,6.6s						
KMI	**Kunming**	**39.16**	**320**	⇑*e*P	**P**	**17 26 51.6**	**+1.3**
	comp=Z,48nm,1.2s,mb5.0						
KMI				pP	pP	17 27 24.8	+3.0
KMI				sP	sP	17 27 40.8	+2.2
KMI				S	**S**	**17 32 38.0**	**-1.3**
KMI				sS		17 33 37.8	
KMI				SS	SS	17 35 33.7	+2.4
KMI				LR	LR		
	comp=Z,100nm,15.8s						
ENH	**Enshi**	**39.38**	**332**	*e*P	**P**	**17 26 52.1**	**0.0**
	comp=Z,42nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**41.47**	**11**	*e*P	**P**	**17 27 09.6**	**+0.5**
	comp=Z,15nm,0.8s,mb4.7						
MAT	**Matsushiro**	**41.47**	**11**	P	**P**	**17 27 09.9**	**+0.7**
MAT				S	**S**	**17 33 04.0**	**-9.3**
MAT	**Matsushiro**	**41.47**	**11**	*e*P	**P**	**17 27 10.0**	**+0.8**
	comp=Z,13nm,0.9s,mb4.5						
CD2	**Chengdu**	**42.81**	**327**	⇓*i*P	**P**	**17 27 20.5**	**+0.3**
CD2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.2						
XAN	**Xi’an**	**42.83**	**335**	P	**P**	**17 27 20.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1						
BJT	**Baijiatuau**	**45.80**	**346**	*e*P	**P**	**17 27 43.4**	**-0.7**
	comp=Z,44nm,0.8s,mb5.2						
BJI	**Beijing**	**45.82**	**346**	P	**P**	**17 27 44.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,67nm,0.8s,mb5.3						
LZH	**Lanzhou**	**46.84**	**331**	⇑P	**P**	**17 27 53.3**	**+1.1**
LZH				AP	pP	17 28 24.3	-0.1
LZH				PP	PP	17 29 44.5	+0.8
LZH				S	**S**	**17 34 28.5**	**-2.3**
LZH				AMB	AMB		
	comp=Z,53nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,293nm,5.1s						
LZH	**Lanzhou**	**46.84**	**331**	⇑P	**P**	**17 27 53.2**	**+1.0**
	comp=Z,53nm,1.3s,mb5.0						
LZH				pP	pP	17 28 24.3	-0.1
LZH				sP	sP	17 28 40.2	-0.2

LZH				PP	PP	17 29 44.5	+0.8
LZH				S	S	17 34 28.5	-2.3
LZH				sS		17 35 25.3	
LZH				LR	LR		
	comp=Z,510nm,16.5s						
SHL	Shillong	47.06	311	eP	P	17 27 50.2	-3.9
HHC	Hu-ho-hao-te	47.87	342	eP	P	17 27 59.3	-0.9
HHC				AP	pP	17 28 32.3	-0.2
HHC				XP	sP	17 28 51.4	+3.0
HHC				PP	PP	17 29 51.8	-1.0
HHC				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.8						
CN2	Changchun	48.05	356	eP	P	17 28 05.0	+3.4
MDJ	Mudanjiang	48.72	0	P	P	17 28 08.1	+1.3
MDJ				AP	pP	17 28 39.9	+0.7
MDJ				PP	PP	17 29 59.5	-1.5
MDJ				S	S	17 34 54.9	-2.2
MDJ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,94nm,4.4s						
MDJ	Mudanjiang	48.72	0	eP	P	17 28 06.0	-0.7
	comp=Z,6.0nm,0.6s,mb4.4						
LSA	Lhasa	49.95	315	P	P	17 28 16.9	+0.5
LSA	Lhasa	49.95	315	eP	P	17 28 16.3	0.0
	comp=Z,40nm,0.8s,mb5.1						
GTA	Gaotai	51.41	331	P	P	17 28 27.9	+0.6
GTA				AP	pP	17 29 01.0	+1.0
GTA				PP	PP	17 30 25.6	-0.7
GTA				S	S	17 35 29.3	-5.1
GTA				SCS	ScS	17 37 57.1	-2.7
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,51nm,5.4s						
YSS	Yuzh-Sakhalins	52.39	11	⇑eP	P	17 28 35.0	+0.5
YSS	Yuzh-Sakhalins	52.39	11	eP	P	17 28 34.8	+0.3
	comp=Z,8.6nm,0.4s,mb4.7						
PKI	Pulchoki	53.04	309	eP	P	17 28 38.5	-1.1
	comp=Z,43nm,0.6s,mb5.4						
KKN	Kakani	53.25	310	eP	P	17 28 40.1	-1.0
	comp=Z,156nm,0.9s,mb5.7						
DMN	Daman	53.30	309	eP	P	17 28 40.8	-0.6
	comp=Z,124nm,0.9s,mb5.6						
KLR	Kul'dur	53.38	2	eP	P	17 28 42.2	+0.5
KLR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
RPZ	Rata Peaks	53.65	143	P	P	17 28 43.8	0.0
	comp=Z,20nm,0.7s,mb5.0,baz=360,slow=2.5,SNR=8.8						
CUD	Cuddapah	53.65	291	eP	P	17 28 42.3	-1.9
GKN	Gorkha	53.85	309	eP	P	17 28 44.6	-0.9
	comp=Z,197nm,1.0s,mb5.8						
KOLN	Koldanda	54.54	309	eP	P	17 28 49.4	-1.1
	comp=Z,84nm,0.5s,mb5.8						
SNZO	South Karori	54.64	139	P	P	17 28 50.6	-0.5
HYB	Hyderabad	54.73	295	i P	P	17 28 50.0	-2.0
	comp=Z,93nm,0.8s,mb5.6						
HYB	Hyderabad	54.73	295	eP	P	17 28 50.0	-2.0
	comp=Z,93nm,0.8s,mb5.6						
URZ	Urewera	54.86	135	P	P	17 28 52.6	-0.2
	comp=Z,31nm,0.5s,mb5.3,baz=22,slow=1.9,SNR=27						
SONM	Songino Array	55.77	341	P	P	17 28 59.7	+0.6
	comp=Z,5.3nm,0.3s,mb4.8,baz=165,slow=5.6,SNR=91						
SONM				ScP		17 33 36.2	
	comp=Z,4.2nm,1.4s,baz=180,slow=4.9,SNR=3.9						
ZAK	Zakamensk	59.00	341	⇑iP	P	17 29 22.2	+0.5
ZAK				e		17 30 08.9	
POO	Poona	59.33	294	eP	P	17 29 22.0	-2.5
NDI	New Delhi	59.99	307	eP	P	17 29 25.5	-3.3
DDI	Dehra Dun	60.02	309	e	P	17 29 26.0	-3.0
MOY	Mondy	60.85	340	eP	P	17 29 35.1	+0.7
WMQ	Urumqi	60.91	326	P	P	17 29 34.5	-0.4
WMQ				AMB	AMB		
	comp=Z,56nm,0.9s,mb5.4						
SDNR	Sundarnagar	61.37	309	eP	P	17 29 37.4	-0.8
BOD	Bodaibo	63.20	351	eP	P	17 29 49.5	-0.4
CASY	Casey	63.25	188	eP	P	17 29 48.3	-1.8
KSH	Kashi	65.74	317	eP	P	17 30 07.0	+0.3
KSH				ePCP	PcP	17 30 37.0	+0.5
KSH				eAP	pP	17 30 40.3	-0.6
KSH				eXP	sP	17 30 57.0	+0.6
KSH				ePP	PP	17 32 36.0	+1.1
KSH				ePPP	PPP	17 34 11.1	+0.6
KSH				ePCS		17 34 41.0	
KSH				eS	S	17 38 37.0	-2.7
KSH				ePS	PS	17 39 21.3	-1.7
KSH				eSCS	ScS	17 39 45.0	+0.2
KSH				eSS	SS	17 42 58.0	-0.2
KSH				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.5						
KSH				AMB	AMB		
	comp=Z,300nm,7.1s						
MKAR	Makanchi Array	65.74	326	P	P	17 30 05.6	-0.9
	comp=Z,24nm,0.4s,mb5.4,baz=122,slow=7.4,SNR=243						
MKAR	Makanchi Array	65.74	326	P	P	17 30 05.5	-1.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	Magadan	65.89	12	d iP	P	17 30 07.7	+0.4
MA2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
YAK	Yakutsk	66.17	0	c iP	P	17 30 09.3	+0.3
YAK				e*PP	pP	17 30 34.3	-9.0
YAK				eS	S	17 38 42.2	-2.4
YAK				e*SS		17 39 23.8	
YAK				e		17 39 49.9	
YAK				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,13nm,1.1s						
YAK				smax			
	comp=E,8.0nm,1.4s						
YAK	Yakutsk	66.17	0	eP	P	17 30 07.7	-1.3
	comp=E,84nm,0.7s,mb5.7						
ULHL	Ulahol	66.88	320	P	P	17 30 13.8	-0.1
	SNR=8.1						
KZA	Kyzart	67.44	319	P	P	17 30 18.1	+0.8
	SNR=17						
TKM2	Tokmak 2	67.63	320	P	P	17 30 18.5	0.0
	SNR=23						
KBK	Karagaybulak	67.92	320	P	P	17 30 20.4	+0.2
	SNR=8.6						
UCH	Uchtor	68.00	319	P	P	17 30 21.2	+0.4
	SNR=29						
AAK	Ala-Archa	68.20	319	P	P	17 30 22.8	+0.8
	SNR=9.6						
CHMS	Chumysh	68.21	320	P	P	17 30 21.8	-0.3
	SNR=5.9						
AML	Almayashu	68.49	319	P	P	17 30 23.7	-0.1
	SNR=39						
USP	Ospenovka	68.50	320	P	P	17 30 22.9	-0.9
	SNR=33						
EKS2	Erkin-Say	68.68	319	P	P	17 30 24.7	-0.3
	SNR=42						
SEY	Seymchan	69.29	11	eP	P	17 30 30.4	+2.1
SEY				e		17 31 13.9	
SEY				pmax	pmax		
	comp=N,30nm,0.7s						
SEY				pmax	pmax		
	comp=E,20nm,0.7s						
SEY				pmax	pmax		
	comp=Z,140nm,0.7s,mb5.8						
KURK	Kurchatov	70.00	328	i P	P	17 30 32.3	-0.5
KURK				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
KURK	Kurchatov	70.00	328	eP	P	17 30 31.4	-1.5
	comp=Z,66nm,0.8s,mb5.4						
NVS	Novosibirsk	70.27	334	⇓iP	P	17 30 32.8	-1.6
NVS				e		17 31 13.9	
NVS				i S	S	17 39 24.7	-8.6
NVS				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,52nm,1.7s						
NVS				pmax	pmax		
	comp=E,21nm,1.2s						
NVS				smax			
	comp=E,82nm,2.1s						
NVS				smax			
	comp=N,45nm,2.3s						
KKAR	Karatay Array	71.02	318	i P	P	17 30 38.5	-0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VOSK	Vostochnaya	75.10	328	P	P	17 31 01.8	-0.9
VOSK				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.7						
VNDA	Vanda	75.14	173	P	P	17 31 02.0	-0.5
	comp=Z,3.9nm,0.8s,mb4.1,baz=317,slow=6.5,SNR=24						
VNDA				LR	LR	18 02 16.3	
	comp=Z,72nm,18.4s,baz=91,slow=34						
BVA0	Borovoye Array	75.56	328	P	P	17 31 04.9	-0.4
BRVK	Borovoye	75.63	328	P	P	17 31 05.1	-0.6
BRVK				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.8						
BRVK	Borovoye	75.63	328	eP	P	17 31 04.4	-1.2
	comp=Z,36nm,0.9s,mb5.0						
SBA	Scott Base	76.03	172	eP	P	17 31 07.5	0.0
	comp=Z,7.6nm,1.3s,mb4.2						
ZRNK	Zerenda	76.27	327	P	P	17 31 08.4	-0.8
ZRNK				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.0						
ZRNK	Zerenda	76.27	327	eP	P	17 31 08.2	-1.0
	comp=Z,38nm,0.9s,mb5.0						
MAW	Mawson	77.24	201	⇑iP	P	17 31 13.7	-0.7
	comp=Z,2.9nm,0.4s,mb4.3						
MAW	Mawson	77.24	201	P	P	17 31 13.1	-1.4
	comp=Z,3.8nm,0.4s,mb4.4,baz=72,slow=5.5,SNR=26						
AB31	Akbulak array	80.12	321	P	P	17 31 29.9	-0.5
AB31				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
ARU	Arti	83.19	328	⇑iP	P	17 31 45.9	-0.3
ARU				e		17 34 58.8	
ARU				eS	S	17 41 43.2	-10
ARU				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
ARU	Arti	83.19	328	eP	P	17 31 44.9	-1.3
	comp=Z,69nm,1.5s,mb5.2						
QSPA	South Pole Qui	85.63	180	eP	P	17 31 57.4	-0.4
	comp=Z,7.2nm,1.0s,mb4.4						
RAYN	Ar Rayn	86.22	294	P	P	17 32 01.7	-0.3
	comp=Z,156nm,1.0s,mb5.7,SNR=22						
PMR	Palmer	89.67	28	P	P	17 32 18.2	+0.8
SML	Sawmill	90.08	28	eP	P	17 32 19.8	+0.4
ILAR	Eielson Array	91.16	25	P	P	17 32 23.7	-0.7
	comp=Z,2.0nm,0.8s,mb4.2,baz=278,slow=4.3,SNR=18						
KMBO	Kilima Mbogo	92.16	269	P	P	17 32 29.6	-0.6
	comp=Z,3.2nm,1.0s,mb4.3,baz=64,slow=12,SNR=6.3						
DAWY	Dawson	94.35	26	eP	P	17 32 39.9	+0.9
OBN	Obninsk	95.21	325	c eP	P	17 32 42.2	-0.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.1						
INK	Inuvik	96.58	22	eP	P	17 32 49.0	0.0
	comp=Z,4.2nm,0.9s,mb4.8						
BRTR	Keskin Array B	97.26	309	P	P	17 32 51.3	-1.5
	comp=Z,1.9nm,1.0s,mb4.4,baz=124,slow=4.5,SNR=6.4						
BRTR				PP	PP	17 36 45.6	-7.7
	comp=Z,0.3nm,0.4s,baz=67,slow=11,SNR=2.7						
SNAA	Sanae	98.13	194	⇑iP	P	17 32 55.9	-0.1
ARCES	ARCESS Array B	98.92	340	P	P	17 32 58.2	-1.5
	comp=Z,15nm,1.1s,mb5.3,baz=82,slow=5.2,SNR=19						
ARCES	ARCESS Array B	98.92	340	P	P	17 32 58.2	-1.5
VNA2	Neumayer--Watz	99.70	193	⇑iP	P	17 33 02.5	-0.7
KAF	Kangasniemi	99.98	332	ep	P	17 33 01.0	-3.6
FINES	FINESS Array B	100.20	332	P	P	17 33 03.5	-2.1
	comp=Z,2.3nm,1.0s,baz=104,slow=7.9,SNR=4.8						
GERES	GERESS Array B	110.06	321	PKiKP		17 37 49.5	
	comp=Z,0.4nm,0.7s,baz=63,slow=2.2,SNR=3.5						
HLID	Hailey	111.73	45	ePKP	PKPdf	17 37 55.7	+3.1
PDAR	Pinedale Array	115.36	44	PKP	PKPdf	17 38 01.0	+1.2
	comp=Z,1.2nm,0.9s,baz=45,slow=2.1,SNR=7.2						
PDAR				PKKPbc		17 48 34.9	
	comp=Z,0.6nm,0.8s,baz=117,slow=3.3,SNR=4.8						
WUAZ	Wupatki	116.06	52	ePKP	PKPdf	17 38 03.9	+2.6
RSSD	Black Hills	118.61	41	ePKP	PKPdf	17 38 06.8	+0.8
SDCO	Great Sand Dun	119.94	49	ePKP	PKPdf	17 38 11.3	+2.6
ANMO	Albuquerque	120.08	52	ePKP	PKPdf	17 38 11.6	+2.5
ULM	Lac du Bonnet	120.47	32	PKP	PKPdf	17 38 09.7	+0.2
	comp=Z,1.1nm,0.3s,baz=329,slow=3.3,SNR=3.0						
WMOK	Wichita Mounta	126.09	50	ePKP	PKPdf	17 38 22.5	+1.8
JCT	Junction City	126.81	55	ePKP	PKPdf	17 38 24.3	+2.0
CPUP	Villa Florida	148.81	168	PKPbc	PKPdf	17 39 07.4	+5.3
	comp=Z,7.7nm,0.7s,baz=230,slow=1.8,SNR=18						
SDV	Santo Domingo	159.49	76	ePKP	PKPdf	17 39 17.7	+0.6

CASC 13 17:29:48.7±2.4, 8.33N×82.82W, h4^{km}±7^{km}, MD4.0, MW3.3, 6C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVD	David	0.38	74	⇓eP	Pg	17 29 56.5	+0.1
DVD				eS	Sg	17 30 01.0	-0.6
PTP1	Petroterminal	0.41	108	⇑iP	Pg	17 29 53.2	-3.8
ACR	Cerro Adams	0.47	313	⇓eP	Pg	17 29 57.9	-0.2
ACR				eS	Sg	17 30 05.8	+1.4
BRU2	Volcan	0.48	16	⇓iP	Pg	17 29 59.7	+1.4
CNI	Changuinola	1.12	16	⇑eP	Pb	17 30 09.2	-1.1
BUS	Buena Vista	1.53	323	⇑eP	Pn	17 30 15.2	-1.7
BUS				eS	Sb	17 30 38.4	+1.5
URSC	Urasca	1.77	328	⇑eP	Pn	17 30 19.1	-1.3
URSC				eS	Sn	17 30 42.3	-1.3
ICR	Volcan Irazu	1.92	329	⇓eP	Pn	17 30 21.8	-0.7
ICR				eS	Sn	17 30 47.6	+0.2
LAJ	Bijagual	1.99	320	⇑eP	Pn	17 30 24.9	+1.3
LAJ				eS	Sn	17 30 56.7	+7.5
SJS	Escuela Geolog	2.01	323	eP	Pn	17 30 23.3	-0.5
SJS				eS	Sn	17 30 50.9	+1.3
PRS1	Puriscal	2.21	318	⇑eP	Pn	17 30 24.9	-1.7
PRS1				eS	Sn	17 30 54.9	+0.2
CGA2	Cerro Gallo 2	2.33	316	eP	Pn	17 30 27.7	-0.7
CGA2				eS	Sn	17 30 59.0	+1.1
TRTC	Tortuguero	2.40	339	⇓eP	Pn	17 30 29.1	-0.3
TRTC				eS	Sn	17 31 01.3	+1.7
AZU	Azuero	2.58	102	eP	Pn	17 30 30.5	-1.5
JCR	Jicaral	2.72	304	⇓eP	Pn	17 30 32.4	-1.5
UPA	Univ. de Panam	3.32	78	eP	Pn	17 30 42.4	0.0
UPA				eS	Sn	17 31 22.5	-0.4

TAP 13 17:30:22.2, 23.80N×122.82E, h18^{km}, ML3.0
JMA 13 17:30:24.0±0.2, 24.12N×122.58E, h41^{km}, M2.0
ISC 13 17:30:22.8±2.3, 24.0N±0.1×122.6E±0.1, h18^{km}, n6, σ0^{s}64/11, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.61	37	P	Pb	17 30 35.0	+0.4
YOJ				S	Sb	17 30 42.7	0.0
IRIF	Iriomote-Funau	1.08	70	P	Pb	17 30 43.2	+0.5
IRIF				eS	Sb	17 30 57.1	+0.7
HATJ	Hateruma jima	1.10	85	P	Pb	17 30 43.6	+0.7
HATJ				eS	Sb	17 30 57.2	+0.5
JKRS	Kuro-shima	1.30	78	P	Pn	17 30 46.1	-0.2
JKRS				eS	Sb	17 31 03.0	+0.2
JIJ	Ishigaki jima	1.45	74	P	Pn	17 30 47.6	-0.8
JIJ				eS	Sn	17 31 05.8	-1.3
JTJ	Tarama	2.02	70	eS	Sn	17 31 20.7	-0.8

STR 13 17:40:47.7±0.2, 44.46N×6.89E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 13 17:40:47.9±0.1, 44.45N×6.87E, h2^{km}, Md2.2/2, Ml2.1/8, Error ellipse: s-maj=1.3km s-min=0.8km az=66.0
ISC 13 17:40:46.7±0.4, 44.44N±0.02×6.81E±0.03, h13^{km}±3^{km}, n15, σ0^{s}68/33, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.04	358	Pg	Pg	17 40 49.6	+0.5
SURF				Sg	Sg	17 40 51.0	+0.3
MBDF	Montbardon	0.29	354	ePg	Pg	17 40 54.0	+1.1
MBDF				eSg	Sg	17 40 57.4	+0.4
	7.9nm,0.2s						
TOUF	Mont Tournerai	0.53	144	Pg	Pg	17 40 57.5	0.0
TOUF				Sg	Sg	17 41 04.7	0.0
MVIF	Mont Vial	0.60	156	Pg	Pg	17 40 59.4	+0.6
MVIF				Sg	Sg	17 41 07.2	+0.3
AUTN	L'Aution	0.63	135	Pg	Pg	17 40 59.0	-0.4
AUTN				Sg	Sg	17 41 07.9	0.0
SBF	Sospel	0.73	142	ePg	Pg	17 41 01.5	0.0
SBF				eSg	Sg	17 41 10.5	-0.8
	8.3nm,0.3s						
ORIF	Oris-en-Rattie	0.82	306	ePg	Pg	17 41 03.0	-0.2
ORIF				eSg	Sg	17 41 13.4	-0.9
	4.6nm,0.2s						
FRF	La Foret Royal	0.89	188	ePg	Pg	17 41 04.1	-0.5
FRF				eSg	Sg	17 41 16.2	-0.3
FRF				eSn	Sn	17 41 18.6	+1.1
	6.4nm,0.2s						
SMRF	Simiane la Rot	1.00	243	ePg	Pg	17 41 07.4	+0.5
SMRF				eSg	Sg	17 41 21.8	+1.4
	12nm,0.2s						
LPG	La Plagne	1.06	358	ePg	Pg	17 41 08.0	+0.1
LPG				eSn	Sn	17 41 21.9	+0.1
	3.1nm,0.3s						
LPL	La Plagne	1.08	357	ePg	Pg	17 41 08.2	-0.1
LPL				eSg	Sg	17 41 22.1	-0.7
	3.3nm,0.3s						
LMR	La Mourre	1.13	191	ePg	Pg	17 41 09.4	0.0
LMR				eSg	Sg	17 41 24.4	-0.1
	9.8nm,0.2s						
VIVF	Saint-Julien-l	1.58	286	ePg	Pg	17 41 18.1	-0.3
VIVF				eSn	Sn	17 41 35.9	+0.7
VIVF				eSg	Sg	17 41 38.6	-1.0
	1.8nm,0.3s						
LASF	Ste Croix	2.16	261	ePn	Pn	17 41 23.9	+1.0
LASF				eSn	Sn	17 41 49.6	-0.1
LASF				eSg	Sg	17 41 57.0	-1.6
	1.3nm,0.3s						
PGF	Pioggiola	2.47	139	ePn	Pn	17 41 27.9	+0.5
PGF				eSn	Sn	17 41 56.2	-1.6
	1.0nm,0.2s						

IDC 13 17:40:57.7±1.0, 0.21S×123.48E, mb3.7/6, mb1 3.9/7, mb1mx3.8/16, ML3.3/1, MS3.0/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=85.7km s-min=17.5km az=64.0
DJA 13 17:41:05.6±1.3, 0.82S×123.18E, h200^{km}, MD5.0/3, ML4.7/2, Error ellipse: s-maj=91.8km s-min=29.7km az=128.0
NEIC 13 17:41:12.3±0.7, 0.52S×123.19E, h130^{km}, Error ellipse: s-maj=51.3km s-min=10.9km az=63.0
ISC 13 17:41:07.6±3.0, 0.6S±0.1×122.9E±0.2, h94^{km}±29^{km}, n11, σ1^{s}17/13, mb3.5/6, 1C-4D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	4.03	220	⇓iPn	P	17 42 07.0	-1.4
	347nm,0.2s						
BUNI				⇓iSn	S	17 42 55.2	+0.5
TANI	Tanete Lipujan	4.55	231	⇓iPn	P	17 42 16.8	+1.3
	60nm,0.3s						
NINI	Niniconang	4.98	219	⇑iPn	P	17 42 23.1	+1.7
NINI				⇓iSn	S	17 43 16.4	-1.7
FITZ	Fitzroy Crossi	17.65	171	P	P	17 45 08.3	-0.7
	0.1nm,0.3s,baz=29,slow=13,SNR=2.8						
WRA	Warramunga Arr	22.29	151	P	P	17 45 57.5	-0.5
	3.5nm,0.7s,mb3.8,baz=333,slow=10,SNR=24						
WB2	Warramunga Arr	22.29	151	eP	P	17 45 58.5	+0.4
ASAR	Alice Springs	25.34	156	P	P	17 46 27.6	+0.1
	0.7nm,0.5s,mb3.4,baz=334,slow=9.7,SNR=21						
ASAR				PcP	PcP	17 49 59.0	+0.4
	0.6nm,0.5s,baz=347,slow=2.0,SNR=14						
CMAR	Chiang Mai Arr	30.20	310	P	P	17 47 12.9	+1.3
	0.8nm,0.9s,mb3.4,baz=137,slow=7.8,SNR=4.5						
CMAR				LR	LR	17 58 15.9	
	comp=Z,34nm,21.7s,baz=185,slow=34						
SONM	Songino Array	50.29	346	P	P	17 49 55.2	-1.4
	0.3nm,0.5s,mb3.5,baz=155,slow=8.4,SNR=3.7						
MKAR	Makanchi Array	59.03	329	P	P	17 50 58.9	-1.1
	0.2nm,0.4s,mb3.5,baz=121,slow=8.2,SNR=7.8						
VNDA	Vanda	79.72	172	P	P	17 53 07.9	+1.6
	0.8nm,0.6s,mb3.7,baz=317,slow=6.6,SNR=8.4						

NEIC 13 17:41:21.7, 45.29S×167.01E, h12^{km}, ML3.9(WEL), After WEL.
WEL 13 17:41:21.4±0.4, 45.26S×166.98E, h12^{km}, ML3.9/6, 3D, Error ellipse: s-maj=3.8km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.25	150	P*	Pb	17 41 26.8	-0.6
DCZ				⇓S*	Sb	17 41 30.8	-0.5
MLZ	Mavora Lakes	0.85	96	⇓P*	Pb	17 41 36.6	-0.9
MLZ				S*	Sb	17 41 48.0	-0.6
MLZ				S*	Sb	17 41 48.4	-0.3
MLZ	Mavora Lakes	0.85	96	P	Pb	17 41 36.6	-1.0
MLZ				S	Sb	17 41 47.8	-0.9
WHZ	Wether Hill Ro	0.93	133	⇓P*	Pb	17 41 38.1	-0.9
WHZ				S*	Sb	17 41 50.8	-0.2
WHZ				S*	Sb	17 41 50.9	-0.2
WHZ	Wether Hill Ro	0.93	133	P	Pb	17 41 38.1	-0.9
WHZ				S	Sb	17 41 50.9	-0.1
WKZ	Wanaka	1.51	74	PN	Pn	17 41 47.9	-0.5
AXZ	Alexandra	1.66	91	PN	Pn	17 41 50.1	-0.5
AXZ				SN	Sn	17 42 11.3	-0.7
JCZ	Jackson Bay	1.74	48	PN	Pn	17 41 50.6	-1.1
TUZ	Tuapeka	1.99	111	PN	Pn	17 41 54.0	-1.3
TUZ	Tuapeka	1.99	111	P	Pn	17 41 54.3	-1.0
LBZ	Lake Benmore	2.44	70	PN	Pn	17 41 59.9	-1.9
ODZ	Otahua Downs	2.60	87	PN	Pn	17 42 02.0	-2.0
ODZ	Otahua Downs	2.60	87	eP	Pn	17 42 02.0	-2.1
RPZ	Rata Peaks	3.30	64	PN	Pn	17 42 12.2	-1.8
RPZ	Rata Peaks	3.30	64	eP	Pn	17 42 12.3	-1.7
WVZ	Waitaha Valley	3.48	52	PN	Pn	17 42 13.4	-3.1
WVZ	Waitaha Valley	3.48	52	eP	Pn	17 42 13.7	-2.8
MQZ	McQueen's Vall	4.35	71	PN	Pn	17 42 26.4	-2.5
MQZ	McQueen's Vall	4.35	71	eP	Pn	17 42 26.4	-2.5
CRLZ	Canterbury Las	4.38	69	PN	Pn	17 42 26.7	-2.6
CRLZ	Canterbury Las	4.38	69	eP	Pn	17 42 27.4	-1.9
DSZ	Denniston Nort	4.97	47	PN	Pn	17 42 33.8	-3.8
DSZ	Denniston Nort	4.97	47	eP	Pn	17 42 33.8	-3.8
THZ	Tophouse	5.55	53	PN	Pn	17 42 43.0	-2.9
THZ	Tophouse	5.55	53	eP	Pn	17 42 43.0	-2.9
QRZ	Quartz Range	6.01	44	PN	Pn	17 42 48.3	-4.1
QRZ	Quartz Range	6.01	44	eP	Pn	17 42 48.5	-3.9
NNZ	Nelson	6.18	51	PN	Pn	17 42 51.4	-3.4
NNZ	Nelson	6.18	51	eP	Pn	17 42 52.0	-2.8

CASC 13 17:42:18.9±1.6, 12.90N×88.62W, h236^{km}±14^{km}, MD3.9, ML3.7, 1C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	0.62	33	⇓eP	P	17 42 51.4	+0.5
BLLM	Bellamira	0.66	35	⇑eP	P	17 42 51.5	+0.5
SNVI	San Vicente	0.74	343	eP	P	17 42 51.7	+0.4
LCBS	La Ceiba	0.82	335	⇓eP	P	17 42 51.9	+0.3
LFRS	El Faro	0.83	329	⇓eP	P	17 42 52.1	+0.4
LFRS				eS	S	17 43 17.2	-0.1
CNCH	Conchagua	0.85	64	eP	P	17 42 52.1	+0.3
LBRS	Las Brisas	0.93	334	⇓eP	P	17 42 52.5	+0.3
BOQS	Boqueron	1.05	322	eP	P	17 42 53.8	+0.9
BOQS				eS	S	17 43 20.0	+0.7
SBLS	San Blas	1.35	314	⇓eP	P	17 42 56.0	+1.0
SBLS				eS	S	17 43 24.7	+1.7
SNJE	San Jose	1.36	315	eP	P	17 42 56.3	+1.2
SNJE				eS	S	17 43 24.4	+1.3
RTR	El Retiro	1.40	315	eP	P	17 42 56.5	+1.0
RTR				eS	S	17 43 25.6	+1.8
RBDL	Robledal	1.59	319	⇓iP	P	17 42 57.7	+0.8
MTO2	Montecristo 2	1.65	334	⇓iP	P	17 42 57.1	-0.4
IXG	Ixpaco	2.19	306	eP	P	17 43 03.8	+1.5
IXG				eS	S	17 43 37.6	+1.7
FUG	Fuego 3	2.65	306	eS	S	17 43 46.9	+2.4
JAT	Jato	3.25	296	eP	P	17 43 13.7	-0.1
JAT				eS	S	17 43 57.1	+0.6
JAT				AML	AML	17 44 00.2	
	comp=E,264nm,0.2s						

ATH 13 17:48:27.3, 40.79N×26.54E, h5^{km}, MD3.4/5
ISK 13 17:48:29.2, 40.80N×26.38E, h9^{km}, MD3.3
THE 13 17:48:30.2, 40.71N×26.35E, h3^{km}, ML3.5
NEIC 13 17:48:30.2, 40.71N×26.35E, h4^{km}, MD3.4(ATH), ML3.6(THE), After THE.
ISC 13 17:48:29.2±0.5, 40.80N±0.03×26.39E±0.02, h5^{km}±5^{km}, n35, σ1^{s}00/48, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALN	Alexandroupoli	0.28	291	ePg	Pg	17 48 36.0	+1.3
ALN				eSg	Sg	17 48 39.9	+1.4
LPK	Lapseki	0.51	146	i PG	Pg	17 48 40.6	+1.2
SART	Tekirdag	0.61	100	⇑iP	Pg	17 48 42.9	+1.4
SART				i S	Sg	17 48 49.3	-0.3
RDO	Rodhopi	0.73	299	ePB	Pb	17 48 44.1	+0.1
MRMT	Marmara Adasi	0.94	102	i PG	Pg	17 48 47.3	-0.7

MRMT				*i* SG	Sg	17 49 00.8	+0.3
EZN	Ezine	0.97	183	PG	Pg	17 48 47.9	-0.7
CRLT	Corlu	1.07	72	*i* PG	Pg	17 48 51.1	+0.5
EDRB	Edirne	1.08	14	*i* PG	Pg	17 48 50.3	-0.5
EDRB				*i* SG	Sg	17 49 05.4	+0.2
EDC	Edincik	1.21	111	*i* PN	Pn	17 48 53.0	+0.2
BNT	Bandirma	1.25	110	*i* PN	Pn	17 48 53.3	0.0
LIA	Limnos Island	1.29	226	*e*PB	Pb	17 48 53.2	-0.3
LIA				*e*SB	Sb	17 49 11.9	+1.7
LOS	Limnos	1.32	230	*e*Pb	Pb	17 48 53.2	-0.9
	comp=Z,9.5nm,0.1s						
LOS				*e*Sb	Sb	17 49 11.5	+0.4
SLVT	Silivri	1.45	72	PN	Pn	17 48 57.1	+1.0
PRK	Paraskevi	1.55	183	*e*PG	Pg	17 48 56.1	-4.1
PRK				*e*SB	Sb	17 49 18.9	+0.9
CTT	Catalca	1.59	77	PN	Pn	17 48 57.6	-0.5
KCT	Karacabey	1.59	109	*e*PN	Pn	17 48 58.1	-0.1
BALB	Balikesir	1.63	135	*e*PN	Pn	17 48 58.6	-0.1
BGKT	Bogazkoy	1.85	77	*e*PN	Pn	17 49 02.3	+0.5
OUR	Ouranopolis	1.89	257	*e*Pb	Pb	17 49 01.3	-2.5
	comp=Z,10.0nm,0.1s						
NVR	Nevrokopi	1.99	287	*e*PB	Pb	17 49 03.7	-1.8
ISK	Istanbul-Kandi	2.04	82	*e*PN	Pn	17 49 04.9	+0.3
KLYT	Kilyos	2.06	76	*e*PN	Pn	17 49 05.9	+1.0
BADT	Buyukada	2.07	88	*e*PN	Pn	17 49 04.9	-0.2
SRS	Serrai	2.14	279	*e*Pn	Pn	17 49 05.8	-0.3
SRS				*e*Sn	Sn	17 49 34.9	+1.5
ULDT	Uludag	2.20	106	⇑P	Pn	17 49 11.1	+4.2
ULDT				S	Sn	17 49 39.2	+4.5
AKS	Akhisar	2.21	150	*e*PN	Pn	17 49 07.5	+0.5
PLG	Polygyros	2.28	260	*e*PG	Pg	17 49 12.5	-2.2
YLV	Yalova	2.28	95	*e*PN	Pn	17 49 08.5	+0.4
HRT	Hereke	2.49	88	*e*PN	Pn	17 49 11.1	0.0
SILT	Sile	2.49	81	*e*PN	Pn	17 49 11.1	0.0
KNT	Kendrikon	2.67	279	*e*Pn	Pn	17 49 13.4	-0.2
KNT				*e*Sn	Sn	17 49 45.1	-1.6
MANT	Manisa	2.85	143	P	Pn	17 49 16.9	+0.7
MANT				S	Sn	17 49 49.6	-1.7
ALT	Altintas	3.35	120	PN	Pn	17 49 22.6	-0.7
HENT	Hendek	3.42	88	P	Pn	17 49 33.8	+9.4
HENT				S	Sg	17 50 20.8	-2.4
ESKT	Eskisehir	3.65	109	P	Pn	17 49 28.3	+0.7
ESKT				S	Sg	17 50 25.2	-5.5

IDC 13 17:57:55.9±2.3,6.11S×130.48E,mb3.7/1,mb1 3.7/4, mb1mx3.4/13,ML3.4/3,Error ellipse: s-maj=89.9km s-min=29.4km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.82	201	Pn	P	18 00 60.0	-2.3
	0.4nm,0.3s,baz=13,slow=8.9,SNR=31						
WRA	Warramunga Arr	14.25	165	Pn	P	18 01 17.8	-3.6
	0.2nm,0.3s,baz=348,slow=13,SNR=13						
WRA				Sn	S	18 03 45.3	-16
	0.4nm,0.3s,baz=342,slow=21,SNR=6.7						
ASAR	Alice Springs	17.77	170	P	P	18 02 05.4	-1.0
	0.1nm,0.3s,baz=350,slow=8.4,SNR=7.8						
ASAR				S	S	18 05 13.8	-9.2
	0.2nm,0.3s,baz=357,slow=28,SNR=6.1						
MKAR	Makanchi Array	67.75	326	P	P	18 08 55.4	-2.1
	0.3nm,0.4s,baz=118,slow=7.8,SNR=4.3						

IDC 13 18:07:58.3±5.4,23.35N×94.23E,h70^{km}±43^{km},mb3.2/3, mb1 3.3/4,mb1mx3.1/18,ML3.1/1,Error ellipse: s-maj=165.0km s-min=22.7km az=60.0

ISC 13 18:07:54.1±1.4,23.0N±0.2×93.7E±0.2,h58^{km}±19^{km},n10, σ1^{s}14/11,mb3.5/3,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	3.04	327	*e*PN	P	18 08 39.2	-1.7
SHL				*e*SN	S	18 09 17.0	+0.8
CMAR	Chiang Mai Arr	6.68	132	P	P	18 09 32.3	+0.4
	0.1nm,0.3s,baz=314,slow=12,SNR=3.5						
PKI	Pulchoki	8.77	303	*e*P	P	18 10 02.2	+1.6
KKN	Kakani	8.97	304	*e*P	P	18 10 04.0	+0.5
	2.6nm,0.2s						
DMN	Daman	9.02	302	*e*P	P	18 10 05.7	+1.6
GKN	Gorkha	9.57	303	*e*P	P	18 10 10.0	-1.8
	20nm,0.4s						
KOLN	Koldanda	10.28	300	*e*P	P	18 10 19.8	-1.7
	4.0nm,0.3s						
MKAR	Makanchi Array	25.45	342	P	P	18 13 18.2	+0.1
	0.7nm,0.6s,mb3.3,baz=149,slow=10,SNR=8.3						
WRA	Warramunga Arr	58.27	134	P	P	18 17 45.1	-0.3
	1.0nm,1.1s,mb3.7,baz=320,slow=7.6,SNR=6.6						
ASAR	Alice Springs	60.66	137	P	P	18 18 01.9	+0.2
	0.2nm,0.5s,mb3.5,baz=318,slow=6.7,SNR=7.7						

IDC 13 18:14:33.5±8.8,22.08S×179.34W,h489^{km}±91^{km},mb3.5/6, mb1 3.6/7,mb1mx3.4/16,Error ellipse: s-maj=61.7km s-min=25.4km az=39.0

NEIC 13 18:14:34.4±4.0,22.14S×179.34W,h502^{km}±42^{km},mb4.3/7, Error ellipse: s-maj=36.9km s-min=17.0km az=213.0

ISC 13 18:14:30.9±3.7,21.9S±0.4×179.1W±0.5,h500^{km},n21, σ0^{s}52/19,mb4.2/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	16.66	190	P	P	18 17 58.0	+0.3
	0.6nm,0.3s,baz=16,slow=19,SNR=5.0						
URZ				S	S	18 20 36.8	-8.3
	0.3nm,0.3s,baz=257,slow=18,SNR=2.6						
CNB	Canberra Magne	30.60	237	*e*P	P	18 20 04.9	+0.2
	47nm,1.7s,mb4.6						
CTA	Charters Tower	32.34	267	*e*P	P	18 20 21.2	+1.6
	6.4nm,0.5s,mb4.3						
CTA	Charters Tower	32.34	267	P	P	18 20 20.6	+1.0
	14nm,0.8s,mb4.4,baz=95,slow=10,SNR=26						
CTAO	Charters Tower	32.34	267	*e*P	P	18 20 21.0	+1.4
	8.8nm,0.6s,mb4.4						
TOO	Toolangi	34.25	235	*e*P	P	18 20 35.4	-0.1
	2.5nm,0.3s,mb4.1						
STKA	Stephens Creek	36.26	246	*e*P	P	18 20 52.5	+0.2
	3.8nm,0.6s,mb4.0						
STKA	Stephens Creek	36.26	246	P	P	18 20 52.3	0.0
	4.3nm,0.6s,mb4.1,baz=106,slow=11,SNR=13						
ASAR	Alice Springs	43.20	258	P	P	18 21 48.6	+0.1
	5.5nm,0.7s,mb4.1,baz=89,slow=7.6,SNR=62						
ASPA	Alice Springs	43.21	258	*e*P	P	18 21 48.5	0.0
WB2	Warramunga Arr	43.38	264	*e*P	P	18 21 49.8	-0.1
WRAB	Tennant Creek	43.39	264	*e*P	P	18 21 49.5	-0.4
	4.4nm,0.5s,mb4.1						
WRA	Warramunga Arr	43.39	264	P	P	18 21 49.9	-0.1
	1.8nm,0.3s,mb4.0,baz=94,slow=8.1,SNR=172						
KAKA	Kakadu	47.02	273	*e*P	P	18 22 18.2	0.0
	3.5nm,0.3s,mb4.3						
FORT	Forrest	47.80	248	*e*P	P	18 22 22.7	-1.3
	45nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	51.83	264	*e*P	P	18 22 54.1	+0.2
	1.4nm,0.3s,mb3.8						
FITZ	Fitzroy Crossi	51.83	264	P	P	18 22 53.8	-0.1
	2.0nm,0.3s,mb3.9,baz=57,slow=4.9,SNR=37						
VNDA	Vanda	56.46	185	P	P	18 23 25.9	0.0
	0.5nm,0.9s,baz=14,slow=8.2,SNR=4.0						
HFS	Hagfors	140.71	350	PKhKP		18 33 01.5	
	1.0nm,0.3s,baz=53,slow=3.3,SNR=14						
AKASG	Malin Array Be	143.68	329	PKP	PKPdf	18 33 10.8	+3.1
	0.2nm,0.3s,baz=45,slow=2.6,SNR=4.2						
EKA	Eskdalemuir Ar	146.45	4	PKPbc	PKPbc	18 33 19.4	+5.1
	1.9nm,1.1s,baz=348,slow=3.3,SNR=3.8						

NEIC 13 18:17:41.0,34.98N×3.96W,h16^{km},MG3.6(MDD),After MDD.

INMG 13 18:17:41.8±1.2,35.00N×3.91W,h17^{km}±60^{km},ML2.5, Error ellipse: s-maj=52.4km s-min=5.7km az=147.0

MDD 13 18:17:41.5±1.1,35.15N×3.97W,mb3.5/13,Error ellipse: s-maj=12.8km s-min=4.8km az=13.0,PRXIMO AftershockPLICA,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	Melilla	0.84	80	P	Pg	18 17 56.9	-1.4
	SNR=21						
EMEL				S	Sg	18 18 08.3	-1.2
	556nm,0.2s						
EMIJ	Mijas	1.55	335	P	Pn	18 18 08.1	-2.4
	2.8nm,0.2s,SNR=7.9						
EMIJ				S	Sb	18 18 27.5	-3.5
	20nm,0.2s,SNR=7.9						
REAL	Reales	1.67	323	P	Pn	18 18 11.0	-1.2
REAL				S	Sb	18 18 27.0	-7.3
ERON	Agron	1.87	4	P	Pn	18 18 13.5	-1.5
	1.3nm,0.2s,SNR=5.0						
ERON				S	Sn	18 18 35.7	-3.9
	9.5nm,0.3s,SNR=5.0						
ELOJ	Sierra Loja	2.00	356	P	Pn	18 18 15.4	-1.5
	1.3nm,0.2s,SNR=5.0						
ELOJ				S	Sn	18 18 40.4	-2.6
	6.3nm,0.3s,SNR=4.0						
LIJA	Lijar	2.10	327	P	Pn	18 18 18.5	+0.1
ESPR	Espera	2.30	319	P	Pn	18 18 19.8	-1.4
	5.9nm,0.3s,SNR=4.0						
ESPR				S	Sn	18 18 48.5	-2.0
	25nm,0.5s						
ESPR	Espera	2.30	319	P	Pn	18 18 21.4	+0.2
ESPR				S	Sn	18 18 49.9	-0.7
ELUQ	Luque	2.41	354	P	Pn	18 18 21.6	-1.2
	2.3nm,0.2s,SNR=5.0						
ELUQ				S	Sn	18 18 50.9	-2.7
	5.6nm,0.2s,SNR=4.0						
ELUQ	Luque	2.41	354	P	Pn	18 18 21.6	-1.2
ELUQ				S	Sn	18 18 57.2	+3.6
EQES	Quesada	2.74	15	P	Pn	18 18 26.8	-0.7
	2.4nm,0.1s,SNR=17						
EQES				S	Sn	18 18 59.2	-2.7
	35nm,0.4s						
EADA	Adamuz	3.05	351	P	Pn	18 18 29.8	-2.1
	0.4nm,0.1s,SNR=10						
EADA				S	Sn	18 19 06.1	-3.6
	3.7nm,0.1s,SNR=5.0						
EADA	Adamuz	3.05	351	P	Pn	18 18 30.2	-1.7
EADA				S	Sn	18 19 06.1	-3.6
EMIN	Mina Concepcio	3.40	321	P	Pn	18 18 33.9	-3.1
	0.8nm,0.1s,SNR=20						
EMIN				S	Sn	18 19 12.3	-6.2
	2.1nm,0.1s						
EMUR	La Murta	3.47	39	S	Sn	18 19 11.8	-8.5
	9.0nm,0.5s,SNR=5.6						
PALC	Alcoutim	3.65	310	*e*Pn	Pn	18 18 37.6	-2.9
PALC				*e*Sn	Sn	18 19 18.9	-6.1
	11nm,0.5s						
PALC	Alcoutim	3.65	310	P	Pn	18 18 37.6	-2.9
PALC				S	Sn	18 19 18.9	-6.1
	5.3nm,0.5s						
EGRO	El Granado	3.70	311	P	Pn	18 18 38.2	-3.0
	1.1nm,0.1s,SNR=9.9						
EGRO				S	Sn	18 19 19.2	-7.0
	5.9nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.99	28	P	Pn	18 18 43.4	-1.8
	0.7nm,0.2s,SNR=12						
ETOB				S	Sn	18 19 28.4	-5.0
	10nm,0.4s						
ETOB	Tobarra	3.99	28	P	Pn	18 18 43.7	-1.6
ETOB				S	Sn	18 19 28.4	-5.0
PBEJ	Beja	4.25	314	*e*Pn	Pn	18 18 45.6	-3.4
PBEJ				*e*Sn	Sn	18 19 33.4	-6.7
	3.9nm,0.2s						
PBEJ	Beja	4.25	314	P	Pn	18 18 45.6	-3.4
PBEJ				S	Sn	18 19 33.4	-6.7
	1.9nm,0.2s						
EBAD	Badajoz	4.34	327	P	Pn	18 18 47.2	-3.2
	1.0nm,0.1s,SNR=12						
EBAD				S	Sn	18 19 35.7	-6.8
	9.4nm,0.2s,SNR=4.6						
ESDC	Sonseca Array	4.51	0	P	Pn	18 18 50.6	-2.2
	1.2nm,0.1s,baz=178,slow=12,SNR=5.8						
PTEO	Sao Teotonio	4.52	303	*e*Pn	Pn	18 18 49.0	-3.8
PTEO				*e*Sn	Sn	18 19 39.8	-7.1
	9.5nm,0.6s						
PTEO	Sao Teotonio	4.52	303	P	Pn	18 18 49.0	-3.8
PTEO				S	Sn	18 19 39.8	-7.1
	4.8nm,0.6s						
EBEN	Beniarda	4.64	39	S	Sn	18 19 40.3	-10
	0.1nm,0.2s,SNR=7.9						
MOE	Montemor	4.87	315	*e*Sn	Sn	18 19 48.6	-7.0
PCBR	Castelo Branco	5.45	330	*e*Pn	Pn	18 19 02.7	-3.2
PCBR				*e*Sn	Sn	18 20 02.7	-7.6
	3.5nm,0.3s						
PCBR	Castelo Branco	5.45	330	P	Pn	18 19 02.7	-3.2
PCBR				S	Sn	18 20 02.7	-7.6
	1.8nm,0.3s						
PTOM	Tomar	5.69	323	*e*Pn	Pn	18 19 05.8	-3.6
MTE	Manteigas	5.95	333	*e*Sn	Sn	18 20 14.8	-8.2
PVRL	Vila Real	6.79	335	*e*Sn	Sn	18 20 33.7	-10
	6.4nm,0.1s						
PVRL	Vila Real	6.79	335	S	Sn	18 20 33.7	-10
	3.2nm,0.1s						
ECAL	Calabor	7.12	343	P	Pn	18 19 25.9	-3.6
	0.9nm,0.2s,SNR=7.9						

BJI 13 18:22:20.5,27.19N×103.63E,h12^{km},mb3.8,ML3.0, Ms3.7,Msz3.4,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.21	201	*e*PG	Pg	18 22 59.5	-5.1
KMI				SG	Sg	18 23 28.0	-6.1
KMI				Smax			
	comp=N,36nm,0.8s						
KMI				Smax			
	comp=E,55nm,1.0s						
GYA	Guiyang	2.81	104	P	Pn	18 23 09.0	+2.9
GYA				PG	Pg	18 23 14.3	-2.3
GYA				SG	Sg	18 23 48.8	-5.2
GYA				Smax			
	comp=N,80nm,0.9s						
GYA				Smax			
	comp=E,60nm,0.8s						
CD2	Chengdu	3.71	2	P	Pn	18 23 20.0	+1.1
CD2				PG	Pg	18 23 30.4	-4.2
CD2				S	Sn	18 24 05.4	+2.4
CD2				SG	Sg	18 24 18.0	-6.0
CD2				Smax			
	comp=N,70nm,0.8s						
CD2				Smax			
	comp=E,105nm,0.7s						
XAN	Xi’an	8.21	32	P	P	18 24 20.0	-2.3
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s						

IDC 13 18:25:50.1±1.7,47.57N×27.26W,mb3.9/9,mb1 4.1/11, mb1mx3.9/26,ML3.5/1,MS3.1/6,Ms1 3.1/6,ms1mx2.9/24, Error ellipse: s-maj=38.0km s-min=27.5km az=43.0

NEIC 13 18:25:51.5±1.1,47.65N×27.39W,h10^{km},mb4.1/9,Error ellipse: s-maj=20.8km s-min=12.5km az=212.0

ISC 13 18:25:49.5±1.1,47.5N±0.1×27.3W±0.2,h10^{km},n40, σ1^{s}07/35,mb3.9/14,MS3.0/5,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVRL	Vila Real	15.32	107	*e*P	P	18 29 25.5	-1.8
PVIS	Viseu	15.49	109	*e*P	P	18 29 27.6	-2.0
	9.5nm,0.5s						
PBRG	Braganca	15.70	104	*e*P	P	18 29 31.9	-0.3
	3.7nm,0.6s						
MTE	Manteigas	15.89	109	*e*P	P	18 29 32.7	-2.0
MTE	Manteigas	15.89	109	*e*P	P	18 29 32.7	-2.1
	7.1nm,0.7s						
MOE	Montemor	16.49	116	*e*P	P	18 29 43.2	+0.8
PTEO	Sao Teotonio	16.90	119	*e*P	P	18 29 48.8	+1.2
	29nm,1.0s						
EKA	Eskdalemuir Ar	16.92	53	Pn	P	18 29 47.5	-0.2
	0.1nm,0.3s,baz=249,slow=12,SNR=7.8						
FLN	La Foliniere	17.93	76	*e*P	P	18 29 55.6	-4.7
	48nm,1.2s						
ESDC	Sonseca Array	18.59	106	P	P	18 30 08.9	+0.2
	3.7nm,0.3s,baz=293,slow=13,SNR=30						
ESDC				LR	LR	18 35 44.7	
	comp=Z,76nm,19.5s,baz=300,slow=32						
ETSF	Etsaut	19.37	94	*e*P	P	18 30 20.5	+2.6
	5.3nm,0.5s						
LFF	La Frestale	19.54	87	*e*P	P	18 30 21.0	+1.1
EPF	Esparros	19.92	93	*e*P	P	18 30 24.7	+0.5
TCF	Toulx Ste Croi	20.16	83	*e*P	P	18 30 26.0	-0.7
BGF	Bois d’Agland	20.53	81	*e*P	P	18 30 29.8	-0.6
AVF	Avril sur Loir	20.81	81	*e*P	P	18 30 32.9	-0.5
	12nm,0.8s						
SSF	Saint Saulge	20.85	80	*e*P	P	18 30 33.3	-0.5
	25nm,1.1s						
LOR	Lormes	21.04	79	*e*P	P	18 30 35.2	-0.6
	16nm,0.8s,mb4.1						
SMF	Signal de Mont	21.17	81	*e*P	P	18 30 36.7	-0.4
	27nm,1.1s,mb4.2						
MEZF	Maizieres J’vi	21.60	75	*e*P	P	18 30 41.0	-0.4
HAU	Haudompre	22.54	76	*e*P	P	18 30 51.5	+0.8
	15nm,0.9s,mb4.1						
HINF	Hinteralfeld	22.91	76	*e*P	P	18 30 55.1	+0.8
	8.4nm,0.7s,mb4.0						
CDF	Champ du Feu	23.07	75	*e*P	P	18 30 57.6	+1.7
DAVOX	Davos	25.16	78	P	P	18 31 19.2	+3.1
	2.9nm,0.8s,mb3.8,baz=289,slow=12,SNR=5.1						
SCHQ	Schefferville	25.56	301	LR	LR	18 39 45.1	
	comp=Z,52nm,21.1s,MS3.0,baz=92,slow=33						
SUMG	Summit	25.66	352	P	P	18 31 19.8	-0.8
	7.0nm,1.0s,mb4.2						
NOA	NORSAR Array B	25.80	44	LR	LR	18 40 34.8	
	comp=Z,11nm,20.9s,MS2.4,baz=275,slow=34						
CLL	Collm	26.27	67	P	P	18 31 27.0	+0.6
GERES	GERESS Array B	27.16	72	P	P	18 31 33.7	-0.9
	1.0nm,0.8s,mb3.4,baz=288,slow=8.4,SNR=6.0						
VRAC	Vranov	28.90	70	P	P	18 31 48.7	-1.7
	1.3nm,0.4s,mb4.1,baz=248,slow=5.8,SNR=3.2						
FINES	FINESS Array B	32.97	45	LR	LR	18 46 41.8	
	comp=Z,22nm,18.3s,MS2.9,baz=85,slow=38						
AKASG	Malin Array Be	36.39	63	P	P	18 32 56.9	+1.3
	0.4nm,0.3s,mb3.8,baz=280,slow=8.6,SNR=5.1						
ULM	Lac du Bonnet	43.72	300	LR	LR	18 49 50.2	
	comp=Z,50nm,18.4s,MS3.5,baz=352,slow=33						
BRTR	Keskin Array B	43.80	77	P	P	18 33 57.8	+0.9
	0.9nm,0.8s,mb3.5,baz=310,slow=11,SNR=3.0						
DBIC	Dimbokro	44.99	148	P	P	18 34 07.2	+0.3
	7.6nm,1.3s,mb4.4,baz=350,slow=11,SNR=4.0						
DBIC	Dimbokro	44.99	148	P	P	18 34 07.2	+0.3
ILAR	Eielson Array	58.62	334	P	P	18 35 48.4	-0.1
	0.7nm,1.0s,mb3.6,baz=23,slow=3.0,SNR=4.8						
TXAR	Lajitas Array	60.13	282	LR	LR	19 02 08.8	
	comp=Z,20nm,20.3s,MS3.2,baz=155,slow=36						
MKAR	Makanchi Array	67.80	44	P	P	18 36 48.6	-0.8
	0.6nm,0.7s,mb3.8,baz=282,slow=4.2,SNR=5.7						
SONM	Songino Array	76.85	30	P	P	18 37 43.1	+0.3
	0.6nm,0.7s,mb3.6,baz=315,slow=5.2,SNR=5.9						

BJI 13 18:36:03.8,17.80S×178.60W,h584^{km},mB4.4,mb4.6

NEIC 13 18:36:03.8±0.2,17.83S×178.63W,mb4.4/34,Error ellipse: s-maj=9.2km s-min=4.2km az=146.0

SYO 13 18:36:03.8,17.83S×178.63W,h585^{km},MB4.4

IDC 13 18:36:06.7±2.1,17.93S×178.65W,h617^{km}±25^{km}, mb4.0/14,mb1 4.2/14,mb1mx4.1/18,Error ellipse: s-maj=18.5km s-min=10.9km az=152.0

ISC 13 18:36:02.8±0.2,17.87S±0.08×178.66W±0.06,h585^{km}, h585^{km}±.2^{km}:pP-P,n114,σ0^{s}82/87,mb4.4/44,15C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.61	251	*e*P	P	18 39 09.1	+1.7
URZ	Urewera	20.65	189	P	P	18 40 00.4	-3.9
	14nm,0.4s,baz=13,slow=1.6,SNR=11						
CTA	Charters Tower	33.21	260	⇓*i*P	P	18 41 54.6	+0.7
	36nm,0.6s,mb5.2						
CTA	Charters Tower	33.21	260	P	P	18 41 54.6	+0.7
	47nm,0.7s,mb5.2,baz=91,slow=10,SNR=106						
CTAO	Charters Tower	33.21	260	⇓*i*P	P	18 41 54.4	+0.4
	49nm,0.8s,mb5.2						
CNB	Canberra Magne	33.26	232	⇓*i*P	P	18 41 55.1	+0.9
	59nm,0.5s,mb5.5						
PMG	Port Moresby	34.21	280	P	P	18 42 04.3	+2.0
	113nm,0.8s,mb5.5,baz=81,slow=5.8,SNR=51						
PMG	Port Moresby	34.21	280	*e*P	P	18 42 03.0	+0.7
	137nm,0.9s						
TOO	Toolangi	37.00	231	⇓*i*P	P	18 42 25.9	+0.8
	37nm,0.8s,mb5.0						
STKA	Stephens Creek	38.43	241	⇓*i*P	P	18 42 38.0	+1.2
	39nm,0.6s,mb5.1						
STKA	Stephens Creek	38.43	241	P	P	18 42 38.0	+1.1
	58nm,0.6s,mb5.3,baz=91,slow=9.4,SNR=148						
WB2	Warramunga Arr	44.39	260	⇓*i*P	P	18 43 23.7	-0.5
WB2				*e*S	S	18 49 15.3	-2.2
WRAB	Tennant Creek	44.39	260	⇓*e*P	P	18 43 23.6	-0.6
	65nm,0.7s,mb5.3						
WRA	Warramunga Arr	44.40	260	P	P	18 43 23.7	-0.6
	36nm,0.6s,mb5.1,baz=96,slow=7.0,SNR=683						
WRA				PcP	PcP	18 44 55.1	-0.3
	1.3nm,0.7s,baz=92,slow=3.9,SNR=5.5						
WRA				S	S	18 49 14.9	-2.7
	0.4nm,0.7s,baz=101,slow=13,SNR=3.1						
ASAR	Alice Springs	44.57	254	P	P	18 43 25.8	+0.2
	241nm,0.6s,baz=88,slow=8.4,SNR=5249						
ASAR				PcP	PcP	18 44 55.4	-0.6
	7.1nm,0.6s,baz=104,slow=4.0,SNR=4.7						
ASAR				ScP		18 47 54.4	
	0.8nm,0.7s,baz=102,slow=5.0,SNR=3.9						
ASAR				S	S	18 49 19.5	-0.4
	6.4nm,1.2s,baz=85,slow=16,SNR=5.5						
ASPA	Alice Springs	44.57	254	⇓*i*P	P	18 43 25.7	+0.1
ASPA				*e*S	S	18 49 16.0	-3.9
KAKA	Kakadu	47.38	269	⇓*i*P	P	18 43 46.5	-0.6
	75nm,0.5s,mb5.5						
FORT	Forrest	49.80	245	⇓*i*P	P	18 44 04.0	-0.9
	218nm,0.6s						
FITZ	Fitzroy Crossi	52.79	261	⇓*i*P	P	18 44 26.6	0.0
	8.5nm,0.6s,mb4.2						
KLBR	Kellerberrin	58.63	244	⇓*i*P	P	18 45 05.7	-1.0
	46nm,0.6s,mb4.8						
NWAO	Narrogin (SRO)	59.01	242	P	P	18 45 08.3	-0.9
	14nm,0.7s,mb4.2,baz=88,slow=5.9,SNR=15						
NWAO	Narrogin (SRO)	59.01	242	P	P	18 45 08.3	-0.9
MUN	Mundaring	59.92	243	⇑*i*P	P	18 45 15.0	-0.3
	24nm,0.8s,mb4.5						
SBA	Scott Base	60.44	184	*e*P	P	18 45 18.6	+0.5
	4.6nm,0.7s,mb3.8						
VNDA	Vanda	60.46	185	P	P	18 45 17.6	-0.6
	2.2nm,0.7s,mb3.5,baz=353,slow=6.6,SNR=18						
CASY	Casey	66.07	205	*e*P	P	18 45 52.8	-1.2
	8.7nm,0.8s,mb4.2						
MAJO	Matsushiro	67.73	323	*e*P	P	18 46 04.4	-0.1
	6.1nm,0.7s,mb4.1						
QSPA	South Pole Qui	72.18	180	*e*P	P	18 46 29.9	-0.2
	15nm,0.8s,mb4.6						
QSPA				*e*		18 48 39.3	
OHCM	Honcut	78.01	42	*e*P	P	18 47 02.3	-0.6
MDJ	Mudanjiang	78.02	325	P	P	18 47 03.3	+0.5
MDJ				PCP	PcP	18 47 09.8	-0.7
MDJ				XP	sP	18 50 04.3	-0.2
MDJ				S	S	18 56 11.5	+2.0
MDJ				SCS	ScS	18 56 28.3	+1.1
MDJ				XS		18 59 47.1	
MDJ				SS	SS	19 01 30.3	-1.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,83nm,5.4s						
MDJ	Mudanjiang	78.02	325	*e*P	P	18 47 02.8	0.0
	comp=Z,7.6nm,0.9s,mb4.1						
YBH	Yreka Blue Hor	78.65	39	P	P	18 47 06.7	+0.5
	comp=Z,8.7nm,0.6s,mb4.2,baz=182,slow=2.8,SNR=20						
YBH	Yreka Blue Hor	78.65	39	*e*P	P	18 47 06.8	+0.5
	comp=Z,17nm,1.3s,mb4.2						
OMM	Old Mammoth Mi	78.67	44	*e*P	P	18 47 06.8	+0.4
MTUM	Tungsten Hills	78.81	45	*e*P	P	18 47 07.5	+0.3
HUMO	Hull Mountain	79.02	38	*e*P	P	18 47 08.5	+0.3
	comp=Z,12nm,1.0s,mb4.2						
BEKR	Beckwourth	79.03	42	⇑*e*P	P	18 47 08.3	0.0
	comp=Z,3.0nm,0.4s,mb4.0						
MNV	Mina	79.67	44	⇑*i*P	P	18 47 11.3	-0.3
	comp=Z,17nm,1.3s,mb4.2						
MNV				*e*pP	pP	18 49 15.3	-0.4
TPH	Tonopah	80.10	45	*e*P	P	18 47 13.6	-0.3
	comp=Z,2.4nm,0.4s,mb3.9						
NEN	Nelson	80.49	48	*e*P	P	18 47 16.1	+0.2
BMN	Battle Mountai	81.35	43	⇑*i*P	P	18 47 20.2	0.0
SLKM	Skilak Lake	81.41	14	*e*P	P	18 47 19.6	-0.5
WVOR	Wild Horse Val	81.54	40	⇑*i*P	P	18 47 21.3	+0.2
	comp=Z,16nm,0.9s,mb4.6						
TUC	Tucson	81.87	52	⇑*e*P	P	18 47 23.4	+0.4
	comp=Z,10nm,1.1s,mb4.3						
EYAK	Cordova Ski Ar	82.53	16	*e*P	P	18 47 24.6	-1.2
WUAZ	Wupatki	82.90	49	*e*P	P	18 47 28.8	+0.6
	comp=Z,7.6nm,0.9s,mb4.2						
NLW	Nelson Butte	83.74	35	*e*P	P	18 47 31.7	-0.3
MSU	Marysvale	83.75	46	*e*P	P	18 47 33.1	+0.8
MAW	Mawson	83.81	200	⇓*i*P	P	18 47 31.9	0.0
	comp=Z,3.6nm,0.5s,mb4.2						
MAW	Mawson	83.81	200	P	P	18 47 31.8	-0.1
	comp=Z,5.6nm,0.6s,mb4.2,baz=125,slow=6.7,SNR=18						
ENH	Enshi	84.05	304	*e*P	P	18 47 35.0	+1.1

	comp=Z,43nm,1.3s,mb4.8						
DUG	**Dugway**	**84.12**	**45**	*e*P	**P**	**18 47 33.7**	**-0.4**
	comp=Z,1.3nm,0.6s,mb3.6						
MCK	**McKinley**	**84.56**	**13**	*e*P	**P**	**18 47 34.9**	**-0.8**
	comp=Z,3.6nm,0.7s,mb4.1						
HLID	**Hailey**	**84.76**	**41**	⇑*i*P	**P**	**18 47 37.5**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.2						
DPW	**Davenport**	**84.80**	**36**	*e*P	**P**	**18 47 37.1**	**-0.1**
SRU	**San Rafael**	**85.17**	**46**	⇑*i*P	**P**	**18 47 39.2**	**0.0**
LAZ	**Ladron**	**85.53**	**52**	*e*P	**P**	**18 47 41.0**	**-0.1**
HWUT	**Hardware Ranch**	**85.63**	**44**	*e*P	**P**	**18 47 41.1**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.0						
PV10	**Paradox Valley**	**85.87**	**48**	*e*P	**P**	**18 47 42.1**	**-0.5**
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**18 47 40.9**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.0,baz=234,slow=5.3,SNR=19						
PV01	**Paradox Valley**	**86.09**	**48**	*e*P	**P**	**18 47 43.5**	**-0.2**
LTX	**Lajitas**	**86.18**	**58**	⇑*i*P	**P**	**18 47 45.2**	**+0.8**
	comp=Z,20nm,1.2s,mb4.6						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**18 47 45.2**	**+0.9**
	comp=Z,12nm,1.0s,mb4.5,baz=225,slow=5.3,SNR=26						
ANMO	**Albuquerque**	**86.26**	**52**	*e*P	**P**	**18 47 44.0**	**-0.6**
	comp=Z,5.7nm,1.0s,mb4.2						
TPAW	**Teton Pass**	**86.92**	**42**	*e*P	**P**	**18 47 47.9**	**+0.5**
CHMT	**Chamberlain Mo**	**87.16**	**39**	*e*P	**P**	**18 47 47.8**	**-0.6**
MOOW	**Moose Ponds**	**87.18**	**42**	*e*P	**P**	**18 47 48.5**	**-0.1**
BW06	**Boulder Array**	**87.49**	**44**	*e*P	**P**	**18 47 50.0**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**87.49**	**44**	P	**P**	**18 47 49.6**	**-0.5**
	comp=Z,4.5nm,0.6s,mb4.3,baz=232,slow=2.8,SNR=37						
PDAR				PP	PP	18 51 23.1	-4.2
	comp=Z,0.7nm,0.8s,baz=248,slow=8.0,SNR=5.9						
BOZ	**Bozeman (W)**	**87.52**	**40**	*e*P	**P**	**18 47 49.8**	**-0.4**
	comp=Z,8.4nm,1.3s,mb4.3						
HRY	**Holter Researc**	**87.91**	**39**	*e*P	**P**	**18 47 51.8**	**-0.2**
HRY				pP	pP	18 49 58.7	-0.1
SDCO	**Great Sand Dun**	**88.12**	**49**	*e*P	**P**	**18 47 52.9**	**-0.4**
	comp=Z,2.4nm,0.9s,mb3.9						
CMAR	**Chiang Mai Arr**	**88.64**	**290**	P	**P**	**18 47 58.0**	**+1.9**
	comp=Z,5.0nm,0.8s,mb4.4,baz=106,slow=2.8,SNR=30						
SYO	**Syowa Base**	**89.14**	**193**	⇑P	**P**	**18 47 55.7**	**-1.6**
SYO	**Syowa Base**	**89.14**	**193**	⇓P	**P**	**18 48 03.5**	**+6.2**
SYO	**Syowa Base**	**89.14**	**193**	⇓P	**P**	**18 48 12.5**	**+15**
SNAA	**Sanae**	**90.64**	**179**	⇑*i*	**P**	**18 48 01.9**	**-2.2**
LZH	**Lanzhou**	**90.68**	**308**	⇑P	**P**	**18 48 06.1**	**+1.0**
LZH				AP	pP	18 50 13.6	+0.9
LZH				XP	sP	18 51 10.8	+0.4
LZH				PP	PP	18 51 54.6	+2.0
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH	**Lanzhou**	**90.68**	**308**	⇑P	**P**	**18 48 06.1**	**+1.0**
	comp=Z,21nm,1.3s,mb4.9						
LZH				pP	pP	18 50 13.6	+0.9
LZH				sP	sP	18 51 10.8	+0.4
LZH				PP	PP	18 51 54.6	+2.0
VNA2	**Neumayer--Watz**	**91.23**	**177**	⇑*i*	**P**	**18 48 08.8**	**+2.0**
LAO	**LASA Array**	**91.34**	**41**	*e*P	**P**	**18 48 08.1**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.7						
VNA1	**Neumayer--Stat**	**91.46**	**177**	⇑*i*	**P**	**18 48 10.2**	**+2.3**
SONM	**Songino Array**	**93.36**	**319**	P	**P**	**18 48 17.8**	**+0.7**
	comp=Z,0.7nm,1.0s,mb3.7,baz=135,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**108.94**	**314**	PKiKP		18 53 26.2	
	comp=Z,0.7nm,0.5s,baz=203,slow=0.5,SNR=14						
ARU	**Arti**	**122.69**	**326**	*e*PKPdf	PKPdf	18 53 52.8	+0.4
FINES	**FINESS Array B**	**133.09**	**344**	PKP	PKPdf	18 54 12.6	+0.5
	comp=Z,0.7nm,0.6s,baz=135,slow=5.4,SNR=4.1						
HFS	**Hagfors**	**136.86**	**351**	PKhKP		18 54 11.9	
	comp=Z,3.6nm,1.1s,slow=1.5,SNR=4.6						
LSZ	**Lusaka**	**137.74**	**220**	PKP	PKPdf	18 54 25.0	+3.1
MALT	**Malatya**	**141.81**	**310**	*e*PKPdf	PKPdf	18 54 29.3	+0.8
GZT	**Gaziantep**	**142.79**	**309**	*i* P	PKPdf	18 54 29.7	-0.6
BOYT	**Boyabat**	**142.92**	**316**	*i* P	PKPdf	18 54 30.7	+0.3
LTHS	**Al Lith**	**143.05**	**280**	P	PKPbc	18 54 32.0	+2.2
KAHT	**Ahir Dag**	**143.20**	**310**	*i* P	PKPbc	18 54 31.6	+1.8
CTKT	**Corum**	**143.38**	**315**	*i* P	PKPbc	18 54 32.2	+2.0
BALT	**Daday**	**143.85**	**318**	*i* P	PKPbc	18 54 33.8	+2.2
AVNT	**Avonos**	**144.18**	**312**	*i* P	PKPdf	18 54 34.1	+1.5
ELDT	**Eldivan**	**144.35**	**316**	*i* P	PKPdf	18 54 35.0	+2.1
BRTR	**Keskin Array B**	**144.58**	**315**	PKP	PKPdf	18 54 34.6	+1.4
	comp=Z,4.3nm,0.7s,baz=135,slow=3.5,SNR=28						
DPC	**Dobruska-Polom**	**145.44**	**343**	*e*P	PKPdf	18 54 37.9	+3.5
MORC	**Moravsky Berou**	**145.60**	**341**	*e*PKPbc	PKPbc	18 54 37.1	+1.0
MBAR	**Mbarara**	**145.74**	**241**	*e*PKPbc	PKPbc	18 54 38.6	+1.1
UMJS	**Umm Lajj**	**145.82**	**289**	P	PKPdf	18 54 40.0	+4.2
TBKS	**Tabuk**	**146.11**	**294**	P	PKPdf	18 54 40.4	+4.2
PRU	**Pruhonice**	**146.25**	**345**	*e*P	PKPdf	18 54 39.9	+4.1
JMQS	**Jabal Moqyreh**	**146.57**	**296**	P	PKPdf	18 54 41.7	+4.7
CSS	**Prodhromos**	**146.86**	**307**	*e*PKPbc	PKPbc	18 54 40.5	+0.9
JMOS	**Jabal al Moall**	**147.17**	**296**	P	PKPdf	18 54 43.0	+5.0
AYUS	**‘Aynunah**	**147.23**	**294**	P	PKPdf	18 54 43.3	+5.2
KHC	**Kasperske Hory**	**147.28**	**345**	*e*P	PKPdf	18 54 42.7	+5.2
ULDT	**Uludag**	**147.32**	**319**	*i* P	PKPdf	18 54 42.9	+5.0
BDAS	**Al Bad‘**	**147.32**	**295**	P	PKPdf	18 54 43.4	+5.1
HAQS	**Haql**	**147.34**	**296**	P	PKPdf	18 54 43.4	+5.1
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	PKPdf	18 54 42.2	+4.3
	comp=Z,1.7nm,0.5s,baz=20,slow=3.1,SNR=16						
DAVOX	**Davos**	**150.32**	**348**	PKPbc	PKPdf	18 54 50.3	+7.9
	baz=198,slow=6.4						

MAN 13 18:54:12.8, 18.49N×120.84E, h52km, mb3.5, ML2.2, MS1.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.27**	**232**	⇓*i*P	P	18 54 23.3	+1.5
PIP				*i* S	S	18 54 31.6	+3.3
APYP	**Conner**	**0.73**	**148**	*e*P	P	18 54 28.2	+1.2
APYP				*e*S	S	18 54 40.1	+2.5
ABRA	**Dolores**	**0.84**	**188**	*e*P	P	18 54 29.6	+1.1
ABRA				*e*S	S	18 54 44.0	+3.6
SGCP	**Mt. Cagua**	**1.17**	**102**	*e*P	P	18 54 34.0	+0.9

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*IDC **13** 19:28:15.7±7.8, 13.52S×168.09E, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, Error ellipse: s-maj=172.0km s-min=44.2km az=24.0*

ISC 13 19:28:42.5±2.6, 15.2S±0.2×167.2E±0.3, h151km±26km, n6, σ1§52/8, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.70**	**158**	*i* P	**P**	**19 29 26.5**	**-0.3**
BKM				S	**S**	**19 30 00.5**	**-0.2**
DZM	**Mont Dzumac**	**6.91**	**186**	*e*P	**P**	**19 30 24.0**	**+1.6**
DZM				*e*S	**S**	**19 31 39.3**	**-0.7**
STKA	**Stephens Creek**	**28.65**	**230**	P	**P**	**19 34 29.4**	**+2.2**
	2.8nm,0.6s,mb4.2,baz=39,slow=8.6,SNR=6.2						
WRA	**Warramunga Arr**	**31.63**	**257**	P	**P**	**19 34 52.4**	**-1.2**
	0.3nm,0.7s,mb3.1,baz=84,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**32.44**	**250**	P	**P**	**19 34 59.9**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=80,slow=9.0,SNR=10.0						
VNDA	**Vanda**	**62.43**	**181**	P	**P**	**19 38 51.2**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=358,slow=5.2,SNR=7.1						

IDC 13 19:47:25.5±16.0, 22.77S×174.38W, mb4.4/5, mb1 4.5/5, mb1mx4.3/13, Error ellipse: s-maj=312.0km s-min=140.8km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.67**	**267**	*e*P	P	19 54 34.6	-1.4
	7.0nm,0.4s						
CTA	**Charters Tower**	**36.67**	**267**	P	P	19 54 34.7	-1.3
	8.5nm,0.5s,baz=95,slow=10,SNR=36						
STKA	**Stephens Creek**	**39.93**	**247**	P	P	19 55 01.9	-1.3
	2.6nm,0.6s,baz=76,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**47.32**	**258**	P	P	19 56 00.9	-2.1
	2.5nm,0.6s,baz=98,slow=7.1,SNR=40						
ASPA	**Alice Springs**	**47.33**	**258**	*e*P	P	19 56 01.9	-1.2
WB2	**Warramunga Arr**	**47.65**	**263**	*e*P	P	19 56 03.2	-2.4
WRA	**Warramunga Arr**	**47.66**	**263**	P	P	19 56 03.3	-2.4
	4.0nm,0.6s,baz=103,slow=8.6,SNR=72						
FITZ	**Fitzroy Crossi**	**56.09**	**263**	*e*P	P	19 57 08.1	-0.9
	4.3nm,1.7s						
FITZ	**Fitzroy Crossi**	**56.09**	**263**	P	P	19 57 06.8	-2.2
	1.4nm,0.6s,baz=99,slow=13,SNR=7.6						

MAN 13 20:19:01.1, 16.22N×120.09E, h25km, mb4.2, ML3.1, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.23**	**313**	*e*P	Pb	20 19 08.9	+1.7
BOLP				*e*S	Sb	20 19 16.4	+5.0
SCZP	**Santa Cruz**	**0.47**	**201**	*e*P	Pb	20 19 11.7	+0.8
BCPH	**Baguio City Da**	**0.50**	**71**	⇑*i*P	Pb	20 19 12.9	+1.7
BCPH				*i* S	Sb	20 19 23.4	+5.2
BALP	**Baler**	**1.51**	**108**	*e*P	Pn	20 19 26.7	-0.3
ABRA	**Dolores**	**1.54**	**23**	*e*P	Pn	20 19 25.5	-1.9
ABRA				*e*S	Sn	20 19 47.1	+0.3
CAUP	**Cauayan**	**1.81**	**66**	*e*P	Pn	20 19 32.1	+0.8
APYP	**Conner**	**1.97**	**34**	*e*P	Pn	20 19 32.0	-1.6
APYP				*e*S	Sn	20 19 58.4	+0.7

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*NSSC **13** 20:35:04.0, 38.86N×39.35E, h40km*
*ISK **13** 20:35:05.6, 38.39N×39.16E, h5km, MD4.3, ML4.3*
*BJI **13** 20:35:05.4, 38.18N×38.74E, h26km, mb4.9*
*MOS **13** 20:35:05.7±1.5, 38.19N×39.18E, h10km, mb4.4/15, Error ellipse: s-maj=12.5km s-min=7.0km az=117.3*
*NEIC **13** 20:35:05.5, 38.38N×39.15E, h5km, mb4.4/35, After ISK.*
*IDC **13** 20:35:06.7±0.7, 38.36N×39.24E, mb4.2/17, mb1 4.3/25, mb1mx4.3/28, ML4.2/6, MS3.5/7, Ms1 3.5/7, ms1mx3.2/26, Error ellipse: s-maj=14.2km s-min=10.6km az=4.0*

ISC 13 20:35:06.4±0.6, 38.38N±0.02×39.18E±0.02, h7km±3km, n156, σ1§02/175, mb4.3/49, MS3.4/5, 7C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.20**	**308**	*i* P	**Pg**	**20 35 09.8**	**-0.7**
ELZG				*i* S	**Sg**	**20 35 19.3**	**+6.1**
MALT	**Malatya**	**0.60**	**264**	*i* PG	**Pg**	**20 35 17.2**	**-1.1**
MALT				*i* SG	**Sg**	**20 35 27.3**	**+1.0**
MALT	**Malatya**	**0.60**	**264**	Pg	**Pg**	**20 35 17.2**	**-1.1**
MALT				Sg	**Sg**	**20 35 26.2**	**-0.1**
MYA	**Malataya**	**0.60**	**265**	*i* PG	**Pg**	**20 35 18.0**	**-0.3**
DIY	**Diyarbakir**	**0.95**	**120**	*i* PG	**Pg**	**20 35 25.2**	**-0.2**
DIY				*i* SG	**Sg**	**20 35 40.1**	**+1.9**
BINT	**Bingol**	**1.14**	**64**	*i* PN	**Pn**	**20 35 28.0**	**-0.7**
EZC	**Erzincan**	**1.46**	**20**	PN	**Pn**	**20 35 32.0**	**-1.2**
EZC	**Erzincan**	**1.46**	**20**	Pn	**Pn**	**20 35 31.9**	**-1.3**
DRBT	**Darb Altahta**	**1.60**	**162**	⇑P	**Pn**	**20 35 41.5**	**+6.2**
GZT	**Gaziantep**	**1.64**	**232**	*i* P	**Pn**	**20 35 35.8**	**0.0**
GZT				*i* S	**Sb**	**20 35 54.3**	**-3.0**
BEST	**Besiri**	**1.72**	**106**	*i* P	**Pn**	**20 35 36.9**	**-0.1**
BEST				*i* S	**Sn**	**20 36 01.8**	**+2.4**
BTMT	**Batman**	**1.82**	**95**	*i* PN	**Pn**	**20 35 38.3**	**-0.2**
GAZ	**Gaziantep**	**1.97**	**233**	*i* PN	**Pn**	**20 35 41.4**	**+0.8**
GUMT	**Gumushane**	**2.09**	**6**	*i* PN	**Pn**	**20 35 43.6**	**+1.2**
SVST	**Sivas**	**2.23**	**309**	*i* P	**Pn**	**20 35 45.2**	**+1.0**
SVST				*i* S	**Sn**	**20 36 19.2**	**+6.9**
EZM	**Erzurum**	**2.28**	**47**	*i* PN	**Pn**	**20 35 46.4**	**+1.3**
ERZM	**Erzurum**	**2.28**	**47**	*i* P	**Pn**	**20 35 45.3**	**+0.2**
SVSK	**Karacayir**	**2.29**	**313**	*i* PN	**Pn**	**20 35 46.2**	**+1.0**
MNKR	**ALMNKUR**	**2.43**	**178**	⇑P	**Pn**	**20 35 48.5**	**+1.3**
MNKR				⇑S	**Sn**	**20 36 19.4**	**+1.9**
DRWC	**Darouich**	**2.66**	**230**	⇑P	**Pn**	**20 35 50.6**	**+0.1**
DRWC				⇑S	**Sn**	**20 36 24.4**	**+1.1**
BSHR	**Al Beshri**	**2.75**	**169**	⇓P	**Pn**	**20 35 56.6**	**+4.9**
TOKT	**Tokat**	**2.82**	**314**	PN	**Pn**	**20 35 53.4**	**+0.6**
BTCH	**Batrach**	**3.19**	**224**	⇑P	**Pn**	**20 35 58.1**	**+0.1**
BTCH				⇑S	**Sn**	**20 36 37.8**	**+0.9**
YOZ	**Yozgat**	**3.26**	**294**	PN	**Pn**	**20 35 59.5**	**+0.4**
VANB	**Van**	**3.31**	**85**	*e*PN	**Pn**	**20 36 00.6**	**+0.9**
HTY	**Hatay**	**3.31**	**228**	*e*PN	**Pn**	**20 35 59.9**	**+0.1**
ARNB	**Al Arnab**	**3.59**	**227**	⇑P	**Pn**	**20 36 03.3**	**-0.4**
NIG	**Nigde**	**3.61**	**267**	*e*PN	**Pn**	**20 36 05.3**	**+1.3**
WRDH	**Warideh**	**3.62**	**219**	⇓P	**Pn**	**20 36 04.3**	**+0.1**
WRDH				⇓S	**Sn**	**20 36 48.8**	**+1.0**
KVT	**Kavak**	**3.62**	**319**	*e*PN	**Pn**	**20 36 04.9**	**+0.7**
SLNF	**Slenfeh**	**3.65**	**221**	⇑P	**Pn**	**20 36 05.0**	**+0.5**
SLNF				⇑S	**Sn**	**20 36 49.1**	**+0.6**
BIDA	**Albida**	**4.07**	**215**	⇑P	**Pn**	**20 36 10.3**	**-0.1**
BIDA				⇑S	**Sn**	**20 36 59.7**	**+0.6**
RABH	**Abou Rabah**	**4.24**	**203**	⇑P	**Pn**	**20 36 13.9**	**+0.9**
KAMT	**Kaman**	**4.38**	**285**	*e*PN	**Pn**	**20 36 15.8**	**+0.8**
BRTR	**Keskin Array B**	**4.52**	**289**	Pn	**Pn**	**20 36 17.4**	**+0.4**
	5.4nm,0.3s,baz=117,slow=14,SNR=110						
BRTR				Lg		20 37 32.3	
	baz=105,slow=28,SNR=2.3						
BRTR	**Keskin Array B**	**4.52**	**289**	P	**Pn**	**20 36 17.4**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BYBT	**Boyabat**	**4.59**	**314**	*e*PN	**Pn**	**20 36 18.0**	**+0.1**
GNI	**Garni**	**4.67**	**66**	Pn	**Pn**	**20 36 19.7**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=255,slow=5.1,SNR=8.5						
GNI	**Garni**	**4.67**	**66**	P	**Pn**	**20 36 19.7**	**+0.7**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
HWQ	**Hawqa**	**4.85**	**214**	*e*PN	**Pn**	**20 36 21.8**	**+0.1**
SOC	**Sochi**	**5.22**	**4**	*i* P	**Pn**	**20 36 32.1**	**+5.3**
SOC				*e*		20 37 25.0	
SOC				pmax	pmax		
	comp=N,60nm,0.9s						
SOC				pmax	pmax		
	comp=Z,40nm,0.9s						
SOC				pmax	pmax		
	comp=E,43nm,0.8s						
SOC				MLR	MLR		
	comp=Z,285nm,12.0s						
SOC				MLR	MLR		
	comp=N,462nm,13.0s						
SOC				MLR	MLR		
	comp=E,98nm,12.0s						
BHL	**Bhannes**	**5.30**	**214**	*e*PN	**Pn**	**20 36 28.4**	**+0.5**
BZK	**Bozkurt**	**5.34**	**314**	*e*PN	**Pn**	**20 36 29.6**	**+1.1**
QASN	**Qassioun**	**5.38**	**207**	⇓P	**Pn**	**20 36 29.6**	**+0.5**
QASN				⇓S	**Sn**	**20 37 32.3**	**+0.2**
TOTH	**TOTAH**	**5.48**	**205**	⇑P	**Pn**	**20 36 30.4**	**-0.1**
TOTH				⇑S	**Sn**	**20 37 34.1**	**-0.6**
BRBR	**Barbar**	**5.61**	**209**	⇓P	**Pn**	**20 36 32.4**	**+0.1**
BRBR				⇓S	**Sn**	**20 37 36.5**	**-1.3**
KIZT	**Kizilcal**	**5.74**	**277**	*e*PN	**Pn**	**20 36 35.7**	**+1.5**
MATL	**Matirih**	**5.79**	**214**	*e*PN	**Pn**	**20 36 35.0**	**+0.2**
CSS	**Prodhromos**	**5.81**	**236**	*e*Pn	**Pn**	**20 36 34.7**	**-0.4**
	comp=E,18nm,0.6s						
TCHB	**Talchebab**	**6.27**	**206**	⇑P	**Pn**	**20 36 41.3**	**-0.3**
TCHB				⇑S	**Sn**	**20 37 53.8**	**-0.6**
ASF	**Jabal al Asfar**	**6.47**	**197**	Pn	**Pn**	**20 36 44.1**	**-0.3**
	comp=E,2.6nm,0.3s,baz=266,slow=8.2,SNR=24						
ASF				Lg		20 38 31.8	
	comp=E,6.7nm,0.3s,baz=227,slow=20,SNR=3.3						
ASF				LR	LR	20 39 40.9	
	comp=E,263nm,19.5s,baz=34,slow=42						
QURS	**Qurayyt al Mil**	**7.14**	**193**	P	**Pn**	**20 36 53.1**	**-0.8**
GOF	**Gofitskoye**	**7.27**	**22**	*e*P	**Pn**	**20 37 02.0**	**+6.3**
JMOS	**Jabal al Moall**	**9.79**	**201**	P	**P**	**20 37 29.9**	**-0.8**
JMQS	**Jabal Moqyreh**	**9.86**	**197**	P	**P**	**20 37 31.3**	**-0.4**
HAQS	**Haql**	**9.95**	**202**	P	**P**	**20 37 31.0**	**-1.9**
TBKS	**Tabuk**	**10.36**	**193**	P	**P**	**20 37 36.8**	**-1.8**
BDAS	**Al Bad‘**	**10.49**	**200**	P	**P**	**20 37 39.1**	**-1.2**
BDAS				S	x	20 40 46.9	
AYUS	**‘Aynunah**	**10.67**	**199**	P	**P**	**20 37 40.6**	**-2.3**
AYUS				S	x	20 40 50.5	
IDI	**Anoyia**	**11.86**	**259**	Pn	**P**	**20 37 58.3**	**-0.7**
	comp=E,0.6nm,0.3s,baz=75,slow=17,SNR=10						
MLR	**Muntele Rosu**	**12.14**	**310**	Pn	**P**	**20 38 04.4**	**+1.6**
	comp=E,0.2nm,0.3s,baz=112,slow=2.3,SNR=3.5						
MLR				LR	LR	20 43 50.7	
	comp=E,275nm,18.9s,baz=295,slow=43						
GVD	**Gavdhos**	**12.63**	**258**	*e*Pn	**P**	**20 38 09.2**	**-0.1**
AKASG	**Malin Array Be**	**14.20**	**333**	Pn	**P**	**20 38 28.2**	**-1.8**
	comp=E,0.5nm,0.3s,baz=144,slow=12,SNR=8.2						
AKASG	**Malin Array Be**	**14.20**	**333**	P	**P**	**20 38 28.2**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CRVS	**Cervenica-Dubn**	**16.55**	**315**	*i* P	**P**	**20 39 03.2**	**+2.8**
OBN	**Obninsk**	**16.84**	**355**	*e*P	**P**	**20 38 56.7**	**-7.3**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
PSZ	**Piszkesteto**	**16.96**	**310**	*e*P	**P**	**20 39 03.2**	**-2.4**
	comp=Z,10.0nm,1.1s						
VYHS	**Vyhne**	**17.85**	**311**	*e*P	**P**	**20 39 18.0**	**+1.2**
ZST	**Bratislava**	**18.77**	**309**	*i* P	**P**	**20 39 29.1**	**+0.9**
MORC	**Moravsky Berou**	**19.20**	**313**	*e*P	**P**	**20 39 28.8**	**-4.4**
	comp=Z,3.4nm,0.8s						
CII	**Carovilli**	**19.32**	**288**	*e*P	**P**	**20 39 35.4**	**+0.7**
	comp=Z,26nm,1.1s						
VRAC	**Vranov**	**19.54**	**311**	P	**P**	**20 39 36.7**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=128,slow=15,SNR=3.4						
VAE	**Valguarnera**	**19.55**	**275**	P	**P**	**20 39 36.9**	**-0.5**
	baz=66,slow=15,SNR=3.0						
AQU	**L’Aquila**	**20.01**	**290**	*e*P	**P**	**20 39 39.8**	**-2.7**
	comp=Z,22nm,1.0s						
MOA	**Molln**	**20.43**	**306**	⇑*i*P	**P**	**20 39 46.5**	**-0.3**
	comp=Z,24nm,1.0s						
KBA	**Koelnbreinsper**	**20.80**	**303**	⇑*i*P	**P**	**20 39 51.1**	**+0.4**
	comp=Z,13nm,0.7s						
PRU	**Pruhonice**	**21.04**	**311**	*e*P	**P**	**20 39 52.8**	**-0.3**
	comp=Z,24nm,1.2s,mb4.4						
PRU				LM		20 49 40.0	
PRU	**Pruhonice**	**21.04**	**311**	*e*P	**P**	**20 39 52.8**	**-0.3**
PRU				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.4						
GEC2	**GERESS Array S**	**21.11**	**308**	*e*P	**P**	**20 39 53.6**	**-0.3**
GEC2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
GEC2	**GERESS Array S**	**21.11**	**308**	*e*P	**P**	**20 39 53.6**	**-0.3**
	comp=Z,11nm,1.0s,mb4.1						
GERES	**GERESS Array B**	**21.11**	**308**	P	**P**	**20 39 53.0**	**-0.9**
	comp=Z,9.5nm,1.0s,mb4.1,baz=113,slow=10,SNR=31						
GERES	**GERESS Array B**	**21.11**	**308**	P	**P**	**20 39 53.0**	**-0.9**
GERES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PVCC	**Panska Ves**	**21.25**	**313**	*e*P	**P**	**20 39 54.4**	**-0.8**
PVCC				*e*AP		20 40 00.0	
KHC	**Kasperske Hory**	**21.29**	**309**	*e*P	**P**	**20 39 54.8**	**-0.9**
VSU	**Vasula**	**21.66**	**342**	*e*P	**P**	**20 39 58.1**	**-1.2**
WET	**Wettzell**	**21.73**	**308**	*e*P	**P**	**20 40 04.5**	**+4.4**
WET				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.2						
WET	**Wettzell**	**21.73**	**308**	*e*P	**P**	**20 40 04.5**	**+4.4**
	comp=Z,13nm,1.3s,mb4.2						
BRG	**Berggiesshubel**	**21.76**	**313**	*e*P	**P**	**20 40 03.4**	**+3.1**
BRG				pmax	pmax		
	comp=Z,57nm,2.4s,mb4.6						
BRG	**Berggiesshubel**	**21.76**	**313**	*e*P	**P**	**20 40 03.4**	**+3.1**
	comp=Z,57nm,2.4s,mb4.6						
WTTA	**Wattenberg**	**21.98**	**303**	⇑*i*P	**P**	**20 40 04.8**	**+2.2**
	comp=Z,13nm,1.0s,mb4.3						
WATA	**Walderalm**	**22.04**	**303**	⇑*i*P	**P**	**20 40 04.9**	**+1.7**
	comp=Z,14nm,1.2s,mb4.3						
ARU	**Arti**	**22.18**	**29**	⇓*i*P	**P**	**20 40 02.9**	**-1.7**
ARU				*e*S	**S**	**20 43 56.0**	**-8.2**
ARU				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.6						
ARU	**Arti**	**22.18**	**29**	*e*P	**P**	**20 40 02.6**	**-2.0**
	comp=Z,23nm,0.9s,mb4.6						
SQTA	**Sankt Quirin**	**22.25**	**302**	⇑*i*P	**P**	**20 40 07.0**	**+1.7**
	comp=Z,6.6nm,1.0s,mb4.0						
MOTA	**Moosalm**	**22.35**	**303**	⇑*i*P	**P**	**20 40 06.1**	**-0.2**
	comp=Z,8.5nm,0.9s,mb4.2						
NKC	**Novy Kostel**	**22.38**	**311**	*e*P	**P**	**20 40 06.9**	**+0.4**
CLL	**Collm**	**22.48**	**314**	*e*P	**P**	**20 40 14.0**	**+6.5**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.1						
CLL	**Collm**	**22.48**	**314**	*e*P	**P**	**20 40 14.0**	**+6.5**
	comp=Z,10.0nm,1.2s,mb4.1						
MOX	**Moxa**	**23.02**	**311**	*i* P	**P**	**20 40 16.1**	**+3.3**
DAVOX	**Davos**	**23.05**	**301**	P	**P**	**20 40 14.3**	**+1.2**
	comp=Z,4.7nm,0.7s,mb4.0,baz=113,slow=9.5,SNR=12						
DAVA	**Damuels**	**23.15**	**302**	⇑*i*P	**P**	**20 40 14.8**	**+0.7**
	comp=Z,14nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**24.49**	**345**	P	**P**	**20 40 27.2**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.0,baz=147,slow=9.4,SNR=22						
FINES				LR	LR	20 51 40.5	
	comp=Z,40nm,20.4s,MS2.9,baz=349,slow=40						
FINES	**FINESS Array B**	**24.49**	**345**	*e*P	**P**	**20 40 27.2**	**+0.2**
MBDF	**Montbardon**	**24.96**	**295**	*e*P	**P**	**20 40 33.0**	**+1.3**
	comp=Z,21nm,0.9s,mb4.4						
LPG	**La Plagne**	**25.03**	**297**	*e*P	**P**	**20 40 32.2**	**-0.1**
	comp=Z,14nm,0.8s,mb4.2						
LPL	**La Plagne**	**25.05**	**297**	*e*P	**P**	**20 40 32.7**	**+0.2**
KAF	**Kangasniemi**	**25.05**	**346**	*e*p	**P**	**20 40 32.5**	**+0.1**
	comp=Z,1.8nm,0.7s,mb3.7						
KAF	**Kangasniemi**	**25.05**	**346**	*e*P	**P**	**20 40 32.5**	**+0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
CDF	**Champ du Feu**	**25.10**	**304**	*e*P	**P**	**20 40 31.8**	**-1.1**
	comp=Z,10nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**25.20**	**45**	*e*P	**P**	**20 40 33.7**	**-0.1**
	comp=Z,8.3nm,1.0s,mb4.2						
HINF	**Hinteralfeld**	**25.26**	**302**	*e*P	**P**	**20 40 34.1**	**-0.4**
	comp=Z,25nm,0.8s,mb4.5						
CABF	**La Chapelle**	**25.60**	**299**	*e*P	**P**	**20 40 37.0**	**-0.7**
	comp=Z,25nm,0.9s,mb4.5						
HAU	**Haudompre**	**25.63**	**303**	*e*P	**P**	**20 40 36.6**	**-1.4**
	comp=Z,7.9nm,0.7s,mb4.1						
HAU				*e*R			
	comp=Z,52nm,20.8s						
BRVK	**Borovoye**	**25.95**	**45**	P	**P**	**20 40 40.2**	**-0.7**
BRVK	**Borovoye**	**25.95**	**45**	*e*P	**P**	**20 40 40.8**	**-0.1**
	comp=Z,7.3nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**26.00**	**46**	P	**P**	**20 40 40.8**	**-0.6**
	comp=Z,6.2nm,1.0s,mb4.1,baz=252,slow=4.7,SNR=21						
VIVF	**Saint-Julien-l**	**26.46**	**295**	*e*P	**P**	**20 40 46.4**	**+0.7**
MEZF	**Maizieres J’vi**	**26.57**	**303**	*e*P	**P**	**20 40 46.0**	**-0.7**
HFS	**Hagfors**	**27.08**	**332**	P	**P**	**20 40 51.5**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.2,baz=129,slow=9.5,SNR=16						
HFS	**Hagfors**	**27.08**	**332**	P	**P**	**20 40 51.5**	**+0.2**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SMF	**Signal de Mont**	**27.15**	**299**	*e*P	**P**	**20 40 51.2**	**-0.8**
	comp=Z,14nm,0.9s,mb4.2						
LOR	**Lormes**	**27.20**	**301**	*e*P	**P**	**20 40 52.0**	**-0.4**
	comp=Z,11nm,0.8s,mb4.1						
LOR				*e*R			
	comp=Z,108nm,22.5s						
SSF	**Saint Saulge**	**27.41**	**300**	*e*P	**P**	**20 40 54.9**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.0						
AVF	**Avril sur Loir**	**27.50**	**299**	*e*P	**P**	**20 40 53.8**	**-1.3**
TCF	**Toulx Ste Croi**	**28.25**	**298**	*e*P	**P**	**20 41 02.0**	**0.0**
	comp=Z,18nm,1.2s,mb4.3						
NOA	**NORSAR Array B**	**28.60**	**332**	P	**P**	**20 41 04.5**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=133,slow=8.2,SNR=2.8						
NOA				LR	LR	20 54 10.0	
	comp=Z,66nm,20.7s,MS3.2,baz=135,slow=40						
NOA	**NORSAR Array B**	**28.60**	**332**	P	**P**	**20 41 04.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,66nm,20.7s						
KURK	**Kurchatov**	**30.33**	**53**	*e*P	**P**	**20 41 19.8**	**-0.8**
	comp=Z,11nm,0.8s,mb4.7						
KURK				*e*PcP	PcP	20 44 18.0	-2.8
ARCES	**ARCESS Array B**	**32.08**	**351**	P	**P**	**20 41 34.5**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.2,baz=153,slow=8.1,SNR=9.2						
ARCES				LR	LR	20 56 06.5	
	comp=Z,102nm,21.9s,MS3.5,baz=270,slow=39						
ARCES	**ARCESS Array B**	**32.08**	**351**	P	**P**	**20 41 34.5**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,102nm,21.9s						
MKAR	**Makanchi Array**	**32.49**	**61**	P	**P**	**20 41 39.5**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.1,baz=265,slow=6.6,SNR=16						
MKAR				PcP	PcP	20 44 25.4	-1.3
	comp=Z,1.8nm,1.0s,slow=1.2,SNR=4.7						
MKAR	**Makanchi Array**	**32.49**	**61**	P	**P**	**20 41 39.6**	**0.0**
MKAR						20 44 25.4	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ESDC	**Sonseca Array**	**33.31**	**286**	P	**P**	**20 41 45.4**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=71,slow=8.7,SNR=7.1						
NVS	**Novosibirsk**	**33.79**	**46**	*e*P	**P**	**20 41 49.8**	**-1.0**
NVS				pmax	pmax		
	comp=Z,17nm,2.1s,mb4.6						
WMQ	**Urumqi**	**36.54**	**66**	*e*P	**P**	**20 42 15.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
KMBO	**Kilima Mbogo**	**39.35**	**183**	P	**P**	**20 42 38.8**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.8,baz=352,slow=21,SNR=3.2						
LSA	**Lhasa**	**43.44**	**85**	*e*P	**P**	**20 43 11.8**	**+0.2**
	comp=Z,1.2nm,0.4s,mb4.0						
SUMG	**Summit**	**50.19**	**337**	*e*P	**P**	**20 44 02.8**	**-1.5**
	comp=Z,2.4nm,0.5s,mb4.5						
DBIC	**Dimbokro**	**50.76**	**243**	P	**P**	**20 44 07.3**	**-2.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=53,slow=9.5,SNR=3.9						
DBIC	**Dimbokro**	**50.76**	**243**	P	**P**	**20 44 07.4**	**-2.0**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LSZ	**Lusaka**	**54.35**	**193**	*e*P	**P**	**20 44 35.7**	**-0.5**
	comp=Z,10nm,1.3s,mb4.6						
CMAR	**Chiang Mai Arr**	**55.23**	**93**	P	**P**	**20 44 41.0**	**-1.5**
	comp=Z,2.0nm,0.9s,mb4.1,baz=290,slow=8.2,SNR=7.4						
CMAR	**Chiang Mai Arr**	**55.23**	**93**	P	**P**	**20 44 41.0**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

HIA	**Hailar**	56.52	51	eP	P	20 44 51.0	-0.5
	comp=Z,3.3nm,0.3s,mb4.8						
GYA	**Guiyang**	57.06	81	P	P	20 44 54.1	-1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
WHN	**Wuhan**	60.91	73	eP	P	20 45 22.0	-0.2
NJ2	**Nanjing**	63.50	69	eP	P	20 45 40.5	+1.0
NJ2				AP	pP	20 45 50.3	+8.7
NJ2				XP	sP	20 45 54.3	+12
NJ2				S	S	20 54 05.0	-6.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
SCHQ	**Schefferville**	67.74	323	P	P	20 46 05.2	-1.2
	comp=Z,2.0nm,0.6s,mb4.3,baz=353,slow=2.8,SNR=4.4						
ILAR	**Eielson Array**	77.08	3	P	P	20 47 01.7	+0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=324,slow=4.6,SNR=5.5						
ILAR	**Eielson Array**	77.08	3	P	P	20 47 01.7	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SML	**Sawmill**	79.98	4	eP	P	20 47 16.6	-0.6
ULM	**Lac du Bonnet**	83.29	333	P	P	20 47 35.2	+0.4
	comp=Z,1.8nm,0.6s,mb4.3,baz=29,slow=5.8,SNR=5.7						
ULM				LR	LR	21 28 59.1	
	comp=Z,36nm,21.1s,MS3.7,baz=356,slow=39						
ULM	**Lac du Bonnet**	83.29	333	P	P	20 47 35.2	+0.4
ULM				LR	LR	21 28 59.0	
NEW	**Newport**	91.20	344	P	P	20 48 14.7	+1.6
	comp=Z,3.0nm,0.5s,mb4.9,baz=43,slow=3.1,SNR=4.8						
NEW	**Newport**	91.20	344	P	P	20 48 14.7	+1.6
NEW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PDAR	**Pinedale Array**	94.39	337	P	P	20 48 28.6	+0.7
	comp=Z,0.1nm,0.5s,mb3.5,baz=56,slow=6.5,SNR=3.2						
PDAR				LR	LR	21 31 49.0	
	comp=Z,46nm,21.4s,MS3.9,baz=253,slow=36						

MOS 13 20:40:49.3±2.0**,53.13N**×**107.63E,h17**^{km}**,mb4.2**/1**,Error ellipse: s-maj=24.2km s-min=16.6km az=67.4,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OGRR	**Ongureny**	0.52	358	ePG	Pb	20 40 59.7	+0.2
OGRR				e		20 41 06.5	
OGRR				pmax	pmax		
	comp=Z,926nm,0.3s						
OGRR				smax			
	comp=E,1µm,0.3s						
TRG	**Tyrgan**	0.86	245	ePG	Pb	20 41 05.1	-0.3
TRG				e		20 41 17.0	
TRG				pmax	pmax		
	comp=Z,106nm,0.2s						
TRG				smax			
	comp=N,965nm,0.2s						
KAB	**Kabansk**	1.23	209	ePG	Pb	20 41 12.9	+1.1
KAB				e		20 41 28.8	
KAB				pmax	pmax		
	comp=Z,271nm,0.4s						
KAB				smax			
	comp=E,2µm,0.4s						
IRK	**Irkutsk**	2.23	248	ePN	Pn	20 41 30.2	+4.1
IRK				e		20 41 56.6	
IRK				pmax	pmax		
	comp=Z,39nm,0.2s						
IRK				smax			
	comp=N,436nm,0.5s						
ARS	**Arshan**	3.40	251	ePN	Pn	20 41 44.3	+1.5
ARS				e		20 41 49.1	
ARS				e		20 42 33.0	
ARS				pmax	pmax		
	comp=Z,15nm,0.3s						
ARS				smax			
	comp=E,212nm,0.6s						
CIT	**Chita**	3.78	105	ePN	Pn	20 41 46.2	-2.0
CIT				eS	Sn	20 42 29.3	-3.4
CIT				eS	Sn	20 42 47.3	+15
CIT				smax			
	comp=N,128nm,0.6s						
KPC	**Khapcheranga**	4.54	137	ePN	Pn	20 42 10.1	+11
KPC				e		20 43 09.7	
KPC				pmax	pmax		
	comp=Z,26nm,1.4s						
KPC				smax			
	comp=N,56nm,1.1s						
TUP	**Tupik**	7.42	75	ePN	Pn	20 42 37.0	-2.6
TUP				e		20 43 01.9	
TUP				eS	Sn	20 43 59.0	-5.1
TUP				e		20 44 36.7	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TUP				smax			
	comp=N,37nm,1.0s						

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*IDC **13** 20:48:36.3±2.0,34.46S×178.98W,mb4.3/3,mb1 4.5/4, mb1mx4.3/11,ML4.5/1,MS3.8/2,Ms1 3.8/2,ms1mx3.4/12, Error ellipse: s-maj=60.1km s-min=29.7km az=133.0*

*NEIC **13** 20:48:42.1±4.1,34.65S×178.92W,h45^{km}±40^{km},mb4.4/5, Error ellipse: s-maj=47.7km s-min=19.7km az=185.0*

ISC 13 20:48:36.7±2.0**,34.52S**±0.07×**179.1W**±0.3**,h10**^{km}**,n34,**σ**0^{s}.84**/32**,mb4.3**/7**,MS3.8**/2**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	3.71	214	P	Pn	20 49 36.4	+1.0
MXZ				S	Sn	20 50 19.5	-0.2
MXZ	**Matakaoa Point**	3.71	214	eP	Pn	20 49 36.9	+1.5
MXZ				S	Sn	20 50 19.5	-0.2
PUZ	**Puketiti**	4.16	211	P	Pn	20 49 42.0	+0.3
PUZ				S	Sn	20 50 30.0	-1.0
PUZ	**Puketiti**	4.16	211	eP	Pn	20 49 42.7	+1.0
PUZ				S	Sn	20 50 30.0	-1.0
MWZ	**Matawai**	4.70	215	P	Pn	20 49 49.8	+0.4
MWZ	**Matawai**	4.70	215	eP	Pn	20 49 50.5	+1.1
URZ	**Urewera**	4.85	218	Pn	Pn	20 49 52.4	+0.8
	20nm,0.3s,baz=14,slow=0.8,SNR=108						
URZ				Sn	Sn	20 50 48.9	+0.5
	10nm,0.3s,baz=130,slow=20,SNR=6.3						
URZ	**Urewera**	4.85	218	P	Pn	20 49 51.6	+0.1
URZ	**Urewera**	4.85	218	P	Pn	20 49 52.4	+0.9
KNZ	**Kokohu**	5.20	209	P	Pn	20 49 55.6	-1.0
KNZ	**Kokohu**	5.20	209	eP	Pn	20 49 55.6	-1.0
BKZ	**Black Stump Fm**	5.85	216	P	Pn	20 50 06.8	+1.1
BKZ	**Black Stump Fm**	5.85	216	eP	Pn	20 50 06.0	+0.3
TSZ	**Takapari Road**	6.81	214	P	Pn	20 50 17.8	-1.4
TSZ				S	Sn	20 51 32.8	-4.7
TSZ	**Takapari Road**	6.81	214	eP	Pn	20 50 17.5	-1.7
MQZ	**McQueen's Vall**	11.20	213	S	S	20 53 12.2	-14
STKA	**Stephens Creek**	32.89	263	P	P	20 55 14.4	+1.4
	1.6nm,0.7s,mb4.1,baz=130,slow=16,SNR=2.8						
STKA				LR	LR	21 08 30.3	
	comp=Z,225nm,18.3s,MS3.9,baz=168,slow=36						
CTA	**Charters Tower**	33.82	286	eP	P	20 55 22.0	+0.7
	3.6nm,0.9s,mb4.3						
CTAO	**Charters Tower**	33.82	286	eP	P	20 55 21.9	+0.5
	6.2nm,0.9s,mb4.5						
ASAR	**Alice Springs**	42.17	272	P	P	20 56 31.1	-0.2
	5.6nm,0.6s,mb4.4,baz=115,slow=7.9,SNR=78						
ASAR				PcP	PcP	20 58 24.5	-1.7
	1.1nm,0.6s,baz=117,slow=3.8,SNR=6.8						
ASAR				LR	LR	21 13 13.2	
	comp=Z,85nm,19.3s,MS3.6,baz=196,slow=35						
ASPA	**Alice Springs**	42.17	272	eP	P	20 56 31.7	+0.4
WB2	**Warramunga Arr**	43.52	277	eP	P	20 56 41.7	-0.6
WRAB	**Tennant Creek**	43.53	277	eP	P	20 56 41.5	-0.9
	4.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	43.53	277	P	P	20 56 42.0	-0.4
	2.9nm,0.5s,mb4.3,baz=118,slow=7.6,SNR=68						
WRA				PcP	PcP	20 58 28.9	-2.0
	0.7nm,0.9s,baz=114,slow=3.2,SNR=4.7						
FITZ	**Fitzroy Crossi**	51.59	274	eP	P	20 57 44.5	-1.0
	3.4nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	55.60	180	eP	P	20 58 21.9	+7.5
	3.5nm,1.0s,mb4.3						
ZRNK	**Zerenda**	129.47	313	ePKPdf	PKPdf	21 07 46.0	-2.6
KAF	**Kangasniemi**	148.06	338	ep	PKPdf	21 08 24.8	+3.3
	0.4nm,0.4s						
FINES	**FINESS Array B**	148.63	337	PKPbc	PKPdf	21 08 24.3	+1.9
	2.0nm,0.7s,baz=45,slow=5.4,SNR=8.9						
LIC	**Lamto**	151.31	168	ePKIKP	PKPdf	21 08 41.8	+14
	24nm,0.7s						
KIC	**Kosan Boka**	151.49	168	ePKIKP	PKPdf	21 08 41.3	+13
	103nm,1.8s						
TIC	**Toumodi**	151.72	167	ePKIKP	PKPdf	21 08 41.5	+13
	6.7nm,0.2s						
NB2	**NORSAR Subarra**	152.65	349	PKP		21 08 43.6	
	0.8nm,0.6s,baz=22,slow=4.1						
NOA	**NORSAR Array B**	152.65	349	PKPab	PKPab	21 08 44.7	-0.9
	1.1nm,0.7s,baz=23,slow=2.7,SNR=4.7						

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*MAN **13** 21:31:47.8,16.95N×120.53E,h77^{km},mb3.7,ML2.5, MS2.0*

ISC 13 21:31:46.9±1.5**,16.93N**±0.05×**120.57E**±0.09**, h102**^{km}±13^{km}**,n9,**σ**0^{s}.74**/15**,2D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	0.55	179	⇓iP	P	21 32 03.4	-0.1
BCPH				i S	S	21 32 16.4	+0.6
ABRA	**Dolores**	0.73	10	eP	P	21 32 04.7	-0.3
ABRA				eS	S	21 32 18.4	-0.2
BOLP	**Bolinao**	0.84	229	eP	P	21 32 05.6	-0.5
APYP	**Conner**	1.13	34	eP	P	21 32 09.1	-0.2
APYP				eS	S	21 32 24.4	-1.6
CAUP	**Cauayan**	1.20	89	eP	P	21 32 10.8	+0.6
SCZP	**Santa Cruz**	1.31	209	eP	P	21 32 11.3	-0.2
SCZP				eS	S	21 32 29.6	-0.3
PIP	**Pasuquin**	1.39	2	⇓iP	P	21 32 12.3	-0.1
PIP				i S	S	21 32 34.1	+2.7
CVP	**Callao Caves**	1.42	57	eP	P	21 32 13.3	+0.5
CVP				eS	S	21 32 31.9	-0.1
BALP	**Baler**	1.52	141	eP	P	21 32 14.2	+0.2

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*LDG **13** 21:37:26.9±0.1,44.42N×6.77E,h2^{km},Md2.4/2,Ml2.4/6, Error ellipse: s-maj=1.8km s-min=1.1km az=67.0*

*STR **13** 21:37:27.1±0.2,44.43N×6.82E,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **13** 21:37:27.1,44.43N×6.82E,h5^{km},ML2.5(GEN), ML2.4(LDG),ML2.2(STR),After STR.*

ISC 13 21:37:25.9±0.3**,44.41N**±0.01×**6.74E**±0.02**,h12**^{km}±2^{km}**, n34,**σ**0^{s}.71**/60**,4C,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	0.09	37	Pg	Pg	21 37 28.7	+0.1
SURF				Sg	Sg	21 37 30.3	-0.1
PZZ	**Prazzo**	0.28	70	⇑P	Pg	21 37 32.0	+0.3
PZZ				S	Sg	21 37 35.7	0.0
MBDF	**Montbardon**	0.32	4	ePg	Pg	21 37 33.0	+0.5
MBDF				eSg	Sg	21 37 37.4	+0.4
	14nm,0.2s						
STV	**Sta Anna Valdi**	0.45	111	⇑P	Pg	21 37 35.1	0.0
STV				S	Sg	21 37 40.5	-0.8
STV2	**Anna di Valdie**	0.45	111	⇑P	Pg	21 37 35.0	-0.1
STV2				S	Sg	21 37 40.5	-0.9
RRL	**Cesana Torines**	0.51	4	P	Pb	21 37 36.9	+0.6
RRL				S	Sb	21 37 43.8	+0.4
ENR	**Entracque**	0.52	110	⇑P	Pb	21 37 36.2	-0.3
ENR				S	Sb	21 37 42.7	-1.0
TOUF	**Mont Tournerai**	0.54	137	Pg	Pg	21 37 36.8	0.0
BHB	**Bricherasio**	0.57	41	P	Pb	21 37 37.2	-0.2
BHB				S	Sb	21 37 45.1	-0.1
MVIF	**Mont Vial**	0.59	150	Pg	Pg	21 37 37.7	-0.2
MVIF				Sg	Sg	21 37 46.7	+0.8
AUTN	**L'Aution**	0.65	130	Pg	Pg	21 37 38.9	0.0
AUTN				Sg	Sg	21 37 47.2	-0.4
FENE	**Fenestrelle**	0.66	20	P	Pb	21 37 38.7	-0.2
FENE				S	Sb	21 37 48.0	+0.2
CALN	**Calern**	0.67	171	Pg	Pg	21 37 39.9	+0.6
SBF	**Sospel**	0.74	137	ePg	Pg	21 37 40.6	-0.2
SBF				eSg	Sg	21 37 50.6	-0.2
	14nm,0.3s						
ORIF	**Oris-en-Rattie**	0.80	310	ePg	Pg	21 37 42.1	+0.2
ORIF				eSg	Sg	21 37 52.7	+0.1
	7.1nm,0.2s						
MONE	**Monesi**	0.80	114	P	Pb	21 37 41.4	+0.1
MONE				S	Sb	21 37 51.8	0.0
REVF	**Revere**	0.81	146	Pg	Pg	21 37 42.6	+0.5
REVF				Sg	Sg	21 37 54.0	+1.0
ROB	**Roburent**	0.82	98	P	Pb	21 37 41.9	+0.3
ROB				S	Sb	21 37 52.6	+0.2
RSP	**Reno Superiore**	0.83	26	P	Pb	21 37 42.1	+0.4
RSP				S	Sb	21 37 52.7	+0.1
FRF	**La Foret Royal**	0.85	185	ePg	Pg	21 37 43.1	+0.1
FRF				eSg	Sg	21 37 54.5	+0.1
	11nm,0.2s						
NEGI	**Negi**	0.89	129	P	Pb	21 37 43.5	+0.7
SMRF	**Simiane la Rot**	0.94	243	ePg	Pg	21 37 46.5	+1.7
SMRF				eSg	Sg	21 37 58.9	+1.4
	19nm,0.2s						
IMI	**Imperia**	0.97	121	P	Pb	21 37 44.6	+0.5
IMI				S	Sb	21 37 56.6	-0.1
FIN	**Finale Ligure**	1.07	100	P	Pb	21 37 46.3	+0.4
FIN				S	Sb	21 37 58.4	-1.4
LPG	**La Plagne**	1.09	0	ePg	Pg	21 37 47.4	-0.3
LPG				eSg	Sg	21 38 01.5	-0.7
	6.0nm,0.4s						
LMR	**La Mourre**	1.09	189	ePg	Pg	21 37 48.0	+0.3
LMR				eSg	Sg	21 38 01.5	-0.8
	19nm,0.3s						
LSD	**Ceresole Reale**	1.09	16	P	Pb	21 37 47.9	+1.7
LSD				S	Sb	21 38 01.7	+1.5
LPL	**La Plagne**	1.11	360	ePg	Pg	21 37 47.9	-0.2
LPL				eSg	Sg	21 38 02.1	-0.8
	5.7nm,0.3s						
VIVF	**Saint-Julien-l**	1.54	288	ePg	Pg	21 37 55.7	-1.0
VIVF				eSg	Sg	21 38 15.3	-2.0
	3.6nm,0.3s						
LASF	**Ste Croix**	2.10	262	ePn	Pn	21 38 01.9	+0.5
CABF	**La Chapelle**	2.25	348	ePn	Pn	21 38 03.1	-0.4
CAF	**Calviac**	3.38	280	ePn	Pn	21 38 18.9	-0.7
MTLF	**Montolieu**	3.44	253	ePn	Pn	21 38 19.9	-0.6
ETSF	**Etsaut**	5.51	257	ePn	Pn	21 38 47.7	-2.1

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*ROM **13** 21:42:56.5±0.5,44.92N×11.01E,h10^{km}±3^{km},MD2.6/5, ML2.1/8,Error ellipse: s-maj=1.9km s-min=1.1km az=90.0*

*NEIC **13** 21:42:56.6,44.92N×11.01E,h10^{km},MD2.6(ROM), ML2.6(LDG),After ROM.*

*LDG **13** 21:42:57.6±0.5,44.75N×11.04E,h10^{km},Ml2.6/14,Error ellipse: s-maj=9.8km s-min=5.2km az=105.0*

ISC 13 21:42:56.3±0.4**,44.91N**±0.02×**10.83E**±0.04**,h13**^{km}±3^{km}**, n47,**σ**1^{s}.41**/78**,8C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZCCA	**Zocca**	0.57	169	ePG	Pg	21 43 08.5	+0.6
	64nm,0.5s						
ZCCA	**Zocca**	0.57	169	ePg	Pg	21 43 08.5	+0.6
ERBM	**Eremo**	0.57	212	ePG	Pg	21 43 09.6	+1.6
ERBM				SG	Sg	21 43 19.6	+3.8
ERBM	**Eremo**	0.57	212	ePg	Pg	21 43 09.6	+1.6
ERBM				eSg	Sg	21 43 19.6	+3.8
GSCL	**Gusciola**	0.58	197	ePG	Pg	21 43 08.9	+0.7
GSCL				SG	Sg	21 43 20.0	+3.9
GSCL	**Gusciola**	0.58	197	ePg	Pg	21 43 08.9	+0.7
GSCL				eSg	Sg	21 43 20.1	+3.9
SAL	**Salo**	0.73	343	ePG	Pg	21 43 12.8	+1.7
SAL				SG	Sg	21 43 23.5	+2.5
	73nm,0.3s						
SAL	**Salo**	0.73	343	ePg	Pg	21 43 12.8	+1.6
SAL				eSg	Sg	21 43 23.5	+2.5
TEOL	**Teolo**	0.75	52	⇑iPg	Pg	21 43 09.1	-2.3
TEOL				i Sg	Sg	21 43 21.2	-0.3
VLC	**Villacollemand**	0.81	203	eP	Pb	21 43 14.3	+2.5
BDI	**Bagni Di Lucca**	0.86	191	ePG	Pg	21 43 13.8	+0.1
BDI				SG	Sg	21 43 27.4	+2.1
	30nm,0.4s						
BDI	**Bagni Di Lucca**	0.86	191	ePg	Pg	21 43 13.8	+0.1
BDI				eSg	Sg	21 43 27.4	+2.2
SEI	**Scarperia**	0.93	156	⇑iPG	Pg	21 43 14.7	-0.4
	150nm,0.4s						
SEI	**Scarperia**	0.93	156	⇑iPg	Pg	21 43 14.7	-0.4
VMG	**Vicchio**	1.07	151	ePG	Pg	21 43 16.7	-1.2
	58nm,0.5s						
VMG	**Vicchio**	1.07	151	ePg	Pg	21 43 16.7	-1.2
MABI	**Malga Bissina**	1.17	349	ePN	Pn	21 43 17.9	-0.5
MABI	**Malga Bissina**	1.17	349	ePg	Pg	21 43 17.9	-1.9
PII	**Pisa**	1.21	191	⇑iPN	Pn	21 43 18.8	-0.1
PII				SN	Sn	21 43 36.4	+1.3
	41nm,0.2s						
PII	**Pisa**	1.21	191	⇑iPg	Pg	21 43 18.8	-1.7
PII				eSg	Sg	21 43 36.4	-0.3
SFI	**Santa Sofia**	1.24	144	ePN	Pn	21 43 19.2	-0.2
CTI	**Castel Tesino**	1.28	27	ePN	Pn	21 43 18.9	-1.0
CTI				SN	Sn	21 43 36.8	-0.2
	55nm,0.3s						
CTI	**Castel Tesino**	1.28	27	ePg	Pg	21 43 18.9	-3.1
CTI				eSg	Sg	21 43 36.8	-2.3
CSNT	**Castellina Chi**	1.47	167	ePN	Pn	21 43 22.4	-0.3
	13nm,0.4s						
CSNT	**Castellina Chi**	1.47	167	ePg	Pg	21 43 22.4	-3.5
SQTA	**Sankt Quirin**	2.33	6	⇓iPN	Pn	21 43 35.6	+0.6
SQTA				i SN	Sn	21 44 04.2	+0.6
WTTA	**Wattenberg**	2.42	13	⇑iPN	Pn	21 43 38.9	+2.6
WTTA				i SN	Sn	21 44 07.7	+1.7
MOTA	**Moosalm**	2.44	4	⇑iPN	Pn	21 43 37.8	+1.2
MOTA				i SN	Sn	21 44 08.2	+1.6
DAVA	**Damuels**	2.47	345	⇑iPN	Pn	21 43 38.3	+1.3
DAVA				i SN	Sn	21 44 07.4	+0.2
WATA	**Walderalm**	2.48	12	⇓iPN	Pn	21 43 38.0	+0.8
WATA				i SN	Sn	21 44 08.4	+0.8
SBF	**Sospel**	2.65	248	ePn	Pn	21 43 40.5	+1.0
SBF				eSn	Sn	21 44 11.1	-0.7
	8.1nm,0.2s						
PGF	**Pioggiola**	2.71	210	ePn	Pn	21 43 38.1	-2.3
PGF				eSn	Sn	21 44 08.7	-4.5
	7.2nm,0.3s						
MBDF	**Montbardon**	2.90	268	ePn	Pn	21 43 41.8	-1.3
MBDF				eSn	Sn	21 44 17.3	-0.7
	4.0nm,0.5s						
LPG	**La Plagne**	2.94	283	ePn	Pn	21 43 46.3	+2.6
LPG				eSn	Sn	21 44 22.0	+2.7
	1.6nm,0.3s						
LPL	**La Plagne**	2.96	283	ePn	Pn	21 43 45.7	+1.7
LPL				eSn	Sn	21 44 22.1	+2.4
	3.3nm,0.4s						
FRF	**La Foret Royal**	3.29	247	ePn	Pn	21 43 47.9	-0.8
FRF				eSn	Sn	21 44 27.2	-0.9
	6.4nm,0.3s						
LMR	**La Mourre**	3.49	245	ePn	Pn	21 43 51.3	-0.2
LMR				eSn	Sn	21 44 32.1	-0.9
	6.6nm,0.3s						
ORIF	**Oris-en-Rattie**	3.52	272	ePn	Pn	21 43 52.0	+0.1
ORIF				eSn	Sn	21 44 33.7	-0.1
	2.3nm,0.3s						
CABF	**La Chapelle**	3.73	299	ePn	Pn	21 43 55.3	+0.4
CABF				eSn	Sn	21 44 39.0	-0.2
	0.8nm,0.3s						
SMRF	**Simiane la Rot**	3.88	258	eSn	Sn	21 44 41.2	-1.7
	3.3nm,0.5s						
HINF	**Hinteralfeld**	4.01	318	ePn	Pn	21 43 57.6	-1.2
HINF				eSn	Sn	21 44 44.5	-1.6
	2.1nm,0.2s						
CDF	**Champ du Feu**	4.28	326	ePn	Pn	21 44 05.0	+2.3
CDF				eSn	Sn	21 44 52.1	-0.9
	1.0nm,0.2s						
VIVF	**Saint-Julien-l**	4.38	271	ePn	Pn	21 44 05.4	+1.3
VIVF				eSn	Sn	21 44 53.2	-2.4
	0.5nm,0.2s						
HAU	**Haudompre**	4.38	317	ePn	Pn	21 44 03.3	-0.9
HAU				eSn	Sn	21 44 53.2	-2.5
	4.2nm,0.2s						
KHC	**Kasperske Hory**	4.62	23	ePG	Pg	21 44 22.0	-6.7
KHC				e		21 44 58.0	
KHC				e		21 45 12.0	
LOR	**Lormes**	5.39	298	ePn	Pn	21 44 16.2	-2.3
AVF	**Avril sur Loir**	5.55	292	ePn	Pn	21 44 19.6	-1.1

MAN 13 21:55:59.5,9.40N×**125.42E,h1**^{km}**,mb4.5,ML3.4,MS3.3, 2C,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	0.39	11	⇑eP	Pg	21 56 07.0	-0.2
SCPH				eS	Sg	21 56 13.1	+0.8
BUTP	**Butuan**	0.47	155	eP	Pg	21 56 08.2	-0.8
BIPH	**Bislig**	1.53	142	⇑iP	Pn	21 56 26.9	-1.1
BIPH				i S	Sb	21 56 45.1	-3.0
BUKP	**Musuan**	1.55	193	eP	Pn	21 56 27.9	-0.5
TBP	**Tagbilaran**	1.56	281	eP	Pn	21 56 26.3	-2.2
TBP				i S	Sb	21 56 47.8	-1.2
LLP	**Lapu-Lapu**	1.69	303	eP	Pn	21 56 28.0	-2.4
PLP	**Palo**	1.81	346	eP	Pn	21 56 31.5	-0.5
PLP				eS	Sn	21 56 56.5	+0.7
BESP	**Borongan**	2.19	1	eP	Pn	21 56 31.5	-6.0
DCPH	**Dipolog City**	2.20	248	eP	Pn	21 56 38.5	+0.9
DCPH				i S	Sn	21 57 06.3	+0.5
CNP	**Catarman**	3.18	347	eP	Pn	21 56 51.5	-0.1

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*IDC **13** 22:13:19.7±2.0,34.49S×179.01W,mb4.4/3,mb1 4.6/4, mb1mx4.2/12,ML4.5/1,MS3.8/1,Ms1 3.7/1,ms1mx3.1/11, Error ellipse: s-maj=53.6km s-min=30.8km az=131.0*

*NEIC **13** 22:13:32.1±3.1,35.24S×179.11W,h113^{km}±30^{km},mb4.3/3, Error ellipse: s-maj=43.5km s-min=21.8km az=185.0*

ISC 13 22:13:19.6±1.8**,34.52S**±0.08×**179.1W**±0.3**,h10**^{km}**,n29,** σ**0^{s}.87**/32**,mb4.3**/5**,MS3.7**/1**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	3.71	214	P	Pn	22 14 19.8	+1.5
MXZ				S	Sn	22 15 02.4	-0.1
MXZ	**Matakaoa Point**	3.71	214	P	Pn	22 14 20.2	+1.9
MXZ				S	Sn	22 15 02.5	0.0
PUZ	**Puketiti**	4.16	211	P	Pn	22 14 25.4	+0.8
PUZ				S	Sn	22 15 13.3	-0.5
PUZ	**Puketiti**	4.16	211	P	Pn	22 14 25.6	+1.0
PUZ				S	Sn	22 15 13.3	-0.5
MWZ	**Matawai**	4.70	215	P	Pn	22 14 33.0	+0.7
MWZ				S	Sn	22 15 26.5	-1.0
MWZ	**Matawai**	4.70	215	eP	Pn	22 14 33.0	+0.7
MWZ				S	Sn	22 15 27.5	0.0
URZ	**Urewera**	4.84	218	Pn	Pn	22 14 35.6	+1.3
	18nm,0.3s,baz=36,slow=1.2,SNR=89						
URZ				Sn	Sn	22 15 31.8	+0.6
	12nm,0.3s,baz=116,slow=21,SNR=11						
URZ	**Urewera**	4.84	218	P	Pn	22 14 35.1	+0.8
URZ	**Urewera**	4.84	218	eP	Pn	22 14 35.4	+1.1
KNZ	**Kokohu**	5.20	209	P	Pn	22 14 38.9	-0.5
KNZ	**Kokohu**	5.20	209	eP	Pn	22 14 38.9	-0.5
BKZ	**Black Stump Fm**	5.85	216	P	Pn	22 14 48.5	0.0
BKZ	**Black Stump Fm**	5.85	216	eP	Pn	22 14 48.6	+0.1
TSZ	**Takapari Road**	6.80	214	P	Pn	22 15 00.5	-1.5
TSZ	**Takapari Road**	6.80	214	eP	Pn	22 15 01.6	-0.4
MRZ	**Mangatainoka R**	7.46	213	P	Pn	22 15 09.0	-2.2
MRZ	**Mangatainoka R**	7.46	213	eP	Pn	22 15 08.8	-2.4
STKA	**Stephens Creek**	32.88	263	LR	LR	22 32 27.3	
	comp=Z,156nm,19.9s,MS3.7,baz=26,slow=35						
CTA	**Charters Tower**	33.82	286	P	P	22 20 04.8	+0.7
	1.8nm,0.5s,mb4.2,baz=98,slow=12,SNR=5.7						
CTA	**Charters Tower**	33.82	286	P	P	22 20 04.8	+0.7
CTAO	**Charters Tower**	33.82	286	eP	P	22 20 05.1	+1.0
	1.7nm,0.5s,mb4.2						
ASAR	**Alice Springs**	42.17	272	P	P	22 21 14.2	+0.1
	4.2nm,0.5s,mb4.3,baz=115,slow=7.8,SNR=11						
ASAR				PcP	PcP	22 23 07.6	-1.5
	1.1nm,0.6s,baz=121,slow=3.9,SNR=5.4						
WB2	**Warramunga Arr**	43.52	277	eP	P	22 21 24.9	-0.2
WRAB	**Tennant Creek**	43.52	277	eP	P	22 21 24.5	-0.7
	4.4nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	43.53	277	P	P	22 21 25.3	+0.1
	2.1nm,0.4s,mb4.2,baz=118,slow=7.6,SNR=57						
FITZ	**Fitzroy Crossi**	51.59	274	eP	P	22 22 27.7	-0.6
	2.3nm,0.6s,mb4.3						
KAF	**Kangasniemi**	148.06	338	ep	PKPdf	22 33 05.3	+0.9
	0.3nm,0.4s						
FINES	**FINESS Array B**	148.63	337	PKPbc	PKPdf	22 33 07.2	+1.9
	1.6nm,0.6s,baz=34,slow=3.6,SNR=16						
NOA	**NORSAR Array B**	152.65	349	PKPab	PKPab	22 33 28.2	-0.3
	0.6nm,0.6s,baz=65,slow=4.4,SNR=3.3						

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*TAP **13** 22:20:24.1,23.97N×122.22E,h44^{km}±1^{km},ML2.6*

JMA 13 22:20:21.6±0.1**,24.16N**×**122.09E,h40**^{km}**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	0.89	70	P	P	22 20 37.8	0.0
YOJ				eS	S	22 20 49.6	-0.1
IRIF	**Iriomote-Funau**	1.51	83	P	P	22 20 46.8	+0.2
IRIF				eS	S	22 21 05.2	0.0
JKRS	**Kuro-shima**	1.75	87	eS	S	22 21 11.6	+0.2
JIJ	**Ishigaki jima**	1.89	83	P	P	22 20 52.5	+0.5
JIJ				eS	S	22 21 14.6	-0.1

IDC 13 22:28:49.7±3.1,6.55S×127.40E,mb3.6/1,mb1 3.8/3, mb1mx3.6/9,ML3.3/2,Error ellipse: s-maj=472.0km s-min=30.9km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.93	154	Pn	P	22 32 21.3	-2.6
	0.1nm,0.3s,baz=315,slow=13,SNR=4.2						
WRA				Sn	S	22 34 58.6	-13
	0.1nm,0.3s,baz=318,slow=25,SNR=4.7						
ASAR	Alice Springs	18.14	161	P	P	22 33 03.6	-1.2
	0.2nm,0.3s,baz=337,slow=12,SNR=18						
MKAR	Makanchi Array	66.45	328	P	P	22 39 41.0	-2.1
	0.4nm,0.6s,baz=125,slow=7.4,SNR=5.6						

NEIC 13 22:41:15.0,45.12S×167.56E,h123^{km},After WEL.

WEL 13 22:41:15.6±0.4,45.11S×167.49E,h113^{km}±3^{km},ML3.9/7, 1D,Error ellipse: s-maj=2.9km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.44	212	PN	P	22 41 31.7	-0.8
DCZ				SN	S	22 41 44.7	-0.5
MLZ	Mavora Lakes	0.54	117	PN	P	22 41 33.0	-0.1
MLZ				SN	S	22 41 46.5	0.0
MLZ	Mavora Lakes	0.54	117	P	P	22 41 33.0	-0.2
MLZ				S	S	22 41 46.5	+0.1
WHZ	Wether Hill Ro	0.85	158	PN	P	22 41 35.5	-0.3
WHZ				SN	S	22 41 50.6	-0.4
WHZ	Wether Hill Ro	0.85	158	P	P	22 41 35.5	-0.3
WHZ				S	S	22 41 50.6	-0.4
WKZ	Wanaka	1.12	76	PN	P	22 41 38.6	-0.1
WKZ				SN	S	22 41 54.6	-1.3
AXZ	Alexandra	1.31	98	PN	P	22 41 40.3	-0.5
AXZ				SN	S	22 41 57.9	-2.0
JCZ	Jackson Bay	1.38	42	⇓PN	P	22 41 41.0	-0.5
JCZ				SN	S	22 42 00.1	-1.0
TUZ	Tuapeka	1.73	120	PN	P	22 41 45.2	-0.6
TUZ				SN	S	22 42 05.7	-2.8
TUZ	Tuapeka	1.73	120	P	P	22 41 45.2	-0.6
LBZ	Lake Benmore	2.05	70	PN	P	22 41 47.9	-2.0
LBZ				SN	S	22 42 12.7	-2.9
ODZ	Otahua Downs	2.24	90	PN	P	22 41 50.5	-1.9
ODZ				SN	S	22 42 15.8	-4.2
ODZ	Otahua Downs	2.24	90	*e*P	P	22 41 50.5	-1.9
RPZ	Rata Peaks	2.91	63	PN	P	22 41 58.2	-3.2
RPZ				SN	S	22 42 31.8	-4.2
RPZ	Rata Peaks	2.91	63	*e*P	P	22 41 58.3	-3.1
WVZ	Waitaha Valley	3.10	50	PN	P	22 42 00.3	-3.7
WVZ				SN	S	22 42 34.9	-5.7
WVZ	Waitaha Valley	3.10	50	*e*P	P	22 42 00.3	-3.7
MQZ	McQueen's Vall	3.96	71	PN	P	22 42 12.1	-3.4
MQZ				SN	S	22 42 53.7	-7.6
MQZ	McQueen's Vall	3.96	71	*e*P	P	22 42 12.1	-3.5
LTZ	Lake Taylor	4.16	58	PN	P	22 42 16.3	-2.1
LTZ	Lake Taylor	4.16	58	P	P	22 42 16.3	-2.0
DSZ	Denniston Nort	4.60	45	PN	P	22 42 20.2	-4.1
THZ	Tophouse	5.17	52	PN	P	22 42 27.4	-4.5
THZ	Tophouse	5.17	52	*e*P	P	22 42 27.6	-4.4
QRZ	Quartz Range	5.66	43	PN	P	22 42 34.9	-3.6
QRZ	Quartz Range	5.66	43	*e*P	P	22 42 34.9	-3.6
NNZ	Nelson	5.80	50	*e*P	P	22 42 38.5	-2.0

TRN 13 23:16:04.3,12.94N×60.59W,h57^{km},MD3.5,1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVV	Soufriere Volc	0.72	302	⇑*i*P	P	23 16 20.8	+2.1
SVV				*e*S	S	23 16 30.4	+1.0
SVB	Belmont	0.73	297	*e*P	P	23 16 20.7	+2.0
SVB				*e*S	S	23 16 31.0	+1.5
GRW	Mount Saint Ca	1.30	234	*e*P	P	23 16 27.3	+0.5
GRW				*e*S	S	23 16 44.5	+1.1
MVM	Montagne Vaucl	1.64	350	⇓*i*P	P	23 16 31.5	+0.1
BIM	Bigot	1.64	343	*e*P	P	23 16 32.1	+0.7
BIM				*e*S	S	23 16 53.6	+2.1
CRM	Caravelle	1.84	350	*e*P	P	23 16 34.4	+0.3
CRM				*e*S	S	23 16 56.8	+0.6

HEL 13 23:18:14.8±0.0,67.84N×20.11E,ML1.9,ML2.1(UPP), ML1.9(BER),Explosion

NAO 13 23:18:16.5±3.2,67.84N×20.58E,ML2.3

BER 13 23:18:16.0±3.5,67.89N×20.18E,ML1.9,ML2.3(NAO), Suspected explosion

ISC 13 23:18:13.5±0.5,67.82N±0.02×20.16E±0.08,n25,σ0^{s}61/36, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	26	*i* P	Pg	23 18 17.2	+0.7
KUA				*i* S	Sg	23 18 19.5	+1.0
NIKU	Nikkaluokta	0.43	277	*i* P	Pg	23 18 22.1	-0.1
DUNU	Dundret	0.72	167	*i* P	Pg	23 18 28.1	+0.2
DUNU				*i* S	Sg	23 18 38.4	+0.8
MASU	Masugnsbyn	0.79	117	*i* P	Pg	23 18 29.3	-0.1
KIF	Kilpisjarvi	1.21	11	*e*P	Pb	23 18 37.3	+0.2
KIF				*e*S	Sb	23 18 53.3	+0.2
PAJU	Pajala	1.39	124	*e*P	Pb	23 18 40.0	-0.2
PAJU				*e*S	Sb	23 18 58.7	+0.3
ERTU	Ertsjaerv	1.50	147	*e*P	Pn	23 18 42.3	+0.5
KTK1	Kautokeino	1.65	42	*e*P	Pn	23 18 44.2	+0.3
KTK1				*e*S	Sb	23 19 05.2	-0.6
KTK1				AML	AML	23 19 10.6	
	comp=Z,16nm,0.3s						
TRO	Tromso	1.87	347	*e*P	Pn	23 18 47.2	+0.1
TRO				*e*S	Sn	23 19 11.4	-0.5
TRO				AML	AML	23 19 14.8	
	comp=Z,16nm,0.3s						
SGF	Sodankyl	2.46	96	*e*P	Pn	23 18 56.1	+0.5
SGF				*e*SG	Sg	23 19 30.8	-4.8
SGF				MSG		23 19 31.4	
	comp=Z,3.6nm,0.2s						
LOF	Lofoten	2.52	280	*e*	Sg	23 19 36.7	-0.6
LOF				AML	AML	23 19 38.2	
	comp=Z,9.3nm,0.4s						
LOF	Lofoten	2.52	280	*e*Sg	Sg	23 19 36.7	-0.6
LOF				AML	AML	23 19 38.2	
	comp=Z,9.3nm,0.4s						
ARA0	ARCESS Array S	2.60	46	*e*P	Pn	23 18 58.1	+0.5
ARA0				*e*SB	Sb	23 19 33.0	-0.5
ARA0	ARCESS Array S	2.60	46	Pn	Pn	23 18 58.1	+0.5
	baz=234,slow=14						
ARA0				Lg		23 19 33.0	
	baz=222,slow=28						
MOR8	Moi Rana	2.79	236	*e*SG	Sg	23 19 37.2	-9.3
MOR8				AML	AML	23 19 39.3	
	comp=Z,23nm,0.4s						
KEV	Kevo	3.16	49	*e*P	Pn	23 19 05.8	+0.3
KEV				*e*S	Sn	23 19 43.4	-1.0
KEV				MSG		23 19 51.7	
	comp=Z,3.5nm,0.2s						
OUL	Oulu	3.58	137	*e*SG	Sg	23 20 05.8	-7.1
MSF	Maaselka	3.99	115	*e*P	Pn	23 19 17.8	+0.4
MSF				*e*S	Sn	23 20 04.0	-1.6
MSF				*e*SG	Sg	23 20 18.1	-8.4
MSF				MSG		23 20 22.1	
	comp=Z,1.9nm,0.3s						
NSS	Namsos	4.69	229	*e*SG	Sg	23 20 41.4	-8.2
NSS				AML	AML	23 20 42.5	
	comp=Z,6.8nm,0.4s						
KJN	Kajaani	4.86	137	*e*P	Pn	23 19 29.5	-0.2
KJN				*e*SG	Sg	23 20 43.2	-12
KJN				MSG		23 20 48.4	
	comp=Z,2.2nm,0.4s						
FIA0	FINESS Array S	6.89	156	Pn	Pn	23 19 57.3	-0.9
	baz=350,slow=12						
FIA0				Sn	Sn	23 21 13.3	-5.0
	baz=350,slow=22						
FIA0				Lg		23 21 50.3	
	baz=338,slow=28						
FIA0	FINESS Array S	6.89	156	*e*P	Pn	23 19 57.3	-0.9
FIA0				*e*S	Sn	23 21 13.3	-5.0
FIA0				*e*SG		23 21 50.3	
HFS	Hagfors	8.22	203	Lg		23 22 31.8	
	baz=19,slow=28						
HFS	Hagfors	8.22	203	*e*		23 22 31.8	
HFS	Hagfors	8.22	203	Lg		23 22 31.8	
	baz=19,slow=28						

INMG 13 23:24:48.9±0.8,38.99N×9.16W,h21^{km}±5^{km},ML1.2,Error ellipse: s-maj=7.1km s-min=2.0km az=91.0

MDD 13 23:24:49.0±1.4,39.00N×9.16W,h19^{km}±8^{km},mbLg1.6/7, Error ellipse: s-maj=11.8km s-min=5.1km az=89.0, PRXIMO

ISC 13 23:24:49.0±1.5,39.01N±0.04×9.2W±0.1,h21^{km},n14, σ1^{s}27/15,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOU	Loures	0.14	161	*e*Pg	Pb	23 24 52.5	-0.9
PLOU				*e*Sg	Sb	23 24 55.5	-0.9
	30nm,0.2s						
PLOU	Loures	0.14	161	Pg	Pb	23 24 52.5	-0.9
PLOU				Lg		23 24 55.5	
	15nm,0.2s						
INMG	Instituto de M	0.25	165	*e*Sg	Sb	23 24 58.2	-0.7
MOE	Montemor	0.83	126	*i* Pg	Pb	23 25 03.2	-1.5
MOE				*e*Sg	Sb	23 25 13.7	-1.7
PTOM	Tomar	0.86	45	*e*P	Pb	23 25 04.4	-0.8
PTOM				*e*S	Sb	23 25 16.4	0.0
	8.1nm,0.1s						
PTOM	Tomar	0.86	45	Pg	Pb	23 25 04.4	-0.8
PTOM				Lg		23 25 16.4	
	4.1nm,0.1s						
PTEO	Sao Teotonio	1.51	165	*e*Sg	Sn	23 25 35.2	+0.6
	4.9nm,0.4s						
PTEO	Sao Teotonio	1.51	165	Lg		23 25 35.2	
	2.5nm,0.4s						
PCBR	Castelo Branco	1.57	58	*e*Pg	Pn	23 25 16.5	+0.3
	1.0nm,0.3s						
EBAD	Badajoz	1.73	98	Pg	Pn	23 25 18.8	+0.3
	0.4nm,0.4s,SNR=17						
EBAD				Lg		23 25 40.4	
	1.1nm,0.2s,SNR=7.9						
EGRO	El Granado	2.01	137	Pg	Pn	23 25 24.5	+2.1
	7.6nm,1.4s,SNR=7.9						
EGRO				Lg		23 25 49.6	
	15nm,1.0s,SNR=7.9						
PALC	Alcoutim	2.06	138	*e*Sg	Sn	23 25 51.2	+2.7
	1.9nm,0.1s						
PALC	Alcoutim	2.06	138	Lg		23 25 51.2	
	0.9nm,0.1s						
EMIN	Mina Concepcio	2.35	121	Pg	Pn	23 25 29.3	+2.0
	2.1nm,0.5s,SNR=7.9						
EMIN				Lg		23 26 02.1	
	26nm,1.5s,SNR=7.9						

MAN 13 23:25:24.3,10.38N×126.04E,h21^{km},mb4.4,ML3.2, MS3.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	1.19	259	*e*P	Pn	23 25 45.1	-0.9
PLP	Palo	1.31	307	*e*P	Pn	23 25 46.6	-1.0
PLP				*e*S	Sb	23 26 05.0	+0.5
BESP	Borongan	1.36	334	*e*P	Pn	23 25 48.2	-0.1
BUTP	Butuan	1.46	197	*e*P	Pn	23 25 49.9	+0.2
TBP	Tagbilaran	2.25	253	*e*P	Pn	23 26 01.5	+0.3
TBP				*e*S		23 27 47.6	
CNP	Catarman	2.52	328	*e*P	Pn	23 26 03.3	-1.6
BUKP	Musuan	2.66	201	*e*P	Pn	23 26 07.4	+0.4
GUIM	Jordan	3.41	275	*e*P	Pn	23 26 09.4	-8.1
PAGZ	Pagadian	3.63	227	*e*P	Pn	23 26 19.5	-1.3
IPIL	Ipil	4.29	233	*e*P	Pn	23 26 27.5	-2.6

IDC 13 23:26:08.7±0.9,34.47N×141.65E,mb3.5/7,mb1 3.7/9, mb1mx3.6/23,ML3.5/2,Error ellipse: s-maj=27.3km s-min=18.4km az=111.0

JMA 13 23:26:09.6±0.3,34.42N×141.83E,h35^{km}±2^{km},M3.0

NEIC 13 23:26:14.1±2.0,34.45N×141.62E,h36^{km}±17^{km},Error ellipse: s-maj=20.1km s-min=14.9km az=76.0

ISC 13 23:26:11.2±1.6,34.45N±0.04×141.70E±0.08,h29^{km}±11^{km}, n21,σ0^{s}64/26,mb3.6/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.63	289	P	Pb	23 26 23.6	0.0
BSO3	Boso 3	1.04	290	P	Pn	23 26 30.4	+0.4
CHOJ	Chosi	1.43	331	P	Pn	23 26 35.4	-0.1
CHOJ				S	Sn	23 26 54.3	+0.8
JHJ2	Mitsune	2.06	230	P	Pn	23 26 44.8	+0.3
JHJ2				S	Sn	23 27 10.0	+0.6
JHJ	Hachijo jima 2	2.07	231	Pn	Pn	23 26 44.5	-0.2
	16nm,0.3s,baz=252,slow=22,SNR=5.3						
JHJ				Sn	Sn	23 27 09.9	+0.1
	48nm,0.3s,baz=64,slow=21,SNR=9.1						
JOD2	Odawara 2	2.30	291	P	Pn	23 26 47.7	-0.2
JOD2				S	Sn	23 27 15.9	+0.4
JAG	Ashikaga	2.69	318	P	Pn	23 26 53.4	-0.2
MAJO	Matsushiro	3.53	307	*e*Pn	Pn	23 27 05.6	0.0
MAT	Matsushiro	3.53	307	P	Pn	23 27 06.0	+0.5
MAT				*e*S	Sn	23 27 45.9	-0.9
MAT	Matsushiro	3.53	307	P	Pn	23 27 06.0	+0.5
MAT				S	Sn	23 27 46.0	-0.8
ASAJ	Asahikawa	9.68	4	Pn	P	23 28 27.0	-4.7
	0.8nm,0.3s,baz=227,slow=13,SNR=4.4						
SONM	Songino Array	29.48	308	P	P	23 32 13.9	-0.9
	0.2nm,0.5s,mb3.1,baz=104,slow=9.5,SNR=3.0						
MKAR	Makanchi Array	45.73	304	P	P	23 34 31.9	+0.5
	0.4nm,0.6s,mb3.5,baz=79,slow=7.3,SNR=3.5						
KURK	Kurchatov	47.74	310	*e*P	P	23 34 46.2	-1.0
	4.8nm,1.3s,mb4.4						
ILAR	Eielson Array	51.57	31	P	P	23 35 16.4	+0.1
	0.6nm,0.7s,mb3.6,baz=269,slow=5.8,SNR=6.4						
BVAR	Borovoye Array	52.51	314	P	P	23 35 23.1	-0.5
	0.2nm,0.5s,mb3.4,baz=45,slow=8.2,SNR=3.3						
WRA	Warramunga Arr	54.54	189	P	P	23 35 38.0	-1.0
	0.6nm,0.7s,mb3.8,baz=4.5,slow=7.7,SNR=5.8						
ASAR	Alice Springs	58.27	188	P	P	23 36 05.6	0.0
	0.4nm,0.8s,mb3.5,baz=15,slow=10,SNR=3.9						
ASAR	Alice Springs	58.27	188	P	P	23 36 05.6	0.0
TXAR	Lajitas Array	91.51	53	P	P	23 39 18.1	+1.7
	0.2nm,0.7s,mb3.5,baz=292,slow=4.9,SNR=3.3						
LPAZ	La Paz	147.72	63	PKPbc	PKPdf	23 45 55.5	-0.3
	0.7nm,0.5s,baz=307,slow=6.8,SNR=4.0						

IDC 13 23:44:51.4±8.7,34.60S×179.07W,h52^{km}±78^{km},mb3.8/3, mb1 4.0/4,mb1mx3.8/12,ML4.1/1,Error ellipse: s-maj=63.0km s-min=54.8km az=153.0

NEIC 13 23:44:55.9±1.7,35.04S×179.13W,h100^{km},Error ellipse: s-maj=35.6km s-min=12.3km az=101.0

ISC 13 23:44:47.9±2.5,34.5S±0.1×179.1W±0.4,h33^{km},n13, σ0^{s}57/16,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.73	214	P	P	23 45 45.0	+0.5
MXZ	Matakaoa Point	3.73	214	*e*P	P	23 45 45.2	+0.7
PUZ	Puketiti	4.17	210	P	P	23 45 50.4	-0.5
PUZ				S	S	23 46 39.5	+0.3
PUZ	Puketiti	4.17	210	*e*P	P	23 45 50.9	0.0
MWZ	Matawai	4.71	214	P	P	23 45 58.4	-0.1
MWZ				S	S	23 46 53.5	+0.7
MWZ	Matawai	4.71	214	*e*P	P	23 45 58.4	-0.1
MWZ				S	S	23 46 53.0	+0.2
URZ	Urewera	4.86	218	P	P	23 46 00.4	-0.2
	7.9nm,0.3s,baz=286,slow=2.9,SNR=28						
URZ				S	S	23 46 55.8	-0.6
	5.7nm,0.3s,baz=156,slow=18,SNR=6.4						
URZ	Urewera	4.86	218	P	P	23 45 59.9	-0.7
URZ	Urewera	4.86	218	*e*P	P	23 46 00.1	-0.5
CTA	Charters Tower	33.78	286	P	P	23 51 29.9	+1.1
	2.3nm,0.9s,mb4.1,baz=110,slow=11,SNR=3.4						
ASAR	Alice Springs	42.14	272	P	P	23 52 38.6	-0.2
	1.9nm,0.6s,mb3.9,baz=115,slow=7.8,SNR=21						
WRA	Warramunga Arr	43.49	277	P	P	23 52 49.3	-0.7
	1.1nm,0.5s,mb3.8,baz=118,slow=7.6,SNR=8.9						
FINES	FINESS Array B	148.59	337	PKPbc	PKPdf	00 04 31.6	+4.7
	0.6nm,0.6s,baz=90,slow=1.9,SNR=5.9						

THE 13 23:56:32.9,41.10N×25.06E,h6^{km},ML3.2

NEIC 13 23:56:32.1,41.25N×25.09E,h15^{km},MD3.5(ATH), ML3.2(THE),After ATH.

ATH 13 23:56:32.1,41.25N×25.09E,h15^{km}±5^{km},MD3.5/5

ISC 13 23:56:31.7±0.5,41.17N±0.05×25.07E±0.03,h6^{km},n22, σ0^{s}93/30,1D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDO	Rodhopi	0.35	94	⇓*i*PB	Pb	23 56 39.5	-0.5
RDO				*e*SB	Sb	23 56 44.7	-0.8
ALN	Alexandroupoli	0.79	110	*e*Pg	Pg	23 56 47.9	+0.4
	comp=Z,14nm,0.1s						
ALN				*e*Sg	Sg	23 56 57.9	-0.1
NVR	Nevrokopi	0.93	281	*e*PN	Pn	23 56 49.4	-1.7
SRS	Serrai	1.12	268	*e*Pg	Pg	23 56 53.3	-0.8
SRS				*e*Sg	Sg	23 57 09.2	+0.2
OUR	Ouranopolis	1.18	225	*e*Pg	Pg	23 56 54.1	-1.1
LOS	Limnos	1.24	180	*e*Pg	Pg	23 56 55.1	-1.3
	comp=Z,5.0nm,0.1s						
LIA	Limnos Island	1.28	176	*e*PB	Pb	23 56 56.2	+0.4
SOH	Sokhos	1.35	255	*e*Pb	Pb	23 56 57.2	+0.2
SOH				*e*Sb	Sb	23 57 15.2	+0.9
EDRB	Edirne	1.43	61	*i* PN	Pn	23 56 58.3	+0.1
EDRB				*i* SN	Sn	23 57 17.4	0.0
PLG	Polygyros	1.47	238	*e*PN	Pn	23 57 00.8	+1.9
PLG				*e*SN	Sn	23 57 21.1	+2.5
LPK	Lapseki	1.51	121	*i* PN	Pn	23 57 00.4	+0.9
PAIG	Paliouri	1.64	221	*e*Pb	Pb	23 57 01.1	-0.9
PAIG				*e*Sb	Sb	23 57 21.2	-1.5
KNT	Kendrikon	1.64	270	*e*Pb	Pb	23 57 01.7	-0.3
	comp=Z,14nm,0.1s						
KNT				*e*Sb	Sb	23 57 23.8	+0.9
THE	Thessaloniki	1.69	252	*e*Pb	Pb	23 57 01.8	-0.9
MRMT	Marmara Adasi	2.00	106	PN	Pn	23 57 06.6	+0.2
GRG	Griva	2.03	265	*e*Pn	Pn	23 57 06.9	0.0
PRK	Paraskevi	2.13	154	*e*PN	Pn	23 57 10.0	+1.7
EDC	Edincik	2.28	110	PN	Pn	23 57 10.8	+0.4
XOR	Xorichti	2.31	219	*e*Pn	Pn	23 57 10.3	-0.6
BNT	Bandirma	2.31	110	PN	Pn	23 57 11.3	+0.4
CTT	Catalca	2.54	89	*e*PN	Pn	23 57 13.4	-0.7
KCT	Karacabey	2.66	109	*e*PN	Pn	23 57 16.5	+0.7

MOS 14 00:03:35.2±2.4,50.14N×87.84E,h15^{km},mb4.0/1,Error ellipse: s-maj=49.7km s-min=19.0km az=101.0

NNC 14 00:03:38.1±2.1,50.12N×87.37E,h27^{km}±13^{km},mpv3.8, Error ellipse: s-maj=19.4km s-min=9.0km az=87.0

ISC 14 00:03:32.7±1.0,50.03N±0.06×87.28E±0.08,h10^{km},n11, σ1^{s}35/21,7C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	Aktash	0.36	37	*e*PG	Pg	00 03 40.0	-0.2
AKAR				*e*S	Sg	00 03 44.9	-0.3
ARTR	Artybash	1.77	360	*e*PN	Pg	00 04 06.1	-2.0
ARTR				*e*S	Sg	00 04 31.5	-0.3
UKR	Ust'-Kan	1.84	301	*e*PN	Pg	00 04 13.0	+3.5
UKR				*e*S	Sg	00 04 42.0	+7.9
TASR	Tashtagol	2.76	8	*e*PN	Pb	00 04 22.7	+0.9
TASR				*e*S	Sb	00 04 57.0	+1.2
CERR	Cheremushki	3.83	41	*e*PN	Pn	00 04 32.0	-1.1
CERR				*i*		00 04 39.8	
CERR				*i* S	Sn	00 05 26.1	+7.4
MK31	Makanchi Array	4.64	228	⇓Pn	Pn	00 04 50.6	+6.0
	10.0nm,0.5s,baz=56,slow=15,SNR=378						
MK31				⇑Pg	Pg	00 05 04.5	-0.9
	13nm,0.5s,baz=53,slow=14,SNR=4.8						
MK31				⇑Sn	Sn	00 05 47.9	+8.7
	12nm,0.5s,baz=58,slow=26,SNR=5.3						
MK31				⇓Lg		00 06 07.9	
	32nm,0.6s,baz=52,slow=28,SNR=7.8						
NVS	Novosibirsk	5.42	334	*e*PN	Pb	00 05 14.7	+7.5
NVS				*e*		00 06 00.5	
KURK	Kurchatov	5.59	280	⇓Pn	Pn	00 05 00.4	+2.4
	4.3nm,0.6s,baz=130,slow=16,SNR=40						
KURK				⇑Lg		00 06 38.3	
	31nm,0.7s,baz=357,slow=17,SNR=9.1						
VOSK	Vostochnaya	10.54	291	⇑Pn	P	00 06 07.0	+0.1
	3.6nm,1.4s						
VOSK				⇑Sn	S	00 08 05.0	-1.0
	2.8nm,0.6s						
BRVK	Borovoye	11.01	292	⇓Pn	P	00 06 14.3	+1.1
	0.6nm,0.5s						
BRVK				⇓Sn	S	00 08 16.3	-1.2
	1.9nm,0.5s						
ZRNK	Zerenda	11.76	291	⇑Pn	P	00 06 23.9	+0.5
	1.9nm,0.7s						
ZRNK				⇑Sn	S	00 08 34.3	-1.5
	5.1nm,1.0s						

ISK 14 00:03:53.5,36.92N×27.75E,h16^{km},MD3.5

NEIC 14 00:03:55.4,36.87N×27.72E,h5^{km},MD3.5(ATH),After ATH.

ATH 14 00:03:55.4,36.87N×27.72E,h5^{km},MD3.5/8

ISC 14 00:03:54.2±0.6,36.92N±0.03×27.80E±0.04,h9^{km}±5^{km}, n20,σ1^{s}11/28,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	297	*i* P	Pg	00 04 01.6	+0.9
BDRM				*i* S	Sg	00 04 07.0	+1.9
MLSB	Milas	0.37	357	*i* PG	Pg	00 04 01.8	0.0
MLSB				*i* SG	Sg	00 04 07.7	+0.8
YER	Yerkesik	0.44	61	*i* PG	Pg	00 04 03.5	+0.3
NISR	Nisiros	0.62	240	*e*PB	Pb	00 04 07.0	+0.3
AYDN	Tasoluk	0.74	5	*i* P	Pb	00 04 09.4	+0.6
AYDN				*i* S	Sb	00 04 19.8	+1.0
ARG	Arkhangelos	0.75	159	*e*PB	Pb	00 04 08.7	-0.3
ARG				*e*SB	Sb	00 04 21.2	+2.1
SMG	Samos	1.10	316	*e*PG	Pg	00 04 15.7	-0.4
SMG				*e*SB	Sb	00 04 31.8	+2.7
DNZL	Cakiroluk	1.26	52	*i* P	Pb	00 04 18.5	+0.9
DNZL				*i* S	Sb	00 04 39.9	+6.2
DENT	Denizli	1.29	49	PN	Pn	00 04 17.9	-0.5
DENT				SN	Sn	00 04 35.8	0.0
KARP	Karpathos	1.47	201	*e*PN	Pn	00 04 20.7	-0.2
KARP				*e*SB	Sb	00 04 41.2	+1.4
IZM	Izmir	1.53	344	PN	Pn	00 04 20.6	-1.3
KSL	Kastellorizon	1.63	118	*e*PG	Pg	00 04 26.5	-0.3
ELL	Elmali	1.70	95	*e*PN	Pn	00 04 24.4	+0.1
APE	Apeiranthos	1.82	275	*e*PN	Pn	00 04 24.9	-1.1
APE	Apeiranthos	1.82	275	*e*PB	Pb	00 04 25.7	-1.6
AKS	Akhisar	1.95	0	*e*PN	Pn	00 04 26.6	-1.3
BCK	Bucak	2.29	76	*e*PN	Pn	00 04 32.5	-0.2
NPS	Neapolis	2.42	228	*e*PG	Pg	00 04 40.0	-2.6
PRK	Paraskevi	2.61	333	*e*PG	Pg	00 04 45.3	-1.1
BNT	Bandirma	3.43	2	*e*PN	Pn	00 04 47.6	-1.3

IDC 14 00:08:32.9±2.8,30.38S×177.46W,mb4.6/4,mb1 4.7/5, mb1mx4.3/12,ML3.1/1,Error ellipse: s-maj=58.9km s-min=34.7km az=116.0

ISC 14 00:08:35.0±5.0,30.5S±0.1×177.3W±0.7,h33^{km},n11, σ0^{s}73/11,mb4.5/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.97	209	Pn	P	00 10 45.2	0.0
	0.2nm,0.3s,baz=324,slow=19,SNR=3.7						
URZ				Sn	Sn	00 12 26.1	-0.1
	2.6nm,0.3s,baz=47,slow=14,SNR=4.0						
CTA	Charters Tower	34.40	279	*e*P	P	00 15 21.8	+0.5
	6.0nm,0.4s,mb4.9						
CTA	Charters Tower	34.40	279	P	P	00 15 21.9	+0.6
	10nm,0.6s,mb4.9,baz=102,slow=10,SNR=31						
STKA	Stephens Creek	35.02	257	*e*P	P	00 15 28.1	+1.6
	7.4nm,1.0s,mb4.6						
STKA	Stephens Creek	35.02	257	P	P	00 15 27.9	+1.4
	2.8nm,0.4s,mb4.5,baz=92,slow=12,SNR=7.3						
ASAR	Alice Springs	43.69	267	P	P	00 16 38.0	-0.7
	2.0nm,0.4s,mb4.2,baz=103,slow=7.4,SNR=31						
ASPA	Alice Springs	43.69	267	*e*P	P	00 16 38.7	0.0
WB2	Warramunga Arr	44.68	272	*e*P	P	00 16 46.4	-0.3
WRA	Warramunga Arr	44.69	272	P	P	00 16 45.5	-1.3
	4.4nm,0.3s,mb4.8,baz=110,slow=8.1,SNR=48						
FITZ	Fitzroy Crossi	52.95	270	*e*P	P	00 17 51.0	+0.4
	5.9nm,1.6s,mb4.3						
FINES	FINESS Array B	145.48	340	PKPbc	PKPbc	00 28 10.8	+1.3
	2.2nm,0.5s,baz=72,slow=4.4,SNR=21						

IDC 14 00:10:51.4±3.0,34.51S×178.90E,mb4.0/2,mb1 4.3/3, mb1mx4.0/10,ML3.9/1,Error ellipse: s-maj=64.6km s-min=44.7km az=93.0

ISC 14 00:10:39.3±2.8,34.4S±0.1×179.3W±0.4,h10^{km},n7,

σ0^{s}44/8,mb3.9/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	4.14	208	P	Pn	00 11 43.6	-0.4
MWZ	Matawai	4.67	212	P	Pn	00 11 52.2	+0.7
MWZ				S	Sn	00 12 45.8	-0.6
URZ	Urewera	4.80	216	Pn	Pn	00 11 53.8	+0.4
	8.6nm,0.3s,baz=261,slow=1.7,SNR=22						
URZ				Sn	Sn	00 12 50.1	+0.4
	2.7nm,0.3s,baz=142,slow=19,SNR=3.6						
URZ	Urewera	4.80	216	P	Pn	00 11 53.0	-0.4
ASAR	Alice Springs	41.97	272	P	P	00 18 32.2	+0.1
	1.9nm,0.8s,mb3.8,baz=115,slow=7.8,SNR=10.0						
WRA	Warramunga Arr	43.32	277	P	P	00 18 43.0	-0.2
	2.3nm,0.8s,mb3.9,baz=117,slow=7.6,SNR=5.9						
FINES	FINESS Array B	148.47	337	PKPbc	PKPdf	00 30 37.2	+12
	0.8nm,0.7s,baz=45,slow=2.0,SNR=3.5						

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*IDC **14** 00:19:25.2±12.0,10.30S×160.51E,h268^{km}±101^{km}, mb3.7/5,mb1 3.7/7,mb1mx3.6/11,MS3.3/2,Ms1 3.3/2, ms1mx3.0/11,Error ellipse: s-maj=103.0km s-min=29.8km az=97.0*

ISC 14 00:19:22.4±8.4,10.5S±0.2×160.7E±0.5,h262^{km}±59^{km}, n10,σ0^{s}73/10,mb4.0/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	13.35	273	P	P	00 22 23.8	+0.4
	0.7nm,0.3s,baz=145,slow=5.1,SNR=4.4						
PMG				LR	LR	00 25 58.8	
	comp=Z,93nm,20.6s,baz=241,slow=30						
CTA	Charters Tower	16.86	234	P	P	00 23 03.4	-1.2
	0.4nm,0.3s,baz=67,slow=12,SNR=16						
WB2	Warramunga Arr	27.05	247	*e*P	P	00 24 43.6	+0.6
WRA	Warramunga Arr	27.06	247	P	P	00 24 43.4	+0.3
	3.7nm,0.6s,mb4.0,baz=76,slow=9.1,SNR=21						
STKA	Stephens Creek	27.66	217	P	P	00 24 49.1	+0.7
	2.8nm,0.8s,mb3.7,baz=36,slow=14,SNR=3.1						
KAKA	Kakadu	27.77	263	*e*P	P	00 24 48.9	-0.7
	8.8nm,0.6s,mb4.4						
ASAR	Alice Springs	28.68	239	P	P	00 24 56.9	-0.7
	1.6nm,0.5s,mb3.7,baz=61,slow=10.0,SNR=14						
ASAR				LR	LR	00 35 46.3	
	comp=Z,84nm,19.0s,baz=55,slow=34						
FITZ	Fitzroy Crossi	34.73	253	*e*P	P	00 25 50.5	+0.6
	6.7nm,0.6s,mb4.3						
SONM	Songino Array	75.31	326	P	P	00 30 37.7	-0.9
	3.6nm,0.8s,mb4.0,baz=140,slow=4.2,SNR=16						
MKAR	Makanchi Array	89.71	318	P	P	00 31 52.8	+0.7
	0.5nm,0.4s,mb3.7,baz=85,slow=7.4,SNR=7.5						

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*ISK **14** 00:20:25.2,38.42N×39.22E,h5^{km},MD4.4,ML4.5*

*BJI **14** 00:20:25.1,38.40N×39.20E,h5^{km},mb4.2,Ms3.9*

*ZUR_RM **14** 00:20:25,38.42N×39.22E,h9^{km},Mw4.7/11,Moment Tensor Solution. s11 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.24; $M_{\theta\theta}$0.90; $M_{\phi\phi}$0.34; $M_{r\theta}$-0.66; $M_{\theta\phi}$0.27; $M_{\phi r}$0.47; Best double couple: $M_0$1.35×10^{16} NP1:ϕ_s94°,δ61°,λ-69°. NP2:ϕ_s236°,δ35°,λ-122°. Principal axes: T 1.117, Plg13°, Azm169°; N .46, Plg18°, Azm263°; P -1.577, Plg67°, Azm44°;*

*MED_RC **14** 00:20:25.2±0.4,38.42N×39.22E,h15^{km},MW4.6/26, Moment Tensor Solution. Body waves: s26,c28; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-8.27±.30; $M_{\theta\theta}$5.54±.37; $M_{\phi\phi}$2.73±.21; $M_{r\theta}$5.97±1.04; $M_{\theta\phi}$2.36±.22; $M_{\phi r}$1.02±.92; Best double couple: $M_0$9.67×10^{15} NP1:ϕ_s54°,δ27°,λ-106°. NP2:ϕ_s252°,δ64°, λ-82°. Principal axes: T 8.84, Plg19°, Azm336°; N 1.65, Plg7°, Azm68°; P -10.49, Plg70°, Azm178°; nsta1 refers to waves, cutoff=35s.*

*NEIC **14** 00:20:25.2,38.42N×39.22E,h5^{km},mb4.5/23,After ISK.*

*MOS **14** 00:20:26.8±1.3,38.33N×39.23E,h10^{km},mb4.5/14,Error ellipse: s-maj=9.4km s-min=6.5km az=107.7*

*IDC **14** 00:20:27.0±0.8,38.37N×39.27E,mb4.2/13,mb1 4.2/20, mb1mx4.2/24,ML3.7/7,MS3.6/15,Ms1 3.6/15, ms1mx3.5/22,Error ellipse: s-maj=15.9km s-min=10.7km az=176.0*

ISC 14 00:20:26.1±0.7,38.37N±0.02×39.26E±0.03,h4^{km}±5^{km}, n153,σ1^{s}02/162,mb4.3/37,MS3.6/15,10C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.25	301	*i* P	Pg	00 20 30.5	-0.6
ELZG				*i* S	Sg	00 20 35.5	+1.1
MALT	Malatya	0.65	265	*i* PG	Pg	00 20 38.3	-0.8
MALT				*i* SG	Sg	00 20 48.3	+0.4
MYA	Malataya	0.65	266	*i* PG	Pg	00 20 38.1	-1.1
DIY	Diyarbakir	0.90	121	*i* PG	Pg	00 20 45.2	+1.1
BINT	Bingol	1.09	62	*i* PN	Pn	00 20 46.8	-1.3
EZC	Erzincan	1.44	17	*i* PN	Pn	00 20 51.3	-1.8
BEST	Besiri	1.66	106	*i* P	Pn	00 20 59.0	+2.8
BEST				*i* S	Sg	00 21 28.8	+7.4
GZT	Gaziantep	1.68	233	*i* P	Pn	00 20 57.2	+0.7
GZT				*i* S	Sb	00 21 22.1	+3.5
BTMT	Batman	1.77	95	*i* PN	Pn	00 20 56.5	-1.2
GAZ	Gaziantep	2.01	234	*i* PN	Pn	00 21 01.0	-0.3
GUMT	Gumushane	2.09	5	*i* PN	Pn	00 21 02.9	+0.5
EZM	Erzurum	2.24	46	*i* PN	Pn	00 21 05.4	+0.8
SVSK	Karacayir	2.34	312	*i* PN	Pn	00 21 05.5	-0.4
TOKT	Tokat	2.87	314	*i* PN	Pn	00 21 13.3	-0.1
CEYT	Ceyhan	3.10	245	PN	Pn	00 21 17.7	+1.0
VANT	Van	3.25	87	PN	Pn	00 21 18.2	-0.7
VANB	Van	3.25	85	PN	Pn	00 21 19.4	+0.5
YOZ	Yozgat	3.32	294	PN	Pn	00 21 20.3	+0.4
HTY	Hatay	3.35	229	PN	Pn	00 21 20.7	+0.4
HKR	Hakkari	3.63	101	PN	Pn	00 21 24.9	+0.6
NIG	Nigde	3.67	267	*e*PN	Pn	00 21 25.1	+0.3
KVT	Kavak	3.67	319	PN	Pn	00 21 24.1	-0.7
KARS	Kars	3.72	52	*e*PN	Pn	00 21 25.3	-0.3
KAMT	Kaman	4.44	285	*e*PN	Pn	00 21 36.0	+0.2
BRTR	Keskin Array B	4.58	289	Pn	Pn	00 21 37.5	-0.3
	7.6nm,0.3s,baz=114,slow=16,SNR=108						
BRTR				Lg		00 22 56.2	
	baz=131,slow=33,SNR=2.9						
BRTR				LR	LR	00 23 39.5	
	comp=Z,1µm,18.5s,baz=300,slow=42						
BRTR	Keskin Array B	4.58	289	P	Pn	00 21 37.5	-0.3
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,1µm,18.5s						
GNI	Garni	4.62	66	Pn	Pn	00 21 39.6	+1.3
	comp=Z,2.1nm,0.3s,baz=280,slow=2.2,SNR=11						
GNI				LR	LR	00 23 03.6	
	comp=Z,112nm,19.0s,baz=58,slow=34						
GNI	Garni	4.62	66	P	Pn	00 21 39.6	+1.3
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,112nm,19.0s						
BYBT	Boyabat	4.63	313	*e*PN	Pn	00 21 38.3	-0.3
TOS	Tosya	4.83	305	*e*PN	Pn	00 21 41.3	-0.1
HWQ	Hawqa	4.88	214	*e*PN	Pn	00 21 42.1	0.0
CANT	Cankiri	4.90	299	*e*PN	Pn	00 21 42.4	+0.1
IKL	Isikli	4.92	246	*e*PN	Pn	00 21 42.5	-0.2
SOC	Sochi	5.22	4	*i* P	Pn	00 21 49.0	+2.1
SOC				*e*		00 22 45.7	
SOC				pmax	pmax		
	comp=Z,92nm,0.7s						
SOC				pmax	pmax		
	comp=N,113nm,0.8s						
SOC				pmax	pmax		
	comp=E,75nm,0.8s						
SOC				MLR	MLR		
	comp=Z,301nm,11.0s						
SOC				MLR	MLR		
	comp=N,497nm,14.0s						
SOC				MLR	MLR		
	comp=E,423nm,13.0s						
ANTO	Ankara	5.24	289	*e*PN	Pn	00 21 46.8	-0.4
LOD	Lodumlu	5.27	289	*e*PN	Pn	00 21 47.8	+0.2
BHL	Bhannes	5.33	214	*e*PN	Pn	00 21 48.7	+0.3
BZK	Bozkurt	5.39	313	*e*PN	Pn	00 21 48.0	-1.2
HDMB	Hadim	5.55	257	*e*PN	Pn	00 21 52.7	+1.2
KIZT	Kizilcal	5.80	277	*e*PN	Pn	00 21 55.5	+0.5
SAFT	Safranbolu	5.81	302	*e*PN	Pn	00 21 55.4	+0.2
CSS	Prodhromos	5.85	236	*e*P	Pn	00 21 56.0	+0.3
	comp=E,18nm,0.5s						
HNTI	Hanita	6.23	213	P	Pn	00 22 01.1	0.0
HNTI				S	Sg	00 23 44.7	-8.9
ASF	Jabal al Asfar	6.48	198	Pn	Pn	00 22 03.9	-0.7
	comp=E,4.0nm,0.3s,baz=31,slow=7.1,SNR=42						
ASF				Lg		00 23 54.4	
	comp=E,8.2nm,0.3s,baz=55,slow=23,SNR=4.5						
HAF	Haifa	6.56	213	P	Pn	00 22 09.1	+3.4
MMLI	Mount Malkishu	6.70	209	P	Pn	00 22 08.3	+0.6
OFRI	‘Ofer	6.71	213	P	Pn	00 22 09.7	+1.8
HMDT	Nahal Hemdat	6.82	208	P	Pn	00 22 10.0	+0.6
SLTI	Sal’it	7.02	211	P	Pn	00 22 13.8	+1.6
QURS	Qurayyt al Mil	7.15	193	P	Pn	00 22 13.8	-0.2
GOF	Gofitskoye	7.25	22	*e*P	Pn	00 22 22.0	+6.5
DRGI	Dragot	7.47	206	P	Pn	00 22 18.5	0.0
MASH	Mash‘abbe Sade	8.22	208	P	P	00 22 29.3	+0.2
KZIT	Kziot	8.45	210	P	P	00 22 35.6	+3.4
PRNI	Paran	8.73	205	P	P	00 22 35.3	-0.9
KMTI	Karmit	9.06	206	P	P	00 22 40.2	-0.4
MBH	Mount Berech	9.28	204	P	P	00 22 43.2	-0.5
JMOS	Jabal al Moall	9.80	202	P	P	00 22 49.6	-1.3
JMQS	Jabal Moqyreh	9.87	198	P	P	00 22 50.8	-1.0
HAQS	Haql	9.96	202	P	P	00 22 51.8	-1.4
TBKS	Tabuk	10.37	193	P	P	00 22 57.9	-0.8
HILS	Ha’il	11.16	168	P	P	00 23 06.8	-2.7
IDI	Anoyia	11.91	259	Pn	P	00 23 18.8	-0.9
	comp=E,0.9nm,0.3s,baz=84,slow=14,SNR=7.6						
MLR	Muntele Rosu	12.19	310	Pn	P	00 23 23.9	+0.5
	comp=E,0.1nm,0.3s,baz=269,slow=1.5,SNR=3.8						
MLR				LR	LR	00 29 02.5	
	comp=E,483nm,19.4s,baz=74,slow=42						
AKASG	Malin Array Be	14.23	333	Pn	P	00 23 47.5	-2.9
	comp=E,0.5nm,0.3s,baz=154,slow=12,SNR=9.4						
AKASG	Malin Array Be	14.23	333	P	P	00 23 47.5	-3.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	16.85	355	*e*P	P	00 24 24.1	-0.1
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s						
PSZ	Piszkesteto	17.01	310	*e*P	P	00 24 28.5	+2.2
MOS	Moscow	17.41	357	*e*P	P	00 24 31.2	-0.1
MOS				pmax	pmax		
	comp=Z,32nm,0.8s						
TIP	Timpagrande	17.56	280	*e*P	P	00 24 34.8	+1.5
OJC	Ojcow	18.22	317	*e*P	P	00 24 41.7	+0.3
AB31	Akbulak array	18.41	47	*i* P	P	00 24 42.0	-1.8
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OKC	Ostrava-Krasne	18.93	314	*e*P	P	00 24 54.0	+3.8
OKC				*e*S	S	00 28 24.4	+5.9
SUW	Suwalki	19.12	330	*e*P	P	00 24 51.6	-0.8
	comp=Z,42nm,1.1s						
MORC	Moravsky Berou	19.25	313	*e*P	P	00 24 53.0	-0.9
	comp=Z,5.3nm,0.8s						
ARSA	Arzberg	19.48	305	⇑*i*P	P	00 25 03.2	+6.6
	comp=Z,58nm,2.8s						
VRAC	Vranov	19.59	311	P	P	00 24 56.4	-1.5
	comp=Z,0.4nm,0.3s,baz=104,slow=10,SNR=5.8						
VAE	Valguarnera	19.61	275	LR	LR	00 32 30.6	
	comp=Z,121nm,18.9s,baz=337,slow=37						
AQU	L’Aquila	20.07	290	*e*P	P	00 25 02.8	-0.4
	comp=Z,35nm,1.0s						
DPC	Dobruska-Polom	20.21	314	*e*P	P	00 25 02.9	-1.7
DPC				*e*S	S	00 28 50.3	+3.7
DPC				LM		00 34 30.0	
	comp=Z,0.3nm,10.9s						
KSP	Ksiaz	20.46	315	*e*P	P	00 25 04.8	-2.4
KSP				*e*S	S	00 28 48.0	-3.7
MOA	Molln	20.48	306	⇑*i*P	P	00 25 07.3	-0.2
	comp=Z,27nm,1.2s						
KBA	Koelnbreinsper	20.86	303	⇑*i*P	P	00 25 11.0	-0.3
	comp=Z,40nm,1.3s						
PRU	Pruhonice	21.08	311	*e*P	P	00 25 12.7	-1.0
	comp=Z,33nm,1.3s,mb4.5						
PRU				*e*S	S	00 29 09.1	+5.1
PRU				LM		00 34 40.0	
PRU	Pruhonice	21.08	311	*e*P	P	00 25 12.7	-1.0
PRU				*e*S	S	00 29 09.1	+5.1
PRU				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.5						
GERES	GERESS Array B	21.16	308	P	P	00 25 13.9	-0.6
	comp=Z,7.3nm,1.1s,mb3.9,baz=117,slow=12,SNR=13						
GERES	GERESS Array B	21.16	308	P	P	00 25 13.9	-0.6
GERES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PVCC	Panska Ves	21.29	313	*e*P	P	00 25 15.3	-0.5
PVCC				LM		00 34 40.0	
	comp=Z,0.2nm,15.5s						
KHC	Kasperske Hory	21.34	309	*e*P	P	00 25 14.9	-1.4
KHC				AP		00 25 20.5	
KHC				LM		00 34 00.0	
	comp=Z,0.2nm,22.9s						
KHC	Kasperske Hory	21.34	309	*e*P	P	00 25 14.9	-1.4
KHC				*e*		00 25 20.5	
KHC				LR	LR		
	comp=Z,200nm,22.9s,MS3.5						
BRG	Berggiesshubel	21.80	313	*e*P	P	00 25 21.6	+0.7
BRG				pmax	pmax		
	comp=Z,90nm,2.6s,mb4.7						
BRG	Berggiesshubel	21.80	313	*e*P	P	00 25 21.6	+0.7
	comp=Z,90nm,2.6s,mb4.7						
WTTA	Wattenberg	22.03	303	⇑*i*P	P	00 25 26.3	+3.1
	comp=Z,19nm,1.3s,mb4.4						
ARU	Arti	22.16	29	⇑*i*P	P	00 25 24.0	-0.5
ARU				*i*		00 25 50.2	
ARU				*e*S	S	00 29 27.4	+3.2
ARU				*e*SS	SS	00 30 02.0	-1.1
ARU				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
ARU				MLR	MLR		
	comp=N,80nm,16.0s,MS3.4						
ARU				MLR	MLR		
	comp=E,100nm,16.0s,MS3.4						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
ARU	Arti	22.16	29	*e*P	P	00 25 23.2	-1.3
	comp=Z,11nm,0.8s,mb4.3						
SQTA	Sankt Quirin	22.30	302	⇓*i*P	P	00 25 27.4	+1.4
	comp=Z,36nm,1.8s,mb4.5						
MOTA	Moosalm	22.40	303	⇑*i*P	P	00 25 25.8	-1.1
	comp=Z,8.5nm,1.0s,mb4.1						
NKC	Novy Kostel	22.42	311	*e*P	P	00 25 28.0	+0.9
NKC				LM		00 35 00.0	
	comp=Z,0.2nm,19.2s						
CLL	Collm	22.52	314	⇑*i*	P	00 25 34.4	+6.4
CLL				*e*		00 25 45.0	
CLL				*e*S	S	00 29 36.0	+5.3
CLL	Collm	22.52	314	⇑*i*P	P	00 25 34.4	+6.4
CLL				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.4						
CLL	Collm	22.52	314	⇑*i*P	P	00 25 34.4	+6.4
	comp=Z,22nm,1.3s,mb4.4						
MOX	Moxa	23.07	311	*i* P	P	00 25 36.1	+2.7
MOX				S	S	00 29 52.0	+11
MOX				L		00 35 48.0	
MOX	Moxa	23.07	311	*e*P	P	00 25 36.1	+2.7
MOX				LR	LR		
	comp=Z,200nm,22.0s,MS3.5						
DAVOX	Davos	23.10	301	P	P	00 25 34.4	+0.7
	comp=Z,4.4nm,0.7s,mb4.0,baz=135,slow=8.6,SNR=10						
DAVA	Damuels	23.20	302	⇑*i*P	P	00 25 35.0	+0.3
	comp=Z,196nm,3.8s						
KKAR	Karatay Array	24.07	69	*i* P	P	00 25 43.5	+0.3
KKAR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
FINES	FINESS Array B	24.51	345	P	P	00 25 48.0	+0.7
	comp=Z,3.4nm,0.7s,mb4.0,baz=158,slow=10,SNR=17						
FINES				LR	LR	00 36 29.5	
	comp=Z,132nm,21.8s,MS3.4,baz=349,slow=39						
FINES	FINESS Array B	24.51	345	P	P	00 25 48.0	+0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,132nm,21.8s						
FINES	FINESS Array B	24.51	345	P	P	00 25 48.0	+0.7
FINES				LR	LR	00 36 29.5	
MBDF	Montbardon	25.02	295	*e*P	P	00 25 53.6	+1.3
	comp=Z,15nm,0.8s,mb4.3						
LPG	La Plagne	25.08	297	*e*P	P	00 25 53.6	+0.6
	comp=Z,20nm,0.9s,mb4.3						
LPL	La Plagne	25.10	297	*e*P	P	00 25 53.0	-0.1
	comp=Z,58nm,1.6s,mb4.6						
CDF	Champ du Feu	25.15	304	*e*P	P	00 25 53.2	-0.4
ZRNK	Zerenda	25.16	45	P	P	00 25 54.2	+0.5
ZRNK				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.3						
ZRNK	Zerenda	25.16	45	*e*P	P	00 25 54.1	+0.5
	comp=Z,19nm,1.5s,mb4.4						
HINF	Hinteralfeld	25.32	302	*e*P	P	00 25 55.4	+0.3
	comp=Z,33nm,1.2s,mb4.4						
CABF	La Chapelle	25.66	299	*e*P	P	00 25 58.2	-0.2
	comp=Z,27nm,1.0s,mb4.4						
HAU	Haudompre	25.68	303	*e*P	P	00 25 57.9	-0.7
HAU				*e*R			
	comp=Z,143nm,21.8s						
BRVK	Borovoye	25.92	45	*e*P	P	00 26 02.7	+2.0
	comp=Z,1.4nm,0.6s,mb3.7						
BVA0	Borovoye Array	25.96	46	*e*P	P	00 26 01.1	-0.1
BVAR	Borovoye Array	25.96	46	P	P	00 26 01.2	0.0
	comp=Z,4.9nm,1.1s,mb4.0,baz=211,slow=8.6,SNR=12						
BVAR				PcP	PcP	00 29 29.8	-0.6
	comp=Z,0.8nm,0.7s,baz=243,slow=3.3,SNR=4.0						
VOSK	Vostochnaya	26.19	46	P	P	00 26 02.7	-0.6
VOSK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.1						
VIVF	Saint-Julien-l	26.51	295	*e*P	P	00 26 06.7	+0.4
	comp=Z,35nm,1.3s,mb4.4						
MEZF	Maizieres J’vi	26.62	303	*e*P	P	00 26 06.4	-0.9
FRU	Bishkek	27.09	69	*e*P	P	00 26 13.0	+1.4
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.7						
HFS	Hagfors	27.12	332	P	P	00 26 14.0	+2.4
	comp=Z,4.3nm,0.8s,mb4.1,baz=130,slow=12,SNR=9.5						
HFS	Hagfors	27.12	332	P	P	00 26 14.0	+2.3
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SMF	Signal de Mont	27.20	299	*e*P	P	00 26 12.6	0.0
SSF	Saint Saulge	27.47	300	*e*P	P	00 26 16.1	+1.1
AVF	Avril sur Loir	27.55	299	*e*P	P	00 26 15.1	-0.7
	comp=Z,13nm,1.0s,mb4.2						
NOA	NORSAR Array B	28.64	331	P	P	00 26 30.1	+4.6
	comp=Z,0.9nm,0.7s,mb3.6,baz=127,slow=6.7,SNR=3.8						
NOA				LR	LR	00 39 31.6	
	comp=Z,124nm,21.6s,MS3.5,baz=90,slow=40						
NOA	NORSAR Array B	28.64	331	P	P	00 26 30.1	+4.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,124nm,21.6s						
KURK	Kurchatov	30.29	53	*e*P	P	00 26 40.2	-0.2
	comp=Z,8.3nm,0.8s,mb4.5						
ARCES	ARCESS Array B	32.09	351	P	P	00 26 56.3	+0.3
	comp=Z,2.9nm,0.8s,mb4.2,baz=164,slow=8.8,SNR=7.5						
ARCES				LR	LR	00 40 24.9	
	comp=Z,236nm,21.2s,MS3.9,baz=269,slow=37						
ARCES	ARCESS Array B	32.09	351	P	P	00 26 56.3	+0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,236nm,21.2s						
MKAR	Makanchi Array	32.45	61	P	P	00 26 59.7	+0.4
	comp=Z,3.4nm,0.8s,mb4.2,baz=274,slow=7.1,SNR=10						
MKAR				PcP	PcP	00 29 45.8	-0.9
	comp=Z,1.4nm,0.8s,baz=270,slow=1.2,SNR=4.6						
MKAR				LR	LR	00 42 13.7	
	comp=Z,93nm,21.6s,MS3.4,baz=176,slow=40						
MKAR	Makanchi Array	32.45	61	P	P	00 26 59.7	+0.4
MKAR						00 29 45.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,93nm,21.6s						
ESDC	Sonseca Array	33.37	286	P	P	00 27 06.8	-0.6
	comp=Z,1.3nm,0.7s,mb4.0,baz=67,slow=9.3,SNR=5.9						
ESDC				LR	LR	00 42 05.8	
	comp=Z,45nm,18.9s,MS3.2,baz=170,slow=39						
NVS	Novosibirsk	33.75	46	*e*P	P	00 27 10.3	-0.3
NVS				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6						
NVS				pmax	pmax		
	comp=N,14nm,1.9s						
WMQ	Urumqi	36.49	66	⇓P	P	00 27 35.0	+0.9
WMQ				AP	pP	00 27 39.0	+3.8
WMQ				XP	sP	00 27 42.0	+6.3
WMQ				PP	PP	00 28 59.0	+1.1
WMQ				S	S	00 33 16.0	-0.1
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
WMQ				LR	LR		
	comp=N,128nm,21.0s,MS3.8						
WMQ				LR	LR		
	comp=E,76nm,19.2s,MS3.8						
KMBO	Kilima Mbogo	39.34	183	LR	LR	00 44 11.5	
	comp=E,60nm,19.9s,MS3.4,baz=96,slow=36						
ZAK	Zakamensk	45.95	53	⇓*e*P	P	00 28 52.4	+0.7
GTA	Gaotai	46.35	69	*e*P	P	00 28 55.6	+0.6
GTA				AP	pP	00 29 00.0	+3.9
GTA				XP	sP	00 29 03.3	+6.7
GTA				AMB	AMB		
	comp=Z,2.0nm,1.4s,mb3.9						
SONM	Songino Array	48.51	56	P	P	00 29 11.5	-0.3
	comp=Z,1.0nm,0.7s,mb4.0,baz=275,slow=8.4,SNR=6.9						
BOD	Bodaibo	50.74	42	*e*P	P	00 29 26.5	-2.3
DBIC	Dimbokro	50.81	243	P	P	00 29 28.6	-1.3
	comp=Z,3.6nm,0.6s,mb4.5,baz=13,slow=10.0,SNR=12						
DBIC				PcP	PcP	00 30 45.3	-1.7
	comp=Z,1.0nm,0.5s,SNR=4.1						
DBIC	Dimbokro	50.81	243	P	P	00 29 28.6	-1.3
DBIC						00 30 45.3	
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LIC	Lamto	51.24	243	*e*P	P	00 29 31.4	-1.8
	comp=Z,18nm,0.8s,mb4.7						
FRB	Frobisher Bay	63.46	332	LR	LR	00 57 46.4	
	comp=Z,56nm,21.2s,MS3.7,baz=185,slow=35						
SCHQ	Schefferville	67.78	323	P	P	00 31 26.4	-0.4
	comp=Z,2.0nm,0.6s,mb4.3,baz=85,slow=8.6,SNR=5.6						
SCHQ				LR	LR	01 02 20.4	
	comp=Z,32nm,18.9s,MS3.6,baz=7.6,slow=37						
YKA	Yellowknife Ar	77.30	348	LR	LR	01 07 47.8	
	comp=Z,40nm,18.4s,MS3.8,baz=40,slow=37						
ULM	Lac du Bonnet	83.32	333	P	P	00 32 55.3	+0.2
	comp=Z,1.6nm,0.5s,mb4.3,baz=70,slow=5.4,SNR=3.2						
ULM				LR	LR	01 13 34.2	
	comp=Z,55nm,18.6s,MS4.0,baz=34,slow=38						
PDAR	Pinedale Array	94.42	338	LR	LR	01 17 56.8	
	comp=Z,76nm,20.4s,MS4.2,baz=74,slow=36						

DJA 14 00:22:25.7±0.9,9.21S×113.78E,h52^{km}±30^{km},MD4.7/4, ML4.4/3,1C-7D,Error ellipse: s-maj=37.3km s-min=15.6km az=24.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	1.21	36	⇓*i*Pn	P	00 22 45.6	-1.0
	482nm,0.2s						
KELI				⇓*i*Sn	S	00 23 00.7	-1.5
INGI	Ingas	1.41	74	⇓*i*Pn	P	00 22 49.0	-0.5
INGI				⇓*i*Sn	S	00 23 04.0	-3.1
RATI	Rata	1.80	75	⇓*i*Pn	P	00 22 53.4	-1.5
	392nm,0.2s						
RATI				⇓*i*Sn	S	00 23 14.1	-2.5
KEDI	Kedomdong	2.42	73	⇑*i*Pn	P	00 23 02.1	-1.6
	102nm,0.2s						
KEDI				⇓*i*Sn	S	00 23 29.7	-2.4

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*NEIC **14** 00:37:47.8±3.0,36.39N×71.62E,h112^{km}±27^{km},mb4.0/4, Error ellipse: s-maj=19.6km s-min=12.6km az=186.0*

*BJI **14** 00:37:48.3,36.39N×71.61E,h111^{km},mb4.2*

*MOS **14** 00:37:50.9±0.9,36.46N×71.58E,h153^{km},mb3.9/11,Error ellipse: s-maj=23.8km s-min=13.8km az=113.8*

*IDC **14** 00:37:50.4±5.3,36.39N×71.59E,h136^{km}±47^{km},mb3.6/14, mb1 3.8/16,mb1mx3.7/24,Error ellipse: s-maj=26.6km s-min=16.6km az=14.0*

*NNC **14** 00:37:52.8±3.9,36.85N×70.30E,h158^{km}±35^{km},mpv5.3, Error ellipse: s-maj=36.7km s-min=26.7km az=49.0*

ISC 14 00:37:44.0±0.9,36.26N±0.04×71.48E±0.09,h97^{km}±9^{km}, n73,σ1^{s}14/81,mb3.9/17,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	Jammu	4.52	140	*e*S	S	00 39 46.5	+3.2

KSH	**Kashi**	4.82	46	*e*P	P	00 38 58.5	+2.8
KSH				S	S	00 39 50.8	+0.1
DLH	**Dalhousie**	5.24	134	*e*P	P	00 39 01.0	-0.4
DLH				*e*S	S	00 40 00.0	-1.1
PONG	**Pong**	5.67	138	*e*P	P	00 39 13.0	+5.8
PONG				*e*		00 40 15.0	
AML	**Almayashu**	6.12	16	P	P	00 39 13.5	+0.2
	SNR=369						
UCH	**Uchtor**	6.41	21	P	P	00 39 17.8	+0.3
	SNR=73						
KZA	**Kyzart**	6.51	26	P	P	00 39 19.9	+1.1
	SNR=6.0						
SDNR				*e*S	S	00 40 33.0	-1.0
EKS2	**Erkin-Say**	6.64	15	P	P	00 39 20.6	-0.1
	SNR=131						
AAK	**Ala-Archa**	6.78	19	P	P	00 39 23.0	+0.3
	SNR=38						
KK31	**Karatay Array**	6.88	354	⇓P	P	00 39 22.5	-1.5
	100nm,0.4s,baz=180,slow=12,SNR=1641						
KK31				⇑S	S	00 40 34.1	-7.2
	11nm,0.3s,baz=188,slow=24,SNR=8.9						
KBK	**Karagaybulak**	6.93	22	P	P	00 39 25.4	+0.7
	SNR=17						
SMLA	**Simla**	6.97	136	⇑*i*P	P	00 39 37.1	+12
SMLA				*i* S	S	00 40 50.7	+7.2
ULHL	**Ulahol**	7.03	30	P	P	00 39 26.1	+0.1
	SNR=9.5						
CHMS	**Chumysh**	7.19	20	P	P	00 39 28.0	-0.2
	SNR=25						
TKM2	**Tokmak 2**	7.38	24	P	P	00 39 31.1	+0.3
	SNR=62						
USP	**Ospenovka**	7.38	17	P	P	00 39 30.0	-0.8
	SNR=46						
DDI	**Dehra Dun**	8.08	135	*e*P	P	00 39 42.1	+1.8
DDI				*e*		00 41 11.2	
NDI	**New Delhi**	8.97	146	*e*	P	00 39 50.0	-2.3
NDI				*e*S	S	00 41 25.0	-7.4
PTH	**Pithoragarh**	9.93	130	*e*P	P	00 40 06.8	+1.5
PTH				*e*S	S	00 41 51.2	-4.3
LGTI	**Lohaghat**	10.02	130	*e*P	P	00 40 08.5	+2.0
LGTI				*e*		00 41 56.5	
AJM	**Ajmer**	10.11	164	*e*S	S	00 41 55.0	-5.0
MKAR	**Makanchi Array**	13.27	34	P	P	00 40 49.6	+0.1
	0.2nm,0.3s,baz=222,slow=15,SNR=7.8						
KOLN	**Koldanda**	13.31	126	*e*P	P	00 40 50.4	+0.3
	20nm,0.6s						
GKN	**Gorkha**	13.85	123	*e*P	P	00 40 56.8	-0.3
	27nm,0.4s						
DMN	**Daman**	14.42	123	*e*P	P	00 41 03.4	-1.1
	19nm,0.4s						
KKN	**Kakani**	14.42	122	*e*P	P	00 41 03.4	-1.1
	21nm,0.5s						
PKI	**Pulchoki**	14.65	122	*e*P	P	00 41 06.6	-0.8
	26nm,0.6s						
KURK	**Kurchatov**	15.34	17	⇓P	P	00 41 18.2	+2.1
	2.7nm,1.0s,baz=225,slow=10,SNR=13						
KURK	**Kurchatov**	15.34	17	*e*P	P	00 41 16.5	+0.4
	4.1nm,0.8s						
AB31	**Akbulak array**	15.49	331	⇓P	P	00 41 12.0	-6.0
	5.4nm,0.3s,baz=139,slow=13,SNR=381						
AB31				⇑S	S	00 43 51.3	-16
	2.7nm,0.5s,baz=151,slow=24,SNR=6.6						
VOSK	**Vostochnaya**	16.47	359	⇑P	P	00 41 26.5	-3.7
	8.1nm,0.9s						
ZRNK	**Zerenda**	16.79	355	⇓P	P	00 41 30.6	-3.5
	6.4nm,1.1s						
ZRNK	**Zerenda**	16.79	355	*e*P	P	00 41 30.9	-3.3
	4.3nm,0.5s						
BVA0	**Borovoye Array**	16.79	358	⇑P	P	00 41 30.3	-3.9
	0.5nm,0.5s,baz=173,slow=7.7,SNR=50						
BVAR	**Borovoye Array**	16.79	358	P	P	00 41 31.5	-2.6
	0.8nm,0.3s,baz=166,slow=12,SNR=22						
BVAR				S	S	00 44 29.2	-7.2
	0.3nm,0.3s,baz=168,slow=21,SNR=3.3						
BRVK	**Borovoye**	16.82	358	*e*P	P	00 41 31.4	-3.2
	5.1nm,0.6s						
SHL	**Shillong**	20.45	116	*e*P	P	00 42 15.0	-0.8
GNI	**Garni**	21.34	289	P	P	00 42 28.3	+3.7
	3.6nm,0.5s,mb3.9,baz=207,slow=11,SNR=4.1						
GNI	**Garni**	21.34	289	P	P	00 42 28.3	+3.7
GNI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	21.99	341	*e*P	P	00 42 30.9	-0.1
ARU	**Arti**	21.99	341	*e*P	P	00 42 28.3	-2.7
	comp=Z,16nm,1.2s,mb4.2						
GTA	**Gaotai**	22.56	73	*e*P	P	00 42 41.1	+4.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.8						
SONM	**Songino Array**	28.16	55	P	P	00 43 30.0	+0.9
	comp=Z,0.4nm,0.4s,mb3.3,baz=264,slow=9.7,SNR=3.6						
BRTR	**Keskin Array B**	29.88	288	P	P	00 43 45.5	+1.0
	comp=Z,0.5nm,0.8s,mb3.2,baz=284,slow=20,SNR=3.4						
BRTR	**Keskin Array B**	29.88	288	P	P	00 43 45.5	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	33.40	309	P	P	00 44 14.7	-0.4
	comp=Z,1.9nm,0.6s,mb4.1,baz=79,slow=6.7,SNR=4.5						
AKASG	**Malin Array Be**	33.40	309	P	P	00 44 14.7	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MLR	**Muntele Rosu**	35.24	300	P	P	00 44 32.8	+1.9
	comp=Z,1.9nm,0.8s,mb4.0,baz=162,slow=9.6,SNR=2.6						
MLR	**Muntele Rosu**	35.24	300	P	P	00 44 32.8	+2.0
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	37.90	326	P	P	00 44 53.3	+0.3
	comp=Z,1.4nm,0.4s,mb4.1,baz=125,slow=10,SNR=40						
FINES	**FINESS Array B**	37.90	326	P	P	00 44 53.3	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CN2	**Changchun**	41.38	62	*e*P	P	00 45 22.5	+0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	41.52	338	P	P	00 45 23.4	+0.7
	comp=Z,4.3nm,0.9s,mb4.2,baz=114,slow=7.9,SNR=13						
ARCES	**ARCESS Array B**	41.52	338	P	P	00 45 23.4	+0.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	41.52	338	P	P	00 45 23.4	+0.7
HFS	**Hagfors**	43.50	322	P	P	00 45 39.1	+0.1
	comp=Z,3.6nm,0.4s,mb4.5,baz=98,slow=10,SNR=37						
HFS	**Hagfors**	43.50	322	P	P	00 45 39.1	+0.1
HFS				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NB2	**NORSAR Subarra**	44.81	323	P	P	00 45 49.1	-0.4
	comp=Z,2.5nm,0.4s,mb4.3,baz=97,slow=7.9						
NOA	**NORSAR Array B**	44.81	323	P	P	00 45 49.4	-0.2
	comp=Z,2.2nm,0.4s,mb4.2,baz=96,slow=7.7,SNR=15						
NOA	**NORSAR Array B**	44.81	323	P	P	00 45 49.4	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSZ	**Lusaka**	65.57	227	P	P	00 48 19.8	-0.1
INK	**Inuvik**	74.08	9	P	P	00 49 10.7	0.0
	comp=Z,2.0nm,0.7s,mb3.9,baz=357,slow=4.5,SNR=5.4						
INK	**Inuvik**	74.08	9	P	P	00 49 10.7	+0.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	74.91	16	P	P	00 49 14.4	-1.0
	comp=Z,0.8nm,0.9s,mb3.4,baz=320,slow=4.3,SNR=6.1						
ILAR	**Eielson Array**	74.91	16	P	P	00 49 14.4	-1.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	81.47	3	P	P	00 49 51.5	+0.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=350,slow=5.5,SNR=9.1						
YKA	**Yellowknife Ar**	81.47	3	P	P	00 49 51.5	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	81.47	3	P	P	00 49 51.5	+0.1
WRA	**Warramunga Arr**	81.53	122	P	P	00 49 52.6	0.0
	comp=Z,0.9nm,0.8s,mb3.6,baz=321,slow=5.4,SNR=3.0						
WRA	**Warramunga Arr**	81.53	122	P	P	00 49 52.6	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	81.53	122	P	P	00 49 52.4	-0.2
ASAR	**Alice Springs**	83.80	125	P	P	00 50 04.6	+0.6
	comp=Z,0.7nm,0.6s,mb3.6,baz=314,slow=5.4,SNR=10						

*STR **14** 00:56:56.9±0.3, 45.95N×2.83E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 14 00:56:56.8±0.0**, 45.96N×2.81E, h2**^{km}**, Md2.5**/3**, Ml2.3**/19**, Error ellipse: s-maj=0.8km s-min=0.7km az=105.0, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGO	**Saint Agoulin**	0.25	66	Pg	Pg	00 57 01.8	+0.1
AGO				Sg	Sg	00 57 05.3	+0.3
PYM	**Petit Puy Mans**	0.25	145	Pg	Pg	00 57 01.8	0.0
PYM				Sg	Sg	00 57 05.3	+0.2
TCF	**Toulx Ste Croi**	0.53	309	*e*Pg	Pg	00 57 07.0	-0.4
TCF				*e*Sg	Sg	00 57 14.0	-0.6
	5.2nm,0.1s						
PLDF	**La Plantade**	0.57	88	Pg	Pg	00 57 07.7	-0.4
PLDF				Sg	Sg	00 57 15.2	-0.5
BGF	**Bois d'Agland**	0.60	3	*e*Pg	Pg	00 57 08.5	-0.4
BGF				*e*Sg	Sg	00 57 16.2	-0.7
	17nm,0.3s						
COLF	**Collangettes**	0.76	125	Pg	Pg	00 57 11.2	-0.8
COLF				Sg	Sg	00 57 21.8	-0.3
LBL	**Lubilhac**	0.79	157	Pg	Pg	00 57 11.9	-0.6
LBL				Sg	Sg	00 57 22.2	-0.8
AVF	**Avril sur Loir**	0.92	24	*e*Pg	Pg	00 57 14.0	-1.1
AVF				*e*Sg	Sg	00 57 25.1	-2.2
	8.3nm,0.3s						
SMF	**Signal de Mont**	0.99	46	*e*Pg	Pg	00 57 15.5	-1.2
SMF				*e*Sg	Sg	00 57 28.6	-1.3
	7.3nm,0.2s						
RJF	**Les Rejaudoux**	1.11	235	*e*Pg	Pg	00 57 17.8	-1.3
RJF				*e*Sg	Sg	00 57 31.7	-2.2
	7.1nm,0.3s						
CAF	**Calviac**	1.15	207	*e*Pg	Pg	00 57 18.4	-1.4
CAF				*e*Sg	Sg	00 57 33.3	-1.9
	6.6nm,0.2s						
SSF	**Saint Saulge**	1.21	23	*e*Pg	Pg	00 57 19.4	-1.5
SSF				*e*Sg	Sg	00 57 34.9	-2.1
	8.7nm,0.2s						
HYF	**Humbligny**	1.32	355	*e*Pg	Pg	00 57 21.3	-1.8
HYF				*e*Sg	Sg	00 57 38.3	-2.4
LOR	**Lormes**	1.50	28	*e*Pg	Pg	00 57 24.8	-2.0
LOR				*e*Sg	Sg	00 57 43.9	-2.9
	10.0nm,0.2s						
VIVF	**Saint-Julien-l**	1.71	129	*e*Pg	Pg	00 57 28.5	-2.5
VIVF				*e*Sg	Sg	00 57 50.4	-3.4
	1.7nm,0.2s						
LFF	**La Frestale**	1.77	236	*e*Pg	Pg	00 57 29.8	-2.4
LFF				*e*Sg	Sg	00 57 52.2	-3.7
	5.5nm,0.4s						
LASF	**Ste Croix**	2.02	158	*e*Pg	Pg	00 57 34.1	-3.0
LASF				*e*Sg	Sg	00 57 59.6	-4.5
	3.0nm,0.3s						
MFF	**Saint Martin d**	2.15	289	*e*Pn	Pn	00 57 32.3	-1.8
MFF				*e*Pg	Pg	00 57 37.0	-2.7
MFF				*e*Sg	Sg	00 58 02.9	-5.4
	3.1nm,0.2s						
CABF	**La Chapelle**	2.37	73	*e*Pn	Pn	00 57 34.5	-2.7
CABF				*e*Pg	Pg	00 57 40.9	-3.2
CABF				*e*Sg	Sg	00 58 10.6	-5.0
	1.6nm,0.3s						
ORIF	**Oris-en-Rattie**	2.40	115	*e*Sg	Sg	00 58 11.4	-5.3
	1.5nm,0.3s						
MTLF	**Montolieu**	2.65	189	*e*Pg	Pg	00 57 45.9	-3.7
MTLF				*e*Sg	Sg	00 58 19.2	-5.7
	2.3nm,0.3s						
LPL	**La Plagne**	2.78	98	*e*Sg	Sn	00 58 23.1	+5.3
	1.3nm,0.3s						
LPG	**La Plagne**	2.80	98	*e*Pn	Pn	00 57 41.2	-2.2
MEZF	**Maizieres J'vi**	2.97	30	*e*Pg	Pg	00 57 51.8	-4.3
MEZF				*e*Sg	Sn	00 58 29.6	+7.0
	4.6nm,0.4s						
HAU	**Haudompre**	3.17	48	*e*Pg	Pg	00 57 55.6	-4.6
HAU				*e*Sg	Sn	00 58 36.5	+8.8
	2.4nm,0.3s						
HINF	**Hinteralfeld**	3.34	55	*e*Pg	Pg	00 57 58.8	-4.7
EPF	**Esparros**	3.42	212	*e*Pn	Pn	00 57 49.0	-3.2
EPF				*e*Sg	Sg	00 58 43.8	-6.7
	1.9nm,0.4s						
GRR	**Gorron**	3.49	316	*e*Sg	Sg	00 58 45.7	-7.3
	0.5nm,0.2s						
FLN	**La Foliniere**	3.59	323	*e*Pn	Pn	00 57 51.2	-3.5

*ZUR **14** 01:16:38.5, 45.65N×6.91E, h7^{km}, ML1.3/2*

LDG 14 01:16:37.7±0.2**, 45.58N×6.87E, h2**^{km}**, Md2.0**/2**, Ml2.0**/9**, 3C, Error ellipse: s-maj=3.0km s-min=1.4km az=74.0, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	0.12	239	*e*Pg	Pg	01 16 40.3	+0.3
LPL				*e*Sg	Sg	01 16 42.2	+0.6
	76nm,0.3s						
LPG	**La Plagne**	0.12	227	*e*Pg	Pg	01 16 40.5	+0.5
LPG				*e*Sg	Sg	01 16 42.3	+0.7
	100nm,0.2s						
EMV	**Vieux Emosson**	0.49	2	⇑*i*Pg	Pg	01 16 46.8	-0.6
	1.0nm,0.5s						
EMV				*i* Sg	Sg	01 16 52.8	-1.1
	1.0nm,0.5s						
SALAN	**Lac Salanfe**	0.57	7	⇑*i*Pg	Pg	01 16 48.3	-0.8
SALAN				*e*Sg	Sg	01 16 55.5	-1.2
DIX	**Grande Dixence**	0.63	37	*e*Pg	Pg	01 16 49.4	-0.9
	0.7nm,0.6s						
GRYON	**Gryon**	0.69	14	⇑*i*Pg	Pg	01 16 50.6	-1.0
AIGLE	**Aigle**	0.77	4	*e*Pg	Pg	01 16 52.1	-0.9
SENIN	**Lac Senin**	0.84	21	*e*Pg	Pg	01 16 53.5	-1.0
MBDF	**Montbardon**	0.85	185	*e*Pg	Pg	01 16 53.8	-0.9
MBDF				*e*Sg	Sg	01 17 04.8	-1.3
	6.0nm,0.2s						
ORIF	**Oris-en-Rattie**	0.96	227	*e*Pg	Pg	01 16 56.3	-0.6
ORIF				*e*Sg	Sg	01 17 09.3	-0.4
	5.7nm,0.3s						
CABF	**La Chapelle**	1.17	332	*e*Pg	Pg	01 17 00.0	-1.1
CABF				*e*Sg	Sg	01 17 15.5	-1.2
	3.5nm,0.2s						
VIVF	**Saint-Julien-l**	1.71	246	*e*Pg	Pg	01 17 09.5	-2.4
VIVF				*e*Sg	Sg	01 17 32.0	-2.8
	2.8nm,0.4s						
FRF	**La Foret Royal**	2.02	185	*e*Pg	Pg	01 17 15.1	-3.0
FRF				*e*Sg	Sg	01 17 41.4	-3.6
	1.9nm,0.4s						
LMR	**La Mourre**	2.26	187	*e*Pn	Pn	01 17 14.2	-2.4
LMR				*e*Sg	Sg	01 17 48.6	-4.3
	1.2nm,0.2s						
SMF	**Signal de Mont**	2.36	298	*e*Sg	Sg	01 17 51.7	-4.7
	2.6nm,0.2s						
LOR	**Lormes**	2.69	310	*e*Pn	Pn	01 17 21.3	-1.4
LOR				*e*Pg	Pg	01 17 27.6	-3.7
LOR				*e*Sg	Sg	01 18 00.5	-6.6
	1.5nm,0.3s						
AVF	**Avril sur Loir**	2.73	298	*e*Pn	Pn	01 17 20.7	-2.6
AVF				*e*Sn	Sn	01 17 49.9	-7.5
AVF				*e*Sg	Sg	01 18 02.9	-5.7
	0.8nm,0.3s						
SSF	**Saint Saulge**	2.77	304	*e*Pn	Pn	01 17 19.0	-4.8
SSF				*e*Sg	Sg	01 18 04.6	-5.2
	0.8nm,0.2s						

*IAG **14** 01:55:42, 34.87N×3.89W, h6^{km}, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.41; $M_{\theta\theta}$0.07; $M_{\phi\phi}$0.33; $M_{r\theta}$-0.26; $M_{\theta\phi}$-0.21; $M_{\phi r}$0.05; Best double couple: M_0.504×10^{15} NP1:ϕ_s129°, δ60°, λ-115°. NP2:ϕ_s352°, δ38°, λ-53°. Principal axes: T .523, Plg12°, Azm237°; N -.0412, Plg22°, Azm142°; P -.482, Plg65°, Azm353°;*

*IDC **14** 01:55:42.9±2.0, 35.08N×3.99W, mb3.7/7, mb1 3.9/9, mb1mx3.6/26, ML3.7/2 Error ellipse: s-maj=38.6km s-min=36.1km az=8.0*

*ZUR_RM **14** 01:55:42, 34.87N×3.89W, h12^{km}, Mw4.0/9, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.02; $M_{\theta\theta}$0.19; $M_{\phi\phi}$0.83; $M_{r\theta}$-0.09; $M_{\theta\phi}$-0.46; $M_{\phi r}$-0.39; Best double couple: $M_0$1.12×10^{15} NP1:ϕ_s345°, δ55°, λ-74°. NP2:ϕ_s139°, δ38°, λ-111°. Principal axes: T 1.12, Plg8°, Azm64°; N .009, Plg13°, Azm156°; P -1.129, Plg75°, Azm302°;*

*NEIC **14** 01:55:42.4, 34.87N×3.89W, mb4.5/4, After MDD.*

*MDD **14** 01:55:43.2±1.2, 34.92N×3.89W, mb4.1/16, Error ellipse: s-maj=12.9km s-min=5.3km az=3.0, PRXIMO AftershockPLICA*

*LDG **14** 01:55:45.3±0.4, 34.86N×3.96W, h10^{km}, Ml3.1/1, Error ellipse: s-maj=7.2km s-min=4.3km az=179.0*

*INMG **14** 01:55:46.0±1.1, 34.79N×3.86W, h30^{km}±18^{km}, Mb4.5, ML2.9, Error ellipse: s-maj=12.4km s-min=3.8km az=170.0*

*IGIL **14** 01:55:49.2, 35.00N×4.00W, h2^{km}, ML3.5*

ISC 14 01:55:44.5±0.6**, 35.24N**±0.04×**3.91W**±0.03**, h10**^{km}**, n74,** σ1^{s}**21**/120**, mb4.0**/9**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	0.78	85	P	Pg	01 55 58.8	-1.4
	2µm,0.2s,SNR=7.9						
EMEL				S	Sg	01 56 10.3	-0.4
	17µm,0.6s,SNR=7.9						
EMIJ	**Mijas**	1.50	332	P	Pn	01 56 12.5	+0.9
	17nm,0.3s,SNR=7.9						
EMIJ				S	Sb	01 56 36.5	+5.5
	90nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	1.50	332	P	Pn	01 56 12.5	+0.9
EMIJ				S	Sb	01 56 34.4	+3.5
REAL	**Reales**	1.63	320	P	Pn	01 56 14.0	+0.5
REAL				S	Sn	01 56 35.0	+0.3
ERON	**Agron**	1.78	3	P	Pn	01 56 16.7	+1.0
	12nm,0.5s,SNR=7.9						
ERON				S	Sn	01 56 44.6	+6.1
	50nm,0.6s,SNR=7.9						
ELOJ	**Sierra Loja**	1.92	354	P	Pn	01 56 19.0	+1.5
	12nm,0.6s,SNR=7.9						
ELOJ				S	Sn	01 56 47.7	+5.7
	28nm,0.4s,SNR=7.9						
LIJA	**Lijar**	2.06	324	P	Pn	01 56 24.0	+4.4
LIJA				S	Sn	01 56 57.0	+11
CNIL	**Conil**	2.08	304	P	Pn	01 56 25.5	+5.6
ESPR	**Espera**	2.27	317	P	Pn	01 56 25.4	+2.8
	35nm,0.6s,SNR=7.9						
ESPR				S	Sn	01 56 55.3	+4.4
	SNR=7.9						
ELUQ	**Luque**	2.34	353	P	Pn	01 56 27.6	+4.0
	SNR=7.9						
ELUQ				S	Sn	01 56 60.0	+7.3
	SNR=7.9						
EQES	**Quesada**	2.65	15	P	Pn	01 56 30.9	+2.9
	56nm,0.5s,SNR=7.9						
EQES				S	Sn	01 57 07.4	+6.8
	SNR=7.9						
EADA	**Adamuz**	2.98	350	P	Pn	01 56 34.7	+2.1
	19nm,0.5s,SNR=7.9						
EADA				S	Sn	01 57 13.3	+4.5
	0.6nm,1.0s,SNR=7.9						
EADA	**Adamuz**	2.98	350	P	Pn	01 56 34.7	+2.1
EADA				S	Sn	01 57 14.9	+6.2
EMIN	**Mina Concepcio**	3.37	319	P	Pn	01 56 38.9	+0.6
	4.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	01 57 20.0	+1.3
	SNR=7.9						
EMUR	**La Murta**	3.38	39	P	Pn	01 56 39.4	+1.0
	8.2nm,0.4s,SNR=7.9						
EMUR				S	Sn	01 57 17.2	-1.7
	SNR=7.9						
EVIA	**Vianos**	3.58	18	P	Pn	01 56 47.1	+5.8
	45nm,0.6s,SNR=7.9						
PALC	**Alcoutim**	3.64	309	*e*Pn	Pn	01 56 42.8	+0.7
PALC				*e*Sn	Sn	01 57 25.1	-0.5
	25nm,0.5s						
PALC	**Alcoutim**	3.64	309	P	Pn	01 56 42.8	+0.7
PALC				S	Sn	01 57 25.1	-0.5
	12nm,0.5s						
EGRO	**El Granado**	3.69	310	P	Pn	01 56 43.0	+0.3
	24nm,0.3s,SNR=7.9						
EGRO				S	Sn	01 57 26.2	-0.5
	9.0nm,1.5s,SNR=7.9						
ETOB	**Tobarra**	3.89	28	P	Pn	01 56 47.4	+1.7
	17nm,0.5s,SNR=7.9						
ETOB				S	Sn	01 57 32.9	+0.9
	SNR=7.9						
PBEJ	**Beja**	4.23	312	*e*Pn	Pn	01 56 50.9	+0.4
PBEJ				*e*Sn	Sn	01 57 39.5	-1.0
	17nm,0.7s						
PBEJ	**Beja**	4.23	312	P	Pn	01 56 50.9	+0.4
PBEJ				S	Sn	01 57 39.5	-1.0
	8.6nm,0.7s						
EBAD	**Badajoz**	4.30	326	P	Pn	01 56 52.0	+0.4
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	01 57 43.0	+0.6
	18nm,1.0s,SNR=7.9						
EBAD	**Badajoz**	4.30	326	P	Pn	01 56 52.0	+0.4
EBAD				S	Sn	01 57 43.0	+0.6
ESDC	**Sonseca Array**	4.43	359	Pn	Pn	01 56 54.6	+1.3
	2.1nm,0.3s,baz=177,slow=12,SNR=22						
ESDC				Sn	Sn	01 57 46.3	+0.7
	0.8nm,0.3s,baz=186,slow=24,SNR=4.8						
ESDC	**Sonseca Array**	4.43	359	P	Pn	01 56 54.6	+1.2
PTEO	**Sao Teotonio**	4.52	302	*e*Pn	Pn	01 56 54.6	0.0
PTEO				*e*Sn	Sn	01 57 45.9	-1.9
	24nm,0.7s						
PTEO	**Sao Teotonio**	4.52	302	P	Pn	01 56 54.6	0.0
PTEO				S	Sn	01 57 45.9	-1.9
	12nm,0.7s						
EBEN	**Beniarda**	4.55	39	P	Pn	01 56 55.5	+0.5
	2.1nm,0.3s,SNR=7.9						
EBEN				S	Sn	01 57 47.3	-1.4
	0.5nm,0.6s,SNR=7.9						
MOE	**Montemor**	4.84	314	*e*Pn	Pn	01 56 59.7	+0.5
MOE				*e*Sn	Sn	01 57 55.5	-0.5
PCBR	**Castelo Branco**	5.40	329	*e*Pn	Pn	01 57 07.8	+0.7
PCBR				*e*Sn	Sn	01 58 09.4	-0.7
	10nm,0.5s						
PCBR	**Castelo Branco**	5.40	329	P	Pn	01 57 07.8	+0.7
PCBR				S	Sn	01 58 09.4	-0.7
	5.2nm,0.5s						
LIS	**Lisbon**	5.45	311	*e*P	Pn	01 57 10.5	+2.8
LIS				*e*S	Sn	01 58 09.9	-1.3
LIS				*e*S	Sn	01 58 09.9	-1.3
LIS				AML	AML	01 58 12.0	
	comp=E,61nm,0.4s						
PLOU	**Loures**	5.55	313	*e*Pn	Pn	01 57 09.3	+0.1
PLOU				*e*Sn	Sn	01 58 11.7	-2.2
	comp=E,16nm,0.7s						
PLOU	**Loures**	5.55	313	P	Pn	01 57 09.3	+0.1
PLOU				S	Sn	01 58 11.7	-2.2
	comp=E,7.8nm,0.7s						
EIBI	**Ibiza**	5.65	46	P	Pn	01 57 09.8	-0.8
	comp=E,5.8nm,0.4s,SNR=7.9						
EIBI				S	Sn	01 58 12.3	-4.1
	comp=E,1.9nm,1.0s,SNR=7.9						
EIBI	**Ibiza**	5.65	46	P	Pn	01 57 08.0	-2.6
EIBI				S	Sn	01 58 12.3	-4.1
PTOM	**Tomar**	5.65	322	*e*Pn	Pn	01 57 11.0	+0.4
PTOM				*e*Sn	Sn	01 58 14.0	-2.4
	comp=E,12nm,0.3s						
PTOM	**Tomar**	5.65	322	P	Pn	01 57 11.0	+0.4
PTOM				S	Sn	01 58 14.0	-2.4
	comp=E,5.8nm,0.3s						
ETOR	**Torete**	5.76	14	P	Pn	01 57 13.6	+1.4
	SNR=7.9						
EMOS	**Mosqueruela**	5.80	27	P	Pn	01 57 14.6	+1.9
	SNR=7.9						
MTE	**Manteigas**	5.90	332	*e*Pn	Pn	01 57 14.7	+0.5
MTE				*e*Sn	Sn	01 58 21.7	-1.0
	comp=E,20nm,0.8s						
MTE	**Manteigas**	5.90	332	P	Pn	01 57 14.7	+0.5
MTE				S	Sn	01 58 21.7	-1.0
	comp=E,9.8nm,0.8s						
MTE	**Manteigas**	5.90	332	*e*P	Pn	01 57 13.3	-0.8
	comp=E,19nm,1.0s						
PVIS	**Viseu**	6.31	331	*e*Pn	Pn	01 57 20.4	+0.5
PVIS				*e*Sn	Sn	01 58 31.2	-1.7
	comp=E,12nm,0.5s						
PVIS	**Viseu**	6.31	331	P	Pn	01 57 20.4	+0.5
PVIS				S	Sn	01 58 31.2	-1.7
	comp=E,6.2nm,0.5s						
PVRL	**Vila Real**	6.73	335	*e*Pn	Pn	01 57 26.2	+0.4
	comp=E,12nm,0.6s						
PBRG	**Braganca**	6.92	342	*e*Pn	Pn	01 57 29.0	+0.5
PBRG				*e*Sn	Sn	01 58 46.8	-1.4
	comp=E,7.9nm,0.6s						
PBRG	**Braganca**	6.92	342	P	Pn	01 57 29.0	+0.5
PBRG				S	Sn	01 58 46.8	-1.4
	comp=E,4.0nm,0.6s						
ECAL	**Calabor**	7.05	343	P	Pn	01 57 30.7	+0.3
	comp=E,0.2nm,0.5s,SNR=7.9						
ECAL				S	Sn	01 58 50.2	-1.2
	comp=E,23nm,0.6s,SNR=7.9						
ELOB	**Lobios**	7.38	335	P	Pn	01 57 34.9	0.0
	SNR=7.9						
ELOB				S	Sn	01 58 56.4	-3.1
	SNR=7.9						
ERUA	**La Rua**	7.58	342	P	Pn	01 57 37.9	+0.2
	SNR=7.9						
ELAN	**Lanestosa**	7.99	3	P	P	01 57 43.0	-0.5
	SNR=7.9						
ETSF	**Etsaut**	8.08	18	*e*Pn	P	01 57 46.6	+1.8
SJPF	**Ste Jean**	8.14	14	*e*Pn	P	01 57 46.8	+1.3

SJPF				*e*Sn	Sn	01 59 16.9	-1.6
	comp=E,1.8nm,0.4s						
EALK	Alkurruntz	8.19	12	P	P	01 57 46.6	+0.4
	SNR=7.9						
EALK	Alkurruntz	8.19	12	P	P	01 57 48.3	+2.1
EPF	Esparros	8.46	22	*e*Pn	P	01 57 50.6	+0.7
EPON	Pontenova	8.46	344	P	P	01 57 53.4	+3.4
	SNR=7.9						
LFF	La Frestale	10.32	19	*e*Pn	P	01 58 16.0	+0.3
CAF	Calviac	10.70	23	*e*Pn	P	01 58 19.2	-1.7
GERES	GERESS Array B	18.81	38	P	P	02 00 05.8	-0.4
	comp=E,0.1nm,0.3s,baz=221,slow=12,SNR=6.4						
KHC	Kasperske Hory	18.93	37	*e*P	P	02 00 08.5	+0.8
EKA	Eskdalemuir Ar	20.11	1	P	P	02 00 19.7	-1.3
	comp=E,0.8nm,0.7s,baz=177,slow=12,SNR=3.8						
VRAC	Vranov	20.60	41	P	P	02 00 25.5	-0.7
	comp=E,4.6nm,1.1s,baz=243,slow=9.6,SNR=3.7						
ARCES	ARCESS Array B	37.96	16	P	P	02 03 03.3	-0.4
	comp=E,0.9nm,0.8s,mb3.6,baz=217,slow=9.0,SNR=3.0						
ARU	Arti	46.55	43	*e*P	P	02 04 12.7	-1.0
	comp=E,9.4nm,0.8s,mb4.8						
ZRNK	Zerenda	52.93	46	*e*P	P	02 05 01.8	-1.0
	comp=E,3.7nm,0.9s,mb4.3						
BRVK	Borovoye	53.66	46	*e*P	P	02 05 06.6	-1.6
	comp=E,6.7nm,1.5s,mb4.3						
BVAR	Borovoye Array	53.73	46	P	P	02 05 07.6	-1.1
	comp=E,0.9nm,0.8s,mb3.8,baz=297,slow=3.2,SNR=3.5						
KURK	Kurchatov	59.27	47	*e*P	P	02 05 46.6	-1.7
	comp=E,3.6nm,0.9s,mb4.4						
MKAR	Makanchi Array	62.96	50	P	P	02 06 11.9	-1.4
	comp=E,1.4nm,0.8s,mb4.1,baz=307,slow=6.1,SNR=7.8						
SONM	Songino Array	76.53	41	P	P	02 07 36.0	-0.2
	comp=E,0.4nm,0.7s,mb3.4,baz=320,slow=11,SNR=3.4						
PDAR	Pinedale Array	76.94	313	P	P	02 07 37.9	-0.8
	comp=E,0.4nm,0.7s,mb3.5,baz=60,slow=7.3,SNR=5.0						

*MOS **14** 02:15:37.1±1.1, 50.85N×155.95E, h141^{km}, mb3.8/9, Error ellipse: s-maj=29.0km s-min=9.6km az=68.5*

*KRSC **14** 02:15:40.5±2.1, 50.68N×156.88E, h107^{km}±5^{km}, ML4.3*

*NEIC **14** 02:15:40.4±0.9, 50.98N×156.09E, h145^{km}±8^{km}, mb4.2/6, Error ellipse: s-maj=11.0km s-min=6.5km az=146.0*

*IDC **14** 02:15:45.1±4.1, 51.08N×156.04E, h189^{km}±39^{km}, mb3.4/18, mb1 3.6/19, mb1mx3.5/24, Error ellipse: s-maj=16.7km s-min=11.7km az=150.0*

ISC 14 02:15:38.1±0.4, 50.78N±0.05×156.28E±0.10, h141^{km}, n77, σ1$\overset{s}{.}$44/107, mb3.8/24, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.14	226	*i* P	P	02 15 55.5	-2.0
SKR				*e*S	S	02 16 09.9	-2.4
SKR	Severo-Kuril's	0.14	226	⇑*i*PN	P	02 15 55.5	-2.0
SKR				*i* S	S	02 16 09.9	-2.4
SKR				pmax	pmax		
	comp=Z,4µm,0.3s						
SKR				pmax	pmax		
	comp=N,3µm,0.2s						
SKR				pmax	pmax		
	comp=E,1µm,0.2s						
SKR				pmax	pmax		
	comp=N,1µm,1.0s						
SKR				pmax	pmax		
	comp=E,1µm,1.0s						
SKR				pmax	pmax		
	comp=Z,2µm,1.0s						
SKR				smax			
	comp=N,3µm,0.5s						
SKR				smax			
	comp=E,3µm,0.4s						
SKR				smax			
	comp=N,5µm,2.0s						
SKR				smax			
	comp=E,5µm,2.0s						
ALID	Alaid	0.47	281	*i* P	P	02 16 01.2	+2.4
ALID				*e*S	S	02 16 17.1	+2.5
PAU	Pauzhetka	0.77	26	*i* P	P	02 16 02.4	+1.9
PAU				*e*S	S	02 16 18.4	+0.7
PAU				Smax			
	comp=E,3µm,1.0s						
MIPR	Malaya Ipel'ka	1.53	11	*i* P	P	02 16 09.9	+2.2
MIPR				*e*S	S	02 16 32.0	+1.6
GRL	Gorelyy	2.10	32	*e*P	P	02 16 16.5	+2.2
GRL				*e*S	S	02 16 38.8	-3.2
RUS	Russkaya	2.17	39	*e*P	P	02 16 16.0	+0.9
RUS				*e*S	S	02 16 42.2	-1.3
APC	Apacha	2.22	14	*i* P	P	02 16 17.5	+1.7
APC				*e*S	S	02 16 45.4	+0.8
PET	Petropavlovsk	2.69	32	P	P	02 16 23.1	+1.3
PET				S	S	02 16 54.4	-0.8
PET	Petropavlovsk	2.69	32	*i* P	P	02 16 23.0	+1.2
PET				*e*S	S	02 16 54.4	-0.8
PET	Petropavlovsk	2.69	32	*e*PN	P	02 16 22.7	+0.9
PET				*e*S	S	02 16 52.0	-3.2
PET				pmax	pmax		
	comp=Z,34nm,0.7s						
PET				smax			
	comp=N,142nm,0.5s						
PET				smax			
	comp=E,113nm,0.6s						
PET	Petropavlovsk	2.69	32	*e*P	P	02 16 22.7	+0.8
UGLR	Uglovaya	2.90	32	*e*P	P	02 16 26.5	+1.9
UGLR				*e*S	S	02 16 57.6	-2.4
KOK	Koryaka	2.91	29	*e*P	P	02 16 27.0	+2.3
KOK				*e*S	S	02 16 58.1	-2.1
AVH	Avacha	2.92	30	*e*P	P	02 16 27.2	+2.4
AVH				*e*S	S	02 16 58.6	-1.8
SMAR	Somma	2.94	31	*e*P	P	02 16 26.4	+1.3
SMAR				*e*S	S	02 17 00.6	-0.2
SDLR	Sedlovina	2.98	32	*e*P	P	02 16 27.2	+1.6
SDLR				*e*S	S	02 17 01.4	-0.4
NLC	Nalytchevo	3.06	37	P	P	02 16 26.4	-0.2
NLC				S	S	02 17 00.2	-3.4
NLC	Nalytchevo	3.06	37	*i* P	P	02 16 26.4	-0.2
NLC				*e*S	S	02 17 00.3	-3.3
GNL	Ganaly	3.09	19	*e*P	P	02 16 28.9	+1.8
GNL				*e*S	S	02 17 04.4	-0.1
SPN	Mys Shipunski	3.28	44	P	P	02 16 29.7	+0.1
SPN				S	S	02 17 05.1	-3.8
SPN	Mys Shipunski	3.28	44	*e*P	P	02 16 29.6	0.0
SPN				*e*S	S	02 17 05.0	-3.9
KII	Karymskiy	3.80	30	P	P	02 16 38.5	+2.1
KII				S	S	02 17 21.5	+0.5
KII	Karymskiy	3.80	30	*e*P	P	02 16 38.3	+1.9
KII				*e*S	S	02 17 21.4	+0.4
MKZ	Mys Kozlova	5.03	39	P	P	02 16 52.0	-0.7
MKZ				S	S	02 17 44.8	-5.6
MKZ	Mys Kozlova	5.03	39	*e*P	P	02 16 52.0	-0.7
MKZ				*e*S	S	02 17 44.6	-5.8
TUMR	Tumrok	5.08	26	*e*P	P	02 16 55.3	+1.9
TUMR				*e*S	S	02 17 49.4	-2.1
ESO	Esso	5.36	15	*e*P	P	02 16 58.7	+1.7
KMNR	Kamenistaya	5.52	24	*e*P	P	02 17 00.1	+0.8
KMNR				*e*S	S	02 17 57.9	-4.3
SRDR	Sredinnyy	5.91	19	*e*P	P	02 17 06.0	+1.5
CIRR	Tsirk	5.97	25	*e*P	P	02 17 06.9	+1.6
KBTR	Krutoberegovo	6.69	33	P	P	02 17 14.8	-0.3
KBTR				S	S	02 18 23.7	-6.6
KBTR	Krutoberegovo	6.69	33	*e*P	P	02 17 14.6	-0.5
KBTR				*e*S	S	02 18 23.7	-6.6
BKI	Bering	7.34	49	*e*P	P	02 17 21.0	-2.8
BKI				*e*S	S	02 18 32.6	-13
BKI				Smax			
	comp=E,60nm,0.3s						
ASAJ	Asahikawa	11.40	240	P	P	02 18 22.9	+5.4
	comp=E,0.3nm,0.3s,baz=18,slow=13,SNR=3.5						
MDJ	Mudanjiang	18.93	261	*e*P	P	02 19 48.6	-1.6
MAJO	Matsushiro	19.25	229	P	P	02 19 53.9	+0.2
ILAR	Eielson Array	32.12	42	P	P	02 21 52.4	-1.2
	comp=E,0.7nm,0.7s,mb3.5,baz=265,slow=7.2,SNR=11						
ILAR	Eielson Array	32.12	42	P	P	02 21 52.4	-1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	32.16	285	P	P	02 21 53.3	-0.9
	comp=Z,0.7nm,0.6s,mb3.6,baz=62,slow=7.1,SNR=5.1						
YKA	Yellowknife Ar	46.46	40	P	P	02 23 51.6	-0.3
	comp=Z,0.9nm,0.7s,mb3.5,baz=297,slow=6.6,SNR=4.7						
YKA	Yellowknife Ar	46.46	40	P	P	02 23 51.6	-0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	46.95	302	*e*P	P	02 23 54.4	-1.5
	comp=Z,4.8nm,0.3s,mb4.6						
MKAR	Makanchi Array	47.02	295	P	P	02 23 55.5	-1.0
	comp=Z,1.0nm,0.5s,mb3.7,baz=59,slow=6.3,SNR=18						
MKAR	Makanchi Array	47.02	295	P	P	02 23 55.5	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	49.97	308	P	P	02 24 17.1	-2.0
	comp=Z,0.8nm,0.5s,mb3.6,baz=45,slow=8.4,SNR=5.6						
ARCES	ARCESS Array B	54.73	341	P	P	02 24 51.2	-3.1
	comp=Z,1.1nm,0.8s,mb3.7,baz=51,slow=8.8,SNR=7.8						
ARCES	ARCESS Array B	54.73	341	P	P	02 24 51.3	-3.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	55.36	256	P	P	02 24 59.7	+0.1
	comp=Z,3.4nm,0.8s,mb4.2,baz=31,slow=7.0,SNR=14						
CMAR	Chiang Mai Arr	55.36	256	P	P	02 24 59.7	+0.1
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HLID	Hailey	57.58	59	P	P	02 25 14.5	-0.5
PDAR	Pinedale Array	60.74	57	P	P	02 25 37.2	+0.5
	comp=Z,1.5nm,1.0s,mb3.8,baz=331,slow=2.9,SNR=10						
FINES	FINESS Array B	61.27	335	P	P	02 25 37.0	-3.1
	comp=Z,1.8nm,0.9s,mb3.9,baz=39,slow=5.5,SNR=7.1						
FINES	FINESS Array B	61.27	335	P	P	02 25 37.0	-3.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULM	Lac du Bonnet	62.13	44	P	P	02 25 45.0	-0.9
	comp=Z,0.5nm,0.4s,mb3.7,baz=217,slow=1.8,SNR=2.9						
NOA	NORSAR Array B	65.06	342	P	P	02 26 02.5	-2.4
	comp=Z,1.4nm,1.1s,mb3.7,baz=27,slow=6.3,SNR=3.2						
NOA	NORSAR Array B	65.06	342	P	P	02 26 02.5	-2.3
NOA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
HFS	Hagfors	65.39	340	P	P	02 26 04.2	-2.7
	comp=Z,2.5nm,0.9s,mb4.0,baz=17,slow=3.3,SNR=12						
HFS	Hagfors	65.39	340	P	P	02 26 04.2	-2.7
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SCHQ	Schefferville	68.78	25	P	P	02 26 27.1	-1.1
	comp=Z,1.6nm,0.6s,mb3.9,baz=8.1,slow=7.1,SNR=5.8						
WRA	Warramunga Arr	73.02	202	P	P	02 26 54.1	-0.1
	comp=Z,0.5nm,0.7s,mb3.4,baz=23,slow=6.3,SNR=2.4						
WRA	Warramunga Arr	73.02	202	P	P	02 26 54.1	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	73.75	64	P	P	02 26 59.0	+0.8
	comp=Z,0.6nm,0.5s,mb3.6,baz=299,slow=4.4,SNR=14						
GERES	GERESS Array B	75.70	336	P	P	02 27 07.8	-1.1
	comp=Z,0.4nm,0.7s,mb3.2,baz=31,slow=5.7,SNR=2.9						
ASAR	Alice Springs	76.71	201	P	P	02 27 16.1	+1.0
	comp=Z,0.6nm,0.6s,mb3.4,baz=11,slow=5.3,SNR=10						
DAVOX	Davos	78.59	337	P	P	02 27 24.2	-0.8
	comp=Z,0.8nm,0.4s,mb3.7,baz=252,slow=3.4,SNR=3.6						
SGMF	Saint Gilles	79.68	346	*e*P	P	02 27 30.8	0.0
	comp=Z,18nm,0.9s,mb4.4						
AVF	Avril sur Loir	80.04	341	*e*P	P	02 27 33.1	+0.3
SMF	Signal de Mont	80.08	341	*e*P	P	02 27 33.3	+0.3
TCF	Toulx Ste Croi	80.75	342	*e*P	P	02 27 36.7	+0.1
MFF	Saint Martin d	80.89	344	*e*P	P	02 27 36.8	-0.5
	comp=Z,6.3nm,0.7s,mb4.0						
RJF	Les Rejaudoux	81.83	342	*e*P	P	02 27 42.1	-0.1
CAF	Calviac	82.09	342	*e*P	P	02 27 43.6	0.0
	comp=Z,3.9nm,0.6s,mb3.9						
SMRF	Simiane la Rot	82.25	339	*e*P	P	02 27 45.2	+0.8
LFF	La Frestale	82.33	343	*e*P	P	02 27 45.0	+0.2
EPF	Esparros	84.25	343	*e*P	P	02 27 54.8	+0.4
	comp=Z,3.8nm,0.6s,mb4.0						
ETSF	Etsaut	84.54	343	*e*P	P	02 27 56.8	+0.9
	comp=Z,4.4nm,0.7s,mb4.0						

DJA 14 02:44:28.9±1.0, 3.05S×119.58E, h8^{km}±5^{km}, MD4.7/2, ML3.9/2, 6D, Error ellipse: s-maj=24.0km s-min=9.1km az=167.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TANI	Tanete Lipujan	0.43	207	⇓*i*Pg	Pg	02 44 37.1	-0.6
TANI				⇓*i*Sg	Sg	02 44 41.5	-2.0
BUNI	Buntu Taipa	0.96	129	⇓*i*Pg	Pg	02 44 45.7	-2.4
	128nm,0.1s						
BUNI				⇓*i*Sg	Sg	02 44 57.5	-3.5
NINI	Niniconang	1.38	173	⇓*i*Pn	Pn	02 44 51.3	-3.2
	194nm,0.2s						
NINI				⇓*i*Sn	Sn	02 45 09.6	-3.4

*IGQ **14** 02:44:28.7, 2.94S×79.17W, h12^{km}±8^{km}, mb4.4, Error ellipse: s-maj=12.9km s-min=7.0km az=65.1*

*NEIC **14** 02:44:42.9±1.7, 2.02S×78.47W, h139^{km}±16^{km}, mb3.8/2, Error ellipse: s-maj=28.1km s-min=10.6km az=65.0*

*IDC **14** 02:44:48.0±9.8, 2.27S×78.95W, h188^{km}±99^{km}, mb3.2/6, mb1 3.5/8, mb1mx3.3/20, Error ellipse: s-maj=128.0km s-min=15.5km az=76.0*

ISC 14 02:44:39.0±0.8, 2.30S±0.07×79.1W±0.1, h113^{km}±7^{km}, n42, σ0$\overset{s}{.}$92/47, mb3.6/7, 17C-5D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	Igualata	0.94	32	⇑P	P	02 44 60.0	-0.2
ARRY	Arrayan	1.04	41	⇑P	P	02 44 59.9	-1.2
PATA	Patacocha	1.05	42	⇑P	P	02 45 00.5	-0.8
CUSU	Cusua	1.07	38	⇑P	P	02 45 00.7	-0.8
CUSU				S	S	02 45 17.6	-0.7
RETU	Refugio	1.08	39	⇑P	P	02 45 00.9	-0.7
JUIV	Juive	1.09	38	⇑P	P	02 45 00.8	-1.0
ULBA	Ulba	1.11	41	⇑P	P	02 45 01.1	-0.9
RUN2	Runtun	1.13	40	⇓P	P	02 45 01.2	-1.0
PISA	Pisayambo	1.44	31	⇑P	P	02 45 05.7	0.0
QIL1	Quilotoa	1.45	8	⇑P	P	02 45 06.6	+0.7
QIL1				S	S	02 45 27.2	+1.1
MARY	Rancho Maria	1.68	23	P	P	02 45 08.9	+0.2
TAMB	Tambo	1.77	26	⇑P	P	02 45 09.9	+0.2
NAS1	Nasa	1.78	22	⇑P	P	02 45 10.5	+0.7
VC1	Cotopaxi 1	1.80	24	P	P	02 45 10.7	+0.6
HOJA	Cerro de Hojas	1.88	311	⇓P	P	02 45 10.4	-0.6
ANTI	Antisana	2.08	28	⇑P	P	02 45 14.1	+0.5
JUA2	San Juan 2	2.13	14	⇑P	P	02 45 15.1	+0.7
CGGP	Crater GGP	2.17	14	⇑P	P	02 45 16.4	+1.6
CGGP				S	S	02 45 49.1	+7.3
GGP	Refugio Guagua	2.17	14	⇓P	P	02 45 15.8	+0.9
PINO	Pino	2.19	14	⇓P	P	02 45 16.6	+1.5
YANA	Yana	2.23	15	⇑P	P	02 45 16.3	+0.6
JOR1	San Jorge 1	2.33	12	⇑P	P	02 45 14.7	-2.3
JOR1				S	S	02 45 46.6	+0.9
CAYR	Refugio Cayamb	2.56	26	P	P	02 45 20.4	+0.3
OTAV	Otavalo	2.61	15	*e*P	P	02 45 20.4	-0.3
OTAV				*e*S	S	02 45 49.2	-3.0
CAYA	Cayambe	2.61	26	P	P	02 45 21.5	+0.7
CONE	Cono NE Rev Vo	2.67	34	⇓P	P	02 45 21.2	-0.3
CUPA	Cupa	2.67	352	P	P	02 45 22.2	+0.6
CUPA				S	S	02 45 48.8	-4.9
COTA	Cotacachi	2.73	17	⇑P	P	02 45 23.2	+0.8
ROSC	El Rosal	8.57	34	P	P	02 46 48.1	+6.5
	3.7nm,0.3s,baz=151,slow=23,SNR=2.2						
SDV	Santo Domingo	13.97	37	P	P	02 47 47.2	-5.9
SAML	Samuel	17.19	113	*e*P	P	02 48 27.2	-6.4
	6.3nm,0.6s						
LPAZ	La Paz	17.62	143	P	P	02 48 39.5	+0.5
	0.1nm,0.3s,baz=309,slow=9.0,SNR=7.1						
LVC	Limon Verde	22.50	155	P	P	02 49 32.1	+2.1
	1.4nm,0.5s,mb3.5,baz=273,slow=18,SNR=4.2						
LRAL	Lakeview Retre	35.92	349	P	P	02 51 29.4	-0.9
PLCA	Paso Flores	39.04	170	P	P	02 51 56.5	+0.2
	2.0nm,0.9s,mb3.9,baz=347,slow=8.1,SNR=4.2						
SDCO	Great Sand Dun	46.73	331	P	P	02 52 58.6	-0.1
	0.7nm,0.7s,mb3.5						
PDAR	Pinedale Array	52.59	332	P	P	02 53 43.0	-0.3
	0.4nm,0.5s,mb3.7,baz=135,slow=10,SNR=4.7						
ULM	Lac du Bonnet	54.28	347	P	P	02 53 53.9	-1.8
	0.9nm,0.7s,mb3.9,baz=131,slow=18,SNR=2.0						
YKA	Yellowknife Ar	69.97	343	P	P	02 55 39.2	-0.7
	0.3nm,0.5s,mb3.4,baz=138,slow=6.3,SNR=4.7						
YKA	Yellowknife Ar	69.97	343	P	P	02 55 39.2	-0.7
ILAR	Eielson Array	82.75	336	P	P	02 56 51.5	+0.1
	0.4nm,0.6s,mb3.4,baz=122,slow=5.1,SNR=4.9						
WRA	Warramunga Arr	140.41	235	PKP	PKPdf	03 03 55.7	-0.1
	0.8nm,0.8s,baz=117,slow=2.0,SNR=4.0						

*NNC **14** 02:46:00.4±5.3, 37.23N×69.99E, mpv3.7, Error ellipse: s-maj=56.1km s-min=38.7km az=110.0*

ISC 14 02:46:01.4±3.9, 37.1N±0.2×70.9E±0.3, h158^{km}±55^{km}, n10, σ0$\overset{s}{.}$41/12, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.48	22	P	P	02 47 22.4	+0.2
	SNR=151						
UCH	Uchtor	5.84	27	P	P	02 47 27.1	+0.2
	SNR=45						
EKS2	Erkin-Say	5.99	20	P	P	02 47 29.1	+0.2
	SNR=11						
KK31	Karatay Array	6.03	357	P	P	02 47 28.5	-1.0
	3.0nm,0.4s,baz=176,slow=11,SNR=96						
KK31				⇓S	S	02 48 38.3	+0.4
	6.4nm,0.5s,baz=195,slow=25,SNR=26						
AAK	Ala-Archa	6.19	25	P	P	02 47 31.6	0.0
	SNR=10						
KBK	Karagaybulak	6.37	28	P	P	02 47 34.2	+0.2
	SNR=14						
ULHL	Ulahol	6.59	37	P	P	02 47 36.6	-0.3
	SNR=8.7						
CHMS	Chumysh	6.60	25	P	P	02 47 36.9	-0.1
	SNR=9.1						
TKM2	Tokmak 2	6.84	30	P	P	02 47 40.1	-0.2
	SNR=14						
AB31	Akbulak array	14.56	330	⇑P	P	02 49 21.5	+0.7
	0.1nm,0.3s,baz=153,slow=12,SNR=8.2						
AB31				⇓S	S	02 51 57.9	-0.4
	0.2nm,0.3s						

DJA 14 02:46:38.0±0.9, 9.52S×114.00E, h33^{km}, MD4.8/4, ML4.6/3, 1C-7D, Error ellipse: s-maj=18.4km s-min=13.8km az=31.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	1.33	59	⇓*i*Pn	Pn	02 46 59.2	-1.4
INGI				⇓*i*Sn	Sn	02 47 14.2	-3.0
KELI	Kelakatan	1.38	21	⇑*i*Pn	Pn	02 46 59.9	-1.4
	1µm,0.2s						
KELI				⇓*i*Sn	Sn	02 47 16.5	-2.1
RATI	Rata	1.71	63	⇓*i*Pn	Pn	02 47 04.4	-1.6
	668nm,0.2s						
RATI				⇓*i*Sn	Sn	02 47 23.5	-3.4
KEDI	Kedomdong	2.33	64	⇓*i*Pn	Pn	02 47 13.1	-1.8
	141nm,0.2s						
KEDI	Kedomdong	2.33	64	*e*Pg	P	02 47 13.4	-1.3
KEDI				⇓*i*Sn	Sn	02 47 39.2	-3.4

CASC 14 02:53:19.3±1.8, 12.97N×90.66W, h10^{km}±11^{km}, MD3.9, 10C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	Ixpaco	1.21	9	⇑*e*P	Pb	02 53 40.4	-1.5
IXG				*e*S	Sb	02 53 58.8	+1.5
SBLS	San Blas	1.32	49	⇑*e*P	Pb	02 53 43.3	-0.5
SBLS				*e*S	Sb	02 54 02.0	+1.3
RTR	El Retiro	1.35	47	⇑*e*P	Pb	02 53 43.7	-0.5
RTR				*e*S	Sb	02 54 02.0	+0.6
SNJE	San Jose	1.36	49	⇑*e*P	Pb	02 53 43.7	-0.7
RBDL	Robledal	1.48	40	⇑*e*P	Pn	02 53 45.6	-0.5
RBDL				*e*S	Sb	02 54 04.8	-0.3
BOQS	Boqueron	1.54	60	⇑*e*P	Pn	02 53 47.0	0.0
NBG	Las Nubes	1.63	11	⇑*e*P	Pn	02 53 47.7	-0.6
NBG				*e*S	Sn	02 54 12.1	+2.5
JAT	Jato	1.64	325	⇑*e*P	Pn	02 53 46.4	-2.0
LFRS	El Faro	1.68	67	*e*P	Pn	02 53 48.5	-0.5
LFRS				*e*S	Sn	02 54 10.3	-0.5
LCBS	La Ceiba	1.77	67	*e*P	Pn	02 53 49.8	-0.5
LCBS				*e*S	Sn	02 54 12.7	-0.4
MTO2	Montecristo 2	1.90	42	⇑*e*P	Pn	02 53 51.7	-0.4
MRL	Marmol	2.28	24	⇑*e*P	Pn	02 53 57.3	-0.3
VSM	San Miguel	2.37	79	*e*P	Pn	02 53 59.0	+0.2
VSM				*e*S	Sn	02 54 29.2	+1.0

GUC 14 03:05:32.0±0.4, 23.02S×68.34W, h126^{km}±4^{km}, ML3.8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	Antofagasta	2.02	250	*i* P	P	03 06 06.6	+0.2
ANCH				AMP		03 06 32.7	
	comp=N,943nm,0.1s						
ANCH				*i* S	S	03 06 33.0	+0.6
CPN1	Cerro Paranal	2.48	229	*e*P	P	03 06 13.6	+1.2
CPN1				*i* S	S	03 06 44.8	+1.7
CPN1				*i* S	S	03 06 45.1	+2.1
CPN1				AMP		03 06 46.0	
	comp=N,571nm,0.3s						

*HRVD **14** 03:10:27.5±0.3, 11.08S×166.31E, h155^{km}±2^{km}, MW5.2/55, Centroid moment Tensor Solution. LP body waves: s34,c42;Mantle waves: s55,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.09±.19; $M_{\theta\theta}$-1.71±.25; $M_{\phi\phi}$6.81±.22; $M_{r\theta}$-1.83±.20; $M_{\theta\phi}$-1.00±.27; $M_{\phi r}$-1.83±.19; Best double couple: $M_0$6.68×10^{16} NP1: ϕ_s150°, δ43°, λ-127°. NP2: ϕ_s15°, δ57°, λ-61°. Principal axes: T 7.15, Plg8°, Azm85°; N -.91, Plg24°, Azm179°; P -6.22, Plg64°, Azm339°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 03:10:27.5±0.1, 11.11S×166.41E, mb5.0/43 Error ellipse: s-maj=5.7km s-min=3.5km az=141.0*

*BJI **14** 03:10:29.4, 10.44S×166.17E, h155^{km}, mB4.9, mb5.1*

*MOS **14** 03:10:30.7±1.2, 11.05S×166.33E, h191^{km}, mb5.1/4, Error ellipse: s-maj=17.7km s-min=14.8km az=107.6*

*IDC **14** 03:10:31.4±2.5, 11.19S×166.43E, h190^{km}±23^{km}, mb4.5/20, mb1 4.6/21, mb1mx4.6/22, MS3.8/9, Ms1 3.8/9, ms1mx3.6/19, Error ellipse: s-maj=12.2km s-min=9.3km az=149.0*

ISC 14 03:10:25.9±1.8, 11.12S±0.05×166.34E±0.04, h153^{km}±16^{km}, h156^{km}±2.0^{km}:pP-P, n230, σ0$\overset{s}{.}$76/166, mb4.9/71, 6C-10D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.89	179	*e*P	P	03 12 60.0	+1.5
DZM				*e*S	S	03 14 56.3	-1.7
DZM	Mont Dzumac	10.89	179	*e*P	P	03 12 60.0	+1.5
DZM				*e*S	S	03 14 56.3	-1.7
PMG	Port Moresby	18.95	273	P	P	03 14 39.8	+2.0
	0.9nm,0.3s,baz=78,slow=7.0,SNR=20						
PMG				S	S	03 18 07.3	+7.2
	0.4nm,0.3s,baz=322,slow=19,SNR=4.6						
PMG	Port Moresby	18.95	273	*e*P	P	03 14 38.8	+1.0
	87nm,1.0s						
CTA	Charters Tower	21.28	243	⇓*i*P	P	03 15 03.4	+2.0
	14nm,0.7s,mb4.4						
CTA				*e*S	S	03 18 55.2	+12
CTA	Charters Tower	21.28	243	P	P	03 15 03.5	+2.1
	15nm,0.6s,mb4.5,baz=69,slow=11,SNR=29						
CTAO	Charters Tower	21.28	243	*e*P	P	03 15 02.8	+1.4
	18nm,0.7s,mb4.5						
CNB	Canberra Magne	28.60	210	*e*P	P	03 16 07.9	-2.1
	17nm,0.7s,mb4.9						
URZ	Urewera	28.69	162	P	P	03 16 09.8	-0.9
	6.2nm,0.4s,mb4.7,baz=108,slow=23,SNR=9.8						
STKA	Stephens Creek	30.79	224	*e*P	P	03 16 29.9	+0.4
	22nm,0.8s,mb4.9						
STKA	Stephens Creek	30.79	224	P	P	03 16 30.4	+0.9
	22nm,0.7s,mb5.0,baz=45,slow=8.1,SNR=33						
STKA				LR	LR	03 28 22.0	
	comp=Z,245nm,19.3s,baz=211,slow=35						
WRAB	Tennant Creek	32.00	250	*e*P	P	03 16 39.4	-0.7
	76nm,1.1s,mb5.3						
WB2	Warramunga Arr	32.00	250	⇓*i*P	P	03 16 39.8	-0.2
WB2				*i* S	S	03 21 39.0	0.0
WRA	Warramunga Arr	32.01	250	P	P	03 16 40.0	-0.2
	33nm,0.9s,mb5.0,baz=83,slow=9.1,SNR=167						
WRA				PcP	PcP	03 19 25.9	-0.4
	4.5nm,1.0s,baz=80,slow=3.1,SNR=7.9						
WRA				S	S	03 21 38.6	-0.6
	5.4nm,1.3s,baz=79,slow=14,SNR=7.1						
RPZ	Rata Peaks	32.73	174	P	P	03 16 45.9	-0.3
	24nm,0.8s,mb5.0,baz=22,slow=4.4,SNR=5.9						
KAKA	Kakadu	33.23	264	⇓*i*P	P	03 16 50.3	-0.4
	29nm,0.6s,mb5.2						
ASAR	Alice Springs	33.28	244	P	P	03 16 50.5	-0.6
	20nm,1.0s,mb4.8,baz=76,slow=9.3,SNR=102						
ASAR				PcP	PcP	03 19 29.4	-0.3
	2.6nm,0.5s,baz=75,slow=3.2,SNR=10						
ASAR				LR	LR	03 28 32.5	

	comp=Z,142nm,18.0s,baz=158,slow=32						
ASPA	**Alice Springs**	**33.28**	**244**	eP	**P**	**03 16 50.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.93**	**255**	⇓iP	**P**	**03 17 47.5**	**+0.7**
	103nm,0.7s,mb5.6						
FORT	**Forrest**	**40.48**	**235**	eP	**P**	**03 17 52.5**	**+1.3**
	260nm,0.7s,mb6.0						
PPT	**Papeete**	**43.11**	**104**	eS	**S**	**03 24 31.9**	**+5.0**
PPT				eL		03 28 28.9	
PPT				eR		03 30 19.6	
	227nm,25.8s						
TBI	**Tubuai**	**43.76**	**112**	eL		03 28 44.3	
TBI				eR		03 30 37.6	
	234nm,32.8s						
KLBR	**Kellerberrin**	**49.16**	**238**	eP	**P**	**03 19 00.0**	**-0.4**
	20nm,0.5s,mb5.0						
MUN	**Mundaring**	**50.53**	**238**	eP	**P**	**03 19 11.1**	**+0.3**
	31nm,0.9s,mb4.9						
PPR	**Puerto Princes**	**51.69**	**292**	⇑iP	**P**	**03 19 20.7**	**+0.9**
MAJO	**Matsushiro**	**54.31**	**332**	eP	**P**	**03 19 36.7**	**-2.0**
MAT	**Matsushiro**	**54.31**	**332**	P	**P**	**03 19 37.0**	**-1.7**
MAT	**Matsushiro**	**54.31**	**332**	eP	**P**	**03 19 37.0**	**-1.7**
	18nm,1.0s,mb4.8						
JNU	**Nakatsue**	**55.48**	**324**	LR	LR	03 40 00.5	
	comp=Z,90nm,19.1s,baz=242,slow=32						
ASAJ	**Asahikawa**	**59.06**	**340**	P	**P**	**03 20 12.1**	**-0.2**
	27nm,0.8s,mb5.1,baz=221,slow=9.1,SNR=27						
ASAJ				LR	LR	03 41 42.8	
	comp=Z,76nm,21.4s,baz=70,slow=32						
SSE	**Sheshan**	**60.31**	**316**	P	**P**	**03 20 22.3**	**+1.3**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,81nm,7.3s						
SSE	**Sheshan**	**60.31**	**316**	P	**P**	**03 20 22.3**	**+1.3**
	comp=Z,45nm,0.7s,mb5.4						
SSE				sP	Px	03 20 35.8	
SSE				S	**S**	**03 28 35.0**	**+14**
SSE				sS		03 28 51.4	
SSE				SS	SS	03 32 22.9	+0.5
SSE				LR	LR		
	comp=Z,90nm,17.1s						
YSS	**Yuzh-Sakhalins**	**61.54**	**342**	d iP	**P**	**03 20 28.7**	**-0.4**
YSS				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.2						
YSS	**Yuzh-Sakhalins**	**61.54**	**342**	eP	**P**	**03 20 28.7**	**-0.4**
	comp=Z,81nm,1.3s,mb5.4						
NJ2	**Nanjing**	**62.48**	**315**	⇑P	**P**	**03 20 35.5**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,110nm,4.0s						
MDJ	**Mudanjiang**	**64.69**	**332**	P	**P**	**03 20 49.6**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,85nm,6.4s						
MDJ	**Mudanjiang**	**64.69**	**332**	eP	**P**	**03 20 48.5**	**-1.3**
	comp=Z,39nm,1.3s,mb5.1						
CN2	**Changchun**	**66.11**	**329**	eP	**P**	**03 20 58.3**	**-0.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
VNDA	**Vanda**	**66.43**	**181**	P	**P**	**03 20 59.3**	**-1.2**
	comp=Z,5.8nm,1.1s,mb4.3,baz=340,slow=6.8,SNR=15						
VNDA				LR	LR	03 48 21.0	
	comp=Z,81nm,18.8s,baz=278,slow=34						
KLR	**Kul'dur**	**67.36**	**336**	eP	**P**	**03 21 06.0**	**-0.7**
KLR				e		03 23 37.0	
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.9						
KLR				pmax	pmax		
	comp=Z,500nm,5.0s						
ENH	**Enshi**	**68.40**	**309**	eP	**P**	**03 21 12.3**	**-1.1**
	comp=Z,106nm,1.3s,mb5.4						
BJT	**Baijiatuau**	**68.90**	**321**	eP	**P**	**03 21 15.7**	**-0.6**
BJI	**Beijing**	**68.91**	**321**	P	**P**	**03 21 16.0**	**-0.3**
BJI				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.9						
BJI	**Beijing**	**68.91**	**321**	P	**P**	**03 21 16.0**	**-0.3**
	comp=Z,33nm,1.2s,mb4.9						
BJI				S	x	03 29 33.7	
BJI				LR	LR		
	comp=Z,60nm,23.2s						
GYA	**Guiyang**	**68.94**	**304**	⇓iP	**P**	**03 21 17.0**	**+0.2**
GYA				AP	pP	03 21 56.4	+2.6
GYA				XP	sP	03 22 13.3	+2.9
GYA				S	S	03 30 07.3	+0.1
GYA				XS		03 31 14.6	
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
NANT	**Nan**	**71.21**	**294**	P	**P**	**03 21 31.0**	**+0.4**
MA2	**Magadan**	**71.56**	**352**	eP	**P**	**03 21 30.9**	**-1.1**
MA2				i SS	SS	03 35 07.7	-10
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
KMI	**Kunming**	**71.66**	**301**	eP	**P**	**03 21 34.6**	**+1.4**
KMI				AMB	AMB		
	comp=Z,55nm,1.4s,mb5.1						
KMI				AMB	AMB		
	comp=Z,227nm,4.4s						
KMI	**Kunming**	**71.66**	**301**	eP	**P**	**03 21 34.6**	**+1.4**
	comp=Z,55nm,1.4s,mb5.1						
KMI				LR	LR		
	comp=Z,100nm,23.7s						
HHC	**Hu-ho-hao-te**	**72.27**	**319**	eP	**P**	**03 21 35.5**	**-1.0**
HHC				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,106nm,5.5s						
CMAR	**Chiang Mai Arr**	**72.68**	**293**	P	**P**	**03 21 40.5**	**+1.1**
	comp=Z,26nm,0.8s,mb5.0,baz=116,slow=4.4,SNR=79						
HIA	**Hailar**	**72.72**	**330**	eP	**P**	**03 21 38.5**	**-0.5**
	comp=Z,46nm,1.2s,mb5.1						
CD2	**Chengdu**	**73.11**	**307**	P	**P**	**03 21 42.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,117nm,1.2s,mb5.5						
BTO	**Baotou**	**73.13**	**319**	eP	**P**	**03 21 41.8**	**+0.2**
SEY	**Seymchan**	**74.61**	**353**	eP	**P**	**03 21 49.9**	**+0.2**
SEY				pmax	pmax		
	comp=N,20nm,1.3s						
SEY				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.1						
LZH	**Lanzhou**	**75.24**	**312**	⇓P	**P**	**03 21 54.5**	**+0.7**
LZH				AP	pP	03 22 33.5	+2.0
LZH				XP	sP	03 22 50.6	+2.5
LZH				PP	PP	03 24 47.5	+1.6
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,127nm,5.3s						
LZH	**Lanzhou**	**75.24**	**312**	⇓P	**P**	**03 21 54.5**	**+0.7**
	comp=Z,29nm,1.3s,mb4.8						
LZH				pP	pP	03 22 33.5	+2.0
LZH				sP	sP	03 22 50.6	+2.5
LZH				PP	PP	03 24 47.5	+1.6
LZH				LR	LR		
	comp=Z,430nm,17.8s						
KDAK	**Kodiak Island**	**76.43**	**21**	eP	**P**	**03 21 58.9**	**-1.1**
SVW	**Sparrevohn**	**78.00**	**18**	eP	**P**	**03 22 08.8**	**+0.2**
YAK	**Yakutsk**	**78.33**	**343**	eP	**P**	**03 22 09.7**	**-0.7**
YAK				pmax	pmax		
	comp=Z,35nm,1.6s,mb4.7						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK	**Yakutsk**	**78.33**	**343**	eP	**P**	**03 22 09.9**	**-0.5**
	comp=E,51nm,1.0s,mb5.1						
RSO	**Redoubt South**	**78.40**	**19**	eP	**P**	**03 22 09.7**	**-1.1**
QSPA	**South Pole Qui**	**78.89**	**180**	eP	**P**	**03 22 12.6**	**-0.5**
	comp=E,5.6nm,0.9s,mb4.2						
SONM	**Songino Array**	**79.07**	**324**	P	**P**	**03 22 15.3**	**+0.6**
	comp=E,14nm,1.0s,mb4.5,baz=135,slow=5.2,SNR=72						
GTA	**Gaotai**	**79.53**	**314**	⇓P	**P**	**03 22 18.9**	**+1.5**
GTA				PCP	PcP	03 22 26.8	+1.7
GTA				AP	pP	03 22 56.9	+1.5
GTA				XP	sP	03 23 14.8	+2.8
GTA				PP	PP	03 25 23.8	+2.7
GTA				S	S	03 32 04.5	-0.1
GTA				SCS	ScS	03 32 24.0	+0.5
GTA				XS		03 33 14.4	
GTA				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.6						
GTA				AMB	AMB		
	comp=Z,152nm,6.1s						
PMS	**Palmer South**	**80.03**	**20**	eP	**P**	**03 22 18.7**	**-0.9**
PMR	**Palmer**	**80.42**	**20**	eP	**P**	**03 22 21.2**	**-0.5**
BOD	**Bodaibo**	**80.85**	**335**	eP	**P**	**03 22 22.4**	**-1.6**
SML	**Sawmill**	**80.85**	**20**	eP	**P**	**03 22 23.5**	**-0.4**
EYAK	**Cordova Ski Ar**	**80.88**	**22**	eP	**P**	**03 22 23.4**	**-0.7**
DIV	**Divide**	**81.26**	**21**	eP	**P**	**03 22 25.6**	**-0.5**
	comp=Z,169nm,1.1s,mb5.6						
MCK	**McKinley**	**82.03**	**18**	eP	**P**	**03 22 29.1**	**-0.9**
	comp=Z,28nm,1.2s,mb4.8						
ZAK	**Zakamensk**	**82.10**	**325**	⇑iP	**P**	**03 22 30.2**	**-0.5**
THY	**Trims Highway**	**82.83**	**20**	eP	**P**	**03 22 34.4**	**+0.3**
LSA	**Lhasa**	**82.89**	**302**	eP	**P**	**03 22 36.9**	**+1.8**
	comp=Z,6.9nm,0.6s,mb4.6						
LRV	**Little Rabbit**	**82.94**	**51**	eP	**P**	**03 22 35.5**	**+0.3**
COLA	**College**	**83.17**	**18**	eP	**P**	**03 22 34.9**	**-0.9**
WDC	**Whiskeytown Da**	**83.24**	**47**	eP	**P**	**03 22 36.8**	**+0.1**
	comp=Z,34nm,1.4s,mb4.9						
ILAR	**Eielson Array**	**83.40**	**18**	P	**P**	**03 22 35.9**	**-1.1**
	comp=Z,18nm,1.0s,mb4.8,baz=224,slow=5.9,SNR=88						
ILAR				LR	LR	03 51 48.4	
	comp=Z,50nm,21.6s,baz=32,slow=30						
YBH	**Yreka Blue Hor**	**83.53**	**45**	P	**P**	**03 22 39.3**	**+1.1**
	comp=Z,20nm,1.0s,mb4.8,baz=203,slow=3.5,SNR=20						
YBH	**Yreka Blue Hor**	**83.53**	**45**	eP	**P**	**03 22 38.2**	**0.0**
	comp=Z,30nm,1.2s,mb4.9						
OHCM	**Honcut**	**83.57**	**48**	eP	**P**	**03 22 38.2**	**-0.2**
HUMO	**Hull Mountain**	**83.67**	**45**	eP	**P**	**03 22 39.1**	**+0.3**
	comp=Z,31nm,1.1s,mb5.0						
CMB	**Columbia Colle**	**83.94**	**50**	eP	**P**	**03 22 39.6**	**-0.6**
	comp=Z,31nm,1.9s,mb4.7						
MOY	**Mondy**	**83.97**	**325**	eP	**P**	**03 22 40.5**	**+0.4**
MWC	**Mount Wilson**	**84.55**	**54**	eP	**P**	**03 22 43.4**	**0.0**
BEKR	**Beckwourth**	**84.56**	**48**	eP	**P**	**03 22 43.4**	**+0.1**
	comp=Z,36nm,1.3s,mb5.0						
BEKR				epP	pP	03 23 24.2	+2.4
WCN	**Washoe City**	**84.82**	**48**	eP	**P**	**03 22 45.4**	**+0.7**
	comp=Z,12nm,1.1s,mb4.5						
OMM	**Old Mammoth Mi**	**84.86**	**50**	eP	**P**	**03 22 45.2**	**+0.3**
MAW	**Mawson**	**84.87**	**202**	P	**P**	**03 22 43.9**	**-0.3**
	comp=Z,1.6nm,0.7s,mb3.9,baz=104,slow=6.3,SNR=6.4						
BMW	**Boistfort Moun**	**84.91**	**41**	eP	**P**	**03 22 45.2**	**+0.3**
MTUM	**Tungsten Hills**	**85.10**	**51**	eP	**P**	**03 22 46.4**	**+0.3**
PAHR	**Pah Rah Range**	**85.22**	**48**	P	**P**	**03 22 47.4**	**+0.7**
MOD	**Modoc**	**85.28**	**46**	eP	**P**	**03 22 46.8**	**0.0**
	comp=Z,39nm,1.5s,mb4.9						
DAWY	**Dawson**	**85.41**	**21**	eP	**P**	**03 22 46.4**	**-0.6**
GNW	**Green Mountain**	**85.57**	**40**	eP	**P**	**03 22 47.6**	**-0.5**
MNV	**Mina**	**85.74**	**50**	eP	**P**	**03 22 49.0**	**-0.2**
	comp=Z,34nm,1.2s,mb5.0						
MNV				epP	pP	03 23 29.3	+1.5
VIPM	**Ingram Point**	**85.93**	**43**	P	**P**	**03 22 50.7**	**+0.7**
MCW	**Mount Constitu**	**85.98**	**39**	P	**P**	**03 22 51.1**	**+1.0**
RMW	**Rattlesnake Mo**	**86.18**	**40**	eP	**P**	**03 22 51.1**	**0.0**
DLBC	**Dease Lake**	**86.20**	**28**	P	**P**	**03 22 51.6**	**+0.7**
	comp=Z,12nm,1.1s,mb4.5,baz=230,slow=8.1,SNR=7.2						
DLBC	**Dease Lake**	**86.20**	**28**	eP	**P**	**03 22 50.6**	**-0.3**
CMW	**Cultus Mountai**	**86.33**	**39**	P	**P**	**03 22 52.8**	**+1.0**
TPH	**Tonopah**	**86.33**	**50**	eP	**P**	**03 22 52.3**	**+0.2**
	comp=Z,17nm,1.3s,mb4.6						
WVOR	**Wild Horse Val**	**86.62**	**46**	eP	**P**	**03 22 53.7**	**+0.3**
	comp=Z,32nm,1.3s,mb5.0						
EBG	**Ellensburg**	**86.78**	**41**	P	**P**	**03 22 54.8**	**+0.8**
LDFC	**Landfair**	**87.12**	**54**	eP	**P**	**03 22 56.5**	**+0.5**
PKI	**Pulchoki**	**87.19**	**299**	eP	**P**	**03 22 56.8**	**+0.4**
	comp=Z,144nm,1.4s,mb5.6						
HAWA	**Hanford**	**87.28**	**42**	eP	**P**	**03 22 56.7**	**+0.3**
REDWA	**Red Mountain**	**87.31**	**42**	P	**P**	**03 22 57.6**	**+1.0**
NLW	**Nelson Butte**	**87.32**	**40**	eP	**P**	**03 22 56.5**	**-0.1**
KKN	**Kakani**	**87.35**	**299**	eP	**P**	**03 22 57.6**	**+0.4**
	comp=Z,65nm,1.1s,mb5.4						
DMN	**Daman**	**87.46**	**299**	eP	**P**	**03 22 58.3**	**+0.6**
	comp=Z,167nm,1.2s,mb5.7						
NEN	**Nelson**	**87.49**	**53**	eP	**P**	**03 22 58.0**	**+0.3**
LNOR	**Lincton Mounta**	**87.93**	**43**	P	**P**	**03 22 59.2**	**-0.3**
GKN	**Gorkha**	**87.95**	**299**	eP	**P**	**03 23 00.0**	**-0.1**
	comp=Z,126nm,1.2s,mb5.6						
DPW	**Davenport**	**88.61**	**41**	eP	**P**	**03 23 02.6**	**-0.1**
KOLN	**Koldanda**	**88.79**	**298**	eP	**P**	**03 23 03.8**	**-0.3**
	comp=Z,51nm,1.1s,mb5.4						
NEW	**Newport**	**89.42**	**41**	P	**P**	**03 23 07.0**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.4,baz=254,slow=3.7,SNR=8.8						
NEW	**Newport**	**89.42**	**41**	eP	**P**	**03 23 05.7**	**-0.8**
	comp=Z,9.7nm,1.2s,mb4.6						
INK	**Inuvik**	**89.78**	**19**	P	**P**	**03 23 06.9**	**-0.8**
	comp=Z,13nm,1.4s,mb4.7,baz=214,slow=6.1,SNR=2.9						
INK	**Inuvik**	**89.78**	**19**	P	**P**	**03 23 07.3**	**-0.4**
HLID	**Hailey**	**89.91**	**46**	eP	**P**	**03 23 09.3**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7						
TUC	**Tucson**	**89.93**	**57**	eP	**P**	**03 23 09.9**	**+0.6**
	comp=Z,16nm,1.3s,mb4.8						
WUAZ	**Wupatki**	**90.19**	**54**	eP	**P**	**03 23 11.4**	**+1.0**
	comp=Z,29nm,1.2s,mb5.1						
DUG	**Dugway**	**90.20**	**49**	eP	**P**	**03 23 10.0**	**-0.4**
	comp=Z,16nm,1.3s,mb4.8						
DUG				epP	pP	03 23 48.7	-0.6
MSU	**Marysvale**	**90.27**	**51**	eP	**P**	**03 23 11.7**	**+1.0**
MSU				epP	pP	03 23 49.8	+0.1
HVU	**Hansel Valley**	**90.62**	**48**	eP	**P**	**03 23 12.7**	**+0.4**
NLU	**North Lily Min**	**90.70**	**50**	eP	**P**	**03 23 13.1**	**+0.3**
SPUT	**South Promonto**	**90.75**	**48**	eP	**P**	**03 23 13.0**	**+0.1**
MPU	**Maple Canyon**	**91.04**	**50**	eP	**P**	**03 23 14.7**	**+0.4**
JLU	**Jordanelle**	**91.31**	**49**	eP	**P**	**03 23 15.8**	**+0.2**
MCMT	**McKenzie Canyo**	**91.32**	**45**	eP	**P**	**03 23 15.6**	**+0.1**
HWUT	**Hardware Ranch**	**91.46**	**48**	eP	**P**	**03 23 16.0**	**-0.3**
	comp=Z,9.3nm,1.1s,mb4.7						
TCUT	**Toone Canyon**	**91.46**	**48**	eP	**P**	**03 23 16.7**	**+0.4**
CHMT	**Chamberlain Mo**	**91.57**	**43**	eP	**P**	**03 23 15.8**	**-0.7**
QLMT	**Earthquake Lak**	**92.30**	**45**	eP	**P**	**03 23 20.8**	**+0.8**
TPAW	**Teton Pass**	**92.33**	**46**	eP	**P**	**03 23 20.6**	**+0.4**
BOZ	**Bozeman (W)**	**92.36**	**44**	eP	**P**	**03 23 20.2**	**0.0**
	comp=Z,19nm,1.4s,mb4.9						
BOZ				epP	pP	03 23 59.0	-0.2
HRY	**Holter Researc**	**92.47**	**43**	eP	**P**	**03 23 20.9**	**+0.1**
MOOW	**Moose Ponds**	**92.54**	**46**	eP	**P**	**03 23 21.1**	**0.0**
YMR	**Madison River**	**92.59**	**45**	eP	**P**	**03 23 22.5**	**+1.2**
PV10	**Paradox Valley**	**92.64**	**52**	eP	**P**	**03 23 21.4**	**-0.3**
PV01	**Paradox Valley**	**92.96**	**52**	P	**P**	**03 23 23.2**	**+0.1**
BW06	**Boulder Array**	**93.17**	**47**	eP	**P**	**03 23 23.7**	**-0.3**
PDAR	**Pinedale Array**	**93.17**	**47**	P	**P**	**03 23 24.2**	**+0.1**
	comp=Z,2.7nm,1.0s,mb4.3,baz=270,slow=1.5,SNR=18						
PDAR				PKKP	PKKP	03 40 32.0	+22
	comp=Z,0.2nm,0.5s,baz=80,slow=5.5,SNR=3.5						
RW3	**Ridgway**	**93.66**	**52**	eP	**P**	**03 23 27.1**	**+0.7**
MKAR	**Makanchi Array**	**93.97**	**317**	P	**P**	**03 23 28.2**	**+0.7**
	comp=Z,27nm,0.9s,mb5.4,baz=117,slow=4.9,SNR=46						
MKAR				PKKP	PKKP	03 40 28.9	+21
	comp=Z,1.2nm,0.8s,baz=252,slow=3.8,SNR=5.1						
MKAR				LR	LR	04 07 22.8	
	comp=Z,22nm,21.2s,baz=203,slow=36						
ANMO	**Albuquerque**	**94.01**	**55**	eP	**P**	**03 23 28.6**	**+0.6**
YKA	**Yellowknife Ar**	**94.77**	**27**	P	**P**	**03 23 29.6**	**-1.2**
	comp=Z,1.3nm,0.6s,mb4.3,baz=258,slow=4.6,SNR=12						
YKA				LR	LR	03 59 09.0	
	comp=Z,50nm,20.2s,baz=265,slow=31						
YKA	**Yellowknife Ar**	**94.77**	**27**	P	**P**	**03 23 29.6**	**-1.2**
YKA				LR	LR	03 59 09.0	
SDCO	**Great Sand Dun**	**95.27**	**53**	P	**P**	**03 23 34.4**	**+0.7**
LTX	**Lajitas**	**95.35**	**61**	P	**P**	**03 23 33.1**	**-1.2**
TXAR	**Lajitas Array**	**95.35**	**61**	P	**P**	**03 23 33.7**	**-0.6**
	comp=Z,1.1nm,0.8s,mb4.2,baz=234,slow=4.1,SNR=13						
TXAR				LR	LR	04 00 39.9	
	comp=Z,52nm,20.9s,baz=320,slow=32						
TXAR	**Lajitas Array**	**95.35**	**61**	P	**P**	**03 23 33.7**	**-0.6**
TXAR				LR	LR	04 00 39.9	
KURK	**Kurchatov**	**97.07**	**320**	eP	**P**	**03 23 40.3**	**-1.2**
	comp=Z,18nm,1.5s,mb5.2						
SNAA	**Sanae**	**97.08**	**183**	⇑iP	**P**	**03 23 41.7**	**+0.5**
SNAA				e		03 23 51.1	
VNA2	**Neumayer--Watz**	**98.04**	**182**	P	**P**	**03 23 46.6**	**+1.1**
VNA1	**Neumayer--Stat**	**98.34**	**182**	e	**P**	**03 23 55.4**	**+8.5**
VNA1	**Neumayer--Stat**	**98.34**	**182**	⇓iP	**P**	**03 23 47.0**	**+0.1**
VNA1				e		03 23 55.4	
FFC	**Flin Flon**	**99.95**	**36**	eP	**P**	**03 23 53.5**	**-1.1**
BVAR	**Borovoye Array**	**102.37**	**322**	P	Pdif	03 24 04.2	-1.1
	comp=Z,3.3nm,1.0s,baz=108,slow=9.4,SNR=6.8						
ARCES	**ARCESS Array B**	**116.55**	**346**	PKP	PKPdf	03 28 52.0	+0.8
	comp=Z,12nm,1.0s,baz=72,slow=2.2,SNR=49						
OBN	**Obninsk**	**121.17**	**329**	i PKIKP	PKPdf	03 29 02.2	+1.7
OBN				e		03 29 49.6	
OBN				pmax	pmax		
	comp=Z,20nm,1.9s						
KAF	**Kangasniemi**	**121.52**	**339**	ep	PKPdf	03 29 01.1	+0.1
FINES	**FINESS Array B**	**122.05**	**339**	PKP	PKPdf	03 29 03.4	+1.3
	comp=Z,1.0nm,0.3s,baz=63,slow=3.1,SNR=14						
SOC	**Sochi**	**123.86**	**315**	i PKIKP	PKPdf	03 29 07.9	+1.9
SOC				e		03 30 54.9	
SOC				ePPP	PPP	03 33 28.3	-6.4
SOC				pmax	pmax		
	comp=N,43nm,0.9s						
SOC				pmax	pmax		
	comp=E,26nm,0.9s						
SOC				pmax	pmax		
	comp=Z,29nm,0.9s						
SOC				MLR	MLR		
	comp=Z,70nm,21.0s						
SOC				MLR	MLR		
	comp=N,90nm,29.0s						
SOC				MLR	MLR		
	comp=E,61nm,22.0s						
MALT	**Malatya**	**126.35**	**310**	ePKP	PKPdf	03 29 12.6	+1.6
NB2	**NORSAR Subarra**	**126.92**	**345**	PKPdf	PKPdf	03 29 12.3	+0.9
	comp=E,1.6nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**126.92**	**345**	PKP	PKPdf	03 29 12.2	+0.9
	comp=E,1.7nm,0.7s,baz=33,slow=1.9,SNR=7.1						
AKASG	**Malin Array Be**	**127.24**	**327**	PKP	PKPdf	03 29 13.2	+0.9
	comp=E,0.5nm,0.4s,baz=40,slow=1.9,SNR=8.0						
AKASG				PP	PP	03 31 11.1	-6.3
	comp=E,0.2nm,0.3s,baz=45,slow=6.8,SNR=4.9						
BRTR	**Keskin Array B**	**129.44**	**313**	PKP	PKPdf	03 29 17.5	+0.6
	comp=E,0.7nm,0.7s,baz=135,slow=2.0,SNR=4.9						
BRTR				PP	PP	03 31 27.3	-5.4
	comp=E,0.2nm,0.4s,baz=90,slow=6.2,SNR=3.9						
BRG	**Berggiesshubel**	**134.37**	**336**	ePKIKP	PKPdf	03 29 26.9	+1.1
BRG				pmax	pmax		
	comp=Z,9.0nm,1.4s						
PVCC	**Panska Ves**	**134.38**	**335**	ePKIKP	PKPdf	03 29 27.7	+1.8
CLL	**Collm**	**134.41**	**337**	⇑iPKIKP	PKPdf	03 29 27.2	+1.3
	comp=Z,logA/T=0.8						
CLL	**Collm**	**134.41**	**337**	⇑iPKIKP	PKPdf	03 29 27.2	+1.3
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PRU	**Pruhonice**	**134.80**	**335**	ePKIKP	PKPdf	03 29 28.1	+1.4
KHC	**Kasperske Hory**	**135.86**	**334**	ePKIKP	PKPdf	03 29 29.5	+0.9
GERES	**GERESS Array B**	**136.03**	**334**	PKP	PKPdf	03 29 30.2	+1.2
	comp=Z,1.8nm,0.7s,baz=315,slow=1.9,SNR=11						
HINF	**Hinteralfeld**	**139.56**	**339**	ePKIKP	PKPdf	03 29 38.0	+2.6
MEZF	**Maizieres J'vi**	**139.58**	**341**	ePKIKP	PKPdf	03 29 36.6	+1.2
CABF	**La Chapelle**	**140.86**	**338**	ePKIKP	PKPdf	03 29 39.2	+1.4
	comp=Z,43nm,1.3s						
LOR	**Lormes**	**141.05**	**341**	ePKIKP	PKPdf	03 29 41.6	+3.5
	comp=Z,7.4nm,0.9s						
LOR				eR			
	comp=Z,49nm,17.8s						
SSF	**Saint Saulge**	**141.35**	**341**	ePKIKP	PKPdf	03 29 41.9	+3.3
	comp=Z,21nm,1.1s						
SMF	**Signal de Mont**	**141.61**	**341**	ePKIKP	PKPdf	03 29 42.2	+3.1
AVF	**Avril sur Loir**	**141.64**	**341**	ePKIKP	PKPdf	03 29 41.2	+2.1
ORIF	**Oris-en-Rattie**	**142.37**	**337**	ePKIKP	PKPdf	03 29 37.5	-3.0
	comp=Z,15nm,0.9s						
ORIF				eR			
	comp=Z,47nm,19.5s						
MFF	**Saint Martin d**	**142.82**	**345**	ePKIKP	PKPdf	03 29 38.8	-2.4
	comp=Z,26nm,1.0s						
VIVF	**Saint-Julien-l**	**142.88**	**338**	ePKIKP	PKPdf	03 29 39.4	-1.9
FRF	**La Foret Royal**	**143.20**	**335**	ePKIKP	PKPdf	03 29 39.7	-2.2
LMR	**La Mourre**	**143.44**	**335**	ePKIKP	PKPdf	03 29 40.8	-1.5
	comp=Z,24nm,0.9s						
RJF	**Les Rejaudoux**	**143.54**	**342**	ePKIKP	PKPdf	03 29 41.4	-1.0
RJF				eR			
	comp=Z,60nm,22.5s						
CAF	**Calviac**	**143.71**	**341**	ePKIKP	PKPdf	03 29 42.2	-0.5
	comp=Z,38nm,1.2s						
LASF	**Ste Croix**	**143.84**	**338**	ePKIKP	PKPdf	03 29 42.7	-0.3
	comp=Z,92nm,1.3s						
LFF	**La Frestale**	**144.10**	**342**	ePKIKP	PKPdf	03 29 43.4	0.0
	comp=Z,52nm,1.0s						
MTLF	**Montolieu**	**145.06**	**340**	ePKIKP	PKPdf	03 29 45.7	+0.5
	comp=Z,80nm,1.2s						
EJON	**La Jonquera**	**145.61**	**338**	PKP	PKPdf	03 29 47.8	+1.6
EALK	**Alkurruntz**	**146.32**	**344**	PKP	PKPdf	03 29 50.8	+3.5
ETSF	**Etsaut**	**146.35**	**343**	ePKIKP	PKPdf	03 29 50.9	+3.6
	comp=Z,29nm,0.8s						
EMIR	**Miracle**	**146.56**	**339**	PKP	PKPdf	03 29 51.6	+3.9
EPOB	**Poblet**	**147.22**	**339**	PKP	PKPdf	03 29 51.7	+2.9
ESAC	**San Caprasio**	**147.39**	**342**	PKP	PKPdf	03 29 53.6	+4.5
EPON	**Pontenova**	**147.42**	**351**	PKP	PKPdf	03 29 53.0	+3.9
STS	**Santiago**	**148.04**	**353**	PKP	PKPdf	03 29 55.2	+5.1
ERUA	**La Rua**	**148.33**	**351**	PKP	PKPdf	03 29 56.1	+5.5
EMOS	**Mosqueruela**	**148.62**	**340**	PKP	PKPdf	03 29 57.0	+5.8
ETOR	**Torete**	**148.70**	**343**	PKP	PKPdf	03 29 56.2	+5.0
ECAL	**Calabor**	**148.70**	**350**	PKP	PKPdf	03 29 55.5	+4.2
PBRG	**Braganca**	**148.84**	**350**	ePKPbc	PKPdf	03 29 56.4	+4.9
PVIS	**Viseu**	**150.09**	**351**	ePKPbc	PKPdf	03 30 00.1	+6.7
ESDC	**Sonseca Array**	**150.29**	**345**	PKPbc	PKPdf	03 30 01.1	+7.4
	comp=Z,6.2nm,0.9s,baz=16,slow=3.2,SNR=17						
ESDC				PKPab	PKPab	03 30 08.2	0.0
	comp=Z,2.5nm,0.7s,baz=22,slow=3.1,SNR=6.0						
ESDC	**Sonseca Array**	**150.29**	**345**	PKP	PKPdf	03 30 00.4	+6.7
MTE	**Manteigas**	**150.34**	**351**	ePKPbc	PKPdf	03 30 01.1	+7.3
MTE	**Manteigas**	**150.34**	**351**	ePKPbc	PKPdf	03 30 00.4	+6.6
ETOB	**Tobarra**	**150.53**	**340**	PKP	PKPdf	03 30 01.8	+7.7
EVIA	**Vianos**	**150.84**	**342**	PKP	PKPdf	03 30 02.4	+7.8
PCBR	**Castelo Branco**	**150.88**	**350**	ePKPbc	PKPdf	03 30 01.3	+6.7
EMUR	**La Murta**	**151.15**	**339**	PKP	PKPdf	03 30 02.5	+7.4
PTOM	**Tomar**	**151.24**	**352**	ePKPbc	PKPdf	03 30 03.2	+8.0
EQES	**Quesada**	**151.78**	**342**	PKP	PKPdf	03 30 04.3	+8.3
EBAD	**Badajoz**	**151.85**	**349**	PKP	PKPdf	03 30 03.3	+7.2
EADA	**Adamuz**	**151.87**	**345**	PKP	PKPdf	03 30 04.5	+8.4
ELUQ	**Luque**	**152.35**	**344**	PKP	PKPdf	03 30 05.8	+9.0
ELOJ	**Sierra Loja**	**152.71**	**343**	PKP	PKPdf	03 30 06.0	+8.6
PBEJ	**Beja**	**152.71**	**350**	ePKPbc	PKPdf	03 30 06.5	+9.2
PBEJ				ePKPab	PKPab	03 30 18.6	+0.2
ERON	**Agron**	**152.73**	**343**	PKP	PKPdf	03 30 05.9	+8.5
EMIN	**Mina Concepcio**	**152.74**	**348**	PKP	PKPdf	03 30 06.3	+8.9
KIC	**Kosan Boka**	**170.00**	**243**	ePKP1	PKPdf	03 30 16.8	+0.9
	comp=Z,149nm,1.6s						
LIC	**Lamto**	**170.18**	**241**	ePKP1	PKPdf	03 30 15.9	-0.1
	comp=Z,40nm,1.4s						
TIC	**Toumodi**	**170.38**	**243**	ePKP1	PKPdf	03 30 17.1	+1.0
	comp=Z,5.5nm,0.2s						

IDC ***14*** *03:21:37.5±0.9, 40.87N×78.58E, mb4.0/11, mb1 4.1/13, mb1mx4.0/22, ML4.0/2, Error ellipse: s-maj=16.8km s-min=15.8km az=93.0*

MOS ***14*** *03:21:40.6±2.1, 40.88N×78.48E, h33^{km}, mb4.0/1, Error ellipse: s-maj=22.7km s-min=8.6km az=107.9*

BJI ***14*** *03:21:43.3, 40.88N×78.90E, h45^{km}, mb4.4, ML4.3*

NEIC ***14*** *03:21:43.1±1.3, 41.00N×78.50E, h36^{km}±12^{km}, mb4.0/2, Error ellipse: s-maj=15.8km s-min=8.9km az=219.0*

NNC ***14*** *03:21:44.0±1.6, 41.31N×78.48E, h19^{km}±10^{km}, mpv4.1, Error ellipse: s-maj=14.5km s-min=9.0km az=156.0*

ISC 14 03:21:40.9±0.5**, 40.81N**±0.03×**78.77E**±0.05**, h46^{km}**±7^{km}**, n60, σ1^{s}00**/67**, mb3.9**/10**, 8C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.38**	**308**	P	**P**	**03 22 19.0**	**+0.8**
	SNR=1000						
KSH	**Kashi**	**2.50**	**240**	eP	**P**	**03 22 25.3**	**+5.3**
KSH				S	**S**	**03 22 57.8**	**+8.3**
KSH				Smax			
	comp=N,1μm,0.8s						
KSH				Smax			
	comp=E,1μm,0.8s						
AAA	**Alma-Ata**	**2.81**	**332**	ePN	**P**	**03 22 24.2**	**-0.2**
AAA				i		03 23 00.5	
AAA				pmax	pmax		
	comp=Z,2μm,0.5s						
AAA				smax			
	comp=N,1μm,0.7s						
KZA	**Kyzart**	**2.93**	**297**	P	**P**	**03 22 26.6**	**+0.4**
	SNR=38						
TKM2	**Tokmak 2**	**3.17**	**313**	P	**P**	**03 22 30.2**	**+0.7**
	SNR=248						
KBK	**Karagaybulak**	**3.40**	**304**	P	**P**	**03 22 33.5**	**+0.7**
	SNR=12						
UCH	**Uchtor**	**3.49**	**295**	P	**P**	**03 22 34.3**	**+0.2**
	SNR=64						
AAK	**Ala-Archa**	**3.68**	**301**	P	**P**	**03 22 37.4**	**+0.6**
	SNR=10						
FRU	**Bishkek**	**3.70**	**304**	ePN	**P**	**03 22 37.0**	**0.0**
FRU				e		03 22 43.0	
FRU				e		03 22 53.0	
FRU				i		03 23 30.5	
FRU				pmax	pmax		
	comp=Z,300nm,1.6s						
FRU				smax			
	comp=E,1μm,1.9s						

CHMS	**Chumysh**	3.71	307	P	P	03 22 41.7	+4.6
	SNR=32						
USP	**Ospenovka**	4.01	309	P	P	03 22 41.2	-0.2
	SNR=6.0						
AML	**Almayashu**	4.03	291	P	P	03 22 41.2	-0.6
	SNR=33						
EKS2	**Erkin-Say**	4.17	298	P	P	03 22 44.0	+0.4
	SNR=7.7						
MK31	**Makanchi Array**	6.50	22	⇓Pn	P	03 23 16.2	-0.2
	comp=E,2.0nm,0.3s						
MK31				⇑Sn	S	03 24 28.9	-1.2
	comp=E,25nm,0.8s						
MK31				⇓Lg		03 25 00.0	
	comp=E,70nm,0.8s						
MKAR	**Makanchi Array**	6.50	22	Pn	P	03 23 16.1	-0.3
	comp=E,2.2nm,0.3s,baz=208,slow=14,SNR=62						
MKAR				Sn	S	03 24 30.1	0.0
	comp=E,2.5nm,0.3s,baz=198,slow=14,SNR=3.0						
MKAR				Lg		03 25 03.3	
	comp=E,3.7nm,0.3s,baz=209,slow=22,SNR=7.3						
MKAR	**Makanchi Array**	6.50	22	PN	P	03 23 16.2	-0.2
MKAR						03 24 28.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KK31	**Karatay Array**	6.56	293	⇑Pg	P	03 23 36.0	+19
	comp=Z,39nm,0.8s,baz=108,slow=17,SNR=92						
KK31				⇑Lg		03 25 01.3	
	comp=Z,36nm,0.8s,baz=104,slow=26,SNR=5.4						
KKAR	**Karatay Array**	6.56	293	*e*PN	P	03 23 33.9	+17
KKAR				pmax	pmax		
	comp=Z,30nm,0.7s						
WMQ	**Urumqi**	7.27	63	*e*P	P	03 23 29.4	+2.3
WMQ				S	S	03 24 48.9	-0.3
WMQ				Smax			
	comp=N,37nm,1.0s						
WMQ				Smax			
	comp=E,23nm,0.7s						
SDNR	**Sundarnagar**	9.40	189	*e*P	P	03 23 57.2	+0.6
SDNR				*e*S	S	03 25 37.4	-4.7
KURK	**Kurchatov**	9.91	359	⇑Lg		03 26 41.1	
	comp=E,50nm,1.1s						
KURK	**Kurchatov**	9.91	359	*e*P	P	03 24 00.6	-2.8
	comp=E,7.9nm,0.7s						
DDI	**Dehra Dun**	10.48	183	*e*P	P	03 24 11.2	-0.2
DDI				*e*S	S	03 26 01.0	-7.4
NDI	**New Delhi**	12.16	186	*e*P	P	03 24 34.0	-0.1
NDI				*e*		03 26 41.0	
NDI				*e*S	S	03 26 41.0	-8.3
AYAN	**Aya Nagar**	12.37	187	*e*P	P	03 24 35.9	-1.0
AYAN				*e*		03 27 17.7	
	comp=Z,11nm,0.3s						
SONA	**Sohna**	12.61	187	*e*P	P	03 24 39.1	-0.9
SONA				*e*		03 26 57.8	
	comp=E,24nm,0.9s						
SONA				*e*		03 26 58.2	
	comp=N,14nm,0.2s						
KUDL	**Kundal**	12.77	189	*e*P	P	03 24 43.2	+0.9
KUDL				*e*		03 27 16.6	
	comp=Z,13nm,1.1s						
KHET	**Khetri**	12.94	192	*i*	P	03 24 43.9	-0.6
KHET				*e*S	S	03 26 58.0	-10
KHET				*e*		03 27 07.3	
	comp=N,14nm,0.4s						
KHET				*e*		03 27 08.7	
	comp=E,9.3nm,0.6s						
VOSK	**Vostochnaya**	13.04	339	⇑Pn	P	03 24 41.9	-3.9
	comp=E,3.1nm,0.6s						
VOSK				⇓Lg		03 28 20.9	
	comp=E,25nm,1.1s						
VOSK	**Vostochnaya**	13.04	339	P	P	03 24 41.8	-4.0
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVA0	**Borovoye Array**	13.48	338	⇑Pn	P	03 24 47.7	-3.8
	comp=Z,0.7nm,0.8s,baz=144,slow=15,SNR=12						
BVA0				Lg		03 28 34.6	
	comp=Z,2.2nm,1.1s,baz=255,slow=41,SNR=4.0						
BVA0	**Borovoye Array**	13.48	338	*i* P	P	03 24 47.6	-3.8
BVAR	**Borovoye Array**	13.48	338	Pn	P	03 24 47.6	-3.8
	comp=Z,1.0nm,0.3s,baz=146,slow=16,SNR=16						
BVAR				Lg		03 28 38.1	
	comp=Z,0.3nm,0.3s,baz=162,slow=27,SNR=3.8						
BRVK	**Borovoye**	13.54	338	*e*P	P	03 24 47.8	-4.3
	comp=Z,4.2nm,0.6s						
KOLN	**Koldanda**	13.61	161	*e*P	P	03 24 53.7	+0.5
GKN	**Gorkha**	13.66	157	*e*P	P	03 24 54.9	+1.0
	comp=Z,9.5nm,0.4s						
ZRNK	**Zerenda**	13.84	335	⇓Pn	P	03 24 51.9	-4.2
	comp=Z,4.2nm,0.6s						
ZRNK				⇑Lg		03 28 46.4	
	comp=Z,34nm,1.9s						
ZRNK	**Zerenda**	13.84	335	*e*P	P	03 24 51.6	-4.5
	comp=Z,4.2nm,0.6s						
KKN	**Kakani**	14.05	156	*e*P	P	03 24 58.5	-0.5
	comp=Z,13nm,0.5s						
DMN	**Daman**	14.17	156	*e*P	P	03 24 59.0	-1.6
	comp=Z,3.7nm,0.2s						
PKI	**Pulchoki**	14.30	155	*e*P	P	03 25 01.0	-1.3
	comp=Z,32nm,1.1s						
NVS	**Novosibirsk**	14.35	10	*e*P	P	03 25 06.0	+3.3
NVS				pmax	pmax		
	comp=Z,13nm,1.0s						
NVS				pmax	pmax		
	comp=N,14nm,1.1s						
LSA	**Lhasa**	14.99	134	P	P	03 25 16.6	+5.3
AB31	**Akbulak array**	15.73	309	⇑P	P	03 25 16.4	-4.2
	comp=N,0.8nm,0.5s,baz=116,slow=13,SNR=18						
AB31	**Akbulak array**	15.73	309	*i* P	P	03 25 16.3	-4.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	20.43	327	P	P	03 26 15.9	-0.8
	comp=Z,9.2nm,0.6s						
SONM	**Songino Array**	20.90	61	P	P	03 26 24.2	+2.6
	comp=Z,5.3nm,0.7s,baz=262,slow=11,SNR=27						
BRTR	**Keskin Array B**	34.16	283	P	P	03 28 23.6	0.0
	comp=Z,1.6nm,0.7s,mb4.0,baz=94,slow=8.9,SNR=12						
FINES	**FINESS Array B**	37.62	321	P	P	03 28 52.7	0.0
	comp=Z,1.7nm,0.6s,mb3.9,baz=90,slow=9.5,SNR=8.8						
KEV	**Kevo**	39.30	334	*e*p	P	03 29 06.3	-0.2
ARCES	**ARCESS Array B**	39.72	334	P	P	03 29 10.4	+0.3
	comp=Z,1.8nm,0.4s,mb4.2,baz=99,slow=8.8,SNR=16						
IDI	**Anoyia**	42.23	281	P	P	03 29 30.6	-0.4
	comp=Z,1.7nm,0.4s,mb4.0,baz=90,slow=3.0,SNR=3.9						
NB2	**NORSAR Subarra**	44.78	320	P	P	03 29 50.5	-0.8
	comp=Z,1.0nm,0.6s,mb3.8,baz=86,slow=7.9						
NOA	**NORSAR Array B**	44.78	320	P	P	03 29 50.3	-1.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=86,slow=7.8,SNR=5.0						
GERES	**GERESS Array B**	45.56	303	P	P	03 29 58.4	+0.7
	comp=Z,0.5nm,0.5s,mb3.8,baz=59,slow=7.8,SNR=4.2						
ILAR	**Eielson Array**	68.85	19	P	P	03 32 42.0	0.0
	comp=Z,0.7nm,0.8s,mb3.6,baz=313,slow=5.3,SNR=10						
DAWY	**Dawson**	71.20	17	P	P	03 32 55.4	-0.9
YKA	**Yellowknife Ar**	76.48	6	P	P	03 33 27.2	+0.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=347,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	79.46	128	P	P	03 33 46.9	+2.6
	comp=Z,1.4nm,1.0s,mb3.9,baz=335,slow=4.8,SNR=6.0						
ASAR	**Alice Springs**	82.07	131	P	P	03 34 00.9	+2.9
	comp=Z,1.2nm,0.9s,mb3.8,baz=321,slow=5.2,SNR=8.2						

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*NIED **14** 03:29:00,22.70N×121.10E,h53^{km},Mw4.1 Best double couple: M$_0$1.72×10^{15} NP1:ϕ_s282°,δ64°,λ90°. NP2:ϕ_s102°,δ26°,λ90°.*

*BJI **14** 03:29:32.8,22.07N×121.10E,h20^{km},ML4.0*

*IDC **14** 03:29:39.7±0.8,22.75N×121.07E,mb3.9/10,mb1 4.0/11, mb1mx3.8/21,ML3.5/1,Error ellipse: s-maj=29.4km s-min=18.5km az=69.0*

*TAP **14** 03:29:41.0,22.93N×120.98E,h1^{km},ML4.3*

TAP Felt III J at Pinlang, II J at Taitung, I J at Lidau, II J at Tauyuan, II J at Taimali, I J at Sandimen, I J at Chenggung, I J at Jiashian.

*JMA **14** 03:29:41.0±0.4,22.75N×121.05E,h69^{km},M3.6*

*NEIC **14** 03:29:42.3±4.4,22.70N×121.02E,h15^{km}±28^{km}, ML4.7(TAP),Error ellipse: s-maj=14.0km s-min=8.8km az=83.0*

NEIC Recorded [3 TAP] in T'ai-tung, [2 TAP] in Kao-hsiung and [1 TAP] in P'ing-tung Counties.

ISC 14 03:29:40.1±0.3,**22.85N**±0.02×**121.08E**±0.02,**h8**^{km}±2^{km}, **n85,σ1^{s}29**/123,**mb3.8**/10,**13D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWG	**Pinlang**	0.03	192	⇓*i*P	Pg	03 29 43.7	+2.1
TWG				S	Sg	03 29 45.6	+3.1
TTN	**Taitung**	0.11	146	⇓*i*P	Pg	03 29 46.2	+3.5
TTN				S	Sg	03 29 50.3	+5.8
ECL	**Taimali**	0.28	205	*e*P	Pg	03 29 46.6	+0.8
ECL				S	Sg	03 29 50.2	+0.6
ELDTW	**Lidau**	0.34	351	⇓*i*P	Pg	03 29 46.6	-0.5
ELDTW				S	Sg	03 29 50.5	-1.3
CHKT	**Chengkung**	0.36	47	⇓*i*P	Pg	03 29 49.8	+2.3
CHKT				S	Sg	03 29 56.6	+4.2
SSD	**Sandimen**	0.42	256	⇓*i*P	Pg	03 29 47.4	-1.3
SSD				S	Sg	03 29 51.8	-2.6
STYT	**Tauyuan**	0.43	317	⇓*i*P	Pg	03 29 47.6	-1.2
STYT				S	Sg	03 29 52.2	-2.4
EAST	**Anshuo**	0.51	205	*e*P	Pg	03 29 51.0	+0.6
SGST	**Jiashian**	0.51	297	⇓*i*P	Pg	03 29 49.5	-0.9
SGST				S	Sg	03 29 55.5	-1.8
TAW	**Tawu**	0.52	199	*e*P	Pg	03 29 51.4	+0.9
TWF1	**Yuli**	0.54	22	⇓*i*P	Pg	03 29 51.0	0.0
TWF1				S	Sg	03 29 57.6	-0.6
SGLT	**Jiouru**	0.56	257	*e*P	Pg	03 29 50.5	-0.7
WTP	**Ta-pu**	0.58	313	⇓*i*P	Pg	03 29 51.2	-0.7
TWM1	**Shoushan**	0.60	268	⇓*i*P	Pg	03 29 52.2	0.0
CHN1	**Nanshi**	0.61	304	*e*P	Pg	03 29 51.8	-0.5
CHN1				S	Sg	03 30 01.0	+0.5
SCZT	**Fangliau**	0.64	222	*e*P	Pg	03 29 52.5	-0.4
CHN4	**Tsaushan**	0.67	318	⇓*i*P	Pg	03 29 52.9	-0.6
TWK	**Hsinying**	0.69	308	⇓*i*P	Pg	03 29 53.4	-0.5
TWK				S	Sg	03 30 02.7	-0.3
EHY	**Hungye**	0.69	19	⇓*i*P	Pg	03 29 53.4	-0.6
EHY				S	Sg	03 30 01.8	-1.4
CHN3	**Shinhua**	0.69	289	*e*P	Pg	03 29 54.9	+0.8
ALS	**Alishan**	0.71	339	*e*P	Pg	03 29 53.4	-0.9
ALS				S	Sg	03 30 02.5	-1.2
KAU	**Kaohsiung**	0.76	249	*e*P	Pb	03 29 56.7	+1.4
TWP	**Hsiaoliuchiu**	0.83	233	*e*P	Pb	03 29 59.1	+2.7
CHN5	**Tsauling**	0.83	334	*e*P	Pb	03 29 56.0	-0.4
SCLT	**Jiali**	0.88	292	*e*P	Pb	03 29 57.2	+0.1
SCLT				S	Sb	03 30 11.1	+2.3
CHN2	**Minshiung**	0.88	321	*e*P	Pb	03 29 57.0	-0.2
CHN2				S	Sb	03 30 09.9	+1.0
CHY	**Chiayi**	0.88	317	*e*P	Pb	03 29 55.7	-1.6
CHY				S	Sb	03 30 08.9	-0.2
HEN	**Hengchun**	0.90	201	*e*P	Pb	03 29 58.8	+1.3
HEN				S	Sb	03 30 17.6	+8.2
TWK1	**Hengchun**	0.94	196	*e*P	Pb	03 29 59.3	+1.1
TWK1				S	Sb	03 30 19.2	+8.7
CHN8	**Yiju**	0.94	302	P	Pb	03 29 58.2	0.0
CHN8				S	Sb	03 30 11.8	+1.1
WGK	**Gukeng**	0.96	330	*e*P	Pb	03 29 58.9	+0.3
WGK				S	Sb	03 30 12.3	+1.0
ESL	**Shilin**	1.02	19	*e*P	Pb	03 29 59.2	-0.3
SMLT	**Sun Moon Lake**	1.04	351	*e*P	Pb	03 30 00.3	+0.3
SMLT				S	Sb	03 30 16.2	+2.5
TYC	**Yuchr**	1.07	349	*e*P	Pb	03 30 00.5	0.0
TYC				S	Sb	03 30 15.8	+1.3
WNT	**Mingjian**	1.09	341	*e*P	Pb	03 30 01.4	+0.6
WNT				S	Sb	03 30 16.2	+1.2
WSF	**Szhu**	1.11	315	*e*P	Pb	03 30 00.9	-0.4
WSF				S	Sb	03 30 16.2	+0.5
HWA	**Hwalien**	1.22	23	*e*P	Pb	03 30 04.1	+1.0
WTCT	**Ta-ch'eng**	1.25	324	*e*P	Pb	03 30 03.5	0.0
WTCT				S	Sb	03 30 19.7	+0.1
WHF	**Hehuan Shan**	1.30	8	*e*P	Pb	03 30 03.9	-0.5
WHF				S	Sb	03 30 23.8	+2.6
TWD	**Chiawan**	1.31	21	P	Pb	03 30 04.7	0.0
TCU	**Taichung**	1.34	344	*e*P	Pb	03 30 06.1	+0.9
WDGT	**Dungji**	1.37	288	*e*P	Pb	03 30 04.0	-1.6
WDGT				S	Sb	03 30 21.2	-1.9
TWT	**Tachien**	1.40	4	*e*P	Pn	03 30 06.7	+0.6
PNG	**Penghu**	1.57	297	*e*P	Pn	03 30 06.8	-1.7
PNG				S	Sb	03 30 26.1	-3.0
NSY	**Sanyi**	1.59	350	*e*P	Pn	03 30 09.8	+1.1
NSY				S	Sb	03 30 32.7	+3.2
NNS	**Nan Shan**	1.61	10	*e*P	Pn	03 30 09.9	+0.9
ENA	**Nanau**	1.69	21	*e*P	Pn	03 30 10.0	-0.2
NSTT	**Nanjuang**	1.78	358	*e*P	Pn	03 30 12.8	+1.3
NSTT				S	Sn	03 30 37.5	+3.1
NSK	**Sanguang**	1.84	8	*e*P	Pn	03 30 14.2	+1.9
ENTT	**Nioudou**	1.84	14	*e*P	Pn	03 30 14.4	+2.1
TWC	**Suao**	1.89	22	*e*P	Pn	03 30 14.9	+1.8
TWE	**Neicheng**	1.94	16	*e*P	Pn	03 30 16.1	+2.3
TATO	**Taipei**	2.15	10	*e*P	Pn	03 30 19.8	+3.0
TATO				*e*S	Sn	03 30 51.2	+7.2
TWA	**Mucha**	2.17	12	*e*P	Pn	03 30 21.1	+4.0
TAP1	**Taipei**	2.22	10	*e*P	Pn	03 30 19.9	+2.1
NWF	**Wu-fen Shan**	2.31	16	*e*P	Pn	03 30 19.4	+0.4
TWB1	**Santiao Chiao**	2.31	21	*e*P	Pn	03 30 21.4	+2.3
YOJ	**Yonaguni jima**	2.39	47	P	Pn	03 30 20.0	-0.3
YOJ				*e*S	Sn	03 30 48.6	-1.5
TWY	**Chenhua**	2.46	11	*e*P	Pn	03 30 22.7	+1.4
HATJ	**Hateruma jima**	2.78	64	P	Pn	03 30 24.7	-1.1
HATJ				*e*S	Sn	03 30 58.5	-1.4
IRIF	**Iriomote-Funau**	2.85	58	P	Pn	03 30 26.3	-0.5
IRIF				*e*S	Sn	03 31 01.3	-0.4
PCYT	**Pengchaiyu**	2.91	18	*e*P	Pn	03 30 31.3	+3.6
JKRS	**Kuro-shima**	3.02	62	P	Pn	03 30 28.8	-0.5
JKRS				*e*S	Sn	03 31 04.7	-1.4
QZH	**Quanzhou**	3.09	313	P	Pn	03 30 29.6	-0.6
QZH				S	Sn	03 31 13.3	+5.6
QZH				Smax			
	comp=N,400nm,0.7s						
QZH				Smax			
	comp=E,380nm,0.7s						
JIJ	**Ishigaki jima**	3.19	61	P	Pn	03 30 30.9	-0.7
JIJ				*e*S	Sn	03 31 07.5	-2.8
JTJ	**Tarama**	3.77	61	P	Pn	03 30 38.4	-1.5
JTJ				*e*S	Sn	03 31 22.7	-2.3
GZH	**Guangzhou**	7.13	273	P	Px	03 31 17.5	
GZH				Smax			
	comp=N,86nm,1.0s						
GZH				Smax			
	comp=E,47nm,1.3s						
JOW	**Kunigami**	7.64	57	Pn	Pn	03 31 32.9	-1.7
	comp=E,1.6nm,0.3s,baz=123,slow=28,SNR=2.8						
NJ2	**Nanjing**	9.38	348	*e*P	P	03 31 59.1	+0.5
NJ2				AP		03 32 02.6	
NJ2				XP		03 32 05.3	
NJ2				S	Sn	03 33 45.0	-0.4
QIZ	**Qiongzhong**	11.16	252	P	P	03 32 20.3	-2.9
SONM	**Songino Array**	27.56	338	P	P	03 35 30.0	+0.5
	comp=E,0.8nm,0.7s,mb3.5,baz=150,slow=10.0,SNR=6.5						
ASAJ	**Asahikawa**	27.63	35	P	P	03 35 31.2	+1.0
	comp=E,1.3nm,0.4s,mb3.9,baz=13,slow=32,SNR=2.2						
MKAR	**Makanchi Array**	39.24	317	P	P	03 37 10.4	-0.3
	comp=E,1.1nm,0.7s,mb3.7,baz=130,slow=9.5,SNR=7.8						
KURK	**Kurchatov**	43.06	321	P	P	03 37 41.4	-0.6
WRAB	**Tennant Creek**	44.45	162	*e*P	P	03 37 51.8	-2.0
WRA	**Warramunga Arr**	44.45	162	P	P	03 37 51.9	-1.9
	comp=E,1.0nm,0.5s,mb3.8,baz=344,slow=9.0,SNR=11						
ASAR	**Alice Springs**	47.89	164	P	P	03 38 19.4	-1.5
	comp=E,0.5nm,0.5s,mb3.8,baz=335,slow=6.4,SNR=8.0						
ARCES	**ARCESS Array B**	70.74	338	P	P	03 40 58.7	+0.3
	comp=E,1.8nm,1.0s,mb4.0,baz=79,slow=4.6,SNR=2.7						
ARCES	**ARCESS Array B**	70.74	338	P	P	03 40 58.7	+0.3
FINES	**FINESS Array B**	72.55	330	P	P	03 41 09.3	0.0
	comp=E,1.9nm,0.9s,mb4.0,baz=127,slow=9.5,SNR=4.8						
BRTR	**Keskin Array B**	73.89	307	P	P	03 41 17.3	-0.3
	comp=E,0.5nm,0.7s,mb3.5,baz=274,slow=33,SNR=3.0						
NB2	**NORSAR Subarra**	79.36	332	P	P	03 41 45.2	-2.6
	comp=E,2.0nm,1.0s,mb4.0,baz=61,slow=5.3						
NOA	**NORSAR Array B**	79.36	332	P	P	03 41 46.2	-1.6
	comp=E,0.4nm,0.5s,mb3.6,baz=62,slow=7.0,SNR=2.6						
NOA	**NORSAR Array B**	79.36	332	P	P	03 41 46.2	-1.6
YKA	**Yellowknife Ar**	84.23	23	P	P	03 42 11.6	-1.5
	comp=E,0.5nm,0.8s,mb3.7,baz=310,slow=4.7,SNR=6.8						

DJA 14 03:32:02.4±1.3,**8.50S**×**115.98E,h50**^{km}±9^{km},**MD4.8**/2, **2C-3D,Error ellipse: s-maj=43.7km s-min=15.2km az=153.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	0.13	87	⇑*e*Pn	P	03 32 09.8	-0.5
	336nm,0.1s						
KEDI				⇓*i*Sn	S	03 32 15.2	-0.8
RATI	**Rata**	0.50	243	⇓*i*Pn	P	03 32 13.1	-0.5
	2μm,0.3s						
RATI				⇓*i*Sn	S	03 32 21.0	-0.7
KELI	**Kelakatan**	1.50	281	⇑*e*Pn	P	03 32 26.3	-1.1

WEL 14 03:35:45.4±0.4,**37.36S**×**177.85E,h96**^{km}±3^{km},**ML3.7**/2, **2C-2D,Error ellipse: s-maj=2.3km s-min=1.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.42	120	⇑P*	P	03 36 00.1	-0.2
MXZ				S*	S	03 36 11.6	0.0
WIZ	**White Island**	0.56	252	P*	P	03 36 00.9	-0.5
PUZ	**Puketiti**	0.79	156	PN	P	03 36 03.2	-0.4
PUZ				SN	S	03 36 16.8	-0.1
MWZ	**Matawai**	1.01	195	P*	P	03 36 05.7	-0.2
MWZ				S*	S	03 36 21.3	0.0
URZ	**Urewera**	1.08	213	⇓P*	P	03 36 06.1	-0.7
URZ				S*	S	03 36 21.8	-0.9
EDRZ	**Edgecumbe**	1.16	229	P*	P	03 36 07.3	-0.5
MYRZ	**Mayor Island**	1.29	273	P*	P	03 36 09.0	-0.3
TAZ	**Tarawera**	1.38	230	P*	P	03 36 10.7	+0.3
KNZ	**Kokohu**	1.67	185	⇑PN	P	03 36 13.1	-1.0
KNZ				SN	S	03 36 34.8	-0.3
KUZ	**Kuaotunu**	1.81	289	⇓PN	P	03 36 15.2	-0.7
BKZ	**Black Stump Fm**	2.10	210	PN	P	03 36 18.8	-0.9
BKZ				SN	S	03 36 44.5	-0.7
BFZ	**Birch Farm**	3.55	200	PN	P	03 36 35.6	-4.1
BFZ				SN	S	03 37 16.2	-4.5

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*IDC **14** 03:46:42.2±5.5,5.42S×152.52E,h60^{km}±49^{km},mb3.8/7, mb1 4.0/9,mb1mx3.9/15,ML3.1/2,MS3.4/5,Ms1 3.4/5, ms1mx3.2/17,Error ellipse: s-maj=49.4km s-min=28.1km az=123.0*

*NEIC **14** 03:46:42.8±2.4,5.41S×152.47E,h65^{km}±21^{km},mb4.3/5, Error ellipse: s-maj=23.5km s-min=15.4km az=116.0*

ISC 14 03:46:40.6±3.7,**5.3S**±0.2×**152.4E**±0.2,**h54**^{km}±32^{km},**n21, σ0^{s}83**/19,**mb4.1**/10,**MS3.5**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	6.57	231	P	P	03 48 17.7	+0.7
	2.1nm,0.3s,baz=25,slow=7.9,SNR=19						
PMG				S	S	03 49 31.1	-0.3
	10nm,0.3s,baz=140,slow=20,SNR=10						
PMG				LR	LR	03 50 21.6	
	comp=Z,125nm,19.0s,baz=225,slow=33						
CTA	**Charters Tower**	15.85	201	P	P	03 50 21.5	-0.3
	0.1nm,0.3s,baz=69,slow=11,SNR=2.8						
CTA				LR	LR	03 55 29.9	
	comp=Z,105nm,19.6s,baz=106,slow=33						
CTA	**Charters Tower**	15.85	201	P	P	03 50 21.5	-0.3
CTA				LR	LR	03 55 29.9	
CTAO	**Charters Tower**	15.85	201	P	P	03 50 20.8	-1.1
	6.2nm,0.3s						
KAKA	**Kakadu**	21.03	248	*e*P	P	03 51 20.8	-1.4
	14nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	22.77	229	*e*P	P	03 51 39.5	0.0
	10.0nm,1.0s,mb4.2						
WB2	**Warramunga Arr**	22.78	229	*e*P	P	03 51 40.2	+0.6
WRA	**Warramunga Arr**	22.79	229	P	P	03 51 41.0	+1.3
	6.7nm,1.1s,mb4.0,baz=53,slow=9.9,SNR=20						
ASAR	**Alice Springs**	25.48	222	P	P	03 52 05.5	-0.3
	4.8nm,0.9s,mb4.0,baz=55,slow=9.1,SNR=33						
ASPA	**Alice Springs**	25.49	222	*e*P	P	03 52 06.6	+0.9
STKA	**Stephens Creek**	28.30	200	LR	LR	04 03 40.1	
	comp=Z,112nm,20.6s,MS3.5,baz=205,slow=36						
FITZ	**Fitzroy Crossi**	29.04	242	*e*P	P	03 52 36.8	-1.3
	4.3nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	29.04	242	P	P	03 52 36.9	-1.2
	2.5nm,0.6s,mb4.1,baz=62,slow=5.7,SNR=12						
CMAR	**Chiang Mai Arr**	57.69	296	LR	LR	04 20 27.4	
	comp=Z,23nm,18.7s,MS3.3,baz=180,slow=35						
SONM	**Songino Array**	66.51	328	P	P	03 57 26.9	-0.1
	1.1nm,0.9s,mb3.9,baz=135,slow=5.2,SNR=5.7						
MKAR	**Makanchi Array**	80.41	319	P	P	03 58 49.5	+1.3
	0.9nm,0.7s,mb3.8,baz=90,slow=8.5,SNR=7.1						
ILAR	**Eielson Array**	82.79	22	P	P	03 58 58.9	-1.2
	1.1nm,0.8s,mb4.0,baz=251,slow=5.7,SNR=10						
KURK	**Kurchatov**	83.89	322	*e*P	P	03 59 06.1	+0.1
	2.2nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	96.07	28	P	P	04 00 03.5	+0.3
	0.4nm,0.7s,mb3.9,baz=276,slow=4.0,SNR=4.8						
YKA				LR	LR	04 39 15.7	
	comp=Z,31nm,20.1s,MS3.8,baz=10.0,slow=33						
YKA	**Yellowknife Ar**	96.07	28	P	P	04 00 03.5	+0.3
YKA				LR	LR	04 39 15.7	
GERES	**GERESS Array B**	124.25	328	PKP	PKPdf	04 05 34.5	+0.8
	0.3nm,0.5s,baz=56,slow=3.5,SNR=3.7						

IDC 14 04:24:49.5±1.8,**0.60N**×**135.81E,mb3.6**/4,**mb1 3.9**/5, **mb1mx3.7**/15,**ML3.7**/1,**Error ellipse: s-maj=75.5km s-min=26.3km az=77.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	15.05	132	Pn	P	04 28 23.5	-1.9
	1.3nm,0.3s,baz=273,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	20.46	184	P	P	04 29 27.7	-3.9
	0.9nm,0.4s,baz=3.3,slow=12,SNR=42						
FITZ	**Fitzroy Crossi**	21.10	208	P	P	04 29 30.1	-8.1
	2.3nm,1.0s,baz=8.7,slow=13,SNR=5.2						
ASAR	**Alice Springs**	24.19	184	P	P	04 30 08.8	0.0
	0.8nm,0.4s,baz=7.6,slow=11,SNR=15						
SONM	**Songino Array**	53.52	336	P	P	04 34 11.8	-2.3
	1.0nm,1.0s,baz=153,slow=3.2,SNR=4.9						

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*IDC **14** 04:51:06.7±6.3,17.88S×178.47W,h590^{km}±79^{km},mb3.1/7, mb1 3.4/7,mb1mx3.2/15,Error ellipse: s-maj=45.5km s-min=23.5km az=180.0*

ISC 14 04:51:05.8±0.8,**18.0S**±0.2×**178.6W**±0.2,**h590**^{km},**n13, σ0^{s}66**/11,**mb3.7**/7,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	20.58	190	P	P	04 55 05.8	-0.7
	4.0nm,0.7s,baz=330,slow=16,SNR=3.6						
STKA	**Stephens Creek**	38.47	241	*e*P	P	04 57 41.5	+1.6
	4.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	38.47	241	P	P	04 57 41.2	+1.3
	7.8nm,0.7s,mb4.3,baz=86,slow=7.8,SNR=12						
WB2	**Warramunga Arr**	44.46	260	*e*P	P	04 58 27.0	-0.5
WRA	**Warramunga Arr**	44.47	260	P	P	04 58 27.0	-0.5
	1.8nm,0.7s,mb3.7,baz=92,slow=7.0,SNR=20						
ASAR	**Alice Springs**	44.63	254	P	P	04 58 29.1	+0.4
	15nm,0.6s,mb4.7,baz=88,slow=8.3,SNR=271						
ASAR				PcP	PcP	04 59 59.2	+0.5
	0.4nm,0.5s,baz=90,slow=2.9,SNR=4.0						
ASPA	**Alice Springs**	44.63	254	*e*P	P	04 58 29.0	+0.2
KAKA	**Kakadu**	47.47	269	*e*P	P	04 58 50.0	-0.4
	2.7nm,0.5s,mb4.0						
ILAR	**Eielson Array**	85.97	13	P	P	05 02 44.4	-0.6
	0.1nm,0.4s,mb2.8,baz=224,slow=5.2,SNR=3.7						
TXAR	**Lajitas Array**	86.15	58	P	P	05 02 47.5	+0.7
	0.3nm,0.9s,mb2.9,baz=203,slow=6.9,SNR=6.0						
PDAR	**Pinedale Array**	87.49	43	P	P	05 02 52.7	0.0
	0.3nm,0.6s,mb3.2,baz=236,slow=3.3,SNR=3.9						
BRTR	**Keskin Array B**	144.71	315	PKP	PKPdf	05 09 37.8	+1.8
	0.8nm,0.8s,baz=45,slow=2.0,SNR=3.6						
GERES	**GERESS Array B**	147.62	345	PKPbc	PKPdf	05 09 42.6	+2.1
	0.2nm,0.3s,baz=278,slow=27,SNR=2.9						

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*THE **14** 05:33:25.2,40.18N×21.68E,h10^{km},ML3.2*

*NEIC **14** 05:33:25.6,40.14N×21.74E,h7^{km},MD3.3(ATH), ML3.2(THE),After ATH.*

*ATH **14** 05:33:25.6,40.14N×21.74E,h7^{km},MD3.3/7*

ISC 14 05:33:24.9±0.3,**40.17N**±0.02×**21.68E**±0.03,**h7**^{km},**n26, σ1^{s}28**/37,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	**Kozani**	0.15	26	*e*PG	Pg	05 33 29.1	+0.9
KZN				*e*SG	Sg	05 33 32.1	+1.7
MEV	**Metsovon**	0.52	222	*e*Pg	Pg	05 33 34.7	-0.7
	comp=Z,24nm,0.2s						
MEV				*e*Sg	Sg	05 33 44.0	+1.7
LIT	**Litokhoron**	0.62	96	*e*Pg	Pg	05 33 36.8	-0.6
LIT				*e*Sg	Sg	05 33 47.0	+1.3
FNA	**Florina**	0.66	339	*e*Pg	Pg	05 33 37.2	-0.8
	comp=Z,28nm,0.1s						
FNA				*e*Sg	Sg	05 33 46.3	-0.5
JAN	**Janina**	0.82	232	*e*PB	Pb	05 33 40.7	-0.4
KBN	**Korca**	0.82	304	*i* Pg	Pg	05 33 40.6	-0.7
KBN				*i* Sg	Sg	05 33 51.3	-1.0
BIA	**Bitola**	0.89	342	*i* Pg	Pg	05 33 34.4	-8.4
BIA				*i* Sg	Sg	05 33 49.1	-5.6

GRG	Griva	0.96	35	ePg	Pg	05 33 43.7	-0.4
GRG				eSg	Sg	05 33 57.1	+0.2
OHR	Ohrid	1.16	325	i Pn	Pn	05 33 46.5	-1.0
OHR				i Sg	Sg	05 34 04.7	+1.2
AGG	Agios Georgios	1.25	156	ePb	Pb	05 33 48.4	0.0
	comp=Z,6.8nm,0.6s						
AGG				eSb	Sb	05 34 06.3	+1.7
EVR	Evrytania	1.25	175	ePN	Pn	05 33 47.6	-1.3
EVR				eSB	Sb	05 34 06.5	+1.8
KNT	Kendrikon	1.36	43	ePb	Pb	05 33 50.1	-0.1
KNT				eSb	Sb	05 34 10.7	+3.0
PLG	Polygyros	1.36	81	ePG	Pg	05 33 51.4	-0.8
XOR	Xorichti	1.41	124	ePb	Pb	05 33 50.6	-0.6
NEO	Neokhori	1.47	125	ePG	Pg	05 33 51.4	-2.9
KEK	Kerkira	1.52	253	ePB	Pb	05 33 55.2	+2.2
LKD	Levkas	1.66	209	ePb	Pb	05 33 56.2	+0.7
OUR	Ouranopolis	1.77	84	ePb	Pb	05 33 56.3	-1.0
	comp=Z,2.1nm,0.8s						
SKO	Skopje	1.81	354	ePn	Pn	05 33 53.0	-3.8
SKO				i		05 34 00.5	
TIR	Tirane	1.81	311	ePn	Pn	05 33 59.0	+2.1
LKR	Lokris	1.83	146	ePB	Pb	05 33 56.6	-1.7
KKB	Krupnik	2.00	32	i P	Pn	05 34 00.0	+0.5
MMB	Musomiste	2.10	47	i P	Pn	05 34 01.0	0.0
VLS	Valsamata	2.16	203	ePG	Pg	05 34 05.5	-2.6
VTS	Vitosha	2.68	25	eP	Pn	05 34 08.0	-1.2
RZN	Rozhen	2.75	56	eP	Pn	05 34 14.0	+3.7

JMA ***14*** *05:57:47.5±0.2, 37.28N×141.75E, h39^{km}±3^{km}, M3.6*

ISC 14 05:57:47.3±1.6**, 37.26N**±0.05×**141.8E**±0.1**, h39**^{km}**, n10, σ0^{s}89**/17**, 1C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.73	279	⇓P	P	05 58 01.1	0.0
JFK				S	S	05 58 10.1	-1.1
ONAJ	Iwakimizuishiy	0.80	259	⇓P	P	05 58 02.2	+0.1
ONAJ				S	S	05 58 12.2	-0.8
JMM	Marumori	0.99	308	⇓P	P	05 58 04.7	-0.1
JHO	Hitachi	1.17	237	P	P	05 58 07.2	-0.1
JHO				eS	S	05 58 20.7	-1.6
JFT	Otama	1.18	283	⇓P	P	05 58 08.3	+0.8
JFT				eS	S	05 58 22.5	-0.1
JIO	Ouri	1.24	344	⇑P	P	05 58 08.2	-0.2
JIO				eS	S	05 58 22.0	-2.2
JOU	Okura	1.41	322	eS	S	05 58 28.8	+0.2
JFY	Yanaizu	1.66	276	P	P	05 58 15.0	+0.6
JYS	Shirataka	1.66	306	P	P	05 58 15.3	+0.8
JYS				eS	S	05 58 36.1	+1.3
MAT	Matsushiro	2.95	257	P	P	05 58 33.5	+0.7
MAT				eS	S	05 59 08.5	+1.1

ISK ***14*** *06:21:11.2, 38.45N×39.16E, h5^{km}, MD3.6*

ISC 14 06:21:12.6±0.4**, 38.39N**±0.05×**39.21E**±0.03**, h5**^{km}**, n22, σ1^{s}04**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.21	302	i P	Pg	06 21 16.6	-0.2
ELZG				i S	Sg	06 21 22.1	+2.4
MALT	Malatya	0.62	263	i PG	Pg	06 21 23.6	-1.4
MALT				i SG	Sg	06 21 32.6	-0.6
MALT	Malatya	0.62	263	i P	Pg	06 21 24.0	-0.9
MALT				i S	Sg	06 21 32.1	-1.2
MYA	Malataya	0.62	264	i PG	Pg	06 21 24.2	-0.8
MYA				i SG	Sg	06 21 33.6	+0.4
DIY	Diyarbakir	0.94	121	i PG	Pg	06 21 31.4	0.0
BINT	Bingol	1.11	64	PN	Pn	06 21 34.3	-0.5
EZC	Erzincan	1.44	19	PN	Pn	06 21 37.0	-2.4
GZT	Gaziantep	1.66	232	i P	Pn	06 21 42.9	+0.3
GZT				i S	Sb	06 22 09.1	+4.6
BEST	Besiri	1.70	106	i P	Pn	06 21 43.3	+0.2
BEST				i S	Sn	06 22 07.4	+1.9
KELT	Kelkit	1.76	1	i P	Pn	06 21 45.1	+1.1
BTMT	Batman	1.81	96	PN	Pn	06 21 43.6	-1.1
KAHT	Ahir Dag	1.99	248	i P	Pn	06 21 47.2	-0.1
KAHT				i S	Sn	06 22 19.6	+6.6
GAZ	Gaziantep	1.99	233	ePN	Pn	06 21 47.5	+0.1
GUMT	Gumushane	2.08	6	ePN	Pn	06 21 47.6	-1.0
SVST	Sivas	2.23	309	i P	Pn	06 21 53.0	+2.2
SVST				i S	Sn	06 22 26.2	+7.2
EZM	Erzurum	2.26	47	ePN	Pn	06 21 50.8	-0.4
ERZM	Erzurum	2.26	47	i P	Pn	06 21 51.2	+0.1
SVSK	Karacayir	2.30	312	PN	Pn	06 21 51.2	-0.5
AVNT	Avonos	3.43	278	i P	Pn	06 22 07.9	0.0
HKR	Hakkari	3.67	101	ePN	Pn	06 22 12.0	+0.7
CTKT	Corum	4.08	305	i P	Pn	06 22 18.5	+1.4
BOYT	Boyabat	4.49	314	i P	Pn	06 22 21.8	-1.0

IDC ***14*** *06:24:37.8±3.0, 6.51S×154.99E, h54^{km}±25^{km}, mb4.2/13, mb1 4.3/15, mb1mx4.3/16, ML3.6/2, MS3.9/7, Ms1 3.9/7, ms1mx3.6/14, Error ellipse: s-maj=19.4km s-min=16.5km az=94.0*

NEIC ***14*** *06:24:41.5±1.9, 6.52S×154.92E, h87^{km}±17^{km}, mb4.5/10, Error ellipse: s-maj=13.2km s-min=9.9km az=104.0*

ISC 14 06:24:39.1±2.2**, 6.53S**±0.08×**154.92E**±0.08**, h79**^{km}±18^{km}**, n45, σ0^{s}79**/44**, mb4.5**/26**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.20	249	P	P	06 26 36.3	-1.1
	4.8nm,0.3s,baz=61,slow=6.3,SNR=18						
PMG				S	S	06 28 10.0	+0.7
	1.0nm,0.3s,baz=64,slow=20,SNR=7.7						
PMG				LR	LR	06 29 38.1	
	comp=Z,812nm,20.4s,baz=256,slow=36						
CTA	Charters Tower	15.89	211	P	P	06 28 18.0	-1.4
	0.1nm,0.3s,baz=30,slow=16,SNR=3.7						
CTA				LR	LR	06 33 39.2	
	comp=Z,335nm,20.1s,baz=44,slow=34						
CTA	Charters Tower	15.89	211	eP	P	06 28 22.1	+2.7
	7.2nm,0.8s						
CTA				LR	LR	06 33 39.2	
CTAO	Charters Tower	15.89	211	eP	P	06 28 21.1	+1.7
	11nm,0.8s						
WRAB	Tennant Creek	24.01	234	eP	P	06 29 48.3	+0.6
	20nm,0.5s,mb4.7						
WRAB				e		06 30 03.7	
WB2	Warramunga Arr	24.01	234	eP	P	06 29 48.5	+0.8
WB2				e		06 30 03.7	
WRA	Warramunga Arr	24.02	234	P	P	06 29 48.5	+0.6
	5.9nm,0.9s,mb3.9,baz=57,slow=9.9,SNR=46						
WRA				PcP	PcP	06 33 29.1	-0.2
	2.5nm,0.4s,baz=59,slow=2.3,SNR=17						
WRA				LR	LR	06 38 54.6	
	comp=Z,229nm,19.4s,baz=60,slow=36						
ASAR	Alice Springs	26.43	228	P	P	06 30 09.7	-0.9
	3.1nm,0.6s,mb3.9,baz=61,slow=8.7,SNR=39						
ASAR				PcP	PcP	06 33 34.4	-0.2
	1.5nm,0.5s,baz=57,slow=2.7,SNR=7.2						
ASAR				ScP		06 37 10.9	
	0.6nm,0.7s,baz=36,slow=2.6,SNR=5.0						
ASPA	Alice Springs	26.43	228	eP	P	06 30 10.8	+0.2
ASPA				e		06 30 21.2	
ASPA				eS	S	06 34 35.9	-0.5
STKA	Stephens Creek	28.12	205	eP	P	06 30 36.2	+10
	5.1nm,0.7s,mb4.2						
STKA	Stephens Creek	28.12	205	P	P	06 30 24.0	-1.9
	1.1nm,0.5s,mb3.6,baz=42,slow=12,SNR=2.7						
STKA				LR	LR	06 41 34.3	
	comp=Z,315nm,18.4s,baz=290,slow=36						
STKA	Stephens Creek	28.12	205	P	P	06 30 24.0	-2.0
STKA				LR	LR	06 41 34.3	
FITZ	Fitzroy Crossi	30.78	245	eP	P	06 30 48.3	-1.3
	4.9nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	30.78	245	P	P	06 30 47.9	-1.7
	4.6nm,0.7s,mb4.3,baz=53,slow=3.4,SNR=15						
FITZ				LR	LR	06 43 29.9	
	comp=Z,155nm,18.3s,baz=92,slow=37						
FORT	Forrest	34.88	223	eP	P	06 31 25.1	+0.1
	27nm,0.6s,mb5.2						
URZ	Urewera	37.45	151	P	P	06 31 47.6	+1.0
	3.5nm,0.4s,mb4.6,baz=314,slow=5.6,SNR=5.2						
NANT	Nan	59.06	296	P	P	06 34 34.0	+0.2
KMI	Kunming	59.70	304	eP	P	06 34 38.5	+0.4
	15nm,1.2s,mb4.9						
KMI				LR	LR		
	comp=Z,70nm,21.8s						
CMAR	Chiang Mai Arr	60.52	295	P	P	06 34 44.4	+0.6
	comp=Z,15nm,1.0s,mb5.0,baz=112,slow=5.1,SNR=40						
CMAR				LR	LR	07 00 19.0	
	comp=Z,40nm,18.6s,baz=135,slow=35						
ULN	Ulaanbaatar	68.57	328	eP	P	06 35 35.5	-0.1
	comp=Z,0.8nm,0.6s,mb3.7						
SONM	Songino Array	68.91	327	P	P	06 35 37.6	-0.1
	comp=Z,2.3nm,0.5s,mb4.2,baz=143,slow=5.7,SNR=20						
SHL	Shillong	69.00	300	eP	P	06 35 35.2	-3.4
VNDA	Vanda	71.05	178	P	P	06 35 49.6	-0.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=340,slow=6.7,SNR=4.1						
GUN	Gumba	74.81	301	eP	P	06 36 13.7	+0.5
	comp=Z,12nm,0.4s,mb5.0						
PKI	Pulchoki	75.12	301	eP	P	06 36 15.2	+0.3
	comp=Z,8.2nm,0.7s,mb4.6						
KKN	Kakani	75.29	301	eP	P	06 36 15.7	-0.2
	comp=Z,11nm,0.5s,mb4.8						
DMN	Daman	75.39	301	eP	P	06 36 17.2	+0.7
	comp=Z,24nm,0.9s,mb5.0						
GKN	Gorkha	75.90	301	eP	P	06 36 19.1	-0.3
	comp=Z,30nm,1.0s,mb5.0						
KOLN	Koldanda	76.72	300	eP	P	06 36 23.9	-0.1
	comp=Z,7.3nm,0.5s,mb4.6						
SLKM	Skilak Lake	79.35	24	eP	P	06 36 37.4	-0.4
MCK	McKinley	81.65	22	eP	P	06 36 48.8	-1.1
	comp=Z,6.1nm,0.9s,mb4.4						
ILAR	Eielson Array	82.97	22	P	P	06 36 55.8	-0.9
	comp=Z,1.5nm,0.4s,mb4.2,baz=243,slow=5.8,SNR=34						
ILAR				LR	LR	07 09 16.4	
	comp=Z,118nm,21.2s,baz=324,slow=32						
MKAR	Makanchi Array	83.01	319	P	P	06 36 57.1	-0.1
	comp=Z,4.9nm,0.9s,mb4.3,baz=105,slow=6.2,SNR=19						
QSPA	South Pole Qui	83.44	180	eP	P	06 36 58.9	+0.1
	comp=Z,5.8nm,0.8s,mb4.5						
MAW	Mawson	84.80	203	P	P	06 37 05.4	-0.3
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=7.0,SNR=7.1						
DLBC	Dease Lake	87.78	31	eP	P	06 37 21.4	+1.0
TPH	Tonopah	92.30	52	eP	P	06 37 42.9	+0.8
	comp=Z,4.0nm,1.0s,mb4.6						
YKA	Yellowknife Ar	95.96	28	P	P	06 37 58.5	+0.4
	comp=Z,1.9nm,0.5s,mb4.8,baz=268,slow=4.6,SNR=40						
YKA				PKKPbc		06 54 45.2	
	comp=Z,0.2nm,0.5s,baz=83,slow=2.8,SNR=6.4						
YKA	Yellowknife Ar	95.96	28	P	P	06 37 58.5	+0.4
YMR	Madison River	97.47	46	eP	P	06 38 06.8	+1.2
PDAR	Pinedale Array	98.44	48	P	P	06 38 09.8	-0.2
	comp=Z,0.9nm,0.9s,mb4.3,baz=270,slow=4.4,SNR=8.3						
PV10	Paradox Valley	98.74	52	eP	P	06 38 10.7	-0.8
GERES	GERESS Array B	126.62	329	PKP	PKPdf	06 43 34.3	+0.7
	comp=Z,0.2nm,0.5s,slow=2.7,SNR=3.7						
BDFB	Brasilia	148.36	134	PKPbc	PKPdf	06 44 18.5	+4.6
	comp=Z,6.6nm,0.6s,baz=214,slow=3.6,SNR=11						
DBIC	Dimbokro	159.91	272	PKPab	PKPab	06 45 11.3	-0.6
	comp=Z,3.5nm,0.6s,baz=68,slow=2.6,SNR=8.5						

LDG ***14*** *06:40:49.7±0.2, 17.78N×61.73W, h10^{km}, Mb4.6/19, Ms3.4/5, Error ellipse: s-maj=11.6km s-min=4.9km az=94.0*

TRN ***14*** *06:40:55.8, 17.54N×61.61W, h22^{km}, MD4.4, M4.4(FDF), Md4.4(FDF)*

IDC ***14*** *06:40:56.7±1.1, 17.60N×61.58W, h46^{km}±12^{km}, mb4.1/24, mb1 4.3/25, mb1mx4.2/28, ML4.8/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=11.7km s-min=7.7km az=46.0*

NEIC ***14*** *06:40:57.1±0.5, 17.60N×61.58W, h49^{km}±5^{km}, mb4.6/35, MS3.8/2, Error ellipse: s-maj=4.8km s-min=3.5km az=197.0*

ISC 14 06:40:54.3±0.2**, 17.79N**±0.02×**61.49W**±0.03**, h33**^{km}**, n119, σ0^{s}96**/129**, mb4.4**/59**, MS3.6**/3**, 12C-1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	Codrington	0.35	246	⇑iP	P	06 41 03.3	+0.6
CPB				eS	S	06 41 07.7	-1.0
BPA	Boggy Peak	0.82	206	⇑iP	P	06 41 08.4	-0.9
BPA	Boggy Peak	0.82	206	⇑iP	P	06 41 09.0	-0.3
BPA				eS	S	06 41 18.1	-2.3
NVRH	Round Hill, Ne	1.22	241	eP	P	06 41 16.5	+1.4
NVRH				eS	S	06 41 30.7	0.0
SKTB	Turtle Beach	1.22	242	eP	P	06 41 16.1	+1.0
SKTB				eS	S	06 41 32.4	+1.6
SKI	Saint Kitts	1.28	249	⇓iP	P	06 41 17.5	+1.6
SKI				eS	S	06 41 33.0	+0.9
DEG	La Desirade	1.52	164	⇑iP	P	06 41 19.3	-0.2
DEG				eS	S	06 41 39.4	+1.1
SFG	Saint Francois	1.55	170	eP	P	06 41 20.3	+0.5
SABT	Saba	1.68	265	eP	P	06 41 23.2	+1.5
SABT				eS	S	06 41 45.2	+2.9
DOG	Dongo Capester	1.75	184	eP	P	06 41 22.4	-0.4
MGG	Marie-Galante	1.87	175	eP	P	06 41 25.3	+1.0
DWS	Wesley	2.21	176	eP	P	06 41 31.4	+2.1
DWS				eS	S	06 41 59.2	+3.4
BBL	Barber's Block	2.25	180	eP	P	06 41 30.0	+0.1
BBL	Barber's Block	2.25	180	⇑eP	P	06 41 31.0	+1.2
BBL				eS	S	06 41 55.5	-1.2
DLVT	Layou Valley	2.34	178	eP	P	06 41 32.8	+1.7
MDN	Morne-Daniel	2.46	178	eP	P	06 41 34.0	+1.2
MDN				eS	S	06 41 59.3	-2.7
DSTT	Stowe	2.53	176	eP	P	06 41 35.7	+1.8
DSTT				eS	S	06 42 03.1	-0.8
FDF	Fort de France	3.05	174	eP	P	06 41 40.7	-0.6
FDF				eS	S	06 42 12.7	-4.4
CRM	Caravelle	3.07	170	eP	P	06 41 40.6	-0.9
MVM	Montagne Vaucl	3.27	170	eP	P	06 41 43.8	-0.5
BIM	Bigot	3.28	173	eP	P	06 41 44.9	+0.4
SJG	San Juan	4.45	275	P	P	06 42 01.5	+0.3
	27nm,0.3s,baz=96,slow=12,SNR=3.2						
SJG				S	S	06 42 50.7	-1.8
	42nm,0.3s,baz=4.7,slow=18,SNR=6.4						
SJG				LR	LR	06 43 02.1	
	comp=Z,341nm,19.3s,baz=102,slow=29						
SJG	San Juan	4.45	275	eP	P	06 42 01.4	+0.2
SJG				eS	S	06 42 51.0	-1.5
GRW	Mount Saint Ca	5.60	182	eP	P	06 42 18.4	+1.1
SDV	Santo Domingo	12.54	226	P	P	06 43 49.7	-3.7
	4.8nm,0.6s						
ROSC	El Rosal	17.97	226	P	P	06 45 02.7	-0.7
	5.6nm,0.3s,baz=109,slow=21,SNR=12						
JTS	JuntasAbangare	23.93	255	P	P	06 46 05.1	-1.4
	1.7nm,0.5s,mb3.8,baz=68,slow=23,SNR=4.7						
JTS	JuntasAbangare	23.93	255	P	P	06 46 05.3	-1.1
OTAV	Otavalo	24.14	226	eP	P	06 46 09.1	+0.6
	16nm,0.8s,mb4.5						
SAML	Samuel	26.62	184	eP	P	06 46 29.1	-2.9
	12nm,0.7s,mb4.5						
CPCT	Cooper Cave	26.97	315	eP	P	06 46 35.2	+0.2
LRAL	Lakeview Retre	27.49	308	eP	P	06 46 40.0	+0.3
	4.9nm,0.8s,mb4.1						
OXF	Oxford	29.95	309	eP	P	06 47 01.3	-0.4
	5.2nm,0.4s,mb4.6						
SADO	Sadowa	30.70	335	P	P	06 47 07.6	-0.7
	3.4nm,0.6s,mb4.4,baz=171,slow=5.7,SNR=4.8						
SADO	Sadowa	30.70	335	P	P	06 47 07.6	-0.7
LPAZ	La Paz	34.49	191	P	P	06 47 38.0	-3.5
	1.0nm,0.6s,mb4.0,baz=20,slow=4.3,SNR=5.6						
BDFB	Brasilia	35.77	157	P	P	06 47 51.3	-1.2
	1.1nm,0.4s,mb4.1,baz=270,slow=1.0,SNR=3.3						
JCT	Junction City	37.00	297	eP	P	06 48 01.7	-1.0
	10nm,0.8s,mb4.7						
KSU1	Kansas State U	37.15	312	P	P	06 48 00.9	-2.9
SCHQ	Schefferville	37.20	355	P	P	06 48 04.8	+0.6
	3.6nm,0.6s,mb4.4,baz=180,slow=4.9,SNR=13						
SCHQ				LR	LR	07 01 21.6	
	comp=Z,98nm,19.7s,MS3.6,baz=71,slow=33						
WMOK	Wichita Mounta	37.20	304	eP	P	06 48 02.9	-1.5
	2.7nm,0.5s,mb4.3						
LTX	Lajitas	40.14	295	P	P	06 48 29.5	+0.6
	2.6nm,0.5s,mb4.2						
TXAR	Lajitas Array	40.14	295	P	P	06 48 28.4	-0.4
	1.3nm,0.4s,mb4.0,baz=117,slow=7.3,SNR=56						
TXAR				PcP	PcP	06 50 33.7	+0.2
	0.9nm,0.5s,baz=107,slow=5.0,SNR=7.7						
TXAR	Lajitas Array	40.14	295	P	P	06 48 28.4	-0.4
TXAR				PcP	PcP	06 50 33.7	+0.2
LVC	Limon Verde	40.80	191	P	P	06 48 31.1	-3.4
	2.7nm,0.5s,mb4.1,baz=16,slow=7.5,SNR=7.1						
LVC	Limon Verde	40.80	191	eP	P	06 48 31.0	-3.5
	3.4nm,0.7s,mb4.1						
ULM	Lac du Bonnet	42.47	328	P	P	06 48 47.3	-0.6
	6.2nm,0.6s,mb4.5,baz=127,slow=8.7,SNR=24						
BNM	Barren Site	43.36	301	eP	P	06 48 55.7	+0.4
ANMO	Albuquerque	43.38	302	eP	P	06 48 55.3	-0.2
	1.2nm,0.5s,mb3.9						
CPUP	Villa Florida	44.04	175	P	P	06 48 57.2	-3.7
	1.3nm,0.4s,mb4.0,baz=29,slow=9.9,SNR=7.6						
FRB	Frobisher Bay	46.17	356	P	P	06 49 18.0	+0.6
	10nm,0.6s,mb5.0,baz=154,slow=7.5,SNR=20						
FRB	Frobisher Bay	46.17	356	P	P	06 49 18.0	+0.6
TUC	Tucson	46.55	298	eP	P	06 49 21.4	+0.6
	5.7nm,0.9s,mb4.5						
LAO	LASA Array	46.67	318	eP	P	06 49 21.8	+0.2
	6.1nm,0.8s,mb4.6						
PDAR	Pinedale Array	47.60	312	P	P	06 49 28.9	-0.1
	2.7nm,0.5s,mb4.5,baz=112,slow=8.7,SNR=44						
DAU	Daniels Canyon	48.24	309	eP	P	06 49 33.8	-0.2
JLU	Jordanelle	48.43	309	eP	P	06 49 35.8	+0.3
REDW	Red Top Meadow	48.68	313	eP	P	06 49 37.3	0.0
HWUT	Hardware Ranch	48.75	310	eP	P	06 49 37.5	-0.4
	2.0nm,0.5s,mb4.4						
TPAW	Teton Pass	48.78	313	eP	P	06 49 38.1	0.0
TPAW				ePcP	PcP	06 51 03.4	+0.4
DUG	Dugway	49.36	308	eP	P	06 49 42.5	-0.1
	2.4nm,0.7s,mb4.3						
QLMT	Earthquake Lak	49.48	314	eP	P	06 49 44.8	+1.3
HRY	Holter Researc	50.30	316	eP	P	06 49 50.0	+0.2
TPH	Tonopah	52.42	305	eP	P	06 50 01.9	-4.0
MNV	Mina	53.19	305	eP	P	06 50 11.1	-0.5
	1.7nm,0.7s,mb4.1						
OMM	Old Mammoth Mi	53.77	304	eP	P	06 50 16.0	+0.2
ESDC	Sonseca Array	53.99	54	P	P	06 50 17.9	+0.4
	0.7nm,0.6s,mb3.8,baz=257,slow=6.8,SNR=5.5						
NEW	Newport	54.18	317	eP	P	06 50 17.7	-1.0
	4.8nm,0.8s,mb4.5						
LRV	Little Rabbit	55.31	302	eP	P	06 50 27.3	+0.2
QUIF	Quistinic	55.86	44	eP	P	06 50 31.0	+0.1
OHCM	Honcut	55.86	306	eP	P	06 50 30.9	-0.2
ROSF	Rostrenen	55.87	43	eP	P	06 50 31.0	0.0
	10nm,0.7s,mb4.7						
NLW	Nelson Butte	56.24	316	P	P	06 50 32.7	-0.9
DBIC	Dimbokro	56.25	94	P	P	06 50 32.9	-1.2
	2.2nm,0.6s,mb4.4,baz=229,slow=12,SNR=7.1						
DBIC	Dimbokro	56.25	94	P	P	06 50 32.9	-1.2
SGMF	Saint Gilles	56.33	43	eP	P	06 50 35.1	+0.9
	12nm,0.8s,mb4.7						
SUMG	Summit	56.38	8	eP	P	06 50 34.8	+0.5
	12nm,1.0s,mb4.9						
SJPF	Ste Jean	56.44	50	⇑iP	P	06 50 35.8	+0.7
	13nm,0.6s,mb4.8						
ETSF	Etsaut	56.90	50	eP	P	06 50 38.9	+0.5
GRR	Gorron	57.46	44	eP	P	06 50 42.3	-0.1
	16nm,0.7s,mb4.8						
EPF	Esparros	57.57	50	⇑iP	P	06 50 43.8	+0.6
	6.7nm,0.5s,mb4.6						
MFF	Saint Martin d	57.66	46	⇑iP	P	06 50 44.0	+0.2
	9.0nm,0.7s,mb4.6						
YKA	Yellowknife Ar	57.70	334	P	P	06 50 42.3	-1.4
	4.9nm,0.6s,mb4.7,baz=106,slow=7.4,SNR=60						
FLN	La Foliniere	57.77	43	eP	P	06 50 44.6	+0.1
	7.1nm,0.6s,mb4.6						
FLN				eR			
	80nm,21.0s						
LDF	La Druitiere	57.98	43	eP	P	06 50 45.8	-0.2
	22nm,1.0s,mb4.8						
RJF	Les Rejaudoux	58.65	47	⇑iP	P	06 50 50.5	-0.2
	6.6nm,0.6s,mb4.5						
RJF				eR			
	77nm,22.8s						
PLCA	Paso Flores	58.83	188	P	P	06 50 49.4	-2.6
	2.2nm,0.7s,mb4.3,baz=357,slow=8.9,SNR=6.4						
MTLF	Montolieu	58.96	50	⇑iP	P	06 50 52.9	0.0
	7.8nm,0.8s,mb4.5						
CAF	Calviac	58.99	48	⇑iP	P	06 50 53.1	0.0
	7.4nm,0.7s,mb4.5						
TCF	Toulx Ste Croi	59.23	46	eP	P	06 50 54.7	-0.1
AVF	Avril sur Loir	60.07	46	eP	P	06 51 00.1	-0.4
	21nm,1.1s,mb4.8						
SSF	Saint Saulge	60.20	46	⇑iP	P	06 51 01.0	-0.4
	6.4nm,0.7s,mb4.5						
SMF	Signal de Mont	60.39	46	eP	P	06 51 02.5	-0.2
	10nm,0.9s,mb4.5						
LOR	Lormes	60.46	45	eP	P	06 51 02.7	-0.5
	11nm,0.9s,mb4.6						
LOR				eR			
	57nm,21.8s						
VIVF	Saint-Julien-l	60.84	48	eP	P	06 51 06.4	+0.7
MEZF	Maizieres J'vi	61.38	44	eP	P	06 51 09.1	-0.2
GIVF	Givet	61.39	42	eP	P	06 51 09.0	-0.4
LPL	La Plagne	62.32	47	eP	P	06 51 16.7	+1.0
	5.2nm,0.6s,mb4.5						
LPG	La Plagne	62.34	48	eP	P	06 51 16.7	+0.9
	3.2nm,0.6s,mb4.3						
DAVOX	Davos	64.55	46	P	P	06 51 30.0	-0.3
	2.2nm,0.7s,mb4.3,baz=334,slow=8.1						
DAVOX	Davos	64.55	46	P	P	06 51 30.0	-0.3
NB2	NORSAR Subarra	66.23	31	P	P	06 51 40.6	-0.2
	1.8nm,0.7s,mb4.2,baz=266,slow=6.2						
NOA	NORSAR Array B	66.23	31	P	P	06 51 41.1	+0.3
	9.0nm,1.1s,mb4.7,baz=264,slow=6.4,SNR=12						
NOA				LR	LR	07 14 58.4	
	comp=Z,41nm,19.5s,MS3.6,baz=280,slow=31						
INK	Inuvik	66.97	337	eP	P	06 51 44.0	-1.4
	3.5nm,0.6s,mb4.6						
KHC	Kasperske Hory	67.03	44	eP	P	06 51 46.5	+0.4
GERES	GERESS Array B	67.12	44	P	P	06 51 46.5	-0.1
	0.8nm,0.6s,mb4.0,baz=270,slow=5.3,SNR=6.2						
HFS	Hagfors	67.37	32	P	P	06 51 48.3	+0.3
	3.3nm,0.6s,mb4.6,baz=243,slow=3.2,SNR=6.9						
DAWY	Dawson	68.87	333	eP	P	06 51 57.5	+0.1
VRAC	Vranov	69.00	43	P	P	06 51 57.9	-0.5
	1.7nm,0.4s,mb4.3,baz=234,slow=8.5,SNR=2.7						
ILAR	Eielson Array	72.12	333	P	P	06 52 16.4	-0.6
	3.3nm,0.7s,mb4.4,baz=114,slow=4.3,SNR=43						
ARCES	ARCESS Array B	72.43	22	P	P	06 52 19.2	+0.4
	4.4nm,0.7s,mb4.5,baz=284,slow=5.0,SNR=20						
FINES	FINESS Array B	73.40	30	P	P	06 52 24.7	+0.1
	2.1nm,0.5s,mb4.4,baz=249,slow=4.9,SNR=14						
MLR	Muntele Rosu	75.77	46	P	P	06 52 39.9	+1.4
	1.8nm,0.7s,mb4.1,baz=56,slow=2.7,SNR=4.2						
BRTR	Keskin Array B	82.67	51	P	P	06 53 16.9	+0.9
	1.5nm,0.7s,mb4.1,baz=260,slow=2.7,SNR=6.5						
BRTR				LR	LR	07 27 07.8	
	comp=Z,33nm,21.7s,MS3.7,baz=105,slow=33						
ARU	Arti	90.72	29	eP	P	06 54 01.6	+6.7
	26nm,0.8s,mb5.6						
MAW	Mawson	119.11	159	PKP	PKPdf	06 59 40.4	+0.9
	0.6nm,0.6s,baz=146,slow=3.6,SNR=3.7						
CMAR	Chiang Mai Arr	139.16	29	PKP	PKPdf	07 00 20.8	+2.1
	0.6nm,0.6s,baz=301,slow=2.9,SNR=4.3						
ASAR	Alice Springs	164.46	245	PKP	PKPdf	07 00 55.5	+0.5
	0.6nm,0.7s,baz=105,slow=1.7,SNR=5.4						
ASAR				PKPab	PKPab	07 01 50.5	-1.4
	1.2nm,0.6s,baz=111,slow=4.2,SNR=12						
WRA	Warramunga Arr	164.87	259	PKP	PKPdf	07 00 56.0	+0.6
	0.7nm,0.9s,baz=39,slow=0.3,SNR=5.3						
WRA				PKPab	PKPab	07 01 52.4	-1.3
	0.5nm,0.6s,baz=92,slow=4.5,SNR=7.7						

NEIC ***14*** *06:54:07.2, 36.42N×28.93E, h44^{km}, MD3.1(ATH), After ATH.*

ATH ***14*** *06:54:07.2, 36.42N×28.93E, h44^{km}±20^{km}, MD3.1/3*

NIC ***14*** *06:54:08.7±0.2, 36.57N×29.14E, h25^{km}, ML2.9, MW3.2*

ISK ***14*** *06:54:11.8, 36.89N×29.04E, h26^{km}, MD3.0*

ISC 14 06:54:06.7±0.6**, 36.35N**±0.04×**28.98E**±0.04**, h73**^{km}±11^{km}**, n17, σ0^{s}97**/29**, 3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.53	111	eP	P	06 54 20.0	-0.2
ARG	Arkhangelos	0.70	260	eP	P	06 54 21.7	-0.3
ARG				eS	S	06 54 31.9	-1.5
ELL	Elmali	0.85	61	i PG	P	06 54 25.4	+1.7
ELL				i SG	S	06 54 37.4	+1.0
YER	Yerkesik	0.97	325	i PG	P	06 54 25.7	+0.5
DNZL	Cakiroluk	1.34	2	i P	P	06 54 30.5	+0.3
DNZL				i S	S	06 54 46.9	-0.8
MLSB	Milas	1.35	315	PN	P	06 54 31.4	+1.0
MLSB				SN	S	06 54 46.5	-1.3
DENT	Denizli	1.41	2	ePG	P	06 54 29.2	-1.9
BDRM	Kayabasi	1.43	301	i P	P	06 54 31.6	+0.2
BDRM				i S	S	06 54 49.4	-0.1
AYDN	Tasoluk	1.58	327	i P	P	06 54 34.7	+1.4
AYDN				i S	S	06 54 55.0	+1.9
KARP	Karpathos	1.68	242	eP	P	06 54 35.7	+1.1
KARP				eS	S	06 54 55.5	+0.3
BCK	Bucak	1.71	49	ePN	P	06 54 35.6	+0.6
MANT	Manisa	2.17	351	i P	P	06 54 42.0	+0.6
MANT				i S	S	06 55 05.5	-1.6
SMG	Samos	2.19	309	eP	P	06 54 41.9	+0.2
SMG				eS	S	06 55 06.4	-1.2

PPCY	**Paphos**	**3.11**	**117**	P	**P**	**06 54 55.1**	**+0.5**
ALFC	**Alevga**	**3.17**	**111**	⇓P	**P**	**06 54 55.4**	**-0.2**
	1.8nm,0.1s						
ALFC				S	**S**	**06 55 32.1**	**-0.3**
SZAC	**Souni-Zanaja**	**3.56**	**115**	⇓P	**P**	**06 55 00.8**	**-0.1**
	1.6nm,0.1s						
SZAC				S	**S**	**06 55 40.3**	**-1.6**
CSS	**Prodhromos**	**3.80**	**110**	⇓P	**P**	**06 55 04.4**	**+0.1**
CSS				S	**S**	**06 55 47.6**	**-0.5**

IDC 14 06:54:53.6±51.0**,19.54S**×**176.08W,mb4.3**/3**,mb1 4.4**/3**,**
mb1mx3.9/11**,Error ellipse: s-maj=955.0km**
s-min=168.8km az=82.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.83**	**243**	P	P	07 02 28.9	-1.7
	3.6nm,1.1s,baz=85,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**46.50**	**256**	P	P	07 03 23.0	-1.7
	3.4nm,0.5s,baz=98,slow=7.4,SNR=43						
ASPA	**Alice Springs**	**46.50**	**256**	*e*P	P	07 03 22.9	-1.8
WB2	**Warramunga Arr**	**46.52**	**261**	*e*P	P	07 03 23.2	-1.7
WRA	**Warramunga Arr**	**46.53**	**261**	P	P	07 03 23.1	-1.9
	1.0nm,0.3s,baz=97,slow=7.4,SNR=37						
FITZ	**Fitzroy Crossi**	**54.95**	**261**	*e*P	P	07 04 26.5	-2.6
	3.1nm,1.5s						

PRU ***14*** *06:55:34.9,51.50N×16.00E*
WAR ***14*** *06:55:34.6,51.56N×16.01E,ML2.8,Mining Induced*
ISC 14 06:55:32.5±1.0**,51.52N**±0.05×**15.97E**±0.05**,n9,**σ**1**^{s}**10**/20**,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**163**	*e*PG	**Pg**	**06 55 48.0**	**+1.5**
KSP				*e*SG	**Sg**	**06 55 58.0**	**+2.0**
DPC	**Dobruska-Polom**	**1.19**	**169**	*e*PG	**Pg**	**06 55 56.9**	**+0.7**
DPC				*e*SG	**Sg**	**06 56 12.4**	**+0.3**
	23nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**222**	*e*PG	**Pg**	**06 56 00.1**	**+1.1**
PRU	**Pruhonice**	**1.78**	**211**	*e*PN	**Pn**	**06 56 05.4**	**+0.7**
PRU				PG	**Pg**	**06 56 07.7**	**-0.3**
PRU				*i*		06 56 11.6	
PRU				*e*		06 56 24.7	
PRU				SG	**Sg**	**06 56 31.1**	**-0.6**
	20nm,0.3s						
CLL	**Collm**	**1.87**	**265**	*i* PN	**Pn**	**06 56 06.3**	**+0.3**
CLL				*i* PG	**Pg**	**06 56 09.4**	**-0.4**
CLL				*e*		06 56 13.0	
CLL				*e*SG	**Sg**	**06 56 34.0**	**-0.7**
OKC	**Ostrava-Krasne**	**2.18**	**140**	*e*SG	**Sg**	**06 56 44.1**	**-0.9**
NKC	**Novy Kostel**	**2.58**	**241**	*e*PN	**Pn**	**06 56 17.4**	**+1.3**
NKC				*e*PG	**Pg**	**06 56 23.9**	**0.0**
OJC	**Ojcow**	**2.75**	**117**	*e*PG	**Pg**	**06 56 26.0**	**-1.4**
OJC				*e*SG	**Sg**	**06 57 03.0**	**-1.1**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**	**06 56 21.3**	**+1.4**
KHC				*e*PG	**Pg**	**06 56 26.9**	**-2.2**
KHC				*e*SN	**Sn**	**06 56 55.0**	**-0.3**
KHC				*e*SG	**Sg**	**06 57 05.2**	**-1.8**

ISK ***14*** *07:01:40.3,38.40N×39.15E,h6^{km},MD3.6*
ISC 14 07:01:41.1±0.5**,38.37N**±0.05×**39.18E**±0.04**,h6**^{km}**,n21,**
σ**1**^{s}**03**/28**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.20**	**310**	*i* P	**Pg**	**07 01 44.6**	**-0.6**
ELZG				*i* S	**Sg**	**07 01 53.5**	**+5.5**
MALT	**Malatya**	**0.59**	**265**	*i* PG	**Pg**	**07 01 51.8**	**-1.2**
MALT				*i* SG	**Sg**	**07 02 00.0**	**-0.9**
MALT	**Malatya**	**0.59**	**265**	*i* P	**Pg**	**07 01 52.1**	**-0.8**
MALT				*i* S	**Sg**	**07 02 00.5**	**-0.5**
MYA	**Malataya**	**0.59**	**266**	*i* PG	**Pg**	**07 01 52.2**	**-0.8**
DIY	**Diyarbakir**	**0.95**	**119**	*i* PG	**Pg**	**07 02 00.2**	**+0.1**
DIY				*i* SG	**Sg**	**07 02 13.4**	**+0.6**
BINT	**Bingol**	**1.14**	**63**	PN	**Pn**	**07 02 02.4**	**-1.1**
EZC	**Erzincan**	**1.46**	**20**	PN	**Pn**	**07 02 05.7**	**-2.4**
GZT	**Gaziantep**	**1.63**	**232**	*i* P	**Pn**	**07 02 11.1**	**+0.6**
GZT				*i* S	**Sb**	**07 02 37.6**	**+5.7**
BEST	**Besiri**	**1.72**	**105**	*i* P	**Pn**	**07 02 12.4**	**+0.7**
KELT	**Kelkit**	**1.78**	**2**	*i* P	**Pn**	**07 02 13.1**	**+0.5**
BTMT	**Batman**	**1.83**	**95**	PN	**Pn**	**07 02 11.1**	**-2.2**
GAZ	**Gaziantep**	**1.96**	**233**	*e*PN	**Pn**	**07 02 15.1**	**-0.2**
GUMT	**Gumushane**	**2.10**	**6**	*e*PN	**Pn**	**07 02 17.4**	**+0.2**
SVST	**Sivas**	**2.23**	**310**	*i* P	**Pn**	**07 02 21.3**	**+2.2**
SVST				*i* S	**Sn**	**07 02 55.6**	**+8.4**
EZM	**Erzurum**	**2.29**	**47**	*e*PN	**Pn**	**07 02 19.9**	**0.0**
ERZM	**Erzurum**	**2.29**	**47**	*i* P	**Pn**	**07 02 20.9**	**+1.0**
SVSK	**Karacayir**	**2.29**	**313**	*e*PN	**Pn**	**07 02 19.9**	**-0.1**
TOKT	**Tokat**	**2.82**	**314**	*e*PN	**Pn**	**07 02 27.1**	**-0.5**
AVNT	**Avonos**	**3.41**	**278**	*e*P	**Pn**	**07 02 36.7**	**+0.7**
AVNT				*i* S	**Sg**	**07 03 39.9**	**+5.2**
CTKT	**Corum**	**4.07**	**305**	*e*P	**Pn**	**07 02 47.2**	**+1.9**
BOYT	**Boyabat**	**4.48**	**314**	*e*P	**Pn**	**07 02 51.7**	**+0.6**

THE ***14*** *07:07:02.5,38.92N×21.87E,h9^{km},ML3.1*
NEIC ***14*** *07:07:02.8,38.94N×21.86E,h5^{km},MD3.2(ATH),*
ML3.1(NIC),After ATH.
ATH ***14*** *07:07:02.8,38.94N×21.86E,h5^{km},MD3.2/6*
ISC 14 07:07:01.8±0.6**,38.91N**±0.05×**21.86E**±0.04**,h6**^{km}±5^{km}**,**
n13,σ**0**^{s}**87**/18**,1D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.04**	**286**	⇓*i*PG	**Pg**	**07 07 03.5**	**+0.4**
EVR				*e*SG	**Sg**	**07 07 04.7**	**+0.7**
AGG	**Agios Georgios**	**0.39**	**73**	*e*Pg	**Pg**	**07 07 09.5**	**-0.1**
	comp=Z,39nm,0.1s						
AGG				*e*Sg	**Sg**	**07 07 15.7**	**+0.8**
LKR	**Lokris**	**0.93**	**106**	*e*PB	**Pb**	**07 07 19.7**	**-0.2**
LKD	**Levkas**	**0.96**	**258**	*e*Pg	**Pg**	**07 07 21.0**	**-0.1**
MEV	**Metsovon**	**1.00**	**331**	*e*Pg	**Pg**	**07 07 20.4**	**-1.5**
	comp=Z,5.7nm,0.2s						
MEV				*e*Sg	**Sg**	**07 07 36.0**	**+0.7**
JAN	**Janina**	**1.08**	**314**	*e*PN	**Pn**	**07 07 24.0**	**+0.6**
XOR	**Xorichti**	**1.14**	**66**	*e*Pg	**Pg**	**07 07 23.4**	**-1.1**
XOR				*e*Sg	**Sg**	**07 07 39.5**	**-0.2**
NEO	**Neokhori**	**1.14**	**69**	*e*PB	**Pb**	**07 07 25.2**	**+1.7**
VLS	**Valsamata**	**1.23**	**234**	*e*PB	**Pb**	**07 07 25.0**	**-0.1**
LIT	**Litokhoron**	**1.29**	**22**	*e*Pb	**Pb**	**07 07 25.6**	**-0.5**
	comp=Z,5.9nm,0.1s						
LIT				*e*Sb	**Sb**	**07 07 43.6**	**+0.8**
KZN	**Kozani**	**1.40**	**357**	*e*PG	**Pg**	**07 07 28.0**	**-1.8**
ITM	**Ithomi**	**1.73**	**178**	*e*PN	**Pn**	**07 07 36.7**	**+4.1**
AKS	**Akhisar**	**4.65**	**88**	*e*PN	**Pn**	**07 08 13.8**	**-0.4**

ISK ***14*** *07:15:46.3,36.99N×27.81E,h8^{km},MD3.1*
NEIC ***14*** *07:15:46.0,36.88N×27.59E,h31^{km},MD3.1(ATH),After*
ATH.
ATH ***14*** *07:15:46.0,36.88N×27.59E,h31^{km}±9^{km},MD3.1/3*
ISC 14 07:15:45.2±0.5**,36.90N**±0.03×**27.72E**±0.04**,h8**^{km}**,n15,**
σ**1**^{s}**06**/24**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.28**	**307**	*i* P	**Pg**	**07 15 50.9**	**-0.1**
BDRM				*i* S	**Sg**	**07 15 55.2**	**+0.4**
MLSB	**Milas**	**0.40**	**6**	*i* PG	**Pg**	**07 15 52.5**	**-0.8**
MLSB				*i* SG	**Sg**	**07 15 58.1**	**-0.6**
YER	**Yerkesik**	**0.51**	**62**	*i* PG	**Pg**	**07 15 55.2**	**-0.2**
YER				*i* SG	**Sg**	**07 16 00.8**	**-1.4**
NISR	**Nisiros**	**0.56**	**239**	*e*PB	**Pb**	**07 15 56.2**	**-0.5**
ARG	**Arkhangelos**	**0.75**	**154**	*e*PN	**Pn**	**07 16 00.1**	**-1.7**
ARG				*e*SN	**Sn**	**07 16 14.1**	**+0.7**
AYDN	**Tasoluk**	**0.77**	**9**	⇑*i*P	**Pb**	**07 16 00.3**	**-0.2**
AYDN				*i* S	**Sb**	**07 16 11.2**	**+0.3**
SMG	**Samos**	**1.08**	**319**	*e*PN	**Pn**	**07 16 05.7**	**-0.7**
DNZL	**Cakiroluk**	**1.32**	**53**	*i* P	**Pb**	**07 16 11.0**	**+1.2**
DNZL				*i* S	**Sb**	**07 16 28.6**	**+1.9**
DENT	**Denizli**	**1.35**	**50**	*e*PN	**Pn**	**07 16 10.7**	**+0.3**
DENT				*e*SN	**Sn**	**07 16 28.2**	**-0.4**
KARP	**Karpathos**	**1.42**	**199**	*e*PN	**Pn**	**07 16 11.0**	**-0.4**
IZM	**Izmir**	**1.54**	**346**	PN	**Pn**	**07 16 13.8**	**+0.7**
KDAG	**Bornova**	**1.55**	**347**	*i* P	**Pn**	**07 16 15.9**	**+2.7**
KDAG				*i* S	**Sb**	**07 16 37.0**	**+3.6**
MANT	**Manisa**	**1.72**	**22**	*i* P	**Pn**	**07 16 15.6**	**-0.2**
MANT				*i* S	**Sn**	**07 16 35.7**	**-2.4**
ELL	**Elmali**	**1.76**	**94**	*e*PN	**Pn**	**07 16 17.7**	**+1.5**
AKS	**Akhisar**	**1.98**	**2**	*e*PN	**Pn**	**07 16 19.4**	**0.0**

JMA ***14*** *07:25:06.7±0.3,23.94N×122.85E,h18^{km},M3.1*
TAP ***14*** *07:25:08.7,23.89N×122.88E,h18^{km}±1^{km},ML3.2*
ISC 14 07:25:05.1±2.2**,23.90N**±0.09×**122.85E**±0.09**,h0**^{km}±9^{km}**,**
n6,σ**0**^{s}**51**/12**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**15**	P	**Pg**	**07 25 17.4**	**+0.6**
YOJ				S	**Sg**	**07 25 24.5**	**-0.1**
HATJ	**Hateruma jima**	**0.89**	**79**	P	**Pg**	**07 25 23.0**	**+0.1**
HATJ				*e*S	**Sg**	**07 25 35.5**	**+0.7**
IRIF	**Iriomote-Funau**	**0.92**	**61**	P	**Pg**	**07 25 23.1**	**-0.4**
IRIF				*e*S	**Sg**	**07 25 35.4**	**-0.3**
JKRS	**Kuro-shima**	**1.12**	**72**	P	**Pb**	**07 25 26.6**	**-0.4**
JKRS				*e*S	**Sb**	**07 25 42.4**	**+0.4**
JIJ	**Ishigaki jima**	**1.27**	**68**	P	**Pb**	**07 25 28.9**	**-0.8**
JIJ				*e*S	**Sb**	**07 25 45.8**	**-0.7**
JTJ	**Tarama**	**1.85**	**66**	P	**Pn**	**07 25 38.9**	**+0.5**
JTJ				*e*S	**Sn**	**07 26 03.3**	**+0.5**

SKHL 14 08:02:03.8±0.4**,53.85N**×**125.75E,h6**^{km}±1^{km}**,mb3.9**/7**,**
1C-1D,Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.90**	**97**	*i* Pg	Pg	08 02 19.9	-1.8
ZEA				AMB	AMB	08 02 20.7	
	220nm,0.2s						
ZEA				pPg		08 02 21.7	
ZEA				*e*Sg	Sg	08 02 32.1	-1.6
ZEA				A		08 02 33.6	
	250nm,0.3s						
KROS	**Kirovskiy**	**0.93**	**50**	*i* Pg	Pg	08 02 20.6	-1.7
KROS				AMB	AMB	08 02 21.5	
	24nm,0.3s						
KROS				AMB	AMB	08 02 21.5	
	38nm,0.3s						
KROS				AMB	AMB	08 02 21.5	
	36nm,0.3s						
KROS				sPg		08 02 23.6	
KROS				*i* Sg	Sg	08 02 32.7	-2.0
KROS				A		08 02 34.1	
	140nm,0.4s						
KROS				A		08 02 34.1	
	450nm,0.4s						
KROS				A		08 02 34.1	
	320nm,0.4s						
YASR	**Yasnyy**	**1.44**	**112**	⇓*i*Pg	Pg	08 02 29.8	-2.8
YASR				AMB	AMB	08 02 30.3	
	30nm,0.5s						
YASR				AMB	AMB	08 02 30.3	
	40nm,0.5s						
YASR				AMB	AMB	08 02 30.3	
	63nm,0.5s						
YASR				pPg		08 02 31.3	
YASR				*i* Sg	Sg	08 02 48.7	-3.2
YASR				A		08 02 51.8	
	220nm,0.4s						
YASR				A		08 02 51.8	
	170nm,0.4s						
YASR				A		08 02 51.8	
	50nm,0.4s						
BMKR	**Bomnak**	**2.01**	**63**	*e*Pn	Pn	08 02 37.3	-1.3
BMKR				⇑*i*Pg	Pg	08 02 39.5	-4.4
BMKR				AMB	AMB	08 02 40.3	
	30nm,0.4s						
BMKR				pPg		08 02 41.7	
BMKR				*e*Sn	Sn	08 03 03.5	-0.8
BMKR				*i* Sg	Sg	08 03 06.0	-4.7
BMKR				A		08 03 08.0	
	170nm,0.5s						
BMKR				A		08 03 08.0	
	180nm,0.5s						
TUP	**Tupik**	**3.46**	**282**	*e*Pn	Pn	08 02 58.3	-1.0
TUP				*e*Pg	Pg	08 03 06.4	-6.4
TUP				AMB	AMB	08 03 08.9	
	16nm,0.2s						
TUP				*e*Sn	Sn	08 03 39.7	-1.4
TUP				*e*Sg	Sg	08 03 51.7	-7.2
TUP				A		08 04 05.6	
	39nm,0.5s						
EKMR	**Ekimchan**	**4.37**	**97**	*e*Pn	Pn	08 03 10.8	-1.5
EKMR				*e*Pg	Pg	08 03 22.2	-8.9
EKMR				AMB	AMB	08 03 26.0	
	5.0nm,0.4s						
EKMR				AMB	AMB	08 03 26.0	
	8.0nm,0.4s						
EKMR				*e*Sn	Sn	08 04 02.9	-1.4
EKMR				*e*Sg	Sg	08 04 20.6	-8.8
EKMR				A		08 04 27.9	
	20nm,0.5s						
EKMR				A		08 04 27.9	
	9.0nm,0.5s						
EKMR				A		08 04 27.9	
	11nm,0.5s						
CRS	**Chara**	**5.25**	**309**	*e*Pn	Pn	08 03 25.8	+1.1
CRS				*e*Pg	Pg	08 03 38.4	-10
CRS				AMB	AMB	08 03 40.0	
	7.0nm,0.8s						
CRS				*e*Sg	Sg	08 04 47.6	-11
KLR	**Kul'dur**	**5.95**	**139**	*e*Sg	Sg	08 05 09.0	-13
GRNR	**Gornyy**	**7.23**	**111**	*e*Sg	Sg	08 05 50.4	-14

IDC ***14*** *08:08:34.4±0.9,2.90S×142.03E,mb4.1/9,mb1 4.2/12,*
mb1mx4.2/15,ML3.3/3,MS3.7/6,Ms1 3.7/6,ms1mx3.5/20,
Error ellipse: s-maj=34.5km s-min=18.0km az=89.0
BJI ***14*** *08:08:45.8,2.75S×141.63E,h78^{km},mb4.7,Ms4.2,Msz3.8*
NEIC ***14*** *08:08:46.6±2.2,2.99S×141.74E,h89^{km}±20^{km},mb4.3/7,*
Error ellipse: s-maj=17.1km s-min=12.7km az=86.0
ISC 14 08:08:44.8±2.7**,3.06S**±0.09×**141.7E**±0.1**,h83**^{km}±26^{km}**,**
n32,σ**0**^{s}**87**/27**,mb4.2**/15**,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.35**	**139**	Pn	**P**	**08 10 44.8**	**-0.2**
	0.6nm,0.3s,baz=337,slow=10,SNR=2.8						
CTA	**Charters Tower**	**17.51**	**165**	P	**P**	**08 12 47.3**	**+2.2**
	0.1nm,0.3s,baz=329,slow=12,SNR=2.8						
CTA				LR	LR	08 19 27.3	
	comp=Z,90nm,21.0s,baz=170,slow=37						
WRAB	**Tennant Creek**	**18.22**	**202**	*e*P	**P**	**08 12 53.4**	**-0.3**
	19nm,1.0s						
WB2	**Warramunga Arr**	**18.23**	**202**	*e*P	**P**	**08 12 53.5**	**-0.3**
WRA	**Warramunga Arr**	**18.24**	**203**	P	**P**	**08 12 53.0**	**-0.8**
	0.3nm,0.3s,baz=21,slow=12,SNR=21						
FITZ	**Fitzroy Crossi**	**21.67**	**225**	*e*P	**P**	**08 13 30.3**	**+0.1**
	8.9nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.67**	**225**	P	**P**	**08 13 29.7**	**-0.5**
	12nm,0.9s,mb4.2,baz=45,slow=8.3,SNR=8.7						
ASAR	**Alice Springs**	**21.81**	**199**	P	**P**	**08 13 31.1**	**-0.4**
	1.6nm,0.7s,mb3.4,baz=32,slow=9.7,SNR=16						
ASAR				LR	LR	08 22 27.2	
	comp=Z,236nm,18.9s,baz=21,slow=38						
ASPA	**Alice Springs**	**21.82**	**199**	*e*P	**P**	**08 13 35.6**	**+4.1**
STKA	**Stephens Creek**	**28.66**	**180**	P	**P**	**08 14 34.5**	**-1.5**
	1.6nm,0.6s,mb3.8,baz=7.5,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**28.66**	**180**	P	**P**	**08 14 34.5**	**-1.5**
FORT	**Forrest**	**30.42**	**204**	*e*P	**P**	**08 14 51.9**	**+0.3**
	73nm,0.6s,mb5.5						
JNU	**Nakatsue**	**37.40**	**345**	LR	LR	08 30 27.4	
	comp=Z,55nm,18.8s,baz=233,slow=35						
ASAJ	**Asahikawa**	**46.97**	**1**	LR	LR	08 32 54.8	
	comp=Z,97nm,21.2s,baz=172,slow=31						
KMI	**Kunming**	**47.00**	**309**	*e*P	**P**	**08 17 10.6**	**+0.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=N,140nm,16.1s						
KMI				LR	LR		
	comp=E,92nm,15.4s						
KMI				LR	LR		
	comp=Z,97nm,19.6s						
KMI	**Kunming**	**47.00**	**309**	*e*P	**P**	**08 17 10.6**	**+0.8**
	comp=Z,9.0nm,0.8s,mb4.5						
KMI				pP	pP	08 17 16.7	-13
KMI				sP	sP	08 17 18.7	-21
KMI				S	**S**	**08 24 13.6**	**+20**
KMI				SS	SS	08 27 45.7	+31
KMI				LR	LR		
	comp=Z,100nm,19.6s						
CMAR	**Chiang Mai Arr**	**47.17**	**299**	P	**P**	**08 17 11.3**	**+0.2**
	comp=Z,1.7nm,1.0s,mb3.7,baz=128,slow=6.7,SNR=4.7						
WMQ	**Urumqi**	**67.12**	**321**	*e*P	**P**	**08 19 32.6**	**+0.8**
MKAR	**Makanchi Array**	**71.87**	**322**	P	**P**	**08 20 00.8**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.3,baz=113,slow=7.7,SNR=16						
MKAR	**Makanchi Array**	**71.87**	**322**	P	**P**	**08 20 00.8**	**+0.1**
VNDA	**Vanda**	**75.19**	**176**	P	**P**	**08 20 19.3**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=319,slow=5.6,SNR=7.7						
KURK	**Kurchatov**	**75.70**	**324**	*e*P	**P**	**08 20 22.4**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**81.28**	**325**	P	**P**	**08 20 53.2**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.1,baz=124,slow=5.3,SNR=12						
BRVK	**Borovoye**	**81.36**	**325**	*e*P	**P**	**08 20 53.8**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**82.07**	**324**	*e*P	**P**	**08 20 56.8**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.2						
MAW	**Mawson**	**82.91**	**202**	P	**P**	**08 21 02.7**	**+1.3**
	comp=Z,2.8nm,0.9s,mb4.1,baz=38,slow=3.9,SNR=5.9						
ILAR	**Eielson Array**	**84.94**	**24**	P	**P**	**08 21 08.6**	**-3.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=255,slow=5.4,SNR=11						
ILAR				LR	LR	08 56 20.8	
	comp=Z,45nm,20.1s,baz=270,slow=34						
QSPA	**South Pole Qui**	**86.89**	**180**	*e*P	**P**	**08 21 21.5**	**+0.6**
	comp=Z,11nm,1.0s,mb4.8						
YKA	**Yellowknife Ar**	**99.04**	**27**	LR	LR	09 05 07.4	
	comp=Z,63nm,21.7s,baz=265,slow=34						
LPAZ	**La Paz**	**144.84**	**124**	PKP	PKPdf	08 28 14.7	+1.6
	comp=Z,4.0nm,0.9s,baz=319,slow=1.7,SNR=17						
CPUP	**Villa Florida**	**145.49**	**149**	PKPbc	PKPbc	08 28 15.6	+1.0
	comp=Z,2.3nm,0.8s,baz=167,slow=3.2,SNR=2.8						
DBIC	**Dimbokro**	**146.44**	**277**	PKPbc	PKPbc	08 28 18.1	+0.8
	comp=Z,3.4nm,1.1s,baz=44,slow=10,SNR=3.7						

IDC 14 08:11:24.4±2.2**,3.19S**×**141.69E,mb3.8**/3**,mb1 4.0**/4**,**
mb1mx3.8/12**,ML3.7**/1**,Error ellipse: s-maj=73.8km**
s-min=29.1km az=99.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.13**	**203**	P	P	08 15 37.3	-2.2
	0.3nm,0.3s,baz=16,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**21.61**	**226**	P	P	08 16 16.7	-1.6
	5.9nm,0.9s,baz=39,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**21.71**	**200**	P	P	08 16 17.0	-2.2
	2.2nm,1.0s,baz=31,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**72.00**	**322**	P	P	08 22 50.8	-1.2
	1.0nm,0.7s,baz=119,slow=5.9,SNR=4.5						
LPAZ	**La Paz**	**144.74**	**124**	PKP	PKPdf	08 31 03.4	-2.6
	2.5nm,0.9s,baz=247,slow=1.2,SNR=6.3						

IDC ***14*** *08:13:10.1±0.7,2.87S×142.02E,mb4.3/11,mb1 4.3/14,*
mb1mx4.3/16,ML3.5/3,MS3.6/4,Ms1 3.7/4,ms1mx3.3/19,
Error ellipse: s-maj=31.8km s-min=15.8km az=89.0
BJI ***14*** *08:13:15.9,2.79S×142.35E,h68^{km},mb5.0*
NEIC ***14*** *08:13:18.3±2.0,2.91S×141.85E,h60^{km}±18^{km},mb4.6/9,*
Error ellipse: s-maj=14.8km s-min=11.6km az=97.0
ISC 14 08:13:16.1±2.6**,2.94S**±0.08×**141.9E**±0.1**,h53**^{km}±25^{km}**,**
n46,σ**1**^{s}**11**/37**,mb4.6**/22**,MS3.6**/4**,Near north coast of**
New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.30**	**141**	Pn	**P**	**08 15 17.6**	**+1.3**
	0.6nm,0.3s,baz=335,slow=10.0,SNR=2.6						
CTA	**Charters Tower**	**17.57**	**166**	Pn	**P**	**08 17 20.4**	**+1.3**
	0.1nm,0.3s,baz=352,slow=10,SNR=2.2						
CTAO	**Charters Tower**	**17.57**	**166**	*e*P	**P**	**08 17 18.4**	**-0.6**
WRAB	**Tennant Creek**	**18.43**	**203**	*e*P	**P**	**08 17 28.7**	**-0.8**
	32nm,0.8s						
WRAB				*e*		08 17 44.3	
WB2	**Warramunga Arr**	**18.43**	**203**	*e*P	**P**	**08 17 28.6**	**-1.0**
WRA	**Warramunga Arr**	**18.44**	**203**	P	**P**	**08 17 28.8**	**-0.8**
	0.7nm,0.3s,baz=13,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**21.92**	**225**	*e*P	**P**	**08 18 05.6**	**-1.1**
	21nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**21.92**	**225**	P	**P**	**08 18 05.7**	**-1.0**
	16nm,0.9s,mb4.5,baz=3.3,slow=9.6,SNR=6.6						
FITZ				LR	LR	08 26 42.9	
	comp=Z,128nm,21.3s,MS3.3,baz=64,slow=37						
ASAR	**Alice Springs**	**22.01**	**200**	P	**P**	**08 18 06.7**	**-0.8**
	8.3nm,0.9s,mb4.2,baz=32,slow=9.2,SNR=9.9						
ASPA	**Alice Springs**	**22.01**	**200**	*e*P	**P**	**08 18 09.7**	**+2.2**
STKA	**Stephens Creek**	**28.79**	**181**	*e*P	**P**	**08 19 11.6**	**+0.3**
	7.8nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**28.79**	**181**	P	**P**	**08 19 10.1**	**-1.3**
	6.3nm,1.1s,mb4.2,baz=35,slow=14,SNR=3.9						
FORT	**Forrest**	**30.62**	**204**	*e*P	**P**	**08 19 27.1**	**-0.5**
	61nm,0.6s,mb5.6						
GYA	**Guiyang**	**44.86**	**313**	P	**P**	**08 21 26.6**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ASAJ	**Asahikawa**	**46.84**	**1**	P	**P**	**08 21 41.2**	**-1.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=242,slow=22,SNR=3.8						
CMAR	**Chiang Mai Arr**	**47.31**	**298**	P	**P**	**08 21 46.3**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=113,slow=6.1,SNR=5.9						
CMAR				LR	LR	08 41 19.8	
	comp=Z,30nm,21.9s,MS3.2,baz=55,slow=36						
RPZ	**Rata Peaks**	**48.14**	**152**	LR	LR	08 40 48.2	
	comp=Z,184nm,19.6s,MS4.1,baz=92,slow=34						
CD2	**Chengdu**	**49.51**	**316**	P	**P**	**08 22 04.3**	**+0.6**
CD2				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.3						
GTA	**Gaotai**	**57.17**	**322**	*e*P	**P**	**08 23 00.1**	**0.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
LSA	**Lhasa**	**58.34**	**308**	P	**P**	**08 23 09.8**	**+1.4**
SONM	**Songino Array**	**59.31**	**333**	P	**P**	**08 23 14.5**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=143,slow=6.2,SNR=4.2						
PKI	**Pulchoki**	**62.21**	**303**	*e*P	**P**	**08 23 37.9**	**+3.0**
KKN	**Kakani**	**62.39**	**303**	*e*P	**P**	**08 23 39.1**	**+3.0**
DMN	**Daman**	**62.47**	**303**	*e*P	**P**	**08 23 38.4**	**+1.8**
GKN	**Gorkha**	**63.00**	**303**	*e*P	**P**	**08 23 40.1**	**0.0**
	comp=Z,37nm,1.0s,mb5.5						
KOLN	**Koldanda**	**63.79**	**303**	*e*P	**P**	**08 23 41.8**	**-3.6**
	comp=Z,17nm,0.6s,mb5.2						
WMQ	**Urumqi**	**67.18**	**320**	P	**P**	**08 24 07.3**	**+0.5**
MKAR	**Makanchi Array**	**71.92**	**321**	P	**P**	**08 24 36.0**	**+0.2**
	comp=Z,5.9nm,0.7s,mb4.6,baz=105,slow=7.8,SNR=29						
VNDA	**Vanda**	**75.30**	**176**	P	**P**	**08 24 55.1**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=314,slow=7.0,SNR=7.3						
KURK	**Kurchatov**	**75.74**	**324**	*e*P	**P**	**08 24 57.0**	**-0.9**
	comp=Z,5.1nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**81.32**	**325**	P	**P**	**08 25 28.3**	**-0.1**
	comp=Z,6.8nm,0.9s,mb4.6,baz=117,slow=6.6,SNR=17						
BRVK	**Borovoye**	**81.39**	**325**	*e*P	**P**	**08 25 29.4**	**+0.6**
	comp=Z,10nm,1.2s,mb4.6						
ZRNK	**Zerenda**	**82.10**	**324**	*e*P	**P**	**08 25 32.5**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5						
MAW	**Mawson**	**83.11**	**202**	P	**P**	**08 25 38.5**	**+1.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=96,slow=5.2,SNR=9.8						
ILAR	**Eielson Array**	**84.73**	**24**	P	**P**	**08 25 43.9**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.2,baz=259,slow=5.1,SNR=13						
QSPA	**South Pole Qui**	**87.01**	**180**	*e*P	**P**	**08 25 57.1**	**+0.7**
	comp=Z,14nm,0.8s,mb5.3						
DAWY	**Dawson**	**87.70**	**26**	*e*P	**P**	**08 26 00.3**	**+0.3**
INK	**Inuvik**	**90.70**	**22**	*e*P	**P**	**08 26 11.5**	**-2.6**
	comp=Z,9.9nm,1.4s,mb5.0						
NEW	**Newport**	**99.51**	**42**	LR	LR	09 02 34.5	
	comp=Z,44nm,21.8s,MS3.9,baz=358,slow=30						
PLCA	**Paso Flores**	**127.41**	**149**	PKP	PKPdf	08 32 18.1	+2.4
	comp=Z,2.0nm,0.9s,baz=263,slow=9.5,SNR=4.2						
ROSC	**El Rosal**	**143.82**	**86**	PKP	PKPdf	08 32 46.6	+0.1
	comp=Z,7.0nm,0.8s,baz=156,slow=21,SNR=3.3						
LPAZ	**La Paz**	**144.72**	**124**	PKP	PKPdf	08 32 50.0	+2.0
	comp=Z,5.4nm,0.8s,baz=280,slow=1.5,SNR=18						
LPAZ	**La Paz**	**144.72**	**124**	PKP	PKPdf	08 32 50.0	+2.0
CPUP	**Villa Florida**	**145.48**	**149**	PKPbc	PKPbc	08 32 51.3	+1.6
	comp=Z,2.2nm,0.8s,baz=234,slow=7.7,SNR=3.8						
DBIC	**Dimbokro**	**146.66**	**278**	PKPbc	PKPbc	08 32 55.0	+2.1
	comp=Z,7.7nm,1.0s,baz=97,slow=7.1,SNR=5.0						
SDV	**Santo Domingo**	**147.14**	**78**	*e*PKP	PKPdf	08 32 55.4	+3.2

IDC ***14*** *08:43:21.9±0.5,60.60S×25.54W,mb4.7/14,mb1 4.7/14,*
mb1mx4.6/17,MS4.0/8,Ms1 4.0/8,ms1mx3.8/14,Error
ellipse: s-maj=19.4km s-min=14.3km az=37.0
HRVD ***14*** *08:43:26.8±0.3,61.03S×24.82W,h12^{km},MW4.9/46,*
Centroid moment Tensor Solution. LP body waves:
s20,c29;Mantle waves: s46,c81; Half duration: 0 Moment
tensor: Scale 10^{16}Nm; M_{rr}-2.52±.12; $M_{\theta\theta}$2.23±.12;
$M_{\phi\phi}$0.29±.10; $M_{r\theta}$1.22±.31; $M_{\theta\phi}$1.31±.09; $M_{\phi r}$-0.20±.41;
Best double couple: $M_0$2.99×10^{16} NP1:ϕ_s47°,δ37°,λ-116°.

NP2:ϕs258°,δ57°,λ-72°. Principal axes: T 3.07, Plg10°, Azm335°; N -.17, Plg15°, Azm68°; P -2.9, Plg71°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*BJI **14** 08:43:26.8, 60.60S×25.50W, h35^{km}, mB5.3, Ms5.1, Msz5.0*

*SYO **14** 08:43:26.8, 60.57S×25.55W, h35^{km}, MB4.9*

*NEIC **14** 08:43:26.8±0.3, 60.57S×25.55W, h35^{km}, mb4.9/6, Error ellipse: s-maj=10.0km s-min=8.9km az=50.0*

ISC 14 08:43:20.8±0.4**, 60.72S**±0.07×**25.4W**±0.2**, h10**^{km}**, n67, σ1^{s}37**/40**, mb4.8**/20**, MS4.2**/9**, 6C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.15	152	⇑iP	P	08 46 15.4	-1.4
VNA1				eS	S	08 48 24.7	-8.7
VNA2	Neumayer--Watz	12.55	152	P	P	08 46 20.5	-1.6
VNA2				eS	S	08 48 29.2	-14
SNAA	Sanae	14.14	150	⇑i	P	08 46 40.2	-2.7
SNAA	Sanae	14.14	150	eS	S	08 49 06.4	-14
SNAA	Sanae	14.14	150	Pn	P	08 46 40.6	-2.3
SNAA				LR	LR	08 50 57.7	
	comp=Z,359nm,20.0s,baz=328,slow=32						
SNAA	Sanae	14.14	150	⇑iP	P	08 46 40.2	-2.7
SNAA				eS	S	08 49 06.4	-14
MAIT	Maitri	17.93	139	eP	P	08 47 30.7	-0.8
PMSA	Palmer Station	17.93	240	P	P	08 47 33.0	+1.5
USHA	Ushuaia	23.32	265	P	P	08 48 32.5	+3.1
	15nm,1.0s,mb4.4,baz=96,slow=8.5,SNR=3.8						
SYO	Syowa Base	27.48	135	⇑P	P	08 49 06.5	-2.0
SYO	Syowa Base	27.48	135	⇓P	P	08 49 09.4	+0.9
SYO	Syowa Base	27.48	135	⇑pP	pP	08 49 15.7	+4.2
SYO	Syowa Base	27.48	135	⇓PcP	PcP	08 52 27.0	-0.3
QSPA	South Pole Qui	29.51	180	eP	P	08 49 28.9	+2.1
TRQA	Tornquist	32.19	298	eP	P	08 49 49.3	-1.5
	14nm,0.8s,mb4.8						
PLCA	Paso Flores	33.94	285	P	P	08 50 05.4	-0.5
	4.3nm,0.8s,mb4.4,baz=154,slow=7.6,SNR=14						
PLCA				LR	LR	09 03 24.8	
	comp=Z,181nm,21.4s,MS3.8,baz=132,slow=36						
MAW	Mawson	35.91	139	P	P	08 50 23.8	+1.3
	15nm,1.0s,mb4.9,baz=237,slow=10,SNR=18						
MAW				PcP	PcP	08 52 50.4	+0.6
	5.8nm,1.0s,baz=55,slow=4.8,SNR=5.1						
MAW				LR	LR	09 03 38.0	
	comp=Z,330nm,18.6s,MS4.1,baz=240,slow=34						
CPUP	Villa Florida	40.65	313	P	P	08 51 01.4	-1.2
	10.0nm,0.9s,mb4.4,baz=159,slow=7.2,SNR=13						
SUR	Sutherland	41.26	68	P	P	08 51 09.5	+2.0
	5.9nm,0.3s,mb4.6,baz=68,slow=20,SNR=8.2						
SUR	Sutherland	41.26	68	eP	P	08 51 06.2	-1.3
SBA	Scott Base	41.47	184	eP	P	08 51 11.8	+3.1
	18nm,1.4s,mb4.5						
VNDA	Vanda	41.93	182	P	P	08 51 15.6	+3.3
	10.0nm,0.9s,mb4.4,baz=189,slow=7.4,SNR=32						
BDFB	Brasilia	47.89	330	P	P	08 51 59.0	-1.9
	5.7nm,0.8s,mb4.6,baz=143,slow=9.4,SNR=7.2						
BDFB				PcP	PcP	08 53 30.4	+0.6
	2.6nm,0.8s,baz=202,slow=5.6,SNR=3.2						
BDFB				LR	LR	09 08 20.3	
	comp=Z,318nm,20.2s,MS4.3,baz=229,slow=31						
LVC	Limon Verde	48.51	302	P	P	08 52 06.1	+0.5
	6.7nm,0.7s,mb4.8,baz=162,slow=6.1,SNR=8.1						
LVC				PcP	PcP	08 53 34.1	+2.2
	3.7nm,0.7s,baz=246,slow=3.5,SNR=3.3						
LVC	Limon Verde	48.51	302	eP	P	08 52 05.0	-0.6
	10.0nm,0.9s,mb4.8						
TSUM	Tsumeb	51.37	56	P	P	08 52 27.7	+0.2
	1.8nm,0.7s,mb4.1,baz=167,slow=6.1,SNR=7.9						
LPAZ	La Paz	53.87	306	P	P	08 52 46.2	+0.1
	3.8nm,0.5s,mb4.6,baz=145,slow=6.2,SNR=23						
LPAZ				LR	LR	09 12 18.0	
	comp=Z,33nm,18.4s,MS3.4,baz=97,slow=32						
LPAZ	La Paz	53.87	306	P	P	08 52 46.2	+0.1
LPAZ				LR	LR	09 12 17.9	
SAML	Samuel	58.76	315	eP	P	08 53 17.3	-4.0
	9.1nm,0.9s,mb4.8						
LIC	Lamto	68.64	22	eP	P	08 54 26.8	+0.6
	40nm,1.0s,mb5.3						
KIC	Kosan Boka	68.83	22	eP	P	08 54 28.2	+0.9
	79nm,1.2s,mb5.5						
TIC	Toumodi	69.05	22	eP	P	08 54 29.6	+0.9
	21nm,0.2s,mb5.7						
DBIC	Dimbokro	69.11	22	P	P	08 54 30.1	+1.1
	6.1nm,0.6s,mb4.7,baz=182,slow=5.9,SNR=14						
DBIC				LR	LR	09 17 31.1	
	comp=Z,59nm,21.4s,MS3.8,baz=99,slow=30						
OTAV	Otavalo	73.02	303	P	P	08 54 51.4	-1.2
ROSC	El Rosal	75.59	309	LR	LR	09 25 53.4	
	comp=Z,179nm,19.4s,MS4.4,baz=222,slow=34						
SDV	Santo Domingo	77.96	314	P	P	08 55 19.2	-1.4
STKA	Stephens Creek	87.13	169	P	P	08 56 09.4	+1.8
	7.5nm,1.0s,mb4.9,baz=151,slow=3.7,SNR=6.4						
ASAR	Alice Springs	94.25	161	P	P	08 56 42.2	+1.2
	3.8nm,0.8s,mb4.9,baz=181,slow=4.2,SNR=41						
ASAR				PP	PP	09 00 27.4	-3.2
	0.9nm,1.0s,baz=196,slow=8.4,SNR=4.1						
WRA	Warramunga Arr	97.97	161	P	P	08 56 58.7	+0.7
	1.6nm,0.9s,mb4.5,baz=197,slow=3.7,SNR=8.6						
WRA				LR	LR	09 37 46.9	
	comp=Z,284nm,19.8s,MS4.8,baz=155,slow=33						
WRAB	Tennant Creek	97.98	161	P	P	08 56 58.7	+0.6
SCHQ	Schefferville	119.80	334	PKP	PKPdf	09 02 11.6	-1.6
	1.7nm,0.6s,baz=139,slow=3.4,SNR=4.2						
CMAR	Chiang Mai Arr	122.51	112	PKP	PKPdf	09 02 18.9	-0.4
	2.6nm,0.8s,baz=223,slow=4.0,SNR=10						
HWUT	Hardware Ranch	123.45	296	ePKP	PKPdf	09 02 18.7	-2.0
PDAR	Pinedale Array	123.51	299	PKP	PKPdf	09 02 19.6	-1.2
	0.5nm,0.6s,baz=128,slow=3.9,SNR=5.0						
ULM	Lac du Bonnet	124.20	313	PKP	PKPdf	09 02 20.1	-1.9
	1.5nm,0.8s,baz=318,slow=3.4,SNR=2.9						
NOA	NORSAR Array B	124.67	21	PKP	PKPdf	09 02 21.4	-1.0
	1.4nm,0.9s,baz=188,slow=1.6,SNR=3.5						
MOOW	Moose Ponds	124.82	298	ePKP	PKPdf	09 02 22.7	-0.5
FINES	FINESS Array B	128.08	29	PKP	PKPdf	09 02 27.7	-1.3
	2.4nm,0.6s,baz=162,slow=6.0,SNR=12						
CHMT	Chamberlain Mo	128.40	299	ePKP	PKPdf	09 02 29.2	-0.9
SHW	Mount Saint He	131.83	292	ePKPdf	PKPdf	09 02 33.3	-3.3
ARCES	ARCESS Array B	134.93	23	PKP	PKPdf	09 02 39.5	-2.2
	2.0nm,0.8s,baz=135,slow=1.7,SNR=7.9						
MKAR	Makanchi Array	137.36	75	PKhKP		09 02 36.4	
	0.7nm,0.7s,baz=252,slow=3.8,SNR=5.1						
MKAR				PKP	PKPdf	09 02 44.9	-1.9
	1.9nm,0.8s,baz=252,slow=3.8,SNR=8.6						
MKAR	Makanchi Array	137.36	75	PKP	PKPdf	09 02 44.9	-1.9
WMQ	Urumqi	137.78	82	⇑PKP	PKPdf	09 02 47.1	-0.6
WMQ				PP	PP	09 05 37.1	+1.3
WMQ				LR	LR		
	comp=Z,28nm,23.8s,MS3.9						
LZH	Lanzhou	139.71	104	ePKP	PKPdf	09 02 52.3	+0.9
LZH				XPKP		09 03 07.6	
LZH				LR	LR		
	comp=N,219nm,18.3s						
LZH				LR	LR		
	comp=Z,298nm,20.0s,MS5.0						
YKA	Yellowknife Ar	140.17	314	PKP	PKPdf	09 02 51.4	-0.1
	comp=Z,2.0nm,0.8s,baz=124,slow=2.2,SNR=13						
GTA	Gaotai	140.39	97	ePKP	PKPdf	09 02 54.6	+2.1
GTA				XPKP		09 03 03.0	
DLBC	Dease Lake	143.69	301	ePKP	PKPdf	09 02 55.7	-1.7
HHC	Hu-ho-hao-te	147.15	107	ePKP	PKPdf	09 03 05.0	+1.0
HHC				APKP		09 03 15.3	
HHC				XPKP		09 03 20.1	
HHC				PP	PP		
	comp=Z,81nm,4.0s						
HHC				LR	LR		
	comp=N,68nm,53.5s						
HHC				LR	LR		
	comp=E,87nm,34.5s						
SONM	Songino Array	149.81	93	PKP	PKPdf	09 03 08.0	0.0
	comp=E,6.2nm,0.8s,baz=180,slow=1.2,SNR=4.4						
SONM				PKPbc	PKPdf	09 03 12.4	+4.4
	comp=E,9.2nm,0.8s,baz=225,slow=1.7,SNR=38						
INK	Inuvik	149.90	315	ePKPbc	PKPdf	09 03 11.2	+3.7
DAWY	Dawson	150.45	305	ePKPbc	PKPdf	09 03 12.3	+3.8
EYAK	Cordova Ski Ar	151.60	296	ePKPbc	PKPdf	09 03 16.7	+6.4
SML	Sawmill	153.28	298	PKPbc	PKPdf	09 03 19.1	+6.5
ILAR	Eielson Array	153.73	304	PKPbc	PKPdf	09 03 21.1	+7.9
	comp=E,2.9nm,0.7s,baz=155,slow=1.1,SNR=24						
COLA	College	154.16	304	PKPbc	PKPdf	09 03 20.9	+7.1
CN2	Changchun	155.72	121	ePKP	PKPdf	09 03 16.4	-0.1

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*HEL **14** 09:02:37.5±0.3, 67.85N×20.24E, ML1.9, ML1.9(UPP), ML1.7(BER), Explosion*

*NAO **14** 09:02:38.1±3.0, 67.87N×20.21E, ML2.0*

*BER **14** 09:02:38.9±4.9, 67.89N×20.08E, ML1.7, ML2.0(NAO), Suspected explosion*

ISC 14 09:02:34.8±0.5**, 67.78N**±0.03×**20.03E**±0.09**, n19, σ1^{s}02**/31**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.21	34	i P	Pg	09 02 38.3	-0.6
KUA				i S	Sg	09 02 40.6	-1.2
DUNU	Dundret	0.69	162	i P	Pg	09 02 49.2	+0.5
MASU	Masugnsbyn	0.82	112	i P	Pg	09 02 50.9	-0.3
KIF	Kilpisjarvi	1.26	13	eP	Pb	09 03 00.1	+0.9
KIF				eS	Sb	09 03 16.1	+0.3
KTK1	Kautokeino	1.71	42	eP	Pn	09 03 05.9	-0.2
KTK1				eSN	Sn	09 03 28.4	-0.6
KTK1				AML	AML	09 03 33.8	
	comp=Z,8.4nm,0.3s						
TRO	Tromso	1.90	348	eP	Pn	09 03 08.6	-0.1
TRO				eSG	Sg	09 03 34.5	-3.6
TRO				AML	AML	09 03 39.0	
	comp=Z,14nm,0.4s						
LOF	Lofoten	2.47	281	eSG	Sg	09 03 57.3	+0.2
LOF				AML	AML	09 04 01.4	
	comp=Z,6.5nm,0.4s						
SGF	Sodankyl	2.51	95	eP	Pn	09 03 18.6	+1.1
SGF				eS	Sn	09 03 50.6	+1.3
SGF				MSG		09 03 55.0	
	comp=Z,3.6nm,0.3s						
ARA0	ARCESS Array S	2.67	46	Pn	Pn	09 03 20.2	+0.4
	baz=232,slow=14						
ARA0				Sn	Sn	09 03 52.5	-0.8
	baz=224,slow=28						
ARA0	ARCESS Array S	2.67	46	eP	Pn	09 03 20.2	+0.4
ARA0				eS	Sn	09 03 52.5	-0.8
MOR8	Moi Rana	2.73	236	eSG	Sg	09 03 59.3	-6.2
MOR8				AML	AML	09 04 03.4	
	comp=Z,11nm,0.4s						
KEV	Kevo	3.22	49	eP	Pn	09 03 29.0	+1.4
KEV				eS	Sn	09 04 07.1	-0.2
KEV				MSG		09 04 25.5	
	comp=Z,3.4nm,0.3s						
OUL	Oulu	3.59	136	eP	Pn	09 03 34.3	+1.5
OUL				eS	Sn	09 04 16.3	-0.2
MSF	Maaselka	4.02	114	eP	Pn	09 03 39.5	+0.5
MSF				eS	Sn	09 04 26.3	-1.3
MSF				MSG		09 04 47.1	
	comp=Z,1.9nm,0.3s						
NSS	Namsos	4.62	229	eSG	Sg	09 05 03.1	-5.5
NSS				AML	AML	09 05 06.6	
	comp=Z,4.9nm,0.4s						
FIA0	FINESS Array S	6.87	155	Pn	Pn	09 04 20.6	+1.4
	baz=356,slow=11						
FIA0				Sn	Sn	09 05 36.9	-2.2
	baz=354,slow=22						
FIA0				Lg		09 06 11.3	
	baz=342,slow=28						
FIA0	FINESS Array S	6.87	155	eP	Pn	09 04 20.6	+1.4
FIA0				eS	Sn	09 05 36.9	-2.2
FIA0				eSG		09 06 11.3	
HFS	Hagfors	8.16	203	eS	Sn	09 06 09.7	-1.7
HFS				e		09 06 56.0	
HFS	Hagfors	8.16	203	Sn	Sn	09 06 09.7	-1.7
	baz=36,slow=22						
HFS				Lg		09 06 56.0	
	baz=8.9,slow=28						

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*IDC **14** 09:07:39.3±0.8, 2.94S×142.15E, mb4.1/10, mb1 4.2/12, mb1mx4.2/14, ML3.3/2, MS3.9/5, Ms1 3.8/5, ms1mx3.6/12, Error ellipse: s-maj=34.0km s-min=17.0km az=89.0*

*BJI **14** 09:07:47.7, 3.00S×141.80E, h75^{km}, mb4.8*

*NEIC **14** 09:07:49.8±2.1, 2.99S×141.84E, h76^{km}±19^{km}, mb4.6/6, Error ellipse: s-maj=16.3km s-min=13.5km az=91.0*

ISC 14 09:07:42.6±0.8**, 2.96S**±0.06×**142.1E**±0.2**, h33**^{km}**, n34, σ0^{s}91**/30**, mb4.3**/17**, MS3.8**/5**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.13	142	Pn	P	09 09 48.0	+6.9
	0.4nm,0.3s,baz=292,slow=12,SNR=2.1						
KAKA	Kakadu	13.64	224	eP	P	09 10 55.4	-0.9
	21nm,0.6s						
KAKA				eS	S	09 13 19.6	-8.0
CTA	Charters Tower	17.49	167	LR	LR	09 18 47.5	
	comp=Z,239nm,18.3s,baz=350,slow=38						
WRAB	Tennant Creek	18.49	204	eP	P	09 11 59.0	+0.7
	38nm,1.0s						
WB2	Warramunga Arr	18.50	204	eP	P	09 11 59.1	+0.7
WRA	Warramunga Arr	18.51	204	P	P	09 11 58.3	-0.2
	0.3nm,0.3s,baz=14,slow=12,SNR=18						
ASAR	Alice Springs	22.06	200	P	P	09 12 36.7	+0.3
	2.3nm,0.8s,mb3.6,baz=29,slow=8.6,SNR=14						
ASAR				LR	LR	09 21 33.1	
	comp=Z,444nm,18.5s,MS3.9,baz=19,slow=38						
ASPA	Alice Springs	22.06	200	eP	P	09 12 40.1	+3.7
FITZ	Fitzroy Crossi	22.07	226	eP	P	09 12 35.7	-0.8
	8.8nm,0.8s,mb4.2						
FITZ				eS	S	09 16 41.9	+9.0
FITZ	Fitzroy Crossi	22.07	226	P	P	09 12 35.4	-1.1
	10nm,1.0s,mb4.2,baz=29,slow=10,SNR=9.2						
FITZ				LR	LR	09 21 23.5	
	comp=Z,164nm,21.7s,MS3.4,baz=69,slow=37						
STKA	Stephens Creek	28.77	181	P	P	09 13 38.4	-1.2
	3.3nm,1.1s,mb4.0,baz=324,slow=14,SNR=4.6						
STKA				LR	LR	09 25 43.8	
	comp=Z,249nm,18.3s,MS3.9,baz=18,slow=38						
GYA	Guiyang	45.05	313	P	P	09 16 01.3	+3.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CMAR	Chiang Mai Arr	47.53	298	P	P	09 16 16.7	-0.5
	comp=Z,0.8nm,0.6s,mb3.9,baz=126,slow=5.9,SNR=5.0						
BJI	Beijing	48.96	334	P	P	09 16 52.8	+25
BJI				S	S	09 23 39.7	+11
BJI				LR	LR		
	comp=Z,70nm,23.0s,MS3.6						
CD2	Chengdu	49.70	316	eP	P	09 16 32.8	-1.0
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
LZH	Lanzhou	52.77	321	eP	P	09 16 51.8	-5.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH	Lanzhou	52.77	321	eP	P	09 16 51.7	-5.2
	comp=Z,25nm,1.5s,mb4.9						
LZH				pP	pP	09 17 01.2	-5.7
LZH				sP	sP	09 17 04.3	-6.6
GTA	Gaotai	57.33	322	eP	P	09 17 30.5	+0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
LSA	Lhasa	58.54	308	P	P	09 17 39.8	+1.2
SONM	Songino Array	59.45	333	P	P	09 17 43.3	-1.3
	comp=Z,0.9nm,1.0s,mb3.8,baz=153,slow=8.3,SNR=5.2						
WMQ	Urumqi	67.35	320	P	P	09 18 37.0	+0.4
MKAR	Makanchi Array	72.09	321	P	P	09 19 06.3	+0.8
	comp=Z,4.2nm,0.7s,mb4.5,baz=114,slow=7.7,SNR=26						
VNDA	Vanda	75.25	176	P	P	09 19 22.4	-1.1
	comp=Z,0.5nm,0.6s,mb3.6,baz=305,slow=7.6,SNR=3.7						
KURK	Kurchatov	75.90	324	eP	P	09 19 27.1	-0.5
	comp=Z,6.2nm,1.1s,mb4.5						
BVAR	Borovoye Array	81.48	325	P	P	09 19 58.3	+0.2
	comp=Z,5.2nm,0.9s,mb4.5,baz=127,slow=7.4,SNR=17						
BRVK	Borovoye	81.55	325	eP	P	09 19 58.6	+0.2
	comp=Z,7.8nm,1.0s,mb4.6						
ZRNK	Zerenda	82.26	324	eP	P	09 20 02.3	+0.2
	comp=Z,13nm,1.6s,mb4.6						
MAW	Mawson	83.18	202	P	P	09 20 08.2	+1.7
	comp=Z,1.9nm,0.8s,mb4.2,baz=86,slow=12,SNR=4.3						
ILAR	Eielson Array	84.66	24	P	P	09 20 13.9	-0.1
	comp=Z,1.2nm,0.9s,mb4.0,baz=252,slow=5.7,SNR=10						
YKA	Yellowknife Ar	98.74	27	LR	LR	10 02 01.3	
	comp=Z,61nm,20.1s,MS4.1,baz=90,slow=33						
ROSC	El Rosal	143.59	86	PKP	PKPdf	09 27 17.1	+1.9
	comp=Z,6.6nm,0.5s,baz=182,slow=20,SNR=3.9						
LPAZ	La Paz	144.51	124	PKP	PKPdf	09 27 20.3	+3.6
	comp=Z,6.5nm,1.0s,baz=296,slow=1.4,SNR=19						
CPUP	Villa Florida	145.33	148	PKPbc	PKPbc	09 27 20.1	+1.7
	comp=Z,3.5nm,1.0s,baz=278,slow=5.6,SNR=2.6						
DBIC	Dimbokro	146.89	278	PKPbc	PKPbc	09 27 24.4	+2.0
	comp=Z,4.2nm,0.9s,baz=7.6,slow=16,SNR=3.3						

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*NEIC **14** 09:18:30.6, 36.98N×27.98E, h31^{km}, MD3.1(ATH), After ATH.*

*ATH **14** 09:18:30.6, 36.98N×27.98E, h31^{km}±1^{km}, MD3.1/3*

*ISK **14** 09:18:32.7, 37.08N×27.90E, h15^{km}, MD3.1*

ISC 14 09:18:30.9±0.8**, 36.92N**±0.03×**27.83E**±0.05**, h5**^{km}±6^{km}**, n15, σ1^{s}00**/22**, 1C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.34	296	i P	Pg	09 18 38.0	+0.2
BDRM				i S	Sg	09 18 43.4	+1.0
MLSB	Milas	0.38	354	i PG	Pg	09 18 38.3	-0.2
YER	Yerkesik	0.42	59	i PG	Pg	09 18 39.7	+0.3
NISR	Nisiros	0.64	242	ePN	Pn	09 18 46.0	-0.3
ARG	Arkhangelos	0.74	161	ePN	Pn	09 18 46.2	-1.6
AYDN	Tasoluk	0.74	3	i P	Pg	09 18 45.2	-0.5
AYDN				i S	Sg	09 18 55.3	-0.4
SMG	Samos	1.12	315	⇓iPN	Pn	09 18 52.2	-1.0
SMG				eSN	Sn	09 19 08.6	-0.5
DNZL	Cakiroluk	1.24	51	i P	Pb	09 18 55.3	+0.9
DNZL				i S	Sb	09 19 14.5	+3.9
DENT	Denizli	1.27	49	PN	Pn	09 18 54.7	-0.7
KARP	Karpathos	1.47	202	⇑iPN	Pn	09 18 58.3	+0.1
KARP				eSN	Sn	09 19 18.5	+0.4
IZM	Izmir	1.54	343	PN	Pn	09 18 58.6	-0.7
KDAG	Bornova	1.55	343	i P	Pn	09 18 59.4	0.0
KDAG				i S	Sb	09 19 18.9	-0.7
MANT	Manisa	1.67	20	i P	Pn	09 19 03.3	+2.2
MANT				i S	Sn	09 19 24.6	+1.4
APE	Apeiranthos	1.85	275	ePN	Pn	09 19 05.3	+1.7
AKS	Akhisar	1.96	360	PN	Pn	09 19 03.5	-1.7

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*NIED **14** 09:20:00, 41.20N×144.00E, h35^{km}, Mw3.4 Best double couple: $M_0 1.52\times10^{14}$ NP1:ϕs74°,δ89°,λ168°. NP2:ϕs164°,δ78°,λ1°.*

*JMA **14** 09:20:30.1±0.1, 41.22N×144.00E, h59^{km}±2^{km}, M3.5*

ISC 14 09:20:29.2±1.0**, 41.19N**±0.05×**144.03E**±0.07**, h59**^{km}±29^{km}**, n15, σ0^{s}94**/29**, 2C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.05	322	P	P	09 20 48.6	+0.6
JEM				eS	S	09 21 01.0	-1.0
JNBK	Urakawa-nobuka	1.44	319	P	P	09 20 54.5	+0.9
JNBK				eS	S	09 21 11.9	+0.2
JCH	Churui	1.50	341	P	P	09 20 54.7	+0.3
JCH				eS	S	09 21 12.6	-0.5
JOB	Onbets	1.71	355	P	P	09 20 57.8	+0.5
JOB				eS	S	09 21 18.4	+0.3
JAK	Akkeshi	1.87	15	P	P	09 21 00.0	+0.6
JAK				eS	S	09 21 22.0	+0.2
JBT2	Biratori 2	2.01	323	P	P	09 21 02.9	+1.5
JBT2				eS	S	09 21 27.9	+2.6
JANG	Nango	2.08	248	⇑P	P	09 21 02.3	0.0
JANG				eS	S	09 21 25.4	-1.5
JAR	Ashorobuto	2.11	355	⇑P	P	09 21 02.8	0.0
JAR				eS	S	09 21 27.1	-0.7
JFR	Furan	2.24	332	P	P	09 21 05.5	+0.9
JFR				eS	S	09 21 30.7	-0.4
JOT	Ohata	2.25	276	P	P	09 21 05.7	+0.9
JOT				eS	S	09 21 30.5	-0.9
JTM	Tenmabayashi	2.27	261	P	P	09 21 05.8	+0.6
JTM				eS	S	09 21 30.8	-1.2
JKB	Kayabe	2.35	288	P	P	09 21 06.5	+0.2
JKB				eS	S	09 21 33.1	-0.8
JNK	Nakash	2.44	12	eS	S	09 21 34.5	-1.8
NEM2	Nemuro 2	2.52	30	P	P	09 21 08.5	-0.1
NEM2				eS	S	09 21 35.8	-2.3
JEW	Eniwo	2.53	311	P	P	09 21 09.6	+0.8
JEW				eS	S	09 21 38.9	+0.5

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*MDD **14** 09:41:14.6±0.9, 42.96N×0.96W, h24^{km}±5^{km}, mbLg1.0/1, Error ellipse: s-maj=24.7km s-min=2.5km az=22.0, PRXIMO*

*LDG **14** 09:41:15.8±0.1, 43.09N×0.86W, h2^{km}, Md1.7/2, Ml1.5/1, Error ellipse: s-maj=7.5km s-min=2.1km az=13.0*

ISC 14 09:41:14.5±2.6**, 43.0N**±0.3×**0.9W**±0.1**, h24**^{km}±20^{km}**, n4, σ0^{s}47**/7**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.25	302	ePg	Pb	09 41 20.9	+0.2
SJPF				eSg	Sb	09 41 25.1	+0.1
	2.3nm,0.2s						
ETSF	Etsaut	0.29	107	ePg	Pb	09 41 21.4	+0.1
ETSF				eSg	Sb	09 41 25.8	-0.2
	4.5nm,0.2s						
EALK	Alkurruntz	0.48	300	⇓Pg	Pb	09 41 23.9	-0.5
	0.9nm,0.1s,SNR=18						
EALK				Lg		09 41 30.8	
	3.0nm,0.2s,SNR=10						
EPF	Esparros	0.94	87	ePg	Pb	09 41 32.6	+0.6
EPF				eSg	Sb	09 41 43.7	-0.4
	1.3nm,0.2s						

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*MOS **14** 09:51:43.8±2.6, 50.34N×87.78E, h15^{km}, mb4.0/1, Error ellipse: s-maj=29.1km s-min=17.0km az=86.5*

*NNC **14** 09:51:47.6±6.6, 50.09N×87.25E, h21^{km}±44^{km}, mpv3.5, Error ellipse: s-maj=61.2km s-min=42.6km az=109.0*

ISC 14 09:51:40.1±1.0**, 50.42N**±0.05×**87.82E**±0.08**, h14**^{km}±8^{km}**, n9, σ1^{s}12**/15**, 4C, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	Aktash	0.16	233	ePG	Pg	09 51 45.1	+1.0
ARTR	Artybash	1.43	346	ePG	Pg	09 52 10.0	+1.3
ARTR				eS	Sb	09 52 31.7	+7.9
UKR	Ust'-Kan	2.01	286	ePN	Pg	09 52 19.0	-1.2
UKR				eS	Sg	09 52 46.1	-0.9
TASR	Tashtagol	2.35	1	ePN	Pg	09 52 26.7	-0.3
TASR				eS	Sg	09 52 58.9	+0.5
CERR	Cheremushki	3.31	41	ePN	Pg	09 52 45.4	-0.9
CERR				i S	Sg	09 53 29.4	-1.1
MK31	Makanchi Array	5.16	227	⇑Pn	Pn	09 52 59.6	+0.8
	6.4nm,0.5s,baz=53,slow=14,SNR=93						
MK31				Sn	Sn	09 53 56.2	-2.6
	8.6nm,0.5s,baz=52,slow=142,SNR=18						
MK31				⇑Lg		09 54 16.5	
	9.7nm,0.5s,baz=54,slow=30,SNR=5.0						
MKAR	Makanchi Array	5.16	227	PN	Pn	09 52 59.6	+0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
NVS	Novosibirsk	5.24	330	ePN	Pn	09 53 01.8	+1.8
NVS				e		09 53 22.6	
NVS				eS	Sg	09 54 28.8	-5.7
KURK	Kurchatov	5.87	276	⇑Pn	Pn	09 53 08.6	-0.2
	comp=Z,2.6nm,0.6s,baz=141,slow=10,SNR=29						
KURK				⇑Lg		09 54 42.9	
	comp=Z,15nm,0.8s,baz=175,slow=17,SNR=7.6						

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*IDC **14** 09:56:03.3±0.5, 27.97S×63.50E, mb4.5/16, mb1 4.7/16, mb1mx4.6/20, MS3.6/8, Ms1 3.6/8, ms1mx3.5/16, Error ellipse: s-maj=18.4km s-min=14.9km az=58.0*

*NEIC **14** 09:56:04.8±0.2, 27.98S×63.49E, h10^{km}, mb4.8/11, Error ellipse: s-maj=9.7km s-min=6.5km az=206.0*

ISC 14 09:56:03.0±0.4**, 27.97S**±0.08×**63.55E**±0.08**, h10**^{km}**, n51, σ0^{s}51**/42**, mb4.7**/30**, MS3.6**/8**, 1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	Lusaka	35.09	284	eP	P	10 02 58.1	-0.4
	5.2nm,0.6s,mb4.6						
KMBO	Kilima Mbogo	36.69	312	LR	LR	10 14 33.0	
	comp=Z,77nm,19.1s,MS3.5,baz=89,slow=30						
SUR	Sutherland	37.03	252	eP	P	10 03 09.8	-5.0
MAW	Mawson	39.66	180	eP	P	10 03 37.0	+0.5
	7.3nm,0.9s,mb4.4						
MAW				ePCP	PcP	10 05 43.9	0.0
MAW	Mawson	39.66	180	P	P	10 03 37.1	+0.6
	7.9nm,0.7s,mb4.6,baz=14,slow=10,SNR=20						
MAW				PcP	PcP	10 05 44.0	+0.1
	7.4nm,0.7s,baz=352,slow=3.7,SNR=14						
MAW				LR	LR	10 15 46.7	
	comp=Z,126nm,22.0s,MS3.7,baz=38,slow=30						
TSUM	Tsumeb	42.82	271	P	P	10 04 02.5	-0.4
	2.0nm,0.9s,mb3.9,baz=108,slow=9.9,SNR=4.7						
TSUM				PcP	PcP	10 05 55.4	+0.6
	1.4nm,0.7s,baz=80,slow=3.5,SNR=3.7						

FORT	Forrest	55.59	110	eP	P	10 05 41.9	+0.7
	64nm,0.8s,mb5.7						
SNAA	Sanae	56.32	200	e	P	10 05 56.2	+10
SNAA	Sanae	56.32	200	P	P	10 05 44.8	-1.0
	0.9nm,0.8s,mb3.9,baz=111,slow=4.9,SNR=8.8						
SNAA	Sanae	56.32	200	⇓iP	P	10 05 41.4	-4.5
SNAA				e		10 05 56.2	
FITZ	Fitzroy Crossi	57.46	94	eP	P	10 05 55.0	+0.3
	7.9nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	57.48	41	P	P	10 05 55.6	+0.8
	21nm,1.3s,mb5.0,baz=231,slow=7.2,SNR=23						
CMAR				LR	LR	10 29 14.1	
	comp=Z,24nm,19.2s,MS3.3,baz=338,slow=35						
KOLN	Koldanda	58.66	21	eP	P	10 06 02.2	-0.8
	12nm,1.0s,mb4.9						
DMN	Daman	59.00	22	eP	P	10 06 04.8	-0.6
	11nm,0.8s,mb5.0						
PKI	Pulchoki	59.07	23	eP	P	10 06 05.7	-0.2
GKN	Gorkha	59.21	22	eP	P	10 06 06.2	-0.6
	33nm,1.2s,mb5.3						
KKN	Kakani	59.23	22	eP	P	10 06 06.5	-0.5
	4.4nm,0.3s,mb5.0						
QSPA	South Pole Qui	62.18	180	eP	P	10 06 26.0	-0.4
	27nm,1.0s,mb5.3						
ASPA	Alice Springs	62.68	104	eP	P	10 06 30.2	-0.2
ASAR	Alice Springs	62.68	104	P	P	10 06 30.2	-0.2
	34nm,1.1s,mb5.4,baz=248,slow=6.3,SNR=184						
ASAR				LR	LR	10 28 45.2	
	comp=Z,54nm,21.9s,MS3.7,baz=126,slow=31						
WRA	Warramunga Arr	64.41	100	P	P	10 06 41.7	-0.1
	12nm,0.7s,mb5.1,baz=249,slow=5.8,SNR=166						
WB2	Warramunga Arr	64.42	100	eP	P	10 06 41.8	-0.1
WRAB	Tennant Creek	64.42	100	eP	P	10 06 41.7	-0.3
VNDA	Vanda	64.69	166	P	P	10 06 42.3	-0.5
	1.8nm,0.9s,mb4.1,baz=266,slow=7.5,SNR=5.9						
VNDA				LR	LR	10 29 29.6	
	comp=Z,124nm,21.8s,MS4.1,baz=245,slow=31						
ASF	Jabal al Asfar	64.96	335	P	P	10 06 46.3	+1.0
	2.2nm,0.6s,mb4.4,baz=78,slow=4.8,SNR=4.8						
KAKA	Kakadu	65.58	92	eP	P	10 06 49.8	+0.3
	4.4nm,0.5s,mb4.7						
STKA	Stephens Creek	66.36	115	eP	P	10 06 54.3	+0.1
	5.7nm,0.6s,mb4.8						
STKA	Stephens Creek	66.36	115	P	P	10 06 54.5	+0.3
	6.6nm,0.6s,mb4.8,baz=292,slow=6.0,SNR=20						
BRTR	Keskin Array B	72.88	336	P	P	10 07 33.8	-0.3
	2.2nm,0.7s,mb4.2,baz=158,slow=6.7,SNR=10						
BRTR				LR	LR	10 35 43.5	
	comp=Z,21nm,21.1s,MS3.4,baz=100,slow=33						
KIC	Kosan Boka	74.11	286	eP	P	10 07 41.9	+0.2
	209nm,2.0s,mb5.7						
LIC	Lamto	74.28	286	eP	P	10 07 42.8	+0.1
	17nm,0.8s,mb5.0						
DBIC	Dimbokro	74.37	286	P	P	10 07 43.5	+0.3
	6.1nm,0.9s,mb4.5,baz=126,slow=4.5,SNR=5.3						
DBIC				LR	LR	10 39 22.8	
	comp=Z,85nm,19.1s,MS4.1,baz=124,slow=35						
DBIC	Dimbokro	74.37	286	P	P	10 07 43.5	+0.3
DBIC				LR	LR	10 39 22.8	
TIC	Toumodi	74.49	286	eP	P	10 07 44.0	+0.1
	10nm,0.2s,mb5.4						
MKAR	Makanchi Array	76.31	13	P	P	10 07 53.7	0.0
	5.8nm,1.1s,mb4.4,baz=185,slow=4.6,SNR=14						
MKAR				LR	LR	10 39 44.4	
	comp=Z,23nm,21.6s,MS3.5,baz=14,slow=34						
MKAR	Makanchi Array	76.31	13	P	P	10 07 53.7	0.0
MKAR				LR	LR	10 39 44.4	
KURK	Kurchatov	79.46	10	eP	P	10 08 11.2	+0.2
	7.7nm,1.3s,mb4.5						
ZRNK	Zerenda	80.71	3	eP	P	10 08 17.2	-0.3
	5.0nm,1.1s,mb4.4						
AKASG	Malin Array Be	84.00	339	P	P	10 08 34.5	-0.1
	3.1nm,0.6s,mb4.6,baz=157,slow=4.0,SNR=8.6						
SONM	Songino Array	84.71	27	P	P	10 08 38.9	+0.7
	1.9nm,0.8s,mb4.3,baz=219,slow=5.0,SNR=8.9						
GERES	GERESS Array B	88.48	330	P	P	10 08 56.0	-0.6
	2.9nm,1.1s,mb4.4,baz=162,slow=4.2,SNR=5.8						
MOX	Moxa	90.72	330	eP	P	10 09 08.0	+0.9
ESDC	Sonseca Array	92.04	314	P	P	10 09 14.5	+1.0
	2.3nm,0.8s,mb4.6,baz=104,slow=3.5,SNR=11						
ILAR	Eielson Array	138.44	19	PKP	PKPdf	10 15 28.7	-2.7
	0.6nm,0.7s,baz=310,slow=3.2,SNR=6.1						
YKW3	Yellowknife Ar	145.38	359	ePKP	PKPdf	10 15 41.4	-2.0
YKA	Yellowknife Ar	145.45	358	PKPbc	PKPbc	10 15 41.4	+0.3
	6.1nm,0.7s,baz=348,slow=3.3,SNR=57						
ALLY	Alegheny Colle	147.47	304	ePKPbc	PKPdf	10 15 48.6	+0.9
ACSO	Alum Creek Sta	149.88	303	ePKPbc	PKPdf	10 15 54.8	+3.2
ULM	Lac du Bonnet	152.79	330	PKPbc	PKPdf	10 16 00.4	+4.9
	5.2nm,0.8s,baz=59,slow=2.8,SNR=12						
PDAR	Pinedale Array	164.21	341	PKP	PKPdf	10 16 08.2	-1.1
	0.5nm,0.7s,baz=90,slow=1.5,SNR=5.9						
PDAR				PKPab	PKPab	10 17 01.9	-0.4
	0.6nm,0.8s,baz=45,slow=6.3,SNR=4.6						
TXAR	Lajitas Array	168.69	280	PKP	PKPdf	10 16 12.1	-1.0
	1.0nm,0.8s,baz=142,slow=2.0,SNR=12						
TXAR				PKPab	PKPab	10 17 23.2	+0.9
	0.5nm,1.0s,baz=111,slow=7.7,SNR=2.8						
TXAR				PP	PP	10 21 14.2	+1.9
	0.1nm,0.4s,baz=143,slow=6.3,SNR=3.5						

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*CASC **14** 10:02:45.8±1.4,12.83N×90.83W,MD4.0*
*IDC **14** 10:02:57.7±3.7,13.64N×89.89W,h64^{km}±44^{km},mb3.4/6, mb1 3.6/7,mb1mx3.5/19,ML3.3/1,MS3.6/1,Ms1 3.5/1, ms1mx2.8/13,Error ellipse: s-maj=65.1km s-min=23.3km az=39.0*
*NEIC **14** 10:02:58.3±2.3,13.78N×89.84W,h60^{km}±25^{km},Error ellipse: s-maj=39.8km s-min=18.8km az=47.0*
ISC 14 10:02:45.6±1.3**,12.56N**±0.06×**90.94W**±0.07**,h38**^{km}±11^{km}**, n25,σ1^{s}10**/30**,mb3.7**/5**,MS3.6**/1**,7C,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	Ixpaco	1.67	16	⇑eP	P	10 03 11.2	-1.7
IXG				eS	S	10 03 32.8	-0.5
SBLS	San Blas	1.80	45	⇑eP	P	10 03 14.1	-0.7
RTR	El Retiro	1.83	43	⇑eP	P	10 03 14.6	-0.6
RTR				eS	S	10 03 37.5	+0.3
SNJE	San Jose	1.83	45	⇑eP	P	10 03 14.6	-0.7
JAT	Jato	1.87	339	⇑eP	P	10 03 17.3	+1.5
BOQS	Boqueron	1.99	54	eP	P	10 03 17.6	+0.1
BOQS				eS	S	10 03 43.2	+1.9
NBG	Las Nubes	2.09	16	⇑eP	P	10 03 18.7	-0.2
NBG				eS	S	10 03 43.3	-0.7
LFRS	El Faro	2.11	60	eP	P	10 03 19.4	+0.2
LBRS	Las Brisas	2.19	57	eP	P	10 03 20.4	+0.2
LCBS	La Ceiba	2.20	60	eP	P	10 03 20.5	+0.1
LCBS				eS	S	10 03 48.6	+2.1
MTO2	Montecristo 2	2.38	40	eP	P	10 03 22.6	-0.5
MRL	Marmol	2.77	26	⇑eP	P	10 03 28.4	-0.2
MRL				eS	S	10 04 00.2	-0.9
BLLM	Bellamira	2.77	71	eP	P	10 03 29.8	+1.1
CNCH	Conchagua	3.11	76	eP	P	10 03 34.5	+1.1
JTS	JuntasAbangare	6.29	110	P	P	10 04 23.2	+5.0
	0.8nm,0.3s,baz=309,slow=21,SNR=11						
JTS				S	S	10 05 28.1	-1.7
	0.4nm,0.3s,baz=253,slow=18,SNR=1.9						
TXAR	Lajitas Array	20.46	327	P	P	10 07 26.9	+4.3
	1.4nm,0.7s,baz=148,slow=11,SNR=14						
PDAR	Pinedale Array	34.15	335	P	P	10 09 31.8	+2.6
	0.3nm,0.9s,mb3.2,baz=121,slow=5.3,SNR=2.9						
MCMT	McKenzie Canyo	37.21	334	eP	P	10 09 59.6	+4.5
ULM	Lac du Bonnet	37.80	355	P	P	10 09 59.4	-0.6
	1.3nm,0.5s,mb3.9,baz=176,slow=10,SNR=3.7						
SCHQ	Schefferville	46.22	19	P	P	10 11 07.0	-1.7
	0.9nm,0.4s,mb4.1,baz=69,slow=17,SNR=5.9						
BDFB	Brasilia	50.88	122	LR	LR	10 35 12.1	
	comp=Z,64nm,20.7s,MS3.6,baz=7.9,slow=38						
YKA	Yellowknife Ar	52.66	346	P	P	10 11 58.9	+0.9
	0.3nm,0.6s,mb3.4,baz=137,slow=6.9,SNR=6.9						
YKA	Yellowknife Ar	52.66	346	P	P	10 11 58.9	+0.9
NOA	NORSAR Array B	84.91	29	P	P	10 15 16.8	-0.8
	1.0nm,0.8s,mb4.0,baz=306,slow=4.8,SNR=3.6						
WRA	Warramunga Arr	136.02	254	PKP	PKPdf	10 22 16.7	+13
	0.6nm,1.2s,baz=86,slow=2.4,SNR=4.6						

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*ISK **14** 10:56:28.4,36.87N×27.73E,h7^{km},MD3.4*
*NEIC **14** 10:56:30.8,36.88N×27.75E,h23^{km},MD3.5(ATH),After ATH.*
*ATH **14** 10:56:30.8,36.88N×27.75E,h23^{km}±3^{km},MD3.5/9*
ISC 14 10:56:29.8±0.6**,36.88N**±0.03×**27.75E**±0.04**,h10**^{km}±4^{km}**, n21,σ0^{s}87**/31**,3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.30	307	iP	Pg	10 56 37.0	+0.9
BDRM				iS	Sg	10 56 42.5	+2.2
MLSB	Milas	0.41	3	iPG	Pg	10 56 37.3	-1.0
MLSB				iSG	Sg	10 56 43.8	-0.1
YER	Yerkesik	0.50	59	iPG	Pg	10 56 38.9	-1.0
YER				iSG	Sg	10 56 46.5	-0.2
NISR	Nisiros	0.56	242	ePN	Pn	10 56 42.8	-0.7
ARG	Arkhangelos	0.73	155	⇑iPB	Pb	10 56 44.3	+0.1
ARG				eSN	Sn	10 56 56.2	-1.0
AYDN	Tasoluk	0.79	8	⇑iP	Pb	10 56 44.8	-0.3
AYDN				iS	Sb	10 56 55.5	0.0
SMG	Samos	1.10	319	ePB	Pb	10 56 50.8	+0.4
SMG				eSN	Sn	10 57 07.4	+0.9
DNZL	Cakiroluk	1.31	52	iP	Pb	10 56 54.2	+0.1
DNZL				iS	Sb	10 57 13.8	+2.8
DENT	Denizli	1.35	49	PN	Pn	10 56 54.9	+0.2
KARP	Karpathos	1.41	200	ePN	Pn	10 56 56.4	+0.7
KARP				eSN	Sn	10 57 15.7	+1.2
IZM	Izmir	1.56	346	PN	Pn	10 56 57.2	-0.6
KDAG	Bornova	1.57	346	⇑iP	Pn	10 56 57.7	-0.2
KDAG				iS	Sb	10 57 16.9	-1.3
KSL	Kastellorizon	1.65	116	ePN	Pn	10 57 00.5	+1.4
MANT	Manisa	1.73	22	iP	Pn	10 57 00.6	+0.4
MANT				iS	Sn	10 57 22.8	+0.3
ELL	Elmali	1.74	94	ePN	Pn	10 57 00.6	+0.2
APE	Apeiranthos	1.78	277	ePN	Pn	10 57 00.2	-0.8
APE	Apeiranthos	1.78	277	ePB	Pb	10 57 01.5	-0.7
AKS	Akhisar	2.00	2	ePN	Pn	10 57 03.3	-0.7
NPS	Neapolis	2.37	228	ePB	Pb	10 57 11.0	-1.1
XRY	Khrisi	2.60	220	ePB	Pb	10 57 16.0	-0.2
PRK	Paraskevi	2.63	334	ePB	Pb	10 57 16.5	-0.2

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*IDC **14** 11:00:36.1±0.9,2.92S×141.96E,mb4.1/10,mb1 4.2/13, mb1mx4.2/15,ML3.5/2,MS3.9/11,Ms1 3.9/11, ms1mx3.7/19,Error ellipse: s-maj=35.9km s-min=16.9km az=88.0*
*BJI **14** 11:00:45.4,3.68S×141.92E,h102^{km},mb4.8*
*NEIC **14** 11:00:49.4±1.9,3.06S×141.68E,h103^{km}±18^{km},mb4.6/8, Error ellipse: s-maj=15.8km s-min=11.1km az=96.0*
ISC 14 11:00:45.8±2.4**,3.04S**±0.09×**141.6E**±0.1**,h80**^{km}±23^{km}**, n38,σ1^{s}17**/33**,mb4.2**/17**,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.41	139	Pn	P	11 02 48.0	+1.2
	0.3nm,0.3s,baz=359,slow=7.1,SNR=3.4						
KAKA	Kakadu	13.21	223	eP	P	11 03 49.5	-2.0
	24nm,0.6s						
CTA	Charters Tower	17.54	165	P	P	11 04 45.5	-1.2
	baz=212,slow=14,SNR=1.9						
CTA				LR	LR	11 11 43.9	
	comp=Z,382nm,18.5s,baz=355,slow=38						
CTAO	Charters Tower	17.54	165	eP	P	11 04 42.2	-4.5
WRAB	Tennant Creek	18.21	202	eP	P	11 04 55.6	+0.9
	26nm,0.9s						
WB2	Warramunga Arr	18.22	202	eP	P	11 04 53.5	-1.3
WRA	Warramunga Arr	18.22	202	P	P	11 04 54.1	-0.8
	0.8nm,0.3s,baz=13,slow=12,SNR=48						
WRA	Warramunga Arr	18.22	202	P	P	11 04 54.1	-0.8
FITZ	Fitzroy Crossi	21.64	225	eP	P	11 05 31.6	+0.6
	10nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	21.64	225	P	P	11 05 31.8	+0.7
	4.7nm,0.7s,mb4.0,baz=35,slow=8.2,SNR=15						
FITZ				LR	LR	11 14 18.4	
	comp=Z,243nm,19.6s,baz=70,slow=37						
ASAR	Alice Springs	21.81	199	P	P	11 05 32.8	+0.1
	2.0nm,0.6s,mb3.6,baz=31,slow=11,SNR=24						
ASAR				LR	LR	11 14 29.8	
	comp=Z,581nm,18.4s,baz=15,slow=38						
ASPA	Alice Springs	21.81	199	eP	P	11 05 34.7	+2.0
STKA	Stephens Creek	28.68	180	P	P	11 06 36.1	-1.3
	4.1nm,1.1s,mb4.0,baz=353,slow=14,SNR=3.3						
STKA				LR	LR	11 17 50.9	
	comp=Z,328nm,20.5s,baz=4.7,slow=36						
FORT	Forrest	30.40	203	eP	P	11 06 53.6	+0.9
	58nm,0.6s						
JOW	Kunigami	32.36	337	LR	LR	11 17 23.5	
	comp=Z,200nm,19.9s,baz=72,slow=31						
JNU	Nakatsue	37.37	345	LR	LR	11 21 41.5	
	comp=Z,101nm,20.6s,baz=214,slow=34						
NWAO	Narrogin (SRO)	37.47	215	LR	LR	11 26 09.3	
	comp=Z,24nm,18.9s,baz=41,slow=41						
GYA	Guiyang	44.71	313	P	P	11 08 55.3	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
KMI	Kunming	46.94	309	eP	P	11 09 17.0	+6.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
KMI	Kunming	46.94	309	eP	P	11 09 17.0	+6.4
	comp=Z,7.0nm,1.3s,mb4.2						
KMI				pP	pP	11 09 24.6	-5.7
KMI				sP	sP	11 09 29.3	-10
KMI				S	S	11 15 30.0	-25
KMI				LR	LR		
	comp=Z,130nm,22.7s						
CMAR	Chiang Mai Arr	47.10	299	P	P	11 09 13.1	+1.2
	comp=Z,0.5nm,0.4s,mb3.6,baz=126,slow=7.8,SNR=4.0						
BJI	Beijing	48.80	334	P	P	11 09 10.1	-15
BJI				S	S	11 16 31.5	+11
BJI				LR	LR		
	comp=Z,110nm,21.7s						
CD2	Chengdu	49.38	316	eP	P	11 09 36.5	+7.0
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	Gaotai	57.06	322	eP	P	11 10 27.0	+0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
SONM	Songino Array	59.27	333	P	P	11 10 41.2	-0.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=146,slow=4.5,SNR=3.9						
WMQ	Urumqi	67.07	321	eP	P	11 11 30.0	-2.8
MKAR	Makanchi Array	71.82	322	P	P	11 12 01.4	-0.3
	comp=Z,2.6nm,0.7s,mb4.2,baz=99,slow=8.0,SNR=15						
VNDA	Vanda	75.21	176	P	P	11 12 20.4	-0.5
	comp=Z,1.1nm,0.5s,mb3.9,baz=327,slow=6.7,SNR=12						
VNDA				LR	LR	11 45 32.1	
	comp=Z,141nm,21.6s,baz=345,slow=36						
VNDA	Vanda	75.21	176	P	P	11 12 20.4	-0.5
VNDA				LR	LR	11 45 32.1	
KURK	Kurchatov	75.65	324	eP	P	11 12 23.5	-0.3
	comp=Z,4.0nm,0.9s,mb4.2						
BVAR	Borovoye Array	81.23	325	P	P	11 12 53.6	-0.8
	comp=Z,3.8nm,0.8s,mb4.3,baz=117,slow=6.6,SNR=16						
BRVK	Borovoye	81.30	325	eP	P	11 12 53.9	-0.8
	comp=Z,8.1nm,0.9s,mb4.5						
MAW	Mawson	82.90	202	P	P	11 13 04.3	+1.6
	comp=Z,1.9nm,0.8s,mb4.0,baz=291,slow=8.9,SNR=4.9						
MAW				LR	LR	11 45 57.5	
	comp=Z,114nm,20.4s,baz=220,slow=33						
ILAR	Eielson Array	84.95	24	P	P	11 13 12.2	-0.9
	comp=Z,1.5nm,0.9s,mb3.9,baz=258,slow=5.2,SNR=8.3						
ILAR				LR	LR	11 49 06.4	
	comp=Z,34nm,18.5s,baz=266,slow=34						
QSPA	South Pole Qui	86.91	180	eP	P	11 13 22.3	0.0
	comp=Z,7.9nm,1.0s,mb4.6						
QSPA				LR	LR		
	comp=Z,110nm,22.0s						
YKA	Yellowknife Ar	99.06	27	LR	LR	11 54 15.5	
	comp=Z,87nm,21.1s,baz=280,slow=33						
LPAZ	La Paz	144.91	124	PKP	PKPdf	11 20 16.1	+1.5
	comp=Z,2.7nm,0.7s,baz=252,slow=3.2,SNR=1.8						
DBIC	Dimbokro	146.37	277	PKPbc	PKPbc	11 20 18.9	+0.4
	comp=Z,3.4nm,0.9s,baz=115,slow=16,SNR=2.5						

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*IDC **14** 11:03:12.0±3.2,7.64S×126.56E,h193^{km}±31^{km},mb3.7/9, mb1 3.8/12,mb1mx3.7/17,Error ellipse: s-maj=29.7km s-min=11.7km az=61.0*
*NEIC **14** 11:03:12.3±1.6,7.61S×126.57E,h197^{km}±16^{km},mb4.6/1, Error ellipse: s-maj=18.6km s-min=11.4km az=57.0*
ISC 14 11:03:10.1±1.8**,7.62S**±0.08×**126.5E**±0.1**,h189**^{km}±18^{km}**, n16,σ0^{s}83**/18**,mb4.0**/9**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	7.74	131	eP	P	11 05 01.5	+0.8
	15nm,0.4s						
FITZ	Fitzroy Crossi	10.45	184	P	P	11 05 37.2	+0.9
	4.5nm,0.3s,baz=11,slow=10,SNR=68						
FITZ				S	S	11 07 29.5	-1.2
	2.1nm,0.3s,baz=173,slow=12,SNR=3.6						
FITZ	Fitzroy Crossi	10.45	184	P	P	11 05 37.2	+0.9
WRA	Warramunga Arr	14.45	149	P	P	11 06 25.6	-1.5
	0.8nm,0.3s,baz=320,slow=15,SNR=9.6						
WRA				S	S	11 09 02.4	-0.2
	1.4nm,0.3s,baz=318,slow=27,SNR=6.7						
ASAR	Alice Springs	17.49	157	P	P	11 07 03.9	+0.1
	1.1nm,0.3s,baz=334,slow=11,SNR=21						
ASAR				S	S	11 10 11.6	+1.4
	0.2nm,0.3s,baz=335,slow=20,SNR=3.9						
CTA	Charters Tower	22.84	125	P	P	11 07 57.9	0.0
	1.7nm,0.4s,mb3.8,baz=311,slow=9.3,SNR=3.4						
CTAO	Charters Tower	22.84	125	P	P	11 07 57.8	-0.1
NWAO	Narrogin (SRO)	26.60	198	P	P	11 08 33.2	+0.3
	9.1nm,0.8s,mb4.4,baz=47,slow=5.3,SNR=4.7						
STKA	Stephens Creek	27.96	152	P	P	11 08 44.6	-0.6
	1.8nm,0.4s,mb4.2,baz=330,slow=14,SNR=4.3						
CMAR	Chiang Mai Arr	37.52	314	P	P	11 10 09.2	+1.6
	2.9nm,0.7s,mb4.0,baz=138,slow=6.8,SNR=8.4						
RPZ	Rata Peaks	52.96	140	P	P	11 12 08.9	-0.2
	5.0nm,0.5s,mb4.5,baz=282,slow=6.0,SNR=2.8						
SONM	Songino Array	57.99	344	P	P	11 12 44.6	-0.5
	0.4nm,0.5s,mb3.5,baz=162,slow=7.4,SNR=5.0						
MKAR	Makanchi Array	66.86	329	P	P	11 13 42.9	-0.9
	1.3nm,0.6s,mb3.9,baz=124,slow=7.7,SNR=9.3						
MAW	Mawson	73.11	201	P	P	11 14 21.5	+0.4
	1.4nm,0.6s,mb3.9,baz=90,slow=5.1,SNR=4.1						
BVAR	Borovoye Array	76.74	329	P	P	11 14 41.6	-0.4
	0.9nm,0.4s,mb3.7,baz=125,slow=10,SNR=6.5						
CPUP	Villa Florida	146.06	174	PKPbc	PKPbc	11 22 28.1	-0.4
	2.6nm,0.7s,baz=214,slow=4.7,SNR=3.3						

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*MOS **14** 11:06:48.4±1.5,53.27N×160.63E,h56^{km},mb4.1/2,Error ellipse: s-maj=18.9km s-min=10.0km az=81.9*
*KRSC **14** 11:06:49.9±0.9,53.32N×160.57E,h33^{km}±4^{km},ML4.2*
*IDC **14** 11:06:49.7±2.8,53.51N×160.40E,h40^{km}±28^{km},mb3.4/9, mb1 3.6/10,mb1mx3.4/22,ML3.8/2,Error ellipse: s-maj=23.5km s-min=18.2km az=7.0*
*NEIC **14** 11:06:51.0±2.1,53.54N×160.26E,h51^{km}±17^{km},mb4.2/2, Error ellipse: s-maj=20.9km s-min=14.8km az=100.0*
ISC 14 11:06:49.5±0.4**,53.29N**±0.03×**160.64E**±0.05**,h53**^{km}±5^{km}**, n53,σ1^{s}06**/90**,mb3.7**/11**,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.42	243	iP	P	11 06 59.7	-0.5
SPN				iS	S	11 07 06.2	-1.7
NLC	Nalytchevo	0.79	262	iP	P	11 07 04.3	-0.3
NLC				iS	S	11 07 14.4	-1.4
KII	Karymskiy	1.03	317	eP	P	11 07 07.3	-0.7
KII				eS	S	11 07 19.8	-1.9
SDLR	Sedlovina	1.05	270	eP	P	11 07 08.3	0.0
SDLR				eS	S	11 07 22.7	+0.5
UGLR	Uglovaya	1.09	267	iP	P	11 07 09.2	+0.3
UGLR				eS	S	11 07 23.6	+0.4
SMAR	Somma	1.10	269	eP	P	11 07 09.0	0.0
SMAR				eS	S	11 07 23.5	+0.1
AVH	Avacha	1.14	270	eP	P	11 07 09.8	+0.3
AVH				eS	S	11 07 24.3	-0.1
KOK	Koryaka	1.20	271	eP	P	11 07 10.4	+0.1
KOK				eS	S	11 07 25.1	-0.7
PET	Petropavlovsk	1.23	258	iP	P	11 07 10.5	-0.2
PET				eS	S	11 07 25.5	-0.9
PET	Petropavlovsk	1.23	258	eP	P	11 07 09.9	-0.8
MKZ	Mys Kozlova	1.43	26	P	P	11 07 12.6	-1.0
MKZ				S	S	11 07 28.8	-2.6
MKZ	Mys Kozlova	1.43	26	iP	P	11 07 12.6	-1.0
MKZ				eS	S	11 07 29.5	-1.9
RUS	Russkaya	1.55	237	eP	P	11 07 14.9	-0.4
RUS				eS	S	11 07 33.2	-1.1
GNL	Ganaly	1.66	285	eP	P	11 07 17.2	+0.3
GNL				eS	S	11 07 37.1	0.0
GRL	Gorelyy	1.72	246	eP	P	11 07 18.2	+0.5
GRL				eS	S	11 07 39.5	+1.0
TUMR	Tumrok	2.02	352	iP	P	11 07 22.6	+0.7
TUMR				eS	S	11 07 46.1	+0.2
APC	Apacha	2.13	262	eP	P	11 07 24.5	+1.1
APC				eS	S	11 07 49.7	+1.0
KMNR	Kamenistaya	2.48	355	eP	P	11 07 30.0	+1.5
KMNR				eS	S	11 07 58.5	+0.8
MIPR	Malaya Ipel'ka	2.57	248	eP	P	11 07 30.8	+1.2
MIPR				eS	S	11 08 00.9	+1.2
LGNR	Loginova	2.80	1	eP	P	11 07 34.1	+1.1
LGNR				eS	S	11 08 07.2	+1.5
KOZ	Kozyrevsk	2.81	351	P	P	11 07 33.7	+0.6
KOZ				S	S	11 08 05.3	-0.7
KOZ	Kozyrevsk	2.81	351	eP	P	11 07 33.5	+0.4
KOZ				eS	S	11 08 05.2	-0.8
KOZR	Kozyr	2.82	351	PN	P	11 07 33.7	+0.5
KOZR				S	S	11 08 05.3	-0.8
CIRR	Tsirk	2.83	1	eP	P	11 07 35.2	+1.7
CIRR				eS	S	11 08 08.2	+1.6
ESO	Esso	2.87	338	eP	P	11 07 33.8	-0.2
ESO				eS	S	11 08 06.3	-1.2
ESO				Smax			
	90nm,0.9s						
KRSR	Krestovskiy	2.94	359	eP	P	11 07 36.3	+1.4
KRSR				eS	S	11 08 10.1	+1.0
PAU	Pauzhetka	2.97	234	eP	P	11 07 36.3	+0.9
PAU				eS	S	11 08 10.5	+0.5
PAU				Smax			
	90nm,0.9s						
KLY	Klyuchi	3.03	0	P	P	11 07 37.0	+0.7
KLY				S	S	11 08 11.3	-0.3
KLY	Klyuchi	3.03	0	eP	P	11 07 37.0	+0.7
KLY				eS	S	11 08 11.2	-0.4
SRDR	Sredinnyy	3.08	350	eP	P	11 07 37.4	+0.4
SRDR				eS	S	11 08 11.8	-1.0
KBTR	Krutoberegovo	3.19	22	P	P	11 07 38.7	+0.3
KBTR				S	S	11 08 14.9	-0.6
KBTR	Krutoberegovo	3.19	22	eP	P	11 07 38.6	+0.2
KBTR				eS	S	11 08 14.7	-0.8
KBG	Krutoberegovo	3.21	21	eP	P	11 07 39.3	+0.6
KBG				eS	S	11 08 14.8	-1.1
KBG				Smax			
	740nm,1.0s						
SVLR	Shiveluch	3.31	6	iP	P	11 07 41.3	+1.1
SVLR				eS	S	11 08 19.7	+1.0
BKI	Bering	3.67	56	eP	P	11 07 44.6	-0.6
BKI				eS	S	11 08 23.2	-4.5
BKI				Smax			
	90nm,0.2s						
SKR	Severo-Kuril's	3.82	229	eP	P	11 07 46.0	-1.4
SKR				eS	S	11 08 31.5	0.0
ALID	Alaid	3.96	234	eP	P	11 07 52.0	+2.6
ALID				eS	S	11 08 34.9	-0.2
FX1	Attu Island--F	7.56	88	Pn	P	11 08 38.3	-1.3
	7.3nm,0.3s,baz=254,slow=5.6,SNR=15						
FX1				Sn	S	11 09 59.8	-4.9
	3.7nm,0.3s,baz=184,slow=23,SNR=3.4						
ASAJ	Asahikawa	15.00	240	Pn	P	11 10 19.2	-0.2
	0.4nm,0.3s,baz=78,slow=15,SNR=5.4						
MAJO	Matsushiro	22.93	232	eP	P	11 11 50.3	+0.8
	5.9nm,0.6s,mb4.2						
MAT	Matsushiro	22.93	232	P	P	11 11 50.1	+0.7
MAT	Matsushiro	22.93	232	eP	P	11 11 50.0	+0.6
	6.7nm,0.6s,mb4.2						
SONM	Songino Array	34.18	283	P	P	11 13 29.8	-1.6
	0.2nm,0.5s,mb3.3,baz=51,slow=7.5,SNR=3.3						
MKAR	Makanchi Array	48.37	296	P	P	11 15 25.2	-2.2
	0.4nm,0.5s,mb3.8,baz=58,slow=7.1,SNR=7.2						
BVAR	Borovoye Array	50.52	309	P	P	11 15 41.0	-3.0
	0.4nm,0.3s,mb3.8,baz=51,slow=9.2,SNR=2.9						
ARCES	ARCESS Array B	53.20	342	P	P	11 15 59.8	-4.0
	0.8nm,0.9s,mb3.7,baz=41,slow=8.3,SNR=3.2						
ARCES	ARCESS Array B	53.20	342	P	P	11 15 59.8	-4.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	60.07	337	P	P	11 16 50.1	-2.7
	comp=Z,0.5nm,0.3s,mb4.0,baz=67,slow=6.5,SNR=6.6						
FINES	FINESS Array B	60.07	337	P	P	11 16 50.1	-2.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	NORSAR Array B	63.45	344	P	P	11 17 14.0	-1.5
	comp=Z,0.4nm,0.6s,mb3.7,baz=129,slow=22,SNR=2.3						
TXAR	Lajitas Array	70.26	67	P	P	11 18 00.2	+1.5
	comp=Z,0.1nm,0.4s,mb3.1,baz=291,slow=5.9,SNR=4.6						
WRA	Warramunga Arr	76.40	205	P	P	11 18 34.8	0.0
	comp=Z,0.3nm,0.8s,mb3.2,baz=8.8,slow=5.9,SNR=4.5						
ASAR	Alice Springs	80.07	205	P	P	11 18 56.0	+1.0
	comp=Z,0.3nm,0.4s,mb3.6,baz=13,slow=5.5,SNR=9.0						

*NEIC **14** 11:07:11.7,16.84N×95.16W,h104^{km},MD3.7(MEX),After MEX.*

MEX 14 11:07:11.7±0.7,16.84N×95.16W,h104^{km}±9^{km},MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.36	46	*i* P	P	11 07 25.9	-1.3
CMIG				*i* S	S	11 07 36.8	-2.0
HUIG	Huatulco	1.40	221	*e*P	P	11 07 34.6	-2.8
HUIG				*e*S	S	11 07 55.1	-1.5
OXX	Oaxaca	1.52	279	*e*P	P	11 07 37.5	-1.3
OXX				*e*S	S	11 07 57.5	-1.6
VHO	Vista Hermosa	1.53	279	*i* P	P	11 07 37.7	-1.3
VHO				*i* S	S	11 07 57.2	-2.0

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*NEIC **14** 11:15:34.5±0.7,6.79N×73.09W,h161^{km}±7^{km},mb3.9/4, Error ellipse: s-maj=11.1km s-min=9.9km az=119.0*

*IDC **14** 11:15:35.3±1.6,6.80N×73.19W,h166^{km}±15^{km},mb3.6/9, mb1 3.8/11,mb1mx3.6/22,Error ellipse: s-maj=27.9km s-min=17.8km az=86.0*

ISC 14 11:15:34.2±0.7,6.73N±0.06×73.03W±0.09,h176^{km}±7^{km}, n26,σ0^s.94/25,mb3.8/11,3C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.27	215	P	P	11 16 15.0	+0.6
	139nm,0.3s,baz=124,slow=23,SNR=78						
ROSC				S	S	11 16 45.5	0.0
	796nm,0.3s,baz=323,slow=22,SNR=29						
SDV	Santo Domingo	3.20	48	*e*P	P	11 16 24.7	-1.0
OTAV	Otavalo	8.42	220	*e*P	P	11 17 34.2	+0.4
	3.2nm,0.5s						
PCJ	Portland Cotta	11.66	340	*e*P	P	11 18 16.4	+0.2
PCJ				*e*S	S	11 20 12.8	-11
STH	Stony Hill	11.86	342	⇑*e*P	P	11 18 19.0	+0.2
BNJ	Bonny Gate	12.13	342	⇑*e*P	P	11 18 22.8	+0.5
BBJ	Bamboo Saint A	12.29	341	⇑*e*P	P	11 18 25.2	+0.9
JTS	JuntasAbangare	12.31	288	P	P	11 18 22.0	-2.6
	0.3nm,0.3s,baz=305,slow=21,SNR=2.2						
SAML	Samuel	18.41	148	*e*P	P	11 19 38.2	-0.5
	0.7nm,0.5s						
TXAR	Lajitas Array	36.58	312	P	P	11 22 25.2	+0.2
	0.6nm,0.5s,mb3.5,baz=127,slow=8.9,SNR=12						
SDCO	Great Sand Dun	42.67	321	*e*P	P	11 23 16.4	+1.2
	1.8nm,0.7s,mb3.8						
WUAZ	Wupatki	45.34	315	*e*P	P	11 23 37.9	+1.3
	4.7nm,1.0s,mb4.1						
ULM	Lac du Bonnet	47.40	340	P	P	11 23 51.4	-1.0
	3.8nm,0.4s,mb4.4,baz=150,slow=7.5,SNR=15						
PDAR	Pinedale Array	48.20	324	P	P	11 23 58.6	-0.1
	0.7nm,0.5s,mb3.5,baz=123,slow=8.5,SNR=7.2						
SCHQ	Schefferville	48.22	5	P	P	11 23 58.4	-0.4
	2.2nm,0.5s,mb4.0,baz=117,slow=1.7,SNR=9.5						
WVOR	Wild Horse Val	53.65	319	*e*P	P	11 24 39.6	-0.1
OHCM	Honcut	54.24	314	*e*P	P	11 24 43.8	-0.3
YBH	Yreka Blue Hor	56.06	317	P	P	11 24 54.9	-2.2
	1.2nm,0.9s,mb3.7,baz=267,slow=14,SNR=5.9						
YKA	Yellowknife Ar	63.37	340	P	P	11 25 45.8	-0.9
	1.9nm,0.5s,mb4.2,baz=133,slow=6.6,SNR=51						
ILAR	Eielson Array	77.08	335	P	P	11 27 09.0	-0.2
	0.4nm,0.7s,mb3.2,baz=96,slow=5.6,SNR=4.3						
NOA	NORSAR Array B	81.36	29	P	P	11 27 34.0	+1.8
	1.3nm,0.9s,mb3.5,baz=222,slow=25,SNR=2.6						
NOA	NORSAR Array B	81.36	29	P	P	11 27 34.0	+1.8
ARCES	ARCESS Array B	86.72	20	P	P	11 27 59.6	+0.7
	1.5nm,0.9s,mb3.8,baz=281,slow=4.6,SNR=3.3						
MKAR	Makanchi Array	122.37	20	PKP	PKPdf	11 34 10.3	+1.8
	0.3nm,0.3s,baz=311,slow=2.6,SNR=7.0						
ASAR	Alice Springs	149.13	234	PKPbc	PKPdf	11 35 04.2	+6.3
	0.3nm,0.4s,baz=118,slow=3.3,SNR=6.6						
WRA	Warramunga Arr	150.37	241	PKPbc	PKPdf	11 35 07.0	+7.1
	0.3nm,0.4s,baz=106,slow=2.8,SNR=16						
WRA				PKPab	PKPab	11 35 14.6	-0.1
	0.2nm,0.4s,baz=105,slow=2.9,SNR=4.6						

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*IDC **14** 11:16:41.6±0.8,21.65S×68.40W,h131^{km}±7^{km},mb3.5/7, mb1 3.6/10,mb1mx3.5/17,Error ellipse: s-maj=24.2km s-min=12.0km az=90.0*

*NEIC **14** 11:16:41.4±0.8,21.66S×68.30W,h133^{km}±9^{km},mb4.4/1, Error ellipse: s-maj=18.4km s-min=11.2km az=75.0*

ISC 14 11:16:40.0±0.7,21.56S±0.07×68.4W±0.1,h133^{km}±8^{km}, n13,σ1^s.08/16,mb3.6/7,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.16	205	P	P	11 17 05.5	+0.6
	74nm,0.3s,baz=7.3,slow=6.9,SNR=447						
LVC				S	S	11 17 24.0	+0.1
	76nm,0.3s,baz=270,slow=23,SNR=39						
LPAZ	La Paz	5.25	3	P	P	11 18 00.1	+2.7
	4.5nm,0.3s,baz=175,slow=5.7,SNR=68						
LPAZ				S	S	11 19 03.6	+6.4
	baz=197,slow=16,SNR=1.8						
ARE	Arequipa	5.86	329	*e*P	P	11 18 04.5	-1.1
ARE				*e*S	S	11 19 10.9	-1.2
CPUP	Villa Florida	11.17	117	P	P	11 19 16.0	-0.7
	0.1nm,0.3s,baz=351,slow=7.3,SNR=3.0						
TRQA	Tornquist	17.35	163	*e*P	P	11 20 31.7	-3.6
	12nm,0.6s						
PLCA	Paso Flores	19.20	185	P	P	11 20 55.6	-0.3
	0.2nm,0.3s,baz=13,slow=9.1,SNR=9.5						
TXAR	Lajitas Array	60.95	325	P	P	11 26 42.1	+0.6
	0.3nm,0.7s,mb3.3,baz=156,slow=7.9,SNR=4.4						
SNAA	Sanae	62.07	161	P	P	11 26 48.8	+0.4
	0.6nm,0.7s,mb3.5,baz=283,slow=5.4,SNR=6.4						
DBIC	Dimbokro	68.28	73	P	P	11 27 28.4	-0.8
	1.5nm,0.5s,mb4.0,baz=225,slow=8.0,SNR=5.4						
PDAR	Pinedale Array	74.40	330	P	P	11 28 05.0	-0.1
	0.4nm,0.9s,mb3.1,baz=270,slow=1.8,SNR=5.4						
ULM	Lac du Bonnet	75.52	342	P	P	11 28 10.2	-1.1
	0.9nm,0.4s,mb3.8,baz=153,slow=6.8,SNR=4.6						
YBH	Yreka Blue Hor	80.56	322	P	P	11 28 39.9	+0.9
	1.4nm,1.1s,mb3.5,baz=158,slow=5.4,SNR=3.2						
YKA	Yellowknife Ar	91.40	340	P	P	11 29 33.1	+1.4
	1.0nm,0.5s,mb4.1,baz=136,slow=4.5,SNR=29						

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*ISK **14** 11:23:37.8,38.46N×39.30E,h5^{km},MD3.5*

ISC 14 11:23:38.2±0.5,38.48N±0.06×39.32E±0.04,h5^{km},n17, σ1^s.09/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	Malataya	0.72	258	*i* PG	Pg	11 23 51.7	-1.0
MYA				*i* SG	Sg	11 24 01.8	-0.5
MALT	Malatya	0.72	257	*i* PG	Pg	11 23 51.8	-0.9
MALT	Malatya	0.72	257	*i* P	Pg	11 23 51.4	-1.3
MALT				*i* S	Sg	11 24 01.2	-1.2
DIY	Diyarbakir	0.92	129	PG	Pg	11 23 56.0	-0.6
BINT	Bingol	0.99	66	*e*PG	Pg	11 23 57.2	-0.9
EZC	Erzincan	1.32	17	*e*PN	Pn	11 24 03.0	-0.4
BEST	Besiri	1.64	110	*i* P	Pn	11 24 07.5	-0.4
BEST				*i* S	Sb	11 24 34.4	+4.9
KELT	Kelkit	1.67	358	*i* P	Pn	11 24 13.0	+4.7
BTMT	Batman	1.73	99	*e*PN	Pn	11 24 08.5	-0.7
GZT	Gaziantep	1.79	232	*i* P	Pn	11 24 09.9	-0.1
GZT				*i* S	Sn	11 24 38.9	+5.5
VRT	Varto	1.84	69	*e*PN	Pn	11 24 11.3	+0.5
KAHT	Ahir Dag	2.11	247	*i* P	Pn	11 24 17.1	+2.4
KAHT				*i* S	Sg	11 24 51.6	+3.0
GAZ	Gaziantep	2.12	233	*e*PN	Pn	11 24 14.8	0.0
EZM	Erzurum	2.13	47	*e*PN	Pn	11 24 15.6	+0.6
ERZM	Erzurum	2.13	47	*i* P	Pn	11 24 17.4	+2.4
SVSK	Karacayir	2.31	309	*e*PN	Pn	11 24 17.4	-0.1
COBT	Iskenderun	3.13	232	*i* P	Pn	11 24 37.9	+8.8
COBT				*i* S	Sg	11 25 23.2	+0.8

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*IDC **14** 11:52:26.0±0.9,20.76N×175.03W,mb3.9/11,mb1 4.2/11, mb1mx4.1/19,MS3.4/2,Ms1 3.4/2,ms1mx3.0/25,Error ellipse: s-maj=37.5km s-min=17.3km az=145.0*

*NEIC **14** 11:52:27.5±0.4,20.74N×175.00W,h10^{km},mb4.5/7,Error ellipse: s-maj=11.1km s-min=6.8km az=165.0*

ISC 14 11:52:25.6±0.6,20.8N±0.1×175.00W±0.09,h10^{km},n35, σ0^s.64/36,mb4.2/18,MS3.4/2,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDW	Midway	7.73	344	*e*P	Pn	11 54 20.1	-0.8
MIDW				*e*S	Sn	11 55 41.8	-7.6
ILAR	Eielson Array	47.77	16	P	P	12 01 04.8	+0.2
	0.4nm,0.8s,mb3.5,baz=231,slow=7.2,SNR=4.7						
ILAR				LR	LR	12 17 58.3	
	comp=Z,30nm,20.1s,MS3.3,baz=55,slow=32						
YBH	Yreka Blue Hor	48.54	52	P	P	12 01 12.6	+1.7
	3.2nm,1.0s,mb4.3,baz=292,slow=5.4,SNR=6.5						
OHCM	Honcut	49.16	56	*e*P	P	12 01 16.0	+0.3
CMB	Columbia Colle	49.90	57	*e*P	P	12 01 21.7	+0.2
MOD	Modoc	50.34	52	*e*P	P	12 01 25.4	+0.7
MTUM	Tungsten Hills	51.30	58	*e*P	P	12 01 32.6	+0.4
WVOR	Wild Horse Val	51.63	52	*e*P	P	12 01 34.9	+0.3
	5.9nm,1.1s,mb4.4						
MNV	Mina	51.68	57	*e*P	P	12 01 34.6	-0.3
	3.1nm,0.7s,mb4.3						
NEW	Newport	53.51	45	*e*P	P	12 01 48.5	0.0
LDFC	Landfair	54.08	61	*e*P	P	12 01 52.2	-0.7
HLID	Hailey	54.82	51	*e*P	P	12 01 58.7	+0.5
	5.2nm,1.0s,mb4.5						
DUG	Dugway	55.88	55	*e*P	P	12 02 05.8	-0.1
	7.0nm,1.1s,mb4.6						
MCMT	McKenzie Canyo	56.04	49	*e*P	P	12 02 07.1	+0.2
HWUT	Hardware Ranch	56.84	53	*e*P	P	12 02 12.6	-0.2
	8.9nm,1.2s,mb4.7						
JLU	Jordanelle	56.92	54	*e*P	P	12 02 13.3	-0.1
DAU	Daniels Canyon	57.07	55	*e*P	P	12 02 14.6	+0.1
WUAZ	Wupatki	57.12	60	*e*P	P	12 02 14.7	-0.1
TPAW	Teton Pass	57.34	51	*e*P	P	12 02 16.7	+0.5
MOOW	Moose Ponds	57.49	51	*e*P	P	12 02 17.6	+0.2
YKA	Yellowknife Ar	58.21	28	P	P	12 02 21.4	-0.7
	1.1nm,0.8s,mb3.9,baz=256,slow=6.6,SNR=9.7						
BW06	Boulder Array	58.34	52	*e*P	P	12 02 22.9	-0.4
	4.8nm,1.0s,mb4.5						
PDAR	Pinedale Array	58.34	52	P	P	12 02 23.1	-0.2
	2.0nm,0.6s,mb4.3,baz=250,slow=4.0,SNR=25						
PV10	Paradox Valley	58.84	57	*e*P	P	12 02 26.0	-0.9
PV01	Paradox Valley	59.22	57	*e*P	P	12 02 28.6	-0.9
RW3	Ridgway	59.91	57	*e*P	P	12 02 34.7	+0.5
ANMO	Albuquerque	61.17	61	*e*P	P	12 02 42.8	-0.1
	3.1nm,1.2s,mb4.3						
RSSD	Black Hills	62.34	50	*e*P	P	12 02 49.5	-1.1
WRA	Warramunga Arr	63.98	234	P	P	12 03 00.8	-1.1
	1.4nm,0.8s,mb4.1,baz=52,slow=6.9,SNR=9.1						
TXAR	Lajitas Array	64.32	67	P	P	12 03 03.5	-0.5
	0.5nm,0.4s,mb3.9,baz=270,slow=3.8,SNR=5.1						
ASAR	Alice Springs	66.53	231	P	P	12 03 18.5	+0.3
	1.5nm,0.8s,mb4.1,baz=58,slow=6.8,SNR=15						
SONM	Songino Array	67.36	314	P	P	12 03 23.2	+0.1
	0.7nm,0.9s,mb3.7,baz=108,slow=3.9,SNR=5.2						
CMAR	Chiang Mai Arr	80.09	286	P	P	12 04 38.6	+0.9
	0.5nm,0.7s,mb3.5,baz=45,slow=3.8,SNR=3.1						
MKAR	Makanchi Array	83.42	318	P	P	12 04 54.3	-0.2
	1.4nm,1.0s,mb4.0,baz=90,slow=3.6,SNR=5.7						
MKAR				LR	LR	12 39 46.3	
	comp=Z,24nm,21.6s,MS3.5,baz=272,slow=34						
ARCES	ARCESS Array B	88.76	353	P	P	12 05 22.1	+1.8
	0.9nm,0.7s,mb4.2,baz=34,slow=6.5,SNR=3.2						

IDC 14 11:59:47.4±25.0,15.67S×176.48W,mb4.2/4,mb1 4.3/4, mb1mx3.9/15,Error ellipse: s-maj=461.0km s-min=142.8km az=70.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.69	257	P	P	12 06 48.7	-1.0
	2.2nm,0.9s,baz=78,slow=14,SNR=2.5						
STKA	Stephens Creek	41.34	239	P	P	12 07 35.6	-1.1
	1.1nm,0.4s,baz=90,slow=13,SNR=3.1						
WB2	Warramunga Arr	46.88	257	*e*P	P	12 08 19.1	-2.5
WRA	Warramunga Arr	46.89	257	P	P	12 08 19.2	-2.5
	1.0nm,0.5s,baz=94,slow=7.8,SNR=82						
ASAR	Alice Springs	47.20	252	P	P	12 08 21.8	-2.4
	5.6nm,0.5s,baz=86,slow=8.6,SNR=145						
ASPA	Alice Springs	47.21	252	*e*P	P	12 08 22.0	-2.1
KAKA	Kakadu	49.56	267	*e*P	P	12 08 41.6	-0.9
	3.8nm,0.4s						
FORT	Forrest	52.65	243	*e*P	P	12 09 02.6	-3.2
	20nm,0.6s						
FITZ	Fitzroy Crossi	55.25	259	*e*P	P	12 09 23.1	-2.0
	1.5nm,0.4s						

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*ROM **14** 12:22:41.5±0.3,44.29N×10.22E,h7^{km}±2^{km},MD2.5/6, ML2.1/3,Error ellipse: s-maj=1.9km s-min=1.8km az=0.0*

*NEIC **14** 12:22:41.5,44.29N×10.22E,h7^{km},MD2.5(ROM), ML2.5(LDG),After ROM.*

*LDG **14** 12:22:44.3±0.3,44.18N×10.15E,h10^{km},Ml2.5/10,Error ellipse: s-maj=6.8km s-min=3.7km az=95.0*

ISC 14 12:22:40.9±0.3,44.27N±0.02×10.15E±0.02,h7^{km},n36, σ1^s.12/61,2C-7D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	Villacollemand	0.20	123	*e*P	Pg	12 22 43.4	-1.7
ERBM	Eremo	0.24	52	⇓*i*PG	Pg	12 22 46.3	+0.4
ERBM				SG	Sg	12 22 48.7	-0.5
ERBM	Eremo	0.24	52	⇓*i*Pg	Pg	12 22 46.3	+0.4
ERBM				*e*Sg	Sg	12 22 48.7	-0.5
GSCL	Gusciola	0.33	75	⇓*i*PG	Pg	12 22 47.7	+0.2
GSCL				SG	Sg	12 22 51.7	-0.2
GSCL	Gusciola	0.33	75	⇓*i*Pg	Pg	12 22 47.7	+0.2
GSCL				*e*Sg	Sg	12 22 51.7	-0.2
BDI	Bagni Di Lucca	0.38	122	*e*PG	Pg	12 22 49.5	+0.9
BDI				SG	Sg	12 22 54.3	+0.5
	155nm,0.2s						
BDI	Bagni Di Lucca	0.38	122	*e*Pg	Pg	12 22 49.5	+0.9
BDI				*e*Sg	Sg	12 22 54.3	+0.5
ZCCA	Zocca	0.60	82	*e*PG	Pg	12 22 53.7	+0.8
PII	Pisa	0.61	153	*e*PG	Pg	12 22 54.8	+1.7
PII				SG	Sg	12 23 02.4	+1.1
	181nm,0.2s						
PII	Pisa	0.61	153	*e*Pg	Pg	12 22 54.8	+1.6
PII				*e*Sg	Sg	12 23 02.4	+1.1
BOB	Bobbio (Coli)	0.71	315	⇑*i*PG	Pg	12 22 56.3	+1.3
BOB				SG	Sg	12 23 06.6	+2.1
	26nm,0.3s						
BOB	Bobbio (Coli)	0.71	315	⇑*i*Pg	Pg	12 22 56.2	+1.2
BOB				*e*Sg	Sg	12 23 06.6	+2.1
SEI	Scarperia	0.90	103	*e*PG	Pg	12 22 58.6	-0.2
SEI				SG	Sg	12 23 11.3	+0.5
	69nm,0.2s						
SEI	Scarperia	0.90	103	*e*Pg	Pg	12 22 58.6	-0.2
SEI				*e*Sg	Sg	12 23 11.3	+0.5
CSNT	Castellina Chi	1.15	134	⇓*i*PN	Pn	12 23 04.2	+0.8
CSNT				SN	Sn	12 23 18.4	-1.1
	29nm,0.4s						
CSNT	Castellina Chi	1.15	134	⇓*i*Pg	Pg	12 23 04.2	+0.3
CSNT				*e*Sg	Sg	12 23 18.4	-0.7
TEOL	Teolo	1.54	44	⇓*e*Pg	Pg	12 23 10.0	-1.6
TEOL				*e*Sg	Sg	12 23 30.2	-1.9
PGF	Pioggiola	1.91	206	*e*Pn	Pn	12 23 14.8	+0.5
PGF				*e*Sn	Sn	12 23 37.1	-1.8
	8.4nm,0.4s						
SBF	Sospel	2.00	259	*e*Pn	Pn	12 23 16.0	+0.5
SBF				*e*Sn	Sn	12 23 39.7	-1.3
	7.1nm,0.2s						
MBDF	Montbardon	2.46	282	*e*Pn	Pn	12 23 23.0	+0.9
MBDF				*e*Sn	Sn	12 23 52.8	+0.1
	4.0nm,0.4s						
FRF	La Foret Royal	2.63	256	*e*Pn	Pn	12 23 24.6	+0.1
FRF				*e*Sn	Sn	12 23 54.2	-2.8
	5.0nm,0.3s						
LPG	La Plagne	2.71	298	*e*Pn	Pn	12 23 28.3	+2.6
LPG				*e*Sn	Sn	12 23 59.8	+0.7
	2.9nm,0.3s						
LPL	La Plagne	2.73	298	*e*Pn	Pn	12 23 28.8	+2.8
LPL				*e*Sn	Sn	12 23 59.1	-0.5
	4.3nm,0.5s						
LMR	La Mourre	2.79	252	*e*Pn	Pn	12 23 26.9	0.0
LMR				*e*Sn	Sn	12 23 57.5	-3.8
	4.2nm,0.3s						
ORIF	Oris-en-Rattie	3.12	284	*e*Pn	Pn	12 23 32.7	+1.2
ORIF				*e*Sn	Sn	12 24 07.9	-1.5
	4.7nm,0.5s						
SMRF	Simiane la Rot	3.31	267	*e*Pn	Pn	12 23 34.5	+0.3
CABF	La Chapelle	3.69	311	*e*Pn	Pn	12 23 40.0	+0.3
VIVF	Saint-Julien-l	3.96	280	*e*Pn	Pn	12 23 43.6	+0.2
HINF	Hinteralfeld	4.22	328	*e*Pn	Pn	12 23 48.4	+1.2
HINF				*e*Sn	Sn	12 24 35.5	-2.0
	4.4nm,0.5s						
LASF	Ste Croix	4.53	270	*e*Pn	Pn	12 23 50.3	-1.3
HAU	Haudompre	4.58	326	*e*Pn	Pn	12 23 52.2	0.0
HAU				*e*Sn	Sn	12 24 41.6	-4.8
	4.4nm,0.4s						
LOR	Lormes	5.32	306	*e*Pn	Pn	12 24 02.6	-0.2
AVF	Avril sur Loir	5.40	300	*e*Pn	Pn	12 24 03.2	-0.6
SSF	Saint Saulge	5.43	303	*e*Pn	Pn	12 24 04.1	-0.1
BGF	Bois d'Agland	5.63	297	*e*Pn	Pn	12 24 07.7	+0.7
MTLF	Montolieu	5.81	264	*e*Pn	Pn	12 24 07.9	-1.8

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*NEIC **14** 12:39:12.8±3.1,8.20S×123.83E,h118^{km}±32^{km},mb4.4/2, Error ellipse: s-maj=30.9km s-min=23.1km az=67.0*

*IDC **14** 12:39:15.7±4.1,8.45S×123.74E,h156^{km}±40^{km},mb2.9/1, mb1 3.3/4,mb1mx3.1/13,Error ellipse: s-maj=91.0km s-min=15.1km az=60.0*

ISC 14 12:39:15.8±2.4,8.4S±0.1×123.9E±0.1,h172^{km}±25^{km},n9, σ0^s.91/17,mb3.3/1,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.36	118	*e*P	P	12 41 27.6	-0.3
	7.0nm,0.4s						
KAKA				*e*S	S	12 43 10.9	-0.3
FITZ	Fitzroy Crossi	9.77	170	*e*P	P	12 41 33.4	+0.1
	2.4nm,0.9s						
FITZ				*e*S	S	12 43 20.8	-0.1
FITZ	Fitzroy Crossi	9.77	170	P	P	12 41 32.8	-0.5
	0.2nm,0.3s,baz=357,slow=11,SNR=14						
FITZ				S	S	12 43 19.5	-1.4
	2.0nm,0.3s,baz=163,slow=11,SNR=14						
WRA	Warramunga Arr	15.26	140	P	P	12 42 43.7	0.0
	0.6nm,0.3s,baz=316,slow=13,SNR=31						
WRA				S	S	12 45 23.3	-4.7
	0.1nm,0.3s,baz=319,slow=25,SNR=4.2						
WB2	Warramunga Arr	15.27	140	*e*P	P	12 42 45.0	+1.2
WB2				*e*S	S	12 45 27.2	-0.9
ASPA	Alice Springs	17.92	149	*e*P	P	12 43 17.0	+1.6
ASPA				*e*S	S	12 46 35.3	+8.5
ASAR	Alice Springs	17.92	149	P	P	12 43 16.4	+0.9
	0.3nm,0.3s,baz=327,slow=12,SNR=34						
ASAR				S	S	12 46 33.5	+6.7
	0.1nm,0.3s,baz=320,slow=20,SNR=5.2						
ASAR	Alice Springs	17.92	149	P	P	12 43 16.4	+0.9
ASAR				S	S	12 46 33.5	+6.7
MKAR	Makanchi Array	66.27	330	P	P	12 49 46.6	-1.2
	0.2nm,0.4s,mb3.3,baz=136,slow=8.3,SNR=3.4						

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*LDG **14** 12:48:35.9±0.1,45.97N×2.77E,h2^{km},Md2.0/2,Ml2.0/10, Error ellipse: s-maj=1.5km s-min=0.9km az=102.0*

*STR **14** 12:48:36.4±0.8,45.96N×2.81E,h2^{km}±1^{km},Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 12:48:33.9±0.4,45.94N±0.02×2.74E±0.03,h2^{km},n14, σ1^s.13/31,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.29	68	Pg	Pg	12 48 41.0	+1.2
AGO				Sg	Sg	12 48 44.5	+0.8
TCF	Toulx Ste Croi	0.51	313	*e*Pg	Pg	12 48 45.4	+1.4
TCF				*e*Sg	Sg	12 48 51.9	+1.1
	2.2nm,0.2s						
PLDF	La Plantade	0.61	87	Pg	Pg	12 48 48.0	+1.8
PLDF				Sg	Sg	12 48 55.1	+0.7
BGF	Bois d'Agland	0.62	7	*e*Pg	Pg	12 48 47.4	+1.1
BGF				*e*Pn	Pn	12 48 49.8	+0.4
BGF				*e*Sg	Sg	12 48 54.9	+0.3
	9.0nm,0.3s						
BGF				*e*Sn	Sn	12 48 59.4	-0.6
AVF	Avril sur Loir	0.95	26	*e*Pg	Pg	12 48 53.6	+0.8
AVF				*e*Sg	Sg	12 49 04.8	-0.7
	7.1nm,0.2s						
SMF	Signal de Mont	1.04	47	*e*Pg	Pg	12 48 55.2	+0.6
SMF				*e*Sg	Sg	12 49 08.8	+0.4
	2.7nm,0.2s						
RJF	Les Rejaudoux	1.07	234	*e*Pg	Pg	12 48 56.7	+1.4
RJF				*e*Sg	Sg	12 49 11.0	+1.4
	2.5nm,0.2s						
CAF	Calviac	1.12	205	*e*Pg	Pg	12 48 57.1	+0.7
CAF				*e*Sg	Sg	12 49 13.0	+1.7
	3.0nm,0.2s						
SSF	Saint Saulge	1.24	25	*e*Pg	Pg	12 48 58.4	-0.2
SSF				*e*Sg	Sg	12 49 14.1	-1.0
	4.5nm,0.3s						
LOR	Lormes	1.53	30	*e*Pg	Pg	12 49 03.7	-0.8
LOR				*e*Sg	Sg	12 49 22.9	-2.1
	3.6nm,0.2s						
VIVF	Saint-Julien-l	1.74	128	*e*Pg	Pg	12 49 08.2	-0.5
VIVF				*e*Sg	Sg	12 49 31.1	-0.8
	0.8nm,0.2s						
LASF	Ste Croix	2.03	157	*e*Pg	Pg	12 49 13.8	-0.6
LASF				*e*Sg	Sg	12 49 40.4	-1.0
	0.6nm,0.2s						
MFF	Saint Martin d	2.11	289	*e*Pg	Pg	12 49 14.4	-1.6
MFF				*e*Sn	Sn	12 49 36.0	-1.8
MFF				*e*Sg	Sg	12 49 42.9	-1.2
	1.4nm,0.3s						
MTLF	Montolieu	2.63	188	*e*Pg	Pg	12 49 24.8	-1.6
MTLF				*e*Sg	Sg	12 49 59.8	-1.6
	0.8nm,0.3s						

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*WEL **14** 12:57:58.2±0.2,38.59S×176.16E,h110^{km}±1^{km},ML3.9/7, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*

*NEIC **14** 12:57:58.0,38.58S×176.14E,h113^{km},After WEL.*

ISC 14 12:57:57.4±0.3,38.69S±0.02×176.14E±0.04,h110^{km},n84, σ1^s.34/112,10C-3D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.32	267	PN	P	12 58 14.2	+0.9
WATZ				SN	S	12 58 26.4	+1.2
WATZ	Wairara	0.32	267	P	P	12 58 14.2	+0.9
WATZ				S	S	12 58 26.4	+1.2
PATZ	Paeroa	0.33	17	PN	P	12 58 13.8	+0.4
PATZ	Paeroa	0.33	17	P	P	12 58 13.9	+0.5
UTU	Utuhina	0.52	5	PN	P	12 58 14.6	+0.2
UTU	Utuhina	0.52	5	P	P	12 58 14.6	+0.2
TAZ	Tarawera	0.54	32	PN	P	12 58 14.8	+0.2
TAZ	Tarawera	0.54	32	P	P	12 58 14.9	+0.3
KAVZ	Karewarewa	0.56	223	PN	P	12 58 15.6	+0.9
KAVZ	Karewarewa	0.56	223	P	P	12 58 15.6	+0.9
MGZ	Maungaku	0.56	237	PN	P	12 58 16.1	+1.3
MGZ	Maungaku	0.56	237	P	P	12 58 16.1	+1.4
WTVZ	West Tongariro	0.60	225	⇑PN	P	12 58 16.5	+1.4
NGZ	Ngauruhoe	0.64	221	PN	P	12 58 17.1	+1.8
NGZ	Ngauruhoe	0.64	221	P	P	12 58 17.1	+1.8
TWVZ	Taurewa	0.67	235	PN	P	12 58 16.8	+1.3
CNZ	Chateau	0.68	222	PN	P	12 58 17.1	+1.4
CNZ	Chateau	0.68	222	P	P	12 58 17.2	+1.5
TUVZ	Tukino	0.69	213	⇓PN	P	12 58 17.6	+1.9
WPVZ	Whakapapa	0.69	222	PN	P	12 58 17.4	+1.7
LIRZ	Lichensteins R	0.71	16	PN	P	12 58 15.9	-0.1
LIRZ	Lichensteins R	0.71	16	P	P	12 58 15.9	-0.1
FWVZ	Far West T-bar	0.72	219	⇓PN	P	12 58 17.6	+1.5
FWVZ				*e*SN	S	12 58 32.3	+2.2
FWVZ	Far West T-bar	0.72	219	P	P	12 58 17.6	+1.5
DRZ	Dome Shelter	0.73	217	*e*PN	P	12 58 18.0	+1.8
DRZ	Dome Shelter	0.73	217	P	P	12 58 18.2	+2.0
EDRZ	Edgecumbe	0.75	39	PN	P	12 58 16.1	-0.2
EDRZ	Edgecumbe	0.75	39	P	P	12 58 16.1	-0.2
WNVZ	Wahianoa	0.76	213	⇑PN	P	12 58 18.3	+1.9
MOVZ	Moawhango	0.77	203	⇑PN	P	12 58 18.0	+1.5
MOVZ				*e*SN	S	12 58 32.5	+1.6
MARZ	Manawahe	0.82	31	PN	P	12 58 16.8	-0.2
MARZ	Manawahe	0.82	31	P	P	12 58 16.8	-0.2
URZ	Urewera	0.88	61	⇓PN	P	12 58 17.3	-0.3
URZ				SN	S	12 58 31.5	-1.2
URZ	Urewera	0.88	61	P	P	12 58 17.3	-0.3
HIZ	Hauiti	1.02	280	⇑PN	P	12 58 19.4	+0.4
HIZ				SN	S	12 58 35.8	+0.5
TOZ	Tahuroa Road	1.08	332	⇑PN	P	12 58 19.2	-0.5
TOZ				SN	S	12 58 34.8	-1.7
TOZ	Tahuroa Road	1.08	332	P	P	12 58 19.2	-0.5
MWZ	Matawai	1.15	72	PN	P	12 58 20.3	-0.2
MWZ				SN	S	12 58 37.7	-0.2
MWZ	Matawai	1.15	72	*e*P	P	12 58 20.7	+0.2
VRZ	Vera Road	1.16	248	⇑PN	P	12 58 21.6	+0.9
VRZ	Vera Road	1.16	248	P	P	12 58 21.6	+1.0
KNZ	Kokohu	1.24	106	PN	P	12 58 22.7	+1.2
KNZ				SN	S	12 58 40.2	+0.5
KNZ	Kokohu	1.24	106	P	P	12 58 22.7	+1.1
TSZ	Takapari Road	1.37	186	⇑PN	P	12 58 24.3	+1.2
TSZ				SN	S	12 58 43.8	+1.3
TSZ	Takapari Road	1.37	186	P	P	12 58 24.3	+1.2

WAZ	**Wanganui**	1.39	220	⇑PN	P	12 58 24.9	+1.6
WAZ				SN	S	12 58 45.0	+2.2
PWZ	**Pawanui**	1.45	157	PN	P	12 58 25.4	+1.5
PWZ				SN	S	12 58 44.8	+0.9
PWZ	**Pawanui**	1.45	157	P	P	12 58 25.5	+1.5
PUZ	**Puketiti**	1.78	70	PN	P	12 58 27.9	-0.1
PUZ				SN	S	12 58 49.0	-1.9
PUZ	**Puketiti**	1.78	70	P	P	12 58 27.9	-0.1
PUZ				S	S	12 58 49.8	-1.1
KUZ	**Kuaotunu**	1.97	350	PN	P	12 58 29.3	-1.1
KUZ				SN	S	12 58 53.1	-2.1
BFZ	**Birch Farm**	1.99	178	PN	P	12 58 31.3	+0.6
BFZ	**Birch Farm**	1.99	178	P	P	12 58 31.3	+0.7
MRZ	**Mangatainoka R**	2.01	192	⇑PN	P	12 58 31.2	+0.2
MRZ				SN	S	12 58 55.8	-0.3
MRZ	**Mangatainoka R**	2.01	192	P	P	12 58 31.2	+0.2
MXZ	**Matakaoa Point**	2.05	57	PN	P	12 58 31.4	-0.1
MXZ				SN	S	12 58 56.0	-0.9
MXZ	**Matakaoa Point**	2.05	57	P	P	12 58 31.4	0.0
KIW	**Kapiti Island**	2.36	203	PN	P	12 58 35.2	-0.5
KIW				SN	S	12 59 03.4	-1.1
KIW	**Kapiti Island**	2.36	203	P	P	12 58 35.2	-0.5
MTW	**Mount Morrison**	2.51	191	⇑PN	P	12 58 36.9	-0.8
MTW	**Mount Morrison**	2.51	191	P	P	12 58 36.9	-0.8
CAW	**Cannon Point**	2.55	199	PN	P	12 58 37.4	-0.8
CAW	**Cannon Point**	2.55	199	P	P	12 58 37.4	-0.8
MRW	**Makara Radio**	2.76	203	PN	P	12 58 39.8	-1.4
MRW				SN	S	12 59 12.3	-1.8
MRW	**Makara Radio**	2.76	203	P	P	12 58 39.9	-1.2
MSWZ	**Moikau Station**	2.80	194	PN	P	12 58 40.2	-1.4
MSWZ				SN	S	12 59 11.8	-3.2
SNZO	**South Karori**	2.83	202	PN	P	12 58 40.5	-1.6
SNZO				SN	S	12 59 14.5	-1.4
SNZO	**South Karori**	2.83	202	P	P	12 58 40.5	-1.6
TUWZ	**Tuamarina**	3.21	211	PN	P	12 58 45.3	-1.9
NNZ	**Nelson**	3.29	219	PN	P	12 58 46.5	-1.8
NNZ				SN	S	12 59 25.6	-1.3
NNZ	**Nelson**	3.29	219	*e*P	P	12 58 46.5	-1.8
BSWZ	**Blackbirch Sta**	3.48	209	PN	P	12 58 48.7	-2.1
BSWZ				SN	S	12 59 29.2	-2.2
THZ	**Tophouse**	3.94	218	PN	P	12 58 54.5	-2.5
THZ				SN	S	12 59 41.2	-1.4
THZ	**Tophouse**	3.94	218	*e*P	P	12 58 54.6	-2.5
KHZ	**Kahutara**	4.21	207	PN	P	12 58 57.9	-2.8
KHZ				SN	S	12 59 45.6	-3.6
KHZ	**Kahutara**	4.21	207	*e*P	P	12 58 58.0	-2.8
LTZ	**Lake Taylor**	5.03	215	PN	P	12 59 07.9	-4.0
LTZ				SN	S	13 00 03.2	-6.1
LTZ	**Lake Taylor**	5.03	215	*e*P	P	12 59 07.9	-4.0
CRLZ	**Canterbury Las**	5.55	207	PN	P	12 59 14.5	-4.4
CRLZ				SN	S	13 00 14.7	-7.3
CRLZ	**Canterbury Las**	5.55	207	*e*P	P	12 59 14.7	-4.2
MQZ	**McQueen's Vall**	5.66	207	PN	P	12 59 15.3	-5.0
MQZ				SN	S	13 00 16.0	-8.5
MQZ	**McQueen's Vall**	5.66	207	*e*P	P	12 59 15.3	-5.0
ODZ	**Otahua Downs**	7.55	211	PN	P	12 59 41.4	-4.8
ODZ	**Otahua Downs**	7.55	211	*e*P	P	12 59 41.4	-4.9

IDC 14 13:44:37.0±2.8**, 34.38S**×**179.92W, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/12**, ML3.7**/1**, Error ellipse: s-maj=65.2km s-min=35.2km az=113.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	4.56	211	Pn	Pn	13 45 46.4	-2.4
	3.6nm,0.3s,baz=263,slow=4.8,SNR=16						
URZ				Sn	Sn	13 46 43.4	+0.1
	2.5nm,0.3s,baz=105,slow=19,SNR=6.1						
ASAR	**Alice Springs**	41.45	272	P	P	13 52 25.4	-1.7
	0.8nm,0.8s,baz=115,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	42.81	277	P	P	13 52 36.7	-1.7
	0.3nm,0.4s,baz=118,slow=7.5,SNR=6.5						
FINES	**FINESS Array B**	148.22	336	PKPbc	PKPdf	14 04 23.6	+1.1
	0.7nm,0.7s,baz=216,slow=16,SNR=3.1						

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*NEIC **14** 13:49:27.9±0.8, 28.67S×177.81W, h10^{km}, mb4.4/1, Error ellipse: s-maj=21.5km s-min=19.0km az=50.0*

*IDC **14** 13:49:42.4±1.4, 29.08S×178.05W, h126^{km}±9^{km}, mb3.6/7, mb1 3.8/9, mb1mx3.8/15, MS3.2/1, Ms1 3.1/1, ms1mx2.7/14, Error ellipse: s-maj=26.0km s-min=23.0km az=11.0*

ISC 14 13:49:43.5±1.1**, 29.39S**±0.09×**178.4W**±0.2**, h125^{km}, h125^{km}**±2.2^{km}**:pP-P, n24,** σ**1^{s}30**/14**, mb4.0**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	9.60	202	P	P	13 51 53.7	-5.9
	1.3nm,0.3s,baz=339,slow=22,SNR=7.6						
URZ				S	S	13 53 44.9	-1.1
	6.9nm,0.3s,baz=157,slow=22,SNR=16						
RPZ	**Rata Peaks**	16.60	208	P	P	13 53 31.1	+1.2
	1.1nm,0.3s,baz=24,slow=18,SNR=3.9						
CTA	**Charters Tower**	33.30	278	P	P	13 56 11.5	+0.1
	1.8nm,0.5s,mb4.2,baz=118,slow=9.0,SNR=5.7						
STKA	**Stephens Creek**	34.38	256	P	P	13 56 21.9	+1.4
	1.5nm,0.6s,mb4.0,baz=126,slow=13,SNR=5.7						
STKA				pP	pP	13 56 49.2	+0.9
	7.4nm,1.3s,baz=85,slow=20,SNR=1.8						
STKA				LR	LR	14 08 22.9	
	comp=Z,38nm,21.9s,baz=25,slow=32						
STKA	**Stephens Creek**	34.38	256	P	P	13 56 21.9	+1.5
STKA				pP	pP	13 56 49.2	+0.9
STKA				LR	LR	14 08 22.9	
ASAR	**Alice Springs**	42.82	266	P	P	13 57 30.1	-0.6
	0.9nm,0.5s,mb3.8,baz=99,slow=7.1,SNR=23						
ASAR				pP	pP	13 57 58.3	-0.9
	2.9nm,0.9s,baz=112,slow=7.8,SNR=5.8						
WB2	**Warramunga Arr**	43.71	271	*e*P	P	13 57 37.8	-0.1
WRA	**Warramunga Arr**	43.72	271	P	P	13 57 36.7	-1.2
	0.7nm,0.5s,mb3.7,baz=110,slow=8.0,SNR=10						
WRA				pP	pP	13 58 06.2	-0.3
	2.5nm,0.8s,baz=110,slow=7.7,SNR=5.9						
VNDA	**Vanda**	49.06	186	P	P	13 58 22.2	+3.0
	1.0nm,0.6s,mb3.9,baz=1.7,slow=7.0,SNR=9.3						
QSPA	**South Pole Qui**	60.72	180	*e*P	P	13 59 45.7	+2.2
	2.1nm,0.7s,mb4.3						
MAW	**Mawson**	73.13	201	P	P	14 01 00.7	-0.8
	1.2nm,0.8s,mb3.8,baz=148,slow=7.7,SNR=11						
PLCA	**Paso Flores**	83.45	133	P	P	14 01 56.5	-1.8
	1.3nm,0.6s,mb3.9,baz=260,slow=6.6,SNR=6.2						
PLCA	**Paso Flores**	83.45	133	P	P	14 01 56.5	-1.8
MKAR	**Makanchi Array**	116.85	311	PKP	PKPdf	14 08 11.4	-1.6
	0.5nm,0.5s,baz=192,slow=3.5,SNR=4.6						
ARCES	**ARCESS Array B**	137.53	348	PKP	PKPdf	14 08 50.4	-1.4
	3.0nm,1.1s,baz=90,slow=3.6,SNR=5.5						
ARCES	**ARCESS Array B**	137.53	348	PKP	PKPdf	14 08 50.4	-1.4
KAF	**Kangasniemi**	143.48	341	*e*p	PKPbc	14 08 57.4	-3.6
FINES	**FINESS Array B**	144.08	340	PKP	PKPdf	14 08 59.7	-3.7
	2.3nm,0.5s,baz=81,slow=3.3,SNR=23						
FINES	**FINESS Array B**	144.08	340	PKP	PKPdf	14 08 59.7	-3.7
NB2	**NORSAR Subarra**	147.70	351	PKPab	PKPab	14 09 10.1	-7.3
	2.1nm,0.6s,baz=15,slow=4.5						
NOA	**NORSAR Array B**	147.70	351	PKPbc	PKPdf	14 09 11.0	+1.4
	1.6nm,0.5s,baz=15,slow=4.4,SNR=6.3						
AKASG	**Malin Array Be**	150.28	323	PKPbc	PKPdf	14 09 17.6	+3.7
	4.2nm,0.6s,baz=44,slow=2.9,SNR=12						
AKASG				PKPab	PKPab	14 09 23.6	-4.7
	2.6nm,0.5s,baz=44,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	151.80	300	PKPbc	PKPdf	14 09 22.6	+6.0
	1.2nm,0.5s,baz=130,slow=4.7,SNR=5.4						
GERES	**GERESS Array B**	158.47	338	PKPab	PKPab	14 09 58.6	-4.4
	0.1nm,0.3s,baz=72,slow=4.2,SNR=3.8						

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*RSPR **14** 14:49:56.7, 18.57N×64.59W, h119^{km}±6^{km}, MD3.4/9, MD3.4/9*

*NEIC **14** 14:49:56.7, 18.57N×64.59W, h119^{km}, MD3.5(RSPR), After RSPR.*

ISC 14 14:49:55.7±1.9**, 18.6N**±0.5×**64.6W**±0.2**, h117^{km}**±33^{km}**, n9,** σ**0^{s}44**/17**, 7C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	1.07	242	⇑*e*P	P	14 50 18.1	-0.4
MTP				*e*S	S	14 50 35.9	+0.3
CBYP	**Canovanas**	1.27	255	⇑*e*P	P	14 50 20.1	-0.6
CBYP				*e*S	S	14 50 39.6	0.0
CPD	**Cerro la Pandu**	1.40	247	⇓*e*P	P	14 50 22.8	+0.5
CPD				*e*S	S	14 50 42.6	+0.3
CSB	**Colonia Sabana**	1.55	259	⇑*e*P	P	14 50 23.8	-0.1
CSB				*e*S	S	14 50 46.0	+0.7
SJG	**San Juan**	1.59	252	⇑*e*P	P	14 50 24.4	+0.1
SJG				*e*S	S	14 50 45.0	-1.0
CELP	**Cerrillos**	1.99	255	⇑*e*P	P	14 50 29.2	-0.1
CELP				*e*S	S	14 50 54.7	+0.1
PORP	**Portuguez**	2.05	255	⇓*e*P	P	14 50 30.2	+0.1
LRS	**Lares**	2.19	262	⇑*e*P	P	14 50 32.1	+0.1
LRS				*e*S	S	14 50 59.6	+0.2
LSP	**Las Mesas**	2.44	260	⇑*e*P	P	14 50 35.8	+0.5
LSP				*e*S	S	14 51 04.5	-0.6

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*IDC **14** 15:04:58.7±3.1, 2.12N×126.70E, h40^{km}±27^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/17, MS3.2/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=45.5km s-min=10.9km az=71.0*

*NEIC **14** 15:05:05.8±3.1, 2.06N×126.74E, h108^{km}±30^{km}, mb4.7/11, Error ellipse: s-maj=24.1km s-min=8.8km az=73.0*

ISC 14 15:04:57.1±0.5**, 2.09N**±0.07×**126.6E**±0.2**, h40^{km}, n31,** σ**1^{s}14**/32**, mb4.5**/21**, MS3.1**/1**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	15.80	159	*e*P	P	15 08 42.5	+4.0
	19nm,1.1s						
FITZ	**Fitzroy Crossi**	20.09	183	*e*P	P	15 09 29.7	-0.5
	4.6nm,0.5s						
FITZ	**Fitzroy Crossi**	20.09	183	P	P	15 09 28.8	-1.4
	3.6nm,0.3s,baz=9.1,slow=8.9,SNR=33						
WRAB	**Tennant Creek**	23.19	161	*e*P	P	15 10 00.8	-0.6
	11nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	23.19	161	P	P	15 10 01.3	-0.2
	6.5nm,0.3s,mb4.5,baz=337,slow=10,SNR=105						
WRA				S	S	15 14 09.4	+2.9
	0.5nm,0.7s,baz=341,slow=23,SNR=4.1						
WB2	**Warramunga Arr**	23.20	161	*e*P	P	15 10 01.2	-0.3
JOW	**Kunigami**	24.65	4	P	P	15 10 17.3	+1.7
	12nm,0.6s,mb4.6,baz=176,slow=8.5,SNR=7.7						
ASAR	**Alice Springs**	26.59	165	P	P	15 10 33.0	-0.8
	1.0nm,0.4s,mb3.7,baz=347,slow=7.9,SNR=31						
ASAR				PcP	PcP	15 13 57.8	0.0
	0.9nm,0.4s,baz=346,slow=1.9,SNR=7.0						
ASAR				S	S	15 15 09.2	+5.5
	0.3nm,0.8s,baz=350,slow=21,SNR=2.4						
ASPA	**Alice Springs**	26.59	165	*e*P	P	15 10 33.2	-0.5
CMAR	**Chiang Mai Arr**	31.57	303	P	P	15 11 20.6	+2.2
	2.1nm,1.0s,mb3.9,baz=104,slow=5.9,SNR=5.9						
FORT	**Forrest**	32.72	178	*e*P	P	15 11 28.1	-0.2
	41nm,0.6s,mb5.5						
KLBR	**Kellerberrin**	34.52	193	*e*P	P	15 11 44.6	+0.7
	84nm,1.8s,mb5.4						
MUN	**Mundaring**	35.28	195	*e*P	P	15 11 51.7	+1.4
	15nm,1.4s,mb4.7						
NWAO	**Narrogin (SRO)**	35.93	193	LR	LR	15 26 25.1	
	comp=Z,31nm,18.9s,MS3.1,baz=6.6,slow=36						
STKA	**Stephens Creek**	36.68	158	*e*P	P	15 12 01.9	-0.2
	4.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	36.68	158	P	P	15 12 01.7	-0.4
	3.4nm,0.4s,mb4.5,baz=337,slow=10.0,SNR=19						
STKA	**Stephens Creek**	36.68	158	*e*P	P	15 12 01.4	-0.7
SHL	**Shillong**	40.72	308	*e*P	P	15 12 32.7	-3.1
LSA	**Lhasa**	43.40	313	*e*P	P	15 13 00.2	+2.4
	6.6nm,0.7s,mb4.5						
SONM	**Songino Array**	48.78	342	P	P	15 13 39.6	-0.6
	0.8nm,0.4s,mb4.1,baz=160,slow=7.6,SNR=9.0						
MKAR	**Makanchi Array**	58.80	326	P	P	15 14 52.4	-1.5
	2.2nm,0.4s,mb4.6,baz=117,slow=7.9,SNR=49						
KURK	**Kurchatov**	63.02	328	*e*P	P	15 15 21.7	-0.7
	8.2nm,0.5s,mb5.1						
BVAR	**Borovoye Array**	68.59	327	P	P	15 15 57.3	-0.7
	1.3nm,0.4s,mb4.2,baz=117,slow=6.6,SNR=10						
BRVK	**Borovoye**	68.66	327	*e*P	P	15 15 57.9	-0.5
	2.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	69.31	327	*e*P	P	15 16 01.6	-0.7
	3.7nm,0.4s,mb4.7						
VNDA	**Vanda**	81.83	173	P	P	15 17 14.1	+0.9
	0.9nm,0.4s,mb4.1,baz=339,slow=5.7,SNR=8.9						
VNDA	**Vanda**	81.83	173	P	P	15 17 14.1	+0.9
MAW	**Mawson**	82.17	200	P	P	15 17 15.2	+0.2
	0.8nm,0.4s,mb4.0,baz=82,slow=9.9,SNR=3.5						
IMA	**Indian Mountai**	83.94	24	*e*P	P	15 17 25.7	+1.7
	39nm,1.2s,mb5.4						
ARCES	**ARCESS Array B**	91.91	340	P	P	15 18 01.2	-1.1
	0.5nm,0.6s,mb4.0,baz=59,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	93.18	332	P	P	15 18 08.2	0.0
	1.6nm,0.8s,mb4.5,baz=76,slow=7.9,SNR=6.5						

IDC 14 15:20:24.2±42.0**, 17.40S**×**171.48W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/15**, Error ellipse: s-maj=814.0km s-min=181.6km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	44.69	242	P	P	15 28 39.4	-1.4
	3.7nm,1.1s,baz=76,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	51.21	258	P	P	15 29 29.3	-2.5
	0.2nm,0.4s,baz=97,slow=6.7,SNR=8.0						
ASAR	**Alice Springs**	51.28	253	P	P	15 29 30.4	-1.9
	1.7nm,0.6s,baz=91,slow=8.4,SNR=40						

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*AUST **14** 15:37:28.0, 26.09S×130.95E, h1^{km}, ML3.5*

*NEIC **14** 15:37:28.0, 26.09S×130.95E, h1^{km}, ML3.5(AUST), After AUST.*

*IDC **14** 15:37:29.4±3.2, 26.02S×131.04E, mb1 3.9/4, mb1mx3.6/10, ML3.5/4, Error ellipse: s-maj=26.3km s-min=23.9km az=50.0*

ISC 14 15:37:27.9±2.6**, 26.12S**±0.07×**130.9E**±0.1**, h13^{km}**±18^{km}**, n12,** σ**1^{s}00**/24**, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASPA	**Alice Springs**	3.65	48	*e*P	Pn	15 38 26.6	+1.2
ASPA				*e*S	Sn	15 39 08.8	+0.1
ASAR	**Alice Springs**	3.65	49	Pn	Pn	15 38 26.5	+1.1
	1.0nm,0.3s,baz=228,slow=12,SNR=108						
ASAR				Pg	Pg	15 38 35.1	-5.7
	3.1nm,0.3s,baz=228,slow=15,SNR=60						
ASAR				Sn	Sn	15 39 08.8	+0.1
	3.0nm,0.3s,baz=230,slow=22,SNR=7.4						
ASAR				Lg		15 39 18.9	
	11nm,0.3s,baz=228,slow=27,SNR=30						
FORT	**Forrest**	5.28	208	*e*P	Pn	15 38 49.8	+1.3
FORT				*e*S	Sn	15 39 49.9	0.0
	18nm,0.4s						
FORT	**Forrest**	5.28	208	*e*P	Pn	15 38 49.8	+1.3
	18nm,0.4s						
FORT				*e*S	Sn	15 39 49.9	0.0
WRA	**Warramunga Arr**	6.91	28	Pn	Pn	15 39 11.0	-0.5
	1.8nm,0.3s,baz=205,slow=14,SNR=152						
WRA				Sn	Sn	15 40 25.3	-5.5
	2.1nm,0.3s,baz=206,slow=24,SNR=12						
WRA				Lg		15 41 02.2	
	1.2nm,0.3s,baz=205,slow=30,SNR=5.5						
WB2	**Warramunga Arr**	6.91	28	*e*P	Pn	15 39 11.1	-0.5
WB2				*e*S	Sn	15 40 24.8	-6.0
FITZ	**Fitzroy Crossi**	9.36	327	*e*P	P	15 39 44.9	-0.8
FITZ				*e*S	Sn	15 41 22.7	-9.2
	3.2nm,1.1s						
FITZ	**Fitzroy Crossi**	9.36	327	Pn	P	15 39 44.3	-1.3
	0.2nm,0.3s,baz=180,slow=10,SNR=8.6						
FITZ	**Fitzroy Crossi**	9.36	327	*e*P	P	15 39 44.9	-0.8
	3.2nm,1.1s						
FITZ				*e*S	Sn	15 41 22.7	-9.2
STKA	**Stephens Creek**	10.96	124	*e*P	P	15 40 05.4	-2.2
STKA				*e*S	S	15 42 05.3	-5.7
	2.4nm,0.4s						
STKA	**Stephens Creek**	10.96	124	Pn	P	15 40 05.3	-2.2
	0.8nm,0.3s,baz=302,slow=15,SNR=21						
STKA				Sn	S	15 42 03.8	-7.2
	0.9nm,0.3s,baz=162,slow=7.0,SNR=7.3						
STKA	**Stephens Creek**	10.96	124	*e*P	P	15 40 05.4	-2.2
	2.4nm,0.4s						
STKA				*e*S	S	15 42 05.3	-5.7

IDC 14 16:43:51.9±6.8**, 19.37S**×**176.67E, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.7**/13**, MS3.5**/3**, Ms1 3.5**/3**, ms1mx3.2**/22**, Error ellipse: s-maj=316.0km s-min=34.8km az=147.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	28.62	263	LR	LR	16 58 56.4	
	comp=Z,82nm,21.0s,baz=221,slow=32						
PMG	**Port Moresby**	30.21	285	LR	LR	16 58 33.3	
	comp=Z,126nm,19.8s,baz=254,slow=29						
WRA	**Warramunga Arr**	39.79	262	P	P	16 51 25.9	-2.7
	0.6nm,0.9s,baz=97,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	39.91	256	P	P	16 51 28.4	-1.1
	1.9nm,1.1s,baz=91,slow=9.0,SNR=13						
ILAR	**Eielson Array**	88.42	15	P	P	16 56 44.4	-2.4
	0.6nm,0.7s,baz=241,slow=6.4,SNR=5.2						
ILAR				LR	LR	17 36 17.8	
	comp=Z,19nm,18.5s,baz=302,slow=36						
GERES	**GERESS Array B**	147.55	339	PKPbc	PKPdf	17 03 38.8	+1.7
	0.2nm,0.4s,baz=18,slow=4.2,SNR=6.1						

TIF 14 16:55:10.0, 40.47N×44.99E, h7^{km}, Mpv4.0, 1C-1D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STE	**Stepanavan**	0.69	320	*i* P	Pg	16 55 24.0	+0.1
STE				*e*S	Sg	16 55 34.5	+1.3
MTA	**Mtatsminda**	1.23	353	⇓*i*P	Pb	16 55 35.9	+2.7
MTA				*i* S	Sb	16 55 54.7	+5.5
TBLG	**Delisi**	1.27	351	*i* P	Pb	16 55 36.4	+2.4
TBLG				*i* S	Sb	16 55 55.4	+5.0
AKH	**Akhalkalaki**	1.47	310	*e*P	Pn	16 55 37.6	+0.5
AKH				*i* S	Sb	16 55 56.5	+0.3
DUS	**Dusheti**	1.63	352	⇑*i*P	Pn	16 55 43.4	+4.0
DUS				*i* S	Sb	16 56 07.9	+7.1

MAN 14 17:15:57.7, 17.69N×120.79E, h20^{km}, mb4.5, ML3.4, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	0.08	240	*e*P	Pb	17 16 02.3	+0.8
ABRA				*e*S	Sb	17 16 05.7	+1.6
APYP	**Conner**	0.47	68	*e*P	Pb	17 16 06.9	-0.2
APYP				*e*S	Sb	17 16 13.9	+0.4
CAUP	**Cauayan**	1.24	127	*e*P	Pn	17 16 19.9	-0.1
CAUP				*e*S	Sb	17 16 38.5	+2.8
SGCP	**Mt. Cagua**	1.32	65	*e*P	Pn	17 16 21.2	0.0
SGCP				*e*S	Sb	17 16 38.5	+0.5
BCPH	**Baguio City Da**	1.32	189	⇓*i*P	Pn	17 16 19.5	-1.7
BCPH				*i* S	Sb	17 16 35.4	-2.7
BOLP	**Bolinao**	1.55	213	*e*P	Pn	17 16 23.8	-0.8
BOLP				*e*S	Sn	17 16 44.3	+0.1
PALP	**Palanan**	1.68	112	*e*P	Pn	17 16 25.5	-0.9
PALP				*e*S	Sn	17 16 46.1	-1.5
BALP	**Baler**	2.08	159	*e*P	Pn	17 16 32.1	-0.1
BALP				*e*S	Sn	17 16 57.4	-0.3
SCZP	**Santa Cruz**	2.08	204	*e*P	Pn	17 16 32.7	+0.6
SCZP				*e*S	Sn	17 16 59.1	+1.4
BBP	**Basco**	2.95	22	*e*P	Pn	17 16 47.0	+2.4
POLP	**Polilio Island**	3.15	159	*e*P	Pn	17 16 45.5	-1.9

MEX 14 17:27:10.9±0.8**, 17.24N**×**95.02W, h134^{km}**±11^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	0.20	138	*i* P	P	17 27 28.1	-1.3
CMIG				*e*S	S	17 27 40.9	-2.6
VHO	**Vista Hermosa**	1.65	264	*i* P	P	17 27 39.8	-1.5
VHO				*i* S	S	17 28 03.3	-1.3
HUIG	**Huatulco**	1.80	216	*e*P	P	17 27 40.3	-2.8
HUIG				*e*S	S	17 28 05.3	-2.3

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*IDC **14** 17:32:39.2±1.8, 4.92N×125.34E, h204^{km}±16^{km}, mb4.1/18, mb1 4.2/18, mb1mx4.1/23, MS2.9/1, Ms1 2.9/1, ms1mx2.3/19, Error ellipse: s-maj=18.5km s-min=8.1km az=71.0*

*NEIC **14** 17:32:40.1±2.5, 4.95N×125.31E, h216^{km}±25^{km}, mb4.5/25, Error ellipse: s-maj=13.5km s-min=6.4km az=75.0*

*SYO **14** 17:32:40.1, 4.95N×125.31E, h216^{km}, MB4.5*

*MAN **14** 17:33:07.1, 7.40N×124.91E, h4^{km}, mb5.0, ML3.9, MS4.0*

ISC 14 17:32:36.4±0.4**, 4.96N**±0.04×**125.33E**±0.05**, h195^{km}**±4^{km}**, n86,** σ**1^{s}16**/89**, mb4.4**/41**, 9C-4D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	1.19	341	⇑*i*P	S	17 33 31.0	-0.2
KCP	**Kidapawan**	2.05	353	⇑*i*P	P	17 33 15.9	+0.5
KCP				*i* S	S	17 33 46.4	+0.8
MATI	**Mati**	2.18	25	*e*P	P	17 33 15.4	-1.5
MATI				*e*S	S	17 33 45.8	-2.3
CTBH	**Cotabato--PC H**	2.50	334	⇑*e*P	P	17 33 20.3	-0.1
CTBH				*i* S	S	17 33 54.2	-0.1
BUKP	**Musuan**	2.92	355	*e*P	P	17 33 24.9	-0.4
BUKP				*e*S	S	17 34 04.5	+1.5
BIPH	**Bislig**	3.36	18	⇓*e*P	P	17 33 30.6	-0.2
BIPH				*e*S	S	17 34 12.4	-0.3
PAGZ	**Pagadian**	3.46	326	*e*P	P	17 33 23.3	-8.7
PAGZ				*e*S	S	17 34 15.1	+0.2
IPIL	**Ipil**	3.93	316	*e*P	P	17 33 38.2	+0.4
IPIL				*e*S	S	17 34 24.8	-0.4
SCPH	**Surigao**	4.80	2	⇓*e*P	P	17 33 47.7	-1.1
MSLP	**Maasin**	5.16	355	*e*P	P	17 33 43.6	-10
OCLP	**Ormoc**	6.10	353	*e*P	P	17 34 05.3	-0.3
BESP	**Borongan**	6.60	1	*e*P	P	17 34 12.9	+0.7
ENPP	**El Nido**	8.53	317	*e*P	S	17 36 11.6	-0.4
PVCP	**Virac**	8.66	352	*e*P	P	17 34 42.2	+3.0
TGY	**Tagaytay City**	10.07	335	LR	LR	17 39 06.7	
	comp=Z,71nm,19.8s,baz=153,slow=38						
BALP	**Baler**	11.33	341	*e*P	P	17 35 16.3	+2.5
CAUP	**Cauayan**	12.40	344	*e*P	P	17 35 29.6	+2.2
APYP	**Conner**	13.44	343	*e*P	P	17 35 45.5	+5.1
KAKA	**Kakadu**	18.89	158	⇑*i*P	P	17 36 44.1	-0.3
	207nm,0.6s						
KAKA				*e*S	S	17 40 07.4	+3.3
JOW	**Kunigami**	21.93	7	P	P	17 37 17.8	+3.0
	12nm,0.7s,mb4.5,baz=168,slow=12,SNR=6.2						
FITZ	**Fitzroy Crossi**	22.91	179	*e*P	P	17 37 25.1	+0.6
	41nm,0.4s,mb5.3						
FITZ				*e*		17 41 19.5	
FITZ	**Fitzroy Crossi**	22.91	179	P	P	17 37 25.4	+0.9
	37nm,0.4s,mb5.2,baz=7.9,slow=7.7,SNR=170						
PMG	**Port Moresby**	26.01	123	P	P	17 37 53.3	-0.3
	12nm,0.6s,mb4.7,baz=256,slow=8.5,SNR=10.0						
PMG	**Port Moresby**	26.01	123	*e*P	P	17 37 53.2	-0.3
	23nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	26.27	161	⇑*e*P	P	17 37 54.7	-1.1
	33nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	26.28	161	P	P	17 37 54.7	-1.2
	16nm,0.7s,mb4.7,baz=337,slow=10.0,SNR=81						
WB2	**Warramunga Arr**	26.29	161	⇑*i*P	P	17 37 54.9	-1.1
WB2				*e*S	S	17 42 11.0	-1.2
MBWA	**Marble Bar**	26.53	192	P	P	17 37 58.0	-0.2
CMAR	**Chiang Mai Arr**	29.05	300	P	P	17 38 22.7	+1.8
	1.8nm,0.7s,mb3.8,baz=122,slow=7.6,SNR=9.8						
ASPA	**Alice Springs**	29.65	164	⇑*i*P	P	17 38 25.3	-0.8
ASAR	**Alice Springs**	29.65	164	P	P	17 38 25.2	-0.9
	5.6nm,0.4s,mb4.5,baz=345,slow=7.0,SNR=212						
ASAR				PcP	PcP	17 41 25.4	-0.2
	1.9nm,0.5s,baz=341,slow=2.5,SNR=9.1						
ASAR				ScP		17 44 48.8	
	0.8nm,0.7s,baz=335,slow=3.2,SNR=6.2						
CTA	**Charters Tower**	32.29	141	*e*P	P	17 38 49.6	+0.5
	5.8nm,0.6s,mb4.3						
CTA	**Charters Tower**	32.29	141	P	P	17 38 49.0	-0.1
	8.9nm,0.7s,mb4.4,baz=328,slow=10,SNR=18						
CTAO	**Charters Tower**	32.29	141	*e*P	P	17 38 49.3	+0.2
	10.0nm,0.7s,mb4.5						
MAJO	**Matsushiro**	33.58	19	*e*P	P	17 38 55.4	-4.7
	10nm,1.3s,mb4.2						
FORT	**Forrest**	35.63	176	*e*P	P	17 39 17.3	-0.2
	77nm,0.6s,mb5.4						
KLBR	**Kellerberrin**	37.06	191	*e*P	P	17 39 29.0	-0.5
	9.2nm,0.4s,mb4.7						
MUN	**Mundaring**	37.74	193	*e*P	P	17 39 35.0	-0.2
	9.0nm,0.5s,mb4.6						
SHL	**Shillong**	38.03	306	*e*P	P	17 39 35.0	-2.6
NWAO	**Narrogin (SRO)**	38.45	191	P	P	17 39 41.1	0.0
	13nm,0.4s,mb4.8,baz=14,slow=6.3,SNR=28						
NWAO	**Narrogin (SRO)**	38.45	191	*e*P	P	17 39 40.8	-0.3
	10nm,0.4s,mb4.7						
MDJ	**Mudanjiang**	39.68	5	P	P	17 39 50.9	-0.2
	6.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	39.77	158	⇓*i*P	P	17 39 52.8	+0.9
	18nm,0.6s,mb4.7						
STKA	**Stephens Creek**	39.77	158	P	P	17 39 52.0	0.0

	26nm,0.7s,mb4.8,baz=333,slow=8.3,SNR=37						
STKA	Stephens Creek	39.77	158	eP	P	17 39 52.5	+0.5
LSA	Lhasa	40.59	311	eP	P	17 40 00.7	+2.1
	2.2nm,0.6s,mb3.8						
ADE	Adelaide	41.66	163	⇑iP	P	17 40 09.0	+1.6
ASAJ	Asahikawa	41.86	19	P	P	17 40 09.8	+1.0
	3.7nm,0.4s,mb4.1,baz=224,slow=14,SNR=6.8						
PKI	Pulchoki	44.13	305	eP	P	17 40 27.5	+0.1
KKN	Kakani	44.32	305	eP	P	17 40 27.5	-1.4
	6.0nm,0.5s,mb4.2						
DMN	Daman	44.39	305	eP	P	17 40 29.7	+0.2
	14nm,1.1s,mb4.2						
YSS	Yuzh-Sakhalins	44.46	17	eP	P	17 40 29.7	-0.1
	7.0nm,0.9s,mb4.0						
GKN	Gorkha	44.93	305	eP	P	17 40 30.7	-3.1
	4.4nm,0.4s,mb4.1						
KOLN	Koldanda	45.69	304	eP	P	17 40 40.7	+0.9
	16nm,0.4s,mb4.7						
SONM	Songino Array	45.70	342	P	P	17 40 41.5	+1.8
	0.3nm,0.5s,baz=164,slow=7.8,SNR=5.5						
SONM				ScP		17 45 48.1	
	0.7nm,0.8s,baz=180,slow=6.2,SNR=5.2						
CNB	Canberra Magne	45.99	152	eP	P	17 40 43.4	+1.3
	27nm,1.1s,mb4.5						
TOO	Toolangi	46.29	158	eP	P	17 40 46.1	+1.8
	12nm,0.9s,mb4.2						
MKAR	Makanchi Array	55.76	325	P	P	17 41 54.1	-1.0
	1.8nm,0.5s,mb3.9,baz=116,slow=8.2,SNR=16						
MKAR				PcP	PcP	17 42 50.7	-1.1
	2.0nm,0.5s,baz=118,slow=4.4,SNR=7.4						
MKAR				ScP		17 46 30.3	
	1.0nm,0.7s,baz=105,slow=6.3,SNR=4.8						
MKAR	Makanchi Array	55.76	325	P	P	17 41 54.1	-1.0
MKAR				PcP	PcP	17 42 50.7	-1.1
MKAR				ScP		17 46 30.3	
YAK	Yakutsk	57.04	2	eP	P	17 42 03.0	-1.0
	24nm,0.7s,mb4.9						
KURK	Kurchatov	59.96	328	eP	P	17 42 22.7	-1.6
	5.8nm,0.6s,mb4.4						
RPZ	Rata Peaks	63.56	145	P	P	17 42 49.0	+0.5
	9.2nm,0.6s,mb4.6,baz=216,slow=8.7,SNR=5.3						
BVAR	Borovoye Array	65.54	327	P	P	17 42 59.8	-1.2
	0.6nm,0.4s,mb3.6,baz=117,slow=9.9,SNR=5.8						
BRVK	Borovoye	65.61	327	eP	P	17 42 59.3	-2.1
	3.0nm,0.8s,mb4.0						
ZRNK	Zerenda	66.26	327	eP	P	17 43 04.0	-1.6
	3.8nm,0.7s,mb4.1						
ARU	Arti	73.16	328	P	P	17 43 46.4	-1.0
	5.2nm,0.6s,mb4.3						
IMA	Indian Mountai	81.83	24	eP	P	17 44 36.0	+1.3
	32nm,1.2s,mb4.8						
SLKM	Skilak Lake	82.97	30	eP	P	17 44 41.6	+0.8
PMR	Palmer	83.54	29	P	P	17 44 43.7	+0.2
	18nm,1.2s,mb4.7						
MCK	McKinley	83.69	27	eP	P	17 44 45.1	+0.8
	13nm,1.1s,mb4.6						
MAW	Mawson	84.42	200	eP	P	17 44 48.6	+0.8
	2.7nm,0.6s,mb4.2						
MAW	Mawson	84.42	200	P	P	17 44 48.5	+0.7
	3.0nm,0.6s,mb4.2,baz=30,slow=4.6,SNR=14						
ILAR	Eielson Array	84.60	25	P	P	17 44 48.8	0.0
	1.1nm,0.5s,mb3.9,baz=254,slow=4.9,SNR=12						
VNDA	Vanda	84.81	173	P	P	17 44 49.5	-0.1
	1.4nm,0.7s,mb3.8,baz=304,slow=6.1,SNR=6.8						
ARCES	ARCESS Array B	88.82	340	P	P	17 45 08.2	-0.8
	2.8nm,0.9s,mb4.1,baz=72,slow=3.8,SNR=4.5						
INK	Inuvik	89.54	21	P	P	17 45 10.4	-2.0
KAF	Kangasniemi	89.87	332	ep	P	17 45 12.1	-1.9
FINES	FINESS Array B	90.10	332	P	P	17 45 15.6	+0.5
	15nm,1.3s,mb4.7,baz=124,slow=6.9,SNR=9.4						
SYO	Syowa Base	93.06	201	⇑P	P	17 45 29.6	+0.9
SYO	Syowa Base	93.06	201	⇓PcP	PcP	17 45 32.5	+3.2
DLBC	Dease Lake	93.41	31	P	P	17 45 31.0	+0.6
QSPA	South Pole Qui	94.86	180	eP	P	17 45 38.8	+2.2
	1.7nm,0.6s,mb4.3						
TXAR	Lajitas Array	121.93	51	PKP	PKPdf	17 51 10.8	+2.7
	1.2nm,0.7s,SNR=5.9						
DBIC	Dimbokro	128.96	283	PKP	PKPdf	17 51 23.7	+1.5
	1.1nm,0.6s,baz=185,slow=3.2,SNR=5.1						
DBIC	Dimbokro	128.96	283	PKP	PKPdf	17 51 23.7	+1.5
PLCA	Paso Flores	141.63	160	PKP	PKPdf	17 51 46.3	+1.5
	2.5nm,0.9s,baz=247,slow=5.8,SNR=4.7						

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*IDC **14** 17:33:31.6±5.2, 34.79N×2.48E, mb3.7/1, mb1 3.9/3, mb1mx3.5/21, ML4.1/2, Error ellipse: s-maj=98.1km s-min=35.5km az=22.0*

*MDD **14** 17:33:37.1±1.0, 35.37N×2.41E, mb4.1/12, Error ellipse: s-maj=13.2km s-min=6.1km az=176.0, PRXIMO*

*NEIC **14** 17:33:42.4±3.4, 35.67N×2.17E, h10^{km}, MN2.9(MDD), Error ellipse: s-maj=40.1km s-min=13.8km az=155.0*

ISC 14 17:33:36.6±1.0, **35.40N**±0.07×**2.42E**±0.05, **h18**^{km}±9^{km}, **n35**, σ**1^{s}19**/54, **mb3.8**/1, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMHD	Djebel Mahouad	0.91	28	P	Pb	17 33 52.2	-1.2
ETRT	Tiaret	0.92	270	P	Pb	17 33 52.3	-1.3
ECHF	Ech Chlef	1.16	311	P	Pb	17 33 58.4	+0.7
EANR	'Ain N'Sour	1.21	297	P	Pb	17 33 59.5	+1.0
CKHR	Kef el Ahmar	2.59	75	P	Pn	17 34 20.0	+1.5
CMER	Merouana	2.85	85	P	Pn	17 34 34.0	+12
EIBI	Ibiza	3.72	347	P	Pn	17 34 35.1	+0.6
	7.2nm,0.4s,SNR=13						
EIBI				S	Sn	17 35 18.5	+0.1
	16nm,0.4s						
EMUR	La Murta	3.82	311	P	Pn	17 34 35.4	-0.6
	2.7nm,0.3s,SNR=7.9						
EMUR				S	Sn	17 35 20.4	-0.6
	38nm,0.7s,SNR=7.9						
EMUR	La Murta	3.82	311	P	Pn	17 34 35.4	-0.6
EMUR				S	Sn	17 35 20.4	-0.6
EBEN	Beniarda	3.92	328	P	Pn	17 34 37.4	0.0
	1.3nm,0.2s,SNR=13						
EBEN				S	Sn	17 35 22.8	-0.6
	12nm,0.4s						
EBEN	Beniarda	3.92	328	P	Pn	17 34 37.4	0.0
EBEN				S	Sn	17 35 24.0	+0.6
ETOB	Tobarra	4.53	317	P	Pn	17 34 46.0	-0.1
	5.3nm,0.3s,SNR=16						
ETOB				S	Sn	17 35 40.4	+1.4
	29nm,0.5s						
EQES	Quesada	5.03	300	P	Pn	17 34 54.0	+0.9
	15nm,0.5s,SNR=29						
EQES				S	Sn	17 35 53.4	+1.9
	16nm,0.6s,SNR=8.4						
EQES	Quesada	5.03	300	P	Pn	17 34 54.0	+0.9
EQES				S	Sn	17 35 53.4	+1.9
EVIA	Vianos	5.09	311	P	Pn	17 34 55.9	+1.9
	6.4nm,0.3s,SNR=10						
EVIA				S	Sn	17 35 52.4	-0.7
	16nm,0.4s,SNR=5.0						
EVIA	Vianos	5.09	311	P	Pn	17 34 56.2	+2.2
EVIA				S	Sn	17 35 53.8	+0.7
EMOS	Mosqueruela	5.46	336	P	Pn	17 34 59.6	+0.4
	6.9nm,0.3s,SNR=22						
EMOS				S	Sn	17 35 59.1	-3.1
	4.0nm,0.4s						
EMOS	Mosqueruela	5.46	336	P	Pn	17 34 59.6	+0.4
EMOS				S	Sn	17 36 00.9	-1.3
EMIJ	Mijas	5.95	283	P	Pn	17 35 05.6	-0.5
	0.6nm,0.2s,SNR=7.9						
EMIJ				S	Sn	17 36 09.9	-4.6
	1.4nm,0.3s,SNR=7.9						
EMIJ	Mijas	5.95	283	P	Pn	17 35 08.3	+2.2
EMIJ				S	Sn	17 36 14.3	-0.2
EPOB	Poblet	6.03	350	P	Pn	17 35 07.3	0.0
	0.5nm,0.4s,SNR=4.0						
EADA	Adamuz	6.26	298	P	Pn	17 35 09.4	-1.0
	0.5nm,0.3s,SNR=4.0						
EADA				S	Sn	17 36 17.9	-4.3
	4.0nm,0.5s						
EADA	Adamuz	6.26	298	P	Pn	17 35 08.0	-2.4
EADA				S	Sn	17 36 22.4	+0.1
ETOR	Torete	6.46	328	P	Pn	17 35 17.0	+3.8
	0.6nm,0.3s,SNR=6.2						
ESDC	Sonseca Array	6.63	312	Pn	Pn	17 35 15.5	-0.1
	1.5nm,0.3s,baz=124,slow=13,SNR=22						
ESDC				Sn	Sn	17 36 41.2	+10
	0.8nm,0.3s,baz=122,slow=22,SNR=4.4						
ESDC	Sonseca Array	6.63	312	P	Pn	17 35 14.3	-1.4
	2.0nm,0.2s,baz=126,slow=13,SNR=18						
ESDC				S	Sn	17 36 28.0	-3.5
	7.2nm,0.6s,baz=124,slow=23,SNR=13						
ESDC	Sonseca Array	6.63	312	P	Pn	17 35 14.3	-1.4
ESDC				S	Sn	17 36 29.3	-2.2
ELAN	Lanestosa	9.04	332	P	P	17 35 47.8	-1.5
	0.6nm,0.2s,SNR=6.9						
ELAN	Lanestosa	9.04	332	P	P	17 35 50.2	+0.9
ECAL	Calabor	9.69	315	P	P	17 35 56.9	-1.3
	2.0nm,0.4s,SNR=6.6						
ERUA	La Rua	10.21	316	P	P	17 36 04.4	-0.9
	1.3nm,0.5s,SNR=7.9						
EPON	Pontenova	10.83	320	P	P	17 36 13.8	-0.1
	0.6nm,0.3s,SNR=7.9						
STS	Santiago	11.32	315	P	P	17 36 20.9	+0.2
	1.9nm,0.2s,SNR=7.9						
GERES	GERESS Array B	15.80	28	Pn	P	17 37 23.2	+3.4
	0.3nm,0.3s,baz=205,slow=11,SNR=13						
MKAR	Makanchi Array	58.82	52	P	P	17 43 34.1	-2.1
	0.4nm,0.5s,mb3.8,baz=277,slow=8.2,SNR=4.7						

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*IDC **14** 17:54:34.5±30.0, 36.05N×70.15E, mb3.8/3, mb1 3.8/4, mb1mx3.4/17, ML2.8/1, Error ellipse: s-maj=551.0km s-min=45.7km az=162.0*

*NNC **14** 17:54:57.5±5.9, 38.48N×69.24E, h33^{km}±26^{km}, mpv3.5, Error ellipse: s-maj=54.6km s-min=31.0km az=147.0*

*MOS **14** 17:54:57.7±1.5, 38.54N×69.12E, h33^{km}, mb4.2/2, Error ellipse: s-maj=43.8km s-min=20.2km az=93.5*

ISC 14 17:55:02.6±4.3, **38.9N**±0.4×**68.7E**±0.3, **h33**^{km}, **n10**, σ**0^{s}33**/11, **mb3.7**/3, **1C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	4.41	18	Pn	Pn	17 56 09.1	0.0
	2.8nm,0.3s,baz=196,slow=14,SNR=97						
KK31				⇑Pg	Pn	17 56 23.6	+15
	3.0nm,0.3s,baz=192,slow=17,SNR=12						
KK31				⇓Lg		17 57 28.1	
	24nm,0.7s						
KKAR	Karatay Array	4.41	18	ePN	Pn	17 56 09.0	-0.1
KKAR						17 56 23.7	
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AB31	Akbulak array	12.08	332	⇓P	P	17 57 55.5	0.0
	comp=Z,1.0nm,0.4s						
AB31	Akbulak array	12.08	332	P	P	17 57 55.4	-0.1
MKAR	Makanchi Array	12.71	47	Pn	P	17 57 55.5	-8.3
	comp=Z,0.1nm,0.3s,baz=225,slow=16,SNR=3.2						
FINES	FINESS Array B	34.45	325	P	P	18 01 49.3	+0.3
	comp=Z,4.1nm,1.1s,mb4.3,baz=135,slow=9.8,SNR=5.0						
FINES	FINESS Array B	34.45	325	P	P	18 01 49.3	+0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	38.21	337	P	P	18 02 21.1	+0.4
	comp=Z,1.1nm,0.8s,mb3.6,baz=100,slow=7.4,SNR=5.8						
ARCES	ARCESS Array B	38.21	337	P	P	18 02 21.1	+0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	41.34	322	P	P	18 02 46.1	-0.6
	comp=Z,0.4nm,0.6s,mb3.2,baz=108,slow=8.2,SNR=2.4						

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*ISK **14** 18:03:15.9, 36.90N×27.76E, h11^{km}, MD3.1*

*NEIC **14** 18:03:16.2, 36.83N×27.62E, h31^{km}, MD3.0(ATH), After ATH.*

*ATH **14** 18:03:16.2, 36.83N×27.62E, h31^{km}±5^{km}, MD3.0/3*

ISC 14 18:03:15.5±0.5, **36.84N**±0.03×**27.72E**±0.05, **h11**^{km}, **n15**, σ**0^{s}79**/23, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.31	316	i P	Pg	18 03 21.6	-0.5
BDRM				i S	Sg	18 03 26.1	-0.4
MLSB	Milas	0.46	6	i PG	Pg	18 03 23.9	-0.9
MLSB				i SG	Sg	18 03 30.6	-0.5
NISR	Nisiros	0.53	244	ePB	Pb	18 03 26.2	-0.1
YER	Yerkesik	0.54	57	i PG	Pg	18 03 26.4	-0.1
YER				i SG	Sg	18 03 32.9	-0.9
ARG	Arkhangelos	0.70	152	ePN	Pn	18 03 30.3	-0.9
ARG				eSN	Sn	18 03 42.6	+0.6
AYDN	Tasoluk	0.83	9	i P	Pb	18 03 31.1	-0.3
SMG	Samos	1.11	321	ePB	Pb	18 03 36.0	-0.4
SMG				eSN	Sn	18 03 52.1	-0.3
DNZL	Cakiroluk	1.36	51	i P	Pn	18 03 41.3	+0.8
DNZL				i S	Sb	18 04 02.6	+4.9
KARP	Karpathos	1.37	199	ePN	Pn	18 03 40.5	-0.2
DENT	Denizli	1.39	49	PN	Pn	18 03 40.9	-0.1
IZM	Izmir	1.59	347	ePN	Pn	18 03 44.0	+0.1
KDAG	Bornova	1.60	347	⇑iP	Pn	18 03 45.8	+1.8
KDAG				i S	Sn	18 04 06.6	+1.9
ELL	Elmali	1.76	92	ePN	Pn	18 03 46.6	+0.3
MANT	Manisa	1.78	22	i P	Pn	18 03 50.3	+3.8
MANT				S	Sn	18 04 13.4	+4.2
AKS	Akhisar	2.04	2	ePN	Pn	18 03 50.2	0.0

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*JSN **14** 18:04:27.4±0.7, 18.09N×76.89W, h14^{km}±3^{km}, MD3.8, Fault plane solution: NP1:ϕ_s76.3°, δ64.3°, λ-16.1°.*

*SSNC **14** 18:04:27.3±6.8, 18.15N×77.11W, h25^{km}±421^{km}, MD3.3, ML4.0*

ISC 14 18:04:25.8±0.5, **18.17N**±0.06×**76.88W**±0.04, **h29**^{km}±7^{km}, **n15**, σ**1^{s}00**/24, **8C-2D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STH	Stony Hill	0.12	145	⇑iP	Pb	18 04 30.4	-0.6
BNJ	Bonny Gate	0.16	335	⇑iP	Pb	18 04 32.3	+0.8
GWJ	Greenwich	0.17	124	⇑iP	Pb	18 04 31.3	-0.2
HOJ	Hope	0.21	144	⇑iP	Pb	18 04 31.3	-0.6
BBJ	Bamboo Saint A	0.42	300	⇑iP	Pb	18 04 35.8	+0.9
CMJ	Castle Mountai	0.48	94	⇑eP	Pb	18 04 36.8	+0.9
CMJ				i S	Sb	18 04 43.8	+1.0
PCJ	Portland Cotta	0.51	212	⇓iP	Pb	18 04 35.2	-1.1
PCJ				i S	Sb	18 04 41.7	-1.7
CVJ	Coleyville	0.62	275	⇑eP	Pb	18 04 38.2	0.0
MCJ	Malvern	0.81	252	⇓eP	Pb	18 04 40.9	-0.3
MCJ				eS	Sb	18 04 51.8	+0.1
NEJ	Negril	1.38	273	⇑eP	Pn	18 04 51.0	+1.5
NEJ				eS	Sn	18 05 08.3	+1.4
LMGC	Las Mercedes	1.88	356	eP	Pn	18 04 57.0	+0.3
LMGC				eS	Sn	18 05 18.3	-1.4
	comp=N,63μm,0.1s comp=E,54μm,0.1s						
RCC	Rio Carpintero	2.13	32	i P	Pn	18 05 01.4	+1.2
RCC				i S	Sn	18 05 25.7	-0.3
	comp=N,3μm,0.1s comp=E,2μm,0.1s						
MOAC	Moa	3.07	36	eP	Pn	18 05 14.7	+1.1
MOAC				eS	Sn	18 05 48.0	-1.7
	comp=N,3μm,0.3s comp=E,4μm,0.7s						
CCCC	Cccc	3.12	345	i P	Pn	18 05 15.0	+0.6
CCCC				i S	Sn	18 05 49.5	-1.7
	comp=N,344nm,0.3s comp=E,371nm,0.3s						
MGV	Manicaragua	4.88	324	i P	Pn	18 05 38.9	-0.4
MGV				i S	Sn	18 06 28.1	-7.5
	comp=N,2μm,0.3s comp=E,865nm,0.5s						

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*LDG **14** 18:48:41.9±0.1, 46.49N×1.92W, h2^{km}, Md3.1/2, Ml3.1/30, Error ellipse: s-maj=1.3km s-min=1.0km az=64.0*

*NEIC **14** 18:48:45.0, 46.46N×1.61W, h5^{km}, ML3.1(LDG), ML3.0(STR), After STR.*

STR 14 18:48:45.0±0.4, **46.46N×1.61W, h5**^{km}±1^{km}, **Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRYF	La Roche-sur-Y	0.13	20	Pg	Pg	18 48 47.5	-0.2
LRYF				Sg	Sg	18 48 51.1	+1.6
OLEF	Ile d'Oleron	0.55	161	Pg	Pg	18 48 54.8	-1.1
OLEF				Sg	Sg	18 49 03.7	+0.4
CHIF	Chize	0.90	111	Pg	Pg	18 49 02.4	-0.5
MFF	Saint Martin d	1.02	81	ePg	Pg	18 49 04.3	-1.1
MFF				eSg	Sg	18 49 20.6	+1.6
QUIF	Quistinic	1.80	325	ePg	Pg	18 49 12.4	-8.6
QUIF				eSn	Sn	18 49 31.2	-9.3
QUIF				eSg	Sg	18 49 34.3	-11
	32nm,0.2s						
SGMF	Saint Gilles	1.91	341	ePn	Pn	18 49 12.9	-5.6
SGMF				ePg	Pg	18 49 15.6	-7.5
SGMF				eSg	Sg	18 49 38.6	-10
	29nm,0.3s						
GRR	Gorron	2.00	15	ePn	Pn	18 49 14.8	-5.0
GRR				ePg	Pg	18 49 20.1	-4.8
GRR				eSg	Sg	18 49 44.8	-6.7
	15nm,0.2s						
ROSF	Rostrenen	2.19	330	ePn	Pn	18 49 15.8	-6.8
ROSF				ePg	Pg	18 49 19.7	-9.1
ROSF				eSg	Sg	18 49 46.9	-11
	8.1nm,0.2s						
LFF	La Frestale	2.24	132	ePn	Pn	18 49 20.9	-2.4
LFF				ePg	Pg	18 49 25.7	-4.1
LFF				eSg	Sg	18 49 57.4	-2.2
	48nm,0.3s						
LDF	La Druitiere	2.36	25	ePn	Pn	18 49 20.2	-4.8
LDF				ePg	Pg	18 49 27.4	-4.7
LDF				eSg	Sg	18 49 58.2	-5.4
	19nm,0.3s						
FLN	La Foliniere	2.43	18	ePn	Pn	18 49 22.4	-3.6
FLN				ePg	Pg	18 49 29.0	-4.5
FLN				eSg	Sg	18 49 59.0	-6.8
	28nm,0.4s						
RJF	Les Rejaudoux	2.47	117	ePn	Pn	18 49 24.3	-2.3
RJF				ePg	Pg	18 49 31.1	-3.2
RJF				eSn	Sn	18 49 55.0	-2.5
RJF				eSg	Sg	18 50 05.2	-2.1
	43nm,0.3s						
TCF	Toulx Ste Croi	2.65	92	ePn	Pn	18 49 26.8	-2.3
TCF				ePg	Pg	18 49 34.7	-3.2
TCF				eSn	Sn	18 49 58.7	-3.4
TCF				eSg	Sg	18 50 11.4	-1.8
	20nm,0.3s						
CAF	Calviac	3.00	119	ePn	Pn	18 49 31.5	-2.6
CAF				ePg	Pg	18 49 41.8	-3.0
CAF				eSn	Sn	18 50 07.9	-3.0
CAF				eSg	Sg	18 50 22.0	-2.8
	26nm,0.3s						
HYF	Humbligny	3.03	73	ePn	Pn	18 49 31.5	-3.0
HYF				ePg	Pg	18 49 41.1	-4.3
HYF				eSg	Sg	18 50 23.7	-2.0
BGF	Bois d'Agland	3.08	87	ePn	Pn	18 49 32.1	-3.2
BGF				ePg	Pg	18 49 42.5	-4.0
BGF				eSn	Sn	18 50 09.7	-3.2
BGF				eSg	Sg	18 50 23.8	-3.7
	63nm,0.3s						
PYM	Petit Puy Mans	3.29	101	Pn	Pn	18 49 36.0	-2.2
PYM				Sg	Sg	18 50 32.8	-1.7
AGO	Saint Agoulin	3.31	95	Pn	Pn	18 49 35.7	-2.9
SJPF	Ste Jean	3.36	175	ePn	Pn	18 49 33.9	-5.3
SJPF				ePg	Pg	18 49 45.2	-6.8
SJPF				eSn	Sn	18 50 12.4	-7.6
SJPF				eSg	Sg	18 50 28.9	-7.9
	4.2nm,0.3s						
AVF	Avril sur Loir	3.44	83	ePn	Pn	18 49 36.8	-3.5
AVF				ePg	Pg	18 49 49.3	-4.3
AVF				eSn	Sn	18 50 18.3	-3.6
AVF				eSg	Sg	18 50 33.9	-5.5
	12nm,0.4s						
SSF	Saint Saulge	3.57	78	ePn	Pn	18 49 39.0	-3.2
SSF				ePg	Pg	18 49 51.9	-4.3
SSF				eSn	Sn	18 50 21.4	-3.9
SSF				eSg	Sg	18 50 39.5	-4.3
	7.4nm,0.2s						
LBL	Lubilhac	3.61	108	Pn	Pn	18 49 39.9	-2.9
ETSF	Etsaut	3.64	168	ePn	Pn	18 49 37.0	-6.2
ETSF				ePg	Pg	18 49 50.9	-6.8
ETSF				eSg	Sg	18 50 38.6	-7.6
	3.3nm,0.3s						
PLDF	La Plantade	3.67	96	Pn	Pn	18 49 40.1	-3.5
PLDF				Sg	Sg	18 50 44.3	-2.7
EPF	Esparros	3.70	157	ePn	Pn	18 49 39.6	-4.5
EPF				ePg	Pg	18 49 52.7	-6.2
EPF				eSn	Sn	18 50 21.9	-6.7
EPF				eSg	Sg	18 50 40.8	-7.4
	7.7nm,0.2s						
SMF	Signal de Mont	3.77	85	ePn	Pn	18 49 42.1	-2.9
SMF				ePg	Pg	18 49 55.0	-5.2
SMF				eSn	Sn	18 50 26.0	-4.3
SMF				eSg	Sg	18 50 46.1	-4.3
	13nm,0.4s						
LOR	Lormes	3.84	76	ePn	Pn	18 49 42.1	-3.9
LOR				ePg	Pg	18 49 56.7	-4.9
LOR				eSg	Sg	18 50 46.7	-6.1
	8.7nm,0.3s						
MTLF	Montolieu	4.14	138	ePn	Pn	18 49 46.5	-3.8
MTLF				ePg	Pg	18 50 01.9	-5.7
MTLF				eSn	Sn	18 50 33.7	-6.0
MTLF				eSg	Sg	18 50 56.3	-6.4
	5.1nm,0.2s						
LASF	Ste Croix	4.54	120	ePn	Pn	18 49 52.4	-3.6
LASF				ePg	Pg	18 50 09.8	-5.8
LASF				eSn	Sn	18 50 44.2	-5.6
LASF				eSg	Sg	18 51 09.7	-6.3
	5.2nm,0.3s						
VIVF	Saint-Julien-l	4.69	108	ePn	Pn	18 49 53.6	-4.5
VIVF				ePg	Pg	18 50 12.3	-6.3
VIVF				eSn	Sn	18 50 48.1	-5.5
VIVF				eSg	Sg	18 51 15.4	-5.7
	8.2nm,0.4s						
MEZF	Maizieres J'vi	4.96	63	ePn	Pn	18 49 58.0	-3.9
MEZF				ePg	Pg	18 50 17.0	-7.0
MEZF				eSn	Sn	18 50 54.2	-6.2
MEZF				eSg	Sg	18 51 24.0	-6.0
	6.8nm,0.4s						
BAIF	Baives	5.30	45	ePn	Pn	18 50 01.2	-5.5
BAIF				eSg	Sg	18 51 31.4	-10
	1.9nm,0.3s						
CABF	La Chapelle	5.31	86	ePn	Pn	18 50 03.6	-3.4
CABF				eSn	Sn	18 51 03.4	-6.0
CABF				eSg	Sg	18 51 34.7	-7.2
	3.0nm,0.4s						
HAU	Haudompre	5.64	71	ePn	Pn	18 50 07.1	-4.4
HAU				eSg	Sg	18 51 44.8	-7.9
	4.4nm,0.4s						
SMRF	Simiane la Rot	5.65	113	ePn	Pn	18 50 08.5	-3.2
LPL	La Plagne	5.89	96	eSg	Sg	18 51 53.2	-7.9
	3.8nm,0.6s						
HINF	Hinteralfeld	5.93	74	ePn	Pn	18 50 11.8	-3.9
HINF				eSn	Sn	18 51 17.4	-7.5
HINF				eSg	Sg	18 51 53.7	-8.8
	4.0nm,0.4s						
CDF	Champ du Feu	6.34	69	ePg	Pg	18 50 44.0	-7.5
CDF				eSg	Sg	18 52 08.2	-7.8
	3.4nm,0.5s						

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*IDC **14** 18:50:27.5±1.1, 1.73N×126.20E, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, ML3.4/1, Error ellipse: s-maj=100.0km s-min=18.5km az=71.0*

ISC 14 18:50:30.6±1.1, **1.7N**±0.2×**126.0E**±0.6, **h33**^{km}, **n6**, σ**0^{s}36**/6, **mb3.7**/4, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.66	181	P	P	18 54 59.9	+0.2
	0.1nm,0.3s,baz=338,slow=16,SNR=3.9						
WRA	Warramunga Arr	22.98	160	P	P	18 55 33.3	-0.2
	1.6nm,0.3s,mb3.9,baz=337,slow=10,SNR=26						
WB2	Warramunga Arr	22.98	160	eP	P	18 55 33.9	+0.3
ASAR	Alice Springs	26.33	164	P	P	18 56 05.3	-0.2
	1.0nm,0.7s,mb3.5,baz=348,slow=12,SNR=22						
ASAR				PcP	PcP	18 59 31.1	-0.5
	0.2nm,0.4s,baz=347,slow=2.1,SNR=8.3						
SONM	Songino Array	49.02	343	P	P	18 59 16.6	+0.3
	0.6nm,1.0s,mb3.6,baz=143,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	58.85	326	P	P	19 00 28.2	-0.3
	0.6nm,0.4s,mb3.9,baz=112,slow=8.0,SNR=14						

MAN 14 18:59:29.3, 5.99N×125.96E, h156^{km}**, mb4.5, ML3.4, MS3.3, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.99	17	eP	P	18 59 55.1	+0.4
MATI				eS	S	19 00 14.4	+0.1
KCP	Kidapawan	1.33	319	⇑iP	P	18 59 58.6	+0.6
KCP				i S	S	19 00 20.2	+0.2
BUKP	Musuan	2.08	335	eP	P	19 00 05.9	-0.2
BUKP				eS	S	19 00 34.3	0.0
BUTP	Butuan	2.98	353	eP	P	19 00 16.4	-0.9
BUTP				eS	S	19 00 54.9	+0.8
IPIL	Ipil	3.81	298	eP	P	19 00 28.8	+0.7

*NEIC **14** 19:56:11.7±0.9,51.58N×16.18E,h5^{km},ML2.9(VIE), ML2.6(SZGRF),ML2.5(CLL),Error ellipse: s-maj=10.1km s-min=5.9km az=213.0*
*PRU **14** 19:56:13.2,51.50N×16.14E*
*WAR **14** 19:56:13.3,51.54N×16.13E,ML2.9,Mining Induced*
ISC 14 19:56:11.2±0.6,**51.48N**±0.03×**16.09E**±0.04,**n22,**σ**1^{s}21**/51,**2C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**168**	*i* PG	**Pg**	**19 56 26.2**	**+2.1**
KSP				*e*SG	**Sg**	**19 56 34.2**	**+1.5**
KSP	**Ksiaz**	**0.65**	**168**	*i* Pg	**Pg**	**19 56 26.2**	**+2.1**
KSP				*e*		19 56 32.8	
KSP				*e*Sg	**Sg**	**19 56 34.3**	**+1.6**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	**19 56 34.9**	**+1.0**
DPC				*e*SG	**Sg**	**19 56 50.2**	**+1.2**
	10nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**19 56 38.9**	**+0.8**
BRG	**Berggiesshubel**	**1.48**	**247**	*i* Pg	**Pg**	**19 56 41.4**	**+0.7**
BRG				*i* Sg	**Sg**	**19 57 02.3**	**+1.9**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**19 56 42.6**	**-0.4**
RUE				*e*Sg	**Sg**	**19 57 08.9**	**-0.4**
PRU	**Pruhonice**	**1.78**	**214**	*e*PN	**Pn**	**19 56 44.3**	**+0.8**
PRU				PG	**Pg**	**19 56 46.5**	**-0.3**
PRU				*i*		19 56 50.7	
PRU				*e*		19 57 03.0	
PRU				SG	**Sg**	**19 57 10.7**	**+0.1**
	16nm,0.2s						
RAC	**Raciborz**	**1.93**	**135**	*e*P	**Pn**	**19 56 50.0**	**+4.4**
RAC				*e*S	**Sn**	**19 57 16.0**	**+5.0**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*P	**Pn**	**19 56 46.3**	**+0.7**
MORC				*e*S	**Sn**	**19 57 15.6**	**+4.6**
CLL	**Collm**	**1.94**	**266**	*i* PN	**Pn**	**19 56 45.9**	**+0.2**
CLL				*i* PG	**Pg**	**19 56 49.0**	**-0.9**
CLL				*e*		19 56 52.0	
CLL				*e*SG	**Sg**	**19 57 16.0**	**+0.2**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**19 56 45.9**	**+0.2**
CLL				*i* Pg	**Pg**	**19 56 49.0**	**-0.9**
CLL				*e*Sg	**Sg**	**19 57 16.0**	**+0.2**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**19 56 53.1**	**0.0**
OKC				*e*SG	**Sg**	**19 57 19.4**	**-1.7**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**19 56 56.5**	**+1.0**
NKC				*e*PG	**Pg**	**19 57 03.5**	**0.0**
NKC				*e*SG	**Sg**	**19 57 40.0**	**+1.6**
OJC	**Ojcow**	**2.67**	**117**	*e*PN	**Pn**	**19 56 54.0**	**-2.1**
OJC				*e*PG	**Pg**	**19 57 04.0**	**-0.4**
OJC				*e*SG	**Sg**	**19 57 39.0**	**-1.0**
OJC	**Ojcow**	**2.67**	**117**	*e*Pn	**Pn**	**19 56 54.0**	**-2.1**
OJC				*e*Pg	**Pg**	**19 57 03.9**	**-0.5**
OJC				*e*Sg	**Sg**	**19 57 39.1**	**-0.9**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**19 56 59.3**	**+0.6**
KHC				*e*PG	**Pg**	**19 57 05.9**	**-2.1**
KHC				*e*SN	**Sn**	**19 57 33.0**	**-1.2**
KHC				*e*SG	**Sg**	**19 57 45.5**	**-0.4**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**19 57 08.7**	**-1.2**
MOX				*e*Sg	**Sg**	**19 57 49.0**	**-0.1**
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn	**Pn**	**19 57 03.1**	**+1.5**
GEC2				*e*Sg	**Sg**	**19 57 50.7**	**-1.9**
WET	**Wettzell**	**3.11**	**223**	*e*Pn	**Pn**	**19 57 03.5**	**+1.0**
WET				*e*Sg	**Sg**	**19 57 53.0**	**-1.8**
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn	**Pn**	**19 57 09.5**	**+0.4**
CLZ				*e*Sg	**Sg**	**19 58 08.2**	**-2.1**
MOA	**Molln**	**3.82**	**199**	⇑*i*PN	**Pn**	**19 57 13.5**	**+1.0**
MOA				*i* SG	**Sg**	**19 58 16.5**	**-1.8**
	5.2nm,0.4s						
ARSA	**Arzberg**	**4.25**	**185**	⇑*i*PN	**Pn**	**19 57 19.9**	**+1.3**
ARSA				*i* SG	**Sg**	**19 58 29.4**	**-3.1**
	7.1nm,0.7s						

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*IDC **14** 20:10:44.7±1.2,21.86S×176.81W,mb4.1/6,mb1 4.3/6, mb1mx4.1/13,Error ellipse: s-maj=56.0km s-min=28.6km az=152.0*
ISC 14 20:10:48.5±1.1,**21.9S**±0.3×**176.9W**±0.3,**h33^{km},n6,** σ**1^{s}62**/6,**mb4.0**/6,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.23**	**258**	P	**P**	**20 19 03.7**	**-1.0**
	2.7nm,0.9s,mb4.1,baz=92,slow=8.5,SNR=18						
WRA	**Warramunga Arr**	**45.45**	**263**	P	**P**	**20 19 05.9**	**-0.7**
	3.0nm,0.7s,mb4.2,baz=96,slow=8.4,SNR=36						
MAW	**Mawson**	**80.64**	**200**	P	**P**	**20 22 60.0**	**+0.9**
	1.9nm,0.7s,mb4.2,baz=136,slow=9.6,SNR=4.3						
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**20 23 30.1**	**-1.6**
	1.0nm,1.0s,mb4.0,baz=214,slow=3.3,SNR=4.4						
ILAR	**Eielson Array**	**89.41**	**12**	P	**P**	**20 23 43.5**	**+0.8**
	0.2nm,0.7s,mb3.6,baz=233,slow=4.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**91.54**	**289**	P	**P**	**20 23 55.4**	**+1.6**
	0.9nm,0.8s,mb4.1,baz=123,slow=2.3,SNR=5.7						

CASC 14 20:13:49.5±2.0,**10.43N**×**86.19W,MD3.8,7C-7D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.63**	**119**	⇓*e*P	Pg	20 14 03.2	+1.2
CRZC	**La Cruz**	**0.78**	**49**	⇓*i*P	Pg	20 14 05.6	+0.5
JCR	**Jicaral**	**1.21**	**119**	⇑*e*P	Pb	20 14 11.6	-1.4
CONN	**Concepcion**	**1.25**	**26**	⇑*e*P	Pb	20 14 13.6	-0.1
APON	**Apoyo**	**1.48**	**5**	⇓*e*P	Pn	20 14 17.6	+0.2
FORC	**Fortuna**	**1.50**	**88**	⇓*e*P	Pn	20 14 17.1	-0.7
TICN	**Ticuantepe**	**1.59**	**359**	⇑*e*P	Pn	20 14 18.5	-0.5
MGAN	**Managua**	**1.70**	**358**	*e*S	Sb	20 14 44.9	+1.6
COFN	**Cofrada**	**1.71**	**3**	*e*P	Pn	20 14 19.8	-1.0
CGA2	**Cerro Gallo 2**	**1.75**	**104**	⇓*e*P	Pn	20 14 20.3	-1.0
COPN	**Copaltepe**	**1.78**	**347**	⇑*e*P	Pn	20 14 20.6	-1.1
PRS1	**Puriscal**	**1.91**	**103**	⇑*e*P	Pn	20 14 22.2	-1.3
MOMJ	**Momotombo**	**1.99**	**350**	*e*P	Pn	20 14 23.5	-1.3
MIRN	**Miramar**	**2.06**	**346**	⇑*e*P	Pn	20 14 24.4	-1.3
LEON	**Leon**	**2.09**	**341**	⇑*e*P	Pn	20 14 24.6	-1.5
PYTN	**Playitas**	**2.10**	**4**	*e*P	Pn	20 14 26.4	+0.2
PYTN				*e*S	Sn	20 14 54.5	+1.1
PYN	**Poneloya**	**2.10**	**337**	*e*P	Pn	20 14 26.1	-0.2
LAJ	**Bijagual**	**2.12**	**105**	*e*P	Pn	20 14 21.5	-5.1
LAJ				*e*S	Sn	20 14 46.2	-7.7
SJS	**Escuela Geolog**	**2.16**	**103**	*e*P	Pn	20 14 28.2	+1.0
SJS				*e*S	Sn	20 14 55.2	+0.1
TEL3	**Telica 3**	**2.22**	**343**	⇓*e*P	Pn	20 14 26.7	-1.3
ICR	**Volcan Irazu**	**2.37**	**101**	⇓*e*P	Pn	20 14 32.7	+2.5
TRTC	**Tortuguero**	**2.44**	**86**	*e*P	Pn	20 14 29.1	-2.1
URSC	**Urasca**	**2.45**	**104**	*e*P	Pn	20 14 31.1	-0.3
BUS	**Buena Vista**	**2.55**	**110**	*e*P	Pn	20 14 33.8	+1.0
BUS				*e*S	Sn	20 15 06.8	+1.7

NEIC 14 20:14:43.2±0.6,**43.17N**×**111.02W,h2^{km}**±7^{km},**ML3.6, MW3.6**(SLM),**Error ellipse: s-maj=8.8km s-min=3.2km az=92.0,Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REDW	**Red Top Meadow**	**0.23**	**33**	*e*P	Pg	20 14 48.1	+0.3
TPAW	**Teton Pass**	**0.32**	**9**	*e*P	Pg	20 14 49.5	-0.1
AHID	**Auburn Hatcher**	**0.41**	**188**	*e*P	Pg	20 14 51.2	-0.2
WUWY	**Wally Ulrich**	**0.42**	**29**	*e*P	Pg	20 14 51.4	-0.1
MOOW	**Moose Ponds**	**0.61**	**19**	*e*P	Pg	20 14 54.5	-0.9
MOOW				*e*S	Sg	20 15 02.0	-1.5
BW06	**Boulder Array**	**1.15**	**110**	*e*P	Pb	20 15 04.5	-0.9
YMR	**Madison River**	**1.50**	**1**	*e*P	Pn	20 15 10.2	-0.9
HWUT	**Hardware Ranch**	**1.62**	**195**	*e*P	Pn	20 15 12.4	-0.4
QLMT	**Earthquake Lak**	**1.68**	**350**	*e*P	Pn	20 15 13.2	-0.6
HVU	**Hansel Valley**	**1.91**	**224**	*e*Pn	Pn	20 15 15.8	-1.2
TCUT	**Toone Canyon**	**2.07**	**188**	*e*Pn	Pn	20 15 19.3	-0.1
MCMT	**McKenzie Canyo**	**2.12**	**322**	*e*Pn	Pn	20 15 20.1	+0.1
SPUT	**South Promonto**	**2.15**	**210**	*e*Pn	Pn	20 15 19.6	-0.9
HLID	**Hailey**	**2.51**	**280**	*e*Pn	Pn	20 15 25.3	-0.3
BOZ	**Bozeman (W)**	**2.51**	**350**	*e*Pn	Pn	20 15 25.4	-0.3
CTU	**Camp Tracy**	**2.54**	**193**	*e*Pn	Pn	20 15 25.7	-0.3
JLU	**Jordanelle**	**2.59**	**187**	*e*Pn	Pn	20 15 27.0	+0.2
BGU	**Big Grassy Mou**	**2.70**	**214**	*e*Pn	Pn	20 15 27.5	-0.9
DAU	**Daniels Canyon**	**2.76**	**184**	*e*Pn	Pn	20 15 29.3	0.0
MPU	**Maple Canyon**	**3.19**	**189**	*e*Pn	Pn	20 15 35.6	+0.3
DUG	**Dugway**	**3.27**	**205**	*e*Pn	Pn	20 15 35.1	-1.3
NLU	**North Lily Min**	**3.31**	**194**	*e*Pn	Pn	20 15 36.4	-0.7
HRY	**Holter Researc**	**3.58**	**351**	*e*Pn	Pn	20 15 41.0	0.0
CHMT	**Chamberlain Mo**	**4.06**	**338**	*e*Pn	Pn	20 15 47.7	0.0
SRU	**San Rafael**	**4.08**	**175**	*e*Pn	Pn	20 15 46.9	-1.0
MSU	**Marysvale**	**4.74**	**191**	*e*Pn	Pn	20 15 54.2	-3.2
LAO	**LASA Array**	**4.89**	**42**	Pn	Pn	20 15 59.6	0.0
RSSD	**Black Hills**	**5.15**	**77**	*e*Pn	Pn	20 15 59.8	-3.4
ISCO	**Idaho Springs**	**5.28**	**128**	*e*Pn	Pn	20 16 04.2	-0.7
PV01	**Paradox Valley**	**5.37**	**159**	*e*Pn	Pn	20 16 06.0	-0.2
BMN	**Battle Mountai**	**5.38**	**242**	Pn	Pn	20 16 06.9	+0.4
RW3	**Ridgway**	**5.53**	**152**	Pn	Pn	20 16 06.4	-2.2
WVOR	**Wild Horse Val**	**5.65**	**265**	Pn	Pn	20 16 06.1	-4.1
LNOR	**Lincton Mounta**	**5.85**	**300**	Pn	Pn	20 16 11.3	-1.7
NEW	**Newport**	**6.64**	**322**	Pn	Pn	20 16 21.8	-2.4
SDCO	**Great Sand Dun**	**6.86**	**140**	Pn	Pn	20 16 26.2	-1.1
DGMT	**Dagmar**	**7.12**	**40**	P	Pn	20 16 30.2	-0.8
MNV	**Mina**	**7.19**	**231**	Pn	Pn	20 16 29.1	-2.8

IGQ 14 20:28:41.0,4.81S×**80.89W,h20^{km},mb4.6,5C-4D,Error ellipse: s-maj=39.1km s-min=10.4km az=112.6, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOJA	**Cerro de Hojas**	**3.75**	**5**	⇑P	Pn	20 29 40.0	+0.8
IGUA	**Igualata**	**3.99**	**34**	⇑P	Pn	20 29 43.4	+0.8
ARRY	**Arrayan**	**4.08**	**37**	⇑P	Pn	20 29 44.6	+0.6
PATA	**Patacocha**	**4.10**	**37**	⇓P	Pn	20 29 45.3	+1.1
CUSU	**Cusua**	**4.12**	**36**	P	Pn	20 29 45.9	+1.4
RETU	**Refugio**	**4.13**	**36**	P	Pn	20 29 45.8	+1.1
JUIV	**Juive**	**4.14**	**36**	P	Pn	20 29 45.4	+0.6
ULBA	**Ulba**	**4.16**	**37**	P	Pn	20 29 46.2	+1.1
RUN2	**Runtun**	**4.18**	**36**	P	Pn	20 29 46.6	+1.3
QIL1	**Quilotoa**	**4.40**	**26**	⇑P	Pn	20 29 47.6	-0.8
PISA	**Pisayambo**	**4.49**	**34**	P	Pn	20 29 50.9	+1.2
MARY	**Rancho Maria**	**4.71**	**31**	P	Pn	20 29 56.1	+3.2
NAS1	**Nasa**	**4.80**	**30**	P	Pn	20 29 56.1	+2.0
TAMB	**Tambo**	**4.80**	**32**	P	Pn	20 29 55.5	+1.3
VC1	**Cotopaxi 1**	**4.83**	**31**	⇓P	Pn	20 29 55.6	+1.0
ANTI	**Antisana**	**5.12**	**32**	P	Pn	20 30 04.1	+5.5
CGGP	**Crater GGP**	**5.14**	**26**	⇓P	Pn	20 30 00.2	+1.3
GGP	**Refugio Guagua**	**5.14**	**27**	P	Pn	20 30 00.2	+1.2
PINO	**Pino**	**5.15**	**26**	⇑P	Pn	20 30 00.1	+1.0
YANA	**Yana**	**5.20**	**26**	⇓P	Pn	20 30 00.4	+0.5
CAYR	**Refugio Cayamb**	**5.59**	**31**	P	Pn	20 30 08.8	+3.5
CAYA	**Cayambe**	**5.65**	**31**	P	Pn	20 30 12.1	+6.0
COTA	**Cotacachi**	**5.71**	**27**	P	Pn	20 30 08.0	+1.0

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*NEIC **14** 20:37:24.1,33.13S×70.24W,h3^{km},ML2.5(GUC),After GUC.*
GUC 14 20:37:24.1±0.8,**33.13S**×**70.24W,h3^{km},MD3.6,ML2.5, 3C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.20**	**191**	⇑*i*P	Pg	20 37 28.9	+0.8
FCH				*i* S	Sg	20 37 31.8	+1.0
FCH				AMP		20 37 33.0	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**0.36**	**223**	⇑*i*P	Pg	20 37 32.1	+0.7
CLCH				*i* S	Sg	20 37 37.6	+1.4
CLCH				AMP		20 37 40.4	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**0.37**	**268**	⇓*i*P	Pg	20 37 31.9	+0.3
PEL				*i* S	Sg	20 37 37.3	+0.8
PEL				AMP		20 37 43.0	
	comp=N,744nm,0.7s						
DSCH	**Colegio Aleman**	**0.38**	**225**	*i* P	Pg	20 37 32.6	+0.9
DSCH				*i* S	Sg	20 37 38.5	+1.7
DSCH				AMP		20 37 41.0	
	comp=E,2μm,0.4s						
JACH	**Jahuel**	**0.54**	**327**	⇓*i*P	Pg	20 37 35.1	+0.3
JACH				*i* S	Sg	20 37 43.0	+1.1
PCH	**Pirque**	**0.54**	**205**	⇓*i*P	Pg	20 37 35.2	+0.3
PCH				*i* S	Sg	20 37 43.3	+1.3
LMEL	**Las Melosas**	**0.72**	**177**	⇑*i*P	Pg	20 37 38.3	-0.1
LMEL				*e*S	Sg	20 37 48.5	+0.6
LMEL				AMP		20 37 50.4	
	comp=N,181nm,0.4s						
CHCH	**Chadas Angostu**	**0.87**	**203**	*i* P	Pg	20 37 41.3	-0.2
CHCH				*i* S	Sg	20 37 53.0	-0.2
CACH	**El Canelo**	**1.03**	**197**	*e*P	Pb	20 37 44.4	+0.2
CACH				*i* S	Sb	20 37 58.8	+0.9
LCCH	**Las Cruces**	**1.16**	**252**	*i* P	Pb	20 37 45.9	-0.6
CICH	**Cipreses**	**1.20**	**187**	*e*P	Pb	20 37 46.9	-0.2
CICH				*i* S	Sb	20 38 03.9	+1.2
LNV	**Longovilo**	**1.28**	**229**	⇓*i*P	Pb	20 37 47.5	-0.9
SFDO	**San Fernando**	**1.61**	**203**	*i* P	Pn	20 37 53.8	+0.2
SFDO				*i* S	Sb	20 38 15.7	+0.8

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*NSSC **14** 20:42:14.9,38.95N×39.12E,h37^{km}±18^{km}*
*ISK **14** 20:42:15.9,38.40N×39.15E,h5^{km},MD4.2,ML4.2*
*MOS **14** 20:42:17.1±1.8,38.32N×39.19E,h10^{km},mb4.5/14,Error ellipse: s-maj=9.7km s-min=5.3km az=115.1*
*IDC **14** 20:42:17.1±0.7,38.41N×39.20E,mb4.2/14,mb1 4.3/20, mb1mx4.3/25,ML3.5/5,MS3.6/10,Ms1 3.6/10, ms1mx3.4/25,Error ellipse: s-maj=16.2km s-min=11.0km az=3.0*
*BJI **14** 20:42:18.1,38.00N×38.86E,h45^{km},mb4.7,Msz3.3*
*MED_RC **14** 20:42:19.7±0.3,38.46N×39.26E,h15^{km},MW4.6/26, Moment Tensor Solution. Body waves: s26,c33; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.03; $M_{\theta\theta}$0.60±.03; $M_{\phi\phi}$0.42±.01; $M_{r\theta}$0.41±.06; $M_{\theta\phi}$0.24±.02; $M_{\phi r}$0.01±.04; Best double couple: M_0.97×10^{16} NP1:ϕ_s50°,δ35°,λ-104°. NP2:ϕ_s247°,δ56°, λ-80°. Principal axes: T .83, Plg11°, Azm330°; N .28, Plg8°, Azm61°; P -1.11, Plg76°, Azm187°; nsta1 refers to waves, cutoff=35s.*
*ZUR_RM **14** 20:42:19,38.46N×39.26E,h9^{km},Mw4.6/13,Moment Tensor Solution. s13 Moment tensor: Scale 10^{15}Nm; M_{rr}-8.67; $M_{\theta\theta}$4.55; $M_{\phi\phi}$4.12; $M_{r\theta}$-0.42; $M_{\theta\phi}$3.84; $M_{\phi r}$0.86; Best double couple: $M_0$8.48×10^{15} NP1:ϕ_s221°,δ46°,λ-98°. NP2:ϕ_s52°,δ44°,λ-82°. Principal axes: T 8.19, Plg1°, Azm316°; N .575, Plg6°, Azm226°; P -8.765, Plg84°, Azm56°;*
*NEIC **14** 20:42:19.7±1.2,38.46N×39.26E,h16^{km}±8^{km},mb4.5/44 Error ellipse: s-maj=4.3km s-min=3.7km az=181.0*
ISC 14 20:42:16.8±0.2,**38.39N**±0.01×**39.19E**±0.02,**h5^{km},n220,** σ**1^{s}22**/249,**mb4.4**/55,**MS3.5**/10,**15C-21D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.20**	**304**	*i* P	**Pg**	**20 42 20.3**	**-0.5**
ELZG				*i* S	**Sg**	**20 42 23.8**	**+0.3**
MALT	**Malatya**	**0.61**	**263**	*i* PG	**Pg**	**20 42 27.6**	**-1.3**
MALT				*i* SG	**Sg**	**20 42 38.0**	**+1.0**
MALT	**Malatya**	**0.61**	**263**	*i* P	**Pg**	**20 42 27.4**	**-1.5**
MALT				*i* S	**Sg**	**20 42 36.7**	**-0.3**
MALT	**Malatya**	**0.61**	**263**	Pg	**Pg**	**20 42 27.6**	**-1.3**
MALT				Sg	**Sg**	**20 42 38.6**	**+1.6**
MYA	**Malataya**	**0.61**	**264**	*i* PG	**Pg**	**20 42 28.0**	**-0.9**
DIY	**Diyarbakir**	**0.95**	**121**	*i* PG	**Pg**	**20 42 35.9**	**+0.1**
DIY				*i* SG	**Sg**	**20 42 50.7**	**+2.2**
BINT	**Bingol**	**1.13**	**64**	*i* PN	**Pn**	**20 42 38.2**	**-0.9**
EZC	**Erzincan**	**1.44**	**20**	PN	**Pn**	**20 42 42.8**	**-0.8**
EZC	**Erzincan**	**1.44**	**20**	Pn	**Pn**	**20 42 41.9**	**-1.7**
DRBT	**Darb Altahta**	**1.61**	**162**	⇑P	**Pn**	**20 42 53.0**	**+7.0**
DRBT				⇑S	**Sg**	**20 43 20.5**	**+10**
GZT	**Gaziantep**	**1.65**	**232**	*i* P	**Pn**	**20 42 46.7**	**+0.1**
GZT				*i* S	**Sb**	**20 43 13.0**	**+4.6**
BEST	**Besiri**	**1.71**	**106**	*i* P	**Pn**	**20 42 47.7**	**+0.2**
BEST				*i* S	**Sn**	**20 43 12.1**	**+2.1**
KELT	**Kelkit**	**1.76**	**2**	*i* P	**Pn**	**20 42 48.8**	**+0.6**
BTMT	**Batman**	**1.82**	**95**	*i* PN	**Pn**	**20 42 48.6**	**-0.4**
KAHT	**Ahir Dag**	**1.98**	**248**	*i* P	**Pn**	**20 42 51.7**	**+0.4**
KAHT				*i* S	**Sn**	**20 43 16.4**	**-0.4**
GAZ	**Gaziantep**	**1.98**	**233**	*i* PN	**Pn**	**20 42 51.2**	**-0.2**
GUMT	**Gumushane**	**2.08**	**6**	*i* PN	**Pn**	**20 42 53.4**	**+0.6**
SVST	**Sivas**	**2.22**	**309**	*i* P	**Pn**	**20 42 56.6**	**+1.8**
SVST				*i* S	**Sg**	**20 43 32.0**	**+1.2**
EZM	**Erzurum**	**2.27**	**47**	*i* PN	**Pn**	**20 42 56.9**	**+1.4**
ERZM	**Erzurum**	**2.27**	**47**	*i* P	**Pn**	**20 42 56.8**	**+1.3**
ERZM				*i* S	**Sg**	**20 43 35.7**	**+3.3**
SVSK	**Karacayir**	**2.29**	**313**	*i* PN	**Pn**	**20 42 56.1**	**+0.3**
MNKR	**ALMNKUR**	**2.44**	**178**	⇑P	**Pn**	**20 43 00.0**	**+2.1**
MNKR				⇑S	**Sn**	**20 43 33.2**	**+4.6**
DRWC	**Darouich**	**2.67**	**229**	⇓P	**Pn**	**20 43 00.4**	**-0.8**
DRWC				⇓S	**Sn**	**20 43 34.4**	**0.0**
BSHR	**Al Beshri**	**2.76**	**169**	⇑P	**Pn**	**20 43 07.5**	**+5.0**
BSHR				⇑S	**Sg**	**20 43 47.5**	**-1.2**
CEYT	**Ceyhan**	**3.06**	**244**	PN	**Pn**	**20 43 07.9**	**+1.2**
BTCH	**Batrach**	**3.20**	**224**	⇓P	**Pn**	**20 43 08.5**	**-0.3**
BTCH				⇓S	**Sn**	**20 43 47.2**	**-0.7**
YOZ	**Yozgat**	**3.27**	**294**	PN	**Pn**	**20 43 10.3**	**+0.6**
VANB	**Van**	**3.30**	**85**	*e*PN	**Pn**	**20 43 11.2**	**+1.0**
TVAN	**Van**	**3.31**	**86**	*i* P	**Pn**	**20 43 09.7**	**-0.6**
HTY	**Hatay**	**3.33**	**228**	PN	**Pn**	**20 43 10.3**	**-0.2**
AVNT	**Avonos**	**3.42**	**278**	*i* P	**Pn**	**20 43 11.9**	**+0.1**
AVNT				*i* S	**Sg**	**20 44 10.9**	**+0.2**
ARNB	**Al Arnab**	**3.60**	**227**	⇓P	**Pn**	**20 43 13.9**	**-0.6**
NIG	**Nigde**	**3.62**	**267**	*e*PN	**Pn**	**20 43 15.0**	**+0.3**
KVT	**Kavak**	**3.62**	**319**	PN	**Pn**	**20 43 14.9**	**+0.2**
WRDH	**Warideh**	**3.64**	**219**	⇓P	**Pn**	**20 43 15.2**	**+0.2**
WRDH				⇓S	**Sn**	**20 43 58.8**	**0.0**
SLNF	**Slenfeh**	**3.66**	**221**	⇑P	**Pn**	**20 43 14.7**	**-0.6**
SLNF				⇑S	**Sn**	**20 43 59.9**	**+0.4**
HKR	**Hakkari**	**3.68**	**101**	*e*PN	**Pn**	**20 43 16.7**	**+1.1**
KFRA	**Kufra**	**3.71**	**212**	⇓P	**Pn**	**20 43 16.3**	**+0.4**
BIDA	**Albida**	**4.08**	**215**	⇑P	**Pn**	**20 43 21.2**	**0.0**
BIDA				⇑S	**Sn**	**20 44 08.8**	**-1.3**
RABH	**Abou Rabah**	**4.26**	**203**	⇑P	**Pn**	**20 43 24.7**	**+0.9**
KAMT	**Kaman**	**4.39**	**285**	*e*PN	**Pn**	**20 43 25.9**	**+0.3**
BRTR	**Keskin Array B**	**4.52**	**289**	Pn	**Pn**	**20 43 28.1**	**+0.5**
	5.3nm,0.3s,baz=113,slow=12,SNR=161						
BRTR				LR	LR	20 45 28.3	
	comp=Z,775nm,19.0s,baz=90,slow=42						
BRTR	**Keskin Array B**	**4.52**	**289**	P	**Pn**	**20 43 28.1**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,775nm,19.0s						
BYBT	**Boyabat**	**4.59**	**314**	*e*PN	**Pn**	**20 43 28.7**	**+0.3**
GNI	**Garni**	**4.65**	**66**	Pn	**Pn**	**20 43 30.2**	**+0.8**
	comp=Z,5.7nm,0.3s,baz=303,slow=3.9,SNR=22						
GNI	**Garni**	**4.65**	**66**	P	**Pn**	**20 43 30.2**	**+0.8**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CANT	**Cankiri**	**4.85**	**299**	*e*PN	**Pn**	**20 43 32.0**	**-0.1**
HWQ	**Hawqa**	**4.87**	**214**	*e*PN	**Pn**	**20 43 32.3**	**-0.1**
ANTO	**Ankara**	**5.19**	**289**	*e*PN	**Pn**	**20 43 36.9**	**-0.1**
SOC	**Sochi**	**5.21**	**4**	*e*P	**Pn**	**20 43 40.5**	**+3.3**
SOC				*e*S	**Sn**	**20 44 39.8**	**+1.3**
SOC				pmax	pmax		
	comp=Z,113nm,0.8s						
SOC				pmax	pmax		
	comp=N,239nm,0.9s						
SOC				pmax	pmax		
	comp=E,116nm,0.8s						
SOC				MLR	MLR		
	comp=Z,481nm,15.0s						
SOC				MLR	MLR		
	comp=N,312nm,18.0s						
SOC				MLR	MLR		
	comp=E,588nm,13.0s						
BHL	**Bhannes**	**5.31**	**214**	*e*PN	**Pn**	**20 43 37.7**	**-1.0**
BZK	**Bozkurt**	**5.34**	**314**	*e*PN	**Pn**	**20 43 39.7**	**+0.6**
QASN	**Qassioun**	**5.39**	**207**	⇓P	**Pn**	**20 43 40.9**	**+1.0**
QASN				⇓S	**Sn**	**20 44 42.2**	**-0.9**
TI2	**Plekhanov**	**5.42**	**50**	*e*P	**Pn**	**20 43 55.6**	**+15**
TOTH	**TOTAH**	**5.50**	**205**	⇓P	**Pn**	**20 43 41.3**	**0.0**
TOTH				⇓S	**Sn**	**20 44 44.8**	**-1.0**
HDMB	**Hadim**	**5.51**	**257**	*e*PN	**Pn**	**20 43 42.5**	**+1.1**
BRBR	**Barbar**	**5.62**	**209**	⇓P	**Pn**	**20 43 43.5**	**+0.5**
BRBR				⇓S	**Sn**	**20 44 48.2**	**-0.6**
KIZT	**Kizilcal**	**5.75**	**277**	*e*PN	**Pn**	**20 43 44.3**	**-0.5**
MATL	**Matirih**	**5.81**	**214**	*e*PN	**Pn**	**20 43 53.0**	**+7.4**
CSS	**Prodhromos**	**5.82**	**236**	*e*Pn	**Pn**	**20 43 45.8**	**-0.1**
SALA	**Sala**	**6.01**	**200**	⇑P	**Pn**	**20 43 49.7**	**+1.2**
KSHT	**Keshet**	**6.05**	**208**	P	**Pn**	**20 43 49.7**	**+0.5**
HNTI	**Hanita**	**6.22**	**213**	P	**Pn**	**20 43 53.3**	**+1.8**
HNTI				S	**Sg**	**20 45 31.5**	**-12**
TCHB	**Talchebab**	**6.28**	**206**	⇑P	**Pn**	**20 43 53.0**	**+0.6**
TCHB				⇑S	**Sn**	**20 45 04.9**	**-0.5**
ASF	**Jabal al Asfar**	**6.48**	**198**	Pn	**Pn**	**20 43 55.0**	**-0.1**
	comp=E,1.4nm,0.3s,baz=268,slow=3.8,SNR=12						
ASF				Lg		20 45 43.1	
	comp=E,4.0nm,0.3s,baz=53,slow=23,SNR=3.5						
ASF				LR	LR	20 46 26.0	
	comp=E,286nm,20.9s,baz=247,slow=38						
ANN	**Anapa**	**6.54**	**349**	*e*P	**Pn**	**20 44 12.7**	**+17**
ANN				pmax	pmax		
	comp=Z,39nm,0.8s						
ANN				MLR	MLR		
	comp=Z,467nm,12.0s						
ANN				MLR	MLR		
	comp=N,718nm,13.0s						
MMLI	**Mount Malkishu**	**6.69**	**209**	P	**Pn**	**20 43 59.4**	**+1.3**
OFRI	**‘Ofer**	**6.70**	**212**	P	**Pn**	**20 44 00.7**	**+2.4**
HMDT	**Nahal Hemdat**	**6.81**	**207**	P	**Pn**	**20 43 59.8**	**-0.1**
SLTI	**Sal’it**	**7.01**	**210**	P	**Pn**	**20 44 04.8**	**+2.2**
GOF	**Gofitskoye**	**7.26**	**22**	⇑*i*P	**Pn**	**20 44 12.0**	**+5.9**
GOF				pmax	pmax		
	comp=Z,17nm,1.2s						
DRGI	**Dragot**	**7.46**	**206**	P	**Pn**	**20 44 11.1**	**+2.1**
SIM	**Simferopol’**	**7.58**	**332**	*e*P	**Pn**	**20 44 11.8**	**+1.2**
SIM				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SIM				MLR	MLR		
	comp=Z,140nm,19.2s						
MZDA	**Masada**	**7.73**	**205**	P	**Pn**	**20 44 14.3**	**+1.6**
SVTA	**Shivta**	**8.34**	**208**	P	**P**	**20 44 24.7**	**+3.5**
KZIT	**Kziot**	**8.44**	**209**	P	**P**	**20 44 26.5**	**+3.8**
PRNI	**Paran**	**8.73**	**205**	P	**P**	**20 44 27.2**	**+0.6**
KMTI	**Karmit**	**9.05**	**205**	P	**P**	**20 44 31.7**	**+0.6**
DIM	**Dimitrovgrad**	**11.06**	**294**	*e*P	Px	20 45 27.0	
RZN	**Rozhen**	**11.58**	**291**	*e*P	**P**	**20 45 16.0**	**+10**
MLR	**Muntele Rosu**	**12.14**	**310**	Pn	**P**	**20 45 11.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=19,SNR=1.8						
MLR				LR	LR	20 51 01.6	
	comp=Z,330nm,19.1s,baz=77,slow=43						
MLR	**Muntele Rosu**	**12.14**	**310**	Pn	**P**	**20 45 11.2**	**-2.2**
MMB	**Musomiste**	**12.28**	**290**	*e*P	**P**	**20 45 18.0**	**+2.7**
KKB	**Krupnik**	**12.81**	**291**	*i* P	**P**	**20 45 26.5**	**+4.2**
VTS	**Vitosha**	**12.87**	**294**	*e*P	**P**	**20 45 26.0**	**+2.9**
VOR	**Voronezh**	**13.34**	**0**	P	**P**	**20 45 33.0**	**+3.7**
VOR				pmax	pmax		
	comp=Z,40nm,2.0s						
VOR				pmax	pmax		
	comp=N,30nm,1.7s						
SKO	**Skopje**	**14.04**	**290**	*e*P	**P**	**20 45 43.5**	**+5.0**
AKASG	**Malin Array Be**	**14.20**	**333**	Pn	**P**	**20 45 37.9**	**-2.6**
	comp=N,0.6nm,0.3s,baz=138,slow=14,SNR=9.0						
AKASG	**Malin Array Be**	**14.20**	**333**	P	**P**	**20 45 37.9**	**-2.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**16.83**	**355**	*e*P	**P**	**20 46 14.5**	**0.0**
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s						
OBN	**Obninsk**	**16.83**	**355**	*e*P	**P**	**20 46 14.4**	**-0.1**
	comp=Z,11nm,0.9s						
PSZ	**Piszkesteto**	**16.96**	**310**	⇓*i*P	**P**	**20 46 18.9**	**+2.7**
MOS	**Moscow**	**17.39**	**357**	*e*P	**P**	**20 46 20.0**	**-1.6**
MOS				pmax	pmax		
	comp=Z,39nm,1.0s						
TIP	**Timpagrande**	**17.51**	**280**	*e*P	**P**	**20 46 25.6**	**+2.4**
TIP				*e*		20 46 36.1	
VYHS	**Vyhne**	**17.85**	**311**	*e*P	**P**	**20 46 29.0**	**+1.6**
VYHS				*e*S	**S**	**20 49 55.0**	**+11**
SRO	**Srobarova**	**17.87**	**308**	*e*P	**P**	**20 46 32.5**	**+4.8**
MNK	**Minsk**	**17.88**	**338**	*e*P	**P**	**20 46 34.0**	**+6.4**
OJC	**Ojcow**	**18.17**	**317**	*e*P	**P**	**20 46 31.7**	**+0.3**
SMOL	**Smolenice**	**18.70**	**310**	*e*P	**P**	**20 46 41.4**	**+3.5**
ZST	**Bratislava**	**18.77**	**309**	*i* P	**P**	**20 46 39.2**	**+0.4**
OKC	**Ostrava-Krasne**	**18.89**	**314**	*e*P	**P**	**20 46 42.0**	**+1.9**
SUW	**Suwalki**	**19.08**	**330**	*e*P	**P**	**20 46 37.6**	**-4.9**
	comp=Z,86nm,1.1s						
MORC	**Moravsky Berou**	**19.20**	**313**	*e*P	**P**	**20 46 41.6**	**-2.3**
	comp=Z,7.1nm,0.9s						
CII	**Carovilli**	**19.32**	**288**	*e*P	**P**	**20 46 46.0**	**+0.6**
	comp=Z,45nm,1.0s						
VRAC	**Vranov**	**19.54**	**311**	P	**P**	**20 46 47.2**	**-0.6**
	baz=244,slow=13,SNR=4.5						
SDI	**San Donato**	**19.69**	**288**	*e*P	**P**	**20 46 48.9**	**-0.6**
PTQR	**Pietraquaria**	**20.00**	**289**	*e*P	**P**	**20 46 55.5**	**+2.4**
AQU	**L’Aquila**	**20.02**	**290**	⇑*i*P	**P**	**20 46 52.7**	**-0.5**
DPC	**Dobruska-Polom**	**20.16**	**314**	*e*P	**P**	**20 46 53.5**	**-1.1**
DPC				*e*S	**S**	**20 50 42.2**	**+6.2**
CING	**Cingoli**	**20.24**	**293**	*e*P	**P**	**20 46 56.0**	**+0.4**
KSP	**Ksiaz**	**20.41**	**315**	*e*P	**P**	**20 46 58.3**	**+1.1**
KSP				*e*S	**S**	**20 50 46.0**	**+4.9**
MOA	**Molln**	**20.43**	**306**	⇑*i*P	**P**	**20 46 56.8**	**-0.6**

	comp=Z,11nm,0.9s						
ARV	Arcevia	20.44	293	⇑iP	P	20 46 56.6	-1.0
MNS	Montasola	20.55	290	⇓iP	P	20 46 58.9	+0.1
ASS	Assisi	20.61	292	eP	P	20 46 59.9	+0.6
PTCC	Patocco-Chiusa	20.63	301	⇑iP	P	20 46 59.2	-0.4
GMNA	Gemona	20.68	301	⇓iP	P	20 47 01.2	+1.2
PRU	Pruhonice	21.04	311	eP	P	20 47 02.0	-1.7
	comp=Z,31nm,1.2s,mb4.5						
PRU				eS	S	20 50 55.8	+2.3
PRU				LM		20 56 10.0	
PRU	Pruhonice	21.04	311	eP	P	20 47 02.0	-1.7
PRU				eS	S	20 50 55.8	+2.3
PRU				pmax	pmax		
	comp=Z,31nm,1.2s,mb4.5						
FVI	Forni Avoltri	21.06	301	⇑iP	P	20 47 03.6	-0.3
GERES	GERESS Array B	21.11	308	P	P	20 47 03.3	-1.2
	comp=Z,7.2nm,0.8s,mb4.0,baz=113,slow=10,SNR=34						
GERES				PcP	PcP	20 51 08.5	-2.4
	comp=Z,0.5nm,0.8s,baz=225,slow=1.9,SNR=3.9						
GERES	GERESS Array B	21.11	308	P	P	20 47 03.3	-1.2
GERES						20 51 08.5	
GERES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CRE	Caprese Michel	21.16	293	⇑iP	P	20 47 09.3	+4.3
PVCC	Panska Ves	21.25	313	eP	P	20 47 04.6	-1.2
SFI	Santa Sofia	21.27	294	⇑iP	P	20 47 09.9	+3.8
KHC	Kasperske Hory	21.29	309	eP	P	20 47 04.8	-1.5
KHC				AP		20 47 11.0	
KHC	Kasperske Hory	21.29	309	eP	P	20 47 04.8	-1.5
KHC				e		20 47 11.0	
PGD	Poggio Sodo	21.35	294	⇑iP	P	20 47 09.2	+2.3
VMG	Vicchio	21.49	294	⇑iP	P	20 47 13.2	+4.8
SEI	Scarperia	21.63	294	eP	P	20 47 14.7	+4.9
CTI	Castel Tesino	21.71	299	⇑iP	P	20 47 10.4	-0.1
WET	Wettzell	21.73	308	eP	P	20 47 09.8	-0.9
BRG	Berggiesshubel	21.75	313	eP	P	20 47 14.2	+3.3
BRG				e		20 47 17.8	
BRG				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
BRG	Berggiesshubel	21.75	313	eP	P	20 47 14.2	+3.3
	comp=Z,13nm,1.2s,mb4.2						
BRG				e		20 47 17.8	
WTTA	Wattenberg	21.98	303	⇓iP	P	20 47 14.9	+1.7
	comp=Z,10nm,0.9s,mb4.2						
PUL	Pulkovo	22.13	348	eP	P	20 47 17.4	+2.7
PUL				pmax	pmax		
	comp=Z,86nm,0.8s,mb5.2						
PUL				pmax	pmax		
	comp=N,91nm,0.6s						
PUL				pmax	pmax		
	comp=E,76nm,0.6s						
ARU	Arti	22.17	29	⇓iP	P	20 47 13.3	-1.8
ARU				eS	S	20 51 17.4	+2.7
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
ARU				MLR	MLR		
	comp=Z,60nm,16.0s,MS3.1						
ARU				MLR	MLR		
	comp=N,100nm,19.0s						
ARU	Arti	22.17	29	eP	P	20 47 12.6	-2.5
	comp=N,24nm,0.9s,mb4.6						
GSCL	Gusciola	22.21	295	⇑iP	P	20 47 19.4	+3.8
SQTA	Sankt Quirin	22.25	302	⇑iP	P	20 47 15.7	-0.3
	comp=N,13nm,1.2s,mb4.2						
MOTA	Moosalm	22.35	303	⇑iP	P	20 47 15.9	-1.0
	comp=N,10nm,1.0s,mb4.2						
NKC	Novy Kostel	22.37	311	eP	P	20 47 17.2	+0.1
NKC				LM		20 57 00.0	
	comp=N,0.2nm,21.0s						
CLL	Collm	22.48	314	P	P	20 47 17.0	-1.1
	comp=N,logA/T=1.3,mb4.5						
CLL				eS	S	20 51 26.0	+5.7
CLL	Collm	22.48	314	eP	P	20 47 17.0	-1.1
CLL				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
CLL	Collm	22.48	314	eP	P	20 47 17.0	-1.1
	comp=Z,27nm,1.3s,mb4.5						
BRMO	Bormio	22.66	300	⇑iP	P	20 47 21.0	+1.0
MOX	Moxa	23.02	311	i P	P	20 47 25.9	+2.5
	comp=Z,logA/T=0.8,mb4.0						
MOX				S	S	20 51 41.0	+11
MOX				L		20 57 33.0	
MOX	Moxa	23.02	311	eP	P	20 47 25.9	+2.5
MOX				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.0						
MOX				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.2						
MOX	Moxa	23.02	311	eP	P	20 47 25.9	+2.5
	comp=Z,10.0nm,1.5s,mb4.0						
DAVOX	Davos	23.05	301	P	P	20 47 23.8	+0.1
	comp=Z,2.4nm,0.6s,mb3.8,baz=156,slow=12,SNR=9.0						
DAVA	Damuels	23.15	302	⇓iP	P	20 47 25.1	+0.4
	comp=Z,5.9nm,0.7s,mb4.1						
STU	Stuttgart	23.94	305	eP	P	20 47 31.8	-0.6
	comp=Z,20nm,1.4s,mb4.3						
FINES	FINESS Array B	24.48	345	P	P	20 47 37.4	-0.1
	comp=Z,2.6nm,0.6s,mb3.8,baz=162,slow=12,SNR=13						
FINES				LR	LR	20 58 30.5	
	comp=Z,97nm,21.5s,MS3.3,baz=142,slow=40						
FINES	FINESS Array B	24.48	345	P	P	20 47 37.4	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,97nm,21.5s						
MBDF	Montbardon	24.96	295	eP	P	20 47 42.8	+0.5
	comp=Z,19nm,0.9s,mb4.3						
LPG	La Plagne	25.03	297	eP	P	20 47 42.5	-0.5
	comp=Z,31nm,1.3s,mb4.4						
LPL	La Plagne	25.05	297	eP	P	20 47 42.9	-0.2
	comp=Z,19nm,1.1s,mb4.2						
BNI	Bardonecchia	25.05	296	eP	P	20 47 43.1	-0.1
	comp=Z,13nm,1.0s,mb4.4						
CDF	Champ du Feu	25.10	304	eP	P	20 47 42.1	-1.5
	comp=Z,7.1nm,0.9s,mb3.9						
ZRNK	Zerenda	25.19	45	eP	P	20 47 44.0	-0.4
	comp=Z,11nm,1.3s,mb4.2						
HINF	Hinteralfeld	25.26	302	eP	P	20 47 44.3	-0.9
	comp=Z,26nm,0.9s,mb4.4						
CABF	La Chapelle	25.61	299	eP	P	20 47 47.2	-1.2
	comp=Z,36nm,1.1s,mb4.5						
HAU	Haudompre	25.63	303	eP	P	20 47 46.7	-1.9
	comp=Z,13nm,0.9s,mb4.2						
HAU				eR			
	comp=Z,103nm,22.8s						
BRVK	Borovoye	25.94	45	eP	P	20 47 50.4	-1.0
	comp=Z,5.3nm,0.7s,mb4.2						
BVAR	Borovoye Array	25.99	46	P	P	20 47 50.6	-1.3
	comp=Z,3.4nm,0.6s,mb4.0,baz=236,slow=5.3,SNR=33						
BVAR				PcP	PcP	20 51 19.8	-1.1
	comp=Z,1.8nm,0.9s,SNR=4.9						
WLF	Walferdange	26.09	306	eP	P	20 47 51.2	-1.6
	comp=Z,19nm,1.3s,mb4.5						
VIVF	Saint-Julien-l	26.46	295	eP	P	20 47 56.3	0.0
HFS	Hagfors	27.08	332	P	P	20 48 02.0	+0.2
	comp=Z,2.7nm,0.7s,mb3.9,baz=108,slow=4.6,SNR=6.1						
HFS	Hagfors	27.08	332	P	P	20 48 02.0	+0.2
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FRU	Bishkek	27.13	69	eP	P	20 48 04.0	+1.5
SMF	Signal de Mont	27.15	299	eP	P	20 48 01.2	-1.4
	comp=Z,6.9nm,0.9s,mb3.9						
LOR	Lormes	27.20	300	eP	P	20 48 01.9	-1.2
	comp=Z,8.8nm,0.9s,mb4.0						
LOR				eR			
	comp=Z,154nm,20.2s						
SSF	Saint Saulge	27.41	300	eP	P	20 48 05.2	+0.1
	comp=Z,13nm,1.1s,mb4.1						
AVF	Avril sur Loir	27.50	299	eP	P	20 48 04.2	-1.6
	comp=Z,14nm,1.1s,mb4.1						
NOA	NORSAR Array B	28.60	332	LR	LR	21 01 20.2	
	comp=Z,94nm,20.9s,MS3.4,baz=130,slow=40						
LVZ	Lovozero	29.67	357	eP	P	20 48 22.9	-2.3
KURK	Kurchatov	30.32	53	eP	P	20 48 30.7	-0.4
	comp=Z,31nm,0.9s,mb5.0						
KURK				ePcP	PcP	20 51 25.7	-5.8
ARCES	ARCESS Array B	32.06	351	P	P	20 48 45.0	-1.3
	comp=Z,4.1nm,0.9s,mb4.3,baz=169,slow=6.2,SNR=7.1						
ARCES				LR	LR	21 02 14.1	
	comp=Z,181nm,21.9s,MS3.7,baz=90,slow=37						
ARCES	ARCESS Array B	32.06	351	P	P	20 48 45.0	-1.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,181nm,21.9s						
MKAR	Makanchi Array	32.48	61	P	P	20 48 50.1	0.0
	comp=Z,4.3nm,0.9s,mb4.3,baz=270,slow=7.3,SNR=18						
MKAR				PcP	PcP	20 51 36.2	-1.1
	comp=Z,3.6nm,1.0s,baz=270,slow=2.4,SNR=7.3						
MKAR				LR	LR	21 04 15.8	
	comp=Z,61nm,21.8s,MS3.3,baz=173,slow=41						
MKAR	Makanchi Array	32.48	61	P	P	20 48 50.1	0.0
MKAR						20 51 36.2	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,61nm,21.8s						
ESDC	Sonseca Array	33.31	286	P	P	20 48 57.8	+0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=65,slow=9.6,SNR=5.5						
NVS	Novosibirsk	33.78	46	i P	P	20 48 59.4	-1.9
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
WMQ	Urumqi	36.53	66	eP	P	20 49 24.5	-0.4
MBAR	Mbarara	39.57	193	eP	P	20 49 48.4	-2.4
	comp=Z,4.5nm,1.0s,mb4.2						
KBS	Kingsbay	42.11	352	eP	P	20 50 14.0	+3.1
	comp=Z,3.6nm,0.4s,mb4.3						
LSA	Lhasa	43.43	85	P	P	20 50 23.4	+1.2
	comp=Z,3.4nm,0.9s,mb4.1						
MOY	Mondy	44.35	52	eP	P	20 50 30.5	+1.1
ZAK	Zakamensk	45.98	53	⇓iP	P	20 50 42.9	+0.5
GTA	Gaotai	46.40	69	eP	P	20 50 46.3	+0.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
SONM	Songino Array	48.54	56	P	P	20 51 01.8	-0.7
	comp=Z,2.9nm,0.7s,mb4.4,baz=287,slow=8.0,SNR=28						
SONM				PcP	PcP	20 52 27.5	-1.2
	comp=Z,2.4nm,0.9s,baz=273,slow=3.7,SNR=8.5						
LZH	Lanzhou	50.57	71	eP	P	20 51 17.6	-0.7
LZH				AP	pP	20 51 27.1	+7.3
LZH				XP	sP	20 51 30.9	+11
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.2						
LZH	Lanzhou	50.57	71	eP	P	20 51 17.6	-0.7
	comp=Z,37nm,1.3s,mb5.2						
LZH				pP	pP	20 51 27.1	+7.3
LZH				sP	sP	20 51 30.9	+11
DBIC	Dimbokro	50.77	243	P	P	20 51 17.5	-2.6
	comp=Z,9.5nm,1.1s,mb4.6,baz=14,slow=5.2,SNR=4.5						
DBIC	Dimbokro	50.77	243	P	P	20 51 17.5	-2.6
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TIC	Toumodi	50.90	243	eP	P	20 51 18.0	-3.1
	comp=Z,9.3nm,0.2s,mb5.4						
KIC	Kosan Boka	50.91	243	eP	P	20 51 18.5	-2.6
	comp=Z,119nm,1.6s						
LIC	Lamto	51.20	243	eP	P	20 51 20.7	-2.7
	comp=Z,63nm,1.4s,mb5.1						
LIC	Lamto	51.20	243	eP	P	20 51 20.9	-2.5
	comp=Z,59nm,1.4s,mb5.3						
BTO	Baotou	53.32	64	eP	P	20 51 36.8	-2.1
LSZ	Lusaka	54.37	193	eP	P	20 51 46.4	-0.5
	comp=Z,11nm,1.1s,mb4.7						
KMI	Kunming	54.66	84	eP	P	20 51 46.6	-2.4
KMI				AP	pP	20 52 00.8	+10
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=Z,34nm,28.1s,MS3.3						
KMI	Kunming	54.66	84	eP	P	20 51 46.6	-2.4
	comp=Z,12nm,1.2s,mb4.8						
KMI				pP	pP	20 52 00.8	+10
XAN	Xi’an	55.20	72	P	P	20 51 51.3	-1.6
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
CMAR	Chiang Mai Arr	55.22	93	P	P	20 51 51.7	-1.5
	comp=Z,1.3nm,0.7s,mb4.1,baz=305,slow=7.5,SNR=7.1						
CMAR	Chiang Mai Arr	55.22	93	P	P	20 51 51.7	-1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HIA	Hailar	56.51	51	eP	P	20 52 01.0	-1.0
	comp=Z,7.8nm,0.8s,mb4.8						
YAK	Yakutsk	57.17	34	eP	P	20 52 04.5	-2.0
	comp=Z,8.5nm,0.7s,mb4.9						
ENH	Enshi	57.36	75	eP	P	20 52 04.4	-3.9
	comp=Z,14nm,1.0s,mb5.0						
NJ2	Nanjing	63.49	69	eP	P	20 52 49.6	-0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
ILAR	Eielson Array	77.07	3	P	P	20 54 11.8	-0.1
	comp=Z,0.3nm,0.7s,baz=243,slow=3.2,SNR=3.7						
YKA	Yellowknife Ar	77.27	348	LR	LR	21 28 03.7	
	comp=Z,49nm,21.9s,MS3.8,slow=36						
SML	Sawmill	79.97	4	eP	P	20 54 26.5	-1.4
ULM	Lac du Bonnet	83.28	333	P	P	20 54 44.9	-0.6
	comp=Z,4.3nm,0.9s,mb4.5,baz=76,slow=4.2,SNR=3.1						
ULM				LR	LR	21 30 14.7	
	comp=Z,38nm,21.9s,MS3.7,baz=349,slow=35						
NEW	Newport	91.19	344	P	P	20 55 24.9	+1.2
	comp=Z,3.3nm,0.8s,mb4.7,baz=254,slow=1.4,SNR=3.7						
NEW				LR	LR	21 41 09.1	
	comp=Z,56nm,18.2s,MS4.0,baz=146,slow=39						
NEW	Newport	91.19	344	P	P	20 55 24.9	+1.2
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW				MLR	MLR		
	comp=Z,56nm,18.2s						
NEW	Newport	91.19	344	eP	P	20 55 23.9	+0.2
	comp=Z,5.0nm,1.0s,mb4.8						
SRU	San Rafael	98.02	337	P	P	20 55 52.8	-2.4
PV01	Paradox Valley	98.27	335	P	P	20 55 56.3	0.0
QSPA	South Pole Qui	128.22	180	eP	PKPdf	21 01 23.3	-2.4

IDC 14 20:46:45.3±16.0**, 18.85S**×**173.93W, mb4.1**/5**, mb1 4.2**/5**, mb1mx3.9**/17**, Error ellipse: s-maj=317.0km s-min=141.8km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.50	261	P	P	20 54 02.1	-0.7
	1.5nm,0.5s,baz=82,slow=15,SNR=4.7						
STKA	Stephens Creek	41.95	243	P	P	20 54 37.8	-1.9
	0.7nm,0.5s,baz=91,slow=14,SNR=3.0						
ASAR	Alice Springs	48.64	255	P	P	20 55 30.8	-2.4
	2.5nm,0.6s,baz=90,slow=7.4,SNR=45						
WRA	Warramunga Arr	48.64	260	P	P	20 55 30.8	-2.5
	1.7nm,0.8s,baz=96,slow=7.6,SNR=24						
FITZ	Fitzroy Crossi	57.06	260	P	P	20 56 34.1	-1.9
	2.4nm,0.9s,baz=174,slow=17,SNR=5.2						

NSSC ***14*** *21:01:28.1, 38.92N×39.47E, h37*^{km}

ISK ***14*** *21:01:31.7, 38.43N×39.14E, h5*^{km}*, MD3.9, ML3.9*

MOS ***14*** *21:01:31.4±1.8, 38.06N×39.09E, h10*^{km}*, mb4.4/1, Error ellipse: s-maj=19.7km s-min=15.6km az=86.2*

IDC ***14*** *21:01:33.2±1.1, 38.39N×39.21E, mb3.7/7, mb1 3.8/10, mb1mx3.8/20, ML2.6/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/27, Error ellipse: s-maj=21.1km s-min=16.0km az=172.0*

NEIC ***14*** *21:01:36.5±0.7, 38.44N×39.08E, h25*^{km}*, mb4.2/9, Error ellipse: s-maj=15.7km s-min=9.5km az=158.0*

ISC 14 21:01:32.5±0.3**, 38.38N**±0.03×**39.23E**±0.03**, h5**^{km}**, n63, σ1.13**/78**, mb3.9**/13**, MS3.5**/2**, 4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.23	303	i P	Pg	21 01 36.0	-1.1
ELZG				i S	Sg	21 01 41.7	+1.5
MALT	Malatya	0.63	265	i PG	Pg	21 01 43.1	-2.1
MALT				i SG	Sg	21 01 51.4	-2.2
MALT	Malatya	0.63	265	i P	Pg	21 01 43.6	-1.5
MALT				i S	Sg	21 01 52.0	-1.6
MALT	Malatya	0.63	265	ePg	Pg	21 01 43.4	-1.8
MYA	Malataya	0.63	266	i PG	Pg	21 01 43.8	-1.4
DIY	Diyarbakir	0.92	121	i PG	Pg	21 01 51.3	+0.4
BINT	Bingol	1.11	63	i PN	Pn	21 01 53.7	-0.9
EZC	Erzincan	1.45	18	i PN	Pn	21 01 57.4	-2.0
GZT	Gaziantep	1.66	233	i P	Pn	21 02 01.9	-0.7
GZT				i S	Sb	21 02 27.5	+3.0
BEST	Besiri	1.68	106	i P	Pn	21 02 02.9	+0.1
BEST				i S	Sn	21 02 28.3	+3.4
KELT	Kelkit	1.77	1	i P	Pn	21 02 04.8	+0.7
KELT				i S	Sn	21 02 33.0	+5.8
BTMT	Batman	1.79	95	PN	Pn	21 02 03.8	-0.5
GAZ	Gaziantep	2.00	234	PN	Pn	21 02 07.3	0.0
KAHT	Ahir Dag	2.00	249	i P	Pn	21 02 07.3	-0.1
KAHT				i S	Sn	21 02 34.6	+1.5
GUMT	Gumushane	2.09	5	PN	Pn	21 02 08.0	-0.6
SVST	Sivas	2.25	309	i P	Pn	21 02 12.0	+1.0
SVST				i S	Sn	21 02 47.5	+8.0
EZM	Erzurum	2.26	47	ePN	Pn	21 02 11.5	+0.5
ERZM	Erzurum	2.26	47	i P	Pn	21 02 11.8	+0.7
ERZM				i S	Sn	21 02 42.9	+3.3
SVSK	Karacayir	2.32	312	PN	Pn	21 02 11.1	-0.8
DRWC	Darouich	2.69	230	⇑P	Pn	21 02 16.2	-1.0
DRWC				⇑S	Sn	21 02 51.3	+0.8
COBT	Iskenderun	3.00	233	i P	Pn	21 02 20.7	-1.0
COBT				i S	Sn	21 03 00.9	+2.3
BTCH	Batrach	3.21	224	⇓P	Pn	21 02 23.9	-0.7
BTCH				⇓S	Sn	21 03 04.7	+0.8
VANB	Van	3.27	85	ePN	Pn	21 02 26.2	+0.7
AVNT	Avonos	3.45	278	i P	Pn	21 02 27.9	-0.1
AVNT				i S	Sg	21 03 28.5	+1.1
ARNB	Al Arnab	3.62	227	⇑P	Pn	21 02 29.6	-0.8
SLNF	Slenfeh	3.67	222	⇓P	Pn	21 02 30.3	-0.9
CTKT	Corum	4.10	305	i P	Pn	21 02 37.9	+0.7
CTKT				i S	Sn	21 03 31.0	+4.7
BOYT	Boyabat	4.51	314	i P	Pn	21 02 43.4	+0.4
BOYT				i S	Sg	21 03 51.7	-11
BRTR	Keskin Array B	4.55	289	Pn	Pn	21 02 43.3	-0.4
	1.8nm,0.3s,baz=114,slow=15,SNR=36						
BRTR				Lg		21 04 02.2	
	baz=115,slow=24,SNR=3.6						
GNI	Garni	4.63	66	Pn	Pn	21 02 46.2	+1.3
	2.2nm,0.3s,baz=328,slow=4.7,SNR=8.5						
GNI				Pg	Pg	21 03 06.6	+1.6
	1.0nm,0.3s,baz=136,slow=4.1,SNR=7.2						
HWQ	Hawqa	4.87	214	ePN	Pn	21 02 47.9	-0.3
ELDT	Eldivan	4.96	297	i P	Pn	21 02 49.0	-0.5
ELDT				i S	Sg	21 04 11.2	-6.5
SOC	Sochi	5.22	4	i P	Pn	21 02 58.6	+5.5
SOC				pmax	pmax		
	comp=Z,59nm,1.1s						
SOC				pmax	pmax		
	comp=N,77nm,0.9s						
SOC				pmax	pmax		
	comp=E,57nm,1.3s						
SOC				MLR	MLR		
	comp=Z,222nm,13.0s						
SOC				MLR	MLR		
	comp=N,206nm,12.0s						
SOC				MLR	MLR		
	comp=E,76nm,10.0s						
BHL	Bhannes	5.32	214	ePN	Pn	21 02 54.3	-0.2
BALT	Daday	5.49	307	i P	Pn	21 02 56.5	-0.4
BALT				i S	Sg	21 04 27.6	-7.6
CSS	Prodhromos	5.84	236	ePn	Pn	21 03 02.2	+0.4
ASF	Jabal al Asfar	6.48	198	Pn	Pn	21 03 10.3	-0.5
	comp=E,0.7nm,0.3s,baz=266,slow=7.5,SNR=11						
ASF				Lg		21 04 57.6	
	comp=E,1.5nm,0.3s,baz=198,slow=21,SNR=3.2						
ASF				LR	LR	21 06 06.4	
	comp=E,207nm,20.4s,baz=186,slow=42						
MLR	Muntele Rosu	12.17	310	LR	LR	21 10 04.2	
	comp=E,48nm,18.9s,baz=105,slow=42						
OBN	Obninsk	16.84	355	eP	P	21 05 24.7	-5.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN	Obninsk	16.84	355	P	P	21 05 36.8	+6.4
	comp=Z,5.4nm,0.6s						
TIP	Timpagrande	17.54	280	P	P	21 05 39.8	+0.6
SUW	Suwalki	19.11	330	P	P	21 05 54.2	-4.3
	comp=Z,16nm,0.7s						
MORC	Moravsky Berou	19.23	313	P	P	21 05 49.0	-11
	comp=Z,8.8nm,1.6s						
GERES	GERESS Array B	21.14	308	P	P	21 06 18.9	-1.6
	comp=Z,1.6nm,0.8s,mb3.4,baz=113,slow=10,SNR=13						
ARU	Arti	22.17	29	⇓iP	P	21 06 28.8	-2.0
ARU				e		21 07 03.8	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
ARU	Arti	22.17	29	eP	P	21 06 27.8	-2.9
	comp=Z,8.4nm,0.8s,mb4.2						
CLL	Collm	22.50	314	P	P	21 06 36.0	+1.9
STU	Stuttgart	23.97	305	P	P	21 06 44.4	-3.9
	comp=Z,11nm,1.3s,mb4.1						
FINES	FINESS Array B	24.50	345	P	P	21 06 53.9	+0.4
	comp=Z,1.3nm,0.6s,mb3.5,baz=153,slow=13,SNR=9.5						
MBDF	Montbardon	24.99	295	eP	P	21 07 00.6	+2.2
ZRNK	Zerenda	25.18	45	eP	P	21 06 59.1	-0.9
	comp=Z,7.9nm,1.3s,mb4.1						
CABF	La Chapelle	25.64	299	eP	P	21 07 06.0	+1.6
	comp=Z,22nm,1.2s,mb4.3						
BRVK	Borovoye	25.93	45	eP	P	21 07 06.2	-0.8
	comp=Z,1.9nm,0.7s,mb3.7						
BVAR	Borovoye Array	25.98	46	P	P	21 07 07.1	-0.4
	comp=Z,1.0nm,0.7s,mb3.5,baz=243,slow=6.6,SNR=8.7						
HFS	Hagfors	27.10	332	P	P	21 07 17.6	-0.2
	comp=Z,2.2nm,0.8s,mb3.8,baz=149,slow=8.6,SNR=6.0						
SSF	Saint Saulge	27.45	300	eP	P	21 07 24.4	+3.3
NOA	NORSAR Array B	28.62	331	LR	LR	21 20 46.9	
	comp=Z,24nm,20.2s,MS2.8,baz=120,slow=40						
KURK	Kurchatov	30.30	53	eP	P	21 07 46.1	-0.6
	comp=Z,5.5nm,0.9s,mb4.3						
MKAR	Makanchi Array	32.46	61	P	P	21 08 06.0	+0.3
	comp=Z,1.2nm,0.6s,mb3.9,baz=259,slow=6.9,SNR=6.2						
ZAK	Zakamensk	45.97	53	eP	P	21 09 56.4	-1.6
SONM	Songino Array	48.52	56	P	P	21 10 18.0	-0.2
	comp=Z,0.8nm,0.9s,mb3.8,baz=282,slow=8.6,SNR=6.2						
CMAR	Chiang Mai Arr	55.20	93	P	P	21 11 08.8	+0.1
	comp=Z,0.8nm,0.9s,mb3.8,baz=303,slow=9.9,SNR=4.4						
CBIJ	Chichi jima	82.94	61	LR	LR	21 51 48.1	
	comp=Z,133nm,19.8s,MS4.3,baz=110,slow=36						

MDD ***14*** *21:10:49.4±2.3, 36.61N×9.73W, mbLg2.0/8, Error ellipse: s-maj=19.6km s-min=14.8km az=93.0, PRXIMO*

INMG 14 21:10:50.7±0.8**, 36.58N**×**9.81W, h12**^{km}±23^{km}**, ML1.6, Error ellipse: s-maj=21.4km s-min=4.6km az=55.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.29	42	eP	Pb	21 11 12.7	-1.7
PTEO				eS	Sb	21 11 29.5	-1.3
PALC	Alcoutim	2.06	64	ePn	Pn	21 11 23.2	-2.4
PALC				eSn	Sn	21 11 47.5	-3.9
	2.9nm,0.1s						
PALC	Alcoutim	2.06	64	P	Pn	21 11 23.2	-2.4
PALC				S	Sn	21 11 47.5	-3.9
	1.4nm,0.1s						
EGRO	El Granado	2.08	62	P	Pn	21 11 23.7	-2.2
	0.1nm,0.0s,SNR=7.9						
EGRO				S	Sn	21 11 48.8	-3.2
	1.1nm,0.1s,SNR=6.1						
PBEJ	Beja	2.11	46	eSn	Sn	21 11 49.0	-3.7
	1.4nm,0.1s						
PBEJ	Beja	2.11	46	S	Sn	21 11 49.0	-3.7
	0.7nm,0.1s						
PLOU	Loures	2.35	13	eSn	Sn	21 11 54.9	-3.9
EMIN	Mina Concepcio	2.77	64	P	Pn	21 11 32.3	-3.4
	0.0nm,0.0s,SNR=7.9						
EMIN				S	Sn	21 12 04.2	-5.1
	0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.10	45	P	Pn	21 11 36.7	-3.7
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 12 12.8	-4.9
	0.6nm,0.1s,SNR=7.9						
ESPR	Espera	3.19	84	P	Pn	21 11 38.6	-3.0
	0.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 12 14.5	-5.4
	12nm,0.3s,SNR=7.4						
EADA	Adamuz	4.45	68	P	Pn	21 11 56.2	-3.4
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	21 12 45.1	-7.0
	0.4nm,0.1s,SNR=4.7						
EQES	Quesada	5.51	75	S	Sn	21 13 11.4	-7.2
	0.5nm,0.2s,SNR=7.9						

IDC 14 21:14:57.9±26.0**, 21.19S**×**173.14W, mb4.6**/4**, mb1 4.7**/4**, mb1mx4.1**/17**, 3D, Error ellipse: s-maj=477.0km s-min=139.8km az=76.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.94	264	⇓iP	P	21 22 18.3	-0.8
	6.9nm,0.4s						
CTA	Charters Tower	37.94	264	P	P	21 22 18.4	-0.7

	8.3nm,0.4s,baz=95,slow=10,SNR=28						
STKA	Stephens Creek	41.61	246	⇓iP	P	21 22 46.5	-2.9
	2.1nm,0.4s						
STKA	Stephens Creek	41.61	246	P	P	21 22 46.7	-2.7
	3.0nm,0.5s,baz=88,slow=8.9,SNR=18						
ASAR	Alice Springs	48.78	257	P	P	21 23 44.8	-2.1
	2.6nm,0.5s,baz=96,slow=7.2,SNR=55						
WB2	Warramunga Arr	48.99	262	⇓iP	P	21 23 46.7	-1.8
WRA	Warramunga Arr	49.00	262	P	P	21 23 46.9	-1.6
	2.6nm,0.3s,baz=93,slow=8.5,SNR=74						

IDC 14 21:20:37.9±0.6,15.08S×173.70W,mb4.4/11,mb1 4.6/11,mb1mx4.4/17,MS3.9/18,Ms1 3.9/18,ms1mx3.8/26,Error ellipse: s-maj=31.5km s-min=16.7km az=129.0

NEIC 14 21:20:39.4±0.3,15.09S×173.72W,h10^{km},mb4.8/10,MS4.6/2,Error ellipse: s-maj=14.8km s-min=7.1km az=135.0

ISC 14 21:20:37.8±0.4,15.0S±0.1×173.8W±0.1,h10^{km},n58,σ0^{s}80/26,mb4.5/21,MS3.9/18,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	24.50	197	P	P	21 25 56.9	-1.5
	36nm,1.1s,mb4.7,baz=104,slow=2.5,SNR=4.7						
URZ				LR	LR	21 34 19.3	
	comp=Z,375nm,20.4s,MS3.9,baz=141,slow=34						
CTA	Charters Tower	38.32	257	LR	LR	21 39 29.2	
	comp=Z,51nm,19.9s,MS3.3,baz=57,slow=29						
CTAO	Charters Tower	38.32	257	P	P	21 27 58.5	-2.2
	4.4nm,1.0s,mb4.1						
PMG	Port Moresby	38.49	274	LR	LR	21 40 56.3	
	comp=Z,128nm,21.9s,MS3.7,baz=306,slow=32						
STKA	Stephens Creek	43.87	239	P	P	21 28 47.3	+1.1
	5.5nm,1.1s,mb4.2,baz=88,slow=11,SNR=8.7						
STKA				LR	LR	21 44 57.2	
	comp=Z,121nm,21.0s,MS3.8,baz=26,slow=33						
STKA	Stephens Creek	43.87	239	eP	P	21 28 47.1	+0.9
STKA				LR	LR	21 44 57.2	
WB2	Warramunga Arr	49.51	256	eP	P	21 29 31.5	+0.6
WRAB	Tennant Creek	49.51	256	eP	P	21 29 31.1	+0.1
	20nm,1.4s,mb5.0						
WRA	Warramunga Arr	49.52	256	P	P	21 29 31.2	+0.3
	3.1nm,0.9s,mb4.3,baz=92,slow=7.1,SNR=27						
ASAR	Alice Springs	49.83	252	P	P	21 29 33.3	0.0
	11nm,0.6s,mb5.1,baz=87,slow=8.1,SNR=146						
ASAR				LR	LR	21 48 50.5	
	comp=Z,176nm,21.4s,MS4.0,baz=281,slow=34						
ASPA	Alice Springs	49.83	252	eP	P	21 29 33.2	-0.1
FITZ	Fitzroy Crossi	57.88	258	LR	LR	21 53 12.6	
	comp=Z,56nm,19.3s,MS3.7,baz=102,slow=34						
VNDA	Vanda	63.71	186	P	P	21 31 11.4	+0.1
	3.4nm,0.8s,mb4.4,baz=1.7,slow=7.5,SNR=17						
VNDA				LR	LR	21 52 39.1	
	comp=Z,66nm,19.1s,MS3.8,baz=304,slow=30						
JOW	Kunigami	69.92	306	LR	LR	21 56 24.5	
	comp=Z,64nm,21.1s,MS3.8,baz=128,slow=31						
ASAJ	Asahikawa	71.00	328	LR	LR	21 56 13.9	
	comp=Z,77nm,21.7s,MS3.9,baz=198,slow=30						
JNU	Nakatsue	71.23	313	LR	LR	21 58 22.3	
	comp=Z,38nm,19.9s,MS3.7,baz=56,slow=32						
YBH	Yreka Blue Hor	73.55	37	P	P	21 32 13.7	+0.7
	5.0nm,0.9s,mb4.5,baz=180,slow=1.6,SNR=13						
MNV	Mina	74.43	42	eP	P	21 32 17.0	-1.1
	12nm,1.2s,mb4.7						
MNV				e		21 32 38.0	
TPH	Tonopah	74.84	43	eP	P	21 32 20.3	-0.2
	11nm,1.1s,mb4.7						
TPH				e		21 32 32.5	
TPH				e		21 32 41.1	
QSPA	South Pole Qui	75.02	180	eP	P	21 32 20.8	0.0
	16nm,1.0s,mb4.9						
MOD	Modoc	75.08	38	eP	P	21 32 22.2	+0.4
	15nm,1.3s,mb4.8						
MOD				e		21 32 34.1	
MOD				e		21 32 41.1	
WVOR	Wild Horse Val	76.40	39	eP	P	21 32 28.8	-0.5
	16nm,1.5s,mb4.7						
WVOR				e		21 32 41.8	
HLID	Hailey	79.60	40	eP	P	21 32 46.2	-0.7
	7.2nm,1.3s,mb4.4						
HLID				e		21 32 59.4	
TXAR	Lajitas Array	80.75	56	P	P	21 32 52.0	-1.3
	0.4nm,0.6s,mb3.5,baz=233,slow=6.3,SNR=9.1						
TXAR				LR	LR	22 01 29.8	
	comp=Z,67nm,18.8s,MS4.0,baz=185,slow=30						
TXAR	Lajitas Array	80.75	56	P	P	21 32 52.0	-1.3
TXAR				LR	LR	22 01 29.8	
ANMO	Albuquerque	80.88	50	eP	P	21 32 54.0	+0.2
	3.6nm,1.3s,mb4.1						
DLBC	Dease Lake	81.50	22	LR	LR	22 00 03.7	
	comp=Z,91nm,21.6s,MS4.1,baz=50,slow=29						
ILAR	Eielson Array	82.16	11	P	P	21 32 60.0	+0.1
	2.8nm,1.2s,mb4.1,baz=205,slow=6.6,SNR=7.8						
ILAR				LR	LR	22 02 09.4	
	comp=Z,66nm,21.5s,MS4.0,baz=40,slow=30						
PDAR	Pinedale Array	82.26	42	P	P	21 33 01.3	+0.4
	0.6nm,0.5s,mb3.8,baz=180,slow=4.4,SNR=4.0						
PDAR				LR	LR	22 02 34.7	
	comp=Z,103nm,18.9s,MS4.2,baz=244,slow=31						
BOZ	Bozeman (W)	82.38	39	eP	P	21 33 01.9	+0.5
	10nm,1.4s,mb4.6						
BOZ				e		21 33 13.7	
RSSD	Black Hills	86.46	43	eP	P	21 33 22.9	+0.9
RSSD				e		21 33 34.6	
INK	Inuvik	88.00	14	LR	LR	22 04 59.7	
	comp=Z,93nm,21.2s,MS4.2,baz=6.1,slow=30						
MAW	Mawson	88.02	199	P	P	21 33 29.6	+0.6
	4.8nm,0.6s,mb4.9,baz=140,slow=6.8,SNR=24						
MAW				LR	LR	22 09 52.7	
	comp=Z,105nm,21.8s,MS4.2,baz=231,slow=34						
YKA	Yellowknife Ar	89.92	24	LR	LR	22 07 04.9	
	comp=Z,93nm,18.3s,MS4.2,baz=240,slow=31						
SNAA	Sanae	93.31	177	P	P	21 33 55.0	+1.4
	0.5nm,0.9s,mb3.9,baz=215,slow=2.9,SNR=3.8						
ULM	Lac du Bonnet	93.90	39	LR	LR	22 11 43.1	
	comp=Z,128nm,18.6s,MS4.4,baz=242,slow=33						
ARCES	ARCESS Array B	124.18	352	PKP	PKPdf	21 39 36.9	-2.6
	3.3nm,0.9s,baz=326,slow=4.4,SNR=4.6						
PRU	Pruhonice	144.46	351	ePKP	PKPdf	21 40 29.6	+12
BAIF	Baives	145.02	2	ePKP1	PKPbc	21 40 17.2	+1.7
VYHS	Vyhne	145.02	345	ePKP	PKPdf	21 40 17.4	-1.0
VYHS				e		21 40 31.4	
PSZ	Piszkesteto	145.28	344	P	PKPbc	21 40 18.4	+2.2
PSZ				e		21 40 32.4	
KHC	Kasperske Hory	145.44	351	ePKP	PKPdf	21 40 20.4	+1.3
KHC				e		21 40 32.5	
KHC	Kasperske Hory	145.44	351	eP	PKPbc	21 40 18.0	+1.4
KHC				e		21 40 32.5	
KHC				e		21 40 33.0	
BRTR	Keskin Array B	145.60	321	PKPbc	PKPbc	21 40 19.5	+2.2
	3.5nm,0.7s,baz=101,slow=2.6,SNR=25						
GERES	GERESS Array B	145.71	351	PKPbc	PKPbc	21 40 18.7	+1.4
	0.8nm,0.7s,slow=1.3,SNR=9.7						
SRO	Srobarova	145.79	345	e	PKPbc	21 40 34.3	+17
FLN	La Foliniere	145.91	8	ePKP1	PKPbc	21 40 20.9	+3.1
FLN				eR			
	117nm,21.8s						
LDF	La Druitiere	146.12	7	ePKP1	PKPbc	21 40 21.4	+3.1
GRR	Gorron	146.22	8	ePKP1	PKPbc	21 40 22.8	+4.2
CDF	Champ du Feu	146.69	359	ePKP1	PKPbc	21 40 21.9	+2.3
	18nm,1.2s						
HAU	Haudompre	147.11	360	ePKP1	PKPdf	21 40 23.1	+1.1
HAU				eR			
	51nm,22.2s						
LOR	Lormes	147.79	3	ePKP1	PKPdf	21 40 25.0	+1.9
LOR				eR			
	114nm,20.8s						
SSF	Saint Saulge	147.98	3	ePKP1	PKPdf	21 40 25.3	+1.9
AVF	Avril sur Loir	148.24	4	ePKP1	PKPdf	21 40 26.6	+2.8
CABF	La Chapelle	148.50	0	ePKP1	PKPdf	21 40 26.9	+2.7
TCF	Toulx Ste Croi	148.65	5	ePKP1	PKPdf	21 40 27.4	+2.9
LPL	La Plagne	149.60	359	ePKP1	PKPdf	21 40 30.9	+4.9
LPG	La Plagne	149.61	359	ePKP1	PKPdf	21 40 31.0	+4.9

IDC 14 21:40:17.2±7.8,31.38N×70.30E,mb3.7/2,mb1 3.7/3,mb1mx3.4/19,ML3.4/1,Error ellipse: s-maj=148.0km s-min=56.2km az=3.0,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	4.72	76	eP	Pn	21 41 35.2	+3.8
THN				eS	Sn	21 43 06.1	+38
	30nm,0.4s						
DLH	Dalhousie	4.95	75	e	Sn	21 42 35.0	+1.5
BHK	Bhakra	5.23	88	e	Sn	21 42 56.8	+16
SDNR	Sundarnagar	5.70	87	e	Pn	21 41 42.4	-2.8
SDNR				eS	Sn	21 43 30.0	+38
NDI	New Delhi	6.57	112	eP	Pn	21 42 02.0	+4.5
NDI				eS	Sn	21 43 42.0	+28
DDI	Dehra Dun	6.75	97	eP	Pn	21 42 06.6	+6.6
DDI				e	Sn	21 44 07.5	+49
DANN	Dangsing	12.06	101	eP	P	21 43 16.7	+3.3
GKN	Gorkha	12.91	101	eP	P	21 43 18.8	-5.9
	9.4nm,0.4s						
DMN	Daman	13.43	103	eP	P	21 43 23.6	-8.0
KKN	Kakani	13.51	102	eP	P	21 43 26.4	-6.4
	16nm,0.7s						
PKI	Pulchoki	13.69	102	eP	P	21 43 27.4	-7.8
	3.9nm,0.4s						
MKAR	Makanchi Array	17.95	28	P	P	21 44 28.5	-1.3
	0.1nm,0.3s,baz=217,slow=13,SNR=6.1						
SONM	Songino Array	31.95	49	P	P	21 46 44.7	-2.1
	0.5nm,0.8s,baz=262,slow=8.7,SNR=4.1						
ARCES	ARCESS Array B	45.69	340	P	P	21 48 39.4	-1.8
	2.5nm,1.0s,baz=135,slow=5.1,SNR=3.7						

IDC 14 21:47:16.2±17.0,21.46S×175.20W,mb4.4/5,mb1 4.6/5,mb1mx4.1/17,Error ellipse: s-maj=326.0km s-min=141.1km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.01	265	P	P	21 54 20.7	-0.4
	7.7nm,0.4s,baz=96,slow=10,SNR=17						
STKA	Stephens Creek	39.75	246	P	P	21 54 50.0	-2.5
	1.6nm,0.5s,baz=109,slow=13,SNR=6.3						
ASAR	Alice Springs	46.85	257	P	P	21 55 47.4	-2.7
	2.6nm,0.5s,baz=97,slow=7.9,SNR=18						
WRA	Warramunga Arr	47.06	262	P	P	21 55 49.4	-2.4
	2.1nm,0.4s,baz=92,slow=8.5,SNR=18						
FITZ	Fitzroy Crossi	55.49	262	P	P	21 56 54.2	-1.4
	1.4nm,0.4s,baz=359,slow=19,SNR=5.7						

IDC 14 21:48:20.2±2.7,20.40S×178.55W,h627^{km}±33^{km},mb3.2/11,mb1 3.4/11,mb1mx3.3/16,Error ellipse: s-maj=28.0km s-min=14.1km az=159.0

NEIC 14 21:48:20.8±3.1,20.53S×178.56W,h640^{km}±35^{km},mb4.1/4,Error ellipse: s-maj=19.1km s-min=16.4km az=224.0

ISC 14 21:48:16.9±3.1,20.5S±0.2×178.5W±0.1,h604^{km}±40^{km},n31,σ0^{s}87/22,mb3.8/15,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	32.99	264	P	P	21 54 06.0	+0.8
	1.8nm,0.3s,mb4.2,baz=85,slow=10,SNR=6.7						
CTA	Charters Tower	32.99	264	P	P	21 54 06.0	+0.7
CTAO	Charters Tower	32.99	264	eP	P	21 54 05.9	+0.6
CTAO				e		21 54 20.6	
STKA	Stephens Creek	37.33	244	eP	P	21 54 42.1	+1.2
STKA	Stephens Creek	37.33	244	P	P	21 54 42.1	+1.2
	1.2nm,0.4s,mb3.8,baz=100,slow=5.9,SNR=8.3						
STKA	Stephens Creek	37.33	244	eP	P	21 54 41.4	+0.5
STKA				e		21 54 49.6	
ASAR	Alice Springs	44.03	257	P	P	21 55 34.6	+0.2
	2.3nm,0.3s,mb4.2,baz=94,slow=7.3,SNR=47						
ASAR				S	S	22 01 24.1	-0.3
	0.3nm,0.5s,baz=95,slow=15,SNR=6.7						
ASPA	Alice Springs	44.03	257	eP	P	21 55 34.3	-0.1
WB2	Warramunga Arr	44.09	262	eP	P	21 55 34.5	-0.4
WB2				e		21 55 49.0	
WRAB	Tennant Creek	44.10	262	eP	P	21 55 34.5	-0.4
	6.3nm,0.8s,mb4.2						
WRAB				e		21 55 49.0	
WRA	Warramunga Arr	44.11	262	P	P	21 55 34.8	-0.2
	2.0nm,0.3s,mb4.1,baz=98,slow=7.8,SNR=54						
KAKA	Kakadu	47.52	271	eP	P	21 56 00.0	-1.0
	2.3nm,0.2s,mb4.4						
KAKA				e		21 56 18.7	
FITZ	Fitzroy Crossi	52.53	263	P	P	21 56 37.6	+0.1
	2.4nm,0.6s,mb3.7,baz=183,slow=18,SNR=13						
SBA	Scott Base	57.81	184	eP	P	21 57 10.8	-2.6
	3.7nm,1.0s,mb3.5						
SBA				e		21 57 26.4	
VNDA	Vanda	57.84	185	P	P	21 57 14.0	+0.5
	0.6nm,0.7s,mb2.8,baz=352,slow=6.9,SNR=6.4						
QSPA	South Pole Qui	69.54	180	eP	P	21 58 27.8	+0.5
	3.6nm,0.7s,mb3.9						
YBH	Yreka Blue Hor	80.62	39	P	P	21 59 29.6	+0.6
	0.4nm,0.3s,mb3.3,baz=299,slow=1.5,SNR=6.5						
TXAR	Lajitas Array	87.49	58	P	P	22 00 03.6	+0.7
	0.8nm,0.9s,mb3.5,baz=219,slow=8.0,SNR=7.9						
ILAR	Eielson Array	88.45	13	P	P	22 00 05.0	-1.6
	0.6nm,0.4s,mb3.6,baz=216,slow=5.7,SNR=6.3						
PDAR	Pinedale Array	89.32	43	P	P	22 00 11.1	-0.2
	0.9nm,0.6s,mb3.8,baz=204,slow=2.1,SNR=7.6						
CMAR	Chiang Mai Arr	89.66	290	P	P	22 00 14.7	+1.4
	0.5nm,0.4s,mb3.7,baz=114,slow=3.3,SNR=6.1						
MKAR	Makanchi Array	110.86	313	PKiKP		22 05 41.5	
	0.5nm,0.7s,baz=181,slow=1.3,SNR=4.6						
BVAR	Borovoye Array	118.78	320	PKP	PKPdf	22 05 57.2	0.0
	0.8nm,0.3s,baz=116,slow=2.5,SNR=9.1						
ARCES	ARCESS Array B	128.86	349	PKP	PKPdf	22 06 16.1	-0.2
	0.9nm,0.5s,baz=75,slow=2.4,SNR=6.8						
FINES	FINESS Array B	135.66	343	PKP	PKPdf	22 06 29.8	+0.7
	5.5nm,1.1s,baz=146,slow=6.9,SNR=5.4						
AKASG	Malin Array Be	142.80	331	PKhKP		22 06 39.8	
	3.3nm,0.5s,baz=42,slow=4.1,SNR=17						
BRTR	Keskin Array B	146.49	312	PKPbc	PKPbc	22 06 52.5	+1.7
	0.9nm,0.6s,baz=135,slow=5.2,SNR=5.3						
CLL	Collm	147.98	346	⇓iPKP1	PKPdf	22 06 55.8	+5.0
CLL				i PKP2	PKPab	22 07 00.2	-2.2
KHC	Kasperske Hory	149.86	344	ePKP2	PKPab	22 07 09.5	-0.7
GERES	GERESS Array B	150.09	344	PKPbc	PKPdf	22 07 01.0	+6.8
	0.8nm,0.5s,baz=18,slow=2.2,SNR=12						
DAVOX	Davos	152.93	347	PKPbc	PKPdf	22 07 07.7	+9.4

IDC 14 21:56:47.7±8.4,3.44N×127.53E,mb3.8/3,mb1 3.9/3,mb1mx3.5/16,Error ellipse: s-maj=155.0km s-min=133.8km az=82.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.18	164	P	P	22 02 04.4	-2.5
	0.6nm,0.7s,baz=344,slow=10,SNR=12						
WB2	Warramunga Arr	24.18	164	eP	P	22 02 04.2	-2.7
ASAR	Alice Springs	27.64	167	P	P	22 02 39.0	-0.3
	0.5nm,0.3s,baz=344,slow=11,SNR=16						
STKA	Stephens Creek	37.58	160	P	P	22 04 03.6	-2.2
	1.4nm,0.6s,baz=2.2,slow=12,SNR=4.0						

NEIC 14 21:58:14.1,38.12N×22.12E,h15^{km},ML3.6(THE),ML3.2(ATH),After ATH.

ATH 14 21:58:14.1,38.12N×22.12E,h15^{km}±3^{km},MD3.5/12,ML3.2

THE 14 21:58:15.3,38.15N×22.33E,h10^{km},ML3.6

ISC 14 21:58:13.5±0.6,38.14N±0.03×22.14E±0.03,h3^{km}±5^{km},n35,σ0^{s}72/42,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.54	262	ePN	Pg	21 58 24.0	-0.3
RLS				eSN	Sg	21 58 31.5	+0.1
EVR	Evrytania	0.82	342	⇑iPB	Pb	21 58 29.6	-0.4
EVR				eSN	Sn	21 58 42.6	-1.8
LKR	Lokris	0.85	53	ePN	Pg	21 58 30.5	+0.1
MKIT	Kithairon Oros	0.88	87	ePN	Pn	21 58 32.0	-0.6
AGG	Agios Georgios	0.90	10	ePg	Pg	21 58 30.9	-0.5
AGG				eSg	Sg	21 58 43.6	+0.2
ITM	Ithomi	0.97	190	ePN	Pg	21 58 32.4	-0.5
NSAL	Nisos Salamina	1.07	102	ePN	Pn	21 58 35.5	+0.3
VLS	Valsamata	1.22	272	ePB	Pb	21 58 35.7	-1.2
VLS				eSN	Sn	21 58 55.0	+0.4
ATH	Athens Observa	1.26	97	ePN	Pn	21 58 37.5	-0.4
MPAR	Parnis Oros	1.26	89	ePN	Pn	21 58 38.0	+0.1
LKD	Levkas	1.30	296	ePb	Pb	21 58 38.0	-0.2
LKD				eSb	Sb	21 58 59.8	+4.6
PTL	Penteli	1.36	93	ePN	Pn	21 58 40.0	+0.6
NEO	Neokhori	1.44	36	ePN	Pn	21 58 40.9	+0.3
XOR	Xorichti	1.48	34	ePb	Pb	21 58 41.5	+0.3
VLI	Veliai	1.55	156	ePN	Pn	21 58 42.8	+0.7
AOS	Alonnisos	1.71	52	ePb	Pb	21 58 44.7	-0.5
MEV	Metsovon	1.79	337	ePb	Pg	21 58 49.2	-0.1
	comp=Z,15nm,0.5s						
MEV				eSb	Sg	21 59 14.6	+1.4
LIT	Litokhoron	1.98	8	ePb	Pn	21 58 48.1	-0.2
	comp=Z,8.2nm,0.2s						
IGT	Igoumenitsa	1.98	315	ePn	Pg	21 58 52.2	-0.9
IGT				eSn	Sg	21 59 19.7	+0.2
KYTH	Kithira	1.99	159	ePN	Pb	21 58 50.3	+0.3
PAIG	Paliouri	2.15	33	ePn	Pn	21 58 50.4	-0.3
KZN	Kozani	2.19	353	ePN	Pn	21 58 52.8	+1.6
KEK	Kerkira	2.41	311	ePN	Pn	21 58 55.8	+1.4
PLG	Polygyros	2.45	24	ePN	Pn	21 58 54.5	-0.5
OUR	Ouranopolis	2.62	33	ePn	Pn	21 58 57.1	-0.3
FNA	Florina	2.71	348	ePn	Pn	21 58 59.4	+0.7
	comp=Z,1.2nm,0.5s						
SOH	Sokhos	2.84	19	ePn	Pn	21 59 00.6	0.0
KNT	Kendrikon	3.08	11	ePn	Pn	21 59 03.7	-0.2
SRS	Serrai	3.18	20	ePn	Pn	21 59 04.6	-0.7
VAM	Vamos	3.19	148	ePN	Pn	21 59 06.0	+0.5
MMB	Musomiste	3.66	19	i P	Pn	21 59 11.5	-0.7
KKB	Krupnik	3.79	11	i P	Pn	21 59 14.0	-0.1
SKO	Skopje	3.87	352	ePn	Pb	21 59 22.0	-0.1
RZN	Rozhen	4.06	28	i P	Pn	21 59 18.0	+0.1
VTS	Vitosha	4.52	10	eP	Pn	21 59 27.0	+2.5

THE 14 22:08:19.7,38.22N×22.24E,h10^{km},ML3.5

IDC 14 22:08:26.7±3.3,38.11N×21.55E,mb3.7/4,mb1 3.7/7,mb1mx3.6/22,ML3.5/3,Error ellipse: s-maj=59.1km s-min=26.9km az=63.0

NEIC 14 22:08:30.1,38.13N×22.11E,h25^{km},ML3.6(ATH),After ATH.

ATH 14 22:08:30.1,38.13N×22.11E,h25^{km}±2^{km},MD3.8/15,ML3.6

ISC 14 22:08:30.1±1.4,38.17N±0.03×22.15E±0.04,h8^{km}±10^{km},n49,σ0^{s}96/54,mb3.7/4,5C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.55	258	ePN	Pn	22 08 40.6	-3.3
EVR	Evrytania	0.79	340	ePB	Pb	22 08 45.6	-0.1
EVR				eSN	Sn	22 08 58.4	-0.9
LKR	Lokris	0.82	54	ePN	Pn	22 08 47.0	-0.7
MKIT	Kithairon Oros	0.87	89	ePN	Pn	22 08 48.5	0.0
ITM	Ithomi	1.01	190	ePN	Pn	22 08 48.7	-1.7
NSAL	Nisos Salamina	1.07	104	⇑iPN	Pn	22 08 51.3	+0.1
NAIG	Nisos Aigina	1.13	111	ePN	Pn	22 08 53.0	+0.8
VLS	Valsamata	1.23	271	ePB	Pb	22 08 51.9	-1.3
VLS				eSN	Sn	22 09 10.2	-0.3
MPAR	Parnis Oros	1.25	90	ePN	Pn	22 08 54.3	+0.5
ATH	Athens Observa	1.25	99	ePN	Pn	22 08 54.0	+0.1
PTL	Penteli	1.36	95	ePN	Pn	22 08 55.7	+0.3
NEO	Neokhori	1.41	36	ePN	Pn	22 08 56.5	+0.4
XOR	Xorichti	1.44	34	ePb	Pn	22 08 45.8	-11
VLI	Veliai	1.58	156	ePN	Pn	22 08 59.2	+0.6
AOS	Alonnisos	1.68	53	ePb	Pn	22 08 48.5	-11
	comp=Z,6.9nm,0.5s						
LIT	Litokhoron	1.94	8	ePb	Pn	22 08 52.2	-12
	comp=Z,10nm,0.4s						
IGT	Igoumenitsa	1.97	314	ePn	Pn	22 08 54.3	-10
KYTH	Kithira	2.02	159	ePN	Pn	22 09 04.5	-0.3
PAIG	Paliouri	2.12	34	ePn	Pn	22 08 54.6	-12
KZN	Kozani	2.15	352	ePB	Pb	22 09 08.6	-0.3
KEK	Kerkira	2.40	311	ePB	Pb	22 09 11.5	-1.6
PLG	Polygyros	2.42	24	ePN	Pn	22 09 08.0	-2.6
OUR	Ouranopolis	2.58	33	ePn	Pn	22 09 01.2	-12
	comp=Z,2.5nm,0.5s						
FNA	Florina	2.68	347	ePn	Pn	22 09 03.0	-11
	comp=Z,1.6nm,0.7s						
APE	Apeiranthos	2.90	111	ePN	Pn	22 09 17.5	+0.1
LIA	Limnos Island	2.92	53	ePN	Pn	22 09 17.2	-0.6
VAM	Vamos	3.21	149	ePN	Pn	22 09 18.0	-3.9
PRK	Paraskevi	3.40	70	ePN	Pn	22 09 24.2	-0.3
IDI	Anoyia	3.62	142	Pn	Pn	22 09 28.3	+0.6
	3.1nm,0.3s,baz=337,slow=8.1,SNR=12						
IDI				Sn	Sn	22 10 11.6	+0.5
	5.2nm,0.3s,baz=284,slow=15,SNR=4.8						
MMB	Musomiste	3.62	19	i P	Pn	22 09 27.5	-0.2
SMG	Samos	3.73	96	ePN	Pn	22 09 29.0	-0.3
KKB	Krupnik	3.76	11	eP	Pn	22 09 31.0	+1.4
SKO	Skopje	3.83	352	ePn	Pn	22 09 30.0	-0.7
RZN	Rozhen	4.03	28	i P	Pn	22 09 34.0	+0.5
VTS	Vitosha	4.49	10	eP	Pn	22 09 42.5	+2.5
MGR	Morigerati	5.49	293	⇑iPn	Pn	22 09 54.8	+0.6
SLCN	Sala Consilina	5.52	296	⇑iPn	Pn	22 09 55.0	+0.4
SLCN				eSn	Sn	22 10 58.4	-0.7
MRLC	Muro Lucano	5.77	299	⇑iPn	Pn	22 09 58.3	+0.3
SGO	Sicignano	5.82	296	⇑iPn	Pn	22 09 59.4	+0.7
CSSN	Cassano Irpino	6.13	298	ePn	Pn	22 10 03.7	+0.5
CSSN				eSn	Sn	22 11 16.3	+1.9
SGG	Gregorio Mates	6.79	301	ePn	Pn	22 10 13.5	+1.0
CII	Carovilli	6.99	303	ePn	Pn	22 10 18.4	+3.1
SDI	San Donato	7.32	301	ePn	Pn	22 10 21.0	+1.1
MLR	Muntele Rosu	7.84	20	Pn	Pn	22 10 27.4	+0.1
	0.4nm,0.3s,baz=216,slow=14,SNR=2.2						
BRTR	Keskin Array B	9.08	77	Pn	P	22 10 45.0	+0.5
	0.1nm,0.3s,baz=260,slow=12,SNR=4.5						
HFS	Hagfors	22.63	349	P	P	22 13 28.0	-4.3
	4.9nm,1.1s,mb3.8,baz=163,slow=15,SNR=2.5						
BVAR	Borovoye Array	36.14	50	P	P	22 15 33.3	-1.1
	0.5nm,0.6s,mb3.6,baz=270,slow=5.9,SNR=6.3						
MKAR	Makanchi Array	44.21	59	P	P	22 16 40.0	-1.1
	1.3nm,0.5s,mb4.0,baz=269,slow=8.2,SNR=19						
SONM	Songino Array	59.47	51	P	P	22 18 35.4	-0.2
	0.1nm,0.3s,mb3.3,baz=297,slow=3.2,SNR=2.2						

IDC 14 22:24:30.3±26.0,20.91S×177.21W,h451^{km}±215^{km},mb3.0/3,mb1 3.4/3,mb1mx3.1/12,Error ellipse: s-maj=354.0km s-min=61.8km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.14	257	P	P	22 32 05.8	-0.9
	1.3nm,0.8s,baz=93,slow=7.3,SNR=12						
WRA	Warramunga Arr	45.27	262	P	P	22 32 05.7	-2.1
	0.3nm,0.3s,baz=97,slow=7.5,SNR=12						
ILAR	Eielson Array	88.55	13	P	P	22 36 33.0	-1.1
	0.6nm,0.5s,baz=222,slow=5.2,SNR=5.0						
AKASG	Malin Array Be	143.73	331	PKP	PKPdf	22 43 10.0	-2.4
	0.3nm,0.3s,baz=44,slow=4.0,SNR=5.0						
BRTR	Keskin Array B	147.66	312	PKPbc	PKPdf	22 43 23.1	+3.7
	0.5nm,0.5s,baz=134,slow=5.7,SNR=4.0						
GERES	GERESS Array B	150.79	345	PKPbc	PKPdf	22 43 31.4	+7.4
	0.3nm,0.6s,baz=45,slow=2.8,SNR=5.8						

IDC 14 22:45:25.4±4.9,20.32S×176.91W,mb4.1/3,mb1 4.3/3,mb1mx3.9/14,Error ellipse: s-maj=189.0km s-min=60.3km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	34.52	264	eP	P	22 52 18.8	+1.1
	5.8nm,0.9s						
STKA	Stephens Creek	38.78	244	P	P	22 52 50.1	-3.4
	2.1nm,0.9s,baz=98,slow=7.1,SNR=2.8						
ASAR	Alice Springs	45.55	256	P	P	22 53 47.8	-1.2
	4.8nm,0.8s,baz=87,slow=8.4,SNR=38						
ASPA	Alice Springs	45.55	256	eP	P	22 53 47.3	-1.7
WRA	Warramunga Arr	45.63	262	P	P	22 53 48.3	-1.4
	0.9nm,0.6s,baz=97,slow=7.5,SNR=26						
BRTR	Keskin Array B	147.47	313	PKPbc	PKPdf	23 05 11.0	+0.2
	0.8nm,0.8s,baz=97,slow=3.6,SNR=4.5						

IDC 14 23:16:19.9±0.7,22.73S×175.33W,mb4.5/12,mb1 4.7/13,mb1mx4.6/17,ML4.2/1,MS4.0/4,Ms1 4.0/4,ms1mx3.7/17,Error ellipse: s-maj=31.0km s-min=18.8km az=150.0

HRVD 14 23:16:26.2±0.9,22.79S×174.56W,h30^{km}±1^{km},MW4.9/30,Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s30,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.30; $M_{\theta\theta}$0.01±.24; $M_{\phi\phi}$-2.03±.22; $M_{r\theta}$-1.45±.35; $M_{\theta\phi}$-0.63±.13; $M_{\phi r}$-0.18±.29; Best double couple: $M_0$2.54×10^{16} NP1:ϕ_s353°,δ43°,λ49°. NP2:ϕ_s222°,δ59°,λ121°. Principal axes: T 2.78, Plg62°, Azm183°; N -.48, Plg26°, Azm25°; P -2.3, Plg9°, Azm291°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 14 23:16:26.2±5.2,22.84S×175.38W,h43^{km}±44^{km},mb4.9/14 Error ellipse: s-maj=15.7km s-min=11.4km az=137.0

ISC 14 23:16:24.7±0.4**, 22.8S**±0.1×**175.44W**±0.10**, h41^{km}, h41^{km}**±.4^{km}**:pP-P, n50,** σ**1^{s}03**/35**, mb4.7**/22**, MS4.0**/4**, 1C-1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.66**	**201**	Pn	**P**	**23 20 19.3**	**+2.6**
	0.9nm,0.3s,baz=82,slow=6.9,SNR=3.0						
TBI	**Tubuai**	**23.90**	**96**	*e*L		23 25 40.0	
TBI				*e*R		23 26 41.0	
	336nm,26.2s,baz=274						
PPT	**Papeete**	**24.82**	**83**	*e*L		23 25 59.8	
PPT				*e*R		23 27 08.4	
	280nm,21.0s,baz=260						
CTA	**Charters Tower**	**35.69**	**267**	*e*P	**P**	**23 23 22.0**	**+0.7**
	9.6nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**35.69**	**267**	*e*P	**P**	**23 23 21.5**	**+0.2**
	11nm,0.8s,mb4.8						
PMG	**Port Moresby**	**38.20**	**284**	P	**P**	**23 23 41.9**	**-0.5**
	30nm,1.0s,mb5.0,baz=104,slow=2.8,SNR=9.2						
PMG	**Port Moresby**	**38.20**	**284**	*e*P	**P**	**23 23 41.2**	**-1.2**
	38nm,1.0s,mb5.1						
PMG				*e*		23 23 56.2	
STKA	**Stephens Creek**	**39.01**	**247**	P	**P**	**23 23 49.2**	**+0.3**
	3.3nm,1.0s,mb4.0,baz=108,slow=5.8,SNR=3.9						
STKA				LR	LR	23 38 36.3	
	comp=Z,237nm,21.6s,MS4.0,baz=228,slow=34						
STKA	**Stephens Creek**	**39.01**	**247**	P	**P**	**23 23 49.2**	**+0.3**
STKA				LR	LR	23 38 36.3	
ASAR	**Alice Springs**	**46.35**	**259**	P	**P**	**23 24 48.8**	**-0.1**
	8.0nm,0.9s,mb4.7,baz=92,slow=8.2,SNR=44						
ASPA	**Alice Springs**	**46.35**	**259**	*e*P	**P**	**23 24 48.8**	**-0.1**
WB2	**Warramunga Arr**	**46.66**	**264**	⇓*i*P	**P**	**23 24 51.0**	**-0.3**
WRAB	**Tennant Creek**	**46.67**	**264**	*e*P	**P**	**23 24 50.8**	**-0.5**
	14nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**46.67**	**264**	P	**P**	**23 24 51.2**	**-0.3**
	7.3nm,0.6s,mb4.8,baz=103,slow=8.0,SNR=44						
FITZ	**Fitzroy Crossi**	**55.10**	**263**	*e*P	**P**	**23 25 55.1**	**-0.2**
	7.9nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.10**	**263**	P	**P**	**23 25 55.3**	**0.0**
	11nm,1.0s,mb4.8,baz=158,slow=5.8,SNR=11						
VNDA	**Vanda**	**55.84**	**186**	P	**P**	**23 25 59.3**	**-0.6**
	1.8nm,0.9s,mb4.1,baz=27,slow=9.0,SNR=4.1						
NWAO	**Narrogin (SRO)**	**59.49**	**244**	P	**P**	**23 26 22.4**	**-3.7**
	32nm,1.3s,mb5.2						
CBIJ	**Chichi jima**	**64.34**	**318**	LR	LR	23 48 32.0	
	comp=Z,119nm,20.3s,MS4.1,baz=114,slow=30						
QSPA	**South Pole Qui**	**67.27**	**180**	*e*P	**P**	**23 27 15.4**	**-1.1**
	43nm,2.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**79.03**	**332**	P	**P**	**23 28 27.8**	**+1.7**
	23nm,1.1s,mb5.0						
YSS				*e*	pP	23 28 40.0	+1.6
MAW	**Mawson**	**80.19**	**199**	P	**P**	**23 28 32.6**	**+0.7**
	5.2nm,0.8s,mb4.5,baz=120,slow=5.7,SNR=12						
MAW	**Mawson**	**80.19**	**199**	*e*P	**P**	**23 28 32.5**	**+0.6**
MAW				P		23 28 32.6	
MAW				*e*	pP	23 28 44.6	+0.3
MTUM	**Tungsten Hills**	**80.28**	**43**	P	**P**	**23 28 25.8**	**-7.2**
YBH	**Yreka Blue Hor**	**80.65**	**37**	P	**P**	**23 28 34.4**	**-0.4**
	2.8nm,1.1s,mb4.1,baz=203,slow=11,SNR=3.9						
USHA	**Ushuaia**	**80.89**	**146**	LR	LR	23 53 31.9	
	comp=Z,86nm,21.4s,MS4.1,baz=344,slow=28						
TPH	**Tonopah**	**81.56**	**43**	*e*P	**P**	**23 28 39.5**	**-0.2**
	12nm,1.4s,mb4.7						
TPH				*e*	pP	23 28 52.1	-0.1
TPH				*e*		23 28 56.9	
WVOR	**Wild Horse Val**	**83.41**	**39**	P	**P**	**23 28 48.3**	**-0.8**
	10.0nm,1.1s,mb4.8						
WVOR				*e*	pP	23 29 01.0	-0.6
RMW	**Rattlesnake Mo**	**84.95**	**33**	P	**P**	**23 28 50.3**	**-6.4**
RMW				*e*		23 29 09.7	
MSU	**Marysvale**	**85.04**	**45**	P	**P**	**23 28 57.9**	**+0.5**
MSU				*e*	pP	23 29 10.7	+0.8
SNAA	**Sanae**	**85.63**	**178**	LR	LR	00 04 19.9	
	comp=Z,71nm,19.6s,MS4.1,baz=146,slow=34						
TXAR	**Lajitas Array**	**86.33**	**56**	P	**P**	**23 29 02.9**	**-1.0**
	1.5nm,1.0s,mb4.2,baz=233,slow=6.3,SNR=10.0						
PMR	**Palmer**	**86.74**	**12**	P	**P**	**23 29 06.9**	**+1.8**
	14nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**87.02**	**50**	*e*P	**P**	**23 29 06.9**	**-0.3**
	5.9nm,1.3s,mb4.7						
ANMO				*e*	pP	23 29 19.4	-0.4
PDAR	**Pinedale Array**	**89.04**	**42**	P	**P**	**23 29 15.7**	**-1.0**
	0.4nm,0.4s,mb4.1,baz=214,slow=6.5,SNR=3.6						
DLBC	**Dease Lake**	**89.27**	**22**	*e*P	**P**	**23 29 18.8**	**+1.4**
ENH	**Enshi**	**89.30**	**303**	*e*P	**P**	**23 29 16.0**	**-2.2**
	20nm,1.1s,mb5.4						
ENH				*e*		23 29 32.8	
ILAR	**Eielson Array**	**90.06**	**12**	P	**P**	**23 29 21.1**	**+0.2**
	1.6nm,1.1s,mb4.3,baz=223,slow=5.4,SNR=6.9						
DAWY	**Dawson**	**91.05**	**15**	P	**P**	**23 29 26.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.12**	**289**	P	**P**	**23 29 39.6**	**+3.5**
	2.7nm,0.9s,mb4.7,baz=126,slow=2.8,SNR=11						
KURK	**Kurchatov**	**117.30**	**317**	PKPdf	PKPdf	23 35 06.0	+0.4
ZRNK	**Zerenda**	**123.22**	**319**	*e*PKPdf	PKPdf	23 35 17.7	+0.6
ZRNK				*e*		23 35 30.2	
MBAR	**Mbarara**	**145.48**	**231**	*e*PKPdf	PKPdf	23 36 00.3	+1.1
MBAR				*e*		23 36 13.8	
AKASG	**Malin Array Be**	**146.18**	**332**	PKPbc	PKPbc	23 36 01.5	+1.1
	2.1nm,0.7s,baz=36,slow=3.8,SNR=7.4						
MALT	**Malatya**	**147.22**	**306**	*e*PKPdf	PKPdf	23 36 04.1	+2.6
MALT				*e*		23 36 17.6	
BRTR	**Keskin Array B**	**150.15**	**311**	PKPbc	PKPdf	23 36 13.2	+7.1
	1.7nm,0.8s,baz=152,slow=3.7,SNR=9.8						
CLL	**Collm**	**150.81**	**349**	⇑*i*PKP1	PKPdf	23 36 13.7	+7.0
CLL				*i* *PPKP		23 36 26.5	
BRG	**Berggiesshubel**	**151.06**	**348**	*e*P	PKPdf	23 36 15.0	+7.9
BRG				*i*		23 36 27.7	
KHC	**Kasperske Hory**	**152.78**	**347**	*e*PKIKP	PKPdf	23 36 10.5	+0.8
GERES	**GERESS Array B**	**153.03**	**347**	PKPbc	PKPdf	23 36 18.9	+8.9
	0.4nm,0.7s,baz=45,slow=1.9,SNR=3.6						

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*HEL **14** 23:24:26.9±0.1, 67.83N×20.09E, ML1.7, ML2.2(UPP), ML1.6(BER), Explosion*

*BER **14** 23:24:27.2±4.2, 67.81N×20.22E, ML1.6, Suspected explosion*

ISC 14 23:24:25.7±0.5**, 67.85N**±0.03×**20.13E**±0.08**, n17,** σ**1^{s}31**/26**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**36**	*i* P	**Pg**	**23 24 29.4**	**+1.1**
KUA				*i* S	**Sg**	**23 24 31.7**	**+1.6**
NIKU	**Nikkaluokta**	**0.42**	**273**	*i* P	**Pg**	**23 24 33.6**	**-0.4**
DUNU	**Dundret**	**0.75**	**167**	*i* P	**Pg**	**23 24 40.0**	**-0.7**
MASU	**Masugnsbyn**	**0.81**	**118**	*i* P	**Pg**	**23 24 41.2**	**-0.8**
KIF	**Kilpisjarvi**	**1.19**	**12**	*e*P	**Pb**	**23 24 49.8**	**+1.0**
KIF				*e*S	**Sb**	**23 25 04.3**	**-0.3**
PAJU	**Pajala**	**1.42**	**124**	*e*P	**Pb**	**23 24 51.9**	**-0.9**
PAJU				*e*S	**Sb**	**23 25 10.6**	**-0.7**
ERTU	**Ertsjaerv**	**1.53**	**147**	*e*P	**Pn**	**23 24 54.0**	**-0.4**
KTK1	**Kautokeino**	**1.64**	**43**	*e*P	**Pn**	**23 24 57.5**	**+1.5**
KTK1				*e*SG	**Sg**	**23 25 18.0**	**-2.3**
KTK1				AML	AML	23 25 22.5	
	comp=Z,7.1nm,0.6s						
TRO	**Tromso**	**1.84**	**347**	*e*P	**Pn**	**23 24 58.9**	**0.0**
TRO				*e*SG	**Sg**	**23 25 24.4**	**-2.7**
TRO				AML	AML	23 25 27.8	
	comp=Z,4.9nm,0.4s						
SGF	**Sodankyl**	**2.48**	**97**	*e*P	**Pn**	**23 25 09.6**	**+1.6**
SGF				*e*S	**Sn**	**23 25 39.2**	**-0.2**
SGF				MSG		23 25 44.8	
	comp=Z,2.2nm,0.2s						
LOF	**Lofoten**	**2.50**	**280**	*e*	**Sg**	**23 25 48.5**	**-0.4**
LOF				AML	AML	23 25 50.0	
	comp=Z,5.9nm,0.4s						
LOF	**Lofoten**	**2.50**	**280**	*e*Sg	**Sg**	**23 25 48.5**	**-0.4**
LOF				AML	AML	23 25 50.0	
	comp=Z,5.9nm,0.4s						
MOR8	**Moi Rana**	**2.80**	**236**	*e*SG	**Sg**	**23 25 48.9**	**-10**
MOR8				AML	AML	23 25 50.4	
	comp=Z,8.3nm,0.4s						
KEV	**Kevo**	**3.15**	**49**	*e*P	**Pn**	**23 25 18.4**	**+0.8**
KEV				*e*S	**Sn**	**23 25 54.4**	**-2.0**
KEV				MSG		23 26 01.8	
	comp=Z,1.9nm,0.3s						
OUL	**Oulu**	**3.61**	**138**	*e*P	**Pn**	**23 25 26.9**	**+2.8**
OUL				*e*S	**Sn**	**23 26 08.9**	**+0.8**
MSF	**Maaselka**	**4.02**	**115**	*e*P	**Pn**	**23 25 32.3**	**+2.5**
MSF				*e*S	**Sn**	**23 26 16.3**	**-2.1**
MSF				MSG		23 26 33.8	
	comp=Z,1.6nm,0.5s						
NSS	**Namsos**	**4.69**	**229**	*e*SG	**Sg**	**23 26 51.9**	**-10**
NSS				AML	AML	23 26 54.0	
	comp=Z,3.0nm,0.4s						

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*NAO **14** 23:28:06.9±3.3, 67.86N×20.62E, ML2.0*

BER 14 23:28:06.5±2.6**, 67.89N**×**20.03E, ML1.7, ML2.0**(NAO)**, Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	**1.64**	**45**	*e*P	Pn	23 28 34.3	-2.4
KTK1				AML	AML	23 29 00.1	
	comp=Z,8.9nm,0.1s						
ARA0	**ARCESS Array S**	**2.59**	**48**	Pn	Pn	23 28 48.1	-2.3
	baz=235,slow=14						
ARA0				Sn	Sn	23 29 18.3	-4.8
	baz=228,slow=28						
MOR8	**Moi Rana**	**2.79**	**234**	*e*Sg	Sg	23 29 26.7	-13
MOR8				AML	AML	23 29 29.1	
	comp=Z,13nm,0.4s						
FIA0	**FINESS Array S**	**6.97**	**155**	Pn	Pn	23 29 48.3	-4.1
FIA0				Sn	Sn	23 31 03.5	-10
	baz=349,slow=22						
FIA0				Lg		23 31 39.9	
	baz=344,slow=28						
HFS	**Hagfors**	**8.26**	**203**	Lg		23 32 23.4	
	baz=12,slow=37						
HFS	**Hagfors**	**8.26**	**203**	Lg		23 32 23.4	
	baz=12,slow=37						

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*LDG **14** 23:37:04.8±0.2, 19.96S×175.30E, h10^{km}, Mb4.6/2, Ms4.2/6, Error ellipse: s-maj=22.2km s-min=3.1km az=153.0*

*IDC **14** 23:37:04.5±0.8, 19.42S×175.05E, mb4.3/13, mb1 4.5/14, mb1mx4.5/17, ML4.1/1, MS4.3/16, Ms1 4.3/16, ms1mx4.3/17, Error ellipse: s-maj=34.5km s-min=19.0km az=153.0*

*NEIC **14** 23:37:13.1±4.4, 19.34S×174.92E, h65^{km}±39^{km}, mb4.8/16, Error ellipse: s-maj=14.6km s-min=11.2km az=188.0*

ISC 14 23:37:10.3±3.2**, 19.4S**±0.1×**174.91E**±0.09**, h54^{km}**±28^{km}**, n72,** σ**0^{s}95**/40**, mb4.6**/25**, MS4.3**/15**, 1C, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.37**	**250**	*e*P	**P**	**23 39 11.3**	**-0.3**
DZM	**Mont Dzumac**	**8.37**	**250**	*e*P	**P**	**23 39 11.2**	**-0.4**
URZ	**Urewera**	**18.94**	**175**	P	**P**	**23 41 30.7**	**+1.2**
	0.6nm,0.3s,baz=167,slow=9.5,SNR=2.9						
URZ				LR	LR	23 46 45.4	
	comp=Z,2µm,21.8s,baz=5.2,slow=31						
RPZ	**Rata Peaks**	**24.51**	**187**	LR	LR	23 50 44.2	
	comp=Z,1µm,19.5s,MS4.4,baz=340,slow=34						
CTA	**Charters Tower**	**26.97**	**264**	*e*P	**P**	**23 42 49.1**	**0.0**
	5.5nm,1.0s,mb4.0						
CTA	**Charters Tower**	**26.97**	**264**	P	**P**	**23 42 50.6**	**+1.5**
	10nm,1.2s,mb4.2,baz=70,slow=16,SNR=4.0						
CTA				LR	LR	23 52 13.0	
	comp=Z,722nm,21.0s,MS4.2,baz=53,slow=34						
CTAO	**Charters Tower**	**26.97**	**264**	*e*P	**P**	**23 42 48.9**	**-0.2**
	14nm,1.1s,mb4.4						
PMG	**Port Moresby**	**28.60**	**286**	P	**P**	**23 43 04.8**	**+0.9**
	12nm,0.8s,mb4.7,baz=99,slow=1.3,SNR=6.7						
PMG				LR	LR	23 53 31.5	
	comp=Z,840nm,18.2s,MS4.4,baz=119,slow=34						
PMG	**Port Moresby**	**28.60**	**286**	*e*P	**P**	**23 43 04.7**	**+0.8**
	35nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**32.39**	**241**	*e*P	**P**	**23 43 38.1**	**+0.9**
	11nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**32.39**	**241**	P	**P**	**23 43 37.7**	**+0.5**
	6.0nm,0.8s,mb4.5,baz=77,slow=6.9,SNR=8.8						
STKA				LR	LR	23 55 55.4	
	comp=Z,446nm,18.1s,MS4.2,baz=183,slow=35						
STKA	**Stephens Creek**	**32.39**	**241**	*e*P	**P**	**23 43 37.3**	**+0.1**
WB2	**Warramunga Arr**	**38.14**	**262**	*e*P	**P**	**23 44 26.5**	**+0.4**
WRAB	**Tennant Creek**	**38.14**	**262**	*e*P	**P**	**23 44 24.7**	**-1.4**
	33nm,1.3s,mb4.9						
WRAB				*e*		23 44 29.9	
WRA	**Warramunga Arr**	**38.15**	**262**	P	**P**	**23 44 25.7**	**-0.6**
	3.8nm,0.8s,mb4.2,baz=95,slow=8.4,SNR=15						
WRA				LR	LR	23 59 18.4	
	comp=Z,352nm,18.7s,MS4.2,baz=110,slow=35						
ASAR	**Alice Springs**	**38.30**	**256**	P	**P**	**23 44 27.1**	**-0.4**
	12nm,0.9s,mb4.6,baz=85,slow=7.0,SNR=36						
ASAR				LR	LR	23 59 12.5	
	comp=Z,446nm,19.8s,MS4.3,baz=90,slow=35						
ASPA	**Alice Springs**	**38.30**	**256**	*e*P	**P**	**23 44 27.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**46.55**	**263**	*e*P	**P**	**23 45 34.8**	**0.0**
	8.1nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**46.55**	**263**	LR	LR	00 04 55.0	
	comp=Z,162nm,18.4s,MS4.0,baz=100,slow=36						
NWAO	**Narrogin (SRO)**	**52.93**	**243**	LR	LR	00 08 59.8	
	comp=Z,374nm,18.0s,MS4.5,baz=355,slow=36						
VNDA	**Vanda**	**58.56**	**183**	LR	LR	00 07 48.2	
	comp=Z,257nm,19.9s,MS4.3,baz=28,slow=32						
SBA	**Scott Base**	**58.67**	**182**	P	**P**	**23 47 03.3**	**-0.9**
	25nm,1.3s,mb5.1						
CASY	**Casey**	**62.20**	**204**	*e*P	**P**	**23 47 34.5**	**+6.2**
	7.9nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**70.71**	**180**	*e*P	**P**	**23 48 21.0**	**-1.0**
	19nm,1.0s,mb5.0						
QSPA				*e*P		23 48 21.2	
QSPA				*e*		23 48 30.1	
MAW	**Mawson**	**80.30**	**201**	P	**P**	**23 49 16.5**	**-0.1**
	2.3nm,0.7s,mb4.2,baz=98,slow=8.5,SNR=5.7						
MAW				LR	LR	00 22 29.9	
	comp=Z,249nm,18.3s,MS4.6,baz=336,slow=34						
MAW	**Mawson**	**80.30**	**201**	*e*P	**P**	**23 49 16.7**	**0.0**
	17nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**83.31**	**46**	P	**P**	**23 49 32.0**	**-0.8**
	10nm,1.3s,mb4.7						
CMAR	**Chiang Mai Arr**	**83.47**	**292**	P	**P**	**23 49 38.5**	**+4.5**
	5.3nm,0.9s,mb4.6,baz=125,slow=3.8,SNR=14						
CMAR				LR	LR	00 21 53.7	
	comp=Z,46nm,21.2s,MS3.8,baz=185,slow=32						
YBH	**Yreka Blue Hor**	**83.73**	**42**	P	**P**	**23 49 34.1**	**-0.8**
	0.5nm,0.5s,mb3.9,baz=180,slow=3.0,SNR=2.4						
BEKR	**Beckwourth**	**84.27**	**44**	*e*P	**P**	**23 49 38.0**	**+0.3**
	21nm,1.7s,mb5.0						
TPH	**Tonopah**	**85.50**	**47**	*e*P	**P**	**23 49 42.1**	**-1.7**
	11nm,1.3s,mb4.8						
LZH	**Lanzhou**	**86.85**	**310**	⇑P	**P**	**23 49 57.5**	**+7.0**
	29nm,1.4s,mb5.3						
LZH				pP	pP	23 50 07.5	+1.3
LZH				sP	sP	23 50 11.2	-0.7
HAWA	**Hanford**	**88.13**	**39**	P	**P**	**23 49 58.1**	**+1.7**
	27nm,1.5s,mb5.2						
ILAR	**Eielson Array**	**88.83**	**15**	P	**P**	**23 50 00.1**	**+0.8**
	0.4nm,0.4s,mb4.1,baz=102,slow=22,SNR=4.5						
ILAR				LR	LR	00 22 04.3	
	comp=Z,196nm,20.9s,MS4.5,baz=235,slow=30						
SNAA	**Sanae**	**89.20**	**181**	P	**P**	**23 50 02.0**	**+1.1**
	0.4nm,0.8s,mb3.8,baz=350,slow=1.3,SNR=4.5						
DPW	**Davenport**	**89.66**	**38**	*e*P	**P**	**23 50 02.9**	**-0.7**
HLID	**Hailey**	**89.95**	**43**	*e*P	**P**	**23 50 04.9**	**-0.2**
	3.6nm,1.1s,mb4.6						
SONM	**Songino Array**	**90.59**	**321**	P	**P**	**23 50 09.4**	**+1.4**
	0.4nm,0.9s,mb3.7,baz=143,slow=6.2,SNR=3.5						
PV10	**Paradox Valley**	**91.42**	**50**	*e*P	**P**	**23 50 09.7**	**-2.4**
PV01	**Paradox Valley**	**91.66**	**50**	*e*P	**P**	**23 50 12.5**	**-0.7**
ANMO	**Albuquerque**	**92.00**	**54**	*e*P	**P**	**23 50 15.4**	**+0.6**
	3.4nm,1.1s,mb4.6						
LTX	**Lajitas**	**92.15**	**60**	*e*P	**P**	**23 50 16.1**	**+0.4**
TXAR	**Lajitas Array**	**92.15**	**60**	P	**P**	**23 50 16.9**	**+1.2**
	1.1nm,1.0s,mb4.1,baz=252,slow=4.0,SNR=6.6						
TXAR				LR	LR	00 23 41.4	
	comp=Z,140nm,18.9s,MS4.4,baz=105,slow=30						
PDAR	**Pinedale Array**	**92.82**	**46**	P	**P**	**23 50 19.1**	**+0.8**
	0.3nm,0.3s,mb4.2,baz=297,slow=4.0,SNR=3.5						
PDAR				LR	LR	00 25 53.1	
	comp=Z,102nm,19.0s,MS4.3,baz=249,slow=32						
YKA	**Yellowknife Ar**	**98.35**	**26**	LR	LR	00 32 15.2	
	comp=Z,85nm,18.4s,MS4.3,baz=240,slow=34						
EKA	**Eskdalemuir Ar**	**144.05**	**358**	PKP	PKPdf	23 56 43.6	+4.1
	1.7nm,1.0s,slow=0.7,SNR=3.8						
OKC	**Ostrava-Krasne**	**144.37**	**334**	*e*PKP	PKPdf	23 56 39.5	-0.8
DPC	**Dobruska-Polom**	**144.69**	**336**	*e*PKP	PKPdf	23 56 42.6	+1.8
CLL	**Collm**	**145.06**	**340**	*i* PKIKP	PKPdf	23 56 43.2	+1.7
CLL				*i*		23 56 47.8	
VYHS	**Vyhne**	**145.09**	**332**	*e*PKP	PKPdf	23 56 43.8	+2.2
VYHS				*e*		23 56 49.0	
BRG	**Berggiesshubel**	**145.12**	**339**	*e*P	PKPdf	23 56 43.9	+2.3
PVCC	**Panska Ves**	**145.19**	**338**	*e*PKP	PKPdf	23 56 44.7	+3.0
PRU	**Pruhonice**	**145.65**	**337**	*e*PKP	PKPdf	23 56 49.0	+6.5
MOX	**Moxa**	**146.07**	**341**	*e*P	PKPdf	23 56 50.0	+6.8
MOX				pPKP		23 57 01.0	
NKC	**Novy Kostel**	**146.17**	**340**	*e*PKP	PKPdf	23 56 47.8	+4.4
KHC	**Kasperske Hory**	**146.71**	**337**	*e*PKP	PKPdf	23 56 46.0	+1.6
GERES	**GERESS Array B**	**146.91**	**337**	PKPbc	PKPbc	23 56 49.4	+3.1
	3.1nm,1.0s,baz=27,slow=3.0,SNR=15						
SKO	**Skopje**	**148.15**	**321**	*e*P	PKPdf	23 57 02.0	+15
GIVF	**Givet**	**148.31**	**348**	*e*PKP1	PKPdf	23 56 52.8	+5.9
BAIF	**Baives**	**148.47**	**349**	*e*PKP1	PKPdf	23 56 53.2	+6.1
CDF	**Champ du Feu**	**149.33**	**344**	*e*PKP1	PKPdf	23 56 55.2	+6.6
	19nm,1.2s						
MEZF	**Maizieres J'vi**	**149.78**	**347**	*e*PKP1	PKPdf	23 56 56.9	+7.6
	27nm,1.3s						
HAU	**Haudompre**	**149.94**	**345**	*e*PKP1	PKPdf	23 56 56.7	+7.1
	14nm,1.0s						
HAU				*e*R			
	81nm,21.0s						
HINF	**Hinteralfeld**	**149.99**	**344**	*e*PKP1	PKPdf	23 56 56.8	+7.1
DAVOX	**Davos**	**150.01**	**339**	PKPbc	PKPdf	23 56 56.0	+6.3
	6.6nm,0.9s,baz=50,slow=0.7,SNR=14						
FLN	**La Foliniere**	**150.43**	**354**	*e*PKP1	PKPdf	23 56 57.7	+7.4
	36nm,1.2s						
FLN				*e*R			
	115nm,22.5s						
LDF	**La Druitiere**	**150.55**	**353**	*e*PKP1	PKPdf	23 56 57.9	+7.4
	15nm,1.1s						
GRR	**Gorron**	**150.83**	**354**	*e*PKP1	PKPdf	23 56 58.7	+7.8
	14nm,1.0s						
LOR	**Lormes**	**151.21**	**347**	*e*PKP1	PKPdf	23 56 59.8	+8.3
	15nm,1.1s						
LOR				*e*R			
	67nm,21.8s						
SSF	**Saint Saulge**	**151.48**	**348**	*e*PKP1	PKPdf	23 57 00.4	+8.5
	16nm,1.0s						
LPL	**La Plagne**	**152.13**	**342**	*e*PKP1	PKPdf	23 57 02.4	+9.5
	16nm,1.3s						
ORIF	**Oris-en-Rattie**	**152.92**	**343**	*e*PKP1	PKPdf	23 57 03.6	+10
ORIF				*e*R			
	113nm,23.0s						

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*IDC **14** 23:49:04.5±1.2, 51.99S×138.46E, mb4.0/6, mb1 4.3/6, mb1mx4.1/9, Error ellipse: s-maj=81.2km s-min=18.5km az=88.0*

*NEIC **14** 23:49:05.7±0.4, 51.89S×138.90E, h10^{km}, mb4.7/5, Error ellipse: s-maj=18.9km s-min=8.4km az=92.0*

ISC 14 23:49:03.9±0.6**, 51.89S**±0.07×**138.8E**±0.3**, h10^{km}, n20,** σ**0^{s}74**/14**, mb4.4**/9**, 1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.10**	**7**	P	**P**	**23 53 42.5**	**+2.0**
	2.1nm,0.8s,baz=214,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**20.10**	**7**	*e*P	**P**	**23 53 39.1**	**-1.4**
CASY	**Casey**	**20.20**	**214**	*e*P	**P**	**23 53 42.5**	**+1.2**
	4.8nm,0.8s						
SNZO	**South Karori**	**26.57**	**81**	P	**P**	**23 54 44.1**	**+0.5**
	174nm,1.3s,mb5.4						
VNDA	**Vanda**	**27.12**	**169**	P	**P**	**23 54 48.2**	**-0.1**
	2.3nm,0.9s,mb3.7,baz=332,slow=7.7,SNR=3.9						
VNDA	**Vanda**	**27.12**	**169**	P	**P**	**23 54 48.2**	**-0.1**
ASAR	**Alice Springs**	**28.43**	**351**	P	**P**	**23 55 00.9**	**+0.2**
	2.4nm,0.8s,mb3.9,baz=168,slow=11,SNR=16						
WB2	**Warramunga Arr**	**32.08**	**352**	⇓*i*P	**P**	**23 55 32.8**	**-0.3**
WRA	**Warramunga Arr**	**32.08**	**352**	P	**P**	**23 55 32.9**	**-0.2**
	7.5nm,0.9s,mb4.5,baz=174,slow=8.2,SNR=28						
WRAB	**Tennant Creek**	**32.09**	**352**	*e*P	**P**	**23 55 32.8**	**-0.4**
	19nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**35.28**	**338**	P	**P**	**23 56 00.9**	**+0.1**
	2.6nm,0.7s,mb4.3,baz=190,slow=1.7,SNR=4.6						
QSPA	**South Pole Qui**	**38.23**	**180**	*e*P	**P**	**23 56 24.9**	**-0.1**
	12nm,1.2s,mb4.5						
KAKA	**Kakadu**	**39.43**	**350**	*e*P	**P**	**23 56 35.9**	**+0.2**
	6.3nm,0.6s,mb4.5						
SNAA	**Sanae**	**53.79**	**194**	P	**P**	**23 58 26.8**	**-1.3**
	1.2nm,1.2s,mb3.7,baz=154,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**143.46**	**312**	PKP	PKPdf	00 08 37.8	-2.5
	2.3nm,1.0s,baz=172,slow=29,SNR=2.7						
FINES	**FINESS Array B**	**143.46**	**312**	PKP	PKPdf	00 08 37.8	-2.5
ARCES	**ARCESS Array B**	**145.18**	**326**	PKP	PKPdf	00 08 42.1	-1.0
	1.5nm,0.6s,baz=76,slow=5.0,SNR=6.0						
GERES	**GERESS Array B**	**145.56**	**287**	PKPbc	PKPbc	00 08 43.9	+1.9
	0.6nm,0.8s,baz=124,slow=4.8,SNR=7.4						
DAVOX	**Davos**	**146.91**	**282**	PKPbc	PKPbc	00 08 47.9	+2.6
	0.9nm,0.8s,baz=341,slow=18,SNR=2.0						
ESDC	**Sonseca Array**	**151.63**	**259**	PKPbc	PKPdf	00 08 58.3	+3.9
	0.9nm,0.7s,baz=298,slow=38,SNR=3.0						

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*IDC **15** 00:35:28.3±0.9, 15.35S×67.19E, mb4.0/11, mb1 4.2/11, mb1mx4.1/16, MS3.6/1, Ms1 3.8/1, ms1mx3.1/19, Error ellipse: s-maj=35.4km s-min=18.5km az=47.0*

*NEIC **15** 00:35:30.4±0.4, 15.27S×67.30E, h10^{km}, mb4.5/7, Error ellipse: s-maj=17.3km s-min=9.9km az=224.0*

*SYO **15** 00:35:30.4, 15.27S×67.30E, h10^{km}, MB4.5*

ISC 15 00:35:28.6±0.5**, 15.3S**±0.1×**67.4E**±0.1**, h10^{km}, n28,** σ**1^{s}06**/26**, mb4.1**/18**, MS3.6**/1**, 2D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**45.74**	**44**	P	**P**	**00 43 53.6**	**+1.4**
	1.4nm,0.9s,mb3.9,baz=224,slow=10,SNR=4.5						
CMAR				LR	LR	01 01 23.7	
	comp=Z,63nm,18.1s,MS3.6,baz=215,slow=34						
SYO	**Syowa Base**	**56.49**	**192**	⇓P	**P**	**00 45 10.9**	**-2.0**
SYO	**Syowa Base**	**56.49**	**192**	⇓pP	pP	00 45 13.6	-2.4
ASAR	**Alice Springs**	**62.82**	**109**	P	**P**	**00 45 56.6**	**-0.4**
	2.4nm,1.0s,mb4.3,baz=271,slow=6.1,SNR=12						
BRTR	**Keskin Array B**	**63.11**	**331**	P	**P**	**00 45 57.1**	**-1.7**
	0.8nm,0.9s,mb3.9,baz=146,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**63.24**	**11**	P	**P**	**00 45 57.7**	**-1.8**
	1.4nm,0.7s,mb4.2,baz=218,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**63.24**	**11**	P	**P**	**00 45 57.7**	**-1.8**
WRA	**Warramunga Arr**	**63.64**	**105**	P	**P**	**00 46 02.9**	**+0.2**
	1.8nm,0.6s,mb4.3,baz=270,slow=6.0,SNR=36						
WB2	**Warramunga Arr**	**63.66**	**105**	*e*P	**P**	**00 46 02.9**	**+0.2**
WRAB	**Tennant Creek**	**63.66**	**105**	*e*P	**P**	**00 46 02.8**	**+0.1**
	4.1nm,0.5s,mb4.7						
KURK	**Kurchatov**	**66.46**	**8**	*e*P	**P**	**00 46 19.6**	**-0.7**
	1.7nm,0.4s,mb4.4						
BRVK	**Borovoye**	**68.11**	**2**	*e*P	**P**	**00 46 28.7**	**-2.1**
	2.9nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**68.85**	**119**	P	**P**	**00 46 36.6**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=168,slow=20,SNR=2.5						
SONM	**Songino Array**	**71.85**	**27**	P	**P**	**00 46 54.1**	**+0.4**
	2.1nm,0.8s,mb4.1,baz=214,slow=5.6,SNR=17						
AKASG	**Malin Array Be**	**73.71**	**336**	P	**P**	**00 47 04.2**	**-0.3**
	0.3nm,0.3s,mb3.6,baz=142,slow=4.8,SNR=3.6						
QSPA	**South Pole Qui**	**74.79**	**180**	*e*P	**P**	**00 47 11.8**	**+1.5**
	7.8nm,1.2s,mb4.5						
VNDA	**Vanda**	**76.15**	**167**	P	**P**	**00 47 16.6**	**-1.5**
	1.0nm,0.9s,mb3.7,baz=267,slow=5.8,SNR=3.2						
GERES	**GERESS Array B**	**79.57**	**327**	P	**P**	**00 47 36.8**	**-0.6**
	0.4nm,0.8s,mb3.4,baz=127,slow=4.9,SNR=4.1						
MBDF	**Montbardon**	**81.14**	**321**	*e*P	**P**	**00 47 47.3**	**+1.5**
	8.1nm,0.8s,mb4.4						
LPG	**La Plagne**	**81.56**	**322**	*e*P	**P**	**00 47 48.3**	**+0.3**
	2.2nm,0.6s,mb3.9						
LPL	**La Plagne**	**81.58**	**322**	*e*P	**P**	**00 47 48.0**	**-0.1**
SMF	**Signal de Mont**	**83.89**	**322**	*e*P	**P**	**00 48 00.2**	**+0.2**
SSF	**Saint Saulge**	**84.29**	**322**	*e*P	**P**	**00 48 01.9**	**-0.1**
BGF	**Bois d'Agland**	**84.44**	**321**	*e*P	**P**	**00 48 03.6**	**+0.8**
	4.3nm,0.6s,mb4.4						
ETSF	**Etsaut**	**84.90**	**317**	*e*P	**P**	**00 48 06.4**	**+1.2**
ESDC	**Sonseca Array**	**85.88**	**313**	P	**P**	**00 48 11.1**	**+1.0**
	1.3nm,0.7s,mb4.3,baz=108,slow=4.3,SNR=8.7						
MFF	**Saint Martin d**	**86.29**	**320**	*e*P	**P**	**00 48 12.9**	**+0.9**
PDAR	**Pinedale Array**	**152.49**	**355**	PKPbc	PKPdf	00 55 27.4	+6.2
	1.3nm,0.6s,baz=60,slow=2.4,SNR=15						

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*IDC **15** 01:15:12.6±0.7, 15.36S×67.32E, mb4.0/13, mb1 4.2/13, mb1mx4.1/17, MS3.8/4, Ms1 3.9/4, ms1mx3.4/20, Error ellipse: s-maj=27.3km s-min=17.4km az=56.0*

*NEIC **15** 01:15:14.2±0.3, 15.34S×67.35E, h10^{km}, mb4.6/4, Error ellipse: s-maj=14.3km s-min=8.8km az=59.0*

ISC 15 01:15:12.5±0.5**, 15.3S**±0.1×**67.4E**±0.1**, h10^{km}, n27,** σ**0^{s}80**/26**, mb4.1**/17**, MS3.9**/4**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**45.70**	**44**	P	**P**	**01 23 38.0**	**+2.2**
	1.9nm,1.1s,mb3.9,baz=230,slow=7.0,SNR=0.5						
CMAR				LR	LR	01 41 07.7	
	comp=Z,135nm,18.0s,MS3.9,baz=225,slow=34						
MAW	**Mawson**	**52.35**	**182**	P	**P**	**01 24 26.0**	**-0.5**

	0.4nm,0.3s,mb3.8,baz=351,slow=13,SNR=3.5						
FITZ	Fitzroy Crossi	55.63	102	P	P	01 24 51.6	+0.4
	3.7nm,1.0s,mb4.4,baz=220,slow=4.1,SNR=2.7						
ASAR	Alice Springs	62.75	109	P	P	01 25 40.3	-0.2
	2.7nm,1.0s,mb4.3,baz=266,slow=5.1,SNR=9.8						
ASAR				LR	LR	01 47 51.1	
	comp=Z,89nm,21.4s,MS3.9,baz=112,slow=31						
BRTR	Keskin Array B	63.15	331	P	P	01 25 43.3	+0.4
	0.7nm,0.9s,mb3.8,baz=135,slow=8.7,SNR=5.5						
MKAR	Makanchi Array	63.24	11	P	P	01 25 43.0	-0.4
	1.3nm,0.7s,mb4.2,baz=162,slow=7.7,SNR=6.5						
MKAR				LR	LR	01 53 38.3	
	comp=Z,35nm,18.6s,MS3.6,baz=1.4,slow=36						
MKAR	Makanchi Array	63.24	11	P	P	01 25 43.0	-0.4
MKAR				LR	LR	01 53 38.3	
WRA	Warramunga Arr	63.58	105	P	P	01 25 45.9	-0.2
	4.6nm,0.9s,mb4.5,baz=270,slow=6.1,SNR=16						
WRAB	Tennant Creek	63.59	105	*e*P	P	01 25 46.1	-0.1
	33nm,1.4s						
KURK	Kurchatov	66.46	8	*e*P	P	01 26 02.9	-1.3
	1.8nm,0.7s,mb4.2						
ZRNK	Zerenda	67.98	1	*e*P	P	01 26 12.7	-1.1
	11nm,1.4s,mb4.7						
BRVK	Borovoye	68.12	2	*e*P	P	01 26 13.8	-0.8
	5.5nm,1.2s,mb4.5						
STKA	Stephens Creek	68.79	119	P	P	01 26 18.4	-0.7
	1.3nm,0.6s,mb4.0,baz=275,slow=16,SNR=2.7						
STKA				LR	LR	01 55 00.1	
	comp=Z,109nm,18.8s,MS4.1,baz=204,slow=35						
STKA	Stephens Creek	68.79	119	P	P	01 26 18.4	-0.8
STKA				LR	LR	01 55 00.1	
SONM	Songino Array	71.83	26	P	P	01 26 37.8	+0.4
	1.3nm,0.9s,mb3.9,baz=217,slow=6.2,SNR=8.0						
AKASG	Malin Array Be	73.75	336	P	P	01 26 48.3	-0.3
	0.2nm,0.3s,mb3.5,baz=145,slow=4.4,SNR=5.6						
QSPA	South Pole Qui	74.78	180	*e*P	P	01 26 54.2	+0.2
	10.0nm,1.4s,mb4.5						
VNDA	Vanda	76.13	167	P	P	01 27 02.5	+0.7
	0.8nm,0.8s,mb3.7,baz=260,slow=6.0,SNR=3.0						
VYHS	Vyhne	76.78	329	*e*P	P	01 27 06.4	+0.5
GERES	GERESS Array B	79.61	327	P	P	01 27 20.8	-0.6
	0.4nm,0.7s,mb3.5,baz=135,slow=7.5,SNR=4.4						
KHC	Kasperske Hory	79.85	327	*e*P	P	01 27 22.6	-0.2
PRU	Pruhonice	79.89	328	*e*P	P	01 27 22.9	0.0
NKC	Novy Kostel	81.11	328	*e*P	P	01 27 30.6	+1.2
CLL	Collm	81.47	329	P	P	01 27 33.0	+1.7
MOX	Moxa	81.78	328	*e*P	P	01 27 32.0	-0.9
ESDC	Sonseca Array	85.94	313	P	P	01 27 54.6	+0.3
	2.3nm,1.1s,mb4.3,baz=90,slow=5.9,SNR=5.0						
PDAR	Pinedale Array	152.51	355	PKPbc	PKPdf	01 35 10.8	+5.6
	0.7nm,0.7s,baz=75,slow=2.8,SNR=6.2						

DJA 15 01:17:23.9±1.0**, 2.53S**×**121.87E, h100**^{km}**, MD4.5**/3,
ML4.2/3**, 3D, Error ellipse: s-maj=34.0km s-min=22.0km az=148.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUNI	Buntu Taipa	1.91	234	⇓*e*Pn	P	01 17 54.0	-1.8
	138nm,0.2s						
BUNI	Buntu Taipa	1.91	234	⇓*e*P	P	01 17 55.0	-0.8
BUNI				*e*Sn	S	01 18 19.1	-0.3
TANI	Tanete Lipujan	2.65	250	*e*Pn	P	01 18 05.7	-0.1
	52nm,0.2s						
TANI				*e*Sn	S	01 18 35.1	-2.1
NINI	Niniconang	2.83	228	⇓*e*Pn	P	01 18 09.6	+1.3
	146nm,0.2s						
NINI				*e*Sn	S	01 18 39.1	-2.6

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*MDD **15** 01:42:22.8±0.6, 41.99N×7.60W, h17^{km}±8^{km}, mbLg1.2/9, Error ellipse: s-maj=5.5km s-min=4.3km az=148.0, PRXIMO*

*INMG **15** 01:42:23.9±0.8, 41.98N×7.59W, h6^{km}±4^{km}, ML0.8, Error ellipse: s-maj=2.1km s-min=1.3km az=116.0*

ISC 15 01:42:23.2±1.0**, 42.01N**±0.06×**7.60W**±0.08**, h17**^{km}**, n12, σ0^s.35**/11**, 1C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELOB	Lobios	0.38	248	Pg	Pb	01 42 30.8	-0.3
	SNR=39						
ELOB				Lg		01 42 36.0	
	6.7nm,0.1s						
ERUA	La Rua	0.51	41	⇑Pg	Pb	01 42 33.6	+0.2
	3.4nm,0.1s,SNR=18						
ERUA				Lg		01 42 40.5	
	1.6nm,0.1s,SNR=7.9						
ECAL	Calabor	0.64	96	Pg	Pb	01 42 35.8	+0.1
	0.6nm,0.1s,SNR=22						
ECAL				Lg		01 42 44.2	
	2.6nm,0.1s						
PBRG	Braganca	0.67	108	*e*Pg	Pb	01 42 36.1	0.0
PBRG				*e*Sg	Sb	01 42 44.6	-0.3
	2.5nm,0.1s						
PBRG	Braganca	0.67	108	Pg	Pb	01 42 36.1	0.0
PBRG				Lg		01 42 44.6	
	1.2nm,0.1s						
EINC	Incio	0.67	16	Lg		01 42 46.0	
	0.8nm,0.1s,SNR=7.9						
PVRL	Vila Real	0.74	187	*e*Pg	Pb	01 42 37.0	-0.3
PVRL				*e*Sg	Sb	01 42 46.5	-0.4
	4.5nm,0.1s						
PVRL	Vila Real	0.74	187	Pg	Pb	01 42 37.0	-0.3
PVRL				Lg		01 42 46.5	
	2.2nm,0.1s						
EZAM	Zamans	0.83	280	Lg		01 42 50.1	
	0.7nm,0.1s,SNR=7.9						
STS	Santiago	1.12	321	Lg		01 42 59.1	
	1.9nm,0.1s,SNR=7.9						
PVIS	Viseu	1.31	190	*e*Pg	Pn	01 42 47.0	0.0
PVIS				*e*S	Sb	01 43 04.3	+0.8
EPON	Pontenova	1.36	14	Lg		01 43 06.4	
	0.4nm,0.1s,SNR=7.9						

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*IDC **15** 01:56:38.6±6.1, 5.87S×131.52E, h41^{km}±56^{km}, mb4.2/2, mb1 4.3/5, mb1mx3.9/12, ML4.2/3, Error ellipse: s-maj=52.9km s-min=23.8km az=70.0*

ISC 15 01:56:39.8±2.7**, 5.90S**±0.09×**131.2E**±0.2**, h67**^{km}±26^{km}**, n7, σ1^s.16**/10**, mb3.9**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	6.86	170	*e*P	P	01 58 21.2	+1.2
	27nm,0.4s						
FITZ	Fitzroy Crossi	13.29	204	P	P	01 59 47.3	+0.2
	2.5nm,0.3s,baz=24,slow=13,SNR=58						
FITZ				S	S	02 02 12.9	-0.7
	1.8nm,0.3s,baz=190,slow=17,SNR=8.7						
WRA	Warramunga Arr	14.29	168	P	P	01 59 57.0	-3.2
	1.5nm,0.3s,baz=356,slow=13,SNR=43						
WRA				S	S	02 02 37.0	-0.5
	1.1nm,0.3s,baz=356,slow=23,SNR=7.3						
ASAR	Alice Springs	17.86	172	P	P	02 00 45.2	-0.2
	0.6nm,0.3s,baz=351,slow=13,SNR=40						
ASAR				S	S	02 04 01.9	+2.7
	0.2nm,0.3s,baz=359,slow=26,SNR=4.3						
STKA	Stephens Creek	27.62	161	P	P	02 02 21.9	-1.2
	0.6nm,0.5s,mb3.4,baz=344,slow=16,SNR=2.2						
NWAO	Narrogin (SRO)	29.87	204	P	P	02 02 43.9	+0.6
	32nm,1.4s,mb4.8,baz=12,slow=19,SNR=2.3						
MKAR	Makanchi Array	67.97	326	P	P	02 07 34.1	+0.3
	0.2nm,0.3s,mb3.4,baz=138,slow=6.5,SNR=3.7						

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*IDC **15** 02:10:38.7±9.2, 24.00S×179.49E, h516^{km}±95^{km}, mb3.1/5, mb1 3.3/6, mb1mx3.1/14, Error ellipse: s-maj=77.3km s-min=29.4km az=38.0*

*NEIC **15** 02:10:41.0±4.5, 24.15S×179.44E, h546^{km}±44^{km}, mb4.3/2, Error ellipse: s-maj=52.9km s-min=15.8km az=215.0*

*SYO **15** 02:10:41.0, 24.15S×179.44E, h546^{km}, MB4.3*

ISC 15 02:10:40.1±2.5**, 24.1S**±0.3×**179.4E**±0.3**, h550**^{km}**, n12, σ0^s.30**/8**, mb3.8**/5**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.27	187	P	P	02 13 42.0	+0.1
	0.8nm,0.3s,baz=126,slow=22,SNR=3.5						
RPZ	Rata Peaks	20.76	197	P	P	02 14 43.8	-0.1
	13nm,0.8s,baz=23,slow=13,SNR=4.2						
CTA	Charters Tower	30.96	271	P	P	02 16 14.8	+0.7
	2.2nm,0.4s,mb4.0,baz=93,slow=11,SNR=7.5						
CTAO	Charters Tower	30.96	271	*e*P	P	02 16 14.3	+0.2
	1.8nm,0.5s,mb3.9						
STKA	Stephens Creek	34.18	248	P	P	02 16 41.0	0.0
	1.9nm,0.9s,mb3.6,baz=51,slow=13,SNR=2.5						
ASAR	Alice Springs	41.50	261	P	P	02 17 40.9	+0.1
	0.9nm,0.9s,mb3.3,baz=94,slow=7.5,SNR=4.7						
WRA	Warramunga Arr	41.88	267	P	P	02 17 43.4	-0.5
	1.4nm,0.8s,mb3.5,baz=96,slow=8.1,SNR=5.6						
PMSA	Palmer Station	78.94	157	P	P	02 21 47.4	0.0
	16nm,0.7s,mb4.5						
SYO	Syowa Base	82.72	194	⇓PcP	PcP	02 22 13.2	+2.6
SYO	Syowa Base	82.72	194	⇓pP	pP	02 24 07.0	+1.0
HFS	Hagfors	142.62	348	PKP	PKPdf	02 29 11.9	+2.1
	1.8nm,0.5s,baz=90,slow=4.4,SNR=12						
CLL	Collm	150.88	342	*e*PKP1	PKPdf	02 29 36.0	+12

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*ATH **15** 02:29:46.8, 36.95N×28.49E, h10^{km}, MD3.1/3*

*ISK **15** 02:29:48.3, 36.77N×27.48E, h8^{km}, MD3.2*

ISC 15 02:29:52.9±0.8**, 36.84N**±0.05×**27.80E**±0.06**, h10**^{km}**, n12, σ1^s.00**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.36	309	*i* P	Pg	02 30 00.7	+0.3
BDRM				*i* S	Sg	02 30 05.9	+0.6
MLSB	Milas	0.45	358	*i* PG	Pg	02 30 00.1	-2.1
MLSB				*i* SG	Sg	02 30 08.4	+0.1
YER	Yerkesik	0.49	53	*i* PG	Pg	02 30 02.7	-0.1
ARG	Arkhangelos	0.68	157	*e*PG	Pg	02 30 01.5	-5.0
AYDN	Tasoluk	0.82	5	*i* P	Pb	02 30 09.1	+0.3
AYDN				*i* S	Sb	02 30 19.5	-0.2
SMG	Samos	1.16	319	*e*PB	Pb	02 30 15.3	+0.7
DNZL	Cakiroluk	1.31	49	*i* P	Pb	02 30 18.9	+1.7
DNZL				*i* S	Sb	02 30 38.7	+4.9
DENT	Denizli	1.34	47	*e*PN	Pn	02 30 18.2	+0.4
KARP	Karpathos	1.39	202	*e*PG	Pg	02 30 20.3	-0.4
IZM	Izmir	1.61	345	*e*PN	Pn	02 30 17.2	-4.4
ELL	Elmali	1.70	92	*e*PN	Pn	02 30 22.9	0.0
AKS	Akhisar	2.04	0	*e*PN	Pn	02 30 24.9	-2.8

WEL 15 02:31:09.8±1.0**, 38.31S**×**175.90E, h166**^{km}±10^{km}**, ML3.8**/2**, Error ellipse: s-maj=10.6km s-min=5.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.95	87	PN	P	02 31 35.5	-0.4
URZ				SN	S	02 31 54.9	-1.2
BKZ	Black Stump Fm	0.97	152	PN	P	02 31 36.5	+0.4
KNZ	Kokohu	1.56	118	PN	P	02 31 41.3	-0.3
KNZ				SN	S	02 32 05.1	-1.0
TSZ	Takapari Road	1.75	178	PN	P	02 31 43.2	-0.3
TSZ				SN	S	02 32 08.5	-1.1
MRZ	Mangatainoka R	2.36	186	PN	P	02 31 49.0	-1.6
MRZ				SN	S	02 32 18.7	-3.2
MTW	Mount Morrison	2.86	186	PN	P	02 31 54.3	-2.3
NNZ	Nelson	3.49	213	SN	S	02 32 43.6	-3.4
KHZ	Kahutara	4.48	203	PN	P	02 32 14.2	-3.3
KHZ				SN	S	02 33 05.4	-4.3

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*NEIC **15** 02:38:01.0, 33.40S×70.49W, h97^{km}, MD3.1(GUC), After GUC.*

GUC 15 02:38:01.0±0.7**, 33.40S**×**70.49W, h97**^{km}±2^{km}**, MD3.1, ML3.5, 12C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLCH	Cerro Calan	0.04	278	⇓*i*P	P	02 38 15.1	+0.4
CLCH				*i* S	S	02 38 25.6	+0.7
CLCH				AMP		02 38 26.7	
	comp=E,2µm,0.3s						
DSCH	Colegio Aleman	0.07	273	⇑*i*P	P	02 38 15.1	+0.4
DSCH				*i* S	S	02 38 25.4	+0.6
DSCH				AMP		02 38 26.7	
	comp=E,6µm,0.4s						
SAN	Santiago	0.15	251	⇑*i*P	P	02 38 15.1	+0.3
SAN				*i* S	S	02 38 25.4	+0.3
SAN				AMP		02 38 25.9	
	comp=E,5µm,0.2s						
FCH	Farellones	0.18	66	⇑*i*P	P	02 38 15.6	+0.7
FCH				*i* S	S	02 38 26.7	+1.4
FCH				AMP		02 38 28.8	
	comp=E,4µm,0.1s						
ANTU	Antumapu	0.21	216	⇑*i*P	P	02 38 15.1	+0.2
ANTU				*i* S	S	02 38 25.7	+0.3
ANTU				AMP		02 38 26.0	
	comp=E,2µm,0.3s						
PCH	Pirque	0.22	186	⇑*i*P	P	02 38 15.3	+0.4
PCH				*i* S	S	02 38 25.8	+0.3
PUEX	Pudahuel	0.23	260	⇓*i*P	P	02 38 15.3	+0.3
PUEX				*i* S	S	02 38 25.9	+0.3
PUEX				AMP		02 38 26.6	
	comp=E,3µm,0.5s						
PEL	Peldehue	0.31	327	*i* S	S	02 38 26.6	+0.4
LMEL	Las Melosas	0.50	152	⇓*i*P	P	02 38 17.1	+0.4
LMEL				*i* S	S	02 38 29.1	+0.7
LMEL				AMP		02 38 34.6	
	comp=N,1µm,0.2s						
CHCH	Chadas Angostu	0.55	195	⇑*i*P	P	02 38 17.2	+0.1
CHCH				*i* S	S	02 38 29.3	+0.3
CACH	El Canelo	0.72	187	⇓*i*P	P	02 38 19.3	+0.7
CACH				*i* S	S	02 38 32.9	+1.3
JACH	Jahuel	0.72	353	⇑*i*P	P	02 38 19.2	+0.6
JACH				*i* S	S	02 38 32.5	+0.8
LCCH	Las Cruces	0.91	265	*e*P	P	02 38 20.6	+0.2
LCCH				*i* S	S	02 38 34.7	-0.3
CICH	Cipreses	0.92	177	⇑*i*P	P	02 38 21.0	+0.4
CICH				*i* S	S	02 38 36.2	+1.0
LNV	Longovilo	0.95	234	⇑*i*P	P	02 38 20.3	-0.5
LNV				*i* S	S	02 38 34.6	-1.2
IHA	Instituto Hidr	1.04	291	⇑*i*P	P	02 38 22.0	+0.1
IHA				*i* S	S	02 38 37.7	+0.1
SFDO	San Fernando	1.29	200	*e*P	P	02 38 24.8	-0.2
SFDO				*i* S	S	02 38 43.0	+0.1
ILCH	Illapel	1.85	342	⇑*i*P	P	02 38 32.0	0.0
ILCH				AMP		02 38 57.1	
	comp=N,365nm,0.2s						
CMCH	Combarbala	2.26	349	⇑*i*P	P	02 38 36.9	-0.6
CMCH				*i* S	S	02 39 03.8	-1.0
CMCH				AMP		02 39 10.5	
	comp=E,394nm,0.5s						

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*ROM **15** 02:39:58.1±1.6, 39.99N×15.39E, h306^{km}±15^{km}, MD2.9/4, ML2.2/4, Error ellipse: s-maj=26.0km s-min=9.3km az=90.0*

*NEIC **15** 02:40:01.8±0.4, 40.10N×15.61E, h285^{km}±4^{km}, mb3.4/9, MD2.9(ROM), Error ellipse: s-maj=7.9km s-min=5.8km az=48.0*

*IDC **15** 02:40:02.8±1.1, 40.17N×15.55E, h295^{km}±15^{km}, mb3.1/6, mb1 3.1/15, mb1mx3.0/26, Error ellipse: s-maj=18.8km s-min=12.7km az=101.0*

ISC 15 02:40:00.6±0.4**, 40.04N**±0.05×**15.60E**±0.07**, h290**^{km}±5^{km}**, n50, σ0^s.86**/53**, mb3.3**/6**, 4C-4D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGR	Morigerati	0.10	342	⇓*i*P	P	02 40 37.3	-0.4
MGR	Morigerati	0.10	342	⇓*i*Pg	P	02 40 37.3	-0.4
SLCN	Sala Consilina	0.35	5	*e*P	P	02 40 38.7	+0.7
SLCN	Sala Consilina	0.35	5	*e*Pg	P	02 40 38.6	+0.6
SGO	Sicignano	0.56	337	*e*P	P	02 40 38.6	+0.1
	7.0nm,0.3s						
TIP	Timpagrande	1.25	133	*e*Pn	P	02 40 41.3	-0.2
TIP				*e*S	S	02 41 05.0	-8.4
GRI	Girifalco	1.38	152	*e*P	P	02 40 42.3	0.0
GRI	Girifalco	1.38	152	*e*Pg	P	02 40 42.3	0.0
SGG	Gregorio Mates	1.63	326	*e*P	P	02 40 44.3	+0.3
SGG	Gregorio Mates	1.63	326	*e*Pg	P	02 40 44.3	+0.3
SOI	Samo	2.00	170	⇑*i*P	P	02 40 46.5	-0.2
SOI				S	S	02 41 20.6	-2.1
	29nm,0.3s						
SOI	Samo	2.00	170	⇑*i*Pg	P	02 40 46.5	-0.3
SOI				*e*Sg	S	02 41 20.6	-2.1
MTTG	Motta San Giov	2.04	178	*e*P	P	02 40 47.3	+0.2
MTTG	Motta San Giov	2.04	178	*e*Pg	P	02 40 47.3	+0.2
VAE	Valguarnera	2.72	200	P	P	02 40 57.0	+3.7
	1.3nm,0.3s,baz=68,slow=18,SNR=6.2						
AQU	L'Aquila	2.84	325	*e*Pn	P	02 40 55.4	+0.9
ASS	Assisi	3.74	325	*e*P	P	02 41 04.1	+0.1
ASS	Assisi	3.74	325	*e*Pg	P	02 41 04.1	+0.2
PUK	Puka	3.82	57	*i* p	P	02 41 05.3	+0.5
ARV	Arcevia	3.98	331	⇑*i*P	P	02 41 06.0	-0.6
	4.0nm,0.4s						
ARV	Arcevia	3.98	331	⇑*i*Pn	P	02 41 06.0	-0.6
FSSB	Fossombrone	4.21	331	⇓*i*P	P	02 41 09.0	-0.2
	7.0nm,0.4s						
FSSB	Fossombrone	4.21	331	⇓*i*Pn	P	02 41 09.0	-0.2
DAVOX	Davos	7.92	330	P	P	02 41 54.3	+0.5
	0.3nm,0.3s,baz=145,slow=23,SNR=6.9						
MBDF	Montbardon	8.03	309	*e*P	P	02 41 56.5	+1.2
	7.5nm,0.8s						
LPG	La Plagne	8.48	313	*e*P	P	02 42 01.6	+0.7
LPL	La Plagne	8.51	313	*e*P	P	02 42 02.1	+1.0
	3.2nm,0.5s						
IDI	Anoyia	8.76	120	P	P	02 42 07.0	+2.8
	0.3nm,0.3s,baz=244,slow=6.1,SNR=3.9						
GERES	GERESS Array B	8.91	352	P	P	02 42 06.0	0.0
	0.3nm,0.3s,baz=164,slow=13,SNR=28						
VRAC	Vranov	9.29	4	P	P	02 42 10.7	-0.1
	0.2nm,0.3s,baz=196,slow=12,SNR=5.1						
MLR	Muntele Rosu	9.36	51	P	P	02 42 11.5	-0.1
	0.1nm,0.3s,baz=170,slow=16,SNR=2.1						
CABF	La Chapelle	9.54	317	*e*P	P	02 42 12.4	-1.5
	4.6nm,0.4s						
HINF	Hinteralfeld	10.00	324	*e*P	P	02 42 18.2	-1.4
	2.9nm,0.3s						
CDF	Champ du Feu	10.27	327	*e*P	P	02 42 23.9	+1.0
	2.1nm,0.3s						
HAU	Haudompre	10.37	323	*e*P	P	02 42 23.1	-1.0
	4.3nm,0.6s						
BRG	Berggiesshubel	10.89	354	*i* P	P	02 42 31.2	+0.6
	2.5nm,0.8s						
BRG				*e*		02 42 35.1	
ETSF	Etsaut	12.45	288	*e*P	P	02 42 50.7	+0.9
	2.5nm,0.6s						
CART	Cartagena	13.18	265	*e*P	P	02 42 57.5	-1.2
	40nm,1.1s						
BRTR	Keskin Array B	13.87	86	P	P	02 43 07.0	0.0
	0.1nm,0.3s,baz=249,slow=11,SNR=6.6						
AKASG	Malin Array Be	14.31	37	P	P	02 43 11.9	-0.3
	1.1nm,0.3s,baz=232,slow=10,SNR=6.3						
ESDC	Sonseca Array	15.03	275	P	P	02 43 20.7	-0.1
	0.1nm,0.3s,baz=78,slow=11,SNR=5.2						
HFS	Hagfors	20.15	357	P	P	02 44 13.4	-0.5
	2.7nm,0.4s,baz=171,slow=8.7,SNR=25						
NOA	NORSAR Array B	21.20	354	P	P	02 44 24.2	+0.1
	0.7nm,0.6s,mb3.1,baz=321,slow=15,SNR=3.3						
FINES	FINESS Array B	22.38	13	P	P	02 44 35.7	+0.2
	1.2nm,0.3s,mb3.6,baz=180,slow=9.9,SNR=19						
FINES	FINESS Array B	22.38	13	P	P	02 44 35.7	+0.2
KAF	Kangasniemi	23.04	13	*e*p	P	02 44 40.0	-1.6
	0.2nm,0.3s,mb2.9						
ARCES	ARCESS Array B	30.02	7	P	P	02 45 43.1	-1.4
	1.5nm,0.9s,mb3.5,baz=195,slow=8.8,SNR=8.0						
DBIC	Dimbokro	37.96	214	P	P	02 46 53.2	+0.8
	3.6nm,1.1s,mb3.7,baz=9.5,slow=12,SNR=3.6						
DBIC	Dimbokro	37.96	214	P	P	02 46 53.2	+0.8
MKAR	Makanchi Array	47.60	59	P	P	02 48 09.6	+0.4
	0.3nm,0.3s,mb3.0,baz=292,slow=6.5,SNR=5.2						

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*NNC **15** 02:43:47.5±7.0, 36.83N×68.91E, mpv3.5, Error ellipse: s-maj=56.8km s-min=45.6km az=163.0*

ISC 15 02:43:44.1±1.8**, 36.4N**±0.1×**71.0E**±0.3**, h200**^{km}**, n7, σ0^s.68**/9**, 2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.75	357	⇑P	P	02 45 22.0	+0.2
	1.5nm,0.4s,baz=193,slow=13,SNR=59						
KK31				⇓S	S	02 46 38.0	0.0
	5.1nm,0.5s,baz=193,slow=23,SNR=12						
KOLN	Koldanda	13.71	125	*e*P	P	02 46 52.8	+1.4
	4.3nm,0.4s						
GKN	Gorkha	14.26	122	*e*P	P	02 46 58.2	0.0
	4.9nm,0.3s						
DMN	Daman	14.83	122	*e*P	P	02 47 04.0	-1.3
	9.1nm,0.6s						
KKN	Kakani	14.84	121	*e*P	P	02 47 05.5	+0.2
PKI	Pulchoki	15.06	121	*e*P	P	02 47 07.8	-0.3
	6.3nm,0.4s						
AB31	Akbulak array	15.19	331	⇓P	P	02 47 09.4	-0.1
	2.3nm,0.4s,baz=161,slow=12,SNR=92						
AB31				⇑S	S	02 49 45.2	-7.0
	1.6nm,0.6s,baz=165,slow=22,SNR=7.2						

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*IDC **15** 03:09:09.0±1.6, 2.52S×138.65E, mb3.8/4, mb1 3.9/7, mb1mx3.8/14, ML3.6/3, Error ellipse: s-maj=27.3km s-min=15.4km az=103.0*

*NEIC **15** 03:09:14.1±2.0, 2.53S×138.87E, h40^{km}±19^{km}, mb3.9/2, Error ellipse: s-maj=17.7km s-min=14.0km az=165.0*

ISC 15 03:09:11.9±2.4**, 2.54S**±0.09×**138.9E**±0.1**, h40**^{km}±26^{km}**, n12, σ0^s.72**/17**, mb3.7**/3**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	10.68	130	Pn	P	03 11 45.3	-0.2
	0.6nm,0.3s,baz=321,slow=18,SNR=2.8						
KAKA	Kakadu	11.96	212	*e*P	P	03 12 01.8	-1.0
	9.7nm,0.5s						
WRAB	Tennant Creek	17.84	194	*e*P	P	03 13 18.9	0.0
	11nm,0.9s						
WB2	Warramunga Arr	17.85	194	*e*P	P	03 13 20.2	+1.1
WB2				*e*S	S	03 16 33.0	-1.0
WRA	Warramunga Arr	17.85	194	P	P	03 13 19.6	+0.5
	0.4nm,0.3s,baz=16,slow=11,SNR=30						
WRA				S	S	03 16 34.6	+0.5
	0.1nm,0.3s,baz=11,slow=23,SNR=4.6						
CTA	Charters Tower	18.86	158	P	P	03 13 31.1	-0.3
	0.2nm,0.3s,baz=351,slow=13,SNR=2.8						
FITZ	Fitzroy Crossi	20.20	219	*e*P	P	03 13 46.1	0.0
	3.7nm,0.9s						
FITZ				*e*S	S	03 17 30.8	+5.2
FITZ	Fitzroy Crossi	20.20	219	P	P	03 13 45.4	-0.7
	2.4nm,0.8s,baz=36,slow=14,SNR=4.6						
FITZ				S	S	03 17 30.6	+5.0
	1.9nm,0.7s,baz=194,slow=17,SNR=4.9						
ASAR	Alice Springs	21.55	193	P	P	03 14 01.3	+1.5
	1.7nm,0.6s,mb3.6,baz=24,slow=11,SNR=14						
ASAR				S	S	03 18 04.5	+13
	0.7nm,0.8s,baz=12,slow=27,SNR=4.5						
ASPA	Alice Springs	21.55	193	*e*P	P	03 14 00.1	+0.2
STKA	Stephens Creek	29.29	175	P	P	03 15 12.2	-0.6
	1.6nm,0.8s,mb3.8,baz=339,slow=8.6,SNR=3.0						
MKAR	Makanchi Array	69.77	322	P	P	03 20 19.9	-0.2
	0.5nm,0.4s,mb3.8,baz=104,slow=6.7,SNR=5.3						

IDC 15 03:16:35.2±8.0**, 34.91S**×**179.09W, h44**^{km}±74^{km}**, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.7**/11**, ML3.6**/1**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx3.2**/16**, Error ellipse: s-maj=67.3km s-min=53.0km az=153.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	4.53	221	P	P	03 17 40.7	-2.5
	3.1nm,0.3s,baz=355,slow=6.8,SNR=20						
URZ				S	S	03 18 33.3	-2.0
	7.3nm,0.3s,baz=169,slow=21,SNR=13						
STKA	Stephens Creek	32.83	264	P	P	03 23 05.7	-1.0
	1.0nm,0.7s,baz=88,slow=22,SNR=2.4						
STKA				LR	LR	03 36 13.7	
	comp=Z,123nm,20.1s,baz=26,slow=36						
CTA	Charters Tower	33.91	287	P	P	03 23 15.1	-1.1
	2.8nm,0.9s,baz=146,slow=16,SNR=2.5						
ASAR	Alice Springs	42.17	272	P	P	03 24 22.8	-2.5
	1.2nm,0.7s,baz=114,slow=7.8,SNR=12						
ASAR				LR	LR	03 42 35.8	
	comp=Z,74nm,19.4s,baz=194,slow=37						
WB2	Warramunga Arr	43.55	277	*e*P	P	03 24 33.8	-2.8
WRA	Warramunga Arr	43.56	277	P	P	03 24 33.8	-3.0
	1.1nm,0.7s,baz=122,slow=7.5,SNR=13						
FINES	FINESS Array B	148.99	337	PKPbc	PKPdf	03 36 17.2	+3.8
	2.2nm,0.9s,baz=90,slow=5.7,SNR=5.4						

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*ATH **15** 03:28:14.6, 37.05N×28.25E, h41^{km}, MD3.3/3*

*ISK **15** 03:28:15.6, 36.97N×27.65E, h5^{km}, MD3.2*

ISC 15 03:28:17.4±0.7**, 36.88N**±0.03×**27.68E**±0.05**, h9**^{km}±6^{km}**, n14, σ1^s.20**/22**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.27	315	*i* P	Pg	03 28 23.6	+0.6

BDRM				iS	Sg	03 28 29.0	+2.2
YER	Yerkesik	0.55	62	iPG	Pg	03 28 26.6	-1.8
YER				iSG	Sg	03 28 35.8	0.0
ARG	Arkhangelos	0.75	151	eP	Pb	03 28 31.3	-0.8
ARG				eS	Sg	03 28 43.9	+1.4
AYDN	Tasoluk	0.80	11	iP	Pb	03 28 32.1	-0.9
AYDN				iS	Sb	03 28 42.4	-1.3
SMG	Samos	1.07	321	eP	Pb	03 28 37.8	+0.1
DNZL	Cakiroluk	1.36	53	iP	Pb	03 28 42.2	-0.3
DNZL				iS	Sb	03 29 01.8	+1.9
DENT	Denizli	1.39	50	ePN	Pn	03 28 42.5	-0.5
DENT				eSN	Sn	03 29 02.7	+1.1
KARP	Karpathos	1.39	198	eP	Pn	03 28 43.2	+0.1
IZM	Izmir	1.56	348	ePN	Pn	03 28 44.6	-0.8
KDAG	Bornova	1.56	348	iP	Pn	03 28 44.8	-0.7
KDAG				iS	Sb	03 29 08.2	+2.4
MANT	Manisa	1.75	23	iP	Pn	03 28 47.7	-0.6
MANT				iS	Sn	03 29 12.3	+1.4
ELL	Elmali	1.79	93	ePN	Pn	03 28 49.7	+0.9
AKS	Akhisar	2.00	3	ePN	Pn	03 28 50.3	-1.5
BALB	Balikesir	2.76	3	ePN	Pn	03 29 01.1	-1.6

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*IDC **15** 03:38:52.7±1.0, 15.41S×67.25E, mb4.0/12, mb1 4.2/12, mb1mx4.1/19, MS3.9/1, Ms1 4.1/1, ms1mx3.0/20, Error ellipse: s-maj=36.2km s-min=19.6km az=37.0*

*NEIC **15** 03:38:54.8±0.4, 15.33S×67.31E, h10^{km}, mb4.7/6, Error ellipse: s-maj=16.1km s-min=9.4km az=44.0*

ISC 15 03:38:53.5±0.6**, 15.1S**±0.1×**67.5E**±0.1**, h10^{km}, n31, σ0^{s}51**/27**, mb4.2**/18**, MS3.9**/1**, 2C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	45.51	44	P	P	03 47 19.2	+3.8
	0.6nm,0.4s,mb3.9,baz=230,slow=7.0,SNR=3.5						
CMAR				LR	LR	04 05 25.7	
	comp=Z,118nm,18.0s,MS3.9,baz=220,slow=35						
ASF	Jabal al Asfar	55.44	328	P	P	03 48 30.4	-0.4
	1.2nm,0.3s,mb4.4,baz=275,slow=3.0,SNR=3.3						
ASAR	Alice Springs	62.71	109	P	P	03 49 21.1	-0.2
	3.7nm,1.1s,mb4.4,baz=272,slow=5.8,SNR=13						
MKAR	Makanchi Array	63.05	11	P	P	03 49 22.6	-0.6
	2.6nm,1.1s,mb4.3,baz=207,slow=8.1,SNR=8.4						
BRTR	Keskin Array B	63.06	331	P	P	03 49 23.2	-0.1
	0.4nm,0.6s,mb3.7,baz=180,slow=9.9,SNR=5.4						
WRA	Warramunga Arr	63.53	105	P	P	03 49 26.5	-0.3
	5.5nm,1.0s,mb4.5,baz=270,slow=6.2,SNR=39						
WB2	Warramunga Arr	63.54	105	eP	P	03 49 27.2	+0.3
WRAB	Tennant Creek	63.54	105	eP	P	03 49 26.9	+0.1
KURK	Kurchatov	66.28	8	eP	P	03 49 44.3	+0.2
	7.3nm,1.2s,mb4.6						
ZRNK	Zerenda	67.81	1	eP	P	03 49 53.5	-0.3
	5.8nm,1.2s,mb4.5						
BVAR	Borovoye Array	67.92	2	P	P	03 49 54.0	-0.5
	0.5nm,0.5s,mb3.8,baz=143,slow=7.4,SNR=8.3						
BRVK	Borovoye	67.95	2	eP	P	03 49 54.2	-0.4
	6.7nm,1.3s,mb4.5						
MLR	Muntele Rosu	71.11	330	P	P	03 50 14.8	+0.7
	1.0nm,0.4s,mb4.1,baz=252,slow=7.8,SNR=3.1						
SONM	Songino Array	71.64	26	P	P	03 50 17.9	+0.6
	1.0nm,0.8s,mb3.8,baz=225,slow=5.2,SNR=7.0						
AKASG	Malin Array Be	73.64	336	P	P	03 50 28.4	-0.6
	0.2nm,0.3s,mb3.5,baz=137,slow=3.7,SNR=4.3						
QSPA	South Pole Qui	74.95	180	eP	P	03 50 35.9	-0.2
	8.8nm,1.3s,mb4.5						
VYHS	Vyhne	76.68	329	eP	P	03 50 46.9	+0.4
VYHS	Vyhne	76.68	329	eP	P	03 50 46.8	+0.3
GERES	GERESS Array B	79.53	327	P	P	03 51 01.5	-0.6
	0.5nm,0.9s,mb3.4,baz=135,slow=5.7,SNR=4.8						
KHC	Kasperske Hory	79.77	327	eP	P	03 51 02.7	-0.6
PRU	Pruhonice	79.80	328	eP	P	03 51 03.4	-0.1
PVCC	Panska Ves	80.12	329	eP	P	03 51 05.9	+0.7
BRG	Berggiesshubel	80.65	329	P	P	03 51 08.6	+0.6
	2.8nm,1.0s,mb4.2						
CLL	Collm	81.38	329	⇑P	P	03 51 12.6	+0.7
	logA/T=0.9,mb4.6						
CLL	Collm	81.38	329	⇑iP	P	03 51 12.6	+0.7
	13nm,1.6s,mb4.6						
MOX	Moxa	81.69	328	eP	P	03 51 14.0	+0.5
ESDC	Sonseca Array	85.89	313	P	P	03 51 34.9	-0.2
	0.6nm,0.7s,mb3.9,baz=119,slow=2.9,SNR=4.6						
LPAZ	La Paz	126.23	236	PKP	PKPdf	03 57 57.9	-2.5
	1.0nm,1.1s,baz=98,slow=5.6,SNR=2.8						
NEW	Newport	146.74	6	PKPbc	PKPbc	03 58 38.1	+2.6
	2.4nm,1.1s,baz=253,slow=19,SNR=4.1						
YBH	Yreka Blue Hor	152.05	17	PKPbc	PKPdf	03 58 48.1	+2.5
	0.2nm,0.3s,baz=55,slow=8.3,SNR=3.4						
PDAR	Pinedale Array	152.35	355	PKPbc	PKPdf	03 58 51.8	+5.8
	0.6nm,0.6s,baz=83,slow=2.6,SNR=6.2						

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*IDC **15** 03:41:16.6±0.6, 6.19S×107.12W, mb4.5/17, mb1 4.7/17, mb1mx4.7/18, MS5.0/12, Ms1 5.0/12, ms1mx5.0/13, Error ellipse: s-maj=22.6km s-min=14.2km az=59.0*

*HRVD **15** 03:41:17.5±0.1, 6.18S×107.24W, h12^{km}, MW5.5/64, Centroid moment Tensor Solution. LP body waves: s61,c118;Mantle waves: s64,c133; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.16±.03; M$_{\theta\theta}$0.61±.03; M$_{\phi\phi}$-0.45±.03; M$_{r\theta}$0.29±.07; M$_{\theta\phi}$1.77±.02; M$_{\phi r}$0.21±.07; Best double couple: M$_0$1.88×10^{17} NP1:φ$_s$8°, δ83°,λ173°. NP2:φ$_s$99°,δ83°,λ7°. Principal axes: T 1.99, Plg9°, Azm323°; N -.22, Plg81°, Azm143°; P -1.77, Plg0°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **15** 03:41:17.5, 6.20S×107.20W, h10^{km}, mB5.5, Ms5.4, Msz5.5*

*SYO **15** 03:41:17.5, 6.24S×107.15W, h10^{km}, MB5.2, MS5.1*

*NEIC **15** 03:41:17.6±0.3, 6.24S×107.15W, h10^{km}, mb5.2/61, MS5.1/98, MW5.6, Error ellipse: s-maj=8.7km s-min=5.7km az=56.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.07; M$_{\theta\theta}$0.72; M$_{\phi\phi}$-0.65; M$_{r\theta}$0.10; M$_{\theta\phi}$2.39; M$_{\phi r}$1.17; Best double couple: M$_0$2.8×10^{17} NP1: φ$_s$98°,δ65°,λ-2°. NP2:φ$_s$188°,δ88°,λ-155°. Principal axes: T 2.75, Plg16°, Azm320°; N 0, Plg65°, Azm192°; P -2.75, Plg19°, Azm56°;*

ISC 15 03:41:15.8±0.4**, 6.22S**±0.06×**107.15W**±0.06**, h10^{km}, n235, σ1^{s}08**/161**, mb5.1**/74**, MS5.1**/113**, 1C-2D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	17.71	73	⇓eP	P	03 45 26.0	+1.7
	178nm,1.3s						
JTS	JuntasAbangare	27.53	54	P	P	03 47 06.5	+1.5
	22nm,1.2s,mb4.7,baz=246,slow=9.6,SNR=5.0						
JTS				LR	LR	03 55 20.9	
	comp=Z,9μm,18.1s,MS5.4,baz=332,slow=31						
JTS	JuntasAbangare	27.53	54	eP	P	03 47 06.3	+1.3
	102nm,1.6s,mb5.2						
JTS				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
NNA	Nana	30.45	103	PFAKE		03 47 40.0	+8.8
NNA				LR	LR		
	comp=Z,594nm,19.0s,MS4.3						
RKT	Rikitea	31.63	235	eP	P	03 47 47.1	+5.6
	comp=Z,216nm,1.3s,mb5.8						
ROSC	El Rosal	34.56	72	P	P	03 48 09.1	+2.0
	comp=Z,12nm,1.0s,mb4.8,baz=262,slow=14,SNR=8.1						
ROSC				LR	LR	03 59 51.5	
	comp=Z,2μm,18.2s,MS5.0,baz=234,slow=32						
LTX	Lajitas	35.50	5	eP	P	03 48 15.2	+0.3
	comp=Z,15nm,1.0s,mb4.9						
LTX				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
JCT	Junction City	37.16	11	eP	P	03 48 31.0	+2.1
	comp=Z,35nm,1.3s,mb5.0						
JCT				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
HKT	Hockley	37.56	16	eP	P	03 48 33.8	+1.5
HKT				LR	LR		
	comp=Z,860nm,22.0s,MS4.5						
TUC	Tucson	38.47	355	P	P	03 48 39.4	-0.5
	comp=Z,16nm,1.6s,mb4.5						
TUC				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
SDV	Santo Domingo	39.37	68	eP	P	03 48 48.1	+0.5
	comp=Z,29nm,1.1s,mb4.9						
SDV				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
LPAZ	La Paz	39.49	108	P	P	03 48 49.3	+0.8
	comp=Z,4.3nm,1.0s,mb4.1,baz=303,slow=7.8,SNR=12						
LPAZ				LR	LR	04 01 41.3	
	comp=Z,2μm,20.0s,MS4.8,baz=89,slow=31						
LPAZ	La Paz	39.49	108	P	P	03 48 49.4	+0.9
NATX	Nacogdoches	39.60	17	eP	P	03 48 50.4	+1.1
	comp=Z,29nm,0.9s,mb5.0						
NATX				LR	LR		
	comp=Z,721nm,20.0s,MS4.5						
BAR	Barrett	39.73	347	eP	P	03 48 51.2	+0.8
LVC	Limon Verde	40.30	118	P	P	03 48 56.1	+0.9
	comp=Z,5.3nm,0.7s,mb4.4,baz=280,slow=7.4,SNR=5.8						
LVC	Limon Verde	40.30	118	eP	P	03 48 55.6	+0.5
	comp=Z,80nm,1.6s,mb5.2						
LVC				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
PMOR	Pomariorio Ree	40.92	254	eP	P	03 49 07.4	+7.1
	comp=Z,145nm,1.4s,mb5.4						
ANMO	Albuquerque	40.95	1	eP	P	03 49 00.8	+0.4
	comp=Z,7.6nm,1.1s,mb4.2						
ANMO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
WMOK	Wichita Mounta	41.49	10	eP	P	03 49 04.7	-0.1
	comp=Z,17nm,1.3s,mb4.5						
WMOK				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
MWC	Mount Wilson	41.52	346	eP	P	03 49 07.1	+1.9
LDFC	Landfair	41.75	350	eP	P	03 49 08.7	+1.6
NEN	Nelson	42.27	351	eP	P	03 49 12.2	+0.9
MIAR	Mount Ida	42.52	17	PFAKE		03 49 30.0	+17
MIAR				LR	LR		
	comp=Z,752nm,19.0s,MS4.6						
PPT	Papeete	42.92	251	eL		03 58 52.8	
PPT				eR		04 01 03.6	
	comp=Z,5μm,24.8s,baz=76						
PAE	Paea	42.94	251	eP	P	03 49 23.4	+6.5
	comp=Z,110nm,1.4s,mb5.4						
UALR	University of	43.10	18	P	P	03 49 19.0	+0.9
	comp=Z,28nm,1.1s,mb4.9						
LRAL	Lakeview Retre	43.48	25	eP	P	03 49 21.5	+0.3
	comp=Z,44nm,1.4s,mb5.0						
LRAL				LR	LR		
	comp=Z,681nm,20.0s,MS4.5						
SAML	Samuel	43.65	96	eP	P	03 49 21.3	-1.5
	comp=Z,69nm,1.2s,mb5.3						
SDCO	Great Sand Dun	43.76	2	eP	P	03 49 23.9	+0.6
	comp=Z,56nm,1.5s,mb5.1						
SDCO				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
OXF	Oxford	43.84	21	P	P	03 49 25.1	+1.1
	comp=Z,58nm,1.3s,mb5.2						
TBI	Tubuai	44.10	243	eL		03 59 18.8	
TBI				eR		04 01 37.1	
	comp=Z,6μm,27.8s,baz=72						
PV01	Paradox Valley	44.14	358	eP	P	03 49 26.9	+0.4
RW3	Ridgway	44.24	359	eP	P	03 49 27.8	+0.5
LRV	Little Rabbit	44.36	344	eP	P	03 49 29.3	+1.0
PV10	Paradox Valley	44.40	358	eP	P	03 49 27.8	-0.8
MTUM	Tungsten Hills	44.63	347	eP	P	03 49 31.7	+1.2
MSU	Marysvale	44.74	354	eP	P	03 49 33.4	+2.0
SAO	San Andreas Ge	44.80	344	eP	P	03 49 30.5	-1.3
	comp=Z,24nm,1.1s,mb4.9						
SAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
GNAR	Gosnell	44.94	20	eP	P	03 49 34.8	+1.9
OMM	Old Mammoth Mi	44.98	347	eP	P	03 49 34.5	+1.2
TPH	Tonopah	45.05	349	eP	P	03 49 35.5	+1.7
	comp=Z,54nm,1.3s,mb5.2						
TPH				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
SRU	San Rafael	45.20	356	eP	P	03 49 35.7	+0.7
CBKS	Cedar Bluff	45.33	8	eP	P	03 49 35.5	-0.5
	comp=Z,122nm,1.2s,mb5.6						
MNV	Mina	45.58	348	eP	P	03 49 38.7	+0.7
	comp=Z,10nm,1.2s,mb4.6						
MNV				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
CMB	Columbia Colle	45.72	345	eP	P	03 49 39.2	+0.2
	comp=Z,29nm,1.3s,mb5.0						
CMB				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
SWET	Sewanee	45.80	24	eP	P	03 49 38.5	-1.3
ISCO	Idaho Springs	45.81	2	eP	P	03 49 40.6	+0.9
	comp=Z,16nm,1.1s,mb4.9						
ISCO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
LKC	Lake Chabot	45.88	343	eP	P	03 49 41.4	+1.0
KSU1	Kansas State U	46.13	11	eP	P	03 49 42.0	-0.3
NLU	North Lily Min	46.16	355	eP	P	03 49 43.7	+1.2
MPU	Maple Canyon	46.19	355	eP	P	03 49 44.1	+1.3
DUG	Dugway	46.47	354	eP	P	03 49 45.5	+0.5
	comp=Z,44nm,1.4s,mb5.2						
DUG				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
DAU	Daniels Canyon	46.55	356	eP	P	03 49 46.9	+1.3
CPCT	Cooper Cave	46.60	26	eP	P	03 49 45.1	-1.0
FVM	French Village	46.65	18	eP	P	03 49 46.1	-0.3
	comp=Z,29nm,1.2s,mb5.1						
NHSC	New Hope	46.75	32	eP	P	03 49 48.9	+1.6
NHSC				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
JLU	Jordanelle	46.75	356	eP	P	03 49 45.6	-1.7
NSHM	Saint Helena R	46.77	343	eP	P	03 49 46.2	-1.1
WCN	Washoe City	46.77	347	eP	P	03 49 48.4	+1.0
	comp=Z,30nm,1.3s,mb5.1						
SJG	San Juan	47.13	58	P	P	03 49 52.0	+1.5
	comp=Z,5.8nm,0.7s,mb4.6,baz=315,slow=10.0,SNR=3.1						
SJG	San Juan	47.13	58	P	P	03 49 52.0	+1.5
SJG				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
JSC	Jenkinsville	47.13	30	eP	P	03 49 50.3	0.0
BGU	Big Grassy Mou	47.22	354	eP	P	03 49 51.4	+0.5
TCUT	Toone Canyon	47.26	356	eP	P	03 49 51.4	+0.2
SLM	Saint Louis	47.31	18	P	P	03 49 53.0	+1.4
	comp=Z,62nm,1.3s,mb5.4						
BMN	Battle Mountai	47.33	350	eP	P	03 49 51.5	-0.3
	comp=Z,18nm,1.2s,mb4.9						
BMN				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
HOPS	Hopland	47.34	343	eP	P	03 49 51.9	0.0
HOPS				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
PLCA	Paso Flores	47.43	142	P	P	03 49 52.3	-0.3
	comp=Z,0.8nm,0.5s,baz=332,slow=13,SNR=2.5						
BEKR	Beckwourth	47.45	346	eP	P	03 49 53.8	+1.0
	comp=Z,16nm,1.2s,mb4.8						
SPUT	South Promonto	47.54	355	eP	P	03 49 52.4	-1.0
HWUT	Hardware Ranch	47.76	356	eP	P	03 49 55.1	-0.1
	comp=Z,96nm,1.8s,mb5.5						
HWUT				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
HVU	Hansel Valley	48.04	354	eP	P	03 49 58.5	+1.1
WCI	Wyandotte Cave	48.29	22	P	P	03 49 59.1	-0.2
	comp=Z,21nm,1.1s,mb5.1						
WCI				LR	LR		
	comp=Z,320nm,21.0s,MS4.3						
WDC	Whiskeytown Da	48.67	344	eP	P	03 50 01.1	-1.2
	comp=Z,14nm,0.9s,mb5.0						
WDC				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
BW06	Boulder Array	48.80	358	PFAKE		03 50 20.0	+17
BW06				LR	LR		
	comp=Z,877nm,20.0s,MS4.7						
PDAR	Pinedale Array	48.80	358	P	P	03 50 03.0	-0.1
	comp=Z,4.7nm,0.9s,mb4.5,baz=160,slow=5.2,SNR=18						
PDAR				LR	LR	04 07 28.5	
	comp=Z,681nm,19.3s,MS4.7,baz=190,slow=32						
AHID	Auburn Hatcher	48.88	356	PFAKE		03 50 20.0	+16
AHID				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
BLO	Bloomington	49.03	21	eP	P	03 50 06.4	+1.3
	comp=Z,23nm,1.1s,mb5.1						
MOD	Modoc	49.37	347	eP	P	03 50 08.0	+0.4
	comp=Z,36nm,1.3s,mb5.2						
MOD				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
REDW	Red Top Meadow	49.46	356	eP	P	03 50 08.9	+0.6
WVOR	Wild Horse Val	49.54	349	eP	P	03 50 08.7	-0.1
	comp=Z,34nm,1.3s,mb5.2						
WVOR				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
TPAW	Teton Pass	49.59	356	eP	P	03 50 08.9	-0.4
PWV	Princeton	49.71	27	eP	P	03 50 09.3	-1.0
ELN	Prospectdale	49.76	28	eP	P	03 50 09.1	-1.6
YBH	Yreka Blue Hor	49.79	345	P	P	03 50 11.2	+0.3
	comp=Z,7.7nm,0.8s,mb4.8,baz=122,slow=4.7,SNR=17						
YBH	Yreka Blue Hor	49.79	345	eP	P	03 50 10.5	-0.4
	comp=Z,10nm,0.9s,mb4.8						
YBH				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
MOOW	Moose Ponds	49.84	357	eP	P	03 50 10.0	-1.2
BLA	Blacksburg	49.90	28	eP	P	03 50 09.7	-2.0
	comp=Z,76nm,1.4s,mb5.5						
BLA				LR	LR		
	comp=Z,997nm,22.0s,MS4.8						
KRMB	Red Mountain	49.92	344	eP	P	03 50 12.1	+0.2
HLID	Hailey	49.98	353	eP	P	03 50 11.8	-0.4
	comp=Z,15nm,1.0s,mb5.0						
HLID				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
FWV	Forest Hill	50.02	27	eP	P	03 50 12.7	+0.1
RSSD	Black Hills	50.18	3	eP	P	03 50 13.7	-0.1
	comp=Z,29nm,1.2s,mb5.2						
RSSD				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
HUMO	Hull Mountain	50.68	345	eP	P	03 50 15.4	-2.1
	comp=Z,38nm,1.8s,mb5.0						
YMR	Madison River	50.77	356	P	P	03 50 19.0	+0.8
QLMT	Earthquake Lak	50.96	356	eP	P	03 50 19.6	-0.1
MCMT	McKenzie Canyo	51.07	355	eP	P	03 50 20.9	+0.4
JFWS	Jewell Farm	51.25	16	eP	P	03 50 20.3	-1.6
	comp=Z,59nm,1.1s,mb5.4						
JFWS				LR	LR		
	comp=Z,554nm,20.0s,MS4.6						
ACSO	Alum Creek Sta	51.30	24	eP	P	03 50 21.3	-1.1
	comp=Z,61nm,1.4s,mb5.3						
ACSO				LR	LR		
	comp=Z,711nm,20.0s,MS4.7						
CPUP	Villa Florida	51.46	119	P	P	03 50 23.8	0.0
	comp=Z,5.8nm,0.9s,mb4.5,baz=276,slow=7.1,SNR=5.6						
CPUP				LR	LR	04 08 51.1	
	comp=Z,2μm,18.5s,MS5.1,baz=299,slow=32						
CPUP	Villa Florida	51.46	119	P	P	03 50 23.8	0.0
CPUP				LR	LR	04 08 51.1	
HSO	Harness Mounta	51.57	345	eP	P	03 50 25.4	+1.0
HBO	Huckleberry Mo	51.68	346	P	P	03 50 26.2	+1.0
BOZ	Bozeman (W)	51.78	356	eP	P	03 50 24.6	-1.4
	comp=Z,36nm,1.6s,mb5.0						
BOZ				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
VIPM	Ingram Point	51.93	348	P	P	03 50 28.3	+1.2
LCCM	Lewis and Clar	51.99	356	P	P	03 50 27.6	+0.1
MCWV	Mont Chateau	52.15	27	eP	P	03 50 26.7	-2.1
	comp=Z,63nm,1.3s,mb5.4						
MCWV				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
CBN	Corbin	52.15	30	P	P	03 50 27.2	-1.6
	comp=Z,78nm,1.1s,mb5.5						
CBN				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
COR	Corvallis	52.62	346	P	P	03 50 29.9	-2.4
	comp=Z,54nm,1.1s,mb5.4						
COR				LR	LR		
	comp=Z,3μm,21.0s,MS5.4						
SSOR	Sweet Springs	52.67	346	P	P	03 50 33.2	+0.6
LAO	LASA Array	52.68	1	eP	P	03 50 32.9	+0.3
	comp=Z,56nm,1.3s,mb5.3						
LAO				LR	LR		
	comp=Z,976nm,19.0s,MS4.9						
LNOR	Lincton Mounta	52.80	350	eP	P	03 50 32.8	-0.8
HRY	Holter Researc	52.86	356	eP	P	03 50 32.4	-1.6
VFP	Flag Point	52.88	347	P	P	03 50 35.2	+1.0
VGB	Gordon Butte	52.92	348	eP	P	03 50 33.8	-0.7
MSO	Missoula	53.16	354	PFAKE		03 50 50.0	+14
MSO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
CHMT	Chamberlain Mo	53.17	355	P	P	03 50 34.7	-1.6
HAWA	Hanford	53.52	349	eP	P	03 50 39.5	+0.5
	comp=Z,30nm,1.5s,mb5.0						
HAWA				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
ALLY	Alegheny Colle	53.66	25	P	P	03 50 39.6	-0.4
LVP	Lakeview Peak	53.80	347	P	P	03 50 41.7	+0.7
SHW	Mount Saint He	53.88	347	eP	P	03 50 41.1	-0.4
ERPA	Erie	54.11	25	PFAKE		03 50 50.0	+6.8
ERPA				LR	LR		
	comp=Z,717nm,20.0s,MS4.7						
LON	Longmire	54.32	348	eP	P	03 50 44.3	-0.4
BMW	Boistfort Moun	54.37	346	P	P	03 50 45.7	+0.6
DGMT	Dagmar	54.52	2	eP	P	03 50 45.5	-0.6
	comp=Z,174nm,1.5s,mb5.9						
DGMT				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
DPW	Davenport	54.73	351	eP	P	03 50 46.8	-0.9
NEW	Newport	54.95	352	LR	LR	04 10 34.1	
	comp=Z,2μm,20.3s,MS5.1,baz=176,slow=32						
NEW	Newport	54.95	352	eP	P	03 50 49.6	+0.2
	comp=Z,40nm,1.4s,mb5.3						
NEW				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
RMW	Rattlesnake Mo	54.99	348	eP	P	03 50 49.0	-0.7
NLW	Nelson Butte	55.30	349	eP	P	03 50 52.2	+0.3
GNW	Green Mountain	55.31	347	eP	P	03 50 50.0	-2.0
BBSR	BB Station	55.71	44	PFAKE		03 51 10.0	+15
BBSR				LR	LR		
	comp=Z,698nm,21.0s,MS4.7						
OCWA	Octopus Mounta	55.80	346	PFAKE		03 51 10.0	+15
OCWA				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
RPW	Rockport	55.88	348	eP	P	03 50 55.0	-1.1
BINY	Binghamton	55.93	28	eP	P	03 50 55.2	-1.4
	comp=Z,24nm,1.0s,mb5.2						
PGC	Sidney	56.47	347	eP	P	03 51 00.2	-0.2
KIP	Kipapa	56.93	300	PFAKE		03 51 20.0	+16
KIP				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
ULM	Lac du Bonnet	57.08	9	P	P	03 51 03.3	-1.4
	comp=Z,38nm,1.0s,mb5.4,baz=201,slow=6.9,SNR=19						
ULM				LR	LR	04 13 37.4	
	comp=Z,1μm,18.5s,MS5.0,baz=359,slow=34						
ULM	Lac du Bonnet	57.08	9	eP	P	03 51 02.5	-2.1
	comp=Z,67nm,1.1s,mb5.6						
ULM				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
USHA	Ushuaia	57.55	155	P	P	03 51 07.6	-0.3
	comp=Z,9.8nm,0.8s,mb4.9,baz=323,slow=7.3,SNR=2.9						
ACCN	Adirondack Com	57.93	28	eP	P	03 51 09.5	-1.2
NCB	Newcomb	58.12	28	eP	P	03 51 09.6	-2.4
	comp=Z,29nm,1.5s,mb5.1						
NCB				LR	LR		
	comp=Z,837nm,19.0s,MS4.9						
HRV	Harvard--Oak R	58.30	30	PFAKE		03 51 30.0	+17
HRV				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
WES	Weston	58.33	31	PFAKE		03 51 30.0	+16
WES				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
MSNY	Massena	58.63	26	eP	P	03 51 13.9	-1.7
BDFB	Brasilia	58.66	104	P	P	03 51 14.7	-1.4
	comp=Z,6.8nm,0.8s,mb4.8,baz=267,slow=9.2,SNR=8.7						
BDFB				LR	LR	04 14 10.2	
	comp=Z,2μm,18.9s,MS5.2,baz=58,slow=34						
FFC	Flin Flon	60.87	3	eP	P	03 51 28.4	-2.5
	comp=Z,49nm,1.3s,mb5.5						
FFC				LR	LR		
	comp=Z,282nm,20.0s,MS4.4						
EMMW	East Machias	61.96	31	PFAKE		03 51 50.0	+12
EMMW				LR	LR		
	comp=Z,7μm,20.0s,MS5.8						
FCC	Fort Churchill	65.61	7	eP	P	03 51 59.6	-2.5
	comp=Z,76nm,1.4s,mb5.5						
DLBC	Dease Lake	67.03	347	eP	P	03 52 11.1	0.0
SIT	Sitka	67.12	344	P	P	03 52 09.9	-1.8
	comp=Z,55nm,1.3s,mb5.4						
SIT				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
YKA	Yellowknife Ar	68.75	356	P	P	03 52 20.9	-0.9
	comp=Z,12nm,0.8s,mb4.9,baz=165,slow=5.9,SNR=11						
YKA				LR	LR	04 19 28.4	
	comp=Z,2μm,21.4s,MS5.2,baz=185,slow=33						
YKW3	Yellowknife Ar	68.82	356	eP	P	03 52 21.4	-0.8
SCHQ	Schefferville	69.46	24	P	P	03 52 29.8	+3.5
	comp=Z,13nm,1.0s,mb4.8,baz=254,slow=4.3,SNR=7.7						
SCHQ				LR	LR	04 22 22.5	
	comp=Z,793nm,19.9s,MS5.0,baz=46,slow=36						
SCHQ	Schefferville	69.46	24	P	P	03 52 27.5	+1.2
	comp=Z,40nm,1.3s,mb5.2						
SCHQ				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
RCBR	Riachuelo	70.80	94	PFAKE		03 52 50.0	+15
RCBR				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
EYAK	Cordova Ski Ar	73.11	341	eP	P	03 52 48.7	+0.6
DIV	Divide	73.56	342	eP	P	03 52 52.0	+1.3
	comp=Z,60nm,1.2s,mb5.4						

DIV				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
KDAK	Kodiak Island	73.56	337	*e*P	P	03 52 49.9	-1.0
	comp=Z,55nm,1.3s,mb5.3						
KDAK				LR	LR		
	comp=Z,771nm,20.0s,MS5.0						
DAWY	Dawson	74.15	346	*e*P	P	03 52 53.1	-1.0
SLKM	Skilak Lake	74.58	339	*e*P	P	03 52 56.8	+0.1
PMS	Palmer South	74.88	340	*e*P	P	03 52 58.3	-0.1
SML	Sawmill	74.89	341	*e*P	P	03 52 57.6	-0.8
PMR	Palmer	74.99	341	*e*P	P	03 52 59.3	+0.3
FIB	Fire Island	75.03	340	PFAKE		03 53 10.0	+11
FIB				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
PWA	Palmer West	75.28	340	*e*P	P	03 53 01.0	+0.3
RSO	Redoubt South	75.45	339	*e*P	P	03 53 01.0	-0.6
SPU	Mount Spurr	75.69	339	*e*P	P	03 53 02.5	-0.5
MIDW	Midway	75.74	301	PFAKE		03 53 20.0	+16
MIDW				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
MCK	McKinley	76.49	342	*e*P	P	03 53 06.1	-1.4
	comp=Z,13nm,1.1s,mb4.8						
MCK				LR	LR		
	comp=Z,750nm,19.0s,MS5.0						
INK	Inuvik	76.62	350	P	P	03 53 07.7	-0.5
	comp=Z,28nm,1.2s,mb5.1						
ILAR	Eielson Array	76.67	344	P	P	03 53 07.2	-1.2
	comp=Z,2.6nm,0.9s,mb4.1,baz=152,slow=4.5,SNR=16						
ILAR				LR	LR	04 20 43.2	
	comp=Z,742nm,18.9s,MS5.0,baz=149,slow=31						
SVW	Sparrevohn	76.93	338	*e*P	P	03 53 11.4	+1.4
COLA	College	77.02	343	*e*P	P	03 53 10.1	-0.3
	comp=Z,30nm,1.4s,mb5.0						
COLA				LR	LR		
	comp=Z,899nm,20.0s,MS5.1						
UNV	Unalaska Valle	77.66	329	PFAKE		03 53 30.0	+16
UNV				LR	LR		
	comp=Z,6µm,20.0s,MS5.9						
IMA	Indian Mountai	79.58	342	*e*P	P	03 53 26.7	+2.3
QSPA	South Pole Qui	83.85	180	*e*P	P	03 53 46.9	+0.5
	comp=Z,32nm,1.3s,mb5.3						
QSPA				LR	LR		
	comp=Z,970nm,21.8s,MS5.1						
TNA	Tin City	84.02	339	PFAKE		03 54 00.0	+12
TNA				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
VNDA	Vanda	84.19	193	P	P	03 53 49.8	+1.6
	comp=Z,2.7nm,1.2s,mb4.3,baz=67,slow=4.8,SNR=6.1						
VNDA				LR	LR	04 26 02.6	
	comp=Z,295nm,19.4s,MS4.7,baz=92,slow=32						
SMY	Shemya	88.13	323	PFAKE		03 54 20.0	+12
SMY				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
SNAA	Sanae	88.61	162	P	P	03 54 10.0	+0.1
	comp=Z,0.6nm,1.0s,baz=83,slow=1.6,SNR=3.1						
SUMG	Summit	89.64	16	*e*P	P	03 54 15.6	+0.8
	comp=Z,24nm,1.4s,mb5.3						
BORG	Borgarnes	93.79	25	PFAKE		03 54 50.0	+16
BORG				LR	LR		
	comp=Z,79nm,21.0s,MS4.2						
PET	Petropavlovsk	97.45	323	PFAKE		03 55 00.0	+9.0
PET				LR	LR		
	comp=Z,708nm,20.0s,MS5.2						
JMIC	Jan Mayen	98.66	19	AMS	AMS	04 39 25.7	
	comp=Z,638nm,19.0s,MS5.1						
MA2	Magadan	101.45	329	PFAKE		03 55 20.0	+11
MA2				LR	LR		
	comp=Z,364nm,20.0s,MS4.9						
KBS	Kingsbay	101.48	10	*e*PP	PP	03 59 18.1	-3.1
KBS				*e*		04 02 47.3	
KBS				*e*SS	SS	04 13 49.5	-1.2
KBS				*e*		04 23 28.1	
KBS				AMS	AMS	04 40 54.0	
	comp=Z,877nm,18.0s,MS5.3						
KBS	Kingsbay	101.48	10	PFAKE		03 55 20.0	+11
KBS				LR	LR		
	comp=Z,952nm,19.0s,MS5.3						
SYO	Syowa Base	101.49	168	⇑Pdiff	P	03 55 11.6	+2.6
ESK	Eskdalemuir	103.02	35	PFAKE		03 55 30.0	+14
ESK				LR	LR		
	comp=Z,81nm,21.0s,MS4.2						
PMG	Port Moresby	104.35	259	PFAKE		03 55 30.0	+7.1
PMG				LR	LR		
	comp=Z,693nm,20.0s,MS5.2						
BJO	Bjornoya	105.19	13	AMS	AMS	04 43 42.1	
	comp=Z,557nm,21.4s,MS5.1						
TIXI	Tiksi	106.14	344	PFAKE		03 59 50.0	
TIXI				LR	LR		
	comp=Z,377nm,22.0s,MS4.9						
TRO	Tromso	107.80	17	*e*SS	SS	04 15 14.8	-2.5
TRO				*i*		04 25 07.1	
TRO				AMS	AMS	04 43 18.3	
	comp=Z,320nm,17.7s,MS4.9						
YSS	Yuzh-Sakhalins	108.20	317	PFAKE		04 00 00.0	
YSS				LR	LR		
	comp=Z,800nm,20.0s,MS5.3						
NOA	NORSAR Array B	108.90	27	PKiKP		03 59 48.3	
	comp=Z,1.3nm,0.8s,baz=297,slow=4.6,SNR=3.5						
YAK	Yakutsk	110.57	335	PFAKE		04 00 00.0	+8.7
YAK				LR	LR		
	comp=Z,948nm,20.0s,MS5.4						
MAJO	Matsushiro	113.43	307	PFAKE		04 00 10.0	+12
MAJO				LR	LR		
	comp=Z,452nm,20.0s,MS5.1						
WRAB	Tennant Creek	114.19	245	PFAKE		04 00 10.0	+11
WRAB				LR	LR		
	comp=Z,211nm,19.0s,MS4.8						
WRA	Warramunga Arr	114.20	245	PKP	PKPdf	04 00 00.7	+1.3
	comp=Z,0.4nm,0.8s,baz=111,slow=0.1,SNR=5.7						
MDJ	Mudanjiang	117.69	318	PFAKE		04 00 20.0	+14
MDJ				LR	LR		
	comp=Z,424nm,22.0s,MS5.0						
TSUM	Tsumeb	120.01	116	PFAKE		04 00 20.0	+9.4
TSUM				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
CN2	Changchun	120.76	318	*e*PKP	PKPdf	04 00 11.3	-0.3
CN2				*e*PP	PP	04 01 43.6	+2.7
CN2				LR	LR		
	comp=Z,800nm,16.0s,MS5.5						
HIA	Hailar	121.76	326	PFAKE		04 00 20.0	+6.6
HIA				LR	LR		
	comp=Z,504nm,19.0s,MS5.2						
INCN	Inchon	122.17	311	PFAKE		04 00 20.0	+5.5
INCN				LR	LR		
	comp=Z,925nm,20.0s,MS5.4						
NWAO	Narrogin (SRO)	122.64	224	PFAKE		04 00 30.0	+15
NWAO				LR	LR		
	comp=Z,624nm,19.0s,MS5.3						
AKASG	Malin Array Be	122.73	31	PKP	PKPdf	04 00 16.3	+1.2
	comp=Z,0.8nm,0.7s,baz=297,slow=2.1,SNR=4.1						
OBN	Obninsk	123.27	24	PFAKE		04 00 30.0	+14
OBN				LR	LR		
	comp=Z,93nm,19.0s,MS4.5						
SSE	Sheshan	128.48	305	PKP	PKPdf	04 00 25.3	-1.6
SSE				PP	PP	04 02 34.3	+1.0
SSE				SS	SS	04 19 48.6	+2.3
SSE				LR	LR		
	comp=N,92nm,27.3s,MS4.8						
SSE				LR	LR		
	comp=E,231nm,27.3s,MS4.8						
SSE				LR	LR		
	comp=Z,271nm,27.1s,MS4.8						
SSE	Sheshan	128.48	305	PKP	PKPdf	04 00 25.3	-1.6
SSE				PP	PP	04 02 34.2	+0.9
SSE				SS	SS	04 19 48.6	+2.3
SSE				LR	LR		
	comp=Z,270nm,27.1s,MS4.8						
BJT	Baijiatuau	128.64	318	PFAKE		04 00 40.0	+13
BJT				LR	LR		
	comp=Z,949nm,21.0s,MS5.5						
ARU	Arti	128.66	10	PFAKE		04 00 40.0	+13
ARU				LR	LR		
	comp=Z,134nm,22.0s,MS4.6						
ULN	Ulaanbaatar	129.29	331	PFAKE		04 00 40.0	+12
ULN				LR	LR		
	comp=Z,803nm,20.0s,MS5.4						
SONM	Songino Array	129.62	331	PKP	PKPdf	04 00 27.1	-1.5
	comp=Z,1.2nm,0.8s,baz=90,slow=1.2,SNR=6.8						
TATO	Taipei	129.90	297	PFAKE		04 00 40.0	+10
TATO				LR	LR		
	comp=Z,388nm,20.0s,MS5.1						
NJ2	Nanjing	130.03	307	*e*PKP	PKPdf	04 00 22.8	-7.0
NJ2				XPKP		04 00 37.1	
NJ2				PP	PP	04 02 40.0	-3.2
NJ2				PKS	PKS	04 03 59.0	-3.0
NJ2				SKKS		04 09 29.0	
NJ2				LR	LR		
	comp=Z,1µm,24.1s,MS5.5						
LSZ	Lusaka	130.87	116	PFAKE		04 00 40.0	+8.2
LSZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BRTR	Keskin Array B	131.50	41	PKP	PKPdf	04 00 31.6	-0.8
	comp=Z,0.9nm,0.8s,baz=104,slow=5.1,SNR=3.8						
BRVK	Borovoye	133.25	2	PFAKE		04 00 50.0	+15
BRVK				LR	LR		
	comp=Z,165nm,20.0s,MS4.7						
BVAR	Borovoye Array	133.29	2	PKP	PKPdf	04 00 35.3	-0.1
	comp=Z,0.6nm,0.6s,baz=304,slow=5.3,SNR=3.8						
BVAR				PP	PP	04 03 04.4	+1.0
	comp=Z,0.4nm,0.4s,baz=342,slow=4.7,SNR=5.2						
ZRNK	Zerenda	133.30	3	*e*P	PKPdf	04 00 33.4	-1.9
KURK	Kurchatov	135.39	355	PFAKE		04 00 50.0	+11
KURK				LR	LR		
	comp=Z,198nm,20.0s,MS4.8						
MBAR	Mbarara	137.42	98	PFAKE		04 00 50.0	+6.0
MBAR				LR	LR		
	comp=Z,141nm,19.0s,MS4.7						
ENH	Enshi	138.08	309	PFAKE		04 01 00.0	+15
ENH				LR	LR		
	comp=Z,585nm,21.0s,MS5.3						
MKAR	Makanchi Array	138.76	350	PKhKP		04 00 39.3	
	comp=Z,0.6nm,0.8s,baz=45,slow=5.1,SNR=4.0						
MKAR				PKP	PKPdf	04 00 46.4	+0.7
	comp=Z,1.9nm,0.7s,baz=21,slow=1.4,SNR=9.6						
MKAR				PP	PP	04 03 37.7	-0.4
	comp=Z,2.3nm,0.9s,baz=11,slow=6.2,SNR=7.5						
LZH	Lanzhou	138.89	321	*e*PKP	PKPdf	04 00 44.1	-2.1
LZH				XPKP		04 00 48.6	
LZH				*e*PP	PP	04 03 40.1	+0.9
LZH				SKKS		04 10 29.6	
LZH				SS	SS	04 21 53.8	+2.4
LZH				LR	LR		
	comp=E,548nm,18.3s						
LZH				LR	LR		
	comp=Z,798nm,20.0s,MS5.5						
LZH	Lanzhou	138.89	321	*e*PKP	PKPdf	04 00 44.1	-2.1
LZH				pPKP		04 00 47.5	
LZH				sPKP		04 00 48.6	
LZH				*e*PP	PP	04 03 40.1	+0.9
LZH				SKKS		04 10 29.6	
LZH				SS	SS	04 21 53.8	+2.4
LZH				LR	LR		
	comp=Z,800nm,20.0s,MS5.5						
WMQ	Urumqi	140.34	343	PKP	PKPdf	04 00 42.8	-5.8
WMQ				XPKP		04 00 50.3	
WMQ				PP	PP	04 03 45.3	-2.3
WMQ				LR	LR		
	comp=Z,826nm,21.8s,MS5.4						
KMI	Kunming	145.77	307	*e*PKP	PKPdf	04 00 54.8	-3.8
KMI				PKP2	PKPab	04 00 57.8	-0.7
KMI				XPKP		04 00 59.8	
KMI				PP	PP	04 04 19.6	-1.2
KMI				SKKS		04 11 10.1	
KMI				SS	SS	04 23 11.8	+0.3
KMI				PP	PP		
	comp=Z,161nm,5.2s						
KMI				LR	LR		
	comp=N,188nm,16.7s,MS5.2						
KMI				LR	LR		
	comp=E,259nm,18.6s,MS5.2						
KMI				LR	LR		
	comp=Z,345nm,18.1s,MS5.2						
KMI	Kunming	145.77	307	*e*PKP	PKPdf	04 00 54.7	-3.9
KMI				PKPab	PKPab	04 00 57.8	-0.7
KMI				sPKP		04 00 59.7	
KMI				PP	PP	04 04 19.6	-1.2
KMI				SKKS		04 11 10.1	
KMI				SS	SS	04 23 11.7	+0.2
KMI				SSS	SSS	04 28 40.1	-1.0
KMI				LR	LR		
	comp=Z,350nm,18.1s,MS5.2						
NANT	Nan	150.13	297	P	PKPdf	04 01 13.0	+7.2
LSA	Lhasa	150.96	326	PFAKE		04 01 20.0	+13
LSA				LR	LR		
	comp=Z,736nm,20.0s,MS5.5						
CHG	Chiang Mai	151.67	299	⇓P	PKPdf	04 01 19.7	+12
	comp=Z,15nm,1.1s						
CMAR	Chiang Mai Arr	151.81	298	PKP	PKPdf	04 01 08.8	+0.5
	comp=Z,3.4nm,1.0s,baz=333,slow=4.0,SNR=5.3						
CMAR				PKPbc	PKPdf	04 01 16.6	+8.3
	comp=Z,5.7nm,0.5s,baz=37,slow=1.1,SNR=18						
SHL	Shillong	153.51	319	*e*P	PKPdf	04 01 11.0	+0.4

IDC 15 03:53:26.9±13.0**, 6.18S**×**129.46E, h237**$^{\text{km}}$±86$^{\text{km}}$**, mb3.4**/1**, mb1 3.2**/4**, mb1mx3.0**/12**, Error ellipse: s-maj=114.0km s-min=62.1km az=154.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.42	197	P	P	03 56 15.4	-1.7
	0.1nm,0.3s,baz=319,slow=7.6,SNR=3.1						
FITZ				S	S	03 58 34.0	+2.6
	0.1nm,0.3s,baz=182,slow=11,SNR=2.5						
WRA	Warramunga Arr	14.48	161	P	P	03 56 42.4	-0.4
	0.1nm,0.3s,baz=343,slow=11,SNR=17						
WB2	Warramunga Arr	14.48	161	*e*P	P	03 56 42.8	0.0
ASAR	Alice Springs	17.91	167	P	P	03 57 19.6	-2.1
	0.2nm,0.3s,baz=346,slow=11,SNR=6.7						
VNDA	Vanda	73.32	173	P	P	04 04 32.2	-1.8
	0.7nm,0.5s,baz=349,slow=5.2,SNR=6.6						

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*NEIC **15** 04:10:16.2, 35.25N×3.84W, MN2.5(MDD), After MDD.*
MDD 15 04:10:16.2±1.7**, 35.25N**×**3.84W, mb2.6**/7**, Error ellipse: s-maj=21.0km s-min=5.9km az=20.0, PRXIMO AftershockPLICA, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	Melilla	0.73	86	P	Pg	04 10 29.3	-1.4
	58nm,0.1s,SNR=6.9						
EMEL				S	Sg	04 10 39.9	-0.4
	38nm,0.1s,SNR=5.4						
EMIJ	Mijas	1.51	330	P	Pn	04 10 43.3	-1.3
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sb	04 11 03.3	-1.2
	0.4nm,0.1s,SNR=7.9						
EQES	Quesada	2.62	13	P	Pn	04 10 57.7	-2.8
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	04 11 30.4	-3.0
	3.3nm,0.6s,SNR=7.9						
EADA	Adamuz	2.97	349	P	Pn	04 11 03.1	-2.4
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	04 11 38.6	-3.7
	0.1nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.39	319	P	Pn	04 11 10.2	-1.3
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	04 11 48.6	-4.4
	0.2nm,0.5s,SNR=7.9						
EGRO	El Granado	3.72	309	P	Pn	04 11 13.0	-3.1
	0.1nm,0.6s,SNR=7.9						
EGRO				S	Sn	04 11 54.8	-6.4
	4.1nm,0.6s,SNR=7.9						
EBAD	Badajoz	4.32	325	P	Pn	04 11 22.8	-1.8
	0.3nm,0.4s,SNR=7.9						
EBAD				S	Sn	04 12 10.1	-6.5
	0.0nm,0.1s,SNR=7.9						

IDC 15 04:21:19.5±7.8**, 8.14S**×**129.46E, h64**$^{\text{km}}$±58$^{\text{km}}$**, mb3.7**/1**, mb1 3.6**/4**, mb1mx3.3**/12**, ML3.3**/3**, Error ellipse: s-maj=61.5km s-min=48.5km az=162.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.58	200	P	P	04 23 48.7	-2.0
	0.1nm,0.3s,slow=9.1,SNR=4.6						
FITZ				S	S	04 25 46.2	-2.3
	0.2nm,0.3s,baz=180,slow=20,SNR=4.4						
WRA	Warramunga Arr	12.65	159	P	P	04 24 16.0	-2.5
	0.3nm,0.3s,baz=338,slow=13,SNR=24						
WRA				S	S	04 26 38.7	+0.3
	0.5nm,0.3s,baz=334,slow=22,SNR=9.6						
ASAR	Alice Springs	16.02	165	P	P	04 25 01.1	-1.2
	0.2nm,0.3s,baz=342,slow=10,SNR=6.1						
ASAR				S	S	04 27 56.0	-1.6
	0.1nm,0.3s,baz=346,slow=25,SNR=3.9						
STKA	Stephens Creek	26.18	156	P	P	04 26 48.1	-1.9
	2.1nm,0.8s,baz=333,slow=11,SNR=2.5						

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*ROM **15** 04:41:38.7±0.2, 43.10N×11.38E, h5$^{\text{km}}$, MD3.3/6, ML2.9/15, Error ellipse: s-maj=1.5km s-min=1.5km az=90.0*
*NEIC **15** 04:41:38.7, 43.10N×11.38E, h5$^{\text{km}}$, MD3.3(ROM), ML3.1(LDG), ML3.1(FUR), After ROM.*
*LDG **15** 04:41:41.7±0.2, 43.09N×11.41E, h10$^{\text{km}}$, Ml3.1/17*
ISC 15 04:41:38.1±0.2**, 43.10N**±0.02×**11.32E**±0.02**, h10**$^{\text{km}}$**, n139, σ1**^{s}**17**/196**, 33C-14D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFL	Gerfalco	0.26	282	*e*PG	Pg	04 41 44.8	+1.2
GRFL				SG	Sg	04 41 49.9	+2.6
	769nm,0.4s						
GRFL	Gerfalco	0.26	282	*e*Pg	Pg	04 41 44.9	+1.2
GRFL				*e*Sg	Sg	04 41 49.9	+2.6
CSNT	Castellina Chi	0.38	356	⇑*i*PG	Pg	04 41 46.5	+0.6
CSNT	Castellina Chi	0.38	356	⇑*i*Pg	Pg	04 41 46.5	+0.6
MAON	Monte Argentar	0.68	192	⇑*i*PG	Pg	04 41 51.8	-0.1
MAON				SG	Sg	04 42 02.8	+1.8
MAON	Monte Argentar	0.68	192	⇑*i*Pg	Pg	04 41 51.8	0.0
MAON				*e*Sg	Sg	04 42 02.8	+1.8
CRE	Caprese Michel	0.70	41	⇑*i*PG	Pg	04 41 52.2	0.0
CRE	Caprese Michel	0.70	41	⇑*i*Pg	Pg	04 41 52.2	0.0
PGD	Poggio Sodo	0.83	20	*e*PG	Pg	04 41 54.8	-0.1
PGD				SG	Sg	04 42 07.1	+1.1
PGD	Poggio Sodo	0.83	20	*e*Pg	Pg	04 41 54.8	0.0
PGD				*e*Sg	Sg	04 42 07.1	+1.1
PII	Pisa	0.86	317	⇑*i*PG	Pg	04 41 55.8	+0.5
PII				SG	Sg	04 42 09.9	+3.1
	219nm,0.2s						
PII	Pisa	0.86	317	⇑*i*Pg	Pg	04 41 55.8	+0.5
PII				*e*Sg	Sg	04 42 09.9	+3.1
VMG	Vicchio	0.88	10	⇑*i*PG	Pg	04 41 56.2	+0.4
MURB	Monte Urbino	0.90	79	*e*PG	Pg	04 41 55.2	-0.9
MURB	Monte Urbino	0.90	79	*e*Pg	Pg	04 41 55.1	-0.9
SFI	Santa Sofia	0.90	25	⇓*i*PG	Pg	04 41 56.0	-0.1
SFI				SG	Sg	04 42 09.4	+1.3
SFI	Santa Sofia	0.90	25	⇓*i*Pg	Pg	04 41 56.0	-0.1
SFI				*e*Sg	Sg	04 42 09.4	+1.3
SEI	Scarperia	0.96	1	⇑*i*PG	Pg	04 41 57.8	+0.4
SEI				SG	Sg	04 42 13.2	+3.0
SEI	Scarperia	0.96	1	⇑*i*Pg	Pg	04 41 57.8	+0.4
SEI				*e*Sg	Sg	04 42 13.2	+3.0
ASS	Assisi	0.97	91	⇑*i*PG	Pg	04 41 56.3	-1.4
ASS				SG	Sg	04 42 10.4	-0.3
	527nm,0.3s						
ASS	Assisi	0.97	91	⇑*i*Pg	Pg	04 41 56.2	-1.4
ASS				*e*Sg	Sg	04 42 10.4	-0.3
MAIM		1.02	324	P	Pb	04 41 58.3	+0.8
MAIM				S	Sb	04 42 12.2	+1.6
BDI	Bagni Di Lucca	1.10	332	⇓*i*PN	Pn	04 41 59.7	+0.1
BDI				SN	Sn	04 42 17.8	+2.9
	132nm,0.4s						
BDI	Bagni Di Lucca	1.10	332	⇓*i*Pn	Pn	04 41 59.7	+0.1
BDI				*e*Sn	Sn	04 42 17.8	+2.9
TOLF	Tolfa	1.15	154	⇑*i*PN	Pn	04 42 02.1	+1.9
TOLF	Tolfa	1.15	154	⇑*i*Pg	Pg	04 42 02.1	+1.0
FSSB	Fossombrone	1.22	60	⇓*i*PN	Pn	04 42 01.1	-0.1
	218nm,0.2s						
FSSB	Fossombrone	1.22	60	⇓*i*Pn	Pn	04 42 01.1	-0.1
MNS	Montasola	1.23	125	⇓*i*PN	Pn	04 42 00.9	-0.5
	70nm,0.4s						
MNS	Montasola	1.23	125	⇓*i*Pn	Pn	04 42 00.9	-0.5
VLC	Villacollemand	1.26	328	*e*P	Pb	04 42 01.8	+0.1
VLC				*e*Sn	Sn	04 42 19.2	+0.2
ZCCA	Zocca	1.28	349	*e*PN	Pn	04 42 04.2	+2.1
	241nm,0.6s						
ZCCA	Zocca	1.28	349	*e*Pn	Pn	04 42 04.2	+2.1
BRSN	Barisano	1.31	24	*e*PN	Pn	04 42 05.1	+2.6
	578nm,0.6s						
BRSN	Barisano	1.31	24	*e*Pn	Pn	04 42 05.1	+2.6
VINC	Vinca	1.35	321	P	Pb	04 42 03.4	+0.4
VINC				S	Sb	04 42 22.5	+2.3
GSCL	Gusciola	1.36	337	*e*PN	Pn	04 42 03.6	+0.3
	110nm,0.4s						
GSCL	Gusciola	1.36	337	*e*Pn	Pn	04 42 03.6	+0.3
CING	Cingoli	1.40	78	⇑*i*PN	Pn	04 42 05.2	+1.4
CING	Cingoli	1.40	78	⇑*i*Pn	Pn	04 42 05.2	+1.4
VALM		1.48	328	P	Pn	04 42 05.7	+0.8
ERBM	Eremo	1.48	334	*e*PN	Pn	04 42 08.0	+3.0
BACM		1.49	323	P	Pn	04 42 06.0	+0.8
BACM				S	Sb	04 42 25.2	+0.8
GRAM		1.67	327	P	Pn	04 42 07.9	+0.3
GRAM				S	Sn	04 42 29.4	+0.1
CERT	Cerreto	1.68	132	*e*PN	Pn	04 42 09.4	+1.6
CERT	Cerreto	1.68	132	*e*Pn	Pn	04 42 09.4	+1.6
CODM		1.68	321	P	Pn	04 42 08.2	+0.3
CODM				S	Sn	04 42 28.9	-0.7
AQU	L'Aquila	1.70	115	*e*PN	Pn	04 42 09.4	+1.3
AQU	L'Aquila	1.70	115	*e*Pn	Pn	04 42 09.4	+1.3
PGF	Pioggiola	1.79	253	*e*Pn	Pn	04 42 09.5	0.0
PGF				*e*Sn	Sn	04 42 36.0	+3.5
	47nm,0.3s						
PTQR	Pietraquaria	1.87	124	⇓*i*PN	Pn	04 42 11.7	+1.1
	25nm,0.5s						
PTQR	Pietraquaria	1.87	124	⇓*i*Pn	Pn	04 42 11.7	+1.1
BOB	Bobbio (Coli)	2.15	322	⇓*i*PN	Pn	04 42 16.2	+1.6
BOB	Bobbio (Coli)	2.15	322	⇓*i*Pn	Pn	04 42 16.2	+1.6
SDI	San Donato	2.30	126	*e*PN	Pn	04 42 18.1	+1.3
	441nm,0.2s						
SDI	San Donato	2.30	126	*e*Pn	Pn	04 42 18.1	+1.4
FIN	Finale Ligure	2.52	297	*e*PN	Pn	04 42 21.3	+1.4
	19nm,0.6s						
FIN	Finale Ligure	2.52	297	*e*Pn	Pn	04 42 21.3	+1.4
RORO		2.58	294	P	Pn	04 42 19.8	-0.9
CII	Carovilli	2.60	121	*e*Pn	Pn	04 42 25.2	+4.2
IMI	Imperia	2.63	289	P	Pn	04 42 21.0	-0.4
IMI				S	Sn	04 42 50.6	-3.0
NEGI	Negi	2.74	287	P	Pn	04 42 22.2	-0.8
MONE	Monesi	2.77	292	P	Pn	04 42 23.6	+0.1
ROB	Roburent	2.78	297	P	Pn	04 42 23.2	-0.3
SBF	Sospel	2.93	287	*e*Pn	Pn	04 42 25.2	-0.6
CTI	Castel Tesino	2.96	4	⇑*i*PN	Pn	04 42 26.3	+0.1
	24nm,0.5s						
MABI	Malga Bissina	3.02	349	*e*PN	Pn	04 42 28.0	+1.1
MABI	Malga Bissina	3.02	349	*e*Pn	Pn	04 42 28.0	+1.0
ENR	Entracque	3.05	293	P	Pn	04 42 27.8	+0.3
STV2	Anna di Valdie	3.12	293	P	Pn	04 42 28.6	+0.2
STV	Sta Anna Valdi	3.12	293	P	Pn	04 42 28.6	+0.2
TRI	Trieste	3.15	33	⇑*i*PN	Pn	04 42 28.2	-0.6
	22nm,0.5s						
TRI	Trieste	3.15	33	⇑*i*Pn	Pn	04 42 28.2	-0.6
VAI	Varese	3.32	327	*e*PN	Pn	04 42 31.8	+0.5
VAI	Varese	3.32	327	*e*Pn	Pn	04 42 31.8	+0.6
PZZ	Prazzo	3.37	296	P	Pn	04 42 31.4	-0.5
BHB	Bricherasio	3.41	302	P	Pn	04 42 32.6	0.0
FRF	La Foret Royal	3.44	279	*e*Pn	Pn	04 42 32.0	-1.0
FRF				*e*Sn	Sn	04 43 11.4	-2.9
	8.5nm,0.4s						
GMNA	Gemona	3.46	23	⇑*i*PN	Pn	04 42 33.4	+0.2
	92nm,0.9s						
GMNA	Gemona	3.46	23	⇑*i*Pn	Pn	04 42 33.4	+0.1
VOY	Vojsko	3.46	31	*e*Pn	Pn	04 42 32.8	-0.5
VOY				*e*Sn	Sn	04 43 14.3	-0.5
ROBS	Robic	3.51	26	*e*Pn	Pn	04 42 33.7	-0.3
LMR	La Mourre	3.53	276	*e*Pn	Pn	04 42 32.9	-1.3
LMR				*e*Sn	Sn	04 43 14.3	-2.1
	6.2nm,0.2s						
RSP	Reno Superiore	3.58	306	P	Pn	04 42 35.2	+0.3
PTCC	Patocco-Chiusa	3.61	23	⇑*i*PN	Pn	04 42 34.4	-1.0
	18nm,0.6s						
PTCC	Patocco-Chiusa	3.61	23	⇑*i*Pn	Pn	04 42 34.4	-1.0
FENE	Fenestrelle	3.63	304	P	Pn	04 42 35.5	-0.1
FVI	Forni Avoltri	3.65	16	⇑*i*PN	Pn	04 42 36.0	0.0
	19nm,0.5s						
FVI	Forni Avoltri	3.65	16	⇑*i*Pn	Pn	04 42 36.0	+0.1
MBDF	Montbardon	3.67	298	*e*Pn	Pn	04 42 36.1	-0.2
MBDF				*e*Sn	Sn	04 43 19.8	-0.3
	20nm,0.7s						
VISS	Visnje	3.70	42	*e*Pn	Pn	04 42 35.8	-0.8
BOJS	Bojanci	3.71	48	*e*Pn	Pn	04 42 36.5	-0.3
BOJS				*e*Sn	Sn	04 43 20.1	-0.9
LJU	Ljubljana	3.73	37	*e*Pn	Pn	04 42 36.3	-0.9
LJU				*i* Sn	Sn	04 43 20.0	-1.7
RRL	Cesana Torines	3.75	301	P	Pn	04 42 39.2	+1.9
LSD	Ceresole Reale	3.81	310	P	Pn	04 42 38.3	0.0
BNI	Bardonecchia	3.88	302	*e*Pn	Pn	04 42 39.4	+0.3
SCE	Schlegeis	3.95	4	⇑*i*Pn	Pn	04 42 41.2	+0.9
LPG	La Plagne	4.07	308	*e*Pn	Pn	04 42 44.5	+2.6

LPG				*e*Sn	Sn	04 43 28.9	-1.2
	13nm,0.7s						
LPL	La Plagne	4.09	308	*e*Pn	Pn	04 42 44.1	+1.9
LPL				*e*Sn	Sn	04 43 29.7	-1.0
	15nm,0.7s						
OBKA	Obir	4.11	33	⇑*i*PN	Pn	04 42 41.8	-0.7
OBKA				*i* SN	Sn	04 43 29.1	-2.2
SQTA	Sankt Quirin	4.13	359	⇑*i*PN	Pn	04 42 43.8	+1.1
SQTA				*i* SN	Sn	04 43 32.4	+0.8
WTTA	Wattenberg	4.17	3	⇓*i*PN	Pn	04 42 44.3	+0.9
WTTA				*i* SN	Sn	04 43 33.8	+0.9
WATA	Walderalm	4.25	2	⇑*i*PN	Pn	04 42 46.2	+1.8
WATA				*i* SN	Sn	04 43 35.5	+0.9
MOTA	Moosalm	4.25	358	⇓*i*PN	Pn	04 42 45.7	+1.2
MOTA				*i* SN	Sn	04 43 35.6	+0.8
SMRF	Simiane la Rot	4.27	284	*e*Pn	Pn	04 42 45.3	+0.5
SMRF				*e*Sn	Sn	04 43 33.3	-2.0
	6.9nm,0.5s						
DAVA	Damuels	4.31	347	⇑*i*PN	Pn	04 42 47.4	+2.0
DAVA				*i* SN	Sn	04 43 39.0	+2.6
ORIF	Oris-en-Rattie	4.33	297	*e*Pn	Pn	04 42 47.0	+1.4
PERS	Pernice	4.45	36	*e*Pn	Pn	04 42 46.5	-0.9
GROS	Grobnik	4.49	40	*e*Pn	Pn	04 42 47.7	-0.2
ARSA	Arzberg	5.11	34	⇑*i*PN	Pn	04 42 54.8	-1.8
ARSA				*i* SN	Sn	04 43 54.1	-2.3
VIVF	Saint-Julien-l	5.11	292	*e*Pn	Pn	04 42 55.8	-0.9
VIVF				*e*Sn	Sn	04 43 54.9	-1.6
	1.8nm,0.4s						
CABF	La Chapelle	5.12	315	*e*Pn	Pn	04 42 56.7	-0.1
MOA	Molln	5.18	22	⇑*i*PN	Pn	04 42 57.2	-0.5
MOA				*i* SN	Sn	04 43 56.6	-1.7
LASF	Ste Croix	5.51	283	*e*Pn	Pn	04 43 00.5	-1.8
LASF				*e*Sn	Sn	04 44 02.6	-3.9
	2.3nm,0.4s						
BFO	Black Forest	5.64	339	*e*Pn	Pn	04 43 03.0	-1.1
BFO				*e*Sn	Sn	04 44 05.6	-4.1
HINF	Hinteralfeld	5.67	328	*e*Pn	Pn	04 43 03.6	-1.0
HINF				*e*Sn	Sn	04 44 06.2	-4.4
	12nm,0.6s						
GEC2	GERESS Array S	5.99	15	*e*Pn	Pn	04 43 07.2	-1.8
GEC2				*e*Sn	Sn	04 44 06.0	-12
CDF	Champ du Feu	6.02	333	*e*Pn	Pn	04 43 08.0	-1.5
CDF				*e*Sn	Sn	04 44 14.2	-5.2
	16nm,0.6s						
HAU	Haudompre	6.03	326	*e*Pn	Pn	04 43 08.8	-0.8
HAU				*e*Sn	Sn	04 44 14.6	-4.8
	15nm,0.5s						
WET	Wettzell	6.15	10	*e*Pn	Pn	04 43 07.1	-4.2
KHC	Kasperske Hory	6.24	14	*e*PN	Pn	04 43 10.3	-2.3
KHC				*e*		04 43 31.5	
KHC				PG	Pg	04 43 42.0	-0.7
KHC				*e*SN	Sn	04 44 20.5	-4.2
KHC	Kasperske Hory	6.24	14	*e*Pn	Pn	04 43 10.3	-2.3
KHC				*e*		04 43 31.5	
KHC				*e*		04 43 42.0	
KHC				*e*Sn	Sn	04 44 20.5	-4.2
SMF	Signal de Mont	6.39	306	*e*Pn	Pn	04 43 14.0	-0.7
SMF				*e*Sn	Sn	04 44 24.1	-4.5
	5.8nm,0.6s						
MTLF	Montolieu	6.66	275	*e*Pn	Pn	04 43 16.7	-1.8
MTLF				*e*Sn	Sn	04 44 30.7	-4.5
	3.3nm,0.7s						
LOR	Lormes	6.72	311	*e*Pn	Pn	04 43 18.9	-0.5
LOR				*e*Sn	Sn	04 44 32.9	-4.0
	4.9nm,0.5s						
AVF	Avril sur Loir	6.75	306	*e*Pn	Pn	04 43 19.4	-0.5
SSF	Saint Saulge	6.81	308	*e*Pn	Pn	04 43 19.6	-1.0
SSF				*e*Sn	Sn	04 44 33.6	-5.4
	1.7nm,0.5s						
CAF	Calviac	6.92	289	*e*Pn	Pn	04 43 21.3	-0.9
BGF	Bois d'Agland	6.95	303	*e*Pn	Pn	04 43 21.7	-0.9
MEZF	Maizieres J'vi	6.96	323	*e*Pn	Pn	04 43 21.6	-1.1
TCF	Toulx Ste Croi	7.24	299	*e*Pn	Pn	04 43 26.2	-0.4
PRU	Pruhonice	7.24	17	*e*PN	Pn	04 43 25.0	-1.7
PRU				*e*PG	Pg	04 43 56.1	-6.7
PRU				*e*SN	Sn	04 44 41.7	-8.2
RJF	Les Rejaudoux	7.39	291	*e*Pn	Pn	04 43 28.0	-0.7
MOX	Moxa	7.56	1	*i* P	Pn	04 43 30.7	-0.4
MOX	Moxa	7.56	1	*e*Pn	Pn	04 43 30.7	-0.4
LFF	La Frestale	7.85	287	*e*Sn	Sn	04 44 57.6	-7.4
	2.9nm,0.4s						
DPC	Dobruska-Polom	8.03	24	*e*SN	Sn	04 45 04.9	-4.5
MFF	Saint Martin d	8.87	297	*e*Pn	P	04 43 49.2	-0.2
SJPF	Ste Jean	9.18	274	*e*Pn	P	04 43 53.4	-0.3

IDC ***15*** *05:01:01.4±8.8, 28.49N×84.38E, h38*^{km}*±74*^{km}*, mb3.8/4, mb1 3.8/6, mb1mx3.5/19, ML3.9/2, Error ellipse: s-maj=58.2km s-min=22.6km az=53.0*
NDI ***15*** *05:01:13.4±3.0, 32.63N×81.93E, h10*^{km}*, MD3.1*
ISC 15 05:01:00.6±0.8**, 28.74N**±0.09×**84.61E**±0.08**, h33**^{km}**, n12,** σ**1**^{s}**22**/14**, mb4.0**/4**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGTI	Lohaghat	3.88	282	*e*P	P	05 02 10.0	+11
LGTI				*e*SB	Sb	05 03 01.7	+6.6
PTH	Pithoragarh	3.92	283	*e*P	P	05 02 04.5	+4.5
PTH				*e*S	S	05 02 45.5	0.0
ALBI	Allahabad	4.23	217	*e*	P	05 02 05.5	+1.2
ALBI				*e*		05 02 41.0	
DDI	Dehra Dun	5.92	287	*e*SG	S	05 03 26.8	-9.0
NDI	New Delhi	6.49	271	*e*S	S	05 03 40.0	-10
SHL	Shillong	7.21	114	*e*	S	05 04 02.5	-5.4
CMAR	Chiang Mai Arr	16.64	125	Pn	P	05 04 53.1	+0.3
	0.4nm,0.3s,baz=312,slow=13,SNR=4.6						
MKAR	Makanchi Array	18.12	355	P	P	05 05 11.7	+0.5
	0.1nm,0.3s,baz=180,slow=10,SNR=5.3						
SONM	Songino Array	25.46	36	P	P	05 06 29.0	+1.9
	0.8nm,0.6s,mb3.4,baz=228,slow=9.1,SNR=5.5						
ARCES	ARCESS Array B	52.67	338	P	P	05 10 13.1	-0.4
	5.6nm,1.1s,mb4.4,baz=102,slow=8.3,SNR=2.9						
HFS	Hagfors	56.09	325	P	P	05 10 36.9	-1.6
	4.3nm,1.1s,mb4.4,baz=101,slow=7.3,SNR=5.8						
WRA	Warramunga Arr	68.17	129	P	P	05 11 57.8	-2.1
	0.4nm,0.5s,mb3.7,baz=322,slow=6.5,SNR=10						

NEIC ***15*** *05:04:01.2, 35.52N×21.67E, h7*^{km}*, MD3.6(ATH), After ATH.*
ATH 15 05:04:01.2, 35.52N×21.67E, h7^{km}**, MD3.6**/3**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	Kithira	1.34	55	*e*PB	Pb	05 04 26.9	+0.6
VLI	Veliai	1.57	40	*e*PG	Pg	05 04 30.0	-2.7
VAM	Vamos	2.07	92	*e*PN	Pn	05 04 38.5	+1.7
RLS	Riolos of Patr	2.54	356	*e*PN	Pn	05 04 44.8	+1.3
EVR	Evrytania	3.39	2	*e*PB	Pb	05 04 58.0	-3.4

IDC ***15*** *05:14:30.2±0.9, 13.25N×144.65E, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, Error ellipse: s-maj=47.6km s-min=20.8km az=102.0*
NEIC ***15*** *05:14:37.5±1.1, 13.15N×144.60E, h53*^{km}*±11*^{km}*, mb4.1/2, Error ellipse: s-maj=28.2km s-min=11.5km az=104.0*
NEIC Felt at Hagatna and Yona.
ISC 15 05:14:36.6±1.0**, 13.1N**±0.1×**144.6E**±0.3**, h62**^{km}±12^{km}**, n13,** σ**0**^{s}**74**/12**, mb4.0**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.52	31	*e*Pg	P	05 14 49.2	+0.2
GUMO				*e*Sg	S	05 14 58.0	-0.1
WRAB	Tennant Creek	34.37	197	*e*P	P	05 21 19.2	-0.7
WB2	Warramunga Arr	34.38	197	*e*P	P	05 21 20.0	0.0
WRA	Warramunga Arr	34.38	197	P	P	05 21 19.5	-0.5
	3.6nm,0.9s,mb4.3,baz=19,slow=9.4,SNR=14						
FITZ	Fitzroy Crossi	36.24	212	P	P	05 21 36.6	+0.8
	2.7nm,0.9s,mb4.2,baz=6.3,slow=9.2,SNR=3.8						
ASAR	Alice Springs	38.04	196	P	P	05 21 51.0	+0.2
	0.7nm,0.5s,mb3.6,baz=20,slow=11,SNR=6.8						
ASAR				PcP	PcP	05 24 06.8	+1.1
	0.5nm,0.7s,baz=15,slow=3.2,SNR=4.5						
MKAR	Makanchi Array	61.63	316	P	P	05 24 50.5	+0.3
	0.4nm,0.5s,mb3.9,baz=93,slow=6.2,SNR=5.3						
KURK	Kurchatov	64.75	320	P	P	05 25 10.8	0.0
	1.3nm,0.7s,mb4.1						
ILAR	Eielson Array	69.09	25	P	P	05 25 36.4	-1.4
	0.5nm,0.4s,mb3.8,baz=252,slow=5.7,SNR=7.2						
HLID	Hailey	88.85	46	*e*P	P	05 27 27.1	+1.7
	0.7nm,0.7s,mb4.1						
FINES	FINESS Array B	91.46	335	P	P	05 27 36.6	-0.5
	1.7nm,1.0s,mb4.3,baz=56,slow=10.0,SNR=2.7						
LPAZ	La Paz	148.21	100	PKPbc	PKPdf	05 34 20.8	+7.7
	1.4nm,0.7s,baz=265,slow=5.1,SNR=7.8						
LPAZ	La Paz	148.21	100	PKPbc	PKPdf	05 34 20.8	+7.6

MOS ***15*** *05:27:16.3±0.9, 52.85N×34.56W, h10*^{km}*, mb4.9/4, Error ellipse: s-maj=51.4km s-min=14.6km az=136.2*
IDC ***15*** *05:27:16.5±0.6, 52.76N×34.52W, mb4.1/20, mb1 4.3/22, mb1mx4.2/28, ML3.4/2, MS3.6/13, Ms1 3.6/13, ms1mx3.5/28, Error ellipse: s-maj=20.0km s-min=11.2km az=180.0*
NEIC ***15*** *05:27:16.6±4.1, 52.71N×34.53W, h3*^{km}*±26*^{km}*, mb4.3/49, Error ellipse: s-maj=7.9km s-min=4.0km az=199.0*
ISC 15 05:27:16.2±0.3**, 52.76N**±0.05×**34.53W**±0.05**, h10**^{km}**, n116,** σ**0**^{s}**86**/110**, mb4.2**/65**, MS3.5**/13**, 2C-3D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	Borgarnes	13.79	24	P	P	05 30 34.2	+0.5
BWH	Wardlaw	18.25	70	*e*P	P	05 31 31.7	+0.7
ESK	Eskdalemuir	18.50	70	*e*P	P	05 31 33.6	-0.4
	22nm,1.1s						
BHH	Howats Hill	18.51	70	*e*P	P	05 31 33.7	-0.4
EKA	Eskdalemuir Ar	18.52	69	P	P	05 31 34.3	0.0
	0.3nm,0.3s,baz=275,slow=9.4,SNR=36						
BBO1	Bothel	18.53	71	*e*P	P	05 31 35.2	+0.8
BBH	Bruntsheil	18.67	70	*e*P	P	05 31 36.6	+0.5
BDL	Dobcross Hall	18.70	71	⇑*e*P	P	05 31 37.5	+1.1
BTA	Talkin	18.84	71	*e*P	P	05 31 37.3	-0.8
SCHQ	Schefferville	19.10	289	P	P	05 31 38.9	-2.4
	0.3nm,0.3s,baz=87,slow=8.4,SNR=5.6						
SCHQ				LR	LR	05 37 53.2	
	comp=Z,223nm,19.6s,baz=132,slow=33						
SCHQ	Schefferville	19.10	289	*e*P	P	05 31 38.7	-2.6
	16nm,1.1s						
STS	Santiago	19.95	109	P	P	05 31 49.3	-1.7
	8.3nm,0.7s						
SUMG	Summit	19.96	357	*e*P	P	05 31 49.7	-1.3
	12nm,1.1s						
ROSF	Rostrenen	20.26	90	*e*P	P	05 31 54.7	+0.5
	19nm,1.0s						
EZAM	Zamans	20.33	111	P	P	05 31 53.6	-1.4
	18nm,1.1s						
EPON	Pontenova	20.48	106	P	P	05 31 53.1	-3.6
	9.0nm,1.0s						
QUIF	Quistinic	20.50	91	*e*P	P	05 31 56.4	-0.4
	18nm,0.9s						
FRB	Frobisher Bay	20.72	315	P	P	05 31 58.1	-0.8
	12nm,0.8s,baz=104,slow=11,SNR=10						
FRB				LR	LR	05 37 50.2	
	comp=Z,132nm,20.3s,MS3.3,baz=172,slow=31						
SGMF	Saint Gilles	20.73	90	*e*P	P	05 31 59.0	-0.1
	17nm,0.9s						
ELOB	Lobios	20.87	111	P	P	05 31 58.4	-2.2
	7.0nm,1.1s						
ERUA	La Rua	21.06	109	P	P	05 32 01.4	-1.2
	7.3nm,0.8s,mb4.1						
ECAL	Calabor	21.58	109	P	P	05 32 06.4	-1.5
	19nm,1.1s,mb4.4						
PBRG	Braganca	21.67	109	*e*P	P	05 32 09.2	+0.5
	16nm,1.4s,mb4.2						
JMIC	Jan Mayen	21.68	23	LR	LR	05 38 20.3	
	comp=Z,218nm,19.1s,MS3.6,baz=101,slow=31						
GRR	Gorron	21.70	88	*e*P	P	05 32 08.9	-0.1
	27nm,1.1s,mb4.3						
PVIS	Viseu	21.73	113	*e*P	P	05 32 09.1	-0.2
	12nm,1.3s,mb4.2						
FLN	La Foliniere	21.78	87	*e*P	P	05 32 11.2	+1.4
	15nm,0.7s,mb4.2						
LDF	La Druitiere	22.07	87	*e*P	P	05 32 12.5	-0.2
	13nm,0.7s,mb4.2						
MTE	Manteigas	22.14	113	*e*P	P	05 32 14.3	+0.8
	11nm,1.8s,mb4.0						
MTE				*e*LQ		05 36 44.8	
MTE				*e*LR	LR	05 37 43.2	
	130nm,18.0s						
MTE	Manteigas	22.14	113	*e*P	P	05 32 13.1	-0.4
	12nm,1.1s,mb4.2						
PTOM	Tomar	22.20	116	*e*P	P	05 32 13.9	-0.2
	20nm,1.2s,mb4.4						
PLOU	Loures	22.33	118	*e*P	P	05 32 16.2	+0.9
PCBR	Castelo Branco	22.56	114	*e*P	P	05 32 17.8	+0.2
	17nm,1.0s,mb4.4						
MFF	Saint Martin d	22.93	92	*e*P	P	05 32 20.5	-0.6
	12nm,0.9s,mb4.0						
EBAD	Badajoz	23.58	115	P	P	05 32 27.4	-0.1
	35nm,1.3s,mb4.6						
PBEJ	Beja	23.64	118	*e*P	P	05 32 28.7	+0.6
BAIF	Baives	24.12	81	*e*P	P	05 32 33.0	+0.4
	5.9nm,0.7s,mb3.9						
GIVF	Givet	24.47	80	*e*P	P	05 32 36.2	+0.2
EMIN	Mina Concepcio	24.48	117	P	P	05 32 35.3	-0.9
	24nm,1.4s,mb4.4						
TCF	Toulx Ste Croi	24.51	90	*e*P	P	05 32 36.7	+0.2
	9.8nm,0.7s,mb4.1						
RJF	Les Rejaudoux	24.58	93	*e*P	P	05 32 36.4	-0.7
	10nm,0.9s,mb4.0						
ETSF	Etsaut	24.64	100	*e*P	P	05 32 36.3	-1.4
	14nm,1.0s,mb4.2						
ESDC	Sonseca Array	24.66	110	P	P	05 32 37.7	-0.2
	1.5nm,0.7s,mb3.6,baz=311,slow=8.3,SNR=16						
ESDC				LR	LR	05 41 01.3	
	comp=Z,98nm,18.2s,MS3.3,baz=295,slow=34						
ESDC	Sonseca Array	24.66	110	P	P	05 32 37.6	-0.4
	1.4nm,0.7s,mb3.6						
BGF	Bois d'Agland	24.77	89	*e*P	P	05 32 39.1	+0.1
	15nm,0.6s,mb4.4						
HGN	Heimansgroeve	24.90	78	*e*P	P	05 32 41.9	+1.7
	3.8nm,0.8s,mb4.0						
SSF	Saint Saulge	24.93	88	*e*P	P	05 32 40.3	-0.2
	30nm,1.3s,mb4.4						
AVF	Avril sur Loir	24.97	89	*e*P	P	05 32 40.7	-0.1
	7.7nm,0.8s,mb4.0						
WTSB	Winterswijk	25.01	75	*e*P	P	05 32 42.8	+1.6
	12nm,0.7s,mb4.5						
ETOR	Torete	25.01	105	P	P	05 32 42.6	+1.3
	21nm,1.6s,mb4.4						
LOR	Lormes	25.05	87	*e*P	P	05 32 41.4	-0.3
	10nm,0.6s,mb4.2						
MEZF	Maizieres J'vi	25.24	84	*e*P	P	05 32 43.3	-0.1
	24nm,0.7s,mb4.5						
MUD	Monsted U'grnd	25.26	64	⇓*i*P	P	05 32 45.9	+2.4
	16nm,0.7s,mb4.7						
SMF	Signal de Mont	25.33	88	*e*P	P	05 32 44.2	-0.1
	8.9nm,0.8s,mb4.0						
EADA	Adamuz	25.35	113	P	P	05 32 45.7	+1.2
	12nm,1.0s,mb4.4						
ESPR	Espera	25.58	117	P	P	05 32 47.2	+0.5
	11nm,1.1s,mb4.3						
NB2	NORSAR Subarra	25.82	53	P	P	05 32 47.5	-1.3
	5.4nm,1.0s,mb4.0,baz=292,slow=8.6						
NOA	NORSAR Array B	25.82	53	P	P	05 32 49.1	+0.3
	3.4nm,0.8s,mb4.0,baz=273,slow=9.0,SNR=5.9						
NOA				LR	LR	05 41 49.1	
	comp=Z,77nm,18.6s,MS3.3,baz=150,slow=34						
ELUQ	Luque	25.95	114	P	P	05 32 52.2	+2.0
	7.5nm,0.8s,mb4.3						
HAU	Haudompre	26.23	84	*e*P	P	05 32 52.4	-0.3
	19nm,0.9s,mb4.3						
BSEG	Bad Segeberg	26.47	69	*e*P	P	05 32 54.6	-0.2
BSEG				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
CDF	Champ du Feu	26.62	82	*e*P	P	05 32 55.5	-0.7
HINF	Hinteralfeld	26.62	84	*e*P	P	05 32 56.2	-0.1
CABF	La Chapelle	26.71	87	*e*P	P	05 32 56.5	-0.6
HFS	Hagfors	27.11	55	P	P	05 33 00.6	0.0
	comp=Z,2.3nm,0.8s,mb3.7,baz=225,slow=10,SNR=3.4						
CLZ	Clausthal	27.14	74	*e*P	P	05 33 02.1	+1.1
	comp=Z,13nm,1.3s,mb4.3						
MBDF	Montbardon	28.07	90	*e*P	P	05 33 09.3	-0.2
MOX	Moxa	28.30	76	*i* P	P	05 33 12.6	+1.1
MOX	Moxa	28.30	76	*e*P	P	05 33 12.6	+1.1
CLL	Collm	28.87	74	P	P	05 33 16.0	-0.6
DAVOX	Davos	28.93	84	P	P	05 33 18.1	+0.9
	comp=Z,2.6nm,0.8s,mb4.0,baz=309,slow=14,SNR=4.7						
SADO	Sadowa	30.05	273	LR	LR	05 45 00.1	
	comp=Z,120nm,18.1s,MS3.6,baz=256,slow=35						
KHC	Kasperske Hory	30.08	77	*e*P	P	05 33 27.4	-0.1
KHC				*e*		05 33 38.0	
GEC2	GERESS Array S	30.28	78	*e*P	P	05 33 29.0	-0.2
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
GEC2	GERESS Array S	30.28	78	*e*P	P	05 33 29.0	-0.2
	comp=Z,3.0nm,0.8s,mb4.1						
GERES	GERESS Array B	30.28	78	P	P	05 33 29.1	-0.1
	comp=Z,1.5nm,0.6s,mb3.9,baz=304,slow=9.0,SNR=22						
DPC	Dobruska-Polom	31.18	74	*e*P	P	05 33 37.6	+0.4
DPC				*e*		05 33 47.2	
ARCES	ARCESS Array B	31.77	35	P	P	05 33 41.8	-0.4
	comp=Z,4.0nm,0.6s,mb4.5,baz=260,slow=7.1,SNR=32						
KEV	Kevo	32.30	35	*e*p	P	05 33 45.5	-1.3
KAF	Kangasniemi	32.85	49	*e*p	P	05 33 50.0	-1.6
	comp=Z,0.7nm,0.4s,mb3.9						
KAF	Kangasniemi	32.85	49	*e*P	P	05 33 50.0	-1.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	32.88	50	P	P	05 33 51.5	-0.5
	comp=Z,9.9nm,1.1s,mb4.7,baz=269,slow=6.0,SNR=17						
FINES				LR	LR	05 46 19.9	
	comp=Z,76nm,21.5s,MS3.4,baz=86,slow=35						
APA	Apatity	34.82	39	⇑*i*P	P	05 34 08.5	-0.2
APA				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
ULM	Lac du Bonnet	37.25	291	LR	LR	05 48 32.6	
	comp=Z,76nm,19.4s,MS3.5,baz=33,slow=34						
AKASG	Malin Array Be	38.39	67	P	P	05 34 38.2	-0.8
	comp=Z,1.8nm,0.7s,mb3.9,baz=300,slow=8.8,SNR=6.8						
OBN	Obninsk	40.26	57	κ*i*P	P	05 34 54.2	-0.3
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.8						
YKA	Yellowknife Ar	41.24	316	P	P	05 35 02.3	-0.1
	comp=Z,1.0nm,0.7s,mb3.5,baz=63,slow=8.3,SNR=3.7						
SJG	San Juan	42.47	228	LR	LR	05 49 10.0	
	comp=Z,56nm,20.2s,MS3.5,baz=88,slow=31						
LAO	LASA Array	44.97	292	*e*P	P	05 35 34.1	+1.2
	comp=Z,9.1nm,1.0s,mb4.6						
INK	Inuvik	45.42	329	P	P	05 35 36.0	-0.1
	comp=Z,1.3nm,0.8s,mb3.8,baz=15,slow=9.9,SNR=4.2						
INK				LR	LR	05 52 20.1	
	comp=Z,64nm,20.5s,MS3.5,baz=13,slow=33						
BRTR	Keskin Array B	47.17	77	P	P	05 35 51.3	+0.9
	comp=Z,7.4nm,1.2s,mb4.5,baz=312,slow=6.5,SNR=10.0						
HRY	Holter Researc	48.07	296	*e*P	P	05 35 57.9	+0.5
HRY				*e*		05 36 05.8	
BOZ	Bozeman (W)	48.61	294	*e*P	P	05 36 01.5	0.0
	comp=Z,1.2nm,0.8s,mb4.0						
BOZ				*e*		05 36 10.4	
PDAR	Pinedale Array	49.24	290	P	P	05 36 05.9	-0.5
	comp=Z,1.1nm,0.6s,mb4.1,baz=60,slow=7.9,SNR=15						
PDAR				LR	LR	05 56 04.2	
	comp=Z,87nm,18.2s,MS3.8,baz=124,slow=35						
MCMT	McKenzie Canyo	49.80	294	P	P	05 36 11.7	+1.0
DLBC	Dease Lake	49.85	317	P	P	05 36 11.0	+0.1
	comp=Z,1.6nm,0.7s,mb4.2,baz=21,slow=8.1,SNR=5.1						
DLBC				LR	LR	05 57 22.6	
	comp=Z,67nm,18.0s,MS3.7,baz=355,slow=36						
NEW	Newport	49.97	300	P	P	05 36 12.5	+0.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=89,slow=1.4,SNR=2.8						
NEW	Newport	49.97	300	P	P	05 36 12.5	+0.6
HWUT	Hardware Ranch	51.13	290	*e*P	P	05 36 20.4	-0.4
	comp=Z,7.0nm,0.9s,mb4.6						
HWUT				*e*		05 36 28.2	
HLID	Hailey	51.47	294	*e*P	P	05 36 23.9	+0.5
	comp=Z,3.6nm,1.2s,mb4.2						
JCT	Junction City	51.66	271	P	P	05 36 22.6	-2.5
	comp=Z,5.5nm,0.9s,mb4.5						
PV10	Paradox Valley	51.79	285	*e*P	P	05 36 27.1	+1.2
ILAR	Eielson Array	51.80	330	P	P	05 36 26.2	+0.6
	comp=Z,1.7nm,0.8s,mb4.0,baz=42,slow=5.5,SNR=20						
SRU	San Rafael	52.17	287	*e*P	P	05 36 28.1	-0.6
DUG	Dugway	52.77	290	*e*P	P	05 36 33.6	+0.4
	comp=Z,2.2nm,0.8s,mb4.1						
DUG				*e*		05 36 42.0	
IMA	Indian Mountai	52.82	333	*e*P	P	05 36 33.9	+0.6
	comp=Z,17nm,1.0s,mb4.9						
IMA				*e*		05 36 43.6	
MOD	Modoc	55.82	296	*e*P	P	05 36 55.4	-0.1
	comp=Z,4.0nm,1.0s,mb4.4						
MOD				*e*		05 37 03.9	
TPH	Tonopah	56.72	291	*e*P	P	05 37 01.9	-0.2
	comp=Z,1.8nm,0.8s,mb4.2						
TPH				*e*		05 37 10.1	
YBH	Yreka Blue Hor	57.24	297	P	P	05 37 05.6	-0.1
	comp=Z,0.8nm,0.8s,mb3.8,baz=235,slow=4.6,SNR=1.9						
ROSC	El Rosal	57.85	229	P	P	05 37 11.4	+1.0
	comp=Z,40nm,0.7s,mb5.6,baz=105,slow=6.3,SNR=52						
MKAR	Makanchi Array	67.13	42	P	P	05 38 11.7	0.0
	comp=Z,2.9nm,0.5s,mb4.6,baz=331,slow=5.9,SNR=18						
MKAR				LR	LR	06 05 38.2	
	comp=Z,56nm,19.1s,MS3.8,baz=313,slow=34						
SONM	Songino Array	74.40	26	P	P	05 38 55.9	+0.5
	comp=Z,0.9nm,0.6s,mb3.9,baz=342,slow=7.8,SNR=5.8						
LPAZ	La Paz	74.64	213	P	P	05 38 57.7	+0.3
	comp=Z,0.9nm,0.8s,mb3.7,baz=38,slow=1.4,SNR=4.5						
LPAZ	La Paz	74.64	213	P	P	05 38 57.7	+0.3
WRA	Warramunga Arr	146.12	19	PKPbc	PKPbc	05 46 57.0	+0.5
	comp=Z,0.6nm,0.6s,baz=340,slow=3.1,SNR=15						
ASAR	Alice Springs	149.64	21	PKPbc	PKPdf	05 47 06.5	+2.5
	comp=Z,0.5nm,0.4s,baz=352,slow=2.1,SNR=14						

IDC ***15*** *05:41:27.5±7.7, 45.09N×142.91E, mb3.5/3, mb1 3.7/3, mb1mx3.3/19, Error ellipse: s-maj=518.0km s-min=30.8km az=79.0*
JMA ***15*** *05:41:39.6±0.6, 45.13N×148.24E, h157*^{km}*, M3.4*
ISC 15 05:41:41.6±1.5**, 45.1N**±0.2×**147.9E**±0.2**, h176**^{km}±11^{km}**, n13,** σ**0**^{s}**94**/19**, mb3.3**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	2.31	223	P	P	05 42 21.2	-1.2
NEM2				*e*S	S	05 42 53.6	-0.2
JTKR	Abashiri--Toko	3.07	250	P	P	05 42 31.5	0.0
JAK	Akkeshi	3.12	229	P	P	05 42 31.6	-0.5
JAK				*e*S	S	05 43 12.4	+1.5
JAR	Ashorobuto	3.47	241	P	P	05 42 37.8	+1.2
JKK2	Kamakawa 2	3.89	254	P	P	05 42 42.4	+0.5
JCH	Churui	4.11	235	P	P	05 42 44.6	-0.1
JCH				*e*S	S	05 43 34.6	+1.2
JNBK	Urakawa-nobuka	4.67	235	P	P	05 42 50.9	-1.0
JNBK				*e*S	S	05 43 48.0	+1.6
JKB	Kayabe	5.94	240	P	P	05 43 08.1	-0.3
JKB				*e*S	S	05 44 14.9	-1.1
JOT	Ohata	6.23	236	P	P	05 43 11.9	-0.4
JOT				*e*S	S	05 44 21.3	-1.6
JMK	Ichinoseki	7.89	222	*e*S	S	05 45 01.8	-0.4
FINES	FINESS Array B	63.95	333	P	P	05 51 50.7	-6.5
	0.7nm,0.6s,mb3.7,baz=63,slow=6.2,SNR=7.8						
WRA	Warramunga Arr	65.87	194	P	P	05 52 10.2	-0.2
	0.2nm,0.5s,mb3.2,baz=11,slow=6.7,SNR=4.8						
ASAR	Alice Springs	69.59	194	P	P	05 52 34.5	+1.2
	0.2nm,0.5s,mb3.1,baz=3.8,slow=5.7,SNR=4.2						

BJI ***15*** *05:47:58.9, 5.80S×107.40W, h10*^{km}*, mB4.8, Ms5.0, Msz5.1*
IDC ***15*** *05:48:00.7±1.0, 5.64S×107.15W, mb4.2/16, mb1 4.3/16, mb1mx4.3/18, MS4.1/10, Ms1 4.0/10, ms1mx3.9/13, Error ellipse: s-maj=33.9km s-min=16.2km az=53.0*
NEIC ***15*** *05:48:01.0±0.8, 5.77S×107.36W, h10*^{km}*, mb4.5/13, Error ellipse: s-maj=27.4km s-min=9.1km az=52.0*
ISC 15 05:47:57.3±0.9**, 6.1S**±0.1×**107.7W**±0.2**, h10**^{km}**, n63,** σ**1**^{s}**18**/52**, mb4.3**/27**, MS4.2**/12**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	27.85	54	LR	LR	06 01 53.7	
	comp=Z,783nm,21.1s,MS4.3,baz=284,slow=31						
ROSC	El Rosal	35.01	73	P	P	05 54 50.7	-1.6
	1.3nm,0.4s,mb4.2,baz=257,slow=19,SNR=2.5						
ROSC				LR	LR	06 06 33.6	
	comp=Z,296nm,18.3s,MS4.1,baz=13,slow=32						
LPAZ	La Paz	40.02	108	P	P	05 55 35.8	+1.4
	3.2nm,1.2s,mb3.9,baz=316,slow=10,SNR=4.6						
ANMO	Albuquerque	40.80	2	P	P	05 55 41.7	+1.1
LVC	Limon Verde	40.82	118	P	P	05 55 43.4	+2.4
	3.0nm,0.9s,mb3.9,baz=271,slow=5.3,SNR=2.6						
WMOK	Wichita Mounta	41.44	11	P	P	05 55 48.7	+2.9
	4.6nm,1.2s,mb4.0						
WUAZ	Wupatki	41.50	355	*e*P	P	05 55 48.1	+1.6
	7.2nm,1.1s,mb4.2						
LDFC	Landfair	41.51	351	P	P	05 55 48.5	+2.0
NEN	Nelson	42.03	351	*e*P	P	05 55 51.6	+0.8
NEN				*e*		05 55 57.2	
PPT	Papeete	42.48	251	*e*L		06 05 45.1	
PPT				*e*R		06 07 27.4	

	494nm,25.0s,baz=76						
SDCO	**Great Sand Dun**	**43.62**	**2**	*e*P	**P**	**05 56 03.9**	**+0.2**
	9.8nm,1.2s,mb4.4						
PV01	**Paradox Valley**	**43.97**	**359**	*e*P	**P**	**05 56 07.2**	**+0.6**
SAML	**Samuel**	**44.17**	**97**	*e*P	**P**	**05 56 03.1**	**-5.5**
	10nm,1.1s,mb4.5						
PV10	**Paradox Valley**	**44.23**	**358**	*e*P	**P**	**05 56 08.5**	**-0.1**
MTUM	**Tungsten Hills**	**44.37**	**348**	*e*P	**P**	**05 56 09.7**	**-0.1**
MSU	**Marysvale**	**44.54**	**355**	P	**P**	**05 56 12.2**	**+1.1**
TPH	**Tonopah**	**44.80**	**349**	*e*P	**P**	**05 56 14.1**	**+0.8**
	14nm,1.1s,mb4.7						
SRU	**San Rafael**	**45.02**	**357**	*e*P	**P**	**05 56 15.0**	**0.0**
CBKS	**Cedar Bluff**	**45.25**	**9**	*e*P	**P**	**05 56 16.2**	**-0.7**
ISCO	**Idaho Springs**	**45.67**	**2**	*e*P	**P**	**05 56 19.8**	**-0.3**
	7.1nm,1.2s,mb4.5						
DAU	**Daniels Canyon**	**46.36**	**356**	*e*P	**P**	**05 56 26.4**	**+0.9**
PLCA	**Paso Flores**	**47.87**	**142**	LR	LR	06 11 18.8	
	comp=Z,424nm,19.6s,MS4.4,baz=30,slow=29						
PDAR	**Pinedale Array**	**48.62**	**358**	P	**P**	**05 56 42.5**	**-0.8**
	0.6nm,0.7s,mb3.7,baz=162,slow=4.7,SNR=6.3						
MOD	**Modoc**	**49.11**	**348**	*e*P	**P**	**05 56 45.4**	**-1.7**
	11nm,1.4s,mb4.7						
WVOR	**Wild Horse Val**	**49.29**	**349**	P	**P**	**05 56 48.4**	**-0.1**
	5.1nm,1.1s,mb4.5						
TPAW	**Teton Pass**	**49.41**	**357**	P	**P**	**05 56 48.9**	**-0.5**
YBH	**Yreka Blue Hor**	**49.51**	**345**	P	**P**	**05 56 49.7**	**-0.5**
	1.1nm,0.4s,mb4.3,baz=102,slow=6.1,SNR=7.1						
YBH	**Yreka Blue Hor**	**49.51**	**345**	*e*P	**P**	**05 56 50.0**	**-0.1**
	3.1nm,0.8s,mb4.4						
MOOW	**Moose Ponds**	**49.65**	**357**	*e*P	**P**	**05 56 50.6**	**-0.7**
HLID	**Hailey**	**49.77**	**354**	P	**P**	**05 56 50.9**	**-1.2**
	5.1nm,1.1s,mb4.5						
QLMT	**Earthquake Lak**	**50.77**	**357**	P	**P**	**05 56 57.7**	**-2.1**
MCMT	**McKenzie Canyo**	**50.87**	**355**	*e*P	**P**	**05 56 58.7**	**-1.8**
CPUP	**Villa Florida**	**51.98**	**119**	P	**P**	**05 57 08.8**	**-0.4**
	1.5nm,0.7s,mb4.0,baz=258,slow=8.1,SNR=2.6						
CPUP				LR	LR	06 15 43.8	
	comp=Z,113nm,20.8s,MS3.9,baz=227,slow=32						
LAO	**LASA Array**	**52.53**	**1**	*e*P	**P**	**05 57 10.8**	**-2.3**
	7.7nm,1.1s,mb4.5						
LNOR	**Lincton Mounta**	**52.56**	**351**	*e*P	**P**	**05 57 14.3**	**+1.1**
HRY	**Holter Researc**	**52.67**	**356**	*e*P	**P**	**05 57 12.3**	**-1.8**
NEW	**Newport**	**54.73**	**352**	P	**P**	**05 57 28.6**	**-0.5**
	1.6nm,0.9s,mb4.0,baz=185,slow=11,SNR=2.0						
NEW				LR	LR	06 17 02.0	
	comp=Z,140nm,20.4s,MS4.0,baz=234,slow=32						
NEW	**Newport**	**54.73**	**352**	*e*P	**P**	**05 57 28.0**	**-1.2**
	7.0nm,1.3s,mb4.5						
GNW	**Green Mountain**	**55.05**	**348**	*e*P	**P**	**05 57 32.5**	**+0.9**
NLW	**Nelson Butte**	**55.05**	**350**	P	**P**	**05 57 32.1**	**+0.5**
ULM	**Lac du Bonnet**	**57.00**	**9**	P	**P**	**05 57 44.4**	**-1.2**
	4.7nm,1.0s,mb4.5,baz=208,slow=7.8,SNR=3.2						
ULM				LR	LR	06 22 34.4	
	comp=Z,84nm,19.0s,MS3.9,baz=14,slow=37						
BDFB	**Brasilia**	**59.19**	**105**	P	**P**	**05 58 01.3**	**0.0**
	4.6nm,1.0s,mb4.5,baz=277,slow=8.1,SNR=2.9						
BDFB				LR	LR	06 20 42.2	
	comp=Z,126nm,21.6s,MS4.0,baz=113,slow=33						
BBB	**Bella Bella**	**60.59**	**346**	P	**P**	**05 58 12.8**	**+2.4**
	5.7nm,1.0s,mb4.7,baz=191,slow=2.6,SNR=3.5						
PMSA	**Palmer Station**	**66.22**	**161**	*e*P	**P**	**05 58 41.1**	**-6.2**
DLBC	**Dease Lake**	**66.76**	**347**	P	**P**	**05 58 53.2**	**+2.3**
	4.5nm,0.8s,mb4.5,baz=181,slow=7.3,SNR=5.1						
DLBC	**Dease Lake**	**66.76**	**347**	*e*P	**P**	**05 58 50.7**	**-0.2**
YKA	**Yellowknife Ar**	**68.56**	**357**	P	**P**	**05 59 03.1**	**+1.0**
	3.5nm,0.9s,mb4.3,baz=165,slow=5.9,SNR=8.1						
YKA				LR	LR	06 25 33.0	
	comp=Z,113nm,22.0s,MS4.1,baz=175,slow=33						
YKA	**Yellowknife Ar**	**68.56**	**357**	P	**P**	**05 59 03.1**	**+1.0**
YKA				LR	LR	06 25 33.0	
SCHQ	**Schefferville**	**69.52**	**24**	P	**P**	**05 59 07.9**	**-0.3**
	3.8nm,0.9s,mb4.3,baz=246,slow=20,SNR=3.0						
SCHQ				LR	LR	06 29 44.8	
	comp=Z,132nm,18.3s,MS4.2,baz=82,slow=36						
DAWY	**Dawson**	**73.87**	**346**	P	**P**	**05 59 34.7**	**+0.8**
FRB	**Frobisher Bay**	**75.57**	**17**	P	**P**	**05 59 43.8**	**+0.1**
	6.3nm,0.9s,mb4.6,baz=225,slow=2.5,SNR=6.7						
ILAR	**Eielson Array**	**76.38**	**344**	P	**P**	**05 59 47.2**	**-1.1**
	1.2nm,0.9s,mb3.8,baz=164,slow=7.0,SNR=4.9						
ILAR				LR	LR	06 25 55.6	
	comp=Z,78nm,21.5s,MS4.0,baz=13,slow=30						
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**06 00 27.2**	**-1.4**
	12nm,1.2s,mb4.9						
VNDA	**Vanda**	**84.23**	**193**	P	**P**	**06 00 37.2**	**+7.3**
	0.6nm,0.7s,mb3.8,baz=357,slow=2.2,SNR=3.6						
VNDA	**Vanda**	**84.23**	**193**	P	**P**	**06 00 37.2**	**+7.3**
CN2	**Changchun**	**120.30**	**318**	*e*PKP	PKPdf	06 06 50.8	-1.3
SSE	**Sheshan**	**127.97**	**305**	PKP	PKPdf	06 07 05.1	-2.3
NJ2	**Nanjing**	**129.53**	**307**	*e*PKP	PKPdf	06 07 08.3	-2.1
LZH	**Lanzhou**	**138.44**	**320**	*e*PKP	PKPdf	06 07 24.3	-2.5
LZH				XPKP		06 07 30.4	
LZH				LR	LR		
	comp=N,257nm,18.0s						
LZH				LR	LR		
	comp=Z,315nm,20.1s,MS5.0						
MKAR	**Makanchi Array**	**138.52**	**350**	PKP	PKPdf	06 07 27.1	+0.5
	comp=Z,1.3nm,1.0s,baz=346,slow=5.0,SNR=5.2						
WMQ	**Urumqi**	**140.04**	**343**	PKP	PKPdf	06 07 22.6	-6.9
WMQ				XPKP		06 07 30.0	
WMQ				PP	PP	06 10 25.6	-1.7
WMQ				PP	PP		
	comp=Z,11nm,7.0s						
WMQ				LR	LR		
	comp=N,136nm,21.6s,MS4.7						
WMQ				LR	LR		
	comp=E,58nm,22.4s,MS4.7						
KMI	**Kunming**	**145.26**	**306**	*e*PKP	PKPdf	06 07 39.4	+0.2
CMAR	**Chiang Mai Arr**	**151.28**	**298**	PKPbc	PKPdf	06 07 56.8	+7.7
	comp=E,2.6nm,0.7s,baz=28,slow=1.3,SNR=8.2						

TIF 15 05:54:18.6, 41.25N×45.78E, h3^{km}, Mpv4.0, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.86**	**301**	⇑*i*P	Pb	05 54 39.3	+3.4
MTA				*i* S	Sg	05 54 54.4	+7.0
TBLG	**Delisi**	**0.92**	**302**	*e*P	Pb	05 54 40.2	+3.4
TBLG				*i* S	Sb	05 54 56.0	+6.8
VAD	**Vardenisi**	**1.06**	**182**	*e*S	Sb	05 54 56.0	+2.7
STE	**Stepanavan**	**1.07**	**257**	*i* P	Pb	05 54 43.0	+3.6
STE				*i* S	Sb	05 55 01.0	+7.4
DUS	**Dusheti**	**1.17**	**316**	⇓*i*P	Pb	05 54 43.2	+2.2
DUS				*i* S	Sb	05 55 01.4	+5.1
AKH	**Akhalkalaki**	**1.73**	**276**	*e*P	Pn	05 54 54.3	+4.5
AKH				*i* S	Sn	05 55 20.3	+7.7

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*NEIC **15** 05:59:24.0±0.8, 51.79N×176.05E, h56^{km}±8^{km}, ML4.4(AEIC), Error ellipse: s-maj=17.8km s-min=6.2km az=196.0*

*IDC **15** 05:59:25.2±8.7, 51.79N×176.38E, h71^{km}±78^{km}, mb3.5/9, mb1 3.6/9, mb1mx3.5/21, MS4.3/1, Ms1 4.3/1, ms1mx3.0/24, Error ellipse: s-maj=33.4km s-min=22.6km az=128.0*

ISC 15 05:59:23.7±0.9**, 51.9N**±0.1×**176.18E**±0.08**, h66**^{km}±9^{km}**, n23,** σ**0**^{s}.**94**/23**, mb3.7**/9**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.55**	**305**	P	**P**	**05 59 48.7**	**-1.0**
SMY				S	**S**	**06 00 11.1**	**+2.2**
FX1	**Attu Island--F**	**2.11**	**300**	LR	LR	06 00 41.0	
	comp=Z,6µm,20.6s,baz=53,slow=34						
FX1	**Attu Island--F**	**2.11**	**300**	P	**P**	**05 59 56.2**	**-1.3**
KIMD	**Kanaga Island**	**4.09**	**89**	P	**P**	**06 00 24.6**	**-0.6**
KIMD				S	**S**	**06 01 13.4**	**+1.2**
KIKV	**Kanaga Island**	**4.12**	**87**	P	**P**	**06 00 26.6**	**+0.9**
KIWB	**Kanaga Island**	**4.14**	**87**	P	**P**	**06 00 25.1**	**-0.8**
ADAG	**Mount Adagdak**	**4.47**	**86**	P	**P**	**06 00 31.1**	**+0.5**
GSTD	**Great Sitkin T**	**4.75**	**85**	P	**P**	**06 00 35.0**	**+0.5**
GSMY	**Great Sitkin M**	**4.81**	**85**	P	**P**	**06 00 34.2**	**-1.1**
GSIG	**Igitkin Island**	**4.89**	**85**	P	**P**	**06 00 35.9**	**-0.5**
ILAR	**Eielson Array**	**22.89**	**41**	P	**P**	**06 04 22.1**	**+0.4**
	0.2nm,0.5s,mb2.7,baz=257,slow=5.5,SNR=5.9						
ASAJ	**Asahikawa**	**23.61**	**264**	P	**P**	**06 04 30.9**	**+2.0**
	3.4nm,0.7s,mb3.8,baz=20,slow=9.3,SNR=4.4						
SONM	**Songino Array**	**43.61**	**294**	P	**P**	**06 07 23.4**	**+0.8**
	0.9nm,0.4s,mb3.8,baz=60,slow=8.1,SNR=9.8						
ARCES	**ARCESS Array B**	**57.03**	**348**	P	**P**	**06 09 03.4**	**-0.9**
	1.5nm,0.6s,mb4.2,baz=27,slow=8.1,SNR=5.8						
ARCES	**ARCESS Array B**	**57.03**	**348**	P	**P**	**06 09 03.4**	**-0.9**
MKAR	**Makanchi Array**	**57.24**	**305**	P	**P**	**06 09 05.4**	**-0.7**
	1.1nm,0.6s,mb4.1,baz=53,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**64.56**	**345**	P	**P**	**06 09 54.9**	**-0.3**
	1.9nm,0.9s,mb3.9,slow=3.8,SNR=7.9						
NB2	**NORSAR Subarra**	**66.81**	**352**	P	**P**	**06 10 09.4**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=9.0,slow=6.2						
NOA	**NORSAR Array B**	**66.81**	**352**	P	**P**	**06 10 09.9**	**+0.3**
	1.0nm,0.7s,mb3.8,baz=10,slow=6.2,SNR=3.7						
NOA	**NORSAR Array B**	**66.81**	**352**	P	**P**	**06 10 09.9**	**+0.3**
WRA	**Warramunga Arr**	**80.29**	**220**	P	**P**	**06 11 28.3**	**-0.5**
	0.7nm,0.8s,mb3.6,baz=23,slow=6.4,SNR=5.2						
ASAR	**Alice Springs**	**83.82**	**218**	P	**P**	**06 11 46.9**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=18,slow=5.0,SNR=5.3						
MAW	**Mawson**	**144.95**	**218**	PKP	PKPdf	06 18 51.9	+0.3
	1.5nm,0.5s,baz=58,slow=6.4,SNR=6.6						

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*IDC **15** 06:28:07.6±1.4, 0.57S×120.09E, mb3.7/4, mb1 3.9/5, mb1mx3.8/16, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=142.0km s-min=20.2km az=65.0*

*DJA **15** 06:28:09.1±1.0, 0.34S×119.89E, h100^{km}, MD4.5/3, ML4.6/2, Error ellipse: s-maj=46.9km s-min=22.7km az=91.0*

ISC 15 06:28:10.2±4.2**, 0.51S**±0.06×**120.1E**±0.2**, h30**^{km}±32^{km}**, n8,** σ**0**^{s}.**90**/11**, mb3.6**/4**, MS3.6**/1**, 2C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**2.99**	**194**	⇓*e*Pn	**Pn**	**06 28 55.8**	**-0.9**
	149nm,0.2s						
TANI				*e*Sn	**Sn**	**06 29 31.5**	**-0.4**
BUNI	**Buntu Taipa**	**3.14**	**176**	⇑*e*Pn	**Pn**	**06 28 58.8**	**0.0**
	201nm,0.3s						
BUNI				*e*Sn	**Sn**	**06 29 36.8**	**+1.2**
NINI	**Niniconang**	**3.90**	**185**	⇑*e*Pn	**Pn**	**06 29 12.0**	**+2.4**
NINI				*e*Sn	**Sn**	**06 29 54.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.32**	**163**	P	**P**	**06 32 22.7**	**-1.3**
	0.2nm,0.3s,baz=44,slow=5.9,SNR=9.1						
WRA	**Warramunga Arr**	**23.83**	**145**	P	**P**	**06 33 21.4**	**-0.4**
	2.5nm,0.9s,mb3.6,baz=323,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.64**	**151**	P	**P**	**06 33 48.5**	**+0.1**
	0.8nm,0.8s,mb3.3,baz=322,slow=7.7,SNR=6.3						
SONM	**Songino Array**	**49.60**	**348**	P	**P**	**06 37 01.3**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=168,slow=9.1,SNR=7.0						
MKAR	**Makanchi Array**	**57.55**	**330**	P	**P**	**06 37 59.4**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=122,slow=8.5,SNR=4.8						
MKAR				LR	LR	07 04 52.0	
	comp=Z,55nm,20.9s,MS3.6,baz=29,slow=38						

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*NEIC **15** 06:36:24.1, 17.35N×94.74W, h139^{km}, MD3.8(MEX), After MEX.*

MEX 15 06:36:25.1±1.2**, 17.41N**×**94.81W, h134**^{km}±10^{km}**, MD3.9, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**193**	*i* P	P	06 36 42.0	-2.0
CMIG				*i* S	S	06 36 56.1	-2.3
CMIG	**Matias Romero**	**0.33**	**193**	*e*P	P	06 36 42.0	-2.0
CMIG				*e*S	S	06 36 56.1	-2.3
TUIG	**Tuzandepetl**	**0.72**	**31**	*e*P	P	06 36 45.7	-0.5
TUIG				*e*S	S	06 36 59.9	-2.3
EVV	**El Vigia**	**1.16**	**334**	*i* P	P	06 36 48.5	-1.7
EVV				*i* S	S	06 37 05.5	-3.7
OXX	**Oaxaca**	**1.86**	**260**	*i* P	P	06 36 56.0	-2.0
OXX				*i* S	S	06 37 22.0	-1.1
VHO	**Vista Hermosa**	**1.87**	**260**	*i* P	P	06 36 56.9	-1.2
VHO				*i* S	S	06 37 22.0	-1.4
HUIG	**Huatulco**	**2.06**	**218**	*e*P	P	06 36 56.6	-3.8
HUIG				*e*S	S	06 37 23.7	-3.7
CCIG	**Comitan**	**2.79**	**113**	⇑*e*P	P	06 37 09.2	-0.8
CCIG				*e*S	S	06 37 42.4	-1.7
IISM	**Ciudad Serdan**	**2.90**	**303**	*e*P	P	06 37 09.0	-2.4
IISM				*e*S	S	06 37 42.5	-4.1
PPM	**Popocatepetl**	**3.98**	**295**	*i* P	P	06 37 25.0	-0.7

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*IDC **15** 06:36:35.4±3.7, 51.72N×176.28E, h40^{km}±31^{km}, mb3.7/18, mb1 3.9/18, mb1mx3.9/23, MS3.4/4, Ms1 3.4/4, ms1mx3.1/23, Error ellipse: s-maj=23.4km s-min=14.9km az=152.0*

*NEIC **15** 06:36:36.6±0.6, 51.72N×176.16E, h51^{km}±5^{km}, mb4.3/2, ML4.2(AEIC), Error ellipse: s-maj=10.4km s-min=5.3km az=187.0*

ISC 15 06:36:35.9±0.8**, 51.76N**±0.09×**176.20E**±0.05**, h57**^{km}±6^{km}**, n46,** σ**0**^{s}.**90**/51**, mb4.2**/24**, MS3.4**/4**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.62**	**308**	P	**P**	**06 37 02.2**	**-0.5**
SMY				S	**S**	**06 37 23.9**	**+1.5**
FX1	**Attu Island--F**	**2.18**	**302**	P	**P**	**06 37 09.6**	**-0.9**
FX1				LR	LR	06 37 50.0	
	comp=Z,22µm,19.9s,baz=219,slow=33						
FX1	**Attu Island--F**	**2.18**	**302**	P	**P**	**06 37 10.3**	**-0.2**
KIMD	**Kanaga Island**	**4.08**	**87**	P	**P**	**06 37 36.4**	**-0.9**
KIMD				S	**S**	**06 38 25.1**	**+0.9**
KIKV	**Kanaga Island**	**4.11**	**86**	P	**P**	**06 37 37.5**	**-0.3**
KIKV				S	**S**	**06 38 27.2**	**+2.1**
KIWB	**Kanaga Island**	**4.13**	**86**	P	**P**	**06 37 37.2**	**-0.8**
KIWB				S	**S**	**06 38 25.9**	**+0.4**
KINC	**Kanaga Island**	**4.14**	**85**	P	**P**	**06 37 37.6**	**-0.5**
GSTD	**Great Sitkin T**	**4.75**	**83**	P	**P**	**06 37 45.3**	**-1.4**
GSTD				S	**S**	**06 38 42.5**	**+1.5**
GSTR	**Great Sitkin T**	**4.80**	**83**	P	**P**	**06 37 47.0**	**-0.5**
GSTR				S	**S**	**06 38 42.7**	**+0.3**
GSMY	**Great Sitkin M**	**4.80**	**84**	P	**P**	**06 37 47.1**	**-0.4**
GSMY				S	**S**	**06 38 42.9**	**+0.5**
GSIG	**Igitkin Island**	**4.88**	**84**	P	**P**	**06 37 48.1**	**-0.5**
ATKA	**Atka Island**	**5.95**	**82**	P	**P**	**06 38 03.2**	**-0.2**
SPU	**Mount Spurr**	**19.71**	**49**	*e*P	**P**	**06 41 03.1**	**+0.2**
IMA	**Indian Mountai**	**20.84**	**35**	*e*P	**P**	**06 41 15.1**	**+0.4**
SML	**Sawmill**	**21.59**	**48**	*e*P	**P**	**06 41 21.2**	**-1.0**
ILAR	**Eielson Array**	**22.96**	**41**	P	**P**	**06 41 34.4**	**-1.1**
	0.8nm,0.7s,mb3.3,baz=248,slow=8.9,SNR=10						
ASAJ	**Asahikawa**	**23.61**	**264**	P	**P**	**06 41 45.5**	**+3.5**
	4.6nm,0.8s,mb3.9,baz=220,slow=3.4,SNR=4.9						
ASAJ				LR	LR	06 48 58.9	
	comp=Z,98nm,20.5s,MS3.3,baz=116,slow=31						
DAWY	**Dawson**	**25.99**	**45**	*e*P	**P**	**06 42 05.2**	**+0.6**
INK	**Inuvik**	**28.96**	**36**	P	**P**	**06 42 32.5**	**+1.0**
	7.0nm,1.2s,mb4.3,baz=284,slow=2.7,SNR=5.2						
INK				LR	LR	06 54 43.4	
	comp=Z,81nm,20.0s,MS3.3,baz=257,slow=38						
YKA	**Yellowknife Ar**	**37.22**	**46**	P	**P**	**06 43 44.2**	**+1.2**
	0.6nm,0.5s,mb3.7,baz=277,slow=9.9,SNR=5.9						
SONM	**Songino Array**	**43.66**	**294**	P	**P**	**06 44 37.1**	**+1.0**
	1.5nm,0.4s,mb4.1,baz=65,slow=7.1,SNR=17						
PDAR	**Pinedale Array**	**49.13**	**70**	P	**P**	**06 45 17.7**	**-1.6**
	0.2nm,0.4s,mb3.5,baz=332,slow=3.5,SNR=4.4						
ULM	**Lac du Bonnet**	**52.04**	**54**	P	**P**	**06 45 39.7**	**-1.7**
	1.8nm,0.7s,mb4.1,baz=299,slow=8.9,SNR=2.9						
ULM				LR	LR	07 09 49.8	
	comp=Z,50nm,20.4s,MS3.5,slow=38						
ULM	**Lac du Bonnet**	**52.04**	**54**	P	**P**	**06 45 39.7**	**-1.7**
ULM				LR	LR	07 09 49.8	
KURK	**Kurchatov**	**56.46**	**311**	*e*P	**P**	**06 46 12.9**	**-0.7**
	5.8nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**57.13**	**348**	P	**P**	**06 46 17.4**	**-0.8**
	1.3nm,0.4s,mb4.3,baz=22,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**57.31**	**305**	P	**P**	**06 46 18.8**	**-1.0**
	1.3nm,0.5s,mb4.2,baz=53,slow=5.8,SNR=36						
SCHQ	**Schefferville**	**61.58**	**36**	P	**P**	**06 46 48.2**	**-0.8**
	1.4nm,0.8s,mb4.1,baz=88,slow=11,SNR=5.4						
SCHQ	**Schefferville**	**61.58**	**36**	P	**P**	**06 46 48.2**	**-0.8**
KAF	**Kangasniemi**	**63.99**	**345**	*e*p	**P**	**06 47 03.7**	**-1.0**
	0.6nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**64.65**	**345**	P	**P**	**06 47 08.1**	**-1.0**
	0.8nm,0.5s,mb4.0,baz=30,slow=6.1,SNR=17						
FINES				LR	LR	07 14 60.0	
	comp=Z,25nm,21.5s,MS3.4,baz=336,slow=36						
FINES	**FINESS Array B**	**64.65**	**345**	P	**P**	**06 47 08.1**	**-1.0**
FINES				LR	LR	07 14 60.0	
NOA	**NORSAR Array B**	**66.91**	**352**	P	**P**	**06 47 23.5**	**0.0**
	2.2nm,0.9s,mb4.2,baz=11,slow=6.3,SNR=4.7						
KKN	**Kakani**	**69.24**	**289**	*e*P	**P**	**06 47 39.6**	**+1.1**
	14nm,0.4s,mb5.2						
PKI	**Pulchoki**	**69.33**	**288**	*e*P	**P**	**06 47 40.0**	**+0.9**
	11nm,0.4s,mb5.1						
GKN	**Gorkha**	**69.46**	**289**	*e*P	**P**	**06 47 40.3**	**+0.4**
	10nm,0.6s,mb5.0						
DMN	**Daman**	**69.48**	**289**	*e*P	**P**	**06 47 41.1**	**+1.1**
	7.6nm,0.4s,mb4.9						
KOLN	**Koldanda**	**70.24**	**290**	*e*P	**P**	**06 47 44.9**	**+0.3**
AKASG	**Malin Array Be**	**74.14**	**339**	P	**P**	**06 48 07.7**	**+0.5**
	1.0nm,0.3s,mb4.2,baz=22,slow=6.1,SNR=4.5						
GERES	**GERESS Array B**	**78.66**	**348**	P	**P**	**06 48 33.4**	**+0.7**
	0.5nm,1.0s,mb3.4,baz=31,slow=7.8,SNR=3.9						
WRA	**Warramunga Arr**	**80.22**	**220**	P	**P**	**06 48 41.2**	**-0.6**
	0.6nm,0.7s,mb3.6,baz=30,slow=5.8,SNR=11						
FITZ	**Fitzroy Crossi**	**82.33**	**228**	P	**P**	**06 48 53.3**	**+0.5**
	2.1nm,0.6s,mb4.2,baz=230,slow=8.5,SNR=6.3						
BRTR	**Keskin Array B**	**83.22**	**332**	P	**P**	**06 48 56.7**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=63,slow=3.2,SNR=2.5						
ASAR	**Alice Springs**	**83.75**	**218**	P	**P**	**06 49 00.2**	**+0.4**
	0.4nm,0.6s,mb3.8,baz=26,slow=5.3,SNR=6.0						
DBIC	**Dimbokro**	**121.79**	**1**	PKP	PKPdf	06 55 24.7	+1.1
	2.8nm,0.9s,baz=237,slow=15,SNR=5.0						
MAW	**Mawson**	**144.88**	**218**	PKP	PKPdf	06 56 05.6	+0.8
	2.3nm,0.5s,baz=85,slow=5.5,SNR=13						

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*DJA **15** 06:48:55.6±0.9, 0.33S×119.89E, h33^{km}, MD4.5/3, ML4.7/3, Error ellipse: s-maj=33.8km s-min=18.6km az=91.0*

*IDC **15** 06:49:00.6±6.1, 0.43S×120.50E, h46^{km}±66^{km}, mb3.4/4, mb1 3.7/5, mb1mx3.5/16, ML3.9/1, Error ellipse: s-maj=110.0km s-min=19.3km az=69.0*

ISC 15 06:48:57.6±1.6**, 0.56S**±0.06×**120.1E**±0.2**, h39**^{km}±20^{km}**, n14,** σ**0**^{s}.**73**/17**, mb3.6**/4**, 1C-2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**2.94**	**193**	⇓*e*Pn	**P**	**06 49 41.8**	**-1.1**
	197nm,0.2s						
TANI	**Tanete Lipujan**	**2.94**	**193**	*e*P	**P**	**06 49 42.7**	**-0.2**
TANI				*e*Sn	**S**	**06 50 16.9**	**-0.4**
BUNI	**Buntu Taipa**	**3.09**	**175**	⇓*e*Pn	**P**	**06 49 45.2**	**+0.1**
	173nm,0.2s						
BUNI	**Buntu Taipa**	**3.09**	**175**	*e*P	**P**	**06 49 46.1**	**+1.0**
BUNI				*e*Sn	**S**	**06 50 20.5**	**-0.8**
NINI	**Niniconang**	**3.85**	**184**	⇑*e*Pn	**P**	**06 49 57.3**	**+1.4**
	343nm,0.2s						
NINI	**Niniconang**	**3.85**	**184**	*e*P	**P**	**06 49 58.3**	**+2.4**
NINI				*e*Sn	**S**	**06 50 40.7**	**+0.2**
TGY	**Tagaytay City**	**14.59**	**3**	P	**P**	**06 52 22.5**	**-0.9**
	37nm,0.3s,baz=157,slow=7.7,SNR=3.0						
FITZ	**Fitzroy Crossi**	**18.28**	**163**	*e*P	**P**	**06 53 10.1**	**-0.1**
	2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.28**	**163**	P	**P**	**06 53 10.2**	**0.0**
	0.3nm,0.3s,baz=360,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**23.81**	**145**	P	**P**	**06 54 07.9**	**-0.1**
	2.4nm,0.9s,mb3.6,baz=326,slow=10,SNR=9.5						
WB2	**Warramunga Arr**	**23.82**	**145**	*e*P	**P**	**06 54 08.3**	**+0.3**
ASAR	**Alice Springs**	**26.62**	**151**	P	**P**	**06 54 34.2**	**-0.3**
	0.7nm,0.5s,mb3.5,baz=330,slow=8.2,SNR=7.1						
SONM	**Songino Array**	**49.64**	**348**	P	**P**	**06 57 48.3**	**+1.0**
	0.5nm,0.6s,mb3.8,baz=170,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**57.58**	**330**	P	**P**	**06 58 45.5**	**-0.4**
	0.6nm,0.8s,mb3.7,baz=133,slow=6.7,SNR=3.9						

IDC 15 07:02:20.6±3.5**, 16.93S**×**128.44E, mb1 3.2**/4**, mb1mx3.1**/10**, ML2.5**/4**, Error ellipse: s-maj=49.4km s-min=14.3km az=180.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.92**	**246**	Pn	Pn	07 03 07.9	-1.2
	0.1nm,0.3s,baz=78,slow=5.0,SNR=11						
FITZ				Pg	Pg	07 03 13.9	-4.9
	0.4nm,0.3s,baz=60,slow=9.6,SNR=24						
FITZ				Sn	Sn	07 03 46.1	+0.7
	0.8nm,0.3s,baz=205,slow=7.3,SNR=7.6						
FITZ				Lg		07 03 51.9	
	2.6nm,0.3s,baz=45,slow=19,SNR=24						
FITZ				Rg		07 04 09.2	
	1.8nm,0.4s,baz=180,slow=20,SNR=7.2						
WRA	**Warramunga Arr**	**6.35**	**119**	Pn	Pn	07 03 55.3	-2.5
	0.1nm,0.3s,baz=295,slow=14,SNR=6.4						
WRA				Sn	Sn	07 05 07.1	-4.8
	0.1nm,0.3s,baz=301,slow=24,SNR=4.1						
WRA				Lg		07 05 40.7	
	0.1nm,0.3s,baz=295,slow=30,SNR=2.7						
ASAR	**Alice Springs**	**8.44**	**143**	Pn	P	07 04 25.9	-1.1
	0.1nm,0.3s,baz=322,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**19.08**	**144**	P	P	07 06 45.5	-1.7
	0.1nm,0.3s,baz=312,slow=19,SNR=3.3						

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*JMA **15** 07:05:18.8±0.3, 24.03N×121.72E, h50^{km}, M2.9*

TAP 15 07:05:19.0, 24.03N×**121.67E, h34**^{km}**, ML3.6, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.30**	**70**	P	P	07 05 40.2	-0.7
YOJ				*e*S	S	07 05 56.2	-1.2
IRIF	**Iriomote-Funau**	**1.91**	**80**	P	P	07 05 48.7	-1.0
IRIF				*e*S	S	07 06 11.4	-1.3
HATJ	**Hateruma jima**	**1.95**	**89**	P	P	07 05 49.6	-0.7
HATJ				S	S	07 06 12.5	-1.4
JKRS	**Kuro-shima**	**2.15**	**84**	P	P	07 05 52.6	-0.5
JKRS				*e*S	S	07 06 17.6	-1.2
JIJ	**Ishigaki jima**	**2.28**	**81**	P	P	07 05 53.7	-1.4
JIJ				S	S	07 06 19.3	-3.0
JTJ	**Tarama**	**2.83**	**77**	P	P	07 06 02.0	-0.9
JTJ				*e*S	S	07 06 34.2	-2.0

WEL 15 07:07:15.4±0.4**, 37.41S**×**179.97E, h12**^{km}**, ML3.8**/2**, Error ellipse: s-maj=4.6km s-min=4.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.51**	**243**	PN	Pn	07 07 41.5	-0.8
PUZ				SN	Sn	07 08 01.6	-0.4
MWZ	**Matawai**	**2.14**	**244**	PN	Pn	07 07 49.7	-1.7
MWZ				SN	Sn	07 08 15.1	-3.0
URZ	**Urewera**	**2.42**	**249**	PN	Pn	07 07 53.9	-1.5
URZ				SN	Sn	07 08 22.6	-2.5
KNZ	**Kokohu**	**2.42**	**228**	PN	Pn	07 07 53.6	-1.8
KNZ				SN	Sn	07 08 23.2	-1.9

IDC 15 07:57:13.1±50.0**, 17.30S**×**179.62W, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/13**, Error ellipse: s-maj=908.0km s-min=150.1km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.92**	**240**	P	P	08 04 33.0	-1.0
	1.8nm,0.8s,baz=78,slow=16,SNR=4.0						
WB2	**Warramunga Arr**	**43.60**	**259**	*e*P	P	08 05 19.1	-1.9
WRA	**Warramunga Arr**	**43.61**	**259**	P	P	08 05 19.2	-1.9
	0.8nm,0.3s,baz=96,slow=7.5,SNR=34						
ASAR	**Alice Springs**	**43.85**	**254**	P	P	08 05 20.9	-2.0
	6.4nm,0.7s,baz=87,slow=8.7,SNR=108						
ASPA	**Alice Springs**	**43.85**	**254**	*e*P	P	08 05 21.0	-2.0
KAKA	**Kakadu**	**46.48**	**269**	*e*P	P	08 05 42.0	-2.1
	1.5nm,0.4s						

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*MDD **15** 07:58:17.6±0.6, 43.28N×1.76W, h18^{km}±3^{km}, mbLg2.2/14, Error ellipse: s-maj=6.1km s-min=4.6km az=15.0, PRXIMO*

*LDG **15** 07:58:17.9±0.2, 43.28N×1.80W, h6^{km}, Md2.9/2, Ml2.8/19, Error ellipse: s-maj=4.2km s-min=1.9km az=49.0*

*NEIC **15** 07:58:17.9, 43.28N×1.80W, h6^{km}, ML2.9(STR), ML2.8(LDG), MN2.2(MDD), After LDG.*

*STR **15** 07:58:19.2±0.8, 43.22N×1.71W, h5^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 15 07:58:16.2±0.5**, 43.39N**±0.03×**1.87W**±0.03**, h19**^{km}±5^{km}**, n61,** σ**1**^{s}.**46**/118**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.31**	**123**	⇑Pg	**Pb**	**07 58 23.3**	**+0.3**
	105nm,0.3s,SNR=18						
EALK				Lg		07 58 27.2	
	59nm,0.1s,SNR=9.4						
OSSF	**Osses**	**0.46**	**106**	Pg	**Pb**	**07 58 25.4**	**-0.1**
OSSF				Sg	**Sb**	**07 58 31.6**	**-0.2**
OSSF	**Osses**	**0.46**	**106**	Pg	**Pb**	**07 58 25.5**	**0.0**
OSSF				Lg		07 58 30.2	
SJPF	**Ste Jean**	**0.54**	**120**	*e*Pg	**Pb**	**07 58 26.1**	**-0.8**
SJPF				*e*Sg	**Sb**	**07 58 31.8**	**-2.4**
	70nm,0.2s						

ORDF	Ordiarp	0.70	104	Pg	Pb	07 58 29.0	-0.6
ORDF	Ordiarp	0.70	104	Pg	Pb	07 58 29.3	-0.3
ORDF				Lg		07 58 36.8	
LARF	Larrau	0.73	118	Pg	Pb	07 58 29.2	-0.9
LARF				Sg	Sb	07 58 37.2	-2.5
LARF	Larrau	0.73	118	Pg	Pb	07 58 29.3	-0.8
LARF				Lg		07 58 37.5	
ETSF	Etsaut	1.07	117	ePn	Pn	07 58 34.9	-1.5
ETSF				ePg	Pb	07 58 36.5	+0.5
ETSF				eSg	Sb	07 58 48.0	-1.6
	88nm,0.2s						
FDAF	Les Forges d'A	1.11	120	Pg	Pb	07 58 37.0	+0.5
FDAF				Sg	Sb	07 58 50.8	+0.3
FDAF	Les Forges d'A	1.11	120	Pg	Pb	07 58 36.0	-0.5
FDAF				Lg		07 58 49.9	
REYF	Montagne du Re	1.12	106	Pg	Pb	07 58 37.7	+0.9
REYF				Lg		07 58 49.8	
ELAN	Lanestosa	1.15	263	Pg	Pb	07 58 39.3	+2.0
	1.0nm,0.1s,SNR=7.9						
ELAN				Lg		07 58 55.5	
	4.7nm,0.1s,SNR=7.9						
LABF	Labassere	1.46	103	Pg	Pn	07 58 44.0	+2.1
LABF				Sg	Sn	07 59 03.4	+2.8
VIEF	Viey	1.47	109	Pg	Pn	07 58 43.6	+1.5
VIEF				Sg	Sn	07 59 02.7	+1.8
VIEF	Viey	1.47	109	Pg	Pn	07 58 43.6	+1.5
VIEF				Lg		07 59 01.7	
EPF	Esparros	1.65	102	ePn	Pn	07 58 47.2	+2.6
EPF				ePg	Pn	07 58 48.7	+4.1
EPF				eSg	Sn	07 59 07.3	+1.8
	53nm,0.2s						
RESF	Ens	1.72	109	Pn	Pn	07 58 46.2	+0.7
RESF				Sn	Sn	07 59 08.4	+1.3
ESAC	San Caprasio	1.96	148	Sn	Sn	07 59 10.1	-3.2
	SNR=7.9						
MELF	Melles	1.99	104	Pn	Pn	07 58 51.6	+2.1
MELF				Pg	Pn	07 58 53.4	+3.9
MELF				Sg	Sn	07 59 19.5	+5.4
MELF	Melles	1.99	104	Pn	Pn	07 58 51.6	+2.1
MELF				Sn	Sn	07 59 16.8	+2.7
EGRA	Graus	2.00	126	Pn	Pn	07 58 49.0	-0.6
	0.2nm,0.1s,SNR=7.9						
EGRA				Sn	Sn	07 59 11.9	-2.5
	1.7nm,0.2s,SNR=7.9						
MLS	Moulis	2.21	100	Sn	Sn	07 59 21.1	+1.5
SALF	Salau	2.33	105	Pn	Pn	07 58 56.3	+2.0
SALF				Pg	Pn	07 58 59.2	+4.9
SALF				Sg	Sn	07 59 29.1	+6.5
SALF	Salau	2.33	105	Pn	Pn	07 58 56.6	+2.4
SALF				Lg		07 59 27.2	
LFF	La Frestale	2.43	50	ePn	Pn	07 58 57.4	+1.6
LFF				ePg	Pn	07 59 04.3	+8.5
LFF				eSg	Sn	07 59 35.3	+10
	13nm,0.3s						
ETOR	Torete	2.57	183	Pn	Pn	07 58 55.7	-2.0
	0.7nm,0.3s,SNR=6.2						
ETOR				Pg	Pn	07 59 02.1	+4.3
	6.7nm,0.3s,SNR=29						
ETOR				Sn	Sn	07 59 27.0	-1.8
	6.8nm,0.3s,SNR=6.9						
ETOR				Lg		07 59 35.2	
	5.7nm,0.2s,SNR=8.0						
ETOR	Torete	2.57	183	Pn	Pn	07 58 55.7	-2.0
ETOR				Pg	Pn	07 59 02.1	+4.3
ETOR				Sn	Sn	07 59 24.6	-4.2
ETOR				Lg		07 59 33.7	
EMIR	Miracle	2.90	119	Pg	Pn	07 59 09.2	+6.7
	SNR=7.9						
MTLF	Montolieu	2.98	90	ePn	Pn	07 59 03.0	-0.6
MTLF				eSn	Sn	07 59 37.8	-1.4
MTLF				eSg	Sn	07 59 50.5	+11
	5.3nm,0.2s						
EPOB	Poblet	2.98	132	Pn	Pn	07 59 01.6	-2.0
	0.7nm,0.3s,SNR=7.9						
EPOB				Pg	Pn	07 59 09.2	+5.6
	0.3nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	07 59 36.5	-2.8
	0.9nm,0.1s,SNR=7.9						
VALF	Valcebollere	3.02	108	Pn	Pn	07 59 05.8	+1.7
VALF				Lg		07 59 49.3	
RJF	Les Rejaudoux	3.09	51	ePn	Pn	07 59 05.4	+0.2
RJF				ePg	Pn	07 59 15.9	+11
RJF				eSn	Sn	07 59 40.4	-1.6
RJF				eSg	Sn	07 59 56.3	+14
	5.7nm,0.3s						
EBR	Ebro Roquetas	3.11	145	eSG	Sn	07 59 50.5	+8.0
EMOS	Mosqueruela	3.20	161	Pn	Pn	07 59 05.1	-1.6
	0.1nm,0.2s,SNR=7.9						
EMOS				Pg	Pn	07 59 13.4	+6.8
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	07 59 41.6	-3.1
	0.4nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	3.20	161	Pg	Pn	07 59 13.4	+6.8
EMOS				Sn	Sn	07 59 38.6	-6.1
CAF	Calviac	3.22	60	ePn	Pn	07 59 06.8	-0.2
CAF				eSn	Sn	07 59 42.3	-3.0
	2.4nm,0.2s						
MFF	Saint Martin d	3.44	20	ePn	Pn	07 59 11.0	+0.9
MFF				ePg	Pn	07 59 23.3	+13
MFF				eSn	Sn	07 59 50.5	-0.3
MFF				eSg	Sn	08 00 08.2	+17
	2.8nm,0.2s						
EJON	La Jonquera	3.62	103	Pg	Pn	07 59 21.9	+9.3
	0.1nm,0.1s,SNR=7.9						
EJON				Lg		08 00 09.7	
	0.9nm,0.1s,SNR=6.3						
EPON	Pontenova	3.85	271	Pn	Pn	07 59 16.7	+0.7
	0.1nm,0.3s,SNR=7.9						
EPON				Sn	Sn	08 00 03.6	+2.3
	0.1nm,0.3s,SNR=7.9						
EPON	Pontenova	3.85	271	Pn	Pn	07 59 17.6	+1.7
EPON				Sn	Sn	08 00 00.3	-1.0
ECAL	Calabor	3.87	250	Pn	Pn	07 59 16.0	-0.2
	0.2nm,0.6s,SNR=7.9						
ECAL				Sn	Sn	08 00 01.0	-0.8
	1.0nm,0.3s,SNR=7.9						
ECAL	Calabor	3.87	250	Pn	Pn	07 59 14.7	-1.5
ECAL				Sn	Sn	07 59 59.5	-2.2
ERUA	La Rua	4.00	257	Pn	Pn	07 59 19.3	+1.2
	0.2nm,0.5s,SNR=7.9						
ERUA				Sn	Sn	08 00 05.6	+0.5
	0.9nm,0.4s,SNR=7.9						
ERUA	La Rua	4.00	257	Pn	Pn	07 59 19.3	+1.2
ERUA				Sn	Sn	08 00 03.9	-1.2
ESDC	Sonseca Array	4.03	204	Pn	Pn	07 59 14.7	-3.8
	0.2nm,0.3s,baz=31,slow=14,SNR=4.2						
ESDC				Sn	Sn	07 59 55.6	-10
	0.4nm,0.3s,baz=33,slow=24,SNR=9.1						
ESDC	Sonseca Array	4.03	204	Pn	Pn	07 59 14.7	-3.8
ESDC				Sn	Sn	07 59 55.6	-10
TCF	Toulx Ste Croi	4.10	44	ePn	Pn	07 59 19.9	+0.4
TCF				eSn	Sn	08 00 03.7	-3.9
TCF				eSg	Sn	08 00 28.0	+20
	2.4nm,0.3s						
LASF	Ste Croix	4.21	79	ePn	Pn	07 59 21.3	+0.3
LASF				eSn	Sn	08 00 06.4	-3.8
LASF				eSg	Sn	08 00 29.8	+20
	1.6nm,0.2s						
BGF	Bois d'Agland	4.61	45	eSn	Sn	08 00 17.3	-3.1
BGF				eSg	Sn	08 00 43.9	+24
	12nm,0.4s						
QUIF	Quistinic	4.62	349	ePn	Pn	07 59 28.1	+1.2
QUIF				eSn	Sn	08 00 18.0	-2.7
	4.1nm,0.3s						
SGMF	Saint Gilles	4.89	355	ePn	Pn	07 59 31.6	+0.9
SGMF				eSn	Sn	08 00 26.2	-1.3
	1.2nm,0.2s						
VIVF	Saint-Julien-l	4.93	70	ePn	Pn	07 59 30.1	-1.2
VIVF				eSn	Sn	08 00 25.0	-3.6
	1.0nm,0.2s						
AVF	Avril sur Loir	5.02	46	ePn	Pn	07 59 32.2	-0.4
AVF				eSn	Sn	08 00 28.2	-2.6
	0.7nm,0.3s						
ROSF	Rostrenen	5.04	349	ePn	Pn	07 59 33.6	+0.7
ROSF				eSn	Sn	08 00 27.8	-3.6
	2.4nm,0.3s						
GRR	Gorron	5.05	8	ePn	Pn	07 59 33.3	+0.3
GRR				eSn	Sn	08 00 28.5	-3.0
	2.3nm,0.3s						
SSF	Saint Saulge	5.28	44	ePn	Pn	07 59 36.0	-0.2
LDF	La Druitiere	5.35	13	ePn	Pn	07 59 38.0	+0.9
LDF				eSn	Sn	08 00 35.0	-4.0
	0.9nm,0.2s						
FLN	La Foliniere	5.46	10	ePn	Pn	07 59 39.2	+0.5
FLN				ePg	Pn	08 00 00.6	+22
FLN				eSn	Sn	08 00 38.9	-2.9
	1.3nm,0.2s						
LOR	Lormes	5.60	44	ePn	Pn	07 59 40.8	+0.1
ORIF	Oris-en-Rattie	5.78	72	ePn	Pn	07 59 42.3	-0.9

IDC 15 08:05:34.9±0.7, 13.37N×49.64E, mb4.3/18, mb1 4.4/18, mb1mx4.4/20, MS3.9/11, Ms1 4.0/11, ms1mx3.7/20, Error ellipse: s-maj=19.3km s-min=16.4km az=49.0

DHMR 15 08:05:36.4±0.5, 13.45N×49.54E, h17^{km}±188^{km}, ML4.5

NEIC 15 08:05:36.1±0.4, 13.33N×49.61E, h10^{km}, mb4.7/22, Error ellipse: s-maj=11.1km s-min=8.9km az=54.0

MOS 15 08:05:38.2±1.3, 13.32N×49.50E, h33^{km}, mb4.5/14, Error ellipse: s-maj=21.7km s-min=9.6km az=111.2

ISC 15 08:05:38.0±2.1, **13.31N**±0.07×**49.57E**±0.05, **h33**^{km}±13^{km}, **n93, σ1^{s}16**/97, **mb4.4**/41, **MS4.0**/13, **8C-1D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.10	331	⇑ iP	Pn	08 05 57.3	0.0
MUKL				i S	Sb	08 06 13.2	+0.7
MUKL				AML	AML	08 06 13.3	
	comp=E,11µm,0.4s						
DHBB	Dhamar BB	5.18	284	⇑ eP	Pn	08 06 54.5	-0.9
DHBB				i S	Sn	08 07 56.0	+1.1
HAJJ	Hajjah	6.25	293	i S	Sn	08 08 20.6	-0.9
DJNS	Zahran al Janu	7.27	308	P	Pn	08 07 22.1	-2.7
DJNS				S	Sn	08 08 38.8	-8.2
TATS	Tathlith	8.52	317	P	P	08 07 40.4	-1.5
BLJS	Baljurashi	10.05	312	P	P	08 08 00.9	-2.4
LTHS	Al Lith	11.17	310	P	P	08 08 16.1	-2.4
YNBS	Yanbu' al Bahr	15.49	317	P	P	08 09 16.3	+0.5
KBRS	Khaybar	15.75	324	P	P	08 09 20.8	+1.7
HILS	Ha'il	15.78	334	P	P	08 09 21.1	+1.7
TBKS	Tabuk	19.17	323	P	P	08 10 03.3	+1.7
JMQS	Jabal Moqyreh	20.05	323	P	P	08 10 12.2	+0.9
BDAS	Al Bad'	20.20	320	P	P	08 10 13.0	+0.2
JMOS	Jabal al Moall	20.72	322	P	P	08 10 19.0	+0.8
ASF	Jabal al Asfar	22.08	330	P	P	08 10 33.1	+1.2
	comp=E,16nm,0.9s,mb4.4,baz=18,slow=2.9,SNR=22						
ASF				LR	LR	08 19 05.7	
	comp=E,500nm,18.1s,MS4.0,baz=187,slow=37						
MALT	Malatya	26.80	340	eP	P	08 11 17.7	+0.6
	comp=E,18nm,1.3s,mb4.4						
GNI	Garni	27.07	352	P	P	08 11 21.4	+1.8
	comp=E,3.3nm,0.4s,mb4.3,baz=32,slow=2.7,SNR=7.4						
GNI				LR	LR	08 23 54.7	
	comp=E,684nm,18.1s,MS4.3,baz=343,slow=41						
GNI	Garni	27.07	352	P	P	08 11 21.4	+1.8
GNI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GNI				MLR	MLR		
	comp=Z,684nm,18.1s						
BRTR	Keskin Array B	29.82	335	P	P	08 11 44.8	+0.5
	comp=Z,3.7nm,0.9s,mb4.1,baz=153,slow=11,SNR=18						
BRTR				LR	LR	08 25 29.6	
	comp=Z,257nm,18.1s,MS3.9,baz=95,slow=40						
BRTR	Keskin Array B	29.82	335	P	P	08 11 44.8	+0.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,257nm,18.1s						
BRTR	Keskin Array B	29.82	335	P	P	08 11 44.8	+0.5
BRTR				LR	LR	08 25 29.6	
LSZ	Lusaka	35.42	217	P	P	08 12 32.3	-0.9
	comp=Z,3.0nm,0.9s,mb4.2						
AKASG	Malin Array Be	40.80	340	P	P	08 13 17.6	-0.3
	comp=Z,6.7nm,0.8s,mb4.3,baz=151,slow=7.3,SNR=24						
AKASG	Malin Array Be	40.80	340	P	P	08 13 17.6	-0.3
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	Shillong	41.55	66	eP	P	08 13 19.5	-4.9
CRVS	Cervenica-Dubn	42.40	333	i	P	08 13 24.7	-6.3
CRVS				ePP	PP	08 15 12.7	+0.7
ZRNK	Zerenda	42.47	17	eP	P	08 13 30.3	-1.2
	comp=Z,2.2nm,0.8s,mb3.8						
OBN	Obninsk	42.93	349	eP	P	08 13 36.0	+0.7
OBN				eS	S	08 20 03.0	+5.4
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
BRVK	Borovoye	42.95	18	P	P	08 13 33.4	-2.0
BVAR	Borovoye Array	42.95	18	P	P	08 13 35.0	-0.5
	comp=Z,8.1nm,1.2s,mb4.3,baz=202,slow=8.0,SNR=7.1						
BVAR				PcP	PcP	08 15 27.3	+1.1
	comp=Z,1.0nm,0.8s,baz=198,slow=4.6,SNR=2.3						
MKAR	Makanchi Array	43.20	33	P	P	08 13 37.3	-0.4
	comp=Z,0.9nm,0.5s,mb3.8,baz=223,slow=8.3,SNR=12						
MKAR				LR	LR	08 33 45.0	
	comp=Z,137nm,18.1s,MS3.9,baz=238,slow=39						
MKAR	Makanchi Array	43.20	33	P	P	08 13 37.3	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,137nm,18.1s						
VYHS	Vyhne	43.33	330	i P	P	08 13 39.1	+0.4
ARSA	Arzberg	44.20	327	⇓ iP	P	08 13 46.1	+0.4
	comp=Z,62nm,3.2s						
OBKA	Obir	44.27	325	⇑ iP	P	08 13 47.2	+0.9
	comp=Z,58nm,2.4s,mb4.9						
OKC	Ostrava-Krasne	44.58	331	eP	P	08 13 49.3	+0.6
MORC	Moravsky Berou	44.83	331	eP	P	08 13 50.0	-0.7
	comp=Z,22nm,1.8s,mb4.7						
TSUM	Tsumeb	45.13	225	P	P	08 13 54.6	+1.1
	comp=Z,2.0nm,0.8s,mb4.0,baz=353,slow=8.4,SNR=4.3						
TSUM				LR	LR	08 33 23.5	
	comp=Z,182nm,18.7s,MS4.0,baz=9.9,slow=37						
MOA	Molln	45.23	327	⇑ iP	P	08 13 54.3	+0.3
	comp=Z,12nm,1.4s,mb4.5						
DPC	Dobruska-Polom	45.80	331	eP	P	08 13 58.3	-0.1
GERES	GERESS Array B	46.14	328	P	P	08 14 00.1	-1.0
	comp=Z,1.2nm,0.5s,mb4.1,baz=131,slow=7.6,SNR=19						
GERES	GERESS Array B	46.14	328	P	P	08 14 00.1	-1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	Kasperske Hory	46.38	328	eP	P	08 14 01.5	-1.5
PRU	Pruhonice	46.43	329	eP	P	08 14 03.6	+0.2
SQTA	Sankt Quirin	46.55	324	⇑ iP	P	08 14 04.0	-0.4
	comp=Z,8.1nm,1.4s,mb4.5						
MOTA	Moosalm	46.68	324	⇑ iP	P	08 14 04.6	-0.8
	comp=Z,21nm,1.8s,mb4.8						
SBF	Sospel	47.15	319	eP	P	08 14 09.1	0.0
BRG	Berggiesshubel	47.29	330	i P	P	08 14 09.4	-0.7
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRG	Berggiesshubel	47.29	330	i P	P	08 14 09.4	-0.7
	comp=Z,4.4nm,0.8s,mb4.4						
DAVA	Damuels	47.35	324	⇑ iP	P	08 14 07.6	-3.1
	comp=Z,35nm,2.2s,mb4.9						
CMAR	Chiang Mai Arr	47.65	77	P	P	08 14 12.0	-1.4
	comp=Z,5.3nm,0.8s,mb4.6,baz=275,slow=8.8,SNR=16						
CMAR				LR	LR	08 34 08.5	
	comp=Z,36nm,20.6s,MS3.3,baz=280,slow=36						
CMAR	Chiang Mai Arr	47.65	77	P	P	08 14 12.0	-1.4
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,37nm,20.6s						
MBDF	Montbardon	47.96	319	eP	P	08 14 16.2	+0.7
	comp=Z,7.2nm,0.7s,mb4.5						
CLL	Collm	48.02	330	P	P	08 14 17.0	+1.1
CLL	Collm	48.02	330	eP	P	08 14 17.0	+1.1
MOX	Moxa	48.31	328	i P	P	08 14 17.6	-0.5
	comp=Z,logA/T=0.9,mb4.7						
MOX	Moxa	48.31	328	eP	P	08 14 17.6	-0.5
MOX				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
MOX	Moxa	48.31	328	eP	P	08 14 17.6	-0.5
	comp=Z,12nm,1.6s,mb4.7						
LPG	La Plagne	48.33	320	eP	P	08 14 19.0	+0.6
LPL	La Plagne	48.35	320	eP	P	08 14 18.9	+0.4
CABF	La Chapelle	49.26	321	eP	P	08 14 21.5	-4.0
CDF	Champ du Feu	49.43	324	eP	P	08 14 25.1	-1.7
MEZF	Maizieres J'vi	50.77	323	eP	P	08 14 35.6	-1.4
	comp=Z,13nm,0.7s,mb4.6						
LOR	Lormes	50.92	321	eP	P	08 14 36.2	-2.0
	comp=Z,12nm,1.0s,mb4.5						
LOR				eR			
	comp=Z,88nm,19.5s						
FINES	FINESS Array B	50.98	346	P	P	08 14 37.2	-1.3
	comp=Z,1.9nm,0.6s,mb4.2,baz=144,slow=11,SNR=21						
FINES				LR	LR	08 39 21.1	
	comp=Z,97nm,18.5s,MS3.9,baz=159,slow=40						
FINES	FINESS Array B	50.98	346	P	P	08 14 37.2	-1.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,97nm,18.5s						
FINES	FINESS Array B	50.98	346	P	P	08 14 37.2	-1.3
FINES				LR	LR	08 39 21.1	
AVF	Avril sur Loir	51.02	320	eP	P	08 14 38.2	-0.8
	comp=Z,7.0nm,1.1s,mb4.2						
SSF	Saint Saulge	51.04	321	eP	P	08 14 36.9	-2.2
	comp=Z,7.9nm,0.9s,mb4.3						
GIVF	Givet	51.67	325	eP	P	08 14 43.2	-0.6
BAIF	Baives	51.99	324	eP	P	08 14 45.3	-0.9
SUR	Sutherland	53.12	211	LR	LR	08 40 28.9	
	comp=Z,185nm,18.6s,MS4.2,baz=203,slow=39						
ESDC	Sonseca Array	53.70	310	P	P	08 14 58.7	-0.4
	comp=Z,2.1nm,0.8s,mb4.1,baz=96,slow=7.2,SNR=8.7						
ESDC				LR	LR	08 39 04.6	
	comp=Z,86nm,18.5s,MS3.8,baz=80,slow=37						
DBIC	Dimbokro	53.92	269	P	P	08 15 00.7	-0.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=238,slow=19,SNR=2.6						
DBIC	Dimbokro	53.92	269	P	P	08 15 00.7	-0.4
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FLN	La Foliniere	54.19	321	eP	P	08 15 00.9	-1.7
	comp=Z,21nm,1.1s,mb4.7						
FLN				eR			
	comp=Z,80nm,20.2s						
NB2	NORSAR Subarra	55.15	338	P	P	08 15 05.3	-4.1
	comp=Z,23nm,2.0s,mb4.8,baz=133,slow=7.4						
NOA	NORSAR Array B	55.15	338	P	P	08 15 07.9	-1.5
	comp=Z,1.1nm,0.8s,mb4.0,baz=132,slow=7.4,SNR=2.9						
NOA				LR	LR	08 41 39.4	
	comp=Z,92nm,19.6s,MS3.9,baz=120,slow=39						
NOA	NORSAR Array B	55.15	338	P	P	08 15 07.9	-1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,92nm,19.6s						
SGMF	Saint Gilles	55.28	320	eP	P	08 15 08.5	-2.0
	comp=Z,30nm,1.2s,mb4.9						
TLY	Talaya	57.68	37	⇑ iP	P	08 15 30.5	+2.9
TLY				e		08 16 20.4	
TLY				e		08 17 41.3	
TLY				eS	S	08 23 12.9	-9.1
TLY				SS	SS	08 27 08.3	-5.6
TLY				pmax	pmax		
	comp=Z,48nm,1.8s,mb5.2						
TLY				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.7						
SONM	Songino Array	58.13	42	P	P	08 15 30.7	-0.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=231,slow=9.2,SNR=7.7						
KEV	Kevo	58.17	351	ep	P	08 15 28.9	-1.9
	comp=Z,0.4nm,0.4s,mb3.8						
ARCES	ARCESS Array B	58.21	350	P	P	08 15 29.9	-1.2
	comp=Z,3.7nm,0.8s,mb4.5,baz=158,slow=6.5,SNR=6.4						
ARCES				LR	LR	08 45 15.6	
	comp=Z,87nm,20.7s,MS3.9,baz=89,slow=41						
ARCES	ARCESS Array B	58.21	350	P	P	08 15 29.9	-1.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,87nm,20.7s						
SUMG	Summit	76.81	342	eP	P	08 17 27.2	-0.5
	comp=Z,6.7nm,1.0s,mb4.5						
MAW	Mawson	81.27	175	P	P	08 17 53.9	+1.8
	comp=Z,1.2nm,0.7s,mb3.9,baz=334,slow=12,SNR=4.2						
MAW	Mawson	81.27	175	P	P	08 17 53.9	+1.9
MAW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	Mawson	81.27	175	eP	P	08 17 53.6	+1.6
WRA	Warramunga Arr	89.66	110	P	P	08 18 34.8	+0.2
	comp=Z,2.0nm,0.5s,mb4.7,baz=300,slow=3.7,SNR=46						
WRA	Warramunga Arr	89.66	110	P	P	08 18 34.8	+0.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	Tennant Creek	89.67	110	eP	P	08 18 34.7	0.0
	comp=Z,5.3nm,0.6s,mb5.0						
ASAR	Alice Springs	90.18	114	P	P	08 18 37.0	0.0
	comp=Z,1.3nm,0.5s,mb4.5,baz=285,slow=5.0,SNR=14						

WEL 15 08:19:23.1±0.2, 40.56S×174.44E, h87^{km}±3^{km}, ML3.7/7, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0

NEIC 15 08:19:23.1, 40.55S×174.45E, h87^{km}, ML3.7(WEL), After WEL.

ISC 15 08:19:21.6±0.5, **40.59S**±0.03×**174.48E**±0.05, **h96**^{km}±6^{km}, **n75, σ0^{s}83**/93, **6C-2D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.43	130	⇑PN	P	08 19 37.1	+0.5
KIW				SN	S	08 19 46.7	-1.2
KIW	Kapiti Island	0.43	130	P	P	08 19 37.1	+0.5
KIW				S	S	08 19 46.7	-1.2
MRW	Makara Radio	0.67	165	⇑PN	P	08 19 39.5	+1.0
MRW				SN	S	08 19 50.7	-0.4
MRW	Makara Radio	0.67	165	P	P	08 19 39.5	+1.0
MRW				S	S	08 19 50.7	-0.5
CAW	Cannon Point	0.69	139	⇑PN	P	08 19 39.7	+1.0
CAW				SN	S	08 19 51.9	+0.3
CAW	Cannon Point	0.69	139	P	P	08 19 39.7	+0.9
CAW				S	S	08 19 51.9	+0.3
WEL	Wellington	0.73	163	PN	P	08 19 40.0	+0.9
WEL				SN	S	08 19 52.0	-0.3
WEL	Wellington	0.73	163	P	P	08 19 40.1	+0.9
SNZO	South Karori	0.74	167	⇑PN	P	08 19 40.2	+0.9
SNZO				SN	S	08 19 52.2	-0.2
SNZO	South Karori	0.74	167	P	P	08 19 40.2	+0.9
MRZ	Mangatainoka R	0.84	96	⇑PN	P	08 19 40.9	+0.6
MRZ				SN	S	08 19 53.4	-0.7
MRZ	Mangatainoka R	0.84	96	P	P	08 19 40.9	+0.6
BHW	Baring Head	0.87	160	PN	P	08 19 41.5	+0.9
BHW				eSN	S	08 19 54.0	-0.8
BHW	Baring Head	0.87	160	P	P	08 19 41.5	+0.9
WAZ	Wanganui	0.92	25	⇑PN	P	08 19 41.8	+0.8
WAZ				SN	S	08 19 55.2	-0.4
WAZ	Wanganui	0.92	25	P	P	08 19 41.8	+0.8
TUWZ	Tuamarina	0.94	205	PN	P	08 19 41.9	+0.6
TUWZ				SN	S	08 19 54.9	-1.1
MTW	Mount Morrison	0.97	127	PN	P	08 19 42.4	+0.9
MTW	Mount Morrison	0.97	127	P	P	08 19 42.5	+0.9
MSWZ	Moikau Station	1.01	145	PN	P	08 19 43.2	+1.1
MSWZ				SN	S	08 19 57.4	-0.1
NNZ	Nelson	1.04	232	⇓PN	P	08 19 42.5	0.0
NNZ				SN	S	08 19 57.7	-0.5
NNZ	Nelson	1.04	232	P	P	08 19 42.6	+0.1
PAWZ	Paruwai Farm	1.07	138	PN	P	08 19 43.9	+1.0
BSWZ	Blackbirch Sta	1.22	202	PN	P	08 19 45.4	+0.8
BSWZ				SN	S	08 20 01.1	-0.6
TSZ	Takapari Road	1.25	66	PN	P	08 19 44.8	-0.3
TSZ	Takapari Road	1.25	66	P	P	08 19 45.0	-0.1
DFE	Dawson Falls	1.29	347	PN	P	08 19 45.9	+0.4
RAEZ	Rainy Point	1.30	357	PN	P	08 19 46.2	+0.6
NRZ	Ngariki Road	1.32	341	PN	P	08 19 45.9	+0.1
NEZ	North Egmont	1.34	347	PN	P	08 19 47.0	+0.8
NEZ	North Egmont	1.34	347	P	P	08 19 46.4	+0.3
BFZ	Birch Farm	1.35	95	PN	P	08 19 46.6	+0.3
BFZ	Birch Farm	1.35	95	P	P	08 19 46.6	+0.4
NWEZ	Newall Road	1.39	340	PN	P	08 19 46.9	+0.2
NWEZ	Newall Road	1.39	340	P	P	08 19 46.9	+0.2
PKE	Pukeiti	1.44	345	PN	P	08 19 47.2	-0.1
PKE	Pukeiti	1.44	345	P	P	08 19 47.4	+0.1
VRZ	Vera Road	1.48	9	PN	P	08 19 48.1	+0.4
VRZ	Vera Road	1.48	9	eP	P	08 19 48.1	+0.4
QRZ	Quartz Range	1.50	260	⇓PN	P	08 19 47.3	-0.7
QRZ	Quartz Range	1.50	260	P	P	08 19 47.3	-0.8
WNVZ	Wahianoa	1.52	35	PN	P	08 19 48.8	+0.4
MOVZ	Moawhango	1.53	40	PN	P	08 19 48.3	-0.1
MOVZ				SN	S	08 20 08.2	-0.2
FWVZ	Far West T-bar	1.56	32	PN	P	08 19 48.5	-0.3
FWVZ	Far West T-bar	1.56	32	eP	P	08 19 49.4	+0.5
TUVZ	Tukino	1.60	35	PN	P	08 19 50.0	+0.7
WPVZ	Whakapapa	1.61	31	PN	P	08 19 49.7	+0.3
CNZ	Chateau	1.61	31	PN	P	08 19 49.6	+0.1
CNZ	Chateau	1.61	31	P	P	08 19 49.9	+0.4
NGZ	Ngauruhoe	1.65	32	PN	P	08 19 52.9	+2.9
NGZ	Ngauruhoe	1.65	32	P	P	08 19 50.5	+0.5
THZ	Tophouse	1.67	225	PN	P	08 19 50.9	+0.7
THZ	Tophouse	1.67	225	P	P	08 19 50.9	+0.7
TWVZ	Taurewa	1.68	26	PN	P	08 19 50.4	0.0

WTVZ	West Tongariro	1.70	31	PN	P	08 19 50.6	0.0
MGZ	Maungaku	1.78	28	PN	P	08 19 51.7	0.0
MGZ	Maungaku	1.78	28	P	P	08 19 51.7	+0.1
PWZ	Pawanui	1.91	74	PN	P	08 19 52.7	-0.6
KHZ	Kahutara	1.96	201	PN	P	08 19 54.8	+0.8
KHZ	Kahutara	1.96	201	*e*P	P	08 19 54.8	+0.8
HIZ	Hauiti	2.09	8	PN	P	08 19 55.7	0.0
BKZ	Black Stump Fm	2.10	48	PN	P	08 19 54.9	-1.0
BKZ	Black Stump Fm	2.10	48	*e*P	P	08 19 55.4	-0.5
DSZ	Denniston Nort	2.33	239	PN	P	08 19 58.4	-0.6
DSZ	Denniston Nort	2.33	239	P	P	08 19 58.4	-0.6
LTZ	Lake Taylor	2.75	216	PN	P	08 20 04.1	-0.7
LTZ	Lake Taylor	2.75	216	*e*P	P	08 20 04.1	-0.7
KNZ	Kokohu	2.92	59	PN	P	08 20 05.0	-2.1
URZ	Urewera	3.09	42	SN	S	08 20 42.2	-3.4
MWZ	Matawai	3.26	47	*e*PN	P	08 20 09.2	-2.6
MWZ				SN	S	08 20 46.7	-3.1
MWZ	Matawai	3.26	47	*e*P	P	08 20 10.1	-1.8
WVZ	Waitaha Valley	3.74	227	PN	P	08 20 17.4	-1.0
WVZ				SN	S	08 20 57.4	-4.2
PUZ	Puketiti	3.86	51	SN	S	08 21 00.0	-4.5
ODZ	Otahua Downs	5.27	211	PN	P	08 20 37.7	-1.7
ODZ	Otahua Downs	5.27	211	*e*P	P	08 20 37.5	-1.8

*IDC **15** 08:20:56.1±1.1, 14.49N×54.48E, mb3.8/7, mb1 4.0/7, mb1mx3.7/19, Error ellipse: s-maj=37.0km s-min=26.6km az=93.0*

*NEIC **15** 08:20:57.6±0.7, 14.49N×54.46E, h10^{km}, Error ellipse: s-maj=22.7km s-min=15.9km az=99.0*

ISC 15 08:20:55.9±0.9**, 14.5N**±0.2×**54.4E**±0.2**, h10^{km}, n8, σ0^{s}13**/8**, mb3.9**/7**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.71	30	P	P	08 28 30.1	-0.1
	0.5nm,0.5s,mb3.5,baz=214,slow=8.8,SNR=7.1						
BVAR	Borovoye Array	40.44	15	P	P	08 28 35.9	-0.2
	0.5nm,0.7s,mb3.4,baz=186,slow=13,SNR=2.9						
TSUM	Tsumeb	49.37	228	P	P	08 29 47.8	-0.1
	2.2nm,0.9s,mb4.2,baz=36,slow=14,SNR=3.6						
FINES	FINESS Array B	51.06	343	P	P	08 30 00.4	+0.1
	0.7nm,0.6s,mb3.8,baz=146,slow=5.0,SNR=5.7						
ARCES	ARCESS Array B	57.87	348	P	P	08 30 50.2	+0.2
	1.9nm,0.8s,mb4.2,baz=166,slow=5.0,SNR=4.2						
ARCES	ARCESS Array B	57.87	348	P	P	08 30 50.2	+0.2
WRA	Warramunga Arr	85.74	112	P	P	08 33 37.3	+0.1
	0.6nm,0.8s,mb3.9,baz=301,slow=4.0,SNR=6.1						
ASAR	Alice Springs	86.45	115	P	P	08 33 40.8	+0.1
	0.7nm,0.7s,mb4.0,baz=291,slow=5.8,SNR=4.6						

CASC 15 08:26:46.4±2.0**, 12.10N×88.06W, MD3.6, ML2.5, 4C-1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYN	Poneloya	1.05	74	⇑*e*P	Pb	08 27 09.8	+2.7
PYN				*e*S	Sb	08 27 21.4	+0.1
LEON	Leon	1.18	74	⇑*e*P	Pb	08 27 10.4	+1.0
CNCH	Conchagua	1.19	11	*e*P	Pb	08 27 08.7	-0.8
TEL3	Telica 3	1.28	68	⇑*e*P	Pb	08 27 10.4	-0.6
MIRN	Miramar	1.36	75	⇓*e*P	Pb	08 27 11.7	-0.7
COPN	Copaltepe	1.44	87	⇑*e*P	Pn	08 27 13.7	0.0
SNVI	San Vicente	1.69	333	*e*P	Pn	08 27 16.9	-0.3
SNVI				*e*S	Sb	08 27 41.2	+1.5
MGAN	Managua	1.77	88	*e*	Sn	08 27 43.8	+1.6
	comp=E,44nm,0.2s						
LCBS	La Ceiba	1.79	330	*e*P	Pn	08 27 18.2	-0.5
LCBS				*e*S	Sn	08 27 42.9	+0.5
LFRS	El Faro	1.80	327	*e*P	Pn	08 27 18.7	-0.3
LFRS				*e*S	Sn	08 27 44.7	+1.8
BOQS	Boqueron	2.01	324	*e*P	Pn	08 27 21.7	-0.3
BOQS				*e*S	Sn	08 27 50.5	+2.2
SBLS	San Blas	2.31	319	*e*P	Pn	08 27 25.4	-0.7
SBLS				*e*S	Sn	08 27 57.4	+1.8
RTR	El Retiro	2.36	319	*e*P	Pn	08 27 25.3	-1.7
RTR				*e*S	Sn	08 27 58.4	+1.3

DJA 15 08:30:36.5±0.9**, 0.61S×119.60E, h82^{km}**±10^{km}**, MD4.6**/3**, ML4.4**/3**, 2C-4D, Error ellipse: s-maj=40.2km s-min=13.0km az=91.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	Palu	0.38	141	*e*Pg	P	08 30 50.8	+1.2
PCI				*e*Sg	S	08 30 58.2	-1.2
TANI	Tanete Lipujan	2.81	184	⇓*e*Pn	P	08 31 19.0	-1.4
	95nm,0.4s						
TANI				⇓*e*Sn	S	08 31 51.3	-2.0
BUNI	Buntu Taipa	3.11	167	⇓*e*Pn	P	08 31 22.9	-1.7
	138nm,0.2s						
BUNI				⇑*e*Sn	S	08 31 59.5	-1.2
NINI	Niniconang	3.79	178	⇓*e*Pn	P	08 31 34.1	+0.2
	165nm,0.4s						
NINI				⇑*e*Sn	S	08 32 15.9	-1.7

*THE **15** 09:04:38.8, 38.98N×21.93E, h10^{km}, ML3.1*

*NEIC **15** 09:04:38.9, 38.94N×21.88E, h5^{km}, MD3.2(ATH), ML3.1(THE), After ATH.*

*ATH **15** 09:04:38.7, 38.96N×21.87E, h5^{km}, MD3.2/4*

ISC 15 09:04:38.3±0.6**, 38.95N**±0.04×**21.90E**±0.04**, h5^{km}, n15, σ1^{s}15**/19**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.08	243	*e*PG	Pg	09 04 39.5	-0.5
AGG	Agios Georgios	0.34	78	*e*Pg	Pg	09 04 45.2	0.0
LKR	Lokris	0.91	109	*e*PB	Pb	09 04 56.9	+0.7
RLS	Riolos of Patr	0.95	201	*e*PB	Pb	09 04 55.5	-1.4
MEV	Metsovon	0.98	328	*e*Pg	Pg	09 04 56.0	-1.8
	comp=Z,7.6nm,0.1s						
LKD	Levkas	1.00	256	*e*Pg	Pg	09 04 58.0	-0.3
JAN	Janina	1.07	311	*e*PN	Pn	09 05 00.0	+0.2
JAN	Janina	1.07	311	*e*Pn	Pn	09 05 00.8	+1.0
XOR	Xorichti	1.09	67	*e*Pg	Pg	09 04 59.7	-0.3
XOR				*e*Sg	Sg	09 05 13.5	-1.0
NEO	Neokhori	1.09	71	*e*PB	Pb	09 05 01.5	+2.3
LIT	Litokhoron	1.23	22	*e*Pb	Pb	09 05 01.2	-0.5
	comp=Z,6.6nm,0.1s						
LIT				*e*Sb	Sb	09 05 19.4	+1.7
VLS	Valsamata	1.28	233	*e*PB	Pb	09 05 04.0	+1.5
IGT	Igoumenitsa	1.35	296	*e*Pb	Pb	09 05 04.6	+1.0
IGT				*e*Sb	Sb	09 05 24.4	+3.4
KZN	Kozani	1.36	356	*e*PN	Pn	09 05 03.0	-0.9
FNA	Florina	1.87	348	*e*Pb	Pb	09 05 11.3	-1.3
FNA				*e*Sb	Sb	09 05 36.2	-0.1

IDC 15 09:10:01.2±8.6**, 32.80S×178.22W, h44^{km}**±81^{km}**, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.7**/13**, ML3.8**/1**, Error ellipse: s-maj=65.7km s-min=55.9km az=168.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.65	214	P	P	09 11 35.7	-3.1
	2.0nm,0.3s,baz=350,slow=18,SNR=8.3						
URZ				S	S	09 12 51.6	-2.6
	1.9nm,0.3s,baz=115,slow=22,SNR=8.5						
CTA	Charters Tower	34.07	283	P	P	09 16 42.5	-1.2
	1.9nm,0.8s,baz=117,slow=7.9,SNR=4.1						
ASAR	Alice Springs	42.85	270	P	P	09 17 55.1	-1.8
	1.0nm,0.5s,baz=107,slow=7.5,SNR=12						
WB2	Warramunga Arr	44.05	275	*e*P	P	09 18 04.5	-2.2
WRA	Warramunga Arr	44.05	275	P	P	09 18 04.2	-2.6
	1.1nm,0.4s,baz=116,slow=7.8,SNR=22						
FINES	FINESS Array B	147.31	339	PKPbc	PKPdf	09 29 38.5	+1.7
	1.0nm,0.6s,baz=34,slow=2.7,SNR=7.2						

IDC 15 09:25:53.5±3.0**, 32.71S×178.26W, mb3.6**/2**, mb1 4.0**/3**, mb1mx3.7**/12**, ML3.4**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.9**/10**, Error ellipse: s-maj=70.7km s-min=36.5km az=118.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.71	213	Pn	Pn	09 27 33.7	-2.0
	0.7nm,0.3s,baz=319,slow=9.3,SNR=3.3						
URZ				Sn	Sn	09 28 49.6	-4.1
	1.0nm,0.3s,baz=302,slow=21,SNR=6.8						
URZ				LR	LR	09 29 47.1	
	comp=Z,221nm,20.2s,baz=84,slow=35						
ASAR	Alice Springs	42.82	270	P	P	09 33 53.5	-1.4
	0.5nm,0.7s,baz=104,slow=6.7,SNR=6.7						
WB2	Warramunga Arr	44.01	275	*e*P	P	09 34 02.7	-1.9
WRA	Warramunga Arr	44.02	275	P	P	09 34 02.8	-1.8
	0.4nm,0.3s,baz=116,slow=7.9,SNR=19						
FINES	FINESS Array B	147.22	339	PKPbc	PKPdf	09 45 37.1	-0.4
	1.7nm,0.9s,baz=90,slow=5.6,SNR=3.2						

*NEIC **15** 09:37:01.5, 31.62S×71.62W, h34^{km}, ML2.7(GUC), After GUC.*

GUC 15 09:37:01.5±0.7**, 31.62S×71.62W, h34^{km}**±3^{km}**, MD3.7, ML2.7, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILCH	Illapel	0.39	93	⇑*i*P	P	09 37 10.5	0.0
ILCH				*i* S	S	09 37 17.2	+0.5
ILCH				AMP		09 37 17.7	
	comp=N,775nm,0.2s						
CMCH	Combarbala	0.69	50	⇑*i*P	P	09 37 15.0	+0.2
CMCH				*i* S	S	09 37 25.1	+0.7
CMCH				AMP		09 37 26.6	
	comp=E,1µm,0.4s						
TLL	Tololo Astrono	1.61	26	*e*P	P	09 37 29.3	+1.4
TLL				*i* S	S	09 37 50.7	+3.1
TLL				AMP		09 37 54.1	
	comp=N,110nm,0.3s						
CLCH	Cerro Calan	2.00	153	⇓*i*P	P	09 37 34.3	+0.8
CLCH				*i* S	S	09 37 59.3	+1.9
CLCH				AMP		09 38 12.0	
	comp=E,76nm,0.4s						
FCH	Farellones	2.04	147	*e*P	P	09 37 35.4	+1.3
FCH				*i* S	S	09 38 01.1	+2.4
FCH				AMP		09 38 05.3	
	comp=E,47nm,0.1s						
LMEL	Las Melosas	2.52	152	*e*P	P	09 37 42.0	+1.0
LMEL				*i* S	S	09 38 13.2	+2.3
LMEL				AMP		09 38 23.6	
	comp=N,59nm,0.2s						

*NEIC **15** 11:03:38.3, 16.91N×94.87W, h120^{km}, MD3.6(MEX), After MEX.*

MEX 15 11:03:38.3±0.6**, 16.91N×94.87W, h120^{km}**±9^{km}**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.19	355	*e*P	P	11 03 53.9	-1.1
CMIG				*e*S	S	11 04 05.4	-2.1
TUIG	Tuzandepetl	1.20	21	*e*P	P	11 04 01.1	-1.7
TUIG				*e*S	S	11 04 18.7	-2.4
HUIG	Huatulco	1.64	227	*e*P	P	11 04 05.0	-2.8
HUIG				*e*S	S	11 04 27.9	-2.3
OXX	Oaxaca	1.78	276	*e*P	P	11 04 08.5	-1.0
OXX				*e*S	S	11 04 31.0	-2.1
VHO	Vista Hermosa	1.79	276	*e*P	P	11 04 08.8	-0.8
VHO				*e*S	S	11 04 31.1	-2.2
IISM	Ciudad Serdan	3.16	311	*e*S	S	11 05 02.0	-3.1

MOS 15 11:09:51.5±1.5**, 42.93N×47.02E, h11^{km}, mb3.7**/1**, 1C-1D, Error ellipse: s-maj=33.6km s-min=13.6km az=92.4, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUJR	Buynaksk	0.12	148	⇓*i*PG	Pg	11 09 55.3	+0.6
BUJR				pmax	pmax		
	comp=Z,206nm,0.1s						
DBC	Dubki	0.17	303	*e*PG	Pg	11 09 56.0	+0.6
DBC				*e*S	Sg	11 10 01.0	+3.1
UKTR	Uchkent	0.19	14	*i* PG	Pg	11 09 56.0	+0.2
UNCR	Uncukul	0.27	218	⇑*i*PG	Pg	11 09 59.2	+1.9
UNCR				*i* S	Sg	11 10 04.2	+3.1
UNCR				pmax	pmax		
	comp=Z,57nm,0.2s						
ARKR	Arakani	0.33	183	*e*PG	Pg	11 09 56.6	-1.7
ARKR				*i* S	Sg	11 10 04.0	+1.1
KMKR	Kumukh	0.80	176	*e*PG	Pg	11 10 08.0	+0.4
KMKR				*i* S	Sb	11 10 21.5	+4.0
KMKR				pmax	pmax		
	comp=Z,38nm,0.2s						

*DJA **15** 11:14:41.8±0.8, 0.28S×119.85E, h190^{km}±7^{km}, MD5.1/3, ML5.5/3, Error ellipse: s-maj=25.3km s-min=7.6km az=114.0*

*BJI **15** 11:14:43.5, 1.52S×120.61E, h50^{km}, mB5.1, mb4.8, Ms4.4, Msz4.2*

*MOS **15** 11:14:48.0±0.8, 0.73S×119.81E, h33^{km}, mb5.2/5, Error ellipse: s-maj=30.5km s-min=13.6km az=114.3*

*IDC **15** 11:14:51.7±4.5, 0.67S×119.98E, h49^{km}±45^{km}, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, ML4.8/2, MS4.2/13, Ms1 4.2/13, ms1mx4.1/18, Error ellipse: s-maj=30.8km s-min=11.9km az=63.0*

*SYO **15** 11:14:51.8, 0.72S×119.94E, h51^{km}, MB4.7, MS4.2*

*NEIC **15** 11:14:51.9±0.9, 0.72S×119.94E, h51^{km}±9^{km}, mb4.7/18, MS4.2/1, MD4.9(DJA), Error ellipse: s-maj=12.6km s-min=5.5km az=68.0*

NEIC Felt [IV] at Palu.

ISC 15 11:14:50.6±0.7**, 0.68S**±0.04×**120.07E**±0.07**, h51^{km}**±7^{km}**, h32^{km}**±5.5^{km}**:pP-P, n76, σ1^{s}39**/88**, mb4.6**/37**, MS4.2**/24**, 4C-8D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	Palu	0.33	226	*e*Pn	S	11 15 07.0	+0.2
TANI	Tanete Lipujan	2.83	194	⇑*e*Pn	P	11 15 32.6	-1.8
	1µm,0.2s						
TANI	Tanete Lipujan	2.83	194	⇑*e*Pn	P	11 15 32.6	-1.8
TANI				*e*Sn	S	11 16 08.0	+0.6
BUNI	Buntu Taipa	2.97	175	⇓*e*Pn	P	11 15 35.7	-0.8
	1µm,0.4s						
BUNI				⇓*e*Sn	S	11 16 17.1	+6.0
BUNI	Buntu Taipa	2.97	175	⇓*e*Pn	P	11 15 35.7	-0.8
BUNI				*e*Sn	S	11 16 13.0	+1.9
NINI	Niniconang	3.73	185	⇓*e*Pn	P	11 15 47.5	+0.3
	1µm,0.5s						
NINI				⇓*e*Sn	S	11 16 33.3	+2.9
NINI	Niniconang	3.73	185	*e*Pn	P	11 15 47.6	+0.4
NINI				*e*Sn	S	11 16 31.0	+0.6
MKS	Makassar	4.55	188	*e*P	P	11 15 56.0	-2.7
MNI	Manado	5.21	66	*e*P	P	11 16 00.0	-8.0
TGY	Tagaytay City	14.71	3	P	P	11 18 16.4	-0.9
	7.6nm,0.3s,baz=112,slow=3.4,SNR=2.4						
TGY				LR	LR	11 25 39.1	
	comp=Z,786nm,18.8s,baz=196,slow=44						
KAKA	Kakadu	17.09	135	*e*P	P	11 18 49.8	+2.2
	24nm,0.6s						
FITZ	Fitzroy Crossi	18.16	163	*e*P	P	11 19 01.2	+0.3
	13nm,0.6s						
FITZ	Fitzroy Crossi	18.16	163	P	P	11 19 00.8	-0.1
	1.4nm,0.3s,baz=358,slow=6.0,SNR=44						
FITZ				LR	LR	11 27 57.6	
	comp=Z,399nm,18.1s,baz=325,slow=43						
QIZ	Qiongzhong	22.01	333	P	P	11 19 42.8	+0.6
QIZ				S	S	11 23 45.3	+8.5
QIZ				LR	LR		
	comp=N,340nm,22.1s,MS4.0						
QIZ				LR	LR		
	comp=E,451nm,21.2s,MS4.0						
QIZ				LR	LR		
	comp=Z,781nm,21.4s,MS4.1						
WRAB	Tennant Creek	23.70	145	*e*P	P	11 19 58.7	-0.1
	comp=Z,58nm,1.1s,mb4.9						
WRA	Warramunga Arr	23.70	145	P	P	11 19 59.2	+0.4
	comp=Z,15nm,0.8s,mb4.5,baz=321,slow=11,SNR=58						
WRA				LR	LR	11 31 27.9	
	comp=Z,308nm,18.1s,MS3.8,baz=315,slow=42						
WB2	Warramunga Arr	23.71	145	*e*P	P	11 19 59.1	+0.2
ASPA	Alice Springs	26.50	151	*e*P	P	11 20 26.2	+0.8
ASAR	Alice Springs	26.50	151	P	P	11 20 24.6	-0.8
	comp=Z,3.6nm,0.6s,mb4.1,baz=319,slow=7.1,SNR=22						
ASAR				LR	LR	11 32 23.4	
	comp=Z,628nm,18.1s,MS4.2,baz=319,slow=40						
CMAR	Chiang Mai Arr	28.16	314	P	P	11 20 39.2	-1.3
	comp=Z,3.7nm,0.8s,mb4.1,baz=136,slow=7.1,SNR=17						
CMAR				LR	LR	11 33 52.8	
	comp=Z,459nm,18.9s,MS4.1,baz=130,slow=41						
PMG	Port Moresby	28.32	109	P	P	11 20 43.2	+1.2
	comp=Z,5.6nm,0.6s,mb4.4,baz=323,slow=5.9,SNR=7.8						
PMG	Port Moresby	28.32	109	*e*P	P	11 20 41.5	-0.5
	comp=Z,7.8nm,0.8s,mb4.4						
JOW	Kunigami	28.47	16	LR	LR	11 32 42.1	
	comp=Z,706nm,19.5s,MS4.3,baz=157,slow=38						
KMI	Kunming	30.65	328	*e*P	P	11 21 02.1	-0.5
KMI				PP	PP	11 22 04.6	+0.2
KMI				S	S	11 26 05.4	+5.3
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
KMI				LR	LR		
	comp=N,298nm,14.7s,MS4.2						
KMI				LR	LR		
	comp=E,378nm,17.6s,MS4.2						
KMI				LR	LR		
	comp=Z,312nm,17.6s,MS4.0						
KMI	Kunming	30.65	328	*e*P	P	11 21 02.1	-0.5
	comp=Z,3.0nm,1.1s,mb4.0						
KMI				pP	pP	11 21 06.2	-9.5
KMI				sP	sP	11 21 09.3	-13
KMI				PP	PP	11 22 04.6	+0.2
KMI				S	S	11 26 05.4	+5.3
KMI				sS		11 26 14.4	
KMI				SS	SS	11 27 49.9	+5.6
KMI				LR	LR		
	comp=Z,310nm,17.6s,MS4.0						
WHN	Wuhan	31.52	351	*e*P	P	11 21 14.5	+4.2
SSE	Sheshan	31.61	2	P	P	11 21 13.3	+2.2
SSE				XP	sP	11 21 25.8	-4.7
SSE				S	S	11 26 21.1	+5.8
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,79nm,8.3s						
SSE				LR	LR		
	comp=N,190nm,36.2s,MS3.6						
SSE				LR	LR		
	comp=E,174nm,36.1s,MS3.6						
SSE				LR	LR		
	comp=Z,224nm,37.5s,MS3.6						
SSE	Sheshan	31.61	2	P	P	11 21 13.2	+2.1
	comp=Z,26nm,0.7s,mb5.2						
SSE				sP	sP	11 21 25.7	-4.8
SSE				S	S	11 26 21.1	+5.8
SSE				sS		11 26 34.8	
SSE				SS	SS	11 28 37.9	+31
SSE				LR	LR		
	comp=Z,220nm,37.5s,MS3.6						
CTA	Charters Tower	32.07	129	P	P	11 21 15.4	+0.3
	comp=Z,1.0nm,0.5s,mb3.9,baz=279,slow=13,SNR=3.2						
CTAO	Charters Tower	32.07	129	P	P	11 21 13.6	-1.5
	comp=Z,14nm,1.4s,mb4.6						
NJ2	Nanjing	32.57	358	*e*P	P	11 21 21.8	+2.4
NJ2				AP	pP	11 21 31.3	-1.3
NJ2				XP	sP	11 21 35.5	-3.4
NJ2				S	S	11 26 38.0	+7.8
NJ2				SS	SS	11 28 38.0	+8.7
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,450nm,5.5s						
NJ2				LR	LR		
	comp=N,710nm,19.8s						
NJ2				LR	LR		
	comp=E,990nm,25.0s						
NJ2				LR	LR		
	comp=Z,680nm,21.6s,MS4.3						
CBIJ	Chichi jima	34.86	36	P	P	11 21 37.7	-1.5
	comp=Z,37nm,0.5s,mb5.5,baz=295,slow=18,SNR=2.6						
STKA	Stephens Creek	37.10	149	*e*P	P	11 21 57.9	-0.2
	comp=Z,6.8nm,1.5s,mb4.3						
STKA	Stephens Creek	37.10	149	P	P	11 21 58.0	-0.1
	comp=Z,7.1nm,0.8s,mb4.6,baz=314,slow=11,SNR=9.3						
STKA				LR	LR	11 39 29.8	
	comp=Z,677nm,18.4s,MS4.5,baz=188,slow=40						
BJT	Baijiatuau	40.66	355	P	P	11 22 26.5	-1.1
	comp=Z,25nm,1.0s,mb4.8						
BJI	Beijing	40.68	355	P	P	11 22 27.5	-0.2
BJI				S	S	11 28 37.1	+3.2
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,156nm,16.5s,MS4.3						
BJI				LR	LR		
	comp=E,315nm,16.5s,MS4.3						
BJI				LR	LR		
	comp=Z,121nm,27.9s						
BJI	Beijing	40.68	355	P	P	11 22 27.5	-0.2
	comp=Z,12nm,0.9s,mb4.5						
BJI				S	S	11 28 37.1	+3.2
BJI				LR	LR		
	comp=Z,120nm,27.9s,MS3.6						
MAT	Matsushiro	40.69	23	P	P	11 22 28.7	+0.9
MAT				S	S	11 28 40.0	+5.9
MAT	Matsushiro	40.69	23	*e*P	P	11 22 29.0	+1.2
	comp=Z,21nm,1.4s,mb4.6						
MAT				*e*S	S	11 28 40.0	+5.9
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
LSA	Lhasa	40.91	320	P	P	11 22 33.8	+4.1
LSA	Lhasa	40.91	320	*e*P	P	11 22 30.3	+0.6
	comp=Z,11nm,0.8s,mb4.5						
SNY	Shenyang	42.43	4	⇑P	P	11 22 44.3	+2.2
SNY				S	S	11 28 56.5	-3.3
SNY				AMB	AMB		
	comp=Z,20nm,1.9s,mb4.4						
SNY				AMB	AMB		
	comp=Z,110nm,3.7s						
SNY				LR	LR		
	comp=N,210nm,16.7s,MS4.3						
SNY				LR	LR		
	comp=E,210nm,14.7s,MS4.3						
SNY				LR	LR		
	comp=Z,250nm,16.5s,MS4.2						
PKI	Pulchoki	43.55	313	*e*P	P	11 22 55.1	+3.6
KKN	Kakani	43.77	313	*e*P	P	11 22 56.1	+2.8
	comp=Z,29nm,1.1s,mb4.9						
DMN	Daman	43.80	313	*e*P	P	11 22 56.6	+3.1
	comp=Z,10nm,0.3s,mb5.0						
GTA	Gaotai	44.00	337	*e*P	P	11 22 55.3	+0.4
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.0						
GKN	Gorkha	44.36	313	*e*P	P	11 23 00.9	+2.9
	comp=Z,48nm,1.2s,mb5.1						
KOLN	Koldanda	45.00	312	*e*P	P	11 23 03.2	+0.1
	comp=Z,22nm,0.9s,mb5.0						
MDJ	Mudanjiang	45.89	9	P	P	11 23 09.4	-0.5
MDJ				PP	PP	11 24 57.6	-0.5
MDJ				S	S	11 29 53.3	+3.5
MDJ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,42nm,4.0s						
MDJ				LR	LR		
	comp=N,236nm,26.2s,MS4.1						
MDJ				LR	LR		
	comp=E,131nm,23.8s,MS4.1						
MDJ				LR	LR		
	comp=Z,291nm,27.1s,MS4.1						
MDJ	Mudanjiang	45.89	9	*e*P	P	11 23 09.7	-0.3
	comp=Z,41nm,1.4s,mb5.2						
SONM	Songino Array	49.76	348	P	P	11 23 39.4	-0.7
	comp=Z,1.8nm,0.5s,mb4.3,baz=169,slow=8.7,SNR=15						
ZAK	Zakamensk	52.85	347	*e*P	P	11 24 02.7	-0.7
ZAK				*e*		11 25 16.3	
WMQ	Urumqi	52.90	331	*e*P	P	11 24 05.0	+1.2
TLY	Talaya	53.99	347	⇓*i*P	P	11 24 11.0	-0.7
TLY				*i*	pP	11 24 20.6	-5.0
TLY				*e*		11 25 14.8	
TLY				*i*		11 26 13.8	
TLY				*i* S	S	11 31 48.4	+6.3
TLY				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
TLY				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.0						
MKAR	Makanchi Array	57.69	330	P	P	11 24 37.3	-1.1
	comp=Z,2.0nm,0.5s,mb4.4,baz=133,slow=8.3,SNR=25						
MKAR				LR	LR	11 52 12.1	
	comp=Z,164nm,20.8s,MS4.1,baz=125,slow=39						
BOD	Bodaibo	58.52	356	*e*P	P	11 24 42.6	-1.4
KURK	Kurchatov	62.13	332	*e*P	P	11 25 06.9	-1.8
	comp=Z,13nm,1.0s,mb5.0						
YAK	Yakutsk	62.97	5	*e*P	P	11 25 15.5	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
BVAR	Borovoye Array	67.58	330	P	P	11 25 42.4	-1.4
	comp=Z,2.5nm,0.6s,mb4.4,baz=121,slow=8.6,SNR=15						
BRVK	Borovoye	67.65	330	*e*P	P	11 25 42.3	-2.0
	comp=Z,6.5nm,0.8s,mb4.7						
ZRNK	Zerenda	68.23	330	*e*P	P	11 25 46.4	-1.5
	comp=Z,9.6nm,0.9s,mb4.8						
ARU	Arti	75.21	330	⇓*i*P	P	11 26 27.3	-2.2
ARU				*e*	pP	11 26 38.1	-5.9
ARU				*e*		11 29 13.9	
ARU				*e*S	S	11 36 04.6	+1.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ARU				MLR	MLR		
	comp=Z,90nm,19.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,23.0s						
ARU	Arti	75.21	330	*e*P	P	11 26 29.8	+0.3
	comp=N,7.2nm,0.8s,mb4.7						
MAW	Mawson	77.38	199	P	P	11 26 41.9	+0.3
	comp=N,4.7nm,1.0s,mb4.4,baz=84,slow=11,SNR=5.4						
MAW				LR	LR	11 55 31.4	
	comp=N,180nm,19.0s,MS4.4,baz=188,slow=32						
MAW	Mawson	77.38	199	*e*P	P	11 26 41.4	-0.2
	comp=N,12nm,1.3s,mb4.7						
VNDA	Vanda	80.00	172	P	P	11 26 55.1	-0.6
	comp=N,1.5nm,0.9s,mb3.9,baz=313,slow=7.8,SNR=10						
VNDA				LR	LR	12 03 35.3	
	comp=N,176nm,19.9s,MS4.4,baz=324,slow=36						
SBA	Scott Base	80.98	171	P	P	11 26 59.6	-1.3
	comp=N,0.3nm,0.5s,mb3.5						
SOC	Sochi	83.47	314	*e*P	P	11 27 17.3	+3.0
SOC				*e*	pP	11 27 33.8	+4.8
SOC				*e*		11 30 25.2	
SOC				*e*S	S	11 37 32.9	+2.5
SOC				*e*SS	SS	11 42 54.5	-5.6
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
SOC				MLR	MLR		
	comp=Z,272nm,26.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,271nm,24.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,151nm,25.0s,MS4.6						
SYO	Syowa Base	85.95	201	⇑P	P	11 27 23.6	-2.5
SYO	Syowa Base	85.95	201	⇓PcP	PcP	11 27 31.0	+1.7
OBN	Obninsk	86.82	325	*e*P	P	11 27 30.3	-0.4
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.2						
BRTR	Keskin Array B	87.68	310	P	P	11 27 34.5	-0.8
	comp=Z,0.8nm,0.5s,mb4.2,baz=117,slow=5.5,SNR=4.3						
BRTR				LR	LR	12 15 29.1	
	comp=Z,52nm,19.2s,MS4.0,baz=130,slow=42						
AKASG	Malin Array Be	91.06	321	LR	LR	12 13 19.0	
	comp=Z,68nm,20.1s,MS4.1,baz=285,slow=38						
ILAR	Eielson Array	91.91	25	LR	LR	12 09 10.5	
	comp=Z,51nm,18.2s,MS4.0,baz=81,slow=35						
CPUP	Villa Florida	153.03	185	PKPbc	PKPdf	11 34 44.4	+8.7
	comp=Z,2.2nm,0.8s,baz=239,slow=7.0,SNR=2.9						
CPUP	Villa Florida	153.03	185	PKPbc	PKPdf	11 34 44.4	+8.7

IDC 15 11:35:56.5±2.0, 2.87S×138.26E, mb3.5/3, mb1 3.9/4, mb1mx3.7/10, ML3.8/1, Error ellipse: s-maj=87.6km s-min=20.9km az=89.0

NEIC 15 11:36:03.3±1.1, 2.88S×138.36E, h50^{km}, mb3.5/1, Error ellipse: s-maj=31.9km s-min=13.9km az=92.0

ISC 15 11:35:57.6±5.0, 2.8S±0.1×138.3E±0.3, h22^{km}±35^{km}, n8, σ0^{s}25/9, mb3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.47	210	*e*P	P	11 38 43.4	-0.1
	5.2nm,0.5s						
WB2	Warramunga Arr	17.50	193	*e*P	P	11 40 02.3	+0.2
WRA	Warramunga Arr	17.50	193	P	P	11 40 02.6	+0.4
	0.3nm,0.3s,baz=13,slow=13,SNR=13						
WRA				S	S	11 43 14.5	+0.1
	0.1nm,0.3s,baz=15,slow=23,SNR=3.9						
FITZ	Fitzroy Crossi	19.67	218	*e*P	P	11 40 28.0	-0.3
	2.5nm,0.9s						
ASAR	Alice Springs	21.20	191	P	P	11 40 44.1	-0.2
	1.3nm,0.6s,mb3.4,baz=22,slow=11,SNR=17						
ASPA	Alice Springs	21.20	191	*e*P	P	11 40 44.0	-0.3
MKAR	Makanchi Array	69.61	323	P	P	11 47 07.6	+0.3
	0.3nm,0.7s,mb3.3,baz=127,slow=7.2,SNR=3.5						
VNDA	Vanda	75.75	175	P	P	11 47 42.9	-0.2
	0.6nm,0.8s,mb3.5,baz=350,slow=7.0,SNR=3.7						

DJA 15 11:42:55.3±1.0, 9.58S×116.23E, h2^{km}, ML4.2/4, 7D, Error ellipse: s-maj=21.6km s-min=14.9km az=147.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	1.09	354	⇓*e*Pn	Pn	11 43 14.4	-3.1
	298nm,0.2s						
KEDI				⇓*e*Sn	Sn	11 43 28.6	-4.7
RATI	Rata	1.10	321	⇓*e*Pn	Pn	11 43 13.8	-3.7
	310nm,0.2s						
RATI				⇓*e*Sn	Sn	11 43 28.5	-4.9
INGI	Ingas	1.31	305	⇓*e*Pn	Pn	11 43 17.4	-3.2
	371nm,0.3s						
INGI				⇓*e*Sn	Sn	11 43 33.0	-6.0
KELI	Kelakatan	2.19	308	⇓*e*Pn	Pn	11 43 30.6	-2.6
	94nm,0.2s						

CASC 15 11:45:24.9±1.7, 12.75N×88.65W, h38^{km}±139^{km}, MD3.9, 8C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSM	San Miguel	0.77	28	⇓*e*P	P	11 45 40.1	+0.9
VSM				*e*S	S	11 45 52.1	+2.3
BLLM	Bellamira	0.80	30	*e*P	P	11 45 40.3	+0.6
BLLM				*e*P		11 45 40.4	
BLLM				*e*S	S	11 45 51.4	+0.9
BLLM				*e*S	S	11 45 51.7	+1.1
SNVI	San Vicente	0.88	348	*e*P	P	11 45 41.2	+0.4
SNVI				*e*S	S	11 45 52.9	+0.2
CNCH	Conchagua	0.95	56	*e*P	P	11 45 42.3	+0.4
CNCH				*e*S	S	11 45 55.6	+1.2
LCBS	La Ceiba	0.96	340	⇓*e*P	P	11 45 42.0	+0.1
LCBS				*e*S	S	11 45 54.5	-0.1
LFRS	El Faro	0.96	335	⇓*e*P	P	11 45 42.0	0.0
LFRS				*e*S	S	11 45 53.9	-0.8
LBRS	Las Brisas	1.06	339	⇑*e*P	P	11 45 43.8	+0.4
LBRS				*e*S	S	11 45 56.7	-0.4
SNET	Serv Nac Est T	1.09	329	*e*S	S	11 45 57.9	-0.1
CAHU	Cacacuatique	1.10	23	*e*P	P	11 45 44.9	+0.9
CAHU				*e*S	S	11 45 59.2	+0.9
BOQS	Boqueron	1.16	328	⇑*e*P	P	11 45 45.3	+0.5
BOQS				*e*S	S	11 46 00.7	+0.9
SBLS	San Blas	1.44	319	*e*P	P	11 45 49.6	+0.7
SBLS				*e*S	S	11 46 07.5	+0.6
SNJE	San Jose	1.45	320	⇑*e*P	P	11 45 49.4	+0.2
SNJE				*e*S	S	11 46 07.1	-0.1
RTR	El Retiro	1.50	320	*e*P	P	11 45 50.3	+0.5
RTR				*e*S	S	11 46 08.8	+0.4
CRIN	San Cristobal	1.56	92	⇓*e*P	P	11 45 50.9	+0.3
PYN	Poneloya	1.63	103	⇑*e*P	P	11 45 51.2	-0.4
PYN				*e*S	S	11 46 10.2	-1.4
RBDL	Robledal	1.69	323	⇓*e*P	P	11 45 52.8	+0.2
CUSS	Cusmapa	1.71	313	*e*P	P	11 45 52.8	0.0
CUSS				*e*S	S	11 46 13.7	0.0
LEON	Leon	1.74	101	⇑*e*P	P	11 45 52.5	-0.7
TEL3	Telica 3	1.77	95	⇓*e*P	P	11 45 53.3	-0.3
TEL3				*e*S	S	11 46 14.1	-1.0
TELN	Telica	1.78	94	⇑*e*P	P	11 45 53.5	-0.2
MTO2	Montecristo 2	1.78	337	⇓*e*P	P	11 45 54.0	+0.2
MTO2				*e*S	S	11 46 16.5	+1.1
MIRN	Miramar	1.91	99	⇑*e*P	P	11 45 55.4	-0.2
CNGN	Cerro Negro	1.92	97	*e*P	P	11 45 55.3	-0.4
COPN	Copaltepe	2.08	105	⇓*e*P	P	11 45 57.4	-0.7
COPN				*e*S	S	11 46 21.6	-1.5
MOMJ	Momotombo	2.08	99	⇑*e*P	P	11 45 57.5	-0.6
XAVN	Gruta Xavier	2.34	104	*e*P	P	11 46 01.3	-0.5
MGAN	Managua	2.42	104	*e*S	S	11 46 29.4	-2.1
WILN	Americas 2	2.47	103	*e*S	S	11 46 32.6	-0.3
PYTN	Playitas	2.54	94	*e*P	P	11 46 03.6	-0.9

WEL 15 11:51:36.9±0.1, 39.38S×175.55E, h90^{km}±1^{km}, ML3.7/7, 2C-5D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WNVZ	Wahianoa	0.07	32	P*	P	11 51 49.8	0.0
WNVZ				S*	S	11 51 58.9	-0.4
FWVZ	Far West T-bar	0.13	359	P*	P	11 51 49.9	+0.1
FWVZ				S*	S	11 51 58.9	-0.6
TUVZ	Tukino	0.14	34	⇓P*	P	11 51 50.0	+0.2
TUVZ				S*	S	11 51 59.1	-0.4
MOVZ	Moawhango	0.16	99	⇓P*	P	11 51 49.7	-0.1
WPVZ	Whakapapa	0.18	358	P*	P	11 51 49.8	-0.1
WPVZ				S*	S	11 52 00.3	+0.6
CNZ	Chateau	0.18	359	P*	P	11 51 49.9	-0.1
NGZ	Ngauruhoe	0.21	10	P*	P	11 51 50.0	0.0
NGZ				S*	S	11 51 58.9	-1.0
WTVZ	West Tongariro	0.27	6	P*	P	11 51 50.0	-0.3
TWVZ	Taurewa	0.32	344	P*	P	11 51 50.2	-0.4
KATZ	Kakaramea	0.42	15	P*	P	11 51 50.3	-0.9
KATZ				S*	S	11 52 01.1	-0.9
RITZ	Rihia Road	0.47	30	P*	P	11 51 51.7	+0.1
RATZ	Rangitukua	0.54	18	P*	P	11 51 51.9	-0.3
RATZ				S*	S	11 52 03.7	+0.1
WAZ	Wanganui	0.58	230	⇑PN	P	11 51 52.4	-0.2
WAZ				SN	S	11 52 03.9	-0.2
VRZ	Vera Road	0.67	292	⇓P*	P	11 51 52.8	-0.6
VRZ				S*	S	11 52 04.2	-1.4
WATZ	Wairara	0.69	12	P*	P	11 51 53.3	-0.3
TSZ	Takapari Road	0.75	155	PN	P	11 51 54.2	0.0
TSZ				SN	S	11 52 07.0	+0.1
BKZ	Black Stump Fm	0.76	74	⇓P*	P	11 51 54.4	+0.1
RAEZ	Rainy Point	0.91	276	⇓PN	P	11 51 55.8	0.0
HIZ	Hauiti	1.02	328	PN	P	11 51 56.7	-0.5
HIZ				SN	S	11 52 11.5	-0.9
DFE	Dawson Falls	1.13	272	PN	P	11 51 58.4	0.0
NEZ	North Egmont	1.14	275	PN	P	11 51 58.6	+0.1
PWZ	Pawanui	1.20	123	PN	P	11 51 59.6	+0.2
PWZ				SN	S	11 52 15.4	-0.7
PKE	Pukeiti	1.23	278	PN	P	11 51 59.1	-0.7
PKE				SN	S	11 52 16.1	-0.7
NRZ	Ngariki Road	1.26	272	PN	P	11 51 59.5	-0.6
MRZ	Mangatainoka R	1.28	179	⇑PN	P	11 51 59.8	-0.6
MRZ				SN	S	11 52 15.4	-2.5
NWEZ	Newall Road	1.31	274	PN	P	11 52 00.2	-0.6
BFZ	Birch Farm	1.40	158	PN	P	11 52 01.5	-0.4
KIW	Kapiti Island	1.56	198	PN	P	11 52 02.8	-1.0
URZ	Urewera	1.65	48	P*	P	11 52 04.3	-0.8
URZ				S*	S	11 52 24.2	-1.8
KNZ	Kokohu	1.69	78	PN	P	11 52 05.0	-0.6
CAW	Cannon Point	1.76	192	PN	P	11 52 05.3	-1.3
MTW	Mount Morrison	1.77	181	PN	P	11 52 05.4	-1.3
MWZ	Matawai	1.86	56	PN	P	11 52 07.0	-0.8
MWZ				SN	S	11 52 30.2	-0.4
MRW	Makara Radio	1.96	199	PN	P	11 52 07.4	-1.6
MRW				SN	S	11 52 29.7	-3.1
WEL	Wellington	1.99	197	PN	P	11 52 07.8	-1.8
PAWZ	Paruwai Farm	2.00	183	PN	P	11 52 08.0	-1.6
SNZO	South Karori	2.03	198	PN	P	11 52 08.2	-1.9
SNZO				SN	S	11 52 30.4	-4.2
MSWZ	Moikau Station	2.04	186	PN	P	11 52 08.6	-1.7
TUWZ	Tuamarina	2.39	210	PN	P	11 52 12.5	-2.5
TUWZ				SN	S	11 52 39.8	-3.6
NNZ	Nelson	2.48	222	PN	P	11 52 13.4	-2.9
NNZ				SN	S	11 52 42.6	-3.0
PUZ	Puketiti	2.49	59	PN	P	11 52 14.8	-1.6
PUZ				SN	S	11 52 42.2	-3.6
BSWZ	Blackbirch Sta	2.66	208	PN	P	11 52 15.9	-2.8
QRZ	Quartz Range	2.73	237	PN	P	11 52 16.9	-2.9
QRZ				SN	S	11 52 48.8	-3.2
THZ	Tophouse	3.12	219	PN	P	11 52 22.0	-3.2
KHZ	Kahutara	3.39	206	PN	P	11 52 25.3	-3.7
DSZ	Denniston Nort	3.71	229	PN	P	11 52 29.1	-4.2
LTZ	Lake Taylor	4.21	215	PN	P	11 52 35.3	-4.9
CRLZ	Canterbury Las	4.73	207	SN	S	11 53 29.9	-12
WVZ	Waitaha Valley	5.18	223	SN	S	11 53 43.5	-9.0
LBZ	Lake Benmore	6.41	217	PN	P	11 53 02.7	-7.7

NNC 15 12:23:58.6±17.0, 37.66N×70.16E, mpv3.3, Error ellipse: s-maj=162.9km s-min=127.6km az=127.0

ISC 15 12:23:55.0±2.8, 37.4N±0.2×70.9E±0.2, h33^{km}, n8, σ0^{s}54/9, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.22	23	P	P	12 25 13.2	+0.4
	SNR=28						
EKS2	Erkin-Say	5.73	22	P	P	12 25 21.2	+1.3
	SNR=5.8						
KK31	Karatay Array	5.75	357	P	P	12 25 20.1	0.0
	1.4nm,0.3s,baz=180,slow=14,SNR=46						
KK31				⇑S	S	12 26 25.8	-0.1
	1.2nm,0.3s,baz=186,slow=23,SNR=7.8						
KZA	Kyzart	5.77	34	P	P	12 25 20.0	-0.5
	SNR=7.3						
AAK	Ala-Archa	5.94	26	P	P	12 25 23.0	+0.2
	SNR=5.8						
CHMS	Chumysh	6.35	26	P	P	12 25 28.2	-0.4
	SNR=8.6						
TKM2	Tokmak 2	6.60	31	P	P	12 25 31.6	-0.6
	SNR=5.3						
AB31	Akbulak array	14.31	330	⇓P	P	12 27 17.0	-0.2
	0.4nm,0.5s,baz=152,slow=13,SNR=5.2						

BJI 15 12:29:25.6, 31.72N×138.06E, h347^{km}, mB4.4, mb4.5

MOS 15 12:29:25.3±0.6, 31.65N×138.18E, h363^{km}, mb3.8/9, Error ellipse: s-maj=23.1km s-min=11.5km az=108.0

IDC 15 12:29:25.6±0.6, 31.66N×138.42E, h348^{km}±6^{km}, mb3.4/13, mb1 3.5/17, mb1mx3.4/23, Error ellipse: s-maj=14.1km s-min=10.0km az=79.0

JMA 15 12:29:26.2±0.4, 31.75N×138.41E, h378^{km}±4^{km}, M3.8

NEIC 15 12:29:27.5±0.8, 31.70N×138.29E, h365^{km}±6^{km}, mb4.0/6, Error ellipse: s-maj=11.5km s-min=8.7km az=129.0

ISC 15 12:29:25.4±0.4, 31.62N±0.04×138.42E±0.05, h366^{km}±3^{km}, n61, σ0^{s}95/74, mb3.7/20, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	1.89	37	P	P	12 30 16.4	-1.4
	25nm,0.3s,baz=200,slow=19,SNR=17						
JHJ				S	S	12 30 56.2	-2.6
	42nm,0.3s,baz=85,slow=21,SNR=5.2						
JHJ2	Mitsune	1.91	38	P	P	12 30 19.0	+1.1
JWZ	Kozaga	2.97	311	P	P	12 30 26.3	+0.3
JWZ				S	S	12 31 13.2	-0.5
JIE	Ise	3.12	333	P	P	12 30 28.5	+1.2
JIM2	Oshima 3	3.21	15	P	P	12 30 28.2	+0.1
JIM2				S	S	12 31 18.5	+1.0
JWY	Kouya	3.52	318	P	P	12 30 32.3	+1.3
JOD2	Odawara 2	3.68	9	P	P	12 30 33.0	+0.4
JOD2				S	S	12 31 26.2	+0.8
BSO1	Boso 1	3.71	35	P	P	12 30 32.8	-0.1
BSO1				S	S	12 31 25.5	-0.5
JYN	Shimob	3.87	2	P	P	12 30 35.7	+1.2
JAI	Aioi	3.98	304	P	P	12 30 36.3	+0.7
JAI				S	S	12 31 31.2	+0.5
JRY	Ryogami san	4.41	5	P	P	12 30 40.3	+0.3
JRY				S	S	12 31 37.2	-1.3
JTO	Tosashimizu	4.92	286	P	P	12 30 45.8	+0.5
MAJO	Matsushiro	4.92	358	*e*Pn	P	12 30 45.2	-0.1
MAT	Matsushiro	4.92	358	P	P	12 30 45.2	-0.2
MAT				S	S	12 31 46.7	-1.4
MAT	Matsushiro	4.92	358	*e*P	P	12 30 45.0	-0.4
MAT				*e*S	S	12 31 47.0	-1.1
CBIJ	Chichi jima	5.58	143	P	P	12 30 51.5	-1.0
	63nm,0.3s,baz=337,slow=5.9,SNR=77						
CBIJ				S	S	12 32 00.3	-0.7
	122nm,0.3s,baz=274,slow=21,SNR=15						
CBIJ	Chichi jima	5.58	143	P	P	12 30 51.3	-1.3
CBIJ				S	S	12 32 00.5	-0.5
JNU	Nakatsue	6.55	285	P	P	12 31 04.6	+0.9
	0.7nm,0.3s,baz=94,slow=13,SNR=11						
JMK	Ichinoseki	7.67	17	P	P	12 31 15.9	-0.8
JOW	Kunigami	10.06	244	P	P	12 31 45.7	+0.7
	1.5nm,0.3s,baz=53,slow=15,SNR=3.9						
INCN	Inchon	11.34	304	*e*P	P	12 32 00.1	-0.2
	18nm,0.6s						
ASAJ	Asahikawa	12.91	14	P	P	12 32 19.0	+0.4
	1.4nm,0.3s,baz=234,slow=12,SNR=9.6						
ASAJ				S	S	12 34 39.1	+2.9
	0.4nm,0.3s,baz=344,slow=18,SNR=3.4						
ASAJ	Asahikawa	12.91	14	P	P	12 32 19.0	+0.4
ASAJ				S	S	12 34 39.2	+2.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	15.68	11	*e*P	P	12 32 49.1	+0.5
	comp=Z,32nm,0.6s						
CN2	Changchun	15.89	324	*e*P	P	12 32 49.8	-1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KLR	Kul'dur	18.30	346	*e*P	P	12 33 14.0	-1.4
HIA	Hailar	22.54	327	*e*P	P	12 33 56.2	-0.1
	comp=Z,5.6nm,0.6s,mb4.0						
SONM	Songino Array	29.21	313	P	P	12 34 56.1	-0.2
	comp=Z,2.3nm,0.4s,mb3.8,baz=120,slow=8.2,SNR=37						
ZAK	Zakamensk	32.07	316	⇓*e*P	P	12 35 20.8	-0.1
MKAR	Makanchi Array	45.11	306	P	P	12 37 07.6	-0.4
	comp=Z,3.1nm,0.5s,mb3.7,baz=92,slow=10.0,SNR=39						
MKAR				ScP		12 41 58.8	
	comp=Z,0.8nm,0.7s,baz=81,slow=4.6,SNR=7.5						
KURK	Kurchatov	47.50	312	*i* P	P	12 37 25.4	-1.1
KURK	Kurchatov	47.50	312	*e*P	P	12 37 25.3	-1.2
WRA	Warramunga Arr	51.41	185	P	P	12 37 56.5	+0.2
	comp=Z,0.8nm,0.8s,mb3.0,baz=0.2,slow=7.6,SNR=15						
WRA	Warramunga Arr	51.41	185	P	P	12 37 56.5	+0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VOSK	Vostochnaya	52.18	315	P	P	12 38 00.0	-1.5
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
BRVK	Borovoye	52.58	315	P	P	12 38 03.7	-0.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
BRVK	Borovoye	52.58	315	*e*P	P	12 38 03.6	-0.8
	comp=Z,2.7nm,0.6s,mb3.8						
ZRNK	Zerenda	53.35	315	*e*P	P	12 38 08.8	-1.3
	comp=Z,2.4nm,0.5s,mb3.8						
KKAR	Karatay Array	53.83	303	*i* P	P	12 38 12.8	-0.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
ASAR	Alice Springs	55.14	185	P	P	12 38 24.1	+1.0
	comp=Z,0.3nm,0.5s,mb2.9,baz=22,slow=12,SNR=6.2						
ILAR	Eielson Array	55.40	30	P	P	12 38 24.6	+0.1
	comp=Z,0.1nm,0.5s,baz=295,slow=6.5,SNR=4.1						
AB31	Akbulak array	59.62	312	*i* P	P	12 38 52.8	-0.9
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
INK	Inuvik	60.33	25	P	P	12 38 59.1	+0.9
	comp=Z,2.8nm,1.1s,mb3.6,baz=190,slow=28,SNR=2.3						
INK	Inuvik	60.33	25	P	P	12 38 59.1	+0.9
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARCES	ARCESS Array B	68.19	340	P	P	12 39 48.5	+0.3
	comp=Z,2.0nm,0.4s,mb4.2,baz=61,slow=7.2,SNR=13						
ARCES	ARCESS Array B	68.19	340	P	P	12 39 48.5	+0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	ARCESS Array B	68.19	340	P	P	12 39 48.5	+0.3
YKA	Yellowknife Ar	69.74	28	P	P	12 39 58.0	+0.2
	comp=Z,0.8nm,0.7s,mb3.6,baz=302,slow=5.8,SNR=2.6						
YKA	Yellowknife Ar	69.74	28	P	P	12 39 58.0	+0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KAF	Kangasniemi	71.98	333	*e*p	P	12 40 09.4	-1.7
	comp=Z,0.7nm,0.3s,mb3.9						
KAF	Kangasniemi	71.98	333	*e*P	P	12 40 09.4	-1.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
FINES	FINESS Array B	72.44	332	P	P	12 40 13.9	+0.1
	comp=Z,1.7nm,0.4s,mb4.1,baz=83,slow=5.7,SNR=37						
FINES	FINESS Array B	72.44	332	P	P	12 40 13.9	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YBH	Yreka Blue Hor	75.67	50	P	P	12 40 34.0	+1.4
	comp=Z,0.3nm,0.3s,mb3.4,baz=342,slow=6.4,SNR=2.6						
AKASG	Malin Array Be	77.04	322	P	P	12 40 39.7	-0.3
	comp=Z,2.1nm,0.3s,mb4.3,baz=50,slow=5.4,SNR=13						
AKASG	Malin Array Be	77.04	322	P	P	12 40 39.7	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NOA	NORSAR Array B	78.19	337	P	P	12 40 46.4	+0.5
	comp=Z,0.4nm,0.5s,mb3.4,baz=250,slow=20,SNR=2.8						
BRTR	Keskin Array B	80.55	311	P	P	12 41 00.0	+1.1
	comp=Z,2.7nm,1.0s,mb3.9,baz=113,slow=5.1,SNR=7.4						
BRTR	Keskin Array B	80.55	311	P	P	12 41 00.0	+1.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PDAR	Pinedale Array	83.26	43	P	P	12 41 14.2	+1.5
	comp=Z,0.6nm,0.9s,mb3.4,baz=180,slow=1.5,SNR=4.9						
DAU	Daniels Canyon	83.65	46	*e*P	P	12 41 18.1	+3.4

STR 15 13:28:30.3±0.3, 43.12N×0.41W, h5^{km}±1^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 15 13:28:31.0±0.5, 43.08N×0.37W, h8^{km}±3^{km}, mbLg1.4/2, Error ellipse: s-maj=3.7km s-min=1.9km az=171.0, PRXIMO

LDG 15 13:28:31.4±0.1, 43.06N×0.37W, h2^{km}, Md1.9/2, Ml1.7/3, Error ellipse: s-maj=2.9km s-min=1.7km az=154.0

ISC 15 13:28:29.4±0.6, 43.13N±0.03×0.37W±0.04, h14^{km}±5^{km}, n16, σ1^{s}03/23, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	Montagne du Re	0.06	196	Pg	Pg	13 28 32.4	+0.3
REYF				Sg	Sg	13 28 33.5	-0.5
REYF	Montagne du Re	0.06	196	Pg	Pg	13 28 32.5	+0.3
REYF				Lg		13 28 33.8	
ETSF	Etsaut	0.27	211	*e*Pg	Pg	13 28 35.4	+0.1
ETSF				*e*Sg	Sg	13 28 38.1	-1.1
	12nm,0.3s						
LABF	Labassere	0.33	104	Pg	Pg	13 28 37.5	+1.0
LABF				Sg	Sg	13 28 42.6	+1.3
LABF	Labassere	0.33	104	Pg	Pg	13 28 37.1	+0.6
LABF				Lg		13 28 41.9	
FDAF	Les Forges d'A	0.34	205	Pg	Pg	13 28 36.7	+0.1
FDAF				Sg	Sg	13 28 41.4	-0.1
FDAF	Les Forges d'A	0.34	205	Pg	Pg	13 28 36.8	+0.2
FDAF				Lg		13 28 41.4	
VIEF	Viey	0.38	130	Pg	Pg	13 28 37.7	+0.4
VIEF				Lg		13 28 42.5	
EPF	Esparros	0.53	100	*e*Pg	Pg	13 28 41.7	+1.5
EPF				*e*Sg	Sg	13 28 47.6	+0.1
	1.3nm,0.2s						
SJPF	Ste Jean	0.63	269	*e*Pg	Pg	13 28 43.3	+1.2
SJPF				*e*Sg	Sg	13 28 50.5	-0.1
	1.6nm,0.3s						
EALK	Alkurruntz	0.84	277	Pg	Pg	13 28 46.1	-0.2
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		13 28 58.5	
	7.0nm,0.6s,SNR=7.9						
ESAC	San Caprasio	1.41	183	Pg	Pg	13 28 54.5	-3.0
	SNR=7.9						
ESAC				Lg		13 29 14.3	
	3.8nm,0.2s,SNR=6.2						
MTLF	Montolieu	1.90	83	*e*Sg	Sg	13 29 31.2	-1.6
	0.9nm,0.3s						
LFF	La Frestale	1.98	23	*e*Pn	Pn	13 29 04.8	+1.9
LFF				*e*Sg	Sg	13 29 35.1	-0.3
	3.5nm,0.4s						
EJON	La Jonquera	2.49	105	Sn	Sn	13 29 39.8	-0.9
	0.0nm,0.2s,SNR=7.9						
RJF	Les Rejaudoux	2.56	31	*e*Sg	Sg	13 29 53.3	-1.5
	0.8nm,0.2s						

IDC 15 14:06:41.6±3.1, 34.75S×179.31W, mb4.0/3, mb1 4.2/4, mb1mx3.9/12, ML3.7/1, Error ellipse: s-maj=70.0km s-min=36.2km az=121.0

NEIC 15 14:06:46.9±1.2, 34.70S×179.46W, h30^{km}, mb4.2/2, Error ellipse: s-maj=25.4km s-min=17.7km az=79.0

SYO 15 14:06:46.8, 34.70S×179.46W, h30^{km}, MB4.2

ISC 15 14:06:44.8±4.0,**34.75S**±0.09×**179.6W**±0.2,**h22**^{km}±31^{km}, **n12,**σ**0^{s}39**/13,**mb4.0**/5,**1C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.75**	**207**	P	**Pn**	**14 07 42.2**	**-0.7**
PUZ				S	**Sn**	**14 08 27.2**	**+0.3**
MWZ	**Matawai**	**4.27**	**212**	P	**Pn**	**14 07 50.8**	**+0.5**
MWZ				S	**Sn**	**14 08 40.1**	**-0.1**
URZ	**Urewera**	**4.41**	**216**	Pn	**Pn**	**14 07 52.5**	**+0.3**
	3.4nm,0.3s,baz=23,slow=15,SNR=15						
URZ				Sn	**Sn**	**14 08 43.3**	**-0.2**
	5.5nm,0.3s,baz=179,slow=22,SNR=9.6						
URZ	**Urewera**	**4.41**	**216**	P	**Pn**	**14 07 52.3**	**+0.1**
ASAR	**Alice Springs**	**41.77**	**273**	P	**P**	**14 14 35.0**	**+0.6**
	1.0nm,0.5s,mb3.7,baz=116,slow=7.8,SNR=13						
WB2	**Warramunga Arr**	**43.14**	**278**	*e*P	**P**	**14 14 45.9**	**+0.3**
WRAB	**Tennant Creek**	**43.15**	**278**	*e*P	**P**	**14 14 45.5**	**-0.1**
	1.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**43.15**	**278**	P	**P**	**14 14 45.5**	**-0.2**
	0.9nm,0.4s,mb3.8,baz=118,slow=7.5,SNR=15						
FITZ	**Fitzroy Crossi**	**51.20**	**274**	P	**P**	**14 15 48.2**	**-0.6**
	3.4nm,1.1s,mb4.2,baz=189,slow=18,SNR=2.3						
QSPA	**South Pole Qui**	**55.37**	**180**	P	**P**	**14 16 19.0**	**0.0**
	5.6nm,1.3s,mb4.4						
SYO	**Syowa Base**	**72.59**	**194**	⇑pP	pP	14 18 22.5	+3.9
FINES	**FINESS Array B**	**148.69**	**336**	PKPbc	PKPdf	14 26 29.4	-0.6
	2.3nm,0.9s,baz=63,slow=4.3,SNR=5.3						

MDD ***15*** *14:15:48.7±0.7, 43.16N×0.40W, h10^{km}±3^{km}, mbLg1.1/1, Error ellipse: s-maj=5.9km s-min=3.3km az=9.0, PRXIMO*
LDG ***15*** *14:15:48.7±0.2, 43.18N×0.50W, h2^{km}, Md1.6/1, Ml1.5/1, Error ellipse: s-maj=3.3km s-min=2.3km az=12.0*
STR ***15*** *14:15:49.7±0.1, 43.06N×0.28W, h2^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 14:15:47.1±1.2,**43.20N**±0.08×**0.42W**±0.06,**h14**^{km}±15^{km}, **n9,**σ**0^{s}50**/12,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.13**	**171**	Pg	**Pg**	**14 15 51.6**	**+0.8**
REYF				Sg	**Sg**	**14 15 52.9**	**-0.3**
REYF	**Montagne du Re**	**0.13**	**171**	Pg	**Pg**	**14 15 51.7**	**+0.9**
REYF				Lg		14 15 53.0	
ETSF	**Etsaut**	**0.32**	**199**	*e*Pg	**Pg**	**14 15 54.6**	**+0.6**
ETSF				*e*Sg	**Sg**	**14 15 58.1**	**-0.4**
	4.9nm,0.2s						
FDAF	**Les Forges d'A**	**0.39**	**196**	Pg	**Pg**	**14 15 55.9**	**+0.5**
FDAF				Sg	**Sg**	**14 16 00.5**	**-0.4**
FDAF	**Les Forges d'A**	**0.39**	**196**	Pg	**Pg**	**14 15 56.1**	**+0.7**
FDAF				Lg		14 16 00.6	
VIEF	**Viey**	**0.45**	**134**	Pg	**Pg**	**14 15 56.8**	**+0.3**
VIEF				Lg		14 16 01.6	
SJPF	**Ste Jean**	**0.59**	**262**	*e*Pg	**Pg**	**14 15 58.8**	**-0.5**
EALK	**Alkurruntz**	**0.80**	**272**	Pg	**Pg**	**14 16 03.1**	**-0.1**
	0.1nm,0.2s,SNR=7.9						
EALK				Lg		14 16 15.6	
	14nm,1.4s,SNR=7.9						
MTLF	**Montolieu**	**1.93**	**85**	*e*Sg	**Sg**	**14 16 51.1**	**-0.5**
	0.6nm,0.3s						

NEIC ***15*** *14:37:46.3, 32.50S×71.79W, h22^{km}, ML3.0(GUC), After GUC.*
GUC 15 14:37:46.3±0.5,**32.50S**×**71.79W**,**h22**^{km}±6^{km},**MD3.6, ML3.0,6C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.54**	**167**	*i* P	Pb	14 37 56.7	-0.3
IHA				*i* S	Sb	14 38 04.3	-0.1
LCCH	**Las Cruces**	**0.99**	**169**	⇓*i*P	Pb	14 38 03.9	-0.8
LCCH				*i* S	Sb	14 38 16.8	-0.5
ILCH	**Illapel**	**1.01**	**32**	*i* P	Pb	14 38 04.2	-0.8
ILCH				*i* S	Sb	14 38 18.1	+0.3
ILCH				AMP		14 38 19.6	
	comp=E,432nm,0.2s						
JACH	**Jahuel**	**1.03**	**101**	⇑*i*P	Pb	14 38 05.0	-0.3
JACH				*i* S	Sb	14 38 18.8	+0.5
DSCH	**Colegio Aleman**	**1.36**	**132**	*e*P	Pn	14 38 10.2	-0.1
DSCH				*i* S	Sn	14 38 28.0	+0.2
DSCH				AMP		14 38 29.8	
	comp=N,640nm,0.2s						
CLCH	**Cerro Calan**	**1.38**	**131**	*i* P	Pn	14 38 10.4	-0.2
CLCH				*i* S	Sn	14 38 28.3	0.0
CLCH				AMP		14 38 34.9	
	comp=E,317nm,0.8s						
ANTU	**Antumapu**	**1.44**	**138**	*e*P	Pn	14 38 11.5	+0.1
ANTU				*i* S	Sn	14 38 29.9	+0.1
ANTU				AMP		14 38 35.5	
	comp=E,276nm,0.2s						
CMCH	**Combarbala**	**1.48**	**27**	*e*P	Pn	14 38 11.7	-0.3
CMCH				*i* S	Sn	14 38 31.3	+0.5
CMCH				AMP		14 38 35.2	
	comp=E,1µm,0.5s						
LNV	**Longovilo**	**1.49**	**168**	*e*P	Pn	14 38 11.9	-0.1
FCH	**Farellones**	**1.51**	**124**	⇑*i*P	Pn	14 38 12.7	+0.3
FCH				*i* S	Sn	14 38 32.6	+1.2
FCH				AMP		14 38 34.2	
	comp=E,251nm,0.2s						
PCH	**Pirque**	**1.55**	**137**	⇑*i*P	Pn	14 38 13.1	+0.1
PCH				*i* S	Sn	14 38 33.1	+0.6
CHCH	**Chadas Angostu**	**1.72**	**147**	*e*P	Pn	14 38 15.8	+0.5
CHCH				*i* S	Sn	14 38 37.7	+0.9
LMEL	**Las Melosas**	**1.89**	**136**	⇑*i*P	Pn	14 38 18.6	+0.8
LMEL				*i* S	Sn	14 38 43.1	+1.9
LMEL				AMP		14 38 47.3	
	comp=N,293nm,0.2s						
CACH	**El Canelo**	**1.90**	**149**	⇑*i*P	Pn	14 38 19.1	+1.2
CACH				*i* S	Sn	14 38 44.4	+3.1
CICH	**Cipreses**	**2.15**	**148**	⇑*i*P	Pn	14 38 22.1	+0.6
SFDO	**San Fernando**	**2.21**	**163**	*i* P	Pn	14 38 24.5	+2.2

MDD ***15*** *14:41:29.5±0.5, 43.07N×0.64W, h6^{km}±5^{km}, mbLg1.1/6, Error ellipse: s-maj=4.4km s-min=2.5km az=21.0, PRXIMO*
STR ***15*** *14:41:29.1±0.1, 43.08N×0.62W, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***15*** *14:41:29.5±0.1, 43.07N×0.64W, h10^{km}, Md1.9/2, Ml1.7/1, Error ellipse: s-maj=1.7km s-min=1.1km az=22.0*
ISC 15 14:41:28.9±0.6,**43.07N**±0.04×**0.63W**±0.04,**h10**^{km},**n15,** σ**0^{s}66**/21,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.17**	**91**	Pg	**Pg**	**14 41 33.6**	**+0.7**
REYF				Lg		14 41 36.6	
ETSF	**Etsaut**	**0.18**	**164**	*e*Pg	**Pg**	**14 41 33.6**	**+0.6**
ETSF				*e*Sg	**Sg**	**14 41 35.9**	**+0.2**
	38nm,0.2s						
FDAF	**Les Forges d'A**	**0.26**	**170**	Pg	**Pg**	**14 41 34.7**	**+0.3**
FDAF				Sg	**Sg**	**14 41 38.5**	**+0.4**
FDAF	**Les Forges d'A**	**0.26**	**170**	Pg	**Pg**	**14 41 34.9**	**+0.5**
FDAF				Lg		14 41 38.6	
ORDF	**Ordiarp**	**0.27**	**302**	Pg	**Pg**	**14 41 34.7**	**+0.2**
ORDF				Sg	**Sg**	**14 41 38.6**	**+0.3**
ORDF	**Ordiarp**	**0.27**	**302**	Pg	**Pg**	**14 41 34.8**	**+0.3**
ORDF				Lg		14 41 38.6	
LARF	**Larrau**	**0.27**	**262**	Pg	**Pg**	**14 41 34.8**	**+0.2**
LARF				Sg	**Sg**	**14 41 39.0**	**+0.7**
LARF	**Larrau**	**0.27**	**262**	Pg	**Pg**	**14 41 34.8**	**+0.3**
LARF				Lg		14 41 39.0	
SJPF	**Ste Jean**	**0.44**	**275**	*e*Pg	**Pg**	**14 41 37.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**14 41 43.3**	**-0.6**
	7.7nm,0.2s						
VIEF	**Viey**	**0.51**	**111**	Pg	**Pg**	**14 41 39.5**	**+0.2**
VIEF				Lg		14 41 46.4	
EALK	**Alkurruntz**	**0.66**	**283**	Pg	**Pg**	**14 41 41.4**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		14 41 49.8	
	2.0nm,0.1s,SNR=9.1						
EPF	**Esparros**	**0.71**	**93**	*e*Pg	**Pg**	**14 41 43.5**	**+0.3**
EPF				*e*Sg	**Sg**	**14 41 52.7**	**-0.1**
	1.3nm,0.2s						
EGRA	**Graus**	**1.12**	**141**	Pg	**Pg**	**14 41 49.8**	**-1.6**
	0.4nm,0.2s,SNR=4.0						
EGRA				Lg		14 42 06.8	
	0.3nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.36**	**175**	Pg	**Pg**	**14 41 54.9**	**-1.2**
	2.3nm,0.2s,SNR=7.9						
ESAC				Lg		14 42 13.6	
	4.3nm,0.2s,SNR=8.7						
CAF	**Calviac**	**2.68**	**45**	*e*Sg	**Sg**	**14 42 53.8**	**-4.5**
	0.4nm,0.2s						

INET ***15*** *14:54:02.5, 11.40N×87.75W, h10^{km}, MD3.2*
UCR ***15*** *14:54:08.2, 10.45N×87.82W, h35^{km}, MD4.2*
CASC 15 14:54:04.6±2.1,**11.43N**×**87.63W**,**h25**^{km}±45^{km},**MD3.7, 1C-2D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYN	**Poneloya**	**1.12**	**32**	⇑*e*P	Pn	14 54 24.7	-0.2
PYN				*e*S	Sb	14 54 40.5	+1.2
LEON	**Leon**	**1.22**	**36**	*e*P	Pn	14 54 25.3	-1.0
LEON				*e*S	Sn	14 54 42.9	+0.8
COPN	**Copaltepe**	**1.26**	**54**	⇓*e*P	Pn	14 54 26.1	-0.8
COPN				*e*S	Sn	14 54 44.9	+1.7
MIRN	**Miramar**	**1.35**	**42**	*e*P	Pn	14 54 27.5	-0.6
TEL3	**Telica 3**	**1.37**	**34**	*e*P	Pn	14 54 27.7	-0.8
CNGN	**Cerro Negro**	**1.40**	**41**	⇓*e*P	Pn	14 54 28.1	-0.8
MOMJ	**Momotombo**	**1.44**	**48**	*e*P	Pn	14 54 28.8	-0.7
TICN	**Ticuantepe**	**1.50**	**66**	*e*P	Pn	14 54 29.6	-0.7
JCR	**Jicaral**	**2.94**	**122**	*e*P	Pn	14 54 49.3	-1.5
JCR				*e*S	Sn	14 55 24.8	-0.8
CGA2	**Cerro Gallo 2**	**3.42**	**114**	*e*P	Pn	14 54 57.7	0.0
CGA2				*e*S	Sn	14 55 37.6	-0.2
PRS1	**Puriscal**	**3.57**	**113**	*e*P	Pn	14 54 59.9	+0.1
LAJ	**Bijagual**	**3.79**	**114**	*e*P	Pn	14 54 57.9	-5.0
LAJ				*e*S	Sn	14 55 38.7	-8.5
URSC	**Urasca**	**4.11**	**112**	*e*P	Pn	14 55 08.1	+0.6
URSC				*e*S	Sn	14 55 54.8	-0.6

IDC ***15*** *15:04:60.0±0.7, 0.40N×122.31E, h110^{km}±7^{km}, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, MS3.6/2, Ms1 3.7/2, ms1mx2.8/24, Error ellipse: s-maj=31.6km s-min=10.5km az=67.0*
NEIC ***15*** *15:04:60.0±0.4, 0.41N×122.36E, mb4.4/11, Error ellipse: s-maj=18.9km s-min=5.4km az=61.0*
ISC 15 15:04:58.4±0.3,**0.38N**±0.05×**122.36E**±0.09,**h110**^{km}, **h110**^{km}±.9^{km}**:pP-P,n44,**σ**0^{s}87**/44,**mb4.4**/25,**1C-2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**6.54**	**357**	⇓*i*P	**P**	**15 06 34.0**	**+0.5**
PAGZ	**Pagadian**	**7.49**	**8**	*e*P	**P**	**15 06 46.1**	**-0.3**
BUKP	**Musuan**	**7.92**	**20**	*e*P	**P**	**15 06 52.1**	**-0.2**
KKM	**Kota Kinabalu**	**8.32**	**313**	⇓*e*P	**P**	**15 06 58.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.64**	**170**	*e*P	**P**	**15 09 11.0**	**+0.8**
	11nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.64**	**170**	P	**P**	**15 09 10.3**	**+0.1**
	2.6nm,0.3s,baz=6.9,slow=9.0,SNR=64						
WRAB	**Tennant Creek**	**23.36**	**150**	*e*P	**P**	**15 09 58.4**	**+0.6**
	43nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**23.36**	**150**	P	**P**	**15 09 59.1**	**+1.2**
	11nm,0.6s,mb4.4,baz=325,slow=10,SNR=80						
WRA				PcP	PcP	15 13 41.9	-1.3
	0.4nm,0.5s,baz=330,slow=2.0,SNR=4.7						
WB2	**Warramunga Arr**	**23.36**	**150**	*e*P	**P**	**15 09 58.7**	**+0.8**
ASPA	**Alice Springs**	**26.40**	**156**	*e*P	**P**	**15 10 26.7**	**+0.1**
ASAR	**Alice Springs**	**26.40**	**156**	P	**P**	**15 10 26.8**	**+0.2**
	3.6nm,0.5s,mb4.1,baz=343,slow=14,SNR=73						
ASAR				PcP	PcP	15 13 48.8	-1.0
	2.4nm,0.9s,baz=341,slow=2.3,SNR=11						
ASAR				LR	LR	15 21 04.1	
	comp=Z,53nm,20.0s,baz=320,slow=36						
CMAR	**Chiang Mai Arr**	**29.18**	**309**	P	**P**	**15 10 52.0**	**+0.2**
	1.3nm,0.7s,mb3.7,baz=129,slow=7.4,SNR=6.7						
CMAR				PcP	PcP	15 13 56.1	-0.5
	1.6nm,0.9s,baz=167,slow=3.2,SNR=5.3						
CTA	**Charters Tower**	**31.01**	**132**	P	**P**	**15 11 08.6**	**+0.6**
	2.8nm,1.0s,mb3.9,baz=302,slow=12,SNR=3.7						
CTA	**Charters Tower**	**31.01**	**132**	P	**P**	**15 11 08.6**	**+0.6**
FORT	**Forrest**	**31.45**	**171**	*e*P	**P**	**15 11 11.4**	**-0.3**
	124nm,0.6s						
KLBR	**Kellerberrin**	**32.09**	**187**	⇑*i*P	**P**	**15 11 16.4**	**-0.9**
	19nm,0.5s,mb5.1						
MUN	**Mundaring**	**32.70**	**190**	*e*P	**P**	**15 11 21.8**	**-0.8**
	5.2nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**33.48**	**188**	P	**P**	**15 11 28.6**	**-0.6**
	16nm,0.6s,mb5.0,baz=39,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**36.89**	**152**	*e*P	**P**	**15 11 58.7**	**+0.6**
	5.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**36.89**	**152**	P	**P**	**15 11 58.4**	**+0.3**
	5.3nm,0.6s,mb4.7,baz=326,slow=7.4,SNR=23						
LSA	**Lhasa**	**41.64**	**317**	*e*P	**P**	**15 12 39.2**	**+1.6**
	3.7nm,0.4s,mb4.5						
PKI	**Pulchoki**	**44.57**	**311**	*e*P	**P**	**15 13 02.5**	**+1.2**
	5.3nm,0.3s,mb4.7						
KKN	**Kakani**	**44.78**	**311**	*e*P	**P**	**15 13 03.5**	**+0.5**
	7.2nm,0.5s,mb4.6						
DMN	**Daman**	**44.82**	**310**	*e*P	**P**	**15 13 03.8**	**+0.5**
	14nm,0.7s,mb4.8						
GKN	**Gorkha**	**45.38**	**311**	*e*P	**P**	**15 13 06.5**	**-1.2**
	16nm,0.5s,mb5.0						
KOLN	**Koldanda**	**46.05**	**310**	*e*P	**P**	**15 13 13.2**	**+0.1**
	19nm,0.7s,mb5.0						
HYB	**Hyderabad**	**46.29**	**294**	*i* P	**P**	**15 13 15.0**	**-0.1**
HYB	**Hyderabad**	**46.29**	**294**	*e*P	**P**	**15 13 15.0**	**-0.1**
ASAJ	**Asahikawa**	**47.13**	**20**	P	**P**	**15 13 20.9**	**-0.4**
	2.7nm,0.4s,mb4.3,baz=225,slow=17,SNR=5.0						
SONM	**Songino Array**	**49.26**	**346**	P	**P**	**15 13 37.4**	**-0.4**
	0.7nm,0.4s,mb3.9,baz=166,slow=8.8,SNR=9.8						
SONM				pP	pP	15 14 02.9	-1.0
	0.9nm,0.6s,baz=165,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**57.96**	**329**	P	**P**	**15 14 41.0**	**-0.6**
	2.1nm,0.4s,mb4.5,baz=125,slow=9.0,SNR=31						
MKAR				pP	pP	15 15 07.6	-0.8
	2.1nm,0.8s,baz=123,slow=8.3,SNR=4.4						
KZA	**Kyzart**	**59.27**	**321**	P	**P**	**15 14 52.0**	**+1.2**
	SNR=6.5						
TKM2	**Tokmak 2**	**59.49**	**322**	P	**P**	**15 14 52.9**	**+0.6**
	SNR=18						
KBK	**Karagaybulak**	**59.76**	**321**	P	**P**	**15 14 55.1**	**+0.9**
	SNR=6.7						
AML	**Almayashu**	**60.29**	**320**	P	**P**	**15 14 58.6**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**60.36**	**321**	P	**P**	**15 14 58.3**	**+0.1**
	SNR=8.4						
EKS2	**Erkin-Say**	**60.50**	**321**	P	**P**	**15 15 00.0**	**+0.8**
	SNR=10						
KURK	**Kurchatov**	**62.33**	**330**	*e*P	**P**	**15 15 10.1**	**-1.3**
	13nm,0.6s,mb5.1						
BVAR	**Borovoye Array**	**67.83**	**329**	P	**P**	**15 15 45.3**	**-1.4**
	3.0nm,0.9s,mb4.1,baz=140,slow=12,SNR=10						
BVAR				pP	pP	15 16 13.4	-0.9
	1.8nm,0.9s,baz=90,slow=4.4,SNR=3.6						
BRVK	**Borovoye**	**67.90**	**329**	*e*P	**P**	**15 15 45.8**	**-1.4**
	2.4nm,0.7s,mb4.1						
BRVK				*e*pP	pP	15 16 13.3	-1.4
ZRNK	**Zerenda**	**68.51**	**329**	*e*P	**P**	**15 15 49.2**	**-1.7**
	4.6nm,1.0s,mb4.3						
ZRNK				*e*pP	pP	15 16 16.4	-2.1
VNDA	**Vanda**	**80.71**	**172**	P	**P**	**15 17 00.2**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=318,slow=7.7,SNR=8.0						
VNDA				LR	LR	15 53 01.4	
	comp=Z,82nm,21.1s,baz=81,slow=36						
BRTR	**Keskin Array B**	**88.77**	**310**	P	**P**	**15 17 40.4**	**-0.9**
	0.8nm,0.8s,mb3.8,baz=108,slow=3.9,SNR=4.1						
BRTR				pP	pP	15 18 10.0	-0.2
	0.3nm,0.4s,baz=90,slow=4.3,SNR=1.5						
QSPA	**South Pole Qui**	**90.31**	**180**	P	**P**	**15 17 45.0**	**-2.5**
	0.6nm,0.5s,mb4.0						

NIED ***15*** *15:36:00, 43.60N×131.80E, h620^{km}, Mw4.9 Best double couple: M$_0$2.62×10^{16} NP1:ϕ_s330°, δ87°, λ-86°. NP2:ϕ_s94°, δ5°, λ-146°.*
JMA ***15*** *15:36:54.7±0.2, 43.57N×131.78E, h657^{km}, M4.3*
MOS ***15*** *15:36:56.1±0.7, 43.40N×131.08E, h548^{km}, mb4.5/23, Error ellipse: s-maj=10.0km s-min=7.1km az=103.0*
NEIC ***15*** *15:36:56.8±0.1, 43.39N×131.02E, mb4.6/74, Error ellipse: s-maj=3.9km s-min=3.1km az=150.0*
SKHL ***15*** *15:36:57.0±0.7, 43.43N×131.03E, h550^{km}±30^{km}, mb5.2/9, msh5.1/6*
IDC ***15*** *15:36:57.2±0.5, 43.41N×131.00E, h547^{km}±5^{km}, mb3.9/34, mb1 4.0/39, mb1mx4.0/40, Error ellipse: s-maj=7.2km s-min=6.3km az=76.0*
BJI ***15*** *15:36:57.7, 43.41N×130.94E, h555^{km}, mB5.0, mb5.1*
ISC 15 15:36:56.3±0.2,**43.37N**±0.02×**131.11E**±0.02,**h545**^{km}±2^{km}, **h539**^{km}±2.5^{km}**:pP-P,n384,**σ**1^{s}03**/419,**mb4.5**/112,**59C-30D, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**1.66**	**319**	P	**P**	**15 38 06.5**	**+2.0**
MDJ				S	**S**	**15 39 01.8**	**+3.2**
MDJ	**Mudanjiang**	**1.66**	**319**	⇑*i*P	**P**	**15 38 06.4**	**+1.9**
MDJ				*e*S	**S**	**15 38 57.3**	**-1.3**
CN2	**Changchun**	**4.13**	**278**	⇑*i*P	**P**	**15 38 20.6**	**+1.2**
CN2				*e*S	**S**	**15 39 27.4**	**+2.0**
CN2				SCS	ScS	15 50 33.5	-3.9
TEY	**Ternei**	**4.29**	**65**	⇑*i*P	**P**	**15 38 20.0**	**-0.6**
TEY				⇑*i*P		15 38 20.1	
TEY				AMB	AMB	15 38 20.5	
	1µm,1.0s						
TEY				AMB	AMB	15 38 20.5	
	1µm,1.0s						
TEY				AMB	AMB	15 38 20.5	
	3µm,2.0s						
TEY				AMB	AMB	15 38 21.0	
	620nm,0.9s						
TEY				*i* S	**S**	**15 39 28.0**	**+0.5**
TEY				A		15 39 30.0	
	1µm,3.0s						
TEY				A		15 39 30.0	
	2µm,3.0s						
TEY				A		15 39 31.0	
	110nm,0.8s						
TEY				A		15 39 31.0	
	180nm,1.0s						
SNY	**Shenyang**	**5.77**	**257**	⇑*i*P	**P**	**15 38 35.4**	**+2.1**
KLR	**Kul'dur**	**5.88**	**4**	⇑*i*P	**P**	**15 38 35.0**	**+0.7**
KLR				AMB	AMB	15 38 36.5	
	44nm,1.0s						
KLR				AMB	AMB	15 38 36.5	
	200nm,1.0s						
KLR				*i* S	**S**	**15 39 53.5**	**+1.4**
KLR				A		15 39 55.0	
	610nm,1.6s						
KLR				A		15 39 57.5	
	3µm,4.0s						
KLR				A		15 39 57.5	
	2µm,4.0s						
KLR	**Kul'dur**	**5.88**	**4**	*c i*P	**P**	**15 38 35.0**	**+0.7**
KLR				*i* S	**S**	**15 39 53.5**	**+1.4**
KLR				pmax	pmax		
	comp=N,44nm,1.0s						
KLR				pmax	pmax		
	comp=Z,200nm,1.0s						
KLR				smax			
	comp=N,610nm,1.6s						
KLR				smax			
	comp=N,3µm,4.0s						
KLR				smax			
	comp=E,2µm,4.0s						
INCN	**Inchon**	**6.80**	**212**	⇑*i*P	**P**	**15 38 44.9**	**+1.9**
	comp=E,461nm,0.8s						
INCN				*e*S	**S**	**15 40 12.3**	**+4.5**
JHG	**Hegura jima**	**7.07**	**139**	P	**P**	**15 38 46.5**	**+0.9**
JOG2	**Oga 2**	**7.37**	**115**	P	**P**	**15 38 48.1**	**-0.4**
JSD	**Sado**	**7.61**	**132**	P	**P**	**15 38 50.6**	**-0.3**
JOT	**Ohata**	**7.63**	**102**	P	**P**	**15 38 49.2**	**-1.8**
JKG	**Kaga**	**8.15**	**149**	P	**P**	**15 38 56.7**	**+0.5**
JRG	**Rokugo**	**8.19**	**116**	P	**P**	**15 38 55.2**	**-1.4**
GRNR	**Gornyy**	**8.24**	**24**	⇓*i*P	**P**	**15 38 56.6**	**-0.5**
GRNR				AMB	AMB	15 38 58.3	
	comp=E,48nm,0.8s						
GRNR				AMB	AMB	15 38 58.3	
	comp=E,28nm,0.8s						
GRNR				AMB	AMB	15 38 58.3	
	comp=E,100nm,0.8s						
GRNR				*i* S	**S**	**15 40 34.1**	**+0.7**
GRNR				A		15 40 35.6	
	comp=E,130nm,1.0s						
JKSM	**Kasumi**	**8.25**	**159**	P	**P**	**15 38 58.2**	**+1.0**
JTT	**Ttatey**	**8.28**	**143**	P	**P**	**15 38 57.9**	**+0.4**
JKY	**Yasaka**	**8.33**	**157**	P	**P**	**15 38 58.8**	**+0.8**
ASAJ	**Asahikawa**	**8.36**	**81**	P	**P**	**15 38 57.4**	**-0.9**
	comp=E,96nm,0.3s,baz=252,slow=7.2,SNR=291						
ASAJ				S	**S**	**15 40 35.5**	**+0.1**
	comp=E,0.6nm,0.3s,baz=339,slow=30,SNR=6.9						
ASAJ	**Asahikawa**	**8.36**	**81**	P	**P**	**15 38 57.4**	**-0.9**
ASAJ				S	**S**	**15 40 35.6**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,97nm,0.3s						
DL2	**Dalian**	**8.43**	**241**	P	**P**	**15 39 01.0**	**+2.0**
DL2				S	**S**	**15 40 40.0**	**+3.2**
DL2				AMB	AMB		
	comp=Z,68nm,1.0s						
JHS	**Saijyo**	**8.51**	**169**	P	**P**	**15 39 01.1**	**+1.3**
JHS				S	**S**	**15 40 43.0**	**+4.7**
JHK	**Hiroka**	**8.60**	**133**	P	**P**	**15 38 59.5**	**-1.2**
JHK				S	**S**	**15 40 38.6**	**-1.3**
MAJO	**Matsushiro**	**8.73**	**139**	⇓*e*P	**P**	**15 39 00.8**	**-1.2**
	comp=Z,41nm,0.7s						
MAT	**Matsushiro**	**8.73**	**139**	P	**P**	**15 39 00.5**	**-1.6**
MAT				S	**S**	**15 40 41.9**	**-0.4**
MAT	**Matsushiro**	**8.73**	**139**	P	**P**	**15 39 00.7**	**-1.4**
MAT				S	**S**	**15 40 41.9**	**-0.4**
MAT	**Matsushiro**	**8.73**	**139**	*e*P	**P**	**15 39 01.0**	**-1.1**
	comp=Z,37nm,0.6s						
MAT				*e*S	**S**	**15 40 42.0**	**-0.3**
JWT	**Wachi**	**8.74**	**156**	P	**P**	**15 39 03.0**	**+0.9**
JWT				S	**S**	**15 40 44.7**	**+2.3**
JMK	**Ichinoseki**	**8.81**	**117**	P	**P**	**15 39 00.5**	**-2.4**
JMK				S	**S**	**15 40 39.1**	**-4.8**
YSS	**Yuzh-Sakhalins**	**8.97**	**62**	⇓*e*P	**P**	**15 39 03.5**	**-1.0**
YSS				AMB	AMB	15 39 06.1	
	comp=Z,70nm,0.8s						
YSS				AMB	AMB	15 39 06.1	
	comp=Z,150nm,0.8s						
YSS				*e*S	**S**	**15 40 46.1**	**-0.7**
YSS				A		15 40 48.4	
	comp=Z,110nm,1.1s						
YSS				A		15 40 48.4	
	comp=Z,80nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.97**	**62**	⇓*e*P	**P**	**15 39 03.5**	**-1.0**
YSS				*e*S	**S**	**15 40 46.1**	**-0.7**
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,70nm,0.8s						
YSS				pmax	pmax		
	comp=Z,150nm,0.8s						
YSS				smax			
	comp=N,110nm,1.1s						
YSS				smax			
	comp=E,80nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.97**	**62**	⇓*e*P	**P**	**15 39 03.6**	**-0.9**
	comp=E,132nm,0.6s						
JFT	**Otama**	**9.15**	**127**	P	**P**	**15 39 04.4**	**-1.9**
JFT				S	**S**	**15 40 47.1**	**-2.9**
JMM	**Marumori**	**9.19**	**123**	P	**P**	**15 39 04.2**	**-2.5**
JMM				S	**S**	**15 40 46.2**	**-4.6**
JRY	**Ryogami san**	**9.49**	**138**	P	**P**	**15 39 09.0**	**-0.7**
JRY				S	**S**	**15 40 52.8**	**-3.5**
UGL	**Uglegorsk**	**9.50**	**49**	⇓*i*P	**P**	**15 39 09.0**	**-0.8**
UGL				AMB	AMB	15 39 10.0	
	comp=E,700nm,1.4s						
UGL				AMB	AMB	15 39 10.0	
	comp=E,160nm,0.9s						
UGL				AMB	AMB	15 39 10.0	
	comp=E,260nm,0.9s						
UGL	**Uglegorsk**	**9.50**	**49**	⇓*i*P	**P**	**15 39 09.0**	**-0.8**
UGL				S	**S**	**15 40 55.0**	**-1.5**
UGL				pmax	pmax		
	comp=Z,260nm,0.9s						
UGL				pmax	pmax		
	comp=Z,700nm,1.4s						
UGL				smax			
	comp=E,2µm,6.0s						
JFK	**Kawauchi**	**9.56**	**126**	P	**P**	**15 39 07.4**	**-3.1**
JFK				*e*S	**S**	**15 40 52.7**	**-5.0**
EKMR	**Ekimchan**	**9.78**	**7**	*i* P	**P**	**15 39 12.3**	**-0.3**
EKMR				AMB	AMB	15 39 12.9	
	comp=E,15nm,0.5s						
EKMR				AMB	AMB	15 39 12.9	
	comp=E,7.0nm,0.5s						
EKMR				AMB	AMB	15 39 12.9	
	comp=E,37nm,0.5s						
EKMR				*i* S	**S**	**15 41 02.9**	**+1.2**
HIA	**Hailar**	**9.82**	**311**	*e*P	**P**	**15 39 12.3**	**-0.8**
	comp=E,24nm,0.9s						
HIA				*e*S	**S**	**15 41 02.7**	**+0.3**
JIE	**Ise**	**9.97**	**152**	P	**P**	**15 39 15.1**	**+0.5**

JIE				*e*S	**S**	**15 41 04.8**	**-0.4**
YASR	**Yasnyy**	**10.14**	**349**	*i* P	**P**	**15 39 16.2**	**-0.1**
YASR				AMB	AMB	15 39 16.9	
	comp=E,20nm,0.6s						
YASR				AMB	AMB	15 39 16.9	
	comp=E,6.0nm,0.6s						
YASR				AMB	AMB	15 39 16.9	
	comp=E,33nm,0.6s						
JOD2	**Odawara 2**	**10.18**	**140**	P	**P**	**15 39 15.5**	**-1.3**
JOD2				S	**S**	**15 41 05.0**	**-4.2**
JNU	**Nakatsue**	**10.24**	**181**	P	**P**	**15 39 18.5**	**+1.2**
	comp=E,2.2nm,0.3s,baz=50,slow=11,SNR=23						
JNU				S	**S**	**15 41 13.5**	**+3.3**
	baz=220,slow=38,SNR=1.6						
JWZ	**Kozaga**	**10.47**	**158**	P	**P**	**15 39 19.2**	**-0.5**
JWZ				S	**S**	**15 41 14.8**	**+0.3**
ZEA	**Zeya**	**10.68**	**348**	*i* P	**P**	**15 39 21.6**	**-0.2**
ZEA				*i* P		15 39 21.6	
ZEA				AMB	AMB	15 39 22.5	
	comp=E,92nm,0.9s						
ZEA				AMB	AMB	15 39 22.5	
	comp=E,60nm,0.7s						
ZEA				AMB	AMB	15 39 22.5	
	comp=E,20nm,0.7s						
ZEA				*e*S	**S**	**15 41 19.0**	**+0.6**
ZEA				A		15 41 20.8	
	comp=E,98nm,1.6s						
ZEA				A		15 41 23.0	
	comp=E,700nm,6.0s						
ZEA				A		15 41 23.0	
	comp=E,300nm,6.0s						
YUK	**Yuzh-Kuril’sk**	**10.71**	**81**	*e*P	**P**	**15 39 21.0**	**-1.1**
YUK				*e*S	**S**	**15 41 19.0**	**+0.1**
YUK				A		15 41 21.9	
	comp=E,6µm,3.0s						
YUK	**Yuzh-Kuril’sk**	**10.71**	**81**	*e*P	**P**	**15 39 21.2**	**-0.9**
YUK				*i* S	**S**	**15 41 18.2**	**-0.7**
YUK				pmax	pmax		
	comp=Z,250nm,0.5s						
YUK				smax			
	comp=N,2µm,1.0s						
YUK				smax			
	comp=E,6µm,3.0s						
YUK				smax			
	comp=N,230nm,0.5s						
YUK				smax			
	comp=E,520nm,0.9s						
TYV	**Tymovskoe**	**10.86**	**42**⇓	*i*P	**P**	**15 39 24.0**	**+0.4**
TYV				AMB	AMB	15 39 25.2	
	comp=E,107nm,1.2s						
TYV				*e*S	**S**	**15 41 22.0**	**+0.3**
TYV				*e*S	**S**	**15 41 23.0**	**+1.3**
TYV				A		15 41 25.1	
	comp=E,526nm,2.0s						
TYV				A		15 41 27.0	
	comp=E,900nm,5.0s						
TYV				A		15 41 27.0	
	comp=E,1µm,5.0s						
TYV	**Tymovskoe**	**10.86**	**42**	*e*P	**P**	**15 39 24.0**	**+0.4**
TYV				*e*S	**S**	**15 41 21.0**	**-0.7**
TYV				smax			
	comp=N,900nm,4.0s						
TYV				smax			
	comp=E,1µm,5.0s						
KROS	**Kirovskiy**	**11.40**	**348**	*i* P	**P**	**15 39 29.4**	**+0.4**
KROS				AMB	AMB	15 39 30.0	
	comp=E,10.0nm,0.5s						
KROS				AMB	AMB	15 39 30.0	
	comp=E,19nm,0.5s						
BMKR	**Bomnak**	**11.45**	**353**	*i* P	**P**	**15 39 28.5**	**-1.0**
BMKR				AMB	AMB	15 39 29.4	
	comp=E,85nm,0.7s						
BSO1	**Boso 1**	**11.60**	**135**	P	**P**	**15 39 29.4**	**-1.7**
BSO1				S	**S**	**15 41 31.9**	**-3.7**
BJI	**Beijing**	**11.65**	**258**	P	**P**	**15 39 32.8**	**+1.2**
BJI				S	**S**	**15 41 39.3**	**+2.8**
BJI				AMB	AMB		
	comp=Z,335nm,1.7s						
BJI	**Beijing**	**11.65**	**258**	P	**P**	**15 39 32.7**	**+1.1**
	comp=Z,181nm,1.0s						
BJI				S	**S**	**15 41 39.2**	**+2.7**
BJI				sS		15 41 48.5	
BJT	**Baijiatuau**	**11.66**	**258**⇓	*i*P	**P**	**15 39 32.5**	**+0.7**
	comp=Z,129nm,0.8s						
NKL	**Nikolayevsk**	**11.67**	**30**	*e*P	**P**	**15 39 29.0**	**-2.8**
NKL				AMB	AMB	15 39 31.0	
	comp=Z,50nm,1.0s						
NKL				*e*S	**S**	**15 41 34.0**	**-2.8**
KUR	**Kuril’sk**	**12.15**	**75**	*i* P	**P**	**15 39 36.5**	**-0.2**
KUR				AMB	AMB	15 39 39.8	
	comp=Z,69nm,0.7s						
KUR				AMB	AMB	15 39 39.8	
	comp=Z,26nm,0.7s						
KUR				AMB	AMB	15 39 39.8	
	comp=Z,155nm,0.7s						
KUR				*e*S	**S**	**15 41 42.5**	**-3.3**
KUR				A		15 41 43.5	
	comp=Z,150nm,1.0s						
KUR				A		15 41 43.5	
	comp=Z,130nm,1.0s						
KUR	**Kuril’sk**	**12.15**	**75**⇑	*i*P	**P**	**15 39 36.5**	**-0.2**
KUR				S	**S**	**15 41 42.5**	**-3.3**
KUR				pmax	pmax		
	comp=N,70nm,0.7s						
KUR				pmax	pmax		
	comp=E,30nm,0.7s						
KUR				pmax	pmax		
	comp=Z,150nm,0.7s						
KUR				smax			
	comp=N,150nm,1.0s						
KUR				smax			
	comp=E,130nm,1.0s						
JHJ	**Hachijo jima 2**	**12.29**	**144**	P	**P**	**15 39 39.2**	**+1.1**
	comp=E,6.6nm,0.3s,baz=96,slow=23,SNR=4.7						
JHJ				S	**S**	**15 41 49.5**	**+1.2**
	comp=E,18nm,0.3s,baz=91,slow=21,SNR=5.9						
JHJ2	**Mitsune**	**12.31**	**143**	S	**S**	**15 41 50.0**	**+1.2**
CLNS	**Chul’man**	**14.05**	**346**	*e*P	**P**	**15 39 54.9**	**-0.8**
CLNS				*e*S	**S**	**15 42 20.7**	**+0.3**
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				smax			
	comp=N,65nm,1.1s						
CLNS				smax			
	comp=E,57nm,1.1s						
CLNS				smax			
	comp=Z,10.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,100nm,15.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s						
SSE	**Sheshan**	**14.56**	**216**	P	**P**	**15 39 58.9**	**-2.2**
SSE				S	**S**	**15 42 30.3**	**+0.2**
SSE				AMB	AMB		
	comp=Z,60nm,1.2s						
SSE				AMB	AMB		
	comp=Z,82nm,4.1s						
SSE	**Sheshan**	**14.56**	**216**	P	**P**	**15 39 58.9**	**-2.2**
	comp=Z,60nm,1.2s						
SSE				sP		15 41 52.5	
SSE				S	**S**	**15 42 30.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**14.72**	**267**	*e*P	**P**	**15 40 03.9**	**+1.3**
HHC				S	**S**	**15 42 29.9**	**-3.0**
HHC				AMB	AMB		
	comp=Z,76nm,1.0s						
NJ2	**Nanjing**	**14.87**	**225**	*e*P	**P**	**15 40 05.1**	**+1.0**
NJ2				XP		15 42 01.6	
NJ2				S	**S**	**15 42 35.0**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1µm,4.5s						
TIY	**Taiyuan**	**15.27**	**255**	PR		15 40 09.0	
TIY				S	**S**	**15 42 49.0**	**+6.2**
BTO	**Baotou**	**15.92**	**267**	*e*P	**P**	**15 40 15.8**	**+1.5**
BTO				S	**S**	**15 43 00.3**	**+6.0**
JOW	**Kunigami**	**16.66**	**189**	P	**P**	**15 40 21.8**	**+0.2**
	baz=126,slow=19						
JOW				S	**S**	**15 43 04.8**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=84,slow=30,SNR=7.7						
ULN	**Ulaanbaatar**	**17.39**	**293**⇓	*i*P	Px	15 40 57.1	
ULN				*e*ScP		15 47 48.0	
SONM	**Songino Array**	**17.83**	**293**	P	**P**	**15 40 34.3**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=100,slow=10,SNR=126						
SONM				ScP		15 47 21.4	
	comp=Z,0.4nm,0.3s,baz=148,slow=2.8,SNR=20						
BOD	**Bodaibo**	**18.00**	**329**	*e*P	**P**	**15 40 32.8**	**-1.6**
BOD				*e*		15 43 28.8	
WHN	**Wuhan**	**18.48**	**232**⇓	*i*P	**P**	**15 40 40.0**	**+0.9**
WHN				S	**S**	**15 43 41.0**	**+2.3**
WHN				SCP		15 47 24.0	
WHN				AMB	AMB		
	comp=Z,144nm,1.0s						
WHN				AMB	AMB		
	comp=Z,880nm,4.8s						
SKR	**Severo-Kuril’s**	**18.49**	**58**	*e*P	**P**	**15 40 38.0**	**-1.1**
SKR				AMB	AMB	15 40 41.0	
	comp=Z,50nm,0.6s						
SKR				AMB	AMB	15 40 41.0	
	comp=Z,30nm,0.6s						
SKR				AMB	AMB	15 40 41.0	
	comp=Z,60nm,0.6s						
CBIJ	**Chichi jima**	**18.56**	**147**	P	**P**	**15 40 40.2**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=314,slow=9.2,SNR=2.9						
YAK	**Yakutsk**	**18.71**	**358***c*	*i*P	**P**	**15 40 40.4**	**-0.7**
YAK				pmax	pmax		
	comp=Z,143nm,0.7s						
YAK	**Yakutsk**	**18.71**	**358**⇑	*i*P	**P**	**15 40 40.3**	**-0.8**
	comp=Z,169nm,0.8s						
YAK				*e*S	**S**	**15 43 39.4**	**-2.9**
YAK				*e*ScP		15 47 22.6	
XAN	**Xi’an**	**19.61**	**249**	P	**P**	**15 40 50.0**	**+0.2**
XAN				AP		15 40 55.0	
XAN				AMB	AMB		
	comp=Z,48nm,0.9s						
ZAK	**Zakamensk**	**20.19**	**300**⇑	*e*P	**P**	**15 40 55.4**	**+0.3**
MA2	**Magadan**	**20.20**	**30**	*e*P	**P**	**15 40 54.9**	**-0.1**
MA2				*e*S	**S**	**15 44 11.9**	**+4.7**
MA2				pmax	pmax		
	comp=N,30nm,0.6s						
MA2				pmax	pmax		
	comp=E,20nm,0.6s						
MA2				pmax	pmax		
	comp=Z,60nm,0.6s						
MA2	**Magadan**	**20.20**	**30**⇑	*i*P	**P**	**15 40 54.9**	**-0.1**
	comp=Z,115nm,0.6s						
MA2				*e*ScP		15 47 27.3	
TLY	**Talaya**	**20.23**	**304**⇑	*i*P	**P**	**15 40 54.5**	**-0.9**
TLY				*i* S	**S**	**15 44 08.6**	**+0.8**
TLY				*e*		15 44 44.3	
TLY				pmax	pmax		
	comp=Z,307nm,1.0s						
PET	**Petropavlovsk**	**20.63**	**52**⇓	*i*P	**P**	**15 40 59.0**	**0.0**
PET	**Petropavlovsk**	**20.63**	**52**	*e*P	**P**	**15 40 59.0**	**0.0**
PET				pmax	pmax		
	comp=Z,85nm,1.4s						
PET	**Petropavlovsk**	**20.63**	**52**	*e*P	**P**	**15 40 58.7**	**-0.3**
	comp=Z,34nm,0.7s						
ENH	**Enshi**	**21.61**	**240**	*e*P	**P**	**15 41 07.4**	**-0.8**
	comp=Z,58nm,0.9s,mb5.2						
MOY	**Mondy**	**21.84**	**303**	*e*P	**P**	**15 41 10.4**	**+0.2**
LZH	**Lanzhou**	**22.13**	**260**	⇓P	**P**	**15 41 12.8**	**-0.1**
LZH				XP		15 43 36.3	
LZH				S	**S**	**15 44 38.3**	**-0.8**
LZH				PCP	PcP	15 44 50.3	+1.0
LZH				SCP		15 47 36.3	
LZH				SCS	ScS	15 51 19.8	+0.5
LZH				AMB	AMB		
	comp=Z,95nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,314nm,5.2s						
LZH	**Lanzhou**	**22.13**	**260**	⇓P	**P**	**15 41 12.7**	**-0.2**
	comp=Z,95nm,1.3s,mb5.3						
LZH				PP	PP	15 42 31.5	+25
LZH				pP		15 42 32.7	
LZH				sP		15 43 36.3	
LZH				S	**S**	**15 44 38.2**	**-0.9**
LZH				PcP	PcP	15 44 50.2	+0.9
LZH				sS		15 47 19.5	
LZH				ScP		15 47 36.3	
LZH				ScS	ScS	15 51 19.8	+0.5
SEY	**Seymchan**	**23.17**	**25**	*e*P	**P**	**15 41 23.3**	**+1.3**
SEY				*e*		15 45 01.1	
SEY				pmax	pmax		
	comp=N,50nm,0.8s						
SEY				pmax	pmax		
	comp=E,50nm,0.8s						
SEY				pmax	pmax		
	comp=Z,140nm,0.8s,mb5.6						
GTA	**Gaotai**	**23.73**	**271**	⇓P	**P**	**15 41 28.1**	**+0.8**
GTA				XP		15 43 54.9	
GTA				PCP	PcP	15 44 51.1	-1.5
GTA				S	**S**	**15 45 06.0**	**+1.3**
GTA				SCP		15 47 37.9	
GTA				SCS	ScS	15 51 25.9	+0.3
GTA				AMB	AMB		
	comp=Z,42nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,148nm,4.6s						
CD2	**Chengdu**	**24.98**	**249**⇓	*i*P	**P**	**15 41 38.1**	**-0.4**
CD2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.4						
FX1	**Attu Island--F**	**29.26**	**56**	P	**P**	**15 42 15.8**	**+0.2**
	comp=Z,34nm,0.5s,mb5.3,baz=3.8,slow=7.8,SNR=46						
FX1	**Attu Island--F**	**29.26**	**56**	P	**P**	**15 42 15.8**	**+0.2**
FX1				pmax	pmax		
	comp=Z,34nm,0.5s						
KMI	**Kunming**	**29.47**	**241**⇓	*e*P	**P**	**15 42 17.8**	**0.0**
KMI				PP	PP	15 43 44.5	+4.2
KMI				PCP	PcP	15 45 05.6	-0.8
KMI				SCP		15 47 55.3	
KMI				AMB	AMB		
	comp=Z,53nm,1.3s,mb5.0						
KMI	**Kunming**	**29.47**	**241**⇓	*e*P	**P**	**15 42 17.7**	**-0.1**
	comp=Z,53nm,1.3s,mb5.0						
KMI				PP	PP	15 43 44.5	+4.2
KMI				PcP	PcP	15 45 05.6	-0.8
KMI				ScP		15 47 55.2	
KMI				SS	SS	15 49 05.4	-7.4
SMY	**Shemya**	**29.82**	**57**	*e*P	**P**	**15 42 20.1**	**-0.4**
	comp=Z,191nm,0.8s						
WMQ	**Urumqi**	**31.18**	**286**⇓	*i*P	**P**	**15 42 32.8**	**+0.7**
WMQ				PP	PP	15 44 04.3	+5.6
WMQ				XP	sP	15 45 05.6	-0.4
WMQ				PCP	PcP	15 45 12.5	+1.8
WMQ				S	**S**	**15 47 01.3**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,129nm,7.4s						
MKAR	**Makanchi Array**	**34.20**	**293**	P	**P**	**15 42 57.5**	**0.0**
	comp=Z,27nm,1.0s,mb4.7,baz=85,slow=9.5,SNR=76						
MKAR				S	**S**	**15 47 44.9**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=86,slow=19,SNR=3.3						
MKAR				ScP		15 48 09.1	
	comp=Z,4.5nm,0.9s,baz=79,slow=6.2,SNR=11						
LSA	**Lhasa**	**34.55**	**260**	P	**P**	**15 43 02.3**	**+1.7**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	**34.55**	**260**	*e*P	**P**	**15 43 01.6**	**+1.0**
	comp=Z,9.2nm,0.6s,mb4.5						
CHRT	**Chiangrai**	**35.16**	**238**	⇓P	**P**	**15 43 06.7**	**+0.9**
	comp=Z,332nm,1.0s						
NANT	**Nan**	**35.41**	**236**	⇓P	**P**	**15 43 08.0**	**+0.1**
	comp=Z,312nm,0.5s						
KURK	**Kurchatov**	**35.85**	**301**	*i* P	**P**	**15 43 10.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
KURK	**Kurchatov**	**35.85**	**301**⇓	*i*P	**P**	**15 43 10.7**	**-0.5**
	comp=Z,45nm,0.9s,mb5.0						
KKTK	**Khon Kaen**	**36.11**	**231**	⇓P	**P**	**15 43 14.0**	**+0.3**
	comp=Z,1µm,0.7s						
CHG	**Chiang Mai**	**36.48**	**238**	⇓P	**P**	**15 43 17.1**	**+0.4**
	comp=Z,94nm,0.8s,mb5.4						
SHL	**Shillong**	**36.49**	**254**⇓	*i*P	**P**	**15 43 13.5**	**-3.2**
	comp=Z,115nm,1.0s,mb5.4						
SHL				*e*S	**S**	**15 48 17.5**	**-4.1**
CMAR	**Chiang Mai Arr**	**36.75**	**238**	P	**P**	**15 43 19.4**	**+0.5**
	comp=Z,25nm,0.9s,mb4.8,baz=30,slow=7.6,SNR=78						
CMAR				PcP	PcP	15 45 24.9	-2.1
	comp=Z,1.3nm,0.5s,baz=353,slow=2.5,SNR=5.2						
CMAR				ScP		15 48 20.6	
	comp=Z,4.3nm,0.8s,baz=18,slow=3.1,SNR=16						
CMAR	**Chiang Mai Arr**	**36.75**	**238**	P	**P**	**15 43 19.4**	**+0.5**
CMAR						15 45 25.0	
CMAR						15 48 20.6	
CMAR				pmax	pmax		
	comp=Z,25nm,0.9s						
BDT	**Bhumibol Dam**	**37.64**	**236**	P	**P**	**15 43 27.0**	**+0.9**
TKM2	**Tokmak 2**	**39.86**	**289**	P	**P**	**15 43 44.9**	**+1.0**
	SNR=9.8						
KKN	**Kakani**	**39.87**	**262**	*e*P	**P**	**15 43 44.3**	**+0.2**
	comp=Z,91nm,0.7s,mb5.4						
PKI	**Pulchoki**	**39.90**	**262**	*e*P	**P**	**15 43 44.5**	**+0.2**
	comp=Z,163nm,1.0s,mb5.5						
NIKO	**Nikolski**	**40.08**	**54**	*e*P	**P**	**15 43 43.6**	**-1.8**
DMN	**Daman**	**40.10**	**262**	*e*P	**P**	**15 43 46.0**	**+0.1**
	comp=Z,212nm,1.3s,mb5.5						
VOSK	**Vostochnaya**	**40.17**	**305**	P	**P**	**15 43 45.6**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
GKN	**Gorkha**	**40.21**	**263**	*e*P	**P**	**15 43 46.8**	**0.0**
	comp=Z,166nm,0.9s,mb5.6						
KBK	**Karagaybulak**	**40.40**	**289**	P	**P**	**15 43 49.0**	**+0.8**
	SNR=7.4						
KZA	**Kyzart**	**40.40**	**288**	P	**P**	**15 43 49.9**	**+1.7**
	SNR=13						
CHMS	**Chumysh**	**40.41**	**290**	P	**P**	**15 43 48.5**	**+0.2**
	SNR=5.6						
BVAR	**Borovoye Array**	**40.47**	**306**	P	**P**	**15 43 48.2**	**-0.4**
	comp=Z,13nm,0.6s,mb4.6,baz=81,slow=8.0,SNR=49						
BVAR				PcP	PcP	15 45 36.7	-2.0
	comp=Z,2.6nm,0.5s,baz=84,slow=3.0,SNR=5.8						
BVAR				ScP		15 48 33.3	
	comp=Z,1.8nm,0.4s,baz=72,slow=4.7,SNR=7.4						
BVAR				S	**S**	**15 49 15.0**	**-4.3**
	comp=Z,0.6nm,0.6s,baz=59,slow=17,SNR=2.0						
USP	**Ospenovka**	**40.49**	**290**	P	**P**	**15 43 49.0**	**+0.1**
	SNR=12						
BRVK	**Borovoye**	**40.52**	**306**	P	**P**	**15 43 48.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
BRVK	**Borovoye**	**40.52**	**306**	*e*P	**P**	**15 43 48.5**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.3						
FRU	**Bishkek**	**40.56**	**289**⇓	*e*P	**P**	**15 43 50.2**	**+0.7**
FRU				*e*	pP	15 45 28.5	+1.3
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb4.8						
AAK	**Ala-Archa**	**40.72**	**289**	P	**P**	**15 43 51.2**	**+0.5**
	SNR=7.1						
KOLN	**Koldanda**	**41.09**	**264**	*e*P	**P**	**15 43 54.3**	**+0.4**
	comp=Z,230nm,0.9s						
EKS2	**Erkin-Say**	**41.20**	**290**	P	**P**	**15 43 54.8**	**+0.2**
	SNR=18						
UNV	**Unalaska Valle**	**41.28**	**53**	*e*P	**P**	**15 43 53.4**	**-1.7**
ZRNK	**Zerenda**	**41.30**	**306**	P	**P**	**15 43 55.1**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**41.30**	**306**⇓	*i*P	**P**	**15 43 55.1**	**-0.2**
	comp=Z,53nm,0.6s,mb5.2						
AML	**Almayashu**	**41.45**	**289**	P	**P**	**15 43 57.8**	**+1.1**
	SNR=26						
JOSI	**Joshimath**	**42.50**	**270**	*e*P	**P**	**15 44 06.5**	**+1.5**
KLP	**Kalpa**	**42.94**	**272**	*e*P	**P**	**15 44 08.9**	**+0.4**
KLP				*e*		15 44 11.1	
	comp=Z,87nm,1.0s						
KKAR	**Karatay Array**	**43.27**	**291**	*i* P	**P**	**15 44 10.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
DDI	**Dehra Dun**	**43.72**	**271**	*e*	**P**	**15 44 14.0**	**-0.6**
SDNR	**Sundarnagar**	**43.89**	**273**	*e*P	**P**	**15 44 15.4**	**-0.5**
ASOR	**Ausora**	**44.78**	**269**	*e*P	**P**	**15 44 22.6**	**-0.3**
KKR	**Kurukshetra**	**44.81**	**271**	*e*P	**P**	**15 44 22.4**	**-0.8**
NDI	**New Delhi**	**45.22**	**270**	*e*P	**P**	**15 44 24.0**	**-2.4**
	comp=Z,97nm,0.7s,mb5.4						
AYAN	**Aya Nagar**	**45.40**	**269**	*e*P	**P**	**15 44 26.6**	**-1.1**
AYAN				*e*		15 44 28.7	
	comp=Z,42nm,1.6s						
BHGR	**Bahadurgarh**	**45.42**	**270**	*e*P	**P**	**15 44 27.4**	**-0.5**
AGRA	**Agra**	**45.51**	**267**	*e*P	**P**	**15 44 28.0**	**-0.6**
IMA	**Indian Mountai**	**45.52**	**34**	*e*P	**P**	**15 44 28.1**	**0.0**
SONA	**Sohna**	**45.56**	**269**	*e*P	**P**	**15 44 28.7**	**-0.3**
SONA				*e*		15 44 29.6	
	comp=Z,45nm,1.1s						
SVW	**Sparrevohn**	**45.56**	**41**	*e*P	**P**	**15 44 29.7**	**+1.2**
RTK	**Rohtak**	**45.62**	**270**	*e*P	**P**	**15 44 28.6**	**-0.7**
RTK				*e*		15 44 31.2	
	comp=Z,64nm,1.4s						
KUDL	**Kundal**	**46.06**	**269**	*e*P	**P**	**15 44 31.8**	**-1.0**
KUDL				*e*		15 44 34.7	
	comp=Z,34nm,1.2s						
ARU	**Arti**	**46.33**	**313**⇓	*i*P	**P**	**15 44 33.6**	**-0.8**
ARU				*e*		15 45 57.9	
ARU				*e*	pP	15 46 18.4	+3.4
ARU				*i* S	**S**	**15 50 39.3**	**-2.7**
ARU				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.1						
ARU	**Arti**	**46.33**	**313**⇓	*i*P	**P**	**15 44 33.6**	**-0.8**
ARU				*e*ScP		15 48 56.5	
KHET	**Khetri**	**46.59**	**270**	*e*P	**P**	**15 44 34.9**	**-1.9**
KHET				*e*		15 44 38.9	
	comp=Z,31nm,1.4s						
SPU	**Mount Spurr**	**47.23**	**40**	*e*P	**P**	**15 44 41.3**	**+0.1**
AB31	**Akbulak array**	**47.84**	**303**	*i* P	**P**	**15 44 45.0**	**-1.0**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb4.7						
KDAK	**Kodiak Island**	**47.91**	**45**⇑	*i*P	**P**	**15 44 45.6**	**-0.8**
	comp=Z,57nm,0.8s,mb5.2						
MCK	**McKinley**	**47.98**	**36**⇑	*e*P	**P**	**15 44 46.6**	**-0.2**
	comp=Z,14nm,0.5s,mb4.7						
MCK				*e*ScP		15 49 05.4	
FIB	**Fire Island**	**48.11**	**40**	*e*P	**P**	**15 44 48.2**	**+0.3**
COLA	**College**	**48.15**	**34**	*e*P	**P**	**15 44 47.0**	**-1.1**
PMS	**Palmer South**	**48.38**	**39**	*e*P	**P**	**15 44 49.2**	**-0.7**
PMR	**Palmer**	**48.48**	**39**	*e*P	**P**	**15 44 50.0**	**-0.6**
ILAR	**Eielson Array**	**48.57**	**34**	P	**P**	**15 44 50.5**	**-0.8**
	comp=Z,36nm,0.5s,mb5.1,baz=281,slow=6.7,SNR=349						
ILAR				PcP	PcP	15 46 04.5	-2.2
	comp=Z,3.7nm,0.8s,baz=276,slow=4.3,SNR=4.2						
ILAR				ScP		15 49 06.7	
	comp=Z,2.4nm,1.1s,baz=279,slow=3.9,SNR=4.3						
SML	**Sawmill**	**48.78**	**39**⇑	*e*P	**P**	**15 44 52.4**	**-0.5**
DIV	**Divide**	**50.16**	**39**	*e*P	**P**	**15 45 03.1**	**0.0**
	comp=Z,142nm,1.0s,mb5.3						
EYAK	**Cordova Ski Ar**	**50.37**	**40**⇑	*e*P	**P**	**15 45 04.6**	**0.0**
EYAK				*e*PcP	PcP	15 46 13.4	-0.1
EYAK				*e*pP	pP	15 46 47.4	-0.2
HYB	**Hyderabad**	**51.18**	**257**	*i* P	**P**	**15 45 10.0**	**-1.1**
HYB	**Hyderabad**	**51.18**	**257**	*e*P	**P**	**15 45 10.0**	**-1.1**
DAWY	**Dawson**	**51.88**	**34**⇑	*i*P	**P**	**15 45 14.9**	**-0.7**
INK	**Inuvik**	**52.42**	**28**	P	**P**	**15 45 19.0**	**-0.5**
	comp=Z,45nm,0.7s,mb4.9,baz=306,slow=7.5,SNR=169						
INK				ScP		15 49 23.8	
	comp=Z,7.1nm,1.1s,baz=239,slow=8.3,SNR=3.9						
INK	**Inuvik**	**52.42**	**28**⇑	*i*P	**P**	**15 45 18.8**	**-0.6**
	comp=Z,45nm,0.9s,mb4.8						
INK				*e*PcP	PcP	15 46 20.1	-1.0
INK				*e*ScP		15 49 23.5	
POO	**Poona**	**53.82**	**261**	*e*	**P**	**15 45 25.0**	**-5.0**
PMG	**Port Moresby**	**54.52**	**160**	P	**P**	**15 45 34.6**	**-0.4**
	comp=Z,4.6nm,0.9s,mb3.7,baz=24,slow=6.2,SNR=2.5						
PMG	**Port Moresby**	**54.52**	**160**	P	**P**	**15 45 34.6**	**-0.4**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KEV	**Kevo**	**54.57**	**336**	*e*p	**P**	**15 45 32.5**	**-2.1**
ARCES	**ARCESS Array B**	**55.14**	**336**	P	**P**	**15 45 37.4**	**-1.2**
	comp=Z,1.8nm,0.3s,mb3.7,baz=59,slow=7.6,SNR=47						
KAKA	**Kakadu**	**55.81**	**178**	*e*P	**P**	**15 45 43.0**	**-0.9**
	comp=Z,13nm,0.6s,mb4.3						
SIT	**Sitka**	**56.75**	**41**⇑	*i*P	**P**	**15 45 50.5**	**+0.7**
	comp=Z,20nm,0.6s,mb4.5						
OBN	**Obninsk**	**58.20**	**318***d*	*e*P	**P**	**15 45 57.8**	**-2.0**
OBN				*e*		15 53 15.9	
OBN				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.4						
RES	**Resolute Bay**	**58.33**	**13**	*e*P	**P**	**15 45 59.1**	**-1.2**
	comp=Z,53nm,0.7s,mb4.9						
DLBC	**Dease Lake**	**58.48**	**38**	P	**P**	**15 46 01.9**	**+0.3**
	comp=Z,18nm,0.8s,mb4.3,baz=286,slow=6.3,SNR=38						
DLBC	**Dease Lake**	**58.48**	**38**	*e*P	**P**	**15 46 02.2**	**+0.6**
KAF	**Kangasniemi**	**58.91**	**328**	*e*p	**P**	**15 46 00.5**	**-3.9**
	comp=Z,0.9nm,0.3s,mb3.5						
FINES	**FINESS Array B**	**59.39**	**327**	P	**P**	**15 46 05.7**	**-1.9**
	comp=Z,2.4nm,0.5s,mb3.7,baz=86,slow=7.1,SNR=34						

FINES	FINESS Array B	59.39	327	eP	P	15 46 06.1	-1.5
FITZ	Fitzroy Crossi	61.37	186	eP	P	15 46 20.6	-0.6
	comp=Z,17nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	61.37	186	P	P	15 46 20.7	-0.6
	comp=Z,21nm,0.7s,mb4.6,baz=7.7,slow=5.5,SNR=49						
GNI	Garni	61.65	300	P	P	15 46 22.9	+0.1
	comp=Z,3.9nm,0.3s,mb4.3,baz=313,slow=6.9,SNR=4.3						
GNI	Garni	61.65	300	P	P	15 46 22.9	+0.2
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YKA	Yellowknife Ar	62.17	29	P	P	15 46 25.0	-0.8
	comp=Z,16nm,0.5s,mb4.7,baz=312,slow=6.2,SNR=65						
YKA	Yellowknife Ar	62.17	29	P	P	15 46 25.0	-0.8
YKA				pmax	pmax		
	comp=Z,16nm,0.5s						
SOC	Sochi	62.79	305	i P	P	15 46 28.6	-1.4
SOC				e		15 46 57.0	
SOC				e		15 48 55.7	
SOC				e		15 55 31.5	
SOC				eSSS	SSS	16 01 40.4	+1.7
SOC				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.7						
SOC				pmax	pmax		
	comp=N,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
WRAB	Tennant Creek	63.06	177	eP	P	15 46 30.8	-1.3
	comp=E,9.5nm,0.7s,mb4.3						
WB2	Warramunga Arr	63.07	177	eP	P	15 46 30.9	-1.2
WRA	Warramunga Arr	63.07	177	P	P	15 46 31.0	-1.1
	comp=E,5.6nm,0.6s,mb4.2,baz=353,slow=7.1,SNR=99						
WRA				PcP	PcP	15 47 03.3	-0.7
	comp=E,1.9nm,0.6s,baz=355,slow=5.1,SNR=8.6						
WRA				pP	pP	15 48 19.1	-3.4
	comp=E,1.0nm,1.0s,baz=358,slow=7.0,SNR=2.0						
WRA				ScP		15 50 10.4	
	comp=E,1.3nm,0.7s,baz=358,slow=5.6,SNR=7.1						
SUMG	Summit	64.12	357	⇑eP	P	15 46 37.6	-0.4
	comp=E,44nm,1.1s,mb4.8						
AKASG	Malin Array Be	64.37	316	P	P	15 46 37.8	-2.1
	comp=E,12nm,0.7s,mb4.4,baz=49,slow=6.4,SNR=29						
AKASG				pP	pP	15 48 27.3	-3.7
	comp=E,0.2nm,0.3s,baz=38,slow=6.6,SNR=1.2						
AKASG	Malin Array Be	64.37	316	P	P	15 46 37.8	-2.1
AKASG				*PP	pP	15 48 27.3	-3.7
AKASG				pmax	pmax		
	comp=Z,12nm,0.7s						
CTA	Charters Tower	64.66	164	eP	P	15 46 41.6	-0.7
	comp=Z,1.1nm,0.5s,mb3.5						
CTA	Charters Tower	64.66	164	P	P	15 46 42.0	-0.3
	comp=Z,1.6nm,0.6s,mb3.6,baz=10,slow=3.9,SNR=6.1						
CTAO	Charters Tower	64.66	164	eP	P	15 46 41.7	-0.5
	comp=Z,1.5nm,0.5s,mb3.7						
HFS	Hagfors	64.89	331	P	P	15 46 41.8	-1.2
	comp=Z,2.5nm,0.3s,mb4.1,baz=73,slow=6.1,SNR=34						
HFS				PcP	PcP	15 47 07.4	-3.5
	comp=Z,1.3nm,0.4s,baz=63,slow=6.6,SNR=4.3						
HFS	Hagfors	64.89	331	P	P	15 46 41.8	-1.2
HFS						15 47 07.4	
HFS				pmax	pmax		
	comp=Z,3.0nm,0.3s						
NB2	NORSAR Subarra	65.11	332	P	P	15 46 43.5	-0.9
	comp=Z,1.9nm,0.5s,mb3.8,baz=43,slow=6.2						
NOA	NORSAR Array B	65.11	332	P	P	15 46 42.9	-1.5
	comp=Z,3.3nm,0.7s,mb3.9,baz=42,slow=6.2,SNR=8.4						
NOA				PcP	PcP	15 47 09.2	-2.6
	comp=Z,1.1nm,0.6s,baz=44,slow=6.2,SNR=3.3						
NOA	NORSAR Array B	65.11	332	P	P	15 46 42.9	-1.5
NOA						15 47 09.2	
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
UMR	Umm Al-Rimmam	65.86	288	eP	P	15 46 47.9	-1.7
UMR				AMb	AMB	15 46 48.6	
	comp=Z,44nm,0.4s,mb5.3						
MIB	Mutribah	65.97	289	eP	P	15 46 49.2	-1.0
MIB				AMb	AMB	15 46 50.0	
	comp=Z,2.7nm,0.8s,mb3.8						
KBD	Kabd	66.11	288	eP	P	15 46 49.5	-1.6
RDF	Al-Radifah	66.36	288	eP	P	15 46 51.0	-1.7
RDF				AMb	AMB	15 46 53.0	
	comp=Z,56nm,0.7s,mb5.2						
MALT	Malatya	66.69	301	eP	P	15 46 54.3	-0.3
	comp=Z,9.7nm,1.0s,mb4.3						
ASAR	Alice Springs	66.75	177	P	P	15 46 54.8	-0.4
	comp=Z,2.8nm,0.4s,mb4.1,baz=349,slow=5.9,SNR=148						
ASAR				pP	pP	15 48 46.2	-1.2
	comp=Z,1.1nm,0.8s,slow=7.2,SNR=2.4						
ASPA	Alice Springs	66.75	177	eP	P	15 46 54.5	-0.7
HASS	Wahat al Ahsa’	67.15	284	P	P	15 46 56.2	-1.4
OCWA	Octopus Mounta	67.67	45	eP	P	15 47 01.1	+0.7
KWP	Kalwaria	68.27	318	eP	P	15 47 03.2	-0.8
	comp=Z,7.5nm,0.6s,mb4.4						
GNW	Green Mountain	68.48	44	P	P	15 47 05.8	+0.5
JCW	Jim Creek	68.52	43	P	P	15 47 06.0	+0.5
RPW	Rockport	68.56	43	eP	P	15 47 05.9	+0.2
BRTR	Keskin Array B	68.75	305	P	P	15 47 05.5	-1.6
	comp=Z,3.4nm,0.7s,mb4.0,baz=56,slow=4.5,SNR=12						
BRTR	Keskin Array B	68.75	305	P	P	15 47 05.5	-1.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PNT	Penticton	68.91	41	P	P	15 47 07.7	-0.1
BMW	Boistfort Moun	68.99	45	P	P	15 47 09.2	+0.8
RMW	Rattlesnake Mo	69.07	44	eP	P	15 47 09.3	+0.5
OJC	Ojcow	69.26	320	eP	P	15 47 09.3	-0.6
MLR	Muntele Rosu	69.38	313	P	P	15 47 09.0	-1.7
	comp=Z,1.7nm,0.5s,mb3.8,baz=169,slow=6.2,SNR=4.2						
MLR	Muntele Rosu	69.38	313	P	P	15 47 09.0	-1.7
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NLW	Nelson Butte	69.39	43	eP	P	15 47 11.1	+0.4
FMW	Mount Fremont	69.49	44	P	P	15 47 12.1	+0.8
LON	Longmire	69.54	45	eP	P	15 47 11.8	+0.2
SHW	Mount Saint He	69.69	45	eP	P	15 47 13.7	+1.1
EBG	Ellensburg	70.07	44	P	P	15 47 15.3	+0.7
SSOR	Sweet Springs	70.47	46	eP	P	15 47 17.8	+0.7
DPW	Davenport	70.58	42	eP	P	15 47 18.1	+0.4
WAH2	Wahluke Slope	70.67	43	P	P	15 47 18.9	+0.6
DPC	Dobruska-Polom	70.76	322	eP	P	15 47 18.6	-0.1
KEBM	Edson Butte	70.79	49	eP	P	15 47 19.8	+0.8
NEW	Newport	70.83	41	P	P	15 47 18.8	-0.4
	comp=Z,14nm,0.8s,mb4.6,baz=323,slow=5.4,SNR=37						
NEW	Newport	70.83	41	P	P	15 47 18.8	-0.4
NEW				pmax	pmax		
	comp=Z,15nm,0.8s						
NEW	Newport	70.83	41	⇑iP	P	15 47 19.3	+0.1
	comp=Z,28nm,1.2s,mb4.7						
VGB	Gordon Butte	70.90	45	eP	P	15 47 20.4	+0.8
HAWA	Hanford	70.94	44	⇑iP	P	15 47 20.3	+0.4
	comp=Z,47nm,0.9s,mb5.0						
HSO	Harness Mounta	71.03	48	eP	P	15 47 21.8	+1.3
MZLS	Mizel	71.05	285	P	P	15 47 20.0	-0.9
HBO	Huckleberry Mo	71.23	47	P	P	15 47 22.4	+0.8
KBO	Bosley Butte	71.28	49	⇑eP	P	15 47 23.0	+1.1
HILS	Ha’il	71.29	290	P	P	15 47 21.9	-0.4
VRAC	Vranov	71.38	321	P	P	15 47 22.3	-0.1
	comp=Z,3.0nm,0.8s,mb3.9,baz=56,slow=8.8,SNR=5.1						
PVCC	Panska Ves	71.41	323	eP	P	15 47 22.8	+0.3
BRG	Berggiesshubel	71.43	324	⇑iP	P	15 47 22.4	-0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
BRG	Berggiesshubel	71.43	324	⇑iP	P	15 47 22.4	-0.2
	comp=Z,3.1nm,0.7s,mb4.0						
ASF	Jabal al Asfar	71.50	297	P	P	15 47 22.1	-1.4
	comp=Z,5.6nm,0.7s,mb4.1,baz=344,slow=1.6,SNR=7.8						
CLL	Collm	71.52	324	P	P	15 47 22.5	-0.6
	comp=Z,logA/T=0.9,mb4.1						
CLL	Collm	71.52	324	i P	P	15 47 22.5	-0.6
CLL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
CLL	Collm	71.52	324	i P	P	15 47 22.5	-0.6
	comp=Z,5.0nm,0.6s,mb4.1						
VIPM	Ingram Point	71.67	46	P	P	15 47 25.0	+0.8
HUMO	Hull Mountain	71.72	48	⇑eP	P	15 47 24.6	+0.1
	comp=Z,5.0nm,0.6s,mb4.1						
PRU	Pruhonice	71.81	323	eP	P	15 47 24.8	-0.1
KRMB	Red Mountain	71.92	50	⇑eP	P	15 47 26.7	+1.0
LNOR	Lincton Mounta	71.93	43	eP	P	15 47 26.3	+0.7
FRB	Frobisher Bay	72.09	9	P	P	15 47 25.6	-0.6
	comp=Z,51nm,0.6s,mb5.1,baz=354,slow=6.5,SNR=34						
FRB	Frobisher Bay	72.09	9	P	P	15 47 25.7	-0.6
FRB				pmax	pmax		
	comp=Z,51nm,0.6s						
FFC	Flin Flon	72.34	29	⇑eP	P	15 47 27.1	-0.7
	comp=Z,42nm,1.0s,mb4.8						
YBH	Yreka Blue Hor	72.44	49	P	P	15 47 29.6	+1.0
	comp=Z,6.8nm,0.7s,mb4.2,baz=25,slow=4.1,SNR=27						
YBH	Yreka Blue Hor	72.44	49	P	P	15 47 29.6	+1.0
YBH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YBH	Yreka Blue Hor	72.44	49	⇑eP	P	15 47 29.5	+0.9
	comp=Z,19nm,1.1s,mb4.4						
AFFS	‘Afif	72.66	287	P	P	15 47 29.4	-0.8
KHC	Kasperske Hory	72.87	322	P	P	15 47 30.5	-0.3
GERES	GERESS Array B	73.02	322	P	P	15 47 30.7	-1.0
	comp=Z,1.3nm,0.7s,mb3.5,baz=36,slow=5.4,SNR=12						
WDC	Whiskeytown Da	73.32	50	⇑eP	P	15 47 33.9	+0.3
	comp=Z,25nm,1.1s,mb4.6						
CHMT	Chamberlain Mo	73.63	40	eP	P	15 47 35.4	+0.3
MOD	Modoc	73.64	48	⇑iP	P	15 47 36.1	+0.7
	comp=Z,22nm,0.9s,mb4.6						
FORT	Forrest	73.84	183	eP	P	15 47 36.7	0.0
	comp=Z,71nm,0.7s,mb5.2						
KBRS	Khaybar	74.04	290	P	P	15 47 37.7	-0.2
WVOR	Wild Horse Val	74.15	46	⇑eP	P	15 47 38.9	+0.7
	comp=Z,30nm,1.0s,mb4.7						
TBKS	Tabuk	74.29	294	P	P	15 47 39.2	-0.1
EKA	Eskdalemuir Ar	74.29	335	P	P	15 47 38.0	-0.7
	comp=Z,2.7nm,0.5s,mb4.0,baz=34,slow=4.4,SNR=15						
EKA	Eskdalemuir Ar	74.29	335	P	P	15 47 38.0	-0.7
EKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JMQS	Jabal Moqyreh	74.30	295	P	P	15 47 38.9	-0.4
HRY	Holter Researc	74.44	40	eP	P	15 47 40.5	+0.8
JMOS	Jabal al Moall	74.62	296	P	P	15 47 40.9	-0.2
OHCM	Honcut	74.77	50	eP	P	15 47 42.0	+0.3
BEKR	Beckwourth	75.02	49	⇑iP	P	15 47 43.8	+0.7
	comp=Z,26nm,0.9s,mb4.7						
BEKR				epP	pP	15 49 39.2	+0.4
BDAS	Al Bad‘	75.11	295	P	P	15 47 43.2	-0.6
TATS	Tathlith	75.17	283	P	P	15 47 44.3	0.0
BOZ	Bozeman (W)	75.32	40	⇑eP	P	15 47 45.5	+0.8
	comp=Z,29nm,0.9s,mb4.7						
BOZ				epP	pP	15 49 39.4	-1.1
MCMT	McKenzie Canyo	75.35	41	eP	P	15 47 45.4	+0.5
STKA	Stephens Creek	75.50	171	eP	P	15 47 46.3	+0.4
	comp=Z,2.0nm,0.6s,mb3.7						
STKA	Stephens Creek	75.50	171	P	P	15 47 46.2	+0.3
	comp=Z,1.6nm,0.3s,mb3.9,baz=3.3,slow=5.3,SNR=12						
HLID	Hailey	75.51	43	⇑eP	P	15 47 46.9	+1.1
	comp=Z,26nm,0.9s,mb4.7						
PAHR	Pah Rah Range	75.67	49	eP	P	15 47 47.7	+1.1
UMJS	Umm Lajj	75.73	291	P	P	15 47 47.3	0.0
WCN	Washoe City	75.75	49	⇑iP	P	15 47 48.2	+1.1
	comp=Z,15nm,1.0s,mb4.4						
QLMT	Earthquake Lak	76.03	41	eP	P	15 47 49.8	+1.2
BMN	Battle Mountai	76.32	47	⇑iP	P	15 47 51.4	+1.2
	comp=Z,34nm,1.1s,mb4.7						
DJNS	Zahran al Janu	76.33	281	P	P	15 47 51.2	+0.6
DGMT	Dagmar	76.44	34	⇑iP	P	15 47 51.0	+0.3
	comp=Z,69nm,1.1s,mb5.0						
IDI	Anoyia	76.88	306	P	P	15 47 52.0	-1.3
	comp=Z,18nm,1.1s,mb4.4,baz=0.2,slow=3.8,SNR=8.7						
NWAO	Narrogin (SRO)	76.98	192	eP	P	15 47 53.6	-0.4
MOOW	Moose Ponds	77.16	41	eP	P	15 47 56.5	+1.8
MOOW				epP	pP	15 49 51.3	+0.1
MNV	Mina	77.25	49	eP	P	15 47 56.5	+1.2
	comp=Z,17nm,0.8s,mb4.5						
TPAW	Teton Pass	77.26	41	eP	P	15 47 56.7	+1.5
OMM	Old Mammoth Mi	77.36	50	eP	P	15 47 56.9	+1.0
REDW	Red Top Meadow	77.40	41	eP	P	15 47 57.4	+1.4
HVU	Hansel Valley	77.64	43	eP	P	15 47 58.9	+1.6
AHID	Auburn Hatcher	77.73	42	eP	P	15 47 58.7	+0.9
	comp=Z,16nm,1.0s,mb4.3						
MTUM	Tungsten Hills	77.79	50	eP	P	15 47 59.6	+1.4
TPH	Tonopah	78.01	49	eP	P	15 48 00.4	+1.0
	comp=Z,34nm,0.8s,mb4.7						
TPH				epP	pP	15 49 57.8	+1.6
ULM	Lac du Bonnet	78.16	29	P	P	15 47 59.4	-0.5
	comp=Z,30nm,0.8s,mb4.7,baz=329,slow=6.2,SNR=37						
ULM	Lac du Bonnet	78.16	29	eP	P	15 47 59.4	-0.5
	comp=Z,53nm,1.0s,mb4.8						
HWUT	Hardware Ranch	78.37	43	eP	P	15 48 02.7	+1.5
	comp=Z,38nm,0.8s,mb4.8						
HWUT				epP	pP	15 49 58.1	0.0
LOR	Lormes	78.43	326	eP	P	15 48 00.7	-0.7
	comp=Z,5.5nm,0.6s,mb3.7						
PDAR	Pinedale Array	78.47	41	P	P	15 48 02.3	+0.6
	comp=Z,19nm,0.7s,mb4.5,baz=355,slow=1.3,SNR=184						
PDAR				pP	pP	15 49 58.2	-0.4
	comp=Z,2.1nm,0.8s,baz=315,slow=2.1,SNR=5.4						
LPL	La Plagne	78.63	324	eP	P	15 48 02.6	+0.1
	comp=Z,5.3nm,0.6s,mb3.8						
LPG	La Plagne	78.64	324	eP	P	15 48 02.8	+0.2
	comp=Z,8.2nm,0.6s,mb3.9						
SSF	Saint Saulge	78.74	326	eP	P	15 48 02.5	-0.6
	comp=Z,2.8nm,0.5s,mb3.5						
DUG	Dugway	78.80	45	eP	P	15 48 05.1	+1.6
	comp=Z,21nm,1.1s,mb4.4						
TCUT	Toone Canyon	78.81	43	eP	P	15 48 04.4	+0.8
FLN	La Foliniere	78.89	330	eP	P	15 48 02.3	-1.5
LDF	La Druitiere	78.89	329	eP	P	15 48 02.8	-1.0
SMF	Signal de Mont	78.94	326	eP	P	15 48 03.8	-0.3
	comp=Z,4.4nm,0.6s,mb3.7						
AVF	Avril sur Loir	79.03	326	eP	P	15 48 04.1	-0.5
	comp=Z,5.4nm,0.7s,mb3.7						
JLU	Jordanelle	79.18	43	eP	P	15 48 06.7	+1.2
MBDF	Montbardon	79.24	323	eP	P	15 48 05.1	-0.6
	comp=Z,6.6nm,0.6s,mb3.9						
GRR	Gorron	79.33	330	eP	P	15 48 05.4	-0.8
NLU	North Lily Min	79.35	44	eP	P	15 48 07.5	+1.1
DAU	Daniels Canyon	79.42	43	eP	P	15 48 08.1	+1.3
MPU	Maple Canyon	79.53	44	eP	P	15 48 08.4	+1.1
TCF	Toulx Ste Croi	79.89	327	eP	P	15 48 08.8	-0.3
	comp=Z,3.3nm,0.5s,mb3.6						
RSSD	Black Hills	79.95	37	eP	P	15 48 09.9	+0.5
	comp=Z,36nm,1.2s,mb4.6						
VIVF	Saint-Julien-l	80.04	324	eP	P	15 48 09.6	-0.3
	comp=Z,5.6nm,0.5s,mb3.8						
ROSF	Rostrenen	80.25	331	eP	P	15 48 10.7	-0.2
	comp=Z,10nm,0.9s,mb3.9						
MWC	Mount Wilson	80.32	52	eP	P	15 48 12.1	+0.6
MSU	Marysvale	80.38	45	eP	P	15 48 13.8	+2.0
MFF	Saint Martin d	80.56	328	eP	P	15 48 12.4	-0.1
SRU	San Rafael	80.77	44	eP	P	15 48 14.9	+1.0
RJF	Les Rejaudoux	80.98	327	eP	P	15 48 14.7	0.0
SCHQ	Schefferville	80.98	10	P	P	15 48 14.6	+0.1
	comp=Z,18nm,0.9s,mb4.5,baz=4.4,slow=6.0,SNR=14						
SCHQ	Schefferville	80.98	10	eP	P	15 48 14.5	-0.1
	comp=Z,37nm,1.3s,mb4.7						
LASF	Ste Croix	81.01	324	eP	P	15 48 15.0	+0.1
NEN	Nelson	81.08	49	eP	P	15 48 16.8	+1.3
LDFC	Landfair	81.36	49	eP	P	15 48 17.8	+0.9
LFF	La Frestale	81.59	327	eP	P	15 48 18.1	+0.3
	comp=Z,5.6nm,0.5s,mb4.0						
PV10	Paradox Valley	82.08	43	eP	P	15 48 22.2	+1.7
BAR	Barrett	82.23	52	eP	P	15 48 21.6	+0.2
PV01	Paradox Valley	82.50	43	eP	P	15 48 23.9	+1.3
ISCO	Idaho Springs	82.65	40	⇑eP	P	15 48 24.8	+1.5
	comp=Z,15nm,0.8s,mb4.6						
RW3	Ridgway	82.85	43	eP	P	15 48 25.1	+0.8
WUAZ	Wupatki	83.06	47	⇑eP	P	15 48 26.9	+1.5
	comp=Z,21nm,1.0s,mb4.6						
EPF	Esparros	83.33	326	eP	P	15 48 27.0	+0.3
ETSF	Etsaut	83.81	326	eP	P	15 48 29.6	+0.7
	comp=Z,4.5nm,0.7s,mb3.8						
SDCO	Great Sand Dun	84.32	42	⇑eP	P	15 48 32.7	+1.1
	comp=Z,7.6nm,0.7s,mb4.3						
ANMO	Albuquerque	86.05	44	⇑eP	P	15 48 41.6	+1.7
	comp=Z,15nm,1.3s,mb4.5						
ESDC	Sonseca Array	87.90	327	P	P	15 48 48.4	-0.1
	comp=Z,0.2nm,0.4s,baz=32,slow=3.9,SNR=4.3						
SADO	Sadowa	88.19	21	P	P	15 48 48.8	-1.0
	comp=Z,1.7nm,0.5s,mb4.0,baz=301,slow=5.8,SNR=4.7						
ALLY	Alegheny Colle	90.81	23	eP	P	15 49 02.2	+0.2
LTX	Lajitas	91.94	46	eP	P	15 49 08.8	+1.3
	comp=Z,4.4nm,0.9s,mb4.5						
JCT	Junction City	92.96	42	eP	P	15 49 12.8	+0.6
	comp=Z,6.5nm,0.8s,mb4.7						
CPCT	Cooper Cave	95.10	29	eP	P	15 49 21.5	-0.3
DBIC	Dimbokro	116.22	310	PKP	PKPdf	15 54 40.3	+2.5
	comp=Z,2.7nm,0.9s,baz=137,slow=22,SNR=2.7						
DBIC	Dimbokro	116.22	310	PKIKP	PKPdf	15 54 40.3	+2.5
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SJG	San Juan	116.80	18	PKP	PKPdf	15 54 41.5	+2.6
	comp=Z,7.7nm,0.6s,baz=290,slow=18,SNR=2.5						
SJG	San Juan	116.80	18	PKIKP	PKPdf	15 54 41.5	+2.6
SJG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TSUM	Tsumeb	119.92	271	PKP	PKPdf	15 54 46.9	+2.0
	comp=Z,0.9nm,0.6s,baz=167,slow=9.5,SNR=3.8						
MAW	Mawson	121.90	205	SKP		15 57 31.2	
	comp=Z,1.6nm,0.7s,baz=297,slow=3.9,SNR=4.9						
VNDA	Vanda	122.11	172	PKP	PKPdf	15 54 48.4	+0.5
	comp=Z,0.3nm,0.5s,baz=265,slow=7.6,SNR=1.7						
SDV	Santo Domingo	124.36	26	eP	PKPdf	15 54 54.0	+0.4
SDV				eSKPdf		15 57 37.6	
SAML	Samuel	143.50	24	ePKPdf	PKPdf	15 55 28.0	-0.8
SAML				eSKPbc		15 58 15.5	
SAML				e		15 58 28.9	
SAML				ePP	PP	15 58 45.0	-5.0
SNAA	Sanae	144.02	203	PKP	PKPdf	15 55 28.4	+0.3
	comp=Z,6.2nm,1.2s,baz=169,slow=3.2,SNR=38						
SNAA				pPKP		15 57 36.5	
	comp=Z,1.2nm,1.0s,baz=132,slow=4.1,SNR=4.7						
SNAA				SKPbc		15 58 15.1	
	comp=Z,2.3nm,0.9s,baz=166,slow=4.0,SNR=8.2						
VNA2	Neumayer--Watz	145.67	203	⇑i	PKPbc	15 55 39.1	+6.8
VNA2	Neumayer--Watz	145.67	203	⇑i	PKPab	15 55 40.5	+3.7
VNA2	Neumayer--Watz	145.67	203	⇑iP	PKPdf	15 55 38.0	+7.0
VNA2				⇑iP		15 55 39.1	
VNA2				⇑iP		15 55 40.5	
VNA1	Neumayer--Stat	146.06	203	⇑i	PKPbc	15 55 40.6	+7.3
VNA1	Neumayer--Stat	146.06	203	⇑i	PKPab	15 55 43.0	+4.8
VNA1	Neumayer--Stat	146.06	203	⇑iP	PKPdf	15 55 39.3	+7.6
VNA1				⇑iP		15 55 40.6	
VNA1				⇑iP		15 55 43.0	
VNA3	Neumayer Olymp	146.12	202	⇑i	PKPbc	15 55 40.1	+6.7
VNA3	Neumayer Olymp	146.12	202	⇑i	PKPab	15 55 42.3	+3.8
VNA3	Neumayer Olymp	146.12	202	⇑iP	PKPdf	15 55 39.2	+7.5
VNA3				⇑iP		15 55 40.1	
VNA3				⇑iP		15 55 42.3	
LPAZ	La Paz	148.42	37	PKPbc	PKPdf	15 55 43.2	+6.2
	comp=Z,7.8nm,0.9s,baz=341,slow=3.5,SNR=23						
LPAZ				PKPab	PKPab	15 55 48.3	-0.8
	comp=Z,8.3nm,0.6s,baz=17,slow=11,SNR=22						
LPAZ				SKPbc		15 58 27.7	
	comp=Z,0.9nm,0.6s,baz=31,slow=7.3,SNR=3.8						
LPAZ	La Paz	148.42	37	PKPbc	PKPdf	15 55 43.2	+6.2
LPAZ				PKPab	PKPab	15 55 48.3	-0.8
LPAZ				SKPbc		15 58 27.7	
BDFB	Brasilia	152.35	358	PKPbc	PKPdf	15 55 50.8	+7.9
	comp=Z,6.7nm,0.8s,baz=224,slow=3.4,SNR=8.4						
BDFB				PKPab	PKPab	15 56 04.0	-1.5
	comp=Z,7.4nm,1.1s,baz=65,slow=7.3,SNR=3.2						
BDFB	Brasilia	152.35	358	PKIKP	PKPdf	15 55 50.8	+7.9
BDFB						15 56 04.0	
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LVC	Limon Verde	153.47	45	PKPbc	PKPdf	15 55 53.8	+9.4
	comp=Z,2.8nm,0.6s,baz=255,slow=4.0,SNR=4.3						
LVC				PKPab	PKPab	15 56 10.6	+0.6
	comp=Z,6.6nm,0.7s,baz=279,slow=5.7,SNR=7.5						
LVC	Limon Verde	153.47	45	PKPbc	PKPdf	15 55 53.8	+9.4
LVC				ePKPab	PKPab	15 56 10.2	+0.1
LVC				PKPab	PKPab	15 56 10.6	+0.6
CPUP	Villa Florida	161.66	25	PKPab	PKPab	15 56 43.2	-1.8
	comp=Z,5.7nm,0.8s,baz=317,slow=4.2,SNR=7.5						
CPUP	Villa Florida	161.66	25	PKP2	PKPab	15 56 43.3	-1.8
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.9s						

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*IDC **15** 15:56:14.3±1.6, 17.75S×178.78W, h561km±17km, mb3.5/14, mb1 3.7/14, mb1mx3.7/17, Error ellipse: s-maj=16.0km s-min=10.7km az=153.0*

*NEIC **15** 15:56:15.4±2.2, 17.74S×178.80W, h577km±25km, mb4.3/12, Error ellipse: s-maj=12.6km s-min=10.4km az=89.0*

*SYO **15** 15:56:15.4, 17.74S×178.80W, h577km, MB4.3*

ISC 15 15:56:13.4±2.0**, 17.74S**±0.09×**178.84W**±0.08**, h563**km±25km**, n50, σ0.90**/47**, mb4.2**/24**, 3C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.75	189	P	P	16 00 15.5	-1.2
	14nm,0.9s,baz=107,slow=19						
RPZ	Rata Peaks	27.27	196	P	P	16 01 13.5	-1.3
	9.0nm,0.8s,mb4.5,baz=61,slow=19,SNR=3.2						
ARMA	Armidale	29.67	239	eP	P	16 01 36.7	+0.9
CTA	Charters Tower	33.07	260	eP	P	16 02 04.6	0.0
	13nm,0.9s,mb4.5						
CTAO	Charters Tower	33.07	260	eP	P	16 02 04.6	0.0
	25nm,1.2s,mb4.6						
CNB	Canberra Magne	33.20	232	eP	P	16 02 06.8	+1.2
	15nm,0.5s,mb4.8						
PMG	Port Moresby	34.02	280	P	P	16 02 13.3	+0.7
	45nm,0.8s,mb5.0,baz=87,slow=5.6,SNR=25						
PMG	Port Moresby	34.02	280	eP	P	16 02 13.3	+0.7
	43nm,0.8s,mb5.0						
TOO	Toolangi	36.96	230	eP	P	16 02 37.7	+1.1
	27nm,0.9s,mb4.8						
STKA	Stephens Creek	38.35	241	⇓iP	P	16 02 49.2	+1.2
	28nm,1.0s,mb4.7						
STKA	Stephens Creek	38.35	241	P	P	16 02 49.2	+1.2
	28nm,0.8s,mb4.9,baz=89,slow=8.9,SNR=64						
ADE	Adelaide	41.38	237	eP	P	16 03 13.6	+1.2
WB2	Warramunga Arr	44.25	259	eP	P	16 03 34.2	-0.9
WRA	Warramunga Arr	44.26	259	P	P	16 03 34.5	-0.7
	14nm,0.9s,mb4.5,baz=93,slow=6.8,SNR=166						
WRA				PcP	PcP	16 05 07.0	-0.7
	2.6nm,0.8s,baz=86,slow=3.6,SNR=5.9						
WRA				ScP		16 08 06.4	
	1.2nm,0.8s,baz=91,slow=3.9,SNR=5.8						
WRA				S	S	16 09 29.5	+0.7
	0.8nm,0.9s,baz=91,slow=16,SNR=3.8						
ASAR	Alice Springs	44.44	254	P	P	16 03 36.3	-0.3
	88nm,0.5s,baz=89,slow=7.7,SNR=1776						
ASAR				PcP	PcP	16 05 07.7	-0.6
	2.6nm,0.6s,baz=99,slow=4.0,SNR=4.2						
ASAR				ScP		16 08 08.8	
	1.4nm,0.8s,baz=94,slow=4.0,SNR=6.1						
ASAR				S	S	16 09 29.9	-1.5
	0.8nm,0.9s,baz=88,slow=16,SNR=5.7						
ASPA	Alice Springs	44.44	254	⇓iP	P	16 03 36.5	-0.1
KAKA	Kakadu	47.21	269	eP	P	16 03 56.9	-1.0
	16nm,0.4s,mb4.9						
FORT	Forrest	49.71	244	eP	P	16 04 15.4	-1.0
	98nm,0.7s,mb5.3						
FITZ	Fitzroy Crossi	52.65	260	eP	P	16 04 37.3	-0.5
	5.6nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	52.65	260	P	P	16 04 37.8	0.0
	6.1nm,0.7s,mb4.1,baz=134,slow=1.9,SNR=27						
KLBR	Kellerberrin	58.53	243	eP	P	16 05 17.3	-1.1
	23nm,0.7s,mb4.5						
NWAO	Narrogin (SRO)	58.92	242	eP	P	16 05 20.6	-0.4
	1.5nm,0.5s,mb3.5						
SBA	Scott Base	60.56	183	eP	P	16 05 31.5	+0.3
	7.4nm,1.3s,mb3.9						
VNDA	Vanda	60.58	185	P	P	16 05 32.1	+0.8
	0.8nm,0.8s,baz=23,slow=5.3,SNR=4.0						
QSPA	South Pole Qui	72.31	180	eP	P	16 06 44.1	+0.8
	6.2nm,0.8s,mb4.1						
YBH	Yreka Blue Hor	78.66	39	P	P	16 07 19.4	+0.6
	2.3nm,0.7s,mb3.6,baz=150,slow=2.3,SNR=8.2						
RMW	Rattlesnake Mo	82.56	35	eP	P	16 07 39.0	+0.3
MAW	Mawson	83.88	200	P	P	16 07 45.6	+0.8
	2.6nm,0.6s,mb4.0,baz=142,slow=7.2,SNR=5.7						
MCK	McKinley	84.47	13	eP	P	16 07 46.6	-1.1
HLID	Hailey	84.78	41	eP	P	16 07 50.5	+0.8
NEW	Newport	85.62	36	P	P	16 07 53.4	-0.3
	0.6nm,0.3s,mb3.7,baz=291,slow=7.2,SNR=2.4						
COLA	College	85.70	13	P	P	16 07 53.5	-0.2
	2.7nm,1.0s,mb3.8						
ILAR	Eielson Array	85.82	13	P	P	16 07 53.1	-1.2
	0.7nm,0.4s,mb3.6,baz=223,slow=5.3,SNR=20						
MCMT	McKenzie Canyo	86.38	41	eP	P	16 07 57.6	+0.2
BW06	Boulder Array	87.51	44	eP	P	16 08 02.6	-0.2
	2.4nm,1.2s,mb3.8						
PDAR	Pinedale Array	87.52	44	P	P	16 08 02.9	+0.1
	1.1nm,0.5s,mb3.8,baz=226,slow=3.1,SNR=10						
CMAR	Chiang Mai Arr	88.44	290	P	P	16 08 08.8	+1.1
	1.9nm,0.8s,mb3.9,baz=100,slow=2.8,SNR=8.0						
SYO	Syowa Base	89.23	193	⇓P	P	16 08 09.5	-0.7
SNAA	Sanae	90.77	179	P	P	16 08 17.3	0.0
	0.2nm,0.4s,mb3.4,baz=214,slow=5.7,SNR=11						
VNA3	Neumayer Olymp	90.93	177	⇑i	P	16 08 18.0	0.0
VNA3	Neumayer Olymp	90.93	177		P	16 08 21.5	+3.5
VNA2	Neumayer--Watz	91.37	177	⇑i	P	16 08 19.8	-0.2
VNA2	Neumayer--Watz	91.37	177	⇓i	P	16 08 23.3	+3.3
VNA1	Neumayer--Stat	91.60	177	⇑i	P	16 08 18.2	-2.8
SONM	Songino Array	93.16	319	P	P	16 08 29.6	+0.9

	0.2nm,0.5s,mb3.4,baz=117,slow=3.2,SNR=2.9						
BVAR	Borovoye Array	116.46	321	PKP	PKPdf	16 13 53.6	+0.4
	0.7nm,0.4s,baz=127,slow=2.3,SNR=8.1						
BDFB	Brasilia	121.28	121	PKP	PKPdf	16 14 03.7	+0.3
	1.0nm,0.4s,baz=128,slow=8.1,SNR=2.6						
ARCES	ARCESS Array B	126.08	350	PKP	PKPdf	16 14 11.9	+0.4
	2.8nm,0.8s,baz=90,slow=0.9,SNR=3.7						
BRTR	Keskin Array B	144.37	315	PKP	PKPdf	16 14 46.6	+0.9
	1.6nm,0.5s,baz=108,slow=3.9,SNR=7.2						
GERES	GERESS Array B	147.34	345	PKPbc	PKPdf	16 14 54.6	+4.1
	0.7nm,0.4s,baz=26,slow=3.2,SNR=15						

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*NIC **15** 16:44:53.1±0.2,38.36N×30.23E,h25^{km},mb4.3,ML3.9,MW3.6*

*ISK **15** 16:44:53.2,38.27N×31.20E,h9^{km},MD3.8*

*IDC **15** 16:44:53.9±1.7,38.24N×31.30E,mb3.6/4,mb1 3.8/11,mb1mx3.7/22,ML3.7/7,MS2.8/3,Ms1 2.9/3,ms1mx2.6/20,Error ellipse: s-maj=21.5km s-min=18.8km az=172.0*

*NEIC **15** 16:44:53.2,38.27N×31.20E,h9^{km},mb3.7/7,After ISK.*

ISC 15 16:44:54.3±0.2**,38.32N**±0.02×**31.19E**±0.02**,h9**^{km}**,n87,**$\sigma 1^{s}05$/106**,mb3.5**/6**,MS2.7**/1**,1C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISP	Isparta	0.72	229	*i* PG	Pg	16 45 07.1	-1.6
ISP				*i* SG	Sg	16 45 17.7	-0.7
ISP	Isparta	0.72	229	Pg	Pg	16 45 07.1	-1.6
ISP				Sg	Sg	16 45 17.1	-1.3
TKTP	Tekketepe	0.74	248	*i* P	Pb	16 45 09.5	+0.6
TKTP				*i* S	Sb	16 45 18.5	-0.4
KIZT	Kizilcal	0.78	44	*i* PG	Pg	16 45 09.6	-0.2
BCK	Bucak	0.98	209	*i* PG	Pg	16 45 11.5	-2.4
KONT	Konya--Tatoy	0.99	112	*i* PG	Pg	16 45 11.9	-2.2
ALT	Altintas	1.12	311	*i* PN	Pn	16 45 15.3	-0.8
ESKT	Eskisehir	1.23	348	*i* PN	Pn	16 45 17.6	0.0
ESKT	Eskisehir	1.23	348	*i* P	Pb	16 45 16.9	-0.4
ESKT				*i* S	Sb	16 45 35.1	+2.1
KHL	Karahalli	1.31	271	*i* PN	Pn	16 45 18.7	-0.1
ANTB	Antalya	1.48	197	PN	Pn	16 45 20.0	-1.2
DENT	Denizli	1.80	252	PN	Pn	16 45 25.0	-0.7
DNZL	Cakiroluk	1.81	250	*i* P	Pn	16 45 26.5	+0.6
DNZL				*i* S	Sg	16 45 59.3	+4.7
ELL	Elmali	1.87	213	*e*PN	Pn	16 45 26.3	-0.5
ANTO	Ankara	1.99	38	PN	Pn	16 45 28.7	+0.3
LOD	Lodumlu	1.99	37	*e*PN	Pn	16 45 29.1	+0.6
MANT	Manisa	2.08	276	*i* P	Pn	16 45 30.3	+0.5
MANT				*i* S	Sn	16 45 59.0	+3.0
GPA	Golpazari	2.08	341	*e*PN	Pn	16 45 29.6	-0.2
MDU	Mudurnu	2.14	0	*e*PN	Pn	16 45 30.9	+0.2
KAMT	Kaman	2.23	61	*e*PN	Pn	16 45 31.5	-0.4
SGKT	Sivrigoynuk	2.35	16	*i* P	Pn	16 45 35.5	+1.8
SGKT				*i* S	Sg	16 46 10.8	-1.6
BRTR	Keskin Array B	2.37	53	Pn	Pn	16 45 34.4	+0.5
	3.5nm,0.3s,baz=230,slow=15,SNR=57						
BRTR				Sn	Sn	16 46 05.3	+2.0
	5.4nm,0.3s,baz=225,slow=19,SNR=4.7						
DST	Dursunbey	2.38	303	*e*PN	Pn	16 45 34.0	0.0
ULDT	Uludag	2.42	319	*i* P	Pn	16 45 35.5	+0.8
ULDT				*i* S	Sg	16 46 15.9	+1.0
HENT	Hendek	2.51	355	*i* P	Pn	16 45 37.2	+1.2
HENT				*i* S	Sn	16 46 03.0	-4.0
KSL	Kastellorizon	2.52	211	*e*P	Pn	16 45 38.4	+2.3
YER	Yerkesik	2.59	244	*e*PN	Pn	16 45 36.8	-0.3
YLV	Yalova	2.65	328	*e*PN	Pn	16 45 37.8	-0.2
NIG	Nigde	2.70	93	*e*PN	Pn	16 45 38.4	-0.3
AYDN	Tasoluk	2.70	257	*i* P	Pn	16 45 39.2	+0.5
AKS	Akhisar	2.71	283	*e*PN	Pn	16 45 37.8	-1.0
HRT	Hereke	2.76	335	*e*PN	Pn	16 45 39.0	-0.6
ELDT	Eldivan	2.77	38	*i* P	Pn	16 45 39.8	+0.1
ELDT				*i* S	Sn	16 46 10.8	-2.8
IKL	Isikli	2.88	136	*e*PN	Pn	16 45 39.7	-1.5
BALB	Balikesir	2.90	298	*e*PN	Pn	16 45 41.6	+0.1
AVNT	Avonos	2.91	80	*i* P	Pn	16 45 44.8	+3.2
AVNT				*i* S	Sn	16 46 15.9	-1.2
CANT	Cankiri	2.96	39	*e*PN	Pn	16 45 41.6	-0.7
KDAG	Bornova	3.09	273	*i* P	Pn	16 45 44.4	+0.2
IZM	Izmir	3.09	273	*e*PN	Pn	16 45 42.8	-1.4
SAFT	Safranbolu	3.13	21	*e*PN	Pn	16 45 44.7	-0.2
ISK	Istanbul-Kandi	3.20	330	*e*PN	Pn	16 45 46.0	+0.2
BDRM	Kayabasi	3.23	248	*i* P	Pn	16 45 46.1	0.0
ALFC	Alevga	3.35	160	P	Pn	16 45 47.5	-0.4
	5.4nm,0.5s						
ALFC				S	Sn	16 46 30.0	+1.7
TOS	Tosya	3.48	38	*e*PN	Pn	16 45 49.1	-0.7
SMG	Samos	3.49	261	*e*P	Pn	16 45 49.7	-0.3
CTT	Catalca	3.54	324	*e*PN	Pn	16 45 50.4	-0.2
PPCY	Paphos	3.55	165	P	Pn	16 45 50.0	-0.8
	3.3nm,0.7s						
PPCY				S	Sn	16 46 34.3	+0.9
BALT	Daday	3.63	27	*i* P	Pn	16 45 51.8	0.0
CSS	Prodhromos	3.77	152	⇓P	Pn	16 45 54.9	+1.1
	1.7nm,0.6s						
CSS				S	Sn	16 46 42.8	+4.0
SZAC	Souni-Zanaja	3.81	159	⇓P	Pn	16 45 54.5	+0.1
SZAC				S	Sn	16 46 42.1	+2.2
PRK	Paraskevi	3.96	285	*e*P	Pn	16 45 56.7	+0.2
PHNC	Paralimni	4.02	145	P	Pn	16 45 59.1	+1.7
BOYT	Boyabat	4.21	42	*i* P	Pn	16 46 00.0	-0.1
KAP	Karpathos	4.24	231	*e*P	Pn	16 46 01.5	+0.9
EDRB	Edirne	4.90	317	*e*PN	Pn	16 46 09.7	-0.3
RDO	Rodhopi	5.19	305	*e*P	Pn	16 46 14.5	+0.4
JMB	Yambol	5.43	321	*i* P	Pn	16 46 17.5	0.0
MALT	Malatya	5.69	88	P	Pn	16 46 15.0	-6.1
	1.4nm,0.4s						
DIM	Dimitrovgrad	5.71	312	*i* P	Pn	16 46 21.3	-0.1
IDI	Anoyia	5.89	241	Pn	Pn	16 46 23.1	-0.8
	0.9nm,0.3s,baz=307,slow=1.0,SNR=5.9						
RZN	Rozhen	6.00	306	*i* P	Pn	16 46 22.0	-3.5
PLD	Plovdiv	6.24	309	P	Pn	16 46 29.0	+0.1
SZH	Strazhica	6.35	323	P	Pn	16 46 30.0	-0.4
MMB	Musomiste	6.60	302	*i* P	Pn	16 46 33.7	-0.2
ASF	Jabal al Asfar	7.71	141	Pn	Pn	16 46 56.0	+6.6
	0.6nm,0.3s,baz=197,slow=20,SNR=3.7						
ASF				LR	LR	16 50 21.4	
	comp=Z,55nm,19.5s,baz=7.2,slow=43						
MLR	Muntele Rosu	8.16	333	Pn	P	16 46 56.9	+1.2
	1.0nm,0.3s,baz=88,slow=18,SNR=8.4						
MLR				Sn	Sn	16 48 28.6	-0.5
	baz=111,slow=19,SNR=1.6						
MLR				LR	LR	16 50 37.3	
	comp=Z,108nm,20.2s,baz=230,slow=42						
MLR	Muntele Rosu	8.16	333	Pn	P	16 46 56.9	+1.2
MLR				Sn	Sn	16 48 28.6	-0.5
MLR				LR	LR	16 50 37.3	
VRI	Vrincioaia	8.24	338	⇑*i*P	P	16 46 57.9	+1.1
AKASG	Malin Array Be	12.46	354	Pn	P	16 47 53.6	-1.0
	0.8nm,0.3s,baz=169,slow=12,SNR=3.2						
AKASG				Sn	S	16 50 09.2	-5.4
	0.3nm,0.3s,baz=224,slow=32,SNR=3.2						
VRAC	Vranov	15.19	321	Pn	P	16 48 33.0	+2.4
	0.2nm,0.3s,baz=135,slow=7.1,SNR=2.4						
GERES	GERESS Array B	16.43	315	Pn	P	16 48 49.7	+3.2
	0.1nm,0.3s,baz=117,slow=9.0,SNR=5.8						
MBDF	Montbardon	19.34	297	*e*P	P	16 49 20.5	-1.9
	10nm,0.7s						
LPG	La Plagne	19.51	299	*e*P	P	16 49 23.1	-1.3
	4.9nm,0.7s						
LPL	La Plagne	19.52	299	*e*P	P	16 49 23.4	-1.2
ORIF	Oris-en-Rattie	19.99	297	*e*P	P	16 49 29.4	-0.5
	5.3nm,0.8s						
CDF	Champ du Feu	20.03	308	*e*P	P	16 49 29.6	-0.5
	6.8nm,0.9s						
HINF	Hinteralfeld	20.09	306	*e*P	P	16 49 31.3	+0.5
CABF	La Chapelle	20.23	302	*e*P	P	16 49 33.4	+1.1
	16nm,1.1s						
HAU	Haudompre	20.47	306	*e*P	P	16 49 34.1	-0.7
SMF	Signal de Mont	21.74	301	*e*P	P	16 49 49.4	+1.7
SSF	Saint Saulge	22.06	302	*e*P	P	16 49 52.3	+1.4
	1.9nm,0.5s,mb3.5						
AVF	Avril sur Loir	22.10	301	*e*P	P	16 49 51.7	+0.4
	1.5nm,0.5s,mb3.4						
FINES	FINESS Array B	23.37	354	P	P	16 50 03.0	-0.6
	1.8nm,0.8s,mb3.5,baz=211,slow=11,SNR=3.3						
NOA	NORSAR Array B	25.95	338	P	P	16 50 28.4	0.0
	1.3nm,0.9s,mb3.4,baz=136,slow=15,SNR=2.8						
NOA				LR	LR	17 01 59.6	
	comp=Z,22nm,20.7s,MS2.7,baz=140,slow=39						
ESDC	Sonseca Array	27.25	284	P	P	16 50 40.5	0.0
	1.5nm,0.8s,mb3.5,baz=76,slow=8.3,SNR=5.5						
MKAR	Makanchi Array	38.00	60	P	P	16 52 13.1	-1.0
	0.5nm,0.7s,mb3.4,baz=270,slow=7.3,SNR=4.1						
MKAR	Makanchi Array	38.00	60	P	P	16 52 13.1	-1.0

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*NEIC **15** 16:46:03.1,32.50S×71.77W,h23^{km},ML2.9(GUC),After GUC.*

GUC 15 16:46:03.1±0.7**,32.50S**×**71.77W,h23**^{km}±10^{km}**,MD3.6,ML2.9,7C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.53	169	⇓*i*P	Pb	16 46 13.1	-0.6
IHA				*i* S	Sb	16 46 20.9	0.0
LCCH	Las Cruces	0.98	170	⇓*i*P	Pb	16 46 20.5	-0.8
LCCH				*i* S	Sb	16 46 33.6	-0.2
ILCH	Illapel	1.00	31	*i* P	Pb	16 46 20.9	-0.7
ILCH				*i* S	Sb	16 46 35.0	+0.5
ILCH				AMP		16 46 36.2	
	comp=E,409nm,0.2s						
JACH	Jahuel	1.01	100	⇑*i*P	Pb	16 46 21.5	-0.2
JACH				*i* S	Sb	16 46 35.1	+0.6
CLCH	Cerro Calan	1.36	131	⇑*i*P	Pn	16 46 26.9	-0.2
CLCH				*i* S	Sn	16 46 44.4	-0.1
CLCH				AMP		16 46 52.1	
	comp=N,215nm,0.3s						
CMCH	Combarbala	1.48	26	⇓*i*P	Pn	16 46 28.6	-0.1
CMCH				*i* S	Sn	16 46 47.7	+0.3
CMCH				AMP		16 46 51.7	
	comp=E,975nm,0.6s						
LNV	Longovilo	1.48	168	⇑*i*P	Pn	16 46 28.7	0.0
FCH	Farellones	1.49	124	⇑*i*P	Pn	16 46 29.2	+0.4
FCH				*i* S	Sn	16 46 49.0	+1.3
FCH				AMP		16 46 50.8	
	comp=E,164nm,0.3s						
PCH	Pirque	1.53	137	⇑*i*P	Pn	16 46 29.9	+0.4
CHCH	Chadas Angostu	1.70	147	*i* P	Pn	16 46 32.4	+0.5
CHCH				*i* S	Sn	16 46 54.8	+1.6
LMEL	Las Melosas	1.88	136	⇓*i*P	Pn	16 46 35.2	+0.9
LMEL				*i* S	Sn	16 46 59.2	+1.7
LMEL				AMP		16 47 03.9	
	comp=N,190nm,0.1s						
CACH	El Canelo	1.88	149	⇑*i*P	Pn	16 46 35.7	+1.2
CICH	Cipreses	2.13	148	*e*P	Pn	16 46 38.6	+0.6
SFDO	San Fernando	2.20	164	⇑*i*P	Pn	16 46 38.5	-0.4

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*NIED **15** 17:02:00,43.40N×147.00E,h44^{km},Mw4.4 Best double couple: $M_0 3.76 \times 10^{15}$ NP1:ϕ_s50°,δ76°,λ106°. NP2:ϕ_s180°,δ21°,λ42°.*

*BJI **15** 17:02:26.8,44.27N×147.29E,h62^{km},mB4.7,mb4.6,Ms3.8,Msz3.6*

*JMA **15** 17:02:26.7±0.2,43.36N×146.96E,h44^{km}±3^{km},M4.6*

*MOS **15** 17:02:27.8±1.0,43.48N×146.91E,h56^{km},mb4.8/19,Error ellipse: s-maj=12.7km s-min=7.4km az=102.1*

*NEIC **15** 17:02:27.7±0.2,43.45N×146.91E,mb4.6/48,MS3.8/4,Error ellipse: s-maj=6.8km s-min=4.5km az=148.0*

*SKHL **15** 17:02:28.2±0.9,43.46N×147.05E,h40^{km}±8^{km},mb5.2/5*

*IDC **15** 17:02:28.3±0.6,43.52N×146.77E,h42^{km}±5^{km},mb4.1/20,mb1 4.3/23,mb1mx4.2/27,ML4.1/3,MS3.4/5,Ms1 3.4/5,ms1mx3.1/25,Error ellipse: s-maj=15.6km s-min=11.6km az=131.0*

ISC 15 17:02:27.1±0.6**,43.44N**±0.04×**146.93E**±0.05**,h51**^{km}±4^{km}**,h42**^{km}±1.5^{km}**:pP-P,n198,**$\sigma 0^{s}87$/211**,mb4.5**/80**,MS3.6**/11**,17C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.87	265	P	P	17 02 43.0	-0.2
NEM2				*e*S	S	17 02 55.1	-0.1
YUK	Yuzh-Kuril’sk	0.98	308	*e*P	P	17 02 44.2	-0.5
YUK				AMB	AMB	17 02 44.8	
	2µm,1.0s						
YUK				AMB	AMB	17 02 44.8	
	5µm,1.0s						
YUK				AMB	AMB	17 02 44.8	
	14µm,1.0s						
YUK				AMB	AMB	17 02 45.0	
	2µm,0.4s						
YUK				AMB	AMB	17 02 45.0	
	2µm,0.4s						
YUK				AMB	AMB	17 02 45.0	
	14µm,0.4s						
YUK				*i* S	S	17 02 55.5	-2.3
YUK				A		17 02 57.5	
	35µm,1.0s						
YUK				A		17 02 57.5	
	65µm,1.0s						
YUK	Yuzh-Kuril’sk	0.98	308	*e*PN	P	17 02 44.2	-0.5
YUK				*i* S	S	17 02 55.5	-2.3
YUK				pmax	pmax		
	comp=Z,14µm,0.4s						
YUK				pmax	pmax		
	comp=N,2µm,0.6s						
YUK				pmax	pmax		
	comp=E,5µm,0.6s						
YUK				pmax	pmax		
	comp=N,2µm,0.4s						
YUK				pmax	pmax		
	comp=E,2µm,0.4s						
YUK				pmax	pmax		
	comp=Z,14µm,0.4s						
YUK				smax			
	comp=E,65µm,0.6s						
YUK				smax			
	comp=N,35µm,1.0s						
JRA	Rausu	1.41	291	P	P	17 02 51.1	+0.3
JRA				*e*S	S	17 03 09.0	+0.6
JNK	Nakash	1.62	276	P	P	17 02 53.6	-0.2
JAK	Akkeshi	1.69	256	P	P	17 02 54.4	-0.5
KUR	Kuril’sk	1.91	20	⇑*i*P	P	17 02 58.0	+0.1
KUR				AMB	AMB	17 02 59.2	
	comp=N,130nm,0.4s						
KUR				AMB	AMB	17 02 59.2	
	comp=N,359nm,0.4s						
KUR				*i* S	S	17 03 21.0	+0.2
KUR				A		17 03 23.0	
	comp=N,3µm,0.5s						
KUR				A		17 03 23.0	
	comp=N,2µm,0.5s						
KUR				A		17 03 23.0	
	comp=N,5µm,1.0s						
KUR				A		17 03 23.0	
	comp=N,4µm,1.0s						
KUR	Kuril’sk	1.91	20	⇑*i*PN	P	17 02 58.0	+0.1
KUR				*i* S	S	17 03 21.0	+0.2
KUR				pmax	pmax		
	comp=N,130nm,0.4s						
KUR				pmax	pmax		
	comp=E,130nm,0.4s						
KUR				pmax	pmax		
	comp=Z,360nm,0.4s						
KUR				smax			
	comp=N,3µm,0.5s						
KUR				smax			
	comp=E,2µm,0.5s						
KUR				smax			
	comp=N,5µm,1.0s						
KUR				smax			
	comp=E,4µm,1.0s						
JTKR	Abashiri--Toko	2.26	285	P	P	17 03 03.8	+1.0
JAR	Ashorobuto	2.31	268	P	P	17 03 03.7	+0.1
JAR				*e*S	S	17 03 31.2	+0.3
JOB	Onbets	2.33	258	P	P	17 03 03.5	-0.3
JOB				*e*S	S	17 03 31.7	+0.4
JMP	Maruseppu	2.65	284	P	P	17 03 09.4	+1.0
JCH	Churui	2.75	254	P	P	17 03 09.2	-0.6
JKK2	Kamakawa 2	3.07	280	P	P	17 03 15.5	+1.2
JEM	Erimo	3.13	244	P	P	17 03 16.2	+1.1
JFR	Furan	3.18	266	P	P	17 03 16.2	+0.3
JFR				*e*S	S	17 03 53.4	+0.5
ASAJ	Asahikawa	3.21	284	P	P	17 03 18.1	+1.7
	comp=E,13nm,0.3s,baz=86,slow=11,SNR=89						
ASAJ				S	S	17 04 01.3	+7.6
	comp=E,16nm,0.3s,baz=20,slow=24,SNR=6.0						
ASAJ				LR	LR	17 04 44.3	
	comp=E,754nm,19.8s,baz=286,slow=44						
ASAJ	Asahikawa	3.21	284	P	P	17 03 17.5	+1.1
JNBK	Urakawa-nobuka	3.29	251	P	P	17 03 16.7	-0.7
YSS	Yuzh-Sakhalins	4.59	321	*e*P	P	17 03 35.9	+0.1
YSS				AMB	AMB	17 03 37.1	
	comp=E,50nm,0.3s						
YSS				*e*S	S	17 04 26.0	-2.4
YSS				A		17 04 27.7	
	comp=E,80nm,0.9s						
YSS	Yuzh-Sakhalins	4.59	321	*d i*PN	P	17 03 36.3	+0.5
YSS	Yuzh-Sakhalins	4.59	321	*e*P	P	17 03 35.9	+0.1
TYV	Tymovskoe	7.98	340	*e*P	P	17 04 25.8	+2.8
SKR	Severo-Kuril’s	9.57	38	*e*P	P	17 04 42.0	-2.9
SKR				AMB	AMB	17 04 50.2	
	comp=E,40nm,0.5s						
SKR				AMB	AMB	17 04 50.2	
	comp=E,30nm,0.5s						
SKR				AMB	AMB	17 04 50.2	
	comp=E,70nm,0.5s						
SKR				*e*S	S	17 06 26.4	-5.7
SKR				A		17 06 36.4	
	comp=E,70nm,0.5s						
SKR				A		17 06 36.4	
	comp=E,20nm,0.5s						
SKR				AMS	AMS	17 08 48.0	
	comp=E,700nm,12.0s						
SKR	Severo-Kuril’s	9.57	38	*e*PN	P	17 04 42.0	-2.9
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
SKR				MLR	MLR		
	comp=Z,700nm,12.0s						
MAJO	Matsushiro	9.60	227	*e*P	P	17 04 41.8	-3.5
	comp=Z,5.7nm,0.5s						
MAT	Matsushiro	9.60	227	P	P	17 04 42.7	-2.7
MAT				S	S	17 06 29.2	-3.7
MAT	Matsushiro	9.60	227	*e*P	P	17 04 43.0	-2.4
	comp=Z,3.5nm,0.5s						
MAT				*e*S	S	17 06 41.0	+8.1
JHJ	Hachijo jima 2	11.73	211	P	P	17 05 14.5	+0.2
	comp=Z,5.1nm,0.3s,baz=64,slow=23,SNR=2.4						
JHJ				S	S	17 07 11.7	-13
	comp=Z,14nm,0.3s,baz=339,slow=17,SNR=4.9						
KLR	Kul’dur	11.98	304	*e*PN	P	17 05 20.0	+2.5
PET	Petropavlovsk	12.35	35	*i* PN	P	17 05 22.9	+0.4
MDJ	Mudanjiang	12.54	281	*e*P	P	17 05 25.3	+0.2
CN2	Changchun	15.56	279	*e*P	P	17 06 04.0	-0.5
CN2				*e*XP		17 06 19.3	
CN2				*e*S	S	17 08 54.6	-0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
JNU	Nakatsue	16.25	236	LR	LR	17 12 52.5	
	comp=Z,100nm,20.4s,baz=231,slow=38						
ZEA	Zeya	16.55	315	*e*P	P	17 06 18.8	+2.0
ZEA				AMB	AMB	17 06 26.0	
	comp=Z,21nm,1.2s						
FX1	Attu Island--F	19.78	52	P	P	17 06 57.0	+1.5
	comp=Z,2.0nm,0.3s,baz=71,slow=6.7,SNR=4.2						
FX1	Attu Island--F	19.78	52	P	P	17 06 57.0	+1.4
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	Seymchan	19.79	7	*e*P	P	17 06 53.7	-1.8
SEY				*e*		17 10 22.7	
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,6.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,50nm,1.0s						
YAK	Yakutsk	21.22	337	*e*P	P	17 07 06.3	-4.1
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
YAK	Yakutsk	21.22	337	*e*P	P	17 07 05.4	-5.0
	comp=Z,9.0nm,0.6s,mb4.3						
SSE	Sheshan	23.80	247	P	P	17 07 45.1	+9.2
SSE				S	S	17 11 52.8	+7.9
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,62nm,5.1s						
SSE				LR	LR		
	comp=N,44nm,27.5s,MS2.8						
SSE				LR	LR		
	comp=E,23nm,27.4s,MS2.8						
SSE	Sheshan	23.80	247	P	P	17 07 45.1	+9.2
	comp=E,26nm,0.7s,mb4.8						
SSE				pP		17 08 05.4	
SSE				S	S	17 11 52.7	+7.8
SSE				sS		17 12 30.5	
SSE				LR	LR		
	comp=Z,30nm,24.1s,MS2.7						
NJ2	Nanjing	24.83	252	*e*P	P	17 07 54.8	+8.9
NJ2				S	S	17 12 07.0	+4.7
NJ2				SS	SS	17 13 17.3	+15
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,300nm,4.9s						
NJ2				LR	LR		
	comp=N,600nm,16.2s,MS4.2						
NJ2				LR	LR		
	comp=E,350nm,17.9s,MS4.2						
NJ2				LR	LR		
	comp=Z,180nm,18.8s,MS3.6						
SONM	Songino Array	28.45	293	P	P	17 08 19.0	-0.1
	comp=Z,6.2nm,0.3s,mb4.7,baz=98,slow=10,SNR=12						
TLY	Talaya	29.97	301	*e*P	P	17 08 33.2	+0.6
TLY				*e*		17 09 31.9	
TLY				*e*		17 11 36.8	
TLY				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
TLY				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.4						
XAN	Xi’an	30.87	265	P	P	17 08 45.0	+4.2
XAN				AP	pP	17 08 52.9	-1.0
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
LZH	Lanzhou	33.63	272	*e*P	P	17 09 04.8	+0.1
LZH				AP	pP	17 09 16.3	-1.7
LZH				PP	PP	17 10 18.1	-0.3
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,383nm,13.1s						
LZH				LR	LR		
	comp=Z,492nm,17.3s,MS4.3						
LZH	Lanzhou	33.63	272	*e*P	P	17 09 04.8	+0.1
	comp=Z,25nm,1.3s,mb5.0						
LZH				pP	pP	17 09 16.3	-1.7
LZH				sP	sP	17 09 21.7	-2.6
LZH				PP	PP	17 10 18.1	-0.3
LZH				LR	LR		
	comp=Z,490nm,17.3s,MS4.3						
GTA	Gaotai	35.19	280	*e*P	P	17 09 19.5	+1.4
GTA				AP	pP	17 09 31.3	-0.1
GTA				XP	sP	17 09 36.0	-1.8
GTA				PP	PP	17 10 41.3	+3.1
GTA				S	S	17 14 52.4	+5.5
GTA				XS		17 15 11.4	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.2						
GTA				AMB	AMB		
	comp=Z,36nm,5.3s						
GTA				LR	LR		
	comp=N,34nm,16.4s,MS3.4						
GTA				LR	LR		
	comp=E,46nm,17.1s,MS3.4						
GTA				LR	LR		
	comp=Z,49nm,17.1s,MS3.3						
IMA	Indian Mountai	39.03	34	*e*P	P	17 09 50.4	+0.4
	comp=Z,117nm,0.6s						
KMI	Kunming	40.30	258	*e*P	P	17 10 01.0	+0.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.1						
KMI				LR	LR		
	comp=Z,39nm,20.6s,MS3.2						
KMI	Kunming	40.30	258	*e*P	P	17 10 01.0	+0.1
	comp=Z,6.0nm,1.6s,mb4.1						
KMI				LR	LR		
	comp=Z,40nm,20.6s,MS3.2						
PMR	Palmer	40.99	41	*e*P	P	17 10 05.9	-0.4
COLA	College	41.41	36	*e*P	P	17 10 09.8	+0.1
COLA	College	41.41	36	*e*P	P	17 10 09.4	-0.3
	comp=Z,8.2nm,0.8s,mb4.4						
ILAR	Eielson Array	41.83	36	P	P	17 10 13.2	+0.2
	comp=Z,2.3nm,0.5s,mb4.1,baz=255,slow=5.9,SNR=34						
ILAR	Eielson Array	41.83	36	P	P	17 10 13.2	+0.2
ILAR				pmax	pmax		

	comp=Z,2.0nm,0.5s						
WMQ	**Urumqi**	**42.06**	**292**	*e*P	**P**	**17 10 15.0**	**-0.2**
WMQ				AP	pP	17 10 27.3	-1.4
WMQ				XP	sP	17 10 32.3	-2.5
WMQ				PP	PP	17 11 56.4	+0.3
WMQ				PCP	PcP	17 12 10.3	+0.3
WMQ				*e*S	**S**	**17 16 31.3**	**+0.7**
WMQ				XS		17 16 51.8	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,15nm,6.9s						
WMQ				LR	LR		
	comp=E,59nm,17.6s						
WMQ				LR	LR		
	comp=Z,86nm,18.4s,MS3.7						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**17 10 34.9**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.6,baz=81,slow=9.5,SNR=51						
MKAR				pP	pP	17 10 46.1	-3.1
	comp=Z,16nm,1.2s,baz=76,slow=7.9,SNR=9.1						
MKAR				pPcP		17 12 31.1	
	comp=Z,4.8nm,1.1s,baz=54,slow=4.7,SNR=3.9						
MKAR				LR	LR	17 29 54.2	
	comp=Z,44nm,21.9s,MS3.3,baz=284,slow=37						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**17 10 34.9**	**-0.8**
MKAR				*PP	pP	17 10 46.1	-3.1
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,16nm,1.2s						
MKAR				pmax	pmax		
	comp=N,5.0nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,44nm,21.9s						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**17 10 34.9**	**-0.8**
MKAR				pP	pP	17 10 46.1	-3.1
MKAR				pPcP		17 12 31.1	
MKAR				LR	LR	17 29 54.2	
KURK	**Kurchatov**	**45.57**	**304**	*e*P	**P**	**17 10 41.7**	**-1.8**
	comp=Z,1.6nm,0.5s,mb4.2						
LSA	**Lhasa**	**46.04**	**272**	*e*P	**P**	**17 10 46.8**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.3						
INK	**Inuvik**	**46.75**	**30**	P	**P**	**17 10 53.0**	**+0.5**
	comp=Z,9.3nm,0.4s,mb5.0,baz=296,slow=6.7,SNR=67						
INK	**Inuvik**	**46.75**	**30**	P	**P**	**17 10 53.0**	**+0.5**
INK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
INK	**Inuvik**	**46.75**	**30**	*e*P	**P**	**17 10 52.6**	**+0.1**
	comp=Z,6.7nm,0.3s,mb5.0						
CMAR	**Chiang Mai Arr**	**47.29**	**254**	P	**P**	**17 10 58.2**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=7.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**47.29**	**254**	P	**P**	**17 10 58.2**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**50.38**	**310**	*e*P	**P**	**17 11 19.5**	**-1.4**
	comp=Z,1.1nm,0.5s,mb4.1						
TKM2	**Tokmak 2**	**50.50**	**296**	P	**P**	**17 11 22.1**	**+0.2**
	SNR=13						
GUN	**Gumba**	**50.88**	**273**	*e*P	**P**	**17 11 25.2**	**+0.2**
DLBC	**Dease Lake**	**51.01**	**42**	P	**P**	**17 11 27.2**	**+1.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=322,slow=19,SNR=3.7						
KBK	**Karagaybulak**	**51.04**	**296**	P	**P**	**17 11 26.0**	**0.0**
	SNR=10.0						
USP	**Ospenovka**	**51.06**	**296**	P	**P**	**17 11 25.8**	**-0.4**
	SNR=9.9						
KZA	**Kyzart**	**51.11**	**295**	P	**P**	**17 11 27.5**	**+1.0**
	SNR=9.3						
KKN	**Kakani**	**51.38**	**274**	*e*P	**P**	**17 11 28.4**	**-0.4**
PKI	**Pulchoki**	**51.41**	**273**	*e*P	**P**	**17 11 28.5**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9						
DMN	**Daman**	**51.61**	**274**	*e*P	**P**	**17 11 30.3**	**-0.2**
	comp=Z,15nm,0.6s,mb5.1						
GKN	**Gorkha**	**51.73**	**274**	*e*P	**P**	**17 11 31.0**	**-0.4**
	comp=Z,11nm,0.5s,mb5.1						
EKS2	**Erkin-Say**	**51.81**	**296**	P	**P**	**17 11 31.8**	**0.0**
	SNR=8.1						
AML	**Almayashu**	**52.11**	**296**	P	**P**	**17 11 34.5**	**+0.5**
	SNR=7.1						
KOLN	**Koldanda**	**52.61**	**275**	*e*P	**P**	**17 11 37.6**	**-0.4**
	comp=Z,11nm,0.6s,mb5.0						
ARU	**Arti**	**54.47**	**317**	⇑*i*P	**P**	**17 11 49.9**	**-1.4**
ARU				*e*		17 12 52.7	
ARU				*e*		17 13 49.1	
ARU				*e*PPP	PPP	17 15 04.2	-2.9
ARU				*e*S	**S**	**17 19 17.6**	**-7.0**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
RES	**Resolute Bay**	**55.31**	**17**	*e*P	**P**	**17 11 55.6**	**-1.6**
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**17 12 03.4**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=306,slow=7.0,SNR=4.2						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**17 12 03.4**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**17 12 03.4**	**+0.1**
KEV	**Kevo**	**58.95**	**339**	*e*p	**P**	**17 12 20.3**	**-2.7**
	comp=Z,0.8nm,0.4s,mb4.1						
KEV	**Kevo**	**58.95**	**339**	*e*P	**P**	**17 12 20.3**	**-2.7**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**59.48**	**340**	P	**P**	**17 12 25.3**	**-1.4**
	comp=Z,1.7nm,0.4s,mb4.5,baz=56,slow=6.9,SNR=23						
ARCES	**ARCESS Array B**	**59.48**	**340**	P	**P**	**17 12 25.3**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**59.48**	**340**	P	**P**	**17 12 25.3**	**-1.4**
KTK1	**Kautokeino**	**60.43**	**340**	*e*P	**P**	**17 12 31.9**	**-1.2**
KTK1				*e*pP	pP	17 12 43.8	-3.4
KTK1				AMb	AMB	17 12 47.9	
	comp=Z,36nm,1.6s,mb5.1						
KTK1	**Kautokeino**	**60.43**	**340**	*e*P	**P**	**17 12 31.9**	**-1.2**
	comp=Z,36nm,1.6s,mb5.2						
TRO	**Tromso**	**61.00**	**342**	*e*P	**P**	**17 12 34.7**	**-2.4**
NEW	**Newport**	**62.66**	**48**	P	**P**	**17 12 49.0**	**+0.6**
	comp=Z,1.4nm,0.7s,mb4.2,baz=234,slow=19,SNR=3.5						
NEW				pP	pP	17 13 01.1	-1.5
	comp=Z,0.7nm,0.5s,baz=269,slow=0.7,SNR=2.6						
NEW	**Newport**	**62.66**	**48**	P	**P**	**17 12 49.0**	**+0.6**
NEW				*PP	pP	17 13 01.1	-1.5
NEW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NEW				pmax	pmax		
	comp=N,1.0nm,0.5s						
NEW	**Newport**	**62.66**	**48**	*e*P	**P**	**17 12 48.5**	**0.0**
YBH	**Yreka Blue Hor**	**63.19**	**57**	P	**P**	**17 12 52.1**	**0.0**
	comp=N,0.4nm,0.5s,mb3.8,baz=38,slow=13,SNR=2.4						
WRAB	**Tennant Creek**	**64.11**	**193**	*e*P	**P**	**17 12 57.2**	**-1.1**
WRA	**Warramunga Arr**	**64.12**	**193**	P	**P**	**17 12 57.4**	**-1.1**
	comp=N,0.9nm,0.7s,mb3.9,baz=8.3,slow=6.9,SNR=17						
WRA				pP	pP	17 13 10.1	-2.6
	comp=N,2.2nm,1.0s,baz=14,slow=7.0,SNR=9.0						
WRA	**Warramunga Arr**	**64.12**	**193**	P	**P**	**17 12 57.4**	**-1.0**
WRA				*PP	pP	17 13 10.1	-2.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,2.0nm,1.0s						
SUMG	**Summit**	**64.22**	**2**	*e*P	**P**	**17 12 57.4**	**-0.8**
KAF	**Kangasniemi**	**64.52**	**333**	*e*p	**P**	**17 12 55.9**	**-4.4**
	comp=N,1.3nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**64.52**	**333**	*e*P	**P**	**17 12 55.9**	**-4.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MOR8	**Moi Rana**	**64.78**	**341**	*e*P	**P**	**17 12 59.3**	**-2.6**
MOR8				AMb	AMB	17 12 60.0	
	comp=Z,34nm,0.5s,mb5.6						
MOR8	**Moi Rana**	**64.78**	**341**	*e*P	**P**	**17 12 59.3**	**-2.6**
	comp=Z,34nm,0.5s,mb5.6						
FINES	**FINESS Array B**	**65.08**	**333**	P	**P**	**17 13 02.6**	**-1.3**
	comp=Z,11nm,0.6s,mb5.1,baz=52,slow=7.7,SNR=70						
FINES	**FINESS Array B**	**65.08**	**333**	*e*P	**P**	**17 13 02.6**	**-1.3**
OBN	**Obninsk**	**65.47**	**324**	*e*P	**P**	**17 13 05.5**	**-1.1**
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
FFC	**Flin Flon**	**66.04**	**36**	*e*P	**P**	**17 13 09.7**	**-0.5**
HLID	**Hailey**	**66.99**	**51**	P	**P**	**17 13 16.0**	**-0.4**
HLID				*e*pP	pP	17 13 27.6	-3.1
BOZ	**Bozeman (W)**	**67.23**	**48**	*e*P	**P**	**17 13 18.4**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1						
BOZ				*e*pP	pP	17 13 30.5	-1.7
ASAR	**Alice Springs**	**67.84**	**193**	P	**P**	**17 13 22.1**	**+0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=6.7,slow=5.6,SNR=14						
ASAR				pP	pP	17 13 36.0	-0.4
	comp=Z,1.7nm,0.7s,baz=8.6,slow=5.5,SNR=11						
TPAW	**Teton Pass**	**68.99**	**50**	P	**P**	**17 13 28.1**	**-0.8**
NB2	**NORSAR Subarra**	**69.84**	**339**	P	**P**	**17 13 32.8**	**-0.9**
	comp=Z,21nm,0.8s,mb5.1,baz=32,slow=6.2						
NB2	**NORSAR Subarra**	**69.84**	**339**	P	**P**	**17 13 32.8**	**-0.9**
	baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.84**	**339**	P	**P**	**17 13 33.1**	**-0.6**
	comp=Z,15nm,0.7s,mb5.0,baz=34,slow=6.3,SNR=51						
NOA	**NORSAR Array B**	**69.84**	**339**	P	**P**	**17 13 33.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,15nm,0.7s						
DUG	**Dugway**	**70.05**	**53**	*e*P	**P**	**17 13 35.8**	**+0.4**
BW06	**Boulder Array**	**70.23**	**50**	*e*P	**P**	**17 13 35.5**	**-1.0**
BW06				*e*pP	pP	17 13 48.7	-2.1
PDAR	**Pinedale Array**	**70.23**	**50**	P	**P**	**17 13 37.0**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=304,slow=3.3,SNR=2.7						
PDAR				pP	pP	17 13 49.4	-1.4
	comp=Z,1.0nm,0.6s,baz=292,slow=3.4,SNR=7.6						
SUW	**Suwalki**	**71.69**	**329**	*e*P	**P**	**17 13 44.1**	**-0.9**
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**17 13 44.5**	**-0.9**
	comp=Z,7.5nm,0.4s,mb5.0,baz=40,slow=6.3,SNR=34						
AKASG				LR	LR	17 46 56.1	
	comp=Z,22nm,19.1s,MS3.5,baz=215,slow=37						
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**17 13 44.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,22nm,19.1s						
KWP	**Kalwaria**	**75.28**	**326**	*e*P	**P**	**17 14 06.6**	**+0.7**
OJC	**Ojcow**	**75.96**	**328**	*e*P	**P**	**17 14 10.0**	**+0.2**
MALT	**Malatya**	**76.05**	**310**	P	**P**	**17 14 11.0**	**+0.4**
BSEG	**Bad Segeberg**	**76.14**	**335**	*e*P	**P**	**17 14 11.0**	**+0.2**
BSEG				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
OKC	**Ostrava-Krasne**	**76.90**	**329**	⇑*e*P	**P**	**17 14 15.7**	**+0.6**
DPC	**Dobruska-Polom**	**77.15**	**330**	⇑*i*P	**P**	**17 14 17.2**	**+0.6**
MORC	**Moravsky Berou**	**77.17**	**329**	*e*P	**P**	**17 14 16.5**	**-0.2**
	comp=Z,6.9nm,0.9s,mb4.6						
CLL	**Collm**	**77.52**	**332**	⇑P	**P**	**17 14 18.3**	**-0.3**
	comp=Z,logA/T=1.3,mb5.0						
CLL	**Collm**	**77.52**	**332**	⇑*i*P	**P**	**17 14 18.3**	**-0.3**
CLL				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
CLL	**Collm**	**77.52**	**332**	⇑*i*P	**P**	**17 14 18.3**	**-0.3**
	comp=Z,15nm,0.8s,mb5.0						
BRG	**Berggiesshubel**	**77.56**	**332**	*i* P	**P**	**17 14 18.6**	**-0.2**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRG	**Berggiesshubel**	**77.56**	**332**	*i* P	**P**	**17 14 18.6**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.4						
PVCC	**Panska Ves**	**77.63**	**331**	⇑*e*P	**P**	**17 14 18.8**	**-0.4**
BRTR	**Keskin Array B**	**77.64**	**314**	P	**P**	**17 14 20.1**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=63,slow=3.5,SNR=5.7						
BRTR				LR	LR	17 55 04.2	
	comp=Z,18nm,19.8s,MS3.4,baz=175,slow=41						
BRTR	**Keskin Array B**	**77.64**	**314**	P	**P**	**17 14 20.1**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,18nm,19.8s						
VYHS	**Vyhne**	**77.72**	**328**	*i* P	**P**	**17 14 20.4**	**+0.7**
CLZ	**Clausthal**	**77.92**	**334**	*e*P	**P**	**17 14 21.2**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.8						
SCHQ	**Schefferville**	**77.97**	**19**	P	**P**	**17 14 21.0**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.4,baz=332,slow=6.0,SNR=4.9						
PRU	**Pruhonice**	**78.09**	**331**	⇑*i*P	**P**	**17 14 21.9**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.5						
PRU	**Pruhonice**	**78.09**	**331**	*e*P	**P**	**17 14 22.1**	**+0.4**
EKA	**Eskdalemuir Ar**	**78.38**	**343**	P	**P**	**17 14 23.2**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=27,slow=5.2,SNR=17						
EKA	**Eskdalemuir Ar**	**78.38**	**343**	P	**P**	**17 14 23.3**	**+0.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MOX	**Moxa**	**78.55**	**333**	*e*P	**P**	**17 14 24.0**	**-0.2**
NKC	**Novy Kostel**	**78.62**	**332**	*e*P	**P**	**17 14 15.6**	**-9.0**
KHC	**Kasperske Hory**	**79.16**	**331**	⇑P	**P**	**17 14 28.4**	**+0.8**
GEC2	**GERESS Array S**	**79.35**	**331**	*e*P	**P**	**17 14 28.0**	**-0.7**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GEC2	**GERESS Array S**	**79.35**	**331**	*e*P	**P**	**17 14 28.0**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.2						
GERES	**GERESS Array B**	**79.35**	**331**	P	**P**	**17 14 28.6**	**-0.1**
	comp=Z,3.0nm,1.0s,mb4.2,baz=39,slow=5.8,SNR=17						
GERES	**GERESS Array B**	**79.35**	**331**	P	**P**	**17 14 28.6**	**-0.1**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WET	**Wettzell**	**79.39**	**331**	*e*P	**P**	**17 14 29.3**	**+0.4**
WET				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WET	**Wettzell**	**79.39**	**331**	*e*P	**P**	**17 14 29.3**	**+0.4**
	comp=Z,7.0nm,1.0s,mb4.5						
BAIF	**Baives**	**81.36**	**337**	*e*P	**P**	**17 14 38.8**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.2						
BFO	**Black Forest**	**81.63**	**334**	*e*P	**P**	**17 14 41.0**	**+0.3**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BFO	**Black Forest**	**81.63**	**334**	*e*P	**P**	**17 14 41.0**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.3						
SKO	**Skopje**	**81.89**	**322**	*i* P	**P**	**17 14 43.4**	**+1.2**
CDF	**Champ du Feu**	**81.89**	**334**	*e*P	**P**	**17 14 41.9**	**-0.2**
	comp=Z,11nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**82.50**	**336**	*e*P	**P**	**17 14 45.2**	**0.0**
	comp=Z,6.8nm,0.5s,mb4.7						
HAU	**Haudompre**	**82.55**	**335**	*e*P	**P**	**17 14 45.1**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.2						
HAU				*e*R			
	comp=Z,39nm,20.2s						
HINF	**Hinteralfeld**	**82.55**	**334**	*e*P	**P**	**17 14 44.9**	**-0.6**
	comp=Z,8.1nm,1.0s,mb4.4						
FLN	**La Foliniere**	**83.82**	**339**	*e*P	**P**	**17 14 51.9**	**+0.1**
FLN				*e*R			
	comp=Z,40nm,21.0s						
CABF	**La Chapelle**	**83.86**	**334**	*e*P	**P**	**17 14 52.8**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.4						
LDF	**La Druitiere**	**83.88**	**339**	*e*P	**P**	**17 14 52.0**	**-0.2**
	comp=Z,6.1nm,0.6s,mb4.6						
LOR	**Lormes**	**83.97**	**336**	*e*P	**P**	**17 14 52.5**	**-0.1**
	comp=Z,8.7nm,0.7s,mb4.7						
LOR				*e*R			
	comp=Z,43nm,22.8s						
SSF	**Saint Saulge**	**84.26**	**336**	*e*P	**P**	**17 14 54.0**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.4						
GRR	**Gorron**	**84.27**	**339**	*e*P	**P**	**17 14 54.4**	**+0.3**
	comp=Z,8.5nm,0.7s,mb4.7						
SMF	**Signal de Mont**	**84.53**	**335**	*e*P	**P**	**17 14 55.6**	**+0.1**
	comp=Z,15nm,0.8s,mb4.9						
AVF	**Avril sur Loir**	**84.55**	**336**	*e*P	**P**	**17 14 55.7**	**+0.2**
	comp=Z,12nm,0.7s,mb4.8						
LPL	**La Plagne**	**84.62**	**333**	*e*P	**P**	**17 14 56.6**	**+0.7**
	comp=Z,8.7nm,0.8s,mb4.6						
LPG	**La Plagne**	**84.63**	**333**	*e*P	**P**	**17 14 56.8**	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.6						
SGMF	**Saint Gilles**	**84.82**	**340**	*e*P	**P**	**17 14 57.4**	**+0.5**
	comp=Z,22nm,0.9s,mb5.0						
BGF	**Bois d'Agland**	**84.91**	**336**	*e*P	**P**	**17 14 58.1**	**+0.8**
ROSF	**Rostrenen**	**84.92**	**341**	*e*P	**P**	**17 14 58.0**	**+0.6**
	comp=Z,25nm,0.8s,mb5.1						
QUIF	**Quistinic**	**85.29**	**340**	*e*P	**P**	**17 14 59.6**	**+0.4**
	comp=Z,13nm,0.8s,mb4.8						
MBDF	**Montbardon**	**85.31**	**333**	*e*P	**P**	**17 14 59.3**	**-0.1**
	comp=Z,1.7nm,0.3s,mb4.3						
TCF	**Toulx Ste Croi**	**85.34**	**336**	*e*P	**P**	**17 15 00.0**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7						
ORIF	**Oris-en-Rattie**	**85.43**	**333**	*e*P	**P**	**17 15 00.5**	**+0.5**
	comp=Z,6.1nm,0.8s,mb4.5						
ORIF				*e*R			
	comp=Z,44nm,20.5s						
MFF	**Saint Martin d**	**85.72**	**338**	*e*P	**P**	**17 15 02.1**	**+0.8**
	comp=Z,8.4nm,0.6s,mb4.9						
SBF	**Sospel**	**85.84**	**332**	*e*P	**P**	**17 15 02.4**	**+0.4**
	comp=Z,13nm,0.6s,mb5.0						
VIVF	**Saint-Julien-l**	**85.88**	**334**	*e*P	**P**	**17 15 02.8**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.5						
RJF	**Les Rejaudoux**	**86.44**	**336**	*e*P	**P**	**17 15 05.5**	**+0.6**
	comp=Z,9.5nm,0.8s,mb4.8						
RJF				*e*R			
	comp=Z,38nm,18.0s						
CAF	**Calviac**	**86.62**	**336**	*e*P	**P**	**17 15 06.9**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8						
LMR	**La Mourre**	**86.63**	**332**	*e*P	**P**	**17 15 05.9**	**0.0**
	comp=Z,23nm,0.8s,mb5.1						
LFF	**La Frestale**	**86.99**	**337**	*e*P	**P**	**17 15 08.7**	**+1.1**
MTLF	**Montolieu**	**88.01**	**335**	*e*P	**P**	**17 15 13.5**	**+1.0**
	comp=Z,3.7nm,0.7s,mb4.4						
ETSF	**Etsaut**	**89.24**	**337**	*e*P	**P**	**17 15 19.1**	**+0.7**
	comp=Z,7.9nm,0.9s,mb4.8						
VNA2	**Neumayer--Watz**	**149.64**	**196**	⇑*i*P	PKPdf	17 22 14.4	+9.4
VNA2	**Neumayer--Watz**	**149.64**	**196**	⇑*i*	PKPab	17 22 16.2	-0.9
VNA2	**Neumayer--Watz**	**149.64**	**196**	⇓*i*	PKPdf	17 22 28.3	+23
VNA3	**Neumayer Olymp**	**149.83**	**195**	P	PKPdf	17 22 14.9	+10
VNA3	**Neumayer Olymp**	**149.83**	**195**	⇑*i*	PKPab	17 22 19.1	+1.3
VNA3	**Neumayer Olymp**	**149.83**	**195**	⇑*i*	PKPdf	17 22 29.0	+24
VNA1	**Neumayer--Stat**	**150.04**	**196**	⇑*i*P	PKPab	17 22 16.3	-2.4
VNA1	**Neumayer--Stat**	**150.04**	**196**	⇑*i*	PKPdf	17 22 29.1	+24

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*NEIC **15** 17:18:53.5, 15.87N×94.39W, h52^{km}, MD4.2(MEX), After MEX.*

MEX 15 17:18:53.8±0.7**, 15.87N×94.39W, h41**^{km}±177^{km}**, MD4.2, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.30**	**339**	*i* P	P	17 19 13.9	-2.1
CMIG				*i* S	S	17 19 29.5	-2.9
HUIG	**Huatulco**	**1.65**	**267**	*i* P	P	17 19 18.9	-2.0
HUIG				*i* S	S	17 19 37.8	-3.3
SCX	**San Cristobal**	**1.90**	**63**	*e*P	P	17 19 20.0	-4.3
SCX				*i* S	S	17 19 44.5	-2.7
CCIG	**Comitan**	**2.21**	**79**	*i* P	P	17 19 27.2	-1.5
CCIG				*i* S	S	17 19 50.8	-4.2
TPX	**Tapachula**	**2.27**	**115**	*e*P	P	17 19 27.0	-2.6
OXX	**Oaxaca**	**2.54**	**299**	*i* P	P	17 19 33.0	-0.5
OXX				*i* S	S	17 20 06.0	+2.5
VHO	**Vista Hermosa**	**2.54**	**298**	*i* P	P	17 19 33.1	-0.5
VHO				*i* S	S	17 20 00.1	-3.5
EVV	**El Vigia**	**2.73**	**341**	*i* P	P	17 19 32.5	-3.8
IISM	**Ciudad Serdan**	**4.21**	**318**	*e*P	P	17 19 54.0	-3.3
IISM	**Ciudad Serdan**	**4.21**	**318**	*e*P	P	17 19 50.0	-7.3
PPM	**Popocatepetl**	**5.14**	**309**	*e*P	P	17 20 10.5	+0.1

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*NEIC **15** 17:47:06.7, 36.14S×71.99W, h60^{km}, MD3.5(GUC), After GUC.*

GUC 15 17:47:06.7±0.8**, 36.14S×71.99W, h60^{km}, MD3.0, ML3.0, 3C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.47**	**189**	⇓*i*P	P	17 47 18.3	-0.1
CCHI				*i* S	S	17 47 27.3	+0.4
CCHI				AMP		17 47 28.0	
	comp=E,905nm,0.2s						
COCH	**Cobquecura**	**0.65**	**271**	⇑*i*P	P	17 47 20.9	+0.6
COCH				*i* S	S	17 47 30.7	+0.2
COCH				AMP		17 47 33.3	
	comp=N,463nm,0.2s						
TALC	**Talca**	**0.80**	**21**	⇑*i*P	P	17 47 22.0	-0.2
TALC				*i* S	S	17 47 33.7	-0.1
TALC				AMP		17 47 34.2	
	comp=E,4μm,0.1s						
CICH	**Cipreses**	**2.23**	**36**	*i* P	P	17 47 42.4	+0.4
CICH				*i* S	S	17 48 09.4	+1.1
LNV	**Longovilo**	**2.23**	**12**	⇑*i*P	P	17 47 44.4	+2.3
CACH	**El Canelo**	**2.32**	**30**	*i* S	S	17 48 11.0	+0.4
CHCH	**Chadas Angostu**	**2.46**	**27**	*i* P	P	17 47 44.8	-0.6
CHCH				*i* S	S	17 48 14.5	+0.2

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*IDC **15** 18:16:38.4±1.8, 60.15N×25.38E, mb1 3.5/3, mb1mx3.2/16, ML2.2/2, Error ellipse: s-maj=18.6km s-min=7.3km az=144.0*

*HEL **15** 18:16:39.0±0.1, 60.18N×25.20E, ML1.8, ML1.7(UPP), Explosion*

ISC 15 18:16:38.4±0.9**, 60.29N**±0.07×**25.06E**±0.09**, n15, σ1^{s}33**/28**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUR	**Nurmij rvi**	**0.30**	**317**	*e*P	**Pg**	**18 16 46.4**	**+2.1**
NUR				*e*S	**Sg**	**18 16 52.2**	**+3.8**
PVF	**Pernaja**	**0.47**	**57**	*e*P	**Pg**	**18 16 47.6**	**-0.2**
PVF				*e*S	**Sg**	**18 16 54.4**	**+0.3**
FIA0	**FINESS Array S**	**1.26**	**23**	*e*P	**Pb**	**18 17 03.2**	**+0.5**
FIA0				*e*S	**Sb**	**18 17 21.8**	**+2.5**
FINES	**FINESS Array B**	**1.26**	**23**	Pg	**Pg**	**18 17 03.2**	**-0.4**
	2.1nm,0.3s,baz=190,slow=18,SNR=84						
FINES				Pn	**Pn**	**18 17 05.5**	**+2.2**
	2.1nm,0.3s,baz=198,slow=13,SNR=84						
FINES				Lg		18 17 20.6	
	0.6nm,0.3s,baz=191,slow=30,SNR=8.6						
FINES				Sn	**Sn**	**18 17 25.3**	**+4.2**
	4.0nm,0.3s,baz=194,slow=24,SNR=19						
FINES				Rg		18 17 28.2	
	5.5nm,0.6s,baz=191,slow=31,SNR=5.4						
KAF	**Kangasniemi**	**1.93**	**18**	*e*PG	**Pg**	**18 17 15.0**	**-1.8**
KAF				*e*SG	**Sg**	**18 17 41.9**	**-0.7**
KAF				MSG		18 17 43.9	
	comp=Z,5.3nm,0.1s						
SUF	**Sumiainen**	**2.49**	**12**	*e*PB	**Pb**	**18 17 24.1**	**+0.2**
SUF				*e*SG	**Sg**	**18 17 58.1**	**-3.3**
SUF				MSG		18 17 59.3	
	comp=Z,2.9nm,0.1s						
AAL	**Aland**	**2.53**	**270**	*e*P	**Pn**	**18 17 22.0**	**+0.6**
AAL				*e*S	**Sn**	**18 17 55.7**	**+2.4**
GRAU	**Graesoe**	**3.25**	**274**	*e*P	**Pn**	**18 17 31.4**	**-0.1**
GRAU				*e*S	**Sn**	**18 18 11.2**	**-0.3**
NRTU	**Norrtaelje**	**3.29**	**262**	*e*P	**Pn**	**18 17 32.9**	**+0.7**
FLYU	**Flymyra**	**3.59**	**271**	*e*P	**Pn**	**18 17 36.6**	**+0.2**
FLYU				*e*S	**Sn**	**18 18 19.6**	**-0.4**
NYNU	**Nynaeshamn**	**3.81**	**253**	*e*P	**Pn**	**18 17 39.4**	**-0.1**
BACU	**Backbrunna**	**4.01**	**267**	*e*P	**Pn**	**18 17 42.7**	**+0.3**
HFS	**Hagfors**	**5.67**	**273**	Pn	**Pn**	**18 18 04.4**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=92,slow=14,SNR=4.6						
HFS				Sn	**Sn**	**18 19 09.1**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=87,slow=28,SNR=5.1						
HFS				Lg		18 19 38.9	
	comp=Z,0.1nm,0.3s,baz=75,slow=33,SNR=3.7						
NOA	**NORSAR Array B**	**6.85**	**282**	Pn	**Pn**	**18 18 20.8**	**-1.8**
	baz=119,slow=20,SNR=2.4						
NOA				Sn	**Sn**	**18 19 37.6**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=145,slow=22,SNR=2.4						
ARCES	**ARCESS Array B**	**9.29**	**1**	Pn	**P**	**18 18 53.7**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=6.6						
ARCES				Sn	**Sn**	**18 20 35.0**	**-8.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=24,SNR=2.6						

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*ROM **15** 18:21:05.0±0.2, 38.62N×16.25E, h9^{km}±2^{km}, MD3.3/2, ML2.8/5, Error ellipse: s-maj=3.0km s-min=1.4km az=90.0*

*NEIC **15** 18:21:05.0, 38.62N×16.25E, h9^{km}, MD3.3(ROM), After ROM.*

*IDC **15** 18:21:09.0±2.7, 38.69N×16.20E, h36^{km}±34^{km}, mb3.5/2, mb1 3.6/6, mb1mx3.4/20, ML3.3/4, Error ellipse: s-maj=28.2km s-min=22.5km az=120.0*

ISC 15 18:21:04.5±0.7**, 38.62N**±0.04×**16.33E**±0.05**, h14**^{km}±6^{km}**, n39, σ0^{s}84**/53**, mb3.7**/2**, 11C-2D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.21**	**19**	⇑*i*PG	**Pg**	**18 21 11.3**	**+1.8**
GRI	**Girifalco**	**0.21**	**19**	⇑*i*Pg	**Pg**	**18 21 11.3**	**+1.8**
SOI	**Samo**	**0.59**	**202**	⇑*i*PG	**Pg**	**18 21 16.3**	**-0.2**
SOI				SG	**Sg**	**18 21 25.0**	**+0.5**
SOI	**Samo**	**0.59**	**202**	⇑*i*Pg	**Pg**	**18 21 16.3**	**-0.2**
SOI				*e*Sg	**Sg**	**18 21 25.0**	**+0.5**
GMB	**Gambarie**	**0.60**	**221**	*e*PG	**Pg**	**18 21 16.6**	**-0.1**
GMB	**Gambarie**	**0.60**	**221**	*e*Pg	**Pg**	**18 21 16.6**	**-0.1**
SCLL	**Scilla**	**0.60**	**233**	*e*PG	**Pg**	**18 21 16.2**	**-0.6**
SCLL				SG	**Sg**	**18 21 25.4**	**+0.3**
SCLL	**Scilla**	**0.60**	**233**	*e*Pg	**Pg**	**18 21 16.2**	**-0.6**
SCLL				*e*Sg	**Sg**	**18 21 25.4**	**+0.4**
TIP	**Timpagrande**	**0.65**	**31**	*e*Pn	**Pn**	**18 21 18.3**	**-0.7**
TIP				*e*Sn	**Sn**	**18 21 28.1**	**-0.8**
MSI	**Messina ING**	**0.74**	**236**	*e*PG	**Pg**	**18 21 19.4**	**0.0**
	1μm,0.5s						
MSI	**Messina ING**	**0.74**	**236**	*e*Pg	**Pg**	**18 21 19.4**	**-0.1**
MSRU	**Castanea**	**0.74**	**241**	*e*PG	**Pg**	**18 21 18.1**	**-1.3**
MSRU				SG	**Sg**	**18 21 29.9**	**+0.5**
MTTG	**Motta San Giov**	**0.80**	**219**	*e*PG	**Pg**	**18 21 20.2**	**-0.4**
MTTG	**Motta San Giov**	**0.80**	**219**	*e*Pg	**Pg**	**18 21 20.2**	**-0.4**
ATN	**Antennamare**	**0.82**	**236**	⇑*i*PG	**Pg**	**18 21 20.5**	**-0.6**
ATN				SG	**Sg**	**18 21 31.9**	**-0.3**
ATN	**Antennamare**	**0.82**	**236**	⇑*i*Pg	**Pg**	**18 21 20.5**	**-0.6**
ATN				*e*Sg	**Sg**	**18 21 31.9**	**-0.3**
MMME	**Mongiuffi-Meli**	**1.09**	**231**	⇑*i*PG	**Pg**	**18 21 25.5**	**-0.9**
MMME				SG	**Sg**	**18 21 41.0**	**0.0**
SLNA	**Salina**	**1.18**	**268**	*e*PN	**Pn**	**18 21 26.6**	**+0.1**
	577nm,0.4s						
SLNA	**Salina**	**1.18**	**268**	*e*Pn	**Pn**	**18 21 26.6**	**+0.1**
ECTS	**Castiglione**	**1.20**	**233**	*e*PN	**Pn**	**18 21 27.8**	**+0.9**
ECTS	**Castiglione**	**1.20**	**233**	*e*Pn	**Pn**	**18 21 27.8**	**+0.9**

MGR	Morigerati	1.63	339	⇑*i*PN	Pn	18 21 32.5	-0.5
MGR				SN	Sn	18 21 53.5	-0.4
	99nm,0.4s						
MGR	Morigerati	1.63	339	⇑*i*Pn	Pn	18 21 32.5	-0.6
MGR				*e*Sn	Sn	18 21 53.5	-0.3
SLCN	Sala Consilina	1.85	343	⇓*i*PN	Pn	18 21 35.9	-0.2
	93nm,0.5s						
SLCN	Sala Consilina	1.85	343	⇓*i*Pn	Pn	18 21 35.9	-0.3
VAE	Valguarnera	1.90	234	Pn	Pn	18 21 39.4	+2.6
	1.9nm,0.3s,baz=291,slow=1.1,SNR=6.4						
SGO	Sicignano	2.09	338	⇑*i*PN	Pn	18 21 39.3	-0.3
SGO				SN	Sn	18 22 05.6	0.0
	36nm,0.3s						
SGO	Sicignano	2.09	338	⇑*i*Pn	Pn	18 21 39.3	-0.4
SGO				*e*Sn	Sn	18 22 05.5	-0.1
MRLC	Muro Lucano	2.23	343	*e*PN	Pn	18 21 42.9	+1.3
	32nm,0.5s						
MRLC	Muro Lucano	2.23	343	*e*Pn	Pn	18 21 42.9	+1.3
CSSN	Cassano Irpino	2.46	336	*e*PN	Pn	18 21 45.1	+0.3
CSSN	Cassano Irpino	2.46	336	*e*Pn	Pn	18 21 45.1	+0.3
IDI	Anoyia	7.62	113	Pn	Pn	18 22 57.4	-0.4
	0.3nm,0.3s,baz=319,slow=19,SNR=2.7						
IDI				Sn	Sn	18 24 20.4	-4.3
	2.4nm,0.3s,baz=329,slow=19,SNR=12						
DAVOX	Davos	9.43	332	Pn	P	18 23 26.3	+3.2
	0.1nm,0.3s,baz=156,slow=20,SNR=4.5						
MLR	Muntele Rosu	9.91	43	Pn	P	18 23 30.4	+0.9
	0.1nm,0.3s,baz=174,slow=16,SNR=2.5						
GERES	GERESS Array B	10.40	350	Pn	P	18 23 35.0	-1.2
	0.1nm,0.3s,baz=176,slow=13,SNR=3.6						
FINES	FINESS Array B	23.64	12	P	P	18 26 15.6	-0.1
	5.3nm,1.1s,mb3.9,baz=191,slow=9.7,SNR=8.5						
FINES	FINESS Array B	23.64	12	P	P	18 26 15.6	-0.1
MKAR	Makanchi Array	47.86	58	P	P	18 29 44.0	+0.4
	0.2nm,0.4s,mb3.5,baz=280,slow=7.6,SNR=4.6						

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*NEIC **15** 18:21:40.0±2.3, 3.54S×139.26E, h65^{km}±21^{km}, mb4.1/4, Error ellipse: s-maj=17.3km s-min=16.3km az=95.0*

*SYO **15** 18:21:39.9, 3.54S×139.26E, h65^{km}, MB4.1*

*IDC **15** 18:21:44.5±3.5, 3.57S×139.38E, h111^{km}±34^{km}, mb3.6/7, mb1 3.9/11, mb1mx3.8/14, MS3.4/2, Ms1 3.4/2, ms1mx2.7/16, Error ellipse: s-maj=26.6km s-min=11.9km az=102.0*

ISC 15 18:21:34.6±2.7**, 3.43S**±0.06×**139.24E**±0.10**, h31**^{km}±20^{km}**, n22,** σ**1^{s}05**/25**, mb3.9**/7**, MS3.3**/2**, 1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	9.86	127	P	P	18 23 59.5	+2.0
	0.6nm,0.3s,baz=301,slow=5.9,SNR=5.5						
PMG	Port Moresby	9.86	127	*e*P	P	18 23 59.1	+1.6
	12nm,0.7s						
KAKA	Kakadu	11.42	216	*e*P	P	18 24 18.5	-0.5
	23nm,0.4s						
KAKA				*e*S	S	18 26 26.8	+0.3
WRAB	Tennant Creek	17.08	196	*e*P	P	18 25 31.3	-1.6
	46nm,1.1s						
WB2	Warramunga Arr	17.09	196	*e*P	P	18 25 32.6	-0.5
WRA	Warramunga Arr	17.09	196	P	P	18 25 32.5	-0.6
	0.8nm,0.3s,baz=18,slow=13,SNR=27						
WRA				S	S	18 28 39.9	-0.6
	0.1nm,0.3s,baz=9.0,slow=22,SNR=4.1						
CTA	Charters Tower	17.91	158	P	P	18 25 43.8	+0.5
	0.3nm,0.3s,baz=329,slow=11,SNR=10						
CTAO	Charters Tower	17.91	158	*e*P	P	18 25 42.9	-0.5
	6.1nm,0.7s						
FITZ	Fitzroy Crossi	19.75	221	*e*P	P	18 26 05.6	+0.5
	8.3nm,1.0s						
FITZ				*e*S	S	18 29 40.8	+0.5
FITZ	Fitzroy Crossi	19.75	221	P	P	18 26 06.2	+1.1
	0.5nm,0.3s,baz=22,slow=9.3,SNR=14						
FITZ				S	S	18 29 40.4	0.0
	0.2nm,0.3s,baz=346,slow=8.3,SNR=3.2						
ASAR	Alice Springs	20.77	194	P	P	18 26 15.6	-0.1
	15nm,0.7s,baz=24,slow=8.8,SNR=103						
ASAR				S	S	18 30 02.9	+2.0
	1.1nm,0.8s,baz=15,slow=26,SNR=3.0						
ASAR				LR	LR	18 35 45.3	
	comp=Z,58nm,19.1s,MS3.0,baz=15,slow=41						
ASPA	Alice Springs	20.77	194	*e*P	P	18 26 17.3	+1.6
STKA	Stephens Creek	28.38	176	LR	LR	18 39 27.6	
	comp=Z,152nm,20.7s,MS3.6,baz=24,slow=38						
CMAR	Chiang Mai Arr	45.25	300	P	P	18 29 53.3	+1.8
	1.2nm,0.7s,mb3.8,baz=100,slow=5.5,SNR=4.5						
SONM	Songino Array	58.59	335	P	P	18 31 31.1	+0.1
	0.3nm,0.6s,mb3.5,baz=139,slow=6.1,SNR=2.8						
MKAR	Makanchi Array	70.68	322	P	P	18 32 49.5	0.0
	0.4nm,0.4s,mb3.8,baz=106,slow=7.8,SNR=12						
BVAR	Borovoye Array	80.20	325	P	P	18 33 44.1	+0.5
	0.7nm,0.4s,mb4.0,baz=113,slow=7.1,SNR=6.6						
MAW	Mawson	81.66	202	P	P	18 33 50.4	-0.5
	0.8nm,0.7s,mb3.8,baz=14,slow=14,SNR=2.6						
ILAR	Eielson Array	86.27	24	P	P	18 34 12.2	-2.1
	0.6nm,0.7s,mb3.9,baz=267,slow=5.3,SNR=8.0						
QSPA	South Pole Qui	86.52	180	*e*P	P	18 34 15.5	+0.2
	1.4nm,0.6s,mb4.4						
SYO	Syowa Base	90.27	201	⇓P	P	18 34 31.6	-1.8
DBIC	Dimbokro	144.10	277	PKP	PKPdf	18 41 08.7	-4.9
	2.4nm,0.7s,baz=166,slow=14,SNR=3.5						

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*TAP **15** 18:35:46.4, 24.69N×122.37E, h89^{km}, ML3.1*

*JMA **15** 18:35:46.4±0.2, 24.64N×122.38E, h92^{km}, M1.8*

ISC 15 18:35:46.6±2.5**, 24.6N**±0.3×**122.4E**±0.1**, h91**^{km}±18^{km}**, n6,** σ**0^{s}31**/11**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.59	108	P	P	18 36 02.3	-0.1
YOJ				*e*S	S	18 36 14.3	+0.2
IRIF	Iriomote-Funau	1.25	104	P	P	18 36 09.2	-0.6
IRIF				*e*S	S	18 36 27.0	-0.1
HATJ	Hateruma jima	1.41	114	*e*S	S	18 36 30.5	+0.1
JKRS	Kuro-shima	1.53	105	P	P	18 36 13.4	+0.2
JKRS				S	S	18 36 33.1	+0.3
JIJ	Ishigaki jima	1.62	100	P	P	18 36 14.4	+0.1
JIJ				S	S	18 36 34.2	-0.6
JTJ	Tarama	2.10	90	P	P	18 36 21.0	+0.3
JTJ				*e*S	S	18 36 46.1	+0.1

IDC 15 18:45:09.0±21.0**, 18.49S**×**177.95W, h585**^{km}±217^{km}**, mb2.9**/5**, mb1 3.1**/5**, mb1mx2.9**/14**, Error ellipse: s-maj=262.0km s-min=63.5km az=136.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.79	261	P	P	18 51 04.0	-0.9
	1.7nm,0.9s,baz=89,slow=18,SNR=2.9						
WB2	Warramunga Arr	44.95	260	*e*P	P	18 52 33.4	-1.3
WRA	Warramunga Arr	44.96	260	P	P	18 52 32.3	-2.5
	0.5nm,0.4s,baz=96,slow=8.3,SNR=12						
ASAR	Alice Springs	45.06	255	P	P	18 52 34.2	-1.3
	4.9nm,1.2s,baz=88,slow=7.7,SNR=18						
FITZ	Fitzroy Crossi	53.37	261	P	P	18 53 35.6	-1.3
	1.4nm,0.9s,baz=231,slow=9.5,SNR=2.8						
ILAR	Eielson Array	86.35	13	P	P	18 56 49.3	-1.1
	0.1nm,0.4s,baz=232,slow=3.7,SNR=4.4						

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*NEIC **15** 18:48:04.6±0.5, 7.04S×105.32E, h50^{km}, mb4.3/2, Error ellipse: s-maj=24.3km s-min=8.4km az=53.0*

*IDC **15** 18:48:07.3±13.0, 7.05S×105.33E, h77^{km}±117^{km}, mb3.4/8, mb1 3.5/8, mb1mx3.5/15, Error ellipse: s-maj=89.7km s-min=19.0km az=56.0*

ISC 15 18:48:08.0±0.7**, 7.0S**±0.1×**105.4E**±0.2**, h100**^{km}**, n15,** σ**0^{s}75**/15**, mb3.7**/10**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.60	121	P	P	18 53 02.8	+1.7
	2.1nm,0.8s,mb3.5,baz=115,slow=10,SNR=3.4						
CMAR	Chiang Mai Arr	26.07	346	P	P	18 53 34.5	+0.3
	0.5nm,0.4s,mb3.3,baz=174,slow=8.3,SNR=4.3						
WRA	Warramunga Arr	30.88	118	P	P	18 54 15.7	-1.7
	0.3nm,0.6s,mb3.2,baz=290,slow=9.8,SNR=3.3						
WRA	Warramunga Arr	30.88	118	P	P	18 54 15.7	-1.7
ASAR	Alice Springs	31.99	124	P	P	18 54 26.8	-0.3
	0.3nm,1.0s,mb3.0,baz=302,slow=8.3,SNR=4.2						
LSA	Lhasa	38.97	340	*e*P	P	18 55 27.1	+1.0
	1.7nm,0.5s,mb4.1						
STKA	Stephens Creek	41.83	131	P	P	18 55 50.2	+0.5
	2.2nm,0.6s,mb4.0,baz=313,slow=11,SNR=6.5						
STKA	Stephens Creek	41.83	131	*e*P	P	18 55 50.1	+0.4
SONM	Songino Array	54.59	1	P	P	18 57 28.2	-0.2
	0.4nm,0.6s,mb3.6,baz=186,slow=8.4,SNR=6.2						
SONM				PcP	PcP	18 58 30.7	+0.7
	0.4nm,0.4s,baz=180,slow=4.3,SNR=5.5						
MKAR	Makanchi Array	57.35	341	P	P	18 57 47.6	-0.5
	0.8nm,0.5s,mb4.0,baz=155,slow=8.6,SNR=16						
KURK	Kurchatov	61.96	341	*e*P	P	18 58 19.5	-0.1
BRVK	Borovoye	66.81	338	*e*P	P	18 58 50.7	-0.4
MAW	Mawson	66.93	196	*e*P	P	18 58 51.5	-0.1
	4.8nm,0.9s,mb4.3						
ZRNK	Zerenda	67.22	337	*e*P	P	18 58 53.2	-0.4
BRTR	Keskin Array B	80.64	312	P	P	19 00 11.7	+0.2
	0.4nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=3.0						

IDC 15 18:55:07.8±10.0**, 2.22N**×**128.07E, h227**^{km}±103^{km}**, mb3.0**/5**, mb1 3.2**/5**, mb1mx3.0**/15**, Error ellipse: s-maj=96.8km s-min=24.4km az=60.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.34	187	P	P	18 59 27.0	-0.9
	1.5nm,1.0s,baz=354,slow=10,SNR=2.5						
WRA	Warramunga Arr	22.87	165	P	P	18 59 51.4	-1.4
	0.9nm,0.6s,baz=345,slow=11,SNR=18						
ASAR	Alice Springs	26.35	168	P	P	19 00 23.4	-1.7
	0.5nm,0.5s,baz=352,slow=7.5,SNR=19						
ASAR				PcP	PcP	19 03 42.5	-2.4
	0.3nm,0.7s,baz=360,slow=1.9,SNR=4.6						
STKA	Stephens Creek	36.26	160	P	P	19 01 49.6	-1.5
	0.8nm,0.4s,baz=333,slow=6.8,SNR=2.0						
MKAR	Makanchi Array	59.55	325	P	P	19 04 47.5	-2.0
	0.2nm,0.4s,baz=104,slow=7.8,SNR=4.3						

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*NEIC **15** 18:58:46.7±1.9, 60.77S×160.26E, h10^{km}, mb4.0/2, Error ellipse: s-maj=75.7km s-min=13.6km az=74.0*

*IDC **15** 18:58:47.0±4.7, 60.82S×159.40E, mb3.7/3, mb1 3.9/4, mb1mx3.9/10, ML3.4/1, MS4.1/8, Ms1 4.1/8, ms1mx4.0/14, Error ellipse: s-maj=149.0km s-min=27.6km az=85.0*

ISC 15 18:58:45.1±1.9**, 60.8S**±0.2×**16 0E**± **, h10**^{km}**, n14,** σ**0^{s}94**/8**, mb3.5**/4**, MS4.1**/6**, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	16.84	179	Pn	P	19 02 42.3	+0.3
	0.1nm,0.3s,baz=344,slow=17,SNR=9.1						
VNDA				LR	LR	19 07 58.4	
	comp=Z,459nm,20.2s,baz=360,slow=33						
SBA	Scott Base	17.29	175	*e*P	P	19 02 47.3	-0.5
	92nm,2.0s						
RPZ	Rata Peaks	18.29	26	LR	LR	19 09 25.2	
	comp=Z,600nm,19.0s,baz=134,slow=34						
URZ	Urewera	24.92	33	LR	LR	19 12 03.5	
	comp=Z,351nm,20.9s,MS3.8,baz=181,slow=32						
QSPA	South Pole Qui	29.32	180	P	P	19 04 47.5	-1.8
	0.5nm,0.6s,mb3.4						
STKA	Stephens Creek	31.39	329	LR	LR	19 16 45.0	
	comp=Z,441nm,18.3s,MS4.2,baz=175,slow=34						
MAW	Mawson	38.67	217	P	P	19 06 09.7	-0.2
	1.0nm,0.8s,mb3.6,baz=129,slow=8.7,SNR=4.5						
MAW				LR	LR	19 22 17.0	
	comp=Z,414nm,18.2s,MS4.3,baz=329,slow=37						
NWAO	Narrogin (SRO)	39.34	295	LR	LR	19 16 35.8	
	comp=Z,150nm,21.0s,MS3.8,baz=329,slow=27						
ASAR	Alice Springs	41.30	322	P	P	19 06 32.7	+0.5
	1.8nm,0.8s,mb3.8,baz=163,slow=8.4,SNR=13						
WRA	Warramunga Arr	44.69	324	P	P	19 06 59.1	-0.7
	0.4nm,0.6s,mb3.4,baz=158,slow=6.7,SNR=5.0						
VNA3	Neumayer Olymp	48.08	184		P	19 07 26.9	+1.0
VNA2	Neumayer--Watz	48.30	185		P	19 07 28.9	+1.3
SUR	Sutherland	81.42	214	LR	LR	19 45 40.5	
	comp=Z,128nm,18.3s,MS4.3,baz=69,slow=35						
CMAR	Chiang Mai Arr	92.87	304	LR	LR	19 51 51.0	
	comp=Z,53nm,18.2s,MS4.0,baz=135,slow=34						

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*MOS **15** 19:10:07.0±0.8, 57.44N×156.66W, h40^{km}, mb4.6/6, Error ellipse: s-maj=41.4km s-min=12.0km az=90.3*

*IDC **15** 19:10:10.5±3.2, 57.45N×155.86W, h58^{km}±28^{km}, mb4.2/17, mb1 4.3/21, mb1mx4.2/25, ML4.3/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/25, Error ellipse: s-maj=22.2km s-min=15.5km az=163.0*

*NEIC **15** 19:10:12.9, 57.18N×155.61W, h54^{km}, mb4.4/32, ML4.1(AEIC), After AEIC.*

ISC 15 19:10:09.9±0.3**, 57.18N**±0.03×**155.56W**±0.04**, h77**^{km}±2^{km}**, n209,** σ**0^{s}99**/230**, mb4.3**/54**, 6C, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KJL	Kejulik	0.88	359	P	P	19 10 28.7	+1.2
KJL				S	S	19 10 40.1	-0.5
CAHL	Cahill	0.88	9	P	P	19 10 28.9	+1.3
KABR	Katmai Barrier	1.00	18	P	P	19 10 30.4	+1.4
ANCK	Angle Creek	1.02	2	P	P	19 10 30.5	+1.2
ANCK				S	S	19 10 43.6	-0.2
ACHA	Angle Creek He	1.04	7	P	P	19 10 31.0	+1.5
ACHA				S	S	19 10 44.8	+0.6
MGLS	Mageik LS	1.04	7	P	P	19 10 29.9	+0.5
MGLS				S	S	19 10 43.3	-0.9
CNTC	Contact Creek	1.10	351	P	P	19 10 31.3	+1.1
CNTC				S	S	19 10 44.9	-0.6
ANPK	Aniakchak Peak	1.45	257	P	P	19 10 35.4	+0.5
ANPK				S	S	19 10 54.0	+0.5
ANPB	Aniakchak Plen	1.54	257	P	P	19 10 36.7	+0.6
ANPB				S	S	19 10 56.5	+1.0
KDAK	Kodiak Island	1.71	68	P	P	19 10 39.8	+1.3
KDAK				S	S	19 11 00.7	+1.2
MCNL	McNeil River	2.11	17	P	P	19 10 45.0	+1.1
SYI	Shuyak Island	2.21	48	P	P	19 10 46.6	+1.3
AUI	Augustine Isla	2.44	27	P	P	19 10 49.8	+1.4
AGU	Augustine-Summ	2.46	26	P	P	19 10 50.4	+1.6
AUW	Augustine West	2.46	26	P	P	19 10 50.2	+1.4
AUE	Augustine Isla	2.47	27	P	P	19 10 50.5	+1.5
AUL	Augustine Lava	2.48	26	P	P	19 10 50.4	+1.4
OPT	Oil Point	2.76	25	P	P	19 10 54.3	+1.2
XLV	Seldovia	3.05	40	P	P	19 10 58.0	+1.0
ILS	Iliamna Low So	3.07	24	P	P	19 10 58.5	+1.1
IVS	Iliamna South	3.12	24	P	P	19 10 59.3	+1.3
ILIM	Iliamna	3.21	24	P	P	19 11 00.4	+1.1
HOM	Homer	3.23	38	P	P	19 10 59.7	+0.2
CNPM	China Poot	3.27	42	P	P	19 11 00.8	+0.7
CNPM				S	S	19 11 37.7	-0.4
SDPT	Sand Point	3.30	238	*e*P	P	19 11 00.1	-0.5
BRLK	Bradley Lake	3.57	41	P	P	19 11 04.5	+0.2
RSO	Redoubt South	3.60	23	P	P	19 11 06.1	+1.4
REF	Redoubt East F	3.63	23	P	P	19 11 06.4	+1.3
RDT	Redoubt	3.77	24	P	P	19 11 08.0	+0.8
RDT				S	S	19 11 50.5	-0.1
BLHA	Black Hill	3.91	250	P	P	19 11 08.8	-0.1
PVV	Pavlof Volcano	3.92	245	P	P	19 11 09.4	+0.2
SVW	Sparrevohn	3.94	360	P	P	19 11 10.0	+0.6
SVW				S	S	19 11 53.5	-1.2
PN6	Pavlof North-6	3.94	247	P	P	19 11 10.1	+0.7
PN7A	Pavlof North-7	3.99	247	P	P	19 11 10.6	+0.5
HAG	Hague Volcano	4.00	245	P	P	19 11 10.6	+0.3
DOL	Dolgoi Island	4.07	243	P	P	19 11 10.8	-0.5
BKG	Blockade Glaci	4.25	22	P	P	19 11 14.6	+0.9
DT1	Dutton Round H	4.30	244	P	P	19 11 13.7	-0.7
SEW	Seward	4.33	45	P	P	19 11 13.9	-1.0
SLKM	Skilak Lake	4.34	37	P	P	19 11 14.7	-0.2
CKL	Chakachamna La	4.35	21	P	P	19 11 16.5	+1.4
SPU	Mount Spurr	4.40	23	P	P	19 11 16.4	+0.6
BALA	Baldy Mountain	4.50	247	P	P	19 11 17.4	+0.2
MPA	Moose Pass	4.62	42	P	P	19 11 18.2	-0.7
FIB	Fire Island	4.86	32	P	P	19 11 22.9	+0.8
RC01	Rabbit Creek A	4.93	35	P	P	19 11 22.7	-0.4
RC01				S	S	19 12 16.8	-2.7
LTI	Latouche	4.94	51	P	P	19 11 22.6	-0.7
SUA	Susitna One	4.95	28	P	P	19 11 23.9	+0.5
SUA				S	S	19 12 17.1	-2.9
FALS	False Pass	4.99	245	P	P	19 11 23.3	-0.7
PMS	Palmer South	5.11	35	P	P	19 11 25.5	-0.1
PWL	Port Wells	5.25	42	P	P	19 11 26.6	-0.8
SSLN	Shishaldin Nor	5.30	247	P	P	19 11 27.2	-0.9
PWA	Palmer West	5.34	31	P	P	19 11 28.5	-0.2
MID	Middleton Isla	5.36	61	P	P	19 11 28.6	-0.4
WTUG	Tugumak	5.48	248	P	P	19 11 30.5	-0.1
PMR	Palmer	5.51	34	P	P	19 11 30.3	-0.8
KNK	Knik Glacier	5.59	38	P	P	19 11 31.4	-0.7
CFI	College Fiord	5.67	42	P	P	19 11 33.1	-0.1
HIN	Hinchinbrook I	5.71	52	P	P	19 11 33.2	-0.5
GHO	Glory Hole Cre	5.71	34	P	P	19 11 33.6	-0.3
GLI	Glacier Island	5.73	46	P	P	19 11 32.5	-1.6
TT01	Tatalina	5.75	358	P	P	19 11 34.2	-0.2
CUT	Chulitna	5.88	25	P	P	19 11 36.1	0.0
FID	Port Fidalgo	5.90	49	P	P	19 11 34.7	-1.7
SML	Sawmill	5.92	35	P	P	19 11 36.0	-0.7
CVA	Cordova	6.10	52	P	P	19 11 38.8	-0.5
EYAK	Cordova Ski Ar	6.11	52	P	P	19 11 38.4	-0.9
EYAK				S	S	19 12 46.6	-1.9
VLZ	Valdez	6.18	46	P	P	19 11 39.7	-0.6
SCM	Sheep Creek Mo	6.27	38	P	P	19 11 41.1	-0.4
SGAM	Sherman Glacie	6.32	54	P	P	19 11 41.9	-0.5
DIV	Divide	6.40	48	P	P	19 11 42.6	-0.9
DIV				S	S	19 12 51.8	-4.0
KAIM	Kayak Island	6.45	60	P	P	19 11 43.7	-0.4
RAGM	Ragged Mountai	6.50	56	P	P	19 11 44.4	-0.5
KLU	Klutina	6.55	45	P	P	19 11 44.5	-1.1
AHB	Akutan Harbor	6.57	246	P	P	19 11 45.4	-0.4
HMT	Hamilton	6.67	57	P	P	19 11 46.5	-0.7
KTH	Kantishna Hill	6.79	18	P	P	19 11 48.6	-0.3
BMRM	Bremner River	6.80	52	P	P	19 11 47.8	-1.3
BMRM				S	S	19 13 00.7	-4.9
TRF	Thorofare Moun	6.81	20	P	P	19 11 48.7	-0.5
UNV	Unalaska Valle	7.05	246	P	P	19 11 51.0	-1.6
MTBL	Makushin Table	7.08	248	P	P	19 11 52.8	-0.1
TZL	Tazlina	7.08	42	P	P	19 11 53.0	+0.1
MNAT	Makushin Natee	7.13	247	P	P	19 11 52.3	-1.3
MSW	Makushin Switc	7.16	248	P	P	19 11 52.4	-1.6
DHY	Denali Highway	7.18	31	P	P	19 11 52.8	-1.5
MCIR	Makushin Cirqu	7.20	248	P	P	19 11 53.2	-1.3
SNH	Sunshine Point	7.28	60	P	P	19 11 55.2	-0.5
MCK	McKinley	7.34	24	P	P	19 11 56.1	-0.3
MCK				S	S	19 13 13.9	-5.0
CRQM	Cirque	7.35	56	P	P	19 11 55.9	-0.7
SDG	Sourdough	7.35	39	P	P	19 11 56.4	-0.2
WAX	Waxell Ridge	7.36	58	P	P	19 11 55.8	-1.0
GLB	Gilahina Butte	7.37	50	P	P	19 11 55.8	-1.1
GLB				S	S	19 13 15.0	-4.7
TGL	Tana Glacier	7.49	56	P	P	19 11 57.9	-0.6
PAX	Paxson	7.69	37	P	P	19 12 00.8	-0.4
PAX				S	S	19 13 23.9	-3.5
BALM	Baldy	7.82	55	P	P	19 12 02.2	-0.8
THY	Trims Highway	7.92	34	P	P	19 12 04.5	+0.1
CTGM	Chitina Glacie	8.25	57	P	P	19 12 08.7	-0.2
PCA	Pinnacle	8.50	64	P	P	19 12 11.7	-0.6
COLA	College	8.57	23	P	P	19 12 11.3	-2.0
COLA	College	8.57	23	P	P	19 12 11.4	-1.9
ILAR	Eielson Array	8.69	25	P	P	19 12 12.1	-2.9
	3.0nm,0.3s,baz=217,slow=14,SNR=102						
ILAR				S	S	19 13 43.3	-9.0
	1.7nm,0.3s,baz=144,slow=14,SNR=6.6						
ANM	Nome	8.81	331	P	P	19 12 16.6	+0.1
PNL	Peninsula	8.84	67	P	P	19 12 15.8	-1.1
IM3	Indian Mountai	8.88	5	P	P	19 12 17.1	-0.3
IMA	Indian Mountai	8.96	5	*e*P	P	19 12 19.0	+0.4
BCA3	Beaver Creek A	9.04	44	P	P	19 12 19.2	-0.5
SIT	Sitka	11.00	82	P	P	19 12 45.0	-1.0
BESE	Bessie Mountai	11.10	74	P	P	19 12 48.4	+0.9
WHY	Whitehorse	11.22	63	P	P	19 12 49.4	+0.3
BM3	Burnt Mountain	11.44	22	P	P	19 12 48.2	-3.8
DLBC	Dease Lake	13.64	74	P	P	19 13 22.9	+2.1
	1.4nm,0.3s,baz=275,slow=12,SNR=19						
DLBC				S	S	19 15 50.6	-0.3
	0.6nm,0.3s,baz=226,slow=25,SNR=3.8						
DLBC				LR	LR	19 18 23.6	
	comp=Z,36nm,21.1s,baz=306,slow=36						
DLBC	Dease Lake	13.64	74	P	P	19 13 22.9	+2.1
DLBC				S	S	19 15 50.6	-0.3
DLBC				LR	LR	19 18 23.6	
INK	Inuvik	14.92	33	P	P	19 13 37.1	-0.3
	0.4nm,0.3s,baz=200,slow=13,SNR=14						
BBB	Bella Bella	16.57	96	LR	LR	19 19 59.2	
	comp=Z,40nm,21.6s,baz=180,slow=35						
FX1	Attu Island--F	18.34	270	P	P	19 14 18.9	-1.2
	1.3nm,0.3s,baz=214,slow=3.6,SNR=4.7						
YKA	Yellowknife Ar	20.96	58	P	P	19 14 48.6	+0.4
	5.0nm,0.6s,baz=272,slow=10,SNR=8.1						
PDAR	Pinedale Array	32.22	97	P	P	19 16 35.0	+2.5
	0.5nm,0.5s,mb3.5,baz=315,slow=4.2,SNR=6.1						
ASAJ	Asahikawa	39.92	278	P	P	19 17 36.5	-1.1
	3.5nm,0.5s,mb4.4,baz=307,slow=30,SNR=6.3						
KLR	Kul'dur	42.31	292	*e*P	P	19 17 51.2	-5.8
BOD	Bodaibo	45.07	311	*e*P	P	19 18 14.7	-4.5
SCHQ	Schefferville	46.28	53	P	P	19 18 29.0	+0.1
	5.2nm,1.0s,mb4.2,baz=276,slow=9.2,SNR=3.1						
SCHQ	Schefferville	46.28	53	P	P	19 18 29.0	+0.1
ARCES	ARCESS Array B	53.58	360	P	P	19 19 22.6	-1.8
	2.2nm,0.6s,mb4.3,baz=9.3,slow=7.4,SNR=10.0						
ARCES				PcP	PcP	19 20 28.2	-1.9
	3.7nm,0.9s,slow=4.9,SNR=5.2						
TLY	Talaya	53.64	311	⇑*i*P	P	19 19 23.5	-1.7
TLY				*e**PP	pP	19 19 30.6	-14
TLY				*i*		19 20 30.6	
TLY				*e*		19 21 24.0	
TLY				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
TLY				MLR	MLR		
	comp=Z,300nm,20.0s						
ZAK	Zakamensk	54.77	310	*e*P	P	19 19 30.7	-2.7
ZAK				*e*		19 20 34.7	
SONM	Songino Array	55.36	306	P	P	19 19 36.4	-1.3
	comp=Z,2.6nm,0.6s,mb4.5,baz=40,slow=6.7,SNR=31						
SONM				PcP	PcP	19 20 37.4	+0.3
	comp=Z,1.8nm,0.4s,baz=109,slow=2.0,SNR=16						
KAF	Kangasniemi	61.03	359	*e*p	P	19 20 10.2	-6.9
	comp=Z,1.3nm,0.4s,mb4.3						
KAF	Kangasniemi	61.03	359	*e*P	P	19 20 10.2	-6.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NB2	NORSAR Subarra	61.66	7	P	P	19 20 19.9	-1.4
	comp=Z,1.3nm,0.7s,mb4.1,baz=354,slow=6.5						
NOA	NORSAR Array B	61.66	7	P	P	19 20 20.2	-1.1
	comp=Z,8.4nm,0.7s,mb4.9,baz=352,slow=6.7,SNR=28						
FINES	FINESS Array B	61.71	359	P	P	19 20 20.2	-1.4
	comp=Z,4.6nm,0.6s,mb4.7,baz=16,slow=8.0,SNR=28						
FINES	FINESS Array B	61.71	359	P	P	19 20 20.2	-1.4
ARU	Arti	63.45	340	*i* P	P	19 20 31.2	-2.1
KURK	Kurchatov	63.59	325	*e*P	P	19 20 32.3	-1.8
	comp=Z,1.0nm,0.5s,mb3.9						
BRVK	Borovoye	63.91	331	*e*P	P	19 20 34.4	-1.8
	comp=Z,7.0nm,0.8s,mb4.5						
BVAR	Borovoye Array	63.92	331	P	P	19 20 34.8	-1.4
	comp=Z,6.2nm,0.5s,mb4.7,baz=34,slow=5.3,SNR=37						
ZRNK	Zerenda	64.34	332	*e*P	P	19 20 37.3	-1.7
	comp=Z,14nm,0.6s,mb5.0						
MKAR	Makanchi Array	65.78	320	P	P	19 20 46.6	-1.7
	comp=Z,2.9nm,0.6s,mb4.3,baz=42,slow=7.4,SNR=31						
OBN	Obninsk	67.63	353	α*i*P	P	19 20 58.3	-1.5
OBN				*e*		19 21 05.3	
OBN				*e*		19 21 28.9	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
CLZ	Clausthal	70.73	9	*e*P	P	19 21 19.7	+0.8
	comp=Z,6.0nm,0.9s,mb4.4						
TKM2	Tokmak 2	71.45	323	P	P	19 21 23.9	+0.5
	SNR=6.3						
CLL	Collm	71.47	8	⇑P	P	19 21 23.1	-0.2
	comp=Z,logA/T=0.7,mb4.3						
CLL	Collm	71.47	8	⇑*i*P	P	19 21 23.1	-0.2
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
CLL	Collm	71.47	8	⇑*i*P	P	19 21 23.1	-0.2
	comp=Z,6.0nm,1.1s,mb4.3						
USP	Ospenovka	71.49	324	P	P	19 21 23.4	-0.2
	SNR=6.0						
CHMS	Chumysh	71.65	324	P	P	19 21 24.8	+0.2
	SNR=5.6						
BAIF	Baives	71.82	14	*e*P	P	19 21 25.8	+0.3
	comp=Z,5.1nm,0.5s,mb4.3						
KBK	Karagaybulak	71.90	323	P	P	19 21 26.3	+0.3
	SNR=6.0						
BRG	Berggiesshubel	71.96	7	*i* P	P	19 21 26.7	+0.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BRG	Berggiesshubel	71.96	7	*i* P	P	19 21 26.7	+0.4
	comp=Z,3.7nm,0.8s,mb4.3						
MOX	Moxa	72.02	9	*e*P	P	19 21 26.0	-0.6
EKS2	Erkin-Say	72.27	324	P	P	19 21 28.6	+0.3
	SNR=9.9						
PVCC	Panska Ves	72.35	7	*e*P	P	19 21 28.9	+0.3
ROSF	Rostrenen	72.36	19	*e*P	P	19 21 29.8	+1.1
AKASG	Malin Array Be	72.41	357	P	P	19 21 27.8	-1.1
	comp=Z,11nm,0.6s,mb4.8,baz=7.3,slow=5.6,SNR=30						

FLN	La Foliniere	72.42	17	eP	P	19 21 29.8	+0.8
	comp=Z,1.2nm,0.3s,mb3.9						
NKC	Novy Kostel	72.49	8	eP	P	19 21 29.8	+0.4
SGMF	Saint Gilles	72.56	19	eP	P	19 21 30.2	+0.4
DPC	Dobruska-Polom	72.62	5	eP	P	19 21 30.6	+0.5
LDF	La Druitiere	72.64	17	eP	P	19 21 30.9	+0.7
GRR	Gorron	72.72	17	eP	P	19 21 31.0	+0.3
AML	Almayashu	72.77	324	P	P	19 21 31.8	+0.7
	SNR=11						
PRU	Pruhonice	72.88	7	eP	P	19 21 31.0	-0.6
OKC	Ostrava-Krasne	73.22	4	eP	P	19 21 33.8	+0.3
MEZF	Maizieres J'vi	73.46	13	eP	P	19 21 35.9	+0.9
WET	Wettzell	73.61	8	eP	P	19 21 36.5	+0.7
WET				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
WET	Wettzell	73.61	8	eP	P	19 21 36.5	+0.7
	comp=Z,6.0nm,1.3s,mb4.2						
KHC	Kasperske Hory	73.67	7	P	P	19 21 37.0	+0.8
CDF	Champ du Feu	73.81	12	eP	P	19 21 37.5	+0.5
	comp=Z,4.2nm,0.6s,mb4.0						
GEC2	GERESS Array S	73.97	7	eP	P	19 21 38.5	+0.6
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
GEC2	GERESS Array S	73.97	7	eP	P	19 21 38.5	+0.6
	comp=Z,3.0nm,0.9s,mb4.0						
GERES	GERESS Array B	73.97	7	P	P	19 21 38.4	+0.4
	comp=Z,2.5nm,0.7s,mb4.1,baz=354,slow=4.4,SNR=26						
BFO	Black Forest	74.01	11	eP	P	19 21 38.5	+0.3
BFO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
BFO	Black Forest	74.01	11	eP	P	19 21 38.5	+0.3
	comp=Z,3.0nm,0.9s,mb4.0						
HAU	Haudompre	74.11	13	eP	P	19 21 39.2	+0.4
	comp=Z,6.4nm,0.7s,mb4.2						
HINF	Hinteralfeld	74.35	12	eP	P	19 21 41.5	+1.3
LOR	Lormes	74.52	14	eP	P	19 21 41.6	+0.4
	comp=Z,1.8nm,0.3s,mb4.0						
MFF	Saint Martin d	74.57	17	eP	P	19 21 42.0	+0.5
	comp=Z,7.1nm,0.6s,mb4.2						
VYHS	Vyhne	74.59	4	i P	P	19 21 42.0	+0.4
SSF	Saint Saulge	74.67	15	eP	P	19 21 42.5	+0.5
	comp=Z,6.7nm,0.6s,mb4.3						
AVF	Avril sur Loir	74.91	15	eP	P	19 21 43.7	+0.3
	comp=Z,11nm,0.8s,mb4.3						
BGF	Bois d'Agland	75.07	15	eP	P	19 21 44.6	+0.3
	comp=Z,13nm,0.8s,mb4.4						
SMF	Signal de Mont	75.12	15	eP	P	19 21 44.9	+0.3
	comp=Z,6.7nm,0.7s,mb4.2						
TCF	Toulx Ste Croi	75.24	16	eP	P	19 21 45.6	+0.3
	comp=Z,6.7nm,0.8s,mb4.1						
CABF	La Chapelle	75.45	13	eP	P	19 21 47.3	+0.8
	comp=Z,6.9nm,0.7s,mb4.2						
RJF	Les Rejaudoux	76.10	16	eP	P	19 21 51.1	+0.9
LFF	La Frestale	76.33	17	eP	P	19 21 52.3	+0.8
	comp=Z,12nm,0.5s,mb4.6						
CAF	Calviac	76.55	16	eP	P	19 21 53.3	+0.5
	comp=Z,7.2nm,0.8s,mb4.2						
LPL	La Plagne	76.61	13	eP	P	19 21 54.5	+1.4
	comp=Z,1.8nm,0.5s,mb3.8						
LPG	La Plagne	76.62	13	eP	P	19 21 54.9	+1.7
LSA	Lhasa	76.93	305	eP	P	19 21 55.5	+0.3
	comp=Z,3.0nm,0.6s,mb4.2						
VIVF	Saint-Julien-l	76.99	14	eP	P	19 21 56.0	+0.8
	comp=Z,6.3nm,0.7s,mb4.1						
ORIF	Oris-en-Rattie	77.09	13	eP	P	19 21 56.7	+0.9
	comp=Z,2.3nm,0.5s,mb3.9						
MBDF	Montbardon	77.39	13	eP	P	19 21 58.9	+1.5
	comp=Z,4.7nm,0.6s,mb4.1						
LASF	Ste Croix	77.64	15	eP	P	19 22 01.0	+2.1
	comp=Z,12nm,1.1s,mb4.2						
SMRF	Simiane la Rot	77.98	14	eP	P	19 22 02.1	+1.4
ETSF	Etsaut	78.10	19	eP	P	19 22 02.7	+1.3
	comp=Z,9.8nm,0.6s,mb4.4						
MTLF	Montolieu	78.12	16	eP	P	19 22 02.3	+0.8
	comp=Z,5.5nm,0.6s,mb4.2						
PGF	Pioggiola	79.79	12	eP	P	19 22 12.3	+1.6
	comp=Z,15nm,0.9s,mb4.5						
ESDC	Sonseca Array	80.58	22	P	P	19 22 16.2	+1.2
	comp=Z,1.1nm,0.5s,mb4.0,baz=345,slow=4.9,SNR=10						
KKN	Kakani	81.15	308	eP	P	19 22 17.5	-0.6
	comp=Z,9.6nm,0.6s,mb4.8						
GKN	Gorkha	81.23	309	eP	P	19 22 18.5	-0.1
PKI	Pulchoki	81.28	308	eP	P	19 22 17.7	-1.2
	comp=Z,9.9nm,0.6s,mb4.8						
DMN	Daman	81.38	309	eP	P	19 22 17.8	-1.6
	comp=Z,17nm,0.8s,mb4.9						
KOLN	Koldanda	81.88	310	eP	P	19 22 22.0	+0.1
	comp=Z,12nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	82.77	293	P	P	19 22 26.9	+0.2
	comp=Z,3.7nm,0.7s,mb4.3,baz=10,slow=5.5,SNR=20						
BRTR	Keskin Array B	83.15	353	P	P	19 22 29.1	+0.9
	comp=Z,3.5nm,0.9s,mb4.2,baz=22,slow=3.4,SNR=13						
CTA	Charters Tower	90.95	233	P	P	19 23 08.1	+1.9
	comp=Z,0.7nm,0.3s,mb4.3,baz=18,slow=13,SNR=3.0						
WRA	Warramunga Arr	96.32	243	P	P	19 23 30.2	-0.5
	comp=Z,0.3nm,0.7s,mb3.9,baz=36,slow=5.6,SNR=3.6						

TIF 15 19:10:55.2,39.68N×44.06E,h6^{km},Mpv4.4,1C,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERE	Yerevan	0.60	33	i P	Pg	19 11 07.4	+0.2
ERE				eS	Sg	19 11 16.6	+1.3
STE	Stepanavan	1.34	11	i P	Pb	19 11 20.0	-0.4
STE				eS	Sb	19 11 46.0	+8.3
BAW	Bavra	1.45	352	i P	Pn	19 11 25.0	+3.0
BAW				eS	Sb	19 11 48.0	+7.3
AKH	Akhalkalaki	1.78	346	eP	Pn	19 11 27.0	+0.2
AKH				i S	Sn	19 11 56.2	+6.3
MTA	Mtatsminda	2.09	15⇑	iP	Pn	19 11 34.1	+3.0
MTA				i S	Sn	19 12 02.4	+4.7
TBLG	Delisi	2.11	14	eP	Pn	19 11 35.9	+4.4
TBLG				i S	Sn	19 12 03.7	+5.4
DUS	Dusheti	2.46	11	eP	Pn	19 11 40.7	+4.3
DUS				eS	Sn	19 12 16.6	+10

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*SOF **15** 19:14:43.8,40.84N×26.11E,h1^{km},MD2.8*
*THE **15** 19:14:44.7,40.84N×26.24E,h5^{km},ML3.8*
*NEIC **15** 19:14:45.0,40.88N×26.11E,h5^{km},MD3.4(ATH), ML3.9(THE),After ATH.*
*ATH **15** 19:14:45.0,40.88N×26.11E,h5^{km},MD3.4/3*
*ISK **15** 19:14:58.6,40.52N×27.15E,h19^{km},MD3.0*
ISC 15 19:14:45.8±0.4,**40.86N**±0.04×**26.03E**±0.04,**h5^{km},n31,**
σ**1^{s}04**/35,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	Alexandroupoli	0.04	15	ePg	Pg	19 14 47.9	+0.9
RDO	Rodhopi	0.47	307	ePB	Pb	19 14 55.6	-0.6
LPK	Lapseki	0.74	131	ePG	Pg	19 15 05.9	+5.3
KDZ	Kurdzhali	0.92	330	i Pg	Pg	19 15 04.0	-0.1
MFT	Murefte	0.95	94	i PG	Pg	19 15 05.2	+0.4
LIA	Limnos Island	1.16	214	ePB	Pb	19 15 08.4	+0.4
LOS	Limnos	1.18	218	ePb	Pb	19 15 08.1	-0.2
LOS				eSb	Sb	19 15 25.3	+1.6
DIM	Dimitrovgrad	1.25	343	i P	Pb	19 15 10.0	+0.5
RZN	Rozhen	1.29	310	i P	Pb	19 15 10.3	+0.1
BNT	Bandirma	1.52	109	ePG	Pg	19 15 10.6	-5.6
PLD	Plovdiv	1.59	322	i P	Pn	19 15 15.5	+0.6
PRK	Paraskevi	1.62	173	ePG	Pg	19 15 15.4	-2.9
OUR	Ouranopolis	1.65	252	ePb	Pb	19 15 15.0	-1.4
	comp=Z,17nm,0.1s						
OUR				eSb	Sb	19 15 38.5	+1.1
JMB	Yambol	1.66	14	i P	Pn	19 15 16.3	+0.5
SLVT	Silivri	1.69	77	ePG	Pg	19 15 18.2	-1.3
NVR	Nevrokopi	1.71	287	ePG	Pg	19 15 16.6	-3.4
CTT	Catalca	1.84	80	ePN	Pn	19 15 19.9	+1.6
SRS	Serrai	1.86	279	ePn	Pn	19 15 18.6	-0.1
SRS				eSn	Sn	19 15 44.0	+1.0
BALB	Balikesir	1.87	130	ePG	Pg	19 15 18.7	-4.4
MMB	Musomiste	1.89	293	i P	Pn	19 15 19.0	0.0
PAIG	Paliouri	2.02	243	ePn	Pn	19 15 20.1	-0.9
PLG	Polygyros	2.03	257	ePG	Pg	19 15 24.7	-1.6
BGKT	Bogazkoy	2.10	80	ePN	Pn	19 15 23.5	+1.4
PGB	Panagyurishte	2.19	321	i P	Pn	19 15 23.0	-0.4
ISK	Istanbul-Kandi	2.30	84	ePN	Pn	19 15 26.0	+1.0
DST	Dursunbey	2.35	121	ePN	Pn	19 15 25.0	-0.7
KNT	Kendrikon	2.39	278	ePn	Pn	19 15 26.2	-0.1
KNT				eSn	Sn	19 15 56.6	+0.3
SZH	Strazhica	2.41	358	i Pg	Pg	19 15 32.0	-1.9
KKB	Krupnik	2.44	295	i P	Pn	19 15 27.0	+0.1
PRD	Provadia	2.55	23	i P	Pn	19 15 27.5	-1.0
VTS	Vitosha	2.73	310	i P	Pn	19 15 32.3	+1.2

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*MDD **15** 19:22:38.7±0.6,42.30N×2.22E,h7^{km}±4^{km},mbLg1.6/7, Error ellipse: s-maj=4.5km s-min=3.5km az=123.0, PRXIMO*
*STR **15** 19:22:39.2±0.3,42.55N×2.05E,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 19:22:38.1±0.7,**42.29N**±0.05×**2.26E**±0.05,**h7^{km},n12,**
σ**0^{s}62**/14,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBRU	Bruguera	0.06	263	Pg	Pg	19 22 40.6	+0.9
CBRU				Lg		19 22 41.9	
	88nm,0.1s						
VALF	Valcebollere	0.21	302	Pg	Pg	19 22 42.8	+0.4
VALF				Sg	Sg	19 22 45.2	-0.1
VALF	Valcebollere	0.21	302	Pg	Pg	19 22 42.9	+0.5
VALF				Lg		19 22 45.6	
CLLI	Llivia	0.28	312	Pg	Pg	19 22 44.2	+0.4
CLLI				Lg		19 22 47.8	
	3.3nm,0.0s						
FILF	Fillols	0.35	40	Pg	Pg	19 22 44.8	-0.3
FILF				Sg	Sg	19 22 49.0	-0.8
FILF	Fillols	0.35	40	Pg	Pg	19 22 45.0	-0.2
FILF				Lg		19 22 49.1	
EJON	La Jonquera	0.49	71	Pg	Pg	19 22 48.9	+0.9
	1.1nm,0.1s,SNR=8.2						
EJON				Lg		19 22 55.6	
	3.2nm,0.1s,SNR=5.0						
CFON	Fontmartina	0.55	166	Pg	Pg	19 22 49.3	+0.3
CFON				Lg		19 22 56.6	
	3.5nm,0.1s						
EMIR	Miracle	0.66	236	Pg	Pg	19 22 51.0	-0.3
	1.0nm,0.1s,SNR=7.9						
EMIR				Lg		19 23 00.2	
	2.7nm,0.1s,SNR=7.9						
CORG	Organya	0.70	265	Pg	Pg	19 22 51.8	-0.3
EPOB	Poblet	1.29	224	Pg	Pg	19 23 02.7	-1.1
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		19 23 19.2	
	1.5nm,0.1s,SNR=5.0						
ESAC	San Caprasio	2.11	255	Pg	Pg	19 23 15.5	-4.7
	2.9nm,0.3s,SNR=7.9						
ESAC				Lg		19 23 45.1	
	2.4nm,0.1s,SNR=7.9						

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*IDC **15** 19:34:06.4±1.0,7.07S×30.86E,mb3.8/6,mb1 3.9/7, mb1mx3.8/20,ML1.6/1,Error ellipse: s-maj=40.1km s-min=22.4km az=102.0*
*NEIC **15** 19:34:08.0±0.5,7.05S×30.75E,h10^{km},mb4.4/1,Error ellipse: s-maj=24.8km s-min=9.5km az=109.0*
ISC 15 19:34:05.8±0.7,**7.1S**±0.1×**30.6E**±0.2,**h10^{km},n12,**
σ**1^{s}11**/16,**mb3.9**/7,**Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBAR	Mbarara	6.43	2	ePn	Pn	19 35 36.4	-6.5
	26nm,0.4s						
MBAR				eSn	Sn	19 36 45.1	-12
LSZ	Lusaka	8.48	196	ePn	P	19 36 12.6	+0.9
	6.6nm,0.6s						
LSZ				eSg	Sg	19 38 36.1	-12
TSUM	Tsumeb	17.45	225	P	P	19 38 13.5	+2.4
	0.1nm,0.3s,baz=11,slow=14,SNR=4.6						
TSUM				S	S	19 41 22.1	-1.5
	0.2nm,0.3s,baz=18,slow=19,SNR=2.3						
TSUM				Lg		19 43 29.5	
	0.3nm,0.3s,baz=85,slow=20,SNR=2.7						
TSUM	Tsumeb	17.45	225	eP	P	19 38 13.3	+2.2
TSUM				S	S	19 41 22.1	-1.5
TSUM				Lg		19 43 29.6	
BRTR	Keskin Array B	46.64	3	P	P	19 42 36.4	0.0
	1.0nm,0.8s,mb3.8,baz=167,slow=12,SNR=5.6						
DAVOX	Davos	56.68	343	P	P	19 43 53.0	+1.2
	0.7nm,0.5s,mb3.9,baz=189,slow=13,SNR=3.2						
GERES	GERESS Array B	57.61	347	P	P	19 43 58.0	-0.4
	0.5nm,0.6s,mb3.7,baz=162,slow=6.2,SNR=6.4						
MAW	Mawson	64.26	167	P	P	19 44 42.5	-0.7
	2.3nm,0.7s,mb4.3,baz=337,slow=8.8,SNR=5.8						
MKAR	Makanchi Array	70.52	35	P	P	19 45 21.9	-1.0
	1.4nm,0.7s,mb4.0,baz=236,slow=6.9,SNR=11						
MKAR	Makanchi Array	70.52	35	P	P	19 45 21.9	-1.0
KURK	Kurchatov	70.89	30	eP	P	19 45 24.1	-1.1
	3.6nm,1.2s,mb4.2						
SONM	Songino Array	85.80	41	P	P	19 46 47.8	+0.9
	0.3nm,0.7s,mb3.7,baz=252,slow=4.6,SNR=4.7						

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*IDC **15** 19:56:19.8±3.7,13.73S×172.71E,h594^{km}±34^{km},mb3.1/5, mb1 3.3/5,mb1mx3.1/11,Error ellipse: s-maj=66.7km s-min=23.8km az=131.0*
*NEIC **15** 19:56:21.3±0.6,13.86S×172.56E,h600^{km},mb3.8/2,Error ellipse: s-maj=32.1km s-min=15.2km az=137.0*
ISC 15 19:56:19.1±1.2,**13.8S**±0.2×**172.7E**±0.2,**h600^{km},n30,**
σ**0^{s}41**/10,**mb3.7**/7,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	33.65	232	P	P	20 02 13.5	+0.5
	2.2nm,0.4s,mb4.2,baz=65,slow=9.5,SNR=28						
STKA	Stephens Creek	33.65	232	eP	P	20 02 13.2	+0.3
WB2	Warramunga Arr	37.12	255	eP	P	20 02 41.5	-0.2
WRAB	Tennant Creek	37.12	255	eP	P	20 02 41.1	-0.6
	1.6nm,0.4s,mb3.9						
WRA	Warramunga Arr	37.13	255	P	P	20 02 41.7	-0.1
	1.0nm,0.3s,mb3.8,baz=82,slow=6.2,SNR=28						
WRA				PcP	PcP	20 04 44.7	-1.4
	0.3nm,0.4s,baz=89,slow=3.3,SNR=4.7						
ASAR	Alice Springs	37.90	249	P	P	20 02 48.1	+0.1
	3.6nm,0.5s,mb4.2,baz=76,slow=9.2,SNR=86						
ASAR				PcP	PcP	20 04 48.7	+0.2
	0.9nm,0.9s,baz=90,slow=3.6,SNR=4.4						
ASAR				ScP		20 07 39.5	
	0.4nm,0.6s,baz=86,slow=4.6,SNR=6.1						
ASPA	Alice Springs	37.90	249	eP	P	20 02 48.2	+0.1
QSPA	South Pole Qui	76.22	180	eP	P	20 07 07.7	0.0
	0.9nm,0.4s,mb3.5						
ILAR	Eielson Array	84.11	16	P	P	20 07 48.0	-0.5
	0.7nm,0.6s,mb3.4,baz=233,slow=5.2,SNR=14						
SONM	Songino Array	84.95	322	P	P	20 07 53.9	+0.8
	0.1nm,0.4s,mb2.8,baz=113,slow=4.8,SNR=3.0						
ARCES	ARCESS Array B	120.61	347	PKP	PKPdf	20 14 03.9	+0.8
	9.3nm,1.2s,baz=67,slow=2.8,SNR=7.4						
BAIF	Baives	142.64	348	ePKP1	PKPdf	20 14 44.1	-0.4
CDF	Champ du Feu	143.44	344	ePKP1	PKPbc	20 14 46.9	+1.8
	3.9nm,0.7s						
MEZF	Maizieres J'vi	143.93	346	ePKP1	PKPbc	20 14 48.8	+2.3
	8.6nm,0.5s						
HAU	Haudompre	144.06	344	ePKP1	PKPbc	20 14 48.8	+1.9
	5.3nm,0.5s						
FLN	La Foliniere	144.69	352	ePKP1	PKPbc	20 14 50.4	+1.7
	3.9nm,0.4s						
LDF	La Druitiere	144.81	352	ePKP1	PKPbc	20 14 50.7	+1.7
GRR	Gorron	145.11	352	ePKP1	PKPbc	20 14 51.8	+2.0
	7.0nm,0.5s						
LOR	Lormes	145.36	347	ePKP1	PKPbc	20 14 52.8	+2.3
CABF	La Chapelle	145.41	344	ePKP1	PKPbc	20 14 53.5	+2.9
SGMF	Saint Gilles	145.43	354	ePKP1	PKPbc	20 14 52.7	+2.1
SSF	Saint Saulge	145.63	347	ePKP1	PKPbc	20 14 53.7	+2.5
	1.5nm,0.5s						
AVF	Avril sur Loir	145.92	347	ePKP1	PKPbc	20 14 53.9	+2.0
SMF	Signal de Mont	145.95	346	ePKP1	PKPbc	20 14 54.0	+2.0
LPL	La Plagne	146.23	342	ePKP1	PKPbc	20 14 55.8	+3.1
LPG	La Plagne	146.24	342	ePKP1	PKPbc	20 14 56.0	+3.3
	3.3nm,0.7s						
BGF	Bois d'Agland	146.25	347	ePKP1	PKPbc	20 14 55.2	+2.5
	4.1nm,0.4s						
TCF	Toulx Ste Croi	146.65	348	ePKP1	PKPbc	20 14 56.2	+2.6
	2.1nm,0.4s						
MBDF	Montbardon	146.93	341	ePKP1	PKPbc	20 14 57.1	+2.8
	1.7nm,0.6s						
ORIF	Oris-en-Rattie	147.02	343	ePKP1	PKPdf	20 14 57.5	+5.3
	2.3nm,0.4s						

IDC 15 20:21:20.1±50.0,**22.02S**×**174.08W,mb3.8**/3,**mb1 4.0**/3,
mb1mx3.7/14,**Error ellipse: s-maj=941.0km**
s-min=179.0km az=86.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.00	266	eP	P	20 28 34.0	+0.7
	1.4nm,0.3s						
STKA	Stephens Creek	40.48	246	eP	P	20 28 59.0	-3.3
	4.3nm,1.6s						
STKA	Stephens Creek	40.48	246	P	P	20 28 59.0	-3.3
	0.5nm,0.4s,baz=76,slow=11,SNR=3.5						
ASAR	Alice Springs	47.75	258	P	P	20 29 59.2	-1.8
	0.4nm,0.5s,baz=87,slow=6.6,SNR=8.7						
WB2	Warramunga Arr	48.01	263	eP	P	20 30 01.9	-1.2
WRA	Warramunga Arr	48.02	263	P	P	20 30 02.2	-1.0
	0.9nm,0.4s,baz=99,slow=7.3,SNR=33						

IDC 15 20:36:21.0±17.0,**15.77S**×**176.29W,mb4.1**/5,**mb1 4.2**/5,
mb1mx3.9/15,**Error ellipse: s-maj=317.0km**
s-min=136.8km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	35.84	257	P	P	20 43 22.4	-2.3
	0.8nm,0.3s,baz=71,slow=16,SNR=2.5						
STKA	Stephens Creek	41.45	240	eP	P	20 44 09.5	-1.7
	3.8nm,1.6s						
STKA	Stephens Creek	41.45	240	P	P	20 44 09.5	-1.7
	1.0nm,0.4s,baz=91,slow=11,SNR=7.2						
WB2	Warramunga Arr	47.03	257	eP	P	20 44 54.8	-1.6
WRA	Warramunga Arr	47.05	257	P	P	20 44 54.4	-2.1
	0.5nm,0.5s,baz=91,slow=6.9,SNR=24						
ASAR	Alice Springs	47.35	252	P	P	20 44 57.0	-1.9
	5.3nm,0.5s,baz=89,slow=8.2,SNR=132						
ASPA	Alice Springs	47.35	252	eP	P	20 44 57.1	-1.8
FITZ	Fitzroy Crossi	55.41	259	P	P	20 45 58.3	-1.6
	2.0nm,0.9s,baz=179,slow=23,SNR=3.8						

TIF 15 20:38:12.0,41.35N×44.01E,h4^{km},Mpv3.5,2C-1D,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAW	Bavra	0.28	214	i P	Pg	20 38 21.0	+3.3
BAW				i S	Sg	20 38 23.0	+1.5
AKH	Akhalkalaki	0.39	279⇑	iP	Pg	20 38 18.8	-1.1
AKH				i S	Sg	20 38 24.8	-0.4
MTA	Mtatsminda	0.68	59⇑	iP	Pg	20 38 24.8	-0.8
MTA				i S	Sg	20 38 35.9	+1.2
DUS	Dusheti	0.90	35⇓	iP	Pb	20 38 30.1	+0.3
DUS				i S	Sb	20 38 44.4	+2.4

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*NAO **15** 20:39:46.7±10.0,68.77N×18.01E,ML1.1*
BER 15 20:39:46.3±3.3,**69.19N**×**17.17E,h12^{km}**±29^{km},**MD2.2,**
ML1.2,ML1.1(NAO),**Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	Tromso	0.77	53	eP	Pb	20 39 58.2	-2.9
TRO				eS	Sb	20 40 09.3	-2.0
LOF	Lofoten	1.70	233	eP	Pn	20 40 14.3	-1.7
LOF				eSg	Sg	20 40 36.6	-6.3
LOF				AML	AML	20 40 40.2	
	comp=Z,4.3nm,0.6s						
KTK1	Kautokeino	2.19	92	eP	Pn	20 40 21.1	-1.9
KTK1				eSg	Sg	20 40 51.2	-8.0
KTK1				AML	AML	20 40 55.9	
	comp=Z,3.0nm,0.8s						
ARA0	ARCESS Array S	2.98	79	Pn	Pn	20 40 32.4	-1.9
	baz=255,slow=14						
ARA0				Sg	Sg	20 41 14.3	-11
	baz=258,slow=28						

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*IDC **15** 20:48:07.7±2.8,15.96S×175.45W,h273^{km}±25^{km}, mb3.7/13,mb1 3.9/13,mb1mx3.8/18,Error ellipse: s-maj=24.8km s-min=13.8km az=140.0*
*BJI **15** 20:48:09.2,16.00S×175.40W,h290^{km},mB4.3,mb4.5*
*NEIC **15** 20:48:09.2±2.7,15.99S×175.43W,h290^{km}±26^{km}, mb4.3/16,Error ellipse: s-maj=10.1km s-min=6.0km az=141.0*
ISC 15 20:48:03.8±0.3,**16.0S**±0.1×**175.42W**±0.09,**h250^{km},n94,**
σ**0^{s}62**/54,**mb4.1**/27,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	37.05	276	P	P	20 54 52.8	+0.9
	3.3nm,0.5s,mb4.2,baz=124,slow=7.3,SNR=2.4						
STKA	Stephens Creek	42.05	240	P	P	20 55 32.5	-0.2
	1.4nm,0.7s,mb3.5,baz=96,slow=9.2,SNR=4.0						
WB2	Warramunga Arr	47.80	257	eP	P	20 56 18.1	-0.2
WRAB	Tennant Creek	47.80	257	eP	P	20 56 17.5	-0.9
WRA	Warramunga Arr	47.81	257	P	P	20 56 18.3	-0.1
	2.9nm,0.7s,mb3.8,baz=90,slow=7.0,SNR=35						
ASAR	Alice Springs	48.08	252	P	P	20 56 20.1	-0.2
	2.8nm,0.4s,mb3.9,baz=90,slow=7.6,SNR=66						
ASPA	Alice Springs	48.08	252	eP	P	20 56 20.2	-0.2
KAKA	Kakadu	50.56	267	eP	P	20 56 39.6	+0.4
	4.9nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	56.19	259	eP	P	20 57 25.9	+5.9
	2.4nm,1.1s,mb3.6						
FITZ	Fitzroy Crossi	56.19	259	P	P	20 57 25.6	+5.6
	1.0nm,0.5s,mb3.6,baz=63,slow=4.5,SNR=7.0						
SBA	Scott Base	62.49	184	P	P	20 58 01.1	-1.2
VNDA	Vanda	62.58	185	P	P	20 58 03.7	+0.8
	1.4nm,0.8s,mb3.6,baz=354,slow=6.6,SNR=7.0						
QSPA	South Pole Qui	74.03	180	eP	P	20 59 14.1	+0.8
	2.1nm,0.7s,mb3.9						
CMB	Columbia Colle	74.51	42	eP	P	20 59 16.1	-0.7
	4.3nm,0.7s,mb4.2						
YBH	Yreka Blue Hor	75.27	38	P	P	20 59 21.8	+0.7
	19nm,1.3s,mb4.6,baz=191,slow=2.3,SNR=24						
YBH	Yreka Blue Hor	75.27	38	eP	P	20 59 21.3	+0.3
	7.7nm,1.0s,mb4.3						
HUMO	Hull Mountain	75.66	37	eP	P	20 59 22.8	-0.5
	5.2nm,1.1s,mb4.1						
MNV	Mina	76.19	43	eP	P	20 59 26.2	-0.1
MOD	Modoc	76.81	39	eP	P	20 59 29.5	-0.1
NEN	Nelson	76.95	47	eP	P	20 59 30.8	+0.2
WVOR	Wild Horse Val	78.13	39	eP	P	20 59 36.9	0.0
	4.8nm,0.9s,mb4.1						
NJ2	Nanjing	79.00	308	eP	P	20 59 45.3	+3.6
RMW	Rattlesnake Mo	79.29	34	eP	P	20 59 42.8	-0.1
PMR	Palmer	80.12	12	eP	P	20 59 46.3	-0.7
CN2	Changchun	80.32	321	eP	P	20 59 48.0	-0.5
DUG	Dugway	80.64	44	eP	P	20 59 50.1	-0.1
	1.6nm,0.8s,mb3.7						
HLID	Hailey	81.34	40	eP	P	20 59 54.1	+0.4
	7.9nm,1.1s,mb4.3						
HVU	Hansel Valley	81.45	42	eP	P	20 59 54.1	-0.3
SRU	San Rafael	81.65	45	eP	P	20 59 56.0	+0.6
TCUT	Toone Canyon	82.02	43	eP	P	20 59 57.2	-0.1
HWUT	Hardware Ranch	82.16	43	eP	P	20 59 58.0	0.0
	1.4nm,0.6s,mb3.8						
NEW	Newport	82.31	35	P	P	20 59 58.6	-0.1
	2.3nm,0.5s,mb4.1,baz=218,slow=22,SNR=5.6						
PV10	Paradox Valley	82.33	47	eP	P	20 59 59.2	+0.2
ANMO	Albuquerque	82.69	51	eP	P	21 00 01.6	+0.7
	10nm,1.3s,mb4.4						
MCMT	McKenzie Canyo	82.95	40	eP	P	21 00 02.5	+0.5
AHID	Auburn Hatcher	83.02	42	eP	P	21 00 02.6	+0.2
	4.9nm,0.8s,mb4.3						
RW3	Ridgway	83.23	47	P	P	21 00 04.3	+0.7
COLA	College	83.33	11	eP	P	21 00 02.5	-1.1
	8.8nm,0.7s,mb4.6						
ILAR	Eielson Array	83.43	12	P	P	21 00 03.1	-1.0
	3.6nm,0.5s,mb4.3,baz=223,slow=5.7,SNR=72						
TPAW	Teton Pass	83.47	41	eP	P	21 00 05.1	+0.4
REDW	Red Top Meadow	83.47	42	eP	P	21 00 04.9	+0.2
CHMT	Chamberlain Mo	83.78	38	eP	P	21 00 05.5	-0.8
QLMT	Earthquake Lak	83.83	40	eP	P	21 00 07.3	+0.9
BW06	Boulder Array	84.02	43	eP	P	21 00 06.9	-0.5
	5.4nm,0.7s,mb4.4						
PDAR	Pinedale Array	84.02	43	P	P	21 00 07.8	+0.3
	5.1nm,0.7s,mb4.4,baz=221,slow=2.8,SNR=56						
HRY	Holter Researc	84.52	38	eP	P	21 00 10.0	+0.1
SDCO	Great Sand Dun	84.57	48	eP	P	21 00 10.6	+0.3
	2.2nm,0.6s,mb4.1						
MAW	Mawson	86.59	199	P	P	21 00 19.3	-0.2
	1.0nm,0.8s,mb3.6,baz=357,slow=8.3,SNR=3.6						
MAW	Mawson	86.59	199	eP	P	21 00 19.6	+0.1
INK	Inuvik	89.33	14	P	P	21 00 31.6	-0.9
	1.1nm,0.6s,mb3.9,baz=182,slow=7.8,SNR=4.1						
PLCA	Paso Flores	90.53	133	P	P	21 00 38.2	-0.5
	1.3nm,1.1s,mb3.8,baz=194,slow=4.2,SNR=2.9						
PLCA	Paso Flores	90.53	133	P	P	21 00 38.2	-0.5
LZH	Lanzhou	92.03	307	eP	P	21 00 47.6	+1.8

LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH	Lanzhou	92.03	307	eP	P	21 00 47.6	+1.8
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	21 01 50.2	+3.5
LZH				sP	sP	21 02 17.3	+5.0
ARCES	ARCESS Array B	124.93	351	PKP	PKPdf	21 06 33.9	+0.3
	comp=Z,1.1nm,0.5s,slow=4.9,SNR=6.2						
FINES	FINESS Array B	132.10	346	PKP	PKPdf	21 06 48.0	+0.5
	comp=Z,2.8nm,1.1s,baz=162,slow=30,SNR=3.0						
DPC	Dobruska-Polom	144.46	347	ePKP	PKPdf	21 07 10.4	+0.4
OKC	Ostrava-Krasne	144.51	345	ePKP	PKPdf	21 07 10.1	0.0
MOX	Moxa	144.99	352	i P	PKPdf	21 07 11.7	+0.8
	comp=Z,logA/T=0.9						
MOX	Moxa	144.99	352	eP	PKPdf	21 07 11.7	+0.8
PRU	Pruhonice	145.16	349	ePKP	PKPdf	21 07 12.3	+1.1
BRTR	Keskin Array B	145.37	319	PKPbc	PKPbc	21 07 13.3	+0.6
	comp=Z,4.2nm,1.1s,baz=108,slow=2.2,SNR=7.7						
GIVF	Givet	146.00	360	ePKP1	PKPbc	21 07 14.6	+0.6
BAIF	Baives	146.04	0	ePKP1	PKPbc	21 07 14.9	+0.8
	comp=Z,11nm,0.9s						
KHC	Kasperske Hory	146.16	349	PKP	PKPdf	21 07 15.0	+2.0
GERES	GERESS Array B	146.42	349	PKP	PKPdf	21 07 13.0	-0.5
	comp=Z,1.0nm,0.5s,baz=148,slow=38,SNR=16						
GERES				PKPbc	PKPbc	21 07 15.8	+0.8
	comp=Z,1.8nm,0.8s,baz=21,slow=2.9,SNR=16						
GERES				SKPbc		21 10 29.1	
	comp=Z,0.2nm,0.7s,baz=315,slow=3.8,SNR=3.5						
FLN	La Foliniere	147.08	6	ePKP1	PKPdf	21 07 17.3	+2.7
	comp=Z,20nm,0.8s						
ROSF	Rostrenen	147.12	10	ePKP1	PKPdf	21 07 17.3	+2.6
	comp=Z,9.9nm,0.8s						
LDF	La Druitiere	147.28	6	ePKP1	PKPdf	21 07 17.8	+2.9
	comp=Z,5.5nm,0.7s						
SGMF	Saint Gilles	147.32	9	ePKP1	PKPdf	21 07 18.0	+3.0
	comp=Z,18nm,0.8s						
GRR	Gorron	147.41	7	ePKP1	PKPdf	21 07 18.5	+3.4
	comp=Z,11nm,0.8s						
MEZF	Maizieres J'vi	147.60	359	ePKP1	PKPdf	21 07 19.3	+3.9
CDF	Champ du Feu	147.62	357	ePKP1	PKPdf	21 07 19.2	+3.8
	comp=Z,8.5nm,0.7s						
HAU	Haudompre	148.06	358	ePKP1	PKPdf	21 07 20.4	+4.3
HINF	Hinteralfeld	148.23	357	ePKP1	PKPdf	21 07 20.6	+4.2
LOR	Lormes	148.83	1	ePKP1	PKPdf	21 07 22.5	+5.1
	comp=Z,4.0nm,0.5s						
SSF	Saint Saulge	149.03	1	ePKP1	PKPdf	21 07 23.0	+5.3
	comp=Z,9.1nm,0.8s						
AVF	Avril sur Loir	149.30	2	ePKP1	PKPdf	21 07 23.5	+5.4
SMF	Signal de Mont	149.45	1	ePKP1	PKPdf	21 07 24.0	+5.6
CABF	La Chapelle	149.47	358	ePKP1	PKPdf	21 07 24.7	+6.3
	comp=Z,18nm,1.0s						
BGF	Bois d'Agland	149.51	2	ePKP1	PKPdf	21 07 24.1	+5.6
	comp=Z,5.6nm,0.6s						
TCF	Toulx Ste Croi	149.75	3	ePKP1	PKPdf	21 07 24.7	+5.9
	comp=Z,21nm,1.3s						
LPL	La Plagne	150.53	357	ePKP1	PKPdf	21 07 27.5	+7.5
	comp=Z,4.6nm,0.7s						
LPG	La Plagne	150.55	357	ePKP1	PKPdf	21 07 27.7	+7.6
	comp=Z,7.9nm,0.7s						
LFF	La Frestale	150.98	6	ePKP1	PKPdf	21 07 28.2	+7.5
	comp=Z,12nm,0.8s						
BNI	Bardonecchia	151.00	357	ePKPbc	PKPdf	21 07 28.4	+7.7
CAF	Calviac	151.10	4	ePKP1	PKPdf	21 07 28.1	+7.2
	comp=Z,5.5nm,0.7s						
ORIF	Oris-en-Rattie	151.16	358	ePKP1	PKPdf	21 07 28.5	+7.5
	comp=Z,3.3nm,0.7s						
VIVF	Saint-Julien-l	151.25	360	ePKP1	PKPdf	21 07 28.6	+7.5
	comp=Z,2.9nm,0.6s						
MBDF	Montbardon	151.32	357	ePKP1	PKPdf	21 07 28.7	+7.5
	comp=Z,5.3nm,0.6s						
LASF	Ste Croix	152.02	1	ePKP1	PKPdf	21 07 30.4	+8.1
	comp=Z,11nm,1.0s						
SMRF	Simiane la Rot	152.12	358	ePKP1	PKPdf	21 07 30.8	+8.3
	comp=Z,5.0nm,0.7s						
ETSF	Etsaut	152.85	8	ePKP1	PKPdf	21 07 32.2	+8.7
	comp=Z,5.7nm,0.6s						
ESDC	Sonseca Array	155.27	16	PKPbc	PKPdf	21 07 37.4	+11
	comp=Z,0.5nm,0.6s,baz=297,slow=37,SNR=2.6						
ESDC				PKPab	PKPab	21 07 54.7	-1.1
	comp=Z,1.0nm,0.6s,baz=355,slow=5.7,SNR=7.3						

*NAO **15** 20:48:19.0±5.1, 68.89N×17.90E, ML0.7*

BER 15 20:48:17.7±3.3**, 69.20N×17.11E, h12**^{km}±28^{km}**, MD2.0, ML1.3, ML0.7**(NAO)**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	Tromso	0.77	55	eP	Pb	20 48 30.0	-2.6
TRO				eS	Sb	20 48 40.8	-2.0
LOF	Lofoten	1.69	232	eP	Pn	20 48 45.4	-2.0
LOF				eSg	Sg	20 49 08.0	-6.2
LOF				AML	AML	20 49 08.7	
	comp=Z,6.0nm,0.3s						
KTK1	Kautokeino	2.21	92	eP	Pn	20 48 53.0	-1.6
KTK1				eSg	Sg	20 49 22.9	-8.3
KTK1				AML	AML	20 49 23.5	
	comp=Z,2.8nm,0.9s						
ARA0	ARCESS Array S	2.99	80	Pn	Pn	20 49 04.7	-1.2
	baz=256,slow=14						
ARA0				Sg	Sg	20 49 46.6	-11
	baz=260,slow=28						

MEX 15 20:57:18.7±0.7**, 18.55N×92.93W, h22**^{km}±96^{km}**, MD4.3, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUIG	Tuzandepetl	1.51	250	i P	Pn	20 57 39.9	-4.9
TUIG				i S	Sn	20 58 00.2	-3.7
CMIG	Matias Romero	2.36	232	i P	Pn	20 57 53.9	-3.1
CMIG				i S	Sn	20 58 20.0	-5.6
CCIG	Comitan	2.38	161	i P	Pn	20 57 54.3	-3.0
CCIG				i S	Sn	20 58 22.6	-3.5
TPX	Tapachula	3.68	170	eP	Pn	20 58 11.0	-4.8
OXX	Oaxaca	3.90	249	eP	Pn	20 58 08.0	-11

JSN 15 21:07:05.3±2.4**, 17.47N×78.78W, MD3.7, 1C-4D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCJ	Malvern	1.14	66	⇓iP	Pb	21 07 25.6	-1.9
MCJ				eS	Sb	21 07 40.6	-2.1
CVJ	Coleyville	1.41	57	eP	Pb	21 07 30.2	-1.9
PCJ	Portland Cotta	1.57	80	⇑eP	Pn	21 07 32.7	-1.9
PCJ				eS	Sb	21 07 52.6	-2.7
BBJ	Bamboo Saint A	1.70	58	⇓eP	Pn	21 07 33.4	-3.0
BBJ				eS	Sb	21 07 57.6	-1.6
BNJ	Bonny Gate	1.94	64	⇓eP	Pn	21 07 38.7	-1.1
STH	Stony Hill	1.97	72	⇓eP	Pn	21 07 39.5	-0.8
STH				eS	Sn	21 08 05.0	-1.2

*IDC **15** 21:43:43.6±0.8, 0.65S×127.26E, mb4.1/10, mb1 4.2/11, mb1mx4.1/17, ML3.8/1, MS3.4/2, Ms1 3.3/2, ms1mx2.8/19, Error ellipse: s-maj=51.5km s-min=14.1km az=65.0*

*BJI **15** 21:43:46.4, 0.60S×127.50E, h20^{km}, mb4.9*

*NEIC **15** 21:43:46.4±0.6, 0.63S×127.46E, h20^{km}, mb4.5/9, Error ellipse: s-maj=36.7km s-min=8.4km az=66.0*

NEIC Felt [III] at Labuha.

*SYO **15** 21:43:46.4, 0.63S×127.46E, h20^{km}, MB4.5*

*DJA **15** 21:43:53.5±0.7, 0.62N×126.42E, h33^{km}, MD4.8/3, ML4.9/3, Error ellipse: s-maj=111.8km s-min=6.7km az=154.0*

ISC 15 21:43:46.8±0.4**, 0.70S**±0.05×**127.35E**±0.08**, h33**^{km}**, n39, σ1**^{s}**43**/41**, mb4.5**/21**, MS3.2**/2**, 2C-4D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNE	Ternate	1.54	356	ePn	Pn	21 44 09.0	-3.3
BUNI	Buntu Taipa	7.61	247	⇓ePn	Pn	21 45 41.5	+3.2
	43nm,0.5s						
BUNI				⇓eSn	Sn	21 47 00.9	-3.3
TANI	Tanete Lipujan	8.41	251	⇑ePn	P	21 45 51.1	+1.9
	28nm,0.3s						
TANI				⇓eSn	Sn	21 47 16.9	-7.3
NINI	Niniconang	8.44	244	⇓ePn	P	21 45 54.4	+4.9
	65nm,0.3s						
KAKA	Kakadu	12.94	157	eP	P	21 46 47.6	-3.4
	9.7nm,0.4s						
KAKA				eS	S	21 49 05.7	-9.0
FITZ	Fitzroy Crossi	17.38	185	eP	P	21 47 50.2	+1.8
	4.2nm,0.9s						
FITZ	Fitzroy Crossi	17.38	185	P	P	21 47 49.1	+0.7
	0.2nm,0.3s,baz=37,slow=6.3,SNR=6.3						
WRAB	Tennant Creek	20.31	161	eP	P	21 48 20.0	-2.7
	14nm,0.8s						
WRA	Warramunga Arr	20.32	161	P	P	21 48 20.4	-2.4
	3.5nm,0.4s,baz=340,slow=12,SNR=49						
WB2	Warramunga Arr	20.32	161	eP	P	21 48 20.6	-2.3
WB2				eS	S	21 52 01.2	-2.7
ASAR	Alice Springs	23.70	165	P	P	21 48 57.0	+0.3
	9.7nm,0.7s,mb4.4,baz=343,slow=10,SNR=61						
ASAR				PcP	PcP	21 52 42.2	+0.2
	1.2nm,0.9s,baz=356,slow=2.4,SNR=5.6						
ASAR				LR	LR	21 57 54.9	
	comp=Z,60nm,21.2s,MS3.0,baz=11,slow=36						
ASPA	Alice Springs	23.70	165	eP	P	21 48 57.9	+1.2
CTA	Charters Tower	26.72	137	P	P	21 49 26.9	+1.6
	1.8nm,0.8s,mb3.7,baz=266,slow=14,SNR=2.8						
CTA	Charters Tower	26.72	137	P	P	21 49 26.9	+1.6
CMAR	Chiang Mai Arr	33.79	306	P	P	21 50 26.8	-1.3
	0.3nm,0.3s,mb3.7,baz=112,slow=7.7,SNR=4.7						
STKA	Stephens Creek	33.81	158	eP	P	21 50 29.3	+1.2
	4.7nm,0.9s,mb4.4						
STKA	Stephens Creek	33.81	158	P	P	21 50 28.0	0.0
	4.3nm,1.0s,mb4.3,baz=333,slow=12,SNR=7.7						
STKA				LR	LR	22 06 34.7	
	comp=Z,78nm,18.4s,MS3.5,baz=26,slow=40						
ENH	Enshi	35.18	333	eP	P	21 50 38.7	-1.1
	9.5nm,0.9s,mb4.7						
XAN	Xi'an	38.64	335	P	P	21 51 09.0	+0.1
XAN				AP	pP	21 51 17.1	-1.6
XAN				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.8						
LSA	Lhasa	45.88	314	P	P	21 52 10.6	+2.4
LSA	Lhasa	45.88	314	eP	P	21 52 10.2	+2.0
	comp=Z,5.4nm,0.7s,mb4.6						
GTA	Gaotai	47.21	331	eP	P	21 52 19.3	+0.8
GTA				AP	pP	21 52 24.8	-3.5
GTA				XP	sP	21 52 28.1	-4.4
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.9						
PKI	Pulchoki	49.10	308	eP	P	21 52 34.1	+0.8
	comp=Z,8.8nm,0.6s,mb5.0						
KKN	Kakani	49.30	308	eP	P	21 52 35.7	+0.8
	comp=Z,11nm,0.5s,mb5.2						
DMN	Daman	49.36	308	eP	P	21 52 36.0	+0.7
	comp=Z,20nm,0.9s,mb5.2						
GKN	Gorkha	49.91	308	eP	P	21 52 40.1	+0.6
	comp=Z,18nm,0.7s,mb5.2						
KOLN	Koldanda	50.62	308	eP	P	21 52 45.7	+0.8
	comp=Z,34nm,0.6s,mb5.4						
SONM	Songino Array	51.67	342	P	P	21 52 51.5	-1.1
	comp=Z,0.7nm,0.6s,mb3.8,baz=158,slow=7.6,SNR=6.5						
WMQ	Urumqi	56.71	326	eP	P	21 53 30.0	+0.4
MKAR	Makanchi Array	61.54	326	P	P	21 54 02.0	-1.0
	comp=Z,2.8nm,0.4s,mb4.7,baz=112,slow=8.1,SNR=78						
KURK	Kurchatov	65.79	328	eP	P	21 54 29.1	-1.7
	comp=Z,7.6nm,0.9s,mb4.7						
BVAR	Borovoye Array	71.35	328	P	P	21 55 04.4	-0.8
	comp=Z,1.8nm,0.8s,mb4.0,baz=129,slow=9.5,SNR=14						
BRVK	Borovoye	71.43	328	eP	P	21 55 04.4	-1.2
	comp=Z,3.5nm,0.9s,mb4.3						
VNDA	Vanda	78.99	173	P	P	21 55 49.3	+0.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=351,slow=6.0,SNR=8.3						
MAW	Mawson	79.85	201	P	P	21 55 54.6	+1.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=290,slow=23,SNR=3.1						
MAW	Mawson	79.85	201	eP	P	21 55 55.0	+1.7
	comp=Z,0.5nm,0.6s,mb3.6						
SYO	Syowa Base	88.55	201	⇑pP	pP	21 56 43.7	-3.8
QSPA	South Pole Qui	89.24	180	eP	P	21 56 41.3	+1.2
	comp=Z,4.7nm,0.9s,mb4.8						
CPUP	Villa Florida	152.75	171	PKPbc	PKPdf	22 03 44.0	+10
	comp=Z,1.6nm,0.8s,baz=124,slow=3.6,SNR=2.9						

*IDC **15** 21:53:04.7±1.4, 38.94N×135.11E, h320^{km}±19^{km}, mb2.6/5, mb1 3.1/8, mb1mx2.9/23, Error ellipse: s-maj=19.4km s-min=14.3km az=93.0*

*BJI **15** 21:53:07.1, 38.70N×135.00E, h351^{km}, mB4.1, mb4.3*

*NEIC **15** 21:53:07.2±0.8, 38.70N×135.00E, h351^{km}±10^{km}, mb4.1/2, Error ellipse: s-maj=17.2km s-min=13.5km az=68.0*

*JMA **15** 21:53:07.1±0.3, 38.95N×135.39E, h384^{km}, M3.0*

ISC 15 21:53:06.8±0.5**, 38.93N**±0.07×**135.4E**±0.1**, h381**^{km}±9^{km}**, n24, σ0**^{s}**99**/29**, mb2.8**/6**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSZ	Suzu	2.15	133	P	P	21 54 03.2	+0.9
JSD	Sado	2.42	111	P	P	21 54 04.5	+0.2
JKG	Kaga	2.76	164	P	P	21 54 07.4	+0.6
MAJO	Matsushiro	3.27	136	P	P	21 54 09.4	-1.8
JGM	Miyama	3.40	161	P	P	21 54 12.8	+0.4
JAO	Obara	3.95	157	P	P	21 54 17.6	0.0
JRY	Ryogami san	4.03	135	P	P	21 54 19.4	+1.0
JRY				eS	S	21 55 14.4	-0.3
JNY	Yasuok	4.08	150	P	P	21 54 20.6	+1.7
JAG	Ashikaga	4.08	127	P	P	21 54 18.4	-0.5
JAG				eS	S	21 55 16.4	+0.9
JHU	Hanno	4.37	134	P	P	21 54 21.8	0.0
JHU				eS	S	21 55 18.9	-1.8
JOSM	Okushiri--Mats	4.42	43	P	P	21 54 22.6	+0.2
JHJ	Hachijo jima 2	6.80	147	P	P	21 54 47.2	-1.2
	11nm,0.3s,baz=243,slow=18,SNR=4.0						
JHJ				S	S	21 56 08.7	+0.2
	13nm,0.3s,baz=69,slow=22,SNR=7.8						
JNU	Nakatsue	6.86	214	P	P	21 54 43.5	-5.6
	7.7nm,0.3s,baz=22,slow=5.4,SNR=40						
MDJ	Mudanjiang	7.14	325	P	P	21 54 52.8	+0.5
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,42nm,5.1s						
MDJ	Mudanjiang	7.14	325	eP	P	21 54 52.4	0.0
	comp=Z,26nm,1.0s						
ASAJ	Asahikawa	7.48	44	P	P	21 54 55.0	-1.2
	comp=Z,8.4nm,0.3s,baz=223,slow=8.4,SNR=62						
ASAJ				S	S	21 56 18.9	-3.7
	comp=Z,0.7nm,0.3s,baz=320,slow=30,SNR=7.9						
CN2	Changchun	8.92	306	eP	P	21 55 13.0	+0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SONM	Songino Array	22.77	302	P	P	21 57 38.7	+0.1
	comp=Z,0.6nm,0.6s,mb3.0,baz=108,slow=8.3,SNR=6.2						
ENH	Enshi	22.95	256	eP	P	21 57 38.9	-1.6
	comp=Z,3.8nm,0.6s,mb3.8						
MKAR	Makanchi Array	39.06	299	P	P	21 59 59.2	-0.4
	comp=Z,0.4nm,0.9s,mb2.6,baz=80,slow=7.4,SNR=2.2						
MKAR	Makanchi Array	39.06	299	P	P	21 59 59.2	-0.4
BVAR	Borovoye Array	45.74	310	P	P	22 00 52.9	0.0
	comp=Z,0.2nm,0.3s,mb2.7,baz=86,slow=9.6,SNR=2.5						
ILAR	Eielson Array	50.47	33	P	P	22 01 32.5	+3.8
	comp=Z,0.1nm,0.5s,mb2.3,baz=294,slow=8.9,SNR=3.2						
WRA	Warramunga Arr	58.57	181	P	P	22 02 27.9	+1.0
	comp=Z,0.2nm,0.8s,mb2.6,baz=0.8,slow=7.5,SNR=4.6						

*BGR **15** 21:58:35.5±1.2, 50.02N×20.41E, h1^{km}, ML3.1/8, Error ellipse: s-maj=16.7km s-min=11.1km az=13.0, POLAND*

*NEIC **15** 21:59:00.9±1.1, 50.33N×19.09E, h1^{km}±9^{km}, ML3.1(SZGRF), ML3.1(FUR), ML2.5(VIE), Error ellipse: s-maj=9.1km s-min=6.8km az=175.0*

*PRU **15** 21:59:01.8, 50.22N×19.09E*

*WAR **15** 21:59:02.0, 50.20N×19.14E, ML2.6, Mining Induced*

*IDC **15** 21:59:02.8±2.1, 50.16N×19.11E, mb1 3.7/5, mb1mx3.4/16, ML3.0/5, Error ellipse: s-maj=35.0km s-min=9.1km az=132.0*

ISC 15 21:58:59.8±0.5**, 50.29N**±0.04×**19.02E**±0.03**, n40, σ1**^{s}**49**/75**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.50	97	ePG	Pg	21 59 11.0	+1.2
OJC				eSG	Sg	21 59 17.0	+0.5
OJC	Ojcow	0.50	97	ePg	Pg	21 59 10.9	+1.1
OJC				eSg	Sg	21 59 17.2	+0.7
RAC	Raciborz	0.57	250	ePG	Pg	21 59 15.0	+3.9
RAC				eSG	Sg	21 59 24.0	+5.3
RAC	Raciborz	0.57	250	ePg	Pg	21 59 13.4	+2.3
RAC				eSg	Sg	21 59 21.6	+2.9
OKC	Ostrava-Krasne	0.72	232	ePG	Pg	21 59 15.9	+1.8
OKC				eSG	Sg	21 59 27.2	+3.5
MORC	Moravsky Berou	1.08	242	ePn	Pn	21 59 22.3	+0.3
MORC				eSn	Sn	21 59 37.3	-0.6
NIE	Niedzica	1.21	136	ePG	Pg	21 59 22.0	-1.8
NIE				eSG	Sg	21 59 38.0	-1.9
DPC	Dobruska-Polom	1.73	273	ePG	Pg	21 59 33.3	-1.0
DPC				eSG	Sg	21 59 58.2	+0.8
	11nm,0.2s						
VYHS	Vyhne	1.80	184	ePN	Pn	21 59 32.4	+0.1
VYHS				eSN	Sn	21 59 54.2	-1.9
KSP	Ksiaz	1.83	289	ePN	Pn	21 59 35.0	+2.3
KSP				ePG	Pg	21 59 38.0	+1.8
KSP	Ksiaz	1.83	289	ePn	Pn	21 59 35.1	+2.4
KSP				ePg	Pg	21 59 37.7	+1.5
KSP				e		21 59 38.8	
KSP				eSg	Sg	22 00 02.6	+2.0
VRAC	Vranov	1.85	239	Pn	Pn	21 59 35.3	+2.2
	5.4nm,0.3s,baz=60,slow=14,SNR=38						
VRAC				Lg		22 00 00.4	
	4.3nm,0.3s,baz=147,slow=20,SNR=17						
KECS	Kecovo	2.04	151	eSN	Sn	21 59 59.1	-3.2
SMOL	Smolenice	2.06	211	ePN	Pn	21 59 36.1	+0.1
SMOL				eSN	Sn	22 00 04.0	+1.3
PSZ	Piszkesteto	2.44	166	ePn	Pn	21 59 41.1	-0.3
PSZ				e		22 00 18.7	
PSZ	Piszkesteto	2.44	166	eP	Pn	21 59 41.4	0.0
PSZ				eS	Sn	22 00 18.7	+6.3
KWP	Kalwaria	2.47	104	ePn	Pn	21 59 41.4	-0.5
PVCC	Panska Ves	2.86	277	ePG	Pg	21 59 53.4	-3.4
PVCC				eSG	Sg	22 00 35.1	+0.2
PVCC	Panska Ves	2.86	277	ePn	Pn	21 59 49.2	+1.7
PVCC				ePg	Pg	21 59 53.4	-3.4
PVCC				eSg	Sg	22 00 35.1	+0.2
PRU	Pruhonice	2.90	266	PN	Pn	21 59 48.1	+0.1
PRU				ePG	Pg	21 59 55.9	-1.7
PRU				eSG	Sg	22 00 34.4	-1.8
	11nm,0.6s						
PRU	Pruhonice	2.90	266	ePn	Pn	21 59 48.4	+0.4
PRU				ePg	Pg	21 59 56.0	-1.6
PRU				eSg	Sg	22 00 34.9	-1.3
BRG	Berggiesshubel	3.29	282	ePg	Pg	22 00 04.9	-0.5
BRG				eSg	Sg	22 00 48.3	-1.0
KHC	Kasperske Hory	3.72	254	ePn	Pn	22 00 00.0	+0.4
KHC				ePg	Pg	22 00 07.0	-7.0
KHC				eSg	Sg	22 01 09.0	+5.5
GEC2	GERESS Array S	3.75	249	ePg	Pn	22 00 01.9	+1.8
GEC2				eSg	Sg	22 01 00.5	-4.1
GEC2	GERESS Array S	3.75	249	ePg	Pn	22 00 01.9	+1.8
GEC2				eSg	Sg	22 01 00.5	-4.1
GERES	GERESS Array B	3.75	249	Pn	Pn	22 00 01.9	+1.8
	0.4nm,0.3s,baz=65,slow=14,SNR=22						
GERES				Pg	Pg	22 00 11.2	-3.4
	0.6nm,0.3s,baz=65,slow=17,SNR=16						
GERES				Lg		22 01 02.0	
	1.0nm,0.3s,baz=72,slow=27,SNR=6.7						
CLL	Collm	3.95	287	eSg	Sg	22 01 11.9	+0.5
MOA	Molln	3.96	234	⇑iPN	Pn	22 00 03.7	+0.5
MOA				i SG	Sg	22 01 07.7	-4.0
	6.6nm,0.8s						
WET	Wettzell	4.15	256	ePg	Pn	22 00 03.8	-2.0
WET				eSg	Sg	22 01 12.7	-5.1
WET	Wettzell	4.15	256	ePg	Pn	22 00 03.8	-2.0
WET				eSg	Sg	22 01 12.7	-5.1
TANN	Tannenbergstha	4.20	274	ePg	Pn	22 00 07.8	+1.2
TANN				eSg	Sg	22 01 17.6	-2.1
GUNZ	Gunzen	4.29	274	ePg	Pn	22 00 08.5	+0.7
GUNZ				eSg	Sg	22 01 19.7	-2.8
WERD	Werda	4.30	275	ePg	Pn	22 00 09.3	+1.3
WERD				eSg	Sg	22 01 21.6	-1.4
MOX	Moxa	4.75	277	eSg	Sg	22 01 35.6	-2.1
DAVOX	Davos	7.01	243	Pn	Pn	22 00 47.2	+1.0
	0.3nm,0.3s,baz=56,slow=14,SNR=6.1						
DAVOX				Lg		22 02 46.2	
	0.2nm,0.3s,baz=252,slow=16,SNR=3.1						
DAVOX	Davos	7.01	243	Pn	Pn	22 00 47.2	+1.0
DAVOX				Lg		22 02 46.2	
NOA	NORSAR Array B	11.63	341	Pn	P	22 01 44.6	-5.3
	0.1nm,0.3s,baz=72,slow=20,SNR=2.4						
FINES	FINESS Array B	11.86	17	Pn	P	22 01 49.8	-3.2
	0.1nm,0.3s,baz=190,slow=12,SNR=3.5						
FINES				Sn	S	22 03 57.7	-10
	0.1nm,0.3s,baz=201,slow=24,SNR=2.8						
FINES	FINESS Array B	11.86	17	Pn	P	22 01 49.8	-3.2
FINES				Sn	S	22 03 57.7	-10
ARCES	ARCESS Array B	19.56	7	P	P	22 03 31.2	-0.3
	0.1nm,0.3s,baz=187,slow=14,SNR=3.3						

*IDC **15** 22:11:52.0±1.7, 2.82S×141.56E, mb3.7/5, mb1 3.9/6, mb1mx3.7/13, ML3.9/1, Error ellipse: s-maj=64.1km s-min=22.9km az=104.0*

*NEIC **15** 22:11:57.3±1.0, 2.82S×141.34E, h30^{km}, mb3.8/2, Error ellipse: s-maj=35.9km s-min=11.7km az=105.0*

ISC 15 22:11:56.3±1.2**, 2.8S**±0.1×**141.2E**±0.3**, h33**^{km}**, n11, σ0**^{s}**80**/11**, mb3.7**/6**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	13.15	221	eP	P	22 15 02.1	-1.3
	3.8nm,0.6s						
WRAB	Tennant Creek	18.29	201	eP	P	22 16 09.2	-0.2
	3.6nm,0.7s						
WB2	Warramunga Arr	18.30	201	eP	P	22 16 10.0	+0.5
WRA	Warramunga Arr	18.30	201	P	P	22 16 09.6	0.0
	0.4nm,0.3s,baz=22,slow=12,SNR=19						
FITZ	Fitzroy Crossi	21.55	224	P	P	22 16 44.5	-0.5
	2.5nm,0.7s,mb3.8,baz=30,slow=8.4,SNR=7.4						
ASAR	Alice Springs	21.90	198	P	P	22 16 48.6	+0.2
	1.5nm,0.9s,mb3.4,baz=29,slow=10,SNR=11						
NWAO	Narrogin (SRO)	37.46	214	P	P	22 19 10.1	+1.6
	1.5nm,0.6s,mb4.0						
MKAR	Makanchi Array	71.43	322	P	P	22 23 15.6	+0.3
	0.4nm,0.4s,mb3.7,baz=117,slow=5.9,SNR=7.6						
MKAR	Makanchi Array	71.43	322	P	P	22 23 15.6	+0.3
BVAR	Borovoye Array	80.86	325	P	P	22 24 09.2	+0.7
	0.6nm,0.5s,mb3.8,baz=90,slow=7.2,SNR=4.6						
ILAR	Eielson Array	84.89	24	P	P	22 24 27.6	-1.2
	0.2nm,0.6s,mb3.4,baz=252,slow=4.4,SNR=4.2						

*NEIC **15** 23:06:48.8, 15.83N×98.93W, h21^{km}, MD4.3(MEX), After MEX.*

MEX 15 23:06:48.0±0.4**, 15.76N×98.97W, h33**^{km}±116^{km}**, MD4.3, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	El Cayaco	1.79	316	i S	S	23 07 35.7	-3.0
VHO	Vista Hermosa	2.51	58	i P	P	23 07 25.3	-1.9
VHO				i S	S	23 07 53.5	-3.5
OXX	Oaxaca	2.52	58	i P	P	23 07 25.5	-2.0
OXX				i S	S	23 07 55.0	-2.3
YAIG	Yautepec	3.08	358	i P	P	23 07 34.7	-0.8
YAIG				i S	S	23 08 08.2	-3.5
PPM	Popocatepetl	3.30	6	eP	P	23 07 35.0	-3.6
PPM				eP		23 07 36.0	
PPM				i S	S	23 08 17.1	-0.1
PPM	Popocatepetl	3.30	6	eP	P	23 07 36.0	-2.6
PPM				i S	S	23 08 17.1	-0.1
IISM	Ciudad Serdan	3.55	25	eP	P	23 07 40.0	-2.1
UNM	Universidad Na	3.55	357	eP	P	23 07 50.0	+7.8
CMIG	Matias Romero	4.13	71	i P	P	23 07 46.9	-3.5
CMIG				i S	S	23 08 34.6	-3.6

*NEIC **15** 23:21:02.0, 30.94S×71.32W, h59^{km}, MD3.5(GUC), After GUC.*

GUC 15 23:21:02.0±0.8**, 30.94S×71.32W, h59**^{km}±4^{km}**, MD3.5, ML3.7, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	Ovalle	0.34	17	⇓iP	P	23 21 12.7	+0.2
OVCH				i S	S	23 21 20.6	+0.5
OVCH				AMP		23 21 21.1	
	comp=E,8μm,0.1s						
CMCH	Combarbala	0.36	131	⇓iP	P	23 21 13.1	+0.5
CMCH				i S	S	23 21 21.3	+0.9
CMCH				AMP		23 21 21.9	
	comp=E,35μm,0.5s						
ILCH	Illapel	0.71	170	⇑iP	P	23 21 16.6	+0.3
ILCH				i S	S	23 21 27.5	+0.4
ILCH				AMP		23 21 28.3	
	comp=N,4μm,0.1s						
TLL	Tololo Astrono	0.88	30	⇑iP	P	23 21 19.6	+0.9
TLL				i S	S	23 21 32.3	+1.2

TLL				AMP		23 21 35.2	
	comp=N,2µm,0.4s						
LSCH	La Serena	1.03	3	⇑*i*P	P	23 21 20.8	+0.2
LSCH				*i* S	S	23 21 34.4	0.0
LSCH				AMP		23 21 35.6	
	comp=N,989nm,0.3s						
JACH	Jahuel	1.85	161	*e*P	P	23 21 32.2	+0.2
VACH	Vallenar	2.40	12	*i* P	P	23 21 35.9	-3.9
VACH				*i* S	S	23 22 04.3	-3.7
FCH	Farellones	2.54	160	*e*P	P	23 21 42.1	+0.4
FCH				*i* S	S	23 22 12.3	+0.7
FCH				AMP		23 22 23.8	
	comp=E,261nm,0.2s						
CLCH	Cerro Calan	2.54	165	*e*P	P	23 21 41.7	-0.1
CLCH				*i* S	S	23 22 11.4	-0.2
CLCH				AMP		23 22 26.6	
	comp=N,461nm,0.5s						
LCCH	Las Cruces	2.54	185	*i* P	P	23 21 40.4	-1.4
PCH	Pirque	2.76	166	*e*P	P	23 21 44.7	-0.3
MDZ	Mendoza	2.86	133	*e*P	P	23 21 49.6	+3.3
MDZ				*e*		23 22 08.6	
MDZ				*e*S	S	23 22 27.7	+8.1
CHCH	Chadas Angostu	3.04	170	*e*P	P	23 21 48.0	-0.9
CHCH				*i* S	S	23 22 23.1	-1.2
LMEL	Las Melosas	3.05	162	⇑*i*P	P	23 21 49.5	+0.5
LMEL				*i* S	S	23 22 24.5	0.0
LMEL				AMP		23 22 31.9	
	comp=N,214nm,0.2s						
CACH	El Canelo	3.23	169	*i* P	P	23 21 51.7	+0.1
CICH	Cipreses	3.46	168	*e*P	P	23 21 54.1	-0.6
CICH				*i* S	S	23 22 33.6	-1.1
SFDO	San Fernando	3.68	176	*e*P	P	23 21 56.7	-1.1

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*THE **15** 23:23:51.3,38.40N×22.04E,h10^{km},ML3.5*
*NEIC **15** 23:23:51.3,38.43N×21.96E,h17^{km},ML3.5(THE), ML3.4(ATH),After ATH.*
*ATH **15** 23:23:51.3,38.43N×21.96E,h16^{km}±2^{km},MD3.2/12, ML3.4*
ISC 15 23:23:51.6±0.5,38.42N±0.03×21.91E±0.05,h10^{km},n24, σ1^{s}05/28,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.50	351	*e*PN	Pg	23 24 00.7	-1.1
RLS	Riolos of Patr	0.50	224	*e*PN	Pg	23 24 01.9	+0.1
AGG	Agios Georgios	0.68	29	*e*Pg	Pg	23 24 03.2	-2.2
AGG				*e*Sg	Sg	23 24 13.1	-1.5
LKD	Levkas	1.03	287	*e*Pg	Pg	23 24 11.0	-1.2
MKIT	Kithairon Oros	1.09	102	*e*Pn	Pn	23 24 13.5	+0.6
ITM	Ithomi	1.24	179	*e*PN	Pn	23 24 14.2	-0.8
NSAL	Nisos Salamina	1.33	112	*e*PN	Pn	23 24 16.0	-0.3
NEO	Neokhori	1.35	49	*e*PN	Pn	23 24 16.3	-0.4
XOR	Xorichti	1.38	46	*e*Pb	Pb	23 24 16.4	-0.6
XOR				*e*Sb	Sb	23 24 36.5	+2.0
NAIG	Nisos Aigina	1.41	117	*e*PN	Pn	23 24 18.0	+0.5
MEV	Metsovon	1.46	339	*e*Pb	Pb	23 24 18.4	0.0
	comp=Z,17nm,0.1s						
MPAR	Parnis Oros	1.46	100	*e*PN	Pn	23 24 18.3	+0.1
MPAR	Parnis Oros	1.46	100	*e*Pn	Pn	23 24 20.1	+1.9
JAN	Janina	1.48	327	*e*PN	Pn	23 24 20.3	+1.8
ATH	Athens Observa	1.49	107	*e*PN	Pn	23 24 18.5	-0.2
PTL	Penteli	1.58	103	*e*PN	Pn	23 24 20.0	0.0
IGT	Igoumenitsa	1.66	313	*e*Pb	Pb	23 24 23.1	+1.3
IGT				*e*Sb	Sb	23 24 48.3	+5.7
LIT	Litokhoron	1.74	15	*e*Pb	Pb	23 24 22.0	-1.2
	comp=Z,6.8nm,0.3s						
LIT				*e*Sb	Sb	23 24 46.8	+1.8
KZN	Kozani	1.89	357	*e*PN	Pn	23 24 25.5	+1.2
VLI	Veliai	1.89	154	*e*PN	Pn	23 24 25.0	+0.7
PLG	Polygyros	2.29	31	*e*PN	Pn	23 24 29.4	-0.6
FNA	Florina	2.39	350	*e*Pn	Pn	23 24 32.0	+0.5
	comp=Z,1.5nm,0.6s						
KNT	Kendrikon	2.84	15	*e*Pn	Pn	23 24 37.3	-0.6
VAM	Vamos	3.52	148	*e*PN	Pn	23 24 47.1	-0.5

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*NEIC **15** 23:26:42.8±0.6,52.07N×171.40W,h43^{km}±4^{km},mb4.3/2, ML3.7(AEIC),Error ellipse: s-maj=16.3km s-min=3.3km az=166.0*
*IDC **15** 23:26:45.9±4.0,52.36N×171.35W,h59^{km}±34^{km},mb3.7/18, mb1 3.9/20,mb1mx3.8/24,ML3.5/2,MS3.4/3,Ms1 3.4/3, ms1mx2.9/23,Error ellipse: s-maj=33.1km s-min=14.8km az=170.0*
ISC 15 23:26:41.6±0.9,52.1N±0.2×171.34W±0.07,h47^{km}±6^{km}, n45,σ1^{s}01/49,mb4.0/20,MS3.4/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.77	276	P	P	23 27 09.4	-0.9
ATKA				S	S	23 27 33.2	+1.5
NIKO	Nikolski	1.77	58	P	P	23 27 10.0	-0.3
NIKO				S	S	23 27 35.5	+3.7
OKER	East Rim	2.44	54	P	P	23 27 21.0	+1.1
GSIG	Igitkin Island	2.83	270	P	P	23 27 24.6	-0.9
GSIG				S	S	23 27 59.3	+0.7
GSMY	Great Sitkin M	2.91	272	P	P	23 27 26.4	-0.2
GSTR	Great Sitkin T	2.91	273	P	P	23 27 26.6	0.0
GSTD	Great Sitkin T	2.97	272	P	P	23 27 26.9	-0.5
GSTD				S	S	23 28 03.2	+1.2
ADAG	Mount Adagdak	3.25	271	P	P	23 27 31.3	-0.1
MCIR	Makushin Cirqu	3.29	53	P	P	23 27 32.6	+0.7
MTBL	Makushin Table	3.40	54	P	P	23 27 33.6	+0.1
UNV	Unalaska Valle	3.43	57	P	P	23 27 33.7	-0.2
KINC	Kanaga Island	3.58	270	P	P	23 27 35.5	-0.5
KIMD	Kanaga Island	3.66	268	P	P	23 27 35.9	-1.3
DTNA	Dutton South F	6.23	57	P	P	23 28 12.8	-0.5
DOL	Dolgoi Island	6.43	58	P	P	23 28 15.2	-0.8
FX1	Attu Island--F	9.50	281	P	P	23 28 59.3	+0.8
	1.2nm,0.3s,baz=68,slow=18,SNR=11						
ILAR	Eielson Array	17.90	35	P	P	23 30 48.1	-0.2
	0.1nm,0.3s,baz=229,slow=9.6,SNR=9.5						
DLBC	Dease Lake	24.08	58	P	P	23 31 55.2	+2.2
	1.8nm,0.5s,mb3.8,baz=161,slow=22,SNR=7.1						
DLBC	Dease Lake	24.08	58	P	P	23 31 55.2	+2.2
INK	Inuvik	24.27	34	P	P	23 31 55.5	+0.6
	1.5nm,0.4s,mb3.8,baz=267,slow=5.8,SNR=13						
YKA	Yellowknife Ar	31.36	48	P	P	23 32 58.9	-0.5
	1.3nm,0.7s,mb3.9,baz=274,slow=8.2,SNR=3.4						
YKA				LR	LR	23 47 34.2	
	comp=Z,55nm,18.9s,MS3.2,baz=250,slow=40						
PDAR	Pinedale Array	41.65	78	P	P	23 34 26.8	+0.2
	1.8nm,1.0s,mb3.7,baz=301,slow=5.3,SNR=9.6						
PDAR	Pinedale Array	41.65	78	P	P	23 34 26.8	+0.2
HIA	Hailar	42.28	295	*e*P	P	23 34 30.8	-0.8
PV01	Paradox Valley	45.05	82	*e*P	P	23 34 53.0	-1.2
ULM	Lac du Bonnet	45.36	61	P	P	23 34 56.5	0.0
	1.3nm,0.6s,mb3.9,baz=288,slow=9.6,SNR=2.3						
ULM	Lac du Bonnet	45.36	61	P	P	23 34 56.5	0.0
SDCO	Great Sand Dun	47.17	80	P	P	23 35 12.5	+1.6
	1.5nm,0.9s,mb3.9						
SONM	Songino Array	50.41	300	P	P	23 35 35.7	-0.1
	1.2nm,0.7s,mb4.0,baz=51,slow=7.9,SNR=9.9						
SCHQ	Schefferville	56.49	42	P	P	23 36 19.1	-1.5
	3.3nm,0.9s,mb4.4,baz=284,slow=7.5,SNR=2.6						
ARCES	ARCESS Array B	58.09	353	P	P	23 36 30.2	-1.5
	5.0nm,0.9s,mb4.5,baz=14,slow=7.4,SNR=3.3						
ARCES				LR	LR	00 02 28.0	
	comp=Z,31nm,22.0s,MS3.4,baz=189,slow=37						
KURK	Kurchatov	61.79	317	*e*P	P	23 36 56.2	-1.1
	3.4nm,0.8s,mb4.5						
MKAR	Makanchi Array	63.13	312	P	P	23 37 05.3	-1.0
	2.3nm,0.7s,mb4.4,baz=52,slow=6.6,SNR=19						
MKAR				LR	LR	00 04 39.7	
	comp=Z,33nm,18.5s,MS3.5,baz=279,slow=36						
MKAR	Makanchi Array	63.13	312	P	P	23 37 05.3	-1.0
MKAR				LR	LR	00 04 39.7	
KAF	Kangasniemi	65.32	351	*e*p	P	23 37 16.4	-3.7
FINES	FINESS Array B	66.00	351	P	P	23 37 23.2	-1.2
	1.3nm,0.8s,mb4.0,baz=27,slow=8.5,SNR=5.4						
NOA	NORSAR Array B	67.23	359	P	P	23 37 31.9	-0.4
	0.8nm,0.7s,mb3.9,baz=359,slow=5.6,SNR=3.5						
CMAR	Chiang Mai Arr	75.50	281	P	P	23 38 22.8	+0.3
	3.5nm,1.1s,mb4.2,baz=22,slow=6.9,SNR=7.9						
KHC	Kasperske Hory	79.10	357	*e*P	P	23 38 34.0	-8.0
KHC						23 38 42.0	
GERES	GERESS Array B	79.38	357	P	P	23 38 43.8	+0.3
	0.7nm,0.8s,mb3.6,baz=14,slow=5.5,SNR=8.4						
DAVOX	Davos	81.53	359	P	P	23 38 56.2	+1.2
	1.5nm,0.7s,mb4.0,baz=135,slow=14,SNR=5.4						
WRA	Warramunga Arr	85.87	230	P	P	23 39 24.0	+6.7
	0.6nm,1.0s,mb3.8,baz=26,slow=5.7,SNR=2.6						
BRTR	Keskin Array B	86.04	341	P	P	23 39 19.2	+1.6
	0.8nm,0.8s,mb4.0,slow=7.2,SNR=3.2						
ESDC	Sonseca Array	87.98	10	P	P	23 39 29.0	+1.9
	0.1nm,0.3s,mb3.5,baz=342,slow=4.7,SNR=4.2						
ASAR	Alice Springs	89.27	228	P	P	23 39 37.9	+4.2
	0.4nm,0.8s,mb3.8,baz=28,slow=4.2,SNR=4.2						

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*NEIC **15** 23:48:09.3±4.1,27.45S×178.17W,h156^{km}±31^{km},mb4.1/3, Error ellipse: s-maj=32.8km s-min=13.5km az=223.0*
*IDC **15** 23:48:11.2±9.1,27.55S×178.21W,h170^{km}±76^{km},mb3.4/4, mb1 3.7/5,mb1mx3.5/12,Error ellipse: s-maj=58.6km s-min=24.5km az=35.0*
ISC 15 23:48:17.5±5.0,28.0S±0.2×178.6W±0.2,h219^{km}±39^{km}, n16,σ0^{s}79/12,mb3.6/7,2D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	10.84	198	P	P	23 50 48.6	+0.5
	1.0nm,0.3s,baz=307,slow=12,SNR=12						
URZ				S	S	23 52 45.5	-0.7
	4.9nm,0.3s,baz=299,slow=23,SNR=13						
ASAR	Alice Springs	42.73	265	P	P	23 55 55.0	+0.1
	0.8nm,0.7s,mb3.3,baz=94,slow=6.9,SNR=9.2						
WRAB	Tennant Creek	43.49	270	*e*P	P	23 56 00.7	-0.3
	0.6nm,0.3s,mb3.5						
WRA	Warramunga Arr	43.50	270	P	P	23 56 00.8	-0.3
	1.3nm,0.8s,mb3.4,baz=106,slow=7.2,SNR=8.6						
SBA	Scott Base	50.39	184	*e*P	P	23 56 55.0	+1.2
	4.9nm,1.0s,mb3.8						
VNDA	Vanda	50.43	185	P	P	23 56 54.5	+0.3
	0.6nm,0.5s,mb3.2,baz=1.3,slow=8.2,SNR=5.5						
QSPA	South Pole Qui	62.11	180	*e*P	P	23 58 16.0	-0.7
	4.4nm,0.7s,mb4.2						
QSPA				*e*		23 59 14.9	
VNA2	Neumayer--Watz	81.16	177	⇓*i*	P	00 00 09.8	+0.5
VNA1	Neumayer--Stat	81.39	177	⇓*i*	P	00 00 11.4	+0.9
PLCA	Paso Flores	84.55	133	P	P	00 00 25.4	-1.8
	1.6nm,0.8s,mb3.8,baz=239,slow=8.0,SNR=4.3						
PLCA	Paso Flores	84.55	133	P	P	00 00 25.4	-1.8
FINES	FINESS Array B	142.70	341	PKhKP		00 07 18.9	
	2.4nm,0.9s,baz=67,slow=2.5,SNR=6.4						
FINES	FINESS Array B	142.70	341	PKP	PKPdf	00 07 18.9	-4.8
NOA	NORSAR Array B	146.30	351	PKPbc	PKPbc	00 07 29.8	-1.5
	1.2nm,0.9s,baz=270,slow=16,SNR=3.1						
AKASG	Malin Array Be	149.04	325	PKPbc	PKPdf	00 07 37.7	+3.0
	1.9nm,0.7s,baz=43,slow=3.5,SNR=5.3						
BRTR	Keskin Array B	150.91	302	PKPbc	PKPdf	00 07 43.4	+5.4
	0.2nm,0.4s,baz=175,slow=22,SNR=3.0						
BRTR				PKPab	PKPab	00 07 52.0	-2.4
	0.4nm,0.7s,baz=108,slow=3.9,SNR=4.1						

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*NIED **16** 00:12:00,26.50N×128.90E,h17^{km},Mw4.0 Best double couple: M$_0$1.27×10^{15} NP1:φ$_s$166°,δ90°,λ-155°. NP2: φ$_s$76°,δ65°,λ0°.*
*BJI **16** 00:12:43.6,26.89N×129.26E,h65^{km},mB4.4,mb4.2*
*JMA **16** 00:12:43.2±0.2,26.48N×128.93E,h40^{km}±4^{km},M4.2*
*IDC **16** 00:12:45.8±1.6,26.54N×128.79E,h40^{km}±5^{km},mb3.7/8, mb1 3.8/8,mb1mx3.6/20,Error ellipse: s-maj=34.6km s-min=19.7km az=9.0*
*NEIC **16** 00:12:46.9±2.5,26.64N×128.75E,mb4.3/2,Error ellipse: s-maj=48.4km s-min=18.7km az=143.0*
ISC 16 00:12:42.3±0.4,26.42N±0.04×128.94E±0.03,h45^{km}, h45^{km}±1.7^{km}:pP-P,n34,σ1^{s}23/49,mb3.9/10,1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	0.73	305	Pn	P	00 12 56.4	+0.2
	1µm,0.3s,baz=126,slow=18,SNR=1670						
JOW				Sn	S	00 13 05.4	-1.1
	758nm,0.3s,baz=117,slow=24,SNR=37						
JOW	Kunigami	0.73	305	P	P	00 12 56.5	+0.3
JOW				S	S	00 13 05.6	-0.9
JIH	Iheya	1.07	305	P	P	00 13 01.7	+0.7
JIH				S	S	00 13 14.8	-0.1
JJT2	Tamagusuku 2	1.11	256	P	P	00 13 02.8	+1.2
JJT2				S	S	00 13 17.0	+1.1
NAH1	Naha	1.14	260	P	P	00 13 03.1	+1.0
NAH1				S	S	00 13 17.4	+0.6
JTK	Tokunoshima	1.36	0	P	P	00 13 05.6	+0.3
JTK				S	S	00 13 21.4	-1.1
JAGN	Aguni-jima	1.53	277	P	P	00 13 08.7	+1.0
JAGN				S	S	00 13 27.2	+0.6
JKE	Kume jima 2	1.94	268	P	P	00 13 13.5	+0.1
JKE				S	S	00 13 35.6	-1.0
JAM	Amami Oshima	2.07	16	P	P	00 13 15.3	0.0
JAM				S	S	00 13 38.7	-1.3
JZK	Kikaishima	2.10	26	P	P	00 13 16.5	+0.8
JMZ	Minamidaito 2	2.13	106	P	P	00 13 16.7	+0.5
JMZ				S	S	00 13 40.2	-1.4
JNN	Nakanoshima	3.51	13	P	P	00 13 35.2	-0.6
JOGS	Gusukube	3.59	243	P	P	00 13 37.2	+0.3
JOGS				S	S	00 14 16.9	-1.7
JMJ	Miyako jima 2	3.66	245	P	P	00 13 37.3	-0.6
JKC	Kuchinoerabu	4.18	15	P	P	00 13 44.4	-0.8
JKC				*e*S	S	00 14 29.8	-3.6
JTJ	Tarama	4.22	246	P	P	00 13 44.8	-1.0
JTJ				S	S	00 14 31.8	-2.6
JIJ	Ishigaki jima	4.80	246	P	P	00 13 52.1	-1.9
JIJ				*e*S	S	00 14 41.8	-7.2
JKRS	Kuro-shima	4.96	245	P	P	00 13 54.6	-1.7
IRIF	Iriomote-Funau	5.15	247	P	P	00 13 56.7	-2.2
JNU	Nakatsue	6.89	14	Pn	P	00 14 22.4	-0.9
	baz=234,slow=8.7						
JNU				Sn	S	00 15 37.6	-3.6
XAN	Xi’an	18.88	299	P	P	00 17 01.8	+0.3
XAN				AMB	AMB		
	comp=Z,19nm,0.9s						
ASAJ	Asahikawa	20.83	29	P	P	00 17 23.9	+1.5
	comp=Z,3.4nm,0.6s,baz=218,slow=12,SNR=4.3						
KMI	Kunming	23.62	273	*e*P	P	00 17 52.9	+2.8
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
KMI	Kunming	23.62	273	*e*P	P	00 17 52.9	+2.8
	comp=Z,10.0nm,0.9s,mb4.2						
GTA	Gaotai	27.54	305	*e*P	P	00 18 26.4	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,33nm,4.2s						
SONM	Songino Array	27.75	326	P	P	00 18 31.0	+2.3
	comp=Z,2.5nm,0.8s,mb3.9,baz=137,slow=10,SNR=20						
SONM				sP	sP	00 18 44.2	-1.8
	comp=Z,1.2nm,0.9s,baz=140,slow=9.5,SNR=4.4						
MKAR	Makanchi Array	41.89	312	P	P	00 20 30.7	+0.9
	comp=Z,0.5nm,0.5s,mb3.4,baz=96,slow=10,SNR=7.1						
BVAR	Borovoye Array	50.56	318	P	P	00 21 38.7	+0.4
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=8.9,SNR=6.7						
BVAR				pP	pP	00 21 51.1	+0.4
	comp=Z,0.7nm,0.5s,baz=79,slow=7.6,SNR=3.9						
BRVK	Borovoye	50.63	318	*e*P	P	00 21 39.0	+0.3
	comp=Z,2.2nm,0.8s,mb4.1						
FINES	FINESS Array B	73.02	331	P	P	00 24 09.8	+1.0
	comp=Z,3.1nm,1.1s,mb4.2,baz=18,slow=12,SNR=4.8						
FINES				pP	pP	00 24 21.9	0.0
	comp=Z,0.9nm,0.6s,baz=90,slow=5.7,SNR=1.7						
AKASG	Malin Array Be	75.81	320	P	P	00 24 24.6	-0.6
	comp=Z,0.3nm,0.3s,mb3.6,baz=53,slow=6.6,SNR=4.5						
AKASG				pP	pP	00 24 38.9	+0.6
	comp=Z,0.3nm,0.3s,baz=63,slow=6.5,SNR=3.5						
BRTR	Keskin Array B	77.42	308	P	P	00 24 36.0	+1.5
	comp=Z,5.8nm,1.2s,mb4.4,baz=91,slow=5.2,SNR=9.0						
BRTR				pP	pP	00 24 49.0	+1.3
	comp=Z,1.5nm,0.9s,baz=90,slow=2.5,SNR=4.1						
CLL	Collm	84.36	325	⇓P	P	00 25 13.5	+2.7
GERES	GERESS Array B	85.44	323	P	P	00 25 19.1	+2.9
	comp=Z,0.3nm,0.6s,mb3.6,baz=53,slow=6.7,SNR=4.6						

IDC 16 00:24:39.8±3.0,33.04S×178.30W,mb3.5/2,mb1 3.8/3, mb1mx3.7/12,ML3.7/1,Error ellipse: s-maj=70.5km s-min=35.9km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.41	214	Pn	Pn	00 26 15.6	-2.3
	1.6nm,0.3s,baz=136,slow=16,SNR=6.2						
URZ				Sn	Sn	00 27 27.9	-4.8
	2.7nm,0.3s,baz=146,slow=21,SNR=10						
ASAR	Alice Springs	42.78	270	P	P	00 32 39.5	-1.4
	0.2nm,0.3s,baz=108,slow=7.9,SNR=3.4						
WRA	Warramunga Arr	44.01	275	P	P	00 32 49.3	-1.7
	0.4nm,0.3s,baz=114,slow=7.7,SNR=15						
FINES	FINESS Array B	147.51	338	PKPbc	PKPdf	00 44 24.2	-0.1
	6.8nm,1.2s,slow=1.4,SNR=8.4						

IDC 16 00:50:23.6±3.0,13.40S×172.30E,mb4.5/3,mb1 4.6/3, mb1mx4.0/12,Error ellipse: s-maj=121.0km s-min=47.9km az=141.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	33.61	232	P	P	00 57 05.9	-2.0
	4.0nm,0.4s,baz=66,slow=8.8,SNR=29						
WRA	Warramunga Arr	36.88	255	P	P	00 57 34.5	-1.4
	1.4nm,0.5s,baz=88,slow=9.6,SNR=20						
ASAR	Alice Springs	37.70	249	P	P	00 57 40.8	-2.0
	4.1nm,0.4s,baz=75,slow=9.5,SNR=49						
ASPA	Alice Springs	37.70	249	*e*P	P	00 57 40.7	-2.1
ARCES	ARCESS Array B	120.12	347	PKP	PKPdf	01 09 15.5	-2.4
	1.6nm,0.8s,baz=63,slow=2.0,SNR=3.7						

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*MDD **16** 00:52:60.0±1.5,36.47N×7.50W,h35^{km}±4^{km},mbLg1.9/3, Error ellipse: s-maj=14.7km s-min=8.1km az=26.0, PRXIMO*
INMG 16 00:53:00.1±1.0,36.53N×7.53W,h19^{km}±6^{km},ML1.5,1C, Error ellipse: s-maj=6.4km s-min=3.7km az=21.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	Alcoutim	0.93	3	*e*P	Pb	00 53 17.0	-0.4
PALC				*e*S	Sb	00 53 29.7	+0.4
	14nm,0.1s						
PALC	Alcoutim	0.93	3	Pg	Pb	00 53 17.0	-0.4
PALC				Lg		00 53 29.7	
	6.9nm,0.1s						
EGRO	El Granado	1.00	2	⇑Pg	Pb	00 53 17.9	-0.6
	1.1nm,0.0s,SNR=18						
EGRO				Lg		00 53 31.1	
	2.7nm,0.1s,SNR=7.9						
ESPR	Espera	1.39	76	Pg	Pn	00 53 21.9	-2.8
	1.7nm,0.1s,SNR=8.3						
ESPR				Lg		00 53 38.2	
	6.5nm,0.3s,SNR=5.0						
PTEO	Sao Teotonio	1.39	317	*e*P	Pn	00 53 23.0	-1.8
PTEO				S	Sb	00 53 40.1	-2.4
	3.4nm,0.3s						
PTEO	Sao Teotonio	1.39	317	Pn	Pn	00 53 23.0	-1.8
PTEO				Sn	Sn	00 53 40.1	-2.6
	1.7nm,0.3s						
EMIN	Mina Concepcio	1.41	29	Pn	Pn	00 53 23.1	-2.0
	0.5nm,0.1s,SNR=7.1						
EMIN				Sn	Sn	00 53 40.1	-3.2
	0.6nm,0.1s,SNR=5.0						
PBEJ	Beja	1.51	350	*e*P	Pn	00 53 24.9	-1.7
PBEJ				*e*S	Sn	00 53 43.3	-2.6
	1.7nm,0.1s						
PBEJ	Beja	1.51	350	Pn	Pn	00 53 24.9	-1.7
PBEJ				Sn	Sn	00 53 43.3	-2.6
	0.9nm,0.1s						
EBAD	Badajoz	2.26	10	Pn	Pn	00 53 34.8	-2.4
	0.2nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 54 00.8	-3.9
	0.6nm,0.2s,SNR=7.9						
PLOU	Loures	2.68	332	*e*Sn	Sn	00 54 10.7	-4.7
	4.0nm,0.4s						
PLOU	Loures	2.68	332	Sn	Sn	00 54 10.7	-4.7
	2.0nm,0.4s						
EADA	Adamuz	2.87	54	Pn	Pn	00 53 43.0	-2.9
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	Sn	00 54 13.0	-7.2
	1.4nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	3.30	1	*e*Pn	Pn	00 53 49.3	-2.8
PCBR				*e*Sn	Sn	00 54 26.1	-5.2
	0.5nm,0.1s						
PCBR	Castelo Branco	3.30	1	Pn	Pn	00 53 49.3	-2.8
PCBR				Sn	Sn	00 54 26.1	-5.2
	0.2nm,0.1s						
EQES	Quesada	3.78	69	Pn	Pn	00 53 56.1	-2.8
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	00 54 37.2	-6.2
	0.2nm,0.2s,SNR=7.9						
ELOB	Lobios	5.34	356	Sn	Sn	00 55 16.5	-6.3
	0.6nm,0.4s,SNR=7.9						
ETOR	Torete	6.06	43	Sn	Sn	00 55 30.6	-10
	0.3nm,0.2s,SNR=4.0						

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*NIED **16** 00:54:00,36.30N×140.90E,h38^{km},Mw3.5 Best double couple: M$_0$2.01×10^{14} NP1:φ$_s$33°,δ82°,λ117°. NP2:φ$_s$139°, δ28°,λ18°.*
*JMA **16** 00:54:49.1±0.1,36.23N×140.88E,h45^{km}±1^{km},M3.4*
JMA Felt I J1.
ISC 16 00:54:48.5±0.9,36.24N±0.04×140.93E±0.08,h45^{km},n9, σ0^{s}55/16,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.47	322	⇓P	P	00 54 59.2	+0.1
JHO				S	S	00 55 05.9	-0.7
CHOJ	Chosi	0.54	186	⇑P	P	00 55 00.2	+0.2
CHOJ				S	S	00 55 07.6	-0.6
JYT	Yasato	0.60	269	⇓P	P	00 55 00.8	+0.1
JYT				S	S	00 55 08.6	-0.9
ONAJ	Iwakimizuishiy	0.87	353	⇑P	P	00 55 04.5	+0.1
ONAJ				S	S	00 55 15.1	-1.0
JFK	Kawauchi	1.12	358	P	P	00 55 07.9	-0.1
JAG	Ashikaga	1.21	279	⇓P	P	00 55 09.4	+0.2
JFT	Otama	1.36	340	P	P	00 55 12.6	+1.1
JFT				S	S	00 55 28.6	0.0
JKT	Katashina	1.46	292	⇓P	P	00 55 13.6	+0.8
JKT				S	S	00 55 31.1	+0.2
MAT	Matsushiro	2.22	279	P	P	00 55 23.4	-0.2
MAT				S	S	00 55 50.4	+0.5

CASC 16 00:58:12.3±2.3,13.28N×90.41W,h21^{km}±6^{km},MD3.8, ML3.8,8C-10D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.77	35	⇑*e*P	Pb	00 58 27.6	+0.7
CUSS				*e*S	Sb	00 58 37.0	0.0
IXG	Ixpaco	0.90	357	⇓*e*P	Pb	00 58 29.0	0.0
IXG				*e*S	Sb	00 58 41.6	+1.1
IXG				AML	AML	00 58 47.3	
	comp=E,11µm,0.3s						
SBLS	San Blas	0.95	54	⇓*e*P	Pb	00 58 30.2	+0.3
SBLS				*e*S	Sb	00 58 43.5	+1.5
RTR	El Retiro	0.96	50	⇓*e*P	Pb	00 58 30.7	+0.5
SNJE	San Jose	0.98	53	⇓*e*P	Pb	00 58 30.7	+0.3
SNJE				*e*S	Sb	00 58 43.9	+1.0
RBDL	Robledal	1.09	40	⇓*i*P	Pb	00 58 32.7	+0.4
BOQS	Boqueron	1.19	67	⇑*e*P	Pn	00 58 33.6	-0.3
BOQS				*e*S	Sb	00 58 50.1	+1.2
SNET	Serv Nac Est T	1.22	70	⇓*e*P	Pn	00 58 33.9	-0.4
SNET				*e*S	Sb	00 58 49.8	0.0
SNET				*i*		00 58 53.2	
	comp=Z,2µm,0.3s						
FUG	Fuego 3	1.24	340	⇑*e*P	Pn	00 58 33.6	-1.1
NBG	Las Nubes	1.31	3	⇑*e*P	Pn	00 58 36.4	+0.8
NBG				*e*S	Sb	00 58 55.8	+3.4
NBG				AML	AML	00 59 02.1	
	comp=E,5µm,0.4s						
LFRS	El Faro	1.35	75	⇓*e*P	Pn	00 58 35.5	-0.8
LFRS				*e*S	Sn	00 58 53.8	0.0
LBRS	Las Brisas	1.41	71	⇑*e*P	Pn	00 58 37.4	+0.4
LCBS	La Ceiba	1.44	75	⇑*e*P	Pn	00 58 37.4	-0.1
LCBS				*e*S	Sn	00 58 56.0	+0.1
SNVI	San Vicente	1.56	77	*e*P	Pn	00 58 39.4	+0.1
JAT	Jato	1.58	311	⇑*e*P	Pn	00 58 38.2	-1.3
JAT				*e*S	Sn	00 58 59.3	-0.3
JAT				AML	AML	00 59 10.3	
	comp=N,2µm,0.7s						
MRL	Marmol	1.91	21	⇓*e*P	Pn	00 58 45.1	+0.9
MRL				*e*S	Sn	00 59 08.1	+0.2
MRL				AML	AML	00 59 15.4	
	comp=N,110nm,0.4s						
VSM	San Miguel	2.08	86	⇓*e*P	Pn	00 58 47.1	+0.4
VSM				*e*S	Sn	00 59 12.4	+0.1
BLLM	Bellamira	2.12	85	⇑*e*P	Pn	00 58 48.2	+0.9
CNCH	Conchagua	2.51	90	⇓*e*P	Pn	00 58 52.2	-0.6

IDC ***16*** *01:18:18.1±2.0, 32.65S×178.34W, mb4.4/2, mb1 4.6/3, mb1mx4.1/12, ML4.5/1, Error ellipse: s-maj=58.7km s-min=32.8km az=125.0*

NEIC ***16*** *01:18:21.1±1.0, 31.37S×178.52W, h10^{km}, mb4.5/3, Error ellipse: s-maj=31.5km s-min=24.4km az=19.0*

ISC 16 01:18:27.5±2.0, **32.59S**±0.09×**179.7W**±0.3, **h10^{km}, n10, σ0^{s}89**/8, **mb4.4**/5, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.23	204	Pn	Pn	01 19 58.1	-3.7
	10nm,0.3s,baz=334,slow=9.9,SNR=28						
URZ				Sn	Sn	01 21 14.1	+0.3
	5.4nm,0.3s,baz=143,slow=19,SNR=8.0						
CTAO	Charters Tower	32.82	284	*e*P	P	01 25 05.2	+1.8
	5.5nm,0.5s,mb4.7						
ASAR	Alice Springs	41.61	270	P	P	01 26 17.4	-0.1
	2.1nm,0.5s,mb4.0,baz=109,slow=7.8,SNR=26						
WB2	Warramunga Arr	42.80	275	*e*P	P	01 26 26.5	-0.7
WRAB	Tennant Creek	42.80	275	*e*P	P	01 26 26.7	-0.5
	4.4nm,0.5s,mb4.4						
WRA	Warramunga Arr	42.80	275	P	P	01 26 26.8	-0.4
	2.7nm,0.4s,mb4.4,baz=114,slow=7.9,SNR=42						
QSPA	South Pole Qui	57.52	180	*e*P	P	01 28 19.1	+0.3
	2.6nm,0.7s,mb4.4						
KAF	Kangasniemi	146.09	338	*e*p	PKPbc	01 37 57.1	-10
	0.4nm,0.3s						
FINES	FINESS Array B	146.66	338	PKPbc	PKPbc	01 38 01.5	-7.0
	5.7nm,0.9s,baz=70,slow=3.3,SNR=16						
BRTR	Keskin Array B	152.28	294	PKPbc	PKPdf	01 38 17.6	-1.9
	1.2nm,0.5s,baz=149,slow=4.4,SNR=14						
BRTR				PKPab	PKPab	01 38 31.0	-4.6
	0.6nm,0.6s,baz=150,slow=6.5,SNR=3.4						

IDC ***16*** *01:23:27.6±1.1, 30.28N×51.99E, mb4.2/16, mb1 4.3/18, mb1mx4.3/22, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/24, Error ellipse: s-maj=26.4km s-min=15.9km az=5.0*

MOS ***16*** *01:23:28.2±1.7, 29.99N×52.02E, h33^{km}, mb4.7/3, Error ellipse: s-maj=22.1km s-min=8.3km az=114.8*

BJI ***16*** *01:23:29.1, 30.30N×51.90E, h10^{km}, mB4.6, mb4.7, Ms4.5, Msz4.0*

NEIC ***16*** *01:23:29.1±0.5, 30.30N×51.93E, h10^{km}, mb4.3/27, Error ellipse: s-maj=11.2km s-min=6.8km az=188.0*

KISR ***16*** *01:23:29.0±0.5, 30.19N×51.86E, ML4.2*

THR ***16*** *01:23:29.9±0.5, 30.35N×51.89E, h14^{km}±23^{km}, ML4.0*

ISC 16 01:23:28.1±0.2, **30.18N**±0.03×**51.86E**±0.03, **h15^{km}, h15^{km}**±2.7^{km}**:pP-P, n126, σ1^{s}18**/129, **mb4.4**/55, **MS4.0**/6, **8C-4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	2.13	152	*e*PG	Pg	01 24 10.8	+0.1
GHIR				*e*SG	Sg	01 24 41.2	+2.0
GHIR				AMP		01 24 57.4	
	comp=N,1μm,0.6s						
NASN	Na'in	2.73	17	*e*PN	Pn	01 24 13.4	+1.1
UMR	Umm Al-Rimmam	3.66	261	*e*P	Pn	01 24 29.4	+4.0
UMR				AML	AML	01 25 17.3	
	comp=Z,597nm,0.3s						
QRN	Al-Qurain	3.73	248	*e*P	Pn	01 24 30.8	+4.3
KBD	Kabd	3.76	256	*e*P	Pn	01 24 31.1	+4.2
KBD				*e*S	Sn	01 25 16.8	+5.3
MIB	Mutribah	3.94	266	*e*P	Pn	01 24 33.7	+4.2
MIB				*e*S	Sn	01 25 21.5	+5.5
RDF	Al-Radifah	3.96	253	*e*P	Pn	01 24 33.7	+4.0
RDF				*e*S	Sn	01 25 22.1	+5.7
RDF				AML	AML	01 25 35.3	
	comp=Z,220nm,0.5s						
ASAO	Ashtian	4.62	341	*e*PN	Pn	01 24 39.8	+0.7
ASAO				AMP		01 26 10.1	
	comp=N,119nm,0.8s						
HASS	Wahat al Ahsa'	5.33	202	P	Pn	01 24 52.7	+3.5
DAMV	Damavand	5.43	1	*e*PN	Pn	01 24 50.4	-0.2
MZLS	Mizel	8.53	226	P	P	01 25 33.9	-0.1
MZLS				S	Sn	01 27 10.1	-0.8
ARSS	Ar Rass	8.74	243	P	P	01 25 35.7	-1.3
HILS	Ha'il	9.27	255	P	P	01 25 42.8	-1.4
AFFS	'Afif	10.06	234	P	P	01 25 54.0	-1.2
GNI	Garni	11.52	332	LR	LR	01 31 47.3	
	comp=N,72nm,19.3s,baz=148,slow=44						
KBRS	Khaybar	11.96	252	P	P	01 26 21.2	+0.1
ASF	Jabal al Asfar	12.97	283	Pn	P	01 26 32.0	-2.6
	comp=N,0.9nm,0.3s,baz=333,slow=4.5,SNR=6.3						
ASF				LR	LR	01 32 50.7	
	comp=N,104nm,19.5s,baz=160,slow=43						
TATS	Tathlith	13.04	218	P	P	01 26 35.2	-0.3
TBKS	Tabuk	13.52	265	P	P	01 26 41.2	-0.7
MALT	Malatya	13.74	310	*e*P	P	01 26 41.2	-3.6
	comp=N,5.7nm,0.9s						
BLJS	Baljurashi	13.84	225	P	P	01 26 46.4	+0.3
GZT	Gaziantep	13.87	305	*i* P	P	01 26 43.5	-3.0
KUBR	Kubataba	15.16	336	*e*P	P	01 27 04.8	+1.4
SHAR	Shatzhatmas	15.38	334	*i* P	P	01 27 06.4	+0.2
NAGR	Nagutskaya	15.96	336	*e*P	P	01 27 15.4	+1.8
AVNT	Avonos	16.42	306	*i* P	P	01 27 20.9	+1.3
BRTR	Keskin Array B	17.68	307	P	P	01 27 36.9	+1.4
	comp=N,0.2nm,0.3s,baz=122,slow=14,SNR=8.5						
SGKT	Sivrigoynuk	19.15	308	*i* P	P	01 27 55.4	+2.0
ISP	Isparta	19.25	299	*e*P	P	01 27 55.6	+1.0
DNZL	Cakiroluk	20.33	298	*i* P	P	01 28 05.9	-0.5
MANT	Manisa	20.91	300	*i* P	P	01 28 10.7	-1.8
ULDT	Uludag	21.02	304	*i* P	P	01 28 13.6	+0.1
KSH	Kashi	21.82	58	*e*P	P	01 28 25.1	+3.5
KSH				*e*AP		01 28 29.4	
KSH				*e*XP		01 28 34.3	
KSH				*e*PP	PP	01 28 51.1	+4.2
KSH				*e*PPP	PPP	01 29 01.4	+4.7
KSH				*e*S	S	01 32 24.0	+6.8
KSH				*e*XS		01 32 30.3	
KSH				*e*SCS	ScS	01 39 42.1	+1.5
KSH				AMB	AMB		
	comp=Z,130nm,3.6s						
KSH				LR	LR		
	comp=N,300nm,6.6s						
KSH				LR	LR		
	comp=E,320nm,4.0s						
DDI	Dehra Dun	22.62	83	*e*	P	01 28 30.3	+0.6
IDI	Anoyia	23.22	290	P	P	01 28 37.9	+2.4
	comp=E,58nm,1.2s,mb4.9,baz=101,slow=7.5,SNR=9.2						
VOR	Voronezh	23.49	340	P	P	01 28 39.0	+1.1
VOR				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.7						
VOR				pmax	pmax		
	comp=N,20nm,1.5s						
KIS	Kishinev	24.48	320	*e*P	P	01 28 48.0	+0.3
KIS				*e*		01 29 34.0	
MLR	Muntele Rosu	25.39	314	P	P	01 28 58.0	+1.7
	comp=N,16nm,0.9s,mb4.6,baz=203,slow=7.6,SNR=10.0						
ZRNK	Zerenda	25.98	24	*e*P	P	01 29 00.4	-1.4
	comp=N,3.8nm,0.7s,mb4.0						
BRVK	Borovoye	26.53	25	*e*P	P	01 29 06.3	-0.5
BRVK	Borovoye	26.53	25	*e*P	P	01 29 05.4	-1.4
	comp=N,3.3nm,0.7s,mb4.0						
BVAR	Borovoye Array	26.54	25	P	P	01 29 06.9	0.0
	comp=N,4.2nm,0.6s,mb4.2,baz=217,slow=7.4,SNR=29						
AKASG	Malin Array Be	26.58	327	P	P	01 29 06.0	-1.4
	comp=N,2.3nm,0.7s,mb3.8,baz=134,slow=8.6,SNR=8.3						
ARU	Arti	26.66	8	P	P	01 29 07.3	-0.6
OBN	Obninsk	27.21	341	*e*P	P	01 29 12.3	-0.8
OBN				*i*		01 29 23.1	
OBN				*i*		01 32 28.7	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
KOLN	Koldanda	27.82	87	*e*P	P	01 29 23.3	+4.4
	comp=Z,11nm,1.0s,mb4.4						
KURK	Kurchatov	28.64	37	*e*P	P	01 29 24.0	-2.0
	comp=Z,4.8nm,1.1s,mb4.1						
GKN	Gorkha	28.67	86	*e*P	P	01 29 25.6	-0.9
	comp=Z,6.5nm,0.3s,mb4.8						
MKAR	Makanchi Array	28.78	46	P	P	01 29 26.6	-0.7
	comp=Z,1.7nm,0.7s,mb3.9,baz=238,slow=7.9,SNR=14						
KKN	Kakani	29.27	86	*e*P	P	01 29 31.4	-0.6
	comp=Z,6.6nm,0.4s,mb4.8						
PKI	Pulchoki	29.43	87	*e*P	P	01 29 32.6	-0.8
	comp=Z,9.5nm,0.6s,mb4.7						
GUN	Gumba	29.76	86	*e*P	P	01 29 38.2	+1.8
OJC	Ojcow	31.27	319	*e*P	P	01 29 45.8	-3.6
WMQ	Urumqi	31.43	54	⇑P	P	01 29 50.8	-0.1
WMQ				AP	pP	01 29 54.0	-1.2
WMQ				XP	sP	01 29 56.4	-0.7
WMQ				PP	PP	01 30 54.8	-0.1
WMQ				PCP	PcP	01 32 43.8	-0.5
WMQ				*e*S	S	01 34 56.8	-0.1
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,16nm,6.4s						
WMQ				LR	LR		
	comp=N,79nm,15.0s,MS3.5						
WMQ				LR	LR		
	comp=E,37nm,17.4s,MS3.5						
WMQ				LR	LR		
	comp=Z,76nm,18.5s,MS3.4						
DPC	Dobruska-Polom	33.33	317	*e*P	P	01 30 08.1	+0.7
MOA	Molln	33.71	312	⇑*i*P	P	01 30 10.1	-0.6
	comp=Z,10nm,1.3s,mb4.6						
KBA	Koelnbreinsper	34.09	311	⇑*i*P	P	01 30 14.6	+0.6
	comp=Z,11nm,0.8s,mb4.8						
PRU	Pruhonice	34.25	316	*e*P	P	01 30 19.1	+3.7
GERES	GERESS Array B	34.38	314	P	P	01 30 15.7	-0.8
	comp=Z,1.7nm,0.7s,mb4.1,baz=121,slow=7.8,SNR=11						
KHC	Kasperske Hory	34.55	314	P	P	01 30 17.0	-1.0
WTTA	Wattenberg	35.26	310	⇑*i*P	P	01 30 23.5	-0.6
	comp=Z,13nm,1.1s,mb4.8						
WATA	Walderalm	35.32	310	⇑*i*P	P	01 30 23.4	-1.2
	comp=Z,4.5nm,1.0s,mb4.3						
SQTA	Sankt Quirin	35.53	310	⇓*i*P	P	01 30 25.4	-1.0
	comp=Z,2.8nm,0.7s,mb4.3						
FINES	FINESS Array B	35.58	339	P	P	01 30 25.2	-1.4
	comp=Z,2.4nm,0.6s,mb4.3,baz=143,slow=11,SNR=20						
FINES	FINESS Array B	35.58	339	*e*P	P	01 30 25.1	-1.5
MOTA	Moosalm	35.63	310	⇓*i*P	P	01 30 26.1	-1.1
	comp=Z,3.3nm,0.9s,mb4.3						
CLL	Collm	35.64	317	P	P	01 30 26.0	-1.3
	comp=Z,logA/T=0.6,mb4.3						
KAF	Kangasniemi	36.02	340	*e*p	P	01 30 27.4	-3.0
DAVA	Damuels	36.43	310	⇑*i*P	P	01 30 33.0	-0.9
	comp=Z,20nm,0.6s,mb5.2						
SBF	Sospel	37.56	304	*e*P	P	01 30 43.3	-0.2
	comp=Z,15nm,0.9s,mb4.4						
MBDF	Montbardon	38.13	305	*e*P	P	01 30 47.7	-0.6
	comp=Z,6.5nm,0.6s,mb4.2						
BNI	Bardonecchia	38.23	306	*e*P	P	01 30 48.0	-1.2
	comp=Z,3.5nm,0.6s,mb4.3						
LPG	La Plagne	38.24	306	*e*P	P	01 30 50.1	+0.9
	comp=Z,4.9nm,0.6s,mb4.1						
LPL	La Plagne	38.26	306	*e*P	P	01 30 49.4	+0.1
	comp=Z,8.0nm,0.8s,mb4.2						
CDF	Champ du Feu	38.38	311	*e*P	P	01 30 51.8	+1.5
HINF	Hinteralfeld	38.54	310	*e*P	P	01 30 52.9	+1.2
	comp=Z,2.4nm,0.5s,mb3.9						
CABF	La Chapelle	38.86	308	*e*P	P	01 30 53.7	-0.7
	comp=Z,15nm,0.8s,mb4.5						
HAU	Haudompre	38.91	310	*e*P	P	01 30 56.1	+1.3
HGN	Heimansgroeve	39.74	314	*e*P	P	01 31 02.3	+0.6
	comp=Z,4.9nm,1.0s,mb4.2						
GTA	Gaotai	40.04	63	*e*P	P	01 31 04.9	+0.6
GTA				AP	pP	01 31 08.6	-0.1
GTA				XP	sP	01 31 10.5	0.0
GTA				S	S	01 37 12.4	+3.1
GTA				XS		01 37 20.8	
GTA				SS	SS	01 40 05.0	+4.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,31nm,4.9s						
GTA				LR	LR		
	comp=N,34nm,16.4s,MS3.4						
GTA				LR	LR		
	comp=E,30nm,16.0s,MS3.4						
GTA				LR	LR		
	comp=Z,41nm,15.2s,MS3.4						
GIVF	Givet	40.30	313	*e*P	P	01 31 07.9	+1.7
SMF	Signal de Mont	40.40	308	*e*P	P	01 31 06.8	-0.3
	comp=Z,7.2nm,0.7s,mb4.2						
LOR	Lormes	40.46	309	*e*P	P	01 31 09.3	+1.7
	comp=Z,2.9nm,0.6s,mb3.9						
SSF	Saint Saulge	40.67	308	*e*P	P	01 31 10.4	+1.0
BAIF	Baives	40.67	313	*e*P	P	01 31 11.1	+1.8
	comp=Z,5.1nm,0.8s,mb3.9						
AVF	Avril sur Loir	40.74	308	*e*P	P	01 31 10.4	+0.4
NB2	NORSAR Subarra	40.82	331	P	P	01 31 08.3	-2.1
	comp=Z,1.8nm,0.6s,mb3.9,baz=121,slow=7.9						
NOA	NORSAR Array B	40.82	331	P	P	01 31 08.8	-1.6
	comp=Z,1.5nm,0.6s,mb3.8,baz=120,slow=8.2,SNR=7.0						
BGF	Bois d'Agland	41.07	308	*e*P	P	01 31 12.3	-0.3
TCF	Toulx Ste Croi	41.48	307	*e*P	P	01 31 16.5	+0.5
KEV	Kevo	42.06	347	*e*p	P	01 31 19.7	-0.7
ARCES	ARCESS Array B	42.17	347	P	P	01 31 21.1	-0.3
	comp=Z,1.8nm,0.7s,mb3.8,baz=153,slow=8.1,SNR=7.8						
LDF	La Druitiere	43.27	310	*e*P	P	01 31 30.9	+0.3
	comp=Z,6.6nm,0.7s,mb4.2						
FLN	La Foliniere	43.52	310	*e*P	P	01 31 33.3	+0.7
	comp=Z,7.6nm,0.8s,mb4.2						
TLY	Talaya	43.53	45	⇑*i*P	P	01 31 34.7	+2.0
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
TLY				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.9						
SJPF	Ste Jean	43.82	302	*e*P	P	01 31 35.0	-0.1
	comp=Z,14nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	44.19	94	P	P	01 31 37.9	-0.5
	comp=Z,2.0nm,0.3s,mb4.3,baz=285,slow=8.7,SNR=4.4						
SGMF	Saint Gilles	44.86	310	*e*P	P	01 31 44.1	+0.6
SONM	Songino Array	44.91	51	P	P	01 31 42.0	-1.9
	comp=Z,0.3nm,0.6s,baz=247,slow=9.4,SNR=3.8						
ESDC	Sonseca Array	46.09	298	P	P	01 31 54.8	+1.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=78,slow=8.5,SNR=7.5						
GYA	Guiyang	48.00	80	P	P	01 32 07.0	-1.6
GYA				AP	pP	01 32 13.3	+0.3
GYA				XP	sP	01 32 14.6	-0.2
GYA				S	S	01 39 12.3	+7.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,2.8s,mb5.5						
GYA				LR	LR		
	comp=N,140nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=E,150nm,15.8s,MS4.2						
GYA				LR	LR		
	comp=Z,160nm,17.2s,MS4.1						
BOD	Bodaibo	50.27	38	*e*P	P	01 32 20.3	-5.3
LSZ	Lusaka	50.63	210	P	P	01 32 29.0	+0.1
NJ2	Nanjing	56.52	70	*e*P	P	01 33 09.5	-2.8
DBIC	Dimbokro	58.01	258	P	P	01 33 23.1	+0.2
	comp=Z,5.7nm,0.8s,mb4.6,baz=58,slow=7.6,SNR=12						
KIC	Kosan Boka	58.08	258	*e*PKP2	P	01 33 24.0	+0.6
	comp=Z,126nm,1.5s						
TIC	Toumodi	58.17	258	*e*PKP2	P	01 33 23.8	-0.3
	comp=Z,183nm,1.5s						
LIC	Lamto	58.39	258	*e*PKP2	P	01 33 22.7	-2.9
	comp=Z,96nm,1.8s,mb5.5						
CN2	Changchun	58.52	55	*e*P	P	01 33 26.3	+0.2
SSE	Sheshan	58.71	70	P	P	01 33 27.3	-0.4
SSE				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,43nm,5.7s						
SSE	Sheshan	58.71	70	P	P	01 33 27.3	-0.4
	comp=Z,25nm,0.6s,mb5.4						
SUMG	Summit	61.60	340	*e*P	P	01 33 44.5	-2.4
	comp=Z,9.5nm,0.8s,mb5.0						
SCHQ	Schefferville	80.36	329	P	P	01 35 41.6	+1.6
	comp=Z,3.3nm,0.6s,mb4.4,baz=297,slow=2.6,SNR=5.1						
IMA	Indian Mountai	82.07	10	*e*P	P	01 35 49.2	+0.5
	comp=Z,6.3nm,0.6s,mb4.7						
COLA	College	84.01	8	P	P	01 35 59.2	+0.6
ILAR	Eielson Array	84.23	8	P	P	01 35 59.6	-0.1
	comp=Z,0.8nm,0.9s,mb3.8,baz=337,slow=3.9,SNR=7.1						
DAWY	Dawson	85.65	5	*e*P	P	01 36 07.0	+0.2
PMR	Palmer	86.98	10	*e*P	P	01 36 13.1	-0.3
	comp=Z,5.5nm,1.0s,mb4.7						
FIB	Fire Island	87.22	10	P	P	01 36 15.4	+0.8
WRA	Warramunga Arr	93.61	111	P	P	01 36 45.1	-0.3
	comp=Z,0.3nm,0.7s,mb3.9,baz=317,slow=3.5,SNR=6.5						
WRAB	Tennant Creek	93.61	111	P	P	01 36 47.4	+2.0
PMG	Port Moresby	99.21	96	LR	LR	02 23 02.6	
	comp=Z,100nm,19.2s,MS4.3,baz=84,slow=36						
SNAA	Sanae	108.44	196	⇓*i*P	Pdif	01 37 48.7	-2.0
VNA2	Neumayer--Watz	109.08	197	⇑*i*P	Pdif	01 37 54.1	+0.5
VNA1	Neumayer--Stat	109.14	198	⇓*i*P	Pdif	01 37 52.2	-1.6
QSPA	South Pole Qui	120.02	180	*e*P	PKPdf	01 42 19.2	-1.8

IDC ***16*** *01:36:26.9±1.9, 14.89S×167.47E, mb4.2/6, mb1 4.3/6, mb1mx4.2/13, Error ellipse: s-maj=92.2km s-min=24.3km az=141.0*

NEIC ***16*** *01:36:28.2±0.3, 15.20S×167.58E, h10^{km}, mb4.5/3, Error ellipse: s-maj=17.8km s-min=10.7km az=137.0*

LDG ***16*** *01:36:30.5±0.5, 14.49S×167.34E, h10^{km}, Mb4.3/1, Error ellipse: s-maj=98.3km s-min=11.2km az=91.0*

ISC 16 01:36:40.6±2.2, **15.3S**±0.2×**167.3E**±0.1, **h120^{km}**±20^{km}, **n51, σ0^{s}93**/17, **mb4.1**/9, **13C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	2.58	159	⇓*i*P	P	01 37 21.9	-0.4
BKM				S	S	01 37 54.6	+0.9
DZM	Mont Dzumac	6.83	186	*e*P	P	01 38 19.3	-0.3
DZM				*e*S	S	01 39 33.0	-3.3
STKA	Stephens Creek	28.65	230	P	P	01 42 29.4	+1.3
	1.6nm,0.5s,mb3.9,baz=46,slow=4.3,SNR=6.9						
STKA	Stephens Creek	28.65	230	*e*P	P	01 42 29.2	+1.1
WRAB	Tennant Creek	31.68	257	*e*P	P	01 42 54.4	-0.6
	3.6nm,0.9s,mb4.1						
WRA	Warramunga Arr	31.69	257	P	P	01 42 54.4	-0.8
	1.2nm,0.7s,mb3.7,baz=85,slow=9.0,SNR=13						
ASAR	Alice Springs	32.48	250	P	P	01 43 01.7	-0.2
	2.2nm,0.5s,mb4.2,baz=79,slow=9.0,SNR=22						
FITZ	Fitzroy Crossi	39.91	260	P	P	01 44 05.7	+1.2
	2.4nm,0.5s,mb4.3,baz=87,slow=5.1,SNR=7.0						
QSPA	South Pole Qui	74.78	180	*e*P	P	01 48 08.9	+0.3
	7.0nm,1.1s,mb4.3						
ILAR	Eielson Array	87.02	18	P	P	01 49 11.8	-1.3
	0.6nm,0.7s,mb3.6,baz=240,slow=4.8,SNR=13						
SNAA	Sanae	93.03	183	⇑*i*	P	01 49 37.6	-3.6
SNAA	Sanae	93.03	183	*e*P	P	01 49 40.8	-0.4
	1.1nm,0.6s,mb4.4						
VNA2	Neumayer--Watz	93.96	182	⇓*i*	P	01 49 45.9	+0.5
MKAR	Makanchi Array	97.57	316	P	P	01 50 03.2	+0.9
	0.3nm,0.4s,mb4.2,baz=101,slow=6.2,SNR=4.3						
MKAR	Makanchi Array	97.57	316	P	P	01 50 03.2	+0.9
KK31	Karatay Array	105.13	311	⇑Pn	Pdif	01 51 04.6	+28
	0.2nm,0.3s,baz=136,slow=17,SNR=6.1						
KK31				⇓Lg		01 51 45.8	
	0.7nm,0.4s,baz=132,slow=30,SNR=4.4						
ARCES	ARCESS Array B	120.75	345	PKP	PKPdf	01 55 18.7	+0.7
	2.7nm,0.9s,baz=54,slow=2.1,SNR=8.9						
FINES	FINESS Array B	126.20	338	PKP	PKPdf	01 55 30.8	+2.2
	2.2nm,0.9s,baz=90,slow=2.8,SNR=3.4						
FINES	FINESS Array B	126.20	338	PKP	PKPdf	01 55 30.8	+2.2
CDF	Champ du Feu	143.05	338	*e*PKP1	PKPbc	01 55 58.2	0.0
HAU	Haudompre	143.73	338	*e*PKP1	PKPbc	01 56 00.7	+0.5
MEZF	Maizieres J'vi	143.75	340	*e*PKP1	PKPbc	01 56 01.2	+0.9
CABF	La Chapelle	145.00	337	⇑*i*PKP1	PKPbc	01 56 05.7	+1.8
	28nm,1.0s						
FLN	La Foliniere	145.10	346	⇑*i*PKP1	PKPbc	01 56 05.1	+1.0
	34nm,0.6s						
LDF	La Druitiere	145.17	345	⇑*i*PKP1	PKPbc	01 56 05.3	+1.1
	30nm,0.7s						
LOR	Lormes	145.22	340	⇑*i*PKP1	PKPbc	01 56 06.1	+1.7
	27nm,1.0s						
SSF	Saint Saulge	145.52	340	⇑*i*PKP1	PKPbc	01 56 07.2	+2.0
	46nm,1.0s						
GRR	Gorron	145.54	346	⇑*i*PKP1	PKPbc	01 56 06.8	+1.6
	46nm,0.8s						
HYF	Humbligny	145.61	341	*e*PKP1	PKPbc	01 56 07.7	+2.3
LPL	La Plagne	145.66	335	⇑*i*PKP1	PKPbc	01 56 08.2	+2.6
	13nm,0.7s						
LPG	La Plagne	145.67	335	*e*PKP1	PKPbc	01 56 08.4	+2.8
	16nm,0.7s						
SMF	Signal de Mont	145.77	340	*e*PKP1	PKPbc	01 56 07.7	+1.9
	11nm,0.8s						
AVF	Avril sur Loir	145.81	340	*e*PKP1	PKPbc	01 56 07.7	+1.8
	12nm,0.8s						
SGMF	Saint Gilles	146.03	348	⇑*i*PKP1	PKPbc	01 56 08.2	+1.8
	20nm,0.6s						
ROSF	Rostrenen	146.10	349	*e*PKP1	PKPbc	01 56 08.3	+1.7
	8.5nm,0.7s						
BGF	Bois d'Agland	146.18	341	*e*PKP1	PKPbc	01 56 08.9	+2.1
	10.0nm,0.6s						
MBDF	Montbardon	146.29	335	⇑*i*PKP1	PKPbc	01 56 10.1	+3.0
	5.2nm,0.7s						
ORIF	Oris-en-Rattie	146.50	336	⇑*i*PKP1	PKPbc	01 56 11.1	+3.5
	13nm,0.8s						
TCF	Toulx Ste Croi	146.62	341	*e*PKP1	PKPbc	01 56 10.3	+2.5
	11nm,0.9s						
SBF	Sospel	146.70	333	*e*PKP1	PKPbc	01 56 11.3	+3.2
PGF	Pioggiola	147.00	330	*e*PKP1	PKPbc	01 56 11.7	+2.9
	4.5nm,0.5s						
VIVF	Saint-Julien-l	147.01	337	*e*PKP1	PKPdf	01 56 13.2	+6.2
MFF	Saint Martin d	147.02	344	⇑*i*PKP1	PKPdf	01 56 11.2	+4.3
	21nm,0.7s						
FRF	La Foret Royal	147.29	333	*e*PKP1	PKPdf	01 56 11.7	+4.2
	3.0nm,0.6s						
SMRF	Simiane la Rot	147.40	335	*e*PKP1	PKPdf	01 56 13.0	+5.3
	5.0nm,0.8s						
LMR	La Mourre	147.53	333	*e*PKP1	PKPdf	01 56 11.7	+3.8
RJF	Les Rejaudoux	147.72	341	*e*PKP1	PKPdf	01 56 13.4	+5.2
	5.8nm,0.6s						
CAF	Calviac	147.88	340	*e*PKP1	PKPdf	01 56 14.0	+5.6
	4.2nm,0.7s						
LASF	Ste Croix	147.99	337	*e*PKP1	PKPdf	01 56 14.2	+5.6
	6.8nm,0.8s						
LFF	La Frestale	148.28	342	*e*PKP1	PKPdf	01 56 14.9	+5.8
	8.5nm,0.6s						
MTLF	Montolieu	149.22	338	*e*PKP1	PKPdf	01 56 17.1	+6.5
	4.0nm,0.6s						

BJI ***16*** *01:46:15.4, 40.44N×108.46E, h19^{km}, ML3.6, Ms3.5*

IDC ***16*** *01:46:21.9±4.5, 40.41N×109.80E, mb3.4/2, mb1 3.8/3, mb1mx3.5/18, ML4.3/1, Error ellipse: s-maj=98.5km s-min=23.1km az=84.0*

ISC 16 01:46:25.3±1.0, **40.44N**±0.08×**109.30E**±0.07, **h20^{km}, n7, σ0^{s}93**/11, **mb3.6**/1, **Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTO	Baotou	0.57	73	*e*PG	Pb	01 46 35.1	-1.5
BTO				SG	Sb	01 46 43.6	-0.7
BTO				Smax			
	comp=N,890nm,0.5s						
BTO				Smax			
	comp=E,531nm,0.5s						
HHC	Hu-ho-hao-te	1.77	76	*e*P	Pn	01 46 55.0	-0.4
HHC				PG	Pn	01 46 56.3	+0.9
HHC				S	Sn	01 47 19.4	+1.9
BJI	Beijing	5.28	92	PG	Pn	01 47 58.4	+13
BJI				Smax			
	comp=N,87nm,0.8s						
BJI				Smax			
	comp=E,35nm,0.9s						
BJI				LR	LR		
	comp=N,242nm,6.3s						
BJI				LR	LR		
	comp=E,88nm,4.0s						
XAN	Xi'an	6.40	183	PG	Pn	01 48 10.6	+10
XAN				Smax			
	comp=N,27nm,1.2s						
XAN				Smax			
	comp=E,27nm,1.3s						
SONM	Songino Array	7.68	345	Pn	Pn	01 48 18.9	-0.1
	comp=E,1.0nm,0.3s,baz=164,slow=13,SNR=35						
SONM				Sn	Sn	01 49 46.2	-0.1
	comp=E,0.9nm,0.3s,baz=168,slow=18,SNR=6.5						
SONM				Lg		01 50 27.7	
	comp=E,1.7nm,0.3s,baz=154,slow=29,SNR=7.2						
MKAR	Makanchi Array	20.50	297	P	P	01 51 05.3	+0.6
	comp=E,0.9nm,0.9s,baz=95,slow=12,SNR=5.4						
CMAR	Chiang Mai Arr	23.65	205	P	P	01 51 36.0	-0.3
	comp=E,0.9nm,0.4s,mb3.6,baz=22,slow=8.4,SNR=4.8						

NEIC ***16*** *01:53:52.9±0.8, 16.57S×177.47W, h10^{km}, mb4.4/3, Error ellipse: s-maj=34.5km s-min=16.1km az=142.0*

IDC ***16*** *01:53:53.7±3.5, 15.98S×177.95W, mb4.0/5, mb1 4.2/5, mb1mx4.0/14, MS4.0/10, Ms1 4.0/10, ms1mx3.8/16, Error ellipse: s-maj=154.0km s-min=28.5km az=140.0*

ISC 16 01:53:51.5±0.9, **16.6S**±0.2×**177.5W**±0.2, **h10^{km}, n18, σ0^{s}87**/9, **mb4.1**/8, **MS4.0**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	17.40	108	LR	LR	02 02 46.7	
	comp=Z,457nm,20.0s,baz=267,slow=30						
URZ	Urewera	22.13	191	LR	LR	02 06 56.0	
	comp=Z,239nm,20.2s,MS3.6,baz=191,slow=35						
PPT	Papeete	26.71	96	*e*L		02 04 46.5	

TBI	Tubuai	27.18	109	*e*L		02 04 46.5	
CTA	Charters Tower	34.54	259	P	P	02 00 40.3	-2.1
	3.7nm,1.1s,mb4.2,baz=74,slow=15,SNR=2.1						
STKA	Stephens Creek	40.04	240	P	P	02 01 29.6	+1.0
	3.7nm,0.8s,mb4.1,baz=74,slow=12,SNR=5.4						
STKA				LR	LR	02 14 41.7	
	comp=Z,175nm,18.2s,MS4.0,baz=29,slow=31						
STKA	Stephens Creek	40.04	240	*e*P	P	02 01 29.5	+0.9
STKA				LR	LR	02 14 41.7	
WRA	Warramunga Arr	45.74	258	P	P	02 02 15.2	+0.1
	0.8nm,1.0s,mb3.6,baz=92,slow=6.8,SNR=4.0						
WRA				LR	LR	02 20 04.9	
	comp=Z,166nm,18.9s,MS4.0,baz=155,slow=35						
ASAR	Alice Springs	46.00	253	P	P	02 02 18.1	+1.0
	2.2nm,0.8s,mb4.1,baz=86,slow=8.2,SNR=19						
ASAR				LR	LR	02 20 37.2	
	comp=Z,326nm,18.8s,MS4.3,baz=85,slow=35						
FITZ	Fitzroy Crossi	54.11	259	LR	LR	02 25 13.6	
	comp=Z,143nm,18.6s,MS4.1,baz=92,slow=35						
NWAO	Narrogin (SRO)	60.60	241	LR	LR	02 27 01.2	
	comp=Z,195nm,20.7s,MS4.2,baz=329,slow=33						
QSPA	South Pole Qui	73.48	180	*e*P	P	02 05 25.1	-0.5
	3.1nm,0.9s,mb4.2						
HLID	Hailey	83.05	41	*e*P	P	02 06 18.9	+0.2
	1.4nm,0.8s,mb4.0						
COLA	College	84.28	12	*e*P	P	02 06 24.2	-0.2
	3.3nm,0.8s,mb4.5						
ILAR	Eielson Array	84.39	13	P	P	02 06 25.2	+0.2
	1.6nm,0.9s,mb4.2,baz=229,slow=6.3,SNR=15						
ILAR				LR	LR	02 40 39.0	
	comp=Z,28nm,19.5s,MS3.6,baz=42,slow=33						
MAW	Mawson	85.41	200	LR	LR	02 42 15.2	
	comp=Z,96nm,18.8s,MS4.2,baz=230,slow=34						
YKA	Yellowknife Ar	92.76	24	LR	LR	02 42 37.7	
	comp=Z,46nm,18.6s,MS4.0,baz=240,slow=32						
BRTR	Keskin Array B	144.43	317	PKP	PKPdf	02 13 30.1	-1.3
	1.3nm,0.8s,baz=45,slow=1.7,SNR=6.9						

IDC ***16*** *02:18:03.7±5.7, 5.58S×151.36E, h41^{km}±47^{km}, mb3.9/8, mb1 4.1/9, mb1mx4.0/13, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/12, Error ellipse: s-maj=43.0km s-min=22.5km az=104.0*

NEIC ***16*** *02:18:04.5±2.7, 5.62S×151.33E, h49^{km}±22^{km}, mb4.4/5, Error ellipse: s-maj=25.3km s-min=14.2km az=109.0*

ISC 16 02:18:03.8±3.7**, 5.5S**±0.1×**151.2E**±0.2**, h55**^{km}±30^{km}**, n24, σ0^{s}87**/23**, mb4.1**/11**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.53	226	P	P	02 19 26.8	+1.3
	13nm,0.3s,baz=44,slow=5.1,SNR=28						
PMG				S	S	02 20 28.4	-0.2
	18nm,0.3s,baz=4.2,slow=15,SNR=10						
PMG	Port Moresby	5.53	226	*e*Pn	P	02 19 25.8	+0.3
PMG				*e*Sn	S	02 20 28.1	-0.5
PMG				S	S	02 20 28.4	-0.2
CTA	Charters Tower	15.23	198	LR	LR	02 26 01.8	
	comp=Z,131nm,18.4s,baz=52,slow=31						
KAKA	Kakadu	19.84	248	*e*P	P	02 22 31.5	-1.5
	5.1nm,0.4s						
WRAB	Tennant Creek	21.73	227	*e*P	P	02 22 51.9	-0.3
	6.3nm,0.6s,mb4.2						
WB2	Warramunga Arr	21.74	227	*e*P	P	02 22 52.0	-0.3
WRA	Warramunga Arr	21.75	227	P	P	02 22 52.3	-0.2
	3.7nm,0.6s,mb4.0,baz=51,slow=10.0,SNR=30						
WRA				PcP	PcP	02 26 52.2	0.0
	0.5nm,0.5s,baz=47,slow=2.0,SNR=7.1						
ASAR	Alice Springs	24.52	221	P	P	02 23 20.4	+0.8
	2.1nm,0.5s,mb4.0,baz=55,slow=8.8,SNR=24						
ASPA	Alice Springs	24.52	221	*e*P	P	02 23 20.6	+1.0
STKA	Stephens Creek	27.70	198	P	P	02 23 48.9	-0.1
	1.8nm,0.9s,mb3.7,baz=12,slow=7.2,SNR=4.1						
STKA	Stephens Creek	27.70	198	*e*P	P	02 23 48.0	-1.1
FITZ	Fitzroy Crossi	27.88	241	*e*P	P	02 23 50.1	-0.8
	3.7nm,0.4s,mb4.4						
FITZ	Fitzroy Crossi	27.88	241	P	P	02 23 50.4	-0.5
	4.6nm,0.7s,mb4.2,baz=4.2,slow=7.6,SNR=12						
SONM	Songino Array	66.09	329	P	P	02 28 48.1	+0.7
	0.9nm,0.5s,mb4.1,baz=148,slow=4.7,SNR=8.4						
MKAR	Makanchi Array	79.82	319	P	P	02 30 09.6	+1.6
	0.3nm,0.5s,mb3.5,baz=101,slow=5.2,SNR=5.1						
MKAR	Makanchi Array	79.82	319	P	P	02 30 09.6	+1.6
ILAR	Eielson Array	83.45	22	P	P	02 30 25.0	-1.5
	0.8nm,0.5s,mb4.0,baz=251,slow=5.3,SNR=20						
MAW	Mawson	84.27	203	P	P	02 30 30.8	+0.3
	2.2nm,0.8s,mb4.4,baz=77,slow=5.3,SNR=13						
MAW	Mawson	84.27	203	*e*P	P	02 30 30.9	+0.4
	1.8nm,0.5s,mb4.5						
QSPA	South Pole Qui	84.43	180	*e*P	P	02 30 31.9	+0.8
	3.7nm,0.9s,mb4.5						
HUMO	Hull Mountain	90.67	47	*e*P	P	02 31 01.4	-0.7
	1.6nm,0.7s,mb4.5						
PDAR	Pinedale Array	100.54	48	P	P	02 31 47.3	+0.3
	0.3nm,0.6s,baz=315,slow=4.2,SNR=3.5						
GERES	GERESS Array B	123.81	327	PKP	PKPdf	02 36 57.4	+1.6
	0.5nm,0.6s,baz=90,slow=1.3,SNR=5.0						
CPUP	Villa Florida	137.97	140	PKP	PKPdf	02 37 25.1	+1.9
	0.8nm,0.4s,baz=230,slow=10,SNR=3.4						

NEIC ***16*** *02:26:25.5±0.5, 51.58N×16.12E, h5^{km}, ML2.6(VIE), ML2.4(CLL), ML2.1(BRG), Error ellipse: s-maj=5.9km s-min=5.3km az=99.0*

PRU ***16*** *02:26:27.2, 51.47N×16.05E*

WAR ***16*** *02:26:27.7, 51.47N×16.03E, ML2.8, Mining Induced*

IDC ***16*** *02:26:27.2±0.8, 51.45N×16.03E, mb1 3.5/5, mb1mx3.3/17, ML2.8/5, Error ellipse: s-maj=18.3km s-min=7.5km az=99.0*

ISC 16 02:26:23.5±0.5**, 51.55N**±0.03×**16.08E**±0.03**, n23, σ1^{s}36**/53**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.72	169	*i* PG	Pg	02 26 39.6	+1.8
KSP				*e*SG	Sg	02 26 48.6	+1.2
KSP	Ksiaz	0.72	169	*i* Pg	Pg	02 26 39.6	+1.8
KSP				*e*Sg	Sg	02 26 47.8	+0.4
DPC	Dobruska-Polom	1.21	172	*e*PG	Pg	02 26 48.4	+0.8
DPC				*e*SG	Sg	02 27 03.6	-0.1
	11nm,0.3s						
PVCC	Panska Ves	1.40	224	*e*PG	Pg	02 26 52.7	+1.4
PVCC				*e*SG	Sg	02 27 10.5	+0.6
BRG	Berggiesshubel	1.50	244	*i* Pg	Pg	02 26 54.5	+1.0
BRG				*i* Sg	Sg	02 27 14.3	+0.8
PRU	Pruhonice	1.84	213	*i* PN	Pn	02 26 57.6	+1.0
PRU				PG	Pg	02 26 59.3	-0.9
PRU				*i*		02 27 01.5	
PRU						02 27 16.5	
PRU				SG	Sg	02 27 22.3	-2.4
	12nm,0.5s						
PRU	Pruhonice	1.84	213	*e*Pn	Pn	02 26 57.7	+1.1
PRU				*e*Pg	Pg	02 26 59.5	-0.7
PRU				*e*		02 27 02.1	
PRU				*e*Sn	Sn	02 27 16.5	-4.4
PRU				*e*Sg	Sg	02 27 22.9	-1.8
PRU				*e*		02 27 29.9	
CLL	Collm	1.94	264	*i* PN	Pn	02 26 59.5	+1.5
CLL				*i* PG	Pg	02 27 02.9	+0.7
CLL				*e*SG	Sg	02 27 27.0	-1.0
MORC	Moravsky Berou	2.00	152	*e*Pn	Pn	02 27 00.2	+1.3
MORC				*e*Sn	Sn	02 27 24.0	-1.0
OKC	Ostrava-Krasne	2.16	142	*e*PN	Pn	02 27 02.2	+1.0
OKC				*e*PG	Pg	02 27 05.3	-1.3
OKC				*e*		02 27 22.8	
OKC				*e*SG	Sg	02 27 33.0	-2.4
VRAC	Vranov	2.27	171	Pn	Pn	02 27 03.6	+0.9
	1.3nm,0.3s,baz=330,slow=14,SNR=18						
VRAC				Pg	Pg	02 27 08.3	-0.4
	2.3nm,0.3s,baz=346,slow=17,SNR=18						
VRAC				Lg		02 27 37.3	
	3.2nm,0.3s,baz=86,slow=19,SNR=8.4						
NKC	Novy Kostel	2.65	242	*e*PN	Pn	02 27 10.2	+2.1
NKC				*e*PG	Pg	02 27 16.9	+0.6
NKC				*e*SN	Sn	02 27 39.3	-2.1
NKC				*e*SG	Sg	02 27 50.7	-0.9
OJC	Ojcow	2.71	118	*e*PG	Pg	02 27 17.0	-0.5
OJC				*e*SG	Sg	02 27 54.0	+0.4
OJC	Ojcow	2.71	118	*e*Pg	Pg	02 27 17.1	-0.4
OJC				*e*Sg	Sg	02 27 53.7	+0.1
KHC	Kasperske Hory	2.90	214	*e*PN	Pn	02 27 12.0	+0.2
KHC				*e*PG	Pg	02 27 18.5	-2.9
KHC				*e*SG	Sg	02 27 56.0	-4.0
MOX	Moxa	2.95	254	*i* P	Pn	02 27 13.9	+1.4
MOX				Pg	Pg	02 27 22.0	-0.4
MOX				Sg	Sg	02 28 01.0	-0.8
MOX	Moxa	2.95	254	*e*Pn	Pn	02 27 13.9	+1.4
MOX				*e*Pg	Pg	02 27 22.1	-0.3
MOX				*e*Sg	Sg	02 28 00.6	-1.2
GERES	GERESS Array B	3.11	210	Pn	Pn	02 27 16.2	+1.6
	0.5nm,0.3s,baz=28,slow=13,SNR=22						
GERES				Pg	Pg	02 27 22.1	-3.4
	2.3nm,0.3s,baz=38,slow=16,SNR=36						
GERES				Lg		02 28 04.7	
	2.3nm,0.3s,baz=37,slow=28,SNR=11						
MOA	Molln	3.88	198	⇑*i*PN	Pn	02 27 26.7	+1.0
MOA				*i* SG	Sg	02 28 30.1	-2.7
	4.4nm,0.6s						
ARSA	Arzberg	4.32	185	⇑*i*PN	Pn	02 27 34.3	+2.4
ARSA				*i* SG	Sg	02 28 40.9	-6.3
	1.7nm,0.4s						
HFS	Hagfors	8.71	352	Pn	P	02 28 32.3	-1.3
	0.0nm,0.3s,baz=165,slow=14,SNR=6.2						
FINES	FINESS Array B	11.34	25	Pn	P	02 29 08.1	-1.5
	0.2nm,0.3s,baz=207,slow=12,SNR=13						
ARCES	ARCESS Array B	18.59	10	Pn	P	02 30 41.3	-2.4
	0.1nm,0.3s,baz=188,slow=14,SNR=3.4						

LDG ***16*** *02:36:42.9±0.2, 42.28N×2.22E, h2^{km}, Md2.0/1, Ml1.9/5, Error ellipse: s-maj=3.3km s-min=1.3km az=175.0*

MDD ***16*** *02:36:43.7±0.2, 42.31N×2.23E, mbLg1.8/7, Error ellipse: s-maj=2.6km s-min=1.5km az=169.0, PRXIMO*

STR ***16*** *02:36:43.0±0.4, 42.33N×2.21E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 16 02:36:42.1±0.5**, 42.35N**±0.03×**2.20E**±0.03**, h5**^{km}**, n21, σ1^{s}16**/27**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBRU	Bruguera	0.07	194	Pg	Pg	02 36 44.8	+1.1
CBRU				Lg		02 36 45.8	
	117nm,0.1s						
VALF	Valcebollere	0.15	290	Pg	Pg	02 36 46.9	+1.8
VALF				Sg	Sg	02 36 49.7	+2.5
VALF	Valcebollere	0.15	290	Pg	Pg	02 36 47.0	+1.9
VALF				Lg		02 36 49.7	
CLLI	Llivia	0.21	307	Pg	Pg	02 36 48.3	+1.9
CLLI				Lg		02 36 51.8	
	4.0nm,0.0s						
FILF	Fillols	0.34	52	Pg	Pg	02 36 49.0	+0.1
FILF				Sg	Sg	02 36 53.2	-0.2
FILF	Fillols	0.34	52	Pg	Pg	02 36 49.1	+0.2
FILF				Lg		02 36 53.3	
EJON	La Jonquera	0.52	79	⇑Pg	Pg	02 36 53.1	+0.7
	1.7nm,0.1s,SNR=18						
EJON				Lg		02 37 00.0	
	6.8nm,0.1s,SNR=7.9						
SJAF	Saint Jean de	0.52	75	Pg	Pg	02 36 52.9	+0.4
SJAF				Sg	Sg	02 36 59.9	+0.4
SJAF	Saint Jean de	0.52	75	Pg	Pg	02 36 53.1	+0.6
SJAF				Lg		02 36 60.0	
CFON	Fontmartina	0.61	163	Pg	Pg	02 36 53.5	-0.8
EMIR	Miracle	0.67	229	Pg	Pg	02 36 55.5	+0.1
	2.1nm,0.1s,SNR=7.9						
EMIR				Lg		02 37 04.2	
	4.2nm,0.1s,SNR=7.9						
SALF	Salau	0.85	299	Pg	Pg	02 36 59.8	+0.7
SALF				Sg	Sg	02 37 10.9	+0.4
SALF	Salau	0.85	299	Lg		02 37 11.0	
MTLF	Montolieu	0.99	1	*e*Pg	Pg	02 37 02.9	+1.1
MTLF				*e*Sg	Sg	02 37 16.0	+0.9
	2.5nm,0.2s						
EPOB	Poblet	1.30	220	Pg	Pg	02 37 06.8	-1.3
	1.5nm,0.1s,SNR=7.9						
EPOB				Lg		02 37 23.9	
	2.9nm,0.1s,SNR=7.9						
EPF	Esparros	1.53	297	*e*Pg	Pg	02 37 12.0	-0.7
EPF				*e*Sg	Sg	02 37 32.3	-0.8
	1.3nm,0.2s						
ESAC	San Caprasio	2.09	253	Pg	Pg	02 37 22.2	-1.5
	1.1nm,0.2s,SNR=7.9						
ESAC				Lg		02 37 49.3	
	3.1nm,0.2s,SNR=7.9						
LASF	Ste Croix	2.11	34	*e*Pn	Pn	02 37 18.3	-0.1
LASF				*e*Pg	Pg	02 37 22.8	-1.3
LASF				*e*Sg	Sg	02 37 51.2	-1.0
	0.6nm,0.2s						
CAF	Calviac	2.58	358	*e*Sg	Sg	02 38 05.9	-1.9
	0.7nm,0.3s						
SJPF	Ste Jean	2.64	288	*e*Sg	Sg	02 38 07.7	-2.2
	1.4nm,0.3s						
EMOS	Mosqueruela	2.83	226	Lg		02 38 13.4	
	0.4nm,0.2s,SNR=7.9						

NIED ***16*** *03:21:00, 43.40N×147.30E, h53^{km}, Mw3.9 Best double couple: $M_0$8.21×10^{14} NP1:ϕ_s210°, δ49°, λ80°. NP2:ϕ_s46°, δ42°, λ102°.*

MOS ***16*** *03:21:41.9±1.6, 43.34N×147.64E, h33^{km}, mb4.3/6, Error ellipse: s-maj=32.4km s-min=17.6km az=131.5*

JMA ***16*** *03:21:47.1±0.2, 43.36N×147.25E, h48^{km}±4^{km}, M4.4*

IDC ***16*** *03:21:48.7±4.1, 43.42N×147.34E, h67^{km}±36^{km}, mb3.7/10, mb1 3.8/11, mb1mx3.7/20, ML4.0/1, Error ellipse: s-maj=24.4km s-min=19.4km az=99.0*

NEIC ***16*** *03:21:48.8±1.9, 43.43N×147.31E, h68^{km}±17^{km}, mb3.8/2, Error ellipse: s-maj=14.7km s-min=11.4km az=122.0*

ISC 16 03:21:47.0±1.0**, 43.39N**±0.06×**147.24E**±0.08**, h68**^{km}±8^{km}**, n44, σ0^{s}71**/61**, mb3.9**/13**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	1.09	269	P	P	03 22 06.4	-0.4
NEM2				*e*S	S	03 22 20.9	-0.6
YUK	Yuzh-Kuril'sk	1.19	303	⇓*i*PN	P	03 22 07.0	-1.1
YUK				*i* S	S	03 22 23.0	-0.9
YUK				pmax	pmax		
	comp=Z,4µm,0.3s						
YUK				pmax	pmax		
	comp=N,1µm,0.3s						
YUK				pmax	pmax		
	comp=E,870nm,0.3s						
YUK				pmax	pmax		
	comp=Z,5µm,0.5s						
YUK				smax			
	comp=N,13µm,0.4s						
YUK				smax			
	comp=E,4µm,0.4s						
YUK				smax			
	comp=N,13µm,0.5s						
YUK				smax			
	comp=E,5µm,0.5s						
JRA	Rausu	1.64	290	P	P	03 22 14.3	+0.1
JRA				*e*S	S	03 22 33.8	-0.5
JNK	Nakash	1.85	277	P	P	03 22 17.0	-0.1
JNK				*e*S	S	03 22 39.2	-0.1
JAK	Akkeshi	1.90	259	P	P	03 22 17.5	-0.3
JAK				*e*S	S	03 22 40.4	-0.2
JTKR	Abashiri--Toko	2.49	285	P	P	03 22 26.8	+0.7
JTKR				*e*S	S	03 22 56.4	+1.1
JAR	Ashorobuto	2.54	269	P	P	03 22 27.0	+0.2
JAR				*e*S	S	03 22 56.6	+0.1
JOB	Onbets	2.54	260	P	P	03 22 26.9	+0.1
JOB				*e*S	S	03 22 56.2	-0.4
JMP	Maruseppu	2.88	284	P	P	03 22 32.5	+0.8
JMP				*e*S	S	03 23 06.2	+0.9
JCH	Churui	2.95	256	P	P	03 22 32.2	-0.4
JCH				*e*S	S	03 23 05.1	-1.8
JKK2	Kamakawa 2	3.30	280	P	P	03 22 38.6	+1.1
JEM	Erimo	3.31	247	P	P	03 22 39.1	+1.5
JEM				*e*S	S	03 23 16.3	+0.4
JFR	Furan	3.40	268	P	P	03 22 39.8	+0.9
JFR				*e*S	S	03 23 18.4	+0.1
ASAJ	Asahikawa	3.44	284	P	P	03 22 40.6	+1.1
	comp=E,9.8nm,0.3s,baz=112,slow=12,SNR=55						
ASAJ				S	S	03 23 27.0	+7.7
	comp=E,3.5nm,0.3s,baz=6.5,slow=19,SNR=3.4						
ASAJ	Asahikawa	3.44	284	P	P	03 22 40.8	+1.3
ASAJ	Asahikawa	3.44	284	PN	P	03 22 40.6	+1.1
ASAJ				S	S	03 23 27.0	+7.7
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
JNBK	Urakawa-nobuka	3.48	253	P	P	03 22 39.8	-0.2
JNBK				*e*S	S	03 23 20.3	0.0
JBT2	Biratori 2	3.62	262	P	P	03 22 42.0	0.0
JBT2				*e*S	S	03 23 23.0	-0.9
JSE	Soyaes	3.70	297	P	P	03 22 43.4	+0.3
YSS	Yuzh-Sakhalins	4.78	320	*e*P	P	03 22 58.0	-0.1
SONM	Songino Array	28.68	293	P	P	03 27 39.5	+0.2
	comp=N,1.6nm,0.6s,mb3.9,baz=77,slow=8.4,SNR=13						
TLY	Talaya	30.19	301	⇑*i*P	P	03 27 51.9	-0.8
TLY				*e*		03 28 49.3	
TLY				*e*		03 30 52.8	
TLY				*e*S	S	03 32 53.5	+7.7
TLY				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,400nm,21.0s						
ILAR	Eielson Array	41.74	36	P	P	03 29 30.2	-0.1
	comp=Z,0.5nm,0.6s,mb3.5,baz=270,slow=9.1,SNR=9.5						
ILAR	Eielson Array	41.74	36	P	P	03 29 30.3	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.81	298	P	P	03 29 56.5	+0.9
	comp=Z,3.1nm,0.7s,mb4.2,baz=80,slow=9.4,SNR=24						
MKAR	Makanchi Array	44.81	298	P	P	03 29 56.5	+0.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	ARCESS Array B	59.61	340	P	P	03 31 43.9	-1.7
	comp=Z,3.4nm,0.9s,mb4.4,baz=33,slow=6.5,SNR=6.0						
ARCES	ARCESS Array B	59.61	340	P	P	03 31 43.9	-1.6
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRAB	Tennant Creek	64.11	193	*e*P	P	03 32 15.9	-0.4
	comp=Z,0.7nm,0.6s,mb3.7						
WRA	Warramunga Arr	64.12	194	P	P	03 32 15.4	-1.0
	comp=Z,0.8nm,0.7s,mb3.7,baz=10,slow=6.6,SNR=8.6						
WRA	Warramunga Arr	64.12	194	P	P	03 32 15.4	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	65.23	333	P	P	03 32 22.7	-0.2
	comp=Z,1.7nm,0.7s,mb4.0,baz=53,slow=9.5,SNR=9.9						
FINES	FINESS Array B	65.23	333	P	P	03 32 22.7	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	65.23	333	P	P	03 32 22.7	-0.2
BOZ	Bozeman (W)	67.10	48	*e*P	P	03 32 34.7	-0.3
ASAR	Alice Springs	67.84	193	P	P	03 32 40.9	+0.9
	comp=Z,0.4nm,0.6s,mb3.5,baz=8.9,slow=5.6,SNR=4.6						
NB2	NORSAR Subarra	69.97	339	P	P	03 32 51.6	-0.9
	comp=Z,0.9nm,0.5s,mb3.9,baz=32,slow=5.8						
NOA	NORSAR Array B	69.97	339	P	P	03 32 52.1	-0.3
	comp=Z,1.0nm,0.6s,mb3.8,baz=34,slow=6.2,SNR=4.0						
NOA	NORSAR Array B	69.97	339	P	P	03 32 52.1	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BW06	Boulder Array	70.09	50	P	P	03 32 53.2	-0.3
	comp=Z,0.7nm,0.5s,mb3.8						
PDAR	Pinedale Array	70.09	50	P	P	03 32 53.6	0.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=293,slow=1.4,SNR=5.9						
AKASG	Malin Array Be	71.91	324	P	P	03 33 05.1	+0.7
	comp=Z,0.7nm,0.3s,mb3.9,baz=41,slow=6.0,SNR=4.3						
AKASG	Malin Array Be	71.91	324	P	P	03 33 05.1	+0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PV10	Paradox Valley	73.31	53	*e*P	P	03 33 13.5	+0.8

PRU ***16*** *03:30:40.8, 51.50N×16.08E*

NEIC ***16*** *03:30:40.4±4.8, 51.51N×16.28E, h4^{km}±21^{km}, ML2.6(VIE), ML2.1(BRG), Error ellipse: s-maj=40.4km s-min=13.2km az=209.0*

WAR ***16*** *03:30:41.4, 51.51N×16.08E, ML2.7, Mining Induced*

ISC 16 03:30:39.3±1.0**, 51.48N**±0.05×**16.05E**±0.05**, n14, σ1^{s}20**/32**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.66	166	*e*PG	Pg	03 30 54.0	+1.6
KSP				*e*SG	Sg	03 31 03.0	+1.8
DPC	Dobruska-Polom	1.15	171	*e*PN	Pn	03 31 02.7	+0.2
DPC				*e*PG	Pg	03 31 03.4	+1.3
DPC				*e*SG	Sg	03 31 17.8	+0.4
	8.9nm,0.2s						
PVCC	Panska Ves	1.33	225	*e*PG	Pg	03 31 07.0	+1.1
PVCC				*e*SG	Sg	03 31 25.7	+2.0
BRG	Berggiesshubel	1.46	246	*i* Pg	Pg	03 31 09.1	+0.7
BRG				*i* Sg	Sg	03 31 29.2	+1.4
PRU	Pruhonice	1.77	213	PG	Pg	03 31 13.8	-0.9
PRU				*i*		03 31 17.4	
PRU				*i*		03 31 31.0	
PRU				SG	Sg	03 31 38.0	-0.3
	11nm,0.5s						
PRU	Pruhonice	1.77	213	*e*Pg	Pg	03 31 14.2	-0.5
PRU				*e*		03 31 17.3	
PRU				*e*		03 31 31.1	
PRU				*e*Sg	Sg	03 31 38.3	0.0
CLL	Collm	1.91	266	*i* Pg	Pg	03 31 16.6	-0.9
CLL				*e*Sg	Sg	03 31 43.0	0.0
MORC	Moravsky Berou	1.95	150	*e*Pn	Pn	03 31 13.6	-0.5
MORC				*e*Sg	Sg	03 31 40.7	-3.6
OKC	Ostrava-Krasne	2.12	140	*e*PG	Pg	03 31 20.5	-1.1
OKC				*e*SG	Sg	03 31 48.0	-1.9
NKC	Novy Kostel	2.60	243	*e*PN	Pn	03 31 24.4	+1.1
NKC				*e*PG	Pg	03 31 31.1	-0.1
NKC				*e*SG	Sg	03 32 04.7	-1.1
NKC	Novy Kostel	2.60	243	*e*Pn	Pn	03 31 24.4	+1.1
NKC				*e*Pg	Pg	03 31 31.1	-0.1
NKC				*e*Sn	Sn	03 31 46.1	-10
NKC				*e*Sg	Sg	03 32 04.7	-1.1
KHC	Kasperske Hory	2.83	215	*e*	Pn	03 31 30.5	+3.9
KHC				*e*SG	Sg	03 32 12.0	-1.7
MOX	Moxa	2.92	255	*e*Pg	Pg	03 31 36.1	-1.4
MOX				*e*Sg	Sg	03 32 15.5	-0.9
MOA	Molln	3.81	198	⇑*i*PN	Pn	03 31 41.4	+0.9
MOA				*i* SG	Sg	03 32 44.6	-1.7
	1.3nm,0.3s						

PRU ***16*** *03:32:35.9, 51.44N×16.03E*

WAR ***16*** *03:32:35.3, 51.51N×16.08E, ML2.6, Mining Induced*

ISC 16 03:32:33.1±1.4**, 51.49N**±0.07×**16.01E**±0.06**, n8, σ1^{s}37**/15**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.68	164	*e*PG	Pg	03 32 48.0	+1.4
KSP				*e*SG	Sg	03 32 57.0	+1.4
DPC	Dobruska-Polom	1.16	170	*e*PG	Pg	03 32 56.8	+0.5
DPC						03 32 57.7	
DPC				*e*SG	Sg	03 33 11.9	+0.1
PVCC	Panska Ves	1.33	224	*e*PG	Pg	03 33 01.0	+1.4
PVCC				*e*SG	Sg	03 33 19.1	+1.9
PRU	Pruhonice	1.77	212	*e*PG	Pg	03 33 06.7	-1.7
PRU				*i*		03 33 11.3	
PRU				*i*		03 33 24.8	
PRU				SG	Sg	03 33 30.6	-1.5
	2.0nm,0.3s						
CLL	Collm	1.89	266	*e*SG	Sg	03 33 36.0	0.0
OKC	Ostrava-Krasne	2.15	140	*e*PG	Pg	03 33 15.0	-0.9
OKC				*e*SG	Sg	03 33 42.2	-2.3
NKC	Novy Kostel	2.58	242	*e*PN	Pn	03 33 18.6	+1.8
NKC				*e*PG	Pg	03 33 25.0	+0.3
NKC				*e*SG	Sg	03 33 56.9	-2.2
MOX	Moxa	2.90	255	Pg	Pg	03 33 30.0	-0.9

CASC 16 03:33:11.7±1.7**, 13.85N**×**91.09W, h33**^{km}±8^{km}**, MD3.6, ML3.5, 7C-6D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	Fuego 3	0.64	22	⇑*e*P	P	03 33 25.0	+0.8
IXG	Ixpaco	0.69	62	⇑*e*P	P	03 33 25.0	0.0
IXG				*e*S	S	03 33 35.5	+0.9
IXG				*e*S	S	03 33 35.6	+0.9
JAT	Jato	0.71	311	⇑*e*P	P	03 33 25.7	+0.5
JAT				*e*S	S	03 33 37.1	+2.1
JAT				*e*S	S	03 33 37.2	+2.2
PCG	Pacaya	0.71	41	⇑*e*P	P	03 33 26.2	+0.9
PCG				*e*S	S	03 33 37.0	+1.8
NBG	Las Nubes	1.03	44	⇓*e*P	P	03 33 30.6	+0.8
NBG				*e*S	S	03 33 45.6	+2.5
NBG				*e*S	S	03 33 45.9	+2.7
CUSS	Cusmapa	1.11	87	⇑*e*P	P	03 33 30.4	-0.5
CUSS				*e*S	S	03 33 46.0	+0.8

RBDL	Robledal	1.39	79	⇓eP	P	03 33 34.9	0.0
RBDL				eS	S	03 33 53.8	+1.6
RTR	El Retiro	1.40	88	⇓eP	P	03 33 35.2	+0.1
RTR				eS	S	03 33 54.7	+2.1
SBLS	San Blas	1.42	90	⇓eP	P	03 33 35.4	-0.1
SBLS				eS	S	03 33 54.2	+1.0
SNJE	San Jose	1.44	89	⇓eP	P	03 33 35.7	0.0
BOQS	Boqueron	1.76	94	⇑eP	P	03 33 40.2	0.0
MTO2	Montecristo 2	1.76	72	⇓eP	P	03 33 39.6	-0.7
SNET	Serv Nac Est T	1.81	95	i	P	03 34 07.0	+26
	comp=Z,585nm,0.3s						
LFRS	El Faro	1.98	96	⇑eP	P	03 33 43.4	0.0
LFRS				eS	S	03 34 06.9	-0.5
LBRS	Las Brisas	1.99	93	eP	P	03 33 42.8	-0.8
LCBS	La Ceiba	2.06	95	eP	P	03 33 44.2	-0.3
LCBS				eS	S	03 34 08.8	-0.5
SNVI	San Vicente	2.20	96	eP	P	03 33 46.2	-0.3
SNVI				eS	S	03 34 13.4	+0.6
VSM	San Miguel	2.77	98	eP	P	03 33 55.2	+0.5
VSM				eS	S	03 34 28.0	+0.7
CNCH	Conchagua	3.22	100	eP	P	03 34 00.1	-0.9
CNCH				eS	S	03 34 39.0	+0.3

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*IDC **16** 03:35:00.6±3.2, 37.27N×44.40E, h21^{km}±16^{km}, mb3.7/6, mb1 3.7/9, mb1mx3.6/19, ML3.7/1, Error ellipse: s-maj=30.0km s-min=17.7km az=133.0*
*NEIC **16** 03:35:00.8±3.9, 37.21N×44.47E, h26^{km}±32^{km}, mb4.1/1, Error ellipse: s-maj=17.5km s-min=10.9km az=149.0*
*ISK **16** 03:35:20.9, 38.00N×43.34E, h22^{km}, MD4.0*
ISC 16 03:35:04.3±0.9**, 37.51N**±0.10×**44.89E**±0.06**, h33^{km}, n25,** σ**1^{s}23**/31**, mb3.7**/7**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANT	Van	1.52	309	PG	P	03 35 30.3	+0.9
VANT				SG	S	03 35 37.0	-11
TVAN	Van	1.56	311	i P	P	03 35 28.2	-1.8
TVAN				i S	S	03 35 51.8	+2.5
GNI	Garni	2.64	358	Pn	Pn	03 35 46.6	+0.8
	1.5nm,0.3s,baz=270,slow=7.1,SNR=2.8						
GNI				Pg	P	03 35 54.7	+9.1
	4.5nm,0.3s,baz=298,slow=2.4,SNR=19						
GNI				Lg		03 36 33.9	
	3.1nm,0.3s,baz=202,slow=19,SNR=3.1						
BTMT	Batman	2.78	285	ePN	Pn	03 35 48.3	+0.6
BEST	Besiri	2.90	279	i P	P	03 35 43.4	-5.8
BEST				i S	S	03 36 22.3	-1.0
VRT	Varto	3.10	303	ePN	Pn	03 35 51.6	-0.7
ERZM	Erzurum	3.66	312	i P	P	03 35 59.7	-0.2
ERZM				i S	S	03 36 41.3	-1.2
EZM	Erzurum	3.66	312	ePN	Pn	03 36 00.7	+0.6
DIY	Diyarbakir	3.72	277	ePN	Pn	03 36 01.4	+0.4
BINT	Bingol	3.73	293	ePN	Pn	03 35 59.4	-1.8
ELZG	Elazig	4.77	284	i P	P	03 36 02.9	-13
ELZG				i S	S	03 37 13.2	+2.5
MALT	Malatya	5.18	281	ePN	Pn	03 36 21.6	0.0
MYA	Malataya	5.18	281	ePN	Pn	03 36 21.6	-0.1
GAZ	Gaziantep	6.13	269	ePN	Pn	03 36 36.0	+0.9
ASF	Jabal al Asfar	8.45	233	Pn	P	03 36 55.1	-12
	1.1nm,0.3s,baz=282,slow=13,SNR=3.9						
ASF				Lg		03 39 14.4	
	1.3nm,0.3s,baz=144,slow=15,SNR=4.1						
AKASG	Malin Array Be	17.29	325	P	P	03 38 58.7	-5.8
	baz=131,slow=12,SNR=5.1						
ZRNK	Zerenda	22.80	40	eP	P	03 40 05.4	+0.5
	7.0nm,1.2s,mb4.0						
BRVK	Borovoye	23.51	40	P	P	03 40 11.3	-0.5
BVAR	Borovoye Array	23.54	41	P	P	03 40 13.5	+1.3
	0.8nm,0.5s,mb3.4,baz=254,slow=10,SNR=4.2						
GERES	GERESS Array B	25.24	307	P	P	03 40 24.5	-4.2
	0.2nm,0.4s,mb3.0,baz=106,slow=9.7,SNR=4.0						
FINES	FINESS Array B	26.70	340	P	P	03 40 38.5	-3.6
	2.6nm,0.9s,mb3.8,baz=129,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	29.00	59	P	P	03 41 03.2	+0.2
	0.5nm,0.5s,mb3.5,baz=260,slow=8.2,SNR=5.6						
MKAR	Makanchi Array	29.00	59	P	P	03 41 03.2	+0.2
HFS	Hagfors	30.08	329	P	P	03 41 08.7	-3.8
	2.9nm,0.9s,mb4.0,baz=135,slow=10,SNR=6.0						
ARCES	ARCESS Array B	33.76	348	P	P	03 41 41.6	-3.0
	3.4nm,0.9s,mb4.3,baz=135,slow=10,SNR=6.1						

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*BGR **16** 03:57:36.4±0.5, 49.46N×7.07E, h1^{km}, ML1.4/1, Error ellipse: s-maj=21.1km s-min=4.4km az=53.0*
*LDG **16** 03:57:37.0±0.1, 49.35N×6.92E, h1^{km}, Md2.4/2, Ml2.4/7, Error ellipse: s-maj=1.8km s-min=1.2km az=37.0, Suspected Mining induced.*
*BNS **16** 03:57:38.1±0.7, 49.40N×7.09E, h1^{km}, ML1.5*
ISC 16 03:57:34.7±0.4**, 49.34N**±0.02×**6.87E**±0.05**, n16,** σ**1^{s}00**/28**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	Walferdange	0.57	305	ePg	Pg	03 57 48.3	+2.2
	SNR=4.8						
BGG	Burgeitz	0.91	19	ePg	Pg	03 57 53.6	+0.6
BGG				eSg	Sg	03 58 05.6	+0.4
	14nm,0.1s						
CDF	Champ du Feu	0.97	164	ePg	Pg	03 57 55.6	+1.5
CDF				eSg	Sg	03 58 07.7	+0.7
	9.2nm,0.2s						
KOE	Koppel	1.22	27	ePg	Pg	03 57 59.2	+0.2
KOE				eSg	Sg	03 58 13.7	-1.5
	14nm,0.6s						
STB	Steinbach	1.25	359	eSg	Sg	03 58 16.7	+0.3
KLL	Kalltalsperre	1.35	345	ePg	Pg	03 58 02.2	+0.5
KLL				eSg	Sg	03 58 20.3	+0.5
HAU	Haudompre	1.38	195	ePg	Pg	03 58 03.1	+0.8
HAU				eSg	Sg	03 58 21.4	+0.6
	10nm,0.4s						
BFO	Black Forest	1.40	136	ePg	Pg	03 58 03.2	+0.6
	SNR=4.8						
BFO				eSg	Sg	03 58 20.5	-0.7
	SNR=2.3						
MEZF	Maizieres J'vi	1.47	236	ePg	Pg	03 58 05.0	+1.0
MEZF				eSg	Sg	03 58 23.6	0.0
	5.1nm,0.3s						
HINF	Hinteralfeld	1.53	181	ePg	Pg	03 58 05.8	+0.6
HINF				eSg	Sg	03 58 25.3	-0.3
	11nm,0.3s						
GIVF	Givet	1.53	300	ePg	Pg	03 58 06.1	+0.8
GIVF				eSg	Sg	03 58 25.9	+0.2
	7.2nm,0.4s						
HGN	Heimansgroeve	1.55	337	ePg	Pg	03 58 04.6	-1.0
	SNR=2.4						
HGN				eSg	Sg	03 58 23.9	-2.3
	SNR=1.7						
CABF	La Chapelle	2.79	191	ePn	Pn	03 58 21.0	-0.3
CABF				eSg	Sg	03 59 05.1	-2.3
	2.2nm,0.4s						
LOR	Lormes	2.89	225	ePn	Pn	03 58 22.6	-0.3
SSF	Saint Saulge	3.21	226	ePn	Pn	03 58 26.4	-1.0
SSF				ePg	Pg	03 58 37.1	-1.7
SMF	Signal de Mont	3.38	218	ePn	Pn	03 58 29.0	-0.8

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*IDC **16** 04:10:09.6±1.6, 6.98S×154.93E, mb3.8/5, mb1 4.0/5, mb1mx3.9/12, Error ellipse: s-maj=66.7km s-min=24.7km az=122.0*
ISC 16 04:10:13.3±1.7**, 7.1S**±0.3×**155.0E**±0.4**, h33^{km}, n5,** σ**0^{s}87**/5**, mb3.6**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.71	235	P	P	04 15 23.1	-0.3
	1.3nm,0.6s,mb3.5,baz=60,slow=9.4,SNR=11						
ASAR	Alice Springs	26.06	229	P	P	04 15 45.2	-0.6
	0.7nm,0.7s,mb3.3,baz=58,slow=8.0,SNR=6.7						
STKA	Stephens Creek	27.61	205	P	P	04 16 00.6	+0.7
	1.7nm,0.6s,mb3.9,baz=32,slow=13,SNR=4.2						
MKAR	Makanchi Array	83.46	319	P	P	04 22 39.9	+0.8
	0.6nm,0.8s,mb3.7,baz=90,slow=5.8,SNR=4.0						
ILAR	Eielson Array	83.50	21	P	P	04 22 38.2	-0.6
	1.1nm,0.9s,mb3.9,baz=244,slow=5.1,SNR=8.1						

IDC 16 04:56:22.4±13.0**, 1.22S**×**101.40E, h146^{km}**±122^{km}**, mb3.1**/4**, mb1 3.2**/5**, mb1mx3.2**/14**, ML4.1**/1**, Error ellipse: s-maj=143.0km s-min=18.1km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	19.70	353	P	P	05 00 40.7	-2.0
	0.2nm,0.3s,baz=173,slow=7.3,SNR=3.7						
WRA	Warramunga Arr	37.20	122	P	P	05 03 19.3	-2.2
	0.3nm,0.4s,baz=306,slow=9.0,SNR=4.7						
ASAR	Alice Springs	38.60	128	P	P	05 03 31.8	-1.3
	0.3nm,0.6s,baz=301,slow=8.5,SNR=3.7						
SONM	Songino Array	49.05	4	P	P	05 04 56.4	-0.1
	0.4nm,0.4s,baz=183,slow=10,SNR=3.7						
MKAR	Makanchi Array	50.67	343	P	P	05 05 05.7	-3.2
	0.4nm,0.3s,baz=155,slow=8.6,SNR=6.6						

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*NIED **16** 05:09:00, 31.20N×130.40E, h150^{km}, Mw3.9 Best double couple: M$_0$7.79×10^{14} NP1:φ$_s$217°, δ84°, λ139°. NP2: φ$_s$313°, δ49°, λ8°.*
*IDC **16** 05:09:12.8±1.7, 31.34N×130.75E, h113^{km}±16^{km}, mb3.7/10, mb1 3.8/11, mb1mx3.6/21, Error ellipse: s-maj=39.7km s-min=11.9km az=76.0*
*NEIC **16** 05:09:12.7±0.8, 31.33N×130.82E, h112^{km}±7^{km}, mb4.4/2, Error ellipse: s-maj=14.8km s-min=6.7km az=81.0*
*JMA **16** 05:09:19.0±0.1, 31.17N×130.42E, h150^{km}±1^{km}, M3.8 Broadband fault plane solution: P waves. NP1:φ$_s$124°, δ15°, λ150°. NP2:φ$_s$243°, δ82°, λ77°. Principal axes: T Plg51°, Azm138°; N Plg13°, Azm245°; P Plg36°, Azm345°;*
ISC 16 05:09:16.7±0.4**, 31.14N**±0.05×**130.44E**±0.08**, h161^{km}**±3^{km}**, n26,** σ**0^{s}83**/34**, mb3.8**/10**, 4C-2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	Suzuyama	0.37	2	⇑P	P	05 09 39.8	+0.7
JTSR	Tashiro 2	0.41	86	⇓P	P	05 09 40.0	+0.7
JTSR				S	S	05 09 55.5	-1.1
JTN	Tanegashima 3	0.67	136	⇓P	P	05 09 41.6	+1.1
JTN				eS	S	05 09 58.8	0.0
JSJ	Shimokoshiki	0.82	311	⇑P	P	05 09 42.0	+0.6
JSJ				S	S	05 09 59.8	-0.6
JTZ	Takazaki	0.94	36	⇑P	P	05 09 43.3	+1.1
JTZ				S	S	05 10 01.0	-0.8
JIU2	Izumi 2	1.44	13	⇑P	P	05 09 47.9	+1.1
JIU2				eS	S	05 10 09.6	-0.4
JNU				S	S	05 10 14.6	-6.3
	4.8nm,0.3s,baz=306,slow=3.9,SNR=6.7						
JOW	Kunigami	4.69	204	P	P	05 10 25.8	-1.3
	1.6nm,0.3s,baz=269,slow=29,SNR=4.3						
JOW				S	S	05 11 17.9	-3.4
	14nm,0.3s,baz=184,slow=26,SNR=11						
MAT	Matsushiro	8.41	48	P	P	05 11 19.8	+3.4
MAT				S	S	05 12 48.8	-1.1
MAT	Matsushiro	8.41	48	eP	P	05 11 20.0	+3.6
MAT				eS	S	05 12 49.0	-0.9
ENH	Enshi	18.04	273	eP	P	05 13 18.7	+0.4
	25nm,0.9s						
SONM	Songino Array	24.80	319	P	P	05 14 25.2	+0.2
	0.3nm,0.4s,mb3.2,baz=140,slow=11,SNR=4.7						
MKAR	Makanchi Array	39.92	307	P	P	05 16 36.0	-0.4
	0.3nm,0.8s,mb3.0,baz=90,slow=10,SNR=3.2						
FITZ	Fitzroy Crossi	49.17	186	eP	P	05 17 50.9	+0.5
	2.5nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	49.17	186	P	P	05 17 51.0	+0.6
	3.3nm,0.6s,mb4.1,baz=24,slow=7.6,SNR=9.7						
WRA	Warramunga Arr	50.92	175	P	P	05 18 03.6	-0.1
	1.5nm,0.3s,mb4.0,baz=353,slow=7.8,SNR=20						
WB2	Warramunga Arr	50.92	175	eP	P	05 18 03.4	-0.3
ASAR	Alice Springs	54.59	176	P	P	05 18 30.9	+0.2
	1.7nm,0.5s,mb4.0,baz=357,slow=5.9,SNR=29						
ASPA	Alice Springs	54.59	176	eP	P	05 18 31.0	+0.3
STKA	Stephens Creek	63.56	169	P	P	05 19 32.5	+0.1
	2.7nm,0.5s,mb4.3,baz=345,slow=5.8,SNR=6.0						
STKA	Stephens Creek	63.56	169	eP	P	05 19 32.5	+0.2
ARCES	ARCESS Array B	66.17	338	P	P	05 19 47.6	-1.0
	2.2nm,0.7s,mb4.1,baz=45,slow=8.9,SNR=3.5						
FINES	FINESS Array B	69.57	330	P	P	05 20 08.5	-1.2
	1.1nm,0.5s,mb3.9,baz=63,slow=4.5,SNR=12						
FINES	FINESS Array B	69.57	330	P	P	05 20 08.5	-1.2
BRTR	Keskin Array B	75.57	308	P	P	05 20 46.0	+0.8
	1.2nm,0.8s,mb3.6,baz=90,slow=5.8,SNR=3.6						
NOA	NORSAR Array B	75.78	334	P	P	05 20 46.1	+0.2
	0.4nm,0.6s,mb3.3,baz=54,slow=5.3,SNR=2.5						

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*BJI **16** 05:40:50.7, 3.71S×140.31E, h13^{km}, mB5.0, mb4.9, Ms4.8, Msz4.5*
*HRVD **16** 05:40:51.2±0.2, 3.67S×140.21E, h18^{km}, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s45,c75;Mantle waves: s61,c117; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.23±.02; M$_{θθ}$-0.39±.01; M$_{φφ}$0.62±.02; M$_{rθ}$-0.76±.04; M$_{θφ}$0.50±.01; M$_{φr}$0.32±.04; Best double couple: M$_0$1.04×10^{17} NP1:φ$_s$60°, δ63°, λ-29°. NP2:φ$_s$164°, δ64°, λ-150°. Principal axes: T .83, Plg1°, Azm292°; N .43, Plg51°, Azm201°; P -1.26, Plg39°, Azm22°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 05:40:51.2±3.7, 3.74S×140.07E, h7^{km}±23^{km}, mb4.9/28, MS4.8/82 Error ellipse: s-maj=9.5km s-min=6.6km az=87.0*
*MOS **16** 05:40:54.2±2.3, 3.72S×140.01E, h33^{km}, mb4.9/11, Error ellipse: s-maj=19.4km s-min=9.4km az=101.0*
*IDC **16** 05:40:54.2±3.6, 3.81S×139.83E, h18^{km}±22^{km}, mb4.5/12, mb1 4.7/16, mb1mx4.7/17, ML4.6/4, MS4.7/10, Ms1 4.7/10, ms1mx4.5/14, Error ellipse: s-maj=20.1km s-min=10.3km az=86.0*
ISC 16 05:40:50.2±0.2**, 3.78S**±0.03×**140.05E**±0.05**, h10^{km}, (h16^{km}**±2.4^{km}**:pP-P), n195,** σ**1^{s}12**/130**, mb4.9**/52**, MS4.8**/99**, 5C-1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	9.01	129	Pn	P	05 43 04.9	+1.6
	12nm,0.3s,baz=359,slow=3.6,SNR=28						
PMG				Lg		05 45 46.1	
	2.2nm,0.3s,baz=198,slow=20,SNR=2.2						
PMG				LR	LR	05 47 02.2	
	comp=Z,2μm,18.9s,baz=312,slow=40						
PMG	Port Moresby	9.01	129	eP	P	05 43 02.6	-0.7
	66nm,0.6s						
KAKA	Kakadu	11.65	220	eP	P	05 43 38.3	-1.4
	242nm,0.4s						
KAKA				eS	S	05 45 43.1	-7.8
WRAB	Tennant Creek	16.99	199	eP	P	05 44 48.0	-1.7
	52nm,0.6s						
WB2	Warramunga Arr	17.00	199	eP	P	05 44 48.4	-1.4
WB2				e		05 44 53.8	
WRA	Warramunga Arr	17.00	199	Pn	P	05 44 48.7	-1.2
	2.6nm,0.3s,baz=15,slow=13,SNR=83						
WRA				Sn	S	05 47 59.8	+2.0
	3.8nm,0.3s,baz=18,slow=21,SNR=4.4						
WRA				Lg		05 49 52.0	
	2.6nm,0.3s,baz=22,slow=30,SNR=4.9						
WRA				LR	LR	05 52 05.8	
	comp=Z,3μm,21.1s,baz=20,slow=40						
WRA	Warramunga Arr	17.00	199	P	P	05 44 48.7	-1.2
WRA						05 47 59.8	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=N,4.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,3μm,21.1s						
WRA	Warramunga Arr	17.00	199	Pn	P	05 44 48.7	-1.2
WRA				Sn	S	05 47 59.8	+2.0
WRA				Lg		05 49 52.0	
WRA				LR	LR	05 52 05.8	
CTA	Charters Tower	17.30	160	eP	P	05 44 55.1	+1.4
	comp=Z,32nm,0.8s						
CTA	Charters Tower	17.30	160	P	P	05 44 55.9	+2.2
	comp=Z,1.6nm,0.3s,baz=340,slow=12,SNR=36						
CTA				Lg		05 50 01.4	
	comp=Z,1.3nm,0.3s,baz=252,slow=22,SNR=6.5						
CTA				LR	LR	05 51 34.0	
	comp=Z,2μm,20.0s,baz=346,slow=37						
CTAO	Charters Tower	17.30	160	eP	P	05 44 54.1	+0.4
	comp=Z,46nm,0.9s						
FITZ	Fitzroy Crossi	20.04	224	eP	P	05 45 26.3	-0.1
	comp=Z,31nm,0.4s						
FITZ				eS	S	05 49 01.2	-4.9
FITZ	Fitzroy Crossi	20.04	224	P	P	05 45 26.3	-0.2
	comp=Z,2.4nm,0.3s,baz=36,slow=7.4,SNR=64						
FITZ				S	S	05 49 01.3	-4.7
	comp=Z,7.1nm,0.3s,baz=188,slow=14,SNR=4.3						
FITZ				Lg		05 51 31.9	
	comp=Z,0.8nm,0.3s,baz=196,slow=12,SNR=3.8						
FITZ				LR	LR	05 54 10.2	
	comp=Z,2μm,21.4s,MS4.4,baz=68,slow=40						
ASAR	Alice Springs	20.64	196	P	P	05 45 33.4	+0.7
	comp=Z,66nm,0.6s,baz=28,slow=9.9,SNR=233						
ASAR				S	S	05 49 21.9	+3.6
	comp=Z,10nm,0.7s,baz=12,slow=25,SNR=3.4						
ASAR				Lg		05 51 47.0	
	comp=Z,32nm,0.8s,baz=26,slow=31,SNR=3.2						
ASAR				LR	LR	05 53 28.4	
	comp=Z,1μm,19.0s,MS4.3,baz=14,slow=37						
ASPA	Alice Springs	20.64	196	eP	P	05 45 33.1	+0.4
ASPA				eS	S	05 49 19.6	+1.2
STKA	Stephens Creek	27.99	177	eP	P	05 46 41.8	-1.5
	comp=Z,4.4nm,0.6s,mb4.3						
STKA	Stephens Creek	27.99	177	P	P	05 46 42.6	-0.7
	comp=Z,3.9nm,0.7s,mb4.2,baz=351,slow=8.1,SNR=10.0						
STKA				LR	LR	05 59 09.8	
	comp=Z,6μm,18.3s,MS5.2,baz=351,slow=39						
FORT	Forrest	29.14	202	eP	P	05 46 54.0	+0.3
	comp=Z,68nm,0.6s,mb5.5						
ADE	Adelaide	31.06	182	P	P	05 47 11.5	+0.8
TATO	Taipei	33.79	329	PFAKE		05 47 50.0	+15
TATO				LR	LR		
	comp=Z,542nm,19.0s,MS4.3						
KLBR	Kellerberrin	34.71	215	eP	P	05 47 42.0	-0.5
	comp=Z,9.5nm,0.6s,mb4.9						
NWAO	Narrogin (SRO)	36.00	214	P	P	05 47 53.8	+0.3
	comp=Z,4.5nm,0.6s,mb4.6,baz=72,slow=6.4,SNR=5.8						
NWAO	Narrogin (SRO)	36.00	214	P	P	05 47 53.8	+0.3
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
QIZ	Qiongzhong	37.38	308	eP	P	05 48 05.6	+0.4
QIZ				S	S	05 53 51.4	-1.3
QIZ				LR	LR		
	comp=N,424nm,28.7s						
QIZ				LR	LR		
	comp=E,369nm,22.9s						
QIZ				LR	LR		
	comp=Z,383nm,34.4s						
JNU	Nakatsue	37.71	347	P	P	05 48 07.9	0.0
	comp=Z,7.2nm,0.7s,mb4.5,baz=197,slow=14,SNR=8.4						
SSE	Sheshan	39.07	334	P	P	05 48 20.5	+1.2
SSE				PP	PP	05 49 49.8	-3.0
SSE				S	S	05 54 20.3	+2.1
SSE				AMB	AMB		
	comp=Z,43nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,70nm,6.7s						
SSE				LR	LR		
	comp=N,378nm,28.8s,MS4.5						
SSE				LR	LR		
	comp=E,849nm,28.8s,MS4.5						
SSE				LR	LR		
	comp=Z,350nm,22.9s						
SSE	Sheshan	39.07	334	P	P	05 48 20.5	+1.2
	comp=Z,43nm,0.6s,mb5.4						
SSE				sP	sP	05 48 24.6	+1.1
SSE				PP	PP	05 49 49.7	-3.1
SSE				S	S	05 54 20.2	+2.0
SSE				sS		05 54 25.1	
SSE				SS	SS	05 57 13.5	+11
SSE				LR	LR		
	comp=Z,350nm,22.9s,MS4.1						
TAU	Tasmania Unive	39.50	172	PFAKE		05 48 30.0	+7.3
TAU				LR	LR		
	comp=Z,863nm,19.0s,MS4.6						
IPM	Ipoh	39.86	282	⇑eP	P	05 48 29.8	+3.8
MAJO	Matsushiro	40.15	358	eP	P	05 48 26.5	-1.6
	comp=Z,7.7nm,0.8s,mb4.5						
MAJO				LR	LR		
	comp=Z,665nm,21.0s,MS4.5						
MAT	Matsushiro	40.15	358	P	P	05 48 28.3	+0.2
MAT				S	S	05 54 35.0	+0.6
MAT	Matsushiro	40.15	358	eP	P	05 48 28.0	-0.1
MAT				eS	S	05 54 35.0	+0.6
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.5						
NJ2	Nanjing	40.93	332	eP	P	05 48 35.3	+0.7
NJ2				AP	pP	05 48 45.1	+7.5
NJ2				XP	sP	05 48 48.6	+10
NJ2				S	S	05 54 46.0	-0.1
NJ2				XS		05 55 01.0	
NJ2				LR	LR		
	comp=N,3μm,11.5s,MS5.5						
NJ2				LR	LR		
	comp=E,3μm,12.8s,MS5.5						
NJ2				LR	LR		
	comp=Z,4μm,14.2s,MS5.5						
WHN	Wuhan	42.04	326	eP	P	05 48 47.3	+3.5
WHN				S	S	05 55 10.0	+7.3
WHN				LR	LR		
	comp=Z,690nm,20.2s,MS4.5						
INCN	Inchon	42.90	344	PFAKE		05 49 00.0	+9.2
INCN				LR	LR		
	comp=Z,663nm,20.0s,MS4.5						
GYA	Guiyang	44.12	315	P	P	05 49 02.0	+1.2
GYA				AP	pP	05 49 07.3	+3.5
GYA				XP	sP	05 49 09.6	+4.6
GYA				S	S	05 55 35.8	+2.8
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,180nm,4.2s						
GYA				LR	LR		
	comp=N,320nm,16.2s						
GYA				LR	LR		
	comp=Z,580nm,16.0s,MS4.6						
ENH	Enshi	44.72	321	eP	P	05 49 05.5	-0.1
ENH				LR	LR		
	comp=Z,277nm,20.0s,MS4.2						
NANT	Nan	44.76	301	P	P	05 49 05.0	-1.1
CMAR	Chiang Mai Arr	46.12	300	P	P	05 49 17.1	+0.2
	comp=Z,3.1nm,0.6s,mb4.4,baz=120,slow=6.0,SNR=18						
CMAR	Chiang Mai Arr	46.12	300	P	P	05 49 17.1	+0.2
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KMI	Kunming	46.22	310	eP	P	05 49 17.6	0.0
KMI				S	S	05 56 03.5	+0.2
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
KMI				LR	LR		
	comp=N,348nm,16.9s,MS4.4						
KMI				LR	LR		
	comp=E,169nm,20.7s,MS4.4						
KMI				LR	LR		
	comp=Z,250nm,22.0s,MS4.1						
KMI	Kunming	46.22	310	eP	P	05 49 17.6	0.0
	comp=Z,9.0nm,0.7s,mb4.8						
KMI				sP	sP	05 49 22.6	+0.7
KMI				PPP	PPP	05 51 49.4	-0.9
KMI				S	S	05 56 03.5	+0.2
KMI				LR	LR		
	comp=Z,250nm,22.0s,MS4.1						
CHG	Chiang Mai	46.27	300	P	P	05 49 19.2	+1.2
VLA	Vladivostok	47.26	352	i P	P	05 49 28.0	+2.4
XAN	Xi'an	47.71	325	P	P	05 49 29.1	-0.2
XAN				AP	pP	05 49 33.6	+1.3
XAN				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.5						
ASAJ	Asahikawa	47.73	2	P	P	05 49 29.5	+0.2
	comp=Z,8.3nm,0.9s,mb4.8,baz=205,slow=17,SNR=5.8						
ASAJ	Asahikawa	47.73	2	P	P	05 49 29.5	+0.2
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SNY	Shenyang	47.80	343	i PR		05 49 30.0	
SNY				AP	pP	05 49 33.5	+0.6
SNY				XP	sP	05 49 36.4	+2.3
SNY				S	S	05 56 18.3	-7.2
SNY				AMB	AMB		
	comp=Z,120nm,6.3s						
SNY				LR	LR		
	comp=N,490nm,18.1s,MS4.6						
SNY				LR	LR		
	comp=E,380nm,17.7s,MS4.6						
SNY				LR	LR		
	comp=Z,600nm,19.4s,MS4.6						
RPZ	Rata Peaks	48.30	150	P	P	05 49 33.3	-0.4
	comp=Z,10nm,0.5s,mb5.1,baz=286,slow=7.4,SNR=6.6						
BJT	Baijiatuau	48.79	336	eP	P	05 49 35.4	-2.1
	comp=Z,10nm,0.6s,mb5.0						
BJI	Beijing	48.81	336	eP	P	05 49 38.9	+1.3
BJI				PCP	PcP	05 51 03.4	+0.6
BJI				S	S	05 56 39.4	-0.3

BJI				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.2						
BJI				LR	LR		
	comp=N,401nm,19.5s,MS4.7						
BJI				LR	LR		
	comp=E,608nm,18.4s,MS4.7						
BJI				LR	LR		
	comp=Z,471nm,32.9s						
BJI	**Beijing**	**48.81**	**336**	*e*P	**P**	**05 49 38.9**	**+1.3**
	comp=Z,15nm,0.6s,mb5.2						
BJI				PcP	PcP	05 51 03.4	+0.6
BJI				S	**S**	**05 56 39.4**	**-0.3**
BJI				SS	SS	06 00 12.5	+6.8
BJI				LR	LR		
	comp=Z,470nm,32.9s,MS4.3						
MDJ	**Mudanjiang**	**49.08**	**350**	P	**P**	**05 49 40.0**	**+0.3**
MDJ				AP	pP	05 49 42.9	+0.2
MDJ				PCP	PcP	05 51 00.8	-2.9
MDJ				SCP		05 54 58.1	
MDJ				PCS		05 55 00.0	
MDJ				S	**S**	**05 56 45.4**	**+2.0**
MDJ				SCS	ScS	05 59 32.3	+3.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,127nm,7.6s						
MDJ				LR	LR		
	comp=N,404nm,21.4s,MS4.4						
MDJ				LR	LR		
	comp=E,218nm,22.7s,MS4.4						
MDJ				LR	LR		
	comp=Z,606nm,19.3s,MS4.6						
MDJ	**Mudanjiang**	**49.08**	**350**	PFAKE		05 49 50.0	+10
MDJ				LR	LR		
	comp=Z,643nm,21.0s,MS4.6						
CN2	**Changchun**	**49.15**	**346**	*e*P	**P**	**05 49 40.6**	**+0.3**
CN2				*e*XP	sP	05 49 47.6	+3.1
CN2				*e*S	**S**	**05 56 44.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=Z,500nm,21.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**50.57**	**2**	*e*P	**P**	**05 49 49.0**	**-2.1**
YSS				*e*		05 49 57.0	
YSS				*e*S	**S**	**05 57 00.0**	**-4.0**
YSS	**Yuzh-Sakhalins**	**50.57**	**2**	P	**P**	**05 49 49.6**	**-1.4**
YSS				LR	LR		
	comp=Z,604nm,20.0s,MS4.6						
LZH	**Lanzhou**	**52.13**	**323**	*e*P	**P**	**05 49 59.8**	**-3.3**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	05 50 06.4	+0.3
LZH				sP	sP	05 50 09.6	+2.3
LZH				PP	PP	05 52 01.0	-1.3
LZH				*e*S	**S**	**05 57 23.0**	**-2.7**
LZH				sS		05 57 33.0	
LZH				SS	x	06 00 02.0	
LZH				LR	LR		
	comp=Z,980nm,18.0s,MS4.9						
KLR	**Kul'dur**	**53.28**	**353**	*e*P	**P**	**05 50 11.2**	**-0.3**
SHL	**Shillong**	**55.04**	**305**	*e*P	**P**	**05 50 22.2**	**-2.5**
GTA	**Gaotai**	**56.72**	**323**	*e*P	**P**	**05 50 37.1**	**+0.5**
GTA				AP	pP	05 50 40.5	+0.8
GTA				S	**S**	**05 58 31.3**	**+4.0**
GTA				XS		05 58 39.3	
GTA				PS	PS	05 58 45.0	+4.5
GTA				SS	SS	06 02 22.1	+5.9
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,75nm,4.0s						
GTA				LR	LR		
	comp=N,75nm,17.5s,MS4.0						
GTA				LR	LR		
	comp=E,72nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=Z,106nm,17.5s,MS4.0						
PET	**Petropavlovsk**	**58.73**	**13**	*e*P	**P**	**05 50 46.9**	**-3.6**
PET				*e*S	**S**	**05 58 53.1**	**-0.5**
PET				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,12.4s						
PET				pmax	pmax		
	comp=Z,100nm,17.1s						
PET				smax			
	comp=N,500nm,27.6s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.2						
PET	**Petropavlovsk**	**58.73**	**13**	PFAKE		05 51 00.0	+9.5
PET				LR	LR		
	comp=Z,627nm,19.0s,MS4.8						
SONM	**Songino Array**	**59.25**	**334**	P	**P**	**05 50 54.1**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=150,slow=8.0,SNR=9.7						
SONM				PKP2bc		06 20 36.8	
	comp=Z,1.1nm,1.1s,baz=225,slow=1.7,SNR=5.8						
SONM	**Songino Array**	**59.25**	**334**	P	**P**	**05 50 54.1**	**-0.1**
SONM				⇑*e*		06 20 36.8	
GUN	**Gumba**	**60.89**	**305**	*e*P	**P**	**05 51 05.5**	**-0.2**
	comp=Z,62nm,1.0s,mb5.7						
PKI	**Pulchoki**	**61.15**	**304**	*e*P	**P**	**05 51 07.3**	**-0.2**
	comp=Z,16nm,0.8s,mb5.2						
KKN	**Kakani**	**61.34**	**304**	*e*P	**P**	**05 51 09.3**	**+0.5**
	comp=Z,50nm,0.9s,mb5.6						
DMN	**Daman**	**61.41**	**304**	*e*P	**P**	**05 51 09.9**	**+0.6**
	comp=Z,64nm,0.9s,mb5.7						
GKN	**Gorkha**	**61.94**	**304**	*e*P	**P**	**05 51 13.0**	**+0.1**
	comp=Z,69nm,0.8s,mb5.8						
ZAK	**Zakamensk**	**62.52**	**334**	*e*P	**P**	**05 51 15.7**	**-0.7**
KOLN	**Koldanda**	**62.72**	**304**	*e*P	**P**	**05 51 18.6**	**+0.6**
	comp=Z,38nm,0.9s,mb5.5						
SMY	**Shemya**	**63.20**	**22**	PFAKE		05 51 30.0	+9.2
SMY				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
TLY	**Talaya**	**63.33**	**336**	*e*P	**P**	**05 51 24.6**	**+2.9**
TLY				*e*		05 51 34.4	
TLY				*e*		05 52 00.8	
TLY				*e*		05 53 44.5	
TLY				*i* S	**S**	**05 59 55.4**	**+3.1**
TLY				*i* SS	SS	06 04 03.8	+3.0
TLY				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.2						
TLY				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.6						
MA2	**Magadan**	**63.73**	**6**	*e*P	**P**	**05 51 24.8**	**+0.6**
MA2				*e*S	**S**	**05 59 58.6**	**+1.5**
MA2				*e*SS	SS	06 04 01.8	-4.8
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MA2	**Magadan**	**63.73**	**6**	PFAKE		05 51 40.0	+16
MA2				LR	LR		
	comp=Z,226nm,21.0s,MS4.3						
BOD	**Bodaibo**	**64.88**	**345**	*e*P	**P**	**05 51 29.3**	**-2.4**
CASY	**Casey**	**65.72**	**193**	*e*P	**P**	**05 51 35.8**	**-1.2**
	comp=Z,17nm,0.9s,mb5.1						
YAK	**Yakutsk**	**66.11**	**355**	⇓*e*P	**P**	**05 51 40.4**	**+0.9**
YAK				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.4						
YAK				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
YAK	**Yakutsk**	**66.11**	**355**	PFAKE		05 51 50.0	+10
YAK				LR	LR		
	comp=Z,330nm,20.0s,MS4.5						
WMQ	**Urumqi**	**66.67**	**321**	⇑P	**P**	**05 51 43.8**	**+0.3**
WMQ				AP	pP	05 51 47.8	+1.2
WMQ				XP	sP	05 51 50.9	+3.2
WMQ				PCP	PcP	05 52 13.0	+0.4
WMQ				PP	PP	05 54 12.3	+0.1
WMQ				S	S	06 00 33.4	-0.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,36nm,7.6s						
WMQ				LR	LR		
	comp=N,202nm,23.4s,MS4.3						
WMQ				LR	LR		
	comp=E,115nm,21.1s,MS4.3						
WMQ				LR	LR		
	comp=Z,146nm,21.2s,MS4.2						
DDI	**Dehra Dun**	**68.14**	**305**	*e*	**P**	**05 51 51.8**	**-1.2**
PPT	**Papeete**	**70.17**	**107**	*e*L		06 10 47.9	
	comp=Z,1µm,30.8s						
PPT				*e*R		06 13 39.5	
	comp=Z,434nm,29.2s						
TVO	**Taravao**	**70.48**	**107**	*e*P	**P**	**05 52 10.9**	**+3.4**
	comp=Z,33nm,0.7s,mb5.3						
MKAR	**Makanchi Array**	**71.44**	**322**	P	**P**	**05 52 12.5**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.5,baz=103,slow=7.9,SNR=26						
MKAR				LR	LR	06 25 19.1	
	comp=Z,183nm,20.4s,MS4.3,baz=231,slow=37						
MKAR	**Makanchi Array**	**71.44**	**322**	P	**P**	**05 52 12.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,183nm,20.4s						
MKAR	**Makanchi Array**	**71.44**	**322**	P	**P**	**05 52 12.5**	**-0.4**
MKAR				LR	LR	06 25 19.1	
PMOR	**Pomariorio Ree**	**71.71**	**104**	*e*P	**P**	**05 52 18.2**	**+3.2**
	comp=Z,29nm,1.1s,mb5.1						
UNV	**Unalaska Valle**	**72.58**	**30**	*e*P	**P**	**05 52 18.2**	**-1.3**
	comp=Z,66nm,0.8s,mb5.6						
UNV				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
VNDA	**Vanda**	**74.61**	**175**	P	**P**	**05 52 30.8**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=322,slow=6.0,SNR=12						
VNDA				LR	LR	06 25 13.6	
	comp=Z,810nm,20.0s,MS5.0,baz=351,slow=36						
VNDA	**Vanda**	**74.61**	**175**	P	**P**	**05 52 30.8**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,810nm,20.0s						
NVS	**Novosibirsk**	**74.78**	**330**	*e*P	**P**	**05 52 36.6**	**+4.3**
NVS				*i*		05 52 55.2	
NVS				*e*		05 55 17.9	
NVS				pmax	pmax		
	comp=Z,47nm,2.9s,mb4.9						
NVS				pmax	pmax		
	comp=N,9.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
KURK	**Kurchatov**	**75.35**	**325**	*e*P	**P**	**05 52 35.1**	**-0.5**
	comp=E,5.3nm,0.8s,mb4.5						
SBA	**Scott Base**	**75.36**	**174**	PFAKE		05 52 50.0	+15
SBA				LR	LR		
	comp=Z,935nm,19.0s,MS5.1						
TNA	**Tin City**	**78.70**	**20**	PFAKE		05 53 10.0	+16
TNA				LR	LR		
	comp=Z,208nm,22.0s,MS4.4						
BRVK	**Borovoye**	**81.02**	**325**	*e*P	**P**	**05 53 06.8**	**+0.2**
	comp=Z,8.9nm,0.9s,mb4.7						
KDAK	**Kodiak Island**	**81.35**	**30**	*e*P	**P**	**05 53 08.4**	**+0.1**
KDAK				LR	LR		
	comp=Z,146nm,20.0s,MS4.3						
MAW	**Mawson**	**81.64**	**202**	*e*P	**P**	**05 53 10.7**	**+1.1**
	comp=Z,5.6nm,1.3s,mb4.3						
MAW	**Mawson**	**81.64**	**202**	P	**P**	**05 53 10.5**	**+0.8**
	comp=Z,2.3nm,0.6s,mb4.3,baz=60,slow=7.0,SNR=11						
MAW				LR	LR	06 27 54.6	
	comp=Z,962nm,18.1s,MS5.2,baz=67,slow=35						
ZRNK	**Zerenda**	**81.72**	**325**	*e*P	**P**	**05 53 10.1**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.4						
SLKM	**Skilak Lake**	**83.44**	**28**	*e*P	**P**	**05 53 18.0**	**-1.1**
IMA	**Indian Mountai**	**84.03**	**22**	*e*P	**P**	**05 53 22.4**	**+0.5**
	comp=Z,9.9nm,0.7s,mb5.0						
PMR	**Palmer**	**84.30**	**27**	*e*P	**P**	**05 53 21.9**	**-1.5**
	comp=Z,8.9nm,0.8s,mb5.0						
PMR				LR	LR		
	comp=Z,692nm,22.0s,MS5.0						
SML	**Sawmill**	**84.73**	**27**	*e*P	**P**	**05 53 24.7**	**-0.8**
MCK	**McKinley**	**85.08**	**25**	*e*P	**P**	**05 53 26.5**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.4						
MCK				LR	LR		
	comp=Z,241nm,20.0s,MS4.6						
DIV	**Divide**	**85.71**	**28**	*e*P	**P**	**05 53 30.6**	**+0.1**
	comp=Z,44nm,0.6s,mb5.9						
DIV				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
COLA	**College**	**85.89**	**24**	*e*P	**P**	**05 53 31.2**	**0.0**
COLA	**College**	**85.89**	**24**	*e*P	**P**	**05 53 30.0**	**-1.3**
	comp=Z,3.5nm,0.5s,mb4.8						
COLA				LR	LR		
	comp=Z,335nm,21.0s,MS4.7						
QSPA	**South Pole Qui**	**86.17**	**180**	*e*P	**P**	**05 53 33.5**	**+1.1**
	comp=Z,23nm,1.0s,mb5.4						
ILAR	**Eielson Array**	**86.25**	**24**	P	**P**	**05 53 31.4**	**-1.6**
	comp=Z,3.5nm,0.6s,mb4.8,baz=258,slow=4.3,SNR=78						
ILAR				LR	LR	06 27 36.8	
	comp=Z,274nm,21.5s,MS4.6,baz=256,slow=32						
ARU	**Arti**	**88.42**	**327**	PFAKE		05 54 00.0	+16
ARU				LR	LR		
	comp=Z,68nm,19.0s,MS4.1						
DAWY	**Dawson**	**89.25**	**26**	*e*P	**P**	**05 53 47.6**	**+0.1**
SIT	**Sitka**	**90.22**	**33**	PFAKE		05 54 00.0	+7.8
SIT				LR	LR		
	comp=Z,516nm,19.0s,MS5.0						
OCWA	**Octopus Mounta**	**96.67**	**43**	PFAKE		05 54 30.0	+8.0
OCWA				LR	LR		
	comp=Z,376nm,20.0s,MS4.9						
COR	**Corvallis**	**97.38**	**46**	PFAKE		05 54 40.0	+15
COR				LR	LR		
	comp=Z,278nm,20.0s,MS4.7						
HUMO	**Hull Mountain**	**97.69**	**48**	*e*P	**P**	**05 54 26.7**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.7						
HOPS	**Hopland**	**97.71**	**51**	PFAKE		05 54 40.0	+13
HOPS				LR	LR		
	comp=Z,359nm,22.0s,MS4.8						
YBH	**Yreka Blue Hor**	**97.91**	**49**	P	**P**	**05 54 29.8**	**+2.0**
	comp=Z,3.7nm,1.0s,mb4.9						
YBH				LR	LR		
	comp=Z,473nm,20.0s,MS5.0						
WDC	**Whiskeytown Da**	**98.07**	**50**	PFAKE		05 54 40.0	+11
WDC				LR	LR		
	comp=Z,426nm,22.0s,MS4.9						
SAO	**San Andreas Ge**	**99.06**	**54**	PFAKE		05 54 40.0	+6.9
SAO				LR	LR		
	comp=Z,359nm,20.0s,MS4.9						
MOD	**Modoc**	**99.70**	**48**	*e*P	**P**	**05 54 36.0**	**+0.1**
	comp=Z,5.3nm,1.0s,mb4.9						
MOD				LR	LR		
	comp=Z,354nm,20.0s,MS4.9						
CMB	**Columbia Colle**	**99.85**	**52**	PFAKE		05 54 50.0	+13
CMB				LR	LR		
	comp=Z,253nm,19.0s,MS4.7						
HAWA	**Hanford**	**99.91**	**44**	PFAKE		05 54 50.0	+13
HAWA				LR	LR		
	comp=Z,275nm,21.0s,MS4.7						
KBS	**Kingsbay**	**100.56**	**351**	*e*PP	PP	05 58 42.7	-6.0
KBS				*e*SS	SS	06 13 09.2	-2.9
KBS				AMS	AMS	06 42 50.0	
	comp=Z,92nm,20.0s,MS4.3						
KBS	**Kingsbay**	**100.56**	**351**	PFAKE		05 54 50.0	+11
KBS				LR	LR		
	comp=Z,155nm,20.0s,MS4.5						
OBN	**Obninsk**	**100.79**	**325**	*e*P	P	05 54 38.4	-2.1
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	**Obninsk**	**100.79**	**325**	PFAKE		05 54 50.0	+10
OBN				LR	LR		
	comp=Z,100nm,21.0s,MS4.3						
WVOR	**Wild Horse Val**	**100.89**	**48**	*e*P	P	05 54 43.0	+1.7
WVOR				LR	LR		
	comp=Z,396nm,20.0s,MS4.9						
SNAA	**Sanae**	**100.93**	**191**	⇑*i*Pdif	P	05 54 39.5	-1.3
SNAA				*e*		05 58 46.5	
SNAA				*e*		05 59 05.3	
NEW	**Newport**	**101.35**	**42**	PFAKE		05 54 50.0	+6.8
NEW				LR	LR		
	comp=Z,254nm,19.0s,MS4.8						
MNV	**Mina**	**101.58**	**52**	PFAKE		05 55 00.0	+16
MNV				LR	LR		
	comp=Z,222nm,20.0s,MS4.7						
ARCES	**ARCESS Array B**	**101.95**	**341**	P	P	05 54 44.5	-0.8
	comp=Z,1.9nm,0.7s,baz=76,slow=5.0,SNR=7.0						
ARCES	**ARCESS Array B**	**101.95**	**341**	P	P	05 54 44.6	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BMN	**Battle Mountai**	**102.13**	**50**	PFAKE		05 55 00.0	+13
BMN				LR	LR		
	comp=Z,242nm,22.0s,MS4.7						
TPH	**Tonopah**	**102.34**	**52**	PFAKE		05 55 00.0	+12
TPH				LR	LR		
	comp=Z,254nm,19.0s,MS4.8						
VNA2	**Neumayer--Watz**	**102.40**	**190**	⇑*i*Pdif	Pdif	05 54 56.1	+8.7
VNA2				*e*		05 58 57.6	
VNA2				*e*		05 59 07.4	
MSO	**Missoula**	**103.69**	**43**	PFAKE		05 55 10.0	+16
MSO				LR	LR		
	comp=Z,183nm,20.0s,MS4.6						
HLID	**Hailey**	**103.84**	**46**	PFAKE		05 55 10.0	+16
HLID				LR	LR		
	comp=Z,279nm,20.0s,MS4.8						
BOZ	**Bozeman (W)**	**105.47**	**44**	PFAKE		05 59 30.0	
BOZ				LR	LR		
	comp=Z,204nm,20.0s,MS4.7						
DUG	**Dugway**	**105.51**	**49**	PFAKE		05 59 30.0	
DUG				LR	LR		
	comp=Z,271nm,19.0s,MS4.8						
HWUT	**Hardware Ranch**	**106.22**	**48**	PFAKE		05 59 30.0	
HWUT				LR	LR		
	comp=Z,486nm,22.0s,MS5.0						
AHID	**Auburn Hatcher**	**106.36**	**47**	PFAKE		05 59 30.0	
AHID				LR	LR		
	comp=Z,262nm,21.0s,MS4.8						
WUAZ	**Wupatki**	**107.29**	**54**	PFAKE		05 59 30.0	
WUAZ				LR	LR		
	comp=Z,183nm,20.0s,MS4.6						
BW06	**Boulder Array**	**107.48**	**46**	PFAKE		05 59 30.0	
BW06				LR	LR		
	comp=Z,279nm,19.0s,MS4.8						
TUC	**Tucson**	**108.20**	**57**	PFAKE		05 59 30.0	
TUC				LR	LR		
	comp=Z,224nm,20.0s,MS4.7						
LAO	**LASA Array**	**108.90**	**42**	PFAKE		05 59 30.0	
LAO				LR	LR		
	comp=Z,263nm,19.0s,MS4.8						
FFC	**Flin Flon**	**108.96**	**33**	PFAKE		05 59 30.0	
FFC				LR	LR		
	comp=Z,92nm,21.0s,MS4.3						
MBAR	**Mbarara**	**109.22**	**268**	PFAKE		05 59 40.0	
MBAR				LR	LR		
	comp=Z,45nm,21.0s,MS4.0						
DGMT	**Dagmar**	**109.72**	**40**	PFAKE		05 59 30.0	
DGMT				LR	LR		
	comp=Z,277nm,20.0s,MS4.8						
ISCO	**Idaho Springs**	**111.01**	**49**	PFAKE		05 59 40.0	+13
ISCO				LR	LR		
	comp=Z,324nm,21.0s,MS4.9						
ANMO	**Albuquerque**	**111.35**	**54**	PFAKE		05 59 40.0	+12
ANMO				LR	LR		
	comp=Z,448nm,19.0s,MS5.1						
SDCO	**Great Sand Dun**	**111.55**	**51**	PFAKE		05 59 40.0	+12
SDCO				LR	LR		
	comp=Z,306nm,19.0s,MS4.9						
ULM	**Lac du Bonnet**	**114.15**	**36**	PFAKE		05 59 40.0	+7.0
ULM				LR	LR		
	comp=Z,699nm,21.0s,MS5.2						
LTX	**Lajitas**	**114.69**	**60**	PFAKE		05 59 40.0	+5.5
LTX				LR	LR		
	comp=Z,468nm,21.0s,MS5.1						
CBKS	**Cedar Bluff**	**115.67**	**49**	PFAKE		05 59 50.0	+14
CBKS				LR	LR		
	comp=Z,378nm,20.0s,MS5.0						
WMOK	**Wichita Mounta**	**117.55**	**53**	PFAKE		05 59 50.0	+10
WMOK				LR	LR		
	comp=Z,393nm,21.0s,MS5.0						
JCT	**Junction City**	**117.76**	**58**	PFAKE		05 59 50.0	+10
JCT				LR	LR		
	comp=Z,288nm,19.0s,MS4.9						
TSUM	**Tsumeb**	**119.00**	**246**	PFAKE		05 59 50.0	+6.9
TSUM				LR	LR		
	comp=Z,215nm,19.0s,MS4.8						
ESK	**Eskdalemuir**	**120.71**	**337**	PFAKE		06 00 00.0	+14
ESK				LR	LR		
	comp=Z,58nm,22.0s,MS4.2						
JFWS	**Jewell Farm**	**120.84**	**41**	PFAKE		06 00 00.0	+14
JFWS				LR	LR		
	comp=Z,310nm,22.0s,MS4.9						
HKT	**Hockley**	**121.22**	**57**	PFAKE		06 00 00.0	+13
HKT				LR	LR		
	comp=Z,244nm,20.0s,MS4.8						
NATX	**Nacogdoches**	**121.69**	**55**	PFAKE		06 00 00.0	+12
NATX				LR	LR		
	comp=Z,267nm,20.0s,MS4.9						
MIAR	**Mount Ida**	**121.70**	**51**	PFAKE		06 00 00.0	+12
MIAR				LR	LR		
	comp=Z,394nm,20.0s,MS5.1						
SCHQ	**Schefferville**	**124.63**	**19**	PFAKE		06 00 00.0	+6.8
SCHQ				LR	LR		
	comp=Z,491nm,22.0s,MS5.1						
OXF	**Oxford**	**124.93**	**50**	PFAKE		06 00 00.0	+5.6
OXF				LR	LR		
	comp=Z,273nm,20.0s,MS4.9						
WCI	**Wyandotte Cave**	**125.65**	**45**	PFAKE		06 00 10.0	+14
WCI				LR	LR		
	comp=Z,209nm,21.0s,MS4.8						
LRAL	**Lakeview Retre**	**127.35**	**51**	PFAKE		06 00 10.0	+11
LRAL				LR	LR		
	comp=Z,345nm,21.0s,MS5.0						
PLCA	**Paso Flores**	**127.60**	**151**	PKP	PKPdf	06 00 00.9	+1.6
	comp=Z,3.7nm,0.7s,baz=184,slow=2.3,SNR=14						
PLCA	**Paso Flores**	**127.60**	**151**	PKIKP	PKPdf	06 00 00.9	+1.6
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ERPA	**Erie**	**127.75**	**37**	PFAKE		06 00 10.0	+10
ERPA				LR	LR		
	comp=Z,347nm,21.0s,MS5.0						
MCWV	**Mont Chateau**	**129.25**	**40**	PFAKE		06 00 10.0	+7.5
MCWV				LR	LR		
	comp=Z,331nm,19.0s,MS5.0						
NCB	**Newcomb**	**129.84**	**32**	PFAKE		06 00 10.0	+6.5
NCB				LR	LR		
	comp=Z,430nm,19.0s,MS5.2						
BLA	**Blacksburg**	**130.20**	**43**	PFAKE		06 00 10.0	+5.6
BLA				LR	LR		
	comp=Z,246nm,19.0s,MS4.9						
CBN	**Corbin**	**131.66**	**40**	PFAKE		06 00 20.0	+13
CBN				LR	LR		
	comp=Z,341nm,21.0s,MS5.0						
HRV	**Harvard--Oak R**	**132.26**	**32**	PFAKE		06 00 20.0	+12
HRV				LR	LR		
	comp=Z,370nm,20.0s,MS5.1						
NHSC	**New Hope**	**132.46**	**47**	PFAKE		06 00 20.0	+11
NHSC				LR	LR		
	comp=Z,284nm,20.0s,MS5.0						
WES	**Weston**	**132.47**	**32**	PFAKE		06 00 20.0	+11
WES				LR	LR		
	comp=Z,589nm,20.0s,MS5.3						
BBSR	**BB Station**	**143.30**	**36**	PFAKE		06 00 40.0	+16
BBSR				LR	LR		
	comp=Z,491nm,20.0s,MS5.3						
KIC	**Kosan Boka**	**144.84**	**276**	*e*P	PKPbc	06 00 29.5	+0.8
	comp=Z,105nm,0.8s						
DBIC	**Dimbokro**	**144.94**	**276**	PKP	PKPdf	06 00 30.9	-1.0
	comp=Z,14nm,0.7s,baz=69,slow=4.3,SNR=22						
DBIC	**Dimbokro**	**144.94**	**276**	PKIKP	PKPdf	06 00 30.9	-0.9
DBIC				pmax	pmax		
	comp=Z,14nm,0.7s						
TIC	**Toumodi**	**145.10**	**276**	*e*P	PKPbc	06 00 30.6	+1.2
	comp=Z,28nm,0.2s						
LIC	**Lamto**	**145.13**	**275**	*e*P	PKPbc	06 00 31.1	+1.6
	comp=Z,125nm,1.4s						
CPUP	**Villa Florida**	**145.67**	**152**	PKPbc	PKPbc	06 00 33.0	+2.5
	comp=Z,13nm,0.9s,baz=267,slow=3.5,SNR=15						
CPUP	**Villa Florida**	**145.67**	**152**	PKP2	PKPab	06 00 33.0	+0.6
CPUP				pmax	pmax		
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**145.67**	**152**	PKPbc	PKPbc	06 00 33.0	+2.5
ROSC	**El Rosal**	**145.71**	**87**	PKPbc	PKPbc	06 00 35.5	+4.6
	comp=Z,7.7nm,0.5s,baz=340,slow=20,SNR=10						
LPAZ	**La Paz**	**145.74**	**126**	PKPbc	PKPbc	06 00 35.4	+4.5
	comp=Z,7.7nm,0.8s,baz=252,slow=1.3,SNR=14						
LPAZ	**La Paz**	**145.74**	**126**	PKP2	PKPab	06 00 35.4	+2.5
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SDV	**Santo Domingo**	**149.10**	**79**	*e*PKPbc	PKPdf	06 00 41.8	+3.1
SDV				LR	LR		
	comp=Z,253nm,19.0s,MS5.0						
SJG	**San Juan**	**150.66**	**59**	PFAKE		06 00 50.0	+9.0
SJG				LR	LR		
	comp=Z,207nm,21.0s,MS4.9						
SAML	**Samuel**	**153.62**	**119**	*e*PKPbc	PKPdf	06 00 52.4	+7.0
BDFB	**Brasilia**	**159.12**	**158**	PKP	PKPdf	06 00 55.3	+2.9
	comp=Z,1.9nm,0.6s,baz=202,slow=1.2,SNR=3.8						
BDFB				PKPab	PKPab	06 01 29.0	+0.3
	comp=Z,3.5nm,0.6s,baz=184,slow=5.6,SNR=9.6						
BDFB	**Brasilia**	**159.12**	**158**	PKIKP	PKPdf	06 00 55.3	+2.8
BDFB						06 01 29.0	
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RCBR	**Riachuelo**	**169.64**	**203**	PFAKE		06 01 10.0	+8.3
RCBR				LR	LR		

comp=Z,457nm,20.0s

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*MOS **16** 06:03:43.7±0.9, 1.43N×98.56E, h33^{km}, mb4.5/11, Error ellipse: s-maj=45.9km s-min=13.0km az=107.5*
*IDC **16** 06:03:44.5±8.3, 1.00N×98.77E, h41^{km}±72^{km}, mb4.0/11, mb1 4.2/12, mb1mx4.1/17, ML4.8/1, Error ellipse: s-maj=53.8km s-min=13.9km az=56.0*
*NEIC **16** 06:03:51.2±2.5, 1.09N×98.86E, h104^{km}±20^{km}, mb4.6/7, Error ellipse: s-maj=28.3km s-min=7.8km az=57.0*
ISC 16 06:03:49.9±2.6**, 1.1N**±0.1×**98.9E**±0.2**, h111**^{km}±21^{km}**, n56, σ0^{s}98**/51**, mb4.5**/28**, 1C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.09**	**32**	⇓*e*P	**P**	**06 04 51.0**	**-0.7**
KGM	**Kluang**	**4.56**	**78**	⇓*i*P	**P**	**06 04 59.0**	**+1.0**
	271nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.26**	**0**	P	**P**	**06 07 45.1**	**-0.4**
	1.2nm,0.3s,baz=190,slow=11,SNR=24						
CMAR	**Chiang Mai Arr**	**17.26**	**0**	P	**P**	**06 07 45.2**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SHL	**Shillong**	**25.25**	**345**	⇓*e*P	**P**	**06 09 05.0**	**-2.4**
PKI	**Pulchoki**	**29.32**	**335**	*e*P	**P**	**06 09 46.5**	**+2.1**
	comp=Z,7.1nm,0.4s,mb4.7						
LSA	**Lhasa**	**29.38**	**346**	*e*P	**P**	**06 09 45.6**	**+0.7**
	comp=Z,5.2nm,0.5s,mb4.4						
GUN	**Gumba**	**29.42**	**336**	*e*P	**P**	**06 09 45.4**	**+0.1**
	comp=Z,30nm,0.5s,mb5.1						
DMN	**Daman**	**29.48**	**335**	*e*P	**P**	**06 09 47.5**	**+1.7**
KKN	**Kakani**	**29.56**	**335**	*e*P	**P**	**06 09 46.2**	**-0.4**
	comp=Z,15nm,0.5s,mb4.9						
GKN	**Gorkha**	**30.02**	**334**	*e*P	**P**	**06 09 50.2**	**-0.4**
	comp=Z,19nm,0.9s,mb4.7						
KOLN	**Koldanda**	**30.29**	**332**	*e*P	**P**	**06 09 52.9**	**-0.1**
	comp=Z,34nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**32.53**	**127**	P	**P**	**06 10 11.0**	**-1.7**
	comp=Z,2.9nm,1.0s,mb4.1,baz=315,slow=5.7,SNR=4.9						
KAKA	**Kakadu**	**36.00**	**113**	*e*P	**P**	**06 10 41.7**	**-0.5**
	comp=Z,0.8nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**40.58**	**123**	P	**P**	**06 11 20.6**	**+0.3**
	comp=Z,8.5nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=69						
WRA				PcP	PcP	06 13 22.5	+1.4
	comp=Z,0.3nm,0.5s,baz=311,slow=2.5,SNR=3.3						
WRA	**Warramunga Arr**	**40.58**	**123**	P	**P**	**06 11 20.6**	**+0.3**
WRA						06 13 22.5	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRAB	**Tennant Creek**	**40.58**	**123**	*e*P	**P**	**06 11 20.7**	**+0.4**
	comp=Z,10nm,0.6s,mb4.8						
WRAB				*e*		06 11 24.9	
WB2	**Warramunga Arr**	**40.59**	**123**	*e*P	**P**	**06 11 20.8**	**+0.4**
WB2				*e*		06 11 25.2	
BJI	**Beijing**	**41.85**	**20**	*e*P	**P**	**06 11 31.9**	**+1.3**
	comp=Z,10.0nm,0.5s,mb4.8						
ASPA	**Alice Springs**	**42.02**	**128**	*e*P	**P**	**06 11 37.5**	**+5.4**
ASAR	**Alice Springs**	**42.02**	**128**	P	**P**	**06 11 32.4**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=295,slow=7.5,SNR=18						
SONM	**Songino Array**	**47.02**	**7**	P	**P**	**06 12 13.1**	**+1.2**
	comp=Z,4.8nm,0.8s,mb4.3,baz=189,slow=9.6,SNR=27						
SONM				PcP	PcP	06 13 43.9	+1.2
	comp=Z,1.1nm,0.4s,baz=191,slow=4.3,SNR=7.7						
MKAR	**Makanchi Array**	**47.77**	**345**	P	**P**	**06 12 18.0**	**+0.3**
	comp=Z,5.2nm,0.7s,mb4.5,baz=157,slow=8.3,SNR=52						
MKAR	**Makanchi Array**	**47.77**	**345**	*i* P	**P**	**06 12 17.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ZAK	**Zakamensk**	**49.26**	**4**	*e*P	**P**	**06 12 29.4**	**+0.3**
TLY	**Talaya**	**50.57**	**4**	⇑*i*P	**P**	**06 12 39.3**	**+0.1**
TLY				*i*		06 13 56.5	
TLY				*e*		06 14 36.0	
TLY				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
HIA	**Hailar**	**51.23**	**17**	*e*P	**P**	**06 12 43.6**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**52.06**	**133**	P	**P**	**06 12 49.6**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=303,slow=8.9,SNR=5.3						
STKA	**Stephens Creek**	**52.06**	**133**	*e*P	**P**	**06 12 50.6**	**-0.1**
KURK	**Kurchatov**	**52.34**	**344**	*i* P	**P**	**06 12 52.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**52.34**	**344**	*e*P	**P**	**06 12 52.4**	**-0.1**
	comp=Z,10nm,0.9s,mb4.9						
VOSK	**Vostochnaya**	**56.46**	**340**	P	**P**	**06 13 21.3**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BVA0	**Borovoye Array**	**56.91**	**340**	P	**P**	**06 13 24.6**	**-1.0**
BRVK	**Borovoye**	**56.97**	**340**	*e*P	**P**	**06 13 25.3**	**-0.7**
ZRNK	**Zerenda**	**57.33**	**339**	P	**P**	**06 13 27.6**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**57.33**	**339**	*e*P	**P**	**06 13 27.2**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.5						
BOD	**Bodaibo**	**57.83**	**10**	*e*P	**P**	**06 13 30.8**	**-1.2**
AB31	**Akbulak array**	**58.40**	**331**	P	**P**	**06 13 35.3**	**-0.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**70.41**	**312**	P	**P**	**06 14 54.0**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.1,baz=124,slow=5.2,SNR=7.8						
BRTR	**Keskin Array B**	**70.41**	**312**	P	**P**	**06 14 54.0**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**73.58**	**328**	*e*P	**P**	**06 15 12.5**	**-0.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
FINES	**FINESS Array B**	**80.86**	**332**	P	**P**	**06 15 53.6**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.2,baz=121,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**80.86**	**332**	P	**P**	**06 15 53.6**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	**Kangasniemi**	**80.93**	**333**	*e*p	**P**	**06 15 51.8**	**-1.4**
	comp=Z,0.6nm,0.3s,mb3.9						
KAF	**Kangasniemi**	**80.93**	**333**	*e*P	**P**	**06 15 51.8**	**-1.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**83.20**	**340**	P	**P**	**06 16 06.0**	**+1.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=76,slow=5.0,SNR=15						
ARCES	**ARCESS Array B**	**83.20**	**340**	P	**P**	**06 16 06.0**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**83.20**	**340**	P	**P**	**06 16 06.0**	**+1.2**
GERES	**GERESS Array B**	**85.99**	**319**	P	**P**	**06 16 20.6**	**+1.6**
	comp=Z,0.3nm,0.2s,mb3.8,baz=124,slow=4.8,SNR=4.6						
NOA	**NORSAR Array B**	**87.91**	**331**	P	**P**	**06 16 29.6**	**+1.6**
	comp=Z,1.6nm,1.1s,mb4.0,baz=85,slow=2.1,SNR=2.8						
NOA	**NORSAR Array B**	**87.91**	**331**	P	**P**	**06 16 29.6**	**+1.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BDFB	**Brasilia**	**144.26**	**244**	PKP	PKPdf	06 23 16.1	+2.4
	comp=Z,1.5nm,0.7s,baz=309,slow=2.3,SNR=3.9						
BDFB	**Brasilia**	**144.26**	**244**	PKIKP	PKPdf	06 23 16.1	+2.4
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**146.02**	**220**	PKPbc	PKPbc	06 23 21.8	+4.1
	comp=Z,3.3nm,0.8s,baz=7.0,slow=1.5,SNR=7.3						
CPUP	**Villa Florida**	**146.02**	**220**	PKP2	PKPab	06 23 21.8	+1.3
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	**Villa Florida**	**146.02**	**220**	PKPbc	PKPbc	06 23 21.8	+4.1

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*BJI **16** 06:06:17.6, 20.90S×68.20W, h138^{km}, mB5.0*
*MOS **16** 06:06:17.3±1.2, 20.98S×68.13W, h143^{km}, mb5.1/4, Error ellipse: s-maj=21.0km s-min=15.9km az=104.1*
*IDC **16** 06:06:17.4±0.4, 21.03S×68.32W, h134^{km}±4^{km}, mb4.6/14, mb1 4.6/17, mb1mx4.6/17, MS3.8/5, Ms1 3.8/5, ms1mx3.6/16, Error ellipse: s-maj=14.2km s-min=6.7km az=99.0*
*SYO **16** 06:06:17.4, 20.90S×68.24W, h139^{km}, MB4.8*
*NEIC **16** 06:06:17.4±0.2, 20.90S×68.24W, mb4.8/74, Error ellipse: s-maj=6.1km s-min=4.3km az=223.0*
*LDG **16** 06:06:22.0±0.7, 19.84S×68.07W, h155^{km}, Mb5.0/16, Ms3.4/1, Error ellipse: s-maj=45.7km s-min=21.2km az=24.0*
ISC 16 06:06:15.8±0.2**, 20.91S**±0.04×**68.29W**±0.04**, h139**^{km}**, h139**^{km}±.5^{km}**:pP-P, n226, σ1^{s}10**/199**, mb4.7**/80**, 11C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.79**	**199**	*e*P	**P**	**06 06 47.0**	**-1.2**
LVC				*e*S	**S**	**06 07 09.9**	**-3.0**
LVC	**Limon Verde**	**1.79**	**199**	P	**P**	**06 06 47.6**	**-0.6**
	1µm,0.3s,baz=15,slow=8.7						
LVC				S	**S**	**06 07 10.7**	**-2.3**
	623nm,0.3s,baz=181,slow=15,SNR=32						
LVC	**Limon Verde**	**1.79**	**199**	⇑*e*Pn	**P**	**06 06 47.0**	**-1.2**
LVC				*e*Sn	**S**	**06 07 09.9**	**-3.0**
ANCH	**Antofagasta**	**3.39**	**215**	*e*P	**P**	**06 07 04.7**	**-3.9**
ANCH				*e*S	**S**	**06 07 40.1**	**-8.8**
CPN1	**Cerro Paranal**	**4.18**	**207**	*e*P	**P**	**06 07 15.4**	**-3.7**
CPN1				*i* S	**S**	**06 08 00.1**	**-7.7**
LPAZ	**La Paz**	**4.60**	**2**	P	**P**	**06 07 27.1**	**+2.4**
	26nm,0.3s,baz=169,slow=7.2,SNR=228						
LPAZ				S	**S**	**06 08 11.2**	**-6.5**
	3.7nm,0.3s,baz=324,slow=8.2,SNR=4.3						
LPAZ				LR	LR	06 09 36.1	
	comp=Z,442nm,19.2s,baz=183,slow=42						
LPAZ	**La Paz**	**4.60**	**2**	P	**P**	**06 07 27.1**	**+2.4**
LPAZ				S	**S**	**06 08 11.2**	**-6.5**
LPAZ				pmax	pmax		
	comp=Z,26nm,0.3s						
LPAZ				smax			
	comp=N,4.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,442nm,19.2s						
ARE	**Arequipa**	**5.37**	**325**	*e*P	**P**	**06 07 32.3**	**-2.6**
ARE				*e*S	**S**	**06 08 28.6**	**-7.5**
CPCH	**Copiapo**	**6.69**	**196**	⇓*i*P	**P**	**06 07 46.6**	**-6.2**
CPCH				*i* S	**S**	**06 08 57.6**	**-10**
VACH	**Vallenar**	**7.95**	**196**	*i* P	**P**	**06 07 58.5**	**-11**
VACH				*i* S	**S**	**06 09 22.1**	**-16**
CPUP	**Villa Florida**	**11.40**	**120**	P	**P**	**06 08 54.5**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=322,slow=12,SNR=31						
CPUP				S	**S**	**06 10 58.1**	**-2.5**
	baz=309,slow=14,SNR=2.8						
CPUP	**Villa Florida**	**11.40**	**120**	P	**P**	**06 08 54.6**	**-0.9**
CPUP				S	**S**	**06 10 58.1**	**-2.5**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NNA	**Nana**	**12.08**	**316**	*e*Pn	**P**	**06 09 01.0**	**-3.3**
	comp=Z,19nm,0.7s						
NNA				*e*		06 09 12.8	
NNA				*e*Sn	**S**	**06 11 03.1**	**-13**
SAML	**Samuel**	**12.87**	**23**	⇑*e*Pn	**P**	**06 09 12.3**	**-2.3**
	comp=Z,47nm,1.1s						
PLCA	**Paso Flores**	**19.85**	**185**	P	**P**	**06 10 36.8**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=8.1,slow=12,SNR=28						
PLCA				ScP		06 18 15.4	
	comp=Z,0.1nm,0.3s,baz=289,slow=4.1,SNR=3.6						
PLCA				LR	LR	06 19 23.8	
	comp=Z,449nm,18.0s,baz=6.3,slow=40						
BDFB	**Brasilia**	**19.95**	**78**	P	**P**	**06 10 38.3**	**-0.8**
	comp=Z,68nm,0.6s,baz=264,slow=12,SNR=134						
BDFB	**Brasilia**	**19.95**	**78**	P	**P**	**06 10 38.3**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,68nm,0.6s						
ROSC	**El Rosal**	**26.28**	**346**	P	**P**	**06 11 41.1**	**+0.7**
	comp=Z,5.7nm,0.5s,mb4.5,baz=146,slow=15,SNR=9.5						
ROSC				LR	LR	06 23 43.5	
	comp=Z,186nm,21.8s,baz=226,slow=40						
SDV	**Santo Domingo**	**29.70**	**355**	*e*P	**P**	**06 12 09.2**	**-1.9**
	comp=Z,8.4nm,0.8s,mb4.5						
USHA	**Ushuaia**	**33.87**	**180**	P	**P**	**06 12 46.6**	**-0.3**
	comp=Z,23nm,1.2s,mb4.8,baz=321,slow=6.5,SNR=2.4						
RCBR	**Riachuelo**	**34.79**	**69**	*e*P	**P**	**06 12 54.9**	**-0.3**
	comp=Z,106nm,0.8s,mb5.5						
JTS	**JuntasAbangare**	**35.07**	**331**	P	**P**	**06 12 59.1**	**+1.5**
	comp=Z,16nm,0.8s,mb4.7,baz=176,slow=7.7,SNR=12						
JTS				LR	LR	06 27 16.3	
	comp=Z,34nm,18.2s,baz=284,slow=36						
JTS	**JuntasAbangare**	**35.07**	**331**	*e*P	**P**	**06 12 58.6**	**+1.1**
	comp=Z,6.9nm,0.6s,mb4.5						
SJG	**San Juan**	**38.84**	**3**	*e*P	**P**	**06 13 26.9**	**-2.2**
	comp=Z,34nm,0.6s,mb5.2						
TWB	**Tillmans-White**	**54.89**	**348**	*e*pP	pP	06 16 06.6	-0.3
NHSC	**New Hope**	**54.90**	**348**	*e*pP	pP	06 16 07.1	+0.1
JSC	**Jenkinsville**	**56.26**	**347**	*e*P	**P**	**06 15 43.1**	**-1.0**
JSC				*e*pP	pP	06 16 16.3	-0.6
LRAL	**Lakeview Retre**	**56.54**	**341**	*e*P	**P**	**06 15 43.8**	**-2.4**
	comp=Z,5.8nm,0.8s,mb4.5						
HKT	**Hockley**	**57.10**	**331**	*e*P	**P**	**06 15 48.4**	**-1.7**
CPCT	**Cooper Cave**	**58.13**	**344**	*e*P	**P**	**06 15 55.0**	**-2.2**
CPCT				*e*pP	pP	06 16 28.4	-1.8
NATX	**Nacogdoches**	**58.15**	**334**	*e*P	**P**	**06 15 56.1**	**-1.3**
	comp=Z,84nm,1.2s,mb5.4						
NATX				*e*pP	pP	06 16 30.5	+0.1
SWET	**Sewanee**	**58.27**	**343**	*e*P	**P**	**06 15 56.6**	**-1.6**
SWET				*e*pP	pP	06 16 30.3	-0.9
OXF	**Oxford**	**58.66**	**340**	*e*P	**P**	**06 15 58.3**	**-2.7**
	comp=Z,33nm,1.1s,mb5.1						
OXF				*e*pP	pP	06 16 31.2	-2.7
ELN	**Prospectdale**	**59.01**	**348**	*e*P	**P**	**06 16 02.6**	**-0.8**
ELN				*e*pP	pP	06 16 36.4	+0.1
PWV	**Princeton**	**59.17**	**348**	*e*P	**P**	**06 16 03.7**	**-0.8**
PWV				pP	pP	06 16 36.1	-1.4
JCT	**Junction City**	**59.40**	**328**	*e*P	**P**	**06 16 04.0**	**-2.2**
	comp=Z,18nm,0.9s,mb4.9						
UALR	**University of**	**59.91**	**337**	*e*P	**P**	**06 16 07.8**	**-1.7**
	comp=Z,29nm,1.2s,mb5.0						
UALR				*e*pP	pP	06 16 40.6	-2.1
VNA1	**Neumayer--Stat**	**60.65**	**161**	*e*	sP	06 16 53.9	-8.6
VNA1	**Neumayer--Stat**	**60.65**	**161**	*e*	PcP	06 17 04.8	+8.2
VNA1	**Neumayer--Stat**	**60.65**	**161**	⇑*i*P	**P**	**06 16 16.2**	**+2.1**
VNA1				*e*	pP	06 16 49.5	+2.2
VNA1				*e*	pP	06 16 53.9	+6.6
VNA1				*e*		06 17 04.8	
VNA1				*e*		06 18 35.3	
VNA2	**Neumayer--Watz**	**61.01**	**161**	*e*	sP	06 16 55.5	-10
VNA2	**Neumayer--Watz**	**61.01**	**161**	*e*	PcP	06 17 06.2	+8.1
VNA2	**Neumayer--Watz**	**61.01**	**161**	⇑*i*P	**P**	**06 16 18.1**	**+1.5**
VNA2				*e*	pP	06 16 51.4	+1.6
VNA2				*e*	pP	06 16 55.5	+5.7
VNA2				*e*		06 17 06.2	
VNA2				*e*		06 18 37.0	
WCI	**Wyandotte Cave**	**61.21**	**344**	*e*P	**P**	**06 16 15.7**	**-2.6**
	comp=Z,6.6nm,0.6s,mb4.6						
WCI				*e*pP	pP	06 16 49.9	-1.7
MCWV	**Mont Chateau**	**61.21**	**350**	*e*P	**P**	**06 16 17.5**	**-0.8**
	comp=Z,7.7nm,0.7s,mb4.6						
MCWV				*e*pP	pP	06 16 49.5	-2.1
BLO	**Bloomington**	**62.16**	**344**	*e*P	**P**	**06 16 22.4**	**-2.2**
	comp=Z,12nm,0.8s,mb4.8						
BLO				*e*pP	pP	06 16 56.7	-1.3
FVM	**French Village**	**62.17**	**340**	*e*P	**P**	**06 16 22.9**	**-1.8**
	comp=Z,72nm,1.3s,mb5.3						
FVM				*e*pP	pP	06 16 55.5	-2.6
ACSO	**Alum Creek Sta**	**62.35**	**347**	*e*P	**P**	**06 16 23.8**	**-2.1**
	comp=Z,17nm,0.9s,mb4.9						
ACSO				*e*pP	pP	06 16 57.5	-1.8
WMOK	**Wichita Mounta**	**62.47**	**332**	*e*P	**P**	**06 16 24.8**	**-2.0**
	comp=Z,4.2nm,0.7s,mb4.4						
BRYW	**Bryant College**	**62.58**	**357**	*e*P	**P**	**06 16 26.7**	**-0.7**
	comp=Z,32nm,0.7s,mb5.2						
BRYW				*e*pP	pP	06 16 59.2	-1.6
SNAA	**Sanae**	**62.65**	**161**	*e*	pP	06 16 59.9	-1.0
SNAA	**Sanae**	**62.65**	**161**	*e*	sP	06 17 04.0	-12
SNAA	**Sanae**	**62.65**	**161**	*e*	PcP	06 17 14.9	+10
SNAA	**Sanae**	**62.65**	**161**	⇑*i*P	**P**	**06 16 26.6**	**-0.9**
SNAA				*e*	pP	06 16 59.9	-1.0
SNAA				*e*	pP	06 17 04.0	+3.1
SNAA				*e*		06 17 14.9	
SNAA				*e*		06 18 46.0	
CLNB	**Carlsbad**	**62.89**	**326**	P	**P**	**06 16 28.3**	**-1.4**
CLNB				*e*pP	pP	06 17 02.6	-0.5
GDL2	**Guadalupe Moun**	**63.10**	**326**	*e*P	**P**	**06 16 30.4**	**-0.6**
GDL2				*e*pP	pP	06 17 03.7	-0.7
BINY	**Binghamton**	**63.19**	**354**	*e*P	**P**	**06 16 31.1**	**-0.4**
BINY				*e*	pP	06 17 05.5	+0.6
ALLY	**Alegheny Colle**	**63.20**	**350**	*e*P	**P**	**06 16 29.9**	**-1.7**
ALLY				*e*	pP	06 17 04.9	-0.1
ERPA	**Erie**	**63.63**	**350**	P	**P**	**06 16 32.9**	**-1.5**
	comp=Z,12nm,0.6s,mb4.9						
ERPA				*e*PcP	PcP	06 17 08.1	-1.1
NCB	**Newcomb**	**64.79**	**355**	P	**P**	**06 16 40.5**	**-1.4**
KSU1	**Kansas State U**	**65.32**	**336**	*e*P	**P**	**06 16 43.1**	**-2.3**
BNM	**Barren Site**	**65.80**	**326**	*e*P	**P**	**06 16 48.6**	**0.0**
SADO	**Sadowa**	**66.11**	**352**	LR	LR	06 48 43.6	
	comp=Z,299nm,21.8s,baz=152,slow=38						
LAZ	**Ladron**	**66.26**	**325**	*e*P	**P**	**06 16 51.7**	**+0.3**
LAZ				*e*pP	pP	06 17 25.3	+0.1
CBKS	**Cedar Bluff**	**66.32**	**334**	*e*P	**P**	**06 16 50.8**	**-0.9**
	comp=Z,73nm,0.9s,mb5.5						
ANMO	**Albuquerque**	**66.33**	**326**	*d* *i*P	**P**	**06 16 51.9**	**0.0**
ANMO	**Albuquerque**	**66.33**	**326**	*e*P	**P**	**06 16 51.6**	**-0.2**
	comp=Z,12nm,1.0s,mb4.7						
ANMO				*e*pP	pP	06 17 25.4	-0.2
TUC	**Tucson**	**66.73**	**321**	*e*P	**P**	**06 16 54.5**	**+0.1**
	comp=Z,17nm,1.3s,mb4.7						
TUC				*e*pP	pP	06 17 27.8	-0.4
LIC	**Lamto**	**67.67**	**74**	⇑*i*P	**P**	**06 16 59.6**	**-1.0**
	comp=Z,114nm,0.6s,mb5.8						
TIC	**Toumodi**	**67.86**	**73**	⇑*i*P	**P**	**06 17 00.8**	**-0.9**
	comp=Z,301nm,1.0s						
KIC	**Kosan Boka**	**67.98**	**74**	⇑*i*P	**P**	**06 17 01.9**	**-0.6**
	comp=Z,455nm,0.7s						
DBIC	**Dimbokro**	**68.01**	**73**	P	**P**	**06 17 02.0**	**-0.6**
	comp=Z,101nm,0.7s,mb5.7,baz=222,slow=6.6,SNR=125						
DBIC	**Dimbokro**	**68.01**	**73**	P	**P**	**06 17 02.1**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,101nm,0.7s						
SDCO	**Great Sand Dun**	**68.04**	**329**	*e*P	**P**	**06 17 01.8**	**-0.7**
	comp=Z,38nm,1.1s,mb5.0						
SDCO				*e*pP	pP	06 17 35.3	-1.0
QSPA	**South Pole Qui**	**69.28**	**180**	*e*P	**P**	**06 17 10.1**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.3						
QSPA				*e*	pP	06 17 44.7	+1.4
RW3	**Ridgway**	**69.51**	**328**	*e*P	**P**	**06 17 11.6**	**+0.1**
ISCO	**Idaho Springs**	**69.72**	**330**	*e*P	**P**	**06 17 12.6**	**-0.1**
	comp=Z,22nm,1.3s,mb4.7						
PV01	**Paradox Valley**	**69.86**	**327**	*e*P	**P**	**06 17 13.9**	**+0.3**
PV01				*e*pP	pP	06 17 47.7	+0.1
PV01				*e*sP	sP	06 18 02.5	-0.2
PV10	**Paradox Valley**	**70.28**	**327**	*e*P	**P**	**06 17 16.1**	**-0.1**
BAR	**Barrett**	**70.55**	**318**	*e*P	**P**	**06 17 18.2**	**+0.3**
BAR				*e*pP	pP	06 17 52.0	+0.1
LDFC	**Landfair**	**71.23**	**321**	*e*P	**P**	**06 17 23.5**	**+1.6**
LDFC				*e*pP	pP	06 17 56.7	+0.7
NEN	**Nelson**	**71.47**	**321**	*e*P	**P**	**06 17 23.8**	**+0.5**
NEN				*e*pP	pP	06 17 58.1	+0.7
SRU	**San Rafael**	**71.60**	**327**	*e*P	**P**	**06 17 24.4**	**+0.4**
SRU				*e*pP	pP	06 17 58.9	+0.8
MSU	**Marysvale**	**72.03**	**325**	*e*P	**P**	**06 17 27.6**	**+1.1**
MSU				*e*pP	pP	06 18 01.4	+0.7
MWC	**Mount Wilson**	**72.44**	**318**	*e*P	**P**	**06 17 29.6**	**+0.6**
MWC				*e*pP	pP	06 18 03.9	+0.6
RSSD	**Black Hills**	**72.52**	**334**	*e*P	**P**	**06 17 28.7**	**-0.6**
	comp=Z,15nm,0.9s,mb4.7						
RSSD				*e*pP	pP	06 18 03.0	-0.6
MPU	**Maple Canyon**	**72.84**	**327**	*e*P	**P**	**06 17 31.9**	**+0.6**
MPU				*e*pP	pP	06 18 06.0	+0.4
DAU	**Daniels Canyon**	**72.95**	**327**	*e*P	**P**	**06 17 32.9**	**+1.0**
DAU				*e*PcP	PcP	06 17 48.0	-0.3
DAU				*e*pP	pP	06 18 06.3	+0.1
NLU	**North Lily Min**	**73.03**	**326**	*e*P	**P**	**06 17 33.1**	**+0.7**
NLU				*e*pP	pP	06 18 07.6	+0.9
JLU	**Jordanelle**	**73.19**	**327**	*e*P	**P**	**06 17 33.7**	**+0.4**
JLU				*e*pP	pP	06 18 08.6	+1.0
JLU				sP	sP	06 18 22.4	-0.3
TCUT	**Toone Canyon**	**73.55**	**327**	*e*P	**P**	**06 17 35.1**	**-0.3**
TCUT				*e*pP	pP	06 18 09.5	-0.2
DUG	**Dugway**	**73.59**	**326**	*e*P	**P**	**06 17 36.3**	**+0.6**
	comp=Z,16nm,0.9s,mb4.8						
DUG				*e*pP	pP	06 18 09.7	-0.4
PDAR	**Pinedale Array**	**73.89**	**330**	P	**P**	**06 17 37.4**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.2,baz=132,slow=6.7,SNR=29						
PDAR				pP	pP	06 18 12.0	+0.2
	comp=Z,2.2nm,0.8s,baz=128,slow=5.9,SNR=3.3						
HWUT	**Hardware Ranch**	**73.99**	**328**	*e*P	**P**	**06 17 38.0**	**+0.1**
	comp=Z,17nm,0.8s,mb4.8						
HWUT				*e*pP	pP	06 18 12.2	-0.2
HWUT				*e*sP	sP	06 18 28.2	+0.8
AHID	**Auburn Hatcher**	**74.63**	**329**	*e*P	**P**	**06 17 41.9**	**+0.3**
	comp=Z,31nm,0.9s,mb4.9						
AHID				*e*PcP	PcP	06 17 55.0	-0.4
AHID				*e*pP	pP	06 18 16.7	+0.6
HVU	**Hansel Valley**	**74.73**	**327**	*e*P	**P**	**06 17 42.5**	**+0.3**
HVU				*e*pP	pP	06 18 16.7	0.0
MTUM	**Tungsten Hills**	**74.82**	**321**	*e*P	**P**	**06 17 43.9**	**+1.0**
MTUM				*e*pP	pP	06 18 18.5	+1.2
ULM	**Lac du Bonnet**	**74.93**	**342**	P	**P**	**06 17 42.4**	**-0.8**
	comp=Z,11nm,0.6s,mb4.7,baz=152,slow=6.0,SNR=30						
ULM				pP	pP	06 18 17.8	+0.1
	comp=Z,7.2nm,0.7s,baz=152,slow=4.6,SNR=3.7						
ULM	**Lac du Bonnet**	**74.93**	**342**	*e*P	**P**	**06 17 41.9**	**-1.2**
	comp=Z,15nm,0.7s,mb4.7						
ULM				*e*pP	pP	06 18 16.1	-1.6
REDW	**Red Top Meadow**	**74.96**	**329**	*e*P	**P**	**06 17 44.1**	**+0.6**
REDW				*e*pP	pP	06 18 18.8	+0.8
WUWY	**Wally Ulrich**	**75.04**	**329**	*e*P	**P**	**06 17 44.4**	**+0.5**
WUWY				*e*pP	pP	06 18 18.4	0.0
TPAW	**Teton Pass**	**75.10**	**329**	*e*P	**P**	**06 17 45.0**	**+0.7**
MOOW	**Moose Ponds**	**75.20**	**330**	*e*P	**P**	**06 17 45.0**	**+0.2**
MOOW				*e*pP	pP	06 18 19.5	+0.1
OMM	**Old Mammoth Mi**	**75.25**	**321**	*e*P	**P**	**06 17 46.3**	**+1.1**
OMM				*e*pP	pP	06 18 20.1	+0.3
MNV	**Mina**	**75.30**	**322**	*e*P	**P**	**06 17 39.2**	**-6.3**
	comp=Z,6.2nm,1.1s,mb4.2						
MNV				*e*pP	pP	06 18 13.5	-6.6
SCHQ	**Schefferville**	**75.44**	**1**	P	**P**	**06 17 45.6**	**-0.3**
	comp=Z,5.1nm,0.7s,mb4.3,baz=224,slow=5.6,SNR=6.7						
SCHQ				pP	pP	06 18 21.7	+1.2
	comp=Z,10nm,0.7s,baz=169,slow=3.1,SNR=5.4						
LAO	**LASA Array**	**75.50**	**334**	*e*P	**P**	**06 17 46.4**	**-0.1**
	comp=Z,34nm,1.2s,mb4.8						
LAO				*e*pP	pP	06 18 21.6	+0.6
LRV	**Little Rabbit**	**75.70**	**319**	*e*P	**P**	**06 17 49.4**	**+1.6**
LRV				*e*pP	pP	06 18 23.0	+0.6
YMR	**Madison River**	**76.00**	**330**	*e*P	**P**	**06 17 50.7**	**+1.4**
YMR				*e*pP	pP	06 18 25.9	+2.0
PPT	**Papeete**	**76.02**	**256**	P	**P**	**06 17 51.8**	**+1.9**
	comp=Z,18nm,0.7s,mb4.8,baz=109,slow=7.3,SNR=3.0						
PPT	**Papeete**	**76.02**	**256**	P	**P**	**06 17 51.8**	**+1.9**
PPT				pmax	pmax		
	comp=Z,18nm,0.7s						
DGMT	**Dagmar**	**76.16**	**336**	*e*P	**P**	**06 17 50.7**	**+0.6**
	comp=Z,53nm,1.2s,mb5.0						
DGMT				*e*pP	pP	06 18 25.0	+0.3
QLMT	**Earthquake Lak**	**76.34**	**330**	*e*P	**P**	**06 17 53.0**	**+1.8**
WCN	**Washoe City**	**76.81**	**321**	*e*P	**P**	**06 17 55.2**	**+1.2**
	comp=Z,5.3nm,1.0s,mb4.1						
WCN				*e*pP	pP	06 18 29.0	+0.3
SYO	**Syowa Base**	**76.85**	**159**	⇑P	**P**	**06 17 54.4**	**+0.9**
SYO	**Syowa Base**	**76.85**	**159**	⇓PcP	PcP	06 18 07.9	+3.4
SYO	**Syowa Base**	**76.85**	**159**	⇑pP	pP	06 18 30.6	+2.4
SYO	**Syowa Base**	**76.85**	**159**	⇓P	sP	06 18 33.5	-10
HLID	**Hailey**	**76.86**	**327**	*e*P	**P**	**06 17 55.2**	**+1.1**
	comp=Z,25nm,0.9s,mb4.8						
HLID				*e*pP	pP	06 18 29.5	+0.7
PAHR	**Pah Rah Range**	**76.87**	**322**	*e*P	**P**	**06 17 55.7**	**+1.5**
MCMT	**McKenzie Canyo**	**77.01**	**329**	*e*P	**P**	**06 17 56.2**	**+1.3**
MCMT				*e*pP	pP	06 18 30.4	+0.8
BOZ	**Bozeman (W)**	**77.05**	**330**	*e*P	**P**	**06 17 55.1**	**0.0**
	comp=Z,14nm,1.3s,mb4.4						
BOZ				*e*pP	pP	06 18 30.4	+0.6
VNDA	**Vanda**	**77.53**	**190**	P	**P**	**06 17 58.4**	**+1.2**
	comp=Z,1.9nm,0.8s,mb3.8,baz=110,slow=1.0,SNR=7.5						
VNDA	**Vanda**	**77.53**	**190**	P	**P**	**06 17 58.4**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**77.53**	**190**	P	**P**	**06 17 58.4**	**+1.2**
BEKR	**Beckwourth**	**77.54**	**322**	*e*P	**P**	**06 17 59.1**	**+1.1**
	comp=Z,3.2nm,0.6s,mb4.1						
BEKR				*e*pP	pP	06 18 32.6	-0.1
OHCM	**Honcut**	**77.85**	**321**	*e*P	**P**	**06 18 00.1**	**+0.4**
OHCM				*e*pP	pP	06 18 34.5	+0.1
HRY	**Holter Researc**	**77.94**	**331**	*e*P	**P**	**06 18 00.5**	**+0.5**
HRY				*e*pP	pP	06 18 34.7	0.0
NSHM	**Saint Helena R**	**78.01**	**319**	*e*P	**P**	**06 18 01.6**	**+1.1**
NSHM				*e*pP	pP	06 18 36.2	+0.9
WVOR	**Wild Horse Val**	**78.28**	**324**	*e*P	**P**	**06 18 02.1**	**+0.2**
	comp=Z,5.3nm,1.1s,mb4.1						
SUR	**Sutherland**	**78.38**	**120**	P	**P**	**06 18 04.4**	**+1.7**
	comp=Z,31nm,1.2s,mb4.8,baz=252,slow=5.0,SNR=11						
CHMT	**Chamberlain Mo**	**78.74**	**330**	*e*P	**P**	**06 18 05.5**	**+1.1**
CHMT				*e*pP	pP	06 18 38.5	-0.7
MOD	**Modoc**	**78.84**	**323**	*e*P	**P**	**06 18 05.8**	**+0.8**
	comp=Z,19nm,1.0s,mb4.7						
MOD				*e*pP	pP	06 18 40.2	+0.4
WDC	**Whiskeytown Da**	**79.27**	**321**	*e*P	**P**	**06 18 06.6**	**-0.8**
	comp=Z,13nm,0.7s,mb4.7						
TSUM	**Tsumeb**	**79.66**	**107**	*e*P	**P**	**06 18 10.7**	**+0.8**
	comp=Z,76nm,1.3s,mb5.2						
YBH	**Yreka Blue Hor**	**80.10**	**322**	*e*P	**P**	**06 18 11.3**	**-0.5**
	comp=Z,6.9nm,0.9s,mb4.3						
KHMM	**Horse Mountain**	**80.16**	**321**	*e*P	**P**	**06 18 12.7**	**+0.5**
LNOR	**Lincton Mounta**	**80.44**	**327**	*e*P	**P**	**06 18 13.3**	**-0.2**
FFC	**Flin Flon**	**80.66**	**341**	*e*P	**P**	**06 18 13.6**	**-0.9**
FFC				*e*pP	pP	06 18 49.4	-0.1

KRMB	Red Mountain	80.67	321	eP	P	06 18 15.8	+0.9
KRMB				epP	pP	06 18 49.0	-0.7
HUMO	Hull Mountain	80.80	322	eP	P	06 18 14.4	-1.1
	comp=Z,3.8nm,0.8s,mb4.1						
HUMO				epP	pP	06 18 50.2	-0.2
HAWA	Hanford	81.43	327⇓	eP	P	06 18 19.5	+0.8
	comp=Z,43nm,1.5s,mb4.9						
HAWA				epP	pP	06 18 54.2	+0.6
HSO	Harness Mounta	81.46	323	eP	P	06 18 19.6	+0.7
HSO				epP	pP	06 18 53.9	0.0
NEW	Newport	81.53	329	eP	P	06 18 18.3	-0.9
	comp=Z,7.2nm,1.4s,mb4.1						
NEW				epP	pP	06 18 53.0	-1.2
EGRO	El Granado	81.53	45	P	P	06 18 20.5	+1.1
	comp=Z,13nm,0.8s,mb4.6						
KEBM	Edson Butte	81.76	322	eP	P	06 18 20.9	+0.4
KEBM				epP	pP	06 18 56.1	+0.7
DPW	Davenport	81.78	329	eP	P	06 18 21.1	+0.6
DPW				epP	pP	06 18 56.0	+0.5
SSOR	Sweet Springs	81.96	324	eP	P	06 18 21.8	+0.3
SSOR				epP	pP	06 18 56.1	-0.4
EMIN	Mina Concepcio	82.19	45	P	P	06 18 23.8	+0.9
	comp=Z,22nm,0.7s,mb4.9						
ESPR	Espera	82.24	46	P	P	06 18 24.6	+1.4
	comp=Z,6.2nm,0.4s,mb4.6						
COR	Corvallis	82.25	324	eP	P	06 18 23.9	+0.9
	comp=Z,37nm,1.2s,mb4.9						
COR				epP	pP	06 18 58.7	+0.7
EBG	Ellensburg	82.31	327	P	P	06 18 24.7	+1.4
WTV	Waterville	82.52	328	P	P	06 18 25.4	+1.1
EMIJ	Mijas	82.81	47	P	P	06 18 26.9	+0.9
	comp=Z,0.4nm,0.1s,mb4.1						
NLW	Nelson Butte	82.97	328	eP	P	06 18 27.0	+0.4
NLW				epP	pP	06 19 02.3	+0.6
RMW	Rattlesnake Mo	83.30	327	eP	P	06 18 27.9	-0.3
RMW				epP	pP	06 19 03.1	-0.3
BMW	Boistfort Moun	83.41	325	eP	P	06 18 29.8	+1.0
BMW				epP	pP	06 19 04.8	+0.8
ELOJ	Sierra Loja	83.54	46	P	P	06 18 31.3	+1.6
	comp=Z,0.9nm,0.4s,mb3.9						
ELOB	Lobios	83.64	41	P	P	06 18 30.4	+0.3
ELUQ	Luque	83.68	46	P	P	06 18 32.1	+1.7
	comp=Z,1.0nm,0.2s,mb4.2						
EADA	Adamuz	83.80	45	P	P	06 18 30.8	-0.2
	comp=Z,5.1nm,0.7s,mb4.4						
GNW	Green Mountain	83.90	326	eP	P	06 18 31.1	-0.1
GNW				epP	pP	06 19 06.2	-0.2
ECAL	Calabor	84.49	41	P	P	06 18 35.1	+0.7
	comp=Z,18nm,0.9s,mb4.8						
EQES	Quesada	84.61	46	P	P	06 18 35.7	+0.6
	comp=Z,14nm,0.8s,mb4.8						
MAW	Mawson	84.73	163	P	P	06 18 36.3	+1.4
	comp=Z,4.1nm,0.8s,mb4.2,baz=221,slow=7.5,SNR=15						
MAW	Mawson	84.73	163	P	P	06 18 36.3	+1.4
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	Mawson	84.73	163	eP	P	06 18 35.8	+0.8
	comp=Z,3.9nm,0.8s,mb4.2						
MAW				epP	pP	06 19 11.7	+1.6
ESDC	Sonseca Array	85.01	44	P	P	06 18 38.1	+1.1
	comp=Z,7.2nm,0.8s,mb4.4,baz=246,slow=4.9,SNR=28						
ESDC				pP	pP	06 19 14.1	+1.8
	comp=Z,2.4nm,0.8s,baz=235,slow=4.5,SNR=2.3						
ESDC	Sonseca Array	85.01	44	P	P	06 18 38.0	+1.0
	comp=Z,7.8nm,0.9s,mb4.4						
EPON	Pontenova	85.03	40	P	P	06 18 37.0	0.0
EVIA	Vianos	85.43	46	P	P	06 18 40.6	+1.5
	comp=Z,9.9nm,0.7s,mb4.7						
ETOB	Tobarra	86.08	46	P	P	06 18 43.3	+1.0
	comp=Z,16nm,0.8s,mb4.8						
ETOR	Torete	86.85	44	P	P	06 18 47.0	+1.1
SJPF	Ste Jean	88.56	42	eP	P	06 18 54.6	+0.6
	comp=Z,11nm,0.9s,mb4.5						
ROSF	Rostrenen	90.05	37	eP	P	06 19 00.7	-0.2
	comp=Z,46nm,1.3s,mb5.0						
LSZ	Lusaka	90.51	106	eP	P	06 19 03.7	-0.1
LFF	La Frestale	90.69	42	eP	P	06 19 04.2	+0.2
	comp=Z,33nm,0.8s,mb5.1						
YKA	Yellowknife Ar	90.83	340	P	P	06 19 04.6	+0.4
	comp=Z,12nm,0.7s,mb5.0,baz=132,slow=4.4,SNR=50						
YKA				pP	pP	06 19 40.3	+0.4
	comp=Z,22nm,0.9s,baz=134,slow=4.7,SNR=14						
YKA	Yellowknife Ar	90.83	340	P	P	06 19 04.6	+0.4
YKA				*PP	pP	06 19 40.3	+0.4
YKA				pmax	pmax		
	comp=Z,12nm,0.7s						
YKA				pmax	pmax		
	comp=N,22nm,0.9s						
YKA	Yellowknife Ar	90.83	340	P	P	06 19 04.6	+0.4
YKA				pP	pP	06 19 40.4	+0.4
YKW3	Yellowknife Ar	90.88	340	eP	P	06 19 04.2	-0.2
YKW3				epP	pP	06 19 39.0	-1.1
MFF	Saint Martin d	90.97	40	eP	P	06 19 05.4	+0.1
	comp=N,34nm,0.9s,mb5.1						
RJF	Les Rejaudoux	91.35	41	eP	P	06 19 07.0	-0.1
	comp=N,26nm,1.1s,mb4.9						
GRR	Gorron	91.45	38	eP	P	06 19 07.0	-0.4
	comp=N,14nm,1.0s,mb4.7						
CAF	Calviac	91.51	42	eP	P	06 19 07.2	-0.6
	comp=N,8.7nm,0.8s,mb4.5						
LDF	La Druitiere	91.98	38	eP	P	06 19 08.9	-0.9
TCF	Toulx Ste Croi	92.25	41	eP	P	06 19 11.0	-0.1
	comp=N,15nm,1.0s,mb4.7						
LASF	Ste Croix	92.26	43	eP	P	06 19 11.1	-0.1
BGF	Bois d'Agland	92.76	41	eP	P	06 19 13.5	0.0
	comp=N,21nm,0.9s,mb5.0						
AVF	Avril sur Loir	93.18	41	eP	P	06 19 15.1	-0.3
SSF	Saint Saulge	93.40	41	eP	P	06 19 16.0	-0.4
SMF	Signal de Mont	93.41	41	eP	P	06 19 16.6	+0.1
	comp=N,26nm,1.0s,mb5.0						
LMR	La Mourre	93.65	45	eP	P	06 19 17.3	-0.3
	comp=N,14nm,0.9s,mb4.8						
LOR	Lormes	93.70	41	eP	P	06 19 17.3	-0.5
	comp=N,8.8nm,0.8s,mb4.6						
ORIF	Oris-en-Rattie	93.93	43	eP	P	06 19 19.0	+0.2
DLBC	Dease Lake	93.95	332	eP	P	06 19 19.1	+0.5
DLBC				e	pP	06 19 55.3	+0.9
MBDF	Montbardon	94.42	44	eP	P	06 19 22.0	+0.9
SBF	Sospel	94.49	45	eP	P	06 19 21.9	+0.5
PGF	Pioggiola	94.99	46	eP	P	06 19 24.3	+0.5
	comp=N,6.8nm,0.9s,mb4.6						
ILAR	Eielson Array	103.97	334	PKiKP		06 24 21.4	
	comp=N,0.5nm,1.0s,baz=90,slow=0.9,SNR=3.7						
ASAR	Alice Springs	130.70	207	PKP	PKPdf	06 25 12.9	+1.7
	comp=N,21nm,1.4s,SNR=6.3						
ASAR				pPKP		06 25 49.0	
	comp=N,5.3nm,0.9s,baz=150,slow=2.3,SNR=4.7						
ZRNK	Zerenda	134.28	35	PKIKP	PKPdf	06 25 19.0	+1.9
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BOD	Bodaibo	143.10	358	ePKHKP		06 25 30.3	
MKAR	Makanchi Array	144.82	36	PKP	PKPdf	06 25 37.9	+1.8
	comp=Z,27nm,0.8s,baz=319,slow=3.2,SNR=104						
MKAR				pPKP		06 26 15.4	
	comp=Z,6.5nm,0.8s,baz=333,slow=2.7,SNR=2.8						
MKAR	Makanchi Array	144.82	36	PKIKP	PKPdf	06 25 37.9	+1.8
MKAR						06 26 15.4	
MKAR				pmax	pmax		
	comp=Z,27nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	Makanchi Array	144.82	36	PKP	PKPdf	06 25 37.9	+1.8
MKAR				pPKP		06 26 15.4	
KLR	Kul'dur	147.54	335	ePKIKP	PKPdf	06 25 42.7	+2.1
KLR				e		06 26 20.0	
NDI	New Delhi	147.83	69	eP	PKPdf	06 25 44.0	+2.3
DDI	Dehra Dun	148.34	66	e	PKPdf	06 25 44.0	+1.5
TLY	Talaya	148.65	10	ePKIKP	PKPdf	06 25 44.0	+1.7
TLY				i		06 26 32.9	
TLY				e		06 29 14.4	
TLY				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ	Urumqi	149.65	36⇑	iPKP	PKPdf	06 25 51.8	+7.7
WMQ				PKP2	PKPab	06 26 02.4	+5.6
WMQ				PP	PP	06 29 32.3	+6.1
WMQ				PP	PP		
	comp=Z,79nm,12.3s						
WMQ				LR	LR		
	comp=N,139nm,24.8s						
WMQ				LR	LR		
	comp=E,317nm,25.8s						
WMQ				LR	LR		
	comp=Z,37nm,23.7s						
ZAK	Zakamensk	149.84	11	ePKHKP		06 25 47.6	
MAJO	Matsushiro	152.15	310	ePKPbc	PKPdf	06 25 56.6	+8.5
MAJO				ePKPab	PKPab	06 26 06.5	-1.1
MAT	Matsushiro	152.15	310	PKP	PKPdf	06 25 55.9	+7.8
MAT	Matsushiro	152.15	310	ePKP	PKPdf	06 25 56.0	+7.9
SONM	Songino Array	152.80	8	PKPbc	PKPdf	06 26 00.5	+12
	comp=Z,4.4nm,1.1s,baz=323,slow=0.8,SNR=6.0						
SONM				PKPab	PKPab	06 26 10.8	+0.9
	comp=Z,2.7nm,0.7s,baz=318,slow=4.0,SNR=7.2						
SONM				pPKPbc		06 26 35.2	
	comp=Z,3.5nm,0.8s,baz=340,slow=1.7,SNR=4.6						
KOLN	Koldanda	153.53	70	eP	PKPdf	06 26 12.8	+22
	comp=Z,23nm,1.2s						
GKN	Gorkha	154.40	69	eP	PKPdf	06 26 15.5	+24
	comp=Z,18nm,0.7s						
CN2	Changchun	154.46	336	ePKP	PKPdf	06 25 50.3	-0.8
DMN	Daman	154.88	69	eP	PKPdf	06 26 17.1	+25
	comp=Z,42nm,1.1s						
KKN	Kakani	155.00	69	eP	PKPdf	06 26 17.3	+25
	comp=Z,20nm,0.7s						
PKI	Pulchoki	155.15	69	eP	PKPdf	06 26 17.9	+25
	comp=Z,16nm,0.7s						
GUN	Gumba	155.50	68	eP	PKPdf	06 26 19.0	+26
	comp=Z,34nm,0.7s						
SSE	Sheshan	166.76	322	PKP	PKPdf	06 26 02.9	-1.9
CMAR	Chiang Mai Arr	167.73	99	PKPab	PKPab	06 27 15.4	+0.4
	comp=Z,2.9nm,0.9s,baz=257,slow=6.0,SNR=8.2						
CMAR	Chiang Mai Arr	167.73	99	PKP2	PKPab	06 27 15.5	+0.4
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						

TAP ***16*** *06:15:11.7,24.43N×122.64E,h94^{km}±2^{km},ML2.8*
JMA ***16*** *06:15:11.7±0.2,24.66N×122.67E,h92^{km},M2.0*
ISC 16 06:15:11.4±2.3**,24.6N**±0.3×**122.6E**±0.1**,h92**^{km}±16^{km}**,n6,**
σ**0^{s}.36**/12**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.37	117	P	P	06 15 25.8	+0.3
YOJ				S	S	06 15 36.2	0.0
IRIF	Iriomote-Funau	1.03	106	P	P	06 15 31.3	-0.5
IRIF				eS	S	06 15 47.0	-0.2
HATJ	Hateruma jima	1.20	118	P	P	06 15 34.0	0.0
HATJ				eS	S	06 15 51.1	+0.3
JKRS	Kuro-shima	1.30	107	P	P	06 15 35.4	+0.2
JKRS				S	S	06 15 53.4	+0.5
JIJ	Ishigaki jima	1.39	101	P	P	06 15 36.1	-0.2
JIJ				S	S	06 15 54.0	-0.8
JTJ	Tarama	1.87	89	P	P	06 15 42.7	+0.2
JTJ				eS	S	06 16 05.8	+0.4

ISK ***16*** *06:18:44.1,36.92N×27.71E,h5^{km},MD3.1*
ATH ***16*** *06:18:45.8,36.85N×27.53E,h10^{km},MD3.1/3*
ISC 16 06:18:45.3±0.7**,36.91N**±0.04×**27.67E**±0.05**,h10**^{km}**,n11,**
σ**0^{s}.82**/16**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	311	i P	Pg	06 18 50.0	-0.4
BDRM				i S	Sg	06 18 54.0	+0.2
YER	Yerkesik	0.54	65	PG	Pg	06 18 55.1	-1.2
YER				SG	Sg	06 19 03.4	-0.2
AYDN	Tasoluk	0.77	12	i P	Pb	06 18 59.2	-1.2
AYDN				i S	Sb	06 19 09.5	-1.1
ARG	Arkhangelos	0.78	152	ePB	Pb	06 19 01.0	+0.5
SMG	Samos	1.04	321	ePB	Pb	06 19 05.1	+0.2
DNZL	Cakiroluk	1.35	54⇑	iP	Pb	06 19 09.8	-0.4
DNZL				i S	Sb	06 19 29.0	+1.6
DENT	Denizli	1.38	52	PN	Pn	06 19 10.9	+0.2
KARP	Karpathos	1.42	197	ePB	Pb	06 19 10.9	-0.5
IZM	Izmir	1.52	348	PN	Pn	06 19 13.5	+0.7
KDAG	Bornova	1.53	348	i P	Pn	06 19 13.7	+0.9
KDAG				i S	Sb	06 19 36.3	+3.7
ELL	Elmali	1.80	94	ePN	Pn	06 19 17.1	+0.3

NEIC ***16*** *06:20:31.2±2.0,7.26S×129.04E,h129^{km}±19^{km},mb4.3/8,*
Error ellipse: s-maj=17.2km s-min=13.1km az=62.0
IDC ***16*** *06:20:34.0±4.2,7.37S×129.03E,h160^{km}±42^{km},mb3.5/8,*
mb1 3.8/11,mb1mx3.8/13,Error ellipse: s-maj=30.2km
s-min=15.9km az=57.0
ISC 16 06:20:29.2±1.6**,7.30S**±0.06×**129.12E**±0.08**,h128**^{km}±15^{km}**,**
n25,σ**1^{s}.25**/35**,mb4.0**/10**,1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.26	149	eP	P	06 22 02.3	+2.0
	161nm,0.4s						
KAKA				eS	S	06 23 09.6	-1.4
FITZ	Fitzroy Crossi	11.26	197	eP	P	06 23 07.4	+0.1
	8.2nm,0.4s						
FITZ				eS	S	06 25 06.0	-5.1
FITZ	Fitzroy Crossi	11.26	197	P	P	06 23 07.4	+0.1
FITZ				S	S	06 25 05.5	-5.6
WRAB	Tennant Creek	13.54	159	ePn	P	06 23 35.8	-1.3
	4.1nm,0.8s						
WRAB				eSn	S	06 25 56.4	-8.5
WRA	Warramunga Arr	13.55	159	P	P	06 23 35.9	-1.3
	4.8nm,0.3s,baz=343,slow=13,SNR=77						
WRA				S	S	06 25 60.0	-5.0
	5.9nm,0.3s,baz=330,slow=23,SNR=12						
WRA				ScP		06 32 14.0	
	0.1nm,0.3s,baz=319,slow=2.2,SNR=4.5						
WB2	Warramunga Arr	13.55	159⇓	iP	P	06 23 35.9	-1.4
WB2				e		06 23 39.5	
WB2				eS	S	06 26 00.3	-4.8
ASPA	Alice Springs	16.91	165	eP	P	06 24 20.6	+1.1
ASPA				eS	S	06 27 22.6	+0.8
ASAR	Alice Springs	16.91	165	P	P	06 24 20.6	+1.0
	2.2nm,0.3s,baz=337,slow=9.6,SNR=102						
ASAR				S	S	06 27 20.7	-1.2
	0.6nm,0.3s,baz=344,slow=25,SNR=4.3						
PMG	Port Moresby	17.97	98	P	P	06 24 33.8	+1.5
	0.6nm,0.3s,baz=266,slow=8.7,SNR=5.9						
PMG				S	S	06 27 45.3	-0.1
	0.7nm,0.3s,baz=180,slow=20,SNR=3.9						
PMG	Port Moresby	17.97	98	eP	P	06 24 33.7	+1.4
	48nm,1.5s						
PMG				S	S	06 27 45.3	-0.1
CTA	Charters Tower	20.91	129	P	P	06 25 05.5	+2.3
	4.2nm,0.6s,baz=281,slow=10,SNR=5.6						
CTA	Charters Tower	20.91	129	P	P	06 25 05.5	+2.3
CTAO	Charters Tower	20.91	129	eP	P	06 25 04.8	+1.7
	18nm,1.3s						
FORT	Forrest	23.38	182	eP	P	06 25 30.5	+3.3
	31nm,0.6s,mb4.8						
STKA	Stephens Creek	27.08	156	P	P	06 26 01.1	-0.7
	1.0nm,0.4s,mb3.7,baz=339,slow=10,SNR=2.8						
STKA	Stephens Creek	27.08	156	eP	P	06 26 00.6	-1.3
CMAR	Chiang Mai Arr	39.26	311	P	P	06 27 48.1	+1.1
	0.9nm,0.4s,mb4.0,baz=140,slow=6.3,SNR=5.6						
SONM	Songino Array	58.45	342	P	P	06 30 12.8	-1.1
	0.7nm,0.9s,mb3.7,baz=90,slow=2.9,SNR=2.8						
MKAR	Makanchi Array	68.00	327	P	P	06 31 16.0	-0.7
	1.9nm,0.5s,mb4.2,baz=118,slow=8.5,SNR=32						
VNDA	Vanda	72.26	173	P	P	06 31 41.4	-0.6
	0.7nm,0.8s,mb3.6,baz=324,slow=2.5,SNR=3.9						
KURK	Kurchatov	72.32	329	P	P	06 31 41.6	-1.1
	5.1nm,1.1s,mb4.3						
MAW	Mawson	74.36	201	P	P	06 31 55.4	+1.2
	0.7nm,0.5s,mb3.6,baz=72,slow=7.4,SNR=5.1						
MAW	Mawson	74.36	201	eP	P	06 31 55.7	+1.5
	2.8nm,1.0s,mb4.0						
QSPA	South Pole Qui	82.68	180	eP	P	06 32 40.6	+1.3
	2.3nm,0.8s,mb4.1						
ILAR	Eielson Array	93.99	25	P	P	06 33 32.1	-1.2
	0.2nm,0.7s,mb3.6,baz=243,slow=4.0,SNR=4.2						

CASC 16 06:23:53.2±2.3**,13.06N**×**88.59W,h194**^{km}±12^{km}**,MD3.9,**
ML3.4,13C-8D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLLM	Bellamira	0.52	42	eP	P	06 24 21.3	+1.3
SNVI	San Vicente	0.60	337⇓	eP	P	06 24 20.0	-0.4
SNVI				eP		06 24 20.0	
SNVI				eS	S	06 24 41.9	+0.6
SNVI				eS	S	06 24 42.2	+0.9
LCBS	La Ceiba	0.70	328⇑	eP	P	06 24 19.9	-0.9
LCBS				eS	S	06 24 43.6	+1.4
LFRS	El Faro	0.73	321⇑	eP	P	06 24 20.3	-0.6
LFRS				eS	S	06 24 42.6	+0.3
CNCH	Conchagua	0.77	73⇑	eP	P	06 24 20.3	-0.8
CNCH				eS	S	06 24 42.4	-0.4
LBRS	Las Brisas	0.81	327⇑	eP	P	06 24 20.6	-0.8
BOQS	Boqueron	0.95	315⇓	eP	P	06 24 21.9	-0.2
BOQS				eS	S	06 24 46.2	+1.7
SBLS	San Blas	1.27	308⇓	eP	P	06 24 24.3	-0.4
SBLS				eS	S	06 24 51.6	+2.5
SNJE	San Jose	1.27	309⇑	eP	P	06 24 24.1	-0.6
SNJE				eS	S	06 24 51.5	+2.4
RTR	El Retiro	1.32	309⇑	eP	P	06 24 24.6	-0.6
RTR				eS	S	06 24 51.8	+1.9
PYN	Poneloya	1.67	113⇓	eP	P	06 24 28.8	+0.4
TEL3	Telica 3	1.77	106⇑	eP	P	06 24 29.6	+0.3
LEON	Leon	1.78	111⇓	eP	P	06 24 29.5	+0.2
LEON				eS	S	06 24 55.6	-1.6
MIRN	Miramar	1.93	108⇑	eP	P	06 24 31.0	+0.1
MIRN				eS	S	06 25 01.1	+1.2
COPN	Copaltepe	2.14	114⇑	eP	P	06 24 33.6	+0.4
COPN				eS	S	06 25 04.8	+0.9
XAVN	Gruta Xavier	2.39	112	eP	P	06 24 37.4	+1.5
MGAN	Managua	2.46	111	eP	P	06 24 38.3	+1.5
MGAN				eS	S	06 25 11.6	+1.3
	comp=N,181nm,0.2s						
TICN	Ticuantepe	2.52	114⇑	eP	P	06 24 38.5	+1.1
TICN				eS	S	06 25 13.2	+1.7
VCR	Vista de Mar	4.11	135⇓	eP	P	06 24 58.4	+1.6
VCR				eS	S	06 25 48.4	+2.4
JCR	Jicaral	4.67	133⇑	eP	P	06 25 06.1	+2.2
JCR				eS	S	06 25 58.1	-0.6
CGA2	Cerro Gallo 2	5.05	126⇑	eP	P	06 25 11.3	+2.5
CGA2				eS	S	06 26 08.7	+1.4
PRS1	Puriscal	5.19	126⇑	eP	P	06 25 13.4	+2.8
PRS1				eS	S	06 26 12.6	+1.9
LAJ	Bijagual	5.41	125⇓	eP	P	06 25 12.4	-1.1
LAJ				eS	S	06 26 12.4	-3.3
BUS	Buena Vista	5.88	126⇓	eP	P	06 25 22.1	+2.6
BUS				eS	S	06 26 30.6	+3.9

KISR ***16*** *06:30:53.7±3.2,29.16N×58.76E,h22^{km}±999^{km},ML4.8*
IDC ***16*** *06:30:54.7±1.2,28.98N×58.34E,mb3.9/12,mb1 4.1/14,*
mb1mx4.0/23,ML4.3/1,Error ellipse: s-maj=33.0km
s-min=20.0km az=25.0
THR ***16*** *06:30:56.9±0.4,29.37N×58.42E,h14^{km}±17^{km},ML3.9*
NEIC ***16*** *06:31:02.3±0.8,29.13N×58.42E,h50^{km},mb3.9/3,Error*
ellipse: s-maj=18.7km s-min=10.7km az=184.0
ISC 16 06:30:58.7±0.9**,29.08N**±0.08×**58.25E**±0.04**,h33**^{km}±10^{km}**,**
n39,σ**1^{s}.05**/41**,mb4.1**/20**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZHSF	Zahedan	2.27	76	i PG	P	06 31 34.5	-0.1
ZHSF				eSG	S	06 32 02.2	+0.6
ZHSF				AMP		06 32 11.6	
	comp=N,665nm,0.6s						
GHIR	Ghir-Karzin	4.69	262	ePN	P	06 32 12.2	+3.2
GHIR				AMP		06 33 45.4	
	comp=N,117nm,0.6s						
NASN	Na'in	5.96	310	ePN	P	06 32 26.5	-0.4
HASS	Wahat al Ahsa'	8.55	245	P	P	06 33 03.4	+0.3
QRN	Al-Qurain	9.06	270	eP	P	06 33 10.2	0.0
QRN				AML	AML	06 34 51.4	
	comp=Z,28nm,0.2s						
QRN				eS	S	06 34 51.5	-0.7
UMR	Umm Al-Rimmam	9.21	275	eS	S	06 34 54.3	-1.5
UMR				AML	AML	06 34 56.8	
	comp=Z,44nm,0.4s						
KBD	Kabd	9.23	273	eP	P	06 33 13.3	+0.8
RDF	Al-Radifah	9.37	272	eP	P	06 33 13.5	-0.9
RDF				AML	AML	06 35 02.4	
	comp=Z,22nm,0.3s						
MZLS	Mizel	12.71	250	P	P	06 33 57.4	-2.5
AFFS	'Afif	14.58	253	P	P	06 34 22.6	-2.0
HILS	Ha'il	14.61	267	P	P	06 34 23.5	-1.4
GNI	Garni	15.65	318	Pn	P	06 34 48.4	+10
	comp=Z,1.1nm,0.3s,baz=139,slow=15,SNR=4.2						
KBRS	Khaybar	17.17	263	P	P	06 34 58.5	+0.8
BLJS	Baljurashi	17.69	243	P	P	06 35 05.6	+1.4
ASF	Jabal al Asfar	18.63	285	P	P	06 35 18.1	+2.2
	comp=Z,0.9nm,0.3s,baz=213,slow=3.0,SNR=5.1						
MALT	Malatya	18.86	304	eP	P	06 35 20.2	+1.7
	comp=Z,5.5nm,1.0s						
UMJS	Umm Lajj	19.02	263	P	P	06 35 22.2	+1.7
KOLN	Koldanda	22.32	87	eP	P	06 35 54.7	-0.3
	comp=Z,25nm,1.1s,mb4.5						
BRTR	Keskin Array B	22.84	304	P	P	06 36 01.1	+1.1
	comp=Z,0.9nm,0.7s,mb3.3,baz=63,slow=5.5,SNR=4.7						
GKN	Gorkha	23.20	86	eP	P	06 36 04.2	+0.7
	comp=Z,5.2nm,0.2s,mb4.6						
DMN	Daman	23.67	87	eP	P	06 36 07.8	-0.3
	comp=Z,22nm,0.9s,mb4.6						
KKN	Kakani	23.79	87	eP	P	06 36 09.7	+0.4
	comp=Z,53nm,1.2s,mb4.8						
PKI	Pulchoki	23.94	87	eP	P	06 36 10.0	-0.8
	comp=Z,20nm,0.6s,mb4.7						
GUN	Gumba	24.29	86	eP	P	06 36 15.1	+0.9
	comp=Z,36nm,0.8s,mb4.9						
ZRNK	Zerenda	25.13	15	eP	P	06 36 21.3	-0.7
	comp=Z,4.4nm,0.8s,mb4.0						
BVAR	Borovoye Array	25.54	17	P	P	06 36 25.9	0.0
	comp=Z,3.6nm,0.5s,mb4.1,baz=198,slow=9.4,SNR=18						
BRVK	Borovoye	25.54	17	eP	P	06 36 24.5	-1.4
	comp=Z,2.5nm,0.6s,mb3.9						
MKAR	Makanchi Array	25.77	40	P	P	06 36 27.6	-0.5
	comp=Z,1.0nm,0.7s,mb3.5,baz=229,slow=11,SNR=9.8						
AKASG	Malin Array Be	30.69	323	P	P	06 37 12.0	-0.5
	comp=Z,0.4nm,0.3s,mb3.7,baz=128,slow=7.9,SNR=5.1						
FINES	FINESS Array B	38.73	336	P	P	06 38 20.7	-0.5
	comp=Z,1.6nm,0.7s,mb3.9,baz=127,slow=9.5,SNR=4.2						
GERES	GERESS Array B	39.18	313	P	P	06 38 25.2	+0.2
	comp=Z,0.3nm,0.3s,mb3.4,baz=106,slow=9.7,SNR=5.2						
MOX	Moxa	40.92	315	eP	P	06 38 40.0	+0.5
DAVOX	Davos	41.33	309	P	P	06 38 44.9	+2.0
	comp=Z,1.5nm,0.5s,mb3.9,baz=152,slow=6.2,SNR=3.6						
SONM	Songino Array	41.34	49	P	P	06 38 43.1	+0.1
	comp=Z,0.4nm,0.6s,mb3.2,baz=259,slow=7.3,SNR=5.4						
ILAR	Eielson Array	84.42	11	P	P	06 43 27.7	-0.8
	comp=Z,0.3nm,0.9s,mb3.4,baz=331,slow=6.1,SNR=3.8						
WRA	Warramunga Arr	88.05	114	P	P	06 43 46.7	-0.6
	comp=Z,1.1nm,0.6s,mb4.3,baz=317,slow=4.1,SNR=23						
YKA	Yellowknife Ar	88.57	357	P	P	06 43 49.7	+0.9
	comp=Z,1.3nm,0.8s,mb4.3,baz=359,slow=5.5,SNR=4.2						
YKA	Yellowknife Ar	88.57	357	P	P	06 43 49.7	+0.9
ASAR	Alice Springs	89.67	117	P	P	06 43 54.5	-0.5
	comp=Z,1.4nm,1.1s,mb4.2,baz=301,slow=4.5,SNR=7.0						

IDC ***16*** *07:01:08.6±0.6,53.45N×160.19E,mb4.1/15,mb1 4.3/17,*
mb1mx4.2/23,ML3.7/2,Error ellipse: s-maj=19.5km
s-min=11.9km az=175.0
MOS ***16*** *07:01:11.7±2.2,53.33N×160.54E,h33^{km},mb4.4/10,Error*
ellipse: s-maj=13.9km s-min=8.4km az=74.4
KRSC ***16*** *07:01:14.2±1.1,53.28N×160.55E,h40^{km}±3^{km},ML4.4*
NEIC ***16*** *07:01:16.3±1.2,53.48N×160.18E,h60^{km}±11^{km},mb4.3/8,*
Error ellipse: s-maj=12.3km s-min=7.5km az=154.0
ISC 16 07:01:13.9±0.4**,53.26N**±0.03×**160.59E**±0.05**,h57**^{km}±4^{km}**,**
n90,σ**1^{s}.21**/125**,mb4.2**/25**,MS4.3**/1**,2D,Near east coast of**
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.38	244	P	P	07 01 23.8	-0.6
SPN	Mys Shipunski	0.38	244	i P	P	07 01 23.7	-0.7
SPN				eS	S	07 01 30.3	-1.8
NLC	Nalytchevo	0.75	263	P	P	07 01 28.6	0.0
NLC				S	S	07 01 38.7	-0.9
NLC	Nalytchevo	0.75	263	i P	P	07 01 28.5	-0.1
NLC				i S	S	07 01 38.7	-0.9
SDLR	Sedlovina	1.02	272	i P	P	07 01 32.5	+0.2
SDLR				eS	S	07 01 45.4	-0.6
KII	Karymskiy	1.03	319	i P	P	07 01 31.6	-0.8
KII				i S	S	07 01 44.1	-2.0
UGLR	Uglovaya	1.06	268	i P	P	07 01 33.4	+0.6
UGLR				eS	S	07 01 47.3	+0.4
SMAR	Somma	1.07	271	i P	P	07 01 33.2	+0.2
SMAR				eS	S	07 01 47.0	-0.2
AVH	Avacha	1.11	271	i P	P	07 01 34.0	+0.5
AVH				eS	S	07 01 48.5	+0.4
KOK	Koryaka	1.17	272	i P	P	07 01 34.7	+0.4
KOK				eS	S	07 01 49.9	+0.3
PET	Petropavlovsk	1.19	259	P	P	07 01 34.7	+0.2
PET				S	S	07 01 49.1	-0.9
PET	Petropavlovsk	1.19	259	eP	P	07 01 34.6	+0.1

PET				*e*S	**S**	**07 01 49.0**	**-1.0**
PET	**Petropavlovsk**	**1.19**	**259**	*e*Pg	**P**	**07 01 34.5**	**0.0**
PET				Sg	**S**	**07 01 44.9**	**-5.1**
MKZ	**Mys Kozlova**	**1.46**	**27**	P	**P**	**07 01 37.1**	**-1.4**
MKZ				S	**S**	**07 01 54.2**	**-2.5**
MKZ	**Mys Kozlova**	**1.46**	**27**	*e*P	**P**	**07 01 37.1**	**-1.4**
MKZ				*e*S	**S**	**07 01 55.7**	**-1.0**
RUS	**Russkaya**	**1.51**	**237**	P	**P**	**07 01 39.1**	**0.0**
RUS				S	**S**	**07 01 57.2**	**-0.6**
RUS	**Russkaya**	**1.51**	**237**	*e*P	**P**	**07 01 39.0**	**-0.1**
RUS				*e*S	**S**	**07 01 57.1**	**-0.7**
GNL	**Ganaly**	**1.64**	**286**	*e*P	**P**	**07 01 41.3**	**+0.4**
GNL				*e*S	**S**	**07 02 01.9**	**+1.0**
GRL	**Gorelyy**	**1.68**	**246**	*e*P	**P**	**07 01 42.3**	**+0.8**
GRL				*e*S	**S**	**07 02 03.3**	**+1.4**
TUMR	**Tumrok**	**2.04**	**353**	*i* P	**P**	**07 01 47.0**	**+0.5**
TUMR				*e*S	**S**	**07 02 11.2**	**+0.4**
APC	**Apacha**	**2.09**	**262**	*i* P	**P**	**07 01 48.5**	**+1.2**
APC				*i* S	**S**	**07 02 14.2**	**+2.1**
KMNR	**Kamenistaya**	**2.51**	**355**	*e*P	**P**	**07 01 53.9**	**+0.7**
KMNR				*e*S	**S**	**07 02 24.1**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.53**	**249**	*e*P	**P**	**07 01 54.4**	**+1.0**
ZLN	**Zelenaya**	**2.76**	**3**	P	**P**	**07 01 59.0**	**+2.2**
LGNR	**Loginova**	**2.83**	**1**	*i* P	**P**	**07 01 59.3**	**+1.6**
LGNR				*e*S	**S**	**07 02 32.1**	**+1.4**
KOZ	**Kozyrevsk**	**2.83**	**352**	*e*P	**P**	**07 01 58.0**	**+0.2**
KOZ				*e*S	**S**	**07 02 30.3**	**-0.5**
CIRR	**Tsirk**	**2.86**	**2**	*i* P	**P**	**07 01 59.3**	**+1.1**
CIRR				*e*S	**S**	**07 02 32.9**	**+1.4**
ESO	**Esso**	**2.88**	**338**	*i* P	**P**	**07 01 58.2**	**-0.3**
ESO				*e*S	**S**	**07 02 29.7**	**-2.5**
ESO				Smax			
	250nm,0.9s						
PAU	**Pauzhetka**	**2.93**	**234**	*e*P	**P**	**07 02 00.5**	**+1.3**
PAU				*e*S	**S**	**07 02 33.5**	**+0.2**
PAU				Smax			
	600nm,1.2s						
KRSR	**Krestovskiy**	**2.96**	**360**	*e*P	**P**	**07 02 00.4**	**+0.8**
KRSR				*e*S	**S**	**07 02 35.0**	**+0.9**
KLY	**Klyuchi**	**3.06**	**1**	P	**P**	**07 02 02.2**	**+1.2**
KLY				S	**S**	**07 02 38.0**	**+1.5**
KLY	**Klyuchi**	**3.06**	**1**	*e*P	**P**	**07 02 02.0**	**+1.0**
KLY				*e*S	**S**	**07 02 37.9**	**+1.4**
SRDR	**Sredinnyy**	**3.10**	**351**	*i* P	**P**	**07 02 01.2**	**-0.4**
SRDR				*e*S	**S**	**07 02 36.6**	**-1.0**
KBTR	**Krutoberegovo**	**3.22**	**23**	*e*P	**P**	**07 02 02.7**	**-0.6**
KBTR				*e*S	**S**	**07 02 38.7**	**-2.0**
KBG	**Krutoberegovo**	**3.24**	**21**	*e*P	**P**	**07 02 03.4**	**-0.1**
KBG				*e*S	**S**	**07 02 38.9**	**-2.2**
KBG				Smax			
	3μm,0.8s						
SVLR	**Shiveluch**	**3.34**	**6**	*e*P	**P**	**07 02 05.4**	**+0.4**
SVLR				*e*S	**S**	**07 02 44.3**	**+0.6**
BKI	**Bering**	**3.71**	**56**	*i* P	**P**	**07 02 09.3**	**-0.8**
BKI				*i* S	**S**	**07 02 47.6**	**-5.4**
BKI				Smax			
	340nm,0.8s						
SKR	**Severo-Kuril's**	**3.78**	**229**	*e*P	**P**	**07 02 10.8**	**-0.3**
SKR				*i* S	**S**	**07 02 51.6**	**-3.2**
SKR	**Severo-Kuril's**	**3.78**	**229**	*e*PN	**P**	**07 02 10.8**	**-0.3**
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
ALID	**Alaid**	**3.92**	**234**	*e*P	**P**	**07 02 12.4**	**-0.7**
OSSR	**Ossora**	**6.16**	**12**	P	**P**	**07 02 47.2**	**+2.9**
FX1	**Attu Island--F**	**7.59**	**88**	Pn	**P**	**07 03 02.2**	**-2.1**
	comp=Z,7.0nm,0.3s,baz=23,slow=13,SNR=15						
FX1				Sn	**S**	**07 04 23.4**	**-6.3**
	baz=307,slow=20						
FX1	**Attu Island--F**	**7.59**	**88**	PN	**P**	**07 03 02.2**	**-2.1**
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ	**Asahikawa**	**14.96**	**240**	Pn	**P**	**07 04 41.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=90,slow=10,SNR=3.9						
YAK	**Yakutsk**	**18.55**	**310**	*e*P	**P**	**07 05 25.7**	**-2.3**
MAJO	**Matsushiro**	**22.89**	**232**	*e*P	**P**	**07 06 14.4**	**+1.4**
	comp=Z,9.7nm,0.6s,mb4.4						
MAT	**Matsushiro**	**22.89**	**232**	P	**P**	**07 06 14.4**	**+1.3**
MAT	**Matsushiro**	**22.89**	**232**	*e*P	**P**	**07 06 14.0**	**+0.9**
	comp=Z,6.2nm,0.7s,mb4.2						
IMA	**Indian Mountai**	**25.72**	**42**	*e*P	**P**	**07 06 40.6**	**+0.6**
	comp=Z,11nm,0.5s,mb4.6						
BOD	**Bodaibo**	**26.32**	**299**	*e*P	**P**	**07 06 42.7**	**-3.0**
ILAR	**Eielson Array**	**28.48**	**45**	P	**P**	**07 07 05.5**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.7,baz=263,slow=8.8,SNR=4.8						
ILAR	**Eielson Array**	**28.48**	**45**	P	**P**	**07 07 05.5**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	**Talaya**	**33.94**	**291**	⇓*i*P	**P**	**07 07 49.5**	**-3.8**
TLY				*e*		07 09 04.7	
TLY				*e*		07 10 27.1	
TLY				*e*S	**S**	**07 13 07.2**	**-5.8**
TLY				*e*SS	SS	07 15 22.5	-0.4
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.3						
SONM	**Songino Array**	**34.15**	**283**	P	**P**	**07 07 53.3**	**-1.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=58,slow=7.7,SNR=7.1						
SONM				PcP	PcP	07 10 30.9	-0.5
	comp=Z,0.7nm,0.5s,baz=56,slow=1.2,SNR=6.4						
DLBC	**Dease Lake**	**37.71**	**54**	P	**P**	**07 08 27.3**	**+2.2**
	comp=Z,1.7nm,0.8s,mb3.8,baz=297,slow=8.2,SNR=6.5						
DLBC	**Dease Lake**	**37.71**	**54**	*e*P	**P**	**07 08 27.1**	**+2.0**
YKA	**Yellowknife Ar**	**42.84**	**43**	P	**P**	**07 09 08.1**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.9,baz=297,slow=8.0,SNR=4.3						
YKA	**Yellowknife Ar**	**42.84**	**43**	P	**P**	**07 09 08.1**	**+0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**47.90**	**302**	*e*P	**P**	**07 09 43.9**	**-3.8**
MKAR	**Makanchi Array**	**48.35**	**296**	P	**P**	**07 09 49.2**	**-2.1**
	comp=Z,1.3nm,0.5s,mb4.3,baz=61,slow=6.7,SNR=18						
MKAR	**Makanchi Array**	**48.35**	**296**	*e*P	**P**	**07 09 49.2**	**-2.1**
MKAR	**Makanchi Array**	**48.35**	**296**	P	**P**	**07 09 49.2**	**-2.1**
BVAR	**Borovoye Array**	**50.52**	**308**	P	**P**	**07 10 04.0**	**-3.8**
	comp=Z,1.0nm,0.4s,mb4.1,baz=53,slow=7.8,SNR=8.7						
ZRNK	**Zerenda**	**51.21**	**309**	P	**P**	**07 10 09.9**	**-3.2**
	comp=Z,0.8nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**53.22**	**342**	P	**P**	**07 10 25.6**	**-2.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=47,slow=7.5,SNR=9.8						
ARCES	**ARCESS Array B**	**53.22**	**342**	P	**P**	**07 10 25.7**	**-2.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BW06	**Boulder Array**	**57.18**	**61**	*e*P	**P**	**07 10 57.4**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**57.18**	**61**	P	**P**	**07 10 58.1**	**+1.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=323,slow=3.8,SNR=14						
ULM	**Lac du Bonnet**	**58.49**	**47**	P	**P**	**07 11 06.3**	**+0.3**
	comp=Z,2.5nm,0.5s,mb4.5,baz=322,slow=5.2,SNR=8.6						
CMAR	**Chiang Mai Arr**	**58.51**	**258**	P	**P**	**07 11 06.3**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=33,slow=5.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**58.51**	**258**	P	**P**	**07 11 06.3**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
RSSD	**Black Hills**	**59.07**	**57**	*e*P	**P**	**07 11 10.5**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**59.45**	**337**	*e*p	**P**	**07 11 10.0**	**-2.5**
	comp=Z,1.8nm,0.3s,mb4.6						
KAF	**Kangasniemi**	**59.45**	**337**	*e*P	**P**	**07 11 10.0**	**-2.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
FINES	**FINESS Array B**	**60.08**	**337**	P	**P**	**07 11 14.9**	**-1.9**
	comp=Z,2.4nm,0.4s,mb4.6,baz=47,slow=7.3,SNR=19						
FINES	**FINESS Array B**	**60.08**	**337**	*e*P	**P**	**07 11 14.9**	**-2.0**
PV10	**Paradox Valley**	**60.58**	**64**	*e*P	**P**	**07 11 21.9**	**+1.3**
NB2	**NORSAR Subarra**	**63.46**	**344**	P	**P**	**07 11 37.7**	**-1.8**
	comp=Z,0.9nm,0.4s,mb4.2,baz=23,slow=7.0						
NOA	**NORSAR Array B**	**63.46**	**344**	P	**P**	**07 11 38.4**	**-1.2**
	comp=Z,4.6nm,1.1s,mb4.5,baz=23,slow=6.5,SNR=5.0						
NOA	**NORSAR Array B**	**63.46**	**344**	P	**P**	**07 11 38.4**	**-1.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMOK	**Wichita Mounta**	**68.77**	**60**	*e*P	**P**	**07 12 13.5**	**-0.1**
	comp=Z,3.5nm,0.9s,mb4.3						
CLL	**Collm**	**72.30**	**339**	⇓P	**P**	**07 12 34.2**	**-0.4**
	comp=Z,logA/T=1.0,mb4.7						
KHC	**Kasperske Hory**	**74.23**	**338**	*e*P	**P**	**07 12 46.0**	**+0.2**
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**07 12 47.4**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=34,slow=4.8,SNR=8.8						
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**07 12 47.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**76.36**	**205**	P	**P**	**07 12 59.2**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=25,slow=6.3,SNR=5.7						
WRA	**Warramunga Arr**	**76.36**	**205**	P	**P**	**07 12 59.2**	**+0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**80.03**	**205**	P	**P**	**07 13 20.2**	**+1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=15,slow=5.3,SNR=12						
PLCA	**Paso Flores**	**143.72**	**91**	PKP	PKPdf	07 20 42.4	+0.8
	comp=Z,2.9nm,1.3s,baz=340,slow=2.3,SNR=3.4						
PLCA	**Paso Flores**	**143.72**	**91**	PKIKP	PKPdf	07 20 42.4	+0.8
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.3s						

BJI ***16*** *07:24:04.7,35.59N×76.12E,h15^{km},mb3.9,ML4.3,Ms3.7,Msz3.6*

IDC ***16*** *07:24:11.5±3.1,36.28N×76.32E,mb3.8/3,mb1 3.9/5,mb1mx3.7/19,ML3.7/2,Error ellipse: s-maj=75.8km s-min=26.7km az=81.0*

NNC ***16*** *07:25:41.6±53.0,37.78N×71.30E,mpv3.2,Error ellipse: s-maj=499.1km s-min=467.0km az=83.0*

ISC 16 07:24:12.8±0.7,**35.91N**±0.04×**76.8E**±0.1,**h10^{km},n19,**σ**1^{s}39**/24,**mb3.6**/3,**Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.42**	**191**	*e*P	**Pn**	**07 25 11.0**	**+3.7**
DLH				*e*SB	**Sb**	**07 25 53.0**	**-2.0**
THN	**Thein Dam**	**3.57**	**194**	*e*P	**Pn**	**07 25 12.3**	**+2.8**
THN				*e*SB	**Sb**	**07 26 00.4**	**+1.0**
	62nm,0.4s						
KSH	**Kashi**	**3.65**	**350**	P	**Pn**	**07 25 08.8**	**-1.8**
KSH				S	**Sn**	**07 25 55.6**	**+1.4**
KSH				Smax			
	comp=N,770nm,1.2s						
KSH				Smax			
	comp=E,390nm,0.6s						
SDNR	**Sundarnagar**	**4.40**	**178**	*e*P	**Pn**	**07 25 21.6**	**+0.4**
SDNR				*e*SG	**Sg**	**07 26 32.0**	**-7.3**
BHK	**Bhakra**	**4.49**	**184**	*e*	**Sn**	**07 26 09.7**	**-5.7**
BHK				*e*SG	**Sg**	**07 26 35.3**	**-7.0**
DDI	**Dehra Dun**	**5.68**	**169**	*e*P	**Pn**	**07 25 40.6**	**+1.3**
DDI				*e*		07 27 18.3	
NDI	**New Delhi**	**7.22**	**177**	*e*S	**Sn**	**07 27 19.0**	**-4.8**
KOLN	**Koldanda**	**9.98**	**142**	*e*P	**P**	**07 26 39.6**	**+0.2**
	comp=E,28nm,0.5s						
GKN	**Gorkha**	**10.34**	**137**	*e*P	**P**	**07 26 44.2**	**0.0**
	comp=E,24nm,0.5s						
KKN	**Kakani**	**10.86**	**136**	*e*P	**P**	**07 26 51.1**	**-0.3**
	comp=E,11nm,0.4s						
DMN	**Daman**	**10.90**	**137**	*e*P	**P**	**07 26 51.1**	**-0.9**
	comp=E,16nm,0.5s						
PKI	**Pulchoki**	**11.10**	**136**	*e*P	**P**	**07 26 54.2**	**-0.5**
	comp=E,12nm,0.5s						
WMQ	**Urumqi**	**11.53**	**43**	*e*P	**P**	**07 27 00.6**	**+0.1**
MKAR	**Makanchi Array**	**11.64**	**19**	Pn	**P**	**07 26 58.6**	**-3.3**
	comp=E,0.5nm,0.3s,baz=207,slow=13,SNR=8.5						
BVAR	**Borovoye Array**	**17.69**	**347**	P	**P**	**07 28 12.4**	**-8.3**
	comp=E,0.3nm,0.3s,baz=144,slow=13,SNR=6.4						
AB31	**Akbulak array**	**18.14**	**323**	P	**P**	**07 28 14.5**	**-12**
	comp=E,2.4nm,1.1s,baz=139,slow=12,SNR=8.5						
SONM	**Songino Array**	**24.92**	**52**	P	**P**	**07 29 36.6**	**-0.6**
	comp=E,4.4nm,1.1s,mb3.9,baz=252,slow=7.8,SNR=16						
CMAR	**Chiang Mai Arr**	**26.20**	**126**	P	**P**	**07 29 52.1**	**+2.6**
	comp=E,0.7nm,0.6s,mb3.4,baz=318,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**77.80**	**126**	P	**P**	**07 36 14.0**	**+1.9**
	comp=E,0.4nm,0.8s,mb3.4,baz=323,slow=5.7,SNR=4.4						

NEIC 16 07:39:01.5,35.64N×120.93W,h7^{km},ML3.8(NCEDC), **After NCEDC.,Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRV	**Little Rabbit**	**0.79**	**355**	*e*P	Pb	07 39 16.6	-0.5
SAO	**San Andreas Ge**	**1.20**	**340**	*e*P	Pb	07 39 22.2	-1.8
SAC	**San Andreas**	**2.28**	**329**	*e*Pn	Pn	07 39 37.2	-2.9
LKC	**Lake Chabot**	**2.28**	**337**	*e*Pn	Pn	07 39 37.5	-2.6
CMB	**Columbia Colle**	**2.43**	**10**	*e*Pn	Pn	07 39 40.7	-1.6
OMM	**Old Mammoth Mi**	**2.52**	**38**	*e*Pn	Pn	07 39 43.1	-0.4
MTUM	**Tungsten Hills**	**2.56**	**47**	*e*Pn	Pn	07 39 43.0	-1.1
MWC	**Mount Wilson**	**2.75**	**120**	*e*Pn	Pn	07 39 44.3	-2.5
NSHM	**Saint Helena R**	**3.17**	**336**	*e*Pn	Pn	07 39 49.0	-3.8
MNV	**Mina**	**3.57**	**38**	*e*Pn	Pn	07 39 57.2	-1.2
OHCM	**Honcut**	**3.71**	**353**	*e*Pn	Pn	07 39 58.3	-2.2
HOPS	**Hopland**	**3.76**	**334**	*e*Pn	Pn	07 39 57.1	-4.0
WCN	**Washoe City**	**3.77**	**14**	*e*Pn	Pn	07 39 60.0	-1.4
BEKR	**Beckwourth**	**4.24**	**6**	*e*Pn	Pn	07 40 05.7	-2.4
BAR	**Barrett**	**4.60**	**129**	*e*Pn	Pn	07 40 09.2	-4.0
LDFC	**Landfair**	**4.79**	**95**	*e*Pn	Pn	07 40 12.8	-3.0
NEN	**Nelson**	**4.96**	**88**	*e*Pn	Pn	07 40 14.0	-4.2
WDC	**Whiskeytown Da**	**5.09**	**346**	*e*Pn	Pn	07 40 16.4	-3.7
BMN	**Battle Mountai**	**5.61**	**30**	Pn	Pn	07 40 25.5	-1.9
YBH	**Yreka Blue Hor**	**6.24**	**348**	Pn	Pn	07 40 33.2	-3.0
MOD	**Modoc**	**6.27**	**4**	*e*Pn	Pn	07 40 34.8	-2.0
KRMB	**Red Mountain**	**6.32**	**339**	*e*Pn	Pn	07 40 33.6	-3.7
HUMO	**Hull Mountain**	**7.13**	**348**	*e*Pn	Pn	07 40 46.5	-2.3
MSU	**Marysvale**	**7.56**	**65**	Pn	Pn	07 40 54.5	-0.4
KEBM	**Edson Butte**	**7.69**	**341**	Pn	Pn	07 40 55.3	-1.3
SRU	**San Rafael**	**8.98**	**64**	Pn	P	07 41 12.6	-2.0
DAU	**Daniels Canyon**	**9.00**	**55**	Pn	P	07 41 10.7	-4.2
HWUT	**Hardware Ranch**	**9.44**	**48**	Pn	P	07 41 19.6	-1.4
PV01	**Paradox Valley**	**10.21**	**72**	*e*Pn	P	07 41 28.1	-3.4
LNOR	**Lincton Mounta**	**10.41**	**10**	Pn	P	07 41 33.1	-1.2

IDC ***16*** *08:00:36.8±0.8,17.22S×167.91E,mb4.4/13,mb1 4.5/13,mb1mx4.5/15,MS3.9/12,Ms1 3.9/12,ms1mx3.8/20,Error ellipse: s-maj=25.4km s-min=20.5km az=92.0*

LDG ***16*** *08:00:39.9±0.3,17.17S×167.29E,h10^{km},Mb4.8/2,Error ellipse: s-maj=37.4km s-min=7.0km az=93.0*

BJI ***16*** *08:00:41.7,17.30S×167.90E,h30^{km},mB4.8,mb4.8,Ms4.0,Msz3.8*

NEIC ***16*** *08:00:41.6±0.4,17.32S×167.92E,h30^{km},mb4.5/9,Error ellipse: s-maj=11.2km s-min=9.9km az=78.0*

SYO ***16*** *08:00:41.6,17.32S×167.92E,h30^{km},MB4.5*

ISC 16 08:00:37.9±2.0,**17.29S**±0.08×**167.85E**±0.09,**h16^{km}**±15^{km},**n66,**σ**1^{s}08**/41,**mb4.5**/22,**MS3.9**/14,**4C-4D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.53**	**135**	⇓*i*P	**Pb**	**08 00 48.7**	**+0.3**
DZM	**Mont Dzumac**	**4.94**	**195**	*e*P	**Pn**	**08 01 51.8**	**-1.5**
DZM				*e*S	**Sn**	**08 02 42.7**	**-8.1**
DZM	**Mont Dzumac**	**4.94**	**195**	*e*P	**Pn**	**08 01 51.8**	**-1.5**
DZM				*e*S	**Sn**	**08 02 42.7**	**-8.1**
CTA	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**08 05 21.1**	**+1.5**
	10nm,0.9s						
CTA	**Charters Tower**	**20.64**	**259**	P	**P**	**08 05 20.4**	**+0.8**
	14nm,1.1s,baz=85,slow=13,SNR=8.4						
CTA				LR	LR	08 12 13.4	
	comp=Z,342nm,20.6s,MS3.7,baz=9.4,slow=34						
CTAO	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**08 05 20.8**	**+1.2**
	24nm,1.1s						
URZ	**Urewera**	**22.41**	**161**	P	**P**	**08 05 37.9**	**+0.6**
	17nm,0.9s,mb4.5,baz=353,slow=3.9,SNR=3.2						
CNB	**Canberra Magne**	**24.36**	**219**	*e*P	**P**	**08 05 58.3**	**+2.0**
	18nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**27.85**	**234**	P	**P**	**08 06 29.7**	**+0.9**
	6.2nm,0.9s,mb4.2,baz=66,slow=7.2,SNR=6.4						
STKA				PcP	PcP	08 09 44.0	-1.1
	2.3nm,0.5s,baz=37,slow=4.8,SNR=3.7						
STKA				LR	LR	08 16 48.4	
	comp=Z,255nm,21.3s,MS3.8,baz=286,slow=35						
STKA	**Stephens Creek**	**27.85**	**234**	*e*P	**P**	**08 06 29.3**	**+0.5**
RAR	**Rarotonga**	**30.78**	**103**	LR	LR	08 16 31.0	
	comp=Z,173nm,19.8s,MS3.7,baz=242,slow=31						
WB2	**Warramunga Arr**	**31.83**	**260**	*e*P	**P**	**08 07 04.5**	**+0.1**
WRAB	**Tennant Creek**	**31.83**	**260**	*e*P	**P**	**08 07 03.7**	**-0.7**
	7.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**31.84**	**260**	P	**P**	**08 07 03.5**	**-1.0**
	2.4nm,0.9s,mb4.0,baz=88,slow=8.8,SNR=17						
WRA				PcP	PcP	08 09 54.9	-0.5
	1.5nm,0.7s,baz=88,slow=3.1,SNR=9.5						
WRA				LR	LR	08 19 10.3	
	comp=Z,168nm,20.6s,MS3.7,baz=50,slow=35						
ASAR	**Alice Springs**	**32.37**	**253**	P	**P**	**08 07 08.7**	**-0.5**
	3.4nm,0.6s,mb4.3,baz=78,slow=8.6,SNR=32						
ASAR				PcP	PcP	08 09 56.0	-0.8
	1.8nm,0.8s,baz=117,slow=3.1,SNR=7.9						
ASAR				LR	LR	08 19 44.0	
	comp=Z,284nm,18.6s,MS4.0,baz=18,slow=35						
ASPA	**Alice Springs**	**32.38**	**253**	*e*P	**P**	**08 07 08.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.16**	**262**	*e*P	**P**	**08 08 16.4**	**+1.2**
	2.6nm,0.6s,mb4.1						
FITZ				*e*	pP	08 08 22.4	+2.5
NWAO	**Narrogin (SRO)**	**47.96**	**241**	*e*P	**P**	**08 09 18.0**	**0.0**
	28nm,1.2s,mb5.2						
VNDA	**Vanda**	**60.33**	**181**	P	**P**	**08 10 46.7**	**-1.4**
	0.7nm,0.5s,mb4.0,baz=358,slow=7.9,SNR=5.5						
VNDA	**Vanda**	**60.33**	**181**	P	**P**	**08 10 46.7**	**-1.4**
SBA	**Scott Base**	**60.59**	**180**	*e*P	**P**	**08 10 49.0**	**-0.8**
	8.8nm,1.2s,mb4.8						
JNU	**Nakatsue**	**61.32**	**325**	P	**P**	**08 10 53.2**	**-2.1**
	5.0nm,0.9s,mb4.6,baz=346,slow=12,SNR=2.8						
ASAJ	**Asahikawa**	**65.33**	**340**	P	**P**	**08 11 23.1**	**+1.5**
	8.9nm,0.9s,mb4.8,baz=216,slow=7.7,SNR=5.5						
ASAJ				LR	LR	08 34 14.5	
	comp=Z,56nm,21.4s,MS3.7,baz=9.2,slow=31						
MDJ	**Mudanjiang**	**70.79**	**332**	P	**P**	**08 11 53.3**	**-2.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,51nm,5.3s						
MDJ				LR	LR		
	comp=N,40nm,20.2s						
MDJ				LR	LR		
	comp=Z,47nm,19.2s,MS3.8						
CN2	**Changchun**	**72.12**	**329**	*e*P	**P**	**08 12 02.8**	**-0.9**
QSPA	**South Pole Qui**	**72.75**	**180**	*e*P	**P**	**08 12 06.4**	**-0.4**
	comp=Z,24nm,1.1s,mb5.0						
QSPA				*e*		08 12 18.9	
GYA	**Guiyang**	**73.63**	**305**	⇑*i*P	**P**	**08 12 18.0**	**+5.1**
GYA				PCP	PcP	08 12 31.4	+2.3
GYA				S	S	08 21 44.1	+2.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CMAR	**Chiang Mai Arr**	**76.50**	**294**	P	**P**	**08 12 28.9**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=134,slow=4.8,SNR=8.6						
MAW	**Mawson**	**79.73**	**202**	P	**P**	**08 12 46.8**	**+0.6**
	comp=Z,3.4nm,0.9s,mb4.3,baz=105,slow=7.1,SNR=8.5						
MAW				LR	LR	08 42 49.8	
	comp=Z,89nm,18.1s,MS4.2,baz=239,slow=32						
MAW	**Mawson**	**79.73**	**202**	*e*P	**P**	**08 12 46.9**	**+0.7**
	comp=Z,3.2nm,1.0s,mb4.2						
GTA	**Gaotai**	**84.83**	**314**	*e*P	**P**	**08 13 21.0**	**+7.8**
GTA				AP	pP	08 13 25.3	+7.0
GTA				XP	sP	08 13 28.3	+8.4
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**84.88**	**324**	P	**P**	**08 13 14.5**	**+1.3**
	comp=Z,6.9nm,0.9s,mb4.8,baz=156,slow=8.0,SNR=40						
SYO	**Syowa Base**	**86.42**	**196**	⇓P	**P**	**08 13 20.6**	**+0.1**
SYO	**Syowa Base**	**86.42**	**196**	⇓PcP	PcP	08 13 21.7	-1.8
ILAR	**Eielson Array**	**88.78**	**18**	P	**P**	**08 13 31.1**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.7,baz=239,slow=4.1,SNR=8.2						
ILAR				LR	LR	08 49 52.5	
	comp=Z,61nm,18.4s,MS4.1,baz=57,slow=33						
DLBC	**Dease Lake**	**90.93**	**28**	LR	LR	08 46 12.9	
	comp=Z,50nm,19.8s,MS4.0,baz=50,slow=30						
SNAA	**Sanae**	**91.04**	**183**	⇑*i*	**P**	**08 13 41.0**	**-1.3**
VNA2	**Neumayer--Watz**	**91.95**	**182**	⇑*i*	**P**	**08 13 47.4**	**+0.9**
VNA1	**Neumayer--Stat**	**92.25**	**181**	⇓*i*	**P**	**08 13 49.2**	**+1.3**
USHA	**Ushuaia**	**93.78**	**151**	LR	LR	08 45 21.3	
	comp=Z,78nm,20.5s,MS4.2,baz=247,slow=29						
WMQ	**Urumqi**	**94.91**	**314**	⇑P	**P**	**08 14 01.9**	**+1.2**
WMQ				PP	PP	08 17 53.4	+1.4
WMQ				S	S	08 25 02.4	-8.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,15nm,6.4s						
WMQ				LR	LR		
	comp=E,53nm,25.0s						
WMQ				LR	LR		
	comp=Z,31nm,21.0s,MS3.8						
PDAR	**Pinedale Array**	**96.27**	**47**	PKKPbc		08 30 52.9	
	comp=Z,0.2nm,0.4s,baz=76,slow=6.1,SNR=3.7						
PDAR				LR	LR	08 48 16.8	
	comp=Z,50nm,20.7s,MS4.0,baz=80,slow=30						
MKAR	**Makanchi Array**	**99.43**	**316**	P	**P**	**08 14 21.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.5,baz=81,slow=6.6,SNR=6.5						
MKAR	**Makanchi Array**	**99.43**	**316**	P	**P**	**08 14 21.9**	**+0.8**
YKA	**Yellowknife Ar**	**99.55**	**27**	LR	LR	08 57 32.1	
	comp=Z,51nm,18.1s,MS4.1,baz=255,slow=34						
ARCES	**ARCESS Array B**	**122.86**	**345**	PKP	PKPdf	08 19 35.0	-1.7
	comp=Z,1.3nm,0.5s,baz=61,slow=1.8,SNR=15						
FINES	**FINESS Array B**	**128.29**	**338**	PKP	PKPdf	08 19 44.8	-2.5
	comp=Z,0.7nm,0.6s,baz=270,slow=1.9,SNR=4.1						
CDF	**Champ du Feu**	**145.14**	**337**	*e*PKP1	PKPbc	08 20 16.1	+1.0
	comp=Z,14nm,0.5s						
HINF	**Hinteralfeld**	**145.79**	**337**	*e*PKP1	PKPbc	08 20 18.2	+1.5
HAU	**Haudompre**	**145.82**	**338**	*e*PKP1	PKPbc	08 20 18.1	+1.3
	comp=Z,9.6nm,0.6s						
CABF	**La Chapelle**	**147.09**	**337**	*e*PKP1	PKPdf	08 20 22.2	+0.4
	comp=Z,32nm,1.1s						
FLN	**La Foliniere**	**147.20**	**346**	*e*PKP1	PKPdf	08 20 21.7	-0.2
LDF	**La Druitiere**	**147.27**	**345**	*e*PKP1	PKPdf	08 20 23.0	+1.0
LOR	**Lormes**	**147.32**	**340**	*e*PKP1	PKPdf	08 20 22.5	+0.4
SSF	**Saint Saulge**	**147.62**	**340**	*e*PKP1	PKPdf	08 20 23.3	+0.7
GRR	**Gorron**	**147.64**	**346**	*e*PKP1	PKPdf	08 20 23.2	+0.6
SGMF	**Saint Gilles**	**148.14**	**348**	*e*PKP1	PKPdf	08 20 25.2	+1.8
MBDF	**Montbardon**	**148.36**	**334**	*e*PKP1	PKPdf	08 20 25.2	+1.3
	comp=Z,4.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**148.57**	**335**	*e*PKP1	PKPdf	08 20 26.0	+1.8
	comp=Z,5.3nm,0.6s						
SBF	**Sospel**	**148.76**	**332**	*e*PKP1	PKPdf	08 20 25.9	+1.4
PGF	**Pioggiola**	**149.03**	**329**	*e*PKP1	PKPdf	08 20 27.0	+2.0
	comp=Z,20nm,0.8s						
MFF	**Saint Martin d**	**149.12**	**344**	*e*PKP1	PKPdf	08 20 27.0	+2.0
FRF	**La Foret Royal**	**149.35**	**333**	*e*PKP1	PKPdf	08 20 26.7	+1.2
SMRF	**Simiane la Rot**	**149.47**	**334**	*e*PKP1	PKPdf	08 20 26.8	+1.1
LMR	**La Mourre**	**149.59**	**333**	*e*PKP1	PKPdf	08 20 28.3	+2.4
LASF	**Ste Croix**	**150.07**	**337**	*e*PKP1	PKPdf	08 20 29.0	+2.4
	comp=Z,10nm,0.8s						

CASC 16 08:05:27.9±1.9,**13.63N**×**91.20W,h12^{km}**±10^{km},**MD3.6, ML3.5,4C-10D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.80**	**328**	⇓*e*P	Pb	08 05 42.9	-0.4
JAT				*e*S	Sb	08 05 54.0	+0.1
JAT				AML	AML	08 05 55.2	
	comp=E,3μm,0.3s						
FUG	**Fuego 3**	**0.89**	**23**	⇓*e*P	Pb	08 05 44.4	-0.3
IXG	**Ixpaco**	**0.91**	**53**	⇑*e*P	Pb	08 05 44.8	-0.3
IXG				AML	AML	08 05 59.3	
	comp=E,3μm,0.4s						
PCG	**Pacaya**	**0.95**	**37**	⇓*e*P	Pb	08 05 45.7	-0.2
PCG				*e*S	Sb	08 05 59.1	+0.9
NBG	**Las Nubes**	**1.26**	**41**	⇑*e*P	Pb	08 05 50.9	-0.3
NBG				*e*S	Sb	08 06 08.3	+1.1
NBG				AML	AML	08 06 11.4	
	comp=N,4μm,0.3s						
RTR	**El Retiro**	**1.54**	**80**	⇓*e*P	Pn	08 05 55.2	-0.2
RTR				*e*S	Sb	08 06 15.3	+0.1
RBDL	**Robledal**	**1.55**	**72**	⇓*e*P	Pn	08 05 55.3	-0.2
SBLS	**San Blas**	**1.55**	**82**	⇓*e*P	Pn	08 05 55.1	-0.5
SBLS				*e*S	Sb	08 06 16.6	+1.0
SNJE	**San Jose**	**1.57**	**81**	⇓*e*P	Pn	08 05 55.5	-0.3
BOQS	**Boqueron**	**1.87**	**87**	⇑*e*P	Pn	08 06 00.0	-0.1
BOQS				*e*S	Sn	08 06 24.7	+0.8
MTO2	**Montecristo 2**	**1.94**	**67**	⇓*e*P	Pn	08 06 01.6	+0.4
MRL	**Marmol**	**2.05**	**46**	⇑*e*P	Pn	08 06 01.9	-0.7
MRL				*e*S	Sn	08 06 30.8	+2.6
MRL				AML	AML	08 06 33.1	
	comp=E,36nm,0.5s						
LFRS	**El Faro**	**2.08**	**90**	⇓*e*P	Pn	08 06 03.0	-0.2
LFRS				*e*S	Sn	08 06 28.8	-0.5
LCBS	**La Ceiba**	**2.16**	**89**	⇓*e*P	Pn	08 06 04.3	-0.1
LCBS				*e*S	Sn	08 06 30.1	-1.2
SNVI	**San Vicente**	**2.30**	**90**	*e*P	Pn	08 06 06.2	0.0
SNVI				*e*P		08 06 06.6	
SNVI				*e*S	Sn	08 06 34.9	+0.1
CNCH	**Conchagua**	**3.30**	**96**	*e*P	Pn	08 06 19.5	-1.0

IDC ***16*** *08:19:30.2±7.8,16.82S×179.20W,h555^{km}±98^{km},mb3.5/7,mb1 3.7/7,mb1mx3.4/15,Error ellipse: s-maj=47.1km s-min=22.0km az=178.0*

NEIC ***16*** *08:19:33.2±0.8,17.11S×179.11W,h600^{km},mb4.2/8,Error ellipse: s-maj=30.6km s-min=15.2km az=144.0*

ISC 16 08:19:30.2±1.0,**17.8S**±0.3×**178.7W**±0.2,**h600^{km},n19,**

$\sigma 0^{s}.48$/17, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.73	189	P	P	08 23 40.8	+9.0
	4.3nm,0.3s,baz=302,slow=9.6,SNR=14						
CTA	Charters Tower	33.18	260	eP	P	08 25 21.2	+0.9
	3.6nm,0.6s,mb4.2						
CTAO	Charters Tower	33.18	260	eP	P	08 25 20.7	+0.4
	4.9nm,0.6s,mb4.3						
CNB	Canberra Magne	33.28	232	eP	P	08 25 21.1	+0.2
	5.5nm,0.5s,mb4.4						
TOO	Toolangi	37.03	231	eP	P	08 25 51.7	-0.1
	2.8nm,0.5s,mb4.0						
STKA	Stephens Creek	38.44	241	eP	P	08 26 03.9	+0.5
	3.9nm,0.5s,mb4.2						
STKA	Stephens Creek	38.44	241	P	P	08 26 03.9	+0.5
	7.6nm,0.7s,mb4.3,baz=85,slow=9.8,SNR=21						
WB2	Warramunga Arr	44.36	259	eP	P	08 26 50.4	-0.1
WRAB	Tennant Creek	44.36	259	eP	P	08 26 50.1	-0.3
	4.7nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.37	259	P	P	08 26 50.6	0.0
	3.1nm,0.8s,mb3.9,baz=96,slow=7.1,SNR=27						
ASAR	Alice Springs	44.55	254	P	P	08 26 52.0	+0.1
	18nm,0.6s,mb4.8,baz=88,slow=8.5,SNR=356						
ASPA	Alice Springs	44.55	254	eP	P	08 26 52.0	+0.1
KAKA	Kakadu	47.34	269	eP	P	08 27 13.3	+0.1
	4.4nm,0.6s,mb4.2						
FORT	Forrest	49.80	244	eP	P	08 27 30.2	-1.1
	31nm,0.7s,mb4.8						
YBH	Yreka Blue Hor	78.61	39	P	P	08 30 32.9	+0.7
	0.6nm,0.5s,mb3.2,baz=210,slow=1.6,SNR=8.4						
ILAR	Eielson Array	85.83	13	P	P	08 31 07.2	-0.7
	0.7nm,0.5s,mb3.6,baz=220,slow=4.9,SNR=20						
PDAR	Pinedale Array	87.46	44	P	P	08 31 16.1	0.0
	0.7nm,0.6s,mb3.6,baz=225,slow=2.7,SNR=6.8						
GERES	GERESS Array B	147.41	345	PKPbc	PKPdf	08 38 09.1	+5.4
	0.8nm,0.6s,slow=4.0,SNR=4.9						
DAVOX	Davos	150.22	348	PKPbc	PKPdf	08 38 16.4	+8.3
	2.0nm,0.5s,baz=240,slow=7.8,SNR=3.3						

IDC 16 08:40:59.4±3.0, 8.12N×125.32E, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, Error ellipse: s-maj=262.0km s-min=28.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	29.26	162	P	P	08 47 03.7	-1.9
	0.2nm,0.3s,baz=343,slow=9.1,SNR=6.5						
ASAR	Alice Springs	32.68	165	P	P	08 47 33.5	-2.3
	0.4nm,0.3s,baz=338,slow=7.5,SNR=7.7						
MKAR	Makanchi Array	53.19	324	P	P	08 50 19.4	-2.2
	0.1nm,0.4s,baz=119,slow=7.6,SNR=4.1						

*NEIC **16** 08:44:38.5±0.5, 51.65N×16.18E, $h5^{km}$, ML3.1(VIE), ML2.8(CLL), ML2.5(BRG), Error ellipse: s-maj=5.8km s-min=5.2km az=177.0*
*PRU **16** 08:44:40.6, 51.50N×16.13E*
*IDC **16** 08:44:40.8±0.9, 51.48N×16.18E, mb1 3.4/5, mb1mx3.3/17, ML3.0/5, Error ellipse: s-maj=16.3km s-min=8.7km az=120.0*
*WAR **16** 08:44:41.1, 51.51N×16.08E, ML3.1, Mining Induced*
ISC 16 08:44:39.5±0.7, 51.42N±0.04×16.06E±0.04, n26, $\sigma 1^{s}.36$/54, 3C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.60	166	ePG	Pg	08 44 54.0	+2.6
KSP				eSG	Sg	08 45 02.0	+2.6
KSP	Ksiaz	0.60	166	i Pg	Pg	08 44 53.6	+2.2
KSP				eSg	Sg	08 45 02.3	+2.9
KSP				e		08 45 08.0	
DPC	Dobruska-Polom	1.09	171	ePN	Pn	08 45 02.3	+0.5
DPC				ePG	Pg	08 45 03.2	+2.0
DPC				eSG	Sg	08 45 16.9	+1.2
	83nm,0.7s						
PVCC	Panska Ves	1.30	227	ePG	Pg	08 45 06.6	+1.1
PVCC				eSG	Sg	08 45 24.3	+1.5
BRG	Berggiesshubel	1.45	248	i Pg	Pg	08 45 08.9	+0.6
BRG				i Sg	Sg	08 45 29.0	+1.4
PRU	Pruhonice	1.73	215	ePN	Pn	08 45 11.2	+0.2
PRU				ePG	Pg	08 45 13.2	-0.9
PRU				i		08 45 17.4	
PRU				i		08 45 30.8	
PRU				eSG	Sg	08 45 36.1	-1.0
	34nm,0.4s						
PRU	Pruhonice	1.73	215	ePn	Pn	08 45 12.4	+1.4
PRU				ePg	Pg	08 45 13.6	-0.5
PRU				e		08 45 31.0	
PRU				eSg	Sg	08 45 36.2	-0.9
MORC	Moravsky Berou	1.90	150	ePn	Pn	08 45 13.8	+0.4
MORC				eSn	Sn	08 45 42.4	+4.0
RAC	Raciborz	1.91	134	eP	Pn	08 45 19.0	+5.5
RAC				eS	Sn	08 45 44.0	+5.4
CLL	Collm	1.92	268	i PN	Pn	08 45 13.3	-0.4
CLL				i PG	Pg	08 45 16.7	-1.1
CLL				e		08 45 20.0	
CLL				eSG	Sg	08 45 43.0	-0.4
CLL	Collm	1.92	268	i Pn	Pn	08 45 13.3	-0.4
CLL				i Pg	Pg	08 45 16.7	-1.1
CLL				eSg	Sg	08 45 43.0	-0.4
OKC	Ostrava-Krasne	2.07	139	ePG	Pg	08 45 20.3	-0.5
OKC				eSG	Sg	08 45 46.8	-1.6
VRAC	Vranov	2.15	171	Pn	Pn	08 45 18.6	+1.7
	1.4nm,0.3s,baz=355,slow=17,SNR=5.5						
VRAC				Lg		08 45 50.9	
	3.8nm,0.3s,baz=76,slow=22,SNR=8.9						
NKC	Novy Kostel	2.58	244	ePN	Pn	08 45 24.1	+0.9
NKC				ePG	Pg	08 45 30.8	-0.2
NKC				eSG	Sg	08 46 05.8	+0.3
OJC	Ojcow	2.66	116	ePG	Pg	08 45 30.0	-2.5
OJC				i SG	Sg	08 46 06.4	-1.6
OJC	Ojcow	2.66	116	ePg	Pg	08 45 30.5	-2.0
OJC				i Sg	Sg	08 46 06.4	-1.6
KHC	Kasperske Hory	2.79	216	ePN	Pn	08 45 26.5	+0.3
KHC				ePG	Pg	08 45 32.5	-2.8
KHC				eSG	Sg	08 46 11.0	-1.5
KHC				e		08 46 16.5	
MOX	Moxa	2.91	256	ePg	Pg	08 45 36.3	-1.3
MOX				eSg	Sg	08 46 15.8	-0.7
GERES	GERESS Array B	3.00	211	Pn	Pn	08 45 30.9	+1.8
	1.4nm,0.3s,baz=34,slow=12,SNR=24						
GERES				Pg	Pg	08 45 36.8	-2.5
	1.6nm,0.3s,baz=31,slow=16,SNR=19						
GERES				Sn	Sn	08 46 04.5	-1.8
	1.5nm,0.3s,baz=35,slow=16,SNR=6.3						
GERES				Lg		08 46 17.0	
	3.5nm,0.3s,baz=30,slow=27,SNR=9.6						
MOA	Molln	3.76	199	⇑iPN	Pn	08 45 41.0	+1.0
MOA				i SG	Sg	08 46 44.6	-0.2
	9.0nm,0.5s						
ARSA	Arzberg	4.19	185	⇑iPN	Pn	08 45 46.7	+0.6
ARSA				i SG	Sg	08 46 56.7	-2.3
	14nm,0.6s						
KBA	Koelnbreinsper	4.70	203	⇑iPN	Pn	08 45 54.2	+0.9
KBA				i SG	Sg	08 47 14.1	-1.8
	7.6nm,0.6s						
DAVOX	Davos	6.17	224	Lg		08 48 00.1	
	0.6nm,0.3s,baz=192,slow=19,SNR=7.8						
AKASG	Malin Array Be	8.32	90	Pn	P	08 46 37.8	-6.5
	0.7nm,0.3s,baz=274,slow=12,SNR=4.9						
FINES	FINESS Array B	11.45	25	Pn	P	08 47 20.0	-7.2
	0.1nm,0.3s,baz=216,slow=12,SNR=3.0						
ARCES	ARCESS Array B	18.71	10	Pn	P	08 48 53.7	-7.4
	0.1nm,0.3s,baz=189,slow=12,SNR=3.4						

*IDC **16** 08:55:17.9±0.6, 0.95S×23.93W, mb4.3/16, mb1 4.4/16, mb1mx4.3/21, MS3.5/5, Ms1 3.5/5, ms1mx3.1/21, Error ellipse: s-maj=22.9km s-min=14.7km az=145.0*
*NEIC **16** 08:55:20.4±0.3, 0.93S×23.89W, mb4.7/18, Error ellipse: s-maj=8.6km s-min=7.0km az=166.0*
ISC 16 08:55:18.9±0.3, 0.90S±0.07×23.82W±0.06, $h13^{km}$, ($h13^{km}\pm.6^{km}$:pP-P), n57, $\sigma 0^{s}.88$/48, mb4.4/28, MS3.5/5, 2C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	Riachuelo	13.01	248	eP	P	08 58 19.7	-6.6
	18nm,0.6s						
SACV	Santiago Islan	15.77	1	eP	P	08 59 02.9	+0.3
	190nm,0.6s						
LIC	Lamto	20.05	69	eP	P	08 59 54.0	-0.9
	93nm,1.2s						
TIC	Toumodi	20.21	68	eP	P	08 59 57.0	+0.5
	9.2nm,0.2s						
KIC	Kosan Boka	20.37	69	eP	P	08 59 57.3	-0.9
	106nm,1.0s						
DBIC	Dimbokro	20.37	68	P	P	08 59 57.8	-0.5
	11nm,0.7s,baz=230,slow=12,SNR=9.9						
BDFB	Brasilia	28.01	237	P	P	09 01 10.4	-1.6
	3.5nm,1.0s,mb4.0,baz=151,slow=13,SNR=2.7						
BDFB				LR	LR	09 10 04.0	
	comp=Z,147nm,18.4s,MS3.6,baz=123,slow=32						
SAML	Samuel	39.98	257	eP	P	09 02 54.8	-0.5
	11nm,1.2s,mb4.5						
SAML				e	pP	09 02 59.1	-0.1
CPUP	Villa Florida	40.97	229	P	P	09 03 00.9	-2.4
	1.4nm,0.9s,mb3.6,baz=63,slow=11,SNR=2.3						
CPUP				LR	LR	09 19 15.0	
	comp=Z,63nm,19.2s,MS3.5,baz=255,slow=35						
TSUM	Tsumeb	44.45	117	P	P	09 03 32.4	+0.4
	5.0nm,0.8s,mb4.3,baz=280,slow=6.4,SNR=6.8						
TSUM	Tsumeb	44.45	117	eP	P	09 03 32.3	+0.3
	6.0nm,0.8s,mb4.4						
LPAZ	La Paz	46.25	248	P	P	09 03 46.3	+0.1
	11nm,0.7s,mb4.9,baz=77,slow=5.7,SNR=44						
LPAZ				LR	LR	09 22 05.9	
	comp=Z,36nm,21.3s,MS3.3,baz=294,slow=35						
ROSC	El Rosal	50.77	277	P	P	09 04 20.2	-1.2
	3.5nm,0.4s,mb4.6,baz=132,slow=18,SNR=5.9						
LSZ	Lusaka	53.27	108	eP	P	09 04 39.7	-0.4
	6.1nm,0.8s,mb4.6						
LSZ				e	pP	09 04 44.4	+0.3
DAVOX	Davos	55.92	27	P	P	09 04 59.9	+0.9
	2.4nm,0.6s,mb4.4,baz=276,slow=3.5,SNR=4.7						
GERES	GERESS Array B	59.19	28	P	P	09 05 20.2	-1.9
	0.2nm,0.3s,mb3.6,baz=180,slow=6.7,SNR=5.5						
MOX	Moxa	59.56	25	eP	P	09 05 24.0	-0.6
MLR	Muntele Rosu	63.69	37	P	P	09 05 52.6	+0.1
	2.5nm,0.7s,mb4.4,baz=332,slow=19,SNR=3.2						
BRTR	Keskin Array B	66.12	45	P	P	09 06 08.2	-0.1
	1.2nm,0.7s,mb4.0,baz=217,slow=6.2,SNR=3.9						
NOA	NORSAR Array B	67.36	18	LR	LR	09 32 40.8	
	comp=Z,22nm,21.7s,MS3.3,baz=110,slow=33						
SWET	Sewanee	68.03	309	eP	P	09 06 20.0	-0.5
SWET				e	pP	09 06 23.5	-1.0
AKASG	Malin Array Be	68.27	33	P	P	09 06 21.4	-0.3
	11nm,0.9s,mb4.9,baz=240,slow=6.3,SNR=14						
VNA1	Neumayer--Stat	70.38	175	⇑i	P	09 06 38.2	+3.9
VNA2	Neumayer--Watz	70.73	174	⇑i	P	09 06 38.5	+2.0
SNAA	Sanae	71.93	173	⇓i	P	09 06 44.8	+1.1
FINES	FINESS Array B	72.79	23	P	P	09 06 49.0	+0.1
	0.5nm,0.5s,mb3.8,baz=284,slow=31,SNR=3.6						
SUMG	Summit	73.94	355	P	P	09 06 56.5	+1.1
	8.3nm,1.3s,mb4.5						
SUMG				e	pP	09 07 00.1	+0.6
WMOK	Wichita Mounta	78.18	306	eP	P	09 07 18.6	-1.4
	10nm,1.5s,mb4.5						
WMOK				e	pP	09 07 22.7	-1.5
JCT	Junction City	78.39	301	eP	P	09 07 20.5	-0.8
	7.7nm,1.0s,mb4.6						
ULM	Lac du Bonnet	79.29	322	P	P	09 07 24.5	-1.3
	1.7nm,0.9s,mb4.0,baz=37,slow=2.2,SNR=3.0						
ULM	Lac du Bonnet	79.29	322	eP	P	09 07 24.4	-1.3
	3.5nm,1.0s,mb4.2						
LTX	Lajitas	81.58	300	P	P	09 07 38.8	+0.4
	2.3nm,0.8s,mb4.2						
CLNB	Carlsbad	82.06	303	P	P	09 07 41.3	+0.4
GDL2	Guadalupe Moun	82.47	302	eP	P	09 07 43.2	+0.3
GDL2				e	pP	09 07 47.2	+0.1
RSSD	Black Hills	83.59	314	eP	P	09 07 48.8	+0.3
	1.9nm,0.8s,mb4.3						
SDCO	Great Sand Dun	83.96	308	eP	P	09 07 51.2	+0.7
	8.0nm,1.4s,mb4.7						
DGMT	Dagmar	84.28	319	eP	P	09 07 52.7	+0.8
	15nm,1.1s,mb5.0						
LAZ	Ladron	84.98	304	eP	P	09 07 57.0	+1.2
LAO	LASA Array	85.42	317	eP	P	09 07 58.2	+0.6
	15nm,1.0s,mb5.1						
PV10	Paradox Valley	86.79	308	eP	P	09 08 05.7	+1.1
BW06	Boulder Array	87.46	313	eP	P	09 08 07.7	0.0
	1.6nm,0.9s,mb4.2						
PDAR	Pinedale Array	87.46	313	P	P	09 08 07.5	-0.2
	1.2nm,0.9s,mb4.1,baz=94,slow=6.2,SNR=8.9						
MAW	Mawson	87.91	157	P	P	09 08 09.0	-0.2
	1.5nm,0.7s,mb4.3,baz=286,slow=14,SNR=6.2						
TPAW	Teton Pass	88.52	313	eP	P	09 08 13.4	+0.7
DAU	Daniels Canyon	88.61	310	eP	P	09 08 14.1	+0.8
HWUT	Hardware Ranch	88.89	311	P	P	09 08 15.4	+0.7
	6.6nm,1.2s,mb4.8						
QSPA	South Pole Qui	89.18	180	eP	P	09 08 15.6	+0.5
	8.5nm,0.9s,mb5.1						
YKA	Yellowknife Ar	91.15	332	P	P	09 08 24.4	-0.2
	2.3nm,0.7s,mb4.6,baz=95,slow=5.2,SNR=8.9						
YKA				LR	LR	09 45 09.6	
	comp=Z,32nm,18.9s,MS3.8,baz=85,slow=33						
YKA	Yellowknife Ar	91.15	332	P	P	09 08 24.4	-0.2
YKA				LR	LR	09 45 09.6	
SONM	Songino Array	116.52	35	PKP	PKPdf	09 14 03.6	-2.6
	0.6nm,0.8s,baz=243,slow=2.8,SNR=4.5						
FITZ	Fitzroy Crossi	144.52	124	ePKP	PKPdf	09 14 56.0	-3.6
	4.5nm,0.6s						
STKA	Stephens Creek	144.60	158	ePKP	PKPdf	09 14 55.4	-4.0
	8.4nm,0.8s						
STKA	Stephens Creek	144.60	158	PKP	PKPdf	09 14 55.8	-3.5
	9.9nm,0.8s,baz=190,slow=2.1,SNR=21						
ASPA	Alice Springs	147.37	140	i PKP	PKPdf	09 15 04.1	-0.2
ASAR	Alice Springs	147.37	140	PKPbc	PKPdf	09 15 04.2	-0.1
	11nm,0.5s,baz=212,slow=2.2,SNR=278						
WRA	Warramunga Arr	150.21	135	PKPbc	PKPdf	09 15 11.1	+2.2
	2.1nm,0.6s,baz=237,slow=2.6,SNR=24						
WB2	Warramunga Arr	150.22	135	ePKP	PKPdf	09 15 11.0	+2.1

*WAR **16** 09:23:36.9, 50.06N×18.45E, ML2.5, Mining Induced*
*PRU **16** 09:23:37.7, 50.08N×18.41E*
*NEIC **16** 09:23:37.1±0.9, 50.07N×18.44E, $h5^{km}$, ML2.6(VIE), Error ellipse: s-maj=13.0km s-min=7.4km az=182.0*
ISC 16 09:23:36.0±0.6, 50.11N±0.04×18.41E±0.04, n16, $\sigma 1^{s}.14$/30, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.14	259	ePG	Pg	09 23 41.0	+2.2
RAC				eSG	Sg	09 23 44.0	+3.4
RAC	Raciborz	0.14	259	ePg	Pg	09 23 41.5	+2.7
RAC				eSg	Sg	09 23 44.8	+4.2
OKC	Ostrava-Krasne	0.32	212	ePG	Pg	09 23 43.5	+1.1
OKC				eSG	Sg	09 23 48.2	+1.6
OJC	Ojcow	0.90	82	ePG	Pg	09 23 54.0	0.0
OJC				eSG	Sg	09 24 06.0	0.0
OJC	Ojcow	0.90	82	ePg	Pg	09 23 54.3	+0.3
OJC				i Sg	Sg	09 24 06.4	+0.4
LIKS	Likavka	1.15	157	eSN	Sn	09 24 15.9	-0.1
DPC	Dobruska-Polom	1.36	281	ePG	Pg	09 24 03.4	+0.2
DPC				eSG	Sg	09 24 21.6	+0.3
	41nm,0.3s						
NIE	Niedzica	1.42	118	ePG	Pg	09 24 03.0	-1.2
NIE				eSG	Sg	09 24 23.0	-0.1
KOLL	Kolacno	1.53	180	ePN	Pn	09 24 05.8	+1.1
KOLL				eSN	Sn	09 24 26.4	+0.8
KSP	Ksiaz	1.54	299	ePN	Pn	09 24 06.0	+1.2
KSP				eSG	Sg	09 24 27.0	-0.2
VYHS	Vyhne	1.64	170	ePN	Pn	09 24 05.6	-0.6
VYHS				eSN	Sn	09 24 27.1	-1.2
PRU	Pruhonice	2.50	269	ePG	Pg	09 24 24.2	-1.6
PRU				SG	Sg	09 24 54.8	-4.3
	7.8nm,0.5s						
PRU	Pruhonice	2.50	269	ePg	Pg	09 24 24.2	-1.6
PRU				eSg	Sg	09 24 53.8	-5.3
PVCC	Panska Ves	2.50	281	eSG	Sg	09 24 58.0	-1.1
KHC	Kasperske Hory	3.29	255	e	Pn	09 24 38.5	+8.7
KHC				eSG	Sg	09 25 19.0	-6.5
MOA	Molln	3.54	232	⇑iPN	Pn	09 24 32.5	-0.9
MOA				i SG	Sg	09 25 31.5	-2.4
	3.2nm,0.4s						

IDC 16 09:26:54.2±1.9, 2.14N×126.77E, mb3.4/4, mb1 3.7/4, mb1mx3.5/15, Error ellipse: s-maj=115.0km s-min=23.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.14	183	P	P	09 31 29.6	-3.3
	1.8nm,0.8s,baz=10,slow=11,SNR=2.9						
WRA	Warramunga Arr	23.17	162	P	P	09 32 02.9	-0.6
	0.8nm,0.6s,baz=341,slow=11,SNR=15						
ASAR	Alice Springs	26.57	165	P	P	09 32 34.2	-1.8
	0.4nm,0.4s,baz=347,slow=8.0,SNR=5.6						
MKAR	Makanchi Array	58.88	326	P	P	09 36 54.8	-2.4
	0.2nm,0.4s,baz=117,slow=6.4,SNR=2.9						

*NAO **16** 09:46:07.1±5.1, 59.34N×27.00E, ML2.1*
*BER **16** 09:46:07.5±2.4, 59.35N×27.23E, ML2.1(NAO), Suspected explosion*
HEL 16 09:46:07.0±0.2, 59.34N×27.20E, ML1.5, ML2.1(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	Pernaja	1.38	331	eP	Pb	09 46 31.7	-1.7
PVF				eS	Sb	09 46 49.6	-2.0
NUR	Nurmij rvi	1.74	313	eP	Pn	09 46 37.9	-0.8
NUR				eS	Sn	09 47 00.1	-1.8
FIA0	FINESS Array S	2.18	346	eP	Pn	09 46 44.3	-0.7
FIA0				eS	Sn	09 47 13.0	-0.1
FIA0	FINESS Array S	2.18	346	Pn	Pn	09 46 44.1	-0.9
	baz=165,slow=18						
FIA0				Lg		09 47 14.8	
	baz=178,slow=22						
FIA0				Rg		09 47 27.8	
	baz=162,slow=37						
SUF	Sumiainen	3.43	352	eS	Sn	09 47 41.9	-2.9
SUF				eSG	Sg	09 47 52.3	-8.8
SUF				MSG		09 47 55.1	
	comp=Z,0.8nm,0.2s						
HFS	Hagfors	6.88	282	Lg		09 49 40.1	
	baz=93,slow=37						
HFS	Hagfors	6.88	282	eSG		09 49 40.1	
HFS	Hagfors	6.88	282	Lg		09 49 40.1	
	baz=93,slow=37						
ARA0	ARCESS Array S	10.26	357	Pn	P	09 48 32.9	-5.5
	baz=178,slow=12						
ARA0	ARCESS Array S	10.26	357	eP	P	09 48 32.9	-5.5

*PRU **16** 09:47:59.0, 51.48N×16.08E*
*WAR **16** 09:47:59.1, 51.51N×16.08E, ML2.8, Mining Induced*
*NEIC **16** 09:48:00.4±1.4, 51.36N×16.08E, $h5^{km}$, ML2.9(VIE), ML2.4(BRG), ML2.4(CLL), Error ellipse: s-maj=16.4km s-min=6.7km az=204.0*
ISC 16 09:47:56.9±0.8, 51.46N±0.04×16.09E±0.04, n17, $\sigma 1^{s}.26$/37, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	168	i PG	Pg	09 48 11.6	+2.1
KSP				eSG	Sg	09 48 20.6	+2.6
KSP	Ksiaz	0.63	168	i Pg	Pg	09 48 11.6	+2.1
KSP				eSg	Sg	09 48 20.5	+2.5
DPC	Dobruska-Polom	1.12	172	ePG	Pg	09 48 20.5	+1.2
DPC				eSG	Sg	09 48 35.3	+1.0
	20nm,0.3s						
PVCC	Panska Ves	1.34	226	ePG	Pg	09 48 24.9	+1.3
PVCC				eSG	Sg	09 48 43.4	+2.0
BRG	Berggiesshubel	1.47	247	i Pg	Pg	09 48 26.7	+0.4
BRG				i Sg	Sg	09 48 47.0	+1.1
PRU	Pruhonice	1.77	214	ePN	Pn	09 48 29.4	+0.4
PRU				PG	Pg	09 48 31.9	-0.3
PRU				i		09 48 33.9	
PRU				i		09 48 48.9	
PRU				SG	Sg	09 48 55.8	-0.1
	11nm,0.3s						
PRU	Pruhonice	1.77	214	ePg	Pg	09 48 31.9	-0.3
PRU				eSg	Sg	09 48 55.8	-0.1
MORC	Moravsky Berou	1.93	151	ePn	Pn	09 48 32.2	+1.0
MORC				eSg	Sg	09 48 58.8	-2.2
CLL	Collm	1.94	267	i PG	Pg	09 48 34.7	-0.9
CLL				e		09 48 39.0	
CLL				eSG	Sg	09 49 01.0	-0.4
CLL	Collm	1.94	267	i Pg	Pg	09 48 34.7	-0.9
CLL				eSg	Sg	09 49 01.0	-0.4
OKC	Ostrava-Krasne	2.09	140	ePG	Pg	09 48 38.6	0.0
OKC				eSG	Sg	09 49 04.8	-1.7
NKC	Novy Kostel	2.61	243	ePN	Pn	09 48 42.4	+1.3
NKC				ePG	Pg	09 48 49.4	+0.4
NKC				e		09 49 05.9	
NKC				eSG	Sg	09 49 21.8	-2.1
OJC	Ojcow	2.66	116	ePG	Pg	09 48 50.0	0.0
OJC				i SG	Sg	09 49 24.5	-1.0
OJC	Ojcow	2.66	116	ePg	Pg	09 48 49.6	-0.4
OJC				i Sg	Sg	09 49 24.5	-1.0
KHC	Kasperske Hory	2.83	216	ePN	Pn	09 48 44.5	+0.3
KHC				ePG	Pg	09 48 51.0	-2.4
KHC				e		09 49 16.5	
KHC				eSG	Sg	09 49 29.5	-1.7
MOX	Moxa	2.94	256	ePg	Pg	09 48 54.1	-1.4
MOX				eSg	Sg	09 49 33.8	-0.8
MOA	Molln	3.81	199	⇑iPN	Pn	09 48 59.1	+1.1
MOA				i SG	Sg	09 50 02.5	-1.0
	2.7nm,0.3s						

*NAO **16** 09:58:48.4±3.9, 60.88N×29.03E, ML2.0*
*HEL **16** 09:58:50.3±0.3, 60.87N×29.01E, ML1.4, Explosion*
*BER **16** 09:58:51.4±1.4, 60.88N×28.86E, ML2.0(NAO), Suspected explosion*
ISC 16 09:58:50.3±1.8, 60.94N±0.07×28.9E±0.2, n6, $\sigma 0^{s}.78$/12, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIA0	FINESS Array S	1.44	292	eP	Pn	09 59 17.0	-0.8
FIA0				eS	Sb	09 59 37.6	+1.0
FIA0	FINESS Array S	1.44	292	Pn	Pn	09 59 16.9	-0.9
	baz=113,slow=18						
FIA0				Lg		09 59 37.5	
	baz=107,slow=28						
FIA0				Rg		09 59 45.0	
	baz=115,slow=37						
PVF	Pernaja	1.53	256	eP	Pn	09 59 18.6	-0.4
PVF				eS	Sb	09 59 38.9	-0.2
KAF	Kangasniemi	1.70	315	eP	Pn	09 59 21.7	+0.3
KAF				eS	Sb	09 59 42.5	-1.5
SUF	Sumiainen	2.20	325	eP	Pn	09 59 29.5	+1.0
SUF				eS	Sn	09 59 58.1	+1.2
KJN	Kajaani	3.20	351	eP	Pn	09 59 43.0	+0.2
KJN				eS	Sn	10 00 22.0	-0.3
KJN				eSB	Sb	10 00 27.2	-0.4
KJN				MSG		10 00 28.0	
	comp=Z,0.8nm,0.2s						

*NIED **16** 10:21:00, 44.30N×149.40E, $h23^{km}$, Mw3.9 Best double couple: $M_0 8.13\times10^{14}$ NP1:ϕ_s48°, δ65°, λ121°. NP2:ϕ_s174°, δ39°, λ43°.*
*IDC **16** 10:21:07.7±4.1, 45.68N×148.54E, mb3.9/5, mb1 4.0/6, mb1mx3.8/20, ML3.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/29, Error ellipse: s-maj=104.0km s-min=25.5km az=154.0*
*MOS **16** 10:21:13.3±0.7, 45.61N×148.26E, $h60^{km}$, mb4.5/3, Error ellipse: s-maj=38.8km s-min=27.4km az=64.4*
ISC 16 10:21:08.1±4.1, 44.7N±0.4×149.1E±0.3, $h64^{km}\pm20^{km}$, n14, $\sigma 0^{s}.87$/13, mb3.9/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.06	304	⇑iPN	P	10 21 27.2	-0.1
KUR				pmax	pmax		
	comp=N,220nm,0.8s						
KUR				pmax	pmax		
	comp=E,130nm,0.8s						
KUR				pmax	pmax		
	comp=Z,400nm,0.8s						
ASAJ	Asahikawa	4.70	266	Pn	P	10 22 17.2	-1.0
	comp=Z,0.8nm,0.3s,baz=92,slow=15,SNR=5.6						
ASAJ				Sn	S	10 23 13.2	+1.2
	comp=Z,0.4nm,0.3s,baz=73,slow=19,SNR=1.9						
ASAJ				LR	LR	10 24 21.1	
	comp=Z,197nm,19.7s,baz=314,slow=43						
ASAJ	Asahikawa	4.70	266	PN	P	10 22 17.2	-1.0
ASAJ						10 23 13.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,197nm,19.7s						

ILAR	**Eielson Array**	**39.92**	**37**	P	**P**	**10 28 38.6**	**+1.6**
	comp=Z,0.4nm,0.9s,mb3.2,baz=264,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**10 29 21.4**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=74,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**10 29 21.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**50.02**	**309**	LR	LR	10 53 13.9	
	comp=Z,2.5nm,19.7s,baz=210,slow=39						
FINES	**FINESS Array B**	**64.70**	**334**	P	**P**	**10 31 40.1**	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.3,baz=56,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**64.70**	**334**	P	**P**	**10 31 40.1**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**66.02**	**204**	LR	LR	11 02 53.8	
	comp=Z,42nm,18.1s,baz=21,slow=38						
NB2	**NORSAR Subarra**	**69.26**	**340**	P	**P**	**10 32 09.7**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**69.26**	**340**	P	**P**	**10 32 09.7**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=32,slow=6.1,SNR=9.0						
NOA	**NORSAR Array B**	**69.26**	**340**	P	**P**	**10 32 09.7**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**79.05**	**332**	P	**P**	**10 33 06.2**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=34,slow=4.8,SNR=4.0						

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*NIED **16** 10:32:00,30.10N×142.50E,h5^{km},Mw4.4 Best double couple: $M_0$4.27×10^{15} NP1:ϕ_s346°,δ90°,λ-33°. NP2:ϕ_s76°,δ57°,λ-180°.*

*IDC **16** 10:32:26.8±0.5,30.04N×142.29E,mb4.3/16,mb1 4.4/19,mb1mx4.3/24,ML4.0/3,MS3.5/10,Ms1 3.6/10,ms1mx3.3/31,Error ellipse: s-maj=18.6km s-min=14.0km az=89.0*

*BJI **16** 10:32:27.6,30.01N×142.29E,h21^{km},mB4.7,mb4.6,Ms4.1,Msz3.9*

*JMA **16** 10:32:28.1±0.2,30.10N×142.47E,h34^{km},M4.6*

*NEIC **16** 10:32:29.4±3.8,30.04N×142.23E,h17^{km}±23^{km},mb4.4/21,Error ellipse: s-maj=8.3km s-min=5.1km az=96.0*

*MOS **16** 10:32:31.9±1.1,30.51N×142.13E,h33^{km},mb4.5/10,Error ellipse: s-maj=26.5km s-min=12.7km az=99.7*

ISC 16 10:32:29.8±0.2**,30.05N**±0.02×**142.14E**±0.06**,h33^{km},n88,σ1^{s}.03**/99**,mb4.3**/37**,MS3.7**/8**,1C-2D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.95**	**179**	Pn	**Pn**	**10 33 14.8**	**-0.7**
	55nm,0.3s,baz=312,slow=21,SNR=35						
CBIJ				Sn	**Sn**	**10 33 47.6**	**-2.5**
	272nm,0.3s,baz=74,slow=22,SNR=17						
CBIJ				LR	LR	10 34 14.2	
	comp=Z,468nm,18.7s,baz=327,slow=37						
CBIJ	**Chichi jima**	**2.95**	**179**	P	**P**	**10 33 14.9**	**-0.4**
CBIJ				S	**S**	**10 33 49.1**	**-0.8**
JHHJ	**Haha-jima-NKT**	**3.41**	**179**	P	**P**	**10 33 22.9**	**+1.0**
JHHJ				S	**S**	**10 34 01.9**	**+0.2**
JHJ2	**Mitsune**	**3.63**	**328**	P	**P**	**10 33 25.4**	**+0.3**
JHJ2				S	**S**	**10 34 10.1**	**+2.7**
JHJ	**Hachijo jima 2**	**3.66**	**327**	Pn	**Pn**	**10 33 24.9**	**-0.7**
	8.0nm,0.3s,baz=175,slow=20,SNR=17						
JHJ				Sn	**Sn**	**10 34 08.2**	**+0.2**
	39nm,0.3s,baz=61,slow=19,SNR=6.0						
JHJ				LR	LR	10 34 49.2	
	comp=Z,815nm,20.4s,baz=310,slow=38						
BSO1	**Boso 1**	**4.69**	**348**	P	**P**	**10 33 38.4**	**-1.7**
BSO1				S	**S**	**10 34 33.0**	**-1.0**
BSO3	**Boso 3**	**4.93**	**344**	P	**P**	**10 33 43.2**	**-0.2**
BSO4	**Boso 4**	**5.15**	**343**	P	**P**	**10 33 46.8**	**+0.3**
BSO4				S	**S**	**10 34 45.8**	**+0.2**
JOD2	**Odawara 2**	**5.79**	**334**	P	**P**	**10 33 56.4**	**+0.8**
JOD2				S	**S**	**10 35 02.3**	**+0.5**
JHU	**Hanno**	**6.26**	**338**	P	**P**	**10 34 01.5**	**-0.6**
JHU				S	**S**	**10 35 11.9**	**-1.5**
JYT	**Yasato**	**6.37**	**346**	P	**P**	**10 34 02.7**	**-1.0**
JRY	**Ryogami san**	**6.54**	**336**	P	**P**	**10 34 05.3**	**-0.7**
JRY				S	**S**	**10 35 20.4**	**+0.1**
MAJO	**Matsushiro**	**7.26**	**334**	*e*Pn	**Pn**	**10 34 15.7**	**-0.7**
	67nm,0.6s						
MAT	**Matsushiro**	**7.26**	**334**	⇓P	**P**	**10 34 15.5**	**-0.6**
MAT				S	**S**	**10 35 36.7**	**-1.6**
MAT	**Matsushiro**	**7.26**	**334**	⇓*i*P	**P**	**10 34 15.6**	**-0.5**
	43nm,0.7s						
MAT				*e*S	**S**	**10 35 37.0**	**-1.3**
JNU	**Nakatsue**	**10.08**	**291**	LR	LR	10 38 30.4	
	comp=Z,379nm,21.2s,baz=301,slow=36						
JOW	**Kunigami**	**12.61**	**259**	LR	LR	10 39 50.8	
	comp=Z,224nm,19.2s,baz=30,slow=35						
ASAJ	**Asahikawa**	**14.04**	**1**	Pn	**P**	**10 35 42.9**	**-5.5**
	0.8nm,0.3s,baz=243,slow=19,SNR=4.7						
ASAJ				Sn	**S**	**10 38 14.5**	**-9.5**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.4						
ASAJ				LR	LR	10 41 38.6	
	comp=Z,194nm,18.5s,baz=171,slow=39						
ASAJ	**Asahikawa**	**14.04**	**1**	P	**P**	**10 35 42.9**	**-5.5**
ASAJ						10 38 14.5	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,194nm,18.5s						
YSS	**Yuzh-Sakhalins**	**16.88**	**1**	*e*P	**P**	**10 36 22.0**	**-2.9**
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
MDJ	**Mudanjiang**	**17.60**	**329**	P	**P**	**10 36 34.9**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,24nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,66nm,5.3s						
MDJ				LR	LR		
	comp=N,251nm,16.0s						
MDJ				LR	LR		
	comp=E,261nm,16.0s						
MDJ				LR	LR		
	comp=Z,207nm,13.8s						
CN2	**Changchun**	**19.09**	**321**	*e*P	**P**	**10 36 51.3**	**-0.9**
CN2				*e*AP		10 36 59.3	
CN2				*e*S	**S**	**10 40 19.3**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s						
CN2				LR	LR		
	comp=E,400nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
KLR	**Kul'dur**	**20.72**	**340**	*e*P	**P**	**10 37 09.5**	**-0.2**
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
BJI	**Beijing**	**23.40**	**302**	*e*P	**P**	**10 37 37.3**	**+0.9**
BJI				S	**S**	**10 41 46.3**	**+2.7**
BJI				AMB	AMB		
	comp=Z,32nm,1.8s,mb4.5						
BJI				LR	LR		
	comp=N,171nm,17.4s,MS3.7						
BJI				LR	LR		
	comp=E,203nm,21.2s,MS3.7						
BJI				LR	LR		
	comp=Z,210nm,21.2s,MS3.6						
BJI	**Beijing**	**23.40**	**302**	*e*P	**P**	**10 37 37.3**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.0						
BJI				S	**S**	**10 41 46.2**	**+2.6**
BJI				LR	LR		
	comp=Z,210nm,21.2s,MS3.6						
XAN	**Xi'an**	**28.36**	**287**	P	**P**	**10 38 23.3**	**+0.4**
XAN				AP	pP	10 38 29.3	-3.2
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA	**Guiyang**	**31.37**	**272**	P	**P**	**10 38 56.0**	**+6.2**
GYA				S	**S**	**10 44 03.0**	**+9.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GYA				LR	LR		
	comp=N,120nm,15.0s,MS3.9						
GYA				LR	LR		
	comp=E,130nm,14.2s,MS3.9						
GYA				LR	LR		
	comp=Z,240nm,15.8s,MS4.0						
SONM	**Songino Array**	**32.61**	**313**	P	**P**	**10 39 01.7**	**+1.3**
	comp=Z,3.1nm,0.9s,mb4.2,baz=124,slow=8.9,SNR=7.7						
BOD	**Bodaibo**	**33.89**	**333**	*e*P	**P**	**10 39 08.6**	**-2.7**
ZAK	**Zakamensk**	**35.41**	**316**	*e*P	**P**	**10 39 23.8**	**-0.6**
GTA	**Gaotai**	**35.74**	**297**	*e*P	**P**	**10 39 27.6**	**+0.3**
GTA				AP	pP	10 39 35.3	-1.8
GTA				XP	sP	10 39 39.4	-1.9
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.2						
PMG	**Port Moresby**	**39.53**	**172**	P	**P**	**10 39 58.7**	**-0.6**
	comp=Z,9.0nm,0.9s,mb4.5						
CMAR	**Chiang Mai Arr**	**40.82**	**264**	P	**P**	**10 40 11.4**	**+1.5**
	comp=Z,1.4nm,0.5s,mb3.8,baz=60,slow=6.4,SNR=7.8						
CMAR				LR	LR	10 57 46.2	
	comp=Z,43nm,18.0s,MS3.4,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**40.82**	**264**	P	**P**	**10 40 11.5**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,43nm,18.0s						
KAKA	**Kakadu**	**43.53**	**194**	*e*P	**P**	**10 40 32.3**	**0.0**
	comp=Z,4.9nm,0.5s,mb4.5						
WMQ	**Urumqi**	**44.87**	**303**	⇑P	**P**	**10 40 45.8**	**+3.2**
WMQ				PCP	PcP	10 42 27.8	+3.4
WMQ				PP	PP	10 42 31.1	+2.7
WMQ				*e*S	**S**	**10 47 19.8**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,25nm,7.0s						
WMQ				LR	LR		
	comp=N,134nm,21.3s,MS3.9						
WMQ				LR	LR		
	comp=E,58nm,21.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,79nm,21.2s,MS3.6						
MKAR	**Makanchi Array**	**48.60**	**308**	P	**P**	**10 41 13.2**	**+1.2**
	comp=Z,2.9nm,0.6s,mb4.5,baz=89,slow=9.5,SNR=35						
MKAR				LR	LR	11 01 23.1	
	comp=Z,62nm,18.9s,MS3.6,baz=275,slow=36						
MKAR	**Makanchi Array**	**48.60**	**308**	P	**P**	**10 41 13.2**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,62nm,18.9s						
CTA	**Charters Tower**	**50.01**	**175**	*e*P	**P**	**10 41 23.0**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**50.01**	**175**	*e*P	**P**	**10 41 22.8**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**50.26**	**190**	*e*P	**P**	**10 41 24.1**	**-1.0**
	comp=Z,12nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**50.27**	**190**	*e*P	**P**	**10 41 24.3**	**-0.9**
WRA	**Warramunga Arr**	**50.27**	**190**	P	**P**	**10 41 24.5**	**-0.7**
	comp=Z,7.3nm,0.6s,mb4.9,baz=8.9,slow=8.0,SNR=96						
WRA	**Warramunga Arr**	**50.27**	**190**	P	**P**	**10 41 24.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	**Kurchatov**	**50.92**	**313**	*e*P	**P**	**10 41 29.7**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**53.99**	**189**	P	**P**	**10 41 52.0**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=8.7,slow=6.6,SNR=44						
ASAR				LR	LR	11 01 48.3	
	comp=Z,96nm,21.0s,MS3.8,baz=88,slow=33						
ASPA	**Alice Springs**	**53.99**	**189**	*e*P	**P**	**10 41 53.2**	**+0.2**
MCK	**McKinley**	**54.20**	**31**	*e*P	**P**	**10 41 52.9**	**-1.1**
	comp=Z,1.8nm,0.9s,mb4.0						
COLA	**College**	**54.75**	**29**	*e*P	**P**	**10 41 57.4**	**-0.6**
	comp=Z,3.0nm,0.5s,mb4.6						
ILAR	**Eielson Array**	**55.16**	**30**	P	**P**	**10 41 59.5**	**-1.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=261,slow=6.1,SNR=47						
ILAR	**Eielson Array**	**55.16**	**30**	P	**P**	**10 41 59.5**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**55.87**	**316**	P	**P**	**10 42 06.8**	**+0.6**
	comp=Z,2.2nm,0.4s,mb4.5,baz=101,slow=7.6,SNR=16						
BRVK	**Borovoye**	**55.93**	**316**	*e*P	**P**	**10 42 04.9**	**-1.7**
	comp=Z,3.8nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**56.70**	**316**	*e*P	**P**	**10 42 11.1**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.4						
DAWY	**Dawson**	**58.42**	**30**	*e*P	**P**	**10 42 23.6**	**-0.5**
STKA	**Stephens Creek**	**61.59**	**181**	*e*P	**P**	**10 42 47.0**	**+0.6**
	comp=Z,4.6nm,1.6s,mb4.4						
STKA	**Stephens Creek**	**61.59**	**181**	P	**P**	**10 42 46.6**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.5,baz=1.5,slow=7.7,SNR=10						
DLBC	**Dease Lake**	**63.83**	**36**	P	**P**	**10 43 01.1**	**+0.3**
	comp=Z,1.8nm,1.0s,mb4.1,baz=249,slow=1.7,SNR=5.1						
YKA	**Yellowknife Ar**	**69.57**	**29**	P	**P**	**10 43 36.6**	**-0.4**
	comp=Z,9.2nm,1.0s,mb4.7,baz=294,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**69.57**	**29**	P	**P**	**10 43 36.6**	**-0.4**
YKA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARCES	**ARCESS Array B**	**70.75**	**341**	LR	LR	11 20 18.7	
	comp=Z,44nm,19.9s,MS3.7,baz=272,slow=41						
YBH	**Yreka Blue Hor**	**74.21**	**51**	P	**P**	**10 44 05.8**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=282,slow=3.6,SNR=12						
YBH	**Yreka Blue Hor**	**74.21**	**51**	P	**P**	**10 44 05.8**	**+0.9**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	**Newport**	**74.77**	**43**	*e*P	**P**	**10 44 07.8**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**75.29**	**333**	P	**P**	**10 44 11.5**	**+0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=4.9						
FINES	**FINESS Array B**	**75.29**	**333**	P	**P**	**10 44 11.5**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WVOR	**Wild Horse Val**	**76.58**	**49**	*e*P	**P**	**10 44 18.9**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**79.33**	**43**	*e*P	**P**	**10 44 34.0**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.0						
AKASG	**Malin Array Be**	**80.22**	**324**	P	**P**	**10 44 39.1**	**+0.8**
	comp=Z,0.5nm,0.3s,mb3.9,baz=47,slow=5.5,SNR=5.8						
AKASG	**Malin Array Be**	**80.22**	**324**	P	**P**	**10 44 39.1**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**80.86**	**338**	P	**P**	**10 44 42.5**	**+1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=41,slow=5.0						
NOA	**NORSAR Array B**	**80.86**	**338**	P	**P**	**10 44 42.8**	**+1.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=40,slow=5.0,SNR=8.6						
NOA	**NORSAR Array B**	**80.86**	**338**	P	**P**	**10 44 42.8**	**+1.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DUG	**Dugway**	**81.50**	**48**	P	**P**	**10 44 46.2**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.1						
HWUT	**Hardware Ranch**	**81.54**	**47**	*e*P	**P**	**10 44 46.0**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**82.15**	**45**	P	**P**	**10 44 48.9**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=315,slow=4.2,SNR=4.2						
BRTR	**Keskin Array B**	**83.97**	**313**	P	**P**	**10 44 59.7**	**+1.8**
	comp=Z,1.6nm,0.5s,mb4.4,baz=125,slow=4.1,SNR=6.1						
BRTR				LR	LR	11 22 13.6	
	comp=Z,22nm,20.6s,MS3.5,baz=10.0,slow=36						
BRTR	**Keskin Array B**	**83.97**	**313**	P	**P**	**10 44 59.7**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR				MLR	MLR		
	comp=Z,22nm,20.6s						
PV10	**Paradox Valley**	**84.94**	**48**	*e*P	**P**	**10 45 03.9**	**+1.0**
PV01	**Paradox Valley**	**85.38**	**48**	*e*P	**P**	**10 45 05.8**	**+0.8**
RW3	**Ridgway**	**85.89**	**48**	*e*P	**P**	**10 45 09.1**	**+1.7**
ISCO	**Idaho Springs**	**86.29**	**46**	*e*P	**P**	**10 45 10.9**	**+1.5**
	comp=Z,1.0nm,0.4s,mb4.4						
WMOK	**Wichita Mounta**	**93.69**	**46**	*e*P	**P**	**10 45 44.9**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.5						
LTX	**Lajitas**	**93.87**	**53**	*e*P	**P**	**10 45 46.5**	**+1.3**
	comp=Z,3.9nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**119.81**	**180**	*e*PKPdf	PKPdf	10 51 17.6	+1.7
SAML	**Samuel**	**148.35**	**54**	*e*PKPbc	PKPdf	10 52 15.4	+5.5
LPAZ	**La Paz**	**149.10**	**70**	PKPbc	PKPdf	10 52 19.6	+8.6
	comp=Z,1.8nm,0.8s,baz=16,slow=9.7,SNR=8.5						
PLCA	**Paso Flores**	**151.45**	**121**	PKPbc	PKPdf	10 52 21.2	+7.3
	comp=Z,0.4nm,0.5s,baz=333,slow=6.8,SNR=1.5						

IDC 16 11:08:11.1±4.1**,18.54S**×**176.99W,mb3.8**/4**,mb1 4.0**/4**,mb1mx3.8**/13**,Error ellipse: s-maj=177.0km s-min=32.1km az=139.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.52**	**242**	P	P	11 15 44.4	-1.1
	1.6nm,0.5s,baz=75,slow=10,SNR=9.4						
WRA	**Warramunga Arr**	**45.85**	**260**	P	P	11 16 34.9	-2.2
	0.5nm,0.7s,baz=97,slow=7.7,SNR=8.1						
ASAR	**Alice Springs**	**45.92**	**255**	P	P	11 16 35.6	-2.1
	0.9nm,0.5s,baz=93,slow=8.1,SNR=23						
ILAR	**Eielson Array**	**86.20**	**12**	P	P	11 20 54.0	-1.3
	0.2nm,0.4s,baz=218,slow=5.1,SNR=10.0						

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*BJI **16** 11:42:30.2,6.87S×131.45E,h92^{km},mb4.6*

*IDC **16** 11:42:40.5±4.0,6.02S×130.68E,h90^{km}±38^{km},mb3.7/5,mb1 4.0/9,mb1mx3.9/13,Error ellipse: s-maj=36.8km s-min=17.1km az=58.0*

*NEIC **16** 11:42:40.5±1.8,6.04S×130.60E,h93^{km}±17^{km},mb4.3/5,Error ellipse: s-maj=14.1km s-min=10.1km az=50.0*

*MOS **16** 11:42:41.6±0.8,6.00S×130.73E,h125^{km},mb3.9/9,Error ellipse: s-maj=29.9km s-min=12.4km az=124.7*

ISC 16 11:42:41.9±2.2**,6.12S**±0.08×**130.7E**±0.1**,h130^{km}**±22^{km}**,n41,σ0^{s}.81**/44**,mb4.3**/16**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.88**	**202**	P	**P**	**11 45 40.8**	**-0.4**
	3.2nm,0.3s,baz=18,slow=8.9,SNR=66						
FITZ				S	**S**	**11 47 54.3**	**-7.6**
	4.5nm,0.3s,baz=185,slow=24,SNR=11						
WRAB	**Tennant Creek**	**14.19**	**166**	*e*P	**P**	**11 45 57.6**	**-0.5**
	5.1nm,0.6s						
WRAB				*e*S	**S**	**11 48 26.1**	**-6.4**
WRA	**Warramunga Arr**	**14.20**	**166**	P	**P**	**11 45 58.2**	**0.0**
	1.2nm,0.3s,baz=343,slow=13,SNR=32						
WRA				S	**S**	**11 48 26.8**	**-5.9**
	4.5nm,0.3s,baz=334,slow=24,SNR=11						
WRA	**Warramunga Arr**	**14.20**	**166**	P	**P**	**11 45 58.2**	**0.0**
WRA				S	**S**	**11 48 26.8**	**-5.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA				smax			
	comp=N,5.0nm,0.3s						
PMG	**Port Moresby**	**16.66**	**102**	P	**P**	**11 46 29.4**	**+0.2**
	comp=N,1.8nm,0.3s,baz=288,slow=9.3,SNR=5.9						
PMG				S	**S**	**11 49 21.9**	**-7.0**
	comp=N,0.6nm,0.3s,baz=210,slow=20,SNR=3.7						
PMG	**Port Moresby**	**16.66**	**102**	P	**P**	**11 46 29.4**	**+0.2**
PMG				S	**S**	**11 49 21.9**	**-7.1**
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG				smax			
	comp=N,1.0nm,0.3s						
ASAR	**Alice Springs**	**17.72**	**170**	P	**P**	**11 46 42.9**	**+0.9**
	comp=N,0.7nm,0.3s,baz=349,slow=8.9,SNR=28						
ASAR				S	**S**	**11 49 51.1**	**-1.5**
	comp=N,1.0nm,0.3s,baz=354,slow=25,SNR=7.5						
CTA	**Charters Tower**	**20.55**	**134**	P	**P**	**11 47 12.5**	**+0.5**
	comp=N,2.0nm,0.7s,baz=317,slow=13,SNR=3.0						
CTA	**Charters Tower**	**20.55**	**134**	P	**P**	**11 47 12.5**	**+0.5**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CTA	**Charters Tower**	**20.55**	**134**	P	**P**	**11 47 12.5**	**+0.5**
CTAO	**Charters Tower**	**20.55**	**134**	P	**P**	**11 47 14.1**	**+2.0**
	comp=Z,2.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.69**	**309**	P	**P**	**11 50 04.2**	**+1.1**
	comp=Z,2.0nm,0.6s,mb3.9,baz=142,slow=7.1,SNR=8.6						
CMAR	**Chiang Mai Arr**	**39.69**	**309**	P	**P**	**11 50 04.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA	**Gaotai**	**53.53**	**330**	*e*P	**P**	**11 51 51.8**	**+0.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
PKI	**Pulchoki**	**55.07**	**310**	*e*P	**P**	**11 52 02.5**	**-0.3**
	comp=Z,4.6nm,0.3s,mb4.8						
KKN	**Kakani**	**55.27**	**310**	*e*P	**P**	**11 52 04.2**	**-0.2**
	comp=Z,11nm,0.5s,mb4.8						
DMN	**Daman**	**55.32**	**310**	*e*P	**P**	**11 52 04.7**	**0.0**
	comp=Z,11nm,0.6s,mb4.8						
GKN	**Gorkha**	**55.87**	**310**	*e*P	**P**	**11 52 08.5**	**-0.2**
	comp=Z,24nm,0.5s,mb5.3						
KOLN	**Koldanda**	**56.56**	**309**	*e*P	**P**	**11 52 13.6**	**+0.1**
	comp=Z,14nm,0.7s,mb4.9						
SONM	**Songino Array**	**57.83**	**341**	P	**P**	**11 52 21.6**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=161,slow=6.1,SNR=15						
ZAK	**Zakamensk**	**61.06**	**340**	*e*P	**P**	**11 52 43.5**	**-0.8**
ZAK				*e*		11 53 25.5	
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**11 53 28.7**	**+0.4**
	comp=Z,14nm,0.4s,mb5.0,baz=114,slow=8.1,SNR=173						
MKAR	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**11 53 28.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**72.12**	**328**	P	**P**	**11 53 53.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**72.12**	**328**	*e*P	**P**	**11 53 53.8**	**-0.2**
	comp=Z,3.3nm,0.8s,mb4.1						
KKAR	**Karatay Array**	**73.12**	**318**	*i* P	**P**	**11 54 00.5**	**+0.4**
VNDA	**Vanda**	**73.24**	**173**	P	**P**	**11 54 01.8**	**+1.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=288,slow=7.0,SNR=3.7						
VNDA	**Vanda**	**73.24**	**173**	P	**P**	**11 54 01.8**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VOSK	**Vostochnaya**	**77.22**	**327**	P	**P**	**11 54 22.8**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
BVA0	**Borovoye Array**	**77.68**	**328**	*i* P	**P**	**11 54 25.7**	**0.0**
BRVK	**Borovoye**	**77.75**	**328**	*e*P	**P**	**11 54 26.0**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**78.39**	**327**	P	**P**	**11 54 29.3**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
ZRNK	**Zerenda**	**78.39**	**327**	*e*P	**P**	**11 54 29.0**	**-0.5**
	comp=Z,2.9nm,0.5s,mb4.2						
AB31	**Akbulak array**	**82.23**	**321**	*e*P	**P**	**11 54 50.1**	**0.0**
QSPA	**South Pole Qui**	**83.85**	**180**	*e*P	**P**	**11 55 00.0**	**+2.4**
	comp=Z,2.4nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**92.27**	**25**	P	**P**	**11 55 36.1**	**-2.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=261,slow=4.4,SNR=9.9						
ILAR				pP	pP	11 56 12.9	+1.2
	comp=Z,0.2nm,0.5s,baz=272,slow=4.3,SNR=2.8						
ILAR	**Eielson Array**	**92.27**	**25**	P	**P**	**11 55 36.1**	**-2.0**
ILAR				*PP	pP	11 56 13.0	+1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CPUP	**Villa Florida**	**146.82**	**167**	PKPbc	PKPbc	12 02 12.4	+3.2
	comp=Z,3.3nm,1.0s,baz=65,slow=3.7,SNR=4.0						
CPUP	**Villa Florida**	**146.82**	**167**	PKP2	PKPab	12 02 12.4	-1.0
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ	**La Paz**	**150.99**	**140**	PKPbc	PKPdf	12 02 24.9	+11
	comp=Z,2.1nm,0.5s,baz=110,slow=1.7,SNR=8.8						
LPAZ	**La Paz**	**150.99**	**140**	PKIKP	PKPdf	12 02 24.9	+11
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						

MAN 16 11:44:13.8,17.04N×**120.23E,h17^{km},mb4.0,ML2.8,MS2.5,1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.72**	**205**	*e*P	Pb	11 44 28.2	+0.6
ABRA	**Dolores**	**0.76**	**37**	*e*P	Pb	11 44 28.0	-0.1
ABRA				*e*S	Sb	11 44 39.9	+2.0
APYP	**Conner**	**1.26**	**50**	*e*P	Pb	11 44 36.2	-0.5
APYP				*e*S	Sb	11 44 54.2	+1.6
PIP	**Pasuquin**	**1.33**	**16**	⇓*i*P	Pn	11 44 36.0	-1.6
PIP				*e*S	Sb	11 44 50.0	-4.4
CAUP	**Cauayan**	**1.53**	**93**	*e*P	Pn	11 44 46.4	+5.8
BALP	**Baler**	**1.83**	**135**	*e*P	Pn	11 44 43.7	-1.2
BALP				*e*S	Sn	11 45 16.5	+8.8
SGCP	**Mt. Cagua**	**2.10**	**55**	*e*P	Pn	11 44 43.9	-4.9
SGCP				*e*S	Sn	11 45 18.7	+4.0

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*NEIC **16** 12:06:39.4,40.33N×25.56E,h27^{km},MD2.9(ATH),ML2.9(THE),After ATH.*

*ATH **16** 12:06:39.4,40.33N×25.56E,h27^{km}±1^{km},MD2.9/4*

*THE **16** 12:06:40.2,40.31N×25.58E,h8^{km},ML2.9*

ISC 16 12:06:39.0±0.7**,40.33N**±0.04×**25.58E**±0.06**,h8^{km},n10,σ0^{s}.87**/15**,1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.53**	**215**	⇑*i*PN	**Pn**	**12 06 50.3**	**-2.2**
LOS	**Limnos**	**0.55**	**224**	*e*Pg	**Pg**	**12 06 50.6**	**+0.5**
LOS				*e*Sg	**Sg**	**12 06 58.3**	**+0.8**
ALN	**Alexandroupoli**	**0.67**	**32**	*e*Pg	**Pg**	**12 06 53.1**	**+0.7**
	comp=Z,4.6nm,0.1s						
ALN				*e*Sg	**Sg**	**12 07 02.5**	**+1.2**
RDO	**Rodhopi**	**0.81**	**358**	*e*PN	**Pn**	**12 06 55.9**	**-0.6**
RDO				*e*SN	**Sn**	**12 07 06.9**	**-1.9**
PRK	**Paraskevi**	**1.21**	**154**	*e*PN	**Pn**	**12 07 02.3**	**+0.1**
OUR	**Ouranopolis**	**1.22**	**271**	*e*Pb	**Pb**	**12 07 01.9**	**-0.1**
	comp=Z,6.8nm,0.1s						
PLG	**Polygyros**	**1.63**	**272**	*e*PN	**Pn**	**12 07 07.8**	**-0.4**
NVR	**Nevrokopi**	**1.65**	**308**	*e*PN	**Pn**	**12 07 08.5**	**0.0**
SRS	**Serrai**	**1.70**	**298**	*e*Pb	**Pb**	**12 07 10.1**	**0.0**
SRS				*e*Sb	**Sb**	**12 07 32.2**	**+0.6**

KNT	Kendrikon	2.20	293	*e*Pn	Pn	12 07 16.7	+0.4
KNT				*e*Sn	Sn	12 07 44.4	+0.4

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*JMA **16** 12:33:18.2±0.4, 46.51N×145.09E, h393^{km}, M3.5*

ISC 16 12:33:19.4±1.5, 46.4N±0.1×144.9E±0.2, h389^{km}±15^{km}, n12, σ0^{s}.64/20, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	Keihoku	2.38	243	P	P	12 34 17.5	+0.2
NEM2	Nemuro 2	3.11	169	P	P	12 34 22.0	-1.0
NEM2				*e*S	S	12 35 13.6	+0.5
JAK	Akkeshi	3.43	183	P	P	12 34 25.7	-0.2
JAK				*e*S	S	12 35 18.0	-0.1
JFR	Furan	3.65	208	P	P	12 34 29.0	+1.1
JCH	Churui	3.96	197	P	P	12 34 30.4	-0.5
JCH				*e*S	S	12 35 27.2	+0.2
JNBK	Urakawa-nobuka	4.42	201	P	P	12 34 35.5	0.0
JNBK				*e*S	S	12 35 36.0	+0.9
JKB	Kayabe	5.32	213	P	P	12 34 44.2	-0.6
JKB				*e*S	S	12 35 51.9	0.0
JOT	Ohata	5.76	210	P	P	12 34 49.0	-0.5
JOT				*e*S	S	12 35 59.7	-0.6
JOSM	Okushiri--Mats	5.84	224	P	P	12 34 50.3	-0.1
JANG	Nango	6.53	203	P	P	12 34 58.1	-0.1
JANG				*e*S	S	12 36 14.6	-1.4
JOM	Ohasama	7.43	202	P	P	12 35 09.0	+0.5
JOM				*e*S	S	12 36 35.2	+0.7
MAT	Matsushiro	11.07	209	P	P	12 35 52.0	+1.0

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*ISK **16** 13:13:33.4, 38.42N×39.11E, h5^{km}, MD3.8*

*NEIC **16** 13:13:33.4, 38.42N×39.11E, h5^{km}, MG3.8(ISK), After ISK.*

ISC 16 13:13:34.8±0.5, 38.39N±0.05×39.15E±0.03, h5^{km}, n22, σ0^{s}.99/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.17	309	*i* P	Pg	13 13 38.0	-0.2
ELZG				*i* S	Sg	13 13 48.2	+7.6
MYA	Malataya	0.57	263	*i* PG	Pg	13 13 45.3	-1.0
MYA				*i* SG	Sg	13 13 54.2	+0.3
MYA	Malataya	0.57	263	Pg	Pg	13 13 45.3	-1.0
MYA				Sg	Sg	13 13 54.3	+0.4
MALT	Malatya	0.57	262	*i* PG	Pg	13 13 44.6	-1.7
MALT	Malatya	0.57	262	*i* P	Pg	13 13 45.1	-1.1
MALT				*i* S	Sg	13 13 54.6	+0.6
DIY	Diyarbakir	0.98	120	*i* PG	Pg	13 13 53.8	-0.7
BINT	Bingol	1.15	65	PN	Pn	13 13 56.8	-0.7
EZC	Erzincan	1.45	21	PN	Pn	13 13 59.5	-2.2
GZT	Gaziantep	1.63	231	*i* P	Pn	13 14 04.3	0.0
BEST	Besiri	1.75	106	*i* P	Pn	13 14 06.1	+0.1
BEST				*i* S	Sn	13 14 30.9	+2.1
KELT	Kelkit	1.75	3	*i* P	Pn	13 14 08.1	+2.0
BTMT	Batman	1.85	96	PN	Pn	13 14 06.6	-0.9
KAHT	Ahir Dag	1.95	248	*i* P	Pn	13 14 09.7	+0.7
KAHT				*i* S	Sg	13 14 45.2	+5.4
GAZ	Gaziantep	1.96	232	*e*PN	Pn	13 14 08.5	-0.6
VRT	Varto	2.00	68	*e*PN	Pn	13 14 10.5	+0.9
GUMT	Gumushane	2.08	7	*e*PN	Pn	13 14 11.3	+0.5
SVST	Sivas	2.19	310	*e*P	Pn	13 14 18.8	+6.4
SVSK	Karacayir	2.26	313	*e*PN	Pn	13 14 13.5	+0.1
EZM	Erzurum	2.29	48	*e*PN	Pn	13 14 13.1	-0.7
TOKT	Tokat	2.79	314	*e*PN	Pn	13 14 20.9	0.0
COBT	Iskenderun	2.97	232	*i* P	Pn	13 14 31.2	+7.8
AVNT	Avonos	3.39	278	*i* P	Pn	13 14 30.6	+1.2

WEL 16 13:53:07.6±0.4, 45.32S×167.22E, h106^{km}±3^{km}, ML3.8/2, 1C-2D, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.17	196	PN	P	13 53 22.0	-0.4
DCZ				SN	S	13 53 32.9	-0.7
MLZ	Mavora Lakes	0.67	93	PN	P	13 53 25.2	-0.2
MLZ				SN	S	13 53 38.7	-0.2
WKZ	Wanaka	1.36	70	PN	P	13 53 32.8	-0.2
WKZ				SN	S	13 53 51.1	-0.9
AXZ	Alexandra	1.49	89	⇓PN	P	13 53 34.0	-0.5
AXZ				SN	S	13 53 52.5	-2.1
JCZ	Jackson Bay	1.66	42	⇑PN	P	13 53 35.7	-0.8
JCZ				SN	S	13 53 56.8	-1.4
TUZ	Tuapeka	1.81	111	PN	P	13 53 37.8	-0.6
TUZ				SN	S	13 53 58.8	-2.6
LBZ	Lake Benmore	2.31	67	PN	P	13 53 42.8	-2.2
LBZ				SN	S	13 54 08.9	-4.2
ODZ	Otahua Downs	2.44	85	⇓PN	P	13 53 41.7	-5.1
ODZ				SN	S	13 54 08.9	-7.3
WVZ	Waitaha Valley	3.38	50	PN	P	13 53 57.2	-2.5
LTZ	Lake Taylor	4.44	57	PN	P	13 54 11.6	-2.4

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*BJI **16** 14:03:16.2, 51.25N×174.82W, h72^{km}, mB4.5, mb4.7, Ms4.0, Msz3.9*

*IDC **16** 14:03:17.2±2.6, 51.84N×175.34W, h42^{km}±22^{km}, mb3.9/13, mb1 4.1/14, mb1mx4.0/23, ML4.8/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/24, Error ellipse: s-maj=21.8km s-min=14.6km az=158.0*

*NEIC **16** 14:03:17.9±0.4, 51.77N×175.25W, h50^{km}±3^{km}, mb4.2/10, ML4.0(AEIC), Error ellipse: s-maj=9.3km s-min=3.3km az=167.0*

NEIC Felt on Adak.

ISC 16 14:03:17.5±0.5, 51.87N±0.09×175.26W±0.05, h59^{km}±3^{km}, n76, σ0^{s}.90/74, mb4.3/22, MS3.4/6, 1C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSIG	Igitkin Island	0.43	286	P	P	14 03 28.4	-0.3
GSMY	Great Sitkin M	0.53	290	P	P	14 03 29.9	+0.2
GSTR	Great Sitkin T	0.55	295	P	P	14 03 30.7	+0.8
GSTD	Great Sitkin T	0.58	289	P	P	14 03 30.6	+0.3
GSSP	Great Sitkin S	0.61	292	P	P	14 03 31.3	+0.6
ATKA	Atka Island	0.73	63	P	P	14 03 31.6	-0.6
ATKA				S	S	14 03 42.1	-0.9
ADAG	Mount Adagdak	0.84	278	P	P	14 03 34.1	+0.6
KIRH	Kanaga Island	1.14	272	P	P	14 03 37.6	0.0
KINC	Kanaga Island	1.16	274	P	P	14 03 38.2	+0.3
KIWB	Kanaga Island	1.18	270	P	P	14 03 37.6	-0.5
KIWB				S	S	14 03 52.3	-1.1
KIKV	Kanaga Island	1.19	271	P	P	14 03 38.0	-0.3
KIMD	Kanaga Island	1.23	266	P	P	14 03 37.9	-1.0
NIKO	Nikolski	4.07	72	P	P	14 04 18.6	-0.2
UNV	Unalaska Valle	5.66	66	*e*P	P	14 04 43.0	+2.0
FX1	Attu Island--F	7.16	283	*e*P	P	14 05 02.2	+0.3
KDAK	Kodiak Island	14.31	57	*e*P	P	14 06 38.2	+0.2
SPU	Mount Spurr	15.75	45	P	P	14 07 00.7	+4.1
SLKM	Skilak Lake	16.31	48	P	P	14 07 04.2	+0.6
PMR	Palmer	17.20	45	*e*P	P	14 07 17.1	+2.3
SML	Sawmill	17.64	45	*e*P	P	14 07 20.0	-0.2
IMA	Indian Mountai	17.91	29	*e*P	P	14 07 26.9	+3.2
	32nm,0.8s						
MCK	McKinley	18.21	39	*e*P	P	14 07 27.6	+0.3
	6.1nm,0.7s						
DIV	Divide	18.57	49	P	P	14 07 31.2	-0.4
COLA	College	19.18	37	*e*P	P	14 07 37.6	-1.0
	8.9nm,0.6s						
THY	Trims Highway	19.36	42	*e*P	P	14 07 39.7	-0.8
ILAR	Eielson Array	19.49	38	P	P	14 07 39.3	-2.7
	1.3nm,0.3s,baz=239,slow=10,SNR=52						
ILAR				ScP		14 15 31.1	
	0.1nm,0.3s,baz=284,slow=3.3,SNR=5.2						
ILAR				LR	LR	14 15 40.2	
	comp=Z,39nm,19.5s,baz=97,slow=38						
DAWY	Dawson	22.24	43	*e*P	P	14 08 10.2	+0.2
ASAJ	Asahikawa	28.91	271	P	P	14 09 12.4	-0.3
	2.6nm,0.5s,mb4.2,baz=9.3,slow=5.6,SNR=6.3						
ASAJ				LR	LR	14 20 21.4	
	comp=Z,21nm,19.3s,MS2.8,baz=348,slow=36						
YKA	Yellowknife Ar	33.28	48	P	P	14 09 51.0	+0.1
	0.5nm,0.4s,mb3.8,baz=282,slow=7.5,SNR=4.4						
YKA				PcP	PcP	14 12 32.2	+0.1
	1.6nm,0.8s,baz=285,slow=3.1,SNR=4.5						
YKA				LR	LR	14 24 27.8	
	comp=Z,63nm,21.1s,MS3.3,baz=275,slow=38						
YKA	Yellowknife Ar	33.28	48	P	P	14 09 51.0	+0.1
YKA				PcP	PcP	14 12 32.2	+0.1
YKA				LR	LR	14 24 27.8	
NLW	Nelson Butte	34.82	74	*e*P	P	14 10 04.7	+0.5
NEW	Newport	36.64	72	P	P	14 10 20.4	+0.7
	4.4nm,0.5s,mb4.6						
NEW	Newport	36.64	72	*e*P	P	14 10 19.8	+0.1
	3.8nm,0.4s,mb4.6						
WVOR	Wild Horse Val	38.74	81	*e*P	P	14 10 37.8	+0.6
	3.5nm,0.8s,mb4.1						
CHMT	Chamberlain Mo	39.58	72	*e*P	P	14 10 43.9	-0.3
CN2	Changchun	39.61	282	*e*P	P	14 10 46.6	+2.1
HRY	Holter Researc	40.52	71	*e*P	P	14 10 52.1	+0.1
HLID	Hailey	40.68	77	*e*P	P	14 10 53.8	+0.5
MCMT	McKenzie Canyo	40.92	74	*e*P	P	14 10 55.7	+0.4
BOZ	Bozeman (W)	41.20	73	*e*P	P	14 10 57.6	0.0
	4.4nm,0.9s,mb4.1						
MNV	Mina	41.40	86	P	P	14 10 59.4	+0.1
JNU	Nakatsue	42.82	266	P	P	14 11 11.2	+0.3
	9.8nm,0.9s,mb4.5,baz=146,slow=31,SNR=2.2						
DUG	Dugway	43.61	80	P	P	14 11 17.2	-0.1
BW06	Boulder Array	44.05	75	*e*P	P	14 11 20.7	-0.1
	2.4nm,0.6s,mb4.1						
PDAR	Pinedale Array	44.05	75	P	P	14 11 21.4	+0.6
	3.4nm,0.6s,mb4.2,baz=306,slow=4.5,SNR=36						
PV10	Paradox Valley	47.03	79	*e*P	P	14 11 45.1	+0.6
PV01	Paradox Valley	47.47	79	*e*P	P	14 11 48.0	+0.1
ULM	Lac du Bonnet	47.55	59	LR	LR	14 33 10.1	
	comp=Z,36nm,19.3s,MS3.4,baz=10,slow=38						
RW3	Ridgway	47.93	79	P	P	14 11 50.7	-0.9
SONM	Songino Array	48.38	298	P	P	14 11 55.4	+0.5
	0.5nm,0.6s,mb3.7,baz=53,slow=6.2,SNR=3.9						
SONM				PcP	PcP	14 13 20.6	-0.5
	1.7nm,0.7s,baz=69,slow=3.6,SNR=9.8						
SONM				ScP		14 17 11.4	
	0.8nm,0.9s,baz=45,slow=1.7,SNR=5.6						
SDCO	Great Sand Dun	49.58	78	*e*P	P	14 12 04.2	-0.1
	1.2nm,0.7s,mb4.0						
SSE	Sheshan	50.20	271	P	P	14 12 11.3	+2.1
SSE				AMB	AMB		
	comp=Z,64nm,4.2s						
SSE	Sheshan	50.20	271	P	P	14 12 11.2	+2.0
	comp=Z,33nm,0.8s,mb5.4						
NJ2	Nanjing	50.99	274	*e*P	P	14 12 15.0	-0.2
WMOK	Wichita Mounta	55.63	76	*e*P	P	14 12 48.2	-1.3
	comp=Z,1.5nm,0.7s,mb4.1						
ARCES	ARCESS Array B	57.96	352	P	P	14 13 04.2	-1.2
	comp=Z,1.8nm,0.6s,mb4.3,baz=13,slow=7.0,SNR=9.6						
KURK	Kurchatov	60.25	315	P	P	14 13 21.0	-0.6
WMQ	Urumqi	60.91	305	⇑P	P	14 13 29.3	+3.2
WMQ				AP	pP	14 13 41.8	-0.2
WMQ				PCP	PcP	14 14 11.9	+3.1
WMQ				PP	PP	14 15 45.9	+3.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,5.0nm,5.7s						
WMQ				LR	LR		
	comp=E,30nm,20.2s						
WMQ				LR	LR		
	comp=Z,30nm,19.1s,MS3.5						
MKAR	Makanchi Array	61.43	310	P	P	14 13 27.5	-2.1
	comp=Z,0.8nm,0.3s,mb4.3,baz=47,slow=6.5,SNR=8.6						
MKAR				LR	LR	14 40 18.6	
	comp=Z,42nm,18.1s,MS3.6,baz=161,slow=36						
BVAR	Borovoye Array	61.91	321	P	P	14 13 31.7	-1.0
	comp=Z,1.5nm,0.4s,mb4.5,baz=72,slow=5.8,SNR=12						
FWV	Forest Hill	64.00	62	*e*P	P	14 13 46.1	-0.6
PWV	Princeton	64.05	62	*e*P	P	14 13 46.9	-0.1
ELN	Prospectdale	64.29	62	*e*P	P	14 13 47.9	-0.7
BLA	Blacksburg	64.49	62	*e*P	P	14 13 49.5	-0.3
FINES	FINESS Array B	65.76	349	P	P	14 13 57.5	-0.1
	comp=Z,2.4nm,1.1s,mb4.2,baz=35,slow=3.6,SNR=5.8						
KMI	Kunming	65.83	280	*e*P	P	14 13 58.8	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
KMI	Kunming	65.83	280	*e*P	P	14 13 58.8	+0.1
	comp=Z,8.0nm,0.7s,mb4.9						
NOA	NORSAR Array B	67.32	357	P	P	14 14 07.3	-0.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=5.6,slow=6.2,SNR=2.5						
NANT	Nan	71.81	277	⇓P	P	14 14 38.0	+2.4
WRA	Warramunga Arr	83.93	227	P	P	14 15 40.8	-1.4
	comp=Z,0.9nm,0.5s,mb4.2,baz=33,slow=5.9,SNR=15						
BRTR	Keskin Array B	85.37	338	LR	LR	14 57 22.3	
	comp=Z,27nm,18.1s,MS3.7,baz=100,slow=38						
ASAR	Alice Springs	87.37	225	P	P	14 15 58.8	-0.4
	comp=Z,3.5nm,1.1s,mb4.5,baz=31,slow=4.5,SNR=18						
STKA	Stephens Creek	91.57	216	P	P	14 16 18.8	0.0
	comp=Z,2.0nm,0.7s,mb4.6,baz=327,slow=11,SNR=5.9						
STKA	Stephens Creek	91.57	216	P	P	14 16 18.8	0.0
DBIC	Dimbokro	121.11	11	PKP	PKPdf	14 22 04.9	+1.1
	comp=Z,2.2nm,0.4s,baz=21,slow=2.1,SNR=8.7						
MAW	Mawson	148.23	218	PKPbc	PKPdf	14 22 56.1	+4.3
	comp=Z,3.3nm,0.7s,baz=59,slow=1.9,SNR=7.5						

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*NEIC **16** 14:07:15.2±7.7, 36.00N×71.17E, h61^{km}±63^{km}, mb3.7/3, Error ellipse: s-maj=58.3km s-min=16.3km az=211.0*

*IDC **16** 14:07:16.2±11.0, 36.00N×71.31E, h68^{km}±100^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.4/19, ML3.7/2, Error ellipse: s-maj=72.3km s-min=22.3km az=31.0*

*NNC **16** 14:07:23.8±0.8, 36.91N×70.12E, mpv4.8, Error ellipse: s-maj=14.8km s-min=6.9km az=110.0*

ISC 16 14:07:15.8±1.5, 36.13N±0.07×71.2E±0.2, h78^{km}±14^{km}, n28, σ1^{s}.08/32, mb3.5/6, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	Dalhousie	5.30	131	*e*P	P	14 08 34.0	-0.1
DLH				*e*S	S	14 09 34.0	-0.5
AML	Almayashu	6.29	17	P	P	14 08 48.2	+0.4
	SNR=56						
SDNR	Sundarnagar	6.64	132	*e*P	P	14 08 55.0	+2.4
SDNR				*e*S	S	14 10 06.2	-1.3
EKS2	Erkin-Say	6.82	16	P	P	14 08 55.3	+0.2
	SNR=12						
AAK	Ala-Archa	6.97	20	P	P	14 08 57.6	+0.4
	SNR=7.4						
KK31	Karatay Array	6.99	356	⇓P	P	14 08 56.6	-1.0
	31nm,0.3s,baz=180,slow=12,SNR=555						
KK31				⇓S	S	14 10 09.4	-6.8
	10nm,0.3s,baz=168,slow=14,SNR=9.4						
SMLA	Simla	7.02	134	*i* P	P	14 09 10.8	+13
SMLA				*i* S	S	14 10 26.6	+10
CHMS	Chumysh	7.38	20	P	P	14 09 02.6	-0.3
	SNR=7.5						
USP	Ospenovka	7.56	18	P	P	14 09 04.8	-0.6
	SNR=9.9						
TKM2	Tokmak 2	7.57	25	P	P	14 09 05.7	+0.1
	SNR=13						
DDI	Dehra Dun	8.13	133	*e*P	P	14 09 14.9	+1.8
KOLN	Koldanda	13.39	125	*e*P	P	14 10 25.6	+1.8
	6.9nm,0.3s						
MKAR	Makanchi Array	13.48	34	P	P	14 10 26.6	+1.7
	0.3nm,0.3s,baz=212,slow=11,SNR=5.3						
GKN	Gorkha	13.94	122	*e*P	P	14 10 30.2	-0.8
	21nm,0.3s						
DMN	Daman	14.51	122	*e*P	P	14 10 38.0	-0.4
	10nm,0.3s						
KKN	Kakani	14.52	121	*e*P	P	14 10 36.9	-1.6
	11nm,0.4s						
PKI	Pulchoki	14.74	121	*e*P	P	14 10 40.6	-0.8
	24nm,0.7s						
AB31	Akbulak array	15.50	331	P	P	14 10 48.8	-2.2
	3.0nm,0.5s,baz=141,slow=11,SNR=132						
KURK	Kurchatov	15.53	18	*e*P	P	14 10 52.1	+0.9
	2.0nm,0.6s						
ZRNK	Zerenda	16.90	355	*e*P	P	14 11 07.4	-0.9
	2.9nm,0.6s						
BVAR	Borovoye Array	16.91	358	P	P	14 11 08.0	-0.5
	0.4nm,0.3s,baz=164,slow=11,SNR=10						
SONM	Songino Array	28.39	55	P	P	14 13 04.2	-0.5
	0.2nm,0.4s,mb3.0,baz=270,slow=12,SNR=2.5						
FINES	FINESS Array B	37.90	326	P	P	14 14 27.6	+1.0
	1.0nm,0.5s,mb4.0,baz=112,slow=10,SNR=7.2						
ARCES	ARCESS Array B	41.56	338	P	P	14 14 58.5	+1.8
	0.6nm,0.4s,mb3.6,baz=113,slow=9.2,SNR=3.9						
NB2	NORSAR Subarra	44.79	323	P	P	14 15 22.7	-0.3
	1.4nm,0.5s,mb4.0,baz=94,slow=7.9						
NOA	NORSAR Array B	44.79	323	P	P	14 15 23.4	+0.4
	1.2nm,0.5s,mb3.9,baz=95,slow=7.8,SNR=8.2						
WRA	Warramunga Arr	81.63	122	P	P	14 19 26.2	-0.8
	0.5nm,0.9s,mb3.4,baz=323,slow=4.9,SNR=4.4						
ASAR	Alice Springs	83.88	125	P	P	14 19 38.4	0.0
	0.2nm,0.6s,mb3.1,baz=311,slow=4.5,SNR=4.2						

IDC 16 14:50:57.3±2.0, 1.56N×126.48E, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, Error ellipse: s-maj=173.0km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.72	161	P	P	14 56 00.2	-2.1
	0.6nm,0.4s,baz=339,slow=11,SNR=11						
ASAR	Alice Springs	26.10	164	P	P	14 56 33.7	-1.0
	0.1nm,0.5s,baz=345,slow=11,SNR=6.8						
MKAR	Makanchi Array	59.19	326	P	P	15 01 00.1	-2.4
	0.5nm,0.4s,baz=121,slow=8.3,SNR=7.7						

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*NEIC **16** 14:52:44.6±1.7, 3.83S×128.43E, h130^{km}±16^{km}, mb4.3/9, Error ellipse: s-maj=16.6km s-min=8.2km az=63.0*

*IDC **16** 14:52:46.7±2.0, 3.94S×128.46E, h148^{km}±17^{km}, mb4.0/9, mb1 4.2/11, mb1mx4.1/17, MS4.4/1, Ms1 4.4/1, ms1mx3.0/18, Error ellipse: s-maj=32.3km s-min=9.6km az=68.0*

ISC 16 14:52:42.6±1.7, 3.80S±0.08×128.4E±0.2, h128^{km}±16^{km}, n27, σ0^{s}.75/30, mb4.1/13, 3C, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	9.69	156	⇑*i*P	P	14 55 00.0	+0.1
	11nm,0.2s						
KAKA				*e*S	S	14 56 41.6	-5.6
FITZ	Fitzroy Crossi	14.47	191	*e*P	P	14 56 03.2	+0.8
	2.6nm,0.4s						
FITZ				*e*		14 56 07.9	
FITZ	Fitzroy Crossi	14.47	191	P	P	14 56 02.7	+0.4
	0.6nm,0.3s,baz=25,slow=11,SNR=15						
WRAB	Tennant Creek	17.06	161	*e*P	P	14 56 34.0	-0.7
	70nm,0.6s						
WRAB				*e*S	S	14 59 38.2	-0.3
WRA	Warramunga Arr	17.06	161	P	P	14 56 34.4	-0.4
	12nm,0.3s,baz=343,slow=13,SNR=216						
WRA				S	S	14 59 40.0	+1.4
	1.5nm,0.3s,baz=338,slow=21,SNR=8.1						
WRA				ScP		15 04 34.1	
	0.1nm,0.3s,baz=336,slow=2.1,SNR=5.1						
WB2	Warramunga Arr	17.07	161	⇑*i*P	P	14 56 34.3	-0.5
WB2				*e*S	S	14 59 38.0	-0.7
ASAR	Alice Springs	20.46	165	P	P	14 57 12.6	+0.7
	149nm,0.9s,baz=344,slow=12,SNR=678						
ASAR				S	S	15 00 49.5	+1.0
	6.4nm,0.7s,baz=348,slow=25,SNR=9.0						
ASAR				PcP	PcP	15 01 18.5	-0.8
	2.1nm,0.4s,baz=17,slow=1.7,SNR=6.1						
ASAR				ScP		15 04 41.5	
	1.1nm,0.5s,baz=345,slow=2.1,SNR=7.6						
ASPA	Alice Springs	20.46	165	*e*P	P	14 57 12.0	+0.2
ASPA				*e*S	S	15 00 47.8	-0.7
CTA	Charters Tower	23.78	134	P	P	14 57 45.1	+0.6
	4.3nm,0.6s,mb4.2,baz=317,slow=11,SNR=12						
CTAO	Charters Tower	23.78	134	*e*P	P	14 57 45.6	+1.1
	5.0nm,0.6s,mb4.2						
KLBR	Kellerberrin	29.40	199	*e*P	P	14 58 35.3	-0.8
	3.8nm,0.3s,mb4.6						
STKA	Stephens Creek	30.56	158	⇑*i*P	P	14 58 45.3	-1.1
	1.7nm,0.2s,mb4.4						
STKA	Stephens Creek	30.56	158	P	P	14 58 45.6	-0.8
	2.9nm,0.3s,mb4.5,baz=327,slow=8.8,SNR=46						
NWAO	Narrogin (SRO)	30.80	199	P	P	14 58 47.9	-0.5
	6.7nm,0.9s,mb4.4,baz=1.7,slow=9.2,SNR=7.4						
NWAO	Narrogin (SRO)	30.80	199	P	P	14 58 47.9	-0.5
CMAR	Chiang Mai Arr	36.48	308	P	P	14 59 39.4	+2.2
	4.4nm,0.8s,mb4.1,baz=131,slow=7.2,SNR=20						
TOO	Toolangi	37.08	157	*e*P	P	14 59 43.0	+0.9
	2.2nm,0.4s,mb4.1						
SONM	Songino Array	54.92	342	P	P	15 02 02.4	+0.1
	1.6nm,0.8s,mb3.8,baz=141,slow=7.9,SNR=10						
SONM				ScP		15 06 48.1	
	0.4nm,0.7s,baz=186,slow=4.7,SNR=3.6						
URZ	Urewera	56.03	134	LR	LR	15 25 22.7	
	comp=Z,286nm,18.2s,baz=159,slow=35						
MKAR	Makanchi Array	64.69	327	P	P	15 03 08.8	-0.3
	3.2nm,0.4s,mb4.5,baz=115,slow=8.0,SNR=52						
KURK	Kurchatov	68.97	329	*e*P	P	15 03 35.2	-0.7
	4.0nm,0.8s,mb4.2						
BRVK	Borovoye	74.59	328	*e*P	P	15 04 09.0	-0.2
	1.8nm,0.7s,mb3.8						
ZRNK	Zerenda	75.22	327	*e*P	P	15 04 12.4	-0.4
	1.3nm,0.4s,mb3.9						
VNDA	Vanda	75.80	173	P	P	15 04 15.2	-0.4
	1.3nm,0.6s,mb3.8,baz=299,slow=6.4,SNR=6.7						
MAW	Mawson	77.33	201	P	P	15 04 24.4	+0.1
	1.0nm,0.5s,mb3.8,baz=64,slow=9.7,SNR=8.9						
CPUP	Villa Florida	149.54	170	PKPbc	PKPdf	15 12 19.8	+7.0
	2.2nm,0.8s,baz=232,slow=3.0,SNR=4.2						
CPUP	Villa Florida	149.54	170	PKPbc	PKPdf	15 12 19.8	+7.0

IGQ 16 15:23:06.4, 0.34S×78.53W, h13^{km}±1^{km}, mb4.2, 9C-12D, Error ellipse: s-maj=1.3km s-min=0.7km az=7.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUA2	San Juan 2	0.14	329	⇓P	Pg	15 23 10.5	+0.4
GGP	Refugio Guagua	0.17	339	⇓P	Pg	15 23 11.1	+0.5
CGGP	Crater GGP	0.17	335	⇓P	Pg	15 23 11.3	+0.7
PINO	Pino	0.19	337	⇓P	Pg	15 23 11.5	+0.6
YANA	Yana	0.22	350	⇓P	Pg	15 23 11.8	+0.4
NAS1	Nasa	0.30	170	⇑P	Pg	15 23 13.6	+0.7
VC1	Cotopaxi 1	0.33	157	⇑P	Pg	15 23 13.8	+0.3
ANTI	Antisana	0.39	107	⇓P	Pg	15 23 14.7	+0.2
TAMB	Tambo	0.39	155	⇑P	Pg	15 23 15.0	+0.4
MARY	Rancho Maria	0.40	173	⇑P	Pg	15 23 15.5	+0.8
ELAGU	Cayambe Volc	0.62	60	⇑P	Pb	15 23 19.3	+0.6
CAYR	Refugio Cayamb	0.63	56	⇑P	Pb	15 23 19.7	+1.0
QIL1	Quilotoa	0.65	218	⇓P	Pb	15 23 19.4	+0.3
CAYA	Cayambe	0.68	53	⇓P	Pb	15 23 20.4	+0.8
COTA	Cotacachi	0.69	16	P	Pb	15 23 20.9	+1.1
PISA	Pisayambo	0.73	168	⇑P	Pb	15 23 21.1	+0.6
CONE	Cono NE Rev Vo	0.93	74	P	Pb	15 23 26.0	+2.1
JUIV	Juive	1.08	176	⇑P	Pb	15 23 28.6	+2.0
JUIV				S	Sb	15 23 43.4	+3.0
CUSU	Cusua	1.10	177	P	Pb	15 23 28.3	+1.5
CUSU				S	Sb	15 23 43.9	+3.0
RETU	Refugio	1.11	176	⇑P	Pb	15 23 28.0	+1.0
ULBA	Ulba	1.11	174	⇓P	Pb	15 23 27.2	+0.2
IGUA	Igualata	1.15	185	⇓P	Pb	15 23 28.6	+0.9
IGUA				S	Sb	15 23 43.8	+1.5
PATA	Patacocha	1.17	175	⇓P	Pb	15 23 28.4	+0.6
ARRY	Arrayan	1.17	176	⇓P	Pb	15 23 28.2	+0.3
ARRY				S	Sb	15 23 43.7	+1.0
HOJA	Cerro de Hojas	2.14	251	P	Pn	15 23 42.7	+0.4

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*IDC **16** 15:56:14.7±9.0, 5.95S×150.64E, h36^{km}±70^{km}, mb4.0/11, mb1 4.2/11, mb1mx4.1/14, MS3.8/9, Ms1 3.8/9, ms1mx3.8/12, Error ellipse: s-maj=42.3km s-min=19.0km az=84.0*

*NEIC **16** 15:56:16.1±2.0, 5.99S×150.62E, h50^{km}±16^{km}, mb4.6/9, Error ellipse: s-maj=17.3km s-min=11.0km az=86.0*

ISC 16 15:56:07.8±3.6, 5.90S±0.09×150.7E±0.1, h3^{km}±22^{km}, n33, σ0^{s}.91/27, mb4.3/15, MS3.9/8, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.95	225	LR	LR	15 59 21.5	
	comp=Z,622nm,19.5s,baz=217,slow=38						
PMG	Port Moresby	4.95	225	*e*Pn	Pn	15 57 26.4	+1.6
CTA	Charters Tower	14.75	197	*e*P	P	15 59 40.3	+0.9
	6.1nm,1.0s						
CTA				*i*		15 59 46.7	
CTA	Charters Tower	14.75	197	Pn	P	15 59 40.3	+0.9
CTAO	Charters Tower	14.75	197	*e*P	P	15 59 40.3	+0.9
	10nm,0.7s						
KAKA	Kakadu	19.28	248	*e*P	P	16 00 35.6	-0.8
	6.9nm,0.4s						
WRAB	Tennant Creek	21.15	227	*e*P	P	16 00 55.7	-0.8
	29nm,0.9s,mb4.6						
WB2	Warramunga Arr	21.16	227	*e*P	P	16 00 55.6	-0.9
WB2				*e*S	S	16 04 48.6	+1.0
WRA	Warramunga Arr	21.17	227	P	P	16 00 55.7	-1.0
	9.2nm,0.6s,mb4.3,baz=50,slow=10,SNR=73						
WRA				PcP	PcP	16 05 01.7	-1.0
	2.4nm,0.8s,baz=44,slow=1.9,SNR=7.8						
ASAR	Alice Springs	23.95	221	P	P	16 01 24.9	+0.6
	4.8nm,0.8s,mb4.0,baz=50,slow=8.7,SNR=50						

ASPA	Alice Springs	23.95	221	eP	P	16 01 24.4	+0.2
STKA	Stephens Creek	27.21	197	eP	P	16 01 53.7	-1.2
	6.2nm,0.6s,mb4.3						
STKA	Stephens Creek	27.21	197	P	P	16 01 54.5	-0.4
	10.0nm,0.9s,mb4.4,baz=342,slow=9.5,SNR=15						
STKA				LR	LR	16 12 36.1	
	comp=Z,282nm,22.0s,MS3.8,baz=126,slow=36						
FITZ	Fitzroy Crossi	27.31	241	⇑iP	P	16 01 54.8	-1.1
	7.5nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	27.31	241	P	P	16 01 54.9	-0.9
	7.7nm,0.6s,mb4.4,baz=80,slow=4.2,SNR=28						
FITZ				LR	LR	16 14 16.5	
	comp=Z,131nm,19.8s,MS3.5,baz=176,slow=40						
FORT	Forrest	32.64	218	eP	P	16 02 49.5	+6.3
	52nm,0.7s						
KLBR	Kellerberrin	40.04	226	eP	P	16 03 52.5	+6.5
	20nm,0.8s,mb4.9						
URZ	Urewera	40.15	147	LR	LR	16 17 33.7	
	comp=Z,397nm,20.4s,MS4.2,baz=52,slow=32						
MUN	Mundaring	41.36	227	eP	P	16 04 04.1	+7.3
	10nm,0.8s,mb4.5						
JNU	Nakatsue	43.13	335	P	P	16 04 12.8	+1.5
	10nm,0.8s,mb4.6,baz=93,slow=11,SNR=4.7						
SONM	Songino Array	66.16	329	P	P	16 06 59.4	+0.7
	1.1nm,0.9s,mb3.9,baz=129,slow=7.9,SNR=5.4						
VNDA	Vanda	71.82	177	P	P	16 07 33.4	0.0
	1.1nm,0.6s,mb3.9,baz=324,slow=6.2,SNR=8.5						
VNDA	Vanda	71.82	177	eP	P	16 07 33.3	-0.1
	1.3nm,0.6s,mb4.0						
MKAR	Makanchi Array	79.79	320	P	P	16 08 19.9	+0.9
	0.4nm,0.6s,mb3.5,baz=127,slow=6.1,SNR=4.0						
MKAR				LR	LR	16 42 58.2	
	comp=Z,59nm,18.4s,MS4.0,baz=242,slow=35						
MAW	Mawson	83.76	203	P	P	16 08 39.6	+0.4
	1.9nm,1.0s,mb4.2,baz=91,slow=20,SNR=4.0						
ILAR	Eielson Array	83.96	22	P	P	16 08 39.5	-0.8
	1.2nm,0.9s,mb4.0,baz=250,slow=4.8,SNR=4.9						
ILAR				LR	LR	16 41 43.4	
	comp=Z,47nm,20.6s,MS3.9,baz=79,slow=32						
QSPA	South Pole Qui	84.07	180	eP	P	16 08 40.9	+0.3
	7.7nm,1.0s,mb4.8						
BVAR	Borovoye Array	88.87	323	P	P	16 09 03.2	-1.4
	0.7nm,0.9s,mb4.0,baz=90,slow=4.4,SNR=3.6						
NVAR	Mina Array Bea	94.40	52	LR	LR	16 44 49.5	
	comp=Z,76nm,20.8s,MS4.1,baz=270,slow=31						
NEW	Newport	95.81	42	LR	LR	16 43 54.0	
	comp=Z,47nm,21.0s,MS3.9,baz=111,slow=30						
YKA	Yellowknife Ar	97.36	28	LR	LR	16 51 37.3	
	comp=Z,22nm,20.6s,MS3.6,baz=310,slow=34						
GERES	GERESS Array B	123.87	327	PKP	PKPdf	16 15 08.7	-1.1
	0.7nm,0.7s,baz=45,slow=1.9,SNR=6.5						
BDFB	Brasilia	151.68	139	PKPbc	PKPdf	16 16 06.8	+6.3
	7.8nm,0.7s,baz=162,slow=2.7,SNR=11						

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*NEIC **16** 15:58:43.8, 55.27N×153.57W, h1^{km}, ML3.7(AEIC), After AEIC.*

*IDC **16** 15:59:03.8±9.5, 56.55N×154.11W, h56^{km}±78^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/19, ML3.5/1, Error ellipse: s-maj=66.2km s-min=44.0km az=5.0*

ISC 16 15:58:41.6±1.4**, 55.29N**±0.09×**153.5W**±0.2**, h1^{km}, n23, σ0^{s}89**/30**, mb3.9**/4**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.55	11	P	Pn	15 59 25.2	+0.4
KDAK				S	Sn	15 59 57.9	+1.0
CAHL	Cahill	2.94	341	P	Pn	15 59 30.2	0.0
KABR	Katmai Barrier	2.95	345	P	Pn	15 59 30.2	-0.3
KABR				S	Sn	16 00 06.7	-0.5
KJL	Kejulik	2.99	339	P	Pn	15 59 31.4	+0.4
KJL				S	Sn	16 00 08.7	+0.7
ACHA	Angle Creek He	3.09	342	P	Pn	15 59 32.8	+0.4
MGLS	Mageik LS	3.09	342	P	Pn	15 59 30.6	-1.8
ANCK	Angle Creek	3.11	340	P	Pn	15 59 33.1	+0.4
ANCK				S	Sn	16 00 12.1	+1.1
KAWH	Katmai	3.18	348	P	Pn	15 59 33.3	-0.3
KAWH				S	Sn	16 00 11.7	-1.1
CNTC	Contact Creek	3.25	337	P	Pn	15 59 34.9	+0.2
KAHG	Katmai Hook Gl	3.26	351	P	Pn	15 59 35.1	+0.3
KAHG				S	Sn	16 00 14.0	-0.8
KAIC	Katmai Ikaglui	3.31	346	P	Pn	15 59 35.5	-0.1
KAPH	Katmai Pasha	3.34	353	P	Pn	15 59 36.0	-0.1
KAHC	Katmai Hardscr	3.46	347	P	Pn	15 59 37.5	-0.2
AUI	Augustine Isla	4.05	1	P	Pn	15 59 46.0	-0.1
AUW	Augustine West	4.09	0	P	Pn	15 59 46.7	+0.1
SLKM	Skilak Lake	5.52	17	P	Pn	16 00 09.4	+2.5
SPU	Mount Spurr	5.96	7	P	Pn	16 00 12.2	-0.8
PMR	Palmer	6.72	18	P	Pn	16 00 22.2	-1.7
ILAR	Eielson Array	10.06	16	P	P	16 01 10.1	-0.1
	0.2nm,0.3s,baz=210,slow=14,SNR=11						
ILAR				S	S	16 02 50.0	-15
	0.1nm,0.3s,baz=200,slow=21,SNR=2.6						
YKA	Yellowknife Ar	21.08	54	P	P	16 03 39.0	+10
	1.0nm,0.8s,mb3.2,baz=269,slow=9.9,SNR=5.1						
SONM	Songino Array	57.40	308	P	P	16 08 39.5	+6.0
	1.2nm,0.6s,mb4.1,baz=45,slow=6.0,SNR=7.4						
BVAR	Borovoye Array	66.12	333	P	P	16 09 36.2	+4.3
	1.1nm,0.8s,mb4.1,baz=18,slow=4.7,SNR=6.2						
CMAR	Chiang Mai Arr	84.57	295	P	P	16 11 25.9	+8.3
	1.5nm,1.1s,mb4.2,baz=16,slow=5.6,SNR=5.5						

OTT 16 16:02:30.1±0.1**, 52.77N**×**67.14W, MN2.5**/5**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.07	5	PN	Pn	16 03 06.0	-0.6
SCHQ				SN	Sn	16 03 32.1	-1.4
SCHQ				Trac		16 03 35.7	
	comp=Z,5.1nm,0.1s						
MNQ	Manicouagan	2.46	205	PN	Pn	16 03 10.8	-1.3
MNQ				SN	Sn	16 03 42.5	-0.9
MNQ				Trac		16 03 48.4	
	comp=Z,14nm,0.3s						
SMQ	Clarke City	2.57	174	PN	Pn	16 03 12.1	-1.6
SMQ				SN	Sn	16 03 46.0	-0.1
SMQ				Trac		16 03 52.4	
	comp=Z,6.7nm,0.2s						
ICQ	Pointe Anglais	3.25	182	PN	Pn	16 03 22.2	-1.2
ICQ				SN	Sn	16 04 00.2	-3.2
ICQ				Trac		16 04 11.8	
	comp=Z,7.1nm,0.3s						
CNQ	Baie Comeau	3.52	190	PN	Pn	16 03 25.8	-1.5
CNQ				SN	Sn	16 04 07.2	-3.1
CNQ				Trac		16 04 24.1	
	comp=Z,3.6nm,0.2s						
GSQ	Grosses Roches	3.87	180	PN	Pn	16 03 30.1	-2.1
GSQ				SN	Sn	16 04 17.1	-1.9
LG4Q	La Grande 4	4.27	284	PN	Pn	16 03 31.6	-6.3
LG4Q				SN	Sn	16 04 23.5	-5.8
DRLN	Deer Lake	7.02	116	PN	Pn	16 04 12.9	-3.8
VIMO	Victor Mine	10.06	277	PN	P	16 04 51.5	-7.4
SILO	Sutton Inlier	10.70	286	PN	P	16 04 59.7	-7.9
SILO				SN	S	16 06 51.9	-17

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*IDC **16** 16:02:32.2±5.5, 58.42N×155.37W, h94^{km}±46^{km}, mb3.4/9, mb1 3.6/11, mb1mx3.5/22, Error ellipse: s-maj=40.3km s-min=18.5km az=37.0*

*NEIC **16** 16:02:33.4, 58.03N×155.00W, h77^{km}, After AEIC.*

ISC 16 16:02:30.4±0.5**, 58.10N**±0.06×**155.3W**±0.1**, h100^{km}**±3^{km}**, n45, σ0^{s}98**/53**, mb3.6**/8**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAHL	Cahill	0.04	179	P	P	16 02 44.3	-0.2
ACHA	Angle Creek He	0.11	354	P	P	16 02 44.5	0.0
ACHA				S	S	16 02 55.1	0.0
MGLS	Mageik LS	0.11	354	P	P	16 02 44.2	-0.4
ANCK	Angle Creek	0.14	315	P	P	16 02 45.0	+0.4
ANCK				S	S	16 02 56.0	+0.7
KJL	Kejulik	0.15	253	P	P	16 02 45.1	+0.4
KJL				S	S	16 02 54.1	-1.2
KABR	Katmai Barrier	0.18	79	P	P	16 02 44.0	-0.7
CNTC	Contact Creek	0.35	299	P	P	16 02 46.4	+1.0
CNTC				S	S	16 02 57.1	+0.4
KAWH	Katmai	0.39	43	P	P	16 02 45.1	-0.6
KAIC	Katmai Ikaglui	0.41	19	P	P	16 02 46.0	+0.1
KAIC				S	S	16 02 56.7	-0.7
KARR	Katmai Rainbow	0.51	38	P	P	16 02 46.3	-0.2
KAHG	Katmai Hook Gl	0.56	45	P	P	16 02 46.7	-0.2
KAHC	Katmai Hardscr	0.57	16	P	P	16 02 47.2	+0.2
KAHC				S	S	16 02 58.8	-0.6
KAPH	Katmai Pasha	0.71	45	P	P	16 02 48.1	-0.1
KAPH				S	S	16 03 00.0	-1.4
MCNL	McNeil River	1.20	24	P	P	16 02 53.9	+0.3
KDAK	Kodiak Island	1.48	101	P	P	16 02 55.2	-1.8
AUI	Augustine Isla	1.58	37	P	P	16 02 58.9	+0.7
AUW	Augustine West	1.59	36	P	P	16 02 59.1	+0.8
AGU	Augustine-Summ	1.60	37	P	P	16 02 59.3	+0.9
AUL	Augustine Lava	1.62	36	P	P	16 02 59.5	+0.9
AUE	Augustine Isla	1.62	38	P	P	16 02 59.4	+0.8
SYI	Shuyak Island	1.62	70	P	P	16 02 58.0	-0.7
OPT	Oil Point	1.90	34	P	P	16 03 03.1	+0.9
ILS	Iliamna Low So	2.19	31	P	P	16 03 07.0	+0.9
IVS	Iliamna South	2.23	30	P	P	16 03 07.8	+1.1
ILIM	Iliamna	2.33	30	P	P	16 03 08.9	+0.9
CNPM	China Poot	2.56	54	P	P	16 03 10.5	-0.6
RSO	Redoubt South	2.71	28	P	P	16 03 14.7	+1.5
BRLK	Bradley Lake	2.83	52	P	P	16 03 13.8	-1.1
SPU	Mount Spurr	3.51	27	eP	P	16 03 24.8	+0.7
FIB	Fire Island	4.03	38	P	P	16 03 31.8	+0.5
EYAK	Cordova Ski Ar	5.48	59	eP	P	16 03 48.7	-2.3
UNV	Unalaska Valle	7.59	241	P	P	16 04 21.3	+1.3
ILAR	Eielson Array	7.81	27	P	P	16 04 20.4	-2.6
	0.7nm,0.3s,baz=224,slow=12,SNR=15						
ILAR				S	S	16 05 42.1	-8.3
	1.6nm,0.3s,baz=217,slow=29,SNR=9.6						
DLBC	Dease Lake	13.29	78	P	P	16 05 35.7	-0.2
	0.2nm,0.3s,baz=305,slow=16,SNR=3.9						
DLBC	Dease Lake	13.29	78	P	P	16 05 35.7	-0.2
YKA	Yellowknife Ar	20.38	60	P	P	16 07 00.4	-0.3
	2.0nm,0.8s,baz=271,slow=9.9,SNR=5.5						
YBH	Yreka Blue Hor	26.26	114	P	P	16 07 59.9	+2.3
	0.7nm,0.6s,mb3.3,baz=315,slow=4.3,SNR=3.9						
HLID	Hailey	29.11	102	P	P	16 08 24.7	+1.3
PDAR	Pinedale Array	32.20	98	P	P	16 08 51.5	+1.0
	0.6nm,0.4s,mb3.6,baz=326,slow=5.3,SNR=3.5						
ULM	Lac du Bonnet	34.61	77	P	P	16 09 11.3	+0.1
	1.2nm,0.6s,mb3.9,baz=288,slow=13,SNR=3.0						
SONM	Songino Array	54.94	305	P	P	16 11 50.8	-1.8
	0.6nm,0.8s,mb3.7,baz=27,slow=6.6,SNR=3.7						
SONM				pP	pP	16 12 16.0	-1.2
	0.6nm,0.6s,baz=47,slow=8.3,SNR=5.4						
BVAR	Borovoye Array	63.18	331	P	P	16 12 48.7	-0.7
	0.5nm,0.4s,mb3.8,baz=56,slow=5.3,SNR=3.8						
MKAR	Makanchi Array	65.16	320	P	P	16 13 00.6	-1.7
	0.2nm,0.4s,mb3.3,baz=39,slow=6.5,SNR=3.8						
AKASG	Malin Array Be	71.50	357	P	P	16 13 39.6	-1.7
	0.9nm,0.4s,mb3.9,baz=18,slow=6.0,SNR=5.7						
GERES	GERESS Array B	73.04	8	P	P	16 13 50.2	-0.1
	0.3nm,0.5s,mb3.4,baz=27,slow=9.0,SNR=3.9						

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*ISK **16** 16:09:58.7, 36.89N×27.77E, h6^{km}, MD3.2*

*NEIC **16** 16:10:00.9, 36.89N×27.71E, h32^{km}, MD3.2(ATH), After ATH.*

*ATH **16** 16:10:00.9, 36.89N×27.71E, h32^{km}±4^{km}, MD3.2/6*

ISC 16 16:09:59.5±0.7**, 36.90N**±0.03×**27.76E**±0.04**, h10^{km}**±5^{km}**, n16, σ0^{s}91**/26**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	304	iP	Pg	16 10 06.3	+0.5
BDRM				iS	Sg	16 10 11.6	+1.5
MLSB	Milas	0.40	2	iPG	Pg	16 10 06.8	-0.9
MLSB				iSG	Sg	16 10 13.1	0.0
YER	Yerkesik	0.48	60	iPG	Pg	16 10 08.5	-0.8
YER				iSG	Sg	16 10 15.7	-0.2
NISR	Nisiros	0.58	241	ePN	Pn	16 10 11.8	-1.6
NISR				eSN	Sn	16 10 22.0	-0.9
ARG	Arkhangelos	0.74	156	ePB	Pb	16 10 14.0	0.0
ARG				eSN	Sn	16 10 27.1	+0.1
AYDN	Tasoluk	0.77	7	iP	Pb	16 10 14.2	-0.3
AYDN				iS	Sb	16 10 24.2	-0.5
SMG	Samos	1.09	318	ePN	Pn	16 10 20.9	+0.1
SMG				eSN	Sn	16 10 36.3	+0.3
DNZL	Cakiroluk	1.30	52	⇑iP	Pb	16 10 23.1	-0.4
DNZL				iS	Sb	16 10 39.4	-0.7
DENT	Denizli	1.33	50	PN	Pn	16 10 24.0	-0.1
KARP	Karpathos	1.43	200	ePB	Pb	16 10 25.7	-0.1
KARP				eSN	Sn	16 10 45.5	+1.0
IZM	Izmir	1.55	345	PN	Pn	16 10 27.8	+0.5
KDAG	Bornova	1.55	346	iP	Pn	16 10 26.9	-0.4
KSL	Kastellorizon	1.65	116	ePN	Pn	16 10 30.5	+1.8
MANT	Manisa	1.71	22	eP	Pn	16 10 33.1	+3.5
MANT				iS	Sn	16 10 54.9	+3.2
ELL	Elmali	1.73	94	ePN	Pn	16 10 30.6	+0.7
APE	Apeiranthos	1.79	276	ePN	Pn	16 10 29.5	-1.3

DJA 16 16:30:08.3±0.8**, 9.77S**×**116.38E, h33^{km}, MD5.1**/4**, ML4.0**/4**, 4C-6D, Error ellipse: s-maj=16.9km s-min=15.0km az=148.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.30	348	⇓iPn	Pn	16 30 29.3	-1.2
	102nm,0.2s						
KEDI				⇑iSn	Sn	16 30 44.4	-2.5
RATI	Rata	1.34	321	⇓iPn	Pn	16 30 30.3	-0.7
	170nm,0.2s						
RATI				⇑iSn	Sn	16 30 45.3	-2.4
INGI	Ingas	1.54	308	⇓iPn	Pn	16 30 32.6	-1.3
	230nm,0.3s						
INGI	Ingas	1.54	308	⇓iP	P	16 30 32.7	-1.1
INGI				⇑iSn	Sn	16 30 49.2	-3.8
KELI	Kelakatan	2.42	309	⇑iPn	Pn	16 30 45.7	-0.8
	73nm,0.2s						
KELI	Kelakatan	2.42	309	⇓iP	P	16 30 46.5	+0.2
KELI				⇓iSn	Sn	16 31 13.0	-2.3

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*MEX **16** 16:55:52.4±1.2, 15.71N×93.93W, h35^{km}±459^{km}, MD4.3*

*NEIC **16** 16:55:52.3, 15.71N×93.94W, h16^{km}, MD4.3(MEX), After MEX.*

ISC 16 16:55:50.7±0.4**, 15.80N**±0.05×**93.95W**±0.03**, h51^{km}**±29^{km}**, n24, σ1^{s}17**/36**, 2C-3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.56	325	iP	P	16 56 17.5	+0.8
CMIG				iS	S	16 56 37.2	+1.3
SCX	San Cristobal	1.57	53	iP	P	16 56 16.3	-0.4
SCX				iS	S	16 56 35.6	-0.3
CCIG	Comitan	1.81	74	eP	P	16 56 20.0	0.0
CCIG				iS	S	16 56 40.5	-1.3
TPX	Tapachula	1.85	118	iP	P	16 56 20.6	-0.1
HUIG	Huatulco	2.08	269	iP	P	16 56 22.9	-1.0
HUIG				iS	S	16 56 46.1	-2.5
TUIG	Tuzandepetl	2.27	348	iP	P	16 56 28.9	+2.4
TUIG				iS	S	16 56 52.6	-0.8
JAT	Jato	2.68	123	⇓eP	P	16 56 32.7	+0.3
JAT				eS	S	16 57 05.1	+1.4
JAT				AML	AML	16 57 08.9	
	comp=E,1µm,0.3s						
OXX	Oaxaca	2.95	296	iP	P	16 56 37.8	+1.5
OXX				iS	S	16 57 11.5	+0.8
EVV	El Vigia	2.96	333	eP	P	16 56 35.5	-0.9
IXG	Ixpaco	3.74	115	⇓eP	P	16 56 47.0	-0.5
IXG				eS	S	16 57 30.5	-0.2
IXG				AML	AML	16 57 43.8	
	comp=N,1µm,0.5s						
MRL	Marmol	4.17	100	⇓eP	P	16 56 51.7	-1.8
MRL				eS	S	16 57 42.6	+1.1
MRL				AML	AML	16 57 44.2	
	comp=N,111nm,0.4s						
RBDL	Robledal	4.45	112	eP	P	16 56 56.4	-1.0
LVIG	Laguna Verde	4.55	329	iP	P	16 56 55.7	-3.2
LVIG				iS	S	16 57 47.4	-3.8
IISM	Ciudad Serdan	4.56	315	eP	P	16 56 58.0	-0.9
RTR	El Retiro	4.57	114	eP	P	16 56 59.6	+0.5
SBLS	San Blas	4.62	114	⇑eP	P	16 57 00.6	+0.9
SNJE	San Jose	4.62	114	⇑eP	P	16 57 01.1	+1.3
LFRS	El Faro	5.20	114	eP	P	16 57 06.9	-1.0
PPM	Popocatepetl	5.52	307	iP	P	16 57 14.0	+1.6
PPM				iP		16 57 14.2	
PPM				iS	S	16 58 15.5	+0.1
PPM	Popocatepetl	5.52	307	iP	P	16 57 14.0	+1.6
PPM				iS	S	16 58 15.5	+0.1
YAIG	Yautepec	5.76	303	iP	P	16 57 16.6	+0.9
CAIG	El Cayaco	6.19	282	iP	P	16 57 20.1	-1.6
ZIIG	Zihuatanejo	7.42	285	iP	P	16 57 38.1	-0.9
MOIG	Morelia	7.90	300	iP	P	16 57 47.1	+1.5

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*MAN **16** 17:04:59.7, 8.06N×126.42E, h114^{km}, mb5.0, ML3.9, MS4.0*

*IDC **16** 17:05:04.1±6.4, 8.04N×126.35E, h157^{km}±65^{km}, mb3.3/8, mb1 3.5/9, mb1mx3.4/20, Error ellipse: s-maj=43.5km s-min=13.3km az=73.0*

*NEIC **16** 17:05:06.0±3.7, 8.03N×126.35E, h178^{km}±39^{km}, mb4.1/3, Error ellipse: s-maj=27.8km s-min=8.7km az=76.0*

ISC 16 17:04:58.5±0.6**, 8.09N**±0.03×**126.48E**±0.06**, h124^{km}**±4^{km}**, n31, σ1^{s}13**/45**, mb3.7**/11**, 3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.14	308	⇑iP	P	17 05 15.0	-0.7
BIPH				iS	S	17 05 25.0	-3.6
MATI	Mati	1.16	191	eP	P	17 05 23.1	+0.2
MATI				eS	S	17 05 40.7	-0.5
BUTP	Butuan	1.21	316	eP	P	17 05 24.6	+1.2
BUTP				eS	S	17 05 44.4	+2.3
BUKP	Musuan	1.42	261	eP	P	17 05 26.3	+0.6
BUKP				eS	S	17 05 45.8	-0.6
KCP	Kidapawan	1.75	232	⇓iP	P	17 05 30.1	+0.6
KCP				iS	S	17 05 52.2	-0.9
CGP	Cagayan de Oro	1.80	282	eP	P	17 05 30.8	+0.6
CGP				iS	S	17 05 53.4	-0.8
SCPH	Surigao	1.94	330	⇑eP	P	17 05 33.6	+1.7
CTBH	Cotabato--PC H	2.38	249	⇓iP	P	17 05 37.1	-0.4
CTBH				iS	S	17 06 05.6	-1.5
GSPH	General Santos	2.50	217	eP	P	17 05 43.0	+3.8
MSLP	Maasin	2.58	322	eP	P	17 05 38.3	-2.0
MSLP				eS	S	17 06 13.5	+1.6
TBP	Tagbilaran	3.03	302	eP	P	17 05 47.1	+0.8
TBP				iS	S	17 06 22.1	-0.4
PAGZ	Pagadian	3.08	266	eP	P	17 05 47.2	+0.4
DCPH	Dipolog City	3.13	279	⇑eP	P	17 05 48.8	+1.3
DCPH				eS	S	17 06 24.9	+0.2
LLP	Lapu-Lapu	3.32	312	eP	P	17 05 51.0	+0.9
LLP				eS	S	17 06 30.0	+0.7
PLP	Palo	3.39	334	eP	P	17 05 48.5	-2.5
PLP				eS	S	17 06 30.4	-0.5
BESP	Borongan	3.63	344	eP	P	17 05 54.9	+0.7
BESP				eS	S	17 06 34.1	-2.7
IPIL	Ipil	3.88	266	eP	P	17 05 58.8	+1.2
CNP	Catarman	4.74	338	eP	P	17 06 05.4	-3.7
CNP				eS	S	17 07 00.9	-2.5
PVCP	Virac	5.92	338	eP	P	17 06 25.4	+0.4
PVCP				eS	Sx	17 07 16.3	
JOW	Kunigami	18.71	5	P	P	17 09 12.1	+2.2
	1.7nm,0.3s,baz=166,slow=14,SNR=4.6						
FITZ	Fitzroy Crossi	26.04	182	P	P	17 10 22.9	+0.8
	1.4nm,0.8s,mb3.4,baz=356,slow=13,SNR=3.9						
CMAR	Chiang Mai Arr	28.67	294	P	P	17 10 45.2	-0.7
	0.8nm,0.8s,mb3.4,baz=124,slow=6.3,SNR=5.4						
WRA	Warramunga Arr	28.91	165	P	P	17 10 47.7	-0.4
	0.1nm,0.5s,mb2.8,baz=343,slow=7.8,SNR=6.1						
ASAR	Alice Springs	32.39	167	P	P	17 11 18.6	0.0
	0.2nm,0.3s,mb3.3,baz=350,slow=7.3,SNR=16						
SONM	Songino Array	43.12	340	P	P	17 12 47.9	-0.1
	0.7nm,1.0s,mb3.4,baz=153,slow=11,SNR=5.1						
MKAR	Makanchi Array	53.88	324	P	P	17 14 11.2	+0.2
	3.3nm,0.8s,mb4.4,baz=124,slow=8.5,SNR=29						
MKAR				PcP	PcP	17 15 14.9	0.0
	1.0nm,0.8s,baz=149,slow=3.0,SNR=4.0						
KURK	Kurchatov	57.97	326	eP	P	17 14 39.6	-0.6
	3.0nm,1.0s,mb4.3						
BVAR	Borovoye Array	63.56	326	P	P	17 15 17.5	-0.5
	0.9nm,0.5s,mb3.9,baz=118,slow=8.3,SNR=8.9						
BRVK	Borovoye	63.64	326	eP	P	17 15 17.6	-0.9
	1.4nm,0.6s,mb4.0						
ZRNK	Zerenda	64.31	326	eP	P	17 15 22.1	-0.7
	1.8nm,0.3s,mb4.4						
FINES	FINESS Array B	87.89	332	P	P	17 17 35.3	+0.4
	0.3nm,0.4s,mb3.7,baz=72,slow=6.0,SNR=4.1						

IDC 16 17:05:13.6±3.7**, 6.90N**×**124.63E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/17**, Error ellipse: s-maj=222.0km s-min=71.4km az=70.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.33	160	P	P	17 11 08.6	-2.8
	0.3nm,0.7s,baz=340,slow=11,SNR=3.7						
ASAR	Alice Springs	31.70	164	P	P	17 11 40.0	-1.4
	0.3nm,0.5s,baz=340,slow=7.2,SNR=4.9						
ASAR				PcP	PcP	17 14 30.8	-2.5
	0.3nm,0.8s,baz=350,slow=2.4,SNR=6.7						
STKA	Stephens Creek	41.82	158	P	P	17 13 05.4	-1.5
	1.9nm,0.8s,baz=353,slow=8.1,SNR=3.6						

IDC 16 17:25:22.1±1.8**, 2.56N**×**124.17E, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.5**/16**, 1C, Error ellipse: s-maj=124.0km s-min=24.7km az=67.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	7.29	10	⇑eP	Pn	17 27 20.1	+7.5
SCPH				iS	Px	17 27 21.3	
FITZ	Fitzroy Crossi	20.58	176	P	P	17 30 03.0	-2.4
	1.5nm,0.9s,baz=357,slow=19,SNR=3.0						
WRA	Warramunga Arr	24.49	156	P	P	17 30 42.3	-2.1
	1.6nm,0.8s,baz=334,slow=11,SNR=9.1						
ASAR	Alice Springs	27.74	161	P	P	17 31 14.0	-0.6
	0.5nm,1.1s,baz=345,slow=7.1,SNR=4.6						
MKAR	Makanchi Array	57.09	327	P	P	17 35 10.0	-2.7
	0.2nm,0.5s,baz=124,slow=6.8,SNR=6.1						

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*THE **16** 17:44:20.0, 40.36N×23.88E, h1^{km}, ML2.4*

*NEIC **16** 17:44:20.0, 40.36N×23.88E, h1^{km}, MD2.8(ATH), ML2.4(THE), After THE.*

*ATH **16** 17:44:19.1, 40.37N×23.86E, h29^{km}±24^{km}, MD2.8/4*

ISC 16 17:44:18.9±0.6**, 40.36N**±0.03×**23.91E**±0.04**, h12^{km}**±5^{km}**, n11, σ0^{s}66**/19**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.06	118	ePg	Pg	17 44 21.6	+0.1
OUR				eSg	Sg	17 44 22.8	-0.4
PLG	Polygyros	0.35	272	ePB	Pb	17 44 26.6	0.0
PLG				eSB	Sb	17 44 31.3	-0.5
PAIG	Paliouri	0.47	202	ePg	Pg	17 44 28.9	+0.3
PAIG				eSg	Sg	17 44 35.5	+0.4
SOH	Sokhos	0.62	317	ePg	Pg	17 44 31.3	-0.3
SOH				eSg	Sg	17 44 40.0	0.0
THE	Thessaloniki	0.77	291	ePg	Pg	17 44 34.0	-0.5
THE				eSg	Sg	17 44 44.6	-0.2
SRS	Serrai	0.79	342	ePg	Pg	17 44 34.3	-0.6
SRS				eSg	Sg	17 44 47.0	+1.5
NVR	Nevrokopi	0.99	358	ePN	Pn	17 44 38.9	+0.5
LIA	Limnos Island	1.08	115	ePN	Pn	17 44 41.0	+1.2
KNT	Kendrikon	1.11	316	ePg	Pg	17 44 40.3	-0.9
KNT				eSg	Sg	17 44 56.7	+0.7
LIT	Litokhoron	1.12	257	ePg	Pg	17 44 41.3	-0.1
	comp=Z,2.2nm,0.3s						
LIT				eSg	Sg	17 44 56.5	+0.1
RDO	Rodhopi	1.46	57	ePB	Pb	17 44 44.2	-1.4

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*NEIC **16** 17:54:30.2±1.0, 50.31N×28.96W, h10^{km}, mb4.0/12, Error ellipse: s-maj=18.8km s-min=9.2km az=212.0*

ISC 16 17:54:29.5±1.2**, 50.3N**±0.1×**28.9W**±0.2**, h10^{km}, n21, σ1^{s}04**/21**, mb4.0**/10**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	14.99	13	P	P	17 58 02.0	-0.9
ESK	Eskdalemuir	16.24	62	eP	P	17 58 20.1	+1.1
	6.8nm,1.1s						
RJF	Les Rejaudoux	20.92	92	eP	P	17 59 13.5	-1.0
	17nm,1.0s						
RJF				eR			
	52nm,17.0s						
TCF	Toulx Ste Croi	20.97	89	eP	P	17 59 14.4	-0.6
	17nm,1.0s						
BAIF	Baives	21.07	78	eP	P	17 59 15.6	-0.4
	11nm,1.0s,mb3.9						
BGF	Bois d’Agland	21.27	88	eP	P	17 59 18.5	+0.4
	26nm,0.8s,mb4.3						
AVF	Avril sur Loir	21.51	87	eP	P	17 59 18.4	-2.1
	13nm,0.9s,mb4.1						
SSF	Saint Saulge	21.51	86	eP	P	17 59 21.0	+0.5
	21nm,1.0s,mb4.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOR	**Lormes**	**21.67**	**85**	*e*P	**P**	**17 59 21.6**	**-0.4**
	7.4nm,0.8s,mb3.9						
LOR				*e*R			
	94nm,19.5s						
SMF	**Signal de Mont**	**21.88**	**87**	*e*P	**P**	**17 59 22.5**	**-1.7**
MEZF	**Maizieres J'vi**	**22.03**	**82**	*e*P	**P**	**17 59 25.2**	**-0.4**
SUMG	**Summit**	**22.73**	**353**	P	**P**	**17 59 33.1**	**+0.9**
	3.7nm,0.9s,mb3.8						
HAU	**Haudompre**	**23.00**	**82**	*e*P	**P**	**17 59 36.6**	**+1.4**
HAU				*e*R			
	47nm,20.0s						
SCHQ	**Schefferville**	**23.31**	**296**	*e*P	**P**	**17 59 38.2**	**+0.1**
	1.3nm,0.6s,mb3.5						
HINF	**Hinteralfeld**	**23.39**	**82**	*e*P	**P**	**17 59 39.6**	**+0.7**
	3.6nm,0.5s,mb3.7						
CDF	**Champ du Feu**	**23.46**	**81**	*e*P	**P**	**17 59 40.9**	**+1.3**
CART	**Cartagena**	**23.59**	**112**	P	**P**	**17 59 40.5**	**-0.6**
	106nm,1.4s,mb5.1						
ORIF	**Oris-en-Rattie**	**23.88**	**90**	*e*P	**P**	**17 59 44.9**	**+1.2**
ORIF				*e*R			
	40nm,20.8s						
LPL	**La Plagne**	**24.17**	**88**	*e*P	**P**	**17 59 47.6**	**+1.0**
	8.2nm,1.0s,mb3.8						
MBDF	**Montbardon**	**24.53**	**89**	*e*P	**P**	**17 59 50.3**	**+0.2**
ARE0	**ARCESS Array S**	**31.80**	**33**	*e*P	**P**	**18 00 52.8**	**-3.0**

IDC 16 18:52:14.4±33.0, 52.16S×140.40E, mb3.9/4, mb1 4.1/4, mb1mx3.9/9, MS3.3/1, Ms1 3.2/1, ms1mx2.8/12, Error ellipse: s-maj=571.0km s-min=63.9km az=149.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.29**	**3**	P	P	18 56 52.2	-2.2
	1.8nm,0.8s,baz=186,slow=9.2,SNR=2.2						
STKA				LR	LR	19 02 50.2	
	comp=Z,77nm,19.5s,baz=206,slow=31						
NWAO	**Narrogin (SRO)**	**25.52**	**310**	P	P	18 57 44.8	-1.2
	15nm,1.3s,baz=135,slow=7.1,SNR=3.6						
ASAR	**Alice Springs**	**28.89**	**348**	P	P	18 58 14.6	-2.2
	0.7nm,0.7s,baz=169,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**32.51**	**349**	P	P	18 58 46.5	-2.4
	1.9nm,0.9s,baz=172,slow=8.6,SNR=10						

IDC 16 19:06:47.9±16.0, 20.82S×175.37W, mb4.0/5, mb1 4.1/6, mb1mx3.9/19, ML4.5/1, Error ellipse: s-maj=303.0km s-min=39.8km az=62.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.55**	**199**	P	P	19 11 05.0	-3.1
	1.6nm,0.3s,baz=321,slow=8.0,SNR=6.9						
RPZ	**Rata Peaks**	**25.48**	**203**	P	P	19 12 18.2	-1.1
	3.4nm,0.4s,baz=47,slow=1.8,SNR=6.0						
CTA	**Charters Tower**	**35.91**	**264**	P	P	19 13 51.5	-0.5
	1.2nm,0.3s,baz=93,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**39.87**	**245**	P	P	19 14 22.9	-2.2
	0.7nm,0.5s,baz=95,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**46.84**	**257**	P	P	19 15 19.6	-2.0
	1.4nm,0.7s,baz=92,slow=8.8,SNR=36						
WRA	**Warramunga Arr**	**46.99**	**262**	P	P	19 15 20.5	-2.4
	0.4nm,0.3s,baz=96,slow=7.7,SNR=26						

*JMA **16** 19:11:05.0±0.4, 47.35N×142.74E, h56^{km}, M3.3*

SKHL 16 19:11:04.6±0.2, 47.13N×142.39E, h11^{km}±3^{km}, mb4.1/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.85**	**191**	P	Pn	19 11 38.6	+2.0
JWK2				*e*S	Sn	19 12 03.3	+3.2
JSE	**Soyaes**	**2.18**	**176**	P	Pn	19 11 42.5	+1.2
JSE				*e*S	Sn	19 12 10.3	+1.9
JKK2	**Kamakawa 2**	**3.27**	**175**	P	Pn	19 11 58.3	+1.5
JTKR	**Abashiri--Toko**	**3.33**	**161**	P	Pn	19 11 57.3	-0.5
JTKR				*e*S	Sn	19 12 37.2	-0.6
JAR	**Ashorobuto**	**3.96**	**165**	P	Pn	19 12 07.6	+1.0
JAR				*e*S	Sn	19 12 53.2	-0.3

IDC 16 19:11:46.1±2.8, 35.13S×178.27E, mb4.0/2, mb1 4.2/3, mb1mx3.9/13, ML3.6/1, Error ellipse: s-maj=59.8km s-min=31.7km az=88.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.26**	**196**	Pn	Pn	19 12 37.1	-2.4
	6.5nm,0.3s,baz=112,slow=11,SNR=15						
URZ				Sn	Sn	19 13 20.9	+1.3
	6.3nm,0.3s,baz=274,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**40.01**	**274**	P	P	19 19 23.4	-1.1
	1.5nm,0.5s,baz=114,slow=7.9,SNR=43						
WRA	**Warramunga Arr**	**41.45**	**280**	P	P	19 19 34.0	-2.2
	1.0nm,0.5s,baz=119,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**148.29**	**335**	PKPbc	PKPdf	19 31 33.1	+1.4
	1.1nm,0.8s,baz=63,slow=3.1,SNR=4.4						

KRSC 16 19:28:47.8±1.9, 54.89N×162.30E, h17^{km}±2^{km}, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.47**	**225**	*e*P	Pb	19 28 58.7	+1.5
MKZ				*e*S	Sb	19 29 05.4	+1.7
TUMR	**Tumrok**	**1.30**	**289**	*e*P	Pn	19 29 11.5	+0.2
TUMR				*e*S	Sb	19 29 29.0	+1.3
KBTR	**Krutoberegovo**	**1.35**	**12**	*e*P	Pn	19 29 12.6	+0.5
KBTR				*e*S	Sb	19 29 30.0	+0.8
KBG	**Krutoberegovo**	**1.39**	**9**	*e*P	Pn	19 29 14.5	+1.9
KBG				*e*S	Sb	19 29 32.5	+2.3
KBG				Smax			
	700nm,0.5s						
KMNR	**Kamenistaya**	**1.46**	**307**	*e*P	Pn	19 29 13.6	-0.1
KMNR				*e*S	Sb	19 29 33.7	+1.3
LGNR	**Loginova**	**1.51**	**323**	*e*P	Pn	19 29 15.2	+0.9
LGNR				*e*S	Sn	19 29 34.8	+1.2
CIRR	**Tsirk**	**1.51**	**325**	*e*P	Pn	19 29 14.4	0.0
CIRR				*e*S	Sn	19 29 33.9	+0.1
KPT	**Kopyto**	**1.60**	**313**	*e*S	Sn	19 29 38.0	+2.0
KRSR	**Krestovskiy**	**1.66**	**324**	*e*P	Pn	19 29 15.7	-0.7
KRSR				*e*S	Sn	19 29 39.7	+2.3
KLY	**Klyuchi**	**1.71**	**327**	*e*P	Pn	19 29 17.2	+0.1
KLY				*e*S	Sn	19 29 37.6	-1.1
SVLR	**Shiveluch**	**1.80**	**341**	*e*P	Pn	19 29 18.8	+0.3
SVLR				*e*S	Sn	19 29 41.2	+0.2
KOZ	**Kozyrevsk**	**1.81**	**311**	*e*P	Pn	19 29 19.1	+0.5
KOZ				*e*S	Sn	19 29 41.5	+0.2
KII	**Karymskiy**	**1.87**	**244**	*e*P	Pn	19 29 19.3	-0.2
KII				*e*S	Sn	19 29 42.0	-0.9
SRDR	**Sredinnyy**	**2.05**	**315**	*e*P	Pn	19 29 20.8	-1.2
SRDR				*e*S	Sn	19 29 47.8	+0.4
BKI	**Bering**	**2.14**	**80**	*e*P	Pn	19 29 22.1	-1.2
BKI				*e*S	Sn	19 29 46.9	-2.7
SPN	**Mys Shipunski**	**2.24**	**218**	*e*P	Pn	19 29 23.1	-1.7
SPN				*e*S	Sn	19 29 50.6	-1.7
ESO	**Esso**	**2.30**	**298**	*e*P	Pn	19 29 26.1	+0.5
ESO				*e*S	Sn	19 29 51.8	-2.0
ESO				Smax			
	50nm,0.6s						
NLC	**Nalytchevo**	**2.45**	**227**	*e*P	Pn	19 29 27.0	-0.8
NLC				*e*S	Sn	19 29 57.9	+0.3
SDLR	**Sedlovina**	**2.58**	**233**	*e*P	Pn	19 29 30.1	+0.5
SDLR				*e*S	Sn	19 30 00.2	-0.7
SMAR	**Somma**	**2.63**	**233**	*e*P	Pn	19 29 30.9	+0.6
SMAR				*e*S	Sn	19 30 00.9	-1.2
UGLR	**Uglovaya**	**2.65**	**232**	*e*P	Pn	19 29 31.1	+0.4
UGLR				*e*S	Sn	19 30 03.6	+0.9
AVH	**Avacha**	**2.66**	**234**	*e*P	Pn	19 29 31.9	+1.2
AVH				*e*S	Sn	19 30 03.2	+0.4
KOK	**Koryaka**	**2.69**	**235**	*e*P	Pn	19 29 31.5	+0.3
KOK				*e*S	Sn	19 30 02.8	-0.8
GNL	**Ganaly**	**2.82**	**247**	*e*P	Pn	19 29 33.3	+0.2
GNL				*e*S	Sn	19 30 07.4	+0.4
PET	**Petropavlovsk**	**2.85**	**231**	*e*P	Pn	19 29 34.4	+0.9
PET				*e*S	Sn	19 30 07.6	-0.2
RUS	**Russkaya**	**3.34**	**224**	*e*P	Pn	19 29 39.9	-0.5
RUS				*e*S	Sn	19 30 18.4	-1.6
GRL	**Gorelyy**	**3.43**	**229**	*e*P	Pn	19 29 42.2	+0.4
GRL				*e*S	Sn	19 30 22.9	+0.4

IDC 16 19:29:47.8±5.9, 30.98S×138.54E, mb1 2.8/3, mb1mx2.8/9, ML2.3/3, Error ellipse: s-maj=141.0km s-min=22.9km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.77**	**110**	*e*P	Pn	19 30 32.8	-1.4
STKA				*e*S	Sn	19 31 04.6	-4.2
	42nm,0.9s						
STKA	**Stephens Creek**	**2.77**	**110**	Pn	Pn	19 30 32.8	-1.4
	0.3nm,0.3s,baz=296,slow=14,SNR=8.2						
STKA				Pg	Pg	19 30 38.8	-4.2
	0.8nm,0.3s,baz=291,slow=15,SNR=16						
BBOO	**Buckleboo**	**2.79**	**228**	*e*P	Pn	19 30 35.5	+1.0
	1.6nm,1.2s						
BBOO				*e*S	Sn	19 31 04.8	-4.6
	13nm,0.3s						
CMSA	**Cobar Meteorol**	**6.15**	**97**	*e*P	Pn	19 31 01.1	-21
ASAR	**Alice Springs**	**8.37**	**329**	Pn	P	19 31 51.5	-1.8
	0.0nm,0.3s,baz=151,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**11.62**	**340**	Pn	P	19 32 34.0	-4.1
	0.1nm,0.3s,baz=163,slow=13,SNR=5.8						

*IDC **16** 19:30:18.3±3.1, 30.77S×138.70E, mb1 3.6/4, mb1mx3.4/10, ML3.0/3, Error ellipse: s-maj=73.1km s-min=13.9km az=38.0*

ISC 16 19:30:15.8±0.7, 30.91S±0.05×138.56E±0.07, h10^{km}, n8, σ1^{s}46/15, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.77**	**111**	*e*P	**Pn**	**19 31 10.0**	**+8.9**
STKA				*e*S	**Sn**	**19 31 42.6**	**+7.7**
	25nm,0.3s						
STKA	**Stephens Creek**	**2.77**	**111**	Pn	**Pn**	**19 31 03.8**	**+2.7**
	1.3nm,0.3s,baz=296,slow=16,SNR=8.5						
STKA				Pg	**Pg**	**19 31 09.8**	**-1.3**
	6.4nm,0.3s,baz=289,slow=16,SNR=20						
STKA				Sn	**Sn**	**19 31 36.0**	**+1.1**
	7.5nm,0.3s,baz=284,slow=12,SNR=5.6						
STKA				Lg		19 31 42.7	
	14nm,0.3s,baz=187,slow=23,SNR=8.3						
BBOO	**Buckleboo**	**2.85**	**228**	*e*P	**Pn**	**19 31 04.0**	**+1.7**
BBOO				*e*S	**Sn**	**19 31 36.3**	**-0.8**
	6.5nm,0.4s						
ARPS	**Mount Arapiles**	**6.45**	**156**	*e*P	**Pn**	**19 31 51.4**	**-1.9**
ARPS				*e*S	**Sn**	**19 33 00.2**	**-7.5**
	12nm,0.6s						
ASAR	**Alice Springs**	**8.32**	**329**	Pn	**P**	**19 32 20.6**	**+1.2**
	0.3nm,0.3s,baz=148,slow=14,SNR=17						
ASAR				Sn	**Sn**	**19 33 53.4**	**-1.0**
	0.3nm,0.3s,baz=156,slow=22,SNR=8.0						
WB2	**Warramunga Arr**	**11.56**	**340**	*e*P	**P**	**19 33 06.2**	**+2.2**
WRA	**Warramunga Arr**	**11.56**	**340**	Pn	**P**	**19 33 04.1**	**0.0**
	0.3nm,0.3s,baz=160,slow=11,SNR=27						
WRA				Sn	**S**	**19 35 11.8**	**-2.5**
	0.1nm,0.3s,baz=160,slow=24,SNR=3.4						
FITZ	**Fitzroy Crossi**	**17.32**	**314**	Pn	**P**	**19 34 19.6**	**+0.2**
	0.1nm,0.3s,baz=135,slow=11,SNR=3.7						

*AUST **16** 19:45:21.7, 31.08S×138.52E, h10^{km}, ML3.3*

AUST Felt.

*IDC **16** 19:45:21.2±2.8, 30.82S×138.67E, mb1 3.8/5, mb1mx3.6/11, ML3.4/5, Error ellipse: s-maj=52.5km s-min=13.8km az=38.0*

*NEIC **16** 19:45:21.0, 31.08S×138.52E, h10^{km}, ML3.3(AUST), After AUST.*

NEIC Felt at Parachilna.

ISC 16 19:45:19.2±0.6, 30.92S±0.04×138.54E±0.05, h10^{km}, n13, σ1^{s}47/22, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.78**	**111**	*e*PG	**Pg**	**19 46 13.1**	**-1.6**
STKA	**Stephens Creek**	**2.78**	**111**	*e*S	**Sn**	**19 46 39.9**	**+1.3**
	21nm,0.2s						
STKA	**Stephens Creek**	**2.78**	**111**	Pn	**Pn**	**19 46 06.3**	**+1.7**
	1.7nm,0.3s,baz=300,slow=12,SNR=36						
STKA				Pg	**Pg**	**19 46 12.3**	**-2.4**
	7.9nm,0.3s,baz=292,slow=15,SNR=40						
STKA				Sn	**Sn**	**19 46 39.4**	**+0.8**
	10nm,0.3s,baz=272,slow=8.1,SNR=5.9						
STKA				Lg		19 46 45.6	
	22nm,0.3s,baz=200,slow=21,SNR=9.8						
STKA	**Stephens Creek**	**2.78**	**111**	*e*P	**Pn**	**19 46 06.2**	**+1.6**
STKA				*e*Pg	**Pg**	**19 46 13.1**	**-1.6**
STKA				*e*S	**Sn**	**19 46 39.9**	**+1.3**
BBOO	**Buckleboo**	**2.83**	**228**	*e*P	**Pn**	**19 46 06.4**	**+1.1**
BBOO				*e*		19 46 09.6	
BBOO				*e*		19 46 12.0	
BBOO				*e*S	**Sn**	**19 46 39.1**	**-0.7**
	9.9nm,0.4s						
ARPS	**Mount Arapiles**	**6.44**	**156**	*e*P	**Pn**	**19 46 54.5**	**-2.0**
ARPS				*e*S	**Sn**	**19 48 02.6**	**-8.3**
	6.8nm,0.2s						
ARPS	**Mount Arapiles**	**6.44**	**156**	*e*P	**Pn**	**19 46 54.5**	**-2.0**
	6.8nm,0.2s						
ARPS				*e*S	**Sn**	**19 48 02.6**	**-8.3**
ASAR	**Alice Springs**	**8.32**	**329**	Pn	**P**	**19 47 23.2**	**+0.4**
	0.4nm,0.3s,baz=150,slow=13,SNR=24						
ASAR				Sn	**Sn**	**19 48 56.0**	**-1.8**
	0.5nm,0.3s,baz=154,slow=22,SNR=10.0						
ASPA	**Alice Springs**	**8.32**	**329**	*e*P	**P**	**19 47 25.3**	**+2.5**
WB2	**Warramunga Arr**	**11.57**	**340**	*e*P	**P**	**19 48 09.3**	**+1.8**
WRA	**Warramunga Arr**	**11.57**	**340**	Pn	**P**	**19 48 07.7**	**+0.1**
	0.5nm,0.3s,baz=160,slow=11,SNR=51						
WRA				Sn	**S**	**19 50 16.0**	**-1.9**
	0.1nm,0.3s,baz=159,slow=24,SNR=3.4						
CTA	**Charters Tower**	**12.84**	**35**	Pn	**P**	**19 48 23.5**	**-1.1**
	0.3nm,0.3s,baz=210,slow=16,SNR=2.5						
FITZ	**Fitzroy Crossi**	**17.32**	**315**	Pn	**P**	**19 49 23.3**	**+0.5**
	0.1nm,0.3s,baz=158,slow=11,SNR=4.6						

*IDC **16** 19:48:55.1±3.2, 5.42S×147.34E, h152^{km}±30^{km}, mb3.7/6, mb1 4.1/9, mb1mx3.9/14, Error ellipse: s-maj=31.1km s-min=19.6km az=96.0*

*NEIC **16** 19:48:55.7±1.6, 5.42S×147.28E, h157^{km}±13^{km}, mb4.5/10, Error ellipse: s-maj=14.4km s-min=12.4km az=97.0*

ISC 16 19:48:54.8±1.6, 5.43S±0.09×147.2E±0.1, h162^{km}±14^{km}, n24, σ0^{s}75/28, mb4.4/9, 4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**181**	P	**P**	**19 49 55.0**	**-0.6**
	50nm,0.3s,baz=12,slow=4.9,SNR=215						
PMG				S	**S**	**19 50 37.6**	**-4.8**
	61nm,0.3s,baz=259,slow=20,SNR=12						
PMG	**Port Moresby**	**3.96**	**181**	*e*Pn	**P**	**19 49 54.8**	**-0.7**
PMG				S	**S**	**19 50 37.6**	**-4.8**
CTA	**Charters Tower**	**14.61**	**184**	*e*P	**P**	**19 52 16.3**	**+1.4**
	8.2nm,0.8s						
CTA	**Charters Tower**	**14.61**	**184**	P	**P**	**19 52 15.6**	**+0.8**
	0.5nm,0.3s,baz=16,slow=12,SNR=12						
CTAO	**Charters Tower**	**14.61**	**184**	*e*P	**P**	**19 52 15.8**	**+1.0**
	8.9nm,0.7s						
KAKA	**Kakadu**	**16.33**	**243**	*e*P	**P**	**19 52 36.1**	**-0.2**
	22nm,0.6s						
WRAB	**Tennant Creek**	**19.11**	**220**	*e*P	**P**	**19 53 07.2**	**-0.3**
	104nm,0.6s						
WB2	**Warramunga Arr**	**19.12**	**220**	⇓*i*P	**P**	**19 53 07.4**	**-0.2**
WB2				*e*S	**S**	**19 56 31.1**	**+0.2**
WRA	**Warramunga Arr**	**19.12**	**220**	P	**P**	**19 53 07.4**	**-0.3**
	9.5nm,0.3s,baz=45,slow=11,SNR=165						
ASAR	**Alice Springs**	**22.23**	**214**	P	**P**	**19 53 40.2**	**+1.6**
	38nm,0.7s,mb5.0,baz=49,slow=8.5,SNR=314						
ASPA	**Alice Springs**	**22.23**	**214**	⇓*i*P	**P**	**19 53 40.2**	**+1.5**
ASPA				*e*S	**S**	**19 57 26.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.57**	**237**	⇓*i*P	**P**	**19 54 01.7**	**+0.4**
	46nm,0.4s,mb5.4						
FITZ	**Fitzroy Crossi**	**24.57**	**237**	P	**P**	**19 54 01.7**	**+0.4**
	52nm,0.4s,mb5.4,baz=45,slow=6.1,SNR=175						
ARMA	**Armidale**	**25.20**	**171**	*e*P	**P**	**19 54 07.7**	**+0.6**
STKA	**Stephens Creek**	**26.84**	**191**	*e*P	**P**	**19 54 20.6**	**-1.5**
	4.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**26.84**	**191**	P	**P**	**19 54 21.1**	**-1.0**
	1.6nm,0.4s,mb4.0,baz=12,slow=10,SNR=4.9						
FORT	**Forrest**	**31.01**	**213**	*e*P	**P**	**19 54 58.6**	**-0.7**
	60nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**37.95**	**223**	⇓*i*P	**P**	**19 55 57.7**	**-0.7**
	8.8nm,0.4s,mb4.7						
SONM	**Songino Array**	**64.02**	**331**	P	**P**	**19 59 13.5**	**+0.3**
	1.0nm,0.9s,mb3.6,baz=144,slow=9.2,SNR=7.7						
VNDA	**Vanda**	**72.47**	**177**	P	**P**	**20 00 05.0**	**0.0**
	1.4nm,0.7s,mb3.8,baz=329,slow=5.7,SNR=8.8						
VNDA	**Vanda**	**72.47**	**177**	*e*P	**P**	**20 00 04.7**	**-0.2**
	1.2nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**77.21**	**320**	P	**P**	**20 00 32.5**	**0.0**
	0.3nm,0.4s,baz=96,slow=8.1,SNR=5.8						
QSPA	**South Pole Qui**	**84.54**	**180**	*e*P	**P**	**20 01 10.3**	**+0.1**
	1.8nm,0.5s,mb4.1						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**20 01 11.7**	**-0.4**
	0.8nm,0.6s,mb3.6,baz=258,slow=4.9,SNR=7.2						

IDC 16 19:53:10.1±2.4, 5.52S×129.80E, mb3.6/1, mb1 4.2/4, mb1mx3.8/12, ML3.9/3, Error ellipse: s-maj=106.0km s-min=29.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.15**	**198**	Pn	P	19 56 19.1	-1.8
	0.8nm,0.3s,baz=18,slow=11,SNR=5.8						
FITZ				Sn	S	19 58 26.3	-23
	0.8nm,0.3s,baz=196,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**15.00**	**163**	Pn	P	19 56 45.3	0.0
	0.4nm,0.3s,baz=344,slow=12,SNR=4.8						
WRA				Sn	S	19 59 19.5	-14
	0.8nm,0.3s,baz=340,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**18.47**	**168**	P	P	19 57 26.1	-3.2
	1.0nm,0.3s,baz=349,slow=11,SNR=16						
ASAR				S	S	20 00 41.9	-11
	0.2nm,0.3s,baz=352,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**66.89**	**327**	P	P	20 04 04.2	-2.1
	0.3nm,0.5s,baz=125,slow=7.1,SNR=4.0						

*MDD **16** 19:59:32.5±0.7, 40.62N×7.29W, h11^{km}±1^{km}, mbLg1.5/7, Error ellipse: s-maj=6.1km s-min=2.9km az=92.0, PRXIMO*

INMG 16 19:59:32.5±0.8, 40.62N×7.29W, h10^{km}±4^{km}, ML1.1, Error ellipse: s-maj=2.6km s-min=2.0km az=78.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTE	**Manteigas**	**0.30**	**222**	*e*Pg	Pg	19 59 37.7	-1.0
MTE				*e*Sg	Sg	19 59 42.5	-0.3
	14nm,0.7s						
MTE	**Manteigas**	**0.30**	**222**	Pg	Pg	19 59 37.7	-1.0
MTE				Lg		19 59 42.5	
	6.8nm,0.7s						
PVIS	**Viseu**	**0.47**	**282**	*e*Pg	Pg	19 59 41.4	-0.7
PVIS				*e*Sg	Sg	19 59 47.7	-0.9
PVRL	**Vila Real**	**0.73**	**334**	*e*Pg	Pg	19 59 46.0	-1.2
PCBR	**Castelo Branco**	**0.79**	**191**	*e*Pg	Pg	19 59 47.1	-1.3
PCBR				*e*Sg	Sg	19 59 58.2	-0.9
	6.3nm,0.4s						
PCBR	**Castelo Branco**	**0.79**	**191**	Pg	Pg	19 59 47.1	-1.3
PCBR				Lg		19 59 58.2	
	3.2nm,0.4s						
PBRG	**Braganca**	**1.25**	**19**	*e*P	Pb	19 59 54.7	-1.0
PBRG				*e*S	Sb	20 00 11.2	-0.5
	3.3nm,0.1s						
PBRG	**Braganca**	**1.25**	**19**	Pg	Pg	19 59 54.7	-2.9
PBRG				Lg		20 00 11.2	
	1.6nm,0.1s						
ELOB	**Lobios**	**1.38**	**335**	Pg	Pg	19 59 57.8	-2.2
	1.5nm,0.2s,SNR=7.9						
ELOB				Lg		20 00 16.1	
	6.7nm,0.4s,SNR=7.0						
ECAL	**Calabor**	**1.38**	**17**	Pg	Pg	19 59 58.0	-2.2
	3.0nm,0.1s,SNR=19						
ECAL				Lg		20 00 16.3	
	4.8nm,0.2s,SNR=12						
ERUA	**La Rua**	**1.77**	**3**	Pg	Pg	20 00 05.0	-3.0
	1.5nm,0.2s,SNR=7.9						
ERUA				Lg		20 00 28.1	
	1.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**1.87**	**173**	Pg	Pg	20 00 05.5	-4.4
	0.5nm,0.1s,SNR=7.9						
EBAD				Lg		20 00 30.3	
	2.9nm,0.2s,SNR=5.5						
EMIN	**Mina Concepcio**	**2.89**	**170**	Pg	Pg	20 00 24.9	-5.3
	0.2nm,0.2s,SNR=7.9						
EMIN				Lg		20 01 04.3	
	0.6nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.23**	**139**	Pg	Pg	20 00 31.0	-6.0
	0.2nm,0.2s,SNR=7.9						
EADA				Lg		20 01 13.4	
	0.5nm,0.3s,SNR=7.9						

IDC 16 20:04:20.0±1.9, 0.50N×124.84E, mb3.3/3, mb1 3.6/3, mb1mx3.3/14, Error ellipse: s-maj=190.0km s-min=26.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.35**	**156**	P	P	20 09 18.6	-2.6
	0.8nm,0.7s,baz=333,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**25.59**	**160**	P	P	20 09 52.1	-0.6
	0.6nm,0.8s,baz=347,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**59.17**	**327**	P	P	20 14 22.7	-2.4
	0.2nm,0.5s,baz=135,slow=5.1,SNR=4.4						

MAN 16 20:19:21.1, 16.67N×120.48E, h12^{km}, mb4.1, ML2.9, MS2.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.30**	**162**	⇓*i*P	Pg	20 19 28.1	+0.6
BCPH				*i* S	Sg	20 19 33.6	+1.8
BOLP	**Bolinao**	**0.62**	**242**	*e*P	Pb	20 19 33.2	-0.1
BOLP				*e*S	Sb	20 19 43.3	+1.6
ABRA	**Dolores**	**1.00**	**13**	*e*P	Pb	20 19 38.5	-1.4
ABRA				*e*S	Sb	20 19 52.2	-0.6
SCZP	**Santa Cruz**	**1.04**	**212**	*e*P	Pb	20 19 39.4	-1.3
SCZP				*e*S	Sb	20 19 57.0	+2.9
CAUP	**Cauayan**	**1.31**	**78**	*e*P	Pb	20 19 46.5	+1.3
CAUP				*e*S	Sb	20 20 07.1	+5.3
APYP	**Conner**	**1.39**	**31**	*e*P	Pn	20 19 44.8	-1.7
APYP				*e*S	Sb	20 20 00.8	-3.3
BALP	**Baler**	**1.40**	**131**	*e*P	Pn	20 19 45.4	-1.2
BALP				*e*S	Sb	20 20 05.2	+0.8
PIP	**Pasuquin**	**1.65**	**4**	⇓*i*P	Pn	20 19 50.6	+0.5
PIP				*e*S	Sn	20 20 12.0	+0.5
PALP	**Palanan**	**1.90**	**78**	*e*P	Pn	20 19 56.9	+3.2
PALP				*e*S	Sn	20 20 24.4	+6.6
SGCP	**Mt. Cagua**	**2.16**	**43**	*e*P	Pn	20 19 57.9	+0.4
LUBP	**Lubang**	**2.93**	**185**	*e*P	Pn	20 19 53.8	-15
LUBP				*e*S	Sn	20 20 43.7	-0.2

*NEIC **16** 20:21:49.3, 38.22S×175.93E, h173^{km}, After WEL.*

WEL 16 20:21:48.8±0.3, 38.22S×175.95E, h177^{km}±3^{km}, ML4.3/6, Error ellipse: s-maj=2.8km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.85**	**202**	PN	P	20 22 15.7	+0.3
MGZ	**Maungaku**	**0.85**	**202**	P	P	20 22 16.0	+0.6
HIZ	**Hauiti**	**0.91**	**251**	PN	P	20 22 15.3	-0.5
HIZ				*e*SN	S	20 22 37.4	+0.8
NGZ	**Ngauruhoe**	**1.00**	**196**	PN	P	20 22 16.6	+0.3
NGZ	**Ngauruhoe**	**1.00**	**196**	P	P	20 22 16.6	+0.2
CNZ	**Chateau**	**1.03**	**198**	PN	P	20 22 17.0	+0.4
BKZ	**Black Stump Fm**	**1.04**	**156**	PN	P	20 22 16.7	0.0
BKZ				SN	S	20 22 38.0	-0.3
BKZ	**Black Stump Fm**	**1.04**	**156**	P	P	20 22 16.7	0.0
BKZ				S	S	20 22 38.0	-0.3
TUVZ	**Tukino**	**1.08**	**192**	PN	P	20 22 17.0	0.0
TUVZ	**Tukino**	**1.08**	**192**	P	P	20 22 17.1	+0.1
FWVZ	**Far West T-bar**	**1.08**	**197**	PN	P	20 22 16.7	-0.4
FWVZ	**Far West T-bar**	**1.08**	**197**	*e*P	P	20 22 16.8	-0.3
WNVZ	**Wahianoa**	**1.15**	**194**	PN	P	20 22 17.4	-0.2
WNVZ				*e*SN	S	20 22 39.5	-0.3
MOVZ	**Moawhango**	**1.20**	**187**	PN	P	20 22 17.5	-0.7
MOVZ				SN	S	20 22 39.6	-1.2
MWZ	**Matawai**	**1.25**	**96**	PN	P	20 22 18.2	-0.4
MWZ				SN	S	20 22 40.7	-0.8
MWZ	**Matawai**	**1.25**	**96**	P	P	20 22 18.2	-0.3
VRZ	**Vera Road**	**1.30**	**225**	PN	P	20 22 18.6	-0.5
VRZ				*e*SN	S	20 22 43.7	+1.3
VRZ	**Vera Road**	**1.30**	**225**	P	P	20 22 18.6	-0.5
KNZ	**Kokohu**	**1.57**	**121**	PN	P	20 22 21.4	-0.2

KNZ				SN	S	20 22 45.6	-1.3
KNZ	**Kokohu**	**1.57**	**121**	*e*P	P	20 22 21.6	0.0
RAEZ	**Rainy Point**	**1.62**	**228**	PN	P	20 22 22.0	-0.1
RAEZ	**Rainy Point**	**1.62**	**228**	P	P	20 22 22.0	-0.1
WAZ	**Wanganui**	**1.71**	**206**	PN	P	20 22 21.8	-1.2
WAZ	**Wanganui**	**1.71**	**206**	*e*P	P	20 22 23.0	0.0
NEZ	**North Egmont**	**1.79**	**233**	PN	P	20 22 23.5	-0.3
NEZ	**North Egmont**	**1.79**	**233**	P	P	20 22 23.3	-0.5
DFE	**Dawson Falls**	**1.82**	**232**	PN	P	20 22 23.7	-0.4
DFE	**Dawson Falls**	**1.82**	**232**	P	P	20 22 23.7	-0.4
PUZ	**Puketiti**	**1.82**	**86**	PN	P	20 22 23.2	-0.9
PUZ				SN	S	20 22 50.0	-1.4
PUZ	**Puketiti**	**1.82**	**86**	P	P	20 22 23.2	-1.0
TSZ	**Takapari Road**	**1.84**	**180**	PN	P	20 22 23.3	-1.1
TSZ				*e*SN	S	20 22 50.5	-1.3
TSZ	**Takapari Road**	**1.84**	**180**	*e*P	P	20 22 23.3	-1.1
NRZ	**Ngariki Road**	**1.93**	**234**	PN	P	20 22 24.2	-1.2
NWEZ	**Newall Road**	**1.94**	**236**	PN	P	20 22 24.5	-0.9
NWEZ	**Newall Road**	**1.94**	**236**	P	P	20 22 24.7	-0.7
MXZ	**Matakaoa Point**	**1.97**	**71**	PN	P	20 22 25.0	-0.8
MXZ				SN	S	20 22 54.0	-0.2
MXZ	**Matakaoa Point**	**1.97**	**71**	*e*P	P	20 22 25.1	-0.6
MRZ	**Mangatainoka R**	**2.46**	**187**	PN	P	20 22 28.9	-2.5
MRZ				SN	S	20 22 59.5	-4.7
MRZ	**Mangatainoka R**	**2.46**	**187**	*e*P	P	20 22 28.9	-2.5
BFZ	**Birch Farm**	**2.47**	**175**	*e*P	P	20 22 29.6	-2.0
KIW	**Kapiti Island**	**2.76**	**197**	PN	P	20 22 31.9	-3.1
KIW				SN	S	20 23 05.7	-4.9
KIW	**Kapiti Island**	**2.76**	**197**	P	P	20 22 31.9	-3.1
MTW	**Mount Morrison**	**2.96**	**187**	PN	P	20 22 34.0	-3.4
MTW	**Mount Morrison**	**2.96**	**187**	P	P	20 22 34.1	-3.3
CAW	**Cannon Point**	**2.97**	**193**	PN	P	20 22 34.1	-3.4
CAW				SN	S	20 23 10.4	-4.6
CAW	**Cannon Point**	**2.97**	**193**	P	P	20 22 34.4	-3.1
MRW	**Makara Radio**	**3.16**	**197**	PN	P	20 22 36.4	-3.5
MRW				SN	S	20 23 13.8	-5.5
MRW	**Makara Radio**	**3.16**	**197**	P	P	20 22 36.4	-3.5
MSWZ	**Moikau Station**	**3.24**	**189**	PN	P	20 22 37.3	-3.7
TUWZ	**Tuamarina**	**3.56**	**205**	PN	P	20 22 41.1	-3.9
TUWZ				SN	S	20 23 21.8	-6.5
NNZ	**Nelson**	**3.60**	**213**	PN	P	20 22 41.7	-3.8
NNZ				SN	S	20 23 23.8	-5.2
NNZ	**Nelson**	**3.60**	**213**	*e*P	P	20 22 41.7	-3.7
QRZ	**Quartz Range**	**3.72**	**224**	PN	P	20 22 42.1	-4.8
QRZ				SN	S	20 23 26.4	-5.3
QRZ	**Quartz Range**	**3.72**	**224**	*e*P	P	20 22 42.1	-4.8
BSWZ	**Blackbirch Sta**	**3.84**	**204**	PN	P	20 22 43.9	-4.6
BSWZ				SN	S	20 23 28.7	-5.8
THZ	**Tophouse**	**4.25**	**212**	PN	P	20 22 48.8	-5.0
THZ				SN	S	20 23 37.5	-6.3
THZ	**Tophouse**	**4.25**	**212**	*e*P	P	20 22 49.7	-4.0
KHZ	**Kahutara**	**4.58**	**203**	PN	P	20 22 53.3	-4.8
KHZ				SN	S	20 23 43.8	-7.8
KHZ	**Kahutara**	**4.58**	**203**	*e*P	P	20 22 53.4	-4.7
DSZ	**Denniston Nort**	**4.75**	**221**	PN	P	20 22 54.9	-5.4
DSZ				SN	S	20 23 47.0	-8.5
DSZ	**Denniston Nort**	**4.75**	**221**	P	P	20 22 54.9	-5.4
LTZ	**Lake Taylor**	**5.36**	**210**	PN	P	20 23 02.5	-5.7
LTZ	**Lake Taylor**	**5.36**	**210**	*e*P	P	20 23 02.5	-5.6
MQZ	**McQueen’s Vall**	**6.03**	**203**	PN	P	20 23 10.7	-6.2
MQZ				SN	S	20 24 13.2	-12
MQZ	**McQueen’s Vall**	**6.03**	**203**	*e*P	P	20 23 10.5	-6.4
WVZ	**Waitaha Valley**	**6.27**	**218**	*e*PN	P	20 23 13.6	-6.5
ODZ	**Otahua Downs**	**7.89**	**209**	*e*P	P	20 23 35.5	-6.1
JCZ	**Jackson Bay**	**7.98**	**221**	*e*PN	P	20 23 36.1	-6.7
JCZ				SN	S	20 24 58.6	-13

DJA 16 20:50:35.3±0.9, 9.47S×115.16E, h12^{km}±28^{km}, MD6.0/2, ML3.6/2, 4C-4D, Error ellipse: s-maj=56.7km s-min=9.9km az=7.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.65**	**359**	⇓*i*Pn	Pn	20 50 47.7	-2.3
	402nm,0.2s						
INGI				⇑*i*Sn	Sn	20 50 56.1	-4.0
RATI	**Rata**	**0.83**	**26**	⇑*i*Pn	Pn	20 50 49.9	-2.7
	861nm,0.2s						
RATI				⇑*i*Sn	Sn	20 51 00.1	-4.6
KEDI	**Kedomdong**	**1.36**	**44**	⇓*i*Pn	Pn	20 50 57.3	-2.9
	110nm,0.2s						
KEDI				⇑*i*Sn	Sn	20 51 13.9	-4.3
KELI	**Kelakatan**	**1.41**	**332**	⇓*i*Pn	Pn	20 50 58.2	-2.7
	36nm,0.2s						
KELI				⇓*i*Sn	Sn	20 51 15.3	-4.2

ATH 16 20:52:13.5, 38.00N×20.52E, h6^{km}, MD3.4/5

THE 16 20:52:15.7, 38.13N×20.49E, h10^{km}, ML3.1

NEIC 16 20:52:15.7, 38.13N×20.49E, h10^{km}, MD3.4(ATH), ML3.1(THE), After THE.

ISC 16 20:52:13.3±1.3, 38.01N±0.05×20.47E±0.09, h6^{km}, n11, σ0^{s}95/18, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.20**	**30**	⇓*i*PG	**Pg**	**20 52 17.0**	**-0.4**
VLS				*e*SG	**Sg**	**20 52 20.8**	**+0.7**
LKD	**Levkas**	**0.71**	**12**	*e*Pg	**Pg**	**20 52 25.9**	**-1.7**
LKD				*e*Sg	**Sg**	**20 52 36.0**	**-1.2**
EVR	**Evrytania**	**1.39**	**49**	*e*PB	**Pb**	**20 52 39.5**	**+0.2**
ITM	**Ithomi**	**1.43**	**125**	*e*PB	**Pb**	**20 52 39.5**	**-0.4**
IGT	**Igoumenitsa**	**1.53**	**356**	*e*Pb	**Pb**	**20 52 41.6**	**0.0**
IGT				*e*Sb	**Sb**	**20 53 01.8**	**+0.7**
JAN	**Janina**	**1.68**	**10**	*e*PG	**Pg**	**20 52 43.5**	**-3.3**
AGG	**Agios Georgios**	**1.78**	**55**	*e*Pb	**Pb**	**20 52 46.5**	**+0.5**
AGG				*e*Sb	**Sb**	**20 53 08.7**	**+0.2**
KEK	**Kerkira**	**1.78**	**343**	*e*PN	**Pn**	**20 52 47.5**	**+2.6**
MEV	**Metsovon**	**1.87**	**18**	*e*Pb	**Pb**	**20 52 47.2**	**-0.4**
MEV				*e*Sb	**Sb**	**20 53 11.6**	**+0.4**
LIT	**Litokhoron**	**2.62**	**36**	*e*Pn	**Pn**	**20 52 58.1**	**+1.2**
LIT				*e*Sn	**Sn**	**20 53 29.1**	**-0.3**
FNA	**Florina**	**2.86**	**14**	*e*Pn	**Pn**	**20 52 59.7**	**-0.7**
FNA				*e*Sn	**Sn**	**20 53 35.9**	**+0.4**

IDC 16 21:05:35.5±1.4, 19.90S×173.12W, mb4.2/6, mb1 4.5/7, mb1mx4.1/20, ML4.6/1, Error ellipse: s-maj=66.2km s-min=26.5km az=159.0

ISC 16 21:05:37.5±0.9, 20.2S±0.3×172.9W±0.1, h33^{km}, n8, σ0^{s}74/7, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.36**	**97**	Pn	**P**	**21 08 33.8**	**-0.2**
	3.1nm,0.3s,baz=271,slow=13,SNR=4.3						
CTA	**Charters Tower**	**38.25**	**263**	P	**P**	**21 12 55.3**	**-1.2**
	4.4nm,0.7s,mb4.3,baz=87,slow=13,SNR=7.6						
STKA	**Stephens Creek**	**42.22**	**244**	P	**P**	**21 13 30.6**	**+1.3**
	2.0nm,0.6s,mb3.9,baz=84,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**49.22**	**256**	P	**P**	**21 14 25.1**	**+0.2**
	5.3nm,0.8s,mb4.6,baz=97,slow=7.6,SNR=24						
WRA	**Warramunga Arr**	**49.35**	**261**	P	**P**	**21 14 26.2**	**+0.2**
	1.4nm,0.6s,mb4.2,baz=95,slow=7.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**57.78**	**261**	P	**P**	**21 15 27.5**	**-0.7**
	2.3nm,0.5s,mb4.5,baz=163,slow=9.5,SNR=6.4						
ILAR	**Eielson Array**	**87.00**	**11**	P	**P**	**21 18 20.8**	**+0.5**
	0.6nm,0.6s,mb4.0,baz=225,slow=6.1,SNR=4.5						
BRTR	**Keskin Array B**	**150.01**	**316**	PKPbc	PKPdf	21 25 28.8	+9.0
	0.6nm,0.7s,baz=124,slow=5.2,SNR=2.6						

NEIC 16 21:05:53.8, 46.67N×121.47W, h0^{km}, MD4.0(SEA), MW4.0(SLM), After SEA.

NEIC Felt [V] at Packwood, [IV] at Naches, [III] at Randle and [II] at Buckley, Olympia and Seattle.

IDC 16 21:05:55.8±1.8, 46.67N×121.26W, h19^{km}±13^{km}, mb3.7/4, mb1 4.0/11, mb1mx3.8/26, ML4.0/6, MS3.0/5, Ms1 3.0/5, ms1mx2.7/23, Error ellipse: s-maj=12.4km s-min=8.4km az=116.0

ISC 16 21:05:53.1±0.3, 46.68N±0.01×121.46W±0.02, h6^{km}±3^{km}, n168, σ0^{s}78/170, mb3.8/4, MS2.9/2, 52C-32D, Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPW	**White Pass**	**0.06**	**289**	⇓P	**Pg**	**21 05 55.5**	**+0.8**
GLK	**Glacier Lake**	**0.15**	**221**	⇑P	**Pg**	**21 05 57.3**	**+0.9**
LON	**Longmire**	**0.25**	**287**	⇑P	**Pg**	**21 05 58.4**	**+0.2**
RCS	**Mount Rainier-**	**0.27**	**316**	⇓P	**Pg**	**21 05 59.0**	**+0.4**
FMW	**Mount Fremont**	**0.29**	**331**	⇓P	**Pg**	**21 05 59.4**	**+0.3**
REMR	**Mount Rainier-**	**0.29**	**299**	⇑P	**Pg**	**21 05 59.4**	**+0.3**
RVC	**Mount Rainier-**	**0.44**	**307**	⇑P	**Pg**	**21 06 02.1**	**+0.2**
NAC	**Naches**	**0.44**	**83**	⇑P	**Pg**	**21 06 02.5**	**+0.4**
ASR	**Mount Adams--S**	**0.54**	**190**	⇓P	**Pg**	**21 06 04.0**	**+0.1**
LMW	**Ladd Mountain**	**0.57**	**269**	⇑P	**Pg**	**21 06 04.6**	**+0.1**
GSM	**Grass Mountain**	**0.57**	**337**	⇑P	**Pg**	**21 06 04.4**	**-0.2**
PCMD	**Pierce County**	**0.61**	**290**	⇑P	**Pg**	**21 06 05.0**	**-0.4**
TDL	**Tradedollar La**	**0.61**	**238**	⇑P	**Pg**	**21 06 05.1**	**-0.4**
TWW	**Teanaway**	**0.61**	**41**	⇓P	**Pg**	**21 06 05.8**	**+0.4**
SOSW	**Source of Smit**	**0.64**	**227**	⇑P	**Pg**	**21 06 05.6**	**-0.3**
EBG	**Ellensburg**	**0.66**	**69**	P	**Pg**	**21 06 06.7**	**+0.4**
GHW	**Garrison Hill**	**0.66**	**304**	⇑P	**Pg**	**21 06 06.0**	**-0.4**
ESD	**East Dome**	**0.68**	**225**	⇑P	**Pg**	**21 06 06.5**	**-0.2**
STD	**Studebaker Rid**	**0.69**	**230**	⇓P	**Pg**	**21 06 06.4**	**-0.5**
YEL	**Yellow Rock**	**0.69**	**227**	P	**Pg**	**21 06 06.6**	**-0.3**
CDFW	**Cedar Flats**	**0.69**	**216**	⇑P	**Pg**	**21 06 06.7**	**-0.3**
HSR	**South Ridge**	**0.71**	**225**	⇑P	**Pg**	**21 06 07.0**	**-0.3**
ERK	**Elk Rock**	**0.71**	**239**	⇑P	**Pg**	**21 06 06.7**	**-0.7**
PCEP	**Pierce County**	**0.71**	**308**	P	**Pg**	**21 06 07.0**	**-0.4**
JLK	**June Lake**	**0.71**	**222**	⇑P	**Pg**	**21 06 07.0**	**-0.4**
SHW	**Mount Saint He**	**0.72**	**228**	⇑P	**Pg**	**21 06 07.2**	**-0.4**
RAW	**Raver**	**0.73**	**334**	P	**Pg**	**21 06 07.5**	**-0.2**
PCFR	**Pierce County**	**0.74**	**295**	⇓P	**Pg**	**21 06 07.3**	**-0.6**
GULW	**Guler Mountain**	**0.76**	**187**	⇓P	**Pb**	**21 06 08.1**	**-0.2**
TBM	**Table Mountain**	**0.77**	**50**	⇓P	**Pb**	**21 06 08.7**	**+0.2**
FL2	**Flat Top 2**	**0.78**	**232**	⇓P	**Pb**	**21 06 08.1**	**-0.6**
LTY	**Liberty**	**0.79**	**43**	⇓P	**Pb**	**21 06 08.7**	**-0.2**
MXC	**Moxie City**	**0.81**	**97**	⇑P	**Pb**	**21 06 09.5**	**+0.2**
RMW	**Rattlesnake Mo**	**0.82**	**343**	⇓P	**Pb**	**21 06 08.7**	**-0.6**
MTMW	**Mount Mitchell**	**0.83**	**219**	⇑P	**Pb**	**21 06 09.1**	**-0.5**
GL2	**New Goldendale**	**0.84**	**148**	⇓P	**Pb**	**21 06 10.0**	**+0.2**
LCW	**Lucas Creek**	**0.85**	**270**	⇑P	**Pb**	**21 06 09.2**	**-0.7**
ELW	**Echo Lake**	**0.86**	**341**	⇓P	**Pb**	**21 06 09.6**	**-0.5**
LVP	**Lakeview Peak**	**0.90**	**227**	⇑P	**Pb**	**21 06 09.9**	**-0.7**
UPS	**University of**	**0.91**	**310**	P	**Pb**	**21 06 10.7**	**-0.2**
APM	**Augspurger Mou**	**0.95**	**189**	P	**Pb**	**21 06 11.6**	**-0.1**
MEW	**McNeil Island**	**0.96**	**303**	⇑P	**Pb**	**21 06 11.9**	**+0.1**
PNLK	**Pine Lake Midd**	**0.98**	**337**	⇓P	**Pb**	**21 06 12.1**	**0.0**
RHAZ	**Hazelwood Elem**	**0.99**	**330**	P	**Pb**	**21 06 12.2**	**-0.1**
TTW	**Tolt Reservoir**	**1.03**	**351**	⇓P	**Pb**	**21 06 12.0**	**-0.9**
RVW	**Rose Valley**	**1.03**	**240**	⇑P	**Pb**	**21 06 12.1**	**-0.8**
BRVW	**Black Rock Val**	**1.03**	**100**	⇑P	**Pb**	**21 06 13.4**	**+0.4**
ALCT	**Alcott Element**	**1.04**	**338**	P	**Pb**	**21 06 13.4**	**+0.2**
WISC	**Wilburton Inst**	**1.05**	**333**	P	**Pb**	**21 06 13.9**	**+0.6**
BVW	**Beverly**	**1.09**	**82**	⇑P	**Pb**	**21 06 14.3**	**+0.2**
QAW	**Queen Anne**	**1.13**	**328**	P	**Pb**	**21 06 15.9**	**+1.2**
EARN	**East Ridge Ele**	**1.13**	**340**	P	**Pb**	**21 06 14.8**	**+0.2**
HTW	**Haystack Looko**	**1.14**	**350**	⇑P	**Pb**	**21 06 14.0**	**-0.9**
FINN	**Finn Hill Juni**	**1.17**	**334**	P	**Pb**	**21 06 15.8**	**+0.5**
LAWT	**Lawton Element**	**1.17**	**327**	P	**Pb**	**21 06 16.3**	**+1.0**
MDW	**Midway**	**1.18**	**93**	⇑P	**Pb**	**21 06 15.6**	**+0.2**
LEOT	**Leota Junior H**	**1.18**	**338**	P	**Pb**	**21 06 15.8**	**+0.3**
CPW	**Capitol Peak**	**1.19**	**285**	⇑P	**Pb**	**21 06 14.9**	**-0.7**
ETW	**Entiat**	**1.21**	**39**	⇓P	**Pb**	**21 06 15.8**	**-0.2**
VLMM	**Larch Mountain**	**1.21**	**200**	⇑P	**Pb**	**21 06 15.5**	**-0.5**
KIMR	**Kitsap County**	**1.21**	**313**	P	**Pb**	**21 06 15.6**	**-0.5**
BENWA	**Benson Ranch**	**1.22**	**97**	⇑P	**Pb**	**21 06 16.2**	**+0.1**
VLL	**Laurance Lake**	**1.23**	**187**	P	**Pb**	**21 06 16.1**	**-0.2**
BMW	**Boistfort Moun**	**1.23**	**261**	⇑P	**Pb**	**21 06 15.6**	**-0.9**
WRW	**Wenatchee Ridg**	**1.24**	**18**	⇓P	**Pb**	**21 06 16.1**	**-0.5**
GMW	**Gold Mountain**	**1.25**	**314**	⇑P	**Pb**	**21 06 16.0**	**-0.8**
SLFW	**Sugar Loaf**	**1.25**	**30**	⇓P	**Pb**	**21 06 16.4**	**-0.4**
VGB	**Gordon Butte**	**1.26**	**157**	*e*P	**Pb**	**21 06 16.9**	**0.0**
SNIWA	**Snively Ranch**	**1.26**	**99**	⇑P	**Pb**	**21 06 17.1**	**+0.2**
GBB	**Gable Butte**	**1.27**	**93**	⇑P	**Pb**	**21 06 17.3**	**+0.3**
KITP	**Kitsap County**	**1.27**	**322**	P	**Pb**	**21 06 17.8**	**+0.6**
GNW	**Green Mountain**	**1.28**	**314**	⇑P	**Pb**	**21 06 16.2**	**-1.1**
WAH2	**Wahluke Slope**	**1.31**	**86**	⇑P	**Pb**	**21 06 18.0**	**+0.3**
PRW	**Prosser**	**1.31**	**110**	⇑P	**Pb**	**21 06 18.2**	**+0.4**
RSW	**Rattlesnake Hi**	**1.32**	**102**	⇑P	**Pb**	**21 06 18.1**	**+0.1**
VFP	**Flag Point**	**1.36**	**180**	P	**Pb**	**21 06 18.2**	**-0.4**
HAWA	**Hanford**	**1.36**	**101**	⇑*e*P	**Pb**	**21 06 18.7**	**0.0**
FHE	**Frenchman Hill**	**1.38**	**78**	⇑P	**Pb**	**21 06 19.2**	**+0.3**
GBL	**Gable Mountain**	**1.38**	**93**	⇑P	**Pb**	**21 06 19.2**	**+0.2**
PGO	**Gresham**	**1.39**	**210**	P	**Pn**	**21 06 19.1**	**-0.1**
LOCW	**Locke Island**	**1.40**	**88**	⇑P	**Pn**	**21 06 19.6**	**+0.3**
TDH	**Tom, Dick, Har**	**1.41**	**189**	⇓P	**Pn**	**21 06 19.0**	**-0.4**
CRF	**Corfu**	**1.44**	**83**	⇑P	**Pn**	**21 06 20.0**	**+0.2**
H2OWA	**Water**	**1.44**	**101**	⇑P	**Pn**	**21 06 19.8**	**+0.1**
SMW	**South Mountain**	**1.44**	**297**	⇑P	**Pn**	**21 06 19.3**	**-0.5**
EPH	**Ephrata**	**1.45**	**61**	⇑P	**Pn**	**21 06 20.0**	**+0.1**
REDWA	**Red Mountain**	**1.45**	**104**	⇑P	**Pn**	**21 06 20.1**	**+0.1**
WTV	**Waterville**	**1.45**	**45**	⇓P	**Pn**	**21 06 20.2**	**+0.3**
HDW	**Hoodsport**	**1.46**	**312**	⇑P	**Pn**	**21 06 19.1**	**-0.9**
CBSW	**Chelan Butte S**	**1.49**	**40**	⇓P	**Pn**	**21 06 20.6**	**+0.1**
NLO	**Nicolai Mounta**	**1.50**	**247**	⇑P	**Pn**	**21 06 20.2**	**-0.4**
WIW	**Wooded Island**	**1.52**	**99**	P	**Pn**	**21 06 21.2**	**+0.2**
OT3	**Othello 3**	**1.54**	**90**	⇑P	**Pn**	**21 06 21.4**	**+0.2**
JCW	**Jim Creek**	**1.55**	**348**	⇓P	**Pn**	**21 06 20.9**	**-0.5**
NLW	**Nelson Butte**	**1.60**	**28**	⇓P	**Pn**	**21 06 22.3**	**+0.3**
WRD	**Warden**	**1.60**	**85**	P	**Pn**	**21 06 22.5**	**+0.4**
GT2	**Goat Mountain**	**1.62**	**201**	P	**Pn**	**21 06 22.9**	**+0.4**
VTHM	**Trough**	**1.62**	**157**	P	**Pn**	**21 06 22.7**	**+0.3**
JBO	**Jordan Butte**	**1.66**	**136**	P	**Pn**	**21 06 23.0**	**0.0**
BLN	**Blyn Mountain**	**1.68**	**323**	⇓P	**Pn**	**21 06 22.8**	**-0.4**
CROR	**Criterion Ridg**	**1.73**	**169**	⇓P	**Pn**	**21 06 24.7**	**+0.7**
SAW	**Saint Andrews**	**1.74**	**53**	⇓P	**Pn**	**21 06 24.0**	**-0.1**
DHW2	**Dyer Hill 2**	**1.74**	**41**	P	**Pn**	**21 06 24.2**	**0.0**
ET3	**Eltopia**	**1.74**	**92**	P	**Pn**	**21 06 24.4**	**+0.3**
KMOR	**Kings Mountain**	**1.75**	**234**	⇑P	**Pn**	**21 06 24.1**	**-0.2**
SQM	**Sequim**	**1.76**	**323**	P	**Pn**	**21 06 24.7**	**+0.3**
RPW	**Rockport**	**1.77**	**359**	⇓P	**Pn**	**21 06 24.7**	**+0.2**
CMW	**Cultus Mountai**	**1.80**	**346**	P	**Pn**	**21 06 25.2**	**+0.2**
YPT	**Yellepit**	**1.84**	**109**	P	**Pn**	**21 06 25.9**	**+0.3**
OSD	**Olympics--Snow**	**1.91**	**308**	⇑P	**Pn**	**21 06 27.0**	**+0.5**
ERW	**Mount Erie**	**1.94**	**337**	⇓P	**Pn**	**21 06 27.5**	**+0.5**
SSOR	**Sweet Springs**	**1.95**	**201**	P	**Pn**	**21 06 28.1**	**+1.0**
OD2	**Odessa Site #2**	**2.01**	**68**	P	**Pn**	**21 06 27.6**	**-0.4**
STW	**Striped Peak**	**2.10**	**315**	P	**Pn**	**21 06 30.1**	**+0.8**
MBW	**Mount Baker**	**2.13**	**352**	P	**Pn**	**21 06 31.2**	**+1.5**
OCWA	**Octopus Mounta**	**2.14**	**301**	*e*Pn	**Pn**	**21 06 30.1**	**+0.3**
OOW	**Octopus West**	**2.14**	**301**	P	**Pn**	**21 06 30.4**	**+0.6**
MCW	**Mount Constitu**	**2.21**	**336**	⇓P	**Pn**	**21 06 31.6**	**+0.9**
OBC	**Olympics--Boni**	**2.24**	**308**	P	**Pn**	**21 06 32.0**	**+0.8**
VIPM	**Ingram Point**	**2.25**	**164**	P	**Pn**	**21 06 31.9**	**+0.5**
GMO	**Grizzlie Mount**	**2.27**	**171**	P	**Pn**	**21 06 32.3**	**+0.6**
LNOR	**Lincton Mounta**	**2.35**	**109**	*e*P	**Pn**	**21 06 33.0**	**+0.2**
PGC	**Sidney**	**2.39**	**326**	*e*Pn	**Pn**	**21 06 32.9**	**-0.5**
VDB	**Vedder Mountai**	**2.39**	**350**	⇓P	**Pn**	**21 06 34.7**	**+1.3**
SNB	**Saturna Island**	**2.39**	**332**	P	**Pn**	**21 06 34.5**	**+1.0**
OTR	**Olympics--Tyee**	**2.41**	**307**	P	**Pn**	**21 06 37.3**	**+3.6**
COR	**Corvallis**	**2.46**	**212**	*e*Pn	**Pn**	**21 06 34.7**	**+0.3**
DPW	**Davenport**	**2.52**	**61**	P	**Pn**	**21 06 34.7**	**-0.6**
MPOR	**Mary’s Peak**	**2.62**	**215**	P	**Pn**	**21 06 37.8**	**+1.1**
PNT	**Penticton**	**2.92**	**24**	⇓P	**Pn**	**21 06 40.7**	**-0.2**
NEW	**Newport**	**3.35**	**60**	Pn	**Pn**	**21 06 45.6**	**-1.4**
	8.5nm,0.3s,baz=227,slow=11,SNR=36						
NEW				Pg	**Pg**	**21 06 54.0**	**-5.9**
	20nm,0.3s,baz=229,slow=12,SNR=20						
NEW				Sn	**Sn**	**21 07 24.8**	**-2.8**
	29nm,0.3s,baz=65,slow=17,SNR=8.0						
NEW				Lg		21 07 36.8	
	164nm,0.3s,baz=350,slow=22,SNR=16						
NEW				LR	LR	21 08 24.3	
	comp=Z,183nm,18.3s,baz=311,slow=46						
NEW	**Newport**	**3.35**	**60**	*e*Pn	**Pn**	**21 06 45.5**	**-1.5**
HSO	**Harness Mounta**	**3.36**	**201**	P	**Pn**	**21 06 49.0**	**+1.8**
BBOR	**Butler Butte**	**3.89**	**193**	P	**Pn**	**21 06 55.7**	**+1.0**
HUMO	**Hull Mountain**	**4.21**	**195**	*e*Pn	**Pn**	**21 07 00.7**	**+1.4**
KEBM	**Edson Butte**	**4.32**	**209**	*e*Pn	**Pn**	**21 07 00.3**	**-0.6**
WVOR	**Wild Horse Val**	**4.70**	**154**	*e*Pn	**Pn**	**21 07 06.1**	**-0.2**
MOD	**Modoc**	**4.85**	**170**	Pn	**Pn**	**21 07 07.1**	**-1.2**
KBO	**Bosley Butte**	**4.88**	**205**	Pn	**Pn**	**21 07 08.8**	**-0.1**
YBH	**Yreka Blue Hor**	**5.03**	**191**	Pn	**Pn**	**21 07 12.9**	**+2.0**
	1.6nm,0.3s,baz=20,slow=11,SNR=42						
YBH				Lg		21 08 26.8	
	1.3nm,0.3s,baz=282,slow=14,SNR=2.5						
YBH	**Yreka Blue Hor**	**5.03**	**191**	*e*Pn	**Pn**	**21 07 12.2**	**+1.3**
MSO	**Missoula**	**5.17**	**86**	*e*Pn	**Pn**	**21 07 10.1**	**-2.8**
KRMB	**Red Mountain**	**5.45**	**200**	*e*Pn	**Pn**	**21 07 13.3**	**-3.5**
CHMT	**Chamberlain Mo**	**5.64**	**85**	*e*Pn	**Pn**	**21 07 16.9**	**-2.7**
HLID	**Hailey**	**5.88**	**119**	*e*Pn	**Pn**	**21 07 21.8**	**-1.2**
KHMM	**Horse Mountain**	**6.03**	**197**	Pn	**Pn**	**21 07 25.4**	**+0.4**
WDC	**Whiskeytown Da**	**6.15**	**188**	Pn	**Pn**	**21 07 26.0**	**-0.7**
HRY	**Holter Researc**	**6.63**	**86**	*e*Pn	**Pn**	**21 07 31.1**	**-2.4**
BEKR	**Beckwourth**	**6.86**	**173**	Pn	**Pn**	**21 07 35.5**	**-1.2**
BOZ	**Bozeman (W)**	**6.91**	**95**	*e*Pn	**Pn**	**21 07 35.4**	**-2.0**
BBB	**Bella Bella**	**7.01**	**324**	Pn	**Pn**	**21 07 39.1**	**+0.2**
	0.7nm,0.3s,baz=134,slow=11,SNR=6.4						
BBB				Lg		21 09 24.1	
	0.5nm,0.3s,baz=227,slow=17,SNR=2.8						
QLMT	**Earthquake Lak**	**7.26**	**101**	*e*Pn	**Pn**	**21 07 40.8**	**-1.5**
OHCM	**Honcut**	**7.34**	**180**	Pn	**Pn**	**21 07 44.9**	**+1.4**
YMR	**Madison River**	**7.62**	**101**	Pn	**Pn**	**21 07 48.5**	**+1.0**
HVU	**Hansel Valley**	**7.93**	**125**	Pn	**Pn**	**21 07 54.5**	**+2.8**
TPAW	**Teton Pass**	**8.09**	**109**	Pn	**P**	**21 07 52.9**	**-1.1**
MOOW	**Moose Ponds**	**8.12**	**107**	*e*Pn	**P**	**21 07 53.2**	**-1.1**
NVAR	**Mina Array Bea**	**8.57**	**163**	Pn	**P**	**21 08 01.9**	**+1.3**
	0.2nm,0.3s,baz=340,slow=12,SNR=30						
DUG	**Dugway**	**9.03**	**133**	Pn	**P**	**21 08 06.0**	**-0.9**
PDAR	**Pinedale Array**	**9.33**	**110**	Pn	**P**	**21 08 13.6**	**+2.4**
	0.5nm,0.3s,baz=302,slow=10,SNR=38						
YKA	**Yellowknife Ar**	**16.32**	**11**	Pn	**P**	**21 09 43.5**	**-0.6**
	0.2nm,0.3s,baz=196,slow=12,SNR=7.3						
YKA				Lg		21 14 26.5	
	0.1nm,0.3s,baz=193,slow=28,SNR=3.4						
YKA				LR	LR	21 16 24.5	
	comp=Z,61nm,19.5s,baz=180,slow=39						
YKA	**Yellowknife Ar**	**16.32**	**11**	Pn	**P**	**21 09 43.5**	**-0.6**
YKA				Lg		21 14 26.5	
YKA				LR	LR	21 16 24.5	
ULM	**Lac du Bonnet**	**17.31**	**69**	P	**P**	**21 09 58.0**	**+1.2**
	0.2nm,0.3s,baz=270,slow=5.1,SNR=3.2						
ULM				LR	LR	21 17 02.9	
	comp=Z,61nm,21.9s,baz=235,slow=39						
INK	**Inuvik**	**22.55**	**348**	P	**P**	**21 10 54.8**	**+0.1**
	2.0nm,1.1s,mb3.5,baz=169,slow=12,SNR=3.0						
INK				LR	LR	21 20 06.6	
	comp=Z,69nm,18.6s,MS3.1,baz=116,slow=38						
ILAR	**Eielson Array**	**22.82**	**332**	P	**P**	**21 10 59.1**	**+1.8**
	3.8nm,1.0s,mb3.8,baz=135,slow=8.1,SNR=18						
ILAR				LR	LR	21 21 45.0	
	comp=Z,20nm,18.4s,MS2.6,baz=329,slow=42						
FINES	**FINESS Array B**	**69.09**	**16**	P	**P**	**21 17 00.0**	**-1.3**
	1.1nm,0.5s,mb4.0,baz=1.3,slow=5.3,SNR=12						
MKAR	**Makanchi Array**	**84.61**	**344**	P	**P**	**21 18 27.9**	**-0.2**
	0.4nm,0.5s,mb3.9,baz=13,slow=4.5,SNR=12						
MKAR	**Makanchi Array**	**84.61**	**344**	P	**P**	**21 18 27.9**	**-0.2**

IDC 16 21:06:29.0±2.2, 6.83S×128.60E, mb3.7/1, mb1 3.8/4, mb1mx3.6/12, ML3.4/3, Error ellipse: s-maj=105.0km s-min=27.4km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.57**	**194**	Pn	P	21 09 16.1	-2.5
	0.3nm,0.3s,baz=4.7,slow=11,SNR=12						
FITZ				Sn	S	21 11 11.3	-18
	1.3nm,0.3s,baz=3.0,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**14.18**	**157**	Pn	P	21 09 50.5	-2.9
	0.2nm,0.3s,baz=333,slow=14,SNR=18						
WRA				Sn	S	21 12 13.7	-19
	1.0nm,0.3s,baz=333,slow=21,SNR=8.6						
ASAR	**Alice Springs**	**17.50**	**164**	P	P	21 10 34.6	-1.6
	0.2nm,0.3s,baz=337,slow=11,SNR=10						
ASAR				S	S	21 13 35.9	-14
	0.3nm,0.3s,baz=322,slow=22,SNR=5.5						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	21 17 25.9	-2.1
	0.6nm,0.7s,baz=126,slow=8.1,SNR=7.3						

BJI 16 21:28:02.7, 18.14S×175.47W, h99^{km}, mB4.9, mb4.7

NEIC 16 21:28:02.6±0.3, 18.60S×174.85W, mb4.4/16, Error ellipse: s-maj=12.9km s-min=8.8km az=134.0

IDC 16 21:28:03.4±0.8, 18.62S×174.91W, h123^{km}±7^{km}, mb3.9/14, mb1 4.1/15, mb1mx4.0/20, Error ellipse: s-maj=20.5km s-min=11.4km az=136.0

ISC 16 21:28:01.4±0.4, 18.65S±0.08×174.92W±0.09, h120^{km}, h120^{km}±3.1^{km}:pP-P, n96, σ0^{s}94/41, mb4.3/27, 1C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.47**	**103**	P	**P**	**21 31 16.6**	**-4.9**
	3.8nm,0.3s,baz=278,slow=14,SNR=5.5						
RAR				S	**S**	**21 33 42.6**	**-17**
	2.3nm,0.3s,baz=356,slow=13,SNR=2.9						
URZ	**Urewera**	**20.74**	**198**	P	**P**	**21 32 33.4**	**-0.7**
	11nm,0.3s,baz=52,slow=3.5,SNR=7.6						
RPZ	**Rata Peaks**	**27.64**	**202**	P	**P**	**21 33 40.1**	**+0.4**
	9.7nm,0.5s,mb4.6,baz=74,slow=16,SNR=11						
CTA	**Charters Tower**	**36.60**	**261**	*e*P	**P**	**21 34 59.2**	**+1.4**
	4.8nm,0.3s,mb4.9						
CTA	**Charters Tower**	**36.60**	**261**	P	**P**	**21 34 58.9**	**+1.1**
	5.5nm,0.3s,mb4.9,baz=88,slow=11,SNR=22						
CTAO	**Charters Tower**	**36.60**	**261**	*e*P	**P**	**21 34 58.9**	**+1.1**
	6.7nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**41.21**	**243**	*e*P	**P**	**21 35 36.5**	**+0.6**
	3.7nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**41.21**	**243**	P	**P**	**21 35 36.5**	**+0.6**
	3.1nm,0.6s,mb4.3,baz=100,slow=8.1,SNR=14						
WB2	**Warramunga Arr**	**47.75**	**260**	*e*P	**P**	**21 36 27.6**	**-0.8**
WRAB	**Tennant Creek**	**47.75**	**260**	*e*P	**P**	**21 36 27.7**	**-0.7**
	20nm,0.4s,mb5.3						
WRA	**Warramunga Arr**	**47.76**	**260**	P	**P**	**21 36 28.1**	**-0.4**
	10nm,0.3s,mb5.1,baz=97,slow=7.4,SNR=837						
ASAR	**Alice Springs**	**47.79**	**255**	P	**P**	**21 36 28.4**	**-0.3**
	11nm,0.7s,mb4.8,baz=89,slow=7.6,SNR=165						
ASAR				PcP	PcP	21 37 56.8	+0.6
	0.7nm,0.6s,baz=103,slow=3.8,SNR=4.0						
ASAR				S	**S**	**21 43 15.4**	**+0.5**
	0.2nm,0.6s,baz=92,slow=17,SNR=4.2						
ASPA	**Alice Springs**	**47.79**	**255**	*e*P	**P**	**21 36 28.5**	**-0.2**
KAKA	**Kakadu**	**50.92**	**269**	*e*P	**P**	**21 36 52.4**	**-0.4**
	6.0nm,0.3s,mb5.1						
FORT	**Forrest**	**52.70**	**245**	*e*P	**P**	**21 37 04.4**	**-1.5**
	57nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.18**	**260**	*e*P	**P**	**21 37 30.9**	**-0.5**
	2.0nm,0.3s,mb4.6						
SBA	**Scott Base**	**59.91**	**184**	*e*P	**P**	**21 37 57.8**	**+1.2**
	4.1nm,0.8s,mb4.5						
VNDA	**Vanda**	**60.01**	**186**	P	**P**	**21 37 58.0**	**+0.6**
	1.1nm,0.8s,mb3.9,baz=4.2,slow=7.0,SNR=5.3						
VNDA	**Vanda**	**60.01**	**186**	*e*P	**P**	**21 37 57.4**	**+0.1**
	1.3nm,0.8s,mb4.0						
MUN	**Mundaring**	**62.74**	**243**	*e*P	**P**	**21 38 15.9**	**-0.4**
	8.3nm,1.2s,mb4.5						
MAJO	**Matsushiro**	**70.52**	**321**	*e*P	**P**	**21 39 04.7**	**-0.6**
	11nm,0.7s,mb4.8						
QSPA	**South Pole Qui**	**71.41**	**180**	*e*P	**P**	**21 39 10.5**	**+0.6**
	5.2nm,0.7s,mb4.5						
YBH	**Yreka Blue Hor**	**77.05**	**37**	P	**P**	**21 39 42.5**	**-0.5**
	0.4nm,0.3s,mb3.6,baz=194,slow=8.3,SNR=2.6						
YBH				pP	pP	21 40 14.6	+1.2
	0.7nm,0.4s,baz=178,slow=5.6,SNR=2.4						
NVAR	**Mina Array Bea**	**77.70**	**42**	P	**P**	**21 39 47.6**	**+1.0**
	0.5nm,0.7s,mb3.4,baz=216,slow=7.8,SNR=3.1						
NVAR				pP	pP	21 40 17.3	+0.2
	0.6nm,0.5s,baz=229,slow=7.1,SNR=4.9						
MDJ	**Mudanjiang**	**80.73**	**323**	P	**P**	**21 40 03.8**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,64nm,5.4s						
NJ2	**Nanjing**	**80.99**	**308**	*e*P	**P**	**21 40 03.5**	**-1.0**
CN2	**Changchun**	**82.66**	**321**	*e*P	**P**	**21 40 13.8**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
HWUT	**Hardware Ranch**	**83.77**	**42**	P	**P**	**21 40 17.2**	**-1.3**
	comp=Z,1.0nm,0.6s,mb3.8						
MAW	**Mawson**	**84.26**	**199**	P	**P**	**21 40 21.2**	**+0.8**
	comp=Z,0.9nm,0.4s,mb3.9,baz=129,slow=7.1,SNR=9.8						
MAW	**Mawson**	**84.26**	**199**	*e*P	**P**	**21 40 20.9**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**85.64**	**42**	P	**P**	**21 40 28.5**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=236,slow=3.3,SNR=2.7						
PDAR				pP	pP	21 40 58.9	0.0
	comp=Z,0.5nm,0.5s,baz=225,slow=2.1,SNR=3.0						
COLA	**College**	**85.81**	**11**	P	**P**	**21 40 27.1**	**-0.9**
	comp=Z,4.6nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**85.90**	**12**	P	**P**	**21 40 27.4**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=231,slow=4.7,SNR=11						
SDCO	**Great Sand Dun**	**85.96**	**48**	P	**P**	**21 40 30.1**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7						
PLCA	**Paso Flores**	**88.40**	**133**	P	**P**	**21 40 39.6**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.8						
SNAA	**Sanae**	**89.74**	**178**	P	**P**	**21 40 46.6**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=203,slow=8.2,SNR=6.9						
SNAA	**Sanae**	**89.74**	**178**	*e*P	**P**	**21 40 46.5**	**-0.2**
	comp=Z,5.0nm,1.1s,mb4.6						
CMAR	**Chiang Mai Arr**	**92.26**	**289**	P	**P**	**21 41 01.9**	**+2.2**
	comp=Z,2.4nm,0.8s,mb4.5,baz=100,slow=2.6,SNR=13						
SONM	**Songino Array**	**96.29**	**318**	P	**P**	**21 41 19.1**	**+1.8**
	comp=Z,0.5nm,0.9s,mb3.9,baz=135,slow=7.0,SNR=4.6						

MKAR	**Makanchi Array**	**112.04**	**314**	PKiKP		21 46 23.1	
	comp=Z,0.9nm,0.6s,baz=127,slow=0.6,SNR=11						
KURK	**Kurchatov**	**114.59**	**318**	*e*PKP	PKPdf	21 46 26.3	-1.1
BVAR	**Borovoye Array**	**119.51**	**321**	PKP	PKPdf	21 46 37.1	+0.4
	comp=Z,2.4nm,0.4s,baz=121,slow=1.9,SNR=34						
BRVK	**Borovoye**	**119.57**	**321**	*e*PKP	PKPdf	21 46 36.8	0.0
ZRNK	**Zerenda**	**120.35**	**321**	*e*PKP	PKPdf	21 46 38.1	-0.3
ARCES	**ARCESS Array B**	**127.60**	**351**	PKP	PKPdf	21 46 52.5	+0.6
	comp=Z,0.9nm,0.4s,baz=353,slow=1.1,SNR=15						
KAF	**Kangasniemi**	**134.12**	**346**	*e*p	PKPdf	21 47 04.1	-0.3
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**134.76**	**346**	PKP	PKPdf	21 47 07.8	+2.1
	comp=Z,1.1nm,0.6s,baz=96,slow=2.7,SNR=8.1						
FINES	**FINESS Array B**	**134.76**	**346**	PKP	PKPdf	21 47 07.8	+2.1
AKASG	**Malin Array Be**	**142.71**	**335**	PKhKP		21 47 16.7	
	comp=Z,0.8nm,0.4s,baz=36,slow=4.1,SNR=4.5						
TATS	**Tathlith**	**143.76**	**278**	P	PKPbc	21 47 24.2	+2.3
AFFS	**‘Afif**	**144.35**	**285**	P	PKPbc	21 47 25.0	+1.4
HILS	**Ha’il**	**145.22**	**291**	P	PKPdf	21 47 28.1	+2.7
BLJS	**Baljurashi**	**145.55**	**278**	P	PKPdf	21 47 30.0	+3.9
OJC	**Ojcow**	**146.38**	**343**	*e*P	PKPdf	21 47 28.2	+1.6
LTHS	**Al Lith**	**146.69**	**279**	P	PKPdf	21 47 32.7	+4.7
CLL	**Collm**	**146.82**	**351**	*i* PKP1	PKPbc	21 47 30.0	+1.1
BRG	**Berggiesshubel**	**147.09**	**350**	*e*P	PKPdf	21 47 31.7	+4.0
DPC	**Dobruska-Polom**	**147.13**	**347**	*e*PKP	PKPdf	21 47 31.8	+4.0
OKC	**Ostrava-Krasne**	**147.17**	**344**	*e*PKP	PKPdf	21 47 32.1	+4.2
PVCC	**Panska Ves**	**147.31**	**349**	*e*PKP	PKPdf	21 47 32.8	+4.7
BRTR	**Keskin Array B**	**147.63**	**316**	PKPbc	PKPdf	21 47 33.6	+4.7
	comp=Z,17nm,1.2s,baz=130,slow=3.9,SNR=18						
KBRS	**Khaybar**	**147.64**	**289**	P	PKPdf	21 47 34.8	+5.4
MOX	**Moxa**	**147.66**	**352**	*e*P	PKPdf	21 47 30.0	+1.3
PRU	**Pruhonice**	**147.83**	**349**	*e*PKP	PKPdf	21 47 33.9	+4.9
MLR	**Muntele Rosu**	**148.12**	**332**	PKPbc	PKPdf	21 47 34.2	+4.6
	comp=Z,2.6nm,0.8s,baz=255,slow=2.7,SNR=5.4						
GRA1	**Grafenberg Arr**	**148.65**	**352**	*e*PKP	PKPdf	21 47 36.3	+6.0
KHC	**Kasperske Hory**	**148.83**	**349**	*e*PKP	PKPdf	21 47 35.5	+4.9
GERES	**GERESS Array B**	**149.09**	**349**	PKPbc	PKPdf	21 47 36.8	+5.7
	comp=Z,1.1nm,0.5s,baz=9.1,slow=2.3,SNR=21						
UMJS	**Umm Lajj**	**149.45**	**288**	P	PKPdf	21 47 39.4	+7.1
FLN	**La Foliniere**	**149.63**	**7**	*e*PKP1	PKPdf	21 47 38.0	+6.1
TBKS	**Tabuk**	**149.68**	**294**	P	PKPdf	21 47 39.6	+7.0
GRR	**Gorron**	**149.95**	**8**	*e*PKP1	PKPdf	21 47 38.4	+6.0
	comp=Z,10nm,0.7s						
JMQS	**Jabal Moqyreh**	**150.11**	**296**	P	PKPdf	21 47 40.7	+7.4
MEZF	**Maizieres J’vi**	**150.23**	**0**	*e*PKP1	PKPdf	21 47 39.7	+6.9
CDF	**Champ du Feu**	**150.26**	**357**	*e*PKP1	PKPdf	21 47 39.4	+6.6
	comp=Z,3.2nm,0.6s						
JMOS	**Jabal al Moall**	**150.70**	**297**	P	PKPdf	21 47 42.1	+7.9
HAU	**Haudompre**	**150.71**	**358**	*e*PKP1	PKPdf	21 47 40.3	+6.8
AYUS	**‘Aynunah**	**150.79**	**295**	P	PKPdf	21 47 42.0	+7.7
HINF	**Hinteralfeld**	**150.88**	**358**	*e*PKP1	PKPdf	21 47 40.6	+6.8
	comp=Z,4.6nm,0.6s						
BDAS	**Al Bad‘**	**150.88**	**295**	P	PKPdf	21 47 42.2	+7.8
HAQS	**Haql**	**150.88**	**296**	P	PKPdf	21 47 42.2	+7.8
MOTA	**Moosalm**	**150.96**	**352**	⇓*i*P	PKPdf	21 47 41.4	+7.5
WTTA	**Wattenberg**	**150.96**	**351**	⇓*i*P	PKPdf	21 47 41.3	+7.4
SQTA	**Sankt Quirin**	**151.07**	**351**	⇓*i*P	PKPdf	21 47 41.9	+7.8
DAVA	**Damuels**	**151.17**	**353**	⇑*i*P	PKPdf	21 47 42.3	+8.1
LOR	**Lormes**	**151.44**	**2**	*e*PKP1	PKPdf	21 47 42.1	+7.4
	comp=Z,5.7nm,0.4s						
SSF	**Saint Saulge**	**151.64**	**2**	*e*PKP1	PKPdf	21 47 42.7	+7.7
	comp=Z,4.0nm,0.6s						
DAVOX	**Davos**	**151.67**	**353**	PKPbc	PKPdf	21 47 43.3	+8.3
	comp=Z,5.0nm,0.3s,baz=321,slow=3.7,SNR=36						
MFF	**Saint Martin d**	**151.80**	**8**	*e*PKP1	PKPdf	21 47 42.5	+7.3
AVF	**Avril sur Loir**	**151.90**	**3**	*e*PKP1	PKPdf	21 47 42.8	+7.4
	comp=Z,3.3nm,0.5s						
SMF	**Signal de Mont**	**152.07**	**2**	*e*PKP1	PKPdf	21 47 43.2	+7.6
CABF	**La Chapelle**	**152.11**	**359**	*e*PKP1	PKPdf	21 47 44.2	+8.5
	comp=Z,6.9nm,0.6s						
BGF	**Bois d’Agland**	**152.11**	**3**	*e*PKP1	PKPdf	21 47 43.6	+7.9
	comp=Z,7.0nm,0.5s						
TCF	**Toulx Ste Croi**	**152.34**	**4**	*e*PKP1	PKPdf	21 47 43.9	+7.9
	comp=Z,3.1nm,0.5s						
LPG	**La Plagne**	**153.20**	**357**	*e*PKP1	PKPdf	21 47 47.1	+10
RJF	**Les Rejaudoux**	**153.26**	**6**	*e*PKP1	PKPdf	21 47 46.7	+9.4

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*IDC **16** 21:32:04.8±6.5, 31.18N×70.18E, mb3.6/3, mb1 3.7/4, mb1mx3.5/20, ML3.3/1, MS2.7/1, Ms1 2.8/1, ms1mx2.1/24, Error ellipse: s-maj=110.0km s-min=53.3km az=11.0*

ISC 16 21:32:03.7±1.7,**31.1N**±0.2×**70.13E**±0.10,**h10**^{km},**n8**, σ**0^{s}88**/11,**mb3.7**/3,**MS2.7**/1,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**5.87**	**84**	*e*	**Pn**	**21 33 33.6**	**+0.7**
SDNR				*e*S	**Sg**	**21 35 19.4**	**+0.4**
NDI	**New Delhi**	**6.61**	**110**	*e*P	**Pn**	**21 33 50.0**	**+6.6**
NDI				*e*	**Sn**	**21 35 00.0**	**+0.4**
NDI				*e*	**Sg**	**21 35 35.0**	**-8.8**
DDI	**Dehra Dun**	**6.87**	**95**	*e*	**Pg**	**21 34 18.5**	**-2.3**
DDI				*e*	**Sg**	**21 35 57.0**	**+4.6**
MKAR	**Makanchi Array**	**18.25**	**28**	P	**P**	**21 36 17.9**	**-0.8**
	0.1nm,0.3s,baz=206,slow=12,SNR=8.4						
BVAR	**Borovoye Array**	**21.89**	**0**	P	**P**	**21 36 59.0**	**+0.4**
	1.1nm,0.5s,mb3.5,baz=172,slow=10,SNR=6.5						
SONM	**Songino Array**	**32.23**	**48**	P	**P**	**21 38 34.4**	**+0.2**
	0.3nm,0.7s,mb3.2,baz=245,slow=8.5,SNR=5.0						
ARCES	**ARCESS Array B**	**45.89**	**340**	P	**P**	**21 40 28.0**	**+0.3**
	4.0nm,1.1s,mb4.3,baz=117,slow=6.0,SNR=3.5						
NOA	**NORSAR Array B**	**48.34**	**326**	LR	LR	22 01 57.2	
	comp=Z,9.4nm,21.9s,MS2.7,baz=130,slow=37						

IDC 16 21:43:21.6±47.0,**30.31S**×**179.04W**,**mb3.6**/3,**mb1 3.8**/3, **mb1mx3.7**/13,**Error ellipse: s-maj=845.0km s-min=171.5km az=97.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.62**	**257**	P	P	21 50 03.8	-2.1
	2.0nm,1.1s,baz=103,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**42.21**	**267**	P	P	21 51 16.1	-1.9
	0.3nm,0.6s,baz=101,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**43.19**	**273**	P	P	21 51 24.7	-1.5
	0.8nm,0.6s,baz=113,slow=7.7,SNR=13						

IDC 16 21:44:40.6±3.7,**3.73S**×**102.80E**,**mb3.4**/4,**mb1 3.6**/4, **mb1mx3.4**/14,**Error ellipse: s-maj=154.0km s-min=23.6km az=56.0**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.71**	**120**	P	P	21 51 31.4	-3.1
	0.4nm,0.8s,baz=299,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**35.98**	**126**	P	P	21 51 44.1	-1.2
	0.6nm,0.8s,baz=300,slow=7.9,SNR=7.8						
SONM	**Songino Array**	**51.45**	**3**	P	P	21 53 49.5	-0.2
	0.2nm,0.4s,baz=180,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**53.47**	**343**	P	P	21 54 01.0	-3.9
	0.6nm,1.1s,baz=150,slow=6.9,SNR=3.5						

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*IDC **16** 22:13:24.1±12.0, 6.10N×126.97E, h190^{km}±128^{km}, mb3.3/7, mb1 3.4/7, mb1mx3.3/17, Error ellipse: s-maj=62.1km s-min=18.3km az=73.0*

ISC 16 22:13:23.4±0.9,**6.1N**±0.2×**127.0E**±0.4,**h200**^{km},**n9**, σ**0^{s}60**/9,**mb3.4**/7,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.06**	**183**	P	**P**	**22 18 22.1**	**+0.2**
	1.4nm,0.7s,mb3.7,baz=357,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**26.85**	**165**	P	**P**	**22 18 46.8**	**-0.8**
	0.5nm,0.3s,mb3.6,baz=343,slow=11,SNR=14						
WB2	**Warramunga Arr**	**26.85**	**165**	*e*P	**P**	**22 18 47.2**	**-0.4**
WB2				*e*		22 18 51.4	
ASAR	**Alice Springs**	**30.32**	**167**	P	**P**	**22 19 18.1**	**-0.4**
	0.3nm,0.5s,mb3.2,baz=345,slow=8.1,SNR=5.0						
NWAO	**Narrogin (SRO)**	**39.88**	**193**	P	**P**	**22 20 39.8**	**+0.5**
	60nm,1.4s,baz=18,slow=9.6,SNR=3.7						
STKA	**Stephens Creek**	**40.23**	**161**	P	**P**	**22 20 43.1**	**+0.9**
	1.6nm,0.6s,mb3.6,baz=347,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**45.18**	**340**	P	**P**	**22 21 22.3**	**+0.3**
	0.1nm,0.4s,mb2.5,baz=162,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**55.80**	**324**	P	**P**	**22 22 41.0**	**-0.9**
	1.0nm,0.4s,mb3.7,baz=116,slow=7.5,SNR=38						
ARCES	**ARCESS Array B**	**88.35**	**340**	P	**P**	**22 25 53.7**	**+0.6**
	0.9nm,0.8s,mb3.6,baz=79,slow=4.6,SNR=3.2						

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*IDC **16** 22:33:28.0±8.8, 14.18N×42.27E, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, Error ellipse: s-maj=183.0km s-min=37.5km az=14.0*

*DHMR **16** 22:33:29.5±0.5, 14.54N×42.56E, h10^{km}, ML3.9*

ISC 16 22:33:30.0±1.2,**14.5N**±0.1×**42.51E**±0.06,**h10**^{km},**n9**, σ**0^{s}83**/11,**mb3.8**/6,**1D**,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**1.59**	**41**	⇓*i*P	**Pn**	**22 33 57.2**	**-1.1**
HAJJ				*i* S	**Sb**	**22 34 19.2**	**+0.1**
HAJJ				AML	AML	22 34 32.4	
	comp=E,2µm,0.3s						
DHBB	**Dhamar BB**	**1.82**	**88**	*i* P	**Pn**	**22 34 01.6**	**-0.1**
DHBB				*i* S	**Sn**	**22 34 26.4**	**+1.4**
MUKL	**Al Mukalla**	**6.31**	**91**	*i* S	**Sn**	**22 36 17.0**	**-1.5**
BRTR	**Keskin Array B**	**26.30**	**344**	P	**P**	**22 39 08.1**	**+0.4**
	comp=E,0.6nm,0.5s,mb3.4,baz=153,slow=6.4,SNR=4.6						
MLR	**Muntele Rosu**	**33.91**	**339**	P	**P**	**22 40 15.3**	**0.0**
	comp=E,3.1nm,1.0s,mb4.2,baz=7.7,slow=2.5,SNR=3.7						
GERES	**GERESS Array B**	**41.63**	**331**	P	**P**	**22 41 19.0**	**-1.0**
	comp=E,1.2nm,0.8s,mb3.5,baz=135,slow=7.5,SNR=9.6						
BVAR	**Borovoye Array**	**44.32**	**24**	P	**P**	**22 41 42.2**	**+0.4**
	comp=E,0.7nm,0.7s,mb3.5,baz=190,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**46.19**	**38**	P	**P**	**22 41 57.8**	**+1.0**
	comp=E,1.6nm,0.8s,mb4.0,baz=233,slow=6.1,SNR=11						
SONM	**Songino Array**	**61.89**	**43**	P	**P**	**22 43 52.4**	**+0.4**
	comp=E,0.8nm,0.8s,mb3.9,baz=243,slow=5.5,SNR=3.9						

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*NEIC **16** 22:35:32.4±1.8, 6.43S×128.63E, h285^{km}±20^{km}, mb4.1/5, Error ellipse: s-maj=24.5km s-min=12.2km az=59.0*

*IDC **16** 22:35:36.6±4.1, 6.67S×128.34E, h333^{km}±46^{km}, mb3.5/5, mb1 3.8/8, mb1mx3.6/13, Error ellipse: s-maj=36.4km s-min=13.9km az=62.0*

ISC 16 22:35:29.6±1.3,**6.43S**±0.07×**128.6E**±0.1,**h272**^{km}±13^{km}, **n17**, σ**0^{s}86**/24,**mb3.8**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.29**	**149**	*e*P	**P**	**22 37 16.6**	**+1.7**
	7.7nm,0.3s						
KAKA				*e*S	**S**	**22 38 36.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.95**	**194**	*e*P	**P**	**22 38 15.5**	**+2.3**
	6.1nm,0.4s						
FITZ				*e*S	**S**	**22 40 27.3**	**+5.0**
FITZ	**Fitzroy Crossi**	**11.95**	**194**	P	**P**	**22 38 14.6**	**+1.4**
	1.6nm,0.3s,baz=25,slow=10,SNR=16						
FITZ				S	**S**	**22 40 21.4**	**-0.9**
	0.3nm,0.3s,baz=10,slow=10,SNR=2.5						
WRAB	**Tennant Creek**	**14.55**	**158**	*e*P	**P**	**22 38 44.2**	**-1.0**
	18nm,0.8s						
WRA	**Warramunga Arr**	**14.56**	**158**	P	**P**	**22 38 44.5**	**-0.7**
	1.8nm,0.3s,baz=337,slow=12,SNR=83						
WRA				S	**S**	**22 41 19.7**	**-0.4**
	0.3nm,0.3s,baz=346,slow=21,SNR=6.1						
WB2	**Warramunga Arr**	**14.56**	**158**	*e*P	**P**	**22 38 44.6**	**-0.7**
WB2				*e*S	**S**	**22 41 20.4**	**+0.2**
ASPA	**Alice Springs**	**17.89**	**164**	*e*P	**P**	**22 39 21.8**	**-0.1**
ASPA				*e*S	**S**	**22 42 29.1**	**+0.3**
ASAR	**Alice Springs**	**17.89**	**164**	P	**P**	**22 39 21.9**	**-0.1**
	5.8nm,0.3s,baz=344,slow=11,SNR=299						
ASAR				S	**S**	**22 42 29.4**	**+0.6**
	0.2nm,0.3s,baz=348,slow=23,SNR=4.4						
CTA	**Charters Tower**	**21.89**	**130**	P	**P**	**22 40 03.5**	**+1.9**
	3.1nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**28.09**	**156**	*e*P	**P**	**22 40 58.4**	**-0.3**
	1.6nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**28.09**	**156**	P	**P**	**22 40 58.0**	**-0.7**
	1.5nm,0.6s,mb3.6,baz=327,slow=12,SNR=5.5						
SONM	**Songino Array**	**57.46**	**342**	P	**P**	**22 44 52.5**	**+0.2**
	2.5nm,1.0s,mb3.6,baz=158,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**22 45 54.7**	**-0.3**
	2.0nm,0.5s,mb4.2,baz=116,slow=8.6,SNR=51						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**22 45 54.7**	**-0.4**
KURK	**Kurchatov**	**71.29**	**329**	*e*P	**P**	**22 46 20.5**	**-0.8**
	1.7nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**76.82**	**328**	P	**P**	**22 46 53.3**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=79,slow=7.3,SNR=4.4						
ILAR	**Eielson Array**	**93.44**	**25**	P	**P**	**22 48 15.0**	**-0.1**
	2.1nm,1.4s,mb3.9,baz=270,slow=1.8,SNR=2.6						

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*SNSN **16** 22:42:46.8, 28.91N×32.51E, Ml2.9*

*HLW **16** 22:42:50.9, 28.94N×32.78E, h3^{km}, Mb3.2*

*GII **16** 22:42:51.3±0.4, 28.96N×32.30E, h25^{km}±30^{km}, ML2.6/6, Mw2.9/3*

ISC 16 22:42:50.2±0.7,**28.92N**±0.03×**32.75E**±0.03,**h2**^{km}±6^{km}, **n38**, σ**0^{s}88**/47,**4C-9D**,**Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAF		**0.41**	**334**	⇑P	**Pg**	**22 42 58.6**	**+0.3**
ZNM		**0.47**	**13**	⇓P	**Pg**	**22 43 00.0**	**+0.4**
HRDS	**Abu Rudays**	**0.52**	**113**	⇓P	**Pg**	**22 43 01.2**	**+0.7**
GRB	**Gharib**	**0.64**	**177**	⇓P	**Pg**	**22 43 03.9**	**+0.9**
GRB				S	**Sg**	**22 43 13.1**	**+1.4**
SUZ		**0.92**	**4**	P	**Pb**	**22 43 08.3**	**-0.2**
TR2		**1.00**	**122**	⇓P	**Pb**	**22 43 09.9**	**-0.1**
GLL	**Jalalah**	**1.13**	**306**	P	**Pb**	**22 43 11.9**	**-0.1**
GLL				S	**Sb**	**22 43 27.6**	**+0.6**
HKAT	**Jabal Katrina**	**1.16**	**109**	⇓P	**Pb**	**22 43 12.1**	**-0.5**
HHAG	**Hagoal**	**1.18**	**331**	⇑P	**Pb**	**22 43 12.8**	**-0.1**
HHAG				S	**Sb**	**22 43 29.1**	**+0.6**
ZEIT		**1.25**	**146**	⇑P	**Pb**	**22 43 14.5**	**+0.3**
HSAF	**As Saff**	**1.26**	**304**	P	**Pb**	**22 43 14.2**	**-0.1**
KOT	**Kottamia**	**1.29**	**322**	⇓P	**Pb**	**22 43 14.6**	**-0.2**
KOT				S	**Sb**	**22 43 32.1**	**+0.3**
HBNS	**BaniSuwayf**	**1.35**	**272**	⇓P	**Pb**	**22 43 16.3**	**+0.4**
TR1		**1.39**	**130**	⇓P	**Pb**	**22 43 15.4**	**-1.2**
HNKL	**Nakhl**	**1.47**	**46**	⇑P	**Pn**	**22 43 17.1**	**-0.7**
AYT	**Al ‘Ayyat**	**1.60**	**300**	P	**Pn**	**22 43 19.3**	**-0.4**
HDHB	**Dhahab**	**1.65**	**96**	⇓P	**Pn**	**22 43 19.4**	**-0.9**
NUB		**1.66**	**86**	P	**Pn**	**22 43 19.9**	**-0.6**
HBST	**Basata**	**1.76**	**80**	P	**Pn**	**22 43 21.0**	**-0.9**
AMAG	**Maghara**	**1.77**	**13**	P	**Pn**	**22 43 21.1**	**-0.9**
HHRG	**Al Ghardaqah**	**1.84**	**157**	P	**Pn**	**22 43 22.6**	**-0.4**
ASUT		**1.84**	**215**	P	**Pn**	**22 43 22.9**	**-0.2**
HAQS	**Haql**	**1.91**	**85**	P	**Pn**	**22 43 23.4**	**-0.7**
HAQS				S	**Sn**	**22 43 51.1**	**+2.1**
EIL	**Elat**	**2.06**	**68**	Pn	**Pn**	**22 43 27.4**	**+1.2**
JMOS	**Jabal al Moall**	**2.08**	**82**	P	**Pn**	**22 43 25.5**	**-0.9**
JMOS				S	**Sn**	**22 43 56.1**	**+2.8**
MBH	**Mount Berech**	**2.08**	**65**	Pn	**Pn**	**22 43 27.6**	**+1.1**
KMTI	**Karmit**	**2.09**	**55**	Pn	**Pn**	**22 43 27.3**	**+0.7**
KMTI				Sn	**Sn**	**22 43 55.0**	**+1.5**
BDAS	**Al Bad‘**	**2.12**	**103**	P	**Pn**	**22 43 26.5**	**-0.6**
AQBJ	**Aqaba**	**2.16**	**67**	Pn	**Pn**	**22 43 28.9**	**+1.2**
AYUS	**‘Aynunah**	**2.33**	**108**	P	**Pn**	**22 43 29.0**	**-1.0**
PRNI	**Paran**	**2.43**	**53**	Pn	**Pn**	**22 43 31.7**	**+0.3**
PRNI				Sn	**Sn**	**22 44 04.1**	**+2.0**
KZIT	**Kziot**	**2.44**	**35**	Pn	**Pn**	**22 43 30.7**	**-1.0**
KZIT				Sn	**Sn**	**22 44 01.4**	**-1.2**
SVTA	**Shivta**	**2.58**	**38**	Pn	**Pn**	**22 43 33.5**	**-0.1**
ZFRI	**Zfri**	**2.67**	**52**	Pn	**Pn**	**22 43 35.1**	**+0.2**
RTMM	**Retamin**	**2.71**	**38**	Pn	**Pn**	**22 43 34.6**	**-0.9**
MASH	**Mash‘abbe Sade**	**2.72**	**40**	Pn	**Pn**	**22 43 35.2**	**-0.5**
JMQS	**Jabal Moqyreh**	**2.74**	**90**	P	**Pn**	**22 43 35.0**	**-0.9**
TBKS	**Tabuk**	**3.41**	**101**	P	**Pn**	**22 43 44.2**	**-1.2**

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*IDC **16** 22:54:25.0±8.3, 6.49N×125.66E, h187^{km}±81^{km}, mb3.3/7, mb1 3.4/7, mb1mx3.3/18, Error ellipse: s-maj=89.2km s-min=16.4km az=69.0*

ISC 16 22:54:21.8±2.2,**6.6N**±0.2×**125.8E**±0.7,**h174**^{km}±27^{km},**n8**, σ**1^{s}39**/8,**mb3.5**/7,**1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**3.21**	**354**	⇓*i*P	**S**	**22 55 53.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.51**	**180**	P	**P**	**22 59 27.4**	**+0.8**
	1.6nm,0.5s,mb3.8,baz=19,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**27.65**	**162**	P	**P**	**22 59 53.6**	**-1.9**
	0.2nm,0.5s,mb3.1,baz=332,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**31.07**	**166**	P	**P**	**23 00 25.4**	**-0.4**
	0.9nm,0.4s,mb3.8,baz=341,slow=7.0,SNR=17						
STKA	**Stephens Creek**	**41.09**	**159**	P	**P**	**23 01 51.6**	**+1.5**
	1.9nm,0.9s,mb3.7,baz=286,slow=11,SNR=3.1						
SONM	**Songino Array**	**44.33**	**341**	P	**P**	**23 02 17.0**	**+0.9**
	0.1nm,0.4s,mb2.8,baz=168,slow=13,SNR=2.1						
SONM				PcP	PcP	23 03 58.3	+0.7
	0.1nm,0.3s,baz=190,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**54.72**	**325**	P	**P**	**23 03 34.5**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=118,slow=7.1,SNR=15						
MKAR				PcP	PcP	23 04 34.3	-1.2
	0.5nm,0.5s,baz=122,slow=3.7,SNR=7.2						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**23 06 56.9**	**-0.3**
	2.1nm,1.1s,mb4.0,baz=63,slow=6.2,SNR=6.3						

IDC 16 23:01:17.9±17.0,**23.22S**×**174.29W**,**mb4.1**/5,**mb1 4.3**/5, **mb1mx3.9**/16,**Error ellipse: s-maj=324.0km s-min=151.0km az=82.0**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.73**	**267**	P	P	23 08 28.0	-0.9
	3.4nm,0.4s,baz=108,slow=8.2,SNR=8.2						
STKA	**Stephens Creek**	**39.83**	**248**	P	P	23 08 51.6	-3.1
	1.4nm,0.7s,baz=90,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**47.31**	**259**	P	P	23 09 52.6	-2.7
	0.5nm,0.3s,baz=92,slow=7.1,SNR=10.0						
WRA	**Warramunga Arr**	**47.69**	**264**	P	P	23 09 56.0	-2.4
	1.2nm,0.3s,baz=99,slow=6.9,SNR=23						
FITZ	**Fitzroy Crossi**	**56.11**	**263**	P	P	23 11 00.8	-0.9
	0.9nm,0.5s,baz=143,slow=5.1,SNR=5.5						

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*BJI **16** 23:07:03.5, 19.90S×177.35W, h618^{km}, mB4.5, mb4.6*

*NEIC **16** 23:07:05.3±0.3, 19.88S×178.21W, h600^{km}, mb4.4/18, Error ellipse: s-maj=13.5km s-min=7.9km az=143.0*

*IDC **16** 23:07:07.0±2.1, 19.90S×178.25W, h615^{km}±25^{km}, mb3.7/12, mb1 3.9/12, mb1mx3.7/17, Error ellipse: s-maj=26.4km s-min=11.1km az=154.0*

ISC 16 23:07:04.4±2.4,**19.9S**±0.1×**178.25W**±0.10,**h601**^{km}±29^{km}, **n95**, σ**0^{s}93**/43,**mb4.3**/28,**3C-4D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.32**	**264**	*e*P	**P**	**23 12 56.3**	**+0.8**
	14nm,0.5s,mb4.8						
CTA	**Charters Tower**	**33.32**	**264**	P	**P**	**23 12 56.4**	**+0.8**
	17nm,0.5s,mb5.0,baz=94,slow=10,SNR=47						
CTAO	**Charters Tower**	**33.32**	**264**	⇑*e*P	**P**	**23 12 55.9**	**+0.3**
	18nm,0.5s,mb5.0						
PMG	**Port Moresby**	**34.99**	**282**	P	**P**	**23 13 10.7**	**+1.2**
	17nm,0.8s,mb4.7,baz=60,slow=8.3,SNR=3.0						
PMG	**Port Moresby**	**34.99**	**282**	*e*P	**P**	**23 13 10.6**	**+1.1**
	18nm,0.9s,mb4.7						
TOO	**Toolangi**	**36.04**	**233**	*e*P	**P**	**23 13 18.4**	**+0.5**
	4.7nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**37.83**	**243**	*e*P	**P**	**23 13 33.3**	**+0.7**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**37.83**	**243**	P	**P**	**23 13 33.4**	**+0.8**
	6.1nm,0.6s,mb4.3,baz=95,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**44.42**	**256**	P	**P**	**23 14 25.1**	**0.0**
	18nm,0.5s,mb4.8,baz=91,slow=7.6,SNR=252						
ASAR				PcP	PcP	23 15 55.0	-0.5
	2.7nm,0.7s,baz=105,slow=4.1,SNR=6.1						
ASAR				S	**S**	**23 20 17.8**	**+0.1**
	1.4nm,0.8s,baz=90,slow=13,SNR=6.9						
ASPA	**Alice Springs**	**44.42**	**256**	*e*P	**P**	**23 14 25.0**	**-0.1**
WB2	**Warramunga Arr**	**44.44**	**262**	*e*P	**P**	**23 14 24.6**	**-0.6**
WRAB	**Tennant Creek**	**44.44**	**262**	*e*P	**P**	**23 14 24.5**	**-0.7**
	19nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**44.45**	**262**	P	**P**	**23 14 24.7**	**-0.6**
	11nm,0.6s,mb4.6,baz=97,slow=8.3,SNR=149						
WRA				PcP	PcP	23 15 55.3	-0.4
	2.2nm,1.0s,baz=90,slow=3.8,SNR=4.8						
WRA				S	**S**	**23 20 17.4**	**-0.6**
	1.4nm,1.0s,baz=94,slow=13,SNR=5.0						
KAKA	**Kakadu**	**47.77**	**271**	*e*P	**P**	**23 14 49.9**	**-0.7**
	13nm,0.6s,mb4.6						
FORT	**Forrest**	**49.30**	**246**	*e*P	**P**	**23 15 01.0**	**-0.8**
	48nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.87**	**262**	*e*P	**P**	**23 15 27.2**	**-0.4**
	8.3nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.87**	**262**	P	**P**	**23 15 27.4**	**-0.3**
	7.2nm,0.5s,mb4.3,baz=123,slow=2.1,SNR=52						
KLBR	**Kellerberrin**	**58.08**	**245**	*e*P	**P**	**23 16 02.7**	**-0.8**
	9.3nm,0.7s,mb4.0						
VNDA	**Vanda**	**58.45**	**185**	P	**P**	**23 16 05.5**	**+0.1**
	0.4nm,0.8s,baz=9.8,slow=9.0,SNR=2.8						
VNDA	**Vanda**	**58.45**	**185**	P	**P**	**23 16 05.4**	**0.0**
	0.3nm,0.6s						
CASY	**Casey**	**64.37**	**205**	*e*P	**P**	**23 16 41.4**	**-2.3**
	4.3nm,0.9s,mb3.8						
JHJ	**Hachijo jima 2**	**66.25**	**322**	P	**P**	**23 16 55.8**	**-0.2**
	45nm,0.4s,mb5.2,baz=91,slow=22,SNR=4.2						
MAJO	**Matsushiro**	**69.62**	**324**	*e*P	**P**	**23 17 15.2**	**-0.9**
	9.2nm,0.6s,mb4.4						
MAT	**Matsushiro**	**69.62**	**324**	P	**P**	**23 17 15.6**	**-0.6**
MAT	**Matsushiro**	**69.62**	**324**	*e*P	**P**	**23 17 16.0**	**-0.2**
	6.7nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**70.13**	**180**	P	**P**	**23 17 19.4**	**+0.9**
	1.9nm,0.9s,mb3.5						
FX1	**Attu Island--F**	**72.89**	**355**	P	**P**	**23 17 27.9**	**-6.9**
NJ2	**Nanjing**	**79.34**	**310**	*e*P	**P**	**23 18 11.3**	**+1.0**
MDJ	**Mudanjiang**	**79.92**	**325**	P	**P**	**23 18 14.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,77nm,6.6s						
YBH	**Yreka Blue Hor**	**80.00**	**39**	P	**P**	**23 18 14.5**	**+1.0**
	comp=Z,2.6nm,0.7s,mb3.7,baz=204,slow=4.5,SNR=8.9						
NVAR	**Mina Array Bea**	**80.78**	**44**	P	**P**	**23 18 18.2**	**+0.6**
	comp=Z,1.1nm,0.7s,mb3.4,baz=215,slow=7.7,SNR=7.3						
CN2	**Changchun**	**81.71**	**322**	*e*P	**P**	**23 18 24.0**	**+1.8**
CN2				*e*AP	pP	23 20 32.0	+2.2
CN2				*e*S	S	23 27 49.0	+3.0
CN2				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MAW	**Mawson**	**82.01**	**200**	P	**P**	**23 18 24.5**	**+1.2**
	comp=Z,2.0nm,0.8s,mb3.7						
HLID	**Hailey**	**86.05**	**41**	*e*P	**P**	**23 18 43.3**	**-0.3**
	comp=Z,2.2nm,1.0s,mb3.7						
MCK	**McKinley**	**86.47**	**13**	*e*P	**P**	**23 18 44.3**	**-0.7**
	comp=Z,5.5nm,1.0s,mb4.1						
COLA	**College**	**87.71**	**12**	*e*P	**P**	**23 18 48.5**	**-2.3**
	comp=Z,9.4nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**87.82**	**13**	P	**P**	**23 18 49.9**	**-1.4**
	comp=Z,1.8nm,0.5s,mb4.1,baz=224,slow=4.0,SNR=12						
PDAR	**Pinedale Array**	**88.71**	**43**	P	**P**	**23 18 56.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=214,slow=2.6,SNR=9.8						
DAWY	**Dawson**	**88.98**	**16**	*e*P	**P**	**23 18 56.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**23 19 02.6**	**+1.4**
	comp=Z,3.1nm,0.8s,mb4.2,baz=115,slow=1.6,SNR=14						
SONM	**Songino Array**	**95.17**	**319**	P	**P**	**23 19 26.1**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.6,baz=135,slow=4.6,SNR=2.9						
MKAR	**Makanchi Array**	**110.64**	**314**	PKiKP		23 24 29.8	
	comp=Z,0.8nm,0.6s,baz=164,slow=0.9,SNR=13						
ARCES	**ARCESS Array B**	**128.33**	**350**	PKP	PKPdf	23 25 03.3	+0.3
	comp=Z,1.0nm,0.5s,baz=30,slow=1.5,SNR=15						
FINES	**FINESS Array B**	**135.17**	**344**	PKhKP		23 25 12.6	
	comp=Z,0.7nm,0.5s,baz=90,slow=1.9,SNR=7.3						
FINES				PKP	PKPdf	23 25 18.0	+2.1
	comp=Z,1.2nm,0.6s,baz=90,slow=3.8,SNR=8.2						
AKASG	**Malin Array Be**	**142.41**	**331**	PKhKP		23 25 26.5	
	comp=Z,3.1nm,0.4s,baz=41,slow=4.5,SNR=28						
LTHS	**Al Lith**	**143.75**	**277**	P	PKPbc	23 25 34.2	+2.3
MBAR	**Mbarara**	**145.02**	**238**	*e*P	PKPdf	23 25 35.9	+1.1
KBRS	**Khaybar**	**145.03**	**287**	P	PKPdf	23 25 37.5	+3.0
KWP	**Kalwaria**	**145.97**	**335**	*e*P	PKPdf	23 25 38.4	+3.0
BRTR	**Keskin Array B**	**146.29**	**313**	PKPbc	PKPbc	23 25 39.8	+1.7
	comp=Z,4.1nm,0.7s,baz=136,slow=4.2,SNR=16						
OJC	**Ojcow**	**146.55**	**339**	*e*PKP	PKPdf	23 25 40.2	+3.9
TBKS	**Tabuk**	**147.26**	**291**	P	PKPdf	23 25 43.6	+5.4
OKC	**Ostrava-Krasne**	**147.42**	**340**	*e*PKP1	PKPdf	23 25 41.5	+3.7
CLL	**Collm**	**147.46**	**347**	*i* PKP1	PKPdf	23 25 42.4	+4.6
CLL				*e*PKP2	PKPab	23 25 46.0	-2.1
DPC	**Dobruska-Polom**	**147.52**	**343**	*e*PKP1	PKPdf	23 25 43.4	+5.5
DPC				PKP2	PKPab	23 25 48.0	-0.4
DPC				*e*		23 27 37.3	
DPC	**Dobruska-Polom**	**147.52**	**343**	*e*P	PKPdf	23 25 43.4	+5.5
DPC				*e*		23 25 48.0	
DPC				*e*		23 27 37.3	
BRG	**Berggiesshubel**	**147.66**	**346**	*e*PKP	PKPdf	23 25 39.7	+1.6
BRG				*i*		23 25 43.3	
BRG				*i*		23 26 47.6	
KECS	**Kecovo**	**147.76**	**336**	*e*PKP	PKPdf	23 25 48.9	+11
JMQS	**Jabal Moqyreh**	**147.76**	**293**	P	PKPdf	23 25 44.9	+5.9
LIKS	**Likavka**	**147.78**	**338**	*e*	PKPdf	23 25 52.7	+14
WTSB	**Winterswijk**	**147.79**	**354**	*e*PKP	PKPdf	23 25 43.1	+4.9
	comp=Z,12nm,0.7s						
PVCC	**Panska Ves**	**147.82**	**345**	*e*PKP1	PKPdf	23 25 44.3	+5.9
PRU	**Pruhonice**	**148.33**	**344**	*e*PKP1	PKPdf	23 25 45.0	+5.9
PRU				PKP2	PKPab	23 25 50.7	-0.9
VYHS	**Vyhne**	**148.35**	**338**	*i* PKP	PKPdf	23 25 45.2	+6.0

JMOS	Jabal al Moall	148.38	293	P	PKPdf	23 25 46.1	+6.2
AYUS	‘Aynunah	148.39	292	P	PKPdf	23 25 45.9	+6.0
BDAS	Al Bad‘	148.50	292	P	PKPdf	23 25 46.5	+6.4
HAQS	Haql	148.56	293	P	PKPdf	23 25 46.5	+6.3
NKC	Novy Kostel	148.59	347	ePKP1	PKPdf	23 25 45.9	+6.4
NKC				PKP2	PKPab	23 25 51.4	-1.3
SMOL	Smolenice	148.81	340	ePKP	PKPdf	23 25 47.2	+7.3
GRA1	Grafenberg Arr	149.36	348	ePKP	PKPdf	23 25 47.6	+6.8
KHC	Kasperske Hory	149.36	345	ePKP1	PKPdf	23 25 47.0	+6.2
KHC				PKP2	PKPab	23 25 55.0	-0.9
GERES	GERESS Array B	149.60	344	PKPbc	PKPdf	23 25 48.0	+6.8
	comp=Z,2.9nm,0.6s,baz=34,slow=2.7,SNR=37						
GERES				PKPab	PKPab	23 25 55.9	-0.9
	comp=Z,0.4nm,0.7s,baz=34,slow=4.8,SNR=5.9						
GIVF	Givet	149.80	356	ePKP1	PKPdf	23 25 48.2	+6.7
	comp=Z,9.1nm,0.5s						
BAIF	Baives	149.88	357	ePKP1	PKPdf	23 25 48.5	+6.9
	comp=Z,8.1nm,0.6s						
MOA	Molln	150.36	343	⇓iP	PKPdf	23 25 49.5	+7.1
FLN	La Foliniere	151.18	3	ePKP1	PKPdf	23 25 51.0	+7.4
	comp=Z,48nm,1.4s						
CDF	Champ du Feu	151.24	352	ePKP1	PKPdf	23 25 51.4	+7.7
	comp=Z,5.6nm,0.7s						
KBA	Koelnbreinsper	151.32	343	⇑iP	PKPdf	23 25 51.3	+7.5
MEZF	Maizieres J’vi	151.38	355	ePKP1	PKPdf	23 25 52.0	+8.1
	comp=Z,6.2nm,0.6s						
WATA	Walderalm	151.52	346	⇑iP	PKPdf	23 25 52.1	+8.0
SGMF	Saint Gilles	151.53	6	ePKP1	PKPdf	23 25 51.6	+7.5
	comp=Z,5.7nm,0.6s						
GRR	Gorron	151.54	4	ePKP1	PKPdf	23 25 51.9	+7.8
	comp=Z,9.6nm,0.5s						
WTTA	Wattenberg	151.57	346	⇓iP	PKPdf	23 25 52.4	+8.2
MOTA	Moosalm	151.62	347	⇓iP	PKPdf	23 25 52.4	+8.2
SQTA	Sankt Quirin	151.71	346	⇓iP	PKPdf	23 25 52.6	+8.2
HAU	Haudompre	151.75	353	ePKP1	PKPdf	23 25 52.4	+8.0
	comp=Z,3.3nm,0.5s						
HINF	Hinteralfeld	151.88	353	ePKP1	PKPdf	23 25 52.5	+7.9
	comp=Z,3.2nm,0.6s						
LOR	Lormes	152.68	357	ePKP1	PKPdf	23 25 54.6	+8.9
	comp=Z,2.4nm,0.4s						
SSF	Saint Saulge	152.91	357	ePKP1	PKPdf	23 25 55.1	+9.1
	comp=Z,2.1nm,0.5s						
CABF	La Chapelle	153.16	353	ePKP1	PKPdf	23 25 57.3	+11
	comp=Z,3.9nm,0.6s						
MFF	Saint Martin d	153.36	3	ePKP1	PKPdf	23 25 55.8	+9.1
BGF	Bois d’Agland	153.43	358	ePKP1	PKPdf	23 25 58.2	+11
	comp=Z,4.7nm,0.6s						
TCF	Toulx Ste Croi	153.71	359	ePKP1	PKPdf	23 25 56.5	+9.4
MBDF	Montbardon	154.93	352	ePKP1	PKPdf	23 25 59.6	+11

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*ZUR **16** 23:23:25.1, 46.58N×8.05E, h8^{km}, ML1.0/8*
*LDG **16** 23:23:27.4±0.3, 46.63N×8.01E, h8^{km}, Md2.1/2, Ml1.7/7, Error ellipse: s-maj=5.7km s-min=2.5km az=84.0*
ISC 16 23:23:25.1±0.4**, 46.60N**±0.02×**8.02E**±0.04**, h4**^{km}±6^{km}**, n14, σ0^{s}95**/29**, 1C, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HASLI	Hasliberg	0.18	30	ePg	Pg	23 23 29.0	+0.3
	0.6nm,0.2s						
HASLI				eSg	Sg	23 23 31.9	+0.8
	0.6nm,0.2s						
WIMIS	Wimmis	0.28	283	eSg	Sg	23 23 36.1	+1.6
	0.9nm,0.6s						
LKBD	Leukerbad	0.35	232	ePg	Pg	23 23 32.3	+0.2
	0.7nm,0.2s						
LKBD				eSg	Sg	23 23 37.2	+0.5
	0.7nm,0.2s						
BNALP	Bannalp	0.39	46	eSg	Sg	23 23 38.1	+0.2
	3.8nm,3.7s						
FUSIO	Fusio	0.47	108	ePg	Pg	23 23 34.3	-0.1
	0.2nm,0.2s						
FUSIO				eSg	Sg	23 23 40.2	-0.4
	0.2nm,0.2s						
MMK	Mattmark	0.55	184	⇑iPg	Pg	23 23 36.0	-0.1
	0.4nm,0.3s						
MMK				i Sg	Sg	23 23 42.9	-0.6
	0.4nm,0.3s						
SENIN	Lac Senin	0.56	245	ePg	Pg	23 23 36.0	-0.2
	2.4nm,2.4s						
CABF	La Chapelle	1.33	271	ePn	Pn	23 23 50.4	-0.1
CABF				ePg	Pg	23 23 52.5	+0.8
CABF				eSg	Sg	23 24 09.8	+0.3
	1.0nm,0.2s						
LPL	La Plagne	1.41	220	ePn	Pn	23 23 52.4	+0.8
LPL				ePg	Pg	23 23 55.0	+1.8
LPL				eSg	Sg	23 24 12.8	+0.8
	1.1nm,0.3s						
LPG	La Plagne	1.42	219	ePn	Pn	23 23 52.1	+0.4
LPG				ePg	Pg	23 23 54.9	+1.6
LPG				eSg	Sg	23 24 12.2	0.0
	1.2nm,0.3s						
HINF	Hinteralfeld	1.45	327	ePn	Pn	23 23 52.2	0.0
HINF				eSg	Sg	23 24 11.4	-2.1
	1.8nm,0.2s						
HAU	Haudompre	1.81	322	eSg	Sg	23 24 22.9	-2.4
	2.0nm,0.2s						
MBDF	Montbardon	2.07	206	ePn	Pn	23 24 01.0	-0.1
MBDF				ePg	Pg	23 24 06.2	-0.2
MBDF				eSg	Sg	23 24 32.4	-1.6
	0.7nm,0.3s						
ORIF	Oris-en-Rattie	2.25	222	ePn	Pn	23 24 03.6	-0.1
ORIF				ePg	Pg	23 24 08.8	-1.3
ORIF				eSg	Sg	23 24 38.5	-1.7
	0.6nm,0.3s						

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*JMA **16** 23:27:58.4±0.3, 23.25N×121.60E, h51^{km}*
TAP 16 23:27:57.6, 23.33N×121.49E, h26^{km}, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.79	51	P	Pn	23 28 27.3	-0.1
YOJ				eS	Sn	23 28 48.6	-0.9
HATJ	Hateruma jima	2.24	71	P	Pn	23 28 33.0	-0.8
HATJ				S	Sn	23 28 58.7	-2.2
IRIF	Iriomote-Funau	2.28	64	P	Pn	23 28 34.4	0.0
IRIF				eS	Sn	23 29 00.4	-1.6
JKRS	Kuro-shima	2.48	68	P	Pn	23 28 36.6	-0.6
JKRS				S	Sn	23 29 05.4	-1.5
JIJ	Ishigaki jima	2.64	67	P	Pn	23 28 38.7	-0.8
JIJ				S	Sn	23 29 08.4	-2.6
JTJ	Tarama	3.21	65	P	Pn	23 28 46.5	-1.2
JTJ				S	Sn	23 29 23.9	-1.7

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*TAP **16** 23:44:24.4, 24.76N×121.89E, h84^{km}, ML3.6*
*JMA **16** 23:44:25.0±0.3, 24.88N×121.99E, h73^{km}, M2.6*
ISC 16 23:44:24.7±2.3**, 24.8N**±0.3×**121.9E**±0.1**, h69**^{km}±32^{km}**, n6, σ0^{s}37**/12**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.03	108	P	P	23 44 44.0	+0.2
YOJ				S	S	23 44 58.0	0.0
IRIF	Iriomote-Funau	1.69	105	P	P	23 44 52.3	-0.5
IRIF				S	S	23 45 13.4	-0.1
HATJ	Hateruma jima	1.85	113	P	P	23 44 55.5	+0.6
HATJ				S	S	23 45 17.4	+0.2
JKRS	Kuro-shima	1.96	106	P	P	23 44 56.3	-0.2
JKRS				S	S	23 45 20.2	+0.3
JIJ	Ishigaki jima	2.05	101	P	P	23 44 57.3	-0.4
JIJ				S	S	23 45 21.4	-0.7
JTJ	Tarama	2.52	93	P	P	23 45 04.6	+0.3
JTJ				eS	S	23 45 34.3	+0.4

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*IDC **16** 23:54:00.4±6.1, 5.82S×149.36E, h81^{km}±48^{km}, mb3.4/5, mb1 3.5/6, mb1mx3.4/14, ML2.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/8, Error ellipse: s-maj=69.6km s-min=34.9km az=96.0*
ISC 16 23:53:58.1±2.9**, 5.8S**±0.2×**149.4E**±0.3**, h75**^{km}±24^{km}**, n9, σ0^{s}37**/10**, mb3.4**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.23	211	P	P	23 55 01.6	+0.1
	1.7nm,0.3s,baz=45,slow=6.1,SNR=6.6						
PMG				S	S	23 55 55.9	+5.9
	3.8nm,0.3s,baz=239,slow=16,SNR=6.5						
CTA	Charters Tower	14.55	192	LR	LR	00 02 03.8	
	comp=Z,96nm,21.8s,baz=44,slow=33						
WB2	Warramunga Arr	20.29	225	eP	P	23 58 30.1	-0.1
WRA	Warramunga Arr	20.30	225	P	P	23 58 29.7	-0.6
	2.9nm,0.7s,baz=51,slow=10.0,SNR=16						
WRA				S	S	00 02 08.8	+0.2
	0.3nm,0.8s,baz=41,slow=26,SNR=4.3						
ASAR	Alice Springs	23.20	218	P	P	23 58 58.9	-0.3
	0.3nm,0.4s,mb3.0,baz=52,slow=8.9,SNR=6.0						
FITZ	Fitzroy Crossi	26.21	240	eP	P	23 59 28.8	+0.9
	3.2nm,1.2s,mb3.6						
FITZ	Fitzroy Crossi	26.21	240	P	P	23 59 28.2	+0.3
	0.9nm,0.3s,mb3.6,baz=184,slow=23,SNR=6.0						
STKA	Stephens Creek	26.97	195	P	P	23 59 35.0	+0.3
	1.0nm,0.6s,mb3.5,baz=3.9,slow=18,SNR=2.9						
MKAR	Makanchi Array	78.83	320	P	P	00 05 54.6	0.0
	0.5nm,0.9s,mb3.3,baz=117,slow=6.4,SNR=2.6						

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*ISK **17** 00:03:47.8, 36.97N×27.84E, h5^{km}, MD3.2*
*NEIC **17** 00:03:48.7, 36.87N×27.68E, h27^{km}, MD3.2(ATH), After ATH.*
*ATH **17** 00:03:48.7, 36.87N×27.68E, h27^{km}±5^{km}, MD3.2/6*
ISC 17 00:03:47.5±0.8**, 36.87N**±0.03×**27.75E**±0.04**, h7**^{km}±5^{km}**, n18, σ1^{s}01**/26**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	309	i P	Pg	00 03 54.7	+0.8
BDRM				i S	Sg	00 04 00.0	+1.9
MLSB	Milas	0.43	3	i PG	Pg	00 03 55.3	-0.8
MLSB				i SG	Sg	00 04 01.5	-0.4
YER	Yerkesik	0.50	58	i PG	Pg	00 03 56.4	-1.2
YER				i SG	Sg	00 04 03.5	-0.9
NISR	Nisiros	0.56	243	ePN	Pn	00 04 00.2	-1.4
ARG	Arkhangelos	0.72	155	⇑iPB	Pb	00 04 01.6	-0.4
ARG				eSN	Sn	00 04 14.1	-1.1
AYDN	Tasoluk	0.80	7	i P	Pb	00 04 02.3	-1.0
AYDN				i S	Sb	00 04 12.4	-1.7
SMG	Samos	1.11	319	ePN	Pn	00 04 08.7	-0.7
SMG				eSN	Sn	00 04 24.5	-0.6
DNZL	Cakiroluk	1.32	51	i P	Pb	00 04 11.7	-0.5
DNZL				i S	Sb	00 04 31.0	+1.8
DENT	Denizli	1.35	49	PN	Pn	00 04 12.7	-0.2
KARP	Karpathos	1.40	200	ePN	Pn	00 04 13.8	+0.2
IZM	Izmir	1.57	346	PN	Pn	00 04 17.1	+1.0
KDAG	Bornova	1.58	346	i P	Pn	00 04 15.7	-0.4
KSL	Kastellorizon	1.64	115	ePN	Pn	00 04 19.0	+2.0
ELL	Elmali	1.74	93	ePN	Pn	00 04 19.4	+1.0
MANT	Manisa	1.74	21	⇑iP	Pn	00 04 19.4	+1.0
MANT				i S	Sn	00 04 41.6	+0.5
APE	Apeiranthos	1.79	277	ePN	Pn	00 04 19.0	-0.1
AKS	Akhisar	2.01	1	ePN	Pn	00 04 23.0	+0.7
BCK	Bucak	2.34	75	ePN	Pn	00 04 28.1	+1.0

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*JMA **17** 00:33:43.4±0.2, 27.62N×140.28E, h524^{km}, M4.1*
*IDC **17** 00:33:43.3±0.6, 27.56N×140.10E, h506^{km}±9^{km}, mb3.1/8, mb1 3.3/8, mb1mx3.1/20, Error ellipse: s-maj=27.2km s-min=13.0km az=74.0*
*NEIC **17** 00:33:43.1±1.1, 27.56N×140.07E, h504^{km}±13^{km}, mb3.7/5, Error ellipse: s-maj=24.9km s-min=11.1km az=79.0*
ISC 17 00:33:42.9±0.5**, 27.54N**±0.06×**140.1E**±0.2**, h521**^{km}±8^{km}**, n28, σ0^{s}75**/32**, mb3.5**/12**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.89	103	P	P	00 34 50.0	+0.3
	57nm,0.3s,baz=268,slow=21,SNR=28						
CBIJ				S	S	00 35 41.5	-1.3
	67nm,0.3s,baz=288,slow=22,SNR=11						
CBIJ	Chichi jima	1.89	103	P	P	00 34 50.1	+0.3
CBIJ				S	S	00 35 42.9	+0.1
JHHJ	Haha-jima-NKT	2.05	116	P	P	00 34 50.9	+0.3
JHHJ				S	S	00 35 44.4	+0.2
BSO1	Boso 1	7.12	6	P	P	00 35 32.1	+0.2
BSO1				S	S	00 36 58.0	-0.6
JIM2	Oshima 3	7.17	355	P	P	00 35 33.0	+0.6
JIE	Ise	7.43	338	P	P	00 35 35.9	+0.9
JOD2	Odawara 2	7.75	354	P	P	00 35 38.4	+0.2
JRY	Ryogami san	8.51	353	P	P	00 35 45.1	-0.9
JRY				eS	S	00 37 23.6	-0.4
MAJO	Matsushiro	9.12	350	eP	P	00 35 50.6	-1.7
MAT	Matsushiro	9.12	350	P	P	00 35 51.3	-1.0
MAT	Matsushiro	9.12	350	P	P	00 35 51.6	-0.7
MAT	Matsushiro	9.12	350	eP	P	00 35 51.0	-1.3
	7.3nm,0.6s						
JHS	Saijyo	9.54	323	P	P	00 35 57.7	+1.0
JMK	Ichinoseki	11.41	4	P	P	00 36 17.0	+1.0
JOT	Ohata	13.83	3	P	P	00 36 42.0	+1.2
SONM	Songino Array	33.13	317	P	P	00 39 37.0	+0.3
	0.4nm,0.8s,mb3.0,baz=124,slow=8.8,SNR=2.4						
SONM				ScP		00 45 00.9	
	0.5nm,0.9s,baz=162,slow=3.9,SNR=3.7						
CMAR	Chiang Mai Arr	38.82	265	P	P	00 40 24.4	+0.5
	1.0nm,0.3s,mb3.8,baz=58,slow=8.9,SNR=4.2						
WRAB	Tennant Creek	47.52	187	eP	P	00 41 32.0	-0.5
	1.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	47.54	187	P	P	00 41 32.0	-0.5
	1.4nm,0.3s,mb3.9,baz=3.0,slow=7.7,SNR=22						
MKAR	Makanchi Array	48.77	309	P	P	00 41 41.4	-0.1
	1.1nm,0.5s,mb3.7,baz=88,slow=10,SNR=20						
MKAR				PcP	PcP	00 42 56.5	-0.4
	0.7nm,0.7s,baz=76,slow=5.0,SNR=4.1						
MKAR				ScP		00 46 02.1	
	0.2nm,0.5s,baz=86,slow=5.8,SNR=3.0						
ASAR	Alice Springs	51.26	187	P	P	00 42 00.2	0.0
	0.7nm,0.4s,mb3.3,baz=1.7,slow=6.3,SNR=12						
KURK	Kurchatov	51.36	314	eP	P	00 41 59.3	-1.2
	2.0nm,0.6s,mb3.6						
BRVK	Borovoye	56.53	317	P	P	00 42 36.4	-0.6
	1.4nm,0.5s,mb3.5						
ARCES	ARCESS Array B	72.51	340	P	P	00 44 18.6	+1.2
	2.1nm,0.9s,mb3.6,baz=59,slow=7.1,SNR=3.9						
KAF	Kangasniemi	76.27	334	ep	P	00 44 37.7	-0.7
	0.5nm,0.4s,mb3.3						
FINES	FINESS Array B	76.73	333	P	P	00 44 41.3	+0.4
	1.0nm,0.4s,mb3.6,baz=102,slow=5.9,SNR=20						
NOA	NORSAR Array B	82.51	338	P	P	00 45 11.3	+0.2
	0.4nm,0.5s,mb3.2,baz=50,slow=4.3,SNR=2.7						
PLCA	Paso Flores	151.56	125	PKPbc	PKPdf	00 52 41.3	+11
	1.1nm,0.8s,baz=248,slow=1.8,SNR=3.9						

IDC 17 01:35:28.7±3.0**, 20.45S×174.26W, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.7**/16**, Error ellipse: s-maj=213.0km s-min=26.8km az=149.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.97	245	P	P	01 43 13.4	-1.5
	1.8nm,1.1s,baz=76,slow=8.3,SNR=2.1						
ASAR	Alice Springs	47.94	256	P	P	01 44 09.3	-1.8
	0.6nm,0.7s,baz=95,slow=8.3,SNR=7.4						
WRA	Warramunga Arr	48.08	261	P	P	01 44 10.0	-2.2
	0.2nm,0.4s,baz=96,slow=7.4,SNR=5.5						
NVAR	Mina Array Bea	78.62	42	P	P	01 47 32.6	-1.4
	0.7nm,0.7s,baz=236,slow=6.5,SNR=6.0						
AKASG	Malin Array Be	144.58	334	PKP	PKPdf	01 55 05.9	-2.9
	3.6nm,0.9s,baz=36,slow=4.0,SNR=6.2						
GERES	GERESS Array B	150.95	349	PKPbc	PKPdf	01 55 23.8	+4.6
	0.2nm,0.6s,baz=45,slow=1.9,SNR=3.8						

IDC 17 02:03:48.9±2.7**, 6.36S×105.37E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/14**, MS3.2**/1**, Ms1 3.4**/1**, ms1mx2.9**/16**, Error ellipse: s-maj=131.0km s-min=26.7km az=57.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	25.46	346	LR	LR	02 20 52.2	
	comp=Z,44nm,18.0s,baz=205,slow=40						
WRA	Warramunga Arr	31.20	118	P	P	02 10 09.8	-2.5
	0.8nm,0.7s,baz=291,slow=9.6,SNR=6.3						
WRA				PcP	PcP	02 13 06.2	-1.1
	0.4nm,1.0s,baz=308,slow=2.1,SNR=3.8						
ASAR	Alice Springs	32.37	125	P	P	02 10 20.9	-1.6
	0.8nm,1.0s,baz=299,slow=9.3,SNR=3.5						
STKA	Stephens Creek	42.27	132	P	P	02 11 43.8	-2.1
	4.3nm,0.7s,baz=298,slow=9.2,SNR=8.2						
SONM	Songino Array	53.97	1	P	P	02 13 15.5	-1.3
	0.3nm,0.9s,baz=180,slow=7.2,SNR=1.8						
SONM				PcP	PcP	02 14 18.3	-3.8
	0.3nm,0.6s,baz=180,slow=4.3,SNR=4.2						
TXAR	Lajitas Array	144.33	47	PKP	PKPdf	02 23 26.5	-3.0
	0.2nm,0.5s,baz=249,slow=1.2,SNR=5.8						

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*JMA **17** 02:29:32.5±0.3, 23.78N×121.93E, h67^{km}, M2.7*
TAP 17 02:29:31.1, 23.81N×121.80E, h29^{km}, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.28	59	P	Pn	02 29 53.7	+0.3
YOJ				eS	Sn	02 30 09.1	-0.6
IRIF	Iriomote-Funau	1.84	73	P	Pn	02 30 01.2	-0.1
IRIF				S	Sn	02 30 22.8	-1.0
HATJ	Hateruma jima	1.85	82	P	Pn	02 30 00.8	-0.7
HATJ				S	Sn	02 30 22.2	-1.9
JKRS	Kuro-shima	2.06	78	P	Pn	02 30 04.3	-0.3
JKRS				S	Sn	02 30 28.7	-0.9
JIJ	Ishigaki jima	2.21	75	P	Pn	02 30 05.6	-1.1
JIJ				S	Sn	02 30 30.6	-2.7
JTJ	Tarama	2.77	72	P	Pn	02 30 13.6	-1.1
JTJ				S	Sn	02 30 46.0	-1.6

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*NEIC **17** 02:32:39.8, 39.07N×20.60E, h10^{km}, MD3.2(ATH), ML3.0(THE), After ATH.*
*ATH **17** 02:32:39.8, 39.07N×20.60E, h10^{km}±8^{km}, MD3.2/6*
*THE **17** 02:32:41.3, 39.13N×20.54E, h10^{km}, ML3.0*
ISC 17 02:32:40.0±0.7**, 39.07N**±0.03×**20.50E**±0.05**, h10**^{km}**, n16, σ1^{s}22**/26**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.39	162	ePg	Pg	02 32 48.3	+0.4
LKD				eSg	Sg	02 32 57.1	+3.9
IGT	Igoumenitsa	0.48	344	ePg	Pg	02 32 48.9	-0.8
IGT				eSg	Sg	02 32 56.4	+0.3
JAN	Janina	0.64	25	ePB	Pb	02 32 50.2	-2.7
JAN				eSB	Sb	02 33 00.1	-1.5
KEK	Kerkira	0.84	320	ePB	Pb	02 32 56.0	-0.2
KEK				eSB	Sb	02 33 09.9	+2.6
VLS	Valsamata	0.90	175	ePB	Pb	02 32 56.9	-0.4
MEV	Metsovon	0.91	38	ePg	Pg	02 32 56.0	-2.2
	comp=Z,10nm,0.1s						
MEV				eSg	Sg	02 33 09.2	-1.2
EVR	Evrytania	1.03	98	ePN	Pn	02 32 58.3	-2.2
RLS	Riolos of Patr	1.27	143	ePB	Pb	02 33 02.5	-1.1
AGG	Agios Georgios	1.43	92	ePb	Pb	02 33 08.0	+1.7
	comp=Z,4.9nm,0.1s						
KZN	Kozani	1.57	38	ePB	Pb	02 33 09.3	+0.5
FNA	Florina	1.84	21	ePb	Pb	02 33 13.2	-0.1
FNA				eSb	Sb	02 33 37.2	+0.9
LIT	Litokhoron	1.85	56	ePb	Pb	02 33 12.8	-0.7
	comp=Z,3.3nm,0.3s						
LIT				eSb	Sb	02 33 36.7	0.0
XOR	Xorichti	2.11	81	ePn	Pn	02 33 17.0	+1.0
XOR				eSn	Sn	02 33 43.3	+0.8
NEO	Neokhori	2.13	83	ePN	Pn	02 33 16.5	+0.3
KNT	Kendrikon	2.78	41	ePn	Pn	02 33 25.1	-0.4
KNT				eSn	Sn	02 34 01.2	+1.7
SOH	Sokhos	2.80	51	ePn	Pn	02 33 26.3	+0.4
SOH				eSn	Sn	02 34 01.8	+1.7

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*IGQ **17** 02:51:59.7, 2.90S×77.53W, h12^{km}±3^{km}, mb4.6, Error ellipse: s-maj=6.0km s-min=2.1km az=127.2*
*NEIC **17** 02:52:01.8±1.1, 3.13S×77.59W, h103^{km}±13^{km}, mb4.2/4, Error ellipse: s-maj=20.2km s-min=9.6km az=77.0*
*IDC **17** 02:52:07.0±4.3, 2.92S×77.56W, h154^{km}±45^{km}, mb3.5/3, mb1 3.6/6, mb1mx3.4/21, MS3.0/1, Ms1 3.0/1, ms1mx2.5/22, Error ellipse: s-maj=38.0km s-min=16.7km az=72.0*
ISC 17 02:52:00.3±0.7**, 3.16S**±0.06×**77.6W**±0.1**, h98**^{km}±11^{km}**, n44, σ0^{s}85**/45**, mb4.1**/6**, 8C-8D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATA	Patacocha	1.84	333	⇑P	P	02 52 31.0	-0.2
ARRY	Arrayan	1.84	333	⇑P	P	02 52 30.6	-0.6
ULBA	Ulba	1.88	335	⇑P	P	02 52 31.4	-0.2
RETU	Refugio	1.89	334	⇓P	P	02 52 31.7	-0.1
RETU				S	S	02 52 55.3	+0.2
RUN2	Runtun	1.90	335	⇓P	P	02 52 31.5	-0.4
CUSU	Cusua	1.91	333	⇓P	P	02 52 32.3	+0.2
CUSU				S	S	02 52 55.0	-0.6
JUIV	Juive	1.92	333	⇓P	P	02 52 32.3	+0.1
JUIV				S	S	02 52 55.1	-0.8
IGUA	Igualata	1.95	328	P	P	02 52 33.5	+0.9
PISA	Pisayambo	2.22	339	⇑P	P	02 52 36.4	0.0
TAMB	Tambo	2.56	343	⇑P	P	02 52 41.2	+0.2
MARY	Rancho Maria	2.56	340	⇑P	P	02 52 41.9	+1.0
VC1	Cotopaxi 1	2.62	342	⇑P	P	02 52 42.4	+0.6
QIL1	Quilotoa	2.65	330	⇓P	P	02 52 42.4	+0.2
NAS1	Nasa	2.65	341	⇓P	P	02 52 43.3	+1.0
ANTI	Antisana	2.75	348	P	P	02 52 42.8	-0.7
EPALM	Reventador vol	2.92	358	P	P	02 52 44.5	-1.5
CONE	Cono NE Rev Vo	3.06	359	⇓P	P	02 52 46.9	-1.0
JUA2	San Juan 2	3.09	341	P	P	02 52 48.3	+0.1
GGP	Refugio Guagua	3.12	341	P	P	02 52 49.1	+0.4
CGGP	Crater GGP	3.12	341	P	P	02 52 49.2	+0.5
ELAGU	Cayambe Volc	3.13	353	P	P	02 52 48.8	-0.1
PINO	Pino	3.14	341	⇓P	P	02 52 49.3	+0.3
YANA	Yana	3.17	342	P	P	02 52 49.5	+0.2
CAYR	Refugio Cayamb	3.17	353	⇑P	P	02 52 49.6	+0.2
CAYA	Cayambe	3.23	353	P	P	02 52 50.2	+0.1
JOR1	San Jorge 1	3.30	342	P	P	02 52 48.3	-2.8
OTAV	Otavalo	3.47	346	ePn	P	02 52 54.1	+0.6
COTA	Cotacachi	3.54	348	P	P	02 52 55.2	+0.8
HOJA	Cerro de Hojas	3.61	305	P	P	02 52 50.9	-4.5
ROSC	El Rosal	8.60	22	P	P	02 54 05.2	+1.5
	0.5nm,0.3s,baz=202,slow=14,SNR=3.9						
NNA	Nana	8.81	175	ePn	P	02 54 06.1	-0.3
	115nm,0.9s						
SAML	Samuel	15.45	113	eP	P	02 55 32.5	-1.5
	8.0nm,0.8s						
LPAZ	La Paz	16.04	145	P	P	02 55 46.1	+4.7
	0.3nm,0.3s,baz=329,slow=13,SNR=12						
LPAZ	La Paz	16.04	145	eP	P	02 55 41.6	+0.2
	3.6nm,0.6s						
PCRV	Puerto La Cruz	18.50	44	P	P	02 56 14.7	+3.3
	1.1nm,0.3s,baz=158,slow=6.1,SNR=5.0						
PCRV				LR	LR	03 02 59.7	
	comp=Z,48nm,22.0s,baz=285,slow=36						
LVC	Limon Verde	21.10	157	P	P	02 56 43.7	+5.0
	3.9nm,1.0s,mb3.7,baz=340,slow=7.9,SNR=3.6						
LVC	Limon Verde	21.10	157	eP	P	02 56 39.2	+0.5
	14nm,0.8s,mb4.3						
SJG	San Juan	23.96	28	P	P	02 57 05.1	-1.6
	11nm,0.3s,mb4.7,baz=315,slow=16,SNR=4.7						
BDFB	Brasilia	31.66	115	P	P	02 58 16.8	0.0
	2.1nm,0.7s,mb4.0,baz=289,slow=7.4,SNR=3.3						
PLCA	Paso Flores	37.95	171	P	P	02 59 10.2	+0.2
	2.1nm,0.9s,mb4.0,baz=331,slow=11,SNR=3.5						
TXAR	Lajitas Array	40.84	324	P	P	02 59 32.6	-1.4
	0.2nm,0.7s,mb3.1,baz=139,slow=8.3,SNR=2.7						
QSPA	South Pole Qui	86.92	180	eP	P	03 04 35.9	+1.0
	12nm,1.1s,mb4.7						
ASAR	Alice Springs	139.35	227	PKhKP		03 11 11.2	
	0.6nm,1.0s,baz=121,slow=3.5,SNR=2.9						
ASAR				PKP	PKPdf	03 11 17.4	+0.5
	0.5nm,0.7s,baz=113,slow=2.2,SNR=5.1						
WRA	Warramunga Arr	141.13	232	PKhKP		03 11 15.2	
	0.5nm,0.8s,baz=112,slow=2.8,SNR=4.9						
WRA				PKP	PKPdf	03 11 20.0	-0.3
	0.2nm,0.5s,baz=125,slow=1.5,SNR=5.3						

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*NIED **17** 03:01:00, 41.50N×143.50E, h29^{km}, Mw5.1 Best double couple: M$_0$4.29×10^{16} NP1:ϕ$_s$296°, δ53°, λ-130°. NP2: ϕ$_s$171°, δ53°, λ-49°.*
*BJI **17** 03:01:47.8, 41.50N×143.32E, h28^{km}, mB5.2, mb5.0, Ms4.8, Msz4.6*
*JMA **17** 03:01:49.7±0.2, 41.54N×143.50E, h47^{km}±3^{km}, M5.1*
JMA Felt II J1.
*HRVD **17** 03:01:50.5±0.3, 41.57N×143.53E, h25^{km}, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s30,c50;Mantle waves: s50,c94; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-3.54±.18; M$_{\theta\theta}$0.61±.13; M$_{\phi\phi}$2.93±.13; M$_{r\theta}$2.44±.28; M$_{\theta\phi}$-2.47±.08; M$_{\phi r}$0.88±.24; Best double couple: M$_0$4.83×10^{16} NP1:ϕ$_s$175°, δ49°, λ-47°. NP2:ϕ$_s$300°, δ57°, λ-128°. Principal axes: T 4.54, Plg5°, Azm55°; N .57, Plg31°, Azm323°; P -5.12, Plg59°, Azm153°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **17** 03:01:50.4±1.0, 41.78N×143.36E, h38^{km}, mb5.2/36,*

MS4.7/29 Error ellipse: s-maj=10.6km s-min=5.9km az=101.5

*IDC **17** 03:01:50.6±2.2, 41.48N×143.39E, h38^{km}±18^{km}, mb4.6/27, mb1 4.8/31, mb1mx4.8/32, ML4.3/5, MS4.4/21, Ms1 4.5/21, ms1mx4.3/32, Error ellipse: s-maj=12.6km s-min=10.7km az=123.0*

*NEIC **17** 03:01:50.5±0.6, 41.48N×143.40E, h36^{km}±5^{km}, mb5.2/116, MS4.9/12, MW5.1(NIED), Error ellipse: s-maj=4.3km s-min=3.0km az=163.0*

NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in eastern and southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

ISC 17 03:01:49.5±0.1**, 41.46N**±0.02×**143.41E**±0.02**, h40**^{km}**, h40**^{km}±1.2^{km}**:pP-P, n482, σ1**^{s}**04**/505**, mb5.1**/162**, MS4.7**/52**, 25C-21D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.59**	**341**	⇓P	**P**	**03 02 00.9**	**-0.5**
JEM				*e*S	**S**	**03 02 09.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.96**	**329**	⇓P	**P**	**03 02 06.9**	**+0.3**
JCH	**Churui**	**1.15**	**358**	⇑P	**P**	**03 02 08.4**	**-0.9**
JOB	**Onbets**	**1.48**	**12**	⇑P	**P**	**03 02 12.9**	**-1.1**
JBT2	**Biratori 2**	**1.53**	**330**	P	**P**	**03 02 14.9**	**+0.1**
JOT	**Ohata**	**1.78**	**268**	⇓P	**P**	**03 02 18.8**	**+0.5**
JOT				*e*S	**S**	**03 02 39.2**	**-0.7**
JANG	**Nango**	**1.80**	**234**	⇑P	**P**	**03 02 18.3**	**-0.4**
JAK	**Akkeshi**	**1.81**	**31**	⇑P	**P**	**03 02 16.9**	**-1.8**
JFR	**Furan**	**1.81**	**341**	P	**P**	**03 02 19.1**	**+0.4**
JKB	**Kayabe**	**1.83**	**284**	⇑P	**P**	**03 02 19.5**	**+0.4**
JKB				*e*S	**S**	**03 02 41.7**	**+0.4**
JAR	**Ashorobuto**	**1.85**	**8**	⇑P	**P**	**03 02 17.8**	**-1.6**
JAR				*e*S	**S**	**03 02 37.7**	**-4.1**
JTM	**Tenmabayashi**	**1.90**	**250**	⇓P	**P**	**03 02 20.6**	**+0.6**
JTM				*e*S	**S**	**03 02 43.4**	**+0.6**
JKZ	**Kuzumaki**	**2.16**	**228**	⇑P	**P**	**03 02 23.5**	**-0.3**
ASAJ	**Asahikawa**	**2.72**	**348**	Pn	**P**	**03 02 32.4**	**+0.6**
	22nm,0.3s,baz=198,slow=12,SNR=53						
ASAJ				Sn	**S**	**03 02 55.5**	**-8.3**
	113nm,0.3s,baz=200,slow=22,SNR=6.9						
ASAJ				LR	LR	03 03 57.0	
	comp=Z,10µm,20.8s,baz=166,slow=47						
ASAJ	**Asahikawa**	**2.72**	**348**	P	**P**	**03 02 32.4**	**+0.6**
ASAJ						03 02 55.5	
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				smax			
	comp=N,113nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,10µm,20.8s						
YUK	**Yuzh-Kuril'sk**	**3.14**	**34**	⇓*i*P	**P**	**03 02 34.8**	**-3.0**
YUK				*i* S	**S**	**03 03 10.0**	**-4.4**
YUK				pmax	pmax		
	comp=Z,5µm,1.0s						
YUK				pmax	pmax		
	comp=N,6µm,3.0s						
YUK				pmax	pmax		
	comp=E,3µm,0.6s						
YUK				pmax	pmax		
	comp=N,700nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2µm,0.4s						
YUK				pmax	pmax		
	comp=E,870nm,0.5s						
YUK				smax			
	comp=E,50µm,0.8s						
YUK				smax			
	comp=N,16µm,1.0s						
YUK				smax			
	comp=N,23µm,0.6s						
YUK				smax			
	comp=E,5µm,0.5s						
YUK				MLR	MLR		
	comp=Z,14µm,17.0s						
YUK				MLR	MLR		
	comp=N,18µm,18.0s						
YUK				MLR	MLR		
	comp=E,9µm,18.0s						
JAW	**Awa shima**	**4.39**	**228**	P	**P**	**03 02 55.2**	**-0.2**
JNS	**Sasagawa**	**4.82**	**222**	P	**P**	**03 03 02.3**	**+0.8**
KUR	**Kuril'sk**	**4.98**	**39**	⇓*i*P	**P**	**03 03 00.5**	**-3.2**
KUR				*i* S	**S**	**03 03 57.0**	**-3.8**
KUR				pmax	pmax		
	comp=N,4µm,1.5s						
KUR				pmax	pmax		
	comp=E,3µm,1.5s						
KUR				pmax	pmax		
	comp=Z,8µm,1.5s						
KUR				smax			
	comp=N,11µm,2.0s						
KUR				smax			
	comp=E,8µm,2.0s						
JSD	**Sado**	**5.24**	**231**	P	**P**	**03 03 07.1**	**-0.3**
JSB	**Shiboa**	**5.24**	**212**	P	**P**	**03 03 06.4**	**-1.0**
JIZZ	**Izumozaki**	**5.35**	**224**	P	**P**	**03 03 08.3**	**-0.6**
JHK	**Hiroka**	**5.41**	**220**	P	**P**	**03 03 09.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**5.51**	**355**	⇑*e*P	**P**	**03 03 10.0**	**-1.2**
YSS				*e*S	**S**	**03 04 09.0**	**-5.2**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=Z,170nm,1.0s						
YSS				MLR	MLR		
	comp=Z,5µm,18.0s						
YSS				MLR	MLR		
	comp=N,4µm,19.0s						
YSS				MLR	MLR		
	comp=E,2µm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.51**	**355**	*e*Pn	**P**	**03 03 11.1**	**-0.1**
	comp=E,27nm,0.8s						
JAG	**Ashikaga**	**5.90**	**213**	P	**P**	**03 03 14.6**	**-2.0**
JJN	**Nakama**	**5.96**	**225**	P	**P**	**03 03 20.0**	**+2.6**
JSZ	**Suzu**	**6.16**	**231**	P	**P**	**03 03 21.4**	**+1.1**
JHG	**Hegura jima**	**6.17**	**236**	P	**P**	**03 03 21.7**	**+1.2**
MAJO	**Matsushiro**	**6.37**	**221**	*e*Pn	**P**	**03 03 21.9**	**-1.3**
	comp=E,91nm,0.7s						
MAT	**Matsushiro**	**6.37**	**221**	P	**P**	**03 03 21.9**	**-1.3**
MAT				*e*S	**S**	**03 04 37.2**	**+1.6**
MAT	**Matsushiro**	**6.37**	**221**	*e*P	**P**	**03 03 22.0**	**-1.2**
	comp=E,115nm,1.0s						
MAT				S	**S**	**03 04 37.0**	**+1.4**
JRY	**Ryogami san**	**6.48**	**214**	P	**P**	**03 03 24.1**	**-0.7**
JNG	**Nsakai**	**6.53**	**221**	P	**P**	**03 03 24.8**	**-0.7**
JJH	**Hakui**	**6.86**	**231**	P	**P**	**03 03 31.6**	**+1.5**
JGN	**Niukaw**	**7.07**	**224**	P	**P**	**03 03 32.4**	**-0.7**
JNY	**Yasuok**	**7.49**	**217**	P	**P**	**03 03 38.1**	**-0.8**
UGL	**Uglegorsk**	**7.68**	**353**	*e*P	**P**	**03 03 47.0**	**+5.5**
UGL				S	**S**	**03 05 04.0**	**-4.1**
UGL				pmax	pmax		
	comp=Z,59nm,0.6s						
UGL				smax			
	comp=N,600nm,3.0s						
UGL				smax			
	comp=E,900nm,3.0s						
UGL				MLR	MLR		
	comp=Z,3µm,18.0s						
UGL				MLR	MLR		
	comp=N,4µm,19.0s						
UGL				MLR	MLR		
	comp=E,3µm,19.0s						
JFM	**Mihama**	**8.30**	**227**	P	**P**	**03 03 51.5**	**+1.3**
VLA	**Vladivostok**	**8.70**	**285**	*i* P	**P**	**03 03 56.0**	**+0.3**
VLA				*i*		03 05 36.0	
VLA				MLR	MLR		
	comp=N,4µm,15.0s						
VLA				MLR	MLR		
	comp=E,4µm,15.0s						
VLA				MLR	MLR		
	comp=Z,4µm,15.0s						
JWT	**Wachi**	**8.81**	**228**	P	**P**	**03 03 57.1**	**-0.1**
JHJ2	**Mitsune**	**8.81**	**200**	P	**P**	**03 03 54.3**	**-2.9**
JHJ	**Hachijo jima 2**	**8.81**	**200**	Pn	**P**	**03 03 53.8**	**-3.4**
	comp=Z,35nm,0.3s,baz=132,slow=3.4,SNR=10						
JHJ				Sn	**S**	**03 05 26.4**	**-10**
	comp=Z,91nm,0.3s,baz=67,slow=22,SNR=7.5						
JKN	**Kiinagashima**	**9.15**	**220**	P	**P**	**03 03 59.9**	**-2.0**
TYV	**Tymovskoe**	**9.42**	**357**	*e*P	**P**	**03 04 01.8**	**-3.8**
TYV				*e*S	**S**	**03 05 49.0**	**-2.4**
TYV				pmax	pmax		
	comp=Z,14nm,0.8s						
TYV				MLR	MLR		
	comp=N,4µm,18.0s						
TYV				MLR	MLR		
	comp=Z,6µm,18.0s						
MDJ	**Mudanjiang**	**10.60**	**292**	P	**P**	**03 04 21.6**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,43nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,235nm,6.7s						
KLR	**Kul'dur**	**11.29**	**317**	*e*P	**P**	**03 04 29.8**	**-1.3**
KLR				*e*		03 06 34.0	
KLR				pmax	pmax		
	comp=Z,38nm,1.4s						
KLR				pmax	pmax		
	comp=Z,700nm,7.5s						
KLR				MLR	MLR		
	comp=E,2µm,14.5s						
KLR				MLR	MLR		
	comp=Z,4µm,14.5s						
KS15	**Wonju Array Si**	**12.65**	**257**	P	**P**	**03 04 46.5**	**-3.0**
SKR	**Severo-Kuril's**	**12.74**	**39**	*e*P	**P**	**03 04 46.7**	**-4.0**
SKR				*e*S	**S**	**03 06 59.7**	**-12**
SKR				pmax	pmax		
	comp=Z,100nm,0.8s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
JNU	**Nakatsue**	**12.98**	**234**	Pn	**P**	**03 04 53.8**	**-0.2**
	comp=N,0.8nm,0.3s,baz=63,slow=30,SNR=6.9						
JNU				LR	LR	03 10 08.3	
	comp=N,3µm,18.9s,baz=64,slow=38						
CN2	**Changchun**	**13.44**	**286**	*e*P	**P**	**03 04 59.5**	**-0.3**
CN2				*e*AP		03 05 06.4	
CN2				*e*XP		03 05 13.1	
CN2				*e*S	**S**	**03 07 25.1**	**-3.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,4µm,15.0s						
CN2				LR	LR		
	comp=E,3µm,15.0s						
CN2				LR	LR		
	comp=Z,3µm,19.0s						
INCN	**Inchon**	**13.56**	**258**	P	**P**	**03 04 59.9**	**-1.4**
CBIJ	**Chichi jima**	**14.37**	**184**	Pn	**P**	**03 05 13.3**	**+1.3**
	comp=Z,9.5nm,0.3s,baz=341,slow=16,SNR=4.1						
CBIJ				Sn	**S**	**03 07 37.3**	**-14**
	comp=Z,17nm,0.3s,baz=311,slow=19,SNR=5.1						
SNY	**Shenyang**	**14.84**	**278**	⇓P	**P**	**03 05 17.6**	**-0.5**
SNY				S	**S**	**03 07 58.1**	**-3.8**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s						
SNY				LR	LR		
	comp=E,2µm,19.6s						
SNY				LR	LR		
	comp=Z,2µm,20.1s						
PET	**Petropavlovsk**	**15.48**	**37**	*e*P	**P**	**03 05 30.8**	**+4.5**
PET				*e*S	**S**	**03 08 19.4**	**+2.6**
PET				pmax	pmax		
	comp=Z,200nm,6.1s						
PET				MLR	MLR		
	comp=Z,2µm,17.0s						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
DL2	**Dalian**	**16.84**	**268**	P	**P**	**03 05 42.8**	**-0.8**
DL2				S	**S**	**03 08 54.3**	**+6.0**
DL2				AMB	AMB		
	comp=Z,60nm,0.9s						
DL2				AMB	AMB		
	comp=Z,190nm,4.0s						
DL2				LR	LR		
	comp=N,460nm,19.0s						
DL2				LR	LR		
	comp=E,540nm,17.4s						
DL2				LR	LR		
	comp=Z,1µm,20.4s						
MA2	**Magadan**	**18.71**	**12**	*e*P	**P**	**03 06 04.7**	**-2.0**
MA2				*e*S	**S**	**03 09 25.9**	**-4.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2				MLR	MLR		
	comp=Z,3µm,16.0s						
MA2	**Magadan**	**18.71**	**12**	*e*P	**P**	**03 06 03.5**	**-3.3**
	comp=Z,20nm,0.6s						
JOW	**Kunigami**	**19.19**	**225**	P	**P**	**03 06 11.2**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=20,slow=13,SNR=3.3						
JOW				LR	LR	03 14 04.5	
	comp=Z,2µm,21.4s,baz=76,slow=38						
SSE	**Sheshan**	**20.64**	**247**	P	**P**	**03 06 27.9**	**-0.1**
SSE				XP		03 06 44.3	
SSE				S	**S**	**03 10 10.4**	**-1.0**
SSE				XS		03 10 28.8	
SSE				AMB	AMB		
	comp=Z,60nm,0.7s						
SSE				LR	LR		
	comp=N,736nm,22.2s,MS4.1						
SSE				LR	LR		
	comp=E,547nm,22.1s,MS4.1						
SSE				LR	LR		
	comp=Z,1µm,20.1s,MS4.2						
SSE	**Sheshan**	**20.64**	**247**	P	**P**	**03 06 27.9**	**-0.1**
	comp=Z,60nm,0.7s						
SSE				sP		03 06 44.2	
SSE				S	**S**	**03 10 10.4**	**-1.0**
SSE				sS		03 10 28.7	
SSE				LR	LR		
	comp=Z,1µm,20.1s,MS4.2						
BJI	**Beijing**	**20.66**	**275**	*e*P	**P**	**03 06 24.4**	**-3.7**
BJI				AP		03 06 36.1	
BJI				XP		03 06 42.3	
BJI				S	**S**	**03 10 11.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,162nm,2.3s						
BJI				LR	LR		
	comp=N,1µm,15.2s						
BJI				LR	LR		
	comp=E,2µm,22.1s						
BJI				LR	LR		
	comp=Z,2µm,21.0s						
BJI	**Beijing**	**20.66**	**275**	*e*P	**P**	**03 06 24.4**	**-3.7**
	comp=Z,25nm,1.4s						
BJI				pP		03 06 36.1	
BJI				sP		03 06 42.2	
BJI				S	**S**	**03 10 11.8**	**0.0**
BJI				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
TIA	**Tai'an**	**21.10**	**264**	*e*P	**P**	**03 06 29.3**	**-3.4**
TIA				S	**S**	**03 10 14.0**	**-6.2**
TIA				XS		03 10 33.0	
TIA				LR	LR		
	comp=N,813nm,16.0s,MS4.4						
TIA				LR	LR		
	comp=E,977nm,16.0s,MS4.4						
NJ2	**Nanjing**	**21.74**	**252**	*e*P	**P**	**03 06 37.0**	**-2.1**
NJ2				AP		03 06 49.3	
NJ2				XP		03 06 55.9	
NJ2				PP	PP	03 07 02.1	-2.7
NJ2				PPP	PPP	03 07 12.3	-2.4
NJ2				S	**S**	**03 10 29.0**	**-3.3**
NJ2				XS		03 10 47.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,4µm,16.4s,MS5.1						
NJ2				LR	LR		
	comp=E,4µm,15.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,9µm,17.4s,MS5.2						
SEY	**Seymchan**	**22.16**	**11**	*e*P	**P**	**03 06 40.5**	**-2.5**
SEY				*PP		03 06 51.0	
SEY						03 07 15.7	
SEY				*e*S	**S**	**03 10 36.5**	**-3.1**
SEY				*SS		03 10 52.8	
SEY				pmax	pmax		
	comp=N,60nm,1.0s						
SEY				pmax	pmax		
	comp=E,30nm,1.0s						
SEY				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.3						
SEY				MLR	MLR		
	comp=N,3µm,17.0s,MS4.8						
SEY				MLR	MLR		
	comp=Z,4µm,17.0s,MS4.9						
SEY				MLR	MLR		
	comp=E,970nm,20.0s,MS4.8						
YAK	**Yakutsk**	**22.19**	**343**	*e*P	**P**	**03 06 39.2**	**-4.2**
YAK				*e*		03 06 57.0	
YAK				*e*S	**S**	**03 10 34.3**	**-6.0**
YAK				*e*		03 10 43.7	
YAK				*e*SSS	SSS	03 11 11.3	-25
YAK				*e*		03 17 54.0	
YAK				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.0						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,29nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.0s						
YAK				smax			
	comp=E,24nm,1.1s						
YAK				smax			
	comp=Z,9.0nm,1.5s						
YAK				smax			
	comp=N,14nm,0.9s						
YAK				MLR	MLR		
	comp=N,503nm,20.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,567nm,20.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,403nm,15.0s,MS4.1						
FX1	**Attu Island--F**	**23.05**	**50**	P	**P**	**03 06 53.0**	**+1.2**
	comp=E,56nm,0.7s,mb5.1,baz=90,slow=7.1,SNR=23						
FX1	**Attu Island--F**	**23.05**	**50**	P	**P**	**03 06 53.0**	**+1.2**
FX1				pmax	pmax		
	comp=Z,56nm,0.7s						
FX1	**Attu Island--F**	**23.05**	**50**	*e*P	**P**	**03 06 52.9**	**+1.1**
HHC	**Hu-ho-hao-te**	**23.92**	**279**	*e*P	**P**	**03 06 58.3**	**-2.1**
HHC				AP		03 07 12.5	
HHC				S	**S**	**03 11 10.1**	**-1.0**
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.7						
HHC				LR	LR		
	comp=N,456nm,11.9s						
HHC				LR	LR		
	comp=E,770nm,20.2s						
HHC				LR	LR		
	comp=Z,1µm,19.0s						
BOD	**Bodaibo**	**24.82**	**321**	*e*P	**P**	**03 07 04.7**	**-4.3**
WHN	**Wuhan**	**25.80**	**254**	⇑P	**P**	**03 07 18.0**	**-0.5**
WHN				AP	pP	03 07 30.5	+1.3
WHN				S	**S**	**03 11 47.0**	**+4.3**
WHN				LR	LR		
	comp=N,1µm,29.4s						
WHN				LR	LR		
	comp=E,4µm,18.5s						
WHN				LR	LR		
	comp=Z,5µm,19.2s						
SONM	**Songino Array**	**26.91**	**296**	P	**P**	**03 07 27.8**	**-0.7**
	comp=Z,21nm,0.7s,mb4.8,baz=96,slow=8.4,SNR=122						
SONM				ScP		03 14 26.4	
	comp=Z,0.7nm,0.8s,baz=117,slow=2.8,SNR=3.9						
XAN	**Xi'an**	**28.12**	**266**	P	**P**	**03 07 39.3**	**-0.4**
XAN				AP	pP	03 07 50.1	-0.5
XAN				S	**S**	**03 12 16.8**	**-3.6**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
XAN				LR	LR		
	comp=N,203nm,14.7s,MS4.4						
XAN				LR	LR		
	comp=E,730nm,17.8s,MS4.4						
XAN				LR	LR		
	comp=Z,909nm,19.9s,MS4.4						
ZAK	**Zakamensk**	**29.00**	**302**	*e*P	**P**	**03 07 45.8**	**-1.6**
LZH	**Lanzhou**	**31.12**	**273**	*e*P	**P**	**03 08 08.4**	**+2.1**
LZH				AP	pP	03 08 20.1	+2.7
LZH				S	**S**	**03 13 08.0**	**+0.1**
LZH				XS		03 13 28.0	
LZH				SS	SS	03 14 55.0	+0.4
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,220nm,6.0s						
LZH				LR	LR		
	comp=N,2µm,14.8s						
LZH				LR	LR		
	comp=Z,3µm,19.1s,MS5.0						
LZH	**Lanzhou**	**31.12**	**273**	*e*P	**P**	**03 08 08.4**	**+2.1**
	comp=Z,30nm,1.0s,mb5.1						
LZH				PP	Px	03 08 11.0	
LZH				pP	pP	03 08 20.1	+2.7
LZH				sP	sP	03 08 25.4	+2.9
LZH				S	**S**	**03 13 08.0**	**+0.1**
LZH				sS		03 13 28.0	
LZH				SS	SS	03 14 55.0	+0.4
LZH				LR	LR		
	comp=Z,3µm,19.1s,MS5.0						
GTA	**Gaotai**	**32.99**	**281**	⇑P	**P**	**03 08 22.8**	**+0.1**
GTA				AP	pP	03 08 34.8	+1.0
GTA				XP	sP	03 08 40.0	+1.1
GTA				PP	PP	03 09 33.5	-0.3
GTA				PPP	PPP	03 09 49.8	-0.1
GTA				PCP	PcP	03 11 07.0	+1.0
GTA				S	**S**	**03 13 38.8**	**+1.7**
GTA				XS		03 13 50.9	
GTA				SCP		03 14 49.3	
GTA				PCS		03 14 51.5	
GTA				SS	SS	03 15 39.6	+1.1
GTA				LR	LR		
	comp=N,549nm,17.9s,MS4.5						
GTA				LR	LR		
	comp=E,804nm,19.0s,MS4.5						
GTA				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
CD2	**Chengdu**	**33.44**	**265**	P	**P**	**03 08 25.8**	**-0.8**
CD2				AP	pP	03 08 39.3	+1.6
CD2				S	**S**	**03 13 42.8**	**-1.3**
CD2				XS		03 14 03.8	
CD2				SS	SS	03 15 48.6	-0.2
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
CD2				AMB	AMB		
	comp=Z,70nm,3.8s						
CD2				LR	LR		
	comp=N,800nm,18.0s						
CD2				LR	LR		
	comp=Z,750nm,16.2s,MS4.5						
GYA	**Guiyang**	**33.68**	**255**	⇑*i*P	**P**	**03 08 27.0**	**-1.7**
GYA				AP	pP	03 08 40.3	+0.5
GYA				XP	sP	03 08 44.8	-0.2
GYA				PP	PP	03 09 40.4	-1.8
GYA				PCP	PcP	03 11 08.0	-0.1
GYA				S	**S**	**03 13 47.9**	**0.0**
GYA				XS		03 14 05.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
GYA				AMB	AMB		
	comp=Z,230nm,3.9s						
GYA				LR	LR		
	comp=N,1µm,16.5s,MS4.9						
GYA				LR	LR		
	comp=E,1µm,15.3s,MS4.9						
GYA				LR	LR		
	comp=Z,2µm,17.4s,MS4.9						
QIZ	**Qiongzhong**	**36.27**	**242**	P	**P**	**03 08 53.5**	**+2.6**
QIZ				PP	PP	03 10 18.5	+3.9
QIZ				S	**S**	**03 14 27.9**	**-0.1**
QIZ				XS		03 14 49.1	
QIZ				LR	LR		
	comp=N,448nm,19.1s,MS4.5						
QIZ				LR	LR		
	comp=E,702nm,18.6s,MS4.5						
QIZ				LR	LR		
	comp=Z,741nm,19.9s,MS4.5						
KMI	**Kunming**	**37.32**	**257**	*e*P	**P**	**03 09 00.1**	**+0.4**
KMI				XP	sP	03 09 11.4	-4.6
KMI				PPP	PPP	03 10 39.8	-8.8
KMI				S	**S**	**03 14 43.4**	**-0.6**
KMI				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.0						
KMI				LR	LR		
	comp=N,1µm,16.6s,MS4.9						
KMI				LR	LR		
	comp=E,922nm,15.8s,MS4.9						

KMI				LR	LR		
	comp=Z,1µm,20.2s,MS4.7						
KMI	**Kunming**	37.32	257	*e*P	P	03 09 00.1	+0.4
	comp=Z,23nm,1.0s,mb5.0						
KMI				sP	sP	03 09 11.4	-4.6
KMI				PPP	PPP	03 10 39.7	-8.9
KMI				S	S	03 14 43.4	-0.6
KMI				SS	SS	03 17 28.8	+12
KMI				LR	LR		
	comp=Z,1µm,20.2s,MS4.7						
WMQ	**Urumqi**	40.40	293	⇓P	P	03 09 25.3	+0.2
WMQ				AP	pP	03 09 36.8	+0.4
WMQ				XP	sP	03 09 41.8	+0.5
WMQ				PP	PP	03 11 02.6	+0.9
WMQ				PCP	PcP	03 11 29.8	+1.5
WMQ				S	S	03 15 29.3	-1.0
WMQ				XS		03 15 49.8	
WMQ				LR	LR		
	comp=N,501nm,17.4s,MS4.7						
WMQ				LR	LR		
	comp=E,942nm,19.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1µm,20.2s,MS4.7						
NVS	**Novosibirsk**	41.04	310	⇑*i*P	P	03 09 29.3	-0.9
NVS				*i*		03 11 25.1	
NVS				pmax	pmax		
	comp=Z,37nm,1.7s,mb4.7						
NVS				pmax	pmax		
	comp=E,38nm,1.8s						
SVW	**Sparrevohn**	41.08	40	*e*P	P	03 09 31.0	+0.5
IMA	**Indian Mountai**	42.11	33	*e*P	P	03 09 39.2	+0.4
RSO	**Redoubt South**	42.51	41	*e*P	P	03 09 43.0	+0.8
NANT	**Nan**	42.74	251	P	P	03 09 43.0	-1.6
SPU	**Mount Spurr**	42.81	40	*e*P	P	03 09 44.7	+0.1
KDAK	**Kodiak Island**	42.82	45	*e*P	P	03 09 43.4	-1.3
	comp=E,62nm,1.0s,mb5.3						
MKAR	**Makanchi Array**	43.23	299	P	P	03 09 46.8	-1.4
	comp=E,12nm,0.8s,mb4.7,baz=76,slow=10.0,SNR=54						
MKAR				PcP	PcP	03 11 37.3	-0.2
	comp=E,18nm,1.1s,baz=73,slow=4.5,SNR=3.7						
MKAR				LR	LR	03 29 10.4	
	comp=E,582nm,18.6s,MS4.5,baz=85,slow=38						
MKAR	**Makanchi Array**	43.23	299	P	P	03 09 46.8	-1.4
MKAR						03 11 37.3	
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,18nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,582nm,18.6s						
LSA	**Lhasa**	43.50	272	P	P	03 09 50.0	-0.7
LSA				S	S	03 16 11.6	-4.5
LSA				LR	LR		
	comp=N,300nm,20.8s,MS4.7						
LSA				LR	LR		
	comp=E,830nm,20.8s,MS4.7						
SLKM	**Skilak Lake**	43.76	41	P	P	03 09 52.0	-0.3
CHG	**Chiang Mai**	43.99	253	⇓P	P	03 10 01.0	+6.3
	comp=E,17nm,0.8s,mb4.8						
PMS	**Palmer South**	44.01	40	*e*P	P	03 09 54.1	-0.2
MCK	**McKinley**	44.12	36	*e*P	P	03 09 54.5	-0.7
	comp=E,12nm,0.8s,mb4.7						
PMR	**Palmer**	44.19	39	*e*P	P	03 09 55.6	-0.1
CMAR	**Chiang Mai Arr**	44.22	252	P	P	03 09 57.2	+0.7
	comp=E,3.1nm,1.0s,mb4.0,baz=48,slow=7.1,SNR=8.7						
CMAR				LR	LR	03 29 26.0	
	comp=E,513nm,19.3s,MS4.5,baz=60,slow=37						
CMAR	**Chiang Mai Arr**	44.22	252	P	P	03 09 57.3	+0.7
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,513nm,19.3s						
COLA	**College**	44.53	35	*e*P	P	03 09 58.9	+0.4
SML	**Sawmill**	44.54	39	*e*P	P	03 09 58.7	+0.1
KURK	**Kurchatov**	44.55	305	*i* P	P	03 09 57.5	-1.3
KURK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.0						
KURK	**Kurchatov**	44.55	305	*e*P	P	03 09 57.2	-1.6
	comp=Z,63nm,0.8s,mb5.5						
ILAR	**Eielson Array**	44.95	35	P	P	03 10 00.8	-1.0
	comp=Z,14nm,0.8s,mb4.8,baz=263,slow=6.6,SNR=76						
ILAR				LR	LR	03 32 05.1	
	comp=Z,325nm,19.2s,MS4.3,baz=288,slow=40						
ILAR	**Eielson Array**	44.95	35	P	P	03 10 00.8	-1.0
ILAR				pmax	pmax		
	comp=Z,14nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,325nm,19.2s						
SHL	**Shillong**	45.14	266	*e*P	P	03 10 02.3	-1.5
SHL				*e*S	S	03 16 41.3	+1.5
DIV	**Divide**	45.85	40	*e*P	P	03 10 08.8	-0.2
	comp=Z,93nm,0.8s,mb5.8						
EYAK	**Cordova Ski Ar**	45.95	41	*e*P	P	03 10 09.1	-0.8
NNT	**Nongplab**	47.66	246	P	P	03 10 24.8	+0.9
DAWY	**Dawson**	48.27	35	*e*P	P	03 10 27.3	-0.6
GUN	**Gumba**	48.38	273	*e*P	P	03 10 29.9	+0.6
	comp=Z,111nm,0.5s						
VOSK	**Vostochnaya**	48.58	309	P	P	03 10 28.9	-1.6
VOSK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
BVA0	**Borovoye Array**	48.84	310	*i* P	P	03 10 31.8	-0.7
BRVK	**Borovoye**	48.89	310	*e*P	P	03 10 31.8	-1.1
	comp=Z,21nm,0.8s,mb5.2						
KKN	**Kakani**	48.89	273	*e*P	P	03 10 33.5	+0.2
	comp=Z,68nm,0.7s,mb5.8						
PKI	**Pulchoki**	48.91	273	*e*P	P	03 10 33.2	-0.2
DMN	**Daman**	49.12	273	*e*P	P	03 10 34.1	-0.9
	comp=Z,44nm,0.7s,mb5.6						
GKN	**Gorkha**	49.26	274	*e*P	P	03 10 35.8	-0.3
	comp=Z,38nm,0.5s,mb5.7						
ZRNK	**Zerenda**	49.66	310	P	P	03 10 37.8	-1.0
ZRNK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
ZRNK	**Zerenda**	49.66	310	*e*P	P	03 10 37.6	-1.2
	comp=Z,42nm,0.8s,mb5.5						
FRU	**Bishkek**	49.70	296	*e*P	P	03 10 39.5	+0.2
FRU				pmax	pmax		
	comp=Z,1.0nm,2.5s						
FRU				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.7						
INK	**Inuvik**	49.76	29	LR	LR	03 33 45.2	
	comp=Z,718nm,19.7s,MS4.7,baz=295,slow=38						
INK	**Inuvik**	49.76	29	*e*P	P	03 10 38.1	-1.3
	comp=Z,18nm,0.4s,mb5.5						
KSH	**Kashi**	50.13	291	*e*P	P	03 10 45.4	+2.8
KSH				*e*PCP	PcP	03 12 04.3	+2.4
KSH				*e*PP	PP	03 12 41.0	+2.2
KSH				*e*PPP	PPP	03 13 38.0	+2.5
KSH				*e*SCP		03 15 55.1	
KSH				*e*PCS		03 16 00.8	
KSH				*e*S	S	03 17 52.4	+2.4
KSH				*e*PS	PS	03 18 07.0	+2.9
KSH				*e*SCS	ScS	03 20 28.0	+0.7
KSH				*e*SS	SS	03 21 24.0	+3.7
KSH				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.5						
KSH				LR	LR		
	comp=N,3µm,17.6s,MS5.4						
KSH				LR	LR		
	comp=E,2µm,14.7s,MS5.4						
KOLN	**Koldanda**	50.16	274	*e*P	P	03 10 42.0	-1.1
	comp=E,35nm,0.6s,mb5.6						
SNG	**Songkhla**	51.02	240	P	P	03 10 54.0	+4.3
SIT	**Sitka**	52.06	43	*e*P	P	03 10 58.4	+1.4
KKAR	**Karatay Array**	52.34	298	*i* P	P	03 10 58.4	-0.9
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
SDNR	**Sundarnagar**	53.16	282	*e*P	P	03 11 04.4	-1.2
SMLA	**Simla**	53.21	281	*i* P	P	03 11 14.9	+9.0
ARU	**Arti**	54.13	317	⇓*i*P	P	03 11 09.8	-2.6
ARU				*i*	pP	03 11 21.7	-2.3
ARU				*e*		03 12 12.4	
ARU				*e*		03 13 14.5	
ARU				*e*S	S	03 18 42.7	-1.8
ARU				*i*		03 20 53.2	
ARU				*e*SSS	SSS	03 24 18.3	-4.1
ARU				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
ARU				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,400nm,20.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,1µm,19.0s,MS4.9						
DLBC	**Dease Lake**	54.22	40	*e*P	P	03 11 12.0	-0.9
KAKA	**Kakadu**	54.84	193	⇓*i*P	P	03 11 17.3	-0.8
	comp=E,24nm,0.8s,mb5.3						
AB31	**Akbulak array**	56.34	309	*i* P	P	03 11 27.2	-1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KBS	**Kingsbay**	56.57	350	*e*P	P	03 11 27.6	-2.1
KBS				*e*S	S	03 19 17.5	+0.7
KBS				AMS	AMS	03 37 45.0	
	comp=Z,329nm,22.0s,MS4.4						
KBS	**Kingsbay**	56.57	350	*e*P	P	03 11 28.4	-1.4
	comp=Z,22nm,0.9s,mb5.2						
RES	**Resolute Bay**	57.93	15	*e*P	P	03 11 37.2	-2.2
	comp=Z,36nm,0.6s,mb5.6						
YKA	**Yellowknife Ar**	59.22	32	P	P	03 11 47.7	-0.8
	comp=Z,4.5nm,0.7s,mb4.6,baz=300,slow=6.9,SNR=11						
YKA				LR	LR	03 39 19.4	
	comp=Z,242nm,21.7s,MS4.3,baz=320,slow=38						
YKA	**Yellowknife Ar**	59.22	32	P	P	03 11 47.7	-0.8
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,242nm,21.7s						
YKA	**Yellowknife Ar**	59.22	32	P	P	03 11 47.7	-0.8
YKA				LR	LR	03 39 19.4	
APA	**Apatity**	59.31	335	⇑*e*P	P	03 11 46.7	-2.4
APA				*e*		03 12 35.4	
APA				*e*S	S	03 19 56.0	+3.2
APA				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.4						
APA				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.8						
KEV	**Kevo**	59.87	339	*e*p	P	03 11 50.0	-2.9
	comp=Z,3.2nm,0.3s,mb4.8						
KEV	**Kevo**	59.87	339	*e*P	P	03 11 50.0	-2.9
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
HYB	**Hyderabad**	59.93	267	*i* P	P	03 11 53.0	-1.0
HYB	**Hyderabad**	59.93	267	*e*P	P	03 11 53.0	-1.0
ARCES	**ARCESS Array B**	60.41	339	P	P	03 11 55.5	-1.2
	comp=Z,3.1nm,0.5s,mb4.6,baz=18,slow=7.7,SNR=30						
ARCES				LR	LR	03 45 31.2	
	comp=Z,390nm,19.3s,MS4.6,baz=90,slow=43						
CTA	**Charters Tower**	61.29	177	*e*P	P	03 12 01.9	-1.3
	comp=Z,7.3nm,1.0s,mb4.8						
CTA	**Charters Tower**	61.29	177	LR	LR	03 35 10.6	
	comp=Z,279nm,21.9s,MS4.4,baz=40,slow=33						
CTAO	**Charters Tower**	61.29	177	*e*P	P	03 12 01.9	-1.3
	comp=Z,21nm,1.1s,mb5.2						
KTK1	**Kautokeino**	61.37	339	*e*P	P	03 12 02.4	-0.7
KTK1				AMb	AMB	03 12 10.8	
	comp=Z,43nm,1.8s,mb5.3						
KTK1				*e*pP	pP	03 12 13.2	-1.7
KTK1	**Kautokeino**	61.37	339	*e*P	P	03 12 02.4	-0.7
	comp=Z,43nm,1.8s,mb5.3						
DAG	**Danmarks Havn**	61.50	355	⇓*i*P	P	03 12 03.3	-0.6
	comp=Z,17nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	61.51	199	*e*P	P	03 12 04.6	-0.1
	comp=Z,12nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	61.66	190	*e*P	P	03 12 03.3	-2.4
	comp=Z,106nm,1.1s,mb5.9						
WB2	**Warramunga Arr**	61.66	190	*e*P	P	03 12 03.1	-2.6
WB2				*e*S	S	03 19 56.5	-27
WRA	**Warramunga Arr**	61.67	190	P	P	03 12 03.3	-2.5
	comp=Z,30nm,1.0s,mb5.4,baz=8.5,slow=7.1,SNR=108						
WRA				LR	LR	03 40 28.0	
	comp=Z,136nm,19.4s,MS4.1,baz=270,slow=38						
WRA	**Warramunga Arr**	61.67	190	P	P	03 12 03.3	-2.4
WRA				pmax	pmax		
	comp=Z,30nm,1.0s						
WRA				MLR	MLR		
	comp=Z,136nm,19.4s						
TRO	**Tromso**	62.04	341	*e*P	P	03 12 05.0	-2.5
TRO				AMb	AMB	03 12 09.0	
	comp=Z,60nm,1.2s,mb5.6						
TRO				*e*S	S	03 20 27.7	0.0
TRO				AMS	AMS	03 44 52.9	
	comp=Z,576nm,18.6s,MS4.8						
TRO	**Tromso**	62.04	341	*e*P	P	03 12 05.0	-2.5
	comp=Z,60nm,1.2s,mb5.6						
GNW	**Green Mountain**	63.13	49	*e*P	P	03 12 15.4	+0.2
JCW	**Jim Creek**	63.30	48	P	P	03 12 16.7	+0.4
RPW	**Rockport**	63.39	48	P	P	03 12 16.6	-0.2
BMW	**Boistfort Moun**	63.49	50	*e*P	P	03 12 18.1	+0.5
RMW	**Rattlesnake Mo**	63.77	49	*e*P	P	03 12 19.0	-0.3
RVC	**Mount Rainier-**	63.96	49	P	P	03 12 21.6	+1.1
FMW	**Mount Fremont**	64.14	49	P	P	03 12 22.4	+0.8
LON	**Longmire**	64.16	50	*e*P	P	03 12 21.7	-0.1
SHW	**Mount Saint He**	64.22	50	*e*P	P	03 12 22.9	+0.7
NLW	**Nelson Butte**	64.25	48	*e*P	P	03 12 22.8	+0.5
COR	**Corvallis**	64.49	52	*e*P	P	03 12 24.7	+0.7
	comp=Z,46nm,1.0s,mb5.5						
MOS	**Moscow**	64.64	323	*e*P	P	03 12 20.5	-4.2
MOS				*e*	pP	03 12 31.4	-5.2
MOS				*e*S	S	03 20 53.3	-6.8
MOS				pmax	pmax		
	comp=Z,79nm,0.7s,mb5.8						
MOS				MLR	MLR		
	comp=Z,1µm,15.2s,MS5.1						
KEBM	**Edson Butte**	64.82	54	*e*P	P	03 12 26.1	0.0
SSOR	**Sweet Springs**	64.84	52	P	P	03 12 27.3	+1.0
KAF	**Kangasniemi**	65.10	333	*e*p	P	03 12 24.9	-2.7
	comp=Z,7.4nm,0.6s,mb4.9						
KAF	**Kangasniemi**	65.10	333	*e*P	P	03 12 24.9	-2.7
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
HSO	**Harness Mounta**	65.21	53	*e*P	P	03 12 27.6	-1.1
KBO	**Bosley Butte**	65.26	55	*e*P	P	03 12 29.1	+0.1
ASAR	**Alice Springs**	65.39	190	P	P	03 12 28.6	-1.5
	comp=Z,16nm,0.8s,mb5.1,baz=11,slow=5.9,SNR=116						
ASAR				LR	LR	03 40 44.5	
	comp=Z,158nm,20.9s,MS4.2,baz=9.8,slow=36						
ASPA	**Alice Springs**	65.39	190	*e*P	P	03 12 29.7	-0.5
VGB	**Gordon Butte**	65.45	50	*e*P	P	03 12 30.7	+0.5
OBN	**Obninsk**	65.50	323	⇓*e*P	P	03 12 29.1	-1.2
OBN				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
OBN				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.9						
DPW	**Davenport**	65.55	47	*e*P	P	03 12 30.5	-0.3
CROR	**Criterion Ridg**	65.63	51	P	P	03 12 32.1	+0.8
FINES	**FINESS Array B**	65.63	332	P	P	03 12 29.1	-1.9
	comp=Z,17nm,0.5s,mb5.3,baz=58,slow=6.4,SNR=96						
FINES				LR	LR	03 43 41.8	
	comp=Z,632nm,20.9s,MS4.8,baz=33,slow=38						
FINES	**FINESS Array B**	65.63	332	P	P	03 12 29.1	-1.9
FINES				pmax	pmax		
	comp=Z,17nm,0.5s						
FINES				MLR	MLR		
	comp=Z,632nm,21.0s						
HAWA	**Hanford**	65.66	49	*e*P	P	03 12 31.4	0.0
	comp=Z,48nm,1.2s,mb5.4						
MOR8	**Moi Rana**	65.75	340	*e*P	P	03 12 29.9	-1.9
MOR8				AMb	AMB	03 12 32.8	
	comp=Z,31nm,1.4s,mb5.2						
MOR8				*e*pP	pP	03 12 41.3	-2.4
MOR8	**Moi Rana**	65.75	340	*e*P	P	03 12 29.9	-1.9
	comp=Z,31nm,1.4s,mb5.1						
HUMO	**Hull Mountain**	65.81	54	*e*P	P	03 12 32.3	-0.2
	comp=Z,5.6nm,0.7s,mb4.7						
KRMB	**Red Mountain**	65.84	55	*e*P	P	03 12 31.8	-1.0
NEW	**Newport**	65.91	46	P	P	03 12 32.1	-0.9
	comp=Z,22nm,0.9s,mb5.2,baz=313,slow=5.1,SNR=29						
NEW	**Newport**	65.91	46	P	P	03 12 32.2	-0.9
NEW				pmax	pmax		
	comp=Z,22nm,0.9s						
NEW	**Newport**	65.91	46	*e*P	P	03 12 32.3	-0.8
	comp=Z,42nm,1.0s,mb5.4						
JMIC	**Jan Mayen**	66.06	350	AMS	AMS	03 41 27.8	
	comp=Z,133nm,21.3s,MS4.1						
SUMG	**Summit**	66.26	1	*e*P	P	03 12 34.4	-0.4
	comp=Z,47nm,0.8s,mb5.6						
KHMM	**Horse Mountain**	66.32	56	*e*P	P	03 12 36.1	+0.3
YBH	**Yreka Blue Hor**	66.46	55	P	P	03 12 36.5	-0.1
	comp=Z,9.9nm,0.8s,mb4.9,baz=353,slow=3.7,SNR=36						
YBH	**Yreka Blue Hor**	66.46	55	P	P	03 12 36.5	-0.2
YBH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YBH	**Yreka Blue Hor**	66.46	55	*e*P	P	03 12 36.3	-0.4
	comp=Z,21nm,1.1s,mb5.1						
LNOR	**Lincton Mounta**	66.67	49	*e*P	P	03 12 37.6	-0.3
WDC	**Whiskeytown Da**	67.23	55	*e*P	P	03 12 41.3	-0.2
	comp=Z,31nm,1.3s,mb5.2						
MOD	**Modoc**	67.82	53	*e*P	P	03 12 45.0	-0.3
	comp=Z,13nm,0.7s,mb5.1						
GOF	**Gofitskoye**	68.33	311	⇓*i*P	P	03 12 48.0	-0.3
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
WVOR	**Wild Horse Val**	68.50	52	*e*P	P	03 12 49.1	-0.3
	comp=Z,27nm,1.1s,mb5.1						
OHCM	**Honcut**	68.62	56	*e*P	P	03 12 49.5	-0.7
CHMT	**Chamberlain Mo**	68.82	46	*e*P	P	03 12 49.6	-1.7
BEKR	**Beckwourth**	69.00	55	*e*P	P	03 12 51.7	-0.9
	comp=Z,28nm,0.9s,mb5.2						
FFC	**Flin Flon**	69.16	34	*e*P	P	03 12 52.1	-1.2
	comp=Z,33nm,0.9s,mb5.3						
HRY	**Holter Researc**	69.70	45	*e*P	P	03 12 56.3	-0.5
WCN	**Washoe City**	69.71	55	*e*P	P	03 12 57.5	+0.6
	comp=Z,36nm,1.0s,mb5.3						
CMB	**Columbia Colle**	70.09	57	*e*P	P	03 12 58.8	-0.4
	comp=Z,38nm,1.3s,mb5.2						
HLID	**Hailey**	70.26	49	*e*P	P	03 12 60.0	-0.2
	comp=Z,14nm,1.1s,mb4.8						
GNI	**Garni**	70.32	306	P	P	03 13 01.4	+0.8
	comp=Z,5.3nm,0.4s,mb4.8,baz=347,slow=22,SNR=5.8						
GNI	**Garni**	70.32	306	P	P	03 13 01.4	+0.8
GNI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GNI	**Garni**	70.32	306	P	P	03 13 01.4	+0.8
MCMT	**McKenzie Canyo**	70.34	47	*e*P	P	03 13 00.1	-0.6
BOZ	**Bozeman (W)**	70.49	46	*e*P	P	03 13 01.4	-0.1
	comp=Z,56nm,1.1s,mb5.4						
BMN	**Battle Mountai**	70.56	53	*e*P	P	03 13 02.3	+0.2
	comp=Z,42nm,1.0s,mb5.3						
HFS	**Hagfors**	70.69	336	P	P	03 13 02.0	-0.5
	comp=Z,6.4nm,0.4s,mb4.9,baz=53,slow=7.4,SNR=43						
HFS	**Hagfors**	70.69	336	P	P	03 13 02.0	-0.5
HFS				pmax	pmax		
	comp=Z,6.0nm,0.4s						
NB2	**NORSAR Subarra**	70.70	338	P	P	03 13 00.9	-1.7
	comp=Z,30nm,1.1s,mb5.1,baz=36,slow=5.8						
NB2	**NORSAR Subarra**	70.70	338	P	P	03 13 00.9	-1.7
	baz=36,slow=6.2						
NOA	**NORSAR Array B**	70.70	338	P	P	03 13 01.5	-1.0
	comp=Z,10nm,0.8s,mb4.8,baz=36,slow=6.1,SNR=36						
NOA				LR	LR	03 49 57.3	
	comp=Z,404nm,18.7s,MS4.7,baz=35,slow=41						
NAO01	**NORSAR Array S**	70.95	338	*e*P	P	03 13 03.1	-1.0
	comp=Z,10nm,0.8s,mb4.8						
SOC	**Sochi**	71.11	312	*e*P	P	03 13 04.0	-1.3
SOC				*e*		03 13 21.9	
SOC				*e*		03 15 41.6	
SOC				*e*PPP	PPP	03 17 21.9	-4.6
SOC				*e*S	S	03 22 12.7	-4.9
SOC				*e*		03 22 58.2	
SOC				*e*SS	SS	03 26 44.5	-9.1
SOC				*e*SSS	SSS	03 29 49.7	-10
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,154nm,0.8s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,878nm,19.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,355nm,15.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,333nm,17.0s,MS4.9						
QLMT	**Earthquake Lak**	71.12	47	*e*P	P	03 13 05.4	0.0
NVAR	**Mina Array Bea**	71.14	55	P	P	03 13 05.8	+0.2
	comp=E,17nm,0.8s,mb5.0,baz=295,slow=5.2,SNR=103						
NVAR				LR	LR	03 39 14.8	
	comp=E,116nm,19.7s,MS4.1,baz=220,slow=32						
OMM	**Old Mammoth Mi**	71.21	56	*e*P	P	03 13 06.6	+0.5
MNV	**Mina**	71.23	55	*e*P	P	03 13 05.6	-0.6
	comp=E,28nm,1.1s,mb5.1						
YMR	**Madison River**	71.48	46	*e*P	P	03 13 07.4	-0.1
MTUM	**Tungsten Hills**	71.65	56	*e*P	P	03 13 08.4	-0.3
AKASG	**Malin Array Be**	71.75	322	P	P	03 13 07.6	-1.4
	comp=E,5.0nm,0.4s,mb4.8,baz=43,slow=5.9,SNR=62						
AKASG				LR	LR	03 47 31.6	
	comp=E,619nm,20.9s,MS4.8,baz=55,slow=38						
AKASG	**Malin Array Be**	71.75	322	P	P	03 13 07.6	-1.4
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,619nm,20.9s						
SUW	**Suwalki**	72.00	328	*e*P	P	03 13 08.4	-2.0
SUW				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
TPH	**Tonopah**	72.03	55	*e*P	P	03 13 09.4	-1.5
	comp=Z,30nm,0.8s,mb5.3						
MOOW	**Moose Ponds**	72.19	47	*e*P	P	03 13 12.2	+0.4
TPAW	**Teton Pass**	72.25	47	*e*P	P	03 13 12.0	-0.1
HVU	**Hansel Valley**	72.33	50	*e*P	P	03 13 11.5	-1.1
WUWY	**Wally Ulrich**	72.33	47	*e*P	P	03 13 12.8	+0.3
REDW	**Red Top Meadow**	72.39	47	*e*P	P	03 13 13.1	+0.2
ERZM	**Erzurum**	72.50	308	P	P	03 13 15.4	+1.8
LAO	**LASA Array**	72.64	43	*e*P	P	03 13 13.6	-0.7
	comp=Z,37nm,1.0s,mb5.3						
SPUT	**South Promonto**	72.82	50	*e*P	P	03 13 15.6	+0.1
DAC	**Darwin (Calif)**	72.92	57	*e*P	P	03 13 16.4	+0.2
	comp=Z,9.4nm,0.8s,mb4.8						
STKA	**Stephens Creek**	72.99	182	*e*P	P	03 13 17.4	+0.7
	comp=Z,9.8nm,0.9s,mb4.7						
STKA	**Stephens Creek**	72.99	182	P	P	03 13 16.7	0.0
	comp=Z,12nm,0.9s,mb4.8,baz=347,slow=7.5,SNR=22						
STKA				LR	LR	03 46 46.7	
	comp=Z,230nm,20.9s,MS4.4,baz=22,slow=37						
HWUT	**Hardware Ranch**	73.13	49	*e*P	P	03 13 17.4	+0.1
	comp=Z,36nm,1.2s,mb5.2						
FORT	**Forrest**	73.27	194	*e*P	P	03 13 18.9	+0.6
	comp=Z,78nm,0.8s,mb5.7						
FORT				*e*		03 13 34.2	
DUG	**Dugway**	73.33	51	*e*P	P	03 13 18.8	+0.3
	comp=Z,36nm,1.0s,mb5.3						
PDAR	**Pinedale Array**	73.49	47	P	P	03 13 18.8	-0.6
	comp=Z,11nm,0.6s,mb4.9,baz=287,slow=1.1,SNR=96						
TCUT	**Toone Canyon**	73.54	49	*e*P	P	03 13 19.3	-0.4
JLU	**Jordanelle**	73.85	50	*e*P	P	03 13 22.2	+0.7
NLU	**North Lily Min**	73.91	51	*e*P	P	03 13 22.4	+0.5
DAU	**Daniels Canyon**	74.09	50	*e*P	P	03 13 23.2	+0.3
MPU	**Maple Canyon**	74.13	50	*e*P	P	03 13 23.4	+0.3
WAR	**Warsaw**	74.18	327	*e*P	P	03 13 25.3	+2.1
KIS	**Kishinev**	74.53	320	*e*P	P	03 13 24.0	-1.3
KIS				*e*		03 23 20.0	
KIS				*e*		03 23 38.0	
MSU	**Marysvale**	74.79	52	*e*P	P	03 13 27.6	+0.5
ELZG	**Elazig**	74.82	308	P	P	03 13 28.4	+1.2
ULM	**Lac du Bonnet**	74.97	35	P	P	03 13 27.3	-0.5
	comp=Z,7.1nm,0.7s,mb4.7,baz=316,slow=8.1,SNR=10						
ULM				LR	LR	03 51 20.7	
	comp=Z,191nm,18.7s,MS4.4,baz=21,slow=40						
ULM	**Lac du Bonnet**	74.97	35	*e*P	P	03 13 26.8	-1.0
	comp=Z,13nm,0.7s,mb5.0						
NEN	**Nelson**	75.04	56	*e*P	P	03 13 28.6	+0.1
LDFC	**Landfair**	75.25	56	*e*P	P	03 13 29.2	-0.5
MALT	**Malatya**	75.27	308	*e*P	P	03 13 29.9	+0.1
	comp=Z,20nm,1.1s,mb5.0						
SRU	**San Rafael**	75.37	51	*e*P	P	03 13 29.7	-0.7
KWP	**Kalwaria**	75.43	325	*e*P	P	03 13 30.8	+0.4
KWP				*e**PP	pP	03 13 41.4	-1.1
KWP				MLR	MLR		
	comp=Z,700nm,20.2s,MS5.0						
RSSD	**Black Hills**	75.52	43	*e*P	P	03 13 30.5	-0.6
	comp=Z,21nm,0.9s,mb5.1						
OJC	**Ojcow**	76.22	327	*e*P	P	03 13 34.8	-0.1
OJC				*e*S	S	03 23 15.8	+0.9
OJC				MLR	MLR		
	comp=Z,600nm,20.5s,MS4.9						
GZT	**Gaziantep**	76.41	308	P	P	03 13 37.1	+0.8
KAHT	**Ahir Dag**	76.64	309	P	P	03 13 39.0	+1.5
BSEG	**Bad Segeberg**	76.80	334	*e*P	P	03 13 38.8	+0.6
BSEG				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
MLR	**Muntele Rosu**	77.00	320	P	P	03 13 39.9	+0.4
	comp=Z,4.3nm,0.9s,mb4.4,baz=155,slow=6.5,SNR=4.5						
MLR	**Muntele Rosu**	77.00	320	P	P	03 13 39.9	+0.4
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	77.07	312	P	P	03 13 40.0	0.0
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=3.9,SNR=9.0						
BRTR				LR	LR	03 54 56.3	
	comp=Z,219nm,18.1s,MS4.5,baz=310,slow=41						
KSP	**Ksiaz**	77.14	329	⇑*e*P	P	03 13 41.0	+0.9
KSP				*e*S	S	03 23 23.2	-1.8
KSP				MLR	MLR		
	comp=Z,700nm,27.5s,MS4.8						
PV01	**Paradox Valley**	77.16	50	*e*P	P	03 13 39.4	-1.1
OKC	**Ostrava-Krasne**	77.19	327	*e*P	P	03 13 40.8	+0.4

OKC				AP	pP	03 13 51.4	-1.1
OKC				LM		03 51 20.0	
	comp=Z,0.5nm,18.2s						
OKC	**Ostrava-Krasne**	**77.19**	**327**	*e*P	**P**	**03 13 40.8**	**+0.4**
OKC				*e*	pP	03 13 51.4	-1.1
OKC				MLR	MLR		
	comp=Z,500nm,18.2s,MS4.9						
WUAZ	**Wupatki**	**77.26**	**54**	*e*P	**P**	**03 13 41.5**	**+0.4**
	comp=Z,31nm,1.0s,mb5.2						
MORC	**Moravsky Berou**	**77.49**	**327**	*e*P	**P**	**03 13 41.2**	**-0.9**
	comp=Z,15nm,0.8s,mb5.0						
DPC	**Dobruska-Polom**	**77.52**	**328**	*e*P	**P**	**03 13 42.9**	**+0.7**
DPC				LM		03 50 00.0	
	comp=Z,0.4nm,22.3s						
RW3	**Ridgway**	**77.59**	**50**	*e*P	**P**	**03 13 43.4**	**+0.5**
ISCO	**Idaho Springs**	**77.69**	**47**	*e*P	**P**	**03 13 43.7**	**+0.3**
	comp=Z,42nm,1.4s,mb5.2						
PSZ	**Piszkesteto**	**77.94**	**325**	⇑*i*P	**P**	**03 13 45.7**	**+1.1**
VYHS	**Vyhne**	**77.95**	**326**	*e*P	**P**	**03 13 45.6**	**+1.0**
VYHS				*e*		03 14 08.7	
CLL	**Collm**	**78.02**	**331**	⇑P	**P**	**03 13 45.3**	**+0.4**
	comp=Z,logA/T=1.4,mb5.1						
CLL				*e**PP	pP	03 13 56.0	-1.0
CLL				*e*PP	PP	03 16 41.0	-2.4
CLL				*e*S	S	03 23 41.0	+6.7
CLL	**Collm**	**78.02**	**331**	⇑*i*P	**P**	**03 13 45.3**	**+0.4**
CLL				*e**PP	pP	03 13 56.0	-1.0
CLL				*e*S	S	03 23 41.0	+6.7
CLL				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
CLL				MLR	MLR		
	comp=Z,700nm,21.2s,MS5.0						
CLL	**Collm**	**78.02**	**331**	⇑*i*P	**P**	**03 13 45.3**	**+0.4**
	comp=Z,24nm,0.9s,mb5.1						
CLL				*e*pP	pP	03 13 56.0	-1.0
CLL				*e*S	S	03 23 41.0	+6.7
CLL				LR	LR		
	comp=Z,700nm,21.2s,MS5.0						
BRG	**Berggiesshubel**	**78.02**	**330**	*i* P	**P**	**03 13 45.5**	**+0.5**
BRG				*e*	pP	03 13 58.7	+1.7
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BRG				MLR	MLR		
	comp=Z,530nm,24.2s,MS4.8						
BRG				MLR	MLR		
	comp=N,600nm,21.0s,MS5.0						
BRG				MLR	MLR		
	comp=E,370nm,21.0s,MS5.0						
BRG	**Berggiesshubel**	**78.02**	**330**	*i* P	**P**	**03 13 45.5**	**+0.5**
	comp=E,10nm,1.1s,mb4.7						
BRG				*e*	pP	03 13 58.7	+1.7
BRG				*e*		03 16 55.3	
BRG				LR	LR		
	comp=Z,530nm,24.2s,MS4.8						
PVCC	**Panska Ves**	**78.06**	**329**	*e*P	**P**	**03 13 45.8**	**+0.6**
PVCC				AP	pP	03 13 56.1	-1.2
PVCC				LM		03 51 50.0	
	comp=Z,0.6nm,18.4s						
PVCC	**Panska Ves**	**78.06**	**329**	*e*P	**P**	**03 13 45.8**	**+0.6**
PVCC				*e*	pP	03 13 56.1	-1.2
PVCC				MLR	MLR		
	comp=Z,600nm,18.4s,MS5.0						
PRU	**Pruhonice**	**78.50**	**329**	*e*P	**P**	**03 13 47.9**	**+0.3**
PRU				AP	pP	03 14 00.0	+0.3
PRU				*e*		03 14 10.0	
PRU				LM		03 49 30.0	
PRU	**Pruhonice**	**78.50**	**329**	*e*P	**P**	**03 13 47.9**	**+0.3**
PRU				*e*	pP	03 14 00.0	+0.3
PRU				*e*		03 14 10.0	
CLZ	**Clausthal**	**78.52**	**332**	*e*P	**P**	**03 13 48.6**	**+0.9**
	comp=Z,32nm,1.2s,mb5.1						
SMOL	**Smolenice**	**78.52**	**327**	*e*P	**P**	**03 13 49.7**	**+1.9**
SMOL				*e*PP	PP	03 16 42.1	-5.3
TOO	**Toolangi**	**78.68**	**178**	*e*P	**P**	**03 13 50.1**	**+1.2**
	comp=Z,4.1nm,0.7s,mb4.5						
ESKT	**Eskisehir**	**78.76**	**313**	P	**P**	**03 13 49.6**	**+0.3**
MOX	**Moxa**	**79.07**	**331**	⇑*i*P	**P**	**03 13 51.1**	**+0.4**
	comp=Z,logA/T=1.1,mb4.8						
MOX				pP	pP	03 14 04.0	+1.2
MOX				L		03 51 47.0	
NKC	**Novy Kostel**	**79.10**	**330**	*e*P	**P**	**03 13 51.3**	**+0.4**
NKC				LM		03 51 10.0	
	comp=Z,0.6nm,21.2s						
SDCO	**Great Sand Dun**	**79.18**	**49**	*e*P	**P**	**03 13 52.1**	**+0.5**
	comp=Z,24nm,1.3s,mb5.0						
KHC	**Kasperske Hory**	**79.57**	**329**	P	**P**	**03 13 53.0**	**-0.5**
KHC				AP	pP	03 14 05.5	-0.1
KHC	**Kasperske Hory**	**79.57**	**329**	P	**P**	**03 13 53.0**	**-0.5**
KHC				*e*	pP	03 14 05.5	-0.1
WTSB	**Winterswijk**	**79.62**	**334**	*e*P	**P**	**03 13 53.9**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0						
GEC2	**GERESS Array S**	**79.75**	**329**	*e*P	**P**	**03 13 54.0**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
GEC2	**GERESS Array S**	**79.75**	**329**	*e*P	**P**	**03 13 54.0**	**-0.5**
	comp=Z,12nm,1.5s,mb4.6						
GERES	**GERESS Array B**	**79.75**	**329**	P	**P**	**03 13 54.1**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.3,baz=36,slow=5.4,SNR=28						
GERES	**GERESS Array B**	**79.75**	**329**	P	**P**	**03 13 54.1**	**-0.4**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TUC	**Tucson**	**79.77**	**56**	*e*P	**P**	**03 13 55.2**	**+0.3**
	comp=Z,7.3nm,0.9s,mb4.6						
WET	**Wettzell**	**79.83**	**330**	*e*P	**P**	**03 13 54.7**	**-0.1**
WET				*e**PP	pP	03 14 07.1	+0.1
WET				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
WET	**Wettzell**	**79.83**	**330**	*e*P	**P**	**03 13 54.7**	**-0.1**
	comp=Z,19nm,1.1s,mb4.9						
WET				*e*pP	pP	03 14 07.1	+0.1
GRA1	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**03 13 55.6**	**-0.1**
	comp=Z,32nm,1.0s,mb5.2						
GRA1				*e*pP	pP	03 14 08.0	+0.1
GRA1				*e*PP	PP	03 16 55.8	-3.4
GRA1				LR	LR		
	comp=Z,600nm,21.3s,MS4.9						
GRF	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**03 13 55.6**	**-0.1**
GRF				*e**PP	pP	03 14 08.0	+0.1
GRF				*e*		03 16 55.8	
GRF				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
GRF				MLR	MLR		
	comp=Z,600nm,21.3s,MS4.9						
MZLS	**Mizel**	**80.27**	**293**	P	**P**	**03 13 58.6**	**+0.8**
ARSA	**Arzberg**	**80.31**	**327**	⇓*i*P	**P**	**03 13 57.6**	**+0.1**
	comp=Z,10nm,1.4s,mb4.6						
ASF	**Jabal al Asfar**	**80.31**	**304**	P	**P**	**03 13 58.0**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=300,slow=3.8,SNR=6.0						
MOA	**Molln**	**80.33**	**328**	⇓*i*P	**P**	**03 13 58.3**	**+0.7**
	comp=Z,6.9nm,1.4s,mb4.4						
HILS	**Ha’il**	**80.38**	**298**	P	**P**	**03 13 59.1**	**+0.8**
LAZ	**Ladron**	**80.56**	**52**	*e*P	**P**	**03 13 59.6**	**+0.5**
ANMO	**Albuquerque**	**80.58**	**51**	*d* *i*P	**P**	**03 14 00.7**	**+1.5**
ANMO	**Albuquerque**	**80.58**	**51**	*e*P	**P**	**03 13 59.0**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8						
SCHQ	**Schefferville**	**80.66**	**17**	P	**P**	**03 13 59.4**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9,baz=344,slow=6.6,SNR=15						
SCHQ				LR	LR	03 50 42.1	
	comp=Z,247nm,19.3s,MS4.6,baz=93,slow=36						
SCHQ	**Schefferville**	**80.66**	**17**	*e*P	**P**	**03 13 57.6**	**-1.5**
	comp=Z,25nm,0.9s,mb5.2						
HGN	**Heimansgroeve**	**80.93**	**334**	*e*P	**P**	**03 13 59.9**	**-0.8**
	comp=Z,7.4nm,1.2s,mb4.5						
BNM	**Barren Site**	**81.04**	**52**	*e*P	**P**	**03 14 02.6**	**+1.0**
FUR	**Furstenfeldbru**	**81.24**	**330**	*e*P	**P**	**03 14 03.5**	**+1.2**
FUR				*e**PP	pP	03 14 14.8	+0.3
FUR				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
FUR	**Furstenfeldbru**	**81.24**	**330**	*e*P	**P**	**03 14 03.5**	**+1.2**
	comp=Z,36nm,1.0s,mb5.3						
FUR				*e*pP	pP	03 14 14.8	+0.3
OBKA	**Obir**	**81.30**	**327**	⇑*i*P	**P**	**03 14 02.0**	**-0.7**
	comp=Z,10.0nm,0.7s,mb4.8						
KBA	**Koelnbreinsper**	**81.33**	**328**	⇑*i*P	**P**	**03 14 03.6**	**+0.8**
	comp=Z,19nm,1.0s,mb5.0						
CBKS	**Cedar Bluff**	**81.57**	**45**	*e*P	**P**	**03 14 03.2**	**-1.1**
	comp=Z,50nm,1.1s,mb5.4						
LJU	**Ljubljana**	**81.69**	**327**	*e*P	**P**	**03 14 04.6**	**-0.1**
LJU				*e*	pP	03 14 16.5	-0.4
AYDN	**Tasoluk**	**81.71**	**314**	P	**P**	**03 14 06.8**	**+1.8**
WATA	**Walderalm**	**81.81**	**329**	⇑*i*P	**P**	**03 14 06.4**	**+1.1**
	comp=Z,13nm,1.1s,mb4.8						
LANF	**Langenberg**	**81.82**	**332**	*e*P	**P**	**03 14 05.9**	**+0.6**
BOJS	**Bojanci**	**81.82**	**326**	*i* P	**P**	**03 14 05.7**	**+0.2**
BOJS				*i*	pP	03 14 17.5	-0.1
BOJS				*e*		03 17 07.8	
WTTA	**Wattenberg**	**81.84**	**329**	⇓*i*P	**P**	**03 14 06.4**	**+0.9**
	comp=Z,15nm,0.8s,mb5.0						
AFFS	**‘Afif**	**81.85**	**295**	P	**P**	**03 14 06.8**	**+0.8**
PTCC	**Patocco-Chiusa**	**81.87**	**328**	*e*P	**P**	**03 14 05.4**	**-0.2**
VOY	**Vojsko**	**81.95**	**327**	*e*P	**P**	**03 14 05.8**	**-0.3**
MOTA	**Moosalm**	**81.98**	**329**	⇑*i*P	**P**	**03 14 06.0**	**-0.2**
	comp=Z,18nm,1.0s,mb4.9						
JAVS	**Javornik**	**82.00**	**327**	*e*P	**P**	**03 14 05.0**	**-1.4**
SQTA	**Sankt Quirin**	**82.04**	**329**	⇑*i*P	**P**	**03 14 07.7**	**+1.2**
	comp=Z,13nm,1.0s,mb4.8						
BAIF	**Baives**	**82.09**	**335**	*e*P	**P**	**03 14 06.8**	**+0.1**
BFO	**Black Forest**	**82.18**	**332**	*e*P	**P**	**03 14 07.3**	**+0.1**
BFO				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.9						
BFO	**Black Forest**	**82.18**	**332**	*e*P	**P**	**03 14 07.3**	**+0.1**
	comp=Z,25nm,1.6s,mb4.9						
SPAK	**Spaichingen**	**82.21**	**331**	*e*P	**P**	**03 14 08.3**	**+0.9**
WLS	**Welschbruch**	**82.46**	**332**	*e*P	**P**	**03 14 09.5**	**+0.9**
CDF	**Champ du Feu**	**82.48**	**332**	*e*P	**P**	**03 14 09.3**	**+0.5**
	comp=Z,22nm,0.9s,mb4.8						
DAVA	**Damuels**	**82.49**	**330**	⇓*i*P	**P**	**03 14 09.3**	**+0.5**
	comp=Z,24nm,1.2s,mb5.0						
CTI	**Castel Tesino**	**82.84**	**328**	*e*P	**P**	**03 14 10.7**	**0.0**
BRMO	**Bormio**	**82.98**	**329**	*e*P	**P**	**03 14 12.6**	**+1.3**
KSU1	**Kansas State U**	**82.99**	**43**	*e*P	**P**	**03 14 10.5**	**-1.1**
MOF	**Molkenrain**	**83.01**	**332**	*e*P	**P**	**03 14 12.1**	**+0.6**
THEF	**They Montfort**	**83.09**	**333**	*e*P	**P**	**03 14 12.3**	**+0.4**
KBRS	**Khaybar**	**83.12**	**298**	P	**P**	**03 14 14.1**	**+1.6**
HINF	**Hinteralfeld**	**83.14**	**332**	*e*P	**P**	**03 14 12.1**	**0.0**
	comp=Z,5.5nm,0.7s,mb4.4						
HAU	**Haudompre**	**83.16**	**333**	*e*P	**P**	**03 14 12.4**	**+0.2**
	comp=Z,15nm,1.0s,mb4.7						
HAU				*e*R			
	comp=Z,589nm,19.2s						
MEZF	**Maizieres J’vi**	**83.17**	**334**	*e*P	**P**	**03 14 13.0**	**+0.7**
JMQS	**Jabal Moqyreh**	**83.20**	**303**	P	**P**	**03 14 14.2**	**+1.4**
LOMF	**Lomont**	**83.55**	**332**	*e*P	**P**	**03 14 15.1**	**+1.0**
GDL2	**Guadalupe Moun**	**83.75**	**52**	*e*P	**P**	**03 14 15.9**	**+0.4**
CLNB	**Carlsbad**	**84.00**	**52**	*e*P	**P**	**03 14 17.9**	**+1.1**
BDAS	**Al Bad‘**	**84.01**	**303**	P	**P**	**03 14 18.0**	**+1.1**
AYUS	**‘Aynunah**	**84.07**	**303**	P	**P**	**03 14 18.2**	**+0.9**
VAI	**Varese**	**84.10**	**330**	*e*P	**P**	**03 14 17.2**	**+0.2**
RSM	**Repubblica di**	**84.26**	**327**	*e*P	**P**	**03 14 19.6**	**+1.7**
MCGN	**Macugnaga**	**84.31**	**331**	*e*P	**P**	**03 14 18.8**	**+0.7**
FSSB	**Fossombrone**	**84.32**	**326**	*e*P	**P**	**03 14 19.2**	**+1.1**
ARV	**Arcevia**	**84.41**	**326**	*e*P	**P**	**03 14 19.5**	**+0.9**
TATS	**Tathlith**	**84.43**	**291**	P	**P**	**03 14 20.8**	**+1.5**
CABF	**La Chapelle**	**84.44**	**332**	*e*P	**P**	**03 14 19.3**	**+0.6**
ZCCA	**Zocca**	**84.51**	**328**	*e*P	**P**	**03 14 21.5**	**+2.4**
SFI	**Santa Sofia**	**84.53**	**327**	*e*P	**P**	**03 14 20.9**	**+1.8**
SEI	**Scarperia**	**84.61**	**327**	*e*P	**P**	**03 14 21.7**	**+2.2**
LOR	**Lormes**	**84.64**	**334**	*e*P	**P**	**03 14 20.2**	**+0.6**
	comp=Z,33nm,0.9s,mb5.2						
LOR				*e*R			
	comp=Z,416nm,19.2s						
GSCL	**Gusciola**	**84.67**	**328**	*e*P	**P**	**03 14 21.7**	**+1.8**
ERBM	**Eremo**	**84.68**	**328**	*e*P	**P**	**03 14 21.9**	**+2.0**
FLN	**La Foliniere**	**84.68**	**337**	*e*P	**P**	**03 14 20.1**	**+0.3**
	comp=Z,20nm,0.7s,mb5.0						
FLN				*e*R			
	comp=Z,312nm,20.5s						
CRE	**Caprese Michel**	**84.72**	**327**	*e*P	**P**	**03 14 21.5**	**+1.4**
GRAM		**84.76**	**328**	P	**P**	**03 14 20.8**	**+0.4**
BOB	**Bobbio (Coli)**	**84.77**	**329**	*e*P	**P**	**03 14 21.6**	**+1.3**
UMJS	**Umm Lajj**	**84.79**	**299**	P	**P**	**03 14 22.9**	**+2.0**
VALM		**84.80**	**328**	P	**P**	**03 14 20.9**	**+0.4**
NRCA	**Norcia**	**84.88**	**326**	*e*P	**P**	**03 14 22.0**	**+1.0**
CODM		**84.92**	**329**	P	**P**	**03 14 21.1**	**0.0**
BACM		**84.93**	**328**	P	**P**	**03 14 21.1**	**-0.1**
SSF	**Saint Saulge**	**84.94**	**334**	*e*P	**P**	**03 14 21.7**	**+0.6**
	comp=Z,17nm,0.9s,mb4.9						
VINC	**Vinca**	**85.02**	**328**	P	**P**	**03 14 20.8**	**-0.8**
HYF	**Humbligny**	**85.04**	**334**	*e*P	**P**	**03 14 22.6**	**+1.0**
LSD	**Ceresole Reale**	**85.05**	**331**	P	**P**	**03 14 22.6**	**+0.9**
MAIM		**85.07**	**328**	P	**P**	**03 14 21.0**	**-0.9**
WMOK	**Wichita Mounta**	**85.10**	**47**	*e*P	**P**	**03 14 21.9**	**-0.4**
	comp=Z,20nm,1.1s,mb5.2						
CSNT	**Castellina Chi**	**85.11**	**327**	*e*P	**P**	**03 14 22.0**	**-0.1**
GRR	**Gorron**	**85.13**	**337**	*e*P	**P**	**03 14 22.7**	**+0.7**
	comp=Z,23nm,0.8s,mb5.1						
AQU	**L’Aquila**	**85.15**	**325**	*e*P	**P**	**03 14 23.3**	**+0.9**
LPL	**La Plagne**	**85.15**	**331**	*e*P	**P**	**03 14 23.5**	**+1.3**
	comp=Z,46nm,1.0s,mb5.2						
LPG	**La Plagne**	**85.16**	**331**	*e*P	**P**	**03 14 23.6**	**+1.3**
	comp=Z,79nm,1.2s,mb5.4						
SMF	**Signal de Mont**	**85.19**	**333**	*e*P	**P**	**03 14 23.1**	**+0.7**
	comp=Z,54nm,1.1s,mb5.3						
AVF	**Avril sur Loir**	**85.22**	**334**	*e*P	**P**	**03 14 23.4**	**+0.8**
	comp=Z,38nm,0.8s,mb5.2						
GENL	**Genova Univers**	**85.25**	**329**	P	**P**	**03 14 22.6**	**-0.2**
RSP	**Reno Superiore**	**85.27**	**331**	P	**P**	**03 14 22.5**	**-0.4**
CII	**Carovilli**	**85.27**	**324**	*e*P	**P**	**03 14 23.5**	**+0.5**
	comp=Z,13nm,0.8s,mb5.1						
CPI2	**Carpinone**	**85.38**	**324**	*e*P	**P**	**03 14 25.1**	**+1.6**
PTQR	**Pietraquaria**	**85.42**	**325**	*e*P	**P**	**03 14 24.7**	**+1.0**
MNS	**Montasola**	**85.43**	**326**	*e*P	**P**	**03 14 23.8**	**+0.1**
SDI	**San Donato**	**85.50**	**325**	*e*P	**P**	**03 14 23.8**	**-0.2**
BLJS	**Baljurashi**	**85.52**	**292**	P	**P**	**03 14 26.6**	**+2.0**
BNI	**Bardonecchia**	**85.57**	**331**	*e*P	**P**	**03 14 24.5**	**+0.2**
	comp=Z,15nm,0.9s,mb5.2						
BGF	**Bois d’Agland**	**85.60**	**334**	*e*P	**P**	**03 14 25.2**	**+0.8**
	comp=Z,56nm,1.5s,mb5.3						
RRL	**Cesana Torines**	**85.64**	**331**	P	**P**	**03 14 24.6**	**0.0**
FIN	**Finale Ligure**	**85.71**	**329**	*e*P	**P**	**03 14 25.0**	**0.0**
SGMF	**Saint Gilles**	**85.74**	**338**	*e*P	**P**	**03 14 26.0**	**+1.0**
ROB	**Roburent**	**85.77**	**330**	P	**P**	**03 14 24.5**	**-0.8**
MBDF	**Montbardon**	**85.81**	**331**	*e*P	**P**	**03 14 26.0**	**+0.5**
	comp=Z,22nm,0.7s,mb5.2						
RORO		**85.85**	**329**	P	**P**	**03 14 25.2**	**-0.5**
PLDF	**La Plantade**	**85.85**	**333**	*e*P	**P**	**03 14 26.9**	**+1.2**
ROSF	**Rostrenen**	**85.86**	**338**	*e*P	**P**	**03 14 26.7**	**+1.1**
	comp=Z,75nm,1.2s,mb5.5						
PZZ	**Prazzo**	**85.88**	**330**	P	**P**	**03 14 24.5**	**-1.3**
AGO	**Saint Agoulin**	**85.94**	**334**	*e*P	**P**	**03 14 27.6**	**+1.5**
ORIF	**Oris-en-Rattie**	**85.97**	**331**	*e*P	**P**	**03 14 27.4**	**+1.1**
	comp=Z,32nm,0.8s,mb5.3						
ORIF				*e*R			
	comp=Z,315nm,21.0s						
MONE	**Monesi**	**86.00**	**330**	P	**P**	**03 14 26.1**	**-0.3**
ENR	**Entracque**	**86.00**	**330**	P	**P**	**03 14 24.7**	**-1.7**
STV2	**Anna di Valdie**	**86.02**	**330**	P	**P**	**03 14 25.0**	**-1.5**
STV	**Sta Anna Valdi**	**86.02**	**330**	P	**P**	**03 14 25.2**	**-1.3**
TCF	**Toulx Ste Croi**	**86.04**	**334**	*e*P	**P**	**03 14 27.6**	**+1.0**
	comp=Z,47nm,1.3s,mb5.3						
IMI	**Imperia**	**86.09**	**329**	*e*P	**P**	**03 14 27.8**	**+0.9**
AUTN	**L’Aution**	**86.19**	**330**	*e*P	**P**	**03 14 27.7**	**+0.3**
NEGI	**Negi**	**86.21**	**330**	P	**P**	**03 14 26.6**	**-0.9**
LTX	**Lajitas**	**86.22**	**54**	*e*P	**P**	**03 14 27.6**	**-0.3**
	comp=Z,22nm,0.9s,mb5.4						
TXAR	**Lajitas Array**	**86.22**	**54**	P	**P**	**03 14 28.1**	**+0.2**
	comp=Z,8.9nm,0.7s,mb5.1,baz=296,slow=3.0,SNR=111						
TOUF	**Mont Tournerai**	**86.24**	**330**	*e*P	**P**	**03 14 27.9**	**+0.3**
SBF	**Sospel**	**86.30**	**330**	*e*P	**P**	**03 14 28.1**	**+0.2**
	comp=Z,46nm,0.9s,mb5.4						
MVIF	**Mont Vial**	**86.38**	**330**	*e*P	**P**	**03 14 29.0**	**+0.7**
REVF	**Revere**	**86.43**	**330**	*e*P	**P**	**03 14 29.0**	**+0.4**
VIVF	**Saint-Julien-l**	**86.46**	**332**	*e*P	**P**	**03 14 29.8**	**+1.1**
	comp=Z,46nm,0.9s,mb5.4						
MFF	**Saint Martin d**	**86.51**	**336**	*e*P	**P**	**03 14 30.1**	**+1.2**
	comp=Z,49nm,0.9s,mb5.4						
CALN	**Calern**	**86.60**	**330**	*e*P	**P**	**03 14 30.2**	**+0.8**
LBL	**Lubilhac**	**86.62**	**333**	*e*P	**P**	**03 14 31.4**	**+1.9**
PGF	**Pioggiola**	**86.81**	**328**	*e*P	**P**	**03 14 31.3**	**+0.9**
	comp=Z,7.9nm,0.9s,mb4.6						
FRF	**La Foret Royal**	**86.86**	**330**	*e*P	**P**	**03 14 30.8**	**+0.2**
	comp=Z,45nm,1.3s,mb5.2						
SMRF	**Simiane la Rot**	**86.90**	**331**	*e*P	**P**	**03 14 31.9**	**+1.1**
	comp=Z,38nm,1.2s,mb5.2						
FVM	**French Village**	**86.92**	**40**	*e*P	**P**	**03 14 31.0**	**-0.1**
	comp=Z,41nm,1.3s,mb5.5						
LMR	**La Mourre**	**87.10**	**330**	*e*P	**P**	**03 14 32.3**	**+0.5**
	comp=Z,67nm,1.2s,mb5.5						
RJF	**Les Rejaudoux**	**87.14**	**334**	*e*P	**P**	**03 14 33.2**	**+1.2**
	comp=Z,38nm,0.9s,mb5.3						
RJF				*e*R			
	comp=Z,510nm,20.0s						
CAF	**Calviac**	**87.29**	**334**	*e*P	**P**	**03 14 34.5**	**+1.8**
	comp=Z,81nm,1.0s,mb5.6						
LASF	**Ste Croix**	**87.42**	**332**	*e*P	**P**	**03 14 34.8**	**+1.4**
	comp=Z,45nm,1.2s,mb5.3						
JCT	**Junction City**	**87.68**	**50**	*e*P	**P**	**03 14 34.4**	**-0.5**
	comp=Z,22nm,1.1s,mb5.3						
LFF	**La Frestale**	**87.72**	**334**	*e*P	**P**	**03 14 36.4**	**+1.6**
	comp=Z,91nm,1.1s,mb5.6						
ACSO	**Alum Creek Sta**	**88.42**	**34**	*e*P	**P**	**03 14 37.5**	**-0.8**
	comp=Z,26nm,0.8s,mb5.5						
MTLF	**Montolieu**	**88.64**	**333**	*e*P	**P**	**03 14 40.6**	**+1.4**
	comp=Z,16nm,1.0s,mb5.0						
WCI	**Wyandotte Cave**	**88.64**	**37**	*e*P	**P**	**03 14 39.3**	**-0.1**
	comp=Z,19nm,0.8s,mb5.5						
EPF	**Esparros**	**89.55**	**334**	*e*P	**P**	**03 14 44.3**	**+0.8**
	comp=Z,16nm,1.0s,mb5.0						
ETSF	**Etsaut**	**89.96**	**334**	*e*P	**P**	**03 14 47.0**	**+1.5**
	comp=Z,18nm,0.7s,mb5.2						
SJPF	**Ste Jean**	**89.98**	**335**	*e*P	**P**	**03 14 47.1**	**+1.5**
	comp=Z,8.4nm,0.9s,mb4.8						
PWV	**Princeton**	**91.68**	**34**	*e*P	**P**	**03 14 50.6**	**-3.1**
ESDC	**Sonseca Array**	**93.97**	**335**	P	**P**	**03 15 04.5**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.4,baz=13,slow=3.0,SNR=5.9						
ESDC				LR	LR	04 03 54.5	
	comp=Z,221nm,19.3s,MS4.6,baz=10.0,slow=40						
VNDA	**Vanda**	**119.25**	**175**	PKP	PKPdf	03 20 34.2	+0.8
	comp=Z,0.6nm,0.8s,baz=329,slow=2.3,SNR=3.8						
VNDA	**Vanda**	**119.25**	**175**	PKIKP	PKPdf	03 20 34.2	+0.8
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ROSC	**El Rosal**	**122.47**	**46**	PKP	PKPdf	03 20 43.9	+2.9
	comp=Z,0.8nm,0.3s,baz=326,slow=0.8,SNR=5.2						
DBIC	**Dimbokro**	**123.98**	**321**	PKP	PKPdf	03 20 43.9	-0.1
	comp=Z,3.2nm,0.8s,baz=18,slow=4.5,SNR=4.6						
DBIC	**Dimbokro**	**123.98**	**321**	PKIKP	PKPdf	03 20 43.9	0.0
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**131.20**	**180**	*e*PKP	PKPdf	03 20 57.5	+1.4
LPAZ	**La Paz**	**143.04**	**57**	PKP	PKPdf	03 21 21.7	+2.5
	comp=Z,2.1nm,0.7s,baz=0.1,slow=4.6,SNR=9.4						
LPAZ	**La Paz**	**143.04**	**57**	PKIKP	PKPdf	03 21 21.7	+2.5
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**143.04**	**57**	*e*PKPdf	PKPdf	03 21 21.2	+2.0
SNAA	**Sanae**	**145.43**	**198**	*e*	PKPdf	03 21 26.6	+4.8
SNAA	**Sanae**	**145.43**	**198**	⇓*i*PKPdf	PKPdf	03 21 22.7	+0.9
SNAA				*e*		03 21 26.6	
SNAA				*e*		03 24 43.5	
VNA3	**Neumayer Olymp**	**147.24**	**196**	*e*	PKPdf	03 21 32.3	+7.5
VNA3	**Neumayer Olymp**	**147.24**	**196**	⇓*i*PKPdf	PKPdf	03 21 28.4	+3.5
VNA3				*e*		03 21 32.3	
VNA1	**Neumayer--Stat**	**147.40**	**197**	*e*	PKPdf	03 21 34.7	+10
VNA1	**Neumayer--Stat**	**147.40**	**197**	⇑*i*PKPdf	PKPdf	03 21 31.0	+5.9
VNA1				*e*		03 21 34.7	
VNA1				*e*		03 24 51.2	
FCH	**Farellones**	**152.15**	**84**	*i* P	PKPdf	03 21 42.0	+8.4
BDFB	**Brasilia**	**152.44**	**24**	PKPbc	PKPdf	03 21 43.3	+8.8
	comp=Z,8.1nm,1.0s,baz=354,slow=3.8,SNR=9.8						
BDFB	**Brasilia**	**152.44**	**24**	PKIKP	PKPdf	03 21 43.3	+8.8
BDFB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PLCA	**Paso Flores**	**154.48**	**100**	PKPbc	PKPdf	03 21 47.2	+11
	comp=Z,4.5nm,0.8s,baz=295,slow=1.8,SNR=10						
PLCA				PKPab	PKPab	03 22 01.4	-0.5
	comp=Z,5.5nm,0.9s,baz=235,slow=4.7,SNR=7.5						
PLCA	**Paso Flores**	**154.48**	**100**	PKIKP	PKPdf	03 21 47.2	+11
PLCA						03 22 01.5	
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CPUP	**Villa Florida**	**157.19**	**55**	PKP	PKPdf	03 21 42.0	+1.3
	comp=Z,3.2nm,1.1s,baz=76,slow=2.6,SNR=3.4						
CPUP				PKPbc	PKPdf	03 21 52.7	+12
	comp=Z,3.1nm,1.1s,baz=1.6,slow=3.2,SNR=3.5						
CPUP				PKPab	PKPab	03 22 13.0	-1.0
	comp=Z,2.5nm,0.8s,baz=113,slow=2.6,SNR=4.1						
CPUP	**Villa Florida**	**157.19**	**55**	PKIKP	PKPdf	03 21 42.0	+1.3
CPUP						03 21 52.7	
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	**Villa Florida**	**157.19**	**55**	PKP	PKPdf	03 21 42.0	+1.3
CPUP				PKPbc	PKPdf	03 21 52.7	+12
CPUP				PKPab	PKPab	03 22 13.0	-1.0

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*IDC **17** 03:13:16.6±0.9, 8.40N×138.47E, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, MS3.2/2, Ms1 3.2/2, ms1mx2.9/29, Error ellipse: s-maj=36.4km s-min=17.7km az=81.0*

*NEIC **17** 03:13:18.3±0.5, 8.39N×138.42E, h10^{km}, mb4.9/4, Error ellipse: s-maj=22.6km s-min=9.6km az=79.0*

ISC 17 03:13:16.5±0.8**, 8.39N**±0.10×**138.4E**±0.2**, h10^{km}, n17, σ0^{s}73**/13**, mb4.1**/12**, MS3.2**/2**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.43**	**188**	P	**P**	**03 19 13.1**	**-0.5**
	1.9nm,0.9s,mb3.7,baz=7.4,slow=10,SNR=7.1						
FITZ	**Fitzroy Crossi**	**29.17**	**205**	P	**P**	**03 19 19.3**	**-1.0**
	2.6nm,0.8s,mb4.0,baz=18,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**32.16**	**188**	P	**P**	**03 19 46.6**	**-0.1**
	0.9nm,0.5s,mb3.9,baz=17,slow=12,SNR=7.4						
CMAR	**Chiang Mai Arr**	**39.56**	**289**	P	**P**	**03 20 50.2**	**+0.5**
	1.6nm,0.8s,mb3.8,baz=87,slow=6.5,SNR=7.0						
STKA	**Stephens Creek**	**40.15**	**176**	P	**P**	**03 20 55.0**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=355,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**40.15**	**176**	P	**P**	**03 20 55.0**	**+0.4**
SONM	**Songino Array**	**47.74**	**331**	P	**P**	**03 21 56.3**	**+0.8**
	0.6nm,0.6s,mb3.8,baz=129,slow=7.9,SNR=3.6						
SONM				PcP	PcP	03 23 25.1	0.0
	0.5nm,0.7s,baz=162,slow=4.6,SNR=3.7						
FX1	**Attu Island--F**	**52.58**	**26**	LR	LR	03 40 14.3	
	comp=Z,4.5nm,21.1s,MS2.5,baz=266,slow=31						
MKAR	**Makanchi Array**	**61.01**	**319**	P	**P**	**03 23 32.5**	**0.0**
	8.0nm,1.2s,mb4.7,baz=113,slow=8.5,SNR=16						
KURK	**Kurchatov**	**64.62**	**323**	*e*P	**P**	**03 23 56.1**	**-0.3**
	5.5nm,0.6s,mb4.8						
BRVK	**Borovoye**	**70.22**	**323**	*e*P	**P**	**03 24 31.3**	**-0.3**
	6.1nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**70.96**	**323**	*e*P	**P**	**03 24 35.9**	**-0.2**
	5.9nm,0.6s,mb4.7						
ILAR	**Eielson Array**	**75.96**	**25**	P	**P**	**03 25 04.2**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=239,slow=5.1,SNR=5.3						
SBA	**Scott Base**	**87.55**	**174**	*e*P	**P**	**03 26 07.2**	**+1.8**
	1.0nm,0.4s,mb4.4						
YKA	**Yellowknife Ar**	**90.35**	**26**	LR	LR	04 05 38.7	
	comp=Z,53nm,19.4s,MS4.0,baz=295,slow=35						
LPAZ	**La Paz**	**152.97**	**109**	PKPbc	PKPdf	03 33 17.9	+7.2
	0.9nm,0.8s,baz=200,slow=3.7,SNR=5.4						
LPAZ	**La Paz**	**152.97**	**109**	*e*PKPbc	PKPdf	03 33 17.7	+7.0

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*JMA **17** 03:15:50.7±0.2, 24.79N×122.54E, h107^{km}, M2.0*

*TAP **17** 03:15:51.6, 24.78N×122.55E, h99^{km}±1^{km}, ML3.3*

ISC 17 03:15:50.7±2.4**, 24.6N**±0.4×**122.5E**±0.1**, h112^{km}**±17^{km}**, n5, σ0^{s}38**/10**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**106**	P	**P**	**03 16 07.6**	**-0.1**
YOJ				*e*S	**S**	**03 16 20.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.12**	**103**	P	**P**	**03 16 13.5**	**-0.2**
IRIF				S	**S**	**03 16 30.9**	**0.0**
JKRS	**Kuro-shima**	**1.39**	**104**	P	**P**	**03 16 17.3**	**+0.5**
JKRS				S	**S**	**03 16 36.9**	**+0.4**
JIJ	**Ishigaki jima**	**1.48**	**98**	P	**P**	**03 16 17.8**	**-0.1**
JIJ				S	**S**	**03 16 37.5**	**-0.9**
JTJ	**Tarama**	**1.98**	**88**	P	**P**	**03 16 23.8**	**-0.1**
JTJ				*e*S	**S**	**03 16 49.3**	**+0.4**

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*NIED **17** 03:25:00, 41.60N×143.50E, h29^{km}, Mw4.6 Best double couple: M$_0$8.44×10^{15} NP1:φ$_s$274°, δ77°, λ-121°. NP2: φ$_s$164°, δ33°, λ-23°.*

*BJI **17** 03:25:46.6, 41.63N×143.52E, h23^{km}, mB5.0, mb4.6, Ms4.1, Msz4.0*

*MOS **17** 03:25:47.8±1.3, 41.49N×143.43E, h35^{km}, mb4.6/17, Error ellipse: s-maj=17.6km s-min=7.3km az=95.0*

*NEIC **17** 03:25:48.8±2.1, 41.49N×143.48E, h24^{km}±15^{km}, mb4.7/28, MW4.6(NIED), Error ellipse: s-maj=8.0km s-min=5.2km az=121.0*

NEIC Recorded [1 JMA] in south-central Hokkaido.

*JMA **17** 03:25:49.9±0.2, 41.56N×143.49E, h43^{km}±3^{km}, M4.6*

JMA Felt I J1.

*IDC **17** 03:25:51.2±2.5, 41.48N×143.35E, h47^{km}±24^{km}, mb4.0/20,* *mb1 4.2/22, mb1mx4.2/27, ML3.6/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/32, Error ellipse: s-maj=16.9km s-min=11.8km az=106.0*

ISC 17 03:25:49.3±0.2**, 41.48N**±0.03×**143.47E**±0.04**, h43**^{km}**, h43**^{km}±2.4^{km}**:pP-P, n150,** σ**1**^{s}**36**/157**, mb4.5**/55**, MS3.9**/11**, 11C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.58**	**337**	⇑P	**P**	**03 26 00.7**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.96**	**327**	⇑P	**P**	**03 26 06.8**	**+0.3**
JCH	**Churui**	**1.14**	**356**	⇑P	**P**	**03 26 08.5**	**-0.4**
JCH				*e*S	**S**	**03 26 22.5**	**-1.1**
JOB	**Onbets**	**1.45**	**11**	⇑P	**P**	**03 26 12.9**	**-0.6**
JBT2	**Biratori 2**	**1.54**	**328**	⇑P	**P**	**03 26 15.1**	**+0.4**
JAK	**Akkeshi**	**1.77**	**31**	⇑P	**P**	**03 26 16.9**	**-1.1**
JAK				*e*S	**S**	**03 26 37.5**	**-1.9**
JFR	**Furan**	**1.80**	**339**	P	**P**	**03 26 17.9**	**-0.6**
JOT	**Ohata**	**1.82**	**268**	P	**P**	**03 26 19.1**	**+0.4**
JOT				*e*S	**S**	**03 26 41.6**	**+0.9**
JAR	**Ashorobuto**	**1.83**	**7**	⇑P	**P**	**03 26 17.8**	**-1.1**
JANG	**Nango**	**1.85**	**234**	P	**P**	**03 26 18.3**	**-0.8**
JANG				*e*S	**S**	**03 26 40.8**	**-0.5**
JKB	**Kayabe**	**1.87**	**283**	P	**P**	**03 26 19.9**	**+0.5**
JKB				*e*S	**S**	**03 26 42.8**	**+0.9**
ASAJ	**Asahikawa**	**2.71**	**347**	P	**P**	**03 26 31.4**	**-0.1**
	4.7nm,0.3s,baz=211,slow=11,SNR=24						
ASAJ				LR	LR	03 27 54.7	
	comp=Z,2µm,21.8s,baz=20,slow=46						
ASAJ	**Asahikawa**	**2.71**	**347**	P	**P**	**03 26 31.4**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2µm,21.8s						
YUK	**Yuzh-Kuril'sk**	**3.10**	**34**	*e*P	**P**	**03 26 34.9**	**-2.1**
YUK				*i* S	**S**	**03 27 09.3**	**-3.9**
YUK				pmax	pmax		
	comp=Z,2µm,1.0s						
YUK				smax			
	comp=N,4µm,1.0s						
YUK				smax			
	comp=E,5µm,1.0s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,2µm,0.6s						
YUK				MLR	MLR		
	comp=Z,4µm,15.0s						
YUK				MLR	MLR		
	comp=N,8µm,16.0s						
YUK				MLR	MLR		
	comp=E,6µm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.50**	**355**	*e*P	**P**	**03 27 09.0**	**-1.7**
YSS				*e*		03 28 19.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1µm,20.0s						
YSS				MLR	MLR		
	comp=N,1µm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.50**	**355**	*e*Pn	**P**	**03 27 08.2**	**-2.5**
	comp=N,10nm,0.6s						
MAJO	**Matsushiro**	**6.41**	**221**	*e*Pn	**P**	**03 27 22.6**	**-0.9**
MAT	**Matsushiro**	**6.41**	**221**	P	**P**	**03 27 22.4**	**-1.1**
MAT				*e*S	**S**	**03 28 35.6**	**-0.6**
MAT	**Matsushiro**	**6.41**	**221**	*e*P	**P**	**03 27 22.0**	**-1.5**
	comp=N,30nm,0.8s						
MAT				S	**S**	**03 28 36.0**	**-0.2**
TYV	**Tymovskoe**	**9.40**	**357**	*e*P	**P**	**03 28 02.5**	**-2.6**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TYV				MLR	MLR		
	comp=Z,1µm,17.0s						
MDJ	**Mudanjiang**	**10.63**	**292**	P	**P**	**03 28 17.4**	**-4.4**
MDJ				AMB	AMB		
	comp=Z,19nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,109nm,9.2s						
KLR	**Kul'dur**	**11.30**	**317**	*e*P	**P**	**03 28 28.8**	**-2.2**
KLR				MLR	MLR		
	comp=E,600nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1µm,14.0s						
JNU	**Nakatsue**	**13.03**	**234**	P	**P**	**03 28 53.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=40,slow=17,SNR=3.1						
JNU				LR	LR	03 34 00.8	
	comp=Z,415nm,19.3s,baz=46,slow=38						
CN2	**Changchun**	**13.47**	**286**	*e*P	**P**	**03 28 56.3**	**-3.5**
CN2				*e*XP		03 29 13.1	
CN2				*e*S	**S**	**03 31 24.3**	**-4.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
MA2	**Magadan**	**18.68**	**12**	*e*P	**P**	**03 30 03.3**	**-2.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	**Magadan**	**18.68**	**12**	*e*P	**P**	**03 30 02.9**	**-3.1**
	comp=Z,13nm,0.6s						
SSE	**Sheshan**	**20.68**	**247**	P	**P**	**03 30 27.8**	**-0.1**
SSE				S	**S**	**03 34 09.3**	**-2.3**
SSE				XS		03 34 29.1	
SSE				AMB	AMB		
	comp=Z,22nm,0.7s						
SSE				LR	LR		
	comp=N,75nm,18.4s,MS3.4						
SSE				LR	LR		
	comp=E,125nm,18.1s,MS3.4						
SSE				LR	LR		
	comp=Z,132nm,20.7s,MS3.3						
SSE	**Sheshan**	**20.68**	**247**	P	**P**	**03 30 27.7**	**-0.2**
	comp=Z,22nm,0.7s						
SSE				S	**S**	**03 34 09.3**	**-2.3**
SSE				sS		03 34 29.1	
BJI	**Beijing**	**20.70**	**275**	*e*P	**P**	**03 30 30.8**	**+2.8**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
BJI				LR	LR		
	comp=N,230nm,13.5s,MS3.9						
BJI				LR	LR		
	comp=E,310nm,16.6s,MS3.9						
BJI				LR	LR		
	comp=Z,201nm,18.0s,MS3.5						
BJI	**Beijing**	**20.70**	**275**	*e*P	**P**	**03 30 30.8**	**+2.8**
	comp=Z,10.0nm,1.1s						
NJ2	**Nanjing**	**21.79**	**252**	*e*P	**P**	**03 30 44.3**	**+5.2**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,830nm,26.8s,MS4.1						
NJ2				LR	LR		
	comp=E,420nm,25.0s,MS4.1						
NJ2				LR	LR		
	comp=Z,4µm,25.2s,MS4.7						
SEY	**Seymchan**	**22.13**	**11**	*e*P	**P**	**03 30 40.5**	**-1.7**
SEY				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YAK	**Yakutsk**	**22.19**	**343**	*e*P	**P**	**03 30 38.2**	**-4.6**
YAK				*e**PP		03 30 56.1	
YAK				*e*S	**S**	**03 34 35.7**	**-3.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				smax			
	comp=E,10.0nm,1.2s						
YAK				smax			
	comp=N,12nm,0.8s						
FX1	**Attu Island--F**	**23.01**	**50**	P	**P**	**03 30 52.3**	**+1.4**
	comp=N,45nm,0.6s,mb5.0,baz=283,slow=2.4,SNR=17						
FX1	**Attu Island--F**	**23.01**	**50**	P	**P**	**03 30 52.3**	**+1.4**
FX1				pmax	pmax		
	comp=Z,45nm,0.6s						
FX1	**Attu Island--F**	**23.01**	**50**	*e*P	**P**	**03 30 52.0**	**+1.1**
HHC	**Hu-ho-hao-te**	**23.96**	**279**	*e*P	**P**	**03 31 00.4**	**+0.2**
HHC				AP		03 31 11.5	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.5						
HHC				LR	LR		
	comp=N,145nm,16.6s,MS3.6						
HHC				LR	LR		
	comp=E,101nm,19.0s,MS3.6						
HHC				LR	LR		
	comp=Z,115nm,20.2s,MS3.4						
BOD	**Bodaibo**	**24.84**	**321**	*e*P	**P**	**03 31 07.1**	**-1.5**
SONM	**Songino Array**	**26.93**	**296**	P	**P**	**03 31 28.0**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.1,baz=83,slow=8.9,SNR=24						
ZAK	**Zakamensk**	**29.03**	**302**	*e*P	**P**	**03 31 49.2**	**+2.1**
GTA	**Gaotai**	**33.03**	**281**	*e*P	**P**	**03 32 25.3**	**+2.9**
GTA				PP	PP	03 33 37.6	+3.8
GTA				PPP	PPP	03 33 56.9	+6.9
GTA				S	**S**	**03 37 43.6**	**+6.7**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.1						
GTA				AMB	AMB		
	comp=Z,73nm,7.2s						
GTA				LR	LR		
	comp=N,80nm,18.3s,MS3.7						
GTA				LR	LR		
	comp=E,97nm,16.0s,MS3.7						
GTA				LR	LR		
	comp=Z,136nm,20.2s,MS3.6						
GYA	**Guiyang**	**33.72**	**255**	⇑*i*P	**P**	**03 32 27.3**	**-1.2**
GYA				AP	pP	03 32 39.6	-0.7
GYA				XP	sP	03 32 44.3	-1.6
GYA				PP	PP	03 33 39.4	-2.9
GYA				PCP	PcP	03 35 09.0	+1.4
GYA				S	**S**	**03 37 42.6**	**-5.2**
GYA				XS		03 38 02.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,160nm,3.6s						
GYA				LR	LR		
	comp=N,840nm,15.4s,MS4.7						
GYA				LR	LR		
	comp=E,920nm,16.8s,MS4.7						
GYA				LR	LR		
	comp=Z,1µm,17.2s,MS4.8						
KMI	**Kunming**	**37.37**	**257**	*e*P	**P**	**03 33 01.8**	**+2.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KMI				LR	LR		
	comp=Z,119nm,21.0s,MS3.7						
KMI	**Kunming**	**37.37**	**257**	*e*P	**P**	**03 33 01.8**	**+2.3**
	comp=Z,10.0nm,0.5s,mb4.9						
WMQ	**Urumqi**	**40.43**	**293**	⇑P	**P**	**03 33 23.8**	**-1.0**
WMQ				AP	pP	03 33 36.1	-0.7
WMQ				XP	sP	03 33 41.1	-1.0
WMQ				PP	PP	03 35 00.9	-0.7
WMQ				PCP	PcP	03 35 27.8	0.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WMQ				LR	LR		
	comp=N,78nm,18.3s,MS4.1						
WMQ				LR	LR		
	comp=E,262nm,20.2s,MS4.1						
WMQ				LR	LR		
	comp=Z,128nm,18.2s,MS3.8						
NVS	**Novosibirsk**	**41.06**	**310**	⇑*i*P	**P**	**03 33 29.6**	**-0.2**
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.2						
IMA	**Indian Mountai**	**42.07**	**33**	*e*P	**P**	**03 33 38.8**	**+0.9**
	comp=Z,27nm,0.7s,mb5.0						
KDAK	**Kodiak Island**	**42.78**	**45**	*e*P	**P**	**03 33 43.7**	**-0.2**
	comp=Z,33nm,1.1s,mb5.0						
MKAR	**Makanchi Array**	**43.25**	**299**	P	**P**	**03 33 46.6**	**-1.3**
	comp=Z,1.5nm,0.6s,mb3.9,baz=76,slow=10.0,SNR=10						
MKAR				LR	LR	03 50 19.2	
	comp=Z,97nm,21.8s,MS3.7,baz=241,slow=34						
MCK	**McKinley**	**44.08**	**36**	*e*P	**P**	**03 33 54.6**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.1						
PMR	**Palmer**	**44.15**	**39**	*e*P	**P**	**03 33 54.8**	**-0.1**
	comp=Z,5.6nm,0.8s,mb4.3						
CMAR	**Chiang Mai Arr**	**44.26**	**252**	P	**P**	**03 34 00.0**	**+3.6**
	comp=Z,0.7nm,0.3s,mb3.8,baz=18,slow=5.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**44.26**	**252**	P	**P**	**03 34 00.0**	**+3.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
COLA	**College**	**44.50**	**35**	*c i*P	**P**	**03 33 58.3**	**+0.7**
COLA	**College**	**44.50**	**35**	*e*P	**P**	**03 33 58.8**	**+1.2**
	comp=Z,15nm,1.0s,mb4.7						
SML	**Sawmill**	**44.50**	**39**	*e*P	**P**	**03 33 57.3**	**-0.4**
KURK	**Kurchatov**	**44.57**	**305**	*e*P	**P**	**03 33 57.0**	**-1.5**
	comp=Z,12nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**44.91**	**35**	P	**P**	**03 34 01.1**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.4,baz=263,slow=5.7,SNR=46						
ILAR	**Eielson Array**	**44.91**	**35**	P	**P**	**03 34 01.2**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DIV	**Divide**	**45.81**	**40**	*e*P	**P**	**03 34 08.7**	**+0.5**
	comp=Z,49nm,1.2s,mb5.3						
GUN	**Gumba**	**48.42**	**273**	*e*P	**P**	**03 34 28.9**	**-0.2**
	comp=Z,11nm,0.3s,mb5.3						
BRVK	**Borovoye**	**48.91**	**310**	P	**P**	**03 34 35.0**	**+2.5**
	comp=Z,9.7nm,1.0s,mb4.8						
KKN	**Kakani**	**48.93**	**273**	*e*P	**P**	**03 34 31.9**	**-1.1**
PKI	**Pulchoki**	**48.95**	**273**	*e*P	**P**	**03 34 30.9**	**-2.3**
	comp=Z,4.7nm,0.4s,mb4.8						
DMN	**Daman**	**49.16**	**273**	*e*P	**P**	**03 34 33.1**	**-1.7**
	comp=Z,2.0nm,0.2s,mb4.7						
INK	**Inuvik**	**49.72**	**29**	P	**P**	**03 34 38.8**	**+0.2**
	comp=Z,8.8nm,0.6s,mb5.0,baz=300,slow=6.6,SNR=47						
INK	**Inuvik**	**49.72**	**29**	P	**P**	**03 34 38.8**	**+0.2**
INK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
INK	**Inuvik**	**49.72**	**29**	*e*P	**P**	**03 34 38.6**	**0.0**
	comp=Z,8.9nm,0.5s,mb5.0						
KSH	**Kashi**	**50.16**	**291**	*e*P	**P**	**03 34 45.3**	**+3.0**
KSH				*e*PCP	PcP	03 36 04.0	+2.6
KSH				*e*PP	PP	03 36 41.3	+2.7
KSH				*e*PPP	PPP	03 37 38.0	+2.5
KSH				*e*SCP		03 39 55.0	
KSH				*e*PCS		03 40 00.0	
KSH				*e*S	**S**	**03 41 53.6**	**+4.0**
KSH				*e*SCS	ScS	03 44 27.0	+0.4
KSH				*e*SS	SS	03 45 23.0	+3.0
KSH				LR	LR		
	comp=N,250nm,8.9s						
KSH				LR	LR		
	comp=E,300nm,8.5s						
KOLN	**Koldanda**	**50.20**	**274**	*e*P	**P**	**03 34 41.4**	**-1.4**
KAKA	**Kakadu**	**54.87**	**193**	*e*P	**P**	**03 35 17.0**	**-0.7**
	comp=E,12nm,0.8s,mb5.0						
KAKA				*e*pP	pP	03 35 29.8	-0.3
RES	**Resolute Bay**	**57.90**	**15**	*e*P	**P**	**03 35 37.5**	**-1.1**
	comp=E,12nm,0.5s,mb5.2						
YKA	**Yellowknife Ar**	**59.18**	**32**	P	**P**	**03 35 46.1**	**-1.5**
	comp=E,1.9nm,0.9s,mb4.1,baz=299,slow=8.7,SNR=3.9						
YKA	**Yellowknife Ar**	**59.18**	**32**	P	**P**	**03 35 46.1**	**-1.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KEV	**Kevo**	**59.87**	**339**	*e*p	**P**	**03 35 49.6**	**-2.7**
ARCES	**ARCESS Array B**	**60.41**	**339**	P	**P**	**03 35 56.4**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=44,slow=8.4,SNR=14						
ARCES	**ARCESS Array B**	**60.41**	**339**	P	**P**	**03 35 56.4**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CTA	**Charters Tower**	**61.31**	**177**	P	**P**	**03 36 01.5**	**-1.3**
	comp=Z,0.9nm,0.3s,mb4.4,baz=32,slow=8.0,SNR=3.0						
CTA	**Charters Tower**	**61.31**	**177**	P	**P**	**03 36 01.5**	**-1.3**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**61.54**	**199**	*e*P	**P**	**03 36 04.0**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.7						
FITZ				*e*pP	pP	03 36 17.4	+0.6
FITZ	**Fitzroy Crossi**	**61.54**	**199**	P	**P**	**03 36 03.1**	**-1.2**
	comp=Z,5.5nm,0.9s,mb4.7,baz=47,slow=5.5,SNR=5.9						
WRAB	**Tennant Creek**	**61.68**	**190**	*e*P	**P**	**03 36 03.1**	**-2.2**
	comp=Z,32nm,1.1s,mb5.4						
WB2	**Warramunga Arr**	**61.69**	**190**	*e*P	**P**	**03 36 03.5**	**-1.8**
WB2				*e*pP	pP	03 36 18.5	+0.7
WRA	**Warramunga Arr**	**61.69**	**190**	P	**P**	**03 36 03.9**	**-1.4**
	comp=Z,11nm,1.0s,mb5.0,baz=8.9,slow=6.8,SNR=57						
WRA	**Warramunga Arr**	**61.69**	**190**	P	**P**	**03 36 03.9**	**-1.4**
WRA				pmax	pmax		
	comp=Z,11nm,1.0s						
KAF	**Kangasniemi**	**65.10**	**333**	*e*p	**P**	**03 36 22.8**	**-4.2**
	comp=Z,0.8nm,0.4s,mb4.1						
KAF	**Kangasniemi**	**65.10**	**333**	*e*P	**P**	**03 36 22.8**	**-4.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**65.42**	**190**	P	**P**	**03 36 29.1**	**-0.7**
	comp=Z,5.9nm,0.8s,mb4.7,baz=12,slow=5.9,SNR=58						
ASPA	**Alice Springs**	**65.42**	**190**	*e*P	**P**	**03 36 29.0**	**-0.8**
ASPA				*e*pP	pP	03 36 43.8	+1.4
DPW	**Davenport**	**65.51**	**47**	P	**P**	**03 36 28.7**	**-1.2**
OBN	**Obninsk**	**65.51**	**323**	*e*P	**P**	**03 36 29.5**	**-0.3**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
FINES	**FINESS Array B**	**65.63**	**332**	P	**P**	**03 36 28.9**	**-1.6**
	comp=Z,3.0nm,0.5s,mb4.6,baz=67,slow=7.2,SNR=30						
FINES	**FINESS Array B**	**65.63**	**332**	P	**P**	**03 36 28.9**	**-1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HUMO	**Hull Mountain**	**65.77**	**54**	P	**P**	**03 36 32.9**	**+1.2**
	comp=Z,7.6nm,1.5s,mb4.5						
JMIC	**Jan Mayen**	**66.05**	**350**	LR	LR	04 04 51.0	
	comp=Z,60nm,20.7s,MS3.8,baz=193,slow=35						
SUMG	**Summit**	**66.24**	**1**	*e*P	**P**	**03 36 33.5**	**-0.6**
	comp=Z,9.5nm,0.7s,mb4.9						
BOZ	**Bozeman (W)**	**70.45**	**46**	P	**P**	**03 36 58.1**	**-2.6**
	comp=Z,3.3nm,0.6s,mb4.4						
NB2	**NORSAR Subarra**	**70.70**	**338**	P	**P**	**03 37 01.6**	**-0.4**
	comp=Z,11nm,1.1s,mb4.7,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**70.70**	**338**	P	**P**	**03 37 01.4**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=6.2,SNR=6.9						
NOA	**NORSAR Array B**	**70.70**	**338**	P	**P**	**03 37 01.4**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**71.10**	**55**	P	**P**	**03 37 05.7**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=301,slow=6.4,SNR=9.9						
NVAR	**Mina Array Bea**	**71.10**	**55**	P	**P**	**03 37 05.7**	**+0.9**
AKASG	**Malin Array Be**	**71.76**	**322**	P	**P**	**03 37 07.2**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=44,slow=5.9,SNR=5.5						
AKASG	**Malin Array Be**	**71.76**	**322**	P	**P**	**03 37 07.3**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TPH	**Tonopah**	**71.98**	**55**	P	**P**	**03 37 09.7**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.5						
TPAW	**Teton Pass**	**72.21**	**47**	*e*P	**P**	**03 37 12.6**	**+1.3**
STKA	**Stephens Creek**	**73.01**	**182**	P	**P**	**03 37 16.4**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=338,slow=6.2,SNR=5.5						
STKA	**Stephens Creek**	**73.01**	**182**	P	**P**	**03 37 16.7**	**+0.4**
DUG	**Dugway**	**73.28**	**51**	*e*P	**P**	**03 37 20.2**	**+2.5**
	comp=Z,2.2nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**73.45**	**47**	P	**P**	**03 37 18.9**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=253,slow=1.9,SNR=11						
MSU	**Marysvale**	**74.75**	**52**	*e*P	**P**	**03 37 27.6**	**+1.4**
OJC	**Ojcow**	**76.23**	**327**	*e*P	**P**	**03 37 35.7**	**+1.3**
PV10	**Paradox Valley**	**76.68**	**50**	*e*P	**P**	**03 37 39.4**	**+2.2**
MORC	**Moravsky Berou**	**77.49**	**327**	P	**P**	**03 37 41.6**	**+0.1**
	comp=Z,6.3nm,0.9s,mb4.5						
DPC	**Dobruska-Polom**	**77.53**	**328**	*e*P	**P**	**03 37 45.1**	**+3.4**
CLL	**Collm**	**78.02**	**331**	*e**SP	sP	03 37 55.0	-7.0
PVCC	**Panska Ves**	**78.06**	**329**	*e*P	**P**	**03 37 50.2**	**+5.6**
PRU	**Pruhonice**	**78.51**	**329**	*e*P	**P**	**03 37 47.7**	**+0.6**
PRU				*e*AP	pP	03 37 58.6	-1.3
KHC	**Kasperske Hory**	**79.57**	**329**	*e*P	**P**	**03 37 52.0**	**-0.9**
KHC				AP	pP	03 38 05.0	-0.8
KHC	**Kasperske Hory**	**79.57**	**329**	*e*P	**P**	**03 37 52.0**	**-0.9**
KHC				*e*	pP	03 38 05.0	-0.8
GERES	**GERESS Array B**	**79.76**	**329**	P	**P**	**03 37 53.8**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=267,slow=28,SNR=3.5						
GRA1	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**03 37 56.4**	**+1.2**
	comp=Z,4.0nm,0.8s,mb4.4						
GRA1				*e*pP	pP	03 38 07.0	-1.1
GRF	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**03 37 56.4**	**+1.2**
GRF				*e**PP	pP	03 38 07.0	-1.1
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ANMO	**Albuquerque**	**80.54**	**51**	⇓*e*P	**P**	**03 38 02.6**	**+4.2**
CDF	**Champ du Feu**	**82.49**	**332**	*e*P	**P**	**03 38 09.4**	**+1.2**
HINF	**Hinteralfeld**	**83.14**	**332**	*e*P	**P**	**03 38 12.3**	**+0.7**
HAU	**Haudompre**	**83.16**	**333**	*e*P	**P**	**03 38 12.5**	**+0.9**
LOR	**Lormes**	**84.64**	**334**	*e*P	**P**	**03 38 20.3**	**+1.2**
SSF	**Saint Saulge**	**84.94**	**334**	*e*P	**P**	**03 38 21.8**	**+1.3**
LPL	**La Plagne**	**85.15**	**331**	*e*P	**P**	**03 38 23.8**	**+2.1**
LPG	**La Plagne**	**85.16**	**331**	*e*P	**P**	**03 38 23.9**	**+2.2**
	comp=Z,6.5nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**85.19**	**333**	*e*P	**P**	**03 38 23.3**	**+1.5**
AVF	**Avril sur Loir**	**85.23**	**334**	*e*P	**P**	**03 38 23.6**	**+1.6**
	comp=Z,4.1nm,0.7s,mb4.4						
MBDF	**Montbardon**	**85.81**	**331**	*e*P	**P**	**03 38 26.3**	**+1.4**
	comp=Z,9.2nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**85.98**	**331**	*e*P	**P**	**03 38 27.6**	**+1.9**
TCF	**Toulx Ste Croi**	**86.04**	**334**	*e*P	**P**	**03 38 28.2**	**+2.2**
TXAR	**Lajitas Array**	**86.18**	**54**	P	**P**	**03 38 28.1**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.2,baz=297,slow=3.7,SNR=8.2						
VIVF	**Saint-Julien-l**	**86.46**	**332**	*e*P	**P**	**03 38 29.9**	**+1.8**
MFF	**Saint Martin d**	**86.51**	**336**	*e*P	**P**	**03 38 30.2**	**+1.9**
FRF	**La Foret Royal**	**86.86**	**330**	*e*P	**P**	**03 38 31.1**	**+1.0**
LMR	**La Mourre**	**87.11**	**330**	*e*P	**P**	**03 38 32.6**	**+1.3**
CAF	**Calviac**	**87.29**	**334**	*e*P	**P**	**03 38 34.7**	**+2.6**
LFF	**La Frestale**	**87.72**	**335**	*e*P	**P**	**03 38 36.6**	**+2.4**
ETSF	**Etsaut**	**89.96**	**334**	*e*P	**P**	**03 38 47.9**	**+3.0**
SNAA	**Sanae**	**145.46**	**198**	*e*	PP	03 48 44.2	-1.2
SNAA	**Sanae**	**145.46**	**198**	*e*PKPdf	PKPdf	03 45 22.2	+1.0
SNAA				*e*		03 48 44.2	
VNA2	**Neumayer--Watz**	**147.03**	**197**	⇓*i*P	PKPdf	03 45 27.5	+3.6
VNA2	**Neumayer--Watz**	**147.03**	**197**	*e*	PP	03 48 48.9	-5.9
VNA1	**Neumayer--Stat**	**147.43**	**197**	⇓*i*P	PKPdf	03 45 29.4	+4.9
VNA1	**Neumayer--Stat**	**147.43**	**197**	*e*	PP	03 48 51.4	-5.8

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*THE **17** 03:29:32.5, 39.49N×23.48E, h8^{km}, ML2.6*

*NEIC **17** 03:29:32.0, 39.53N×23.11E, h22^{km}, MD2.9(ATH), ML2.6(THE), After ATH.*

*ATH **17** 03:29:32.0, 39.53N×23.11E, h22^{km}±4^{km}, MD2.9/6*

ISC 17 03:29:31.8±0.5**, 39.50N**±0.02×**23.46E**±0.04**, h13**^{km}±4^{km}**, n17,** σ**0**^{s}**95**/28**, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.25**	**237**	*e*Pg	**Pg**	**03 29 37.2**	**0.0**
XOR				*e*Sg	**Sg**	**03 29 41.3**	**+0.4**
NEO	**Neokhori**	**0.27**	**224**	⇑*i*PB	**Pb**	**03 29 37.6**	**-0.4**
NEO				*e*SB	**Sb**	**03 29 41.6**	**-0.5**
PAIG	**Paliouri**	**0.46**	**21**	*e*Pg	**Pg**	**03 29 41.6**	**+0.4**
PAIG				*e*Sg	**Sg**	**03 29 48.3**	**+0.9**
AOS	**Alonnisos**	**0.46**	**135**	*e*Pg	**Pg**	**03 29 40.8**	**-0.5**
	comp=Z,17nm,0.2s						
AOS				*e*Sg	**Sg**	**03 29 47.4**	**-0.2**
PLG	**Polygyros**	**0.87**	**359**	⇑*i*PN	**Pn**	**03 29 48.7**	**-0.9**
PLG				*e*SN	**Sn**	**03 30 01.5**	**-0.7**
LKR	**Lokris**	**0.92**	**203**	*e*PN	**Pn**	**03 29 49.2**	**-1.2**
OUR	**Ouranopolis**	**0.92**	**25**	*e*Pg	**Pg**	**03 29 49.7**	**-0.6**
OUR				*e*Sg	**Sg**	**03 30 03.0**	**+0.2**
LIT	**Litokhoron**	**0.96**	**309**	*e*Pg	**Pg**	**03 29 50.5**	**-0.6**
LIT				*e*Sg	**Sg**	**03 30 04.4**	**+0.4**
AGG	**Agios Georgios**	**1.00**	**242**	*e*Pg	**Pg**	**03 29 51.3**	**-0.6**
AGG				*e*Sg	**Sg**	**03 30 05.5**	**+0.1**
SOH	**Sokhos**	**1.32**	**356**	*e*Pb	**Pb**	**03 29 56.4**	**+0.3**
SOH				*e*Sb	**Sb**	**03 30 14.9**	**+2.1**
MKIT	**Kithairon Oros**	**1.32**	**187**	*e*PN	**Pn**	**03 29 57.5**	**+1.4**
PTL	**Penteli**	**1.48**	**168**	*e*PN	**Pn**	**03 30 01.2**	**+2.8**
NSAL	**Nisos Salamina**	**1.59**	**180**	*e*PN	**Pn**	**03 30 02.8**	**+2.9**
SRS	**Serrai**	**1.62**	**3**	*e*Pb	**Pb**	**03 30 00.1**	**-1.0**
KNT	**Kendrikon**	**1.71**	**346**	*e*Pb	**Pb**	**03 30 02.0**	**-0.7**
KNT				*e*Sb	**Sb**	**03 30 24.6**	**+0.4**
NVR	**Nevrokopi**	**1.87**	**9**	*e*PB	**Pb**	**03 30 03.5**	**-1.9**
FNA	**Florina**	**2.05**	**309**	*e*Pn	**Pn**	**03 30 07.0**	**+0.5**
FNA				*e*Sn	**Sn**	**03 30 32.2**	**+0.1**

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*IDC **17** 03:54:42.2±4.1, 38.38N×69.68E, mb4.0/5, mb1 3.9/7, mb1mx3.7/21, ML3.5/2, Error ellipse: s-maj=70.1km s-min=22.1km az=157.0*

*MOS **17** 03:54:50.5±1.5, 39.05N×69.32E, h33^{km}, mb4.2/4, Error ellipse: s-maj=24.7km s-min=11.7km az=88.8*

*NNC **17** 03:54:51.8±2.3, 38.92N×69.45E, h93^{km}±22^{km}, mpv3.5, Error ellipse: s-maj=26.0km s-min=11.0km az=20.0*

ISC 17 03:54:51.3±1.5**, 39.1N**±0.1×**69.2E**±0.1**, h33**^{km}**, n21,** σ**1**^{s}**08**/23**, mb3.9**/5**, 2C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.13**	**13**	Pn	**Pn**	**03 55 55.4**	**+1.7**
	2.3nm,0.2s,baz=198,slow=16,SNR=79						
KK31				⇓Lg		03 57 07.5	
	47nm,0.5s,baz=186,slow=27,SNR=12						
KKAR	**Karatay Array**	**4.13**	**13**	PN	**Pn**	**03 55 55.4**	**+1.6**

KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FRU	**Bishkek**	**5.53**	**46**	*e*PN	**Pn**	**03 56 14.0**	**+0.4**
FRU				*e*S	Sx	03 57 39.0	
FRU				smax			
	comp=E,240nm,1.7s						
AB31	**Akbulak array**	**12.15**	**330**	⇓Pn	**P**	**03 57 44.4**	**-0.4**
	comp=E,2.7nm,0.3s						
AB31				⇑Sn	**S**	**04 00 00.9**	**+0.7**
	comp=E,3.8nm,0.7s						
AB31	**Akbulak array**	**12.15**	**330**	P	**P**	**03 57 44.4**	**-0.5**
AB31				S	**S**	**04 00 00.8**	**+0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.27**	**47**	Pn	**P**	**03 57 40.9**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=5.1						
MKAR				Lg		04 01 20.4	
	comp=Z,0.2nm,0.3s,baz=220,slow=24,SNR=4.4						
VOSK	**Vostochnaya**	**13.70**	**4**	⇑P	**P**	**03 58 03.8**	**-1.4**
	comp=Z,1.7nm,0.9s						
VOSK	**Vostochnaya**	**13.70**	**4**	P	**P**	**03 58 04.0**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**13.87**	**359**	⇓P	**P**	**03 58 06.0**	**-1.5**
	comp=Z,0.9nm,0.4s						
ZRNK	**Zerenda**	**13.87**	**359**	P	**P**	**03 58 06.0**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**13.97**	**3**	Pn	**P**	**03 58 06.5**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=169,slow=14,SNR=9.0						
AKASG	**Malin Array Be**	**30.27**	**306**	P	**P**	**04 01 02.0**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.4,baz=122,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**34.57**	**325**	P	**P**	**04 01 38.5**	**-0.1**
	comp=Z,0.6nm,0.3s,mb3.9,baz=127,slow=9.5,SNR=8.5						
FINES	**FINESS Array B**	**34.57**	**325**	P	**P**	**04 01 38.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**38.23**	**337**	P	**P**	**04 02 09.4**	**+0.1**
	comp=Z,7.6nm,1.2s,mb4.3,baz=100,slow=7.4,SNR=7.2						
ARCES	**ARCESS Array B**	**38.23**	**337**	P	**P**	**04 02 09.4**	**0.0**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HFS	**Hagfors**	**40.18**	**320**	P	**P**	**04 02 26.0**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.1,baz=98,slow=10,SNR=15						
HFS	**Hagfors**	**40.18**	**320**	P	**P**	**04 02 26.0**	**+0.3**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	**NORSAR Subarra**	**41.49**	**321**	P	**P**	**04 02 36.0**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**41.49**	**321**	P	**P**	**04 02 36.3**	**-0.1**
	comp=Z,1.2nm,1.0s,mb3.5,baz=102,slow=7.9,SNR=3.0						
NOA	**NORSAR Array B**	**41.49**	**321**	P	**P**	**04 02 36.3**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

DJA 17 04:02:15.6±0.8,9.49S×116.97E,h320^{km},MD4.6/4, ML4.1/3,1C-7D,Error ellipse: s-maj=60.1km s-min=25.9km az=14.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.30**	**320**	⇓*i*Pn	P	04 02 59.9	0.0
	98nm,0.2s						
KEDI				⇑*i*Sn	S	04 03 32.7	-1.8
RATI	**Rata**	**1.61**	**298**	⇓*i*Pn	P	04 03 02.7	+1.0
	128nm,0.2s						
RATI				⇓*i*Sn	S	04 03 35.0	-2.8
INGI	**Ingas**	**1.92**	**290**	⇓*i*Pn	P	04 03 03.3	-0.5
	303nm,0.2s						
INGI				⇓*i*Sn	S	04 03 39.6	-1.9
KELI	**Kelakatan**	**2.75**	**297**	⇓*i*Pn	P	04 03 12.9	+2.1
KELI				⇓*i*Sn	S	04 03 52.2	-1.8

CASC 17 04:10:56.8±1.9,11.51N×85.70W,h100^{km}±40^{km},MD3.5, 4C-4D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.10**	**308**	⇓*e*P	P	04 11 19.0	+0.4
MOMJ	**Momotombo**	**1.22**	**318**	⇓*e*P	P	04 11 20.1	0.0
MIRN	**Miramar**	**1.36**	**313**	⇓*e*P	P	04 11 21.6	-0.1
VCR	**Vista de Mar**	**1.37**	**177**	*e*S	S	04 11 40.9	+0.3
LEON	**Leon**	**1.48**	**308**	⇓*e*P	P	04 11 22.2	-1.0
TEL3	**Telica 3**	**1.54**	**314**	⇑*e*P	P	04 11 23.5	-0.5
PYN	**Poneloya**	**1.56**	**304**	⇑*e*P	P	04 11 23.1	-1.1
JCR	**Jicaral**	**1.74**	**161**	*e*S	S	04 11 50.1	+1.5
CGA2	**Cerro Gallo 2**	**1.91**	**141**	*e*P	P	04 11 29.5	+0.8
CGA2				*e*S	S	04 11 54.5	+2.1
PRS1	**Puriscal**	**2.04**	**138**	*e*P	P	04 11 31.5	+1.1
PRS1				*e*S	S	04 11 57.0	+1.8
LAJ	**Bijagual**	**2.25**	**136**	⇑*e*P	P	04 11 30.9	-2.3
BUS	**Buena Vista**	**2.72**	**135**	⇑*e*P	P	04 11 40.7	+1.0
BUS				*e*S	S	04 12 11.7	-0.2

NIED ***17*** *04:16:00,41.50N×143.50E,h23^{km},Mw4.7 Best double couple: $M_0$1.34×10^{16} NP1:ϕ_s282°,δ60°,λ-107°. NP2: ϕ_s133°,δ34°,λ-63°.*

BJI ***17*** *04:16:16.5,41.47N×143.37E,h49^{km},mB5.0,mb4.9, Ms4.1,Msz3.9*

JMA ***17*** *04:16:17.6±0.1,41.53N×143.47E,h49^{km}±3^{km},M4.9*

JMA Felt II J1.

MOS ***17*** *04:16:17.1±1.2,41.57N×143.40E,h46^{km},mb5.0/30,Error ellipse: s-maj=12.1km s-min=6.2km az=99.9*

HRVD ***17*** *04:16:18.5±0.8,41.50N×143.37E,h33^{km}±3^{km},MW4.8/25, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s25,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.87±.37; $M_{\theta\theta}$2.50±.27; $M_{\phi\phi}$-1.63±.28; $M_{r\theta}$0.30±.28; $M_{\theta\phi}$-0.85±.16; $M_{\phi r}$0.16±.31; Best double couple: $M_0$2.27×10^{16} NP1:ϕ_s146°,δ78°,λ-6°. NP2:ϕ_s237°, δ84°,λ-168°. Principal axes: T 2.69, Plg4°, Azm11°; N -.84, Plg77°, Azm263°; P -1.85, Plg13°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***17*** *04:16:18.1±2.6,41.48N×143.30E,h38^{km}±21^{km},mb4.5/24, mb1 4.6/28,mb1mx4.6/30,ML4.3/4,MS4.1/11,Ms1 4.1/11, ms1mx3.7/36 Error ellipse: s-maj=14.3km s-min=10.5km az=120.0*

NEIC ***17*** *04:16:18.4±0.7,41.52N×143.32E,h41^{km}±6^{km},mb4.9/93, MW4.7(NIED),Error ellipse: s-maj=4.8km s-min=3.5km az=163.0*

NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in Aomori Prefecture, Honshu.

ISC 17 04:16:17.0±0.2,41.48N±0.03×143.42E±0.03,h43^{km}, h43^{km}±2.6^{km}:pP-P,n335,σ0^{s}96/349,mb4.9/136,MS4.2/16, 21C-16D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.57**	**340**	⇑P	**P**	**04 16 28.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.94**	**328**	⇓P	**P**	**04 16 34.7**	**+0.8**
JNBK				*e*S	**S**	**04 16 47.1**	**+0.7**
JCH	**Churui**	**1.13**	**358**	⇑P	**P**	**04 16 36.5**	**-0.1**
JCH				*e*S	**S**	**04 16 50.6**	**-0.6**
JOB	**Onbets**	**1.45**	**12**	⇑P	**P**	**04 16 41.1**	**-0.2**
JBT2	**Biratori 2**	**1.51**	**329**	⇓P	**P**	**04 16 43.2**	**+1.1**
JAK	**Akkeshi**	**1.79**	**32**	⇑P	**P**	**04 16 45.1**	**-0.9**
JAK				*e*S	**S**	**04 17 05.3**	**-2.3**
JOT	**Ohata**	**1.79**	**268**	⇓P	**P**	**04 16 46.9**	**+0.9**
JOT				*e*S	**S**	**04 17 08.9**	**+1.3**
JFR	**Furan**	**1.79**	**340**	P	**P**	**04 16 46.5**	**+0.5**
JANG	**Nango**	**1.82**	**233**	⇑P	**P**	**04 16 46.4**	**0.0**
JANG				*e*S	**S**	**04 17 08.7**	**+0.3**
JAR	**Ashorobuto**	**1.83**	**8**	⇑P	**P**	**04 16 45.8**	**-0.8**
JKB	**Kayabe**	**1.83**	**284**	⇓P	**P**	**04 16 47.4**	**+0.8**
JKB				*e*S	**S**	**04 17 10.0**	**+1.2**
ASAJ	**Asahikawa**	**2.70**	**347**	Pn	**P**	**04 16 59.0**	**0.0**
	47nm,0.3s,baz=186,slow=7.5,SNR=62						
ASAJ				LR	LR	04 18 24.3	
	comp=Z,4µm,20.4s,baz=149,slow=47						
ASAJ	**Asahikawa**	**2.70**	**347**	P	**P**	**04 16 59.0**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,47nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,4µm,20.4s						
YUK	**Yuzh-Kuril'sk**	**3.12**	**34**	⇑*i*P	**P**	**04 17 02.4**	**-2.6**
YUK				*i* S	**S**	**04 17 37.4**	**-4.0**
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2µm,0.4s						
YUK				pmax	pmax		
	comp=E,460nm,0.4s						
YUK				pmax	pmax		
	comp=Z,4µm,1.2s						
YUK				pmax	pmax		
	comp=N,2µm,0.9s						
YUK				smax			
	comp=E,20µm,1.0s						
YUK				smax			
	comp=N,10µm,0.9s						
YUK				smax			
	comp=N,7µm,0.4s						
YUK				smax			
	comp=E,7µm,0.7s						
YUK				MLR	MLR		
	comp=Z,6µm,17.0s						
YUK				MLR	MLR		
	comp=N,10µm,19.0s						
YUK				MLR	MLR		
	comp=E,6µm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.49**	**355**	*e*P	**P**	**04 17 36.2**	**-2.2**
YSS				*e*		04 18 48.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s						
YSS				MLR	MLR		
	comp=N,2µm,19.0s						
YSS	**Yuzh-Sakhalins**	**5.49**	**355**	*e*Pn	**P**	**04 17 36.9**	**-1.5**
	comp=N,56nm,0.9s						
MAJO	**Matsushiro**	**6.39**	**221**	*e*Pn	**P**	**04 17 50.6**	**-0.3**
	comp=N,48nm,0.5s						
MAT	**Matsushiro**	**6.39**	**221**	P	**P**	**04 17 50.0**	**-1.0**
MAT				S	**S**	**04 19 03.2**	**-0.3**
MAT	**Matsushiro**	**6.39**	**221**	*e*P	**P**	**04 17 50.0**	**-1.0**
	comp=N,45nm,0.8s						
MAT				*e*S	**S**	**04 19 03.0**	**-0.5**
UGL	**Uglegorsk**	**7.66**	**353**	*e*P	**P**	**04 18 12.0**	**+3.3**
UGL				S	**S**	**04 19 31.0**	**-4.0**
UGL				pmax	pmax		
	comp=Z,51nm,0.7s						
UGL				smax			
	comp=N,400nm,3.0s						
UGL				smax			
	comp=E,500nm,4.0s						
UGL				MLR	MLR		
	comp=Z,1µm,18.0s						
UGL				MLR	MLR		
	comp=N,1µm,19.0s						
UGL				MLR	MLR		
	comp=E,1µm,19.0s						
JHJ	**Hachijo jima 2**	**8.84**	**200**	Pn	**P**	**04 18 21.4**	**-3.6**
	comp=E,34nm,0.3s,baz=336,slow=19,SNR=5.2						
JHJ				Sn	**S**	**04 19 53.1**	**-11**
	comp=E,35nm,0.3s,baz=88,slow=23,SNR=4.8						
JHJ				LR	LR	04 22 10.2	
	comp=E,962nm,21.4s,baz=85,slow=40						
TYV	**Tymovskoe**	**9.40**	**357**	*e*P	**P**	**04 18 29.8**	**-3.0**
TYV				MLR	MLR		
	comp=N,2µm,18.0s						
TYV				MLR	MLR		
	comp=Z,2µm,18.0s						
MDJ	**Mudanjiang**	**10.59**	**292**	P	**P**	**04 18 49.3**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,81nm,6.1s						
KLR	**Kul'dur**	**11.28**	**317**	*e*P	**P**	**04 18 57.9**	**-0.5**
KLR				MLR	MLR		
	comp=E,1µm,15.0s						
KLR				MLR	MLR		
	comp=Z,1µm,15.0s						
SKR	**Severo-Kuril's**	**12.72**	**39**	*e*P	**P**	**04 19 15.5**	**-2.3**
SKR				*e*		04 21 28.9	
SKR				pmax	pmax		
	comp=Z,100nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1µm,14.0s						
JNU	**Nakatsue**	**13.00**	**234**	Pn	**P**	**04 19 19.9**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=338,slow=11,SNR=3.2						
JNU				LR	LR	04 24 36.4	
	comp=Z,808nm,19.8s,baz=45,slow=38						
CN2	**Changchun**	**13.43**	**286**	*e*P	**P**	**04 19 27.8**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,600nm,14.0s						
CN2				LR	LR		
	comp=Z,900nm,19.0s						
CBIJ	**Chichi jima**	**14.39**	**184**	Pn	**P**	**04 19 34.6**	**-5.1**
	comp=Z,5.5nm,0.3s,baz=344,slow=17,SNR=3.1						
SNY	**Shenyang**	**14.84**	**278**	⇓P	**P**	**04 19 44.4**	**-1.1**
SNY				S	**S**	**04 22 29.9**	**+0.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SNY				AMB	AMB		
	comp=Z,100nm,5.9s						
SNY				LR	LR		
	comp=E,420nm,20.1s						
SNY				LR	LR		
	comp=Z,480nm,21.6s						
PET	**Petropavlovsk**	**15.46**	**37**	*e*P	**P**	**04 19 52.3**	**-1.2**
PET				*e*S	**S**	**04 22 40.7**	**-3.0**
PET				MLR	MLR		
	comp=Z,600nm,15.0s						
DL2	**Dalian**	**16.84**	**268**	P	**P**	**04 20 10.6**	**-0.5**
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=N,130nm,19.8s						
DL2				LR	LR		
	comp=E,130nm,23.7s						
DL2				LR	LR		
	comp=Z,290nm,17.8s						
MA2	**Magadan**	**18.68**	**12**	*e*P	**P**	**04 20 28.8**	**-5.0**
MA2				*e*S	**S**	**04 23 47.9**	**-9.3**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2				MLR	MLR		
	comp=Z,1µm,15.0s						
MA2	**Magadan**	**18.68**	**12**	*e*P	**P**	**04 20 28.8**	**-5.0**
	comp=Z,23nm,0.8s						
JOW	**Kunigami**	**19.21**	**225**	LR	LR	04 27 32.9	
	comp=Z,640nm,21.7s,baz=47,slow=35						
SSE	**Sheshan**	**20.65**	**247**	P	**P**	**04 20 57.0**	**+1.6**
SSE				XP		04 21 14.3	
SSE				S	**S**	**04 24 42.3**	**+3.5**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s						
SSE				LR	LR		
	comp=N,151nm,19.0s,MS3.5						
SSE				LR	LR		
	comp=E,141nm,19.2s,MS3.5						
SSE				LR	LR		
	comp=Z,258nm,21.0s,MS3.6						
SSE	**Sheshan**	**20.65**	**247**	P	**P**	**04 20 57.0**	**+1.6**
	comp=Z,43nm,0.7s						
SSE				sP		04 21 14.3	
SSE				S	**S**	**04 24 42.2**	**+3.4**
SSE				sS		04 25 01.5	
BJI	**Beijing**	**20.66**	**275**	*e*P	**P**	**04 20 52.0**	**-3.5**
BJI				S	**S**	**04 24 38.3**	**-0.7**
BJI				AMB	AMB		
	comp=Z,71nm,1.8s						
BJI				LR	LR		
	comp=N,317nm,18.0s,MS3.9						
BJI				LR	LR		
	comp=E,430nm,22.0s,MS3.9						
BJI				LR	LR		
	comp=Z,453nm,20.4s,MS3.8						
BJI	**Beijing**	**20.66**	**275**	*e*P	**P**	**04 20 52.0**	**-3.5**
	comp=Z,22nm,1.4s						
BJI				S	**S**	**04 24 38.3**	**-0.7**
TIA	**Tai'an**	**21.11**	**264**	*e*P	**P**	**04 20 56.3**	**-3.8**
NJ2	**Nanjing**	**21.75**	**252**	*e*P	**P**	**04 21 04.4**	**-2.2**
NJ2				AP		04 21 14.0	
NJ2				PP	PP	04 21 30.1	-2.2
NJ2				PPP	PPP	04 21 40.6	-1.7
NJ2				S	**S**	**04 25 02.0**	**+2.4**
NJ2				XS		04 25 21.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,2µm,4.6s						
NJ2				LR	LR		
	comp=N,870nm,19.4s,MS4.4						
NJ2				LR	LR		
	comp=E,1µm,18.1s,MS4.4						
SEY	**Seymchan**	**22.13**	**11**	*e*P	**P**	**04 21 08.1**	**-2.0**
SEY				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.2						
YAK	**Yakutsk**	**22.17**	**343**	⇓*e*P	**P**	**04 21 05.9**	**-4.6**
YAK				*e**PP		04 21 24.5	
YAK				*e*S	**S**	**04 25 00.2**	**-6.9**
YAK				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=E,22nm,1.1s						
YAK				smax			
	comp=N,29nm,1.0s						
YAK	**Yakutsk**	**22.17**	**343**	*e*P	**P**	**04 21 05.9**	**-4.6**
	comp=N,79nm,0.5s,mb5.4						
FX1	**Attu Island--F**	**23.04**	**50**	P	**P**	**04 21 20.6**	**+1.6**
	comp=N,62nm,0.6s,mb5.2,baz=262,slow=1.6,SNR=15						
FX1				S	**S**	**04 25 30.1**	**+7.6**
	comp=N,9.5nm,0.6s,baz=44,slow=17,SNR=2.5						
FX1	**Attu Island--F**	**23.04**	**50**	P	**P**	**04 21 20.6**	**+1.6**
FX1				S	**S**	**04 25 30.1**	**+7.6**
FX1				pmax	pmax		
	comp=Z,62nm,0.6s						
FX1				smax			
	comp=N,10.0nm,0.6s						
FX1	**Attu Island--F**	**23.04**	**50**	*e*P	**P**	**04 21 17.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**23.92**	**279**	*e*P	**P**	**04 21 22.4**	**-5.3**
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,97nm,5.6s						
HHC				LR	LR		
	comp=N,128nm,13.1s						
HHC				LR	LR		
	comp=E,217nm,20.2s						
HHC				LR	LR		
	comp=Z,241nm,21.4s						
BOD	**Bodaibo**	**24.81**	**321**	*e*P	**P**	**04 21 32.3**	**-3.8**
WHN	**Wuhan**	**25.81**	**254**	⇑P	**P**	**04 21 45.5**	**-0.4**
WHN				AP	pP	04 21 56.5	-0.6
WHN				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.6						
SONM	**Songino Array**	**26.90**	**296**	P	**P**	**04 21 55.3**	**-0.4**
	comp=Z,20nm,0.5s,mb4.9,baz=80,slow=8.2,SNR=124						
SONM				PcP	PcP	04 25 17.0	-0.5
	comp=Z,1.8nm,0.7s,baz=105,slow=1.6,SNR=4.2						
ZAK	**Zakamensk**	**29.00**	**302**	⇓*e*P	**P**	**04 22 12.6**	**-2.0**
LZH	**Lanzhou**	**31.12**	**273**	*e*P	**P**	**04 22 36.0**	**+2.4**
LZH				AP	pP	04 22 45.6	+0.4
LZH				XP	sP	04 22 51.1	+0.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,180nm,5.2s						
LZH				LR	LR		
	comp=N,1µm,15.0s						
LZH				LR	LR		
	comp=Z,2µm,16.5s,MS4.8						
LZH	**Lanzhou**	**31.12**	**273**	*e*P	**P**	**04 22 36.0**	**+2.4**
	comp=Z,20nm,1.0s,mb4.9						
LZH				pP	pP	04 22 45.6	+0.4
LZH				sP	sP	04 22 51.1	+0.5
LZH				PP	PP	04 23 50.0	+13
LZH				*e*S	S	04 27 58.0	+23
LZH				sS		04 28 14.0	
LZH				SS	SS	04 30 06.0	+44
GTA	**Gaotai**	**32.99**	**281**	P	**P**	**04 22 49.3**	**-0.6**
GTA				PP	PP	04 23 59.9	-1.3
GTA				PPP	PPP	04 24 16.3	-1.0
GTA				PCP	PcP	04 25 33.3	+0.1
GTA				S	**S**	**04 28 05.3**	**+1.1**
GTA				SS	SS	04 30 06.5	+0.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,78nm,5.3s						
GTA				LR	LR		
	comp=N,120nm,18.2s,MS3.9						
GTA				LR	LR		
	comp=E,204nm,19.0s,MS3.9						
GTA				LR	LR		
	comp=Z,258nm,20.5s,MS3.9						
CD2	**Chengdu**	**33.44**	**265**	P	**P**	**04 22 52.5**	**-1.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
GYA	**Guiyang**	**33.69**	**255**	⇑*i*P	**P**	**04 22 54.8**	**-1.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				LR	LR		
	comp=N,230nm,15.9s,MS4.3						
GYA				LR	LR		
	comp=E,420nm,15.6s,MS4.3						
GYA				LR	LR		
	comp=Z,620nm,15.0s,MS4.5						
KMI	**Kunming**	**37.33**	**257**	*e*P	**P**	**04 23 26.8**	**-0.2**
KMI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
KMI				LR	LR		
	comp=N,314nm,17.0s,MS4.3						
KMI				LR	LR		
	comp=E,287nm,18.5s,MS4.3						
KMI				LR	LR		
	comp=Z,322nm,17.0s,MS4.2						
WMQ	**Urumqi**	**40.40**	**293**	*e*P	**P**	**04 23 52.5**	**+0.2**
NVS	**Novosibirsk**	**41.03**	**310**	⇓*i*P	**P**	**04 23 55.9**	**-1.5**
NVS				*e*S	**S**	**04 30 05.8**	**-0.8**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
NVS				pmax	pmax		
	comp=E,6.0nm,0.5s						
NVS				smax			
	comp=N,23nm,2.2s						
NVS				smax			
	comp=E,10.0nm,1.7s						
SVW	**Sparrevohn**	**41.06**	**40**	*e*P	**P**	**04 23 59.0**	**+1.4**
IMA	**Indian Mountai**	**42.09**	**33**	*e*P	**P**	**04 24 06.7**	**+0.8**
NANT	**Nan**	**42.75**	**251**	⇑P	**P**	**04 24 10.0**	**-2.0**
KDAK	**Kodiak Island**	**42.80**	**45**	*e*P	**P**	**04 24 11.4**	**-0.5**
	comp=E,17nm,0.5s,mb5.0						
KDAK				*e*	pP	04 24 21.4	-2.3
MKAR	**Makanchi Array**	**43.22**	**299**	P	**P**	**04 24 14.7**	**-0.8**
	comp=E,6.3nm,0.4s,mb4.7,baz=83,slow=9.0,SNR=110						
MKAR				PcP	PcP	04 26 04.4	-0.3
	comp=E,3.5nm,0.8s,baz=63,slow=5.4,SNR=3.5						
MKAR				LR	LR	04 42 41.8	
	comp=E,88nm,21.3s,MS3.6,baz=94,slow=37						
MKAR	**Makanchi Array**	**43.22**	**299**	P	**P**	**04 24 14.7**	**-0.7**
MKAR						04 26 04.4	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,88nm,21.3s						
FIB	**Fire Island**	**43.70**	**40**	*e*P	**P**	**04 24 19.7**	**+0.6**
PMS	**Palmer South**	**43.99**	**40**	*e*P	**P**	**04 24 21.4**	**0.0**
CHG	**Chiang Mai**	**44.00**	**253**	P	**P**	**04 24 22.4**	**+0.3**
MCK	**McKinley**	**44.10**	**36**	*e*P	**P**	**04 24 21.7**	**-0.6**
	comp=Z,7.6nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**44.23**	**252**	P	**P**	**04 24 23.9**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=46,slow=6.5,SNR=12						
CMAR	**Chiang Mai Arr**	**44.23**	**252**	P	**P**	**04 24 23.9**	**0.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	**College**	**44.51**	**35**	*e*P	**P**	**04 24 26.1**	**+0.5**
SML	**Sawmill**	**44.52**	**39**	*e*P	**P**	**04 24 25.6**	**-0.1**
KURK	**Kurchatov**	**44.54**	**305**	*i* P	**P**	**04 24 25.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
KURK	**Kurchatov**	**44.54**	**305**	*e*P	**P**	**04 24 25.0**	**-1.0**
	comp=Z,43nm,0.7s,mb5.4						
ILAR	**Eielson Array**	**44.93**	**35**	P	**P**	**04 24 29.1**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.5,baz=264,slow=5.6,SNR=46						
ILAR				LR	LR	04 46 31.2	
	comp=Z,115nm,18.0s,MS3.9,baz=281,slow=40						

ILAR	Eielson Array	44.93	35	P	P	04 24 29.1	+0.2
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,115nm,18.0s						
SHL	Shillong	45.14	266	eP	P	04 24 29.2	-2.0
DAWY	Dawson	48.25	35	eP	P	04 24 54.6	-0.5
DAWY				e	pP	04 25 06.1	-0.9
GUN	Gumba	48.38	273	eP	P	04 24 56.5	-0.1
	comp=Z,66nm,0.4s,mb6.0						
VOSK	Vostochnaya	48.57	309	P	P	04 24 56.7	-1.0
VOSK				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
BVA0	Borovoye Array	48.83	310	i P	P	04 24 58.9	-0.8
BRVK	Borovoye	48.88	310	P	P	04 24 59.5	-0.6
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BRVK	Borovoye	48.88	310	eP	P	04 24 58.7	-1.4
	comp=Z,9.9nm,0.7s,mb5.0						
KKN	Kakani	48.90	273	eP	P	04 25 00.2	-0.4
	comp=Z,28nm,0.5s,mb5.5						
PKI	Pulchoki	48.92	273	eP	P	04 24 59.8	-0.9
	comp=Z,7.4nm,0.3s,mb5.2						
TKM2	Tokmak 2	49.00	296	P	P	04 25 01.3	+0.2
	SNR=15						
DMN	Daman	49.12	273	eP	P	04 25 01.9	-0.4
	comp=Z,12nm,0.5s,mb5.2						
GKN	Gorkha	49.27	274	eP	P	04 25 02.8	-0.6
	comp=Z,17nm,0.4s,mb5.5						
KBK	Karagaybulak	49.54	296	P	P	04 25 05.1	-0.2
	SNR=6.2						
KZA	Kyzart	49.57	295	P	P	04 25 06.0	+0.5
	SNR=8.6						
USP	Ospenovka	49.60	296	P	P	04 25 05.2	-0.6
	SNR=5.3						
ZRNK	Zerenda	49.65	310	P	P	04 25 05.6	-0.4
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ZRNK	Zerenda	49.65	310	eP	P	04 25 05.3	-0.7
	comp=Z,20nm,0.8s,mb5.2						
FRU	Bishkek	49.70	296	eP	P	04 25 07.5	+1.0
INK	Inuvik	49.73	29	P	P	04 25 06.6	+0.1
	comp=Z,9.1nm,0.4s,mb5.2,baz=301,slow=7.0,SNR=97						
INK				LR	LR	04 45 50.5	
	comp=Z,121nm,21.5s,MS3.9,baz=119,slow=36						
INK	Inuvik	49.73	29	P	P	04 25 06.6	+0.1
INK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,121nm,21.5s						
INK	Inuvik	49.73	29	P	P	04 25 06.6	+0.1
KOLN	Koldanda	50.17	274	eP	P	04 25 10.0	-0.4
	comp=Z,25nm,0.6s,mb5.4						
EKS2	Erkin-Say	50.33	296	P	P	04 25 10.8	-0.6
	SNR=7.5						
AML	Almayashu	50.60	295	P	P	04 25 13.6	+0.1
	SNR=7.9						
KKAR	Karatay Array	52.34	298	i P	P	04 25 25.2	-1.3
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
ARU	Arti	54.12	317	eP	P	04 25 38.6	-0.9
ARU				e		04 26 42.1	
ARU				e		04 27 39.8	
ARU				eS	S	04 33 12.0	+0.6
ARU				eSS	SS	04 36 59.0	+6.2
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,400nm,18.0s,MS4.6						
DLBC	Dease Lake	54.20	40	P	P	04 25 41.1	+1.0
	comp=E,3.9nm,1.0s,mb4.3,baz=283,slow=8.3,SNR=8.2						
NDI	New Delhi	54.45	279	e	P	04 25 40.0	-2.3
KAKA	Kakadu	54.86	193	eP	P	04 25 44.2	-1.3
	comp=E,86nm,1.6s,mb5.5						
KAKA				e	pP	04 25 59.0	+1.3
AB31	Akbulak array	56.33	309	i P	P	04 25 54.6	-1.0
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KBS	Kingsbay	56.55	350	eP	P	04 25 59.1	+2.2
RES	Resolute Bay	57.91	15	eP	P	04 26 04.0	-2.5
	comp=Z,24nm,0.7s,mb5.3						
YKA	Yellowknife Ar	59.20	32	P	P	04 26 14.8	-0.8
	comp=Z,1.8nm,0.6s,mb4.2,baz=302,slow=6.7,SNR=5.2						
YKA				LR	LR	04 56 07.5	
	comp=Z,74nm,19.8s,MS3.8,baz=320,slow=40						
YKA	Yellowknife Ar	59.20	32	P	P	04 26 14.8	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,74nm,19.8s						
KEV	Kevo	59.85	339	ep	P	04 26 15.1	-4.9
	comp=Z,1.7nm,0.3s,mb4.5						
KEV	Kevo	59.85	339	eP	P	04 26 15.1	-4.9
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARCES	ARCESS Array B	60.40	339	P	P	04 26 22.3	-1.4
	comp=Z,3.7nm,0.8s,mb4.5,baz=66,slow=7.3,SNR=15						
ARCES	ARCESS Array B	60.40	339	P	P	04 26 22.3	-1.5
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTA	Charters Tower	61.31	177	P	P	04 26 29.4	-1.3
	comp=Z,2.0nm,0.5s,mb4.5,baz=360,slow=6.0,SNR=5.5						
CTA	Charters Tower	61.31	177	P	P	04 26 29.4	-1.2
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KTK1	Kautokeino	61.35	339	eP	P	04 26 29.1	-1.2
KTK1				AMb	AMB	04 26 36.0	
	comp=Z,34nm,2.1s,mb5.1						
KTK1				epP	pP	04 26 41.4	-1.1
KTK1	Kautokeino	61.35	339	eP	P	04 26 29.1	-1.2
	comp=Z,34nm,2.1s,mb5.1						
DAG	Danmarks Havn	61.48	355	⇑iP	P	04 26 29.1	-1.9
	comp=Z,9.9nm,0.5s,mb5.2						
FITZ	Fitzroy Crossi	61.53	199	⇓iP	P	04 26 31.3	-0.8
	comp=Z,7.0nm,1.0s,mb4.8						
WB2	Warramunga Arr	61.69	190	eP	P	04 26 31.4	-1.7
WB2				e	pP	04 26 45.2	-0.3
WRA	Warramunga Arr	61.69	190	P	P	04 26 31.5	-1.6
	comp=Z,13nm,0.8s,mb5.1,baz=7.9,slow=7.0,SNR=97						
WRA	Warramunga Arr	61.69	190	P	P	04 26 31.5	-1.6
WRA				pmax	pmax		
	comp=Z,13nm,0.9s						
TRO	Tromso	62.02	341	eP	P	04 26 32.2	-2.5
RPW	Rockport	63.37	48	P	P	04 26 43.8	-0.2
RMW	Rattlesnake Mo	63.75	49	eP	P	04 26 45.6	-0.8
FMW	Mount Fremont	64.12	49	P	P	04 26 49.3	+0.5
LOF	Lofoten	64.45	341	eP	P	04 26 51.1	+0.6
LOF				AMb	AMB	04 26 52.9	
	comp=Z,79nm,1.3s,mb5.6						
LOF	Lofoten	64.45	341	eP	P	04 26 51.1	+0.6
	comp=Z,79nm,1.3s,mb5.6						
COR	Corvallis	64.47	52	eP	P	04 26 50.9	-0.2
	comp=Z,20nm,1.0s,mb5.1						
COR				e		04 27 06.7	
MOS	Moscow	64.62	323	eP	P	04 26 47.1	-4.8
MOS				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.8						
KAF	Kangasniemi	65.08	333	ep	P	04 26 51.5	-3.2
	comp=Z,7.0nm,0.5s,mb5.0						
KAF	Kangasniemi	65.08	333	eP	P	04 26 51.5	-3.2
KAF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
HSO	Harness Mounta	65.19	53	P	P	04 26 56.8	+0.9
ASAR	Alice Springs	65.41	190	P	P	04 26 56.8	-0.8
	comp=Z,9.3nm,0.7s,mb4.9,baz=12,slow=6.2,SNR=92						
ASPA	Alice Springs	65.42	190	eP	P	04 26 57.0	-0.6
ASPA				e	pP	04 27 09.5	-0.6
OBN	Obninsk	65.48	323	d iP	P	04 26 56.1	-1.4
OBN				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.5						
DPW	Davenport	65.53	47	eP	P	04 26 57.6	-0.3
FINES	FINESS Array B	65.61	332	P	P	04 26 56.9	-1.3
	comp=Z,18nm,0.5s,mb5.4,baz=59,slow=7.2,SNR=186						
FINES				LR	LR	04 57 58.6	
	comp=Z,223nm,21.4s,MS4.3,baz=235,slow=38						
FINES	FINESS Array B	65.61	332	P	P	04 26 56.9	-1.3
FINES				pmax	pmax		
	comp=Z,18nm,0.5s						
FINES				MLR	MLR		
	comp=Z,223nm,21.4s						
FINES	FINESS Array B	65.61	332	P	P	04 26 56.9	-1.3
HAWA	Hanford	65.64	49	eP	P	04 26 55.2	-3.4
	comp=Z,12nm,0.9s,mb4.9						
MOR8	Moi Rana	65.74	340	eP	P	04 26 56.4	-2.5
MOR8				AMb	AMB	04 27 10.6	
	comp=Z,38nm,1.8s,mb5.1						
MOR8	Moi Rana	65.74	340	eP	P	04 26 56.4	-2.5
	comp=Z,38nm,1.8s,mb5.1						
NEW	Newport	65.89	46	eP	P	04 26 59.6	-0.6
	comp=Z,14nm,0.9s,mb5.0						
VIPM	Ingram Point	66.10	51	P	P	04 27 02.2	+0.6
SUMG	Summit	66.24	1	eP	P	04 27 01.8	-0.2
	comp=Z,29nm,0.8s,mb5.4						
YBH	Yreka Blue Hor	66.44	55	eP	P	04 27 04.4	+0.6
	comp=Z,5.0nm,0.7s,mb4.7						
LNOR	Lincton Mounta	66.65	49	eP	P	04 27 05.2	+0.2
WDC	Whiskeytown Da	67.22	55	eP	P	04 27 08.4	-0.2
	comp=Z,11nm,1.1s,mb4.8						
WVOR	Wild Horse Val	68.48	52	eP	P	04 27 16.9	+0.3
	comp=Z,10nm,1.1s,mb4.8						
OHCM	Honcut	68.60	56	eP	P	04 27 16.6	-0.7
CHMT	Chamberlain Mo	68.80	46	eP	P	04 27 17.9	-0.5
BEKR	Beckwourth	68.98	55	eP	P	04 27 19.7	0.0
	comp=Z,12nm,0.9s,mb4.8						
FFC	Flin Flon	69.14	34	eP	P	04 27 19.9	-0.6
	comp=Z,16nm,0.9s,mb4.9						
FFC				e	pP	04 27 31.8	-1.2
HRY	Holter Researc	69.69	45	eP	P	04 27 24.2	+0.4
CMB	Columbia Colle	70.07	57	eP	P	04 27 26.4	0.0
	comp=Z,6.1nm,0.9s,mb4.5						
HLID	Hailey	70.24	49	eP	P	04 27 27.8	+0.5
	comp=Z,5.1nm,1.0s,mb4.4						
BOZ	Bozeman (W)	70.47	46	eP	P	04 27 28.9	+0.2
	comp=Z,15nm,0.8s,mb5.0						
BMN	Battle Mountai	70.55	53	eP	P	04 27 29.7	+0.4
	comp=Z,16nm,1.0s,mb4.9						
NB2	NORSAR Subarra	70.68	338	P	P	04 27 28.5	-1.2
	comp=Z,12nm,0.9s,mb4.8,baz=36,slow=5.8						
NB2	NORSAR Subarra	70.68	338	P	P	04 27 28.5	-1.2
	baz=36,slow=6.2						
NOA	NORSAR Array B	70.68	338	P	P	04 27 28.9	-0.8
	comp=Z,5.8nm,0.7s,mb4.7,baz=36,slow=6.2,SNR=34						
NOA	NORSAR Array B	70.68	338	P	P	04 27 28.9	-0.8
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
QLMT	Earthquake Lak	71.10	47	eP	P	04 27 33.2	+0.7
NVAR	Mina Array Bea	71.12	55	P	P	04 27 33.7	+0.9
	comp=Z,8.1nm,0.8s,mb4.7,baz=302,slow=5.1,SNR=56						
NVAR	Mina Array Bea	71.12	55	P	P	04 27 33.7	+0.9
MNV	Mina	71.22	55	eP	P	04 27 33.2	-0.1
	comp=Z,12nm,1.0s,mb4.8						
AKASG	Malin Array Be	71.73	322	P	P	04 27 35.3	-0.8
	comp=Z,7.0nm,0.3s,mb5.0,baz=43,slow=5.9,SNR=57						
AKASG	Malin Array Be	71.73	322	P	P	04 27 35.3	-0.9
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TPH	Tonopah	72.01	55	eP	P	04 27 38.3	+0.3
	comp=Z,15nm,0.8s,mb5.0						
MOOW	Moose Ponds	72.17	47	eP	P	04 27 40.0	+1.1
TPAW	Teton Pass	72.23	47	eP	P	04 27 40.1	+0.9
REDW	Red Top Meadow	72.37	47	eP	P	04 27 41.1	+1.0
LAO	LASA Array	72.62	43	eP	P	04 27 40.9	-0.5
	comp=Z,12nm,0.9s,mb4.8						
STKA	Stephens Creek	73.01	182	eP	P	04 27 44.2	+0.1
	comp=Z,5.0nm,0.9s,mb4.4						
STKA	Stephens Creek	73.01	182	P	P	04 27 44.2	+0.1
	comp=Z,5.0nm,0.7s,mb4.5,baz=324,slow=3.8,SNR=12						
HWUT	Hardware Ranch	73.11	49	eP	P	04 27 45.0	+0.6
	comp=Z,14nm,1.1s,mb4.8						
FORT	Forrest	73.29	194	eP	P	04 27 46.0	+0.3
	comp=Z,35nm,0.8s,mb5.3						
DUG	Dugway	73.31	51	eP	P	04 27 46.2	+0.6
	comp=Z,17nm,1.0s,mb4.9						
BORG	Borgarnes	73.43	353	P	P	04 27 46.3	+0.4
	comp=Z,7.9nm,0.8s,mb4.7,baz=285,slow=4.9,SNR=3.0						
PDAR	Pinedale Array	73.47	47	P	P	04 27 46.9	+0.3
	comp=Z,6.7nm,0.7s,mb4.7,baz=282,slow=2.2,SNR=84						
NLU	North Lily Min	73.89	51	eP	P	04 27 49.7	+0.7
DAU	Daniels Canyon	74.07	50	eP	P	04 27 51.5	+1.5
MSU	Marysvale	74.78	52	eP	P	04 27 55.5	+1.3
ULM	Lac du Bonnet	74.95	35	P	P	04 27 54.2	-0.7
	comp=Z,3.1nm,0.7s,mb4.4,baz=325,slow=8.5,SNR=5.3						
ULM	Lac du Bonnet	74.95	35	P	P	04 27 54.2	-0.7
NEN	Nelson	75.03	56	eP	P	04 27 56.5	+0.8
LDFC	Landfair	75.23	56	eP	P	04 27 55.0	-1.9
MALT	Malatya	75.26	308	eP	P	04 27 57.8	+0.8
	comp=Z,8.1nm,0.8s,mb4.7						
SRU	San Rafael	75.35	51	eP	P	04 27 57.6	+0.1
KWP	Kalwaria	75.42	325	eP	P	04 27 58.2	+0.6
RSSD	Black Hills	75.50	43	eP	P	04 27 58.2	-0.1
	comp=Z,10nm,0.9s,mb4.8						
OJC	Ojcow	76.20	327	eP	P	04 28 02.3	+0.2
PV10	Paradox Valley	76.70	50	eP	P	04 28 06.3	+1.1
BSEG	Bad Segeberg	76.79	334	eP	P	04 28 05.3	0.0
BSEG				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
BRTR	Keskin Array B	77.06	312	P	P	04 28 07.5	+0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=94,slow=3.6,SNR=7.3						
BRTR	Keskin Array B	77.06	312	P	P	04 28 07.5	+0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WUAZ	Wupatki	77.24	54	eP	P	04 28 09.3	+1.0
	comp=Z,12nm,0.9s,mb4.8						
MORC	Moravsky Berou	77.47	327	eP	P	04 28 09.1	-0.1
	comp=Z,12nm,0.8s,mb4.9						
DPC	Dobruska-Polom	77.51	328	eP	P	04 28 10.1	+0.7
RW3	Ridgway	77.57	50	eP	P	04 28 11.3	+1.3
ISCO	Idaho Springs	77.67	47	eP	P	04 28 11.9	+1.4
	comp=Z,5.4nm,0.8s,mb4.5						
VYHS	Vyhne	77.94	326	eP	P	04 28 12.5	+0.7
CLL	Collm	78.00	331	⇑P	P	04 28 11.3	-0.8
	comp=Z,logA/T=1.1,mb4.8						
CLL				e*PP	pP	04 28 22.0	-2.8
CLL	Collm	78.00	331	⇑iP	P	04 28 11.3	-0.8
CLL				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
CLL	Collm	78.00	331	⇑iP	P	04 28 11.3	-0.8
	comp=Z,14nm,1.1s,mb4.8						
BRG	Berggiesshubel	78.00	330	eP	P	04 28 10.1	-2.0
BRG				i		04 28 28.7	
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRG	Berggiesshubel	78.00	330	eP	P	04 28 10.1	-2.0
	comp=Z,5.9nm,0.9s,mb4.5						
BRG				i		04 28 28.7	
PVCC	Panska Ves	78.04	329	eP	P	04 28 12.7	+0.4
PRU	Pruhonice	78.49	329	eP	P	04 28 15.0	+0.2
	comp=Z,14nm,1.0s,mb4.8						
CLZ	Clausthal	78.50	332	eP	P	04 28 15.2	+0.4
	comp=Z,10.0nm,0.7s,mb4.8						
MOX	Moxa	79.05	331	i P	P	04 28 17.8	-0.1
MOX				pP	pP	04 28 34.0	+3.4
MOX	Moxa	79.05	331	eP	P	04 28 17.8	-0.1
SDCO	Great Sand Dun	79.16	49	eP	P	04 28 19.0	+0.2
	comp=Z,8.4nm,1.3s,mb4.5						
KHC	Kasperske Hory	79.55	329	eP	P	04 28 21.0	+0.4
GEC2	GERESS Array S	79.73	329	eP	P	04 28 21.6	0.0
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GEC2	GERESS Array S	79.73	329	eP	P	04 28 21.6	0.0
	comp=Z,4.0nm,0.8s,mb4.4						
GERES	GERESS Array B	79.73	329	P	P	04 28 21.9	+0.3
	comp=Z,1.7nm,0.5s,mb4.3,baz=34,slow=4.8,SNR=25						
GERES	GERESS Array B	79.73	329	P	P	04 28 21.9	+0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TUC	Tucson	79.76	56	eP	P	04 28 22.8	+0.7
	comp=Z,3.4nm,0.9s,mb4.3						
WET	Wettzell	79.81	330	eP	P	04 28 22.5	+0.5
WET				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
WET	Wettzell	79.81	330	eP	P	04 28 22.5	+0.5
	comp=Z,9.0nm,1.0s,mb4.7						
GRA1	Grafenberg Arr	79.98	331	eP	P	04 28 23.3	+0.4
	comp=Z,17nm,0.8s,mb5.0						
GRF	Grafenberg Arr	79.98	331	eP	P	04 28 23.3	+0.4
GRF				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
MZLS	Mizel	80.27	293	P	P	04 28 25.3	+0.3
ARSA	Arzberg	80.29	327	⇑iP	P	04 28 25.4	+0.8
	comp=Z,4.9nm,1.0s,mb4.4						
MOA	Molln	80.32	328	⇓iP	P	04 28 25.1	+0.4
	comp=Z,3.7nm,0.8s,mb4.4						
HILS	Ha’il	80.37	298	P	P	04 28 26.1	+0.6
LAZ	Ladron	80.54	52	eP	P	04 28 27.4	+1.2
ANMO	Albuquerque	80.56	51	c iP	P	04 28 26.7	+0.4
ANMO	Albuquerque	80.56	51	eP	P	04 28 27.3	+1.0
	comp=Z,4.3nm,0.8s,mb4.4						
SCHQ	Schefferville	80.64	17	P	P	04 28 26.3	0.0
	comp=Z,8.2nm,0.8s,mb4.7,baz=4.8,slow=4.2,SNR=10						
BNM	Barren Site	81.02	52	eP	P	04 28 29.7	+0.9
OBKA	Obir	81.28	327	⇑iP	P	04 28 30.3	+0.4
	comp=Z,7.4nm,0.7s,mb4.7						
KBA	Koelnbreinsper	81.31	328	⇑iP	P	04 28 31.2	+1.2
	comp=Z,11nm,1.1s,mb4.7						
WATA	Walderalm	81.79	329	⇑iP	P	04 28 33.1	+0.6
	comp=Z,5.7nm,1.0s,mb4.5						
WTTA	Wattenberg	81.83	329	⇓iP	P	04 28 33.5	+0.8
	comp=Z,9.5nm,0.7s,mb4.8						
AFFS	‘Afif	81.85	295	P	P	04 28 33.7	+0.4
PTCC	Patocco-Chiusa	81.85	328	eP	P	04 28 32.3	-0.5
MOTA	Moosalm	81.96	329	⇓iP	P	04 28 33.8	+0.4
	comp=Z,10nm,0.9s,mb4.8						
SQTA	Sankt Quirin	82.03	329	⇓iP	P	04 28 34.3	+0.6
	comp=Z,7.4nm,1.0s,mb4.6						
BFO	Black Forest	82.16	332	eP	P	04 28 34.8	+0.4
BFO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BFO	Black Forest	82.16	332	eP	P	04 28 34.8	+0.4
	comp=Z,7.0nm,1.1s,mb4.5						
CDF	Champ du Feu	82.47	332	eP	P	04 28 35.9	0.0
	comp=Z,12nm,0.9s,mb4.5						
DAVA	Damuels	82.47	330	⇓iP	P	04 28 36.6	+0.6
	comp=Z,17nm,1.2s,mb4.8						
CTI	Castel Tesino	82.82	328	eP	P	04 28 37.3	-0.5
KBRS	Khaybar	83.12	298	P	P	04 28 40.9	+1.2
HINF	Hinteralfeld	83.12	332	eP	P	04 28 38.9	-0.4
HAU	Haudompre	83.14	333	eP	P	04 28 39.2	-0.1
	comp=Z,7.4nm,0.7s,mb4.5						
HAU				eR			
	comp=Z,317nm,21.0s						
MEZF	Maizieres J’vi	83.15	334	eP	P	04 28 39.6	+0.2
JMQS	Jabal Moqyreh	83.19	303	P	P	04 28 41.2	+1.1
GDL2	Guadalupe Moun	83.74	52	eP	P	04 28 43.4	+0.7
BDAS	Al Bad‘	84.00	303	P	P	04 28 45.1	+0.9
AYUS	‘Aynunah	84.06	303	P	P	04 28 44.9	+0.5
VAI	Varese	84.08	330	eP	P	04 28 44.2	0.0
ARV	Arcevia	84.40	326	eP	P	04 28 46.4	+0.7
CABF	La Chapelle	84.42	332	eP	P	04 28 46.1	+0.3
	comp=Z,3.0nm,0.6s,mb4.3						
TATS	Tathlith	84.43	291	P	P	04 28 47.4	+1.0
PGD	Poggio Sodo	84.59	327	eP	P	04 28 48.5	+1.7
SEI	Scarperia	84.59	327	eP	P	04 28 48.6	+1.9
LOR	Lormes	84.62	334	eP	P	04 28 46.9	+0.1
	comp=Z,17nm,0.8s,mb4.9						
LOR				eR			
	comp=Z,194nm,18.5s						
GSCL	Gusciola	84.65	328	eP	P	04 28 48.4	+1.4
FLN	La Foliniere	84.66	337	eP	P	04 28 46.9	-0.1
	comp=Z,15nm,0.7s,mb4.9						
FLN				eR			
	comp=Z,207nm,20.5s						
GRAM		84.74	328	P	P	04 28 47.5	0.0
BOB	Bobbio (Coli)	84.75	329	eP	P	04 28 48.2	+0.7
TRAV		84.76	330	P	P	04 28 48.9	+1.3
UMJS	Umm Lajj	84.78	299	P	P	04 28 49.4	+1.3
VALM		84.79	328	P	P	04 28 48.1	+0.4
NRCA	Norcia	84.87	326	eP	P	04 28 49.0	+0.9
ASS	Assisi	84.87	326	eP	P	04 28 48.9	+0.7
CODM		84.91	329	P	P	04 28 48.1	-0.2
BACM		84.92	328	P	P	04 28 48.2	-0.1
SSF	Saint Saulge	84.92	334	eP	P	04 28 48.4	+0.1
	comp=Z,18nm,1.0s,mb4.8						
VINC	Vinca	85.00	328	P	P	04 28 47.8	-0.9
LSD	Ceresole Reale	85.03	331	P	P	04 28 49.6	+0.7
MAIM		85.05	328	P	P	04 28 48.3	-0.7
WMOK	Wichita Mounta	85.08	47	eP	P	04 28 49.2	-0.2
	comp=Z,8.4nm,0.9s,mb4.9						
GRR	Gorron	85.11	337	eP	P	04 28 49.4	+0.2
	comp=Z,19nm,0.8s,mb5.0						
LPL	La Plagne	85.13	331	eP	P	04 28 50.3	+0.9
	comp=Z,30nm,1.0s,mb5.1						
LPG	La Plagne	85.14	331	eP	P	04 28 50.4	+1.0
	comp=Z,33nm,1.0s,mb5.1						
SMF	Signal de Mont	85.17	333	eP	P	04 28 49.9	+0.4
	comp=Z,17nm,0.9s,mb4.9						
AVF	Avril sur Loir	85.21	334	eP	P	04 28 50.1	+0.4
	comp=Z,25nm,0.8s,mb5.1						
GENL	Genova Univers	85.24	329	P	P	04 28 49.6	-0.3
RSP	Reno Superiore	85.25	331	P	P	04 28 49.6	-0.4
SDI	San Donato	85.48	325	eP	P	04 28 51.1	-0.1
BLJS	Baljurashi	85.51	292	P	P	04 28 53.2	+1.4
BNI	Bardonecchia	85.55	331	eP	P	04 28 51.8	+0.3
	comp=Z,8.0nm,0.8s,mb5.0						
BGF	Bois d’Agland	85.58	334	eP	P	04 28 51.9	+0.4
RRL	Cesana Torines	85.62	331	P	P	04 28 51.6	-0.2
FIN	Finale Ligure	85.70	329	P	P	04 28 51.1	-1.1
SGMF	Saint Gilles	85.72	338	eP	P	04 28 52.8	+0.6
	comp=Z,25nm,1.0s,mb5.1						
ROB	Roburent	85.75	330	P	P	04 28 51.7	-0.8
MBDF	Montbardon	85.80	331	eP	P	04 28 52.8	+0.1
	comp=Z,20nm,0.8s,mb5.1						
RORO		85.83	330	P	P	04 28 52.2	-0.6
ROSF	Rostrenen	85.84	338	eP	P	04 28 53.4	+0.6
	comp=Z,16nm,0.8s,mb5.0						
PZZ	Prazzo	85.86	330	P	P	04 28 52.1	-0.9
ORIF	Oris-en-Rattie	85.96	331	eP	P	04 28 54.1	+0.7
	comp=Z,30nm,0.8s,mb5.3						
ORIF				eR			
	comp=Z,258nm,21.0s						
MONE	Monesi	85.98	330	P	P	04 28 53.2	-0.4
ENR	Entracque	85.98	330	P	P	04 28 51.9	-1.7
STV2	Anna di Valdie	86.00	330	P	P	04 28 51.7	-1.9
STV	Sta Anna Valdi	86.00	330	P	P	04 28 51.7	-1.9
TCF	Toulx Ste Croi	86.03	334	eP	P	04 28 54.4	+0.7
IMI	Imperia	86.07	330	eP	P	04 28 53.8	-0.2
NEGI	Negi	86.19	330	P	P	04 28 54.2	-0.4
LTX	Lajitas	86.20	54	eP	P	04 28 55.9	+0.9
	comp=Z,8.9nm,0.8s,mb5.0						
TXAR	Lajitas Array	86.20	54	P	P	04 28 56.3	+1.2
	comp=Z,4.3nm,0.7s,mb4.8,baz=295,slow=3.6,SNR=84						
SBF	Sospel	86.28	330	eP	P	04 28 54.9	-0.2
	comp=Z,35nm,0.8s,mb5.3						
VIVF	Saint-Julien-l	86.44	332	eP	P	04 28 56.5	+0.7
	comp=Z,24nm,0.8s,mb5.2						
MFF	Saint Martin d	86.50	336	eP	P	04 28 56.9	+0.9
	comp=Z,23nm,0.9s,mb5.1						
PGF	Pioggiola	86.79	328	eP	P	04 28 59.4	+1.8
	comp=Z,7.7nm,0.8s,mb4.7						
FRF	La Foret Royal	86.84	330	eP	P	04 28 57.6	-0.2
SMRF	Simiane la Rot	86.88	331	eP	P	04 28 58.7	+0.7
	comp=Z,12nm,1.0s,mb4.8						
LMR	La Mourre	87.08	330	eP	P	04 28 59.1	+0.1
	comp=Z,32nm,1.0s,mb5.2						
RJF	Les Rejaudoux	87.12	334	eP	P	04 28 59.9	+0.8
	comp=Z,24nm,1.0s,mb5.1						
RJF				eR			
	comp=Z,135nm,20.5s						
CAF	Calviac	87.28	334	eP	P	04 29 01.3	+1.4
	comp=Z,43nm,0.9s,mb5.4						
LASF	Ste Croix	87.41	332	eP	P	04 29 01.5	+1.0
	comp=Z,25nm,1.2s,mb5.0						
LFF	La Frestale	87.70	334	eP	P	04 29 03.1	+1.2
	comp=Z,25nm,0.8s,mb5.2						
RPZ	Rata Peaks	88.38	160	LR	LR	05 02 14.3	
	comp=Z,524nm,20.1s,MS5.0,baz=220,slow=31						
ACSO	Alum Creek Sta	88.40	34	eP	P	04 29 04.7	-0.7
	comp=Z,15nm,0.8s,mb5.3						
MTLF	Montolieu	88.62	333	eP	P	04 29 07.3	+0.9
	comp=Z,15nm,1.0s,mb5.0						
WCI	Wyandotte Cave	88.62	37	eP	P	04 29 06.2	-0.3
	comp=Z,9.2nm,0.7s,mb5.2						
EPF	Esparros	89.53	334	eP	P	04 29 11.0	+0.3
ETSF	Etsaut	89.94	334	eP	P	04 29 13.8	+1.2
	comp=Z,15nm,0.7s,mb5.1						
SJPF	Ste Jean	89.97	335	eP	P	04 29 13.8	+1.1
ESDC	Sonseca Array	93.95	335	LR	LR	05 21 06.9	
	comp=Z,184nm,19.4s,MS4.5,baz=215,slow=41						
DBIC	Dimbokro	123.97	321	PKP	PKPdf	04 35 11.0	-0.1
	comp=Z,3.2nm,0.6s,baz=312,slow=2.9,SNR=5.4						
DBIC	Dimbokro	123.97	321	PKP	PKPdf	04 35 11.0	-0.1
QSPA	South Pole Qui	131.22	180	eP	PKPdf	04 35 24.0	+0.6
LPAZ	La Paz	143.02	57	PKP	PKPdf	04 35 48.3	+1.9
	comp=Z,1.6nm,0.2s,baz=23,slow=3.7,SNR=3.3						
SNAA	Sanae	145.45	198	⇓i	PKPdf	04 35 49.1	+0.1
VNA2	Neumayer--Watz	147.02	197	⇑i	PKPdf	04 35 55.7	+4.0
VNA1	Neumayer--Stat	147.42	197	⇑i	PKPdf	04 35 57.6	+5.2
BDFB	Brasilia	152.42	24	PKPbc	PKPdf	04 36 10.5	+8.8
	comp=Z,2.2nm,0.8s,baz=245,slow=2.5,SNR=6.7						
BDFB				PKPab	PKPab	04 36 20.7	-0.5
	comp=Z,2.7nm,0.6s,baz=166,slow=1.0,SNR=5.0						

NIED ***17*** *04:25:00,41.50N×143.50E,h26^{km},Mw4.6 Best double couple: M$_0$7.78×10^{15} NP1:φ$_s$330°,δ55°,λ-82°. NP2: φ$_s$136°,δ35°,λ-101°.*
BJI ***17*** *04:25:11.5,41.60N×143.37E,h55^{km},mB4.9,mb4.8, Ms4.1,Msz3.9*
JMA ***17*** *04:25:11.8±0.1,41.51N×143.48E,h47^{km}±2^{km},M4.7*
JMA Felt II J1.
MOS ***17*** *04:25:11.1±1.0,41.48N×143.36E,h43^{km},mb4.9/28,Error ellipse: s-maj=13.9km s-min=6.8km az=104.6*
IDC ***17*** *04:25:12.3±2.6,41.46N×143.32E,h38^{km}±22^{km},mb4.4/24, mb1 4.5/27,mb1mx4.5/29,ML4.2/3,MS3.8/4,Ms1 3.8/4, ms1mx3.4/34,Error ellipse: s-maj=14.6km s-min=10.5km az=119.0*
NEIC ***17*** *04:25:13.7±0.6,41.47N×143.33E,h50^{km}±5^{km},mb4.8/75, MW4.6(NIED),Error ellipse: s-maj=4.4km s-min=3.3km az=152.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
ISC 17 04:25:11.3±0.5**,41.47N**±0.03×**143.42E**±0.04**,h41**^{km}±3^{km}**, h42**^{km}±5.2^{km}**:pP-P,n277,**σ**0^{s}90**/292**,mb4.8**/111**,MS4.2**/8**, 16C-14D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	0.58	340	⇑P	P	04 25 23.3	+0.2
JEM				*e*S	S	04 25 32.2	+0.5
JNBK	**Urakawa-nobuka**	0.95	329	⇓P	P	04 25 29.2	+0.9
JNBK				*e*S	S	04 25 41.8	+0.9
JCH	**Churui**	1.14	358	⇓P	P	04 25 31.0	0.0
JOB	**Onbets**	1.46	12	⇑P	P	04 25 35.5	-0.2
JBT2	**Biratori 2**	1.52	329	⇓P	P	04 25 37.6	+1.1
JOT	**Ohata**	1.79	268	⇑P	P	04 25 41.5	+1.3
JOT				*e*S	S	04 26 03.4	+1.5
JAK	**Akkeshi**	1.79	31	⇑P	P	04 25 39.5	-0.8
JAK				*e*S	S	04 26 00.4	-1.7
JFR	**Furan**	1.80	340	P	P	04 25 41.1	+0.7
JANG	**Nango**	1.81	233	⇑P	P	04 25 40.6	0.0
JKB	**Kayabe**	1.84	284	⇓P	P	04 25 41.8	+0.8
JKB				*e*S	S	04 26 04.5	+1.4
JAR	**Ashorobuto**	1.84	8	⇑P	P	04 25 40.4	-0.6
JAR				*e*S	S	04 26 01.8	-1.5
JTM	**Tenmabayashi**	1.90	250	P	P	04 25 42.9	+1.0
JTM				*e*S	S	04 26 06.2	+1.4
ASAJ	**Asahikawa**	2.71	347	Pn	P	04 25 53.6	+0.1
	22nm,0.3s,baz=254,slow=7.3,SNR=18						
ASAJ				LR	LR	04 27 20.5	
	comp=Z,1μm,20.7s,baz=274,slow=47						
ASAJ	**Asahikawa**	2.71	347	P	P	04 25 53.6	+0.1
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,20.7s						
YUK	**Yuzh-Kuril'sk**	3.13	34	⇑*i*P	P	04 25 57.0	-2.4
YUK				*i* S	S	04 26 32.0	-3.9
YUK				pmax	pmax		
	comp=N,2μm,0.7s						
YUK				pmax	pmax		
	comp=E,2μm,0.7s						
YUK				pmax	pmax		
	comp=Z,3μm,0.7s						
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,320nm,0.4s						
YUK				smax			
	comp=N,8μm,0.7s						
YUK				smax			
	comp=E,14μm,0.8s						
YUK				smax			
	comp=N,11μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YSS	**Yuzh-Sakhalins**	5.50	355	*e*P	P	04 26 32.0	-0.8
YSS				*e*S	S	04 27 30.0	-5.7
YSS				smax			
	comp=N,80nm,0.9s						
YSS				MLR	MLR		
	comp=N,1μm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s						
YSS	**Yuzh-Sakhalins**	5.50	355	*e*Pn	P	04 26 32.3	-0.5
	comp=Z,45nm,1.0s						
MAJO	**Matsushiro**	6.38	221	*e*P	P	04 26 45.0	-0.1
	comp=Z,40nm,0.7s						
MAT	**Matsushiro**	6.38	221	P	P	04 26 44.8	-0.3
MAT				*e*S	S	04 27 59.1	+1.5
MAT	**Matsushiro**	6.38	221	*e*P	P	04 26 45.0	-0.1
	comp=Z,33nm,0.7s						
MAT				S	S	04 27 59.0	+1.4
JHJ	**Hachijo jima 2**	8.82	200	Pn	P	04 27 14.8	-4.4
	comp=Z,12nm,0.3s,baz=217,slow=23,SNR=3.7						
JHJ				Sn	S	04 28 48.2	-10
	comp=Z,40nm,0.3s,baz=60,slow=21,SNR=5.7						
TYV	**Tymovskoe**	9.41	357	*e*P	P	04 27 21.6	-5.6
TYV				MLR	MLR		
	comp=Z,1μm,18.0s						
MDJ	**Mudanjiang**	10.60	292	P	P	04 27 43.4	-0.1
MDJ				AMB	AMB		
	comp=Z,15nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,93nm,10.9s						
KLR	**Kul'dur**	11.29	317	*e*P	P	04 27 52.2	-0.6
KLR				pmax	pmax		
	comp=Z,21nm,1.2s						
KLR				MLR	MLR		
	comp=E,600nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1μm,15.0s						
JNU	**Nakatsue**	12.99	234	Pn	P	04 28 15.2	-0.6
	comp=Z,0.9nm,0.3s,baz=42,slow=30,SNR=5.0						
JNU				LR	LR	04 33 30.0	
	comp=Z,589nm,19.1s,baz=268,slow=38						
CN2	**Changchun**	13.44	286	*e*P	P	04 28 20.5	-1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,13.0s						
CN2				LR	LR		
	comp=E,700nm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,17.0s						
SNY	**Shenyang**	14.84	278	⇓P	P	04 28 38.8	-1.1
SNY				S	S	04 31 19.0	-4.7
SNY				AMB	AMB		
	comp=Z,10.0nm,1.2s						
SNY				LR	LR		
	comp=E,470nm,18.6s						
SNY				LR	LR		
	comp=Z,550nm,19.1s						
DL2	**Dalian**	16.84	268	P	P	04 29 05.0	-0.4
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
MA2	**Magadan**	18.70	12	*e*P	P	04 29 25.8	-2.5
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MA2	**Magadan**	18.70	12	P	P	04 29 26.3	-2.0
	comp=Z,11nm,0.6s						
SSE	**Sheshan**	20.65	247	P	P	04 29 51.6	+1.8
SSE				S	S	04 33 33.8	+0.6
SSE				XS		04 33 51.0	
SSE				AMB	AMB		
	comp=Z,42nm,0.7s						
SSE				AMB	AMB		
	comp=Z,93nm,12.0s						
SSE				LR	LR		
	comp=N,150nm,22.2s,MS3.4						
SSE				LR	LR		
	comp=E,115nm,22.2s,MS3.4						
SSE				LR	LR		
	comp=Z,207nm,19.6s,MS3.5						
SSE	**Sheshan**	20.65	247	P	P	04 29 51.6	+1.8
	comp=Z,42nm,0.7s						
SSE				S	S	04 33 33.8	+0.6
SSE				sS		04 33 51.0	
BJI	**Beijing**	20.66	275	*e*P	P	04 29 47.3	-2.6
BJI				S	S	04 33 32.5	-1.0
BJI				AMB	AMB		
	comp=Z,79nm,1.9s						
BJI				LR	LR		
	comp=N,225nm,13.6s						
BJI				LR	LR		
	comp=E,409nm,20.0s						
BJI				LR	LR		
	comp=Z,431nm,20.8s						
BJI	**Beijing**	20.66	275	*e*P	P	04 29 47.2	-2.7
	comp=Z,15nm,1.8s						
BJI				S	S	04 33 32.5	-1.0
NJ2	**Nanjing**	21.75	252	*e*P	P	04 30 00.0	-0.9
NJ2				AP		04 30 11.1	
NJ2				XP		04 30 17.3	
NJ2				PP	PP	04 30 25.3	-1.3
NJ2				PPP	PPP	04 30 35.6	-1.0
NJ2				S	S	04 33 53.0	-1.0
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
NJ2				LR	LR		
	comp=N,910nm,17.3s,MS4.3						
NJ2				LR	LR		
	comp=E,680nm,16.1s,MS4.3						
NJ2				LR	LR		
	comp=Z,1μm,15.6s,MS4.4						
YAK	**Yakutsk**	22.18	343	⇑*e*P	P	04 30 00.3	-4.7
YAK				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.1						
YAK				MLR	MLR		
	comp=Z,200nm,12.0s,MS3.8						
FX1	**Attu Island--F**	23.04	50	P	P	04 30 15.3	+1.9
	comp=Z,22nm,0.5s,mb4.8,baz=354,slow=1.7,SNR=6.8						
FX1				S	S	04 34 24.3	+7.2
	comp=Z,8.4nm,0.6s,baz=34,slow=9.6,SNR=3.6						
FX1	**Attu Island--F**	23.04	50	P	P	04 30 15.3	+1.9
FX1				S	S	04 34 24.3	+7.2
FX1				pmax	pmax		
	comp=Z,22nm,0.5s						
FX1				smax			
	comp=N,8.0nm,0.6s						
FX1	**Attu Island--F**	23.04	50	*e*P	P	04 30 15.1	+1.7
BOD	**Bodaibo**	24.82	321	*e*P	P	04 30 26.8	-3.8
WHN	**Wuhan**	25.81	254	⇓P	P	04 30 39.5	-0.7
SONM	**Songino Array**	26.91	296	P	P	04 30 49.5	-0.7
	comp=N,20nm,0.5s,mb4.9,baz=81,slow=7.8,SNR=112						
SONM				PcP	PcP	04 34 11.3	-0.7
	comp=N,0.9nm,0.5s,baz=196,slow=0.4,SNR=4.7						
ZAK	**Zakamensk**	29.00	302	*e*P	P	04 31 07.8	-1.2
LZH	**Lanzhou**	31.12	273	*e*P	P	04 31 27.5	-0.5
LZH				AP	pP	04 31 40.0	+0.7
LZH				XP	sP	04 31 46.5	+1.9
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
LZH	**Lanzhou**	31.12	273	*e*P	P	04 31 27.5	-0.5
	comp=Z,28nm,1.5s,mb4.9						
LZH				pP	pP	04 31 40.0	+0.7
LZH				sP	sP	04 31 46.5	+1.9
GTA	**Gaotai**	32.99	281	*e*P	P	04 31 42.8	-1.6
GTA				PP	PP	04 32 55.5	-0.1
GTA				S	S	04 36 57.9	-0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
GTA				AMB	AMB		
	comp=Z,35nm,5.3s						
GTA				LR	LR		
	comp=N,123nm,19.0s,MS3.9						
GTA				LR	LR		
	comp=E,185nm,16.7s,MS3.9						
GTA				LR	LR		
	comp=Z,243nm,18.6s,MS3.9						
KMI	**Kunming**	37.33	257	*e*P	P	04 32 21.1	-0.3
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KMI				LR	LR		
	comp=N,328nm,16.0s,MS4.2						
KMI				LR	LR		
	comp=E,213nm,20.2s,MS4.2						
KMI				LR	LR		
	comp=Z,356nm,16.5s,MS4.2						
KMI	**Kunming**	37.33	257	*e*P	P	04 32 21.1	-0.3
	comp=Z,10.0nm,0.7s,mb4.8						
WMQ	**Urumqi**	40.40	293	*e*P	P	04 32 45.3	-1.5
NVS	**Novosibirsk**	41.04	310	⇓*i*P	P	04 32 50.4	-1.5
NVS				*e*		04 34 47.0	
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
SVW	**Sparrevohn**	41.07	40	*e*P	P	04 32 53.4	+1.3
IMA	**Indian Mountai**	42.10	33	*e*P	P	04 33 00.8	+0.4
RSO	**Redoubt South**	42.50	41	*e*P	P	04 33 00.6	-3.1
SPU	**Mount Spurr**	42.80	40	*e*P	P	04 33 06.2	0.0
MKAR	**Makanchi Array**	43.23	299	P	P	04 33 09.2	-0.6
	comp=E,9.0nm,0.6s,mb4.7,baz=83,slow=9.5,SNR=57						
MKAR				PcP	PcP	04 34 58.8	-0.4
	comp=E,9.3nm,1.1s,baz=71,slow=3.2,SNR=4.0						
MKAR	**Makanchi Array**	43.23	299	P	P	04 33 09.3	-0.6
MKAR						04 34 58.8	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PMS	**Palmer South**	44.00	40	*e*P	P	04 33 15.7	-0.2
CMAR	**Chiang Mai Arr**	44.23	252	P	P	04 33 18.2	-0.1
	comp=Z,2.4nm,0.9s,mb3.9,baz=50,slow=7.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	44.23	252	P	P	04 33 18.2	-0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
COLA	**College**	44.52	35	*e*P	P	04 33 20.7	+0.7
SML	**Sawmill**	44.53	39	*e*P	P	04 33 20.1	0.0
KURK	**Kurchatov**	44.55	305	*i* P	P	04 33 19.6	-0.8
KURK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8						
KURK	**Kurchatov**	44.55	305	*e*P	P	04 33 19.3	-1.2
	comp=Z,38nm,0.8s,mb5.3						
ILAR	**Eielson Array**	44.94	35	P	P	04 33 23.1	-0.3
	comp=Z,6.7nm,0.9s,mb4.5,baz=264,slow=6.0,SNR=55						
ILAR	**Eielson Array**	44.94	35	P	P	04 33 23.1	-0.3
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHL	**Shillong**	45.14	266	*e*S	P	04 33 23.7	-1.9
DIV	**Divide**	45.84	40	*e*P	P	04 33 30.3	-0.3
	comp=Z,24nm,0.4s,mb5.5						
DAWY	**Dawson**	48.26	35	*e*P	P	04 33 49.2	-0.3
GUN	**Gumba**	48.38	273	*e*P	P	04 33 51.0	0.0
	comp=Z,50nm,0.4s,mb5.9						
VOSK	**Vostochnaya**	48.58	309	P	P	04 33 51.2	-1.0
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BVA0	**Borovoye Array**	48.83	310	P	P	04 33 53.6	-0.5
BVAR	**Borovoye Array**	48.83	310	LR	LR	04 56 11.1	
	comp=Z,4.1nm,20.9s,baz=270,slow=38						
BRVK	**Borovoye**	48.88	310	P	P	04 33 54.0	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	48.88	310	*e*P	P	04 33 53.5	-1.0
	comp=Z,7.0nm,0.4s,mb5.0						
KKN	**Kakani**	48.90	273	*e*P	P	04 33 54.7	-0.3
	comp=Z,24nm,0.6s,mb5.4						
PKI	**Pulchoki**	48.92	273	*e*P	P	04 33 54.7	-0.4
	comp=Z,15nm,0.6s,mb5.2						
DMN	**Daman**	49.12	273	*e*P	P	04 33 56.0	-0.8
	comp=Z,12nm,0.5s,mb5.2						
GKN	**Gorkha**	49.27	274	*e*P	P	04 33 57.1	-0.8
	comp=Z,9.4nm,0.4s,mb5.2						
ZRNK	**Zerenda**	49.65	310	P	P	04 33 59.9	-0.6
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ZRNK	**Zerenda**	49.65	310	*e*P	P	04 33 59.8	-0.7
	comp=Z,28nm,0.8s,mb5.3						
ZRNK				*e*PP	PP	04 35 50.5	-5.1
INK	**Inuvik**	49.74	29	P	P	04 34 00.8	-0.1
	comp=Z,11nm,0.6s,mb5.1,baz=299,slow=6.4,SNR=83						
INK	**Inuvik**	49.74	29	P	P	04 34 00.8	-0.2
INK				pmax	pmax		
	comp=Z,11nm,0.6s						
INK	**Inuvik**	49.74	29	*e*P	P	04 34 00.5	-0.5
	comp=Z,11nm,0.5s,mb5.1						
INK				*e*PP	PP	04 35 57.6	+1.2
KOLN	**Koldanda**	50.17	274	*e*P	P	04 34 04.4	-0.4
	comp=Z,6.6nm,0.4s,mb5.1						
KKAR	**Karatay Array**	52.34	298	*i* P	P	04 34 19.8	-1.1
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
DLBC	**Dease Lake**	54.21	40	P	P	04 34 34.2	-0.3
	comp=Z,2.2nm,0.8s,mb4.2,baz=296,slow=9.7,SNR=6.2						
DLBC	**Dease Lake**	54.21	40	*e*P	P	04 34 34.9	+0.3
KAKA	**Kakadu**	54.85	193	*e*P	P	04 34 38.6	-1.2
	comp=Z,9.0nm,0.7s,mb4.9						
AB31	**Akbulak array**	56.34	309	*i* P	P	04 34 48.9	-1.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
YKA	**Yellowknife Ar**	59.21	32	P	P	04 35 09.1	-0.9
	comp=Z,2.7nm,0.9s,mb4.3,baz=307,slow=7.0,SNR=4.2						
YKA	**Yellowknife Ar**	59.21	32	P	P	04 35 09.1	-1.0
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KEV	**Kevo**	59.86	339	*e*p	P	04 35 12.5	-2.0
ARCES	**ARCESS Array B**	60.41	339	P	P	04 35 16.8	-1.4
	comp=Z,1.7nm,0.5s,mb4.3,baz=41,slow=8.6,SNR=24						
ARCES	**ARCESS Array B**	60.41	339	P	P	04 35 16.8	-1.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTA	**Charters Tower**	61.30	177	P	P	04 35 22.6	-2.3
	comp=Z,1.7nm,0.7s,mb4.3,baz=337,slow=7.7,SNR=2.9						
CTA	**Charters Tower**	61.30	177	P	P	04 35 22.7	-2.2
CTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KTK1	**Kautokeino**	61.36	339	*e*P	P	04 35 23.5	-1.2
KTK1				AMb	AMB	04 35 30.9	
	comp=Z,39nm,1.7s,mb5.3						
KTK1				*e*pP	pP	04 35 36.9	+0.1
KTK1				*e*PP	PP	04 37 39.5	-2.7
KTK1	**Kautokeino**	61.36	339	*e*P	P	04 35 23.5	-1.2
	comp=Z,39nm,1.7s,mb5.3						
FITZ	**Fitzroy Crossi**	61.52	199	*e*P	P	04 35 25.8	-0.6
	comp=Z,5.0nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	61.52	199	P	P	04 35 25.6	-0.8
	comp=Z,3.2nm,0.9s,mb4.5,baz=6.6,slow=9.0,SNR=5.7						
WRAB	**Tennant Creek**	61.67	190	*e*P	P	04 35 24.9	-2.5
	comp=Z,39nm,1.2s,mb5.4						
WB2	**Warramunga Arr**	61.67	190	*e*P	P	04 35 25.6	-1.9
WRA	**Warramunga Arr**	61.68	190	P	P	04 35 25.8	-1.7
	comp=Z,9.7nm,0.9s,mb4.9,baz=7.0,slow=6.9,SNR=56						
WRA	**Warramunga Arr**	61.68	190	P	P	04 35 25.8	-1.7
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TRO	**Tromso**	62.03	341	*e*P	P	04 35 26.7	-2.5
LOF	**Lofoten**	64.46	341	*e*P	P	04 35 46.1	+1.0
LOF				*e*sP	sP	04 36 04.4	+2.5
MOS	**Moscow**	64.64	323	*e*P	P	04 35 50.4	+4.0
KAF	**Kangasniemi**	65.09	333	*e*p	P	04 35 44.6	-4.6
	comp=Z,2.0nm,0.4s,mb4.5						
KAF	**Kangasniemi**	65.09	333	*e*P	P	04 35 44.6	-4.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
PUL	**Pulkovo**	65.18	329	*e*P	P	04 35 57.9	+8.1
PUL				pmax	pmax		
	comp=Z,41nm,0.3s,mb5.9						
ASAR	**Alice Springs**	65.40	190	P	P	04 35 51.0	-0.8
	comp=Z,7.2nm,0.7s,mb4.8,baz=12,slow=6.2,SNR=63						
ASPA	**Alice Springs**	65.40	190	*e*P	P	04 35 51.2	-0.7
OBN	**Obninsk**	65.49	323	⇑*e*P	P	04 35 50.6	-1.3
OBN				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
DPW	**Davenport**	65.54	47	*e*P	P	04 35 52.3	-0.1
FINES	**FINESS Array B**	65.62	332	P	P	04 35 51.4	-1.3
	comp=Z,16nm,0.5s,mb5.3,baz=62,slow=7.2,SNR=166						
FINES	**FINESS Array B**	65.62	332	P	P	04 35 51.4	-1.3
FINES				pmax	pmax		
	comp=Z,17nm,0.5s						
MOR8	**Moi Rana**	65.75	340	*e*P	P	04 35 50.8	-2.6
MOR8				AMb	AMB	04 35 51.6	
	comp=Z,18nm,0.7s,mb5.2						
MOR8	**Moi Rana**	65.75	340	*e*P	P	04 35 50.8	-2.6
	comp=Z,18nm,0.7s,mb5.2						
NEW	**Newport**	65.90	46	*e*P	P	04 35 54.2	-0.5
	comp=Z,8.4nm,0.9s,mb4.8						
SUMG	**Summit**	66.25	1	*e*P	P	04 35 56.4	-0.1
	comp=Z,29nm,0.8s,mb5.4						
YBH	**Yreka Blue Hor**	66.45	55	*e*P	P	04 35 58.4	+0.1
	comp=Z,7.1nm,1.2s,mb4.6						
BEKR	**Beckwourth**	68.99	55	*e*P	P	04 36 14.4	+0.2
	comp=Z,6.2nm,0.9s,mb4.5						
FFC	**Flin Flon**	69.15	34	*e*P	P	04 36 14.6	-0.3
	comp=Z,11nm,0.8s,mb4.8						
HRY	**Holter Researc**	69.69	45	*e*P	P	04 36 18.8	+0.5
HLID	**Hailey**	70.25	49	*e*P	P	04 36 22.2	+0.4
	comp=Z,3.5nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	70.48	46	⇓*e*P	P	04 36 23.1	0.0
	comp=Z,9.3nm,0.7s,mb4.8						
NB2	**NORSAR Subarra**	70.69	338	P	P	04 36 22.9	-1.3
	comp=Z,14nm,0.9s,mb4.9,baz=36,slow=6.2						
NB2	**NORSAR Subarra**	70.69	338	P	P	04 36 22.9	-1.3
	baz=36,slow=6.2						
NOA	**NORSAR Array B**	70.69	338	P	P	04 36 23.3	-0.8
	comp=Z,6.7nm,0.8s,mb4.7,baz=36,slow=6.1,SNR=29						
NOA	**NORSAR Array B**	70.69	338	P	P	04 36 23.3	-0.9
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SOC	**Sochi**	71.11	312	*e*P	P	04 36 26.5	-0.5
SOC				*e*		04 36 48.8	
SOC				*e*		04 39 04.9	
SOC				*e*S	S	04 45 34.6	-4.5
SOC				*e*		04 46 20.0	
SOC				*e*SSS	SSS	04 53 25.8	+4.2
SOC				pmax	pmax		
	comp=N,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
SOC				MLR	MLR		
	comp=N,74nm,14.0s,MS4.2						
SOC				MLR	MLR		
	comp=Z,142nm,14.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,60nm,13.0s,MS4.2						
QLMT	**Earthquake Lak**	71.11	47	*e*P	P	04 36 27.0	0.0
NVAR	**Mina Array Bea**	71.13	55	P	P	04 36 28.1	+0.9
	comp=E,3.9nm,0.7s,mb4.4,baz=300,slow=5.0,SNR=30						
AKASG	**Malin Array Be**	71.74	322	P	P	04 36 29.8	-0.8
	comp=E,7.0nm,0.4s,mb4.9,baz=43,slow=5.8,SNR=61						
AKASG	**Malin Array Be**	71.74	322	P	P	04 36 29.8	-0.8
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TPH	**Tonopah**	72.02	55	*e*P	P	04 36 32.7	+0.3
	comp=Z,5.7nm,0.7s,mb4.6						
MOOW	**Moose Ponds**	72.18	47	⇓*e*P	P	04 36 34.3	+0.9
TPAW	**Teton Pass**	72.24	47	*e*P	P	04 36 34.7	+1.1
REDW	**Red Top Meadow**	72.37	47	*e*P	P	04 36 35.0	+0.5
LAO	**LASA Array**	72.63	43	*e*P	P	04 36 36.0	+0.2
	comp=Z,14nm,1.1s,mb4.8						
STKA	**Stephens Creek**	73.00	182	P	P	04 36 37.4	-1.0
	comp=Z,3.5nm,0.8s,mb4.3,baz=356,slow=5.9,SNR=2.8						
STKA				LR	LR	05 04 38.9	
	comp=Z,1μm,21.4s,MS5.1,baz=262,slow=32						
STKA	**Stephens Creek**	73.00	182	P	P	04 36 34.3	-4.1
HWUT	**Hardware Ranch**	73.12	49	*e*P	P	04 36 39.1	+0.2
	comp=Z,10nm,1.2s,mb4.6						
DUG	**Dugway**	73.31	51	*e*P	P	04 36 39.9	-0.2
	comp=Z,12nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	73.48	47	P	P	04 36 41.2	+0.2
	comp=Z,3.9nm,0.7s,mb4.5,baz=284,slow=2.2,SNR=43						
NLU	**North Lily Min**	73.90	51	*e*P	P	04 36 44.0	+0.5
MSU	**Marysvale**	74.78	52	*e*P	P	04 36 49.6	+1.0
ULM	**Lac du Bonnet**	74.96	35	P	P	04 36 48.8	-0.6
	comp=Z,3.3nm,0.7s,mb4.4,baz=306,slow=9.7,SNR=5.8						
NEN	**Nelson**	75.03	56	*e*P	P	04 36 51.0	+0.8
MALT	**Malatya**	75.26	308	*e*P	P	04 36 51.8	+0.4
	comp=Z,10nm,1.1s,mb4.7						
SRU	**San Rafael**	75.36	51	*e*P	P	04 36 51.9	-0.1
RSSD	**Black Hills**	75.51	43	*e*P	P	04 36 52.8	+0.1
	comp=Z,7.8nm,0.9s,mb4.6						
OJC	**Ojcow**	76.22	327	*e*P	P	04 36 56.7	+0.1
PV10	**Paradox Valley**	76.71	50	*e*P	P	04 37 00.8	+1.2
BSEG	**Bad Segeberg**	76.80	334	*e*P	P	04 36 59.9	+0.1
BSEG				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
BRTR	**Keskin Array B**	77.07	312	P	P	04 37 00.7	-0.9
	comp=Z,1.9nm,0.7s,mb4.1,baz=48,slow=4.3,SNR=6.4						
BRTR	**Keskin Array B**	77.07	312	P	P	04 37 00.7	-0.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PV01	**Paradox Valley**	77.15	50	*e*P	P	04 37 01.7	-0.4
OKC	**Ostrava-Krasne**	77.19	327	*e*P	P	04 37 03.2	+1.1
WUAZ	**Wupatki**	77.25	54	*e*P	P	04 37 03.7	+1.0
	comp=Z,5.7nm,0.9s,mb4.5						
DPC	**Dobruska-Polom**	77.52	328	*e*P	P	04 37 04.5	+0.6
RW3	**Ridgway**	77.58	50	*e*P	P	04 37 05.7	+1.2

VYHS	Vyhne	77.95	326	eP	P	04 37 07.0	+0.7
VYHS				ePP	PP	04 40 01.1	-3.4
CLL	Collm	78.01	331	P	P	04 37 06.1	-0.4
	comp=Z,logA/T=1.2,mb4.9						
CLL	Collm	78.01	331	iP	P	04 37 06.1	-0.4
CLL				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CLL	Collm	78.01	331	iP	P	04 37 06.1	-0.4
	comp=Z,12nm,0.8s,mb4.9						
BRG	Berggiesshubel	78.01	330	eP	P	04 37 06.7	+0.1
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRG	Berggiesshubel	78.01	330	eP	P	04 37 06.7	+0.1
	comp=Z,7.2nm,1.1s,mb4.5						
PVCC	Panska Ves	78.05	329	eP	P	04 37 07.3	+0.5
PRU	Pruhonice	78.50	329	eP	P	04 37 09.6	+0.3
CLZ	Clausthal	78.51	332	eP	P	04 37 09.5	+0.2
	comp=Z,14nm,0.8s,mb4.9						
MOX	Moxa	79.06	331	eP	P	04 37 12.0	-0.3
MOX				pP	pP	04 37 22.0	-2.7
MOX				L		05 29 53.0	
SDCO	Great Sand Dun	79.17	49	eP	P	04 37 14.0	+0.7
	comp=Z,7.4nm,1.4s,mb4.4						
KHC	Kasperske Hory	79.56	329	eP	P	04 37 15.0	-0.1
GEC2	GERESS Array S	79.75	329	eP	P	04 37 16.0	-0.1
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GEC2	GERESS Array S	79.75	329	eP	P	04 37 16.0	-0.1
	comp=Z,4.0nm,0.8s,mb4.4						
GERES	GERESS Array B	79.75	329	P	P	04 37 16.2	+0.1
	comp=Z,2.2nm,0.7s,mb4.2,baz=34,slow=4.8,SNR=21						
GERES	GERESS Array B	79.75	329	P	P	04 37 16.2	+0.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WET	Wettzell	79.82	330	eP	P	04 37 16.8	+0.3
WET				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WET	Wettzell	79.82	330	eP	P	04 37 16.8	+0.3
	comp=Z,7.0nm,1.0s,mb4.5						
GRA1	Grafenberg Arr	79.99	331	eP	P	04 37 18.2	+0.8
	comp=Z,15nm,0.8s,mb5.0						
GRF	Grafenberg Arr	79.99	331	eP	P	04 37 18.2	+0.8
GRF				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
MZLS	Mizel	80.27	293	P	P	04 37 19.7	+0.2
ARSA	Arzberg	80.30	327	⇓iP	P	04 37 19.7	+0.6
	comp=Z,3.7nm,0.7s,mb4.4						
LAZ	Ladron	80.55	52	eP	P	04 37 22.0	+1.3
ANMO	Albuquerque	80.57	51	c iP	P	04 37 22.5	+1.7
ANMO	Albuquerque	80.57	51	eP	P	04 37 21.8	+1.1
	comp=Z,2.5nm,0.8s,mb4.2						
SCHQ	Schefferville	80.65	17	P	P	04 37 20.9	+0.2
	comp=Z,6.2nm,0.8s,mb4.6,baz=340,slow=7.2,SNR=7.8						
SCHQ	Schefferville	80.65	17	P	P	04 37 20.9	+0.2
PERS	Pernice	80.96	327	eP	P	04 37 22.9	+0.3
OBKA	Obir	81.30	327	⇓iP	P	04 37 24.6	+0.3
	comp=Z,6.8nm,0.7s,mb4.7						
KBA	Koelnbreinsper	81.32	328	⇑iP	P	04 37 25.7	+1.2
	comp=Z,8.9nm,0.7s,mb4.8						
VISS	Visnje	81.74	326	iP	P	04 37 26.5	-0.2
WATA	Walderalm	81.80	329	⇑iP	P	04 37 27.6	+0.7
	comp=Z,7.6nm,1.1s,mb4.5						
BOJS	Bojanci	81.81	326	iP	P	04 37 27.0	0.0
WTTA	Wattenberg	81.84	329	⇑iP	P	04 37 28.1	+1.0
	comp=Z,11nm,0.9s,mb4.8						
AFFS	‘Afif	81.86	295	P	P	04 37 28.3	+0.6
MOTA	Moosalm	81.97	329	⇓iP	P	04 37 28.3	+0.5
	comp=Z,9.8nm,1.0s,mb4.7						
SQTA	Sankt Quirin	82.04	329	⇓iP	P	04 37 28.7	+0.5
	comp=Z,7.6nm,1.0s,mb4.6						
BFO	Black Forest	82.17	332	eP	P	04 37 28.9	0.0
BFO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BFO	Black Forest	82.17	332	eP	P	04 37 28.9	0.0
	comp=Z,7.0nm,1.0s,mb4.5						
CDF	Champ du Feu	82.48	332	eP	P	04 37 30.4	0.0
	comp=Z,10nm,0.8s,mb4.5						
DAVA	Damuels	82.48	330	⇑iP	P	04 37 30.7	+0.2
	comp=Z,17nm,1.4s,mb4.8						
BRMO	Bormio	82.97	329	eP	P	04 37 34.0	+1.0
KBRS	Khaybar	83.12	298	P	P	04 37 35.3	+1.1
HINF	Hinteralfeld	83.13	332	eP	P	04 37 33.3	-0.5
HAU	Haudompre	83.15	333	eP	P	04 37 33.7	-0.1
GDL2	Guadalupe Moun	83.74	52	eP	P	04 37 37.9	+0.7
BDAS	Al Bad‘	84.01	303	P	P	04 37 39.1	+0.5
AYUS	‘Aynunah	84.07	303	P	P	04 37 39.5	+0.6
VAI	Varese	84.09	330	eP	P	04 37 38.7	+0.1
CABF	La Chapelle	84.44	332	eP	P	04 37 40.4	+0.1
	comp=Z,9.2nm,0.9s,mb4.6						
TATS	Tathlith	84.44	291	P	P	04 37 42.2	+1.3
LOR	Lormes	84.63	334	eP	P	04 37 41.3	0.0
	comp=Z,18nm,0.8s,mb4.9						
GSCL	Gusciola	84.66	328	eP	P	04 37 42.8	+1.3
FLN	La Foliniere	84.67	337	eP	P	04 37 41.8	+0.4
	comp=Z,12nm,0.7s,mb4.8						
GRAM		84.75	328	P	P	04 37 42.4	+0.5
BOB	Bobbio (Coli)	84.76	329	eP	P	04 37 42.7	+0.7
TRAV		84.78	330	P	P	04 37 41.7	-0.3
UMJS	Umm Lajj	84.79	299	P	P	04 37 43.9	+1.3
VALM		84.80	328	P	P	04 37 42.5	+0.3
NRCA	Norcia	84.88	326	eP	P	04 37 43.5	+0.9
ASS	Assisi	84.88	326	eP	P	04 37 44.0	+1.4
CODM		84.92	329	P	P	04 37 42.7	-0.1
BACM		84.93	328	P	P	04 37 42.9	+0.1
SSF	Saint Saulge	84.93	334	eP	P	04 37 42.8	0.0
	comp=Z,7.5nm,0.7s,mb4.6						
VINC	Vinca	85.01	328	P	P	04 37 42.5	-0.7
LSD	Ceresole Reale	85.04	331	P	P	04 37 43.9	+0.6
MAIM		85.06	328	P	P	04 37 42.7	-0.8
WMOK	Wichita Mounta	85.09	47	eP	P	04 37 44.3	+0.4
	comp=Z,2.9nm,0.7s,mb4.5						
GRR	Gorron	85.12	337	eP	P	04 37 44.4	+0.7
	comp=Z,13nm,0.7s,mb4.9						
LPL	La Plagne	85.14	331	eP	P	04 37 44.7	+0.8
	comp=Z,27nm,1.0s,mb5.0						
LPG	La Plagne	85.15	331	eP	P	04 37 44.8	+0.9
	comp=Z,29nm,0.9s,mb5.1						
SMF	Signal de Mont	85.18	333	eP	P	04 37 44.2	+0.2
	comp=Z,28nm,1.0s,mb5.0						
AVF	Avril sur Loir	85.22	334	eP	P	04 37 44.5	+0.3
	comp=Z,20nm,0.8s,mb5.0						
GENL	Genova Univers	85.25	329	P	P	04 37 43.0	-1.4
RSP	Reno Superiore	85.26	331	P	P	04 37 45.4	+0.9
PTQR	Pietraquaria	85.42	325	eP	P	04 37 46.1	+0.8
FENE	Fenestrelle	85.44	331	P	P	04 37 45.2	-0.1
BLJS	Baljurashi	85.52	292	P	P	04 37 47.7	+1.4
BNI	Bardonecchia	85.56	331	eP	P	04 37 46.3	+0.4
	comp=Z,11nm,0.9s,mb5.1						
RRL	Cesana Torines	85.64	331	P	P	04 37 46.8	+0.5
FIN	Finale Ligure	85.71	329	P	P	04 37 45.9	-0.7
ROB	Roburent	85.76	330	P	P	04 37 46.1	-0.8
MBDF	Montbardon	85.81	331	eP	P	04 37 47.2	+0.1
	comp=Z,13nm,0.6s,mb5.0						
PZZ	Prazzo	85.87	330	P	P	04 37 45.9	-1.5
ORIF	Oris-en-Rattie	85.97	331	eP	P	04 37 48.6	+0.7
	comp=Z,20nm,0.7s,mb5.1						
MONE	Monesi	85.99	330	P	P	04 37 47.7	-0.3
ENR	Entracque	85.99	330	P	P	04 37 47.0	-1.0
STV2	Anna di Valdie	86.01	330	P	P	04 37 47.9	-0.3
STV	Sta Anna Valdi	86.01	330	P	P	04 37 46.4	-1.8
TCF	Toulx Ste Croi	86.04	334	eP	P	04 37 48.9	+0.7
	comp=Z,36nm,1.3s,mb5.2						
IMI	Imperia	86.08	330	P	P	04 37 48.2	-0.3
NEGI	Negi	86.21	330	P	P	04 37 48.7	-0.4
LTX	Lajitas	86.21	54	eP	P	04 37 50.1	+0.6
	comp=Z,6.0nm,0.8s,mb4.9						
TXAR	Lajitas Array	86.21	54	P	P	04 37 50.7	+1.2
	comp=Z,2.7nm,0.7s,mb4.6,baz=294,slow=3.7,SNR=45						
TXAR	Lajitas Array	86.21	54	P	P	04 37 50.7	+1.2
SBF	Sospel	86.30	330	eP	P	04 37 49.2	-0.3
	comp=Z,25nm,0.8s,mb5.2						
VIVF	Saint-Julien-l	86.45	332	eP	P	04 37 50.9	+0.6
	comp=Z,27nm,0.9s,mb5.2						
MFF	Saint Martin d	86.51	336	eP	P	04 37 51.2	+0.7
	comp=Z,23nm,0.8s,mb5.2						
PGF	Pioggiola	86.80	328	eP	P	04 37 52.4	+0.3
	comp=Z,4.1nm,0.8s,mb4.4						
FRF	La Foret Royal	86.85	330	eP	P	04 37 52.0	-0.3
	comp=Z,7.7nm,0.8s,mb4.7						
SMRF	Simiane la Rot	86.89	331	eP	P	04 37 53.1	+0.7
	comp=Z,55nm,1.7s,mb5.2						
LMR	La Mourre	87.10	330	eP	P	04 37 53.4	-0.1
	comp=Z,35nm,1.2s,mb5.2						
RJF	Les Rejaudoux	87.13	334	eP	P	04 37 54.4	+0.8
	comp=Z,14nm,0.8s,mb4.9						
CAF	Calviac	87.29	334	eP	P	04 37 55.6	+1.2
	comp=Z,36nm,0.9s,mb5.3						
LASF	Ste Croix	87.42	332	eP	P	04 37 55.8	+0.8
	comp=Z,16nm,1.0s,mb4.9						
LFF	La Frestale	87.71	334	eP	P	04 37 57.5	+1.1
	comp=Z,30nm,0.9s,mb5.2						
MTLF	Montolieu	88.63	333	eP	P	04 38 01.7	+0.9
	comp=Z,17nm,1.1s,mb5.0						
EPF	Esparros	89.54	334	eP	P	04 38 05.4	+0.3
ETSF	Etsaut	89.95	334	eP	P	04 38 08.2	+1.1
	comp=Z,12nm,0.7s,mb5.1						
SJPF	Ste Jean	89.98	335	eP	P	04 38 08.1	+0.9
SNAA	Sanae	145.44	198	⇓i	PKPdf	04 44 43.0	-0.4
VNA2	Neumayer--Watz	147.01	197	⇑i	PKPdf	04 44 50.7	+4.6
VNA1	Neumayer--Stat	147.41	197	⇑i	PKPdf	04 44 50.9	+4.1
BDFB	Brasilia	152.43	24	PKPbc	PKPdf	04 45 04.5	+8.3
	comp=Z,3.5nm,0.8s,baz=19,slow=7.5,SNR=4.8						
BDFB	Brasilia	152.43	24	PKIKP	PKPdf	04 45 04.5	+8.4
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.9s						

NEIC **17** *04:37:14.8±3.4, 17.83S×178.27W, h433^{km}±36^{km}, mb4.3/7, Error ellipse: s-maj=16.6km s-min=14.6km az=210.0*
IDC **17** *04:37:19.2±2.3, 17.85S×178.35W, h475^{km}±26^{km}, mb3.4/16, mb1 3.6/16, mb1mx3.6/19, Error ellipse: s-maj=20.1km s-min=10.2km az=151.0*
ISC 17 04:37:17.2±2.2, **17.9S**±0.1×**178.37W**±0.09, **h470**^{km}±24^{km}, **n41**, σ**0^{s}96**/32, **mb4.0**/23, **1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.66	190	P	P	04 41 22.2	-2.0
	32nm,1.1s,baz=3.2,slow=7.3,SNR=5.9						
RPZ	Rata Peaks	27.24	197	P	P	04 42 23.7	+0.1
	10.0nm,0.6s,mb4.4,baz=3.5,slow=19,SNR=4.1						
CTA	Charters Tower	33.49	261	P	P	04 43 17.4	-0.2
	1.7nm,0.7s,mb3.6,baz=88,slow=10,SNR=3.6						
TOO	Toolangi	37.20	231	eP	P	04 43 49.7	+1.3
	9.7nm,0.6s,mb4.4						
STKA	Stephens Creek	38.67	241	⇑iP	P	04 44 02.0	+1.5
	5.7nm,0.6s,mb4.2						
STKA	Stephens Creek	38.67	241	P	P	04 44 02.0	+1.6
	8.7nm,0.6s,mb4.3,baz=91,slow=9.9,SNR=26						
STKA	Stephens Creek	38.67	241	eP	P	04 44 01.9	+1.4
WB2	Warramunga Arr	44.66	260	eP	P	04 44 48.4	-0.2
WRAB	Tennant Creek	44.66	260	eP	P	04 44 46.0	-2.6
	4.2nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.67	260	P	P	04 44 48.4	-0.2
	1.9nm,0.7s,mb3.7,baz=98,slow=6.9,SNR=27						
WRA				S	S	04 50 51.1	+1.0
	0.6nm,1.0s,baz=97,slow=13,SNR=3.3						
ASAR	Alice Springs	44.83	254	P	P	04 44 50.4	+0.5
	20nm,0.9s,mb4.5,baz=90,slow=8.3,SNR=136						
ASAR				S	S	04 50 51.5	-0.7
	1.4nm,0.8s,baz=88,slow=17,SNR=8.8						
ASPA	Alice Springs	44.83	254	eP	P	04 44 50.3	+0.4
ASPA				eS	S	04 50 50.7	-1.6
KAKA	Kakadu	47.66	269	eP	P	04 45 12.0	+0.3
	2.9nm,0.6s,mb3.8						
FORT	Forrest	50.04	245	eP	P	04 45 29.1	-0.3
	42nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	53.07	261	P	P	04 45 52.2	+0.6
	1.8nm,0.6s,mb3.6,baz=187,slow=11,SNR=6.5						
KLBR	Kellerberrin	58.87	244	eP	P	04 46 31.4	-0.2
	19nm,1.0s,mb4.4						
VNDA	Vanda	60.45	185	P	P	04 46 42.1	+0.4
	1.6nm,0.7s,mb3.6,baz=1.1,slow=6.8,SNR=14						
JOW	Kunigami	68.25	309	P	P	04 47 28.9	-3.0
	48nm,0.5s,mb5.3,baz=121,slow=28,SNR=12						
QSPA	South Pole Qui	72.15	180	eP	P	04 47 54.8	+0.8
	9.1nm,0.8s,mb4.4						
YBH	Yreka Blue Hor	78.50	39	P	P	04 48 30.2	+0.2
	1.2nm,0.8s,mb3.4,baz=197,slow=2.3,SNR=5.9						
NVAR	Mina Array Bea	79.39	44	P	P	04 48 34.5	-0.3
	1.5nm,0.7s,mb3.6,baz=217,slow=6.7,SNR=16						
NVAR	Mina Array Bea	79.39	44	P	P	04 48 34.5	-0.3
MAW	Mawson	83.88	200	P	P	04 48 57.4	+0.5
	1.0nm,0.6s,mb3.5,baz=135,slow=1.4,SNR=4.3						
ILAR	Eielson Array	85.88	13	P	P	04 49 05.8	-0.9
	0.7nm,0.5s,mb3.6,baz=223,slow=5.7,SNR=13						
TXAR	Lajitas Array	85.96	58	P	P	04 49 08.6	+0.6
	0.7nm,0.8s,mb3.4,baz=218,slow=5.6,SNR=9.7						
PDAR	Pinedale Array	87.32	43	P	P	04 49 14.2	0.0
	0.4nm,0.6s,mb3.3,baz=270,slow=3.0,SNR=4.9						
CMAR	Chiang Mai Arr	88.92	290	P	P	04 49 23.0	+0.8
	0.9nm,0.6s,mb3.8,baz=115,slow=5.1,SNR=5.2						
SNAA	Sanae	90.60	179	eP	P	04 49 27.5	-1.3
	1.2nm,0.6s,mb4.0						
SONM	Songino Array	93.58	319	P	P	04 49 43.8	+0.9
	0.2nm,0.4s,mb3.5,baz=90,slow=2.5,SNR=4.1						
MKAR	Makanchi Array	109.16	314	PKiKP		04 54 53.3	
	0.4nm,0.8s,baz=117,slow=3.2,SNR=2.4						
ARCES	ARCESS Array B	126.32	350	PKP	PKPdf	04 55 25.4	+0.4
	3.7nm,1.0s,baz=27,slow=2.7,SNR=7.3						
ARCES	ARCESS Array B	126.32	350	PKP	PKPdf	04 55 25.4	+0.4
JMIC	Jan Mayen	126.58	4	PKP	PKPdf	04 55 27.4	+2.0
	25nm,0.4s,baz=281,slow=2.8,SNR=5.3						
BRTR	Keskin Array B	144.81	315	PKP	PKPdf	04 56 02.2	+2.6
	1.8nm,0.7s,baz=135,slow=3.5,SNR=6.2						
ASF	Jabal al Asfar	145.21	301	PKPbc	PKPbc	04 56 04.6	+3.1
	1.7nm,0.3s,baz=254,slow=3.0,SNR=3.0						
CLL	Collm	145.47	347	⇓iPKP1	PKPbc	04 56 03.0	+1.5
MORC	Moravsky Berou	145.72	342	ePKPdf	PKPdf	04 56 02.8	+1.8
MLR	Muntele Rosu	145.85	329	PKPbc	PKPbc	04 56 04.8	+2.2
	1.8nm,0.6s,baz=184,slow=14,SNR=3.6						
KHC	Kasperske Hory	147.39	345	ePKP	PKPdf	04 56 08.5	+4.9
GERES	GERESS Array B	147.62	345	PKPbc	PKPdf	04 56 09.5	+5.5
	1.8nm,0.6s,baz=27,slow=3.0,SNR=16						
DAVOX	Davos	150.41	348	PKPbc	PKPdf	04 56 16.5	+7.9
	4.1nm,0.4s,baz=213,slow=2.5,SNR=12						

GUC **17** *04:46:20.1±0.8, 28.26S×69.48W, h100^{km}, ML4.2*
NEIC **17** *04:46:20.1, 28.26S×69.48W, h100^{km}, mb3.9/1, After GUC.*
IDC **17** *04:46:21.0±6.8, 28.40S×69.30W, h100^{km}±53^{km}, mb3.0/2, mb1 3.4/4, mb1mx3.3/15, MS3.7/1, Ms1 3.7/1, ms1mx3.0/5, Error ellipse: s-maj=63.9km s-min=35.1km az=32.0*
ISC 17 04:46:19.3±0.6, **28.25S**±0.04×**69.4W**±0.1, **h98**^{km}±13^{km}, **n16**, σ**0^{s}80**/18, **mb3.1**/2, **2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	1.24	316	⇓iP	P	04 46 43.2	+0.5
CPCH				iS	S	04 46 59.8	-0.4
CPCH				AMP		04 47 01.1	
	comp=E,18μm,0.1s						
VACH	Vallenar	1.26	255	⇑iP	P	04 46 39.1	-3.8
VACH				iS	S	04 46 56.3	-4.3
VACH				AMP		04 46 57.4	
	comp=N,8μm,0.3s						
TLL	Tololo Astrono	2.28	213	⇑iP	P	04 46 57.2	+1.1
TLL				iS	S	04 47 24.4	+1.0
TLL				AMP		04 47 27.5	
	comp=N,583nm,0.4s						
LSCH	La Serena	2.32	224	⇓iP	P	04 46 56.7	0.0
LSCH				iS	S	04 47 23.8	-0.7
LSCH				AMP		04 47 54.2	
	comp=N,540nm,0.2s						
CMCH	Combarbala	3.24	205	⇓iP	P	04 47 09.0	-0.3
CMCH				AMP		04 47 48.0	
	comp=N,906nm,0.7s						
CPN1	Cerro Paranal	3.73	346	eP	P	04 47 16.4	+0.4
FCH	Farellones	5.12	189	eP	P	04 47 35.2	+0.2
FCH				eS	S	04 48 32.6	-0.7
LVC	Limon Verde	5.63	4	ePn	P	04 47 41.6	-0.3
	comp=N,14nm,0.3s						
LVC				eS	Sx	04 48 24.0	
CPUP	Villa Florida	10.89	83	P	P	04 48 52.8	-0.6
	comp=N,0.2nm,0.3s,baz=246,slow=11,SNR=3.1						
LPAZ	La Paz	11.96	6	P	P	04 49 11.4	+3.7
	comp=N,0.6nm,0.3s,baz=192,slow=5.6,SNR=8.3						
SAML	Samuel	20.07	18	eP	P	04 50 46.1	-1.0
	comp=N,5.4nm,0.8s						
BDFB	Brasilia	23.41	62	P	P	04 51 21.2	+1.0
	comp=N,2.1nm,0.9s,mb3.5,baz=252,slow=6.4,SNR=3.4						
USHA	Ushuaia	26.57	179	LR	LR	05 04 05.1	
	comp=N,161nm,19.4s,baz=139,slow=40						
TXAR	Lajitas Array	65.98	327	P	P	04 56 57.5	0.0
	comp=N,0.1nm,0.6s,mb2.8,baz=158,slow=6.7,SNR=4.0						
WRA	Warramunga Arr	126.88	208	PKP	PKPdf	05 05 13.4	+1.2
	comp=N,0.4nm,0.5s,baz=152,slow=1.8,SNR=8.4						
MKAR	Makanchi Array	151.12	42	PKPbc	PKPdf	05 06 02.5	+7.9
	comp=N,1.0nm,0.4s,baz=300,slow=1.5,SNR=12						

JMA **17** *04:46:24.0±0.1, 41.54N×143.48E, h42^{km}±2^{km}, M3.4*
IDC **17** *04:46:26.3±3.4, 41.43N×143.40E, h64^{km}±29^{km}, mb3.3/6, mb1 3.5/8, mb1mx3.4/24, ML3.8/2, Error ellipse: s-maj=31.4km s-min=24.1km az=94.0*
ISC 17 04:46:22.4±0.9, **41.47N**±0.05×**143.55E**±0.07, **h47**^{km}±9^{km}, **n18**, σ**0^{s}80**/27, **mb3.6**/6, **7C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	0.62	332	⇑P	P	04 46 35.0	-0.1
JEM				eS	S	04 46 43.1	-1.2
JNBK	Urakawa-nobuka	1.01	324	⇑P	P	04 46 41.1	+0.7
JNBK				eS	S	04 46 53.4	-0.3
JCH	Churui	1.15	353	⇑P	P	04 46 42.6	+0.2
JCH				eS	S	04 46 57.2	-0.1
JOB	Onbets	1.45	8	⇑P	P	04 46 47.1	+0.4
JBT2	Biratori 2	1.58	326	P	P	04 46 49.6	+1.1
JBT2				eS	S	04 47 08.4	+0.5
JAK	Akkeshi	1.75	29	⇑P	P	04 46 51.1	+0.2
JAK				eS	S	04 47 10.9	-1.1
JAR	Ashorobuto	1.83	5	⇑P	P	04 46 51.9	-0.2
JAR				eS	S	04 47 13.3	-0.9
JOT	Ohata	1.89	268	⇑P	P	04 46 53.1	+0.2
JOT				eS	S	04 47 15.3	-0.2
JANG	Nango	1.89	235	P	P	04 46 52.6	-0.4
JANG				eS	S	04 47 15.0	-0.7
JKB	Kayabe	1.93	283	P	P	04 46 53.7	+0.2
JKB				eS	S	04 47 16.8	+0.1
ASAJ	Asahikawa	2.74	345	P	P	04 47 07.5	+2.6
	6.5nm,0.3s,baz=186,slow=10,SNR=9.0						
JNU	Nakatsue	13.08	234	P	P	04 49 28.4	+0.7
	0.6nm,0.3s,baz=114,slow=18,SNR=2.7						
SONM	Songino Array	27.00	296	P	P	04 52 02.1	+0.4
	0.7nm,0.6s,mb3.4,baz=83,slow=8.6,SNR=5.4						
MKAR	Makanchi Array	43.31	299	P	P	04 54 20.7	-0.5
	0.3nm,0.6s,mb3.2,baz=79,slow=7.3,SNR=3.4						
BVAR	Borovoye Array	48.91	310	P	P	04 55 04.5	-0.8
	0.4nm,0.4s,mb3.8,baz=14,slow=5.9,SNR=3.4						
WRA	Warramunga Arr	61.69	190	P	P	04 56 36.9	-1.3
	0.3nm,0.5s,mb3.7,baz=7.3,slow=6.8,SNR=6.0						
FINES	FINESS Array B	65.67	332	P	P	04 57 03.0	-0.5
	0.6nm,0.5s,mb3.9,baz=56,slow=6.9,SNR=7.8						
PDAR	Pinedale Array	73.41	47	P	P	04 57 53.0	+1.9
	0.3nm,0.6s,mb3.4,baz=315,slow=2.1,SNR=4.4						

IDC **17** *04:47:49.3±1.9, 59.92N×25.55E, mb1 3.1/3, mb1mx2.9/18, ML2.6/3, Error ellipse: s-maj=19.0km s-min=7.9km az=136.0*
NAO **17** *04:47:50.6±3.3, 60.13N×25.28E, ML2.1*
BER **17** *04:47:51.7±2.5, 60.13N×25.43E, ML2.1(NAO)*
ISC 17 04:47:54.1±1.8, **60.6N**±0.1×**24.7E**±0.2, **h10**^{km}, **n7**, σ**0^{s}74**/13, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.11	37	Pn	Pn	04 48 16.4	+0.7
	baz=194,slow=14						
FIA0				Lg		04 48 33.8	
	baz=190,slow=28						
FINES	FINESS Array B	1.11	37	Pg	Pg	04 48 16.3	-0.1
	3.5nm,0.3s,baz=188,slow=18,SNR=103						
FINES				Pn	Pn	04 48 18.6	+2.9
	3.5nm,0.3s,baz=192,slow=13,SNR=103						
FINES				Lg		04 48 38.4	
	7.2nm,0.3s,baz=194,slow=27,SNR=36						
FINES				Rg		04 48 41.7	
	7.7nm,0.6s,baz=190,slow=35,SNR=12						
HFS	Hagfors	5.48	270	Pn	Pn	04 49 17.9	0.0
	baz=72,slow=14						
HFS				Sn	Sn	04 50 22.4	+0.6
	baz=79,slow=28						
HFS				Lg		04 50 52.4	
	baz=82,slow=37						
HFS	Hagfors	5.48	270	Pn	Pn	04 49 17.8	-0.1
	0.0nm,0.3s,baz=104,slow=12,SNR=3.0						
HFS				Pg	Pg	04 49 35.2	-8.4
	0.0nm,0.3s,baz=73,slow=16,SNR=2.6						
HFS				Sn	Sn	04 50 22.9	+1.1
	0.1nm,0.3s,baz=82,slow=28,SNR=7.0						
NOA	NORSAR Array B	6.62	280	Pn	Pn	04 49 33.6	-0.3
	0.1nm,0.3s,baz=337,slow=18,SNR=2.3						
NOA				Sn	Sn	04 50 49.8	-0.4
	0.2nm,0.3s,baz=179,slow=6.3,SNR=2.6						
ARA0	ARCESS Array S	9.02	2	Pn	P	04 50 06.5	-0.9
	baz=181,slow=14						
ARCES	ARCESS Array B	9.02	2	Pn	P	04 50 06.8	-0.7
	0.1nm,0.3s,baz=179,slow=12,SNR=6.1						
ARCES				Sn	Sn	04 51 50.6	+0.5
	0.1nm,0.3s,baz=180,slow=22,SNR=2.4						

MOS **17** *04:49:00.6±0.9, 26.31S×177.99W, h193^{km}, mb5.1/23, Error ellipse: s-maj=16.5km s-min=10.5km az=70.2*
IDC **17** *04:49:00.9±0.6, 26.33S×177.85W, h186^{km}±4^{km}, mb4.7/21, mb1 4.7/24, mb1mx4.7/26, Error ellipse: s-maj=12.1km s-min=9.0km az=164.0*
BJI **17** *04:49:01.5, 26.37S×177.18W, h223^{km}, mB5.2, mb5.2*
HRVD **17** *04:49:03.0±0.2, 26.45S×177.54W, h175^{km}±1^{km}, MW5.6/68, Centroid moment Tensor Solution. LP body waves: s59,c110;Mantle waves: s68,c154; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32±.04; $M_{\theta\theta}$-1.76±.05; $M_{\phi\phi}$3.09±.05; $M_{r\theta}$-1.67±.04; $M_{\theta\phi}$0.08±.05; $M_{\phi r}$-0.92±.04; Best double couple: $M_0$3.29×10^{17} NP1: ϕ_s144°, δ51°, λ-156°. NP2:ϕ_s38°, δ72°, λ-42°. Principal axes: T 3.31, Plg13°, Azm95°; N -.03, Plg45°, Azm199°; P -3.27, Plg42°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SYO **17** *04:49:03.0, 26.37S×177.93W, h210^{km}, MB5.0*
NEIC **17** *04:49:03.0±1.6, 26.37S×177.93W, h210^{km}±14^{km}, mb5.0/44, MW5.7, Error ellipse: s-maj=8.5km s-min=5.0km az=155.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.56; $M_{\theta\theta}$-2.55; $M_{\phi\phi}$4.11; $M_{r\theta}$-2.35; $M_{\theta\phi}$-0.85; $M_{\phi r}$-0.86; Best double couple: $M_0$4.4×10^{17} NP1:ϕ_s135°, δ59°, λ-155°. NP2:ϕ_s31°, δ69°, λ-34°. Principal axes: T 4.28, Plg6°, Azm85°; N .35, Plg50°, Azm183°; P -4.62, Plg39°, Azm350°;*
ISC 17 04:48:57.9±0.2, **26.83S**±0.03×**177.78W**±0.04, **h185**^{km}, **h185**^{km}±2.1^{km}**:pP-P**, **n477**, σ**1^{s}01**/238, **mb5.0**/79, **27C-41D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	11.70	196	S	S	04 53 47.3	-0.2
MWZ	Matawai	12.13	198	P	P	04 51 40.1	-5.5
MWZ				S	S	04 53 55.5	-2.1
URZ	Urewera	12.18	199	P	P	04 51 43.8	-2.4
	2.8nm,0.3s,baz=174,slow=16,SNR=10						
URZ				S	S	04 53 58.6	-0.1
	33nm,0.3s,baz=300,slow=20,SNR=11						
URZ	Urewera	12.18	199	P	P	04 51 41.9	-4.3
BFZ	Birch Farm	14.67	198	S	S	04 54 52.2	-3.4
MRZ	Mangatainoka R	14.85	200	P	P	04 52 14.2	-5.7
MRZ				S	S	04 54 54.6	-5.0
DZM	Mont Dzumac	15.12	285	eP	P	04 52 26.0	+2.6
DZM	Mont Dzumac	15.12	285	eP	P	04 52 26.0	+2.6
NOUC	Port Laguerre	15.24	285	eP	P	04 52 27.2	+2.4
BKM	Butte a Klehm	15.82	302	⇑iP	P	04 52 32.5	+0.6
NNZ	Nelson	16.10	205	S	S	04 55 27.4	-0.2
THZ	Tophouse	16.75	205	P	P	04 52 38.9	-4.2
KHZ	Kahutara	17.09	202	S	S	04 55 49.6	-0.1
RAR	Rarotonga	17.37	75	P	P	04 52 48.3	-2.0
	5.8nm,0.3s,baz=238,slow=9.1,SNR=22						
RAR				S	S	04 55 53.9	-1.8
	7.7nm,0.3s,baz=94,slow=14,SNR=3.7						
RAR	Rarotonga	17.37	75	eP	P	04 52 48.8	-1.5
RAR				eS	S	04 55 52.6	-3.1
RAR				pmax	pmax		
	comp=Z,110nm,0.9s						
RAR	Rarotonga	17.37	75	eP	P	04 52 48.6	-1.7
	comp=Z,114nm,0.9s						
RAR				eS	S	04 55 52.6	-3.2
RPZ	Rata Peaks	19.12	205	P	P	04 53 17.1	+8.4
	comp=Z,1.7nm,0.3s,baz=21,slow=8.9,SNR=3.6						
RPZ				S	S	04 56 31.0	+0.2
	comp=Z,2.9nm,0.3s,baz=321,slow=12,SNR=9.4						
RPZ	Rata Peaks	19.12	205	P	P	04 53 17.1	+8.4
RPZ				S	S	04 56 31.0	+0.2

TBI	**Tubuai**	**25.86**	**89**	*e*S	**S**	**04 58 32.2**	**+4.1**
PPT	**Papeete**	**27.64**	**76**	*e*S	**S**	**04 59 03.2**	**+6.2**
PPT				*e*R		05 01 59.5	
	comp=Z,1µm,22.8s						
TOO	**Toolangi**	**32.69**	**242**	*e*P	**P**	**04 55 14.8**	**+0.1**
	comp=Z,4.1nm,1.1s,mb4.1						
CTA	**Charters Tower**	**33.59**	**274**	*e*P	**P**	**04 55 23.8**	**+1.3**
	comp=Z,14nm,0.4s,mb5.0						
CTA				*i* pP	pP	04 56 10.3	+8.8
CTA				*i* PP	PP	04 56 39.2	-2.8
CTA				*i* PCP	PcP	04 58 00.3	+1.6
CTA				*i* SCP		05 01 31.0	
CTA	**Charters Tower**	**33.59**	**274**	P	**P**	**04 55 23.8**	**+1.3**
	comp=Z,14nm,0.4s,mb5.0,baz=103,slow=11,SNR=38						
CTA				ScP		05 01 30.8	
	comp=Z,4.8nm,0.7s,baz=89,slow=4.1,SNR=4.6						
CTAO	**Charters Tower**	**33.59**	**274**	*e*P	**P**	**04 55 22.7**	**+0.2**
CTAO				*e*		04 56 38.6	
CTAO				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.0						
CTAO	**Charters Tower**	**33.59**	**274**	*e*P	**P**	**04 55 22.7**	**+0.2**
	comp=Z,15nm,0.4s,mb5.1						
CTAO				*e*		04 56 09.9	
CTAO				*e*PP	PP	04 56 38.6	-3.3
STKA	**Stephens Creek**	**35.62**	**252**	*e*P	**P**	**04 55 40.7**	**+1.1**
	comp=Z,2.4nm,0.4s,mb4.2						
STKA				*i* pP	pP	04 56 23.3	+4.4
STKA				*i* PCP	PcP	04 58 06.8	+2.4
STKA				*i* sS		05 02 17.7	
STKA				*i* SCS	ScS	05 05 43.5	+8.1
STKA	**Stephens Creek**	**35.62**	**252**	P	**P**	**04 55 42.2**	**+2.6**
	comp=Z,4.9nm,0.7s,mb4.2,baz=92,slow=9.8,SNR=9.7						
STKA				PcP	PcP	04 58 06.2	+1.8
	comp=Z,31nm,1.0s,baz=21,slow=1.8,SNR=8.3						
PMG	**Port Moresby**	**37.38**	**291**	P	**P**	**04 55 54.3**	**-0.3**
	comp=Z,40nm,0.6s,mb5.2,baz=104,slow=4.7,SNR=25						
PMG				pP	pP	04 56 33.7	-0.4
	comp=Z,19nm,0.9s,baz=47,slow=8.1,SNR=1.5						
PMG	**Port Moresby**	**37.38**	**291**	*e*P	**P**	**04 55 54.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,42nm,0.7s						
PMG	**Port Moresby**	**37.38**	**291**	*e*P	**P**	**04 55 54.2**	**-0.4**
	comp=Z,42nm,0.6s,mb5.2						
ASAR	**Alice Springs**	**43.61**	**263**	P	**P**	**04 56 46.0**	**+0.4**
	comp=Z,9.8nm,0.5s,mb4.7,baz=112,slow=8.1,SNR=98						
ASAR				pP	pP	04 57 26.6	+0.7
	comp=Z,64nm,1.2s,baz=102,slow=7.6,SNR=4.1						
ASAR				PcP	PcP	04 58 31.1	+1.0
	comp=Z,8.5nm,0.5s,baz=109,slow=3.8,SNR=6.8						
ASAR				ScP		05 02 07.8	
	comp=Z,3.5nm,0.8s,baz=116,slow=4.1,SNR=5.0						
ASAR				S	**S**	**05 03 03.4**	**+3.1**
	comp=Z,1.5nm,0.8s,baz=105,slow=14,SNR=5.0						
ASPA	**Alice Springs**	**43.61**	**263**	⇓*i*P	**P**	**04 56 46.2**	**+0.6**
ASPA				*i* pP	pP	04 57 29.5	+3.5
ASPA				*i* PCP	PcP	04 58 30.8	+0.7
ASPA				*i* S	**S**	**05 03 02.0**	**+1.7**
ASPA				*i* SCS	ScS	05 06 27.5	+5.0
WB2	**Warramunga Arr**	**44.26**	**268**	⇓*i*P	**P**	**04 56 50.7**	**-0.1**
WB2				*e*pP	pP	04 57 33.3	+2.0
WB2				*e*PCP	PcP	04 58 33.0	+0.6
WB2				*i* SCP		05 02 13.0	
WB2				*i* PCS		05 02 24.9	
WB2				*i* S	**S**	**05 03 10.1**	**+0.4**
WB2				*i* SCS	ScS	05 06 29.7	+3.0
WRAB	**Tennant Creek**	**44.27**	**268**	*e*P	**P**	**04 56 50.8**	**0.0**
	comp=Z,16nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**44.27**	**268**	P	**P**	**04 56 50.7**	**-0.2**
	comp=Z,8.7nm,0.6s,mb4.6,baz=106,slow=7.8,SNR=104						
WRA				pP	pP	04 57 32.4	+1.0
	comp=Z,19nm,1.0s,baz=104,slow=8.1,SNR=4.9						
WRA				PcP	PcP	04 58 33.8	+1.4
	comp=Z,21nm,0.8s,baz=103,slow=3.7,SNR=11						
WRA				ScP		05 02 11.1	
	comp=Z,1.6nm,0.7s,baz=102,slow=4.0,SNR=5.1						
WRA				S	**S**	**05 03 09.2**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=110,slow=13,SNR=3.9						
FORT	**Forrest**	**47.24**	**252**	*e*P	**P**	**04 57 14.5**	**+0.4**
	comp=Z,152nm,0.7s,mb5.7						
KAKA	**Kakadu**	**48.65**	**277**	⇑*i*P	**P**	**04 57 24.0**	**-1.2**
	comp=Z,27nm,0.3s,mb5.3						
KAKA				*i* PCP	PcP	04 58 48.1	+0.1
KAKA				*i* SCP		05 02 29.5	
KAKA				*e*sS		05 04 07.8	
VNDA	**Vanda**	**51.65**	**186**	P	**P**	**04 57 52.3**	**+5.2**
	comp=Z,3.6nm,0.6s,mb4.2,baz=4.1,slow=8.7,SNR=30						
FITZ	**Fitzroy Crossi**	**52.65**	**267**	⇓*i*P	**P**	**04 57 56.1**	**+0.9**
	comp=Z,11nm,0.6s,mb4.8						
FITZ				*i* pP	pP	04 58 39.4	+2.4
FITZ	**Fitzroy Crossi**	**52.65**	**267**	P	**P**	**04 57 55.4**	**+0.2**
	comp=Z,15nm,0.6s,mb4.9,baz=163,slow=6.9,SNR=41						
FITZ				pP	pP	04 58 38.1	+1.0
	comp=Z,14nm,0.8s,baz=163,slow=7.4,SNR=2.7						
FITZ				PcP	PcP	04 59 04.0	+1.4
	comp=Z,7.0nm,0.6s,baz=170,slow=4.5,SNR=3.5						
GUMO	**Guam**	**54.14**	**313**	*e*P	**P**	**04 58 03.3**	**-2.9**
GUMO				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.7						
GUMO	**Guam**	**54.14**	**313**	*e*P	**P**	**04 58 03.3**	**-2.8**
	comp=Z,144nm,0.8s,mb5.8						
KLBR	**Kellerberrin**	**55.76**	**249**	*e*P	**P**	**04 58 17.4**	**-0.2**
	comp=Z,32nm,1.3s,mb5.0						
MUN	**Mundaring**	**56.95**	**248**	*e*P	**P**	**04 58 26.8**	**+0.7**
	comp=Z,14nm,1.2s,mb4.7						
QSPA	**South Pole Qui**	**63.27**	**180**	*e*P	**P**	**04 59 13.3**	**+4.9**
	comp=Z,23nm,0.9s,mb5.0						
QSPA				*e*	pP	04 59 55.3	+3.5
BUNI	**Buntu Taipa**	**63.35**	**280**	⇓*i*P	**P**	**04 59 09.7**	**-0.1**
NINI	**Niniconang**	**63.50**	**279**	⇓*i*P	**P**	**04 59 10.5**	**-0.2**
KEDI	**Kedomdong**	**64.92**	**273**	⇓*i*P	**P**	**04 59 19.2**	**-0.8**
RATI	**Rata**	**65.34**	**273**	⇑*i*P	**P**	**04 59 19.8**	**-2.9**
INGI	**Ingas**	**65.65**	**272**	⇓*i*P	**P**	**04 59 23.6**	**-1.1**
CBIJ	**Chichi jima**	**66.01**	**321**	P	**P**	**04 59 24.3**	**-2.5**
	comp=Z,97nm,0.6s,mb5.8,baz=291,slow=14,SNR=5.9						
KELI	**Kelakatan**	**66.49**	**273**	⇓*i*P	**P**	**04 59 28.9**	**-1.1**
JHJ	**Hachijo jima 2**	**71.98**	**323**	P	**P**	**05 00 01.2**	**-1.9**
	comp=Z,68nm,0.6s,mb5.5,baz=145,slow=7.7,SNR=2.6						
JOW	**Kunigami**	**74.43**	**311**	P	**P**	**05 00 15.8**	**-1.8**
	comp=Z,32nm,0.5s,mb5.3,baz=115,slow=28,SNR=5.5						
MAJO	**Matsushiro**	**75.44**	**325**	⇓*i*P	**P**	**05 00 21.0**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**75.44**	**325**	⇓*i*P	**P**	**05 00 21.0**	**-2.1**
	comp=Z,20nm,0.8s,mb4.8						
MAT	**Matsushiro**	**75.44**	**325**	P	**P**	**05 00 21.1**	**-2.0**
MAT				S	S	05 09 43.0	-3.3
MAT	**Matsushiro**	**75.44**	**325**	*e*P	**P**	**05 00 21.0**	**-2.1**
	comp=Z,21nm,1.0s,mb4.7						
MAT				*e*S	S	05 09 44.0	-2.3
MAW	**Mawson**	**75.71**	**200**	*e*P	**P**	**05 00 27.5**	**+3.5**
	comp=Z,16nm,0.6s,mb4.8						
MAW				*i* pP	pP	05 01 11.2	+2.4
MAW	**Mawson**	**75.71**	**200**	P	**P**	**05 00 28.5**	**+4.5**
	comp=Z,18nm,0.6s,mb4.9,baz=132,slow=7.5,SNR=85						
MAW	**Mawson**	**75.71**	**200**	*e*P	**P**	**05 00 27.4**	**+3.4**
MAW				pmax	pmax		
	comp=Z,19nm,0.6s						
JNU	**Nakatsue**	**77.04**	**318**	P	**P**	**05 00 30.8**	**-1.3**
	comp=Z,18nm,0.5s,mb5.0,baz=60,slow=6.6,SNR=18						
ASAJ	**Asahikawa**	**79.38**	**332**	P	**P**	**05 00 45.1**	**+0.5**
	comp=Z,73nm,1.0s,mb5.3,baz=235,slow=7.8,SNR=23						
FX1	**Attu Island--F**	**79.77**	**354**	*e*P	**P**	**05 00 43.8**	**-2.6**
NIKO	**Nikolski**	**79.84**	**5**	*e*P	**P**	**05 00 44.8**	**-2.0**
SYO	**Syowa Base**	**80.62**	**193**	⇓P	**P**	**05 00 53.6**	**+2.9**
SYO	**Syowa Base**	**80.62**	**193**	⇑PcP	PcP	05 01 02.8	+5.5
SYO	**Syowa Base**	**80.62**	**193**	⇑pP	pP	05 01 35.7	-0.4
SYO	**Syowa Base**	**80.62**	**193**	⇓P	Px	05 02 06.5	
UNV	**Unalaska Valle**	**80.93**	**7**	*e*P	**P**	**05 00 50.2**	**-2.4**
	comp=Z,176nm,0.6s,mb5.9						
KGM	**Kluang**	**81.01**	**277**	*e*P	**P**	**05 00 54.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**81.63**	**334**	⇑*i*P	**P**	**05 00 55.3**	**-1.1**
YSS				*e*		05 10 51.0	
YSS				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.5						
YSS				pmax	pmax		
	comp=Z,500nm,4.0s						
YSS	**Yuzh-Sakhalins**	**81.63**	**334**	*i* Pr		05 00 56.7	
SNAA	**Sanae**	**81.70**	**178**	⇓*i*P	**P**	**05 00 59.0**	**+2.7**
SNAA	**Sanae**	**81.70**	**178**	⇓*i*P	**P**	**05 00 59.0**	**+2.7**
SNAA	**Sanae**	**81.70**	**178**	⇓*i*P	sP	05 01 39.3	-22
SNAA	**Sanae**	**81.70**	**178**	⇓*i*P	sP	05 01 39.3	-22
SNAA	**Sanae**	**81.70**	**178**	*e*	Px	05 01 44.1	
SNAA	**Sanae**	**81.70**	**178**	P	**P**	**05 00 60.0**	**+3.7**
	comp=Z,6.0nm,0.8s,mb4.3,baz=208,slow=4.4,SNR=36						
SNAA	**Sanae**	**81.70**	**178**	*e*P	**P**	**05 00 59.3**	**+3.0**
SNAA				pmax	pmax		
	comp=Z,33nm,1.1s						
KS15	**Wonju Array Si**	**81.78**	**319**	*e*P	**P**	**05 00 56.4**	**-1.0**
SSE	**Sheshan**	**81.92**	**311**	P	**P**	**05 01 00.5**	**+2.3**
SSE				S	S	05 10 58.1	+3.4
SSE				SS	SS	05 16 19.3	-1.6
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1						
SSE				LR	LR		
	comp=N,361nm,20.0s						
SSE				LR	LR		
	comp=E,144nm,20.0s						
SSE				LR	LR		
	comp=Z,198nm,20.0s						
SSE	**Sheshan**	**81.92**	**311**	P	**P**	**05 01 00.5**	**+2.3**
	comp=Z,37nm,0.7s,mb5.1						
SSE				S	S	05 10 58.1	+3.4
SSE				sS		05 12 11.0	
SSE				SS	SS	05 16 19.2	-1.7
SSE				LR	LR		
	comp=Z,200nm,20.0s						
PET	**Petropavlovsk**	**82.13**	**346**	*d* *i*P	**P**	**05 00 57.2**	**-1.6**
PET				*e*S	S	05 10 56.2	-0.1
PET				*e**SS		05 12 11.4	
PET				pmax	pmax		
	comp=Z,500nm,3.0s						
PET				pmax	pmax		
	comp=Z,400nm,19.1s						
PET				pmax	pmax		
	comp=Z,200nm,15.1s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
VNA2	**Neumayer--Watz**	**82.28**	**177**	⇓*i*P	**P**	**05 01 04.3**	**+5.0**
VNA2	**Neumayer--Watz**	**82.28**	**177**	⇓*i*P	**P**	**05 01 04.3**	**+5.0**
VNA2	**Neumayer--Watz**	**82.28**	**177**	⇓*i*P	pP	05 01 46.8	+2.0
VNA2	**Neumayer--Watz**	**82.28**	**177**	⇓*i*P	pP	05 01 46.8	+2.0
VNA2	**Neumayer--Watz**	**82.28**	**177**	*e*	Px	05 01 51.7	
VNA1	**Neumayer--Stat**	**82.51**	**176**	⇓*i*P	**P**	**05 01 05.7**	**+5.3**
VNA1	**Neumayer--Stat**	**82.51**	**176**	⇓*i*P	**P**	**05 01 05.7**	**+5.3**
VNA1	**Neumayer--Stat**	**82.51**	**176**	⇑*i*P	pP	05 01 49.0	+3.0
VNA1	**Neumayer--Stat**	**82.51**	**176**	⇑*i*P	pP	05 01 49.0	+3.0
VNA1	**Neumayer--Stat**	**82.51**	**176**	*e*	Px	05 01 53.3	
INCN	**Inchon**	**82.55**	**319**	*e*P	**P**	**05 01 01.0**	**-0.3**
	comp=Z,40nm,0.6s,mb5.3						
SDPT	**Sand Point**	**83.18**	**10**	*e*P	**P**	**05 01 02.9**	**-1.3**
QIZ	**Qiongzhong**	**83.66**	**295**	P	**P**	**05 01 07.8**	**+0.4**
QIZ				S	S	05 11 12.8	+0.3
QIZ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,194nm,4.0s						
CMB	**Columbia Colle**	**83.99**	**42**	*e*P	**P**	**05 01 08.2**	**-0.4**
CMB				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
CMB	**Columbia Colle**	**83.99**	**42**	*e*P	**P**	**05 01 08.2**	**-0.4**
	comp=Z,22nm,0.9s,mb4.9						
NJ2	**Nanjing**	**84.08**	**310**	*e*P	**P**	**05 01 09.8**	**+0.6**
NJ2				PP	PP	05 04 27.0	-0.3
NJ2				PPP	PPP	05 06 22.9	-0.6
NJ2				SKS	SKS	05 11 11.0	0.0
NJ2				S	S	05 11 15.0	-1.4
NJ2				LR	LR		
	comp=N,810nm,26.3s						
NJ2				LR	LR		
	comp=E,550nm,22.1s						
NJ2				LR	LR		
	comp=Z,560nm,24.6s						
OHCM	**Honcut**	**84.20**	**40**	*e*P	**P**	**05 01 09.5**	**-0.1**
IPM	**Ipoh**	**84.22**	**278**	⇓*e*P	**P**	**05 01 10.4**	**+0.1**
KRMB	**Red Mountain**	**84.31**	**38**	*e*P	**P**	**05 01 10.5**	**+0.4**
WDC	**Whiskeytown Da**	**84.42**	**39**	P	**P**	**05 01 10.9**	**+0.2**
WDC				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
WDC	**Whiskeytown Da**	**84.42**	**39**	*e*P	**P**	**05 01 10.2**	**-0.5**
	comp=Z,40nm,1.1s,mb5.1						
OMM	**Old Mammoth Mi**	**84.56**	**43**	*e*P	**P**	**05 01 11.4**	**0.0**
DAC	**Darwin (Calif)**	**84.58**	**45**	P	**P**	**05 01 12.3**	**+0.7**
DAC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
DAC	**Darwin (Calif)**	**84.58**	**45**	*e*P	**P**	**05 01 11.2**	**-0.4**
	comp=Z,7.8nm,1.0s,mb4.4						
KBO	**Bosley Butte**	**84.61**	**37**	*e*P	**P**	**05 01 12.3**	**+0.7**
MTUM	**Tungsten Hills**	**84.65**	**43**	*e*P	**P**	**05 01 12.3**	**+0.4**
KEBM	**Edson Butte**	**85.01**	**36**	*e*P	**P**	**05 01 14.3**	**+0.7**
YBH	**Yreka Blue Hor**	**85.11**	**38**	P	**P**	**05 01 15.0**	**+0.9**
	comp=Z,19nm,0.8s,mb4.9,baz=197,slow=1.5,SNR=63						
YBH	**Yreka Blue Hor**	**85.11**	**38**	P	**P**	**05 01 14.5**	**+0.4**
YBH				pmax	pmax		
	comp=Z,17nm,0.8s						
WCN	**Washoe City**	**85.18**	**41**	P	**P**	**05 01 15.5**	**+1.0**
WCN				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
WCN	**Washoe City**	**85.18**	**41**	*e*P	**P**	**05 01 14.8**	**+0.2**
	comp=Z,27nm,0.8s,mb5.0						
BEKR	**Beckwourth**	**85.20**	**41**	*e*P	**P**	**05 01 14.0**	**-0.6**
	comp=Z,21nm,1.1s,mb4.8						
LDFC	**Landfair**	**85.43**	**47**	*e*P	**P**	**05 01 16.6**	**+0.7**
NVAR	**Mina Array Bea**	**85.49**	**43**	P	**P**	**05 01 16.4**	**+0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=211,slow=5.6,SNR=75						
NVAR				pP	pP	05 02 03.0	+1.1
	comp=Z,3.0nm,0.7s,baz=211,slow=6.2,SNR=2.4						
HUMO	**Hull Mountain**	**85.57**	**37**	*e*P	**P**	**05 01 16.8**	**+0.4**
	comp=Z,24nm,1.1s,mb4.8						
MNV	**Mina**	**85.59**	**43**	P	**P**	**05 01 16.4**	**-0.1**
MNV				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**85.81**	**325**	P	**P**	**05 01 17.8**	**+0.3**
MDJ				PP	PP	05 04 39.5	-1.2
MDJ				SS	SS	05 17 18.5	+0.8
MDJ				AMB	AMB		
	comp=Z,49nm,0.9s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,339nm,6.4s						
MDJ				LR	LR		
	comp=N,238nm,27.2s						
MDJ				LR	LR		
	comp=E,227nm,28.7s						
MDJ				LR	LR		
	comp=Z,174nm,21.1s						
TPH	**Tonopah**	**85.93**	**44**	P	**P**	**05 01 18.2**	**0.0**
TPH				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
TPH	**Tonopah**	**85.93**	**44**	*e*P	**P**	**05 01 17.8**	**-0.4**
	comp=Z,19nm,0.7s,mb4.9						
NEN	**Nelson**	**85.95**	**47**	*e*P	**P**	**05 01 19.0**	**+0.7**
HSO	**Harness Mounta**	**86.12**	**37**	P	**P**	**05 01 20.2**	**+1.2**
HSO	**Harness Mounta**	**86.12**	**37**	*e*P	**P**	**05 01 19.3**	**+0.3**
WHN	**Wuhan**	**86.37**	**307**	⇑P	**P**	**05 01 20.8**	**+0.3**
DL2	**Dalian**	**86.47**	**317**	P	**P**	**05 01 21.4**	**+0.6**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
MOD	**Modoc**	**86.56**	**39**	P	**P**	**05 01 21.7**	**+0.5**
COR	**Corvallis**	**86.74**	**36**	⇓*i*P	**P**	**05 01 22.6**	**+0.7**
COR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
COR	**Corvallis**	**86.74**	**36**	⇓*i*P	**P**	**05 01 22.6**	**+0.7**
	comp=Z,12nm,0.9s,mb4.7						
TUC	**Tucson**	**86.74**	**51**	*e*P	**P**	**05 01 23.4**	**+1.1**
TUC				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.9						
TUC	**Tucson**	**86.74**	**51**	*e*P	**P**	**05 01 23.4**	**+1.1**
	comp=Z,21nm,1.0s,mb4.9						
SNY	**Shenyang**	**87.18**	**320**	PR		05 01 22.3	
SNY				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
SNY				AMB	AMB		
	comp=Z,330nm,7.8s						
SNY				LR	LR		
	comp=N,260nm,19.6s						
SNY				LR	LR		
	comp=E,260nm,16.7s						
SNY				LR	LR		
	comp=Z,210nm,40.2s						
KMOR	**Kings Mountain**	**87.36**	**35**	P	**P**	**05 01 25.7**	**+0.8**
SSOR	**Sweet Springs**	**87.36**	**36**	P	**P**	**05 01 25.8**	**+0.9**
SSOR	**Sweet Springs**	**87.36**	**36**	*e*P	**P**	**05 01 25.3**	**+0.4**
BMN	**Battle Mountai**	**87.41**	**42**	P	**P**	**05 01 25.9**	**+0.7**
BMN	**Battle Mountai**	**87.41**	**42**	*e*P	**P**	**05 01 24.8**	**-0.5**
	comp=Z,29nm,1.1s,mb5.0						
CN2	**Changchun**	**87.43**	**323**	*e*P	**P**	**05 01 24.5**	**-0.7**
CN2				*e*S	S	05 11 51.1	+3.0
CN2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
TIA	**Tai'an**	**87.69**	**313**	P	**P**	**05 01 26.8**	**+0.1**
TIA				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.2						
WVOR	**Wild Horse Val**	**87.85**	**39**	P	**P**	**05 01 27.8**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
WVOR	**Wild Horse Val**	**87.85**	**39**	*e*P	**P**	**05 01 27.2**	**-0.1**
	comp=Z,11nm,0.7s,mb4.8						
KLR	**Kul'dur**	**88.06**	**330**	*e*P	**P**	**05 01 28.0**	**-0.1**
KLR				*e*S	S	05 11 55.0	+1.1
KLR				*e*PS	PS	05 13 15.0	-10
KLR				pmax	pmax		
	comp=N,50nm,1.8s						
KLR				pmax	pmax		
	comp=Z,92nm,1.8s,mb5.3						
BMW	**Boistfort Moun**	**88.07**	**34**	P	**P**	**05 01 29.5**	**+1.3**
BMW	**Boistfort Moun**	**88.07**	**34**	*e*P	**P**	**05 01 28.0**	**-0.2**
KKTK	**Khon Kaen**	**88.15**	**289**	P	**P**	**05 01 29.0**	**-0.2**
	comp=Z,370nm,0.6s						
WUAZ	**Wupatki**	**88.16**	**48**	*e*P	**P**	**05 01 29.9**	**+1.0**
	comp=Z,16nm,1.1s,mb4.8						
SHW	**Mount Saint He**	**88.38**	**35**	P	**P**	**05 01 31.1**	**+1.4**
SHW	**Mount Saint He**	**88.38**	**35**	*e*P	**P**	**05 01 30.5**	**+0.8**
OCWA	**Octopus Mounta**	**88.48**	**33**	P	**P**	**05 01 31.6**	**+1.5**
LON	**Longmire**	**88.97**	**35**	P	**P**	**05 01 32.4**	**-0.1**
LON	**Longmire**	**88.97**	**35**	*e*P	**P**	**05 01 32.1**	**-0.3**
GNW	**Green Mountain**	**89.02**	**34**	*e*P	**P**	**05 01 32.7**	**0.0**
GSM	**Grass Mountain**	**89.29**	**34**	P	**P**	**05 01 34.8**	**+0.9**
MSU	**Marysvale**	**89.36**	**46**	P	**P**	**05 01 36.2**	**+1.7**
MSU	**Marysvale**	**89.36**	**46**	*e*P	**P**	**05 01 35.5**	**+1.0**
PGC	**Sidney**	**89.45**	**33**	*e*P	**P**	**05 01 33.6**	**-1.1**
	comp=Z,61nm,0.8s,mb5.6						
RMW	**Rattlesnake Mo**	**89.45**	**34**	P	**P**	**05 01 35.2**	**+0.5**
RMW	**Rattlesnake Mo**	**89.45**	**34**	*e*P	**P**	**05 01 34.9**	**+0.2**
SVW	**Sparrevohn**	**89.46**	**11**	*e*P	**P**	**05 01 33.5**	**-0.9**
HTW	**Haystack Looko**	**89.70**	**34**	P	**P**	**05 01 36.3**	**+0.4**
SLKM	**Skilak Lake**	**89.89**	**13**	*e*P	**P**	**05 01 35.5**	**-0.9**
MA2	**Magadan**	**89.91**	**345**	*d* *i*P	**P**	**05 01 35.6**	**-1.0**
MA2				*e**PP	pP	05 02 19.8	-3.0
MA2				pmax	pmax		
	comp=Z,100nm,2.9s,mb5.2						
MA2	**Magadan**	**89.91**	**345**	*e*P	**P**	**05 01 35.2**	**-1.4**
	comp=Z,16nm,0.8s,mb5.0						
HAWA	**Hanford**	**89.92**	**36**	*e*P	**P**	**05 01 37.1**	**+0.2**
	comp=Z,39nm,1.0s,mb5.3						
GYA	**Guiyang**	**89.95**	**300**	⇓*i*P	**P**	**05 01 38.1**	**+0.5**
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
GYA				AMB	AMB		
	comp=Z,170nm,3.3s						
NST	**Nakhon Sawan**	**90.12**	**287**	P	**P**	**05 01 41.0**	**+2.5**
	comp=Z,67nm,0.8s,mb5.6						
SPU	**Mount Spurr**	**90.15**	**12**	*e*P	**P**	**05 01 36.0**	**-1.7**
LNOR	**Lincton Mounta**	**90.25**	**37**	P	**P**	**05 01 39.1**	**+0.7**
LNOR	**Lincton Mounta**	**90.25**	**37**	*e*P	**P**	**05 01 38.3**	**-0.2**
NLU	**North Lily Min**	**90.26**	**44**	*e*P	**P**	**05 01 39.2**	**+0.5**
RPW	**Rockport**	**90.26**	**34**	P	**P**	**05 01 38.4**	**-0.1**
TXAR	**Lajitas Array**	**90.30**	**57**	P	**P**	**05 01 40.4**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=139,slow=12,SNR=5.9						
TXAR				pP	pP	05 02 25.1	-0.2
	comp=Z,2.0nm,0.9s,baz=225,slow=7.1,SNR=2.2						
TXAR				PKKPbc		05 19 10.1	
	comp=Z,0.2nm,0.7s,baz=56,slow=4.5,SNR=4.9						
TXAR	**Lajitas Array**	**90.30**	**57**	P	**P**	**05 01 40.4**	**+1.3**
TXAR				pP	pP	05 02 25.1	-0.2
TXAR				PKKPbc		05 19 10.1	
LENM	**Lemitar**	**90.42**	**52**	*e*P	**P**	**05 01 40.5**	**+0.9**
LAZ	**Ladron**	**90.43**	**51**	*e*P	**P**	**05 01 40.5**	**+0.9**
BJI	**Beijing**	**90.52**	**315**	*e*P	**P**	**05 01 40.6**	**+0.7**
BJI				SKS	SKS	05 11 51.8	0.0
BJI				S	S	05 12 19.3	+2.8
BJI				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.5						
BJI				AMB	AMB		
	comp=Z,425nm,3.4s						
BJI	**Beijing**	**90.52**	**315**	*e*P	**P**	**05 01 40.6**	**+0.7**
	comp=Z,37nm,0.8s,mb5.5						
BJI				pP	pP	05 02 25.3	-0.8
BJI				sP	sP	05 02 38.1	-7.8
BJI				SKS	SKS	05 11 51.7	-0.1
BJI				S	S	05 12 19.2	+2.7
BJI				SS	SS	05 18 17.5	-8.4
WTV	**Waterville**	**90.55**	**35**	P	**P**	**05 01 40.4**	**+0.6**
NLW	**Nelson Butte**	**90.61**	**34**	*e*P	**P**	**05 01 39.7**	**-0.3**
BNM	**Barren Site**	**90.66**	**52**	*e*P	**P**	**05 01 41.5**	**+0.9**
PMS	**Palmer South**	**90.70**	**13**	*e*P	**P**	**05 01 39.4**	**-0.8**
SRU	**San Rafael**	**90.76**	**46**	*e*P	**P**	**05 01 41.9**	**+0.9**
SRU	**San Rafael**	**90.76**	**46**	*e*P	**P**	**05 01 41.6**	**+0.5**
SPUT	**South Promonto**	**90.82**	**43**	*e*P	**P**	**05 01 41.4**	**+0.2**
HVU	**Hansel Valley**	**90.89**	**43**	P	**P**	**05 01 42.4**	**+0.8**
HVU	**Hansel Valley**	**90.89**	**43**	*e*P	**P**	**05 01 41.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**90.91**	**15**	*e*P	**P**	**05 01 40.5**	**-0.7**
HLID	**Hailey**	**90.98**	**41**	⇓*i*P	**P**	**05 01 42.6**	**+0.7**
	comp=Z,12nm,1.1s,mb4.8						
NANT	**Nan**	**91.09**	**290**	⇑P	**P**	**05 01 42.0**	**-1.0**
PMR	**Palmer**	**91.10**	**13**	*e*P	**P**	**05 01 41.3**	**-0.7**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**91.20**	**51**	*d* *i*P	**P**	**05 01 44.0**	**+0.8**
ANMO	**Albuquerque**	**91.20**	**51**	*e*P	**P**	**05 01 43.5**	**+0.4**
	comp=Z,15nm,1.1s,mb4.9						
GDL2	**Guadalupe Moun**	**91.25**	**54**	*e*P	**P**	**05 01 43.9**	**+0.4**
PV10	**Paradox Valley**	**91.31**	**47**	*e*P	**P**	**05 01 43.5**	**-0.1**
DIV	**Divide**	**91.42**	**15**	*e*P	**P**	**05 01 42.8**	**-0.7**
	comp=Z,90nm,1.0s,mb5.8						
SML	**Sawmill**	**91.46**	**14**	P	**P**	**05 01 43.9**	**+0.2**
SML	**Sawmill**	**91.46**	**14**	*e*P	**P**	**05 01 43.6**	**-0.1**
PV01	**Paradox Valley**	**91.49**	**48**	*e*P	**P**	**05 01 44.4**	**0.0**
HWUT	**Hardware Ranch**	**91.53**	**43**	*e*P	**P**	**05 01 44.0**	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.7						
DPW	**Davenport**	**91.56**	**36**	P	**P**	**05 01 44.4**	**-0.1**
DPW	**Davenport**	**91.56**	**36**	*e*P	**P**	**05 01 43.9**	**-0.7**
XAN	**Xi'an**	**92.11**	**307**	P	**P**	**05 01 47.9**	**+0.5**
XAN				AMB	AMB		
	comp=Z,48nm,8.0s						
XAN	**Xi'an**	**92.11**	**307**	P	**P**	**05 01 48.6**	**+1.2**
KMI	**Kunming**	**92.39**	**297**	*e*P	**P**	**05 01 50.0**	**+1.1**
KMI				PP	PP	05 05 34.6	+0.1
KMI				S	S	05 12 35.9	+2.7
KMI				SS	SS	05 18 57.9	+5.4
KMI				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.6						
KMI				AMB	AMB		
	comp=Z,176nm,4.8s						
KMI	**Kunming**	**92.39**	**297**	*e*P	**P**	**05 01 50.0**	**+1.1**
	comp=Z,41nm,0.7s,mb5.6						
KMI				pP	pP	05 02 36.5	+1.3
KMI				PP	PP	05 05 34.6	+0.1
KMI				S	S	05 12 35.9	+2.7
KMI				sS		05 14 47.2	
KMI				SS	SS	05 18 57.9	+5.4
TNA	**Tin City**	**92.41**	**4**	*e*P	**P**	**05 01 47.1**	**-0.9**
	comp=Z,16nm,0.7s,mb5.2						
CMAR	**Chiang Mai Arr**	**92.41**	**289**	P	**P**	**05 01 51.0**	**+1.9**
	comp=Z,13nm,1.0s,mb4.9,baz=139,slow=3.3,SNR=38						
CMAR				pP	pP	05 02 36.9	+1.5
	comp=Z,8.0nm,1.0s,baz=130,slow=3.0,SNR=3.6						
AHID	**Auburn Hatcher**	**92.48**	**43**	*e*P	**P**	**05 01 49.4**	**+0.5**
	comp=Z,12nm,0.6s,mb5.1						
SEY	**Seymchan**	**92.56**	**347**	*e*P	**P**	**05 01 49.5**	**+0.7**
SEY				*SP	sP	05 02 54.1	-0.7
SEY						05 05 35.2	
SEY						05 12 01.5	
SEY				*e*S	S	05 12 31.3	-2.5
SEY				*e*SS	SS	05 18 52.5	-1.6
SEY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CHG	**Chiang Mai**	**92.57**	**290**	⇑P	**P**	**05 01 51.4**	**+1.6**
	comp=Z,26nm,0.8s,mb5.4						
MCMT	**McKenzie Canyo**	**92.64**	**40**	*e*P	**P**	**05 01 49.8**	**+0.3**
REDW	**Red Top Meadow**	**92.97**	**42**	*e*P	**P**	**05 01 50.8**	**-0.3**
TPAW	**Teton Pass**	**92.98**	**42**	⇓*e*P	**P**	**05 01 52.0**	**+0.8**
MCK	**McKinley**	**93.08**	**12**	P	**P**	**05 01 50.7**	**-0.4**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
MCK	**McKinley**	**93.08**	**12**	*e*P	**P**	**05 01 49.8**	**-1.4**
	comp=Z,11nm,0.9s,mb5.0						
WUWY	**Wally Ulrich**	**93.13**	**42**	*e*P	**P**	**05 01 51.3**	**-0.5**
SDCO	**Great Sand Dun**	**93.33**	**49**	*e*P	**P**	**05 01 52.5**	**-0.4**
	comp=Z,5.1nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**93.42**	**43**	P	**P**	**05 01 53.2**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.8,baz=224,slow=2.4,SNR=49						

PDAR				PKKPbc		05 19 01.5	
	comp=Z,0.5nm,0.6s,baz=81,slow=3.6,SNR=4.8						
QLMT	**Earthquake Lak**	**93.46**	**41**	*e*P	**P**	**05 01 54.0**	**+0.7**
CHMT	**Chamberlain Mo**	**93.63**	**38**	*e*P	**P**	**05 01 54.0**	**0.0**
DLBC	**Dease Lake**	**93.77**	**23**	*e*P	**P**	**05 01 54.6**	**+0.2**
LCCM	**Lewis and Clar**	**93.78**	**40**	P	**P**	**05 01 55.3**	**+0.6**
BOZ	**Bozeman (W)**	**93.81**	**40**	P	**P**	**05 01 55.4**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BOZ	**Bozeman (W)**	**93.81**	**40**	*e*P	**P**	**05 01 54.4**	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**93.90**	**314**	*e*P	**P**	**05 01 53.8**	**-1.6**
HHC				PP	PP	05 05 51.8	+5.7
HHC				SKS	SKS	05 12 10.8	0.0
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,209nm,7.3s						
HHC				LR	LR		
	comp=N,126nm,22.6s						
HHC				LR	LR		
	comp=E,104nm,21.4s						
HHC				LR	LR		
	comp=Z,107nm,21.4s						
HRY	**Holter Researc**	**94.31**	**39**	*e*P	**P**	**05 01 57.1**	**0.0**
COLA	**College**	**94.32**	**12**	*e*P	**P**	**05 01 55.8**	**-0.9**
CD2	**Chengdu**	**94.35**	**302**	P	**P**	**05 01 58.8**	**+1.1**
ILAR	**Eielson Array**	**94.42**	**13**	P	**P**	**05 01 55.6**	**-1.5**
	comp=Z,3.2nm,0.6s,mb4.6,baz=225,slow=5.7,SNR=32						
ILAR				PP	PP	05 05 42.6	-6.5
	comp=Z,1.8nm,0.9s,baz=219,slow=6.8,SNR=5.0						
ILAR				PKiKP		05 06 39.2	
	comp=Z,0.5nm,0.6s,baz=317,slow=3.1,SNR=6.0						
ILAR				PKKPbc		05 18 59.0	
	comp=Z,0.2nm,0.6s,baz=51,slow=2.5,SNR=4.1						
IMA	**Indian Mountai**	**94.42**	**10**	P	**P**	**05 01 57.1**	**-0.1**
IMA				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.2						
IMA	**Indian Mountai**	**94.42**	**10**	*e*P	**P**	**05 01 56.4**	**-0.8**
DAWY	**Dawson**	**95.47**	**16**	*e*P	**P**	**05 02 01.5**	**-0.4**
LVC	**Limon Verde**	**95.47**	**119**	P	**P**	**05 02 07.9**	**+4.9**
	comp=Z,2.9nm,0.7s,mb4.6,baz=289,slow=4.0,SNR=4.1						
LZH	**Lanzhou**	**96.74**	**307**	*e*P	**P**	**05 02 09.5**	**+1.0**
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.3						
LZH	**Lanzhou**	**96.74**	**307**	*e*P	**P**	**05 02 09.5**	**+1.0**
	comp=Z,16nm,1.0s,mb5.3						
LZH				pP	pP	05 02 54.0	-0.8
LZH				sP	sP	05 03 12.5	-1.9
RSSD	**Black Hills**	**97.55**	**44**	*e*P	**P**	**05 02 11.5**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
RSSD	**Black Hills**	**97.55**	**44**	*e*P	**P**	**05 02 11.5**	**-0.4**
	comp=Z,4.7nm,0.9s,mb4.9						
YAK	**Yakutsk**	**98.03**	**338**	*de*P	**P**	**05 02 12.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.5						
YAK	**Yakutsk**	**98.03**	**338**	*e*Pr		05 02 12.4	
LPAZ	**La Paz**	**99.41**	**114**	SP	SKS	05 12 54.4	+14
INK	**Inuvik**	**100.30**	**15**	P	P	05 02 21.5	-2.3
SONM	**Songino Array**	**100.62**	**318**	P	P	05 02 25.3	-0.5
	comp=Z,1.8nm,0.6s,baz=131,slow=4.5,SNR=12						
SONM				PKKPbc		05 18 41.6	
	comp=Z,0.2nm,0.4s,baz=279,slow=3.5,SNR=3.8						
GTA	**Gaotai**	**101.09**	**309**	*e*P	P	05 02 29.3	+1.2
GTA				PP	PP	05 06 39.8	-1.4
GTA				S	S	05 13 47.1	+0.5
GTA				SS	SS	05 20 57.5	+3.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,29nm,4.6s						
GTA				LR	LR		
	comp=N,102nm,16.0s						
GTA				LR	LR		
	comp=E,65nm,19.8s						
GTA				LR	LR		
	comp=Z,91nm,25.1s						
ZAK	**Zakamensk**	**103.60**	**320**	*e*P	Pdif	05 02 38.6	-0.2
WMQ	**Urumqi**	**111.15**	**309**	⇓PKP	PKPdf	05 07 11.0	+1.9
WMQ				PP	PP	05 07 55.1	0.0
WMQ				PKS	PKS	05 10 46.5	+1.9
WMQ				LR	LR		
	comp=N,151nm,25.4s						
WMQ				LR	LR		
	comp=E,163nm,31.2s						
WMQ				LR	LR		
	comp=Z,176nm,31.1s						
BDFB	**Brasilia**	**115.49**	**125**	PKP	PKPdf	05 07 21.3	+3.1
	comp=Z,0.7nm,0.4s,baz=207,slow=2.3,SNR=2.7						
MKAR	**Makanchi Array**	**115.60**	**311**	PKP	PKPdf	05 07 18.6	+0.9
	comp=Z,5.1nm,0.9s,baz=202,slow=0.5,SNR=15						
MKAR				pPKP		05 08 07.0	
	comp=Z,3.4nm,1.0s,baz=45,slow=1.7,SNR=3.0						
MKAR				PKKPbc		05 17 55.1	
	comp=Z,1.5nm,0.9s,baz=289,slow=2.9,SNR=7.1						
MKAR	**Makanchi Array**	**115.60**	**311**	*i* PKIKP	PKPdf	05 07 18.4	+0.7
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NVS	**Novosibirsk**	**116.55**	**320**	*e*PKIKP	PKPdf	05 07 18.4	-1.0
NVS				*e*		05 08 32.4	
SJG	**San Juan**	**116.87**	**82**	PKP	PKPdf	05 07 22.5	+1.7
	comp=Z,5.6nm,0.4s,baz=266,slow=3.1,SNR=3.3						
KSH	**Kashi**	**118.55**	**302**	*e*PKP	PKPdf	05 07 25.0	+1.4
KSH				XPKP		05 08 40.0	
KSH				*e*SS	SS	05 24 46.4	-0.4
KSH				LR	LR		
	comp=N,410nm,4.4s						
KSH				LR	LR		
	comp=E,330nm,6.0s						
KURK	**Kurchatov**	**118.69**	**315**	*i* PKIKP	PKPdf	05 07 24.2	+0.6
KURK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KURK	**Kurchatov**	**118.69**	**315**	*e*PKPdf	PKPdf	05 07 23.1	-0.5
KKAR	**Karatay Array**	**123.21**	**306**	*i* PKIKP	PKPdf	05 07 33.9	+1.3
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
VOSK	**Vostochnaya**	**123.59**	**317**	PKIKP	PKPdf	05 07 33.6	+0.5
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VOSK	**Vostochnaya**	**123.59**	**317**	*i* PKP	PKPdf	05 07 33.7	+0.6
LBTB	**Lobatse**	**123.74**	**206**	PKKPbc		05 15 35.5	
BVA0	**Borovoye Array**	**123.95**	**317**	PKIKP	PKPdf	05 07 34.7	+0.9
BVAR	**Borovoye Array**	**123.95**	**317**	PKP	PKPdf	05 07 35.2	+1.5
	comp=Z,7.3nm,0.8s,baz=90,slow=1.5,SNR=21						
BRVK	**Borovoye**	**124.02**	**318**	*e*PKIKP	PKPdf	05 07 34.5	+0.6
ZRNK	**Zerenda**	**124.79**	**317**	PKIKP	PKPdf	05 07 36.2	+0.9
ZRNK	**Zerenda**	**124.79**	**317**	*i* PKP	PKPdf	05 07 35.0	-0.3
KBS	**Kingsbay**	**127.64**	**358**	*e*PKIKP	PKPdf	05 07 39.5	-0.8
TSUM	**Tsumeb**	**131.88**	**200**	PKP	PKPdf	05 07 52.9	+3.1
	comp=Z,2.3nm,0.6s,baz=156,slow=3.5,SNR=4.4						
LVZ	**Lovozero**	**134.50**	**343**	*i* PKIKP	PKPdf	05 07 54.9	+1.5
KEV	**Kevo**	**134.69**	**348**	*e*p	PKPdf	05 07 49.2	-4.5
ARCES	**ARCESS Array B**	**135.15**	**349**	PKhKP		05 07 45.8	
	comp=Z,5.1nm,0.9s,baz=27,slow=2.7,SNR=8.3						
ARCES				PKP	PKPdf	05 07 55.3	+0.8
	comp=Z,16nm,0.9s,baz=117,slow=2.7,SNR=14						
ARCES	**ARCESS Array B**	**135.15**	**349**	PKP	PKPdf	05 07 55.3	+0.8
MZLS	**Mizel**	**141.21**	**276**	P	PKPdf	05 08 05.3	-1.5
KAF	**Kangasniemi**	**141.24**	**342**	*e*p	PKPdf	05 07 58.8	-6.9
	comp=Z,1.6nm,0.4s						
KAF	**Kangasniemi**	**141.24**	**342**	*e*PKHKP		05 07 58.8	
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TATS	**Tathlith**	**141.52**	**268**	P	PKPdf	05 08 06.7	-0.8
FINES	**FINESS Array B**	**141.85**	**342**	PKhKP		05 08 02.4	
	comp=Z,3.9nm,0.6s,baz=84,slow=4.2,SNR=38						
FINES				PKP	PKPdf	05 08 08.2	+1.5
	comp=Z,4.8nm,0.5s,baz=90,slow=2.8,SNR=12						
FINES	**FINESS Array B**	**141.85**	**342**	PKP	PKPdf	05 08 08.2	+1.5
OBN	**Obninsk**	**142.31**	**328**	*i* PKIKP	PKPdf	05 08 06.8	-0.9
OBN				*e*		05 14 33.7	
OBN				pmax	pmax		
	comp=Z,14nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
OBN	**Obninsk**	**142.31**	**328**	*e*PKP	PKPdf	05 08 06.8	-0.9
AFFS	**‘Afif**	**143.15**	**275**	P	PKPbc	05 08 10.9	+2.5
BLJS	**Baljurashi**	**143.30**	**268**	P	PKPbc	05 08 12.1	+3.2
HKR	**Hakkari**	**143.53**	**298**	*e*P	PKPbc	05 08 08.4	-0.8
VSU	**Vasula**	**144.03**	**338**	*i* PKPr		05 08 09.8	
MOL	**Molde**	**144.09**	**356**	*e*P	PKPbc	05 08 11.5	+1.5
MOL				AMb	AMB	05 08 15.8	
	comp=Z,46nm,1.8s						
LTHS	**Al Lith**	**144.49**	**268**	P	PKPbc	05 08 14.9	+2.5
DOMB	**Dombas**	**144.50**	**354**	*e*P	PKPbc	05 08 11.0	-0.1
DOMB				AMb	AMB	05 08 13.0	
	comp=Z,45nm,0.6s						
HILS	**Ha’il**	**144.87**	**280**	P	PKPdf	05 08 16.4	+3.4
VRT	**Varto**	**145.08**	**301**	*e*P	PKPdf	05 08 15.7	+2.7
ERZM	**Erzurum**	**145.08**	**302**	*i* P	PKPdf	05 08 15.7	+2.7
EZM	**Erzurum**	**145.08**	**302**	*e*P	PKPdf	05 08 14.6	+1.6
FOO	**Floro**	**145.19**	**358**	*e*P	PKPdf	05 08 13.2	+0.7
FOO				AMb	AMB	05 08 15.0	
	comp=Z,77nm,0.8s						
FOO				*e*pPKP		05 09 07.7	
BTMT	**Batman**	**145.24**	**299**	*e*P	PKPdf	05 08 15.2	+1.9
NB2	**NORSAR Subarra**	**145.26**	**352**	PKP		05 08 13.3	
	comp=Z,65nm,0.8s,baz=12,slow=3.6						
NB2	**NORSAR Subarra**	**145.26**	**352**	PKPa		05 08 13.3	
	baz=12,slow=3.6						
NOA	**NORSAR Array B**	**145.26**	**352**	PKP	PKPdf	05 08 13.2	+0.6
	comp=Z,41nm,0.8s,baz=14,slow=2.4,SNR=100						
SOC	**Sochi**	**145.45**	**309**	*i* PKIKP	PKPdf	05 08 15.2	+1.7
SOC				*i* SS	SS	05 30 10.0	-2.8
SOC				*i* SSS	SSS	05 35 40.3	-3.4
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,49nm,0.7s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=Z,11nm,0.5s						
SOC				pmax	pmax		
	comp=N,38nm,0.9s						
SOC				pmax	pmax		
	comp=E,11nm,0.7s						
BEST	**Besiri**	**145.45**	**299**	*i* P	PKPdf	05 08 16.8	+3.1
NAO01	**NORSAR Array S**	**145.49**	**353**	*e*PKPbc	PKPbc	05 08 13.7	-0.1
NAO01				*e*pPKPdf		05 08 59.5	
HYA	**Hoyanger**	**145.57**	**357**	*e*P	PKPdf	05 08 15.7	+2.5
HYA				AMb	AMB	05 08 19.7	
	comp=Z,76nm,2.1s						
HYA				*e*pPKP		05 09 07.5	
BINT	**Bingol**	**145.92**	**300**	*e*P	PKPdf	05 08 13.1	-1.4
YEL1	**Yell**	**146.22**	**3**⇑	*e*P	PKPdf	05 08 16.7	+2.4
EZC	**Erzincan**	**146.28**	**302**	*e*P	PKPdf	05 08 19.3	+4.3
ASK	**Askoy**	**146.30**	**357**	*e*P	PKPdf	05 08 17.2	+2.8
ASK				AMb	AMB	05 08 22.2	
	comp=Z,198nm,2.2s						
ASK				*e*pPKP		05 09 10.1	
BER	**Bergen**	**146.39**	**357**	*e*P	PKPdf	05 08 17.4	+2.9
BER				AMb	AMB	05 08 19.6	
	comp=Z,134nm,1.4s						
BER	**Bergen**	**146.39**	**357**	*e*P	PKPdf	05 08 17.3	+2.8
GUMT	**Gumushane**	**146.39**	**303**	*e*P	PKPdf	05 08 18.8	+3.6
WAL1	**Walls**	**146.48**	**3**⇑	*e*P	PKPdf	05 08 17.2	+2.5
EGD	**Espegrend**	**146.51**	**357**	*e*P	PKPdf	05 08 18.8	+4.1
EGD				AMb	AMB	05 08 20.7	
	comp=Z,130nm,2.5s						
MNK	**Minsk**	**146.58**	**333**	*e*PKIKP	PKPdf	05 08 16.0	+1.0
MNK				pmax	pmax		
	comp=Z,610nm,2.0s						
ANN	**Anapa**	**146.62**	**312**	*e*PKP2	PKPab	05 08 19.1	-2.0
ANN				pmax	pmax		
	comp=Z,138nm,0.8s						
KELT	**Kelkit**	**146.62**	**303**	*i* P	PKPdf	05 08 20.3	+4.8
LRW	**Lerwick**	**146.62**	**3**⇑	*e*P	PKPdf	05 08 17.2	+2.3
SAN1	**Sandwick**	**146.74**	**3**	*e*P	PKPdf	05 08 18.0	+2.9
ODD1	**Odda**	**146.79**	**356**	*e*P	PKPdf	05 08 17.7	+2.5
ODD1				AMb	AMB	05 08 20.1	
	comp=Z,61nm,1.4s						
KBRS	**Khaybar**	**146.85**	**277**	P	PKPdf	05 08 22.3	+5.9
ELZG	**Elazig**	**147.14**	**300**	*i* P	PKPdf	05 08 21.8	+5.3
BLS5	**Blasjo**	**147.29**	**356**	*e*P	PKPdf	05 08 21.3	+5.2
BLS5				AMb	AMB	05 08 23.9	
	comp=Z,49nm,1.8s						
KMY	**Karmoy**	**147.57**	**357**	*e*P	PKPdf	05 08 20.4	+3.9
KMY				AMb	AMB	05 08 22.6	
	comp=Z,88nm,0.6s						
MALT	**Malatya**	**147.60**	**300**	*e*P	PKPdf	05 08 21.9	+4.6
MYA	**Malataya**	**147.60**	**300**	*e*P	PKPdf	05 08 20.9	+3.6
OHO	**Hoy**	**147.79**	**5**⇑	*e*P	PKPdf	05 08 21.4	+4.5
OBR	**Brabster**	**148.01**	**5**	*e*P	PKPdf	05 08 22.0	+4.8
OTO	**Tongue**	**148.01**	**7**	*e*P	PKPdf	05 08 21.9	+4.6
ORE	**Reay**	**148.02**	**6**⇑	*e*P	PKPdf	05 08 21.0	+3.7
MLA1	**Latheron**	**148.30**	**6**	*e*P	PKPdf	05 08 22.6	+4.9
SVSK	**Karacayir**	**148.37**	**303**	*e*P	PKPdf	05 08 24.0	+5.5
SVST	**Sivas**	**148.43**	**303**	*i* P	PKPdf	05 08 26.0	+7.4
GZT	**Gaziantep**	**148.44**	**298**	*i* P	PKPdf	05 08 24.9	+6.2
UMJS	**Umm Lajj**	**148.49**	**275**	P	PKPdf	05 08 26.9	+7.8
AKASG	**Malin Array Be**	**148.51**	**326**	PKPbc	PKPdf	05 08 23.0	+4.6
	comp=Z,29nm,0.5s,baz=39,slow=4.2,SNR=78						
AKASG				PKPab	PKPab	05 08 27.4	-1.0
	comp=Z,36nm,0.5s,baz=40,slow=4.5,SNR=50						
MVH1	**Achvaich**	**148.60**	**7**	*e*P	PKPdf	05 08 23.6	+5.3
SIM	**Simferopol’**	**148.74**	**314**	*e*PKP2	PKPab	05 08 25.0	-4.5
SIM				pmax	pmax		
	comp=Z,110nm,11.7s						
GAZ	**Gaziantep**	**148.74**	**298**	*e*P	PKPdf	05 08 26.0	+6.8
SUW	**Suwalki**	**148.75**	**336**	*e*PKP2	PKPab	05 08 24.0	-5.3
KAHT	**Ahir Dag**	**148.93**	**299**	*i* P	PKPdf	05 08 26.1	+6.7
MCD	**Coleburn Disti**	**149.02**	**6**⇑	*e*P	PKPdf	05 08 23.9	+5.0
MDO	**Dochfour**	**149.05**	**7**	*e*P	PKPdf	05 08 24.4	+5.4
ASF	**Jabal al Asfar**	**149.44**	**288**	PKPbc	PKPdf	05 08 28.6	+8.2
	comp=Z,19nm,0.6s,baz=319,slow=1.1,SNR=24						
ASF				PKPab	PKPab	05 08 34.1	+1.2
	comp=Z,45nm,0.7s,baz=345,slow=4.7,SNR=36						
BOYT	**Boyabat**	**149.49**	**307**	*i* P	PKPdf	05 08 27.5	+7.3
TBKS	**Tabuk**	**149.58**	**281**	P	PKPdf	05 08 29.3	+8.5
COBT	**Iskenderun**	**149.60**	**297**	*i* P	PKPdf	05 08 27.8	+7.3
CTKT	**Corum**	**149.81**	**305**	*i* P	PKPdf	05 08 28.8	+8.1
MUD	**Monsted U’grnd**	**149.98**	**352**⇓	*i*P	PKPdf	05 08 27.4	+6.9
	comp=Z,18nm,0.6s						
JMQS	**Jabal Moqyreh**	**150.23**	**282**	P	PKPdf	05 08 30.7	+9.0
COP	**Copenhagen**	**150.23**	**348**⇓	*i*P	PKPdf	05 08 28.1	+7.2
	comp=Z,32nm,0.6s						
AVNT	**Avonos**	**150.25**	**302**	*i* P	PKPdf	05 08 28.7	+7.3
EAB	**Aberfoyle**	**150.29**	**7**⇑	*e*P	PKPdf	05 08 27.4	+6.4
EAB				AMb	AMB	05 08 29.3	
	comp=Z,57nm,1.1s						
KSHT	**Keshet**	**150.33**	**290**	P	PKPdf	05 08 30.2	+8.4
HRI	**Mount Hermon**	**150.38**	**291**	P	PKPdf	05 08 30.5	+8.7
BALT	**Daday**	**150.53**	**308**	*i* P	PKPdf	05 08 29.5	+7.7
HMDT	**Nahal Hemdat**	**150.60**	**289**	P	PKPdf	05 08 30.8	+8.6
EDI	**Edinburgh**	**150.67**	**6**⇑	*e*P	PKPdf	05 08 28.3	+6.8
EDI				AMb	AMB	05 08 35.4	
	comp=Z,47nm,2.4s						
MMLI	**Mount Malkishu**	**150.68**	**289**	P	PKPdf	05 08 31.1	+8.8
AYUS	**‘Aynunah**	**150.71**	**280**	P	PKPdf	05 08 31.0	+8.5
EAU	**Auchinoon**	**150.72**	**7**⇑	*e*P	PKPdf	05 08 29.1	+7.5
EAU				AMb	AMB	05 08 38.0	
	comp=Z,103nm,2.1s						
DRGI	**Dragot**	**150.73**	**287**	P	PKPdf	05 08 31.2	+8.8
ESY	**Stoneypath**	**150.73**	**6**⇑	*e*P	PKPdf	05 08 28.5	+6.9
ESY				AMb	AMB	05 08 30.2	
	comp=Z,83nm,1.4s						
MZDA	**Masada**	**150.76**	**287**	P	PKPdf	05 08 31.0	+8.6
ELDT	**Eldivan**	**150.84**	**306**	*i* P	PKPdf	05 08 30.4	+8.1
HNTI	**Hanita**	**150.86**	**290**	P	PKPdf	05 08 31.4	+8.9
BDAS	**Al Bad‘**	**150.87**	**281**	P	PKPdf	05 08 31.2	+8.5
ZFRI	**Zfri**	**150.91**	**285**	P	PKPdf	05 08 31.3	+8.6
BRTR	**Keskin Array B**	**150.91**	**304**	PKPbc	PKPdf	05 08 30.8	+8.3
	comp=Z,22nm,0.6s,baz=98,slow=2.9,SNR=11						
BRTR				PKPab	PKPab	05 08 38.8	+0.1
	comp=Z,17nm,0.4s,baz=106,slow=2.7,SNR=5.9						
JMOS	**Jabal al Moall**	**150.92**	**282**	P	PKPdf	05 08 32.1	+9.3
KIS	**Kishinev**	**150.95**	**321**	*e*PKIKP	PKPdf	05 08 28.0	+5.8
KIS				*e*		05 09 36.0	
PRNI	**Paran**	**151.06**	**285**	P	PKPdf	05 08 31.7	+8.8
HAQS	**Haql**	**151.07**	**282**	P	PKPdf	05 08 31.8	+8.8
EIL	**Elat**	**151.08**	**283**	P	PKPdf	05 08 31.7	+8.7
MBH	**Mount Berech**	**151.12**	**284**	P	PKPdf	05 08 31.9	+8.9
EKA	**Eskdalemuir Ar**	**151.25**	**6**	PKPbc	PKPdf	05 08 30.0	+7.6
	comp=Z,5.5nm,0.5s,baz=306,slow=1.6,SNR=33						
EKA				PKPab	PKPab	05 08 37.5	-2.1
	comp=Z,13nm,0.6s,baz=329,slow=2.6,SNR=17						
ESK	**Eskdalemuir**	**151.27**	**6**	*e*PKIKP	PKPdf	05 08 25.4	+3.0
ESK				*e*		05 08 37.8	
ESK	**Eskdalemuir**	**151.27**	**6**	*e*PKPdf	PKPdf	05 08 25.4	+3.0
ESK				*e*PKPbc	PKPdf	05 08 30.0	+7.5
ESK				*e*PKPab	PKPab	05 08 37.8	-1.9
KMTI	**Karmit**	**151.29**	**284**	P	PKPdf	05 08 31.9	+8.6
GKP	**Gorka Klasztor**	**151.32**	**341**	*e*PKIKP	PKPdf	05 08 31.3	+8.7
BWH	**Wardlaw**	**151.36**	**7**	*e*P	PKPdf	05 08 30.3	+7.8
BHH	**Howats Hill**	**151.49**	**7**	*e*P	PKPdf	05 08 30.7	+7.9
BTA	**Talkin**	**151.72**	**6**	*e*P	PKPdf	05 08 31.2	+8.1
BDL	**Dobcross Hall**	**151.80**	**6**	*e*P	PKPdf	05 08 31.4	+8.2
SGKT	**Sivrigoynuk**	**151.80**	**307**	*i* P	PKPdf	05 08 32.5	+8.8
BBO1	**Bothel**	**151.83**	**7**	*e*P	PKPdf	05 08 31.5	+8.2
LCP	**Cassop**	**151.99**	**5**	*e*P	PKPdf	05 08 31.3	+7.8
CSF	**Scaffel**	**152.12**	**7**⇑	*e*P	PKPdf	05 08 31.7	+8.0
CDU1	**Dunnerdale**	**152.24**	**7**⇑	*e*P	PKPdf	05 08 31.9	+8.1
BSEG	**Bad Segeberg**	**152.27**	**350**	*e*PKIKP	PKPdf	05 08 32.7	+8.7
KWP	**Kalwaria**	**152.29**	**331**	*e*PKIKP	PKPdf	05 08 33.4	+9.3
HENT	**Hendek**	**152.53**	**308**	*i* P	PKPdf	05 08 30.5	+5.8
HPK	**Haverah Park**	**152.75**	**5**	*e*P	PKPdf	05 08 33.7	+9.1
ESKT	**Eskisehir**	**153.03**	**305**	*i* P	PKPdf	05 08 35.7	+10
OJC	**Ojcow**	**153.03**	**335**	*e*PKIKP	PKPdf	05 08 34.3	+9.2
MLR	**Muntele Rosu**	**153.45**	**321**	PKPbc	PKPdf	05 08 35.5	+10
	comp=Z,7.6nm,0.9s,baz=318,slow=4.4,SNR=4.7						
MLR				PKPab	PKPab	05 08 48.2	-0.9
	comp=Z,7.5nm,0.5s,baz=318,slow=8.1,SNR=10						
KSP	**Ksiaz**	**153.73**	**340**	*e*PKIKP	PKPdf	05 08 29.0	+3.0
OKC	**Ostrava-Krasne**	**153.96**	**336**	*e*PKIKP	PKPdf	05 08 28.1	+1.7
OKC				PKP2	PKPab	05 08 50.6	-0.6
OKC				*e*		05 11 35.8	
OKC				*e*PP	PP	05 12 22.6	-5.0
OKC	**Ostrava-Krasne**	**153.96**	**336**	*e*PKIKP	PKPdf	05 08 28.1	+1.7
OKC				*e*		05 12 22.6	
OKC	**Ostrava-Krasne**	**153.96**	**336**	*e*PKP	PKPdf	05 08 28.1	+1.7
OKC				*e*		05 08 50.6	
OKC				*e*		05 11 35.8	
OKC				*e*		05 12 22.6	
ULDT	**Uludag**	**154.04**	**308**	*i* P	PKPdf	05 08 37.0	+10
KECS	**Kecovo**	**154.12**	**331**	*e*PKP	PKPab	05 08 50.8	-1.1
DPC	**Dobruska-Polom**	**154.15**	**339**	*e*PKIKP	PKPdf	05 08 28.2	+1.6
DPC				PKP2	PKPab	05 08 51.7	-0.2
DPC				*e*APKP		05 09 30.8	
DPC				*e*SKP		05 11 42.6	
DPC				*e*PP	PP	05 12 19.7	-8.9
DPC				*e*		05 26 18.9	
CLL	**Collm**	**154.22**	**344**⇓	*i*PKP1	PKPdf	05 08 37.4	+11
CLL				*i* PKP2	PKPab	05 08 50.1	-2.1
CLL				*i* *PPKP		05 09 26.0	
MORC	**Moravsky Berou**	**154.23**	**337**	*e*PKPab	PKPab	05 08 51.0	-1.3
BRG	**Berggiesshubel**	**154.38**	**343**	*i* PKIKP	PKPdf	05 08 29.8	+2.9
BRG				*i*		05 08 51.0	
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRG	**Berggiesshubel**	**154.38**	**343**	*i* PKP	PKPdf	05 08 29.8	+2.9
BRG				*i*		05 08 37.5	
BRG				*i*		05 08 51.0	
BRG				*i*		05 09 31.2	
BRG				*i*		05 12 17.8	
PVCC	**Panska Ves**	**154.52**	**342**	*e*PKIKP	PKPdf	05 08 29.3	+2.2
PVCC				PKP2	PKPab	05 08 52.5	-1.0
PVCC				*e*		05 15 01.9	
PVCC				*e*		05 28 00.9	
WTSB	**Winterswijk**	**154.66**	**353**	*e*P	PKPdf	05 08 38.1	+11
	comp=Z,17nm,0.8s						
VYHS	**Vyhne**	**154.79**	**333**	*e*PKP	PKPdf	05 08 31.8	+4.3
VYHS				*e*		05 08 38.5	
VYHS				*e*		05 08 53.7	
VYHS	**Vyhne**	**154.79**	**333**	*e*PKIKP	PKPdf	05 08 31.8	+4.3
VYHS				*e*		05 08 53.7	
PSZ	**Piszkesteto**	**154.81**	**331**	*e*	PKPab	05 08 53.5	-1.3
PSZ	**Piszkesteto**	**154.81**	**331**	*e*PKP2	PKPab	05 08 53.3	-1.5
PRU	**Pruhonice**	**155.01**	**341**	*e*PKP1	PKPdf	05 08 39.1	+11
PRU				PKP2	PKPab	05 08 54.6	-1.0
PRU				*e*APKP		05 09 27.0	
PRU				*e*PP	PP	05 12 24.8	-8.1
PRU				*e*		05 23 46.2	
PRU	**Pruhonice**	**155.01**	**341**	*e*PKIKP	PKPdf	05 08 39.1	+11
PRU				*e*		05 08 54.6	
PRU				*e*		05 09 27.0	
PRU				*e*		05 12 24.8	
MOX	**Moxa**	**155.16**	**346**	*e*PKP2	PKPab	05 08 54.4	-1.8
MOX				pmax	pmax		
	comp=Z,18nm,1.1s						
MOX	**Moxa**	**155.16**	**346**	PKP2	PKPab	05 08 54.0	-2.2
MOX				pPKP		05 09 42.0	
MOX				PKS	PKS	05 12 08.0	+7.0
NKC	**Novy Kostel**	**155.35**	**344**	*e*PKIKP	PKPdf	05 08 30.5	+2.3
NKC				PKP2	PKPab	05 08 55.2	-1.8
NKC	**Novy Kostel**	**155.35**	**344**	*e*PKIKP	PKPdf	05 08 30.5	+2.3
NKC				*e*		05 08 55.2	
HGN	**Heimansgroeve**	**155.93**	**354**	*e*P	PKPab	05 08 57.6	-2.0
	comp=Z,3.4nm,0.5s						
KDAG	**Bornova**	**156.03**	**305**	*i* P	PKPab	05 08 59.4	-1.0
KHC	**Kasperske Hory**	**156.06**	**341**	PKIKP	PKPdf	05 08 30.0	+0.8
KHC						05 08 48.5	
KHC				PKP2	PKPab	05 08 58.5	-1.6
KHC	**Kasperske Hory**	**156.06**	**341**	PKIKP	PKPdf	05 08 30.0	+0.8
KHC				*e*		05 08 58.5	
KHC	**Kasperske Hory**	**156.06**	**341**	PKP	PKPdf	05 08 30.0	+0.8
KHC				*e*		05 08 48.5	
KHC				*e*		05 08 58.5	
GRA1	**Grafenberg Arr**	**156.14**	**345**	*e*PKPab	PKPab	05 08 59.5	-0.9
GRA1				*e*pPKPab		05 09 45.8	
GRF	**Grafenberg Arr**	**156.14**	**345**	*e*PKP2	PKPab	05 08 59.5	-0.9
GRF				*e*		05 12 34.6	
WET	**Wettzell**	**156.24**	**342**	*e*PKP2	PKPab	05 08 59.9	-1.0
WET	**Wettzell**	**156.24**	**342**	*e*PKPab	PKPab	05 08 59.9	-1.0
GEC2	**GERESS Array S**	**156.28**	**341**	*e*PKP2	PKPab	05 09 00.2	-0.9
GEC2	**GERESS Array S**	**156.28**	**341**	*e*PKPab	PKPab	05 09 00.2	-0.9
GERES	**GERESS Array B**	**156.28**	**341**	PKP	PKPdf	05 08 30.8	+1.3
	comp=Z,0.5nm,0.6s,baz=270,slow=1.3,SNR=7.2						
GERES				PKPbc	PKPdf	05 08 41.7	+12
	comp=Z,1.2nm,0.7s,baz=63,slow=3.0,SNR=6.9						
GERES				PKPab	PKPab	05 08 59.9	-1.2
	comp=Z,2.7nm,0.7s,baz=45,slow=1.9,SNR=4.5						
BAIF	**Baives**	**156.76**	**357**	*e*PKP2	PKPab	05 09 01.0	-2.1
MOA	**Molln**	**156.99**	**339**⇓	*i*P	PKPab	05 09 03.3	-0.9
	comp=Z,183nm,3.3s						
ARSA	**Arzberg**	**157.08**	**336**⇑	*i*P	PKPab	05 09 03.5	-1.1
	comp=Z,140nm,3.0s						
FUR	**Furstenfeldbru**	**157.56**	**344**	*e*PKP2	PKPab	05 09 06.0	-0.6
KBA	**Koelnbreinsper**	**157.97**	**339**⇑	*i*P	PKPab	05 09 07.7	-0.7
	comp=Z,111nm,2.9s						
FLN	**La Foliniere**	**158.00**	**5**	*e*PKP2	PKPab	05 09 06.0	-2.5
	comp=Z,23nm,0.6s						
FLN				*e*R			
	comp=Z,86nm,22.2s						
BFO	**Black Forest**	**158.01**	**349**	*e*PKP2	PKPab	05 09 07.2	-1.3
BFO	**Black Forest**	**158.01**	**349**	*e*PKPab	PKPab	05 09 07.2	-1.3
OBKA	**Obir**	**158.06**	**337**⇑	*i*P	PKPab	05 09 07.3	-1.5
	comp=Z,177nm,3.8s						
CDF	**Champ du Feu**	**158.10**	**351**	*e*PKP2	PKPab	05 09 07.3	-1.6
	comp=Z,7.7nm,0.6s						
ROSF	**Rostrenen**	**158.11**	**10**	*e*PKP2	PKPab	05 09 06.9	-2.0
WATA	**Walderalm**	**158.25**	**343**⇓	*i*P	PKPab	05 09 09.0	-0.6
	comp=Z,23nm,1.3s						
MEZF	**Maizieres J’vi**	**158.25**	**355**	*e*PKP2	PKPab	05 09 07.6	-2.0
	comp=Z,29nm,0.7s						
SGMF	**Saint Gilles**	**158.29**	**9**	*e*PKP2	PKPab	05 09 07.6	-2.1
	comp=Z,32nm,0.7s						
WTTA	**Wattenberg**	**158.30**	**342**⇓	*i*P	PKPab	05 09 08.7	-1.1
	comp=Z,224nm,2.9s						
GRR	**Gorron**	**158.35**	**6**	*e*PKP2	PKPab	05 09 07.2	-2.8
	comp=Z,14nm,0.6s						
MOTA	**Moosalm**	**158.36**	**343**⇓	*i*P	PKPab	05 09 08.9	-1.2
	comp=Z,18nm,1.2s						
SQTA	**Sankt Quirin**	**158.45**	**343**⇑	*i*P	PKPab	05 09 09.9	-0.6
	comp=Z,8.6nm,1.0s						
LJU	**Ljubljana**	**158.47**	**336**	*e*PKPdf	PKPdf	05 08 34.8	+2.4
LJU				*e*PKPab	PKPab	05 09 09.0	-1.6
VISS	**Visnje**	**158.56**	**335**	*e*PKPdf	PKPdf	05 08 34.6	+2.0
VISS				*i* PKPab	PKPab	05 09 09.4	-1.5
VISS				*e*		05 12 00.8	
HAU	**Haudompre**	**158.62**	**352**	*e*PKP2	PKPab	05 09 08.9	-2.2
HAU				*e*R			
	comp=Z,40nm,22.8s						
DAVA	**Damuels**	**158.71**	**346**⇓	*i*P	PKPab	05 09 10.4	-1.2
	comp=Z,126nm,2.9s						
HINF	**Hinteralfeld**	**158.74**	**351**	*e*PKP2	PKPab	05 09 09.1	-2.6
CEY	**Cerknica**	**158.77**	**336**	*e*PKPdf	PKPdf	05 08 34.8	+1.9
CEY				*e*PKPab	PKPab	05 09 10.2	-1.6
DBIC	**Dimbokro**	**158.85**	**160**	PKPab	PKPab	05 09 15.1	+1.9
	comp=Z,5.9nm,0.8s,baz=157,slow=5.0,SNR=3.6						
IDI	**Anoyia**	**158.86**	**299**	PKPab	PKPab	05 09 11.7	-0.9
	comp=Z,15nm,0.8s,baz=226,slow=18,SNR=5.8						
DAVOX	**Davos**	**159.19**	**345**	PKP	PKPdf	05 08 35.5	+2.2
	comp=Z,1.2nm,0.4s,baz=5.0,slow=2.5,SNR=3.6						
DAVOX				PKPab	PKPab	05 09 12.3	-1.4
	comp=Z,14nm,0.8s,baz=17,slow=4.4,SNR=13						
LOR	**Lormes**	**159.56**	**357**	*e*PKP2	PKPab	05 09 12.9	-2.3
LOR				*e*R			
	comp=Z,78nm,21.2s						

SSF	**Saint Saulge**	**159.78**	**357**	*e*PKP2	PKPab	05 09 14.2	-2.0
	comp=Z,12nm,0.7s						
AVF	**Avril sur Loir**	**160.06**	**358**	*e*PKP2	PKPab	05 09 15.1	-2.3
	comp=Z,12nm,0.7s						
MFF	**Saint Martin d**	**160.18**	**5**	*e*PKP2	PKPab	05 09 15.8	-2.1
	comp=Z,9.2nm,0.6s						
SMF	**Signal de Mont**	**160.18**	**357**	*e*PKP2	PKPab	05 09 15.7	-2.2
	comp=Z,16nm,0.6s						
BGF	**Bois d'Agland**	**160.31**	**359**	*e*PKP2	PKPab	05 09 16.2	-2.3
	comp=Z,5.9nm,0.5s						
TCF	**Toulx Ste Croi**	**160.58**	**0**	*e*PKP2	PKPab	05 09 17.5	-2.2
	comp=Z,8.6nm,0.7s						
LPL	**La Plagne**	**161.01**	**350**	*e*PKP2	PKPab	05 09 20.3	-1.2
LPG	**La Plagne**	**161.02**	**350**	*e*PKP2	PKPab	05 09 20.5	-1.1
	comp=Z,8.4nm,0.5s						
RJF	**Les Rejaudoux**	**161.56**	**2**	*e*PKP2	PKPab	05 09 21.6	-2.3
	comp=Z,39nm,1.1s						
ORIF	**Oris-en-Rattie**	**161.71**	**352**	*e*PKP2	PKPab	05 09 23.2	-1.4
	comp=Z,15nm,0.6s						
ORIF				*e*R			
	comp=Z,132nm,21.8s						
MBDF	**Montbardon**	**161.77**	**350**	*e*PKP2	PKPab	05 09 23.2	-1.7
	comp=Z,9.3nm,0.7s						
LFF	**La Frestale**	**161.89**	**3**	*e*PKP2	PKPab	05 09 22.4	-3.0
	comp=Z,17nm,0.6s						
VIVF	**Saint-Julien-l**	**161.91**	**354**	*e*PKP2	PKPab	05 09 23.8	-1.7
	comp=Z,6.6nm,0.7s						
CAF	**Calviac**	**161.94**	**0**	*e*PKP2	PKPab	05 09 23.6	-2.0
	comp=Z,10nm,0.7s						
SBF	**Sospel**	**162.49**	**347**	*e*PKP2	PKPab	05 09 25.7	-2.3
	comp=Z,26nm,0.6s						
SMRF	**Simiane la Rot**	**162.68**	**352**	*e*PKP2	PKPab	05 09 27.5	-1.4
LASF	**Ste Croix**	**162.74**	**356**	*e*PKP2	PKPab	05 09 27.3	-1.8
FRF	**La Foret Royal**	**162.93**	**349**	*e*PKP2	PKPab	05 09 26.9	-3.0
LMR	**La Mourre**	**163.17**	**349**	*e*PKP2	PKPab	05 09 29.0	-2.0
	comp=Z,20nm,1.1s						
PGF	**Pioggiola**	**163.37**	**342**	*e*PKP2	PKPab	05 09 29.9	-2.0
	comp=Z,19nm,0.7s						
SJPF	**Ste Jean**	**163.51**	**9**	*e*PKP2	PKPab	05 09 30.3	-2.2
	comp=Z,8.9nm,0.9s						
MTLF	**Montolieu**	**163.53**	**0**	*e*PKP2	PKPab	05 09 30.8	-1.8
	comp=Z,13nm,0.9s						
EPF	**Esparros**	**163.77**	**5**	*e*PKP2	PKPab	05 09 31.3	-2.3
	comp=Z,10.0nm,0.8s						
ETSF	**Etsaut**	**163.81**	**7**	*e*PKP2	PKPab	05 09 32.4	-1.4
	comp=Z,14nm,0.8s						
ESDC	**Sonseca Array**	**166.19**	**20**	PKP	PKPdf	05 08 41.9	+1.6
	comp=Z,0.5nm,0.5s,baz=0.3,slow=3.1,SNR=4.4						
ESDC				PKPab	PKPab	05 09 42.9	-1.4
	comp=Z,1.3nm,0.6s,baz=336,slow=4.8,SNR=6.6						

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*IDC **17** 04:53:35.0±11.0, 21.01N×94.65E, h94^{km}±158^{km}, mb3.5/2, mb1 3.5/3, mb1mx3.2/17, ML3.2/1, Error ellipse: s-maj=136.0km s-min=45.0km az=109.0*

ISC 17 04:53:32.8±1.3**, 21.5N**±0.2×**94.9E**±0.2**, h69**^{km}±20^{km}**, n10, σ0^{s}.69**/11**, mb3.5**/2**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.85**	**128**	P	**P**	**04 54 44.6**	**-0.3**
	0.3nm,0.3s,baz=298,slow=14,SNR=15						
SHL	**Shillong**	**4.91**	**326**	*e*PN	**P**	**04 54 46.2**	**+0.5**
SHL				*e*SN	**S**	**04 55 40.7**	**-1.0**
GUN	**Gumba**	**10.40**	**310**	*e*P	**P**	**04 56 01.8**	**+0.5**
	13nm,0.4s						
PKI	**Pulchoki**	**10.55**	**307**	*e*P	**P**	**04 56 03.3**	**-0.1**
	7.5nm,0.5s						
KKN	**Kakani**	**10.77**	**307**	*e*P	**P**	**04 56 06.5**	**+0.2**
	7.3nm,0.4s						
DMN	**Daman**	**10.80**	**306**	*e*P	**P**	**04 56 07.3**	**+0.5**
	2.1nm,0.3s						
GKN	**Gorkha**	**11.36**	**307**	*e*P	**P**	**04 56 14.2**	**-0.1**
	14nm,0.5s						
KOLN	**Koldanda**	**12.04**	**303**	*e*P	**P**	**04 56 23.2**	**-0.1**
	3.5nm,0.2s						
MKAR	**Makanchi Array**	**27.22**	**341**	P	**P**	**04 59 13.5**	**+1.3**
	0.7nm,0.5s,mb3.5,baz=152,slow=8.6,SNR=9.7						
GERES	**GERESS Array B**	**68.44**	**315**	P	**P**	**05 04 28.0**	**-1.3**
	0.5nm,0.5s,mb3.6,baz=80,slow=8.1,SNR=4.7						

CASC 17 04:56:33.4±2.4**, 12.23N×88.64W, h27**^{km}±15^{km}**, MD4.0, ML3.4, 12C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.24**	**17**	⇑*e*P	Pn	04 56 55.2	-0.1
BLLM	**Bellamira**	**1.27**	**18**	⇓*e*P	Pn	04 56 56.1	+0.4
BLLM				*e*S	Sn	04 57 12.5	+0.6
SNVI	**San Vicente**	**1.39**	**352**	⇓*e*P	Pn	04 56 56.9	-0.5
SNVI				*e*S	Sn	04 57 15.9	+0.9
LFRS	**El Faro**	**1.45**	**343**	⇑*e*P	Pn	04 56 57.3	-0.9
LCBS	**La Ceiba**	**1.46**	**347**	⇑*e*P	Pn	04 56 57.5	-0.9
LCBS				*e*S	Sn	04 57 16.5	-0.2
LBRS	**Las Brisas**	**1.55**	**345**	*e*P	Pn	04 56 58.9	-0.8
LBRS				*e*S	Sn	04 57 19.7	+0.6
SNET	**Serv Nac Est T**	**1.56**	**338**	*e*P	Pn	04 56 59.1	-0.8
SNET				*e*S	Sn	04 57 20.5	+1.1
PYN	**Poneloya**	**1.59**	**84**	⇑*e*P	Pn	04 56 59.3	-0.9
PYN				*e*S	Sn	04 57 20.9	+0.8
PYN				*e*S	Sn	04 57 22.2	+2.2
CAHU	**Cacacuatique**	**1.59**	**15**	*e*P	Pn	04 57 00.7	+0.5
CAHU				*e*S	Sn	04 57 22.8	+2.7
BOQS	**Boqueron**	**1.62**	**337**	⇑*e*P	Pn	04 57 00.3	-0.4
BOQS				*e*S	Sn	04 57 22.2	+1.2
LEON	**Leon**	**1.72**	**84**	⇓*e*P	Pn	04 57 01.6	-0.5
LEON				*e*S	Sn	04 57 22.8	-0.5
LEON				*e*S	Sn	04 57 23.9	+0.6
TEL3	**Telica 3**	**1.79**	**79**	⇑*e*P	Pn	04 57 01.9	-1.1
TEL3				*e*S	Sn	04 57 24.9	-0.2
TEL3				*e*S	Sn	04 57 26.9	+1.8
SBLS	**San Blas**	**1.87**	**329**	⇑*e*P	Pn	04 57 03.5	-0.8
SBLS				*e*S	Sn	04 57 27.7	+0.5
SNJE	**San Jose**	**1.88**	**330**	⇑*e*P	Pn	04 57 04.0	-0.4
MIRN	**Miramar**	**1.89**	**83**	*e*P	Pn	04 57 03.8	-0.8
MIRN				⇓*e*P		04 57 03.9	
MIRN				*e*S	Sn	04 57 28.2	+0.3
CNGN	**Cerro Negro**	**1.91**	**82**	⇑*e*P	Pn	04 57 04.2	-0.7
CNGN				*e*S	Sn	04 57 29.7	+1.4
RTR	**El Retiro**	**1.93**	**329**	⇑*e*P	Pn	04 57 04.8	-0.3
COPN	**Copaltepe**	**2.00**	**91**	⇓*e*P	Pn	04 57 04.9	-1.3
COPN				*e*S	Sn	04 57 29.7	-0.8
MOMJ	**Momotombo**	**2.06**	**85**	*e*P	Pn	04 57 06.4	-0.6
MOMJ				*e*P		04 57 06.4	
MOMJ				*e*S	Sn	04 57 32.3	+0.2
RBDL	**Robledal**	**2.13**	**332**	⇑*e*P	Pn	04 57 08.1	0.0
MTO2	**Montecristo 2**	**2.27**	**342**	⇓*e*P	Pn	04 57 10.2	+0.2
MGAN	**Managua**	**2.34**	**92**	⇑*e*P	Pn	04 57 09.9	-1.1
MGAN				*e*P		04 57 10.0	
MGAN				*e*S	Sn	04 57 37.7	-1.5
MGAN				*i*		04 57 38.2	
	comp=E,277nm,0.4s						
TICN	**Ticuantepe**	**2.36**	**94**	⇓*e*P	Pn	04 57 10.9	-0.4
TICN				*e*S	Sn	04 57 39.4	-0.4
WILN	**Americas 2**	**2.40**	**91**	*e*P	Pn	04 57 10.9	-0.9
WILN				*e*S	Sn	04 57 39.4	-1.3
COFN	**Cofrada**	**2.47**	**92**	*e*P	Pn	04 57 11.9	-1.0
COFN				*e*P		04 57 11.9	
COFN				*e*S	Sn	04 57 41.3	-1.3
APON	**Apoyo**	**2.53**	**97**	*e*P	Pn	04 57 12.1	-1.6
APON				*e*P		04 57 12.1	
APON				*e*S	Sn	04 57 42.9	-1.2
CONN	**Concepcion**	**3.02**	**102**	*e*S	Sn	04 57 53.5	-2.9
JCR	**Jicaral**	**4.19**	**124**	*e*P	Pn	04 57 36.3	-1.1
JCR				*e*S	Sn	04 58 25.5	-0.5
PRS1	**Puriscal**	**4.80**	**117**	*e*P	Pn	04 57 48.5	+2.6
LAJ	**Bijagual**	**5.02**	**117**	*e*P	Pn	04 57 45.0	-4.0
URSC	**Urasca**	**5.33**	**116**	*e*P	Pn	04 57 55.0	+1.6
BUS	**Buena Vista**	**5.48**	**119**	*e*P	Pn	04 57 54.5	-1.0
BUS				*e*S	Sn	04 58 57.5	-0.9

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*IDC **17** 05:03:38.6±0.7, 14.72N×25.05W, mb4.2/16, mb1 4.4/16, mb1mx4.2/23, MS4.0/8, Ms1 4.0/8, ms1mx3.8/22, Error ellipse: s-maj=25.3km s-min=16.0km az=140.0*

*NEIC **17** 05:03:39.8±0.4, 14.65N×25.00W, h10^{km}, mb4.6/11, Error ellipse: s-maj=13.9km s-min=10.0km az=160.0*

ISC 17 05:03:37.2±0.4**, 14.53N**±0.09×**24.80W**±0.07**, h10**^{km}**, n38, σ1^{s}.27**/34**, mb4.3**/25**, MS4.0**/8**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIC	**Toumodi**	**20.95**	**110**	*e*P	**P**	**05 08 21.6**	**-1.3**
	16nm,0.2s						
DBIC	**Dimbokro**	**21.09**	**110**	P	**P**	**05 08 24.7**	**+0.4**
	8.2nm,0.8s,mb4.1,baz=283,slow=11,SNR=6.4						
DBIC				tx	tx	05 08 29.5	
	3.5nm,0.5s,baz=288,slow=17,SNR=11						
DBIC				LR	LR	05 16 18.3	
	comp=Z,133nm,18.2s,MS3.4,baz=278,slow=36						
DBIC	**Dimbokro**	**21.09**	**110**	*e*P	**P**	**05 08 24.8**	**+0.5**
	15nm,0.9s,mb4.3						
LIC	**Lamto**	**21.11**	**111**	*e*PKIKP	**P**	**05 08 23.4**	**-1.1**
	55nm,1.0s,mb4.6						
LIC	**Lamto**	**21.11**	**111**	*e*P	**P**	**05 08 23.3**	**-1.2**
	149nm,1.6s,mb5.1						
KIC	**Kosan Boka**	**21.32**	**110**	*e*P	**P**	**05 08 23.2**	**-3.4**
	62nm,0.8s,mb5.0						
BDFB	**Brasilia**	**37.75**	**218**	P	**P**	**05 10 56.3**	**+1.0**
	4.8nm,0.7s,mb4.3,baz=36,slow=8.9,SNR=9.4						
BDFB				LR	LR	05 24 17.4	
	comp=Z,430nm,19.5s,MS4.3,baz=235,slow=33						
DAVOX	**Davos**	**43.25**	**35**	P	**P**	**05 11 43.3**	**+2.9**
	3.1nm,0.7s,mb4.2,baz=203,slow=15,SNR=3.0						
EKA	**Eskdalemuir Ar**	**44.04**	**18**	P	**P**	**05 11 47.1**	**+0.4**
	3.1nm,0.9s,mb4.0,baz=212,slow=7.9,SNR=5.2						
SAML	**Samuel**	**44.64**	**241**	*e*P	**P**	**05 11 52.6**	**+0.5**
	5.2nm,0.7s,mb4.5						
SAML				*e*		05 12 01.2	
GERES	**GERESS Array B**	**46.55**	**35**	P	**P**	**05 12 07.0**	**+0.3**
	0.2nm,0.3s,mb3.5,baz=236,slow=4.8,SNR=4.1						
CPUP	**Villa Florida**	**51.48**	**218**	LR	LR	05 33 39.7	
	comp=Z,329nm,18.9s,MS4.4,baz=176,slow=35						
SCHQ	**Schefferville**	**51.72**	**330**	P	**P**	**05 12 45.2**	**-1.4**
	4.0nm,0.9s,mb4.3,baz=130,slow=7.6,SNR=5.0						
LPAZ	**La Paz**	**52.62**	**236**	P	**P**	**05 12 54.6**	**+0.7**
	1.6nm,0.3s,mb4.5,baz=45,slow=5.7,SNR=6.3						
LPAZ				LR	LR	05 34 20.3	
	comp=Z,125nm,20.9s,MS3.9,baz=288,slow=35						
NOA	**NORSAR Array B**	**53.20**	**21**	P	**P**	**05 12 57.4**	**-0.2**
	4.6nm,1.1s,mb4.3,baz=231,slow=6.6,SNR=2.9						
NOA				LR	LR	05 34 02.1	
	comp=Z,85nm,19.7s,MS3.8,baz=235,slow=34						
AKASG	**Malin Array Be**	**56.35**	**38**	P	**P**	**05 13 19.8**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=258,slow=6.6,SNR=8.5						
BRTR	**Keskin Array B**	**56.66**	**52**	P	**P**	**05 13 24.7**	**+1.6**
	9.4nm,0.9s,mb4.8,baz=256,slow=5.1,SNR=11						
BRTR				LR	LR	05 39 56.7	
	comp=Z,144nm,19.9s,MS4.1,baz=320,slow=38						
ASF	**Jabal al Asfar**	**58.57**	**61**	P	**P**	**05 13 39.4**	**+2.7**
	1.3nm,0.3s,mb4.4,baz=38,slow=1.1,SNR=3.7						
LRAL	**Lakeview Retre**	**59.02**	**300**	P	**P**	**05 13 37.5**	**-2.3**
	2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**59.19**	**26**	LR	LR	05 36 52.0	
	comp=Z,151nm,20.2s,MS4.1,baz=10,slow=34						
ARCES	**ARCESS Array B**	**63.20**	**18**	P	**P**	**05 14 06.5**	**-1.0**
	5.1nm,0.8s,mb4.7,baz=243,slow=5.4,SNR=8.8						
ARCES				LR	LR	05 38 34.2	
	comp=Z,171nm,20.5s,MS4.2,baz=177,slow=33						
WMOK	**Wichita Mounta**	**68.81**	**302**	*e*P	**P**	**05 14 41.8**	**-2.1**
	5.2nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**73.45**	**297**	P	**P**	**05 15 11.6**	**-0.5**
	1.4nm,1.0s,mb3.8,baz=112,slow=7.7,SNR=11						
TXAR	**Lajitas Array**	**73.45**	**297**	P	**P**	**05 15 11.6**	**-0.5**
GDL2	**Guadalupe Moun**	**73.68**	**300**	*e*P	**P**	**05 15 13.4**	**+0.1**
ANMO	**Albuquerque**	**75.08**	**303**	*e*P	**P**	**05 15 21.2**	**-0.1**
	3.3nm,0.8s,mb4.3						
BNM	**Barren Site**	**75.32**	**302**	*e*P	**P**	**05 15 19.4**	**-3.3**
PDAR	**Pinedale Array**	**76.48**	**311**	P	**P**	**05 15 28.6**	**-0.5**
	0.8nm,1.0s,mb3.6,baz=63,slow=6.0,SNR=5.3						
WUWY	**Wally Ulrich**	**77.24**	**312**	*e*P	**P**	**05 15 31.7**	**-1.6**
HWUT	**Hardware Ranch**	**78.12**	**310**	*e*P	**P**	**05 15 37.5**	**-0.7**
	7.6nm,1.3s,mb4.5						
JLU	**Jordanelle**	**78.19**	**309**	P	**P**	**05 15 39.1**	**+0.5**
TPH	**Tonopah**	**83.06**	**307**	*e*P	**P**	**05 16 05.9**	**+1.4**
	1.8nm,0.6s,mb4.3						
MNV	**Mina**	**83.69**	**308**	*e*P	**P**	**05 16 08.6**	**+0.8**
	3.6nm,0.7s,mb4.6						
NVAR	**Mina Array Bea**	**83.81**	**308**	P	**P**	**05 16 09.9**	**+1.6**
	2.2nm,0.8s,mb4.4,baz=72,slow=5.7,SNR=20						
DLBC	**Dease Lake**	**85.51**	**329**	*e*P	**P**	**05 16 18.1**	**+1.7**
ILAR	**Eielson Array**	**89.73**	**339**	P	**P**	**05 16 37.7**	**+1.1**
	0.5nm,0.8s,mb3.9,baz=40,slow=3.5,SNR=5.3						
ASAR	**Alice Springs**	**157.94**	**118**	PKP	PKPdf	05 23 38.2	+0.5
	1.0nm,1.0s,baz=163,slow=1.0,SNR=6.4						
ASAR				PKPab	PKPab	05 24 11.8	+1.5
	0.8nm,0.7s,baz=246,slow=4.1,SNR=5.4						
WRA	**Warramunga Arr**	**159.37**	**108**	PKP	PKPdf	05 23 41.3	+1.8
	1.0nm,1.0s,baz=244,slow=1.4,SNR=5.0						
WRA				PKPab	PKPab	05 24 17.6	+1.1
	0.9nm,0.9s,baz=259,slow=2.1,SNR=3.2						

OTT 17 05:10:52.3±0.0**, 46.99N×76.89W, h16**^{km}**, MN2.9**/36**, 1D, 98km northwest from Maniwaki, Qc Western Quebec Seismic Zone., Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRQ	**Cabonga Reserv**	**0.42**	**42**	⇓PG	Pb	05 11 00.6	-0.4
CBRQ				SG	Sb	05 11 06.2	-0.7
CBRQ				Trac		05 11 09.5	
	comp=Z,31nm,0.0s						
GRQ	**Grand Remous**	**0.80**	**118**	PG	Pb	05 11 07.1	-0.3
GRQ				SG	Sb	05 11 18.1	+0.3
GRQ				Trac		05 11 19.3	
	comp=Z,35nm,0.1s						
CRLO	**Chalk River**	**1.01**	**200**	PG	Pb	05 11 10.8	-0.2
CRLO				SG	Sb	05 11 24.6	+0.7
CRLO				Trac		05 11 29.5	
	comp=Z,59nm,0.1s						
VLDQ	**Val d'Or**	**1.19**	**341**	PG	Pb	05 11 16.8	+2.9
VLDQ				SG	Sb	05 11 34.1	+5.3
VLDQ				Trac		05 11 34.9	
	comp=Z,21nm,0.1s						
ALGO	**Algonquin Park**	**1.31**	**218**	PN	Pn	05 11 15.9	-0.2
ALGO				SN	Sn	05 11 33.5	+0.1
ALGO				Trac		05 11 37.1	
	comp=Z,244nm,0.1s						
PEMO	**Pembroke**	**1.34**	**191**	PN	Pn	05 11 16.0	-0.4
PEMO				SN	Sn	05 11 34.1	+0.1
PEMO				Trac		05 11 37.8	
	comp=Z,20nm,0.0s						
EEO	**Eldee**	**1.54**	**258**	PN	Pn	05 11 19.1	-0.3
EEO				SN	Sn	05 11 39.1	0.0
EEO				Trac		05 11 42.5	
	comp=Z,78nm,0.2s						
GAC	**Glen Almond**	**1.62**	**142**	PN	Pn	05 11 20.8	+0.4
GAC				SN	Sn	05 11 40.5	-0.5
GAC				Trac		05 11 42.0	
	comp=Z,25nm,0.2s						
TRQ	**Mont Tremblant**	**1.78**	**115**	PN	Pn	05 11 22.5	-0.3
TRQ				SN	Sn	05 11 44.3	-1.0
TRQ				Trac		05 11 50.5	
	comp=Z,10.0nm,0.1s						
OTT	**Ottawa**	**1.79**	**153**	PN	Pn	05 11 23.4	+0.4
OTT				Trac		05 11 47.8	
	comp=Z,52nm,0.2s						
ALFO	**Alfred**	**1.95**	**134**	PN	Pn	05 11 25.1	0.0
ALFO				SN	Sn	05 11 48.4	-1.0
ALFO				Trac		05 11 56.1	
	comp=Z,16nm,0.1s						
PLVO	**Plevna**	**1.96**	**184**	PN	Pn	05 11 24.8	-0.5
PLVO				SN	Sn	05 11 48.8	-0.8
PLVO				Trac		05 11 53.6	
	comp=Z,29nm,0.1s						
BANO	**Bancroft**	**2.10**	**201**	PN	Pn	05 11 27.0	-0.4
BANO				SN	Sn	05 11 52.1	-1.3
BANO				Trac		05 12 00.4	
	comp=Z,23nm,0.0s						
MRHQ	**Morin Heights**	**2.15**	**120**	PN	Pn	05 11 27.3	-0.8
MRHQ				SN	Sn	05 11 53.2	-1.5
MRHQ				Trac		05 11 58.7	
	comp=Z,7.7nm,0.1s						
RSPO	**Restoule Provi**	**2.19**	**246**	PN	Pn	05 11 28.1	-0.5
RSPO				SN	Sn	05 11 54.7	-0.8
RSPO				Trac		05 12 01.2	
	comp=Z,20nm,0.1s						
MPPO	**Murphy's Point**	**2.27**	**169**	PN	Pn	05 11 28.9	-0.9
MPPO				SN	Sn	05 11 56.1	-1.3
MPPO				Trac		05 12 05.8	
	comp=Z,27nm,0.2s						
WBO	**Williamsburg**	**2.29**	**150**	PN	Pn	05 11 29.3	-0.8
WBO				PG	Pn	05 11 33.6	+3.6
WBO				SN	Sn	05 11 56.7	-1.4
WBO				Trac		05 12 04.4	
	comp=Z,9.2nm,0.1s						
BUKO	**Buck Lake**	**2.33**	**229**	PN	Pn	05 11 30.1	-0.6
BUKO				SN	Sn	05 11 57.4	-1.8
BUKO				Trac		05 12 07.8	
	comp=Z,24nm,0.1s						
KILO	**Kirkland Lake**	**2.44**	**309**	PN	Pn	05 11 31.1	-1.1
KILO				PN	Pn	05 11 34.9	+2.7
KILO				SN	Sn	05 11 60.0	-1.9
KILO				LG		05 12 07.1	
KILO				Trac		05 12 10.1	
	comp=Z,8.5nm,0.1s						
KILO				Trac		05 12 11.2	
	comp=Z,8.5nm,0.1s						
DELO	**Deloro Mine**	**2.53**	**192**	PN	Pn	05 11 33.7	+0.2
DELO				SN	Sn	05 12 02.1	-2.0
DELO				Trac		05 12 13.5	
	comp=Z,14nm,0.1s						
MNT	**Montreal**	**2.71**	**122**	PN	Pn	05 11 35.0	-1.1
MNT				PG	Pn	05 11 41.4	+5.3
MNT				SN	Sn	05 12 06.4	-2.4
MNT				Trac		05 12 15.1	
	comp=Z,5.1nm,0.1s						
SADO	**Sadowa**	**2.73**	**216**	PN	Pn	05 11 35.2	-1.0
SADO				SN	Sn	05 12 07.0	-2.2
SADO				Trac		05 12 22.6	
	comp=Z,20nm,0.1s						
KGNO	**Kingston**	**2.78**	**174**	PN	Pn	05 11 35.7	-1.3
KGNO				SN	Sn	05 12 08.2	-2.4
KGNO				Trac		05 12 19.4	
	comp=Z,8.2nm,0.1s						
KLBO	**Killbear Provi**	**2.83**	**236**	PN	Pn	05 11 36.7	-1.1
KLBO				SN	Sn	05 12 09.2	-2.7
KLBO				Trac		05 12 22.2	
	comp=Z,16nm,0.1s						
DPQ	**Saint Jean**	**2.84**	**95**	PN	Pn	05 11 36.6	-1.3
DPQ				SN	Sn	05 12 09.3	-2.8
DPQ				Trac		05 12 21.1	
	comp=Z,18nm,0.2s						
LINO	**Lindsay**	**2.95**	**207**	PN	Pn	05 11 40.0	+0.5
LINO				SN	Sn	05 12 12.4	-2.6
LINO				Trac		05 12 25.9	
	comp=Z,12nm,0.1s						
PECO	**Prince Edward**	**3.06**	**181**	PN	Pn	05 11 39.8	-1.2
PECO				SN	Sn	05 12 15.5	-2.2
PECO				Trac		05 12 28.5	
	comp=Z,7.7nm,0.1s						
SUNO	**Sudbury Onapin**	**3.08**	**265**	PN	Pn	05 11 39.9	-1.4
SUNO				SN	Sn	05 12 15.1	-3.1
SUNO				Trac		05 12 29.5	
	comp=Z,14nm,0.1s						
WLVO	**Wesleyville**	**3.25**	**200**	PN	Pn	05 11 42.7	-1.0
WLVO				SN	Sn	05 12 19.5	-2.9
WLVO				Trac		05 12 40.1	
	comp=Z,11nm,0.2s						
PKRO	**Pickering**	**3.40**	**208**	PN	Pn	05 11 44.4	-1.4
PKRO				SN	Sn	05 12 23.0	-3.2
PKRO				Trac		05 12 44.5	
	comp=Z,44nm,0.2s						
CLWO	**Collingwood**	**3.49**	**224**	PN	Pn	05 11 45.6	-1.6
CLWO				SN	Sn	05 12 24.9	-3.7
CLWO				Trac		05 12 42.8	
	comp=Z,19nm,0.2s						
MOQ	**Mont Orford**	**3.63**	**116**	PN	Pn	05 11 47.7	-1.5
MOQ				SN	Sn	05 12 28.1	-4.0
MOQ				Trac		05 12 49.9	
	comp=Z,2.8nm,0.1s						
TOBO	**Tobermory, Bru**	**3.68**	**243**	PN	Pn	05 11 48.1	-1.7
TOBO				SN	Sn	05 12 29.6	-3.7
TOBO				Trac		05 12 49.0	
	comp=Z,6.4nm,0.1s						
DAQ	**Lac Daran**	**3.95**	**74**	PN	Pn	05 11 51.6	-2.0
DAQ				SN	Sn	05 12 35.9	-4.2
DAQ				Trac		05 12 55.9	
	comp=Z,8.0nm,0.2s						
MEDO	**Medina**	**3.99**	**197**	PN	Pn	05 11 52.3	-1.9
MEDO				SN	Sn	05 12 36.9	-4.2
MEDO				Trac		05 12 56.9	
	comp=Z,7.0nm,0.2s						
ACTO	**Acton**	**4.06**	**215**	PN	Pn	05 11 53.2	-2.1
ACTO				SN	Sn	05 12 39.2	-3.7
ACTO				Trac		05 12 59.7	
	comp=Z,6.4nm,0.1s						
ELGO	**Elora Gorge**	**4.16**	**218**	PN	Pn	05 11 54.7	-2.0
ELGO				Trac		05 13 06.0	
	comp=Z,6.1nm,0.1s						
BRCO	**Bruce Peninsul**	**4.22**	**231**	PN	Pn	05 11 55.9	-1.6
BRCO				SN	Sn	05 12 42.5	-4.4
BRCO				Trac		05 13 09.4	
	comp=Z,19nm,0.2s						
A54	**Misere**	**4.43**	**82**	PN	Pn	05 11 58.2	-2.4
A54				Trac		05 13 11.1	
	comp=Z,4.9nm,0.2s						
LMQ	**La Malbaie**	**4.50**	**81**	PN	Pn	05 11 58.9	-2.6
LMQ				SN	Sn	05 12 48.6	-5.5
LMQ				Trac		05 13 15.1	
	comp=Z,7.3nm,0.2s						
A61	**Sainte Mathild**	**4.67**	**79**	PN	Pn	05 12 01.8	-2.2
A61				Trac		05 13 18.5	
	comp=Z,3.9nm,0.3s						
A64	**Saint Simeon**	**4.82**	**77**	PN	Pn	05 12 05.4	-0.7
A64				Trac		05 13 27.4	
	comp=Z,4.6nm,0.2s						
CNQ	**Baie Comeau**	**6.33**	**65**	PN	Pn	05 12 24.1	-3.3
CNQ				SN	Sn	05 13 31.9	-8.2
CNQ				Trac		05 14 09.0	
	comp=Z,3.2nm,0.2s						
MNQ	**Manicouagan**	**6.43**	**54**	PN	Pn	05 12 25.2	-3.5
MNQ				SN	Sn	05 13 33.9	-8.6
MNQ				Trac		05 14 17.2	
	comp=Z,5.3nm,0.3s						
PNPO	**Pukaskwa Natio**	**6.53**	**288**	PN	Pn	05 12 26.8	-3.4
PNPO				Trac		05 14 24.9	
	comp=Z,1.1nm,0.2s						
PLIO	**Pelee Island,**	**6.66**	**220**	PN	Pn	05 12 28.7	-3.3
PLIO				Trac		05 14 24.3	
	comp=Z,1.1nm,0.1s						
LG4Q	**La Grande 4**	**6.88**	**14**	PN	Pn	05 12 32.6	-2.5
LG4Q				SN	Sn	05 13 44.9	-8.9
LG4Q				Trac		05 14 32.8	
	comp=Z,1.4nm,0.2s						
ICQ	**Pointe Anglais**	**6.90**	**65**	PN	Pn	05 12 31.6	-3.8
ICQ				Trac		05 14 32.0	
	comp=Z,1.6nm,0.2s						
VIMO	**Victor Mine**	**7.32**	**325**	PN	Pn	05 12 38.4	-2.9
VIMO				SN	Sn	05 13 55.3	-9.4
VIMO				SN	Sn	05 13 57.5	-7.3
VIMO				Trac		05 14 42.4	
	comp=Z,1.8nm,0.3s						
SMQ	**Clarke City**	**7.48**	**61**	PN	Pn	05 12 39.4	-4.2
SMQ				Trac		05 14 50.7	
	comp=Z,2.0nm,0.3s						
SILO	**Sutton Inlier**	**9.05**	**329**	PN	P	05 13 01.4	-4.0
SILO				SN	Sn	05 14 36.5	-12
SILO				Trac		05 15 38.1	
	comp=Z,0.6nm,0.2s						
SCHQ	**Schefferville**	**10.09**	**35**	PN	P	05 13 14.8	-4.7

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*FUNV **17** 05:43:50.2, 10.30N×61.81W, h54^{km}, MW2.9*

*TRN **17** 05:43:52.4, 10.24N×61.77W, h67^{km}, MD3.4*

ISC 17 05:43:49.2±0.8**, 10.25N**±0.04×**61.95W**±0.04**, h79**^{km}±9^{km}**, n16, σ1^{s}.27**/29**, 4C-2D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALNG	**Atlantic LNG**	**0.27**	**105**	*e*P	**P**	**05 44 01.2**	**0.0**
BUAY	**Buenos Aires**	**0.30**	**119**	⇑*i*P	**P**	**05 44 02.5**	**+1.1**
SIPA	**Siparia**	**0.45**	**104**	⇑*i*P	**P**	**05 44 03.5**	**+1.1**
GUIV	**Guiria**	**0.48**	**325**	⇓*i*P	**P**	**05 44 02.2**	**-0.4**
GUIV				*e*S	**S**	**05 44 09.9**	**-2.9**
TCE	**Chacachacare**	**0.48**	**24**	*e*P	**P**	**05 44 05.4**	**+2.7**
TCE				*e*S	**S**	**05 44 14.2**	**+1.3**
TPP	**Pointe-a-Pierr**	**0.49**	**83**	⇑*i*P	**P**	**05 44 03.7**	**+0.9**
TPP				*e*S	**S**	**05 44 11.8**	**-1.2**
TRN	**Trinidad (W)**	**0.67**	**54**	*e*P	**P**	**05 44 05.3**	**+0.7**
TRN				*e*S	**S**	**05 44 13.8**	**-2.2**
TBH	**Brigand Hill**	**0.90**	**75**	*e*P	**P**	**05 44 08.0**	**+0.9**
TBH				*e*S	**S**	**05 44 19.1**	**-1.4**
GUNV	**Guanoco**	**0.98**	**265**	⇓*i*P	**P**	**05 44 10.1**	**+2.0**
GUNV				*e*S	**S**	**05 44 23.9**	**+1.4**
CRUV	**Carupano**	**1.33**	**288**	*e*P	**P**	**05 44 12.6**	**-0.2**
CRUV				*e*S	**S**	**05 44 29.9**	**-0.4**
ITEV	**Isla Los Testi**	**1.60**	**313**	*i* P	**P**	**05 44 16.5**	**+0.3**
ITEV				*e*S	**S**	**05 44 35.5**	**-0.6**
GRW	**Mount Saint Ca**	**1.92**	**8**	*e*P	**P**	**05 44 22.6**	**+2.1**
GRW				*e*S	**S**	**05 44 41.7**	**-1.8**

RIOV	**Rio Grande**	**2.17**	**176**	*e*P	**P**	**05 44 24.1**	**+0.1**
RIOV				*e*S	**S**	**05 44 48.3**	**-1.6**
PCRV	**Puerto La Cruz**	**2.65**	**269**	⇑*i*P	**P**	**05 44 31.1**	**+0.4**
PCRV				*e*S	**S**	**05 45 00.8**	**-0.9**
CAOV	**Caicara del Or**	**5.21**	**236**	*e*P	**P**	**05 45 05.9**	**-0.3**
CAOV				*e*S	**S**	**05 46 01.8**	**-3.8**
BAUV	**El Baul**	**6.15**	**258**	*e*P	**P**	**05 45 18.1**	**-1.1**
BAUV				*e*S	**S**	**05 46 23.7**	**-5.1**

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*NEIC **17** 05:46:15.5±8.6, 30.59S×177.98W, h32^{km}±59^{km}, mb4.6/5, Error ellipse: s-maj=26.6km s-min=17.0km az=218.0*

*IDC **17** 05:46:21.3±7.4, 31.08S×177.89W, h91^{km}±72^{km}, mb3.9/6, mb1 4.1/7, mb1mx3.9/16, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/21, Error ellipse: s-maj=61.8km s-min=25.2km az=175.0*

ISC 17 05:46:13.9±7.9**, 30.7S**±0.1×**178.1W**±0.2**, h27**^{km}±54^{km}**, n19, σ0^{s}90**/14**, mb4.3**/10**, MS3.8**/1**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.48**	**206**	P	**P**	**05 48 17.8**	**-0.2**
	0.9nm,0.3s,baz=327,slow=17,SNR=5.9						
URZ				S	**Sn**	**05 49 50.2**	**-3.6**
	1.5nm,0.3s,baz=146,slow=19,SNR=8.6						
CTA	**Charters Tower**	**33.76**	**280**	P	**P**	**05 52 56.9**	**+1.4**
	7.4nm,0.9s,mb4.6,baz=102,slow=10,SNR=9.8						
CTAO	**Charters Tower**	**33.76**	**280**	*e*P	**P**	**05 52 56.5**	**+1.0**
	6.2nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**34.31**	**257**	P	**P**	**05 53 01.7**	**+1.5**
	8.8nm,0.7s,mb4.8,baz=94,slow=9.9,SNR=25						
ASAR	**Alice Springs**	**42.99**	**267**	P	**P**	**05 54 12.7**	**-0.1**
	1.7nm,0.5s,mb4.0,baz=107,slow=7.7,SNR=20						
WB2	**Warramunga Arr**	**44.00**	**273**	*e*P	**P**	**05 54 20.5**	**-0.5**
WRAB	**Tennant Creek**	**44.01**	**273**	*e*P	**P**	**05 54 19.8**	**-1.2**
	6.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.01**	**273**	P	**P**	**05 54 20.7**	**-0.4**
	2.9nm,0.4s,mb4.4,baz=111,slow=8.1,SNR=56						
FITZ	**Fitzroy Crossi**	**52.26**	**270**	LR	LR	06 16 23.8	
	comp=Z,81nm,19.5s,MS3.8,baz=190,slow=34						
QSPA	**South Pole Qui**	**59.38**	**180**	*e*P	**P**	**05 56 16.9**	**+1.2**
	5.0nm,0.7s,mb4.7						
MAW	**Mawson**	**71.97**	**201**	*e*P	**P**	**05 57 36.3**	**-0.2**
	3.1nm,0.5s,mb4.5						
SNAA	**Sanae**	**77.83**	**178**	*e*P	**P**	**05 58 10.3**	**+0.5**
	1.4nm,0.6s,mb4.1						
YBH	**Yreka Blue Hor**	**88.35**	**38**	P	**P**	**05 59 04.1**	**-0.4**
	0.2nm,0.3s,mb3.8,baz=187,slow=8.7,SNR=2.9						
NVAR	**Mina Array Bea**	**88.55**	**43**	P	**P**	**05 59 04.7**	**-0.8**
	0.6nm,0.9s,mb3.9,baz=226,slow=10,SNR=3.6						
KAF	**Kangasniemi**	**144.82**	**340**	*e*p	PKPbc	06 05 45.1	-2.5
	0.7nm,0.4s						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	PKPbc	06 05 48.0	-1.2
	3.5nm,0.5s,baz=87,slow=3.8,SNR=37						
NOA	**NORSAR Array B**	**149.06**	**351**	PKPbc	PKPdf	06 05 58.5	-1.0
	0.6nm,0.8s,baz=16,slow=4.0,SNR=3.3						
NOA	**NORSAR Array B**	**149.06**	**351**	PKPbc	PKPdf	06 05 58.5	-1.0
AKASG	**Malin Array Be**	**151.50**	**322**	PKPbc	PKPdf	06 06 04.5	+1.0
	1.3nm,0.5s,baz=50,slow=2.8,SNR=5.9						

JMA 17 05:51:52.1±0.2**, 27.68N**×**130.29E, h87**^{km}±3^{km}**, M3.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.69**	**336**	P	P	05 52 08.4	-0.1
JAM	**Amami Oshima**	**0.95**	**320**	P	P	05 52 11.2	0.0
JAM				*e*S	S	05 52 25.2	-0.4
JTK	**Tokunoshima**	**1.19**	**275**	P	P	05 52 14.4	+0.2
JTK				*e*S	S	05 52 30.1	-0.7
JOW	**Kunigami**	**1.98**	**245**	P	P	05 52 24.2	-0.3
JOW				*e*S	S	05 52 47.9	-0.5
JIH	**Iheya**	**2.16**	**253**	P	P	05 52 27.0	0.0
JJT2	**Tamagusuku 2**	**2.74**	**236**	P	P	05 52 34.5	-0.5
NAH1	**Naha**	**2.75**	**238**	P	P	05 52 34.6	-0.6
JKC	**Kuchinoerabu**	**2.77**	**358**	*e*S	S	05 53 06.3	-1.7
JAGN	**Aguni-jima**	**2.92**	**249**	P	P	05 52 36.7	-0.9
JAGN				*e*S	S	05 53 10.9	-0.9
JTN	**Tanegashima 3**	**3.02**	**11**	P	P	05 52 38.3	-0.7
JTN				*e*S	S	05 53 13.7	-0.5
JKE	**Kume jima 2**	**3.41**	**247**	P	P	05 52 43.0	-1.2
JKE				*e*S	S	05 53 23.2	-0.5

IDC 17 05:59:30.5±3.9**, 30.48S**×**138.28E, mb1 2.9**/3**, mb1mx2.9**/9**, ML2.4**/2**, Error ellipse: s-maj=82.4km s-min=16.2km az=41.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.16**	**117**	Pn	Pn	06 00 22.6	+0.1
	0.2nm,0.3s,baz=294,slow=14,SNR=4.4						
STKA				Sn	Sn	06 01 01.3	-0.2
	1.3nm,0.3s,baz=315,slow=20,SNR=6.2						
STKA				Lg		06 01 10.0	
	1.6nm,0.3s,baz=27,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**7.83**	**329**	Pn	Pn	06 01 24.8	-3.6
	baz=150,slow=12,SNR=3.4						
ASAR				Sn	Sn	06 02 56.3	-2.5
	0.1nm,0.3s,baz=150,slow=22,SNR=5.7						
WRA	**Warramunga Arr**	**11.08**	**340**	Pn	P	06 02 10.7	-2.7
	0.0nm,0.3s,baz=161,slow=14,SNR=4.7						
WRA				Sn	S	06 04 17.3	-2.0
	0.1nm,0.3s,baz=164,slow=24,SNR=4.7						

IDC 17 06:01:53.7±4.5**, 0.86S**×**142.74E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/13**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.6**/11**, Error ellipse: s-maj=146.0km s-min=30.1km az=92.0, Ninigo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.68**	**203**	P	P	06 06 34.8	-3.1
	0.7nm,0.7s,baz=27,slow=11,SNR=3.1						
WRA				LR	LR	06 13 42.4	
	comp=Z,38nm,20.4s,baz=255,slow=34						
FITZ	**Fitzroy Crossi**	**24.00**	**223**	P	P	06 07 09.8	-1.4
	1.1nm,0.3s,baz=351,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**24.24**	**200**	P	P	06 07 13.4	0.0
	0.3nm,0.7s,baz=49,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**70.85**	**321**	P	P	06 13 12.5	-1.9
	0.3nm,0.4s,baz=124,slow=5.2,SNR=5.1						

IDC 17 06:11:43.0±7.2**, 60.92S**×**157.07E, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.7**/9**, ML3.2**/1**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx3.1**/9**, Error ellipse: s-maj=395.0km s-min=39.1km az=75.0, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.75**	**176**	Pn	P	06 15 38.7	-1.4
	0.1nm,0.3s,baz=354,slow=13,SNR=7.0						
VNDA				LR	LR	06 21 49.6	
	comp=Z,78nm,18.9s,baz=327,slow=36						
MAW	**Mawson**	**37.60**	**219**	LR	LR	06 32 39.1	
	comp=Z,62nm,20.6s,baz=50,slow=33						
ASAR	**Alice Springs**	**40.53**	**326**	P	P	06 19 24.6	-0.6
	0.5nm,0.7s,baz=159,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**43.97**	**328**	P	P	06 19 50.5	-2.8
	1.0nm,1.2s,baz=165,slow=7.2,SNR=5.6						

WEL 17 06:19:31.0±1.1**, 38.07S**×**179.97E, h33**^{km}**, ML3.5**/1**, Error ellipse: s-maj=10.8km s-min=8.4km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**1.94**	**261**	PN	Pn	06 20 00.3	-2.0
MWZ				SN	Sn	06 20 23.0	-2.7
URZ	**Urewera**	**2.26**	**264**	PN	Pn	06 20 05.7	-1.2
URZ				SN	Sn	06 20 30.9	-3.0
URZ				SN	Sn	06 20 31.7	-2.1
BKZ	**Black Stump Fm**	**2.93**	**247**	PN	Pn	06 20 15.0	-1.5
TSZ	**Takapari Road**	**3.69**	**236**	PN	Pn	06 20 24.9	-2.4

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*IDC **17** 06:51:09.8±0.6, 46.33S×33.85E, mb4.5/10, mb1 4.6/11, mb1mx4.4/17, ML4.9/1, MS4.1/19, Ms1 4.1/19, ms1mx4.0/23, Error ellipse: s-maj=26.3km s-min=15.7km az=48.0*

*NEIC **17** 06:51:11.9±0.5, 46.29S×33.73E, h10^{km}, mb4.7/6, Error ellipse: s-maj=18.1km s-min=10.6km az=66.0*

ISC 17 06:51:09.9±0.5**, 46.28S**±0.08×**33.7E**±0.2**, h10**^{km}**, n45, σ1^{s}02**/22**, mb4.5**/14**, MS4.1**/18**, 1C-2D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.07**	**320**	P	**P**	**06 55 09.5**	**-0.6**
	4.5nm,0.3s,baz=133,slow=12,SNR=36						
SUR				LR	LR	07 00 28.5	
	comp=Z,890nm,18.5s,baz=180,slow=33						
LBTB	**Lobatse**	**22.20**	**340**	*e*P	**P**	**06 56 08.0**	**+0.1**
	29nm,0.4s,mb5.0						
MAW	**Mawson**	**26.17**	**155**	*e*P	**P**	**06 56 45.2**	**-0.5**
	13nm,0.9s,mb4.5						
MAW	**Mawson**	**26.17**	**155**	P	**P**	**06 56 45.3**	**-0.4**
	42nm,1.3s,mb4.8,baz=303,slow=8.6,SNR=18						
MAW				LR	LR	07 04 43.6	
	comp=Z,249nm,18.4s,MS3.8,baz=295,slow=31						
TSUM	**Tsumeb**	**30.10**	**328**	P	**P**	**06 57 21.5**	**-0.3**
	7.3nm,0.8s,mb4.5,baz=143,slow=11,SNR=8.6						
SNAA	**Sanae**	**30.73**	**202**	⇓*i*	**P**	**06 57 24.1**	**-2.7**
SNAA	**Sanae**	**30.73**	**202**	P	**P**	**06 57 25.3**	**-1.5**
	1.5nm,0.6s,mb4.0,baz=70,slow=7.4,SNR=19						
SNAA				LR	LR	07 06 39.2	
	comp=Z,89nm,18.5s,MS3.5,baz=236,slow=30						
LSZ	**Lusaka**	**31.25**	**350**	*e*P	**P**	**06 57 31.1**	**-0.8**
	9.2nm,0.6s,mb4.8						
VNA2	**Neumayer--Watz**	**31.56**	**204**	⇑*i*	**P**	**06 57 34.6**	**+0.4**
VNA1	**Neumayer--Stat**	**31.68**	**205**	⇓*i*	**P**	**06 57 36.4**	**+1.2**
QSPA	**South Pole Qui**	**43.94**	**180**	*e*P	**P**	**06 59 16.7**	**-1.3**
	14nm,1.0s,mb4.7						
QSPA				*e*		07 00 56.1	
VNDA	**Vanda**	**52.41**	**168**	P	**P**	**07 00 22.9**	**-1.0**
	6.9nm,0.9s,mb4.6,baz=246,slow=8.0,SNR=22						
VNDA				LR	LR	07 22 20.6	
	comp=Z,195nm,21.8s,MS4.1,baz=123,slow=36						
DBIC	**Dimbokro**	**62.91**	**316**	P	**P**	**07 01 39.1**	**+0.4**
	3.8nm,0.6s,mb4.7,baz=149,slow=6.0,SNR=10						
DBIC				LR	LR	07 27 40.6	
	comp=Z,63nm,18.7s,MS3.8,baz=137,slow=35						
CPUP	**Villa Florida**	**72.17**	**250**	P	**P**	**07 02 36.5**	**-0.2**
	3.7nm,0.8s,mb4.3,baz=177,slow=4.2,SNR=6.7						
CPUP				LR	LR	07 26 56.6	
	comp=Z,68nm,21.2s,MS3.9,baz=273,slow=30						
BDFB	**Brasilia**	**73.21**	**265**	P	**P**	**07 02 43.5**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=156,slow=10.0,SNR=2.9						
BDFB				LR	LR	07 27 57.6	
	comp=Z,71nm,18.8s,MS4.0,baz=116,slow=30						
STKA	**Stephens Creek**	**78.61**	**124**	*e*P	**P**	**07 03 15.0**	**+1.8**
	4.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**78.61**	**124**	P	**P**	**07 03 12.8**	**-0.4**
	6.0nm,1.1s,mb4.4,baz=158,slow=4.4,SNR=7.3						
ASPA	**Alice Springs**	**79.91**	**114**	*e*P	**P**	**07 03 21.2**	**+0.8**
ASAR	**Alice Springs**	**79.91**	**114**	P	**P**	**07 03 20.0**	**-0.4**
	3.2nm,0.7s,mb4.3,baz=216,slow=5.4,SNR=18						
ASAR				LR	LR	07 36 20.4	
	comp=Z,68nm,18.9s,MS4.0,baz=16,slow=34						
LVC	**Limon Verde**	**82.24**	**246**	LR	LR	07 34 29.5	
	comp=Z,87nm,21.5s,MS4.1,baz=10,slow=32						
LVC	**Limon Verde**	**82.24**	**246**	P	**P**	**07 03 34.5**	**+1.8**
	4.4nm,0.7s,mb4.5						
RPZ	**Rata Peaks**	**82.74**	**150**	LR	LR	07 34 57.2	
	comp=Z,303nm,18.5s,MS4.7,baz=15,slow=32						
WRA	**Warramunga Arr**	**82.87**	**111**	P	**P**	**07 03 35.4**	**-0.6**
	1.3nm,0.8s,mb4.0,baz=218,slow=4.6,SNR=11						
WRA				LR	LR	07 33 30.6	
	comp=Z,112nm,20.8s,MS4.2,baz=185,slow=31						
WB2	**Warramunga Arr**	**82.88**	**111**	*e*P	**P**	**07 03 38.8**	**+2.8**
VAE	**Valguarnera**	**85.16**	**345**	LR	LR	07 45 02.6	
	comp=Z,310nm,18.4s,MS4.7,baz=144,slow=38						
LPAZ	**La Paz**	**86.34**	**250**	LR	LR	07 39 26.0	
	comp=Z,83nm,20.8s,MS4.1,baz=8.7,slow=34						
CMAR	**Chiang Mai Arr**	**87.17**	**60**	LR	LR	07 34 54.0	
	comp=Z,66nm,19.2s,MS4.1,baz=195,slow=30						
URZ	**Urewera**	**89.66**	**152**	LR	LR	07 39 30.6	
	comp=Z,415nm,20.1s,MS4.9,baz=188,slow=32						
CTA	**Charters Tower**	**90.22**	**120**	LR	LR	07 38 01.8	
	comp=Z,64nm,21.9s,MS4.0,baz=13,slow=31						
ESDC	**Sonseca Array**	**91.97**	**332**	LR	LR	07 47 50.4	
	comp=Z,85nm,18.1s,MS4.2,baz=120,slow=37						
AKASG	**Malin Array Be**	**96.67**	**357**	LR	LR	07 53 44.6	
	comp=Z,54nm,18.9s,MS4.0,baz=130,slow=39						
PMG	**Port Moresby**	**98.92**	**114**	LR	LR	07 42 15.5	
	comp=Z,107nm,19.7s,MS4.3,baz=214,slow=31						
TXAR	**Lajitas Array**	**142.84**	**258**	PKhKP		07 10 38.5	
	0.3nm,0.8s,baz=180,slow=2.7,SNR=3.8						
TXAR				PKP	PKPdf	07 10 44.7	-1.7
	0.6nm,0.7s,baz=134,slow=5.7,SNR=9.3						
TXAR	**Lajitas Array**	**142.84**	**258**	PKP	PKPdf	07 10 38.5	-7.9
TXAR				PKP	PKPdf	07 10 44.7	-1.7
GDL2	**Guadalupe Moun**	**145.05**	**261**	*e*PKP	PKPdf	07 10 48.0	-2.3
ULM	**Lac du Bonnet**	**146.74**	**296**	PKPbc	PKPbc	07 10 53.1	+2.1
	1.8nm,0.6s,baz=87,slow=4.8,SNR=4.3						
ANMO	**Albuquerque**	**148.05**	**264**	*e*PKPbc	PKPdf	07 10 59.1	+3.9
SDCO	**Great Sand Dun**	**148.82**	**269**	*e*PKPbc	PKPdf	07 11 01.3	+5.0
RSSD	**Black Hills**	**150.41**	**281**	*e*PKPbc	PKPdf	07 11 04.4	+5.8
PV01	**Paradox Valley**	**151.13**	**267**	*e*PKPdf	PKPdf	07 11 00.7	+0.9
PV01				*e*PKPbc	PKPdf	07 11 07.2	+7.4
PV10	**Paradox Valley**	**151.57**	**267**	*e*PKPdf	PKPdf	07 11 01.7	+1.2
PDAR	**Pinedale Array**	**153.74**	**276**	PKPbc	PKPdf	07 11 09.5	+6.1
	0.6nm,0.9s,baz=124,slow=3.3,SNR=5.1						
PDAR				PKPab	PKPab	07 11 23.1	-0.5
	0.6nm,0.8s,baz=117,slow=4.0,SNR=5.1						
MSU	**Marysvale**	**153.81**	**265**	*e*PKPdf	PKPdf	07 11 06.7	+3.0
NVAR	**Mina Array Bea**	**157.98**	**259**	PKPab	PKPab	07 11 42.5	+0.6
	0.5nm,0.8s,baz=122,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**161.46**	**1**	PKPab	PKPab	07 11 56.0	0.0
	0.3nm,0.6s,baz=326,slow=5.2,SNR=4.5						

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*INMG **17** 07:09:45.6±0.9, 35.61N×6.84W, h31^{km}±18^{km}, ML2.3, Error ellipse: s-maj=12.2km s-min=3.4km az=13.0*

*NEIC **17** 07:09:45.1, 35.63N×6.84W, h66^{km}, MG3.4(MDD), After MDD.*

MDD 17 07:09:44.3±1.4**, 35.83N**×**6.79W, mbLg2.4**/16**, 1C-1D, Error ellipse: s-maj=13.5km s-min=6.9km az=9.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**1.28**	**36**	P	Pb	07 10 09.1	0.0
	1.4nm,0.1s,SNR=7.9						
ESPR				S	Sb	07 10 26.2	+0.3
	11nm,0.2s,SNR=5.6						
PALC	**Alcoutim**	**1.73**	**341**	*e*Pn	Pn	07 10 14.6	-1.2
PALC				*e*Sn	Sn	07 10 36.5	-2.4
	15nm,0.1s						
PALC	**Alcoutim**	**1.73**	**341**	P	Pn	07 10 14.5	-1.3
PALC				S	Sb	07 10 36.6	-2.2
EMIJ	**Mijas**	**1.79**	**65**	P	Pn	07 10 15.4	-1.3
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	Sn	07 10 37.1	-3.3
	2.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.79**	**342**	P	Pn	07 10 15.4	-1.4
	3.3nm,0.3s,SNR=4.0						
EGRO				S	Sn	07 10 38.1	-2.5
	3.0nm,0.2s,SNR=6.5						
EMIN	**Mina Concepcio**	**1.94**	**3**	⇓P	Pn	07 10 17.7	-1.2
	1.4nm,0.2s,SNR=18						
EMIN				S	Sn	07 10 41.8	-2.5
	5.4nm,0.1s,SNR=11						
PTEO	**Sao Teotonio**	**2.32**	**318**	*e*Pn	Pn	07 10 21.3	-3.0
PTEO				*e*Sn	Sn	07 10 49.2	-4.7
PTEO	**Sao Teotonio**	**2.32**	**318**	P	Pn	07 10 21.2	-3.1
PTEO				S	Sn	07 10 49.0	-4.9
PBEJ	**Beja**	**2.36**	**339**	*e*Pn	Pn	07 10 22.9	-2.0
PBEJ				*e*Sn	Sn	07 10 51.1	-3.9
	7.7nm,0.1s						
PBEJ	**Beja**	**2.36**	**339**	P	Pn	07 10 22.9	-2.0
PBEJ				S	Sn	07 10 51.2	-3.8
ELUQ	**Luque**	**2.66**	**49**	S	Sn	07 10 57.9	-4.8
	7.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.93**	**357**	P	Pn	07 10 31.3	-1.7
	3.4nm,0.1s,SNR=12						
EBAD				S	Sn	07 11 05.7	-3.7
	1.3nm,0.0s,SNR=5.9						
EADA	**Adamuz**	**2.93**	**36**	P	Pn	07 10 31.4	-1.6
	2.4nm,0.1s,SNR=20						
EADA				S	Sn	07 11 04.3	-5.1
	1.3nm,0.0s,SNR=10.0						
MOE	**Montemor**	**2.97**	**336**	*e*Pn	Pn	07 10 31.4	-2.2
MOE				*e*Sn	Sn	07 11 06.3	-4.1
MOE	**Montemor**	**2.97**	**336**	⇑P	Pn	07 10 31.4	-2.1
MOE				S	Sn	07 11 06.3	-4.1
EQES	**Quesada**	**3.57**	**55**	S	Sn	07 11 18.8	-7.0
	1.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.04**	**352**	*e*Pn	Pn	07 10 46.6	-2.3
PCBR				*e*Sn	Sn	07 11 31.6	-6.0
	4.0nm,0.1s						
PCBR	**Castelo Branco**	**4.04**	**352**	P	Pn	07 10 46.6	-2.3
PCBR				S	Sn	07 11 31.6	-6.0
	2.0nm,0.1s						
EVIA	**Vianos**	**4.42**	**49**	P	Pn	07 10 51.4	-2.9
	0.5nm,0.1s,SNR=7.9						
EVIA				S	Sn	07 11 39.3	-7.9
	2.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.44**	**29**	S	Sn	07 11 40.8	-7.0
	2.3nm,0.3s,baz=213,slow=23,SNR=7.9						
MTE	**Manteigas**	**4.60**	**353**	*e*Sn	Sn	07 11 45.3	-6.5
	3.9nm,0.2s						
MTE	**Manteigas**	**4.60**	**353**	S	Sn	07 11 45.7	-6.1
ETOB	**Tobarra**	**5.04**	**55**	P	Pn	07 10 59.1	-3.8
	1.4nm,0.2s,SNR=8.5						
ETOB				S	Sn	07 11 54.4	-8.3
	1.6nm,0.2s,SNR=11						
ECAL	**Calabor**	**6.11**	**0**	P	Pn	07 11 15.0	-3.0
	0.4nm,0.1s,SNR=7.1						
ECAL				S	Sn	07 12 20.8	-8.8
	2.5nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.11**	**351**	P	Pn	07 11 15.8	-2.3
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	07 12 21.2	-8.5
	0.8nm,0.1s,SNR=7.9						
ETOR	**Torete**	**6.22**	**35**	P	Pn	07 11 15.5	-4.1
	0.3nm,0.1s,SNR=7.9						
ETOR				S	Sn	07 12 23.5	-8.9
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.73**	**46**	S	Sn	07 12 34.9	-10
	0.9nm,0.4s,SNR=7.9						

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*NEIC **17** 07:10:33.1±1.4, 17.60S×178.74W, h542^{km}±17^{km}, mb4.6/30, Error ellipse: s-maj=12.1km s-min=7.0km az=149.0*

*IDC **17** 07:10:34.4±1.6, 17.74S×178.71W, h555^{km}±17^{km}, mb4.0/13, mb1 4.3/13, mb1mx4.1/17, Error ellipse: s-maj=18.9km s-min=10.1km az=147.0*

ISC 17 07:10:35.8±1.8**, 17.6S**±0.1×**178.89W**±0.09**, h588**^{km}±23^{km}**, n122, σ0^{s}76**/92**, mb4.5**/38**, 19C-8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.49**	**250**	*e*P	**P**	**07 13 39.4**	**+0.2**
NOUC	**Port Laguerre**	**14.62**	**250**	*e*P	**P**	**07 13 40.5**	**0.0**
RAR	**Rarotonga**	**18.38**	**104**	P	**P**	**07 14 07.8**	**-8.6**
	0.9nm,0.3s,baz=9.6,slow=13,SNR=3.0						
URZ	**Urewera**	**20.86**	**189**	P	**P**	**07 14 35.8**	**-3.3**
	11nm,0.9s,baz=82,slow=22,SNR=3.2						
ARMA	**Armidale**	**29.69**	**239**	⇓*i*P	**P**	**07 15 57.7**	**+0.7**
CTA	**Charters Tower**	**33.04**	**260**	⇓*i*P	**P**	**07 16 25.9**	**+0.5**
	20nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**33.04**	**260**	⇓*e*P	**P**	**07 16 25.8**	**+0.4**
	16nm,0.7s,mb4.8						
PMG	**Port Moresby**	**33.96**	**279**	P	**P**	**07 16 35.3**	**+2.2**
	84nm,0.8s,mb5.5,baz=78,slow=6.1,SNR=33						
PMG	**Port Moresby**	**33.96**	**279**	*e*P	**P**	**07 16 34.4**	**+1.4**
	126nm,0.8s,mb5.6						
STKA	**Stephens Creek**	**38.37**	**241**	⇓*i*P	**P**	**07 17 10.1**	**+0.9**
	22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**07 17 10.1**	**+1.0**
	38nm,0.7s,mb5.0,baz=87,slow=8.8,SNR=90						
STKA				ScP		07 22 04.7	
	1.7nm,0.8s,baz=94,slow=18,SNR=3.2						
WB2	**Warramunga Arr**	**44.22**	**259**	⇓*i*P	**P**	**07 17 55.3**	**-0.5**
WRAB	**Tennant Creek**	**44.23**	**259**	⇓*e*P	**P**	**07 17 55.2**	**-0.6**
	33nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**07 17 55.3**	**-0.6**
	13nm,0.6s,mb4.7,baz=92,slow=6.9,SNR=296						
WRA				ScP		07 22 28.1	
	1.9nm,0.9s,baz=86,slow=4.0,SNR=5.9						
ASAR	**Alice Springs**	**44.43**	**254**	P	**P**	**07 17 57.5**	**+0.2**
	135nm,0.5s,baz=88,slow=8.3,SNR=1570						
ASAR				ScP		07 22 28.9	
	2.0nm,0.8s,baz=99,slow=4.3,SNR=7.8						
ASAR				S	**S**	**07 23 50.8**	**+0.2**
	1.7nm,1.1s,baz=87,slow=15,SNR=4.4						
ASPA	**Alice Springs**	**44.43**	**254**	⇓*i*P	**P**	**07 17 57.5**	**+0.2**
KAKA	**Kakadu**	**47.17**	**269**	*e*P	**P**	**07 18 17.8**	**-0.5**
	26nm,0.6s,mb4.9						
FORT	**Forrest**	**49.72**	**244**	*e*P	**P**	**07 18 35.9**	**-1.2**
	96nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**52.62**	**260**	⇓*i*P	**P**	**07 18 58.5**	**+0.3**
	7.2nm,0.7s,mb4.1						
VNDA	**Vanda**	**60.69**	**185**	P	**P**	**07 19 52.0**	**-0.6**
	1.3nm,0.9s,baz=340,slow=5.7,SNR=4.7						
FX1	**Attu Island--F**	**70.54**	**355**	*e*P	**P**	**07 20 53.0**	**-0.7**
QSPA	**South Pole Qui**	**72.44**	**180**	*e*P	**P**	**07 21 03.7**	**-0.6**
	3.3nm,0.8s,mb3.9						
MWC	**Mount Wilson**	**77.48**	**48**	*e*P	**P**	**07 21 32.2**	**-0.7**
KRMB	**Red Mountain**	**77.74**	**39**	*e*P	**P**	**07 21 33.4**	**-0.8**
CMB	**Columbia Colle**	**77.94**	**44**	⇑*e*P	**P**	**07 21 35.2**	**-0.1**
	16nm,0.9s,mb4.4						
OHCM	**Honcut**	**77.97**	**42**	*e*P	**P**	**07 21 33.4**	**-2.0**
WDC	**Whiskeytown Da**	**78.02**	**40**	*e*P	**P**	**07 21 35.7**	**0.0**
	10nm,1.1s,mb4.2						
YBH	**Yreka Blue Hor**	**78.59**	**39**	P	**P**	**07 21 39.3**	**+0.6**
	9.5nm,0.7s,mb4.2,baz=174,slow=1.3,SNR=52						
OMM	**Old Mammoth Mi**	**78.64**	**44**	⇑*e*P	**P**	**07 21 39.2**	**+0.2**
MTUM	**Tungsten Hills**	**78.78**	**45**	*e*P	**P**	**07 21 40.3**	**+0.5**
HUMO	**Hull Mountain**	**78.96**	**39**	⇑*e*P	**P**	**07 21 41.0**	**+0.4**
	14nm,0.9s,mb4.3						
BEKR	**Beckwourth**	**78.98**	**42**	⇑*e*P	**P**	**07 21 41.0**	**+0.2**
	8.6nm,0.6s,mb4.3						
WCN	**Washoe City**	**79.06**	**43**	⇑*e*P	**P**	**07 21 41.5**	**+0.3**
	16nm,0.7s,mb4.5						
HSO	**Harness Mounta**	**79.43**	**38**	*e*P	**P**	**07 21 43.2**	**+0.1**
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**07 21 44.1**	**+0.4**
	9.4nm,0.7s,mb4.2,baz=214,slow=7.1,SNR=87						
LDFC	**Landfair**	**80.01**	**48**	*e*P	**P**	**07 21 47.0**	**+0.7**
TPH	**Tonopah**	**80.07**	**45**	⇑*e*P	**P**	**07 21 46.4**	**-0.1**
	14nm,1.0s,mb4.2						
MOD	**Modoc**	**80.16**	**40**	P	**P**	**07 21 47.3**	**+0.4**
NEN	**Nelson**	**80.48**	**48**	*e*P	**P**	**07 21 48.8**	**+0.2**
SSOR	**Sweet Springs**	**80.58**	**37**	*e*P	**P**	**07 21 48.4**	**-0.6**
SLKM	**Skilak Lake**	**81.22**	**14**	*e*P	**P**	**07 21 51.5**	**-0.4**
BMN	**Battle Mountai**	**81.31**	**43**	⇑*e*P	**P**	**07 21 53.0**	**+0.3**
	18nm,0.8s,mb4.6						
LVP	**Lakeview Peak**	**81.33**	**36**	P	**P**	**07 21 53.1**	**+0.4**
LTI	**Latouche**	**81.38**	**15**	P	**P**	**07 21 41.4**	**-11**
SPU	**Mount Spurr**	**81.42**	**13**	*e*P	**P**	**07 21 51.7**	**-1.2**
VIPM	**Ingram Point**	**81.45**	**38**	P	**P**	**07 21 53.9**	**+0.5**
WVOR	**Wild Horse Val**	**81.48**	**41**	⇑*e*P	**P**	**07 21 54.0**	**+0.4**
	26nm,0.9s,mb4.7						
TUC	**Tucson**	**81.89**	**53**	⇑*e*P	**P**	**07 21 56.7**	**+0.8**
	12nm,0.9s,mb4.4						
GNW	**Green Mountain**	**82.00**	**35**	⇑*e*P	**P**	**07 21 56.1**	**0.0**
LON	**Longmire**	**82.07**	**36**	*e*P	**P**	**07 21 56.3**	**-0.2**
FMW	**Mount Fremont**	**82.25**	**36**	P	**P**	**07 21 57.8**	**+0.3**
PMR	**Palmer**	**82.43**	**14**	⇑*e*P	**P**	**07 21 57.2**	**-0.8**
	9.7nm,0.6s,mb4.5						
SML	**Sawmill**	**82.80**	**14**	*e*P	**P**	**07 21 57.1**	**-2.7**
DIV	**Divide**	**82.84**	**16**	⇑*e*P	**P**	**07 21 59.6**	**-0.5**
	59nm,0.6s,mb5.3						
WUAZ	**Wupatki**	**82.90**	**49**	⇑*e*P	**P**	**07 22 01.6**	**+0.6**
	15nm,1.1s,mb4.4						
HAWA	**Hanford**	**83.15**	**37**	P	**P**	**07 22 02.1**	**+0.2**
H2OWA	**Water**	**83.21**	**37**	P	**P**	**07 22 02.6**	**+0.4**
LNOR	**Lincton Mounta**	**83.58**	**38**	*e*P	**P**	**07 22 01.1**	**-2.9**
MAW	**Mawson**	**83.98**	**200**	P	**P**	**07 22 05.8**	**+0.3**
	4.8nm,1.1s,mb4.0,baz=189,slow=2.1,SNR=5.3						
MCK	**McKinley**	**84.36**	**13**	⇑*e*P	**P**	**07 22 06.6**	**-0.8**
	5.9nm,0.8s,mb4.2						
HLID	**Hailey**	**84.71**	**41**	P	**P**	**07 22 10.4**	**+0.8**
DPW	**Davenport**	**84.72**	**36**	*e*P	**P**	**07 22 09.3**	**-0.3**
SRU	**San Rafael**	**85.15**	**47**	⇑*e*P	**P**	**07 22 11.8**	**-0.1**
LAZ	**Ladron**	**85.54**	**52**	*e*P	**P**	**07 22 14.1**	**+0.2**
NEW	**Newport**	**85.55**	**36**	P	**P**	**07 22 13.3**	**-0.2**
	5.2nm,0.7s,mb4.3,baz=224,slow=5.4,SNR=14						
COLA	**College**	**85.59**	**13**	*e*P	**P**	**07 22 11.6**	**-1.8**
	7.4nm,0.8s,mb4.4						
HWUT	**Hardware Ranch**	**85.60**	**44**	*e*P	**P**	**07 22 13.8**	**-0.2**
	2.6nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**07 22 13.1**	**-0.9**
	3.3nm,0.6s,mb4.1,baz=231,slow=5.4,SNR=28						
PV10	**Paradox Valley**	**85.86**	**48**	*e*P	**P**	**07 22 15.4**	**0.0**
PV01	**Paradox Valley**	**86.08**	**48**	*e*P	**P**	**07 22 16.2**	**-0.2**
LTX	**Lajitas**	**86.23**	**58**	⇑*e*P	**P**	**07 22 18.2**	**+0.9**
	15nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**07 22 18.5**	**+1.2**

	7.9nm,0.7s,mb4.5,baz=219,slow=5.2,SNR=21						
ANMO	Albuquerque	86.28	52	eP	P	07 22 17.3	-0.1
	9.1nm,1.2s,mb4.3						
MCMT	McKenzie Canyo	86.32	41	P	P	07 22 17.9	+0.6
GDL2	Guadalupe Moun	86.78	55	eP	P	07 22 19.8	0.0
TPAW	Teton Pass	86.88	42	eP	P	07 22 20.3	+0.3
REDW	Red Top Meadow	86.89	43	eP	P	07 22 20.1	+0.1
WUWY	Wally Ulrich	87.04	43	eP	P	07 22 21.4	+0.6
CHMT	Chamberlain Mo	87.09	39	eP	P	07 22 20.7	-0.2
MOOW	Moose Ponds	87.13	42	eP	P	07 22 21.5	+0.3
QLMT	Earthquake Lak	87.20	41	eP	P	07 22 22.6	+1.1
YMR	Madison River	87.42	41	eP	P	07 22 23.8	+1.2
PDAR	Pinedale Array	87.46	44	P	P	07 22 22.7	0.0
	4.6nm,0.5s,mb4.4,baz=220,slow=2.8,SNR=66						
PDAR				PP	PP	07 25 55.5	-4.3
	1.1nm,1.0s,baz=256,slow=6.1,SNR=6.7						
BOZ	Bozeman (W)	87.47	40	eP	P	07 22 22.7	0.0
	8.2nm,1.0s,mb4.4						
HRY	Holter Researc	87.85	39	eP	P	07 22 24.7	+0.2
CMAR	Chiang Mai Arr	88.36	290	P	P	07 22 29.6	+2.1
	1.7nm,0.6s,mb3.9,baz=100,slow=2.7,SNR=8.0						
JCT	Junction City	89.77	58	eP	P	07 22 33.0	-0.8
	7.6nm,0.7s,mb4.6						
RSSD	Black Hills	91.67	44	⇑eP	P	07 22 42.0	-0.2
	5.5nm,0.8s,mb4.6						
INK	Inuvik	91.73	15	P	P	07 22 41.6	-0.3
	5.6nm,0.8s,mb4.6,baz=211,slow=7.7,SNR=12						
INK	Inuvik	91.73	15	⇑eP	P	07 22 41.0	-0.9
	7.8nm,0.9s,mb4.7						
KSU1	Kansas State U	95.12	51	eP	P	07 22 58.2	+0.2
ARCES	ARCESS Array B	125.95	350	PKP	PKPdf	07 28 31.8	+0.7
	1.3nm,0.7s,baz=338,slow=6.5,SNR=4.3						
JMIC	Jan Mayen	126.32	4	PKP	PKPdf	07 28 34.8	+3.0
	28nm,0.4s,baz=184,slow=1.5,SNR=8.4						
BSEG	Bad Segeberg	143.06	351	ePKPbc	PKPbc	07 29 03.0	+1.5
CLZ	Clausthal	145.07	350	ePKPbc	PKPbc	07 29 09.6	+2.2
CLL	Collm	145.08	347	⇑iPKP1	PKPbc	07 29 09.4	+2.0
BRG	Berggiesshubel	145.27	346	i P	PKPdf	07 29 10.1	+3.3
VYHS	Vyhne	145.98	339	ePKP	PKPdf	07 29 12.7	+4.6
MOX	Moxa	145.99	348	eP	PKPdf	07 29 11.0	+3.0
GRA1	Grafenberg Arr	146.98	348	ePKPbc	PKPbc	07 29 15.1	+3.1
GRA1				ePKPab	PKPab	07 29 19.1	+0.2
GEC2	GERESS Array S	147.21	345	ePKPbc	PKPdf	07 29 15.4	+5.2
GERES	GERESS Array B	147.21	345	PKPbc	PKPdf	07 29 15.6	+5.4
	3.5nm,0.5s,baz=27,slow=3.0,SNR=34						
GIVF	Givet	147.46	356	ePKP1	PKPdf	07 29 16.1	+5.6
	19nm,0.7s						
BAIF	Baives	147.54	356	ePKP1	PKPdf	07 29 16.4	+5.8
BFO	Black Forest	148.81	351	ePKPbc	PKPdf	07 29 19.4	+6.8
CDF	Champ du Feu	148.88	352	ePKP1	PKPdf	07 29 19.6	+6.9
	9.7nm,0.7s						
FLN	La Foliniere	148.91	2	ePKP1	PKPdf	07 29 19.2	+6.4
LDF	La Druitiere	149.09	2	ePKP1	PKPdf	07 29 19.5	+6.4
	12nm,0.7s						
GRR	Gorron	149.27	3	ePKP1	PKPdf	07 29 20.3	+6.9
	14nm,0.6s						
SGMF	Saint Gilles	149.30	5	ePKP1	PKPdf	07 29 20.0	+6.6
HAU	Haudompre	149.39	353	ePKP1	PKPdf	07 29 20.8	+7.2
	5.8nm,0.5s						
LOR	Lormes	150.34	356	ePKP1	PKPdf	07 29 23.1	+8.0
	13nm,0.6s						
SSF	Saint Saulge	150.57	357	ePKP1	PKPdf	07 29 23.6	+8.1
	8.1nm,0.5s						
CABF	La Chapelle	150.80	353	ePKP1	PKPdf	07 29 24.7	+8.9
	12nm,0.8s						
AVF	Avril sur Loir	150.85	357	ePKP1	PKPdf	07 29 23.8	+7.9
MFF	Saint Martin d	151.08	2	ePKP1	PKPdf	07 29 24.4	+8.2
	10.0nm,0.7s						
BGF	Bois d’Agland	151.11	358	ePKP1	PKPdf	07 29 24.7	+8.4
	12nm,0.6s						
TCF	Toulx Ste Croi	151.40	358	ePKP1	PKPdf	07 29 25.2	+8.5
	14nm,0.9s						
LPG	La Plagne	151.81	352	ePKP1	PKPdf	07 29 27.3	+10
RJF	Les Rejaudoux	152.39	359	ePKP1	PKPdf	07 29 27.4	+9.3
	8.7nm,0.8s						
MBDF	Montbardon	152.56	351	ePKP1	PKPdf	07 29 28.3	+10
	7.4nm,0.7s						
CAF	Calviac	152.76	359	ePKP1	PKPdf	07 29 28.5	+10
	2.4nm,0.5s						

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*MAN **17** 07:25:37.6, 18.74N×121.00E, h17^{km}, mb4.2, ML3.0, MS2.7*

ISC 17 07:25:37.0±1.1**, 18.81N**±0.06×**120.94E**±0.06**, h17^{km}, n8, σ0^{s}84**/14**, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	0.57	212	⇑iP	Pb	07 25 47.8	-0.3
PIP				eS	Sb	07 25 55.6	-0.2
APYP	Conner	0.99	163	eP	Pb	07 25 54.8	-0.4
APYP				eS	Sb	07 26 08.6	+0.8
ABRA	Dolores	1.18	191	eP	Pb	07 25 57.0	-1.4
ABRA				eS	Sb	07 26 13.1	-0.2
SGCP	Mt. Cagua	1.19	118	eP	Pb	07 25 57.7	-1.0
SGCP				eS	Sb	07 26 13.6	-0.2
BBP	Basco	1.89	31	eP	Pn	07 26 09.5	+0.7
CAUP	Cauayan	2.04	155	eP	Pn	07 26 10.8	-0.3
BOLP	Bolinao	2.61	202	eP	Pn	07 26 20.2	+1.0
BOLP				eS	Sn	07 26 55.6	+4.9
BALP	Baler	3.12	169	eP	Pn	07 26 26.9	+0.5
BALP				eS	Sn	07 27 06.8	+3.2

IDC 17 07:29:10.5±62.0**, 18.96S×179.77W, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/13**, Error ellipse: s-maj=1117.0km s-min=167.1km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.00	242	P	P	07 36 21.8	-1.9
	1.7nm,1.0s,baz=105,slow=12,SNR=3.4						
WRA	Warramunga Arr	43.18	261	P	P	07 37 13.3	-1.8
	0.8nm,1.2s,baz=96,slow=7.5,SNR=4.6						
ASAR	Alice Springs	43.27	255	P	P	07 37 14.3	-1.5
	0.4nm,0.6s,baz=91,slow=8.0,SNR=5.3						

DJA 17 07:36:48.1±0.4**, 8.37S×115.92E, h80^{km}, ML4.0**/2**, 8D, Error ellipse: s-maj=20.2km s-min=9.9km az=2.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.23	122	⇓iPn	P	07 36 59.3	-0.7
KEDI				⇓iSn	S	07 37 10.3	+1.3
RATI	Rata	0.52	227	⇓iPn	P	07 37 01.2	-0.9
RATI				⇓iSn	S	07 37 13.6	+1.0
INGI	Ingas	0.89	240	⇓iPn	P	07 37 04.7	-1.3
	335nm,0.3s						
INGI				⇓eSn	S	07 37 19.4	0.0
KELI	Kelakatan	1.42	276	⇓ePn	P	07 37 12.6	-0.3
	113nm,0.3s						
KELI				⇓iSn	S	07 37 29.5	-1.7

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*IDC **17** 07:40:00.5±2.8, 30.63S×177.57W, mb4.0/4, mb1 4.2/5, mb1mx3.9/15, ML3.2/1, Error ellipse: s-maj=63.0km s-min=41.6km az=126.0*

*NEIC **17** 07:40:01.1±1.7, 30.73S×177.41W, h10^{km}, mb4.3/3, Error ellipse: s-maj=33.9km s-min=19.3km az=88.0*

ISC 17 07:40:00.8±2.7**, 30.9S**±0.1×**177.6W**±0.4**, h10^{km}, n9, σ0^{s}74**/9**, mb4.1**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.54	209	Pn	P	07 42 07.6	+0.2
	0.2nm,0.3s,baz=348,slow=17,SNR=2.7						
URZ				Sn	Sn	07 43 44.7	-0.2
	1.5nm,0.3s,baz=242,slow=20,SNR=7.5						
CTA	Charters Tower	34.19	280	P	P	07 46 48.3	-0.3
	1.9nm,0.4s,mb4.4,baz=94,slow=10,SNR=5.5						
CTAO	Charters Tower	34.19	280	eP	P	07 46 48.8	+0.3
	2.3nm,0.5s,mb4.4						
STKA	Stephens Creek	34.68	258	P	P	07 46 54.3	+1.6
	7.0nm,1.1s,mb4.5,baz=101,slow=11,SNR=9.7						
ASAR	Alice Springs	43.40	267	P	P	07 48 05.2	-0.2
	0.4nm,0.6s,mb3.3,baz=102,slow=7.2,SNR=6.7						
WRA	Warramunga Arr	44.43	272	P	P	07 48 12.6	-1.2
	0.8nm,0.3s,mb3.9,baz=110,slow=8.1,SNR=30						
CASY	Casey	54.87	208	P	P	07 49 33.1	-0.1
	1.4nm,0.6s,mb4.2						
QSPA	South Pole Qui	59.23	180	P	P	07 50 11.3	+7.1
	2.6nm,0.7s,mb4.4						
FINES	FINESS Array B	145.70	340	PKPbc	PKPbc	07 59 39.2	-0.3
	1.6nm,0.5s,baz=56,slow=5.0,SNR=14						

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*KRSC **17** 07:45:41.5±0.8, 53.30N×153.64E, h551^{km}±9^{km}, ML4.4*

*MOS **17** 07:45:46.2±0.9, 53.11N×154.73E, h532^{km}, mb3.8/18, Error ellipse: s-maj=20.7km s-min=12.2km az=111.0*

*BJI **17** 07:45:49.0, 53.60N×153.90E, h483^{km}, mb4.4*

*NEIC **17** 07:45:49.1±0.4, 53.59N×153.93E, h483^{km}±6^{km}, mb4.5/12, Error ellipse: s-maj=8.6km s-min=5.5km az=152.0*

*IDC **17** 07:45:52.3±2.7, 53.64N×153.86E, h522^{km}±32^{km}, mb3.2/21, mb1 3.4/23, mb1mx3.4/27, Error ellipse: s-maj=12.9km s-min=9.6km az=155.0*

ISC 17 07:45:47.9±0.2**, 53.52N**±0.04×**154.01E**±0.08**, h489^{km}**±3^{km}**, n108, σ1^{s}00**/142**, mb3.8**/34**, 3C-2D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APC	Apacha	1.99	106	i P	P	07 46 51.8	-0.6
APC				eS	S	07 47 43.8	+0.4
MIPR	Malaya Ipel’ka	2.08	126	i P	P	07 46 52.8	-0.1
GNL	Ganaly	2.35	84	i P	P	07 46 54.8	+0.4
GNL				eS	S	07 47 47.8	+0.8
GRL	Gorelyy	2.64	110	i P	P	07 46 56.7	+0.5
GRL				eS	S	07 47 51.4	+1.2
PAU	Pauzhetka	2.68	139	i P	P	07 46 56.0	-0.4
PAU				eS	S	07 47 50.5	-0.1
KOK	Koryaka	2.78	93	i P	P	07 46 57.5	+0.4
KOK				eS	S	07 47 52.6	+0.8
ALID	Alaid	2.82	160	i P	P	07 46 57.6	+0.2
PET	Petropavlovsk	2.84	98	P	P	07 46 56.9	-0.6
PET	Petropavlovsk	2.84	98	i P	P	07 46 57.0	-0.5
PET				eS	S	07 47 51.9	-0.5
PET	Petropavlovsk	2.84	98	eP	P	07 46 56.9	-0.6
AVH	Avacha	2.85	93	i P	P	07 46 57.8	+0.3
AVH				eS	S	07 47 53.5	+0.9
SMAR	Somma	2.88	93	i P	P	07 46 58.0	+0.2
SMAR				eS	S	07 47 53.6	+0.6
UGLR	Uglovaya	2.91	94	i P	P	07 46 58.2	+0.3
UGLR				eS	S	07 47 54.1	+0.8
SDLR	Sedlovina	2.93	93	i P	P	07 46 58.0	-0.1
SDLR				eS	S	07 47 53.8	+0.2
RUS	Russkaya	2.94	110	P	P	07 46 56.8	-1.3
RUS				S	S	07 47 50.8	-2.9
RUS	Russkaya	2.94	110	i P	P	07 46 56.7	-1.4
RUS				eS	S	07 47 51.5	-2.2
SKR	Severo-Kuril’s	3.13	155	eP	P	07 46 56.5	-3.0
SKR				eS	S	07 47 52.9	-3.2
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
NLC	Nalytchevo	3.22	94	P	P	07 46 58.8	-1.3
NLC				S	S	07 47 56.0	-1.3
NLC	Nalytchevo	3.22	94	eP	P	07 46 59.1	-1.0
NLC				eS	S	07 47 55.4	-1.9
KII	Karymskiy	3.27	79	P	P	07 47 02.1	+1.6
KII	Karymskiy	3.27	79	i P	P	07 47 00.9	+0.4
KII				eS	S	07 47 58.3	+0.4
ESO	Esso	3.63	47	i P	P	07 47 04.5	+1.3
ESO				eS	S	07 48 05.0	+2.1
ESO				Smax			
	comp=Z,500nm,0.7s						
SPN	Mys Shipunski	3.63	94	P	P	07 47 01.2	-2.1
SPN				S	S	07 48 00.8	-2.1
SPN	Mys Shipunski	3.63	94	eP	P	07 47 01.4	-1.9
SPN				eS	S	07 47 59.5	-3.4
TUMR	Tumrok	4.00	61	i P	P	07 47 06.5	+0.3
TUMR				eS	S	07 48 08.3	+0.2
KOZ	Kozyrevsk	4.24	51	i P	P	07 47 08.7	+0.5
KOZ				eS	S	07 48 12.5	+0.7
KMNR	Kamenistaya	4.26	56	eP	P	07 47 09.0	+0.6
KMNR				eS	S	07 48 12.8	+0.7
SRDR	Sredinnyy	4.32	47	eP	P	07 47 09.1	+0.1
SRDR				eS	S	07 48 13.0	-0.1
LGNR	Loginova	4.64	54	i P	P	07 47 12.1	+0.3
LGNR				eS	S	07 48 18.3	+0.2
MKZ	Mys Kozlova	4.67	74	P	P	07 47 10.0	-2.0
MKZ				S	S	07 48 15.5	-3.1
MKZ	Mys Kozlova	4.67	74	eP	P	07 47 10.0	-2.0
MKZ				eS	S	07 48 14.3	-4.3
CIRR	Tsirk	4.69	54	i P	P	07 47 11.7	-0.5
CIRR				eS	S	07 48 17.3	-1.5
KLY	Klyuchi	4.75	51	eP	P	07 47 12.6	-0.1
KLY				eS	S	07 48 20.4	+0.6
SVLR	Shiveluch	5.16	51	i P	P	07 47 16.3	-0.2
SVLR				eS	S	07 48 25.2	-1.4
KBTR	Krutoberegovo	5.76	59	P	P	07 47 20.2	-2.1
KBTR				S	S	07 48 32.8	-4.1
KBTR	Krutoberegovo	5.76	59	i P	P	07 47 19.1	-3.2
KBTR				eS	S	07 48 30.9	-6.0
MA2	Magadan	6.33	345	c iP	P	07 47 28.3	+0.4
MA2	Magadan	6.33	345	eP	P	07 47 27.6	-0.4
	comp=Z,23nm,0.9s						
BKI	Bering	7.19	72	eP	P	07 47 28.8	-8.0
BKI				eS	S	07 48 48.0	-15
SEY	Seymchan	9.48	355	eP	P	07 48 02.9	+2.0
SEY				e		07 49 50.6	
SEY				pmax	pmax		
	comp=N,10.0nm,0.5s						
SEY				pmax	pmax		
	comp=E,5.0nm,0.5s						
SEY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YSS	Yuzh-Sakhalins	9.75	232	eP	P	07 48 04.0	+0.3
YSS				e		07 49 48.0	
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS	Yuzh-Sakhalins	9.75	232	eP	P	07 48 04.5	+0.8
	comp=Z,24nm,0.6s						
FX1	Attu Island--F	11.51	85	P	P	07 48 22.5	+0.3
	comp=Z,6.0nm,0.3s,baz=318,slow=2.0,SNR=36						
FX1				S	S	07 50 50.9	+25
	comp=Z,3.9nm,0.3s,baz=306,slow=22,SNR=8.6						
FX1	Attu Island--F	11.51	85	eP	P	07 48 22.1	-0.2
ASAJ	Asahikawa	12.03	223	P	P	07 48 30.0	+2.2
	comp=Z,1.3nm,0.3s,baz=285,slow=29,SNR=6.2						
ASAJ	Asahikawa	12.03	223	P	P	07 48 30.0	+2.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	Yakutsk	15.43	313	eP	P	07 49 01.9	-0.7
YAK				eS	S	07 51 42.5	+2.1
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.7s						
YAK				smax			
	comp=N,4.0nm,0.9s						
YAK				smax			
	comp=E,3.0nm,0.8s						
MAJO	Matsushiro	20.24	219	eP	P	07 49 50.5	+0.8
	comp=E,27nm,0.6s						
MAT	Matsushiro	20.24	219	P	P	07 49 51.3	+1.6
MAT	Matsushiro	20.24	219	eP	P	07 49 51.0	+1.3
	comp=E,20nm,0.7s						
TIXI	Tiksi	21.24	338	eP	P	07 49 54.1	-4.7
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
BOD	Bodaibo	22.72	297	eP	P	07 50 11.4	-0.9
IMA	Indian Mountai	28.20	43	eP	P	07 51 01.6	+0.5
	comp=Z,26nm,1.0s,mb4.6						
SONM	Songino Array	30.23	279	P	P	07 51 20.1	+1.3
	comp=Z,1.7nm,0.7s,mb3.6,baz=61,slow=7.0,SNR=8.5						
PMR	Palmer	30.62	52	P	P	07 51 22.2	+0.2
	comp=Z,2.9nm,0.6s,mb3.9						
COLA	College	30.69	45	c iP	P	07 51 23.1	+0.5
COLA	College	30.69	45	eP	P	07 51 23.0	+0.4
	comp=Z,6.0nm,0.8s,mb4.1						
SML	Sawmill	30.95	51	⇑eP	P	07 51 24.9	+0.1
ILAR	Eielson Array	31.11	45	P	P	07 51 26.4	+0.2
	comp=Z,3.2nm,0.8s,mb3.8,baz=275,slow=9.1,SNR=34						
ILAR	Eielson Array	31.11	45	P	P	07 51 26.4	+0.2
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DIV	Divide	32.30	52	eP	P	07 51 36.8	+0.5
	comp=Z,20nm,0.9s,mb4.5						
NJ2	Nanjing	33.05	244	eP	P	07 51 41.5	-1.4
INK	Inuvik	35.76	37	P	P	07 52 06.3	+1.1
	comp=Z,2.6nm,0.4s,mb4.0,baz=304,slow=9.0,SNR=59						
INK	Inuvik	35.76	37	P	P	07 52 06.3	+1.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	Inuvik	35.76	37	eP	P	07 52 05.9	+0.7
	comp=Z,3.4nm,0.3s,mb4.2						
GTA	Gaotai	38.93	271	eP	P	07 52 32.8	+1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.6						
KURK	Kurchatov	44.36	298	i P	P	07 53 14.5	-0.1
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
KURK	Kurchatov	44.36	298	eP	P	07 53 14.1	-0.6
	comp=Z,12nm,0.6s,mb4.5						
MKAR	Makanchi Array	44.64	292	P	P	07 53 16.7	-0.2
	comp=Z,3.1nm,0.5s,mb4.0,baz=56,slow=7.4,SNR=19						
MKAR	Makanchi Array	44.64	292	i P	P	07 53 16.8	-0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	44.64	292	P	P	07 53 16.7	-0.2
YKA	Yellowknife Ar	45.27	41	P	P	07 53 21.9	+0.4
	comp=Z,0.5nm,0.3s,mb3.4,baz=308,slow=7.2,SNR=9.4						
YKA	Yellowknife Ar	45.27	41	P	P	07 53 21.9	+0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	Yellowknife Ar	45.27	41	P	P	07 53 21.9	+0.4
VOSK	Vostochnaya	47.09	304	P	P	07 53 34.9	-0.8
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
BVA0	Borovoye Array	47.20	305	i P	P	07 53 36.0	-0.5
BVAR	Borovoye Array	47.20	305	P	P	07 53 36.6	0.0
	comp=Z,7.3nm,0.5s,mb4.4,baz=53,slow=7.2,SNR=17						
BRVK	Borovoye	47.24	305	⇓eP	P	07 53 35.9	-0.9
	comp=Z,9.3nm,0.6s,mb4.4						
ZRNK	Zerenda	47.92	306	P	P	07 53 41.4	-0.6
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
ARCES	ARCESS Array B	51.67	339	P	P	07 54 08.6	-1.0
	comp=Z,1.4nm,0.3s,mb3.7,baz=43,slow=7.7,SNR=14						
ARCES	ARCESS Array B	51.67	339	P	P	07 54 08.6	-1.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	Karatay Array	53.44	295	i P	P	07 54 22.1	-0.6
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
AB31	Akbulak array	54.67	307	i P	P	07 54 30.4	-0.9
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
CMAR	Chiang Mai Arr	54.76	252	P	P	07 54 33.0	+0.6
	comp=Z,1.9nm,0.7s,mb3.5,baz=17,slow=6.9,SNR=7.0						
CMAR	Chiang Mai Arr	54.76	252	P	P	07 54 33.0	+0.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	Kangasniemi	57.57	334	ep	P	07 54 46.8	-4.4
FINES	FINESS Array B	58.19	334	P	P	07 54 54.2	-1.2
	comp=Z,1.1nm,0.3s,mb3.6,baz=48,slow=5.6,SNR=15						
FINES	FINESS Array B	58.19	334	P	P	07 54 54.2	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	Mina Array Bea	58.98	66	P	P	07 55 02.6	+1.6
	comp=Z,1.0nm,0.8s,mb3.2,baz=299,slow=4.9,SNR=8.1						
OBN	Obninsk	60.10	324	deP	P	07 55 07.4	-0.8
OBN				eS	S	08 02 42.5	-0.4
OBN				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.3						
PDAR	Pinedale Array	60.44	57	P	P	07 55 11.7	+1.1
	comp=Z,0.7nm,0.6s,mb3.3,baz=323,slow=5.3,SNR=9.4						
NB2	NORSAR Subarra	62.01	341	P	P	07 55 19.5	-1.2
	comp=Z,2.2nm,0.7s,mb3.7,baz=27,slow=6.5						
NOA	NORSAR Array B	62.01	341	P	P	07 55 19.9	-0.8
	comp=Z,1.6nm,0.6s,mb3.7,baz=25,slow=6.5,SNR=7.9						
NOA	NORSAR Array B	62.01	341	P	P	07 55 19.9	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	Hagfors	62.32	339	P	P	07 55 21.7	-1.1
	comp=Z,1.3nm,0.3s,mb3.8,baz=56,slow=5.3,SNR=14						
HFS	Hagfors	62.32	339	P	P	07 55 21.7	-1.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	66.27	325	P	P	07 55 46.4	-1.3
	comp=Z,1.0nm,0.3s,mb3.9,baz=28,slow=6.5,SNR=5.6						
AKASG	Malin Array Be	66.27	325	P	P	07 55 46.4	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SCHQ	Schefferville	66.86	24	P	P	07 55 50.4	-1.0
	comp=Z,1.7nm,0.8s,mb3.7,baz=322,slow=12,SNR=5.2						
MLR	Muntele Rosu	71.87	324	P	P	07 56 21.0	-0.4
	comp=Z,1.1nm,0.5s,mb3.7,baz=28,slow=9.1,SNR=4.1						
MLR	Muntele Rosu	71.87	324	P	P	07 56 21.0	-0.4
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	72.62	334	P	P	07 56 24.8	-0.7
	comp=Z,0.4nm,0.3s,mb3.4,baz=14,slow=4.0,SNR=7.0						
TXAR	Lajitas Array	73.76	63	P	P	07 56 34.1	+1.6
	comp=Z,0.3nm,0.4s,mb3.2,baz=297,slow=4.6,SNR=7.6						
BRTR	Keskin Array B	73.87	316	P	P	07 56 34.2	+1.3
	comp=Z,0.7nm,0.5s,mb3.5,baz=45,slow=1.7,SNR=3.3						
BRTR	Keskin Array B	73.87	316	P	P	07 56 34.2	+1.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	75.11	199	P	P	07 56 40.3	+0.1
	comp=Z,0.5nm,0.7s,mb3.1,baz=17,slow=6.1,SNR=11						
WRA	Warramunga Arr	75.11	199	P	P	07 56 40.3	+0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	78.82	199	P	P	07 57 01.1	+0.8
	comp=Z,0.9nm,0.4s,mb3.6,baz=11,slow=5.0,SNR=26						

ISC 17 07:49:33.9±0.8**, 37.34N**±0.05×**27.97E**±0.06**, h16^{km}**±12^{km}**, n7, σ1^{s}02**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	Milas	0.16	255	ePG	Pb	07 49 37.7	-0.4
MLSB				eSG	Sb	07 49 40.8	-0.2
YER	Yerkesik	0.32	129	i PG	Pb	07 49 39.1	-1.8
AYDN	Tasoluk	0.33	348	i P	Pb	07 49 40.6	-0.4
AYDN				i S	Sb	07 49 45.4	-0.4
BDRM	Kayabasi	0.50	237	i P	Pb	07 49 44.1	+0.2
BDRM				i S	Sb	07 49 52.3	+1.7
DNZL	Cakiroluk	0.93	67	i P	Pb	07 49 50.9	-0.3
DNZL				i S	Sb	07 50 04.6	+1.6
IZM	Izmir	1.20	332	ePN	Pn	07 49 55.3	-0.8
MANT	Manisa	1.24	22	i P	Pb	07 49 56.6	+0.1
MANT				i S	Sb	07 50 15.6	+3.4

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*IDC **17** 08:19:49.1±0.5, 55.45N×166.27E, mb4.2/22, mb1 4.4/24, mb1mx4.4/26, ML3.6/2, MS3.4/9, Ms1 3.5/9, ms1mx3.0/33, Error ellipse: s-maj=15.0km s-min=9.8km az=21.0*

*BJI **17** 08:19:51.4, 55.70N×166.27E, h28^{km}, mB4.7, mb4.7, Ms4.2, Msz4.1*

*KRSC **17** 08:19:51.1±1.2, 55.53N×166.39E, h24^{km}±3^{km}, ML4.8*

*MOS **17** 08:19:52.0±1.2, 55.48N×166.31E, h36^{km}, mb4.3/14, Error ellipse: s-maj=12.3km s-min=9.2km az=52.5*

*NEIC **17** 08:19:54.0±1.0, 55.40N×166.36E, h35^{km}±9^{km}, mb4.6/33, Error ellipse: s-maj=9.2km s-min=4.9km az=163.0*

ISC 17 08:19:52.5±0.4**, 55.42N**±0.03×**166.30E**±0.03**, h38^{km}**±4^{km}**, h45^{km}**±.5^{km}**:pP-P, n169, σ1^{s}17**/209**, mb4.5**/59**, MS3.7**/13**, 1C-2D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.29	221	i P	P	08 19 59.6	-0.9
BKI				i S	S	08 20 05.4	-0.7
BKI				Smax			
	75µm,0.4s						
KBTR	Krutoberegovo	2.12	293	P	P	08 20 24.1	-2.0
KBTR				S	S	08 20 48.8	-2.6
KBTR	Krutoberegovo	2.12	293	i P	P	08 20 24.5	-1.6
KBTR				eS	S	08 20 50.4	-1.0
KBG	Krutoberegovo	2.19	294	i P	P	08 20 25.8	-1.4
KBG				eS	S	08 20 50.6	-2.8
KBG				Smax			
	2µm,1.0s						
MKZ	Mys Kozlova	2.77	254	eP	P	08 20 35.8	+0.3
MKZ				eS	S	08 21 09.1	+1.0
SVLR	Shiveluch	3.08	294	i P	P	08 20 40.4	+0.5
SVLR				eS	S	08 21 16.8	+0.9
ZLN	Zelenaya	3.17	283	eP	P	08 20 42.3	+1.2
ZLN				eS	S	08 21 19.4	+1.3
CIRR	Tsirk	3.21	285	eP	P	08 20 42.1	+0.3
CIRR				eS	S	08 21 19.5	+0.2
LGNR	Loginova	3.24	284	eP	P	08 20 42.7	+0.5
LGNR				eS	S	08 21 20.5	+0.5
KLY	Klyuchi	3.31	288	P	P	08 20 41.1	-2.0

KLY				S	S	08 21 18.5	-3.2
KLY	**Klyuchi**	**3.31**	**288**	eP	**P**	**08 20 40.9**	**-2.2**
KLY				eS	**S**	**08 21 18.3**	**-3.4**
KRSR	**Krestovskiy**	**3.33**	**286**	eP	**P**	**08 20 44.3**	**+0.8**
KRSR				eS	**S**	**08 21 22.8**	**+0.5**
KMNR	**Kamenistaya**	**3.46**	**278**	i P	**P**	**08 20 46.7**	**+1.4**
KMNR				eS	**S**	**08 21 25.7**	**+0.2**
KPT	**Kopyto**	**3.48**	**281**	eP	**P**	**08 20 45.5**	**-0.1**
KPT				eS	**S**	**08 21 25.0**	**-1.2**
TUMR	**Tumrok**	**3.52**	**270**	i P	**P**	**08 20 47.2**	**+1.1**
TUMR				eS	**S**	**08 21 28.4**	**+1.4**
KOZ	**Kozyrevsk**	**3.69**	**283**	eP	**P**	**08 20 49.7**	**+1.2**
KOZ				eS	**S**	**08 21 31.8**	**+0.4**
SRDR	**Sredinnyy**	**3.82**	**286**	eP	**P**	**08 20 49.3**	**-1.0**
SRDR				eS	**S**	**08 21 34.1**	**-0.5**
KII	**Karymskiy**	**4.21**	**254**	P	**P**	**08 20 57.2**	**+1.3**
KII				S	**S**	**08 21 45.6**	**+1.1**
KII	**Karymskiy**	**4.21**	**254**	eP	**P**	**08 20 57.1**	**+1.2**
KII				eS	**S**	**08 21 45.5**	**+1.0**
OSSR	**Ossora**	**4.22**	**337**	eP	**P**	**08 20 52.5**	**-3.5**
OSSR				eS	**S**	**08 21 37.7**	**-7.1**
OSSR				Smax			
	220nm,0.7s						
ESO	**Esso**	**4.33**	**280**	eP	**P**	**08 20 58.2**	**+0.5**
ESO				eS	**S**	**08 21 47.7**	**0.0**
ESO				Smax			
	160nm,1.0s						
SPN	**Mys Shipunski**	**4.36**	**240**	P	**P**	**08 20 57.5**	**-0.5**
SPN				S	**S**	**08 21 44.9**	**-3.3**
SPN	**Mys Shipunski**	**4.36**	**240**	i P	**P**	**08 20 57.5**	**-0.5**
SPN				eS	**S**	**08 21 47.5**	**-0.7**
NLC	**Nalytchevo**	**4.66**	**244**	P	**P**	**08 21 02.9**	**+0.6**
NLC				S	**S**	**08 21 53.0**	**-2.8**
NLC	**Nalytchevo**	**4.66**	**244**	eP	**P**	**08 21 02.7**	**+0.4**
NLC				eS	**S**	**08 21 53.6**	**-2.2**
FX1	**Attu Island--F**	**4.77**	**119**	Pn	**P**	**08 21 00.7**	**-3.1**
	5.2nm,0.3s,baz=94,slow=17,SNR=29						
FX1				Sn	**S**	**08 21 53.4**	**-5.2**
	20nm,0.3s,baz=84,slow=18,SNR=7.3						
FX1	**Attu Island--F**	**4.77**	**119**	ePn	**P**	**08 21 01.0**	**-2.8**
SDLR	**Sedlovina**	**4.84**	**247**	i P	**P**	**08 21 06.0**	**+1.1**
SDLR				eS	**S**	**08 22 00.8**	**+0.3**
SMAR	**Somma**	**4.89**	**247**	i P	**P**	**08 21 07.0**	**+1.4**
SMAR				i S	**S**	**08 22 02.2**	**+0.5**
UGLR	**Uglovaya**	**4.91**	**246**	eP	**P**	**08 21 06.8**	**+1.0**
UGLR				eS	**S**	**08 22 02.1**	**0.0**
AVH	**Avacha**	**4.93**	**247**	i P	**P**	**08 21 07.3**	**+1.3**
AVH				eS	**S**	**08 22 02.8**	**+0.2**
KOK	**Koryaka**	**4.97**	**248**	eP	**P**	**08 21 07.6**	**+1.0**
KOK				eS	**S**	**08 22 02.7**	**-0.9**
PET	**Petropavlovsk**	**5.09**	**245**	P	**P**	**08 21 09.3**	**+0.9**
PET				S	**S**	**08 22 04.7**	**-2.0**
PET	**Petropavlovsk**	**5.09**	**245**	eP	**P**	**08 21 08.9**	**+0.5**
PET				eS	**S**	**08 22 04.7**	**-2.0**
PET	**Petropavlovsk**	**5.09**	**245**	⇓i PN	**P**	**08 21 08.9**	**+0.5**
PET				pmax	pmax		
	comp=Z,300nm,1.4s						
PET				pmax	pmax		
	comp=Z,230nm,0.9s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
PET	**Petropavlovsk**	**5.09**	**245**	ePn	**P**	**08 21 08.4**	**0.0**
	comp=Z,89nm,0.3s						
GNL	**Ganaly**	**5.17**	**254**	i P	**P**	**08 21 11.0**	**+1.6**
GNL				eS	**S**	**08 22 06.7**	**-1.9**
SMY	**Shemya**	**5.33**	**117**	Pn	**P**	**08 21 09.8**	**-1.9**
RUS	**Russkaya**	**5.49**	**240**	P	**P**	**08 21 13.9**	**0.0**
RUS				S	**S**	**08 22 13.1**	**-3.7**
RUS	**Russkaya**	**5.49**	**240**	eP	**P**	**08 21 13.8**	**-0.1**
RUS				eS	**S**	**08 22 14.4**	**-2.4**
GRL	**Gorelyy**	**5.64**	**243**	eP	**P**	**08 21 17.0**	**+0.9**
GRL				eS	**S**	**08 22 19.1**	**-1.5**
APC	**Apacha**	**5.92**	**249**	eP	**P**	**08 21 21.2**	**+1.2**
APC				eS	**S**	**08 22 25.6**	**-2.0**
MIPR	**Malaya Ipel'ka**	**6.47**	**245**	eP	**P**	**08 21 28.8**	**+1.1**
PAU	**Pauzhetka**	**6.92**	**239**	P	**P**	**08 21 31.8**	**-2.2**
SKR	**Severo-Kuril's**	**7.76**	**236**	eP	**P**	**08 21 43.1**	**-2.6**
SKR				eS	**S**	**08 23 08.0**	**-5.2**
SKR	**Severo-Kuril's**	**7.76**	**236**	ePN	**P**	**08 21 43.1**	**-2.6**
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
ALID	**Alaid**	**7.91**	**239**	eP	**P**	**08 21 47.5**	**-0.3**
UNV	**Unalaska Valle**	**15.79**	**84**	eP	**P**	**08 23 36.4**	**+3.1**
	comp=Z,96nm,1.2s						
TNA	**Tin City**	**16.12**	**41**	eP	**P**	**08 23 39.8**	**+2.3**
	comp=Z,8.6nm,0.8s						
YSS	**Yuzh-Sakhalins**	**16.95**	**250**	eP	**P**	**08 23 50.0**	**+2.0**
YSS	**Yuzh-Sakhalins**	**16.95**	**250**	P	**P**	**08 23 50.2**	**+2.2**
	comp=Z,10nm,0.7s						
ASAJ	**Asahikawa**	**18.93**	**243**	P	**P**	**08 24 13.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=21,slow=9.4,SNR=9.7						
ASAJ				LR	LR	08 31 04.3	
	comp=Z,114nm,19.4s,baz=24,slow=36						
ASAJ	**Asahikawa**	**18.93**	**243**	P	**P**	**08 24 13.8**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,115nm,19.5s						
YAK	**Yakutsk**	**19.91**	**304**	eP	**P**	**08 24 21.0**	**-2.2**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=E,23nm,1.3s						
YAK	**Yakutsk**	**19.91**	**304**	eP	**P**	**08 24 21.4**	**-1.7**
	comp=E,48nm,0.6s						
IMA	**Indian Mountai**	**21.84**	**45**	eP	**P**	**08 24 44.5**	**+1.5**
	comp=E,77nm,1.1s,mb5.0						
RSO	**Redoubt South**	**22.03**	**60**	P	**P**	**08 24 47.9**	**+3.0**
SPU	**Mount Spurr**	**22.31**	**58**	eP	**P**	**08 24 48.8**	**+1.1**
KDAK	**Kodiak Island**	**22.51**	**67**	eP	**P**	**08 24 48.8**	**-0.7**
	comp=E,7.5nm,0.8s,mb4.2						
TIXI	**Tiksi**	**22.68**	**330**	eP	**P**	**08 24 51.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
PWA	**Palmer West**	**23.32**	**57**	eP	**P**	**08 25 00.6**	**+3.2**
MCK	**McKinley**	**23.67**	**51**	eP	**P**	**08 25 00.7**	**0.0**
	comp=Z,5.0nm,0.9s,mb3.9						
SML	**Sawmill**	**24.04**	**56**	eP	**P**	**08 25 04.5**	**+0.2**
COLA	**College**	**24.15**	**48**	eP	**P**	**08 25 06.0**	**+0.6**
ILAR	**Eielson Array**	**24.56**	**49**	P	**P**	**08 25 09.3**	**-0.1**
	comp=Z,8.4nm,0.9s,mb4.2,baz=260,slow=8.2,SNR=53						
ILAR				PcP	PcP	08 28 46.8	-1.3
	comp=Z,0.3nm,0.6s,baz=279,slow=3.5,SNR=4.5						
ILAR				LR	LR	08 35 24.6	
	comp=Z,58nm,20.6s,MS3.1,baz=116,slow=38						
ILAR	**Eielson Array**	**24.56**	**49**	P	**P**	**08 25 09.4**	**0.0**
ILAR						08 28 46.8	
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,58nm,20.6s						
DIV	**Divide**	**25.35**	**57**	eP	**P**	**08 25 16.7**	**-0.2**
	comp=Z,14nm,0.7s,mb4.6						
EYAK	**Cordova Ski Ar**	**25.45**	**59**	eP	**P**	**08 25 17.5**	**-0.5**
MAJO	**Matsushiro**	**26.87**	**237**	eP	**P**	**08 25 29.7**	**-1.6**
	comp=Z,18nm,0.9s,mb4.6						
MAT	**Matsushiro**	**26.87**	**237**	P	**P**	**08 25 32.9**	**+1.6**
MAT	**Matsushiro**	**26.87**	**237**	eP	**P**	**08 25 33.0**	**+1.7**
	comp=Z,13nm,1.0s,mb4.4						
DAWY	**Dawson**	**27.85**	**50**	eP	**P**	**08 25 39.5**	**-0.5**
BOD	**Bodaibo**	**28.29**	**297**	eP	**P**	**08 25 41.3**	**-2.6**
CN2	**Changchun**	**28.49**	**263**	eP	**P**	**08 25 45.4**	**-0.5**
CN2				eAP	pP	08 25 57.1	+0.6
CN2				eS	**S**	**08 30 27.0**	**-2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.1						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.1						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS3.9						
INK	**Inuvik**	**29.76**	**41**	P	**P**	**08 25 56.9**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=305,slow=5.6,SNR=13						
INK				PcP	PcP	08 29 00.2	-0.1
	comp=Z,1.7nm,0.9s,baz=118,slow=2.3,SNR=4.5						
INK	**Inuvik**	**29.76**	**41**	P	**P**	**08 25 56.9**	**-0.1**
INK						08 29 00.2	
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**29.76**	**41**	eP	**P**	**08 25 56.6**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.0						
DLBC	**Dease Lake**	**33.72**	**58**	eP	**P**	**08 26 33.0**	**+1.3**
SONM	**Songino Array**	**36.90**	**284**	P	**P**	**08 26 59.3**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.0,baz=63,slow=9.7,SNR=3.1						
SONM				PcP	PcP	08 29 20.6	+0.2
	comp=Z,1.3nm,0.9s,baz=24,slow=2.0,SNR=4.6						
ZAK	**Zakamensk**	**37.18**	**289**	eP	**P**	**08 27 02.3**	**+1.0**
YKA	**Yellowknife Ar**	**38.95**	**46**	P	**P**	**08 27 16.3**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.1,baz=296,slow=7.9,SNR=5.0						
YKA	**Yellowknife Ar**	**38.95**	**46**	P	**P**	**08 27 16.3**	**+0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SSE	**Sheshan**	**39.88**	**251**	P	**P**	**08 27 24.6**	**+0.6**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
SSE	**Sheshan**	**39.88**	**251**	P	**P**	**08 27 24.6**	**+0.6**
	comp=Z,17nm,0.7s,mb4.9						
NJ2	**Nanjing**	**40.42**	**255**	eP	**P**	**08 27 29.4**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
RMW	**Rattlesnake Mo**	**43.64**	**69**	eP	**P**	**08 27 55.3**	**+0.8**
DPW	**Davenport**	**45.28**	**67**	eP	**P**	**08 28 07.3**	**-0.4**
NEW	**Newport**	**45.60**	**65**	P	**P**	**08 28 10.7**	**+0.4**
	comp=Z,3.2nm,0.9s,mb4.3,baz=287,slow=5.4,SNR=5.6						
NEW	**Newport**	**45.60**	**65**	P	**P**	**08 28 10.7**	**+0.4**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	**Newport**	**45.60**	**65**	eP	**P**	**08 28 10.4**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.4						
GTA	**Gaotai**	**45.92**	**279**	eP	**P**	**08 28 14.3**	**+1.4**
GTA				AP	pP	08 28 17.5	-6.4
GTA				S	**S**	**08 35 03.8**	**+10**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
GTA				AMB	AMB		
	comp=Z,34nm,4.2s						
GTA				LR	LR		
	comp=N,108nm,17.1s,MS3.9						
GTA				LR	LR		
	comp=E,80nm,19.4s,MS3.9						
GTA				LR	LR		
	comp=Z,83nm,17.5s,MS3.7						
LZH	**Lanzhou**	**45.95**	**272**	eP	**P**	**08 28 14.8**	**+1.6**
LZH				AP	pP	08 28 27.0	+2.8
LZH				eS	**S**	**08 34 52.6**	**-1.9**
LZH				SS	SS	08 38 08.0	-3.4
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,180nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS5.1						
LZH	**Lanzhou**	**45.95**	**272**	eP	**P**	**08 28 14.8**	**+1.6**
	comp=Z,40nm,1.0s,mb5.3						
LZH				pP	pP	08 28 27.0	+2.8
LZH				sP	sP	08 28 32.5	+3.7
LZH				PP	PP	08 30 11.0	+10
LZH				eS	**S**	**08 34 52.6**	**-1.9**
LZH				sS		08 35 15.0	
LZH				SS	SS	08 38 08.0	-3.4
WDC	**Whiskeytown Da**	**47.73**	**77**	eP	**P**	**08 28 28.1**	**+0.9**
	comp=Z,3.1nm,0.9s,mb4.3						
MOD	**Modoc**	**48.07**	**74**	eP	**P**	**08 28 29.8**	**+0.1**
	comp=Z,5.2nm,0.9s,mb4.6						
CHMT	**Chamberlain Mo**	**48.47**	**65**	eP	**P**	**08 28 32.8**	**0.0**
OHCM	**Honcut**	**49.18**	**77**	eP	**P**	**08 28 37.6**	**-0.8**
HRY	**Holter Researc**	**49.34**	**64**	eP	**P**	**08 28 38.6**	**-0.9**
KURK	**Kurchatov**	**49.55**	**303**	eP	**P**	**08 28 40.3**	**-0.7**
	comp=Z,19nm,1.0s,mb5.1						
WMQ	**Urumqi**	**49.58**	**291**	⇑P	**P**	**08 28 42.0**	**+0.6**
WMQ				AP	pP	08 28 54.5	+2.1
WMQ				PCP	PcP	08 30 03.3	+0.4
WMQ				PP	PP	08 30 37.5	+1.1
WMQ				S	**S**	**08 35 46.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,35nm,8.2s						
WMQ				LR	LR		
	comp=N,325nm,22.0s,MS4.4						
WMQ				LR	LR		
	comp=E,197nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,48nm,21.0s,MS3.5						
CD2	**Chengdu**	**49.77**	**267**	P	**P**	**08 28 44.3**	**+1.3**
MCMT	**McKenzie Canyo**	**50.08**	**66**	eP	**P**	**08 28 44.4**	**-0.8**
MCMT				e		08 30 05.6	
BOZ	**Bozeman (W)**	**50.16**	**65**	eP	**P**	**08 28 45.1**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**50.37**	**297**	P	**P**	**08 28 46.4**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=55,slow=6.3,SNR=18						
MKAR	**Makanchi Array**	**50.37**	**297**	P	**P**	**08 28 46.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
QLMT	**Earthquake Lak**	**50.81**	**65**	eP	**P**	**08 28 50.8**	**0.0**
NVAR	**Mina Array Bea**	**51.58**	**76**	P	**P**	**08 28 58.0**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=303,slow=6.1,SNR=10						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**08 28 57.2**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.5,baz=56,slow=5.3,SNR=14						
BVAR				PcP	PcP	08 30 10.3	-0.4
	comp=Z,1.6nm,0.6s,baz=153,slow=3.3,SNR=4.8						
BRVK	**Borovoye**	**51.76**	**310**	eP	**P**	**08 28 57.3**	**-0.5**
	comp=Z,7.5nm,0.6s,mb4.8						
BRVK				ePcP	PcP	08 30 09.6	-1.2
LAO	**LASA Array**	**52.18**	**61**	eP	**P**	**08 29 01.6**	**+0.6**
	comp=Z,9.4nm,1.0s,mb4.7						
TPH	**Tonopah**	**52.43**	**75**	eP	**P**	**08 29 00.7**	**-2.3**
	comp=Z,1.8nm,0.4s,mb4.3						
HWUT	**Hardware Ranch**	**52.99**	**68**	eP	**P**	**08 29 05.0**	**-2.2**
	comp=Z,4.4nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**53.22**	**66**	P	**P**	**08 29 09.8**	**+0.9**
	comp=Z,2.4nm,0.9s,mb4.2,baz=326,slow=5.3,SNR=14						
ULM	**Lac du Bonnet**	**54.54**	**51**	P	**P**	**08 29 18.4**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=316,slow=8.0,SNR=3.3						
ULM	**Lac du Bonnet**	**54.54**	**51**	P	**P**	**08 29 18.4**	**-0.1**
RSSD	**Black Hills**	**55.08**	**61**	eP	**P**	**08 29 21.7**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.6						
NEN	**Nelson**	**55.50**	**76**	eP	**P**	**08 29 25.3**	**-0.3**
LDFC	**Landfair**	**55.77**	**77**	eP	**P**	**08 29 25.2**	**-2.4**
PV10	**Paradox Valley**	**56.66**	**70**	eP	**P**	**08 29 31.7**	**-2.2**
PV01	**Paradox Valley**	**57.09**	**69**	eP	**P**	**08 29 35.8**	**-1.2**
ISCO	**Idaho Springs**	**57.42**	**66**	eP	**P**	**08 29 38.4**	**-0.9**
	comp=Z,8.8nm,1.0s,mb4.7						
RW3	**Ridgway**	**57.47**	**69**	eP	**P**	**08 29 40.7**	**+1.0**
SDCO	**Great Sand Dun**	**59.00**	**68**	eP	**P**	**08 29 50.2**	**-0.2**
	comp=Z,7.2nm,1.1s,mb4.6						
FINES	**FINESS Array B**	**59.34**	**339**	P	**P**	**08 29 51.3**	**-1.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=135,slow=14,SNR=4.0						
FINES				LR	LR	08 56 59.5	
	comp=Z,31nm,20.4s,MS3.4,baz=359,slow=38						
FINES	**FINESS Array B**	**59.34**	**339**	P	**P**	**08 29 51.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,31nm,20.5s						
ANMO	**Albuquerque**	**60.59**	**70**	d iP	**P**	**08 30 02.5**	**+1.2**
ANMO	**Albuquerque**	**60.59**	**70**	eP	**P**	**08 29 59.9**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.4						
LAZ	**Ladron**	**60.64**	**71**	eP	**P**	**08 30 02.9**	**+1.2**
SCHQ	**Schefferville**	**61.82**	**32**	P	**P**	**08 30 08.4**	**-1.0**
	comp=Z,4.0nm,1.0s,mb4.5,baz=328,slow=7.4,SNR=10						
CMAR	**Chiang Mai Arr**	**62.17**	**262**	P	**P**	**08 30 12.5**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.3,baz=20,slow=6.5,SNR=5.6						
CMAR				LR	LR	09 01 16.1	
	comp=Z,28nm,18.4s,MS3.5,baz=175,slow=40						
CMAR	**Chiang Mai Arr**	**62.17**	**262**	P	**P**	**08 30 12.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,28nm,18.5s						
NB2	**NORSAR Subarra**	**62.22**	**347**	P	**P**	**08 30 10.9**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.3,baz=17,slow=7.0						
NOA	**NORSAR Array B**	**62.22**	**347**	P	**P**	**08 30 11.2**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.3,baz=17,slow=6.8,SNR=7.2						
NOA				LR	LR	08 57 35.0	
	comp=Z,19nm,19.1s,MS3.3,baz=355,slow=36						
NOA	**NORSAR Array B**	**62.22**	**347**	P	**P**	**08 30 11.2**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,19nm,19.1s						
OBN	**Obninsk**	**62.41**	**330**	eP	**P**	**08 30 12.4**	**-0.9**
OBN				eS	**S**	**08 38 30.1**	**-5.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.1						
KSU1	**Kansas State U**	**62.53**	**60**	eP	**P**	**08 30 13.2**	**-1.1**
KKN	**Kakani**	**62.62**	**280**	eP	**P**	**08 30 15.0**	**-0.1**
	comp=Z,4.4nm,0.3s,mb5.1						
PKI	**Pulchoki**	**62.72**	**280**	eP	**P**	**08 30 15.3**	**-0.4**
	comp=Z,36nm,1.1s,mb5.4						
GKN	**Gorkha**	**62.82**	**280**	eP	**P**	**08 30 15.7**	**-0.7**
DMN	**Daman**	**62.86**	**280**	eP	**P**	**08 30 15.8**	**-0.9**
	comp=Z,4.1nm,0.3s,mb5.0						
KOLN	**Koldanda**	**63.58**	**281**	eP	**P**	**08 30 20.8**	**-0.6**
	comp=Z,18nm,1.0s,mb5.1						
GDL2	**Guadalupe Moun**	**63.81**	**71**	eP	**P**	**08 30 23.1**	**+0.3**
WMOK	**Wichita Mounta**	**64.80**	**65**	eP	**P**	**08 30 29.2**	**+0.1**
	comp=Z,10nm,1.0s,mb4.8						
LTX	**Lajitas**	**66.41**	**72**	eP	**P**	**08 30 40.5**	**+1.0**
	comp=Z,7.6nm,0.5s,mb5.0						
TXAR	**Lajitas Array**	**66.41**	**72**	P	**P**	**08 30 40.5**	**+0.9**
	comp=Z,7.1nm,0.7s,mb4.8,baz=301,slow=4.9,SNR=174						
TXAR				LR	LR	08 56 59.9	
	comp=Z,39nm,19.7s,MS3.6,baz=255,slow=34						
JCT	**Junction City**	**67.59**	**69**	eP	**P**	**08 30 45.8**	**-1.1**
	comp=Z,3.7nm,0.4s,mb4.8						
AKASG	**Malin Array Be**	**68.37**	**332**	P	**P**	**08 30 51.0**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.4,baz=27,slow=6.5,SNR=3.4						
AKASG	**Malin Array Be**	**68.37**	**332**	P	**P**	**08 30 51.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SOC	**Sochi**	**71.49**	**322**	eP	**P**	**08 31 14.5**	**+3.9**
SOC				e		08 31 31.9	
SOC				e		08 33 50.7	
SOC				eS	S	08 40 26.8	+1.6
SOC				e		08 41 11.5	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
SOC				pmax	pmax		
	comp=N,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,12nm,1.0s						
SOC				MLR	MLR		
	comp=Z,74nm,21.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,42nm,18.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,37nm,14.0s,MS3.9						
LRAL	**Lakeview Retre**	**72.05**	**58**	eP	**P**	**08 31 13.0**	**-1.1**
	comp=E,2.7nm,0.5s,mb4.4						
GNI	**Garni**	**72.61**	**317**	LR	LR	09 07 59.5	
	comp=E,40nm,18.2s,MS3.7,baz=306,slow=40						
GERES	**GERESS Array B**	**73.59**	**342**	P	**P**	**08 31 21.2**	**-1.6**
	comp=E,0.8nm,0.5s,mb3.9,baz=14,slow=5.5,SNR=6.3						
GERES	**GERESS Array B**	**73.59**	**342**	P	**P**	**08 31 21.2**	**-1.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**74.03**	**332**	LR	LR	09 07 56.7	
	comp=Z,37nm,19.6s,MS3.7,baz=256,slow=39						
BRTR	**Keskin Array B**	**77.00**	**324**	P	**P**	**08 31 45.3**	**+2.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=27,slow=5.5,SNR=3.4						
BRTR				LR	LR	09 07 54.0	
	comp=Z,27nm,19.6s,MS3.6,baz=10.0,slow=38						
BRTR	**Keskin Array B**	**77.00**	**324**	P	**P**	**08 31 45.3**	**+2.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,27nm,19.6s						
WB2	**Warramunga Arr**	**79.83**	**210**	eP	**P**	**08 31 58.8**	**+0.4**
WRA	**Warramunga Arr**	**79.84**	**210**	P	**P**	**08 31 59.0**	**+0.5**
	comp=Z,3.7nm,0.9s,mb4.3,baz=21,slow=5.9,SNR=30						
WRA	**Warramunga Arr**	**79.84**	**210**	P	**P**	**08 31 59.0**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**80.93**	**219**	eP	**P**	**08 32 05.2**	**+0.9**
	comp=Z,3.9nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**83.49**	**210**	P	**P**	**08 32 18.7**	**+1.4**
	comp=Z,3.7nm,0.9s,mb4.4,baz=18,slow=4.8,SNR=28						
ASPA	**Alice Springs**	**83.49**	**210**	eP	**P**	**08 32 18.7**	**+1.4**
ESDC	**Sonseca Array**	**84.91**	**352**	P	**P**	**08 32 26.4**	**+2.3**
	comp=Z,0.4nm,0.4s,mb3.9,baz=8.7,slow=6.0,SNR=4.4						
ESLA	**Sonseca Array**	**84.91**	**352**	P	**P**	**08 32 24.4**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**89.49**	**201**	P	**P**	**08 32 47.9**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.5,baz=354,slow=15,SNR=6.2						
STKA	**Stephens Creek**	**89.49**	**201**	eP	**P**	**08 32 46.0**	**-0.5**
MAW	**Mawson**	**144.06**	**219**	PKP	PKPdf	08 39 22.4	+0.2
	comp=Z,1.9nm,0.7s,baz=92,slow=2.5,SNR=6.8						
MAW	**Mawson**	**144.06**	**219**	PKIKP	PKPdf	08 39 22.4	+0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**144.06**	**219**	ePKPdf	PKPdf	08 39 22.7	+0.5

BYKL ***17*** *08:22:03.0±0.5,51.61N×99.97E*
MOS 17 08:22:04.6±2.0,**51.60N×100.11E,h8**km**,mb4.4**/1**,3C,**
Error ellipse: s-maj=39.1km s-min=16.0km az=157.9,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**0.55**	**83**	⇑iPg	Pg	08 22 15.4	-0.4
MOY				eSg	Sg	08 22 23.5	+0.3
MOY				Pmax			
	272nm,0.2s						
MOY				Smax			
	1μm,0.4s						
MOY	**Mondy**	**0.55**	**83**	ePG	Pg	08 22 15.4	-0.4
MOY				e		08 22 23.8	
MOY				pmax	pmax		
	comp=Z,266nm,0.2s						
MOY				smax			
	comp=N,1μm,0.3s						
ORL	**Orlik**	**0.96**	**349**	⇑iPg	Pg	08 22 21.7	-2.1
ORL				eSg	Sg	08 22 33.5	-3.1
ORL				Pmax			
	comp=N,79nm,0.2s						
ORL				Smax			
	comp=N,259nm,0.5s						
ARS	**Arshan**	**1.47**	**77**	⇑iPg	Pg	08 22 31.3	-2.7
ARS				e		08 22 32.8	
ARS				eSg	Sg	08 22 51.5	-2.2
ARS				max			
	comp=N,116nm,0.2s						
ARS				Smax			
	comp=N,2μm,0.3s						
ARS	**Arshan**	**1.47**	**77**	ePG	Pg	08 22 31.9	-2.1
ARS				e		08 22 51.5	
ARS				pmax	pmax		
	comp=Z,83nm,0.1s						
ARS				smax			
	comp=E,2μm,0.3s						
TLY	**Talaya**	**2.20**	**87**	ePg	Pg	08 22 43.7	-4.9
TLY				eSg	Sg	08 23 13.2	-4.8
TLY				Pmax			
	comp=E,31nm,0.4s						
TLY				Smax			
	comp=E,381nm,0.5s						
TLY	**Talaya**	**2.20**	**87**	ePN	Pn	08 22 44.1	+2.1
TLY				e		08 23 13.3	
TLY				pmax	pmax		
	comp=Z,26nm,0.3s						
TLY				smax			
	comp=E,403nm,0.3s						
ZAK	**Zakamensk**	**2.35**	**120**	ePg	Pg	08 22 47.1	-4.3
ZAK				eSg	Sg	08 23 19.9	-2.8
ZAK				Pmax			
	comp=E,34nm,0.7s						
ZAK				Smax			
	comp=E,192nm,0.2s						
IRK	**Irkutsk**	**2.66**	**74**	eSg	Sg	08 23 26.5	-6.6
IRK				Smax			
	comp=E,1μm,0.5s						
IRK	**Irkutsk**	**2.66**	**74**	ePN	Pn	08 22 51.9	+3.4
IRK				e		08 23 25.6	
IRK				pmax	pmax		
	comp=Z,135nm,0.3s						
IRK				smax			
	comp=N,1μm,0.6s						
LSTR	**Listvyanka**	**2.95**	**83**	ePg	Pg	08 22 57.0	-6.5
LSTR				eSg	Sg	08 23 35.0	-7.8
LSTR				Pmax			
	comp=N,11nm,0.4s						

LSTR				Smax			
	comp=N,175nm,0.7s						
LSTR	Listvyanka	2.95	83	ePN	Pn	08 22 56.6	+3.9
LSTR				e		08 23 34.5	
LSTR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSTR				smax			
	comp=N,185nm,1.1s						
TSC	Tosontsengel	3.08	204	ePg	Pg	08 22 57.7	-8.3
TSC				eSg	Sg	08 23 39.7	-7.3
BLGM	Bulgan	3.57	141	ePg	Pg	08 23 08.0	-7.9
BLGM				eSg	Sg	08 23 56.0	-7.5
STDB	Stepnoy Dvoret	3.92	79	eSg	Sg	08 24 08.6	-6.5
TRG	Tyrgan	4.01	71	e	Pn	08 23 10.5	+2.7
TRG				ePg	Pg	08 23 16.3	-8.4
TRG				e		08 23 57.9	
TRG				eSg	Sg	08 24 07.6	-11
TRG				Pmax			
	comp=N,24nm,0.9s						
TRG				Smax			
	comp=N,167nm,0.8s						
TRG	Tyrgan	4.01	71	ePN	Pn	08 23 05.6	-2.2
TRG				e		08 23 16.1	
TRG				eS	Sn	08 23 53.1	-2.4
TRG				e		08 24 08.8	
TRG				pmax	pmax		
	comp=Z,25nm,0.5s						
TRG				smax			
	comp=N,169nm,0.5s						
TTS	Tsetserleg	4.21	168	ePg	Pg	08 23 17.5	-11
TTS				eSg	Sg	08 24 13.0	-12
ARDR	Aradan	4.24	286	ePg	Pg	08 23 18.0	-11
ARDR				eSg	Sg	08 24 11.4	-14
HRMR	Khuramsha	4.27	87	ePn	Pn	08 23 12.6	+1.2
HRMR				ePg	Pg	08 23 21.8	-8.0
HRMR				eSg	Sg	08 24 16.3	-10
HRMR				Pmax			
	comp=N,25nm,0.4s						
HRMR				Smax			
	comp=N,308nm,0.8s						
ZRHB	Zarechye	4.45	75	eSg	Sg	08 24 25.4	-7.3
TRTB	Turuntaevo	4.70	79	ePn	Pn	08 23 17.6	+0.1
TRTB				ePg	Pg	08 23 29.5	-8.9
TRTB				eSg	Sg	08 24 29.9	-11
TRTB				Pmax			
	comp=N,6.0nm,0.5s						
TRTB				Smax			
	comp=N,201nm,1.1s						
OGRR	Ongureny	5.00	63	ePn	Pn	08 23 20.0	-1.8
OGRR				ePg	Pg	08 23 33.8	-11
OGRR				eSn	Sn	08 24 16.0	-4.5
OGRR				eSg	Sg	08 24 38.3	-13
OGRR				Pmax			
	comp=N,9.0nm,0.4s						
OGRR				Smax			
	comp=N,124nm,0.5s						
OGRR	Ongureny	5.00	63	ePN	Pn	08 23 33.0	+11
ULG	Ulaangom	5.37	255	ePg	Pg	08 23 35.2	-17
ULG				eSg	Sg	08 24 44.0	-19
NIZ	Nizh Angarsk	6.99	50	ePn	Pn	08 23 48.0	-1.8
NIZ				eSn	Sn	08 25 04.6	-5.7
NIZ				eSg	Sg	08 25 39.0	-18
NIZ				Smax			
	comp=N,138nm,1.1s						
NIZ	Nizh Angarsk	6.99	50	ePN	Pn	08 23 49.2	-0.6
NIZ				e		08 24 10.6	
NIZ				e		08 25 41.1	
NIZ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NIZ				smax			
	comp=N,99nm,1.1s						
YLYR	Ulyunkhan	7.40	59	eSg	Sg	08 25 52.1	-19
YLYR				Smax			
	comp=N,30nm,1.1s						
KPC	Khapcheranga	8.03	99	ePn	P	08 24 04.3	0.0
KPC				ePg	P	08 24 31.5	+27
KPC				eSg	Sg	08 26 15.9	-16
KPC				Smax			
	comp=N,20nm,1.3s						
UKT	Uakit	8.94	59	ePn	P	08 24 16.1	-0.9
UKT				ePg	P	08 24 45.2	+28
UKT				eSn	Sn	08 25 54.3	-4.7
UKT				eSg	Sg	08 26 40.1	-22
UKT				Smax			
	comp=N,10.0nm,1.3s						
BOD	Bodaibo	10.16	47	eSg	S	08 27 18.2	+49
NVS	Novosibirsk	10.62	294	eP	P	08 24 33.7	-6.4
AB31	Akbulak array	25.47	281	Pn	P	08 27 27.4	-6.9
	comp=N,0.4nm,0.5s,baz=23,slow=13,SNR=3.2						
AB31				Lg		08 28 21.5	
	comp=N,2.7nm,0.7s,baz=15,slow=26,SNR=5.0						

MAN 17 08:27:28.7, 10.19N×126.12E, h6^{km}, mb4.1, ML2.9, MS2.6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.74	237	⇓eP	Pg	08 27 43.2	-0.3
SCPH				eS	Sg	08 27 55.1	+1.6
MSLP	Maasin	1.24	267	eP	Pb	08 27 51.5	-0.7
MSLP				eS	Sb	08 28 10.3	+2.1
PLP	Palo	1.48	311	i P	Pn	08 27 54.9	-1.1
PLP				eS	Sb	08 28 13.3	-1.9
BESP	Borongan	1.55	335	eP	Pn	08 27 56.1	-1.0
BESP				eS	Sb	08 28 18.1	+0.9
TBP	Tagbilaran	2.28	258	eP	Pn	08 28 07.4	0.0
TBP				eS	Sn	08 28 35.8	-0.3
BUKP	Musuan	2.52	205	eP	Pn	08 28 10.9	0.0
BUKP				eS	Sn	08 28 43.9	+1.6
CNP	Catarman	2.71	328	eP	Pn	08 28 05.6	-8.0
CNP				eS	Sn	08 28 42.8	-4.3
PVCP	Virac	3.89	331	eP	Pn	08 28 35.1	+4.8

WAR 17 08:37:21.5, 51.50N×16.09E, ML3.0, Mining Induced
PRU 17 08:37:22.3, 51.44N×16.09E
NEIC 17 08:37:23.0±2.2, 51.37N×16.06E, h5^{km}, ML2.7(BRG), Error ellipse: s-maj=24.7km s-min=9.0km az=208.0
ISC 17 08:37:18.8±0.9, 51.50N±0.05×16.10E±0.04, n16, σ1^{s}14/30, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	169	ePG	Pg	08 37 34.0	+1.8
KSP				eSG	Sg	08 37 42.0	+0.9
KSP	Ksiaz	0.67	169	ePg	Pg	08 37 33.8	+1.6
KSP				eSg	Sg	08 37 42.5	+1.4
DPC	Dobruska-Polom	1.16	173	ePG	Pg	08 37 43.5	+1.5
DPC				eSG	Sg	08 37 57.5	+0.1
PVCC	Panska Ves	1.37	225	ePG	Pg	08 37 47.2	+1.0
PVCC				eSG	Sg	08 38 05.7	+1.3
BRG	Berggiesshubel	1.49	246	i Pg	Pg	08 37 49.4	+0.8
BRG				i Sg	Sg	08 38 09.6	+1.1
PRU	Pruhonice	1.81	214	ePG	Pg	08 37 56.0	+1.1
PRU				eSG	Sg	08 38 17.7	-1.3
CLL	Collm	1.95	266	i PG	Pg	08 37 57.3	-0.4
CLL				eSG	Sg	08 38 23.0	-0.6
MORC	Moravsky Berou	1.96	151	Pn	Pn	08 37 54.5	+0.9
OKC	Ostrava-Krasne	2.12	141	ePG	Pg	08 38 02.0	+1.0
OKC				eSG	Sg	08 38 27.7	-1.5
NKC	Novy Kostel	2.64	243	ePG	Pg	08 38 11.7	+0.3
NKC				eSG	Sg	08 38 46.2	-0.4
OJC	Ojcow	2.67	117	ePG	Pg	08 38 11.0	-1.2
OJC				eSG	Sg	08 38 47.0	-0.8
OJC	Ojcow	2.67	117	ePg	Pg	08 38 11.3	-0.9
OJC				eSg	Sg	08 38 46.6	-1.2
KHC	Kasperske Hory	2.87	215	ePN	Pn	08 38 07.5	+0.9
KHC				ePG	Pg	08 38 15.0	-1.1
KHC				e		08 38 40.0	
KHC				eSG	Sg	08 38 50.0	-4.3
MOX	Moxa	2.95	255	ePg	Pg	08 38 16.7	-1.1
MOX				eSg	Sg	08 38 56.1	-1.0
MOA	Molln	3.84	199	i	Pg	08 38 32.8	-2.7
MOA	Molln	3.84	199	i SG	Sg	08 39 25.2	-1.5
	17nm,0.7s						

MAN 17 09:03:15.2, 10.29N×126.09E, h2^{km}, mb4.0, ML2.8, MS2.5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.78	230	⇓eP	Pg	09 03 30.4	-0.4
SCPH				eS	Sg	09 03 41.4	+0.3
MSLP	Maasin	1.22	263	eP	Pb	09 03 38.6	-0.1
MSLP				eS	Sb	09 03 56.8	+2.0
PLP	Palo	1.40	309	eP	Pb	09 03 41.4	-0.3
PLP				eS	Sb	09 04 00.4	+0.6
BESP	Borongan	1.45	334	eP	Pn	09 03 42.5	-0.1
BESP				eS	Sb	09 04 05.6	+4.1
BUKP	Musuan	2.60	203	eP	Pn	09 03 58.8	-0.2
BUKP				eS	Sn	09 04 31.5	-0.1
CNP	Catarman	2.61	328	eP	Pn	09 03 57.5	-1.7
CNP				eS	Sn	09 04 33.0	+1.0
PAGZ	Pagadian	3.61	228	eP	Pn	09 04 13.4	0.0
PVCP	Virac	3.79	330	eP	Pn	09 04 15.1	-0.9

BJI 17 09:06:01.9, 40.14N×106.39E, h12^{km}, mb4.2, ML3.6, Ms3.4, 1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	2.81	79	PG	Pg	09 06 47.8	-10
BTO				SG	Sg	09 07 27.4	-8.2
BTO				Smax			
	comp=N,412nm,0.5s						
BTO				Smax			
	comp=E,150nm,0.4s						
HHC	Hu-ho-hao-te	4.01	78	eP	Pn	09 07 05.8	+1.2
HHC				PG	Pg	09 07 13.3	-8.6
HHC				S	Sn	09 07 50.8	-1.2
HHC				SG	Sg	09 08 05.5	-10
HHC				Smax			
	comp=N,263nm,0.7s						
HHC				Smax			
	comp=E,268nm,0.4s						
GTA	Gaotai	5.12	264	P	Pn	09 07 20.9	+0.6
GTA				PG	Pg	09 07 35.9	-8.2
GTA				S	Sn	09 08 20.3	+0.3
GTA				SG	Sg	09 08 43.1	-9.2
GTA				Smax			
	comp=N,86nm,0.6s						
GTA				Smax			
	comp=E,36nm,0.9s						
GTA				LR	LR		
	comp=N,111nm,7.2s						
GTA				LR	LR		
	comp=E,72nm,8.0s						
TIY	Taiyuan	5.30	115	⇓PG	Pg	09 07 37.0	-11
TIY				SG	Sg	09 08 41.3	-17
TIY				Smax			
	comp=N,114nm,0.8s						
TIY				Smax			
	comp=E,61nm,0.6s						
SDNR	Sundarnagar	25.28	259	eP	P	09 11 32.0	+2.5

IDC 17 09:06:35.9±3.1, 29.95S×138.19E, mb1 3.4/3, mb1mx3.3/9, ML3.1/3, Error ellipse: s-maj=72.6km s-min=16.2km az=46.0
ISC 17 09:06:33.3±0.7, 30.09S±0.05×137.94E±0.07, h10^{km}, n6, σ1^{s}08/12, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	Buckleboo	3.15	210	eP	Pn	09 07 24.6	+0.5
BBOO				e		09 07 33.0	
BBOO				eS	Sn	09 08 01.3	-0.9
	9.6nm,0.3s						
STKA	Stephens Creek	3.61	120	eP	Pn	09 07 31.2	+0.7
STKA				eS	Sn	09 08 13.2	-0.4
	5.7nm,0.2s						
STKA	Stephens Creek	3.61	120	Pn	Pn	09 07 31.6	+1.1
	1.0nm,0.3s,baz=309,slow=13,SNR=24						
STKA				Sn	Sn	09 08 13.3	-0.3
	2.8nm,0.3s,baz=352,slow=8.0,SNR=9.2						
STKA				Lg		09 08 27.4	
	2.6nm,0.3s,baz=13,slow=8.3,SNR=5.3						
CMSA	Cobar Meteorol	6.82	104	eP	Pn	09 08 15.5	-0.4
CMSA				eS	Sn	09 09 29.5	-4.9
	2.0nm,0.3s						
ASAR	Alice Springs	7.34	330	Pn	Pn	09 08 25.2	+1.9
	0.2nm,0.3s,baz=150,slow=13,SNR=13						
ASAR				Sn	Sn	09 09 48.0	+0.4
	0.3nm,0.3s,baz=152,slow=22,SNR=5.8						
WRA	Warramunga Arr	10.62	341	Pn	P	09 09 08.7	0.0
	0.3nm,0.3s,baz=156,slow=13,SNR=18						
WRA				Sn	S	09 11 06.3	-2.5
	0.2nm,0.3s,baz=163,slow=24,SNR=4.6						

MDD 17 09:22:05.8±0.2, 42.30N×2.22E, h7^{km}±3^{km}, mbLg1.8/19, Error ellipse: s-maj=2.2km s-min=1.3km az=172.0, PRXIMO
LDG 17 09:22:05.6±0.2, 42.28N×2.20E, h3^{km}, Md2.3/1, Ml2.3/8, Error ellipse: s-maj=3.9km s-min=1.7km az=157.0
STR 17 09:22:06.0±0.4, 42.38N×2.22E, h10^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 17 09:22:06.0, 42.38N×2.22E, h10^{km}, ML2.5(STR), ML2.3(LDG), MN1.8(MDD), After STR.
ISC 17 09:22:04.3±0.5, 42.36N±0.03×2.19E±0.03, h14^{km}±5^{km}, n30, σ1^{s}11/40, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	Bruguera	0.07	186	Pg	Pg	09 22 07.3	+0.1
CBRU				Lg		09 22 08.6	
	264nm,0.1s						
VALF	Valcebollere	0.14	288	Pg	Pg	09 22 09.4	+1.4
VALF				Lg		09 22 12.1	
CLLI	Llivia	0.20	307	Pg	Pg	09 22 10.7	+1.7
CLLI				Lg		09 22 14.2	
	48nm,0.1s						
FILF	Fillols	0.34	54	Pg	Pg	09 22 11.6	+0.1
FILF				Sg	Sg	09 22 15.6	-0.8
FILF	Fillols	0.34	54	Pg	Pg	09 22 11.5	0.0
FILF				Lg		09 22 15.6	
EJON	La Jonquera	0.53	80	⇑Pg	Pg	09 22 15.5	+0.5
	2.5nm,0.3s,SNR=18						
EJON				Lg		09 22 22.5	
	9.9nm,0.3s,SNR=29						
SJAF	Saint Jean de	0.53	76	Pg	Pg	09 22 15.4	+0.3
SJAF				Sg	Sg	09 22 22.5	+0.1
SJAF	Saint Jean de	0.53	76	Pg	Pg	09 22 15.5	+0.4
SJAF				Lg		09 22 22.5	
CFON	Fontmartina	0.62	163	Pg	Pg	09 22 16.0	-1.0
CFON				Lg		09 22 23.5	
	28nm,0.1s						
CORG	Organya	0.66	259	Pg	Pg	09 22 18.5	+0.8
EMIR	Miracle	0.67	228	Pg	Pg	09 22 17.9	0.0
	7.0nm,0.1s,SNR=7.9						
EMIR				Lg		09 22 27.0	
	19nm,0.3s,SNR=15						
CSOR	Sort	0.78	272	Pg	Pg	09 22 20.9	+0.8
CSOR				Lg		09 22 32.8	
	5.3nm,0.2s						
SALF	Salau	0.84	299	Pg	Pg	09 22 22.7	+1.4
SALF				Sg	Sg	09 22 33.5	+0.9
SALF	Salau	0.84	299	Pg	Pg	09 22 21.8	+0.5
SALF				Lg		09 22 34.0	
MTLF	Montolieu	0.98	1	ePg	Pg	09 22 25.6	+1.5
MTLF				eSg	Sg	09 22 39.6	+2.4
	9.0nm,0.2s						
CAVN	Les Avellanes	1.17	246	Pn	Pn	09 22 26.4	+0.1
CAVN				Lg		09 22 43.1	
	18nm,0.1s						
MELF	Melles	1.18	296	Pg	Pg	09 22 28.9	+1.0
MELF				Sg	Sg	09 22 44.5	+0.9
MELF	Melles	1.18	296	Pg	Pg	09 22 28.7	+0.8
MELF				Lg		09 22 42.8	
EPOB	Poblet	1.30	220	Pg	Pg	09 22 29.3	-1.2
	2.7nm,0.3s,SNR=18						
EPOB				Lg		09 22 46.2	
	6.0nm,0.3s,SNR=14						
EGRA	Graus	1.40	264	Pg	Pg	09 22 31.9	-0.4
	SNR=7.9						
EGRA				Lg		09 22 51.0	
	3.2nm,0.1s,SNR=7.9						
RESF	Ens	1.44	289	Lg		09 22 53.5	
EPF	Esparros	1.52	297	ePg	Pg	09 22 34.7	-0.1
EPF				eSg	Sg	09 22 54.7	-0.4
	5.0nm,0.2s						
ESAC	San Caprasio	2.08	253	Pg	Pg	09 22 43.9	-2.0
	16nm,0.2s,SNR=5.5						
ESAC				Lg		09 23 12.3	
	18nm,0.3s,SNR=7.1						
ETSF	Etsaut	2.10	286	ePg	Pg	09 22 45.4	-0.9
ETSF				eSg	Sg	09 23 13.3	-1.0
	4.4nm,0.2s						
LASF	Ste Croix	2.10	35	ePn	Pn	09 22 40.8	+1.2
LASF				ePg	Pg	09 22 46.0	-0.4
LASF				eSg	Sg	09 23 14.6	+0.1
	1.6nm,0.2s						
CAF	Calviac	2.57	358	ePn	Pn	09 22 47.6	+1.4
CAF				ePg	Pg	09 22 54.5	-1.1
CAF				eSg	Sg	09 23 28.2	-1.7
	2.3nm,0.3s						
SJPF	Ste Jean	2.63	288	ePn	Pn	09 22 47.4	+0.3
SJPF				eSg	Sg	09 23 29.9	-1.9
	4.1nm,0.5s						
EMOS	Mosqueruela	2.83	226	Lg		09 23 35.4	
	0.6nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	2.98	351	eSg	Sg	09 23 41.8	-1.9
	2.4nm,0.3s						
VIVF	Saint-Julien-l	3.08	35	eSg	Sg	09 23 44.2	-2.7
	1.9nm,0.3s						

NEIC 17 09:23:46.5, 14.78N×92.50W, h79^{km}, MD4.1(MEX), After MEX.
MEX 17 09:23:46.4±1.0, 14.78N×92.52W, h79^{km}±15^{km}, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPX	Tapachula	0.28	64	i P	P	09 23 56.5	-2.0
TPX				i S	S	09 24 06.0	-1.6
CCIG	Comitan	1.54	14	i P	P	09 24 11.4	-1.3
CCIG				i S	S	09 24 30.0	-2.0
SCX	San Cristobal	1.95	357	eP	P	09 24 17.5	-0.6
SCX				eS	S	09 24 39.0	-2.5
CMIG	Matias Romero	3.23	316	eP	P	09 24 34.2	-1.8
CMIG				i S	S	09 25 11.5	-2.0

IDC 17 09:51:23.1±12.0, 23.75S×178.94W, h326^{km}±113^{km}, mb3.5/4, mb1 3.6/5, mb1mx3.3/15, Error ellipse: s-maj=63.8km s-min=40.6km az=45.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.85	192	P	P	09 54 36.3	-3.3
	0.4nm,0.3s,baz=114,slow=5.7,SNR=3.8						
URZ				S	S	09 57 18.8	+1.9
	0.4nm,0.3s,baz=200,slow=14,SNR=3.9						
CTA	Charters Tower	32.45	270	P	P	09 57 25.2	-0.3
	4.0nm,0.5s,baz=93,slow=10,SNR=13						
STKA	Stephens Creek	35.68	248	P	P	09 57 51.8	-0.9
	1.8nm,0.9s,baz=117,slow=7.1,SNR=3.9						
ASAR	Alice Springs	43.02	260	P	P	09 58 51.0	-1.9
	1.1nm,0.5s,baz=99,slow=7.0,SNR=20						
WRA	Warramunga Arr	43.39	266	P	P	09 58 53.6	-2.4
	3.3nm,0.5s,baz=96,slow=8.3,SNR=134						
ARCES	ARCESS Array B	131.93	349	PKP	PKPdf	10 09 57.9	+0.5
	2.1nm,0.9s,baz=63,slow=2.7,SNR=4.5						
AKASG	Malin Array Be	145.36	328	PKPbc	PKPbc	10 10 21.8	-0.9
	0.4nm,0.3s,baz=36,slow=4.1,SNR=5.1						

KRSC 17 09:57:50.6±2.0, 48.99N×157.89E, h59^{km}±27^{km}, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.05	327	eP	P	09 58 21.1	-2.3
SKR				i S	S	09 58 45.7	-2.0
ALID	Alaid	2.41	322	eP	P	09 58 30.1	+1.5
ALID				eS	S	09 58 56.9	-0.1
PAU	Pauzhetka	2.58	345	P	P	09 58 31.8	+0.9
PAU				eS	S	09 59 00.3	-0.8
PAU				Smax			
	280nm,0.3s						
MIPR	Malaya Ipel'ka	3.37	348	eP	P	09 58 43.0	+0.9
RUS	Russkaya	3.47	6	eP	P	09 58 43.8	+0.3
RUS				eS	S	09 59 22.6	-1.1
GRL	Gorelyy	3.57	2	eP	P	09 58 46.1	+1.2
GRL				eS	S	09 59 26.0	-0.1
APC	Apacha	3.97	354	eP	P	09 58 50.1	-0.4
APC				eS	S	09 59 36.0	-0.2
UGLR	Uglovaya	4.27	8	eP	P	09 58 56.0	+1.3
UGLR				eS	S	09 59 43.3	-0.4
NLC	Nalytchevo	4.29	12	eP	P	09 58 57.4	+2.4
NLC				eS	S	09 59 44.1	-0.1
AVH	Avacha	4.31	7	eP	P	09 58 57.1	+1.7
AVH				eS	S	09 59 44.4	-0.5
SMAR	Somma	4.32	7	eP	P	09 58 55.7	+0.3
SMAR				eS	S	09 59 42.8	-2.2
SPN	Mys Shipunski	4.33	17	eP	P	09 58 55.6	0.0
SPN				eS	S	09 59 42.5	-2.7
KOK	Koryaka	4.33	6	eP	P	09 58 57.8	+2.2
KOK				eS	S	09 59 45.3	-0.1
SDLR	Sedlovina	4.34	8	eP	P	09 58 56.2	+0.5
SDLR				eS	S	09 59 43.5	-2.0
GNL	Ganaly	4.71	0	eP	P	09 59 02.2	+1.3
GNL				eS	S	09 59 53.6	-1.3
KII	Karymskiy	5.15	10	eP	P	09 59 08.2	+1.2
KII				eS	S	10 00 01.3	-4.4
MKZ	Mys Kozlova	6.06	22	eP	P	09 59 19.0	-0.7
MKZ				eS	S	10 00 23.8	-4.7
KBTR	Krutoberegovo	7.83	21	eP	P	09 59 43.6	-0.6
KBTR				eS	S	10 01 07.9	-4.3

ROM 17 11:15:42.8±0.5, 44.64N×9.35E, h9^{km}±3^{km}, MD2.8/5, ML2.0/6, Error ellipse: s-maj=1.4km s-min=0.9km az=0.0
NEIC 17 11:15:42.7, 44.71N×9.40E, h6^{km}, MD2.8(ROM), ML3.0(GEN), ML2.7(LDG), After GEN.
LDG 17 11:15:43.8±0.2, 44.64N×9.55E, h10^{km}, Ml2.7/18, Error ellipse: s-maj=4.4km s-min=2.6km az=112.0
ISC 17 11:15:41.9±0.3, 44.68N±0.02×9.36E±0.02, h9^{km}±3^{km}, n61, σ1^{s}14/105, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENL	Genova Univers	0.39	226	P	Pg	11 15 50.8	+1.0
CODM		0.45	129	P	Pg	11 15 51.2	+0.2
CODM				S	Sg	11 15 57.1	0.0
GRAM		0.54	110	P	Pg	11 15 52.4	-0.4
GRAM				S	Sg	11 15 59.3	-0.7
BACM		0.65	128	P	Pg	11 15 54.6	-0.4
BACM				S	Sg	11 16 02.6	-1.0
VALM		0.71	117	P	Pb	11 15 55.9	-0.2
VALM				S	Sb	11 16 05.3	-0.4
VINC	Vinca	0.78	133	P	Pb	11 15 57.2	0.0
ERBM	Eremo	0.80	108	ePG	Pg	11 15 58.4	+0.5
ERBM				SG	Sg	11 16 10.7	+2.2
ERBM	Eremo	0.80	108	ePg	Pg	11 15 58.4	+0.6
ERBM				eSg	Sg	11 16 10.7	+2.2
VLC	Villacollemand	0.90	125	eP	Pb	11 15 59.3	0.0
GSCL	Gusciola	0.94	110	ePG	Pg	11 16 01.2	+0.5
GSCL				SG	Sg	11 16 15.2	+2.0
	20nm,0.4s						
GSCL	Gusciola	0.94	110	ePg	Pg	11 16 01.2	+0.5
GSCL				eSg	Sg	11 16 15.2	+2.0
FIN	Finale Ligure	0.95	241	ePG	Pg	11 16 00.9	+0.1
FIN				SG	Sg	11 16 14.6	+1.1
	26nm,0.3s						
FIN	Finale Ligure	0.95	241	ePg	Pg	11 16 00.8	0.0
FIN				eSg	Sg	11 16 14.6	+1.1
BDI	Bagni Di Lucca	1.08	124	ePN	Pn	11 16 04.2	+1.1
BDI				SN	Sn	11 16 17.2	-1.1
	63nm,0.3s						
BDI	Bagni Di Lucca	1.08	124	ePg	Pg	11 16 04.2	+0.7
BDI				eSg	Sg	11 16 17.2	-0.7
RORO		1.08	239	P	Pb	11 16 03.0	+0.6
MAIM		1.11	133	P	Pb	11 16 03.3	+0.4
MAIM				S	Sb	11 16 17.4	+0.1
ROB	Roburent	1.13	251	P	Pb	11 16 04.2	+1.0
ROB				S	Sb	11 16 18.9	+1.1
SAL	Salo	1.25	41	ePN	Pn	11 16 06.4	+0.9
SAL	Salo	1.25	41	ePg	Pg	11 16 06.4	-0.4
VAI	Varese	1.26	341	ePN	Pn	11 16 06.3	+0.5
VAI				SN	Sn	11 16 24.7	+1.7
	25nm,0.4s						
VAI	Varese	1.26	341	ePg	Pg	11 16 06.3	-0.8
VAI				eSg	Sg	11 16 24.7	+0.7

PII	**Pisa**	1.27	138	*e*PN	Pn	11 16 06.3	+0.4
PII				SN	Sn	11 16 22.8	-0.3
	31nm,0.3s						
PII	**Pisa**	1.27	138	*e*Pg	Pg	11 16 06.3	-1.0
PII				*e*Sg	Sg	11 16 22.8	-1.5
MONE	**Monesi**	1.29	243	P	Pb	11 16 06.3	+0.3
MONE				S	Sb	11 16 22.2	-0.4
IMI	**Imperia**	1.30	235	*e*PN	Pn	11 16 06.4	+0.1
IMI				SN	Sn	11 16 24.1	+0.1
	23nm,0.4s						
IMI	**Imperia**	1.30	235	*e*Pg	Pg	11 16 06.4	-1.5
IMI				*e*Sg	Sg	11 16 24.1	-1.2
ORO	**Oropa**	1.36	315	*e*PN	Pn	11 16 08.1	+0.9
	39nm,0.3s						
ORO	**Oropa**	1.36	315	*e*Pg	Pg	11 16 08.1	-1.1
NEGI	**Negi**	1.45	236	P	Pn	11 16 07.5	-0.9
ENR	**Entracque**	1.46	253	P	Pn	11 16 09.2	+0.6
ENR				S	Sb	11 16 25.7	-1.6
STV2	**Anna di Valdie**	1.52	254	P	Pn	11 16 09.6	+0.2
STV	**Sta Anna Valdi**	1.52	254	P	Pn	11 16 09.8	+0.4
RSP	**Reno Superiore**	1.57	288	P	Pn	11 16 10.1	0.0
RSP				S	Sb	11 16 27.9	-2.6
SBF	**Sospel**	1.60	240	*e*Pn	Pn	11 16 10.9	+0.3
SBF				*e*Sn	Sn	11 16 32.6	+1.0
	37nm,0.3s						
MCGN	**Macugnaga**	1.61	323	*e*PN	Pn	11 16 11.7	+1.0
	14nm,0.4s						
MCGN	**Macugnaga**	1.61	323	*e*Pg	Pg	11 16 11.7	-2.3
PZZ	**Prazzo**	1.62	265	P	Pn	11 16 11.0	+0.1
LSD	**Ceresole Reale**	1.75	297	P	Pn	11 16 13.5	+0.8
LSD				S	Sn	11 16 35.1	-0.1
MBDF	**Montbardon**	1.84	273	*e*Pn	Pn	11 16 16.1	+2.0
MBDF				*e*Sn	Sn	11 16 39.5	+1.8
	14nm,0.4s						
RRL	**Cesana Torines**	1.85	279	P	Pn	11 16 15.6	+1.4
RRL				S	Sn	11 16 39.8	+1.9
LPG	**La Plagne**	2.02	295	*e*Sn	Sn	11 16 44.0	+1.8
	4.9nm,0.3s						
LPL	**La Plagne**	2.04	295	*e*Pn	Pn	11 16 19.0	+2.1
LPL				*e*Sn	Sn	11 16 44.0	+1.3
	8.7nm,0.4s						
PGF	**Pioggiola**	2.14	187	*e*Pn	Pn	11 16 17.9	-0.4
PGF				*e*Sn	Sn	11 16 42.3	-3.0
	4.1nm,0.3s						
FRF	**La Foret Royal**	2.25	241	*e*Pn	Pn	11 16 20.8	+0.9
FRF				*e*Sn	Sn	11 16 47.2	-0.8
	6.5nm,0.2s						
LMR	**La Mourre**	2.45	238	*e*Pn	Pn	11 16 22.4	-0.4
LMR				*e*Sn	Sn	11 16 51.6	-1.6
	5.4nm,0.2s						
ORIF	**Oris-en-Rattie**	2.49	277	*e*Pn	Pn	11 16 26.8	+3.5
ORIF				*e*Sn	Sn	11 16 55.3	+1.2
	17nm,0.5s						
SMRF	**Simiane la Rot**	2.80	257	*e*Pn	Pn	11 16 28.3	+0.5
SMRF				*e*Sn	Sn	11 17 01.7	-0.4
	5.0nm,0.4s						
CABF	**La Chapelle**	3.00	311	*e*Pn	Pn	11 16 31.9	+1.3
VIVF	**Saint-Julien-l**	3.34	275	*e*Pn	Pn	11 16 37.2	+1.8
VIVF				*e*Sn	Sn	11 17 15.0	-0.7
	1.7nm,0.2s						
HINF	**Hinteralfeld**	3.59	332	*e*Pn	Pn	11 16 38.7	-0.3
HINF				*e*Sn	Sn	11 17 20.3	-1.7
	5.1nm,0.4s						
HAU	**Haudompre**	3.93	329	*e*Pn	Pn	11 16 43.8	0.0
HAU				*e*Sn	Sn	11 17 28.2	-2.4
	13nm,0.4s						
LASF	**Ste Croix**	3.99	263	*e*Pn	Pn	11 16 44.9	+0.3
LASF				*e*Sn	Sn	11 17 30.5	-1.6
	1.7nm,0.3s						
CDF	**Champ du Feu**	4.00	340	*e*Pn	Pn	11 16 43.8	-1.1
CDF				*e*Pg	Pg	11 16 59.9	-2.0
CDF				*e*Sn	Sn	11 17 29.6	-2.9
	4.8nm,0.5s						
SMF	**Signal de Mont**	4.34	299	*e*Pn	Pn	11 16 49.9	+0.3
LOR	**Lormes**	4.63	306	*e*Pn	Pn	11 16 53.2	-0.5
LOR				*e*Sn	Sn	11 17 44.8	-3.5
	3.9nm,0.4s						
AVF	**Avril sur Loir**	4.71	299	*e*Pn	Pn	11 16 54.7	-0.1
AVF				*e*Sn	Sn	11 17 47.6	-2.7
	1.3nm,0.3s						
SSF	**Saint Saulge**	4.73	302	*e*Pn	Pn	11 16 54.0	-1.2
BGF	**Bois d’Agland**	4.94	295	*e*Pn	Pn	11 16 58.4	+0.3
BGF				*e*Sn	Sn	11 17 53.3	-2.9
	4.1nm,0.4s						
CAF	**Calviac**	5.20	275	*e*Pn	Pn	11 17 01.4	-0.4
TCF	**Toulx Ste Croi**	5.28	290	*e*Pn	Pn	11 17 03.5	+0.6
TCF				*e*Pg	Pg	11 17 23.5	-3.8
TCF				*e*Sn	Sn	11 18 01.7	-3.0
	2.0nm,0.3s						

LDG ***17*** *11:17:00.9±0.3, 44.58N×9.72E, h10^{km}, Ml2.6/16, Error ellipse: s-maj=6.3km s-min=4.2km az=106.0*
ROM ***17*** *11:17:01.7±0.2, 44.62N×9.36E, h11^{km}±2^{km}, MD2.7/5, ML1.9/1, Error ellipse: s-maj=1.9km s-min=1.0km az=0.0*
NEIC ***17*** *11:17:01.2, 44.70N×9.40E, h7^{km}, MD2.7(ROM), ML2.9(GEN), ML2.6(LDG), After GEN.*
ISC 17 11:17:00.8±0.3, **44.65N**±0.02×**9.36E**±0.02, **h11**^{km}±3^{km}, **n53**, σ**1^{s}03**/92, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENL	**Genova Univers**	0.37	229	P	Pg	11 17 09.3	+0.8
CODM		0.43	126	P	Pg	11 17 09.7	0.0
CODM				S	Sg	11 17 15.4	-0.3
GRAM		0.53	107	P	Pg	11 17 11.2	-0.4
GRAM				S	Sg	11 17 18.0	-0.7
BACM		0.63	126	P	Pb	11 17 13.1	-0.2
BACM				S	Sb	11 17 21.2	-0.7
VINC	**Vinca**	0.76	132	P	Pb	11 17 15.6	-0.1
VINC				S	Sb	11 17 25.9	+0.2
ERBM	**Eremo**	0.78	107	*e*PG	Pg	11 17 17.3	+0.7
ERBM				SG	Sg	11 17 27.6	+0.4
ERBM	**Eremo**	0.78	107	*e*Pg	Pg	11 17 17.2	+0.6
ERBM				*e*Sg	Sg	11 17 27.6	+0.5
GSCL	**Gusciola**	0.93	108	*e*PG	Pg	11 17 19.8	+0.4
GSCL				SG	Sg	11 17 33.9	+2.1
GSCL	**Gusciola**	0.93	108	*e*Pg	Pg	11 17 19.8	+0.4
GSCL				*e*Sg	Sg	11 17 33.9	+2.1
FIN	**Finale Ligure**	0.94	242	*e*PG	Pg	11 17 19.8	+0.1
FIN				SG	Sg	11 17 33.2	+1.0
	34nm,0.5s						
FIN	**Finale Ligure**	0.94	242	*e*Pg	Pg	11 17 19.8	+0.1
FIN				*e*Sg	Sg	11 17 33.2	+1.0
BDI	**Bagni Di Lucca**	1.06	123	*e*PN	Pn	11 17 23.0	+1.4
BDI				SN	Sn	11 17 35.8	-0.6
BDI	**Bagni Di Lucca**	1.06	123	*e*Pg	Pg	11 17 23.0	+0.8
BDI				*e*Sg	Sg	11 17 35.8	-0.5
RORO		1.07	240	P	Pb	11 17 20.9	-0.1
RORO				S	Sb	11 17 34.4	-0.4
MAIM		1.09	132	P	Pb	11 17 22.0	+0.7
MAIM				S	Sb	11 17 34.8	-0.6
ROB	**Roburent**	1.13	252	P	Pb	11 17 22.6	+0.8
PII	**Pisa**	1.25	138	*e*PN	Pn	11 17 24.0	-0.2
PII				SN	Sn	11 17 41.7	+0.6
PII	**Pisa**	1.25	138	*e*Pg	Pg	11 17 24.0	-1.9
PII				*e*Sg	Sg	11 17 41.7	-0.8
SAL	**Salo**	1.26	40	*e*PN	Pn	11 17 25.4	+0.9
SAL	**Salo**	1.26	40	*e*Pg	Pg	11 17 25.4	-0.8
MONE	**Monesi**	1.29	244	P	Pb	11 17 25.1	+0.4
MONE				S	Sb	11 17 40.1	-0.8
VAI	**Varese**	1.29	341	*e*PN	Pn	11 17 25.2	+0.4
VAI				SN	Sn	11 17 43.5	+1.3
VAI	**Varese**	1.29	341	*e*Pg	Pg	11 17 25.2	-1.4
VAI				*e*Sg	Sg	11 17 43.5	-0.4
IMI	**Imperia**	1.29	236	*e*PN	Pn	11 17 25.0	+0.1
IMI	**Imperia**	1.29	236	*e*Pg	Pg	11 17 25.0	-1.7
NEGI	**Negi**	1.44	237	P	Pn	11 17 26.6	-0.3
ENR	**Entracque**	1.46	254	P	Pn	11 17 27.7	+0.5
ENR				S	Sb	11 17 44.4	-1.5
STV2	**Anna di Valdie**	1.52	255	P	Pn	11 17 28.0	0.0
STV	**Sta Anna Valdi**	1.52	255	P	Pn	11 17 28.0	-0.1
RSP	**Reno Superiore**	1.58	289	P	Pn	11 17 27.8	-1.2
SBF	**Sospel**	1.59	241	*e*Pn	Pn	11 17 29.6	+0.4
SBF				*e*Sn	Sn	11 17 52.3	+2.4
SBF				*e*Sg	Sg	11 17 58.0	+4.0
	26nm,0.3s						
PZZ	**Prazzo**	1.62	266	P	Pn	11 17 29.6	0.0
LSD	**Ceresole Reale**	1.76	298	P	Pn	11 17 32.5	+0.9
MBDF	**Montbardon**	1.85	273	*e*Pn	Pn	11 17 34.5	+1.6
MBDF				*e*Sn	Sn	11 17 58.3	+1.9
	16nm,0.6s						
RRL	**Cesana Torines**	1.86	279	P	Pn	11 17 35.0	+2.1
LPG	**La Plagne**	2.04	296	*e*Pn	Pn	11 17 37.6	+2.1
LPG				*e*Sn	Sn	11 18 05.3	+4.2
	7.6nm,0.3s						
LPG				*e*Sg	Sg	11 18 14.3	+5.6
LPL	**La Plagne**	2.06	296	*e*Pn	Pn	11 17 37.7	+1.9
LPL				*e*Sn	Sn	11 18 02.6	+1.0
	7.2nm,0.5s						
PGF	**Pioggiola**	2.12	187	*e*Pn	Pn	11 17 36.4	-0.3
PGF				*e*Sn	Sn	11 18 01.0	-2.2
	1.6nm,0.2s						
FRF	**La Foret Royal**	2.24	242	*e*Pn	Pn	11 17 39.0	+0.6
FRF				*e*Sn	Sn	11 18 05.8	-0.5
	3.1nm,0.2s						
LMR	**La Mourre**	2.44	238	*e*Pn	Pn	11 17 41.0	-0.4
LMR				*e*Sn	Sn	11 18 10.2	-1.3
	5.3nm,0.3s						
ORIF	**Oris-en-Rattie**	2.50	277	*e*Pn	Pn	11 17 44.9	+2.8
ORIF				*e*Sn	Sn	11 18 16.9	+4.1
	14nm,0.6s						
SMRF	**Simiane la Rot**	2.80	257	*e*Pn	Pn	11 17 46.9	+0.4
CABF	**La Chapelle**	3.02	312	*e*Pn	Pn	11 17 50.3	+0.7
CABF				*e*Sn	Sn	11 18 26.8	+0.6
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	3.35	275	*e*Pn	Pn	11 17 55.8	+1.6
VIVF				*e*Sn	Sn	11 18 34.5	+0.1
	0.8nm,0.2s						
HINF	**Hinteralfeld**	3.62	332	*e*Pn	Pn	11 17 57.0	-1.0
HINF				*e*Sn	Sn	11 18 40.1	-1.1
	3.3nm,0.3s						
HAU	**Haudompre**	3.95	329	*e*Pn	Pn	11 18 02.4	-0.4
HAU				*e*Sn	Sn	11 18 48.3	-1.4
	8.6nm,0.3s						
LASF	**Ste Croix**	3.99	264	*e*Pn	Pn	11 18 03.1	-0.3
LASF				*e*Sn	Sn	11 18 48.5	-2.2
	1.4nm,0.3s						
CDF	**Champ du Feu**	4.03	340	*e*Pn	Pn	11 18 02.7	-1.2
SMF	**Signal de Mont**	4.36	299	*e*Pn	Pn	11 18 08.7	+0.1
SMF				*e*Sn	Sn	11 19 00.0	0.0
	3.1nm,0.4s						
LOR	**Lormes**	4.65	306	*e*Pn	Pn	11 18 11.9	-0.8
LOR				*e*Sn	Sn	11 19 05.4	-1.9
	2.2nm,0.3s						
LOR				*e*Sg	Sg	11 19 33.9	-1.7
AVF	**Avril sur Loir**	4.72	299	*e*Pn	Pn	11 18 13.5	-0.3
BGF	**Bois d’Agland**	4.96	295	*e*Pn	Pn	11 18 17.2	+0.1
TCF	**Toulx Ste Croi**	5.29	291	*e*Pn	Pn	11 18 21.8	0.0
TCF				*e*Sn	Sn	11 19 22.6	-0.9
	2.2nm,0.5s						

NEIC ***17*** *11:44:13.5, 38.60N×24.08E, h29^{km}, ML3.5(ATH), ML3.3(THE), After ATH.*
ATH ***17*** *11:44:13.5, 38.60N×24.08E, h29^{km}±2^{km}, MD3.4/13, ML3.5*
THE ***17*** *11:44:16.5, 38.77N×24.09E, h15^{km}, ML3.3*
ISC 17 11:44:12.3±0.8, **38.61N**±0.02×**24.13E**±0.05, **h13**^{km}±5^{km}, **n28**, σ**0^{s}98**/42, **2C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	0.55	214	⇓*i*PN	Pn	11 44 23.9	-1.5
PTL	**Penteli**	0.59	200	⇑*i*PN	Pn	11 44 25.0	-1.1
AOS	**Alonnisos**	0.59	341	*e*Pg	Pg	11 44 24.8	+0.3
AOS				*e*Sg	Sg	11 44 31.5	-1.0
ATH	**Athens Observa**	0.71	207	⇑*i*PN	Pn	11 44 26.9	-0.9
ATH				*e*SN	Sn	11 44 38.0	-0.4
MKIT	**Kithairon Oros**	0.80	238	*e*PN	Pn	11 44 28.3	-0.8
MKIT				*e*SN	Sn	11 44 40.5	-0.2
NSAL	**Nisos Salamina**	0.87	217	⇓*i*PN	Pn	11 44 29.7	-0.4
NSAL				*e*SN	Sn	11 44 42.5	-0.1
NAIG	**Nisos Aigina**	0.98	211	⇓*i*PN	Pn	11 44 31.8	+0.1
NAIG				*e*SN	Sn	11 44 46.0	+0.6
NEO	**Neokhori**	0.99	315	*e*PN	Pn	11 44 32.3	+0.5
NEO				*e*SN	Sn	11 44 46.5	+0.9
XOR	**Xorichti**	1.05	317	*e*Pg	Pn	11 44 33.7	+1.1
XOR				*e*Sg	Sn	11 44 47.2	+0.1
PAIG	**Paliouri**	1.36	345	*e*Pb	Pb	11 44 36.9	-0.3
AGG	**Agios Georgios**	1.46	287	*e*Pb	Pb	11 44 40.7	+1.8
	comp=Z,5.0nm,0.2s						
AGG				*e*Sb	Sb	11 44 58.8	+1.5
LOS	**Limnos**	1.52	29	*e*Pb	Pb	11 44 40.0	+0.1
OUR	**Ouranopolis**	1.73	356	*e*Pb	Pb	11 44 42.3	-1.2
	comp=Z,16nm,0.1s						
PRK	**Paraskevi**	1.79	68	*e*PN	Pn	11 44 45.5	+2.3
EVR	**Evrytania**	1.84	280	*e*PN	Pn	11 44 45.0	+1.1
PLG	**Polygyros**	1.84	344	*e*PN	Pn	11 44 43.5	-0.5
APE	**Apeiranthos**	1.90	144	*e*PN	Pn	11 44 45.0	+0.3
LIT	**Litokhoron**	1.96	320	*e*Pb	Pb	11 44 46.0	-1.4
	comp=Z,7.1nm,0.2s						
LIT				*e*Sb	Sb	11 45 09.7	-1.9
VLI	**Veliai**	2.11	207	*e*PN	Pn	11 44 47.5	-0.3
ITM	**Ithomi**	2.25	231	*e*PB	Pb	11 44 51.3	-1.0
SOH	**Sokhos**	2.29	345	*e*Pn	Pn	11 44 50.6	+0.2
SOH				*e*Sn	Sn	11 45 17.8	-0.9
MEV	**Metsovon**	2.54	299	*e*Pn	Pn	11 44 55.4	+1.4
MEV				*e*Sn	Sn	11 45 25.7	+0.8
SRS	**Serrai**	2.54	351	*e*Pn	Pn	11 44 55.0	+1.1
SRS				*e*Sn	Sn	11 45 23.9	-1.1
KNT	**Kendrikon**	2.72	340	*e*Pn	Pn	11 44 57.3	+0.7
KNT				*e*Sn	Sn	11 45 28.1	-1.5
ALN	**Alexandroupoli**	2.73	32	*e*Pn	Pn	11 44 58.0	+1.5
ALN				*e*Sn	Sn	11 45 29.5	-0.2
FNA	**Florina**	3.04	317	*e*Pn	Pn	11 45 02.3	+1.3
RZN	**Rozhen**	3.11	8	*e*P	Pn	11 45 01.5	-0.6
VTS	**Vitosha**	4.04	350	P	Pn	11 45 15.3	0.0

MOS ***17*** *12:10:12.2±1.1, 35.95N×71.19E, h62^{km}, mb4.3/8, Error ellipse: s-maj=24.1km s-min=10.8km az=91.0*
NEIC ***17*** *12:10:15.2±5.6, 36.18N×71.30E, h69^{km}±42^{km}, mb3.9/5, Error ellipse: s-maj=43.6km s-min=17.8km az=201.0*
BJI ***17*** *12:10:18.4, 36.46N×71.00E, h96^{km}, mb4.1*
IDC ***17*** *12:10:18.9±8.2, 36.23N×71.48E, h101^{km}±69^{km}, mb3.5/7, mb1 3.6/9, mb1mx3.5/19, ML3.7/2, Error ellipse: s-maj=50.1km s-min=21.4km az=24.0*
NNC ***17*** *12:10:31.0±4.5, 37.09N×70.71E, h176^{km}±35^{km}, mpv4.8, Error ellipse: s-maj=47.4km s-min=32.0km az=65.0*
ISC 17 12:10:19.1±0.5, **36.32N**±0.03×**71.55E**±0.06, **h122**^{km}±7^{km}, **n77**, σ**1^{s}23**/100, **mb4.0**/14, **13C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	2.50	173	⇓P	P	12 11 01.4	+1.6
CHCP	**Chirah Chowk**	3.00	152	P	P	12 11 09.0	+2.6
CHCP				S	S	12 11 43.0	+0.8
THW	**Thamme Wali**	3.52	177	⇑P	P	12 11 14.0	+0.7
SBDP	**Sheikh Budin**	4.05	189	P	P	12 11 20.4	-0.1
SARP	**Sargodha**	4.48	168	P	P	12 11 26.1	-0.1
SARP				S	S	12 12 12.0	-5.8
JMU	**Jammu**	4.53	141	⇓*e*S	S	12 12 18.7	-0.3
DRP	**Derazinda**	4.70	194	P	P	12 11 29.7	+0.6
KSH	**Kashi**	4.73	46	P	P	12 11 35.0	+5.4
KSH				S	S	12 12 24.6	+0.7
KSH				Smax			
	comp=N,300nm,1.7s						
KSH				Smax			
	comp=E,270nm,1.6s						
THN	**Thein Dam**	5.18	137	*e*P	P	12 11 36.7	+1.1
THN				*e*S	S	12 12 35.2	+0.5
DLH	**Dalhousie**	5.24	135	*e*P	P	12 11 33.0	-3.4
DLH				*e*S	S	12 12 32.0	-4.2
PONG	**Pong**	5.68	139	*e*P	P	12 11 44.0	+1.7
PONG				*e*S	S	12 12 46.0	-0.8
AML	**Almayashu**	6.04	15	P	P	12 11 47.3	+0.1
	SNR=55						
UCH	**Uchtor**	6.33	20	P	P	12 11 51.3	0.0
	SNR=17						
BHK	**Bhakra**	6.34	139	*e*	S	12 13 04.8	+1.8
EKS2	**Erkin-Say**	6.56	14	P	P	12 11 55.3	+0.9
	SNR=11						
SDNR	**Sundarnagar**	6.58	135	*e*P	P	12 11 54.0	-0.7
SDNR				*e*S	S	12 13 05.0	-3.8
AAK	**Ala-Archa**	6.71	19	P	P	12 11 56.8	+0.5
	SNR=7.8						
KK31	**Karatay Array**	6.83	354	⇑P	P	12 11 56.6	-1.4
	comp=E,23nm,0.2s,baz=181,slow=13,SNR=398						
KK31				⇑S	S	12 13 08.1	-6.6
	comp=E,70nm,0.6s						
KKAR	**Karatay Array**	6.83	354	*i* PN	P	12 11 56.5	-1.5
KKAR				pmax	pmax		
	comp=Z,87nm,0.2s						
SMLA	**Simla**	6.97	136	⇑*i*P	P	12 12 09.7	+10
SMLA				*i* S	S	12 13 23.5	+5.3
TKM2	**Tokmak 2**	7.29	24	P	P	12 12 04.9	+0.5
	SNR=12						
USP	**Ospenovka**	7.30	17	P	P	12 12 04.4	0.0
	SNR=10						
KLP	**Kalpa**	7.33	129	*e*P	P	12 12 05.0	+0.2
KLP				*e*S	S	12 13 21.9	-5.0
KLP				*e*S	S	12 13 22.5	-4.5
DDI	**Dehra Dun**	8.08	136	*e*P	P	12 12 14.8	-0.2
DDI				*e*		12 13 45.0	
JOSI	**Joshimath**	8.81	128	*e*	P	12 12 19.3	-5.5
JOSI				*e*S	S	12 13 57.7	-5.2
KHET	**Khetri**	8.97	155	*e*P	P	12 12 25.4	-1.4
KHET				*e*S	S	12 14 00.8	-5.9
KHET				*e*		12 14 03.6	
	comp=E,46nm,0.3s						
KHET				*e*		12 14 03.8	
	comp=N,52nm,0.3s						
NDI	**New Delhi**	8.99	146	*e*P	P	12 12 24.0	-3.1
NDI				*e*S	S	12 14 01.0	-6.0
AYAN	**Aya Nagar**	9.12	147	*e*P	P	12 12 28.8	0.0
AYAN				*e*S	S	12 14 04.0	-6.3
AYAN				*e*		12 14 05.5	
	comp=Z,17nm,0.1s						
KUDL	**Kundal**	9.16	151	*e*P	P	12 12 28.7	-0.7
KUDL				*e*S	S	12 14 05.1	-6.0
KUDL				*e*		12 14 08.2	
	comp=Z,19nm,0.3s						
SONA	**Sohna**	9.30	148	*e*P	P	12 12 31.1	-0.2
SONA				*e*S	S	12 14 08.6	-6.0
SONA				*e*		12 14 11.2	
	comp=E,25nm,0.1s						
SONA				*e*		12 14 11.3	
	comp=N,32nm,0.4s						
LGTI	**Lohaghat**	10.01	131	*e*	P	12 12 34.5	-6.2
LGTI				*e*S	S	12 14 25.0	-6.5
MK31	**Makanchi Array**	13.19	34	⇓P	P	12 13 27.9	+5.5
	comp=N,0.4nm,0.3s,baz=218,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	13.19	34	P	P	12 13 23.1	+0.6
	comp=N,0.1nm,0.3s,baz=206,slow=9.5,SNR=5.5						
KOLN	**Koldanda**	13.29	126	*e*P	P	12 13 22.5	-1.4
KOLN				*e*S	S	12 15 41.6	-7.6
GKN	**Gorkha**	13.83	123	*e*P	P	12 13 30.0	-0.8
GKN				*e*S	S	12 15 52.7	-9.0
DMN	**Daman**	14.40	123	*e*P	P	12 13 36.9	-1.2
KKN	**Kakani**	14.40	122	*e*P	P	12 13 37.2	-1.0
	comp=N,30nm,0.4s						
PKI	**Pulchoki**	14.63	123	*e*P	P	12 13 41.1	0.0
	comp=N,29nm,0.5s						
KURK	**Kurchatov**	15.27	17	⇑P	P	12 13 51.3	+2.3
	comp=N,2.4nm,0.8s						
KURK	**Kurchatov**	15.27	17	*i* P	P	12 13 51.2	+2.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	15.27	17	P	P	12 13 49.1	+0.2
	comp=Z,4.6nm,0.7s						
KURK				*e*		12 14 27.4	
AB31	**Akbulak array**	15.46	330	⇓P	P	12 13 48.8	-2.7
	comp=Z,2.2nm,0.3s						
AB31				⇓S	S	12 16 26.1	-13
	comp=Z,6.8nm,0.5s						
AB31	**Akbulak array**	15.46	330	P	P	12 13 48.9	-2.5
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
VOSK	**Vostochnaya**	16.41	359	⇓P	P	12 14 00.9	-2.4
	comp=Z,0.9nm,0.5s						
VOSK				⇑S	S	12 16 52.6	-8.0
	comp=Z,1.6nm,0.8s						
BVA0	**Borovoye Array**	16.73	358	P	P	12 14 08.0	+0.9
	comp=Z,0.3nm,0.5s,baz=164,slow=12,SNR=12						
BVA0				⇑S	S	12 17 00.7	-7.1
	comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	16.73	358	P	P	12 14 06.8	-0.4
	comp=Z,0.9nm,0.3s,baz=164,slow=11,SNR=12						
BVAR				S	S	12 17 04.1	-3.7
	comp=Z,0.4nm,0.3s,baz=169,slow=22,SNR=5.3						
ZRNK	**Zerenda**	16.73	355	⇑P	P	12 14 06.2	-1.0
	comp=Z,3.4nm,0.7s						
ZRNK				⇑S	S	12 17 04.6	-3.3
	comp=Z,2.2nm,1.1s						
ZRNK	**Zerenda**	16.73	355	*e*P	P	12 14 06.3	-0.8
	comp=Z,4.7nm,0.6s						
BRVK	**Borovoye**	16.76	357	*e*P	P	12 14 04.3	-3.4
	comp=Z,2.9nm,0.4s						
NVS	**Novosibirsk**	20.20	20	*e*P	P	12 14 44.3	-1.7
NVS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
SHL	**Shillong**	20.43	116	*e*P	P	12 14 47.5	-1.0
ARU	**Arti**	21.95	340	⇑*i*P	P	12 15 05.5	+2.1
ARU				*e*		12 15 27.5	
ARU				*e*S	S	12 19 00.2	+7.3
ARU				*e*SS	SS	12 19 20.4	-21
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.0						
SOC	**Sochi**	25.35	296	*e*P	P	12 15 42.1	+6.0
SOC				*e*		12 16 13.7	
SOC				*e*S	S	12 19 56.8	+5.8
SOC				*e*SS	SS	12 20 51.4	-12
SOC				*e*SSS	SSS	12 21 14.7	-10
SOC				pmax	pmax		
	comp=N,9.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
SOC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
SOC				MLR	MLR		
	comp=Z,108nm,22.0s						
SOC				MLR	MLR		
	comp=N,69nm,23.0s						
SOC				MLR	MLR		
	comp=E,67nm,24.0s						
ZAK	**Zakamensk**	26.78	48	*e*P	P	12 15 50.4	+1.2
SONM	**Songino Array**	28.07	55	P	P	12 16 02.7	+1.6
	comp=E,0.5nm,0.7s,mb3.1,baz=270,slow=8.6,SNR=4.0						
AKASG	**Malin Array Be**	33.41	309	P	P	12 16 47.4	-0.4
	comp=E,1.1nm,0.4s,mb4.0,baz=76,slow=6.9,SNR=4.2						
AKASG	**Malin Array Be**	33.41	309	P	P	12 16 47.4	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	37.88	326	P	P	12 17 26.3	+0.8
	comp=Z,0.8nm,0.3s,mb4.0,baz=122,slow=12,SNR=13						
FINES	**FINESS Array B**	37.88	326	P	P	12 17 26.3	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NJ2	**Nanjing**	39.06	82	*e*P	P	12 17 42.4	+6.9
MORC	**Moravsky Berou**	40.83	307	P	P	12 17 48.6	-1.4
	comp=Z,1.6nm,0.6s,mb4.0						
SSE	**Sheshan**	41.26	82	P	P	12 18 00.8	+7.2
SSE	**Sheshan**	41.26	82	P	P	12 18 00.7	+7.1
	comp=Z,15nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	41.48	338	P	P	12 17 56.4	+1.3
	comp=Z,1.3nm,0.4s,mb4.1,baz=115,slow=9.0,SNR=19						
ARCES	**ARCESS Array B**	41.48	338	P	P	12 17 56.4	+1.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	43.86	35	*e*P	P	12 18 18.8	+4.5
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	44.80	323	P	P	12 18 22.0	+0.1
	comp=Z,1.5nm,0.5s,mb4.0,baz=97,slow=7.9						
NOA	**NORSAR Array B**	44.80	323	P	P	12 18 22.4	+0.5
	comp=Z,1.6nm,0.5s,mb4.0,baz=96,slow=7.7,SNR=11						
NOA	**NORSAR Array B**	44.80	323	P	P	12 18 22.4	+0.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	45.78	22	*e*P	P	12 18 32.9	+3.4
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
INK	**Inuvik**	74.01	9	P	P	12 21 43.6	+1.2
	comp=Z,1.0nm,0.4s,mb3.9						
ILAR	**Eielson Array**	74.83	16	P	P	12 21 47.8	+0.7
	comp=Z,0.4nm,0.7s,mb3.3,baz=322,slow=5.3,SNR=8.2						
WRA	**Warramunga Arr**	81.52	122	P	P	12 22 25.4	+0.8
	comp=Z,0.2nm,0.3s,mb3.4,baz=328,slow=4.8,SNR=6.9						
SNAA	**Sanae**	119.38	200	⇑*i*	PKPdf	12 29 05.2	+12
SNAA	**Sanae**	119.38	200	⇓*i*Pdif	Pdif	12 25 28.9	+13
SNAA				⇑*i*P		12 29 05.2	
VNA2	**Neumayer--Watz**	120.39	202	⇓*i*	PKPdf	12 28 53.9	-1.3
VNA2	**Neumayer--Watz**	120.39	202	⇑*i*Pdif	Pdif	12 25 18.1	-2.5
VNA2				⇓*i*P		12 28 53.9	

IDC 17 12:14:15.7±6.2,4.08N×76.70W,h72^{km}±65^{km},mb3.2/3, mb1 3.5/4,mb1mx3.3/20,ML2.8/1,Error ellipse: s-maj=52.2km s-min=23.6km az=74.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.48	72	P	P	12 14 52.5	-2.3
	38nm,0.3s,baz=345,slow=4.7,SNR=20						
ROSC				S	S	12 15 25.0	+1.0
	18nm,0.3s,baz=35,slow=22,SNR=6.7						
LPAZ	La Paz	21.94	157	P	P	12 19 05.0	+0.2
	0.6nm,0.7s,baz=348,slow=9.3,SNR=2.5						
PLCA	Paso Flores	44.95	173	P	P	12 22 23.9	-1.6
	1.2nm,0.7s,baz=343,slow=11,SNR=6.3						
NVAR	Mina Array Bea	50.98	318	P	P	12 23 11.3	-1.0
	0.2nm,0.5s,baz=111,slow=7.7,SNR=2.9						
ASAR	Alice Springs	144.63	234	PKP	PKPdf	12 33 42.5	-2.4
	0.6nm,0.6s,baz=114,slow=4.2,SNR=9.1						
WRA	Warramunga Arr	145.90	240	PKPbc	PKPbc	12 33 46.5	-1.6
	0.5nm,0.8s,baz=109,slow=2.9,SNR=6.6						

STR 17 12:54:22.6±0.1,42.90N×0.67W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 17 12:54:22.6±0.1,42.88N×0.70W,h2^{km},Md2.2/2,Error ellipse: s-maj=3.0km s-min=1.1km az=19.0

ISC 17 12:54:22.6±0.6,42.90N±0.05×0.68W±0.03,h5^{km},n10, σ0^{s}63/20,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	Etsaut	0.09	93	ePg	Pg	12 54 24.9	+0.4
ETSF				eSg	Sg	12 54 26.8	+0.9
	231nm,0.2s						
FDAF	Les Forges d'A	0.12	136	Pg	Pg	12 54 25.4	+0.3
FDAF				Sg	Sg	12 54 27.4	+0.6
LARF	Larrau	0.26	301	Pg	Pg	12 54 27.9	0.0
LARF				Sg	Sg	12 54 32.9	+1.4
REYF	Montagne du Re	0.27	52	Pg	Pg	12 54 28.2	+0.2
REYF				Sg	Sg	12 54 32.3	+0.7
ORDF	Ordiarp	0.36	329	Pg	Pg	12 54 30.0	+0.1
ORDF				Sg	Sg	12 54 35.3	+0.6
SJPF	Ste Jean	0.45	298	ePg	Pg	12 54 30.8	-0.8
SJPF				eSg	Sg	12 54 36.7	-1.0
	10nm,0.2s						
VIEF	Viey	0.52	92	Pg	Pg	12 54 32.5	-0.4
VIEF				Sg	Sg	12 54 39.1	-0.7
OSSF	Osses	0.55	310	Pg	Pg	12 54 33.1	-0.6
OSSF				Sg	Sg	12 54 41.0	-0.1
LABF	Labassere	0.57	75	Pg	Pg	12 54 34.0	0.0
LABF				Sg	Sg	12 54 41.3	-0.3
EPF	Esparros	0.76	80	ePg	Pg	12 54 37.1	-0.6
EPF				eSg	Sg	12 54 47.2	-0.7
	5.0nm,0.2s						

MAN 17 13:36:28.0,9.88N×122.53E,h28^{km},mb4.3,ML3.1,MS2.9, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.74	5	eP	Pb	13 36 42.6	+0.3
GUIM				eS	Sb	13 36 53.7	+1.5
TBP	Tagbilaran	1.33	98	eP	Pn	13 36 50.6	-0.5
TBP				eS	Sn	13 37 07.2	-0.8
LLP	Lapu-Lapu	1.48	73	eP	Pn	13 36 52.0	-1.2
LLP				eS	Sn	13 37 11.0	-0.8
DCPH	Dipolog City	1.53	148	⇑iP	Pn	13 36 52.0	-1.8
DCPH				i S	Sn	13 37 11.4	-1.5
CUYO	Cuyo Island	1.77	303	eP	Pn	13 36 57.3	0.0
CUYO				eS	Sn	13 37 18.7	-0.4
IPIL	Ipil	2.08	179	eP	Pn	13 37 04.1	+2.3
IPIL				eS	Sn	13 37 24.5	-2.6
PAGZ	Pagadian	2.19	157	eP	Pn	13 37 03.5	+0.2
PAGZ				eS	Sn	13 37 31.8	+2.0
MSLP	Maasin	2.31	84	eP	Pn	13 37 05.6	+0.5
MSLP				eS	Sn	13 37 33.7	+0.8
OCLP	Ormoc	2.36	60	eP	Pn	13 37 06.2	+0.5
BUSP	Coron	3.11	313	eP	Pn	13 37 13.0	-3.5
ENPP	El Nido	3.32	294	eP	Pn	13 37 18.9	-0.6
ENPP				eS	Sn	13 37 54.9	-3.6

DJA 17 13:38:46.7±1.3,2.03S×119.54E,h120^{km}±18^{km},MD4.4/3, ML3.6/2,2C-3D,Error ellipse: s-maj=53.2km s-min=29.4km az=11.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	Tanete Lipujan	1.41	186	⇓ePn	P	13 39 13.3	-0.2
	52nm,0.2s						
TANI				⇑eSn	S	13 39 31.7	-2.1
BUNI	Buntu Taipa	1.80	154	⇓ePn	P	13 39 17.5	-0.6
	44nm,0.2s						
BUNI				⇓eSn	S	13 39 41.0	-0.9
NINI	Niniconang	2.39	175	⇑ePn	P	13 39 25.5	-0.2

IDC 17 14:24:06.0±1.5,0.70N×122.30E,mb3.5/3,mb1 3.7/4, mb1mx3.5/16,ML3.8/1,Error ellipse: s-maj=136.0km s-min=22.8km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.97	170	P	P	14 28 29.3	-2.1
	0.2nm,0.3s,baz=352,slow=9.7,SNR=11						
WRA	Warramunga Arr	23.67	151	P	P	14 29 19.1	-1.1
	0.7nm,0.5s,baz=326,slow=10,SNR=14						
ASAR	Alice Springs	26.72	156	P	P	14 29 47.5	-1.6
	0.2nm,0.6s,baz=342,slow=10,SNR=4.7						
MKAR	Makanchi Array	57.65	328	P	P	14 33 58.1	-2.4
	0.7nm,0.4s,baz=126,slow=8.5,SNR=9.2						

TIR 17 14:24:06.2,42.19N×19.62E,h59^{km}

PDG 17 14:24:07.1±0.1,42.24N×19.53E,h11^{km}±1^{km}

ISC 17 14:24:06.4±1.1,42.18N±0.04×19.58E±0.05,h26^{km}±10^{km}, n10,σ0^{s}99/20,6C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDA	Shkodra	0.14	204	i Pg	Pb	14 24 11.7	+0.1
SDA				i Sg	Sb	14 24 16.3	+1.2
ULC	Ulcinj	0.33	228	⇓iPg	Pb	14 24 13.8	-0.2
ULC				eSg	Sb	14 24 19.3	+0.3
TTG	Podgorica	0.34	316	⇑iPg	Pb	14 24 12.5	-1.7
TTG				eSg	Sb	14 24 17.2	-2.2
PVY	Plav	0.51	35	⇓iPg	Pb	14 24 16.2	-0.6
PVY				eSg	Sb	14 24 24.0	+0.3
BUM	Brajici-Budva	0.52	283	⇑iPg	Pb	14 24 15.8	-1.1
BUM				eSg	Sb	14 24 23.8	-0.3
IVA	Berane	0.73	19	⇑iPg	Pb	14 24 20.0	-0.4
IVA				eSg	Sb	14 24 30.6	+0.6
NKY	Niksic	0.76	326	⇑iPg	Pb	14 24 20.4	-0.5
NKY				eSg	Sb	14 24 30.9	-0.1
HCY	Herceg Novi	0.84	289	⇑iPg	Pb	14 24 21.8	-0.6
HCY				eSg	Sb	14 24 34.3	+1.1
BRY	Bratogost	1.05	314	⇑iPg	Pb	14 24 25.6	-0.2
BRY				eSg	Sb	14 24 41.0	+1.9
UPM	Unac-Piva	1.13	334	⇓iPg	Pn	14 24 27.1	+0.3
UPM				eSg	Sb	14 24 43.5	+1.9

NEIC 17 14:46:42.1,16.96N×98.12W,h16^{km},MD4.0(MEX),After MEX.

MEX 17 14:46:26.9±0.6,16.22N×98.50W,h16^{km}±45^{km},MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.90	63	i P	Pn	14 46 53.5	-5.6
VHO				i S	Sn	14 47 18.3	-4.4
YAIG	Yautepec	2.68	349	i P	Pn	14 47 07.4	-2.9
YAIG				i S	Sn	14 47 36.6	-6.1
YAIG	Yautepec	2.68	349	i P	Pn	14 47 12.8	+2.6
PPM	Popocatepetl	2.83	358	eP	Pn	14 47 10.5	-1.9
PPM				i P		14 47 12.7	
PPM				i S	Sn	14 47 41.9	-4.6
PPM	Popocatepetl	2.83	358	eP	Pn	14 47 10.5	-1.9
PPM				i P		14 47 15.2	
PPM				i S	Sn	14 47 41.9	-4.6
CMIG	Matias Romero	3.58	76	eP	Pn	14 47 20.9	-2.1
CMIG				i S	Sn	14 48 00.3	-5.0
CMIG	Matias Romero	3.58	76	i P	Pn	14 47 27.8	+4.8
CMIG				i S	Sn	14 47 57.1	-8.2

NEIC 17 15:05:29.9±0.6,52.45N×170.29W,h62^{km}±8^{km}, ML3.8(AEIC),Error ellipse: s-maj=20.5km s-min=4.2km az=161.0

IDC 17 15:05:33.8±3.6,52.77N×170.41W,h99^{km}±36^{km},mb3.5/7, mb1 3.8/9,mb1mx3.5/26,MS3.0/2,Ms1 3.0/2,ms1mx2.6/31, Error ellipse: s-maj=38.0km s-min=17.0km az=178.0

ISC 17 15:05:28.6±0.7,52.4N±0.1×170.30W±0.08,h68^{km}±7^{km}, n32,σ1^{s}14/37,mb3.7/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.03	58	P	P	15 05 45.8	-1.9
NIKO				S	S	15 05 58.9	-2.9
OKER	East Rim	1.70	52	P	P	15 05 56.8	0.0
OKER				S	S	15 06 18.8	+1.3
ATKA	Atka Island	2.41	266	P	P	15 06 06.6	0.0
ATKA				S	S	15 06 35.9	+1.0
MCIR	Makushin Cirqu	2.55	52	P	P	15 06 08.2	-0.5
MTBL	Makushin Table	2.67	53	P	P	15 06 09.7	-0.5
UNV	Unalaska Valle	2.69	57	P	P	15 06 10.0	-0.6
UNV				S	S	15 06 43.0	+0.9
LVA	Lava Point	3.09	54	P	P	15 06 16.4	+0.2
AKLV	Akutan Long Va	3.13	55	P	P	15 06 17.2	+0.4
AKGG	Akutan Green G	3.13	54	P	P	15 06 17.2	+0.4
AKGG				S	S	15 06 55.6	+2.5
AKA	Akutan	3.21	56	P	P	15 06 18.6	+0.7
GSIG	Igitkin Island	3.49	265	P	P	15 06 21.4	-0.4
GSTR	Great Sitkin T	3.56	267	P	P	15 06 23.4	+0.6
GSMY	Great Sitkin M	3.56	266	P	P	15 06 22.8	-0.1
GSTD	Great Sitkin T	3.62	266	P	P	15 06 23.3	-0.3
WESE	West Dahl East	3.98	57	P	P	15 06 29.0	+0.4
WESN	West Dahl Nort	4.03	56	P	P	15 06 30.1	+0.7
KIWB	Kanaga Island	4.26	265	P	P	15 06 32.7	+0.1
KIMD	Kanaga Island	4.33	264	P	P	15 06 33.6	0.0
SPIA	Saint Paul Isl	4.76	0	P	P	15 06 39.5	0.0
FALS	False Pass	4.76	57	P	P	15 06 40.2	+0.6
DOL	Dolgoi Island	5.69	58	P	P	15 06 50.8	-1.6
SDPT	Sand Point	6.50	59	P	P	15 07 01.1	-2.5
FX1	Attu Island--F	10.06	279	P	P	15 07 51.9	-0.6
	1.7nm,0.3s,baz=30,slow=14,SNR=14						
FX1				S	S	15 09 47.7	+3.1
	0.2nm,0.3s,baz=100,slow=17,SNR=1.9						
ILAR	Eielson Array	17.22	35	P	P	15 09 23.6	-2.2
	0.2nm,0.3s,baz=219,slow=9.7,SNR=8.6						
ILAR				LR	LR	15 16 38.5	
	comp=Z,29nm,18.5s,baz=83,slow=39						
DLBC	Dease Lake	23.34	59	P	P	15 10 33.4	+2.4
	3.7nm,0.9s,mb3.7,baz=259,slow=9.7,SNR=7.5						
INK	Inuvik	23.61	34	P	P	15 10 33.1	-0.4
	1.1nm,0.5s,mb3.5,baz=272,slow=6.9,SNR=12						
YKA	Yellowknife Ar	30.63	49	LR	LR	15 24 46.1	
	comp=Z,37nm,18.1s,baz=230,slow=38						
NVAR	Mina Array Bea	38.23	90	P	P	15 12 45.1	+1.8
	0.5nm,0.7s,mb3.5,baz=288,slow=8.6,SNR=4.7						
PDAR	Pinedale Array	40.95	79	P	P	15 13 06.2	+0.5
	1.2nm,0.9s,mb3.7,baz=282,slow=2.9,SNR=8.3						
TXAR	Lajitas Array	53.31	88	P	P	15 14 42.6	-0.2
	0.4nm,0.3s,mb4.0,baz=310,slow=7.0,SNR=4.3						
HFS	Hagfors	67.74	358	P	P	15 16 17.8	-2.5
	2.3nm,0.9s,mb4.0,baz=34,slow=5.2,SNR=4.6						
CMAR	Chiang Mai Arr	76.05	282	P	P	15 17 09.4	-0.9
	0.7nm,0.5s,mb3.6,baz=24,slow=7.3,SNR=6.7						

NIED 17 15:21:00,36.70N×141.30E,h32^{km},Mw3.5 Best double couple: M$_0$1.79×10^{14} NP1:φ$_s$234°,δ58°,λ-85°. NP2:φ$_s$46°, δ32°,λ-97°.

JMA 17 15:21:11.3±0.1,36.67N×141.27E,h41^{km}±2^{km},M3.5

IDC 17 15:21:15.8±8.6,36.52N×141.10E,h73^{km}±61^{km},mb3.2/3, mb1 3.4/4,mb1mx3.2/22,ML3.3/1,Error ellipse: s-maj=95.8km s-min=22.9km az=70.0

ISC 17 15:21:10.3±1.1,36.65N±0.04×141.35E±0.09,h42^{km}±11^{km}, n13,σ0^{s}95/23,mb3.5/3,4C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.63	267	P	P	15 21 22.9	0.0
JHO				S	S	15 21 31.1	-0.9
ONAJ	Iwakimizuishiy	0.63	315	⇑P	P	15 21 23.0	+0.1
ONAJ				S	S	15 21 30.9	-1.1
JFK	Kawauchi	0.81	332	⇑P	P	15 21 25.6	+0.3
JFK				eS	S	15 21 35.2	-1.2
JYT	Yasato	1.03	246	⇓P	P	15 21 28.6	+0.2
JYT				eS	S	15 21 40.5	-1.3
JFT	Otama	1.19	317	⇑P	P	15 21 31.8	+1.2
JFT				S	S	15 21 46.1	+0.2
JMM	Marumori	1.29	340	⇑P	P	15 21 32.5	+0.3
JMM				S	S	15 21 47.6	-1.0
JFY	Yanaizu	1.52	300	P	P	15 21 36.5	+1.0
JFY				eS	S	15 21 55.1	+0.9
JAG	Ashikaga	1.55	262	P	P	15 21 36.2	+0.3
JAG				eS	S	15 21 53.9	-1.0
MAT	Matsushiro	2.53	268	P	P	15 21 51.2	+1.3
MAT				S	S	15 22 21.9	+2.1
JHJ	Hachijo jima 2	3.75	201	P	P	15 22 08.4	+1.3
	6.9nm,0.3s,baz=55,slow=12,SNR=5.5						
JHJ				S	S	15 22 49.9	-0.8
	18nm,0.3s,baz=99,slow=23,SNR=6.3						
SONM	Songino Array	27.96	305	P	P	15 26 59.2	+0.4
	0.6nm,0.5s,mb3.5,baz=100,slow=7.8,SNR=6.7						
MKAR	Makanchi Array	44.28	302	P	P	15 29 16.7	-0.7
	0.3nm,0.6s,mb3.2,baz=96,slow=8.6,SNR=3.6						
WRA	Warramunga Arr	56.67	188	P	P	15 30 50.6	-1.3
	0.4nm,0.5s,mb3.7,baz=6.2,slow=7.4,SNR=12						

DJA 17 15:43:37.8±1.3,6.08S×118.31E,h244^{km}±24^{km},MD4.5/3, ML4.0/3,2C-3D,Error ellipse: s-maj=65.4km s-min=13.0km az=132.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	Tanete Lipujan	2.83	22	⇓iPn	P	15 44 29.2	+0.7
	21nm,0.3s						
TANI				⇑eSn	S	15 45 06.2	-1.7
BUNI	Buntu Taipa	3.13	40	⇓iPn	P	15 44 32.2	+0.4
	44nm,0.2s						
BUNI				⇓iSn	S	15 45 12.7	-1.0
RATI	Rata	3.81	226	⇑iPn	P	15 44 40.6	+1.0
	84nm,0.4s						

CASC 17 15:44:49.9±2.0,13.77N×91.27W,h17^{km}±12^{km},MD3.5, ML3.8,3C-6D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.65	327	⇓eP	Pb	15 45 01.3	-1.1
JAT				eS	Sb	15 45 11.8	+0.9
JAT				AML	AML	15 45 12.3	
	comp=E,5µm,0.3s						
FUG	Fuego 3	0.79	32	⇓eP	Pb	15 45 04.4	-0.3
IXG	Ixpaco	0.89	63	⇑eP	Pb	15 45 06.4	0.0
IXG				eS	Sb	15 45 19.6	+1.8
IXG				AML	AML	15 45 25.0	
	comp=E,3µm,0.3s						
NBG	Las Nubes	1.21	48	⇑eP	Pb	15 45 12.1	+0.2
NBG				eS	Sb	15 45 28.9	+1.9
NBG				AML	AML	15 45 31.5	
	comp=E,1µm,0.3s						
CUSS	Cusmapa	1.29	84	eP	Pb	15 45 12.6	-0.8
RBDL	Robledal	1.57	77	⇑eP	Pn	15 45 17.5	+0.1
SBLS	San Blas	1.60	87	⇓eP	Pn	15 45 17.6	-0.1
SBLS				eS	Sn	15 45 39.2	+1.1
SNJE	San Jose	1.62	86	⇓eP	Pn	15 45 18.0	0.0
SNJE				eS	Sn	15 45 39.7	+1.1
LFRS	El Faro	2.15	94	eP	Pn	15 45 25.2	-0.4
LFRS				eS	Sn	15 45 52.2	+0.1
LCBS	La Ceiba	2.23	93	⇓eP	Pn	15 45 26.9	+0.2
LCBS				eS	Sn	15 45 54.5	+0.4
VSM	San Miguel	2.93	96	⇓eP	Pn	15 45 34.0	-2.8

NEIC 17 15:55:53.1,8.07S×115.49E,h33^{km},ML3.3(DJA),After DJA.

DJA 17 15:55:53.1±0.6,8.07S×115.49E,h33^{km},MD5.2/4, ML3.3/1,2C-6D,Error ellipse: s-maj=20.3km s-min=8.9km az=13.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.65	177	⇓ePn	Pn	15 56 05.1	-0.8
	70nm,0.2s						
RATI				⇓iSn	Sn	15 56 26.1	+11
KEDI	Kedomdong	0.74	124	⇑iPn	Pn	15 56 05.5	-1.8
	21nm,0.3s						
KEDI				⇓iSn	Sn	15 56 23.8	+6.4
INGI	Ingas	0.82	205	⇓iPn	Pn	15 56 06.8	-1.6
	291nm,0.3s						
INGI				⇓eSn	Sn	15 56 25.6	+6.3
KELI	Kelakatan	1.00	262	⇓ePn	Pn	15 56 09.8	-1.2
	49nm,0.2s						
KELI				⇑iSn	Sn	15 56 33.3	+9.3

IDC 17 15:57:07.6±20.0,20.37S×65.78E,mb3.7/2,mb1 4.0/2, mb1mx3.6/14,MS3.4/1,Ms1 3.6/1,ms1mx2.9/22,Error ellipse: s-maj=642.0km s-min=37.0km az=58.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	50.46	42	LR	LR	16 22 45.6	
	comp=Z,36nm,19.6s,baz=275,slow=30						
ASAR	Alice Springs	62.70	107	P	P	16 07 34.9	-1.9
	66nm,0.3s,baz=252,slow=5.7,SNR=1.7						
WRA	Warramunga Arr	63.90	103	P	P	16 07 42.6	-2.3
	0.9nm,0.8s,baz=261,slow=6.3,SNR=7.0						
MKAR	Makanchi Array	68.49	12	P	P	16 08 11.6	-2.1
	0.5nm,0.8s,baz=194,slow=5.0,SNR=4.1						
SONM	Songino Array	77.04	27	P	P	16 09 02.6	-1.5
	0.7nm,1.0s,baz=214,slow=5.2,SNR=4.5						

OTT 17 16:05:07.5±0.3,52.78N×67.20W,MN2.9/8,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.07	6	PN	Pn	16 05 43.4	-0.5
SCHQ				SG	Sg	16 06 11.9	-4.4
SCHQ				Trac		16 06 18.0	
	comp=Z,46nm,0.2s						
MNQ	Manicouagan	2.45	204	PN	Pn	16 05 48.0	-1.4
MNQ				Trac		16 06 29.5	
	comp=Z,31nm,0.3s						
SMQ	Clarke City	2.58	173	PN	Pn	16 05 49.0	-2.2
SMQ				Trac		16 06 33.8	
	comp=Z,25nm,0.2s						
ICQ	Pointe Anglais	3.26	181	PN	Pn	16 06 00.3	-0.6
ICQ				Trac		16 06 55.9	
	comp=Z,9.1nm,0.2s						
CNQ	Baie Comeau	3.52	189	PN	Pn	16 06 03.7	-1.0
CNQ				Trac		16 07 01.4	
	comp=Z,9.8nm,0.2s						
GSQ	Grosses Roches	3.87	179	PN	Pn	16 06 05.1	-4.6
GSQ				Trac		16 07 13.4	
	comp=Z,3.3nm,0.1s						
LG4Q	La Grande 4	4.24	284	PN	Pn	16 06 12.5	-2.3
LG4Q				Trac		16 07 26.3	
	comp=Z,6.9nm,0.2s						
DAQ	Lac Daran	5.47	210	PN	Pn	16 06 34.6	+2.4
DAQ				Trac		16 08 11.7	
	comp=Z,3.8nm,0.2s						
LMQ	La Malbaie	5.61	202	PN	Pn	16 06 34.1	-0.1
DRLN	Deer Lake	7.06	116	PN	Pn	16 06 54.4	-0.3
VIMO	Victor Mine	10.03	277	PN	P	16 07 28.4	-7.3
SILO	Sutton Inlier	10.66	286	PN	P	16 07 37.9	-6.5

NEIC 17 16:08:56.4,32.69S×71.76W,h17^{km},ML2.7(GUC),After GUC.

GUC 17 16:08:56.4±0.9,32.69S×71.76W,h17^{km},MD3.5,ML2.7, 1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.80	169	i S	Sb	16 09 21.0	-0.7
JACH	Jahuel	0.98	90	i P	Pb	16 09 13.7	-0.8
JACH				i S	Sb	16 09 27.6	+0.5
LNV	Longovilo	1.29	167	i P	Pn	16 09 19.2	-0.7
FCH	Farellones	1.39	118	⇓iP	Pn	16 09 20.7	-0.5
FCH				i P		16 09 20.9	
FCH				i S	Sb	16 09 39.2	+0.4
FCH				AMP		16 09 39.7	
	comp=N,204nm,0.3s						
FCH	Farellones	1.39	118	P	Pn	16 09 20.9	-0.3
CHCH	Chadas Angostu	1.55	144	i P	Pn	16 09 23.0	-0.5
CHCH				i S	Sn	16 09 43.5	+0.3
LMEL	Las Melosas	1.74	132	eP	Pn	16 09 26.5	+0.3
LMEL				i S	Sn	16 09 49.3	+1.1
LMEL				AMP		16 09 52.2	
	comp=N,113nm,0.2s						
TLL	Tololo Astrono	2.65	18	AMP		16 10 26.9	
	comp=N,42nm,0.6s						

KRSC 17 16:19:59.4±1.3,50.51N×157.48E,h32^{km}±7^{km},ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.89	282	i P	Pn	16 20 14.9	-0.8
SKR				i S	Sn	16 20 26.7	-0.8
PAU	Pauzhetka	1.05	336	eP	Pn	16 20 19.3	+1.3
PAU				eS	Sn	16 20 33.3	+1.7
PAU				Smax			
	800nm,0.3s						
ALID	Alaid	1.28	287	eP	Pn	16 20 22.7	+1.3
ALID				eS	Sn	16 20 39.1	+1.6
MIPR	Malaya Ipel'ka	1.83	346	eP	Pn	16 20 30.2	+1.0
RUS	Russkaya	2.03	18	eP	Pn	16 20 31.2	-0.9
RUS				eS	Sn	16 20 54.8	-1.8
GRL	Gorelyy	2.08	10	eP	Pn	16 20 33.3	+0.5
GRL				eS	Sn	16 20 59.3	+1.5
APC	Apacha	2.43	355	eP	Pn	16 20 38.5	+0.7
APC				eS	Sn	16 21 06.9	+0.2
PET	Petropavlovsk	2.62	16	eP	Pn	16 20 40.7	+0.1
PET				eS	Sn	16 21 10.4	-1.2
UGLR	Uglovaya	2.83	17	eP	Pn	16 20 44.8	+1.3
UGLR				eS	Sn	16 21 17.1	+0.2
AVH	Avacha	2.87	15	eP	Pn	16 20 45.3	+1.2
AVH				eS	Sn	16 21 18.2	+0.4
SMAR	Somma	2.88	16	eP	Pn	16 20 46.1	+1.9
SMAR				eS	Sn	16 21 17.8	-0.3
KOK	Koryaka	2.88	14	eP	Pn	16 20 44.9	+0.7
KOK				eS	Sn	16 21 17.7	-0.4
NLC	Nalytchevo	2.91	23	eP	Pn	16 20 43.8	-0.8
NLC				eS	Sn	16 21 17.9	-0.9
SDLR	Sedlovina	2.91	17	eP	Pn	16 20 44.5	-0.1
SDLR				eS	Sn	16 21 16.5	-2.3
SPN	Mys Shipunski	3.04	30	eP	Pn	16 20 46.0	-0.4
SPN				eS	Sn	16 21 20.3	-1.8
GNL	Ganaly	3.20	5	eP	Pn	16 20 50.9	+2.1
GNL				eS	Sn	16 21 27.6	+1.3
KII	Karymskiy	3.73	18	eP	Pn	16 20 56.8	+0.5
KII				eS	Sn	16 21 39.6	-0.1
MKZ	Mys Kozlova	4.81	31	eP	Pn	16 21 10.1	-1.5
MKZ				eS	Sn	16 22 02.7	-4.3
KMNR	Kamenistaya	5.51	16	eP	Pn	16 21 22.9	+1.4
KBTR	Krutoberegovo	6.54	27	eP	Pn	16 21 34.2	-1.8

IDC 17 16:20:35.9±3.4,20.38S×65.85E,mb3.7/5,mb1 3.9/5, mb1mx3.7/16,Error ellipse: s-maj=121.0km s-min=30.3km az=48.0

ISC 17 16:20:35.6±3.3,20.4S±0.6×65.9E±0.7,h10^{km},n5,σ0^{s}59/5, mb3.7/5,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	62.60	107	P	P	16 31 02.6	0.0
	0.4nm,0.7s,mb3.7,baz=268,slow=5.5,SNR=8.4						
WRA	Warramunga Arr	63.80	103	P	P	16 31 10.6	-0.1
	3.0nm,1.4s,mb4.1,baz=258,slow=5.8,SNR=3.6						
MKAR	Makanchi Array	68.49	12	P	P	16 31 39.5	-0.6
	0.5nm,0.9s,mb3.5,baz=207,slow=6.4,SNR=4.2						
SONM	Songino Array	77.02	27	P	P	16 32 31.1	+0.7
	0.4nm,0.8s,mb3.4,baz=211,slow=6.2,SNR=3.8						
AKASG	Malin Array Be	77.80	337	P	P	16 32 34.8	+0.1
	0.8nm,0.6s,mb3.8,baz=144,slow=4.5,SNR=4.5						

*IDC **17** 16:23:15.9±0.8, 20.03S×66.37E, mb3.9/9, mb1 4.0/9, mb1mx3.9/17, Error ellipse: s-maj=28.9km s-min=20.2km az=80.0*

*HRVD **17** 16:23:17.3±0.7, 20.12S×66.25E, h12^{km}, MW4.9/29, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s29,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.39±.17; M$_{\theta\theta}$0.68±.17; M$_{\phi\phi}$1.71±.12; M$_{r\theta}$-0.78±.57; M$_{\theta\phi}$0.10±.15; M$_{\phi r}$1.42±.50; Best double couple: M$_0$2.58×10^{16} NP1:ϕ_s9°, δ28°, λ-69°. NP2:ϕ_s166°, δ64°, λ-101°. Principal axes: T 2.17, Plg18°, Azm264°; N .83, Plg10°, Azm171°; P -3, Plg69°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **17** 16:23:17.3±0.7, 20.00S×66.31E, h10^{km}, mb4.9/4 Error ellipse: s-maj=23.8km s-min=16.7km az=84.0*

ISC 17 16:23:15.4±0.7, **20.0S**±0.1×**66.4E**±0.2, **h10**^{km}, **n14**, σ**0^{s}99**/14, **mb4.2**/12, **Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**47.63**	**182**	P	**P**	**16 31 54.8**	**+1.6**
	2.0nm,0.8s,mb4.2,baz=354,slow=10,SNR=2.8						
MAW	**Mawson**	**47.63**	**182**	P	**P**	**16 31 55.0**	**+1.8**
	9.8nm,1.0s,mb4.8						
CMAR	**Chiang Mai Arr**	**49.84**	**42**	P	**P**	**16 32 12.4**	**+1.5**
	1.6nm,1.0s,mb4.0,baz=240,slow=8.3,SNR=7.7						
ASAR	**Alice Springs**	**62.29**	**107**	P	**P**	**16 33 39.7**	**-0.6**
	1.7nm,0.8s,mb4.2,baz=255,slow=6.2,SNR=14						
WRA	**Warramunga Arr**	**63.45**	**103**	P	**P**	**16 33 47.5**	**-0.5**
	2.4nm,1.0s,mb4.3,baz=257,slow=5.9,SNR=12						
WB2	**Warramunga Arr**	**63.46**	**103**	*e*P	**P**	**16 33 47.8**	**-0.3**
WRAB	**Tennant Creek**	**63.47**	**103**	*e*P	**P**	**16 33 48.3**	**+0.2**
	23nm,1.4s,mb5.1						
SNAA	**Sanae**	**64.63**	**199**	P	**P**	**16 33 53.7**	**-1.2**
	0.5nm,0.8s,mb3.6,baz=66,slow=8.4,SNR=3.6						
BRTR	**Keskin Array B**	**66.82**	**333**	P	**P**	**16 34 09.5**	**0.0**
	0.5nm,0.6s,mb3.7,baz=151,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**68.03**	**12**	P	**P**	**16 34 16.6**	**-0.5**
	1.3nm,0.8s,mb4.0,baz=194,slow=5.0,SNR=9.4						
QSPA	**South Pole Qui**	**70.09**	**180**	*e*P	**P**	**16 34 35.2**	**+6.0**
	14nm,1.2s,mb4.8						
ZRNK	**Zerenda**	**72.69**	**2**	*e*P	**P**	**16 34 43.5**	**-1.7**
	2.9nm,0.8s,mb4.3						
SONM	**Songino Array**	**76.49**	**26**	P	**P**	**16 35 07.7**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=217,slow=3.9,SNR=9.1						
AKASG	**Malin Array Be**	**77.63**	**337**	P	**P**	**16 35 14.5**	**+1.1**
	0.2nm,0.3s,mb3.5,baz=168,slow=3.8,SNR=4.6						

IDC 17 16:24:05.9±19.0, **21.72S**×**65.33E**, **mb3.7**/4, **mb1 3.9**/4, **mb1mx3.6**/16, **Error ellipse: s-maj=626.0km s-min=36.2km az=57.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**62.72**	**106**	P	P	16 34 32.8	-2.5
	0.5nm,0.6s,baz=264,slow=6.0,SNR=5.5						
WRA	**Warramunga Arr**	**64.02**	**102**	P	P	16 34 42.1	-1.8
	1.0nm,1.0s,baz=263,slow=5.8,SNR=4.8						
MKAR	**Makanchi Array**	**69.89**	**12**	P	P	16 35 18.4	-2.3
	0.2nm,0.3s,baz=180,slow=4.3,SNR=11						
SONM	**Songino Array**	**78.44**	**27**	P	P	16 36 09.0	-1.0
	1.1nm,1.1s,baz=226,slow=4.9,SNR=4.2						

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*IDC **17** 16:24:31.2±0.9, 8.92S×79.52W, h38^{km}±6^{km}, mb4.0/12, mb1 4.1/14, mb1mx4.0/23, ML4.4/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=27.2km s-min=16.7km az=58.0*

*NEIC **17** 16:24:32.6±1.6, 8.92S×79.55W, h53^{km}±15^{km}, mb4.6/3, Error ellipse: s-maj=22.5km s-min=9.1km az=72.0*

NEIC Felt [II] at Chimbote.

*BJI **17** 16:24:35.6, 8.90S×79.50W, h52^{km}, Ms5.1, Msz4.7*

ISC 17 16:24:30.1±1.7, **8.86S**±0.07×**79.5W**±0.1, **h42**^{km}±15^{km}, **h40**^{km}±.6^{km}**:pP-P, n39,** σ**1^{s}22**/30, **mb4.5**/17, **MS3.9**/8, **1C-1D, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.05**	**140**	*e*Pn	**P**	**16 25 30.3**	**-1.0**
NNA				*e*S	**S**	**16 26 16.6**	**-1.6**
OTAV	**Otavalo**	**9.10**	**7**	*e*P	**P**	**16 26 43.2**	**+1.5**
	19nm,0.8s						
ARE	**Arequipa**	**10.86**	**135**	*e*P	**P**	**16 27 16.5**	**+11**
LPAZ	**La Paz**	**13.31**	**125**	Pn	**P**	**16 27 41.4**	**+2.5**
	0.9nm,0.3s,baz=346,slow=0.2,SNR=8.1						
LPAZ				LR	LR	16 32 31.8	
	comp=Z,61nm,21.9s,baz=307,slow=36						
SAML	**Samuel**	**16.11**	**92**	*e*P	**P**	**16 28 10.0**	**-5.3**
	26nm,0.5s						
LVC	**Limon Verde**	**17.03**	**145**	Pn	**P**	**16 28 30.0**	**+3.2**
	0.2nm,0.3s,baz=318,slow=12,SNR=4.2						
SDV	**Santo Domingo**	**19.71**	**27**	P	**P**	**16 28 58.2**	**-0.8**
PCRV	**Puerto La Cruz**	**24.00**	**38**	P	**P**	**16 29 45.3**	**+3.1**
	3.7nm,0.5s,mb4.1,baz=164,slow=17,SNR=2.9						
PCRV				LR	LR	16 39 55.0	
	comp=Z,156nm,18.8s,MS3.5,baz=102,slow=38						
CPUP	**Villa Florida**	**27.27**	**132**	LR	LR	16 43 19.4	
	comp=Z,92nm,18.2s,MS3.4,baz=349,slow=41						
SJG	**San Juan**	**29.86**	**26**	LR	LR	16 42 09.2	
	comp=Z,38nm,21.3s,MS3.0,baz=319,slow=35						
BDFB	**Brasilia**	**31.46**	**105**	P	**P**	**16 30 48.8**	**-1.4**
	1.5nm,0.4s,mb4.2,baz=260,slow=3.5,SNR=3.5						
BDFB				LR	LR	16 44 10.4	
	comp=Z,301nm,21.4s,MS3.9,baz=291,slow=38						
PLCA	**Paso Flores**	**32.72**	**167**	P	**P**	**16 31 00.1**	**-0.9**
	2.2nm,0.8s,mb4.1,baz=351,slow=13,SNR=4.9						
CPCT	**Cooper Cave**	**44.33**	**354**	P	**P**	**16 32 37.5**	**-0.5**
TXAR	**Lajitas Array**	**44.55**	**329**	LR	LR	16 50 20.1	
	comp=Z,29nm,21.1s,MS3.2,baz=255,slow=35						
HWUT	**Hardware Ranch**	**58.21**	**332**	P	**P**	**16 34 21.5**	**-1.1**
	4.2nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**58.25**	**334**	P	**P**	**16 34 22.0**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=129,slow=7.8,SNR=5.2						
PDAR				pP	pP	16 34 33.3	-1.6
	0.7nm,0.8s,baz=153,slow=6.6,SNR=5.1						
PDAR				PcP	PcP	16 35 12.7	-0.8
	1.2nm,1.0s,baz=139,slow=4.1,SNR=3.6						
NVAR	**Mina Array Bea**	**59.33**	**325**	P	**P**	**16 34 31.2**	**+0.9**
	1.0nm,0.9s,mb3.9,baz=145,slow=7.5,SNR=6.6						
NVAR				pP	pP	16 34 43.0	+0.4
	0.7nm,0.8s,baz=140,slow=5.6,SNR=3.3						
ULM	**Lac du Bonnet**	**60.57**	**348**	P	**P**	**16 34 37.3**	**-1.4**
	1.7nm,0.5s,mb4.4,baz=138,slow=11,SNR=3.1						
ULM				pP	pP	16 34 48.7	-2.1
	3.9nm,0.8s,baz=151,slow=6.9,SNR=3.4						
ULM	**Lac du Bonnet**	**60.57**	**348**	P	**P**	**16 34 37.3**	**-1.4**
ULM				pP	pP	16 34 48.7	-2.1
YBH	**Yreka Blue Hor**	**64.05**	**325**	P	**P**	**16 35 01.5**	**-0.6**
	1.9nm,0.7s,mb4.2,baz=82,slow=7.2,SNR=6.4						
VNA1	**Neumayer--Stat**	**75.51**	**161**	⇑*i*	**P**	**16 36 15.4**	**+4.0**
LIC	**Lamto**	**75.72**	**81**	*e*P	**P**	**16 36 13.3**	**-0.4**
	48nm,1.5s,mb5.2						
TIC	**Toumodi**	**75.80**	**81**	*e*P	**P**	**16 36 14.2**	**0.0**
	46nm,0.8s,mb5.4						
VNA2	**Neumayer--Watz**	**75.85**	**161**	⇓*i*	**P**	**16 36 16.6**	**+3.2**
DBIC	**Dimbokro**	**75.97**	**81**	P	**P**	**16 36 14.9**	**-0.2**
	7.5nm,0.7s,mb4.7,baz=240,slow=6.2,SNR=11						
KIC	**Kosan Boka**	**76.02**	**81**	*e*P	**P**	**16 36 15.5**	**0.0**
	40nm,0.7s,mb5.4						
SNAA	**Sanae**	**77.45**	**162**	P	**P**	**16 36 22.3**	**-0.1**
	1.5nm,0.7s,mb4.0,baz=274,slow=5.6,SNR=13						
SNAA	**Sanae**	**77.45**	**162**	P	**P**	**16 36 22.3**	**-0.1**
QSPA	**South Pole Qui**	**81.25**	**180**	*e*P	**P**	**16 36 44.2**	**+1.4**
	9.3nm,1.2s,mb4.6						
ESDC	**Sonseca Array**	**84.64**	**49**	P	**P**	**16 37 01.2**	**+0.3**
	0.3nm,0.3s,mb3.9,baz=274,slow=4.9,SNR=4.7						
ILAR	**Eielson Array**	**88.59**	**337**	P	**P**	**16 37 19.3**	**-0.2**
	1.2nm,0.8s,mb4.3,baz=145,slow=3.6,SNR=9.6						
ILAR				pP	pP	16 37 31.8	-0.5
	0.6nm,0.7s,baz=152,slow=2.5,SNR=3.6						
TSUM	**Tsumeb**	**93.72**	**110**	P	**P**	**16 37 45.4**	**+1.0**
	3.1nm,0.7s,mb4.8,baz=259,slow=3.1,SNR=5.5						
RPZ	**Rata Peaks**	**97.66**	**224**	LR	LR	17 14 32.1	
	comp=Z,264nm,18.6s,MS4.8,baz=102,slow=31						
ASAR	**Alice Springs**	**134.06**	**225**	PKP	PKPdf	16 43 45.0	+0.9
	0.7nm,0.6s,baz=122,slow=1.7,SNR=14						
WRA	**Warramunga Arr**	**136.09**	**229**	PKP	PKPdf	16 43 48.8	+1.0
	1.5nm,0.9s,baz=121,slow=2.1,SNR=12						
SONM	**Songino Array**	**140.84**	**354**	PKP	PKPdf	16 43 55.1	-0.7
	0.7nm,0.8s,baz=296,slow=0.4,SNR=3.1						
BJI	**Beijing**	**145.95**	**338**	*e*PKP	PKPdf	16 44 06.8	+2.0
BJI				LR	LR		
	comp=N,175nm,17.2s,MS5.1						
BJI				LR	LR		
	comp=E,206nm,15.0s,MS5.1						
BJI				LR	LR		
	comp=Z,187nm,25.0s						
GTA	**Gaotai**	**149.57**	**1**	*e*PKP	PKPdf	16 44 15.1	+4.4
GTA				LR	LR		
	comp=N,58nm,19.4s,MS4.6						
GTA				LR	LR		
	comp=E,54nm,16.4s,MS4.6						
GTA				LR	LR		
	comp=Z,75nm,16.7s,MS4.6						
CMAR	**Chiang Mai Arr**	**170.34**	**9**	PKPab	PKPab	16 45 51.5	-1.1
	comp=Z,2.3nm,0.9s,baz=325,slow=5.4,SNR=11						

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*IDC **17** 16:24:36.4±0.9, 20.89S×65.54E, mb3.8/8, mb1 4.0/8, mb1mx3.8/17, Error ellipse: s-maj=31.6km s-min=24.4km az=77.0*

ISC 17 16:24:36.0±0.9, **20.9S**±0.2×**65.5E**±0.2, **h10**^{km}, **n8,** σ**0^{s}60**/8, **mb3.8**/8, **Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**51.02**	**42**	P	**P**	**16 33 41.7**	**+1.1**
	0.9nm,0.7s,mb3.8,baz=238,slow=8.1,SNR=4.8						
ASAR	**Alice Springs**	**62.76**	**107**	P	**P**	**16 35 04.0**	**0.0**
	0.9nm,0.7s,mb4.0,baz=268,slow=5.8,SNR=6.0						
SNAA	**Sanae**	**63.52**	**199**	P	**P**	**16 35 08.6**	**+0.2**
	0.4nm,1.0s,mb3.4,baz=70,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**63.99**	**103**	P	**P**	**16 35 12.2**	**-0.2**
	2.5nm,0.9s,mb4.2,baz=259,slow=5.8,SNR=5.4						
BRTR	**Keskin Array B**	**67.29**	**334**	P	**P**	**16 35 33.5**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=176,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**69.08**	**12**	P	**P**	**16 35 44.0**	**-0.2**
	1.8nm,0.8s,mb4.0,baz=207,slow=5.4,SNR=7.5						
SONM	**Songino Array**	**77.64**	**27**	P	**P**	**16 36 33.0**	**-1.2**
	0.4nm,0.9s,mb3.4,baz=223,slow=4.7,SNR=2.8						
AKASG	**Malin Array Be**	**78.17**	**337**	P	**P**	**16 36 37.0**	**-0.1**
	0.2nm,0.2s,mb3.6,baz=146,slow=3.3,SNR=3.3						

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*IDC **17** 16:30:32.9±0.6, 20.09S×66.22E, mb4.1/14, mb1 4.3/14, mb1mx4.2/20, MS4.2/16, Ms1 4.2/16, ms1mx4.1/27, Error ellipse: s-maj=23.1km s-min=15.7km az=70.0*

*BJI **17** 16:30:33.5, 20.10S×66.20E, h10^{km}, mB4.7, mb4.3, Ms4.8, Msz4.5*

*NEIC **17** 16:30:34.5±0.4, 20.15S×66.19E, h10^{km}, mb4.7/6, Error ellipse: s-maj=15.8km s-min=10.9km az=70.0*

ISC 17 16:30:33.0±0.4, **20.05S**±0.08×**66.3E**±0.1, **h10**^{km}, **n36,** σ**0^{s}69**/27, **mb4.3**/21, **MS4.4**/16, **2C-2D, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**39.80**	**295**	*e*P	**P**	**16 38 08.2**	**-0.1**
	9.9nm,1.4s,mb4.3						
NWAO	**Narrogin (SRO)**	**46.95**	**117**	LR	LR	16 53 35.7	
	comp=Z,474nm,21.8s,MS4.4,baz=235,slow=29						
MAW	**Mawson**	**47.59**	**182**	P	**P**	**16 39 09.7**	**-0.9**
	5.0nm,0.7s,mb4.7,baz=8.7,slow=5.6,SNR=7.7						
MAW				LR	LR	16 54 06.6	
	comp=Z,279nm,21.8s,MS4.2,baz=162,slow=30						
CMAR	**Chiang Mai Arr**	**49.90**	**42**	P	**P**	**16 39 29.1**	**0.0**
	1.7nm,0.9s,mb4.1,baz=241,slow=8.3,SNR=8.8						
CMAR				LR	LR	16 57 38.9	
	comp=Z,598nm,18.5s,MS4.6,baz=225,slow=32						
SHL	**Shillong**	**51.72**	**30**	*e*P	**P**	**16 39 42.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.86**	**99**	P	**P**	**16 40 14.4**	**+0.9**
	2.1nm,0.8s,mb4.2,baz=230,slow=4.9,SNR=3.7						
ASF	**Jabal al Asfar**	**59.07**	**331**	P	**P**	**16 40 35.6**	**-0.4**
	1.0nm,0.3s,mb4.3,baz=319,slow=4.5,SNR=4.4						
ASF				LR	LR	17 03 33.4	
	comp=Z,157nm,19.1s,MS4.2,baz=322,slow=34						
ASAR	**Alice Springs**	**62.33**	**107**	P	**P**	**16 40 58.4**	**+0.1**
	2.0nm,0.8s,mb4.3,baz=269,slow=5.8,SNR=29						
ASAR				LR	LR	17 04 30.8	
	comp=Z,537nm,18.4s,MS4.7,baz=245,slow=33						
GNI	**Garni**	**63.17**	**342**	P	**P**	**16 41 03.7**	**+0.1**
	3.0nm,0.3s,mb4.9,baz=192,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**63.49**	**103**	P	**P**	**16 41 05.4**	**-0.5**
	3.2nm,0.9s,mb4.5,baz=258,slow=6.0,SNR=15						
WRA				LR	LR	17 06 06.5	
	comp=Z,368nm,18.5s,MS4.6,baz=270,slow=34						
TGY	**Tagaytay City**	**63.55**	**62**	LR	LR	17 04 39.2	
	comp=Z,241nm,20.1s,MS4.4,baz=9.1,slow=32						
MALT	**Malatya**	**63.68**	**336**	P	**P**	**16 41 08.2**	**+1.1**
	1.9nm,0.4s,mb4.5						
SNAA	**Sanae**	**64.58**	**199**	⇓*i*	**P**	**16 41 08.7**	**-3.6**
SNAA	**Sanae**	**64.58**	**199**	⇑*i*	**P**	**16 41 12.3**	**0.0**
SNAA	**Sanae**	**64.58**	**199**	P	**P**	**16 41 10.9**	**-1.5**
	0.7nm,0.7s,mb3.8,baz=77,slow=8.0,SNR=8.9						
SNAA				LR	LR	17 06 25.4	
	comp=Z,100nm,18.1s,MS4.0,baz=352,slow=33						
VNA2	**Neumayer--Watz**	**65.88**	**200**	⇑*i*	**P**	**16 41 20.7**	**0.0**
VNA2	**Neumayer--Watz**	**65.88**	**200**	⇓*i*	**P**	**16 41 23.3**	**+2.6**
WMQ	**Urumqi**	**66.52**	**17**	*e*P	**P**	**16 41 25.0**	**-0.2**
BRTR	**Keskin Array B**	**66.83**	**333**	P	**P**	**16 41 27.4**	**+0.2**
	3.3nm,1.1s,mb4.3,baz=153,slow=5.5,SNR=9.2						
BRTR				LR	LR	17 08 42.7	
	comp=Z,83nm,18.4s,MS4.0,baz=185,slow=34						
GTA	**Gaotai**	**66.94**	**28**	*e*P	**P**	**16 41 29.3**	**+1.3**
GTA				AP	pP	16 41 34.4	+3.3
GTA				XP	sP	16 41 37.3	+5.1
GTA				PP	PP	16 44 01.5	+4.3
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb4.0						
GTA				AMB	AMB		
	comp=Z,21nm,4.4s						
GTA				LR	LR		
	comp=N,100nm,22.4s,MS4.1						
GTA				LR	LR		
	comp=E,59nm,20.9s,MS4.1						
GTA				LR	LR		
	comp=Z,101nm,22.8s,MS4.0						
STKA	**Stephens Creek**	**67.53**	**117**	LR	LR	17 06 53.5	
	comp=Z,324nm,21.9s,MS4.5,baz=215,slow=32						
MKAR	**Makanchi Array**	**68.08**	**12**	P	**P**	**16 41 35.0**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=191,slow=6.2,SNR=10						
MKAR				LR	LR	17 09 49.7	
	comp=Z,151nm,21.6s,MS4.2,baz=199,slow=35						
QSPA	**South Pole Qui**	**70.06**	**180**	*e*P	**P**	**16 41 47.3**	**+0.6**
	comp=Z,19nm,1.5s,mb4.8						
VNDA	**Vanda**	**71.77**	**167**	P	**P**	**16 41 57.0**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=247,slow=7.7,SNR=1.8						
ZRNK	**Zerenda**	**72.73**	**2**	*e*P	**P**	**16 42 03.0**	**-0.1**
	comp=Z,11nm,1.1s,mb4.7						
BRVK	**Borovoye**	**72.88**	**3**	*e*P	**P**	**16 42 03.9**	**-0.1**
	comp=Z,3.9nm,0.9s,mb4.3						
CTA	**Charters Tower**	**74.31**	**106**	LR	LR	17 12 00.8	
	comp=Z,387nm,19.3s,MS4.7,baz=235,slow=34						
DBIC	**Dimbokro**	**74.79**	**283**	LR	LR	17 13 28.0	
	comp=Z,324nm,19.2s,MS4.6,baz=99,slow=34						
ARU	**Arti**	**76.46**	**356**	P	**P**	**16 42 24.8**	**+0.3**
	comp=Z,10nm,1.1s,mb4.7						
SONM	**Songino Array**	**76.55**	**27**	P	**P**	**16 42 24.0**	**-1.1**
	comp=Z,1.6nm,0.9s,mb3.9,baz=218,slow=5.9,SNR=11						
AKASG	**Malin Array Be**	**77.65**	**337**	P	**P**	**16 42 30.8**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=142,slow=4.3,SNR=12						
ESDC	**Sonseca Array**	**88.38**	**313**	P	**P**	**16 43 26.6**	**0.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=117,slow=3.3,SNR=4.6						
ARCES	**ARCESS Array B**	**93.94**	**347**	LR	LR	17 29 41.0	
	comp=Z,65nm,21.1s,MS4.1,baz=188,slow=38						
USHA	**Ushuaia**	**96.02**	**204**	LR	LR	17 17 41.7	
	comp=Z,218nm,19.7s,MS4.6,baz=96,slow=30						
ELN	**Prospectdale**	**146.62**	**308**	*e*PKPdf	PKPdf	16 50 14.9	-1.8
ULM	**Lac du Bonnet**	**146.71**	**339**	PKPbc	PKPbc	16 50 14.9	+0.1
	comp=Z,38nm,1.4s,baz=344,slow=2.6,SNR=5.0						

WEL 17 16:33:44.3±0.4, **38.98S**×**174.94E, h211**^{km}±3^{km}, **ML3.8**/2, **1C, Error ellipse: s-maj=5.7km s-min=3.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.20**	**224**	PN	P	16 34 11.5	-0.7
MOVZ	**Moawhango**	**0.76**	**124**	PN	P	16 34 13.8	-0.2
MOVZ				SN	S	16 34 36.0	-1.1
BKZ	**Black Stump Fm**	**1.22**	**99**	PN	P	16 34 17.0	0.0
BKZ				SN	S	16 34 41.7	-0.6
TSZ	**Takapari Road**	**1.34**	**144**	⇑PN	P	16 34 17.4	-0.6
TSZ				SN	S	16 34 42.6	-1.3
URZ	**Urewera**	**1.84**	**68**	PN	P	16 34 21.9	-0.6
URZ				SN	S	16 34 50.8	-1.0
MWZ	**Matawai**	**2.12**	**73**	PN	P	16 34 24.8	-0.4
MWZ				SN	S	16 34 55.3	-1.5
MTW	**Mount Morrison**	**2.22**	**169**	*e*PN	P	16 34 23.3	-3.0
NNZ	**Nelson**	**2.54**	**208**	PN	P	16 34 25.9	-3.9
NNZ				SN	S	16 34 58.3	-6.6
TUWZ	**Tuamarina**	**2.57**	**197**	PN	P	16 34 26.7	-3.4
TUWZ				SN	S	16 34 58.6	-6.8
QRZ	**Quartz Range**	**2.62**	**224**	PN	P	16 34 26.1	-4.5
KHZ	**Kahutara**	**3.60**	**197**	SN	S	16 35 18.8	-8.1
LTZ	**Lake Taylor**	**4.31**	**207**	PN	P	16 34 45.1	-5.8
LTZ				SN	S	16 35 33.5	-9.0
CRLZ	**Canterbury Las**	**4.92**	**200**	SN	S	16 35 45.3	-11
MQZ	**McQueen's Vall**	**5.03**	**199**	PN	P	16 34 53.1	-6.9
MQZ				SN	S	16 35 47.4	-11
WVZ	**Waitaha Valley**	**5.18**	**217**	PN	P	16 34 55.2	-6.8
WVZ				SN	S	16 35 50.1	-12

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*IDC **17** 16:43:23.0±11.0, 1.98N×127.24E, h92^{km}±104^{km}, mb3.8/7, mb1 3.9/7, mb1mx3.6/16, Error ellipse: s-maj=67.3km s-min=23.8km az=64.0*

*NEIC **17** 16:43:36.8±7.3, 1.73N×127.10E, h230^{km}±70^{km}, mb4.7/3, Error ellipse: s-maj=55.5km s-min=21.9km az=63.0*

ISC 17 16:43:27.3±1.4, **1.9N**±0.2×**127.0E**±0.4, **h150**^{km}, **n10,** σ**0^{s}62**/10, **mb4.2**/8, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.88**	**184**	P	**P**	**16 47 48.8**	**-0.1**
	1.8nm,0.7s,baz=32,slow=6.2,SNR=9.6						
WRAB	**Tennant Creek**	**22.83**	**162**	*e*P	**P**	**16 48 18.4**	**+0.2**
	20nm,0.5s,mb4.8						
WRAB				*e*		16 48 25.6	
WRA	**Warramunga Arr**	**22.84**	**162**	P	**P**	**16 48 18.6**	**+0.3**
	3.5nm,0.4s,mb4.2,baz=343,slow=11,SNR=44						
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**16 48 50.2**	**-0.2**
	0.8nm,0.6s,mb3.5,baz=348,slow=7.5,SNR=45						
FORT	**Forrest**	**32.47**	**178**	*e*P	**P**	**16 49 45.5**	**-0.2**
	20nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**35.80**	**194**	P	**P**	**16 50 14.2**	**+0.3**
	28nm,1.3s,mb4.8,baz=18,slow=3.2,SNR=4.4						
STKA	**Stephens Creek**	**36.30**	**159**	P	**P**	**16 50 18.1**	**-0.1**
	4.5nm,0.8s,mb4.1,baz=337,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**59.23**	**326**	P	**P**	**16 53 15.1**	**0.0**
	0.3nm,0.3s,mb3.6,baz=118,slow=7.8,SNR=6.2						
VNDA	**Vanda**	**81.55**	**173**	P	**P**	**16 55 30.5**	**+1.4**
	0.9nm,0.8s,mb3.4,baz=315,slow=7.9,SNR=4.7						
VNDA	**Vanda**	**81.55**	**173**	P	**P**	**16 55 26.4**	**-2.7**
	1.6nm,0.9s,mb3.6						

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*NEIC **17** 16:48:52.0, 36.11N×22.22E, h5^{km}, MD3.5(ATH), After ATH.*

ATH 17 16:48:52.0, 36.11N×**22.22E, h5**^{km}, **MD3.5**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.68**	**75**	*e*PG	Pg	16 49 04.9	-0.7
VLI	**Veliai**	**0.84**	**43**	*e*PB	Pb	16 49 08.5	-0.2
ITM	**Ithomi**	**1.09**	**348**	*e*PG	Pg	16 49 12.3	-1.5
VAM	**Vamos**	**1.76**	**113**	*e*PN	Pn	16 49 25.5	+2.1
EVR	**Evrytania**	**2.82**	**353**	*e*PG	Pg	16 49 44.0	-4.3

MAN 17 16:49:21.5, 18.60N×**121.02E, h1**^{km}, **mb4.3, ML3.1, MS2.9, 2C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.47**	**234**	⇑*i*P	Pg	16 49 30.6	-0.3
PIP				*i* S	Sg	16 49 36.6	-0.5
APYP	**Conner**	**0.77**	**164**	*e*P	Pg	16 49 36.5	-0.3
APYP				*e*S	Sg	16 49 46.7	-0.3
ABRA	**Dolores**	**0.99**	**197**	*e*P	Pb	16 49 39.1	-2.1
ABRA				*e*S	Sg	16 49 52.1	-2.4
SGCP	**Mt. Cagua**	**1.04**	**110**	*e*P	Pb	16 49 42.1	+0.2
SGCP				*e*S	Sb	16 49 56.7	+0.9
CVP	**Callao Caves**	**1.18**	**139**	⇑*i*P	Pb	16 49 43.5	-0.8
CVP				*i* S	Sb	16 50 00.3	+0.5
CAUP	**Cauayan**	**1.82**	**155**	*e*P	Pn	16 49 55.3	+1.1
CAUP				*e*S	Sn	16 50 19.9	+1.8
PALP	**Palanan**	**2.03**	**139**	*e*P	Pn	16 49 58.0	+0.7
PALP				*e*S	Sn	16 50 27.5	+3.8
BOLP	**Bolinao**	**2.45**	**206**	*e*P	Pn	16 50 07.0	+3.8
BOLP				*e*S	Sn	16 50 33.2	-1.0
BALP	**Baler**	**2.89**	**169**	*e*P	Pn	16 50 12.5	+2.9
BALP				*e*S	Sn	16 50 45.0	-0.5

IDC 17 17:03:12.2±26.0, **16.43S**×**174.93W, mb4.2**/4, **mb1 4.3**/4, **mb1mx3.8**/16, **Error ellipse: s-maj=490.0km s-min=154.5km az=73.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.99**	**258**	P	P	17 10 23.4	-1.9
	2.3nm,0.8s,baz=83,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**42.25**	**241**	*e*P	P	17 11 08.0	-1.0
	1.9nm,1.0s						
STKA	**Stephens Creek**	**42.25**	**241**	P	P	17 11 07.9	-1.1
	2.0nm,0.8s,baz=90,slow=12,SNR=6.1						
WRA	**Warramunga Arr**	**48.18**	**258**	P	P	17 11 54.5	-2.0
	0.8nm,0.6s,baz=96,slow=7.1,SNR=20						
ASAR	**Alice Springs**	**48.40**	**253**	P	P	17 11 56.0	-2.2
	5.0nm,0.5s,baz=88,slow=8.4,SNR=129						
ASPA	**Alice Springs**	**48.40**	**253**	*e*P	P	17 11 55.9	-2.3

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*HEL **17** 17:08:07.3±0.2, 67.08N×20.41E, ML1.9, ML1.8(UPP), ML1.9(BER), Explosion*

*IDC **17** 17:08:08.3±0.9, 67.10N×21.54E, mb1 2.9/4, mb1mx2.9/19, ML2.3/4, Error ellipse: s-maj=17.4km s-min=7.1km az=117.0*

*BER **17** 17:08:08.6±4.4, 66.95N×22.01E, ML1.8, Suspected explosion*

ISC 17 17:08:06.6±0.3, **67.08N**±0.02×**20.92E**±0.07, **n26,** σ**1^{s}47**/46, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**289**	*i* P	**Pg**	**17 08 08.7**	**-0.8**
MASU	**Masugnsbyn**	**0.57**	**47**	*i* P	**Pg**	**17 08 16.3**	**-1.7**
ERTU	**Ertsjaerv**	**0.72**	**136**	*i* P	**Pg**	**17 08 19.8**	**-1.3**
KUA	**Kurravaara**	**0.91**	**346**	*i* P	**Pg**	**17 08 22.8**	**-2.1**
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pb**	**17 08 24.4**	**-1.9**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pb**	**17 08 24.8**	**-3.1**
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	**17 08 39.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pn**	**17 08 42.2**	**+1.0**
KIF				*e*S	**Sn**	**17 09 06.8**	**+0.2**
KTK1	**Kautokeino**	**2.13**	**23**	*e*P	**Pn**	**17 08 45.2**	**+1.3**
KTK1				*e*SG	**Sg**	**17 09 16.3**	**-1.3**
SGF	**Sodankyl**	**2.21**	**78**	*e*P	**Pn**	**17 08 46.4**	**+1.3**
SGF				*e*S	**Sn**	**17 09 18.4**	**+4.9**
TRO	**Tromso**	**2.67**	**345**	*e*P	**Pn**	**17 08 53.1**	**+1.4**
TRO				*e*S	**Sn**	**17 09 25.2**	**-0.1**
TRO				AML	AML	17 09 43.0	
	comp=Z,3.8nm,0.1s						
MOR8	**Moi Rana**	**2.74**	**254**	*e*P	**Pn**	**17 08 55.1**	**+2.5**
MOR8				*e*S	**Sn**	**17 09 30.3**	**+3.4**
MOR8				AML	AML	17 09 33.4	
	comp=Z,9.4nm,0.3s						
OUL	**Oulu**	**2.85**	**132**	*e*P	**Pn**	**17 08 56.1**	**+2.0**
OUL				*e*S	**Sn**	**17 09 32.7**	**+3.1**
OUL				*e*SG	**Sg**	**17 09 40.6**	**-0.8**
OUL				MSG		17 09 43.6	
	comp=Z,4.0nm,0.2s						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 08 55.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=47						
ARCES				Lg		17 09 38.0	
	comp=Z,0.6nm,0.3s,baz=211,slow=26,SNR=5.1						
LOF	**Lofoten**	**3.02**	**294**	*e*S	**Sn**	**17 09 43.2**	**+9.2**
LOF				AML	AML	17 10 00.1	
	comp=Z,4.8nm,0.3s						
STOK	**Stokkvaagen**	**3.23**	**260**	*e*P	**Pn**	**17 09 02.6**	**+3.0**
STOK				*e*S	**Sn**	**17 09 46.5**	**+7.2**
STOK				AML	AML	17 09 56.8	
	comp=Z,8.7nm,0.2s						
MSF	**Maaselka**	**3.46**	**106**	*e*P	**Pn**	**17 09 05.4**	**+2.6**
MSF				*e*S	**Sn**	**17 09 46.2**	**+1.1**
MSF				*e*SG	**Sg**	**17 10 00.7**	**-1.1**
MSF				MSG		17 10 04.6	
	comp=Z,2.8nm,0.2s						
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**17 09 03.9**	**+0.3**

KEV				eS	Sn	17 09 47.0	+0.6
KEV				eSG	Sg	17 09 58.6	-4.8
KEV				MSG		17 09 59.2	
	comp=Z,2.6nm,0.2s						
KJN	Kajaani	4.12	134	eP	Pn	17 09 14.2	+2.0
KJN				eS	Sn	17 10 01.1	-0.8
KJN				eSG	Sg	17 10 17.7	-6.0
KJN				MSG		17 10 19.7	
	comp=Z,3.0nm,0.2s						
NSS	Namsos	4.48	239	eS	Sn	17 10 11.9	+0.8
SUF	Sumiainen	4.91	151	eP	Pn	17 09 24.0	+0.6
SUF				eS	Sn	17 10 20.4	-1.4
SUF				eSB	Sb	17 10 34.9	+1.4
KAF	Kangasniemi	5.49	153	eP	Pn	17 09 30.7	-0.9
KAF				e		17 10 38.4	
KAF				MSG		17 10 39.6	
	comp=Z,0.6nm,0.2s						
FIA0	FINESS Array S	6.08	156	eP	Pn	17 09 38.6	-1.3
FIA0				eS	Sn	17 10 46.4	-4.9
FINES	FINESS Array B	6.08	156	Pn	Pn	17 09 37.2	-2.8
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=2.6						
FINES				Sn	Sn	17 10 49.8	-1.4
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=5.7						
NOA	NORSAR Array B	7.39	220	Pn	Pn	17 09 59.0	+0.5
	comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=2.5						
NOA				Sn	Sn	17 11 20.1	-4.0
	comp=Z,0.1nm,0.3s,baz=65,slow=18,SNR=2.1						
HFS	Hagfors	7.67	208	Pn	Pn	17 10 00.9	-1.4
	comp=Z,0.0nm,0.3s,baz=26,slow=13,SNR=5.5						
HFS				Sn	Sn	17 11 28.0	-3.0
	comp=Z,0.0nm,0.3s,baz=20,slow=21,SNR=3.1						

GUC 17 17:46:05.4±0.6**, 32.43S**×**71.66W, h11**^{km}±7^{km}**, MD3.5, ML2.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACH	Jahuel	0.94	106	i S	Sb	17 46 36.2	+0.7
LCCH	Las Cruces	1.05	176	i S	Sb	17 46 38.5	-0.2
PEL	Peldehue	1.09	131	eS	Sb	17 46 40.0	+0.2
RCDM	Rinconada Maip	1.28	146	eP	Pb	17 46 28.3	-0.8
RCDM				i S	Sb	17 46 45.5	+0.1
RCDM				AMP		17 46 45.9	
	comp=E,116nm,0.1s						
RCDM				AMP		17 46 47.9	
	comp=N,127nm,0.1s						
FCH	Farellones	1.46	128	i P	Pn	17 46 27.9	-4.0
FCH				i P		17 46 28.0	
FCH				i S	Sb	17 46 51.2	+0.5
FCH				AMP		17 46 52.1	
	comp=N,119nm,0.3s						
FCH				AMP		17 46 52.5	
	comp=E,75nm,0.2s						
CHCH	Chadas Angostu	1.72	151	i S	Sn	17 46 57.9	+0.1
LMEL	Las Melosas	1.87	139	eP	Pn	17 46 37.5	-0.3
LMEL				i S	Sn	17 47 02.5	+0.9
LMEL				AMP		17 47 09.2	
	comp=E,89nm,0.2s						
LMEL				AMP		17 47 09.4	
	comp=N,108nm,0.3s						
TLL	Tololo Astrono	2.37	18	i S	Sn	17 47 16.6	+2.3
TLL				AMP		17 47 27.2	
	comp=E,44nm,0.5s						
TLL				AMP		17 47 29.6	
	comp=N,41nm,0.7s						

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*NEIC **17** 17:50:49.8, 59.85N×153.54W, h136^{km}, After AEIC.*
*IDC **17** 17:50:54.2±3.0, 60.28N×153.44W, h164^{km}±29^{km}, mb3.5/3, mb1 3.8/8, mb1mx3.4/24, Error ellipse: s-maj=29.7km s-min=22.8km az=172.0*
ISC 17 17:50:48.0±0.3**, 59.87N**±0.03×**153.48W**±0.06**, h140**^{km}±3^{km}**, n86,** σ0^{s}**86**/100**, mb3.7**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	Iliamna Low So	0.23	66	P	P	17 51 07.7	+0.1
IVS	Iliamna South	0.24	54	P	P	17 51 07.9	+0.2
OPT	Oil Point	0.25	150	P	P	17 51 07.9	+0.2
OPT				S	S	17 51 22.2	-0.5
ILIM	Iliamna	0.34	50	P	P	17 51 08.0	0.0
AUL	Augustine Lava	0.49	178	P	P	17 51 08.7	0.0
AGU	Augustine-Summ	0.51	177	P	P	17 51 08.9	0.0
AUE	Augustine Isla	0.51	174	P	P	17 51 08.8	-0.1
AUI	Augustine Isla	0.53	177	P	P	17 51 08.8	-0.2
AUI				S	S	17 51 24.2	-0.8
RSO	Redoubt South	0.70	31	P	P	17 51 10.5	+0.6
REF	Redoubt East F	0.73	31	P	P	17 51 10.7	+0.6
MCNL	McNeil River	0.81	213	P	P	17 51 10.3	-0.4
RDT	Redoubt	0.89	36	P	P	17 51 11.9	+0.7
XLV	Seldovia	0.98	114	P	P	17 51 12.2	+0.3
XLV				S	S	17 51 30.1	-0.1
CNPM	China Poot	1.19	106	P	P	17 51 14.3	+0.4
BRLK	Bradley Lake	1.31	93	P	P	17 51 15.8	+0.5
BRLK				S	S	17 51 35.9	-0.2
BKG	Blockade Glaci	1.35	26	P	P	17 51 16.6	+1.0
CKL	Chakachamna La	1.45	22	P	P	17 51 17.8	+1.1
SPU	Mount Spurr	1.50	27	P	P	17 51 18.1	+0.9
SVW	Sparrevohn	1.64	320	P	P	17 51 19.1	+0.3
SLKM	Skilak Lake	1.75	67	P	P	17 51 21.0	+1.0
SLKM				S	S	17 51 43.8	-0.7
KABR	Katmai Barrier	1.90	205	P	P	17 51 21.5	-0.3
MGLS	Mageik LS	1.92	211	P	P	17 51 22.3	+0.4
MGLS				S	S	17 51 47.2	-0.7
ANCK	Angle Creek	1.97	213	P	P	17 51 22.7	+0.1
SEW	Seward	2.04	82	P	P	17 51 24.1	+0.7
SEW				S	S	17 51 49.1	-1.3
CAHL	Cahill	2.05	208	P	P	17 51 23.7	+0.1
FIB	Fire Island	2.09	50	P	P	17 51 25.8	+1.7
FIB				S	S	17 51 53.2	+1.6
SUA	Susitna One	2.09	39	P	P	17 51 25.4	+1.3
KJL	Kejulik	2.12	212	P	P	17 51 24.6	+0.2
KDAK	Kodiak Island	2.14	167	P	P	17 51 23.4	-1.3
KDAK				S	S	17 51 50.3	-2.5
MPA	Moose Pass	2.15	71	P	P	17 51 25.5	+0.7
RC01	Rabbit Creek A	2.22	55	P	P	17 51 26.1	+0.4
RC01				S	S	17 51 53.8	-0.8
SKT	Skwentna	2.33	23	P	P	17 51 27.9	+0.9
PMS	Palmer South	2.38	53	P	P	17 51 28.2	+0.4
PWA	Palmer West	2.52	43	P	P	17 51 30.0	+0.5
LTI	Latouche	2.83	84	P	P	17 51 34.0	+0.3
KNK	Knik Glacier	2.92	56	P	P	17 51 34.4	-0.3
GHO	Glory Hole Cre	2.94	47	P	P	17 51 34.4	-0.6
CUT	Chulitna	2.98	30	P	P	17 51 36.0	+0.4
CUT				S	S	17 52 11.3	-0.6
SML	Sawmill	3.18	50	P	P	17 51 37.3	-0.8
SML				S	S	17 52 14.2	-2.3
TT01	Tatalina	3.29	339	P	P	17 51 39.1	-0.4
HIN	Hinchinbrook I	3.53	78	P	P	17 51 43.1	+0.4
SCM	Sheep Creek Mo	3.60	54	P	P	17 51 43.1	-0.5
MID	Middleton Isla	3.65	94	P	P	17 51 44.1	-0.3
VLZ	Valdez	3.75	67	P	P	17 51 45.4	-0.3
KTH	Kantishna Hill	3.90	17	P	P	17 51 47.7	+0.1
TRF	Thorofare Moun	3.91	22	P	P	17 51 47.7	0.0
EYAK	Cordova Ski Ar	3.92	77	P	P	17 51 47.8	-0.1
DIV	Divide	4.02	68	P	P	17 51 49.1	0.0
DIV				S	S	17 52 33.6	-2.5
SGAM	Sherman Glacie	4.18	78	P	P	17 51 51.4	+0.1
DHY	Denali Highway	4.35	40	P	P	17 51 53.4	-0.3
RAGM	Ragged Mountai	4.43	79	P	P	17 51 55.0	+0.3
MCK	McKinley	4.44	27	P	P	17 51 54.5	-0.3
BMRM	Bremner River	4.54	72	P	P	17 51 56.2	+0.1
KAIM	Kayak Island	4.56	85	P	P	17 51 57.3	+0.9
PAX	Paxson	4.95	48	P	P	17 52 01.4	-0.2
GLB	Gilahina Butte	5.01	67	P	P	17 52 02.3	-0.1
WAX	Waxell Ridge	5.34	79	P	P	17 52 06.7	0.0
TGL	Tana Glacier	5.37	76	P	P	17 52 07.8	+0.7
CCB	Clear Creek Bu	5.48	26	P	P	17 52 07.8	-0.8
HDA	Harding Lake	5.49	31	P	P	17 52 08.1	-0.6
BALM	Baldy	5.63	73	P	P	17 52 11.6	+0.9
COLA	College	5.67	25	P	P	17 52 10.5	-0.6
IL1	Eielson Array	5.80	29	P	P	17 52 12.2	-0.7
ILAR	Eielson Array	5.80	29	P	P	17 52 11.9	-0.9
	13nm,0.3s,baz=216,slow=13,SNR=455						
ILAR				S	S	17 53 16.3	-2.5
	5.8nm,0.3s,baz=223,slow=22,SNR=10						
CTGM	Chitina Glacie	6.12	74	P	P	17 52 18.8	+1.6
IM3	Indian Mountai	6.14	359	P	P	17 52 17.9	+0.3
CHX	Chaix Hills	6.21	83	P	P	17 52 20.0	+1.6
IMA	Indian Mountai	6.23	359	eP	P	17 52 19.1	+0.4
BCA3	Beaver Creek A	6.45	55	P	P	17 52 20.4	-1.3
DOL	Dolgoi Island	6.54	227	P	P	17 52 22.5	-0.4
PCA	Pinnacle	6.64	82	P	P	17 52 25.3	+1.0
PNL	Peninsula	7.11	86	P	P	17 52 30.8	+0.1
COLD	Coldfoot	7.53	10	P	P	17 52 35.5	-0.8
DAWY	Dawson	7.85	52	eP	P	17 52 41.6	+1.0
BM3	Burnt Mountain	8.54	24	P	P	17 52 47.8	-1.9
BESE	Bessie Mountai	9.63	90	P	P	17 53 07.5	+3.5
INK	Inuvik	12.09	37	P	P	17 53 36.0	-0.3
	0.8nm,0.3s,baz=243,slow=14,SNR=25						
INK	Inuvik	12.09	37	eP	P	17 53 36.5	+0.1
DLBC	Dease Lake	12.10	87	P	P	17 53 42.4	+5.9
	1.9nm,0.3s,baz=273,slow=9.5,SNR=25						
VIB	Van Inlet	13.27	111	P	P	17 53 55.6	+3.9
	SNR=85						
YKA	Yellowknife Ar	18.73	65	P	P	17 54 57.5	-0.4
	0.4nm,0.3s,baz=278,slow=9.9,SNR=6.2						
YKA	Yellowknife Ar	18.73	65	P	P	17 54 57.5	-0.4
FX1	Attu Island--F	19.58	264	P	P	17 55 10.1	+3.2
	1.0nm,0.3s,baz=290,slow=18,SNR=6.2						
SONM	Songino Array	54.68	306	P	P	18 00 04.9	+0.8
	1.5nm,0.7s,mb3.8,baz=40,slow=7.4,SNR=16						
BVAR	Borovoye Array	62.08	332	P	P	18 00 54.4	-1.0
	1.2nm,0.5s,mb4.0,baz=45,slow=6.1,SNR=8.7						
MKAR	Makanchi Array	64.39	321	P	P	18 01 09.1	-1.4
	0.3nm,0.6s,mb3.3,baz=18,slow=7.7,SNR=6.3						

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*STR **17** 17:58:25.7±0.0, 42.98N×0.04W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 17:58:25.5±0.1**, 42.94N**×**0.19E, h2**^{km}**, Md1.8**/2**, Ml1.7**/2**, Error ellipse: s-maj=3.7km s-min=1.5km az=167.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	Labassere	0.14	320	Pg	Pg	17 58 28.4	+0.2
LABF				Sg	Sg	17 58 30.4	+0.3
VIEF	Viey	0.14	244	Pg	Pg	17 58 28.5	+0.2
VIEF				Sg	Sg	17 58 30.5	+0.4
EPF	Esparros	0.14	51	ePg	Pg	17 58 28.5	+0.2
EPF				eSg	Sg	17 58 30.4	+0.2
	36nm,0.2s						
ETSF	Etsaut	0.55	266	ePg	Pg	17 58 36.1	-0.5
ETSF				eSg	Sg	17 58 43.3	-0.7
	6.2nm,0.3s						
SJPF	Ste Jean	1.05	280	ePg	Pg	17 58 45.7	-0.8
SJPF				eSg	Sg	17 58 58.1	-2.5
	0.9nm,0.3s						
MTLF	Montolieu	1.53	74	ePn	Pn	17 58 51.8	-2.2
MTLF				ePg	Pg	17 58 54.3	-1.8
MTLF				eSg	Sg	17 59 14.3	-2.3
	4.2nm,0.5s						

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*PRU **17** 18:00:35.9, 47.65N×17.88E*
*NEIC **17** 18:00:35.5±0.4, 47.58N×17.92E, h10^{km}, ML3.4(SZGRF), ML3.4(FUR), ML3.1(VIE), ML3.1(BRA), Error ellipse: s-maj=5.7km s-min=3.9km az=201.0*
*BGR **17** 18:00:36.5±1.0, 47.48N×17.81E, h10^{km}, ML3.4/8, Error ellipse: s-maj=20.0km s-min=10.0km az=29.0*
ISC 17 18:00:34.8±0.2**, 47.60N**±0.02×**17.85E**±0.02**, h10**^{km}**, n46,** σ1^{s}**23**/91**, 7C-8D, Hungary**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRO	Srobarova	0.38	56	ePG	Pg	18 00 43.0	+0.4
SRO				eSG	Sg	18 00 48.3	+0.5
PKSG		0.42	119	⇓eP	Pg	18 00 42.1	-1.4
PKSG				eS	Sg	18 00 47.7	-1.5
ZST	Bratislava	0.78	320	ePG	Pg	18 00 51.7	+1.2
ZST				eSG	Sg	18 01 03.8	+2.9
BUD	Budapest	0.81	98	⇓ePn	Pn	18 00 49.7	-2.3
BUD				eSn	Sn	18 01 00.2	-3.9
SOP	Sopron	0.88	276	⇓ePn	Pn	18 00 53.7	+0.7
SOP				eSn	Sn	18 01 06.8	+1.0
PKS8	Sarbogard	0.92	142	⇓eP	Pb	18 00 51.5	-0.9
PKS8				Pg	Pg	18 00 52.6	-0.6
PKS8				eS	Sb	18 01 04.4	0.0
SMOL	Smolenice	0.96	343	ePN	Pn	18 00 55.0	+0.8
SMOL				eSN	Sn	18 01 08.7	+0.8
PENC	Penc	0.99	78	eP	Pb	18 00 53.4	-0.2
PENC				eS	Sb	18 01 08.1	+1.7
KOLL	Kolacno	1.05	21	ePN	Pn	18 00 55.5	0.0
KOLL				eSN	Sn	18 01 09.6	-0.6
PKS7	Kunszentmiklos	1.05	121	⇓iP	Pb	18 00 55.1	+0.4
PKS7				eS	Sb	18 01 09.4	+1.1
PKS9	Tamasi	1.06	164	⇓eP	Pb	18 00 55.2	+0.5
PKS9				eS	Sb	18 01 09.9	+1.5
VYHS	Vyhne	1.11	36	ePN	Pn	18 00 56.0	-0.4
VYHS				eSN	Sn	18 01 11.4	-0.5
VKA	Vienna	1.22	303	⇑iPG	Pg	18 00 59.2	-0.1
VKA				i SG	Sg	18 01 18.1	+2.4
PSZ	Piszkesteto	1.42	76	⇑eP	Pn	18 01 00.5	-0.3
PSZ				eS	Sb	18 01 18.9	0.0
RHK1	Bakonya	1.51	174	⇓eP	Pn	18 01 03.3	+1.2
RHK1				eS	Sb	18 01 22.9	+1.2
PKS6	Bocsa	1.54	130	⇓eP	Pn	18 01 01.7	-0.8
PKSN	Nyarlorinc	1.55	116	eP	Pn	18 01 03.8	+1.2
PKSN				eS	Sb	18 01 24.7	+2.1
ARSA	Arzberg	1.62	258	⇑iPG	Pg	18 01 04.8	-2.3
ARSA				i SG	Sg	18 01 26.7	-2.0
	77nm,0.5s						
LIKS	Likavka	1.68	30	ePN	Pn	18 01 08.8	+4.3
LIKS				eSN	Sn	18 01 30.0	+3.8
RHK3	Tenkes	1.73	171	eP	Pn	18 01 04.5	-0.8
RHK3				eS	Sn	18 01 26.8	-0.9
KECS	Kecovo	1.98	63	ePN	Pn	18 01 07.5	-1.3
KECS				i PG	Pg	18 01 10.1	-4.3
KECS				eSN	Sn	18 01 31.8	-2.0
MORC	Moravsky Berou	2.19	355	ePn	Pn	18 01 13.1	+1.3
OKC	Ostrava-Krasne	2.25	5	ePG	Pg	18 01 12.9	-6.8
OKC				eSG	Sg	18 01 40.3	-9.4
MOA	Molln	2.43	277	⇑iPG	Pg	18 01 20.4	-3.0
MOA				i SG	Sg	18 01 54.7	-1.1
	75nm,0.9s						
OBKA	Obir	2.50	245	⇑iPG	Pg	18 01 18.2	-6.7
OBKA				i SG	Sg	18 01 54.7	-3.6
	30nm,0.6s						
DPC	Dobruska-Polom	2.93	341	ePN	Pn	18 01 23.8	+1.4
DPC				ePG	Pg	18 01 25.6	-7.7
DPC				eSN	Sn	18 01 57.4	-0.6
DPC				eSG	Sg	18 02 04.2	-8.2
	25nm,0.7s						
GEC2	GERESS Array S	3.04	296	ePn	Pn	18 01 24.7	+0.8
GEC2				eSn	Sn	18 02 01.4	+0.6
GEC2	GERESS Array S	3.04	296	ePn	Pn	18 01 24.7	+0.8
GEC2				eSn	Sn	18 02 01.4	+0.7
KBA	Koelnbreinsper	3.11	262	⇑iPN	Pn	18 01 25.1	+0.2
KBA				i SN	Sn	18 02 03.1	+0.7
VOY	Vojsko	3.13	241	ePn	Pn	18 01 34.9	+10
VOY				eSn	Sn	18 02 03.7	+0.5
KHC	Kasperske Hory	3.23	300	ePN	Pn	18 01 27.5	+0.8
KHC				ePG	Pg	18 01 38.3	-1.1
KHC				eSN	Sn	18 02 05.3	-0.3
KHC				eSG	Sg	18 02 17.8	-4.6
PRU	Pruhonice	3.24	319	ePN	Pn	18 01 27.1	+0.3
PRU				ePG	Pg	18 01 35.1	-4.4
PRU				eSN	Sn	18 02 05.2	-0.6
PRU				eSG	Sg	18 02 16.8	-5.8
	26nm,0.6s						
PTCC	Patocco-Chiusa	3.30	250	ePn	Pn	18 01 29.8	+2.2
FVI	Forni Avoltri	3.60	256	ePn	Pn	18 01 34.6	+2.7
WET	Wettzell	3.65	297	ePn	Pn	18 01 34.2	+1.5
DIVS	Divcibare	3.81	156	⇑iPn	Pn	18 01 32.8	-2.0
DIVS				Sn	Sn	18 02 17.4	-2.8
KWP	Kalwaria	3.81	56	ePn	Pn	18 01 35.3	+0.4
BRG	Berggiesshubel	4.16	323	P	Pn	18 01 45.5	+5.7
BRG				e		18 01 54.5	
BRG				e		18 02 27.5	
BRG				eSg	Sg	18 02 51.3	-1.9
TANN	Tannenbergstha	4.53	310	ePn	Pn	18 01 45.7	+0.7
TANN				eSn	Sn	18 02 37.9	-0.5
GUNZ	Gunzen	4.56	309	ePn	Pn	18 01 45.6	0.0
WERD	Werda	4.63	310	ePn	Pn	18 01 46.6	+0.1
GRF	Grafenberg Arr	4.86	298	eSg	Sg	18 03 12.3	-4.5
CLL	Collm	4.87	321	ePn	Pn	18 01 51.0	+1.0
CLL				eSn	Sn	18 02 46.1	-1.1
CLL	Collm	4.87	321	ePN	Pn	18 01 51.0	+1.0
CLL				eSN	Sn	18 02 46.0	-1.1
CLL				eSG	Sg	18 03 16.0	-1.1
CLL	Collm	4.87	321	ePg	Pn	18 01 51.0	+1.0
CLL				eSg	Sg	18 03 16.0	-1.1
MOX	Moxa	5.10	309	eSn	Sn	18 02 50.9	-2.0

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*SKHL **17** 18:35:22.6±0.2, 45.69N×150.62E, h90^{km}, mb5.0/3, msh5.7/2*
*MOS **17** 18:35:23.3±1.2, 45.64N×150.39E, h146^{km}, mb3.9/3, Error ellipse: s-maj=26.0km s-min=22.3km az=149.6*
*IDC **17** 18:35:25.0±3.4, 45.93N×150.37E, h126^{km}±32^{km}, mb3.4/9, mb1 3.6/10, mb1mx3.4/23, Error ellipse: s-maj=28.8km s-min=19.0km az=159.0*
*NEIC **17** 18:35:26.3±1.7, 45.93N×150.37E, h139^{km}±15^{km}, mb4.3/3, Error ellipse: s-maj=16.9km s-min=12.7km az=155.0*
ISC 17 18:35:23.1±1.2**, 45.8N**±0.1×**150.4E**±0.1**, h130**^{km}±13^{km}**, n25,** σ0^{s}**89**/30**, mb3.6**/10**, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.83	254	⇑iP	P	18 35 55.5	+0.1
KUR				AMB	AMB	18 35 56.5	
	530nm,0.6s						
KUR				i S	S	18 36 20.3	+0.3
KUR				A		18 36 22.0	
	5μm,2.0s						
KUR				A		18 36 22.0	
	8μm,2.0s						
KUR				A		18 36 22.0	
	2μm,0.6s						
KUR				A		18 36 22.0	
	3μm,0.6s						
YUK	Yuzh-Kuril'sk	3.63	243	eP	P	18 36 18.0	-0.9
YUK				AMB	AMB	18 36 18.3	
	200nm,0.3s						
YUK				i S	S	18 36 59.4	-2.2
YUK				A		18 37 04.0	
	1μm,0.3s						
YUK				A		18 37 04.0	
	2μm,0.7s						
YUK				A		18 37 10.0	
	1μm,0.5s						
YUK				A		18 37 10.0	
	390nm,0.5s						
YUK	Yuzh-Kuril'sk	3.63	243	ePN	P	18 36 18.0	-0.9
YUK				i S	S	18 36 59.4	-2.2
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,1μm,0.3s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,390nm,0.5s						
YSS	Yuzh-Sakhalins	5.39	285	⇓iP	P	18 36 43.5	+1.1
YSS				AMB	AMB	18 36 44.2	
	comp=E,40nm,0.7s						
YSS				eS	S	18 37 44.0	+0.2
YSS				A		18 37 48.3	
	comp=E,300nm,1.0s						
YSS	Yuzh-Sakhalins	5.39	285	⇓iPN	P	18 36 43.5	+1.1
YSS				eS	S	18 37 44.0	+0.2
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax			
	comp=N,30nm,1.0s						
YSS	Yuzh-Sakhalins	5.39	285	eP	P	18 36 44.2	+1.8
	comp=N,36nm,0.6s						
YSS				e		18 36 53.7	
ASAJ	Asahikawa	5.75	256	P	P	18 36 48.8	+1.6
	comp=N,1.2nm,0.3s,baz=247,slow=22,SNR=8.6						
ASAJ	Asahikawa	5.75	256	PN	P	18 36 48.8	+1.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	Yakutsk	20.18	331	eP	P	18 39 48.5	-0.5
	comp=Z,9.2nm,0.7s						
IMA	Indian Mountai	35.72	35	P	P	18 42 10.3	0.0
	comp=Z,6.3nm,0.6s,mb4.4						
ILAR	Eielson Array	38.50	38	P	P	18 42 32.8	-0.8
	comp=Z,1.3nm,1.0s,mb3.5,baz=276,slow=8.6,SNR=8.5						
ILAR	Eielson Array	38.50	38	P	P	18 42 32.8	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	Inuvik	43.50	32	P	P	18 43 14.6	+0.2
	comp=Z,1.2nm,0.4s,mb3.9,baz=260,slow=7.7,SNR=5.8						
INK	Inuvik	43.50	32	P	P	18 43 14.6	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	43.50	32	P	P	18 43 14.5	+0.1
	comp=Z,1.6nm,0.4s,mb4.0						
MKAR	Makanchi Array	45.69	297	P	P	18 43 31.9	-0.2
	comp=Z,0.2nm,0.5s,mb3.0,baz=77,slow=8.4,SNR=3.4						
MKAR				PcP	PcP	18 45 08.3	-0.1
	comp=Z,0.4nm,0.5s,baz=83,slow=2.4,SNR=5.7						
FINES	FINESS Array B	64.09	334	P	P	18 45 44.3	-0.4
	comp=Z,2.3nm,1.1s,mb3.9,baz=155,slow=36,SNR=3.8						
FINES	FINESS Array B	64.09	334	P	P	18 45 44.3	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	Mina Array Bea	64.58	60	P	P	18 45 48.5	+0.1
	comp=Z,1.5nm,0.8s,mb3.9,baz=303,slow=5.9,SNR=8.3						
NVAR	Mina Array Bea	64.58	60	P	P	18 45 48.5	+0.1
PDAR	Pinedale Array	66.87	52	P	P	18 46 02.5	-0.3
	comp=Z,1.0nm,0.6s,mb3.8,baz=293,slow=2.4,SNR=12						
NB2	NORSAR Subarra	68.52	340	P	P	18 46 11.3	-1.4
	comp=Z,0.6nm,0.4s,mb3.7,baz=29,slow=6.2						
NOA	NORSAR Array B	68.52	340	P	P	18 46 12.2	-0.5
	comp=Z,0.3nm,0.3s,mb3.5,baz=30,slow=5.6,SNR=2.9						
ASAR	Alice Springs	70.70	196	P	P	18 46 28.2	+1.6
	comp=Z,0.3nm,0.8s,mb3.1,baz=11,slow=6.0,SNR=3.3						
GERES	GERESS Array B	78.47	332	P	P	18 47 11.2	+0.7
	comp=Z,0.4nm,0.5s,mb3.3,baz=45,slow=7.5,SNR=5.8						

IDC 17 18:55:16.6±9.5**, 32.86S**×**179.97E, h199**^{km}±97^{km}**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.3**/14**, Error ellipse: s-maj=98.1km s-min=47.0km az=2.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	5.87	203	P	P	18 56 42.7	-0.2
	1.5nm,0.3s,baz=229,slow=5.1,SNR=5.6						
URZ				S	S	18 57 49.4	-0.5
	2.7nm,0.3s,baz=167,slow=19,SNR=7.7						
ASAR	Alice Springs	41.32	271	P	P	19 02 43.0	-1.3
	0.6nm,0.7s,baz=108,slow=7.4,SNR=10						
WRA	Warramunga Arr	42.54	276	P	P	19 02 52.6	-1.6
	1.4nm,0.6s,baz=115,slow=7.9,SNR=33						
FINES	FINESS Array B	146.80	337	PKPbc	PKPbc	19 14 33.4	-0.4
	0.6nm,0.5s,baz=76,slow=5.7,SNR=6.1						

DJA 17 19:12:26.0±0.6**, 3.39S**×**119.13E, h100**^{km}**, MD4.3**/3**, ML4.8**/2**, 2C-4D, Error ellipse: s-maj=21.8km s-min=18.6km az=77.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TANI	Tanete Lipujan	0.26	101	⇓ePn	P	19 12 38.7	-1.8
	2μm,0.2s						
TANI				⇓iSn	S	19 12 51.0	-0.4
NINI	Niniconang	1.21	149	⇑iPn	P	19 12 49.9	+0.7
	2μm,0.2s						
NINI				⇓iSn	S	19 13 02.5	-4.0
BUNI	Buntu Taipa	1.22	103	⇑iPn	P	19 12 50.1	+0.7
	591nm,0.3s						
BUNI				⇓iSn	S	19 13 03.3	-3.5

IDC 17 19:50:26.2±52.0**, 16.28S**×**179.36W, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/15**, Error ellipse: s-maj=955.0km s-min=151.8km az=76.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.65	239	P	P	19 57 51.5	-1.7
	0.4nm,0.3s,baz=90,slow=10,SNR=4.7						
WRA	Warramunga Arr	44.05	258	P	P	19 58 36.2	-1.7
	0.3nm,0.4s,baz=92,slow=7.6,SNR=11						
ASAR	Alice Springs	44.38	253	P	P	19 58 38.7	-1.8
	1.2nm,0.4s,baz=89,slow=7.9,SNR=47						

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*NIED **17** 19:55:00, 30.50N×131.20E, h26^{km}, Mw3.9 Best double couple: $M_0$8.83$\times10^{14}$ NP1:ϕ_s27°, δ82°, λ141°. NP2:ϕ_s123°,* *δ51°,λ11°.*

*JMA **17** 19:55:39.2±0.1,30.53N×131.20E,h29^{km}±1^{km},M3.5*
*NEIC **17** 19:55:41.9±2.3,30.68N×131.14E,h57^{km}±23^{km},mb4.2/3, Error ellipse: s-maj=26.9km s-min=14.5km az=58.0*
*IDC **17** 19:55:42.5±4.0,30.67N×131.08E,h59^{km}±48^{km},mb3.4/6, mb1 3.6/7,mb1mx3.4/21,ML2.9/1,MS3.1/2,Ms1 3.2/2, ms1mx2.8/19,Error ellipse: s-maj=98.2km s-min=18.6km az=67.0*
ISC 17 19:55:37.3±0.7,**30.46N**±0.06×**131.30E**±0.06,**h29^{km},n20, σ1^{s}17**/20,**mb3.9**/9,**MS3.1**/1,**3C-2D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.34	305	⇓P	Pb	19 55 45.5	+0.4
JTN				S	Sb	19 55 50.5	0.0
JKC	Kuchinoerabu	0.95	270	⇓P	Pn	19 55 55.4	+0.6
JKC				*e*S	Sb	19 56 07.3	-0.1
JNAR	Kushima--Naru	1.06	359	⇑P	Pn	19 55 57.7	+1.3
JSU	Suzuyama	1.27	325	P	Pn	19 55 59.7	+0.4
JTZ	Takazaki	1.45	353	⇑P	Pn	19 56 03.3	+1.4
JZO	Okuchi	1.78	340	⇑P	Pn	19 56 07.3	+0.7
JSJ	Shimokoshiki	1.82	312	P	Pn	19 56 07.4	+0.2
JNU	Nakatsue	2.68	352	P	Pn	19 56 20.4	+0.9
	4.2nm,0.3s,baz=79,slow=0.3,SNR=24						
MAJO	Matsushiro	8.37	42	P	P	19 57 38.6	-1.0
ASAJ	Asahikawa	16.30	30	LR	LR	20 06 42.2	
	comp=Z,62nm,18.6s,baz=359,slow=41						
SONM	Songino Array	25.79	319	P	P	20 01 04.7	-2.6
	0.8nm,0.9s,mb3.3,baz=140,slow=10,SNR=5.5						
CMAR	Chiang Mai Arr	31.67	255	LR	LR	20 16 46.1	
	comp=Z,39nm,20.1s,MS3.1,baz=190,slow=40						
MKAR	Makanchi Array	40.92	308	P	P	20 03 17.1	-1.5
	0.5nm,0.8s,mb3.2,baz=104,slow=5.0,SNR=3.9						
BRVK	Borovoye	49.10	316	P	P	20 04 19.8	-4.0
	1.8nm,0.6s,mb4.3						
ZRNK	Zerenda	49.87	316	*e*P	P	20 04 27.3	-2.5
	1.9nm,0.8s,mb4.2						
WRA	Warramunga Arr	50.20	176	P	P	20 04 33.1	+0.4
	0.7nm,0.6s,mb3.8,baz=353,slow=8.1,SNR=8.7						
ASAR	Alice Springs	53.88	177	P	P	20 05 02.0	+1.8
	0.8nm,0.9s,mb3.7,baz=8.7,slow=12,SNR=12						
STKA	Stephens Creek	62.76	170	P	P	20 06 02.8	+0.5
	1.2nm,0.8s,mb4.0,baz=334,slow=8.8,SNR=3.2						
INK	Inuvik	63.94	24	*e*P	P	20 06 08.9	-0.6
	1.5nm,0.6s,mb4.2						
FINES	FINESS Array B	70.52	331	P	P	20 06 49.2	-1.8
	1.2nm,0.7s,mb3.9,baz=37,slow=6.9,SNR=3.0						

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*NEIC **17** 20:28:32.9,32.44S×71.63W,h28^{km},ML2.6(GUC),After GUC.*
GUC 17 20:28:32.9±0.8,**32.44S**×**71.63W,h28**^{km}±5^{km},**MD3.5, ML2.6,2C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	1.06	132	*e*S	Sn	20 29 06.9	+0.8
PEL				AMP		20 29 08.5	
	comp=N,327nm,0.3s						
RCDM	Rinconada Maip	1.26	147	*i* P	Pn	20 28 54.9	0.0
RCDM				*i* S	Sn	20 29 11.3	+0.3
RCDM				AMP		20 29 12.1	
	comp=E,269nm,0.1s						
FCH	Farellones	1.44	128	⇑*i*P	Pn	20 28 58.3	+0.8
FCH				*i* S	Sn	20 29 17.2	+1.6
FCH				AMP		20 29 18.3	
	comp=N,120nm,0.3s						
LNV	Longovilo	1.52	173	*e*P	Pn	20 28 57.4	-1.4
LNV				*e*S	Sn	20 29 17.2	-0.6
CHCH	Chadas Angostu	1.70	151	*e*P	Pn	20 29 02.1	+0.9
CHCH				*e*S	Sn	20 29 23.7	+1.3
LMEL	Las Melosas	1.85	140	⇑*i*P	Pn	20 29 04.4	+1.0
LMEL				*i* S	Sn	20 29 28.8	+2.7
LMEL				AMP		20 29 33.8	
	comp=N,108nm,0.1s						

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*ISK **17** 20:30:14.3,39.25N×41.05E,h5^{km},MD3.5*
ISC 17 20:30:15.9±0.4,**39.28N**±0.03×**41.03E**±0.04,**h5^{km},n18, σ0^{s}94**/25,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.58	226	*i* PG	Pg	20 30 26.4	-1.2
EZM	Erzurum	0.68	22	*i* PG	Pg	20 30 28.7	-0.7
ERZM	Erzurum	0.68	22	*i* P	Pg	20 30 28.6	-0.8
ERZM				*i* S	Sg	20 30 39.4	+0.9
EZC	Erzincan	1.05	297	PN	Pn	20 30 41.7	+4.5
BTMT	Batman	1.14	162	*i* PN	Pn	20 30 37.2	-1.3
BTMT				*i* SN	Sn	20 30 53.8	-0.9
BEST	Besiri	1.40	172	*i* P	Pb	20 30 41.8	-0.4
BEST				*i* S	Sb	20 31 01.6	+1.3
DIY	Diyarbakir	1.52	205	*e*PN	Pn	20 30 44.0	+0.1
KELT	Kelkit	1.62	303	*i* P	Pn	20 30 45.2	-0.2
KELT				*i* S	Sb	20 31 10.3	+3.6
GUMT	Gumushane	1.68	315	PN	Pn	20 30 46.3	+0.1
ELZG	Elazig	1.78	245	*i* P	Pn	20 30 47.2	-0.4
ELZG				*i* S	Sn	20 31 13.1	+2.3
VANB	Van	1.96	110	*e*PN	Pn	20 30 50.2	0.0
TVAN	Van	2.00	111	*i* P	Pn	20 30 51.2	+0.4
TVAN				*i* S	Sn	20 31 19.6	+3.2
KARS	Kars	2.07	49	PN	Pn	20 30 51.8	0.0
MYA	Malataya	2.25	246	*e*PN	Pn	20 30 54.7	+0.4
MALT	Malatya	2.25	245	*e*PN	Pn	20 30 54.3	-0.1
SVSK	Karacayir	3.18	283	*e*PN	Pn	20 31 07.9	+0.3
SVST	Sivas	3.19	280	*i* P	Pn	20 31 12.7	+4.9
SVST				*i* S	Sg	20 32 01.4	-0.8
TOKT	Tokat	3.61	288	*e*PN	Pn	20 31 13.8	+0.1

WEL 17 20:59:56.0±0.5,**38.39S**×**178.85E,h20**^{km}±3^{km},**ML3.7**/3, **3C,Error ellipse: s-maj=4.2km s-min=1.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	0.56	304	⇑P*	Pb	21 00 07.1	0.0
PUZ				S*	Sb	21 00 15.7	+1.1
MXZ	Matakaoa Point	0.93	332	⇑P*	Pb	21 00 12.8	-0.5
MXZ				S*	Sb	21 00 26.2	+1.0
MWZ	Matawai	1.04	273	⇑PN	Pn	21 00 14.6	-0.9
MWZ				S*	Sb	21 00 28.2	-0.3
KNZ	Kokohu	1.12	235	PN	Pn	21 00 16.0	-0.6
URZ	Urewera	1.38	275	PN	Pn	21 00 19.9	-0.4
URZ				SN	Sn	21 00 36.7	-1.4
BKZ	Black Stump Fm	2.00	246	PN	Pn	21 00 28.6	-0.7
BKZ				SN	Sn	21 00 52.1	-1.8
MOVZ	Moawhango	2.62	246	*e*PN	Pn	21 00 36.7	-1.5
TSZ	Takapari Road	2.80	232	PN	Pn	21 00 38.0	-2.7
TSZ				SN	Sn	21 01 11.3	-2.9
LTZ	Lake Taylor	6.66	227	*e*PN	Pn	21 01 28.7	-6.6
MQZ	McQueen's Vall	7.08	219	SN	Sn	21 02 47.9	-14

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*GUC **17** 21:23:17.5±0.6,27.40S×70.66W,h45^{km}±9^{km},ML4.4*
*NEIC **17** 21:23:17.5,27.40S×70.66W,h45^{km},mb4.3/2,After GUC.*
NEIC Felt [IV] at Caldera and [III] at Chanaral, Copiapo, Inca de Oro and Tierra Amarilla.
*IDC **17** 21:23:22.6±0.7,27.34S×70.57W,h53^{km}±4^{km},mb3.7/4, mb1 3.8/7,mb1mx3.7/16,MS3.2/5,Ms1 3.2/5,ms1mx2.9/19, Error ellipse: s-maj=25.7km s-min=13.1km az=100.0*
ISC 17 21:23:20.4±0.9,**27.30S**±0.03×**70.8W**±0.1,**h54**^{km}±7^{km},**n28, σ1^{s}21**/23,**mb4.0**/4,**MS3.5**/3,**7C-1D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	0.38	99	⇑*i*P	P	21 23 31.7	+1.0
CPCH				*i* S	S	21 23 38.2	0.0
VACH	Vallenar	1.27	179	⇓*i*P	P	21 23 38.2	-4.0
VACH				*i* S	S	21 23 53.9	-4.5
VACH				AMP		21 23 57.2	
	comp=E,14µm,0.4s						
CPN1	Cerro Paranal	2.69	7	*i* P	P	21 24 02.7	+0.4
CPN1				*i* S	S	21 24 34.0	+0.4
CPN1				AMP		21 24 51.3	
	comp=E,1µm,0.3s						
TLL	Tololo Astrono	2.86	181	⇑*i*P	P	21 24 05.1	+0.5
TLL				*i* S	S	21 24 37.6	-0.4
TLL				AMP		21 24 56.2	
	comp=N,2µm,0.6s						
ANCH	Antofagasta	3.62	5	*i* S	S	21 24 54.9	-2.4
LVC	Limon Verde	4.96	20	P	P	21 24 34.8	+0.5
	comp=N,4.5nm,0.3s,baz=177,slow=7.9,SNR=41						
LVC				S	S	21 25 31.6	+0.5
	comp=N,20nm,0.3s,baz=344,slow=18,SNR=6.9						
LPAZ	La Paz	11.23	13	P	P	21 25 59.6	-1.2
	comp=N,0.3nm,0.3s,baz=224,slow=11,SNR=6.5						
CPUP	Villa Florida	12.05	88	P	P	21 26 15.2	+3.4
	comp=N,0.1nm,0.3s,baz=286,slow=15,SNR=2.5						
CPUP				LR	LR	21 31 12.7	
	comp=N,56nm,20.5s,baz=355,slow=40						
TRQA	Tornquist	13.03	148	P	P	21 26 22.2	-2.5
PLCA	Paso Flores	13.40	179	LR	LR	21 31 54.9	
	comp=N,38nm,20.4s,baz=357,slow=38						
SAML	Samuel	19.61	23	P	P	21 27 41.8	-5.3
	comp=N,3.4nm,0.6s						
BDFB	Brasilia	24.10	66	P	P	21 28 31.3	-0.8
	comp=N,6.1nm,0.7s,mb4.1,baz=244,slow=10,SNR=6.9						
BDFB				pP		21 28 46.2	
	comp=N,5.9nm,0.9s,baz=212,slow=16,SNR=3.3						
BDFB				sP		21 28 52.5	
	comp=N,5.3nm,0.8s,baz=227,slow=10,SNR=2.8						
BDFB				LR	LR	21 38 54.4	
	comp=N,55nm,20.3s,MS3.0,baz=294,slow=39						
VNA1	Neumayer--Stat	55.46	159	⇑*i*	P	21 32 52.1	+0.7
VNA1	Neumayer--Stat	55.46	159		sP	21 33 15.1	+2.8
VNA2	Neumayer--Watz	55.81	159	⇑*i*	P	21 32 55.7	+1.7
VNA2	Neumayer--Watz	55.81	159	⇑*i*	sP	21 33 17.3	+2.4
SNAA	Sanae	57.41	160	⇑*i*	P	21 33 04.3	-1.1
SNAA	Sanae	57.41	160	⇑*i*	sP	21 33 25.5	-0.9
SNAA	Sanae	57.41	160	P	P	21 33 04.8	-0.7
	comp=N,0.4nm,0.4s,mb3.8,baz=279,slow=11,SNR=24						
SNAA				pP	pP	21 33 18.6	-1.5
	comp=N,0.6nm,0.6s,baz=288,slow=9.5,SNR=4.1						
SNAA				sP	sP	21 33 25.4	-1.0
	comp=N,2.0nm,0.6s,baz=285,slow=7.3,SNR=15						
SNAA	Sanae	57.41	160	*e*P	P	21 33 04.2	-1.2
	comp=N,6.7nm,0.6s,mb4.8						
SNAA				*e*	pP	21 33 18.7	-1.5
SNAA				*e*		21 33 25.3	
DBIC	Dimbokro	72.06	72	P	P	21 34 40.8	-0.3
	comp=N,1.8nm,0.6s,mb4.2,baz=236,slow=8.8,SNR=5.7						
DBIC				sP	sP	21 35 02.1	0.0
	comp=N,4.9nm,0.8s,baz=162,slow=7.1,SNR=3.4						
DBIC				LR	LR	22 02 38.3	
	comp=N,32nm,19.0s,MS3.6,baz=101,slow=33						
PDAR	Pinedale Array	78.34	332	P	P	21 35 18.0	+1.5
	comp=N,0.2nm,0.5s,mb3.3,baz=111,slow=7.7,SNR=2.6						
PDAR				pP	pP	21 35 33.6	+1.8
	comp=N,0.3nm,0.8s,baz=141,slow=5.8,SNR=2.6						
NVAR	Mina Array Bea	79.08	324	pP	pP	21 35 37.2	+1.2
	comp=N,0.6nm,0.7s,baz=146,slow=5.2,SNR=3.7						
ULM	Lac du Bonnet	80.36	344	LR	LR	22 11 41.4	
	comp=N,43nm,18.6s,MS3.8,baz=2.8,slow=36						
ASAR	Alice Springs	124.01	208	PKP	PKPdf	21 42 16.3	+3.1
	comp=N,0.1nm,0.4s,baz=153,slow=2.0,SNR=2.4						
ASAR				pPKP		21 42 29.8	
	comp=N,0.4nm,0.7s,baz=120,slow=1.9,SNR=3.2						
WRA	Warramunga Arr	127.11	210	pPKP		21 42 36.3	
	comp=N,0.3nm,0.5s,baz=153,slow=1.8,SNR=3.2						
MKAR	Makanchi Array	151.23	40	PKPbc	PKPdf	21 43 09.6	+8.2
	comp=N,2.4nm,0.6s,baz=319,slow=2.1,SNR=26						
MKAR				pPKPbc		21 43 25.2	
	comp=N,3.9nm,0.5s,baz=318,slow=1.9,SNR=23						
MKAR	Makanchi Array	151.23	40	PKPbc	PKPdf	21 43 09.6	+8.2
MKAR				pPKPbc		21 43 25.2	

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*JMA **17** 21:26:08.6±0.3,31.14N×137.96E,h514^{km},M3.5*
*IDC **17** 21:26:09.4±0.8,30.81N×137.67E,h489^{km}±17^{km},mb2.6/4, mb1 2.9/7,mb1mx2.7/23,Error ellipse: s-maj=35.5km s-min=15.3km az=64.0*
ISC 17 21:26:08.0±0.8,**31.0N**±0.1×**137.9E**±0.2,**h509**^{km}±11^{km}, **n14,σ0^{s}86**/15,**mb3.1**/4,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.65	36	P	P	21 27 17.8	-0.4
	16nm,0.3s,baz=80,slow=21,SNR=11						
JHJ				S	S	21 28 16.3	+2.7
	5.8nm,0.3s,baz=68,slow=19,SNR=2.9						
JHJ2	Mitsune	2.66	36	P	P	21 27 17.7	-0.5
JWZ	Kozaga	3.16	324	P	P	21 27 21.1	-0.3
JKN	Kiinagashima	3.55	337	P	P	21 27 24.0	-0.2
JIE	Ise	3.56	343	P	P	21 27 25.0	+0.8
JRY	Ryogami san	5.09	9	P	P	21 27 37.3	+0.2
JAG	Ashikaga	5.58	13	P	P	21 27 41.1	-0.5
JHO	Hitachi	6.03	21	*e*S	S	21 29 02.4	-1.1
JNU	Nakatsue	6.36	291	P	P	21 27 48.5	-0.6
	0.8nm,0.3s,baz=108,slow=6.4,SNR=5.3						
ASAJ	Asahikawa	13.62	14	P	P	21 29 08.2	+4.2
	0.8nm,0.3s,baz=211,slow=5.9,SNR=4.6						
SONM	Songino Array	29.35	314	P	P	21 31 30.5	+0.2
	0.3nm,0.7s,mb3.0,baz=120,slow=9.8,SNR=2.9						
MKAR	Makanchi Array	45.16	307	P	P	21 33 40.6	+0.8
	0.3nm,0.7s,mb3.0,baz=90,slow=8.6,SNR=2.7						
MKAR				PcP	PcP	21 35 11.7	+1.8
	0.1nm,0.3s,baz=90,slow=4.3,SNR=4.4						
WRA	Warramunga Arr	50.74	184	P	P	21 34 21.6	-0.7
	1.2nm,0.7s,mb3.4,baz=3.9,slow=7.8,SNR=21						
ASAR	Alice Springs	54.47	185	P	P	21 34 49.5	+0.4
	0.5nm,0.6s,mb3.0,baz=15,slow=13,SNR=7.7						

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*NEIC **17** 21:38:00.5,33.16S×70.23W,h7^{km},ML2.7(GUC),After GUC.*
GUC 17 21:38:00.5±1.0,**33.16S**×**70.23W,h7**^{km}±2^{km},**MD3.7, ML2.7,3C-8D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.18	196	⇑*i*P	Pg	21 38 05.1	+0.8
FCH				*i* P		21 38 05.1	
FCH				*i* S	Sg	21 38 08.0	+1.2
FCH				AMP		21 38 08.7	
	comp=E,2µm,0.4s						
FCH	Farellones	0.18	196	P	Pg	21 38 05.1	+0.8
CLCH	Cerro Calan	0.35	227	⇑*i*P	Pg	21 38 08.2	+0.6
CLCH				*i* S	Sg	21 38 13.5	+1.1
CLCH				AMP		21 38 17.8	
	comp=E,3µm,0.6s						
DSCH	Colegio Aleman	0.37	229	⇓*i*P	Pg	21 38 08.8	+0.7
DSCH				*i* S	Sg	21 38 14.3	+1.3
DSCH				AMP		21 38 19.0	
	comp=N,1µm,0.7s						
PCH	Pirque	0.52	207	⇓*i*P	Pg	21 38 11.4	+0.5
PCH				*i* S	Sg	21 38 19.2	+1.2
JACH	Jahuel	0.56	327	⇓*i*P	Pg	21 38 11.7	-0.1
JACH				*i* S	Sg	21 38 19.4	+0.1
RCDM	Rinconada Maip	0.58	235	⇓*i*P	Pg	21 38 12.3	+0.1
LMEL	Las Melosas	0.69	178	⇑*i*P	Pg	21 38 14.5	+0.1
LMEL				*i* S	Sg	21 38 24.7	+1.1
LMEL				AMP		21 38 28.4	
	comp=N,169nm,0.2s						
CHCH	Chadas Angostu	0.85	204	*e*P	Pb	21 38 17.1	0.0
CHCH				*i* S	Sb	21 38 28.8	+0.3
CACH	El Canelo	1.01	198	⇓*i*P	Pb	21 38 20.5	+0.7
CACH				*i* S	Sb	21 38 34.5	+1.4
LCCH	Las Cruces	1.16	254	⇓*i*P	Pb	21 38 22.1	-0.4
LCCH				*i* S	Sb	21 38 37.6	0.0
CICH	Cipreses	1.17	188	⇓*i*P	Pb	21 38 23.1	+0.4
CICH				*i* S	Sb	21 38 39.2	+1.4
LNV	Longovilo	1.27	231	*i* P	Pb	21 38 23.3	-1.0
LNV				*i* S	Sb	21 38 40.2	-0.4
SFDO	San Fernando	1.59	204	⇓*i*P	Pn	21 38 29.7	+0.5
SFDO				*i* S	Sb	21 38 51.5	+1.4
TLL	Tololo Astrono	3.02	351	AMP		21 39 43.9	
	comp=N,83nm,0.5s						

IDC 17 22:04:02.4±5.2,**21.99S**×**169.77E,mb3.7**/2,**mb1 4.0**/2, **mb1mx3.7**/13,**Error ellipse: s-maj=218.0km s-min=54.1km az=152.0,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.08	268	*e*P	Pn	22 05 00.6	+7.3
DZM				*e*S	Sn	22 05 44.2	+13
NOUC	Port Laguerre	3.21	267	*e*P	Pn	22 05 02.5	+7.4
NOUC				*e*S	Sn	22 05 46.9	+12
ASAR	Alice Springs	33.04	260	P	P	22 10 39.6	-2.2
	1.4nm,0.6s,baz=97,slow=10.0,SNR=22						
WRA	Warramunga Arr	33.10	267	P	P	22 10 40.4	-1.9
	0.4nm,0.7s,baz=99,slow=8.5,SNR=8.7						
GERES	GERESS Array B	147.13	330	PKPbc	PKPdf	22 23 46.8	-0.2
	0.3nm,0.6s,baz=63,slow=3.0,SNR=5.7						

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*IDC **17** 22:25:13.9±2.9,13.50S×166.27E,mb3.9/4,mb1 4.0/4, mb1mx3.8/14,MS3.7/2,Ms1 3.7/2,ms1mx3.3/12,Error ellipse: s-maj=130.0km s-min=32.9km az=130.0*
ISC 17 22:25:16.5±1.1,**13.8S**±0.1×**166.5E**±0.2,**h33**^{km},**n5, σ0^{s}94**/6,**mb3.8**/4,**MS3.6**/2,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.22	156	*i* P	P	22 26 19.0	-1.1
BKM				S	S	22 27 09.6	+0.6
STKA	Stephens Creek	29.02	228	P	P	22 31 16.4	+0.8
	2.6nm,1.0s,mb3.9,baz=56,slow=7.3,SNR=4.1						
STKA				LR	LR	22 42 14.8	
	comp=Z,241nm,18.9s,MS3.8,baz=28,slow=35						
ASAR	Alice Springs	32.28	247	P	P	22 31 44.0	-0.6
	0.4nm,0.7s,mb3.4,baz=74,slow=9.7,SNR=6.3						
ASAR				LR	LR	22 43 54.2	
	comp=Z,93nm,22.0s,MS3.4,baz=18,slow=35						
ILAR	Eielson Array	85.89	18	P	P	22 37 54.1	+0.3
	0.4nm,0.4s,mb4.0,baz=245,slow=4.6,SNR=4.9						
MKAR	Makanchi Array	95.98	317	P	P	22 38 41.5	+0.1
	0.4nm,0.6s,mb4.0,baz=107,slow=5.8,SNR=4.3						

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*BGR **17** 22:31:27.1±0.3,49.39N×6.90E,h1^{km},ML1.4/2,Error ellipse: s-maj=4.4km s-min=2.2km az=62.0*
*BNS **17** 22:31:27.0±1.1,49.35N×7.02E,h1^{km},ML1.4*
*LDG **17** 22:31:27.0±0.1,49.39N×6.86E,h1^{km},Md2.2/2,Ml2.3/12, Error ellipse: s-maj=2.3km s-min=1.4km az=44.0, Suspected Mining induced.*
ISC 17 22:31:25.2±0.3,**49.36N**±0.01×**6.79E**±0.03,**n25,σ1^{s}13**/52, **Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.52	307	*e*Pg	Pg	22 31 38.2	+2.6
	SNR=3.4						
WLF				*e*Sg	Sg	22 31 44.7	+2.2
	SNR=2.9						
LANF	Langenberg	0.76	119	*e*Pg	Pg	22 31 40.3	-0.2
	SNR=3.5						
BGG	Burgeitz	0.92	22	*e*Pg	Pg	22 31 43.0	-0.6
BGG				*e*Sg	Sg	22 31 55.7	-0.2
	14nm,0.7s						
CDF	Champ du Feu	1.00	161	*e*Pg	Pg	22 31 46.5	+1.4
CDF				*e*Sg	Sg	22 31 59.5	+1.1
	8.8nm,0.2s						
WLS	Welschbruch	1.01	158	*e*Pg	Pg	22 31 46.4	+0.9
	SNR=5.5						
WLS				*e*Sg	Sg	22 31 60.0	+1.0
	SNR=0.9						
RFYF	Reffroy	1.13	231	*e*Pg	Pg	22 31 50.8	+3.0
RFYF				*e*Sg	Sg	22 32 05.1	+2.2
	10nm,0.2s						
ECH	Echery	1.17	168	*e*Pg	Pg	22 31 49.4	+0.9
	SNR=4.7						
ECH				*e*Sg	Sg	22 32 04.5	+0.5
	SNR=3.0						
KOE	Koppel	1.23	29	*e*Pg	Pg	22 31 49.4	-0.4
KOE				*e*Sg	Sg	22 32 05.1	-1.1
STB	Steinbach	1.24	1	*e*Pg	Pg	22 31 50.0	0.0
STB				*e*Sg	Sg	22 32 07.3	+0.8
	6.7nm,0.8s						
THEF	They Montfort	1.25	206	*e*Pg	Pg	22 31 51.3	+1.1
	SNR=2.9						
THEF				*e*Sg	Sg	22 32 08.4	+1.6
	SNR=3.7						
KLL	Kalltalsperre	1.33	347	*e*Pg	Pg	22 31 52.0	+0.2
KLL				*e*Sg	Sg	22 32 09.0	-0.5
HAU	Haudompre	1.38	192	*e*Pg	Pg	22 31 53.7	+0.9
HAU				*e*Sg	Sg	22 32 10.8	-0.5
	5.2nm,0.3s						
MEZF	Maizieres J'vi	1.43	234	*e*Pg	Pg	22 31 55.0	+1.2
MEZF				*e*Sg	Sg	22 32 13.3	+0.4
	4.6nm,0.4s						
BFO	Black Forest	1.44	135	*e*Pg	Pg	22 31 53.8	-0.3
	SNR=2.7						
BFO				*e*Sg	Sg	22 32 11.9	-1.4
	SNR=4.0						
HGN	Heimansgroeve	1.52	339	*e*Pn	Pn	22 31 54.2	+0.5
	SNR=0.8						
HGN				*e*Pg	Pg	22 31 55.3	-0.2
	SNR=2.0						
HGN				*e*Sg	Sg	22 32 15.3	-0.4
	SNR=2.3						
MOF	Molkenrain	1.52	171	*e*Pn	Pn	22 31 55.1	+1.3
	SNR=3.2						
MOF				*e*Sg	Sg	22 32 16.0	0.0
	SNR=3.8						
HINF	Hinteralfeld	1.54	178	*e*Pg	Pg	22 31 56.1	+0.1
HINF				*e*Sg	Sg	22 32 15.7	-0.8
	9.9nm,0.3s						
SFTF	Sexfontaines	1.63	226	*e*Pg	Pg	22 31 57.1	-0.8
SFTF				*e*Sg	Sg	22 32 20.3	+0.7
	3.2nm,0.2s						
BAIF	Baives	1.82	294	*e*Pn	Pn	22 31 58.2	+0.2
BAIF				*e*Pg	Pg	22 32 01.0	-0.5
BAIF				*e*Sg	Sg	22 32 25.2	-0.6
	2.1nm,0.3s						
CABF	La Chapelle	2.79	190	*e*Pn	Pn	22 32 11.7	-0.2
CABF				*e*Sg	Sg	22 32 55.6	-2.4
	5.0nm,0.6s						
LOR	Lormes	2.86	224	*e*Pn	Pn	22 32 12.5	-0.5
LOR				*e*Sn	Sn	22 32 46.7	-1.9
LOR				*e*Sg	Sg	22 32 59.1	-1.4
	1.5nm,0.2s						
SSF	Saint Saulge	3.18	225	*e*Pn	Pn	22 32 17.2	-0.3
SSF				*e*Sn	Sn	22 32 53.9	-2.7
SSF				*e*Sg	Sg	22 33 07.0	-4.0
	1.3nm,0.4s						
SMF	Signal de Mont	3.36	217	*e*Pn	Pn	22 32 19.1	-0.9
AVF	Avril sur Loir	3.45	223	*e*Pn	Pn	22 32 20.3	-1.0
AVF				*e*Sn	Sn	22 33 00.2	-3.3
AVF				*e*Sg	Sg	22 33 17.0	-3.1
	1.0nm,0.4s						
HYF	Humbligny	3.47	235	*e*Pn	Pn	22 32 21.0	-0.6

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*ISK **17** 22:36:41.2,37.79N×30.83E,h7^{km},MD3.7*
*IDC **17** 22:36:42.1±1.7,37.73N×30.85E,mb3.5/1,mb1 3.7/6, mb1mx3.5/21,ML3.2/5,MS2.9/3,Ms1 3.0/3,ms1mx2.4/21, Error ellipse: s-maj=27.1km s-min=21.7km az=17.0*
*NEIC **17** 22:36:43.9±0.7,37.71N×30.84E,h10^{km},Error ellipse: s-maj=12.7km s-min=8.9km az=56.0*
ISC 17 22:36:41.4±1.0,**37.76N**±0.04×**30.82E**±0.05,**h5**^{km}±9^{km}, **n32,σ0^{s}79**/33,**mb3.4**/1,**MS2.9**/1,**1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISP	Isparta	0.26	289	*i* PG	Pg	22 36 45.9	-0.7
ISP				*i* SG	Sg	22 36 51.0	+0.9
ANTB	Antalya	0.87	189	PG	Pg	22 36 59.5	+0.7
KHL	Karahalli	1.17	299	PN	Pn	22 37 03.5	-0.8
KONT	Konya--Tatoy	1.23	81	PN	Pn	22 37 05.0	-0.3
ELL	Elmali	1.24	216	PN	Pn	22 37 05.8	+0.3
ALT	Altintas	1.41	337	PN	Pn	22 37 07.4	-0.4
DENT	Denizli	1.41	270	PN	Pn	22 37 07.7	-0.2
HDMB	Hadim	1.55	120	PN	Pn	22 37 09.2	-0.6
ESKT	Eskisehir	1.76	1	PN	Pn	22 37 13.1	+0.3
DALT	Dalyan (Mudla)	2.00	241	*e*PN	Pn	22 37 17.2	+0.9
YER	Yerkesik	2.11	254	*e*PN	Pn	22 37 18.1	+0.2
DST	Dursunbey	2.52	318	PN	Pn	22 37 24.2	+0.5
ANTO	Ankara	2.61	36	*e*PN	Pn	22 37 23.9	-1.1
MDU	Mudurnu	2.72	6	*e*PN	Pn	22 37 26.3	-0.3
IKL	Isikli	2.75	123	*e*PN	Pn	22 37 27.5	+0.4
KAMT	Kaman	2.78	54	*e*PN	Pn	22 37 27.3	-0.1
IZM	Izmir	2.88	284	*e*PN	Pn	22 37 28.8	0.0
BRTR	Keskin Array B	2.95	47	Pn	Pn	22 37 29.9	0.0
	1.5nm,0.3s,baz=222,slow=16,SNR=26						
BRTR				Sn	Sn	22 38 08.2	+2.0
	2.7nm,0.3s,baz=230,slow=24,SNR=8.9						
BALB	Balikesir	2.97	310	*e*PN	Pn	22 37 29.6	-0.5
ALFC	Alevga	2.97	151	P	Pn	22 37 30.1	0.0
YLV	Yalova	3.02	339	*e*PN	Pn	22 37 30.7	-0.1
MAMC	Mammari	3.23	142	P	Pn	22 37 34.0	+0.2
SZAC	Souni-Zanaja	3.43	150	⇓P	Pn	22 37 37.8	+1.1
BNT	Bandirma	3.44	320	*e*PN	Pn	22 37 36.2	-0.6
CSS	Prodhromos	3.45	143	P	Pn	22 37 36.2	-0.8
IDI	Anoyia	5.37	244	Pn	Pn	22 38 02.5	-1.7
	0.4nm,0.3s,baz=288,slow=20,SNR=4.1						
MALT	Malatya	6.03	82	P	Pn	22 38 13.4	-0.1
	1.7nm,0.6s						
ASF	Jabal al Asfar	7.48	136	Pn	Pn	22 38 33.9	0.0

	0.2nm,0.3s,baz=157,slow=4.5,SNR=3.8						
ASF				LR	LR	22 41 38.9	
	comp=Z,67nm,20.1s,baz=36,slow=40						
MLR	Muntele Rosu	8.54	336	Pn	P	22 38 49.1	+0.5
	0.2nm,0.3s,baz=206,slow=17,SNR=6.0						
MLR				LR	LR	22 42 47.8	
	comp=Z,85nm,18.6s,baz=60,slow=43						
GERES	GERESS Array B	16.63	317	Pn	P	22 40 39.4	+2.7
	0.0nm,0.3s,baz=130,slow=10,SNR=6.7						
NOA	NORSAR Array B	26.35	338	LR	LR	22 54 27.1	
	comp=Z,30nm,18.9s,MS2.9,baz=125,slow=40						
MKAR	Makanchi Array	38.53	60	P	P	22 44 05.5	-0.9
	0.6nm,0.8s,mb3.4,baz=270,slow=4.9,SNR=6.0						

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*IDC **17** 22:56:29.8±1.6, 13.52N×121.03E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, Error ellipse: s-maj=62.3km s-min=25.7km az=60.0*

*MAN **17** 22:56:31.8, 13.55N×120.78E, h10^{km}, mb4.4, ML3.2, MS3.0*

MAN F Intensity II Puerto Galera.

ISC 17 22:56:32.5±0.6**, 13.59N**±0.03×**120.79E**±0.03**, h23**^{km}±7^{km}**, n17, σ1^{s}14**/27**, mb3.5**/4**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.55	285	eP	Pb	22 56 43.2	-0.2
LUBP				eS	Sb	22 56 51.7	+0.8
LQP	Lukban	0.89	54	⇑eP	Pb	22 56 48.7	-0.4
LQP				eS	Sb	22 57 01.1	+0.5
BOAC	Boac	1.03	97	eP	Pb	22 56 50.6	-1.0
BOAC				eS	Sb	22 57 04.0	-0.6
SJMP	San Jose	1.17	164	eP	Pn	22 56 53.4	-0.2
SJMP				eS	Sb	22 57 10.0	+1.4
POLP	Polilio Island	1.58	44	eP	Pn	22 56 59.2	-0.4
POLP				eS	Sn	22 57 22.9	+3.4
GQP	Guinayangan	1.64	79	eP	Pn	22 57 00.7	+0.4
BUSP	Coron	1.68	200	eP	Pn	22 57 00.8	-0.2
BUSP				eS	Sn	22 57 23.6	+1.6
OTRP	Odiongan	1.71	135	eP	Pn	22 57 00.3	-1.0
OTRP				eS	Sn	22 57 23.2	+0.6
AUQP	San Andres	1.85	98	eP	Pn	22 57 05.8	+2.4
AUQP				eS	Sn	22 57 34.3	+8.1
BALP	Baler	2.27	19	eP	Pn	22 57 07.5	-1.8
BALP				eS	Sn	22 57 43.3	+6.5
ENPP	El Nido	2.72	210	eP	Pn	22 57 15.2	-0.6
ENPP				eS	Sn	22 57 46.7	-1.6
CUYO	Cuyo Island	2.73	175	eP	Pn	22 57 15.6	-0.4
BOLP	Bolinao	2.90	343	eP	Pn	22 57 17.9	-0.5
CMAR	Chiang Mai Arr	21.54	286	P	P	23 01 23.9	+1.5
	0.5nm,0.4s,mb3.3,baz=94,slow=8.3,SNR=5.1						
WRA	Warramunga Arr	35.89	158	P	P	23 03 30.5	-2.6
	0.3nm,0.4s,mb3.6,baz=332,slow=10,SNR=6.1						
SONM	Songino Array	36.19	344	P	P	23 03 35.0	-0.3
	0.3nm,0.5s,mb3.5,baz=160,slow=9.7,SNR=3.9						
MKAR	Makanchi Array	46.17	324	P	P	23 04 57.7	+0.4
	0.6nm,0.7s,mb3.6,baz=139,slow=8.7,SNR=5.9						

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*NEIC **18** 00:01:36.8±3.3, 7.54S×128.62E, h111^{km}±31^{km}, mb3.8/1, Error ellipse: s-maj=35.5km s-min=17.2km az=50.0*

*IDC **18** 00:01:37.7±4.6, 7.62S×128.43E, h117^{km}±43^{km}, mb3.4/4, mb1 3.7/7, mb1mx3.6/13, Error ellipse: s-maj=42.6km s-min=19.0km az=60.0*

ISC 18 00:01:38.5±3.3**, 7.7S**±0.1×**128.4E**±0.2**, h149**^{km}±34^{km}**, n11, σ0^{s}97**/12**, mb3.6**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.65	194	P	P	00 04 10.6	+2.6
	1.1nm,0.3s,baz=22,slow=8.3,SNR=21						
FITZ				S	S	00 06 04.5	-0.5
	0.6nm,0.3s,baz=18,slow=19,SNR=4.0						
WRA	Warramunga Arr	13.45	155	P	P	00 04 42.6	-1.8
	2.1nm,0.3s,baz=336,slow=13,SNR=28						
WRA				S	S	00 07 05.9	-4.7
	1.5nm,0.3s,baz=330,slow=22,SNR=7.4						
ASAR	Alice Springs	16.71	162	P	P	00 05 25.4	0.0
	0.6nm,0.3s,baz=335,slow=12,SNR=18						
ASAR				S	S	00 08 24.8	-0.1
	0.5nm,0.3s,baz=346,slow=26,SNR=6.0						
CTA	Charters Tower	21.24	127	P	P	00 06 14.6	+0.7
	1.2nm,0.5s,mb3.5,baz=312,slow=14,SNR=2.2						
CTA	Charters Tower	21.24	127	P	P	00 06 14.6	+0.7
STKA	Stephens Creek	27.00	155	P	P	00 07 09.4	+0.9
	2.3nm,1.1s,mb3.7,baz=328,slow=9.5,SNR=2.0						
STKA				pP	pP	00 07 35.7	-3.8
	2.6nm,1.1s,baz=310,slow=8.2,SNR=3.0						
SONM	Songino Array	58.63	343	P	P	00 11 22.1	-0.1
	0.2nm,0.4s,mb3.3,baz=163,slow=8.8,SNR=2.6						
MKAR	Makanchi Array	67.96	328	P	P	00 12 23.6	+0.1
	1.4nm,0.5s,mb4.0,baz=118,slow=8.2,SNR=29						
KURK	Kurchatov	72.30	329	eP	P	00 12 48.8	-0.7
	1.2nm,0.6s,mb3.8						
CPUP	Villa Florida	145.70	171	PKPbc	PKPbc	00 21 04.0	+3.3
	0.6nm,0.5s,baz=79,slow=6.8,SNR=2.5						
LPAZ	La Paz	151.08	146	PKPbc	PKPdf	00 21 18.5	+10
	0.4nm,0.3s,baz=1.2,slow=2.3,SNR=2.9						

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*NEIC **18** 00:49:47.9, 27.62S×71.14W, h28^{km}, ML4.4(GUC), After GUC.*

GUC 18 00:49:47.9±0.7**, 27.62S×71.14W, h28**^{km}±6^{km}**, MD4.3, ML4.4, 2C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	0.75	70	⇑iP	Pb	00 50 06.8	+4.6
CPCH				i S	Sb	00 50 17.4	+5.3
CPCH				AMP		00 50 20.1	
	comp=E,102µm,0.1s						
VACH	Vallenar	1.01	161	⇑iP	Pn	00 50 06.1	-0.3
VACH				i S	Sb	00 50 19.3	-0.4
VACH				AMP		00 50 19.9	
	comp=E,23µm,0.3s						
LSCH	La Serena	2.29	182	i P	Pn	00 50 27.0	+2.3
LSCH				i S	Sn	00 50 53.1	+0.9
LSCH				AMP		00 50 59.4	
	comp=E,613nm,0.3s						
TLL	Tololo Astrono	2.56	173	i P	Pn	00 50 32.2	+3.6
TLL				i S	Sn	00 51 01.4	+2.2
TLL				AMP		00 51 14.0	
	comp=N,876nm,0.6s						
CPN1	Cerro Paranal	3.05	13	i P	Pn	00 50 36.2	+0.7
CPN1				AMP		00 51 11.8	
	comp=E,580nm,0.2s						
CMCH	Combarbala	3.55	178	i S	Sn	00 51 23.9	-0.2
CMCH				AMP		00 51 40.2	
	comp=N,1µm,0.7s						
LVC	Limon Verde	5.38	23	eP	Pn	00 51 08.8	+0.4
	comp=N,20nm,0.2s						

IDC 18 01:13:03.2±53.0**, 20.11S×177.45W, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/14**, Error ellipse: s-maj=975.0km s-min=159.6km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.42	244	P	P	01 20 26.5	-1.8
	0.9nm,0.4s,baz=78,slow=11,SNR=5.1						
ASAR	Alice Springs	45.11	256	P	P	01 21 21.4	-1.9
	1.5nm,0.5s,baz=99,slow=7.6,SNR=21						
ASPA	Alice Springs	45.11	256	eP	P	01 21 21.8	-1.5
WB2	Warramunga Arr	45.16	262	eP	P	01 21 21.9	-1.8
WRA	Warramunga Arr	45.17	262	P	P	01 21 22.1	-1.6
	1.0nm,0.3s,baz=97,slow=7.5,SNR=16						

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*STR **18** 01:36:25.8±0.2, 42.45N×0.57E, h10^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **18** 01:36:25.8, 42.45N×0.57E, h10^{km}, ML2.5(LDG), ML2.4(STR), MN2.3(MDD), After STR.*

*LDG **18** 01:36:26.2±0.2, 42.45N×0.57E, h2^{km}, Md2.6/2, Ml2.5/12, Error ellipse: s-maj=2.7km s-min=1.4km az=177.0*

MDD 18 01:36:26.4±0.3**, 42.45N×0.58E, h8**^{km}±3^{km}**, mbLg2.0**/18**, Error ellipse: s-maj=2.1km s-min=1.6km az=50.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RESF	Ens	0.40	334	Pg	Pg	01 36 33.8	-0.8
RESF				Sg	Sg	01 36 39.8	-0.3
RESF	Ens	0.40	334	Pg	Pg	01 36 33.8	-0.8
RESF				Lg		01 36 39.4	
CSOR	Sort	0.42	99	Pg	Pg	01 36 33.9	-1.0
CSOR				Lg		01 36 40.5	
	26nm,0.2s						
MELF	Melles	0.45	17	Pg	Pg	01 36 34.7	-0.8
MELF				Sg	Sg	01 36 41.5	0.0
MELF	Melles	0.45	17	Pg	Pg	01 36 34.8	-0.7
MELF				Lg		01 36 41.5	
SALF	Salau	0.55	55	Pg	Pg	01 36 36.3	-1.2
SALF				Sg	Sg	01 36 44.2	-0.7
SALF	Salau	0.55	55	Pg	Pg	01 36 36.4	-1.1
SALF				Lg		01 36 43.6	
CAVN	Les Avellanes	0.58	167	Pg	Pg	01 36 36.5	-1.5
CAVN				Lg		01 36 44.9	
	46nm,0.1s						
CORG	Organya	0.59	111	Pg	Pg	01 36 36.8	-1.5
CORG				Lg		01 36 46.1	
	5.8nm,0.1s						
VIEF	Viey	0.60	317	Pg	Pg	01 36 37.1	-1.4
VIEF				Sg	Sg	01 36 45.3	-1.2
VIEF	Viey	0.60	317	Pg	Pg	01 36 37.2	-1.3
VIEF				Lg		01 36 45.2	
EPF	Esparros	0.61	343	ePg	Pg	01 36 37.7	-1.0
EPF				eSg	Sg	01 36 46.3	-0.6
	28nm,0.3s						
MLS	Moulis	0.64	36	Pg	Pg	01 36 38.0	-1.3
MLS				Sg	Sg	01 36 47.0	-0.8
MLS	Moulis	0.64	36	Pg	Pg	01 36 38.1	-1.1
MLS				Lg		01 36 47.3	
LABF	Labassere	0.71	329	Pg	Pg	01 36 39.6	-1.0
LABF				Sg	Sg	01 36 49.0	-1.1
LABF	Labassere	0.71	329	Pg	Pg	01 36 39.3	-1.3
LABF				Lg		01 36 49.1	
GRBF	Gourbit	0.81	60	Pg	Pg	01 36 41.5	-1.2
GRBF				Lg		01 36 52.1	
EMIR	Miracle	0.88	127	Pg	Pg	01 36 42.0	-2.1
	5.3nm,0.1s,SNR=27						
EMIR				Lg		01 36 55.1	
	8.9nm,0.1s						
ETSF	Etsaut	0.95	299	ePg	Pg	01 36 43.6	-1.9
ETSF				eSg	Sg	01 36 56.5	-1.8
	15nm,0.3s						
CLLI	Llivia	1.03	88	Pn	Pn	01 36 44.9	-2.1
ESAC	San Caprasio	1.06	228	Pg	Pg	01 36 46.9	-0.7
	16nm,0.2s,SNR=14						
ESAC				Lg		01 37 01.5	
	172nm,0.3s,SNR=21						
VALF	Valcebollere	1.07	92	Lg		01 37 01.5	
EPOB	Poblet	1.15	161	Pg	Pg	01 36 47.3	-2.2
	3.5nm,0.1s,SNR=17						
EPOB				Lg		01 37 02.7	
	13nm,0.1s						
SJPF	Ste Jean	1.49	297	ePg	Pg	01 36 54.3	-1.8
SJPF				eSg	Sg	01 37 13.5	-2.5
	7.3nm,0.2s						
MTLF	Montolieu	1.50	53	ePg	Pg	01 36 54.7	-1.7
MTLF				eSg	Sg	01 37 14.1	-2.4
	7.6nm,0.3s						
EBR	Ebro Roquetas	1.62	182	eSN	Sn	01 37 07.7	-9.0
EJON	La Jonquera	1.71	89	Pg	Pg	01 36 58.3	-2.2
	2.3nm,0.3s,SNR=8.1						
EJON				Lg		01 37 21.6	
	10nm,0.2s,SNR=14						
EALK	Alkurruntz	1.72	298	Pg	Pg	01 36 58.9	-1.8
	5.2nm,0.4s,SNR=7.2						
EALK				Lg		01 37 22.1	
	29nm,0.4s,SNR=7.1						
EMOS	Mosqueruela	2.22	201	Pg	Pg	01 37 06.2	-4.6
	1.2nm,0.2s,SNR=14						
EMOS				Lg		01 37 35.6	
	6.3nm,0.4s						
LFF	La Frestale	2.50	3	ePn	Pn	01 37 06.8	-1.2
LFF				ePg	Pg	01 37 13.1	-3.2
LFF				eSg	Sg	01 37 44.0	-5.6
	12nm,0.3s						
ETOR	Torete	2.56	231	Pn	Pn	01 37 08.3	-0.5
	0.2nm,0.1s,SNR=4.9						
ETOR				Pg	Pg	01 37 14.7	-2.8
	1.7nm,0.3s,SNR=10						
ETOR				Sn	Sn	01 37 39.2	-1.3
	0.9nm,0.2s,SNR=4.9						
ETOR				Lg		01 37 47.3	
	11nm,0.6s						
CAF	Calviac	2.71	23	ePn	Pn	01 37 09.4	-1.5
CAF				ePg	Pg	01 37 16.3	-4.1
CAF				eSg	Sg	01 37 51.1	-5.4
	4.0nm,0.2s						
LASF	Ste Croix	2.90	55	ePn	Pn	01 37 12.3	-1.4
LASF				ePg	Pg	01 37 19.9	-4.4
LASF				eSg	Sg	01 37 58.3	-4.6
	3.4nm,0.3s						
VIVF	Saint-Julien-l	3.83	50	eSg	Sg	01 38 25.6	-8.2
	1.3nm,0.3s						
SMRF	Simiane la Rot	3.96	66	ePn	Pn	01 37 26.4	-2.4
TCF	Toulx Ste Croi	4.02	16	ePn	Pn	01 37 26.3	-3.3
TCF				ePg	Pg	01 37 40.2	-6.4
TCF				eSn	Sn	01 38 11.5	-5.9
TCF				eSg	Sg	01 38 31.3	-8.9
	2.0nm,0.3s						
MFF	Saint Martin d	4.19	353	ePn	Pn	01 37 28.9	-3.2
MFF				eSn	Sn	01 38 14.8	-7.0
MFF				eSg	Sg	01 38 37.3	-8.6
	1.1nm,0.3s						
ESDC	Sonseca Array	4.41	233	Pn	Pn	01 37 33.6	-1.6
	1.1nm,0.2s,baz=51,slow=14,SNR=4.0						
BGF	Bois d'Agland	4.42	21	eSn	Sn	01 38 21.1	-6.5
BGF				eSg	Sg	01 38 45.2	-8.4
	5.2nm,0.4s						
AVF	Avril sur Loir	4.78	24	ePn	Pn	01 37 37.2	-3.2
AVF				eSg	Sg	01 38 55.6	-10
	1.3nm,0.3s						
SMF	Signal de Mont	4.80	28	ePn	Pn	01 37 36.9	-3.9
GRR	Gorron	6.03	351	ePn	Pn	01 37 53.9	-4.2
ROSF	Rostrenen	6.49	337	ePn	Pn	01 37 59.9	-4.6

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*IDC **18** 02:21:46.9±3.6, 30.27S×178.74W, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, Error ellipse: s-maj=180.0km s-min=42.7km az=158.0*

ISC 18 02:22:30.6±3.8**, 30.8S**±0.2×**179.2E**±0.6**, h300**^{km}**, n10, σ0^{s}37**/8**, mb3.2**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.74	186	P	P	02 24 09.8	+0.3
MXZ				S	S	02 25 27.0	-0.1
PUZ	Puketiti	7.25	186	P	P	02 24 15.9	+0.1
URZ	Urewera	7.59	192	P	P	02 24 19.9	0.0
MWZ	Matawai	7.60	190	P	P	02 24 19.7	-0.3
STKA	Stephens Creek	32.00	258	P	P	02 28 32.0	+0.7
	1.8nm,0.6s,mb3.8,baz=98,slow=9.2,SNR=7.4						
ASAR	Alice Springs	40.66	269	P	P	02 29 43.5	-0.1
	0.2nm,0.5s,mb2.6,baz=108,slow=7.6,SNR=5.0						
WRA	Warramunga Arr	41.69	274	P	P	02 29 51.5	-0.6
	0.6nm,0.3s,mb3.3,baz=111,slow=8.0,SNR=14						
KAF	Kangasniemi	144.11	339	ep	PKPbc	02 41 21.0	-8.3
	0.5nm,0.3s						
FINES	FINESS Array B	144.68	338	PKP	PKPdf	02 41 24.0	-6.7
	2.0nm,0.5s,baz=63,slow=3.1,SNR=32						
NOA	NORSAR Array B	148.76	349	PKPbc	PKPdf	02 41 34.8	-2.6
	0.5nm,0.5s,baz=17,slow=4.2,SNR=3.9						

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*NEIC **18** 02:36:27.8±1.4, 8.11S×74.28W, h153^{km}±13^{km}, mb4.2/2, Error ellipse: s-maj=15.6km s-min=12.2km az=183.0*

*IDC **18** 02:36:29.1±4.4, 8.21S×74.31W, h162^{km}±44^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.4/18, Error ellipse: s-maj=34.5km s-min=19.8km az=53.0*

ISC 18 02:36:26.5±1.7**, 8.2S**±0.1×**74.38W**±0.08**, h161**^{km}±17^{km}**, n14, σ0^{s}98**/15**, mb4.2**/7**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	4.52	212	ePn	P	02 37 35.7	+1.1
NNA				eSn	S	02 38 25.4	-1.8
LPAZ	La Paz	10.13	144	P	P	02 38 50.8	+1.8
	0.8nm,0.3s,baz=313,slow=4.0,SNR=6.1						
LPAZ				S	S	02 40 40.8	+0.3
	0.8nm,0.3s,baz=10,slow=12,SNR=3.8						
SAML	Samuel	11.10	95	eP	P	02 39 00.4	-1.3
	5.4nm,0.6s						
CPUP	Villa Florida	24.28	140	P	P	02 41 30.6	+0.3
	5.5nm,0.9s,mb4.1,baz=340,slow=11,SNR=16						
CPUP	Villa Florida	24.28	140	eP	P	02 41 30.8	+0.5
	4.7nm,0.8s,mb4.1						
BDFB	Brasilia	26.83	109	P	P	02 41 54.3	+0.3
	0.9nm,0.4s,mb3.8,baz=278,slow=3.8,SNR=2.9						
BDFB				pP	pP	02 42 28.1	+1.0
	2.1nm,0.5s,baz=273,slow=8.4,SNR=3.6						
PLCA	Paso Flores	32.62	175	P	P	02 42 45.3	+0.2
	0.9nm,0.7s,mb3.6,baz=6.2,slow=13,SNR=3.5						
TXAR	Lajitas Array	46.74	324	P	P	02 44 41.9	+0.5
	0.2nm,0.7s,baz=156,slow=8.3,SNR=4.4						
SCHQ	Schefferville	63.07	5	P	P	02 46 40.0	+1.2
	1.0nm,0.8s,mb3.7,baz=188,slow=14,SNR=2.4						
LIC	Lamto	70.62	80	eP	P	02 47 25.3	-1.6
	34nm,1.2s,mb5.0						
TIC	Toumodi	70.70	80	eP	P	02 47 26.7	-0.7
	173nm,1.9s						
DBIC	Dimbokro	70.87	80	P	P	02 47 28.2	-0.2
	3.1nm,0.4s,mb4.4,baz=248,slow=7.6,SNR=16						
KIC	Kosan Boka	70.92	80	eP	P	02 47 28.3	-0.4
	52nm,1.1s,mb5.2						
WRA	Warramunga Arr	140.27	225	PKP	PKPdf	02 55 39.5	+2.5
	0.2nm,0.5s,baz=124,slow=1.9,SNR=3.6						

DJA 18 02:46:07.6±1.4**, 9.58S×116.25E, h240**^{km}**, MD5.0**/3**, ML3.2**/2**, 2C-3D, Error ellipse: s-maj=71.9km s-min=36.3km az=168.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.10	353	⇑iPn	P	02 46 42.2	-0.2
	39nm,0.2s						
KEDI				⇑iSn	S	02 47 08.4	-1.0
RATI	Rata	1.11	320	⇓iPn	P	02 46 42.9	+0.5
	30nm,0.2s						
RATI				⇓iSn	S	02 47 13.4	+3.9
KELI	Kelakatan	2.20	308	⇓iPn	P	02 46 51.7	+0.2

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*IDC **18** 02:53:52.0±1.0, 23.93S×66.58W, h197^{km}±9^{km}, mb3.5/8, mb1 3.8/13, mb1mx3.7/17, Error ellipse: s-maj=16.0km s-min=12.3km az=49.0*

*NEIC **18** 02:53:52.3±0.6, 23.95S×66.51W, h199^{km}±6^{km}, mb4.2/15, Error ellipse: s-maj=9.6km s-min=5.8km az=61.0*

ISC 18 02:53:50.7±0.7**, 24.00S**±0.05×**66.54W**±0.08**, h200**^{km}±6^{km}**, n43, σ0^{s}94**/43**, mb3.9**/18**, 1C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.58	302	P	P	02 54 37.0	+1.1
	143nm,0.3s,baz=131,slow=6.6,SNR=1364						
LVC				S	S	02 55 10.7	-0.2
	64nm,0.3s,baz=247,slow=20,SNR=11						
LPAZ	La Paz	7.82	349	P	P	02 55 43.5	+1.2
	2.3nm,0.3s,baz=186,slow=5.9,SNR=19						
LPAZ				S	S	02 57 09.7	+0.1
	0.5nm,0.3s,baz=286,slow=18,SNR=3.4						
LPAZ	La Paz	7.82	349	eP	P	02 55 43.3	+1.0
LPAZ				S	S	02 57 09.7	+0.1
CPUP	Villa Florida	8.66	107	P	P	02 55 54.3	+1.0
	0.2nm,0.3s,baz=317,slow=12,SNR=23						
CPUP	Villa Florida	8.66	107	eP	P	02 55 54.2	+0.8
	23nm,1.2s						
ARE	Arequipa	8.82	327	eP	P	02 55 53.6	-1.9
ARE				eS	S	02 57 28.5	-4.5
TRQA	Tornquist	14.54	166	eP	P	02 57 06.7	-1.6
	14nm,0.8s						
SAML	Samuel	15.31	13	eP	P	02 57 16.9	-1.0
	2.6nm,0.6s						
NNA	Nana	15.44	319	eP	P	02 57 20.0	+0.5
	40nm,1.2s						
PLCA	Paso Flores	17.02	190	P	P	02 57 36.9	-1.4
	0.1nm,0.3s,baz=3.6,slow=10.0,SNR=8.1						
PLCA	Paso Flores	17.02	190	eP	P	02 57 37.7	-0.6
	3.0nm,0.8s						
BDFB	Brasilia	19.30	68	P	P	02 58 02.9	+0.6
	0.7nm,0.3s,baz=245,slow=10,SNR=35						
VNA1	Neumayer--Stat	57.20	160	⇓i	P	03 03 20.6	+2.0
VNA2	Neumayer--Watz	57.57	160	⇑i	P	03 03 21.2	0.0
SNAA	Sanae	59.21	161	eP	P	03 03 30.6	-1.9
	2.6nm,0.9s,mb3.9						
JCT	Junction City	62.87	328	eP	P	03 03 56.5	-1.2
	7.3nm,1.0s,mb4.3						
TXAR	Lajitas Array	63.93	324	P	P	03 04 03.6	-1.0
	0.8nm,0.7s,mb3.5,baz=150,slow=8.1,SNR=15						
CCM	Cathedral Cave	65.95	339	eP	P	03 04 15.8	-1.7
	8.7nm,0.8s,mb4.4						
QSPA	South Pole Qui	66.20	180	eP	P	03 04 19.0	+0.6
	4.0nm,0.6s,mb4.2						
QSPA				LR	LR		
	comp=Z,70nm,21.7s						
GDL2	Guadalupe Moun	66.55	325	eP	P	03 04 20.9	-0.4
DBIC	Dimbokro	67.40	71	P	P	03 04 25.6	-1.4
	comp=Z,3.8nm,1.0s,mb4.0,baz=239,slow=12,SNR=4.1						
ANMO	Albuquerque	69.79	326	eP	P	03 04 41.6	+0.4
	comp=Z,2.3nm,0.8s,mb3.9						
TUC	Tucson	70.15	321	eP	P	03 04 43.1	-0.4
	comp=Z,4.3nm,1.4s,mb3.9						
SDCO	Great Sand Dun	71.51	328	eP	P	03 04 51.8	+0.3
	comp=Z,4.1nm,1.0s,mb4.0						
ISCO	Idaho Springs	73.20	330	eP	P	03 05 02.2	+0.7
	comp=Z,3.8nm,1.1s,mb3.9						
PV01	Paradox Valley	73.33	327	eP	P	03 05 03.3	+1.1
PV10	Paradox Valley	73.75	326	eP	P	03 05 04.7	0.0
VNDA	Vanda	74.77	190	P	P	03 05 10.7	+0.8
	comp=Z,0.6nm,0.6s,mb3.4,baz=66,slow=3.6,SNR=3.3						
MSU	Marysvale	75.47	325	eP	P	03 05 15.5	+1.0
PDAR	Pinedale Array	77.36	329	P	P	03 05 24.9	-0.1
	comp=Z,0.7nm,0.7s,mb3.4,baz=113,slow=5.6,SNR=7.6						
ULM	Lac du Bonnet	78.36	341	P	P	03 05 29.3	-0.9
	comp=Z,1.1nm,0.8s,mb3.5,baz=147,slow=6.0,SNR=4.5						
SCHQ	Schefferville	78.51	360	P	P	03 05 30.4	-0.5
	comp=Z,3.1nm,1.0s,mb3.9,baz=163,slow=7.1,SNR=2.8						
NVAR	Mina Array Bea	78.80	321	P	P	03 05 33.2	+0.4
	comp=Z,0.9nm,0.8s,mb3.5,baz=138,slow=5.2,SNR=5.4						
LAO	LASA Array	78.98	333	eP	P	03 05 33.8	+0.2
	comp=Z,7.7nm,1.0s,mb4.3						
HLID	Hailey	80.32	327	eP	P	03 05 42.0	+1.2
	comp=Z,8.2nm,1.0s,mb4.3						
MAW	Mawson	81.31	163	P	P	03 05 46.3	+0.8
	comp=Z,2.0nm,0.7s,mb3.9,baz=69,slow=21,SNR=2.8						
YBH	Yreka Blue Hor	83.52	321	P	P	03 05 57.2	-0.2
DPW	Davenport	85.25	328	eP	P	03 06 06.3	+0.5
BMW	Boistfort Moun	86.86	325	eP	P	03 06 14.3	+0.6
ASAR	Alice Springs	128.63	204	PKP	PKPdf	03 12 35.8	+1.2
	comp=Z,1.2nm,0.7s,baz=175,slow=2.3,SNR=12						
WRA	Warramunga Arr	131.82	207	PKP	PKPdf	03 12 41.7	+0.9
	comp=Z,0.5nm,0.4s,baz=166,slow=1.6,SNR=7.9						
MKAR	Makanchi Array	146.26	40	PKPbc	PKPbc	03 13 08.2	+0.9
	comp=Z,1.6nm,0.5s,baz=312,slow=2.8,SNR=15						
SONM	Songino Array	155.56	12	PKP	PKPdf	03 13 23.1	+3.4
	comp=Z,0.3nm,0.8s,slow=1.4,SNR=2.7						
SONM				PKPab	PKPab	03 13 49.1	-0.1
	comp=Z,0.5nm,0.7s,baz=270,slow=2.5,SNR=3.9						

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*IDC **18** 03:07:27.6±2.8, 49.43S×124.30E, mb3.8/4, mb1 4.1/4, mb1mx3.9/9, MS3.6/6, Ms1 3.6/6, ms1mx3.5/9, Error ellipse: s-maj=109.0km s-min=25.0km az=96.0*

*NEIC **18** 03:07:29.0±0.9, 49.63S×125.32E, h10^{km}, mb3.5/2, Error ellipse: s-maj=54.1km s-min=13.2km az=109.0*

ISC 18 03:07:26.9±0.9**, 49.5S**±0.2×**124.7E**±0.6**, h10**^{km}**, n11, σ1^{s}17**/9**, mb3.6**/5**, MS3.5**/6**, 2C-1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.73	42	P	P	03 12 21.2	+1.0
	4.1nm,0.8s,mb3.9,baz=204,slow=11,SNR=9.3						
STKA				LR	LR	03 19 32.7	
	comp=Z,182nm,21.4s,MS3.5,baz=208,slow=33						
STKA	Stephens Creek	21.73	42	eP	P	03 12 17.2	-2.9
STKA				LR	LR	03 19 32.7	
ASAR	Alice Springs	26.83	19	P	P	03 13 09.1	-0.1
	2.2nm,0.7s,mb3.8,baz=191,slow=9.2,SNR=18						
ASAR				LR	LR	03 22 37.1	
	comp=Z,154nm,18.1s,MS3.6,baz=184,slow=34						
WRA	Warramunga Arr	30.53	18	P	P	03 13 42.8	+0.3
	0.8nm,0.8s,mb3.6,baz=196,slow=8.3,SNR=3.5						
WRA				LR	LR	03 25 09.0	
	comp=Z,130nm,18.4s,MS3.6,baz=195,slow=35						
VNDA	Vanda	31.41	165	P	P	03 13 51.3	+1.5
	0.9nm,0.8s,mb3.6,baz=301,slow=7.4,SNR=3.1						
VNDA				LR	LR	03 26 26.0	
	comp=Z,59nm,18.3s,MS3.3,baz=176,slow=36						
VNDA	Vanda	31.41	165	P	P	03 13 48.8	-0.9

	1.9nm,1.0s,mb3.9						
VNDA				LR	LR	03 26 26.1	
MAW	Mawson	35.04	216	LR	LR	03 25 03.4	
	comp=Z,113nm,21.7s,MS3.6,baz=63,slow=30						
PMG	Port Moresby	44.19	33	LR	LR	03 32 22.2	
	comp=Z,78nm,21.3s,MS3.6,baz=57,slow=34						
SNAA	Sanae	53.54	198	⇑*i*P	P	03 16 51.1	+1.8
	0.2nm,1.0s,mb3.0						
VNA2	Neumayer--Watz	55.04	197	⇑*i*	P	03 16 59.2	-1.1
VNA1	Neumayer--Stat	55.43	197	⇓*i*	P	03 17 02.3	-0.8

IDC 18 03:29:54.8±6.0**,8.03S×158.11E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.7**/13**,Error ellipse: s-maj=173.0km s-min=33.1km az=112.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.88	240	P	P	03 35 29.3	-1.0
	0.4nm,0.4s,baz=66,slow=9.1,SNR=6.9						
ASAR	Alice Springs	27.92	233	P	P	03 35 46.5	-2.5
	0.5nm,0.5s,baz=61,slow=9.7,SNR=6.2						
SONM	Songino Array	71.89	326	P	P	03 41 20.8	-1.0
	0.9nm,0.6s,baz=134,slow=5.4,SNR=9.0						
MKAR	Makanchi Array	86.23	318	P	P	03 42 37.1	-2.5
	0.5nm,0.8s,baz=124,slow=5.2,SNR=3.6						

IDC 18 03:44:21.3±4.6**,3.28S×148.41E,mb3.8**/6**,mb1 4.0**/6**, mb1mx3.8**/14**,MS3.0**/2**,Ms1 3.0**/2**,ms1mx2.7**/17**,Error ellipse: s-maj=148.0km s-min=23.7km az=103.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.21	191	LR	LR	03 47 43.1	
	comp=Z,65nm,18.1s,baz=251,slow=32						
WB2	Warramunga Arr	21.51	219	*e*P	P	03 49 11.6	-2.5
WRA	Warramunga Arr	21.52	219	P	P	03 49 11.7	-2.5
	1.8nm,0.7s,baz=41,slow=11,SNR=13						
ASAR	Alice Springs	24.65	213	P	P	03 49 44.8	-0.2
	2.7nm,0.8s,baz=50,slow=8.3,SNR=17						
FITZ	Fitzroy Crossi	26.73	235	*e*P	P	03 50 06.1	+1.5
	2.6nm,0.8s						
FITZ	Fitzroy Crossi	26.73	235	P	P	03 50 02.2	-2.4
	2.1nm,0.6s,baz=78,slow=9.3,SNR=4.4						
FITZ				LR	LR	04 01 53.0	
	comp=Z,52nm,19.4s,baz=122,slow=39						
SONM	Songino Array	62.75	330	P	P	03 54 49.2	-1.5
	0.2nm,0.6s,baz=132,slow=6.0,SNR=2.7						
MKAR	Makanchi Array	76.32	320	P	P	03 56 11.8	-2.2
	0.5nm,0.7s,baz=124,slow=5.2,SNR=2.8						
BVAR	Borovoye Array	85.42	324	P	P	03 57 00.3	-1.7
	0.4nm,0.6s,baz=72,slow=4.6,SNR=3.1						

IDC ***18*** *03:49:33.9±2.3,6.87S×143.01E,mb3.6/3,mb1 3.7/5, mb1mx3.6/11,ML3.2/2,Error ellipse: s-maj=69.6km s-min=29.3km az=88.0*

NEIC ***18*** *03:49:36.4±1.6,6.92S×142.82E,h10*^{km}*,mb3.7/2,Error ellipse: s-maj=29.8km s-min=20.8km az=100.0*

ISC 18 03:49:35.0±1.9**,7.0S**±0.1×**142.7E**±0.2**,h10**^{km}**,n9,σ0**^{s}**95**/9**, mb3.5**/2**,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.60	240	*e*P	P	03 52 23.2	-0.6
	2.5nm,0.5s						
WRAB	Tennant Creek	15.21	211	*e*P	P	03 53 13.2	+1.4
	5.5nm,0.9s						
WB2	Warramunga Arr	15.21	211	*e*P	P	03 53 10.5	-1.3
WRA	Warramunga Arr	15.22	211	Pn	P	03 53 10.8	-1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=8.0						
ASAR	Alice Springs	18.62	206	P	P	03 53 55.6	+0.8
	0.1nm,0.3s,baz=30,slow=10,SNR=8.5						
FITZ	Fitzroy Crossi	19.94	235	*e*P	P	03 54 11.5	+1.3
	3.0nm,1.4s						
FITZ	Fitzroy Crossi	19.94	235	P	P	03 54 11.3	+1.1
	1.7nm,0.6s,baz=52,slow=5.6,SNR=6.0						
STKA	Stephens Creek	24.81	182	P	P	03 54 58.6	-0.2
	0.8nm,0.5s,mb3.5,baz=326,slow=15,SNR=2.7						
MKAR	Makanchi Array	75.53	322	P	P	04 01 21.4	-0.2
	0.2nm,0.5s,mb3.4,baz=110,slow=7.7,SNR=2.4						

BJI ***18*** *03:55:48.8,52.30N×170.60W,h51*^{km}*,mB4.7,mb4.7, Ms4.4,Msz4.3*

NEIC ***18*** *03:55:50.9±0.6,52.30N×170.63W,h52*^{km}*±4*^{km}*,mb4.2/12, ML4.1(AEIC),Error ellipse: s-maj=10.1km s-min=4.2km az=167.0*

IDC ***18*** *03:55:51.2±0.6,52.39N×170.68W,h53*^{km}*±4*^{km}*,mb3.9/23, mb1 4.1/25,mb1mx4.1/29,MS3.4/5,Ms1 3.4/5, ms1mx3.0/23,Error ellipse: s-maj=17.9km s-min=9.8km az=175.0*

ISC 18 03:55:49.8±0.6**,52.32N**±0.08×**170.67W**±0.05**,h57**^{km}±5^{km}**, h62**^{km}±8.8^{km}**:pP-P,n79,σ1**^{s}**07**/79**,mb4.2**/35**,MS3.4**/5**,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	1.29	59	P	P	03 56 08.8	-3.2
OKER	East Rim	1.95	53	P	P	03 56 20.4	-0.8
ATKA	Atka Island	2.17	268	P	P	03 56 24.5	+0.2
ATKA				S	S	03 56 51.1	+1.2
MCIR	Makushin Cirqu	2.80	53	P	P	03 56 33.1	-0.2
MTBL	Makushin Table	2.92	54	P	P	03 56 34.0	-0.9
UNV	Unalaska Valle	2.94	57	P	P	03 56 33.5	-1.8
GSTD	Great Sitkin T	3.38	268	P	P	03 56 42.3	+0.9
AKLV	Akutan Long Va	3.38	55	P	P	03 56 41.8	+0.3
AKGG	Akutan Green G	3.38	54	P	P	03 56 41.3	-0.2
AKA	Akutan	3.46	56	P	P	03 56 43.4	+0.8
KIWB	Kanaga Island	4.03	266	P	P	03 56 50.2	-0.3
KIMD	Kanaga Island	4.09	265	P	P	03 56 51.0	-0.5
WESN	West Dahl Nort	4.28	56	P	P	03 56 54.8	+0.7
SPIA	Saint Paul Isl	4.88	3	P	P	03 57 03.9	+1.5
FX1	Attu Island--F	9.86	280	P	P	03 58 11.6	+0.4
	1.6nm,0.3s,baz=149,slow=5.9,SNR=12						
FX1	Attu Island--F	9.86	280	P	P	03 58 11.1	-0.2
RSO	Redoubt South	12.81	43	*e*P	P	03 58 54.3	+3.3
TT01	Tatalina	13.16	31	P	P	03 58 53.8	-1.8
SLKM	Skilak Lake	13.93	46	*e*P	P	03 59 07.6	+2.2
GLB	Gilahina Butte	17.17	47	P	P	03 59 47.9	+1.1
ILAR	Eielson Array	17.45	35	P	P	03 59 50.6	+0.3
	0.2nm,0.3s,baz=243,slow=11,SNR=13						
ILAR				PcP	PcP	04 04 27.6	-2.1
	0.0nm,0.3s,baz=280,slow=3.2,SNR=4.1						
DAWY	Dawson	20.00	42	*e*P	P	04 00 19.4	-0.5
DLBC	Dease Lake	23.60	59	P	P	04 00 57.2	+1.6
	6.5nm,0.8s,mb4.1,baz=258,slow=10.0,SNR=18						
DLBC	Dease Lake	23.60	59	*e*P	P	04 00 57.4	+1.8
INK	Inuvik	23.83	34	P	P	04 00 57.6	-0.2
	4.1nm,0.5s,mb4.1,baz=243,slow=8.3,SNR=37						
INK				PcP	PcP	04 04 41.1	-0.4
	1.3nm,0.5s,baz=228,slow=4.1,SNR=6.0						
INK	Inuvik	23.83	34	*e*P	P	04 00 57.1	-0.7
	4.0nm,0.5s,mb4.1						
YKA	Yellowknife Ar	30.88	49	P	P	04 02 01.5	-1.0
	0.7nm,0.4s,mb3.8,baz=275,slow=9.2,SNR=14						
YKA				LR	LR	04 14 03.2	
	comp=Z,49nm,18.7s,MS3.2,baz=270,slow=35						
YBH	Yreka Blue Hor	33.78	89	P	P	04 02 28.9	+1.0
	0.5nm,0.4s,mb3.8,baz=336,slow=5.0,SNR=2.6						
NEW	Newport	33.80	75	P	P	04 02 28.8	+0.7
	4.0nm,0.8s,mb4.4,baz=282,slow=13,SNR=6.5						
WVOR	Wild Horse Val	35.88	85	*e*P	P	04 02 47.4	+1.5
HLID	Hailey	37.82	80	*e*P	P	04 03 01.2	-0.9
MCMT	McKenzie Canyo	38.07	78	*e*P	P	04 03 04.1	-0.1
NVAR	Mina Array Bea	38.46	90	P	P	04 03 08.7	+1.2
	0.4nm,0.7s,mb3.2,baz=297,slow=4.0,SNR=3.4						
NVAR				pP	pP	04 03 20.1	-2.0
	0.6nm,0.7s,baz=298,slow=6.3,SNR=4.1						
MDJ	Mudanjiang	39.33	283	P	P	04 03 12.5	-2.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,82nm,4.3s						
FFC	Flin Flon	39.43	58	*e*P	P	04 03 14.8	-0.6
DUG	Dugway	40.74	84	P	P	04 03 27.7	+1.3
BW06	Boulder Array	41.20	78	*e*P	P	04 03 29.9	-0.2
	comp=Z,2.6nm,0.8s,mb3.9						
PDAR	Pinedale Array	41.20	78	P	P	04 03 30.2	+0.1
	comp=Z,1.4nm,0.5s,mb3.9,baz=312,slow=2.5,SNR=22						
PDAR				pP	pP	04 03 46.0	+1.2
	comp=Z,1.2nm,0.6s,baz=311,slow=2.4,SNR=4.2						
CN2	Changchun	42.26	285	*e*P	P	04 03 38.3	-0.4
ULM	Lac du Bonnet	44.88	61	P	P	04 03 59.4	-0.4
	comp=Z,1.9nm,0.7s,mb4.0,baz=296,slow=14,SNR=2.7						
ULM				PcP	PcP	04 05 40.3	-0.9
	comp=Z,4.4nm,1.1s,baz=332,slow=4.2,SNR=4.0						
ULM				LR	LR	04 20 58.3	
	comp=Z,37nm,19.5s,MS3.3,baz=18,slow=34						
ULM	Lac du Bonnet	44.88	61	P	P	04 03 59.4	-0.4
ULM				PcP	PcP	04 05 40.3	-0.9
ULM				LR	LR	04 20 58.3	
SDCO	Great Sand Dun	46.72	81	*e*P	P	04 04 15.0	+0.4
	comp=Z,1.7nm,0.8s,mb4.0						
SONM	Songino Array	50.64	300	P	P	04 04 45.0	+0.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=58,slow=5.7,SNR=17						
SONM				sP	sP	04 05 03.8	-2.5
	comp=Z,1.0nm,1.1s,baz=17,slow=3.9,SNR=2.0						
SONM				PcP	PcP	04 06 01.5	-0.3
	comp=Z,1.5nm,0.7s,baz=27,slow=0.9,SNR=8.9						
WMOK	Wichita Mounta	52.78	79	P	P	04 04 59.9	-1.2
LTX	Lajitas	53.55	88	P	P	04 05 05.2	-1.7
TXAR	Lajitas Array	53.55	88	P	P	04 05 06.1	-0.8
	comp=Z,1.0nm,0.8s,mb3.8,baz=296,slow=4.7,SNR=16						
TXAR	Lajitas Array	53.55	88	P	P	04 05 06.1	-0.8
SCHQ	Schefferville	56.02	43	P	P	04 05 23.6	-0.9
	comp=Z,13nm,1.0s,mb4.9,baz=311,slow=7.0,SNR=12						
KEV	Kevo	57.56	353	*e*p	P	04 05 28.6	-6.6
	comp=Z,0.3nm,0.3s,mb3.8						
ARCES	ARCESS Array B	57.88	353	P	P	04 05 35.4	-2.1
	comp=Z,3.1nm,0.9s,mb4.3,baz=23,slow=9.2,SNR=9.3						
ARCES				LR	LR	04 31 05.3	
	comp=Z,36nm,21.3s,MS3.5,baz=90,slow=37						
WMQ	Urumqi	62.93	307	*e*P	P	04 06 10.0	-2.2
WMQ				AP	pP	04 06 29.6	+1.9
WMQ				XP	sP	04 06 38.0	+3.8
MKAR	Makanchi Array	63.26	313	P	P	04 06 13.0	-1.3
	comp=Z,0.6nm,0.6s,mb3.9,baz=46,slow=5.1,SNR=7.5						
MKAR				PcP	PcP	04 06 51.6	+0.7
	comp=Z,0.3nm,0.5s,baz=45,slow=4.1,SNR=2.7						
MKAR				LR	LR	04 37 11.4	
	comp=Z,30nm,18.1s,MS3.5,baz=196,slow=39						
BVAR	Borovoye Array	63.28	324	P	P	04 06 13.7	-0.7
	comp=Z,2.1nm,0.5s,mb4.6,baz=48,slow=6.2,SNR=16						
BVAR				PcP	PcP	04 06 50.7	-0.2
	comp=Z,1.2nm,0.5s,baz=45,slow=4.1,SNR=4.1						
ZRNK	Zerenda	63.84	324	*e*P	P	04 06 16.8	-1.1
	comp=Z,3.7nm,0.5s,mb4.7						
KAF	Kangasniemi	65.12	351	*e*p	P	04 06 23.3	-2.8
	comp=Z,0.6nm,0.4s,mb4.0						
TGY	Tagaytay City	65.77	262	P	P	04 06 32.1	+1.1
	comp=Z,126nm,0.6s,baz=161,slow=21,SNR=2.5						
FINES	FINESS Array B	65.80	351	P	P	04 06 29.4	-1.0
	comp=Z,0.9nm,0.5s,mb4.1,baz=9.3,slow=6.2,SNR=7.7						
FINES				LR	LR	04 34 07.6	
	comp=Z,32nm,20.1s,MS3.5,baz=148,slow=35						
NB2	NORSAR Subarra	66.98	359	P	P	04 06 37.3	-0.6
	comp=Z,0.9nm,0.5s,mb4.1,baz=2.0,slow=6.5						
NOA	NORSAR Array B	66.98	359	P	P	04 06 37.6	-0.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=1.8,slow=6.4,SNR=10.0						
CMAR	Chiang Mai Arr	75.85	282	P	P	04 07 32.4	+0.7
	comp=Z,9.4nm,0.7s,mb4.8,baz=27,slow=6.8,SNR=36						
CMAR				sP	sP	04 07 52.5	-1.3
	comp=Z,0.8nm,0.3s,baz=196,slow=26,SNR=2.0						
AKASG	Malin Array Be	75.98	347	P	P	04 07 30.7	-1.1
	comp=Z,0.3nm,0.3s,mb3.7,baz=14,slow=5.7,SNR=4.7						
KWP	Kalwaria	77.79	351	*e*P	P	04 07 42.1	+0.2
GRA1	Grafenberg Arr	78.36	359	*e*P	P	04 07 46.2	+1.2
	comp=Z,5.0nm,1.0s,mb4.4						
GERES	GERESS Array B	79.15	357	P	P	04 07 50.4	+1.0
	comp=Z,1.3nm,0.6s,mb4.0,baz=14,slow=5.5,SNR=13						
CDF	Champ du Feu	79.63	1	*e*P	P	04 07 53.0	+1.0
HAU	Haudompre	80.02	2	*e*P	P	04 07 54.9	+0.8
HINF	Hinteralfeld	80.22	2	*e*P	P	04 07 55.7	+0.5
LOR	Lormes	80.68	4	*e*P	P	04 07 58.6	+1.0
	comp=Z,3.3nm,0.6s,mb4.1						
SSF	Saint Saulge	80.87	4	*e*P	P	04 07 59.5	+0.9
	comp=Z,2.7nm,0.5s,mb4.2						
AVF	Avril sur Loir	81.14	4	*e*P	P	04 08 00.7	+0.7
SMF	Signal de Mont	81.30	4	*e*P	P	04 08 01.1	+0.2
	comp=Z,7.6nm,0.7s,mb4.4						
TCF	Toulx Ste Croi	81.58	5	*e*P	P	04 08 03.1	+0.7
LFF	La Frestale	82.84	6	*e*P	P	04 08 09.9	+1.1
	comp=Z,16nm,0.9s,mb4.8						
SJPF	Ste Jean	84.51	8	*e*P	P	04 08 19.2	+2.0
	comp=Z,6.6nm,0.7s,mb4.5						
WRA	Warramunga Arr	86.35	231	P	P	04 08 26.0	-0.8
	comp=Z,0.7nm,0.6s,mb4.1,baz=35,slow=6.0,SNR=8.5						
ESDC	Sonseca Array	87.66	10	P	P	04 08 32.8	+0.1
	comp=Z,2.1nm,0.7s,mb4.5,baz=348,slow=5.0,SNR=5.6						
FITZ	Fitzroy Crossi	89.14	239	P	P	04 08 39.4	-0.8
	comp=Z,1.8nm,0.7s,mb4.5,baz=49,slow=9.3,SNR=3.5						
ASAR	Alice Springs	89.75	229	P	P	04 08 42.9	-0.1
	comp=Z,2.5nm,0.6s,mb4.7,baz=34,slow=4.3,SNR=21						
ASAR				sP	sP	04 09 05.8	+0.6
	comp=Z,1.2nm,0.8s,baz=30,slow=4.8,SNR=3.5						
LBTB	Lobatse	150.07	329	*e*PKPbc	PKPdf	04 15 34.6	+6.0

NEIC ***18*** *04:24:15.2±0.9,17.53S×69.27W,h162*^{km}*±9*^{km}*,mb3.7/1, Error ellipse: s-maj=16.2km s-min=13.6km az=202.0*

IDC ***18*** *04:24:16.1±1.2,17.69S×69.21W,h169*^{km}*±12*^{km}*,mb3.4/5, mb1 3.6/6,mb1mx3.3/16,Error ellipse: s-maj=22.3km s-min=14.5km az=91.0*

ISC 18 04:24:13.3±0.8**,17.54S**±0.07×**69.2W**±0.1**,h157**^{km}±11^{km}**, n12,σ0**^{s}**82**/15**,mb3.7**/4**,1C,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	1.62	40	P	P	04 24 50.2	+5.2
	50nm,0.3s,baz=194,slow=0.6,SNR=323						
LPAZ	La Paz	1.62	40	*e*P	P	04 24 50.0	+4.9
ARE	Arequipa	2.43	296	⇑*i*P	P	04 24 55.3	+0.9
ARE				*e*S	S	04 25 25.4	-0.6
LVC	Limon Verde	5.05	177	P	P	04 25 30.5	+2.0
	4.9nm,0.3s,baz=344,slow=10,SNR=102						
LVC				S	S	04 26 25.4	-1.1
	6.2nm,0.3s,baz=316,slow=13,SNR=15						
LVC	Limon Verde	5.05	177	*e*P	P	04 25 30.0	+1.6
LVC				S	S	04 26 25.4	-1.1
NNA	Nana	9.21	306	P	P	04 26 23.1	-0.5
SAML	Samuel	10.36	35	*e*P	P	04 26 38.9	0.0
	1.0nm,0.4s						
BDFB	Brasilia	20.41	88	P	P	04 28 38.9	-0.8
	0.9nm,0.4s,baz=280,slow=18,SNR=2.4						
TXAR	Lajitas Array	57.25	324	P	P	04 33 47.2	+0.4
	0.1nm,0.5s,mb3.0,baz=159,slow=7.7,SNR=2.6						
DBIC	Dimbokro	67.94	75	P	P	04 34 58.1	+0.3
	3.9nm,0.5s,mb4.4,baz=232,slow=8.3,SNR=16						
ULM	Lac du Bonnet	71.47	342	P	P	04 35 18.0	-0.6
	3.4nm,1.0s,mb4.0,baz=156,slow=10.0,SNR=3.5						
YKA	Yellowknife Ar	87.37	341	P	P	04 36 43.6	+0.3
	0.5nm,0.5s,mb3.6,baz=131,slow=4.6,SNR=5.5						

MEX ***18*** *04:33:01.4±1.3,16.79N×93.85W,h166*^{km}*±12*^{km}*,MD4.3*

NEIC ***18*** *04:33:02.6,16.84N×93.84W,h158*^{km}*,MD4.3(MEX),After MEX.*

IDC ***18*** *04:33:04.1±3.5,17.35N×93.24W,h157*^{km}*±33*^{km}*,mb3.4/3, mb1 3.6/5,mb1mx3.2/21,Error ellipse: s-maj=52.0km s-min=28.3km az=40.0*

ISC 18 04:33:00.7±0.5**,16.76N**±0.07×**93.86W**±0.04**,h155**^{km}±5^{km}**, n18,σ1**^{s}**10**/27**,mb3.6**/3**,1D,Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	1.03	289	*i* P	P	04 33 27.0	+0.7
CMIG				*i* S	S	04 33 46.3	+0.2
SCX	San Cristobal	1.18	91	*i* P	P	04 33 27.5	-0.3
SCX				*i* S	S	04 33 48.5	-0.1
TUIG	Tuzandepetl	1.37	337	*i* P	P	04 33 29.8	+0.1
TUIG				*e*S	S	04 33 50.8	-1.2
CCIG	Comitan	1.72	106	*i* P	P	04 33 34.1	+0.7
CCIG				*e*S	S	04 33 59.1	+0.6
EVV	El Vigia	2.20	320	*e*P	P	04 33 38.0	-0.9
HUIG	Huatulco	2.37	246	*i* P	P	04 33 39.4	-1.6
HUIG				*i* S	S	04 34 11.8	-0.2
TPX	Tapachula	2.41	140	*e*P	P	04 33 40.0	-1.5
OXX	Oaxaca	2.76	277	⇓*i*P	P	04 33 46.0	+0.1
OXX				*i* S	S	04 34 16.0	-4.4
VHO	Vista Hermosa	2.77	277	*i* P	P	04 33 46.8	+0.8
VHO				*e*S	S	04 34 20.4	-0.2
IISM	Ciudad Serdan	4.01	304	*i* P	P	04 34 03.5	+1.4
PPM	Popocatepetl	5.08	297	*i* P	P	04 34 18.0	+1.9
PPM				*i* P		04 34 18.1	
PPM				*i* S	S	04 35 11.2	-3.2
PPM	Popocatepetl	5.08	297	*i* P	P	04 34 18.0	+1.9
PPM				*i* S	S	04 35 05.4	-9.0
TEIG	Tepich	6.32	56	P	P	04 34 24.3	-8.3
	0.0nm,0.3s,baz=316,slow=24,SNR=3.3						
JTS	JuntasAbangare	10.79	125	P	P	04 35 32.9	+1.0
	0.8nm,0.3s,baz=310,slow=16,SNR=5.3						
TXAR	Lajitas Array	15.41	326	P	P	04 36 32.6	+1.5
	0.0nm,0.3s,baz=149,slow=12,SNR=6.9						
NVAR	Mina Array Bea	30.41	320	P	P	04 39 01.5	+0.9
	0.5nm,0.8s,mb3.3,baz=150,slow=7.3,SNR=4.6						
YKA	Yellowknife Ar	47.94	347	P	P	04 41 22.5	-2.6
	1.1nm,0.6s,mb3.7,baz=152,slow=7.3,SNR=9.4						
ARCES	ARCESS Array B	84.08	18	P	P	04 45 13.6	-1.1
	1.4nm,0.8s,mb3.7,baz=292,slow=4.9,SNR=7.5						

NEIC ***18*** *05:08:04.7,38.88N×21.88E,h5*^{km}*,MD3.3(ATH), ML2.8(THE),After ATH.*

ATH ***18*** *05:08:04.7,38.88N×21.88E,h5*^{km}*,MD3.3/5*

THE ***18*** *05:08:05.5,38.84N×21.95E,h13*^{km}*,ML2.8*

ISC 18 05:08:04.4±0.6**,38.88N**±0.03×**21.93E**±0.03**,h4**^{km}±5^{km}**, n18,σ1**^{s}**05**/28**,1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	Evrytania	0.10	290	⇑*i*PG	Pg	05 08 06.0	-0.5
EVR				*e*SG	Sg	05 08 07.0	-1.0
AGG	Agios Georgios	0.34	66	*e*Pg	Pg	05 08 11.9	+0.7
AGG				*e*Sg	Sg	05 08 18.4	+2.6
LKR	Lokris	0.87	105	*e*PB	Pb	05 08 22.0	+0.4
RLS	Riolos of Patr	0.90	204	*e*PB	Pb	05 08 22.7	+0.5
LKD	Levkas	1.02	261	*e*Pg	Pg	05 08 23.9	-0.8
	comp=Z,5.9nm,0.2s						
LKD				*e*Sg	Sg	05 08 39.6	+1.3
MEV	Metsovon	1.05	329	*e*Pg	Pg	05 08 25.4	-0.1
MEV				*e*Sg	Sg	05 08 41.2	+1.7
NEO	Neokhori	1.09	67	*e*PN	Pn	05 08 26.2	-0.2
XOR	Xorichti	1.09	63	*e*Pg	Pg	05 08 26.1	-0.1
XOR				*e*Sg	Sg	05 08 41.1	+0.3
JAN	Janina	1.14	313	*e*PB	Pb	05 08 26.1	-0.3
VLS	Valsamata	1.27	237	*e*PG	Pg	05 08 27.6	-2.1
LIT	Litokhoron	1.29	19	*e*Pb	Pb	05 08 28.5	-0.4
	comp=Z,3.3nm,0.3s						
LIT				*e*Sb	Sb	05 08 46.4	+0.6
AOS	Alonnisos	1.54	79	*e*Pb	Pb	05 08 32.0	-1.2
AOS				*e*Sb	Sb	05 08 52.4	-0.6
ITM	Ithomi	1.70	180	*e*PN	Pn	05 08 37.0	+1.9
KEK	Kerkira	1.85	297	*e*PN	Pn	05 08 39.4	+2.1
PLG	Polygyros	1.89	38	*e*PG	Pg	05 08 41.2	-1.0
FNA	Florina	1.95	347	*e*Pn	Pn	05 08 38.5	-0.1
FNA				*e*Sn	Sn	05 09 03.6	-0.2
SOH	Sokhos	2.23	29	*e*Pn	Pn	05 08 42.3	-0.3
SOH				*e*Sn	Sn	05 09 10.0	-0.9
KNT	Kendrikon	2.40	18	*e*Pn	Pn	05 08 43.4	-1.7
KNT				*e*Sn	Sn	05 09 15.8	+0.6

NEIC ***18*** *05:31:49.8±0.9,2.70S×76.32W,h146*^{km}*±9*^{km}*,mb3.8/8, Error ellipse: s-maj=14.9km s-min=7.7km az=71.0*

IDC ***18*** *05:31:52.5±3.2,2.61S×76.22W,h172*^{km}*±31*^{km}*,mb3.3/9, mb1 3.5/12,mb1mx3.5/22,Error ellipse: s-maj=25.7km s-min=12.9km az=62.0*

IGQ ***18*** *05:31:56.8,2.08S×76.84W,h12*^{km}*±4*^{km}*,mb4.4,Error ellipse: s-maj=8.2km s-min=3.0km az=74.4*

ISC 18 05:31:48.3±0.7**,2.69S**±0.06×**76.31W**±0.09**,h145**^{km}±7^{km}**, n54,σ0**^{s}**96**/55**,mb3.7**/14**,7C-10D,Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATA	Patacocha	2.43	299	⇑P	P	05 32 28.4	-0.5
ULBA	Ulba	2.43	300	⇑P	P	05 32 28.3	-0.6
ARRY	Arrayan	2.44	299	⇑P	P	05 32 28.3	-0.8
ARRY				S	S	05 32 52.1	-8.1
RETU	Refugio	2.46	300	⇓P	P	05 32 29.0	-0.3
JUIV	Juive	2.49	300	⇓P	P	05 32 29.1	-0.6
CUSU	Cusua	2.50	300	P	P	05 32 29.2	-0.6
IGUA	Igualata	2.61	297	⇓P	P	05 32 31.4	+0.1
IGUA				S	S	05 32 56.2	-7.8
PISA	Pisayambo	2.63	308	P	P	05 32 30.6	-0.9
PISA				S	S	05 32 55.2	-9.3
EPALM	Reventador vol	2.84	330	⇑P	P	05 32 32.5	-1.7
TAMB	Tambo	2.85	314	⇓P	P	05 32 34.3	0.0
ANTI	Antisana	2.89	320	⇓P	P	05 32 34.2	-0.7
MARY	Rancho Maria	2.92	312	P	P	05 32 35.4	+0.3
VC1	Cotopaxi 1	2.92	314	⇓P	P	05 32 35.4	+0.3
NAS1	Nasa	2.98	313	⇓P	P	05 32 36.5	+0.6
ELAGU	Cayambe Volc	3.13	328	P	P	05 32 37.3	-0.7
CAYR	Refugio Cayamb	3.18	328	⇓P	P	05 32 38.3	-0.2
QIL1	Quilotoa	3.20	305	⇓P	P	05 32 40.1	+1.3
CAYA	Cayambe	3.21	328	⇓P	P	05 32 38.7	-0.3
CAYA				S	S	05 33 06.8	-11
JUA2	San Juan 2	3.36	317	⇑P	P	05 32 41.8	+0.8
GGP	Refugio Guagua	3.38	318	P	P	05 32 41.8	+0.6
CGGP	Crater GGP	3.39	317	P	P	05 32 42.6	+1.3
PINO	Pino	3.40	318	⇑P	P	05 32 42.5	+1.0
YANA	Yana	3.41	318	⇑P	P	05 32 42.4	+0.8
OTAV	Otavalo	3.61	324	*e*P	P	05 32 44.4	+0.2
COTA	Cotacachi	3.62	326	P	P	05 32 45.5	+1.1
HOJA	Cerro de Hojas	4.54	291	P	P	05 32 53.0	-3.4
ROSC	El Rosal	7.75	15	P	P	05 33 41.9	+2.5
	0.6nm,0.3s,baz=206,slow=16,SNR=3.6						
NNA	Nana	9.25	183	*e*P	P	05 33 59.0	-0.4
NNA				*e*S	S	05 35 32.2	-10
SAML	Samuel	14.46	116	*e*P	P	05 35 02.7	-4.6
	1.8nm,0.4s						
LPAZ	La Paz	15.73	150	P	P	05 35 28.4	+5.2
	0.8nm,0.3s,baz=205,slow=0.8,SNR=2.8						
PCRV	Puerto La Cruz	17.28	42	P	P	05 35 41.3	-0.9
	0.6nm,0.3s,baz=218,slow=6.6,SNR=3.7						
LVC	Limon Verde	21.07	161	P	P	05 36 24.2	+1.9
	3.8nm,0.5s,mb4.0,baz=354,slow=6.4,SNR=6.0						
CPUP	Villa Florida	29.74	144	P	P	05 37 41.0	-2.4
	0.6nm,0.6s,mb3.5,baz=331,slow=15,SNR=3.1						
CPUP	Villa Florida	29.74	144	*e*P	P	05 37 40.8	-2.6
	2.2nm,0.9s,mb3.9						
BDFB	Brasilia	30.70	117	P	P	05 37 51.5	-0.4
	0.8nm,0.5s,mb3.7,baz=262,slow=7.6,SNR=5.6						
PLCA	Paso Flores	38.23	173	P	P	05 38 56.6	+0.8
	1.2nm,0.8s,mb3.6,baz=349,slow=11,SNR=4.7						
PLCA	Paso Flores	38.23	173	*e*P	P	05 38 56.7	+0.9
	1.0nm,0.6s,mb3.6						
TXAR	Lajitas Array	41.24	323	P	P	05 39 20.5	-0.1
	0.1nm,0.6s,mb2.7,baz=146,slow=9.8,SNR=3.5						
WMOK	Wichita Mounta	42.80	332	*e*P	P	05 39 32.6	-0.8
	1.1nm,0.5s,mb3.7						
ANMO	Albuquerque	46.92	326	*e*P	P	05 40 06.9	+0.7
	1.8nm,0.8s,mb3.8						
SDCO	Great Sand Dun	48.48	329	P	P	05 40 18.7	+0.5
PDAR	Pinedale Array	54.29	330	P	P	05 41 01.2	-0.5
	0.3nm,0.6s,mb3.2,baz=121,slow=8.6,SNR=4.7						
MNV	Mina	56.25	321	P	P	05 41 15.9	0.0
	1.6nm,0.9s,mb3.9						
NVAR	Mina Array Bea	56.34	321	P	P	05 41 16.8	+0.2
	0.8nm,0.7s,mb3.7,baz=130,slow=6.5,SNR=7.6						
NVAR	Mina Array Bea	56.34	321	P	P	05 41 16.8	+0.2
YKA	Yellowknife Ar	71.17	342	P	P	05 42 50.7	-2.2
	0.4nm,0.5s,mb3.4,baz=138,slow=6.2,SNR=8.5						
YKA	Yellowknife Ar	71.17	342	P	P	05 42 50.7	-2.2
DBIC	Dimbokro	71.93	82	P	P	05 42 57.8	-0.4
	1.8nm,0.4s,mb4.2,baz=236,slow=6.8,SNR=9.5						
SNAA	Sanae	82.29	162	*e*P	P	05 43 54.6	0.0
	0.8nm,0.6s,mb3.5						
QSPA	South Pole Qui	87.38	180	*e*P	P	05 44 21.2	+1.7
	3.5nm,0.9s,mb4.2						
MKAR	Makanchi Array	132.29	20	PKP	PKPdf	05 50 45.1	-0.3
	0.3nm,0.5s,baz=297,slow=2.3,SNR=4.3						
ASAR	Alice Springs	140.61	227	PKhKP		05 50 55.3	
	0.5nm,0.6s,baz=121,slow=4.2,SNR=4.7						
ASAR				PKP	PKPdf	05 51 04.8	+3.3
	0.3nm,0.4s,baz=112,slow=2.2,SNR=3.6						
WRA	Warramunga Arr	142.44	232	PKhKP		05 51 01.6	
	1.5nm,1.1s,baz=116,slow=2.9,SNR=14						
WRA				PKP	PKPdf	05 51 08.8	+4.1
	0.7nm,0.4s,baz=120,slow=1.7,SNR=14						
WRA				pPKP		05 51 45.3	
	0.5nm,0.5s,baz=118,slow=1.9,SNR=2.9						
FITZ	Fitzroy Crossi	150.09	225	PKPbc	PKPdf	05 51 24.4	+6.9
	2.4nm,0.6s,baz=46,slow=3.1,SNR=13						
FITZ				pPKPbc		05 52 00.7	
	4.1nm,1.1s,baz=353,slow=5.5,SNR=2.5						

*BJI **18** 05:56:58.4,36.80N×34.30E,h9^{km},mB4.5,mb4.7,Ms4.2, Msz4.1*

*MOS **18** 05:56:59.3±1.1,36.77N×34.38E,h10^{km},mb4.4/21,Error ellipse: s-maj=9.5km s-min=5.3km az=112.0*

*IDC **18** 05:56:59.8±0.8,36.86N×34.42E,mb4.2/13,mb1 4.3/19, mb1mx4.2/24,ML4.4/5,MS3.6/6,Ms1 3.6/6,ms1mx3.1/24, Error ellipse: s-maj=15.9km s-min=13.1km az=56.0*

*ISK **18** 05:57:00.2,36.81N×34.35E,h9^{km},MD4.4,ML4.5*

*MED_RC **18** 05:57:00.5±0.5,36.79N×34.35E,h15^{km},MW4.3/9, Moment Tensor Solution. Body waves: s9,c9; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-2.08±.15; M$_{\theta\theta}$0.83±.20; M$_{\phi\phi}$1.24±.24; M$_{r\theta}$1.60±.23; M$_{\theta\phi}$0.24±.16; M$_{\phi r}$2.56±.26; Best double couple: M$_0$3.47×10^{15} NP1:ϕ_s26°, δ15°,λ-95°. NP2:ϕ_s211°,δ75°,λ-89°. Principal axes: T 3.1, Plg30°, Azm300°; N .73, Plg1°, Azm31°; P -3.84, Plg60°, Azm123°; nsta1 refers to waves, cutoff=35s.*

*NEIC **18** 05:57:00.5,36.79N×34.35E,h10^{km},mb4.5/39, ML4.6(ISK),ML4.2(GII),After ISK.*

*ZUR_RM **18** 05:57:00,36.79N×34.35E,h30^{km},Mw4.5/5,Moment Tensor Solution. s5 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-4.28; M$_{\theta\theta}$1.49; M$_{\phi\phi}$2.78; M$_{r\theta}$2.13; M$_{\theta\phi}$3.22; M$_{\phi r}$3.21; Best double couple: M$_0$6.19×10^{15} NP1:ϕ_s215°,δ64°,λ-94°. NP2:ϕ_s45°,δ26°,λ-81°. Principal axes: T 6.754, Plg19°, Azm308°; N -1.119, Plg4°, Azm217°; P -5.635, Plg70°, Azm116°;*

*CSEM **18** 05:57:00.4,36.75N×34.34E,h10^{km},mb4.6*

*NSSC **18** 05:57:03.4,36.92N×34.34E,h40^{km}*

ISC 18 05:57:00.7±0.1,**36.78N**±0.01×**34.33E**±0.02,**h14**^{km}, **h14**^{km}±.8^{km}**:pP-P,n272,**σ1^{s}**14**/300,**mb4.4**/51,**MS3.8**/8, **9C-18D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKL	**Isikli**	**0.75**	**224**	*i* PG	**Pg**	**05 57 15.7**	**-0.1**
IKL	**Isikli**	**0.75**	**224**	Pg	**Pg**	**05 57 15.6**	**-0.2**
CEYT	**Ceyhan**	**1.16**	**78**	*i* PN	**Pn**	**05 57 22.6**	**+0.1**
CEYT	**Ceyhan**	**1.16**	**78**	Pn	**Pn**	**05 57 22.6**	**+0.1**
CEYT				Sg	**Sg**	**05 57 39.6**	**+0.1**
HDMB	**Hadim**	**1.49**	**278**	*i* PN	**Pn**	**05 57 27.7**	**+0.4**
HDMB	**Hadim**	**1.49**	**278**	Pn	**Pn**	**05 57 28.0**	**+0.7**
HTY	**Hatay**	**1.60**	**114**	*i* PN	**Pn**	**05 57 30.0**	**+1.2**
ARNB	**Al Arnab**	**1.61**	**124**	⇑P	**Pn**	**05 57 30.6**	**+1.6**
ARNB				⇑S	**Sn**	**05 57 50.4**	**+0.8**
BTCH	**Batrach**	**1.87**	**113**	⇓P	**Pn**	**05 57 34.2**	**+1.5**
BTCH				⇓S	**Sn**	**05 57 55.6**	**-0.6**
DRWC	**Darouich**	**1.88**	**94**	⇓P	**Pn**	**05 57 33.8**	**+0.9**
DRWC				⇓S	**Sn**	**05 57 54.6**	**-1.9**
SLNF	**Slenfeh**	**1.93**	**127**	⇓P	**Pn**	**05 57 35.0**	**+1.5**
SLNF				⇓S	**Sn**	**05 57 58.5**	**+0.7**
KONT	**Konya--Tatoy**	**1.96**	**307**	*i* PN	**Pn**	**05 57 35.1**	**+1.2**
KONT	**Konya--Tatoy**	**1.96**	**307**	Pn	**Pn**	**05 57 35.3**	**+1.4**
CSS	**Prodhromos**	**1.98**	**204**	*i* P	**Pn**	**05 57 33.1**	**-1.2**
CSS				*i* S	**Sn**	**05 58 00.0**	**+0.9**
CSS	**Prodhromos**	**1.98**	**204**	*e*P	**Pn**	**05 57 33.3**	**-1.0**
LEF	**Lefka**	**2.02**	**216**	*i* PN	**Pn**	**05 57 35.2**	**+0.3**
AVNT	**Avonos**	**2.04**	**12**	*i* P	**Pn**	**05 57 36.1**	**+1.0**
AVNT				*i* S	**Sn**	**05 58 04.2**	**+3.6**
WRDH	**Warideh**	**2.11**	**126**	⇓P	**Pn**	**05 57 37.3**	**+1.3**
WRDH				⇓S	**Sn**	**05 58 02.8**	**+0.6**
KAHT	**Ahir Dag**	**2.20**	**66**	*i* P	**Pn**	**05 57 38.0**	**+0.6**
KAHT				*i* S	**Sg**	**05 58 15.0**	**+0.9**
GAZ	**Gaziantep**	**2.34**	**79**	*i* PN	**Pn**	**05 57 39.7**	**+0.3**
GAZ	**Gaziantep**	**2.34**	**79**	Pn	**Pn**	**05 57 39.6**	**+0.2**
BIDA	**Albida**	**2.39**	**137**	⇑P	**Pn**	**05 57 41.0**	**+0.9**
BIDA				⇑S	**Sn**	**05 58 09.0**	**-0.4**
KAMT	**Kaman**	**2.63**	**350**	*i* PN	**Pn**	**05 57 43.2**	**-0.4**
KAMT	**Kaman**	**2.63**	**350**	Pn	**Pn**	**05 57 43.3**	**-0.3**
GZT	**Gaziantep**	**2.65**	**76**	*i* P	**Pn**	**05 57 43.5**	**-0.3**
HWQ	**Hawqa**	**2.82**	**152**	*e*PN	**Pn**	**05 57 47.4**	**+1.1**
HWQ				SN	**Sn**	**05 58 21.0**	**+0.6**
HWQ	**Hawqa**	**2.82**	**152**	P	**Pn**	**05 57 47.3**	**+1.0**
KIZT	**Kizilcal**	**2.86**	**318**	*i* PN	**Pn**	**05 57 46.8**	**0.0**
KIZT	**Kizilcal**	**2.86**	**318**	Pn	**Pn**	**05 57 47.2**	**+0.4**
ANTB	**Antalya**	**2.95**	**273**	*i* PN	**Pn**	**05 57 48.6**	**+0.5**
BRTR	**Keskin Array B**	**2.99**	**350**	Pn	**Pn**	**05 57 48.4**	**-0.3**
	3.7nm,0.3s,baz=164,slow=17,SNR=50						
BRTR				Pg	**Pg**	**05 57 53.8**	**-6.7**
	9.5nm,0.3s,baz=166,slow=18,SNR=42						
BRTR				Lg		05 58 41.2	
	16nm,0.3s,baz=180,slow=24,SNR=7.7						
BHL	**Bhannes**	**3.06**	**159**	*e*PN	**Pn**	**05 57 50.0**	**+0.3**
BHL				SN	**Sn**	**05 58 26.2**	**-0.2**
BHL	**Bhannes**	**3.06**	**159**	P	**Pn**	**05 57 50.0**	**+0.3**
ISP	**Isparta**	**3.23**	**290**	*i* PN	**Pn**	**05 57 53.3**	**+1.3**
ISP	**Isparta**	**3.23**	**290**	*i* P	**Pn**	**05 57 53.2**	**+1.2**
ISP				*i* S	**Sg**	**05 58 44.6**	**-3.6**
ISP	**Isparta**	**3.23**	**290**	Pn	**Pn**	**05 57 52.9**	**+0.9**
MARH	**Ras Al Marh**	**3.26**	**147**	⇓P	**Pn**	**05 57 54.2**	**+1.7**
RABH	**Abou Rabah**	**3.31**	**134**	⇑P	**Pn**	**05 57 54.6**	**+1.4**
ANTO	**Ankara**	**3.32**	**339**	PN	**Pn**	**05 57 53.6**	**+0.3**
ANTO	**Ankara**	**3.32**	**339**	P	**Pn**	**05 57 53.8**	**+0.5**
MATL	**Matirih**	**3.38**	**166**	*e*PN	**Pn**	**05 57 53.8**	**-0.4**
ELL	**Elmali**	**3.55**	**271**	*e*PN	**Pn**	**05 57 58.0**	**+1.4**
ELL	**Elmali**	**3.55**	**271**	Pn	**Pn**	**05 57 58.2**	**+1.6**
MALT	**Malatya**	**3.60**	**64**	PN	**Pn**	**05 57 56.8**	**-0.5**
MALT	**Malatya**	**3.60**	**64**	Pn	**Pn**	**05 57 57.0**	**-0.3**
MYA	**Malataya**	**3.60**	**63**	*e*PN	**Pn**	**05 57 57.3**	**-0.1**
QASN	**Qassioun**	**3.61**	**153**	⇑P	**Pn**	**05 57 59.2**	**+1.8**
BRBR	**Barbar**	**3.61**	**158**	⇓P	**Pn**	**05 57 58.6**	**+1.2**
SVST	**Sivas**	**3.63**	**34**	*i* P	**Pn**	**05 57 59.6**	**+1.8**
SVST				*i* S	**Sn**	**05 58 44.8**	**+3.9**
HRI	**Mount Hermon**	**3.69**	**161**	P	**Pn**	**05 57 59.0**	**+0.4**
KSDI	**Kefar Szold**	**3.74**	**163**	P	**Pn**	**05 57 59.7**	**+0.4**
HNTI	**Hanita**	**3.75**	**169**	P	**Pn**	**05 57 58.9**	**-0.6**
HNTI				S	**Sn**	**05 58 42.1**	**-1.8**
SVSK	**Karacayir**	**3.77**	**33**	*e*PN	**Pn**	**05 58 00.5**	**+0.7**
SVSK	**Karacayir**	**3.77**	**33**	Pn	**Pn**	**05 58 01.0**	**+1.2**
TOTH	**TOTAH**	**3.82**	**153**	⇓P	**Pn**	**05 58 02.1**	**+1.7**
CTKT	**Corum**	**3.86**	**5**	*i* P	**Pn**	**05 58 03.1**	**+2.1**
CTKT				*i* S	**Sg**	**05 59 02.7**	**-6.5**
ESKT	**Eskisehir**	**3.88**	**316**	*e*PN	**Pn**	**05 58 00.9**	**-0.4**
KSL	**Kastellorizon**	**3.88**	**262**	*e*P	**Pn**	**05 58 05.0**	**+3.7**
TOKT	**Tokat**	**3.94**	**25**	*e*PN	**Pn**	**05 58 02.7**	**+0.5**
KSHT	**Keshet**	**3.98**	**162**	P	**Pn**	**05 58 04.1**	**+1.4**
HAF	**Haifa**	**4.03**	**172**	P	**Pn**	**05 58 03.3**	**-0.1**
ALT	**Altintas**	**4.04**	**306**	*e*PN	**Pn**	**05 58 03.9**	**+0.3**
ELZG	**Elazig**	**4.07**	**64**	*i* P	**Pn**	**05 58 04.4**	**+0.3**
ELZG				*i* S	**Sn**	**05 58 58.9**	**+6.8**
OFRI	**‘Ofer**	**4.18**	**172**	P	**Pn**	**05 58 05.3**	**-0.3**
TOS	**Tosya**	**4.26**	**357**	*e*PN	**Pn**	**05 58 06.8**	**+0.1**
TCHB	**Talchebab**	**4.31**	**161**	⇓P	**Pn**	**05 58 08.6**	**+1.1**
DENT	**Denizli**	**4.34**	**285**	*e*PN	**Pn**	**05 58 09.2**	**+1.4**
MDU	**Mudurnu**	**4.42**	**327**	*e*PN	**Pn**	**05 58 09.2**	**+0.2**
MMLI	**Mount Malkishu**	**4.42**	**168**	P	**Pn**	**05 58 09.2**	**+0.2**
SLTI	**Sal’it**	**4.56**	**172**	P	**Pn**	**05 58 10.5**	**-0.5**
DALT	**Dalyan (Mudla)**	**4.57**	**272**	*e*PN	**Pn**	**05 58 12.9**	**+1.8**
HMDT	**Nahal Hemdat**	**4.62**	**167**	P	**Pn**	**05 58 12.0**	**+0.2**
SAFT	**Safranbolu**	**4.64**	**344**	*e*PN	**Pn**	**05 58 12.2**	**+0.1**
BALT	**Daday**	**4.81**	**352**	*i* P	**Pn**	**05 58 16.1**	**+1.6**
BALT				*i* S	**Sg**	**05 59 26.4**	**-14**
YER	**Yerkesik**	**4.86**	**276**	*e*PN	**Pn**	**05 58 16.7**	**+1.5**
YER	**Yerkesik**	**4.86**	**276**	Pn	**Pn**	**05 58 16.9**	**+1.7**
ARG	**Arkhangelos**	**5.03**	**265**	*e*P	**Pn**	**05 58 18.5**	**+0.9**
ASF	**Jabal al Asfar**	**5.06**	**154**	Pn	**Pn**	**05 58 19.0**	**+1.0**
	11nm,0.3s,baz=210,slow=6.3,SNR=48						
ASF				Sn	**Sn**	**05 59 17.2**	**+0.3**
	10nm,0.3s,baz=32,slow=22,SNR=3.1						
ASF				LR	LR	06 00 25.9	
	comp=Z,509nm,19.9s,baz=316,slow=40						
DRGI	**Dragot**	**5.24**	**170**	P	**Pn**	**05 58 20.7**	**0.0**
MZDA	**Masada**	**5.52**	**171**	P	**Pn**	**05 58 24.6**	**+0.1**
AKS	**Akhisar**	**5.57**	**294**	*e*PN	**Pn**	**05 58 25.2**	**0.0**
BEST	**Besiri**	**5.64**	**77**	*i* P	**Pn**	**05 58 25.1**	**-1.1**
BEST				*i* S	**Sb**	**05 59 47.9**	**+1.0**
RTMM	**Retamin**	**5.72**	**177**	P	**Pn**	**05 58 28.3**	**+1.0**
MASH	**Mash‘abbe Sade**	**5.78**	**176**	P	**Pn**	**05 58 28.2**	**0.0**
BALB	**Balikesir**	**5.83**	**301**	*e*PN	**Pn**	**05 58 29.8**	**+0.9**
SVTA	**Shivta**	**5.84**	**178**	P	**Pn**	**05 58 29.8**	**+0.8**
KDAG	**Bornova**	**5.84**	**288**	*i* P	**Pn**	**05 58 29.2**	**+0.1**
IZM	**Izmir**	**5.84**	**288**	*e*PN	**Pn**	**05 58 29.1**	**0.0**
KZIT	**Kziot**	**5.86**	**179**	P	**Pn**	**05 58 29.3**	**0.0**
ZFRI	**Zfri**	**6.25**	**173**	P	**Pn**	**05 58 35.2**	**+0.4**
PRNI	**Paran**	**6.43**	**175**	P	**Pn**	**05 58 36.8**	**-0.6**
KMTI	**Karmit**	**6.66**	**177**	P	**Pn**	**05 58 39.8**	**-0.8**
HNKL	**Nakhl**	**6.83**	**183**	P	**Pn**	**05 58 42.1**	**-1.0**
MBH	**Mount Berech**	**6.98**	**176**	P	**Pn**	**05 58 45.0**	**-0.1**
HHAG	**Hagoal**	**7.06**	**196**	P	**Pn**	**05 58 44.9**	**-1.3**
KOT	**Kottamia**	**7.14**	**198**	P	**Pn**	**05 58 46.2**	**-1.2**
SANT	**Santorini**	**7.15**	**269**	*e*P	**Pn**	**05 58 43.8**	**-3.7**
	67nm,0.5s						
NPS	**Neapolis**	**7.22**	**261**	*e*P	**Pn**	**05 58 48.5**	**0.0**
HBRG	**Burj al ‘Arab**	**7.23**	**212**	P	**Pn**	**05 58 46.7**	**-1.9**
XRY	**Khrisi**	**7.27**	**257**	*e*P	**Pn**	**05 58 49.0**	**-0.1**
GLL	**Jalalah**	**7.51**	**198**	P	**Pn**	**05 58 51.1**	**-1.4**
HNAT	**Natroun**	**7.77**	**205**	P	**Pn**	**05 58 54.9**	**-1.3**
IDI	**Anoyia**	**7.79**	**262**	Pn	**Pn**	**05 58 55.5**	**-1.0**
	58nm,0.3s,baz=74,slow=14,SNR=204						
IDI				Sn	**Sn**	**06 00 24.1**	**-1.3**
	13nm,0.3s,baz=278,slow=14,SNR=3.3						
SOC	**Sochi**	**7.95**	**30**	*e*P	**Pn**	**05 58 55.9**	**-2.8**
SOC				*e*S	**Sn**	**06 00 27.6**	**-1.7**
SOC				pmax	pmax		
	comp=Z,12nm,0.5s						
SOC				pmax	pmax		
	comp=N,34nm,0.9s						
SOC				pmax	pmax		
	comp=E,30nm,1.0s						
SOC				MLR	MLR		
	comp=N,254nm,14.0s						
SOC				MLR	MLR		
	comp=Z,197nm,14.0s						
SOC				MLR	MLR		
	comp=E,119nm,15.0s						
RDO	**Rodhopi**	**8.12**	**305**	P	**P**	**05 59 00.9**	**-0.2**
SIM	**Simferopol’**	**8.17**	**359**	*e*P	**P**	**05 59 04.1**	**+2.4**
SIM				pmax	pmax		
	comp=Z,20nm,1.0s						
SIM				MLR	MLR		
	comp=Z,320nm,16.5s						
HMAT	**Matruh**	**8.26**	**229**	P	**P**	**05 59 01.6**	**-1.4**
VAM	**Vamos**	**8.31**	**264**	*e*P	**P**	**05 59 04.6**	**+0.8**
TR2		**8.38**	**184**	P	**P**	**05 59 03.5**	**-1.2**
GVD	**Gavdhos**	**8.54**	**260**	P	**P**	**05 59 03.8**	**-3.1**
	comp=Z,88nm,0.6s						
GNI	**Garni**	**8.83**	**64**	LR	LR	06 03 16.5	
	comp=Z,271nm,19.6s,baz=95,slow=43						
RZN	**Rozhen**	**8.93**	**306**	*e*P	**P**	**05 59 11.5**	**-0.7**
KYTH	**Kithira**	**9.11**	**270**	*e*P	**P**	**05 59 15.1**	**+0.4**
VLI	**Veliai**	**9.15**	**273**	*e*P	**P**	**05 59 16.0**	**+0.7**
MMB	**Musomiste**	**9.53**	**304**	*e*P	**P**	**05 59 20.0**	**-0.6**
ITM	**Ithomi**	**9.93**	**276**	*e*P	**P**	**05 59 32.0**	**+5.9**
KKB	**Krupnik**	**10.09**	**304**	*e*P	**P**	**05 59 27.0**	**-1.2**
VTS	**Vitosha**	**10.35**	**308**	*e*P	**P**	**05 59 31.0**	**-0.8**
VTS	**Vitosha**	**10.35**	**308**	P	**P**	**05 59 35.6**	**+3.8**
SWA1		**10.41**	**226**	P	**P**	**05 59 31.5**	**-1.2**
SWA2		**10.57**	**227**	P	**P**	**05 59 33.7**	**-1.3**
MLR	**Muntele Rosu**	**10.75**	**327**	Pn	**P**	**05 59 37.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=196,slow=10.0,SNR=4.0						
MLR				LR	LR	06 04 36.2	
	comp=Z,287nm,18.0s,baz=112,slow=43						
TIP	**Timpagrande**	**14.07**	**285**	*e*P	**P**	**06 00 19.8**	**-2.0**
AKASG	**Malin Array Be**	**14.39**	**347**	Pn	**P**	**06 00 24.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=162,slow=13,SNR=6.9						
AKASG	**Malin Array Be**	**14.39**	**347**	P	**P**	**06 00 24.7**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KWP	**Kalwaria**	**15.37**	**330**	*e*P	**P**	**06 00 39.7**	**+1.0**
PSZ	**Piszkesteto**	**15.39**	**321**	⇓*i*	**P**	**06 00 41.0**	**+2.0**
VYHS	**Vyhne**	**16.31**	**321**	*e*P	**P**	**06 00 51.7**	**+1.0**
BOJS	**Bojanci**	**16.78**	**307**	*i* P	**P**	**06 01 01.0**	**+4.3**
AQU	**L’Aquila**	**17.06**	**295**	P	**P**	**06 00 59.8**	**-0.5**
	comp=Z,34nm,1.0s						
VISS	**Visnje**	**17.17**	**308**	*i* P	**P**	**06 01 05.2**	**+3.6**
NRCA	**Norcia**	**17.37**	**297**	*e*P	**P**	**06 01 06.7**	**+2.5**
ARSA	**Arzberg**	**17.42**	**313**	⇑*i*P	**P**	**06 01 05.5**	**+0.8**
	comp=Z,34nm,1.8s						
OKC	**Ostrava-Krasne**	**17.53**	**323**	LM		06 09 00.0	
	comp=Z,0.2nm,5.4s						
OKC	**Ostrava-Krasne**	**17.53**	**323**	P	**P**	**06 01 07.8**	**+1.6**
OBKA	**Obir**	**17.65**	**310**	⇑*i*P	**P**	**06 01 09.1**	**+1.4**
	comp=Z,13nm,1.1s						
ARV	**Arcevia**	**17.66**	**299**	*e*P	**P**	**06 01 09.2**	**+1.5**
JAVS	**Javornik**	**17.70**	**307**	*i* P	**P**	**06 01 08.4**	**+0.1**
ASS	**Assisi**	**17.75**	**297**	*e*P	**P**	**06 01 11.3**	**+2.3**
MURB	**Monte Urbino**	**17.89**	**298**	*e*P	**P**	**06 01 13.4**	**+2.8**
VRAC	**Vranov**	**17.97**	**320**	P	**P**	**06 01 12.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=261,slow=22,SNR=7.4						
MNK	**Minsk**	**18.28**	**348**	*e*P	**P**	**06 01 11.0**	**-4.5**
PTCC	**Patocco-Chiusa**	**18.36**	**308**	*e*P	**P**	**06 01 18.0**	**+1.5**
CRE	**Caprese Michel**	**18.38**	**299**	*e*P	**P**	**06 01 22.1**	**+5.2**
OBN	**Obninsk**	**18.41**	**4**	⇓*e*P	**P**	**06 01 19.4**	**+2.4**
OBN				pmax	pmax		
	comp=Z,34nm,1.3s						
MOA	**Molln**	**18.45**	**313**	⇑*i*P	**P**	**06 01 18.4**	**+0.7**
	comp=Z,52nm,1.7s						
SFI	**Santa Sofia**	**18.53**	**300**	*e*P	**P**	**06 01 22.0**	**+3.4**
PGD	**Poggio Sodo**	**18.61**	**299**	*e*P	**P**	**06 01 21.9**	**+2.3**
KBA	**Koelnbreinsper**	**18.65**	**310**	⇑*i*P	**P**	**06 01 20.9**	**+0.9**
	comp=Z,32nm,1.9s						
VMG	**Vicchio**	**18.75**	**300**	*e*P	**P**	**06 01 23.4**	**+2.1**
DPC	**Dobruska-Polom**	**18.76**	**322**	*e*S	**S**	**06 04 53.1**	**+6.1**
DPC				LM		06 10 10.0	
	comp=Z,0.4nm,9.6s						
SUW	**Suwalki**	**18.89**	**339**	*e*P	**P**	**06 01 22.8**	**-0.1**
SEI	**Scarperia**	**18.91**	**300**	*e*P	**P**	**06 01 24.7**	**+1.6**
MOS	**Moscow**	**19.10**	**6**	*e*P	**P**	**06 01 20.6**	**-4.8**
MOS				*e*S	**S**	**06 04 52.4**	**-2.3**
MOS				pmax	pmax		
	comp=Z,126nm,1.1s						
ZCCA	**Zocca**	**19.25**	**300**	*e*P	**P**	**06 01 34.5**	**+7.3**
GEC2	**GERESS Array S**	**19.28**	**315**	*e*P	**P**	**06 01 27.6**	**0.0**
GEC2				pmax	pmax		
	comp=Z,35nm,1.3s						
GEC2	**GERESS Array S**	**19.28**	**315**	*e*P	**P**	**06 01 27.6**	**0.0**
	comp=Z,35nm,1.3s						
GERES	**GERESS Array B**	**19.28**	**315**	P	**P**	**06 01 27.6**	**0.0**
	comp=Z,1.4nm,0.3s,baz=120,slow=11,SNR=27						
GERES	**GERESS Array B**	**19.28**	**315**	P	**P**	**06 01 27.6**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTI	**Castel Tesino**	**19.32**	**306**	*e*P	**P**	**06 01 28.4**	**+0.4**
PRU	**Pruhonice**	**19.45**	**319**	*e*P	**P**	**06 01 29.6**	**+0.1**
	comp=Z,39nm,1.3s						
PRU				*i* AP		06 01 33.2	
PRU				*e*		06 01 45.1	
PRU				*e*S	**S**	**06 05 12.2**	**+10**
PRU				LM		06 10 40.0	
PRU	**Pruhonice**	**19.45**	**319**	*e*P	**P**	**06 01 29.6**	**+0.1**
PRU				*e*S	**S**	**06 05 12.2**	**+10**
KHC	**Kasperske Hory**	**19.50**	**316**	*e*P	**P**	**06 01 29.4**	**-0.7**
KHC				*e*AP		06 01 33.4	
KHC				*e*		06 01 58.6	
KHC				LM		06 10 00.0	
	comp=Z,0.3nm,11.0s						
KHC	**Kasperske Hory**	**19.50**	**316**	*e*P	**P**	**06 01 29.4**	**-0.7**
KHC				MLR	MLR		
	comp=Z,300nm,11.0s						
GSCL	**Gusciola**	**19.52**	**300**	*e*P	**P**	**06 01 31.6**	**+1.3**
ERBM	**Eremo**	**19.66**	**300**	*e*P	**P**	**06 01 33.5**	**+1.6**
PVCC	**Panska Ves**	**19.75**	**320**	*e*P	**P**	**06 01 36.6**	**+3.7**
WTTA	**Wattenberg**	**19.78**	**309**	⇑*i*P	**P**	**06 01 32.6**	**-0.7**
	comp=Z,114nm,2.0s						
WET	**Wettzell**	**19.90**	**315**	*e*P	**P**	**06 01 33.7**	**-0.9**
WET				pmax	pmax		
	comp=Z,59nm,1.1s						
WET	**Wettzell**	**19.90**	**315**	*e*P	**P**	**06 01 33.7**	**-0.9**
	comp=Z,59nm,1.1s						
SQTA	**Sankt Quirin**	**20.03**	**309**	⇑*i*P	**P**	**06 01 35.3**	**-0.7**
	comp=Z,36nm,1.5s						
MABI	**Malga Bissina**	**20.06**	**305**	*e*P	**P**	**06 01 36.3**	**0.0**
MOTA	**Moosalm**	**20.15**	**309**	⇓*i*P	**P**	**06 01 36.2**	**-1.0**
	comp=Z,34nm,1.3s						
BRG	**Berggiesshubel**	**20.28**	**320**	*i* P	**P**	**06 01 38.0**	**-0.5**
BRG				*i*		06 01 41.8	
BRG				pmax	pmax		
	comp=Z,22nm,1.0s						
BRG				MLR	MLR		
	comp=Z,220nm,11.1s,MS3.8						
BRG				MLR	MLR		
	comp=N,170nm,11.9s,MS3.8						
BRG				MLR	MLR		
	comp=E,180nm,11.9s,MS3.8						
BRG	**Berggiesshubel**	**20.28**	**320**	*i* P	**P**	**06 01 38.0**	**-0.5**
	comp=E,22nm,1.0s						
BRG				*i*		06 01 41.8	
BRG				LR	LR		
	comp=Z,220nm,11.1s,MS3.8						
BRMO	**Bormio**	**20.30**	**306**	*e*P	**P**	**06 01 39.0**	**+0.3**
PGF	**Pioggiola**	**20.30**	**294**	*e*P	**P**	**06 01 37.4**	**-1.4**
	comp=Z,28nm,0.9s						
BOB	**Bobbio (Coli)**	**20.41**	**301**	*e*P	**P**	**06 01 40.7**	**+0.7**
NKC	**Novy Kostel**	**20.70**	**317**	*e*P	**P**	**06 01 42.1**	**-0.9**
NKC				*i* AP		06 01 44.5	
DAVOX	**Davos**	**20.72**	**306**	P	**P**	**06 01 42.7**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=160,slow=6.6,SNR=7.0						
DAVA	**Damuels**	**20.90**	**308**	⇓*i*P	**P**	**06 01 44.0**	**-0.9**
	comp=Z,61nm,1.6s						
CLL	**Collm**	**21.01**	**320**	⇓P	**P**	**06 01 45.5**	**-0.6**
CLL				*i*		06 01 47.4	
CLL	**Collm**	**21.01**	**320**	*i* P	**P**	**06 01 47.4**	**+1.3**
CLL				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.4						
CLL	**Collm**	**21.01**	**320**	*i* P	**P**	**06 01 47.4**	**+1.3**
	comp=Z,31nm,1.5s,mb4.4						
GRA1	**Grafenberg Arr**	**21.11**	**315**	*e*P	**P**	**06 01 45.8**	**-1.3**
	comp=Z,17nm,1.0s,mb4.3						
GRF	**Grafenberg Arr**	**21.11**	**315**	*e*P	**P**	**06 01 45.8**	**-1.3**
GRF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
RUE	**Ruedersdorf**	**21.34**	**324**	P	**P**	**06 01 45.3**	**-4.1**
MOX	**Moxa**	**21.38**	**318**	*i* P	**P**	**06 01 49.9**	**+0.1**
	comp=Z,logA/T=1.4,mb4.5						
MOX				S	**S**	**06 05 50.0**	**+8.3**
MOX				L		06 11 08.0	
MOX	**Moxa**	**21.38**	**318**	*e*P	**P**	**06 01 49.9**	**+0.1**
MOX				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.5						
MOX				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
MOX	**Moxa**	**21.38**	**318**	*e*P	**P**	**06 01 49.9**	**+0.1**
	comp=Z,36nm,1.5s,mb4.5						
MOX				LR	LR		
	comp=Z,200nm,16.0s,MS3.6						
SBF	**Sospel**	**21.63**	**297**	*e*P	**P**	**06 01 51.9**	**-0.5**
	comp=Z,98nm,1.2s,mb4.8						
FRF	**La Foret Royal**	**22.15**	**296**	*e*P	**P**	**06 01 55.8**	**-1.8**
	comp=Z,55nm,1.1s,mb4.6						
BFO	**Black Forest**	**22.25**	**309**	*e*P	**P**	**06 01 58.1**	**-0.5**
BFO				pmax	pmax		
	comp=Z,42nm,1.4s,mb4.7						
BFO	**Black Forest**	**22.25**	**309**	*e*P	**P**	**06 01 58.1**	**-0.5**
	comp=Z,42nm,1.4s,mb4.7						
MBDF	**Montbardon**	**22.26**	**299**	*e*P	**P**	**06 01 57.8**	**-0.9**
	comp=Z,43nm,0.8s,mb4.6						
AB31	**Akbulak array**	**22.38**	**48**	*i* P	**P**	**06 02 00.1**	**+0.3**
BNI	**Bardonecchia**	**22.39**	**300**	*e*P	**P**	**06 01 57.9**	**-2.1**
	comp=Z,13nm,1.1s,mb4.3						
LPG	**La Plagne**	**22.44**	**301**	*e*P	**P**	**06 02 02.1**	**+1.6**
	comp=Z,55nm,1.1s,mb4.6						
LPL	**La Plagne**	**22.46**	**301**	*e*P	**P**	**06 02 02.1**	**+1.5**
	comp=Z,41nm,1.0s,mb4.5						
CLZ	**Clausthal**	**22.67**	**319**	*e*P	**P**	**06 02 02.3**	**-0.4**
	comp=Z,27nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**22.94**	**309**	*e*P	**P**	**06 02 02.3**	**-3.0**
	comp=Z,35nm,1.0s,mb4.4						
HINF	**Hinteralfeld**	**23.00**	**307**	*e*P	**P**	**06 02 04.7**	**-1.3**
	comp=Z,8.2nm,0.5s,mb4.1						
CABF	**La Chapelle**	**23.16**	**304**	*e*P	**P**	**06 02 08.7**	**+1.3**
HAU	**Haudompre**	**23.39**	**307**	*e*P	**P**	**06 02 10.0**	**+0.3**
HAU				*e*R			
	comp=Z,184nm,21.5s						
VIVF	**Saint-Julien-l**	**23.75**	**299**	*e*P	**P**	**06 02 12.7**	**-0.6**
	comp=Z,16nm,0.9s,mb4.2						
BSEG	**Bad Segeberg**	**23.88**	**324**	*e*P	**P**	**06 02 13.9**	**-0.5**
BSEG				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
MEZF	**Maizieres J’vi**	**24.36**	**308**	*e*P	**P**	**06 02 20.0**	**+0.8**
SMF	**Signal de Mont**	**24.67**	**303**	*e*P	**P**	**06 02 22.6**	**+0.5**
	comp=Z,32nm,1.0s,mb4.5						
LOR	**Lormes**	**24.80**	**305**	*e*P	**P**	**06 02 22.5**	**-0.9**
	comp=Z,26nm,1.0s,mb4.4						
LOR				*e*R			
	comp=Z,198nm,18.5s						
SSF	**Saint Saulge**	**24.99**	**304**	*e*P	**P**	**06 02 24.7**	**-0.5**
	comp=Z,15nm,0.9s,mb4.2						
AVF	**Avril sur Loir**	**25.03**	**303**	*e*P	**P**	**06 02 25.1**	**-0.5**
	comp=Z,29nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**25.23**	**351**	P	**P**	**06 02 25.4**	**-2.0**
	comp=Z,4.6nm,0.8s,mb4.1,baz=150,slow=12,SNR=18						
FINES	**FINESS Array B**	**25.23**	**351**	P	**P**	**06 02 25.4**	**-2.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BGF	**Bois d’Agland**	**25.32**	**303**	*e*P	**P**	**06 02 27.8**	**-0.6**
MTLF	**Montolieu**	**25.33**	**295**	*e*P	**P**	**06 02 28.1**	**-0.4**
	comp=Z,12nm,0.8s,mb4.2						
BAIF	**Baives**	**25.39**	**311**	*e*P	**P**	**06 02 27.2**	**-1.8**
ARU	**Arti**	**25.52**	**32**	⇓*i*P	**P**	**06 02 29.1**	**-1.1**
ARU				*e*		06 03 02.7	
ARU				*e*S	**S**	**06 06 59.1**	**+4.5**
ARU				*e*SS	SS	06 07 54.1	-3.4
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
CAF	**Calviac**	**25.60**	**299**	*e*P	**P**	**06 02 33.4**	**+2.4**
TCF	**Toulx Ste Croi**	**25.70**	**302**	*e*P	**P**	**06 02 32.8**	**+0.9**
	comp=Z,37nm,1.2s,mb4.5						
KAF	**Kangasniemi**	**25.85**	**351**	*e*p	**P**	**06 02 28.2**	**-5.0**
	comp=Z,2.7nm,0.7s,mb3.9						
KAF	**Kangasniemi**	**25.85**	**351**	*e*P	**P**	**06 02 28.2**	**-5.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
HFS	**Hagfors**	**26.86**	**337**	P	**P**	**06 02 40.9**	**-1.5**
	comp=Z,3.4nm,0.6s,mb4.1,baz=144,slow=13,SNR=8.7						
HFS	**Hagfors**	**26.86**	**337**	P	**P**	**06 02 40.9**	**-1.5**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MFF	**Saint Martin d**	**27.36**	**302**	*e*P	**P**	**06 02 46.6**	**-0.6**
KKAR	**Karatay Array**	**28.30**	**66**	*i* P	**P**	**06 02 55.2**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
NB2	**NORSAR Subarra**	**28.34**	**336**	P	**P**	**06 02 56.0**	**+0.1**
	comp=Z,4.8nm,1.4s,mb3.9,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**28.34**	**336**	P	**P**	**06 02 53.5**	**-2.3**
	comp=Z,2.0nm,0.9s,mb3.7,baz=133,slow=8.6,SNR=4.6						
NOA				LR	LR	06 15 30.5	
	comp=Z,78nm,19.4s,MS3.3,baz=135,slow=39						
NOA	**NORSAR Array B**	**28.34**	**336**	P	**P**	**06 02 53.6**	**-2.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,78nm,19.4s						
ZRNK	**Zerenda**	**29.06**	**45**	P	**P**	**06 03 01.6**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.3						
ZRNK	**Zerenda**	**29.06**	**45**	*e*P	**P**	**06 03 01.4**	**-1.0**
	comp=Z,4.4nm,1.1s,mb4.1						
BVA0	**Borovoye Array**	**29.87**	**46**	*i* P	**P**	**06 03 08.9**	**-0.9**
BVAR	**Borovoye Array**	**29.87**	**46**	P	**P**	**06 03 08.5**	**-1.2**
	comp=Z,5.1nm,1.2s,mb4.1,baz=207,slow=6.6,SNR=7.7						
VOSK	**Vostochnaya**	**30.12**	**46**	P	**P**	**06 03 11.3**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
FRU	**Bishkek**	**31.31**	**66**	*e*P	**P**	**06 03 23.0**	**+0.4**
ARCES	**ARCESS Array B**	**33.17**	**354**	P	**P**	**06 03 35.9**	**-2.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=173,slow=9.8,SNR=13						
ARCES				LR	LR	06 19 13.1	
	comp=Z,95nm,18.0s,MS3.5,baz=270,slow=40						
ARCES	**ARCESS Array B**	**33.17**	**354**	P	**P**	**06 03 35.9**	**-2.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,95nm,18.0s						
KURK	**Kurchatov**	**34.36**	**52**	*i* P	**P**	**06 03 48.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
KURK	**Kurchatov**	**34.36**	**52**	*e*P	**P**	**06 03 47.9**	**-1.2**
	comp=Z,6.3nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**36.63**	**59**	P	**P**	**06 04 07.8**	**-0.5**
	comp=Z,5.8nm,0.9s,mb4.4,baz=272,slow=5.4,SNR=28						
MKAR	**Makanchi Array**	**36.63**	**59**	*i* P	**P**	**06 04 07.6**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**36.63**	**59**	P	**P**	**06 04 07.8**	**-0.5**
NVS	**Novosibirsk**	**37.67**	**46**	*e*P	**P**	**06 04 15.2**	**-1.8**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
KMBO	**Kilima Mbogo**	**37.81**	**175**	P	**P**	**06 04 16.2**	**-2.4**
WMQ	**Urumqi**	**40.70**	**63**	⇑P	**P**	**06 04 42.5**	**+0.2**
WMQ				AP	pP	06 04 47.0	+0.6
WMQ				XP	sP	06 04 49.5	+1.4
WMQ				PP	PP	06 06 20.0	+0.5
WMQ				S	**S**	**06 10 52.0**	**+0.1**
WMQ				XS		06 10 59.5	
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,18nm,6.2s						

WMQ				LR	LR		
	comp=N,57nm,20.4s,MS3.6						
WMQ				LR	LR		
	comp=E,73nm,19.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,56nm,20.0s,MS3.4						
KOLN	**Koldanda**	**42.23**	**88**	*e*P	**P**	**06 04 54.6**	**-0.4**
	comp=Z,44nm,1.1s,mb5.0						
GKN	**Gorkha**	**42.96**	**87**	*e*P	**P**	**06 05 00.6**	**-0.4**
	comp=Z,88nm,1.0s,mb5.5						
HYB	**Hyderabad**	**43.39**	**104**	⇑*i*P	**P**	**06 05 04.0**	**-0.6**
HYB	**Hyderabad**	**43.39**	**104**	⇑*e*P	**P**	**06 05 04.0**	**-0.6**
DMN	**Daman**	**43.50**	**87**	*e*P	**P**	**06 05 05.4**	**0.0**
	comp=Z,80nm,1.0s,mb5.4						
KKN	**Kakani**	**43.56**	**87**	*e*P	**P**	**06 05 05.6**	**-0.3**
	comp=Z,54nm,0.9s,mb5.3						
PKI	**Pulchoki**	**43.76**	**87**	*e*P	**P**	**06 05 07.1**	**-0.4**
	comp=Z,62nm,1.1s,mb5.3						
DBIC	**Dimbokro**	**46.61**	**240**	P	**P**	**06 05 31.1**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=12,SNR=8.0						
DBIC	**Dimbokro**	**46.61**	**240**	P	**P**	**06 05 31.1**	**+0.7**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**46.61**	**240**	P	**P**	**06 05 28.1**	**-2.3**
LIC	**Lamto**	**47.05**	**239**	*e*P	**P**	**06 05 32.0**	**-1.9**
	comp=Z,30nm,1.1s,mb4.9						
ZAK	**Zakamensk**	**50.02**	**51**	*e*P	**P**	**06 05 55.9**	**-0.5**
GTA	**Gaotai**	**50.58**	**66**	*e*P	**P**	**06 06 00.3**	**-0.6**
GTA				AP	pP	06 06 03.8	-1.2
GTA				XP	sP	06 06 05.8	-0.8
GTA				PCP	PcP	06 07 21.8	+3.0
GTA				PP	PP	06 07 57.3	-0.4
GTA				PPP	PPP	06 08 53.1	-2.4
GTA				SCP		06 11 13.9	
GTA				S	**S**	**06 13 13.5**	**0.0**
GTA				XS		06 13 21.9	
GTA				SS	SS	06 16 44.9	-0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
GTA				AMB	AMB		
	comp=Z,79nm,5.3s						
GTA				LR	LR		
	comp=N,59nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=E,111nm,17.9s,MS4.0						
GTA				LR	LR		
	comp=Z,50nm,16.7s,MS3.6						
LSZ	**Lusaka**	**52.09**	**188**	*e*P	**P**	**06 06 12.5**	**-0.2**
	comp=Z,8.1nm,1.3s,mb4.5						
SONM	**Songino Array**	**52.62**	**54**	P	**P**	**06 06 15.0**	**-1.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=283,slow=7.3,SNR=12						
BOD	**Bodaibo**	**54.51**	**40**	*e*P	**P**	**06 06 26.7**	**-3.2**
BOD				*e*	pP	06 06 30.7	-3.4
TSUM	**Tsumeb**	**57.88**	**199**	P	**P**	**06 06 55.4**	**+0.8**
	comp=Z,9.2nm,1.4s,mb4.6,baz=50,slow=5.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**59.05**	**89**	P	**P**	**06 07 00.5**	**-2.4**
	comp=Z,2.4nm,0.9s,mb4.2,baz=298,slow=8.6,SNR=8.2						
CMAR	**Chiang Mai Arr**	**59.05**	**89**	P	**P**	**06 07 00.5**	**-2.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CN2	**Changchun**	**66.43**	**52**	*e*P	**P**	**06 07 50.0**	**-1.5**
SCHQ	**Schefferville**	**66.66**	**322**	P	**P**	**06 07 50.2**	**-2.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=73,slow=7.3,SNR=5.8						
SCHQ				LR	LR	06 35 59.3	
	comp=Z,52nm,19.2s,MS3.8,baz=327,slow=35						
NJ2	**Nanjing**	**67.67**	**66**	*e*P	**P**	**06 07 58.1**	**-1.5**
NJ2				AP	pP	06 08 02.8	-1.0
NJ2				XP	sP	06 08 04.9	-0.4
NJ2				PP	PP	06 10 28.6	-2.1
NJ2				S	S	06 16 53.0	-1.9
NJ2				XS		06 17 01.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=Z,1μm,23.8s,MS5.1						
MDJ	**Mudanjiang**	**68.61**	**50**	P	**P**	**06 08 02.0**	**-3.2**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,72nm,5.7s						
SSE	**Sheshan**	**69.87**	**66**	P	**P**	**06 08 12.6**	**-0.5**
SSE				AMB	AMB		
	comp=Z,13nm,10.8s						
YKA	**Yellowknife Ar**	**77.96**	**346**	P	**P**	**06 08 58.2**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=22,slow=4.8,SNR=4.5						
YKA	**Yellowknife Ar**	**77.96**	**346**	P	**P**	**06 08 58.2**	**-1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**77.96**	**346**	P	**P**	**06 08 58.2**	**-1.2**
LAO	**LASA Array**	**89.68**	**334**	*e*P	**P**	**06 09 58.5**	**-0.8**

*NEIC **18** 05:58:03.1, 36.36S×73.00W, h30^{km}, ML3.4(GUC), After GUC.*

GUC 18 05:58:03.1±0.8**, 36.36S×73.00W, h30**^{km}±4^{km}**, MD3.8, ML3.4, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.29**	**37**	*e*P	Pb	05 58 10.1	-0.2
COCH				*i* S	Sb	05 58 15.4	+0.2
COCH				AMP		05 58 15.8	
	comp=E,7μm,0.2s						
CCHI	**Chillan**	**0.78**	**108**	⇓*i*P	Pb	05 58 18.1	0.0
CCHI				*i* S	Sb	05 58 28.1	-0.3
CCHI				AMP		05 58 36.8	
	comp=E,1μm,0.5s						
TALC	**Talca**	**1.47**	**50**	⇑*i*P	Pn	05 58 28.0	0.0
TALC				*i* S	Sn	05 58 47.4	+1.1
TALC				AMP		05 58 54.8	
	comp=N,2μm,0.3s						
NICH	**Los Niches**	**1.98**	**47**	*e*P	Pn	05 58 36.1	+0.8
LNV	**Longovilo**	**2.73**	**29**	*e*P	Pn	05 58 44.3	-1.7
CICH	**Cipreses**	**2.93**	**47**	*e*P	Pn	05 58 49.4	+0.5
CHCH	**Chadas Angostu**	**3.09**	**39**	*e*P	Pn	05 58 51.1	0.0
RCDM	**Rinconada Maip**	**3.38**	**33**	*e*P	Pn	05 58 53.9	-1.4
LMEL	**Las Melosas**	**3.40**	**43**	*e*P	Pn	05 58 55.7	+0.2
LMEL				AMP		05 59 53.8	
	comp=E,132nm,0.7s						
FCH	**Farellones**	**3.76**	**37**	*e*P	Pn	05 58 59.8	-0.8
FCH				*i* S	Sn	05 59 44.2	-0.1

*NEIC **18** 06:18:28.7±1.1, 29.84N×93.13E, h37^{km}±15^{km}, mb3.5/1, Error ellipse: s-maj=15.0km s-min=10.4km az=218.0*
*IDC **18** 06:18:30.8±4.5, 29.87N×93.28E, h58^{km}±43^{km}, mb3.2/5, mb1 3.4/7, mb1mx3.3/20, ML3.7/2, Error ellipse: s-maj=51.8km s-min=18.0km az=62.0*

ISC 18 06:18:26.5±1.6**, 29.81N**±0.10×**93.12E**±0.09**, h39**^{km}±20^{km}**, n15, σ1$\overset{s}{.}$04**/15**, mb3.6**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**1.71**	**267**	*e*P	**P**	**06 18 55.6**	**+1.1**
PKI	**Pulchoki**	**7.13**	**254**	*e*P	**P**	**06 20 11.5**	**+0.5**
	6.9nm,0.4s						
KKN	**Kakani**	**7.17**	**256**	*e*P	**P**	**06 20 12.0**	**+0.5**
	6.7nm,0.4s						
DMN	**Daman**	**7.37**	**255**	*e*P	**P**	**06 20 14.4**	**+0.1**
	8.4nm,0.6s						
GKN	**Gorkha**	**7.65**	**258**	*e*P	**P**	**06 20 16.3**	**-1.9**
	5.5nm,0.4s						
KOLN	**Koldanda**	**8.60**	**259**	*e*P	**P**	**06 20 29.0**	**-2.3**
CMAR	**Chiang Mai Arr**	**12.49**	**154**	P	**P**	**06 21 26.0**	**+1.5**
	0.3nm,0.3s,baz=333,slow=12,SNR=5.0						
ENH	**Enshi**	**14.19**	**84**	P	**P**	**06 21 46.2**	**-0.7**
	3.4nm,0.7s						
MKAR	**Makanchi Array**	**18.93**	**337**	P	**P**	**06 22 46.3**	**-0.4**
	0.1nm,0.3s,baz=157,slow=11,SNR=2.4						
SONM	**Songino Array**	**20.71**	**26**	P	**P**	**06 23 05.2**	**-0.6**
	0.9nm,0.6s,baz=210,slow=11,SNR=12						
KURK	**Kurchatov**	**23.55**	**337**	P	**P**	**06 23 35.5**	**+1.6**
	1.3nm,0.7s,mb3.5						
BVAR	**Borovoye Array**	**28.55**	**331**	P	**P**	**06 24 21.3**	**+0.7**
	0.2nm,0.4s,mb3.2,baz=135,slow=8.2,SNR=2.7						
NOA	**NORSAR Array B**	**60.55**	**326**	P	**P**	**06 28 35.3**	**+0.3**
	0.7nm,0.7s,mb3.9,baz=80,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**63.43**	**136**	P	**P**	**06 28 54.8**	**-0.1**
	0.3nm,0.8s,mb3.5,baz=320,slow=8.0,SNR=3.5						
ASAR	**Alice Springs**	**66.05**	**139**	P	**P**	**06 29 10.8**	**-0.9**
	1.2nm,1.1s,mb3.8,baz=326,slow=7.3,SNR=4.9						

*IDC **18** 06:56:17.4±0.5, 74.95N×1.50W, mb4.0/20, mb1 4.1/26, mb1mx4.1/31, ML3.6/6, MS3.2/4, Ms1 3.2/4, ms1mx2.5/30, Error ellipse: s-maj=19.9km s-min=9.7km az=41.0*
*NEIC **18** 06:56:17.6±3.3, 74.85N×2.05W, h1^{km}±21^{km}, mb4.4/2, Error ellipse: s-maj=9.3km s-min=5.8km az=205.0*
*BER **18** 06:56:17.1±3.5, 75.18N×3.64W, h10^{km}, MD3.3, ML3.4*

ISC 18 06:56:17.1±0.3**, 74.82N**±0.05×**2.1W**±0.2**, h10**^{km}**, n56, σ1$\overset{s}{.}$18**/52**, mb4.0**/22**, MS3.1**/4**, 1D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**4.24**	**209**	*e*P	**Pn**	**06 57 22.7**	**-0.6**
JNW				AML	AML	06 57 26.2	
	comp=Z,428nm,0.4s						
JNE	**Jan Mayen East**	**4.26**	**208**	*e*P	**Pn**	**06 57 22.8**	**-0.7**
JNE				AML	AML	06 57 30.9	
	comp=Z,330nm,0.5s						
JMIC	**Jan Mayen**	**4.29**	**209**	Pn	**Pn**	**06 57 23.1**	**-0.9**
	comp=Z,194nm,0.3s,baz=40,slow=3.0,SNR=90						
JMIC				Sn	**Sn**	**06 58 10.3**	**-4.4**
	baz=59,slow=23,SNR=2.9						
JMIC	**Jan Mayen**	**4.29**	**209**	*e*P	**Pn**	**06 57 23.1**	**-0.9**
JMIC				*e*S	**Sn**	**06 58 08.4**	**-6.3**
JMI	**Jan Mayen**	**4.37**	**210**	*e*P	**Pn**	**06 57 24.5**	**-0.7**
DAG	**Danmarks Havn**	**4.50**	**304**	⇓*i*P	**Pn**	**06 57 25.0**	**-2.0**
	comp=Z,57nm,0.3s						
DAG				*i*		06 58 13.9	
KBS	**Kingsbay**	**5.21**	**31**	*e*P	**Pn**	**06 57 32.1**	**-4.8**
KBS				*e*S	**Sn**	**06 58 25.5**	**-12**
KBS				AML	AML	06 58 29.2	
	comp=Z,29nm,0.4s						
SCO	**Scoresbysund**	**7.32**	**243**	*i* P	**Pn**	**06 58 05.8**	**-0.9**
	comp=Z,24nm,0.5s						
SCO				*i*		07 03 04.6	
TRO	**Tromso**	**8.24**	**119**	*e*P	**P**	**06 58 17.5**	**-2.1**
LOF	**Lofoten**	**8.34**	**136**	*e*P	**P**	**06 58 23.0**	**+2.0**
KTK1	**Kautokeino**	**9.72**	**114**	*e*P	**P**	**06 58 39.1**	**-0.7**
ARCES	**ARCESS Array B**	**9.90**	**108**	Pn	**P**	**06 58 39.5**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=319,slow=10,SNR=23						
SUMG	**Summit**	**10.32**	**275**	*e*P	**P**	**06 58 46.1**	**-2.0**
BORG	**Borgarnes**	**12.00**	**223**	Pn	**P**	**06 59 18.5**	**+7.5**
	comp=Z,0.7nm,0.3s,baz=23,slow=4.8,SNR=5.4						
NB2	**NORSAR Subarra**	**14.66**	**154**	P	**P**	**06 59 52.2**	**+6.2**
	comp=Z,4.6nm,1.0s,baz=346,slow=11						
NOA	**NORSAR Array B**	**14.66**	**154**	Pn	**P**	**06 59 47.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=333,slow=11,SNR=2.6						
HFS	**Hagfors**	**15.85**	**150**	Pn	**P**	**07 00 02.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=12,SNR=8.5						
FINES	**FINESS Array B**	**16.75**	**128**	Pn	**P**	**07 00 14.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=333,slow=13,SNR=7.9						
EKA	**Eskdalemuir Ar**	**19.58**	**182**	P	**P**	**07 00 48.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=12,slow=9.6,SNR=4.8						
RES	**Resolute Bay**	**22.09**	**315**	*e*P	**P**	**07 01 15.1**	**+1.6**
FRB	**Frobisher Bay**	**24.37**	**279**	LR	LR	07 10 34.3	
	comp=Z,53nm,21.7s,MS3.0,baz=249,slow=35						
CLL	**Collm**	**24.42**	**157**	P	**P**	**07 01 36.0**	**-0.3**
MOX	**Moxa**	**24.93**	**159**	*e*P	**P**	**07 01 44.0**	**+2.8**
VRAC	**Vranov**	**26.80**	**152**	P	**P**	**07 01 59.8**	**+1.2**
	comp=Z,4.2nm,0.5s,mb4.2,baz=1.7,slow=13,SNR=1.2						
GERES	**GERESS Array B**	**26.92**	**157**	P	**P**	**07 02 00.9**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.5,baz=344,slow=9.7,SNR=4.5						
AKASG	**Malin Array Be**	**27.43**	**134**	P	**P**	**07 02 02.5**	**-1.9**
	comp=Z,5.1nm,0.9s,mb4.1,baz=342,slow=9.5,SNR=9.4						
DAVOX	**Davos**	**28.62**	**163**	P	**P**	**07 02 13.2**	**-2.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=340,slow=15,SNR=2.0						
SCHQ	**Schefferville**	**31.57**	**267**	P	**P**	**07 02 42.0**	**+0.7**
	comp=Z,6.9nm,1.2s,mb4.3,baz=21,slow=10,SNR=3.5						
SCHQ				LR	LR	07 14 47.4	
	comp=Z,54nm,18.6s,MS3.2,baz=222,slow=35						
SCHQ	**Schefferville**	**31.57**	**267**	P	**P**	**07 02 42.0**	**+0.7**
SCHQ				LR	LR	07 14 47.4	
INK	**Inuvik**	**33.82**	**330**	P	**P**	**07 03 00.8**	**0.0**
	comp=Z,1.9nm,1.0s,mb4.0,baz=51,slow=10,SNR=5.0						
INK	**Inuvik**	**33.82**	**330**	P	**P**	**07 03 00.2**	**-0.6**
ESDC	**Sonseca Array**	**35.25**	**182**	P	**P**	**07 03 14.6**	**+1.2**
	comp=Z,1.5nm,0.7s,mb4.1,slow=8.0,SNR=3.9						
BVAR	**Borovoye Array**	**35.26**	**87**	P	**P**	**07 03 12.9**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=319,slow=13,SNR=4.3						
YKA	**Yellowknife Ar**	**36.13**	**313**	P	**P**	**07 03 20.7**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=20,slow=9.0,SNR=9.3						
YKA				PcP	PcP	07 05 44.7	-2.0
	comp=Z,0.5nm,0.6s,baz=23,slow=3.1,SNR=4.2						
YKA	**Yellowknife Ar**	**36.13**	**313**	P	**P**	**07 03 20.8**	**+0.1**
YKA				PcP	PcP	07 05 44.7	-2.0
ILAR	**Eielson Array**	**38.80**	**337**	P	**P**	**07 03 44.0**	**+1.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=8.1,slow=7.4,SNR=21						
BRTR	**Keskin Array B**	**38.84**	**134**	P	**P**	**07 03 44.4**	**+0.7**
	comp=Z,2.9nm,0.7s,mb4.1,baz=347,slow=6.4,SNR=9.4						
FFC	**Flin Flon**	**40.56**	**298**	*e*P	**P**	**07 03 58.5**	**+0.8**
	comp=Z,7.2nm,0.8s,mb4.3						
GNI	**Garni**	**40.75**	**121**	LR	LR	07 20 37.7	
	comp=Z,24nm,18.1s,MS3.1,baz=185,slow=36						
ULM	**Lac du Bonnet**	**43.23**	**291**	P	**P**	**07 04 20.6**	**+1.2**
	comp=Z,6.0nm,1.1s,mb4.2,baz=358,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**44.07**	**79**	P	**P**	**07 04 25.9**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.1,baz=356,slow=7.1,SNR=2.5						
MKAR				LR	LR	07 26 03.3	
	comp=Z,22nm,18.2s,MS3.1,baz=108,slow=41						
ASF	**Jabal al Asfar**	**46.79**	**133**	P	**P**	**07 04 48.3**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=293,slow=2.0,SNR=3.5						
SONM	**Songino Array**	**48.97**	**58**	P	**P**	**07 05 02.3**	**-2.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=329,slow=8.4,SNR=3.3						
NEW	**Newport**	**49.96**	**308**	P	**P**	**07 05 12.2**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.4,baz=1.8,slow=5.4,SNR=5.4						
CHMT	**Chamberlain Mo**	**50.41**	**304**	*e*P	**P**	**07 05 16.3**	**+0.3**
PDAR	**Pinedale Array**	**53.52**	**299**	P	**P**	**07 05 39.9**	**+0.5**
	comp=Z,2.4nm,1.2s,mb4.0,baz=14,slow=6.1,SNR=8.7						
HLID	**Hailey**	**53.85**	**304**	*e*P	**P**	**07 05 42.3**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.4						
YBH	**Yreka Blue Hor**	**57.35**	**310**	P	**P**	**07 06 06.7**	**-0.5**
	comp=Z,1.2nm,0.9s,mb3.9,baz=90,slow=6.2,SNR=3.8						
PV01	**Paradox Valley**	**57.69**	**296**	*e*P	**P**	**07 06 10.3**	**+0.6**
NVAR	**Mina Array Bea**	**59.61**	**305**	P	**P**	**07 06 23.0**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=33,slow=3.6,SNR=8.3						
TXAR	**Lajitas Array**	**64.90**	**289**	P	**P**	**07 06 58.9**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=44,slow=5.9,SNR=12						
TXAR				PcP	PcP	07 07 32.1	+0.7
	comp=Z,0.8nm,0.7s,baz=32,slow=2.8,SNR=8.6						
WRA	**Warramunga Arr**	**120.45**	**49**	PKP	PKPdf	07 15 08.1	-3.4
	comp=Z,0.3nm,0.7s,baz=327,slow=2.5,SNR=7.2						
ASAR	**Alice Springs**	**123.98**	**50**	PKP	PKPdf	07 15 15.1	-3.2
	comp=Z,0.9nm,0.5s,baz=355,slow=2.0,SNR=16						
SNAA	**Sanae**	**146.28**	**180**	PKPbc	PKPbc	07 15 57.7	+2.0
	comp=Z,0.6nm,0.7s,baz=290,slow=1.7,SNR=10						
SNAA	**Sanae**	**146.28**	**180**	*e*PKPdf	PKPdf	07 15 56.7	-0.8
SNAA				PKPbc	PKPbc	07 15 57.7	+2.0
MAW	**Mawson**	**148.04**	**139**	PKPbc	PKPdf	07 16 02.9	+2.4
	comp=Z,1.2nm,0.5s,baz=315,slow=7.1,SNR=4.2						

*CASC **18** 07:06:49.7±1.1, 2.29N×76.07W, h27^{km}, mb5.8, MD5.1, MW5.4, mb5.0(NEIC)*
*HRVD **18** 07:06:52.4±0.2, 2.37N×76.54W, h23^{km}±1^{km}, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s21,c28;Mantle waves: s52,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33±.23; $M_{\theta\theta}$-3.17±.15; $M_{\phi\phi}$3.50±.20; $M_{r\theta}$0.36±.26; $M_{\theta\phi}$3.52±.15; $M_{\phi r}$1.31±.31; Best double couple: $M_0$5.01×10^{16} NP1:ϕ_s69°,δ79°,λ8°. NP2:ϕ_s338°,δ82°,λ169°. Principal axes: T 5.33, Plg13°, Azm293°; N -.65, Plg76°, Azm124°; P -4.69, Plg3°, Azm24°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **18** 07:06:52.4, 2.30N×76.60W, h26^{km}, mB5.3, Ms5.0, Msz4.7*
*NEIC **18** 07:06:52.4±1.9, 2.27N×76.60W, h26^{km}±13^{km}, mb5.0/88, Error ellipse: s-maj=5.8km s-min=4.4km az=221.0*
NEIC Felt strongly at Popayan. Also felt at Cali.
*IDC **18** 07:06:55.7±2.6, 2.37N×76.48W, h53^{km}±22^{km}, mb4.4/26, mb1 4.6/30, mb1mx4.6/33, ML4.1/2, MS4.2/17, Ms1 4.2/17, ms1mx4.1/23, Error ellipse: s-maj=17.3km s-min=11.6km az=60.0*

ISC 18 07:06:50.5±0.2**, 2.25N**±0.03×**76.55W**±0.03**, h26**^{km}**, n289, σ1$\overset{s}{.}$16**/254**, mb5.0**/105**, MS4.2**/22**, 13C-16D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEGC	**San Emigdio**	**1.33**	**15**	⇑*i*P	**Pn**	**07 07 13.1**	**-0.6**
HOBC	**El Hobo**	**2.13**	**11**	⇓*i*P	**Pn**	**07 07 25.5**	**+0.4**
OTAV	**Otavalo**	**2.76**	**224**	*e*P	**Pn**	**07 07 36.8**	**+2.7**
OTAV				*e*S	**Sn**	**07 08 14.5**	**+7.5**
ROSC	**El Rosal**	**3.40**	**40**	P	**Pn**	**07 07 46.4**	**+3.2**
	223nm,0.3s,baz=188,slow=5.7,SNR=370						
ROSC				S	**Sn**	**07 08 36.9**	**+14**
	209nm,0.3s,baz=125,slow=20,SNR=2.7						
ROSC				LR	LR	07 09 03.1	
	comp=Z,3μm,20.9s,baz=350,slow=39						
AZU	**Azuero**	**6.64**	**326**	⇓*e*P	**Pn**	**07 08 29.5**	**+0.5**
UPA	**Univ. de Panam**	**7.32**	**336**	⇑*i*P	**Pn**	**07 08 38.5**	**+0.1**
UPA				AMb	AMB	07 08 41.5	
	comp=Z,167nm,0.6s						
UPA				*i* S	**Sn**	**07 10 02.1**	**+0.6**
JEF	**Cerro Jefe**	**7.47**	**338**	⇑*e*P	**Pn**	**07 08 40.5**	**-0.2**
PTP1	**Petroterminal**	**8.32**	**316**	⇓*e*P	**P**	**07 09 00.9**	**+8.4**
DVD	**David**	**8.50**	**316**	⇑*e*P	**P**	**07 08 56.5**	**+1.5**
DVD				*e*S	**Sn**	**07 10 35.9**	**+4.8**
SDV	**Santo Domingo**	**8.83**	**42**	*e*P	**P**	**07 08 58.2**	**-1.4**
	comp=Z,202nm,0.8s						
ACR	**Cerro Adams**	**9.16**	**314**	*e*P	**P**	**07 09 06.4**	**+2.3**
BUS	**Buena Vista**	**10.20**	**316**	⇓*e*P	**P**	**07 09 20.2**	**+1.7**
BUS				*e*S	**S**	**07 11 17.4**	**+4.2**
URSC	**Urasca**	**10.41**	**317**	⇓*e*P	**P**	**07 09 23.0**	**+1.5**
ICR	**Volcan Irazu**	**10.55**	**317**	⇓*e*P	**P**	**07 09 25.3**	**+2.0**
LAJ	**Bijagual**	**10.67**	**315**	⇓*e*P	**P**	**07 09 29.0**	**+4.0**
SJS	**Escuela Geolog**	**10.68**	**316**	⇑*e*P	**P**	**07 09 26.6**	**+1.5**
SJS				*e*S	**S**	**07 11 31.2**	**+6.5**
TRTC	**Tortuguero**	**10.91**	**320**	⇓*e*P	**P**	**07 09 29.2**	**+1.0**
JCR	**Jicaral**	**11.38**	**312**	⇓*e*P	**P**	**07 09 37.4**	**+2.8**
JTS	**JuntasAbangare**	**11.56**	**314**	P	**P**	**07 09 38.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=162,slow=2.9,SNR=7.2						
JTS				LR	LR	07 14 51.5	
	comp=Z,1μm,18.6s,baz=9.6,slow=41						
JTS	**JuntasAbangare**	**11.56**	**314**	*e*P	**P**	**07 09 32.8**	**-4.3**
	comp=Z,37nm,0.9s						
JTS				LR	LR	07 14 51.5	
NNA	**Nana**	**14.15**	**181**	*e*P	**P**	**07 10 08.9**	**-2.7**
	comp=Z,28nm,0.8s						
PCRV	**Puerto La Cruz**	**14.21**	**56**	P	**P**	**07 10 10.3**	**-2.1**
	comp=Z,2.8nm,0.3s,baz=227,slow=7.7,SNR=9.6						
PCRV				S	**S**	**07 12 48.9**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=276,slow=20,SNR=2.2						
PCJ	**Portland Cotta**	**15.41**	**358**	⇓*e*P	**P**	**07 10 29.4**	**+1.4**
GWJ	**Greenwich**	**15.73**	**359**	⇓*i*P	**P**	**07 10 39.5**	**+7.3**
STH	**Stony Hill**	**15.73**	**359**	⇓*e*P	**P**	**07 10 37.7**	**+5.5**
BNJ	**Bonny Gate**	**15.98**	**359**	⇑*e*P	**P**	**07 10 39.4**	**+4.1**
BBJ	**Bamboo Saint A**	**16.05**	**358**	⇑*e*P	**P**	**07 10 41.2**	**+4.9**
TPP	**Pointe-a-Pierr**	**17.00**	**61**	*e*P	**P**	**07 10 53.3**	**+5.0**
TRN	**Trinidad (W)**	**17.19**	**60**	*e*P	**P**	**07 10 54.0**	**+3.2**
SAML	**Samuel**	**17.35**	**130**	*e*P	**P**	**07 10 47.5**	**-5.3**
	comp=Z,8.1nm,1.1s						
SJG	**San Juan**	**18.77**	**32**	P	**P**	**07 11 07.6**	**-2.7**
	comp=Z,1.2nm,0.3s,baz=220,slow=6.1,SNR=11						
SJG	**San Juan**	**18.77**	**32**	*e*P	**P**	**07 11 06.1**	**-4.1**
	comp=Z,38nm,0.8s						
ARE	**Arequipa**	**19.25**	**165**	*e*P	**P**	**07 11 18.2**	**+2.3**
BIM	**Bigot**	**19.55**	**51**	⇓*e*P	**P**	**07 11 20.4**	**+1.1**
FDF	**Fort de France**	**19.61**	**50**	⇓*e*P	**P**	**07 11 20.5**	**+0.4**
MVM	**Montagne Vaucl**	**19.70**	**51**	*e*P	**P**	**07 11 15.8**	**-5.2**
CRM	**Caravelle**	**19.81**	**50**	⇓*e*P	**P**	**07 11 19.0**	**-3.2**
BBL	**Barber's Block**	**19.87**	**48**	*e*P	**P**	**07 11 23.4**	**+0.6**
LPAZ	**La Paz**	**20.21**	**156**	P	**P**	**07 11 24.6**	**-1.8**
	comp=Z,9.6nm,0.7s,baz=305,slow=1.1,SNR=17						
LPAZ				LR	LR	07 19 43.5	
	comp=Z,1μm,18.4s,MS4.3,baz=304,slow=38						
LPAZ	**La Paz**	**20.21**	**156**	*e*P	**P**	**07 11 23.8**	**-2.6**
	comp=Z,18nm,0.8s						
SEG	**Port Louis**	**20.42**	**46**	*e*P	**P**	**07 11 28.3**	**-0.3**
TEIG	**Tepich**	**21.22**	**328**	P	**P**	**07 11 40.5**	**+3.7**
	comp=Z,0.0nm,0.2s,baz=320,slow=24,SNR=2.8						
LVC	**Limon Verde**	**25.81**	**164**	P	**P**	**07 12 24.0**	**+2.4**
	comp=Z,60nm,1.1s,mb5.0,baz=359,slow=7.8,SNR=18						
LVC				LR	LR	07 24 44.5	
	comp=Z,819nm,18.2s,MS4.3,baz=317,slow=41						
LVC	**Limon Verde**	**25.81**	**164**	*e*P	**P**	**07 12 23.2**	**+1.7**
	comp=Z,114nm,1.3s,mb5.2						
DWPF	**Disney**	**26.14**	**350**	*e*P	**P**	**07 12 25.1**	**+0.6**
	comp=Z,54nm,0.9s,mb5.1						
NHSC	**New Hope**	**30.88**	**354**	*e*P	**P**	**07 13 06.7**	**-0.5**
	comp=Z,60nm,1.1s,mb5.3						
LRAL	**Lakeview Retre**	**32.16**	**343**	*e*P	**P**	**07 13 17.9**	**-0.5**
	comp=Z,16nm,0.8s,mb4.9						
JSC	**Jenkinsville**	**32.17**	**353**	*e*P	**P**	**07 13 18.0**	**-0.5**
HKT	**Hockley**	**33.08**	**328**	*e*P	**P**	**07 13 25.7**	**-0.7**
	comp=Z,50nm,1.8s,mb5.2						
BDFB	**Brasilia**	**33.35**	**123**	P	**P**	**07 13 27.4**	**-1.5**
	comp=Z,6.7nm,1.0s,mb4.5,baz=308,slow=7.7,SNR=7.5						
BDFB				LR	LR	07 27 40.5	
	comp=Z,1μm,19.0s,MS4.6,baz=300,slow=37						
BDFB	**Brasilia**	**33.35**	**123**	P	**P**	**07 13 27.4**	**-1.5**
BDFB				LR	LR	07 27 40.5	
CPCT	**Cooper Cave**	**33.85**	**348**	*e*P	**P**	**07 13 33.2**	**+0.1**
CPUP	**Villa Florida**	**33.94**	**148**	P	**P**	**07 13 31.4**	**-2.6**
	comp=Z,2.0nm,0.9s,mb4.0,baz=346,slow=11,SNR=4.9						
CPUP				LR	LR	07 27 52.6	
	comp=Z,547nm,19.7s,MS4.3,baz=180,slow=37						
CPUP	**Villa Florida**	**33.94**	**148**	P	**P**	**07 13 31.4**	**-2.6**
CPUP				LR	LR	07 27 52.6	
NATX	**Nacogdoches**	**33.96**	**332**	*e*P	**P**	**07 13 33.5**	**-0.6**
	comp=Z,85nm,0.8s,mb5.7						
OXF	**Oxford**	**34.27**	**341**	*e*P	**P**	**07 13 34.6**	**-2.1**
	comp=Z,36nm,1.3s,mb5.1						
BLA	**Blacksburg**	**34.97**	**355**	*e*P	**P**	**07 13 43.7**	**+1.0**
	comp=Z,31nm,0.9s,mb5.2						
ELN	**Prospectdale**	**35.02**	**354**	*e*P	**P**	**07 13 44.2**	**+1.1**
PWV	**Princeton**	**35.16**	**354**	*e*P	**P**	**07 13 44.9**	**+0.6**
FWV	**Forest Hill**	**35.38**	**354**	*e*P	**P**	**07 13 46.8**	**+0.6**
HALT	**Halls**	**35.53**	**342**	*e*P	**P**	**07 13 48.4**	**+0.9**
UALR	**University of**	**35.55**	**337**	*e*P	**P**	**07 13 46.3**	**-1.3**
	comp=Z,24nm,0.8s,mb5.2						
HBAR	**Harrisburg**	**35.63**	**340**	*e*P	**P**	**07 13 47.9**	**-0.4**
JCT	**Junction City**	**35.69**	**324**	P	**P**	**07 13 48.5**	**-0.3**
	comp=Z,13nm,0.9s,mb4.9						
GNAR	**Gosnell**	**35.79**	**341**	*e*P	**P**	**07 13 49.0**	**-0.7**
MIAR	**Mount Ida**	**35.84**	**336**	*e*P	**P**	**07 13 48.1**	**-2.0**
	comp=Z,11nm,0.8s,mb4.8						
WCI	**Wyandotte Cave**	**36.90**	**347**	*e*P	**P**	**07 13 57.8**	**-1.2**
	comp=Z,24nm,0.8s,mb5.1						
USIN	**University of**	**36.98**	**345**	*e*P	**P**	**07 13 58.3**	**-1.4**
	comp=Z,63nm,0.8s,mb5.5						
LTX	**Lajitas**	**37.29**	**319**	*e*P	**P**	**07 14 02.5**	**+0.2**
	comp=Z,15nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**37.29**	**319**	P	**P**	**07 14 02.7**	**+0.4**
	comp=Z,5.2nm,0.6s,mb4.5,baz=139,slow=9.9,SNR=45						
TXAR				PcP	PcP	07 16 22.8	+0.9
	comp=Z,7.0nm,0.7s,baz=145,slow=6.2,SNR=13						
MCWV	**Mont Chateau**	**37.35**	**356**	P	**P**	**07 14 03.4**	**+0.7**
	comp=Z,6.6nm,0.3s,mb4.9						
FVM	**French Village**	**37.77**	**342**	*e*P	**P**	**07 14 05.1**	**-1.2**
	comp=Z,25nm,0.8s,mb5.0						
BLO	**Bloomington**	**37.86**	**347**	*e*P	**P**	**07 14 06.1**	**-0.9**
	comp=Z,51nm,0.8s,mb5.3						
CCM	**Cathedral Cave**	**38.10**	**341**	*e*P	**P**	**07 14 07.2**	**-1.9**
	comp=Z,28nm,0.8s,mb5.0						
ACSO	**Alum Creek Sta**	**38.26**	**352**	*e*P	**P**	**07 14 10.5**	**+0.1**
	comp=Z,42nm,1.2s,mb5.0						
WMOK	**Wichita Mounta**	**38.38**	**330**	*e*P	**P**	**07 14 09.8**	**-1.7**
	comp=Z,17nm,0.9s,mb4.8						
PAL	**Palisades**	**38.65**	**3**	*e*P	**P**	**07 14 14.3**	**+0.7**
	comp=Z,19nm,1.1s,mb4.7						
ALLY	**Alegheny Colle**	**39.36**	**356**	*e*P	**P**	**07 14 20.2**	**+0.7**
CLNB	**Carlsbad**	**39.40**	**322**	*e*P	**P**	**07 14 21.6**	**+1.7**
GDL2	**Guadalupe Moun**	**39.65**	**322**	*e*P	**P**	**07 14 23.0**	**+0.9**
BRYW	**Bryant College**	**39.75**	**6**	*e*P	**P**	**07 14 22.3**	**-0.5**
	comp=Z,12nm,0.7s,mb4.7						
BINY	**Binghamton**	**39.77**	**1**	*e*P	**P**	**07 14 23.7**	**+0.7**
	comp=Z,61nm,1.4s,mb5.1						
ERPA	**Erie**	**39.81**	**356**	*e*P	**P**	**07 14 24.2**	**+0.9**
	comp=Z,53nm,0.7s,mb5.4						
CPRX	**Cap Rock**	**39.92**	**323**	*e*P	**P**	**07 14 24.6**	**+0.3**
QUA2	**Belchertown**	**40.03**	**5**	P	**P**	**07 14 25.9**	**+0.8**
	comp=Z,19nm,0.8s,mb4.9						
WES	**Weston**	**40.23**	**6**	*e*P	**P**	**07 14 27.3**	**+0.6**
	comp=Z,34nm,0.8s,mb5.1						
HRV	**Harvard--Oak R**	**40.33**	**6**	*e*P	**P**	**07 14 27.9**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6						
GENY	**Geneseo**	**40.35**	**359**	*e*P	**P**	**07 14 28.1**	**+0.4**
KSU1	**Kansas State U**	**40.99**	**336**	*e*P	**P**	**07 14 31.6**	**-1.3**
HNH	**Hanover**	**41.45**	**5**	*e*P	**P**	**07 14 37.8**	**+1.1**
	comp=Z,1.9nm,0.8s,mb3.8						
NCB	**Newcomb**	**41.59**	**3**	*e*P	**P**	**07 14 38.2**	**+0.3**
	comp=Z,16nm,0.8s,mb4.7						
CBKS	**Cedar Bluff**	**42.10**	**333**	*e*P	**P**	**07 14 42.2**	**-0.1**
	comp=Z,32nm,0.8s,mb5.0						
JFWS	**Jewell Farm**	**42.30**	**345**	*e*P	**P**	**07 14 41.9**	**-1.9**
	comp=Z,26nm,0.6s,mb5.0						
TRQA	**Tornquist**	**42.31**	**163**	*e*P	**P**	**07 14 43.5**	**-0.4**
	comp=Z,41nm,1.4s,mb4.9						
BNM	**Barren Site**	**42.37**	**322**	*e*P	**P**	**07 14 45.2**	**+0.8**
LENM	**Lemitar**	**42.59**	**322**	*e*P	**P**	**07 14 46.9**	**+0.7**
MSNY	**Massena**	**42.60**	**2**	*e*P	**P**	**07 14 46.6**	**+0.5**
ANMO	**Albuquerque**	**42.80**	**323**	*e*P	**P**	**07 14 48.7**	**+0.8**

	comp=Z,89nm,0.8s,mb5.5						
LAZ	Ladron	42.85	322	*e*P	P	07 14 49.5	+1.1
PLCA	Paso Flores	43.13	173	P	P	07 14 51.2	+0.7
	comp=Z,22nm,0.9s,mb4.8,baz=350,slow=8.3,SNR=22						
PLCA	Paso Flores	43.13	173	*e*P	P	07 14 50.6	+0.1
	comp=Z,33nm,1.0s,mb5.0						
TUC	Tucson	43.92	317	*e*P	P	07 14 57.4	+0.3
	comp=Z,20nm,1.0s,mb4.8						
SDCO	Great Sand Dun	44.20	327	*e*P	P	07 15 00.0	+0.7
	comp=Z,59nm,0.8s,mb5.4						
ISCO	Idaho Springs	45.76	328	*e*P	P	07 15 11.3	-0.4
	comp=Z,13nm,0.8s,mb4.9						
ISCO				LR	LR		
	comp=Z,276nm,21.0s,MS4.2						
RW3	Ridgway	45.78	325	*e*P	P	07 15 12.6	+0.7
PV01	Paradox Valley	46.21	325	*e*P	P	07 15 15.7	+0.5
WUAZ	Wupatki	46.23	320	*e*P	P	07 15 15.7	+0.2
	comp=Z,38nm,0.9s,mb5.3						
PV10	Paradox Valley	46.64	324	*e*P	P	07 15 18.4	-0.2
SRU	San Rafael	48.00	324	*e*P	P	07 15 29.2	-0.2
RSSD	Black Hills	48.28	334	*e*P	P	07 15 31.5	0.0
	comp=Z,28nm,0.7s,mb5.4						
LDFC	Landfair	48.46	317	*e*P	P	07 15 33.8	+0.8
MSU	Marysvale	48.60	322	*e*P	P	07 15 34.2	+0.2
NEN	Nelson	48.60	318	*e*P	P	07 15 34.2	+0.2
MPU	Maple Canyon	49.24	324	*e*P	P	07 15 39.1	+0.2
DAU	Daniels Canyon	49.28	325	*e*P	P	07 15 39.4	+0.2
NLU	North Lily Min	49.46	324	*e*P	P	07 15 40.3	-0.3
JLU	Jordanelle	49.52	325	*e*P	P	07 15 40.5	-0.5
CTU	Camp Tracy	49.75	325	*e*P	P	07 15 42.7	-0.1
TCUT	Toone Canyon	49.83	326	*e*P	P	07 15 42.6	-0.9
PDAR	Pinedale Array	49.95	328	P	P	07 15 43.9	-0.5
	comp=Z,17nm,1.1s,mb5.0,baz=121,slow=8.8,SNR=44						
PDAR				LR	LR	07 36 51.9	
	comp=Z,202nm,20.9s,MS4.1,baz=18,slow=36						
DUG	Dugway	50.04	324	*e*P	P	07 15 45.0	-0.1
	comp=Z,9.3nm,0.8s,mb4.9						
DUG				LR	LR		
	comp=Z,229nm,20.0s,MS4.2						
HWUT	Hardware Ranch	50.25	326	*e*P	P	07 15 46.0	-0.6
	comp=Z,15nm,0.8s,mb5.1						
SPUT	South Promonto	50.55	325	*e*P	P	07 15 48.5	-0.5
ULM	Lac du Bonnet	50.56	344	P	P	07 15 47.0	-1.9
	comp=Z,20nm,0.7s,mb5.2,baz=153,slow=8.4,SNR=22						
ULM				LR	LR	07 40 20.5	
	comp=Z,208nm,18.4s,MS4.2,baz=144,slow=40						
ULM	Lac du Bonnet	50.56	344	*e*P	P	07 15 46.0	-2.9
	comp=Z,33nm,0.8s,mb5.3						
AHID	Auburn Hatcher	50.77	327	*e*P	P	07 15 49.6	-1.0
	comp=Z,45nm,1.1s,mb5.3						
DAC	Darwin (Calif)	50.81	317	*e*P	P	07 15 50.5	-0.5
	comp=Z,19nm,1.7s,mb4.8						
HVU	Hansel Valley	51.04	325	*e*P	P	07 15 51.3	-1.4
REDW	Red Top Meadow	51.05	328	*e*P	P	07 15 52.3	-0.4
WUWY	Wally Ulrich	51.11	328	*e*P	P	07 15 52.2	-1.0
TPAW	Teton Pass	51.19	328	*e*P	P	07 15 52.9	-0.8
LAO	LASA Array	51.25	334	*e*P	P	07 15 52.5	-1.6
	comp=Z,14nm,1.1s,mb4.8						
MOOW	Moose Ponds	51.26	329	*e*P	P	07 15 53.5	-0.8
TPH	Tonopah	51.53	319	*e*P	P	07 15 56.2	-0.3
	comp=Z,19nm,1.1s,mb4.9						
DGMT	Dagmar	51.82	337	*e*P	P	07 15 57.9	-0.6
	comp=Z,22nm,1.0s,mb5.0						
YMR	Madison River	52.01	329	*e*P	P	07 15 59.8	-0.1
MTUM	Tungsten Hills	52.04	317	*e*P	P	07 16 00.5	+0.2
MNV	Mina	52.34	319	*e*P	P	07 16 02.6	0.0
	comp=Z,37nm,1.5s,mb5.1						
QLMT	Earthquake Lak	52.36	329	*e*P	P	07 16 03.3	+0.7
NVAR	Mina Array Bea	52.44	319	P	P	07 16 03.6	+0.3
	comp=Z,4.4nm,0.6s,mb4.5,baz=118,slow=7.0,SNR=31						
NVAR				PcP	PcP	07 17 14.0	+0.2
	comp=Z,5.7nm,0.7s,baz=132,slow=5.5,SNR=6.4						
NVAR				LR	LR	07 41 11.1	
	comp=Z,125nm,20.1s,MS4.0,baz=340,slow=39						
OMM	Old Mammoth Mi	52.47	317	*e*P	P	07 16 03.5	0.0
BMN	Battle Mountai	52.87	321	*e*P	P	07 16 05.8	-0.7
	comp=Z,34nm,1.3s,mb5.1						
SCHQ	Schefferville	53.01	7	P	P	07 16 07.0	-0.2
	comp=Z,15nm,0.8s,mb5.0,baz=190,slow=5.5,SNR=18						
SCHQ				LR	LR	07 38 22.4	
	comp=Z,77nm,21.6s,MS3.7,baz=199,slow=36						
SCHQ	Schefferville	53.01	7	*e*P	P	07 16 06.2	-1.0
	comp=Z,20nm,0.8s,mb5.1						
BOZ	Bozeman (W)	53.03	330	*e*P	P	07 16 06.5	-1.1
	comp=Z,32nm,0.9s,mb5.3						
MCMT	McKenzie Canyo	53.10	328	*e*P	P	07 16 08.2	+0.1
HLID	Hailey	53.12	326	*e*P	P	07 16 07.6	-0.6
	comp=Z,9.6nm,0.6s,mb4.9						
HLID				LR	LR		
	comp=Z,222nm,19.0s,MS4.2						
LRV	Little Rabbit	53.26	315	*e*P	P	07 16 09.7	+0.3
HRY	Holter Researc	53.87	331	*e*P	P	07 16 13.3	-0.4
BEKR	Beckwourth	54.56	319	P	P	07 16 18.7	-0.1
	comp=Z,3.6nm,0.8s,mb4.5						
CHMT	Chamberlain Mo	54.72	330	*e*P	P	07 16 19.6	-0.4
WVOR	Wild Horse Val	54.89	323	*e*P	P	07 16 19.6	-1.7
	comp=Z,27nm,1.0s,mb5.2						
OHCM	Honcut	55.03	318	*e*P	P	07 16 21.6	-0.8
FFC	Flin Flon	56.27	343	*e*P	P	07 16 29.2	-1.8
	comp=Z,20nm,0.8s,mb5.2						
LNOR	Lincton Mounta	56.71	326	*e*P	P	07 16 33.0	-1.3
BUOR	Burton Butte	57.04	321	P	P	07 16 36.3	-0.5
YBH	Yreka Blue Hor	57.05	320	P	P	07 16 35.2	-1.6
	comp=Z,4.4nm,0.7s,mb4.6,baz=80,slow=8.7,SNR=16						
YBH	Yreka Blue Hor	57.05	320	*e*P	P	07 16 34.7	-2.1
	comp=Z,4.5nm,0.8s,mb4.5						
KHMM	Horse Mountain	57.29	319	*e*P	P	07 16 37.9	-0.7
NEW	Newport	57.58	329	P	P	07 16 39.2	-1.2
	comp=Z,12nm,1.1s,mb4.8,baz=148,slow=7.5,SNR=11						
NEW	Newport	57.58	329	*e*P	P	07 16 39.1	-1.3
	comp=Z,13nm,1.1s,mb4.9						
HAWA	Hanford	57.72	326	*e*P	P	07 16 39.6	-1.8
	comp=Z,9.0nm,0.8s,mb4.8						
KRMB	Red Mountain	57.72	319	*e*P	P	07 16 41.0	-0.5
CROR	Criterion Ridg	57.74	324	P	P	07 16 42.3	+0.7
DPW	Davenport	57.89	328	*e*P	P	07 16 42.2	-0.5
VGB	Gordon Butte	57.92	325	*e*P	P	07 16 42.8	0.0
SSOR	Sweet Springs	58.54	323	*e*P	P	07 16 45.9	-1.3
EBG	Ellensburg	58.60	326	P	P	07 16 47.9	+0.3
NLW	Nelson Butte	59.16	327	*e*P	P	07 16 51.4	-0.1
LON	Longmire	59.21	325	*e*P	P	07 16 50.7	-1.1
PNT	Penticton	59.52	329	P	P	07 16 55.0	+1.0
RMW	Rattlesnake Mo	59.61	326	*e*P	P	07 16 54.0	-0.6
BMW	Boistfort Moun	59.87	324	*e*P	P	07 16 56.3	-0.1
RPW	Rockport	60.01	327	*e*P	P	07 16 56.5	-0.9
GNW	Green Mountain	60.24	326	P	P	07 16 56.9	-2.0
FRB	Frobisher Bay	61.64	4	P	P	07 17 06.1	-2.1
	comp=Z,8.4nm,0.7s,mb5.0,baz=177,slow=8.3,SNR=9.8						
YKA	Yellowknife Ar	66.43	342	P	P	07 17 37.8	-1.6
	comp=Z,13nm,0.8s,mb5.0,baz=136,slow=6.0,SNR=46						
YKA				LR	LR	07 50 08.0	
	comp=Z,165nm,20.0s,MS4.2,baz=135,slow=39						
YKW3	Yellowknife Ar	66.48	342	*e*P	P	07 17 37.8	-2.0
DLBC	Dease Lake	69.76	333	*e*P	P	07 18 00.9	+0.7
LIC	Lamto	71.39	84	*e*P	P	07 18 10.7	-0.2
	comp=Z,58nm,0.9s,mb5.5						
LIC	Lamto	71.39	84	*e*P	P	07 18 10.8	-0.1
	comp=Z,39nm,0.9s,mb5.0						
TIC	Toumodi	71.40	84	*e*P	P	07 18 08.8	-2.2
	comp=Z,118nm,1.1s,mb5.7						
DBIC	Dimbokro	71.56	84	P	P	07 18 11.6	-0.4
	comp=Z,8.7nm,0.6s,mb4.8,baz=269,slow=6.4,SNR=16						
DBIC				LR	LR	07 47 54.9	
	comp=Z,139nm,20.0s,MS4.2,baz=253,slow=34						
DBIC	Dimbokro	71.56	84	*e*P	P	07 18 11.5	-0.4
	comp=Z,18nm,0.8s,mb5.0						
KIC	Kosan Boka	71.67	84	*e*P	P	07 18 12.8	+0.2
	comp=Z,127nm,0.9s,mb5.8						
BORG	Borgarnes	73.75	22	P	P	07 18 19.8	-4.2
	comp=Z,3.9nm,0.6s,mb4.5,baz=347,slow=20,SNR=3.0						
SUMG	Summit	74.09	11	*e*P	P	07 18 24.1	-1.7
	comp=Z,9.4nm,0.8s,mb4.8						
PPT	Papeete	74.54	251	*e*L		07 38 44.9	
PPT				*e*R		07 41 57.3	
	comp=Z,351nm,25.8s,baz=91						
ESDC	Sonseca Array	75.19	50	P	P	07 18 33.1	+0.3
	comp=Z,3.9nm,0.6s,mb4.5,baz=261,slow=5.9,SNR=9.7						
TBI	Tubuai	75.26	245	*e*L		07 39 06.2	
TBI				*e*R		07 42 12.2	
	comp=Z,240nm,25.0s,baz=83						
INK	Inuvik	76.19	341	*e*P	P	07 18 37.2	-0.6
	comp=Z,38nm,1.1s,mb5.2						
DAWY	Dawson	76.38	336	*e*P	P	07 18 37.5	-1.5
EKA	Eskdalemuir Ar	78.74	34	P	P	07 18 51.6	-0.6
	comp=Z,5.9nm,0.9s,mb4.5,baz=254,slow=6.1,SNR=8.5						
GRR	Gorron	78.83	41	*e*P	P	07 18 55.0	+2.2
	comp=Z,34nm,0.8s,mb5.0						
EPF	Esparros	78.89	47	*e*P	P	07 18 53.2	-0.1
MFF	Saint Martin d	79.03	43	*e*P	P	07 18 56.4	+2.4
	comp=Z,105nm,1.3s,mb5.3						
FLN	La Foliniere	79.14	41	*e*P	P	07 18 56.9	+2.4
FLN				*e*R			
	comp=Z,165nm,22.2s						
LDF	La Druitiere	79.34	41	*e*P	P	07 18 58.2	+2.6
LFF	La Frestale	79.42	45	*e*P	P	07 18 56.9	+0.8
ILAR	Eielson Array	79.67	336	P	P	07 18 56.8	-0.3
	comp=Z,9.3nm,0.9s,mb4.7,baz=108,slow=4.0,SNR=61						
PMR	Palmer	79.79	332	*e*P	P	07 18 58.3	+0.5
PMR				LR	LR		
	comp=Z,100nm,18.0s,MS4.2						
PMS	Palmer South	79.91	332	*e*P	P	07 18 58.9	+0.5
SLKM	Skilak Lake	80.05	331	*e*P	P	07 18 59.1	-0.1
COLA	College	80.09	336	*e*P	P	07 18 59.2	-0.1
COLA				LR	LR		
	comp=Z,100nm,18.0s,MS4.2						
MTLF	Montolieu	80.29	47	*e*P	P	07 19 00.3	-0.5
	comp=Z,14nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	80.61	44	*e*P	P	07 19 04.5	+2.1
	comp=Z,17nm,0.9s,mb4.7						
SPU	Mount Spurr	81.07	332	*e*P	P	07 19 04.4	-0.1
RSO	Redoubt South	81.26	331	*e*P	P	07 19 05.6	+0.1
AVF	Avril sur Loir	81.44	43	*e*P	P	07 19 08.8	+2.0
	comp=Z,24nm,0.9s,mb4.8						
LASF	Ste Croix	81.54	46	*e*P	P	07 19 06.7	-0.7
	comp=Z,20nm,0.8s,mb4.8						
SSF	Saint Saulge	81.58	43	*e*P	P	07 19 09.5	+2.0
	comp=Z,19nm,1.0s,mb4.7						
SMF	Signal de Mont	81.77	43	*e*P	P	07 19 10.6	+2.1
	comp=Z,24nm,0.8s,mb4.9						
LOR	Lormes	81.84	43	*e*P	P	07 19 11.0	+2.2
	comp=Z,20nm,0.8s,mb4.8						
LOR				*e*R			
	comp=Z,130nm,21.2s						
VIVF	Saint-Julien-l	82.19	45	*e*P	P	07 19 10.2	-0.5
	comp=Z,66nm,1.5s,mb5.0						
GIVF	Givet	82.74	40	*e*P	P	07 19 16.1	+2.6
SVW	Sparrevohn	82.76	331	*e*P	P	07 19 12.9	-0.4
ORIF	Oris-en-Rattie	83.05	45	*e*P	P	07 19 16.3	+1.1
	comp=Z,20nm,0.9s,mb4.8						
ORIF				*e*R			
	comp=Z,204nm,21.2s						
CABF	La Chapelle	83.31	44	*e*P	P	07 19 19.1	+2.6
	comp=Z,13nm,0.7s,mb4.8						
LMR	La Mourre	83.41	47	*e*P	P	07 19 15.9	-1.1
	comp=Z,35nm,1.0s,mb5.0						
FRF	La Foret Royal	83.52	47	*e*P	P	07 19 16.5	-1.2
	comp=Z,78nm,1.1s,mb5.4						
MBDF	Montbardon	83.67	45	*e*P	P	07 19 17.9	-0.5
	comp=Z,16nm,1.0s,mb4.8						
CDF	Champ du Feu	84.22	42	*e*P	P	07 19 23.7	+2.6
VNA1	Neumayer--Stat	85.04	162	*e*	P	07 19 28.9	+4.2
VNA1	Neumayer--Stat	85.04	162	*e*	pP	07 19 38.2	+5.0
VNA1	Neumayer--Stat	85.04	162	*e*	pP	07 19 41.4	+8.2
VNA1	Neumayer--Stat	85.04	162	⇓*i*P	P	07 19 27.3	+2.6
VNA1				*e*		07 19 28.9	
VNA1				*e*		07 19 38.2	
VNA1				*e*		07 19 41.4	
VNA1				*e*		07 22 51.3	
PGF	Pioggiola	85.20	48	*e*P	P	07 19 25.3	-0.8
DAVOX	Davos	85.92	43	P	P	07 19 30.4	+0.8
	comp=Z,12nm,0.7s,mb5.3,baz=326,slow=4.8,SNR=17						
DAVA	Damuels	85.93	43	⇑*i*P	P	07 19 32.0	+2.4
	comp=Z,42nm,1.9s,mb5.3						
GRA1	Grafenberg Arr	86.85	41	*e*P	P	07 19 37.1	+3.0
	comp=Z,5.0nm,0.8s,mb4.8						
NB2	NORSAR Subarra	86.96	29	P	P	07 19 34.5	+0.2
	comp=Z,2.5nm,0.8s,mb4.5,baz=266,slow=4.8						
NOA	NORSAR Array B	86.96	29	P	P	07 19 34.0	-0.3
	comp=Z,6.0nm,1.1s,mb4.7,baz=270,slow=4.8,SNR=6.7						
NOA				LR	LR	07 55 35.4	
	comp=Z,81nm,19.8s,MS4.1,baz=260,slow=34						
SNAA	Sanae	87.04	162	*e*	P	07 19 35.1	+0.6
SNAA	Sanae	87.04	162	*e*	P	07 19 44.2	+10
SNAA	Sanae	87.04	162	*e*	pP	07 19 47.0	+4.0
SNAA	Sanae	87.04	162	P	P	07 19 35.8	+1.3
	comp=Z,3.4nm,0.9s,mb4.6,baz=298,slow=4.9,SNR=29						
SNAA				LR	LR	07 56 08.9	
	comp=Z,71nm,21.4s,MS4.0,baz=113,slow=34						
SNAA	Sanae	87.04	162	⇑*i*P	P	07 19 33.4	-1.1
SNAA				*e*		07 19 35.1	
SNAA				*e*		07 19 44.2	
SNAA				*e*		07 19 47.0	
SNAA				*e*		07 22 57.5	
MOX	Moxa	87.11	40	*e*P	P	07 19 40.0	+4.7
MOX				L		08 07 45.0	
WTTA	Wattenberg	87.12	43	⇑*i*P	P	07 19 36.1	+0.6
	comp=Z,18nm,1.1s,mb5.2						
CLL	Collm	87.98	39	P	P	07 19 43.0	+3.5
	comp=Z,logA/T=0.8,mb4.8						
CLL	Collm	87.98	39	*e*P	P	07 19 43.0	+3.5
	comp=Z,7.0nm,1.2s,mb4.8						
HFS	Hagfors	88.19	30	P	P	07 19 39.3	-0.9
	comp=Z,2.3nm,0.7s,mb4.5,baz=207,slow=3.3,SNR=6.2						
KBA	Koelnbreinsper	88.29	43	⇑*i*P	P	07 19 44.5	+3.4
	comp=Z,14nm,1.2s,mb5.0						
KHC	Kasperske Hory	88.40	41	*e*P	P	07 19 42.5	+1.0
GERES	GERESS Array B	88.48	41	P	P	07 19 42.5	+0.6
	comp=Z,2.8nm,0.8s,mb4.5,baz=297,slow=3.0,SNR=13						
BRG	Berggiesshubel	88.58	39	P	P	07 19 46.6	+4.2
	comp=Z,4.2nm,0.9s,mb4.8						
MOA	Molln	88.89	42	⇑*i*P	P	07 19 47.1	+3.1
	comp=Z,9.9nm,1.2s,mb5.0						
PRU	Pruhonice	88.99	40	*e*P	P	07 19 45.0	+0.6
MAIT	Maitri	91.54	161	*e*P	P	07 19 57.5	+1.8
ARCES	ARCESS Array B	92.11	20	P	P	07 19 57.4	-1.0
	comp=Z,2.2nm,0.8s,mb4.5,baz=281,slow=6.2,SNR=6.6						
ARCES				LR	LR	07 58 54.4	
	comp=Z,82nm,21.7s,MS4.1,baz=26,slow=34						
QSPA	South Pole Qui	92.29	180	*e*P	P	07 20 01.9	+2.9
	comp=Z,46nm,1.8s,mb5.5						
QSPA				LR	LR		
	comp=Z,120nm,20.9s,MS4.3						
FINES	FINESS Array B	94.06	28	P	P	07 20 07.4	-0.1
	comp=Z,1.4nm,0.7s,mb4.5,baz=236,slow=6.9,SNR=3.5						
FINES				LR	LR	07 57 47.3	
	comp=Z,127nm,21.8s,MS4.3,baz=110,slow=32						
VNDA	Vanda	98.74	191	LR	LR	07 58 46.2	
	comp=Z,79nm,18.5s,MS4.2,baz=133,slow=32						
BVAR	Borovoye Array	118.34	22	PKP	PKPdf	07 25 38.1	-2.4
	comp=Z,0.5nm,0.7s,baz=207,slow=3.2,SNR=3.0						
MKAR	Makanchi Array	127.73	18	PKP	PKPdf	07 25 54.8	-4.0
	comp=Z,2.6nm,0.8s,baz=340,slow=1.9,SNR=14						
TOO	Toolangi	127.83	222	*e*P	PKPdf	07 25 56.7	-2.6
	comp=Z,2.5nm,0.6s						
SONM	Songino Array	130.06	357	PKP	PKPdf	07 25 59.6	-3.6
	comp=Z,1.8nm,0.8s,baz=277,slow=0.6,SNR=9.0						
CN2	Changchun	130.09	339	*e*PKP	PKPdf	07 26 02.8	-0.6
KSH	Kashi	131.38	28	*e*PKP	PKPdf	07 26 06.8	+0.8
WMQ	Urumqi	132.00	15	⇑PKP	PKPdf	07 26 04.8	-2.2
WMQ				XPKP		07 26 15.8	
WMQ				PP	PP	07 28 30.8	+3.0
WMQ				PKS	PKS	07 29 39.8	+2.3
WMQ				LR	LR		
	comp=N,60nm,24.0s,MS4.3						
WMQ				LR	LR		
	comp=E,28nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,87nm,25.5s,MS4.3						
STKA	Stephens Creek	133.56	226	PKP	PKPdf	07 26 07.5	-2.7
	comp=Z,3.3nm,0.5s,baz=144,slow=1.5,SNR=8.0						
STKA	Stephens Creek	133.56	226	*e*PKP	PKPdf	07 26 07.5	-2.8
DLH	Dalhousie	136.71	35	*e*P	PKPdf	07 26 13.0	-3.0
GTA	Gaotai	138.41	4	*e*PKP	PKPdf	07 26 14.1	-4.9
NJ2	Nanjing	142.89	338	*e*PKP	PKPdf	07 26 24.0	-3.1
NJ2				APKP		07 26 31.6	
NJ2				XPKP		07 26 35.4	
NJ2				PP	PP	07 29 39.0	+3.5
NJ2				PKS	PKS	07 29 58.0	+1.0
NJ2				SKS	SKS	07 33 32.0	-3.6
NJ2				SKKS		07 36 26.0	
FORT	Forrest	143.30	217	*e*P	PKPbc	07 26 24.9	+3.5
	comp=Z,34nm,0.9s						
XAN	Xi’an	143.54	352	PKP	PKPdf	07 26 25.3	-2.9
ASAR	Alice Springs	143.65	232	PKhKP		07 26 22.8	
	comp=Z,4.3nm,0.6s,baz=122,slow=3.7,SNR=26						
ASPA	Alice Springs	143.65	232	*e*P	PKPbc	07 26 22.6	-0.1
KOLN	Koldanda	144.56	31	*e*P	PKPbc	07 26 24.8	-0.4
	comp=Z,20nm,0.7s						
GKN	Gorkha	144.90	30	*e*P	PKPbc	07 26 26.4	+0.3
	comp=Z,36nm,0.5s						
WB2	Warramunga Arr	145.07	238	*e*P	PKPbc	07 26 27.2	+0.4
WB2				*e*		07 27 20.9	
WRAB	Tennant Creek	145.08	238	*e*PKP	PKPdf	07 26 27.4	-3.9
WRA	Warramunga Arr	145.08	238	PKPbc	PKPbc	07 26 27.0	+0.2
	comp=Z,18nm,0.8s,baz=119,slow=3.1,SNR=52						
KKN	Kakani	145.39	29	*e*P	PKPbc	07 26 27.8	+0.4
	comp=Z,92nm,0.8s						
DMN	Daman	145.45	30	*e*P	PKPbc	07 26 28.4	+0.9
	comp=Z,94nm,0.7s						
ALBI	Allahabad	145.50	36	*e*P	PKPbc	07 26 26.5	-1.2
GUN	Gumba	145.57	28	*e*P	PKPbc	07 26 29.1	+1.3
	comp=Z,279nm,0.8s						
PKI	Pulchoki	145.63	29	*e*P	PKPbc	07 26 28.7	+0.7
	comp=Z,92nm,1.1s						
WHN	Wuhan	145.77	343	PKP	PKPdf	07 26 29.4	-2.8
LSA	Lhasa	146.12	19	*e*PKP	PKPdf	07 26 31.0	-1.9
CD2	Chengdu	147.02	360	PKP	PKPdf	07 26 33.0	-1.3
ENH	Enshi	147.15	350	*e*PKP	PKPdf	07 26 31.6	-2.9
KLBR	Kellerberrin	147.85	203	*e*P	PKPdf	07 26 35.0	-0.6
	comp=Z,30nm,1.2s						
MUN	Mundaring	148.08	201	*e*P	PKPdf	07 26 36.0	0.0
	comp=Z,11nm,0.8s						
KAKA	Kakadu	149.52	249	*e*P	PKPdf	07 26 41.0	+2.3
	comp=Z,19nm,0.8s						
KMI	Kunming	152.78	1	*e*PKP	PKPdf	07 26 37.8	-5.5
FITZ	Fitzroy Crossi	153.14	233	*e*P	PKPdf	07 26 48.5	+4.5
	comp=Z,6.1nm,0.7s						
CMAR	Chiang Mai Arr	158.95	12	PKPab	PKPab	07 27 23.8	-1.7
	comp=Z,4.2nm,1.1s,baz=333,slow=5.4,SNR=6.1						

TRN 18 07:16:18.4, 18.25N×63.51W, h99^{km}, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STMA	St. Maarten, A	0.44	119	*e*P	P	07 16 34.6	+0.8
STMA				*e*S	S	07 16 46.9	+1.6
SABT	Saba	0.68	158	*e*P	P	07 16 37.8	+2.0
SABT				*e*S	S	07 16 49.9	+1.2
STAT	Sint Eustatius	0.91	146	*e*P	P	07 16 38.5	+0.4
STAT				*e*S	S	07 16 54.0	+1.2
SKI	Saint Kitts	1.17	141	*e*P	P	07 16 41.8	+0.7
SKI				*e*S	S	07 16 59.8	+1.6

DJA 18 07:42:26.5±1.3, 8.62S×117.24E, h33^{km}, MD4.8/2, ML4.4/2, 7D, Error ellipse: s-maj=55.2km s-min=23.3km az=162.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.12	276	⇓*i*Pn	Pn	07 42 44.5	-1.6
KEDI	Kedomdong	1.12	276	⇓*i*Pg	P	07 42 44.9	-1.0
RATI	Rata	1.69	266	⇓*i*Pn	Pn	07 42 52.4	-1.9
	121nm,0.1s						
RATI				⇓*i*Sn	Sn	07 43 11.9	-3.1
INGI	Ingas	2.08	264	⇓*i*Pn	Pn	07 42 58.7	-1.1
	484nm,0.2s						
INGI				⇓*i*Sn	Sn	07 43 21.8	-3.0
KELI	Kelakatan	2.75	278	⇓*i*Pn	Pn	07 43 08.9	-0.5

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*IDC **18** 07:54:37.4±1.0, 31.18N×103.94E, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, ML3.7/1, Error ellipse: s-maj=91.4km s-min=19.4km az=59.0*

*BJI **18** 07:54:39.8, 31.36N×104.11E, h11^{km}, ML3.7*

*NEIC **18** 07:54:39.0±0.7, 31.18N×103.90E, h10^{km}, mb4.6/1, Error ellipse: s-maj=22.7km s-min=11.0km az=55.0*

ISC 18 07:54:39.9±0.6, 31.22N±0.06×103.9E±0.1, h31^{km}, n11, σ1ˢ05/13, mb3.9/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	0.34	205	PG	Pb	07 54 47.3	-0.7
CD2				SG	Sb	07 54 53.6	+0.1
CD2				Smax			
	comp=N,10µm,0.5s						
CD2				Smax			
	comp=E,5µm,0.6s						
ENH	Enshi	4.88	100	*e*P	Pn	07 55 53.4	+0.2
GYA	Guiyang	5.32	152	PG	Pb	07 56 15.0	+3.0
GYA				SG	Sb	07 57 21.9	+5.9
GYA				Smax			
	comp=N,80nm,0.8s						
GYA				Smax			
	comp=E,80nm,0.7s						
SONM	Songino Array	16.70	6	Pn	P	07 58 32.5	-0.7
	comp=E,0.1nm,0.3s,baz=194,slow=10,SNR=3.9						
MKAR	Makanchi Array	22.79	319	P	P	07 59 42.5	+1.5
	comp=E,1.4nm,0.9s,mb3.4,baz=131,slow=11,SNR=6.0						
ARCES	ARCESS Array B	57.09	336	P	P	08 04 26.8	+1.5
	comp=E,1.4nm,0.8s,mb4.1,baz=90,slow=8.1,SNR=2.9						
WRAB	Tennant Creek	58.65	146	*e*P	P	08 04 36.4	-0.5
	comp=E,3.8nm,0.7s,mb4.5						
WRA	Warramunga Arr	58.65	146	P	P	08 04 36.3	-0.6
	comp=E,0.8nm,0.3s,mb4.2,baz=338,slow=7.7,SNR=36						
WB2	Warramunga Arr	58.66	146	*e*P	P	08 04 36.5	-0.4
ASAR	Alice Springs	61.67	149	P	P	08 04 57.0	-0.5
	comp=E,0.8nm,0.9s,mb3.8,baz=331,slow=5.3,SNR=4.5						
NOA	NORSAR Array B	64.48	327	P	P	08 05 14.3	-1.2
	comp=E,0.2nm,0.5s,mb3.5,baz=85,slow=6.1,SNR=2.3						

IDC 18 08:00:11.1±2.7, 52.77N×34.28E, mb1 3.6/5, mb1mx3.3/19, ML3.3/6, Error ellipse: s-maj=31.6km s-min=11.4km az=109.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.77	239	Pn	Pn	08 01 08.5	-3.2
	1.1nm,0.3s,baz=52,slow=12,SNR=4.4						
AKASG				Sn	Sn	08 01 55.1	-2.3
	2.2nm,0.3s,baz=61,slow=20,SNR=4.3						
AKASG				Lg		08 02 13.6	
	3.2nm,0.3s,baz=67,slow=30,SNR=5.5						
FINES	FINESS Array B	9.76	336	Pn	P	08 02 28.1	-7.6
	0.2nm,0.3s,baz=153,slow=17,SNR=4.5						
FINES				Sn	Sn	08 04 14.5	-13
	0.2nm,0.3s,baz=149,slow=24,SNR=2.5						
BRTR	Keskin Array B	13.06	182	Pn	P	08 03 29.1	+8.6
	0.1nm,0.3s,slow=16,SNR=2.5						
HFS	Hagfors	13.52	311	Pn	P	08 03 16.5	-10
	0.1nm,0.3s,baz=187,slow=39,SNR=3.4						
HFS				Sn	S	08 05 38.9	-20
	0.0nm,0.3s,baz=132,slow=21,SNR=2.1						
NOA	NORSAR Array B	15.01	313	Pn	P	08 03 33.8	-12
	0.1nm,0.3s,baz=109,slow=10,SNR=2.3						
ARCES	ARCESS Array B	17.31	350	Pn	P	08 04 09.3	-6.1
	0.4nm,0.3s,baz=158,slow=15,SNR=13						

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*NEIC **18** 08:51:24.1±1.2, 4.45S×130.71E, h25^{km}, mb4.0/1, Error ellipse: s-maj=36.5km s-min=14.7km az=74.0*

*IDC **18** 08:51:42.0±19.0, 5.12S×129.75E, h190^{km}±194^{km}, mb3.3/2, mb1 3.2/5, mb1mx3.1/13, ML3.4/3, Error ellipse: s-maj=154.0km s-min=28.4km az=52.0*

ISC 18 08:51:28.5±3.3, 4.9S±0.1×130.5E±0.2, h77^{km}±33^{km}, n10, σ1ˢ55/13, mb3.5/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	8.02	166	*e*P	P	08 53 23.7	-0.7
	1.9nm,0.3s						
KAKA				*e*S	S	08 54 53.7	-0.6
FITZ	Fitzroy Crossi	13.99	199	*e*P	P	08 54 46.8	+2.3
	1.8nm,0.8s						
FITZ	Fitzroy Crossi	13.99	199	P	P	08 54 46.0	+1.4
	0.2nm,0.3s,baz=18,slow=10,SNR=8.4						
FITZ				S	S	08 57 17.5	-0.7
	0.1nm,0.3s,baz=181,slow=20,SNR=3.3						
WRAB	Tennant Creek	15.45	166	P	P	08 55 04.2	+0.8
	3.9nm,0.4s						
WRA	Warramunga Arr	15.46	166	P	P	08 55 00.2	-3.3
	0.1nm,0.3s,baz=346,slow=13,SNR=13						
WRA				S	S	08 57 48.6	-4.0
	0.2nm,0.3s,baz=352,slow=24,SNR=5.0						
WB2	Warramunga Arr	15.46	166	*e*P	P	08 55 02.6	-0.9
WB2				*e*		08 55 09.1	
ASAR	Alice Springs	18.99	170	P	P	08 55 48.5	+1.8
	0.3nm,0.3s,baz=349,slow=10,SNR=17						
ASPA	Alice Springs	18.99	170	*e*P	P	08 55 49.0	+2.3
STKA	Stephens Creek	28.83	160	P	P	08 57 22.6	+0.8
	0.5nm,0.4s,mb3.5,baz=337,slow=15,SNR=2.6						
MKAR	Makanchi Array	66.71	326	P	P	09 02 11.5	-2.1

0.3nm,0.4s,mb3.5,baz=114,slow=8.2,SNR=9.5

SKHL 18 08:59:19.4±0.1**,53.01N**×**142.55E,h10**^{km}**,mb3.9**/2**,**
Sakhalin Island

BGR ***18*** *09:01:22.5±1.4,47.51N×18.07E,h10*^{km}*,ML3.0/3,Error ellipse: s-maj=27.8km s-min=15.6km az=140.0*
NEIC ***18*** *09:01:22.5±0.5,47.63N×17.90E,h10*^{km}*,ML3.3(BUD), ML3.1(VIE),ML3.0(SZGRF),ML2.9(FUR),Error ellipse: s-maj=6.8km s-min=5.2km az=213.0*
PRU ***18*** *09:01:23.7,47.68N×17.87E*
ISC 18 09:01:22.7±0.3**,47.61N**±0.02×**17.85E**±0.03**,h10**^{km}**,n33,** σ**1**^{s}**11**/67**,5C-7D,Hungary**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRO	Srobarova	0.38	56	*i* PG	Pg	09 01 30.9	+0.4
SRO				*e*SG	Sg	09 01 36.2	+0.6
PKSG		0.43	120⇓	*e*P	Pg	09 01 29.8	-1.6
PKSG				*e*S	Sg	09 01 35.5	-1.7
ZST	Bratislava	0.77	320	*i* PN	Pn	09 01 39.5	0.0
ZST				*e*SN	Sn	09 01 51.3	+0.1
BUD	Budapest	0.81	98⇓	*e*Pn	Pn	09 01 37.6	-2.3
BUD				*e*Sn	Sn	09 01 48.1	-3.9
SOP	Sopron	0.88	275⇓	*e*Pn	Pn	09 01 41.6	+0.6
SOP				*e*Sn	Sn	09 01 53.6	-0.2
PKS8	Sarbogard	0.92	142⇓	*e*P	Pb	09 01 39.2	-1.2
PKS8				*e*S	Sb	09 01 52.0	-0.4
SMOL	Smolenice	0.95	343	*e*PN	Pn	09 01 42.7	+0.7
SMOL				*e*SN	Sn	09 01 56.6	+1.0
PENC	Penc	0.98	79	*e*P	Pb	09 01 41.4	0.0
PENC				*e*S	Sb	09 01 55.7	+1.4
KOLL	Kolacno	1.04	21	*e*PN	Pn	09 01 43.2	-0.1
KOLL				*e*SN	Sn	09 01 57.6	-0.3
PKS7	Kunszentmiklos	1.05	122⇓	*e*P	Pb	09 01 42.9	+0.3
PKS7				*e*S	Sb	09 01 57.2	+0.9
PKS9	Tamasi	1.06	164⇓	*e*P	Pb	09 01 43.1	+0.3
PKS9				*e*S	Sb	09 01 57.5	+1.0
VYHS	Vyhne	1.11	36	*i* PN	Pn	09 01 43.7	-0.6
VYHS				*e*SN	Sn	09 01 59.1	-0.5
VKA	Vienna	1.22	303⇑	*i*PG	Pg	09 01 48.0	+0.8
VKA				*i* SG	Sg	09 02 06.0	+2.5
RHK1	Bakonya	1.52	174⇓	*i*P	Pn	09 01 51.5	+1.3
RHK1				*e*S	Sb	09 02 10.6	+0.8
ARSA	Arzberg	1.62	258⇑	*i*PG	Pg	09 01 52.3	-2.8
ARSA				*i* SG	Sg	09 02 16.4	-0.3
	71nm,0.3s						
ARSA	Arzberg	1.62	258	*e*Pn	Pn	09 01 52.4	+0.8
ARSA				*e*Sn	Sn	09 02 16.5	+3.8
RHK3	Tenkes	1.74	171	*e*P	Pn	09 01 53.1	-0.2
RHK3				*e*S	Sn	09 02 16.0	+0.3
KECS	Kecovo	1.97	63	*e*PG	Pg	09 01 57.8	-4.4
MORC	Moravsky Berou	2.18	355	*e*P	Pn	09 02 00.9	+1.3
OKC	Ostrava-Krasne	2.24	5	*e*PN	Pn	09 01 58.0	-2.5
OKC				*e*PG	Pg	09 02 01.2	-6.3
OKC				*e*SG	Sg	09 02 28.1	-9.3
MOA	Molln	2.43	277⇑	*i*PG	Pg	09 02 06.8	-4.5
MOA				*i* SG	Sg	09 02 42.5	-1.2
	56nm,0.7s						
OBKA	Obir	2.51	245⇑	*i*PG	Pg	09 02 04.8	-8.1
OBKA				*i* SG	Sg	09 02 42.7	-3.6
	34nm,0.8s						
DPC	Dobruska-Polom	2.92	340	*e*PN	Pn	09 02 11.6	+1.4
DPC				*e*PG	Pg	09 02 13.4	-7.7
DPC				*e*SN	Sn	09 02 40.8	-5.0
DPC				*e*SG	Sg	09 02 52.5	-7.6
GEC2	GERESS Array S	3.04	296	*e*Pn	Pn	09 02 12.7	+0.9
GEC2	GERESS Array S	3.04	296	*e*Pn	Pn	09 02 12.7	+0.9
KBA	Koelnbreinsper	3.11	262⇑	*i*PN	Pn	09 02 13.7	+0.8
KBA				*i* SN	Sn	09 02 50.9	+0.5
KBA	Koelnbreinsper	3.11	262	*e*Pn	Pn	09 02 13.6	+0.8
KBA				*e*Sn	Sn	09 02 50.6	+0.2
VOY	Vojsko	3.14	241	*e*Pn	Pn	09 02 13.7	+0.4
VOY				*e*Sn	Sn	09 02 50.3	-0.9
KHC	Kasperske Hory	3.23	300	*e*PN	Pn	09 02 15.5	+0.9
KHC				*e*PG	Pg	09 02 23.1	-4.2
KHC				*e*SN	Sn	09 02 53.3	-0.2
KHC				*e*SG	Sg	09 03 04.5	-5.8
PRU	Pruhonice	3.23	319	*e*PG	Pg	09 02 22.5	-4.8
PRU				*e*SN	Sn	09 02 52.1	-1.5
PRU				*e*SG	Sg	09 03 03.1	-7.4
	22nm,0.6s						
PRU	Pruhonice	3.23	319	*e*Pg	Pg	09 02 22.5	-4.8
PRU				*e*Sn	Sn	09 02 52.1	-1.5
PRU				*e*Sg	Sg	09 03 02.9	-7.6
TANN	Tannenbergstha	4.52	310	*e*Pn	Pn	09 02 33.5	+0.5
CLL	Collm	4.87	321	*e*SG	Sg	09 04 03.0	-1.9

CASC ***18*** *09:03:04.7,17.86N×94.45W,h21*^{km}*,MD5.2,ML5.6, mb5.7(NEIC)*
CSEM ***18*** *09:03:08.5,16.81N×94.67W,h33*^{km}*,mb5.8*
IDC ***18*** *09:03:09.7±0.4,16.42N×94.89W,h65*^{km}*±2*^{km}*,mb5.0/30, mb1 5.1/32,mb1mx5.1/33,MS4.9/20,Ms1 4.9/20, ms1mx4.9/23,Error ellipse: s-maj=11.6km s-min=7.5km az=52.0*
MEX ***18*** *09:03:10.5±1.2,16.24N×95.15W,h50*^{km}*±20*^{km}*,MD5.6*
BGS ***18*** *09:03:10.8±1.3,16.49N×94.68W,h65*^{km}*,mb6.1*
NEIC ***18*** *09:03:10.1±0.2,16.43N×94.94W,mb5.7/183,ME5.8, MW5.9,MD5.6(MEX),Error ellipse: s-maj=4.6km s-min=2.8km az=216.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*305°,δ75°,λ-120°. NP2:*ϕ_s*191°,δ33°, λ-28°. Principal axes: T Plg24°, Azm58°; N Plg0°, Azm0°; P Plg51°, Azm181°; Moment Tensor Solution. s14 Moment tensor: Scale 10*^{17} *Nm;* M_{rr}*-1.99;* $M_{\theta\theta}$*-4.48;* $M_{\phi\phi}$*6.47;* $M_{r\theta}$*3.21;* $M_{\theta\phi}$*-0.88;* $M_{\phi r}$*-0.76; Best double couple:* M_0*6.7×10*^{17} *NP1:*ϕ_s*215°,δ61°,λ-21°. NP2:*ϕ_s*316°, δ72°,λ-149°. Principal axes: T 6.67, Plg7°, Azm83°; N .02, Plg55°, Azm343°; P -6.69, Plg34°, Azm178°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Oaxaca.
MOS ***18*** *09:03:10.5±1.2,16.61N×94.85W,h70*^{km}*,mb5.6/37 Error ellipse: s-maj=9.6km s-min=4.5km az=101.8*
HRVD ***18*** *09:03:10.1±0.1,16.40N×95.14W,h78*^{km}*±1*^{km}*,MW5.8/61, Centroid moment Tensor Solution. LP body waves: s60,c128;Mantle waves: s61,c132; Half duration: 1*^{s}*9 Moment tensor: Scale 10*^{17}*Nm;* M_{rr}*-2.24±.07;* $M_{\theta\theta}$*-3.31±.07;* $M_{\phi\phi}$*5.56±.09;* $M_{r\theta}$*2.79±.05;* $M_{\theta\phi}$*-1.25±.07;* $M_{\phi r}$*0.31±.07; Best double couple:* M_0*5.73×10*^{17} *NP1:* ϕ_s*210°,δ63°,λ-29°. NP2:*ϕ_s*314°,δ64°,λ-150°. Principal axes: T 5.73, Plg1°, Azm82°; N .01, Plg51°, Azm351°; P -5.74, Plg39°, Azm172°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***18*** *09:03:10.1,16.40N×94.90W,h62*^{km}*,mB5.7,Ms5.7, Msz5.3*
ISC 18 09:03:08.7±0.1**,16.45N**±0.02×**95.02W**±0.02**,h62**^{km}**,** **h62**^{km}±.4^{km}**:pP-P,n849,**σ**1**^{s}**26**/773**,mb5.7**/258**,93C-43D,** **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.65	11	*i* P	P	09 03 25.3	+2.7
CMIG				*e*S	S	09 03 37.1	+4.2
HUIG	Huatulco	1.25	238⇑	*i*P	P	09 03 26.1	-4.3
HUIG				*i* S	S	09 03 40.0	-6.6
TUIG	Tuzandepetl	1.68	20	*i* P	P	09 03 39.3	+2.9
TUIG				*e*S	S	09 04 00.0	+3.2
OXX	Oaxaca	1.75	291	*i* P	P	09 03 36.0	-1.5
VHO	Vista Hermosa	1.76	291	*i* P	P	09 03 37.4	-0.2
VHO				*e*S	S	09 03 57.9	-0.9
EVV	El Vigia	2.02	351	*i* P	P	09 03 41.8	+0.6
SCX	San Cristobal	2.30	82	*i* P	P	09 03 47.7	+2.5
CCIG	Comitan	2.77	93	*i* P	P	09 03 53.8	+2.1
CCIG				*i* S	S	09 04 25.9	+1.9
TPX	Tapachula	3.06	120	*i* P	P	09 03 55.5	-0.4
IISM	Ciudad Serdan	3.38	319	*i* P	P	09 03 59.0	-1.4
LVIG	Laguna Verde	3.52	338	*i* P	P	09 03 59.7	-2.6
LVIG				*i* S	S	09 04 43.1	0.0
IIB	San Bernardino	4.04	309	*i* P	P	09 04 15.5	+5.8
PPM	Popocatepetl	4.32	308	*i* P	P	09 04 14.5	+1.0
PPM				*i* P		09 04 14.7	
PPM				*i* P		09 04 15.2	
PPM				*e*S	S	09 05 04.5	+1.4
SCIG		4.43	55	*i* P	P	09 04 15.9	+0.8
SCIG				*i* S	S	09 05 11.4	+5.6
YAIG	Yautepec	4.55	302	*i* P	P	09 04 16.7	-0.1
YAIG				*i* S	S	09 05 05.4	-3.5
GCG	Guatemala City	4.70	113⇑	*e*P	P	09 04 20.2	+1.3
IIO	Organos	4.71	312	*i* P	P	09 04 25.7	+6.6
CHVM	Chichinautzin	4.73	304	*i* P	P	09 04 19.4	0.0
PBVM	Pinon	4.89	308	*e*P	P	09 04 21.0	-0.5
PBVM				*i* S	S	09 05 11.5	-5.8
UNM	Universidad Na	4.89	307	*e*P	P	09 04 18.5	-3.0
UNM				*i* P		09 04 22.9	
UNM				*i* P		09 04 23.5	
UNM				*e*S	S	09 05 15.8	-1.6
UNM				*i* S	S	09 05 19.0	+1.6
IXG	Ixpaco	4.95	117⇓	*e*P	P	09 04 23.8	+1.6
IXG				*e*S	S	09 05 25.1	+6.3
IXG				AML	AML	09 05 30.9	
	comp=E,49µm,0.6s						
PTVM	Pico Tres Padr	5.00	309	*i* P	P	09 04 22.8	-0.3
CAIG	El Cayaco	5.07	278	*i* P	P	09 04 20.4	-3.6
CAIG				*i* S	S	09 05 20.8	-1.1
MDVM	Presa Madin	5.07	308	*i* P	P	09 04 23.8	-0.2
MRL	Marmol	5.31	104⇑	*e*P	P	09 04 27.1	-0.1
MRL				*e*S	S	09 05 25.1	-2.7
MRL				AML	AML	09 05 34.8	
	comp=E,4µm,0.8s						
IIJ	Jocotitlan	5.55	307	*i* P	P	09 04 36.9	+6.3
ZIIG	Zihuatanejo	6.28	282	*i* P	P	09 04 38.1	-2.7
ZIIG				*e*S	S	09 05 46.5	-5.5
MOIG	Morelia	6.70	300	*i* P	P	09 04 47.6	+1.0
MOIG				*i* S	S	09 06 00.1	-2.2
TEIG	Tepich	7.42	59	P	P	09 04 55.5	-1.2
	comp=E,0.0nm,0.3s,baz=66,slow=24,SNR=126						
TEIG				S	S	09 06 15.4	-4.8
	comp=E,0.0nm,0.3s,baz=345,slow=24,SNR=12						
TEIG	Tepich	7.42	59	*e*P	P	09 04 58.3	+1.6
	comp=E,0.2nm,0.8s						
TEIG				*e*S	S	09 06 15.1	-5.1
SFJM	Santa Fe	8.61	299	*i* P	P	09 05 12.5	-0.5
CGX	Ciudad Guzman	8.70	293	*i* P	P	09 05 13.5	-0.8
QUIN	Quiabu	8.95	111	*e*P	P	09 05 15.3	-2.3
XAVN	Gruta Xavier	9.44	116⇓	*e*P	P	09 05 24.6	+0.2
PYTN	Playitas	9.50	113⇓	*e*P	P	09 05 26.0	+0.6
MGAN	Managua	9.51	116⇓	*e*P	P	09 05 25.6	+0.1
MGAN				*e*S	S	09 07 15.9	+4.0
WILN	Americas 2	9.56	115	*e*P	P	09 05 26.7	+0.5
WILN				*e*S	S	09 07 14.8	+1.9
TICN	Ticuantepe	9.58	116⇑	*e*P	P	09 05 26.7	+0.3
COFN	Cofrada	9.63	115⇑	*e*P	P	09 05 27.6	+0.5
APON	Apoyo	9.77	116⇓	*e*P	P	09 05 28.5	-0.6
CJM	Chamela	10.01	289	*i* P	P	09 05 29.4	-3.0
CONN	Concepcion	10.32	117⇑	*e*P	P	09 05 36.3	-0.3
VCR	Vista de Mar	11.08	123	*e*P	P	09 05 48.4	+1.6
JTS	JuntasAbangare	11.54	121	P	P	09 05 51.8	-1.3
	comp=E,36nm,0.3s,baz=325,slow=8.4,SNR=104						
JTS				S	S	09 08 00.8	-0.3
	baz=142,slow=17,SNR=2.0						
JTS	JuntasAbangare	11.54	121	*e*P	P	09 05 52.6	-0.4
JCR	Jicaral	11.66	123	*e*P	P	09 05 56.1	+1.6
FORC	Fortuna	11.68	119	*e*P	P	09 05 56.6	+1.7
CGA2	Cerro Gallo 2	12.09	121	*e*P	P	09 06 01.6	+1.2
VPS2	Volcan Poas 2	12.19	119	*e*P	P	09 06 03.3	+1.6
PRS1	Puriscal	12.24	120	*e*P	P	09 06 04.1	+1.7
TRTC	Tortuguero	12.44	117	*e*P	P	09 06 04.8	-0.3
LAJ	Bijagual	12.46	120⇓	*e*P	P	09 06 02.7	-2.6
SJS	Escuela Geolog	12.47	120⇓	*e*P	P	09 06 05.3	-0.2
SJS				*e*P		09 06 06.6	
ICR	Volcan Irazu	12.64	119	*e*P	P	09 06 08.7	+1.0
URSC	Urasca	12.76	120	*e*P	P	09 06 10.3	+0.9
BUS	Buena Vista	12.93	121⇑	*e*P	P	09 06 12.8	+1.3
LIO	Limon	13.30	117	*e*P	P	09 06 17.1	+0.7
HKT	Hockley	13.46	357	Pn	P	09 06 17.1	-1.4
HKT	Hockley	13.46	357⇓	*e*P	P	09 06 17.2	-1.3
HKT				pmax	pmax		
	comp=Z,2µm,1.8s						
HKT	Hockley	13.46	357⇓	*e*P	P	09 06 17.2	-1.2
	comp=Z,1µm,1.8s						
ACR	Cerro Adams	13.91	122	*e*P	P	09 06 26.8	+2.3
CNI	Changuinola	14.04	118	*e*P	P	09 06 26.1	0.0
DVD	David	14.62	121⇑	*e*P	P	09 06 37.8	+4.1
JCT	Junction City	14.64	343	*e*P	P	09 06 33.6	-0.3
PTP1	Petroterminal	14.77	122⇓	*e*P	P	09 06 32.6	-3.0
LTX	Lajitas	15.09	330	*e*P	P	09 06 41.0	+1.3
LTX				pmax	pmax		
	comp=Z,42nm,0.5s						
LTX	Lajitas	15.09	330	*e*P	P	09 06 41.0	+1.3
	comp=Z,42nm,0.5s						
LTX				*e*pP		09 06 58.1	
TXAR	Lajitas Array	15.09	330	P	P	09 06 40.9	+1.1
	comp=Z,2.7nm,0.3s,baz=152,slow=13,SNR=554						
TXAR				sP		09 06 58.7	
	comp=Z,3.6nm,0.3s,baz=149,slow=10,SNR=17						
TXAR				LR	LR	09 12 47.0	
	comp=Z,4µm,18.2s,baz=140,slow=38						
TXAR				P3KPbc		09 42 14.7	
	baz=288,slow=2.9,SNR=11						
TXAR	Lajitas Array	15.09	330	P	P	09 06 40.9	+1.1
TXAR				sP		09 06 58.7	
TXAR				LR	LR	09 12 47.0	
NATX	Nacogdoches	15.25	1	*e*P	P	09 06 41.8	0.0
	comp=Z,500nm,0.8s						
NATX				*e*pP		09 06 53.9	
MGV	Manicaragua	15.27	66	*e*P	P	09 06 38.5	-3.5
	baz=252						
MGV				*e*S	S	09 09 25.2	-4.5
	comp=N,11µm,3.3s						
	comp=E,13µm,3.3s						
NEJ	Negril	16.03	81⇑	*e*P	P	09 06 47.2	-4.6
LPIG	La Paz	16.23	300	*i* P	P	09 06 55.5	+1.2
LPIG				*e*S	S	09 09 51.4	-0.5
MCJ	Malvern	16.62	82⇑	*e*P	P	09 06 59.7	+0.5
AZU	Azuero	16.77	119⇓	*e*P	P	09 07 05.7	+4.7
CVJ	Coleyville	16.78	81⇑	*e*P	P	09 07 00.5	-0.6
UPA	Univ. de Panam	16.82	114⇓	*i*P	P	09 07 05.1	+3.4
UPA				AMb	AMB	09 07 05.5	
	comp=Z,111nm,1.1s						
CCCC	Cccc	17.00	71	*e*P	P	09 07 07.2	+3.4
BBJ	Bamboo Saint A	17.05	81⇑	*e*P	P	09 07 03.9	-0.6
DWPF	Disney	17.09	45	*e*P	P	09 07 02.3	-2.7
	comp=Z,554nm,0.9s						
DWPF				*e*pP		09 07 20.6	
PCJ	Portland Cotta	17.12	83	*e*P	P	09 07 03.6	-1.8
BNJ	Bonny Gate	17.34	81	*e*P	P	09 07 06.7	-1.5
STH	Stony Hill	17.46	82⇓	*e*P	P	09 07 08.9	-0.8
HOJ	Hope	17.52	82	*e*P	P	09 07 07.8	-2.6
GWJ	Greenwich	17.54	82⇓	*e*P	P	09 07 12.1	+1.4
PAYG	Puerto Ayora	17.64	164⇓	*i*P	P	09 07 13.2	+1.2
PAYG				*e*pP		09 07 25.8	
CLNB	Carlsbad	17.68	335	*e*P	P	09 07 13.4	+1.0
GDL2	Guadalupe Moun	17.83	333	*e*P	P	09 07 15.3	+1.1
CMJ	Castle Mountai	17.88	82⇓	*e*P	P	09 07 16.9	+2.0
LRAL	Lakeview Retre	18.04	22⇑	*i*P	P	09 07 15.1	-1.6
	comp=Z,104nm,1.2s						
CPRX	Cap Rock	18.35	336	*e*P	P	09 07 20.2	-0.3
UALR	University of	18.41	7⇑	*i*P	P	09 07 20.7	-0.5
	comp=Z,613nm,0.8s						
HLGC	Holguin	18.49	73	*e*P	P	09 07 18.0	-4.3
WMOK	Wichita Mounta	18.53	350	*e*P	P	09 07 21.8	-0.8
WMOK				pmax	pmax		
	comp=Z,3µm,1.2s						
WMOK	Wichita Mounta	18.53	350	*e*P	P	09 07 21.8	-0.9
	comp=Z,3µm,1.2s						
OXF	Oxford	18.68	15	*e*P	P	09 07 22.2	-2.2
OXF				pmax	pmax		
	comp=Z,190nm,0.7s						
OXF	Oxford	18.68	15	*e*P	P	09 07 22.2	-2.2
	comp=Z,192nm,0.7s						
RCC	Rio Carpintero	18.69	76	*e*P	P	09 07 21.8	-2.8
RCC				*e*S	S	09 11 00.8	+13
	comp=N,8µm,4.1s						
	comp=E,8µm,2.0s						
MET	Memphis--Engin	19.15	13	*e*P	P	09 07 27.9	-1.8
HBAR	Harrisburg	19.43	11	*e*P	P	09 07 31.3	-1.5
MOAC	Moa	19.47	74	*e*P	P	09 07 30.1	-3.2
MOAC				*e*S	S	09 11 03.0	-1.4
	comp=N,4µm,3.4s						
	comp=E,7µm,5.4s						
GNAR	Gosnell	19.94	12	*e*P	P	09 07 36.4	-1.8
HALT	Halls	20.04	14	*e*P	P	09 07 36.5	-2.7
MASC	Masc	20.07	76	*e*P	P	09 07 41.5	+1.7
MASC				*e*S	S	09 11 24.0	+7.1
	comp=N,5µm,3.6s						
	comp=E,18µm,4.0s						
GLAT	Glass	20.39	13⇑	*e*P	P	09 07 40.5	-2.5
BNM	Barren Site	20.49	332	*e*P	P	09 07 44.8	+0.8
UTMT	University of	20.56	14	*e*P	P	09 07 42.0	-2.7
	comp=E,553nm,1.0s						
LENM	Lemitar	20.66	331	*e*P	P	09 07 46.9	+1.1
LAZ	Ladron	20.93	331	*e*P	P	09 07 50.0	+1.5
ANMO	Albuquerque	21.09	333	P	P	09 07 51.0	+0.9
ANMO	Albuquerque	21.09	333	*e*P	P	09 07 50.7	+0.7
ANMO				pmax	pmax		
	comp=Z,52nm,0.7s						
ANMO	Albuquerque	21.09	333	*e*P	P	09 07 50.7	+0.7
	comp=Z,52nm,0.7s,mb5.0						
ANMO				*e*pP		09 08 02.8	
HBF	Harts Bluff	21.09	36	*e*P	P	09 07 54.6	+4.5
CPCT	Cooper Cave	21.12	24	*e*P	P	09 07 47.5	-2.9
RGRS	Roger Stewart	21.17	37	*e*P	P	09 07 47.0	-4.0
CSU	Charleston Sou	21.30	37	*e*P	P	09 07 49.5	-2.7
TUC	Tucson	21.30	321	*e*P	P	09 07 53.0	+0.7
TUC				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.0						
TUC	Tucson	21.30	321	*e*P	P	09 07 53.0	+0.7
	comp=Z,68nm,0.9s,mb5.0						
TUC				*e*pP		09 08 06.7	
NHSC	New Hope	21.33	36	*e*P	P	09 07 50.1	-2.3
	comp=Z,2µm,1.2s,mb6.2						
TWB	Tillmans-White	21.38	36	*e*P	P	09 07 47.4	-5.6
JSC	Jenkinsville	21.64	32	*e*P	P	09 07 52.6	-2.9
CCM	Cathedral Cave	21.78	8⇑	*i*P	P	09 07 55.3	-1.7
CCM				pmax	pmax		
	comp=Z,250nm,0.9s,mb5.6						
CCM	Cathedral Cave	21.78	8⇑	*i*P	P	09 07 55.3	-1.7
	comp=Z,246nm,0.8s,mb5.7						
FVM	French Village	21.83	10	*e*P	P	09 07 54.9	-2.6
FVM				pmax	pmax		
	comp=Z,61nm,0.7s,mb5.1						
FVM	French Village	21.83	10	*e*P	P	09 07 54.9	-2.5
	comp=Z,61nm,0.7s,mb5.1						
USIN	University of	22.39	15	*e*P	P	09 08 01.2	-1.7
	comp=Z,219nm,0.8s,mb5.6						
SLM	Saint Louis	22.50	10	*e*P	P	09 08 02.7	-1.4
SLM				*e**PP		09 08 18.8	
SLM				pmax	pmax		
	comp=Z,370nm,0.9s,mb5.8						
SLM	Saint Louis	22.50	10	*e*P	P	09 08 02.7	-1.4
	comp=Z,369nm,0.9s,mb5.8						
SLM				*e*pP		09 08 18.8	
KSU1	Kansas State U	22.61	357	*e*P	P	09 08 04.1	-1.0
KSU1				*e*pP		09 08 18.5	
CBKS	Cedar Bluff	22.67	350	*e*P	P	09 08 06.2	+0.5
CBKS				*e**PP		09 08 20.3	
CBKS				pmax	pmax		
	comp=Z,190nm,0.7s,mb5.6						
CBKS	Cedar Bluff	22.67	350	*e*P	P	09 08 06.2	+0.5
	comp=Z,194nm,0.7s,mb5.6						
CBKS				*e*pP		09 08 20.3	
OTAV	Otavalo	22.94	133	*e*P	P	09 08 09.6	+1.0
	comp=Z,208nm,1.4s,mb5.4						
WCI	Wyandotte Cave	23.02	18	*e*P	P	09 08 07.4	-1.7
WCI				pmax	pmax		
	comp=Z,510nm,0.8s,mb6.0						
WCI	Wyandotte Cave	23.02	18	*e*P	P	09 08 07.4	-1.7
	comp=Z,506nm,0.8s,mb6.0						
SDCO	Great Sand Dun	23.15	338⇑	*i*P	P	09 08 12.7	+2.4
	comp=Z,639nm,1.0s,mb6.0						
SDCO				*e*pP		09 08 25.3	
ROSC	El Rosal	23.33	117	P	P	09 08 13.4	+1.0
	comp=Z,85nm,0.6s,mb5.3,baz=310,slow=6.0,SNR=62						
BLO	Bloomington	23.83	17	*e*P	P	09 08 15.3	-1.6
BLO				*e**PP		09 08 31.2	
BLO				pmax	pmax		
	comp=Z,440nm,0.7s,mb6.0						
BLO	Bloomington	23.83	17	*e*P	P	09 08 15.3	-1.6
	comp=Z,445nm,0.7s,mb6.0						
BLO				*e*pP		09 08 31.1	
WUAZ	Wupatki	23.95	326	*e*P	P	09 08 20.8	+2.6
	comp=Z,81nm,0.9s,mb5.2						
WUAZ				*e*pP		09 08 35.0	
PWV	Princeton	24.20	28	*e*P	P	09 08 18.2	-2.3
ELN	Prospectdale	24.24	29	*e*P	P	09 08 18.9	-2.1
BLA	Blacksburg	24.38	29	*e*P	P	09 08 19.6	-2.8
BLA				*e**PP		09 08 34.9	
BLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BLA	Blacksburg	24.38	29	*e*P	P	09 08 19.6	-2.8
	comp=Z,8.3nm,0.8s						
BLA				*e*pP		09 08 34.9	
RW3	Ridgway	24.41	335	*e*P	P	09 08 24.8	+2.1
RW3				*e**PP		09 08 40.8	
FWV	Forest Hill	24.50	28	*e*P	P	09 08 20.8	-2.7
FWV				*e*pP		09 08 36.7	
PV01	Paradox Valley	24.68	334	*e*P	P	09 08 26.9	+1.7
PV01				*e*pP		09 08 42.5	
SDV	Santo Domingo	24.93	105	P	P	09 08 25.5	-2.4
SDV				sP		09 08 53.8	
SDV				PnPn		09 09 16.2	
SDV	Santo Domingo	24.93	105	*e*P	P	09 08 25.2	-2.7
	comp=Z,57nm,0.6s,mb5.3						
ISCO	Idaho Springs	25.04	340	*e*P	P	09 08 30.4	+1.8
ISCO				*e**PP	pP	09 08 45.1	+1.8
ISCO				pmax	pmax		
	comp=Z,5µm,1.4s,mb6.8						
ISCO	Idaho Springs	25.04	340	*e*P	P	09 08 30.4	+1.8
	comp=Z,5µm,1.4s,mb6.8						
ISCO				*e*pP	pP	09 08 45.1	+1.8
PV10	Paradox Valley	25.08	333	*e*P	P	09 08 30.4	+1.3
PV10				*e*pP	pP	09 08 46.0	+2.2
BAR	Barrett	25.40	313	*e*P	P	09 08 32.0	-0.1
BAR				*e*pP	pP	09 08 48.0	+1.1
LDFC	Landfair	25.83	320	*e*P	P	09 08 37.7	+1.5
LDFC				*e*pP	pP	09 08 53.1	+2.3
ACSO	Alum Creek Sta	25.91	21	*e*P	P	09 08 33.8	-3.0
	comp=Z,56nm,0.7s,mb5.2						
ACSO				*e*pP	pP	09 08 50.1	-1.5
NEN	Nelson	26.04	321	*e*P	P	09 08 38.4	+0.3
NEN				*e*pP	pP	09 08 54.1	+1.3
SRU	San Rafael	26.34	332	*e*P	P	09 08 42.0	+1.2
SRU				*e**PP	pP	09 08 56.6	+1.0
MCWV	Mont Chateau	26.64	27	*e*P	P	09 08 40.4	-3.2
	comp=Z,26nm,0.8s,mb4.8						
MCWV				*e*pP	pP	09 08 57.1	-1.3
MSU	Marysvale	26.65	329	*e*P	P	09 08 45.2	+1.5
MSU				*e**PP	pP	09 09 00.7	+2.2
CBN	Corbin	26.65	32	*e*P	P	09 08 40.4	-3.4
	comp=Z,14nm,0.6s,mb4.7						
JFWS	Jewell Farm	26.69	8	*e*P	P	09 08 42.2	-1.8
JFWS				pmax	pmax		
	comp=Z,790nm,0.8s,mb6.3						
JFWS	Jewell Farm	26.69	8	*e*P	P	09 08 42.2	-1.8
	comp=Z,785nm,0.8s,mb6.3						
MWC	Mount Wilson	27.23	315	*e*P	P	09 08 49.1	+0.1
MPU	Maple Canyon	27.58	332	*e*P	P	09 08 53.1	+1.0
MPU				*e*pP	pP	09 09 08.7	+1.6
SJG	San Juan	27.60	82	P	P	09 08 48.5	-4.0
	comp=Z,13nm,0.3s,mb5.0,baz=340,slow=19,SNR=8.2						
SJG	San Juan	27.60	82	*e*P	P	09 08 48.4	-4.2
SJG				pmax	pmax		
	comp=Z,28nm,0.7s						
SJG	San Juan	27.60	82	*e*P	P	09 08 48.4	-4.1
	comp=Z,28nm,0.7s,mb5.0						
DAU	Daniels Canyon	27.73	333	*e*P	P	09 08 54.8	+1.3
DAU				*e**PP	pP	09 09 10.0	+1.5
NLU	North Lily Min	27.73	331	*e*P	P	09 08 54.6	+1.1
NLU				*e*pP	pP	09 09 08.8	+0.3
JLU	Jordanelle	27.97	333	*e*P	P	09 08 56.8	+1.1
JLU				*e*pP	pP	09 09 11.8	+1.1
DAC	Darwin (Calif)	28.15	319	*e*P	P	09 08 57.2	-0.1
DAC				*e**PP	pP	09 09 13.3	+1.0
DAC				pmax	pmax		
	comp=Z,14nm,0.9s						
DAC	Darwin (Calif)	28.15	319	*e*P	P	09 08 57.2	-0.1
	comp=Z,14nm,0.9s						
DAC				*e*pP	pP	09 09 13.3	+1.0
CTU	Camp Tracy	28.18	332	*e*P	P	09 08 58.9	+1.4
CTU				*e*pP	pP	09 09 14.1	+1.6
ALLY	Alegheny Colle	28.19	24	*e*P	P	09 08 54.1	-3.5
ALLY				*e*pP	pP	09 09 11.3	-1.4
DUG	Dugway	28.27	330	*e*P	P	09 08 59.4	+1.0
DUG				*e**PP	pP	09 09 14.9	+1.5
DUG				pmax	pmax		
	comp=Z,77nm,1.7s,mb5.1						
DUG	Dugway	28.27	330	*e*P	P	09 08 59.4	+1.0
	comp=Z,77nm,1.8s,mb5.0						
DUG				*e*pP	pP	09 09 14.9	+1.6

TCUT	**Toone Canyon**	**28.37**	**333**	*e*P	**P**	**09 08 60.0**	**+0.7**
TCUT				*e*pP	pP	09 09 15.1	+0.8
RSSD	**Black Hills**	**28.63**	**346**	*e*P	**P**	**09 09 02.6**	**+1.1**
RSSD				*e**PP	pP	09 09 16.7	+0.2
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RSSD	**Black Hills**	**28.63**	**346**	*e*P	**P**	**09 09 02.6**	**+1.1**
	comp=Z,7.1nm,0.9s						
RSSD				*e*pP	pP	09 09 16.7	+0.2
ERPA	**Erie**	**28.65**	**24**	*e*P	**P**	**09 08 58.4**	**-3.3**
	comp=Z,52nm,0.8s,mb5.3						
ERPA				*e*pP	pP	09 09 12.1	-4.7
HWUT	**Hardware Ranch**	**28.84**	**334**	*e*P	**P**	**09 09 04.0**	**+0.5**
	comp=Z,36nm,1.3s,mb4.9						
HWUT				*e*pP	pP	09 09 19.0	+0.5
BGU	**Big Grassy Mou**	**28.95**	**331**	*e*P	**P**	**09 09 02.6**	**-1.8**
BGU				*e*pP	pP	09 09 19.8	+0.4
SPUT	**South Promonto**	**28.99**	**332**	*e*P	**P**	**09 09 05.7**	**+1.0**
SPUT				*e*pP	pP	09 09 20.7	+0.9
BW06	**Boulder Array**	**29.03**	**338**	*e*P	**P**	**09 09 04.7**	**-0.4**
	comp=Z,2µm,1.4s,mb6.6						
BW06				*e*pP	pP	09 09 20.4	+0.2
PDAR	**Pinedale Array**	**29.03**	**338**	P	**P**	**09 09 05.5**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=136,slow=8.5,SNR=31						
PDAR				pP	pP	09 09 20.4	+0.2
	comp=Z,58nm,0.9s,baz=135,slow=7.7,SNR=41						
PDAR				LR	LR	09 24 00.3	
	comp=Z,2µm,20.4s,baz=2.6,slow=43						
PDAR				P3KPbc		09 41 11.6	
	comp=Z,1.8nm,1.3s,SNR=4.3						
PDAR	**Pinedale Array**	**29.03**	**338**	P	**P**	**09 09 05.5**	**+0.4**
PDAR				pP	pP	09 09 20.4	+0.2
PDAR				LR	LR	09 24 00.3	
PDAR				*e*		09 41 11.6	
TPH	**Tonopah**	**29.08**	**322**	*e*P	**P**	**09 09 06.0**	**+0.4**
TPH				*e**PP	pP	09 09 22.0	+1.3
TPH				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.1						
TPH	**Tonopah**	**29.08**	**322**	*e*P	**P**	**09 09 06.0**	**+0.4**
	comp=Z,58nm,1.5s,mb5.1						
TPH				*e*pP	pP	09 09 22.0	+1.3
MTUM	**Tungsten Hills**	**29.43**	**320**	*e*P	**P**	**09 09 09.6**	**+0.8**
MTUM				*e*pP	pP	09 09 25.3	+1.5
HVU	**Hansel Valley**	**29.51**	**332**	*e*P	**P**	**09 09 10.4**	**+1.0**
HVU				*e**PP	pP	09 09 25.6	+1.1
AHID	**Auburn Hatcher**	**29.62**	**336**	*e*P	**P**	**09 09 11.0**	**+0.7**
	comp=Z,32nm,1.0s,mb5.0						
AHID				*e*pP	pP	09 09 26.0	+0.6
OMM	**Old Mammoth Mi**	**29.86**	**320**	*e*P	**P**	**09 09 13.3**	**+0.7**
OMM				*e*pP	pP	09 09 28.6	+1.0
MNV	**Mina**	**29.87**	**322**	*e*P	**P**	**09 09 13.3**	**+0.7**
MNV				*e**PP	pP	09 09 29.4	+1.7
MNV				pmax	pmax		
	comp=Z,84nm,1.2s,mb5.3						
MNV	**Mina**	**29.87**	**322**	*e*P	**P**	**09 09 13.3**	**+0.7**
	comp=Z,84nm,1.3s,mb5.3						
MNV				*e*pP	pP	09 09 29.4	+1.6
NVAR	**Mina Array Bea**	**29.95**	**322**	P	**P**	**09 09 14.6**	**+1.2**
	comp=Z,28nm,0.8s,mb5.0,baz=129,slow=9.3,SNR=108						
NVAR				pP	pP	09 09 30.2	+1.7
	comp=Z,62nm,0.8s,baz=135,slow=8.9,SNR=10						
NVAR				LR	LR	09 22 57.5	
	comp=Z,5µm,18.0s,baz=110,slow=40						
NVAR				P3KPbc		09 41 10.1	
	comp=Z,0.8nm,0.7s,baz=284,slow=3.7,SNR=7.6						
NVAR	**Mina Array Bea**	**29.95**	**322**	P	**P**	**09 09 14.6**	**+1.2**
NVAR				pP	pP	09 09 30.2	+1.7
NVAR				LR	LR	09 22 57.5	
NVAR				*e*		09 41 10.1	
REDW	**Red Top Meadow**	**30.03**	**337**	*e*P	**P**	**09 09 14.9**	**+0.9**
REDW				*e*pP	pP	09 09 30.0	+0.9
GENY	**Geneseo**	**30.07**	**26**	*e*P	**P**	**09 09 10.9**	**-3.4**
WUWY	**Wally Ulrich**	**30.14**	**337**	*e*P	**P**	**09 09 15.7**	**+0.8**
WUWY				*e*pP	pP	09 09 30.8	+0.7
TPAW	**Teton Pass**	**30.17**	**337**	*e*P	**P**	**09 09 16.2**	**+1.0**
TPAW				*e*pP	pP	09 09 31.9	+1.5
PCRV	**Puerto La Cruz**	**30.19**	**98**	P	**P**	**09 09 12.5**	**-3.2**
	comp=Z,17nm,0.6s,mb5.0,baz=235,slow=3.7,SNR=11						
PCRV				S	**S**	**09 14 06.6**	**-2.6**
	comp=Z,7.1nm,1.1s,baz=84,slow=15,SNR=2.2						
PCRV				LR	LR	09 22 13.9	
	comp=Z,2µm,21.8s,baz=282,slow=38						
MOOW	**Moose Ponds**	**30.32**	**337**	*e*P	**P**	**09 09 16.9**	**+0.4**
MOOW				*e*pP	pP	09 09 32.7	+1.0
BINY	**Binghamton**	**30.42**	**29**	*e*P	**P**	**09 09 13.4**	**-4.1**
	comp=Z,39nm,1.1s,mb5.0						
LRV	**Little Rabbit**	**30.46**	**316**	P	**P**	**09 09 18.7**	**+0.8**
PAL	**Palisades**	**30.52**	**32**	*e*P	**P**	**09 09 15.7**	**-2.7**
PAL				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
PAL	**Palisades**	**30.52**	**32**	*e*P	**P**	**09 09 15.7**	**-2.7**
	comp=Z,19nm,0.8s,mb5.0						
BMN	**Battle Mountai**	**30.69**	**326**	*e*P	**P**	**09 09 21.0**	**+1.1**
BMN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
BMN	**Battle Mountai**	**30.69**	**326**	*e*P	**P**	**09 09 20.9**	**+1.1**
	comp=Z,18nm,1.1s,mb4.8						
YMR	**Madison River**	**31.19**	**338**	*e*P	**P**	**09 09 25.8**	**+1.6**
YMR				*e*pP	pP	09 09 40.8	+1.3
SADO	**Sadowa**	**31.25**	**22**	P	**P**	**09 09 20.9**	**-3.8**
	comp=Z,32nm,0.8s,mb5.2,baz=226,slow=8.9,SNR=29						
SADO				pP	pP	09 09 37.1	-2.8
	comp=Z,78nm,1.0s,baz=226,slow=8.9,SNR=11						
SADO				LR	LR	09 24 31.5	
	comp=Z,3µm,19.6s,baz=219,slow=41						
SADO	**Sadowa**	**31.25**	**22**	P	**P**	**09 09 20.9**	**-3.8**
SADO				pP	pP	09 09 37.1	-2.8
SADO				LR	LR	09 24 31.5	
WCN	**Washoe City**	**31.38**	**321**	*e*P	**P**	**09 09 25.7**	**-0.3**
WCN				*e**PP	pP	09 09 42.9	+1.7
WCN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
WCN	**Washoe City**	**31.38**	**321**	*e*P	**P**	**09 09 25.7**	**-0.3**
	comp=Z,16nm,1.1s,mb4.8						
WCN				*e*pP	pP	09 09 42.9	+1.6
QLMT	**Earthquake Lak**	**31.50**	**337**	*e*P	**P**	**09 09 28.9**	**+1.9**
QLMT				*e*pP	pP	09 09 43.8	+1.7
LAO	**LASA Array**	**31.56**	**345**	*e*P	**P**	**09 09 24.4**	**-3.1**
	comp=Z,1µm,1.8s,mb6.4						
LAO				*e*pP	pP	09 09 42.1	-0.6
HLID	**Hailey**	**31.66**	**333**	*e*P	**P**	**09 09 28.8**	**+0.4**
	comp=Z,23nm,0.9s,mb5.0						
HLID				*e*pP	pP	09 09 44.6	+1.0
BBSR	**BB Station**	**31.69**	**54**	*e*P	**P**	**09 09 26.0**	**-2.7**
	comp=Z,75nm,1.0s,mb5.5						
LKC	**Lake Chabot**	**31.89**	**317**	*e*P	**P**	**09 09 31.2**	**+0.8**
MCMT	**McKenzie Canyo**	**32.04**	**336**	*e*P	**P**	**09 09 33.0**	**+1.4**
MCMT				*e*pP	pP	09 09 48.6	+1.6
BEKR	**Beckwourth**	**32.10**	**322**	*e*P	**P**	**09 09 32.1**	**-0.1**
	comp=Z,34nm,1.2s,mb5.0						
BEKR				*e*pP	pP	09 09 48.8	+1.3
QUA2	**Belchertown**	**32.25**	**32**	*e*P	**P**	**09 09 31.1**	**-2.4**
	comp=Z,30nm,0.8s,mb5.2						
ACCN	**Adirondack Com**	**32.41**	**30**	*e*P	**P**	**09 09 31.6**	**-3.4**
ACCN				*e*pP	pP	09 09 48.8	-1.4
OHCM	**Honcut**	**32.45**	**320**	*e*P	**P**	**09 09 36.1**	**+0.8**
OHCM				*e*pP	pP	09 09 51.7	+1.1
OHCM				*e*		09 12 39.2	
NCB	**Newcomb**	**32.61**	**28**	*e*P	**P**	**09 09 32.8**	**-3.8**
	comp=Z,18nm,0.8s,mb5.0						
DGMT	**Dagmar**	**32.81**	**349**	*e*P	**P**	**09 09 36.1**	**-2.3**
	comp=Z,46nm,0.9s,mb5.4						
DGMT				*e*pP	pP	09 09 53.6	-0.1
WVOR	**Wild Horse Val**	**32.86**	**327**	*e*P	**P**	**09 09 39.2**	**+0.4**
WVOR				*e**PP	pP	09 09 55.4	+1.2
WVOR				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
WVOR	**Wild Horse Val**	**32.86**	**327**	*e*P	**P**	**09 09 39.2**	**+0.4**
	comp=Z,45nm,1.1s,mb5.3						
WVOR				*e*pP	pP	09 09 55.4	+1.2
MSNY	**Massena**	**33.13**	**27**	*e*P	**P**	**09 09 37.5**	**-3.7**
HRY	**Holter Researc**	**33.26**	**339**	*e*P	**P**	**09 09 42.3**	**+0.1**
HRY				*e*pP	pP	09 09 57.8	+0.2
HNH	**Hanover**	**33.32**	**31**	*e*P	**P**	**09 09 40.3**	**-2.5**
	comp=Z,1.2nm,0.8s						
MOD	**Modoc**	**33.39**	**325**	*e*P	**P**	**09 09 43.5**	**+0.1**
	comp=Z,33nm,1.3s,mb5.1						
MOD				*e*pP	pP	09 09 59.4	+0.6
NNA	**Nana**	**33.48**	**146**	*e*P	**P**	**09 09 43.3**	**-1.1**
	comp=Z,71nm,1.0s,mb5.5						
ULM	**Lac du Bonnet**	**33.73**	**359**	P	**P**	**09 09 43.9**	**-2.3**
	comp=Z,269nm,1.4s,mb6.0,baz=182,slow=8.5,SNR=42						
ULM				pP	pP	09 09 59.9	-1.7
	comp=Z,653nm,1.2s,baz=182,slow=8.6,SNR=33						
ULM				LR	LR	09 26 13.9	
	comp=Z,1µm,20.8s,baz=181,slow=41						
ULM	**Lac du Bonnet**	**33.73**	**359**	*e*P	**P**	**09 09 43.7**	**-2.5**
	comp=Z,212nm,1.3s,mb5.9						
ULM				*e*pP	pP	09 09 59.9	-1.7
WDC	**Whiskeytown Da**	**33.85**	**321**	*e*P	**P**	**09 09 47.9**	**+0.5**
WDC				*e**PP	pP	09 10 01.7	-1.1
WDC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WDC	**Whiskeytown Da**	**33.85**	**321**	*e*P	**P**	**09 09 47.9**	**+0.5**
	comp=Z,10nm,1.1s,mb4.7						
WDC				*e*pP	pP	09 10 01.7	-1.2
CHMT	**Chamberlain Mo**	**33.94**	**337**	*e*pP	pP	09 10 03.6	+0.1
MSO	**Missoula**	**34.12**	**337**	*e*P	**P**	**09 09 49.9**	**+0.3**
	comp=Z,2µm,1.4s,mb6.8						
MSO				*e*pP	pP	09 10 05.1	-0.1
YBH	**Yreka Blue Hor**	**34.66**	**322**	P	**P**	**09 09 52.6**	**-1.7**
	comp=Z,9.8nm,1.0s,mb4.7,baz=92,slow=5.8,SNR=11						
YBH				pP	pP	09 10 08.2	-1.6
	comp=Z,7.3nm,0.7s,baz=145,slow=4.1,SNR=4.1						
YBH	**Yreka Blue Hor**	**34.66**	**322**	*e*P	**P**	**09 09 52.9**	**-1.4**
YBH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YBH	**Yreka Blue Hor**	**34.66**	**322**	*e*P	**P**	**09 09 52.9**	**-1.4**
	comp=Z,5.7nm,0.7s						
KHMM	**Horse Mountain**	**34.76**	**320**	*e*P	**P**	**09 09 55.6**	**+0.5**
KHMM				*e*pP	pP	09 10 11.7	+1.1
LNOR	**Lincton Mounta**	**35.19**	**331**	*e*P	**P**	**09 09 59.5**	**+0.7**
LNOR				*e**PP	pP	09 10 14.6	+0.3
KRMB	**Red Mountain**	**35.25**	**321**	*e*P	**P**	**09 10 02.6**	**+3.3**
VIPM	**Ingram Point**	**35.34**	**328**	P	**P**	**09 10 00.9**	**+0.9**
HUMO	**Hull Mountain**	**35.35**	**323**	P	**P**	**09 10 02.7**	**+2.6**
	comp=Z,29nm,1.3s,mb5.0						
HUMO				*e*pP	pP	09 10 15.0	-0.7
KBO	**Bosley Butte**	**35.85**	**322**	*e*P	**P**	**09 10 05.8**	**+1.4**
KBO				*e*pP	pP	09 10 21.9	+1.9
HSO	**Harness Mounta**	**36.01**	**324**	*e*P	**P**	**09 10 07.2**	**+1.4**
HSO				*e**PP	pP	09 10 21.3	0.0
VGB	**Gordon Butte**	**36.13**	**329**	*e*P	**P**	**09 10 08.6**	**+1.9**
VGB				*e**PP	pP	09 10 22.3	0.0
HAWA	**Hanford**	**36.16**	**331**	*e*P	**P**	**09 10 06.7**	**-0.3**
	comp=Z,6.2nm,0.6s,mb4.7						
HAWA				*e*pP	pP	09 10 21.8	-0.8
KEBM	**Edson Butte**	**36.31**	**323**	*e*P	**P**	**09 10 09.1**	**+0.8**
KEBM				*e*pP	pP	09 10 25.3	+1.4
EMMW	**East Machias**	**36.50**	**34**	*e*P	**P**	**09 10 06.6**	**-3.3**
EMMW				*e*pP	pP	09 10 23.2	-2.2
SSOR	**Sweet Springs**	**36.54**	**327**	*e*P	**P**	**09 10 09.8**	**-0.4**
SSOR				*e**PP	pP	09 10 26.3	+0.6
NEW	**Newport**	**36.54**	**335**	P	**P**	**09 10 10.5**	**+0.3**
	comp=Z,8.3nm,0.7s,mb4.7,baz=146,slow=8.6,SNR=21						
NEW				pP	pP	09 10 24.9	-0.9
	comp=Z,69nm,1.0s,baz=149,slow=8.6,SNR=25						
NEW				LR	LR	09 27 33.6	
	comp=Z,1µm,19.0s,baz=156,slow=40						
NEW	**Newport**	**36.54**	**335**	*e*P	**P**	**09 10 10.8**	**+0.6**
NEW				*e**PP	pP	09 10 25.2	-0.6
NEW				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NEW	**Newport**	**36.54**	**335**	*e*P	**P**	**09 10 10.8**	**+0.6**
	comp=Z,8.1nm,0.6s,mb4.7						
NEW				*e*pP	pP	09 10 25.2	-0.6
DPW	**Davenport**	**36.69**	**334**	*e*P	**P**	**09 10 11.4**	**0.0**
DPW				*e**PP	pP	09 10 27.6	+0.6
COR	**Corvallis**	**36.81**	**326**	*e*P	**P**	**09 10 14.0**	**+1.5**
COR				*e**PP	pP	09 10 29.5	+1.5
COR				pmax	pmax		
	comp=Z,89nm,1.2s,mb5.5						
COR	**Corvallis**	**36.81**	**326**	*e*P	**P**	**09 10 14.0**	**+1.5**
	comp=Z,89nm,1.3s,mb5.4						
COR				*e*pP	pP	09 10 29.5	+1.4
LTY	**Liberty**	**37.33**	**331**	P	**P**	**09 10 17.9**	**+1.1**
ETW	**Entiat**	**37.42**	**332**	P	**P**	**09 10 18.5**	**+0.9**
LON	**Longmire**	**37.51**	**329**	*e*P	**P**	**09 10 18.6**	**+0.3**
LON				*e**PP	pP	09 10 34.1	+0.2
NLW	**Nelson Butte**	**37.78**	**332**	*e*P	**P**	**09 10 21.7**	**+1.2**
NLW				*e*pP	pP	09 10 36.5	+0.4
RMW	**Rattlesnake Mo**	**38.01**	**330**	*e*P	**P**	**09 10 19.8**	**-2.6**
RMW				*e**PP	pP	09 10 37.4	-0.6
BMW	**Boistfort Moun**	**38.02**	**328**	*e*P	**P**	**09 10 23.6**	**+1.0**
BMW				*e**PP	pP	09 10 38.6	+0.4
PNT	**Penticton**	**38.40**	**334**	P	**P**	**09 10 25.9**	**+0.3**
GNW	**Green Mountain**	**38.57**	**330**	*e*P	**P**	**09 10 26.5**	**-0.6**
GNW				*e*pP	pP	09 10 42.4	-0.3
FFC	**Flin Flon**	**38.58**	**354**	*e*P	**P**	**09 10 25.8**	**-1.3**
FFC				*e**PP	pP	09 10 42.8	+0.1
FFC				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.2						
FFC	**Flin Flon**	**38.58**	**354**	*e*P	**P**	**09 10 25.8**	**-1.3**
	comp=Z,45nm,0.8s,mb5.2						
FFC				*e*pP	pP	09 10 42.8	+0.1
RPW	**Rockport**	**38.58**	**332**	*e*P	**P**	**09 10 26.3**	**-0.9**
VDB	**Vedder Mountai**	**39.27**	**332**	P	**P**	**09 10 32.9**	**0.0**
MCW	**Mount Constitu**	**39.36**	**331**	P	**P**	**09 10 33.5**	**-0.1**
OCWA	**Octopus Mounta**	**39.36**	**329**	*e*P	**P**	**09 10 34.6**	**+0.9**
	comp=Z,47nm,1.0s,mb5.2						
OCWA				*e*pP	pP	09 10 50.1	+0.7
PGC	**Sidney**	**39.63**	**330**	*e*P	**P**	**09 10 35.9**	**0.0**
	comp=Z,76nm,1.1s,mb5.3						
PGC				*e*pP	pP	09 10 51.4	-0.1
ARE	**Arequipa**	**40.09**	**144**	*e*P	**P**	**09 10 40.3**	**+0.2**
SAML	**Samuel**	**40.36**	**126**	P	**P**	**09 10 39.5**	**-2.7**
SAML				S	**S**	**09 16 41.4**	**-4.1**
LPAZ	**La Paz**	**41.97**	**140**	P	**P**	**09 10 54.6**	**-0.9**
	comp=Z,27nm,0.8s,mb4.9,baz=331,slow=7.5,SNR=109						
LPAZ	**La Paz**	**41.97**	**140**	P	**P**	**09 10 54.7**	**-0.9**
LPAZ	**La Paz**	**41.97**	**140**	⇓*i*P	**P**	**09 10 54.6**	**-1.0**
LPAZ				pmax	pmax		
	comp=Z,26nm,0.8s						
LPAZ	**La Paz**	**41.97**	**140**	⇓*i*P	**P**	**09 10 54.6**	**-0.9**
	comp=Z,26nm,0.8s,mb4.9						
FCC	**Fort Churchill**	**42.26**	**1**	*e*P	**P**	**09 10 56.1**	**-1.3**
FCC				*e**PP	pP	09 11 12.6	-0.5
FCC				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.2						
FCC	**Fort Churchill**	**42.26**	**1**	*e*P	**P**	**09 10 56.1**	**-1.3**
	comp=Z,57nm,0.9s,mb5.2						
FCC				*e*pP	pP	09 11 12.6	-0.5
SCHQ	**Schefferville**	**44.04**	**23**	P	**P**	**09 11 09.1**	**-2.9**
	comp=Z,26nm,0.8s,mb5.0,baz=218,slow=5.8,SNR=35						
SCHQ				pP	pP	09 11 25.2	-2.5
	comp=Z,27nm,0.9s,baz=240,slow=6.5,SNR=6.0						
SCHQ				LR	LR	09 31 56.4	
	comp=Z,2µm,20.7s,baz=224,slow=39						
SCHQ	**Schefferville**	**44.04**	**23**	*e*P	**P**	**09 11 08.8**	**-3.1**
	comp=Z,74nm,1.1s,mb5.3						
LVC	**Limon Verde**	**46.47**	**146**	P	**P**	**09 11 31.2**	**-0.6**
	comp=Z,33nm,1.0s,mb5.2,baz=316,slow=6.0,SNR=28						
LVC	**Limon Verde**	**46.47**	**146**	P	**P**	**09 11 31.1**	**-0.7**
LVC				PP	PP	09 13 22.2	+0.8
LVC				S	**S**	**09 18 17.7**	**+3.3**
LVC	**Limon Verde**	**46.47**	**146**	*e*P	**P**	**09 11 30.9**	**-0.8**
	comp=Z,42nm,0.9s,mb5.4						
YKA	**Yellowknife Ar**	**48.01**	**348**	P	**P**	**09 11 41.8**	**-1.5**
	comp=Z,8.5nm,0.6s,mb5.0,baz=154,slow=7.2,SNR=58						
YKA				pP	pP	09 11 58.6	-0.6
	comp=Z,133nm,0.9s,baz=152,slow=7.5,SNR=32						
YKA				PP	PP	09 13 27.9	-7.3
	comp=Z,9.5nm,1.0s,baz=151,slow=6.6,SNR=4.0						
YKA				tx	tx	09 13 52.0	
	comp=Z,42nm,1.0s,baz=153,slow=9.1,SNR=6.7						
YKA				LR	LR	09 36 12.6	
	comp=Z,1µm,18.9s,baz=145,slow=41						
YKA	**Yellowknife Ar**	**48.01**	**348**	P	**P**	**09 11 41.9**	**-1.5**
YKA				pP	pP	09 11 58.6	-0.6
YKA				PP	PP	09 13 27.9	-7.3
YKA				LR	LR	09 36 12.6	
YKW3	**Yellowknife Ar**	**48.08**	**348**	*e*P	**P**	**09 11 42.6**	**-1.2**
YKW3				*e*pP	pP	09 11 59.2	-0.5
DLBC	**Dease Lake**	**49.26**	**337**	P	**P**	**09 11 53.7**	**+0.8**
	comp=Z,16nm,1.1s,mb5.0						
DLBC				pP	pP	09 12 10.6	+1.7
	comp=Z,214nm,1.1s,baz=135,slow=7.1,SNR=8.3						
DLBC	**Dease Lake**	**49.26**	**337**	*e*P	**P**	**09 11 54.3**	**+1.4**
DLBC				*e*pP	pP	09 12 11.3	+2.4
SIT	**Sitka**	**50.55**	**333**	*e*P	**P**	**09 12 05.5**	**+2.6**
SIT				*e**PP	pP	09 12 19.8	+0.9
SIT				pmax	pmax		
	comp=Z,540nm,2.0s,mb6.1						
SIT	**Sitka**	**50.55**	**333**	*e*P	**P**	**09 12 05.5**	**+2.6**
	comp=Z,544nm,2.0s,mb6.1						
SIT				*e*pP	pP	09 12 19.8	+0.9
FRB	**Frobisher Bay**	**50.65**	**15**	P	**P**	**09 12 01.4**	**-2.2**
	comp=Z,121nm,0.8s,mb5.9,baz=216,slow=8.5,SNR=100						
FRB				pP	pP	09 12 17.7	-1.9
	comp=Z,49nm,0.8s,baz=166,slow=22,SNR=3.9						
TLL	**Tololo Astrono**	**51.88**	**153**	⇑*i*P	**P**	**09 12 10.7**	**-2.6**
CMCH	**Combarbala**	**52.67**	**154**	⇑*i*P	**P**	**09 12 17.2**	**-2.0**
PEL	**Peldehue**	**54.52**	**155**	⇑*i*P	**P**	**09 12 30.5**	**-2.2**
DSCH	**Colegio Aleman**	**54.78**	**155**	⇑*i*P	**P**	**09 12 32.8**	**-2.0**
FCH	**Farellones**	**54.84**	**155**	⇓*i*P	**P**	**09 12 33.6**	**-1.5**
LMEL	**Las Melosas**	**55.32**	**155**	⇓*i*P	**P**	**09 12 36.8**	**-1.8**
RKT	**Rikitea**	**55.44**	**226**	*e*P	**P**	**09 12 36.6**	**-3.0**
	comp=Z,149nm,1.1s,mb5.9						
RKT	**Rikitea**	**55.44**	**226**	*e*L		09 26 31.5	
RKT				*e*R		09 28 45.2	
	comp=Z,2µm,28.8s						
CPUP	**Villa Florida**	**56.12**	**139**	P	**P**	**09 12 40.6**	**-3.9**
	comp=Z,46nm,1.2s,mb5.4,baz=346,slow=7.2,SNR=40						
CPUP				LR	LR	09 37 31.3	
	comp=Z,717nm,18.3s,baz=348,slow=37						
CPUP	**Villa Florida**	**56.12**	**139**	*e*P	**P**	**09 12 40.5**	**-4.0**
CPUP				pmax	pmax		
	comp=Z,140nm,1.3s						
CPUP	**Villa Florida**	**56.12**	**139**	*e*P	**P**	**09 12 40.5**	**-4.0**
	comp=Z,142nm,1.4s,mb5.8						
BDFB	**Brasilia**	**56.28**	**122**	P	**P**	**09 12 43.4**	**-2.3**
	comp=Z,59nm,0.8s,mb5.7,baz=295,slow=8.7,SNR=48						
BDFB				LR	LR	09 38 01.7	
	comp=Z,1µm,21.2s,baz=306,slow=37						
DAWY	**Dawson**	**56.34**	**338**	*e*P	**P**	**09 12 44.2**	**-1.3**
DAWY				*e*pP	pP	09 13 01.5	-0.3
CCHI	**Chillan**	**57.04**	**158**	⇓*i*P	**P**	**09 12 48.7**	**-2.2**
INK	**Inuvik**	**57.29**	**344**	P	**P**	**09 12 50.9**	**-1.4**
	comp=Z,24nm,0.7s,mb5.3,baz=132,slow=7.6,SNR=43						
INK				pP	pP	09 13 07.5	-1.1
	comp=Z,152nm,1.1s,baz=141,slow=7.7,SNR=23						
INK	**Inuvik**	**57.29**	**344**	*e*P	**P**	**09 12 50.8**	**-1.4**
INK				*e**PP	pP	09 13 08.0	-0.6
INK				pmax	pmax		
	comp=Z,34nm,0.9s						
INK	**Inuvik**	**57.29**	**344**	*e*P	**P**	**09 12 50.8**	**-1.4**
	comp=Z,34nm,0.9s,mb5.4						
INK				*e*pP	pP	09 13 08.0	-0.6
RES	**Resolute Bay**	**58.25**	**0**	*e*P	**P**	**09 12 56.5**	**-2.3**
RES				*e**PP	pP	09 13 13.2	-2.0
RES				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
RES	**Resolute Bay**	**58.25**	**0**	*e*P	**P**	**09 12 56.5**	**-2.4**
	comp=Z,16nm,0.7s,mb5.2						
RES				*e*pP	pP	09 13 13.2	-2.1
PMR	**Palmer**	**58.93**	**333**	*e*P	**P**	**09 13 02.6**	**-1.1**
PMR				*e**PP	pP	09 13 19.6	-0.5
PMR				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.4						
PMR	**Palmer**	**58.93**	**333**	*e*P	**P**	**09 13 02.8**	**-0.9**
SLKM	**Skilak Lake**	**58.97**	**332**	*e*P	**P**	**09 13 03.5**	**-0.5**
SLKM				*e**PP	pP	09 13 20.4	0.0
PMS	**Palmer South**	**58.97**	**333**	*e*P	**P**	**09 13 03.3**	**-0.7**
GOU	**Gould Hall**	**59.06**	**333**	*e*P	**P**	**09 13 11.2**	**+6.6**
KDAK	**Kodiak Island**	**59.12**	**328**	*e*P	**P**	**09 13 04.3**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**59.46**	**337**	P	**P**	**09 13 05.9**	**-1.4**
	comp=Z,14nm,0.8s,mb5.0,baz=128,slow=5.0,SNR=112						
ILAR				pP	pP	09 13 22.8	-1.0
	comp=Z,60nm,1.1s,baz=137,slow=3.0,SNR=18						
ILAR				LR	LR	09 41 39.5	
	comp=Z,1µm,19.1s,baz=138,slow=39						
COLA	**College**	**59.87**	**337**	P	**P**	**09 13 08.6**	**-1.6**
COLA				pP	pP	09 13 25.4	-1.2
COLA	**College**	**59.87**	**337**	*i* P	**P**	**09 13 08.5**	**-1.7**
COLA	**College**	**59.87**	**337**	*e*P	**P**	**09 13 08.6**	**-1.6**
SPU	**Mount Spurr**	**60.06**	**332**	*e*P	**P**	**09 13 10.7**	**-0.8**
SPU				*e*pP	pP	09 13 28.1	+0.1
RSO	**Redoubt South**	**60.12**	**331**	*e*P	**P**	**09 13 11.3**	**-0.6**
PLCA	**Paso Flores**	**61.26**	**159**	P	**P**	**09 13 17.3**	**-2.6**
	comp=Z,88nm,1.0s,mb5.9,baz=332,slow=8.3,SNR=128						
PLCA				LR	LR	09 36 20.7	
	comp=Z,697nm,18.3s,baz=359,slow=32						
PLCA	**Paso Flores**	**61.26**	**159**	P	**P**	**09 13 17.2**	**-2.8**
PLCA	**Paso Flores**	**61.26**	**159**	*e*P	**P**	**09 13 17.2**	**-2.7**
PLCA				pmax	pmax		
	comp=Z,250nm,1.3s						
PLCA	**Paso Flores**	**61.26**	**159**	*e*P	**P**	**09 13 17.1**	**-2.8**
	comp=Z,245nm,1.3s,mb6.2						
SVW	**Sparrevohn**	**61.66**	**331**	*e*P	**P**	**09 13 20.7**	**-1.6**
LPA	**La Plata**	**62.04**	**146**	*de*P	**P**	**09 13 22.0**	**-3.2**
	comp=Z,2µm,24.0s						
MEH	**Mehetia**	**62.39**	**239**	*e*P	**P**	**09 13 25.3**	**-2.5**
	comp=Z,158nm,1.5s,mb5.9						
TRQA	**Tornquist**	**62.46**	**151**	*e*P	**P**	**09 13 25.0**	**-3.0**
	comp=Z,573nm,1.7s,mb6.4						
RCBR	**Riachuelo**	**62.50**	**106**	*e*P	**P**	**09 13 27.2**	**-1.4**
	comp=Z,115nm,1.3s,mb5.8						
IMA	**Indian Mountai**	**62.58**	**337**	*e*P	**P**	**09 13 26.8**	**-1.7**
IMA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.2						
IMA	**Indian Mountai**	**62.58**	**337**	*e*P	**P**	**09 13 26.5**	**-2.0**
TIAR	**Tiarei**	**63.29**	**240**	*e*P	**P**	**09 13 31.4**	**-2.4**
	comp=Z,261nm,1.0s,mb6.3						
TVO	**Taravao**	**63.32**	**240**	*e*P	**P**	**09 13 31.6**	**-2.4**
	comp=Z,178nm,1.2s,mb6.1						
PPT	**Papeete**	**63.49**	**240**	*e*SS	SS	09 25 49.4	-22
PPT				*e*L		09 29 37.2	
PPT				*e*R		09 32 00.6	
	comp=Z,4µm,28.2s,baz=57						
PAE	**Paea**	**63.54**	**240**	*e*P	**P**	**09 13 32.8**	**-2.7**
	comp=Z,239nm,1.4s,mb6.0						
SUMG	**Summit**	**64.69**	**16**	*e*P	**P**	**09 13 40.8**	**-1.3**
	comp=Z,41nm,0.8s,mb5.5						
CAM3	**Guarapari**	**64.99**	**123**	*e*P	**P**	**09 13 42.2**	**-2.7**
CAM3				*i*		09 13 42.8	
CAM3				*i*		09 13 45.7	
CAM3				*i*		09 13 47.7	
CAM3				*i*		09 14 09.7	
CAM3				*i*		09 14 17.6	
CAM3	**Guarapari**	**64.99**	**123**	*e*P	**P**	**09 13 42.2**	**-2.7**
CAM3				*i*		09 13 42.8	
CAM3				*i*		09 13 45.7	
CAM3				*i*		09 13 47.7	
CAM3				*i*		09 14 09.7	
CAM3				*i*		09 14 17.6	
TBI	**Tubuai**	**66.30**	**235**	*e*P	**P**	**09 13 50.2**	**-3.0**
	comp=Z,120nm,1.1s,mb5.8						
TBI				*e*SS	SS	09 26 57.0	+2.0
TBI				*e*R		09 33 31.9	
	comp=Z,3µm,28.5s,baz=56						
BORG	**Borgarnes**	**68.30**	**26**	P	**P**	**09 14 04.4**	**-0.6**
	comp=Z,84nm,0.8s,mb5.8,baz=268,slow=3.6,SNR=24						
BORG				pP	pP	09 14 22.0	+0.2
	comp=Z,58nm,1.0s,baz=212,slow=3.0,SNR=4.6						
BORG	**Borgarnes**	**68.30**	**26**	*e*P	**P**	**09 14 04.5**	**-0.6**
	comp=Z,201nm,1.2s,mb6.0						
DAG	**Danmarks Havn**	**70.98**	**14**	⇓*i*P	**P**	**09 14 19.5**	**-1.8**
	comp=Z,62nm,1.1s,mb5.5						
CHIE	**El Hierro**	**71.29**	**66**	P	**P**	**09 14 22.8**	**-1.1**
	comp=Z,135nm,1.5s,mb5.7						
EGOM	**La Gomera**	**71.88**	**65**	P	**P**	**09 14 26.3**	**-1.1**
	comp=Z,31nm,0.8s,mb5.3						
CCAN	**Las Canadas**	**72.39**	**65**	P	**P**	**09 14 30.4**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
EBAJ	**Bajamar**	**72.57**	**65**	P	**P**	**09 14 30.7**	**-0.8**
	comp=Z,15nm,0.7s,mb5.0						
JMIC	**Jan Mayen**	**73.44**	**20**	*e*P	**P**	**09 14 30.6**	**-5.2**
JMIC				*e*S	S	09 23 56.6	-2.4
JMIC				*e*SS	SS	09 28 43.3	-1.5
JMIC				AMS	AMS	09 45 54.7	
	comp=Z,566nm,21.9s						
RAR	**Rarotonga**	**73.70**	**242**	P	**P**	**09 14 37.0**	**-1.3**
	comp=Z,35nm,1.2s,mb5.2,baz=167,slow=7.2,SNR=3.5						
RAR				LR	LR	09 38 57.4	
	comp=Z,561nm,18.4s,baz=54,slow=29						
VAL	**Valentia**	**74.03**	**40**	⇑*e*P	**P**	**09 14 38.5**	**-1.1**
USHA	**Ushuaia**	**74.51**	**164**	P	**P**	**09 14 40.9**	**-1.4**
	comp=Z,60nm,1.1s,mb5.4,baz=307,slow=5.1,SNR=6.4						
EFAM	**Famara**	**74.90**	**64**	P	**P**	**09 14 44.1**	**-1.0**
	comp=Z,90nm,1.0s,mb5.7						
GCL	**Cushendall**	**76.06**	**36**	⇑*e*P	**P**	**09 14 50.0**	**-1.1**
GMM	**Mts of Mourne**	**76.29**	**37**	⇑*e*P	**P**	**09 14 51.1**	**-1.4**
GMK	**Mull of Kintyr**	**76.32**	**36**	⇑*e*P	**P**	**09 14 51.7**	**-0.9**
STS	**Santiago**	**76.45**	**49**	P	**P**	**09 14 52.8**	**-0.9**
	comp=Z,158nm,1.1s,mb5.9						
OTO	**Tongue**	**76.47**	**33**	⇑*e*P	**P**	**09 14 52.7**	**-0.7**
EZAM	**Zamans**	**76.47**	**50**	P	**P**	**09 14 53.0**	**-0.7**
	comp=Z,64nm,0.8s,mb5.6						
MDO	**Dochfour**	**76.66**	**34**	⇑*e*P	**P**	**09 14 53.3**	**-1.2**
MVH1	**Achvaich**	**76.67**	**33**	*e*P	**P**	**09 14 53.5**	**-1.0**
PLOU	**Loures**	**76.71**	**53**	*e*P	**P**	**09 14 54.6**	**-0.6**
	comp=Z,247nm,1.5s,mb5.9						

ORE	**Reay**	**76.79**	**33**	eP	**P**	**09 14 54.7**	**-0.5**
GAL1	**Galloway**	**76.90**	**36⇑**	eP	**P**	**09 14 54.6**	**-1.3**
ELOB	**Lobios**	**76.99**	**50**	P	**P**	**09 14 56.0**	**-0.7**
	comp=Z,83nm,0.9s,mb5.7						
PCOI	**Coimbra**	**77.00**	**52**	eP	**P**	**09 14 56.0**	**-0.8**
	comp=Z,760nm,1.5s,mb6.4						
PCA1	**Carrot**	**77.01**	**36⇑**	eP	**P**	**09 14 55.4**	**-1.1**
OWE	**Westray**	**77.03**	**32⇑**	eP	**P**	**09 14 55.5**	**-1.0**
MLA1	**Latheron**	**77.04**	**33**	eP	**P**	**09 14 55.7**	**-0.9**
WIM	**Isle of Man**	**77.05**	**37⇑**	eP	**P**	**09 14 56.2**	**-0.5**
WIM				AMb	AMB	09 14 58.5	
	comp=Z,604nm,1.5s,mb6.3						
PCOU	**Corrie**	**77.05**	**35**	eP	**P**	**09 14 55.9**	**-0.8**
PTOM	**Tomar**	**77.14**	**52**	eP	**P**	**09 14 56.7**	**-0.9**
	comp=Z,303nm,0.9s,mb6.2						
KBS	**Kingsbay**	**77.18**	**11⇑**	iP	**P**	**09 14 57.7**	**+0.6**
KBS				epP	pP	09 15 14.4	+0.2
KBS				AMb	AMB	09 15 17.5	
	comp=Z,221nm,1.5s,mb5.9						
KBS				ePP	PP	09 17 49.5	-3.3
KBS				eS	S	09 24 40.6	+0.5
KBS				eSS	SS	09 29 40.5	-1.1
KBS				AMS	AMS	09 54 08.1	
	comp=Z,696nm,20.0s						
KBS	**Kingsbay**	**77.18**	**11**	eP	**P**	**09 14 57.8**	**+0.7**
KBS				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.4						
KBS	**Kingsbay**	**77.18**	**11**	eP	**P**	**09 14 57.7**	**+0.6**
	comp=Z,221nm,1.5s,mb5.9						
KBS				LR	LR		
	comp=Z,696µm,20.0s						
CPZ	**Penzance**	**77.20**	**41⇑**	eP	**P**	**09 14 56.4**	**-1.3**
CPZ				AMb	AMB	09 14 59.1	
	comp=Z,528nm,1.5s,mb6.2						
MCD	**Coleburn Disti**	**77.22**	**34⇑**	eP	**P**	**09 14 56.9**	**-0.8**
WCB1	**Church Bay**	**77.26**	**38⇑**	eP	**P**	**09 14 56.4**	**-1.6**
WCB1				AMb	AMB	09 14 59.3	
	comp=Z,319nm,1.4s,mb6.0						
YRC	**Rhoscolyn**	**77.26**	**38⇑**	eP	**P**	**09 14 56.9**	**-1.1**
PTEO	**Sao Teotonio**	**77.29**	**54**	eP	**P**	**09 14 56.7**	**-1.7**
	comp=Z,340nm,1.5s,mb6.1						
OST	**Stronsay**	**77.31**	**32⇑**	eP	**P**	**09 14 57.1**	**-1.0**
PVIS	**Viseu**	**77.32**	**51**	eP	**P**	**09 14 58.0**	**-0.6**
	comp=Z,335nm,1.2s,mb6.2						
PVRL	**Vila Real**	**77.35**	**51**	eP	**P**	**09 14 57.7**	**-1.0**
	comp=Z,259nm,1.6s,mb5.9						
WLF1	**Llynfaes**	**77.36**	**38⇑**	eP	**P**	**09 14 57.1**	**-1.4**
WLF1				AMb	AMB	09 14 59.8	
	comp=Z,292nm,1.5s,mb6.0						
EPON	**Pontenova**	**77.38**	**48**	P	**P**	**09 14 58.0**	**-0.8**
	comp=Z,180nm,1.0s,mb6.0						
MOE	**Montemor**	**77.39**	**53**	eP	**P**	**09 14 58.9**	**-0.1**
YRE	**Yr Eifl**	**77.40**	**38⇑**	eP	**P**	**09 14 57.8**	**-0.9**
YRE				AMb	AMB	09 15 01.2	
	comp=Z,684nm,1.7s,mb6.3						
CCA1	**Carnmenellis**	**77.42**	**41⇑**	eP	**P**	**09 14 57.9**	**-1.0**
MME1	**Meikle Cairn**	**77.43**	**34⇑**	eP	**P**	**09 14 57.7**	**-1.1**
CGW	**Gweek**	**77.44**	**41⇑**	eP	**P**	**09 14 58.4**	**-0.6**
BWH	**Wardlaw**	**77.44**	**36⇑**	eP	**P**	**09 14 57.8**	**-1.1**
CRQ2	**Rosemanowes 2**	**77.46**	**41⇑**	eP	**P**	**09 14 58.1**	**-1.1**
CGH1	**Goonhilly**	**77.48**	**41⇑**	eP	**P**	**09 14 58.4**	**-0.9**
CMA1	**Manaccan**	**77.50**	**41⇑**	eP	**P**	**09 14 58.2**	**-1.1**
ERUA	**La Rua**	**77.56**	**49**	P	**P**	**09 14 59.1**	**-0.8**
	comp=Z,258nm,1.3s,mb6.0						
MTE	**Manteigas**	**77.64**	**51**	eP	**P**	**09 14 59.4**	**-0.9**
	comp=Z,368nm,1.1s,mb6.2						
MTE				eLR	LR	09 39 38.0	
	comp=Z,1µm,21.2s						
MTE	**Manteigas**	**77.64**	**51**	eP	**P**	**09 14 59.2**	**-1.1**
	comp=Z,176nm,0.9s,mb6.0						
WPM1	**Penmaenmawr**	**77.66**	**38⇑**	eP	**P**	**09 14 59.2**	**-0.9**
WPM1				AMb	AMB	09 15 01.5	
	comp=Z,331nm,1.4s,mb6.1						
ESK	**Eskdalemuir**	**77.67**	**36**	eP	**P**	**09 14 59.2**	**-1.0**
ESK				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.0						
ESK	**Eskdalemuir**	**77.67**	**36**	eP	**P**	**09 14 59.2**	**-1.0**
	comp=Z,219nm,1.0s,mb6.0						
SBD	**Saint Breward**	**77.69**	**41⇑**	eP	**P**	**09 15 01.4**	**+1.1**
BHH	**Howats Hill**	**77.71**	**36⇑**	iP	**P**	**09 14 59.2**	**-1.1**
BCC1	**Chapelcross**	**77.72**	**36⇑**	eP	**P**	**09 14 58.6**	**-1.9**
BBO1	**Bothel**	**77.76**	**36⇑**	eP	**P**	**09 14 59.1**	**-1.6**
PCBR	**Castelo Branco**	**77.80**	**52**	eP	**P**	**09 15 00.3**	**-0.9**
	comp=Z,295nm,1.7s,mb5.9						
CSF	**Scaffel**	**77.82**	**37⇑**	eP	**P**	**09 15 00.1**	**-0.8**
PBEJ	**Beja**	**77.86**	**54**	eP	**P**	**09 15 00.9**	**-0.7**
	comp=Z,226nm,1.7s,mb5.8						
BBH	**Bruntsheil**	**77.86**	**36⇑**	iP	**P**	**09 15 00.3**	**-0.9**
CDU1	**Dunnerdale**	**77.86**	**37⇑**	eP	**P**	**09 15 00.6**	**-0.6**
CKE	**Keswick**	**77.87**	**37⇑**	eP	**P**	**09 15 00.5**	**-0.8**
BDL	**Dobcross Hall**	**77.92**	**36⇑**	iP	**P**	**09 15 00.9**	**-0.6**
ECAL	**Calabor**	**77.94**	**50**	P	**P**	**09 15 01.5**	**-0.4**
	comp=Z,78nm,0.9s,mb5.6						
PBRG	**Braganca**	**77.97**	**50**	eP	**P**	**09 15 01.4**	**-0.7**
	comp=Z,309nm,1.4s,mb6.0						
BTA	**Talkin**	**78.04**	**36⇑**	eP	**P**	**09 15 01.1**	**-1.2**
FX1	**Attu Island--F**	**78.15**	**322**	LR	LR	09 47 06.0	
	comp=Z,18nm,21.6s,baz=99,slow=34						
FX1	**Attu Island--F**	**78.15**	**322**	eP	**P**	**09 15 01.2**	**-1.6**
EGRO	**El Granado**	**78.26**	**54**	P	**P**	**09 15 03.1**	**-0.7**
	comp=Z,78nm,0.9s,mb5.6						
HTR	**Trewern Hill**	**78.27**	**39⇑**	eP	**P**	**09 15 02.8**	**-0.7**
HTR				AMb	AMB	09 15 05.2	
	comp=Z,490nm,1.5s,mb6.2						
PALC	**Alcoutim**	**78.28**	**54**	eP	**P**	**09 15 03.4**	**-0.5**
	comp=Z,262nm,1.5s,mb5.9						
SSP1	**Stoney Pound**	**78.29**	**39⇑**	eP	**P**	**09 15 02.8**	**-0.8**
EBAD	**Badajoz**	**78.37**	**53**	P	**P**	**09 15 03.9**	**-0.5**
	comp=Z,35nm,1.0s,mb5.2						
HLM1	**Long Mynd**	**78.41**	**39⇑**	eP	**P**	**09 15 03.4**	**-0.9**
HLM1				AMb	AMB	09 15 05.9	
	comp=Z,567nm,1.4s,mb6.3						
MCH1	**Michaelchurch**	**78.45**	**39⇑**	eP	**P**	**09 15 03.4**	**-1.1**
HSP	**Hornsund**	**78.59**	**12**	eP	**P**	**09 15 05.9**	**+1.0**
HGH	**Gray Hill**	**78.64**	**39⇑**	eP	**P**	**09 15 04.9**	**-0.7**
HGH				AMb	AMB	09 15 07.3	
	comp=Z,561nm,1.4s,mb6.3						
HAE	**Alders End**	**78.71**	**39⇑**	eP	**P**	**09 15 05.2**	**-0.7**
HAE				AMb	AMB	09 15 07.5	
	comp=Z,524nm,1.8s,mb6.2						
LHO	**Holmfirth**	**78.80**	**37**	i P	**P**	**09 15 05.5**	**-0.9**
EMIN	**Mina Concepcio**	**78.84**	**54**	P	**P**	**09 15 06.4**	**-0.6**
	comp=Z,72nm,0.9s,mb5.6						
ROSF	**Rostrenen**	**79.04**	**43**	eP	**P**	**09 15 06.4**	**-1.4**
	comp=Z,525nm,1.2s,mb6.0						
QUIF	**Quistinic**	**79.20**	**43**	eP	**P**	**09 15 07.4**	**-1.3**
	comp=Z,802nm,1.3s,mb6.2						
QUIF				epP	pP	09 15 24.1	-1.8
SFS	**San Fernando**	**79.48**	**55**	eP	**P**	**09 15 10.9**	**+0.4**
SGMF	**Saint Gilles**	**79.53**	**43**	eP	**P**	**09 15 08.8**	**-1.7**
	comp=Z,410nm,1.2s,mb5.9						
ESPR	**Espera**	**79.67**	**55**	P	**P**	**09 15 11.5**	**0.0**
	comp=Z,153nm,1.0s,mb5.9						
ELAN	**Lanestosa**	**80.06**	**48**	P	**P**	**09 15 12.8**	**-0.6**
	comp=Z,138nm,1.0s,mb5.8						
EADA	**Adamuz**	**80.37**	**53**	P	**P**	**09 15 15.3**	**+0.1**
	comp=Z,92nm,1.0s,mb5.7						
FOO	**Floro**	**80.39**	**29⇑**	iP	**P**	**09 15 14.6**	**-0.2**
FOO				AMb	AMB	09 15 16.9	
	comp=Z,106nm,1.4s,mb5.6						
FOO				epP	pP	09 15 32.1	+0.1
FOO	**Floro**	**80.39**	**29**	eP	**P**	**09 15 14.6**	**-0.2**
	comp=Z,106nm,1.4s,mb5.6						
SUE	**Sulen**	**80.41**	**29**	eP	**P**	**09 15 13.3**	**-1.7**
SUE				AMb	AMB	09 15 17.2	
	comp=Z,146nm,1.3s,mb5.7						
SUE				epP	pP	09 15 31.8	-0.4
SUE	**Sulen**	**80.41**	**29**	eP	**P**	**09 15 13.3**	**-1.7**
	comp=Z,146nm,1.3s,mb5.8						
ESDC	**Sonseca Array**	**80.48**	**51**	P	**P**	**09 15 15.3**	**-0.5**
	comp=Z,87nm,1.0s,mb5.7,baz=291,slow=5.3,SNR=170						
ESDC				LR	LR	09 46 23.5	
	comp=Z,898nm,20.8s,baz=275,slow=32						
ESDC	**Sonseca Array**	**80.48**	**51**	P	**P**	**09 15 15.6**	**-0.2**
	comp=Z,58nm,0.8s,mb5.6						
ESLA	**Sonseca Array**	**80.48**	**51**	eP	**P**	**09 15 15.5**	**-0.3**
	comp=Z,50nm,1.1s,mb5.3						
LRYF	**La Roche-sur-Y**	**80.58**	**44**	eP	**P**	**09 15 16.1**	**-0.1**
EMIJ	**Mijas**	**80.58**	**55**	P	**P**	**09 15 16.1**	**-0.3**
	comp=Z,304nm,1.2s,mb6.1						
GRR	**Gorron**	**80.60**	**42**	eP	**P**	**09 15 15.2**	**-1.0**
	comp=Z,737nm,1.0s,mb6.3						
ELUQ	**Luque**	**80.75**	**54**	P	**P**	**09 15 17.3**	**0.0**
	comp=Z,56nm,1.1s,mb5.4						
FLN	**La Foliniere**	**80.75**	**42**	eP	**P**	**09 15 16.1**	**-0.9**
	comp=Z,908nm,1.1s,mb6.3						
FLN				eR			
	comp=Z,1µm,20.0s						
OLEF	**Ile d'Oleron**	**80.87**	**45**	eP	**P**	**09 15 17.2**	**-0.5**
ELOJ	**Sierra Loja**	**80.93**	**54**	P	**P**	**09 15 18.6**	**+0.4**
	comp=Z,610nm,1.6s,mb6.3						
LDF	**La Druitiere**	**81.02**	**42**	eP	**P**	**09 15 17.5**	**-0.9**
	comp=Z,643nm,1.1s,mb6.2						
LDF				epP	pP	09 15 34.4	-1.2
HYA	**Hoyanger**	**81.04**	**29**	eP	**P**	**09 15 18.5**	**+0.2**
HYA				AMb	AMB	09 15 21.2	
	comp=Z,149nm,1.3s,mb5.8						
HYA	**Hoyanger**	**81.04**	**29**	eP	**P**	**09 15 18.5**	**+0.2**
	comp=Z,149nm,1.3s,mb5.8						
MOL	**Molde**	**81.22**	**27**	eP	**P**	**09 15 20.8**	**+1.6**
MOL				AMb	AMB	09 15 24.3	
	comp=Z,146nm,1.6s,mb5.7						
MOL				epP	pP	09 15 37.3	+0.9
MOL	**Molde**	**81.22**	**27**	eP	**P**	**09 15 20.8**	**+1.6**
	comp=Z,146nm,1.6s,mb5.7						
ERON	**Agron**	**81.23**	**54**	P	**P**	**09 15 20.2**	**+0.4**
	comp=Z,118nm,1.0s,mb5.8						
EALK	**Alkurruntz**	**81.43**	**48**	P	**P**	**09 15 20.4**	**-0.3**
	comp=Z,207nm,1.1s,mb6.0						
MFF	**Saint Martin d**	**81.51**	**44**	eP	**P**	**09 15 19.9**	**-1.1**
	comp=Z,545nm,1.2s,mb6.1						
LOF	**Lofoten**	**81.58**	**21**	eP	**P**	**09 15 23.5**	**+2.5**
LOF				AMb	AMB	09 15 26.4	
	comp=Z,74nm,1.3s,mb5.5						
LOF				epP	pP	09 15 40.3	+2.1
LOF	**Lofoten**	**81.58**	**21**	eP	**P**	**09 15 23.5**	**+2.5**
	comp=Z,74nm,1.3s,mb5.5						
OSSF	**Osses**	**81.59**	**47**	eP	**P**	**09 15 21.0**	**-0.5**
EQES	**Quesada**	**81.61**	**53**	P	**P**	**09 15 22.4**	**+0.6**
	comp=Z,109nm,1.0s,mb5.7						
ETOR	**Torete**	**81.63**	**50**	P	**P**	**09 15 22.6**	**+0.8**
	comp=Z,102nm,0.9s,mb5.8						
SJPF	**Ste Jean**	**81.65**	**48**	eP	**P**	**09 15 21.1**	**-0.8**
	comp=Z,686nm,1.3s,mb6.1						
BLS5	**Blasjo**	**81.71**	**30**	eP	**P**	**09 15 23.2**	**+1.4**
BLS5				AMb	AMB	09 15 25.4	
	comp=Z,117nm,1.5s,mb5.6						
BLS5				epP	pP	09 15 39.8	+0.8
BLS5	**Blasjo**	**81.71**	**30**	eP	**P**	**09 15 23.2**	**+1.4**
	comp=Z,117nm,1.5s,mb5.6						
EVIA	**Vianos**	**81.84**	**52**	P	**P**	**09 15 23.5**	**+0.6**
	comp=Z,193nm,1.0s,mb6.0						
ETSF	**Etsaut**	**82.18**	**48**	eP	**P**	**09 15 24.0**	**-0.6**
	comp=Z,410nm,1.1s,mb6.0						
FDAF	**Les Forges d'A**	**82.20**	**48**	eP	**P**	**09 15 25.2**	**+0.5**
REYF	**Montagne du Re**	**82.25**	**47**	eP	**P**	**09 15 24.6**	**-0.3**
NSS	**Namsos**	**82.39**	**25⇑**	iP	**P**	**09 15 24.3**	**-0.8**
NSS				AMb	AMB	09 15 26.8	
	comp=Z,74nm,1.4s,mb5.4						
NSS				epP	pP	09 15 41.2	-1.2
NSS				AMS	AMS	09 50 55.0	
	comp=Z,995nm,20.9s						
NSS	**Namsos**	**82.39**	**25**	eP	**P**	**09 15 24.4**	**-0.8**
	comp=Z,74nm,1.4s,mb5.4						
LFF	**La Frestale**	**82.55**	**45**	eP	**P**	**09 15 25.5**	**-0.9**
	comp=Z,605nm,1.0s,mb6.3						
ESAC	**San Caprasio**	**82.55**	**49**	P	**P**	**09 15 26.4**	**-0.1**
	comp=Z,147nm,0.9s,mb6.0						
ETOB	**Tobarra**	**82.56**	**52**	P	**P**	**09 15 27.8**	**+1.2**
	comp=Z,95nm,0.9s,mb5.8						
VIEF	**Viey**	**82.60**	**48**	eP	**P**	**09 15 26.4**	**-0.3**
MOR8	**Moi Rana**	**82.69**	**23**	eP	**P**	**09 15 27.3**	**+0.6**
MOR8				epP	pP	09 15 44.7	+0.7
MOR8				AMb	AMB	09 15 47.6	
	comp=Z,137nm,1.5s,mb5.8						
MOR8	**Moi Rana**	**82.69**	**23**	eP	**P**	**09 15 27.3**	**+0.6**
	comp=Z,137nm,1.5s,mb5.8						
TRO	**Tromso**	**82.69**	**19**	eP	**P**	**09 15 23.4**	**-3.2**
TRO				ePP	PP	09 18 34.0	-4.8
TRO				eS	S	09 25 36.5	-1.3
TRO				eSS	SS	09 30 57.3	-7.0
TRO				AMS	AMS	09 52 16.6	
	comp=Z,839nm,24.0s						
EPF	**Esparros**	**82.78**	**47**	eP	**P**	**09 15 26.9**	**-0.7**
	comp=Z,544nm,1.3s,mb6.1						
EPF				epP	pP	09 15 43.5	-1.4
EMOS	**Mosqueruela**	**82.91**	**50**	P	**P**	**09 15 29.9**	**+1.5**
	comp=Z,128nm,0.7s,mb6.1						
EGRA	**Graus**	**82.99**	**48**	P	**P**	**09 15 29.6**	**+0.9**
	comp=Z,386nm,1.4s,mb6.2						
EMUR	**La Murta**	**83.00**	**53**	P	**P**	**09 15 29.2**	**+0.3**
	comp=Z,115nm,0.8s,mb6.0						
MELF	**Melles**	**83.12**	**47**	eP	**P**	**09 15 29.5**	**+0.1**
TCF	**Toulx Ste Croi**	**83.16**	**44**	eP	**P**	**09 15 28.5**	**-1.0**
	comp=Z,534nm,1.2s,mb6.1						
TCF				epP	pP	09 15 45.4	-1.4
HYF	**Humbligny**	**83.17**	**43**	eP	**P**	**09 15 28.9**	**-0.6**
NAO01	**NORSAR Array S**	**83.31**	**28**	eP	**P**	**09 15 30.7**	**+0.8**
	comp=Z,50nm,1.0s,mb5.5						
NAO01				epP	pP	09 15 48.8	+1.6
MLS	**Moulis**	**83.33**	**47**	eP	**P**	**09 15 30.0**	**-0.4**
BAIF	**Baives**	**83.34**	**40**	eP	**P**	**09 15 29.9**	**-0.4**
	comp=Z,286nm,1.1s,mb5.9						
BAIF				epP	pP	09 15 46.5	-1.1
NB2	**NORSAR Subarra**	**83.38**	**28**	P	**P**	**09 15 31.1**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=297,slow=5.6						
NB2	**NORSAR Subarra**	**83.38**	**28**	P	**P**	**09 15 31.1**	**+0.8**
	baz=297,slow=5.6						
NOA	**NORSAR Array B**	**83.38**	**28**	P	**P**	**09 15 31.0**	**+0.7**
	comp=Z,39nm,0.9s,mb5.4,baz=291,slow=5.2,SNR=52						
NOA				pP	pP	09 15 48.5	+1.0
	comp=Z,14nm,0.8s,baz=300,slow=5.2,SNR=6.5						
NOA				LR	LR	09 51 28.7	
	comp=Z,1µm,22.0s,baz=290,slow=35						
CAF	**Calviac**	**83.45**	**45**	eP	**P**	**09 15 30.0**	**-1.0**
	comp=Z,221nm,1.0s,mb5.8						
SALF	**Salau**	**83.46**	**47**	eP	**P**	**09 15 31.6**	**+0.5**
EBR	**Ebro Roquetas**	**83.50**	**49**	eP	**P**	**09 15 31.0**	**-0.3**
BGF	**Bois d'Agland**	**83.51**	**43**	eP	**P**	**09 15 30.4**	**-0.8**
	comp=Z,576nm,0.9s,mb6.4						
BGF				epP	pP	09 15 47.0	-1.6
EBEN	**Beniarda**	**83.54**	**52**	P	**P**	**09 15 31.8**	**+0.2**
	comp=Z,71nm,0.9s,mb5.8						
GIVF	**Givet**	**83.70**	**40**	eP	**P**	**09 15 31.8**	**-0.3**
	comp=Z,222nm,1.0s,mb6.0						
EPOB	**Poblet**	**83.77**	**49**	P	**P**	**09 15 32.7**	**0.0**
	comp=Z,21nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**83.77**	**43**	eP	**P**	**09 15 31.4**	**-1.2**
	comp=Z,282nm,1.0s,mb6.0						
SSF	**Saint Saulge**	**83.79**	**43**	eP	**P**	**09 15 31.7**	**-1.0**
	comp=Z,424nm,1.1s,mb6.2						
AGO	**Saint Agoulin**	**83.84**	**44**	eP	**P**	**09 15 32.6**	**-0.4**
PYM	**Petit Puy Mans**	**83.85**	**44**	eP	**P**	**09 15 34.5**	**+1.5**
LPEF	**Le Peyrat**	**83.91**	**47**	eP	**P**	**09 15 32.5**	**-0.9**
EMIR	**Miracle**	**83.94**	**48**	P	**P**	**09 15 33.8**	**+0.3**
	comp=Z,46nm,0.7s,mb5.7						
LOR	**Lormes**	**83.96**	**43**	eP	**P**	**09 15 32.8**	**-0.7**
	comp=Z,889nm,1.4s,mb6.4						
LOR				epP	pP	09 15 49.4	-1.4
LOR				eR			
	comp=Z,841nm,20.5s						
MTLF	**Montolieu**	**84.02**	**47**	eP	**P**	**09 15 33.2**	**-0.7**
	comp=Z,383nm,1.1s,mb6.1						
MUD	**Monsted U'grnd**	**84.06**	**33⇓**	iP	**P**	**09 15 35.1**	**+1.3**
	comp=Z,36nm,1.1s,mb5.4						
MUD				i	pP	09 15 51.8	+0.7
MUD				i S	S	09 25 50.4	-1.4
	comp=Z,970nm,23.0s						
SMF	**Signal de Mont**	**84.14**	**43**	eP	**P**	**09 15 33.3**	**-1.1**
	comp=Z,302nm,1.1s,mb6.0						
VALF	**Valcebollere**	**84.14**	**48**	eP	**P**	**09 15 34.7**	**+0.1**
LBL	**Lubilhac**	**84.17**	**45**	eP	**P**	**09 15 34.5**	**-0.1**
HGN	**Heimansgroeve**	**84.17**	**39⇑**	eP	**P**	**09 15 34.4**	**-0.1**
	comp=Z,132nm,0.9s,mb6.1						
HGN				ex	x	09 15 51.5	
HGN				ex	x	09 18 17.7	
HGN				ex	x	09 20 58.4	
HGN				i S	S	09 25 52.7	-0.3
PLDF	**La Plantade**	**84.20**	**44**	eP	**P**	**09 15 34.7**	**0.0**
MEZF	**Maizieres J'vi**	**84.34**	**41**	eP	**P**	**09 15 35.1**	**-0.3**
	comp=Z,389nm,0.9s,mb6.2						
PMSA	**Palmer Station**	**84.35**	**167**	eP	**P**	**09 15 33.2**	**-1.8**
	comp=Z,89nm,1.4s,mb5.7						
COLF	**Collangettes**	**84.38**	**44**	eP	**P**	**09 15 35.5**	**-0.2**
FILF	**Fillols**	**84.48**	**47**	eP	**P**	**09 15 36.3**	**+0.1**
EIBI	**Ibiza**	**84.63**	**51**	P	**P**	**09 15 38.1**	**+1.0**
	comp=Z,46nm,0.9s,mb5.6						
WLF	**Walferdange**	**84.66**	**40**	eP	**P**	**09 15 37.4**	**+0.5**
WLF				pmax	pmax		
	comp=Z,99nm,0.8s,mb6.0						
WLF	**Walferdange**	**84.66**	**40**	eP	**P**	**09 15 37.4**	**+0.5**
	comp=Z,98nm,0.8s,mb6.0						
ARCES	**ARCESS Array B**	**84.72**	**18**	P	**P**	**09 15 37.0**	**+0.2**
	comp=Z,17nm,0.8s,mb5.2,baz=288,slow=3.8,SNR=31						
ARCES				pP	pP	09 15 54.5	+0.3
	comp=Z,79nm,0.9s,baz=297,slow=5.4,SNR=20						
ARCES				LR	LR	09 53 22.8	
	comp=Z,982nm,20.7s,baz=360,slow=36						
ARE0	**ARCESS Array S**	**84.72**	**18**	P	**P**	**09 15 36.6**	**-0.2**
ARE0				epP	pP	09 15 54.8	+0.6
SJAF	**Saint Jean de**	**84.73**	**47**	eP	**P**	**09 15 37.3**	**-0.2**
EJON	**La Jonquera**	**84.75**	**47**	P	**P**	**09 15 38.6**	**+1.0**
	comp=Z,86nm,0.9s,mb5.9						
LASF	**Ste Croix**	**84.93**	**46**	eP	**P**	**09 15 38.5**	**+0.1**
	comp=Z,395nm,1.2s,mb6.1						
THEF	**They Montfort**	**85.02**	**41**	eP	**P**	**09 15 38.8**	**0.0**
KEV	**Kevo**	**85.03**	**17**	ep	**P**	**09 15 37.5**	**-0.8**
RUP	**Ruppelstein**	**85.20**	**40⇓**	eP	**P**	**09 15 41.2**	**+1.6**
VIVF	**Saint-Julien-l**	**85.24**	**45**	eP	**P**	**09 15 40.0**	**0.0**
	comp=Z,497nm,1.4s,mb6.1						
VIVF				epP	pP	09 15 56.7	-0.6
HAU	**Haudompre**	**85.33**	**41**	eP	**P**	**09 15 40.0**	**-0.3**
	comp=Z,231nm,0.8s,mb6.1						
HAU				epP	pP	09 15 56.7	-1.0
HAU				eR			
	comp=Z,693nm,23.0s						
SEY	**Seymchan**	**85.33**	**335**	eP	**P**	**09 15 40.9**	**+1.0**
SEY				*PP	pP	09 15 58.6	+1.3
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
ABH	**Alteburg**	**85.44**	**39**	eP	**P**	**09 15 42.3**	**+1.5**
BSEG	**Bad Segeberg**	**85.59**	**35**	eP	**P**	**09 15 42.2**	**+0.8**
BSEG				pmax	pmax		
	comp=Z,93nm,1.2s,mb5.9						
CABF	**La Chapelle**	**85.62**	**43**	eP	**P**	**09 15 41.6**	**-0.2**
	comp=Z,347nm,1.4s,mb6.1						
HINF	**Hinteralfeld**	**85.71**	**41**	eP	**P**	**09 15 41.8**	**-0.4**
	comp=Z,172nm,1.1s,mb5.9						
OCF	**Saint Nazaire**	**85.76**	**45**	eP	**P**	**09 15 43.8**	**+1.3**
OG26	**St.-Nazaire-De**	**85.76**	**45**	eP	**P**	**09 15 43.8**	**+1.3**
GIMEL	**Gimel**	**85.76**	**43**	eP	**P**	**09 15 42.3**	**-0.1**
	comp=Z,112nm,1.2s,mb6.0						
BRANT	**Les Verrieres**	**85.76**	**42**	eP	**P**	**09 15 42.6**	**+0.2**
	comp=Z,252nm,1.2s,mb6.3						
ECH	**Echery**	**85.77**	**41**	eP	**P**	**09 15 42.6**	**+0.2**
CDF	**Champ du Feu**	**85.77**	**41**	eP	**P**	**09 15 42.4**	**-0.1**
	comp=Z,207nm,1.2s,mb5.9						
WLS	**Welschbruch**	**85.82**	**41**	eP	**P**	**09 15 43.6**	**+0.9**
GRN	**Grenoble**	**85.84**	**44**	eP	**P**	**09 15 43.6**	**+0.7**
LOMF	**Lomont**	**85.85**	**42**	eP	**P**	**09 15 42.6**	**-0.3**
MOF	**Molkenrain**	**85.87**	**41**	eP	**P**	**09 15 43.8**	**+0.8**
LANF	**Langenberg**	**85.91**	**40**	eP	**P**	**09 15 44.1**	**+1.0**
KTD	**Kalmit**	**85.96**	**40**	eP	**P**	**09 15 43.7**	**+0.3**
STR	**Strasbourg**	**86.02**	**40**	eP	**P**	**09 15 45.5**	**+1.8**
ORIF	**Oris-en-Rattie**	**86.04**	**44**	eP	**P**	**09 15 44.1**	**+0.3**
	comp=Z,170nm,1.2s,mb5.8						
ORIF				eR			
	comp=Z,475nm,19.2s						
COP	**Copenhagen**	**86.05**	**33**	i P	**P**	**09 15 45.6**	**+2.0**
	comp=Z,27nm,0.7s,mb5.6						
COP				i	pP	09 16 01.7	+0.7
COP				i		09 20 28.1	
COP				i S	S	09 26 09.9	-1.3
COP				i		09 26 47.8	
	comp=Z,530nm,24.0s						
LIBD	**Limburg**	**86.07**	**41**	eP	**P**	**09 15 45.5**	**+1.6**
LIBD	**Limburg**	**86.07**	**41**	eP	**P**	**09 15 44.2**	**+0.3**
BOURR	**Bourrignon**	**86.09**	**42**	eP	**P**	**09 15 43.8**	**-0.2**
	comp=Z,84µm,1.2s						
GDM	**Grand'Maison**	**86.10**	**44**	eP	**P**	**09 15 45.0**	**+0.9**
TORNY	**Torny**	**86.13**	**42**	eP	**P**	**09 15 44.3**	**+0.1**
	comp=Z,327nm,1.2s,mb6.4						
SMRF	**Simiane la Rot**	**86.14**	**45**	eP	**P**	**09 15 44.9**	**+0.5**
	comp=Z,242nm,1.2s,mb6.0						
BBS	**Basel-Blauen**	**86.25**	**42⇓**	eP	**P**	**09 15 46.2**	**+1.4**
BBS	**Basel-Blauen**	**86.25**	**42**	eP	**P**	**09 15 45.5**	**+0.7**
AIGLE	**Aigle**	**86.27**	**43**	eP	**P**	**09 15 45.0**	**0.0**
	comp=Z,320nm,1.2s,mb6.4						
AIGLE	**Aigle**	**86.27**	**43**	eP	**P**	**09 15 45.1**	**+0.1**
EMV	**Vieux Emosson**	**86.33**	**43**	eP	**P**	**09 15 45.6**	**+0.3**
	comp=Z,59µm,1.2s						
KIZ	**Kirchzarten**	**86.33**	**41⇓**	eP	**P**	**09 15 46.7**	**+1.5**
SALAN	**Lac Salanfe**	**86.35**	**43**	eP	**P**	**09 15 45.7**	**+0.3**
	comp=Z,264nm,1.2s,mb6.3						
GRYON	**Gryon**	**86.41**	**43**	eP	**P**	**09 15 46.0**	**+0.4**
	comp=Z,387nm,1.2s,mb6.5						
LPL	**La Plagne**	**86.41**	**44**	eP	**P**	**09 15 46.3**	**+0.7**
	comp=Z,301nm,1.4s,mb6.0						
LPL				epP	pP	09 16 03.1	0.0
CLZ	**Clausthal**	**86.41**	**37**	eP	**P**	**09 15 46.6**	**+1.1**
	comp=Z,47nm,1.1s,mb5.6						
CLZ				epP	pP	09 16 04.1	+1.2
BALST	**Balsthal**	**86.41**	**42**	eP	**P**	**09 15 45.4**	**-0.2**
	comp=Z,263nm,1.2s,mb6.3						
LPG	**La Plagne**	**86.42**	**44**	eP	**P**	**09 15 46.7**	**+1.0**
	comp=Z,400nm,1.4s,mb6.1						
BFO	**Black Forest**	**86.46**	**41**	eP	**P**	**09 15 46.2**	**+0.4**
BFO				eS	S	09 26 18.5	+3.1
BFO				pmax	pmax		
	comp=Z,107nm,1.5s,mb5.8						
BFO	**Black Forest**	**86.46**	**41**	eP	**P**	**09 15 46.2**	**+0.4**
	comp=Z,107nm,1.5s,mb5.8						
BFO				eS	S	09 26 18.5	+3.1
SENIN	**Lac Senin**	**86.49**	**43**	eP	**P**	**09 15 46.6**	**+0.6**
	comp=Z,69µm,1.2s						
PET	**Petropavlovsk**	**86.49**	**324d**	iP	**P**	**09 15 45.7**	**-0.2**
PET				e*PP	pP	09 16 03.7	+0.4
PET				e*SP	sP	09 16 10.7	+0.9
PET				e		09 19 15.1	
PET				i S	S	09 26 06.1	-9.4
PET				eSPP	SPP	09 27 16.7	-25
PET				pmax	pmax		
	comp=Z,400nm,3.9s						
PET				pmax	pmax		
	comp=Z,100nm,12.1s						
PET				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
PET				pmax	pmax		
	comp=Z,800nm,4.6s						
PET				pmax	pmax		
	comp=Z,400nm,14.8s						
PET				pmax	pmax		
	comp=Z,100nm,16.1s						
PET				smax			
	comp=E,500nm,8.1s						
PET				smax			
	comp=N,300nm,8.0s						
PET				smax			
	comp=E,300nm,13.0s						
PET	**Petropavlovsk**	**86.49**	**324**	P	**P**	**09 15 44.7**	**-1.2**
	comp=E,76nm,1.4s,mb5.7						
PET				epP	pP	09 16 04.7	+1.4
BNI	**Bardonecchia**	**86.53**	**44**	eP	**P**	**09 15 47.1**	**+0.9**
BNI				e*PP	pP	09 16 05.1	+1.4
BNI				pmax	pmax		
	comp=Z,240nm,1.6s,mb6.2						
BNI	**Bardonecchia**	**86.53**	**44**	eP	**P**	**09 15 47.0**	**+0.8**
	comp=Z,240nm,1.6s,mb6.2						
BNI				epP	pP	09 16 05.1	+1.5
WIMIS	**Wimmis**	**86.60**	**42**	eP	**P**	**09 15 46.7**	**+0.2**
	comp=Z,125nm,1.2s,mb6.0						
SULZ	**Sulz-Cheisache**	**86.61**	**41**	eP	**P**	**09 15 46.5**	**-0.1**
	comp=Z,69µm,1.2s						
LBG	**Lerchenberg**	**86.63**	**40⇓**	eP	**P**	**09 15 48.3**	**+1.6**
RRL	**Cesana Torines**	**86.64**	**44**	P	**P**	**09 15 48.4**	**+1.6**
DIX	**Grande Dixence**	**86.66**	**43**	eP	**P**	**09 15 47.7**	**+0.8**
	comp=Z,54µm,1.2s						
LKBD	**Leukerbad**	**86.69**	**43**	eP	**P**	**09 15 47.4**	**+0.4**
	comp=Z,219nm,1.2s,mb6.2						
MBDF	**Montbardon**	**86.70**	**44**	eP	**P**	**09 15 47.5**	**+0.4**
	comp=Z,202nm,1.1s,mb6.0						
LSD	**Ceresole Reale**	**86.70**	**44**	P	**P**	**09 15 49.4**	**+2.3**
SLE	**Schleitheim**	**86.76**	**41**	eP	**P**	**09 15 47.1**	**-0.2**
	comp=Z,240nm,1.2s,mb6.3						
FENE	**Fenestrelle**	**86.79**	**44**	P	**P**	**09 15 49.3**	**+1.7**
SURF	**Saint Ours**	**86.81**	**45**	eP	**P**	**09 15 49.2**	**+1.6**
SPAK	**Spaichingen**	**86.83**	**41⇓**	eP	**P**	**09 15 49.3**	**+1.7**
SPAK	**Spaichingen**	**86.83**	**41**	eP	**P**	**09 15 48.4**	**+0.8**
STU	**Stuttgart**	**86.84**	**40**	eP	**P**	**09 15 48.6**	**+0.9**
STU				e*PP	pP	09 16 04.9	-0.2
STU				pmax	pmax		
	comp=Z,100nm,1.0s,mb6.0						
STU	**Stuttgart**	**86.84**	**40**	eP	**P**	**09 15 48.6**	**+1.0**
	comp=Z,104nm,1.0s,mb6.0						
STU				epP	pP	09 16 04.9	-0.2
RSP	**Reno Superiore**	**86.88**	**44**	P	**P**	**09 15 50.0**	**+2.0**

SIND	**Sindeldorf**	86.88	39	*e*P	P	09 15 49.8	+1.9
FLACH	**Flaach**	86.88	41	*e*P	P	09 15 47.9	0.0
	comp=Z,201nm,1.2s,mb6.2						
HASLI	**Hasliberg**	86.90	42	*e*P	P	09 15 48.5	+0.5
	comp=Z,280nm,1.2s,mb6.3						
ZUR	**Zurich**	86.96	41	*e*P	P	09 15 48.4	+0.1
	comp=Z,52µm,1.2s						
LMR	**La Mourre**	86.99	46	*e*P	P	09 15 48.5	-0.1
	comp=Z,379nm,1.1s,mb6.2						
LMR				*e*pP	pP	09 16 05.1	-0.9
PZZ	**Prazzo**	87.00	44	P	P	09 15 50.3	+1.7
FRF	**La Foret Royal**	87.01	45	*e*P	P	09 15 48.6	-0.1
	comp=Z,415nm,1.3s,mb6.2						
MMK	**Mattmark**	87.03	43	*e*P	P	09 15 49.8	+1.1
	comp=Z,58µm,1.2s						
STEIN	**Stein am Rhein**	87.03	41	*e*P	P	09 15 48.5	-0.2
	comp=Z,199nm,1.2s,mb6.2						
BNALP	**Bannalp**	87.04	42	*e*P	P	09 15 49.3	+0.6
	comp=Z,57µm,1.2s						
GUT	**Gutenstein**	87.04	41	⇓*e*P	P	09 15 50.2	+1.5
BUCH	**Bad Urach**	87.05	40	⇓*e*P	P	09 15 50.8	+2.1
TRAV		87.08	43	P	P	09 15 50.5	+1.6
MCGN	**Macugnaga**	87.08	43	*e*P	P	09 15 51.8	+2.8
CALN	**Calern**	87.11	45	*e*P	P	09 15 50.2	+1.1
MUO	**Muotathal**	87.14	42	*e*P	P	09 15 49.8	+0.6
	comp=Z,258nm,1.2s,mb6.3						
WILA	**Wila**	87.15	41	*e*P	P	09 15 49.3	+0.1
	comp=Z,128nm,1.2s,mb6.0						
ORO	**Oropa**	87.19	43	*e*P	P	09 15 51.2	+1.7
STV	**Sta Anna Valdi**	87.23	45	P	P	09 15 50.7	+1.0
STV2	**Anna di Valdie**	87.24	45	P	P	09 15 50.6	+0.9
MVIF	**Mont Vial**	87.24	45	*e*P	P	09 15 51.1	+1.3
TIXI	**Tiksi**	87.26	347	*e*P	P	09 15 47.6	-1.6
TIXI				*e**PP	pP	09 16 05.5	-1.2
TIXI				*e*		09 19 10.3	
TIXI				*e*		09 26 02.9	
TIXI				*e*S	S	09 26 27.5	+5.0
TIXI				*e*PS	PS	09 27 37.5	+4.1
TIXI				*e*SS	SS	09 32 09.4	-1.4
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
TIXI	**Tiksi**	87.26	347	⇓*i*P	P	09 15 47.9	-1.3
TOUF	**Mont Tournerai**	87.26	45	*e*P	P	09 15 50.1	+0.2
ENR	**Entracque**	87.31	45	P	P	09 15 50.8	+0.7
FUSIO	**Fusio**	87.34	42	*e*P	P	09 15 51.1	+0.9
	comp=Z,226nm,1.2s,mb6.3						
AUTN	**L'Aution**	87.39	45	*e*P	P	09 15 51.7	+1.2
AUTN	**L'Aution**	87.39	45	*e*P	P	09 15 53.4	+2.9
LLS	**Linth-Limmern**	87.42	42	*e*P	P	09 15 51.3	+0.7
	comp=Z,49µm,1.2s						
REVF	**Revere**	87.44	45	*e*P	P	09 15 52.7	+2.0
SBF	**Sospel**	87.44	45	*e*P	P	09 15 50.7	0.0
	comp=Z,673nm,1.7s,mb6.3						
HDH	**Heidenheim**	87.53	40	*e*P	P	09 15 53.2	+2.2
KAMOR	**Kamor**	87.56	41	*e*P	P	09 15 51.7	+0.5
	comp=Z,117nm,1.2s,mb6.0						
MONE	**Monesi**	87.58	45	P	P	09 15 52.0	+0.6
PLONS	**Plons**	87.58	42	*e*P	P	09 15 51.8	+0.5
	comp=Z,192nm,1.2s,mb6.2						
ROB	**Roburent**	87.58	44	P	P	09 15 52.5	+1.1
MOX	**Moxa**	87.59	38	*i* P	P	09 15 51.7	+0.4
	comp=Z,logA/T=2.1,mb6.1						
MOX				*i*	pP	09 16 09.0	+0.3
MOX				sP	sP	09 16 18.0	+2.8
MOX				S	S	09 26 38.0	+12
MOX				L		09 59 24.0	
MOX	**Moxa**	87.59	38	*e*P	P	09 15 51.7	+0.4
MOX				*e*	pP	09 16 09.1	+0.4
MOX				pmax	pmax		
	comp=Z,228nm,1.9s,mb6.1						
MOX				MLR	MLR		
	comp=Z,500nm,20.0s						
MOX	**Moxa**	87.59	38	*e*P	P	09 15 51.7	+0.4
	comp=Z,228nm,1.9s,mb6.1						
MOX				*e*	pP	09 16 09.1	+0.4
MOX				LR	LR		
	comp=Z,500nm,20.0s						
MA2	**Magadan**	87.60	332	*d* *i*P	P	09 15 50.8	-0.3
MA2				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.7						
MA2	**Magadan**	87.60	332	*e*P	P	09 15 50.8	-0.3
	comp=Z,95nm,1.1s,mb5.9						
MA2				*e*pP	pP	09 16 09.0	+0.4
VAI	**Varese**	87.62	43	*e*P	P	09 15 53.1	+1.6
NEGI	**Negi**	87.63	45	P	P	09 15 51.9	+0.2
GRA1	**Grafenberg Arr**	87.72	39	*e*P	P	09 15 53.6	+1.7
	comp=Z,123nm,1.4s,mb5.9						
GRA1				*e*pP	pP	09 16 10.6	+1.2
GRA1				*e*S	S	09 26 33.5	+6.2
GRF	**Grafenberg Arr**	87.72	39	*e*P	P	09 15 53.6	+1.7
GRF				*e**PP	pP	09 16 10.6	+1.2
GRF				*e*S	S	09 26 33.5	+6.2
GRF				pmax	pmax		
	comp=Z,123nm,1.4s,mb5.9						
IMI	**Imperia**	87.73	45	P	P	09 15 52.6	+0.5
MUGIO	**Muggio**	87.78	43	*e*P	P	09 15 52.3	0.0
	comp=Z,309nm,1.2s,mb6.4						
RORO		87.78	45	P	P	09 15 51.9	-0.5
UBR	**Uberruh**	87.81	41	⇓*e*P	P	09 15 54.3	+1.9
DAVA	**Damuels**	87.81	41	⇑*i*P	P	09 15 54.4	+2.0
	comp=Z,223nm,1.7s,mb6.1						
DAVA				*i*	pP	09 16 10.9	+1.0
	comp=Z,507nm,1.8s						
FIN	**Finale Ligure**	87.84	44	*e*P	P	09 15 53.8	+1.1
VDL	**Val di Lei**	87.85	42	*e*P	P	09 15 53.3	+0.7
	comp=Z,36µm,1.2s						
DAVOX	**Davos**	88.00	42	P	P	09 15 54.1	+0.8
	comp=Z,31nm,0.8s,mb5.6,baz=283,slow=5.9,SNR=55						
DAVOX				pP	pP	09 16 11.3	+0.5
	comp=Z,8.9nm,0.8s,baz=312,slow=12,SNR=2.7						
DAVOX	**Davos**	88.00	42	*e*P	P	09 15 54.2	+0.9
	comp=Z,97nm,1.2s,mb5.9						
CLL	**Collm**	88.13	37	P	P	09 15 55.0	+1.2
	comp=Z,logA/T=1.2,mb5.2						
CLL				*i* *PP	pP	09 16 11.8	+0.5
CLL				*e**SP	sP	09 16 20.0	+2.3
CLL				*e*		09 26 16.0	
CLL				*e*S	S	09 26 32.0	+1.0
CLL				*e**SS		09 27 04.0	
CLL	**Collm**	88.13	37	*e*P	P	09 15 55.0	+1.2
CLL				*i* *PP	pP	09 16 11.8	+0.5
CLL				*e*		09 26 16.0	
CLL				*e*S	S	09 26 32.0	+1.0
CLL				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.2						
CLL				MLR	MLR		
	comp=Z,700nm,21.4s						
CLL	**Collm**	88.13	37	*e*P	P	09 15 55.0	+1.2
	comp=Z,22nm,1.3s,mb5.2						
CLL				*i* pP	pP	09 16 11.8	+0.5
CLL				*e*SKS	SKS	09 26 16.0	+1.4
CLL				*e*S	S	09 26 32.0	+1.0
CLL				LR	LR		
	comp=Z,700nm,21.4s						
TIC	**Toumodi**	88.14	84	*e*P	P	09 15 54.8	0.0
	comp=Z,6.5nm,0.2s,mb5.5						
APA	**Apatity**	88.23	18	⇑*i*P	P	09 15 56.0	+2.1
APA				*i*	pP	09 16 18.0	+6.6
APA				*e*S	S	09 26 37.0	+5.4
APA				*e*PS	PS	09 27 37.0	-7.9
APA				*e*SS	SS	09 32 20.0	-5.1
APA				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.5						
BERNI	**Berninapass**	88.23	42	*e*P	P	09 15 55.3	+0.9
	comp=Z,132nm,1.2s,mb6.0						
NKC	**Novy Kostel**	88.24	38	*e*P	P	09 15 55.1	+0.7
NKC				*e*AP	pP	09 16 12.6	+0.7
NKC				*e*SKS	SKS	09 26 14.2	-1.2
NKC				*e*S	S	09 26 38.3	+6.2
NKC				*e*XS		09 27 09.0	
NKC				LM		09 49 00.0	
	comp=Z,0.7nm,22.7s						
NKC	**Novy Kostel**	88.24	38	*e*P	P	09 15 55.1	+0.7
NKC				*e**PP	pP	09 16 12.6	+0.7
NKC				*e*S	S	09 26 14.2	-18
NKC				*e*		09 26 38.3	
NKC				MLR	MLR		
	comp=Z,700nm,22.7s						
LIC	**Lamto**	88.25	84	*e*P	P	09 15 55.4	+0.1
	comp=Z,496nm,1.7s,mb6.5						
LIC	**Lamto**	88.25	84	⇑*i*P	P	09 15 54.6	-0.7
	comp=Z,290nm,1.2s,mb6.1						
GENL	**Genova Univers**	88.28	44	P	P	09 15 55.9	+1.2
DBIC	**Dimbokro**	88.29	84	P	P	09 15 55.7	+0.2
	comp=Z,20nm,0.7s,mb5.4,baz=265,slow=5.2,SNR=57						
DBIC				pP	pP	09 16 12.8	-0.2
	comp=Z,10nm,0.7s,baz=272,slow=6.4,SNR=3.7						
DBIC				sP	sP	09 16 20.1	+0.7
	comp=Z,33nm,1.0s,baz=278,slow=5.5,SNR=6.2						
DBIC	**Dimbokro**	88.29	84	*e*P	P	09 15 53.5	-2.0
DBIC				pmax	pmax		
	comp=Z,340nm,1.7s						
DBIC	**Dimbokro**	88.29	84	*e*P	P	09 15 53.5	-2.0
	comp=Z,338nm,1.8s,mb6.3						
FUORN	**Ofenpass**	88.31	42	*e*P	P	09 15 55.7	+0.9
	comp=Z,162nm,1.2s,mb6.1						
FUR	**Furstenfeldbru**	88.35	40	*e*P	P	09 15 56.1	+1.1
FUR				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.7						
FUR	**Furstenfeldbru**	88.35	40	*e*P	P	09 15 56.1	+1.1
	comp=Z,61nm,1.1s,mb5.7						
LVZ	**Lovozero**	88.36	17	*e*P	P	09 15 53.0	-1.5
LVZ				pmax	pmax		
	comp=Z,34nm,1.8s,mb5.3						
LVZ				MLR	MLR		
	comp=Z,900nm,21.0s						
BRMO	**Bormio**	88.43	42	*e*P	P	09 15 57.6	+2.2
BOB	**Bobbio (Coli)**	88.47	44	*e*P	P	09 15 57.3	+1.7
KIC	**Kosan Boka**	88.49	84	*e*P	P	09 15 56.6	+0.2
	comp=Z,1µm,1.6s						
MOTA	**Moosalm**	88.56	41	⇑*i*P	P	09 15 58.4	+2.4
	comp=Z,40nm,1.1s,mb5.7						
MOTA				*i*	pP	09 16 14.8	+1.3
	comp=Z,110nm,1.5s						
SQTA	**Sankt Quirin**	88.68	41	⇑*i*P	P	09 15 59.3	+2.8
	comp=Z,85nm,1.5s,mb5.8						
SQTA				*i*	pP	09 16 15.5	+1.5
	comp=Z,105nm,1.5s						
BRG	**Berggiesshubel**	88.84	37	*e*P	P	09 15 58.5	+1.3
BRG				*i* *PP	pP	09 16 15.3	+0.5
BRG				S	S	09 26 21.0	-17
BRG				*e*		09 26 41.0	
BRG				pmax	pmax		
	comp=Z,65nm,1.3s,mb5.8						
BRG				MLR	MLR		
	comp=Z,2µm,29.6s						
BRG				MLR	MLR		
	comp=N,710nm,30.0s						
BRG				MLR	MLR		
	comp=E,1µm,30.0s						
BRG	**Berggiesshubel**	88.84	37	*e*P	P	09 15 58.5	+1.3
	comp=E,65nm,1.3s,mb5.8						
BRG				*i*		09 16 01.6	
BRG				*i* pP	pP	09 16 15.3	+0.5
BRG				*i*		09 16 46.7	
BRG				PP	PP	09 19 15.0	-14
BRG				S	S	09 26 21.0	-17
BRG				*e*		09 26 41.0	
BRG				LR	LR		
	comp=Z,2µm,29.6s						
SAL	**Salo**	88.86	43	*e*P	P	09 15 58.4	+1.0
WATA	**Walderalm**	88.86	41	⇑*i*P	P	09 16 00.0	+2.6
	comp=Z,52nm,1.3s,mb5.7						
WATA				*i*	pP	09 16 16.2	+1.3
	comp=Z,118nm,1.6s						
CODM		88.87	44	P	P	09 15 57.8	+0.3
WTTA	**Wattenberg**	88.93	41	⇑*i*P	P	09 15 59.9	+2.2
	comp=Z,182nm,2.1s,mb6.0						
WTTA				*i*	pP	09 16 16.2	+1.0
	comp=Z,373nm,2.4s						
WET	**Wettzell**	88.94	39	*e*P	P	09 15 58.7	+1.0
WET				*e*S	S	09 26 44.3	+5.7
WET				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.6						
WET	**Wettzell**	88.94	39	*e*P	P	09 15 58.7	+1.0
	comp=Z,34nm,1.1s,mb5.6						
WET				*e*S	S	09 26 44.3	+5.7
PGF	**Pioggiola**	88.98	46	*e*P	P	09 15 57.8	-0.3
	comp=Z,150nm,1.2s,mb5.9						
PGF				*e*pP	pP	09 16 14.4	-1.2
GRAM		88.98	44	P	P	09 15 59.1	+1.1
BACM		89.06	44	P	P	09 15 58.5	+0.1
VALM		89.15	44	P	P	09 16 00.0	+1.2
VINC	**Vinca**	89.17	44	P	P	09 15 59.1	+0.2
KAF	**Kangasniemi**	89.21	24	*e*p	P	09 15 56.5	-2.2
	comp=Z,9.3nm,0.8s,mb5.2						
KAF	**Kangasniemi**	89.21	24	*e*P	P	09 15 56.5	-2.2
KAF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.2						
PVCC	**Panska Ves**	89.35	37	*e*P	P	09 16 00.3	+0.7
PVCC				*i* AP	pP	09 16 17.5	+0.3
PVCC				*e*SKS	SKS	09 26 24.1	+1.9
PVCC				*e*S	S	09 26 48.0	+5.6
PVCC				*e*XS		09 27 18.2	
PVCC				LM		09 50 40.0	
	comp=Z,1.4nm,28.2s						
PVCC	**Panska Ves**	89.35	37	*e*P	P	09 16 00.3	+0.7
PVCC				*i* *PP	pP	09 16 17.5	+0.3
PVCC				*e*S	S	09 26 24.1	-18
PVCC				*e*		09 26 48.0	
PVCC				MLR	MLR		
	comp=Z,1µm,28.2s						
KHC	**Kasperske Hory**	89.36	39	*e*P	P	09 16 00.2	+0.5
KHC				*i* AP	pP	09 16 17.9	+0.7
KHC				*e*SKS	SKS	09 26 26.0	+3.7
KHC				*e*S	S	09 26 48.9	+6.4
KHC				*e*XS		09 27 19.0	
KHC				LM		09 50 00.0	
	comp=Z,1.5nm,25.0s						
KHC	**Kasperske Hory**	89.36	39	*e*P	P	09 16 00.2	+0.5
KHC				*i* *PP	pP	09 16 17.9	+0.7
KHC				*e*S	S	09 26 26.0	-17
KHC				*e*		09 26 48.9	
KHC				MLR	MLR		
	comp=Z,2µm,25.0s						
CTI	**Castel Tesino**	89.41	42	*e*P	P	09 16 01.6	+1.5
MAIM		89.48	44	P	P	09 16 00.4	0.0
FINES	**FINESS Array B**	89.51	24	P	P	09 15 59.8	-0.3
	comp=Z,3.7nm,0.7s,mb4.8,baz=270,slow=1.9,SNR=8.6						
FINES				pP	pP	09 16 17.6	-0.1
	comp=Z,29nm,1.1s,baz=315,slow=2.7,SNR=11						
FINES				sP	sP	09 16 26.4	+2.4
	comp=Z,13nm,1.0s,SNR=4.3						
FINES				LR	LR	09 59 19.6	
	comp=Z,484nm,19.0s,baz=300,slow=38						
FINES	**FINESS Array B**	89.51	24	*e*P	P	09 16 03.7	+3.6
GEC2	**GERESS Array S**	89.55	39	*e*P	P	09 16 01.3	+0.7
GEC2				*e*S	S	09 26 48.9	+4.6
GEC2				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2						
GEC2	**GERESS Array S**	89.55	39	*e*P	P	09 16 01.3	+0.7
	comp=Z,11nm,0.9s,mb5.2						
GEC2				*e*S	S	09 26 48.9	+4.6
GERES	**GERESS Array B**	89.55	39	P	P	09 16 01.0	+0.4
	comp=Z,8.1nm,0.8s,mb5.1,baz=315,slow=3.8,SNR=44						
GERES				pP	pP	09 16 18.3	+0.2
	comp=Z,25nm,1.0s,baz=297,slow=3.0,SNR=14						
GERES				sP	sP	09 16 26.2	+1.7
	comp=Z,8.9nm,0.9s,baz=304,slow=4.8,SNR=3.7						
PRU	**Pruhonice**	89.57	37	P	P	09 16 01.2	+0.5
	comp=Z,14nm,0.8s,mb5.3						
PRU				*i* AP	pP	09 16 18.1	-0.1
PRU				*e*SKS	SKS	09 26 25.0	+1.5
PRU				*e*S	S	09 26 50.5	+6.1
PRU				*e*XS		09 27 20.2	
PRU				LM		09 50 30.0	
PRU	**Pruhonice**	89.57	37	*e*P	P	09 16 01.0	+0.3
PRU				*i* pP	pP	09 16 18.4	+0.2
PRU				*e*S	S	09 26 25.0	-19
PRU				*e*		09 26 50.5	
PRU				*e*		09 27 20.2	
GKP	**Gorka Klasztor**	89.62	34	*e*P	P	09 16 02.1	+1.3
GKP				*e*pP	pP	09 16 18.9	+0.5
GKP				LR	LR		
	comp=Z,2µm,27.4s						
ZCCA	**Zocca**	89.64	44	*e*P	P	09 16 03.4	+2.3
FVI	**Forni Avoltri**	89.91	41	*e*P	P	09 16 04.8	+2.4
KBA	**Koelnbreinsper**	90.07	40	⇑*i*P	P	09 16 04.8	+1.7
	comp=Z,43nm,1.5s,mb5.6						
KBA				*i*	pP	09 16 20.8	+0.1
	comp=Z,243nm,2.5s						
KSP	**Ksiaz**	90.20	36	*e*P	P	09 16 04.1	+0.5
KSP				*e**PP	pP	09 16 20.7	-0.5
KSP				*e*		09 26 29.0	
KSP				*e*S	S	09 26 53.3	+3.2
KSP	**Ksiaz**	90.20	36	*e*P	P	09 16 04.1	+0.5
KSP				*e*		09 16 13.8	
KSP				*e*pP	pP	09 16 20.7	-0.5
KSP				*e*PP	PP	09 19 29.0	-11
KSP				*e*SKS	SKS	09 26 29.0	+1.7
KSP				*e*S	S	09 26 53.3	+3.2
KSP				*e*SS	SS	09 33 10.7	+17
KSP				LR	LR		
	comp=Z,3µm,25.3s						
MOA	**Molln**	90.31	39	⇑*i*P	P	09 16 04.7	+0.5
	comp=Z,26nm,1.2s,mb5.4						
MOA				*i*	pP	09 16 22.2	+0.4
	comp=Z,120nm,1.5s						
PGD	**Poggio Sodo**	90.32	44	*e*P	P	09 16 05.6	+1.3
PTCC	**Patocco-Chiusa**	90.35	41	*e*P	P	09 16 06.0	+1.6
SFI	**Santa Sofia**	90.39	44	*e*P	P	09 16 06.4	+1.7
DPC	**Dobruska-Polom**	90.44	37	*e*P	P	09 16 05.4	+0.7
DPC				*i* AP	pP	09 16 23.0	+0.7
DPC				*e*SKS	SKS	09 26 27.3	-1.5
DPC				*e*S	S	09 26 56.5	+4.3
DPC				*e*XS		09 27 28.7	
DPC				LM		09 52 00.0	
	comp=Z,0.8nm,23.8s						
DPC	**Dobruska-Polom**	90.44	37	*e*P	P	09 16 05.4	+0.7
DPC				*i* *PP	pP	09 16 23.0	+0.7
DPC				*e*S	S	09 26 27.3	-25
DPC				*e*		09 26 56.5	
DPC				MLR	MLR		
	comp=Z,800nm,23.8s						
ROBS	**Robic**	90.52	41	⇑*i*P	pP	09 16 22.6	-0.1
VOY	**Vojsko**	90.85	41	*e*P	pP	09 16 24.4	0.0
JAVS	**Javornik**	91.02	41	⇑*i*P	pP	09 16 25.6	+0.4
OBKA	**Obir**	91.06	41	⇑*i*P	P	09 16 07.9	+0.2
	comp=Z,32nm,1.3s,mb5.5						
OBKA				*i*	pP	09 16 25.2	-0.1
	comp=Z,124nm,1.6s						
LJU	**Ljubljana**	91.24	41	⇑*i*P	pP	09 16 26.4	+0.1
LJU				*e*SKSac		09 26 34.2	
LJU				*e*S	S	09 27 06.4	+7.0
ASS	**Assisi**	91.26	44	*e*P	P	09 16 09.4	+0.7
CEY	**Cerknica**	91.31	41	⇑*i*P	pP	09 16 27.1	+0.6
ARSA	**Arzberg**	91.34	40	⇑*i*P	P	09 16 10.1	+1.1
	comp=Z,25nm,1.9s,mb5.2						
ARSA				*i*	pP	09 16 26.6	0.0
	comp=Z,121nm,2.0s						
MORC	**Moravsky Berou**	91.40	37	*e*P	P	09 16 09.7	+0.5
	comp=Z,92nm,1.3s,mb6.0						
MORC				*e*pP	pP	09 16 27.4	+0.5
RAC	**Raciborz**	91.63	36	*e*P	P	09 16 11.6	+1.3
RAC				*e**PP	pP	09 16 27.9	0.0
RAC				*e*		09 26 38.9	
OKC	**Ostrava-Krasne**	91.72	37	*e*P	P	09 16 11.7	+1.0
OKC				*e*AP	pP	09 16 28.8	+0.5
OKC				*e*SKS	SKS	09 26 38.6	+2.5
OKC				*e*S	S	09 27 05.6	+2.0
OKC				LM		09 52 40.0	
	comp=Z,0.8nm,21.4s						
SOP	**Sopron**	91.78	39	⇑*e*	pP	09 16 29.0	+0.4
ZST	**Bratislava**	91.87	38	*e*P	P	09 16 13.2	+1.8
ZST				*e*pP	pP	09 16 30.2	+1.2
ZST				*e*sP	sP	09 16 38.4	+3.1
SMOL	**Smolenice**	91.92	38	*e*P	P	09 16 13.6	+2.0
SMOL				*e*pP	pP	09 16 30.7	+1.4
BOJS	**Bojanci**	91.93	41	⇑*i*P	pP	09 16 29.9	+0.4
WAR	**Warsaw**	92.13	34	*e*P	P	09 16 16.1	+3.6
WAR				*e*pP	pP	09 16 31.3	+1.2
WAR				LR	LR		
	comp=Z,2µm,30.8s						
PUL	**Pulkovo**	92.19	24	*e*P	pP	09 16 28.2	-2.0
PUL				*e*		09 26 38.2	
PUL				*e*SP	SP	09 28 30.6	+7.6
PUL				pmax	pmax		
	comp=Z,141nm,11.8s						
PTQR	**Pietraquaria**	92.19	45	*e*P	P	09 16 14.8	+1.7
SUW	**Suwalki**	92.32	31	*e*P	P	09 16 12.8	-0.6
SUW				*e*pP	pP	09 16 30.2	-0.8
SUW				*e*SKS	SKS	09 26 39.7	+0.2
SUW				*e*S	S	09 27 15.5	+6.8
SUW				*e*SS		09 27 48.2	
KOLL	**Kolacno**	92.46	38	*e*P	P	09 16 15.1	+1.0
KOLL				*e*pP	pP	09 16 32.5	+0.8
OJC	**Ojcow**	92.47	36	*e*P	P	09 16 15.0	+0.9
OJC				*i* *PP	pP	09 16 32.2	+0.5
OJC				*e*		09 19 50.5	
OJC				*e*		09 26 41.6	
OJC				*e*PS	PS	09 28 26.6	-8.0
OJC				*e*SS	SS	09 33 23.0	-3.4
OJC				MLR	MLR		
	comp=Z,1µm,21.0s						
VYHS	**Vyhne**	92.75	38	*e*P	P	09 16 16.3	+0.8
VYHS				*e*	pP	09 16 34.1	+1.0
VYHS				*e*		09 16 41.8	
VYHS				*e*S	S	09 26 45.5	-27
SGG	**Gregorio Mates**	93.12	45	*e*P	P	09 16 19.0	+1.7
BUD	**Budapest**	93.35	38	*e*pP	pP	09 16 37.2	+1.4
RHK1	**Bakonya**	93.43	40	⇑*e*P	P	09 16 19.9	+1.3
KECS	**Kecovo**	93.72	37	*e*P	P	09 16 20.9	+1.0
KECS				*e*pP	pP	09 16 38.6	+1.1
KECS				*e*		09 16 47.1	
MRLC	**Muro Lucano**	94.15	46	*e*P	P	09 16 23.2	+1.2
YAK	**Yakutsk**	94.21	341	*c* *i*P	P	09 16 21.1	-0.7
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.7						
YAK				MLR	MLR		
	comp=Z,600nm,22.0s						
YAK	**Yakutsk**	94.21	341	⇑*i*P	P	09 16 21.2	-0.6
MNK	**Minsk**	94.31	29	*e*P	P	09 16 21.0	-1.4
KWP	**Kalwaria**	94.39	35	*e*P	P	09 16 24.9	+2.0
KWP				*e**PP	pP	09 16 41.1	+0.6
MGR	**Morigerati**	94.46	46	*e*P	P	09 16 24.1	+0.6
DIVS	**Divcibare**	95.58	41	⇑*i*P	P	09 16 28.7	+0.3
NVSS	**Nova Varos 2**	95.68	42	⇓*i*P	P	09 16 30.4	+1.5
TIP	**Timpagrande**	95.72	47	*e*P	P	09 16 28.2	-1.0
GRUS	**Gruza**	96.13	41	⇓*i*P	P	09 16 33.2	+2.3
SVIS	**Svilajnac**	96.25	40	*e*P	P	09 16 31.3	-0.2
BOLS	**Boljevac**	96.94	41	⇑*i*P	P	09 16 30.9	-3.8
AKASG	**Malin Array Be**	97.25	32	P	P	09 16 35.7	-0.2
	comp=Z,1.1nm,0.5s,baz=292,slow=4.1,SNR=10						
AKASG				pP	pP	09 16 52.6	-0.9
	comp=Z,2.8nm,0.8s,baz=295,slow=4.3,SNR=3.5						
AKASG				PP	PP	09 20 22.8	-13
	comp=Z,0.9nm,0.6s,baz=296,slow=7.9,SNR=3.2						
AKASG				PKKPbc		09 33 12.1	
	comp=Z,0.4nm,0.4s,baz=120,slow=1.9,SNR=6.3						
AKASG				tx	tx	09 33 42.5	
	comp=Z,0.2nm,0.3s,baz=133,slow=3.1,SNR=8.6						
AKASG				LR	LR	10 02 19.0	
	comp=Z,730nm,20.1s,baz=290,slow=36						
BARS	**Barje**	97.37	41	⇑*i*P	P	09 16 38.1	+1.4
SKO	**Skopje**	97.55	42	*i* P	P	09 16 39.5	+2.0
SKO				*i*	pP	09 16 56.0	+0.9
OHR	**Ohrid**	97.55	43	*i* P	P	09 16 40.1	+2.6
OHR				⇑*i*	pP	09 16 56.3	+1.1
OHR				⇑*i*		09 17 04.2	
MOS	**Moscow**	97.79	25	*e*P	P	09 16 54.4	+16
MOS				*e**PP	pP	09 17 19.8	+24
MOS				*e*		09 29 21.7	
MOS				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.7						
MOS				pmax	pmax		
	comp=Z,332nm,1.9s,mb6.5						
OBN	**Obninsk**	97.80	26	*d* *i*P	P	09 16 37.4	-0.8
OBN				*e**PP	pP	09 16 55.4	-0.5
OBN				*i*		09 20 32.1	
OBN				*e*		09 27 12.0	
OBN				*e*PS	PS	09 29 22.9	-8.9
OBN				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.6						
OBN				MLR	MLR		
	comp=Z,1µm,21.0s						
OBN	**Obninsk**	97.80	26	*e*P	P	09 16 36.7	-1.6
OBN				*e*pP	pP	09 16 55.5	-0.4
URZ	**Urewera**	98.37	233	LR	LR	09 50 18.7	
	comp=Z,495nm,20.1s,baz=38,slow=29						
KIS	**Kishinev**	99.24	35	*e*P	P	09 16 58.0	+13
KIS				*e*		09 20 44.0	
KIS				*e*		09 27 14.0	
KIS				*e*S	S	09 28 12.0	+4.2
KIS				*e*PS	PS	09 29 38.0	-9.1
BOD	**Bodaibo**	102.20	345	*e*P	Pdif	09 17 12.8	+15
KLR	**Kul'dur**	102.62	331	*e*P	Pdif	09 17 00.0	-0.1
VNA2	**Neumayer--Watz**	104.63	160	*e*	PP	09 21 29.3	-1.9
SNAA	**Sanae**	106.17	161	*e*	PP	09 21 39.3	-3.1
BRTR	**Keskin Array B**	106.45	39	PP	PP	09 21 38.5	-6.9
	comp=Z,0.6nm,0.7s,baz=309,slow=7.9,SNR=3.6						

MDJ	**Mudanjiang**	**106.92**	**328**	PDIF	Pdif	09 17 18.5	-0.6
MDJ				PP	PP	09 21 54.3	+5.2
MDJ				LR	LR		
	comp=N,308nm,41.3s						
MDJ				LR	LR		
	comp=E,579nm,39.6s						
MDJ				LR	LR		
	comp=Z,748nm,39.6s						
HIA	**Hailar**	**107.69**	**337**	*e*P	Pdif	09 17 19.2	-3.2
HIA				pmax	pmax		
	comp=Z,11nm,1.1s						
HIA	**Hailar**	**107.69**	**337**	*e*Pdif	Pdif	09 17 19.2	-3.2
	comp=Z,11nm,1.1s						
CN2	**Changchun**	**109.55**	**330**	*e*PDIF	Pdif	09 17 34.8	+4.1
CN2				PP	PP	09 22 11.8	+3.2
CN2				*e*S		09 29 33.8	
CN2				LR	LR		
	comp=N,700nm,18.0s						
CN2				LR	LR		
	comp=E,800nm,18.0s						
CN2				LR	LR		
	comp=Z,900nm,18.0s						
BVAR	**Borovoye Array**	**109.68**	**9**	PKKPab		09 32 46.3	
	comp=Z,8.6nm,1.3s,baz=158,slow=8.0,SNR=9.3						
KURK	**Kurchatov**	**112.90**	**4**	*e*PKIKP	PKPdf	09 21 36.8	-1.8
SONM	**Songino Array**	**113.20**	**344**	PKiKP		09 21 39.0	
	comp=Z,0.9nm,0.8s,baz=11,slow=2.4,SNR=4.8						
SONM				pPKiKP		09 21 58.5	
	comp=Z,2.7nm,1.0s,baz=315,slow=1.7,SNR=6.9						
SONM				PP	PP	09 22 24.2	-11
	comp=Z,4.2nm,1.2s,slow=4.9,SNR=5.3						
SONM				tx	tx	09 22 46.0	
	comp=Z,10nm,1.2s,slow=3.7,SNR=13						
SONM				PKKPbc		09 32 23.9	
	comp=Z,2.1nm,0.8s,baz=198,slow=3.0,SNR=14						
SONM	**Songino Array**	**113.20**	**344**	PKPdf	PKPdf	09 21 39.0	-0.2
SONM				PP	PP	09 22 24.2	-11
SONM				PKKPbc		09 32 23.9	
ASF	**Jabal al Asfar**	**113.24**	**43**	PKKPab		09 32 33.7	
	comp=Z,1.2nm,0.3s,baz=127,slow=5.1,SNR=3.3						
BJI	**Beijing**	**116.74**	**334**	PKP	PKPdf	09 21 45.9	-0.5
BJI				PP	PP		
	comp=Z,449nm,11.3s						
BJI				LR	LR		
	comp=N,523nm,22.2s						
BJI				LR	LR		
	comp=E,349nm,22.1s						
BJI				LR	LR		
	comp=Z,1µm,26.1s						
MKAR	**Makanchi Array**	**117.01**	**2**	PKP	PKPdf	09 21 45.7	-1.0
	comp=Z,2.7nm,0.8s,baz=45,slow=1.7,SNR=9.3						
MKAR				pPKP		09 22 05.2	
	comp=Z,4.4nm,0.8s,slow=2.4,SNR=9.5						
MKAR				PP	PP	09 22 47.7	-14
	comp=Z,4.6nm,0.9s,baz=33,slow=3.8,SNR=3.9						
MKAR				tx	tx	09 23 08.2	
	comp=Z,11nm,1.1s,slow=4.9,SNR=5.5						
MKAR				PKKPbc		09 32 10.1	
	comp=Z,3.1nm,1.1s,baz=90,slow=1.2,SNR=6.4						
MKAR	**Makanchi Array**	**117.01**	**2**	PKP	PKPdf	09 21 45.7	-1.0
MKAR				pPKP		09 22 05.2	
MKAR				PP	PP	09 22 47.7	-14
MKAR				PKKPbc		09 32 10.1	
PMG	**Port Moresby**	**119.19**	**268**	PKP	PKPdf	09 21 51.2	-0.5
	comp=Z,5.6nm,0.7s,baz=51,slow=7.6,SNR=3.5						
USP	**Ospenovka**	**119.81**	**9**	P	PKPdf	09 22 11.9	+20
	SNR=5.5						
WMQ	**Urumqi**	**119.98**	**358**	⇓*i*PKP	PKPdf	09 21 52.3	-0.3
WMQ				PP	PP	09 23 21.3	-0.3
WMQ				PKS	PKS	09 25 27.4	-1.0
WMQ				SKKS		09 30 05.8	
WMQ				LR	LR		
	comp=N,709nm,25.7s						
WMQ				LR	LR		
	comp=E,247nm,23.2s						
WMQ				LR	LR		
	comp=Z,723nm,22.6s						
EKS2	**Erkin-Say**	**120.29**	**10**	P	PKPdf	09 22 14.0	+21
	SNR=5.1						
TKM2	**Tokmak 2**	**120.30**	**8**	P	PKPdf	09 22 12.8	+20
	SNR=5.3						
AML	**Almayashu**	**120.79**	**10**	P	PKPdf	09 21 55.1	+0.9
	SNR=7.7						
UCH	**Uchtor**	**120.83**	**9**	P	PKPdf	09 21 55.3	+1.1
	SNR=9.5						
ULHL	**Ulahol**	**121.05**	**8**	P	PKPdf	09 22 15.0	+20
	SNR=5.6						
SSE	**Sheshan**	**121.31**	**324**	PKP	PKPdf	09 21 56.9	+1.4
SSE				SS	SS	09 39 54.9	-2.5
SSE				LR	LR		
	comp=N,104nm,28.5s						
SSE				LR	LR		
	comp=E,284nm,28.8s						
SSE				LR	LR		
	comp=Z,322nm,35.5s						
SSE	**Sheshan**	**121.31**	**324**	PKP	PKPdf	09 21 56.9	+1.4
SSE				PP	PP	09 23 38.0	+6.8
SSE				SS	SS	09 39 54.9	-2.5
SSE				LR	LR		
	comp=Z,320nm,35.5s						
NJ2	**Nanjing**	**121.87**	**326**	*e*PKP	PKPdf	09 22 00.9	+4.4
NJ2				PP	PP	09 23 38.5	+3.4
NJ2				PPP	PPP	09 26 15.0	+3.6
NJ2				PP	PP		
	comp=Z,2µm,10.5s						
NJ2				LR	LR		
	comp=N,4µm,24.5s						
NJ2				LR	LR		
	comp=E,3µm,28.0s						
NJ2				LR	LR		
	comp=Z,3µm,24.8s						
CTA	**Charters Tower**	**121.98**	**256**	*e*PKP	PKPdf	09 21 56.2	-0.8
	comp=Z,6.1nm,0.8s						
CTA	**Charters Tower**	**121.98**	**256**	PKP	PKPdf	09 21 55.8	-1.2
	comp=Z,9.2nm,0.8s,baz=80,slow=0.9,SNR=11						
CTAO	**Charters Tower**	**121.98**	**256**	*e*PKIKP	PKPdf	09 21 55.3	-1.7
GTA	**Gaotai**	**122.73**	**346**	*e*PKP	PKPdf	09 21 58.1	+0.1
GTA				PP	PP	09 23 40.3	-0.7
GTA				PKS	PKS	09 25 35.4	+1.5
GTA				PPP	PPP	09 26 18.0	-0.1
GTA				SKS	SKS	09 29 05.3	+13
GTA				SKKS		09 30 25.3	
GTA				SS	SS	09 40 18.5	+2.8
GTA				LR	LR		
	comp=N,201nm,27.4s						
GTA				LR	LR		
	comp=E,216nm,21.3s						
GTA				LR	LR		
	comp=Z,352nm,30.4s						
TOO	**Toolangi**	**123.11**	**236**	*e*PKP	PKPdf	09 21 58.1	-0.7
	comp=Z,4.2nm,0.7s						
KSH	**Kashi**	**123.70**	**8**	*e*PKP	PKPdf	09 22 01.3	+1.4
KSH				*e*SKS	SKS	09 29 01.1	+5.8
KSH				LR	LR		
	comp=N,410nm,5.4s						
KSH				LR	LR		
	comp=E,320nm,6.0s						
LBTB	**Lobatse**	**124.17**	**109**	*e*PKIKP	PKPdf	09 22 00.8	-0.3
XAN	**Xi'an**	**124.86**	**336**	PKP	PKPdf	09 22 01.3	-1.0
LSZ	**Lusaka**	**125.51**	**97**	*e*PKIKP	PKPdf	09 22 04.2	+0.2
STKA	**Stephens Creek**	**126.67**	**242**	*e*PKP	PKPdf	09 22 04.8	-1.0
	comp=E,20nm,0.8s						
STKA	**Stephens Creek**	**126.67**	**242**	PKP	PKPdf	09 22 05.4	-0.5
	comp=E,26nm,0.8s,baz=61,slow=1.9,SNR=49						
STKA				pPKP		09 22 25.0	
	comp=E,7.1nm,0.7s,baz=100,slow=4.8,SNR=4.2						
MAW	**Mawson**	**126.91**	**170**	*e*PKP	PKPdf	09 22 04.5	-0.8
	comp=E,15nm,0.9s						
MAW	**Mawson**	**126.91**	**170**	PKP	PKPdf	09 22 04.8	-0.5
	comp=E,17nm,0.9s,baz=249,slow=3.2,SNR=27						
MAW				pPKP		09 22 24.4	
	comp=E,11nm,1.1s,baz=226,slow=3.7,SNR=4.2						
MAW	**Mawson**	**126.91**	**170**	*e*PKIKP	PKPdf	09 22 04.2	-1.1
SDNR	**Sundarnagar**	**131.71**	**9**	*e*P	PKPdf	09 22 14.6	-0.9
KLP	**Kalpa**	**131.86**	**8**	*e*P	PKPdf	09 22 16.1	+0.3
KLP				*e*		09 22 18.4	
	comp=Z,21nm,0.9s						
GYA	**Guiyang**	**132.43**	**333**	PKP	PKPdf	09 22 16.6	-0.4
GYA				XPKP		09 22 38.4	
GYA				PKS	PKS	09 25 51.6	-0.7
GYA				PP	PP		
	comp=Z,2µm,12.8s						
GYA				LR	LR		
	comp=N,4µm,20.4s						
GYA				LR	LR		
	comp=E,5µm,24.0s						
GYA				LR	LR		
	comp=Z,6µm,25.1s						
DDI	**Dehra Dun**	**133.03**	**8**	*e*P	PKPdf	09 22 16.8	-1.2
WB2	**Warramunga Arr**	**133.10**	**258**	⇓*i*PKP	PKPdf	09 22 17.5	-0.9
WB2				*i* PKS	PKS	09 25 45.3	-8.4
WRAB	**Tennant Creek**	**133.10**	**258**	*e*PKPdf	PKPdf	09 22 17.1	-1.2
WRA	**Warramunga Arr**	**133.11**	**258**	PKhKP		09 22 09.7	
	comp=Z,1.2nm,0.8s,baz=89,slow=3.2,SNR=7.6						
WRA				PKP	PKPdf	09 22 17.5	-0.9
	comp=Z,18nm,0.8s,baz=81,slow=1.5,SNR=47						
WRA				pPKP		09 22 37.2	
	comp=Z,4.7nm,0.9s,baz=85,slow=2.5,SNR=2.3						
WRA				SKKPbc		09 34 55.9	
	comp=Z,2.7nm,1.0s,baz=292,slow=2.9,SNR=6.2						
WRA	**Warramunga Arr**	**133.11**	**258**	PKP	PKPdf	09 22 17.5	-0.9
WRA				pPKP		09 22 37.2	
WRA				SKKPbc		09 34 55.9	
TGY	**Tagaytay City**	**133.28**	**309**	PKP	PKPdf	09 22 18.7	-0.2
	comp=Z,124nm,0.3s,baz=164,slow=19,SNR=3.2						
ASAR	**Alice Springs**	**133.67**	**253**	PKhKP		09 22 03.8	
	comp=Z,0.9nm,0.8s,baz=102,slow=4.5,SNR=5.4						
ASAR				PKP	PKPdf	09 22 18.8	-0.6
	comp=Z,9.4nm,0.8s,baz=81,slow=1.7,SNR=37						
ASAR				PP	PP	09 24 46.0	-6.8
	comp=Z,1.4nm,1.0s,baz=77,slow=1.8,SNR=2.6						
ASAR				SKKPbc		09 34 52.8	
	comp=Z,2.2nm,0.9s,baz=265,slow=2.1,SNR=6.7						
ASAR	**Alice Springs**	**133.67**	**253**	PKP	PKPdf	09 22 18.8	-0.6
ASAR				PP	PP	09 24 46.0	-6.8
ASAR				SKKPbc		09 34 52.8	
ASPA	**Alice Springs**	**133.67**	**253**	*e*PKP	PKPdf	09 22 18.8	-0.6
ASPA				*i* PKS	PKS	09 25 46.4	-8.3
ASPA				*i*		09 26 09.1	
LSA	**Lhasa**	**133.74**	**353**	PKP	PKPdf	09 22 20.6	+1.2
LSA	**Lhasa**	**133.74**	**353**	*e*PKIKP	PKPdf	09 22 19.2	-0.2
KAKA	**Kakadu**	**134.04**	**268**	*e*P	PKPdf	09 22 19.5	-0.7
	comp=Z,21nm,0.9s						
NDI	**New Delhi**	**134.51**	**10**	*e*P	PKPdf	09 22 19.3	-1.5
NDI				*e*		09 25 51.0	
AYAN	**Aya Nagar**	**134.70**	**10**	*e*P	PKPdf	09 22 20.7	-0.5
AYAN				*e*		09 22 22.2	
	comp=Z,13nm,1.0s						
JASL	**Jaisalmer**	**134.77**	**18**	*e*P	PKPdf	09 22 21.3	0.0
KHET	**Khetri**	**134.86**	**11**	*e*P	PKPdf	09 22 21.9	+0.4
KHET				*e*		09 22 22.6	
	comp=Z,12nm,1.1s						
SONA	**Sohna**	**134.92**	**10**	*e*P	PKPdf	09 22 21.0	-0.6
KUDL	**Kundal**	**134.92**	**11**	*e*P	PKPdf	09 22 21.2	-0.3
KUDL				*e*		09 22 25.5	
	comp=Z,36nm,1.5s						
KMI	**Kunming**	**135.21**	**337**	*e*PKP	PKPdf	09 22 22.4	+0.2
KMI				PP	PP	09 25 02.8	+0.5
KMI				SKS	SKS	09 29 29.0	+4.1
KMI				SKKS		09 31 43.8	
KMI				SS	SS	09 42 48.5	-1.3
KMI				PP	PP		
	comp=Z,388nm,6.1s						
KMI				LR	LR		
	comp=N,588nm,27.0s						
KMI				LR	LR		
	comp=E,562nm,37.3s						
KMI				LR	LR		
	comp=Z,727nm,34.6s						
KMI	**Kunming**	**135.21**	**337**	*e*PKP	PKPdf	09 22 22.4	+0.2
KMI				sPKP		09 22 41.6	
KMI				PP	PP	09 25 02.7	+0.4
KMI				SKS	SKS	09 29 29.0	+4.1
KMI				SKKS		09 31 43.8	
KMI				SS	SS	09 42 48.5	-1.3
KMI				LR	LR		
	comp=Z,730nm,34.6s						
GKN	**Gorkha**	**135.81**	**0**	*e*P	PKPdf	09 22 21.9	-1.3
	comp=Z,129nm,1.3s						
KKN	**Kakani**	**136.03**	**360**	*e*P	PKPdf	09 22 22.4	-1.2
	comp=Z,82nm,1.4s						
KOLN	**Koldanda**	**136.03**	**2**	*e*P	PKPdf	09 22 22.4	-1.2
	comp=Z,122nm,1.2s						
AGRA	**Agra**	**136.05**	**9**	*e*P	PKPdf	09 22 21.7	-1.9
AJM	**Ajmer**	**136.16**	**13**	*e*P	PKPdf	09 22 27.1	+3.2
DMN	**Daman**	**136.21**	**360**	*e*P	PKPdf	09 22 22.0	-1.9
	comp=Z,76nm,1.2s						
PKI	**Pulchoki**	**136.24**	**359**	*e*P	PKPdf	09 22 22.6	-1.4
	comp=Z,52nm,1.1s						
SHL	**Shillong**	**137.71**	**351**	*e*P	PKPdf	09 22 26.5	-0.3
SHL				*e*		09 22 45.5	
SHL				*e*		09 26 19.2	
FORT	**Forrest**	**138.29**	**242**	*e*PKP	PKPdf	09 22 28.4	+0.7
	comp=Z,54nm,0.7s						
BHPL	**Bhopal**	**139.87**	**11**	*e*	PKPdf	09 22 48.3	+18
FITZ	**Fitzroy Crossi**	**141.20**	**261**	*e*PKP	PKPdf	09 22 27.1	-6.2
	comp=Z,27nm,0.9s						
NANT	**Nan**	**141.72**	**336**	P	PKPdf	09 22 29.0	-5.2
CHG	**Chiang Mai**	**142.37**	**338**	⇓P	PKPdf	09 22 34.7	-0.6
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**142.69**	**338**	PKhKP		09 22 31.6	
	comp=Z,6.2nm,0.8s,baz=347,slow=4.0,SNR=21						
CMAR				pPKP		09 22 55.2	
	comp=Z,9.4nm,1.0s,baz=324,slow=2.2,SNR=3.7						
POO	**Poona**	**143.56**	**18**	*e*P	PKPbc	09 22 35.0	-1.0
BDT	**Bhumibol Dam**	**143.78**	**337**	P	PKPbc	09 22 34.0	-2.7
NST	**Nakhon Sawan**	**144.76**	**334**	⇑P	PKPdf	09 22 39.6	+0.1
	comp=Z,83nm,0.9s						
KAD	**Karad**	**144.81**	**18**	*e*P	PKPdf	09 22 38.0	-1.5
HYB	**Hyderabad**	**145.76**	**11**	⇓*i*PKP	PKPdf	09 22 41.0	-0.2
	comp=Z,100nm,1.0s						
HYB				*e*pPKP		09 23 00.0	
HYB	**Hyderabad**	**145.76**	**11**	⇓*e*P	PKPdf	09 22 41.0	-0.2
HYB				*e*		09 23 00.0	
VIS	**Vishakhapatnam**	**146.01**	**3**	*e*P	PKPdf	09 22 41.5	-0.1
KLBR	**Kellerberrin**	**146.64**	**237**	*e*PKP	PKPdf	09 22 41.8	-0.5
	comp=Z,165nm,1.3s						
NNT	**Nongplab**	**147.68**	**332**	P	PKPdf	09 22 48.0	+3.6
MUN	**Mundaring**	**147.75**	**236**	*e*PKP	PKPdf	09 22 46.3	+2.2
	comp=Z,61nm,1.0s						
CUD	**Cuddapah**	**148.67**	**12**	*e*P	PKPdf	09 22 49.4	+3.4
CUD				*e*		09 23 08.4	
MDRS	**Chennai**	**150.30**	**9**	*e*	PKPab	09 23 11.0	+8.5
SNG	**Songkhla**	**151.89**	**325**	P	PKPdf	09 22 46.0	-5.1

BJI ***18*** *09:05:51.7, 13.35S×166.83E, h27^{km}, mB5.3, mb5.0, Msz5.3*

IDC ***18*** *09:05:51.3±0.9, 13.91S×166.73E, h26^{km}±4^{km}, mb4.3/13, mb1 4.4/14, mb1mx4.4/18, ML3.5/1, MS4.0/6, Ms1 4.0/6, ms1mx3.7/27, Error ellipse: s-maj=22.5km s-min=17.2km az=119.0*

NEIC ***18*** *09:05:54.2±2.1, 13.92S×166.68E, h51^{km}±18^{km}, mb4.8/26, Error ellipse: s-maj=11.7km s-min=10.0km az=66.0*

SYO ***18*** *09:05:54.1, 13.92S×166.68E, h51^{km}, MB4.8*

ISC 18 09:05:50.9±0.4**, 13.92S**±0.04×**166.56E**±0.08**, h33^{km}, (h25^{km}**±3.1^{km}**:pP-P), n64,** σ**1^{s}12**/57**, mb4.6**/35**, MS4.0**/5**, 1C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**4.06**	**157**	*i* P	**P**	**09 06 55.4**	**+3.1**
BKM				S	**S**	**09 07 42.9**	**+3.5**
DZM	**Mont Dzumac**	**8.11**	**181**	*e*P	**P**	**09 07 48.9**	**-0.3**
DZM				*e*S	**S**	**09 09 16.4**	**-4.2**
DZM	**Mont Dzumac**	**8.11**	**181**	*e*P	**P**	**09 07 48.9**	**-0.3**
DZM				*e*S	**S**	**09 09 16.4**	**-4.2**
NOUC	**Port Laguerre**	**8.14**	**182**	*e*P	**P**	**09 07 50.2**	**+0.7**
NOUC	**Port Laguerre**	**8.14**	**182**	*e*S	**S**	**09 09 19.3**	**-2.1**
PMG	**Port Moresby**	**19.52**	**281**	P	**P**	**09 10 19.9**	**+1.5**
	0.4nm,0.3s,baz=79,slow=7.7,SNR=8.5						
PMG				LR	LR	09 16 51.8	
	comp=Z,208nm,20.4s,baz=110,slow=34						
CTA	**Charters Tower**	**20.35**	**250**	*e*P	**P**	**09 10 29.3**	**+1.9**
	16nm,0.9s						
CTA				*e*sP		09 10 40.2	
CTA				*e*PP	PP	09 11 05.1	+17
CTA	**Charters Tower**	**20.35**	**250**	P	**P**	**09 10 29.3**	**+2.0**
	19nm,0.8s,baz=77,slow=13,SNR=22						
CTA				LR	LR	09 17 25.0	
	comp=Z,330nm,18.8s,MS3.7,baz=51,slow=34						
CTAO	**Charters Tower**	**20.35**	**250**	*e*P	**P**	**09 10 28.8**	**+1.4**
	34nm,1.0s						
CTAO				*e*		09 10 40.2	
CNB	**Canberra Magne**	**26.34**	**213**	*e*P	**P**	**09 11 31.7**	**+5.9**
	73nm,1.8s,mb4.9						
STKA	**Stephens Creek**	**29.00**	**228**	*e*P	**P**	**09 11 51.4**	**+1.4**
	15nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**29.00**	**228**	P	**P**	**09 11 51.3**	**+1.3**
	18nm,0.7s,mb4.9,baz=45,slow=7.4,SNR=52						
STKA				LR	LR	09 23 20.1	
	comp=Z,617nm,20.3s,MS4.2,baz=39,slow=36						
RPZ	**Rata Peaks**	**29.94**	**173**	P	**P**	**09 11 56.9**	**-1.3**
	19nm,1.1s,mb4.8,baz=198,slow=9.8,SNR=3.5						
TOO	**Toolangi**	**30.10**	**215**	*e*P	**P**	**09 12 01.1**	**+1.4**
	1.5nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**31.35**	**255**	*e*P	**P**	**09 12 10.4**	**-0.6**
WB2				*i* sP	sP	09 12 21.3	-3.7
WRAB	**Tennant Creek**	**31.35**	**255**	*e*P	**P**	**09 12 08.7**	**-2.3**
	16nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**31.36**	**255**	P	**P**	**09 12 10.0**	**-1.1**
	4.9nm,0.9s,mb4.3,baz=85,slow=8.8,SNR=22						
WRA				sP	sP	09 12 21.5	-3.6
	4.5nm,0.7s,baz=86,slow=9.2,SNR=11						
WRA				ScP		09 18 45.4	
	0.5nm,0.8s,baz=83,slow=2.6,SNR=4.0						
WRA				pScP		09 18 54.0	
	2.0nm,0.8s,baz=87,slow=3.5,SNR=11						
WRA				LR	LR	09 24 16.1	
	comp=Z,357nm,20.5s,MS4.0,baz=85,slow=35						
ASAR	**Alice Springs**	**32.33**	**248**	P	**P**	**09 12 18.5**	**-1.0**
	4.2nm,0.7s,mb4.4,baz=72,slow=9.7,SNR=40						
ASAR				ScP		09 18 49.1	
	0.9nm,0.8s,baz=72,slow=2.7,SNR=6.7						
ASAR				pScP		09 18 57.0	
	3.1nm,0.9s,baz=89,slow=3.0,SNR=13						
ASAR				LR	LR	09 25 00.6	
	comp=Z,182nm,18.5s,MS3.8,baz=35,slow=35						
ASPA	**Alice Springs**	**32.33**	**248**	*e*P	**P**	**09 12 18.7**	**-0.8**
KAKA	**Kakadu**	**33.24**	**268**	*e*P	**P**	**09 12 27.3**	**-0.2**
	8.9nm,0.6s,mb4.9						
KAKA				*i* sP	sP	09 12 38.7	-2.8
FORT	**Forrest**	**39.12**	**238**	⇑*i*P	**P**	**09 13 17.9**	**+0.8**
	48nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**39.49**	**258**	*e*P	**P**	**09 13 20.0**	**-0.3**
	3.8nm,0.8s,mb4.2						
FITZ				*e*sP	sP	09 13 32.6	-1.7
NWAO	**Narrogin (SRO)**	**48.58**	**238**	P	**P**	**09 14 33.1**	**-0.3**
	3.2nm,0.6s,mb4.5,baz=66,slow=10.0,SNR=2.7						
TGY	**Tagaytay City**	**53.05**	**300**	LR	LR	09 36 57.7	
	comp=Z,186nm,20.8s,MS4.1,baz=311,slow=35						
MAJO	**Matsushiro**	**56.88**	**333**	*e*P	**P**	**09 15 33.0**	**-2.1**
	15nm,1.0s,mb5.0						
MAT	**Matsushiro**	**56.88**	**333**	P	**P**	**09 15 32.5**	**-2.6**
MAT	**Matsushiro**	**56.88**	**333**	*e*P	**P**	**09 15 33.0**	**-2.1**
	9.2nm,0.9s,mb4.8						
VNDA	**Vanda**	**63.65**	**181**	P	**P**	**09 16 20.2**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=2.7,slow=7.0,SNR=9.8						
VNDA	**Vanda**	**63.65**	**181**	*e*P	**P**	**09 16 19.9**	**-0.9**
	2.2nm,0.8s,mb4.2						
SBA	**Scott Base**	**63.94**	**180**	*e*P	**P**	**09 16 22.8**	**+0.2**
	7.5nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	**67.25**	**332**	P	**P**	**09 16 44.1**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,204nm,5.4s						
MDJ	**Mudanjiang**	**67.25**	**332**	*e*P	**P**	**09 16 43.8**	**-0.4**
	comp=Z,21nm,1.1s,mb5.1						
CN2	**Changchun**	**68.60**	**329**	*e*P	**P**	**09 16 52.0**	**-0.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
ENH	**Enshi**	**70.32**	**310**	P	**P**	**09 17 03.1**	**-0.4**
	comp=Z,17nm,1.1s,mb4.9						
BJT	**Baijiatuau**	**71.20**	**321**	P	**P**	**09 17 07.7**	**-1.0**
	comp=Z,9.1nm,0.7s,mb4.8						
BJI	**Beijing**	**71.21**	**321**	P	**P**	**09 17 08.8**	**+0.1**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
BJI	**Beijing**	**71.21**	**321**	P	**P**	**09 17 08.8**	**+0.1**
	comp=Z,11nm,1.3s,mb4.6						
KMI	**Kunming**	**73.30**	**302**	*e*P	**P**	**09 17 23.5**	**+2.1**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,95nm,6.5s						
CMAR	**Chiang Mai Arr**	**73.99**	**294**	P	**P**	**09 17 27.0**	**+1.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=116,slow=5.1,SNR=5.1						
CMAR				pP	pP	09 17 34.1	-1.8
	comp=Z,3.7nm,0.9s,baz=121,slow=5.0,SNR=7.0						
CMAR				sP	sP	09 17 38.8	-0.8
	comp=Z,5.1nm,0.9s,baz=123,slow=4.3,SNR=8.0						
HIA	**Hailar**	**75.25**	**330**	*e*P	**P**	**09 17 31.6**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**76.10**	**180**	*e*P	**P**	**09 17 36.5**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.7						
LZH	**Lanzhou**	**77.27**	**312**	*e*P	**P**	**09 17 45.0**	**+1.0**
LZH				AP	pP	09 17 54.0	-0.3
LZH				XP	sP	09 17 58.0	0.0
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH	**Lanzhou**	**77.27**	**312**	*e*P	**P**	**09 17 45.0**	**+1.0**
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	09 17 54.0	-0.3
LZH				sP	sP	09 17 58.0	0.0
SONM	**Songino Array**	**81.44**	**324**	P	**P**	**09 18 06.6**	**+0.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=134,slow=4.9,SNR=20						
GTA	**Gaotai**	**81.61**	**314**	*e*P	**P**	**09 18 08.8**	**+1.5**
GTA				AP	pP	09 18 17.8	+0.1
GTA				XP	sP	09 18 21.1	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
MAW	**Mawson**	**82.37**	**202**	P	**P**	**09 18 11.9**	**+1.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=188,slow=3.1,SNR=4.1						
MAW	**Mawson**	**82.37**	**202**	*e*P	**P**	**09 18 11.3**	**+0.6**
	comp=Z,3.4nm,0.7s,mb4.4						
PMR	**Palmer**	**82.98**	**20**	*e*P	**P**	**09 18 13.7**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.2						
COLA	**College**	**85.76**	**18**	P	**P**	**09 18 28.0**	**+0.3**
	comp=Z,5.5nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**09 18 28.9**	**+0.2**
	comp=Z,3.8nm,0.5s,mb4.9,baz=240,slow=4.6,SNR=54						
NVAR	**Mina Array Bea**	**87.27**	**49**	P	**P**	**09 18 35.1**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.7,baz=232,slow=10,SNR=2.3						
SYO	**Syowa Base**	**89.28**	**197**	⇓P	**P**	**09 18 44.1**	**-0.5**
SYO	**Syowa Base**	**89.28**	**197**	⇓PcP	PcP	09 18 46.7	+0.4
SNAA	**Sanae**	**94.31**	**183**	*e*P	**P**	**09 19 07.1**	**-0.7**
	comp=Z,7.5nm,1.2s,mb5.0						
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**09 19 17.0**	**+0.4**
	comp=Z,4.6nm,0.8s,mb5.0,baz=92,slow=6.1,SNR=21						
KURK	**Kurchatov**	**99.34**	**320**	*e*P	**P**	**09 19 32.2**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**119.30**	**345**	PKP	PKPdf	09 24 36.2	-0.3
	comp=Z,1.3nm,0.4s,baz=67,slow=1.6,SNR=20						
ARCES	**ARCESS Array B**	**119.30**	**345**	PKP	PKPdf	09 24 36.2	-0.3
FINES	**FINESS Array B**	**124.72**	**338**	PKP	PKPdf	09 24 47.1	0.0
	comp=Z,1.1nm,0.7s,baz=135,slow=5.4,SNR=5.3						
NOA	**NORSAR Array B**	**129.67**	**345**	PKP	PKPdf	09 24 57.2	+0.6
	comp=Z,0.8nm,0.8s,baz=34,slow=1.6,SNR=3.6						
GERES	**GERESS Array B**	**138.62**	**333**	PKP	PKPdf	09 25 14.7	+1.1
	comp=Z,0.3nm,0.5s,baz=45,slow=1.9,SNR=3.7						
DAVOX	**Davos**	**141.86**	**334**	PKhKP		09 25 17.3	
	comp=Z,1.4nm,0.3s,baz=112,slow=18,SNR=2.7						
TIP	**Timpagrande**	**143.39**	**319**	*e*PKPdf	PKPdf	09 25 20.3	-2.0
BNI	**Bardonecchia**	**144.58**	**335**	*e*PKPdf	PKPdf	09 25 23.9	-0.3

WAR ***18*** *09:45:32.6, 50.23N×19.08E, ML2.4, Mining Induced*

PRU ***18*** *09:45:33.2, 50.23N×19.04E*

ISC 18 09:45:31.1±0.6**, 50.16N**±0.05×**18.93E**±0.04**, n8,** σ**1^{s}04**/16**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.56**	**84**	*e*PG	**Pg**	**09 45 42.0**	**-0.3**
OJC				*e*SG	**Sg**	**09 45 49.0**	**-0.8**
OKC	**Ostrava-Krasne**	**0.60**	**238**	*e*PG	**Pn**	**09 45 47.2**	**+0.8**
OKC				*e*SG	**Sn**	**09 45 57.2**	**+0.2**
NIE	**Niedzica**	**1.16**	**129**	*e*PG	**Pg**	**09 45 55.0**	**+0.7**
NIE				*e*SG	**Sg**	**09 46 11.0**	**+1.2**
VYHS	**Vyhne**	**1.67**	**182**	*e*PG	**Pg**	**09 46 04.0**	**-0.4**
VYHS				*e*SG	**Sg**	**09 46 26.6**	**0.0**
DPC	**Dobruska-Polom**	**1.68**	**277**	*e*PG	**Pg**	**09 46 03.7**	**-1.0**
DPC				*e*SG	**Sg**	**09 46 29.6**	**+2.5**
KSP	**Ksiaz**	**1.82**	**293**	*e*PG	**Pg**	**09 46 07.0**	**-0.3**
KSP				*e*SG	**Sg**	**09 46 33.0**	**+1.5**
PRU	**Pruhonice**	**2.83**	**268**	*e*PG	**Pg**	**09 46 25.9**	**-1.7**
PRU				*e*SG	**Sg**	**09 47 05.5**	**+0.2**
KHC	**Kasperske Hory**	**3.63**	**256**	*e*PG	**Pg**	**09 46 43.3**	**-0.2**
KHC				*e*SG	**Sg**	**09 47 29.8**	**-2.0**

IDC ***18*** *10:22:01.4±3.7, 6.69S×129.61E, h157^{km}±35^{km}, mb3.8/7, mb1 3.9/10, mb1mx3.9/14, Error ellipse: s-maj=25.4km* *s-min=14.5km az=62.0*

*NEIC **18** 10:22:02.2±1.4,6.63S×129.70E,h165^{km}±13^{km},mb4.2/8, Error ellipse: s-maj=12.6km s-min=9.3km az=56.0*

ISC 18 10:21:58.3±1.8,**6.69S**±0.06×**129.57E**±0.09,**h147**^{km}±18^{km}, **n31**,σ**1^{s}13**/36,**mb4.3**/13,**1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.59	155	⇑*i*P	P	10 23 35.9	+2.2
	17nm,0.2s						
KAKA				*e*S	S	10 24 46.6	-1.3
FITZ	Fitzroy Crossi	11.97	198	*e*P	P	10 24 49.5	+4.4
	2.9nm,0.3s						
FITZ				*e*S	S	10 26 55.3	-0.7
FITZ	Fitzroy Crossi	11.97	198	P	P	10 24 47.8	+2.7
	1.1nm,0.3s,baz=13,slow=12,SNR=27						
FITZ				S	S	10 26 55.4	-0.5
	1.5nm,0.3s,baz=181,slow=22,SNR=5.6						
WRAB	Tennant Creek	13.95	161	*e*P	P	10 25 09.2	-1.5
	5.9nm,0.6s						
WRA	Warramunga Arr	13.96	161	P	P	10 25 09.6	-1.2
	0.8nm,0.3s,baz=344,slow=12,SNR=31						
WRA				S	S	10 27 38.5	-3.9
	2.4nm,0.3s,baz=331,slow=24,SNR=9.5						
WB2	Warramunga Arr	13.96	161	*e*P	P	10 25 09.6	-1.2
WB2				*i*		10 25 16.1	
WB2				*e*S	S	10 27 38.7	-3.7
ASAR	Alice Springs	17.38	167	P	P	10 25 54.6	+1.4
	3.2nm,0.3s,baz=348,slow=10,SNR=154						
ASAR				S	S	10 28 59.2	-0.6
	0.6nm,0.3s,baz=353,slow=26,SNR=5.0						
ASPA	Alice Springs	17.38	167	*e*P	P	10 25 54.7	+1.4
ASPA				*e*S	S	10 29 05.1	+5.3
PMG	Port Moresby	17.62	100	P	P	10 25 56.2	+0.1
CTA	Charters Tower	20.96	131	*e*P	P	10 26 31.8	+0.8
	5.3nm,0.7s						
CTA	Charters Tower	20.96	131	P	P	10 26 31.8	+0.8
	4.4nm,0.4s,baz=304,slow=11,SNR=10						
CTAO	Charters Tower	20.96	131	*e*P	P	10 26 31.2	+0.2
	8.9nm,0.8s						
FORT	Forrest	24.00	183	*e*P	P	10 27 02.5	+1.9
	33nm,1.1s,mb4.8						
STKA	Stephens Creek	27.45	157	*e*P	P	10 27 32.3	-0.3
	3.0nm,0.3s,mb4.4						
STKA	Stephens Creek	27.45	157	P	P	10 27 32.5	-0.1
	4.5nm,0.4s,mb4.4,baz=338,slow=8.0,SNR=29						
STKA	Stephens Creek	27.45	157	*e*P	P	10 27 32.0	-0.6
NWAO	Narrogin (SRO)	28.51	202	P	P	10 27 43.0	+1.0
	5.6nm,0.9s,mb4.3,baz=287,slow=19,SNR=2.9						
TOO	Toolangi	33.98	157	*e*P	P	10 28 31.4	+1.7
	1.8nm,0.8s,mb3.9						
CMAR	Chiang Mai Arr	39.21	310	P	P	10 29 15.2	+1.4
	0.9nm,0.6s,mb3.6,baz=127,slow=6.8,SNR=4.4						
PKI	Pulchoki	54.60	311	*e*P	P	10 31 13.6	-0.4
	9.3nm,0.6s,mb4.7						
KKN	Kakani	54.82	311	*e*P	P	10 31 14.9	-0.6
	7.6nm,0.5s,mb4.7						
DMN	Daman	54.85	311	*e*P	P	10 31 14.5	-1.3
GKN	Gorkha	55.41	311	*e*P	P	10 31 19.5	-0.3
	8.2nm,0.3s,mb4.9						
KOLN	Koldanda	56.08	310	*e*P	P	10 31 23.9	-0.7
	21nm,1.0s,mb4.9						
SONM	Songino Array	58.02	342	P	P	10 31 37.5	-0.4
	0.4nm,0.4s,mb3.6,baz=163,slow=7.0,SNR=5.8						
MKAR	Makanchi Array	67.74	327	P	P	10 32 42.0	-0.1
	8.1nm,0.5s,mb4.8,baz=120,slow=8.2,SNR=30						
MKAR	Makanchi Array	67.74	327	P	P	10 32 42.0	-0.1
KURK	Kurchatov	72.04	329	*e*P	P	10 33 07.5	-0.4
	1.8nm,0.7s,mb3.9						
VNDA	Vanda	72.80	173	P	P	10 33 12.0	0.0
	1.1nm,0.7s,mb3.7,baz=311,slow=8.4,SNR=7.3						
CPUP	Villa Florida	146.50	169	PKPbc	PKPbc	10 41 24.3	+1.7
	1.9nm,0.9s,baz=234,slow=11,SNR=3.3						
LPAZ	La Paz	151.22	143	PKPbc	PKPdf	10 41 37.5	+8.7
	0.4nm,0.3s,baz=341,slow=9.2,SNR=3.9						

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*NEIC **18** 10:42:34.5±2.9,22.33S×171.60E,h107^{km}±24^{km},mb4.3/4, Error ellipse: s-maj=25.3km s-min=22.4km az=201.0*

*IDC **18** 10:42:51.0±21.0,22.37S×171.23E,h260^{km}±216^{km}, mb3.4/6,mb1 3.6/6,mb1mx3.4/15,Error ellipse: s-maj=115.0km s-min=57.0km az=177.0*

ISC 18 10:42:36.6±2.5,**22.4S**±0.2×**171.2E**±0.2,**h140**^{km}±22^{km}, **n16**,σ**0^{s}80**/19,**mb3.9**/10,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.46	273	*e*P	P	10 43 44.2	+0.6
DZM				*e*S	S	10 44 35.1	0.0
DZM	Mont Dzumac	4.46	273	*e*P	P	10 43 44.2	+0.6
DZM				*e*S	S	10 44 35.1	0.0
NOUC	Port Laguerre	4.59	273	*e*P	P	10 43 45.6	+0.3
NOUC				*e*S	S	10 44 37.2	-0.9
CTA	Charters Tower	23.40	271	P	P	10 47 38.5	+4.7
	0.8nm,0.3s,mb3.6,baz=99,slow=9.4,SNR=4.6						
CTA	Charters Tower	23.40	271	P	P	10 47 38.5	+4.7
CTAO	Charters Tower	23.40	271	P	P	10 47 37.9	+4.1
ASAR	Alice Springs	34.33	260	P	P	10 49 13.4	+1.6
	2.9nm,0.9s,mb4.0,baz=84,slow=8.8,SNR=22						
WRAB	Tennant Creek	34.44	267	P	P	10 49 11.7	-1.1
	2.9nm,0.9s,mb4.0						
WRA	Warramunga Arr	34.45	267	P	P	10 49 13.3	+0.4
	0.6nm,0.3s,mb3.8,baz=99,slow=8.5,SNR=48						
SBA	Scott Base	55.57	181	*e*P	P	10 52 00.1	+0.7
	3.1nm,0.9s,mb4.1						
QSPA	South Pole Qui	67.69	180	*e*P	P	10 53 19.6	-0.7
	4.0nm,1.1s,mb4.1						
PMSA	Palmer Station	83.33	159	P	P	10 54 47.9	-0.7
	6.4nm,1.2s,mb4.2						
YBH	Yreka Blue Hor	88.27	43	P	P	10 55 13.9	+0.6
	1.2nm,0.8s,mb3.8,baz=43,slow=5.3,SNR=4.1						
NVAR	Mina Array Bea	89.49	48	P	P	10 55 18.2	-0.9
	0.8nm,0.7s,mb3.8,baz=215,slow=6.6,SNR=8.0						
NVAR	Mina Array Bea	89.49	48	P	P	10 55 18.2	-0.9
SONM	Songino Array	90.84	322	P	P	10 55 25.5	+0.2
	0.9nm,1.0s,mb3.8,baz=117,slow=6.4,SNR=4.6						

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*NEIC **18** 10:49:19.1,27.74S×71.19W,h23^{km},ML3.5(GUC),After GUC.*

GUC 18 10:49:19.1±0.9,**27.74S**×**71.19W**,**h23**^{km}±9^{km},**MD4.1, ML3.5,2C-1D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	0.84	63	⇓*i*P	Pb	10 49 40.8	+6.0
CPCH				*i* S	Sb	10 49 52.4	+6.8
CPCH				AMP		10 49 57.8	
	comp=E,5µm,0.1s						
VACH	Vallenar	0.92	155	⇑*i*P	Pb	10 49 35.2	-1.0
VACH				*i* S	Sb	10 49 48.3	+0.3
VACH				AMP		10 49 49.8	
	comp=E,3µm,0.1s						
TLL	Tololo Astrono	2.44	172	*e*P	Pn	10 50 00.8	+2.3
TLL				*i* S	Sn	10 50 29.8	+1.9
TLL				AMP		10 50 46.6	
	comp=N,275nm,0.7s						
CPN1	Cerro Paranal	3.18	13	⇑*i*P	Pn	10 50 09.5	+0.6
CPN1				*i* S	Sn	10 50 46.0	-0.6
CPN1				AMP		10 50 48.2	
	comp=N,114nm,0.2s						
CMCH	Combarbala	3.43	177	*e*P	Pn	10 50 12.8	+0.4
LVC	Limon Verde	5.50	23	*e*P	Pn	10 50 42.9	+1.0
	comp=N,3.7nm,0.3s						
LPAZ	La Paz	11.74	15	*e*P	P	10 52 07.4	-1.1

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*NEIC **18** 10:51:16.9,62.21N×145.62W,h16^{km},ML3.7(PMR), ML3.6(AEIC),After AEIC.*

*IDC **18** 10:51:20.0±2.3,62.46N×145.60W,h20^{km}±15^{km},mb3.5/6, mb1 3.7/10,mb1mx3.6/24,ML3.0/4,MS2.6/1,Ms1 2.6/1, ms1mx2.0/27,Error ellipse: s-maj=20.4km s-min=11.5km az=46.0*

ISC 18 10:51:15.4±0.7,**62.22N**±0.02×**145.70W**±0.04,**h14**^{km}±5^{km}, **n73**,σ**0^{s}92**/89,**mb3.5**/6,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TZL	Tazlina	0.22	144	P	Pg	10 51 21.8	+1.3
SDG	Sourdough	0.32	13	P	Pg	10 51 22.6	+0.4
WACK	Wrangell Chich	0.69	109	P	Pb	10 51 28.6	0.0
WACK				S	Sb	10 51 37.8	+0.1
KLU	Klutina	0.74	188	P	Pb	10 51 29.5	0.0
PAX	Paxson	0.76	8	P	Pb	10 51 29.6	-0.3
PAX				S	Sb	10 51 39.5	-0.3
WANC	Wrangell North	0.80	105	P	Pb	10 51 30.8	+0.3
SCM	Sheep Creek Mo	0.86	244	P	Pb	10 51 31.6	0.0
DIV	Divide	1.09	182	P	Pb	10 51 34.5	-1.1
DIV				S	Sb	10 51 50.4	+0.9
VLZ	Valdez	1.13	196	P	Pb	10 51 35.0	-1.3
DHY	Denali Highway	1.16	319	P	Pb	10 51 36.2	-0.5
DHY				S	Sb	10 51 51.0	-0.4
GLB	Gilahina Butte	1.19	130	P	Pb	10 51 35.8	-1.4
THY	Trims Highway	1.20	359	P	Pb	10 51 37.3	-0.1
THY				S	Sb	10 51 53.1	+0.5
JPK	Jack Peak	1.25	201	P	Pb	10 51 36.8	-1.4
JPK				S	Sb	10 51 52.6	-1.3
SML	Sawmill	1.31	253	P	Pb	10 51 38.2	-1.1
SML				S	Sb	10 51 55.5	-0.3
BMRM	Bremner River	1.36	157	P	Pn	10 51 38.8	-1.3
BMRM				S	Sb	10 51 57.0	-0.2
CFI	College Fiord	1.43	224	P	Pn	10 51 40.2	-0.9
GLI	Glacier Island	1.50	207	P	Pn	10 51 41.0	-1.1
GLI				S	Sb	10 51 59.0	-2.3
FID	Port Fidalgo	1.52	195	P	Pn	10 51 42.2	-0.2
KNK	Knik Glacier	1.54	239	P	Pn	10 51 42.4	-0.2
KNK				S	Sb	10 52 01.5	-0.9
GHO	Glory Hole Cre	1.59	255	P	Pn	10 51 42.9	-0.4
GHO				S	Sn	10 52 03.3	-0.4
EYAK	Cordova Ski Ar	1.68	181	P	Pn	10 51 44.5	-0.1
CVA	Cordova	1.68	181	P	Pn	10 51 44.8	+0.1
SGAM	Sherman Glacie	1.74	172	P	Pn	10 51 45.5	0.0
PMR	Palmer	1.74	250	P	Pn	10 51 46.0	+0.5
PMR				S	Sn	10 52 08.6	+0.9
PWL	Port Wells	1.86	224	P	Pn	10 51 47.7	+0.5
PWL				S	Sn	10 52 12.2	+1.6
HIN	Hinchinbrook I	1.87	192	P	Pn	10 51 47.7	+0.3
CRQM	Cirque	1.91	139	P	Pn	10 51 47.8	-0.2
BALM	Baldy	1.99	125	P	Pn	10 51 49.4	+0.2
BCA3	Beaver Creek A	2.00	63	P	Pn	10 51 48.3	-0.8
TGL	Tana Glacier	2.01	136	P	Pn	10 51 49.4	-0.1
HMT	Hamilton	2.01	159	P	Pn	10 51 49.8	+0.4
PWA	Palmer West	2.06	256	P	Pn	10 51 50.9	+0.8
PMS	Palmer South	2.08	244	P	Pn	10 51 51.5	+1.1
CUT	Chulitna	2.14	277	P	Pn	10 51 51.6	+0.4
CUT				S	Sn	10 52 19.0	+1.2
GOU	Gould Hall	2.21	244	P	Pn	10 51 55.9	+3.6
RC01	Rabbit Creek A	2.24	241	P	Pn	10 51 53.9	+1.2
WAX	Waxell Ridge	2.24	141	P	Pn	10 51 52.5	-0.3
KAIM	Kayak Island	2.38	164	P	Pn	10 51 54.7	0.0
CTGM	Chitina Glacie	2.44	119	P	Pn	10 51 56.0	+0.5
TRF	Thorofare Moun	2.44	302	P	Pn	10 51 56.9	+1.3
SNH	Sunshine Point	2.47	145	P	Pn	10 51 56.3	+0.4
CCB	Clear Creek Bu	2.61	340	P	Pn	10 51 58.6	+0.6
ILAR	Eielson Array	2.62	349	Pn	Pn	10 51 57.0	-1.0
	1.0nm,0.3s,baz=173,slow=13,SNR=48						
ILAR				Pg	Pg	10 52 03.0	-4.7
	8.5nm,0.3s,baz=164,slow=17,SNR=184						
ILAR				Lg		10 52 36.1	
	40nm,0.3s,baz=163,slow=29,SNR=30						
IL1	Eielson Array	2.62	349	P	Pn	10 51 56.9	-1.1
YAH	Yahtse	2.67	133	P	Pn	10 51 59.3	+0.5
SLKM	Skilak Lake	2.77	234	*e*P	Pn	10 52 01.5	+1.2
COLA	College	2.83	341	P	Pn	10 52 01.5	+0.4
CHX	Chaix Hills	3.10	132	P	Pn	10 52 04.8	-0.1
SPU	Mount Spurr	3.20	254	P	Pn	10 52 07.6	+1.2
CKL	Chakachamna La	3.33	255	P	Pn	10 52 09.3	+1.2
BKG	Blockade Glaci	3.34	253	P	Pn	10 52 09.1	+0.8
DAWY	Dawson	3.41	54	P	Pn	10 52 08.5	-0.8
BRLK	Bradley Lake	3.53	228	P	Pn	10 52 11.2	+0.1
CNPM	China Poot	3.83	228	P	Pn	10 52 15.6	+0.4
RSO	Redoubt South	3.83	246	*e*P	Pn	10 52 16.2	+0.9
AGU	Augustine-Summ	4.75	236	P	Pn	10 52 28.4	0.0
TT01	Tatalina	4.83	283	P	Pn	10 52 29.0	-0.4
SVW	Sparrevohn	4.86	261	P	Pn	10 52 29.6	-0.4
IM3	Indian Mountai	5.17	320	P	Pn	10 52 33.8	-0.5
IMA	Indian Mountai	5.21	321	*e*P	Pn	10 52 34.9	+0.1
BM3	Burnt Mountain	5.24	5	P	Pn	10 52 34.0	-1.3
COLD	Coldfoot	5.38	341	P	Pn	10 52 36.6	-0.7
KDAK	Kodiak Island	5.63	221	P	Pn	10 52 39.6	-1.2
INK	Inuvik	7.95	35	Pn	Pn	10 53 10.2	-3.1
	0.4nm,0.3s,baz=234,slow=16,SNR=22						
INK				Sn	Sn	10 54 39.0	-4.9
	0.3nm,0.3s,baz=298,slow=27,SNR=2.5						
INK				Lg		10 55 25.0	
	0.4nm,0.3s,baz=108,slow=19,SNR=3.3						
INK				LR	LR	10 57 18.0	
	comp=Z,37nm,18.3s,baz=107,slow=46						
INK	Inuvik	7.95	35	*e*P	Pn	10 53 09.3	-4.0
DLBC	Dease Lake	8.64	109	Pn	P	10 53 26.9	+3.9
	0.1nm,0.3s,baz=161,slow=13,SNR=3.0						
DLBC				Lg		10 55 52.1	
	0.2nm,0.3s,baz=163,slow=15,SNR=4.2						
YKA	Yellowknife Ar	14.37	75	Pn	P	10 54 42.1	+2.1
	0.1nm,0.3s,baz=278,slow=13,SNR=3.2						
NEW	Newport	21.22	118	P	P	10 56 05.3	+2.6
	1.1nm,0.6s,mb3.4,baz=12,slow=9.3,SNR=2.9						
FX1	Attu Island--F	23.57	266	P	P	10 56 24.5	-1.3
	7.0nm,0.5s,mb4.4,baz=319,slow=6.3,SNR=12						
PDAR	Pinedale Array	28.80	116	P	P	10 57 17.7	+3.1
	0.9nm,1.0s,mb3.5,baz=315,slow=6.3,SNR=4.9						
NVAR	Mina Array Bea	29.12	132	P	P	10 57 21.4	+3.8
	0.9nm,0.8s,mb3.5,baz=328,slow=8.5,SNR=4.1						
TXAR	Lajitas Array	42.74	121	P	P	10 59 14.5	+1.0
	0.1nm,0.9s,mb2.5,baz=337,slow=6.9,SNR=2.2						
SONM	Songino Array	56.24	310	P	P	11 00 55.7	-1.2
	0.8nm,0.9s,mb3.8,baz=45,slow=4.1,SNR=4.2						

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*IDC **18** 11:10:11.1±1.4,8.88N×126.37E,mb3.6/5,mb1 3.7/5, mb1mx3.6/17,Error ellipse: s-maj=160.0km s-min=19.5km az=69.0*

*MAN **18** 11:10:15.3,9.25N×126.69E,h1^{km},mb4.6,ML3.5,MS3.4*

ISC 18 11:10:14.4±1.6,**9.19N**±0.07×**127.01E**±0.09,**h43**^{km}±17^{km}, **n13**,σ**1^{s}14**/17,**mb3.5**/5,**1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.39	261	*e*P	P	11 10 36.1	-1.7
BUTP				*e*S	S	11 10 53.8	-1.2
SCPH	Surigao	1.61	292	⇑*e*P	P	11 10 40.1	-0.8
SCPH				*e*S	S	11 10 58.9	-1.7
MSLP	Maasin	2.32	294	*e*P	P	11 10 51.8	+0.9
BUKP	Musuan	2.32	236	*e*P	P	11 10 52.0	+1.0
BUKP				*e*S	S	11 11 20.4	+2.0
CGP	Cagayan de Oro	2.40	253	*e*P	x	11 10 21.7	
CGP				*e*S	S	11 11 21.4	+1.0
PLP	Palo	2.80	315	*e*P	P	11 11 01.9	+4.0
BESP	Borongan	2.85	327	*e*P	P	11 11 00.2	+1.6
TBP	Tagbilaran	3.14	279	*e*P	P	11 11 02.7	0.0
TBP				*e*S	S	11 11 39.0	-0.4
WRA	Warramunga Arr	29.83	166	P	P	11 16 18.9	-1.1
	0.3nm,0.7s,mb3.1,baz=343,slow=8.2,SNR=5.1						
ASAR	Alice Springs	33.34	168	P	P	11 16 50.1	-0.6
	0.4nm,0.7s,mb3.4,baz=348,slow=7.0,SNR=5.7						
SONM	Songino Array	42.28	339	P	P	11 18 06.8	+1.4
	0.2nm,0.4s,mb3.1,baz=149,slow=8.4,SNR=2.2						
STKA	Stephens Creek	43.15	162	P	P	11 18 12.4	-0.4
	1.5nm,1.1s,mb3.6,baz=343,slow=11,SNR=2.2						
MKAR	Makanchi Array	53.33	323	P	P	11 19 31.3	-0.3
	2.5nm,1.0s,mb4.1,baz=125,slow=8.6,SNR=8.4						

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*NEIC **18** 11:17:20.2±0.7,33.26N×141.08E,h10^{km},mb4.3/1,Error ellipse: s-maj=28.3km s-min=9.9km az=68.0*

*JMA **18** 11:17:23.3±0.2,33.51N×141.09E,h52^{km},M3.5*

*IDC **18** 11:17:24.4±5.3,33.34N×141.12E,h43^{km}±45^{km},mb3.6/3, mb1 3.8/3,mb1mx3.3/20,MS3.7/2,Ms1 3.7/2,ms1mx3.0/27, Error ellipse: s-maj=41.3km s-min=29.0km az=67.0*

ISC 18 11:17:23.1±1.0,**33.47N**±0.05×**141.09E**±0.09,**h59**^{km}±10^{km}, **n23**,σ**0^{s}69**/29,**mb3.8**/4,**MS3.7**/2,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.12	252	P	P	11 17 43.3	+0.3
JHJ2				S	S	11 17 58.0	+0.2
JHJ	Hachijo jima 2	1.15	253	P	P	11 17 43.2	-0.1
	430nm,0.3s,baz=102,slow=5.7,SNR=193						
JHJ				S	S	11 17 57.9	-0.6
	540nm,0.3s,baz=87,slow=22,SNR=47						
BSO1	Boso 1	1.18	356	P	P	11 17 43.4	-0.4
BSO3	Boso 3	1.41	340	P	P	11 17 47.1	0.0
JMY	Miyake jima 2	1.44	295	P	P	11 17 47.5	0.0
BSO4	Boso 4	1.64	338	P	P	11 17 50.4	+0.2
NJJJ	Nii jima 2	1.77	302	P	P	11 17 52.0	0.0
JKO	Kozu shima	1.77	294	P	P	11 17 52.2	+0.1
JKO				S	S	11 18 14.3	+0.8
JIM2	Oshima 3	1.85	313	P	P	11 17 52.8	-0.4
JIZS	Izushimoda	2.22	305	P	P	11 17 58.5	+0.2
JIZS				S	S	11 18 24.4	-0.1
JOD2	Odawara 2	2.44	318	P	P	11 18 01.4	0.0
JOD2				S	S	11 18 29.0	-1.0
SHZ3	Shizuoka 3	2.87	305	P	P	11 18 08.4	+0.9
JYN	Shimob	2.92	315	P	P	11 18 08.9	+0.7
JRY	Ryogami san	3.11	325	P	P	11 18 10.9	-0.1
MAJO	Matsushiro	3.87	323	*e*P	P	11 18 22.3	+0.7
MAT	Matsushiro	3.87	323	P	P	11 18 21.1	-0.5
MAT				S	S	11 19 04.5	-1.7
MAT	Matsushiro	3.87	323	*e*P	P	11 18 22.0	+0.4
MAT				*e*S	S	11 19 05.0	-1.2
SONM	Songino Array	29.69	309	P	P	11 23 27.1	+1.7
	0.1nm,0.4s,mb2.9,baz=90,slow=7.2,SNR=2.8						
ILAR	Eielson Array	52.66	31	LR	LR	11 49 30.0	
	comp=Z,70nm,18.5s,MS3.7,baz=354,slow=36						
WRAB	Tennant Creek	53.49	188	*e*P	P	11 26 38.9	-1.1
	1.8nm,0.5s,mb4.3						
WRA	Warramunga Arr	53.50	188	P	P	11 26 39.3	-0.7
	1.4nm,0.3s,mb4.3,baz=5.5,slow=7.6,SNR=30						
ASAR	Alice Springs	57.23	188	P	P	11 27 06.8	-0.1
	0.5nm,0.5s,mb3.8,baz=14,slow=8.0,SNR=8.8						
ASAR				LR	LR	11 49 19.3	
	comp=Z,54nm,20.4s,MS3.6,baz=289,slow=34						
PV10	Paradox Valley	83.33	48	*e*P	P	11 29 48.6	+3.7

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*NEIC **18** 11:17:25.9±4.3,29.74S×179.12W,h248^{km}±36^{km},mb3.6/2, Error ellipse: s-maj=41.7km s-min=19.0km az=207.0*

*IDC **18** 11:17:31.1±6.6,30.20S×179.25W,h293^{km}±64^{km},mb3.5/3, mb1 3.7/5,mb1mx3.4/15,Error ellipse: s-maj=59.5km s-min=29.3km az=7.0*

ISC 18 11:17:35.9±1.5,**30.40S**±0.09×**179.7W**±0.2,**h329**^{km}±16^{km}, **n29**,σ**1^{s}19**/27,**mb3.4**/5,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.33	192	P	P	11 19 27.4	+4.9
MXZ				S	S	11 20 49.3	+3.0
PUZ	Puketiti	7.84	192	P	P	11 19 30.8	+2.2
PUZ				S	S	11 20 55.2	-2.0
MWZ	Matawai	8.24	195	P	P	11 19 32.8	-0.6
URZ	Urewera	8.27	198	P	P	11 19 32.4	-1.4
	14nm,0.3s,baz=264,slow=4.2,SNR=67						
URZ				S	S	11 21 08.7	+2.0
	7.9nm,0.3s,baz=270,slow=23,SNR=15						
URZ	Urewera	8.27	198	P	P	11 19 34.1	+0.3
BKZ	Black Stump Fm	9.29	199	P	P	11 19 45.3	-0.8
MRZ	Mangatainoka R	10.94	199	P	P	11 20 04.1	-2.0
MTW	Mount Morrison	11.42	199	P	P	11 20 11.8	-0.2
CAW	Cannon Point	11.50	200	P	P	11 20 12.4	-0.5
NNZ	Nelson	12.16	206	P	P	11 20 21.0	0.0
NNZ				S	S	11 22 32.2	+0.5
QRZ	Quartz Range	12.17	209	P	P	11 20 22.4	+1.3
KHZ	Kahutara	13.16	202	P	P	11 20 32.2	-0.9
LTZ	Lake Taylor	13.93	205	P	P	11 20 41.3	-0.8
MQZ	McQueen's Vall	14.61	202	S	S	11 23 22.9	-1.6
RPZ	Rata Peaks	15.19	206	P	P	11 20 57.9	+2.0
	0.3nm,0.3s,baz=264,slow=22,SNR=2.1						
RPZ				S	S	11 23 36.2	0.0
	0.8nm,0.3s,baz=30,slow=20,SNR=4.4						
STKA	Stephens Creek	33.04	257	P	P	11 23 44.0	+1.0
	1.2nm,0.4s,mb3.5,baz=101,slow=10,SNR=7.3						
STKA	Stephens Creek	33.04	257	*e*P	P	11 23 44.2	+1.2
ASAR	Alice Springs	41.64	268	P	P	11 24 54.4	0.0
	0.8nm,0.4s,mb3.2,baz=105,slow=7.3,SNR=13						
ASAR				PcP	PcP	11 26 44.0	-1.1
	0.2nm,0.6s,baz=100,slow=4.9,SNR=3.8						
WB2	Warramunga Arr	42.62	273	*e*P	P	11 25 01.8	-0.5
WRA	Warramunga Arr	42.62	273	P	P	11 25 02.0	-0.4
	3.4nm,0.6s,mb3.7,baz=111,slow=7.8,SNR=54						
FITZ	Fitzroy Crossi	50.88	271	*e*P	P	11 26 06.1	-0.1
	1.9nm,0.9s,mb3.3						
QSPA	South Pole Qui	59.71	180	*e*P	P	11 27 08.7	+0.7
	1.1nm,0.6s,mb3.5						
ARCES	ARCESS Array B	138.27	347	PKhKP		11 36 12.1	
	2.3nm,1.0s,baz=50,slow=1.7,SNR=6.4						
KAF	Kangasniemi	144.04	339	*e*p	PKPdf	11 36 26.7	-4.8
	1.1nm,0.4s						
FINES	FINESS Array B	144.62	339	PKP	PKPdf	11 36 30.5	-2.1
	5.2nm,0.5s,baz=85,slow=4.6,SNR=52						
NB2	NORSAR Subarra	148.51	350	PKP	PKPdf	11 36 41.1	+2.1
	0.7nm,0.4s,baz=15,slow=4.1						
NOA	NORSAR Array B	148.51	350	PKPbc	PKPdf	11 36 41.8	+2.8
	0.2nm,0.4s,baz=68,slow=3.0,SNR=5.0						
NOA				PKPab	PKPab	11 36 46.3	-3.6
	1.0nm,0.7s,baz=21,slow=2.6,SNR=5.8						
AKASG	Malin Array Be	150.39	321	PKPbc	PKPdf	11 36 47.0	+4.7
	1.8nm,0.6s,baz=46,slow=2.7,SNR=4.2						
BRTR	Keskin Array B	151.30	298	PKPbc	PKPdf	11 36 51.0	+7.0
	0.5nm,0.6s,baz=101,slow=6.3,SNR=1.5						

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*THE **18** 11:24:56.7,39.14N×21.72E,h7^{km},ML2.8*

*NEIC **18** 11:24:56.1,39.01N×21.71E,h26^{km},MD3.1(ATH), ML2.8(THE),After ATH.*

*ATH **18** 11:24:56.1,39.01N×21.71E,h26^{km}±1^{km},MD3.1/4*

ISC 18 11:24:55.5±0.7,**39.11N**±0.03×**21.70E**±0.04,**h11**^{km}±7^{km}, **n13**,σ**0^{s}85**/19,**1D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.21	156	⇓*i*PB	Pb	11 25 00.6	-0.2
EVR				*e*SB	Sb	11 25 04.8	+0.4
AGG	Agios Georgios	0.50	100	*e*Pg	Pg	11 25 05.6	-0.1
AGG				*e*Sg	Sg	11 25 14.2	+1.7
MEV	Metsovon	0.77	332	*e*Pg	Pg	11 25 09.9	-1.0
MEV				*e*Sg	Sg	11 25 21.5	+0.3
JAN	Janina	0.85	310	*e*PN	Pn	11 25 14.0	+0.8
LKD	Levkas	0.91	244	*e*Pg	Pg	11 25 14.9	+1.1
	comp=Z,6.9nm,0.1s						
RLS	Riolos of Patr	1.07	190	*e*PN	Pn	11 25 15.2	-1.1
LKR	Lokris	1.11	114	*e*PN	Pn	11 25 17.0	+0.1
LIT	Litokhoron	1.16	31	*e*Pg	Pg	11 25 17.6	-1.2
	comp=Z,11nm,0.2s						
LIT				*e*Sg	Sg	11 25 34.6	+0.4
XOR	Xorichti	1.19	77	*e*Pg	Pg	11 25 18.2	-1.0
XOR				*e*Sg	Sg	11 25 35.1	0.0
NEO	Neokhori	1.20	80	*e*PN	Pn	11 25 19.1	+0.9
VLS	Valsamata	1.27	223	*e*PN	Pn	11 25 19.1	-0.1
FNA	Florina	1.69	352	*e*Pb	Pb	11 25 25.6	-0.5
FNA				*e*Sb	Sb	11 25 48.2	+1.0
AOS	Alonnisos	1.70	87	*e*Pb	Pb	11 25 24.8	-1.4

WEL 18 11:29:29.3±0.3,**37.15S**×**176.63E**,**h267**^{km}±3^{km},**ML4.4**/6, **Error ellipse: s-maj=5.2km s-min=5.1km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.17	161	PN	P	11 30 06.7	-0.6
URZ				SN	S	11 30 37.0	0.0
MWZ	Matawai	1.38	149	PN	P	11 30 08.6	-0.1
MWZ				SN	S	11 30 38.9	-0.5
MXZ	Matakaoa Point	1.40	108	PN	P	11 30 08.7	-0.1
MXZ				SN	S	11 30 39.0	-0.6
PUZ	Puketiti	1.59	126	PN	P	11 30 10.0	-0.1
PUZ				SN	S	11 30 41.0	-1.0
BKZ	Black Stump Fm	2.02	183	PN	P	11 30 13.3	-0.2
BKZ				SN	S	11 30 47.7	-0.3
MGZ	Maungaku	2.04	205	PN	P	11 30 14.3	+0.5
KNZ	Kokohu	2.04	156	PN	P	11 30 14.0	+0.2
KAVZ	Karewarewa	2.09	201	PN	P	11 30 14.4	+0.1
WTVZ	West Tongariro	2.13	202	PN	P	11 30 14.7	+0.1
NGZ	Ngauruhoe	2.18	201	PN	P	11 30 15.1	0.0
WPVZ	Whakapapa	2.22	202	PN	P	11 30 15.7	+0.2
TUVZ	Tukino	2.25	200	PN	P	11 30 15.9	+0.1
FWVZ	Far West T-bar	2.27	202	PN	P	11 30 16.1	+0.2
WNVZ	Wahianoa	2.32	200	PN	P	11 30 16.3	-0.1
MOVZ	Moawhango	2.36	197	PN	P	11 30 16.2	-0.5
MOVZ				SN	S	11 30 52.8	-0.9
VRZ	Vera Road	2.46	216	PN	P	11 30 18.2	+0.4
WAZ	Wanganui	2.90	206	PN	P	11 30 21.2	-1.0
TSZ	Takapari Road	2.95	190	PN	P	11 30 21.8	-1.0
TSZ				SN	S	11 31 03.4	-0.9
MRZ	Mangatainoka R	3.60	193	PN	P	11 30 27.8	-2.0
MRZ				SN	S	11 31 14.6	-2.3
KIW	Kapiti Island	3.94	199	PN	P	11 30 31.4	-2.3
KIW				SN	S	11 31 21.3	-2.5
MTW	Mount Morrison	4.10	192	PN	P	11 30 32.8	-2.7

CAW	**Cannon Point**	**4.13**	**197**	PN	P	11 30 33.6	-2.3
MSWZ	**Moikau Station**	**4.39**	**194**	PN	P	11 30 36.0	-2.9
TUWZ	**Tuamarina**	**4.75**	**205**	PN	P	11 30 40.3	-2.9
TUWZ				SN	S	11 31 36.5	-4.4
NNZ	**Nelson**	**4.78**	**211**	PN	P	11 30 40.1	-3.4
NNZ				SN	S	11 31 37.8	-3.7
QRZ	**Quartz Range**	**4.87**	**220**	PN	P	11 30 41.0	-3.6
BSWZ	**Blackbirch Sta**	**5.03**	**204**	PN	P	11 30 43.8	-2.8
THZ	**Tophouse**	**5.43**	**211**	PN	P	11 30 48.4	-3.0
KHZ	**Kahutara**	**5.77**	**203**	PN	P	11 30 52.5	-3.0
LTZ	**Lake Taylor**	**6.55**	**209**	PN	P	11 31 01.1	-4.0
LTZ				SN	S	11 32 13.4	-6.8
CRLZ	**Canterbury Las**	**7.11**	**204**	SN	S	11 32 27.2	-5.7
MQZ	**McQueen's Vall**	**7.22**	**204**	PN	P	11 31 09.0	-4.5
MQZ				SN	S	11 32 27.6	-7.7

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*BJI **18** 11:30:54.2, 51.62N×179.18E, h24^{km}, mB4.9, mb4.9, Ms4.0, Msz3.7*

*MOS **18** 11:30:54.2±0.9, 51.26N×179.50E, h33^{km}, mb4.6/19, Error ellipse: s-maj=21.8km s-min=16.1km az=95.8*

*IDC **18** 11:30:55.6±0.6, 51.29N×179.56E, h30^{km}±3^{km}, mb4.1/20, mb1 4.3/20, mb1mx4.2/24, ML4.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/28, Error ellipse: s-maj=18.0km s-min=10.2km az=172.0*

*NEIC **18** 11:30:56.1±0.3, 51.23N×179.34E, mb4.4/24, ML4.7(AEIC), ML4.7(PMR), Error ellipse: s-maj=8.8km s-min=3.7km az=177.0*

ISC 18 11:30:55.0±0.3**, 51.27N**±0.07×**179.37E**±0.04**, h38^{km}, h38^{km}**±3.0^{km}**:pP-P, n132, σ0^{s}96**/136**, mb4.5**/53**, MS3.6**/9**, 3C, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**2.18**	**76**	P	**P**	**11 31 31.0**	**+1.4**
KIMD				S	**S**	**11 31 59.9**	**+4.4**
KIKV	**Kanaga Island**	**2.25**	**73**	P	**P**	**11 31 32.0**	**+1.5**
KIWB	**Kanaga Island**	**2.25**	**74**	P	**P**	**11 31 32.1**	**+1.6**
KIWB				S	**S**	**11 32 01.4**	**+4.0**
KINC	**Kanaga Island**	**2.28**	**72**	P	**P**	**11 31 32.5**	**+1.4**
KINC				S	**S**	**11 32 05.0**	**+6.7**
KIRH	**Kanaga Island**	**2.30**	**73**	P	**P**	**11 31 33.0**	**+1.8**
ADAG	**Mount Adagdak**	**2.61**	**73**	P	**P**	**11 31 37.7**	**+1.9**
ADAG				S	**S**	**11 32 12.3**	**+5.8**
GSSP	**Great Sitkin S**	**2.89**	**72**	P	**P**	**11 31 40.5**	**+0.7**
GSTD	**Great Sitkin T**	**2.90**	**73**	P	**P**	**11 31 40.7**	**+0.8**
GSTD				S	**S**	**11 32 20.1**	**+6.2**
GSMY	**Great Sitkin M**	**2.95**	**73**	P	**P**	**11 31 41.4**	**+0.7**
GSTR	**Great Sitkin T**	**2.96**	**72**	P	**P**	**11 31 42.3**	**+1.5**
GSIG	**Igitkin Island**	**3.02**	**74**	P	**P**	**11 31 42.6**	**+1.1**
GSIG				S	**S**	**11 32 22.7**	**+5.8**
SMY	**Shemya**	**3.57**	**296**	P	**P**	**11 31 52.2**	**+2.9**
SMY				S	**S**	**11 32 38.7**	**+7.9**
ATKA	**Atka Island**	**4.11**	**74**	P	**P**	**11 31 57.4**	**+0.4**
FX1	**Attu Island--F**	**4.15**	**295**	Pn	**P**	**11 31 57.4**	**-0.2**
	55nm,0.3s,baz=206,slow=3.7,SNR=131						
FX1				Sn	**S**	**11 32 55.1**	**+9.5**
	32nm,0.3s,baz=88,slow=23,SNR=11						
FX1	**Attu Island--F**	**4.15**	**295**	P	**P**	**11 31 57.4**	**-0.2**
FX1						11 32 55.1	
FX1				pmax	pmax		
	comp=Z,55nm,0.3s						
FX1				smax			
	comp=N,33nm,0.3s						
FX1	**Attu Island--F**	**4.15**	**295**	*e*P	**P**	**11 31 58.0**	**+0.3**
FX1				*e*S	**S**	**11 32 55.5**	**+10**
NIKO	**Nikolski**	**7.45**	**72**	P	**P**	**11 32 43.5**	**-0.4**
SPIA	**Saint Paul Isl**	**8.48**	**42**	P	**P**	**11 33 00.3**	**+2.0**
UNV	**Unalaska Valle**	**8.99**	**68**	P	**P**	**11 33 04.7**	**-0.5**
KDAK	**Kodiak Island**	**17.45**	**57**	P	**P**	**11 34 56.0**	**-0.7**
	comp=N,2.7nm,0.6s						
RSO	**Redoubt South**	**18.02**	**49**	*e*P	**P**	**11 35 03.9**	**+0.1**
SPU	**Mount Spurr**	**18.57**	**47**	*e*P	**P**	**11 35 10.4**	**-0.3**
SLKM	**Skilak Lake**	**19.23**	**50**	*e*P	**P**	**11 35 19.1**	**+0.7**
GOU	**Gould Hall**	**19.62**	**48**	P	**P**	**11 35 17.0**	**-5.6**
PWA	**Palmer West**	**19.72**	**46**	*e*P	**P**	**11 35 23.5**	**-0.2**
	comp=N,6.1nm,0.5s						
PMR	**Palmer**	**20.04**	**47**	*e*P	**P**	**11 35 24.4**	**-2.8**
	comp=N,3.3nm,0.6s						
IMA	**Indian Mountai**	**20.15**	**32**	*e*P	**P**	**11 35 28.9**	**+0.6**
	comp=N,5.8nm,0.5s						
COLA	**College**	**21.71**	**39**	*e*P	**P**	**11 35 44.3**	**+0.1**
COLA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
COLA				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
COLA	**College**	**21.71**	**39**	*e*P	**P**	**11 35 44.3**	**+0.1**
	comp=Z,13nm,1.1s,mb4.3						
COLA				LR	LR		
	comp=Z,100nm,17.0s,MS3.3						
ILAR	**Eielson Array**	**22.05**	**39**	P	**P**	**11 35 46.5**	**-1.2**
	comp=Z,2.8nm,0.6s,mb3.9,baz=238,slow=9.4,SNR=34						
ILAR				PcP	PcP	11 39 43.3	-2.2
	comp=Z,0.7nm,0.6s,baz=288,slow=3.3,SNR=9.3						
ILAR				ScP		11 43 20.0	
	comp=Z,0.2nm,0.6s,baz=287,slow=3.7,SNR=5.9						
ILAR	**Eielson Array**	**22.05**	**39**	P	**P**	**11 35 46.5**	**-1.1**
ILAR						11 39 43.3	
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAWY	**Dawson**	**24.97**	**43**	*e*P	**P**	**11 36 14.7**	**-1.2**
ASAJ	**Asahikawa**	**25.55**	**268**	P	**P**	**11 36 23.8**	**+2.1**
	comp=Z,22nm,1.0s,mb4.7,baz=52,slow=3.5,SNR=8.9						
ASAJ	**Asahikawa**	**25.55**	**268**	P	**P**	**11 36 23.8**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,22nm,1.0s						
INK	**Inuvik**	**28.21**	**35**	P	**P**	**11 36 45.0**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.0,baz=261,slow=14,SNR=9.2						
INK				ScP		11 43 38.1	
	comp=Z,1.3nm,0.9s,baz=53,slow=25,SNR=3.1						
INK	**Inuvik**	**28.21**	**35**	P	**P**	**11 36 45.0**	**-0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK				pmax	pmax		
	comp=N,1.0nm,0.9s						
INK	**Inuvik**	**28.21**	**35**	*e*P	**P**	**11 36 44.7**	**-1.0**
	comp=N,6.1nm,1.0s,mb4.2						
YAK	**Yakutsk**	**28.63**	**311**	*e*P	**P**	**11 36 48.9**	**-0.6**
DLBC	**Dease Lake**	**29.38**	**56**	LR	LR	11 48 59.3	
	comp=N,93nm,20.4s,MS3.4,baz=292,slow=37						
MAJO	**Matsushiro**	**32.63**	**259**	*e*P	**P**	**11 37 25.3**	**+0.1**
MDJ	**Mudanjiang**	**33.45**	**278**	P	**P**	**11 37 30.4**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
MDJ				LR	LR		
	comp=N,17nm,23.0s,MS3.3						
MDJ				LR	LR		
	comp=E,56nm,20.8s,MS3.3						
MDJ				LR	LR		
	comp=Z,60nm,20.8s,MS3.3						
YKA	**Yellowknife Ar**	**36.14**	**46**	P	**P**	**11 37 53.9**	**-1.0**
	comp=Z,3.0nm,0.5s,mb4.5,baz=281,slow=7.6,SNR=32						
YKA				PcP	PcP	11 40 19.5	-0.9
	comp=Z,1.4nm,0.6s,baz=294,slow=3.3,SNR=7.2						
YKA	**Yellowknife Ar**	**36.14**	**46**	P	**P**	**11 37 53.9**	**-1.0**
YKA						11 40 19.5	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CN2	**Changchun**	**36.44**	**280**	*e*P	**P**	**11 37 57.9**	**+0.3**
GNW	**Green Mountain**	**36.95**	**72**	*e*P	**P**	**11 38 01.8**	**-0.2**
BOD	**Bodaibo**	**37.12**	**306**	*e*P	**P**	**11 38 01.9**	**-1.3**
BOD				*e*		11 39 57.5	
LON	**Longmire**	**37.95**	**73**	*e*P	**P**	**11 38 10.2**	**-0.1**
SSOR	**Sweet Springs**	**38.51**	**76**	*e*P	**P**	**11 38 15.4**	**+0.5**
HAWA	**Hanford**	**39.49**	**72**	*e*P	**P**	**11 38 23.3**	**+0.2**
	comp=Z,19nm,1.2s,mb4.7						
DPW	**Davenport**	**39.55**	**70**	*e*P	**P**	**11 38 22.6**	**-1.0**
NEW	**Newport**	**40.00**	**69**	*e*P	**P**	**11 38 26.6**	**-0.7**
	comp=Z,3.0nm,0.5s,mb4.3						
RES	**Resolute Bay**	**40.32**	**24**	P	**P**	**11 38 29.7**	**0.0**
MOD	**Modoc**	**41.42**	**79**	*e*P	**P**	**11 38 39.5**	**+0.3**
	comp=Z,2.3nm,0.8s,mb3.9						
WVOR	**Wild Horse Val**	**42.15**	**77**	*e*P	**P**	**11 38 44.8**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.0						
HRY	**Holter Researc**	**43.88**	**68**	*e*P	**P**	**11 38 58.0**	**-1.0**
HLID	**Hailey**	**44.08**	**73**	*e*P	**P**	**11 39 00.4**	**-0.3**
	comp=Z,9.0nm,1.2s,mb4.4						
MCMT	**McKenzie Canyo**	**44.30**	**71**	*e*P	**P**	**11 39 01.6**	**-0.8**
NVAR	**Mina Array Bea**	**44.71**	**81**	P	**P**	**11 39 05.6**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=300,slow=6.0,SNR=11						
NVAR				sP	sP	11 39 17.7	-3.8
	comp=Z,2.0nm,0.7s,baz=304,slow=6.7,SNR=7.8						
QLMT	**Earthquake Lak**	**45.14**	**70**	*e*P	**P**	**11 39 08.8**	**-0.4**
TPH	**Tonopah**	**45.59**	**81**	*e*P	**P**	**11 39 12.6**	**-0.3**
	comp=Z,5.7nm,1.1s,mb4.4						
SONM	**Songino Array**	**45.66**	**296**	P	**P**	**11 39 14.5**	**+1.1**
	comp=Z,3.7nm,0.6s,mb4.5,baz=62,slow=8.5,SNR=40						
SONM				PcP	PcP	11 40 51.8	+0.3
	comp=Z,2.4nm,1.2s,baz=85,slow=2.7,SNR=3.3						
ZAK	**Zakamensk**	**46.02**	**300**	⇑*i*P	**P**	**11 39 17.5**	**+1.4**
ZAK				*e*		11 40 52.9	
TPAW	**Teton Pass**	**46.19**	**71**	*e*P	**P**	**11 39 17.1**	**-0.4**
HHC	**Hu-ho-hao-te**	**46.61**	**285**	*e*P	**P**	**11 39 16.9**	**-4.0**
HHC				XP	sP	11 39 27.9	-8.7
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,101nm,4.5s						
HHC				LR	LR		
	comp=N,61nm,14.3s,MS3.8						
HHC				LR	LR		
	comp=E,58nm,15.5s,MS3.8						
HHC				LR	LR		
	comp=Z,48nm,22.6s						
DUG	**Dugway**	**47.01**	**76**	*e*P	**P**	**11 39 24.0**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.5						
BW06	**Boulder Array**	**47.44**	**71**	*e*P	**P**	**11 39 26.0**	**-1.3**
	comp=Z,17nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**47.44**	**71**	P	**P**	**11 39 26.9**	**-0.4**
	comp=Z,8.4nm,0.6s,mb4.8,baz=305,slow=3.7,SNR=100						
JLU	**Jordanelle**	**47.59**	**75**	*e*P	**P**	**11 39 28.3**	**-0.3**
NLU	**North Lily Min**	**47.61**	**76**	*e*P	**P**	**11 39 28.7**	**0.0**
NJ2	**Nanjing**	**47.66**	**271**	*e*P	**P**	**11 39 29.1**	**-0.2**
NJ2				AP	pP	11 39 41.5	+1.2
NJ2				XP	sP	11 39 46.8	+1.8
NJ2				PP	PP	11 41 20.5	+0.2
NJ2				S	**S**	**11 46 21.0**	**-0.4**
NJ2				XS		11 46 42.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
DAU	**Daniels Canyon**	**47.83**	**75**	*e*P	**P**	**11 39 30.5**	**0.0**
MSU	**Marysvale**	**48.44**	**77**	*e*P	**P**	**11 39 35.2**	**0.0**
SRU	**San Rafael**	**49.07**	**76**	*e*P	**P**	**11 39 39.7**	**-0.4**
KBS	**Kingsbay**	**49.85**	**357**	*e*P	**P**	**11 39 45.3**	**-0.3**
	comp=Z,8.6nm,0.8s,mb4.8						
PV10	**Paradox Valley**	**50.44**	**75**	*e*P	**P**	**11 39 50.2**	**-0.4**
ULM	**Lac du Bonnet**	**50.70**	**56**	P	**P**	**11 39 51.8**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.3,baz=301,slow=5.9,SNR=2.5						
WUAZ	**Wupatki**	**50.84**	**80**	*e*P	**P**	**11 39 53.2**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4						
PV01	**Paradox Valley**	**50.88**	**75**	*e*P	**P**	**11 39 53.1**	**-0.8**
SDCO	**Great Sand Dun**	**52.98**	**74**	*e*P	**P**	**11 40 09.0**	**-0.7**
	comp=Z,3.7nm,1.2s,mb4.2						
NVS	**Novosibirsk**	**53.43**	**314**	*i* P	**P**	**11 40 11.5**	**-1.3**
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
SUMG	**Summit**	**53.67**	**13**	*e*P	**P**	**11 40 14.0**	**-0.4**
	comp=Z,9.4nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**54.24**	**77**	P	**P**	**11 40 18.1**	**-0.9**
LZH	**Lanzhou**	**54.31**	**285**	*e*P	**P**	**11 40 20.5**	**+1.0**
LZH				AP	pP	11 40 30.0	-0.8
LZH				XP	sP	11 40 35.0	-0.3
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
LZH	**Lanzhou**	**54.31**	**285**	*e*P	**P**	**11 40 20.5**	**+1.0**
	comp=Z,15nm,1.4s,mb4.7						
LZH				pP	pP	11 40 30.0	-0.8
LZH				sP	sP	11 40 35.0	-0.3
GTA	**Gaotai**	**54.53**	**291**	*e*P	**P**	**11 40 22.1**	**+1.0**
GTA				AP	pP	11 40 25.4	-7.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4						
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**11 40 44.2**	**-1.3**
	comp=Z,2.8nm,0.7s,mb4.4,baz=22,slow=6.5,SNR=7.7						
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**11 40 44.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**11 40 44.2**	**-1.3**
KURK	**Kurchatov**	**58.26**	**313**	P	**P**	**11 40 47.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
KURK	**Kurchatov**	**58.26**	**313**	*e*P	**P**	**11 40 47.5**	**-0.1**
	comp=Z,24nm,0.8s,mb5.3						
WMQ	**Urumqi**	**58.43**	**302**	⇑P	**P**	**11 40 49.6**	**+0.8**
WMQ				AP	pP	11 41 00.0	-0.2
WMQ				PCP	PcP	11 41 39.6	+0.6
WMQ				S	**S**	**11 48 48.1**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
WMQ				LR	LR		
	comp=N,182nm,26.2s,MS4.2						
WMQ				LR	LR		
	comp=E,107nm,22.3s,MS4.2						
WMQ				LR	LR		
	comp=Z,60nm,22.0s,MS3.7						
WMOK	**Wichita Mounta**	**59.03**	**72**	*e*P	**P**	**11 40 52.0**	**-1.2**
	comp=Z,7.5nm,1.2s,mb4.6						
WMOK				*e*pP	pP	11 41 02.6	-1.8
MKAR	**Makanchi Array**	**59.19**	**307**	P	**P**	**11 40 53.7**	**-0.5**
	comp=Z,6.5nm,0.4s,mb5.0,baz=51,slow=6.0,SNR=103						
MKAR				LR	LR	12 06 52.2	
	comp=Z,69nm,19.9s,MS3.8,baz=21,slow=36						
MKAR	**Makanchi Array**	**59.19**	**307**	*i* P	**P**	**11 40 53.5**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**59.19**	**307**	P	**P**	**11 40 53.7**	**-0.5**
MKAR				LR	LR	12 06 52.2	
TXAR	**Lajitas Array**	**59.81**	**80**	P	**P**	**11 40 57.3**	**-1.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=302,slow=5.0,SNR=10.0						
TXAR				sP	sP	11 41 09.6	-4.9
	comp=Z,1.5nm,0.8s,baz=303,slow=5.7,SNR=7.2						
VOSK	**Vostochnaya**	**60.20**	**318**	P	**P**	**11 41 01.1**	**+0.2**
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SCHQ	**Schefferville**	**60.80**	**37**	P	**P**	**11 41 03.5**	**-1.5**
	comp=Z,5.0nm,1.1s,mb4.6,baz=22,slow=12,SNR=5.1						
ZRNK	**Zerenda**	**60.84**	**319**	P	**P**	**11 41 05.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**60.84**	**319**	*e*P	**P**	**11 41 05.5**	**+0.1**
	comp=Z,14nm,0.6s,mb5.3						
SADO	**Sadowa**	**62.81**	**52**	LR	LR	12 06 34.4	
	comp=Z,62nm,19.3s,MS3.8,baz=95,slow=34						
BORG	**Borgarnes**	**63.21**	**10**	LR	LR	12 11 10.1	
	comp=Z,46nm,18.7s,MS3.7,baz=187,slow=38						
KAF	**Kangasniemi**	**64.95**	**346**	*e*p	**P**	**11 41 30.2**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**64.95**	**346**	*e*P	**P**	**11 41 30.2**	**-2.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**65.63**	**346**	P	**P**	**11 41 35.1**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=37,slow=9.5,SNR=5.8						
FINES				LR	LR	12 15 15.3	
	comp=Z,27nm,19.1s,MS3.5,baz=355,slow=40						
FINES	**FINESS Array B**	**65.63**	**346**	P	**P**	**11 41 35.2**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,27nm,19.1s						
AB31	**Akbulak array**	**67.32**	**322**	P	**P**	**11 41 48.4**	**+0.9**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KKAR	**Karatay Array**	**67.60**	**311**	P	**P**	**11 41 49.9**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KSH	**Kashi**	**67.64**	**306**	*e*P	**P**	**11 41 49.0**	**-0.6**
KSH				*e*AP	pP	11 42 04.0	+2.8
KSH				*e*PCP	PcP	11 42 18.3	+1.8
KSH				*e*PP	PP	11 44 20.0	-0.8
KSH				*e*PPP	PPP	11 45 58.1	+0.2
KSH				*e*SCP		11 46 18.1	
KSH				*e*PCS		11 46 21.0	
KSH				*e*S	S	11 50 40.0	-2.5
KSH				*e*XS		11 51 02.0	
KSH				*e*PS	PS	11 51 10.1	-1.4
KSH				*e*SCS	ScS	11 51 40.0	-1.2
KSH				*e*SS	SS	11 55 01.3	-3.9
NB2	**NORSAR Subarra**	**67.64**	**354**	P	**P**	**11 41 48.7**	**-0.6**
	comp=Z,11nm,0.8s,mb4.9,baz=7.0,slow=6.2						
NOA	**NORSAR Array B**	**67.64**	**354**	P	**P**	**11 41 48.9**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.8,baz=8.2,slow=6.4,SNR=34						
NOA	**NORSAR Array B**	**67.64**	**354**	P	**P**	**11 41 48.9**	**-0.4**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.88**	**275**	P	**P**	**11 42 03.8**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=28,slow=7.4,SNR=10						
CMAR	**Chiang Mai Arr**	**69.88**	**275**	P	**P**	**11 42 03.8**	**0.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKN	**Kakani**	**71.27**	**291**	*e*P	**P**	**11 42 13.3**	**+1.2**
	comp=Z,21nm,0.5s,mb5.3						
PKI	**Pulchoki**	**71.36**	**291**	*e*P	**P**	**11 42 13.9**	**+1.3**
	comp=Z,29nm,0.8s,mb5.3						
GKN	**Gorkha**	**71.48**	**292**	*e*P	**P**	**11 42 14.5**	**+1.1**
	comp=Z,64nm,1.1s,mb5.5						
DMN	**Daman**	**71.50**	**291**	*e*P	**P**	**11 42 15.0**	**+1.5**
	comp=Z,29nm,1.1s,mb5.1						
KOLN	**Koldanda**	**72.26**	**292**	*e*P	**P**	**11 42 18.9**	**+0.9**
	comp=Z,32nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**75.29**	**341**	P	**P**	**11 42 34.7**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.1,baz=22,slow=5.7,SNR=9.0						
AKASG	**Malin Array Be**	**75.29**	**341**	P	**P**	**11 42 34.7**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**79.51**	**350**	P	**P**	**11 42 58.6**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=45,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**81.15**	**222**	P	**P**	**11 43 06.7**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=30,slow=6.0,SNR=7.3						
WRA				pP	pP	11 43 18.0	-1.7
	comp=Z,1.1nm,0.7s,baz=30,slow=5.8,SNR=6.3						
WRA	**Warramunga Arr**	**81.15**	**222**	P	**P**	**11 43 06.7**	**-1.3**
WRA				*PP	pP	11 43 18.0	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
KBA	**Koelnbreinsper**	**81.30**	**350**	⇑*i*P	**P**	**11 43 09.5**	**+1.3**
	comp=N,17nm,1.8s,mb4.7						
BRTR	**Keskin Array B**	**84.56**	**334**	P	**P**	**11 43 25.6**	**+0.6**
	comp=N,2.3nm,0.7s,mb4.4,baz=75,slow=2.6,SNR=9.3						
BRTR	**Keskin Array B**	**84.56**	**334**	P	**P**	**11 43 25.6**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**84.64**	**221**	P	**P**	**11 43 26.1**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=27,slow=3.7,SNR=5.1						
ASAR				pP	pP	11 43 37.6	+0.1
	comp=Z,0.7nm,0.8s,baz=12,slow=4.3,SNR=4.4						
DBIC	**Dimbokro**	**122.18**	**5**	PKP	PKPdf	11 49 47.1	+1.1
	comp=Z,3.1nm,1.0s,baz=284,slow=4.2,SNR=3.3						
DBIC	**Dimbokro**	**122.18**	**5**	PKIKP	PKPdf	11 49 47.1	+1.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAW	**Mawson**	**145.69**	**217**	PKPbc	PKPbc	11 50 30.2	+1.7
	comp=Z,0.8nm,0.6s,baz=62,slow=6.8,SNR=3.9						
MAW	**Mawson**	**145.69**	**217**	PKP2	PKPab	11 50 30.2	-0.4
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*NEIC **18** 12:18:29.4±2.1, 51.22N×179.54E, h39^{km}±16^{km}, mb3.9/1, Error ellipse: s-maj=33.1km s-min=11.5km az=178.0*

*IDC **18** 12:18:30.3±4.7, 51.29N×179.50E, h45^{km}±36^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.6/24, ML3.7/1, Error ellipse: s-maj=57.7km s-min=19.4km az=175.0*

ISC 18 12:18:28.4±2.9**, 51.3N**±0.3×**179.5E**±0.2**, h49^{km}**±22^{km}**, n15, σ0^{s}66**/14**, mb3.8**/9**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**3.64**	**296**	*e*P	**P**	**12 19 23.6**	**-0.2**
FX1	**Attu Island--F**	**4.22**	**295**	P	**P**	**12 19 32.1**	**+0.1**
	16nm,0.3s,baz=208,slow=3.5,SNR=59						
FX1				S	**S**	**12 20 26.6**	**+6.1**
	5.4nm,0.3s,baz=263,slow=21,SNR=6.1						
FX1	**Attu Island--F**	**4.22**	**295**	*e*P	**P**	**12 19 31.9**	**-0.1**
ILAR	**Eielson Array**	**22.03**	**39**	P	**P**	**12 23 21.0**	**+1.2**
	0.4nm,0.6s,mb3.0,baz=234,slow=8.2,SNR=7.8						
INK	**Inuvik**	**28.19**	**35**	P	**P**	**12 24 17.6**	**-0.3**
	0.7nm,0.7s,mb3.4,baz=270,slow=10,SNR=4.7						
YKA	**Yellowknife Ar**	**36.11**	**46**	P	**P**	**12 25 26.2**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=281,slow=8.8,SNR=7.5						
HLID	**Hailey**	**44.02**	**73**	P	**P**	**12 26 32.8**	**+0.3**
SONM	**Songino Array**	**45.73**	**296**	P	**P**	**12 26 47.4**	**+1.2**
	0.3nm,0.3s,mb3.7,baz=63,slow=9.7,SNR=2.9						
BW06	**Boulder Array**	**47.38**	**71**	*e*P	**P**	**12 26 59.0**	**-0.2**
	0.8nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**47.38**	**71**	P	**P**	**12 26 59.3**	**0.0**
	1.2nm,0.7s,mb4.0,baz=313,slow=3.7,SNR=14						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**12 28 18.4**	**+0.4**
	1.3nm,0.8s,mb4.0,baz=40,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**59.26**	**308**	P	**P**	**12 28 25.8**	**-1.0**
	1.1nm,0.3s,mb4.3,baz=47,slow=6.1,SNR=15						
NOA	**NORSAR Array B**	**67.67**	**354**	P	**P**	**12 29 21.1**	**-0.6**
	1.0nm,0.7s,mb4.0,baz=7.7,slow=6.2,SNR=3.7						
DBIC	**Dimbokro**	**122.20**	**5**	PKP	PKPdf	12 37 21.2	+3.2
	3.1nm,1.1s,baz=234,slow=6.7,SNR=2.1						
DBIC	**Dimbokro**	**122.20**	**5**	PKP	PKPdf	12 37 21.2	+3.2

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*IDC **18** 12:32:11.7±0.8, 22.65N×143.60E, mb3.7/8, mb1 3.9/8, mb1mx3.8/21, MS3.6/2, Ms1 3.6/2, ms1mx2.8/25, Error ellipse: s-maj=36.4km s-min=18.1km az=96.0*

*NEIC **18** 12:32:13.3±0.5, 22.65N×143.63E, h10^{km}, mb4.0/2, Error ellipse: s-maj=21.7km s-min=10.4km az=94.0*

ISC 18 12:32:11.3±0.7**, 22.7N**±0.1×**143.6E**±0.2**, h10^{km}, n15, σ0^{s}59**/12**, mb3.7**/9**, MS3.8**/1**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**10.96**	**343**	LR	LR	12 38 51.8	
	comp=Z,219nm,18.8s,baz=286,slow=36						
SONM	**Songino Array**	**38.88**	**319**	P	**P**	**12 39 39.3**	**+0.8**
	0.2nm,0.6s,mb3.0,baz=108,slow=4.6,SNR=2.7						
WRAB	**Tennant Creek**	**43.29**	**193**	*e*P	**P**	**12 40 15.9**	**+0.8**
	2.1nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.30**	**193**	P	**P**	**12 40 15.2**	**0.0**
	0.5nm,0.3s,mb3.6,baz=9.0,slow=8.3,SNR=25						
ASAR	**Alice Springs**	**47.01**	**192**	P	**P**	**12 40 44.6**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=12,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**54.26**	**182**	P	**P**	**12 41 39.2**	**-0.6**
	0.7nm,0.4s,mb4.0,baz=350,slow=9.0,SNR=2.9						
STKA	**Stephens Creek**	**54.26**	**182**	P	**P**	**12 41 39.2**	**-0.6**
MKAR	**Makanchi Array**	**54.37**	**312**	P	**P**	**12 41 39.5**	**-0.9**
	0.4nm,0.7s,mb3.5,baz=100,slow=9.9,SNR=3.2						
ILAR	**Eielson Array**	**61.00**	**27**	P	**P**	**12 42 26.8**	**-0.1**
	0.7nm,1.0s,mb3.7,baz=264,slow=5.6,SNR=7.5						
INK	**Inuvik**	**66.53**	**24**	P	**P**	**12 43 02.7**	**-0.4**
	0.8nm,0.9s,mb3.8,baz=305,slow=12,SNR=2.4						
INK	**Inuvik**	**66.53**	**24**	P	**P**	**12 43 02.6**	**-0.4**
	0.7nm,0.8s,mb3.7						
YKA	**Yellowknife Ar**	**75.41**	**28**	P	**P**	**12 43 57.3**	**+0.6**
	0.4nm,0.4s,mb3.7,baz=293,slow=6.0,SNR=7.9						
YKA	**Yellowknife Ar**	**75.41**	**28**	P	**P**	**12 43 57.3**	**+0.6**
BRTR	**Keskin Array B**	**89.99**	**314**	LR	LR	13 28 00.1	
	comp=Z,33nm,18.6s,MS3.8,baz=130,slow=37						
PLCA	**Paso Flores**	**146.06**	**130**	PKPbc	PKPbc	12 51 54.0	+2.2
	0.6nm,0.7s,baz=265,slow=1.1,SNR=3.1						

IDC 18 12:44:20.7±8.9**, 14.87S**×**173.82W, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/15**, Error ellipse: s-maj=396.0km s-min=35.1km az=139.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.57**	**256**	P	P	12 53 13.4	-2.5
	0.3nm,0.7s,baz=93,slow=7.0,SNR=2.8						
ASAR	**Alice Springs**	**49.89**	**251**	P	P	12 53 16.8	-1.5
	0.7nm,0.6s,baz=86,slow=8.5,SNR=13						
ILAR	**Eielson Array**	**82.01**	**11**	P	P	12 56 42.3	-1.4
	0.2nm,0.6s,baz=226,slow=6.2,SNR=7.4						

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*IDC **18** 12:45:48.0±0.9, 5.30N×127.52E, mb3.9/7, mb1 4.1/7, mb1mx3.8/18, Error ellipse: s-maj=56.9km s-min=17.3km az=73.0*

*NEIC **18** 12:45:50.4±0.5, 5.31N×127.55E, h15^{km}, mb4.5/5, Error ellipse: s-maj=34.6km s-min=7.5km az=71.0*

*MAN **18** 12:46:19.2, 6.31N×126.13E, h1^{km}, mb4.5, ML3.4, MS3.3*

ISC 18 12:45:58.4±1.6**, 5.2N**±0.1×**127.3E**±0.2**, h102^{km}**±14^{km}**, n20, σ0^{s}67**/20**, mb3.9**/12**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.05**	**328**	*e*P	**P**	**12 46 31.9**	**-0.3**

GSPH	General Santos	2.54	291	eP	P	12 46 37.5	-1.4
KCP	Kidapawan	2.87	309	⇓eP	P	12 46 43.8	+0.3
BUKP	Musuan	3.50	320	eP	P	12 46 52.5	+0.5
PAGZ	Pagadian	4.73	304	eP	P	12 47 10.2	+1.3
IPIL	Ipil	5.39	299	eP	P	12 47 17.9	0.0
FITZ	Fitzroy Crossi	23.21	184	P	P	12 50 57.5	+0.3
	2.0nm,0.8s,mb3.5,baz=7.1,slow=8.1,SNR=6.9						
WRAB	Tennant Creek	25.90	165	eP	P	12 51 23.1	+0.2
	6.2nm,0.5s,mb4.3						
WRA	Warramunga Arr	25.91	165	P	P	12 51 23.1	+0.2
	3.8nm,0.4s,mb4.2,baz=343,slow=10,SNR=50						
WB2	Warramunga Arr	25.91	165	eP	P	12 51 23.6	+0.6
ASAR	Alice Springs	29.39	168	P	P	12 51 53.1	-1.3
	0.4nm,0.5s,mb3.3,baz=358,slow=8.0,SNR=8.5						
ENH	Enshi	30.09	328	P	P	12 51 59.4	-1.3
	3.5nm,0.5s,mb4.2						
STKA	Stephens Creek	39.29	161	P	P	12 53 19.1	+0.2
	1.1nm,0.6s,mb3.9,baz=346,slow=13,SNR=2.5						
MKAR	Makanchi Array	56.72	324	P	P	12 55 33.9	0.0
	1.1nm,0.4s,mb4.2,baz=116,slow=7.6,SNR=17						
MKAR	Makanchi Array	56.72	324	P	P	12 55 33.9	0.0
KURK	Kurchatov	60.85	327	eP	P	12 56 02.7	+0.3
	2.0nm,0.5s,mb4.4						
BVAR	Borovoye Array	66.44	326	P	P	12 56 39.5	+0.6
	0.8nm,0.5s,mb3.9,baz=121,slow=8.6,SNR=4.7						
BRVK	Borovoye	66.51	326	P	P	12 56 39.5	+0.1
	1.1nm,0.6s,mb3.9						
ZRNK	Zerenda	67.17	326	eP	P	12 56 43.4	-0.2
	1.7nm,0.5s,mb4.1						
ILAR	Eielson Array	83.53	25	P	P	12 58 15.8	-0.2
	0.3nm,0.6s,mb3.3,baz=246,slow=5.7,SNR=5.9						

*ISK **18** 13:02:46.4,36.86N×34.31E,h8^{km},MD3.3*
*NSSC **18** 13:02:53.3,36.81N×34.57E,h33^{km}±7^{km}*
ISC 18 13:02:49.1±1.2,36.77N±0.04×34.34E±0.05,h25^{km}±13^{km}, n12,σ1^{s}21/19,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKL	Isikli	0.75	225	i PG	Pb	13 03 01.9	-1.5
IKL				i SG	Sb	13 03 13.9	+0.8
CEYT	Ceyhan	1.15	77	PN	Pn	13 03 09.3	-0.6
HDMB	Hadim	1.50	278	PN	Pn	13 03 14.0	-0.9
COBT	Iskenderun	1.56	99	⇑iP	Pn	13 03 16.4	+0.7
COBT				i S	Sn	13 03 38.9	+3.5
HTY	Hatay	1.59	113	ePN	Pn	13 03 16.1	0.0
ARNB	Al Arnab	1.60	124	⇑P	Pn	13 03 17.7	+1.4
ARNB				⇑S	Sn	13 03 35.4	-0.8
BTCH	Batrach	1.86	112	⇑P	Pn	13 03 21.1	+1.1
BTCH				⇑S	Sn	13 03 41.0	-1.9
DRWC	Darouich	1.88	94	⇑P	Pn	13 03 20.5	+0.2
DRWC				⇑S	Sn	13 03 41.0	-2.3
KONT	Konya--Tatoy	1.97	307	ePN	Pn	13 03 19.6	-2.0
CSS	Prodhromos	1.98	205	i P	Pn	13 03 21.8	+0.1
CSS				i S	Sn	13 03 46.8	+0.8
AVNT	Avonos	2.05	11	i P	Pn	13 03 23.0	+0.3
AVNT				i S	Sn	13 03 49.3	+1.5
WRDH	Warideh	2.10	126	⇑P	Pn	13 03 24.9	+1.5

*IDC **18** 13:20:39.8±1.2,24.23S×67.03W,h168^{km}±11^{km},mb3.3/4, mb1 3.6/9,mb1mx3.5/17,Error ellipse: s-maj=20.6km s-min=14.1km az=56.0*
*NEIC **18** 13:20:40.0±0.7,24.20S×66.91W,h170^{km}±7^{km},mb4.1/3, Error ellipse: s-maj=12.1km s-min=7.6km az=70.0*
ISC 18 13:20:39.3±0.8,24.21S±0.06×66.96W±0.10,h173^{km}±8^{km}, n24,σ1^{s}02/25,mb3.7/6,3C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.40	311	P	P	13 21 21.9	+1.0
	28nm,0.3s,baz=143,slow=7.5,SNR=189						
LVC				S	S	13 21 52.3	-0.6
	23nm,0.3s,baz=14,slow=22,SNR=45						
LVC	Limon Verde	2.40	311	eP	P	13 21 21.7	+0.8
LVC				S	S	13 21 52.3	-0.6
LPAZ	La Paz	7.96	352	P	P	13 22 33.6	+0.7
	3.4nm,0.3s,baz=162,slow=9.5,SNR=65						
LPAZ				S	S	13 24 02.1	+0.5
	0.3nm,0.3s,baz=37,slow=19,SNR=2.9						
LPAZ	La Paz	7.96	352	eP	P	13 22 33.4	+0.5
LPAZ				S	S	13 24 02.1	+0.5
CPUP	Villa Florida	8.96	106	P	P	13 22 46.7	+0.5
	0.1nm,0.3s,baz=276,slow=10,SNR=3.2						
CPUP	Villa Florida	8.96	106	P	P	13 22 45.1	-1.1
TRQA	Tornquist	14.44	164	eP	P	13 23 57.8	+1.1
	7.1nm,0.7s						
SAML	Samuel	15.60	14	eP	P	13 24 09.7	-1.5
	4.7nm,0.6s						
PLCA	Paso Flores	16.75	190	P	P	13 24 23.7	-1.5
	0.1nm,0.3s,baz=13,slow=15,SNR=4.4						
BDFB	Brasilia	19.72	68	P	P	13 24 57.5	0.0
	0.7nm,0.3s,baz=245,slow=10,SNR=15						
VNA3	Neumayer Olymp	56.94	161	⇑i	P	13 30 09.8	+1.5
VNA1	Neumayer--Stat	57.14	160	⇑i	P	13 30 20.9	+11
VNA2	Neumayer--Watz	57.51	160	⇑i	P	13 30 14.2	+2.0
SNAA	Sanae	59.14	161	⇓i	P	13 30 21.6	-2.0
SNAA	Sanae	59.14	161	P	P	13 30 22.0	-1.6
	0.7nm,0.7s,mb3.6,baz=277,slow=6.2,SNR=16						
QSPA	South Pole Qui	66.00	180	eP	P	13 31 07.9	-0.8
	2.4nm,0.6s,mb4.2						
MSU	Marysvale	75.42	325	eP	P	13 32 06.7	+0.9
PDAR	Pinedale Array	77.34	329	P	P	13 32 16.4	0.0
	0.3nm,0.6s,mb3.1,baz=129,slow=5.8,SNR=3.1						
ULM	Lac du Bonnet	78.44	342	P	P	13 32 21.5	-0.7
	2.5nm,0.6s,mb4.1						
NVAR	Mina Array Bea	78.72	321	P	P	13 32 23.9	-0.1
	0.5nm,0.6s,mb3.3,baz=148,slow=5.7,SNR=4.3						
MAW	Mawson	81.23	163	P	P	13 32 36.7	0.0
	1.7nm,0.7s,mb3.8,baz=247,slow=8.9,SNR=4.2						
WRA	Warramunga Arr	131.46	207	PKP	PKPdf	13 39 32.4	+0.4
	0.5nm,0.5s,baz=159,slow=1.8,SNR=14						
MKAR	Makanchi Array	146.66	40	PKP	PKPdf	13 39 59.2	+0.8
	1.7nm,0.5s,baz=314,slow=1.8,SNR=19						
MKAR				PKPbc	PKPbc	13 40 01.4	+1.4
	1.6nm,0.5s,baz=304,slow=3.4,SNR=18						
MKAR	Makanchi Array	146.66	40	PKP	PKPdf	13 39 59.2	+0.8
MKAR				PKPbc	PKPbc	13 40 01.4	+1.4

ISK 18 13:22:27.8,39.63N×43.92E,h5^{km},MD3.6,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGRT	Agri	0.72	268	i PG	Pg	13 22 42.1	-0.2
VANB	Van	1.12	202	PN	Pn	13 22 50.8	+0.8
KARS	Kars	1.17	327	PN	Pn	13 22 50.7	0.0
KARS				SN	Sn	13 23 09.9	+2.7
TVAN	Van	1.17	200	⇑iP	Pb	13 22 49.4	-0.8
TVAN				i S	Sb	13 23 11.0	+5.5
ERZM	Erzurum	1.99	279	i P	Pn	13 23 03.9	+1.4
ERZM				i S	Sg	13 23 40.2	+6.1
EZM	Erzurum	1.99	279	ePN	Pn	13 23 04.6	+2.1
HKR	Hakkari	2.06	184	ePN	Pn	13 23 04.2	+0.7
BTMT	Batman	2.38	234	ePN	Pn	13 23 12.2	+4.1
BEST	Besiri	2.71	231	i P	Pn	13 23 18.4	+5.7
BEST				i S	Sn	13 23 53.2	+6.9
BINT	Bingol	2.77	255	ePN	Pn	13 23 15.4	+1.7
ELZG	Elazig	4.01	255	i P	Pg	13 23 42.3	-5.5
ELZG				i S	Sg	13 24 40.4	-0.9

IDC 18 13:35:18.7±22.0,0.73N×127.20E,h228^{km}±218^{km}, mb3.1/3,mb1 3.3/4,mb1mx3.0/15,ML4.1/1,Error ellipse: s-maj=140.0km s-min=122.4km az=14.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.78	185	P	P	13 39 20.6	-2.4
	0.5nm,0.3s,baz=30,slow=9.8,SNR=15						
WRA	Warramunga Arr	21.71	162	P	P	13 39 52.4	+0.2
	0.5nm,0.3s,baz=341,slow=10,SNR=17						
ASAR	Alice Springs	25.11	165	P	P	13 40 23.7	-0.9
	0.6nm,0.8s,baz=351,slow=7.6,SNR=8.5						
STKA	Stephens Creek	35.18	158	P	P	13 41 49.9	-3.0
	1.1nm,0.4s,baz=331,slow=10,SNR=4.3						

*NEIC **18** 14:07:54.7,15.56N×98.25W,h8^{km},MD4.3(MEX),After MEX.*
MEX 18 14:07:55.1±0.7,15.66N×98.26W,h7^{km}±18^{km},MD4.3,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	Oaxaca	2.05	46	i P	Pn	14 08 27.1	-3.3
OXX				i S	Sn	14 08 51.1	-5.3
HUIG	Huatulco	2.08	87	eP	Pn	14 08 27.6	-3.3
HUIG				i S	Sn	14 08 52.8	-4.4
CAIG	El Cayaco	2.37	306	i P	Pn	14 08 30.1	-4.9
CAIG				i S	Sn	14 08 59.7	-4.9
PLIG	Platanillo	2.97	337	i P	Pn	14 08 42.4	-1.1
PLIG				i S	Sn	14 09 15.8	-4.0
YAIG	Yautepec	3.28	347	eP	Pn	14 08 46.4	-1.5
YAIG				i S	Sn	14 09 23.0	-4.7
PPM	Popocatepetl	3.41	354	i P	Pn	14 08 47.3	-2.5
PPM				eP		14 08 48.0	
PPM				i S	Sn	14 09 27.8	-3.1
PPM				i S	Sn	14 09 28.8	-2.1
PPM	Popocatepetl	3.41	354	i P	Pn	14 08 47.3	-2.5
PPM				i S	Sn	14 09 28.8	-2.1
IISM	Ciudad Serdan	3.42	14	i P	Pn	14 08 47.6	-2.3
IISM				i S	Sn	14 09 24.9	-6.3
CMIG	Matias Romero	3.54	66	eP	Pn	14 08 46.2	-5.5
CMIG				i S	Sn	14 09 28.6	-5.7
ZIIG	Zihuatanejo	3.63	303	eP	Pn	14 08 53.7	+0.8
ZIIG				i S	Sn	14 09 30.7	-5.9
IIZ	Mezontepec	3.63	345	eP	Pn	14 08 53.0	0.0
UNM	Universidad Na	3.76	347	eP	Pn	14 08 50.0	-4.7
PBVM	Pinon	3.84	348	i S	Sn	14 09 42.6	+0.6
LVIG	Laguna Verde	4.41	23	eP	Pn	14 09 07.9	+3.9
LVIG				i S	Sn	14 09 49.1	-7.2

*HEL **18** 14:08:02.2±0.5,60.87N×29.07E,ML2.2,Explosion*
*IDC **18** 14:08:02.4±1.9,60.97N×29.11E,mb1 3.1/3, mb1mx3.0/18,ML3.0/3,Error ellipse: s-maj=16.2km s-min=10.2km az=159.0*
ISC 18 14:08:00.2±1.5,60.95N±0.06×29.1E±0.2,n10,σ1^{s}75/19, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIA0	FINESS Array S	1.54	290	eP	Pn	14 08 29.2	+0.2
FIA0				eS	Sb	14 08 50.9	+1.6
FINES	FINESS Array B	1.54	290	Pg	Pg	14 08 29.1	-1.9
	4.3nm,0.3s,baz=110,slow=16,SNR=103						
FINES				Lg		14 08 51.2	
	11nm,0.3s,baz=104,slow=29,SNR=60						
FINES				Rg		14 08 58.2	
	80nm,0.9s,baz=111,slow=36,SNR=43						
PVF	Pernaja	1.63	257	eP	Pn	14 08 30.4	0.0
PVF				eS	Sb	14 08 52.2	+0.1
KAF	Kangasniemi	1.77	313	eP	Pn	14 08 34.1	+1.7
KAF				eS	Sn	14 08 57.0	+1.1
NUR	Nurmij rvi	2.22	261	eP	Pn	14 08 39.9	+1.0
NUR				eS	Sn	14 09 08.1	+0.7
SUF	Sumiainen	2.26	323	eP	Pn	14 08 42.1	+2.8
SUF				eSG	Sg	14 09 12.8	-2.6
SUF				MSG		14 09 13.7	
	comp=Z,12nm,0.2s						
KJN	Kajaani	3.21	349	eP	Pn	14 08 55.0	+2.0
KJN				eS	Sn	14 09 34.6	+2.0
HFS	Hagfors	7.63	271	Pn	Pn	14 09 53.2	-2.2
	comp=Z,0.1nm,0.3s,baz=78,slow=13,SNR=11						
HFS				Sn	Sn	14 11 17.7	-6.0
	comp=Z,0.1nm,0.3s,baz=81,slow=28,SNR=4.9						
HFS				Lg		14 11 58.4	
	comp=Z,0.1nm,0.3s,baz=82,slow=32,SNR=6.5						
NOA	NORSAR Array B	8.68	278	Pn	P	14 10 07.2	-2.8
	comp=Z,0.2nm,0.3s,baz=93,slow=9.5,SNR=2.5						
NOA				Sn	Sn	14 11 43.4	-6.5
	comp=Z,0.2nm,0.3s,baz=29,slow=20,SNR=2.4						
NOA				Lg		14 12 32.4	
	comp=Z,0.3nm,0.3s,baz=37,slow=27,SNR=3.3						
ARCES	ARCESS Array B	8.75	352	Pn	P	14 10 07.7	-3.3
	comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=7.8						
ARCES				Sn	Sn	14 11 41.6	-10
	comp=Z,0.1nm,0.3s,baz=165,slow=21,SNR=3.0						
ARCES				Lg		14 12 29.3	
	comp=Z,0.3nm,0.3s,baz=166,slow=34,SNR=4.2						

*ROM **18** 14:24:23.8±0.7,46.30N×13.58E,h5^{km},MD3.3/5,ML2.8/3, Error ellipse: s-maj=4.8km s-min=4.6km az=0.0*
*NEIC **18** 14:24:23.8,46.30N×13.58E,h5^{km},MD3.3(ROM), ML3.3(VIE),ML3.0(LJU),ML3.0(SZGRF),ML2.9(FUR), After ROM.*
NEIC Felt at Bovec.
*LJU **18** 14:24:23.8,46.33N×13.60E,h8^{km},ML2.9*
*LDG **18** 14:24:26.6±0.2,46.28N×13.74E,h10^{km},Ml3.2/9,Error ellipse: s-maj=6.1km s-min=4.8km az=10.0*
ISC 18 14:24:23.3±0.2,46.36N±0.01×13.58E±0.02,h9^{km}±2^{km}, n96,σ1^{s}26/157,24C-11D,Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	Robic	0.12	203	⇓iPg	Pg	14 24 26.4	+0.2
ROBS				i Sg	Sg	14 24 28.0	-0.2
	comp=Z,10μm,0.1s						
PTCC	Patocco-Chiusa	0.16	287	ePG	Pg	14 24 28.0	+1.1
PTCC	Patocco-Chiusa	0.16	287	ePg	Pg	14 24 28.0	+1.1
CADS	Cadrg	0.17	139	i Pg	Pg	14 24 27.2	+0.2
CADS				i Sg	Sg	14 24 29.5	0.0
	comp=Z,4μm,0.1s						
DRE	Drenchia	0.19	166	⇓iPg	Pg	14 24 27.3	-0.1
DRE				i Sg	Sg	14 24 29.9	-0.2
GMNA	Gemona	0.25	251	⇑iPG	Pg	14 24 30.4	+1.8
GMNA				SG	Sg	14 24 35.4	+3.3
GMNA	Gemona	0.25	251	⇑iPg	Pg	14 24 30.4	+1.8
GMNA				eSg	Sg	14 24 35.4	+3.3
BAD	Bernadia	0.26	243	⇑iPg	Pg	14 24 29.1	+0.4
BAD				i Sg	Sg	14 24 33.5	+1.1
COLI	Coloredo	0.26	212	⇓iPg	Pg	14 24 29.1	+0.3
COLI				i Sg	Sg	14 24 33.2	+0.8
BOO	Bordano	0.33	264	⇑iPg	Pg	14 24 30.4	+0.3
BUA	Buia	0.34	247	⇑iPg	Pg	14 24 30.8	+0.4
VOY	Vojsko	0.39	146	⇓iPg	Pg	14 24 31.0	-0.3
VOY				e(Sg)	Sg	14 24 35.7	-0.9
MPRI	Monte Prat	0.42	255	⇑ePg	Pg	14 24 32.2	+0.3
MPRI				eSg	Sg	14 24 39.2	+1.5
TLI	Talmassons	0.55	218	⇓iPg	Pg	14 24 34.2	-0.2
JAVS	Javornik	0.57	144	⇓iPg	Pg	14 24 34.1	-0.8
JAVS				eSg	Sg	14 24 42.5	-0.1
	comp=Z,209nm,0.2s						
FVI	Forni Avoltri	0.60	294	ePG	Pg	14 24 36.0	+0.6
FVI	Forni Avoltri	0.60	294	ePg	Pg	14 24 36.0	+0.6
TRI	Trieste	0.66	169	⇓iPG	Pg	14 24 35.5	-1.1
TRI				SG	Sg	14 24 45.3	-0.2
	comp=Z,962nm,0.3s						
TRI	Trieste	0.66	169	⇓iPg	Pg	14 24 35.5	-1.1
TRI				eSg	Sg	14 24 45.3	-0.2
OBKA	Obir	0.69	77	⇑iPG	Pg	14 24 37.4	+0.3
OBKA				i SG	Sg	14 24 46.4	0.0
	comp=Z,170nm,0.3s						
MLNI	Malnisio	0.70	253	⇓ePg	Pg	14 24 37.2	-0.2
MLNI				eSg	Sg	14 24 49.0	+2.1
LJU	Ljubljana	0.73	115	i Pg	Pg	14 24 37.9	-0.1
LJU				eSg	Sg	14 24 48.3	+0.5
	comp=Z,171nm,0.2s						
KBA	Koelnbreinsper	0.74	347	⇓iPG	Pg	14 24 39.2	+1.0
KBA				i SG	Sg	14 24 49.6	+1.5
	comp=Z,117nm,0.2s						
CEY	Cerknica	0.85	136	eSg	Sg	14 24 51.7	-0.2
CAE	Caneva	0.87	247	ePg	Pg	14 24 40.3	-0.4
CSO	Casso	0.87	265	⇑ePg	Pg	14 24 39.8	-1.1
AFL	Alpe Faloria	0.98	281	ePg	Pg	14 24 43.8	+0.8
PDKS	Podkum	1.02	105	i Pg	Pg	14 24 43.4	-0.4
PDKS				i Sg	Sg	14 24 58.9	+1.4
VISS	Visnje	1.04	122	ePg	Pg	14 24 42.7	-1.4
VISS				eSg	Sg	14 24 58.6	+0.7
IESO	Jesolo	1.10	221	⇓ePg	Pg	14 24 46.1	+0.7
FAU	Forcella Aurin	1.12	264	ePg	Pg	14 24 46.2	+0.5
LEGS	Legarje	1.28	108	ePg	Pg	14 24 47.6	-1.2
LEGS				eSg	Sg	14 25 07.5	+1.7
	comp=Z,177nm,0.3s						
CGRP	Cima Grappa	1.33	250	ePg	Pg	14 24 49.6	-0.2
CGRP				eSg	Sg	14 25 08.9	+1.3
GROS	Grobnik	1.33	85	i Pg	Pg	14 24 48.5	-1.5
BGLD	Berchtesgaden	1.35	344	⇑iPg	Pg	14 24 50.5	+0.1
CTI	Castel Tesino	1.38	258	ePN	Pn	14 24 50.6	+1.8
	comp=Z,212nm,0.3s						
CTI	Castel Tesino	1.38	258	ePg	Pg	14 24 50.6	-0.2
CRES	Cresnjevec ost	1.41	111	ePg	Pg	14 24 50.5	-1.1
BOJS	Bojanci	1.45	126	i Pn	Pn	14 24 50.7	+0.9
VBY	Vinica-Bojanci	1.45	125	eSn	Sn	14 25 11.2	+2.1
SCE	Schlegeis	1.46	299	⇑iPg	Pg	14 24 52.1	-0.3
GOLS	Golise	1.46	103	i Pn	Pn	14 24 51.3	+1.2
GOLS				eSn	Sn	14 25 11.8	+2.3
	comp=Z,194nm,0.4s						
GCIS	Gornji Cirnik	1.50	109	i Pn	Pn	14 24 52.2	+1.6
MOA	Molln	1.57	17	⇑iPG	Pg	14 24 55.1	+0.5
MOA				i SG	Sg	14 25 17.0	+1.5
	comp=Z,53nm,0.4s						
ARSA	Arzberg	1.61	55	⇑iPG	Pg	14 24 54.4	-1.0
ARSA				i SG	Sg	14 25 16.4	-0.5
	comp=Z,42nm,0.3s						
WTTA	Wattenberg	1.61	305	⇑iPG	Pg	14 24 55.3	-0.3
WTTA				i SG	Sg	14 25 17.8	+0.7
	comp=Z,99nm,0.4s						
TEOL	Teolo	1.67	234	⇑ePg	Pg	14 24 53.8	-2.8
TEOL				eSg	Sg	14 25 16.2	-2.7
WATA	Walderalm	1.69	306	⇑iPG	Pg	14 24 57.9	+0.8
WATA				i SG	Sg	14 25 20.7	+1.1
	comp=Z,83nm,0.4s						
SQTA	Sankt Quirin	1.84	299	⇑iPG	Pg	14 24 59.4	-0.8
SQTA				i SG	Sg	14 25 25.2	+0.4
	comp=Z,78nm,0.4s						
MOTA	Moosalm	1.97	301	⇑iPG	Pg	14 25 01.6	-1.0
MOTA				i SG	Sg	14 25 29.3	+0.5
	comp=Z,60nm,0.4s						
NVLJ	Novalja	2.01	153	i Pn	Pn	14 24 58.6	+0.7
NVLJ				i Pg	Pg	14 25 01.2	-2.2
NVLJ				i Sn	Sn	14 25 23.6	+0.2
NVLJ				i Sg	Sg	14 25 26.5	-3.8
SISC	Sisak	2.14	113	i Pn	Pn	14 24 58.7	-1.1
SISC				i Sn	Sn	14 25 26.7	0.0
SOP	Sopron	2.43	56	ePg	Pg	14 25 10.6	-1.3
GEC2	GERESS Array S	2.49	2	ePn	Pn	14 25 07.6	+2.8
DAVA	Damuels	2.71	291	⇑iPN	Pn	14 25 11.0	+3.2
DAVA				i SN	Sn	14 25 44.8	+3.8
SFI	Santa Sofia	2.74	207	ePN	Pn	14 25 09.3	+1.0
	comp=Z,31nm,0.3s						
SFI	Santa Sofia	2.74	207	ePn	Pn	14 25 09.3	+1.0
KHC	Kasperske Hory	2.78	360	⇑iPn	Pn	14 25 11.5	+2.6
KHC				ePg	Pg	14 25 18.4	-0.4
KHC				eSn	Sn	14 25 46.5	+3.6
KHC				eSg	Sg	14 25 54.7	-1.1
WET	Wettzell	2.83	351	⇑iPn	Pn	14 25 12.1	+2.5
WET				eSn	Sn	14 25 47.2	+3.0
ARV	Arcevia	2.89	189	ePN	Pn	14 25 11.5	+1.0
	comp=Z,18nm,0.5s						
ARV	Arcevia	2.89	189	ePn	Pn	14 25 11.5	+1.0
ROTZ	Rotzenmuhle	3.54	345	⇑iPn	Pn	14 25 21.6	+2.0
NRCA	Norcia	3.54	186	ePN	Pn	14 25 19.4	-0.3
	comp=Z,7.0nm,0.3s						
NRCA	Norcia	3.54	186	ePn	Pn	14 25 19.4	-0.3
PRU	Pruhonice	3.69	10	⇑ePG	Pg	14 25 33.2	-3.8
PRU				eSN	Sn	14 26 07.1	+1.1
PRU				eSG	Sg	14 26 25.0	-1.2
	comp=Z,24nm,0.5s						
STU	Stuttgart	3.83	311	eP	Pn	14 25 26.6	+2.8
NKC	Novy Kostel	3.95	349	⇑ePN	Pn	14 25 29.5	+3.9
NKC				ePG	Pg	14 25 41.0	-1.2
NKC				eSG	Sg	14 26 31.7	-3.2
	comp=Z,23nm,0.5s						
VYHS	Vyhne	4.16	57	ePN	Pn	14 25 28.5	0.0
VYHS				eSN	Sn	14 26 17.7	-0.2
PVCC	Panska Ves	4.23	9	⇑eSG	Sg	14 26 41.3	-2.8
DPC	Dobruska-Polom	4.39	24	ePG	Pg	14 25 46.0	-5.1
DPC				eSG	Sg	14 26 44.6	-5.1
	comp=Z,18nm,0.6s						
MOX	Moxa	4.49	344	i P	Pn	14 25 35.8	+2.7
MOX				S	Sn	14 26 25.0	-1.1
MOX				Sg	Sg	14 26 50.0	-2.7
MOX	Moxa	4.49	344	ePn	Pn	14 25 35.8	+2.7
MOX				eSn	Sn	14 26 25.4	-0.7
MOX				eSg	Sg	14 26 49.5	-3.2
BRG	Berggiesshubel	4.53	3	P	Pn	14 25 35.7	+2.0
BRG				ePg	Pg	14 25 49.8	-3.9
BRG				e		14 26 18.8	
BRG				i		14 26 39.3	
BRG				eSg	Sg	14 26 48.9	-5.2
CDF	Champ du Feu	4.75	298	ePn	Pn	14 25 37.2	+0.3
HINF	Hinteralfeld	4.82	290	ePn	Pn	14 25 37.9	0.0
HINF				eSn	Sn	14 26 33.2	-1.4
	comp=Z,12nm,0.4s						
KSP	Ksiaz	4.84	21	ePg	Pg	14 25 56.7	-3.2
KSP				eSn	Sn	14 26 25.8	-9.2
KSP				eSg	Sg	14 27 01.8	-2.6
LPG	La Plagne	4.84	262	ePn	Pn	14 25 39.1	+0.9
LPL	La Plagne	4.85	262	ePn	Pn	14 25 39.0	+0.7
CLL	Collm	4.97	356	i PN	Pn	14 25 41.8	+1.8
CLL				eSG	Sg	14 27 05.0	-3.8
SBF	Sospel	5.01	242	ePn	Pn	14 25 40.4	-0.2
SBF				eSn	Sn	14 26 38.4	-1.0
	comp=Z,7.1nm,0.2s						
PGF	Pioggiola	5.02	222	ePn	Pn	14 25 38.2	-2.6
PGF				eSn	Sn	14 26 35.5	-4.2
	comp=Z,6.4nm,0.4s						
MBDF	Montbardon	5.05	254	ePn	Pn	14 25 39.9	-1.3
MBDF				eSn	Sn	14 26 37.4	-3.0
	comp=Z,6.7nm,0.5s						
CABF	La Chapelle	5.18	276	ePn	Pn	14 25 43.5	+0.5
HAU	Haudompre	5.20	291	ePn	Pn	14 25 43.9	+0.7
HAU				eSn	Sn	14 26 41.6	-2.5
	comp=Z,18nm,0.5s						
ORIF	Oris-en-Rattie	5.59	258	ePn	Pn	14 25 49.3	+0.6
ORIF				eSn	Sn	14 26 52.2	-1.7
	comp=Z,6.4nm,0.5s						
FRF	La Foret Royal	5.66	243	ePn	Pn	14 25 48.2	-1.5
LMR	La Mourre	5.86	242	ePn	Pn	14 25 50.3	-2.3
LMR				eSn	Sn	14 26 55.2	-5.6
	comp=Z,5.0nm,0.4s						
SMRF	Simiane la Rot	6.14	250	ePn	Pn	14 25 56.4	-0.1
SMRF				eSn	Sn	14 27 04.8	-2.9
	comp=Z,2.9nm,0.4s						
VIVF	Saint-Julien-l	6.43	260	ePn	Pn	14 26 00.5	0.0
SMF	Signal de Mont	6.73	276	ePn	Pn	14 26 03.9	-0.9
LOR	Lormes	6.73	281	ePn	Pn	14 26 04.1	-0.8
LOR				eSn	Sn	14 27 18.3	-4.2
	comp=Z,3.2nm,0.3s						
AVF	Avril sur Loir	7.06	277	ePn	Pn	14 26 08.8	-0.7
LASF	Ste Croix	7.24	255	ePn	Pn	14 26 10.6	-1.3
HYF	Humbligny	7.56	281	ePn	Pn	14 26 15.9	-0.6
CAF	Calviac	8.20	264	ePn	P	14 26 24.4	-0.9
MFF	Saint Martin d	9.48	276	ePn	P	14 26 41.9	-1.2

*NEIC **18** 14:35:57.7,38.54N×21.88E,h24^{km},mb4.0/3, MD3.7(PDG),ML3.8(THE),ML3.7(ATH),ML3.3(ROM),After ATH.*
*ATH **18** 14:35:57.7,38.54N×21.88E,h24^{km}±1^{km},MD3.8/19, ML3.7*
*THE **18** 14:35:58.5,38.51N×21.97E,h8^{km},ML3.8*
*PDG **18** 14:35:59.0±0.2,38.31N×20.38E,h11^{km}±1^{km}*
*IDC **18** 14:36:00.7±2.0,38.49N×21.68E,h44^{km}±23^{km},mb3.6/6, mb1 3.7/12,mb1mx3.6/25,ML3.9/6,Error ellipse: s-maj=36.7km s-min=12.7km az=57.0*
ISC 18 14:35:59.1±0.4,38.56N±0.02×21.90E±0.03,h28^{km}±3^{km}, n88,σ1^{s}37/116,mb3.8/8,7C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	Evrytania	0.37	349	⇓iPB	Pb	14 36 06.0	-1.3
EVR				eSB	Sb	14 36 12.2	-0.7
AGG	Agios Georgios	0.57	36	ePg	Pb	14 36 09.8	-0.7
AGG				eSg	Sb	14 36 19.3	+0.9
RLS	Riolos of Patr	0.60	214	ePN	Pn	14 36 09.7	-2.0
LKR	Lokris	0.87	83	ePB	Pb	14 36 14.1	-1.3
LKR				eSB	Sb	14 36 27.8	+1.1
LKD	Levkas	0.99	279	ePg	Pn	14 36 16.7	-0.5
LKD				eSg	Sb	14 36 33.9	+3.7
VLS	Valsamata	1.10	250	ePN	Pn	14 36 17.8	-1.0
VLS				eSN	Sn	14 36 34.0	+0.9
MKIT	Kithairon Oros	1.13	109	ePN	Pn	14 36 20.1	+0.8
NEO	Neokhori	1.27	54	⇑iPN	Pn	14 36 22.1	+0.8
XOR	Xorichti	1.29	51	ePb	Pb	14 36 22.4	-0.2
XOR				eSb	Sb	14 36 41.3	+2.4
MEV	Metsovon	1.33	337	ePb	Pb	14 36 23.7	+0.4
MEV				eSb	Sb	14 36 43.5	+3.5
JAN	Janina	1.37	324	ePN	Pn	14 36 23.8	+1.1
ITM	Ithomi	1.38	179	ePN	Pn	14 36 23.2	+0.4
NSAL	Nisos Salamina	1.39	117	ePN	Pn	14 36 24.4	+1.4
NAIG	Nisos Aigina	1.48	122	ePN	Pn	14 36 24.5	+0.2

MPAR	Parnis Oros	1.50	105	ePN	Pn	14 36 25.5	+1.0
ATH	Athens Observa	1.54	112	ePN	Pn	14 36 26.5	+1.3
IGT	Igoumenitsa	1.56	309	ePb	Pb	14 36 27.2	0.0
IGT				eSb	Sb	14 36 50.0	+3.3
LIT	Litokhoron	1.61	16	ePb	Pb	14 36 26.4	-1.5
LIT				eSb	Sb	14 36 48.2	+0.2
PTL	Penteli	1.63	108	ePN	Pn	14 36 27.0	+0.6
AOS	Alonnisos	1.66	68	ePb	Pb	14 36 27.4	-1.5
	comp=Z,13nm,0.3s						
AOS				eSb	Sb	14 36 49.3	-0.3
KZN	Kozani	1.75	357	⇑iPN	Pn	14 36 29.2	+1.1
PAIG	Paliouri	1.94	45	ePb	Pb	14 36 31.1	-2.6
KEK	Kerkira	2.00	306	ePN	Pn	14 36 32.6	+0.9
VLI	Veliai	2.01	156	ePB	Pb	14 36 32.2	-2.6
PLG	Polygyros	2.17	33	⇑iPN	Pn	14 36 33.6	-0.6
THE	Thessaloniki	2.23	21	ePn	Pn	14 36 35.4	+0.4
FNA	Florina	2.26	350	ePn	Pn	14 36 36.8	+1.4
FNA				eSn	Sn	14 37 05.6	+3.0
OUR	Ouranopolis	2.40	42	ePn	Pn	14 36 37.4	0.0
OUR				eSn	Sn	14 37 07.2	+1.0
GRG	Griva	2.43	9	ePn	Pn	14 36 37.7	-0.1
BIA	Bitola	2.50	350	⇓iPn	Pn	14 36 33.6	-5.2
BIA				i		14 36 40.1	
BIA				i		14 37 05.0	
BIA				i		14 37 09.8	
SOH	Sokhos	2.52	26	ePn	Pn	14 36 39.5	+0.3
SOH				eSn	Sn	14 37 11.7	+2.3
OHR	Ohrid	2.69	342	⇑iPn	Pn	14 36 44.3	+2.8
OHR				i		14 36 49.3	
OHR				i		14 37 13.5	
OHR				i		14 37 22.2	
KNT	Kendrikon	2.71	16	ePn	Pn	14 36 42.1	+0.2
	comp=Z,9.8nm,0.3s						
KNT				eSn	Sn	14 37 16.4	+2.2
VAY	Valandovo	2.81	10	i Pn	Pn	14 36 41.1	-2.1
VAY				i		14 36 46.5	
VAY				i		14 36 51.2	
VAY				i		14 37 21.9	
VAY				i		14 37 32.5	
SRS	Serrai	2.87	26	ePn	Pn	14 36 43.9	-0.2
TIR	Tirane	3.20	331	ep	Pn	14 36 56.5	+7.8
APE	Apeiranthos	3.24	116	ePN	Pn	14 36 49.5	+0.2
QSH	Qafa e Shtames	3.33	333	i Pn	Pn	14 36 53.4	+2.7
QSH				i Sn	Sn	14 37 34.0	+4.2
MMB	Musomiste	3.34	24	i P	Pn	14 36 50.0	-0.8
KKB	Krupnik	3.43	15	i P	Pn	14 36 51.0	-1.0
LCI	Lecce	3.43	302	ePn	Pn	14 36 52.6	+0.6
SKO	Skopje	3.43	354	i Pn	Pn	14 36 53.5	+1.4
SANT	Santorini	3.58	127	P	Pn	14 36 51.6	-2.6
VAM	Vamos	3.64	149	ePN	Pn	14 36 56.0	+0.9
KPJ	Monastery St.	3.67	5	i Pn	Pn	14 36 55.7	+0.3
KPJ				i		14 36 56.9	
KPJ				i		14 37 00.4	
RDO	Rodhopi	3.81	46	ePN	Pn	14 36 58.4	+0.9
ULC	Ulcinj	3.96	330	ePn	Pn	14 36 58.5	-1.1
ULC				eSn	Sn	14 37 43.5	-2.2
IDI	Anoyia	4.05	143	P	Pn	14 37 00.9	0.0
	1.4nm,0.3s,baz=280,slow=11,SNR=12						
IDI				S	Sn	14 37 48.0	0.0
	6.5nm,0.3s,baz=77,slow=19,SNR=5.9						
TIP	Timpagrande	4.06	280	ePn	Pn	14 37 01.6	+0.6
VTS	Vitosha	4.15	13	i P	Pn	14 37 02.0	-0.3
BARS	Barje	4.26	359	⇓iPn	Pn	14 37 04.7	+0.8
PVY	Plav	4.29	341	⇑iPn	Pn	14 37 05.5	+1.2
PVY				eSn	Sn	14 37 56.1	+2.0
GRI	Girifalco	4.30	275	ePn	Pn	14 37 09.4	+5.0
TTG	Podgorica	4.36	333	⇑iPn	Pn	14 37 04.9	-0.4
TTG				eSn	Sn	14 37 53.9	-1.9
BUM	Brajici-Budva	4.38	329	⇑iPn	Pn	14 37 03.8	-1.9
BUM				eSn	Sn	14 37 52.5	-4.0
ORI	Oriolo Calabro	4.49	291	ePn	Pn	14 37 10.9	+3.8
IVA	Berane	4.57	341	ePn	Pn	14 37 09.6	+1.4
IVA				eSn	Sn	14 38 03.0	+1.8
HCY	Herceg Novi	4.67	327	ePn	Pn	14 37 06.3	-3.4
HCY				eSn	Sn	14 37 58.1	-5.6
NKY	Niksic	4.79	334	ePn	Pn	14 37 09.9	-1.5
NKY				eSn	Sn	14 38 03.8	-2.9
BRY	Bratogost	5.03	331	ePn	Pn	14 37 12.0	-2.8
BRY				eSn	Sn	14 38 08.6	-4.2
PLE	Pljevlja	5.13	339	ePn	Pn	14 37 16.1	-0.1
PLE				eSn	Sn	14 38 15.3	+0.1
UPM	Unac-Piva	5.16	335	ePn	Pn	14 37 15.8	-0.8
UPM				eSn	Sn	14 38 13.6	-2.5
MGR	Morigerati	5.17	290	ePn	Pn	14 37 17.6	+0.9
SLCN	Sala Consilina	5.18	293	ePn	Pn	14 37 18.2	+1.3
MRLC	Muro Lucano	5.41	296	ePn	Pn	14 37 21.3	+1.2
SGO	Sicignano	5.47	294	ePn	Pn	14 37 22.5	+1.5
CSSN	Cassano Irpino	5.78	296	ePn	Pn	14 37 28.1	+2.7
SGG	Gregorio Mates	6.43	298	ePn	Pn	14 37 37.1	+2.6
CII	Carovilli	6.62	301	ePn	Pn	14 37 39.5	+2.3
	0.2nm,0.4s						
INTR	Introdacqua	7.02	302	ePn	Pn	14 37 43.0	+0.2
MLR	Muntele Rosu	7.55	22	P	Pn	14 37 49.3	-0.9
	1.4nm,0.3s,baz=219,slow=11,SNR=7.2						
NRCA	Norcia	7.92	305	ePn	Pn	14 37 55.0	-0.4
BRTR	Keskin Array B	9.20	79	P	P	14 38 13.8	+0.7
	0.4nm,0.3s,baz=261,slow=12,SNR=6.0						
VRAC	Vranov	11.40	342	P	P	14 38 41.2	-2.0
	0.6nm,0.3s,baz=200,slow=11,SNR=3.2						
GERES	GERESS Array B	11.86	333	P	P	14 38 47.4	-2.1
	0.2nm,0.3s,baz=148,slow=15,SNR=4.2						
GERES				S	S	14 41 01.0	-0.8
	0.2nm,0.3s,baz=159,slow=24,SNR=3.6						
GERES	GERESS Array B	11.86	333	P	P	14 38 47.4	-2.1
GERES				S	S	14 41 01.0	-0.8
MALT	Malatya	12.96	86	P	P	14 39 13.6	+9.4
AKASG	Malin Array Be	13.21	21	P	P	14 39 07.1	-0.3
	0.5nm,0.3s,baz=209,slow=13,SNR=2.5						
HFS	Hagfors	22.21	349	P	P	14 40 51.9	-2.8
	3.0nm,0.8s,mb3.8,baz=159,slow=13,SNR=9.0						
FINES	FINESS Array B	23.06	5	P	P	14 41 02.7	-0.2
	1.2nm,0.8s,mb3.4,baz=186,slow=13,SNR=2.7						
NAO01	NORSAR Array S	23.35	346	eP	P	14 41 04.6	-1.1
	6.9nm,0.9s,mb4.1						
NB2	NORSAR Subarra	23.48	347	P	P	14 41 06.1	-0.8
	2.0nm,0.7s,mb3.7,baz=160,slow=10						
NOA	NORSAR Array B	23.48	347	P	P	14 41 06.7	-0.3
	0.4nm,0.6s,mb3.1,baz=166,slow=11,SNR=5.1						
EKA	Eskdalemuir Ar	23.76	323	P	P	14 41 08.6	-1.2
	5.3nm,1.1s,mb3.9,baz=125,slow=8.7,SNR=4.4						
ARCES	ARCESS Array B	31.10	2	P	P	14 42 14.9	-1.9
	1.7nm,1.0s,mb3.8,baz=180,slow=7.3,SNR=5.4						
ZRNK	Zerenda	35.20	50	P	P	14 42 50.6	-2.1
BRVK	Borovoye	35.98	50	P	P	14 42 56.7	-2.6
	2.2nm,0.9s,mb4.1						
MKAR	Makanchi Array	44.18	59	P	P	14 44 06.8	-0.2
	1.7nm,0.5s,mb4.1,baz=280,slow=6.3,SNR=8.7						

NEIC ***18*** *14:38:59.4, 38.55N×21.91E, h24^{km}, MD3.6(PDG), ML3.9(ATH), ML3.8(THE), After ATH.*
ATH ***18*** *14:38:59.4, 38.55N×21.91E, h24^{km}±1^{km}, MD3.9/16, ML3.9*
THE ***18*** *14:39:02.3, 38.54N×21.93E, h9^{km}, ML3.8*
IDC ***18*** *14:39:04.6±1.8, 38.46N×21.80E, h44^{km}±20^{km}, mb3.5/8, mb1 3.7/12, mb1mx3.6/25, ML4.0/5, MS3.2/2, Ms1 3.2/2, ms1mx2.5/27, Error ellipse: s-maj=26.4km s-min=13.0km az=58.0*
PDG ***18*** *14:39:08.8±0.3, 38.70N×20.74E, h15^{km}±1^{km}*
ISC 18 14:38:59.8±0.3**, 38.50N**±0.02×**21.94E**±0.02**, h9^{km}, n80,** σ**1^{s}27**/106**, mb3.8**/7**, MS3.2**/2**, 6C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	Evrytania	0.43	346	⇓iPB	Pb	14 39 08.4	-0.8
EVR				eSB	Sb	14 39 13.6	-1.9
RLS	Riolos of Patr	0.58	221	⇑iPN	Pn	14 39 11.4	-2.5
RLS				eSN	Sn	14 39 21.0	-2.4
AGG	Agios Georgios	0.61	30	ePg	Pg	14 39 13.1	+1.0
AGG				eSg	Sg	14 39 22.5	+2.3
LKR	Lokris	0.84	79	ePN	Pn	14 39 15.8	-1.9
LKR				eSN	Sn	14 39 29.0	-1.2
LKD	Levkas	1.03	282	ePg	Pg	14 39 20.3	-0.2
LKD				eSg	Sg	14 39 36.1	+1.8
VLS	Valsamata	1.11	254	ePB	Pb	14 39 19.2	-1.6
VLS				eSN	Sn	14 39 36.4	-0.6
NEO	Neokhori	1.29	51	⇑iPN	Pn	14 39 23.3	-0.7
NEO				eSN	Sn	14 39 41.1	-0.4
XOR	Xorichti	1.31	48	ePb	Pb	14 39 25.5	+1.4
ITM	Ithomi	1.31	181	⇑iPN	Pn	14 39 24.6	+0.2
ITM				eSN	Sn	14 39 44.3	+2.1
MEV	Metsovon	1.40	337	ePb	Pb	14 39 27.3	+1.6
MEV				eSb	Sb	14 39 46.6	+3.0
JAN	Janina	1.44	324	ePN	Pn	14 39 25.6	-0.6
JAN				eSN	Sn	14 39 43.7	-1.6
ATH	Athens Observa	1.49	110	ePN	Pn	14 39 27.4	+0.4
IGT	Igoumenitsa	1.63	310	ePb	Pb	14 39 30.8	+1.2
AOS	Alonnisos	1.66	65	ePb	Pb	14 39 30.3	+0.1
	comp=Z,17nm,0.2s						
AOS				eSb	Sb	14 39 53.6	+2.7
LIT	Litokhoron	1.66	15	ePb	Pb	14 39 29.6	-0.5
LIT				eSb	Sb	14 39 51.6	+0.6
KZN	Kozani	1.81	356	⇑iPN	Pn	14 39 31.1	-0.5
VLI	Veliai	1.94	156	ePB	Pb	14 39 33.4	-1.6
PAIG	Paliouri	1.97	43	ePb	Pb	14 39 34.1	-1.3
KEK	Kerkira	2.06	307	ePN	Pn	14 39 35.1	-0.1
PLG	Polygyros	2.21	31	⇑iPN	Pn	14 39 35.2	-2.0
THE	Thessaloniki	2.27	20	ePn	Pn	14 39 39.2	+1.0
FNA	Florina	2.33	349	ePn	Pn	14 39 40.2	+1.3
	comp=Z,8.3nm,0.3s						
FNA				eSn	Sn	14 40 07.4	-0.5
OUR	Ouranopolis	2.42	40	ePn	Pn	14 39 40.6	+0.3
OUR				eSn	Sn	14 40 12.3	+2.0
GRG	Griva	2.48	8	ePn	Pn	14 39 41.8	+0.6
BIA	Bitola	2.56	349	i Pn	Pn	14 39 36.8	-5.5
BIA				i		14 39 40.6	
BIA				i		14 39 42.8	
BIA				i		14 40 02.4	
BIA				i		14 40 11.3	
SOH	Sokhos	2.57	25	ePn	Pn	14 39 42.9	+0.5
SOH				eSn	Sn	14 40 14.9	+0.9
OHR	Ohrid	2.76	342	i Pn	Pn	14 39 48.0	+2.9
OHR				i		14 39 51.8	
OHR				i		14 39 55.4	
OHR				i		14 40 16.9	
OHR				i		14 40 25.5	
KNT	Kendrikon	2.76	15	ePn	Pn	14 39 45.5	+0.4
	comp=Z,13nm,0.3s						
KNT				eSn	Sn	14 40 19.1	+0.2
VAY	Valandovo	2.86	10	i Pn	Pn	14 39 44.5	-2.1
VAY				i		14 39 50.8	
VAY				i		14 40 25.4	
VAY				i		14 40 36.1	
LIA	Limnos Island	2.88	60	ePN	Pn	14 39 45.2	-1.6
SRS	Serrai	2.91	25	ePn	Pn	14 39 47.1	-0.1
SRS				eSn	Sn	14 40 22.7	0.0
APE	Apeiranthos	3.18	116	ePN	Pn	14 39 50.8	-0.3
NVR	Nevrokopi	3.21	27	ePN	Pn	14 39 49.3	-2.2
TIR	Tirane	3.27	331	ep	Pn	14 40 01.9	+10
MMB	Musomiste	3.38	23	i P	Pn	14 39 53.0	-0.9
THR5	Thira Island,	3.41	126	ePn	Pn	14 39 56.5	+2.1
PRK	Paraskevi	3.46	76	ePN	Pn	14 39 54.2	-0.9
KKB	Krupnik	3.48	14	i P	Pn	14 39 54.0	-1.3
LCI	Lecce	3.49	303	ePn	Pn	14 39 56.2	+0.7
SKO	Skopje	3.49	354	i Pn	Pn	14 39 56.6	+1.1
SKO				i		14 40 02.2	
SKO				i		14 40 05.2	
VAM	Vamos	3.57	149	ePN	Pn	14 39 57.3	+0.6
KPJ	Monastery St.	3.72	5	i Pn	Pn	14 39 59.0	+0.2
KPJ				i		14 40 00.6	
KPJ				i		14 40 03.8	
RZN	Rozhen	3.83	33	i P	Pn	14 40 00.0	-0.3
ALN	Alexandroupoli	3.97	52	ePn	Pn	14 40 02.2	-0.1
IDI	Anoyia	3.98	143	P	Pn	14 40 04.0	+1.6
	2.5nm,0.3s,baz=335,slow=17,SNR=8.1						
IDI				S	Sn	14 40 49.6	-0.1
	7.1nm,0.3s,baz=82,slow=19,SNR=4.6						
ULC	Ulcinj	4.03	330	ePn	Pn	14 40 03.8	+0.7
ULC				eSn	Sn	14 40 45.4	-5.7
TIP	Timpagrande	4.11	281	ePn	Pn	14 40 05.2	+1.0
VTS	Vitosha	4.20	13	i P	Pn	14 40 05.5	-0.1
BARS	Barje	4.32	359	⇑iPn	Pn	14 40 07.8	+0.6
BARS				Sn	Sn	14 40 56.0	-2.4
PVY	Plav	4.36	341	ePn	Pn	14 40 10.4	+2.6
PVY				eSn	Sn	14 40 56.6	-2.9
TTG	Podgorica	4.43	333	ePn	Pn	14 40 09.6	+0.8
TTG				eSn	Sn	14 40 55.5	-5.7
BUM	Brajici-Budva	4.46	330	ePn	Pn	14 40 08.8	-0.4
BUM				eSn	Sn	14 40 54.6	-7.2
ORI	Oriolo Calabro	4.54	292	ePn	Pn	14 40 12.4	+2.0
IVA	Berane	4.64	341	ePn	Pn	14 40 13.7	+1.9
IVA				eSn	Sn	14 41 03.4	-3.1
HCY	Herceg Novi	4.74	327	ePn	Pn	14 40 12.4	-0.8
HCY				eSn	Sn	14 41 01.2	-7.9
NKY	Niksic	4.86	333	ePn	Pn	14 40 14.8	-0.1
NKY				eSn	Sn	14 41 06.0	-6.1
BRY	Bratogost	5.10	331	ePn	Pn	14 40 18.3	-0.1
BRY				eSn	Sn	14 41 11.2	-6.9
PLE	Pljevlja	5.20	339	ePn	Pn	14 40 21.2	+1.5
PLE				eSn	Sn	14 41 15.7	-4.9
MGR	Morigerati	5.22	290	ePn	Pn	14 40 20.8	+0.8
UPM	Unac-Piva	5.23	335	ePn	Pn	14 40 21.4	+1.2
UPM				eSn	Sn	14 41 15.8	-5.6
SLCN	Sala Consilina	5.24	293	ePn	Pn	14 40 21.8	+1.6
CSSN	Cassano Irpino	5.84	296	ePn	Pn	14 40 30.3	+1.6
INTR	Introdacqua	7.08	302	ePn	Pn	14 40 46.8	+0.5
MLR	Muntele Rosu	7.60	22	P	Pn	14 40 54.8	+1.3
	1.4nm,0.3s,baz=201,slow=12,SNR=13						
NRCA	Norcia	7.99	306	ePn	Pn	14 40 58.9	0.0
BRTR	Keskin Array B	9.18	79	P	P	14 41 16.3	+0.9
	0.5nm,0.3s,baz=258,slow=13,SNR=6.5						
VRAC	Vranov	11.47	342	P	P	14 41 45.6	-1.2
	0.4nm,0.3s,baz=135,slow=18,SNR=2.4						
AKASG	Malin Array Be	13.25	21	P	P	14 42 10.6	-0.1
	0.8nm,0.3s,baz=207,slow=12,SNR=4.4						
ESDC	Sonseca Array	20.13	282	P	P	14 43 34.2	-2.7
	0.2nm,0.3s,baz=78,slow=10,SNR=2.7						
HFS	Hagfors	22.28	349	P	P	14 43 57.2	-1.4
	5.3nm,1.1s,mb3.9,baz=150,slow=12,SNR=5.7						
FINES	FINESS Array B	23.12	5	P	P	14 44 06.1	-0.6
	1.2nm,0.7s,mb3.4,baz=180,slow=11,SNR=4.4						
NB2	NORSAR Subarra	23.55	347	P	P	14 44 10.0	-0.9
	1.6nm,0.6s,mb3.6,baz=154,slow=9.3						
NOA	NORSAR Array B	23.55	347	P	P	14 44 09.6	-1.3
	2.8nm,0.9s,mb3.7,baz=160,slow=9.7,SNR=6.2						
EKA	Eskdalemuir Ar	23.83	323	P	P	14 44 13.3	-0.4
	4.3nm,1.0s,mb3.8,baz=122,slow=9.3,SNR=3.2						
ARCES	ARCESS Array B	31.16	2	P	P	14 45 20.0	-0.8
	0.5nm,0.6s,mb3.5,baz=188,slow=8.6,SNR=4.3						
BORG	Borgarnes	36.38	330	LR	LR	15 00 12.6	
	comp=Z,41nm,19.9s,MS3.2,baz=244,slow=35						
DBIC	Dimbokro	39.89	224	LR	LR	15 06 10.7	
	comp=Z,34nm,19.6s,MS3.2,baz=320,slow=41						
MKAR	Makanchi Array	44.18	59	P	P	14 47 09.8	-0.8
	2.8nm,0.5s,mb4.3,baz=282,slow=6.9,SNR=17						
SONM	Songino Array	59.39	51	P	P	14 49 03.4	-1.3
	0.3nm,0.5s,mb3.6,baz=281,slow=7.3,SNR=3.6						
ASAR	Alice Springs	121.10	97	PKP	PKPdf	14 57 52.9	-3.4
	0.4nm,1.0s,baz=267,slow=1.6,SNR=4.1						

IDC 18 14:46:10.1±47.0**, 16.28S**×**178.16W, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=860.0km s-min=164.7km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.64	240	P	P	14 53 43.6	-1.9
	0.7nm,0.7s,baz=92,slow=11,SNR=3.2						
WRA	Warramunga Arr	45.19	258	P	P	14 54 28.9	-1.9
	0.4nm,1.1s,baz=91,slow=7.9,SNR=8.4						
ASAR	Alice Springs	45.48	253	P	P	14 54 31.6	-1.6
	1.1nm,0.4s,baz=89,slow=8.1,SNR=57						

IDC 18 15:27:07.0±7.9**, 7.86S**×**130.64E, h57^{km}**±88^{km}**, mb3.6**/1**, mb1 3.6**/4**, mb1mx3.4**/11**, ML3.4**/3**, Error ellipse: s-maj=55.6km s-min=51.2km az=15.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.29	205	P	P	15 29 45.2	-2.8
	0.4nm,0.3s,baz=17,slow=12,SNR=22						
FITZ				S	S	15 31 49.1	-4.3
	0.2nm,0.3s,baz=185,slow=19,SNR=4.0						
WRA	Warramunga Arr	12.54	164	P	P	15 30 03.2	-1.6
	0.3nm,0.3s,baz=349,slow=13,SNR=26						
WRA				S	S	15 32 21.1	-2.5
	0.2nm,0.3s,baz=345,slow=23,SNR=4.2						
ASAR	Alice Springs	16.03	169	P	P	15 30 50.4	+0.2
	0.2nm,0.3s,baz=335,slow=8.4,SNR=13						
MKAR	Makanchi Array	69.28	327	P	P	15 38 08.2	-2.0
	0.6nm,0.5s,baz=118,slow=6.8,SNR=7.6						

IDC ***18*** *15:31:08.2±16.0, 25.78S×177.35W, h160^{km}±149^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.6/15, Error ellipse: s-maj=123.0km s-min=45.4km az=158.0*
NEIC ***18*** *15:31:12.6±1.6, 25.81S×177.40W, h200^{km}, mb4.2/1, Error ellipse: s-maj=85.0km s-min=17.9km az=158.0*
ISC 18 15:31:11.5±1.4**, 25.9S**±0.1×**177.5W**±0.2**, h200^{km}, n11,** σ**0^{s}77**/9**, mb3.6**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	13.11	199	S	S	15 36 33.0	0.0
	0.8nm,0.3s,baz=244,slow=23,SNR=4.9						
CTA	Charters Tower	33.84	272	P	P	15 37 36.5	-0.3
	2.3nm,0.5s,mb4.0,baz=92,slow=11,SNR=3.9						
CTAO	Charters Tower	33.84	272	eP	P	15 37 36.3	-0.5
	4.6nm,0.8s,mb4.1						
STKA	Stephens Creek	36.18	251	P	P	15 37 57.2	+0.6
	0.9nm,0.4s,mb3.6,baz=104,slow=11,SNR=6.0						
STKA	Stephens Creek	36.18	251	P	P	15 37 57.2	+0.6
ASAR	Alice Springs	44.02	262	P	P	15 39 00.5	-0.6
	1.4nm,0.5s,mb3.5,baz=95,slow=7.7,SNR=30						
FITZ	Fitzroy Crossi	53.00	266	P	P	15 40 09.2	-0.7
	2.9nm,1.1s,mb3.6,baz=120,slow=8.1,SNR=3.8						
NVAR	Mina Array Bea	84.64	43	P	P	15 43 23.4	-0.5
	0.4nm,0.5s,mb3.4,baz=212,slow=5.9,SNR=4.3						
CMAR	Chiang Mai Arr	92.39	289	P	P	15 44 02.6	+1.7
	0.3nm,0.7s,mb3.3,baz=143,slow=4.5,SNR=4.1						
NOA	NORSAR Array B	144.42	353	PKP	PKPdf	15 50 24.1	+1.1
	0.6nm,0.8s,baz=67,slow=4.2,SNR=3.0						
HFS	Hagfors	144.97	350	PKP	PKPdf	15 50 23.8	-0.1
	1.3nm,0.5s,baz=45,slow=2.1,SNR=10						

CASC 18 15:54:56.5±1.6**, 16.44N**×**87.29W, h35^{km}**±82^{km}**, MD4.2, ML4.4, 4C, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	Marmol	2.69	240	eP	P	15 55 36.6	-1.7
MRL				eS	S	15 56 09.3	-0.6
MRL				AML	AML	15 56 12.6	
	comp=E,482nm,0.7s						
VSM	San Miguel	3.14	198	⇑eP	P	15 55 43.9	-0.9
LBRS	Las Brisas	3.18	212	eP	P	15 55 44.5	-0.8
LBRS				eS	S	15 56 22.0	-0.4
SNVI	San Vicente	3.19	208	⇑eP	P	15 55 44.4	-1.0
CNCH	Conchagua	3.19	190	eP	P	15 55 45.4	-0.1
CNCH				eS	S	15 56 22.1	-0.7
LCBS	La Ceiba	3.21	211	⇑eP	P	15 55 44.5	-1.4
LCBS				eS	S	15 56 22.4	-0.9
BOQS	Boqueron	3.31	216	eP	P	15 55 46.4	-0.7
BOQS				eS	S	15 56 25.9	+0.1
SNJE	San Jose	3.40	221	⇑eP	P	15 55 48.7	+0.2
SNJE				eS	S	15 56 27.1	-1.0
RTR	El Retiro	3.40	222	eP	P	15 55 48.2	-0.2
RTR				eS	S	15 56 28.6	+0.4
SBLS	San Blas	3.43	221	eP	P	15 55 48.5	-0.4
SBLS				eS	S	15 56 28.0	-0.9
NBG	Las Nubes	3.48	238	eP	P	15 55 49.8	+0.2
NBG				eS	S	15 56 30.9	+0.9
NBG				AML	AML	15 56 42.6	
	comp=E,5µm,0.5s						
IXG	Ixpaco	3.79	234	eP	P	15 55 52.6	-1.4
IXG				eS	S	15 56 37.0	-1.2
IXG				AML	AML	15 56 49.2	
	comp=E,3µm,0.4s						

BGR ***18*** *16:10:18.9±0.3, 49.39N×6.90E, h1^{km}, ML1.9/1, Error ellipse: s-maj=4.4km s-min=2.2km az=62.0*
LDG ***18*** *16:10:18.9±0.1, 49.40N×6.87E, h1^{km}, Md2.6/2, Ml2.8/14, Error ellipse: s-maj=1.0km s-min=1.0km az=76.0, Suspected Mining induced.*
NEIC ***18*** *16:10:18.9, 49.40N×6.87E, h1^{km}, ML2.8(LDG), ML2.4(STR), After LDG.*
BNS ***18*** *16:10:19.0±0.7, 49.36N×7.03E, h1^{km}, ML2.0*
ISC 18 16:10:17.0±0.3**, 49.37N**±0.01×**6.82E**±0.03**, n35,** σ**1^{s}14**/72**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	Walferdange	0.53	305	ePg	Pg	16 10 30.4	+2.8
	SNR=4.0						
WLF				eSg	Sg	16 10 36.3	+1.7
	SNR=3.4						
WLF	Walferdange	0.53	305	eP	Pg	16 10 30.2	+2.7
LANF	Langenberg	0.75	121	ePg	Pg	16 10 32.2	+0.3
	SNR=5.7						
BGG	Burgeitz	0.90	21	ePg	Pg	16 10 35.5	+0.4
BGG				eSg	Sg	16 10 47.7	+0.6
	33nm,0.5s						
CDF	Champ du Feu	1.00	162	ePg	Pg	16 10 38.2	+1.2
CDF				eSg	Sg	16 10 51.2	+0.9
	34nm,0.2s						
WLS	Welschbruch	1.02	160	ePg	Pg	16 10 38.4	+1.1
	SNR=9.6						
WLS				eSg	Sg	16 10 51.5	+0.7
	SNR=1.2						
WLS	Welschbruch	1.02	160	Pg	Pg	16 10 38.6	+1.3
WLS				Sg	Sg	16 10 52.3	+1.5
RFYF	Reffroy	1.16	231	ePg	Pg	16 10 42.3	+2.3
	baz=50						
RFYF				eSg	Sg	16 10 57.8	+2.4
	22nm,0.3s,baz=52						
ECH	Echery	1.17	169	ePg	Pg	16 10 41.3	+0.9
	SNR=11						
ECH				eSg	Sg	16 10 56.3	+0.3
	SNR=4.5						
ECH	Echery	1.17	169	Pg	Pg	16 10 41.4	+1.0
ECH				Sg	Sg	16 10 56.5	+0.5
KOE	Koppel	1.21	29	ePg	Pg	16 10 40.9	-0.3
KOE				eSg	Sg	16 10 56.3	-1.0
	51nm,0.7s						
STB	Steinbach	1.23	1	eSg	Sg	16 10 58.2	+0.2
THEF	They Montfort	1.27	206	ePg	Pg	16 10 43.1	+0.8
	SNR=3.8						
THEF				eSg	Sg	16 11 00.2	+1.0
	SNR=5.0						
THEF	They Montfort	1.27	206	Pg	Pg	16 10 42.9	+0.6
THEF				Sg	Sg	16 11 00.1	+0.9
LIBD	Limburg	1.32	157	ePg	Pg	16 10 44.3	+1.0
	SNR=3.4						
LIBD				eSg	Sg	16 11 01.7	+0.7
	SNR=2.3						
LIBD	Limburg	1.32	157	Pg	Pg	16 10 43.8	+0.4
LIBD				Sg	Sg	16 11 02.2	+1.2
KLL	Kalltalsperre	1.32	346	ePg	Pg	16 10 43.6	+0.2
HAU	Haudompre	1.40	193	ePg	Pg	16 10 45.7	+0.8
HAU				eSn	Sn	16 11 02.7	-0.5
HAU				eSg	Sg	16 11 04.2	+0.7
	31nm,0.4s						
BFO	Black Forest	1.44	136	ePg	Pg	16 10 45.4	-0.3
	SNR=7.8						
BFO				eSg	Sg	16 11 03.8	-1.1
	SNR=3.3						
BFO	Black Forest	1.44	136	ePg	Pg	16 10 45.6	-0.1
BFO				eSg	Sg	16 11 03.9	-0.9
MEZF	Maizieres J'vi	1.45	234	ePn	Pn	16 10 45.2	+0.6
MEZF				eSg	Sg	16 11 06.1	+0.7
	24nm,0.5s						
GIVF	Givet	1.49	300	ePn	Pn	16 10 45.4	+0.3
GIVF				ePg	Pg	16 10 47.2	+0.4
GIVF				eSg	Sg	16 11 06.6	-0.1
	16nm,0.4s						
HGN	Heimansgroeve	1.51	338	eSg	Sg	16 11 06.5	-0.9
	SNR=2.3						
MOF	Molkenrain	1.53	172	ePg	Pg	16 10 47.6	0.0
	SNR=6.8						
MOF				eSg	Sg	16 11 08.1	+0.2
	SNR=5.7						
MOF	Molkenrain	1.53	172	Pg	Pg	16 10 47.8	+0.3
MOF				Sg	Sg	16 11 07.8	-0.1
HINF	Hinteralfeld	1.55	179	ePg	Pg	16 10 48.0	+0.1
HINF				eSn	Sn	16 11 06.1	-1.0
HINF				eSg	Sg	16 11 08.7	+0.1
	29nm,0.3s						
SFTF	Sexfontaines	1.66	226	ePg	Pg	16 10 50.8	+0.7
SFTF				eSg	Sg	16 11 12.4	+0.3
	7.4nm,0.2s						
BAIF	Baives	1.83	293	ePn	Pn	16 10 51.0	+1.0
BAIF				ePg	Pg	16 10 53.0	-0.6
BAIF				eSg	Sg	16 11 17.1	-0.9
	8.5nm,0.4s						

CABF	La Chapelle	2.80	190	ePn	Pn	16 11 03.3	-0.5
CABF				ePg	Pg	16 11 11.2	-1.7
CABF				eSg	Sg	16 11 47.4	-2.8
	20nm,0.6s						
LOR	Lormes	2.88	224	ePn	Pn	16 11 04.8	-0.2
LOR				ePg	Pg	16 11 13.0	-1.6
LOR				eSn	Sn	16 11 38.9	-2.1
	11nm,0.4s						
LOR				eSg	Sg	16 11 51.1	-1.9
SSF	Saint Saulge	3.20	225	ePn	Pn	16 11 08.9	-0.6
SSF				eSn	Sn	16 11 46.4	-2.5
	8.3nm,0.5s						
MOX	Moxa	3.35	66	eP	Sg	16 12 08.0	-0.4
SMF	Signal de Mont	3.38	217	ePn	Pn	16 11 10.9	-1.2
SMF				eSn	Sn	16 11 50.4	-3.1
SMF				eSg	Sg	16 12 06.1	-3.4
	6.3nm,0.4s						
AVF	Avril sur Loir	3.47	223	eSn	Sn	16 11 52.5	-3.3
	2.3nm,0.3s						
KHC	Kasperske Hory	4.43	90	ePN	Pn	16 11 25.5	-1.5
KHC				eSN	Sn	16 12 16.5	-3.6
KHC				eSG	Sg	16 12 39.0	-5.5

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*NEIC **18** 16:55:17.6, 15.53N×94.50W, h42^{km}, mb4.5/1, MD4.3(MEX), After MEX.*

MEX 18 16:55:17.1±0.7**, 15.52N×94.48W, h33^{km}**±104^{km}**, MD4.3, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.58	279	iP	Pn	16 55 42.5	-0.8
HUIG				iS	Sn	16 55 58.5	-4.4
CMIG	Matias Romero	1.61	346	iP	Pn	16 55 42.1	-1.6
CMIG				iS	Sn	16 56 00.7	-2.8
SCX	San Cristobal	2.15	56	eP	Pn	16 55 48.0	-3.5
SCX				iS	Sn	16 56 15.0	-2.2
CCIG	Comitan	2.38	71	iP	Pn	16 55 53.1	-1.6
CCIG				iS	Sn	16 56 18.3	-4.8
OXX	Oaxaca	2.65	306	eP	Pn	16 55 56.5	-2.1
VHO	Vista Hermosa	2.66	306	iP	Pn	16 56 01.1	+2.4
VHO				iS	Sn	16 56 25.3	-4.8

MOS 18 17:03:42.4±2.2**, 50.20N×98.80E, h10^{km}, mb4.3**/1**, Error ellipse: s-maj=99.9km s-min=36.0km az=51.1, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOY	Mondy	2.02	43	ePN	Pn	17 04 19.6	+2.6
MOY				e		17 04 45.6	
MOY				pmax	pmax		
	comp=Z,71nm,0.4s						
MOY				smax			
	comp=N,255nm,0.3s						
ARS	Arshan	2.86	52	ePN	Pn	17 04 33.2	+4.2
TRG	Tyrgan	5.37	59	ePN	Pn	17 05 03.7	-0.8
TRG				e		17 05 19.4	
TRG				e		17 06 28.8	
TRG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TRG				smax			
	comp=N,87nm,1.5s						
OGRR	Ongureny	6.44	54	ePN	Pn	17 05 17.9	-1.8
OGRR				e		17 05 37.9	
OGRR				e		17 07 00.7	
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OGRR				smax			
	comp=E,55nm,1.0s						

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*NEIC **18** 17:11:23.2±2.5, 48.03N×153.50E, h71^{km}±23^{km}, mb4.3/1, Error ellipse: s-maj=22.0km s-min=16.9km az=197.0*

*MOS **18** 17:11:34.8±0.9, 49.29N×153.47E, h151^{km}, mb3.7/2, Error ellipse: s-maj=61.6km s-min=27.3km az=138.7*

*IDC **18** 17:11:35.5±3.3, 49.28N×153.56E, h140^{km}±37^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.3/24, Error ellipse: s-maj=49.4km s-min=17.0km az=166.0*

ISC 18 17:11:35.1±0.9**, 49.2N**±0.2×**153.6E**±0.2**, h156^{km}**±9^{km}**, n17,** σ**0^{s}66**/21**, mb3.6**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.19	46	ePN	P	17 12 12.8	-0.4
SKR				eS	S	17 12 43.0	+0.5
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	Petropavlovsk	4.97	38	P	P	17 12 49.2	+0.2
ASAJ	Asahikawa	9.13	240	P	P	17 13 43.5	-0.7
	comp=Z,1.2nm,0.3s,baz=80,slow=12,SNR=18						
ASAJ				S	S	17 15 26.1	+0.8
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=1.9						
ASAJ	Asahikawa	9.13	240	PN	P	17 13 43.5	-0.8
ASAJ				S	S	17 15 26.2	+0.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	12.83	66	P	P	17 14 32.7	+0.3
	comp=Z,0.3nm,0.3s,baz=248,slow=5.0,SNR=2.9						
FX1				S	S	17 16 44.2	-7.9
	comp=Z,4.0nm,0.3s,baz=158,slow=22,SNR=15						
FX1	Attu Island--F	12.83	66	eP	P	17 14 30.2	-2.2
MKAR	Makanchi Array	46.16	296	P	P	17 19 44.7	-0.6
	comp=Z,1.5nm,0.7s,mb3.8,baz=66,slow=8.7,SNR=8.5						
MKAR	Makanchi Array	46.16	296	P	P	17 19 44.7	-0.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	46.16	296	P	P	17 19 44.7	-0.6
BVAR	Borovoye Array	49.60	308	P	P	17 20 11.3	-0.5
	comp=Z,0.9nm,0.5s,mb3.7,baz=67,slow=11,SNR=4.5						
CMAR	Chiang Mai Arr	53.31	255	P	P	17 20 39.9	-0.2
	comp=Z,0.6nm,0.6s,mb3.5,baz=33,slow=6.9,SNR=4.1						
CMAR	Chiang Mai Arr	53.31	255	P	P	17 20 39.9	-0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	Pinedale Array	63.04	55	P	P	17 21 47.8	+0.4
	comp=Z,1.3nm,1.1s,mb3.7,baz=304,slow=5.3,SNR=5.5						
CTAO	Charters Tower	69.28	187	P	P	17 22 14.6	-13
	comp=Z,3.5nm,0.9s,mb4.1						
TXAR	Lajitas Array	76.00	61	P	P	17 23 06.8	+0.5
	comp=Z,0.1nm,0.3s,mb2.9,baz=292,slow=4.9,SNR=3.5						
BRTR	Keskin Array B	76.85	317	P	P	17 23 11.5	+0.7
	comp=Z,0.4nm,0.4s,mb3.4,baz=31,slow=8.4,SNR=2.7						
STKA	Stephens Creek	81.42	190	eP	P	17 23 26.7	-8.9

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*IDC **18** 17:17:38.6±7.4, 8.44S×124.31E, h47^{km}±81^{km}, mb3.6/2, mb1 3.7/5, mb1mx3.5/13, ML3.6/3, Error ellipse: s-maj=145.0km s-min=37.2km az=52.0*

ISC 18 17:17:48.9±2.1**, 9.2S**±0.1×**124.2E**±0.1**, h192^{km}**±25^{km}**, n8,** σ**1^{s}06**/14**, mb3.5**/2**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	8.76	114	eP	P	17 19 52.3	-0.7
	4.7nm,0.2s						
KAKA				eS	S	17 21 29.5	-0.4
FITZ	Fitzroy Crossi	8.94	171	eP	P	17 19 55.2	0.0
	1.1nm,0.4s						
FITZ				eS	S	17 21 32.8	-1.2
FITZ	Fitzroy Crossi	8.94	171	P	P	17 19 55.2	0.0
	0.3nm,0.3s,baz=26,slow=11,SNR=15						
FITZ				S	S	17 21 33.8	-0.2
	2.4nm,0.3s,baz=161,slow=7.9,SNR=12						
WRA	Warramunga Arr	14.48	139	P	P	17 21 07.4	+1.3
	0.6nm,0.3s,baz=316,slow=15,SNR=36						
WRA				S	S	17 23 43.2	+1.2
	0.5nm,0.3s,baz=316,slow=25,SNR=9.3						
WB2	Warramunga Arr	14.49	138	eP	P	17 21 07.7	+1.4
WB2				eS	S	17 23 40.3	-1.8
ASAR	Alice Springs	17.10	148	P	P	17 21 42.6	+4.6
	0.2nm,0.3s,baz=332,slow=14,SNR=38						
ASAR				S	S	17 24 48.8	+8.3
	0.2nm,0.3s,baz=308,slow=21,SNR=9.6						
STKA	Stephens Creek	27.73	147	P	P	17 23 28.0	+6.4
	1.8nm,0.8s,mb3.8,baz=315,slow=8.6,SNR=2.9						
MKAR	Makanchi Array	67.10	330	P	P	17 28 23.1	-0.6
	0.3nm,0.5s,mb3.2,baz=121,slow=7.0,SNR=4.2						

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*NEIC **18** 17:46:11.6, 16.02N×98.12W, h16^{km}, MD4.2(MEX), After MEX.*

MEX 18 17:46:10.8±0.6**, 16.04N×98.13W, h13^{km}**±25^{km}**, MD4.3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	Vista Hermosa	1.69	52	eP	Pn	17 46 37.0	-3.3
VHO				iS	Sn	17 46 56.5	-5.5
OXX	Oaxaca	1.71	52	eP	Pn	17 46 37.5	-3.1
OXX				iS	Sn	17 47 06.0	+3.6
CAIG	El Cayaco	2.28	296	iP	Pn	17 46 46.4	-2.5
CAIG				iS	Sn	17 47 11.2	-5.9
CAIG	El Cayaco	2.28	296	iP	Pn	17 46 46.4	-2.5
CAIG				iS	Sn	17 47 00.2	-17
PLIG	Platanillo	2.69	331	iP	Pn	17 46 50.3	-4.3
PLIG				iS	Sn	17 47 21.4	-5.9
YAIG	Yautepec	2.95	343	eP	Pn	17 46 53.5	-4.8
YAIG				iS	Sn	17 47 30.6	-3.4
IISM	Ciudad Serdan	3.02	14	eP	Pn	17 47 01.5	+2.1
PPM	Popocatepetl	3.05	351	eP	Pn	17 46 55.0	-4.8
PPM				iP		17 46 57.3	
PPM				iS	Sn	17 47 36.1	-0.5
PPM	Popocatepetl	3.05	351	iP	Pn	17 46 57.3	-2.5
PPM				iS	Sn	17 47 37.9	+1.4
CMIG	Matias Romero	3.29	71	iP	Pn	17 46 59.4	-3.8
CMIG				iS	Sn	17 47 40.9	-1.6
IIZ	Mezontepec	3.31	342	iP	Pn	17 47 04.0	+0.5
UNM	Universidad Na	3.42	343	eP	Pn	17 47 04.5	-0.6
ZIIG	Zihuatanejo	3.56	297	iS	Sn	17 47 44.7	-4.6
EVV	El Vigia	3.59	47	eP	Pn	17 47 04.5	-2.9

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*IDC **18** 17:57:23.9±1.1, 1.73S×12.97W, mb4.2/5, mb1 4.1/6, mb1mx3.8/21, ML3.4/1, MS4.0/11, Ms1 4.0/11, ms1mx3.7/22, Error ellipse: s-maj=40.5km s-min=26.6km az=131.0*

*NEIC **18** 17:57:24.4±10.0, 1.88S×12.84W, h8^{km}±61^{km}, mb4.4/2, Error ellipse: s-maj=34.0km s-min=24.3km az=107.0*

ISC 18 17:57:23.5±0.9**, 1.7S**±0.2×**12.9W**±0.2**, h10^{km}, n18,** σ**0^{s}63**/12**, mb4.2**/6**, MS4.0**/10**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	Dimbokro	11.56	44	Pn	P	18 00 11.4	-0.4
	0.2nm,0.3s,baz=268,slow=15,SNR=2.7						
DBIC				Sn	S	18 02 15.0	-7.0
	0.3nm,0.3s,baz=151,slow=23,SNR=2.8						
DBIC				LR	LR	18 03 42.3	
	comp=Z,1μm,20.8s,baz=240,slow=32						
DBIC	Dimbokro	11.56	44	Pn	P	18 00 11.4	-0.4
DBIC				Sn	S	18 02 15.0	-7.0
DBIC				LR	LR	18 03 42.3	
DAVOX	Davos	52.27	20	P	P	18 06 37.4	+0.1
	2.3nm,1.0s,mb4.1,baz=180,slow=12,SNR=4.0						
GERES	GERESS Array B	55.37	21	P	P	18 06 59.7	-0.4
	1.6nm,0.9s,mb4.0,baz=211,slow=7.8,SNR=7.4						
LPAZ	La Paz	56.24	252	LR	LR	18 27 52.3	
	comp=Z,332nm,21.8s,MS4.4,baz=55,slow=33						
BRTR	Keskin Array B	59.24	41	P	P	18 07 28.5	+0.9
	0.8nm,0.7s,mb3.9,baz=198,slow=7.8,SNR=4.4						
BRTR				LR	LR	18 34 41.9	
	comp=Z,83nm,19.7s,MS3.9,baz=5.0,slow=38						
ROSC	El Rosal	61.70	276	P	P	18 07 44.7	-0.1
	10.0nm,0.4s,mb5.3,baz=120,slow=15,SNR=2.9						
ROSC				LR	LR	18 30 16.3	
	comp=Z,276nm,19.5s,MS4.4,baz=51,slow=32						
ROSC	El Rosal	61.70	276	P	P	18 07 44.7	-0.1
ROSC				LR	LR	18 30 16.3	
AKASG	Malin Array Be	63.34	29	LR	LR	18 36 00.2	
	comp=Z,71nm,18.8s,MS3.9,baz=195,slow=36						
SNAA	Sanae	70.17	177	P	P	18 08 38.1	0.0
	2.4nm,0.9s,mb4.1						
ARCES	ARCESS Array B	75.64	13	LR	LR	18 41 00.9	
	comp=Z,55nm,21.5s,MS3.8,baz=271,slow=35						
MAW	Mawson	83.04	158	P	P	18 09 50.8	+0.5
	0.8nm,0.6s,mb3.9,baz=301,slow=10,SNR=3.1						
MAW				LR	LR	18 37 10.1	
	comp=Z,64nm,20.3s,MS4.0,baz=234,slow=29						
MAW	Mawson	83.04	158	P	P	18 09 46.9	-3.3
	2.7nm,1.0s,mb4.2						
MAW				LR	LR	18 37 10.1	
ULM	Lac du Bonnet	86.78	320	LR	LR	18 42 01.4	
	comp=Z,49nm,19.4s,MS3.9,baz=37,slow=31						
TXAR	Lajitas Array	91.48	299	LR	LR	18 47 47.3	
	comp=Z,37nm,20.1s,MS3.8,baz=50,slow=33						
MKAR	Makanchi Array	94.79	43	LR	LR	19 02 03.3	
	comp=Z,33nm,18.4s,MS3.8,baz=120,slow=41						
PDAR	Pinedale Array	96.03	313	LR	LR	18 47 10.5	
	comp=Z,95nm,18.5s,MS4.3,baz=88,slow=31						
ASAR	Alice Springs	139.05	130	PKP	PKPdf	18 16 52.5	-2.1
	0.3nm,0.7s,baz=225,slow=2.8,SNR=3.9						

WEL 18 18:00:01.9±0.1**, 43.09S×171.10E, h5^{km}, ML3.5**/8**, 4C-1D, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVZ	Waitaha Valley	0.27	272	⇓PG	Pg	18 00 07.3	0.0
WVZ				SG	Sg	18 00 10.6	-0.3
RPZ	Rata Peaks	0.63	183	⇑P*	Pb	18 00 14.5	-0.5
RPZ				SG	Sg	18 00 22.6	-0.3
LTZ	Lake Taylor	0.91	71	⇑P*	Pb	18 00 19.4	-0.3
LTZ				S*	Sb	18 00 31.3	-0.6
CRLZ	Canterbury Las	1.21	114	P*	Pb	18 00 24.8	-0.1
CRLZ				S*	Sb	18 00 39.9	-0.8
MQZ	McQueen's Vall	1.29	119	P*	Pb	18 00 25.7	-0.5
MQZ				S*	Sb	18 00 42.5	-0.5
DSZ	Denniston Nort	1.43	21	PN	Pn	18 00 27.4	-1.2
LBZ	Lake Benmore	1.46	207	⇑PN	Pn	18 00 28.7	-0.3
LBZ				SN	Sn	18 00 47.4	-1.4
THZ	Tophouse	1.88	46	PN	Pn	18 00 34.4	-0.5
KHZ	Kahutara	1.92	70	PN	Pn	18 00 34.7	-0.8
KHZ				eSN	Sn	18 00 59.1	-1.1
JCZ	Jackson Bay	1.97	239	PN	Pn	18 00 35.1	-1.2
JCZ				eSN	Sn	18 00 59.6	-2.0
ODZ	Otahua Downs	1.99	189	⇑PN	Pn	18 00 31.7	-4.8
ODZ				eSN	Sn	18 00 56.7	-5.4
WKZ	Wanaka	2.30	220	ePN	Pn	18 00 40.1	-1.0
BSWZ	Blackbirch Sta	2.47	57	PN	Pn	18 00 43.0	-0.4
QRZ	Quartz Range	2.49	26	PN	Pn	18 00 42.5	-1.3
NNZ	Nelson	2.52	43	PN	Pn	18 00 43.2	-0.9
AXZ	Alexandra	2.53	210	ePN	Pn	18 00 42.6	-1.7
TUWZ	Tuamarina	2.68	53	ePN	Pn	18 00 46.8	+0.4
TUZ	Tuapeka	3.06	200	ePN	Pn	18 00 51.6	-0.2
MLZ	Mavora Lakes	3.09	222	ePN	Pn	18 00 53.6	+1.3
CAW	Cannon Point	3.55	58	PN	Pn	18 00 56.1	-2.7
PKE	Pukeiti	4.45	30	PN	Pn	18 01 10.8	-0.8
VRZ	Vera Road	4.82	36	PN	Pn	18 01 15.6	-1.3
HIZ	Hauiti	5.38	33	PN	Pn	18 01 22.3	-2.4

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*NIED **18** 18:18:00, 46.90N×153.10E, h8^{km}, Mw4.1 Best double couple: M$_0$1.64×10^{15} NP1:φ$_s$332°, δ79°, λ-98°. NP2: φ$_s$188°, δ13°, λ-55°.*

*SKHL **18** 18:18:01.8±1.3, 46.50N×153.22E, h17^{km}±1^{km}, mb5.2/3*

*MOS **18** 18:18:03.4±1.3, 46.71N×153.06E, h33^{km}, mb4.2/6, Error ellipse: s-maj=17.4km s-min=9.7km az=61.8*

*IDC **18** 18:18:07.0±0.7, 46.90N×152.62E, h53^{km}±5^{km}, mb3.6/12, mb1 3.9/13, mb1mx3.7/22, Error ellipse: s-maj=21.2km s-min=14.1km az=131.0*

*NEIC **18** 18:18:06.7±0.6, 46.79N×152.93E, mb4.2/5, Error ellipse: s-maj=20.1km s-min=9.1km az=146.0*

ISC 18 18:18:05.8±1.0**, 46.82N**±0.07×**152.91E**±0.09**, h57^{km}**±10^{km}**, h52^{km}**±1.9^{km}**:pP-P, n48,** σ**1^{s}28**/55**, mb3.9**/15**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	3.85	248	⇓iP	P	18 19 03.5	-0.6
KUR				AMB	AMB	18 19 05.2	
	80nm,0.5s						
KUR				AMB	AMB	18 19 05.2	
	40nm,0.5s						
KUR				AMB	AMB	18 19 05.2	
	150nm,0.5s						
KUR				eS	S	18 19 50.8	+2.2
KUR				A		18 20 04.6	
	530nm,0.5s						
KUR				A		18 20 04.6	
	410nm,0.5s						
KUR	Kuril'sk	3.85	248	ePN	P	18 19 03.5	-0.6
KUR				eS	S	18 19 50.8	+2.2
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				pmax	pmax		
	comp=E,40nm,0.4s						
KUR				pmax	pmax		
	comp=Z,150nm,0.4s						
KUR				smax			
	comp=N,530nm,0.5s						
KUR				smax			
	comp=E,410nm,0.5s						
SKR	Severo-Kuril's	4.41	28	eP	P	18 19 12.3	+0.3
SKR				AMB	AMB	18 19 15.0	
	comp=E,110nm,0.4s						
SKR				AMB	AMB	18 19 15.0	
	comp=E,70nm,0.4s						
SKR				AMB	AMB	18 19 15.0	
	comp=E,200nm,0.5s						
SKR				sP		18 19 20.6	
SKR				eS	S	18 20 04.2	+1.6
SKR				A		18 20 17.1	
	comp=E,90nm,0.2s						
SKR				A		18 20 17.1	
	comp=E,70nm,0.4s						
SKR				A		18 20 17.1	
	comp=E,180nm,0.5s						
SKR	Severo-Kuril's	4.41	28	ePN	P	18 19 12.3	+0.3
SKR				eS	S	18 20 04.2	+1.6
YUK	Yuzh-Kuril'sk	5.69	243	eP	P	18 19 28.5	-1.2
YUK				AMB	AMB	18 19 29.2	
	comp=E,120nm,0.2s						
YUK				AMB	AMB	18 19 29.2	
	comp=E,280nm,0.3s						
YUK				AMB	AMB	18 19 29.2	
	comp=E,110nm,0.5s						
YUK				iS	S	18 20 36.5	+2.0
YUK				A		18 20 53.8	
	comp=E,2μm,0.5s						
YUK				A		18 20 53.8	
	comp=E,2μm,0.6s						
YUK				A		18 20 54.5	
	comp=E,540nm,0.5s						
YUK				A		18 20 54.5	
	comp=E,950nm,0.6s						
YUK	Yuzh-Kuril'sk	5.69	243	ePN	P	18 19 28.5	-1.2
YUK				iS	S	18 20 36.5	+2.0
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				pmax	pmax		
	comp=N,120nm,0.2s						
YUK				pmax	pmax		
	comp=E,110nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,950nm,0.6s						
YUK				smax			
	comp=E,540nm,0.5s						
YSS	Yuzh-Sakhalins	6.96	275	eP	P	18 19 46.9	-0.7
YSS				pP		18 19 52.8	
YSS				sP		18 19 54.8	
YSS				eS	S	18 21 05.0	-1.2
YSS				A		18 21 06.2	
	comp=E,30nm,0.7s						
YSS				A		18 21 06.2	
	comp=E,20nm,0.7s						
YSS	Yuzh-Sakhalins	6.96	275	eP	P	18 19 48.4	+0.8
	comp=E,6.3nm,0.3s						
PET	Petropavlovsk	7.23	29	ePN	P	18 19 49.7	-1.6
PET				pmax	pmax		
	comp=Z,13nm,0.5s						
PET				MLR	MLR		
	comp=Z,40nm,15.0s						
PET	Petropavlovsk	7.23	29	eP	P	18 19 49.2	-2.1
	comp=Z,11nm,0.6s						
ASAJ	Asahikawa	7.74	253	P	P	18 19 59.1	+0.9
	comp=Z,2.2nm,0.3s,baz=95,slow=15,SNR=18						
ASAJ	Asahikawa	7.74	253	PN	P	18 19 59.2	+0.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	Magadan	12.85	355	ePN	P	18 21 07.1	-0.4
MA2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FX1	Attu Island--F	14.38	58	P	P	18 21 25.4	-2.0
	comp=Z,7.9nm,0.3s,baz=315,slow=5.5,SNR=35						
FX1				S	S	18 23 55.7	-10
	comp=Z,1.3nm,0.3s,baz=121,slow=18,SNR=5.2						
FX1	Attu Island--F	14.38	58	P	P	18 21 25.4	-2.1
FX1				S	S	18 23 55.7	-10
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
FX1	Attu Island--F	14.38	58	eP	P	18 21 25.4	-2.1
MAJO	Matsushiro	15.01	232	eP	P	18 21 32.7	-3.0
	comp=N,4.2nm,0.7s						
YAK	Yakutsk	20.19	327	⇓eP	P	18 22 40.5	+2.5
YAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SSE	Sheshan	29.00	249	P	P	18 24 02.9	+0.8
	comp=Z,34nm,0.7s,mb5.2						
IMA	Indian Mountai	33.84	36	eP	P	18 24 44.5	+0.3
	comp=Z,7.4nm,0.6s,mb4.8						
SML	Sawmill	36.02	44	eP	P	18 25 02.8	-0.1
SML				e	pP	18 25 16.8	-0.8
COLA	College	36.17	38	eP	P	18 25 04.7	+0.6
ILAR	Eielson Array	36.58	39	P	P	18 25 07.3	-0.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=276,slow=8.9,SNR=12						
ILAR				pP	pP	18 25 20.6	-1.7
	comp=Z,0.8nm,0.6s,baz=259,slow=6.1,SNR=4.6						
ILAR	Eielson Array	36.58	39	P	P	18 25 07.4	-0.2
ILAR				*PP	pP	18 25 20.7	-1.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
INK	Inuvik	41.67	32	P	P	18 25 50.5	+0.9
	comp=N,1.8nm,0.6s,mb3.9,baz=292,slow=5.2,SNR=8.9						
INK				pP	pP	18 26 04.3	-0.2
	comp=N,4.9nm,1.1s,baz=285,slow=6.1,SNR=6.2						
INK	Inuvik	41.67	32	P	P	18 25 50.5	+0.9
INK				*PP	pP	18 26 04.3	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK				pmax	pmax		
	comp=N,5.0nm,1.1s						
INK	Inuvik	41.67	32	eP	P	18 25 50.3	+0.7
	comp=N,1.8nm,0.6s,mb3.9						
MKAR	Makanchi Array	46.79	297	P	P	18 26 29.8	-1.3
	comp=N,0.2nm,0.6s,mb3.2,baz=82,slow=10,SNR=2.6						
YKA	Yellowknife Ar	50.95	37	P	P	18 27 04.5	+1.5
	comp=N,0.3nm,0.5s,mb3.5,baz=298,slow=7.2,SNR=3.5						
YKA				pP	pP	18 27 17.9	-0.2
	comp=N,1.3nm,0.8s,baz=296,slow=7.3,SNR=6.3						
YKA	Yellowknife Ar	50.95	37	P	P	18 27 04.5	+1.5
YKA				*PP	pP	18 27 17.9	-0.3
YKA				pmax	pmax		
	comp=N,1.0nm,0.8s						
YKA	Yellowknife Ar	50.95	37	P	P	18 27 04.5	+1.5
YKA				pP	pP	18 27 17.9	-0.2
CMAR	Chiang Mai Arr	52.25	256	P	P	18 27 13.2	-0.2
	comp=N,0.4nm,0.6s,mb3.5,baz=44,slow=8.0,SNR=4.4						
NVAR	Mina Array Bea	62.52	62	P	P	18 28 26.1	+0.5
	comp=N,0.3nm,0.5s,mb3.7,baz=295,slow=5.3,SNR=5.5						
FINES	FINESS Array B	63.92	335	P	P	18 28 32.8	-1.6
	comp=N,0.6nm,0.4s,mb4.0,baz=39,slow=5.8,SNR=12						
FINES				pP	pP	18 28 46.0	-4.1
	comp=N,2.2nm,0.9s,baz=18,slow=6.0,SNR=3.5						
FINES	FINESS Array B	63.92	335	P	P	18 28 32.8	-1.5
FINES				*PP	pP	18 28 46.0	-4.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=N,2.0nm,0.9s						
PDAR	Pinedale Array	64.82	54	P	P	18 28 40.9	+0.4
	comp=N,0.9nm,0.7s,mb3.9,baz=315,slow=2.1,SNR=9.3						
PDAR				pP	pP	18 28 56.5	+0.2
	comp=N,0.5nm,0.8s,baz=304,slow=5.3,SNR=3.4						
NB2	NORSAR Subarra	68.12	341	P	P	18 28 59.6	-1.5
	comp=N,0.8nm,0.5s,mb4.0,baz=28,slow=6.2						
NOA	NORSAR Array B	68.12	341	P	P	18 28 59.5	-1.6

	comp=N,1.1nm,0.5s,mb4.1,baz=26,slow=6.2,SNR=6.4						
NOA	**NORSAR Array B**	68.12	341	P	P	18 28 59.5	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	68.53	199	P	P	18 29 03.0	-1.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=19,slow=6.9,SNR=4.8						
WRA				pP	pP	18 29 18.5	-1.7
	comp=Z,0.8nm,0.9s,baz=15,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	68.53	199	P	P	18 29 03.0	-1.3
WRA				*PP	pP	18 29 18.5	-1.7
WRA				pmax	pmax		
	comp=N,1.0nm,1.0s						
AKASG	**Malin Array Be**	71.42	326	P	P	18 29 19.7	-1.6
	comp=N,1.4nm,0.5s,mb4.2,baz=34,slow=6.0,SNR=4.2						
AKASG	**Malin Array Be**	71.42	326	P	P	18 29 19.7	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	71.91	58	*e*P	P	18 29 26.6	+2.0
ASAR	**Alice Springs**	72.22	198	P	P	18 29 26.7	+0.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=11,slow=4.7,SNR=15						
TXAR	**Lajitas Array**	77.58	60	P	P	18 29 58.2	+1.0
	comp=Z,0.6nm,0.3s,mb3.9,baz=307,slow=4.5,SNR=3.0						
CPUP	**Villa Florida**	148.55	60	PKPbc	PKPdf	18 37 47.1	+4.8
	comp=Z,1.6nm,0.8s,baz=156,slow=3.7,SNR=2.6						
CPUP	**Villa Florida**	148.55	60	PKP2	PKPab	18 37 47.1	-4.7
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*NNC **18** 18:27:06.6±5.8,36.68N×69.49E,mpv4.0,Error ellipse: s-maj=57.3km s-min=41.2km az=115.0*

ISC 18 18:27:14.4±1.5,37.33N±0.10×70.4E±0.1,h33^{km},n11,σ1^{s}02/13,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	5.42	27	P	P	18 28 35.9	+0.9
	SNR=44						
KK31	**Karatay Array**	5.77	1	⇓P	P	18 28 42.6	+2.7
	4.1nm,0.3s,baz=176,slow=12,SNR=302						
KK31				⇑S	S	18 29 59.0	+13
	4.8nm,0.5s,baz=190,slow=26,SNR=5.0						
UCH	**Uchtor**	5.82	31	P	P	18 28 40.5	0.0
	SNR=8.8						
EKS2	**Erkin-Say**	5.92	25	P	P	18 28 42.9	+1.0
	SNR=26						
KZA	**Kyzart**	6.03	37	P	P	18 28 42.1	-1.3
	SNR=17						
AAK	**Ala-Archa**	6.15	29	P	P	18 28 45.5	+0.3
	SNR=9.7						
CHMS	**Chumysh**	6.56	29	P	P	18 28 50.8	-0.3
	SNR=20						
USP	**Ospenovka**	6.70	26	P	P	18 28 52.4	-0.5
	SNR=15						
TKM2	**Tokmak 2**	6.85	34	P	P	18 28 54.0	-1.0
	SNR=6.6						
SDNR	**Sundarnagar**	7.94	135	*e*P	P	18 29 10.6	+0.4
AB31	**Akbulak array**	14.14	331	P	P	18 30 32.6	-1.6
	2.3nm,0.4s,baz=157,slow=12,SNR=97						
AB31				⇑S	S	18 33 11.1	+0.3
	0.6nm,0.4s,baz=151,slow=22,SNR=6.5						

*JMA **18** 18:41:20.3±0.3,24.20N×122.27E,h63^{km},M2.5*

*TAP **18** 18:41:21.3,24.10N×122.22E,h42^{km},ML3.2*

ISC 18 18:41:20.4±2.6,24.2N±0.3×122.3E±0.1,h65^{km}±23^{km},n6,σ0^{s}38/11,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.70	69	P	P	18 41 35.1	0.0
YOJ				S	S	18 41 46.1	0.0
IRIF	**Iriomote-Funau**	1.32	84	P	P	18 41 43.1	-0.2
IRIF				S	S	18 42 00.2	-0.1
HATJ	**Hateruma jima**	1.39	96	S	S	18 42 02.0	0.0
JKRS	**Kuro-shima**	1.57	89	P	P	18 41 47.1	+0.4
JKRS				S	S	18 42 06.6	+0.5
JIJ	**Ishigaki jima**	1.70	84	P	P	18 41 48.1	-0.3
JIJ				S	S	18 42 08.2	-0.9
JTJ	**Tarama**	2.24	78	P	P	18 41 56.1	+0.1
JTJ				*e*S	S	18 42 22.8	+0.4

*IDC **18** 18:47:49.7±0.9,22.62S×66.18W,h240^{km}±9^{km},mb3.6/10,mb1 3.8/15,mb1mx3.7/18,Error ellipse: s-maj=14.4km s-min=11.0km az=74.0*

*NEIC **18** 18:47:49.0±0.8,22.66S×66.13W,h236^{km}±9^{km},mb4.1/16,Error ellipse: s-maj=14.3km s-min=8.9km az=69.0*

*SYO **18** 18:47:49.0,22.66S×66.13W,h236^{km},MB4.1*

ISC 18 18:47:48.7±0.7,22.63S±0.06×66.15W±0.08,h246^{km}±6^{km},n46,σ1^{s}08/46,mb4.0/19,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	2.56	270	P	P	18 48 38.0	+1.4
	111nm,0.3s,baz=93,slow=5.7,SNR=999						
LVC				S	S	18 49 14.2	+0.4
	84nm,0.3s,baz=237,slow=21,SNR=19						
LVC	**Limon Verde**	2.56	270	⇑*i*Pn	P	18 48 38.0	+1.4
LVC				*e*S	S	18 49 13.7	-0.1
LPAZ	**La Paz**	6.58	343	P	P	18 49 26.6	+1.9
	3.5nm,0.3s,baz=316,slow=6.5,SNR=33						
LPAZ				S	S	18 50 40.4	+0.6
	0.7nm,0.3s,baz=327,slow=18,SNR=7.7						
LPAZ	**La Paz**	6.58	343	*e*Pn	P	18 49 24.1	-0.6
	0.6nm,0.1s						
LPAZ				*e*S	S	18 50 35.6	-4.2
ARE	**Arequipa**	7.94	320	*e*P	P	18 49 41.0	-1.0
ARE				*i* S	S	18 51 07.6	-3.1
CPUP	**Villa Florida**	8.84	116	P	P	18 49 53.0	-0.3
	0.1nm,0.3s,baz=295,slow=12,SNR=3.8						
CPUP	**Villa Florida**	8.84	116	P	P	18 49 52.8	-0.6
	2.9nm,0.8s						
SAML	**Samuel**	13.90	12	*e*P	P	18 50 56.6	-0.4
	7.1nm,0.7s						
SAML				*e*		18 51 08.2	
TRQA	**Tornquist**	15.79	168	P	P	18 51 15.3	-4.4
	4.1nm,0.6s						
PLCA	**Paso Flores**	18.43	191	P	P	18 51 47.2	-0.8
	0.9nm,0.3s,baz=10,slow=12,SNR=21						
PLCA				PcP	PcP	18 56 07.3	-0.3
	0.1nm,0.3s,baz=28,slow=2.6,SNR=3.9						
PLCA	**Paso Flores**	18.43	191	*e*P	P	18 51 47.1	-1.0
	7.1nm,0.7s						
BDFB	**Brasilia**	18.48	71	P	P	18 51 49.1	+0.3
	1.4nm,0.3s,baz=250,slow=12,SNR=30						
ROSC	**El Rosal**	28.46	343	P	P	18 53 25.8	+2.4
	8.6nm,0.6s,mb4.6,baz=105,slow=20,SNR=6.0						
EFI	**East Falkland**	29.66	170	P	P	18 53 31.9	-1.7
PMSA	**Palmer Station**	42.16	179	*e*P	P	18 55 17.7	-0.7
	4.3nm,0.8s,mb3.9						
BBSR	**BB Station**	54.71	2	P	P	18 57 01.7	+7.1
	27nm,1.1s,mb4.7						
VNA1	**Neumayer--Stat**	58.37	161	⇑*i*	P	18 57 23.7	+3.7
VNA2	**Neumayer--Watz**	58.74	161	⇑*i*	P	18 57 25.8	+3.2
SNAA	**Sanae**	60.38	161		P	18 57 33.9	+0.2
SNAA	**Sanae**	60.38	161	P	P	18 57 33.7	0.0
	0.9nm,0.7s,mb3.5,baz=290,slow=4.7,SNR=23						
SNAA				PcP	PcP	18 58 15.6	-0.5
	0.3nm,0.5s,baz=238,slow=7.3,SNR=6.2						
SNAA	**Sanae**	60.38	161	P	P	18 57 33.9	+0.2
TXAR	**Lajitas Array**	63.04	323	P	P	18 57 51.6	-0.2
	0.5nm,0.6s,mb3.4,baz=131,slow=8.3,SNR=2.5						
CCM	**Cathedral Cave**	64.81	338	*e*P	P	18 58 01.4	-1.8
	7.3nm,0.8s,mb4.4						
DBIC	**Dimbokro**	66.63	72	P	P	18 58 15.1	0.0
	2.3nm,0.3s,mb4.2,baz=175,slow=12,SNR=12						
DBIC	**Dimbokro**	66.63	72	*e*P	P	18 58 14.2	-0.9
	8.3nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	67.57	180	*e*P	P	18 58 21.0	+1.0
	7.3nm,0.5s,mb4.6						
SDCO	**Great Sand Dun**	70.54	328	*e*P	P	18 58 38.7	-0.1
	1.8nm,0.6s,mb3.9						
SYO	**Syowa Base**	74.54	159	⇓P	P	18 59 02.0	+0.3
SYO	**Syowa Base**	74.54	159	⇑PcP	PcP	18 59 11.5	-3.7
VNDA	**Vanda**	76.18	190	P	P	18 59 10.1	-0.8
	1.2nm,0.9s,mb3.5,baz=110,slow=12,SNR=5.8						
VNDA	**Vanda**	76.18	190	*e*P	P	18 59 06.3	-4.5
	1.1nm,0.8s,mb3.5						
PDAR	**Pinedale Array**	76.38	329	P	P	18 59 12.5	-0.1
	0.5nm,0.6s,mb3.3,baz=122,slow=7.9,SNR=7.1						
HWUT	**Hardware Ranch**	76.51	327	P	P	18 59 13.7	+0.4
	1.8nm,0.6s,mb3.9						
ULM	**Lac du Bonnet**	77.19	341	P	P	18 59 16.1	-0.7
	3.2nm,0.7s,mb4.1,baz=258,slow=6.8,SNR=3.5						
TSUM	**Tsumeb**	77.27	106	*e*P	P	18 59 17.9	0.0
	2.0nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	77.97	321	P	P	18 59 22.6	+1.2
	0.3nm,0.5s,mb3.2,baz=157,slow=7.0,SNR=4.3						
HLID	**Hailey**	79.38	326	P	P	18 59 29.6	+0.8
	2.4nm,0.6s,mb4.0						
WCN	**Washoe City**	79.40	321	*e*P	P	18 59 27.6	-1.4
	91nm,1.0s,mb5.4						
MCMT	**McKenzie Canyo**	79.51	328	*e*P	P	18 59 30.8	+1.3
MAW	**Mawson**	82.50	163	P	P	18 59 45.2	+0.6
	0.9nm,0.3s,mb4.0,baz=236,slow=12,SNR=6.1						
MAW	**Mawson**	82.50	163	*e*P	P	18 59 45.0	+0.3
	3.1nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	93.11	340	P	P	19 00 35.6	+0.2
	0.9nm,0.5s,mb4.1,baz=129,slow=4.7,SNR=6.9						
ASAR	**Alice Springs**	130.02	204	PKP	PKPdf	19 06 31.1	+1.1
	2.0nm,0.8s,baz=132,slow=1.8,SNR=27						
WRA	**Warramunga Arr**	133.20	207	PKP	PKPdf	19 06 37.5	+1.5
	0.9nm,0.3s,baz=153,slow=1.9,SNR=30						
MKAR	**Makanchi Array**	144.97	39	PKP	PKPdf	19 06 58.1	+1.8
	2.0nm,0.5s,baz=348,slow=2.5,SNR=24						
SONM	**Songino Array**	154.15	12	PKP	PKPdf	19 07 13.2	+2.8
	0.3nm,0.7s,baz=297,slow=2.8,SNR=4.1						
SONM				PKPbc	PKPdf	19 07 21.2	+11
	0.3nm,0.4s,baz=290,slow=0.8,SNR=5.7						

*IDC **18** 18:52:54.1±0.8,21.83S×68.59W,h107^{km}±8^{km},mb3.6/5,mb1 3.7/8,mb1mx3.6/17,Error ellipse: s-maj=23.5km s-min=18.6km az=100.0*

*NEIC **18** 18:52:54.1±0.7,21.94S×68.57W,h114^{km}±7^{km},mb4.0/7,Error ellipse: s-maj=12.6km s-min=8.2km az=84.0*

ISC 18 18:52:53.7±0.7,21.93S±0.07×68.6W±0.1,h124^{km}±7^{km},n25,σ0^{s}90/23,mb4.0/7,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.75	205	P	P	18 53 14.2	+0.2
	149nm,0.3s,baz=15,slow=8.0,SNR=75						
LVC				S	S	18 53 29.4	0.0
	380nm,0.3s,baz=108,slow=22,SNR=46						
LVC	**Limon Verde**	0.75	205	*e*Pg	P	18 53 13.7	-0.2
LVC				*e*Sg	S	18 53 25.2	-4.2
LPAZ	**La Paz**	5.62	4	P	P	18 54 16.6	+0.4
	1.0nm,0.3s,baz=194,slow=5.0,SNR=9.6						
LPAZ	**La Paz**	5.62	4	*e*Pn	P	18 54 16.1	-0.1
CPUP	**Villa Florida**	11.15	115	P	P	18 55 32.2	+1.7
	0.2nm,0.3s,baz=309,slow=10,SNR=5.8						
CPUP	**Villa Florida**	11.15	115	*e*P	P	18 55 29.9	-0.6
SAML	**Samuel**	13.90	23	P	P	18 56 06.7	+0.2
TRQA	**Tornquist**	17.05	162	*e*P	P	18 56 45.4	-0.4
	2.7nm,0.6s						
PLCA	**Paso Flores**	18.82	185	P	P	18 57 07.8	+1.5
	0.1nm,0.3s,baz=0.2,slow=14,SNR=3.8						
PLCA	**Paso Flores**	18.82	185	P	P	18 57 03.8	-2.4
	2.0nm,0.8s						
BDFB	**Brasilia**	20.42	76	P	P	18 57 22.6	-0.5
	2.9nm,0.4s,baz=258,slow=13,SNR=5.0						
MIAR	**Mount Ida**	60.99	336	P	P	19 02 54.2	-2.2
	1.8nm,0.7s,mb4.2						
SNAA	**Sanae**	61.77	161	P	P	19 03 02.2	+1.1
	0.2nm,0.6s,mb3.4,baz=276,slow=9.5,SNR=5.3						
SNAA	**Sanae**	61.77	161	*e*P	P	19 03 01.6	+0.5
	1.1nm,0.7s,mb4.0						
DBIC	**Dimbokro**	68.55	73	P	P	19 03 45.1	-0.3
	1.9nm,0.5s,mb4.2,baz=254,slow=20,SNR=6.2						
DBIC	**Dimbokro**	68.55	73	*e*P	P	19 03 45.1	-0.4
	6.4nm,0.9s,mb4.5						
MSU	**Marysvale**	72.71	325	P	P	19 04 10.7	+0.6
HWUT	**Hardware Ranch**	74.71	328	P	P	19 04 21.2	-0.4
	2.0nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	76.03	322	P	P	19 04 29.6	+0.5
	0.6nm,0.7s,mb3.4,baz=153,slow=6.4,SNR=4.4						
HLID	**Hailey**	77.57	328	*e*P	P	19 04 38.6	+1.0
	3.2nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	91.69	340	P	P	19 05 47.7	-0.1
	1.1nm,0.7s,mb4.2,baz=136,slow=4.3,SNR=7.2						
ASAR	**Alice Springs**	129.68	207	PKP	PKPdf	19 11 51.1	+2.2
	0.6nm,0.8s,baz=150,slow=2.1,SNR=7.1						
WRA	**Warramunga Arr**	132.75	210	PKP	PKPdf	19 11 57.6	+2.7
	0.5nm,0.6s,baz=156,slow=1.7,SNR=7.3						
MKAR	**Makanchi Array**	145.79	37	PKPbc	PKPbc	19 12 20.3	+1.9
	0.9nm,0.7s,baz=305,slow=2.0,SNR=3.7						
SONM	**Songino Array**	153.84	8	PKPbc	PKPdf	19 12 40.5	+11
	0.4nm,0.7s,baz=346,slow=0.9,SNR=2.7						

IDC 18 18:57:55.0±1.6,19.34S×177.55W,mb3.6/4,mb1 3.9/4,mb1mx3.8/15,MS3.6/1,Ms1 3.6/1,ms1mx3.0/18,Error ellipse: s-maj=45.2km s-min=36.1km az=134.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	45.19	261	P	P	19 06 15.3	-0.4
	0.3nm,0.3s,baz=97,slow=6.9,SNR=21						
ASAR	**Alice Springs**	45.20	256	P	P	19 06 12.4	-3.4
	0.4nm,0.5s,baz=85,slow=8.9,SNR=9.5						
VNDA	**Vanda**	59.10	185	P	P	19 07 56.8	-2.4
	0.4nm,0.7s,baz=62,slow=4.1,SNR=5.2						
VNDA				LR	LR	19 29 29.3	
	comp=Z,46nm,19.0s,baz=170,slow=32						
ILAR	**Eielson Array**	87.09	13	P	P	19 10 42.1	-1.3
	0.3nm,0.5s,baz=239,slow=3.9,SNR=3.1						

*KRSC **18** 19:01:10.3±1.5,53.12N×162.20E,h40^{km}±9^{km},ML4.5*

*MOS **18** 19:01:11.0±1.3,53.19N×162.19E,h33^{km},mb4.4/13,Error ellipse: s-maj=10.9km s-min=7.6km az=92.1*

*IDC **18** 19:01:12.8±5.3,53.21N×162.09E,h27^{km}±38^{km},mb3.9/21,mb1 4.1/22,mb1mx4.1/26,ML4.2/2,MS3.8/10,Ms1 3.9/10,ms1mx3.5/34,Error ellipse: s-maj=18.6km s-min=10.6km az=177.0*

*BJI **18** 19:01:14.0,53.30N×162.00E,h40^{km},mB4.8,mb4.6,Ms4.5,Msz4.3*

*NEIC **18** 19:01:14.1±0.5,53.27N×161.97E,h40^{km},mb4.6/26,Error ellipse: s-maj=13.2km s-min=7.4km az=161.0*

ISC 18 19:01:10.8±0.9,53.16N±0.02×162.13E±0.03,h31^{km}±6^{km},h31^{km}±2.6^{km}:pP-P,n152,σ1^{s}13/195,mb4.4/50,MS4.0/19,1C-3D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	1.27	268	P	Pn	19 01 32.5	-0.2
SPN				S	Sn	19 01 48.5	-0.3
SPN	**Mys Shipunski**	1.27	268	*e*P	Pn	19 01 32.5	-0.2
SPN				*e*S	Sn	19 01 48.4	-0.4
MKZ	**Mys Kozlova**	1.42	351	P	Pn	19 01 33.8	-1.0
MKZ				S	Sn	19 01 51.1	-1.5
MKZ	**Mys Kozlova**	1.42	351	*e*P	Pn	19 01 33.7	-1.1
MKZ				*e*S	Sn	19 01 51.9	-0.7
NLC	**Nalytchevo**	1.67	272	P	Pn	19 01 38.3	-0.2
NLC				S	Sn	19 01 59.1	0.0
NLC	**Nalytchevo**	1.67	272	*e*P	Pn	19 01 38.2	-0.3
NLC				*e*S	Sn	19 01 59.1	0.0
KII	**Karymskiy**	1.82	300	P	Pn	19 01 40.1	-0.5
KII				S	Sn	19 02 01.7	-1.1
KII	**Karymskiy**	1.82	300	*e*P	Pn	19 01 40.0	-0.6
KII				*e*S	Sn	19 02 01.7	-1.1
SDLR	**Sedlovina**	1.95	275	*e*P	Pn	19 01 42.7	+0.2
SDLR				*e*S	Sn	19 02 06.8	+0.7
UGLR	**Uglovaya**	1.99	273	*e*P	Pn	19 01 43.3	+0.3
UGLR				*e*S	Sn	19 02 06.9	-0.1
SMAR	**Somma**	2.00	274	*e*P	Pn	19 01 43.4	+0.2
SMAR				*e*S	Sn	19 02 07.7	+0.3
AVH	**Avacha**	2.04	274	*i* P	Pn	19 01 44.3	+0.6
AVH				*e*S	Sn	19 02 08.7	+0.3
PET	**Petropavlovsk**	2.10	268	P	Pn	19 01 45.2	+0.6
PET				S	Sn	19 02 10.8	+0.9
PET	**Petropavlovsk**	2.10	268	*e*P	Pn	19 01 45.2	+0.6
PET				*e*S	Sn	19 02 10.7	+0.8
PET	**Petropavlovsk**	2.10	268	*e*Pn	Pn	19 01 43.2	-1.4
KOK	**Koryaka**	2.10	275	*e*P	Pn	19 01 44.9	+0.3
KOK				*e*S	Sn	19 02 09.8	-0.2
RUS	**Russkaya**	2.31	253	P	Pn	19 01 47.4	-0.2
RUS				S	Sn	19 02 14.2	-1.1
RUS	**Russkaya**	2.31	253	*e*P	Pn	19 01 47.0	-0.6
RUS				*e*S	Sn	19 02 14.4	-0.9
TUMR	**Tumrok**	2.42	332	*e*P	Pn	19 01 49.8	+0.6
TUMR				*e*S	Sn	19 02 17.6	-0.5
GRL	**Gorelyy**	2.53	258	*e*P	Pn	19 01 51.3	+0.6
GRL				*e*S	Sn	19 02 19.9	-0.9
GNL	**Ganaly**	2.56	284	*e*P	Pn	19 01 51.8	+0.6
GNL				*e*S	Sn	19 02 22.5	+0.9
KMNR	**Kamenistaya**	2.83	338	*e*P	Pn	19 01 55.7	+0.8
KMNR				*e*S	Sn	19 02 27.4	-0.9
ZLN	**Zelenaya**	2.96	345	*e*P	Pn	19 01 58.9	+2.0
ZLN				*e*S	Sn	19 02 32.6	+0.8
APC	**Apacha**	3.01	268	*e*P	Pn	19 01 59.1	+1.6
APC				*e*S	Sn	19 02 32.6	-0.3
APC				Smax			
	560nm,1.4s						
KPT	**Kopyto**	3.02	339	*e*P	Pn	19 01 58.8	+1.1
KPT				*e*S	Sn	19 02 33.9	+0.6
LGNR	**Loginova**	3.05	345	*e*P	Pn	19 01 59.0	+1.0
LGNR				*e*S	Sn	19 02 35.3	+1.4
BKI	**Bering**	3.05	46	*i* P	Pn	19 01 56.4	-1.7
BKI				*e*S	Sn	19 02 29.3	-4.7
BKI				Smax			
	1µm,1.0s						
CIRR	**Tsirk**	3.07	345	*e*P	Pn	19 01 58.7	+0.3
CIRR				*e*S	Sn	19 02 35.4	+1.0
KBTR	**Krutoberegovo**	3.08	7	P	Pn	19 01 57.0	-1.5
KBTR				S	Sn	19 02 30.3	-4.5
KBTR	**Krutoberegovo**	3.08	7	*e*P	Pn	19 01 57.0	-1.5
KBTR				*e*S	Sn	19 02 34.1	-0.7
KOZ	**Kozyrevsk**	3.19	337	*e*P	Pn	19 02 00.9	+0.9
KOZ				*e*S	Sn	19 02 36.8	-0.6
KRSR	**Krestovskiy**	3.19	344	*e*P	Pn	19 02 00.4	+0.2
KRSR				*e*S	Sn	19 02 37.5	-0.1
KLY	**Klyuchi**	3.27	345	P	Pn	19 02 00.8	-0.5
KLY				S	Sn	19 02 38.5	-1.1
KLY	**Klyuchi**	3.27	345	*e*P	Pn	19 02 00.4	-0.9
KLY				*e*S	Sn	19 02 37.9	-1.7
MIPR	**Malaya Ipel'ka**	3.38	257	*e*P	Pn	19 02 03.7	+0.9
SRDR	**Sredinnyy**	3.46	337	*e*P	Pn	19 02 03.3	-0.6
SRDR				*e*S	Sn	19 02 43.5	-0.8
SVLR	**Shiveluch**	3.46	352	*e*P	Pn	19 02 04.6	+0.6
SVLR				*e*S	Sn	19 02 45.4	+1.0
PAU	**Pauzhetka**	3.68	245	*e*P	Pn	19 02 06.5	-0.5
PAU				*e*S	Sn	19 02 47.0	-2.8
PAU				Smax			
	400nm,1.0s						
SKR	**Severo-Kuril's**	4.47	239	*e*P	Pn	19 02 18.5	+0.2
ALID	**Alaid**	4.67	243	*e*P	Pn	19 02 20.1	-0.9
FX1	**Attu Island--F**	6.67	88	Pn	Pn	19 02 47.1	-2.1
	32nm,0.3s,baz=302,slow=7.7,SNR=70						
FX1				Sn	Sn	19 03 57.8	-7.1
	27nm,0.3s,baz=5.4,slow=23,SNR=7.3						
FX1	**Attu Island--F**	6.67	88	*e*Pn	Pn	19 02 46.3	-2.9
SMY	**Shemya**	7.25	89	*e*Pn	Pn	19 02 55.3	-2.2
SMY				*e*Sn	Sn	19 04 12.6	-7.0
MA2	**Magadan**	8.99	320	*e*PN	P	19 03 12.4	-9.3
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MA2				MLR	MLR		
	comp=Z,8µm,14.4s						
MA2	**Magadan**	8.99	320	P	P	19 03 19.6	-2.1
YSS	**Yuzh-Sakhalins**	13.89	251	*c i*P	P	19 04 29.1	+1.6
YSS				pmax	pmax		
	comp=Z,27nm,1.4s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
ASAJ	**Asahikawa**	15.72	243	Pn	P	19 04 50.2	-1.2
	comp=Z,0.8nm,0.3s,baz=76,slow=18,SNR=5.8						
ASAJ	**Asahikawa**	15.72	243	P	P	19 04 50.3	-1.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	19.33	310	*e*P	P	19 05 41.7	+5.7
YAK				*e*S	S	19 09 12.9	+6.1
YAK				pmax	pmax		
	comp=Z,16nm,1.5s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.5s						
YAK				smax			
	comp=N,8.0nm,1.2s						
YAK				smax			
	comp=E,7.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,935nm,15.0s						
YAK				MLR	MLR		
	comp=N,398nm,14.0s						
YAK				MLR	MLR		
	comp=E,737nm,14.0s						
YAK	**Yakutsk**	19.33	310	*e*P	P	19 05 31.3	-4.7
	comp=E,22nm,0.6s						
TNA	**Tin City**	19.43	39	P	P	19 05 34.8	-2.3
	comp=E,28nm,1.2s						
MDJ	**Mudanjiang**	22.87	261	P	P	19 06 10.3	-2.1
MDJ				AP		19 06 20.5	
MDJ				XP		19 06 25.8	
MDJ				PP	PP	19 06 44.6	+2.7
MDJ				S	S	19 10 15.3	-0.1
MDJ				XS		19 10 33.3	
MDJ				SCP		19 13 37.8	
MDJ				PCS		19 13 40.3	
MDJ				AMB	AMB		
	comp=Z,250nm,6.8s						
MDJ				LR	LR		
	comp=N,298nm,22.3s,MS3.7						
MDJ				LR	LR		
	comp=E,141nm,23.5s,MS3.7						
MDJ				LR	LR		
	comp=Z,222nm,18.6s,MS3.6						
TIXI	**Tiksi**	23.54	334	*e*P	P	19 06 17.2	-1.4
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,800nm,12.0s,MS4.4						
MAJO	**Matsushiro**	23.57	235	*e*P	P	19 06 21.3	+2.1
	comp=Z,36nm,1.2s,mb4.7						
MAT	**Matsushiro**	23.57	235	P	P	19 06 20.6	+1.4
MAT				S	S	19 10 34.0	+6.3
MAT	**Matsushiro**	23.57	235	*e*P	P	19 06 21.0	+1.8
	comp=Z,7.0nm,1.0s,mb4.0						
MAT				*e*S	S	19 10 35.0	+7.3
SPU	**Mount Spurr**	25.61	53	P	P	19 06 39.3	+0.7
HIA	**Hailar**	26.54	279	P	P	19 06 41.1	-6.2
	comp=Z,20nm,0.9s,mb4.6						
MCK	**McKinley**	27.00	48	*e*P	P	19 06 50.8	-0.5
	comp=Z,8.1nm,1.3s,mb4.1						
BOD	**Bodaibo**	27.18	299	*e*P	P	19 06 55.1	+2.0
BOD				*e*	pP	19 07 05.1	+2.9
COLA	**College**	27.49	45	*e*P	P	19 06 54.4	-1.4
	comp=Z,26nm,1.4s,mb4.6						
ILAR	**Eielson Array**	27.90	45	P	P	19 06 59.3	-0.2
	comp=Z,2.8nm,0.9s,mb3.9,baz=265,slow=8.7,SNR=22						
ILAR				LR	LR	19 19 20.5	
	comp=Z,193nm,18.1s,MS3.7,baz=100,slow=39						
ILAR	**Eielson Array**	27.90	45	P	P	19 06 59.3	-0.2
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,193nm,18.1s						
INK	**Inuvik**	33.07	38	P	P	19 07 45.4	+0.1
	comp=Z,2.1nm,0.6s,mb4.3,baz=290,slow=10,SNR=7.6						
INK	**Inuvik**	33.07	38	P	P	19 07 45.4	+0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	33.07	38	*e*P	P	19 07 44.8	-0.4
	comp=Z,9.5nm,1.2s,mb4.6						
SONM	**Songino Array**	35.08	284	P	P	19 08 02.4	-0.4
	comp=Z,0.4nm,0.6s,mb3.5,baz=51,slow=7.9,SNR=3.9						
SSE	**Sheshan**	36.82	250	P	P	19 08 17.4	-0.3
SSE				S	S	19 13 57.3	-2.0
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=N,97nm,18.3s,MS3.7						
SSE				LR	LR		
	comp=E,55nm,18.4s,MS3.7						
SSE				LR	LR		
	comp=Z,107nm,17.4s,MS3.7						
SSE	**Sheshan**	36.82	250	P	P	19 08 17.4	-0.3
	comp=Z,26nm,0.7s,mb5.2						
SSE				S	S	19 13 57.3	-2.0
SSE				sS		19 14 11.9	
SSE				LR	LR		
	comp=Z,110nm,17.4s,MS3.7						
DLBC	**Dease Lake**	37.02	54	P	P	19 08 20.9	+1.9
	comp=Z,0.5nm,0.3s,mb3.8,baz=281,slow=9.0,SNR=3.6						
DLBC	**Dease Lake**	37.02	54	P	P	19 08 19.4	+0.3
NJ2	**Nanjing**	37.44	253	*e*P	P	19 08 23.9	+1.0
BBB	**Bella Bella**	40.77	62	LR	LR	19 24 36.4	
	comp=Z,98nm,18.3s,MS3.7,baz=8.4,slow=34						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GUMO	**Guam**	41.79	206	P	**P**	19 08 57.2	-1.9
	comp=Z,148nm,0.9s						
YKW3	**Yellowknife Ar**	42.24	43	P	**P**	19 09 01.9	-0.3
YKA	**Yellowknife Ar**	42.28	43	P	**P**	19 09 03.4	+1.0
	comp=Z,2.4nm,0.9s,mb3.8,baz=296,slow=7.9,SNR=5.8						
YKA				LR	LR	19 28 36.7	
	comp=Z,129nm,18.2s,MS3.9,baz=280,slow=39						
YKA	**Yellowknife Ar**	42.28	43	P	**P**	19 09 03.4	+1.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,129nm,18.2s						
YKA	**Yellowknife Ar**	42.28	43	P	**P**	19 09 03.4	+1.0
YKA				LR	LR	19 28 36.7	
GTA	**Gaotai**	43.81	278	*e*P	**P**	19 09 18.8	+3.6
GTA				AP	pP	19 09 23.4	-1.2
GTA				AMB	AMB		
	comp=Z,43nm,5.7s						
GTA				LR	LR		
	comp=N,317nm,12.5s,MS4.5						
GTA				LR	LR		
	comp=E,266nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=Z,292nm,12.2s,MS4.4						
NVS	**Novosibirsk**	44.08	305	*e*P	**P**	19 09 16.5	-0.7
NVS				pmax	pmax		
	comp=N,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,23nm,1.4s						
NVS				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
ENH	**Enshi**	44.23	260	P	**P**	19 09 14.7	-4.0
	comp=Z,6.2nm,0.8s,mb4.4						
WMQ	**Urumqi**	48.10	290	⇓P	**P**	19 09 48.5	-0.7
WMQ				AP	pP	19 10 00.0	+1.3
WMQ				XP	sP	19 10 04.4	+2.0
WMQ				PCP	PcP	19 11 16.5	-0.4
WMQ				PP	PP	19 11 40.3	-0.4
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,20nm,7.8s						
WMQ				LR	LR		
	comp=N,213nm,19.4s,MS4.2						
WMQ				LR	LR		
	comp=E,86nm,19.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,60nm,17.5s,MS3.6						
KURK	**Kurchatov**	48.73	303	*e*P	**P**	19 09 49.8	-4.2
	comp=Z,2.3nm,0.6s,mb4.4						
NEW	**Newport**	48.81	61	LR	LR	19 30 53.9	
	comp=Z,84nm,19.3s,MS3.7,baz=329,slow=36						
MKAR	**Makanchi Array**	49.23	297	P	**P**	19 09 56.7	-1.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=65,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	49.23	297	*i* P	**P**	19 10 01.2	+3.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	49.23	297	P	**P**	19 09 56.7	-1.2
BVAR	**Borovoye Array**	51.30	309	P	**P**	19 10 14.0	+0.4
	comp=Z,0.6nm,0.4s,mb3.8,baz=63,slow=6.4,SNR=4.1						
BRVK	**Borovoye**	51.33	309	P	**P**	19 10 11.2	-2.6
	comp=Z,4.3nm,0.9s,mb4.4						
CHMT	**Chamberlain Mo**	51.69	60	*e*P	**P**	19 10 16.8	+0.2
ZRNK	**Zerenda**	51.99	310	*e*P	**P**	19 10 16.2	-2.6
	comp=Z,2.5nm,0.9s,mb4.1						
KMI	**Kunming**	52.04	262	*e*P	**P**	19 10 19.9	+0.3
KMI				S	**S**	19 17 36.8	-2.8
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,218nm,4.3s						
KMI				LR	LR		
	comp=N,718nm,13.8s,MS4.9						
KMI				LR	LR		
	comp=E,300nm,13.0s,MS4.9						
KMI				LR	LR		
	comp=Z,294nm,13.0s,MS4.5						
KMI	**Kunming**	52.04	262	*e*P	**P**	19 10 19.9	+0.3
	comp=Z,4.0nm,0.9s,mb4.3						
KMI				pP	pP	19 10 27.5	-1.6
KMI				S	**S**	19 17 36.8	-2.8
KMI				LR	LR		
	comp=Z,290nm,13.0s,MS4.5						
ARCES	**ARCESS Array B**	53.60	343	P	**P**	19 10 29.1	-1.5
	comp=Z,2.9nm,0.9s,mb4.2,baz=34,slow=8.7,SNR=5.8						
ARCES				LR	LR	19 38 51.9	
	comp=Z,127nm,19.9s,MS4.0,baz=90,slow=42						
ARCES	**ARCESS Array B**	53.60	343	P	**P**	19 10 29.1	-1.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,127nm,19.9s						
QLMT	**Earthquake Lak**	54.02	61	*e*P	**P**	19 10 34.9	+1.0
ARU	**Arti**	54.17	318	⇓*i*P	**P**	19 10 34.0	-0.9
ARU				*i*	pP	19 10 43.3	-1.1
ARU				*e*		19 11 37.0	
ARU				*e*		19 12 32.5	
ARU				*e*S	**S**	19 18 08.9	+0.9
ARU				*e*		19 20 23.9	
ARU				*e*SS	SS	19 21 49.3	-0.1
ARU				*e*SSS	SSS	19 23 48.3	+2.8
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARU				MLR	MLR		
	comp=N,200nm,15.0s,MS4.4						
ARU				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,200nm,17.0s,MS4.4						
ARU	**Arti**	54.17	318	*e*P	**P**	19 10 31.9	-3.0
	comp=E,7.7nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	54.56	71	P	**P**	19 10 39.4	+1.3
	comp=E,2.7nm,0.9s,mb4.3,baz=303,slow=7.2,SNR=7.6						
LSA	**Lhasa**	55.64	275	P	**P**	19 10 46.6	+0.6
	comp=E,2.2nm,0.7s,mb4.3						
HWUT	**Hardware Ranch**	56.14	64	*e*P	**P**	19 10 50.5	+1.1
	comp=E,5.4nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	56.42	62	P	**P**	19 10 52.4	+1.0
	comp=E,2.2nm,0.8s,mb4.2,baz=333,slow=3.3,SNR=18						
SRU	**San Rafael**	58.45	66	*e*P	**P**	19 11 06.8	+1.1
CM31	**Chiang Mai Arr**	59.40	260	*e*P	**P**	19 11 12.9	+0.4
	comp=E,3.6nm,0.7s,mb4.5						
CMAR	**Chiang Mai Arr**	59.40	260	P	**P**	19 11 13.9	+1.3
	comp=E,1.5nm,0.8s,mb4.1,baz=27,slow=6.9,SNR=7.3						
CMAR				LR	LR	19 40 35.7	
	comp=E,125nm,18.0s,MS4.1,baz=136,slow=40						
CMAR	**Chiang Mai Arr**	59.40	260	P	**P**	19 11 13.9	+1.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,125nm,18.0s						
KAF	**Kangasniemi**	59.90	338	*e*p	**P**	19 11 13.4	-2.1
	comp=Z,0.9nm,0.4s,mb4.2						
KAF	**Kangasniemi**	59.90	338	*e*P	**P**	19 11 13.4	-2.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	60.54	337	P	**P**	19 11 19.2	-0.7
	comp=Z,2.5nm,0.5s,mb4.6,baz=47,slow=7.8,SNR=27						
FINES				LR	LR	19 40 52.6	
	comp=Z,85nm,18.6s,MS3.9,baz=204,slow=39						
FINES	**FINESS Array B**	60.54	337	P	**P**	19 11 19.2	-0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,85nm,18.6s						
FINES	**FINESS Array B**	60.54	337	P	**P**	19 11 19.2	-0.7
FINES				LR	LR	19 40 52.6	
KKN	**Kakani**	60.55	278	*e*P	**P**	19 11 20.4	0.0
	comp=Z,7.5nm,0.6s,mb5.0						
PKI	**Pulchoki**	60.63	278	*e*P	**P**	19 11 20.4	-0.6
	comp=Z,13nm,0.7s,mb5.2						
GKN	**Gorkha**	60.78	278	*e*P	**P**	19 11 20.7	-1.2
DMN	**Daman**	60.79	278	*e*P	**P**	19 11 20.5	-1.5
	comp=Z,5.3nm,0.6s,mb4.8						
KOLN	**Koldanda**	61.56	279	*e*P	**P**	19 11 22.4	-4.9
	comp=Z,18nm,1.1s,mb5.1						
MOS	**Moscow**	62.26	328	*e*P	**P**	19 11 32.5	+1.0
MOS				*e*	pP	19 11 41.6	+0.3
MOS				*e*		19 13 46.7	
MOS				pmax	pmax		
	comp=Z,54nm,0.8s						
BORG	**Borgarnes**	62.40	2	LR	LR	19 36 22.9	
	comp=Z,39nm,20.9s,MS3.5,baz=195,slow=34						
OBN	**Obninsk**	63.11	328	*d i*P	**P**	19 11 35.8	-1.4
OBN				*e*	pP	19 11 47.3	+0.4
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
OBN	**Obninsk**	63.11	328	P	**P**	19 11 33.5	-3.7
	comp=Z,7.2nm,0.4s,mb5.2						
LAZ	**Ladron**	63.73	67	*e*P	**P**	19 11 43.2	+1.7
NB2	**NORSAR Subarra**	63.81	345	P	**P**	19 11 40.5	-1.1
	comp=Z,9.0nm,1.1s,mb4.7,baz=22,slow=6.5						
NOA	**NORSAR Array B**	63.81	345	P	**P**	19 11 41.1	-0.5
	comp=Z,2.4nm,0.7s,mb4.3,baz=21,slow=6.5,SNR=9.6						
NOA	**NORSAR Array B**	63.81	345	P	**P**	19 11 41.1	-0.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SCHQ	**Schefferville**	65.01	29	P	**P**	19 11 48.5	-0.9
	comp=Z,2.3nm,0.9s,mb4.2,baz=342,slow=9.6,SNR=3.1						
SCHQ	**Schefferville**	65.01	29	P	**P**	19 11 47.2	-2.2
	comp=Z,6.1nm,0.8s,mb4.7						
WMOK	**Wichita Mounta**	68.01	61	*e*P	**P**	19 12 08.8	-0.1
	comp=Z,3.8nm,0.9s,mb4.4						
VAN	**Vannovskaya**	68.06	304	*e*P	**P**	19 12 08.0	-1.2
AKASG	**Malin Array Be**	69.18	330	P	**P**	19 12 14.8	-1.0
	comp=Z,2.6nm,0.5s,mb4.4,baz=29,slow=6.6,SNR=9.6						
AKASG	**Malin Array Be**	69.18	330	P	**P**	19 12 14.8	-1.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TXAR	**Lajitas Array**	69.48	68	P	**P**	19 12 18.8	+0.8
	comp=Z,1.2nm,0.6s,mb4.0,baz=304,slow=4.5,SNR=4.7						
USIN	**University of**	71.05	52	P	**P**	19 12 27.1	-0.4
	comp=Z,26nm,0.7s,mb5.3						
OJC	**Ojcow**	72.20	336	*e*P	**P**	19 12 36.0	+1.9
GNI	**Garni**	72.52	314	LR	LR	19 52 22.2	
	comp=Z,98nm,19.6s,MS4.1,baz=179,slow=42						
CLL	**Collm**	72.72	340	P	**P**	19 12 37.0	0.0
CLL	**Collm**	72.72	340	*e*P	**P**	19 12 37.0	0.0
MORC	**Moravsky Berou**	73.16	337	*e*P	**P**	19 12 41.5	+1.9
	comp=Z,19nm,1.5s,mb4.8						
MOX	**Moxa**	73.63	341	*i* P	**P**	19 12 44.8	+2.5
	comp=Z,logA/T=1.1,mb4.8						
MOX				L		19 51 40.0	
MOX	**Moxa**	73.63	341	*e*P	**P**	19 12 44.8	+2.5
MOX				pmax	pmax		
	comp=Z,23nm,1.9s,mb4.8						
MOX				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
MOX	**Moxa**	73.63	341	*e*P	**P**	19 12 44.8	+2.5
	comp=Z,23nm,1.9s,mb4.8						
MOX				LR	LR		
	comp=Z,200nm,16.0s,MS4.5						
PRU	**Pruhonice**	73.64	339	*e*P	**P**	19 12 43.5	+1.1
VRAC	**Vranov**	73.82	337	P	**P**	19 12 45.3	+1.8
	comp=Z,0.8nm,0.4s,mb4.0,baz=35,slow=8.4,SNR=3.3						
GRA1	**Grafenberg Arr**	74.61	341	*e*P	**P**	19 12 47.6	-0.4
	comp=Z,5.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	74.61	341	*e*P	**P**	19 12 47.6	-0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
KHC	**Kasperske Hory**	74.66	339	P	**P**	19 12 49.0	+0.7
KHC						19 13 14.0	
GERES	**GERESS Array B**	74.90	339	P	**P**	19 12 50.9	+1.1
	comp=Z,0.7nm,0.8s,mb3.6,baz=45,slow=5.7,SNR=5.2						
GERES	**GERESS Array B**	74.90	339	P	**P**	19 12 50.9	+1.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	76.67	207	P	**P**	19 13 00.7	+0.4
	comp=Z,0.6nm,0.8s,mb3.6,baz=21,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	76.67	207	P	**P**	19 13 00.7	+0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	77.34	322	P	**P**	19 13 06.3	+2.7
	comp=Z,3.1nm,1.1s,mb4.2,baz=90,slow=3.7,SNR=4.5						
BRTR				LR	LR	19 53 17.4	
	comp=Z,49nm,18.2s,MS3.9,baz=180,slow=40						
BRTR	**Keskin Array B**	77.34	322	P	**P**	19 13 06.3	+2.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR				MLR	MLR		
	comp=Z,49nm,18.2s						
ASAR	**Alice Springs**	80.34	206	P	**P**	19 13 21.0	+0.7
	comp=Z,0.5nm,0.6s,mb3.7,baz=15,slow=4.9,SNR=12						

*NEIC **18** 19:14:06.6±3.8, 36.28N×70.70E, h151^{km}±38^{km}, mb4.0/7, Error ellipse: s-maj=32.8km s-min=16.3km az=49.0*

*MOS **18** 19:14:07.2±0.7, 36.20N×70.69E, h179^{km}, mb3.8/6, Error ellipse: s-maj=38.2km s-min=17.4km az=98.1*

*IDC **18** 19:14:08.8±6.1, 36.26N×70.91E, h175^{km}±54^{km}, mb3.5/9, mb1 3.6/11, mb1mx3.3/21, Error ellipse: s-maj=33.5km s-min=17.3km az=35.0*

*NNC **18** 19:14:18.5±5.1, 37.09N×71.02E, h212^{km}±45^{km}, mpv3.5, Error ellipse: s-maj=49.6km s-min=39.3km az=31.0*

ISC 18 19:14:12.0±0.5**, 36.56N**±0.03×**71.00E**±0.08**, h213**^{km}±6^{km}**, n53, σ0^{s}81**/58**, mb3.6**/12**, 5C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	2.83	164	⇑P	**P**	19 15 01.7	+0.9
CEP				S	**S**	19 15 38.0	-0.6
CHCP	**Chirah Chowk**	3.44	147	⇓P	**P**	19 15 09.2	+1.2
THW	**Thamme Wali**	3.80	171	⇑P	**P**	19 15 13.0	+0.6
SBDP	**Sheikh Budin**	4.25	182	⇓P	**P**	19 15 18.0	0.0
SARP	**Sargodha**	4.83	163	P	**P**	19 15 25.0	-0.2
DLH	**Dalhousie**	5.73	133	*e*P	**P**	19 15 32.0	-4.7
DLH				*e*S	**S**	19 16 36.0	-6.6
AML	**Almayashu**	5.94	20	P	**P**	19 15 39.5	0.0
	SNR=88						
UCH	**Uchtor**	6.28	25	P	**P**	19 15 44.1	+0.3
	SNR=47						
KZA	**Kyzart**	6.42	30	P	**P**	19 15 45.1	-0.5
	SNR=28						
EKS2	**Erkin-Say**	6.46	19	P	**P**	19 15 46.3	+0.2
	SNR=14						
KK31	**Karatay Array**	6.55	357	⇓P	**P**	19 15 46.5	-0.7
	1.3nm,0.3s,baz=173,slow=12,SNR=89						
KK31				⇓S	**S**	19 16 56.2	-5.3
	22nm,0.7s,baz=178,slow=20,SNR=22						
AAK	**Ala-Archa**	6.64	23	P	**P**	19 15 48.9	+0.5
	SNR=6.2						
KBK	**Karagaybulak**	6.81	25	P	**P**	19 15 51.9	+1.3
	SNR=13						
ULHL	**Ulahol**	6.98	34	P	**P**	19 15 52.8	0.0
	SNR=10						
CHMS	**Chumysh**	7.05	23	P	**P**	19 15 54.1	+0.4
	SNR=12						
SDNR	**Sundarnagar**	7.07	134	*e*P	**P**	19 15 53.6	-0.4
SDNR				*e*S	**S**	19 17 08.0	-5.6
USP	**Ospenovka**	7.22	21	P	**P**	19 15 55.9	-0.1
	SNR=9.5						
TKM2	**Tokmak 2**	7.27	28	P	**P**	19 15 56.7	+0.1
	SNR=25						
DDI	**Dehra Dun**	8.57	135	*e*S	**S**	19 17 40.3	-8.0
MK31	**Makanchi Array**	13.24	36	⇑P	**P**	19 17 12.5	-0.4
	0.2nm,0.3s,baz=213,slow=11,SNR=15						
MKAR	**Makanchi Array**	13.24	36	P	**P**	19 17 13.0	+0.1
	0.2nm,0.3s,baz=208,slow=11,SNR=9.5						
MKAR				S	**S**	19 19 45.8	+10
	0.0nm,0.3s,baz=202,slow=26,SNR=2.5						
KOLN	**Koldanda**	13.80	126	*e*P	**P**	19 17 18.3	-1.6
	6.2nm,0.2s						
GKN	**Gorkha**	14.33	123	*e*P	**P**	19 17 27.4	+0.9
	24nm,0.4s						
DMN	**Daman**	14.90	123	*e*P	**P**	19 17 33.0	-0.6
	15nm,0.5s						
KKN	**Kakani**	14.91	122	*e*P	**P**	19 17 32.9	-0.7
	25nm,0.5s						
AB31	**Akbulak array**	15.03	331	P	**P**	19 17 33.6	-1.4
	3.8nm,1.1s,baz=145,slow=12,SNR=32						
PKI	**Pulchoki**	15.13	122	*e*P	**P**	19 17 36.9	+0.5
	10.0nm,0.3s						
VOSK	**Vostochnaya**	16.16	360	⇑P	**P**	19 17 47.6	-1.1
	2.8nm,0.9s						
ZRNK	**Zerenda**	16.45	356	⇑P	**P**	19 17 52.1	-0.1
	2.4nm,0.5s						
ZRNK	**Zerenda**	16.45	356	*e*P	**P**	19 17 51.9	-0.3
	4.6nm,0.4s						
BVAR	**Borovoye Array**	16.47	359	P	**P**	19 17 52.1	-0.3
	1.0nm,0.3s,baz=172,slow=10,SNR=15						
BRVK	**Borovoye**	16.51	358	*e*P	**P**	19 17 50.4	-2.5
	4.2nm,0.7s						
LSA	**Lhasa**	18.19	106	P	**P**	19 18 10.7	-0.5
	3.0nm,0.7s						
ARU	**Arti**	21.58	341	*e*P	**P**	19 18 46.3	+1.3
	5.0nm,0.9s,mb4.0						
FINES	**FINESS Array B**	37.44	326	P	**P**	19 21 06.7	+0.7
	1.1nm,0.3s,mb3.8,baz=122,slow=10,SNR=19						
FINES	**FINESS Array B**	37.44	326	P	**P**	19 21 06.7	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	37.58	327	*e*p	**P**	19 21 07.0	-0.1
	comp=Z,0.4nm,0.3s,mb3.4						
KEV	**Kevo**	40.75	338	*e*p	**P**	19 21 32.5	-0.7
ARCES	**ARCESS Array B**	41.09	338	P	**P**	19 21 37.0	+1.0
	comp=Z,1.6nm,0.5s,mb3.7,baz=107,slow=7.4,SNR=17						
ARCES	**ARCESS Array B**	41.09	338	P	**P**	19 21 37.0	+1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	44.34	323	P	**P**	19 22 02.1	0.0
	comp=Z,1.5nm,0.6s,mb3.5,baz=97,slow=7.4						
NOA	**NORSAR Array B**	44.34	323	P	**P**	19 22 02.4	+0.3
	comp=Z,1.2nm,0.5s,mb3.5,baz=97,slow=7.7,SNR=8.2						
NOA	**NORSAR Array B**	44.34	323	P	**P**	19 22 02.4	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	44.34	323	P	**P**	19 22 02.4	+0.3
VAE	**Valguarnera**	44.60	289	P	**P**	19 22 03.9	-0.6
	comp=Z,3.1nm,0.4s,mb4.0,baz=74,slow=7.4,SNR=2.2						
INK	**Inuvik**	73.85	9	P	**P**	19 25 25.4	+1.1
	comp=Z,0.8nm,0.8s,mb3.4,baz=346,slow=3.9,SNR=4.3						
INK	**Inuvik**	73.85	9	P	**P**	19 25 25.4	+1.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	74.70	267	P	**P**	19 25 26.3	-4.0
	comp=Z,6.5nm,1.0s,mb4.2						
ILAR	**Eielson Array**	74.72	16	P	**P**	19 25 30.9	+1.6
	comp=Z,0.2nm,0.5s,mb3.0,baz=302,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	81.19	3	P	**P**	19 26 05.5	+1.0
	comp=Z,0.4nm,0.3s,mb3.5,baz=350,slow=5.1,SNR=4.9						
WRA	**Warramunga Arr**	82.02	122	P	**P**	19 26 09.1	-0.6
	comp=Z,0.6nm,0.6s,mb3.4,baz=323,slow=4.9,SNR=21						
WRA	**Warramunga Arr**	82.02	122	P	**P**	19 26 09.1	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	84.29	125	P	**P**	19 26 20.6	-0.5
	comp=Z,0.5nm,0.5s,mb3.5,baz=311,slow=4.6,SNR=16						

IDC 18 20:00:21.8±6.1**, 7.69S×128.51E, h180**^{km}±64^{km}**, mb3.1**/1**, mb1 3.3**/4**, mb1mx3.1**/12**, Error ellipse: s-maj=58.8km s-min=30.7km az=62.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	10.72	195	P	P	20 02 50.7	-0.9
	1.0nm,0.3s,baz=17,slow=10,SNR=39						
FITZ				S	S	20 04 47.6	-1.3
	0.6nm,0.3s,baz=360,slow=21,SNR=5.2						
WRA	**Warramunga Arr**	13.43	156	P	P	20 03 26.9	+0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=13						
WRA				S	S	20 05 48.9	-2.7
	0.7nm,0.3s,baz=332,slow=22,SNR=10						
ASAR	**Alice Springs**	16.70	163	P	P	20 04 05.0	-2.0
	0.1nm,0.3s,baz=346,slow=15,SNR=7.1						
ASAR				S	S	20 07 10.1	+4.4
	0.2nm,0.3s,baz=346,slow=26,SNR=7.1						
MKAR	**Makanchi Array**	68.00	328	P	P	20 11 01.5	-2.0
	0.3nm,0.5s,baz=131,slow=7.0,SNR=6.8						

*NNC **18** 20:19:53.0±1.5, 38.87N×78.14E, mpv3.4, Error ellipse: s-maj=17.1km s-min=5.9km az=0.0*

*BJI **18** 20:19:59.6, 39.68N×77.20E, h11^{km}, ML3.8*

ISC 18 20:19:53.1±4.4**, 39.0N**±0.4×**77.34E**±0.09**, h10**^{km}**, n11, σ0^{s}59**/13**, 2C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	1.17	295	⇑*i*PG	**Pg**	20 20 16.8	+0.2
KSH				SG	**Sg**	20 20 32.1	-0.1
KSH				Smax			
	comp=N,2μm,0.8s						
KSH				Smax			
	comp=E,2μm,1.1s						
ULHL	**Ulahol**	3.33	346	P	**Pn**	20 20 47.7	+1.4
	SNR=24						
KZA	**Kyzart**	3.44	333	P	**Pn**	20 20 47.5	-0.5
	SNR=67						
UCH	**Uchtor**	3.86	327	P	**Pn**	20 20 53.6	-0.3
	SNR=11						
KBK	**Karagaybulak**	4.06	334	P	**Pn**	20 21 02.0	+5.2
	SNR=10						
TKM2	**Tokmak 2**	4.11	342	P	**Pn**	20 20 57.8	+0.3
	SNR=13						
AML	**Almayashu**	4.17	319	P	**Pn**	20 20 58.3	+0.1
	SNR=22						
CHMS	**Chumysh**	4.43	335	P	**Pn**	20 21 01.1	-0.9
	SNR=18						
EKS2	**Erkin-Say**	4.53	325	P	**Pn**	20 21 03.7	+0.3
	SNR=8.4						
KK31	**Karatay Array**	6.58	311	Pn	**Pn**	20 21 41.5	+9.2
	comp=E,3.9nm,0.7s,baz=132,slow=13,SNR=6.1						
KK31				⇑Sn	**Sn**	20 23 07.4	+19
	comp=E,27nm,0.8s,baz=122,slow=28,SNR=5.6						
MK31	**Makanchi Array**	8.57	23	Pn	**P**	20 21 59.9	-0.4
	comp=E,0.3nm,0.4s,baz=195,slow=13,SNR=4.4						
MK31				⇓Lg		20 24 18.2	
	comp=E,9.9nm,1.0s,baz=202,slow=28,SNR=3.6						

*NIED **18** 20:31:00, 22.10N×121.50E, h65^{km}, Mw4.5 Best double couple: M$_0$6.37×10^{15} NP1:φ$_s$58°, δ90°, λ87°. NP2:φ$_s$320°, δ3°, λ172°.*

*MOS **18** 20:31:36.4±0.6, 22.02N×121.80E, h67^{km}, mb4.5/10, Error ellipse: s-maj=31.1km s-min=12.2km az=123.7*

*IDC **18** 20:31:40.0±3.4, 22.00N×121.71E, h79^{km}±29^{km}, mb3.9/18, mb1 4.1/18, mb1mx4.0/21, MS3.2/2, Ms1 3.3/2, ms1mx2.8/18, Error ellipse: s-maj=27.9km s-min=13.2km az=65.0*

*TAP **18** 20:31:40.7, 22.07N×121.39E, h72^{km}±1^{km}, ML4.9*

TAP Felt II J at Hengchun, II J at Sandimen, I J at Chenggung, I J at Kaohsiung, I J at Chiayi, I J at Szhu.

*NEIC **18** 20:31:41.6±1.3, 21.91N×121.49E, h96^{km}±12^{km}, mb4.3/16, Error ellipse: s-maj=10.5km s-min=8.6km az=99.0*

*BJI **18** 20:31:42.9, 22.12N×121.21E, h95^{km}, mB4.8, mb4.2*

*JMA **18** 20:31:42.0±0.3, 22.06N×121.54E, h118^{km}, M4.1*

*MAN **18** 20:31:44.2, 21.68N×121.36E, h35^{km}, mb5.0, ML3.9, MS4.0*

ISC 18 20:31:39.8±0.2**, 21.99N**±0.02×**121.38E**±0.02**, h85**^{km}±2^{km}**, n154, σ1^{s}03**/218**, mb4.1**/32**, 25C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWK1	**Hengchun**	0.53	265	⇓*i*P	**P**	20 31 54.7	+0.2
TWK1				S	**S**	20 32 05.4	0.0
TAW	**Tawu**	0.58	310	⇑*i*P	**P**	20 31 54.3	-0.6
TAW				S	**S**	20 32 04.6	-1.5
HEN	**Hengchun**	0.59	272	⇑*i*P	**P**	20 31 55.2	+0.2
HEN				S	**S**	20 32 06.0	-0.3
EAST	**Anshuo**	0.63	309	⇑*i*P	**P**	20 31 55.0	-0.4
ECL	**Taimali**	0.72	327	⇑*i*P	**P**	20 31 55.4	-0.9
ECL				S	**S**	20 32 06.9	-1.7
TTN	**Taitung**	0.79	344	⇑*i*P	**P**	20 31 57.5	+0.4
TTN				S	**S**	20 32 11.3	+1.4
SCZT	**Fangliau**	0.80	299	⇑*i*P	**P**	20 31 57.0	-0.2
SCZT				S	**S**	20 32 08.8	-1.2
TWG	**Pinlang**	0.88	341	⇑*i*P	**P**	20 31 57.2	-0.7
TWG				S	**S**	20 32 09.9	-1.7
TWP	**Hsiaoliuchiu**	1.00	291	⇑P	**P**	20 32 00.7	+1.2
TWP				S	**S**	20 32 16.7	+2.4
SSD	**Sandimen**	1.02	318	⇑*i*P	**P**	20 31 59.6	0.0
SSD				S	**S**	20 32 13.0	-1.6
SGLT	**Jiouru**	1.10	312	*e*P	**P**	20 32 01.5	+0.9
SGLT				S	**S**	20 32 17.4	+1.1
CHKT	**Chengkung**	1.11	359	P	**P**	20 32 00.4	-0.2
CHKT				S	**S**	20 32 16.1	-0.3
KAU	**Kaohsiung**	1.15	300	*e*P	**P**	20 32 02.1	+0.9
KAU				S	**S**	20 32 18.2	+1.0
TWM1	**Shoushan**	1.21	313	⇑*i*P	**P**	20 32 02.9	+0.9
TWM1				S	**S**	20 32 21.4	+2.7
ELDTW	**Lidau**	1.24	345	P	**P**	20 32 02.0	-0.4
ELDTW				S	**S**	20 32 20.5	+1.1
STYT	**Tauyuan**	1.30	334	⇑*i*P	**P**	20 32 03.5	+0.2
STYT				S	**S**	20 32 20.5	-0.2
SGST	**Jiashian**	1.31	326	⇑*i*P	**P**	20 32 03.6	+0.2
SGST				S	**S**	20 32 20.5	-0.4
TWF1	**Yuli**	1.36	357	⇑*i*P	**P**	20 32 03.2	-0.8
TWF1				S	**S**	20 32 20.6	-1.3
CHN1	**Nanshi**	1.43	327	⇑*i*P	**P**	20 32 04.8	0.0

CHN1				S	**S**	**20 32 22.8**	**-0.6**
CHN3	**Shinhua**	**1.43**	**319**	*e*P	**P**	**20 32 05.7**	**+0.8**
CHN3				S	**S**	**20 32 25.4**	**+1.9**
WTP	**Ta-pu**	**1.44**	**331**	⇑*i*P	**P**	**20 32 05.0**	**0.0**
WTP				S	**S**	**20 32 23.6**	**0.0**
EHY	**Hungye**	**1.51**	**358**	*e*P	**P**	**20 32 05.2**	**-0.7**
EHY				S	**S**	**20 32 23.5**	**-1.7**
TWK	**Hsinying**	**1.51**	**327**	⇑*i*P	**P**	**20 32 05.7**	**-0.2**
TWK				S	**S**	**20 32 24.9**	**-0.4**
CHN4	**Tsaushan**	**1.54**	**332**	⇑P	**P**	**20 32 06.2**	**-0.1**
CHN4				S	**S**	**20 32 25.5**	**-0.3**
YUS	**Yu-Shan**	**1.54**	**345**	*e*P	**P**	**20 32 07.3**	**+0.9**
YUS				S	**S**	**20 32 27.3**	**+1.3**
ALS	**Alishan**	**1.60**	**341**	⇑*i*P	**P**	**20 32 07.6**	**+0.5**
ALS				S	**S**	**20 32 28.2**	**+0.9**
SCLT	**Jiali**	**1.61**	**317**	*e*P	**P**	**20 32 07.1**	**-0.1**
SCLT				S	**S**	**20 32 27.4**	**-0.1**
BBP	**Basco**	**1.63**	**160**	*e*P	**P**	**20 32 07.6**	**+0.1**
CHN5	**Tsauling**	**1.73**	**338**	⇑*i*P	**P**	**20 32 08.5**	**-0.3**
CHN5				S	**S**	**20 32 30.5**	**+0.4**
CHN8	**Yiju**	**1.73**	**322**	*e*P	**P**	**20 32 08.3**	**-0.4**
CHN8				S	**S**	**20 32 29.3**	**-0.8**
CHY	**Chiayi**	**1.74**	**330**	⇑*i*P	**P**	**20 32 08.6**	**-0.4**
CHY				S	**S**	**20 32 29.6**	**-0.8**
CHN2	**Minshiung**	**1.75**	**332**	*e*P	**P**	**20 32 08.8**	**-0.2**
CHN2				S	**S**	**20 32 30.3**	**-0.3**
ESL	**Shilin**	**1.82**	**2**	P	**P**	**20 32 09.6**	**-0.3**
ESL				S	**S**	**20 32 30.8**	**-1.4**
WGK	**Gukeng**	**1.85**	**336**	*e*P	**P**	**20 32 10.1**	**-0.2**
WGK				S	**S**	**20 32 32.9**	**+0.1**
SMLT	**Sun Moon Lake**	**1.94**	**347**	*e*P	**P**	**20 32 11.8**	**+0.3**
SMLT				S	**S**	**20 32 35.5**	**+0.6**
WSF	**Szhu**	**1.96**	**327**	⇑P	**P**	**20 32 11.1**	**-0.7**
WSF				S	**S**	**20 32 34.4**	**-1.0**
TYC	**Yuchr**	**1.97**	**346**	*e*P	**P**	**20 32 12.0**	**+0.1**
TYC				S	**S**	**20 32 36.0**	**+0.4**
WNT	**Mingjian**	**1.99**	**341**	*e*P	**P**	**20 32 12.2**	**+0.1**
WNT				S	**S**	**20 32 36.0**	**-0.1**
WDGT	**Dungji**	**2.03**	**309**	*e*P	**P**	**20 32 11.6**	**-1.2**
WDGT				S	**S**	**20 32 34.1**	**-3.0**
TWD	**Chiawan**	**2.09**	**5**	*e*P	**P**	**20 32 14.0**	**+0.3**
TWD				S	**S**	**20 32 38.0**	**-0.7**
WTCT	**Ta-ch'eng**	**2.12**	**332**	*e*P	**P**	**20 32 13.2**	**-0.9**
WTCT				S	**S**	**20 32 38.4**	**-1.0**
WHF	**Hehuan Shan**	**2.15**	**357**	*e*P	**P**	**20 32 15.4**	**+1.0**
WHF				S	**S**	**20 32 41.1**	**+1.0**
TCU	**Taichung**	**2.24**	**343**	*e*P	**P**	**20 32 15.6**	**-0.2**
TCU				S	**S**	**20 32 42.2**	**-0.2**
TWT	**Tachien**	**2.26**	**355**	*e*P	**P**	**20 32 17.2**	**+1.2**
TWT				S	**S**	**20 32 45.0**	**+2.1**
PNG	**Penghu**	**2.30**	**313**	*e*P	**P**	**20 32 15.2**	**-1.4**
PNG				S	**S**	**20 32 40.6**	**-3.3**
NNS	**Nan Shan**	**2.44**	**360**	*e*P	**P**	**20 32 19.6**	**+1.1**
NNS				S	**S**	**20 32 47.6**	**+0.3**
ENA	**Nanau**	**2.45**	**8**	⇓P	**P**	**20 32 18.7**	**0.0**
ENA				S	**S**	**20 32 47.0**	**-0.6**
NSY	**Sanyi**	**2.48**	**347**	*e*P	**P**	**20 32 19.6**	**+0.5**
NSY				S	**S**	**20 32 47.4**	**-1.0**
TWC	**Suao**	**2.64**	**9**	*e*P	**P**	**20 32 21.9**	**+0.5**
TWC				S	**S**	**20 32 52.5**	**+0.1**
ENTT	**Nioudou**	**2.65**	**4**	*e*P	**P**	**20 32 21.8**	**+0.5**
ENTT				S	**S**	**20 32 51.8**	**-0.7**
NSTT	**Nanjuang**	**2.65**	**353**	*e*P	**P**	**20 32 20.8**	**-0.7**
NSTT				S	**S**	**20 32 53.6**	**+1.0**
NSK	**Sanguang**	**2.67**	**360**	*e*P	**P**	**20 32 22.9**	**+1.1**
NSK				S	**S**	**20 32 53.2**	**0.0**
TWE	**Neicheng**	**2.73**	**6**	*e*P	**P**	**20 32 22.5**	**-0.1**
TWE				S	**S**	**20 32 55.4**	**+0.7**
YOJ	**Yonaguni jima**	**2.88**	**31**	P	**P**	**20 32 25.4**	**+0.7**
YOJ				S	**S**	**20 32 59.2**	**+0.8**
TATO	**Taipei**	**2.98**	**2**	*e*Pn	**P**	**20 32 27.1**	**+1.1**
TATO				*e*Sn	**S**	**20 32 52.5**	**-8.2**
TWA	**Mucha**	**2.98**	**4**	*e*P	**P**	**20 32 28.3**	**+2.3**
TWA				S	**S**	**20 33 01.4**	**+0.5**
HATJ	**Hateruma jima**	**3.04**	**47**	P	**P**	**20 32 27.3**	**+0.4**
HATJ				S	**S**	**20 33 01.5**	**-0.8**
TAP1	**Taipei**	**3.04**	**2**	*e*P	**P**	**20 32 30.2**	**+3.3**
TWB1	**Santiao Chiao**	**3.06**	**10**	*e*P	**P**	**20 32 27.8**	**+0.7**
NWF	**Wu-fen Shan**	**3.09**	**7**	*e*P	**P**	**20 32 28.4**	**+0.8**
NWF				S	**S**	**20 33 04.0**	**+0.5**
IRIF	**Iriomote-Funau**	**3.19**	**42**	P	**P**	**20 32 29.4**	**+0.5**
IRIF				S	**S**	**20 33 05.5**	**-0.4**
TWY	**Chenhua**	**3.28**	**4**	*e*P	**P**	**20 32 31.5**	**+1.4**
JKRS	**Kuro-shima**	**3.30**	**47**	P	**P**	**20 32 31.0**	**+0.6**
JKRS				S	**S**	**20 33 08.3**	**-0.4**
JIJ	**Ishigaki jima**	**3.47**	**47**	P	**P**	**20 32 32.7**	**-0.1**
JIJ				S	**S**	**20 33 11.2**	**-1.8**
KNM	**Kinmen**	**3.63**	**312**	*e*P	**P**	**20 32 34.6**	**-0.4**
KNM				S	**S**	**20 33 15.1**	**-1.7**
PIP	**Pasuquin**	**3.71**	**191**	⇑*i*P	**P**	**20 32 35.6**	**-0.6**
PIP				*i* S	**S**	**20 33 16.1**	**-2.8**
SGCP	**Mt. Cagua**	**3.78**	**170**	*e*P	**P**	**20 32 36.3**	**-0.8**
QZH	**Quanzhou**	**3.90**	**320**	⇓*i*P	**P**	**20 32 37.5**	**-1.2**
QZH				S	**S**	**20 33 19.0**	**-4.5**
QZH				Smax			
	comp=N,340nm,0.3s						
QZH				Smax			
	comp=E,800nm,0.8s						
JTJ	**Tarama**	**4.04**	**49**	S	**S**	**20 33 26.1**	**-0.9**
APYP	**Conner**	**4.11**	**182**	*e*P	**P**	**20 32 41.7**	**+0.1**
CVP	**Callao Caves**	**4.28**	**174**	⇑*i*P	**P**	**20 32 44.0**	**0.0**
ABRA	**Dolores**	**4.36**	**188**	*e*P	**P**	**20 32 45.8**	**+0.6**
JMJ	**Miyako jima 2**	**4.57**	**51**	S	**S**	**20 33 39.4**	**-0.8**
JOGS	**Gusukube**	**4.62**	**53**	S	**S**	**20 33 40.8**	**-0.6**
PALP	**Palanan**	**5.00**	**168**	*e*P	**P**	**20 32 56.1**	**+2.2**
CAUP	**Cauayan**	**5.04**	**175**	*e*P	**P**	**20 32 56.0**	**+1.6**
BOLP	**Bolinao**	**5.75**	**194**	*e*P	**P**	**20 33 04.8**	**+0.7**
BALP	**Baler**	**6.22**	**178**	*e*P	**P**	**20 33 12.1**	**+1.5**
SCZP	**Santa Cruz**	**6.33**	**193**	*e*P	**P**	**20 33 13.9**	**+1.6**
GZH	**Guangzhou**	**7.51**	**280**	P	**P**	**20 33 26.6**	**-1.9**
GZH				Smax			
	comp=N,164nm,0.9s						
GZH				Smax			
	comp=E,159nm,0.8s						
QIZ	**Qiongzhong**	**11.20**	**257**	*e*P	**P**	**20 34 19.8**	**+1.2**
QIZ				*e*S	**S**	**20 36 09.0**	**-14**
ENH	**Enshi**	**13.49**	**310**	P	**P**	**20 34 41.5**	**-7.2**
	comp=E,5.3nm,0.7s						
GYA	**Guiyang**	**14.14**	**291**	⇑*i*P	**P**	**20 35 00.0**	**+2.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.4s						
GYA				LR	LR		
	comp=N,250nm,12.4s						
GYA				LR	LR		
	comp=E,280nm,11.0s						
GYA				LR	LR		
	comp=Z,470nm,10.8s						
KS15	**Wonju Array Si**	**16.40**	**19**	*e*P	**P**	**20 35 27.0**	**+1.1**
KMI	**Kunming**	**17.37**	**284**	*e*P	**P**	**20 35 36.9**	**-1.2**
KMI				AP		20 35 54.3	
KMI				XP		20 36 08.3	
KMI				S	**S**	**20 38 46.5**	**+0.1**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.5s						
KMI				LR	LR		
	comp=Z,39nm,12.1s						
KMI	**Kunming**	**17.37**	**284**	*e*P	**P**	**20 35 36.9**	**-1.2**
	comp=Z,7.0nm,1.5s						
KMI				pP		20 35 54.3	
KMI				sP		20 36 08.2	
KMI				S	**S**	**20 38 46.5**	**+0.1**
BJT	**Baijiatuau**	**18.51**	**347**	P	**P**	**20 35 51.2**	**-0.5**
	comp=Z,10nm,0.6s						
BJI	**Beijing**	**18.53**	**347**	P	**P**	**20 35 52.6**	**+0.7**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s						
BJI	**Beijing**	**18.53**	**347**	P	**P**	**20 35 52.6**	**+0.7**
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**	**20.59**	**42**	P	**P**	**20 36 14.2**	**+0.2**
MAT	**Matsushiro**	**20.59**	**42**	*e*P	**P**	**20 36 14.0**	**0.0**
	comp=Z,6.2nm,0.7s						
MAJO	**Matsushiro**	**20.59**	**42**	*e*P	**P**	**20 36 13.7**	**-0.2**
	comp=Z,15nm,0.9s						
JRY	**Ryogami san**	**20.70**	**44**	P	**P**	**20 36 17.0**	**+2.0**
CM31	**Chiang Mai Arr**	**21.34**	**265**	P	**P**	**20 36 24.7**	**+3.1**
	comp=Z,2.7nm,0.8s,mb3.6						
CMAR	**Chiang Mai Arr**	**21.34**	**265**	P	**P**	**20 36 23.8**	**+2.2**
	comp=Z,1.4nm,0.7s,mb3.4,baz=68,slow=9.2,SNR=11						
CMAR				PcP	PcP	20 40 22.8	-0.7
	comp=Z,0.5nm,0.7s,baz=104,slow=0.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**21.34**	**265**	P	**P**	**20 36 23.8**	**+2.2**
CMAR						20 40 22.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CN2	**Changchun**	**22.01**	**8**	*e*P	**P**	**20 36 29.6**	**+1.5**
JMM	**Marumori**	**23.03**	**42**	P	**P**	**20 36 38.2**	**+0.2**
MDJ	**Mudanjiang**	**23.56**	**15**	P	**P**	**20 36 43.8**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,214nm,5.6s						
MDJ	**Mudanjiang**	**23.56**	**15**	*e*P	**P**	**20 36 44.3**	**+1.2**
	comp=Z,13nm,0.8s,mb4.3						
JOM	**Ohasama**	**24.34**	**40**	P	**P**	**20 36 50.0**	**-0.7**
JTM	**Tenmabayashi**	**25.07**	**37**	P	**P**	**20 36 57.7**	**-0.1**
JOT	**Ohata**	**25.47**	**36**	P	**P**	**20 37 01.9**	**+0.5**
HIA	**Hailar**	**27.25**	**358**	*e*P	**P**	**20 37 15.6**	**-2.2**
	comp=Z,5.5nm,0.5s,mb4.3						
ASAJ	**Asahikawa**	**28.19**	**33**	P	**P**	**20 37 28.5**	**+2.2**
	comp=Z,11nm,0.5s,mb4.7,baz=157,slow=6.9,SNR=14						
ASAJ				LR	LR	20 48 57.3	
	comp=Z,16nm,18.0s,baz=175,slow=37						
ASAJ	**Asahikawa**	**28.19**	**33**	P	**P**	**20 37 28.5**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.5s						
ASAJ				MLR	MLR		
	comp=Z,16nm,18.0s						
LSA	**Lhasa**	**28.21**	**292**	P	**P**	**20 37 24.8**	**-1.9**
	comp=Z,1.7nm,0.6s,mb3.8						
SONM	**Songino Array**	**28.46**	**339**	P	**P**	**20 37 28.4**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.3,baz=154,slow=9.0,SNR=54						
ZAK	**Zakamensk**	**31.70**	**338**	*e*P	**P**	**20 37 56.6**	**-0.7**
WMQ	**Urumqi**	**35.33**	**316**	⇑P	**P**	**20 38 29.5**	**+0.9**
WMQ				AP	pP	20 38 52.1	+3.3
WMQ				XP	sP	20 39 04.0	+4.8
WMQ				PP	PP	20 39 52.0	+1.6
WMQ				XS		20 44 34.9	
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.1						
WMQ				LR	LR		
	comp=E,18nm,15.0s						
WMQ				LR	LR		
	comp=Z,21nm,18.0s						
MKAR	**Makanchi Array**	**40.05**	**318**	P	**P**	**20 39 09.6**	**+1.6**
	comp=Z,3.4nm,0.6s,mb4.4,baz=107,slow=9.1,SNR=37						
MKAR				PcP	PcP	20 41 12.0	0.0
	comp=Z,0.6nm,0.7s,baz=121,slow=3.4,SNR=4.1						
MKAR				ScP		20 44 53.3	
	comp=Z,0.8nm,0.8s,baz=90,slow=2.9,SNR=5.4						
MKAR	**Makanchi Array**	**40.05**	**318**	P	**P**	**20 39 09.6**	**+1.6**
MKAR						20 41 12.0	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MKAR	**Makanchi Array**	**40.05**	**318**	P	**P**	**20 39 09.6**	**+1.6**
MKAR				PcP	PcP	20 41 12.0	0.0
MKAR				ScP		20 44 53.3	
WRAB	**Tennant Creek**	**43.55**	**162**	*e*P	**P**	**20 39 34.3**	**-2.7**
	comp=N,7.3nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.56**	**162**	P	**P**	**20 39 34.7**	**-2.4**
	comp=N,3.2nm,0.7s,mb4.2,baz=344,slow=8.9,SNR=25						
WRA	**Warramunga Arr**	**43.56**	**162**	P	**P**	**20 39 34.7**	**-2.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**43.56**	**162**	*e*P	**P**	**20 39 34.8**	**-2.3**
KURK	**Kurchatov**	**43.90**	**322**	*i* P	**P**	**20 39 40.1**	**+0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**43.90**	**322**	*e*P	**P**	**20 39 39.9**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.3						
KKAR	**Karatay Array**	**46.96**	**309**	P	**P**	**20 40 08.1**	**+4.2**
ASAR	**Alice Springs**	**46.99**	**164**	P	**P**	**20 40 03.0**	**-1.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=354,slow=13,SNR=27						
ASPA	**Alice Springs**	**46.99**	**164**	*e*P	**P**	**20 40 02.4**	**-1.9**
VOSK	**Vostochnaya**	**49.05**	**322**	P	**P**	**20 40 20.1**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
BVA0	**Borovoye Array**	**49.49**	**322**	*i* P	**P**	**20 40 23.8**	**+0.5**
BVAR	**Borovoye Array**	**49.49**	**322**	P	**P**	**20 40 24.0**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=112,slow=9.2,SNR=15						
BVAR				PcP	PcP	20 41 43.4	-1.0
	comp=Z,0.8nm,0.5s,baz=104,slow=5.9,SNR=3.3						
BRVK	**Borovoye**	**49.56**	**322**	*e*P	**P**	**20 40 24.0**	**+0.2**
	comp=Z,3.5nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**50.27**	**321**	P	**P**	**20 40 29.8**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AB31	**Akbulak array**	**55.11**	**315**	*i* P	**P**	**20 41 05.6**	**+0.3**
STKA	**Stephens Creek**	**56.95**	**159**	P	**P**	**20 41 17.1**	**-1.7**
	comp=Z,1.8nm,0.5s,mb4.4,baz=350,slow=15,SNR=3.5						
ARU	**Arti**	**56.97**	**324**	*e*P	**P**	**20 41 17.6**	**-0.9**
	comp=Z,4.2nm,0.6s,mb4.7						
OBN	**Obninsk**	**69.33**	**322**	P	**P**	**20 42 40.6**	**+0.7**
KEV	**Kevo**	**71.07**	**338**	*e*p	**P**	**20 42 48.2**	**-2.0**
	comp=Z,1.1nm,0.3s,mb4.2						
KEV	**Kevo**	**71.07**	**338**	*e*P	**P**	**20 42 48.2**	**-2.0**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
ILAR	**Eielson Array**	**71.08**	**27**	P	**P**	**20 42 48.5**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=290,slow=6.0,SNR=5.7						
ILAR				LR	LR	21 18 24.5	
	comp=Z,34nm,18.5s,baz=344,slow=40						
ARCES	**ARCESS Array B**	**71.64**	**338**	P	**P**	**20 42 53.0**	**-0.5**
	comp=Z,4.0nm,1.1s,mb4.2,baz=63,slow=8.1,SNR=7.1						
ARCES	**ARCESS Array B**	**71.64**	**338**	P	**P**	**20 42 53.0**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	**FINESS Array B**	**73.42**	**330**	P	**P**	**20 43 03.9**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.0,baz=143,slow=9.5,SNR=7.3						
FINES	**FINESS Array B**	**73.42**	**330**	P	**P**	**20 43 03.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**74.62**	**307**	P	**P**	**20 43 12.9**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.5,baz=74,slow=10,SNR=3.9						
BRTR	**Keskin Array B**	**74.62**	**307**	P	**P**	**20 43 12.9**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.63**	**319**	P	**P**	**20 43 10.9**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.0,baz=58,slow=6.3,SNR=8.1						
AKASG	**Malin Array Be**	**74.63**	**319**	P	**P**	**20 43 11.0**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**75.19**	**22**	*e*P	**P**	**20 43 12.5**	**-1.6**
	comp=Z,2.9nm,1.0s,mb4.0						
SUW	**Suwalki**	**77.15**	**323**	*e*P	**P**	**20 43 25.0**	**-0.6**
	comp=Z,21nm,0.9s,mb4.9						
MLR	**Muntele Rosu**	**78.30**	**314**	P	**P**	**20 43 32.8**	**+0.7**
	comp=Z,1.7nm,0.6s,mb3.9,baz=271,slow=6.0,SNR=4.0						
MLR	**Muntele Rosu**	**78.30**	**314**	P	**P**	**20 43 32.8**	**+0.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**79.56**	**331**	P	**P**	**20 43 38.4**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.2,baz=124,slow=5.3,SNR=8.7						
HFS	**Hagfors**	**79.56**	**331**	P	**P**	**20 43 38.4**	**-0.2**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**80.24**	**332**	P	**P**	**20 43 41.6**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.9,baz=59,slow=5.6						
NOA	**NORSAR Array B**	**80.24**	**332**	P	**P**	**20 43 42.0**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=62,slow=5.3,SNR=8.8						
NOA	**NORSAR Array B**	**80.24**	**332**	P	**P**	**20 43 42.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**84.65**	**321**	P	**P**	**20 44 06.2**	**+1.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=63,slow=3.0,SNR=9.0						
YKA	**Yellowknife Ar**	**84.92**	**23**	P	**P**	**20 44 05.8**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=308,slow=5.2,SNR=6.9						
SDV	**Santo Domingo**	**147.13**	**22**	*e*PKPbc	PKPdf	20 51 14.6	+3.1

IDC ***18*** *21:11:37.9±1.1, 52.50N×172.48E, mb3.6/9, mb1 3.9/9, mb1mx3.7/22, Error ellipse: s-maj=29.9km s-min=9.0km az=146.0*

NEIC ***18*** *21:11:40.1±2.6, 52.53N×172.55E, h16^{km}±14^{km}, mb3.9/1, Error ellipse: s-maj=24.6km s-min=13.1km az=187.0*

ISC 18 21:11:40.4±2.4**, 52.6N**±0.2×**172.5E**±0.2**, h27**^{km}±14^{km}**, n15, σ0^{s}89**/15**, mb3.7**/11**, 1C, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**0.49**	**56**	Pg	**Pb**	**21 11 50.3**	**-0.1**
	1μm,0.3s,baz=268,slow=4.9						
FX1				Lg		21 11 56.1	
FX1	**Attu Island--F**	**0.49**	**56**	⇑*i*P	**Pb**	**21 11 50.3**	**-0.1**
SMY	**Shemya**	**0.98**	**83**	*e*P	**Pn**	**21 11 58.5**	**-0.1**
SMY				*e*S	**Sb**	**21 12 11.3**	**+0.1**
ILAR	**Eielson Array**	**23.87**	**44**	P	**P**	**21 16 52.0**	**0.0**
	0.5nm,0.5s,mb3.2,baz=255,slow=10.0,SNR=5.3						
SONM	**Songino Array**	**41.23**	**291**	P	**P**	**21 19 26.1**	**+1.8**
	0.2nm,0.4s,mb3.1,baz=63,slow=6.4,SNR=2.9						
PDAR	**Pinedale Array**	**50.95**	**68**	P	**P**	**21 20 41.6**	**+0.4**
	1.4nm,1.1s,mb3.8,baz=308,slow=3.7,SNR=6.3						
KURK	**Kurchatov**	**54.16**	**309**	*e*P	**P**	**21 21 04.1**	**-0.9**
	0.7nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**54.95**	**303**	P	**P**	**21 21 09.8**	**-1.2**
	0.3nm,0.4s,mb3.7,baz=48,slow=6.3,SNR=5.1						
ARCES	**ARCESS Array B**	**55.80**	**347**	P	**P**	**21 21 17.2**	**+0.5**
	2.7nm,1.1s,mb4.2,baz=36,slow=7.8,SNR=3.6						
LTX	**Lajitas**	**63.67**	**76**	P	**P**	**21 22 10.8**	**-0.5**
	2.1nm,0.3s,mb4.7						
TXAR	**Lajitas Array**	**63.67**	**76**	P	**P**	**21 22 11.6**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=329,slow=5.4,SNR=4.0						
NOA	**NORSAR Array B**	**65.72**	**350**	P	**P**	**21 22 22.6**	**-1.5**
	0.4nm,0.7s,mb3.6,baz=351,slow=4.5,SNR=3.0						
GERES	**GERESS Array B**	**77.32**	**346**	P	**P**	**21 23 35.4**	**+1.8**
	0.1nm,0.5s,mb3.0,baz=11,slow=5.0,SNR=2.7						
ASAR	**Alice Springs**	**83.07**	**215**	P	**P**	**21 24 04.5**	**-0.2**
	0.5nm,0.8s,mb3.6,baz=3.8,slow=4.6,SNR=4.0						
MAW	**Mawson**	**144.15**	**218**	PKP	PKPdf	21 31 12.0	-4.8
	1.1nm,0.7s,baz=45,slow=2.9,SNR=3.0						

IDC 18 21:28:37.0±67.0**, 12.42S**×**169.64E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/14**, Error ellipse: s-maj=1149.0km s-min=126.3km az=64.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.23**	**229**	P	P	21 35 07.4	-2.0
	0.7nm,0.7s,baz=50,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**34.66**	**253**	P	P	21 35 28.8	-1.7
	0.6nm,1.0s,baz=85,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**35.67**	**247**	P	P	21 35 36.8	-2.4
	0.3nm,0.5s,baz=76,slow=8.9,SNR=6.3						

PRE 18 21:31:47.5±2.4**, 27.01S**×**26.72E, h2**^{km}**, ML3.5, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**1.15**	**8**	*e*P	Pb	21 32 08.5	-1.4
KSR				*e*S	Sb	21 32 23.3	-1.8
KSR				*e*		21 32 24.9	
	comp=Z,485nm,0.1s						
SEK	**Senekal**	**1.53**	**149**	*e*P	Pn	21 32 15.9	0.0
SEK				*e*S	Sb	21 32 34.7	-1.4
SEK				*e*		21 32 37.9	
	comp=Z,549nm,0.3s						
SLR	**Silverton**	**1.89**	**48**	*e*P	Pn	21 32 20.9	-0.3
SLR				*e*S	Sn	21 32 44.0	-1.9
SLR				*e*		21 32 47.3	
	comp=Z,360nm,0.2s						
NWL	**Newcastle**	**2.96**	**105**	*e*P	Pn	21 32 34.2	-2.2
NWL				*e*S	Sn	21 33 09.8	-3.2
NWL				*e*		21 33 23.0	
	comp=Z,526nm,0.6s						
LEP	**Lephalale**	**3.48**	**16**	*e*P	Pn	21 32 41.9	-1.8
LEP				*e*S	Sn	21 33 21.3	-4.8
LEP				*e*		21 33 36.1	
	comp=Z,125nm,0.3s						
PKA	**Prieska**	**4.38**	**232**	*e*P	Pn	21 32 42.5	-14
PKA				*e*S	Sn	21 33 30.1	-19
UPI	**Upington**	**5.03**	**253**	*e*P	Pn	21 33 02.9	-2.9
UPI				*e*S	Sn	21 33 19.7	-46
UPI				*e*		21 33 22.1	
	comp=Z,24nm,0.6s						
CVNA	**Calvinia**	**7.53**	**232**	*e*P	Pn	21 33 36.8	-4.3
CVNA				*e*S	Sn	21 34 56.0	-12
CVNA				*e*		21 35 00.8	
	comp=Z,6.9nm,0.2s						
CER	**Ceres**	**9.02**	**224**	*e*P	P	21 33 57.9	-3.8

IDC ***18*** *22:01:37.1±1.8, 24.84N×99.23E, mb3.4/2, mb1 3.4/3, mb1mx3.3/18, ML3.4/1, Error ellipse: s-maj=63.6km s-min=19.0km az=89.0*

BJI ***18*** *22:01:38.4, 24.89N×98.96E, h19^{km}, ML3.5*

ISC 18 22:01:35.9±0.9**, 24.65N**±0.04×**99.30E**±0.07**, h10**^{km}**, n7, σ1^{s}08**/11**, mb3.2**/2**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.16**	**81**	*e*PG	**Pg**	**22 02 39.6**	**+0.6**
KMI				SG	**Sg**	**22 03 20.9**	**-0.3**
KMI				Smax			
	comp=N,168nm,1.1s						
KMI				Smax			
	comp=E,127nm,0.9s						
CHRT	**Chiangrai**	**4.78**	**175**	PG	**Pg**	**22 03 09.0**	**-2.3**
CHRT				SG	**Sg**	**22 04 15.0**	**0.0**
CHG	**Chiang Mai**	**5.82**	**183**	PG	**Pg**	**22 03 33.2**	**+1.1**
CHG				SG	**Sg**	**22 04 50.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**6.17**	**183**	Pn	**Pn**	**22 03 11.2**	**+1.8**
	comp=E,0.2nm,0.3s,baz=357,slow=13,SNR=8.6						
CMAR				Pg	**Pg**	**22 03 35.0**	**-4.2**
	comp=E,0.7nm,0.3s,baz=355,slow=17,SNR=12						
CMAR				Lg		22 04 58.6	
	comp=E,1.1nm,0.3s,baz=320,slow=27,SNR=6.2						
BDT	**Bhumibol Dam**	**7.38**	**182**	P	**Pg**	**22 04 02.0**	**-1.2**
SONM	**Songino Array**	**23.81**	**12**	P	**P**	**22 06 50.1**	**+0.4**
	comp=E,0.6nm,0.9s,mb3.0,baz=180,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**25.95**	**333**	P	**P**	**22 07 09.4**	**-0.7**
	comp=E,0.8nm,0.7s,mb3.4,baz=148,slow=10,SNR=8.6						

NEIC ***18*** *22:02:12.2, 36.15N×27.48E, h22^{km}, MD3.7(ATH), ML3.8(THE), ML3.8(NIC), After ATH.*

ATH ***18*** *22:02:12.2, 36.15N×27.48E, h22^{km}±1^{km}, MD3.7/14*

THE ***18*** *22:02:13.8, 36.05N×27.57E, h22^{km}, ML3.8*

ISK ***18*** *22:02:13.7, 36.11N×27.44E, h30^{km}, MD3.7*

IDC ***18*** *22:02:15.8±1.4, 36.14N×27.43E, h41^{km}±19^{km}, mb3.7/7, mb1 3.7/14, mb1mx3.6/24, ML3.6/7, MS2.7/1, Ms1 2.8/1, ms1mx1.8/25, Error ellipse: s-maj=21.3km s-min=9.4km az=158.0*

NIC ***18*** *22:02:20.0±0.2, 35.60N×27.82E, h36^{km}, mb4.3, ML3.8, MW3.5*

ISC 18 22:02:12.1±0.2**, 35.99N**±0.02×**27.48E**±0.02**, h30**^{km}**, n103, σ1^{s}30**/127**, mb4.0**/10**, MS3.2**/2**, 5C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**211**	⇑*i*PN	**Pn**	**22 02 25.5**	**+2.2**
KARP				*e*SN	**Sn**	**22 02 34.4**	**+3.4**
ARG	**Arkhangelos**	**0.57**	**66**	⇑*i*PN	**Pn**	**22 02 22.7**	**-1.4**
ARG				*e*SN	**Sn**	**22 02 30.6**	**-1.8**
NISR	**Nisiros**	**0.69**	**335**	*e*PN	**Pn**	**22 02 23.5**	**-2.3**
BDRM	**Kayabasi**	**1.08**	**358**	*i* P	**Pn**	**22 02 30.3**	**-1.0**
BDRM				*i* S	**Sn**	**22 02 44.5**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.21**	**50**	*i* PN	**Pn**	**22 02 33.4**	**+0.1**
DALT				*i* SN	**Sn**	**22 02 49.3**	**+0.4**
YER	**Yerkesik**	**1.31**	**29**	*i* PN	**Pn**	**22 02 34.7**	**0.0**
MLSB	**Milas**	**1.33**	**10**	*e*PN	**Pn**	**22 02 34.6**	**-0.3**
SANT	**Santorini**	**1.68**	**284**	*e*P	**Pn**	**22 02 40.8**	**+0.8**
THR1	**Thera Island**	**1.68**	**284**	*e*Pb	**Pb**	**22 02 41.2**	**-1.1**
THR1				*e*Sb	**Sb**	**22 03 01.9**	**-1.3**
NPS	**Neapolis**	**1.69**	**245**	*e*PB	**Pb**	**22 02 42.6**	**+0.2**
AYDN	**Tasoluk**	**1.70**	**11**	*i* P	**Pn**	**22 02 41.1**	**+0.8**
AYDN				*i* S	**Sn**	**22 03 06.3**	**+5.1**
KSL	**Kastellorizon**	**1.71**	**84**	⇑*i*PN	**Pn**	**22 02 43.1**	**+2.7**
THR6	**Thira Island,**	**1.73**	**283**	*e*Pb	**Pb**	**22 02 42.0**	**-1.1**
THR3	**Thira Island,**	**1.74**	**285**	*e*Pb	**Pb**	**22 02 41.9**	**-1.3**
THR3				*e*Sb	**Sb**	**22 03 02.9**	**-1.8**
THR4	**Thira Island,**	**1.75**	**286**	*e*Pb	**Pb**	**22 02 42.1**	**-1.3**
THR4				*e*Sb	**Sb**	**22 03 03.7**	**-1.4**
THR5	**Thira Island,**	**1.78**	**285**	*e*Pb	**Pb**	**22 02 42.7**	**-1.3**
SMG	**Samos**	**1.79**	**343**	*e*PN	**Pn**	**22 02 41.6**	**0.0**
XRY	**Khrisi**	**1.83**	**233**	*e*PN	**Pn**	**22 02 46.5**	**+4.3**
APE	**Apeiranthos**	**1.91**	**305**	PN	**Pn**	**22 02 43.3**	**+0.1**
APE	**Apeiranthos**	**1.91**	**305**	*e*PB	**Pb**	**22 02 43.6**	**-2.5**
DNZL	**Cakiroluk**	**2.11**	**36**	*i* P	**Pn**	**22 02 47.8**	**+1.6**
DNZL				*i* S	**Sn**	**22 03 13.7**	**+2.1**
DENT	**Denizli**	**2.16**	**35**	*i* PN	**Pn**	**22 02 48.2**	**+1.4**
IDI	**Anoyia**	**2.23**	**252**	P	**Pn**	**22 02 49.8**	**+2.0**

	24nm,0.3s,baz=81,slow=19,SNR=135						
IDI				S	Sn	22 03 17.4	+2.8
	82nm,0.3s,baz=272,slow=19,SNR=7.2						
IZM	Izmir	2.41	356	*i* PN	Pn	22 02 50.6	+0.1
KDAG	Bornova	2.42	356	*i* P	Pn	22 02 51.8	+1.2
KDAG				*i* S	Sn	22 03 26.7	+7.3
ANTB	Antalya	2.71	69	*e*PN	Pn	22 02 56.0	+1.2
VAM	Vamos	2.73	259	*e*PN	Pn	22 02 57.3	+2.2
BCK	Bucak	2.90	59	*i* PN	Pn	22 02 59.3	+1.9
AKS	Akhisar	2.90	5	PN	Pn	22 02 57.4	0.0
GVD	Gavdhos	3.00	249	*e*PN	Pn	22 03 02.1	+3.3
ISP	Isparta	3.05	52	*e*PN	Pn	22 03 00.3	+0.8
PRK	Paraskevi	3.39	344	*e*PN	Pn	22 03 04.8	+0.4
PTL	Penteli	3.55	306	*e*PN	Pn	22 03 07.5	+0.8
KYTH	Kithira	3.61	276	*e*PN	Pn	22 03 09.5	+2.0
BALB	Balikesir	3.66	5	*e*PN	Pn	22 03 08.3	+0.1
ALT	Altintas	3.71	34	*e*PN	Pn	22 03 08.5	-0.3
DST	Dursunbey	3.72	14	*e*PN	Pn	22 03 08.6	-0.5
VLI	Veliai	3.74	283	*e*PN	Pn	22 03 10.4	+1.1
PPCY	Paphos	4.12	104	⇓P	Pn	22 03 16.4	+1.7
	7.7nm,0.2s						
PPCY				S	Sn	22 04 00.0	-2.5
HDMB	Hadim	4.15	75	*e*PN	Pn	22 03 16.7	+1.6
ALFC	Alevga	4.25	100	P	Pn	22 03 18.3	+1.7
	0.8nm,0.3s						
ALFC				S	Sn	22 04 04.6	-1.3
KONT	Konya--Tatoy	4.37	62	*i* PN	Pn	22 03 19.9	+1.7
KIZT	Kizilcal	4.54	49	*e*PN	Pn	22 03 22.5	+1.9
SZAC	Souni-Zanaja	4.58	104	⇓P	Pn	22 03 22.8	+1.5
	13nm,0.3s						
SZAC				S	Sn	22 04 12.3	-1.9
MAMC	Mammari	4.74	98	⇓P	Pn	22 03 25.7	+2.1
	9.6nm,0.3s						
MAMC				S	Sn	22 04 16.8	-1.5
XOR	Xorichti	4.79	316	*e*Pn	Pn	22 03 24.1	-0.2
CSS	Prodhromos	4.88	100	⇑P	Pn	22 03 27.4	+1.9
	0.7nm,0.3s						
CSS				S	Sn	22 04 20.1	-1.6
IKL	Isikli	5.03	85	*e*PN	Pn	22 03 29.3	+1.7
ALN	Alexandroupoli	5.03	347	*e*Pn	Pn	22 03 26.4	-1.2
	comp=Z,2.4nm,0.1s						
ALN				*e*Sn	Sn	22 04 20.4	-5.1
AGG	Agios Georgios	5.09	308	*e*Pn	Pn	22 03 28.2	-0.3
RDO	Rodhopi	5.37	344	*e*PN	Pn	22 03 31.9	-0.5
PHNC	Paralimni	5.43	99	⇑P	Pn	22 03 35.3	+2.0
	1.5nm,0.3s						
PHNC				S	Sn	22 04 34.1	-1.4
LIT	Litokhoron	5.69	318	*e*Pn	Pn	22 03 36.5	-0.5
KAMT	Kaman	5.98	54	*e*PN	Pn	22 03 42.4	+1.4
BRTR	Keskin Array B	6.13	51	P	Pn	22 03 44.5	+1.3
	2.7nm,0.3s,baz=228,slow=17,SNR=27						
BRTR				S	Sn	22 04 52.0	-1.2
	baz=228,slow=21,SNR=1.9						
KNT	Kendrikon	6.29	327	*e*Pn	Pn	22 03 44.2	-1.2
GRG	Griva	6.36	323	*e*Pn	Pn	22 03 45.1	-1.3
IGT	Igoumenitsa	6.68	304	*e*Pn	Pn	22 03 50.1	-0.8
FNA	Florina	6.78	317	*e*Pn	Pn	22 03 51.5	-0.7
HNTI	Hanita	6.98	112	P	Pn	22 03 55.1	+0.1
HNTI				S	Sn	22 05 09.3	-4.8
OFRI	‘Ofer	7.06	116	P	Pn	22 03 57.4	+1.2
OFRI	‘Ofer	7.06	116	P	Pn	22 03 59.6	+3.4
HRI	Mount Hermon	7.32	109	P	Pn	22 03 59.4	-0.5
KSHT	Keshet	7.50	111	P	Pn	22 04 01.2	-1.2
HMDT	Nahal Hemdat	7.64	117	P	Pn	22 04 03.6	-0.7
KZIT	Kziot	7.68	129	P	Pn	22 04 04.1	-0.8
RTMM	Retamin	7.77	127	P	Pn	22 04 05.2	-0.9
SVTA	Shivta	7.81	128	P	Pn	22 04 05.8	-0.9
MASH	Mash‘abbe Sade	7.87	127	P	Pn	22 04 06.5	-1.0
DRGI	Dragot	7.91	121	P	Pn	22 04 07.2	-0.8
MZDA	Masada	8.05	123	P	P	22 04 09.2	-0.9
ZFRI	Zfri	8.42	128	P	P	22 04 13.5	-1.6
PRNI	Paran	8.44	130	P	P	22 04 14.1	-1.4
PRNI				S	Sn	22 05 43.1	-7.7
KMTI	Karmit	8.45	132	P	P	22 04 14.4	-1.1
KMTI				S	Sn	22 05 43.9	-6.9
ASF	Jabal al Asfar	8.69	113	P	P	22 04 20.7	+1.9
	0.7nm,0.3s,baz=197,slow=14,SNR=4.7						
ASF				S	Sn	22 05 56.7	-0.1
	1.1nm,0.3s,baz=322,slow=19,SNR=3.8						
MBH	Mount Berech	8.78	133	P	P	22 04 19.4	-0.8
EIL	Elat	8.89	133	P	P	22 04 20.7	-1.0
TIP	Timpagrande	9.09	294	*e*P	P	22 04 23.5	-0.9
HAQS	Haql	9.34	136	P	P	22 04 27.5	-0.4
HAQS				S	Sn	22 06 07.2	-5.8
JMOS	Jabal al Moall	9.36	134	P	P	22 04 27.6	-0.5
MLR	Muntele Rosu	9.56	353	P	P	22 04 33.1	+2.2
	0.1nm,0.3s,baz=286,slow=14,SNR=3.1						
BDAS	Al Bad‘	9.91	137	P	P	22 04 35.4	-0.4
JMQS	Jabal Moqyreh	10.02	133	P	P	22 04 36.5	-0.7
AYUS	‘Aynunah	10.20	138	P	P	22 04 38.6	-1.1
MGR	Morigerati	10.28	297	*e*Pn	P	22 04 41.8	+1.1
SLCN	Sala Consilina	10.31	299	*e*Pn	P	22 04 43.4	+2.2
AKASG	Malin Array Be	14.76	4	P	P	22 05 45.4	+4.8
	0.6nm,0.3s,baz=192,slow=11,SNR=3.7						
GERES	GERESS Array B	16.36	326	P	P	22 06 06.7	+5.6
	0.1nm,0.3s,baz=165,slow=11,SNR=2.9						
KHC	Kasperske Hory	16.62	327	*e*P	P	22 06 11.0	+6.6
DAVOX	Davos	17.01	315	P	P	22 06 16.3	+6.9
	0.1nm,0.3s,baz=156,slow=15,SNR=2.9						
FINES	FINESS Array B	25.49	358	P	P	22 07 39.3	+0.2
	5.8nm,1.2s,mb4.0,baz=210,slow=11,SNR=2.8						
HFS	Hagfors	25.75	344	P	P	22 07 40.2	-1.3
	1.1nm,0.5s,mb3.7,baz=168,slow=13,SNR=7.3						
NB2	NORSAR Subarra	27.13	343	P	P	22 07 53.0	-1.2
	0.6nm,0.5s,mb3.4,baz=142,slow=9.3						
NOA	NORSAR Array B	27.13	343	P	P	22 07 53.4	-0.9
	0.8nm,0.6s,mb3.4,baz=143,slow=8.8,SNR=3.5						
NOA				LR	LR	22 20 09.0	
	comp=Z,16nm,20.9s,MS2.6,baz=125,slow=40						
ARCES	ARCESS Array B	33.62	359	P	P	22 08 49.6	-2.1
	0.7nm,0.7s,mb3.7,baz=168,slow=8.3,SNR=3.7						
DBIC	Dimbokro	41.57	233	P	P	22 10 00.2	+1.2
	2.7nm,0.5s,mb4.2,baz=26,slow=8.4,SNR=10.0						
DBIC	Dimbokro	41.57	233	P	P	22 10 00.2	+1.2
TIC	Toumodi	41.70	233	*e*P	P	22 10 01.3	+1.3
	8.0nm,0.3s,mb4.9						
KIC	Kosan Boka	41.73	233	*e*P	P	22 10 01.8	+1.5
	23nm,0.7s,mb4.9						
MKAR	Makanchi Array	41.74	58	P	P	22 10 00.4	+0.5
	0.7nm,0.6s,mb3.5,baz=255,slow=8.9,SNR=5.1						
LIC	Lamto	42.02	233	*e*P	P	22 10 03.5	+0.8
	58nm,1.9s,mb4.9						
SONM	Songino Array	57.49	52	P	P	22 12 01.0	+0.3
	0.2nm,0.5s,mb3.4,baz=280,slow=7.2,SNR=3.1						
BJI	Beijing	67.10	56	P	P	22 13 04.6	-0.3
BJI				LR	LR		
	comp=Z,70nm,22.4s,MS3.8						

NIED ***18*** *22:18:00,22.50N×121.50E,h56^{km},Mw4.3 Best double couple: M$_0$2.87×10^{15} NP1:ϕ_s48°,δ86°,λ101°. NP2:ϕ_s155°, δ12°,λ18°.*

IDC ***18*** *22:18:25.1±0.8,22.44N×121.62E,mb3.7/11,mb1 3.9/12, mb1mx3.8/21,ML3.5/1,MS3.4/1,Ms1 3.6/1,ms1mx2.7/29, Error ellipse: s-maj=27.1km s-min=16.1km az=70.0*

NEIC ***18*** *22:18:26.6±0.5,22.45N×121.62E,h10^{km},mb4.2/1,Error ellipse: s-maj=14.1km s-min=9.5km az=79.0*

TAP ***18*** *22:18:27.8,22.55N×121.34E,h25^{km},ML4.2*

JMA ***18*** *22:18:28.9±0.2,22.49N×121.54E,h46^{km},M3.9*

ISC 18 22:18:28.7±1.2**,22.46N**±0.07×**121.57E**±0.06**,h39^{km}**±12^{km}**, n24,σ0^{s}87**/34**,mb3.7**/12**,MS3.2**/1**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	2.39	33	P	P	22 19 06.7	+0.4
YOJ				*e*S	S	22 19 34.2	-0.5
TATO	Taipei	2.50	358	*e*P	P	22 19 07.7	-0.2
HATJ	Hateruma jima	2.60	52	P	P	22 19 09.7	+0.4
HATJ				*e*S	S	22 19 40.1	+0.2
IRIF	Iriomote-Funau	2.73	46	P	P	22 19 11.5	+0.4
IRIF				*e*S	S	22 19 44.3	+1.2
JKRS	Kuro-shima	2.86	51	P	P	22 19 13.5	+0.5
JKRS				*e*S	S	22 19 47.0	+0.5
JIJ	Ishigaki jima	3.03	51	P	P	22 19 15.7	+0.3
JIJ				*e*S	S	22 19 49.8	-1.1
JTJ	Tarama	3.60	52	P	P	22 19 23.8	+0.3
JTJ				*e*S	S	22 20 05.6	+0.2
JMJ	Miyako jima 2	4.14	55	P	P	22 19 31.4	+0.2
JMJ				*e*S	S	22 20 19.6	+0.5
JOGS	Gusukube	4.20	56	P	P	22 19 32.2	+0.2
JOGS				*e*S	S	22 20 21.0	+0.5
JKE	Kume jima 2	6.12	50	P	P	22 19 56.8	-2.1
JKE				*e*S	S	22 21 07.6	-1.0
JOW	Kunigami	7.49	53	Pn	P	22 20 15.4	-2.8
	1.6nm,0.3s,baz=249,slow=14,SNR=3.5						
JOW				Sn	S	22 21 42.5	-0.4
	1.3nm,0.3s,baz=125,slow=23,SNR=2.2						
CMAR	Chiang Mai Arr	21.56	263	P	P	22 23 17.1	+0.2
	0.4nm,0.4s,mb3.2,baz=73,slow=9.4,SNR=3.2						
CMAR				LR	LR	22 32 48.6	
	comp=Z,98nm,18.5s,MS3.2,baz=181,slow=40						
SONM	Songino Array	28.09	338	P	P	22 24 17.9	-0.8
	1.0nm,0.8s,mb3.5,baz=152,slow=9.4,SNR=6.8						
MKAR	Makanchi Array	39.83	317	P	P	22 25 59.5	-0.2
	1.1nm,0.6s,mb3.8,baz=115,slow=9.8,SNR=11						
FITZ	Fitzroy Crossi	40.51	174	P	P	22 26 05.6	-0.2
	2.1nm,0.9s,mb3.7,baz=41,slow=11,SNR=4.7						
WRAB	Tennant Creek	43.95	163	*e*P	P	22 26 34.3	+0.3
	3.7nm,1.0s,mb4.1						
WRA	Warramunga Arr	43.95	163	P	P	22 26 32.7	-1.2
	0.5nm,0.6s,mb3.4,baz=345,slow=8.8,SNR=11						
ASAR	Alice Springs	47.39	165	P	P	22 27 01.7	+0.4
	0.3nm,0.5s,mb3.5,baz=352,slow=13,SNR=3.1						
ASAR				PcP	PcP	22 28 30.7	-1.1
	0.5nm,1.0s,baz=356,slow=1.5,SNR=5.1						
BVAR	Borovoye Array	49.23	322	P	P	22 27 13.9	-1.2
	0.3nm,0.5s,mb3.6,baz=108,slow=4.6,SNR=2.2						
BVAR				PcP	PcP	22 28 40.2	+2.2
	0.2nm,0.3s,baz=45,slow=4.1,SNR=4.3						
ARCES	ARCESS Array B	71.26	338	P	P	22 29 45.5	+0.1
	1.5nm,0.7s,mb4.0,baz=58,slow=8.5,SNR=4.2						
FINES	FINESS Array B	73.11	330	P	P	22 29 57.1	+0.7
	0.5nm,0.7s,mb3.6,baz=34,slow=6.9,SNR=3.9						
NOA	NORSAR Array B	79.91	332	P	P	22 30 37.0	+2.2
	0.6nm,0.8s,mb3.6,baz=86,slow=5.0,SNR=2.6						
NOA	NORSAR Array B	79.91	332	P	P	22 30 37.0	+2.2
GERES	GERESS Array B	84.39	321	P	P	22 31 01.7	+3.6
	1.2nm,0.8s,mb4.1,baz=63,slow=4.4,SNR=5.2						

MOS ***18*** *22:25:41.2±1.9,35.93N×27.72E,h10^{km},mb4.7/4,Error ellipse: s-maj=20.1km s-min=7.5km az=103.8*

BJI ***18*** *22:25:44.2,36.20N×27.50E,h23^{km},mb4.6*

NEIC ***18*** *22:25:44.2,36.19N×27.48E,h23^{km},mb4.2/36, ML4.4(ATH),ML4.3(THE),ML4.1(NIC),After ATH.*

ATH ***18*** *22:25:44.2,36.19N×27.48E,h23^{km}±1^{km},MD4.1/19, ML4.4*

ISK ***18*** *22:25:45.4,36.17N×27.40E,h37^{km},MD4.2,ML4.2*

THE ***18*** *22:25:47.4,36.03N×27.42E,h20^{km},ML4.3*

IDC ***18*** *22:25:47.6±1.5,36.26N×27.32E,h40^{km}±13^{km},mb3.9/19, mb1 4.0/27,mb1mx4.0/30,ML3.9/8,MS3.2/2,Ms1 3.2/2, ms1mx2.6/29,Error ellipse: s-maj=15.9km s-min=8.3km az=146.0*

NIC ***18*** *22:25:51.4±0.2,35.90N×27.87E,h36^{km},mb4.5,ML4.1, MW3.7*

ISC 18 22:25:43.4±0.4**,35.97N**±0.02×**27.49E**±0.02**,h29^{km}**±3^{km}**, n233,σ1^{s}31**/257**,mb4.4**/42**,MS3.3**/2**,13C-4D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.50	212	⇑*i*PN	Pn	22 25 58.0	+3.5
ARG	Arkhangelos	0.57	65	⇑*i*PN	Pb	22 25 54.5	-0.4
NISR	Nisiros	0.70	336	*e*PN	Pb	22 25 55.5	-1.5
BDRM	Kayabasi	1.09	358	*i* P	Pn	22 26 02.2	-0.7
BDRM				*i* S	Sn	22 26 15.8	-1.4
DALT	Dalyan (Mudla)	1.22	49	*i* PN	Pn	22 26 05.1	+0.3
DALT				*i* SN	Sn	22 26 20.9	+0.4
YER	Yerkesik	1.32	29	*i* PN	Pn	22 26 06.1	-0.2
MLSB	Milas	1.34	10	*i* PN	Pn	22 26 05.9	-0.6
NPS	Neapolis	1.68	246	⇑*i*PB	Pb	22 26 14.1	+0.5
THR1	Thera Island	1.69	284	*e*Pb	Pb	22 26 12.7	-0.9
THR1				*e*Sb	Sb	22 26 32.3	-2.3
SANT	Santorini	1.69	284	*e*Pn	Pn	22 26 12.6	+1.1
SANT				*e*Pg	Pn	22 26 16.4	+4.9
KSL	Kastellorizon	1.71	83	⇑*i*PN	Pn	22 26 15.0	+3.2
AYDN	Tasoluk	1.71	10	*i* P	Pn	22 26 11.3	-0.5
AYDN				*i* S	Sn	22 26 34.1	+1.1
THR6	Thira Island,	1.73	283	*e*Pb	Pb	22 26 13.6	-0.8
THR3	Thira Island,	1.74	285	*e*Pb	Pb	22 26 13.5	-1.0
THR4	Thira Island,	1.76	287	*e*Pb	Pb	22 26 13.8	-1.0
THR5	Thira Island,	1.79	285	*e*Pb	Pb	22 26 14.4	-0.9
SMG	Samos	1.81	343	*e*PN	Pn	22 26 13.6	+0.4
XRY	Khrisi	1.83	234	*e*PB	Pb	22 26 18.0	+2.0
APE	Apeiranthos	1.92	305	*e*PN	Pn	22 26 14.8	0.0
APE	Apeiranthos	1.92	305	*e*PB	Pb	22 26 15.1	-2.5
ELL	Elmali	2.10	68	*e*PN	Pn	22 26 19.6	+2.2
DNZL	Cakiroluk	2.12	36	*i* P	Pn	22 26 18.8	+1.1
DNZL				*i* S	Sn	22 26 44.5	+1.2
DENT	Denizli	2.17	34	*i* PN	Pn	22 26 19.2	+0.9
IDI	Anoyia	2.22	253	P	Pn	22 26 21.4	+2.3
	23nm,0.3s,baz=68,slow=13,SNR=183						
IDI				S	Sn	22 26 48.2	+2.3
	98nm,0.3s,baz=272,slow=14,SNR=13						
IZM	Izmir	2.43	356	*e*PN	Pn	22 26 20.8	-1.3
KDAG	Bornova	2.43	356	*i* P	Pn	22 26 22.6	+0.5
KDAG				*i* S	Sn	22 26 55.2	+4.0
ANTB	Antalya	2.72	69	*e*PN	Pn	22 26 28.6	+2.4
VAM	Vamos	2.73	259	*e*PN	Pn	22 26 29.5	+3.1
KHL	Karahalli	2.85	34	*e*PN	Pn	22 26 28.8	+0.6
BCK	Bucak	2.90	58	PN	Pn	22 26 30.4	+1.6
AKS	Akhisar	2.91	5	*e*PN	Pn	22 26 28.4	-0.6
GVD	Gavdhos	3.00	249	*e*PN	Pn	22 26 35.0	+4.8
ISP	Isparta	3.06	51	PN	Pn	22 26 32.8	+1.8
ISP	Isparta	3.06	51	*i* P	Pn	22 26 33.6	+2.6
ISP				*i* S	Sn	22 27 14.5	+7.4
PRK	Paraskevi	3.41	344	*e*PN	Pn	22 26 35.5	-0.5
PTL	Penteli	3.56	307	*e*PN	Pn	22 26 39.0	+0.8
KYTH	Kithira	3.62	276	*e*PN	Pn	22 26 40.5	+1.6
ATH	Athens Observa	3.62	305	*e*PN	Pn	22 26 40.0	+1.0
BALB	Balikesir	3.67	5	*e*PN	Pn	22 26 39.7	-0.1
ALT	Altintas	3.72	33	*i* PN	Pn	22 26 40.8	+0.4
DST	Dursunbey	3.74	14	*i* PN	Pn	22 26 39.4	-1.3
VLI	Veliai	3.75	283	⇓*i*PN	Pn	22 26 42.2	+1.4
PPCY	Paphos	4.11	104	⇑P	Pn	22 26 48.0	+2.0
	8.7nm,0.3s						
PPCY				S	Sn	22 27 31.8	-2.0
HDMB	Hadim	4.15	75	*i* PN	Pn	22 26 48.9	+2.4
ALFC	Alevga	4.25	100	⇑P	Pn	22 26 49.7	+1.8
ALFC				S	Sn	22 27 36.0	-1.2
AOS	Alonnisos	4.29	319	*e*Pn	Pn	22 26 48.9	+0.4
AOS				*e*Sn	Sn	22 27 34.8	-3.4
KCT	Karacabey	4.34	9	*e*PN	Pn	22 26 48.0	-1.2
ULDT	Uludag	4.36	17	*i* P	Pn	22 26 49.0	-0.5
ULDT				*i* S	Sn	22 27 55.0	+15
KONT	Konya--Tatoy	4.37	62	*e*PN	Pn	22 26 51.2	+1.5
EDC	Edincik	4.38	4	*e*PN	Pn	22 26 49.9	+0.1
LOS	Limnos	4.39	335	*e*Pn	Pn	22 26 50.0	+0.1
LPK	Lapseki	4.43	353	*e*PN	Pn	22 26 49.2	-1.3
ESKT	Eskisehir	4.43	36	*i* PN	Pn	22 26 51.0	+0.5
KIZT	Kizilcal	4.54	49	*i* PN	Pn	22 26 52.9	+0.8
SZAC	Souni-Zanaja	4.57	104	⇓P	Pn	22 26 54.5	+1.9
	9.3nm,0.2s						
SZAC				S	Sn	22 27 44.1	-1.4
MAMC	Mammari	4.74	98	P	Pn	22 26 57.0	+2.1
	6.5nm,0.3s						
MAMC				S	Sn	22 27 47.9	-1.7
XOR	Xorichti	4.80	316	*e*Pn	Pn	22 26 55.7	-0.1
CSS	Prodhromos	4.88	100	⇓P	Pn	22 26 58.6	+1.8
	0.4nm,0.3s						
CSS				S	Sn	22 27 51.4	-1.6
PAIG	Paliouri	4.96	324	*e*Pn	Pn	22 26 58.3	+0.3
IKL	Isikli	5.03	85	*i* PN	Pn	22 27 01.1	+2.2
BADT	Buyukada	5.04	14	*e*PN	Pn	22 26 58.0	-1.1
ALN	Alexandroupoli	5.04	347	*e*Pn	Pn	22 26 59.1	-0.1
ALN				*e*Sn	Sn	22 27 53.7	-3.6
AGG	Agios Georgios	5.11	308	*e*Pn	Pn	22 27 00.8	+0.7
	comp=Z,3.2nm,0.4s						
AGG				*e*Sn	Sn	22 27 54.6	-4.2
OUR	Ouranopolis	5.16	329	P	Pn	22 26 59.5	-1.2
MDU	Mudurnu	5.36	32	*e*PN	Pn	22 27 04.6	+1.0
RDO	Rodhopi	5.39	344	*e*PN	Pn	22 27 03.0	-1.0
EVR	Evrytania	5.39	305	*e*PN	Pn	22 27 05.6	+1.6
PHNC	Paralimni	5.43	98	P	Pn	22 27 06.8	+2.2
	2.4nm,0.4s						
PHNC				S	Sn	22 28 05.5	-1.4
LIT	Litokhoron	5.70	318	*e*Pn	Pn	22 27 08.3	-0.2
ANTO	Ankara	5.72	46	*e*PN	Pn	22 27 09.6	+0.9
SOH	Sokhos	5.83	327	*e*Pn	Pn	22 27 10.6	+0.3
EDRB	Edirne	5.89	355	*e*PN	Pn	22 27 10.1	-1.1
KDZ	Kurdzhali	5.89	345	*e*P	Pn	22 27 10.0	-1.2
VLS	Valsamata	5.94	294	*e*PN	Pn	22 27 13.1	+1.3
SRS	Serrai	5.97	330	*e*Pn	Pn	22 27 12.1	-0.2
KAMT	Kaman	5.99	54	*e*PN	Pn	22 27 13.7	+1.2
NIG	Nigde	6.08	67	*e*PN	Pn	22 27 15.5	+1.6
LKD	Levkas	6.09	299	P	Pn	22 27 16.6	+2.6
LKD				S	Sn	22 28 29.7	+6.2
RZN	Rozhen	6.10	340	*e*P	Pn	22 27 13.0	-1.1
BRTR	Keskin Array B	6.14	51	P	Pn	22 27 15.4	+0.8
	2.2nm,0.3s,baz=229,slow=14,SNR=56						
BRTR				S	Sn	22 28 24.6	-0.1
	1.2nm,0.3s,baz=47,slow=21,SNR=4.1						
MEV	Metsovon	6.24	309	*e*Pn	Pn	22 27 18.6	+2.4
KNT	Kendrikon	6.30	327	*e*Pn	Pn	22 27 17.4	+0.4
MMB	Musomiste	6.33	334	*e*P	Pn	22 27 20.0	+2.7
GRG	Griva	6.38	323	*e*Pn	Pn	22 27 18.2	+0.2
SAFT	Safranbolu	6.65	36	PN	Pn	22 27 21.5	-0.3
CANT	Cankiri	6.68	44	*e*PN	Pn	22 27 22.4	+0.1
IGT	Igoumenitsa	6.69	304	P	Pn	22 27 24.3	+1.9
IGT				S	Sn	22 28 42.3	+3.8
FNA	Florina	6.79	317	*e*Pn	Pn	22 27 24.0	+0.2
KKB	Krupnik	6.81	331	*e*P	Pn	22 27 26.0	+1.9
HNTI	Hanita	6.97	112	P	Pn	22 27 25.6	-0.7
HNTI				S	Sn	22 28 39.8	-5.6
HAF	Haifa	7.00	115	P	Pn	22 27 25.8	-0.9
KEK	Kerkira	7.14	304	*e*PN	Pn	22 27 30.0	+1.3
TOS	Tosya	7.20	43	*i* PN	Pn	22 27 29.9	+0.4
SLTI	Sal’it	7.29	119	P	Pn	22 27 29.7	-1.1
SLTI				S	Sn	22 28 47.9	-5.5
HRI	Mount Hermon	7.32	109	P	Pn	22 27 30.8	-0.4
VTS	Vitosha	7.39	335	*e*P	Pn	22 27 32.0	-0.3
MMLI	Mount Malkishu	7.46	116	P	Pn	22 27 32.6	-0.6
KSHT	Keshet	7.49	111	P	Pn	22 27 32.9	-0.8
HMDT	Nahal Hemdat	7.63	117	P	Pn	22 27 34.7	-0.9
KZIT	Kziot	7.67	129	P	Pn	22 27 35.5	-0.7
KZIT				S	Sn	22 28 56.8	-6.2
RTMM	Retamin	7.76	127	P	Pn	22 27 36.6	-0.8
SVTA	Shivta	7.80	128	P	Pn	22 27 37.3	-0.6
MASH	Mash‘abbe Sade	7.86	127	P	Pn	22 27 37.2	-1.6
DRGI	Dragot	7.90	121	P	Pn	22 27 38.5	-0.8
BYBT	Boyabat	7.90	44	*e*PN	Pn	22 27 39.1	-0.3
MZDA	Masada	8.05	123	P	P	22 27 40.7	-0.7
PRNI	Paran	8.43	130	P	P	22 27 45.6	-1.1
KMTI	Karmit	8.43	132	P	P	22 27 45.9	-0.9
ASF	Jabal al Asfar	8.68	113	P	P	22 27 50.0	-0.1
	0.7nm,0.3s,baz=164,slow=14,SNR=6.5						
ASF				S	Sn	22 29 27.7	-0.4
	1.2nm,0.3s,baz=333,slow=9.0,SNR=3.3						
MBH	Mount Berech	8.77	133	P	P	22 27 48.4	-3.1
EIL	Elat	8.88	133	P	P	22 27 51.1	-1.9
MALT	Malatya	9.04	72	*e*Pn	P	22 27 55.8	+0.6
TIP	Timpagrande	9.10	294	*e*Pn	P	22 27 55.0	-1.0
HAQS	Haql	9.33	136	P	P	22 27 59.0	-0.1
HAQS				S	Sn	22 29 38.5	-5.7
JMOS	Jabal al Moall	9.35	134	P	P	22 27 59.3	-0.1
MLR	Muntele Rosu	9.58	353	P	P	22 28 03.8	+1.2
	baz=151,slow=12						
MLR				LR	LR	22 32 20.8	
	comp=Z,200nm,18.2s,baz=296,slow=42						
ORI	Oriolo Calabro	9.62	298	*e*Pn	P	22 28 04.2	+1.1
BDAS	Al Bad‘	9.90	137	P	P	22 28 06.5	-0.5
JMQS	Jabal Moqyreh	10.01	133	P	P	22 28 07.9	-0.5
AYUS	‘Aynunah	10.19	137	P	P	22 28 10.2	-0.7
MGR	Morigerati	10.29	297	*e*Pn	P	22 28 11.7	-0.6
SLCN	Sala Consilina	10.32	299	*e*Pn	P	22 28 13.0	+0.3
MRLC	Muro Lucano	10.56	300	*e*Pn	P	22 28 15.9	-0.1
VAE	Valguarnera	10.60	282	P	P	22 28 14.7	-1.9
	1.7nm,0.3s,baz=90,slow=7.1,SNR=3.2						
VAE				S	S	22 30 13.3	-2.1
	1.2nm,0.3s,baz=256,slow=14,SNR=3.4						
SGO	Sicignano	10.61	299	*e*Pn	P	22 28 17.0	+0.3
CSSN	Cassano Irpino	10.92	300	*e*Pn	P	22 28 22.0	+1.0
ANN	Anapa	11.62	38	*e*P	P	22 28 31.9	+1.5
ANN				*e*S	S	22 30 48.3	+8.1
ANN				pmax	pmax		
	comp=Z,84nm,1.5s						
AQU	L’Aquila	12.64	305	P	P	22 28 48.4	+4.2
AKASG	Malin Array Be	14.78	4	P	P	22 29 16.9	+4.8
	comp=Z,2.2nm,0.3s,baz=190,slow=11,SNR=14						
OJC	Ojcow	15.29	341	*e*P	P	22 29 26.0	+7.1
KBA	Koelnbreinsper	15.31	321	⇑*i*P	P	22 29 20.7	+1.6
	comp=Z,19nm,1.1s						
OKC	Ostrava-Krasne	15.44	337	LM		22 36 20.0	
	comp=Z,0.2nm,10.9s						
VRAC	Vranov	15.53	332	P	P	22 29 22.2	+0.3
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=1.9						
MORC	Moravsky Berou	15.58	335	P	P	22 29 21.3	-1.3
	comp=Z,6.5nm,1.1s						
PGF	Pioggiola	15.74	300	*e*P	P	22 29 23.5	-1.2
	comp=Z,15nm,0.9s						
WTTA	Wattenberg	16.33	319	⇑*i*P	P	22 29 36.7	+4.5
	comp=Z,13nm,1.0s						
GERES	GERESS Array B	16.37	326	P	P	22 29 34.4	+1.7
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=19						
WATA	Walderalm	16.40	319	⇑*i*P	P	22 29 36.0	+2.9
	comp=Z,20nm,1.4s						
DPC	Dobruska-Polom	16.49	334	LM		22 37 00.0	
	comp=Z,0.1nm,15.7s						
SQTA	Sankt Quirin	16.53	318	⇑*i*P	P	22 29 38.8	+4.0
	comp=Z,7.0nm,0.9s						
KHC	Kasperske Hory	16.63	327	*e*P	P	22 29 37.7	+1.7
KHC				*e*AP		22 29 42.9	
KHC				*e*		22 29 57.4	
KHC				*e*		22 30 43.2	
KHC				LM		22 38 00.0	
	comp=Z,0.2nm,14.3s						
KHC	Kasperske Hory	16.63	327	*e*P	P	22 29 37.7	+1.7
KHC				MLR	MLR		
	comp=Z,200nm,14.3s						
MOTA	Moosalm	16.66	318	⇓*i*P	P	22 29 38.8	+2.4
	comp=Z,2.9nm,0.7s						
PRU	Pruhonice	16.87	330	*e*P	P	22 29 42.5	+3.5
PRU				LM		22 36 40.0	
DAVOX	Davos	17.02	315	P	P	22 29 42.0	+1.1
	comp=Z,0.1nm,0.3s,baz=158,slow=16,SNR=3.0						
SBF	Sospel	17.25	303	*e*P	P	22 29 40.1	-3.8
PVCC	Panska Ves	17.29	331	*e*P	P	22 29 48.3	+4.1
PVCC				LM		22 38 50.0	
	comp=Z,0.1nm,15.3s						
DAVA	Damuels	17.30	316	⇑*i*P	P	22 29 46.9	+2.4
	comp=Z,14nm,1.0s						
FRF	La Foret Royal	17.70	302	*e*P	P	22 29 45.1	-4.2
BRG	Berggiesshubel	17.80	331	*e*P	P	22 29 53.7	+3.1
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRG	Berggiesshubel	17.80	331	*e*P	P	22 29 53.7	+3.1
	comp=Z,5.4nm,1.1s						
MBDF	Montbardon	18.01	305	*e*P	P	22 29 53.5	+0.2
	comp=Z,16nm,0.9s						
SUW	Suwalki	18.29	352	*e*P	P	22 29 54.7	-2.0
	comp=Z,21nm,0.8s						
LPG	La Plagne	18.32	308	*e*P	P	22 29 57.1	-0.1
	comp=Z,10nm,0.6s						
LPL	La Plagne	18.34	308	*e*P	P	22 29 57.4	0.0
	comp=Z,10nm,0.7s						
MOX	Moxa	18.61	327	*i* P	P	22 30 01.6	+1.0
MOX	Moxa	18.61	327	*e*P	P	22 30 01.6	+1.0
ORIF	Oris-en-Rattie	18.67	305	*e*P	P	22 30 00.5	-0.9
ORIF				*e*R			
	comp=Z,96nm,21.2s						
CABF	La Chapelle	19.21	310	*e*P	P	22 30 05.2	-2.6
	comp=Z,30nm,0.9s						
HINF	Hinteralfeld	19.32	314	*e*P	P	22 30 08.0	-1.1
	comp=Z,6.2nm,0.7s						
CDF	Champ du Feu	19.39	316	*e*P	P	22 30 09.1	-0.7
VIVF	Saint-Julien-l	19.46	304	*e*P	P	22 30 06.5	-4.1
	comp=Z,5.8nm,0.6s						
HAU	Haudompre	19.71	314	*e*P	P	22 30 11.2	-2.2
	comp=Z,11nm,0.8s						
HAU				*e*R			
	comp=Z,82nm,19.0s						
OBN	Obninsk	20.14	15	⇑*e*P	P	22 30 16.2	-1.7
OBN				*i*		22 30 21.6	
OBN				*e*		22 30 43.3	
OBN				*e*S	S	22 33 59.3	+2.1
OBN				pmax	pmax		
	comp=Z,17nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,8.0s						
OBN	Obninsk	20.14	15	*e*P	P	22 30 15.3	-2.6
	comp=Z,28nm,0.9s						
SMF	Signal de Mont	20.64	308	*e*P	P	22 30 21.5	-1.7
	comp=Z,35nm,1.0s						
MEZF	Maizieres J’vi	20.71	314	*e*P	P	22 30 22.4	-1.5
MTLF	Montolieu	20.75	298	*e*P	P	22 30 22.6	-1.7
LOR	Lormes	20.88	310	*e*P	P	22 30 23.7	-1.9
	comp=Z,21nm,1.0s						

LOR				*e*R			
	comp=Z,66nm,17.0s						
MOS	**Moscow**	**20.95**	**16**	*e*P	**P**	**22 30 25.5**	**-0.8**
MOS				*e*		22 30 32.9	
MOS				*e*		22 34 05.9	
MOS				pmax	pmax		
	comp=Z,50nm,0.9s						
AVF	**Avril sur Loir**	**21.01**	**308**	*e*P	**P**	**22 30 24.0**	**-2.9**
	comp=Z,24nm,1.1s,mb4.2						
SSF	**Saint Saulge**	**21.01**	**309**	*e*P	**P**	**22 30 25.5**	**-1.5**
	comp=Z,22nm,0.7s,mb4.3						
BGF	**Bois d'Agland**	**21.24**	**307**	*e*P	**P**	**22 30 28.4**	**-0.9**
	comp=Z,9.7nm,0.6s,mb4.0						
CAF	**Calviac**	**21.24**	**303**	*e*P	**P**	**22 30 28.0**	**-1.3**
	comp=Z,31nm,1.3s,mb4.2						
BAIF	**Baives**	**21.97**	**317**	*e*P	**P**	**22 30 36.0**	**-0.6**
	comp=Z,46nm,1.3s,mb4.5						
EPF	**Esparros**	**22.04**	**297**	*e*P	**P**	**22 30 36.5**	**-0.8**
LFF	**La Frestale**	**22.16**	**302**	*e*P	**P**	**22 30 36.0**	**-2.5**
	comp=Z,11nm,0.6s,mb4.1						
ETSF	**Etsaut**	**22.67**	**296**	*e*P	**P**	**22 30 44.1**	**+0.5**
SJPF	**Ste Jean**	**23.19**	**297**	*e*P	**P**	**22 30 48.0**	**-0.6**
MFF	**Saint Martin d**	**23.21**	**306**	*e*P	**P**	**22 30 47.5**	**-1.2**
GRR	**Gorron**	**24.24**	**310**	*e*P	**P**	**22 30 57.8**	**-1.0**
ESDC	**Sonseca Array**	**25.05**	**288**	P	**P**	**22 31 07.4**	**+0.7**
	comp=Z,2.3nm,0.5s,mb3.9,baz=84,slow=10,SNR=15						
ESLA	**Sonseca Array**	**25.05**	**288**	*e*P	**P**	**22 31 06.4**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.4						
FINES	**FINESS Array B**	**25.51**	**358**	P	**P**	**22 31 09.7**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.6,baz=163,slow=14,SNR=7.9						
FINES				PcP	PcP	22 34 41.6	-0.9
	comp=Z,1.8nm,0.5s,baz=147,slow=4.1,SNR=12						
HFS	**Hagfors**	**25.77**	**344**	P	**P**	**22 31 11.8**	**-1.3**
	comp=Z,5.0nm,0.5s,mb4.3,baz=153,slow=9.9,SNR=33						
NB2	**NORSAR Subarra**	**27.14**	**343**	P	**P**	**22 31 24.4**	**-1.4**
	comp=Z,2.9nm,0.6s,mb4.0,baz=143,slow=9.3						
NOA	**NORSAR Array B**	**27.14**	**343**	P	**P**	**22 31 23.8**	**-2.0**
	comp=Z,2.6nm,0.5s,mb4.0,baz=143,slow=8.7,SNR=15						
NOA	**NORSAR Array B**	**27.14**	**343**	P	**P**	**22 31 23.8**	**-2.0**
EKA	**Eskdalemuir Ar**	**28.51**	**322**	P	**P**	**22 31 35.9**	**-2.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=110,slow=11,SNR=2.3						
LVZ	**Lovozero**	**32.23**	**5**	*ce*P	**P**	**22 32 13.2**	**+2.1**
LVZ				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.8						
LVZ				MLR	MLR		
	comp=Z,100nm,5.0s						
ZRNK	**Zerenda**	**33.58**	**46**	*e*P	**P**	**22 32 22.5**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**33.64**	**359**	P	**P**	**22 32 21.2**	**-2.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=196,slow=8.8,SNR=8.5						
ARCES				PcP	PcP	22 35 01.5	-1.6
	comp=Z,1.9nm,1.0s,baz=198,slow=2.9,SNR=4.5						
BVAR	**Borovoye Array**	**34.41**	**47**	P	**P**	**22 32 29.9**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=254,slow=10,SNR=3.4						
MBAR	**Mbarara**	**36.51**	**175**	*e*P	**P**	**22 32 51.2**	**+2.8**
	comp=Z,6.2nm,1.0s,mb4.4						
KURK	**Kurchatov**	**39.19**	**52**	*e*P	**P**	**22 33 10.4**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.4						
KURK				*e*PcP	PcP	22 35 19.4	-0.5
JMIC	**Jan Mayen**	**39.86**	**343**	LR	LR	22 51 34.9	
	comp=Z,22nm,18.9s,MS3.0,baz=61,slow=39						
DBIC	**Dimbokro**	**41.56**	**233**	P	**P**	**22 33 31.9**	**+1.5**
	comp=Z,6.9nm,0.4s,mb4.6,baz=26,slow=9.4,SNR=26						
DBIC	**Dimbokro**	**41.56**	**233**	*e*P	**P**	**22 33 31.2**	**+0.8**
	comp=Z,9.1nm,0.6s,mb4.6						
TIC	**Toumodi**	**41.69**	**233**	*e*P	**P**	**22 33 32.8**	**+1.4**
	comp=Z,38nm,0.6s,mb5.2						
KIC	**Kosan Boka**	**41.72**	**233**	*e*P	**P**	**22 33 33.2**	**+1.5**
	comp=Z,73nm,0.7s,mb5.4						
MKAR	**Makanchi Array**	**41.74**	**57**	P	**P**	**22 33 31.9**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.0,baz=278,slow=7.0,SNR=24						
MKAR				PcP	PcP	22 35 28.4	+0.2
	comp=Z,5.1nm,1.1s,baz=288,slow=3.8,SNR=4.2						
MKAR				ScP		22 39 16.4	
	comp=Z,1.1nm,0.5s,baz=267,slow=3.4,SNR=16						
MKAR	**Makanchi Array**	**41.74**	**57**	*i* P	**P**	**22 33 31.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**41.74**	**57**	P	**P**	**22 33 31.9**	**+0.5**
MKAR				PcP	PcP	22 35 28.4	+0.2
MKAR				ScP		22 39 16.4	
LIC	**Lamto**	**42.01**	**233**	*e*P	**P**	**22 33 35.5**	**+1.4**
	comp=Z,66nm,0.9s,mb5.3						
LIC	**Lamto**	**42.01**	**233**	*e*P	**P**	**22 33 35.3**	**+1.2**
	comp=Z,44nm,0.9s,mb4.8						
KOLN	**Koldanda**	**47.79**	**83**	*e*P	**P**	**22 34 19.2**	**-1.1**
	comp=Z,12nm,0.8s,mb5.0						
GKN	**Gorkha**	**48.53**	**82**	*e*P	**P**	**22 34 26.4**	**+0.5**
	comp=Z,21nm,0.7s,mb5.3						
DMN	**Daman**	**49.07**	**83**	*e*P	**P**	**22 34 31.0**	**+0.9**
	comp=Z,20nm,0.7s,mb5.2						
KKN	**Kakani**	**49.14**	**82**	*e*P	**P**	**22 34 30.9**	**+0.3**
	comp=Z,8.3nm,0.5s,mb5.0						
PKI	**Pulchoki**	**49.33**	**83**	*e*P	**P**	**22 34 32.8**	**+0.7**
	comp=Z,28nm,1.2s,mb5.2						
LSA	**Lhasa**	**53.03**	**77**	*e*P	**P**	**22 35 01.2**	**+1.1**
	comp=Z,7.7nm,1.1s,mb4.5						
ZAK	**Zakamensk**	**54.78**	**49**	*e*P	**P**	**22 35 11.8**	**-0.9**
ZAK				*e*		22 36 18.2	
TSUM	**Tsumeb**	**55.67**	**191**	P	**P**	**22 35 21.7**	**+2.2**
	comp=Z,2.5nm,1.1s,mb4.2,baz=35,slow=12,SNR=3.8						
SONM	**Songino Array**	**57.50**	**52**	P	**P**	**22 35 32.3**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=288,slow=8.0,SNR=11						
BOD	**Bodaibo**	**58.64**	**39**	*e*P	**P**	**22 35 36.8**	**-3.2**
DGAR	**Diego Garcia**	**60.38**	**126**	P	**P**	**22 35 49.8**	**-2.8**
	comp=Z,271nm,1.0s						
LBTB	**Lobatse**	**60.68**	**182**	*e*P	**P**	**22 35 56.8**	**+2.2**
	comp=Z,4.2nm,0.6s,mb4.8						
SCHQ	**Schefferville**	**63.79**	**320**	P	**P**	**22 36 12.8**	**-2.0**
	comp=Z,2.7nm,0.6s,mb4.5,baz=290,slow=2.5,SNR=6.3						
SCHQ	**Schefferville**	**63.79**	**320**	P	**P**	**22 36 12.8**	**-2.0**
KMI	**Kunming**	**64.27**	**77**	*e*P	**P**	**22 36 20.9**	**+2.4**
KMI				pP	pP	22 36 30.0	+2.6
KMI				LR	LR		
	comp=Z,30nm,16.8s,MS3.5						
CMAR	**Chiang Mai Arr**	**64.60**	**85**	P	**P**	**22 36 21.8**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=288,slow=8.6,SNR=3.4						
SUR	**Sutherland**	**68.28**	**186**	*e*P	**P**	**22 36 46.7**	**+2.8**
	comp=Z,24nm,1.1s,mb5.1						
CN2	**Changchun**	**71.22**	**49**	*e*P	**P**	**22 37 00.8**	**-0.8**
MDJ	**Mudanjiang**	**73.27**	**47**	P	**P**	**22 37 13.3**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.3						
INK	**Inuvik**	**75.06**	**353**	P	**P**	**22 37 22.1**	**-1.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=330,slow=3.7,SNR=4.0						
ILAR	**Eielson Array**	**79.49**	**358**	P	**P**	**22 37 47.6**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=359,slow=4.4,SNR=9.9						
ULM	**Lac du Bonnet**	**80.68**	**327**	P	**P**	**22 37 53.9**	**-0.9**
	comp=Z,5.8nm,1.0s,mb4.5,baz=37,slow=3.2,SNR=2.9						
DLBC	**Dease Lake**	**84.08**	**348**	P	**P**	**22 38 12.4**	**+0.2**
	comp=Z,1.6nm,1.0s,mb4.1,baz=352,slow=14,SNR=3.8						
BDFB	**Brasilia**	**87.77**	**249**	P	**P**	**22 38 33.8**	**+2.5**
	comp=Z,2.0nm,0.5s,mb4.6,baz=73,slow=7.7,SNR=4.4						
PDAR	**Pinedale Array**	**92.38**	**330**	P	**P**	**22 38 51.6**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.9,baz=72,slow=4.7,SNR=4.8						
WRA	**Warramunga Arr**	**114.80**	**97**	PKP	PKPdf	22 44 23.6	-3.0
	comp=Z,0.8nm,0.8s,baz=316,slow=1.5,SNR=5.4						
ASAR	**Alice Springs**	**116.34**	**101**	PKP	PKPdf	22 44 26.8	-2.7
	comp=Z,0.8nm,0.6s,baz=302,slow=1.1,SNR=9.6						
STKA	**Stephens Creek**	**126.10**	**106**	PKP	PKPdf	22 44 46.0	-2.3
	comp=Z,2.3nm,0.8s,baz=90,slow=8.1,SNR=3.0						

NAO ***18*** *22:39:08.4±5.6,69.13N×17.54E,ML1.5*

BER 18 22:39:08.8±5.3**,69.51N×16.87E,h15**^{km}±42^{km}**,MD2.4, ML1.2,ML1.5**(NAO)**,Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**0.73**	**79**	*e*P	Pb	22 39 21.2	-1.5
TRO				*e*S	Sb	22 39 29.2	-3.1
LOF	**Lofoten**	**1.84**	**223**	*e*P	Pn	22 39 37.5	-2.7
LOF				*e*S	Sn	22 39 59.6	-3.6
LOF				AML	AML	22 40 00.6	
	comp=Z,4.2nm,0.3s						
KTK1	**Kautokeino**	**2.32**	**99**	*e*P	Pn	22 39 45.4	-1.8
KTK1				*e*S	Sn	22 40 14.1	-1.5
KTK1				AML	AML	22 40 17.9	
	comp=Z,2.3nm,0.6s						
ARA0	**ARCESS Array S**	**3.04**	**86**	Pn	Pn	22 39 55.0	-2.3
	baz=251,slow=12						
ARA0				Sg	Sg	22 40 38.1	-12
	baz=268,slow=37						

MOS ***18*** *23:06:33.7±1.7,35.92N×27.57E,h12*^{km}*,mb4.6/12,Error ellipse: s-maj=9.9km s-min=4.7km az=96.3*

ISK ***18*** *23:06:35.7,35.98N×27.37E,h33*^{km}*,MD4.2,ML4.4*

BJI ***18*** *23:06:36.4,36.10N×27.50E,h19*^{km}*,mB4.8,mb4.8, Msz5.2*

ZUR_RM ***18*** *23:06:36,36.13N×27.52E,h12*^{km}*,Mw4.6/19,Moment Tensor Solution. s19 Moment tensor: Scale* 10^{16}*Nm;* M_{rr}*-0.85;* $M_{\theta\theta}$*0.03;* $M_{\phi\phi}$*0.82;* $M_{r\theta}$*0.23;* $M_{\theta\phi}$*-0.44;* $M_{\phi r}$*-0.16; Best double couple:* M_0*.979×*10^{16} *NP1:*ϕ_s*326°,δ53°, λ-104°. NP2:*ϕ_s*167°,δ39°,λ-73°. Principal axes: T 1.0478, Plg7°, Azm65°; N -.1373, Plg11°, Azm334°; P -.9105, Plg77°, Azm189°;*

MED_RC ***18*** *23:06:36.4±0.3,36.05N×27.59E,h18*^{km}*,MW4.6/9, Moment Tensor Solution. Body waves: s9,c10; Duration: 1ṣ0 Moment tensor: Scale* 10^{15}*Nm;* M_{rr}*-6.47±.64;* $M_{\theta\theta}$*0.49±.52;* $M_{\phi\phi}$*5.98±.32;* $M_{r\theta}$*3.68±.75;* $M_{\theta\phi}$*-3.67±.28;* $M_{\phi r}$*-2.97±.55; Best double couple:* M_0*8.62×*10^{15} *NP1:* ϕ_s*170°,δ32°,λ-62°. NP2:*ϕ_s*319°,δ62°,λ-106°. Principal axes: T 9.04, Plg16°, Azm60°; N -.85, Plg14°, Azm326°; P -8.19, Plg69°, Azm197°; nsta1 refers to waves, cutoff=35s.*

NEIC ***18*** *23:06:36.4,36.13N×27.52E,h19*^{km}*,mb4.3/63, ML4.5(ATH),ML4.4(THE),ML4.2(NIC),After ATH.*

ATH ***18*** *23:06:36.4,36.13N×27.52E,h19*^{km}*±2*^{km}*,MD4.2/11, ML4.5*

IDC ***18*** *23:06:40.5±1.2,36.23N×27.31E,h45*^{km}*±11*^{km}*,mb4.1/20, mb1 4.2/29,mb1mx4.1/32,ML3.8/7,MS3.5/11,Ms1 3.6/11, ms1mx3.4/23,Error ellipse: s-maj=15.9km s-min=8.2km az=143.0*

THE ***18*** *23:06:41.1,36.00N×27.31E,h20*^{km}*,ML4.4*

NIC ***18*** *23:06:45.7±0.1,35.70N×28.02E,h35*^{km}*,mb4.6,ML4.2, MW4.1*

ISC 18 23:06:35.8±0.4**,35.95N**±0.02×**27.46E**±0.02**,h30**^{km}±3^{km}**, n290,**σ**1ṣ27**/322**,mb4.4**/61**,MS3.7**/11**,11C-4D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**211**	*e*PN	**Pn**	**23 06 49.5**	**+3.1**
KARP				*e*SN	**Sn**	**23 06 58.4**	**+4.8**
ARG	**Arkhangelos**	**0.60**	**64**	⇑*i*PB	**Pb**	**23 06 46.7**	**-1.2**
ARG				*e*SB	**Sb**	**23 06 53.5**	**-2.6**
BDRM	**Kayabasi**	**1.11**	**359**	*i* P	**Pn**	**23 06 54.6**	**-1.0**
BDRM				*i* S	**Sn**	**23 07 11.6**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.26**	**49**	*i* PN	**Pn**	**23 06 57.2**	**-0.4**
DALT				*i* SN	**Sn**	**23 07 14.8**	**+1.2**
YER	**Yerkesik**	**1.36**	**29**	*i* PN	**Pn**	**23 06 58.4**	**-0.7**
MLSB	**Milas**	**1.37**	**11**	*e*PN	**Pn**	**23 06 58.5**	**-0.7**
SANT	**Santorini**	**1.67**	**285**	*e*Pn	**Pn**	**23 07 05.2**	**+1.6**
THR1	**Thera Island**	**1.67**	**285**	*e*Pb	**Pb**	**23 07 05.6**	**-0.2**
THR1				*e*Sb	**Sb**	**23 07 24.3**	**-2.2**
THR6	**Thira Island,**	**1.71**	**284**	*e*Pb	**Pb**	**23 07 06.4**	**-0.2**
THR6				*e*Sb	**Sb**	**23 07 25.4**	**-2.4**
THR3	**Thira Island,**	**1.73**	**286**	*e*Pb	**Pb**	**23 07 06.1**	**-0.6**
KSL	**Kastellorizon**	**1.73**	**83**	*e*PN	**Pn**	**23 07 07.0**	**+2.5**
AYDN	**Tasoluk**	**1.74**	**11**	*i* P	**Pn**	**23 07 05.2**	**+0.6**
AYDN				*i* S	**Sn**	**23 07 27.6**	**+1.6**
THR4	**Thira Island,**	**1.74**	**288**	*e*Pb	**Pb**	**23 07 06.3**	**-0.6**
THR5	**Thira Island,**	**1.77**	**286**	*e*Pb	**Pb**	**23 07 07.2**	**-0.3**
XRY	**Khrisi**	**1.79**	**234**	*e*PN	**Pn**	**23 07 10.9**	**+5.6**
SMG	**Samos**	**1.82**	**344**	*e*PN	**Pn**	**23 07 06.8**	**+1.0**
APE	**Apeiranthos**	**1.91**	**306**	*e*PN	**Pn**	**23 07 06.4**	**-0.6**
ELL	**Elmali**	**2.13**	**67**	*i* PN	**Pn**	**23 07 10.8**	**+0.6**
DNZL	**Cakiroluk**	**2.15**	**36**	*i* P	**Pn**	**23 07 11.7**	**+1.2**
DNZL				*i* S	**Sn**	**23 07 44.1**	**+7.6**
IDI	**Anoyia**	**2.19**	**253**	P	**Pn**	**23 07 13.9**	**+2.9**
	30nm,0.3s,baz=64,slow=15,SNR=26						
IDI				S	**Sn**	**23 07 40.6**	**+3.1**
	173nm,0.3s,baz=82,slow=21,SNR=10						
DENT	**Denizli**	**2.20**	**35**	*i* PN	**Pn**	**23 07 11.2**	**0.0**
IZM	**Izmir**	**2.45**	**356**	*i* PN	**Pn**	**23 07 14.8**	**+0.1**
KDAG	**Bornova**	**2.45**	**357**	*i* P	**Pn**	**23 07 17.1**	**+2.3**
KDAG				*i* S	**Sn**	**23 07 51.9**	**+7.8**
ANTB	**Antalya**	**2.75**	**69**	*e*PN	**Pn**	**23 07 20.2**	**+1.2**
KHL	**Karahalli**	**2.89**	**34**	*e*PN	**Pn**	**23 07 21.4**	**+0.4**
BCK	**Bucak**	**2.93**	**58**	*e*PN	**Pn**	**23 07 22.7**	**+1.1**
AKS	**Akhisar**	**2.94**	**5**	*i* PN	**Pn**	**23 07 21.0**	**-0.7**
GVD	**Gavdhos**	**2.97**	**249**	*e*Pn	**Pn**	**23 07 27.7**	**+5.6**
ISP	**Isparta**	**3.09**	**51**	PN	**Pn**	**23 07 24.4**	**+0.6**
PTL	**Penteli**	**3.56**	**307**	*e*PN	**Pn**	**23 07 31.5**	**+1.0**
KYTH	**Kithira**	**3.59**	**277**	*e*PN	**Pn**	**23 07 33.4**	**+2.4**
ATH	**Athens Observa**	**3.61**	**305**	*e*PN	**Pn**	**23 07 32.3**	**+1.1**
BALB	**Balikesir**	**3.70**	**5**	*e*PN	**Pn**	**23 07 32.7**	**+0.2**
VLI	**Veliai**	**3.73**	**283**	*e*PN	**Pn**	**23 07 34.8**	**+1.9**
ALT	**Altintas**	**3.75**	**33**	PN	**Pn**	**23 07 33.4**	**+0.2**
DST	**Dursunbey**	**3.77**	**14**	*i* PN	**Pn**	**23 07 32.4**	**-1.0**
PPCY	**Paphos**	**4.13**	**103**	⇓P	**Pn**	**23 07 40.1**	**+1.5**
PPCY				S	**Sn**	**23 08 22.6**	**-4.0**
HDMB	**Hadim**	**4.18**	**74**	*i* PN	**Pn**	**23 07 40.0**	**+0.7**
ALFC	**Alevga**	**4.27**	**99**	⇑P	**Pn**	**23 07 42.2**	**+1.7**
	3.6nm,0.3s						
ALFC				S	**Sn**	**23 08 26.4**	**-3.6**
KCT	**Karacabey**	**4.37**	**9**	PN	**Pn**	**23 07 41.3**	**-0.7**
ULDT	**Uludag**	**4.39**	**17**	*i* P	**Pn**	**23 07 41.5**	**-0.8**
ULDT				*i* S	**Sn**	**23 08 51.0**	**+18**
EDC	**Edincik**	**4.40**	**4**	*e*PN	**Pn**	**23 07 41.6**	**-0.9**
KONT	**Konya--Tatoy**	**4.40**	**62**	*e*PN	**Pn**	**23 07 43.1**	**+0.6**
LPK	**Lapseki**	**4.45**	**353**	*e*PN	**Pn**	**23 07 42.0**	**-1.1**
ESKT	**Eskisehir**	**4.46**	**36**	*i* PN	**Pn**	**23 07 43.6**	**+0.3**
LEF	**Lefka**	**4.51**	**99**	*i* PN	**Pn**	**23 07 44.6**	**+0.6**
KIZT	**Kizilcal**	**4.58**	**49**	*i* PN	**Pn**	**23 07 45.5**	**+0.6**
SZAC	**Souni-Zanaja**	**4.59**	**103**	⇑P	**Pn**	**23 07 46.6**	**+1.5**
	26nm,0.3s						
SZAC				S	**Sn**	**23 08 34.4**	**-3.8**
MAMC	**Mammari**	**4.76**	**98**	⇓P	**Pn**	**23 07 48.0**	**+0.5**
	14nm,0.3s						
MAMC				S	**Sn**	**23 08 38.5**	**-3.9**
YLV	**Yalova**	**4.85**	**18**	*e*PN	**Pn**	**23 07 48.6**	**-0.2**
CSS	**Prodhromos**	**4.89**	**100**	⇑P	**Pn**	**23 07 51.0**	**+1.6**
	6.0nm,0.3s						
CSS				S	**Sn**	**23 08 42.0**	**-3.8**
IKL	**Isikli**	**5.05**	**85**	*i* PN	**Pn**	**23 07 53.2**	**+1.6**
ALN	**Alexandroupoli**	**5.06**	**348**	P	**Pn**	**23 07 51.5**	**-0.3**
ALN				S	**Sn**	**23 08 56.6**	**+6.5**
AGG	**Agios Georgios**	**5.10**	**308**	*e*Pn	**Pn**	**23 07 53.5**	**+1.2**
	comp=Z,3.7nm,0.2s						
OUR	**Ouranopolis**	**5.16**	**329**	*e*Pn	**Pn**	**23 07 55.0**	**+1.8**
EVR	**Evrytania**	**5.38**	**305**	*e*PN	**Pn**	**23 07 58.1**	**+1.8**
MDU	**Mudurnu**	**5.39**	**32**	*e*PN	**Pn**	**23 07 56.6**	**+0.2**
PHNC	**Paralimni**	**5.45**	**98**	P	**Pn**	**23 07 58.8**	**+1.6**
	0.2nm,0.3s						
PHNC				S	**Sn**	**23 08 56.2**	**-3.5**
LIT	**Litokhoron**	**5.70**	**318**	*e*Pn	**Pn**	**23 08 02.1**	**+1.3**
ANTO	**Ankara**	**5.75**	**46**	*e*PN	**Pn**	**23 08 02.8**	**+1.3**
SOH	**Sokhos**	**5.83**	**328**	*e*Pn	**Pn**	**23 08 04.5**	**+1.8**
THE	**Thessaloniki**	**5.86**	**324**	*e*Pn	**Pn**	**23 08 04.0**	**+1.0**
KDZ	**Kurdzhali**	**5.91**	**345**	*e*P	**Pn**	**23 08 02.0**	**-1.7**
EDRB	**Edirne**	**5.92**	**355**	*e*PN	**Pn**	**23 08 03.5**	**-0.3**
SRS	**Serrai**	**5.98**	**331**	*e*Pn	**Pn**	**23 08 05.8**	**+1.1**
KAMT	**Kaman**	**6.02**	**54**	*i* PN	**Pn**	**23 08 05.6**	**+0.3**
LKD	**Levkas**	**6.08**	**299**	*e*Pn	**Pn**	**23 08 09.7**	**+3.5**
NIG	**Nigde**	**6.12**	**67**	*i* PN	**Pn**	**23 08 07.2**	**+0.6**
RZN	**Rozhen**	**6.12**	**340**	*e*P	**Pn**	**23 08 06.0**	**-0.7**
BRTR	**Keskin Array B**	**6.17**	**51**	P	**Pn**	**23 08 07.3**	**-0.2**
	1.9nm,0.3s,baz=228,slow=14,SNR=79						
BRTR				S	**Sn**	**23 09 17.8**	**-0.1**
	0.9nm,0.3s,baz=237,slow=25,SNR=3.7						
BRTR				LR	LR	23 11 10.3	
	comp=Z,1μm,19.9s,baz=210,slow=44						
BRTR	**Keskin Array B**	**6.17**	**51**	P	**Pn**	**23 08 07.3**	**-0.2**
BRTR				S	**Sn**	**23 09 17.8**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR				smax			
	comp=N,1.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,1μm,19.9s						
MEV	**Metsovon**	**6.24**	**310**	P	**Pn**	**23 08 10.8**	**+2.4**
KNT	**Kendrikon**	**6.31**	**327**	*e*Pn	**Pn**	**23 08 10.4**	**+1.0**
MMB	**Musomiste**	**6.34**	**334**	*e*P	**Pn**	**23 08 13.0**	**+3.2**
GRG	**Griva**	**6.38**	**323**	*e*Pn	**Pn**	**23 08 12.1**	**+1.7**
IGT	**Igoumenitsa**	**6.68**	**304**	*e*Pn	**Pn**	**23 08 16.7**	**+2.1**
SAFT	**Safranbolu**	**6.68**	**36**	*e*PN	**Pn**	**23 08 14.5**	**-0.1**
CANT	**Cankiri**	**6.71**	**44**	PN	**Pn**	**23 08 16.1**	**+1.0**
CEYT	**Ceyhan**	**6.76**	**79**	*e*PN	**Pn**	**23 08 16.4**	**+0.6**
FNA	**Florina**	**6.79**	**317**	*e*Pn	**Pn**	**23 08 17.4**	**+1.3**
KKB	**Krupnik**	**6.82**	**331**	*e*P	**Pn**	**23 08 22.0**	**+5.4**
HNTI	**Hanita**	**6.98**	**112**	P	**Pn**	**23 08 18.9**	**+0.1**
HAF	**Haifa**	**7.01**	**115**	P	**Pn**	**23 08 18.3**	**-0.9**
HTY	**Hatay**	**7.04**	**86**	*e*PN	**Pn**	**23 08 19.9**	**+0.3**
OFRI	**'Ofer**	**7.06**	**116**	P	**Pn**	**23 08 19.9**	**0.0**
KEK	**Kerkira**	**7.13**	**304**	*e*PN	**Pn**	**23 08 22.0**	**+1.1**
SLTI	**Sal'it**	**7.30**	**118**	P	**Pn**	**23 08 22.2**	**-1.0**
SLTI				S	**Sn**	**23 09 41.5**	**-4.4**
HRI	**Mount Hermon**	**7.33**	**109**	P	**Pn**	**23 08 22.6**	**-1.1**
VTS	**Vitosha**	**7.41**	**335**	*e*P	**Pn**	**23 08 28.0**	**+3.2**
MMLI	**Mount Malkishu**	**7.47**	**116**	P	**Pn**	**23 08 25.4**	**-0.3**
KSHT	**Keshet**	**7.51**	**111**	P	**Pn**	**23 08 25.1**	**-1.1**
SKO	**Skopje**	**7.62**	**324**	*e*P	**Pn**	**23 08 35.0**	**+7.2**
HMDT	**Nahal Hemdat**	**7.64**	**117**	P	**Pn**	**23 08 27.7**	**-0.3**
KZIT	**Kziot**	**7.68**	**129**	P	**Pn**	**23 08 27.9**	**-0.6**
KZIT				S	**Sn**	**23 09 49.9**	**-5.5**
RTMM	**Retamin**	**7.76**	**127**	P	**Pn**	**23 08 29.4**	**-0.4**
SVTA	**Shivta**	**7.80**	**128**	P	**Pn**	**23 08 29.9**	**-0.4**
MASH	**Mash'abbe Sade**	**7.87**	**127**	P	**Pn**	**23 08 30.5**	**-0.7**
DRGI	**Dragot**	**7.91**	**121**	P	**Pn**	**23 08 31.1**	**-0.6**
BYBT	**Boyabat**	**7.94**	**44**	*e*PN	**Pn**	**23 08 32.2**	**0.0**
MZDA	**Masada**	**8.05**	**123**	P	**P**	**23 08 33.3**	**-0.5**
MZDA				S	**Sn**	**23 09 59.5**	**-5.3**
ZFRI	**Zfri**	**8.41**	**128**	P	**P**	**23 08 37.8**	**-0.9**
PRNI	**Paran**	**8.44**	**129**	P	**P**	**23 08 38.3**	**-0.8**
PRNI				S	**Sn**	**23 10 08.3**	**-6.0**
KMTI	**Karmit**	**8.44**	**132**	P	**P**	**23 08 38.4**	**-0.7**
SVSK	**Karacayir**	**8.52**	**59**	*e*PN	**P**	**23 08 39.7**	**-0.5**
ASF	**Jabal al Asfar**	**8.69**	**113**	P	**P**	**23 08 42.4**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=179,slow=14,SNR=13						
ASF				S	**Sn**	**23 10 21.8**	**+1.2**
	comp=Z,6.7nm,0.3s,baz=355,slow=22,SNR=8.0						
ASF				LR	LR	23 12 54.5	
	comp=Z,55nm,20.4s,baz=51,slow=42						
MBH	**Mount Berech**	**8.78**	**132**	P	**P**	**23 08 43.2**	**-0.6**
EIL	**Elat**	**8.88**	**133**	P	**P**	**23 08 44.4**	**-0.9**
AQBJ	**Aqaba**	**8.90**	**132**	P	**P**	**23 08 45.2**	**-0.4**
MALT	**Malatya**	**9.07**	**72**	*e*Pn	**P**	**23 08 47.2**	**-0.7**
TIP	**Timpagrande**	**9.09**	**294**	*e*Pn	**P**	**23 08 47.2**	**-0.8**
GRI	**Girifalco**	**9.24**	**291**	*e*Pn	**P**	**23 08 50.4**	**+0.2**
HAQS	**Haql**	**9.33**	**135**	P	**P**	**23 08 51.5**	**0.0**
HAQS				S	**Sn**	**23 10 30.4**	**-6.0**
JMOS	**Jabal al Moall**	**9.35**	**134**	P	**P**	**23 08 51.3**	**-0.3**
MLR	**Muntele Rosu**	**9.60**	**354**	P	**P**	**23 08 53.1**	**-2.1**
	baz=196,slow=15						
MLR				LR	LR	23 13 14.8	
	comp=Z,559nm,18.6s,baz=171,slow=42						
BDAS	**Al Bad'**	**9.90**	**137**	P	**P**	**23 08 59.0**	**-0.4**
JMQS	**Jabal Moqyreh**	**10.01**	**132**	P	**P**	**23 09 00.6**	**-0.2**
AYUS	**'Aynunah**	**10.18**	**137**	P	**P**	**23 09 02.9**	**-0.3**
MGR	**Morigerati**	**10.28**	**298**	*e*Pn	**P**	**23 09 03.4**	**-1.0**
SLCN	**Sala Consilina**	**10.31**	**299**	*e*Pn	**P**	**23 09 05.2**	**+0.3**
SIM	**Simferopol'**	**10.32**	**27**	*e*P	**P**	**23 09 05.4**	**+0.4**
SIM				*e*S	**S**	**23 10 59.6**	**-1.1**
SIM				pmax	pmax		
	comp=Z,20nm,0.9s						
SIM				MLR	MLR		
	comp=Z,270nm,14.9s						
MRLC	**Muro Lucano**	**10.55**	**301**	*e*Pn	**P**	**23 09 07.9**	**-0.3**
VAE	**Valguarnera**	**10.58**	**282**	P	**P**	**23 09 08.9**	**+0.3**
	baz=117,slow=9.0,SNR=2.0						
VAE				S	**S**	**23 11 05.7**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=301,slow=20,SNR=3.8						
VAE				LR	LR	23 13 20.7	
	comp=Z,115nm,18.2s,baz=324,slow=38						
CII	**Carovilli**	**11.76**	**303**	*e*P	**P**	**23 09 24.2**	**-0.5**
	comp=Z,0.1nm,0.3s						
SOC	**Sochi**	**12.12**	**47**	*e*P	**P**	**23 09 29.9**	**+0.4**
SOC				*e*S	**S**	**23 11 44.7**	**+0.1**
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
SOC				pmax	pmax		
	comp=N,38nm,1.1s						
SOC				pmax	pmax		
	comp=E,25nm,0.9s						
SOC				MLR	MLR		
	comp=Z,532nm,14.0s						
SOC				MLR	MLR		
	comp=N,501nm,13.0s						
SOC				MLR	MLR		
	comp=E,449nm,14.0s						
AQU	**L'Aquila**	**12.64**	**305**	P	**P**	**23 09 33.7**	**-2.8**
BOJS	**Bojanci**	**13.28**	**320**	*i* Pn	**P**	**23 09 41.4**	**-3.4**
UMJS	**Umm Lajj**	**13.63**	**139**	P	**P**	**23 09 50.7**	**+1.1**
CEY	**Cerknica**	**13.87**	**319**	*i* Pn	**P**	**23 09 50.3**	**-2.3**
LJU	**Ljubljana**	**14.02**	**320**	*e*Pn	**P**	**23 09 50.6**	**-4.0**
VYHS	**Vyhne**	**14.05**	**336**	*e*	**P**	**23 09 58.3**	**+3.3**
VYHS				*e*		23 10 11.2	
VYHS				*e*		23 10 56.1	
GNI	**Garni**	**14.25**	**68**	P	**P**	**23 10 04.3**	**+6.7**
	comp=E,0.6nm,0.3s,baz=218,slow=19,SNR=3.5						
GNI	**Garni**	**14.25**	**68**	P	**P**	**23 10 04.3**	**+6.7**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOY	**Vojsko**	**14.35**	**319**	*e*Pn	**P**	**23 09 59.5**	**+0.7**
ROBS	**Robic**	**14.69**	**319**	*e*Pn	**P**	**23 10 02.1**	**-1.2**
AKASG	**Malin Array Be**	**14.80**	**4**	P	**P**	**23 10 03.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=192,slow=10,SNR=7.5						
AKASG	**Malin Array Be**	**14.80**	**4**	P	**P**	**23 10 03.9**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OJC	**Ojcow**	**15.31**	**341**	*e*P	**P**	**23 10 16.8**	**+5.4**
OJC				*e*S	**S**	**23 13 08.0**	**+7.6**
OJC				MLR	MLR		
	comp=Z,300nm,15.5s						
KBA	**Koelnbreinsper**	**15.31**	**321**	⇑*i*P	**P**	**23 10 12.5**	**+1.0**
	comp=Z,30nm,1.4s						
VRAC	**Vranov**	**15.54**	**333**	P	**P**	**23 10 13.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=252,slow=19,SNR=2.6						
MORC	**Moravsky Berou**	**15.59**	**335**	*e*P	**P**	**23 10 13.0**	**-2.1**
	comp=Z,9.2nm,1.0s						
PGF	**Pioggiola**	**15.73**	**300**	*e*P	**P**	**23 10 15.6**	**-1.3**
	comp=Z,28nm,1.0s						
WTTA	**Wattenberg**	**16.33**	**319**	⇑*i*P	**P**	**23 10 27.6**	**+3.1**
	comp=Z,22nm,1.1s						
GERES	**GERESS Array B**	**16.38**	**326**	P	**P**	**23 10 26.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=13,SNR=32						
GERES				ScP		23 18 48.0	
	comp=Z,0.0nm,0.3s,baz=198,slow=3.1,SNR=4.4						
DPC	**Dobruska-Polom**	**16.50**	**334**	*e*P	**P**	**23 10 28.4**	**+1.8**
DPC				*e*AP		23 10 39.2	
KHC	**Kasperske Hory**	**16.64**	**327**	⇑*i*P	**P**	**23 10 30.3**	**+1.9**
KHC				*e*AP		23 10 35.2	
KHC				*e*XP		23 10 40.1	
KHC				*e*		23 13 55.1	
MOTA	**Moosalm**	**16.66**	**318**	⇑*i*P	**P**	**23 10 31.3**	**+2.6**
	comp=Z,11nm,1.0s						
PRU	**Pruhonice**	**16.88**	**330**	⇑*i*P	**P**	**23 10 32.4**	**+1.0**
KSP	**Ksiaz**	**16.92**	**335**	*e*P	**P**	**23 10 33.3**	**+1.3**
KSP				*e*S	**S**	**23 13 50.4**	**+13**
DAVOX	**Davos**	**17.02**	**315**	P	**P**	**23 10 35.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=5.2						
SBF	**Sospel**	**17.25**	**303**	*e*P	**P**	**23 10 31.8**	**-4.3**
	comp=Z,37nm,0.9s						
PVCC	**Panska Ves**	**17.30**	**331**	⇑*e*P	**P**	**23 10 40.0**	**+3.4**
PVCC				*e*AP		23 10 48.1	
DAVA	**Damuels**	**17.31**	**316**	⇑*i*P	**P**	**23 10 38.7**	**+1.9**
	comp=Z,17nm,1.3s						
FRF	**La Foret Royal**	**17.69**	**302**	*e*P	**P**	**23 10 37.1**	**-4.5**
	comp=Z,39nm,1.3s						
LMR	**La Mourre**	**17.71**	**301**	*e*P	**P**	**23 10 40.1**	**-1.8**
	comp=Z,49nm,1.2s						
BRG	**Berggiesshubel**	**17.81**	**331**	*e*P	**P**	**23 10 43.8**	**+0.7**
BRG				S	**S**	**23 14 09.0**	**+11**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG				MLR	MLR		
	comp=Z,560nm,10.8s						
BRG				MLR	MLR		
	comp=N,340nm,8.4s						
BRG				MLR	MLR		
	comp=E,190nm,8.4s						
BRG	**Berggiesshubel**	**17.81**	**331**	*e*P	**P**	**23 10 43.8**	**+0.7**
	comp=E,4.5nm,0.9s						
BRG				*e*		23 11 04.0	
BRG				S	**S**	**23 14 09.0**	**+11**
MBDF	**Montbardon**	**18.00**	**305**	*e*P	**P**	**23 10 45.4**	**-0.2**
	comp=E,13nm,0.8s						
GRA1	**Grafenberg Arr**	**18.12**	**324**	*e*P	**P**	**23 10 47.4**	**+0.4**
	comp=E,17nm,1.0s						
GRF	**Grafenberg Arr**	**18.12**	**324**	*e*P	**P**	**23 10 47.4**	**+0.4**
GRF				pmax	pmax		
	comp=Z,17nm,1.0s						
SUW	**Suwalki**	**18.31**	**352**	P	**P**	**23 10 46.5**	**-2.8**
	comp=Z,38nm,1.1s						
LPG	**La Plagne**	**18.32**	**308**	*e*P	**P**	**23 10 50.6**	**+1.1**
	comp=Z,23nm,0.8s						

LPL	La Plagne	18.34	308	eP	P	23 10 50.7	+1.0
	comp=Z,16nm,0.8s						
CLL	Collm	18.52	330	P	P	23 10 52.0	+0.1
	comp=Z,logA/T=1.1						
CLL				i		23 11 02.3	
CLL	Collm	18.52	330	eP	P	23 10 52.0	+0.1
CLL				pmax	pmax		
	comp=Z,16nm,1.4s						
CLL	Collm	18.52	330	eP	P	23 10 52.0	+0.1
	comp=Z,16nm,1.4s						
STU	Stuttgart	18.55	319	eP	P	23 10 49.2	-3.0
	comp=Z,15nm,0.6s						
MOX	Moxa	18.61	327	i P	P	23 10 53.3	+0.3
	comp=Z,logA/T=1.1						
MOX				L		23 20 26.0	
MOX	Moxa	18.61	327	eP	P	23 10 53.3	+0.3
MOX				pmax	pmax		
	comp=Z,21nm,1.6s						
MOX				MLR	MLR		
	comp=Z,300nm,16.0s						
MOX	Moxa	18.61	327	eP	P	23 10 53.3	+0.3
	comp=Z,21nm,1.6s						
ORIF	Oris-en-Rattie	18.67	305	eP	P	23 10 52.8	-0.8
ORIF				eR			
	comp=Z,212nm,20.2s						
CABF	La Chapelle	19.21	310	eP	P	23 10 57.3	-2.8
	comp=Z,17nm,0.8s						
HINF	Hinteralfeld	19.32	314	eP	P	23 11 00.6	-0.7
	comp=Z,12nm,0.9s						
CDF	Champ du Feu	19.39	316	eP	P	23 11 02.1	0.0
	comp=Z,39nm,1.2s						
MZLS	Mizel	19.39	123	P	P	23 11 08.5	+6.1
VIVF	Saint-Julien-l	19.45	304	eP	P	23 10 59.0	-3.8
	comp=Z,29nm,0.9s						
HAU	Haudompre	19.71	314	eP	P	23 11 04.0	-1.7
	comp=Z,11nm,0.8s						
HAU				eR			
	comp=Z,207nm,21.5s						
LASF	Ste Croix	19.77	301	eP	P	23 11 04.9	-1.5
	comp=Z,194nm,1.8s						
OBN	Obninsk	20.17	15	⇓eP	P	23 11 09.0	-1.5
OBN				i		23 11 18.2	
OBN				i S	S	23 14 55.1	+5.0
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN				MLR	MLR		
	comp=Z,200nm,10.0s,MS3.8						
OBN	Obninsk	20.17	15	eP	P	23 11 08.1	-2.4
	comp=Z,41nm,0.9s						
BLJS	Baljurashi	20.27	138	P	P	23 11 17.3	+5.5
SMF	Signal de Mont	20.64	308	eP	P	23 11 13.1	-2.3
	comp=Z,40nm,0.9s						
WLF	Walferdange	20.69	318	P	P	23 11 14.3	-1.7
	comp=Z,55nm,1.6s						
MEZF	Maizieres J’vi	20.71	314	eP	P	23 11 15.2	-0.9
	comp=Z,48nm,1.2s						
MTLF	Montolieu	20.74	299	eP	P	23 11 14.8	-1.7
	comp=Z,29nm,1.1s						
LOR	Lormes	20.87	310	eP	P	23 11 16.1	-1.7
	comp=Z,45nm,1.2s						
LOR				eR			
	comp=Z,211nm,18.5s						
MOS	Moscow	20.98	16	eP	P	23 11 18.0	-0.8
MOS				e		23 11 22.9	
MOS				e		23 11 37.8	
MOS				pmax	pmax		
	comp=Z,115nm,1.3s						
AVF	Avril sur Loir	21.00	308	eP	P	23 11 16.9	-2.2
	comp=Z,36nm,1.1s,mb4.3						
SSF	Saint Saulge	21.01	309	eP	P	23 11 17.8	-1.4
	comp=Z,32nm,0.8s,mb4.4						
NAMS	An Nimas	21.18	138	P	P	23 11 26.3	+5.2
CAF	Calviac	21.24	303	eP	P	23 11 20.2	-1.3
	comp=Z,31nm,1.1s,mb4.2						
BGF	Bois d’Agland	21.24	308	eP	P	23 11 20.4	-1.2
	comp=Z,31nm,0.8s,mb4.4						
EPOB	Poblet	21.26	293	P	P	23 11 18.9	-2.8
	comp=Z,10nm,0.7s,mb4.3						
TATS	Tathlith	21.59	135	P	P	23 11 30.5	+5.2
GIVF	Givet	21.65	318	eP	P	23 11 25.7	0.0
BAIF	Baives	21.97	317	eP	P	23 11 28.7	-0.2
	comp=Z,75nm,1.3s,mb4.7						
EPF	Esparros	22.03	297	eP	P	23 11 28.5	-1.0
ETSF	Etsaut	22.66	296	eP	P	23 11 36.0	+0.3
	comp=Z,18nm,1.1s,mb4.1						
SJPF	Ste Jean	23.18	297	eP	P	23 11 40.6	-0.1
	comp=Z,41nm,1.2s,mb4.4						
ETOB	Tobarra	23.19	285	P	P	23 11 46.5	+5.5
	comp=Z,3.1nm,0.8s,mb3.8						
MFF	Saint Martin d	23.20	306	eP	P	23 11 39.6	-1.4
	comp=Z,54nm,1.1s,mb4.6						
ETOR	Torete	23.58	291	P	P	23 11 46.1	+1.4
	comp=Z,5.0nm,0.9s,mb3.9						
PUL	Pulkovo	23.91	4	eP	P	23 11 50.1	+2.5
PUL				MLR	MLR		
	comp=Z,269nm,13.0s,MS3.9						
EVIA	Vianos	23.94	285	P	P	23 11 50.3	+2.1
	comp=Z,5.9nm,0.7s,mb4.1						
GRR	Gorron	24.24	310	eP	P	23 11 49.9	-1.1
EQES	Quesada	24.44	283	P	P	23 11 53.2	+0.1
	comp=Z,5.7nm,0.8s,mb4.0						
ESDC	Sonseca Array	25.03	288	P	P	23 11 58.8	+0.1
	comp=Z,4.5nm,0.6s,mb4.2,baz=85,slow=9.7,SNR=27						
ESDC	Sonseca Array	25.03	288	P	P	23 11 57.4	-1.3
	comp=Z,2.1nm,0.6s,mb3.8						
ESLA	Sonseca Array	25.03	288	eP	P	23 11 57.1	-1.6
	comp=Z,2.0nm,0.8s,mb3.7						
FINES	FINESS Array B	25.53	358	P	P	23 12 02.2	-1.0
	comp=Z,2.1nm,1.0s,mb3.6,baz=168,slow=14,SNR=7.9						
FINES				PcP	PcP	23 15 34.2	-0.7
	comp=Z,1.8nm,0.6s,baz=117,slow=4.3,SNR=6.4						
FINES				LR	LR	23 22 00.9	
	comp=Z,58nm,18.6s,MS3.1,baz=351,slow=36						
FINES	FINESS Array B	25.53	358	P	P	23 12 02.2	-1.0
FINES						23 15 34.2	
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,58nm,18.6s						
FINES	FINESS Array B	25.53	358	P	P	23 12 02.2	-1.0
FINES				PcP	PcP	23 15 34.2	-0.7
FINES				LR	LR	23 22 00.9	
HFS	Hagfors	25.78	344	P	P	23 12 04.1	-1.4
	comp=Z,7.1nm,0.7s,mb4.3,baz=158,slow=8.0,SNR=20						
HFS	Hagfors	25.78	344	P	P	23 12 04.1	-1.5
HFS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AB31	Akbulak array	27.13	51	i P	P	23 12 17.8	-0.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
NB2	NORSAR Subarra	27.16	343	P	P	23 12 16.0	-2.2
	comp=Z,4.3nm,0.7s,mb4.1,baz=142,slow=8.6						
NOA	NORSAR Array B	27.16	343	P	P	23 12 16.6	-1.6
	comp=Z,3.8nm,0.7s,mb4.1,baz=143,slow=8.8,SNR=20						
NOA				LR	LR	23 24 05.9	
	comp=Z,116nm,18.0s,MS3.5,baz=160,slow=39						
NOA	NORSAR Array B	27.16	343	P	P	23 12 16.6	-1.6
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,116nm,18.0s						
EMIN	Mina Concepcio	27.28	284	P	P	23 12 18.7	-0.9
	comp=Z,6.1nm,0.7s,mb4.2						
EBAD	Badajoz	27.45	286	P	P	23 12 19.0	-2.1
	comp=Z,4.9nm,0.8s,mb4.1						
EGRO	El Granado	27.95	284	P	P	23 12 21.7	-3.9
	comp=Z,7.1nm,1.5s,mb4.1						
ARU	Arti	29.32	36	eP	P	23 12 39.4	+1.7
	comp=Z,3.7nm,0.6s,mb4.3						
ARU				e		23 13 14.8	
ZRNK	Zerenda	33.61	46	P	P	23 13 14.8	-0.7
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	33.61	46	eP	P	23 13 14.8	-0.7
	comp=Z,4.8nm,0.7s,mb4.5						
ARCES	ARCESS Array B	33.66	359	P	P	23 13 13.4	-2.3
	comp=Z,1.0nm,0.7s,mb3.9,baz=180,slow=6.1,SNR=7.2						
ARCES				LR	LR	23 27 30.0	
	comp=Z,130nm,18.5s,MS3.7,baz=270,slow=37						
ARCES	ARCESS Array B	33.66	359	P	P	23 13 13.5	-2.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,130nm,18.5s						
KKAR	Karatay Array	33.67	64	i P	P	23 13 16.9	+0.7
BRVK	Borovoye	34.39	47	P	P	23 13 18.3	-4.0
	comp=Z,4.0nm,1.0s,mb4.3						
BVA0	Borovoye Array	34.45	47	i P	P	23 13 22.4	-0.3
BVAR	Borovoye Array	34.45	47	P	P	23 13 22.5	-0.2
	comp=Z,0.5nm,0.5s,mb3.8,baz=278,slow=10,SNR=4.9						
VOSK	Vostochnaya	34.74	47	P	P	23 13 24.4	-0.8
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MBAR	Mbarara	36.49	174	eP	P	23 13 42.9	+2.4
	comp=Z,11nm,1.1s,mb4.7						
KURK	Kurchatov	39.23	52	i P	P	23 14 02.9	-0.1
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
KURK	Kurchatov	39.23	52	eP	P	23 14 01.6	-1.4
	comp=Z,6.8nm,0.8s,mb4.4						
DBIC	Dimbokro	41.53	233	P	P	23 14 23.4	+1.0
	comp=Z,15nm,0.5s,mb4.9,baz=21,slow=9.1,SNR=44						
DBIC				LR	LR	23 34 29.8	
	comp=Z,77nm,18.9s,MS3.6,baz=338,slow=40						
DBIC	Dimbokro	41.53	233	P	P	23 14 23.5	+1.1
DBIC				pmax	pmax		
	comp=Z,15nm,0.5s						
DBIC				MLR	MLR		
	comp=Z,77nm,18.9s						
DBIC	Dimbokro	41.53	233	eP	P	23 14 23.8	+1.4
	comp=Z,19nm,0.6s,mb4.9						
TIC	Toumodi	41.66	233	eP	P	23 14 25.3	+1.9
	comp=Z,100nm,0.7s						
KIC	Kosan Boka	41.69	233	eP	P	23 14 25.7	+2.0
	comp=Z,138nm,0.7s						
MKAR	Makanchi Array	41.77	57	P	P	23 14 23.9	-0.1
	comp=Z,5.3nm,0.6s,mb4.3,baz=280,slow=7.0,SNR=25						
MKAR				ScP		23 20 08.2	
	comp=Z,1.0nm,0.7s,baz=274,slow=4.6,SNR=6.1						
MKAR				PKiKP		23 23 27.4	
	comp=Z,0.5nm,0.7s,baz=280,slow=3.1,SNR=5.7						
MKAR				LR	LR	23 36 01.8	
	comp=Z,40nm,19.8s,MS3.3,baz=280,slow=42						
MKAR	Makanchi Array	41.77	57	P	P	23 14 23.9	-0.1
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,41nm,19.8s						
LIC	Lamto	41.98	233	eP	P	23 14 27.6	+1.5
	comp=Z,112nm,0.8s,mb5.5						
LIC	Lamto	41.98	233	eP	P	23 14 27.4	+1.3
	comp=Z,74nm,0.8s,mb5.0						
NVS	Novosibirsk	42.21	45	eP	P	23 14 26.3	-1.1
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
WMQ	Urumqi	45.99	61	eP	P	23 15 04.5	+6.5
KOLN	Koldanda	47.82	83	eP	P	23 15 13.0	+0.3
	comp=Z,28nm,1.1s,mb5.2						
GKN	Gorkha	48.56	82	eP	P	23 15 19.2	+0.8
	comp=Z,24nm,0.8s,mb5.3						
DMN	Daman	49.10	83	eP	P	23 15 22.3	-0.3
	comp=Z,32nm,1.1s,mb5.3						
KKN	Kakani	49.16	82	eP	P	23 15 23.5	+0.4
	comp=Z,16nm,0.6s,mb5.2						
PKI	Pulchoki	49.36	83	eP	P	23 15 24.5	-0.1
	comp=Z,26nm,0.9s,mb5.2						
LSA	Lhasa	53.06	77	P	P	23 15 53.8	+1.2
LSA	Lhasa	53.06	77	eP	P	23 15 53.3	+0.7
	comp=Z,8.0nm,1.1s,mb4.6						
ZAK	Zakamensk	54.81	49	eP	P	23 16 08.5	+3.3
TSUM	Tsumeb	55.64	191	P	P	23 16 13.3	+1.7
	comp=Z,3.2nm,1.0s,mb4.3,baz=12,slow=10.0,SNR=3.6						
SONM	Songino Array	57.53	52	P	P	23 16 24.3	-0.4
	comp=Z,1.1nm,0.7s,mb4.0,baz=280,slow=7.5,SNR=4.4						
BOD	Bodaibo	58.68	39	eP	P	23 16 29.8	-2.7
TIXI	Tiksi	59.77	21	⇓eP	P	23 16 41.2	+1.3
TIXI				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
LBTB	Lobatse	60.66	182	eP	P	23 16 49.1	+2.5
	comp=Z,5.4nm,0.6s,mb4.8						
FRB	Frobisher Bay	60.94	330	P	P	23 16 46.2	-1.7
	comp=Z,12nm,1.1s,mb4.9,baz=185,slow=4.1,SNR=2.8						
FRB	Frobisher Bay	60.94	330	P	P	23 16 46.3	-1.7
FRB				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC	Hu-ho-hao-te	63.64	57	eP	P	23 17 10.3	+4.0
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
SCHQ	Schefferville	63.79	320	P	P	23 17 05.2	-1.9
	comp=Z,2.7nm,0.7s,mb4.4,baz=46,slow=6.7,SNR=5.6						
SCHQ	Schefferville	63.79	320	eP	P	23 17 05.2	-1.9
	comp=Z,6.6nm,0.8s,mb4.7						
YAK	Yakutsk	64.25	31	eP	P	23 17 05.5	-4.4
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
KMI	Kunming	64.30	77	eP	P	23 17 08.9	-2.0
KMI				AP	pP	23 17 21.9	+1.8
KMI				XP	sP	23 17 28.3	+4.8
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
KMI	Kunming	64.30	77	eP	P	23 17 08.9	-2.0
	comp=Z,5.0nm,0.7s,mb4.7						
KMI				pP	pP	23 17 21.9	+1.8
KMI				sP	sP	23 17 28.2	+4.7
KMI				LR	LR		
	comp=Z,30nm,25.9s,MS3.4						
CMAR	Chiang Mai Arr	64.63	85	P	P	23 17 15.9	+2.8
	comp=Z,4.3nm,1.1s,mb4.4,baz=299,slow=7.4,SNR=8.6						
CMAR	Chiang Mai Arr	64.63	85	P	P	23 17 16.0	+2.9
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CN2	Changchun	71.25	49	eP	P	23 17 52.8	-1.3
NJ2	Nanjing	73.03	63	eP	P	23 18 04.4	-0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
INK	Inuvik	75.08	353	P	P	23 18 14.3	-1.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=315,slow=3.5,SNR=3.9						
INK	Inuvik	75.08	353	P	P	23 18 14.3	-1.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	75.08	353	eP	P	23 18 14.2	-1.8
	comp=Z,4.3nm,1.2s,mb4.2						
YKA	Yellowknife Ar	77.26	343	P	P	23 18 28.1	-0.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=32,slow=5.0,SNR=3.4						
YKA	Yellowknife Ar	77.26	343	P	P	23 18 28.1	-0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	79.51	358	P	P	23 18 40.2	-0.4
	comp=Z,2.3nm,1.1s,mb4.0,baz=357,slow=5.2,SNR=12						
ILAR	Eielson Array	79.51	358	P	P	23 18 40.3	-0.3
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DAWY	Dawson	79.78	354	eP	P	23 18 41.9	-0.2
MCK	McKinley	80.61	358	eP	P	23 18 45.7	-0.8
	comp=Z,2.7nm,0.8s,mb4.2						
ULM	Lac du Bonnet	80.68	327	P	P	23 18 46.1	-1.1
	comp=Z,3.9nm,0.6s,mb4.5,baz=20,slow=5.9,SNR=4.2						
DLBC	Dease Lake	84.10	348	P	P	23 19 05.0	+0.4
	comp=Z,1.7nm,0.7s,mb4.3,baz=3.4,slow=17,SNR=4.2						
DLBC	Dease Lake	84.10	348	P	P	23 19 05.0	+0.4
CCM	Cathedral Cave	87.07	316	eP	P	23 19 19.5	-0.3
	comp=Z,7.4nm,0.6s,mb5.1						
CCM				e	pP	23 19 27.7	-1.6
BDFB	Brasilia	87.73	249	P	P	23 19 26.3	+2.9
	comp=Z,1.5nm,0.4s,mb4.5,baz=93,slow=4.3,SNR=6.8						
BDFB				LR	LR	00 01 13.9	
	comp=Z,85nm,19.4s,MS4.2,baz=94,slow=37						
BDFB	Brasilia	87.73	249	P	P	23 19 26.3	+2.8
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BDFB				MLR	MLR		
	comp=Z,85nm,19.4s						
NEW	Newport	90.40	337	P	P	23 19 35.2	-0.1
	comp=Z,1.6nm,0.6s,mb4.5,baz=256,slow=13,SNR=2.3						
NEW	Newport	90.40	337	P	P	23 19 35.2	-0.1
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOZ	Bozeman (W)	90.78	333	eP	P	23 19 37.4	+0.3
	comp=Z,3.5nm,0.9s,mb4.7						
PDAR	Pinedale Array	92.39	330	LR	LR	00 05 47.4	
	comp=Z,32nm,18.3s,MS3.8,baz=267,slow=38						
HWUT	Hardware Ranch	94.17	330	eP	P	23 19 51.8	-1.1
	comp=Z,3.0nm,0.8s,mb4.8						
ASAR	Alice Springs	116.36	101	PKP	PKPdf	23 25 18.8	-3.1
	comp=Z,1.7nm,1.0s,baz=304,slow=0.6,SNR=10						

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*IDC **18** 23:08:55.3±4.0, 9.90S×116.41E, h52^{km}±37^{km}, mb3.4/5,*
mb1 3.5/6, mb1mx3.4/14, ML3.5/1, Error ellipse:
s-maj=113.0km s-min=13.6km az=50.0
*NEIC **18** 23:08:57.7±0.8, 9.61S×116.89E, h64^{km}±12^{km}, mb3.9/1,*
Error ellipse: s-maj=34.9km s-min=8.5km az=45.0
*DJA **18** 23:08:58.8±0.9, 10.18S×116.44E, h33^{km}, MD4.8/4,*
ML5.5/4, Error ellipse: s-maj=18.3km s-min=17.4km
az=42.0
ISC 18 23:08:57.5±0.9, **10.0S**±0.1×**116.5E**±0.1, **h93**^{km}±10^{km}, **n17,**
σ**1^{s}08**/28, **mb3.5**/6, **13D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.56	347	⇓iPn	P	23 09 25.9	+1.3
	3μm,0.2s						
KEDI				⇓iSn	S	23 09 45.3	+0.7
KEDI	Kedomdong	1.56	347	⇓iPn	P	23 09 25.9	+1.3
KEDI				i Sn	S	23 09 43.9	-0.7
RATI	Rata	1.58	324	⇓iPn	P	23 09 25.0	+0.2
	5μm,0.2s						
RATI				⇓iSn	S	23 09 45.0	0.0
RATI	Rata	1.58	324	⇓iPn	P	23 09 25.0	+0.2
RATI				i Sn	S	23 09 42.8	-2.2
INGI	Ingas	1.76	312	⇓iPn	P	23 09 27.0	-0.2
	4μm,0.2s						
INGI				⇓iSn	S	23 09 47.7	-1.4
INGI	Ingas	1.76	312	⇓iPn	P	23 09 27.0	-0.2
INGI				i Sn	S	23 09 47.5	-1.6
KELI	Kelakatan	2.64	312	⇓iPn	P	23 09 40.1	+0.9
	2μm,0.2s						
KELI	Kelakatan	2.64	312	⇓iPg	P	23 09 40.5	+1.3
KELI				⇓iSn	S	23 10 10.7	+0.4
KELI	Kelakatan	2.64	312	⇓iPn	P	23 09 40.1	+0.9
KELI				i Sn	S	23 10 12.2	+1.9
FITZ	Fitzroy Crossi	11.99	133	P	P	23 11 44.0	-2.5
FITZ				S	S	23 13 47.1	-12
WRA	Warramunga Arr	19.87	122	P	P	23 13 23.8	+0.1
	0.2nm,0.3s,baz=304,slow=12,SNR=8.3						
WRA				S	S	23 16 57.0	-0.2
	0.1nm,0.3s,baz=290,slow=27,SNR=3.1						
ASAR	Alice Springs	21.48	131	P	P	23 13 41.5	+1.4
	0.7nm,0.5s,mb3.2,baz=305,slow=9.1,SNR=9.1						
ASAR				S	S	23 17 38.1	+11
	0.2nm,0.5s,baz=308,slow=16,SNR=3.4						
STKA	Stephens Creek	31.85	137	P	P	23 15 17.0	+1.2
	1.9nm,0.9s,mb3.8,baz=322,slow=12,SNR=2.2						
SONM	Songino Array	58.28	352	P	P	23 18 44.0	-0.8
	0.5nm,0.5s,mb3.8,baz=187,slow=7.6,SNR=2.9						
MKAR	Makanchi Array	64.25	335	P	P	23 19 23.8	-1.2
	0.2nm,0.3s,mb3.4,baz=146,slow=7.4,SNR=4.1						
BVAR	Borovoye Array	74.03	333	P	P	23 20 24.9	+0.1
	0.3nm,0.4s,mb3.4,baz=135,slow=6.1,SNR=3.0						
ZRNK	Zerenda	74.61	332	eP	P	23 20 28.4	+0.3
	0.9nm,0.6s,mb3.7						

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*ISK **18** 23:09:55.7, 36.21N×27.41E, h10^{km}, MD3.7*
*NEIC **18** 23:09:55.2, 36.17N×27.49E, h15^{km}, MD3.8(ATH),*
ML3.7(NIC), After ATH.
*ATH **18** 23:09:55.2, 36.17N×27.49E, h15^{km}±2^{km}, MD3.8/12*
*THE **18** 23:09:57.5, 35.94N×27.60E, h20^{km}*
*IDC **18** 23:09:58.9±1.2, 36.02N×27.52E, h44^{km}±16^{km}, mb3.5/8,*
mb1 3.7/14, mb1mx3.6/23, ML3.3/6, Error ellipse:
s-maj=19.6km s-min=9.1km az=161.0
*NIC **18** 23:10:03.3±0.2, 35.68N×27.85E, h100^{km}, mb4.3, ML3.7,*
MW3.6
ISC 18 23:09:54.6±0.6, **35.97N**±0.02×**27.54E**±0.02, **h19**^{km}±6^{km},
n81, σ**1^{s}51**/103, **mb3.6**/8, **6C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	216	ePN	Pn	23 10 08.4	+1.5
KARP				eSN	Sn	23 10 17.5	+2.2
ARG	Arkhangelos	0.53	63	⇑iPN	Pn	23 10 05.6	-1.4
ARG				eSN	Sn	23 10 13.0	-2.4
NISR	Nisiros	0.72	332	ePN	Pn	23 10 06.5	-3.2
BDRM	Kayabasi	1.09	356	i P	Pb	23 10 14.3	-0.4
BDRM				i S	Sb	23 10 28.0	-0.5
DALT	Dalyan (Mudla)	1.19	48	i PN	Pn	23 10 17.4	+1.0
YER	Yerkesik	1.30	27	i PN	Pn	23 10 18.6	+0.6
MLSB	Milas	1.33	8	ePN	Pn	23 10 17.9	-0.6
MLSB				eSN	Sn	23 10 34.0	-1.8
KSL	Kastellorizon	1.66	83	⇓iPN	Pn	23 10 26.6	+3.4
AYDN	Tasoluk	1.71	9	i P	Pn	23 10 25.2	+1.4
AYDN				i S	Sn	23 10 45.8	+0.6
NPS	Neapolis	1.73	246	ePN	Pn	23 10 26.6	+2.5
SANT	Santorini	1.73	284	ePn	Pn	23 10 24.9	+0.7
THR1	Thera Island	1.73	284	ePb	Pb	23 10 25.2	-0.4
THR1				eSb	Sb	23 10 45.8	-1.2
THR6	Thira Island,	1.78	283	ePb	Pb	23 10 25.9	-0.4
THR6				eSb	Sb	23 10 47.4	-1.0
THR3	Thira Island,	1.79	285	ePb	Pb	23 10 26.0	-0.5
THR3				eSb	Sb	23 10 47.4	-1.2
THR4	Thira Island,	1.80	286	ePb	Pb	23 10 26.2	-0.6
THR4				eSb	Sb	23 10 48.0	-1.0
SMG	Samos	1.82	342	ePN	Pn	23 10 25.3	-0.2
THR5	Thira Island,	1.83	285	ePb	Pb	23 10 26.9	-0.4
XRY	Khrisi	1.87	235	ePN	Pn	23 10 31.0	+4.9
APE	Apeiranthos	1.96	305	i PN	Pn	23 10 26.8	-0.6
APE	Apeiranthos	1.96	305	ePN	Pn	23 10 27.4	0.0
ELL	Elmali	2.06	67	i PN	Pn	23 10 32.1	+3.2
DNZL	Cakiroluk	2.10	35	⇑iP	Pn	23 10 31.2	+1.8
DNZL				i S	Sn	23 10 56.6	+1.5
DENT	Denizli	2.14	33	ePN	Pn	23 10 30.8	+0.8
IDI	Anoyia	2.27	253	P	Pn	23 10 33.7	+1.9
	8.9nm,0.3s,baz=60,slow=17,SNR=24						
IDI				S	Sn	23 11 00.9	+1.4
	61nm,0.3s,baz=180,slow=21,SNR=11						
IZM	Izmir	2.43	355	ePN	Pn	23 10 33.4	-0.8
KDAG	Bornova	2.44	355	i P	Pn	23 10 34.1	-0.2
KDAG				i S	Sn	23 11 09.1	+5.3
VAM	Vamos	2.78	259	ePB	Pb	23 10 42.3	-1.1
KHL	Karahalli	2.83	33	ePN	Pn	23 10 40.5	+0.6
BCK	Bucak	2.86	58	ePN	Pn	23 10 42.5	+2.2
AKS	Akhisar	2.91	4	ePN	Pn	23 10 39.3	-1.7
ISP	Isparta	3.02	51	ePN	Pn	23 10 45.0	+2.4
PRK	Paraskevi	3.42	343	ePN	Pn	23 10 47.1	-1.1
PTL	Penteli	3.60	306	ePN	Pn	23 10 51.2	+0.4
KYTH	Kithira	3.66	276	ePN	Pn	23 10 53.0	+1.3
DST	Dursunbey	3.73	13	PN	Pn	23 10 51.6	-1.0
PPCY	Paphos	4.07	104	P	Pn	23 10 59.9	+2.4
	5.9nm,0.3s						
PPCY				S	Sn	23 11 46.5	+1.3
HDMB	Hadim	4.11	75	ePN	Pn	23 11 01.5	+3.5
ALFC	Alevga	4.20	100	⇑P	Pn	23 11 02.5	+3.1
	0.3nm,0.3s						
ALFC				S	Sn	23 11 48.5	0.0
KONT	Konya--Tatoy	4.33	62	ePN	Pn	23 11 03.8	+2.6
KCT	Karacabey	4.33	8	ePN	Pn	23 10 59.6	-1.6
ESKT	Eskisehir	4.41	36	ePN	Pn	23 11 03.4	+1.1
LPK	Lapseki	4.43	352	i PN	Pn	23 11 01.6	-1.1
KIZT	Kizilcal	4.51	49	ePN	Pn	23 11 05.5	+1.8
SZAC	Souni-Zanaja	4.53	104	⇑P	Pn	23 11 06.9	+2.9
	7.5nm,0.3s						
SZAC				S	Sn	23 11 56.3	-0.5
MAMC	Mammari	4.69	98	⇑P	Pn	23 11 09.3	+2.9
	4.4nm,0.4s						
MAMC				S	Sn	23 12 00.4	-0.6
CSS	Prodhromos	4.83	100	⇑P	Pn	23 11 10.8	+2.5
	0.1nm,0.3s						
CSS				S	Sn	23 12 05.1	+0.7
XOR	Xorichti	4.83	316	ePn	Pn	23 11 08.8	+0.5
IKL	Isikli	4.98	85	PN	Pn	23 11 14.0	+3.6
ALN	Alexandroupoli	5.05	347	ePn	Pn	23 11 11.0	-0.5
AGG	Agios Georgios	5.14	308	ePn	Pn	23 11 12.4	-0.3
PHNC	Paralimni	5.38	98	P	Pn	23 11 18.9	+2.8
	1.0nm,0.3s						
PHNC				S	Sn	23 12 17.2	-1.1
BRTR	Keskin Array B	6.11	50	P	Pn	23 11 27.7	+1.4
	0.9nm,0.3s,baz=230,slow=15,SNR=19						
BRTR				S	Sn	23 12 36.9	+0.5
	0.1nm,0.3s,baz=240,slow=28,SNR=2.4						
HNTI	Hanita	6.93	112	S	Sn	23 12 53.9	-3.0
OFRI	‘Ofer	7.01	116	S	Sn	23 12 55.1	-3.8
SLTI	Sal’it	7.25	119	S	Sn	23 13 02.0	-2.9
HRI	Mount Hermon	7.27	109	P	Pn	23 11 43.6	+0.9
HRI				S	Sn	23 13 01.4	-4.2
MMLI	Mount Malkishu	7.42	116	S	Sn	23 13 06.0	-3.2

KSHT	Keshet	7.45	111	P	Pn	23 11 46.2	+1.0
KSHT				S	Sn	23 13 06.4	-3.6
KZIT	Kziot	7.64	129	S	Sn	23 13 11.2	-3.5
SVTA	Shivta	7.76	128	S	Sn	23 13 14.1	-3.7
DRGI	Dragot	7.86	122	S	Sn	23 13 19.2	-1.0
MZDA	Masada	8.01	123	S	Sn	23 13 20.1	-3.8
PRNI	Paran	8.40	130	S	Sn	23 13 28.9	-4.7
KMTI	Karmit	8.40	132	S	Sn	23 13 29.0	-4.7
ASF	Jabal al Asfar	8.63	113	P	P	23 12 00.3	-1.3
	0.1nm,0.3s,baz=294,slow=20,SNR=1.0						
ASF				S	Sn	23 13 37.2	-2.3
	0.5nm,0.3s,baz=57,slow=23,SNR=2.2						
MBH	Mount Berech	8.74	133	S	Sn	23 13 36.0	-6.1
EIL	Elat	8.85	133	S	Sn	23 13 39.9	-5.0
MLR	Muntele Rosu	9.59	353	P	P	23 12 16.6	+1.9
	0.1nm,0.3s,baz=138,slow=18,SNR=2.2						
GERES	GERESS Array B	16.39	326	P	P	23 13 47.1	+1.9
	0.0nm,0.3s,baz=163,slow=10,SNR=3.0						
DAVOX	Davos	17.06	315	P	P	23 13 55.0	+1.3
	0.1nm,0.3s,baz=39,slow=21,SNR=2.0						
ESDC	Sonseca Array	25.09	288	P	P	23 15 19.1	-0.4
	0.6nm,0.5s,mb3.4,baz=82,slow=9.6,SNR=5.1						
FINES	FINESS Array B	25.51	358	P	P	23 15 21.8	-1.4
	0.8nm,0.8s,mb3.3,baz=180,slow=15,SNR=2.3						
FINES	FINESS Array B	25.51	358	P	P	23 15 21.8	-1.4
HFS	Hagfors	25.78	344	P	P	23 15 24.2	-1.6
	1.7nm,0.7s,mb3.7,baz=148,slow=11,SNR=8.3						
NOA	NORSAR Array B	27.16	343	P	P	23 15 36.3	-2.1
	0.5nm,0.6s,mb3.2,baz=163,slow=5.4,SNR=4.0						
ARCES	ARCESS Array B	33.64	359	P	P	23 16 33.8	-2.0
	1.1nm,0.8s,mb3.8,baz=187,slow=7.3,SNR=3.0						
DBIC	Dimbokro	41.60	233	P	P	23 17 44.2	+0.9
	2.4nm,0.4s,mb4.2,baz=3.5,slow=12,SNR=6.6						
DBIC	Dimbokro	41.60	233	P	P	23 17 44.2	+0.9
MKAR	Makanchi Array	41.70	57	P	P	23 17 44.2	+0.5
	0.6nm,0.6s,mb3.4,baz=252,slow=4.6,SNR=4.0						
MKAR	Makanchi Array	41.70	57	P	P	23 17 44.2	+0.5
SONM	Songino Array	57.47	52	P	P	23 19 42.1	-2.5
	0.2nm,0.3s,mb3.6,baz=315,slow=6.1,SNR=2.5						

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*NEIC **18** 23:17:51.7, 36.13N×27.52E, h21^{km}, MD3.1(ATH), After ATH.*
*ATH **18** 23:17:51.7, 36.13N×27.52E, h21^{km}±3^{km}, MD3.1/5*
*ISK **18** 23:17:52.5, 36.22N×27.53E, h10^{km}, MD3.3*
ISC 18 23:17:50.9±1.3, 36.07N±0.04×27.51E±0.05, h6^{km}±10^{km}, n16, σ1^{s}05/23, 3C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.52	73	⇑*i*PB	Pb	23 18 01.9	0.0
ARG				*e*SB	Sb	23 18 08.7	-0.7
KARP	Karpathos	0.59	209	⇑*i*PN	Pn	23 18 04.8	-0.6
KARP				*e*SN	Sn	23 18 14.0	-1.4
BDRM	Kayabasi	1.00	357	*i* P	Pb	23 18 09.4	-0.7
BDRM				*i* S	Sb	23 18 22.4	-0.9
DALT	Dalyan (Mudla)	1.15	52	PG	Pg	23 18 13.0	-0.8
YER	Yerkesik	1.23	30	*i* PN	Pn	23 18 14.1	-0.5
MLSB	Milas	1.24	10	*e*PN	Pn	23 18 13.7	-1.0
MLSB				*e*SN	Sn	23 18 29.3	-2.6
AYDN	Tasoluk	1.62	10	*i* P	Pn	23 18 23.6	+3.5
AYDN				*i* S	Sb	23 18 46.3	+5.0
KSL	Kastellorizon	1.68	87	*e*PN	Pn	23 18 22.5	+1.6
SMG	Samos	1.73	342	*e*PN	Pn	23 18 22.2	+0.6
NPS	Neapolis	1.74	243	*e*PB	Pb	23 18 22.0	-0.9
XRY	Khrisi	1.90	232	*e*PN	Pn	23 18 25.5	+1.4
DNZL	Cakiroluk	2.03	37	⇑*i*P	Pn	23 18 26.8	+0.7
DNZL				*i* S	Sn	23 18 52.3	+0.3
ELL	Elmali	2.05	70	*e*PN	Pn	23 18 26.8	+0.6
DENT	Denizli	2.08	35	*e*PN	Pn	23 18 26.8	+0.1
KDAG	Bornova	2.34	355	*i* P	Pn	23 18 30.5	+0.1
KDAG				*i* S	Sn	23 19 01.6	+1.9
VAM	Vamos	2.77	257	*e*PN	Pn	23 18 37.8	+1.2

IDC 18 23:19:21.9±10.0, 7.39S×128.94E, h89^{km}±115^{km}, mb3.1/1, mb1 3.2/3, mb1mx3.1/11, ML3.2/2, Error ellipse: s-maj=72.2km s-min=61.1km az=21.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.13	196	P	P	23 21 58.4	-1.2
FITZ				S	S	23 23 58.9	-3.7
WRA	Warramunga Arr	13.54	158	P	P	23 22 29.5	-1.9
	0.2nm,0.3s,baz=342,slow=13,SNR=5.5						
WRA				S	S	23 24 51.4	-8.6
	0.2nm,0.3s,baz=334,slow=24,SNR=3.9						
ASAR	Alice Springs	16.88	164	P	P	23 23 14.5	+0.7
	0.1nm,0.3s,baz=342,slow=9.7,SNR=5.7						
MKAR	Makanchi Array	67.97	327	P	P	23 30 11.4	-2.1
	0.2nm,0.5s,baz=120,slow=6.2,SNR=3.7						

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*IDC **19** 00:05:01.9±2.8, 10.40S×115.20E, mb3.5/4, mb1 3.7/4, mb1mx3.6/13, Error ellipse: s-maj=124.0km s-min=23.7km az=50.0*
*DJA **19** 00:05:14.2±0.9, 9.60S×117.16E, h73^{km}±40^{km}, MD4.6/4, ML5.2/4, Error ellipse: s-maj=47.7km s-min=21.2km az=179.0*
*NEIC **19** 00:05:15.9±1.9, 8.90S×117.24E, h58^{km}±27^{km}, Error ellipse: s-maj=42.0km s-min=13.9km az=46.0*
ISC 19 00:05:17.6±1.0, 9.3S±0.2×116.9E±0.1, h111^{km}±13^{km}, n9, σ0^{s}88/13, mb3.6/3, 3C-5D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.12	316	⇓*i*Pn	P	00 05 39.2	-1.3
	2µm,0.2s						
KEDI				⇓*i*Sn	S	00 05 59.0	+1.4
RATI	Rata	1.47	293	⇑*i*Pn	P	00 05 43.6	-0.9
	2µm,0.2s						
RATI				⇓*i*Sn	S	00 06 04.5	-0.2
INGI	Ingas	1.80	285	⇑*i*Pn	P	00 05 48.0	-0.5
	2µm,0.2s						
INGI				⇓*i*Sn	S	00 06 11.3	-0.4
KELI	Kelakatan	2.61	294	⇑*i*Pn	P	00 05 59.3	0.0
	377nm,0.2s						
KELI				⇓*i*Sn	S	00 06 32.5	+1.8
WRA	Warramunga Arr	19.90	124	P	P	00 09 43.4	+0.7
	0.7nm,0.8s,baz=288,slow=11,SNR=3.9						
WRA	Warramunga Arr	19.90	124	P	P	00 09 43.4	+0.7
ASAR	Alice Springs	21.64	133	P	P	00 10 00.9	+0.7
	0.8nm,0.6s,mb3.2,baz=310,slow=8.3,SNR=8.2						
SONM	Songino Array	57.64	352	P	P	00 14 58.4	-0.2
	0.7nm,0.6s,mb3.9,baz=173,slow=8.5,SNR=7.2						
MKAR	Makanchi Array	63.80	334	P	P	00 15 39.5	-0.8
	0.9nm,0.8s,mb3.7,baz=149,slow=7.1,SNR=4.9						

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*IDC **19** 00:34:20.9±1.0, 3.58S×145.40E, mb4.1/8, mb1 4.2/11, mb1mx4.2/15, ML3.3/3, MS3.6/8, Ms1 3.6/8, ms1mx3.4/15, Error ellipse: s-maj=35.1km s-min=17.5km az=88.0*
*NEIC **19** 00:34:26.6±0.6, 3.70S×145.32E, h35^{km}, mb4.7/14, Error ellipse: s-maj=16.6km s-min=8.8km az=84.0*
ISC 19 00:34:24.6±0.6, 3.66S±0.06×145.3E±0.1, h33^{km}, n37, σ1^{s}18/34, mb4.6/21, MS3.6/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.02	162	Pn	Pn	00 35 50.8	-2.9
	0.6nm,0.3s,baz=290,slow=4.9,SNR=3.7						
KAKA	Kakadu	15.56	234	*e*P	P	00 38 01.9	-1.4
	24nm,0.7s						
CTA	Charters Tower	16.36	177	Pn	P	00 38 13.3	-0.2
	0.1nm,0.3s,baz=349,slow=16,SNR=3.1						
CTA	Charters Tower	16.36	177	Pn	P	00 38 13.3	-0.2
CTAO	Charters Tower	16.36	177	P	P	00 38 12.9	-0.5
	7.4nm,0.9s						
CTAO				*e*		00 38 20.6	
GUMO	Guam	17.14	359	P	P	00 38 28.8	+5.5
	432nm,1.4s						
WRAB	Tennant Creek	19.36	212	*e*P	P	00 38 50.2	-0.1
	53nm,0.9s						
WRAB				*e*		00 38 55.3	
WB2	Warramunga Arr	19.36	212	*e*P	P	00 38 50.2	-0.2
WRA	Warramunga Arr	19.37	212	P	P	00 38 50.1	-0.3
	0.3nm,0.3s,baz=31,slow=11,SNR=5.9						
WRA				LR	LR	00 47 10.8	
	comp=Z,105nm,18.7s,baz=165,slow=40						
ASAR	Alice Springs	22.71	208	P	P	00 39 25.6	+0.7
	4.9nm,0.9s,mb4.0,baz=37,slow=8.2,SNR=26						
ASAR				LR	LR	00 48 59.6	
	comp=Z,59nm,18.4s,MS3.1,baz=32,slow=38						
ASPA	Alice Springs	22.71	208	*e*P	P	00 39 25.8	+0.9
FITZ	Fitzroy Crossi	23.98	232	*e*P	P	00 39 37.8	+0.6
	6.9nm,0.7s,mb4.2						
FITZ	Fitzroy Crossi	23.98	232	P	P	00 39 38.1	+0.9
	16nm,1.0s,mb4.4,baz=54,slow=10,SNR=9.2						
FITZ				LR	LR	00 50 20.3	
	comp=Z,107nm,20.4s,MS3.3,baz=75,slow=40						
STKA	Stephens Creek	28.28	187	P	P	00 40 15.5	-1.7
	2.1nm,1.0s,mb3.7,baz=356,slow=8.0,SNR=2.9						
STKA				LR	LR	00 52 53.8	
	comp=Z,135nm,20.2s,MS3.5,baz=199,slow=39						
STKA	Stephens Creek	28.28	187	P	P	00 40 22.3	+5.1
TAU	Tasmania Unive	39.13	178	P	P	00 41 50.7	+0.1
	93nm,1.5s,mb5.3						
KMI	Kunming	50.20	307	*e*P	P	00 43 16.1	-3.5
	8.0nm,0.5s,mb5.0						
CMAR	Chiang Mai Arr	50.62	297	P	P	00 43 24.6	+1.7
	2.5nm,0.7s,mb4.2,baz=120,slow=6.0,SNR=10						
CMAR				LR	LR	01 05 48.4	
	comp=Z,30nm,18.0s,MS3.4,baz=120,slow=37						
BJI	Beijing	51.02	331	P	P	00 43 30.4	+4.8
	7.0nm,0.6s,mb4.8						
LSA	Lhasa	61.45	307	P	P	00 44 41.9	+1.4
	4.2nm,0.8s,mb4.6						
SONM	Songino Array	61.52	331	P	P	00 44 38.7	-1.9
	1.3nm,0.9s,mb4.0,baz=153,slow=2.8,SNR=6.4						
PKI	Pulchoki	65.42	302	*e*P	P	00 45 06.8	+0.1
	24nm,1.1s,mb5.1						
KKN	Kakani	65.60	303	*e*P	P	00 45 07.0	-0.8
	32nm,1.0s,mb5.3						
DMN	Daman	65.69	302	*e*P	P	00 45 09.1	+0.7
	37nm,1.0s,mb5.4						
GKN	Gorkha	66.21	303	*e*P	P	00 45 10.4	-1.3
	26nm,0.9s,mb5.3						
KOLN	Koldanda	67.01	302	*e*P	P	00 45 16.4	-0.3
	24nm,1.0s,mb5.2						
VNDA	Vanda	74.34	176	P	P	00 46 01.7	+1.5
	0.6nm,0.5s,mb3.8,baz=335,slow=6.5,SNR=4.3						
VNDA	Vanda	74.34	176	*e*P	P	00 46 01.4	+1.2
	3.8nm,1.3s,mb4.2						
MKAR	Makanchi Array	74.59	321	P	P	00 46 00.9	-1.2
	1.7nm,1.0s,mb3.9,baz=112,slow=6.5,SNR=5.8						
MKAR				LR	LR	01 16 50.8	
	comp=Z,33nm,18.8s,MS3.6,baz=272,slow=34						
KURK	Kurchatov	78.30	323	*e*P	P	00 46 23.6	+0.6
	10nm,1.2s,mb4.6						
BRVK	Borovoye	83.93	324	*e*P	P	00 46 51.1	-1.5
	8.3nm,1.3s,mb4.7						
ILAR	Eielson Array	84.03	24	P	P	00 46 52.8	-0.1
	1.2nm,0.9s,mb4.0,baz=260,slow=5.6,SNR=6.4						
ZRNK	Zerenda	84.66	324	*e*P	P	00 46 57.9	+1.7
	5.5nm,1.4s,mb4.5						
QSPA	South Pole Qui	86.29	180	*e*P	P	00 47 05.7	+2.0
	2.7nm,0.9s,mb4.5						
NVAR	Mina Array Bea	97.31	52	LR	LR	01 21 48.2	
	comp=Z,56nm,21.3s,MS4.0,baz=5.0,slow=29						
YKA	Yellowknife Ar	97.92	27	LR	LR	01 30 37.3	
	comp=Z,49nm,18.7s,MS4.0,baz=205,slow=34						
DBIC	Dimbokro	150.08	277	PKPbc	PKPdf	00 54 15.4	+7.5
	3.1nm,0.8s,baz=64,slow=7.8,SNR=4.7						

IDC 19 00:38:33.5±33.0, 17.00S×177.34E, mb4.5/4, mb1 4.7/4, mb1mx4.1/15, Error ellipse: s-maj=610.0km s-min=127.4km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.56	239	P	P	00 45 32.4	-2.2
	3.5nm,1.0s,baz=63,slow=10,SNR=5.2						
WB2	Warramunga Arr	40.80	259	*e*P	P	00 46 16.7	-1.7
WRA	Warramunga Arr	40.81	259	P	P	00 46 16.9	-1.6
	6.8nm,0.8s,baz=91,slow=7.6,SNR=41						
ASAR	Alice Springs	41.14	253	P	P	00 46 19.2	-2.0
	25nm,0.5s,baz=86,slow=8.0,SNR=301						
ASPA	Alice Springs	41.14	253	*e*P	P	00 46 19.2	-2.0
FITZ	Fitzroy Crossi	49.17	261	P	P	00 47 24.3	-1.2
	1.9nm,0.8s,baz=170,slow=6.9,SNR=6.1						

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*NEIC **19** 00:59:03.3, 35.73N×28.03E, h44^{km}, MD3.1(ATH), After ATH.*
*ATH **19** 00:59:03.3, 35.73N×28.03E, h44^{km}, MD3.1/3*
*ISK **19** 00:59:06.3, 36.24N×27.52E, h9^{km}, MD3.4*
ISC 19 00:59:05.3±0.5, 36.19N±0.05×27.48E±0.04, h9^{km}, n13, σ0^{s}66/16, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.53	87	⇑*i*P	Pg	00 59 15.4	-0.5
ARG				*e*S	Sg	00 59 22.9	-0.1
KARP	Karpathos	0.69	202	⇑*i*P	Pb	00 59 18.2	-0.9
KARP				*e*S	Sb	00 59 29.4	+0.9
DALT	Dalyan (Mudla)	1.10	58	*e*PG	Pg	00 59 26.3	-0.9
DALT				*e*SG	Sg	00 59 41.8	-0.1
MLSB	Milas	1.12	12	*e*PG	Pg	00 59 27.2	-0.6
YER	Yerkesik	1.14	34	*i* PN	Pn	00 59 27.6	+0.2
THR6	Thira Island,	1.69	276	*e*P	Pn	00 59 35.7	+0.5
THR3	Thira Island,	1.69	278	*e*P	Pn	00 59 35.1	-0.1
THR4	Thira Island,	1.70	280	*e*P	Pn	00 59 35.8	+0.4
THR5	Thira Island,	1.73	278	*e*P	Pn	00 59 35.9	+0.1
NPS	Neapolis	1.78	239	*e*P	Pn	00 59 35.3	-1.2
DENT	Denizli	1.99	38	*e*PN	Pn	00 59 40.4	+0.8
ELL	Elmali	2.04	74	*e*PN	Pn	00 59 41.3	+1.1
BCK	Bucak	2.80	62	*e*PN	Pn	00 59 51.5	+0.4

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*MDD **19** 01:02:15.8±0.5, 36.28N×5.31W, h8^{km}±2^{km}, mbLg2.6/13, Error ellipse: s-maj=5.1km s-min=2.5km az=177.0, PRXIMO*
*NEIC **19** 01:02:15.3, 36.27N×5.36W, h4^{km}, MN2.6(MDD), After MDD.*
*INMG **19** 01:02:16.6±0.9, 36.29N×5.41W, h12^{km}±3^{km}, ML2.3, Error ellipse: s-maj=3.0km s-min=1.9km az=21.0*
ISC 19 01:02:16.4±0.6, 36.52N±0.05×5.35W±0.03, h12^{km}±4^{km}, n49, σ1^{s}12/78, 2C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REAL	Reales	0.12	106	⇓Pg	Pg	01 02 19.0	-0.6
REAL				Lg		01 02 23.8	
MOMI	Momias	0.35	238	Pg	Pg	01 02 23.0	-0.7
LIJA	Lijar	0.39	354	⇓Pg	Pg	01 02 27.5	+3.0
LIJA				Lg		01 02 37.0	
EMIJ	Mijas	0.47	84	⇑Pg	Pg	01 02 25.1	-0.9
	78nm,0.3s,SNR=18						
EMIJ				Lg		01 02 32.9	
	306nm,0.3s,SNR=7.9						
ESPR	Espera	0.54	311	⇑Pg	Pg	01 02 28.8	+1.5
	62nm,0.3s,SNR=18						
ESPR				Lg		01 02 38.0	
	178nm,0.4s,SNR=4.0						
CNIL	Conil	0.58	256	Pg	Pg	01 02 30.5	+2.2
SCRT	Cerro San Cris	0.67	280	Pg	Pg	01 02 32.0	+2.0
SCRT				Lg		01 02 55.0	
EMAL	Malaga-Limoner	0.78	71	Pg	Pg	01 02 31.4	-0.7
	14nm,0.3s,SNR=7.9						
EMAL				Lg		01 02 42.7	
	130nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	1.15	56	Pg	Pg	01 02 39.0	-0.5
	14nm,0.3s,SNR=32						
ELOJ				Lg		01 02 58.1	
	15nm,0.4s						
ELOJ	Sierra Loja	1.15	56	Pn	Pn	01 02 39.7	+1.4
ELOJ				Pg	Pg	01 02 42.0	+2.5
ELOJ				Lg		01 02 58.1	
ERON	Agron	1.34	68	Pg	Pg	01 02 41.2	-2.0
	10nm,0.2s,SNR=15						
ERON				Lg		01 02 59.7	
	21nm,0.4s,SNR=4.0						
ERON	Agron	1.34	68	Pn	Pn	01 02 40.8	-0.3
ERON				Pg	Pg	01 02 43.2	-0.1
ERON				Lg		01 02 59.7	
ELUQ	Luque	1.36	40	⇓Pg	Pg	01 02 44.7	+1.1
	18nm,0.2s,SNR=18						
ELUQ				Lg		01 03 04.9	
	16nm,0.2s						
EMIN	Mina Concepcio	1.63	320	Pn	Pn	01 02 45.1	-0.1
	0.6nm,0.1s,SNR=29						
EMIN				Pg	Pg	01 02 48.6	-0.5
	4.1nm,0.2s,SNR=22						
EMIN				Lg		01 03 11.9	
	12nm,0.2s						
EADA	Adamuz	1.76	20	Pn	Pn	01 02 48.5	+1.4
	0.4nm,0.2s,SNR=7.9						
EADA				Pg	Pg	01 02 51.9	+0.3
	7.4nm,0.3s,SNR=37						
EADA				Sn	Sn	01 03 13.2	+3.7
	9.2nm,0.3s,SNR=7.9						
EADA				Lg		01 03 18.3	
	19nm,0.2s						
PALC	Alcoutim	1.94	300	*e*Pn	Pn	01 02 49.3	-0.4
	14nm,0.5s						
PALC	Alcoutim	1.94	300	Pn	Pn	01 02 49.3	-0.4
PALC				Sn	Sn	01 03 15.8	+1.6
EGRO	El Granado	1.98	301	Pn	Pn	01 02 49.2	-1.0
	3.2nm,0.1s,SNR=15						
EGRO				Sn	Sn	01 03 14.9	-0.3
	5.4nm,0.3s						
EQES	Quesada	2.23	54	Pn	Pn	01 02 53.7	0.0
	0.3nm,0.1s,SNR=7.9						
EQES				Pg	Pg	01 02 58.9	-2.1
	9.7nm,0.3s,SNR=7.9						
EQES				Lg		01 03 32.1	
	39nm,0.5s,SNR=7.9						
EQES	Quesada	2.23	54	Pn	Pn	01 02 55.1	+1.3
EQES				Pg	Pg	01 02 59.4	-1.6
EQES				Lg		01 03 32.1	
PBEJ	Beja	2.51	308	*e*Sn	Sn	01 03 28.1	-0.4
	6.3nm,0.6s						
PBEJ	Beja	2.51	308	Sn	Sn	01 03 28.1	-0.4
	3.2nm,0.6s						
EBAD	Badajoz	2.59	330	Pn	Pn	01 03 00.5	+1.5
	1.2nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	01 03 07.4	-0.9
	1.6nm,0.1s,SNR=4.0						
EBAD				Lg		01 03 45.2	
	9.6nm,0.2s,SNR=4.0						
EBAD	Badajoz	2.59	330	Pn	Pn	01 02 58.5	-0.5
EBAD				Pg	Pg	01 03 07.4	-0.9
EBAD				Lg		01 03 45.2	
PTEO	Sao Teotonio	2.89	292	*e*Pn	Pn	01 03 02.2	-1.0
	13nm,0.4s						
PTEO	Sao Teotonio	2.89	292	Pn	Pn	01 03 02.9	-0.2
EVIA	Vianos	3.10	46	Pn	Pn	01 03 07.4	+1.2
	0.8nm,0.1s,SNR=7.9						
EVIA				Pg	Pg	01 03 14.2	-4.2
	6.0nm,0.3s,SNR=5.6						
EVIA				Lg		01 04 00.4	
	18nm,0.5s,SNR=7.9						
EVIA	Vianos	3.10	46	Pn	Pn	01 03 07.4	+1.2
EVIA				Pg	Pg	01 03 14.2	-4.2
EVIA				Lg		01 04 03.3	
MOE	Montemor	3.11	311	*e*Pn	Pn	01 03 06.1	-0.3
MOE				*e*Sn	Sn	01 03 43.4	-0.5
MOE	Montemor	3.11	311	Pn	Pn	01 03 06.1	-0.3
MOE				Sn	Sn	01 03 44.8	+1.0
ESDC	Sonseca Array	3.34	19	Pn	Pn	01 03 10.5	+1.0
	1.0nm,0.1s,baz=197,slow=12,SNR=10						
ESDC				Pg	Pg	01 03 21.1	-1.9
	1.7nm,0.2s,baz=194,slow=13,SNR=8.0						
ESDC				Sn	Sn	01 03 51.6	+2.0
	2.4nm,0.3s,baz=198,slow=23,SNR=4.5						
ESDC				Lg		01 04 08.9	
	10nm,0.5s,baz=202,slow=26,SNR=10						
ETOB	Tobarra	3.69	54	Pn	Pn	01 03 14.5	-0.1
	1.6nm,0.3s,SNR=7.9						
ETOB				Pg	Pg	01 03 26.2	-4.0
	1.3nm,0.2s,SNR=4.0						
ETOB				Sn	Sn	01 03 57.8	-0.8
	1.6nm,0.2s,SNR=7.9						
ETOB				Lg		01 04 18.6	
	5.3nm,0.4s,SNR=7.9						
PCBR	Castelo Branco	3.72	334	*e*Pn	Pn	01 03 15.3	+0.4
PCBR				*e*Sn	Sn	01 03 59.6	+0.5
	5.7nm,0.5s						
PCBR	Castelo Branco	3.72	334	Pn	Pn	01 03 15.4	+0.4
PCBR				Sn	Sn	01 03 59.6	+0.5
PLOU	Loures	3.83	309	*e*Pn	Pn	01 03 15.8	-0.8
PLOU				*e*Sn	Sn	01 04 00.5	-1.5
	13nm,0.8s						
PLOU	Loures	3.83	309	Pn	Pn	01 03 14.9	-1.6
PLOU				Sn	Sn	01 04 00.5	-1.5
	6.5nm,0.8s						
PTOM	Tomar	3.92	323	*e*Pn	Pn	01 03 17.6	-0.3
PTOM				*e*Sn	Sn	01 04 03.9	-0.5
	8.0nm,0.3s						
PTOM	Tomar	3.92	323	Pn	Pn	01 03 17.5	-0.4
PTOM				Sn	Sn	01 04 03.9	-0.5
	4.0nm,0.3s						
MTE	Manteigas	4.24	337	*e*Sn	Sn	01 04 12.7	+0.3
	13nm,0.6s						
MTE	Manteigas	4.24	337	Sn	Sn	01 04 12.7	+0.2
PVIS	Viseu	4.64	335	*e*Pn	Pn	01 03 28.2	+0.1
	4.8nm,0.5s						
PVIS	Viseu	4.64	335	Pn	Pn	01 03 28.2	+0.2
ETOR	Torete	5.01	30	Pn	Pn	01 03 34.0	+0.7
	0.6nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	01 04 32.2	+0.4
	0.8nm,0.3s,SNR=7.9						
ETOR				Lg		01 05 03.4	
	2.2nm,0.4s						
PVRL	Vila Real	5.10	340	*e*Pn	Pn	01 03 34.5	0.0
PBRG	Braganca	5.39	349	*e*Pn	Pn	01 03 38.6	-0.1
PBRG	Braganca	5.39	349	Pn	Pn	01 03 38.6	-0.1
ECAL	Calabor	5.52	349	Pn	Pn	01 03 40.4	-0.1
	0.9nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	01 04 42.7	-2.0
	2.4nm,0.4s,SNR=7.9						
ECAL				Lg		01 05 18.7	
	5.2nm,0.5s,SNR=7.9						
ECAL	Calabor	5.52	349	Pn	Pn	01 03 40.5	-0.1
ECAL				Sn	Sn	01 04 42.7	-2.0
ECAL				Lg		01 05 17.7	
ELOB	Lobios	5.74	339	Pn	Pn	01 03 43.6	0.0
	0.6nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	01 04 47.5	-2.7
	1.5nm,0.3s,SNR=7.9						
ELOB				Lg		01 05 25.9	
	1.8nm,0.3s,SNR=7.9						

DJA 19 01:11:54.6±1.0, 9.58S×117.17E, h33^{km}, MD4.8/4, ML4.8/3, 2C-6D, Error ellipse: s-maj=24.7km s-min=19.8km az=16.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.51	316	⇓*i*Pn	Pn	01 12 18.4	-1.3
	696nm,0.2s						
KEDI	Kedomdong	1.51	316	⇑*i*Pg	P	01 12 19.4	-0.2
KEDI				⇓*i*Sn	Sn	01 12 36.4	-2.0
RATI	Rata	1.83	298	⇑*i*Pn	Pn	01 12 22.7	-1.6
	401nm,0.2s						
RATI				⇓*i*Sn	Sn	01 12 43.5	-3.0
INGI	Ingas	2.14	291	⇓*i*Pn	Pn	01 12 27.5	-1.3
	1µm,0.2s						
INGI				⇓*i*Sn	Sn	01 12 51.5	-2.9
KELI	Kelakatan	2.97	297	⇓*i*Pn	Pn	01 12 39.0	-1.7

ECX 19 01:40:20.1±0.5, 30.40N×114.58W, h4^{km}, ML3.6, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.00	310	*e*P	Pb	01 40 37.5	-2.2
SPX				*e*S	Sb	01 40 51.9	-1.2
ECBX	El Chinero	1.15	339	*e*S	Sb	01 40 55.3	-2.0
RDX	Rancho Dowling	1.93	323	*e*P	Pn	01 40 53.1	-0.9
RDX				*e*S	Sn	01 41 19.2	+0.1
CPBX	Cerro Prieto	2.11	343	*e*P	Pn	01 40 55.8	-0.9
CPBX				⇓*e*		01 41 43.3	
	comp=N,1µm,0.6s						
CPBX				⇑*e*		01 41 44.4	
	comp=E,1µm,0.5s						
ECNX	Esteban Cantu	2.14	306	*e*P	Pn	01 40 56.6	-0.5
ECNX				*e*S	Sn	01 41 25.0	+0.6
PGX	Piedras Gordas	2.24	315	*e*P	Pn	01 40 57.8	-0.6
PGX				*e*S	Sn	01 41 26.9	+0.1
PBX	Punta Banda	2.28	307	*e*P	Pn	01 40 58.4	-0.7
PBX				*e*S	Sn	01 41 30.2	+2.2
ENX	Ensenada	2.33	310	*e*P	Pn	01 40 59.1	-0.6
ENX				*e*S	Sn	01 41 30.9	+1.8
RMX	La Rumorosa	2.55	330	*e*P	Pn	01 41 04.8	+1.9
RMX				*e*S	Sn	01 41 38.6	+3.9
CBX	Cerro Bola	2.62	318	⇑*e*P	Pn	01 41 03.2	-0.6
CBX				*e*S	Sn	01 41 39.5	+3.0

*IDC **19** 01:48:14.5±10.0, 16.47S×167.72E, h242^{km}±90^{km}, mb3.8/9, mb1 3.9/9, mb1mx3.7/17, Error ellipse: s-maj=53.9km s-min=17.4km az=40.0*
*NEIC **19** 01:48:14.6±1.8, 16.54S×167.63E, h241^{km}±15^{km}, mb4.4/7, Error ellipse: s-maj=18.1km s-min=9.3km az=217.0*
ISC 19 01:48:07.6±1.4, **16.4S**±0.1×**167.8E**±0.1, **h194**^{km}±11^{km}, **n25, σ1^{s}06**/25, **mb4.2**/13, **1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.36	162	i P	P	01 48 38.9	-1.0
DZM	Mont Dzumac	5.83	193	eP	P	01 49 37.9	+4.7
DZM				eS	S	01 50 41.3	+1.5
DZM	Mont Dzumac	5.83	193	eP	P	01 49 37.9	+4.7
DZM				eS	S	01 50 41.3	+1.5
CTA	Charters Tower	20.80	256	eP	P	01 52 36.8	+1.8
	4.5nm,0.5s						
CTA	Charters Tower	20.80	256	P	P	01 52 37.1	+2.1
	5.4nm,0.6s,baz=65,slow=9.9,SNR=8.7						
CTAO	Charters Tower	20.80	256	eP	P	01 52 35.1	+0.1
	9.6nm,0.8s						
PMG	Port Moresby	21.27	286	eP	P	01 52 41.2	+1.6
	26nm,1.0s,mb4.7						
URZ	Urewera	23.30	161	P	P	01 52 59.9	+0.8
	9.0nm,0.8s,mb4.4,baz=31,slow=2.7,SNR=4.5						
RPZ	Rata Peaks	27.41	175	P	P	01 53 36.8	-0.3
	12nm,0.8s,mb4.6,baz=325,slow=2.0,SNR=11						
STKA	Stephens Creek	28.37	232	eP	P	01 53 46.2	+0.3
	3.3nm,0.9s,mb4.0						
STKA	Stephens Creek	28.37	232	P	P	01 53 46.1	+0.1
	2.1nm,0.5s,mb4.1,baz=83,slow=12,SNR=5.2						
STKA	Stephens Creek	28.37	232	P	P	01 53 43.8	-2.2
WB2	Warramunga Arr	31.96	258	eP	P	01 54 16.3	-1.3
WRAB	Tennant Creek	31.96	258	eP	P	01 54 16.4	-1.2
	4.9nm,0.8s,mb4.1						
WRA	Warramunga Arr	31.97	258	P	P	01 54 16.5	-1.2
	1.2nm,0.3s,mb3.8,baz=83,slow=7.8,SNR=22						
ASAR	Alice Springs	32.62	252	P	P	01 54 22.7	-0.5
	21nm,0.5s,mb4.9,baz=77,slow=9.1,SNR=254						
ASPA	Alice Springs	32.62	252	⇓iP	P	01 54 22.7	-0.5
FITZ	Fitzroy Crossi	40.25	261	eP	P	01 55 27.4	+0.1
	8.5nm,0.3s,mb4.7						
VNDA	Vanda	61.25	181	P	P	01 58 03.3	-0.6
	0.4nm,0.6s,mb3.2,baz=356,slow=6.8,SNR=3.7						
QIZ	Qiongzhong	66.98	299	P	P	01 58 33.0	-8.9
	10nm,1.2s,mb4.3						
QSPA	South Pole Qui	73.68	180	eP	P	01 59 20.6	-0.6
	10nm,1.1s,mb4.4						
SONM	Songino Array	84.11	324	P	P	02 00 18.9	+1.0
	0.5nm,0.5s,mb3.5,baz=143,slow=6.2,SNR=3.8						
MKAR	Makanchi Array	98.73	316	P	P	02 01 27.8	+1.6
	0.2nm,0.5s,mb3.8,baz=104,slow=5.9,SNR=3.5						
ARCES	ARCESS Array B	121.95	345	PKP	PKPdf	02 06 38.9	+0.5
	1.4nm,0.7s,baz=57,slow=2.5,SNR=12						
DAVOX	Davos	144.57	334	PKP	PKPdf	02 07 22.0	+1.2
	2.6nm,0.6s,baz=22,slow=2.4,SNR=9.1						

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*NEIC **19** 01:59:58.9, 28.27S×70.27W, h69^{km}, MD3.8(GUC), After GUC.*
GUC 19 01:59:58.9±1.2, **28.27S×70.27W, h69**^{km}±30^{km}, **MD3.8, ML4.0, 2C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.53	235	⇑iP	P	02 00 07.4	-4.7
VACH				i S	S	02 00 16.9	-4.8
VACH				AMP		02 00 17.5	
	comp=N,42μm,0.1s						
CPCH	Copiapo	0.91	355	i P	P	02 00 16.6	+0.1
CPCH				i S	S	02 00 29.9	+0.4
CPCH				AMP		02 00 32.2	
	comp=E,20μm,0.1s						
LSCH	La Serena	1.84	207	i P	P	02 00 28.3	-0.7
LSCH				i S	S	02 00 51.8	+0.6
LSCH				AMP		02 00 54.7	
	comp=E,474nm,0.3s						
TLL	Tololo Astrono	1.95	194	i P	P	02 00 31.3	+0.9
TLL				i S	S	02 00 54.9	+1.2
TLL				AMP		02 00 57.6	
	comp=N,452nm,0.3s						
CMCH	Combarbala	2.96	192	⇑iP	P	02 00 44.1	-0.6
CMCH				i S	S	02 01 19.2	0.0
CMCH				AMP		02 01 37.0	
	comp=E,899nm,0.6s						
CPN1	Cerro Paranal	3.63	358	AMP		02 01 52.0	
	comp=E,159nm,0.5s						

IDC 19 02:00:27.7±1.9, **5.53S×151.70E, mb4.0**/4, **mb1 4.3**/4, **mb1mx3.9**/13, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.8**/12, **Error ellipse: s-maj=105.0km s-min=26.6km az=130.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	Warramunga Arr	22.13	228	eP	P	02 05 26.3	-0.4
WRA	Warramunga Arr	22.14	228	P	P	02 05 26.8	-0.1
	1.0nm,0.4s,baz=54,slow=10,SNR=9.2						
ASAR	Alice Springs	24.87	222	P	P	02 05 52.0	-1.6
	2.8nm,0.9s,baz=55,slow=9.0,SNR=14						
FITZ	Fitzroy Crossi	28.35	242	eP	P	02 06 22.9	-2.8
	2.6nm,0.4s						
FITZ	Fitzroy Crossi	28.35	242	P	P	02 06 22.8	-2.9
	3.3nm,0.6s,baz=59,slow=4.6,SNR=12						
FITZ				LR	LR	02 16 49.9	
	comp=Z,72nm,19.4s,baz=20,slow=35						
ILAR	Eielson Array	83.25	22	P	P	02 12 56.0	-1.1
	0.6nm,0.6s,baz=245,slow=5.4,SNR=8.6						

IDC 19 02:07:33.6±1.8, **3.15S×128.16E, mb3.9**/2, **mb1 4.2**/3, **mb1mx3.7**/14, **ML2.9**/1, **MS3.3**/2, **Ms1 3.2**/2, **ms1mx2.9**/14, **Error ellipse: s-maj=171.0km s-min=26.2km az=67.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.75	161	P	P	02 11 42.3	-1.6
	0.0nm,0.3s,baz=340,slow=12,SNR=4.9						
WRA				LR	LR	02 18 55.4	
	comp=Z,67nm,20.1s,baz=235,slow=38						
ASAR	Alice Springs	21.14	165	P	P	02 12 18.8	-3.8
	4.5nm,0.7s,baz=342,slow=10,SNR=25						
ASPA	Alice Springs	21.14	165	eP	P	02 12 18.7	-3.9
STKA	Stephens Creek	31.25	158	LR	LR	02 27 06.9	
	comp=Z,71nm,21.6s,baz=24,slow=38						
MKAR	Makanchi Array	64.02	327	P	P	02 18 08.9	-2.4
	0.8nm,0.7s,baz=108,slow=9.1,SNR=4.2						
CPUP	Villa Florida	150.22	170	PKPbc	PKPdf	02 27 28.4	+4.4
	2.9nm,1.1s,baz=17,slow=1.9,SNR=3.8						

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*NEIC **19** 03:00:50.7, 29.48S×71.81W, h43^{km}, MD3.9(GUC), After GUC.*
GUC 19 03:00:50.7±0.8, **29.48S×71.81W, h43**^{km}±4^{km}, **MD3.9, ML3.1, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	La Serena	0.65	132	i P	P	03 01 03.6	+0.1
LSCH				i S	S	03 01 13.4	+0.4
LSCH				AMP		03 01 14.7	
	comp=E,928nm,0.3s						
TLL	Tololo Astrono	1.11	129	⇓iP	P	03 01 11.7	+1.7
TLL				i S	S	03 01 27.0	+2.6
TLL				AMP		03 01 32.9	
	comp=E,765nm,0.5s						
VACH	Vallenar	1.28	46	⇓iP	P	03 01 13.2	+0.7
VACH				i S	S	03 01 29.8	+1.0
CMCH	Combarbala	1.83	158	eP	P	03 01 20.4	+0.1
CMCH				i S	S	03 01 41.5	-0.9
CMCH				AMP		03 01 51.4	
	comp=E,574nm,0.6s						

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*IDC **19** 03:01:06.5±11.0, 8.11S×129.25E, h147^{km}±130^{km}, mb4.0/1, mb1 3.7/4, mb1mx3.4/12, ML3.8/3, Error ellipse: s-maj=82.3km s-min=49.1km az=26.0*
ISC 19 03:01:07.6±4.1, **8.2S**±0.2×**129.4E**±0.2, **h180**^{km}±47^{km}, **n4, σ1^{s}31**/7, **mb4.1**/1, **Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.51	200	P	P	03 03 34.5	-0.2
	1.8nm,0.3s,baz=15,slow=11,SNR=8.8						
FITZ				S	S	03 05 29.8	0.0
	3.6nm,0.3s,baz=12,slow=19,SNR=7.6						
WRA	Warramunga Arr	12.64	158	P	P	03 04 01.2	-0.9
	0.5nm,0.3s,baz=331,slow=13,SNR=12						
WRA				S	S	03 06 19.0	-0.4
	1.6nm,0.3s,baz=336,slow=22,SNR=9.2						
ASAR	Alice Springs	16.00	165	P	P	03 04 46.4	+2.2
	0.4nm,0.3s,baz=330,slow=9.5,SNR=9.0						
ASAR				S	S	03 07 44.1	+8.5
	0.5nm,0.3s,baz=345,slow=26,SNR=6.3						
MKAR	Makanchi Array	68.87	327	P	P	03 11 54.5	-0.3
	1.8nm,0.4s,mb4.1,baz=119,slow=6.7,SNR=32						

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*IDC **19** 03:02:13.6±1.8, 48.97S×126.50E, mb3.9/3, mb1 4.3/4, mb1mx4.1/10, ML2.8/1, MS3.6/5, Ms1 3.6/5, ms1mx3.4/12, Error ellipse: s-maj=65.7km s-min=26.8km az=89.0*
ISC 19 03:02:13.6±1.3, **49.0S**±0.1×**126.7E**±0.4, **h10**^{km}, **n8, σ0^{s}24**/4, **mb3.8**/2, **MS3.5**/5, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.51	333	P	P	03 06 19.4	+0.1
	1.7nm,0.3s,baz=159,slow=11,SNR=13						
STKA	Stephens Creek	20.42	39	P	P	03 06 53.7	+0.1
	3.1nm,0.6s,baz=216,slow=12,SNR=5.6						
STKA				LR	LR	03 13 28.4	
	comp=Z,175nm,20.8s,MS3.4,baz=205,slow=33						
ASAR	Alice Springs	25.87	15	LR	LR	03 16 09.2	
	comp=Z,106nm,21.1s,MS3.3,baz=9.5,slow=32						
WRA	Warramunga Arr	29.59	15	P	P	03 08 20.7	-0.2
	0.8nm,0.5s,mb3.8,baz=195,slow=8.3,SNR=2.4						
VNDA	Vanda	31.66	166	P	P	03 08 38.7	0.0
	1.4nm,0.7s,mb3.9,baz=328,slow=8.4,SNR=4.5						
VNDA				LR	LR	03 19 25.6	
	comp=Z,193nm,21.0s,MS3.8,baz=322,slow=33						
MAW	Mawson	36.29	216	LR	LR	03 20 30.3	
	comp=Z,35nm,19.7s,MS3.1,baz=240,slow=30						
CMAR	Chiang Mai Arr	71.51	332	LR	LR	03 45 26.7	
	comp=Z,52nm,18.1s,MS3.8,baz=155,slow=36						
YKA	Yellowknife Ar	144.39	44	PKP	PKPdf	03 21 47.7	-4.0
	1.2nm,0.7s,baz=267,slow=3.2,SNR=4.5						

IDC 19 03:14:52.6±2.1, **6.21S×130.66E, mb4.0**/1, **mb1 4.2**/4, **mb1mx3.8**/12, **ML3.9**/3, **Error ellipse: s-maj=89.8km s-min=27.2km az=78.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.80	202	Pn	P	03 17 57.1	-1.6
	1.9nm,0.3s,baz=22,slow=12,SNR=29						
WRA	Warramunga Arr	14.11	166	Pn	P	03 18 13.7	-2.5
	0.6nm,0.3s,baz=348,slow=13,SNR=13						
WRA				Sn	S	03 20 37.9	-17
	1.8nm,0.3s,baz=350,slow=24,SNR=13						
ASAR	Alice Springs	17.64	170	P	P	03 18 59.2	-2.3
	0.3nm,0.3s,baz=340,slow=8.7,SNR=11						
ASAR				S	S	03 22 04.9	-12
	0.5nm,0.3s,baz=359,slow=28,SNR=8.2						
MKAR	Makanchi Array	67.93	326	P	P	03 25 53.3	-2.1
	0.5nm,0.3s,baz=111,slow=7.5,SNR=15						

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*NEIC **19** 03:25:46.4, 32.56S×71.43W, h20^{km}, ML2.9(GUC), After GUC.*
GUC 19 03:25:46.4±0.7, **32.56S×71.43W, h20**^{km}±6^{km}, **MD3.5, ML2.9, 5C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.50	201	eP	Pb	03 25 56.4	0.0
IHA				i S	Sb	03 26 03.1	-0.1
JACH	Jahuel	0.72	100	⇑iP	Pb	03 26 00.3	+0.2
JACH				i S	Sb	03 26 10.0	+0.6
PEL	Peldehue	0.85	133	eP	Pb	03 26 02.3	-0.1
PEL				i S	Sb	03 26 13.8	+0.4
PEL				AMP		03 26 14.9	
	comp=N,998nm,0.3s						
LCCH	Las Cruces	0.92	187	⇓iP	Pb	03 26 03.0	-0.5
LCCH				i S	Sb	03 26 15.1	-0.2
ILCH	Illapel	0.95	14	⇑iP	Pb	03 26 03.6	-0.4
ILCH				i S	Sb	03 26 16.1	0.0
ILCH				AMP		03 26 19.4	
	comp=N,552nm,0.2s						
RCDM	Rinconada Maip	1.06	151	eP	Pb	03 26 05.0	-1.0
RCDM				i S	Sb	03 26 19.1	-0.3
RCDM				AMP		03 26 20.2	
	comp=N,1μm,0.1s						
DSCH	Colegio Aleman	1.10	139	⇑iP	Pb	03 26 06.1	-0.6
DSCH				i S	Sb	03 26 20.5	-0.1
DSCH				AMP		03 26 20.9	
	comp=E,428nm,0.2s						
TACH	Talagante	1.17	159	eP	Pb	03 26 06.9	-0.8
TACH				i S	Sb	03 26 22.4	0.0
FSR	Penalolen	1.19	141	⇑iP	Pn	03 26 07.4	-0.6
FSR				i S	Sb	03 26 22.9	-0.1
FSR				AMP		03 26 29.4	
	comp=N,243nm,0.4s						
FCH	Farellones	1.23	129	⇓iP	Pn	03 26 08.1	-0.6
FCH				i S	Sb	03 26 24.1	0.0
FCH				AMP		03 26 24.7	
	comp=E,300nm,0.3s						
PCH	Pirque	1.31	144	⇑iP	Pn	03 26 09.1	-0.7
PCH				i S	Sb	03 26 26.8	+0.4
LNV	Longovilo	1.39	179	eP	Pn	03 26 10.5	-0.4
LNV				i S	Sn	03 26 28.3	-0.6
CMCH	Combarbala	1.43	15	eP	Pn	03 26 11.1	-0.4
CMCH				i S	Sn	03 26 29.9	0.0
CMCH				AMP		03 26 33.0	
	comp=E,1μm,0.7s						
CHCH	Chadas Angostu	1.52	155	eP	Pn	03 26 12.4	-0.3
CHCH				i S	Sn	03 26 31.6	-0.4
LMEL	Las Melosas	1.64	142	⇓iP	Pn	03 26 14.3	-0.3
LMEL				i S	Sn	03 26 34.8	-0.6
LMEL				AMP		03 26 37.0	
	comp=N,279nm,0.2s						
CACH	El Canelo	1.70	156	eP	Pn	03 26 16.5	+1.1
CICH	Cipreses	1.95	155	eP	Pn	03 26 19.1	+0.2
SFDO	San Fernando	2.08	171	i P	Pn	03 26 21.3	+0.5
SFDO				i S	Sn	03 26 47.7	+1.4
TLL	Tololo Astrono	2.44	13	eP	Pn	03 26 26.6	+0.5
TLL				i S	Sn	03 26 57.9	+2.2
TLL				AMP		03 27 07.5	
	comp=N,73nm,0.5s						

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*ISK **19** 03:28:14.4, 36.91N×27.78E, h9^{km}, MD3.4*
*NEIC **19** 03:28:14.2, 36.89N×27.68E, h26^{km}, MD3.2(ATH), After ATH.*
*ATH **19** 03:28:14.2, 36.89N×27.68E, h26^{km}±3^{km}, MD3.2/4*
ISC 19 03:28:13.8±0.7, **36.86N**±0.03×**27.70E**±0.05, **h10**^{km}±5^{km}, **n16, σ0^{s}96**/24, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.29	315	i P	Pg	03 28 20.3	+0.5
BDRM				i S	Sg	03 28 25.3	+1.4
MLSB	Milas	0.44	8	i PG	Pg	03 28 22.7	0.0
MLSB				i SG	Sg	03 28 28.1	-0.6
NISR	Nisiros	0.52	242	ePN	Pn	03 28 25.0	-2.0
YER	Yerkesik	0.54	60	i PG	Pg	03 28 23.4	-1.4
ARG	Arkhangelos	0.73	152	ePB	Pb	03 28 28.1	-0.1
ARG				eSN	Sn	03 28 41.1	-0.1
DALT	Dalyan (Mudla)	0.76	97	i PG	Pg	03 28 28.6	-0.5
AYDN	Tasoluk	0.81	10	i P	Pb	03 28 28.9	-0.7
AYDN				i S	Sb	03 28 39.4	-0.9
SMG	Samos	1.09	321	ePN	Pn	03 28 34.7	-0.4
SMG				eSN	Sn	03 28 49.4	-0.9
DNZL	Cakiroluk	1.35	52	⇑iP	Pb	03 28 38.7	-0.2
DNZL				i S	Sb	03 28 58.6	+2.5
KARP	Karpathos	1.38	199	ePN	Pn	03 28 40.3	+1.0
IZM	Izmir	1.57	347	PN	Pn	03 28 42.6	+0.6
KDAG	Bornova	1.58	348	i P	Pn	03 28 41.2	-0.9
KDAG				i S	Sb	03 29 02.7	+0.2
APE	Apeiranthos	1.75	277	ePN	Pn	03 28 45.7	+1.1
MANT	Manisa	1.76	22	i P	Pn	03 28 46.6	+1.9
MANT				i S	Sn	03 29 07.8	+0.4
ELL	Elmali	1.78	93	ePN	Pn	03 28 45.4	+0.5
LIA	Limnos Island	3.62	328	ePN	Pn	03 29 10.8	-0.4

IDC 19 04:02:59.1±6.3, **6.16S×148.10E, h46**^{km}±52^{km}, **mb3.7**/3, **mb1 3.8**/5, **mb1mx3.5**/14, **ML3.2**/2, **MS4.5**/1, **Ms1 4.5**/1, **ms1mx3.0**/15, **Error ellipse: s-maj=52.2km s-min=35.5km az=153.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.36	196	P	P	04 03 49.5	-0.9
	6.5nm,0.3s,baz=8.6,slow=12,SNR=12						
PMG				S	S	04 04 28.4	-1.1
	4.9nm,0.3s,baz=42,slow=12,SNR=3.9						
WRA	Warramunga Arr	19.15	223	P	P	04 07 17.8	-3.7
	0.2nm,0.3s,baz=50,slow=11,SNR=6.8						
WRA				S	S	04 10 54.1	+4.4
	0.1nm,0.3s,baz=38,slow=27,SNR=5.1						
ASAR	Alice Springs	22.13	217	P	P	04 07 50.6	-1.6
	1.7nm,0.5s,baz=52,slow=9.1,SNR=30						
FITZ	Fitzroy Crossi	24.93	240	P	P	04 08 18.7	-1.0
	1.5nm,0.4s,baz=44,slow=6.8,SNR=12						
STKA	Stephens Creek	26.30	193	P	P	04 08 30.4	-2.0
	2.1nm,0.8s,baz=40,slow=7.9,SNR=3.4						
JOW	Kunigami	38.01	331	LR	LR	04 23 03.6	
	comp=Z,706nm,20.9s,baz=295,slow=32						

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*NEIC **19** 04:40:55.3, 16.84N×101.18W, h16^{km}, MD3.9(MEX), After MEX.*
MEX 19 04:40:55.4±0.4, **16.85N×101.19W, h16**^{km}, **MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.80	341	i P	Pb	04 41 08.0	-2.5
ZIIG				i S	Sb	04 41 18.2	-2.6
PLIG	Platanillo	2.23	46	i P	Pn	04 41 29.2	-3.1
PLIG				i S	Sn	04 41 53.6	-6.1
MOIG	Morelia	2.82	0	i P	Pn	04 41 36.6	-4.1
MOIG				i S	Sn	04 42 10.1	-4.5
PPM	Popocatepetl	3.29	47	eP	Pn	04 41 44.0	-3.5

MEX 19 05:06:58.7±0.6, **17.85N×94.58W, h152**^{km}±44^{km}, **MD4.0, 1D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.81	201	⇓iP	P	05 07 21.1	-1.4
CMIG				i S	S	05 07 37.9	-2.9
OXX	Oaxaca	2.18	250	eP	P	05 07 33.5	-3.0
VHO	Vista Hermosa	2.20	250	i P	P	05 07 34.8	-1.9
VHO				i S	S	05 08 04.0	-1.9

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*THE **19** 05:13:49.8, 38.62N×20.34E, h2^{km}, ML2.8*
*NEIC **19** 05:13:49.8, 38.62N×20.34E, h2^{km}, MD3.1(ATH), ML2.8(THE), After THE.*
*ATH **19** 05:13:53.0, 38.62N×20.36E, h29^{km}, MD3.1/4*
ISC 19 05:13:51.4±1.0, **38.67N**±0.05×**20.40E**±0.07, **h2**^{km}, **n9, σ1^{s}26**/13, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.20	80	ePg	Pg	05 13 54.8	-0.6
LKD				eSg	Sg	05 13 58.4	+0.3
VLS	Valsamata	0.52	163	ePB	Pb	05 14 03.6	+0.8
IGT	Igoumenitsa	0.86	357	ePg	Pg	05 14 07.3	-1.3
IGT				eSg	Sg	05 14 20.5	+0.5
RLS	Riolos of Patr	1.04	126	ePN	Pn	05 14 13.8	+1.0
JAN	Janina	1.04	20	ePN	Pn	05 14 15.1	+2.2
EVR	Evrytania	1.13	77	ePN	Pn	05 14 12.5	-1.6
KEK	Kerkira	1.14	336	ePN	Pn	05 14 14.6	+0.4
MEV	Metsovon	1.28	30	ePb	Pb	05 14 13.7	-2.2
MEV				eSb	Sb	05 14 33.8	+1.1
AGG	Agios Georgios	1.55	76	ePb	Pb	05 14 18.4	-2.0
	comp=Z,2.4nm,0.2s						
AGG				eSb	Sb	05 14 41.4	+0.9

IDC 19 05:16:10.5±3.1, **52.47N×172.81E, mb3.4**/3, **mb1 3.8**/3, **mb1mx3.5**/22, **Error ellipse: s-maj=81.1km s-min=16.5km az=101.0, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	Attu Island--F	0.47	27	Pn	Pn	05 16 23.9	-0.1
	48nm,0.3s,baz=129,slow=14,SNR=1046						
FX1				Sn	Sn	05 16 33.2	+0.1
	344nm,0.3s,baz=302,slow=18,SNR=37						
ILAR	Eielson Array	23.84	43	P	P	05 21 24.4	-1.2
	0.3nm,0.4s,baz=252,slow=8.3,SNR=13						
PDAR	Pinedale Array	50.83	68	P	P	05 25 12.6	-1.8
	0.2nm,0.5s,baz=304,slow=3.3,SNR=2.9						
TXAR	Lajitas Array	63.53	76	P	P	05 26 42.7	-1.9
	0.4nm,0.5s,baz=306,slow=5.9,SNR=14						

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*IDC **19** 05:36:10.2±1.8, 60.16N×25.34E, mb1 3.1/3, mb1mx3.0/18, ML2.8/2, Error ellipse: s-maj=18.0km s-min=7.2km az=145.0*
*BER **19** 05:36:10.1±3.5, 60.18N×25.41E, ML2.0(NAO)*
NAO 19 05:36:10.5±3.2, **60.26N×25.07E, ML2.0, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.28	22	Pn	Pn	05 36 34.8	-0.8
	baz=187,slow=18						
FIA0				Lg		05 36 52.0	
	baz=182,slow=37						
FIA0				Rg		05 36 59.4	
	baz=185,slow=37						
FINES	FINESS Array B	1.28	22	Pg	Pg	05 36 34.7	-1.4
	4.6nm,0.3s,baz=192,slow=19,SNR=117						
FINES				Lg		05 36 52.1	
	1.7nm,0.3s,baz=192,slow=29,SNR=10						
FINES				Rg		05 36 59.3	
	22nm,0.6s,baz=192,slow=34,SNR=29						
HFS	Hagfors	5.68	274	Pn	Pn	05 37 36.6	-1.6
	baz=91,slow=14						
HFS				Sn	Sn	05 38 40.1	-4.9
	baz=77,slow=28						
HFS				Lg		05 39 09.5	
	baz=90,slow=37						
HFS	Hagfors	5.68	274	Pn	Pn	05 37 36.7	-1.5
	0.0nm,0.3s,baz=90,slow=13,SNR=4.1						
HFS				Sn	Sn	05 38 39.9	-5.0
	0.1nm,0.3s,baz=84,slow=26,SNR=8.2						
HFS				Lg		05 39 11.3	
	0.1nm,0.3s,baz=87,slow=26,SNR=4.2						
NOA	NORSAR Array B	6.86	283	Pn	Pn	05 37 52.7	-2.0
	0.1nm,0.3s,baz=98,slow=12,SNR=2.7						
NOA				Sn	Sn	05 39 07.7	-6.8
	0.2nm,0.3s,baz=52,slow=23,SNR=2.6						
NOA				Lg		05 39 47.2	
	0.3nm,0.3s,baz=243,slow=25,SNR=2.5						
ARA0	ARCESS Array S	9.31	1	Pn	P	05 38 25.1	-4.0
	baz=177,slow=14						
ARA0				Sn	Sn	05 40 05.2	-11
	baz=180,slow=28						
ARA0				Lg		05 40 57.4	
	baz=174,slow=37						
ARCES	ARCESS Array B	9.31	1	Pn	P	05 38 25.1	-3.9
	0.1nm,0.3s,baz=183,slow=12,SNR=9.6						
ARCES				Sn	Sn	05 40 09.1	-6.7
	0.1nm,0.3s,baz=180,slow=23,SNR=2.9						

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*IDC **19** 05:39:40.5±0.7, 45.50N×82.63E, mb4.0/15, mb1 4.2/17, mb1mx4.1/23, ML4.0/2, Error ellipse: s-maj=18.2km s-min=10.0km az=59.0*
*MOS **19** 05:39:41.4±1.4, 45.52N×82.32E, h15^{km}, mb4.1/9, Error ellipse: s-maj=14.3km s-min=7.3km az=97.5*
*BJI **19** 05:39:43.0, 45.70N×82.60E, h32^{km}, ML4.4*
*NNC **19** 05:39:44.5±1.4, 45.59N×82.36E, h16^{km}±12^{km}, mpv3.9, Error ellipse: s-maj=15.6km s-min=6.4km az=106.0*
*NEIC **19** 05:39:45.5±2.0, 45.62N×82.62E, h32^{km}±14^{km}, mb4.2/4, Error ellipse: s-maj=8.5km s-min=7.5km az=192.0*
ISC 19 05:39:42.0±0.3, **45.60N**±0.03×**82.31E**±0.05, **h15**^{km}, **n63, σ1^{s}34**/76, **mb4.0**/18, **11C-5D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	1.19	359	⇓P	Pg	05 40 06.6	+0.6

	119nm,0.2s,baz=161,slow=17,SNR=15						
MK31				⇑S	Sg	05 40 23.1	+1.0
	426nm,0.2s,baz=168,slow=31,SNR=26						
MKAR	Makanchi Array	1.19	359	Pg	Pg	05 40 06.6	+0.6
	349nm,0.3s,baz=163,slow=16,SNR=7261						
MKAR				Lg		05 40 22.2	
	973nm,0.3s,baz=168,slow=29,SNR=54						
MKAR	Makanchi Array	1.19	359	PG	Pg	05 40 06.5	+0.5
MKAR				S	Sb	05 40 23.0	+4.1
MKAR				pmax	pmax		
	comp=Z,60nm,0.1s						
MKAR	Makanchi Array	1.19	359	Pg	Pg	05 40 06.6	+0.6
MKAR				Lg		05 40 22.2	
WMQ	Urumqi	4.23	113	⇓*i*P	Pn	05 40 46.8	-0.7
WMQ				S	Sn	05 41 34.3	-2.9
WMQ				SG	Sb	05 41 48.0	+0.9
WMQ				Smax			
	comp=N,261nm,0.8s						
WMQ				Smax			
	comp=E,215nm,0.6s						
AAA	Alma-Ata	4.49	241	*e*PN	Pg	05 41 10.0	-1.7
AAA				*e*		05 42 10.0	
AAA				pmax	pmax		
	comp=Z,70nm,0.3s						
AAA				smax			
	comp=E,800nm,0.7s						
UKR	Ust’-Kan	5.59	16	*e*PN	Pn	05 41 08.5	+1.8
UKR				*e*		05 41 26.5	
UKR				*e*		05 42 10.9	
KURK	Kurchatov	5.68	336	⇑Pn	Pn	05 41 08.9	+0.9
	comp=E,1.7nm,0.5s,baz=169,slow=8.5,SNR=43						
KURK				⇑Pg	Pg	05 41 29.0	-6.5
	comp=E,12nm,0.5s,baz=157,slow=13,SNR=18						
KURK				⇑Lg		05 42 47.3	
	comp=E,159nm,0.6s,baz=93,slow=17,SNR=20						
KURK	Kurchatov	5.68	336	*i* PN	Pn	05 41 08.8	+0.8
KURK				*i*		05 41 27.2	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	Kurchatov	5.68	336	*e*Pn	Pn	05 41 08.6	+0.6
	comp=Z,5.8nm,0.4s						
KURK				*e*Pg	Pg	05 41 27.0	-8.5
KURK				*e*Sn	Sn	05 42 09.2	-4.5
AAK	Ala-Archa	6.36	245	*e*Pn	Pn	05 41 20.3	+2.8
AAK				*e*Pg	Pg	05 41 40.7	-8.3
AAK				*e*S	Sg	05 43 04.5	-9.2
ARTR	Artybash	7.02	26	*e*PN	Pn	05 41 27.3	+0.4
TASR	Tashtagol	8.04	25	*e*P	P	05 41 40.7	-0.4
ELT	Yel’tsovka	8.08	17	*e*P	P	05 41 41.4	-0.3
KK31	Karatay Array	8.81	258	Pn	P	05 41 53.2	+1.3
	comp=Z,1.2nm,0.3s,baz=66,slow=14,SNR=11						
KK31				⇑Lg		05 44 27.0	
	comp=Z,24nm,0.6s,baz=70,slow=30,SNR=6.9						
NVS	Novosibirsk	9.27	3	*e*P	P	05 41 58.8	+0.6
NVS				*e*		05 43 36.1	
VOSK	Vostochnaya	10.28	318	⇑Pn	P	05 42 11.8	-0.2
	comp=Z,6.1nm,0.5s						
VOSK				⇑Sn	S	05 44 03.7	-4.2
	comp=Z,14nm,0.8s						
VOSK				⇑Lg		05 45 08.1	
	comp=Z,55nm,0.8s						
VOSK	Vostochnaya	10.28	318	P	P	05 42 11.1	-0.9
VOSK						05 44 03.7	
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVA0	Borovoye Array	10.75	318	Pn	P	05 42 18.3	-0.1
	comp=Z,0.7nm,0.6s,baz=131,slow=15,SNR=36						
BVA0				⇓Sn	S	05 44 15.4	-4.1
	comp=Z,1.8nm,0.8s,baz=109,slow=21,SNR=4.4						
BVA0				⇑Lg		05 45 25.0	
	comp=Z,4.3nm,0.7s,baz=119,slow=25,SNR=3.6						
BVAR	Borovoye Array	10.75	318	Pn	P	05 42 18.5	+0.1
	comp=Z,3.0nm,0.3s,baz=115,slow=13,SNR=45						
BVAR				Sn	S	05 44 17.1	-2.3
	comp=Z,2.2nm,0.3s,baz=120,slow=24,SNR=5.8						
BVAR				Lg		05 45 28.9	
	comp=Z,2.7nm,0.3s,baz=120,slow=24,SNR=5.7						
BRVK	Borovoye	10.82	318	P	P	05 42 18.7	-0.7
BRVK						05 44 16.5	
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	11.37	315	⇑Pn	P	05 42 26.5	-0.4
	comp=Z,8.5nm,0.4s						
ZRNK				⇓Sn	S	05 44 27.9	-6.8
	comp=Z,13nm,0.7s						
ZRNK				⇑Lg		05 45 48.3	
	comp=Z,40nm,1.1s						
ZRNK	Zerenda	11.37	315	P	P	05 42 26.5	-0.4
ZRNK						05 44 28.5	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZRNK	Zerenda	11.37	315	*e*P	P	05 42 26.3	-0.6
ZAK	Zakamensk	14.82	64	*e*P	P	05 43 15.4	+2.8
AB31	Akbulak array	15.56	292	⇓P	P	05 43 20.8	-1.4
	comp=Z,1.9nm,0.4s,baz=99,slow=11,SNR=52						
AB31	Akbulak array	15.56	292	*e*P	P	05 43 21.2	-1.1
SONM	Songino Array	16.65	74	Pn	P	05 43 33.7	-2.6
	comp=Z,0.1nm,0.3s,baz=252,slow=16,SNR=7.4						
GKN	Gorkha	17.66	173	*e*P	P	05 43 50.8	+1.8
	comp=Z,20nm,0.3s						
KOLN	Koldanda	17.82	176	*e*P	P	05 43 52.7	+1.6
	comp=Z,6.7nm,0.5s						
KKN	Kakani	17.93	171	*e*P	P	05 43 52.8	+0.4
	comp=Z,19nm,0.5s						
DMN	Daman	18.09	172	*e*P	P	05 43 55.0	+0.5
	comp=Z,12nm,0.8s						
PKI	Pulchoki	18.16	171	*e*P	P	05 43 55.8	+0.5
	comp=Z,6.7nm,0.3s						
BOD	Bodaibo	22.89	46	*e*P	P	05 44 43.3	-2.5
CMAR	Chiang Mai Arr	30.39	148	P	P	05 45 53.6	-2.1
	comp=Z,1.2nm,0.4s,mb4.0,baz=326,slow=10,SNR=5.5						
MALT	Malatya	33.10	273	P	P	05 46 16.6	-2.7
	comp=Z,3.5nm,0.7s,mb4.4						
QIZ	Qiongzhong	34.94	130	P	P	05 46 38.7	+3.3
AKASG	Malin Array Be	35.14	298	P	P	05 46 37.7	+1.0
	comp=Z,1.5nm,0.6s,mb4.1,baz=62,slow=8.8,SNR=5.1						
AKASG	Malin Array Be	35.14	298	P	P	05 46 37.7	+0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	35.71	317	P	P	05 46 41.8	+0.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=108,slow=12,SNR=4.1						
FINES	FINESS Array B	35.71	317	P	P	05 46 41.8	+0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	35.82	278	P	P	05 46 44.0	+1.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=79,slow=6.5,SNR=4.6						
BRTR	Keskin Array B	35.82	278	P	P	05 46 44.1	+1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	36.70	330	P	P	05 46 50.3	+0.6
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=7.3,SNR=6.9						
ARCES	ARCESS Array B	36.70	330	P	P	05 46 50.3	+0.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	42.88	317	P	P	05 47 41.4	+0.5
	comp=Z,1.3nm,0.5s,mb3.9,baz=76,slow=7.9						
NOA	NORSAR Array B	42.88	317	P	P	05 47 41.6	+0.7
	comp=Z,1.2nm,0.4s,mb4.0,baz=77,slow=8.0,SNR=6.7						
NOA	NORSAR Array B	42.88	317	P	P	05 47 41.6	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
IDI	Anoyia	44.04	277	P	P	05 47 51.1	+0.4
	comp=Z,12nm,0.8s,mb4.7,baz=53,slow=5.1,SNR=5.2						
GERES	GERESS Array B	45.27	300	P	P	05 48 01.8	+1.4
	comp=Z,0.2nm,0.3s,mb3.5,baz=65,slow=7.7,SNR=2.4						
DAVOX	Davos	48.48	299	P	P	05 48 27.0	+1.4
	comp=Z,1.5nm,0.4s,mb4.3,baz=354,slow=14,SNR=3.6						
EKA	Eskdalemuir Ar	51.97	314	P	P	05 48 52.0	-0.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=56,slow=7.6,SNR=4.7						
EKA	Eskdalemuir Ar	51.97	314	P	P	05 48 52.0	-0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	63.29	14	P	P	05 50 09.9	-2.0
	comp=Z,1.2nm,0.9s,mb4.0						
ILAR	Eielson Array	63.46	21	P	P	05 50 10.7	-2.4
	comp=Z,1.0nm,0.8s,mb4.0,baz=318,slow=5.4,SNR=17						
ILAR	Eielson Array	63.46	21	P	P	05 50 10.7	-2.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	80.51	131	P	P	05 51 53.0	-2.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=334,slow=5.3,SNR=10						
WRA	Warramunga Arr	80.51	131	P	P	05 51 53.0	-2.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DBIC	Dimbokro	83.30	273	P	P	05 52 09.7	0.0
	comp=Z,2.6nm,1.0s,mb4.2,baz=343,slow=9.4,SNR=3.3						
DBIC	Dimbokro	83.30	273	P	P	05 52 09.7	0.0
DBIC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAR	Alice Springs	83.36	134	P	P	05 52 08.2	-1.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=328,slow=4.9,SNR=12						
LBTB	Lobatse	87.12	229	P	P	05 52 28.3	-0.2
	comp=Z,2.1nm,0.6s,mb4.5						
NVAR	Mina Array Bea	94.32	16	P	P	05 53 01.7	-0.1
	comp=Z,0.6nm,0.8s,mb4.1,baz=29,slow=2.6,SNR=4.4						

IDC 19 05:59:32.1±3.0, 30.36S×138.33E, mb1 3.3/4, mb1mx3.3/10, ML2.7/4, Error ellipse: s-maj=75.6km s-min=15.1km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.18	119	Pn	Pn	06 00 22.3	-2.1
	0.3nm,0.3s,baz=305,slow=11,SNR=2.2						
STKA				Pg	Pg	06 00 29.8	-5.9
	1.1nm,0.3s,baz=295,slow=15,SNR=5.5						
STKA				Sn	Sn	06 01 07.6	+3.9
	2.2nm,0.3s,baz=312,slow=16,SNR=5.2						
STKA				Lg		06 01 14.9	
	3.5nm,0.3s,baz=6.0,slow=19,SNR=6.8						
ASAR	Alice Springs	7.75	328	Pn	Pn	06 01 27.4	-1.5
	0.1nm,0.3s,baz=143,slow=12,SNR=4.0						
ASAR				Sn	Sn	06 02 57.9	-0.5
	0.1nm,0.3s,baz=152,slow=22,SNR=7.0						
WRA	Warramunga Arr	10.98	340	Pn	P	06 02 09.0	-4.7
	0.1nm,0.3s,baz=156,slow=13,SNR=5.8						
WRA				Sn	S	06 04 15.7	-2.7
	0.1nm,0.3s,baz=163,slow=23,SNR=3.6						
FITZ	Fitzroy Crossi	16.80	314	Pn	P	06 03 29.3	-1.2
	0.1nm,0.3s,baz=169,slow=5.2,SNR=3.7						

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*MOS **19** 06:03:49.3±1.8, 9.24S×117.67E, h93^{km}, mb4.7/3, Error ellipse: s-maj=28.8km s-min=12.9km az=105.6*

*IDC **19** 06:03:50.3±1.9, 9.20S×117.70E, h71^{km}±15^{km}, mb4.4/13, mb1 4.4/15, mb1mx4.3/19, MS3.5/4, Ms1 3.5/4, ms1mx3.2/22, Error ellipse: s-maj=22.8km s-min=10.3km az=70.0*

*BJI **19** 06:03:52.5, 9.30S×117.60E, h95^{km}, mB5.3, mb5.2*

*NEIC **19** 06:03:52.6±0.7, 9.29S×117.63E, h96^{km}±6^{km}, mb4.8/24, Error ellipse: s-maj=9.3km s-min=6.2km az=50.0*

NEIC Felt [II] at Sumbawa. Also felt on Bali.

*DJA **19** 06:03:53.5±1.1, 9.15S×117.48E, h108^{km}±17^{km}, mb5.8/1, Error ellipse: s-maj=44.7km s-min=10.3km az=141.0*

ISC 19 06:03:51.6±0.6**, 9.31S**±0.04×**117.64E**±0.04**, h106^{km}±5^{km}, n126, σ1§25**/120**, mb4.9**/46**, 4C-8D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.72	298	⇓*e*P	P	06 04 21.0	-0.4
KEDI	Kedomdong	1.72	298	*e*P	P	06 04 21.2	-0.2
RATI	Rata	2.17	286	⇓*i*P	P	06 04 27.0	-0.1
RATI	Rata	2.17	286	*e*P	P	06 04 27.0	-0.1
INGI	Ingas	2.52	281	⇓*i*P	P	06 04 31.2	-0.7
INGI	Ingas	2.52	281	*e*P	P	06 04 31.2	-0.7
KELI	Kelakatan	3.30	289	⇓*e*P	P	06 04 41.8	-0.8
KELI	Kelakatan	3.30	289	*e*P	P	06 04 41.9	-0.7
NINI	Niniconang	5.29	23	⇑*e*P	P	06 05 10.3	+0.7
	2µm,0.2s						
NINI				⇓*i*S	S	06 06 10.8	+0.9
NINI	Niniconang	5.29	23	*e*P	P	06 05 10.4	+0.8
	2µm,0.2s						
NINI				*e*S	S	06 06 10.6	+0.7
NINI	Niniconang	5.29	23	⇑*e*P	P	06 05 10.4	+0.8
NINI				*i* S	S	06 06 10.8	+0.9
TANI	Tanete Lipujan	6.09	17	*e*P	P	06 05 20.7	+0.2
BUNI	Buntu Taipa	6.22	26	⇓*i*P	P	06 05 23.6	+1.3
BUNI	Buntu Taipa	6.22	26	*e*P	P	06 05 23.8	+1.5
BUNI				*e*S	S	06 06 32.9	+0.4
FITZ	Fitzroy Crossi	11.69	139	*e*P	P	06 06 30.3	-5.8
	32nm,0.6s						
FITZ				*e*S	S	06 08 31.2	-14
FITZ	Fitzroy Crossi	11.69	139	P	P	06 06 30.8	-5.3
	6.1nm,0.3s,baz=333,slow=6.6,SNR=66						
FITZ				S	S	06 08 30.3	-15
	15nm,0.3s,baz=182,slow=21,SNR=15						
KAKA	Kakadu	14.87	104	*e*P	P	06 07 14.0	-3.6
	70nm,0.9s						
KAKA				*e*S	S	06 09 50.6	-9.3
KKM	Kota Kinabalu	15.32	355	*e*P	P	06 07 25.6	+2.2
WRA	Warramunga Arr	19.28	125	P	P	06 08 08.4	-2.2
	0.7nm,0.3s,baz=299,slow=12,SNR=36						
WRA				S	S	06 11 30.3	-7.5
	2.1nm,0.3s,baz=295,slow=22,SNR=6.8						
WRAB	Tennant Creek	19.29	125	*e*P	P	06 08 08.8	-1.9
	20nm,0.7s						
WB2	Warramunga Arr	19.29	125	*e*P	P	06 08 10.0	-0.7
WB2				*e*		06 08 26.0	
WB2				*e*S	S	06 11 26.7	-11
ASPA	Alice Springs	21.10	135	*e*P	P	06 08 29.6	+0.3
ASPA				*e*S	S	06 12 09.2	-3.5
ASAR	Alice Springs	21.10	135	P	P	06 08 29.0	-0.3
	6.3nm,0.6s,mb4.1,baz=304,slow=9.1,SNR=38						
ASAR				S	S	06 12 15.4	+2.6
	22nm,1.1s,baz=311,slow=24,SNR=8.4						
ASAR				ScP		06 16 03.2	
	2.1nm,1.0s,baz=297,slow=2.0,SNR=3.9						
IPM	Ipoh	21.56	309	⇑*e*P	P	06 08 35.2	+1.3
KLBR	Kellerberrin	22.17	180	*e*P	P	06 08 49.6	+10
	16nm,0.4s,mb4.7						
KLBR				*e*S	S	06 12 30.0	-1.9
MUN	Mundaring	22.59	183	*e*P	P	06 08 54.4	+10
	19nm,0.8s,mb4.5						
MUN				*e*S	S	06 12 42.8	+3.4
FORT	Forrest	23.46	157	*e*P	P	06 08 52.7	+0.4
	79nm,0.7s,mb5.2						
FORT				*e*S	S	06 13 07.4	+13
TGY	Tagaytay City	23.49	8	P	P	06 08 52.7	-0.1
	111nm,0.3s,mb5.6,baz=234,slow=8.7,SNR=2.0						
NWAO	Narrogin (SRO)	23.50	181	P	P	06 08 53.9	+1.2
	7.5nm,0.8s,mb4.0,baz=359,slow=16,SNR=3.2						
NWAO				S	S	06 13 03.8	+8.6
	23nm,0.5s,baz=311,slow=6.1,SNR=6.6						
NWAO				LR	LR	06 18 05.5	
	comp=Z,90nm,20.8s,baz=358,slow=36						
CTA	Charters Tower	29.62	114	P	P	06 09 49.9	+0.6
	3.5nm,0.7s,mb4.1,baz=298,slow=12,SNR=4.7						
CTA				LR	LR	06 22 54.0	
	comp=Z,115nm,21.0s,baz=234,slow=39						
CTAO	Charters Tower	29.62	114	P	P	06 09 50.0	+0.7
	4.9nm,0.7s,mb4.2						
STKA	Stephens Creek	31.58	139	*e*P	P	06 10 06.8	+0.4
	2.4nm,0.5s,mb4.2						
STKA	Stephens Creek	31.58	139	P	P	06 10 06.4	0.0
	3.0nm,0.6s,mb4.2,baz=318,slow=9.5,SNR=6.4						
STKA				LR	LR	06 24 31.0	
	comp=Z,105nm,21.1s,baz=206,slow=39						
BDT	Bhumibol Dam	32.18	325	P	P	06 10 11.0	-0.8
NANT	Nan	32.55	329	P	P	06 10 16.0	+1.1
CMAR	Chiang Mai Arr	33.20	326	P	P	06 10 20.6	+0.1
	6.8nm,1.0s,mb4.4,baz=147,slow=6.6,SNR=18						
CMAR				PcP	PcP	06 13 03.0	+2.0
	2.9nm,0.7s,baz=191,slow=2.6,SNR=7.6						
CMAR				ScP		06 16 39.1	
	1.9nm,0.5s,baz=166,slow=2.7,SNR=11						
CMAR				LR	LR	06 24 57.1	
	comp=Z,62nm,18.2s,baz=135,slow=38						
KMI	Kunming	37.18	337	*e*P	P	06 10 56.3	+2.1
KMI				S	S	06 16 42.1	+10
KMI				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,114nm,5.6s						
KMI				LR	LR		
	comp=Z,53nm,17.9s						
KMI	Kunming	37.18	337	*e*P	P	06 10 56.3	+2.1
	comp=Z,16nm,0.8s,mb5.0						
KMI				pP	pP	06 11 06.8	-12
KMI				sP	sP	06 11 11.0	-20
KMI				S	S	06 16 42.1	+10
KMI				LR	LR		
	comp=Z,50nm,17.9s						
ENH	Enshi	40.13	349	*e*P	P	06 11 18.7	0.0
	comp=Z,31nm,0.9s,mb5.1						
SSE	Sheshan	40.32	5	P	P	06 11 23.3	+3.1
SSE				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,285nm,4.4s						
SSE	Sheshan	40.32	5	P	P	06 11 23.2	+3.0
	comp=Z,12nm,0.8s,mb4.8						
NJ2	Nanjing	41.15	2	*e*P	P	06 11 28.0	+1.0
NJ2				PP	PP	06 13 07.0	+0.5
NJ2				S	S	06 17 39.0	+7.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,4µm,21.0s						
NJ2				LR	LR		
	comp=E,4µm,15.3s						
NJ2				LR	LR		
	comp=Z,6µm,17.8s						
CD2	Chengdu	42.15	342	⇓*i*P	P	06 11 36.0	+0.7
CD2				AMB	AMB		
	comp=Z,50nm,0.5s,mb5.5						
SHL	Shillong	42.79	325	*e*P	P	06 11 40.0	-0.6
LSA	Lhasa	46.42	328	*e*P	P	06 12 09.6	0.0
	comp=Z,15nm,0.9s,mb4.7						
GUN	Gumba	48.10	321	*e*P	P	06 12 22.2	-0.5
	comp=Z,87nm,0.7s,mb5.7						
PKI	Pulchoki	48.16	321	*e*P	P	06 12 21.9	-1.3
	comp=Z,39nm,0.7s,mb5.4						
DMN	Daman	48.37	320	*e*P	P	06 12 23.8	-1.0
	comp=Z,56nm,0.7s,mb5.5						
KKN	Kakani	48.39	321	*e*P	P	06 12 23.9	-1.1
	comp=Z,39nm,0.9s,mb5.3						
GKN	Gorkha	48.94	320	*e*P	P	06 12 27.9	-1.3
	comp=Z,48nm,0.4s,mb5.8						
BJT	Baijiatuau	49.10	359	P	P	06 12 29.9	-0.3
	comp=Z,15nm,0.6s,mb5.1						
KOLN	Koldanda	49.44	319	*e*P	P	06 12 31.6	-1.5
	comp=Z,61nm,0.6s,mb5.7						
MAJO	Matsushiro	49.54	22	P	P	06 12 32.7	-1.1
	comp=Z,5.2nm,0.6s,mb4.6						
GTA	Gaotai	51.23	342	*e*P	P	06 12 47.1	+0.6
GTA				PP	PP	06 14 45.8	+0.9
GTA				PPP	PPP	06 15 49.3	+1.0
GTA				S	S	06 20 05.3	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,38nm,5.3s						
GTA				LR	LR		
	comp=N,50nm,18.3s						
GTA				LR	LR		
	comp=E,50nm,15.2s						
GTA				LR	LR		
	comp=Z,39nm,14.8s						
CN2	Changchun	53.34	7	*e*P	P	06 13 04.4	+2.2
MDJ	Mudanjiang	54.75	10	P	P	06 13 11.6	-0.9
MDJ				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,181nm,4.7s						
MDJ				LR	LR		
	comp=N,89nm,27.2s						
MDJ				LR	LR		
	comp=Z,106nm,22.3s						
MDJ	Mudanjiang	54.75	10	*e*P	P	06 13 11.3	-1.2
	comp=Z,35nm,0.7s,mb5.5						
RPZ	Rata Peaks	57.50	136	pP	pP	06 13 51.0	-7.1
	comp=Z,9.0nm,0.7s,baz=355,slow=14,SNR=4.7						
SONM	Songino Array	57.76	351	P	P	06 13 33.0	-0.9
	comp=Z,10nm,0.6s,mb5.1,baz=169,slow=8.1,SNR=68						
ASAJ	Asahikawa	57.79	21	P	P	06 13 33.1	-1.0
	comp=Z,4.1nm,0.5s,mb4.8,baz=194,slow=12,SNR=3.9						
HIA	Hailar	58.36	2	*e*P	P	06 13 39.0	+1.0
	comp=Z,19nm,0.7s,mb5.2						
WMQ	Urumqi	59.46	335	⇑P	P	06 13 45.3	-0.4
WMQ				PCP	PcP	06 14 32.8	+0.9
WMQ				PP	PP	06 15 57.6	-2.4
WMQ				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
WMQ				LR	LR		
	comp=N,29nm,18.0s						
WMQ				LR	LR		
	comp=E,40nm,21.1s						
WMQ				LR	LR		
	comp=Z,14nm,21.1s						
ZAK	Zakamensk	60.75	350	*e*P	P	06 13 52.4	-2.0
ZAK				*e*		06 14 38.2	
ULHL	Ulahol	63.77	327	P	P	06 14 13.9	-0.7
	SNR=5.1						
MKAR	Makanchi Array	64.13	334	P	P	06 14 15.6	-1.3
	comp=Z,17nm,0.6s,mb5.1,baz=153,slow=6.7,SNR=178						
KZA	Kyzart	64.19	326	P	P	06 14 17.4	0.0
	SNR=9.8						
TKM2	Tokmak 2	64.58	327	P	P	06 14 19.1	-0.7
	SNR=12						
UCH	Uchtor	64.70	326	P	P	06 14 20.0	-0.7
	SNR=6.7						
AAK	Ala-Archa	64.98	326	P	P	06 14 22.2	-0.3
	SNR=7.3						
AAK	Ala-Archa	64.98	326	*e*P	P	06 14 20.1	-2.4
	comp=Z,15nm,0.8s,mb4.9						
AML	Almayashu	65.09	325	P	P	06 14 22.7	-0.6
	SNR=24						
EKS2	Erkin-Say	65.40	326	P	P	06 14 24.5	-0.7
	SNR=14						
USP	Ospenovka	65.40	327	P	P	06 14 24.1	-1.1
	SNR=12						
BOD	Bodaibo	66.96	358	*e*P	P	06 14 32.3	-2.5
KURK	Kurchatov	68.69	335	*e*P	P	06 14 44.0	-1.7
	comp=Z,12nm,0.8s,mb4.8						
NVS	Novosibirsk	70.13	340	*e*P	P	06 14 51.3	-3.1
NVS				pmax	pmax		
	comp=N,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
VNDA	Vanda	71.89	171	P	P	06 15 06.2	+1.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=2.9,slow=7.1,SNR=5.3						
VNDA	Vanda	71.89	171	*e*P	P	06 15 05.9	+1.3
	comp=Z,2.6nm,1.0s,mb4.0						
MA2	Magadan	73.60	17	P	P	06 15 11.3	-3.5
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MA2	Magadan	73.60	17	P	P	06 15 11.3	-3.5
	comp=Z,8.1nm,0.9s,mb4.5						
BVAR	Borovoye Array	73.95	333	P	P	06 15 16.1	-0.9
	comp=Z,13nm,0.8s,mb4.7,baz=143,slow=7.2,SNR=60						
BRVK	Borovoye	74.02	332	*e*P	P	06 15 16.2	-1.1
	comp=Z,13nm,0.9s,mb4.7						
MZLS	Mizel	78.04	297	P	P	06 15 41.3	+0.7
ARSS	Ar Rass	80.26	298	P	P	06 15 53.5	+0.9
QSPA	South Pole Qui	80.68	180	*e*P	P	06 15 56.2	+2.4
	comp=Z,9.6nm,1.2s,mb4.5						
QSPA				*e*	pP	06 16 19.4	-2.0
ARU	Arti	81.48	331	*e*P	P	06 15 57.5	-0.9
	comp=Z,11nm,1.2s,mb4.5						
HILS	Ha’il	81.89	299	P	P	06 16 02.3	+1.1
MBAR	Mbarara	86.85	270	*e*P	P	06 16 27.4	+1.1
	comp=Z,5.6nm,0.7s,mb4.6						
ASF	Jabal al Asfar	87.17	303	P	P	06 16 30.4	+3.1
	comp=Z,6.4nm,0.6s,mb4.7,baz=295,slow=2.4,SNR=7.3						
JMQS	Jabal Moqyreh	87.32	300	P	P	06 16 29.4	+1.1
MALT	Malatya	87.36	309	*e*P	P	06 16 29.3	+1.1
	comp=Z,15nm,1.1s,mb4.8						
AYUS	‘Aynunah	87.70	299	P	P	06 16 31.2	+1.2
BDAS	Al Bad‘	87.90	299	P	P	06 16 32.8	+1.8
LBTB	Lobatse	87.96	245	*e*P	P	06 16 34.3	+2.9
	comp=Z,5.2nm,0.9s,mb4.6						
LBTB				*e*		06 16 56.0	
JMOS	Jabal al Moall	88.04	300	P	P	06 16 33.4	+1.7
HAQS	Haql	88.17	300	P	P	06 16 34.3	+2.0
SNAA	Sanae	90.34	196	*e*	P	06 16 52.7	+11
SNAA	Sanae	90.34	196	*e*	P	06 16 57.5	+16
SNAA	Sanae	90.34	196	⇓*i*P	P	06 16 43.3	+1.9
SNAA				*e*		06 16 52.7	
SNAA				*e*		06 16 57.5	
BRTR	Keskin Array B	91.31	310	P	P	06 16 47.8	+1.0
	comp=Z,1.1nm,0.8s,mb4.0,baz=124,slow=10,SNR=3.0						
SANT	Santorini	97.20	306	P	P	06 17 12.5	-1.2
	comp=Z,41nm,0.9s,mb5.8						
FINES	FINESS Array B	98.86	331	P	P	06 17 20.1	-0.5
	comp=Z,4.5nm,0.5s,mb5.2,baz=127,slow=9.5,SNR=25						
ILAR	Eielson Array	100.70	26	P	P	06 17 28.1	-0.7
	comp=Z,0.4nm,0.7s,baz=273,slow=5.3,SNR=5.9						
KSP	Ksiaz	104.33	320	*e*Pdif	Pdif	06 17 38.5	-6.7
KSP				*e*		06 18 07.6	
GRA1	Grafenberg Arr	107.67	319	*e*P	Pdif	06 18 04.0	+4.1
	comp=Z,12nm,0.9s						

GRF	Grafenberg Arr	107.67	319	eP	Pdif	06 18 04.0	+4.1
GRF				pmax	pmax		
	comp=Z,12nm,0.9s						
YKA	Yellowknife Ar	115.02	24	PKP	PKPdf	06 22 22.1	+2.2
	comp=Z,0.8nm,0.5s,baz=305,slow=1.9,SNR=13						
YKA	Yellowknife Ar	115.02	24	PKP	PKPdf	06 22 22.1	+2.2
NVAR	Mina Array Bea	122.25	50	PKP	PKPdf	06 22 38.4	+4.0
	comp=Z,0.6nm,0.6s,baz=260,slow=0.5,SNR=9.3						
DBIC	Dimbokro	123.05	272	PKP	PKPdf	06 22 39.3	+2.8
	comp=Z,2.3nm,0.7s,baz=162,slow=6.4,SNR=3.3						
HLID	Hailey	123.48	43	eP	PKPdf	06 22 40.6	+3.9
PDAR	Pinedale Array	127.06	43	PKP	PKPdf	06 22 46.8	+3.1
	comp=Z,0.3nm,0.8s,baz=180,slow=3.0,SNR=3.9						
ULM	Lac du Bonnet	130.66	28	SKPab		06 26 08.3	
	comp=Z,3.2nm,0.6s,baz=294,slow=6.6,SNR=6.5						
TXAR	Lajitas Array	136.53	57	PKP	PKPdf	06 23 05.1	+3.3
	comp=Z,0.6nm,1.1s,baz=198,slow=2.9,SNR=3.5						
TXAR				SKPbc		06 26 29.6	
	comp=Z,0.7nm,0.8s,baz=243,slow=2.8,SNR=7.4						
CPUP	Villa Florida	144.24	188	PKP	PKPdf	06 23 17.9	+2.3
	comp=Z,1.9nm,0.6s,baz=177,slow=2.4,SNR=10						
OXF	Oxford	144.74	41	ePKPdf	PKPdf	06 23 17.4	+1.0
HRV	Harvard--Oak R	145.97	12	ePKPdf	PKPdf	06 23 21.6	+3.4
PAL	Palisades	146.82	16	ePKPdf	PKPdf	06 23 23.6	+4.0
CPCT	Cooper Cave	147.05	34	ePKPdf	PKPdf	06 23 24.2	+4.0
LRAL	Lakeview Retre	147.23	40	ePKPdf	PKPdf	06 23 23.9	+3.3
FWV	Forest Hill	147.29	28	ePKPdf	PKPdf	06 23 22.0	+1.4
PWV	Princeton	147.38	28	ePKPdf	PKPdf	06 23 22.8	+2.1
ELN	Prospectdale	147.61	28	ePKPdf	PKPdf	06 23 23.7	+2.6
BDFB	Brasilia	151.42	210	PKPbc	PKPdf	06 23 38.4	+11
	comp=Z,6.6nm,0.4s,baz=111,slow=1.1,SNR=37						
LPAZ	La Paz	153.93	167	PKPbc	PKPdf	06 23 46.0	+15
	comp=Z,0.4nm,0.3s,baz=112,slow=5.4,SNR=2.9						
LPAZ				PKPab	PKPab	06 23 58.5	+3.1
	comp=Z,1.9nm,0.8s,baz=156,slow=1.2,SNR=5.7						
LPAZ	La Paz	153.93	167	PKPbc	PKPdf	06 23 46.0	+15
LPAZ				ePKPab	PKPab	06 23 57.9	+2.6
LPAZ				PKPab	PKPab	06 23 58.5	+3.1

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*BJI **19** 06:06:03.6, 44.70N×124.30W, h27^{km}, mB4.2, mb4.8, Ms4.6, Msz4.9*

*NEIC **19** 06:06:03.6, 44.67N×124.30W, h28^{km}, mb4.7/28, MS4.5/3, MD4.7(SEA), MW4.7(SLM), MW4.6(BRK), After SEA.*

NEIC Felt [IV] at Lincoln City, Newport, Seal Rock, South Beach, Toledo, Waldport and Yachats; [III] at Cloverdale, Corvallis, Depoe Bay, Florence, Philomath and Siletz; [II] at Albany, Eugene, Monmouth, Portland, Salem and Veneta.

*IDC **19** 06:06:05.6±0.5, 44.68N×124.09W, h25^{km}±3^{km}, mb4.3/16, mb1 4.5/24, mb1mx4.4/31, ML3.9/8, MS3.9/12, Ms1 3.9/12, ms1mx3.7/36, Error ellipse: s-maj=11.6km s-min=5.6km az=71.0*

ISC 19 06:06:03.7±0.8**, 44.61N**±0.02×**124.28W**±0.05**, h31**^{km}±5^{km}**, h26**^{km}±.6^{km}**:pP-P, n269,** σ1^{s}**17**/265**, mb4.6**/42**, MS4.1**/8**, 82C-13D, Near coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPOR	Mary's Peak	0.54	101	⇓P	Pb	06 06 14.8	0.0
COR	Corvallis	0.70	92	eP	Pb	06 06 16.7	-0.8
RNO	Roman Nose	0.80	151	⇑P	Pn	06 06 20.2	+1.2
EUO	Eugene	1.05	123	⇓P	Pn	06 06 23.8	+1.3
KMOR	Kings Mountain	1.17	29	⇑P	Pn	06 06 23.8	-0.4
SSOR	Sweet Springs	1.32	79	⇓P	Pn	06 06 27.6	+1.2
HSO	Harness Mounta	1.39	141	P	Pn	06 06 28.7	+1.4
WPO	West Portland	1.43	47	P	Pn	06 06 29.3	+1.4
GT2	Goat Mountain	1.53	69	⇑P	Pn	06 06 30.8	+1.4
PGO	Gresham	1.55	56	⇑P	Pn	06 06 30.6	+0.9
NLO	Nicolai Mounta	1.59	21	⇑P	Pn	06 06 30.2	0.0
HBO	Huckleberry Mo	1.61	118	⇑P	Pn	06 06 32.0	+1.6
DBO	Dodson Butte	1.67	153	⇑P	Pn	06 06 32.9	+1.5
KEBM	Edson Butte	1.74	181	eP	Pn	06 06 32.5	+0.1
HUOR	Husband	1.81	105	⇑P	Pn	06 06 35.4	+2.0
VLMM	Larch Mountain	1.84	59	⇓P	Pn	06 06 34.9	+1.1
BPO	Bald Peter	1.85	88	⇑P	Pn	06 06 36.0	+2.0
RVW	Rose Valley	1.88	35	⇑P	Pn	06 06 34.6	+0.2
TDH	Tom, Dick, Har	1.90	68	P	Pn	06 06 35.9	+1.3
LVP	Lakeview Peak	1.97	42	⇑P	Pn	06 06 36.1	+0.5
VBEM	Beaver Butte	1.97	76	⇑P	Pn	06 06 37.3	+1.6
BMW	Boistfort Moun	2.00	21	⇑P	Pn	06 06 35.4	-0.8
MTMW	Mount Mitchell	2.03	45	⇑P	Pn	06 06 36.9	+0.3
VLL	Laurance Lake	2.03	64	⇑P	Pn	06 06 38.0	+1.4
BBOR	Butler Butte	2.08	145	⇓P	Pn	06 06 39.7	+2.4
FL2	Flat Top 2	2.09	40	⇓P	Pn	06 06 38.0	+0.7
VFP	Flag Point	2.12	70	⇑P	Pn	06 06 39.3	+1.5
SHW	Mount Saint He	2.14	42	⇑P	Pn	06 06 38.9	+0.8
JLK	June Lake	2.15	44	⇑P	Pn	06 06 38.6	+0.4
HSR	South Ridge	2.15	43	⇑P	Pn	06 06 39.0	+0.8
APM	Augspurger Mou	2.16	58	P	Pn	06 06 39.3	+1.0
YEL	Yellow Rock	2.17	42	P	Pn	06 06 39.2	+0.6
ERK	Elk Rock	2.18	38	⇑P	Pn	06 06 38.9	+0.3
CDFW	Cedar Flats	2.18	46	⇓P	Pn	06 06 39.0	+0.3
STD	Studebaker Rid	2.18	41	⇓P	Pn	06 06 39.2	+0.5
ESD	East Dome	2.18	43	⇑P	Pn	06 06 39.4	+0.7
CZM	Crazy Man Moun	2.21	34	⇑P	Pn	06 06 39.7	+0.6
SOSW	Source of Smit	2.22	42	⇑P	Pn	06 06 39.8	+0.5
HUMO	Hull Mountain	2.23	154	ePn	Pn	06 06 40.5	+1.2
TDL	Tradedollar La	2.27	39	⇑P	Pn	06 06 40.3	+0.4
GULW	Guler Mountain	2.31	54	P	Pn	06 06 41.1	+0.6
LCW	Lucas Creek	2.34	28	P	Pn	06 06 40.8	-0.2
KOSW	Kosmos	2.36	38	⇓P	Pn	06 06 41.9	+0.6
CROR	Criterion Ridg	2.38	80	⇑P	Pn	06 06 42.2	+0.8
GMO	Grizzlie Mount	2.39	93	⇑P	Pn	06 06 42.6	+0.9
KBO	Bosley Butte	2.40	179	ePn	Pn	06 06 42.0	+0.1
NCOR	Newberry Crate	2.44	111	P	Pn	06 06 44.0	+1.6
ASR	Mount Adams--S	2.44	50	⇑P	Pn	06 06 43.0	+0.6
LMW	Ladd Mountain	2.49	34	⇑P	Pn	06 06 43.6	+0.5
CPW	Capitol Peak	2.49	18	⇑P	Pn	06 06 42.4	-0.7
PINOR	Pine Mountain	2.58	107	⇑P	Pn	06 06 45.8	+1.4
VIPM	Ingram Point	2.62	91	⇑P	Pn	06 06 46.0	+1.0
VGB	Gordon Butte	2.64	69	ePn	Pn	06 06 46.0	+0.7
PCMD	Pierce County	2.67	31	⇑P	Pn	06 06 45.6	0.0
VTHM	Trough	2.71	77	⇑P	Pn	06 06 47.0	+0.8
GLK	Glacier Lake	2.71	43	⇓P	Pn	06 06 46.9	+0.7
LON	Longmire	2.75	38	⇑P	Pn	06 06 47.4	+0.6
BUOR	Burton Butte	2.77	147	P	Pn	06 06 49.0	+2.0
SMW	South Mountain	2.79	13	⇑P	Pn	06 06 46.2	-1.1
GL2	New Goldendale	2.79	60	⇑P	Pn	06 06 48.1	+0.7
REMR	Mount Rainier-	2.79	37	⇑P	Pn	06 06 48.2	+0.8
GHW	Garrison Hill	2.81	29	P	Pn	06 06 47.6	0.0
MEW	McNeil Island	2.83	23	⇑P	Pn	06 06 48.3	+0.3
WPW	White Pass	2.83	42	⇓P	Pn	06 06 48.5	+0.5
RVC	Mount Rainier-	2.84	34	⇑P	Pn	06 06 48.6	+0.5
RCS	Mount Rainier-	2.88	37	⇑P	Pn	06 06 49.5	+0.8
FMW	Mount Fremont	2.95	37	⇑P	Pn	06 06 50.5	+0.8
KRMB	Red Mountain	3.10	175	ePn	Pn	06 06 52.5	+0.8
YBH	Yreka Blue Hor	3.10	158	Pn	Pn	06 06 54.7	+3.0
	4.3nm,0.3s,baz=341,slow=11,SNR=35						
YBH				Pg	Pn	06 07 00.4	+8.6
	21nm,0.3s,baz=330,slow=13,SNR=42						
YBH				Lg		06 07 45.2	
	16nm,0.3s,baz=99,slow=16,SNR=5.7						
YBH	Yreka Blue Hor	3.10	158	ePn	Pn	06 06 53.7	+2.0
GMW	Gold Mountain	3.12	19	⇑P	Pn	06 06 51.0	-1.0
GSM	Grass Mountain	3.12	33	⇓P	Pn	06 06 52.6	+0.5
GNW	Green Mountain	3.12	18	⇑P	Pn	06 06 50.9	-1.1
OOW	Octopus West	3.12	1	⇑P	Pn	06 06 51.0	-1.1
OCWA	Octopus Mounta	3.14	1	ePn	Pn	06 06 50.7	-1.6
HDW	Hoodsport	3.15	15	P	Pn	06 06 48.7	-3.8
NAC	Naches	3.22	48	⇑P	Pn	06 06 54.1	+0.6
OSD	Olympics--Snow	3.23	7	⇑P	Pn	06 06 52.5	-1.2
JBO	Jordan Butte	3.27	73	⇑P	Pn	06 06 54.8	+0.7
RMW	Rattlesnake Mo	3.33	30	⇑P	Pn	06 06 55.2	+0.2
MXC	Moxie City	3.42	54	⇑P	Pn	06 06 56.7	+0.4
OBC	Olympics--Boni	3.43	2	⇑P	Pn	06 06 55.1	-1.3
PATW	Paterson	3.44	67	⇑P	Pn	06 06 57.3	+0.8
EBG	Ellensburg	3.47	47	⇑P	Pn	06 06 57.6	+0.6
TWW	Teanaway	3.47	42	⇑P	Pn	06 06 57.8	+0.8
BLN	Blyn Mountain	3.52	15	⇑P	Pn	06 06 57.2	-0.4
STW	Striped Peak	3.56	7	⇑P	Pn	06 06 57.0	-1.3
TTW	Tolt Reservoir	3.57	29	⇑P	Pn	06 06 58.4	-0.1
PRW	Prosser	3.61	62	⇑P	Pn	06 06 59.6	+0.6
TBM	Table Mountain	3.63	44	⇑P	Pn	06 07 00.0	+0.8
HTW	Haystack Looko	3.64	28	⇓P	Pn	06 06 59.0	-0.4
BENWA	Benson Ranch	3.73	58	P	Pn	06 07 01.0	+0.3
SNIWA	Snively Ranch	3.74	59	⇑P	Pn	06 07 01.3	+0.4
RSW	Rattlesnake Hi	3.75	60	⇑P	Pn	06 07 01.6	+0.6
MDW	Midway	3.75	56	⇑P	Pn	06 07 01.2	+0.1
KHMM	Horse Mountain	3.76	174	ePn	Pn	06 07 01.8	+0.7
HAWA	Hanford	3.79	60	ePn	Pn	06 07 01.6	+0.1
REDWA	Red Mountain	3.80	62	⇑P	Pn	06 07 02.2	+0.4
GBB	Gable Butte	3.83	57	P	Pn	06 07 02.3	+0.2
H2OWA	Water	3.85	61	⇑P	Pn	06 07 02.9	+0.4
GBL	Gable Mountain	3.92	58	⇑P	Pn	06 07 03.9	+0.4
JCW	Jim Creek	3.93	24	⇑P	Pn	06 07 02.7	-0.9
WAH2	Wahluke Slope	3.94	55	P	Pn	06 07 04.0	+0.3
WIW	Wooded Island	3.95	61	⇑P	Pn	06 07 04.2	+0.4
MOD	Modoc	3.97	132	ePn	Pn	06 07 05.0	+0.8
LOCW	Locke Island	4.00	57	P	Pn	06 07 04.8	+0.3
WRW	Wenatchee Ridg	4.01	35	⇑P	Pn	06 07 05.0	+0.3
YPT	Yellepit	4.02	67	⇑P	Pn	06 07 04.7	-0.1
ETW	Entiat	4.06	41	⇑P	Pn	06 07 05.7	+0.2
PGC	Sidney	4.08	8	ePn	Pn	06 07 02.8	-2.9
CRF	Corfu	4.08	55	P	Pn	06 07 05.8	+0.1
FHE	Frenchman Hill	4.08	53	P	Pn	06 07 06.1	+0.4
SLFW	Sugar Loaf	4.09	38	⇑P	Pn	06 07 06.2	+0.4
CMW	Cultus Mountai	4.09	21	⇑P	Pn	06 07 05.2	-0.7
OT3	Othello 3	4.10	58	P	Pn	06 07 05.7	-0.2
MCW	Mount Constitu	4.19	13	⇑P	Pn	06 07 06.0	-1.2
WDC	Whiskeytown Da	4.23	162	ePn	Pn	06 07 07.4	-0.5
SNB	Saturna Island	4.23	10	P	Pn	06 07 06.4	-1.5
EPH	Ephrata	4.26	48	⇑P	Pn	06 07 08.6	+0.2
RPW	Rockport	4.29	26	⇑P	Pn	06 07 07.9	-0.7
WTV	Waterville	4.31	43	⇑P	Pn	06 07 08.9	-0.1
NLW	Nelson Butte	4.41	37	⇑P	Pn	06 07 10.2	-0.2
LNOR	Lincton Mounta	4.42	71	⇑P	Pn	06 07 09.8	-0.7
MBW	Mount Baker	4.48	21	⇑P	Pn	06 07 10.3	-1.1
SAW	Saint Andrews	4.59	46	⇑P	Pn	06 07 12.6	-0.4
WVOR	Wild Horse Val	4.65	116	ePn	Pn	06 07 13.7	-0.1
VDB	Vedder Mountai	4.66	18	⇑P	Pn	06 07 12.4	-1.5
OD2	Odessa Site #2	4.77	52	P	Pn	06 07 14.8	-0.7
DPW	Davenport	5.33	50	P	Pn	06 07 22.7	-0.6
BEKR	Beckwourth	5.57	147	ePn	Pn	06 07 26.0	-0.7
OHCM	Honcut	5.67	157	Pn	Pn	06 07 29.1	+1.0
PNT	Penticton	5.69	33	⇑P	Pn	06 07 27.1	-1.3
NEW	Newport	6.15	51	Pn	Pn	06 07 33.6	-1.3
	4.4nm,0.3s,baz=224,slow=11,SNR=40						
NEW				Lg		06 09 16.4	
	6.6nm,0.3s,baz=328,slow=17,SNR=4.7						
NEW	Newport	6.15	51	ePn	Pn	06 07 32.4	-2.6
WCN	Washoe City	6.29	146	Pn	Pn	06 07 33.5	-3.4
BMN	Battle Mountai	6.68	126	Pn	Pn	06 07 38.8	-3.6
HLID	Hailey	7.18	95	ePn	Pn	06 07 47.7	-1.8
MSO	Missoula	7.57	69	ePn	Pn	06 07 52.5	-2.3
NVAR	Mina Array Bea	7.63	142	Pn	Pn	06 07 58.5	+2.7
	0.4nm,0.3s,baz=318,slow=12,SNR=43						
NVAR				LR	LR	06 11 30.6	
	comp=Z,540nm,19.1s,baz=310,slow=43						
MNV	Mina	7.70	141	ePn	Pn	06 07 56.0	-0.6
BBB	Bella Bella	7.99	343	Pn	Pn	06 08 00.1	-0.6
	0.7nm,0.3s,baz=165,slow=12,SNR=24						
BBB				Sn	Sn	06 09 24.0	-7.1
	0.2nm,0.3s,baz=176,slow=19,SNR=1.5						
BBB				Lg		06 10 30.9	
	baz=95,slow=8.0,SNR=3.8						
BBB				LR	LR	06 11 15.4	
	comp=Z,560nm,18.7s,baz=164,slow=39						
OMM	Old Mammoth Mi	8.05	148	ePn	P	06 07 59.5	-2.0
TPH	Tonopah	8.42	138	ePn	P	06 08 09.1	+2.4
MTUM	Tungsten Hills	8.44	147	Pn	P	06 08 07.2	+0.2
LRV	Little Rabbit	8.55	162	Pn	P	06 08 06.8	-1.7
HVU	Hansel Valley	8.87	105	ePn	P	06 08 12.1	-0.8
BOZ	Bozeman (W)	9.01	79	ePn	P	06 08 12.8	-2.0
SPUT	South Promonto	9.28	107	Pn	P	06 08 14.4	-4.3
YMR	Madison River	9.50	85	Pn	P	06 08 19.4	-2.2
DUG	Dugway	9.56	114	ePn	P	06 08 20.4	-2.0
TPAW	Teton Pass	9.67	92	Pn	P	06 08 22.1	-1.8
AHID	Auburn Hatcher	9.73	96	ePn	P	06 08 26.2	+1.5
REDW	Red Top Meadow	9.77	93	Pn	P	06 08 24.0	-1.2
MOOW	Moose Ponds	9.77	90	ePn	P	06 08 23.8	-1.5
HWUT	Hardware Ranch	9.78	103	ePn	P	06 08 26.2	+0.8
WUWY	Wally Ulrich	9.81	92	ePn	P	06 08 24.1	-1.7
TCUT	Toone Canyon	10.08	106	ePn	P	06 08 30.6	+1.1
NLU	North Lily Min	10.17	113	Pn	P	06 08 28.0	-2.8
JLU	Jordanelle	10.27	109	ePn	P	06 08 30.9	-1.3
MPU	Maple Canyon	10.43	112	ePn	P	06 08 32.3	-2.1
DAU	Daniels Canyon	10.49	109	ePn	P	06 08 36.1	+1.0
PDAR	Pinedale Array	10.82	95	Pn	P	06 08 41.6	+1.9
	0.2nm,0.3s,baz=291,slow=13,SNR=86						
PDAR				LR	LR	06 12 52.3	
	comp=Z,732nm,21.0s,baz=302,slow=38						
MSU	Marysvale	10.92	120	ePn	P	06 08 39.4	-1.7
MWC	Mount Wilson	11.43	153	Pn	P	06 08 46.6	-1.4
NEN	Nelson	11.50	138	Pn	P	06 08 46.1	-2.8
SRU	San Rafael	11.63	113	ePn	P	06 08 48.3	-2.5
LDFC	Landfair	11.84	140	ePn	P	06 08 55.0	+1.5
LAO	LASA Array	12.81	74	ePn	P	06 09 04.5	-1.9
PV10	Paradox Valley	13.01	113	Pn	P	06 09 07.0	-2.1
BAR	Barrett	13.31	151	ePn	P	06 09 11.1	-2.0
WUAZ	Wupatki	13.41	128	Pn	P	06 09 10.3	-4.1
PV01	Paradox Valley	13.45	113	ePn	P	06 09 15.0	+0.1
DLBC	Dease Lake	14.29	348	Pn	P	06 09 28.9	+3.1
	0.1nm,0.3s,baz=188,slow=14,SNR=2.3						
DLBC				LR	LR	06 15 06.4	
	comp=Z,637nm,18.8s,baz=166,slow=38						
DGMT	Dagmar	14.35	67	ePn	P	06 09 23.5	-3.1
RSSD	Black Hills	14.49	85	eP	P	06 09 26.4	-2.2
	6.2nm,1.0s						
ISCO	Idaho Springs	14.64	103	eP	P	06 09 29.2	-1.4
	4.8nm,1.0s						
SDCO	Great Sand Dun	15.70	109	eP	P	06 09 43.5	-0.8
	14nm,1.0s						
LAZ	Ladron	16.67	122	eP	P	06 09 56.3	-0.4
BNM	Barren Site	17.15	121	eP	P	06 10 00.9	-1.8
FFC	Flin Flon	17.55	47	eP	P	06 10 02.4	-5.2
	13nm,0.8s						
YKA	Yellowknife Ar	18.77	14	P	P	06 10 19.9	-2.6
	1.1nm,0.3s,baz=200,slow=12,SNR=36						
YKA				LR	LR	06 18 47.8	
	comp=Z,304nm,20.4s,baz=205,slow=41						
YKA	Yellowknife Ar	18.77	14	P	P	06 10 19.9	-2.6
YKA				LR	LR	06 18 47.8	
YKW3	Yellowknife Ar	18.84	14	eP	P	06 10 20.0	-3.3
CPRX	Cap Rock	19.61	119	P	P	06 10 31.3	-1.1
GDL2	Guadalupe Moun	19.87	122	eP	P	06 10 34.8	-0.5
ULM	Lac du Bonnet	19.96	63	P	P	06 10 32.8	-3.3
	1.5nm,0.3s,baz=266,slow=9.6,SNR=12						
ULM				LR	LR	06 19 27.1	
	comp=Z,234nm,19.6s,baz=271,slow=40						
ULM	Lac du Bonnet	19.96	63	eP	P	06 10 32.0	-4.1
	12nm,0.6s						
CLNB	Carlsbad	20.12	121	P	P	06 10 37.2	-0.7
DAWY	Dawson	21.28	342	eP	P	06 10 47.9	-1.6
KSU1	Kansas State U	21.28	95	eP	P	06 10 47.9	-1.8
WMOK	Wichita Mounta	21.89	108	eP	P	06 10 54.3	-1.6
	10nm,0.6s,mb4.4						
SML	Sawmill	22.23	329	P	P	06 10 57.8	-1.2
LTX	Lajitas	22.36	126	eP	P	06 11 00.3	-0.3
	7.6nm,0.7s,mb4.2						
TXAR	Lajitas Array	22.36	126	P	P	06 11 00.6	0.0
	4.8nm,0.7s,mb4.1,baz=319,slow=7.8,SNR=36						
TXAR				PcP	PcP	06 14 56.1	0.0
	0.9nm,0.7s,baz=246,slow=0.9,SNR=7.2						
TXAR				LR	LR	06 20 03.7	
	comp=Z,139nm,19.0s,MS3.4,baz=305,slow=38						
PMR	Palmer	22.39	328	eP	P	06 11 02.3	+1.7
	13nm,0.8s,mb4.4						
FCC	Fort Churchill	23.21	42	eP	P	06 11 07.0	-1.6
	49nm,1.0s,mb4.9						
SPU	Mount Spurr	23.30	325	P	P	06 11 11.9	+2.6
ILAR	Eielson Array	23.80	336	P	P	06 11 16.6	+2.3
	2.3nm,0.7s,mb3.7,baz=150,slow=7.9,SNR=25						
ILAR				pP		06 11 24.6	
	6.0nm,0.8s,baz=142,slow=7.7,SNR=22						
ILAR				PcP	PcP	06 14 58.8	0.0
	0.9nm,1.0s,baz=187,slow=2.1,SNR=5.3						
ILAR				pPcP		06 15 07.3	
	1.5nm,0.7s,baz=183,slow=1.6,SNR=11						
ILAR				LR	LR	06 19 36.2	
	comp=Z,163nm,19.8s,MS3.5,baz=339,slow=34						
JCT	Junction City	23.88	118	eP	P	06 11 15.6	+0.2
	13nm,0.7s,mb4.5						
INK	Inuvik	24.24	352	P	P	06 11 19.6	+1.1
	5.5nm,0.9s,mb4.0,baz=158,slow=9.0,SNR=14						
INK				pP		06 11 27.9	
	4.5nm,0.8s,baz=144,slow=10,SNR=7.7						
INK				LR	LR	06 21 37.5	
	comp=Z,530nm,18.8s,MS4.0,baz=355,slow=38						
CCM	Cathedral Cave	25.54	93	eP	P	06 11 30.6	-0.6
	46nm,1.0s,mb5.0						
FVM	French Village	26.15	93	eP	P	06 11 34.8	-2.1
	14nm,0.7s,mb4.6						
HBAR	Harrisburg	27.11	98	eP	P	06 11 45.0	-0.8
GNAR	Gosnell	27.37	96	P	P	06 11 47.5	-0.5
OXF	Oxford	28.52	99	eP	P	06 11 58.4	-0.1
	111nm,1.0s,mb5.5						
ACSO	Alum Creek Sta	30.56	84	eP	P	06 12 13.8	-2.9
	58nm,1.5s,mb5.2						
LRAL	Lakeview Retre	31.01	99	eP	P	06 12 18.7	-1.9
	4.5nm,0.7s,mb4.4						
CPCT	Cooper Cave	31.53	93	eP	P	06 12 23.8	-1.4
ALLY	Alegheny Colle	32.06	80	eP	P	06 12 28.4	-1.3
RES	Resolute Bay	32.85	14	eP	P	06 12 33.8	-2.5
FWV	Forest Hill	33.19	87	eP	P	06 12 38.4	-1.2
ELN	Prospectdale	33.39	87	eP	P	06 12 39.9	-1.5
JSC	Jenkinsville	34.43	92	eP	P	06 12 49.5	-1.0
SCHQ	Schefferville	37.51	53	P	P	06 13 15.6	-0.7
	6.3nm,0.9s,mb4.3,baz=262,slow=6.8,SNR=6.4						
SCHQ				pP	pP	06 13 24.6	-0.9
	5.3nm,0.8s,baz=276,slow=5.6,SNR=3.7						
SCHQ				LR	LR	06 28 21.5	
	comp=Z,254nm,21.3s,MS4.0,baz=129,slow=36						
BORG	Borgarnes	55.70	30	LR	LR	06 40 14.8	
	comp=Z,399nm,18.0s,MS4.5,baz=104,slow=37						
JMIC	Jan Mayen	55.98	21	LR	LR	06 40 25.8	
	comp=Z,206nm,18.1s,MS4.3,baz=155,slow=37						
ARCES	ARCESS Array B	64.02	11	P	P	06 16 35.1	-0.8
	8.5nm,1.1s,mb4.7,baz=353,slow=6.1,SNR=17						
KEV	Kevo	64.02	11	ep	P	06 16 34.6	-1.3
NB2	NORSAR Subarra	68.69	21	P	P	06 17 05.6	-0.1
	5.9nm,0.7s,mb4.6,baz=326,slow=6.2						
NOA	NORSAR Array B	68.69	21	P	P	06 17 06.2	+0.4
	4.9nm,0.8s,mb4.5,baz=327,slow=6.5,SNR=10						
HFS	Hagfors	70.10	21	P	P	06 17 14.8	+0.4
	51nm,1.2s,mb5.3,baz=333,slow=3.3,SNR=21						
KAF	Kangasniemi	71.03	14	ep	P	06 17 18.4	-1.6
	0.9nm,0.4s,mb4.0						
KAF	Kangasniemi	71.03	14	eP	P	06 17 18.4	-1.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	71.61	15	P	P	06 17 23.6	+0.1
	comp=Z,4.7nm,0.5s,mb4.7,baz=333,slow=3.1,SNR=25						
CN2	Changchun	72.33	315	eP	P	06 17 25.3	-2.8
FLN	La Foliniere	74.82	35	eP	P	06 17 42.5	+0.1
FLN				eR			
	comp=Z,231nm,18.5s						
GRR	Gorron	74.96	35	eP	P	06 17 43.8	+0.5
LDF	La Druitiere	75.10	35	eP	P	06 17 44.3	+0.3
SAML	Samuel	76.53	117	eP	P	06 17 51.4	-1.5
SAML				e	pP	06 17 59.5	-3.1
CLL	Collm	77.56	26	P	P	06 17 58.9	+1.1
	comp=Z,logA/T=1.1,mb4.8						
CLL				i *PP	pP	06 18 07.9	+0.3
CLL	Collm	77.56	26	i P	P	06 17 58.9	+1.1
CLL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
CLL	Collm	77.56	26	P	P	06 17 58.9	+1.1
	comp=Z,12nm,0.9s,mb4.8						
CLL				i	pP	06 18 07.9	+0.3
MOX	Moxa	77.69	27	i P	P	06 17 59.9	+1.4
	comp=Z,logA/T=1.2,mb4.9						
MOX				L		06 53 12.0	
MOX	Moxa	77.69	27	eP	P	06 17 59.9	+1.4
MOX				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
MOX				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
MOX	Moxa	77.69	27	eP	P	06 17 59.9	+1.4
	comp=Z,18nm,1.1s,mb4.9						
MOX				LR	LR		
	comp=Z,200nm,21.0s,MS4.4						
SONM	Songino Array	77.75	328	P	P	06 18 00.9	+2.1
	comp=Z,1.1nm,0.8s,mb3.9,baz=77,slow=4.9,SNR=4.6						
SONM				pP	pP	06 18 09.4	+0.7
	comp=Z,1.4nm,0.6s,baz=9.5,slow=7.5,SNR=5.9						
LOR	Lormes	77.75	33	eP	P	06 17 59.6	+0.7
	comp=Z,27nm,0.9s,mb4.9						
LOR				eR			
	comp=Z,81nm,21.0s						
SSF	Saint Saulge	77.78	34	eP	P	06 17 59.7	+0.6
	comp=Z,17nm,0.8s,mb4.7						
BGF	Bois d'Agland	77.93	34	eP	P	06 18 00.3	+0.4
	comp=Z,18nm,0.7s,mb4.8						
AVF	Avril sur Loir	77.95	34	eP	P	06 18 00.2	+0.2
	comp=Z,8.9nm,0.7s,mb4.5						
HAU	Haudompre	78.10	31	eP	P	06 18 01.2	+0.4
HAU				eR			
	comp=Z,326nm,18.0s						
CDF	Champ du Feu	78.10	31	eP	P	06 18 01.5	+0.7
	comp=Z,22nm,0.9s,mb4.8						
BRG	Berggiesshubel	78.23	26	i P	P	06 18 02.8	+1.3
BRG				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
BRG	Berggiesshubel	78.23	26	i P	P	06 18 02.8	+1.3
	comp=Z,12nm,0.8s,mb4.9						
SMF	Signal de Mont	78.26	34	eP	P	06 18 02.6	+0.9
	comp=Z,23nm,1.1s,mb4.7						
HINF	Hinteralfeld	78.44	31	eP	P	06 18 03.1	+0.4
CAF	Calviac	78.94	36	eP	P	06 18 05.8	+0.3
	comp=Z,12nm,0.8s,mb4.6						
CABF	La Chapelle	79.16	32	eP	P	06 18 07.7	+1.0
	comp=Z,32nm,1.1s,mb4.8						
PRU	Pruhonice	79.19	26	eP	P	06 18 08.6	+1.9
ARU	Arti	79.30	358	P	P	06 18 07.0	-0.2
	comp=Z,1.6nm,1.3s,mb3.8						
ARU				e	pP	06 18 14.9	-2.1
DPC	Dobruska-Polom	79.41	24	eP	P	06 18 09.5	+1.6
KHC	Kasperske Hory	79.64	27	eP	P	06 18 10.7	+1.5
GERES	GERESS Array B	79.93	27	P	P	06 18 11.9	+1.1
	comp=Z,3.5nm,1.0s,mb4.3,baz=326,slow=4.8,SNR=11						
ESDC	Sonseca Array	80.40	43	P	P	06 18 14.3	+0.8
	comp=Z,1.2nm,0.6s,mb4.0,baz=312,slow=4.8,SNR=7.5						
VRAC	Vranov	80.42	25	P	P	06 18 15.3	+1.9
	comp=Z,3.4nm,0.4s,mb4.7,baz=328,slow=5.1,SNR=4.7						
DAVOX	Davos	80.42	30	P	P	06 18 15.9	+2.5
	comp=Z,5.1nm,0.9s,mb4.5,baz=338,slow=16,SNR=9.7						
OJC	Ojcow	80.51	22	eP	P	06 18 14.9	+1.1
BRVK	Borovoye	81.91	351	eP	P	06 18 22.2	+1.2
	comp=Z,8.7nm,0.9s,mb4.7						
BRVK				epP	pP	06 18 29.5	-1.4
BVAR	Borovoye Array	81.93	351	P	P	06 18 22.5	+1.4
	comp=Z,3.5nm,0.6s,mb4.5,baz=27,slow=3.2,SNR=16						
BVAR				pP	pP	06 18 30.8	-0.2
	comp=Z,13nm,1.0s,slow=3.0,SNR=14						
AKASG	Malin Array Be	82.32	17	P	P	06 18 23.5	+0.3
	comp=Z,6.5nm,0.7s,mb4.7,baz=342,slow=4.3,SNR=17						
AKASG				pP	pP	06 18 31.5	-1.6
	comp=Z,2.6nm,0.7s,baz=337,slow=4.6,SNR=4.9						
KURK	Kurchatov	82.99	346	eP	P	06 18 27.3	+0.6
KURK				epP	pP	06 18 35.7	-0.9
NJ2	Nanjing	84.52	310	eP	P	06 18 33.5	-1.3
NJ2				AP	pP	06 18 41.4	-3.3
NJ2				XP	sP	06 18 44.8	-3.1
NJ2				PP	PP	06 21 50.0	-2.0
NJ2				SKS	SKS	06 28 52.0	-9.3
NJ2				S	S	06 28 56.0	-1.9
MKAR	Makanchi Array	86.01	342	P	P	06 18 42.8	+0.9
	comp=Z,3.2nm,1.0s,mb4.5,baz=37,slow=5.2,SNR=7.1						
MKAR				pP	pP	06 18 51.3	-0.5
	comp=Z,3.5nm,0.7s,baz=14,slow=5.0,SNR=10						
WMQ	Urumqi	87.46	337	⇑P	P	06 18 49.0	0.0
WMQ				AP	pP	06 18 57.0	-1.9
WMQ				XP	sP	06 19 00.8	-1.3
WMQ				ePP	PP	06 22 16.0	-0.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,16nm,7.5s						
WMQ				LR	LR		
	comp=N,443nm,24.8s,MS4.9						
WMQ				LR	LR		
	comp=E,294nm,20.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,571nm,19.0s,MS5.0						
KMI	Kunming	98.39	318	eP	P	06 19 39.0	-0.9
	comp=Z,7.0nm,0.5s,mb5.5						
WRA	Warramunga Arr	111.71	263	PKiKP		06 24 37.6	
	comp=Z,0.6nm,0.8s,baz=39,slow=0.9,SNR=3.5						
WRA				pPKiKP		06 24 45.8	
	comp=Z,0.6nm,0.7s,baz=36,slow=1.8,SNR=2.9						
ASAR	Alice Springs	114.42	260	PKP	PKPdf	06 24 41.7	-4.1
	comp=Z,0.4nm,0.7s,baz=45,slow=2.6,SNR=2.9						
ASAR				pPKP		06 24 50.7	
	comp=Z,0.3nm,0.6s,baz=70,slow=1.8,SNR=2.5						
VNDA	Vanda	129.79	196	PKP	PKPdf	06 25 11.3	-2.8
	comp=Z,0.6nm,0.7s,baz=341,slow=2.8,SNR=4.7						
VNDA				pPKP		06 25 18.9	
	comp=Z,1.5nm,1.1s,baz=318,slow=3.8,SNR=5.0						

VNDA	**Vanda**	**129.79**	**196**	PKP	PKPdf	06 25 11.3	-2.8
VNDA				pPKP		06 25 18.9	

MOS ***19*** *06:33:24.8*±*1.4, 8.33S*×*109.71E, h35^{km}, mb5.6/18, Error ellipse: s-maj=16.7km s-min=9.7km az=97.2*
DJA ***19*** *06:33:27.5*±*0.8, 9.15S*×*109.59E, h64^{km}*±*11^{km}, mb6.3/1, MD4.9/4, Error ellipse: s-maj=39.4km s-min=4.9km az=17.0*
BJI ***19*** *06:33:29.6, 8.68S*×*109.96E, h101^{km}, mB5.3, mb5.2*
IDC ***19*** *06:33:30.0*±*0.4, 8.25S*×*109.79E, h66^{km}*±*3^{km}, mb4.8/23, mb1 4.9/24, mb1mx4.9/25, MS4.2/5, Ms1 4.2/5, ms1mx3.8/22, Error ellipse: s-maj=16.6km s-min=8.4km az=55.0*
HRVD ***19*** *06:33:31.4*±*0.6, 8.56S*×*109.94E, h51^{km}*±*2^{km}, MW5.2/43, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s43,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$6.27±.56; M$_{\theta\theta}$-0.63±.35; M$_{\phi\phi}$-5.64±.35; M$_{r\theta}$-2.29±.22; M$_{\theta\phi}$-0.24±.23; M$_{\phi r}$-2.16±.32; Best double couple: M$_{0}$6.69×10^{16} NP1:ϕ_s350°,δ36°,λ65°. NP2:ϕ_s199°,δ58°,λ107°. Principal axes: T 7.27, Plg72°, Azm150°; N -1.18, Plg14°, Azm10°; P -6.1, Plg11°, Azm277°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SYO ***19*** *06:33:31.3, 8.29S*×*109.79E, h80^{km}, MB5.3*
NEIC ***19*** *06:33:31.4*±*0.6, 8.29S*×*109.79E, h80^{km}*±*5^{km}, mb5.3/34, Error ellipse: s-maj=7.9km s-min=4.5km az=222.0*
NEIC Felt [III] at Yogyakarta; [II] at Kebumen and Sawahan.
ISC 19 06:33:27.8±0.2**, 8.35S**±0.04×**109.78E**±0.03**, h61^{km}, h61^{km}**±3.1^{km}**:pP-P, n269,** σ1^{s}**23**/172**, mb5.2**/65**, 21C-14D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALI	**Kaliastana**	**3.33**	**291**	*e*Pn	**P**	**06 34 21.1**	**+2.4**
KALI				*e*Sn	**S**	**06 34 58.6**	**+1.3**
PACI	**Pancar Gunung**	**3.34**	**301**	*e*Pn	**P**	**06 34 22.0**	**+3.2**
KELI	**Kelakatan**	**4.67**	**89**	⇓*i*P	**P**	**06 34 42.6**	**+5.2**
KELI	**Kelakatan**	**4.67**	**89**	⇓*i*Pn	**P**	**06 34 40.6**	**+3.2**
KELI				⇓*i*P		06 34 42.6	
INGI	**Ingas**	**5.33**	**95**	⇑*i*P	**P**	**06 34 48.5**	**+1.9**
	4µm,0.3s						
RATI	**Rata**	**5.70**	**94**	⇓*i*Pn	**P**	**06 34 54.0**	**+2.2**
KEDI	**Kedomdong**	**6.27**	**92**	⇓*i*P	**P**	**06 35 01.5**	**+1.8**
KEDI				⇓*i*Sn	**S**	**06 36 10.7**	**-0.1**
KEDI	**Kedomdong**	**6.27**	**92**	⇓*i*Pn	**P**	**06 35 00.5**	**+0.8**
KEDI				⇓*i*P		06 35 01.5	
KEDI				*i* Sn	**S**	**06 36 10.7**	**-0.1**
NINI	**Niniconang**	**10.65**	**69**	⇓*e*P	**P**	**06 36 06.3**	**+6.2**
IPM	**Ipoh**	**15.53**	**325**	⇑*e*P	**P**	**06 37 05.6**	**+1.1**
KKM	**Kota Kinabalu**	**15.67**	**24**	⇑*e*P	**P**	**06 37 12.2**	**+5.9**
FITZ	**Fitzroy Crossi**	**18.22**	**124**	*e*P	**P**	**06 37 37.7**	**-0.4**
	56nm,0.6s						
FITZ				*e*S	**S**	**06 40 39.9**	**-16**
FITZ	**Fitzroy Crossi**	**18.22**	**124**	P	**P**	**06 37 38.5**	**+0.4**
	7.9nm,0.3s,baz=322,slow=4.8,SNR=173						
FITZ				S	**S**	**06 40 42.0**	**-14**
	4.3nm,0.3s,baz=198,slow=6.4,SNR=3.7						
FITZ				LR	LR	06 44 34.7	
	comp=Z,271nm,19.9s,baz=269,slow=36						
KAKA	**Kakadu**	**22.65**	**103**	*e*P	**P**	**06 38 25.4**	**+0.5**
	173nm,0.6s,mb5.7						
NNT	**Nongplab**	**23.07**	**334**	P		06 38 45.0	
MUN	**Mundaring**	**24.26**	**167**	*e*P	**P**	**06 38 39.0**	**-1.4**
	27nm,0.8s,mb4.7						
MUN				*e*S	**S**	**06 43 03.1**	**+11**
KLBR	**Kellerberrin**	**24.29**	**163**	*e*P	**P**	**06 38 39.2**	**-1.5**
	80nm,1.4s,mb5.0						
KLBR				*e*S	**S**	**06 43 03.9**	**+11**
NWAO	**Narrogin (SRO)**	**25.42**	**165**	P	**P**	**06 38 50.6**	**-0.9**
	37nm,0.8s,mb5.0,baz=339,slow=11,SNR=11						
NWAO				pP	pP	06 39 08.3	+2.2
	13nm,0.6s,baz=351,slow=13,SNR=2.6						
NWAO				LR	LR	06 48 35.9	
	comp=Z,350nm,20.5s,baz=11,slow=36						
NWAO	**Narrogin (SRO)**	**25.42**	**165**	*e*P	**P**	**06 38 49.4**	**-2.0**
NWAO				pmax	pmax		
	comp=Z,60nm,1.0s						
NWAO	**Narrogin (SRO)**	**25.42**	**165**	*e*P	**P**	**06 38 49.4**	**-2.0**
	comp=Z,60nm,1.1s,mb5.0						
NST	**Nakhon Sawan**	**25.70**	**338**	P	**P**	**06 38 56.0**	**+1.8**
	comp=Z,58nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**26.41**	**118**	P	**P**	**06 39 00.5**	**-0.3**
	comp=Z,182nm,0.7s,mb5.7,baz=289,slow=11,SNR=846						
WRAB	**Tennant Creek**	**26.42**	**118**	*e*P	**P**	**06 39 00.5**	**-0.3**
	comp=Z,408nm,0.8s,mb6.0						
WB2	**Warramunga Arr**	**26.43**	**118**	⇑*i*P	**P**	**06 39 00.7**	**-0.2**
WB2				*e*S	Sx	06 44 00.6	
BDT	**Bhumibol Dam**	**27.57**	**337**	P	**P**	**06 39 20.0**	**+8.6**
ASPA	**Alice Springs**	**27.67**	**126**	⇑*i*P	**P**	**06 39 11.6**	**-0.7**
ASAR	**Alice Springs**	**27.67**	**126**	P	**P**	**06 39 11.7**	**-0.6**
	comp=Z,72nm,0.7s,mb5.4,baz=306,slow=9.4,SNR=539						
ASAR				pP	pP	06 39 28.5	+1.3
	comp=Z,37nm,0.8s,baz=301,slow=9.1,SNR=5.3						
FORT	**Forrest**	**28.10**	**145**	⇑*i*P	**P**	**06 39 14.8**	**-1.3**
	comp=Z,135nm,0.7s,mb5.7						
FORT				*e*pP	Px	06 39 19.3	
FORT				*e*S	Sx	06 44 31.8	
CM31	**Chiang Mai Arr**	**28.70**	**338**	P	**P**	**06 39 20.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.70**	**338**	P	**P**	**06 39 21.1**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.3,baz=172,slow=8.3,SNR=13						
KMI	**Kunming**	**33.96**	**349**	*e*P	**P**	**06 40 05.6**	**-2.0**
KMI				S	x	06 44 08.3	
KMI				XS		06 44 30.0	
KMI				SS	x	06 44 55.8	
KMI				AMB	AMB		
	comp=Z,103nm,1.8s,mb5.5						
KMI				LR	LR		
	comp=N,2µm,21.3s						
KMI				LR	LR		
	comp=E,2µm,17.3s						
KMI				LR	LR		
	comp=Z,3µm,23.5s						
KMI	**Kunming**	**33.96**	**349**	*e*P	**P**	**06 40 05.6**	**-2.0**
	comp=Z,103nm,1.8s,mb5.5						
KMI				pP	pP	06 40 17.5	-5.6
KMI				sP	sP	06 40 22.5	-8.2
KMI				PPP	x	06 40 45.2	
KMI				S	x	06 44 08.2	
KMI				sS		06 44 30.0	
KMI				SS	x	06 44 55.8	
KMI				S	**S**	**06 45 29.3**	**+2.1**
PMG	**Port Moresby**	**36.94**	**95**	P	**P**	**06 40 33.2**	**+0.2**
	comp=Z,32nm,1.0s,mb5.1,baz=273,slow=7.1,SNR=7.5						
CTA	**Charters Tower**	**37.14**	**112**	⇑*i*P	**P**	**06 40 35.7**	**+1.1**
	comp=Z,17nm,0.7s,mb5.0						
CTA	**Charters Tower**	**37.14**	**112**	P	**P**	**06 40 35.4**	**+0.7**
	comp=Z,21nm,0.7s,mb5.1,baz=278,slow=11,SNR=5.5						
CTA				PcP	PcP	06 42 54.7	+0.5
	comp=Z,31nm,0.9s,baz=312,slow=9.9,SNR=4.5						
CTAO	**Charters Tower**	**37.14**	**112**	*e*P	**P**	**06 40 35.4**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.4						
CTAO	**Charters Tower**	**37.14**	**112**	*e*P	**P**	**06 40 35.4**	**+0.7**
	comp=Z,59nm,1.1s,mb5.3						
CAL	**Calcutta**	**37.20**	**326**	*e*	Px	06 41 39.0	
CAL				*e*S	**S**	**06 46 14.3**	**-2.6**
ADE	**Adelaide**	**37.48**	**139**	⇑*i*P	**P**	**06 40 37.9**	**+0.6**
STKA	**Stephens Creek**	**37.71**	**133**	⇑*i*P	**P**	**06 40 39.5**	**+0.3**
	comp=Z,68nm,0.6s,mb5.6						
STKA				*e*PCP	PcP	06 42 55.6	-0.3
STKA	**Stephens Creek**	**37.71**	**133**	P	**P**	**06 40 39.4**	**+0.2**
	comp=Z,82nm,0.7s,mb5.6,baz=306,slow=8.3,SNR=209						
STKA				PcP	PcP	06 42 56.0	+0.2
	comp=Z,30nm,0.8s,baz=339,slow=5.7,SNR=3.4						
STKA				LR	LR	06 54 56.6	
	comp=Z,1µm,20.7s,baz=240,slow=34						
SHL	**Shillong**	**37.94**	**333**	*e*P	**P**	**06 40 40.0**	**-1.2**
SHL				*e*		06 41 29.2	
SHL				*e*S	**S**	**06 46 26.5**	**-1.6**
HYB	**Hyderabad**	**40.09**	**310**	*i* P	**P**	**06 40 54.0**	**-5.2**
HYB	**Hyderabad**	**40.09**	**310**	*e*P	**P**	**06 40 54.0**	**-5.2**
SSE	**Sheshan**	**40.71**	**15**	P	**P**	**06 41 06.1**	**+2.0**
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,211nm,3.5s						
SSE	**Sheshan**	**40.71**	**15**	P	**P**	**06 41 06.1**	**+2.0**
	comp=Z,52nm,0.7s,mb5.3						
GUMO	**Guam**	**41.09**	**58**	*e*P	**P**	**06 41 06.4**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,570nm,1.3s,mb6.0						
GUMO	**Guam**	**41.09**	**58**	*e*P	**P**	**06 41 06.4**	**-1.0**
	comp=Z,566nm,1.4s,mb6.0						
NJ2	**Nanjing**	**41.09**	**12**	*e*P	**P**	**06 41 08.0**	**+0.7**
NJ2				PP	PP	06 42 46.8	+1.0
NJ2				S	**S**	**06 47 19.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,60nm,0.5s,mb5.5						
NJ2				LR	LR		
	comp=N,4µm,21.0s						
NJ2				LR	LR		
	comp=E,4µm,15.3s						
NJ2				LR	LR		
	comp=Z,6µm,17.8s						
LSA	**Lhasa**	**41.86**	**335**	P	**P**	**06 41 18.8**	**+5.1**
LSA				LR	LR		
	comp=N,680nm,23.4s						
LSA	**Lhasa**	**41.86**	**335**	*e*P	**P**	**06 41 15.4**	**+1.7**
LATR	**Latur**	**42.21**	**309**	*e*	Px	06 43 22.1	
	comp=N,92nm,1.6s						
PKI	**Pulchoki**	**42.80**	**327**	*e*P	**P**	**06 41 22.5**	**+1.1**
	comp=N,13nm,0.8s,mb4.7						
DMN	**Daman**	**42.99**	**327**	*e*P	**P**	**06 41 22.6**	**-0.4**
	comp=N,40nm,1.0s,mb5.1						
KKN	**Kakani**	**43.04**	**327**	*e*P	**P**	**06 41 24.7**	**+1.3**
	comp=N,13nm,0.7s,mb4.8						
KAD	**Karad**	**43.45**	**306**	*e*P	**P**	**06 41 31.1**	**+4.3**
KAD				AMb	AMB	06 41 40.5	
	comp=Z,42nm,1.6s,mb4.9						
TOO	**Toolangi**	**43.45**	**138**	*e*P	**P**	**06 41 27.6**	**+1.0**
	comp=Z,16nm,1.3s,mb4.6						
GKN	**Gorkha**	**43.55**	**327**	*e*P	**P**	**06 41 27.6**	**+0.1**
	comp=Z,9.4nm,0.3s,mb5.0						
KOLN	**Koldanda**	**43.94**	**326**	*e*P	**P**	**06 41 29.8**	**-0.9**
POO	**Poona**	**44.38**	**307**	*e*P	**P**	**06 41 35.0**	**+0.7**
BHPL	**Bhopal**	**44.58**	**315**	*e*P	**P**	**06 41 34.9**	**-0.9**
BHPL				AMb	AMB	06 41 39.6	
	comp=Z,32nm,0.9s,mb5.2						
CNB	**Canberra Magne**	**45.03**	**133**	*e*P	**P**	**06 41 40.2**	**+0.8**
	comp=Z,50nm,1.4s,mb5.2						
RIV	**Riverview**	**45.73**	**130**	*e*P	**P**	**06 41 46.1**	**+1.2**
LGTI	**Lohaghat**	**47.12**	**324**	*e*	**P**	**06 42 04.7**	**+8.8**
TAU	**Tasmania Unive**	**47.60**	**143**	*e*P	**P**	**06 41 58.3**	**-1.2**
TAU				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.5						
TAU	**Tasmania Unive**	**47.60**	**143**	*e*P	**P**	**06 41 58.3**	**-1.2**
	comp=Z,43nm,0.8s,mb5.5						
SONA	**Sohna**	**48.18**	**320**	*e*P	**P**	**06 42 01.1**	**-3.1**
NDI	**New Delhi**	**48.40**	**321**	*e*P	**P**	**06 42 06.0**	**+0.1**
GTA	**Gaotai**	**48.40**	**350**	*e*P	**P**	**06 42 06.4**	**+0.6**
KUDL	**Kundal**	**48.49**	**320**	*e*P	**P**	**06 42 04.7**	**-1.9**
BJI	**Beijing**	**48.50**	**7**	P	**P**	**06 42 08.4**	**+1.9**
AJM	**Ajmer**	**48.59**	**317**	⇑*i*	PcP	06 43 30.0	-2.6
SDNR	**Sundarnagar**	**50.55**	**323**	*e*P	**P**	**06 42 20.6**	**-1.7**
SDNR				*e*		06 43 27.8	
BHK	**Bhakra**	**50.81**	**323**	*e*	PcP	06 43 42.3	+1.7
JASL	**Jaisalmer**	**51.47**	**314**	*e*P	**P**	**06 42 27.9**	**-1.5**
JASL				*e*		06 44 02.9	
MAJO	**Matsushiro**	**52.02**	**29**	*e*P	**P**	**06 42 31.7**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**52.02**	**29**	*e*P	**P**	**06 42 31.7**	**-1.7**
	comp=Z,20nm,0.8s,mb5.1						
CN2	**Changchun**	**53.81**	**14**	*e*P	**P**	**06 42 48.1**	**+1.5**
CN2				LR	LR		
	comp=N,900nm,14.0s						
CN2				LR	LR		
	comp=E,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1µm,16.0s						
MDJ	**Mudanjiang**	**55.67**	**17**	P	**P**	**06 42 59.8**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,169nm,4.5s						
SONM	**Songino Array**	**56.01**	**357**	P	**P**	**06 43 00.7**	**-1.8**
	comp=Z,10nm,0.7s,mb5.0,baz=168,slow=8.1,SNR=2.2						
SONM				pP	pP	06 43 19.4	+0.6
	comp=Z,8.9nm,0.6s,baz=180,slow=7.7,SNR=1.7						
KSH	**Kashi**	**57.00**	**329**	*e*P	**P**	**06 43 14.8**	**+5.1**
MIR	**Mirnyy**	**59.25**	**188**	⇑*e*P	**P**	**06 43 23.8**	**-1.2**
MIR				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
ASAJ	**Asahikawa**	**60.07**	**27**	P	**P**	**06 43 29.2**	**-1.7**
	comp=Z,9.4nm,0.7s,mb5.0,baz=261,slow=13,SNR=2.9						
AAK	**Ala-Archa**	**60.08**	**331**	*e*P	**P**	**06 43 28.6**	**-2.4**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**60.08**	**331**	*e*P	**P**	**06 43 28.6**	**-2.5**
	comp=Z,14nm,1.2s,mb4.9						
MKAR	**Makanchi Array**	**60.11**	**339**	P	**P**	**06 43 29.6**	**-1.6**
	comp=Z,8.5nm,0.5s,mb5.0,baz=149,slow=7.9,SNR=70						
MKAR				PKPPKP		07 12 57.5	
	comp=Z,1.2nm,1.0s,baz=270,slow=1.4,SNR=3.9						
FRU	**Bishkek**	**60.17**	**331**	*e*P	**P**	**06 43 35.0**	**+3.4**
KLR	**Kul'dur**	**60.48**	**16**	*e*P	**P**	**06 43 35.5**	**+1.8**
KLR				*e*		06 52 16.0	
IRK	**Irkutsk**	**60.53**	**356**	*e*P	**P**	**06 43 40.3**	**+6.3**
YSS	**Yuzh-Sakhalins**	**62.38**	**25**	⇑*i*P	**P**	**06 43 44.2**	**-2.3**
YSS				*e*		06 44 28.8	
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**62.38**	**25**	*e*P	**P**	**06 43 44.4**	**-2.0**
	comp=Z,46nm,0.9s,mb5.6						
RPZ	**Rata Peaks**	**63.63**	**135**	P	**P**	**06 43 54.9**	**+0.1**
	comp=Z,68nm,0.9s,mb5.7,baz=242,slow=3.8,SNR=24						
KURK	**Kurchatov**	**64.72**	**339**	*e*P	**P**	**06 43 59.1**	**-2.7**
KURK				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.6						
KURK	**Kurchatov**	**64.72**	**339**	*e*P	**P**	**06 43 59.1**	**-2.7**
	comp=Z,53nm,0.8s,mb5.6						
MAW	**Mawson**	**66.91**	**198**	⇑*i*P	**P**	**06 44 14.8**	**-0.6**
	comp=Z,20nm,0.6s,mb5.3						
MAW	**Mawson**	**66.91**	**198**	P	**P**	**06 44 14.9**	**-0.5**
	comp=Z,28nm,0.7s,mb5.4,baz=49,slow=6.8,SNR=63						
MAW				PKPPKP		07 12 44.0	
	comp=Z,1.5nm,0.8s,baz=286,slow=7.4,SNR=4.4						
MAW	**Mawson**	**66.91**	**198**	*e*P	**P**	**06 44 14.6**	**-0.8**
MAW				pmax	pmax		
	comp=Z,65nm,1.0s						
URZ	**Urewera**	**67.10**	**128**	P	**P**	**06 44 16.3**	**-0.8**
	comp=Z,34nm,0.8s,mb5.5,baz=310,slow=6.4,SNR=9.3						
BVAR	**Borovoye Array**	**69.69**	**336**	P	**P**	**06 44 31.2**	**-1.8**
	comp=Z,4.6nm,0.6s,mb4.6,baz=129,slow=7.7,SNR=21						
BVAR				S	S	06 53 32.8	-2.7
	comp=Z,2.7nm,1.0s,baz=117,slow=13,SNR=6.1						
BRVK	**Borovoye**	**69.76**	**336**	*e*P	**P**	**06 44 31.8**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
BRVK	**Borovoye**	**69.76**	**336**	*e*P	**P**	**06 44 31.8**	**-1.6**
	comp=Z,35nm,0.9s,mb5.3						
ZRNK	**Zerenda**	**70.21**	**335**	*e*P	**P**	**06 44 34.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**70.21**	**335**	*e*P	**P**	**06 44 34.2**	**-1.9**
	comp=Z,10nm,0.7s,mb4.9						
MZLS	**Mizel**	**70.72**	**299**	P	**P**	**06 44 39.3**	**-0.4**
SKR	**Severo-Kuril's**	**71.13**	**29**	*e*P	**P**	**06 44 37.5**	**-4.2**
SKR				*e*	SKS	06 54 36.0	+1.6
YAK	**Yakutsk**	**71.85**	**10**	*i* P	**P**	**06 44 46.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.4						
BLJS	**Baljurashi**	**72.70**	**294**	P	**P**	**06 44 52.8**	**+1.2**
ARSS	**Ar Rass**	**73.01**	**300**	P	**P**	**06 44 52.8**	**-0.5**
PET	**Petropavlovsk**	**73.84**	**28**	⇑*i*P	**P**	**06 44 57.0**	**-0.6**
PET				*e*S	S	06 54 16.1	-6.9
PET				smax			
	comp=N,100nm,11.8s						
PET				smax			
	comp=E,200nm,18.2s						
PET	**Petropavlovsk**	**73.84**	**28**	*e*P	**P**	**06 44 56.9**	**-0.7**
	comp=E,55nm,0.6s,mb5.7						
VNDA	**Vanda**	**74.16**	**170**	P	**P**	**06 44 58.9**	**-0.2**
	comp=E,28nm,0.8s,mb5.2,baz=310,slow=5.7,SNR=142						
VNDA	**Vanda**	**74.16**	**170**	P	**P**	**06 44 58.8**	**-0.2**
VNDA	**Vanda**	**74.16**	**170**	*e*P	**P**	**06 44 58.6**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,41nm,0.9s						
VNDA	**Vanda**	**74.16**	**170**	*e*P	**P**	**06 44 58.6**	**-0.4**
	comp=Z,41nm,0.9s,mb5.4						
HILS	**Ha'il**	**74.70**	**301**	P	**P**	**06 45 03.4**	**+0.2**
MA2	**Magadan**	**75.16**	**20**	*e*P	**P**	**06 45 03.9**	**-1.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
MA2	**Magadan**	**75.16**	**20**	*e*P	**P**	**06 45 03.9**	**-1.2**
	comp=Z,28nm,0.9s,mb5.2						
SYO	**Syowa Base**	**75.21**	**201**	⇓P	**P**	**06 45 04.5**	**-0.7**
SYO	**Syowa Base**	**75.21**	**201**	⇑PcP	PcP	06 45 17.3	-1.4
SYO	**Syowa Base**	**75.21**	**201**	⇑pP	pP	06 45 26.9	+4.7
SBA	**Scott Base**	**75.22**	**169**	*e*P	**P**	**06 45 05.7**	**+0.6**
SBA				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
SBA	**Scott Base**	**75.22**	**169**	*e*P	**P**	**06 45 05.7**	**+0.5**
	comp=Z,40nm,0.9s,mb5.3						
GNI	**Garni**	**76.85**	**314**	P	**P**	**06 45 16.2**	**+1.1**
	comp=Z,2.4nm,0.3s,mb4.6,baz=350,slow=6.5,SNR=4.1						
GNI	**Garni**	**76.85**	**314**	P	**P**	**06 45 16.2**	**+1.1**
ARU	**Arti**	**77.03**	**334**	*e*P	**P**	**06 45 14.2**	**-1.5**
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ARU	**Arti**	**77.03**	**334**	*e*P	**P**	**06 45 14.2**	**-1.6**
	comp=Z,17nm,1.0s,mb4.9						
SEY	**Seymchan**	**78.17**	**18**	*e*P	**P**	**06 45 23.6**	**+1.7**
MBAR	**Mbarara**	**79.07**	**271**	*e*P	**P**	**06 45 27.7**	**-0.1**
	comp=Z,28nm,0.9s,mb5.2						
GOF	**Gofitskoye**	**79.91**	**319**	*e*P	**P**	**06 45 25.0**	**-6.8**
JMQS	**Jabal Moqyreh**	**80.13**	**301**	P	**P**	**06 45 34.1**	**+0.8**
ASF	**Jabal al Asfar**	**80.18**	**305**	P	**P**	**06 45 34.6**	**+1.2**
	comp=Z,9.7nm,0.8s,mb4.8,baz=0.3,slow=4.5,SNR=9.4						
ASF				pP	pP	06 45 51.2	+0.5
	comp=Z,38nm,0.9s,baz=338,slow=1.5,SNR=12						
BDAS	**Al Bad'**	**80.68**	**301**	P	**P**	**06 45 36.5**	**+0.3**
MALT	**Malatya**	**80.80**	**311**	*e*P	**P**	**06 45 36.4**	**-0.2**
	comp=Z,20nm,1.3s,mb4.9						
HAQS	**Haql**	**80.98**	**301**	P	**P**	**06 45 38.9**	**+1.1**
LBTB	**Lobatse**	**81.28**	**246**	P	**P**	**06 45 40.1**	**+0.6**
LBTB	**Lobatse**	**81.28**	**246**	*e*P	**P**	**06 45 39.7**	**+0.3**
LBTB				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3						
LBTB	**Lobatse**	**81.28**	**246**	*e*P	**P**	**06 45 39.7**	**+0.3**
	comp=Z,43nm,1.1s,mb5.3						
SOC	**Sochi**	**81.59**	**316**	*e*P	**P**	**06 45 40.0**	**-0.7**
SOC				*e*		06 45 50.0	
SOC				*e*		06 48 51.8	
SOC				*e*PPP	PPP	06 50 39.7	-2.0
SOC				*e*SSS	SSS	07 04 24.2	-6.4
SOC				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,49nm,1.0s						
SOC				pmax	pmax		
	comp=E,16nm,0.8s						
QSPA	**South Pole Qui**	**81.65**	**180**	⇑*i*P	**P**	**06 45 40.6**	**+0.3**
	comp=E,84nm,1.1s,mb5.6						
QSPA				*e*	pP	06 46 00.9	+3.4
QSPA				LR	LR		
	comp=Z,230nm,19.9s						
CSS	**Prodhromos**	**83.79**	**307**	*e*P	**P**	**06 45 52.8**	**+0.6**
	comp=Z,77nm,1.0s,mb5.8						
CSS				*e*	pP	06 46 10.1	+0.6
SUR	**Sutherland**	**84.73**	**238**	P	**P**	**06 45 59.1**	**+2.2**
	comp=Z,21nm,1.0s,mb5.2,baz=93,slow=4.0,SNR=6.8						
SUR				LR	LR	07 14 40.1	
	comp=Z,300nm,20.8s,baz=125,slow=29						
BRTR	**Keskin Array B**	**84.78**	**311**	P	**P**	**06 45 57.2**	**+0.3**
	comp=Z,16nm,0.8s,mb5.2,baz=130,slow=6.9,SNR=53						
BRTR				pP	pP	06 46 14.2	-0.1
	comp=Z,25nm,0.8s,baz=143,slow=6.2,SNR=12						
MAIT	**Maitri**	**84.83**	**199**	⇑*i*P	**P**	**06 45 57.4**	**+0.9**
ELDT	**Eldivan**	**85.13**	**312**	*i* P	**P**	**06 46 02.0**	**+3.3**
BALT	**Daday**	**85.44**	**313**	*i* P	**P**	**06 46 00.9**	**+0.7**
SIM	**Simferopol'**	**85.84**	**316**	*de*P	**P**	**06 46 03.0**	**+0.9**
SIM				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.3						
ESKT	**Eskisehir**	**86.81**	**311**	*i* P	**P**	**06 46 07.2**	**+0.2**
MOS	**Moscow**	**86.98**	**327**	⇓*i*P	**P**	**06 46 08.1**	**+0.7**
MOS				pmax	pmax		
	comp=Z,103nm,0.6s,mb6.2						
HENT	**Hendek**	**87.08**	**312**	*i* P	**P**	**06 46 08.3**	**+0.1**
OBN	**Obninsk**	**87.35**	**327**	α*i*P	**P**	**06 46 09.0**	**-0.2**
OBN				*i*		06 56 28.1	
OBN				*i*		06 56 40.2	
OBN				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s						
OBN	**Obninsk**	**87.35**	**327**	*e*P	**P**	**06 46 08.3**	**-0.9**
	comp=Z,35nm,0.6s,mb5.8						
ULDT	**Uludag**	**88.24**	**311**	*i* P	**P**	**06 46 14.2**	**+0.4**
SNAA	**Sanae**	**89.06**	**197**	*e*	**P**	**06 46 18.8**	**+1.8**
SNAA	**Sanae**	**89.06**	**197**	*e*	PcP	06 46 28.6	+10
SNAA	**Sanae**	**89.06**	**197**	*e*	pP	06 46 32.0	-2.5
SNAA	**Sanae**	**89.06**	**197**	P	**P**	**06 46 18.0**	**+1.0**
	comp=Z,18nm,0.8s,mb5.5,baz=135,slow=4.7,SNR=249						
SNAA				PKKP	PKKP	07 03 53.6	+15
	comp=Z,0.5nm,0.7s,baz=288,slow=5.6,SNR=13						
SNAA	**Sanae**	**89.06**	**197**	*e*P	**P**	**06 46 17.7**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,50nm,0.8s						
SNAA	**Sanae**	**89.06**	**197**	⇑*i*P	**P**	**06 46 17.4**	**+0.4**
SNAA				*e*		06 46 18.8	
SNAA				*e*		06 46 28.6	
SNAA				*e*	pP	06 46 32.0	-2.5
SNAA				*e*		06 54 31.7	
KDAG	**Bornova**	**89.31**	**309**	*i* P	**P**	**06 46 18.4**	**-0.5**
TSUM	**Tsumeb**	**89.35**	**251**	LR	LR	07 18 52.6	
	comp=Z,74nm,21.1s,baz=139,slow=30						
AKASG	**Malin Array Be**	**90.46**	**321**	P	**P**	**06 46 22.8**	**-1.2**
	comp=Z,8.2nm,0.9s,mb5.1,baz=83,slow=4.3,SNR=27						
AKASG				pP	pP	06 46 41.1	-0.4
	comp=Z,6.4nm,0.8s,baz=84,slow=4.3,SNR=5.7						
IDI	**Anoyia**	**90.62**	**305**	P	**P**	**06 46 25.4**	**+0.2**
	comp=Z,8.6nm,0.9s,mb5.1,baz=101,slow=16,SNR=2.7						
IDI				pP	pP	06 46 45.1	+2.4
	comp=Z,9.7nm,0.6s,baz=340,slow=11,SNR=3.1						
VNA2	**Neumayer--Watz**	**90.71**	**197**	*e*	**P**	**06 46 28.8**	**+4.1**
VNA2	**Neumayer--Watz**	**90.71**	**197**	*e*	Px	06 46 38.2	
VNA2	**Neumayer--Watz**	**90.71**	**197**	*e*	pP	06 46 41.6	-0.7
VNA2	**Neumayer--Watz**	**90.71**	**197**	⇓*i*P	**P**	**06 46 27.3**	**+2.6**
VNA2				*e*		06 46 28.8	
VNA2				*e*		06 46 38.2	
VNA2				*e*	pP	06 46 41.6	-0.7
VNA2				*e*		06 54 38.2	
VNA1	**Neumayer--Stat**	**91.10**	**197**	*e*	**P**	**06 46 30.3**	**+3.8**
VNA1	**Neumayer--Stat**	**91.10**	**197**	*e*	Px	06 46 40.2	
VNA1	**Neumayer--Stat**	**91.10**	**197**	*e*	pP	06 46 43.6	-0.5
VNA1	**Neumayer--Stat**	**91.10**	**197**	⇓*i*P	**P**	**06 46 29.1**	**+2.6**
VNA1				*e*		06 46 30.3	
VNA1				*e*		06 46 40.2	
VNA1				*e*	pP	06 46 43.6	-0.5
VNA1				*e*		06 54 37.6	
FINES	**FINESS Array B**	**94.26**	**331**	P	**P**	**06 46 41.6**	**+0.4**
	comp=Z,3.7nm,0.8s,mb4.9,baz=135,slow=11,SNR=10						
FINES	**FINESS Array B**	**94.26**	**331**	*i* P	**P**	**06 46 41.6**	**+0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**94.26**	**332**	*e*p	**P**	**06 46 39.8**	**-1.4**
ARCES	**ARCESS Array B**	**95.75**	**339**	P	**P**	**06 46 48.4**	**+0.6**
	comp=Z,7.0nm,1.2s,mb5.0,baz=104,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**95.75**	**339**	P	**P**	**06 46 48.4**	**+0.6**
GERES	**GERESS Array B**	**100.22**	**318**	P	P	06 47 08.6	0.0
	comp=Z,0.2nm,0.3s,baz=90,slow=5.3,SNR=4.1						
NOA	**NORSAR Array B**	**101.40**	**331**	P	P	06 47 13.3	-0.2
	comp=Z,1.9nm,1.0s,baz=87,slow=4.6,SNR=2.4						
ILAR	**Eielson Array**	**103.18**	**25**	PKKPbc		07 03 15.9	
	comp=Z,0.6nm,0.7s,baz=99,slow=1.2,SNR=7.2						
ILAR				PKKP	PKKP	07 03 36.6	+22
	comp=Z,0.9nm,0.9s,baz=88,slow=3.7,SNR=7.1						
INK	**Inuvik**	**107.41**	**20**	PKKPbc		07 03 03.6	
	comp=Z,1.2nm,0.8s,baz=62,slow=4.6,SNR=3.5						
DBIC	**Dimbokro**	**115.24**	**273**	PKP	PKPdf	06 52 04.0	+0.7
	comp=Z,6.0nm,0.9s,baz=158,slow=3.8,SNR=6.3						
YKA	**Yellowknife Ar**	**117.13**	**21**	PKP	PKPdf	06 52 07.1	+1.4
	comp=Z,4.3nm,0.7s,baz=330,slow=1.9,SNR=14						
YKA				pPKP		06 52 24.9	
	comp=Z,2.2nm,0.5s,baz=324,slow=1.2,SNR=5.2						
YKA	**Yellowknife Ar**	**117.13**	**21**	PKP	PKPdf	06 52 07.1	+1.4
YKA				pPKP		06 52 24.9	
RMW	**Rattlesnake Mo**	**121.54**	**39**	*e*PKIKP	PKPdf	06 52 16.3	+1.6
NLW	**Nelson Butte**	**122.17**	**37**	*e*PKPdf	PKPdf	06 52 17.4	+1.5
HUMO	**Hull Mountain**	**122.66**	**44**	*e*PKPdf	PKPdf	06 52 19.2	+2.3
YBH	**Yreka Blue Hor**	**123.13**	**45**	PKP	PKPdf	06 52 20.5	+2.6
	comp=Z,3.1nm,1.0s,baz=333,slow=11,SNR=4.1						
DPW	**Davenport**	**123.54**	**37**	*e*PKIKP	PKPdf	06 52 19.0	+0.5
NEW	**Newport**	**123.99**	**36**	PKP	PKPdf	06 52 21.9	+2.5
	comp=Z,4.1nm,0.8s,baz=67,slow=0.3,SNR=8.6						
NEW	**Newport**	**123.99**	**36**	*e*PKIKP	PKPdf	06 52 21.0	+1.6
LNOR	**Lincton Mounta**	**124.42**	**39**	*e*PKIKP	PKPdf	06 52 21.5	+1.2
MOD	**Modoc**	**124.75**	**44**	*e*PKPdf	PKPdf	06 52 22.5	+1.5
BEKR	**Beckwourth**	**125.46**	**46**	*e*PKPdf	PKPdf	06 52 24.5	+2.0

WVOR	**Wild Horse Val**	**125.67**	**43**	*e*PKIKP	PKPdf	06 52 25.1	+2.3
NVAR	**Mina Array Bea**	**127.48**	**47**	PKP	PKPdf	06 52 29.0	+2.6
	comp=Z,8.6nm,1.0s,baz=226,slow=1.0,SNR=22						
HLID	**Hailey**	**127.94**	**40**	*e*PKPdf	PKPdf	06 52 29.9	+2.8
TPH	**Tonopah**	**128.40**	**47**	*e*PKIKP	PKPdf	06 52 30.7	+2.5
BOZ	**Bozeman (W)**	**128.56**	**36**	*e*PKPdf	PKPdf	06 52 30.5	+2.3
BOZ				*e*		06 52 40.9	
BOZ				*e*		06 52 48.6	
YMR	**Madison River**	**129.49**	**37**	*e*PKPdf	PKPdf	06 52 32.8	+2.7
REDW	**Red Top Meadow**	**130.27**	**38**	*e*PKPdf	PKPdf	06 52 34.3	+2.7
DUG	**Dugway**	**130.59**	**43**	*e*PKIKP	PKPdf	06 52 27.3	-5.0
DUG				*e*		06 52 33.8	
NEN	**Nelson**	**131.09**	**49**	*e*PKPdf	PKPdf	06 52 33.4	0.0
NEN				*e*		06 52 36.5	
LDFC	**Landfair**	**131.11**	**50**	*e*PKPdf	PKPdf	06 52 35.7	+2.2
PLCA	**Paso Flores**	**131.17**	**180**	PKP	PKPdf	06 52 35.1	+1.7
	comp=Z,2.6nm,0.7s,baz=218,slow=7.7,SNR=7.1						
PDAR	**Pinedale Array**	**131.39**	**38**	PKhKP		06 52 32.3	
	comp=Z,0.9nm,0.6s,baz=63,slow=2.0,SNR=4.7						
PDAR				PKP	PKPdf	06 52 36.3	+2.6
	comp=Z,1.1nm,0.7s,baz=24,slow=0.8,SNR=6.0						
PDAR				pPKP		06 52 54.3	
	comp=Z,1.2nm,0.6s,baz=344,slow=0.9,SNR=4.0						
PDAR				SKPbc		06 55 53.8	
	comp=Z,1.2nm,1.0s,baz=342,slow=2.9,SNR=4.4						
DAU	**Daniels Canyon**	**131.53**	**42**	*e*PKIKP	PKPdf	06 52 33.2	-0.9
MSU	**Marysvale**	**131.81**	**45**	*e*PKIKP	PKPdf	06 52 37.2	+2.5
SRU	**San Rafael**	**132.66**	**43**	*e*PKIKP	PKPdf	06 52 32.5	-3.8
SRU				*e*		06 52 37.8	
ULM	**Lac du Bonnet**	**133.09**	**22**	PKP	PKPdf	06 52 38.8	+2.0
	comp=Z,6.5nm,0.8s,baz=278,slow=3.4,SNR=6.3						
ULM				pPKP		06 52 58.1	
	comp=Z,4.4nm,0.8s,baz=257,slow=7.3,SNR=2.3						
ULM				SKPbc		06 55 58.2	
	comp=Z,5.3nm,0.8s,baz=321,slow=6.6,SNR=4.2						
ULM	**Lac du Bonnet**	**133.09**	**22**	PKP	PKPdf	06 52 38.8	+2.0
ULM				pPKP		06 52 58.1	
ULM				SKPbc		06 55 58.2	
SCHQ	**Schefferville**	**133.56**	**357**	PKP	PKPdf	06 52 39.0	+1.5
	comp=Z,6.3nm,0.7s,baz=137,slow=1.2,SNR=8.1						
SCHQ				pPKP		06 52 58.5	
	comp=Z,5.7nm,0.8s,baz=52,slow=4.6,SNR=3.7						
RSSD	**Black Hills**	**133.80**	**34**	*e*PKIKP	PKPdf	06 52 38.6	+0.4
PV10	**Paradox Valley**	**134.04**	**43**	*e*PKPdf	PKPdf	06 52 40.8	+1.9
PV01	**Paradox Valley**	**134.48**	**43**	*e*PKPdf	PKPdf	06 52 41.8	+2.1
ISCO	**Idaho Springs**	**135.51**	**40**	*e*PKIKP	PKPdf	06 52 37.3	-4.2
ISCO				*e*		06 52 43.1	
LAZ	**Ladron**	**137.33**	**47**	*e*PKPdf	PKPdf	06 52 47.0	+2.0
BNM	**Barren Site**	**137.82**	**47**	*e*PKPpre		06 52 43.1	
GDL2	**Guadalupe Moun**	**140.43**	**48**	*e*PKPpre		06 52 45.9	
CLNB	**Carlsbad**	**140.75**	**48**	*e*PKPpre		06 52 47.0	
KSU1	**Kansas State U**	**141.29**	**34**	*e*PKPpre		06 52 46.9	
LTX	**Lajitas**	**142.30**	**52**	*e*PKIKP	PKPdf	06 52 51.3	-2.8
TXAR	**Lajitas Array**	**142.30**	**52**	PKhKP		06 52 51.1	
	comp=Z,3.9nm,0.7s,baz=269,slow=1.5,SNR=40						
TXAR				SKP		06 56 27.6	
	comp=Z,1.6nm,0.8s,baz=252,slow=2.9,SNR=3.7						
WMOK	**Wichita Mounta**	**142.90**	**41**	*e*PKIKP	PKPdf	06 52 52.6	-2.3
CPUP	**Villa Florida**	**143.33**	**200**	PKhKP		06 52 54.8	
	comp=Z,5.4nm,0.8s,baz=165,slow=2.0,SNR=14						
CPUP	**Villa Florida**	**143.33**	**200**	*e*PKIKP	PKPdf	06 52 54.5	-1.4
EMMW	**East Machias**	**143.69**	**357**	*e*PKPpre		06 52 54.4	
WVL	**Waterville**	**143.91**	**359**	*e*PKPpre		06 52 55.0	
MIV	**Mineville/With**	**144.29**	**4**	*e*PKPdf	PKPdf	06 52 56.7	-0.3
NCB	**Newcomb**	**144.34**	**5**	*e*PKPdf	PKPdf	06 52 57.1	0.0
JCT	**Junction City**	**144.66**	**47**	*e*PKIKP	PKPdf	06 52 59.2	+1.1
HNH	**Hanover**	**144.73**	**3**	*e*PKPdf	PKPdf	06 52 58.2	+0.3
CCM	**Cathedral Cave**	**144.85**	**29**	*e*PKIKP	PKPdf	06 52 58.5	+0.3
SLM	**Saint Louis**	**144.87**	**28**	*e*PKIKP	PKPdf	06 52 58.5	+0.3
ACCN	**Adirondack Com**	**144.97**	**4**	*e*PKPdf	PKPdf	06 52 58.8	+0.5
GENY	**Geneseo**	**145.07**	**10**	*e*PKPdf	PKPdf	06 52 58.9	+0.5
ERPA	**Erie**	**145.28**	**13**	*e*PKPdf	PKPdf	06 53 00.1	+1.2
FVM	**French Village**	**145.30**	**29**	*e*PKIKP	PKPdf	06 53 00.3	+1.3
BINY	**Binghamton**	**145.90**	**8**	*e*PKPdf	PKPdf	06 53 01.6	+1.7
HRV	**Harvard--Oak R**	**145.96**	**2**	*e*PKP2	PKPab	06 53 02.1	-1.4
BLO	**Bloomington**	**146.00**	**23**	*e*PKP2	PKPab	06 53 01.7	-2.0
WES	**Weston**	**146.08**	**1**	*e*PKP2	PKPab	06 53 01.3	-2.7
QUA2	**Belchertown**	**146.15**	**3**	*e*PKPdf	PKPdf	06 53 05.0	+4.7
ACSO	**Alum Creek Sta**	**146.26**	**18**	*e*PKPdf	PKPdf	06 53 02.1	+1.5
BRYW	**Bryant College**	**146.54**	**2**	*e*PKPdf	PKPdf	06 53 02.5	+1.5
USIN	**University of**	**146.56**	**25**	*e*PKPdf	PKPdf	06 53 04.1	+2.9
UALR	**University of**	**146.77**	**34**	*e*PKPdf	PKPdf	06 53 04.6	+3.0
WCI	**Wyandotte Cave**	**146.90**	**24**	*e*PKIKP	PKPdf	06 53 03.0	+1.3
WCI				*e*		06 53 05.0	
HBAR	**Harrisburg**	**147.09**	**32**	*e*PKPdf	PKPdf	06 53 05.8	+3.7
GNAR	**Gosnell**	**147.10**	**30**	*e*PKPdf	PKPdf	06 53 05.9	+3.7
PAL	**Palisades**	**147.31**	**5**	*e*PKP2	PKPab	06 53 06.1	-2.7
UTMT	**University of**	**147.36**	**29**	*e*PKPdf	PKPdf	06 53 05.7	+3.2
NATX	**Nacogdoches**	**147.45**	**41**	*e*PKPdf	PKPdf	06 53 07.3	+4.5
HALT	**Halls**	**147.48**	**30**	*e*PKPbc	PKPdf	06 53 06.2	+3.4
BDFB	**Brasilia**	**147.57**	**223**	PKPbc	PKPdf	06 53 08.3	+4.9
	comp=Z,32nm,0.7s,baz=138,slow=1.9,SNR=68						
HKT	**Hockley**	**147.79**	**45**	PKPdf	PKPdf	06 53 06.5	+3.1
HKT				PKPdf	PKPdf	06 53 08.9	+5.5
HKT				pPKPab		06 53 30.5	
HKT	**Hockley**	**147.79**	**45**	*e*PKPdf	PKPdf	06 53 06.3	+2.9
HKT				*e*PKPbc	PKPdf	06 53 09.0	+5.6
OXF	**Oxford**	**148.55**	**31**	*e*PKPbc	PKPdf	06 53 09.5	+5.0
OXF				*e*PKPab	PKPab	06 53 13.3	-0.6
LVC	**Limon Verde**	**149.21**	**182**	PKP	PKPdf	06 53 09.0	+3.1
	comp=Z,31nm,0.7s,baz=293,slow=3.8,SNR=6.2						
LVC				PKPbc	PKPdf	06 53 13.3	+7.4
	comp=Z,44nm,0.9s,baz=229,slow=1.7,SNR=32						
FWV	**Forest Hill**	**149.35**	**17**	*e*PKPdf	PKPdf	06 53 05.2	-0.5
FWV				*e*PKPbc	PKPdf	06 53 11.2	+5.5
PWV	**Princeton**	**149.51**	**17**	*e*PKPbc	PKPdf	06 53 11.8	+5.9
CBN	**Corbin**	**149.58**	**11**	*e*PKPbc	PKPdf	06 53 12.1	+6.1
ELN	**Prospectdale**	**149.70**	**17**	*e*PKPdf	PKPdf	06 53 07.0	+0.7
ELN				*e*PKPbc	PKPdf	06 53 11.8	+5.6
BLA	**Blacksburg**	**149.81**	**16**	*e*PKPdf	PKPdf	06 53 07.6	+1.2
BLA				*e*PKPbc	PKPdf	06 53 12.2	+5.8
CPCT	**Cooper Cave**	**150.01**	**24**	*e*PKPdf	PKPdf	06 53 08.9	+2.1
CPCT				*e*PKPbc	PKPdf	06 53 13.4	+6.5
CPCT				*e*PKPab	PKPab	06 53 19.3	-0.6
LRAL	**Lakeview Retre**	**150.94**	**30**	*e*PKPdf	PKPdf	06 53 09.5	+1.2
LRAL				*e*PKPbc	PKPdf	06 53 15.2	+6.9
JSC	**Jenkinsville**	**152.26**	**20**	*e*PKIKP	PKPdf	06 53 11.4	+1.2
JSC				*e*		06 53 18.4	
ARE	**Arequipa**	**155.32**	**177**	*e*P	PKPdf	06 53 13.0	-1.8
LPAZ	**La Paz**	**155.44**	**185**	PKP	PKPdf	06 53 18.8	+3.8
	comp=Z,2.6nm,0.9s,baz=157,slow=2.2,SNR=9.6						
LPAZ				PKPab	PKPab	06 53 43.9	+0.6
	comp=Z,10nm,0.7s,baz=184,slow=4.0,SNR=18						
LPAZ	**La Paz**	**155.44**	**185**	*e*PKIKP	PKPdf	06 53 18.0	+3.0
LPAZ				*e*		06 53 27.3	
LPAZ				*e*		06 53 43.9	
SAML	**Samuel**	**161.45**	**202**	*e*PKPdf	PKPdf	06 53 23.4	+1.2
SAML				*e*PKPab	PKPab	06 54 08.2	-1.0

IDC ***19*** *06:34:57.8±0.3, 13.80N×123.92E, mb5.2/35, mb1 5.2/37, mb1mx5.2/37, ML4.8/2, MS4.8/17, Ms1 4.8/17, ms1mx4.6/24, Error ellipse: s-maj=15.6km s-min=10.0km az=76.0*

MAN ***19*** *06:34:59.9, 14.05N×124.21E, h11^{km}, mb5.2, ML4.1, MS4.3*

MAN F Virac Catanduanes - Intensity V Legaspi City - Intensity IV Irosin City - Intensity IV Naga City.

MOS ***19*** *06:35:01.4±1.0, 13.89N×123.97E, h33^{km}, mb5.7/43, MS4.8/25, Error ellipse: s-maj=13.2km s-min=6.4km az=101.8*

BJI ***19*** *06:35:02.6, 13.78N×124.14E, h52^{km}, mB5.5, mb5.2, Ms5.0, Msz4.8*

CSEM ***19*** *06:35:03.8, 14.31N×123.93E, h33^{km}, mb5.5*

NEIC ***19*** *06:35:04.0±0.8, 13.82N×124.00E, h44^{km}±6^{km}, mb5.4/62, MS4.8/9, MW5.5, Error ellipse: s-maj=5.0km s-min=4.1km az=77.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-0.44; $M_{r\theta}$-0.40; $M_{\theta\phi}$1.37; $M_{\phi r}$0.61; Best double couple: $M_0$1.7×10^{17} NP1: ϕ_s198°, δ68°, λ-158°. NP2: ϕ_s99°, δ69°, λ-23°. Principal axes: T 1.78, Plg1°, Azm148°; N -.06, Plg59°, Azm239°; P -1.72, Plg31°, Azm58°;*

NEIC Felt [V PIVS] at Virac, Catanduanes. Felt [IV PIVS] at Irosin, Legaspi, Naga and Sorsogon; [III PIVS] at Daet; [II PIVS] at Guinayangan, Luzon.

HRVD ***19*** *06:35:04.0±0.2, 13.93N×124.00E, h28^{km}, MW5.4/60, Centroid moment Tensor Solution. LP body waves: s52,c98; Mantle waves: s60,c123; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.75±.03; $M_{\theta\theta}$0.70±.02; $M_{\phi\phi}$0.05±.03; $M_{r\theta}$-0.15±.04; $M_{\theta\phi}$0.81±.02; $M_{\phi r}$0.87±.04; Best double couple: $M_0$1.4×10^{17} NP1: ϕ_s88°, δ47°, λ-33°. NP2: ϕ_s202°, δ67°, λ-132°. Principal axes: T 1.33, Plg12°, Azm321°; N .14, Plg38°, Azm221°; P -1.47, Plg50°, Azm65°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 06:35:01.5±0.1**, 13.94N**±0.02×**124.12E**±0.02**, h32**^{km}**, h32**^{km}±1.6^{km}**:pP-P, n364,** σ1^s**17**/355**, mb5.4**/122**, MS4.8**/57**, 17C-29D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.34**	**175**	*e*P	**Pb**	**06 35 09.3**	**-0.4**
PVCP				*e*S	**Sb**	**06 35 14.8**	**-0.5**
CNP	**Catarman**	**1.52**	**160**	*e*P	**Pn**	**06 35 28.1**	**+1.2**
CNP				*e*S	**Sn**	**06 35 49.3**	**+3.6**
AUQP	**San Andres**	**1.54**	**247**	*e*P	**Pn**	**06 35 29.0**	**+1.9**
AUQP				*e*S	**Sn**	**06 35 51.6**	**+5.5**
GQP	**Guinayangan**	**1.63**	**269**	⇓*i*P	**Pn**	**06 35 29.1**	**+0.6**
GQP				*i* S	**Sn**	**06 35 49.4**	**+0.9**
MMPH	**Masbate**	**1.65**	**197**	⇓*i*P	**Pn**	**06 35 29.1**	**+0.4**
MMPH				*i* S	**Sn**	**06 35 51.8**	**+2.8**
POLP	**Polilio Island**	**2.26**	**291**	*e*P	**Pn**	**06 35 39.0**	**+1.6**
POLP				*e*S	**Sn**	**06 36 08.9**	**+4.4**
BOAC	**Boac**	**2.27**	**258**	*e*P	**Pn**	**06 35 37.9**	**+0.3**
LQP	**Lukban**	**2.51**	**274**	⇑*i*P	**Pn**	**06 35 41.5**	**+0.4**
LQP				*i* S	**Sn**	**06 36 13.1**	**+2.1**
OTRP	**Odiongan**	**2.58**	**233**	*e*P	**Pn**	**06 35 41.9**	**-0.2**
BESP	**Borongan**	**2.66**	**151**	*e*P	**Pn**	**06 35 44.5**	**+1.4**
BESP				*e*S	**Sn**	**06 36 20.0**	**+5.3**
RCP	**Roxas**	**2.72**	**210**	⇑*e*P	**Pn**	**06 35 43.5**	**-0.6**
LBPH	**Los Banos**	**2.86**	**275**	⇓*i*P	**Pn**	**06 35 46.6**	**+0.5**
PLP	**Palo**	**2.88**	**163**	*i* P	**Pn**	**06 35 47.3**	**+1.0**
PLP				*i* S	**Sn**	**06 36 15.4**	**-5.0**
OCLP	**Ormoc**	**2.91**	**171**	*e*P	**Pn**	**06 35 48.1**	**+1.3**
BALP	**Baler**	**3.04**	**306**	*e*P	**Pn**	**06 35 47.2**	**-1.5**
QVPH	**Quezon City--P**	**3.05**	**284**	⇑*e*P	**Pn**	**06 35 50.2**	**+1.4**
TGY	**Tagaytay City**	**3.10**	**273**	⇓*i*P	**Pn**	**06 35 51.3**	**+1.9**
TGY				*i* S	**Sn**	**06 36 12.7**	**-13**
TGY	**Tagaytay City**	**3.10**	**273**	Pn	**Pn**	**06 35 50.1**	**+0.7**
	1µm,0.3s,baz=0.3,slow=2.7,SNR=58						
TGY				Sn	**Sn**	**06 36 20.4**	**-5.3**
	2µm,0.3s,baz=158,slow=10,SNR=3.7						
TGY				Lg		06 36 36.9	
	1µm,0.3s,baz=23,slow=23,SNR=4.3						
TGY				LR	LR	06 37 19.5	
	comp=Z,27µm,18.3s,baz=204,slow=49						
SJMP	**San Jose**	**3.27**	**244**	*e*P	**Pn**	**06 35 52.5**	**+0.5**
PAZ	**Puerto Azul**	**3.36**	**275**	⇓*e*P	**Pn**	**06 35 47.0**	**-6.1**
PALP	**Palanan**	**3.51**	**332**	*e*P	**Pn**	**06 35 54.3**	**-1.0**
PALP				*e*S	**Sn**	**06 36 33.6**	**-2.6**
LLP	**Lapu-Lapu**	**3.60**	**182**	⇑*e*P	**Pn**	**06 35 54.0**	**-2.6**
LLP				*e*S	**Sn**	**06 36 31.0**	**-7.6**
GUIM	**Jordan**	**3.62**	**205**	*e*P	**Pn**	**06 35 58.0**	**+1.1**
GUIM				*e*S	**Sn**	**06 36 42.1**	**+3.2**
NBP	**Mount Natib**	**3.68**	**283**	⇓*e*P	**Pn**	**06 35 59.1**	**+1.4**
CAUP	**Cauayan**	**3.72**	**324**	*e*P	**Pn**	**06 35 57.6**	**-0.7**
LUBP	**Lubang**	**3.77**	**267**	*e*P	**Pn**	**06 35 58.2**	**-0.7**
MSLP	**Maasin**	**3.85**	**169**	*e*P	**Pn**	**06 36 01.7**	**+1.6**
BCPH	**Baguio City Da**	**4.19**	**306**	⇑*i*P	**Pn**	**06 36 04.6**	**-0.4**
BCPH				*i* S	**Sn**	**06 36 54.7**	**+1.2**
TBP	**Tagbilaran**	**4.23**	**183**	*e*P	**Pn**	**06 36 04.6**	**-0.9**
TBP				*e*S	**Sn**	**06 36 42.4**	**-12**
BUSP	**Coron**	**4.28**	**244**	*e*P	**Pn**	**06 36 05.8**	**-0.5**
CUYO	**Cuyo Island**	**4.32**	**225**	*e*P	**Pn**	**06 36 05.9**	**-0.8**
SCPH	**Surigao**	**4.34**	**162**	⇓*e*P	**Pn**	**06 36 08.8**	**+1.7**
SCPH				*e*S	**Sn**	**06 37 03.2**	**+5.9**
CVP	**Callao Caves**	**4.35**	**330**	⇑*i*P	**Pn**	**06 36 06.4**	**-0.8**
CVP				*i* S	**Sn**	**06 36 59.1**	**+1.7**
SCZP	**Santa Cruz**	**4.46**	**295**	*e*P	**Pn**	**06 36 09.7**	**+0.9**
SNPH	**Sibulan**	**4.65**	**191**	*e*P	**Pn**	**06 36 12.0**	**+0.5**
BOLP	**Bolinao**	**4.73**	**301**	*e*P	**Pn**	**06 36 12.0**	**-0.7**
APYP	**Conner**	**4.78**	**325**	*e*P	**Pn**	**06 36 12.3**	**-1.0**
APYP				*e*S	**Sn**	**06 37 05.7**	**-2.7**
ABRA	**Dolores**	**4.94**	**319**	*e*P	**Pn**	**06 36 15.4**	**-0.1**
ABRA				*e*S	**Sn**	**06 37 13.2**	**+0.9**
BUTP	**Butuan**	**5.15**	**163**	*e*P	**Pn**	**06 36 20.3**	**+1.7**
ENPP	**El Nido**	**5.33**	**240**	*e*P	**Pn**	**06 36 20.2**	**-0.8**
DCPH	**Dipolog City**	**5.38**	**188**	⇓*e*P	**Pn**	**06 36 21.6**	**-0.1**
PIP	**Pasuquin**	**5.51**	**323**	⇑*i*P	**Pn**	**06 36 24.1**	**+0.5**
BUKP	**Musuan**	**6.09**	**171**	*e*P	**Pn**	**06 36 33.0**	**+1.2**
PAGZ	**Pagadian**	**6.10**	**187**	*e*P	**Pn**	**06 36 33.2**	**+1.3**
PPR	**Puerto Princes**	**6.71**	**232**	*e*P	**Pn**	**06 36 42.0**	**+1.5**
BBP	**Basco**	**6.79**	**343**	*e*P	**Pn**	**06 36 39.2**	**-2.4**
BBP				*e*S	**Sn**	**06 37 52.0**	**-6.5**
KCP	**Kidapawan**	**6.95**	**172**	⇓*e*P	**Pn**	**06 36 47.1**	**+3.2**
DAV	**Davao City (W)**	**6.98**	**168**	⇓*e*P	**Pn**	**06 36 47.5**	**+3.3**
BATP	**Bataraza**	**8.03**	**231**	*e*P	**P**	**06 36 59.0**	**0.0**
TATO	**Taipei**	**11.26**	**348**	*e*P	**P**	**06 37 44.8**	**+1.4**
JOW	**Kunigami**	**13.40**	**16**	Pn	**P**	**06 38 11.8**	**-0.3**
	4.4nm,0.3s,baz=210,slow=14,SNR=6.1						
JOW				Sn	**S**	**06 40 31.0**	**-10**
	3.1nm,0.3s,baz=273,slow=19,SNR=4.8						
JOW				LR	LR	06 42 29.3	
	comp=Z,5µm,21.2s,baz=4.7,slow=33						
GZH	**Guangzhou**	**13.68**	**313**	P	**P**	**06 38 15.6**	**-0.2**
GZH				LR	LR		
	comp=N,4µm,19.4s						
GZH				LR	LR		
	comp=E,6µm,17.9s						
GZH				LR	LR		
	comp=Z,8µm,19.9s						
QIZ	**Qiongzhong**	**14.60**	**292**	⇓*i*P	**P**	**06 38 28.1**	**+0.2**
QIZ				*e*S	**S**	**06 41 10.8**	**+1.4**
QIZ				XS		06 41 22.6	
QIZ				AMB	AMB		
	comp=Z,23nm,1.2s						
QIZ				LR	LR		
	comp=N,2µm,22.3s						
QIZ				LR	LR		
	comp=E,2µm,22.9s						
QIZ				LR	LR		
	comp=Z,3µm,32.2s						
QIZ	**Qiongzhong**	**14.60**	**292**	*e*P	**P**	**06 38 27.8**	**-0.1**
	comp=Z,90nm,1.1s						
SSE	**Sheshan**	**17.29**	**351**	P	**P**	**06 39 06.8**	**+4.5**
SSE				XP		06 39 19.9	
SSE				AMB	AMB		
	comp=Z,80nm,1.2s						
SSE				AMB	AMB		
	comp=Z,2µm,5.0s						
SSE				LR	LR		
	comp=N,1µm,23.6s						
SSE				LR	LR		
	comp=E,1µm,23.7s						
SSE				LR	LR		
	comp=Z,2µm,22.4s						
SSE	**Sheshan**	**17.29**	**351**	P	**P**	**06 39 06.8**	**+4.5**
	comp=Z,80nm,1.2s						
SSE				sP		06 39 19.9	
SSE				S	**S**	**06 42 21.0**	**+9.3**
SSE				sS		06 42 44.4	
NJ2	**Nanjing**	**18.66**	**346**	*e*P	**P**	**06 39 19.9**	**+0.6**
NJ2				AP		06 39 31.8	
NJ2				XP		06 39 37.8	
NJ2				PP	PP	06 39 39.1	+4.0
NJ2				AMB	AMB		
	comp=Z,90nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,3µm,5.6s						
NJ2				LR	LR		
	comp=N,4µm,16.0s						
NJ2				LR	LR		
	comp=E,4µm,15.3s						
NJ2				LR	LR		
	comp=Z,6µm,17.8s						
WHN	**Wuhan**	**18.82**	**333**	⇓P	**P**	**06 39 22.8**	**+1.7**
WHN				S	**S**	**06 42 55.0**	**+8.6**
WHN				AMB	AMB		
	comp=Z,135nm,1.2s						
WHN				LR	LR		
	comp=N,3µm,12.8s						
WHN				LR	LR		
	comp=E,2µm,16.5s						
WHN				LR	LR		
	comp=Z,6µm,17.1s						
JNU	**Nakatsue**	**20.06**	**17**	P	**P**	**06 39 36.3**	**+1.2**
	comp=Z,30nm,0.8s,baz=145,slow=6.1,SNR=7.6						
GYA	**Guiyang**	**20.55**	**310**	⇑*i*P	**P**	**06 39 39.8**	**-0.4**
GYA				AP		06 39 51.6	
GYA				XP		06 39 58.4	
GYA				PP	PP	06 40 04.8	+3.3
GYA				S	**S**	**06 43 27.5**	**+4.1**
GYA				XS		06 43 42.6	
GYA				SS	SS	06 43 58.4	+4.3
GYA				LR	LR		
	comp=N,2µm,16.2s,MS4.8						
GYA				LR	LR		
	comp=E,3µm,19.5s,MS4.8						
GYA				LR	LR		
	comp=Z,5µm,17.4s,MS4.9						
ENH	**Enshi**	**21.13**	**323**	*e*P	**P**	**06 39 45.8**	**-0.3**
	comp=Z,201nm,0.9s,mb5.5						
CBIJ	**Chichi jima**	**21.35**	**49**	P	**P**	**06 39 48.5**	**+0.2**
	comp=Z,206nm,0.9s,mb5.5,baz=130,slow=9.2,SNR=5.6						
CBIJ				LR	LR	06 46 23.7	
	comp=Z,2µm,20.7s,MS4.5,baz=140,slow=32						
KMI	**Kunming**	**22.98**	**302**	*e*P	**P**	**06 40 07.2**	**+2.5**
	comp=Z,170nm,1.5s,mb5.2						
TIA	**Tai'an**	**23.05**	**345**	*e*P	**P**	**06 40 05.9**	**+0.7**
INCN	**Inchon**	**23.55**	**5**	P	**P**	**06 40 12.8**	**+2.7**
KS15	**Wonju Array Si**	**23.64**	**7**	*e*P	**P**	**06 40 12.6**	**+1.7**
JHJ	**Hachijo jima 2**	**23.83**	**34**	P	**P**	**06 40 15.4**	**+2.6**
	comp=Z,318nm,0.8s,mb5.8,baz=228,slow=4.7,SNR=8.1						
JHJ				LR	LR	06 47 48.4	
	comp=Z,3µm,20.4s,MS4.7,baz=132,slow=32						
XAN	**Xi'an**	**24.30**	**328**	P	**P**	**06 40 18.3**	**+0.9**
XAN				AP		06 40 28.1	
XAN				S	**S**	**06 44 25.3**	**-5.9**
XAN				AMB	AMB		
	comp=Z,152nm,1.0s,mb5.4						
XAN				AMB	AMB		
	comp=Z,336nm,6.4s						
XAN				LR	LR		
	comp=N,1µm,16.3s,MS4.6						
XAN				LR	LR		
	comp=E,1µm,15.7s,MS4.6						
XAN				LR	LR		
	comp=Z,2µm,16.4s,MS4.8						
XAN	**Xi'an**	**24.30**	**328**	P	**P**	**06 40 18.1**	**+0.7**
CM31	**Chiang Mai Arr**	**24.58**	**284**	*e*P	**P**	**06 40 17.1**	**-3.1**
	comp=Z,34nm,0.6s,mb5.1						
CMAR	**Chiang Mai Arr**	**24.58**	**284**	P	**P**	**06 40 18.6**	**-1.7**
	comp=Z,31nm,0.6s,mb5.0,baz=100,slow=6.9,SNR=20						
CMAR				PcP	PcP	06 43 58.8	0.0
	comp=Z,12nm,0.9s,baz=232,slow=0.1,SNR=7.3						
CMAR				LR	LR	06 50 12.5	
	comp=Z,2µm,20.2s,MS4.5,baz=95,slow=38						
IPM	**Ipoh**	**24.59**	**250**	⇑*e*P	**P**	**06 40 19.2**	**-1.2**
CHG	**Chiang Mai**	**24.63**	**285**	⇓P	**P**	**06 40 21.6**	**+0.9**
	comp=Z,33nm,0.8s,mb4.9						
DL2	**Dalian**	**24.96**	**355**	*e*P	**P**	**06 40 28.6**	**+4.9**
DL2				*e*S	**S**	**06 44 44.8**	**+2.3**
DL2				AMB	AMB		
	comp=Z,50nm,1.4s,mb4.8						
DL2				AMB	AMB		
	comp=Z,680nm,5.8s						
DL2				LR	LR		
	comp=N,1µm,22.2s,MS4.6						
DL2				LR	LR		
	comp=E,1µm,24.9s,MS4.6						
DL2				LR	LR		
	comp=Z,1µm,19.4s						
CD2	**Chengdu**	**25.22**	**315**	⇓*i*P	**P**	**06 40 26.5**	**+0.3**
CD2				AP	pP	06 40 38.5	+3.1
CD2				S	**S**	**06 44 49.5**	**+2.7**
CD2				XS		06 45 12.3	
CD2				AMB	AMB		
	comp=Z,250nm,1.1s,mb5.7						
CD2				AMB	AMB		
	comp=Z,500nm,4.3s						
CD2				LR	LR		
	comp=N,5µm,18.0s						
CD2				LR	LR		
	comp=Z,5µm,18.6s,MS5.0						
MAJO	**Matsushiro**	**25.80**	**27**	*e*P	**P**	**06 40 30.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.2						
MAJO	**Matsushiro**	**25.80**	**27**	*e*P	**P**	**06 40 30.5**	**-1.1**
	comp=Z,107nm,1.5s,mb5.2						
MAT	**Matsushiro**	**25.80**	**27**	P	**P**	**06 40 30.5**	**-1.1**
MAT				S	**S**	**06 45 02.0**	**+5.6**
MAT	**Matsushiro**	**25.80**	**27**	*e*P	**P**	**06 40 31.0**	**-0.6**
	comp=Z,79nm,1.4s,mb5.0						
MAT				*e*S	**S**	**06 45 02.0**	**+5.6**
MAT				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
TIY	**Taiyuan**	**25.86**	**338**	*e*P	**P**	**06 40 33.0**	**+0.9**
TIY				S	**S**	**06 45 00.0**	**+2.6**
TIY				LR	LR		
	comp=N,2µm,14.0s						
TIY				LR	LR		
	comp=Z,1µm,16.0s,MS4.6						
BJT	**Baijiatuau**	**26.90**	**346**	*e*P	**P**	**06 40 40.8**	**-0.9**
BJT				pmax	pmax		
	comp=Z,100nm,1.0s						
BJT	**Baijiatuau**	**26.90**	**346**	*e*P	**P**	**06 40 40.8**	**-0.9**
	comp=Z,104nm,1.1s,mb5.3						
BJI	**Beijing**	**26.92**	**346**	P	**P**	**06 40 44.3**	**+2.5**
BJI				AMB	AMB		
	comp=Z,63nm,1.4s,mb5.0						
BJI				LR	LR		
	comp=N,1µm,14.4s						
BJI				LR	LR		
	comp=Z,2µm,19.1s,MS4.6						
BJI	**Beijing**	**26.92**	**346**	P	**P**	**06 40 44.3**	**+2.5**
	comp=Z,63nm,1.4s,mb5.0						
BJI				S	**S**	**06 45 17.3**	**+2.4**
BJI				sS		06 45 42.1	
BJI				LR	LR		
	comp=Z,2µm,19.1s,MS4.6						
SNY	**Shenyang**	**27.79**	**359**	⇑P	**P**	**06 40 50.3**	**+0.6**
SNY				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.3						
SNY				AMB	AMB		
	comp=Z,1µm,4.7s						
SNY				LR	LR		
	comp=N,3µm,19.6s						
SNY				LR	LR		
	comp=Z,3µm,17.9s,MS4.9						
LZH	**Lanzhou**	**28.59**	**324**	⇑P	**P**	**06 41 01.8**	**+4.8**
LZH				AP	pP	06 41 10.1	+3.8
LZH				XP	sP	06 41 15.6	+5.1
LZH				PP	PP	06 41 52.0	+2.6
LZH				S	**S**	**06 45 43.0**	**+1.3**
LZH				SS	SS	06 47 08.0	-0.4
LZH				AMB	AMB		
	comp=Z,160nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,610nm,4.6s						
LZH				LR	LR		
	comp=E,7µm,14.6s						
LZH				LR	LR		
	comp=Z,9µm,16.8s,MS5.5						
LZH	**Lanzhou**	**28.59**	**324**	⇑P	**P**	**06 41 01.8**	**+4.8**
	comp=Z,160nm,1.4s,mb5.6						
LZH				pP	pP	06 41 10.1	+3.8
LZH				sP	sP	06 41 15.6	+5.1
LZH				PP	PP	06 41 52.0	+2.6
LZH				S	**S**	**06 45 43.0**	**+1.3**
LZH				sS		06 45 59.0	
LZH				SS	SS	06 47 08.0	-0.4
LZH				LR	LR		
	comp=Z,9µm,16.8s,MS5.5						
HHC	**Hu-ho-hao-te**	**28.97**	**340**	*e*P	**P**	**06 41 01.6**	**+1.3**
HHC				AP	pP	06 41 11.8	+2.1
HHC				XP	sP	06 41 16.8	+3.0
HHC				S	**S**	**06 45 48.6**	**+0.8**
HHC				XS		06 46 10.3	
HHC				SS	SS	06 47 24.4	+7.3
HHC				AMB	AMB		
	comp=Z,53nm,1.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,220nm,7.7s						
HHC				LR	LR		
	comp=N,807nm,20.5s,MS4.5						
HHC				LR	LR		
	comp=E,1µm,19.3s,MS4.5						
HHC				LR	LR		
	comp=Z,1µm,22.6s,MS4.4						
BTO	**Baotou**	**29.29**	**338**	*e*P	**P**	**06 41 05.5**	**+2.2**
BTO				PP	PP	06 41 55.9	-2.6
BTO				S	**S**	**06 45 51.3**	**-1.6**
BTO				AMB	AMB		
	comp=Z,1µm,6.4s						
BTO				LR	LR		
	comp=N,3µm,16.9s,MS5.2						

BTO				LR	LR		
	comp=E,4μm,20.0s,MS5.2						
CN2	**Changchun**	**29.78**	**2**	*e*P	**P**	**06 41 07.3**	**-0.3**
CN2				*e*XP	sP	06 41 25.4	+4.3
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS4.9						
CN2				LR	LR		
	comp=E,2μm,17.0s,MS4.9						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
MDJ	**Mudanjiang**	**30.93**	**8**	P	**P**	**06 41 18.3**	**+0.6**
MDJ				AP	pP	06 41 29.0	+1.9
MDJ				XP	sP	06 41 35.3	+4.1
MDJ				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,173nm,4.2s						
MDJ				LR	LR		
	comp=E,2μm,15.9s						
MDJ				LR	LR		
	comp=Z,2μm,20.9s						
MDJ	**Mudanjiang**	**30.93**	**8**	*e*P	**P**	**06 41 18.1**	**+0.4**
	comp=Z,56nm,1.1s,mb5.3						
PMG	**Port Moresby**	**32.57**	**134**	P	**P**	**06 41 30.8**	**-1.6**
	comp=Z,43nm,0.8s,mb5.4,baz=294,slow=6.3,SNR=8.9						
GTA	**Gaotai**	**33.19**	**324**	*e*P	**P**	**06 41 38.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,96nm,4.9s						
GTA				LR	LR		
	comp=N,720nm,20.9s						
GTA				LR	LR		
	comp=E,817nm,15.2s						
GTA				LR	LR		
	comp=Z,831nm,14.1s						
ASAJ	**Asahikawa**	**33.97**	**24**	P	**P**	**06 41 45.1**	**+0.8**
	comp=Z,73nm,1.2s,mb5.5,baz=245,slow=15,SNR=13						
LSA	**Lhasa**	**34.24**	**303**	*e*P	**P**	**06 41 45.1**	**-1.7**
LSA				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.9						
LSA	**Lhasa**	**34.24**	**303**	*e*P	**P**	**06 41 45.1**	**-1.7**
	comp=Z,162nm,1.1s,mb5.9						
WRAB	**Tennant Creek**	**35.13**	**163**	*e*P	**P**	**06 41 51.4**	**-3.1**
	comp=Z,76nm,0.8s,mb5.7						
WRA	**Warramunga Arr**	**35.14**	**163**	P	**P**	**06 41 51.7**	**-2.9**
	comp=Z,39nm,0.7s,mb5.4,baz=339,slow=9.8,SNR=9.5						
WRA				S	**S**	**06 47 14.7**	**-10**
	comp=Z,4.8nm,0.9s,baz=344,slow=15,SNR=2.6						
WB2	**Warramunga Arr**	**35.14**	**163**	*e*P	**P**	**06 41 51.2**	**-3.4**
HIA	**Hailar**	**35.41**	**355**	*e*P	**P**	**06 41 55.1**	**-1.5**
HIA				pmax	pmax		
	comp=Z,28nm,1.2s						
HIA	**Hailar**	**35.41**	**355**	*e*P	**P**	**06 41 55.1**	**-1.4**
	comp=Z,28nm,1.2s,mb5.1						
KLR	**Kul'dur**	**35.74**	**9**	*e*P	**P**	**06 41 59.0**	**-0.4**
KLR				*e*S	**S**	**06 47 34.0**	**+0.4**
KLR				*e*		06 52 16.0	
KLR				MLR	MLR		
	comp=E,600nm,17.0s						
KLR				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**36.42**	**22**⇓	*e*P	**P**	**06 42 04.0**	**-1.1**
YSS				*e*		06 42 22.0	
YSS				*e*S	**S**	**06 47 44.0**	**0.0**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=N,500nm,17.0s,MS4.7						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.4						
YSS				MLR	MLR		
	comp=E,900nm,18.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	**36.42**	**22**	*e*P	**P**	**06 42 05.4**	**+0.2**
	comp=E,60nm,1.1s,mb5.4						
SONM	**Songino Array**	**36.87**	**340**	P	**P**	**06 42 09.7**	**+0.9**
	comp=E,49nm,1.1s,mb5.2,baz=158,slow=9.2,SNR=74						
SONM				PcP	PcP	06 44 30.2	-0.3
	comp=E,5.7nm,0.9s,baz=160,slow=5.3,SNR=2.3						
PKI	**Pulchoki**	**38.49**	**297**	*e*P	**P**	**06 42 21.6**	**-1.1**
	comp=E,275nm,1.0s,mb5.9						
ASPA	**Alice Springs**	**38.58**	**166**	*e*P	**P**	**06 42 22.0**	**-1.5**
ASPA				*e*S	PcP	06 44 34.5	-1.6
ASPA				*e*S	**S**	**06 48 12.6**	**-4.5**
ASAR	**Alice Springs**	**38.58**	**166**	P	**P**	**06 42 22.1**	**-1.4**
	comp=E,54nm,0.6s,mb5.5,baz=342,slow=6.3,SNR=26						
ASAR				PcP	PcP	06 44 34.6	-1.5
	comp=E,15nm,0.7s,baz=342,slow=3.3,SNR=5.5						
ASAR				S	**S**	**06 48 12.4**	**-4.6**
	comp=E,4.5nm,0.9s,baz=349,slow=15,SNR=4.1						
ASAR				LR	LR	06 58 46.2	
	comp=E,663nm,20.7s,MS4.4,baz=345,slow=37						
KKN	**Kakani**	**38.65**	**297**	*e*P	**P**	**06 42 23.3**	**-0.7**
	comp=E,304nm,1.0s,mb6.0						
DMN	**Daman**	**38.76**	**297**	*e*P	**P**	**06 42 23.5**	**-1.5**
	comp=E,562nm,1.3s,mb6.1						
GKN	**Gorkha**	**39.25**	**297**	*e*P	**P**	**06 42 27.4**	**-1.6**
	comp=E,553nm,1.5s,mb6.1						
KOLN	**Koldanda**	**40.10**	**297**	*e*P	**P**	**06 42 34.8**	**-1.3**
	comp=E,137nm,0.9s,mb5.7						
ZAK	**Zakamensk**	**40.11**	**339**⇓	*e*P	**P**	**06 42 36.2**	**+0.3**
ZAK				*e*		06 44 05.6	
CTA	**Charters Tower**	**40.22**	**147**	*e*P	**P**	**06 42 37.5**	**+0.4**
	comp=E,23nm,0.8s,mb5.0						
CTA				*i* PCP	PcP	06 44 41.1	-0.2
CTA	**Charters Tower**	**40.22**	**147**	P	**P**	**06 42 38.1**	**+1.0**
	comp=E,30nm,0.9s,mb5.0,baz=334,slow=10,SNR=5.3						
CTA				PcP	PcP	06 44 41.2	-0.1
	comp=E,17nm,0.8s,baz=313,slow=3.2,SNR=3.9						
CTA				LR	LR	06 59 11.1	
	comp=E,2μm,20.8s,MS4.8,baz=332,slow=36						
CTAO	**Charters Tower**	**40.22**	**147**	*e*P	**P**	**06 42 36.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**40.22**	**147**	*e*P	**P**	**06 42 36.8**	**-0.3**
	comp=Z,44nm,0.9s,mb5.2						
IRK	**Irkutsk**	**41.38**	**342**	*e*P	**P**	**06 42 46.8**	**+0.5**
IRK				*e*		06 43 01.7	
MOY	**Mondy**	**41.98**	**339**	*e*P	**P**	**06 42 52.3**	**+1.1**
CLNS	**Chul'man**	**42.81**	**1**	*e*P	**P**	**06 42 58.7**	**+0.7**
CLNS				pmax	pmax		
	comp=N,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
WMQ	**Urumqi**	**43.06**	**321**	⇑P	**P**	**06 43 00.8**	**+0.6**
WMQ				AP	pP	06 43 10.8	+1.1
WMQ				XP	sP	06 43 15.3	+1.6
WMQ				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
WMQ				LR	LR		
	comp=N,966nm,16.8s,MS4.9						
WMQ				LR	LR		
	comp=E,753nm,16.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,16.4s,MS4.9						
CUD	**Cuddapah**	**43.92**	**276**	*e*P	**P**	**06 43 04.7**	**-2.8**
CUD				*e*		06 51 17.9	
HYB	**Hyderabad**	**43.93**	**281**	*i* P	**P**	**06 43 05.0**	**-2.6**
HYB				*e*	pP	06 43 14.0	-3.1
HYB	**Hyderabad**	**43.93**	**281**	*e*P	**P**	**06 43 05.0**	**-2.6**
HYB				*e*	pP	06 43 14.0	-3.1
BOD	**Bodaibo**	**44.46**	**352**	*e*P	**P**	**06 43 10.8**	**-0.5**
FORT	**Forrest**	**44.62**	**175**⇑	*i*P	**P**	**06 43 10.5**	**-2.5**
	comp=Z,320nm,0.8s,mb6.2						
SKR	**Severo-Kuril's**	**44.88**	**29**	*e*P	**P**	**06 43 11.0**	**-3.9**
SKR				*e*	sP	06 43 24.7	-3.6
SKR				*e*	PP	06 45 07.0	+6.5
SKR				*e*PPP	PPP	06 45 42.0	+0.9
SKR				*e*S	**S**	**06 49 48.0**	**-1.8**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.6						
SKR				pmax	pmax		
	comp=Z,800nm,3.0s						
SKR				smax			
	comp=N,700nm,16.0s						
SKR				smax			
	comp=E,900nm,16.0s						
SKR				MLR	MLR		
	comp=N,900nm,18.0s,MS4.9						
SKR				MLR	MLR		
	comp=E,1μm,18.0s,MS4.9						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.8						
DDI	**Dehra Dun**	**45.35**	**299**	*e*	**P**	**06 43 18.0**	**-0.8**
KKR	**Kurukshetra**	**46.34**	**298**	*e*	**P**	**06 43 26.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**47.06**	**188**	P	**P**	**06 43 30.1**	**-2.3**
	comp=Z,67nm,0.7s,mb5.7,baz=14,slow=7.9,SNR=12						
NWAO	**Narrogin (SRO)**	**47.06**	**188**	*e*P	**P**	**06 43 29.5**	**-2.8**
NWAO				pmax	pmax		
	comp=Z,110nm,1.0s						
NWAO	**Narrogin (SRO)**	**47.06**	**188**	*e*P	**P**	**06 43 29.5**	**-2.9**
	comp=Z,106nm,1.0s,mb5.7						
PET	**Petropavlovsk**	**47.63**	**28**⇓	*i*P	**P**	**06 43 37.0**	**+0.5**
PET				*e*S	**S**	**06 50 28.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,500nm,5.1s						
PET				pmax	pmax		
	comp=Z,140nm,0.9s,mb6.0						
PET				pmax	pmax		
	comp=N,81nm,0.9s						
PET				pmax	pmax		
	comp=E,56nm,0.9s						
PET				pmax	pmax		
	comp=Z,100nm,16.7s						
PET				smax			
	comp=N,200nm,14.2s						
PET				smax			
	comp=E,200nm,18.1s						
PET				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.5						
PET				MLR	MLR		
	comp=Z,600nm,20.0s						
PET	**Petropavlovsk**	**47.63**	**28**	*e*P	**P**	**06 43 36.9**	**+0.4**
	comp=Z,116nm,0.9s,mb5.9						
MKAR	**Makanchi Array**	**47.86**	**322**	PcP	PcP	06 45 05.7	-1.3
	comp=Z,15nm,0.6s,baz=106,slow=4.8,SNR=3.9						
YAK	**Yakutsk**	**48.19**	**4**	*e*P	**P**	**06 43 40.3**	**-0.4**
YAK				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.8						
YAK	**Yakutsk**	**48.19**	**4**	*e*P	**P**	**06 43 40.3**	**-0.4**
	comp=Z,104nm,0.9s,mb5.9						
STKA	**Stephens Creek**	**48.54**	**160**	*e*P	**P**	**06 43 42.3**	**-1.6**
	comp=Z,42nm,0.8s,mb5.5						
STKA	**Stephens Creek**	**48.54**	**160**	P	**P**	**06 43 42.0**	**-1.9**
	comp=Z,50nm,0.8s,mb5.6,baz=356,slow=7.1,SNR=8.0						
KSH	**Kashi**	**49.25**	**310**	*e*P	**P**	**06 43 51.0**	**+1.8**
KSH				*e*AP	pP	06 44 04.8	+5.9
KSH				*e*XP	sP	06 44 10.0	+7.3
KSH				*e*PCP	PcP	06 45 13.0	+0.8
KSH				*e*PP	PP	06 45 46.3	+3.0
KSH				*e*PPP	PPP	06 46 41.3	+3.5
KSH				*e*SCP		06 49 04.0	
KSH				*e*PCS		06 49 08.0	
KSH				*e*S	**S**	**06 50 53.4**	**+1.5**
KSH				*e*PS	PS	06 51 05.3	+1.1
KSH				*e*XS		06 51 15.0	
KSH				*e*SCS	ScS	06 53 35.4	-0.3
KSH				*e*SS	SS	06 54 20.6	+1.4
KSH				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.7						
KSH				LR	LR		
	comp=N,430nm,4.0s						
KSH				LR	LR		
	comp=E,610nm,6.8s						
MA2	**Magadan**	**49.63**	**17***d*	*i*P	**P**	**06 43 51.9**	**0.0**
MA2				*e*		06 45 13.7	
MA2				*e*S	**S**	**06 50 58.0**	**+1.1**
MA2				*e*PS	PS	06 51 15.0	+5.7
MA2				*e*		06 53 37.9	
MA2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
MA2				pmax	pmax		
	comp=N,20nm,0.9s						
MA2				pmax	pmax		
	comp=E,10.0nm,0.8s						
MA2				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.7						
MA2	**Magadan**	**49.63**	**17**	*e*P	**P**	**06 43 51.7**	**-0.2**
	comp=Z,55nm,0.9s,mb5.6						
MA2				*e*		06 44 09.0	
AAA	**Alma-Ata**	**49.79**	**315**	*e*P	**P**	**06 43 42.0**	**-11**
AAA				*e*S	**S**	**06 51 05.0**	**+5.6**
AAA				smax			
	comp=E,500nm,10.0s						
AAA				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.0						
ADE	**Adelaide**	**50.57**	**164**	*e*P	**P**	**06 43 58.8**	**-0.6**
AAK	**Ala-Archa**	**51.27**	**314**	*e*P	**P**	**06 44 03.7**	**-0.9**
AAK				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
AAK	**Ala-Archa**	**51.27**	**314**	*e*P	**P**	**06 44 03.7**	**-0.9**
	comp=Z,42nm,1.1s,mb5.3						
NVS	**Novosibirsk**	**51.69**	**331**	*e*P	**P**	**06 44 06.0**	**-1.6**
NVS				pmax	pmax		
	comp=N,47nm,1.7s						
NVS				pmax	pmax		
	comp=E,67nm,1.7s						
NVS				pmax	pmax		
	comp=Z,100nm,1.7s,mb5.5						
KURK	**Kurchatov**	**51.87**	**325**	*e*P	**P**	**06 44 08.9**	**-0.1**
	comp=Z,51nm,0.7s,mb5.6						
SEY	**Seymchan**	**52.84**	**16**	*e*P	**P**	**06 44 18.5**	**+2.4**
SEY					PP	06 46 17.8	+0.9
SEY				*e*S	**S**	**06 51 45.7**	**+4.8**
SEY						06 54 03.3	
SEY				pmax	pmax		
	comp=N,50nm,0.9s						
SEY				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
SEY				pmax	pmax		
	comp=E,20nm,0.8s						
CNB	**Canberra Magne**	**54.52**	**155**	*e*P	**P**	**06 44 27.7**	**-1.1**
	comp=E,33nm,0.7s,mb5.5						
FX1	**Attu Island--F**	**54.82**	**34**	P	**P**	**06 44 31.3**	**+0.5**
	comp=E,32nm,0.9s,mb5.3,baz=9.9,slow=4.0,SNR=9.1						
FX1				LR	LR	07 06 36.3	
	comp=E,16nm,19.7s,baz=256,slow=34						
FX1	**Attu Island--F**	**54.82**	**34**	*e*P	**P**	**06 44 30.1**	**-0.8**
TOO	**Toolangi**	**55.03**	**159**⇓	*i*P	**P**	**06 44 31.2**	**-1.4**
	comp=E,22nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	**57.47**	**325**	P	**P**	**06 44 49.3**	**-0.5**
	comp=E,6.2nm,0.5s,mb4.9,baz=143,slow=7.4,SNR=7.3						
BVAR				PcP	PcP	06 45 42.1	-0.9
	comp=E,8.0nm,0.7s,baz=90,slow=4.4,SNR=4.2						
BRVK	**Borovoye**	**57.54**	**325**	*e*P	**P**	**06 44 49.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.5						
BRVK	**Borovoye**	**57.54**	**325**	*e*P	**P**	**06 44 49.6**	**-0.7**
	comp=Z,41nm,0.8s,mb5.5						
TIXI	**Tiksi**	**57.76**	**2**	*e*P	**P**	**06 44 50.7**	**-0.9**
TIXI				*e*S	**S**	**06 52 45.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.7						
TIXI				MLR	MLR		
	comp=Z,742nm,18.0s,MS4.8						
TIXI	**Tiksi**	**57.76**	**2**	*i* Pr		06 44 50.4	
ZRNK	**Zerenda**	**58.23**	**324**	*e*P	**P**	**06 44 53.9**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.8						
ZRNK	**Zerenda**	**58.23**	**324**	*e*P	**P**	**06 44 53.9**	**-1.2**
	comp=Z,101nm,1.1s,mb5.8						
ARU	**Arti**	**65.03**	**326**⇓	*i*P	**P**	**06 45 39.8**	**-0.9**
ARU				*i*	pP	06 45 51.1	+0.4
ARU				*e*		06 46 14.0	
ARU				*e*		06 47 58.8	
ARU				*i* S	S	06 54 19.1	+0.1
ARU				*e*		06 55 36.0	
ARU				*e*SS	SS	06 58 31.3	-1.8
ARU				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
ARU				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,400nm,22.0s						
ARU				MLR	MLR		
	comp=E,300nm,17.0s						
ARU	**Arti**	**65.03**	**326**	*e*P	**P**	**06 45 39.9**	**-0.9**
	comp=E,43nm,0.7s,mb5.6						
SOKR	**Solikamsk**	**66.64**	**329***d*	*i*P	**P**	**06 45 49.7**	**-1.3**
SOKR				*i* S	S	06 54 34.0	-4.7
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
UNV	**Unalaska Valle**	**66.70**	**37**	*e*P	**P**	**06 45 50.7**	**-0.9**
	comp=Z,145nm,0.8s,mb6.1						
ANM	**Nome**	**69.16**	**26**	*e*P	**P**	**06 46 07.3**	**+0.6**
SDPT	**Sand Point**	**70.35**	**36**	*e*P	**P**	**06 46 13.3**	**-0.8**
RPZ	**Rata Peaks**	**71.58**	**146**	P	**P**	**06 46 20.9**	**-0.9**
	comp=Z,43nm,0.7s,mb5.5,baz=277,slow=1.2,SNR=10.0						
RPZ				LR	LR	07 15 48.4	
	comp=Z,727nm,18.3s,MS5.0,baz=239,slow=34						
GNI	**Garni**	**73.09**	**308**	P	**P**	**06 46 31.6**	**+0.8**
	comp=Z,7.4nm,0.5s,mb4.9,baz=340,slow=12,SNR=5.8						
SVW	**Sparrevohn**	**73.20**	**30**	*e*P	**P**	**06 46 32.2**	**+1.2**
RSO	**Redoubt South**	**74.60**	**31**	*e*P	**P**	**06 46 39.3**	**+0.2**
KDAK	**Kodiak Island**	**74.76**	**33**	*e*P	**P**	**06 46 40.0**	**0.0**
	comp=Z,167nm,1.3s,mb5.8						
SPU	**Mount Spurr**	**74.93**	**30**	*e*P	**P**	**06 46 40.9**	**-0.1**
SLKM	**Skilak Lake**	**75.85**	**31**	*e*P	**P**	**06 46 45.7**	**-0.6**
PMS	**Palmer South**	**76.13**	**30**	*e*P	**P**	**06 46 47.6**	**-0.2**
MCK	**McKinley**	**76.27**	**27**	*e*P	**P**	**06 46 48.5**	**0.0**
MCK				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.7						
MCK	**McKinley**	**76.27**	**27**	*e*P	**P**	**06 46 48.5**	**-0.1**
	comp=Z,90nm,0.9s,mb5.7						
PMR	**Palmer**	**76.31**	**29**	*e*P	**P**	**06 46 47.9**	**-1.0**
PMR				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.5						
PMR	**Palmer**	**76.31**	**29**	*e*P	**P**	**06 46 48.6**	**-0.3**
SOC	**Sochi**	**76.51**	**312**	*i* P	**P**	**06 46 49.1**	**-1.2**
SOC				*e*	pP	06 46 58.2	-2.2
SOC				*e*		06 49 40.3	
SOC				*e*PPP	PPP	06 51 26.8	-4.7
SOC				*e*S	S	06 56 30.7	-1.8
SOC				*e*		06 56 55.3	
SOC				*e*SSS	SSS	07 04 49.6	+3.4
SOC				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.6						
SOC				pmax	pmax		
	comp=N,32nm,0.7s						
SOC				pmax	pmax		
	comp=E,24nm,0.8s						
SOC				MLR	MLR		
	comp=N,742nm,18.0s,MS5.2						
SOC				MLR	MLR		
	comp=Z,906nm,18.0s,MS5.1						
SOC				MLR	MLR		
	comp=E,801nm,19.0s,MS5.2						
MOS	**Moscow**	**76.65**	**325**⇓	*i*P	**P**	**06 46 50.4**	**-0.4**
MOS				*e*		06 56 26.5	
MOS				pmax	pmax		
	comp=Z,120nm,0.8s,mb5.9						
COLA	**College**	**76.66**	**26**	*e*P	**P**	**06 46 50.5**	**-0.2**
COLA				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.6						
SML	**Sawmill**	**76.68**	**29**	*e*P	**P**	**06 46 50.9**	**0.0**
LVZ	**Lovozero**	**77.00**	**337**⇑	*e*P	**P**	**06 46 57.0**	**+4.4**
LVZ				*e*S	S	06 56 34.1	-3.2
LVZ				*e*		06 56 52.6	
LVZ				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
LVZ				smax			
	comp=N,163nm,8.2s						
LVZ				smax			
	comp=E,150nm,8.8s						
LVZ				MLR	MLR		
	comp=Z,712nm,20.0s,MS5.0						
LVZ				MLR	MLR		
	comp=E,513nm,19.0s						
ILAR	**Eielson Array**	**77.08**	**26**	P	**P**	**06 46 52.2**	**-0.8**
	comp=E,11nm,0.9s,mb4.8,baz=268,slow=5.1,SNR=51						
ILAR				PP	PP	06 49 42.5	-5.7
	comp=E,0.8nm,0.8s,baz=256,slow=7.4,SNR=2.8						
ILAR				PKKPbc		07 05 58.9	
	comp=E,0.7nm,0.8s,baz=68,slow=1.1,SNR=6.8						
ILAR				LR	LR	07 18 59.6	
	comp=E,333nm,21.2s,MS4.6,baz=298,slow=34						
OBN	**Obninsk**	**77.31**	**324**κ	*i*P	**P**	**06 46 53.7**	**-0.8**
OBN				*e*	pP	06 47 03.8	-0.8
OBN				*i* S	S	06 56 40.8	-0.1
OBN				SS	SS	07 01 43.0	+0.7
OBN				SSS	SSS	07 04 57.0	-1.9
OBN				pmax	pmax		
	comp=Z,85nm,1.4s,mb5.5						
OBN				MLR	MLR		
	comp=Z,600nm,18.0s,MS5.0						
OBN	**Obninsk**	**77.31**	**324**	*e*P	**P**	**06 46 52.2**	**-2.3**
OBN				LR	LR		
	comp=Z,600nm,18.0s,MS5.0						
APA	**Apatity**	**77.50**	**337**⇓	*i*P	**P**	**06 46 55.3**	**0.0**
APA				*i*		06 47 11.8	
APA				*e*S	S	06 56 40.0	-2.8
APA				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.4						
APA				MLR	MLR		
	comp=Z,700nm,16.0s,MS5.1						
THY	**Trims Highway**	**77.71**	**27**	*e*P	**P**	**06 46 57.3**	**+0.7**
DIV	**Divide**	**77.97**	**30**	*e*P	**P**	**06 46 58.4**	**+0.4**
	comp=Z,489nm,1.3s,mb6.3						
DIV				*e*		06 47 15.3	
ANN	**Anapa**	**77.99**	**313**	*e*P	**P**	**06 46 57.7**	**-0.8**
ANN				*e*		06 47 05.1	
ANN				*e*S	S	06 56 46.7	-1.8
ANN				*e*SS	SS	07 01 46.0	-6.8
ANN				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.6						
EYAK	**Cordova Ski Ar**	**78.05**	**30**	*e*P	**P**	**06 46 59.4**	**+0.9**
MALT	**Malatya**	**78.16**	**307**	*e*P	**P**	**06 46 59.9**	**+0.4**
	comp=Z,64nm,1.3s,mb5.4						
KEV	**Kevo**	**79.48**	**339**	*e*p	**P**	**06 47 05.6**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.3						
KEV	**Kevo**	**79.48**	**339**	*e*P	**P**	**06 47 05.6**	**-0.5**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ARCES	**ARCESS Array B**	**80.04**	**339**	P	**P**	**06 47 09.5**	**+0.4**
	comp=Z,34nm,0.6s,mb5.4,baz=79,slow=6.2,SNR=75						
ARCES				LR	LR	07 28 43.8	
	comp=Z,552nm,19.7s,MS4.9,baz=178,slow=40						
ARE0	**ARCESS Array S**	**80.04**	**339**	*e*P	**P**	**06 47 08.8**	**-0.3**
SIM	**Simferopol'**	**80.30**	**314***d*	*i*P	**P**	**06 47 10.6**	**-0.4**
SIM				*e*	pP	06 47 19.0	-2.1
SIM				*e*S	S	06 57 13.0	+0.1
SIM				*e*PS	PS	06 58 00.0	-2.7
SIM				pmax	pmax		
	comp=Z,40nm,16.6s						
SIM				MLR	MLR		
	comp=Z,590nm,20.1s,MS4.9						
DAWY	**Dawson**	**80.40**	**26**	*e*P	**P**	**06 47 11.9**	**+0.7**
ASF	**Jabal al Asfar**	**80.40**	**301**	P	**P**	**06 47 11.9**	**+0.1**
	comp=Z,7.3nm,0.9s,mb4.6,baz=12,slow=3.2,SNR=4.2						
KBS	**Kingsbay**	**80.56**	**350**	*e*S	S	06 57 13.9	-1.1
KBS				AMS	AMS	07 28 27.7	
	comp=Z,759nm,18.0s,MS5.1						
KBS	**Kingsbay**	**80.56**	**350**	*e*P	**P**	**06 47 11.3**	**-0.5**
KBS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
KBS	**Kingsbay**	**80.56**	**350**	*e*P	**P**	**06 47 11.3**	**-0.5**
KBS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
KBS	**Kingsbay**	**80.56**	**350**	*e*P	**P**	**06 47 11.3**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0						
KAF	**Kangasniemi**	**81.42**	**332**	*e*p	**P**	**06 47 15.2**	**-1.3**
	comp=Z,14nm,0.7s,mb5.0						
KAF	**Kangasniemi**	**81.42**	**332**	*e*P	**P**	**06 47 15.2**	**-1.3**
KAF				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
BRTR	**Keskin Array B**	**81.60**	**309**	P	**P**	**06 47 17.6**	**-0.3**
	comp=Z,7.5nm,0.8s,mb4.7,baz=104,slow=4.1,SNR=4.2						
BRTR				PP	PP	06 50 20.6	-6.2
	comp=Z,0.5nm,0.4s,baz=60,slow=12,SNR=2.6						
INK	**Inuvik**	**81.67**	**22**	P	**P**	**06 47 18.1**	**+0.5**
	comp=Z,25nm,0.8s,mb5.2,baz=289,slow=5.2,SNR=86						
INK	**Inuvik**	**81.67**	**22**	*e*P	**P**	**06 47 17.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,64nm,1.0s						
INK	**Inuvik**	**81.67**	**22**	*e*P	**P**	**06 47 17.9**	**+0.2**
	comp=Z,64nm,1.0s,mb5.5						
FINES	**FINESS Array B**	**81.68**	**331**	P	**P**	**06 47 17.7**	**-0.2**
	comp=Z,36nm,1.0s,mb5.3,baz=90,slow=7.6,SNR=22						
FINES				LR	LR	07 27 14.6	
	comp=Z,494nm,18.3s,MS4.9,baz=70,slow=38						
FINES	**FINESS Array B**	**81.68**	**331**	*e*P	**P**	**06 47 18.1**	**+0.2**
VSU	**Vasula**	**82.07**	**328**	*i* Pr		06 47 19.9	
TRO	**Tromso**	**82.23**	**340**	*e*P	**P**	**06 47 19.5**	**-1.1**
TRO				AMS	AMS	07 31 35.8	
	comp=Z,436nm,18.1s,MS4.9						
MNK	**Minsk**	**82.39**	**324**	*e*P	**P**	**06 47 19.0**	**-2.7**
MNK				pmax	pmax		
	comp=Z,420nm,2.0s,mb6.0						
AKASG	**Malin Array Be**	**82.41**	**320**	P	**P**	**06 47 20.6**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8,baz=62,slow=4.5,SNR=20						
AKASG				LR	LR	07 27 41.3	
	comp=Z,459nm,18.9s,MS4.9,baz=75,slow=38						
RAR	**Rarotonga**	**82.45**	**114**	LR	LR	07 18 09.0	

	comp=Z,836nm,18.1s,MS5.2,baz=285,slow=31						
CSS	Prodhromos	82.79	304	eP	P	06 47 23.5	-0.7
	comp=Z,42nm,0.8s,mb5.5						
MIR	Mirnyy	83.49	192	⇓eP	P	06 47 25.0	-2.2
MIR				pmax	pmax		
	comp=Z,150nm,1.4s,mb5.8						
KIS	Kishinev	83.51	317	eP	P	06 47 32.0	+4.3
KIS				e		06 47 50.0	
KIS				e		06 57 40.0	
KIS				e		06 58 42.0	
KIS				MLR	MLR		
	comp=E,500nm,20.0s						
KIS				MLR	MLR		
	comp=Z,600nm,20.0s,MS5.0						
KIS				MLR	MLR		
	comp=Z,400nm,20.0s						
SIT	Sitka	84.07	33	eP	P	06 47 31.6	+1.4
SIT				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.8						
SIT	Sitka	84.07	33	eP	P	06 47 32.3	+2.1
SIT				LR	LR		
	comp=Z,400nm,22.0s,MS4.8						
ISP	Isparta	84.39	307	eP	P	06 47 31.5	-0.8
SUW	Suwalki	85.15	324	eP	P	06 47 35.5	-0.2
SUW				eS	S	06 58 00.3	-1.5
SUW				MLR	MLR		
	comp=Z,700nm,24.3s,MS5.0						
SUW	Suwalki	85.15	324	eP	P	06 47 35.5	-0.2
SUW				ePcP	PcP	06 47 37.8	-1.5
SUW				eS	S	06 58 00.3	-1.5
DLBC	Dease Lake	86.33	30	P	P	06 47 43.8	+2.4
	comp=Z,13nm,0.9s,mb5.1,baz=282,slow=6.1,SNR=27						
DLBC	Dease Lake	86.33	30	eP	P	06 47 43.3	+1.8
NSS	Namsos	86.70	336	eP	P	06 47 42.5	-0.6
KWP	Kalwaria	86.74	320	eP	P	06 47 43.3	-0.4
KWP				eS	S	06 58 19.2	+2.0
KWP				MLR	MLR		
	comp=Z,700nm,24.9s,MS5.0						
KWP	Kalwaria	86.74	320	eP	P	06 47 43.3	-0.4
KWP				ePcP	PcP	06 47 45.4	-0.9
KWP				eS	S	06 58 19.2	+2.0
DAG	Danmarks Havn	86.85	352	⇑iP	P	06 47 43.2	-0.5
	comp=Z,5.3nm,0.6s,mb5.0						
HFS	Hagfors	87.84	332	P	P	06 47 48.0	-0.8
	comp=Z,11nm,0.6s,mb5.2,baz=79,slow=7.6,SNR=14						
RES	Resolute Bay	88.26	10	eP	P	06 47 50.4	-0.1
RES				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.6						
RES	Resolute Bay	88.26	10	eP	P	06 47 50.4	-0.1
	comp=Z,30nm,0.8s,mb5.6						
OJC	Ojcow	88.33	321	⇓eP	P	06 47 51.2	-0.1
APE	Apeiranthos	88.42	308	eP	P	06 47 49.9	-2.2
KECS	Kecovo	88.49	320	i P	P	06 47 52.5	+0.4
KECS				e		06 47 58.2	
NB2	NORSAR Subarra	88.56	333	P	P	06 47 50.7	-1.5
	comp=Z,13nm,0.8s,mb5.3,baz=68,slow=5.0						
NB2	NORSAR Subarra	88.56	333	P	P	06 47 50.7	-1.5
	baz=68,slow=5.1						
NOA	NORSAR Array B	88.56	333	P	P	06 47 50.8	-1.4
	comp=Z,8.9nm,0.7s,mb5.2,baz=67,slow=4.9,SNR=29						
NOA				LR	LR	07 31 22.9	
	comp=Z,904nm,18.2s,MS5.2,baz=55,slow=38						
NAO01	NORSAR Array S	88.79	333	eP	P	06 47 52.1	-1.1
	comp=Z,7.9nm,0.6s,mb5.2						
BSD	Bornholm Skovb	89.29	327	⇓iP	P	06 47 54.8	-1.0
	comp=Z,30nm,0.8s,mb5.7						
	comp=Z,780nm,18.0s						
JMIC	Jan Mayen	89.39	346	AMS	AMS	07 32 03.3	
	comp=Z,436nm,19.6s,MS4.9						
OKC	Ostrava-Krasne	89.46	322	ePP	Px	06 49 11.8	
OKC				LM		07 31 20.0	
	comp=Z,0.3nm,16.8s						
VYHS	Vyhne	89.52	320	i P	P	06 47 57.4	+0.4
VYHS				e		06 48 04.9	
KSP	Ksiaz	90.19	323	eP	P	06 48 00.0	-0.1
KSP				e	pP	06 48 08.5	-1.8
DPC	Dobruska-Polom	90.36	322	eP	P	06 48 01.0	+0.1
DPC				eAP	pP	06 48 09.5	-1.6
DPC				e		06 48 58.8	
DPC				e		06 49 03.3	
DPC				LM		07 29 50.0	
	comp=Z,0.4nm,18.1s						
DPC	Dobruska-Polom	90.36	322	eP	P	06 48 01.0	+0.1
DPC				e	pP	06 48 09.5	-1.6
DPC				MLR	MLR		
	comp=Z,400nm,18.1s,MS4.9						
PPT	Papeete	90.69	108	P	P	06 48 06.6	+3.5
	comp=Z,26nm,0.8s,mb5.6,baz=41,slow=1.9,SNR=6.9						
PPT	Papeete	90.69	108	eP	P	06 48 06.3	+3.1
	comp=Z,30nm,1.0s,mb5.6						
PPT	Papeete	90.69	108	ePS	PS	07 00 10.8	+1.1
PPT				eL		07 12 52.9	
PPT				eR		07 16 46.3	
	comp=Z,1µm,23.5s,baz=290						
PAE	Paea	90.71	108	eP	P	06 48 06.1	+2.8
	comp=Z,76nm,1.2s,mb5.9						
TIAR	Tiarei	90.90	108	eP	P	06 48 07.0	+2.9
	comp=Z,93nm,1.1s,mb6.0						
TVO	Taravao	91.04	108	eP	P	06 48 07.8	+3.0
	comp=Z,98nm,0.9s,mb6.1						
YKA	Yellowknife Ar	91.26	23	P	P	06 48 05.3	+0.6
	comp=Z,4.6nm,0.6s,mb5.0,baz=301,slow=4.4,SNR=17						
YKA				LR	LR	07 33 40.5	
	comp=Z,232nm,21.4s,MS4.6,baz=330,slow=38						
YKA	Yellowknife Ar	91.26	23	P	P	06 48 05.3	+0.6
YKA				LR	LR	07 33 40.5	
PVCC	Panska Ves	91.33	323	eP	P	06 48 04.6	-0.7
BRG	Berggiesshubel	91.55	323	i P	P	06 48 06.4	+0.1
BRG				e		06 59 02.0	
BRG				i		07 00 12.0	
BRG				e		07 05 21.0	
BRG				pmax	pmax		
	comp=Z,22nm,1.7s,mb5.2						
BRG				MLR	MLR		
	comp=Z,960nm,17.3s,MS5.3						
BRG				MLR	MLR		
	comp=N,820nm,22.0s,MS5.3						
BRG				MLR	MLR		
	comp=E,750nm,22.0s,MS5.3						
BRG	Berggiesshubel	91.55	323	i P	P	06 48 06.4	+0.1
	comp=E,22nm,1.7s,mb5.2						
BRG				e		06 59 02.0	
BRG				i		07 00 12.0	
BRG				e		07 05 21.0	
BRG				LR	LR		
	comp=Z,960nm,17.3s,MS5.3						
PRU	Pruhonice	91.56	323	eP	P	06 48 06.4	0.0
PRU				eAP	pP	06 48 15.5	-1.1
PRU				e		06 49 11.3	
PRU				eS	S	06 59 03.2	+1.8
PRU				LM		07 32 20.0	
	comp=Z,0.2nm,17.1s						
PRU	Pruhonice	91.56	323	eP	P	06 48 06.4	0.0
PRU				e	pP	06 48 15.5	-1.1
PRU				eS	S	06 59 03.2	+1.8
PRU				MLR	MLR		
	comp=Z,200nm,17.1s,MS4.6						
CLL	Collm	91.91	324	P	P	06 48 07.2	-0.8
	comp=Z,logA/T=1.0,mb5.1						
CLL				e*PP	Px	06 48 48.0	
CLL				ePP	PP	06 51 52.0	+2.1
CLL	Collm	91.91	324	i P	P	06 48 07.2	-0.8
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
CLL				MLR	MLR		
	comp=Z,700nm,17.5s,MS5.2						
CLL	Collm	91.91	324	i P	P	06 48 07.2	-0.8
	comp=Z,9.0nm,0.9s,mb5.1						
CLL				e		06 48 48.0	
CLL				LR	LR		
	comp=Z,700nm,17.5s,MS5.2						
MEH	Mehetia	92.16	108	eP	P	06 48 12.4	+2.5
	comp=Z,23nm,1.0s,mb5.5						
TBI	Tubuai	92.21	113	ePS	PS	07 00 32.8	+5.2
TBI				eL		07 13 37.4	
TBI				eR		07 17 14.5	
	comp=Z,1µm,25.0s,baz=289						
BSEG	Bad Segeberg	92.22	327	eP	P	06 48 09.4	+0.1
BSEG				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.3						
MAW	Mawson	92.42	200	P	P	06 48 08.5	-1.5
	comp=Z,2.6nm,0.9s,mb4.6,baz=342,slow=3.2,SNR=3.0						
MAW				LR	LR	07 26 13.9	
	comp=Z,314nm,18.7s,MS4.8,baz=56,slow=33						
KHC	Kasperske Hory	92.48	322	eP	P	06 48 10.6	-0.1
KHC				e		06 48 15.2	
KHC				e		06 48 59.2	
KHC				e		06 51 17.4	
KHC				eS	S	06 59 11.4	+1.9
KHC				LM		07 31 20.0	
	comp=Z,0.4nm,20.5s						
KHC	Kasperske Hory	92.48	322	eP	P	06 48 10.6	-0.1
KHC				eS	S	06 59 11.4	+1.9
KHC				MLR	MLR		
	comp=Z,400nm,20.5s,MS4.8						
GEC2	GERESS Array S	92.53	322	eP	P	06 48 10.7	-0.2
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.9						
GEC2	GERESS Array S	92.53	322	eP	P	06 48 10.7	-0.2
	comp=Z,6.0nm,1.1s,mb4.9						
GERES	GERESS Array B	92.53	322	P	P	06 48 10.7	-0.2
	comp=Z,1.6nm,0.7s,mb4.6,baz=56,slow=4.8,SNR=9.1						
CRES	Cresnjevec ost	92.64	318	eP	P	06 48 11.5	0.0
NKC	Novy Kostel	92.68	323	LM		07 33 30.0	
	comp=Z,0.8nm,19.0s						
SUMG	Summit	92.91	355	eP	P	06 48 12.9	+0.7
	comp=Z,12nm,1.0s,mb5.3						
MOX	Moxa	92.98	324	i P	P	06 48 12.8	-0.1
MOX				L		07 33 55.0	
MOX	Moxa	92.98	324	eP	P	06 48 12.8	-0.1
MOX				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.0						
VISS	Visnje	93.05	319	i P	P	06 48 13.2	-0.1
CLZ	Clausthal	93.14	325	eP	P	06 48 13.9	+0.2
	comp=Z,15nm,0.9s,mb5.4						
CEY	Cerknica	93.34	319	i P	P	06 48 14.5	-0.2
MBAR	Mbarara	93.43	270	eP	P	06 48 14.2	-1.7
	comp=Z,10nm,1.1s,mb5.2						
GRA1	Grafenberg Arr	93.63	323	eP	P	06 48 15.8	-0.1
	comp=Z,24nm,1.4s,mb5.4						
GRA1				LR	LR		
	comp=Z,1µm,18.9s,MS5.3						
GRF	Grafenberg Arr	93.63	323	eP	P	06 48 15.8	-0.1
GRF				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.4						
VNDA	Vanda	93.82	172	P	P	06 48 15.5	-0.7
	comp=Z,7.7nm,0.8s,mb5.2,baz=313,slow=5.1,SNR=5.9						
VNDA				LR	LR	07 31 14.3	
	comp=Z,249nm,21.5s,MS4.6,baz=341,slow=36						
VNDA	Vanda	93.82	172	P	P	06 48 14.9	-1.3
VNDA	Vanda	93.82	172	eP	P	06 48 14.3	-1.9
VNDA				pmax	pmax		
	comp=Z,14nm,1.0s						
VNDA	Vanda	93.82	172	eP	P	06 48 14.3	-1.9
	comp=Z,14nm,1.0s,mb5.3						
TIP	Timpagrande	94.28	312	eP	P	06 48 18.7	-0.5
GNW	Green Mountain	94.67	39	eP	P	06 48 21.6	+0.8
SBA	Scott Base	94.74	172	eP	P	06 48 20.3	-0.2
SBA				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.3						
SBA	Scott Base	94.74	172	eP	P	06 48 20.3	-0.2
	comp=Z,15nm,1.3s,mb5.3						
RMW	Rattlesnake Mo	95.33	38	eP	P	06 48 25.3	+1.5
DAVOX	Davos	95.74	321	P	P	06 48 26.1	+0.3
	comp=Z,9.2nm,1.0s,mb5.2,baz=9.0,slow=4.8,SNR=7.3						
NLW	Nelson Butte	95.92	37	eP	P	06 48 27.6	+1.1
BFO	Black Forest	95.95	323	eP	P	06 48 24.3	-2.3
BFO				pmax	pmax		
	comp=Z,25nm,2.0s,mb5.3						
BFO	Black Forest	95.95	323	eP	P	06 48 24.3	-2.3
	comp=Z,25nm,2.0s,mb5.3						
CDF	Champ du Feu	96.52	323	eP	P	06 48 29.2	0.0
	comp=Z,15nm,1.0s,mb5.1						
WLF	Walferdange	96.54	325	eP	P	06 48 29.7	+0.4
WLF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.5						
WLF	Walferdange	96.54	325	eP	P	06 48 29.7	+0.4
	comp=Z,19nm,0.8s,mb5.6						
DPW	Davenport	97.28	37	eP	P	06 48 33.8	+1.2
YBH	Yreka Blue Hor	97.31	44	P	P	06 48 34.4	+1.5
	comp=Z,3.9nm,0.9s,mb4.8,baz=326,slow=14,SNR=5.4						
NEW	Newport	97.70	36	P	P	06 48 35.5	+1.0
	comp=Z,4.6nm,0.9s,mb5.0,baz=295,slow=3.0,SNR=8.4						
NEW	Newport	97.70	36	eP	P	06 48 34.8	+0.3
NEW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NEW	Newport	97.70	36	eP	P	06 48 34.8	+0.3
	comp=Z,8.5nm,1.0s,mb5.2						
EKA	Eskdalemuir Ar	98.03	333	P	P	06 48 35.6	-0.2
	comp=Z,6.3nm,0.9s,mb5.2,baz=45,slow=7.1,SNR=9.6						
LNOR	Lincton Mounta	98.22	39	eP	P	06 48 38.6	+1.7
PGF	Pioggiola	98.24	317	eP	P	06 48 37.0	-0.1
	comp=Z,33nm,1.1s,mb5.5						
MBDF	Montbardon	98.63	320	eP	P	06 48 41.0	+2.2
	comp=Z,10nm,1.0s,mb5.0						
SBF	Sospel	98.63	319	eP	P	06 48 38.3	-0.5
	comp=Z,26nm,0.8s,mb5.5						
MOD	Modoc	98.84	43	eP	P	06 48 40.7	+0.9
	comp=Z,8.6nm,0.9s,mb5.3						
SSF	Saint Saulge	99.40	323	eP	P	06 48 46.8	+4.6
AVF	Avril sur Loir	99.64	323	eP	P	06 48 42.1	-1.2
	comp=Z,20nm,1.2s,mb5.1						
WVOR	Wild Horse Val	99.68	42	eP	P	06 48 44.6	+1.0
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
WVOR	Wild Horse Val	99.68	42	eP	P	06 48 44.6	+1.0
	comp=Z,7.8nm,1.1s,mb5.0						
BEKR	Beckwourth	99.74	45	eP	P	06 48 44.7	+0.8
	comp=Z,8.3nm,0.9s,mb5.2						
HLID	Hailey	101.77	39	ePdif	P	06 48 54.3	+1.2
	comp=Z,2.0nm,0.7s						
NVAR	Mina Array Bea	101.82	45	P	P	06 48 54.8	+1.4
	comp=Z,5.3nm,0.8s,baz=273,slow=3.4,SNR=45						
NVAR				PKKPbc		07 04 56.5	
	comp=Z,1.2nm,0.7s,baz=135,slow=3.8,SNR=11						
ELK	Elko	102.73	42	eP	Pdif	06 48 58.9	+1.6
	comp=Z,6.4nm,1.3s						
TPH	Tonopah	102.74	45	eP	Pdif	06 48 57.1	-0.3
TPH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TPH	Tonopah	102.74	45	ePdif	Pdif	06 48 57.1	-0.2
	comp=Z,4.6nm,1.0s						
HWUT	Hardware Ranch	104.60	40	ePdif	Pdif	06 49 04.2	-1.3
PDAR	Pinedale Array	105.16	38	Pdiff	Pdif	06 49 09.7	+1.8
	comp=Z,0.3nm,0.4s,baz=329,slow=5.3,SNR=3.1						
PDAR				PKiKP		06 53 23.0	
	comp=Z,1.2nm,0.7s,slow=0.9,SNR=4.2						
PDAR				PKKPab		07 05 04.7	
	comp=Z,0.7nm,0.8s,baz=102,slow=4.7,SNR=4.7						
RKT	Rikitea	105.22	110	eP	Pdif	06 49 10.9	+2.2
	comp=Z,151nm,1.4s						
NEN	Nelson	105.59	46	ePdif	Pdif	06 49 11.2	+1.2
MSU	Marysvale	105.91	43	eP	Pdif	06 49 12.5	+1.2
RSSD	Black Hills	107.48	34	ePKPdf		06 53 26.6	
SNAA	Sanae	114.32	196	e	Pdif	06 49 45.6	-1.9
SNAA	Sanae	114.32	196	PKiKP		06 53 37.7	
	comp=Z,0.7nm,0.8s,baz=215,slow=3.4,SNR=4.5						
SNAA				PKKPbc		07 04 13.8	
	comp=Z,1.3nm,0.8s,baz=334,slow=3.8,SNR=6.7						
SNAA				PKKPab		07 04 24.4	
	comp=Z,1.1nm,0.8s,baz=282,slow=6.5,SNR=5.9						
VNA2	Neumayer--Watz	115.95	196	e	Pdif	06 49 55.5	+0.7
VNA1	Neumayer--Stat	116.35	196	e	Pdif	06 49 57.1	+0.6
LTX	Lajitas	116.93	47	ePKIKP	PKPdf	06 53 45.7	-3.2
TXAR	Lajitas Array	116.93	47	PKP	PKPdf	06 53 45.4	-3.5
	comp=Z,7.5nm,0.8s,baz=270,slow=1.3,SNR=10						
TXAR				PP	PP	06 54 53.4	-4.3
	comp=Z,5.0nm,1.1s,baz=270,slow=5.0,SNR=4.7						
TXAR				PKKPab		07 04 12.0	
	comp=Z,0.2nm,0.5s,baz=111,slow=4.5,SNR=4.3						
TXAR	Lajitas Array	116.93	47	PKP	PKPdf	06 53 45.4	-3.5
TXAR				PP	PP	06 54 53.4	-4.3
TXAR				PKKPab		07 04 12.0	
DBIC	Dimbokro	125.38	289	PKP	PKPdf	06 54 01.3	-4.4
	comp=Z,16nm,0.7s,baz=49,slow=2.8,SNR=22						
DBIC	Dimbokro	125.38	289	PKPdf	PKPdf	06 54 01.1	-4.6
DBIC	Dimbokro	125.38	289	ePKIKP	PKPdf	06 54 00.7	-5.0
KIC	Kosan Boka	125.39	288	ePKIKP	PKPdf	06 54 01.2	-4.5
	comp=Z,171nm,0.9s						
TIC	Toumodi	125.54	289	ePKIKP	PKPdf	06 54 01.3	-4.7
	comp=Z,95nm,0.8s						
LIC	Lamto	125.71	288	ePKIKP	PKPdf	06 54 01.7	-4.6
	comp=Z,84nm,0.9s						
LIC	Lamto	125.71	288	⇑iPKIKP	PKPdf	06 54 01.6	-4.7
	comp=Z,95nm,0.9s						
USHA	Ushuaia	138.04	169	PKP	PKPdf	06 54 25.6	-2.9
	comp=Z,12nm,0.7s,baz=207,slow=2.3,SNR=4.8						
JTS	JuntasAbangare	142.43	52	ePKPpre		06 54 26.4	
MGP	Maguayo	146.38	20	ePKP2	PKPab	06 54 41.2	-1.9
MGP	Maguayo	146.38	20	ePKP2	PKPab	06 54 41.2	-1.9
SJG	San Juan	146.58	18	PKPbc	PKPbc	06 54 40.5	0.0
	baz=53,slow=6.2						
MTP	Monte Pirata	146.77	17	ePKPbc	PKPbc	06 54 41.5	+0.6
SEG	Port Louis	149.34	11	eP	PKPdf	06 54 49.0	0.0
DEG	La Desirade	149.51	10	eP	PKPdf	06 54 49.5	+0.3
PLCA	Paso Flores	150.39	157	PKP	PKPdf	06 54 44.4	-5.5
	comp=Z,2.4nm,0.8s,baz=201,slow=7.0,SNR=3.7						
PLCA				PKPbc	PKPdf	06 54 51.7	+1.8
	comp=Z,46nm,0.9s,baz=201,slow=2.9,SNR=62						
PLCA	Paso Flores	150.39	157	PKPbc	PKPdf	06 54 51.6	+1.7
PLCA	Paso Flores	150.39	157	ePKIKP	PKPdf	06 54 46.3	-3.6
PLCA				e		06 54 51.6	
FDF	Fort de France	151.04	11	eP	PKPdf	06 54 53.9	+2.4
BIM	Bigot	151.26	11	eP	PKPdf	06 54 54.4	+2.5
SDV	Santo Domingo	153.01	34	PKPdf	PKPdf	06 54 51.4	-3.1
SDV				PKiKP		06 54 58.7	
SDV				PKPab	PKPab	06 55 10.0	-0.3
OTAV	Otavalo	153.58	60	ePKPdf	PKPdf	06 54 51.7	-3.6
OTAV				ePKPbc	PKPdf	06 55 02.3	+6.9
ROSC	El Rosal	153.85	46	PKP	PKPdf	06 54 53.9	-1.8
	comp=Z,6.2nm,0.7s,baz=102,slow=17,SNR=5.9						
ROSC				PKPbc	PKPdf	06 55 01.5	+5.8
	comp=Z,21nm,0.8s,baz=157,slow=7.8,SNR=11						
TRQA	Tornquist	155.38	168	ePKPdf	PKPdf	06 54 53.0	-4.0
TRQA				ePKPbc	PKPdf	06 55 01.8	+4.8
CPUP	Villa Florida	167.60	174	PKPab	PKPab	06 56 11.4	-1.5
	comp=Z,2.9nm,0.8s,baz=179,slow=8.5,SNR=3.2						
LPAZ	La Paz	167.94	103	PKP	PKPdf	06 55 08.5	-2.1
	comp=Z,6.9nm,1.0s,baz=56,slow=5.1,SNR=4.6						
LPAZ				PKPab	PKPab	06 56 17.3	+2.6
	comp=Z,8.1nm,0.9s,baz=303,slow=4.3,SNR=6.3						
LPAZ	La Paz	167.94	103	PKP	PKPdf	06 55 08.5	-2.1
LPAZ				PKPab	PKPab	06 56 17.3	+2.6
SAML	Samuel	171.29	56	PKPdf	PKPdf	06 55 09.1	-3.6
SAML	Samuel	171.29	56	ePKPdf	PKPdf	06 55 08.5	-4.2
BDFB	Brasilia	172.21	256	PKPab	PKPab	06 56 31.1	-2.5
	comp=Z,6.8nm,1.0s,baz=112,slow=5.0,SNR=3.6						

IDC 19 06:41:06.6±9.8**, 24.24S**×**179.95E, h649**^{km}±109^{km}**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.3**/15**, Error ellipse: s-maj=87.1km s-min=38.8km az=48.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.18	189	P	P	06 44 06.1	-0.1
	2.7nm,0.3s,baz=40,slow=2.0,SNR=13						
URZ				S	S	06 46 33.6	+3.3
	0.4nm,0.3s,baz=190,slow=18,SNR=2.0						
CTA	Charters Tower	31.43	271	P	P	06 46 38.1	-1.5
	19nm,0.5s,baz=97,slow=10,SNR=20						
ASAR	Alice Springs	41.93	261	P	P	06 48 04.1	-1.1
	3.9nm,0.6s,baz=95,slow=8.0,SNR=4.5						
WRA	Warramunga Arr	42.34	267	P	P	06 48 06.6	-1.8
	1.4nm,0.3s,baz=103,slow=8.1,SNR=9.9						
NB2	NORSAR Subarra	142.41	351	PKP		06 59 23.6	
	0.2nm,0.7s,baz=24,slow=3.5						
NOA	NORSAR Array B	142.41	351	PKP	PKPdf	06 59 24.0	-2.5
	0.9nm,0.6s,baz=35,slow=5.4,SNR=4.4						
HFS	Hagfors	142.87	349	PKP	PKPdf	06 59 25.2	-2.1
	2.9nm,0.4s,baz=63,slow=3.3,SNR=17						
AKASG	Malin Array Be	145.23	327	PKPbc	PKPbc	06 59 33.8	+1.0
	3.3nm,0.7s,baz=43,slow=4.2,SNR=17						
BRTR	Keskin Array B	147.74	307	PKPbc	PKPdf	06 59 46.5	+10
	2.1nm,1.0s,baz=66,slow=2.9,SNR=3.5						

ATH ***19*** *06:56:31.5, 37.00N×26.81E, h10*^{km}*, MD3.2/3*

ISK ***19*** *06:56:49.2, 36.20N×27.76E, h8*^{km}*, MD3.3*

ISC 19 06:56:46.4±1.0**, 36.16N**±0.05×**27.55E**±0.08**, h8**^{km}**, n8, σ1**^{s}**05**/13**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.47	83	ePB	Pg	06 56 56.3	+0.4
KARP	Karpathos	0.69	208	ePB	Pg	06 56 59.3	-0.9
BDRM	Kayabasi	0.91	355	i P	Pg	06 57 03.9	-0.7
BDRM				i S	Sg	06 57 17.3	+0.5
DALT	Dalyan (Mudla)	1.07	55	PG	Pg	06 57 07.5	-0.3
DALT				SG	Sg	06 57 19.7	-2.3
YER	Yerkesik	1.14	31	PG	Pg	06 57 08.6	-0.6
YER				SG	Sg	06 57 24.4	0.0
AYDN	Tasoluk	1.52	10	i P	Pn	06 57 15.4	+1.3
AYDN				i S	Sb	06 57 32.6	-1.3
DNZL	Cakiroluk	1.94	38	i P	Pn	06 57 20.8	+0.7
DNZL				i S	Sn	06 57 46.9	+1.9
ELL	Elmali	1.99	72	ePN	Pn	06 57 21.7	+0.9

DJA 19 07:04:29.2±0.9**, 9.47S**×**115.34E, h111**^{km}±9^{km}**, MD5.1**/4**, ML4.0**/2**, 5C-3D, Error ellipse: s-maj=33.7km s-min=12.4km az=5.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.67	343	⇑ePg	P	07 04 47.1	-0.4
	1µm,0.2s						
INGI				⇑eSg	S	07 05 00.3	-1.1
RATI	Rata	0.76	15	⇑ePg	P	07 04 48.5	+0.1
	769nm,0.2s						
RATI				⇓eSg	S	07 05 01.9	-0.9
KEDI	Kedomdong	1.24	38	⇓ePn	P	07 04 52.9	-0.5
	183nm,0.2s						
KEDI				⇓eSn	S	07 05 09.8	-1.8
KELI	Kelakatan	1.50	326	⇑ePn	P	07 04 56.0	-0.5
	138nm,0.2s						
KELI				⇑eSn	S	07 05 16.2	-0.8

IDC ***19*** *07:10:57.4±0.9, 22.17S×174.40W, mb4.4/9, mb1 4.7/11, mb1mx4.5/20, ML4.7/2, MS3.6/1, Ms1 3.6/1, ms1mx3.2/23, Error ellipse: s-maj=46.6km s-min=18.9km az=150.0*

BJI ***19*** *07:11:00.3, 22.94S×174.59W, h51*^{km}*, mB4.8, mb5.3, Ms5.2, Msz4.7*

NEIC ***19*** *07:11:02.7±5.7, 22.52S×174.33W, h46*^{km}*±50*^{km}*, mb4.9/11, Error ellipse: s-maj=11.9km s-min=8.3km az=135.0*

ISC 19 07:11:00.4±0.3**, 22.49S**±0.07×**174.40W**±0.09**, h39**^{km}**, h39**^{km}±3.3^{km}**:pP-P, n79, σ0**^{s}**82**/61**, mb4.7**/22**, MS4.3**/3**, 3C-1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	13.64	87	Pn	P	07 14 04.2	-10
	9.5nm,0.3s,baz=265,slow=10,SNR=7.7						
RAR				Sn	S	07 16 18.0	-27
	1.3nm,0.3s,baz=340,slow=16,SNR=2.6						
URZ	Urewera	17.33	203	P	P	07 15 09.1	+8.1
	1.1nm,0.3s,baz=63,slow=4.5,SNR=5.2						
URZ				S	S	07 18 11.1	+0.4
	0.9nm,0.3s,baz=66,slow=19,SNR=5.3						
RPZ	Rata Peaks	24.36	206	P	P	07 16 20.2	+4.3
	8.3nm,1.0s,mb4.1,baz=39,slow=6.5,SNR=3.9						
CTA	Charters Tower	36.67	266	P	P	07 18 06.2	+0.6
	2.1nm,0.4s,mb4.3,baz=104,slow=17,SNR=3.2						
ASAR	Alice Springs	47.36	258	P	P	07 19 33.4	+0.5
	3.0nm,0.8s,mb4.3,baz=88,slow=8.2,SNR=24						
ASAR				LR	LR	07 37 02.3	
	comp=Z,64nm,20.8s,MS3.6,baz=15,slow=33						
WRAB	Tennant Creek	47.66	263	P	P	07 19 32.0	-3.2
WRA	Warramunga Arr	47.67	263	P	P	07 19 35.3	0.0
	2.8nm,1.0s,mb4.3,baz=96,slow=8.3,SNR=77						
FORT	Forrest	51.62	248	eP	P	07 20 05.8	+0.4
	23nm,0.5s,mb5.4						
SBA	Scott Base	56.15	185	P	P	07 20 36.6	-1.5
VNDA	Vanda	56.27	186	eP	P	07 20 36.7	-2.2
QSPA	South Pole Qui	67.59	180	eP	P	07 22 00.9	+6.3
	5.5nm,0.9s,mb4.6						
MTUM	Tungsten Hills	79.39	42	eP	P	07 23 04.5	+0.2
WCN	Washoe City	79.90	40	eP	P	07 23 06.9	-0.1
	14nm,1.2s,mb4.8						
BEKR	Beckwourth	79.91	39	eP	P	07 23 06.6	-0.5
LDFC	Landfair	80.22	46	eP	P	07 23 08.9	+0.1
NVAR	Mina Array Bea	80.22	41	P	P	07 23 08.9	+0.2
	2.3nm,0.7s,mb4.2,baz=227,slow=9.5,SNR=30						
MNV	Mina	80.32	41	eP	P	07 23 08.2	-1.0
	18nm,1.4s,mb4.8						
TPH	Tonopah	80.67	42	eP	P	07 23 10.7	-0.4
	17nm,1.4s,mb4.8						
NEN	Nelson	80.73	45	eP	P	07 23 11.5	0.0
MAW	Mawson	80.81	199	P	P	07 23 11.7	+0.4
SSE	Sheshan	81.53	309	P	P	07 23 15.5	-0.3
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
SSE	Sheshan	81.53	309	P	P	07 23 15.5	-0.3

	comp=Z,36nm,0.7s,mb5.4						
TUC	Tucson	81.62	50	eP	P	07 23 16.2	0.0
	comp=Z,5.2nm,1.2s,mb4.3						
BMW	Boistfort Moun	82.77	33	eP	P	07 23 21.5	-0.3
VGB	Gordon Butte	83.38	35	eP	P	07 23 24.7	-0.2
NJ2	Nanjing	83.73	308	eP	P	07 23 26.3	-0.7
NJ2				AP	pP	07 23 36.9	-2.0
NJ2				PP	PP	07 26 40.8	-1.2
NJ2				SKS	SKS	07 33 42.0	-0.8
NJ2				S	S	07 33 46.0	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
NJ2				LR	LR		
	comp=N,950nm,24.9s,MS5.1						
NJ2				LR	LR		
	comp=E,660nm,29.9s,MS5.1						
NJ2				LR	LR		
	comp=Z,1µm,24.4s						
MDJ	Mudanjiang	84.08	323	P	P	07 23 29.4	+0.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb5.0						
MSU	Marysvale	84.13	44	eP	P	07 23 29.5	+0.6
RMW	Rattlesnake Mo	84.15	33	eP	P	07 23 28.5	-0.3
HAWA	Hanford	84.61	35	eP	P	07 23 31.1	0.0
	comp=Z,30nm,1.6s,mb5.2						
DUG	Dugway	84.69	43	eP	P	07 23 31.7	+0.1
LNOR	Lincton Mounta	84.94	36	P	P	07 23 34.2	+1.5
NLW	Nelson Butte	85.30	33	eP	P	07 23 34.2	-0.3
LAZ	Ladron	85.31	50	eP	P	07 23 35.9	+1.0
LTX	Lajitas	85.35	56	eP	P	07 23 35.7	+0.5
	comp=Z,12nm,1.4s,mb4.8						
TXAR	Lajitas Array	85.35	56	P	P	07 23 36.1	+0.9
	comp=Z,2.9nm,1.0s,mb4.3,baz=210,slow=7.6,SNR=14						
PLCA	Paso Flores	85.47	132	P	P	07 23 36.2	+0.7
SRU	San Rafael	85.53	44	eP	P	07 23 36.0	+0.1
BNM	Barren Site	85.55	50	eP	P	07 23 37.0	+0.9
JLU	Jordanelle	85.77	43	eP	P	07 23 37.2	+0.2
SNAA	Sanae	85.91	177	e	P	07 23 38.6	+1.6
SNAA	Sanae	85.91	177	e	pP	07 23 47.1	-1.8
SNAA	Sanae	85.91	177	e	pP	07 23 50.8	+1.9
SNAA	Sanae	85.91	177	⇑iP	P	07 23 36.3	-0.7
SNAA				e		07 23 38.6	
SNAA				e	pP	07 23 47.1	-1.8
SNAA				e	pP	07 23 50.8	+1.9
TCUT	Toone Canyon	86.09	42	eP	P	07 23 38.6	+0.1
PV10	Paradox Valley	86.10	46	eP	P	07 23 38.5	-0.2
GDL2	Guadalupe Moun	86.21	53	eP	P	07 23 39.6	+0.2
DPW	Davenport	86.26	34	eP	P	07 23 38.8	-0.4
VNA2	Neumayer--Watz	86.40	176	e	P	07 23 41.9	+2.6
VNA2	Neumayer--Watz	86.40	176	e	pP	07 23 51.6	+0.3
VNA2	Neumayer--Watz	86.40	176	e	pP	07 23 56.0	+4.7
VNA2	Neumayer--Watz	86.40	176	⇓iP	P	07 23 39.6	+0.3
VNA2				e		07 23 41.9	
VNA2				e	pP	07 23 51.6	+0.3
VNA2				e		07 23 56.0	
VNA1	Neumayer--Stat	86.60	175	e	P	07 23 39.7	-0.7
VNA1	Neumayer--Stat	86.60	175	e	pP	07 23 49.8	-2.5
VNA1	Neumayer--Stat	86.60	175	e	pP	07 23 53.9	+1.6
VNA1	Neumayer--Stat	86.60	175	⇑iP	P	07 23 37.4	-3.0
VNA1				e		07 23 39.7	
VNA1				e	pP	07 23 49.8	-2.5
VNA1				e		07 23 53.9	
CPRX	Cap Rock	86.98	52	eP	P	07 23 43.5	+0.3
BW06	Boulder Array	88.15	42	eP	P	07 23 47.8	-0.6
PDAR	Pinedale Array	88.15	42	P	P	07 23 48.2	-0.3
	comp=Z,1.0nm,0.9s,mb4.0,baz=220,slow=4.2,SNR=9.1						
SDCO	Great Sand Dun	88.16	48	P	P	07 23 48.2	-0.4
MCK	McKinley	88.22	11	eP	P	07 23 48.1	-0.2
	comp=Z,10nm,1.4s,mb4.9						
ILAR	Eielson Array	89.54	11	P	P	07 23 53.8	-0.8
	comp=Z,5.2nm,1.3s,mb4.7,baz=218,slow=5.4,SNR=10						
DAWY	Dawson	90.48	15	eP	P	07 23 58.5	-0.5
KMI	Kunming	93.23	296	eP	P	07 24 11.1	-1.5
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.3						
KMI	Kunming	93.23	296	eP	P	07 24 11.1	-1.5
	comp=Z,7.0nm,0.5s,mb5.3						
CMAR	Chiang Mai Arr	93.93	288	P	P	07 24 18.5	+2.6
	comp=Z,2.3nm,0.8s,mb4.7,baz=120,slow=2.7,SNR=9.9						
WMQ	Urumqi	110.76	310	⇑PKP	PKPdf	07 29 28.6	-0.5
WMQ				XPKP		07 29 43.6	
WMQ				PP	PP	07 30 09.6	-1.6
WMQ				LR	LR		
	comp=E,49nm,22.0s						
WMQ				LR	LR		
	comp=Z,54nm,19.6s,MS4.1						
ARCES	ARCESS Array B	131.44	351	PKP	PKPdf	07 30 09.4	+0.9
	comp=Z,3.0nm,1.0s,slow=3.6,SNR=4.4						
AKASG	Malin Array Be	146.34	333	PKPbc	PKPbc	07 30 39.3	+2.5
	comp=Z,1.8nm,0.7s,baz=39,slow=4.0,SNR=16						
MALT	Malatya	147.80	307	ePKP	PKPdf	07 30 45.2	+6.8
KSP	Ksiaz	150.49	346	ePKP	PKPdf	07 30 51.9	+10
KSP				e		07 31 11.8	
BRTR	Keskin Array B	150.65	312	PKPbc	PKPdf	07 30 50.0	+7.1
	comp=Z,0.9nm,0.4s,baz=90,slow=1.4,SNR=3.7						
BRTR				PKPab	PKPab	07 30 58.0	+0.4
	comp=Z,1.0nm,0.5s,baz=90,slow=2.5,SNR=4.8						
CLL	Collm	150.66	350	i PKP1	PKPdf	07 30 51.0	+8.4
CLL				e		07 31 11.0	
BRG	Berggiesshubel	150.93	349	eP	PKPdf	07 30 53.5	+11
BRG				i		07 31 59.6	
DPC	Dobruska-Polom	150.95	346	ePKP1	PKPdf	07 30 50.8	+7.8
PRU	Pruhonice	151.66	348	ePKP2	PKPab	07 31 00.4	-1.1
KHC	Kasperske Hory	152.67	349	PKP1	PKPdf	07 30 55.3	+10
KHC				eAPKP		07 31 19.5	
KHC	Kasperske Hory	152.67	349	ePKP	PKPdf	07 30 39.6	-6.0
KHC				e		07 30 55.3	
KHC				e		07 31 19.5	
GERES	GERESS Array B	152.92	348	PKPbc	PKPdf	07 30 56.4	+10
	comp=Z,0.4nm,0.6s,SNR=5.9						
GERES				PKPab	PKPab	07 31 06.7	-0.2
	comp=Z,1.1nm,0.9s,baz=72,slow=8.4,SNR=4.0						

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*NEIC **19** 07:24:34.9, 35.44S×179.08E, h186km, mb4.1/1, After WEL.*

*WEL **19** 07:24:35.3±0.6, 35.45S×178.96E, h186km±8km, ML4.4/4, Error ellipse: s-maj=5.2km s-min=4.3km az=90.0*

*IDC **19** 07:24:42.6±3.2, 36.33S×179.15E, h224km±25km, mb3.6/2, mb1 3.7/4, mb1mx3.4/14, MS3.0/1, Ms1 3.0/1, ms1mx2.9/15, Error ellipse: s-maj=53.9km s-min=40.9km az=145.0*

ISC 19 07:24:39.0±1.2, **35.87S**±0.07×**178.8E**±0.2, **h200km, n59, σ1^{s}45**/70, **mb3.8**/3, **1D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.74	194	PN	P	07 25 14.6	-0.7
MXZ				SN	S	07 25 45.6	+2.3
MXZ	Matakaoa Point	1.74	194	eP	P	07 25 14.6	-0.7
MXZ				S	S	07 25 45.5	+2.2
WIZ	White Island	2.12	218	ePN	P	07 25 19.2	0.0
PUZ	Puketiti	2.25	192	⇓PN	P	07 25 20.8	+0.3
PUZ				SN	S	07 25 54.5	+2.0
PUZ	Puketiti	2.25	192	P	P	07 25 20.8	+0.3
KUZ	Kuaotunu	2.67	250	PN	P	07 25 23.5	-1.8
KUZ	Kuaotunu	2.67	250	P	P	07 25 23.5	-1.8
MWZ	Matawai	2.67	203	PN	P	07 25 26.2	+0.9
MWZ				eSN	S	07 26 05.0	+3.8
MARZ	Manawahe	2.73	219	PN	P	07 25 27.2	+1.2
MARZ	Manawahe	2.73	219	P	P	07 25 27.2	+1.2
URZ	Urewera	2.76	210	P	P	07 25 26.6	+0.3
	11nm,0.3s,baz=346,slow=3.7,SNR=132						
URZ				LR	LR	07 25 59.4	
	comp=Z,287nm,19.1s,baz=326,slow=30						
URZ				S	S	07 26 05.2	+2.3
	15nm,0.3s,baz=289,slow=23,SNR=14						
URZ	Urewera	2.76	210	PN	P	07 25 26.6	+0.3
URZ				SN	S	07 26 06.7	+3.8
URZ	Urewera	2.76	210	P	P	07 25 26.6	+0.3
EDRZ	Edgecumbe	2.80	216	ePN	P	07 25 28.0	+1.2
EDRZ	Edgecumbe	2.80	216	P	P	07 25 28.2	+1.5
LIRZ	Lichensteins R	2.90	222	PN	P	07 25 29.6	+1.7
LIRZ	Lichensteins R	2.90	222	P	P	07 25 29.6	+1.7
TAZ	Tarawera	3.01	218	ePN	P	07 25 31.1	+1.9
PATZ	Paeroa	3.25	219	PN	P	07 25 34.3	+2.2
KNZ	Kokohu	3.28	196	PN	P	07 25 32.7	+0.2
KNZ				SN	S	07 26 16.4	+2.6
KNZ	Kokohu	3.28	196	eP	P	07 25 32.7	+0.2
BKZ	Black Stump Fm	3.78	209	PN	P	07 25 39.2	+0.6
BKZ				SN	S	07 26 30.0	+5.1
BKZ	Black Stump Fm	3.78	209	eP	P	07 25 39.6	+0.9
TWVZ	Taurewa	4.19	219	ePN	P	07 25 44.6	+0.9
MOVZ	Moawhango	4.30	214	ePN	P	07 25 45.5	+0.3
WNVZ	Wahianoa	4.31	216	ePN	P	07 25 46.6	+1.3
PWZ	Pawanui	4.44	200	PN	P	07 25 46.3	-0.6
PWZ	Pawanui	4.44	200	eP	P	07 25 46.4	-0.5
BFZ	Birch Farm	5.22	202	PN	P	07 25 56.5	-0.4
BFZ				eSN	S	07 26 59.3	+1.9
BFZ	Birch Farm	5.22	202	eP	P	07 25 56.5	-0.4
MRZ	Mangatainoka R	5.43	207	PN	P	07 25 58.0	-1.6
MRZ				SN	S	07 27 02.7	+0.5
MRZ	Mangatainoka R	5.43	207	eP	P	07 25 58.2	-1.4
KIW	Kapiti Island	5.86	211	PN	P	07 26 03.9	-1.3
KIW	Kapiti Island	5.86	211	P	P	07 26 03.9	-1.3
MTW	Mount Morrison	5.89	205	ePN	P	07 26 04.0	-1.6
MTW	Mount Morrison	5.89	205	P	P	07 26 04.0	-1.6
CAW	Cannon Point	6.01	208	PN	P	07 26 05.5	-1.6
CAW	Cannon Point	6.01	208	P	P	07 26 05.5	-1.6
PAWZ	Paruwai Farm	6.12	205	ePN	P	07 26 06.9	-1.6
MSWZ	Moikau Station	6.21	206	ePN	P	07 26 08.0	-1.7
MRW	Makara Radio	6.26	210	ePN	P	07 26 08.9	-1.4
TUWZ	Tuamarina	6.75	213	ePN	P	07 26 15.0	-1.6
NNZ	Nelson	6.84	217	PN	P	07 26 16.8	-1.1
BSWZ	Blackbirch Sta	7.00	212	ePN	P	07 26 19.3	-0.7
QRZ	Quartz Range	7.01	223	PN	P	07 26 18.6	-1.5
QRZ	Quartz Range	7.01	223	eP	P	07 26 18.6	-1.5
THZ	Tophouse	7.49	216	PN	P	07 26 25.2	-1.1
THZ	Tophouse	7.49	216	eP	P	07 26 25.2	-1.2
KHZ	Kahutara	7.72	211	PN	P	07 26 28.2	-1.3
KHZ	Kahutara	7.72	211	eP	P	07 26 28.2	-1.3
LTZ	Lake Taylor	8.57	214	ePN	P	07 26 38.2	-2.4
RPZ	Rata Peaks	9.86	215	P	P	07 26 54.8	-2.3
	0.3nm,0.3s,baz=297,slow=2.3,SNR=3.1						
RPZ				S	S	07 28 44.2	-1.2
	1.0nm,0.3s,baz=56,slow=24,SNR=6.7						
ODZ	Otahua Downs	11.08	212	ePN	P	07 27 07.1	-5.8
ODZ				eSN	S	07 29 07.1	-6.7
ODZ	Otahua Downs	11.08	212	eP	P	07 27 07.2	-5.7
ASAR	Alice Springs	40.54	275	P	P	07 32 03.5	+3.4
	1.1nm,0.4s,mb3.6,baz=114,slow=8.0,SNR=19						
WRAB	Tennant Creek	42.03	280	eP	P	07 32 14.5	+2.1
	3.1nm,0.5s,mb4.0						
WRA	Warramunga Arr	42.04	280	P	P	07 32 13.7	+1.3
	1.7nm,0.4s,mb3.8,baz=120,slow=7.7,SNR=35						
QSPA	South Pole Qui	54.25	180	eP	P	07 33 54.9	+9.3
FINES	FINESS Array B	149.16	335	PKPbc	PKPdf	07 44 05.2	+7.1
	2.2nm,1.0s,baz=45,slow=2.7,SNR=4.0						

JSN 19 07:27:19.6±0.9, **19.43N**×**77.85W, h15**km±163km, **MD3.6, 3C-4D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBJ	Bamboo Saint A	1.18	152	⇓eP	Pb	07 27 40.3	-0.9
CVJ	Coleyville	1.24	166	⇓eP	Pb	07 27 40.6	-1.5
BNJ	Bonny Gate	1.39	142	⇑eP	Pn	07 27 43.3	-1.4
MCJ	Malvern	1.51	174	⇑eP	Pn	07 27 44.5	-1.8
MCJ				eS	Sb	07 28 03.4	-2.1
STH	Stony Hill	1.67	144	⇓eP	Pn	07 27 47.3	-1.3
STH				i S	Sn	07 28 07.6	-2.2
GWJ	Greenwich	1.72	142	eP	Pn	07 27 48.0	-1.3
PCJ	Portland Cotta	1.81	159	⇑eP	Pn	07 27 49.1	-1.4
PCJ				eS	Sn	07 28 10.9	-2.4
CMJ	Castle Mountai	1.90	132	⇓eP	Pn	07 27 49.6	-2.3
CMJ				eS	Sn	07 28 13.5	-2.2

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*IDC **19** 08:05:13.0±0.9, 2.14S×77.37W, mb3.9/7, mb1 4.1/9, mb1mx4.0/20, ML2.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=26.6km s-min=16.8km az=75.0*

*NEIC **19** 08:05:14.7±0.4, 2.15S×77.29W, h10km, mb4.5/12, Error ellipse: s-maj=15.4km s-min=7.9km az=70.0*

*IGQ **19** 08:05:16.5, 2.07S×77.60W, h15km±3km, mb4.6, Error ellipse: s-maj=4.9km s-min=3.0km az=67.6*

ISC 19 08:05:13.0±0.3, **2.42S**±0.04×**77.51W**±0.06, **h10km, n55, σ1^{s}26**/62, **mb4.3**/16, **6C-13D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATA	Patacocha	1.29	314	P	Pb	08 05 36.1	-0.9
PATA				S	Sb	08 05 50.0	-3.5
ARRY	Arrayan	1.31	314	⇓P	Pb	08 05 36.0	-1.2
RUN2	Runtun	1.34	318	⇓P	Pb	08 05 36.5	-1.3
RETU	Refugio	1.34	316	⇓P	Pb	08 05 36.8	-1.0
RETU				S	Sb	08 05 50.2	-4.6
CUSU	Cusua	1.37	315	P	Pn	08 05 36.6	-1.6
JUIV	Juive	1.37	316	⇓P	Pn	08 05 37.1	-1.2
IGUA	Igualata	1.46	309	⇓P	Pn	08 05 39.6	+0.2
PISA	Pisayambo	1.61	327	⇓P	Pn	08 05 41.0	-0.6
TAMB	Tambo	1.91	333	⇓P	Pn	08 05 46.1	+0.1
MARY	Rancho Maria	1.94	330	⇑P	Pn	08 05 46.8	+0.5
VC1	Cotopaxi 1	1.98	333	⇓P	Pn	08 05 47.3	+0.4
NAS1	Nasa	2.02	331	⇑P	Pn	08 05 48.2	+0.6
ANTI	Antisana	2.06	342	P	Pn	08 05 47.4	-0.8
QIL1	Quilotoa	2.11	318	⇓P	Pn	08 05 49.9	+1.0
CONE	Cono NE Rev Vo	2.33	357	⇓P	Pn	08 05 51.0	-1.0
ELAGU	Cayambe Volc	2.42	349	⇓P	Pn	08 05 53.9	+0.5
ELAGU				S	Sn	08 06 23.0	-0.4
JUA2	San Juan 2	2.45	333	P	Pn	08 05 54.9	+1.2
JUA2				S	Sn	08 06 24.9	+1.0
CAYR	Refugio Cayamb	2.47	348	⇓P	Pn	08 05 54.7	+0.8
GGP	Refugio Guagua	2.48	334	P	Pn	08 05 55.1	+1.0
CGGP	Crater GGP	2.48	334	⇑P	Pn	08 05 55.8	+1.7
PINO	Pino	2.50	334	P	Pn	08 05 55.5	+1.1
CAYA	Cayambe	2.52	349	P	Pn	08 05 55.5	+0.8
CAYA				S	Sn	08 06 26.8	+1.1
YANA	Yana	2.52	335	⇑P	Pn	08 05 55.4	+0.7
OTAV	Otavalo	2.80	340	ePn	Pn	08 05 59.0	+0.3
OTAV				eSn	Sn	08 06 35.7	+2.8
COTA	Cotacachi	2.86	343	P	Pn	08 06 02.5	+3.0
HOJA	Cerro de Hojas	3.33	294	P	Pn	08 06 05.5	-0.6
ROSC	El Rosal	7.89	24	Pn	Pn	08 07 04.9	-5.7
	0.5nm,0.3s,baz=139,slow=19,SNR=2.0						
ROSC				Pg	Pg	08 07 30.9	-20
	3.2nm,0.3s,baz=138,slow=21,SNR=4.2						
ROSC				Sn	Sn	08 08 33.4	-7.5
	3.5nm,0.3s,baz=198,slow=20,SNR=2.6						
ROSC				Lg		08 09 15.6	
	6.0nm,0.3s,baz=34,slow=23,SNR=3.9						
ROSC				LR	LR	08 09 48.1	
	comp=Z,131nm,21.0s,baz=221,slow=36						
NNA	Nana	9.53	176	ePn	P	08 07 34.1	+0.6
NNA				eSn	Sn	08 09 21.9	+0.1
SAML	Samuel	15.66	115	eP	P	08 08 50.5	-5.1
	7.5nm,0.8s						
SAML				S	S	08 11 21.4	-28
LPAZ	La Paz	16.59	147	Pn	P	08 09 10.3	+2.9
	0.1nm,0.3s,baz=339,slow=11,SNR=4.3						
LPAZ	La Paz	16.59	147	eP	P	08 09 08.9	+1.4
	3.0nm,0.8s						
CPUP	Villa Florida	30.67	143	P	P	08 11 30.2	0.0
	1.2nm,0.9s,mb3.7,baz=4.4,slow=10,SNR=5.8						
CPUP	Villa Florida	30.67	143	eP	P	08 11 30.1	-0.2
	4.0nm,1.1s,mb4.2						
BDFB	Brasilia	31.89	116	P	P	08 11 41.1	+0.1
	2.2nm,0.7s,mb4.1,baz=270,slow=6.1,SNR=3.4						
TRQA	Tornquist	38.22	160	P	P	08 12 36.6	+1.7
	4.7nm,1.0s,mb4.2						
PLCA	Paso Flores	38.66	172	P	P	08 12 40.9	+2.3
	1.9nm,0.8s,mb3.9,baz=347,slow=11,SNR=5.0						
PLCA	Paso Flores	38.66	172	eP	P	08 12 40.4	+1.9
	7.8nm,1.2s,mb4.3						
TXAR	Lajitas Array	40.30	323	P	P	08 12 52.4	+0.1
	0.7nm,1.2s,mb3.3,baz=132,slow=11,SNR=2.7						
TXAR				PcP	PcP	08 14 56.1	-0.4
	0.4nm,0.8s,baz=145,slow=5.5,SNR=6.1						
RCBR	Riachuelo	41.63	96	eP	P	08 13 00.4	-3.1
	51nm,1.4s,mb5.0						
SDCO	Great Sand Dun	47.64	330	eP	P	08 13 55.7	+4.3
	3.6nm,1.0s,mb4.4						
HWUT	Hardware Ranch	53.62	329	P	P	08 14 35.5	-1.4
	2.0nm,0.8s,mb4.1						
NVAR	Mina Array Bea	55.38	321	P	P	08 14 48.1	-1.7
	0.3nm,0.6s,mb3.5,baz=124,slow=6.6,SNR=2.8						
LIC	Lamto	72.87	83	eP	P	08 16 43.8	-1.1
	61nm,2.0s,mb5.2						
TIC	Toumodi	72.91	82	eP	P	08 16 43.2	-1.9
	188nm,1.6s						
DBIC	Dimbokro	73.08	82	P	P	08 16 44.6	-1.4
	4.5nm,0.7s,mb4.5,baz=225,slow=4.8,SNR=8.4						
KIC	Kosan Boka	73.17	83	eP	P	08 16 45.2	-1.4
	33nm,0.8s,mb5.3						
RES	Resolute Bay	77.70	355	eP	P	08 17 05.7	-5.5
	14nm,1.1s,mb4.8						
INK	Inuvik	80.28	342	P	P	08 17 23.7	-1.6
	3.6nm,1.1s,mb4.2						
INK				e		08 17 30.0	
VNA1	Neumayer--Stat	80.94	162	⇑i	P	08 17 32.3	+3.6
VNA2	Neumayer--Watz	81.30	162	⇑i	P	08 17 33.9	+3.3
SNAA	Sanae	82.92	162	⇓iP	P	08 17 39.3	+0.3
SNAA				eP		08 17 40.2	
ILAR	Eielson Array	83.51	336	P	P	08 17 40.4	-1.7
	1.2nm,0.9s,mb4.0,baz=124,slow=3.5,SNR=11						
QSPA	South Pole Qui	87.65	180	eP	P	08 18 04.8	+2.4
	10.0nm,1.1s,mb5.0						
WRA	Warramunga Arr	141.65	233	PKhKP		08 24 41.2	
	0.2nm,0.5s,baz=119,slow=2.9,SNR=7.6						
WRA				PKP	PKPdf	08 24 49.1	+0.3
	0.3nm,0.5s,baz=122,slow=2.4,SNR=5.5						
WRA	Warramunga Arr	141.65	233	PKP	PKPdf	08 24 41.2	-7.5
WRA				PKP	PKPdf	08 24 49.1	+0.3

IDC 19 08:15:29.2±5.0, **11.33S**×**166.81E, mb3.5**/3, **mb1 3.8**/3, **mb1mx3.6**/14, **Error ellipse: s-maj=251.0km s-min=34.6km az=139.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	32.37	251	P	P	08 22 01.0	-1.9
	0.5nm,0.9s,baz=85,slow=8.8,SNR=4.8						
ASAR	Alice Springs	33.61	244	P	P	08 22 11.4	-2.2
	0.2nm,0.3s,baz=66,slow=8.9,SNR=2.4						
ILAR	Eielson Array	83.45	18	P	P	08 27 58.3	-1.4
	0.5nm,0.7s,baz=233,slow=4.5,SNR=4.4						

IDC 19 08:26:06.7±1.7, **0.63S**×**122.11E, mb3.5**/3, **mb1 3.8**/3, **mb1mx3.6**/14, **Error ellipse: s-maj=223.0km s-min=26.9km az=60.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.62	149	P	P	08 31 08.1	-2.6
	2.0nm,1.0s,baz=324,slow=11,SNR=7.0						
ASAR	Alice Springs	25.60	154	P	P	08 31 38.8	-0.7
	0.5nm,0.6s,baz=343,slow=15,SNR=3.9						
MKAR	Makanchi Array	58.69	329	P	P	08 36 06.0	-2.4
	0.9nm,0.8s,baz=121,slow=8.4,SNR=3.9						

IDC 19 08:29:11.1±15.0, **23.28S**×**178.95W, h502**km±115km, **mb3.2**/5, **mb1 3.3**/6, **mb1mx3.1**/17, **Error ellipse: s-maj=251.0km s-min=40.4km az=57.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	15.30	192	P	P	08 32 23.5	-1.0
	1.4nm,0.3s,baz=292,slow=3.9,SNR=6.4						
RPZ	Rata Peaks	21.98	200	P	P	08 33 27.8	-0.8
	3.4nm,0.7s,slow=10,SNR=4.0						
CTA	Charters Tower	32.44	269	P	P	08 35 00.5	-0.1
	4.5nm,0.3s,baz=90,slow=10,SNR=13						
STKA	Stephens Creek	35.84	247	P	P	08 35 26.3	-2.7
	2.2nm,0.9s,baz=96,slow=9.2,SNR=3.1						
ASAR	Alice Springs	43.09	260	P	P	08 36 26.3	-1.4
	1.8nm,1.1s,baz=102,slow=6.8,SNR=6.0						
WRA	Warramunga Arr	43.41	265	P	P	08 36 29.0	-1.4
	0.9nm,0.5s,baz=98,slow=8.4,SNR=36						

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*THE **19** 08:32:05.7, 36.71N×26.62E, h9km*

*NEIC **19** 08:32:06.6, 36.65N×26.44E, h19km, MD3.3(ATH), After ATH.*

*ATH **19** 08:32:06.6, 36.65N×26.44E, h19km±5km, MD3.3/9*

ISC 19 08:32:07.1±0.4, **36.65N**±0.04×**26.46E**±0.03, **h9km, n21, σ1^{s}32**/31, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.54	94	ePN	Pn	08 32 17.9	-2.6
APE	Apeiranthos	0.85	299	ePN	Pn	08 32 23.9	-1.2
APE				eSN	Sn	08 32 35.6	-2.1
THR1	Thera Island	0.86	251	ePg	Pg	08 32 24.2	-0.1
THR1				eSg	Sg	08 32 37.1	+1.4
SANT	Santorini	0.86	251	ePg	Pg	08 32 23.8	-0.5
SANT				eSg	Sg	08 32 36.2	+0.4
THR4	Thira Island,	0.88	258	ePg	Pg	08 32 24.6	-0.1
THR4				eSg	Sg	08 32 38.5	+2.0
BDRM	Kayabasi	0.89	62	i P	Pb	08 32 24.0	-0.2
BDRM				i S	Sb	08 32 36.6	+0.8
THR3	Thira Island,	0.89	254	ePg	Pg	08 32 24.6	-0.4
THR6	Thira Island,	0.91	251	ePg	Pg	08 32 24.6	-0.7
THR6				eSg	Sg	08 32 41.2	+3.8
THR5	Thira Island,	0.93	256	ePg	Pg	08 32 25.4	-0.3
THR5				eSg	Sg	08 32 40.9	+2.8
SMG	Samos	1.09	16	ePN	Pn	08 32 27.0	-1.5
KARP	Karpathos	1.24	153	ePN	Pn	08 32 29.9	-0.7
ARG	Arkhangelos	1.41	108	ePN	Pn	08 32 34.9	+1.9
AYDN	Tasoluk	1.51	48	i P	Pn	08 32 35.1	+0.6
AYDN				i S	Sb	08 32 56.8	+2.8
NPS	Neapolis	1.55	207	ePN	Pn	08 32 34.2	-0.8
NPS				eSN	Sn	08 32 54.5	-0.9
KDAG	Bornova	1.86	20	i P	Pn	08 32 40.9	+1.5
KDAG				i S	Sn	08 33 09.7	+6.5
VAM	Vamos	2.22	237	ePN	Pn	08 32 45.1	+0.5
MANT	Manisa	2.48	42	i P	Pn	08 32 55.0	+6.7
PTL	Penteli	2.50	305	ePB	Pb	08 32 49.0	-2.7
PTL	Penteli	2.50	305	ePb	Pb	08 32 50.5	-1.2
GVD	Gavdhos	2.65	228	ePn	Pn	08 32 51.4	+0.6
VLI	Veliai	2.84	272	ePN	Pn	08 32 51.5	-1.9

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*GII **19** 08:34:33.1±1.0, 27.34N×37.53E, h6km±30km, ML3.4/4, Mw3.3/4*

*SNSN **19** 08:34:40.1, 27.83N×37.00E, h5km, Ml3.3*

*HLW **19** 08:34:41.7, 27.75N×36.84E, h1km, Mb3.3*

ISC 19 08:34:41.1±1.1, **27.75N**±0.05×**36.8E**±0.1, **h5km, n21, σ0^{s}63**/25, **2C-1D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBKS	Tabuk	0.54	333	P	Pg	08 34 51.0	-0.8
TBKS				S	Sg	08 34 58.5	-0.5
JMQS	Jabal Moqyreh	1.41	324	P	Pn	08 35 06.4	-1.0
BDAS	Al Bad‘	1.67	295	P	Pn	08 35 11.4	+0.3
JMOS	Jabal al Moall	2.07	314	P	Pn	08 35 16.5	-0.4
HAQS	Haql	2.12	308	P	Pn	08 35 17.3	-0.3
NUB		2.31	304	P	Pn	08 35 19.8	-0.4
HBST	Basata	2.35	309	P	Pn	08 35 21.3	+0.4
AQBJ	Aqaba	2.52	322	Pn	Pn	08 35 24.2	+1.0
EIL	Elat	2.53	320	Pn	Pn	08 35 25.4	+2.0
UMJS	Umm Lajj	2.54	170	P	Pn	08 35 22.8	-0.8
TR1		2.56	276	⇑P	Pn	08 35 23.8	0.0
HKAT	Jabal Katrina	2.62	288	⇑P	Pn	08 35 24.7	0.0
HKAT				S	Sn	08 35 56.7	-0.6
MBH	Mount Berech	2.64	321	Pn	Pn	08 35 25.9	+0.8
TR2		2.82	284	⇓P	Pn	08 35 27.8	+0.3
HSFG		2.84	246	P	Pn	08 35 28.1	+0.3
HHRG	Al Ghardaqah	2.94	260	P	Pn	08 35 29.6	+0.3
KMTI	Karmit	2.98	322	Pn	Pn	08 35 30.2	+0.3
KMTI				Sn	Sn	08 36 14.7	+8.2
PRNI	Paran	3.05	329	Pn	Pn	08 35 31.1	+0.3
PRNI				Sn	Sn	08 36 17.1	+9.0
ZFRI	Zfri	3.15	333	Pn	Pn	08 35 32.1	-0.1
HNKL	Nakhl	3.31	312	P	Pn	08 35 34.3	-0.3
SUZ		4.08	302	P	Pn	08 35 45.2	-0.3

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*IDC **19** 08:40:50.3±1.8, 5.00N×126.71E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, Error ellipse: s-maj=103.0km s-min=24.8km az=67.0*

ISC 19 08:40:53.0±1.8, **5.0N**±0.3×**126.8E**±0.7, **h33km, n5, σ1^{s}32**/5, **mb3.6**/5, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	23.03	183	P	P	08 45 56.2	-0.1
	2.4nm,0.9s,mb3.6,baz=22,slow=11,SNR=3.4						
WRA	Warramunga Arr	25.92	164	P	P	08 46 22.7	-1.5
	1.4nm,0.9s,mb3.5,baz=343,slow=10,SNR=7.7						
ASAR	Alice Springs	29.37	167	P	P	08 46 56.9	+1.5
	0.2nm,0.5s,mb3.1,baz=351,slow=7.6,SNR=3.0						
STKA	Stephens Creek	39.34	160	P	P	08 48 21.1	+0.2
	2.6nm,1.0s,mb3.9,slow=10,SNR=2.6						

MKAR	**Makanchi Array**	56.51	325	P	P	08 50 34.3	0.0
	0.6nm,0.7s,mb3.7,baz=114,slow=6.2,SNR=5.0						

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*ISK **19** 08:50:20.8, 38.27N×31.24E, h17^{km}, MD3.5*

ISC 19 08:50:21.3±0.6**, 38.23N**±0.04×**31.31E**±0.05**, h10^{km}, n12, σ1^{s}40**/18**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISP	**Isparta**	0.74	239	*e*PG	Pg	08 50 35.2	-0.9
ISP				*e*SG	Sg	08 50 45.8	-0.3
ISP	**Isparta**	0.74	239	*i* P	Pb	08 50 34.2	-1.5
ISP				*i* S	Sb	08 50 45.3	-0.4
KIZT	**Kizilcal**	0.79	35	*i* PG	Pg	08 50 36.7	-0.4
KONT	**Konya--Tatoy**	0.88	109	*i* PG	Pg	08 50 39.5	+0.6
ESKT	**Eskisehir**	1.34	345	*e*PN	Pn	08 50 44.0	-2.0
ESKT	**Eskisehir**	1.34	345	⇑*i*P	Pb	08 50 44.8	-1.2
ESKT				*i* S	Sb	08 51 02.4	-0.6
HDMB	**Hadim**	1.57	143	*e*PN	Pn	08 50 49.6	+0.1
MANT	**Manisa**	2.18	278	*i* P	Pn	08 51 00.8	+2.7
MANT				*i* S	Sn	08 51 27.1	+1.8
MDU	**Mudurnu**	2.23	358	*e*PN	Pn	08 50 57.7	-1.2
SGKT	**Sivrigoynuk**	2.41	14	*i* P	Pn	08 51 04.7	+3.2
SGKT				*i* S	Sn	08 51 37.0	+5.7
ULDT	**Uludag**	2.55	319	*i* P	Pn	08 51 06.2	+2.8
ULDT				*i* S	Sn	08 51 43.4	+8.6
ELDT	**Eldivan**	2.79	35	*i* P	Pn	08 51 07.4	+0.6

IGQ 19 08:52:41.8, 2.10S×77.59W, h16^{km}±4^{km}, mb4.0, 4C-11D, Error ellipse: s-maj=4.5km s-min=3.6km az=130.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATA	**Patacocha**	1.03	305	⇓P	Pb	08 53 01.5	+0.8
ULBA	**Ulba**	1.04	308	P	Pb	08 53 01.6	+0.6
ARRY	**Arrayan**	1.04	304	⇓P	Pb	08 53 01.4	+0.4
RUN2	**Runtun**	1.06	309	⇓P	Pb	08 53 01.8	+0.5
RETU	**Refugio**	1.07	307	⇓P	Pb	08 53 02.2	+0.8
RETU				S	Sb	08 53 17.1	+2.1
JUIV	**Juive**	1.10	308	⇓P	Pb	08 53 02.5	+0.5
JUIV				S	Sb	08 53 17.7	+1.8
CUSU	**Cusua**	1.10	306	⇓P	Pb	08 53 02.6	+0.6
IGUA	**Igualata**	1.21	300	⇓P	Pb	08 53 05.0	+1.2
PISA	**Pisayambo**	1.30	322	⇓P	Pb	08 53 06.4	+1.0
PISA				S	Sb	08 53 24.9	+3.2
TAMB	**Tambo**	1.60	331	P	Pn	08 53 11.5	+1.8
MARY	**Rancho Maria**	1.62	327	⇑P	Pn	08 53 12.1	+2.1
VC1	**Cotopaxi 1**	1.66	331	⇓P	Pn	08 53 12.9	+2.4
NAS1	**Nasa**	1.70	329	⇓P	Pn	08 53 13.8	+2.6
ANTI	**Antisana**	1.73	341	⇓P	Pn	08 53 13.4	+1.7
QIL1	**Quilotoa**	1.83	313	P	Pn	08 53 15.2	+2.3
CONE	**Cono NE Rev Vo**	2.02	359	P	Pn	08 53 17.5	+1.9
CONE				S	Sn	08 53 46.6	+5.9
ELAGU	**Cayambe Volc**	2.10	349	⇑P	Pn	08 53 19.4	+2.5
JUA2	**San Juan 2**	2.13	332	P	Pn	08 53 20.6	+3.4
CAYR	**Refugio Cayamb**	2.14	349	⇑P	Pn	08 53 20.2	+2.8
GGP	**Refugio Guagua**	2.16	332	⇑P	Pn	08 53 21.6	+3.9
CGGP	**Crater GGP**	2.16	332	P	Pn	08 53 21.5	+3.8
PINO	**Pino**	2.18	332	P	Pn	08 53 21.8	+3.8
CAYA	**Cayambe**	2.19	350	P	Pn	08 53 20.2	+2.1
CAYA				S	Sn	08 53 52.0	+6.9
COTA	**Cotacachi**	2.53	343	P	Pn	08 53 27.4	+4.4

IDC 19 09:05:47.4±2.2**, 6.22S×131.03E, mb3.8**/1**, mb1 4.2**/4**, mb1mx3.8**/12**, ML4.0**/3**, Error ellipse: s-maj=89.0km s-min=28.0km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	12.93	204	Pn	P	09 08 52.9	-2.3
	0.3nm,0.3s,baz=26,slow=4.1,SNR=12						
FITZ				Sn	S	09 11 01.0	-20
	2.8nm,0.3s,baz=175,slow=12,SNR=13						
WRA	**Warramunga Arr**	14.01	167	Pn	P	09 09 06.2	-3.5
	1.5nm,0.3s,baz=350,slow=13,SNR=50						
WRA				Sn	S	09 11 31.3	-16
	1.1nm,0.3s,baz=342,slow=22,SNR=5.9						
ASAR	**Alice Springs**	17.56	171	P	P	09 09 54.4	-1.0
	0.7nm,0.3s,baz=345,slow=8.4,SNR=19						
ASAR				S	S	09 12 59.6	-10
	0.3nm,0.3s,baz=358,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	68.14	326	P	P	09 16 49.5	-2.1
	0.5nm,0.5s,baz=117,slow=8.1,SNR=8.4						

IDC 19 09:27:49.9±6.5**, 3.48N×96.19E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, 1C, Error ellipse: s-maj=328.0km s-min=27.9km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	4.95	77	⇑*e*P	Pn	09 29 17.2	+10
WRA	**Warramunga Arr**	44.11	123	P	P	09 35 59.4	-2.7
	1.2nm,0.5s,baz=300,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	44.80	346	P	P	09 36 05.4	-1.9
	0.5nm,0.3s,baz=155,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	45.58	128	P	P	09 36 13.6	-0.2
	0.3nm,0.7s,baz=297,slow=8.1,SNR=2.9						

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*MAN **19** 09:27:49.8, 14.06N×124.17E, h10^{km}, mb4.6, ML3.5, MS3.5*

*IDC **19** 09:27:50.8±1.6, 13.54N×124.41E, mb3.6/3, mb1 4.0/4, mb1mx3.7/18, ML4.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/24, Error ellipse: s-maj=46.8km s-min=22.6km az=53.0*

ISC 19 09:27:50.1±1.0**, 14.04N**±0.04×**124.15E**±0.05**, h11^{km}**±6^{km}**, n23, σ1^{s}03**/33**, mb3.6**/3**, 2C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	**Virac**	0.44	180	*e*P	Pg	09 27 59.3	+0.2
PVCP				*e*S	Sg	09 28 04.7	-0.4
CNP	**Catarman**	1.60	162	*e*P	Pn	09 28 18.1	-0.3
CNP				*e*S	Sn	09 28 38.6	-0.5
AUQP	**San Andres**	1.60	244	*e*P	Pn	09 28 17.1	-1.4
AUQP				*e*S	Sn	09 28 40.7	+1.4
GQP	**Guinayangan**	1.66	266	⇓*e*P	Pn	09 28 19.2	-0.1
MMPH	**Masbate**	1.75	197	⇓*i*P	Pn	09 28 20.6	+0.1
MMPH				*i* S	Sn	09 28 41.5	-1.5
POLP	**Polilio Island**	2.25	288	*e*P	Pn	09 28 29.6	+1.8
POLP				*e*S	Sn	09 28 55.0	-0.8
BOAC	**Boac**	2.32	256	*e*P	Pn	09 28 28.4	-0.3
BOAC				*e*S	Sn	09 28 58.0	+0.6
LQP	**Lukban**	2.54	272	*e*P	Pn	09 28 31.6	-0.3
BESP	**Borongan**	2.73	153	*e*P	Pn	09 28 34.7	+0.1
BESP				*e*S	Sn	09 29 08.4	+0.6
RCP	**Roxas**	2.82	209	⇓*e*P	Pn	09 28 40.0	+4.1
LBPH	**Los Banos**	2.89	273	⇑*e*P	Pn	09 28 37.9	+1.0
ARP	**Angono**	2.95	280	⇑*e*P	Pn	09 28 39.2	+1.5
PLP	**Palo**	2.97	164	*e*P	Pn	09 28 38.5	+0.5
PLP				*e*S	Sn	09 29 06.7	-7.2
BALP	**Baler**	3.01	305	*e*P	Pn	09 28 37.5	-1.2
BALP				*e*S	Sn	09 29 14.7	-0.4
TGY	**Tagaytay City**	3.12	272	Pn	Pn	09 28 44.9	+4.7
	58nm,0.3s,baz=56,slow=5.0,SNR=5.4						
TGY				Sn	Sn	09 29 28.6	+11
	45nm,0.3s,baz=44,slow=21,SNR=3.6						
SJMP	**San Jose**	3.34	242	*e*P	Pn	09 28 40.4	-2.9
CAUP	**Cauayan**	3.66	322	*e*P	Pn	09 28 46.9	-0.9
MSLP	**Maasin**	3.94	170	*e*P	Pn	09 28 53.9	+2.0
APYP	**Conner**	4.72	324	*e*P	Pn	09 29 02.9	0.0
APYP				*e*S	Sn	09 29 58.6	+0.3
JOW	**Kunigami**	13.30	16	LR	LR	09 35 48.8	
	comp=Z,71nm,19.9s,baz=192,slow=35						
WRA	**Warramunga Arr**	35.22	163	P	P	09 34 42.0	-4.6
	0.7nm,0.9s,mb3.6,baz=345,slow=9.0,SNR=6.1						
SONM	**Songino Array**	36.79	340	P	P	09 35 05.1	+5.5
	0.3nm,0.4s,mb3.5,baz=180,slow=5.8,SNR=4.0						
ASAR	**Alice Springs**	38.67	166	P	P	09 35 12.1	-3.6
	0.9nm,0.5s,mb3.7,baz=334,slow=6.5,SNR=12						

MEX 19 09:42:53.8±0.4**, 17.74N×94.53W, h148^{km}**±8^{km}**, MD3.9, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.73	208	⇑*i*P	P	09 43 15.0	-1.6
CMIG				*i* S	S	09 43 31.2	-2.9
OXX	**Oaxaca**	2.19	253	*i* P	P	09 43 29.0	-2.5
OXX				*i* S	S	09 43 58.0	-2.4
VHO	**Vista Hermosa**	2.21	253	*i* P	P	09 43 29.9	-1.8
VHO				*i* S	S	09 43 58.7	-2.0

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*LEDBW **19** 09:48:53.8±0.1, 48.01N×7.53E, h5^{km}±3^{km}, ML2.5, Error ellipse: s-maj=2.6km s-min=2.0km az=35.0*

*ZUR **19** 09:48:53.6, 48.02N×7.54E, h10^{km}, ML2.5/6*

*BGR **19** 09:48:54.3±0.2, 48.03N×7.51E, h5^{km}, ML2.2/1, Error ellipse: s-maj=2.2km s-min=1.1km az=22.0*

*STR **19** 09:48:54.1±0.1, 48.04N×7.49E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **19** 09:48:54.1, 48.04N×7.49E, h5^{km}, ML2.9(LDG), ML2.8(VIE), ML2.5(LEDBW), ML2.5(STR), After STR.*

*LDG **19** 09:48:54.2±0.0, 48.02N×7.49E, h2^{km}, Md2.9/3, Ml2.9/21, Error ellipse: s-maj=0.8km s-min=0.8km az=176.0*

ISC 19 09:48:52.0±0.2**, 48.00N**±0.01×**7.46E**±0.01**, h14^{km}**±2^{km}**, n82, σ1^{s}27**/165**, 14C-8D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIBD	**Limburg**	0.17	32	⇑*e*Pg	Pg	09 48 57.3	+1.1
LIBD				*i* Sg	Sg	09 49 00.2	+1.1
LIBD	**Limburg**	0.17	32	⇑*e*P	Pg	09 48 57.1	+0.9
LIBD				⇑*e*P		09 48 57.3	
LIBD				*e*S	Sg	09 48 59.4	+0.3
LIBD				*i* S	Sg	09 49 00.2	+1.1
FBB	**Freiburg**	0.26	90	Sg	Sg	09 49 01.4	-0.2
MOF	**Molkenrain**	0.27	236	⇑*i*Pg	Pg	09 48 59.9	+2.0
MOF				Sg	Sg	09 49 04.8	+3.0
MOF	**Molkenrain**	0.27	236	Pg	Pg	09 48 59.8	+1.9
MOF				Sg	Sg	09 49 04.1	+2.3
ECH	**Echery**	0.30	316	⇓*i*Pg	Pg	09 48 60.0	+1.6
ECH				*e*Sg	Sg	09 49 04.0	+1.4
ECH	**Echery**	0.30	316	Pg	Pg	09 48 59.8	+1.4
ECH				Sg	Sg	09 49 03.8	+1.2
KIZ	**Kirchzarten**	0.31	98	⇑*i*Pg	Pg	09 48 59.1	+0.5
KIZ				*i* Sg	Sg	09 49 02.7	-0.3
KIZ	**Kirchzarten**	0.31	98	⇑*i*P	Pg	09 48 59.1	+0.5
KIZ				*i* P		09 48 59.1	
KIZ				*i* S	Sg	09 49 02.7	-0.3
KIZ				*e*S	Sg	09 49 02.7	-0.3
FELD	**Feldberg**	0.39	109	*e*P	Pg	09 49 00.6	+0.6
FELD				*e*S	Sg	09 49 05.5	+0.1
WLS	**Welschbruch**	0.42	350	⇓*i*Pg	Pg	09 49 02.0	+1.3
WLS				*i* Sg	Sg	09 49 07.5	+1.1
WLS	**Welschbruch**	0.42	350	Pg	Pg	09 49 01.7	+1.0
WLS				Sg	Sg	09 49 07.4	+0.9
CDF	**Champ du Feu**	0.43	343	*e*Pg	Pg	09 49 02.0	+1.1
CDF				*e*Sg	Sg	09 49 07.5	+0.7
	101nm,0.3s						
HINF	**Hinteralfeld**	0.45	246	*e*Pg	Pg	09 49 02.9	+1.6
HINF				*e*Sg	Sg	09 49 09.2	+1.7
	54nm,0.2s						
BOURR	**Bourrignon**	0.63	195	⇓*i*Pg	Pg	09 49 06.5	+1.7
	21nm,0.6s						
BOURR	**Bourrignon**	0.63	195	*e*Pg	Pg	09 49 06.6	+1.8
	SNR=30						
BOURR				*e*Sg	Sg	09 49 16.5	+3.2
	SNR=12						
SULZ	**Sulz-Cheisache**	0.65	137	⇓*i*Pg	Pg	09 49 05.8	+0.7
	2.6nm,0.2s						
SULZ				*e*Sg	Sg	09 49 14.6	+0.7
	2.6nm,0.2s						
BFO	**Black Forest**	0.67	60	⇑*e*Pg	Pg	09 49 05.5	0.0
BFO				PmP		09 49 06.5	
BFO				*e*Sg	Sg	09 49 14.5	-0.1
	SNR=4.5						
BFO				*i* SmS		09 49 16.6	
BFO	**Black Forest**	0.67	60	⇑*e*P	Pg	09 49 05.5	0.0
BFO				*i* S	Sb	09 49 16.6	+2.9
BFO	**Black Forest**	0.67	60	*e*Pg	Pg	09 49 05.5	0.0
BFO				*e*Sg	Sg	09 49 14.5	0.0
BALST	**Balsthal**	0.69	167	⇓*i*Pg	Pg	09 49 07.0	+1.1
	6.4nm,0.3s						
SLE	**Schleitheim**	0.73	108	⇓*i*Pg	Pg	09 49 07.0	+0.2
	19nm,0.3s						
SLE	**Schleitheim**	0.73	108	*e*Pg	Pg	09 49 07.7	+0.9
	SNR=27						
SLE				*e*Sg	Sg	09 49 16.4	-0.3
	SNR=19						
HAU	**Haudompre**	0.75	271	*e*Pg	Pg	09 49 08.6	+1.5
HAU				*e*Pn	Pn	09 49 09.5	+1.6
HAU				*e*Sg	Sg	09 49 18.8	+1.6
	112nm,0.2s						
LOMF	**Lomont**	0.78	214	⇑*e*Pg	Pg	09 49 09.3	+1.6
LOMF				*i* PmP		09 49 10.4	
LOMF				*e*Sg	Sg	09 49 20.8	+2.5
	SNR=6.0						
LOMF				*e*SmS		09 49 22.1	
LOMF	**Lomont**	0.78	214	⇑*e*P	Pg	09 49 09.3	+1.6
LOMF				*i* P		09 49 10.4	
LOMF				*e*S	Sb	09 49 22.1	+5.1
LOMF	**Lomont**	0.78	214	Pg	Pg	09 49 10.2	+2.5
LOMF				Sg	Sg	09 49 22.0	+3.7
FLACH	**Flaach**	0.86	120	*e*Pg	Pg	09 49 09.6	+0.3
	15nm,0.3s						
SPAK	**Spaichingen**	0.89	83	*e*Pg	Pg	09 49 10.5	+0.5
SPAK				*e*Sg	Sg	09 49 22.5	+0.5
	SNR=3.4						
STEIN	**Stein am Rhein**	1.00	109	*e*Pn	Pn	09 49 12.8	+1.2
	10nm,0.3s						
LANF	**Langenberg**	1.00	13	Sn	Sn	09 49 25.2	-0.4
LANF				*e*Sg	Sg	09 49 25.7	0.0
	SNR=4.0						
THEF	**They Montfort**	1.01	283	Pg	Pg	09 49 13.8	+1.4
THEF				Sg	Sg	09 49 27.6	+1.6
THEF	**They Montfort**	1.01	283	Pg	Pg	09 49 13.7	+1.3
THEF				Sg	Sg	09 49 27.9	+1.9
MSS	**Messtetten**	1.02	79	⇓*e*P	Pb	09 49 12.2	+1.3
MSS				*e*P		09 49 13.1	
SISB	**Singen-Sch Ber**	1.06	107	⇑*e*Pn	Pn	09 49 13.8	+1.4
SISB				*e*Sn	Sn	09 49 27.4	+0.5
SISB				SmS		09 49 28.5	
LBG	**Lerchenberg**	1.11	53	⇑*e*Pn	Pn	09 49 13.0	-0.1
LBG				*e*Pg	Pg	09 49 14.3	0.0
LBG				*e*Sg	Sg	09 49 28.3	-0.9
LBG	**Lerchenberg**	1.11	53	*e*PG	Pg	09 49 14.3	+0.1
LBG				*e*SG	Sg	09 49 28.3	-0.8
LBG	**Lerchenberg**	1.11	53	*e*P	Pb	09 49 13.0	+0.6
LBG				*e*Pg	Pg	09 49 14.3	+0.1
LBG				*e*Sg	Sg	09 49 28.3	-0.8
GUT	**Gutenstein**	1.11	86	*e*Pn	Pn	09 49 14.2	+1.1
GUT				*e*Pg	Pg	09 49 14.4	+0.1
GUT				*e*Sg	Sg	09 49 28.9	-0.3
WEIN	**Weingarten**	1.13	114	⇑*i*Pn	Pn	09 49 15.1	+1.7
	10nm,0.2s						
WILA	**Wila**	1.14	121	⇑*i*Pn	Pn	09 49 15.2	+1.7
	10nm,0.3s						
WILA	**Wila**	1.14	121	*e*Pg	Pg	09 49 15.3	+0.5
	SNR=7.5						
WILA				*e*Sg	Sg	09 49 30.4	+0.3
	SNR=10						
TUBL	**Tuebingen Lnz**	1.20	64	Pn	Pn	09 49 14.7	+0.3
TUBL				*i* Pg	Pg	09 49 16.4	+0.3
TUBL				Sn	Sn	09 49 30.0	-0.5
TUBL				*e*Sg	Sg	09 49 31.6	-0.6
BRANT	**Les Verrieres**	1.26	213	*e*Pn	Pn	09 49 16.6	+1.4
	3.4nm,0.3s						
BUCH	**Bad Urach**	1.34	70	⇑*e*Pn	Pn	09 49 16.5	+0.1
BUCH				*e*Pg	Pg	09 49 18.6	-0.2
BUCH				*e*Sg	Sg	09 49 35.7	-1.1
KTD	**Kalmit**	1.38	17	Sg	Sg	09 49 38.2	+0.1
RFYF	**Reffroy**	1.47	296	*e*Pg	Pg	09 49 22.2	+0.8
RFYF				*e*Sg	Sg	09 49 41.6	+0.6
	59nm,0.3s						
KAMOR	**Kamor**	1.54	117	*e*Pg	Pg	09 49 22.9	0.0
	SNR=1.7						
KAMOR				*e*Sg	Sg	09 49 43.0	-0.5
	SNR=9.8						
SFTF	**Sexfontaines**	1.64	278	*e*Pg	Pg	09 49 24.9	+0.1
SFTF				*e*Sg	Sg	09 49 47.1	+0.4
	44nm,0.3s						
CABF	**La Chapelle**	1.68	214	*e*Pn	Pn	09 49 22.6	+1.4
CABF				*e*Pg	Pg	09 49 26.6	+1.1
CABF				*e*Sn	Sn	09 49 42.3	-0.3
CABF				*e*Sg	Sg	09 49 48.0	0.0
	9.6nm,0.2s						
MEZF	**Maizieres J'vi**	1.69	288	*e*Pg	Pg	09 49 24.5	-1.2
MEZF				*e*Sg	Sg	09 49 47.8	-0.5
	38nm,0.3s						
SWS	**Schriesheim**	1.69	28	Sg	Sg	09 49 48.5	-0.1
RUP	**Ruppelstein**	1.72	351	Pg	Pg	09 49 26.0	-0.4
RUP				Sg	Sg	09 49 47.8	-1.6
DAVA	**Damuels**	1.78	113	⇑*i*PG	Pg	09 49 24.6	-3.1
DAVA				*i* SG	Sg	09 49 45.7	-5.8
	8.8nm,0.3s						
UBR	**Uberruh**	1.81	99	Sg	Sg	09 49 51.0	-1.4
TOD	**Tromm**	1.83	28	Sg	Sg	09 49 50.9	-2.2
WLF	**Walferdange**	1.88	333	*e*Pg	Pg	09 49 29.0	-0.5
	SNR=2.0						
WLF				*e*Sg	Sg	09 49 53.0	-1.5
	SNR=3.1						
ABH	**Alteburg**	1.88	2	Pg	Pg	09 49 28.8	-0.8
HDH	**Heidenheim**	1.92	71	*e*Pg	Pg	09 49 29.3	-1.1
HDH				Sg	Sg	09 49 53.9	-2.2
SIND	**Sindeldorf**	1.96	46	Pn	Pn	09 49 25.0	-0.2
SIND				Pg	Pg	09 49 29.8	-1.3
SIND				Sg	Sg	09 49 54.7	-2.6
SIND	**Sindeldorf**	1.96	46	PG	Pg	09 49 29.8	-1.3
SIND				SG	Sg	09 49 54.7	-2.6
LPL	**La Plagne**	2.54	192	*e*Pn	Pn	09 49 35.2	+1.7
LPL				*e*Sg	Sg	09 50 14.8	-1.7
	3.2nm,0.2s						
LOR	**Lormes**	2.55	255	*e*Pn	Pn	09 49 34.5	+0.9
LOR				*e*Pg	Pg	09 49 42.0	-0.8
LOR				*e*Sg	Sg	09 50 14.3	-2.5
	14nm,0.2s						
MOTA	**Moosalm**	2.55	104	⇑*i*PG	Pg	09 49 39.6	-3.3
MOTA				*i* SG	Sg	09 50 11.5	-5.3
	6.7nm,0.3s						
LPG	**La Plagne**	2.55	191	*e*Pn	Pn	09 49 35.4	+1.7
LPG				*e*Pg	Pg	09 49 42.9	-0.1
LPG				*e*Sg	Sg	09 50 16.0	-1.1
SQTA	**Sankt Quirin**	2.65	106	⇓*i*PG	Pg	09 49 40.8	-4.2
SQTA				*i* SG	Sg	09 50 14.8	-5.5
	8.2nm,0.3s						
SMF	**Signal de Mont**	2.81	242	*e*Pg	Pg	09 49 46.5	-1.7
SMF				*e*Sg	Sg	09 50 22.5	-3.2
	8.1nm,0.2s						
SSF	**Saint Saulge**	2.84	252	*e*Pn	Pn	09 49 39.0	+1.1
SSF				*e*Pg	Pg	09 49 47.4	-1.4
SSF				*e*Sg	Sg	09 50 23.2	-3.5
	5.9nm,0.2s						
BAIF	**Baives**	2.97	315	*e*Pg	Pg	09 49 49.1	-2.2
BAIF				*e*Sg	Sg	09 50 26.6	-4.4
	3.2nm,0.3s						
AVF	**Avril sur Loir**	3.04	248	*e*Pn	Pn	09 49 40.7	0.0
AVF				*e*Pg	Pg	09 49 50.7	-2.1
AVF				*e*Sg	Sg	09 50 31.1	-2.3
	3.3nm,0.3s						
ORIF	**Oris-en-Rattie**	3.27	200	*e*Sn	Sn	09 50 21.3	-1.8
ORIF				*e*Sg	Sg	09 50 37.5	-3.5
	3.9nm,0.3s						
MBDF	**Montbardon**	3.31	189	*e*Pn	Pn	09 49 44.8	+0.3
MBDF				*e*Pg	Pg	09 49 56.3	-1.8
MBDF				*e*Sn	Sn	09 50 21.7	-2.4
MBDF				*e*Sg	Sg	09 50 38.6	-3.7
	1.3nm,0.3s						
HYF	**Humbligny**	3.34	259	*e*Pg	Pg	09 49 56.0	-2.8
HYF				*e*Sg	Sg	09 50 39.6	-3.8
BGF	**Bois d'Agland**	3.46	247	*e*Pn	Pn	09 49 45.8	-0.8
BGF				*e*Pg	Pg	09 49 58.9	-2.2
BGF				*e*Sg	Sg	09 50 43.3	-3.9
	14nm,0.4s						
VIVF	**Saint-Julien-l**	3.69	213	*e*Pn	Pn	09 49 49.5	-0.4
VIVF				*e*Sg	Sg	09 50 50.2	-4.7
	4.9nm,0.3s						
SMRF	**Simiane la Rot**	4.24	199	*e*Pn	Pn	09 49 58.2	+0.5
FRF	**La Foret Royal**	4.48	188	*e*Pn	Pn	09 50 00.2	-0.9
FRF				*e*Pg	Pg	09 50 17.2	-4.2
FRF				*e*Sg	Sg	09 51 15.1	-6.0
LASF	**Ste Croix**	4.66	214	*e*Sg	Sg	09 51 20.1	-7.1
	3.0nm,0.4s						
LDF	**La Druitiere**	5.10	279	*e*Sg	Sg	09 51 34.1	-7.6
	4.5nm,0.4s						
FLN	**La Foliniere**	5.35	281	*e*Sg	Sg	09 51 42.2	-7.9
	6.9nm,0.4s						
GRR	**Gorron**	5.58	277	*e*Pn	Pn	09 50 16.3	-0.3
GRR				*e*Sg	Sg	09 51 48.3	-9.4
	4.1nm,0.4s						
SGMF	**Saint Gilles**	6.71	276	*e*Pn	Pn	09 50 31.7	-1.0
SGMF				*e*Pg	Pg	09 50 58.2	-7.8

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*NAO **19** 10:09:24.4±9.8, 57.90N×27.12E, ML2.0*

*BER **19** 10:09:26.3±2.8, 57.89N×27.26E, ML2.0(NAO), Suspected explosion*

HEL 19 10:09:25.5±0.4**, 57.87N×27.24E, ML1.8, ML2.0**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	**Pernaja**	2.78	346	*e*SG	Sg	10 10 51.4	-6.6
FIA0	**FINESS Array S**	3.63	351	Pn	Pn	10 10 20.6	-3.7
	baz=164,slow=16						
FIA0				Sn	Sn	10 11 04.2	-4.3
	baz=169,slow=28						
FIA0				Lg		10 11 17.4	
	baz=161,slow=37						
FIA0	**FINESS Array S**	3.63	351	*e*SG	Sg	10 11 17.1	-9.5
KAF	**Kangasniemi**	4.29	354	*e*S	Sn	10 11 20.7	-4.2
KAF				*e*SG	Sg	10 11 37.2	-11
KAF				MSG		10 11 39.2	
	comp=Z,1.0nm,0.2s						
SUF	**Sumiainen**	4.90	354	*e*S	Sn	10 11 35.5	-4.9
SUF				*e*SG	Sg	10 11 55.9	-13
SUF				MSG		10 11 58.8	
	comp=Z,1.3nm,0.2s						
KJN	**Kajaani**	6.24	2	*e*SG	Sg	10 12 39.5	-14
HFS	**Hagfors**	7.35	294	*e*S	Sn	10 12 34.1	-7.8
HFS				*e*SG	Sg	10 13 11.5	-19
HFS	**Hagfors**	7.35	294	Sn	Sn	10 12 34.1	-7.8
	baz=97,slow=28						
HFS				Lg		10 13 11.5	
	baz=102,slow=37						

DJA 19 10:19:52.4±1.0**, 9.33S×117.80E, h123^{km}**±22^{km}**, MD4.6**/3**, ML4.4**/3**, 7C, Error ellipse: s-maj=64.6km s-min=28.2km az=177.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	1.86	297	⇑*e*Pn	P	10 20 24.8	+0.1
	66nm,0.2s						
KEDI				⇑*e*Sn	S	10 20 48.8	-0.4
RATI	**Rata**	2.31	285	⇑*e*Pn	P	10 20 30.3	-0.3
	221nm,0.2s						
RATI	**Rata**	2.31	285	⇑*e*P	P	10 20 30.8	+0.2
RATI				⇑*e*Sn	S	10 20 58.1	-1.3
INGI	**Ingas**	2.67	281	⇑*e*Pn	P	10 20 35.0	-0.2
	543nm,0.1s						
INGI				⇑*e*Sn	S	10 21 05.4	-2.2
KELI	**Kelakatan**	3.45	288	*e*Pn	P	10 20 45.4	-0.2

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*BJI **19** 10:30:11.6, 39.66N×77.57E, h16^{km}, ML4.0*

ISC 19 10:30:19.0±5.0**, 39.4N**±0.3×**76.9E**±0.2**, h10^{km}, n8, σ1^{s}32**/9**, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	0.72	282	PG	Pg	10 30 33.5	+0.1
KSH				SG	Sg	10 30 43.0	0.0
KSH				Smax			
	comp=N,540nm,0.3s						
KSH				Smax			
	comp=E,650nm,0.4s						
ULHL	**Ulahol**	2.92	351	P	Pn	10 31 02.9	-3.5
	SNR=32						
KZA	**Kyzart**	2.98	336	P	Pn	10 31 06.1	-1.1
	SNR=29						
UCH	**Uchtor**	3.38	329	P	Pn	10 31 09.2	-3.6
	SNR=12						
KBK	**Karagaybulak**	3.60	337	P	Pn	10 31 17.2	+1.3
	SNR=13						
AML	**Almayashu**	3.67	320	P	Pn	10 31 16.6	-0.5
	SNR=5.8						
TKM2	**Tokmak 2**	3.68	345	P	Pn	10 31 18.7	+1.5
	SNR=8.3						
USP	**Ospenovka**	4.29	336	P	Pn	10 31 29.6	+3.7
	SNR=8.4						

*IDC **19** 10:51:11.4±1.6, 14.20N×54.23E, mb3.8/7, mb1 3.9/7, mb1mx3.7/18, MS3.3/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=52.9km s-min=28.7km az=68.0*
*NEIC **19** 10:51:11.9±0.8, 14.20N×53.88E, h10^{km}, mb4.1/3, Error ellipse: s-maj=22.1km s-min=15.6km az=51.0*
ISC 19 10:51:10.2±1.3**, 14.2N**±0.2×**53.9E**±0.2**, h10^{km}, n14, σ0^{s}69**/11**, mb3.9**/10**, MS3.2**/4**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	27.06	344	LR	LR	11 09 31.4	
	comp=Z,71nm,18.8s,MS3.3,baz=161,slow=40						
SANT	**Santorini**	33.65	316	P	P	10 57 52.5	-0.7
	40nm,0.6s						
MKAR	**Makanchi Array**	40.25	30	P	P	10 58 48.3	-0.5
	0.7nm,0.6s,mb3.5,baz=212,slow=8.7,SNR=5.1						
MKAR				LR	LR	11 16 29.4	
	comp=Z,33nm,20.6s,MS3.2,baz=64,slow=38						
ZRNK	**Zerenda**	40.48	14	P	P	10 58 50.7	0.0
	1.7nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	40.89	15	P	P	10 58 54.1	+0.1
	1.4nm,0.7s,mb3.7,baz=225,slow=6.3,SNR=6.8						
BRVK	**Borovoye**	40.89	15	P	P	10 58 53.8	-0.2
	2.7nm,0.7s,mb4.0						
FINES	**FINESS Array B**	51.24	343	P	P	11 00 18.7	+2.8
	0.8nm,0.6s,mb3.8,baz=143,slow=9.5,SNR=3.4						
FINES				LR	LR	11 24 27.3	
	comp=Z,21nm,19.4s,MS3.2,baz=218,slow=39						
ENH	**Enshi**	53.41	63	P	P	11 00 32.8	+0.2
	12nm,1.1s,mb4.7						
SONM	**Songino Array**	54.71	41	P	P	11 00 41.6	-0.3
	0.2nm,0.4s,mb3.5,baz=281,slow=7.3,SNR=2.6						
NOA	**NORSAR Array B**	55.93	337	LR	LR	11 27 11.0	
	comp=Z,27nm,20.7s,MS3.3,baz=240,slow=38						
ARCES	**ARCESS Array B**	58.10	349	P	P	11 01 05.7	-0.2
	0.8nm,0.6s,mb3.9,baz=135,slow=5.1,SNR=3.7						
WRA	**Warramunga Arr**	86.08	112	P	P	11 03 53.2	+0.1
	0.6nm,0.8s,mb3.9,baz=295,slow=4.4,SNR=4.2						
ASAR	**Alice Springs**	86.76	115	P	P	11 03 56.4	0.0
	0.6nm,0.7s,mb4.0,baz=289,slow=4.4,SNR=7.8						
NVAR	**Mina Array Bea**	127.13	352	PKP	PKPdf	11 10 18.4	+0.1
	0.1nm,0.4s,slow=2.7,SNR=3.1						

DJA 19 10:54:17.3±0.9**, 9.52S**×**117.56E, h2^{km}, MD5.5**/4**, ML4.7**/4**, 5C-3D, Error ellipse: s-maj=36.2km s-min=17.9km az=22.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	1.75	306	⇓*e*Pn	Pn	10 54 46.2	-2.8
	479nm,0.1s						
KEDI				⇓*e*Sn	Sn	10 55 07.9	-4.3
RATI	**Rata**	2.15	291	⇑*e*Pn	Pn	10 54 51.7	-2.9
	362nm,0.2s						
RATI				⇑*e*Sn	Sn	10 55 16.8	-5.4
INGI	**Ingas**	2.48	286	⇓*e*Pn	Pn	10 54 56.1	-3.2
	903nm,0.2s						
INGI				⇑*e*Sn	Sn	10 55 24.5	-6.1
KELI	**Kelakatan**	3.29	293	⇑*e*Pn	Pn	10 55 08.1	-2.8
	128nm,0.2s						
KELI				⇑*e*Sn	Sn	10 55 44.8	-6.4

*PRU **19** 10:59:26.5, 50.19N×19.07E*
*WAR **19** 10:59:26.1, 50.20N×19.13E, ML2.5, Mining Induced*
ISC 19 10:59:25.2±0.6**, 50.17N**±0.05×**19.04E**±0.04**, n7, σ0^{s}97**/15**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	0.49	84	*e*PG	Pg	10 59 35.0	0.0
OJC				*i* SG	Sg	10 59 41.3	-0.2
OKC	**Ostrava-Krasne**	0.67	240	*e*PG	Pg	10 59 40.6	+2.1
OKC				*e*SG	Sg	10 59 46.2	-1.2
NIE	**Niedzica**	1.11	132	*e*PG	Pg	10 59 47.0	-0.5
NIE				*e*SG	Sg	11 00 02.0	-0.3
VYHS	**Vyhne**	1.68	185	*i* PN	Pn	10 59 56.4	+0.3
VYHS				*e*SN	Sn	11 00 19.1	+0.4
DPC	**Dobruska-Polom**	1.75	277	*e*PG	Pg	10 59 57.7	-2.5
DPC				*e*SG	Sg	11 00 24.2	+0.6
KSP	**Ksiaz**	1.88	292	*e*PN	Pn	11 00 00.0	+1.1
KSP				*e*PG	Pg	11 00 03.0	+0.3
KSP				*e*(SN)	Sn	11 00 24.0	+0.3
KSP				*e*(SG)	Sg	11 00 27.0	-0.8
PRU	**Pruhonice**	2.91	268	*e*SG	Sg	11 00 57.7	-4.2
	4.4nm,0.5s						

*IDC **19** 11:32:01.5±1.8, 0.81S×99.13E, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, Error ellipse: s-maj=85.7km s-min=22.8km az=57.0*
*NEIC **19** 11:32:09.6±4.9, 0.81S×99.25E, h64^{km}±38^{km}, Error ellipse: s-maj=57.6km s-min=12.9km az=57.0*
ISC 19 11:32:08.0±1.3**, 0.8S**±0.1×**99.3E**±0.2**, h64^{km}, n12, σ0^{s}61**/8**, mb3.9**/4**, 1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGM	**Kluang**	4.93	56	*e*P	P	11 33 21.0	-0.3
IPM	**Ipoh**	5.62	18	⇓*e*P	P	11 33 31.0	+0.3
WRA	**Warramunga Arr**	39.25	121	P	P	11 39 32.1	0.0
	0.9nm,0.4s,mb3.8,baz=300,slow=9.9,SNR=20						
WB2	**Warramunga Arr**	39.26	121	*e*P	P	11 39 32.0	-0.2
ASAR	**Alice Springs**	40.57	127	P	P	11 39 44.4	+1.4
	1.9nm,0.7s,mb3.8,baz=305,slow=7.4,SNR=12						
ASAR				PcP	PcP	11 41 46.5	+1.7
	0.7nm,0.8s,baz=295,slow=2.8,SNR=5.1						
SONM	**Songino Array**	48.82	6	P	P	11 40 48.8	0.0
	0.8nm,0.8s,mb3.8,baz=186,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	49.67	345	P	P	11 40 55.2	-0.1
	2.3nm,0.8s,mb4.2,baz=152,slow=8.3,SNR=13						
STKA	**Stephens Creek**	50.51	132	*e*P	pP	11 41 17.3	-1.2
	2.0nm,0.6s						
STKA	**Stephens Creek**	50.51	132	P	P	11 41 01.1	-1.0
STKA				*e*	pP	11 41 17.1	-1.4
TXAR	**Lajitas Array**	144.18	36	PKP	PKPdf	11 51 38.2	+1.0
	0.3nm,0.5s,baz=270,slow=0.8,SNR=3.7						
TXAR	**Lajitas Array**	144.18	36	PKP	PKPdf	11 51 38.2	+1.0
CPUP	**Villa Florida**	144.83	218	PKP	PKPdf	11 51 39.8	+1.3
	2.0nm,0.8s,baz=162,slow=4.1,SNR=5.6						

*NIED **19** 11:40:00, 37.10N×141.50E, h74^{km}, Mw4.8 Best double couple: $M_0$1.64×10^{16} NP1:ϕ_s82°, δ54°, λ-87°. NP2:ϕ_s257°, δ36°, λ-94°.*
*MOS **19** 11:40:37.0±0.9, 37.17N×141.31E, h40^{km}, mb5.2/27, Error ellipse: s-maj=13.3km s-min=6.1km az=94.6*
*BJI **19** 11:40:40.3, 37.22N×141.47E, h89^{km}, mB5.2, mb5.1, Ms4.4, Msz3.9*
*HRVD **19** 11:40:42.7±0.6, 37.14N×141.45E, h66^{km}±3^{km}, MW4.9/38, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s38,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.29±.16; $M_{\theta\theta}$2.25±.14; $M_{\phi\phi}$0.04±.13; $M_{r\theta}$-0.51±.12; $M_{\theta\phi}$0.73±.12; $M_{\phi r}$0.22±.08; Best double couple: $M_0$2.45×10^{16} NP1:ϕ_s244°, δ41°, λ-104°. NP2:ϕ_s82°, δ51°, λ-78°. Principal axes: T 2.51, Plg5°, Azm164°; N -.12, Plg9°, Azm255°; P -2.39, Plg80°, Azm45°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 11:40:42.7±0.1, 37.12N×141.29E, mb4.9/62, MW4.8(NIED) Error ellipse: s-maj=4.7km s-min=3.1km az=162.0*
NEIC Felt in Fukushima, Ibaraki and Miyagi Prefectures. Recorded [4 JMA] in Fukushima; [3 JMA] in Ibaraki, Miyagi and Tochigi; [2 JMA] in Gumma and Saitama; [1 JMA] in Chiba, Iwate, Kanagawa, Tokyo and Yamagata Prefectures.
*IDC **19** 11:40:42.6±0.3, 37.06N×141.21E, h76^{km}±3^{km}, mb4.5/24, mb1 4.7/28, mb1mx4.6/30, MS3.7/10, Ms1 3.7/10, ms1mx3.5/23, Error ellipse: s-maj=11.5km s-min=7.6km az=108.0*
*JMA **19** 11:40:42.0±0.1, 37.08N×141.46E, h73^{km}±2^{km}, M5.0 Broadband fault plane solution: P waves. NP1:ϕ_s97°, δ39°, λ-99°. NP2:ϕ_s288°, δ51°, λ-83°. Principal axes: T Plg6°, Azm13°; N Plg6°, Azm104°; P Plg82°, Azm238°;*
JMA Felt IV J1.
ISC 19 11:40:41.7±0.3**, 37.13N**±0.02×**141.36E**±0.03**, h81^{km}**±2^{km}**, h77^{km}**±.8^{km}**:pP-P, n306, σ0^{s}97**/323**, mb4.8**/96**, 32C-19D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	0.45	267	P	P	11 40 55.6	+0.4
ONAJ				S	S	11 41 05.3	-0.1
JFK	**Kawauchi**	0.46	302	⇓P	P	11 40 55.7	+0.5
JFK				S	S	11 41 05.3	-0.2
JHO	**Hitachi**	0.82	231	⇑P	P	11 40 58.9	0.0
JHO				*e*S	S	11 41 10.9	-0.9
JMM	**Marumori**	0.87	329	⇓P	P	11 41 00.0	+0.6
JMM				*e*S	S	11 41 13.1	+0.3
JFT	**Otama**	0.91	296	⇓P	P	11 41 01.1	+1.2
JFT				S	S	11 41 14.8	+1.2
JSB	**Shiboa**	1.17	263	⇑P	P	11 41 04.1	+1.0
JIO	**Ouri**	1.33	360	⇑P	P	11 41 05.2	-0.1
JIO				S	S	11 41 21.9	-0.9
JFY	**Yanaizu**	1.35	282	P	P	11 41 06.3	+0.7
JFY				*e*S	S	11 41 24.7	+1.3
JOU	**Okura**	1.36	336	⇑P	P	11 41 05.8	+0.1
JYS	**Shirataka**	1.50	317	⇑P	P	11 41 08.3	+0.7
JYS				*e*S	S	11 41 27.1	+0.4
JAG	**Ashikaga**	1.69	246	⇑P	P	11 41 10.5	+0.5
JKT	**Katashina**	1.73	259	⇑P	P	11 41 11.9	+1.3
JKT				*e*S	S	11 41 34.3	+2.5
JNS	**Sasagawa**	1.77	294	P	P	11 41 11.4	+0.3
JNS				*e*S	S	11 41 30.6	-2.1
JMK	**Ichinoseki**	1.83	356	⇑P	P	11 41 11.7	-0.1
JMK				S	S	11 41 34.1	0.0
JHK	**Hiroka**	1.88	274	⇑P	P	11 41 13.6	+1.1
JYK	**Kaneyama**	1.96	336	⇑P	P	11 41 14.2	+0.6
JYA	**Atsumi**	1.96	319	⇑P	P	11 41 14.6	+0.9
JGK	**Kuni**	2.26	256	P	P	11 41 19.1	+1.3
JRY	**Ryogami san**	2.27	242	⇑P	P	11 41 18.2	+0.3
JOM	**Ohasama**	2.34	359	⇑P	P	11 41 18.6	-0.4
BSO3	**Boso 3**	2.42	197	P	P	11 41 19.2	-0.8
BSO1	**Boso 1**	2.49	187	P	P	11 41 19.9	-1.1
JJN	**Nakama**	2.56	270	⇑P	P	11 41 23.5	+1.5
MAJO	**Matsushiro**	2.60	258	*e*P	P	11 41 23.7	+1.1
MAT	**Matsushiro**	2.60	258	P	P	11 41 23.7	+1.1
MAT				S	S	11 41 56.9	+3.8
MAT	**Matsushiro**	2.60	258	P	P	11 41 23.8	+1.2
MAT	**Matsushiro**	2.60	258	*e*P	P	11 41 24.0	+1.4
MAT				*e*S	S	11 41 57.0	+3.9
JOD2	**Odawara 2**	2.62	225	⇑P	P	11 41 22.5	-0.3
JSD	**Sado**	2.63	291	⇑P	P	11 41 22.9	-0.1
JNG	**Nsakai**	2.72	256	⇑P	P	11 41 25.4	+1.2
JYN	**Shimob**	2.80	235	P	P	11 41 26.2	+0.9
JTH	**Tanohata**	2.84	8	⇑P	P	11 41 24.9	-1.0
JKZ	**Kuzumaki**	2.85	359	⇑P	P	11 41 25.6	-0.5
JIM2	**Oshima 3**	2.87	214	P	P	11 41 25.0	-1.3
JIZS	**Izushimoda**	3.14	221	P	P	11 41 29.1	-1.0
JNY	**Yasuok**	3.33	239	P	P	11 41 34.0	+1.2
JHJ	**Hachijo jima 2**	4.20	198	P	P	11 41 42.6	-2.2
	440nm,0.3s,baz=109,slow=3.4,SNR=110						
JHJ				S	S	11 42 28.2	-4.8
	798nm,0.3s,baz=66,slow=23,SNR=21						
JEM	**Erimo**	5.08	15	P	P	11 41 53.7	-3.2
JNBK	**Urakawa-nobuka**	5.26	11	⇑P	P	11 41 56.9	-2.5
JNB	**Noboribetsu**	5.34	357	P	P	11 41 58.1	-2.4
JCH	**Churui**	5.69	15	⇑P	P	11 42 02.1	-3.2
JBT2	**Biratori 2**	5.70	7	P	P	11 42 02.6	-2.8
JEW	**Eniwo**	5.71	1	P	P	11 42 03.3	-2.2
JSK	**Shakotan**	6.26	354	P	P	11 42 11.5	-1.7
ASAJ	**Asahikawa**	7.05	7	P	P	11 42 20.6	-3.5
	67nm,0.3s,baz=235,slow=7.8,SNR=266						
ASAJ				S	S	11 43 38.0	-5.4
	13nm,0.3s,baz=15,slow=20,SNR=4.6						
ASAJ	**Asahikawa**	7.05	7	P	P	11 42 20.7	-3.5
ASAJ				S	S	11 43 38.0	-5.4
ASAJ				pmax	pmax		
	comp=Z,67nm,0.3s						
ASAJ				smax			
	comp=N,13nm,0.3s						
YUK	**Yuzh-Kuril'sk**	7.70	25	*e*P	P	11 42 27.5	-5.6
YUK				*e*S	S	11 43 47.7	-12
YUK				pmax	pmax		
	comp=N,730nm,0.5s						
YUK				pmax	pmax		
	comp=E,460nm,0.5s						
YUK				pmax	pmax		
	comp=Z,710nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.8s						
YUK				pmax	pmax		
	comp=N,2μm,0.8s						
YUK				pmax	pmax		
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,4μm,0.7s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	9.46	29	*e*P	P	11 42 53.5	-3.6
KUR				*i* S	S	11 44 31.5	-11
KUR				pmax	pmax		
	comp=E,110nm,0.7s						
KUR				pmax	pmax		
	comp=Z,260nm,0.7s						
KUR				smax			
	comp=N,410nm,0.7s						
KUR				smax			
	comp=E,770nm,0.7s						
JNU	**Nakatsue**	9.47	248	P	P	11 42 52.3	-4.9
	comp=E,1.5nm,0.3s,baz=180,slow=20,SNR=2.7						
JNU				LR	LR	11 46 46.5	
	comp=E,390nm,19.8s,baz=93,slow=39						
YSS	**Yuzh-Sakhalins**	9.88	6	⇑*i*P	P	11 42 58.0	-4.6
YSS				*i* S	S	11 44 47.0	-5.6
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				smax			
	comp=N,110nm,1.1s						
YSS				smax			
	comp=E,70nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	9.88	6	*e*P	P	11 42 58.6	-4.0
	comp=Z,218nm,0.7s						
CBIJ	**Chichi jima**	10.02	176	P	P	11 42 59.4	-5.3
	comp=Z,65nm,0.3s,baz=350,slow=8.9,SNR=29						
CBIJ				S	S	11 44 43.8	-12
	comp=Z,29nm,0.3s,baz=233,slow=20,SNR=6.2						
KS15	**Wonju Array Si**	10.75	276	*e*P	P	11 43 15.4	+0.9
MDJ	**Mudanjiang**	11.63	314	P	P	11 43 27.1	+0.9
MDJ				AMB	AMB		
	comp=Z,32nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,375nm,5.1s						
MDJ				LR	LR		
	comp=N,263nm,26.6s						
MDJ				LR	LR		
	comp=E,324nm,27.9s						
MDJ				LR	LR		
	comp=Z,486nm,29.2s						
MDJ	**Mudanjiang**	11.63	314	*e*P	P	11 43 26.3	+0.1
	comp=Z,22nm,0.7s						
CN2	**Changchun**	13.82	304	*e*P	P	11 43 54.3	-0.7
CN2				*e*AP		11 44 05.3	
CN2				*e*S	S	11 46 26.3	-0.5
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
KLR	**Kul'dur**	13.97	333	*e*P	P	11 43 52.8	-4.1
KLR				MLR	MLR		
	comp=E,400nm,14.0s						
KLR				MLR	MLR		
	comp=Z,500nm,14.0s						
SNY	**Shenyang**	14.51	294	⇑P	P	11 44 07.1	+3.1
SNY				AMB	AMB		
	comp=Z,70nm,0.6s						
SKR	**Severo-Kuril's**	17.18	33	*e*P	P	11 44 32.5	-5.1
SKR				pmax	pmax		
	comp=N,40nm,0.8s						
SKR				pmax	pmax		
	comp=E,20nm,0.8s						
SKR				pmax	pmax		
	comp=Z,60nm,0.8s						
SSE	**Sheshan**	17.75	256	P	P	11 44 45.5	+0.7
SSE				XP		11 45 12.3	
SSE				S	S	11 47 57.3	+0.3
SSE				AMB	AMB		
	comp=Z,44nm,0.6s						
SSE				LR	LR		
	comp=N,86nm,19.4s						
SSE				LR	LR		
	comp=E,150nm,19.7s						
SSE	**Sheshan**	17.75	256	P	P	11 44 45.5	+0.7
	comp=E,44nm,0.6s						
SSE				sP		11 45 12.3	
SSE				S	S	11 47 57.2	+0.2
SSE				sS		11 48 28.2	
NJ2	**Nanjing**	19.20	261	*e*P	P	11 44 59.9	-1.6
NJ2				AP		11 45 14.1	
NJ2				PP	PP	11 45 19.8	-0.5
NJ2				XP		11 45 24.8	
NJ2				S	S	11 48 26.0	-3.0
NJ2				SS	SS	11 48 56.0	-2.6
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s						
NJ2				LR	LR		
	comp=N,1μm,17.6s						
NJ2				LR	LR		
	comp=E,620nm,17.9s						
NJ2				LR	LR		
	comp=Z,2μm,14.8s						
HIA	**Hailar**	19.81	315	*e*P	P	11 45 03.3	-4.7
	comp=Z,13nm,0.8s						
BJI	**Beijing**	19.89	286	P	P	11 45 06.5	-2.4
BJI				XP		11 45 33.9	
BJI				S	S	11 48 43.8	+0.6
BJI				AMB	AMB		
	comp=Z,13nm,0.6s						
BJI				AMB	AMB		
	comp=Z,249nm,4.5s						
BJI	**Beijing**	19.89	286	P	P	11 45 06.5	-2.4
	comp=Z,13nm,0.6s						
BJI				sP		11 45 33.9	
BJI				S	S	11 48 43.7	+0.5
BJT	**Baijiatuau**	19.89	286	*e*P	P	11 45 05.5	-3.5
	comp=Z,9.5nm,0.4s						
PET	**Petropavlovsk**	19.96	32	⇓*e*P	P	11 45 09.0	-0.5
PET				*e*S	S	11 48 51.2	+6.7
PET				pmax	pmax		
	comp=Z,35nm,1.3s						
PET				pmax	pmax		
	comp=Z,12nm,0.8s						
PET				smax			
	comp=E,100nm,19.4s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	19.96	32	*e*P	P	11 45 08.3	-1.3
	comp=Z,62nm,1.3s						
CLNS	**Chul'man**	22.58	336	*e*P	P	11 45 34.9	-0.8
CLNS				*e*		11 45 53.7	
CLNS				*e*		11 49 29.6	
CLNS				*e*S	S	11 49 34.3	+1.4
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,26nm,0.9s						
CLNS				pmax	pmax		
	comp=E,20nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.4						
CLNS				smax			
	comp=N,25nm,0.9s						
CLNS				smax			
	comp=Z,9.0nm,0.9s						
CLNS				smax			
	comp=E,34nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,200nm,17.0s						
CLNS				MLR	MLR		
	comp=N,200nm,19.0s						
CLNS				MLR	MLR		
	comp=E,200nm,20.0s						
MA2	**Magadan**	23.27	12	*d i*P	P	11 45 43.2	+0.9
MA2				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.4						
MA2				MLR	MLR		
	comp=Z,100nm,25.0s						
MA2	**Magadan**	23.27	12	*e*P	P	11 45 42.6	+0.3
	comp=Z,17nm,0.6s,mb4.5						
WHN	**Wuhan**	23.33	262	*e*P	P	11 45 42.6	-0.6
HHC	**Hu-ho-hao-te**	23.41	288	*e*P	P	11 45 40.8	-3.0
HHC				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,156nm,5.4s						
HHC				LR	LR		
	comp=N,119nm,13.3s						
HHC				LR	LR		
	comp=E,123nm,10.2s						
HHC				LR	LR		
	comp=Z,117nm,10.7s						
YAK	**Yakutsk**	25.97	347	*d i*P	P	11 46 07.1	-1.0
YAK				pmax	pmax		
	comp=Z,91nm,0.8s,mb5.3						
YAK				MLR	MLR		
	comp=Z,200nm,21.0s						
YAK	**Yakutsk**	25.97	347	*e*P	P	11 46 06.2	-1.9
	comp=Z,75nm,0.7s,mb5.2						
SEY	**Seymchan**	26.71	11	*e*P	P	11 46 15.1	+0.2
SEY				*PP	pP	11 46 25.4	-8.0
SEY						11 47 06.4	
SEY				*e*S	S	11 50 48.3	+5.8
SEY				*SS		11 51 08.2	
SEY				*e*SS	SS	11 52 16.3	+16
SEY				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.0						
SEY				MLR	MLR		
	comp=E,70nm,15.0s						
SEY				MLR	MLR		
	comp=Z,90nm,15.0s						
SEY				MLR	MLR		
	comp=N,80nm,16.0s						
FX1	**Attu Island--F**	27.16	44	*e*P	P	11 46 19.1	0.0
ENH	**Enshi**	27.30	265	*e*P	P	11 46 17.6	-3.1
	comp=N,100nm,0.9s,mb5.3						
BOD	**Bodaibo**	27.43	328	*e*P	P	11 46 19.7	-1.8
SONM	**Songino Array**	27.70	304	P	P	11 46 23.4	-0.7
	comp=N,40nm,0.8s,mb5.0,baz=106,slow=8.0,SNR=155						
SONM				PcP	PcP	11 49 38.9	-0.4
	comp=N,2.0nm,0.7s,baz=159,slow=4.1,SNR=3.5						
LZH	**Lanzhou**	30.01	280	*e*P	P	11 46 44.3	-0.5
LZH				AP	pP	11 47 03.3	-0.4
LZH				XP	sP	11 47 10.8	-2.4
LZH				AMB	AMB		
	comp=Z,160nm,1.6s,mb5.4						
LZH				AMB	AMB		
	comp=Z,450nm,4.5s						
LZH				LR	LR		
	comp=E,370nm,16.0s						
LZH				LR	LR		
	comp=Z,410nm,18.6s						
LZH	**Lanzhou**	30.01	280	*e*P	P	11 46 44.3	-0.5
	comp=Z,160nm,1.6s,mb5.4						
LZH				pP	pP	11 47 03.3	-0.4
LZH				sP	sP	11 47 10.8	-2.4
LZH				LR	LR		
	comp=Z,410nm,18.6s						
ZAK	**Zakamensk**	30.18	308	⇑*i*P	P	11 46 45.2	-1.0
ZAK				*e*		11 49 44.6	
GYA	**Guiyang**	31.20	260	⇑*i*P	P	11 46 53.4	-2.0
GYA				AP	pP	11 47 10.4	-4.0
GYA				XP	sP	11 47 20.6	-3.4
GYA				PP	PP	11 47 58.4	-2.2
GYA				S	S	11 51 49.8	-4.5
GYA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
GYA				LR	LR		
	comp=N,1μm,15.2s						
GYA				LR	LR		
	comp=E,3μm,16.1s						
CD2	**Chengdu**	31.63	270	⇑*i*P	P	11 46 57.8	-1.3
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
MOY	**Mondy**	31.85	310	*e*P	P	11 47 00.5	-0.3
GTA	**Gaotai**	32.50	287	*e*P	P	11 47 06.3	-0.3
GTA				AP	pP	11 47 24.6	-1.1
GTA				XP	sP	11 47 35.3	-0.2
GTA				PCP	PcP	11 49 52.4	+0.6
GTA				S	S	11 52 15.8	+1.3

GTA				XS		11 52 46.5	
GTA				SS	SS	11 54 16.6	+1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
GTA				AMB	AMB		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=N,79nm,15.6s						
GTA				LR	LR		
	comp=E,62nm,14.5s						
GTA				LR	LR		
	comp=Z,92nm,15.2s						
KMI	**Kunming**	**34.94**	**261**	⇑*e*P	**P**	**11 47 27.0**	**-0.7**
KMI				AP	pP	11 47 45.6	-1.4
KMI				XP	sP	11 47 54.6	-2.2
KMI				S	**S**	**11 52 54.3**	**+1.9**
KMI				SS	SS	11 55 10.5	-0.9
KMI				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.3						
KMI				LR	LR		
	comp=Z,133nm,24.1s						
KMI	**Kunming**	**34.94**	**261**	⇑*e*P	**P**	**11 47 27.0**	**-0.7**
	comp=Z,45nm,0.9s,mb5.3						
KMI				pP	pP	11 47 45.6	-1.4
KMI				sP	sP	11 47 54.6	-2.2
KMI				S	**S**	**11 52 54.2**	**+1.8**
KMI				SS	SS	11 55 10.5	-0.9
KMI				LR	LR		
	comp=Z,130nm,24.1s						
KKTK	**Khon Kaen**	**39.80**	**249**	P	**P**	**11 48 08.0**	**-0.5**
NANT	**Nan**	**39.93**	**254**	P	**P**	**11 48 09.0**	**-0.5**
WMQ	**Urumqi**	**40.76**	**297**	⇓P	**P**	**11 48 16.8**	**+0.7**
WMQ				AP	pP	11 48 36.3	+0.6
WMQ				XP	sP	11 48 45.0	-0.2
WMQ				PP	PP	11 49 55.3	+0.9
WMQ				S	**S**	**11 54 21.6**	**+1.1**
WMQ				XS		11 54 53.8	
WMQ				AMB	AMB		
	comp=Z,37nm,0.9s,mb5.2						
WMQ				LR	LR		
	comp=N,84nm,19.4s						
WMQ				LR	LR		
	comp=E,103nm,27.4s						
WMQ				LR	LR		
	comp=Z,122nm,27.3s						
TNA	**Tin City**	**40.80**	**30**	P	**P**	**11 48 16.6**	**+0.4**
CHG	**Chiang Mai**	**41.27**	**256**	P	**P**	**11 48 20.5**	**0.0**
CMAR	**Chiang Mai Arr**	**41.48**	**255**	P	**P**	**11 48 22.6**	**+0.4**
	comp=Z,5.3nm,0.9s,mb4.4,baz=49,slow=5.6,SNR=16						
CMAR				PcP	PcP	11 50 19.5	+0.3
	comp=Z,2.2nm,0.8s,baz=21,slow=2.4,SNR=6.8						
CMAR				LR	LR	12 08 31.1	
	comp=Z,65nm,18.5s,baz=195,slow=40						
CMAR	**Chiang Mai Arr**	**41.48**	**255**	P	**P**	**11 48 22.6**	**+0.4**
CMAR						11 50 19.5	
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,65nm,18.5s						
LSA	**Lhasa**	**42.16**	**275**	*e*P	**P**	**11 48 28.2**	**+0.4**
	comp=Z,18nm,0.8s,mb4.8						
NVS	**Novosibirsk**	**42.75**	**314**	*i* P	**P**	**11 48 30.9**	**-1.3**
NVS				*e*	pP	11 48 49.6	-2.3
NVS				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,21nm,1.0s						
SHL	**Shillong**	**43.37**	**269**	*e*P	**P**	**11 48 37.2**	**-0.5**
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**11 48 42.5**	**-0.3**
	comp=E,20nm,0.7s,mb5.0,baz=88,slow=9.6,SNR=117						
MKAR				sP	sP	11 49 09.1	-2.8
	comp=E,13nm,0.7s,baz=84,slow=11,SNR=6.3						
MKAR				LR	LR	12 07 27.6	
	comp=E,70nm,21.4s,baz=126,slow=36						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**11 48 42.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR				pmax	pmax		
	comp=N,13nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,70nm,21.4s						
SVW	**Sparrevohn**	**45.45**	**37**	*e*P	**P**	**11 48 54.7**	**+0.8**
KURK	**Kurchatov**	**45.84**	**308**	*e*P	**P**	**11 48 56.2**	**-0.9**
	comp=Z,51nm,0.8s,mb5.3						
RSO	**Redoubt South**	**46.86**	**38**	*e*P	**P**	**11 49 05.8**	**+0.8**
SPU	**Mount Spurr**	**47.19**	**37**	*e*P	**P**	**11 49 07.4**	**-0.2**
SPU				*e*pP	pP	11 49 28.9	+1.4
PKI	**Pulchoki**	**47.63**	**275**	*e*P	**P**	**11 49 11.0**	**-0.5**
	comp=Z,18nm,0.5s,mb5.2						
KKN	**Kakani**	**47.64**	**276**	*e*P	**P**	**11 49 11.3**	**-0.2**
	comp=Z,69nm,0.8s,mb5.6						
DMN	**Daman**	**47.85**	**276**	*e*P	**P**	**11 49 12.7**	**-0.6**
GKN	**Gorkha**	**48.05**	**276**	*e*P	**P**	**11 49 14.6**	**-0.2**
	comp=Z,176nm,0.8s,mb6.0						
PMS	**Palmer South**	**48.39**	**37**	*e*P	**P**	**11 49 17.3**	**+0.4**
PMR	**Palmer**	**48.58**	**37**	*e*P	**P**	**11 49 18.3**	**0.0**
PMR				LR	LR		
	comp=Z,100nm,18.0s						
MCK	**McKinley**	**48.58**	**34**	*e*P	**P**	**11 49 18.0**	**-0.4**
	comp=Z,5.5nm,1.0s,mb4.4						
SML	**Sawmill**	**48.94**	**36**	*e*P	**P**	**11 49 21.0**	**-0.2**
KOLN	**Koldanda**	**48.98**	**277**	*e*P	**P**	**11 49 21.6**	**-0.3**
	comp=Z,85nm,1.0s,mb5.6						
COLA	**College**	**49.02**	**32**	*e*P	**P**	**11 49 22.2**	**+0.5**
COLA				MLR	MLR		
	comp=Z,100nm,18.0s						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**11 49 24.6**	**-0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=271,slow=6.4,SNR=61						
ILAR				pP	pP	11 49 44.0	-1.0
	comp=Z,10nm,0.8s,baz=272,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**11 49 24.6**	**-0.4**
ILAR				*PP	pP	11 49 44.0	-1.0
ILAR				pmax	pmax		
	comp=Z,12nm,0.8s						
ILAR				pmax	pmax		
	comp=N,10.0nm,0.8s						
TKM2	**Tokmak 2**	**49.55**	**298**	P	**P**	**11 49 26.5**	**+0.4**
	SNR=20						
KZA	**Kyzart**	**50.05**	**297**	P	**P**	**11 49 31.0**	**+1.0**
	SNR=14						
KBK	**Karagaybulak**	**50.09**	**298**	P	**P**	**11 49 30.5**	**+0.3**
	SNR=14						
USP	**Ospenovka**	**50.22**	**299**	P	**P**	**11 49 30.5**	**-0.7**
	SNR=7.6						
DIV	**Divide**	**50.23**	**37**	*e*P	**P**	**11 49 31.2**	**+0.1**
	comp=N,152nm,1.5s,mb5.7						
DIV				*e*pP	pP	11 49 51.1	0.0
KAKA	**Kakadu**	**50.27**	**191**	*e*P	**P**	**11 49 31.1**	**-0.9**
	comp=N,9.9nm,0.7s,mb4.8						
KAKA				*e*	pP	11 49 48.8	-3.3
KSH	**Kashi**	**50.33**	**294**	*e*P	**P**	**11 49 33.1**	**+0.9**
KSH				*e*AP	pP	11 49 52.3	+0.1
KSH				*e*XP	sP	11 50 01.6	+0.3
KSH				*e*PCP	PcP	11 50 51.4	+1.5
KSH				*e*PP	PP	11 51 31.3	+2.2
KSH				*e*PPP	PPP	11 52 27.5	-0.4
KSH				*e*SCP		11 54 37.6	
KSH				*e*PCS		11 54 47.3	
KSH				*e*S	**S**	**11 56 39.0**	**+1.6**
KSH				*e*PS	PS	11 56 58.1	-1.1
KSH				*e*XS		11 57 09.8	
KSH				*e*SCS	ScS	11 59 12.5	+0.4
KSH				LR	LR		
	comp=N,270nm,4.4s						
KSH				LR	LR		
	comp=E,290nm,5.8s						
AAK	**Ala-Archa**	**50.41**	**298**	*e*P	**P**	**11 49 31.2**	**-1.5**
	comp=E,5.2nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**50.48**	**312**	P	**P**	**11 49 32.3**	**-0.8**
	comp=E,6.9nm,0.7s,mb4.7,baz=79,slow=7.6,SNR=28						
BVAR				PcP	PcP	11 50 49.5	-0.8
	comp=E,9.8nm,0.7s,baz=90,slow=3.0,SNR=6.9						
UCH	**Uchtor**	**50.52**	**298**	P	**P**	**11 49 34.1**	**+0.5**
	SNR=7.5						
BRVK	**Borovoye**	**50.54**	**312**	*e*P	**P**	**11 49 32.0**	**-1.5**
	comp=E,17nm,1.0s,mb5.0						
EKS2	**Erkin-Say**	**50.91**	**299**	P	**P**	**11 49 36.1**	**-0.4**
	SNR=5.3						
AML	**Almayashu**	**51.13**	**298**	P	**P**	**11 49 38.7**	**+0.5**
	SNR=27						
ZRNK	**Zerenda**	**51.32**	**312**	*e*P	**P**	**11 49 38.2**	**-1.2**
	comp=E,18nm,0.8s,mb5.2						
DAWY	**Dawson**	**52.75**	**33**	*e*P	**P**	**11 49 49.5**	**-0.5**
INK	**Inuvik**	**54.33**	**27**	P	**P**	**11 50 01.5**	**-0.1**
	comp=E,8.2nm,0.7s,mb4.9,baz=288,slow=6.4,SNR=31						
INK	**Inuvik**	**54.33**	**27**	P	**P**	**11 50 01.5**	**0.0**
INK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INK	**Inuvik**	**54.33**	**27**	*e*P	**P**	**11 50 00.4**	**-1.2**
	comp=Z,15nm,1.0s,mb5.0						
INK				*e*pP	pP	11 50 21.0	-0.9
ARU	**Arti**	**56.27**	**318**	*e*P	**P**	**11 50 13.4**	**-2.3**
ARU				*e*		11 51 09.0	
ARU				*e*		11 52 20.0	
ARU				*e*S	**S**	**11 58 01.7**	**+4.3**
ARU				*e*SS	SS	12 01 41.8	-3.8
FITZ	**Fitzroy Crossi**	**56.90**	**198**	*e*P	**P**	**11 50 20.1**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.4						
FITZ				*e*	pP	11 50 40.3	-0.9
WRAB	**Tennant Creek**	**57.13**	**188**	*e*P	**P**	**11 50 20.0**	**-2.4**
	comp=Z,7.3nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**57.14**	**188**	⇓*i*P	**P**	**11 50 20.3**	**-2.1**
WB2				*e*	pP	11 50 40.8	-2.2
WRA	**Warramunga Arr**	**57.14**	**188**	P	**P**	**11 50 20.6**	**-1.9**
	comp=Z,7.0nm,0.7s,mb4.8,baz=6.4,slow=7.5,SNR=124						
WRA				pP	pP	11 50 39.9	-3.1
	comp=Z,9.5nm,0.5s,baz=5.3,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**57.14**	**188**	P	**P**	**11 50 20.6**	**-1.8**
WRA				*PP	pP	11 50 39.9	-3.1
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,10.0nm,0.5s						
DLBC	**Dease Lake**	**58.58**	**38**	P	**P**	**11 50 33.1**	**+1.2**
	comp=N,9.9nm,1.0s,mb4.8,baz=287,slow=7.7,SNR=19						
DLBC				pP	pP	11 50 52.0	-0.5
	comp=N,6.2nm,0.9s,baz=306,slow=7.3,SNR=3.1						
DLBC	**Dease Lake**	**58.58**	**38**	*e*P	**P**	**11 50 32.3**	**+0.4**
DLBC				*e*pP	pP	11 50 52.2	-0.3
KBS	**Kingsbay**	**60.56**	**350**	*e*P	**P**	**11 50 44.3**	**-1.0**
	comp=N,21nm,0.9s,mb5.2						
ASAR	**Alice Springs**	**60.87**	**188**	P	**P**	**11 50 46.9**	**-1.2**
	comp=N,4.1nm,0.8s,mb4.5,baz=12,slow=6.8,SNR=31						
ASAR				pP	pP	11 51 06.5	-2.4
	comp=N,9.7nm,0.9s,baz=16,slow=9.6,SNR=13						
ASAR				LR	LR	12 16 57.8	
	comp=N,66nm,20.3s,baz=106,slow=36						
ASPA	**Alice Springs**	**60.87**	**188**	*e*P	**P**	**11 50 46.8**	**-1.3**
RES	**Resolute Bay**	**62.52**	**14**	*e*P	**P**	**11 50 57.3**	**-1.2**
RES				*e*pP	pP	11 51 16.1	-3.3
KEV	**Kevo**	**63.34**	**339**	*e*p	**P**	**11 51 02.1**	**-1.9**
	comp=N,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**63.34**	**339**	*e*P	**P**	**11 51 02.1**	**-1.9**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**11 51 06.0**	**-0.7**
	comp=Z,4.5nm,0.9s,mb4.3,baz=302,slow=6.6,SNR=8.3						
YKA				pP	pP	11 51 26.8	-0.8
	comp=Z,6.4nm,0.7s,baz=304,slow=6.7,SNR=16						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**11 51 06.0**	**-0.7**
YKA				*PP	pP	11 51 26.8	-0.8
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA				pmax	pmax		
	comp=N,6.0nm,0.7s						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**11 51 06.0**	**-0.7**
YKA				pP	pP	11 51 26.8	-0.8
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**11 51 06.8**	**-0.7**
	comp=N,8.0nm,0.7s,mb4.7,baz=58,slow=7.7,SNR=54						
ARCES				LR	LR	12 23 34.2	
	comp=N,69nm,21.0s,baz=91,slow=40						
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**11 51 06.8**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,69nm,21.0s						
DAG	**Danmarks Havn**	**65.68**	**355**	*i* P	**P**	**11 51 18.0**	**-1.0**
	comp=Z,12nm,0.6s,mb4.9						
RMW	**Rattlesnake Mo**	**67.86**	**47**	*e*P	**P**	**11 51 33.8**	**+0.8**
OBN	**Obninsk**	**68.00**	**323**	κ*i*P	**P**	**11 51 32.8**	**-1.0**
OBN				*e*		11 52 01.1	
OBN				*e*SS	SS	12 04 47.7	-2.3
OBN				SSS	SSS	12 07 56.0	+5.3
OBN				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.1						
FMW	**Mount Fremont**	**68.21**	**47**	P	**P**	**11 51 36.3**	**+1.0**
KAF	**Kangasniemi**	**68.21**	**333**	*e*p	**P**	**11 51 33.1**	**-1.9**
	comp=Z,4.4nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**68.21**	**333**	*e*P	**P**	**11 51 33.1**	**-1.9**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.6						
NLW	**Nelson Butte**	**68.38**	**46**	*e*P	**P**	**11 51 36.6**	**+0.3**
NLW				*e*pP	pP	11 51 56.5	-1.0
ETW	**Entiat**	**68.63**	**46**	P	**P**	**11 51 38.6**	**+0.7**
STKA	**Stephens Creek**	**68.64**	**180**	*e*P	**P**	**11 51 37.5**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.3						
STKA				*e*	pP	11 51 59.1	-0.3
STKA	**Stephens Creek**	**68.64**	**180**	P	**P**	**11 51 37.5**	**-0.7**
	comp=Z,8.3nm,1.0s,mb4.5,baz=4.1,slow=6.7,SNR=11						
STKA				pP	pP	11 51 57.2	-2.2
	comp=Z,3.6nm,0.6s,baz=350,slow=8.9,SNR=4.1						
FORT	**Forrest**	**68.69**	**192**	*e*P	**P**	**11 51 37.0**	**-1.5**
	comp=Z,100nm,0.7s,mb5.8						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**11 51 37.5**	**-0.6**
	comp=Z,16nm,0.7s,mb5.0,baz=63,slow=8.5,SNR=48						
FINES				pP	pP	11 51 58.4	-1.0
	comp=Z,9.8nm,0.7s,baz=76,slow=7.9,SNR=6.9						
FINES				LR	LR	12 24 00.3	
	comp=Z,63nm,18.3s,baz=2.1,slow=38						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**11 51 37.6**	**-0.5**
FINES				*PP	pP	11 51 58.4	-1.0
FINES				pmax	pmax		
	comp=Z,16nm,0.7s						
FINES				pmax	pmax		
	comp=N,10.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,63nm,18.3s						
WTV	**Waterville**	**68.80**	**46**	P	**P**	**11 51 39.2**	**+0.3**
EBG	**Ellensburg**	**68.86**	**47**	P	**P**	**11 51 40.1**	**+0.8**
DPW	**Davenport**	**69.70**	**45**	*e*P	**P**	**11 51 44.4**	**0.0**
DPW				*e*pP	pP	11 52 03.8	-2.0
NEW	**Newport**	**70.09**	**44**	*e*P	**P**	**11 51 47.0**	**+0.2**
YBH	**Yreka Blue Hor**	**70.32**	**52**	P	**P**	**11 51 49.6**	**+1.3**
	comp=Z,8.1nm,1.1s,mb4.5,baz=299,slow=3.0,SNR=7.3						
YBH	**Yreka Blue Hor**	**70.32**	**52**	P	**P**	**11 51 49.6**	**+1.3**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SUMG	**Summit**	**70.59**	**360**	*e*P	**P**	**11 51 49.5**	**+0.1**
	comp=Z,24nm,1.0s,mb5.0						
SUMG				*e*pP	pP	11 52 10.4	-0.4
LNOR	**Lincton Mounta**	**70.75**	**47**	*e*P	**P**	**11 51 51.6**	**+0.7**
OHCM	**Honcut**	**72.41**	**54**	*e*P	**P**	**11 52 00.6**	**-0.2**
WVOR	**Wild Horse Val**	**72.47**	**50**	*e*P	**P**	**11 52 00.9**	**-0.1**
	comp=Z,25nm,1.8s,mb4.7						
BEKR	**Beckwourth**	**72.83**	**53**	*e*P	**P**	**11 52 02.4**	**-0.9**
	comp=Z,16nm,1.2s,mb4.7						
FFC	**Flin Flon**	**73.65**	**33**	*e*P	**P**	**11 52 07.8**	**+0.1**
FFC				*e*pP	pP	11 52 28.5	-0.7
NB2	**NORSAR Subarra**	**74.09**	**337**	P	**P**	**11 52 09.7**	**-0.5**
	comp=Z,39nm,1.0s,mb5.1,baz=40,slow=5.8						
NB2	**NORSAR Subarra**	**74.09**	**337**	P	**P**	**11 52 09.7**	**-0.5**
	baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**11 52 10.1**	**-0.1**
	comp=Z,20nm,0.8s,mb4.9,baz=39,slow=5.8,SNR=47						
NOA				pP	pP	11 52 29.5	-2.2
	comp=Z,3.6nm,0.6s,baz=38,slow=5.8,SNR=4.8						
NOA				LR	LR	12 28 07.4	
	comp=Z,67nm,20.2s,baz=25,slow=38						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**11 52 10.1**	**-0.1**
NOA				*PP	pP	11 52 29.5	-2.2
NOA				pmax	pmax		
	comp=Z,20nm,0.8s						
NOA				pmax	pmax		
	comp=N,4.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,67nm,20.2s						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**11 52 09.4**	**-1.6**
	comp=Z,8.6nm,0.4s,mb4.8,baz=45,slow=6.0,SNR=50						
AKASG				pP	pP	11 52 30.5	-2.1
	comp=Z,4.0nm,0.5s,baz=46,slow=5.8,SNR=4.7						
AKASG				LR	LR	12 27 19.0	
	comp=Z,67nm,19.4s,baz=90,slow=38						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**11 52 09.4**	**-1.6**
AKASG				*PP	pP	11 52 30.5	-2.0
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,4.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,67nm,19.4s						
HLID	**Hailey**	**74.34**	**47**	*e*P	**P**	**11 52 12.7**	**+0.7**
	comp=Z,7.1nm,1.2s,mb4.3						
HLID				*e*pP	pP	11 52 32.1	-1.4
BMN	**Battle Mountai**	**74.49**	**51**	*e*P	**P**	**11 52 13.8**	**+0.9**
BOZ	**Bozeman (W)**	**74.67**	**44**	*e*P	**P**	**11 52 14.2**	**+0.4**
	comp=Z,16nm,1.0s,mb4.7						
SUW	**Suwalki**	**74.79**	**327**	*e*P	**P**	**11 52 13.8**	**-0.5**
SUW				*e*pP	pP	11 52 28.0	-7.9
SUW				*e*S	S	12 01 43.2	+0.2
SUW				*e*SS		12 02 07.0	
NVAR	**Mina Array Bea**	**74.97**	**53**	P	**P**	**11 52 16.9**	**+1.2**
	comp=Z,6.8nm,0.8s,mb4.4,baz=296,slow=4.3,SNR=53						
MNV	**Mina**	**75.06**	**53**	*e*P	**P**	**11 52 16.5**	**+0.3**
	comp=Z,16nm,1.4s,mb4.6						
MTUM	**Tungsten Hills**	**75.42**	**54**	*e*P	**P**	**11 52 18.8**	**+0.5**
KBD	**Kabd**	**75.72**	**296**	*e*P	**P**	**11 52 21.1**	**+1.0**
TPH	**Tonopah**	**75.86**	**53**	*e*P	**P**	**11 52 21.4**	**+0.7**
	comp=Z,22nm,1.2s,mb4.8						
RDF	**Al-Radifah**	**75.96**	**296**	*e*P	**P**	**11 52 21.6**	**0.0**
RDF				AMb	AMB	11 52 23.2	
	comp=Z,75nm,0.8s,mb5.5						
RST	**Umm Al-Ruwaisa**	**76.03**	**296**	*e*P	**P**	**11 52 20.5**	**-1.5**
RST				AMb	AMB	11 52 21.2	
	comp=Z,42nm,0.7s,mb5.3						
MOOW	**Moose Ponds**	**76.34**	**45**	*e*P	**P**	**11 52 24.2**	**+0.8**
TPAW	**Teton Pass**	**76.38**	**46**	*e*P	**P**	**11 52 24.2**	**+0.6**
TPAW				*e*pP	pP	11 52 45.5	+0.3
REDW	**Red Top Meadow**	**76.52**	**46**	*e*P	**P**	**11 52 25.5**	**+1.1**
MALT	**Malatya**	**76.69**	**308**	*e*P	**P**	**11 52 26.1**	**+0.7**
	comp=Z,14nm,1.1s,mb4.6						
AHID	**Auburn Hatcher**	**76.75**	**46**	*e*P	**P**	**11 52 26.3**	**+0.6**
	comp=Z,3.8nm,0.7s,mb4.2						
HWUT	**Hardware Ranch**	**77.20**	**47**	*e*P	**P**	**11 52 28.6**	**+0.4**
	comp=Z,27nm,1.4s,mb4.8						
HWUT				*e*pP	pP	11 52 49.7	-0.1
DUG	**Dugway**	**77.33**	**49**	*e*P	**P**	**11 52 29.5**	**+0.5**
	comp=Z,21nm,1.4s,mb4.7						
BORG	**Borgarnes**	**77.55**	**352**	P	**P**	**11 52 31.3**	**+1.6**
	comp=Z,12nm,0.7s,mb4.7,baz=108,slow=2.7,SNR=3.9						
TCUT	**Toone Canyon**	**77.59**	**48**	*e*P	**P**	**11 52 30.7**	**+0.3**
BW06	**Boulder Array**	**77.63**	**45**	*e*P	**P**	**11 52 30.5**	**0.0**
	comp=Z,5.9nm,1.0s,mb4.3						
BW06				*e*pP	pP	11 52 51.7	-0.5
PDAR	**Pinedale Array**	**77.63**	**45**	P	**P**	**11 52 31.1**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.2,baz=287,slow=2.5,SNR=43						
PDAR				pP	pP	11 52 52.8	+0.6
	comp=Z,2.5nm,0.7s,baz=292,slow=3.3,SNR=5.8						
GKP	**Gorka Klasztor**	**77.81**	**329**	*e*P	**P**	**11 52 31.9**	**+0.6**
GKP				*e*		11 52 42.4	
JLU	**Jordanelle**	**77.89**	**48**	*e*P	**P**	**11 52 32.9**	**+0.8**
NLU	**North Lily Min**	**77.92**	**49**	*e*P	**P**	**11 52 33.0**	**+0.8**
KWP	**Kalwaria**	**78.03**	**324**	*e*P	**P**	**11 52 33.2**	**+0.6**
DAU	**Daniels Canyon**	**78.12**	**48**	*e*P	**P**	**11 52 34.5**	**+1.2**
MSU	**Marysvale**	**78.75**	**50**	*e*P	**P**	**11 52 38.1**	**+1.2**
BRTR	**Keskin Array B**	**78.76**	**311**	P	**P**	**11 52 37.0**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.4,baz=90,slow=3.7,SNR=13						
BRTR				LR	LR	12 31 28.4	
	comp=Z,26nm,18.4s,baz=240,slow=39						
BRTR	**Keskin Array B**	**78.76**	**311**	P	**P**	**11 52 37.0**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,26nm,18.4s						
NEN	**Nelson**	**78.84**	**54**	*e*P	**P**	**11 52 38.2**	**+0.8**
OJC	**Ojcow**	**78.94**	**326**	⇓*e*P	**P**	**11 52 38.0**	**+0.4**
LDFC	**Landfair**	**79.02**	**54**	*e*P	**P**	**11 52 38.5**	**+0.2**
SRU	**San Rafael**	**79.38**	**49**	*e*P	**P**	**11 52 40.7**	**+0.4**
BAR	**Barrett**	**79.44**	**57**	*e*P	**P**	**11 52 40.8**	**+0.1**
ULM	**Lac du Bonnet**	**79.45**	**33**	P	**P**	**11 52 40.2**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.5,baz=10,slow=0.6,SNR=5.6						
ULM				pP	pP	11 53 00.1	-2.0
	comp=Z,9.9nm,0.8s,baz=307,slow=7.5,SNR=6.1						
RSSD	**Black Hills**	**79.79**	**42**	*e*P	**P**	**11 52 42.4**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.4						
RSSD				*e*pP	pP	11 53 03.4	-0.6
OKC	**Ostrava-Krasne**	**79.95**	**327**	⇓*e*P	**P**	**11 52 43.4**	**+0.3**
BSEG	**Bad Segeberg**	**79.96**	**333**	*e*P	**P**	**11 52 43.5**	**+0.5**
BSEG				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.0						
KSP	**Ksiaz**	**80.00**	**328**	⇓*e*P	**P**	**11 52 43.6**	**+0.3**
KSP				*e**PP	pP	11 53 01.2	-3.8
MORC	**Moravsky Berou**	**80.26**	**327**	*e*P	**P**	**11 52 44.6**	**-0.1**
	comp=Z,21nm,1.1s,mb4.9						
DPC	**Dobruska-Polom**	**80.36**	**328**	*e*P	**P**	**11 52 45.8**	**+0.6**
VYHS	**Vyhne**	**80.63**	**325**	*e*P	**P**	**11 52 47.2**	**+0.5**
VYHS				*e*	pP	11 53 04.8	-3.6
PV10	**Paradox Valley**	**80.74**	**49**	*e*P	**P**	**11 52 49.0**	**+1.5**
BRG	**Berggiesshubel**	**80.95**	**329**	*i* P	**P**	**11 52 48.6**	**+0.2**
BRG				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**80.95**	**329**	*i* P	**P**	**11 52 48.6**	**+0.2**
	comp=Z,15nm,0.9s,mb4.8						
PVCC	**Panska Ves**	**80.96**	**329**	⇓*e*P	**P**	**11 52 48.8**	**+0.4**
CLL	**Collm**	**81.00**	**330**	⇓P	**P**	**11 52 48.4**	**-0.2**
	comp=Z,logA/T=1.6,mb5.2						
CLL	**Collm**	**81.00**	**330**	⇓*i*P	**P**	**11 52 48.4**	**-0.2**
CLL				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
CLL	**Collm**	**81.00**	**330**	⇓*i*P	**P**	**11 52 48.4**	**-0.2**
	comp=Z,32nm,0.9s,mb5.2						
WUAZ	**Wupatki**	**81.14**	**52**	*e*P	**P**	**11 52 50.7**	**+1.0**
	comp=Z,21nm,1.0s,mb4.9						
PV01	**Paradox Valley**	**81.18**	**49**	*e*P	**P**	**11 52 50.6**	**+0.7**
PRU	**Pruhonice**	**81.39**	**328**	⇓*e*P	**P**	**11 52 51.1**	**+0.5**
ASF	**Jabal al Asfar**	**81.42**	**304**	P	**P**	**11 52 51.8**	**+0.6**
	comp=Z,8.5nm,1.0s,mb4.5						
CLZ	**Clausthal**	**81.60**	**332**	*e*P	**P**	**11 52 52.0**	**+0.3**
	comp=Z,31nm,1.1s,mb5.0						
ISCO	**Idaho Springs**	**81.82**	**46**	*e*P	**P**	**11 52 54.0**	**+0.9**
	comp=Z,4.3nm,1.0s,mb4.2						
ISCO				*e*pP	pP	11 53 15.7	+0.8
MOX	**Moxa**	**82.07**	**330**	*e*P	**P**	**11 52 56.0**	**+1.9**
KHC	**Kasperske Hory**	**82.45**	**328**	⇓*e*P	**P**	**11 52 56.6**	**+0.5**
KHC				*e*pP	pP	11 53 19.0	+1.1
KHC				*e*		11 53 25.4	
GEC2	**GERESS Array S**	**82.61**	**328**	*e*P	**P**	**11 52 56.9**	**-0.1**
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**82.61**	**328**	*e*P	**P**	**11 52 56.9**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.6						
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**11 52 57.2**	**+0.2**
	comp=Z,13nm,1.0s,mb4.7,baz=34,slow=4.8,SNR=42						
GERES				pP	pP	11 53 17.0	-1.8
	comp=Z,1.6nm,0.5s,baz=40,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**11 52 57.2**	**+0.2**
GERES				*PP	pP	11 53 17.0	-1.8
GERES				pmax	pmax		
	comp=Z,13nm,1.0s						
GERES				pmax	pmax		
	comp=N,2.0nm,0.5s						
WET	**Wettzell**	**82.73**	**329**	*e*P	**P**	**11 52 57.6**	**0.0**
WET				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
WET	**Wettzell**	**82.73**	**329**	*e*P	**P**	**11 52 57.6**	**0.0**
	comp=Z,15nm,1.1s,mb4.7						
GRA1	**Grafenberg Arr**	**82.97**	**330**	*e*P	**P**	**11 52 59.5**	**+0.7**
	comp=Z,50nm,1.1s,mb5.3						
GRF	**Grafenberg Arr**	**82.97**	**330**	*e*P	**P**	**11 52 59.5**	**+0.7**
GRF				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.3						
SDCO	**Great Sand Dun**	**83.26**	**47**	*e*P	**P**	**11 53 01.3**	**+0.8**
	comp=Z,15nm,1.3s,mb4.7						
SDCO				*e*pP	pP	11 53 21.6	-0.7
TUC	**Tucson**	**83.56**	**54**	*e*P	**P**	**11 53 02.1**	**0.0**
	comp=Z,5.7nm,1.0s,mb4.4						
TUC				*e*pP	pP	11 53 25.1	+1.0
PERS	**Pernice**	**83.69**	**326**	*i* P	**P**	**11 53 02.8**	**+0.4**
SKO	**Skopje**	**84.08**	**319**	*i* P	**P**	**11 53 05.5**	**+1.0**
JMQS	**Jabal Moqyreh**	**84.17**	**302**	P	**P**	**11 53 06.1**	**+0.8**
TATS	**Tathlith**	**84.47**	**290**	P	**P**	**11 53 07.3**	**+0.4**
BOJS	**Bojanci**	**84.49**	**325**	*e*P	**P**	**11 53 06.7**	**+0.2**
LAZ	**Ladron**	**84.50**	**51**	*e*P	**P**	**11 53 08.0**	**+1.2**
LAZ				*e*pP	pP	11 53 28.5	-0.2
JMOS	**Jabal al Moall**	**84.51**	**302**	P	**P**	**11 53 07.6**	**+0.7**
ANMO	**Albuquerque**	**84.56**	**50**	*e*P	**P**	**11 53 08.0**	**+1.0**
	comp=Z,14nm,1.0s,mb4.8						
ANMO				*e*pP	pP	11 53 28.2	-0.8
HAQS	**Haql**	**84.70**	**303**	P	**P**	**11 53 08.5**	**+0.6**
JAVS	**Javornik**	**84.73**	**326**	*e*P	**P**	**11 53 07.0**	**-0.6**
BDAS	**Al Bad'**	**84.98**	**302**	P	**P**	**11 53 09.8**	**+0.5**

BNM	Barren Site	84.99	51	eP	P	11 53 10.2	+1.0
GIVF	Givet	85.06	334	eP	P	11 53 08.4	-0.8
BFO	Black Forest	85.21	331	eP	P	11 53 10.1	+0.2
BFO				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
BFO	Black Forest	85.21	331	eP	P	11 53 10.1	+0.2
	comp=Z,26nm,1.1s,mb5.1						
SCHQ	Schefferville	85.26	16	P	P	11 53 11.0	+0.9
	comp=Z,4.8nm,0.8s,mb4.5,baz=343,slow=8.5,SNR=4.3						
SCHQ				pP	pP	11 53 30.7	-1.3
	comp=Z,8.8nm,0.7s,baz=6.6,slow=5.8,SNR=6.7						
SCHQ				LR	LR	12 34 23.2	
	comp=Z,47nm,19.8s,baz=92,slow=38						
DJNS	Zahran al Janu	85.53	289	P	P	11 53 13.2	+1.0
CDF	Champ du Feu	85.55	331	eP	P	11 53 11.1	-0.5
	comp=Z,28nm,0.9s,mb4.9						
BLJS	Baljurashi	85.67	292	P	P	11 53 14.1	+1.2
HINF	Hinteralfeld	86.20	331	eP	P	11 53 13.7	-1.1
	comp=Z,28nm,1.2s,mb4.8						
HAU	Haudompre	86.24	332	eP	P	11 53 14.1	-0.9
	comp=Z,12nm,0.7s,mb4.6						
HAU				eR			
	comp=Z,73nm,19.0s						
KSU1	Kansas State U	87.27	41	eP	P	11 53 20.0	-0.3
KSU1				epP	pP	11 53 41.7	-0.6
CPRX	Cap Rock	87.44	50	eP	P	11 53 21.7	+0.5
CPRX				epP	pP	11 53 44.4	+1.1
GDL2	Guadalupe Moun	87.70	51	eP	P	11 53 23.3	+0.8
GDL2				epP	pP	11 53 43.9	-0.7
LOR	Lormes	87.78	333	eP	P	11 53 21.8	-0.7
	comp=Z,56nm,1.3s,mb5.1						
LOR				eR			
	comp=Z,74nm,20.5s						
SSF	Saint Saulge	88.09	333	eP	P	11 53 23.5	-0.5
	comp=Z,33nm,1.2s,mb4.9						
LPG	La Plagne	88.14	330	eP	P	11 53 23.7	-0.6
	comp=Z,9.8nm,0.6s,mb4.7						
SMF	Signal de Mont	88.31	332	eP	P	11 53 25.6	+0.5
	comp=Z,35nm,1.2s,mb5.0						
AVF	Avril sur Loir	88.37	333	eP	P	11 53 24.9	-0.4
	comp=Z,22nm,1.0s,mb4.8						
TIP	Timpagrande	88.55	320	eP	P	11 53 26.3	0.0
MBDF	Montbardon	88.77	329	eP	P	11 53 26.0	-1.3
	comp=Z,10nm,0.9s,mb4.6						
WMOK	Wichita Mounta	89.24	46	eP	P	11 53 30.0	+0.3
	comp=Z,14nm,1.4s,mb4.8						
WMOK				epP	pP	11 53 51.6	-0.3
LTX	Lajitas	90.10	52	eP	P	11 53 34.2	+0.3
LTX				epP	pP	11 53 55.3	-0.8
TXAR	Lajitas Array	90.10	52	P	P	11 53 34.9	+1.0
	comp=Z,4.1nm,0.6s,mb4.7,baz=295,slow=3.2,SNR=54						
TXAR				pP	pP	11 53 56.9	+0.8
	comp=Z,3.8nm,0.7s,baz=295,slow=3.2,SNR=10						
VNDA	Vanda	115.07	175	PKP	PKPdf	11 59 12.9	+0.4
	comp=Z,0.8nm,0.9s,baz=327,slow=5.7,SNR=4.7						
VNDA	Vanda	115.07	175	PKIKP	PKPdf	11 59 12.9	+0.4
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SDV	Santo Domingo	125.28	40	ePKP	PKPdf	11 59 34.8	+1.2
DBIC	Dimbokro	126.20	317	PKP	PKPdf	11 59 35.2	-0.2
	comp=Z,3.6nm,0.6s,baz=158,slow=1.8,SNR=9.2						
DBIC				pPKP		11 59 59.0	
	comp=Z,3.8nm,0.9s,baz=165,slow=3.3,SNR=2.8						
DBIC	Dimbokro	126.20	317	PKIKP	PKPdf	11 59 35.2	-0.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DBIC				pmax	pmax		
	comp=N,4.0nm,0.9s						
TIC	Toumodi	126.31	317	ePKP1	PKPdf	11 59 36.5	+0.9
	comp=N,6.5nm,0.2s						
KIC	Kosan Boka	126.39	316	ePKP1	PKPdf	11 59 35.7	-0.1
	comp=N,46nm,1.0s						
LIC	Lamto	126.66	317	ePKP1	PKPdf	11 59 36.3	0.0
	comp=N,47nm,1.5s						
QSPA	South Pole Qui	126.87	180	ePKP	PKPdf	11 59 35.9	+0.9
QSPA				e		11 59 58.1	
SNAA	Sanae	140.82	197	⇑iP	PKPdf	12 00 21.2	+20
VNA2	Neumayer--Watz	142.39	196	⇑iP	PKPdf	12 00 25.4	+22
VNA3	Neumayer Olymp	142.64	195	⇑iP	PKPdf	12 00 25.1	+21
VNA1	Neumayer--Stat	142.79	196	⇑iP	PKPdf	12 00 27.3	+23
SAML	Samuel	144.21	45	ePKP	PKPdf	12 00 07.8	-0.8
LPAZ	La Paz	146.68	59	PKPbc	PKPbc	12 00 16.9	+2.7
	comp=N,16nm,0.8s,baz=335,slow=4.1,SNR=55						
LPAZ	La Paz	146.68	59	PKP2	PKPab	12 00 16.9	-1.0
LPAZ				pmax	pmax		
	comp=Z,16nm,0.8s						
LPAZ	La Paz	146.68	59	ePKP	PKPdf	12 00 15.7	+2.9
PLCA	Paso Flores	154.99	108	PKPab	PKPab	12 00 52.3	+0.7
	comp=Z,3.9nm,1.0s,baz=272,slow=3.4,SNR=5.8						
PLCA	Paso Flores	154.99	108	PKP2	PKPab	12 00 52.3	+0.7
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						

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*NEIC **19** 11:44:23.7, 15.83N×93.93W, h105^{km}, MD4.1(MEX), After MEX.*

*MEX **19** 11:44:25.1±1.5, 15.72N×93.93W, h40^{km}±255^{km}, MD4.1*

ISC 19 11:44:21.1±1.5**, 15.78N**±0.09×**93.95W**±0.05**, h104**^{km}±21^{km}**, n11, σ1^{s}14**/20**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	1.58	326	iP	P	11 44 50.2	+1.2
CMIG				iS	S	11 45 10.3	+0.4
CMIG	Matias Romero	1.58	326	iP	P	11 44 50.2	+1.2
CMIG				iS	S	11 45 09.8	-0.1
SCX	San Cristobal	1.59	53	iP	P	11 44 49.0	-0.1
SCX				iS	S	11 45 10.0	0.0
SCX	San Cristobal	1.59	53	iP	P	11 44 49.0	-0.1
SCX				iS	S	11 45 05.5	-4.5
CCIG	Comitan	1.82	74	iP	P	11 44 53.1	+1.1
CCIG				iS	S	11 45 13.2	-1.8
CCIG	Comitan	1.82	74	iP	P	11 44 53.1	+1.1
CCIG				iS	S	11 45 15.1	+0.1
HUIG	Huatulco	2.08	270	iP	P	11 44 56.9	+1.5
HUIG				iS	S	11 45 19.0	-1.9
HUIG	Huatulco	2.08	270	iP	P	11 44 56.9	+1.5
HUIG				iS	S	11 45 21.1	+0.2
TUIG	Tuzandepetl	2.29	349	iS	S	11 45 25.8	-0.3
TUIG	Tuzandepetl	2.29	349	iP	P	11 44 56.9	-1.5
TUIG				iS	S	11 45 27.8	+1.7
OXX	Oaxaca	2.96	296	eP	P	11 45 06.0	-1.4

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*IDC **19** 11:48:13.6±1.3, 14.56N×54.56E, mb4.0/9, mb1 4.2/9, mb1mx4.0/18, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=38.0km s-min=23.5km az=48.0*

*NEIC **19** 11:48:14.3±1.1, 14.45N×54.54E, h10^{km}, mb4.4/7, Error ellipse: s-maj=31.6km s-min=17.0km az=224.0*

ISC 19 11:48:13.1±1.0**, 14.5N**±0.2×**54.7E**±0.1**, h10**^{km}**, n26, σ1^{s}35**/22**, mb4.1**/16**, MS3.2**/1**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSS	Ar Rass	15.57	318	P	P	11 51 59.4	+4.8
TBKS	Tabuk	21.65	312	P	P	11 53 05.9	0.0
ASF	Jabal al Asfar	23.92	320	LR	LR	12 02 18.0	
	comp=Z,77nm,18.1s,MS3.2,slow=36						
MALT	Malatya	27.72	332	P	P	11 54 05.9	+2.1
	5.1nm,0.9s,mb4.2						
AAK	Ala-Archa	32.83	28	P	P	11 54 55.4	+6.3
	3.3nm,0.7s,mb4.4						
MKAR	Makanchi Array	39.62	30	P	P	11 55 46.5	-0.1
	0.6nm,0.6s,mb3.5,baz=211,slow=8.1,SNR=4.0						
MKAR	Makanchi Array	39.62	30	P	P	11 55 46.5	-0.1
ZRNK	Zerenda	40.01	13	eP	P	11 55 48.9	-0.9
	2.1nm,0.8s,mb3.9						
BVAR	Borovoye Array	40.41	15	P	P	11 55 53.7	+0.7
	2.0nm,0.7s,mb4.0,baz=207,slow=6.6,SNR=6.8						
BRVK	Borovoye	40.41	15	P	P	11 55 57.3	+4.2
	2.6nm,0.6s,mb4.1						
TIP	Timpagrande	41.35	314	eP	P	11 55 57.2	-3.7
CMAR	Chiang Mai Arr	42.58	78	P	P	11 56 13.8	+2.6
	1.8nm,0.9s,mb3.8,baz=274,slow=8.5,SNR=6.5						
AQU	L'Aquila	45.02	316	eP	P	11 56 32.7	+1.9
	13nm,0.8s,mb4.8						
MORC	Moravsky Berou	46.35	327	eP	P	11 56 39.9	-1.3
	3.2nm,0.9s,mb4.2						
SUW	Suwalki	46.49	335	P	P	11 56 43.4	+1.2
GERES	GERESS Array B	47.93	324	P	P	11 56 53.5	-0.1
	0.7nm,0.7s,mb3.8,baz=121,slow=7.8,SNR=4.2						
FINES	FINESS Array B	51.17	343	P	P	11 57 16.7	-1.6
	2.1nm,0.6s,mb4.2,baz=157,slow=14,SNR=4.7						
SONM	Songino Array	53.99	41	P	P	11 57 39.1	-0.4
	0.2nm,0.3s,mb3.5,baz=217,slow=7.2,SNR=2.7						
ARCES	ARCESS Array B	57.96	348	P	P	11 58 05.6	-2.3
	1.9nm,0.7s,mb4.2,baz=153,slow=5.4,SNR=7.1						
ARCES	ARCESS Array B	57.96	348	P	P	11 58 05.6	-2.3
WRA	Warramunga Arr	85.48	112	P	P	12 00 53.2	+0.1
	1.4nm,0.7s,mb4.2,baz=298,slow=3.8,SNR=9.9						
WRAB	Tennant Creek	85.49	112	eP	P	12 00 51.4	-1.7
	12nm,1.3s,mb4.9						
ASAR	Alice Springs	86.20	115	P	P	12 00 57.2	+0.6
	1.6nm,0.7s,mb4.4,baz=295,slow=4.7,SNR=13						
PDAR	Pinedale Array	121.19	346	PKP	PKPdf	12 07 10.8	+1.1
	0.5nm,0.8s,baz=45,slow=4.2,SNR=5.3						
NVAR	Mina Array Bea	126.94	353	PKP	PKPdf	12 07 20.9	+0.1
	0.6nm,0.8s,slow=0.9,SNR=5.0						
NVAR	Mina Array Bea	126.94	353	PKP	PKPdf	12 07 20.9	+0.1

DJA 19 12:16:42.1±1.0**, 4.41S**×**120.35E, h30**^{km}±5^{km}**, MD4.4**/3**, ML4.3**/1**, 3C-3D, Error ellipse: s-maj=25.7km s-min=8.1km az=133.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NINI	Niniconang	0.59	268	⇑ePg	Pb	12 16 52.8	-1.2
	664nm,0.2s						
NINI				⇓eSg	Sb	12 17 01.3	-0.8
BUNI	Buntu Taipa	0.74	358	⇓ePg	Pb	12 16 55.5	-1.0
	556nm,0.2s						
BUNI				⇑eSg	Sb	12 17 04.5	-1.8
TANI	Tanete Lipujan	1.36	315	⇓ePn	Pn	12 17 04.1	-1.3
	294nm,0.2s						
TANI				⇑eSn	Sn	12 17 20.2	-2.4

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*IDC **19** 12:54:48.8±13.0, 18.05N×102.79W, mb3.4/3, mb1 3.8/3, mb1mx3.7/19, Error ellipse: s-maj=238.0km s-min=183.5km az=159.0*

*MEX **19** 12:54:55.7±1.0, 18.22N×103.17W, h13^{km}±14^{km}, MD4.4*

*NEIC **19** 12:54:55.8, 18.22N×103.17W, h13^{km}, MD4.4(MEX), After MEX.*

ISC 19 12:54:52.1±1.4**, 18.19N**±0.06×**103.17W**±0.04**, h19**^{km}±11^{km}**, n17, σ0^{s}97**/29**, mb3.3**/3**, 1C, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLM	Colima	1.11	333	⇑iP	Pb	12 55 12.0	-0.4
COLM				iS	Sb	12 55 26.2	-0.2
CGX	Ciudad Guzman	1.53	348	iP	Pn	12 55 19.5	+0.6
CGX				iS	Sn	12 55 39.5	+1.1
ZIIG	Zihuatanejo	1.72	109	iP	Pn	12 55 21.8	+0.2
ZIIG				iS	Sn	12 55 42.6	-0.6
CJM	Chamela	2.20	307	iP	Pn	12 55 28.9	+0.5
CJM				iS	Sn	12 55 55.2	-0.3
SFJM	Santa Fe	2.29	3	iP	Pn	12 55 29.5	-0.2
SFJM				iS	Sn	12 55 54.5	-3.2
MOIG	Morelia	2.39	51	iP	Pn	12 55 32.8	+1.6
MOIG				iS	Sn	12 55 59.8	-0.4
MOIG	Morelia	2.39	51	iP	Pn	12 55 32.8	+1.6
MOIG				iS	Sn	12 56 02.0	+1.8
CAIG	El Cayaco	2.99	112	iS	Sn	12 56 14.4	-1.0
PLIG	Platanillo	3.49	86	iP	Pn	12 55 47.5	+0.7
PLIG				iS	Sn	12 56 27.6	-0.4
UNM	Universidad Na	3.95	73	eP	Pn	12 56 02.0	+8.7
YAIG	Yautepec	3.95	80	iP	Pn	12 55 59.2	+5.9
YAIG				iS	Sn	12 56 40.5	+0.9
PPM	Popocatepetl	4.39	78	eP	Pn	12 55 56.0	-3.6
PPM				iP		12 55 58.0	
PPM				iS	Sn	12 56 51.0	0.0
PPM	Popocatepetl	4.39	78	eP	Pn	12 55 56.0	-3.6
PPM				iS	Sn	12 56 51.0	0.0
ZAIG	Zacatecas	4.59	7	iP	Pn	12 56 01.2	-1.3
ZAIG				iS	Sn	12 56 55.3	-0.7
NVAR	Mina Array Bea	24.11	330	P	P	13 00 09.3	+1.6
	0.8nm,0.9s,mb3.1,baz=150,slow=12,SNR=5.2						
PDAR	Pinedale Array	25.10	349	P	P	13 00 17.4	+0.1
	0.3nm,0.6s,mb3.0,baz=166,slow=11,SNR=4.5						
ILAR	Eielson Array	54.92	339	P	P	13 04 22.8	-1.1
	0.7nm,0.9s,mb3.7,baz=143,slow=6.0,SNR=8.5						

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*IDC **19** 12:59:17.0±0.7, 5.31N×82.65W, mb4.3/12, mb1 4.5/15, mb1mx4.4/25, ML3.5/2, MS4.0/14, Ms1 4.0/14, ms1mx3.8/27, Error ellipse: s-maj=29.9km s-min=13.8km az=59.0*

*BJI **19** 12:59:18.7, 5.30N×82.60W, h10^{km}, mB4.5, Ms4.7, Msz4.6*

*NEIC **19** 12:59:18.8±3.5, 5.34N×82.60W, h10^{km}±22^{km}, mb4.8/32, MS4.3/27, Error ellipse: s-maj=10.6km s-min=4.8km az=55.0*

*CASC **19** 12:59:19.9±1.5, 5.41N×82.72W, h36^{km}±999^{km}, MD4.4, MW4.7, mb4.8(NEIC)*

ISC 19 12:59:16.9±1.2**, 5.53N**±0.03×**82.65W**±0.03**, h2**^{km}±7^{km}**, n134, σ1^{s}18**/118**, mb4.6**/36**, MS4.3**/41**, 15C-6D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTP1	Petroterminal	2.67	5	⇓iP	Pn	13 00 02.2	+0.6
DVD	David	2.89	4	eP	Pn	13 00 05.6	+0.7
ACR	Cerro Adams	3.14	351	⇑iP	Pn	13 00 07.6	-0.8
BRU2	Volcan	3.24	359	eP	Pn	13 00 10.3	+0.5
BRU2				eS	Sn	13 00 50.5	+0.9
AZU	Azuero	3.26	46	⇓iP	Pn	13 00 10.4	+0.4
AZU				eS	Sn	13 00 49.5	-0.4
CNI	Changuinola	3.86	2	eP	Pn	13 00 20.8	+2.2
CNI				eS	Sn	13 01 05.2	-0.1
BUS	Buena Vista	4.15	345	⇑eP	Pn	13 00 22.6	-0.1
BUS				eS	Sn	13 01 12.5	0.0
LCR2	La Lucha 2	4.39	342	⇑eP	Pn	13 00 25.6	-0.6
URSC	Urasca	4.42	345	⇑eP	Pn	13 00 26.4	-0.1
LIO	Limon	4.46	355	⇑eP	Pn	13 00 28.8	+1.7
LAJ	Bijagual	4.54	341	⇓eP	Pn	13 00 27.1	-1.2
ICR	Volcan Irazu	4.57	345	⇑eP	Pn	13 00 28.7	0.0
SJS	Escuela Geolog	4.60	342	eP	Pn	13 00 29.1	0.0
SJS				eP		13 00 29.2	
SJS				eS	Sn	13 01 22.8	-1.0
UPA	Univ. de Panam	4.62	42	eP	Pn	13 00 30.5	+1.2
UPA				eS	Sn	13 01 23.5	-0.8
PRS1	Puriscal	4.72	340	⇑eP	Pn	13 00 29.2	-1.6
CGA2	Cerro Gallo 2	4.81	338	⇓eP	Pn	13 00 31.4	-0.6
VPS2	Volcan Poas 2	4.89	341	⇑eP	Pn	13 00 33.7	+0.5
JCR	Jicaral	4.94	331	eP	Pn	13 00 32.3	-1.5
JTS	JuntasAbangare	5.25	334	Pn	Pn	13 00 37.7	-0.6
	113nm,0.3s,baz=114,slow=13,SNR=95						
JTS				Sn	Sn	13 01 39.0	-1.3
	44nm,0.3s,baz=288,slow=21,SNR=15						
JTS				LR	LR	13 02 33.5	
	comp=Z,3μm,20.7s,baz=48,slow=36						
JTS	JuntasAbangare	5.25	334	ePn	Pn	13 00 37.4	-0.9
	278nm,0.4s						
JTS				eS	Sn	13 01 38.6	-1.7
FORC	Fortuna	5.30	338	⇓eP	Pn	13 00 39.2	+0.2
VCR	Vista de Mar	5.44	327	⇑eP	Pn	13 00 39.8	-1.1
OTAV	Otavalo	6.72	141	ePn	Pn	13 00 55.4	-3.7
	9.7nm,0.5s						
TICN	Ticuantepe	7.37	332	eP	Pn	13 01 05.6	-2.5
CNGN	Cerro Negro	8.00	330	eP	P	13 01 15.9	-1.0
LEON	Leon	8.02	329	eP	P	13 01 17.3	0.0
ROSC	El Rosal	8.31	94	Pn	P	13 01 22.5	+1.2
	5.0nm,0.3s,baz=126,slow=20,SNR=5.1						
ROSC				Sn	Sn	13 02 57.1	+0.2
	1.9nm,0.3s,baz=112,slow=19,SNR=1.5						
CNCH	Conchagua	9.24	327	eP	P	13 01 33.4	-0.8
CNCH				eS	Sn	13 03 17.3	-2.7
SNVI	San Vicente	10.08	323	eP	P	13 01 45.0	-1.0
LCBS	La Ceiba	10.20	323	eP	P	13 01 49.5	+2.0
LFRS	El Faro	10.23	322	eP	P	13 01 46.9	-1.0
LFRS				eS	S	13 03 42.0	-2.4
BOQS	Boqueron	10.45	322	eP	P	13 01 50.0	-0.9
SDV	Santo Domingo	12.38	74	⇓iP	P	13 02 16.9	-0.2
SDV				eS	S	13 04 32.0	-4.8
NNA	Nana	18.34	162	eP	P	13 03 32.1	-2.2
	65nm,1.0s						
PCRV	Puerto La Cruz	18.43	74	P	P	13 03 36.3	+0.8
	0.4nm,0.3s,baz=231,slow=9.7,SNR=5.5						
SJG	San Juan	20.40	51	P	P	13 03 58.0	0.0
	20nm,0.3s,baz=345,slow=20,SNR=12						
SJG				LR	LR	13 10 59.9	
	comp=Z,276nm,21.9s,MS3.6,baz=95,slow=34						
SJG	San Juan	20.40	51	eP	P	13 03 56.7	-1.3
	40nm,0.6s						
PPM	Popocatepetl	20.58	312	iP	P	13 04 02.4	+2.5
MTP	Monte Pirata	20.85	52	eP	P	13 04 01.6	-1.1
DWPF	Disney	22.49	3	eP	P	13 04 19.1	-0.1
	48nm,0.9s,mb4.9						
SAML	Samuel	24.16	126	eP	P	13 04 32.5	-3.1
	63nm,1.1s,mb5.0						
COLM	Colima	24.58	305	iP	P	13 04 46.4	+6.6
COLM				iS	Px	13 05 00.5	
LPAZ	La Paz	26.01	147	P	P	13 04 50.3	-3.0
	3.9nm,1.0s,mb3.9,baz=343,slow=10,SNR=5.5						
LPAZ				LR	LR	13 16 10.5	
	comp=Z,799nm,20.0s,MS4.2,baz=71,slow=39						
LPAZ	La Paz	26.01	147	eP	P	13 04 50.7	-2.6
	20nm,1.2s,mb4.5						
LRAL	Lakeview Retre	27.66	352	eP	P	13 05 07.9	-0.4
	20nm,0.9s,mb4.7						
TXAR	Lajitas Array	30.91	322	LR	LR	13 18 20.7	
	comp=Z,140nm,21.1s,MS3.6,baz=130,slow=37						
LVC	Limon Verde	31.03	155	eP	P	13 05 36.4	-2.1
	13nm,1.1s,mb4.7						
BBSR	BB Station	31.53	30	PFAKE		13 05 50.0	+7.2
BBSR				LR	LR		
	comp=Z,354nm,21.0s,MS4.0						
BLA	Blacksburg	31.60	3	eP	P	13 05 43.6	+0.2
	comp=Z,16nm,0.9s,mb4.9						
WMOK	Wichita Mounta	32.67	335	eP	P	13 05 51.6	-1.1
	comp=Z,5.1nm,0.8s,mb4.5						
CCM	Cathedral Cave	33.31	348	⇑eP	P	13 05 56.5	-1.7
	comp=Z,18nm,0.8s,mb5.0						
GDL2	Guadalupe Moun	33.41	325	eP	P	13 05 60.0	+0.8
CPRX	Cap Rock	33.75	327	P	P	13 06 00.8	-1.3
BNM	Barren Site	36.12	325	eP	P	13 06 21.7	-0.7
LAZ	Ladron	36.60	325	eP	P	13 06 28.3	+1.8
LAZ				ePP	PP	13 07 54.0	+3.4
ANMO	Albuquerque	36.61	326	eP	P	13 06 27.8	+1.3
	comp=Z,12nm,1.1s,mb4.6						
ANMO				LR	LR		
	comp=Z,215nm,20.0s,MS3.9						
TUC	Tucson	37.42	319	eP	P	13 06 34.3	+0.9
	comp=Z,4.1nm,0.9s,mb4.3						
TUC				LR	LR		
	comp=Z,470nm,20.0s,MS4.3						
SDCO	Great Sand Dun	38.23	330	eP	P	13 06 41.9	+1.8
	comp=Z,28nm,1.2s,mb4.9						
SDCO				ePP	PP	13 08 09.3	-1.3
SDCO				LR	LR		
	comp=Z,193nm,20.0s,MS3.9						
WUAZ	Wupatki	39.87	322	eP	P	13 06 55.8	+1.9
	comp=Z,8.3nm,0.8s,mb4.5						
ISCO	Idaho Springs	39.90	332	eP	P	13 06 54.2	+0.1
	comp=Z,3.8nm,0.7s,mb4.2						
ISCO				LR	LR		
	comp=Z,194nm,20.0s,MS3.9						
CPUP	Villa Florida	40.07	143	P	P	13 06 51.5	-4.0
	comp=Z,2.7nm,0.9s,mb4.0,baz=2.5,slow=10,SNR=6.2						
CPUP				LR	LR	13 24 16.2	
	comp=Z,196nm,19.7s,MS4.0,baz=340,slow=38						
CPUP	Villa Florida	40.07	143	eP	P	13 06 51.2	-4.4
	comp=Z,4.7nm,0.9s,mb4.2						
CPUP				LR	LR		
	comp=Z,247nm,20.0s,MS4.0						
PV01	Paradox Valley	40.10	328	eP	P	13 06 57.3	+1.5
PV01				ePP	PP	13 08 31.6	-0.2
BDFB	Brasilia	40.23	122	P	P	13 06 55.9	-1.1
	comp=Z,1.4nm,0.4s,mb4.0,baz=251,slow=11,SNR=3.3						
BDFB				LR	LR	13 23 26.7	
	comp=Z,345nm,21.3s,MS4.2,baz=302,slow=36						
MDZ	Mendoza	40.39	162	eP	P	13 07 01.0	+2.9
PV10	Paradox Valley	40.53	327	eP	P	13 07 00.1	+0.9
SRU	San Rafael	41.87	327	eP	P	13 07 11.1	+0.9
NEN	Nelson	42.13	320	eP	P	13 07 14.3	+1.9
RSSD	Black Hills	42.78	337	eP	P	13 07 18.3	+0.7
	comp=Z,7.1nm,0.7s,mb4.5						
DAU	Daniels Canyon	43.19	328	eP	P	13 07 22.4	+1.4
TCUT	Toone Canyon	43.78	328	eP	P	13 07 26.3	+0.5
DUG	Dugway	43.88	326	PFAKE		13 07 40.0	+13
DUG				LR	LR		
	comp=Z,485nm,19.0s,MS4.4						
PDAR	Pinedale Array	44.08	331	P	P	13 07 28.9	+0.7
	comp=Z,2.5nm,0.9s,mb3.9,baz=124,slow=9.6,SNR=24						
PDAR				LR	LR	13 27 28.0	
	comp=Z,170nm,18.9s,MS4.0,baz=318,slow=38						
HWUT	Hardware Ranch	44.21	329	⇑eP	P	13 07 29.4	+0.1
	comp=Z,20nm,1.0s,mb4.8						
HWUT				LR	LR		
	comp=Z,416nm,21.0s,MS4.3						
TPH	Tonopah	45.12	321	eP	P	13 07 37.9	+1.3
	comp=Z,5.5nm,0.9s,mb4.4						
REDW	Red Top Meadow	45.15	331	⇑eP	P	13 07 36.7	-0.1
TPAW	Teton Pass	45.29	331	eP	P	13 07 38.9	+1.0
MOOW	Moose Ponds	45.38	331	⇑eP	P	13 07 38.7	0.0
ELK	Elko	45.62	325	eP	P	13 07 41.8	+1.2
	comp=Z,4.3nm,0.8s,mb4.4						
ULM	Lac du Bonnet	45.93	348	P	P	13 07 41.2	-1.8
	comp=Z,5.7nm,0.7s,mb4.6,baz=179,slow=6.1,SNR=6.8						
ULM	Lac du Bonnet	45.93	348	P	P	13 07 41.2	-1.8
ULM				LR	LR		
	comp=Z,196nm,22.0s,MS4.0						
OMM	Old Mammoth Mi	45.98	319	eP	P	13 07 44.5	+1.0
NVAR	Mina Array Bea	46.01	320	P	P	13 07 45.3	+1.6
	comp=Z,4.7nm,0.7s,mb4.5,baz=122,slow=8.1,SNR=48						
QLMT	Earthquake Lak	46.52	332	eP	P	13 07 48.2	+0.6
BMN	Battle Mountai	46.57	323	eP	P	13 07 49.1	+1.0
	comp=Z,18nm,1.1s,mb4.9						
BMN				LR	LR		
	comp=Z,284nm,22.0s,MS4.2						
HLID	Hailey	47.08	328	eP	P	13 07 52.7	+0.6
	comp=Z,4.4nm,0.8s,mb4.4						
HLID				LR	LR		
	comp=Z,394nm,19.0s,MS4.4						
MCMT	McKenzie Canyo	47.20	331	eP	P	13 07 54.2	+1.2
BOZ	Bozeman (W)	47.23	332	eP	P	13 07 53.4	+0.2
	comp=Z,17nm,1.2s,mb4.9						
BOZ				LR	LR		
	comp=Z,308nm,21.0s,MS4.2						
PLCA	Paso Flores	47.36	167	P	P	13 07 51.4	-3.0
	comp=Z,2.5nm,0.7s,mb4.2,baz=331,slow=11,SNR=6.3						
PLCA	Paso Flores	47.36	167	eP	P	13 07 51.2	-3.2
	comp=Z,8.3nm,1.0s,mb4.6						
TRQA	Tornquist	47.43	158	eP	P	13 07 50.9	-4.1
	comp=Z,16nm,1.2s,mb4.8						
WVOR	Wild Horse Val	48.65	325	eP	P	13 08 04.8	+0.4
	comp=Z,28nm,1.2s,mb5.2						
WVOR				LR	LR		
	comp=Z,474nm,19.0s,MS4.5						
DPW	Davenport	51.97	330	eP	P	13 08 28.8	-0.9
OCWA	Octopus Mounta	55.00	327	PFAKE		13 09 00.0	+7.9
OCWA				LR	LR		
	comp=Z,442nm,19.0s,MS4.6						
BBB	Bella Bella	59.65	329	P	P	13 09 24.9	0.0
	comp=Z,5.5nm,0.9s,mb4.6,baz=139,slow=16,SNR=3.4						
BBB				LR	LR	13 41 18.7	
	comp=Z,94nm,19.3s,MS3.9,baz=44,slow=42						
BBB	Bella Bella	59.65	329	P	P	13 09 24.9	0.0
BBB				LR	LR	13 41 18.7	
YKA	Yellowknife Ar	61.52	344	P	P	13 09 36.5	-0.9
	comp=Z,5.5nm,0.8s,mb4.7,baz=138,slow=6.6,SNR=18						
YKA				LR	LR	13 38 09.4	
	comp=Z,84nm,20.9s,MS3.9,baz=150,slow=38						
YKA	Yellowknife Ar	61.52	344	P	P	13 09 36.5	-0.9
YKA				LR	LR	13 38 09.4	
DLBC	Dease Lake	64.15	335	LR	LR	13 41 00.8	
	comp=Z,192nm,19.7s,MS4.3,baz=118,slow=39						
DLBC	Dease Lake	64.15	335	eP	P	13 09 54.8	-0.2
INK	Inuvik	71.19	342	P	P	13 10 38.9	-0.1
	comp=Z,1.7nm,0.7s,mb4.1,baz=123,slow=7.1,SNR=8.5						
INK				LR	LR	13 44 32.6	
	comp=Z,130nm,19.7s,MS4.2,baz=290,slow=38						
INK	Inuvik	71.19	342	eP	P	13 10 39.0	0.0
	comp=Z,3.1nm,0.8s,mb4.3						
SUMG	Summit	72.16	13	eP	P	13 10 44.3	-0.4
	comp=Z,13nm,0.9s,mb4.9						
DIV	Divide	72.42	333	PFAKE		13 11 00.0	+14
DIV				LR	LR		
	comp=Z,534nm,19.0s,MS4.8						
PMR	Palmer	74.09	333	PFAKE		13 11 10.0	+14
PMR				LR	LR		
	comp=Z,297nm,22.0s,MS4.5						
ILAR	Eielson Array	74.22	336	P	P	13 10 56.5	-0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=113,slow=4.4,SNR=22						
COLA	College	74.64	336	PFAKE		13 11 10.0	+11
COLA				LR	LR		
	comp=Z,174nm,19.0s,MS4.4						
MCK	McKinley	74.70	335	PFAKE		13 11 10.0	+10
MCK				LR	LR		
	comp=Z,111nm,19.0s,MS4.2						

TIC	**Toumodi**	**77.12**	**84**	*e*P	**P**	**13 11 15.9**	**+1.5**
	comp=Z,195nm,1.8s						
LIC	**Lamto**	**77.15**	**85**	*e*P	**P**	**13 11 13.4**	**-1.1**
	comp=Z,37nm,1.2s,mb5.2						
DBIC	**Dimbokro**	**77.28**	**84**	LR	LR	13 42 18.9	
	comp=Z,72nm,19.4s,MS4.0,baz=254,slow=33						
DBIC	**Dimbokro**	**77.28**	**84**	PFAKE		13 11 30.0	+15
DBIC				LR	LR		
	comp=Z,156nm,22.0s,MS4.3						
KIC	**Kosan Boka**	**77.42**	**85**	*e*P	**P**	**13 11 16.5**	**+0.5**
	comp=Z,34nm,1.1s,mb5.2						
ESDC	**Sonseca Array**	**77.78**	**51**	LR	LR	13 39 41.1	
	comp=Z,75nm,19.1s,MS4.0,baz=140,slow=31						
TNA	**Tin City**	**83.04**	**335**	PFAKE		13 12 00.0	+15
TNA				LR	LR		
	comp=Z,102nm,20.0s,MS4.2						
KBS	**Kingsbay**	**85.50**	**11**	PFAKE		13 12 10.0	+13
KBS				LR	LR		
	comp=Z,111nm,20.0s,MS4.2						
NOA	**NORSAR Array B**	**87.08**	**29**	LR	LR	13 43 22.0	
	comp=Z,32nm,20.9s,MS3.7,baz=110,slow=30						
VNA3	**Neumayer Olymp**	**89.79**	**162**	P	**P**	**13 12 18.7**	**+0.8**
VNA2	**Neumayer--Watz**	**90.41**	**161**	⇑*i*P	**P**	**13 12 19.0**	**-1.8**
VNA2	**Neumayer--Watz**	**90.41**	**161**		**P**	**13 12 23.1**	**+2.3**
SMY	**Shemya**	**93.60**	**324**	PFAKE		13 12 50.0	+14
SMY				LR	LR		
	comp=Z,325nm,20.0s,MS4.8						
QSPA	**South Pole Qui**	**95.54**	**180**	*e*P	**P**	**13 12 37.5**	**-6.8**
	comp=Z,8.1nm,0.5s,mb5.4						
QSPA				*e*		13 12 52.1	
SBA	**Scott Base**	**99.66**	**192**	PFAKE		13 13 10.0	+7.1
SBA				LR	LR		
	comp=Z,705nm,19.0s,MS5.2						
TIXI	**Tiksi**	**100.25**	**350**	PFAKE		13 13 20.0	+14
TIXI				LR	LR		
	comp=Z,48nm,20.0s,MS4.0						
TSUM	**Tsumeb**	**101.44**	**108**	PFAKE		13 13 20.0	+7.7
TSUM				LR	LR		
	comp=Z,298nm,20.0s,MS4.8						
YAK	**Yakutsk**	**108.19**	**345**	PFAKE		13 18 00.0	
YAK				LR	LR		
	comp=Z,79nm,19.0s,MS4.3						
KMBO	**Kilima Mbogo**	**119.87**	**88**	PFAKE		13 18 20.0	+8.1
KMBO				LR	LR		
	comp=Z,838nm,20.0s,MS5.4						
KURK	**Kurchatov**	**121.69**	**14**	PFAKE		13 18 20.0	+5.3
KURK				LR	LR		
	comp=Z,180nm,21.0s,MS4.7						
WMQ	**Urumqi**	**130.11**	**9**	⇑PKP	PKPdf	13 18 27.6	-3.5
WMQ				XPKP		13 18 34.9	
WMQ				PP	PP	13 20 45.4	-0.3
WMQ				LR	LR		
	comp=Z,249nm,20.4s,MS4.9						
SSE	**Sheshan**	**137.04**	**329**	PKP	PKPdf	13 18 44.4	+0.2
SSE				PP	PP	13 21 31.1	+1.5
SSE				PP	PP		
	comp=Z,19nm,9.0s						
SSE				LR	LR		
	comp=N,58nm,22.1s,MS4.3						
SSE				LR	LR		
	comp=E,36nm,22.2s,MS4.3						
SSE				LR	LR		
	comp=Z,66nm,23.3s,MS4.3						
NJ2	**Nanjing**	**137.38**	**333**	*e*PKP	PKPdf	13 18 43.4	-1.5
NJ2				XPKP		13 18 52.8	
NJ2				PP	PP	13 21 32.0	+0.1
NJ2				PKS	PKS	13 22 18.0	+0.3
NJ2				PPP	PPP	13 24 29.0	-3.9
ASAR	**Alice Springs**	**140.48**	**239**	PKP	PKPdf	13 18 47.9	-3.0
	comp=Z,0.7nm,0.8s,baz=125,slow=2.9,SNR=5.1						
WRA	**Warramunga Arr**	**141.30**	**245**	PKP	PKPdf	13 18 49.6	-2.9
	comp=Z,0.8nm,0.7s,baz=92,slow=2.8,SNR=8.5						
FITZ	**Fitzroy Crossi**	**149.68**	**243**	PKPbc	PKPdf	13 19 09.6	+3.1
	comp=Z,1.7nm,0.7s,baz=165,slow=3.3,SNR=6.1						

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*BJI **19** 13:00:06.6, 7.11S×155.66E, h69^{km}, mB5.1, mb4.9, Ms5.1, Msz4.4*

*IDC **19** 13:00:13.1±0.7, 6.25S×154.82E, h40^{km}±6^{km}, mb4.3/14, mb1 4.5/15, mb1mx4.5/16, ML3.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/23, Error ellipse: s-maj=21.3km s-min=13.4km az=116.0*

*NEIC **19** 13:00:15.9±2.3, 6.26S×154.81E, h70^{km}±20^{km}, mb4.7/20, Error ellipse: s-maj=14.5km s-min=10.1km az=104.0*

ISC 19 13:00:11.0±0.4**, 6.17S**±0.06×**154.85E**±0.06**, h38^{km}, h38^{km}**±2.2^{km}**:pP-P, n56,** σ1^{s}**05**/55**, mb4.7**/40**, MS3.9**/6**, 2C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.00**	**123**	*e*P	**P**	**13 01 42.0**	**+2.4**
HNR				*e*S	**S**	**13 02 57.0**	**+8.9**
PMG	**Port Moresby**	**8.27**	**247**	*e*Pn	**P**	**13 02 11.9**	**+0.7**
	135nm,1.3s						
PMG				*e*S	**S**	**13 03 46.6**	**+2.2**
CTA	**Charters Tower**	**16.16**	**210**	*e*P	**P**	**13 03 58.0**	**+1.0**
	5.0nm,0.7s						
CTA	**Charters Tower**	**16.16**	**210**	Pn	**P**	**13 03 57.4**	**+0.4**
	0.2nm,0.3s,baz=55,slow=15,SNR=5.0						
CTA				LR	LR	13 09 32.3	
	comp=Z,238nm,18.0s,baz=40,slow=35						
KAKA	**Kakadu**	**23.06**	**252**	*e*P	**P**	**13 05 14.3**	**0.0**
	11nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**24.16**	**234**	*e*P	**P**	**13 05 25.2**	**+0.4**
	32nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**24.16**	**234**	*e*P	**P**	**13 05 25.6**	**+0.7**
WB2				*e*PCP	PcP	13 09 05.8	-0.8
WB2				*e*S	**S**	**13 09 43.5**	**+6.0**
WB2				*e*PCS		13 12 46.0	
WRA	**Warramunga Arr**	**24.17**	**234**	P	**P**	**13 05 25.7**	**+0.7**
	4.1nm,0.4s,mb4.2,baz=58,slow=9.2,SNR=73						
WRA				pP		13 05 36.7	
	17nm,0.8s,baz=58,slow=9.6,SNR=14						
WRA				PcP	PcP	13 09 05.7	-0.8
	3.0nm,0.7s,baz=56,slow=2.3,SNR=8.4						
WRA				pPcP		13 09 18.2	
	0.7nm,0.6s,baz=51,slow=2.3,SNR=5.1						
ASAR	**Alice Springs**	**26.61**	**227**	P	**P**	**13 05 47.0**	**-1.0**
	1.9nm,0.4s,mb3.9,baz=55,slow=9.2,SNR=30						
ASAR				pP	pP	13 05 57.5	-1.0
	3.9nm,0.6s,baz=59,slow=9.2,SNR=14						
ASAR				PcP	PcP	13 09 11.2	-0.7
	3.3nm,0.6s,baz=61,slow=2.7,SNR=13						
ASAR				pPcP		13 09 23.6	
	1.4nm,0.6s,baz=65,slow=2.2,SNR=4.8						
ASAR				ScP		13 12 48.0	
	0.4nm,0.6s,baz=62,slow=2.8,SNR=4.3						
ASPA	**Alice Springs**	**26.62**	**227**	*e*P	**P**	**13 05 47.1**	**-1.0**
ASPA				*e*pP	pP	13 05 57.7	-0.8
STKA	**Stephens Creek**	**28.42**	**204**	*e*P	**P**	**13 06 02.7**	**-1.6**
	2.8nm,0.8s,mb3.9						
STKA				*e*PCP	PcP	13 09 15.1	-1.1
STKA	**Stephens Creek**	**28.42**	**204**	P	**P**	**13 06 02.8**	**-1.6**
	2.2nm,0.6s,mb4.0,baz=47,slow=11,SNR=6.4						
STKA				PcP	PcP	13 09 15.4	-0.8
	3.5nm,0.7s,baz=75,slow=3.9,SNR=5.1						
STKA				LR	LR	13 17 03.1	
	comp=Z,206nm,21.8s,MS3.7,baz=21,slow=36						
FITZ	**Fitzroy Crossi**	**30.86**	**245**	*e*P	**P**	**13 06 24.7**	**-1.5**
	4.8nm,0.8s,mb4.4						
FITZ				*e*pP	pP	13 06 33.7	-3.1
FITZ				*e*PCP	PcP	13 09 22.3	-0.2
FITZ	**Fitzroy Crossi**	**30.86**	**245**	PcP	PcP	13 09 22.1	-0.4
	3.9nm,0.8s,baz=173,slow=2.9,SNR=3.6						
FITZ				LR	LR	13 18 36.5	
	comp=Z,130nm,20.9s,MS3.6,baz=103,slow=36						
FORT	**Forrest**	**35.09**	**222**	*e*P	**P**	**13 07 01.6**	**-1.2**
	24nm,0.7s,mb5.2						
FORT				*i* pP	pP	13 07 11.5	-2.0
FORT				*e*		13 07 25.7	
RPZ	**Rata Peaks**	**40.02**	**162**	P	**P**	**13 07 43.6**	**-0.4**
	7.6nm,0.6s,mb4.6,baz=253,slow=5.1,SNR=10						
RPZ				LR	LR	13 21 15.9	
	comp=Z,274nm,19.7s,MS4.1,baz=98,slow=32						
KLBR	**Kellerberrin**	**42.91**	**229**	*e*P	**P**	**13 08 06.6**	**-1.3**
	29nm,1.4s,mb4.8						
ENH	**Enshi**	**56.57**	**312**	P	**P**	**13 09 52.2**	**-0.3**
	4.9nm,0.6s,mb4.7						
GYA	**Guiyang**	**56.84**	**307**	⇑P	**P**	**13 09 55.9**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,210nm,16.0s,MS4.6						
GYA				LR	LR		
	comp=E,320nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=Z,230nm,16.9s,MS4.3						
NANT	**Nan**	**58.84**	**296**	P	**P**	**13 10 08.7**	**+0.2**
KMI	**Kunming**	**59.43**	**304**	*e*P	**P**	**13 10 13.9**	**+1.3**
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,174nm,4.7s						
CM31	**Chiang Mai Arr**	**60.30**	**295**	*e*P	**P**	**13 10 19.2**	**+0.6**
	comp=Z,16nm,0.6s,mb5.2						
CMAR	**Chiang Mai Arr**	**60.30**	**295**	P	**P**	**13 10 19.1**	**+0.5**
	comp=Z,14nm,0.7s,mb5.1,baz=118,slow=5.2,SNR=75						
CHG	**Chiang Mai**	**60.41**	**296**	⇑P	**P**	**13 10 19.7**	**+0.3**
	comp=Z,13nm,0.9s,mb5.0						
FX1	**Attu Island--F**	**60.85**	**13**	*e*P	**P**	**13 10 22.9**	**+1.0**
HIA	**Hailar**	**63.12**	**335**	*e*P	**P**	**13 10 37.0**	**-0.1**
	comp=Z,10.0nm,0.8s,mb5.0						
MA2	**Magadan**	**65.61**	**358**	*e*P	**P**	**13 10 52.2**	**-1.0**
	comp=Z,9.5nm,0.8s,mb4.9						
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**13 11 12.4**	**+0.4**
	comp=Z,1.8nm,0.4s,mb4.3,baz=147,slow=5.3,SNR=28						
SHL	**Shillong**	**68.75**	**300**	*e*P	**P**	**13 11 13.5**	**0.0**
LSA	**Lhasa**	**70.69**	**304**	*e*P	**P**	**13 11 26.1**	**+0.9**
	comp=Z,8.2nm,0.8s,mb4.7						
VNDA	**Vanda**	**71.41**	**178**	P	**P**	**13 11 28.0**	**-0.8**
	comp=Z,1.4nm,0.9s,mb3.9,baz=325,slow=6.3,SNR=5.1						
PKI	**Pulchoki**	**74.88**	**301**	*e*P	**P**	**13 11 49.8**	**-0.2**
	comp=Z,8.4nm,0.5s,mb4.9						
KKN	**Kakani**	**75.05**	**301**	*e*P	**P**	**13 11 50.9**	**-0.1**
	comp=Z,19nm,0.7s,mb5.1						
DMN	**Daman**	**75.15**	**301**	*e*P	**P**	**13 11 52.0**	**+0.4**
	comp=Z,16nm,0.5s,mb5.2						
GKN	**Gorkha**	**75.65**	**301**	*e*P	**P**	**13 11 54.3**	**-0.2**
	comp=Z,9.0nm,0.4s,mb5.0						
KOLN	**Koldanda**	**76.48**	**300**	*e*P	**P**	**13 11 59.1**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0						
WMQ	**Urumqi**	**78.12**	**317**	*e*P	**P**	**13 12 05.8**	**-2.2**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
PMR	**Palmer**	**80.10**	**24**	*e*P	**P**	**13 12 16.0**	**-2.4**
	comp=Z,5.0nm,0.8s,mb4.5						
MCK	**McKinley**	**81.35**	**22**	*e*P	**P**	**13 12 24.5**	**-0.4**
	comp=Z,5.2nm,0.9s,mb4.5						
MCK				*e*	pP	13 12 38.8	+2.2
COLA	**College**	**82.37**	**21**	*e*P	**P**	**13 12 30.1**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**13 12 31.4**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=240,slow=5.2,SNR=45						
MKAR	**Makanchi Array**	**82.69**	**319**	P	**P**	**13 12 32.1**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.8,baz=97,slow=6.2,SNR=35						
MAW	**Mawson**	**85.10**	**203**	*e*P	**P**	**13 12 43.8**	**0.0**
	comp=Z,7.9nm,0.5s,mb5.1						
MAW	**Mawson**	**85.10**	**203**	P	**P**	**13 12 44.0**	**+0.1**
	comp=Z,9.8nm,0.6s,mb5.1,baz=99,slow=6.5,SNR=27						
KSH	**Kashi**	**85.37**	**310**	*e*P	**P**	**13 12 46.1**	**+0.3**
KSH				AMB	AMB		
	comp=Z,140nm,2.4s,mb5.7						
KSH				LR	LR		
	comp=N,190nm,4.8s						
KSH				LR	LR		
	comp=E,110nm,4.4s						
KURK	**Kurchatov**	**86.09**	**322**	*e*P	**P**	**13 12 48.5**	**-0.6**
	comp=E,7.9nm,1.1s,mb4.9						
INK	**Inuvik**	**89.00**	**21**	P	**P**	**13 13 03.4**	**+0.6**
	comp=E,1.2nm,0.6s,mb4.4,baz=210,slow=6.0,SNR=7.7						
NVAR	**Mina Array Bea**	**91.33**	**52**	P	**P**	**13 13 16.8**	**+2.4**
	comp=E,3.1nm,0.7s,mb4.8,baz=256,slow=9.0,SNR=25						
NVAR				pP	pP	13 13 28.6	+2.3
	comp=E,2.1nm,0.8s,baz=251,slow=3.5,SNR=7.1						
NVAR				LR	LR	13 47 35.7	
	comp=E,45nm,19.1s,MS3.9,baz=105,slow=31						
BRVK	**Borovoye**	**91.62**	**323**	*e*P	**P**	**13 13 13.0**	**-2.4**
	comp=E,4.3nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**92.37**	**323**	*e*P	**P**	**13 13 16.6**	**-2.2**
	comp=E,2.0nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**95.68**	**28**	P	**P**	**13 13 35.0**	**+1.4**
	comp=E,1.5nm,0.7s,mb4.6,baz=268,slow=4.6,SNR=6.4						
YKA				pP	pP	13 13 46.6	+1.1
	comp=E,1.1nm,0.6s,baz=270,slow=4.9,SNR=4.6						
YKA	**Yellowknife Ar**	**95.68**	**28**	P	**P**	**13 13 35.0**	**+1.4**
YKA				pP	pP	13 13 46.6	+1.1
PDAR	**Pinedale Array**	**98.26**	**48**	P	**P**	**13 13 46.7**	**+0.9**
	comp=E,0.6nm,0.7s,mb4.2,baz=180,slow=3.0,SNR=5.8						
PDAR				LR	LR	13 50 04.1	
	comp=E,41nm,20.8s,MS3.9,baz=72,slow=30						
KIC	**Kosan Boka**	**159.71**	**272**	*e*P	PKPab	13 20 46.5	-1.2
	comp=E,62nm,1.1s						
TIC	**Toumodi**	**159.99**	**272**	*e*P	PKPab	13 20 47.7	-1.2
	comp=E,62nm,1.2s						
LIC	**Lamto**	**159.99**	**271**	*e*P	PKPab	13 20 47.8	-1.2
	comp=E,35nm,1.1s						

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*IDC **19** 13:10:47.6±15.0, 2.14N×124.73E, h224^{km}±149^{km}, mb3.1/5, mb1 3.3/5, mb1mx3.1/16, Error ellipse: s-maj=124.0km s-min=21.9km az=56.0*

*NEIC **19** 13:11:03.1±5.7, 1.68N×124.33E, h404^{km}±68^{km}, mb3.9/7, Error ellipse: s-maj=53.6km s-min=19.4km az=76.0*

ISC 19 13:10:48.1±0.6**, 2.2N**±0.1×**124.8E**±0.3**, h250^{km}, n20,** σ**0^{s}80**/20**, mb3.9**/11**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.60**	**153**	*e*P	**P**	**13 14 28.8**	**+0.5**
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.16**	**178**	*e*P	**P**	**13 15 04.6**	**-0.3**
	1.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.16**	**178**	P	**P**	**13 15 04.7**	**-0.2**
	1.6nm,0.3s,baz=9.9,slow=10,SNR=21						
WRAB	**Tennant Creek**	**23.89**	**157**	*e*P	**P**	**13 15 41.0**	**+0.1**
	4.0nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**23.90**	**157**	P	**P**	**13 15 40.7**	**-0.2**
	0.5nm,0.5s,mb3.4,baz=338,slow=10.0,SNR=32						
WB2	**Warramunga Arr**	**23.90**	**157**	*e*P	**P**	**13 15 41.0**	**0.0**
ASAR	**Alice Springs**	**27.18**	**161**	P	**P**	**13 16 10.6**	**-0.3**
	0.2nm,0.4s,mb3.1,baz=337,slow=8.0,SNR=8.1						
STKA	**Stephens Creek**	**37.44**	**156**	P	**P**	**13 17 40.1**	**+0.8**
	0.4nm,0.4s,mb3.4,baz=319,slow=9.3,SNR=5.5						
STKA	**Stephens Creek**	**37.44**	**156**	*e*P	**P**	**13 17 38.1**	**-1.1**
BJT	**Baijiatuau**	**38.48**	**349**	P	**P**	**13 17 46.3**	**-1.5**
PKI	**Pulchoki**	**45.32**	**308**	*e*P	**P**	**13 18 56.5**	**+13**
KKN	**Kakani**	**45.52**	**308**	*e*P	**P**	**13 18 54.3**	**+9.4**
	24nm,0.8s,mb4.6						
DMN	**Daman**	**45.58**	**308**	*e*P	**P**	**13 18 55.9**	**+11**
	36nm,1.1s,mb4.6						
GKN	**Gorkha**	**46.13**	**308**	*e*P	**P**	**13 18 55.6**	**+6.0**
KOLN	**Koldanda**	**46.85**	**307**	*e*P	**P**	**13 18 56.4**	**+1.2**
MKAR	**Makanchi Array**	**57.75**	**327**	P	**P**	**13 20 15.4**	**+0.4**
	1.0nm,0.3s,mb3.9,baz=134,slow=6.1,SNR=16						
MKAR				PcP	PcP	13 21 04.5	-0.5
	0.4nm,0.5s,baz=135,slow=2.0,SNR=3.8						
MA2	**Magadan**	**60.69**	**15**	P	**P**	**13 20 36.3**	**+1.3**
	3.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**62.02**	**329**	*e*P	**P**	**13 20 42.7**	**-1.3**
	2.1nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**68.28**	**327**	*e*P	**P**	**13 21 24.0**	**+0.2**
	1.7nm,0.6s,mb3.9						
CASY	**Casey**	**69.06**	**186**	P	**P**	**13 21 20.8**	**-7.6**
	3.7nm,1.0s,mb4.0						

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*BER **19** 13:17:38.6±1.3, 59.07N×9.66E, ML2.2(NAO), Suspected explosion*

NAO 19 13:17:40.4±4.6**, 59.22N**×**9.72E, h13^{km}**±23^{km}**, ML2.2, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NB2	**NORSAR Subarra**	**1.98**	**22**	Pn	Pn	13 18 13.7	-0.3
NB2				Lg		13 18 44.2	
HFS	**Hagfors**	**2.22**	**64**	Pn	Pn	13 18 15.7	-1.7
	baz=250,slow=16						
HFS				Sn	Sn	13 18 44.3	-0.6
	baz=243,slow=28						
HFS				Lg		13 18 49.8	
	baz=240,slow=37						

HLW 19 13:43:57.2, 28.73N×28.71E, h10^{km}, Mb4.1, 2C-8D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AWBH		**0.44**	**157**	⇓P	Pg	13 44 06.0	-0.2
AWBH				S	Sg	13 44 12.3	+0.1
HFRF	**Wahat Farafira**	**1.61**	**193**	P	Pn	13 44 25.0	-1.0
HNAT	**Natroun**	**1.90**	**61**	⇓P	Pn	13 44 29.5	-0.5
HBRG	**Burj al ‘Arab**	**2.08**	**28**	P	Pn	13 44 31.9	-0.8
HBRG				S	Sn	13 44 56.8	-2.1
HBNS	**BaniSuwayf**	**2.21**	**84**	P	Pn	13 44 33.5	-0.9
FYM	**Al Fayyum**	**2.25**	**64**	⇑P	Pn	13 44 34.2	-0.9
AYT	**Al ‘Ayyat**	**2.35**	**65**	⇓P	Pn	13 44 35.4	-1.0
HSAF	**As Saff**	**2.64**	**70**	P	Pn	13 44 39.1	-1.5
SWA1		**2.68**	**282**	⇓P	Pn	13 44 39.6	-1.6
SWA1				S	Sn	13 45 10.8	-3.2
HMAT	**Matruh**	**2.74**	**330**	⇑P	Pn	13 44 40.9	-1.1
GLL	**Jalalah**	**2.75**	**71**	⇓P	Pn	13 44 40.8	-1.5
ASUT		**2.85**	**117**	P	Pn	13 44 41.9	-1.7
SWA2		**2.90**	**281**	⇓P	Pn	13 44 42.5	-1.8
AKRG	**Al Kharijah**	**3.59**	**153**	P	Pn	13 44 52.4	-1.7
GTR	**Jabal at Tayr**	**3.61**	**152**	P	Pn	13 44 52.8	-1.5
GRB	**Gharib**	**3.62**	**96**	P	Pn	13 44 52.1	-2.4
SUZ		**3.77**	**72**	P	Pn	13 44 54.7	-2.0
HHRG	**Al Ghardaqah**	**4.55**	**108**	⇓P	Pn	13 45 05.2	-2.7
HKAT	**Jabal Katrina**	**4.65**	**91**	⇓P	Pn	13 45 06.0	-3.2

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*BJI **19** 13:51:27.7, 14.19N×53.78E, h10^{km}, mB5.0, mb5.0, Ms4.5, Msz4.2*

*IDC **19** 13:51:35.4±0.6, 14.61N×54.62E, mb4.5/19, mb1 4.7/19, mb1mx4.6/22, MS4.2/18, Ms1 4.2/18, ms1mx4.1/24, Error ellipse: s-maj=21.5km s-min=13.1km az=45.0*

*HRVD **19** 13:51:37.0±0.4, 14.86N×54.40E, h12^{km}, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s31,c42;Mantle waves: s56,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.57±.11; $M_{\theta\theta}$3.57±.10; $M_{\phi\phi}$0.00±.12; $M_{r\theta}$0.69±.32; $M_{\theta\phi}$-0.69±.09; $M_{\phi r}$0.30±.38; Best double couple: $M_0$3.71×10^{16} NP1:ϕ_s107°,δ41°,λ-80°. NP2:ϕ_s274°,δ50°,λ-99°. Principal axes: T 3.75, Plg5°, Azm10°; N -.08, Plg7°, Azm279°; P -3.67, Plg82°, Azm136°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 13:51:37.0±0.2, 14.72N×54.63E, h10^{km}, mb5.0/58, MS4.2/4 Error ellipse: s-maj=6.1km s-min=4.5km az=199.0*

*SYO **19** 13:51:37.0, 14.72N×54.63E, h10^{km}, MB5.0, MS4.2*

*MOS **19** 13:51:37.4±1.0, 14.48N×54.63E, h33^{km}, mb5.3/5, Error ellipse: s-maj=19.4km s-min=8.6km az=109.4*

ISC 19 13:51:35.8±1.9**, 14.72N**±0.05×**54.59E**±0.04**, h12^{km}**±12^{km}**, h18^{km}**±2.1^{km}**:pP-P, n155,** σ**1^{s}03**/150**, mb4.8**/84**, MS4.2**/31**, 9C-7D, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**23.18**	**80**	*i* P	**P**	**13 56 45.5**	**+2.1**
HYB				*e*S	**S**	**14 01 04.0**	**+13**
KMBO	**Kilima Mbogo**	**23.29**	**229**	*e*P	**P**	**13 56 45.8**	**+1.2**
	46nm,1.5s,mb4.7						
ASF	**Jabal al Asfar**	**23.71**	**320**	P	**P**	**13 56 51.0**	**+2.5**
	7.1nm,0.7s,mb4.2,baz=38,slow=2.1,SNR=5.9						
ASF				LR	LR	14 06 43.7	
	comp=Z,930nm,19.6s,MS4.3,baz=181,slow=38						
NDI	**New Delhi**	**25.13**	**53**	*e*P	**P**	**13 57 04.0**	**+1.7**
TVAN	**Van**	**25.69**	**339**	*i* P	**P**	**13 57 11.9**	**+4.5**
BEST	**Besiri**	**25.92**	**335**	*i* P	**P**	**13 57 10.5**	**+0.9**
GNI	**Garni**	**26.76**	**343**	P	**P**	**13 57 19.8**	**+2.6**
	31nm,0.9s,mb4.8,baz=334,slow=6.1,SNR=5.6						
GNI				LR	LR	14 09 52.9	
	comp=Z,1µm,20.7s,MS4.4,baz=144,slow=41						
GNI	**Garni**	**26.76**	**343**	P	**P**	**13 57 19.8**	**+2.6**
GNI				LR	LR	14 09 52.9	
ELZG	**Elazig**	**27.40**	**333**	*i* P	**P**	**13 57 26.3**	**+3.1**
MALT	**Malatya**	**27.50**	**332**	*e*P	**P**	**13 57 26.4**	**+2.2**
	18nm,1.0s,mb4.7						
MBAR	**Mbarara**	**28.09**	**239**	*e*P	**P**	**13 57 30.4**	**+0.8**
	5.3nm,1.1s,mb4.1						
KOLN	**Koldanda**	**29.90**	**60**	*e*P	**P**	**13 57 46.4**	**+0.6**
	59nm,1.4s,mb5.1						
GKN	**Gorkha**	**30.84**	**60**	*e*P	**P**	**13 57 54.8**	**+0.7**
	20nm,0.6s,mb5.1						
BRTR	**Keskin Array B**	**30.95**	**328**	P	**P**	**13 57 55.8**	**+0.9**
	1.5nm,0.9s,mb3.8,baz=127,slow=12,SNR=4.0						
BRTR				PcP	PcP	14 00 51.4	+0.1
	1.6nm,0.9s,baz=135,slow=5.2,SNR=4.0						
BRTR				LR	LR	14 11 49.8	
	comp=Z,346nm,19.4s,MS4.0,baz=155,slow=39						
DMN	**Daman**	**31.11**	**61**	*e*P	**P**	**13 57 57.3**	**+0.8**
	37nm,1.2s,mb5.1						
KKN	**Kakani**	**31.32**	**60**	*e*P	**P**	**13 57 59.2**	**+0.9**
	39nm,0.7s,mb5.3						
PKI	**Pulchoki**	**31.36**	**61**	*e*P	**P**	**13 57 59.1**	**+0.5**
	19nm,0.8s,mb5.0						
SOC	**Sochi**	**31.46**	**339**	*e*P	**P**	**13 57 59.8**	**+0.5**
SOC				*e*		13 59 05.1	
SOC				*e*S	**S**	**14 03 06.3**	**+0.6**
SOC				*e*SS	SS	14 04 56.3	+2.7
SOC				*e*SSS	SSS	14 05 25.4	+9.4
SOC				*e*		14 08 24.0	
SOC				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.0						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,26nm,1.1s						
SOC				MLR	MLR		
	comp=Z,1µm,17.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,1µm,16.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,230nm,16.0s,MS4.7						
ESKT	**Eskisehir**	**32.31**	**324**	*i* P	**P**	**13 58 08.6**	**+1.7**
AAK	**Ala-Archa**	**32.67**	**28**	*e*P	**P**	**13 58 07.2**	**-2.7**
	comp=E,29nm,1.9s,mb4.9						
LSA	**Lhasa**	**36.80**	**60**	*e*P	**P**	**13 58 45.7**	**+0.2**
	comp=E,17nm,1.5s,mb4.6						
KIS	**Kishinev**	**38.69**	**332**	*e*P	**P**	**13 59 02.0**	**+0.8**
KIS				*e*		14 00 34.0	
KIS				*e*S	**S**	**14 05 03.0**	**+5.7**
KIS				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.2						
KIS				MLR	MLR		
	comp=Z,400nm,16.0s						
MLR	**Muntele Rosu**	**39.03**	**328**	LR	LR	14 18 44.7	
	comp=Z,326nm,18.3s,MS4.2,baz=257,slow=42						
MKAR	**Makanchi Array**	**39.46**	**30**	P	**P**	**13 59 08.3**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.2,baz=214,slow=7.8,SNR=32						
MKAR				PcP	PcP	14 01 15.3	-0.7
	comp=Z,1.5nm,0.7s,baz=2.1,slow=0.8,SNR=3.6						
MKAR				LR	LR	14 17 25.7	
	comp=Z,221nm,20.4s,MS4.0,baz=237,slow=39						
MKAR	**Makanchi Array**	**39.46**	**30**	*i* P	**P**	**13 59 08.3**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LSZ	**Lusaka**	**39.62**	**222**	*e*P	**P**	**13 59 09.7**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**39.82**	**14**	*e*P	**P**	**13 59 10.7**	**+0.2**
	comp=Z,13nm,1.2s,mb4.5						
BVAR	**Borovoye Array**	**40.21**	**15**	P	**P**	**13 59 14.3**	**+0.6**
	comp=Z,7.8nm,1.0s,mb4.4,baz=202,slow=8.0,SNR=18						
BVAR				PcP	PcP	14 01 18.2	-0.1
	comp=Z,2.8nm,0.7s,baz=225,slow=2.1,SNR=6.8						
BVAR				LR	LR	14 18 18.0	
	comp=Z,5.0nm,21.8s,baz=300,slow=40						
BRVK	**Borovoye**	**40.22**	**15**	*e*P	**P**	**13 59 11.9**	**-1.8**
	comp=Z,11nm,1.0s,mb4.5						
WMQ	**Urumqi**	**40.45**	**38**	⇑P	**P**	**13 59 17.8**	**+2.0**
WMQ				AP	pP	13 59 22.3	+2.8
WMQ				XP	sP	13 59 24.9	+3.9
WMQ				PP	PP	14 00 54.8	+2.3
WMQ				AMB	AMB		
	comp=Z,81nm,8.7s						
WMQ				LR	LR		
	comp=N,125nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=E,521nm,25.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,249nm,20.0s						
KURK	**Kurchatov**	**40.82**	**23**	*e*P	**P**	**13 59 19.0**	**+0.3**
	comp=Z,14nm,1.4s,mb4.4						
KURK				*e*PP	PP	14 01 01.3	+5.1
AKASG	**Malin Array Be**	**41.34**	**336**	P	**P**	**13 59 23.3**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.1,baz=138,slow=7.9,SNR=23						
AKASG				PcP	PcP	14 01 20.5	-1.6
	comp=Z,1.5nm,0.6s,baz=110,slow=2.4,SNR=6.6						
AKASG				LR	LR	14 19 31.5	
	comp=Z,189nm,19.2s,MS4.0,baz=160,slow=40						
ARU	**Arti**	**41.74**	**3**	⇑*i*P	**P**	**13 59 27.0**	**+0.8**

ARU				*i*		14 01 06.2	
ARU				*i*		14 01 20.4	
ARU				*e*PPP	PPP	14 01 34.7	-2.1
ARU				*e*S	**S**	**14 05 46.4**	**+3.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.1						
ARU				MLR	MLR		
	comp=Z,400nm,24.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,200nm,23.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,200nm,21.0s,MS4.1						
ARU	**Arti**	**41.74**	**3**	*e*P	**P**	**13 59 26.3**	**+0.2**
	comp=E,7.0nm,0.7s,mb4.4						
CM31	**Chiang Mai Arr**	**42.59**	**79**	*e*P	**P**	**13 59 34.4**	**+0.7**
	comp=E,8.9nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**42.59**	**79**	P	**P**	**13 59 34.1**	**+0.4**
	comp=E,8.8nm,1.1s,mb4.4,baz=276,slow=9.4,SNR=20						
CMAR				PcP	PcP	14 01 25.7	-0.9
	comp=E,1.4nm,0.7s,baz=263,slow=4.8,SNR=4.3						
CMAR				LR	LR	14 14 47.0	
	comp=E,85nm,21.2s,MS3.6,baz=265,slow=33						
OBN	**Obninsk**	**42.66**	**345**	*c i*P	**P**	**13 59 34.3**	**+0.5**
OBN				*i*	pP	13 59 39.8	+2.3
OBN				*e*		13 59 49.7	
OBN				*e*		14 01 21.2	
OBN				*e*		14 01 23.5	
OBN				*e*PPP	PPP	14 01 48.6	-0.3
OBN				*e*S	**S**	**14 05 50.1**	**-6.3**
OBN				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.5						
OBN	**Obninsk**	**42.66**	**345**	*e*P	**P**	**13 59 34.2**	**+0.3**
	comp=Z,27nm,0.7s,mb5.1						
MOS	**Moscow**	**42.97**	**346**	*e*P	**P**	**13 59 36.9**	**+0.6**
MOS				*e*		14 01 16.0	
MOS				*e*S	**S**	**14 06 03.8**	**+2.9**
MOS				pmax	pmax		
	comp=Z,72nm,0.6s,mb5.6						
KWP	**Kalwaria**	**43.44**	**330**	*e*P	**P**	**13 59 40.9**	**+0.7**
	comp=Z,17nm,1.1s,mb4.7						
VYHS	**Vyhne**	**44.70**	**326**	*e*P	**P**	**13 59 51.0**	**+0.6**
VYHS				*e*		14 00 35.0	
ZST	**Bratislava**	**45.47**	**325**	*e*P	**P**	**13 59 57.0**	**+0.5**
NVS	**Novosibirsk**	**45.80**	**23**	*i* P	**P**	**13 59 58.1**	**-0.9**
NVS				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=N,28nm,1.3s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
ARSA	**Arzberg**	**45.84**	**323**	⇑*i*P	**P**	**14 00 00.2**	**+0.7**
	comp=E,6.5nm,0.9s,mb4.6						
MORC	**Moravsky Berou**	**46.14**	**327**	*e*P	**P**	**14 00 02.1**	**+0.3**
	comp=E,17nm,1.2s,mb4.8						
KMI	**Kunming**	**46.22**	**69**	*e*P	**P**	**14 00 02.6**	**-0.2**
KMI				AP	pP	14 00 07.0	+0.5
KMI				XP	sP	14 00 09.8	+1.8
KMI				S	**S**	**14 06 48.9**	**+0.7**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,73nm,3.8s						
KMI				LR	LR		
	comp=N,226nm,16.1s,MS4.3						
KMI				LR	LR		
	comp=E,207nm,18.0s,MS4.3						
KMI				LR	LR		
	comp=Z,307nm,19.9s,MS4.2						
KMI	**Kunming**	**46.22**	**69**	*e*P	**P**	**14 00 02.6**	**-0.2**
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				pP	pP	14 00 07.0	+0.5
KMI				sP	sP	14 00 09.8	+1.8
KMI				S	**S**	**14 06 48.9**	**+0.7**
KMI				sS		14 06 55.6	
KMI				SS	SS	14 10 05.5	-0.5
KMI				LR	LR		
	comp=Z,310nm,19.9s,MS4.3						
SUW	**Suwalki**	**46.27**	**335**	*e*P	**P**	**14 00 03.2**	**+0.4**
	comp=Z,45nm,0.9s,mb5.4						
GTA	**Gaotai**	**46.55**	**49**	*e*P	**P**	**14 00 06.5**	**+1.3**
GTA				AP	pP	14 00 10.6	+1.7
GTA				XP	sP	14 00 12.6	+2.2
MOA	**Molln**	**46.88**	**323**	⇑*i*P	**P**	**14 00 08.2**	**+0.5**
	comp=Z,10nm,0.8s,mb4.8						
KBA	**Koelnbreinsper**	**47.04**	**322**	⇑*i*P	**P**	**14 00 09.7**	**+0.8**
	comp=Z,11nm,1.1s,mb4.7						
DPC	**Dobruska-Polom**	**47.11**	**327**	*e*P	**P**	**14 00 10.2**	**+0.7**
DPC				*e*AP	pP	14 00 16.0	+2.8
KSP	**Ksiaz**	**47.41**	**328**	*e*P	**P**	**14 00 12.2**	**+0.3**
KSP				*e*		14 01 59.3	
GERES	**GERESS Array B**	**47.72**	**324**	P	**P**	**14 00 13.7**	**-0.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=121,slow=7.8,SNR=7.2						
PRU	**Pruhonice**	**47.86**	**326**	*e*P	**P**	**14 00 16.2**	**+0.8**
KHC	**Kasperske Hory**	**47.94**	**325**	*e*P	**P**	**14 00 15.9**	**-0.1**
KHC				*e*AP	pP	14 00 21.0	+1.3
PVCC	**Panska Ves**	**48.14**	**327**	*e*P	**P**	**14 00 17.9**	**+0.3**
WTTA	**Wattenberg**	**48.15**	**321**	⇓*i*P	**P**	**14 00 17.3**	**-0.4**
	comp=Z,13nm,1.1s,mb4.9						
WATA	**Walderalm**	**48.22**	**322**	⇓*i*P	**P**	**14 00 18.1**	**-0.1**
	comp=Z,8.1nm,1.0s,mb4.7						
SQTA	**Sankt Quirin**	**48.39**	**321**	⇑*i*P	**P**	**14 00 19.5**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.7						
MOTA	**Moosalm**	**48.51**	**321**	⇓*i*P	**P**	**14 00 20.2**	**-0.2**
	comp=Z,9.7nm,1.0s,mb4.8						
LBTB	**Lobatse**	**48.57**	**216**	*e*P	**P**	**14 00 22.3**	**+1.1**
	comp=Z,16nm,0.8s,mb5.1						
LZH	**Lanzhou**	**48.72**	**55**	*e*P	**P**	**14 00 22.5**	**+0.2**
LZH				AP	pP	14 00 31.0	+5.0
LZH				XP	sP	14 00 35.0	+7.5
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**48.72**	**55**	*e*P	**P**	**14 00 22.5**	**+0.2**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	14 00 31.0	+5.0
LZH				sP	sP	14 00 35.0	+7.5
NKC	**Novy Kostel**	**49.13**	**325**	*e*P	**P**	**14 00 25.8**	**+0.6**
DAVA	**Damuels**	**49.23**	**321**	⇓*i*P	**P**	**14 00 25.3**	**-0.7**
	comp=Z,19nm,1.1s,mb5.0						
CLL	**Collm**	**49.40**	**327**	P	**P**	**14 00 31.0**	**+3.8**
GRA1	**Grafenberg Arr**	**49.55**	**324**	*e*P	**P**	**14 00 27.8**	**-0.6**
	comp=Z,8.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**49.55**	**324**	*e*P	**P**	**14 00 27.8**	**-0.6**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
TSUM	**Tsumeb**	**49.64**	**228**	LR	LR	14 22 44.5	
	comp=Z,707nm,18.7s,MS4.7,baz=138,slow=38						
MOX	**Moxa**	**49.80**	**325**	*i* P	**P**	**14 00 30.6**	**+0.2**
MOX				L		14 25 51.0	
MOX	**Moxa**	**49.80**	**325**	*e*P	**P**	**14 00 30.6**	**+0.2**
MOX				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.1						
GYA	**Guiyang**	**49.83**	**68**	⇓*i*P	**P**	**14 00 30.3**	**-0.6**
GYA				AP	pP	14 00 34.1	-0.5
GYA				XP	sP	14 00 36.6	+0.5
GYA				S	**S**	**14 07 39.1**	**+0.1**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,170nm,16.7s,MS4.3						
GYA				LR	LR		
	comp=E,180nm,16.9s,MS4.3						
GYA				LR	LR		
	comp=Z,170nm,17.7s,MS4.1						
MBDF	**Montbardon**	**50.19**	**317**	*e*P	**P**	**14 00 35.3**	**+1.9**
	comp=Z,15nm,0.8s,mb4.7						
LPG	**La Plagne**	**50.49**	**317**	*e*P	**P**	**14 00 34.9**	**-0.8**
	comp=Z,43nm,1.0s,mb5.1						
LPL	**La Plagne**	**50.51**	**317**	*e*P	**P**	**14 00 35.0**	**-0.8**
FINES	**FINESS Array B**	**50.95**	**343**	P	**P**	**14 00 39.0**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.8,baz=141,slow=12,SNR=20						
FINES				LR	LR	14 25 02.2	
	comp=Z,266nm,21.4s,MS4.2,baz=139,slow=39						
CDF	**Champ du Feu**	**51.29**	**321**	*e*P	**P**	**14 00 40.7**	**-1.0**
	comp=Z,29nm,0.9s,mb4.9						
CABF	**La Chapelle**	**51.33**	**319**	*e*P	**P**	**14 00 41.8**	**-0.2**
	comp=Z,40nm,0.9s,mb5.0						
KAF	**Kangasniemi**	**51.43**	**343**	*e*p	**P**	**14 00 38.8**	**-3.8**
XAN	**Xi'an**	**52.46**	**58**	P	**P**	**14 00 49.8**	**-1.0**
XAN				AP	pP	14 01 00.3	+5.7
ENH	**Enshi**	**52.55**	**63**	*e*P	**P**	**14 00 49.8**	**-1.7**
	comp=Z,26nm,1.0s,mb5.1						
MEZF	**Maizieres J'vi**	**52.69**	**320**	*e*P	**P**	**14 00 51.6**	**-0.7**
SMF	**Signal de Mont**	**52.79**	**318**	*e*P	**P**	**14 00 51.7**	**-1.3**
ZAK	**Zakamensk**	**52.92**	**37**	*e*P	**P**	**14 00 53.8**	**-0.2**
LOR	**Lormes**	**52.99**	**319**	*e*P	**P**	**14 00 53.6**	**-0.9**
	comp=Z,38nm,0.8s,mb5.1						
LOR				*e*R			
	comp=Z,127nm,21.0s						
SSF	**Saint Saulge**	**53.14**	**318**	*e*P	**P**	**14 00 54.5**	**-1.2**
	comp=Z,39nm,0.9s,mb5.0						
AVF	**Avril sur Loir**	**53.15**	**318**	*e*P	**P**	**14 00 54.4**	**-1.3**
	comp=Z,35nm,0.9s,mb5.0						
BGF	**Bois d'Agland**	**53.41**	**318**	*e*P	**P**	**14 00 56.9**	**-0.7**
	comp=Z,59nm,0.9s,mb5.2						
GIVF	**Givet**	**53.44**	**322**	*e*P	**P**	**14 00 57.0**	**-0.8**
TCF	**Toulx Ste Croi**	**53.74**	**317**	*e*P	**P**	**14 00 59.9**	**-0.1**
BAIF	**Baives**	**53.79**	**322**	*e*P	**P**	**14 00 59.7**	**-0.7**
	comp=Z,54nm,1.0s,mb5.1						
SONM	**Songino Array**	**53.86**	**41**	P	**P**	**14 01 01.3**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=243,slow=8.3,SNR=11						
ETSF	**Etsaut**	**54.72**	**312**	*e*P	**P**	**14 01 06.5**	**-0.8**
	comp=Z,47nm,1.2s,mb5.1						
SJPF	**Ste Jean**	**55.25**	**312**	*e*P	**P**	**14 01 09.3**	**-1.9**
	comp=Z,79nm,1.3s,mb5.3						
HHC	**Hu-ho-hao-te**	**55.62**	**50**	*e*P	**P**	**14 01 12.1**	**-1.8**
HHC				S	**S**	**14 09 09.4**	**+12**
HHC				XS		14 09 18.6	
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,65nm,6.3s						
HHC				LR	LR		
	comp=N,194nm,11.9s						
HHC				LR	LR		
	comp=E,258nm,17.8s						
HHC				LR	LR		
	comp=Z,219nm,23.8s						
NB2	**NORSAR Subarra**	**55.74**	**336**	P	**P**	**14 01 12.5**	**-2.0**
	comp=Z,3.7nm,0.8s,mb4.5,baz=119,slow=7.4						
NB2	**NORSAR Subarra**	**55.74**	**336**	P	**P**	**14 01 12.5**	**-2.0**
	baz=119,slow=7.9						
NOA	**NORSAR Array B**	**55.74**	**336**	P	**P**	**14 01 13.4**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=118,slow=7.6,SNR=19						
NOA				LR	LR	14 28 15.6	
	comp=Z,300nm,19.6s,MS4.4,baz=125,slow=39						
NOA	**NORSAR Array B**	**55.74**	**336**	P	**P**	**14 01 13.4**	**-1.0**
NOA				LR	LR	14 28 15.6	
LDF	**La Druitiere**	**55.95**	**319**	*e*P	**P**	**14 01 14.7**	**-1.4**
	comp=Z,57nm,1.0s,mb5.3						
FLN	**La Foliniere**	**56.23**	**319**	*e*P	**P**	**14 01 16.6**	**-1.5**
FLN				*e*R			
	comp=Z,185nm,19.8s						
ESDC	**Sonseca Array**	**56.62**	**308**	P	**P**	**14 01 20.7**	**-0.4**
	comp=Z,13nm,1.0s,mb4.9,baz=89,slow=6.4,SNR=21						
ESLA	**Sonseca Array**	**56.62**	**308**	*e*P	**P**	**14 01 20.7**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.3						
WHN	**Wuhan**	**56.76**	**63**	*e*P	**P**	**14 01 20.6**	**-1.6**
SGMF	**Saint Gilles**	**57.41**	**318**	*e*P	**P**	**14 01 24.6**	**-2.0**
	comp=Z,49nm,1.0s,mb5.2						
KEV	**Kevo**	**57.64**	**349**	*e*p	**P**	**14 01 24.0**	**-3.9**
ARCES	**ARCESS Array B**	**57.74**	**348**	P	**P**	**14 01 27.8**	**-0.8**
	comp=Z,9.6nm,0.8s,mb4.9,baz=149,slow=6.3,SNR=32						
ARCES				LR	LR	14 31 27.0	
	comp=Z,267nm,18.1s,MS4.4,baz=90,slow=41						
ARE0	**ARCESS Array S**	**57.74**	**348**	*e*P	**P**	**14 01 27.6**	**-1.0**
ROSF	**Rostrenen**	**57.89**	**318**	*e*P	**P**	**14 01 28.6**	**-1.3**
	comp=Z,55nm,1.1s,mb5.2						
KIC	**Kosan Boka**	**58.78**	**269**	*e*P	**P**	**14 01 36.6**	**0.0**
	comp=Z,134nm,1.7s,mb5.7						
DBIC	**Dimbokro**	**58.82**	**269**	P	**P**	**14 01 36.9**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=55,slow=9.9,SNR=6.2						
DBIC				LR	LR	14 25 35.1	
	comp=Z,86nm,18.9s,MS3.9,baz=248,slow=35						
BJT	**Baijiatuau**	**58.97**	**52**	P	**P**	**14 01 37.5**	**-0.1**
BJI	**Beijing**	**58.98**	**52**	P	**P**	**14 01 37.8**	**+0.1**
BJI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=Z,160nm,26.1s,MS4.0						
BJI	**Beijing**	**58.98**	**52**	P	**P**	**14 01 37.8**	**+0.1**
	comp=Z,15nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=Z,160nm,26.1s,MS4.0						
TIC	**Toumodi**	**58.99**	**269**	*e*P	**P**	**14 01 38.1**	**0.0**
	comp=Z,27nm,0.7s,mb5.4						
LIC	**Lamto**	**59.09**	**268**	*e*P	**P**	**14 01 38.8**	**0.0**
	comp=Z,36nm,1.2s,mb5.3						
LIC	**Lamto**	**59.09**	**268**	*e*P	**P**	**14 01 38.5**	**-0.3**
	comp=Z,20nm,0.9s,mb4.8						
TRO	**Tromso**	**59.22**	**346**	AMS	AMS	14 30 12.9	
	comp=Z,204nm,19.9s,MS4.2						
BOD	**Bodaibo**	**61.52**	**32**	*e*P	**P**	**14 01 52.2**	**-2.6**
SSE	**Sheshan**	**62.64**	**62**	P	**P**	**14 02 02.4**	**-0.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.6						
SSE				AMB	AMB		
	comp=Z,180nm,3.7s						
SSE	**Sheshan**	**62.64**	**62**	P	**P**	**14 02 02.4**	**-0.3**
	comp=Z,30nm,0.6s,mb5.6						
HIA	**Hailar**	**62.79**	**42**	P	**P**	**14 02 02.7**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.6						
CN2	**Changchun**	**66.17**	**48**	*e*P	**P**	**14 02 25.6**	**+0.1**
KBS	**Kingsbay**	**67.33**	**352**	*e*PP	PP	14 04 58.0	-4.6
KBS				*e*S	S	14 11 26.4	+0.5
KBS				AMS	AMS	14 36 28.9	
	comp=Z,249nm,18.0s,MS4.5						
JMIC	**Jan Mayen**	**67.54**	**342**	AMS	AMS	14 35 42.7	
	comp=Z,83nm,18.5s,MS4.0						
YAK	**Yakutsk**	**70.12**	**29**	*d i*P	**P**	**14 02 48.3**	**-1.4**
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3						
YAK				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.3						
YAK	**Yakutsk**	**70.12**	**29**	*e*P	**P**	**14 02 48.2**	**-1.5**
	comp=Z,34nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**76.27**	**130**	P	**P**	**14 03 25.2**	**-1.2**
	comp=Z,14nm,0.8s,mb4.9,baz=120,slow=3.7,SNR=7.4						
NWAO				LR	LR	14 30 37.8	
	comp=Z,106nm,19.4s,MS4.2,baz=220,slow=31						
NWAO	**Narrogin (SRO)**	**76.27**	**130**	*e*P	**P**	**14 03 24.9**	**-1.4**
	comp=Z,26nm,1.0s,mb5.1						
SUMG	**Summit**	**76.98**	**342**	*e*P	**P**	**14 03 30.9**	**+1.3**
	comp=Z,11nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**77.23**	**113**	*e*P	**P**	**14 03 31.1**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**77.23**	**113**	P	**P**	**14 03 31.1**	**-0.9**
	comp=Z,5.6nm,0.8s,mb4.5,baz=305,slow=1.5,SNR=13						
KAKA	**Kakadu**	**81.70**	**105**	*e*P	**P**	**14 03 55.9**	**-0.3**
	comp=Z,17nm,0.6s,mb5.2						
MAW	**Mawson**	**82.32**	**177**	P	**P**	**14 03 59.4**	**+1.1**
	comp=Z,3.5nm,0.9s,mb4.3,baz=348,slow=11,SNR=3.8						
MAW				LR	LR	14 32 03.1	
	comp=Z,309nm,20.6s,MS4.7,baz=50,slow=30						
MAW	**Mawson**	**82.32**	**177**	*e*P	**P**	**14 03 59.8**	**+1.5**
	comp=Z,4.9nm,0.9s,mb4.4						
SYO	**Syowa Base**	**84.19**	**185**	⇑P	**P**	**14 04 08.9**	**+1.1**
SYO	**Syowa Base**	**84.19**	**185**	⇑pP	pP	14 04 12.6	+0.8
SYO	**Syowa Base**	**84.19**	**185**	⇓PcP	PcP	14 04 17.0	+4.8
WRA	**Warramunga Arr**	**85.62**	**112**	P	**P**	**14 04 15.5**	**-0.6**
	comp=Z,10nm,0.8s,mb5.1,baz=297,slow=4.0,SNR=74						
WRAB	**Tennant Creek**	**85.62**	**112**	*e*P	**P**	**14 04 15.9**	**-0.2**
	comp=Z,24nm,0.8s,mb5.5						
WRAB				*e*	pP	14 04 21.4	+1.3
WB2	**Warramunga Arr**	**85.63**	**112**	*e*P	**P**	**14 04 15.6**	**-0.5**
ASPA	**Alice Springs**	**86.34**	**115**	*e*P	**P**	**14 04 19.1**	**-0.5**
ASAR	**Alice Springs**	**86.34**	**115**	P	**P**	**14 04 19.1**	**-0.5**
	comp=Z,7.9nm,0.8s,mb5.0,baz=291,slow=4.7,SNR=59						
ASAR				LR	LR	14 34 33.2	
	comp=Z,103nm,22.0s,MS4.2,baz=197,slow=30						
MAIT	**Maitri**	**90.19**	**193**	*e*P	**P**	**14 04 39.0**	**+2.1**
SCHQ	**Schefferville**	**94.93**	**330**	LR	LR	14 50 31.9	
	comp=Z,89nm,19.8s,MS4.2,baz=209,slow=37						
SCHQ	**Schefferville**	**94.93**	**330**	*e*P	**P**	**14 04 58.4**	**-0.7**
	comp=Z,4.6nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**95.14**	**121**	LR	LR	14 42 33.9	
	comp=Z,247nm,21.6s,MS4.6,baz=205,slow=32						
CTAO	**Charters Tower**	**96.46**	**109**	P	**P**	**14 05 02.8**	**-4.1**
	comp=Z,17nm,1.3s,mb5.3						
ILAR	**Eielson Array**	**99.08**	**9**	LR	LR	15 00 09.5	
	comp=Z,72nm,18.5s,MS4.2,baz=348,slow=42						
PDAR	**Pinedale Array**	**120.97**	**346**	PKP	PKPdf	14 10 29.8	-2.1
	comp=Z,1.2nm,0.8s,baz=39,slow=3.3,SNR=13						
HWUT	**Hardware Ranch**	**122.52**	**348**	*e*PKPdf	PKPdf	14 10 33.3	-1.5
PV10	**Paradox Valley**	**125.00**	**344**	*e*PKPdf	PKPdf	14 10 37.2	-2.5
NVAR	**Mina Array Bea**	**126.71**	**353**	PKP	PKPdf	14 10 43.0	+0.1
	comp=Z,5.2nm,0.7s,baz=59,slow=2.6,SNR=46						
TXAR	**Lajitas Array**	**131.43**	**334**	PKP	PKPdf	14 10 51.0	-1.4
	comp=Z,0.5nm,0.4s,baz=90,slow=1.3,SNR=4.6						

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*IDC **19** 13:54:42.5±1.7, 14.64N×54.73E, mb4.0/6, mb1 4.1/6, mb1mx3.8/18, Error ellipse: s-maj=61.5km s-min=28.4km az=65.0*

ISC 19 13:54:41.3±1.9,**14.6N**±0.3×**54.5E**±0.4,**h10**^{km},**n7,**σ**0**^{s}**56**/6, **mb4.0**/6,**Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.64**	**30**	P	**P**	**14 02 15.3**	**+0.3**
	0.9nm,0.5s,mb3.8,baz=214,slow=10,SNR=6.2						
BVAR	**Borovoye Array**	**40.38**	**15**	P	**P**	**14 02 20.6**	**-0.4**
	1.0nm,0.6s,mb3.8,baz=191,slow=7.3,SNR=3.2						
FINES	**FINESS Array B**	**51.04**	**343**	P	**P**	**14 03 46.1**	**+0.6**
	2.9nm,1.0s,mb4.2,baz=158,slow=10,SNR=4.4						
ARCES	**ARCESS Array B**	**57.84**	**348**	P	**P**	**14 04 34.7**	**-0.6**
	1.2nm,0.8s,mb4.0,baz=158,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**85.69**	**112**	P	**P**	**14 07 22.4**	**0.0**
	1.1nm,0.9s,mb4.1,baz=293,slow=3.9,SNR=5.3						
ASAR	**Alice Springs**	**86.41**	**115**	P	**P**	**14 07 25.9**	**0.0**
	0.8nm,0.7s,mb4.1,baz=287,slow=4.4,SNR=5.7						
NVAR	**Mina Array Bea**	**126.83**	**353**	PKP	PKPdf	14 13 50.2	+1.4
	0.2nm,0.3s,SNR=2.9						

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*THE **19** 14:08:23.2, 37.33N×20.59E, h20^{km}, ML3.9*
*ATH **19** 14:08:23.8, 37.52N×20.65E, h23^{km}±4^{km}, MD3.7/10, ML3.8*
*IDC **19** 14:08:24.2±1.5, 37.28N×20.41E, h56^{km}±26^{km}, mb3.6/4, mb1 3.8/9, mb1mx3.5/24, ML4.2/4, Error ellipse: s-maj=28.3km s-min=10.7km az=20.0*

ISC 19 14:08:20.8±0.6,**37.36N**±0.04×**20.46E**±0.05,**h20**^{km},**n36,** σ**1**^{s}**10**/43,**mb3.8**/4,**1D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.82**	**7**	*e*PN	**Pn**	**14 08 36.7**	**-0.6**
RLS	**Riolos of Patr**	**1.06**	**49**	*e*PN	**Pn**	**14 08 40.5**	**-0.2**
LKD	**Levkas**	**1.35**	**6**	*e*Pb	**Pb**	**14 08 45.9**	**+0.6**
LKD				*e*Sb	**Sb**	**14 09 03.3**	**+1.1**
EVR	**Evrytania**	**1.88**	**34**	⇓*i*PN	**Pn**	**14 08 54.7**	**+2.2**
IGT	**Igoumenitsa**	**2.17**	**357**	*e*Pn	**Pn**	**14 08 58.1**	**+1.5**
IGT				*e*Sn	**Sn**	**14 09 23.9**	**+0.8**
AGG	**Agios Georgios**	**2.22**	**41**	*e*Pn	**Pn**	**14 08 58.7**	**+1.4**
	comp=Z,14nm,0.2s						
AGG				*e*Sn	**Sn**	**14 09 23.0**	**-1.4**
KYTH	**Kithira**	**2.33**	**117**	*e*PB	**Pb**	**14 09 02.6**	**+0.5**
MKIT	**Kithairon Oros**	**2.37**	**69**	*e*PN	**Pn**	**14 09 00.5**	**+1.1**
LKR	**Lokris**	**2.38**	**57**	*e*PN	**Pn**	**14 09 00.5**	**+0.9**
ATH	**Athens Observa**	**2.66**	**76**	*e*PN	**Pn**	**14 09 03.6**	**+0.1**
MPAR	**Parnis Oros**	**2.71**	**72**	*e*PB	**Pb**	**14 09 06.5**	**-2.1**
PTL	**Penteli**	**2.79**	**75**	*e*PN	**Pn**	**14 09 06.3**	**+0.9**
NEO	**Neokhori**	**2.92**	**47**	*e*PN	**Pn**	**14 09 07.6**	**+0.4**
XOR	**Xorichti**	**2.94**	**46**	*e*Pn	**Pn**	**14 09 07.8**	**+0.3**
KZN	**Kozani**	**3.12**	**19**	*e*PN	**Pn**	**14 09 12.0**	**+2.0**
LIT	**Litokhoron**	**3.16**	**30**	*e*Pn	**Pn**	**14 09 11.1**	**+0.3**
	comp=Z,6.4nm,0.3s						
LIT				*e*Sn	**Sn**	**14 09 47.2**	**-1.1**
AOS	**Alonnisos**	**3.24**	**55**	*e*Pn	**Pn**	**14 09 11.8**	**-0.1**
FNA	**Florina**	**3.49**	**12**	*e*Pn	**Pn**	**14 09 16.4**	**+1.0**
PAIG	**Paliouri**	**3.59**	**44**	*e*Pn	**Pn**	**14 09 16.3**	**-0.5**
PLG	**Polygyros**	**3.81**	**37**	*e*PN	**Pn**	**14 09 19.4**	**-0.4**
GRG	**Griva**	**3.90**	**22**	*e*Pn	**Pn**	**14 09 21.2**	**+0.1**
OUR	**Ouranopolis**	**4.05**	**42**	*e*Pn	**Pn**	**14 09 22.9**	**-0.4**
SOH	**Sokhos**	**4.12**	**32**	*e*Pn	**Pn**	**14 09 24.9**	**+0.5**
SOH				*e*Sn	**Sn**	**14 10 10.4**	**-2.2**
IDI	**Anoyia**	**4.13**	**119**	P	**Pn**	**14 09 26.3**	**+1.8**
	0.4nm,0.3s,baz=265,slow=11,SNR=3.9						
IDI				S	**Sn**	**14 10 12.1**	**-0.8**
	4.1nm,0.3s,baz=332,slow=21,SNR=11						
KNT	**Kendrikon**	**4.24**	**26**	*e*Pn	**Pn**	**14 09 26.1**	**+0.1**
LOS	**Limnos**	**4.44**	**53**	*e*Pn	**Pn**	**14 09 28.2**	**-0.6**
SRS	**Serrai**	**4.47**	**32**	*e*Pn	**Pn**	**14 09 29.2**	**-0.1**
SKO	**Skopje**	**4.67**	**9**	*e*Pn	**Pn**	**14 09 40.0**	**+7.9**
SKO				*i*		14 09 50.0	
VAE	**Valguarnera**	**4.81**	**273**	P	**Pn**	**14 09 34.4**	**+0.3**
	5.5nm,0.3s,baz=315,slow=23,SNR=6.8						
VAE				S	**Sn**	**14 10 29.5**	**-0.6**
	15nm,0.3s,baz=52,slow=3.2,SNR=4.3						
MLR	**Muntele Rosu**	**9.11**	**25**	P	**P**	**14 10 35.7**	**+1.4**
	0.4nm,0.3s,baz=195,slow=12,SNR=7.0						
GERES	**GERESS Array B**	**12.49**	**339**	P	**P**	**14 11 18.4**	**-1.9**
	0.6nm,0.3s,baz=153,slow=11,SNR=5.8						
AKASG	**Malin Array Be**	**14.73**	**22**	P	**P**	**14 11 48.6**	**-1.3**
	1.5nm,0.3s,baz=206,slow=11,SNR=7.2						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**14 13 26.0**	**-1.0**
	0.7nm,0.4s,mb3.4,baz=175,slow=17,SNR=3.5						
FINES	**FINESS Array B**	**24.36**	**7**	P	**P**	**14 13 37.4**	**-0.9**
	7.1nm,1.1s,mb4.0,baz=175,slow=15,SNR=4.5						
ARCES	**ARCESS Array B**	**32.35**	**3**	P	**P**	**14 14 49.0**	**-1.6**
	1.2nm,0.9s,mb3.7,baz=195,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**14 16 40.3**	**-2.4**
	0.6nm,0.4s,mb3.9,baz=274,slow=7.4,SNR=11						

IDC 19 14:19:56.2±12.0,**6.87S**×**122.83E,mb4.3**/1,**mb1 3.5**/4, **mb1mx3.4**/15,**ML2.8**/3,**Error ellipse: s-maj=188.0km s-min=123.5km az=111.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.50**	**166**	Pn	P	14 22 41.2	-3.6
	0.1nm,0.3s,baz=347,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**17.14**	**140**	P	P	14 23 56.6	-2.2
	0.0nm,0.3s,baz=321,slow=14,SNR=3.9						
ASAR	**Alice Springs**	**19.81**	**149**	P	P	14 24 30.0	-1.3
	0.0nm,0.3s,baz=318,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**30.43**	**147**	P	P	14 26 10.0	-2.7
	3.3nm,0.8s,baz=323,slow=15,SNR=6.1						

DJA 19 14:44:30.3±0.9,**8.98S**×**114.97E,h96**^{km}±6^{km},**MD5.1**/4, **ML4.2**/2,**5C-3D,Error ellipse: s-maj=28.3km s-min=9.7km az=14.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.24**	**47**	⇑*e*Pg	P	14 44 44.0	-0.2
	1µm,0.2s						
INGI				⇓*e*Sg	S	14 44 53.4	-1.4
RATI	**Rata**	**0.61**	**65**	⇓*e*Pg	P	14 44 46.8	0.0
	1µm,0.2s						
RATI				⇑*e*Sg	S	14 44 58.2	-0.9
KELI	**Kelakatan**	**0.89**	**328**	⇑*e*Pg	P	14 44 49.0	-0.5
	332nm,0.2s						
KELI				⇑*e*Sg	S	14 45 03.4	-0.5
KEDI	**Kedomdong**	**1.23**	**67**	⇑*e*Pg	P	14 44 52.5	-1.1
	312nm,0.2s						
KEDI				⇓*e*Sg	S	14 45 09.0	-2.0

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*BJI **19** 15:01:47.6, 0.98N×128.06E, h118^{km}, mB4.5, mb4.6*
*IDC **19** 15:01:56.6±3.2, 1.72N×127.27E, h114^{km}±29^{km}, mb3.9/11, mb1 4.0/12, mb1mx3.9/19, Error ellipse: s-maj=35.8km s-min=12.6km az=73.0*
*NEIC **19** 15:01:56.7±2.6, 1.79N×127.48E, h118^{km}±26^{km}, mb4.3/16, Error ellipse: s-maj=17.6km s-min=7.2km az=69.0*

ISC 19 15:01:55.6±2.9,**1.78N**±0.07×**127.4E**±0.2,**h122**^{km}±28^{km}, **h92**^{km}±7.5^{km}**:pP-P,n38,**σ**0**^{s}**99**/37,**mb4.4**/22,**1C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.21**	**161**	*e*P	**P**	**15 05 26.0**	**+0.8**
	5.7nm,0.6s						
KAKA				*e*		15 05 29.4	
FITZ	**Fitzroy Crossi**	**19.83**	**185**	*e*P	**P**	**15 06 17.9**	**-1.1**
	4.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.83**	**185**	P	**P**	**15 06 17.5**	**-1.6**
	1.3nm,0.3s,baz=14,slow=9.0,SNR=26						
WRAB	**Tennant Creek**	**22.62**	**163**	*e*P	**P**	**15 06 47.6**	**+0.7**
	29nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**22.63**	**163**	P	**P**	**15 06 47.7**	**+0.7**
	12nm,0.4s,mb4.6,baz=340,slow=11,SNR=227						
WB2	**Warramunga Arr**	**22.63**	**163**	*e*P	**P**	**15 06 47.9**	**+0.8**
WB2				*e*		15 06 54.8	
QIZ	**Qiongzhong**	**24.29**	**316**	*e*P	**P**	**15 07 02.9**	**-0.1**
	10nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**26.07**	**166**	P	**P**	**15 07 19.3**	**-0.4**
	2.1nm,0.4s,mb3.9,baz=345,slow=8.2,SNR=60						
ASAR				ScP		15 14 12.8	
	0.5nm,0.8s,baz=359,slow=4.0,SNR=4.2						
ASPA	**Alice Springs**	**26.07**	**166**	*e*P	**P**	**15 07 19.4**	**-0.3**
CTA	**Charters Tower**	**28.53**	**141**	P	**P**	**15 07 41.5**	**-0.5**

	2.7nm,0.9s,mb3.9,baz=319,slow=9.3,SNR=2.6						
CTAO	Charters Tower	28.53	141	*e*P	P	15 07 41.5	-0.6
	4.3nm,1.0s,mb4.0						
NJ2	Nanjing	31.18	346	*e*P	P	15 08 06.0	+0.6
NJ2				AP	pP	15 08 28.5	-3.7
NJ2				S	S	15 13 04.0	+3.0
NJ2				LR	LR		
	comp=N,1µm,15.1s						
NJ2				LR	LR		
	comp=E,1µm,14.3s						
NJ2				LR	LR		
	comp=Z,1µm,14.7s						
CM31	Chiang Mai Arr	32.46	303	P	P	15 08 18.5	+1.9
	comp=Z,6.1nm,0.9s,mb4.3						
KMI	Kunming	33.24	316	*e*P	P	15 08 24.3	+1.0
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
KMI	Kunming	33.24	316	*e*P	P	15 08 24.2	+0.9
	comp=Z,4.0nm,0.9s,mb4.2						
KMI				pP	pP	15 08 41.9	-8.5
KLBR	Kellerberrin	34.42	195	*e*P	P	15 08 32.6	-0.8
	comp=Z,165nm,1.9s,mb5.5						
MUN	Mundaring	35.21	197	*e*P	P	15 08 39.4	-0.6
	comp=Z,18nm,1.7s,mb4.6						
KS15	Wonju Array Si	35.50	1	P	P	15 08 37.2	-5.2
NWAO	Narrogin (SRO)	35.83	195	P	P	15 08 44.5	-0.7
	comp=Z,10nm,0.9s,mb4.8,baz=18,slow=9.6,SNR=3.8						
MAJO	Matsushiro	36.01	15	P	P	15 08 44.0	-2.8
	comp=Z,29nm,1.4s,mb5.0						
STKA	Stephens Creek	36.08	159	*e*P	P	15 08 47.7	+0.4
	comp=Z,11nm,0.9s,mb4.8						
STKA	Stephens Creek	36.08	159	P	P	15 08 47.7	+0.4
	comp=Z,8.9nm,0.7s,mb4.8,baz=331,slow=9.1,SNR=28						
SONM	Songino Array	49.35	341	P	P	15 10 33.0	-1.5
	comp=Z,1.0nm,0.7s,mb3.8,baz=162,slow=9.1,SNR=3.3						
WMQ	Urumqi	54.70	325	⇓P	P	15 11 15.3	+0.8
WMQ				AP	pP	15 11 39.5	-4.0
WMQ				XP	sP	15 11 52.4	-4.6
WMQ				PCP	PcP	15 12 16.8	+1.3
WMQ				PP	PP	15 13 20.6	+0.9
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=E,36nm,20.0s						
WMQ				LR	LR		
	comp=Z,26nm,19.8s						
DGAR	Diego Garcia	55.57	260	*e*P	P	15 11 30.3	+9.1
	comp=Z,660nm,1.4s						
MKAR	Makanchi Array	59.53	326	P	P	15 11 48.5	0.0
	comp=Z,3.9nm,0.6s,mb4.6,baz=122,slow=8.4,SNR=36						
KURK	Kurchatov	63.74	328	*e*P	P	15 12 16.3	-0.3
	comp=Z,9.3nm,0.7s,mb4.7						
BVAR	Borovoye Array	69.31	327	P	P	15 12 51.3	-0.5
	comp=Z,0.8nm,0.5s,mb3.8,baz=121,slow=8.6,SNR=5.9						
BRVK	Borovoye	69.39	327	*e*P	P	15 12 50.7	-1.5
	comp=Z,2.0nm,0.8s,mb4.0						
ZRNK	Zerenda	70.04	327	*e*P	P	15 12 55.5	-0.6
	comp=Z,1.2nm,0.5s,mb4.0						
VNDA	Vanda	81.42	173	P	P	15 14 00.1	+0.2
	comp=Z,0.8nm,0.5s,mb3.8,baz=315,slow=4.8,SNR=7.6						
VNDA	Vanda	81.42	173	*e*P	P	15 14 00.1	+0.1
	comp=Z,1.6nm,0.8s,mb3.9						
MAW	Mawson	82.17	200	P	P	15 14 04.2	+0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=58,slow=9.1,SNR=4.4						
MAW	Mawson	82.17	200	*e*P	P	15 14 04.6	+0.7
	comp=Z,4.7nm,1.0s,mb4.3						
ILAR	Eielson Array	86.57	25	P	P	15 14 28.3	+2.4
	comp=Z,0.2nm,0.6s,baz=221,slow=8.3,SNR=3.9						
QSPA	South Pole Qui	91.69	180	*e*P	P	15 14 50.2	+0.4
	comp=Z,3.7nm,1.2s,mb4.5						
SNAA	Sanae	103.50	194			15 20 02.9	
VNA2	Neumayer--Watz	105.10	194	⇑*i*		15 20 06.5	

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*NAO **19** 15:12:16.8±1.8, 61.67N×23.02E, ML2.2*
*HEL **19** 15:12:18.0±0.2, 61.59N×23.06E, ML2.2(NAO), Explosion*
*BER **19** 15:12:18.9±3.7, 61.60N×23.09E, ML2.2(NAO), Suspected explosion*
ISC 19 15:12:14.8±0.7, **61.72N**±0.06×**22.94E**±0.08, **n8**, σ**1^{s}46**/16, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.53	99	*e*P	Pn	15 12 44.1	+0.6
FIA0				*e*S	Sb	15 13 02.2	-1.3
FIA0	FINESS Array S	1.53	99	Pn	Pn	15 12 44.0	+0.6
	baz=263,slow=16						
FIA0				Lg		15 13 03.9	
KAF	Kangasniemi	1.64	75	*e*P	Pn	15 12 47.1	+2.0
KAF				*e*S	Sb	15 13 09.0	+2.2
PVF	Pernaja	1.84	128	*e*S	Sn	15 13 10.3	-2.0
HFS	Hagfors	4.78	255	Pn	Pn	15 13 31.1	+1.3
	baz=66,slow=11						
HFS				Sn	Sn	15 14 26.4	-0.4
	baz=69,slow=22						
HFS				Lg		15 14 46.0	
	baz=77,slow=37						
HFS	Hagfors	4.78	255	*e*P	Pn	15 13 31.1	+1.3
HFS				*e*S	Sn	15 14 26.4	-0.4
HFS				*e*SG	Sg	15 14 46.0	-8.0
ARA0	ARCESS Array S	7.92	7	Pn	Pn	15 14 13.7	-0.3
	baz=181,slow=16						
ARA0				Sn	Sn	15 15 43.5	-1.9
	baz=192,slow=22						
ARA0				Lg		15 16 24.8	
	baz=180,slow=37						
ARA0	ARCESS Array S	7.92	7	*e*P	Pn	15 14 13.7	-0.3
ARA0				*e*S	Sn	15 15 43.5	-1.9
ARA0				*e*SG	Sg	15 16 24.8	-14

NEIC 19 15:19:01.5, 50.77N×179.56E, h22^{km}, ML3.5(AEIC), **After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.25	62	P	Pn	15 19 36.2	-2.0
KIMD				S	Sn	15 20 04.6	-0.9
KIWB	Kanaga Island	2.33	61	P	Pn	15 19 37.2	-2.2
KIKV	Kanaga Island	2.34	60	P	Pn	15 19 37.2	-2.2
KINC	Kanaga Island	2.38	59	P	Pn	15 19 37.8	-2.3
KINC				S	Sn	15 20 06.5	-2.4
GSTD	Great Sitkin T	2.98	63	P	Pn	15 19 47.0	-1.7
GSTD				S	Sn	15 20 20.1	-4.1
GSMY	Great Sitkin M	3.03	63	P	Pn	15 19 46.8	-2.5
GSTR	Great Sitkin T	3.05	62	P	Pn	15 19 47.2	-2.3
GSIG	Igitkin Island	3.08	65	P	Pn	15 19 48.1	-2.0
GSIG				S	Sn	15 20 22.1	-4.5
ATKA	Atka Island	4.16	67	P	Pn	15 20 03.1	-2.3
ATKA				S	Sn	15 20 49.7	-4.3
FX1	Attu Island--F	4.50	301	P	Pn	15 20 07.1	-3.0

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*MOS **19** 15:27:32.1±3.1, 52.54N×109.16E, h15^{km}, mb4.3/1, Error ellipse: s-maj=33.1km s-min=20.5km az=52.4*
BYKL 19 15:27:32.1±0.3, **52.57N×109.17E, h21**^{km}±12^{km}, **5C-8D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXMB	Maximikha	0.74	340	⇑*i*Pg	Pb	15 27 46.5	+0.3
MXMB				*e*Sg	Sb	15 27 56.8	+1.0
MXMB				Pmax			
	428nm,0.1s						
MXMB				Smax			
	2µm,0.6s						
TRTB	Turuntaevo	1.00	251	⇑*i*Pg	Pb	15 27 50.5	-0.2
	107nm,0.4s						
TRTB				⇑*i*Pg	Pb	15 27 50.5	-0.2
	206nm,0.4s						
TRTB				⇓*i*Pg	Pb	15 27 50.5	-0.2
	199nm,0.4s						
TRTB				*i* Sg	Sb	15 28 04.4	+1.0
TRTB				Pmax			
	234nm,0.2s						
TRTB				Smax			
	819nm,0.8s						
SYVR	Suvo	1.20	24	⇓*i*Pg	Pn	15 27 53.4	-0.4
	146nm,0.4s						
SYVR				⇓*i*Pg	Pn	15 27 53.4	-0.4
	80nm,0.4s						
SYVR				⇓*i*Pg	Pn	15 27 53.4	-0.4
	159nm,0.4s						
SYVR				*i* Sg	Sb	15 28 09.6	+0.5
SYVR				Pmax			
	163nm,0.3s						
SYVR				Smax			
	840nm,0.5s						
SYVR	Suvo	1.20	24	*e*PG	Pn	15 27 53.3	-0.5
SYVR				*e*		15 28 09.8	
SYVR				pmax	pmax		
	comp=Z,154nm,0.2s						
SYVR				smax			
	comp=E,553nm,0.2s						
ZRHB	Zarechye	1.23	270	*e*Pg	Pn	15 27 54.6	+0.3
ZRHB				*e*Sg	Sb	15 28 11.6	+1.6
OGRR	Ongureny	1.44	319	*e*Pg	Pn	15 27 56.9	-0.3
OGRR				*e*Pb	Pb	15 27 57.7	-0.3
OGRR				*e*Sg	Sn	15 28 16.5	+0.9
OGRR				max			
	comp=E,157nm,0.2s						
OGRR				Smax			
	comp=E,124nm,0.2s						
FFNB	Fofonovo	1.57	251	*e*Pn	Pn	15 27 59.7	+0.6
FFNB				⇓*i*Pg	Pn	15 28 00.4	+1.3
FFNB				*e*Sg	Sn	15 28 21.5	+2.6
FFNB				Pmax			
	comp=E,352nm,0.1s						
FFNB				Smax			
	comp=E,1µm,0.4s						
KAB	Kabansk	1.63	252	*e*Pg	Pn	15 28 01.6	+1.6
KAB				*e*Sg	Sn	15 28 24.3	+3.8
KAB				Pmax			
	comp=E,185nm,0.4s						
KAB				Smax			
	comp=E,1µm,0.6s						
KAB	Kabansk	1.63	252	*e*PN	Pn	15 28 01.5	+1.5
KAB				*e*		15 28 24.1	
KAB				pmax	pmax		
	comp=Z,187nm,0.4s						
KAB				smax			
	comp=N,2µm,1.0s						
HRMR	Khuramsha	1.66	236	⇓*i*Pn	Pn	15 28 01.1	+0.7
HRMR				⇑*i*Pg	Pn	15 28 01.9	+1.5
	comp=N,120nm,0.4s						
HRMR				⇑*i*Pg	Pn	15 28 01.9	+1.5
	comp=N,91nm,0.4s						
HRMR				⇓*i*Pg	Pn	15 28 01.9	+1.5
	comp=N,217nm,0.4s						
HRMR				*e*Sg	Sn	15 28 24.3	+3.0
HRMR				*e*Sb	Sb	15 28 25.9	+3.5
HRMR				max			
	comp=N,1µm,0.3s						
TRG	Tyrgan	1.73	277	*e*Pn	Pn	15 28 01.1	-0.3
TRG				*e*Pg	Pn	15 28 03.0	+1.6
TRG				*e*Sg	Sn	15 28 25.7	+2.7
TRG				Pmax			
	comp=N,38nm,0.2s						
TRG				Smax			
	comp=N,409nm,0.3s						
TRG	Tyrgan	1.73	277	*e*PN	Pn	15 28 03.0	+1.6
TRG				*e*		15 28 25.2	
TRG				pmax	pmax		
	comp=Z,42nm,0.2s						
TRG				smax			
	comp=E,413nm,0.2s						
YLYR	Ulyunkhan	2.60	26	⇓*i*Pn	Pn	15 28 13.3	-0.5
YLYR				*e*Pg	Pn	15 28 18.3	+4.5
YLYR				*e*Sg	Sn	15 28 52.1	+7.0
YLYR				Pmax			
	comp=E,15nm,0.4s						
YLYR				Smax			
	comp=E,100nm,0.6s						
CIT	Chita	2.75	100	*e*Pn	Pn	15 28 15.2	-0.8
CIT				*e*Pg	Pn	15 28 20.4	+4.4
CIT				*e*Sn	Sn	15 28 50.6	+1.7
CIT				*e*Sg	Sn	15 28 56.5	+7.6
CIT				Pmax			
	comp=E,42nm,0.3s						
CIT				Smax			
	comp=E,278nm,0.5s						
CIT	Chita	2.75	100	*e*PN	Pn	15 28 22.1	+6.1
CIT				*e*		15 28 56.4	
CIT				pmax	pmax		
	comp=Z,44nm,0.3s						
CIT				smax			
	comp=N,350nm,0.6s						
LSTR	Listvyanka	2.76	257	*e*Pn	Pn	15 28 15.9	-0.3
LSTR				*e*Pg	Pn	15 28 20.8	+4.6
LSTR				*e*Sn	Sn	15 28 49.3	+0.1
LSTR				*e*Sg	Sn	15 28 56.3	+7.1
LSTR				Pmax			
	comp=N,10.0nm,0.4s						
LSTR				Smax			
	comp=N,85nm,1.0s						
IRK	Irkutsk	3.02	266	*e*Sg	Sn	15 29 05.0	+9.2
IRK				Smax			
	comp=N,403nm,0.6s						
IRK	Irkutsk	3.02	266	*e*PN	Pn	15 28 25.3	+5.5
IRK				*e*		15 29 05.0	
IRK				pmax	pmax		
	comp=Z,61nm,0.1s						
IRK				smax			
	comp=N,409nm,0.6s						
NIZ	Nizh Angarsk	3.22	4	*e*Pn	Pn	15 28 21.8	-0.9
NIZ				*e*Pg	Pn	15 28 28.1	+5.4
NIZ				*e*Sg	Sn	15 29 09.0	+8.2
NIZ				Pmax			
	comp=N,12nm,0.4s						
NIZ				Smax			
	comp=N,68nm,0.6s						
KPC	Khapcheranga	3.51	144	*e*Pn	Pn	15 28 25.3	-1.5
KPC				*e*Pg	Pn	15 28 34.7	+7.9
KPC				*e*		15 28 36.5	
KPC				*e*Sn	Sn	15 29 06.7	-1.5
KPC				*e*Sg	Sn	15 29 21.0	+13
KPC				max			
	comp=N,39nm,0.4s						
KPC				Smax			
	comp=N,48nm,0.4s						
TLY	Talaya	3.52	258	*e*Pn	Pn	15 28 26.5	-0.5
TLY				*e*Sg	Sn	15 29 18.6	+10
TLY				Smax			
	comp=N,91nm,0.8s						
YOA	Uoyan	3.87	22	*e*PN	Pn	15 28 42.4	+10
YOA				*i*		15 29 33.6	
YOA				pmax	pmax		
	comp=Z,20nm,0.5s						
YOA				smax			
	comp=E,333nm,1.1s						
UKT	Uakit	3.93	40	*e*Pn	Pn	15 28 31.9	-0.9
UKT				*e*Pg	Pn	15 28 42.7	+10
UKT				*e*Sn	Sn	15 29 19.8	+0.9
UKT				*e*Sg	Sn	15 29 33.8	+15
UKT				Pmax			
	comp=E,28nm,0.8s						
UKT				Smax			
	comp=E,44nm,0.8s						
ARS	Arshan	4.20	264	*e*Pg	Pn	15 28 46.7	+10
ARS				*e*Sg	Sn	15 29 40.3	+15
ARS				Pmax			
	comp=E,8.0nm,0.6s						
ARS				Smax			
	comp=E,231nm,0.6s						
ARS	Arshan	4.20	264	*e*PN	Pn	15 28 47.2	+11
ARS				*e*		15 29 40.4	
ARS				pmax	pmax		
	comp=Z,7.0nm,0.2s						
ARS				smax			
	comp=E,234nm,0.4s						
ZAK	Zakamensk	4.28	242	*e*	Pn	15 28 45.8	+8.0
ZAK				*e*Pg	Pn	15 28 49.0	+11
ZAK				*e*Sg	Sn	15 29 45.1	+17
ZAK				*e*		15 29 49.0	
ZAK				Pmax			
	comp=E,18nm,0.5s						
ZAK				max			
	comp=E,61nm,0.8s						
SVKR	Severomuysk	4.38	34	*e*Sg	Sn	15 29 52.2	+22
SVKR				Smax			
	comp=E,144nm,1.2s						
MOY	Mondy	5.12	263	*e*Pg	Pn	15 29 02.8	+13
MOY				*e*Sg	Sn	15 30 09.5	+21
MOY				Pmax			
	comp=E,5.0nm,0.8s						
MOY				Smax			
	comp=E,41nm,0.6s						
NLYR	Nelyaty	5.47	41	*e*Pn	Pn	15 28 52.7	-1.8
NLYR				*e*Pg	Pn	15 29 10.6	+16
NLYR				*e*Sg	Sn	15 30 22.8	+25
NLYR				Pmax			
	comp=E,11nm,0.7s						
NLYR				Smax			
	comp=E,60nm,1.4s						
NLYR	Nelyaty	5.47	41	*e*PN	Pn	15 29 09.8	+15
NLYR				*e*		15 30 20.3	
NLYR				pmax	pmax		
	comp=Z,11nm,0.5s						
NLYR				smax			
	comp=N,63nm,1.3s						
ORL	Orlik	5.71	273	*e*Pn	Pn	15 28 57.5	-0.5
ORL				*e*Sn	Sn	15 30 00.7	-3.0
ORL				*e*Sg	Sn	15 30 27.7	+24
ORL				Smax			
	comp=N,22nm,0.8s						
BOD	Bodaibo	5.94	26	*e*Sg	Sn	15 30 34.2	+25
BOD				Smax			
	comp=N,18nm,1.1s						
TUP	Tupik	6.70	70	*e*Sg	Sn	15 30 58.9	+31
TUP				Smax			
	comp=N,58nm,1.5s						
CRS	Chara	6.82	47	*e*Pn	Pn	15 29 12.7	-0.9
CRS				*e*Sg	Sn	15 31 04.9	+33
CRS				Smax			
	comp=N,19nm,0.9s						
CRS	Chara	6.82	47	*e*PG	Pn	15 29 36.8	+23
CRS				*e*		15 31 04.9	
CRS				pmax	pmax		
	comp=Z,19nm,1.6s						
CRS				smax			
	comp=E,41nm,0.9s						
ARDR	Aradan	9.59	276	*e*Sg	Sn	15 32 29.2	+49

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*IDC **19** 15:28:10.8±1.4, 5.83S×151.38E, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, MS3.4/1, Ms1 3.4/1, ms1mx3.0/13, Error ellipse: s-maj=46.6km s-min=14.1km az=122.0*
*NEIC **19** 15:28:21.4±2.8, 5.96S×151.35E, h87^{km}±23^{km}, mb4.4/7, Error ellipse: s-maj=25.3km s-min=16.7km az=99.0*
ISC 19 15:28:19.1±3.3, **5.9S**±0.1×**151.2E**±0.2, **h76**^{km}±27^{km}, **n22**, σ**1^{s}10**/25, **mb4.0**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.33	229	*e*Pn	P	15 29 38.1	+0.3
	68nm,0.8s						
PMG				*e*Sn	S	15 30 37.0	-1.5
CTA	Charters Tower	14.90	199	Pn	P	15 31 48.4	+1.4
	baz=9.2,slow=13,SNR=4.1						
CTA				LR	LR	15 36 29.8	
	comp=Z,143nm,18.2s,baz=215,slow=33						
CTAO	Charters Tower	14.90	199	*e*P	P	15 31 49.6	+2.6
	2.8nm,0.7s						
KAKA	Kakadu	19.76	249	*e*P	P	15 32 46.0	+0.3
	13nm,0.6s						
WRAB	Tennant Creek	21.53	228	*e*P	P	15 33 02.9	-0.9
	18nm,0.9s,mb4.4						
WB2	Warramunga Arr	21.54	228	*e*P	P	15 33 03.7	-0.1
WRA	Warramunga Arr	21.55	228	P	P	15 33 02.9	-1.0
	2.1nm,0.7s,mb3.6,baz=54,slow=10,SNR=14						
WRA				S	S	15 37 02.9	+10
	3.7nm,1.4s,baz=50,slow=16,SNR=4.7						
ASAR	Alice Springs	24.29	222	P	P	15 33 31.6	+0.9
	4.0nm,0.5s,mb4.0,baz=57,slow=8.8,SNR=76						
ASAR				S	S	15 37 57.5	+16
	1.1nm,0.9s,baz=39,slow=21,SNR=5.4						
ASPA	Alice Springs	24.29	222	*e*P	P	15 33 32.5	+1.8
ASPA				*e*		15 33 41.9	
STKA	Stephens Creek	27.36	198	*e*P	P	15 33 59.9	+0.6
	4.5nm,0.9s,mb4.0						
STKA	Stephens Creek	27.36	198	P	P	15 33 58.9	-0.4
	4.4nm,1.0s,mb4.0,baz=15,slow=12,SNR=7.6						
STKA	Stephens Creek	27.36	198	*e*P	P	15 33 58.2	-1.1
FITZ	Fitzroy Crossi	27.76	242	*e*P	P	15 34 03.9	+0.8
	3.3nm,0.6s,mb4.0						
FITZ				*e*		15 34 09.3	
FITZ	Fitzroy Crossi	27.76	242	P	P	15 34 03.2	+0.1
	2.4nm,0.5s,mb4.0,baz=49,slow=5.6,SNR=16						
SONM	Songino Array	66.45	329	P	P	15 39 02.8	+0.2
	0.5nm,0.8s,mb3.4,baz=117,slow=6.4,SNR=2.4						
CASY	Casey	66.50	197	P	P	15 38 59.5	-3.1
	1.5nm,0.8s,mb3.9						
MKAR	Makanchi Array	80.14	319	P	P	15 40 24.2	+1.5
	0.5nm,0.9s,mb3.4,baz=117,slow=8.1,SNR=3.5						
MKAR	Makanchi Array	80.14	319	P	P	15 40 24.2	+1.5
MCK	McKinley	82.48	23	*e*P	P	15 40 33.3	-1.2
	4.3nm,0.9s,mb4.3						
KURK	Kurchatov	83.69	322	*e*P	P	15 40 41.2	+0.3
	5.5nm,1.4s,mb4.2						
ILAR	Eielson Array	83.77	22	P	P	15 40 39.8	-1.1
	3.9nm,1.1s,mb4.2,baz=266,slow=5.7,SNR=15						
QSPA	South Pole Qui	84.05	180	*e*P	P	15 40 42.1	0.0
	6.6nm,1.0s,mb4.4						

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*BJI **19** 16:03:36.0, 44.11S×171.27E, h5^{km}, mb4.7, Ms4.2, Msz4.0*
*WEL **19** 16:03:39.6±0.2, 43.81S×170.90E, h9^{km}±1^{km}, ML4.7/20, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.
*IDC **19** 16:03:39.0±0.5, 43.61S×170.83E, mb4.5/8, mb1 4.6/9, mb1mx4.5/13, ML3.9/1, MS4.0/7, Ms1 4.0/7, ms1mx3.8/13, Error ellipse: s-maj=26.3km s-min=4.3km az=32.0*
*SYO **19** 16:03:39.3, 43.80S×170.87E, h5^{km}, MB4.7, MS4.0*
*NEIC **19** 16:03:39.4±1.1, 43.80S×170.87E, h5^{km}±7^{km}, mb4.7/22, MS4.0/1, ML4.8(WEL), Error ellipse: s-maj=6.7km s-min=5.6km az=150.0*
NEIC Felt at Timaru.
ISC 19 16:03:38.8±0.8, **43.78S**±0.03×**170.85E**±0.04, **h7**^{km}±5^{km}, **n129**, σ**1^{s}14**/118, **mb4.8**/23, **MS4.0**/9, **11C-5D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	0.16	65	Pg	Pg	16 03 42.7	+0.5
	17µm,0.3s,baz=93,slow=16						
RPZ				Lg		16 03 45.4	
	19µm,0.3s,baz=51,slow=13,SNR=340						
RPZ	Rata Peaks	0.16	65	PG	Pg	16 03 43.0	+0.8
RPZ				SG	Sg	16 03 45.4	+0.8
RPZ				SG	Sg	16 03 45.6	+1.0
RPZ	Rata Peaks	0.16	65	P	Pg	16 03 43.0	+0.7
RPZ				S	Sg	16 03 45.6	+1.0
WVZ	Waitaha Valley	0.71	353	⇓P*	Pb	16 03 53.6	+0.6
WVZ				S*	Sb	16 04 03.5	+0.8
WVZ	Waitaha Valley	0.71	353	P	Pb	16 03 53.6	+0.6
LBZ	Lake Benmore	0.77	218	⇑P*	Pb	16 03 54.0	0.0
LBZ				S*	Sb	16 04 05.3	+0.9
ODZ	Otahua Downs	1.27	187	⇑P*	Pb	16 03 58.2	-4.4
ODZ				S*	Sb	16 04 13.3	-5.6
CRLZ	Canterbury Las	1.30	81	*e*P*	Pb	16 04 02.4	-0.7
CRLZ				S*	Sb	16 04 19.8	0.0
CRLZ	Canterbury Las	1.30	81	P	Pb	16 04 02.4	-0.7
MQZ	McQueen's Vall	1.31	87	⇓P*	Pb	16 04 02.9	-0.3
MQZ				S*	Sb	16 04 20.7	+0.6
MQZ	McQueen's Vall	1.31	87	P	Pb	16 04 02.9	-0.3
LTZ	Lake Taylor	1.44	46	PN	Pn	16 04 05.7	+0.3
LTZ	Lake Taylor	1.44	46	*e*P	Pn	16 04 05.7	+0.4
JCZ	Jackson Bay	1.54	258	PN	Pn	16 04 07.6	+0.8
JCZ				SN	Sn	16 04 27.5	+0.4
WKZ	Wanaka	1.68	231	PN	Pn	16 04 08.5	-0.2
WKZ				SN	Sn	16 04 32.9	+2.2
AXZ	Alexandra	1.84	216	PN	Pn	16 04 10.0	-1.0
AXZ				*e*SN	Sn	16 04 33.9	-0.8
DSZ	Denniston Nort	2.15	19	PN	Pn	16 04 15.8	+0.3
DSZ	Denniston Nort	2.15	19	P	Pn	16 04 16.5	+1.0
TUZ	Tuapeka	2.34	201	PN	Pn	16 04 16.6	-1.6
TUZ	Tuapeka	2.34	201	*e*P	Pn	16 04 16.6	-1.6
KHZ	Kahutara	2.40	56	PN	Pn	16 04 18.5	-0.5
KHZ	Kahutara	2.40	56	P	Pn	16 04 18.7	-0.3
MLZ	Mavora Lakes	2.47	230	PN	Pn	16 04 19.4	-0.7
MLZ	Mavora Lakes	2.47	230	*e*P	Pn	16 04 19.4	-0.7
THZ	Tophouse	2.52	38	PN	Pn	16 04 20.9	+0.1
WHZ	Wether Hill Ro	2.95	223	PN	Pn	16 04 24.4	-2.5
WHZ	Wether Hill Ro	2.95	223	*e*P	Pn	16 04 24.4	-2.5
BSWZ	Blackbirch Sta	3.04	48	PN	Pn	16 04 28.9	+0.7
DCZ	Deep Cove	3.13	236	PN	Pn	16 04 27.9	-1.6
NNZ	Nelson	3.17	37	PN	Pn	16 04 30.9	+0.8
NNZ	Nelson	3.17	37	P	Pn	16 04 31.3	+1.2
QRZ	Quartz Range	3.21	23	PN	Pn	16 04 31.0	+0.4
QRZ	Quartz Range	3.21	23	P	Pn	16 04 31.0	+0.4
TUWZ	Tuamarina	3.28	45	PN	Pn	16 04 32.2	+0.7

MRW	Makara Radio	3.82	49	ePN	Pn	16 04 37.9	-1.4
WEL	Wellington	3.82	51	ePN	Pn	16 04 39.1	-0.2
CAW	Cannon Point	4.11	51	ePN	Pn	16 04 41.8	-1.6
KIW	Kapiti Island	4.19	47	PN	Pn	16 04 43.7	-0.9
MTW	Mount Morrison	4.33	54	ePN	Pn	16 04 44.3	-2.1
MRZ	Mangatainoka R	4.70	50	PN	Pn	16 04 49.7	-2.0
NRZ	Ngariki Road	5.01	29	PN	Pn	16 04 57.3	+1.1
WAZ	Wanganui	5.08	39	ePN	Pn	16 04 57.1	+0.1
DFE	Dawson Falls	5.08	30	ePN	Pn	16 04 57.9	+0.8
PKE	Pukeiti	5.15	28	PN	Pn	16 04 58.0	-0.1
PKE				SN	Sn	16 05 56.5	-2.1
RAEZ	Rainy Point	5.22	32	ePN	Pn	16 04 59.7	+0.6
VRZ	Vera Road	5.50	34	PN	Pn	16 05 02.9	-0.2
VRZ	Vera Road	5.50	34	P	Pn	16 05 02.9	-0.2
FWVZ	Far West T-bar	5.74	40	ePN	Pn	16 05 06.3	-0.1
TUVZ	Tukino	5.77	40	PN	Pn	16 05 07.3	+0.4
MGZ	Maungaku	5.94	38	ePN	Pn	16 05 09.7	+0.5
KATZ	Kakaramea	6.03	39	PN	Pn	16 05 13.2	+2.7
HIZ	Hauiti	6.07	31	PN	Pn	16 05 10.2	-0.9
URZ	Urewera	7.27	43	Pn	Pn	16 05 24.8	-3.2
	2.3nm,0.3s,baz=248,slow=10,SNR=15						
URZ				Sn	Sn	16 06 43.8	-7.9
	1.7nm,0.3s,baz=49,slow=20,SNR=6.8						
WTAZ	Waiatarua	7.41	24	PN	Pn	16 05 30.6	+0.7
MWZ	Matawai	7.42	45	PN	Pn	16 05 27.2	-2.9
WCZ	Waipu Caves	8.28	20	PN	P	16 05 41.7	-0.4
OUZ	Omahuta	8.81	15	PN	P	16 05 49.5	+0.1
TAU	Tasmania Unive	17.13	265	eP	P	16 07 40.0	-0.1
	25nm,1.0s						
CNB	Canberra Magne	18.57	290	eP	P	16 08 01.5	+3.5
	6.1nm,0.6s						
TOO	Toolangi	20.17	279	eP	P	16 08 19.3	+2.9
	4.6nm,0.6s						
DZM	Mont Dzumac	21.96	349	eP	P	16 08 34.3	-0.5
STKA	Stephens Creek	25.85	288	eP	P	16 09 12.3	-0.1
	5.3nm,1.6s,mb3.8						
STKA	Stephens Creek	25.85	288	P	P	16 09 12.5	+0.1
	15nm,1.4s,mb4.3,baz=115,slow=13,SNR=7.1						
STKA				PcP	PcP	16 12 41.3	-1.1
	3.5nm,1.1s,baz=145,slow=6.1,SNR=4.6						
STKA				LR	LR	16 18 04.1	
	comp=Z,330nm,21.1s,MS3.8,baz=298,slow=34						
CTA	Charters Tower	31.31	311	eP	P	16 10 02.8	+1.1
	4.8nm,0.9s,mb4.3						
CTA	Charters Tower	31.31	311	P	P	16 10 00.3	-1.3
	5.4nm,0.7s,mb4.5,baz=143,slow=9.8,SNR=14						
CTA				LR	LR	16 21 59.7	
	comp=Z,232nm,19.6s,MS3.9,baz=227,slow=35						
CTAO	Charters Tower	31.31	311	eP	P	16 10 01.7	0.0
	7.1nm,0.8s,mb4.5						
RAR	Rarotonga	33.18	57	P	P	16 10 16.8	-1.3
	9.7nm,0.6s,mb4.9,baz=160,slow=12,SNR=2.3						
RAR	Rarotonga	33.18	57	P	P	16 10 18.9	+0.8
	56nm,1.1s,mb5.4						
VNDA	Vanda	34.04	183	P	P	16 10 25.7	+0.7
	1.0nm,0.8s,mb3.8,baz=1.9,slow=8.4,SNR=4.9						
VNDA				LR	LR	16 21 07.8	
	comp=Z,174nm,18.4s,MS3.8,baz=22,slow=31						
VNDA	Vanda	34.04	183	eP	P	16 10 25.0	0.0
	7.8nm,1.4s,mb4.5						
SBA	Scott Base	34.22	182	eP	P	16 10 28.3	+1.8
	24nm,1.3s,mb5.0						
FORT	Forrest	36.05	277	eP	P	16 10 41.9	-0.7
	31nm,0.9s,mb5.2						
ASAR	Alice Springs	36.30	291	P	P	16 10 43.1	-1.6
	6.5nm,0.7s,mb4.7,baz=126,slow=7.0,SNR=111						
ASAR				PcP	PcP	16 13 08.2	-1.7
	1.5nm,0.6s,baz=127,slow=3.8,SNR=9.7						
ASAR				LR	LR	16 24 59.6	
	comp=Z,177nm,18.5s,MS3.9,baz=196,slow=35						
ASPA	Alice Springs	36.30	291	eP	P	16 10 43.4	-1.4
WB2	Warramunga Arr	38.60	296	eP	P	16 11 03.1	-1.0
WB2				e		16 13 16.4	
WRA	Warramunga Arr	38.61	296	P	P	16 11 02.8	-1.4
	8.1nm,0.8s,mb4.5,baz=132,slow=7.7,SNR=62						
WRA				PcP	PcP	16 13 15.3	-1.8
	1.6nm,0.7s,baz=137,slow=3.0,SNR=14						
WRAB	Tennant Creek	38.61	296	eP	P	16 11 02.5	-1.6
	22nm,0.8s,mb4.9						
CASY	Casey	39.13	214	eP	P	16 11 07.4	-0.7
	11nm,1.2s,mb4.5						
PMG	Port Moresby	39.97	322	P	P	16 11 16.0	+0.4
	17nm,1.0s,mb4.7						
MUN	Mundaring	43.98	266	eP	P	16 11 48.1	-0.1
	15nm,1.2s,mb4.6						
KAKA	Kakadu	45.24	301	eP	P	16 11 58.0	-0.5
	14nm,0.6s,mb5.0						
QSPA	South Pole Qui	46.34	180	eP	P	16 12 08.0	+1.6
	12nm,0.8s,mb4.9						
MAW	Mawson	56.55	206	eP	P	16 13 23.2	-0.4
	13nm,1.4s,mb4.8						
SYO	Syowa Base	61.90	198	⇓P	P	16 13 57.6	-3.0
SYO	Syowa Base	61.90	198	⇓pP	pP	16 14 02.0	-0.9
PMSA	Palmer Station	63.61	157	eP	P	16 14 11.8	0.0
	78nm,1.6s,mb5.5						
RPN	Rapa Nui	64.73	104	P	P	16 14 25.3	+5.5
	214nm,1.3s,mb6.0						
SNAA	Sanae	64.77	182	⇑i	P	16 14 18.3	-1.0
SNAA	Sanae	64.77	182	⇑i	P	16 14 22.3	+3.0
SNAA	Sanae	64.77	182	⇑i	PcP	16 14 51.8	-0.9
VNA3	Neumayer Olymp	65.28	180	⇑i	P	16 14 24.1	+1.5
VNA3	Neumayer Olymp	65.28	180	⇑i	P	16 14 27.8	+5.2
VNA2	Neumayer--Watz	65.60	181	⇑i	P	16 14 26.4	+1.8
VNA2	Neumayer--Watz	65.60	181	⇑i	P	16 14 29.1	+4.5
VNA2	Neumayer--Watz	65.60	181		P	16 14 31.2	+6.6
VNA1	Neumayer--Stat	65.88	180	⇑i	P	16 14 29.0	+2.6
VNA1	Neumayer--Stat	65.88	180	⇑i	P	16 14 33.1	+6.7
PLCA	Paso Flores	79.36	137	P	P	16 15 48.1	+1.6
	3.8nm,1.0s,mb4.3,baz=228,slow=8.4,SNR=6.4						
PLCA				LR	LR	16 43 51.0	
	comp=Z,112nm,18.5s,MS4.2,baz=182,slow=30						
PLCA	Paso Flores	79.36	137	eP	P	16 15 47.8	+1.3
	14nm,1.3s,mb4.7						
TRQA	Tornquist	85.54	141	eP	P	16 16 19.1	+0.6
	8.2nm,1.1s,mb4.9						
NJ2	Nanjing	89.17	318	eP	P	16 16 37.5	+1.3
NJ2				AP	pP	16 16 42.3	+3.7
NJ2				XP	sP	16 16 44.4	+5.1
NJ2				S	S	16 27 25.0	+1.7
NJ2				XS		16 27 32.0	
CM31	Chiang Mai Arr	90.20	296	eP	P	16 16 42.9	+1.6
	8.9nm,0.8s,mb5.2						
CMAR	Chiang Mai Arr	90.20	296	P	P	16 16 41.8	+0.5
	3.7nm,0.7s,mb4.8,baz=146,slow=3.7,SNR=22						
CMAR				LR	LR	17 01 15.8	
	comp=Z,59nm,19.4s,MS4.0,baz=130,slow=38						
GYA	Guiyang	91.31	306	⇓iP	P	16 16 47.5	+1.3
GYA				AP	pP	16 16 51.8	+3.2
GYA				SKS	SKS	16 27 19.6	-1.9
GYA				S	S	16 27 45.1	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.9						
KMI	Kunming	92.66	303	eP	P	16 16 52.5	0.0
KMI				XP	sP	16 16 58.4	+2.8
KMI				S	S	16 27 56.6	+1.9
KMI				SS	SS	16 34 13.5	+2.7
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.7						
KMI				LR	LR		
	comp=Z,46nm,19.1s,MS4.0						
KMI	Kunming	92.66	303	eP	P	16 16 52.5	0.0
	comp=Z,4.0nm,1.4s,mb4.7						
KMI				sP	sP	16 16 58.4	+2.8
KMI				S	S	16 27 56.6	+1.9
KMI				SS	SS	16 34 13.5	+2.7
KMI				LR	LR		
	comp=Z,50nm,19.1s,MS4.0						
CN2	Changchun	96.16	329	eP	P	16 17 09.8	+1.7
CPUP	Villa Florida	97.43	138	LR	LR	16 54 08.1	
	comp=Z,49nm,18.4s,MS4.0,baz=180,slow=31						
ILAR	Eielson Array	113.16	18	PKiKP		16 22 15.9	
	comp=Z,0.9nm,1.0s,baz=243,slow=2.0,SNR=5.3						
WMQ	Urumqi	114.41	308	PKP	PKPdf	16 22 18.8	-2.8
WMQ				PP	PP	16 23 20.8	+0.7
WMQ				LR	LR		
	comp=E,29nm,19.2s						
WMQ				LR	LR		
	comp=Z,37nm,21.8s,MS4.0						
MKAR	Makanchi Array	119.24	308	PKP	PKPdf	16 22 28.1	-2.8
	comp=Z,2.9nm,0.5s,baz=212,slow=2.0,SNR=48						
CPCT	Cooper Cave	123.19	71	eP	PKPdf	16 22 42.8	+4.0
KURK	Kurchatov	123.38	310	ePKPdf	PKPdf	16 22 35.3	-3.5
ULM	Lac du Bonnet	123.73	50	PKP	PKPdf	16 22 37.1	-2.5
	comp=Z,4.0nm,0.7s,baz=304,slow=3.6,SNR=3.0						
BRVK	Borovoye	129.04	310	ePKPdf	PKPdf	16 22 47.5	-2.1
ZRNK	Zerenda	129.71	310	ePKPdf	PKPdf	16 22 47.8	-3.1
MALT	Malatya	144.10	278	ePKPdf	PKPdf	16 23 14.9	-2.5
BRTR	Keskin Array B	148.09	278	PKPbc	PKPdf	16 23 26.1	+2.0
	comp=Z,7.9nm,0.9s,baz=135,slow=5.5,SNR=17						
KEV	Kevo	148.21	337	ep	PKPdf	16 23 25.1	+1.7
	comp=Z,1.7nm,0.4s						
OBN	Obninsk	148.75	308	ePKPbc	PKPdf	16 23 26.8	+2.1
ARCES	ARCESS Array B	148.76	337	PKPbc	PKPdf	16 23 26.1	+1.8
	comp=Z,14nm,0.6s,baz=62,slow=2.2,SNR=86						
ARE0	ARCESS Array S	148.76	337	ePKPbc	PKPdf	16 23 25.8	+1.5
KAF	Kangasniemi	152.37	324	ep	PKPdf	16 23 34.9	+4.9
	comp=Z,4.0nm,0.4s						
FINES	FINESS Array B	152.75	323	PKPbc	PKPdf	16 23 35.9	+5.3
	comp=Z,15nm,0.5s,baz=106,slow=4.5,SNR=74						
FINES				PKPab	PKPab	16 23 48.2	0.0
	comp=Z,2.4nm,0.6s,baz=104,slow=5.7,SNR=3.8						
FINES	FINESS Array B	152.75	323	PKPbc	PKPdf	16 23 35.9	+5.3
FINES				PKPab	PKPab	16 23 48.2	0.0
AKASG	Malin Array Be	153.28	299	PKPbc	PKPdf	16 23 36.9	+5.2
	comp=Z,5.8nm,0.6s,baz=69,slow=2.5,SNR=26						
AKASG				PKPab	PKPab	16 23 49.5	-1.2
	comp=Z,2.2nm,0.6s,baz=75,slow=4.1,SNR=5.2						
NB2	NORSAR Subarra	158.88	332	P	PKPab	16 24 12.8	-1.5
	comp=Z,1.1nm,0.6s,baz=53,slow=4.6						
NOA	NORSAR Array B	158.88	332	PKPab	PKPab	16 24 13.5	-0.9
	comp=Z,0.3nm,0.6s,baz=22,slow=3.4,SNR=4.3						
GERES	GERESS Array B	163.44	296	PKPab	PKPab	16 24 33.1	-1.4
	comp=Z,0.6nm,0.6s,baz=90,slow=4.0,SNR=6.9						

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*NEIC **19** 16:28:29.2, 35.01S×70.36W, h1^{km}, ML2.5(GUC), After GUC.*

GUC 19 16:28:29.2±0.7, 35.01S×70.36W, h1^{km}±3^{km}, MD3.6, ML2.5, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.66	306	⇓iP	Pg	16 28 42.4	0.0
SFDO				i S	Sg	16 28 52.9	+1.6
CICH	Cipreses	0.69	356	⇓iP	Pg	16 28 43.1	+0.2
CICH				i S	Sg	16 28 54.6	+2.6
CACH	El Canelo	0.91	347	eP	Pg	16 28 46.9	-0.4
CACH				i S	Sg	16 28 59.8	+0.4
CHCH	Chadas Angostu	1.10	347	eP	Pb	16 28 50.1	-0.6
LMEL	Las Melosas	1.16	7	⇑iP	Pb	16 28 51.4	-0.4
LMEL				i S	Sb	16 29 08.3	+1.1
LMEL				AMP		16 29 16.3	
	comp=N,179nm,0.2s						
LNV	Longovilo	1.36	320	⇑iP	Pb	16 28 54.4	-0.7
LNV				i S	Sb	16 29 13.3	+0.4
PCH	Pirque	1.39	355	eP	Pb	16 28 54.8	-0.8
TACH	Talagante	1.43	340	eP	Pn	16 28 56.1	-0.2
FCH	Farellones	1.67	2	eP	Pn	16 29 00.1	+0.3
FCH				i S	Sb	16 29 22.9	+0.9
FCH				AMP		16 29 26.6	
	comp=E,107nm,0.2s						
LCCH	Las Cruces	1.82	326	eP	Pn	16 29 01.8	-0.2

WEL 19 16:33:50.7±0.5, 38.38S×175.89E, h189^{km}±4^{km}, ML4.1/3, 6C-1D, Error ellipse: s-maj=4.0km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGZ	Maungaku	0.68	203	PN	P	16 34 17.6	0.0
TWVZ	Taurewa	0.77	207	ePN	P	16 34 17.9	-0.2
NGZ	Ngauruhoe	0.82	196	PN	P	16 34 18.5	+0.1
CNZ	Chateau	0.86	198	PN	P	16 34 18.6	0.0
TUVZ	Tukino	0.91	191	⇑PN	P	16 34 19.0	+0.1
FWVZ	Far West T-bar	0.91	196	PN	P	16 34 18.8	-0.1
BKZ	Black Stump Fm	0.92	149	⇑PN	P	16 34 18.9	0.0
BKZ				SN	S	16 34 40.3	-0.4
WNVZ	Wahianoa	0.97	193	PN	P	16 34 19.3	+0.1
MOVZ	Moawhango	1.03	186	⇑PN	P	16 34 19.4	-0.3
MOVZ				SN	S	16 34 41.6	-0.6
VRZ	Vera Road	1.15	229	PN	P	16 34 20.0	-0.7
MWZ	Matawai	1.29	88	⇓PN	P	16 34 21.0	-0.9
MWZ				SN	S	16 34 44.9	-1.1
WAZ	Wanganui	1.54	207	PN	P	16 34 23.4	-0.8
WAZ				eSN	S	16 34 48.1	-1.9
TSZ	Takapari Road	1.68	178	⇑PN	P	16 34 24.8	-0.6
TSZ				SN	S	16 34 51.4	-0.9
MRZ	Mangatainoka R	2.29	186	PN	P	16 34 30.1	-1.9
MRZ				SN	S	16 35 01.6	-2.2
KIW	Kapiti Island	2.59	197	PN	P	16 34 33.0	-2.4
KIW				eSN	S	16 35 07.5	-2.5
MTW	Mount Morrison	2.79	186	PN	P	16 34 35.1	-2.7
MTW				SN	S	16 35 10.4	-3.7
CAW	Cannon Point	2.80	193	PN	P	16 34 35.5	-2.4
MRW	Makara Radio	2.99	197	PN	P	16 34 37.3	-2.8
MRW				SN	S	16 35 15.4	-2.9
WEL	Wellington	3.03	196	PN	P	16 34 37.8	-2.8
SNZO	South Karori	3.06	197	⇑PN	P	16 34 38.0	-3.0
SNZO				SN	S	16 35 17.1	-2.8
MSWZ	Moikau Station	3.07	189	⇑PN	P	16 34 38.2	-3.0
TUWZ	Tuamarina	3.39	206	PN	P	16 34 41.6	-3.5
TUWZ				SN	S	16 35 22.9	-4.2
NNZ	Nelson	3.43	213	PN	P	16 34 41.8	-3.8
QRZ	Quartz Range	3.56	226	PN	P	16 34 42.5	-4.8
QRZ				SN	S	16 35 26.7	-4.1
BSWZ	Blackbirch Sta	3.67	204	PN	P	16 34 45.3	-3.3
THZ	Tophouse	4.08	213	PN	P	16 34 49.2	-4.6
THZ				SN	S	16 35 38.7	-3.8
KHZ	Kahutara	4.41	203	PN	P	16 34 54.3	-3.7
DSZ	Denniston Nort	4.59	222	PN	P	16 34 54.6	-5.7
LTZ	Lake Taylor	5.19	211	PN	P	16 35 02.7	-5.2
MQZ	McQueen's Vall	5.86	204	PN	P	16 35 10.9	-5.7
RPZ	Rata Peaks	6.46	213	ePN	P	16 35 18.9	-5.6

IDC 19 16:42:55.9±7.9, 14.89S×66.18E, mb3.6/2, mb1 3.9/2, mb1mx3.4/17, MS3.7/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=615.0km s-min=46.5km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASF	Jabal al Asfar	54.56	329	LR	LR	17 12 23.0	
	comp=Z,74nm,20.9s,baz=355,slow=32						
ASAR	Alice Springs	64.02	109	P	P	16 53 31.8	-2.3
	0.3nm,0.5s,baz=272,slow=5.9,SNR=14						
WRA	Warramunga Arr	64.85	105	P	P	16 53 37.6	-1.9
	0.6nm,0.8s,baz=267,slow=6.2,SNR=4.3						
PDAR	Pinedale Array	151.98	353	PKPbc	PKPdf	17 02 53.5	+5.1
	1.0nm,0.8s,baz=56,slow=3.3,SNR=9.6						

IDC 19 16:50:56.4±3.8, 29.70S×177.07W, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, Error ellipse: s-maj=126.0km s-min=64.0km az=162.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	34.49	278	P	P	16 57 48.1	-0.2
	3.3nm,0.8s						
STKA	Stephens Creek	35.43	256	P	P	16 57 54.6	-1.6
	2.3nm,0.8s,baz=92,slow=14,SNR=5.9						
ASAR	Alice Springs	43.96	266	P	P	16 59 04.3	-2.8
	0.6nm,0.4s,baz=105,slow=7.1,SNR=31						
WRA	Warramunga Arr	44.88	271	P	P	16 59 11.7	-2.9
	1.7nm,0.5s,baz=111,slow=7.8,SNR=49						
FITZ	Fitzroy Crossi	53.17	269	P	P	17 00 16.8	-1.8
	0.7nm,0.6s						
FINES	FINESS Array B	144.75	341	PKP	PKPdf	17 10 34.0	-2.2
	1.2nm,0.5s,baz=45,slow=2.0,SNR=11						

MAN 19 16:56:05.9, 9.78N×125.78E, h105^{km}, mb4.1, ML2.9, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.29	271	⇓eP	P	16 56 23.1	+2.0
SCPH				eS	S	16 56 33.2	+0.7
BUTP	Butuan	0.82	191	eP	P	16 56 26.2	+1.1
BUTP				eS	S	16 56 50.8	+11
MSLP	Maasin	0.97	291	eP	P	16 56 26.0	-0.6
BESP	Borongan	1.84	349	eP	P	16 56 37.1	0.0
BESP				eS	S	16 57 00.3	0.0
MATI	Mati	2.85	170	eP	P	16 56 50.5	-0.3
CNP	Catarman	2.93	338	eP	P	16 56 51.9	+0.1
CNP				eS	S	16 57 25.9	-0.4

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*IDC **19** 16:58:38.2±3.5, 1.27N×121.83E, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, Error ellipse: s-maj=131.0km s-min=60.9km az=70.0*

*NEIC **19** 16:59:24.8±7.4, 0.94S×122.06E, h292^{km}±40^{km}, mb4.0/2, Error ellipse: s-maj=95.4km s-min=20.1km az=188.0*

ISC 19 16:58:55.7±3.0, 1.2N±0.2×121.9E±0.3, h177^{km}±49^{km}, n11, σ0^{s}75/13, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIL	Ipil	6.59	6	eP	P	17 00 31.4	+0.1
IPIL				eS	S	17 01 44.8	-0.9
PAGZ	Pagadian	6.78	13	eP	P	17 00 33.9	0.0
PAGZ				eS	S	17 01 50.4	+0.2
ENPP	El Nido	10.24	346	eP	P	17 01 20.1	+0.7
KAKA	Kakadu	17.32	143	eP	P	17 02 48.7	+0.4
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	19.53	169	eP	P	17 03 08.8	-2.9
	2.3nm,0.5s						
FITZ	Fitzroy Crossi	19.53	169	P	P	17 03 08.7	-3.0
WRA	Warramunga Arr	24.31	150	P	P	17 03 58.4	-0.1
	2.5nm,0.5s,mb4.0,baz=327,slow=11,SNR=44						
WB2	Warramunga Arr	24.32	150	eP	P	17 03 59.0	+0.4
ASAR	Alice Springs	27.34	155	P	P	17 04 26.2	-0.3
	0.8nm,0.5s,mb3.6,baz=344,slow=15,SNR=20						
ASAR				PcP	PcP	17 07 44.1	+2.9
	0.3nm,0.8s,baz=342,slow=1.6,SNR=4.5						
STKA	Stephens Creek	37.84	152	P	P	17 05 57.5	+0.5
	0.7nm,0.6s,mb3.5,baz=326,slow=11,SNR=2.5						
STKA	Stephens Creek	37.84	152	P	P	17 05 57.5	+0.5

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*IDC **19** 16:59:55.4±0.9, 7.69S×107.92E, mb3.9/6, mb1 3.9/6, mb1mx3.7/17, Error ellipse: s-maj=40.0km s-min=18.4km az=59.0*

*DJA **19** 17:00:11.0±0.8, 3.22S×110.91E, h80^{km}, MD4.9/2, ML4.9/1, Error ellipse: s-maj=66.6km s-min=14.9km az=50.0*

ISC 19 17:00:08.0±2.9, 7.6S±0.1×108.2E±0.1, h123^{km}±27^{km}, n15, σ1^{s}01/23, mb3.8/6, 9C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	6.23	96	⇑ePn	P	17 01 40.6	+1.9
	85nm,0.2s						
KELI	Kelakatan	6.23	96	⇑eP	P	17 01 41.1	+2.4
KELI				⇑eSn	S	17 02 47.2	-1.8
KELI				⇑eS	S	17 02 49.8	+0.8
KELI	Kelakatan	6.23	96	⇑ePn	P	17 01 40.6	+1.9
KELI				eSn	S	17 02 53.3	+4.3
INGI	Ingas	6.94	100	⇑ePn	P	17 01 48.2	-0.3
INGI				eSn	S	17 03 07.2	+0.7
RATI	Rata	7.31	99	⇓ePn	P	17 01 53.3	-0.2
RATI	Rata	7.31	99	⇑eP	P	17 01 55.0	+1.5
RATI				⇓eSn	S	17 03 12.8	-2.5
RATI				⇑eS	S	17 03 15.3	0.0
RATI	Rata	7.31	99	⇓ePn	P	17 01 53.2	-0.3
RATI				eSn	S	17 03 13.9	-1.4
KEDI	Kedomdong	7.85	97	⇓ePn	P	17 01 59.4	-1.4
KEDI				⇑eSn	S	17 03 14.7	-14
FITZ	Fitzroy Crossi	19.89	123	P	P	17 04 31.7	-0.4
	1.8nm,0.8s						
WRA	Warramunga Arr	28.10	119	P	P	17 05 51.3	+0.7
	0.7nm,0.7s,mb3.3,baz=290,slow=12,SNR=8.3						
STKA	Stephens Creek	39.32	132	P	P	17 07 27.5	+0.7
	1.0nm,0.4s,mb4.0,baz=327,slow=10.0,SNR=5.9						
SONM	Songino Array	55.23	358	P	P	17 09 31.4	+0.8
	0.4nm,0.6s,mb3.6,baz=180,slow=5.8,SNR=2.6						
MKAR	Makanchi Array	58.88	339	P	P	17 09 55.2	-1.2
	0.9nm,0.5s,mb4.1,baz=146,slow=8.0,SNR=16						
MAW	Mawson	67.14	197	P	P	17 10 49.9	-0.6
	1.2nm,0.7s,mb3.8,baz=342,slow=6.4,SNR=2.9						
BVAR	Borovoye Array	68.41	337	P	P	17 10 58.8	+0.3
	0.7nm,0.5s,mb3.8,baz=153,slow=6.4,SNR=5.9						

CASC 19 17:20:29.8±2.5, 13.07N×90.22W, MD3.4, ML4.3, 6C-8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSS	Cusmapa	0.88	18	⇓eP	Pg	17 20 47.1	-0.2
CUSS				eS	Sg	17 21 01.1	+2.1
SBLS	San Blas	0.96	37	⇓iP	Pg	17 20 49.1	+0.1
RTR	El Retiro	1.00	34	⇓iP	Pb	17 20 49.7	0.0
SNJE	San Jose	1.00	37	⇓eP	Pb	17 20 49.5	-0.1
IXG	Ixpaco	1.12	348	⇑eP	Pb	17 20 50.9	-0.9
IXG				eS	Sb	17 21 08.5	+1.7
IXG				AML	AML	17 21 13.1	
	comp=E,24µm,0.3s						
BOQS	Boqueron	1.13	54	⇓eP	Pb	17 20 51.8	-0.2
RBDL	Robledal	1.16	27	⇓eP	Pb	17 20 52.0	-0.4
LFRS	El Faro	1.26	64	eP	Pb	17 20 53.5	-0.6
LFRS				⇑eP		17 20 53.5	
LBRS	Las Brisas	1.33	60	eP	Pb	17 20 55.1	-0.1
LCBS	La Ceiba	1.34	64	eP	Pb	17 20 56.2	+0.6
SNVI	San Vicente	1.45	68	eP	Pn	17 20 56.9	-0.4
SNVI				eP		17 20 58.0	
FUG	Fuego 3	1.50	336	eP	Pn	17 20 56.3	-1.7
NBG	Las Nubes	1.51	356	⇑eP	Pn	17 20 57.8	-0.4
MTO2	Montecristo 2	1.57	32	⇑eP	Pn	17 20 57.7	-1.3
JAT	Jato	1.85	312	eP	Pn	17 21 02.1	-1.0
JAT				eS	Sn	17 21 30.9	+3.3
JAT				AML	AML	17 21 41.4	
	comp=E,2µm,0.4s						
TP2	Tecpan 2	1.87	336	⇑eP	Pn	17 21 02.7	-0.6
TP2				eS	Sn	17 21 31.6	+3.5
TP2				AML	AML	17 21 34.9	
	comp=E,2µm,0.4s						
VSM	San Miguel	1.93	79	⇑eP	Pn	17 21 04.9	+0.6
BLLM	Bellamira	1.97	79	eP	Pn	17 21 05.3	+0.5
MRL	Marmol	2.05	15	⇓eP	Pn	17 21 04.9	-1.0
CAHU	Cacacuatique	2.08	70	eP	Pn	17 21 05.9	-0.4
CNCH	Conchagua	2.34	85	⇓eP	Pn	17 21 09.9	-0.1

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*LDG **19** 17:21:38.2±0.1, 44.02N×8.62E, h10^{km}, Md2.8/1, Ml2.8/11, Error ellipse: s-maj=2.4km s-min=1.9km az=73.0*

*STR **19** 17:21:40.5±0.3, 44.04N×8.47E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*ROM **19** 17:21:40.2±0.3, 44.02N×8.45E, h10^{km}, MD2.6/2, ML1.7/3, Error ellipse: s-maj=2.4km s-min=1.8km az=0.0*

*NEIC **19** 17:21:40.3, 44.02N×8.45E, h10^{km}, MD2.6(ROM), ML2.8(LDG), ML2.7(GEN), ML2.6(STR), After ROM.*

ISC 19 17:21:38.6±0.5, 43.93N±0.03×8.51E±0.03, h11^{km}±3^{km}, n41, σ1^{s}11/76, 4D, Corsica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIN	Finale Ligure	0.35	322	⇓iPG	Pg	17 21 46.4	+0.5
FIN				SG	Sg	17 21 50.8	-0.1
	80nm,0.2s						
FIN	Finale Ligure	0.35	322	⇓iPg	Pg	17 21 46.4	+0.4
FIN				eSg	Sg	17 21 50.8	-0.1
RORO		0.37	300	P	Pg	17 21 46.7	+0.5
RORO				S	Sg	17 21 51.5	+0.2
IMI	Imperia	0.45	268	⇓iPG	Pg	17 21 48.8	+1.0
IMI				SG	Sg	17 21 55.3	+1.4
	224nm,0.2s						
IMI	Imperia	0.45	268	⇓iPg	Pg	17 21 48.8	+1.0
IMI				eSg	Sg	17 21 55.3	+1.4
MONE	Monesi	0.57	286	P	Pg	17 21 50.6	+0.5
MONE				S	Sg	17 21 58.2	+0.5
GENL	Genova Univers	0.58	35	P	Pg	17 21 50.2	-0.2
ROB	Roburent	0.59	309	P	Pb	17 21 50.5	0.0
ROB				S	Sg	17 21 57.8	-0.7
NEGI	Negi	0.59	262	P	Pb	17 21 51.3	+0.8
NEGI				S	Sg	17 21 59.3	+0.8
PCP	Pian Castagno	0.61	2	P	Pb	17 21 50.6	-0.2
SBF	Sospel	0.78	266	ePg	Pg	17 21 55.1	+0.8
SBF				eSg	Sg	17 22 06.0	+1.2
	360nm,0.4s						
AUTN	L'Aution	0.79	275	Pg	Pg	17 21 55.0	+0.6
AUTN				Sg	Sg	17 22 05.7	+0.8
ENR	Entracque	0.84	291	P	Pb	17 21 55.5	+0.8
ENR				S	Sb	17 22 06.5	+0.7
REVF	Revere	0.85	258	Pg	Pg	17 21 56.8	+1.1
REVF				Sg	Sg	17 22 08.7	+1.7
STV2	Anna di Valdie	0.91	291	P	Pb	17 21 56.7	+0.8
STV2				S	Sb	17 22 08.4	+0.6
STV	Sta Anna Valdi	0.91	291	P	Pb	17 21 56.8	+0.8

STV				S	Sb	17 22 08.4	+0.5
TOUF	**Mont Tournerai**	**0.92**	**276**	Pg	**Pg**	**17 21 57.3**	**+0.3**
TOUF				Sg	**Sg**	**17 22 09.6**	**+0.4**
MVIF	**Mont Vial**	**0.98**	**269**	Pg	**Pg**	**17 21 58.9**	**+0.6**
BOB	**Bobbio (Coli)**	**1.07**	**38**	*e*PN	**Pn**	**17 21 59.5**	**-0.1**
BOB				SN	**Sn**	**17 22 14.8**	**+0.3**
BOB	**Bobbio (Coli)**	**1.07**	**38**	*e*Pg	**Pg**	**17 21 59.5**	**-0.7**
BOB				*e*Sg	**Sg**	**17 22 14.8**	**+0.3**
PZZ	**Prazzo**	**1.17**	**300**	P	**Pb**	**17 22 00.7**	**+0.4**
PZZ				S	**Sb**	**17 22 15.5**	**+0.2**
CALN	**Calern**	**1.19**	**262**	Pg	**Pg**	**17 22 02.4**	**0.0**
CALN				Sg	**Sg**	**17 22 18.7**	**+0.5**
SURF	**Saint Ours**	**1.34**	**295**	Pg	**Pg**	**17 22 04.3**	**-1.1**
SURF				Sg	**Sg**	**17 22 22.2**	**-1.1**
FRF	**La Foret Royal**	**1.40**	**255**	*e*Pn	**Pn**	**17 22 03.6**	**-0.6**
FRF				*e*Pg	**Pg**	**17 22 06.2**	**-0.4**
FRF				*e*Sn	**Sn**	**17 22 21.0**	**-1.8**
FRF				*e*Sg	**Sg**	**17 22 25.3**	**0.0**
	27nm,0.3s						
PGF	**Pioggiola**	**1.43**	**165**	*e*Pn	**Pn**	**17 22 03.5**	**-1.1**
PGF				*e*Sn	**Sn**	**17 22 20.4**	**-3.0**
	8.1nm,0.3s						
ERBM	**Eremo**	**1.45**	**70**	*e*PN	**Pn**	**17 22 07.4**	**+2.4**
ERBM	**Eremo**	**1.45**	**70**	*e*Pg	**Pg**	**17 22 07.4**	**-0.3**
MBDF	**Montbardon**	**1.48**	**303**	*e*Pg	**Pg**	**17 22 06.4**	**-1.8**
MBDF				*e*Sg	**Sg**	**17 22 25.8**	**-2.2**
	37nm,0.3s						
BDI	**Bagni Di Lucca**	**1.51**	**84**	*e*PN	**Pn**	**17 22 07.9**	**+2.1**
	5.0nm,0.3s						
BDI	**Bagni Di Lucca**	**1.51**	**84**	*e*Pg	**Pg**	**17 22 07.9**	**-0.9**
FENE	**Fenestrelle**	**1.51**	**317**	P	**Pn**	**17 22 06.0**	**+0.1**
RSP	**Reno Superiore**	**1.52**	**324**	P	**Pn**	**17 22 06.0**	**+0.1**
LMR	**La Mourre**	**1.57**	**248**	*e*Pn	**Pn**	**17 22 05.5**	**-1.2**
LMR				*e*Pg	**Pg**	**17 22 09.7**	**-0.3**
LMR				*e*Sn	**Sn**	**17 22 25.2**	**-1.9**
LMR				*e*Sg	**Sg**	**17 22 30.3**	**-0.7**
	9.7nm,0.2s						
RRL	**Cesana Torines**	**1.58**	**309**	P	**Pn**	**17 22 08.1**	**+1.2**
LSD	**Ceresole Reale**	**1.81**	**328**	P	**Pn**	**17 22 11.4**	**+1.3**
LPG	**La Plagne**	**2.01**	**322**	*e*Pg	**Pg**	**17 22 15.5**	**-3.2**
LPG				*e*Sg	**Sg**	**17 22 40.9**	**-4.6**
	4.9nm,0.3s						
LPL	**La Plagne**	**2.03**	**322**	*e*Pg	**Pg**	**17 22 15.6**	**-3.6**
LPL				*e*Sg	**Sg**	**17 22 42.0**	**-4.3**
	4.2nm,0.3s						
SMRF	**Simiane la Rot**	**2.12**	**272**	*e*Pg	**Pg**	**17 22 19.0**	**-2.0**
SMRF				*e*Sg	**Sg**	**17 22 47.7**	**-1.6**
	16nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.13**	**299**	*e*Pg	**Pg**	**17 22 18.6**	**-2.5**
ORIF				*e*Sg	**Sg**	**17 22 44.7**	**-4.8**
	13nm,0.5s						
VIVF	**Saint-Julien-l**	**2.90**	**290**	*e*Pg	**Pg**	**17 22 32.5**	**-4.1**
VIVF				*e*Sn	**Sn**	**17 22 57.1**	**-3.9**
VIVF				*e*Sg	**Sg**	**17 23 10.7**	**-4.6**
	2.8nm,0.3s						
LASF	**Ste Croix**	**3.36**	**274**	*e*Pg	**Pg**	**17 22 42.7**	**-3.0**
LASF				*e*Sg	**Sg**	**17 23 25.5**	**-5.0**
	1.1nm,0.2s						

MAN 19 17:51:02.8, 6.29N×123.89E, h8^{km}, mb4.5, ML3.4, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.99**	**21**	⇓*e*P	Pb	17 51 21.6	-0.2
CTBH				*i*S	Sb	17 51 33.6	-1.2
PAGZ	**Pagadian**	**1.63**	**342**	*e*P	Pn	17 51 31.9	-0.1
PAGZ				*e*S	Sn	17 51 53.0	-0.5
BUKP	**Musuan**	**1.96**	**36**	*e*P	Pn	17 51 37.5	+0.7
BUKP				*e*S	Sn	17 52 01.8	0.0
IPIL	**Ipil**	**1.99**	**319**	*e*P	Pn	17 51 37.1	0.0
IPIL				*e*S	Sn	17 52 00.4	-2.0
MATI	**Mati**	**2.44**	**74**	*e*P	Pn	17 51 42.6	-1.0
BUTP	**Butuan**	**3.17**	**33**	*e*P	Pn	17 52 12.0	+18

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*IDC **19** 17:53:10.1±4.7, 35.46N×20.62E, mb3.8/7, mb1 3.8/10, mb1mx3.7/25, ML3.7/3, Error ellipse: s-maj=85.8km s-min=34.1km az=20.0*

*NEIC **19** 17:53:26.6, 36.70N×21.57E, h39^{km}, MD3.6(ATH), After ATH.*

*ATH **19** 17:53:26.6, 36.70N×21.56E, h39^{km}±5^{km}, MD3.6/14, ML3.5*

*THE **19** 17:53:27.2, 36.64N×21.57E, h20^{km}, ML3.6*

ISC 19 17:53:26.4±0.5**, 36.68N**±0.04×**21.49E**±0.04**, h39^{km}, n49, σ1^{s}12**/55**, mb3.6**/7**, 1C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.61**	**35**	⇑*i*PN	**P**	**17 53 38.8**	**+0.2**
VLI	**Veliai**	**1.16**	**88**	*e*PN	**P**	**17 53 47.9**	**+1.5**
KYTH	**Kithira**	**1.31**	**107**	*e*PN	**P**	**17 53 50.0**	**+1.4**
RLS	**Riolos of Patr**	**1.38**	**359**	*e*PN	**P**	**17 53 51.8**	**+2.2**
VLS	**Valsamata**	**1.66**	**335**	*e*PN	**P**	**17 53 54.8**	**+1.2**
NAIG	**Nisos Aigina**	**1.92**	**55**	*e*PN	**P**	**17 53 57.5**	**+0.2**
NSAL	**Nisos Salamina**	**1.99**	**51**	*e*PN	**P**	**17 53 58.5**	**+0.2**
MKIT	**Kithairon Oros**	**2.06**	**43**	*e*PN	**P**	**17 54 00.3**	**+1.0**
LKD	**Levkas**	**2.13**	**342**	*e*Pn	**P**	**17 54 03.2**	**+2.9**
	comp=Z,10nm,0.2s						
ATH	**Athens Observa**	**2.19**	**53**	*e*PN	**P**	**17 54 01.0**	**-0.2**
EVR	**Evrytania**	**2.25**	**6**	*e*PB	**P**	**17 54 05.5**	**+3.5**
EVR	**Evrytania**	**2.25**	**6**	*e*Pb	**P**	**17 54 06.0**	**+4.0**
LKR	**Lokris**	**2.30**	**31**	*e*PN	**P**	**17 54 03.3**	**+0.5**
MPAR	**Parnis Oros**	**2.31**	**50**	*e*PN	**P**	**17 54 03.1**	**+0.2**
PTL	**Penteli**	**2.33**	**53**	*e*PN	**P**	**17 54 03.0**	**-0.2**
AGG	**Agios Georgios**	**2.43**	**16**	*e*Pn	**P**	**17 54 06.3**	**+1.7**
	comp=Z,3.9nm,0.1s						
AGG				*e*Sn	**S**	**17 54 33.3**	**-0.1**
VAM	**Vamos**	**2.53**	**119**	*e*PN	**P**	**17 54 05.9**	**-0.2**
NEO	**Neokhori**	**2.96**	**27**	*e*PN	**P**	**17 54 12.0**	**-0.1**
IGT	**Igoumenitsa**	**2.99**	**343**	*e*Pn	**P**	**17 54 13.0**	**+0.4**
IGT				*e*Sn	**S**	**17 54 47.6**	**0.0**
XOR	**Xorichti**	**3.00**	**26**	*e*Pn	**P**	**17 54 12.9**	**+0.2**
JAN	**Janina**	**3.02**	**351**	*e*PN	**P**	**17 54 14.5**	**+1.6**
IDI	**Anoyia**	**3.08**	**116**	Pn	**P**	**17 54 13.4**	**-0.5**
	1.0nm,0.3s,baz=297,slow=15,SNR=12						
IDI				Sn	**S**	**17 54 50.1**	**+0.1**
	7.9nm,0.3s,baz=292,slow=23,SNR=7.3						
MEV	**Metsovon**	**3.11**	**356**	*e*Pn	**P**	**17 54 16.4**	**+2.1**
	comp=Z,4.3nm,0.1s						
THR5	**Thira Island,**	**3.12**	**94**	*e*Pn	**P**	**17 54 13.2**	**-1.1**
AOS	**Alonnisos**	**3.12**	**36**	*e*Pn	**P**	**17 54 13.7**	**-0.7**
KEK	**Kerkira**	**3.31**	**337**	*e*PN	**P**	**17 54 17.1**	**0.0**
LIT	**Litokhoron**	**3.51**	**13**	*e*Pn	**P**	**17 54 20.3**	**+0.4**
	comp=Z,3.4nm,0.1s						
LIT				*e*Sn	**S**	**17 54 59.5**	**-1.1**
PAIG	**Paliouri**	**3.67**	**27**	*e*Pn	**P**	**17 54 21.9**	**-0.3**
FNA	**Florina**	**4.10**	**359**	*e*Pn	**P**	**17 54 28.4**	**+0.1**
FNA				*e*Sn	**S**	**17 55 14.8**	**-0.9**
OUR	**Ouranopolis**	**4.14**	**27**	*e*Pn	**P**	**17 54 28.5**	**-0.4**
SOH	**Sokhos**	**4.38**	**19**	*e*Pn	**P**	**17 54 32.4**	**0.0**
TIP	**Timpagrande**	**4.50**	**305**	*e*Pn	**P**	**17 54 33.0**	**-1.0**
TIP				*e*Sn	Sx	17 55 09.0	
LCI	**Lecce**	**4.51**	**325**	*e*Pn	**P**	**17 54 33.5**	**-0.6**
KNT	**Kendrikon**	**4.61**	**13**	*e*Pn	**P**	**17 54 35.8**	**+0.3**
KNT				*e*Sn	**S**	**17 55 26.7**	**-1.9**
SRS	**Serrai**	**4.72**	**20**	*e*Pn	**P**	**17 54 36.5**	**-0.7**
MTTG	**Motta San Giov**	**4.81**	**288**	*e*Pn	**P**	**17 54 37.2**	**-1.1**
MGR	**Morigerati**	**5.80**	**308**	*e*Pn	**P**	**17 54 51.4**	**-0.8**
SLCN	**Sala Consilina**	**5.90**	**311**	*e*Pn	**P**	**17 54 55.0**	**+1.4**
SGO	**Sicignano**	**6.20**	**311**	*e*Pn	**P**	**17 54 58.3**	**+0.5**
MRLC	**Muro Lucano**	**6.21**	**313**	*e*Pn	**P**	**17 54 58.6**	**+0.6**
MLR	**Muntele Rosu**	**9.42**	**19**	Pn	**P**	**17 55 53.4**	**+11**
	0.2nm,0.3s,baz=214,slow=7.3,SNR=4.5						
AKASG	**Malin Array Be**	**15.08**	**19**	Pn	**P**	**17 57 00.6**	**+2.4**
	1.0nm,0.3s,baz=215,slow=11,SNR=4.3						
HFS	**Hagfors**	**24.00**	**350**	P	**P**	**17 58 37.3**	**-0.7**
	2.0nm,0.7s,mb3.7,baz=164,slow=10,SNR=5.2						
FINES	**FINESS Array B**	**24.96**	**5**	P	**P**	**17 58 45.9**	**-1.5**
	0.6nm,0.5s,mb3.4,baz=166,slow=11,SNR=8.0						
EKA	**Eskdalemuir Ar**	**25.10**	**326**	P	**P**	**17 58 41.3**	**-7.4**
	1.7nm,0.9s,mb3.6,baz=96,slow=7.1,SNR=4.2						
NOA	**NORSAR Array B**	**25.24**	**348**	P	**P**	**17 58 47.6**	**-2.4**
	0.5nm,0.6s,mb3.2,baz=160,slow=9.1,SNR=3.6						
ARCES	**ARCESS Array B**	**32.99**	**3**	P	**P**	**17 59 56.9**	**-2.6**
	1.9nm,1.0s,mb4.0,baz=189,slow=9.6,SNR=5.6						
BVAR	**Borovoye Array**	**37.51**	**48**	P	**P**	**18 00 36.6**	**-1.5**
	0.6nm,0.4s,mb3.7,baz=207,slow=3.2,SNR=2.7						
MKAR	**Makanchi Array**	**45.44**	**57**	P	**P**	**18 01 40.7**	**-2.5**
	0.4nm,0.4s,mb3.6,baz=270,slow=8.2,SNR=8.7						

WEL 19 17:59:33.0±0.2**, 37.84S×176.96E, h138^{km}**±2^{km}**, ML4.1**/5**, 9C-1D, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.27**	**238**	PN	P	17 59 52.0	-0.5
URZ	**Urewera**	**0.43**	**164**	⇑PN	P	17 59 52.4	-0.8
URZ				SN	S	18 00 07.0	-1.6
URZ				SN	S	18 00 07.3	-1.4
LIRZ	**Lichensteins R**	**0.49**	**250**	PN	P	17 59 52.8	-0.6
TAZ	**Tarawera**	**0.53**	**222**	PN	P	17 59 53.5	-0.2
TGRZ	**Tauranga**	**0.57**	**281**	PN	P	17 59 53.3	-0.6
TGRZ				SN	S	18 00 09.0	-0.8
MWZ	**Matawai**	**0.66**	**138**	⇑PN	P	17 59 54.0	-0.5
MWZ				SN	S	18 00 09.9	-1.0
UTU	**Utuhina**	**0.69**	**241**	PN	P	17 59 54.6	0.0
PATZ	**Paeroa**	**0.77**	**226**	PN	P	17 59 55.1	0.0
MYRZ	**Mayor Island**	**0.80**	**314**	PN	P	17 59 54.9	-0.4
PUZ	**Puketiti**	**1.05**	**103**	⇑PN	P	17 59 56.9	-0.4
PUZ				SN	S	18 00 15.1	-0.9
MXZ	**Matakaoa Point**	**1.10**	**76**	PN	P	17 59 57.6	-0.2
MXZ				SN	S	18 00 16.1	-0.8
KNZ	**Kokohu**	**1.30**	**155**	⇑PN	P	18 00 00.0	+0.1
KNZ				SN	S	18 00 20.9	+0.3
BKZ	**Black Stump Fm**	**1.37**	**195**	⇑PN	P	18 00 00.1	-0.6
BKZ				SN	S	18 00 20.5	-1.4
KUZ	**Kuaotunu**	**1.48**	**317**	⇓PN	P	18 00 00.7	-1.0
KATZ	**Kakaramea**	**1.51**	**221**	PN	P	18 00 02.1	-0.1
MGZ	**Maungaku**	**1.61**	**224**	PN	P	18 00 03.1	-0.2
KAVZ	**Karewarewa**	**1.62**	**219**	*e*PN	P	18 00 03.6	+0.1
NGZ	**Ngauruhoe**	**1.71**	**218**	PN	P	18 00 04.2	-0.2
TWVZ	**Taurewa**	**1.71**	**224**	PN	P	18 00 04.0	-0.4
CNZ	**Chateau**	**1.75**	**219**	PN	P	18 00 04.9	0.0
TUVZ	**Tukino**	**1.76**	**215**	⇑PN	P	18 00 04.5	-0.5
WPVZ	**Whakapapa**	**1.76**	**219**	PN	P	18 00 04.9	0.0
FWVZ	**Far West T-bar**	**1.79**	**218**	PN	P	18 00 04.9	-0.4
MOVZ	**Moawhango**	**1.83**	**211**	PN	P	18 00 04.6	-1.1
MOVZ				SN	S	18 00 29.0	-1.8
WNVZ	**Wahianoa**	**1.83**	**215**	⇑PN	P	18 00 05.2	-0.6
VRZ	**Vera Road**	**2.15**	**233**	PN	P	18 00 09.3	-0.5
PWZ	**Pawanui**	**2.19**	**182**	PN	P	18 00 09.0	-1.2
PWZ				SN	S	18 00 33.0	-5.5
TSZ	**Takapari Road**	**2.35**	**199**	PN	P	18 00 10.5	-1.8
TSZ				SN	S	18 00 36.4	-5.8
WAZ	**Wanganui**	**2.46**	**218**	PN	P	18 00 12.4	-1.2
WAZ				SN	S	18 00 43.8	-0.8
BFZ	**Birch Farm**	**2.89**	**191**	PN	P	18 00 16.8	-2.5
MRZ	**Mangatainoka R**	**3.01**	**200**	PN	P	18 00 18.0	-2.9
MRZ				SN	S	18 00 53.3	-4.1
KIW	**Kapiti Island**	**3.41**	**207**	PN	P	18 00 22.6	-3.5
KIW				SN	S	18 01 02.1	-4.6
MTW	**Mount Morrison**	**3.50**	**198**	⇑PN	P	18 00 23.5	-3.8
CAW	**Cannon Point**	**3.58**	**204**	⇑PN	P	18 00 24.5	-3.8
CAW				SN	S	18 01 05.8	-4.8
PAWZ	**Paruwai Farm**	**3.73**	**198**	PN	P	18 00 26.3	-4.0
MSWZ	**Moikau Station**	**3.81**	**200**	PN	P	18 00 27.0	-4.3
MSWZ				SN	S	18 01 10.5	-5.5
MRW	**Makara Radio**	**3.81**	**207**	PN	P	18 00 27.2	-4.2
MRW				SN	S	18 01 11.1	-5.0
SNZO	**South Karori**	**3.88**	**206**	PN	P	18 00 27.8	-4.5
SNZO				SN	S	18 01 12.3	-5.4
TUWZ	**Tuamarina**	**4.28**	**212**	*e*PN	P	18 00 32.1	-5.4
NNZ	**Nelson**	**4.36**	**218**	PN	P	18 00 34.8	-4.0
NNZ				SN	S	18 01 24.2	-5.1
QRZ	**Quartz Range**	**4.55**	**228**	PN	P	18 00 36.9	-4.3
THZ	**Tophouse**	**5.01**	**217**	PN	P	18 00 43.0	-4.4
KHZ	**Kahutara**	**5.27**	**209**	PN	P	18 00 45.9	-4.9
LTZ	**Lake Taylor**	**6.10**	**215**	PN	P	18 00 56.3	-5.6
MQZ	**McQueen’s Vall**	**6.71**	**208**	*e*PN	P	18 01 03.4	-6.8

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*MOS **19** 18:03:00.4±1.2, 54.64N×161.66E, h61^{km}, mb4.1/6, Error ellipse: s-maj=22.0km s-min=9.2km az=73.3*

*KRSC **19** 18:03:01.0±1.3, 54.60N×161.66E, h42^{km}±2^{km}, ML4.4*

*IDC **19** 18:03:03.8±7.3, 54.77N×161.38E, h67^{km}±68^{km}, mb3.5/11, mb1 3.7/12, mb1mx3.5/26, ML3.8/1, Error ellipse: s-maj=24.2km s-min=17.5km az=140.0*

*NEIC **19** 18:03:03.5±1.2, 54.70N×161.40E, h70^{km}±11^{km}, mb4.4/6, Error ellipse: s-maj=12.4km s-min=9.5km az=119.0*

ISC 19 18:03:00.7±0.4**, 54.61N**±0.02×**161.73E**±0.05**, h61^{km}**±4^{km}**, n70, σ1^{s}08**/106**, mb4.0**/16**, 1C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.05**	**180**	P	**P**	**18 03 08.2**	**-1.6**
MKZ	**Mys Kozlova**	**0.05**	**180**	*i*P	**P**	**18 03 08.3**	**-1.5**
MKZ				*i*S	**S**	**18 03 12.8**	**-3.6**
TUMR	**Tumrok**	**1.14**	**307**	*i*P	**P**	**18 03 20.3**	**-0.6**
TUMR				*e*S	**S**	**18 03 34.9**	**-1.0**
KMNR	**Kamenistaya**	**1.44**	**324**	*e*P	**P**	**18 03 25.2**	**+0.1**
KMNR				*e*S	**S**	**18 03 43.5**	**+0.3**
KII	**Karymskiy**	**1.45**	**248**	P	**P**	**18 03 24.7**	**-0.7**
KII	**Karymskiy**	**1.45**	**248**	*e*P	**P**	**18 03 24.6**	**-0.8**
KII				*e*S	**S**	**18 03 42.8**	**-0.8**
ZLN	**Zelenaya**	**1.51**	**340**	*e*P	**P**	**18 03 27.3**	**+1.2**
ZLN				*e*S	**S**	**18 03 46.2**	**+1.3**
LGNR	**Loginova**	**1.59**	**339**	*e*P	**P**	**18 03 27.8**	**+0.5**
LGNR				*e*S	**S**	**18 03 47.7**	**+0.8**
CIRR	**Tsirk**	**1.61**	**340**	*e*P	**P**	**18 03 27.8**	**+0.3**
CIRR				*e*S	**S**	**18 03 47.4**	**+0.1**
KPT	**Kopyto**	**1.61**	**328**	*e*P	**P**	**18 03 28.4**	**+0.9**
KPT				*e*S	**S**	**18 03 47.6**	**+0.3**
KBTR	**Krutoberegovo**	**1.72**	**21**	P	**P**	**18 03 30.3**	**+1.3**
KBTR				S	**S**	**18 03 50.7**	**+0.8**
KBTR	**Krutoberegovo**	**1.72**	**21**	*e*P	**P**	**18 03 30.3**	**+1.3**
KBTR				*e*S	**S**	**18 03 50.9**	**+1.0**
KBG	**Krutoberegovo**	**1.74**	**18**	*e*P	**P**	**18 03 30.0**	**+0.7**
KBG				*e*S	**S**	**18 03 50.0**	**-0.4**
KBG				Smax			
	2μm,1.0s						
KRSR	**Krestovskiy**	**1.75**	**338**	*e*P	**P**	**18 03 29.4**	**+0.1**
KRSR				*e*S	**S**	**18 03 51.1**	**+0.6**
KOZ	**Kozyrevsk**	**1.80**	**325**	*i*P	**P**	**18 03 30.5**	**+0.4**
KOZ				*e*S	**S**	**18 03 52.0**	**+0.2**
KLY	**Klyuchi**	**1.82**	**341**	P	**P**	**18 03 29.9**	**-0.4**
KLY				S	**S**	**18 03 50.5**	**-1.7**
KLY	**Klyuchi**	**1.82**	**341**	*i*P	**P**	**18 03 29.9**	**-0.4**
KLY				*e*S	**S**	**18 03 50.4**	**-1.8**
SPN	**Mys Shipunski**	**1.82**	**214**	P	**P**	**18 03 29.2**	**-1.2**
SPN				S	**S**	**18 03 49.6**	**-2.7**
SPN	**Mys Shipunski**	**1.82**	**214**	*i*P	**P**	**18 03 29.5**	**-0.9**
SPN				*i*S	**S**	**18 03 50.0**	**-2.3**
SVLR	**Shiveluch**	**2.00**	**352**	*e*P	**P**	**18 03 33.6**	**+0.8**
SVLR				*e*S	**S**	**18 03 57.3**	**+0.8**
NLC	**Nalytchevo**	**2.02**	**225**	P	**P**	**18 03 33.3**	**+0.2**
NLC				S	**S**	**18 03 57.0**	**-0.1**
NLC	**Nalytchevo**	**2.02**	**225**	*e*P	**P**	**18 03 33.2**	**+0.1**
NLC				*e*S	**S**	**18 03 57.0**	**-0.1**
SDLR	**Sedlovina**	**2.15**	**233**	*e*P	**P**	**18 03 35.1**	**+0.1**
SDLR				*e*S	**S**	**18 04 02.1**	**+1.7**
ESO	**Esso**	**2.18**	**309**	*i*P	**P**	**18 03 35.0**	**-0.4**
ESO				*e*S	**S**	**18 03 59.0**	**-2.2**
ESO				Smax			
	230nm,1.0s						
SMAR	**Somma**	**2.19**	**233**	*e*P	**P**	**18 03 36.1**	**+0.5**
SMAR				*e*S	**S**	**18 04 03.3**	**+1.7**
UGLR	**Uglovaya**	**2.22**	**232**	*e*P	**P**	**18 03 36.6**	**+0.6**
UGLR				*e*S	**S**	**18 04 03.5**	**+1.3**
AVH	**Avacha**	**2.22**	**234**	*e*P	**P**	**18 03 36.5**	**+0.5**
AVH				*e*S	**S**	**18 04 03.8**	**+1.5**
KOK	**Koryaka**	**2.25**	**235**	*e*P	**P**	**18 03 36.5**	**0.0**
KOK				*e*S	**S**	**18 04 03.7**	**+0.6**
GNL	**Ganaly**	**2.41**	**249**	*e*P	**P**	**18 03 39.1**	**+0.4**
GNL				*e*S	**S**	**18 04 07.1**	**+0.1**
PET	**Petropavlovsk**	**2.42**	**230**	P	**P**	**18 03 39.1**	**+0.3**
PET				S	**S**	**18 04 07.0**	**-0.2**
PET	**Petropavlovsk**	**2.42**	**230**	*e*P	**P**	**18 03 39.1**	**+0.3**
PET				*e*S	**S**	**18 04 06.9**	**-0.3**
PET	**Petropavlovsk**	**2.42**	**230**	*e*PN	**P**	**18 03 40.4**	**+1.6**
PET				*i*S	**S**	**18 04 07.8**	**+0.6**
PET				pmax	pmax		
	comp=Z,91nm,0.6s						
PET				smax			
	comp=N,703nm,0.9s						
PET				smax			
	comp=E,895nm,0.5s						
PET	**Petropavlovsk**	**2.42**	**230**	*e*Pn	**P**	**18 03 39.2**	**+0.4**
PET				*e*S	**S**	**18 04 07.4**	**+0.2**
BKI	**Bering**	**2.52**	**75**	*i*P	**P**	**18 03 40.1**	**-0.2**
BKI				*e*S	**S**	**18 04 08.4**	**-1.5**
RUS	**Russkaya**	**2.90**	**223**	*e*P	**P**	**18 03 45.8**	**+0.1**
RUS				*e*S	**S**	**18 04 17.8**	**-1.7**
GRL	**Gorelyy**	**3.00**	**228**	*i*P	**P**	**18 03 47.7**	**+0.7**
GRL				*e*S	**S**	**18 04 22.6**	**+0.7**
APC	**Apacha**	**3.19**	**240**	*e*P	**P**	**18 03 51.7**	**+1.9**
APC				*e*S	**S**	**18 04 25.4**	**-1.4**
MIPR	**Malaya Ipel’ka**	**3.78**	**234**	*e*P	**P**	**18 03 58.8**	**+0.8**
PAU	**Pauzhetka**	**4.33**	**225**	P	**P**	**18 04 05.5**	**-0.1**
PAU				*e*S	**S**	**18 04 52.5**	**-2.8**
PAU				Smax			
	comp=E,200nm,0.6s						
SKR	**Severo-Kuril’s**	**5.21**	**223**	*e*P	**P**	**18 04 17.6**	**-0.3**
SKR				*e*S	**S**	**18 05 13.0**	**-4.4**
ALID	**Alaid**	**5.30**	**228**	*e*P	**P**	**18 04 18.8**	**-0.4**
MA2	**Magadan**	**7.77**	**314**	*e*Pn	**P**	**18 04 51.5**	**-2.0**
ASAJ	**Asahikawa**	**16.24**	**238**	P	**P**	**18 06 47.0**	**+1.0**
	comp=E,0.6nm,0.3s,baz=104,slow=31,SNR=3.9						
ASAJ	**Asahikawa**	**16.24**	**238**	P	**P**	**18 06 47.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**18.24**	**307c**	*i*P	**P**	**18 07 09.6**	**-1.2**
YAK	**Yakutsk**	**18.24**	**307**	*e*P	**P**	**18 07 09.1**	**-1.7**
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**24.25**	**231**	P	**P**	**18 08 13.0**	**+0.2**
	comp=Z,20nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**27.07**	**47**	P	**P**	**18 08 39.4**	**+0.5**
	comp=Z,1.3nm,1.1s,mb3.4,baz=249,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**27.07**	**47**	P	**P**	**18 08 39.4**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
INK	**Inuvik**	**32.08**	**39**	P	**P**	**18 09 23.4**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=185,slow=6.8,SNR=6.8						
INK	**Inuvik**	**32.08**	**39**	P	**P**	**18 09 23.4**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**32.08**	**39**	P	**P**	**18 09 22.7**	**-0.8**
	comp=Z,3.1nm,1.1s,mb4.0						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**18 10 43.2**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=299,slow=7.4,SNR=3.3						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**18 10 43.2**	**+1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.76**	**302**	*e*P	**P**	**18 11 30.2**	**-2.9**
	comp=Z,0.9nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**48.38**	**295**	P	**P**	**18 11 36.1**	**-1.8**
	comp=Z,0.3nm,0.5s,mb3.6,baz=45,slow=8.6,SNR=4.8						
BVAR	**Borovoye Array**	**50.21**	**308**	P	**P**	**18 11 50.8**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.7,baz=76,slow=5.9,SNR=2.3						
SUMG	**Summit**	**52.34**	**8**	*e*P	**P**	**18 12 07.6**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.6						
ARU	**Arti**	**52.94**	**317**	*e*P	**P**	**18 12 06.0**	**-6.4**
	comp=Z,5.6nm,0.5s,mb4.8						
PDAR	**Pinedale Array**	**55.95**	**63**	P	**P**	**18 12 36.6**	**+2.0**
	comp=Z,0.2nm,0.4s,mb3.5,baz=284,slow=6.1,SNR=3.9						
FINES	**FINESS Array B**	**59.11**	**337**	P	**P**	**18 12 55.6**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=45,slow=5.9,SNR=7.1						
FINES	**FINESS Array B**	**59.11**	**337**	P	**P**	**18 12 55.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**61.76**	**328**	*e*P	**P**	**18 13 21.5**	**+6.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
NOA	**NORSAR Array B**	**62.35**	**344**	P	**P**	**18 13 17.1**	**-1.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=20,slow=6.7,SNR=3.3						
NOA	**NORSAR Array B**	**62.35**	**344**	P	**P**	**18 13 17.1**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**62.80**	**343**	P	**P**	**18 13 19.8**	**-1.7**
	comp=Z,0.8nm,0.5s,mb4.1,slow=1.4,SNR=4.9						
HFS	**Hagfors**	**62.80**	**343**	P	**P**	**18 13 19.8**	**-1.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**77.87**	**206**	P	**P**	**18 14 53.8**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=22,slow=6.0,SNR=5.2						
ASAR	**Alice Springs**	**81.54**	**206**	P	**P**	**18 15 14.4**	**+1.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=19,slow=5.5,SNR=11						
QSPA	**South Pole Qui**	**144.35**	**180**	*e*P	PKPbc	18 22 28.8	+1.3

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*BJI **19** 18:14:20.4, 22.24S×67.54W, h227^{km}, mB4.5*

*NEIC **19** 18:14:20.9±0.7, 21.40S×66.66W, h207^{km}±6^{km}, mb4.4/23, Error ellipse: s-maj=12.1km s-min=7.4km az=69.0*

*SYO **19** 18:14:20.9, 21.40S×66.66W, h207^{km}, MB4.4*

*IDC **19** 18:14:21.8±1.4, 21.43S×66.79W, h211^{km}±10^{km}, mb3.8/7, mb1 4.1/11, mb1mx3.9/17, Error ellipse: s-maj=25.7km s-min=10.1km az=94.0*

ISC 19 18:14:20.1±0.8**, 21.38S**±0.05×**66.71W**±0.09**, h213^{km}**±6^{km}**, n60, σ1^{s}28**/55**, mb4.1**/26**, 1C-3D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**239**	P	**P**	**18 15 05.3**	**+1.3**
	7.1nm,0.3s,baz=49,slow=7.6,SNR=126						
LVC				S	**S**	**18 15 38.1**	**+0.1**
	52nm,0.3s,baz=237,slow=20,SNR=51						
LVC	**Limon Verde**	**2.38**	**239**	*e*Pn	**P**	**18 15 05.2**	**+1.2**
LVC				*e*S	**S**	**18 15 36.8**	**-1.2**
LPAZ	**La Paz**	**5.24**	**345**	P	**P**	**18 15 41.6**	**+3.1**
	21nm,0.3s,baz=158,slow=12,SNR=152						
LPAZ				S	**S**	**18 16 42.8**	**+3.3**
	baz=348,slow=21,SNR=4.9						
LPAZ	**La Paz**	**5.24**	**345**	*e*Pn	**P**	**18 15 41.1**	**+2.6**
LPAZ				*e*S	**S**	**18 16 39.7**	**+0.3**
ARE	**Arequipa**	**6.66**	**316**	*e*P	**P**	**18 15 56.3**	**-0.5**
ARE				*i*S	**S**	**18 17 08.5**	**-3.7**
CPUP	**Villa Florida**	**9.90**	**122**	P	**P**	**18 16 44.0**	**+5.2**
	1.2nm,0.3s,baz=326,slow=12,SNR=16						
CPUP	**Villa Florida**	**9.90**	**122**	*e*P	**P**	**18 16 38.7**	**0.0**
MDZ	**Mendoza**	**11.62**	**189**	*e*P	**P**	**18 16 52.1**	**-8.6**
SAML	**Samuel**	**12.82**	**16**	*e*P	**P**	**18 17 15.9**	**+0.1**
	7.8nm,0.8s						
NNA	**Nana**	**13.46**	**312**	*e*P	**P**	**18 17 21.5**	**-2.4**
	25nm,0.8s						
TRQA	**Tornquist**	**17.12**	**167**	*e*P	**P**	**18 18 04.5**	**-3.5**
	7.5nm,0.6s						
PLCA	**Paso Flores**	**19.57**	**189**	P	**P**	**18 18 32.6**	**-0.8**
	0.9nm,0.3s,baz=11,slow=11,SNR=20						
PLCA	**Paso Flores**	**19.57**	**189**	*e*P	**P**	**18 18 32.6**	**-0.8**
	13nm,0.9s						
RCBR	**Riachuelo**	**33.60**	**67**	P	**P**	**18 20 42.3**	**-0.1**
	6.1nm,0.8s,mb4.2						
SJG	**San Juan**	**39.25**	**1**	P	**P**	**18 21 27.9**	**-1.8**
OXF	**Oxford**	**59.63**	**338**	P	**P**	**18 24 01.5**	**-2.4**
	30nm,1.0s,mb4.9						
VNA2	**Neumayer--Watz**	**60.09**	**161**	⇑*i*	**P**	**18 24 09.8**	**+3.2**
VNA2	**Neumayer--Watz**	**60.09**	**161**		pP	18 24 51.7	-3.7
JCT	**Junction City**	**60.58**	**327**	*e*P	**P**	**18 24 08.3**	**-2.1**
	8.9nm,0.9s,mb4.4						
MIAR	**Mount Ida**	**61.20**	**335**	*e*P	**P**	**18 24 13.8**	**-0.7**
	7.3nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**61.73**	**323**	P	**P**	**18 24 15.3**	**-2.8**
	0.5nm,0.4s,mb3.5,baz=146,slow=9.0,SNR=3.5						
SNAA	**Sanae**	**61.73**	**161**		PcP	18 24 55.6	-1.0
SNAA	**Sanae**	**61.73**	**161**	⇓*i*	pP	18 25 04.2	-2.5
SNAA	**Sanae**	**61.73**	**161**	P	**P**	**18 24 17.7**	**+0.1**
	0.4nm,0.7s,mb3.2						
SNAA	**Sanae**	**61.73**	**161**	⇓*i*P	**P**	**18 24 15.9**	**-1.7**
SNAA				*e*P		18 24 17.7	
CCM	**Cathedral Cave**	**63.46**	**339**	*e*P	**P**	**18 24 27.9**	**-1.5**
	16nm,0.6s,mb4.8						
WMOK	**Wichita Mounta**	**63.59**	**331**	*e*P	**P**	**18 24 29.3**	**-1.0**
	1.9nm,0.8s,mb3.8						
DBIC	**Dimbokro**	**66.74**	**72**	P	**P**	**18 24 48.7**	**-2.2**
	10.0nm,1.1s,mb4.4						
BNM	**Barren Site**	**67.03**	**325**	*e*P	**P**	**18 24 53.3**	**+1.0**
LAZ	**Ladron**	**67.49**	**325**	*e*P	**P**	**18 24 56.1**	**+0.9**
ANMO	**Albuquerque**	**67.54**	**325**	*e*P	**P**	**18 24 55.8**	**+0.3**
	3.2nm,0.8s,mb4.0						
TUC	**Tucson**	**68.02**	**321**	*e*P	**P**	**18 24 58.7**	**+0.1**
	6.5nm,1.1s,mb4.2						
QSPA	**South Pole Qui**	**68.81**	**180**	*e*P	**P**	**18 25 03.3**	**+0.7**
	1.5nm,0.5s,mb3.9						
SDCO	**Great Sand Dun**	**69.21**	**328**	*e*P	**P**	**18 25 06.7**	**+1.0**
	11nm,0.9s,mb4.5						
PV01	**Paradox Valley**	**71.06**	**326**	*e*P	**P**	**18 25 18.5**	**+1.6**
PV10	**Paradox Valley**	**71.49**	**326**	*e*P	**P**	**18 25 19.6**	**+0.2**
RSSD	**Black Hills**	**73.60**	**333**	*e*P	**P**	**18 25 32.5**	**+0.8**
	4.5nm,1.0s,mb4.0						
JLU	**Jordanelle**	**74.39**	**326**	*e*P	**P**	**18 25 37.1**	**+0.7**
PDAR	**Pinedale Array**	**75.05**	**329**	P	**P**	**18 25 40.9**	**+0.8**
	1.1nm,0.6s,mb3.7,baz=128,slow=8.2,SNR=13						
HWUT	**Hardware Ranch**	**75.18**	**327**	*e*P	**P**	**18 25 41.0**	**+0.1**

	3.2nm,0.6s,mb4.1						
AHID	Auburn Hatcher	75.80	328	eP	P	18 25 44.9	+0.6
	6.9nm,0.7s,mb4.4						
ULM	Lac du Bonnet	75.84	341	P	P	18 25 43.6	-0.8
	8.1nm,0.8s,mb4.4,baz=149,slow=3.4,SNR=7.8						
SYO	Syowa Base	75.89	159	⇓P	P	18 25 43.7	-0.6
SCHQ	Schefferville	75.90	360	P	P	18 25 44.5	-0.1
	3.7nm,0.8s,mb4.1,baz=169,slow=5.2,SNR=3.4						
SCHQ	Schefferville	75.90	360	eP	P	18 25 41.3	-3.3
	28nm,1.4s,mb4.7						
ELK	Elko	76.51	324	eP	P	18 25 47.3	-1.0
	2.9nm,0.7s,mb4.0						
NVAR	Mina Array Bea	76.68	321	P	P	18 25 50.6	+1.4
	3.7nm,1.0s,mb4.0,baz=145,slow=9.0,SNR=7.3						
VNDA	Vanda	77.32	190	P	P	18 25 52.7	+0.7
	1.8nm,1.3s,mb3.5						
HLID	Hailey	78.05	327	eP	P	18 25 58.5	+1.9
	4.8nm,0.7s,mb4.2						
ESDC	Sonseca Array	84.32	44	P	P	18 26 29.9	+0.4
	0.3nm,0.3s,mb3.4,baz=248,slow=3.5,SNR=4.2						
YKA	Yellowknife Ar	91.77	340	P	P	18 27 05.2	+0.9
	2.0nm,0.6s,mb4.2,baz=128,slow=4.9,SNR=9.8						
YKW3	Yellowknife Ar	91.82	340	P	P	18 27 05.2	+0.6
ESK	Eskdalemuir	93.42	31	P	P	18 27 15.2	+3.1
	8.4nm,0.9s,mb4.8						
ASAR	Alice Springs	130.93	205	PKP	PKPdf	18 33 08.3	+1.4
	0.7nm,0.8s,baz=200,slow=4.2,SNR=5.6						
ASAR				SKPbc		18 36 11.7	
	1.0nm,0.6s,baz=146,slow=3.4,SNR=15						
WRA	Warramunga Arr	134.06	208	PKP	PKPdf	18 33 14.8	+2.0
	0.3nm,0.3s,baz=153,slow=2.0,SNR=13						
BVAR	Borovoye Array	134.53	35	PKP	PKPdf	18 33 15.4	+2.7
	0.7nm,0.9s,baz=270,slow=1.4,SNR=3.9						
MKAR	Makanchi Array	144.31	37	PKP	PKPdf	18 33 32.0	+1.5
	6.2nm,0.6s,baz=314,slow=3.6,SNR=64						
MKAR				SKPbc		18 36 51.8	
	0.4nm,0.8s,baz=315,slow=1.7,SNR=4.1						
SONM	Songino Array	153.03	10	PKP	PKPdf	18 33 47.5	+3.2
	1.2nm,1.0s,baz=310,slow=1.5,SNR=6.2						
SONM				PKPbc	PKPdf	18 33 54.7	+10
	1.7nm,0.6s,baz=323,slow=0.9,SNR=12						
SONM				PKPab	PKPab	18 34 06.9	+0.4
	0.4nm,0.8s,baz=329,slow=4.3,SNR=4.9						
CN2	Changchun	155.46	338	ePKP	PKPdf	18 33 47.3	-0.3
NJ2	Nanjing	168.27	336	ePKP	PKPdf	18 34 00.5	-0.4

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*ISK **19** 18:50:04.6, 38.40N×39.05E, h5^{km}, MD3.5*

ISC 19 18:50:05.7±0.5**, 38.37N**±0.05×**39.13E**±0.04**, h5^{km}, n18, σ1^{s}.28**/25**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.17	319	⇑iP	Pg	18 50 08.0	-1.3
ELZG				iS	Sg	18 50 12.1	+0.4
MALT	Malatya	0.56	265	iPG	Pg	18 50 15.3	-1.5
MALT				iSG	Sg	18 50 23.8	-0.5
MYA	Malataya	0.56	266	iPG	Pg	18 50 15.0	-1.9
BINT	Bingol	1.18	64	PN	Pn	18 50 29.4	+0.6
EZC	Erzincan	1.48	21	PN	Pn	18 50 31.3	-1.8
GZT	Gaziantep	1.60	231	iP	Pn	18 50 34.5	-0.3
GZT				iS	Sb	18 51 01.4	+5.6
BEST	Besiri	1.75	105	iP	Pn	18 50 35.8	-1.3
BEST				iS	Sn	18 50 59.8	-0.3
BTMT	Batman	1.86	95	PN	Pn	18 50 37.8	-0.8
KAHT	Ahir Dag	1.93	248	iP	Pn	18 50 40.6	+1.1
KAHT				iS	Sn	18 51 09.9	+5.5
GUMT	Gumushane	2.11	7	ePN	Pn	18 50 43.0	+0.9
SVST	Sivas	2.20	310	iP	Pg	18 50 46.9	-2.7
SVST				iS	Sg	18 51 18.6	-0.4
SVSK	Karacayir	2.27	314	PN	Pn	18 50 44.5	+0.1
EZM	Erzurum	2.32	48	ePN	Pn	18 50 46.5	+1.4
ERZM	Erzurum	2.32	48	iP	Pn	18 50 45.5	+0.3
COBT	Iskenderun	2.94	232	iP	Pn	18 50 56.3	+2.3
COBT				iS	Sx	18 51 42.7	
AVNT	Avonos	3.38	278	iP	Pn	18 51 01.4	+1.3
AVNT				iS	Sx	18 51 49.7	
CTKT	Corum	4.04	305	iP	Pn	18 51 11.5	+1.8
CTKT				iS	Sg	18 52 15.2	-5.1
ELDT	Eldivan	4.90	297	iP	Pn	18 51 24.1	+2.2

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*IDC **19** 18:52:01.3±1.0, 11.36N×143.26E, mb4.0/9, mb1 4.2/9, mb1mx4.1/20, Error ellipse: s-maj=38.9km s-min=18.5km az=86.0*

*NEIC **19** 18:52:07.3±1.9, 11.30N×143.16E, h40^{km}±20^{km}, mb4.4/5, Error ellipse: s-maj=23.1km s-min=10.1km az=95.0*

ISC 19 18:52:05.4±2.5**, 11.29N**±0.08×**143.2E**±0.2**, h40^{km}**±25^{km}**, n17, σ0^{s}.73**/18**, mb4.1**/14**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.83	36	ePn	P	18 52 49.7	+0.5
GUMO				eSn	S	18 53 21.7	-0.6
WRAB	Tennant Creek	32.22	196	eP	P	18 58 31.7	-0.6
	5.9nm,0.7s,mb4.5						
WRA	Warramunga Arr	32.23	196	P	P	18 58 32.0	-0.4
	2.4nm,0.8s,mb4.1,baz=17,slow=9.6,SNR=18						
ASAR	Alice Springs	35.90	195	P	P	18 59 04.5	+0.6
	0.8nm,0.5s,mb3.9,baz=18,slow=12,SNR=14						
ASAR				PcP	PcP	19 01 31.9	+1.2
	0.4nm,0.5s,baz=41,slow=3.8,SNR=4.5						
STKA	Stephens Creek	42.95	182	P	P	19 00 02.3	0.0
	2.9nm,1.1s,mb3.9,baz=352,slow=11,SNR=3.4						
STKA	Stephens Creek	42.95	182	P	P	19 00 02.3	0.0
STKA				eP		19 00 02.6	
CMAR	Chiang Mai Arr	43.24	285	P	P	19 00 05.4	+0.5
	2.0nm,0.7s,mb4.0,baz=88,slow=6.8,SNR=15						
SONM	Songino Array	47.69	327	P	P	19 00 40.8	+0.8
	0.2nm,0.4s,mb3.5,baz=143,slow=6.2,SNR=3.7						
MKAR	Makanchi Array	62.01	317	P	P	19 02 23.6	-0.4
	0.6nm,0.6s,mb3.9,baz=101,slow=6.2,SNR=8.2						
KURK	Kurchatov	65.28	321	eP	P	19 02 43.9	-1.4
	2.3nm,0.5s,mb4.5						
BRVK	Borovoye	70.77	322	eP	P	19 03 20.1	+0.6
	5.4nm,0.7s,mb4.6						
ILAR	Eielson Array	71.35	25	P	P	19 03 22.6	-0.1
	0.6nm,0.5s,mb3.8,baz=253,slow=5.9,SNR=5.4						
ZRNK	Zerenda	71.53	322	eP	P	19 03 23.6	-0.4
	1.8nm,0.7s,mb4.1						
INK	Inuvik	77.11	22	P	P	19 03 57.9	+1.8
	2.1nm,1.0s,mb4.0						
ARCES	ARCESS Array B	88.74	342	P	P	19 04 55.0	-0.6
	2.0nm,0.9s,mb4.4,baz=59,slow=7.1,SNR=3.8						
ARCES	ARCESS Array B	88.74	342	P	P	19 04 55.0	-0.6
FINES	FINESS Array B	92.52	335	P	P	19 05 13.2	-0.2
	1.6nm,0.9s,mb4.5,baz=72,slow=4.4,SNR=3.6						

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*IDC **19** 19:00:15.8±2.3, 9.38S×116.81E, mb3.8/4, mb1 3.9/6, mb1mx3.8/16, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=139.0km s-min=19.9km az=51.0*

*DJA **19** 19:00:25.0±0.7, 9.54S×117.17E, h65^{km}±29^{km}, MD4.7/4, ML5.0/6, Error ellipse: s-maj=28.7km s-min=7.8km az=149.0*

*NEIC **19** 19:00:26.6±0.7, 9.47S×117.00E, h94^{km}±7^{km}, mb4.1/5, Error ellipse: s-maj=11.0km s-min=8.1km az=203.0*

ISC 19 19:00:25.3±0.7**, 9.40S**±0.07×**117.08E**±0.05**, h98^{km}**±7^{km}**, n22, σ0^{s}.92**/28**, mb3.8**/8**, 5C-7D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.31	314	⇓ePn	P	19 00 49.4	-0.2
	2μm,0.2s						
KEDI				⇓eSn	S	19 01 07.3	-0.4
RATI	Rata	1.67	294	⇓ePn	P	19 00 53.7	-0.3
	1μm,0.2s						
RATI				⇓eSn	S	19 01 15.1	-0.1
INGI	Ingas	1.99	287	⇓ePn	P	19 00 58.2	0.0
	3μm,0.2s						
INGI				⇑eSn	S	19 01 22.3	-0.2
KELI	Kelakatan	2.81	295	⇑ePn	P	19 01 09.5	0.0
	240nm,0.2s						
KELI				⇑eSn	S	19 01 43.2	+0.6
NINI	Niniconang	5.62	28	⇑ePn	P	19 01 49.3	+1.5
	229nm,0.2s						
NINI				⇑eSn	S	19 02 49.7	-1.9
TANI	Tanete Lipujan	6.35	21	⇓ePn	P	19 01 58.7	+0.7
BUNI	Buntu Taipa	6.55	30	⇓ePn	P	19 02 01.9	+1.2
	20nm,0.2s						
FITZ	Fitzroy Crossi	12.00	137	eP	P	19 03 09.0	-5.2
	2.2nm,0.4s						
FITZ				eS	S	19 05 13.3	-13
FITZ	Fitzroy Crossi	12.00	137	Pn	P	19 03 09.7	-4.5
	0.7nm,0.3s,baz=339,slow=8.6,SNR=29						
FITZ				Sn	S	19 05 13.2	-13
	1.1nm,0.3s,baz=180,slow=20,SNR=6.2						
WRA	Warramunga Arr	19.70	124	P	P	19 04 48.5	-0.8
	0.2nm,0.3s,baz=298,slow=12,SNR=9.5						
WRA				S	S	19 08 21.1	+0.2
	0.1nm,0.3s,baz=292,slow=23,SNR=5.1						
WRAB	Tennant Creek	19.70	124	eP	P	19 04 47.6	-1.7
	11nm,0.8s						
ASAR	Alice Springs	21.45	133	P	P	19 05 09.2	+2.2
	1.1nm,0.5s,mb3.4,baz=310,slow=8.7,SNR=14						
ASAR				S	S	19 09 03.6	+10
	0.6nm,0.6s,baz=301,slow=22,SNR=3.9						
KLBR	Kellerberrin	22.09	178	eP		19 05 25.7	
	21nm,1.0s						
MUN	Mundaring	22.48	182	eP		19 05 30.1	
	7.4nm,0.9s						
CTA	Charters Tower	30.10	114	LR	LR	19 19 29.2	
	comp=Z,83nm,20.1s,baz=241,slow=38						
LSA	Lhasa	46.20	328	P	P	19 08 43.3	+1.0
	4.0nm,1.1s,mb4.1						
SONM	Songino Array	57.77	352	P	P	19 10 08.7	+0.3
	1.0nm,0.5s,mb4.1,baz=169,slow=8.6,SNR=8.0						
MKAR	Makanchi Array	63.97	334	P	P	19 10 50.0	-0.4
	1.4nm,0.8s,mb3.9,baz=145,slow=9.0,SNR=9.7						
KURK	Kurchatov	68.53	335	P	P	19 11 17.9	-1.4
	1.1nm,0.7s,mb3.8						
BVAR	Borovoye Array	73.77	333	P	P	19 11 50.8	+0.3
	0.3nm,0.4s,mb3.4,baz=146,slow=11,SNR=4.3						
ZRNK	Zerenda	74.35	332	eP	P	19 11 53.5	-0.4
	1.4nm,0.6s,mb3.9						
ARU	Arti	81.29	331	P	P	19 12 37.4	+5.3
	2.7nm,0.9s,mb4.1						

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*IDC **19** 19:38:36.4±0.9, 37.53S×175.80E, h270^{km}±22^{km}, mb2.5/2, mb1 3.0/3, mb1mx2.9/12, Error ellipse: s-maj=51.8km s-min=21.9km az=130.0*

*WEL **19** 19:38:37.2±0.3, 37.58S×176.46E, h291^{km}±3^{km}, ML4.5/8, Error ellipse: s-maj=3.6km s-min=3.5km az=0.0*

ISC 19 19:38:34.8±0.6**, 37.74S**±0.05×**176.44E**±0.10**, h320^{km}**±6^{km}**, n66, σ0^{s}.93**/94**, mb2.6**/2**, 13C-1D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIRZ	Lichensteins R	0.26	190	PN	P	19 39 14.8	-0.6
EDRZ	Edgecumbe	0.43	147	PN	P	19 39 14.7	-1.0
MYRZ	Mayor Island	0.49	341	PN	P	19 39 14.3	-1.5
TAZ	Tarawera	0.49	174	PN	P	19 39 15.7	-0.1
PATZ	Paeroa	0.65	193	PN	P	19 39 16.1	-0.1
URZ	Urewera	0.74	134	P	P	19 39 15.5	-1.0
	58nm,0.3s,baz=268,slow=2.3,SNR=717						
URZ				S	S	19 39 45.7	-3.4
	68nm,0.3s,baz=103,slow=20,SNR=26						
URZ	Urewera	0.74	134	⇑PN	P	19 39 15.5	-1.0
URZ				SN	S	19 39 45.5	-3.7
URZ				SN	S	19 39 45.9	-3.2
MWZ	Matawai	1.04	125	PN	P	19 39 17.3	-0.4
MWZ				SN	S	19 39 48.5	-2.7
RATZ	Rangitukua	1.24	205	PN	P	19 39 18.8	+0.2
KATZ	Kakaramea	1.36	205	PN	P	19 39 19.8	+0.4
BKZ	Black Stump Fm	1.42	178	⇑PN	P	19 39 20.2	+0.5
BKZ				SN	S	19 39 53.6	-1.3
MGZ	Maungaku	1.44	209	⇑PN	P	19 39 20.3	+0.5
HIZ	Hauiti	1.47	238	PN	P	19 39 20.0	0.0
PUZ	Puketiti	1.47	103	PN	P	19 39 20.0	-0.1
PUZ				SN	S	19 39 52.5	-2.9
KAVZ	Karewarewa	1.49	205	PN	P	19 39 20.5	+0.4
MXZ	Matakaoa Point	1.49	84	⇑PN	P	19 39 19.2	-1.0
MXZ				SN	S	19 39 51.9	-3.7
WTVZ	West Tongariro	1.52	206	PN	P	19 39 20.7	+0.3
TWVZ	Taurewa	1.54	210	PN	P	19 39 20.7	+0.3
NGZ	Ngauruhoe	1.57	204	PN	P	19 39 21.2	+0.5
KNZ	Kokohu	1.60	143	PN	P	19 39 21.6	+0.7
KNZ				SN	S	19 39 56.2	-0.6
CNZ	Chateau	1.61	205	PN	P	19 39 21.6	+0.7
WPVZ	Whakapapa	1.62	205	PN	P	19 39 21.3	+0.4
TUVZ	Tukino	1.64	202	⇑PN	P	19 39 21.6	+0.5
FWVZ	Far West T-bar	1.66	205	PN	P	19 39 21.8	+0.6
DRZ	Dome Shelter	1.68	204	PN	P	19 39 23.0	+1.7
WNVZ	Wahianoa	1.71	202	⇑PN	P	19 39 22.1	+0.5
MOVZ	Moawhango	1.75	198	⇑PN	P	19 39 22.0	+0.2
VRZ	Vera Road	1.91	223	PN	P	19 39 23.4	+0.5
RAEZ	Rainy Point	2.23	226	PN	P	19 39 26.2	+0.8
PWZ	Pawanui	2.31	172	⇓PN	P	19 39 27.3	+1.3
PWZ				SN	S	19 40 07.4	+1.2
WAZ	Wanganui	2.31	209	PN	P	19 39 26.8	+0.7
WAZ				SN	S	19 40 06.5	+0.3
TSZ	Takapari Road	2.34	189	⇑PN	P	19 39 27.1	+0.7
TSZ				SN	S	19 40 08.2	+1.5
NEZ	North Egmont	2.39	230	PN	P	19 39 27.9	+1.1
PKE	Pukeiti	2.41	232	PN	P	19 39 28.0	+1.0
DFE	Dawson Falls	2.42	228	PN	P	19 39 28.0	+1.0
NRZ	Ngariki Road	2.53	230	PN	P	19 39 28.4	+0.4
NWEZ	Newall Road	2.53	232	PN	P	19 39 28.8	+0.8
BFZ	Birch Farm	2.94	183	PN	P	19 39 32.8	+1.1
MRZ	Mangatainoka R	2.99	193	⇑PN	P	19 39 32.7	+0.5
MRZ				SN	S	19 40 17.1	+0.1
KIW	Kapiti Island	3.33	200	⇑PN	P	19 39 35.9	+0.3
KIW				SN	S	19 40 22.9	-0.3
MTW	Mount Morrison	3.49	192	PN	P	19 39 37.5	+0.3
MTW				SN	S	19 40 26.8	+0.8
CAW	Cannon Point	3.52	197	PN	P	19 39 37.8	+0.3
CAW				SN	S	19 40 28.4	+1.8
PAWZ	Paruwai Farm	3.72	192	⇑PN	P	19 39 40.0	+0.5
PAWZ				SN	S	19 40 30.6	+0.5
MRW	Makara Radio	3.73	201	⇑PN	P	19 39 39.8	+0.2
MRW				SN	S	19 40 30.2	-0.3
WEL	Wellington	3.77	200	PN	P	19 39 40.4	+0.4
MSWZ	Moikau Station	3.78	194	PN	P	19 39 40.5	+0.4
MSWZ				SN	S	19 40 31.6	+0.2
SNZO	South Karori	3.81	200	PN	P	19 39 40.5	+0.1
SNZO				SN	S	19 40 31.5	-0.3
BHW	Baring Head	3.86	198	PN	P	19 39 41.1	+0.1
BHW				SN	S	19 40 32.2	-0.6
TUWZ	Tuamarina	4.16	207	PN	P	19 39 44.3	+0.2
TUWZ				SN	S	19 40 37.9	-0.7
NNZ	Nelson	4.20	213	PN	P	19 39 44.0	-0.7
NNZ				SN	S	19 40 38.2	-1.3
QRZ	Quartz Range	4.32	223	⇑PN	P	19 39 44.4	-1.6
QRZ				SN	S	19 40 41.2	-0.6
CMWZ	Cape Campbell	4.35	203	PN	P	19 39 47.9	+1.5
BSWZ	Blackbirch Sta	4.43	206	PN	P	19 39 47.8	+0.6
THZ	Tophouse	4.85	213	PN	P	19 39 51.0	-0.9
KHZ	Kahutara	5.17	205	PN	P	19 39 56.0	+0.5
KHZ				SN	S	19 40 59.4	+0.4
DSZ	Denniston Nort	5.36	220	PN	P	19 39 56.2	-1.5
DSZ				SN	S	19 40 59.8	-3.0
LTZ	Lake Taylor	5.96	211	PN	P	19 40 04.2	-0.5
LTZ				SN	S	19 41 14.9	-0.4
MQZ	McQueen's Vall	6.62	205	PN	P	19 40 11.9	-0.7
MQZ				SN	S	19 41 27.7	-1.6
WVZ	Waitaha Valley	6.88	217	PN	P	19 40 14.4	-1.3
RPZ	Rata Peaks	7.23	213	P	P	19 40 19.5	-0.5
	2.5nm,0.3s,baz=31,slow=3.8,SNR=16						
RPZ				S	S	19 41 41.7	-1.0
	4.0nm,0.3s,baz=105,slow=20,SNR=21						
LBZ	Lake Benmore	8.14	213	PN	P	19 40 30.2	-0.8
ODZ	Otahua Downs	8.49	209	PN	P	19 40 31.7	-3.5
ODZ				SN	S	19 42 06.3	-3.9
JCZ	Jackson Bay	8.59	220	PN	P	19 40 34.2	-2.2
ASAR	Alice Springs	38.84	279	P	P	19 45 30.9	-0.2
	0.2nm,0.6s,mb2.5,baz=122,slow=7.8,SNR=4.8						
WRA	Warramunga Arr	40.53	284	P	P	19 45 45.7	+0.7
	0.2nm,0.5s,mb2.6,baz=121,slow=7.7,SNR=8.4						
FINES	FINESS Array B	149.96	332	PKPbc	PKPdf	19 57 52.2	+11
	1.6nm,1.0s,baz=135,slow=2.7,SNR=3.5						

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*ISK **19** 19:48:39.2, 36.23N×27.49E, h5^{km}, MD3.2*

*NEIC **19** 19:48:39.7, 36.03N×27.61E, h20^{km}, MD3.2(ATH), After ATH.*

*ATH **19** 19:48:39.7, 36.03N×27.61E, h20^{km}±6^{km}, MD3.2/6*

ISC 19 19:48:38.3±0.6**, 36.08N**±0.05×**27.49E**±0.06**, h5^{km}, n16, σ1^{s}.27**/21**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.53	75	⇑iPB	Pb	19 48 49.1	-0.6
KARP	Karpathos	0.59	207	ePN	Pn	19 48 51.7	-1.3
BDRM	Kayabasi	0.98	358	iP	Pb	19 48 56.8	-0.6
BDRM				iS	Sb	19 49 09.3	-1.1
DALT	Dalyan (Mudla)	1.15	53	iPG	Pg	19 48 59.9	-1.4
DALT				iSG	Sg	19 49 16.7	0.0
YER	Yerkesik	1.23	31	PN	Pn	19 49 01.0	-1.1
YER				SN	Sn	19 49 17.7	-1.6
AYDN	Tasoluk	1.61	11	⇑iP	Pn	19 49 08.0	+0.4
AYDN				iS	Sb	19 49 29.9	+1.3
SMG	Samos	1.71	342	ePN	Pn	19 49 12.0	+3.1
THR6	Thira Island,	1.71	280	eP	Pn	19 49 05.0	-4.0
THR3	Thira Island,	1.72	282	eP	Pn	19 49 08.1	-1.0
NPS	Neapolis	1.73	242	ePN	Pn	19 49 09.0	-0.3
THR5	Thira Island,	1.76	282	eP	Pn	19 49 09.2	-0.5
APE	Apeiranthos	1.86	303	ePN	Pn	19 49 14.1	+3.0
XRY	Khrisi	1.89	231	ePN	Pn	19 49 13.5	+1.9
DNZL	Cakiroluk	2.04	37	iP	Pn	19 49 13.8	+0.1
DNZL				iS	Sn	19 49 40.8	+1.1
ELL	Elmali	2.06	70	ePN	Pn	19 49 16.2	+2.2
DENT	Denizli	2.08	36	PN	Pn	19 49 15.3	+1.0

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*MDD **19** 20:11:08.7±0.3, 43.07N×0.47W, mbLg1.4/11, Error ellipse: s-maj=2.8km s-min=1.5km az=174.0, PRXIMO*

*STR **19** 20:11:08.2±0.1, 43.05N×0.46W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 20:11:08.4±0.1, 43.06N×0.47W, h2^{km}, Md2.2/3, Ml2.1/7, Error ellipse: s-maj=1.5km s-min=1.0km az=151.0*

ISC 19 20:11:06.8±0.5**, 43.13N**±0.03×**0.45W**±0.03**, h12^{km}**±5^{km}**, n24, σ1^{s}.01**/34**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.08	147	Pg	Pg	20 11 10.1	+0.6
REYF				Lg		20 11 11.2	
ETSF	Etsaut	0.25	199	ePg	Pg	20 11 11.9	-0.3
ETSF				eSg	Sg	20 11 14.2	-1.7
	30nm,0.2s						
FDAF	Les Forges d'A	0.33	195	Pg	Pg	20 11 13.3	-0.4
FDAF				Sg	Sg	20 11 17.3	-1.0
FDAF	Les Forges d'A	0.33	195	Pg	Pg	20 11 13.6	-0.1
FDAF				Lg		20 11 17.4	
LABF	Labassere	0.39	103	Pg	Pg	20 11 15.9	+1.0
LABF				Sg	Sg	20 11 21.9	+1.5
LABF	Labassere	0.39	103	Pg	Pg	20 11 15.8	+0.8
LABF				Lg		20 11 22.0	
LARF	Larrau	0.41	257	Pg	Pg	20 11 15.6	+0.4
LARF				Sg	Sg	20 11 21.5	+0.7
LARF	Larrau	0.41	257	Pg	Pg	20 11 15.9	+0.7
LARF				Lg		20 11 21.3	
VIEF	Viey	0.43	126	Pg	Pg	20 11 16.0	+0.4
VIEF				Sg	Sg	20 11 21.2	-0.3
VIEF	Viey	0.43	126	Pg	Pg	20 11 16.2	+0.6
VIEF				Lg		20 11 21.5	
SJPF	Ste Jean	0.57	268	ePg	Pg	20 11 18.9	+0.5
SJPF				eSg	Sg	20 11 26.4	+0.3
	4.8nm,0.3s						
EPF	Esparros	0.59	100	ePg	Pg	20 11 19.5	+0.8
EPF				eSg	Sg	20 11 28.0	+1.3
	8.1nm,0.2s						
RESF	Ens	0.66	119	Lg		20 11 29.0	
EALK	Alkurruntz	0.78	277	Pg	Pg	20 11 21.7	-0.8
	6.4nm,4.7s,SNR=7.9						
EALK				Lg		20 11 33.2	
	9.7nm,0.7s,SNR=7.9						
MELF	Melles	0.92	106	Lg		20 11 38.0	
ESAC	San Caprasio	1.41	181	Pg	Pg	20 11 38.1	+3.0
	SNR=7.9						
ESAC				Lg		20 11 52.3	
	11nm,0.3s,SNR=6.3						
MTLF	Montolieu	1.96	83	ePg	Pg	20 11 45.1	-0.9
MTLF				eSg	Sg	20 12 10.9	-1.2
	2.0nm,0.3s						
LFF	La Frestale	2.00	25	ePg	Pg	20 11 46.9	+0.2
LFF				eSg	Sg	20 12 14.0	+0.6
	4.7nm,0.3s						
EPOB	Poblet	2.11	147	Pg	Pg	20 11 46.5	-2.5
	SNR=7.9						
EPOB				Lg		20 12 13.5	
	SNR=7.9						
CAF	Calviac	2.55	44	ePg	Pg	20 11 57.3	-0.4
CAF				eSg	Sg	20 12 30.5	-1.2
	1.1nm,0.2s						
EJON	La Jonquera	2.55	104	Pn	Pn	20 11 49.9	+1.2
	5.2nm,1.1s,SNR=7.9						
EJON				Sn	Sn	20 12 19.4	-0.5
	1.2nm,3.2s,SNR=7.9						
RJF	Les Rejaudoux	2.59	32	eSg	Sg	20 12 32.3	-0.8
	2.4nm,0.3s						
LASF	Ste Croix	3.27	72	ePn	Pn	20 11 59.2	+0.3
LASF				eSg	Sg	20 12 51.4	-4.2
	1.2nm,0.3s						
TCF	Toulx Ste Croi	3.68	30	eSg	Sg	20 13 05.3	-4.0
	1.0nm,0.2s						

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*NIC **19** 20:16:21.7±0.3, 34.35N×33.30E, h25^{km}, ML3.3, MW3.1*

*NEIC **19** 20:16:21.7, 34.35N×33.30E, h25^{km}, ML3.3(NIC), After NIC.*

*NSSC **19** 20:16:22.4, 34.52N×33.34E, h40^{km}*

*GII **19** 20:16:24.6±2.2, 34.27N×33.39E, h25^{km}±30^{km}, ML2.7/6, Mw2.8/3*

ISC 19 20:16:21.4±0.4**, 34.44N**±0.03×**33.39E**±0.03**, h40^{km}, n36, σ0^{s}.87**/52**, 13D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSS	Prodhromos	0.53	354	⇓P	P	20 16 32.6	+0.2
	14nm,0.3s						
CSS				S	S	20 16 41.8	+1.5
CSS	Prodhromos	0.53	354	⇓eP	P	20 16 32.6	+0.2
CSS				S	S	20 16 41.8	+1.5
SZAC	Souni-Zanaja	0.53	307	⇓P	P	20 16 32.0	-0.4
	36nm,0.2s						
SZAC				S	S	20 16 40.1	-0.2
SZAC	Souni-Zanaja	0.53	307	⇓iP	P	20 16 32.0	-0.4
SZAC				S	S	20 16 40.1	-0.2
MAMC	Mammari	0.75	349	⇓P	P	20 16 35.9	+0.4
MAMC	Mammari	0.75	349	⇓iP	P	20 16 35.9	+0.4
PHNC	Paralimni	0.77	43	P	P	20 16 37.3	+1.5
ALFC	Alevga	0.97	318	⇓P	P	20 16 38.0	-0.7
	26nm,0.2s						
ALFC				S	S	20 16 51.4	-0.1
ALFC	Alevga	0.97	318	⇓iP	P	20 16 38.0	-0.7
ALFC				S	S	20 16 51.4	-0.1
PPCY	Paphos	0.97	298	⇓P	P	20 16 37.7	-1.0
PPCY	Paphos	0.97	298	⇓iP	P	20 16 37.7	-1.0
HNTI	Hanita	2.01	132	Pn	P	20 16 53.7	+0.2
HNTI				Sn	S	20 17 16.8	-0.7
HAF	Haifa	2.14	140	Pn	P	20 16 55.2	-0.2
OFRI	'Ofer	2.25	143	Pn	P	20 16 56.6	-0.3
KSDI	Kefar Szold	2.26	123	Pn	P	20 16 57.8	+0.7
HRI	Mount Hermon	2.27	120	Pn	P	20 16 57.9	+0.7
BRBR	Barbar	2.36	115	⇑P	P	20 16 59.9	+1.4
BRBR				⇑S	S	20 17 27.4	+0.9
BIDA	Albida	2.48	76	⇑P	P	20 17 00.5	+0.3
BIDA				⇑S	S	20 17 28.6	-0.9
KSHT	Keshet	2.48	125	Pn	P	20 17 01.4	+1.1
ARNB	Al Arnab	2.55	55	⇑P	P	20 17 01.3	+0.1
ARNB				⇑S	S	20 17 29.5	-1.7
SLTI	Sal'it	2.59	147	Pn	P	20 17 01.5	-0.3
SLTI				Sn	S	20 17 30.7	-1.6
SLNF	Slenfeh	2.59	63	⇓P	P	20 17 01.9	0.0
SLNF				⇓S	S	20 17 31.2	-1.2
MMLI	Mount Malkishu	2.62	139	Pn	P	20 17 02.4	+0.2
WRDH	Warideh	2.70	66	⇑P	P	20 17 03.2	-0.1
WRDH				⇑S	S	20 17 34.7	-0.4
TOTH	TOTAH	2.74	112	⇑P	P	20 17 06.0	+2.0
TOTH				⇑S	S	20 17 35.8	-0.5
TCHB	Talchebab	2.78	129	⇑P	P	20 17 05.8	+1.3
TCHB				⇑S	S	20 17 37.2	0.0
HMDT	Nahal Hemdat	2.82	140	Pn	P	20 17 05.5	+0.4
BTCH	Batrach	2.98	57	⇑P	P	20 17 07.4	+0.2
BTCH				⇑S	S	20 17 41.0	-1.1
SALA	Sala	3.28	121	⇓P	P	20 17 13.4	+1.9
DRGI	Dragot	3.30	149	Pn	P	20 17 12.3	+0.4
MZDA	Masada	3.53	151	Pn	P	20 17 15.5	+0.3
RTMM	Retamin	3.55	162	Pn	P	20 17 15.3	-0.1
KZIT	Kziot	3.62	166	Pn	P	20 17 15.8	-0.6
MASH	Mash'abbe Sade	3.63	161	Pn	P	20 17 15.5	-1.0
PRNI	Paran	4.30	161	Pn	P	20 17 25.1	-0.9
KMTI	Karmit	4.46	165	Pn	P	20 17 27.2	-1.2

*IDC **19** 20:18:39.5±5.2, 3.73S×136.67E, h45^{km}±50^{km}, mb3.2/2, mb1 3.7/3, mb1mx3.4/10, ML3.7/1, Error ellipse: s-maj=94.8km s-min=18.4km az=87.0*

ISC 19 20:18:37.7±3.3, 3.8S±0.1×138.6E±0.3, h104^{km}±32^{km}, n6, σ0^{s}.99/10, mb3.2/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.75	214	eP	P	20 21 09.4	-0.5
	6.0nm,0.6s						
KAKA				eS	S	20 23 09.6	+0.9
WB2	Warramunga Arr	16.58	194	eP	P	20 22 25.1	-0.2
WB2				eS	S	20 25 24.0	-1.1
WRA	Warramunga Arr	16.58	194	P	P	20 22 24.5	-0.9
	0.3nm,0.3s,baz=9.0,slow=12,SNR=24						
WRA				S	S	20 25 24.8	-0.4
	0.1nm,0.3s,baz=7.2,slow=23,SNR=4.7						
ASAR	Alice Springs	20.27	192	P	P	20 23 09.0	+1.8
	0.8nm,0.4s,baz=12,slow=9.3,SNR=18						
ASAR				S	S	20 26 51.8	+8.1
	0.5nm,0.9s,baz=21,slow=23,SNR=3.4						
ASPA	Alice Springs	20.28	192	eP	P	20 23 08.7	+1.5
MKAR	Makanchi Array	70.54	323	P	P	20 29 42.5	-0.8
	0.3nm,0.7s,mb3.2,baz=101,slow=7.3,SNR=3.7						

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*BJI **19** 20:49:56.1, 44.55N×104.38E, h10^{km}, mB4.8, mb4.2, ML4.7, Ms4.1, Msz3.8*

*MOS **19** 20:49:57.8±1.0, 44.45N×104.54E, h10^{km}, mb4.2/11, Error ellipse: s-maj=35.4km s-min=13.5km az=105.7*

*IDC **19** 20:49:58.4±0.6, 44.42N×104.58E, mb4.1/13, mb1 4.2/15, mb1mx4.2/22, ML3.9/2, MS3.3/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=19.9km s-min=12.8km az=81.0*

*NEIC **19** 20:49:59.3±0.3, 44.38N×104.55E, h10^{km}, mb4.4/19, Error ellipse: s-maj=9.4km s-min=6.7km az=76.0*

ISC 19 20:49:57.8±0.3, 44.43N±0.03×104.42E±0.04, h10^{km}, n73, σ1^{s}.16/85, mb4.3/31, MS3.2/4, 1C-1D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	3.67	21	Pn	Pn	20 50 56.8	+0.9
	25nm,0.3s,baz=203,slow=14,SNR=151						
SONM				Pg	Pg	20 51 03.9	-7.2
	80nm,0.3s,baz=204,slow=18,SNR=85						
SONM				Lg		20 51 51.5	
	210nm,0.3s,baz=216,slow=27,SNR=27						
BTO	Baotou	5.63	131	eP	Pn	20 51 25.4	+1.8
BTO				S	Sn	20 52 31.0	+1.9
BTO				SG	Sg	20 52 54.8	-10
BTO				Smax			
	comp=N,505nm,0.8s						
BTO				Smax			
	comp=E,797nm,1.0s						
ZAK	Zakamensk	6.01	353	eP	Pn	20 51 28.0	-0.9
ZAK				eS	Sn	20 52 35.1	-3.5
ZAK				pmax	pmax		
	comp=Z,79nm,0.7s						
ZAK				pmax	pmax		
	comp=E,608nm,0.8s						
GTA	Gaotai	6.08	216	P	Pn	20 51 29.8	-0.1
GTA				PG	Pg	20 51 48.5	-11
GTA				S	Sn	20 52 36.6	-3.7
GTA				SG	Sg	20 53 04.4	-16
GTA				Smax			
	comp=N,193nm,0.9s						
GTA				Smax			
	comp=E,141nm,1.0s						
GTA				LR	LR		
	comp=N,360nm,8.0s						
GTA				LR	LR		
	comp=E,412nm,7.6s						
GTA				LR	LR		
	comp=Z,128nm,9.5s						
HHC	Hu-ho-hao-te	6.37	122	eP	Pn	20 51 34.3	+0.3
HHC				LR	LR		
	comp=N,1µm,6.2s						
HHC				LR	LR		
	comp=E,1µm,7.1s						
LZH	Lanzhou	8.34	183	eS	Sn	20 53 46.2	+9.3
LZH				sS		20 53 53.0	
LZH				Lg		20 54 31.1	
XAN	Xi'an	10.94	160	P	P	20 52 37.9	+0.4
XAN				AP		20 52 48.3	
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
HIA	Hailar	11.55	60	eP	P	20 52 42.3	-3.4
	comp=Z,4.3nm,0.6s						
WMQ	Urumqi	12.04	273	⇓P	P	20 52 51.8	-0.6
WMQ				AP		20 52 55.3	
WMQ				XP		20 52 58.3	
WMQ				PP	PP	20 53 01.8	-0.3
WMQ				S	S	20 55 06.8	-0.9
WMQ				XS		20 55 11.8	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s						
WMQ				LR	LR		
	comp=N,177nm,11.8s						
WMQ				LR	LR		
	comp=E,52nm,10.2s						
WMQ				LR	LR		
	comp=Z,142nm,7.6s						
SHRR	Shira	13.66	323	eP	P	20 53 04.9	-8.9
ENH	Enshi	14.69	162	eP	P	20 53 24.9	-2.5
	comp=Z,9.9nm,0.9s						
CN2	Changchun	15.12	85	eP	P	20 53 32.4	-0.5
CN2				eAP		20 53 35.8	
CN2				eS	S	20 56 20.9	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,12.0s						
MKAR	Makanchi Array	15.66	286	Pn	P	20 53 37.4	-2.6
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=7.2						
MKAR				Lg		20 58 09.2	
	comp=Z,0.2nm,0.3s,baz=86,slow=23,SNR=3.1						
NJ2	Nanjing	16.74	133	eP	P	20 53 53.3	-0.5
NJ2				AP		20 53 56.8	
NJ2				XP		20 54 00.8	
NJ2				S	S	20 56 59.0	0.0
NJ2				LR	LR		
	comp=N,620nm,14.6s						
NJ2				LR	LR		
	comp=E,1µm,14.6s						
NJ2				LR	LR		
	comp=Z,520nm,14.2s						
MDJ	Mudanjiang	17.93	81	P	P	20 54 06.8	-1.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,244nm,5.2s						
MDJ				LR	LR		
	comp=N,169nm,16.0s						
MDJ				LR	LR		
	comp=Z,64nm,17.1s						
GYA	Guiyang	18.02	173	⇑iP	P	20 54 09.4	-0.6
GYA				S	S	20 57 23.3	-5.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				LR	LR		
	comp=N,280nm,4.5s						
GYA				LR	LR		
	comp=E,290nm,3.9s						
GYA				LR	LR		
	comp=Z,220nm,5.3s						
LSA	Lhasa	18.08	220	P	P	20 54 12.3	+1.6
LSA	Lhasa	18.08	220	eP	P	20 54 09.2	-1.4
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	18.46	299	eP	P	20 54 12.2	-3.0
	comp=Z,6.9nm,0.8s						
KMI	Kunming	19.31	185	eP	P	20 54 25.0	-0.6
KMI				XP		20 54 31.9	
KMI				S	S	20 57 57.3	-0.2
KMI				XS		20 58 02.8	
KMI				SS	SS	20 58 24.4	+0.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,48nm,4.4s						
KMI				LR	LR		
	comp=N,211nm,10.0s						
KMI				LR	LR		
	comp=E,653nm,12.1s						
KMI				LR	LR		
	comp=Z,150nm,10.1s						
KMI	Kunming	19.31	185	eP	P	20 54 25.0	-0.6
	comp=Z,8.0nm,0.9s						
KMI				sP		20 54 31.9	
KMI				S	S	20 57 57.3	-0.2
KMI				sS		20 58 02.8	
KMI				SS	SS	20 58 24.4	+0.7
AAK	Ala-Archa	21.72	276	eP	P	20 54 47.4	-3.5
	comp=Z,8.0nm,0.8s,mb4.2						
KKN	Kakani	22.60	229	eP	P	20 55 03.2	+3.4
	comp=Z,20nm,0.6s,mb4.7						
PKI	Pulchoki	22.70	229	eP	P	20 55 02.1	+1.3
	comp=Z,27nm,1.0s,mb4.6						
GKN	Gorkha	22.79	231	eP	P	20 55 06.4	+4.8
DMN	Daman	22.84	229	eP	P	20 55 02.7	+0.6
KOLN	Koldanda	23.55	232	eP	P	20 55 08.5	-0.5
	comp=Z,24nm,1.1s,mb4.5						
BVAR	Borovoye Array	23.85	303	P	P	20 55 12.5	+0.8
	comp=Z,1.2nm,0.4s,mb3.7,baz=115,slow=10,SNR=12						
BRVK	Borovoye	23.92	303	eP	P	20 55 13.9	+1.6
	comp=Z,20nm,0.7s,mb4.7						
BRVK				e		20 55 20.4	
ZRNK	Zerenda	24.67	303	eP	P	20 55 20.1	+0.5
	comp=Z,6.6nm,0.9s,mb4.2						
JOW	Kunigami	26.01	125	LR	LR	21 05 09.3	
	comp=Z,50nm,21.1s,MS3.0,baz=312,slow=35						
CM31	Chiang Mai Arr	26.30	192	eP	P	20 55 34.9	-0.4
	comp=Z,3.6nm,0.8s,mb4.0						
CMAR	Chiang Mai Arr	26.30	192	P	P	20 55 35.6	+0.3
	comp=Z,2.9nm,0.9s,mb3.8,baz=357,slow=9.3,SNR=14						
CMAR				LR	LR	21 06 10.9	
	comp=Z,45nm,21.9s,MS3.0,baz=30,slow=37						
CMAR	Chiang Mai Arr	26.30	192	P	P	20 55 35.6	+0.3
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,45nm,21.9s						
ARU	Arti	30.99	309	eP	P	20 56 17.4	+0.3
ARU	Arti	30.99	309	eP	P	20 56 17.0	-0.1
	comp=Z,5.6nm,0.7s,mb4.5						
KEV	Kevo	44.90	331	ep	P	20 58 12.9	-0.8
	comp=Z,0.6nm,0.4s,mb3.8						
KEV	Kevo	44.90	331	eP	P	20 58 12.9	-0.8
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	ARCESS Array B	45.45	331	P	P	20 58 19.8	+1.7
	comp=Z,5.9nm,0.8s,mb4.4,baz=71,slow=9.5,SNR=15						
ARCES	ARCESS Array B	45.45	331	P	P	20 58 19.8	+1.7
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	FINESS Array B	47.05	320	P	P	20 58 31.8	+1.0
	comp=Z,2.0nm,0.5s,mb4.3,baz=95,slow=9.6,SNR=18						
FINES				LR	LR	21 19 48.6	
	comp=Z,34nm,18.6s,MS3.3,baz=341,slow=38						
FINES	FINESS Array B	47.05	320	P	P	20 58 31.8	+1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,34nm,18.6s						
AKASG	Malin Array Be	49.10	306	P	P	20 58 47.2	+0.3
	comp=Z,1.3nm,0.8s,mb4.0,baz=54,slow=8.0,SNR=5.0						
AKASG	Malin Array Be	49.10	306	P	P	20 58 47.2	+0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	51.25	291	P	P	20 59 05.2	+1.7
	comp=Z,1.1nm,0.7s,mb3.9,baz=79,slow=6.3,SNR=5.1						
BRTR	Keskin Array B	51.25	291	P	P	20 59 05.2	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KWP	Kalwaria	53.34	307	eP	P	20 59 19.2	+0.2
	comp=Z,7.3nm,0.9s,mb4.6						
NB2	NORSAR Subarra	53.85	323	P	P	20 59 22.6	0.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=7.4						
NOA	NORSAR Array B	53.85	323	P	P	20 59 23.0	+0.4
	comp=Z,1.8nm,0.7s,mb4.1,baz=62,slow=7.2,SNR=5.7						
NOA				LR	LR	21 24 01.9	
	comp=Z,53nm,18.0s,MS3.6,baz=60,slow=38						
NOA	NORSAR Array B	53.85	323	P	P	20 59 23.0	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,53nm,18.0s						
MORC	Moravsky Berou	56.19	309	P	P	20 59 38.3	-1.5
	comp=Z,2.4nm,0.7s,mb4.3						
MCK	McKinley	57.76	30	P	P	20 59 50.2	-0.6
	comp=Z,3.1nm,0.9s,mb4.3						
CLL	Collm	57.87	312	P	P	20 59 52.0	+0.3
ILAR	Eielson Array	57.87	29	P	P	20 59 51.0	-0.5
	comp=Z,1.0nm,0.6s,mb4.0,baz=279,slow=4.7,SNR=9.2						
ILAR	Eielson Array	57.87	29	P	P	20 59 51.1	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	58.82	309	P	P	20 59 59.3	+1.0
	comp=Z,0.5nm,0.8s,mb3.6,baz=59,slow=7.8,SNR=5.1						
GERES	GERESS Array B	58.82	309	P	P	20 59 59.3	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	59.59	21	P	P	21 00 04.5	+1.1
	comp=Z,0.9nm,0.7s,mb3.9,baz=34,slow=4.4,SNR=3.6						
INK	Inuvik	59.59	21	P	P	21 00 04.5	+1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	59.59	21	P	P	21 00 01.3	-2.2
	comp=Z,2.3nm,0.8s,mb4.3						
AQU	L'Aquila	62.69	303	eP	P	21 00 25.2	+0.4
	comp=Z,18nm,1.2s,mb5.1						
ESK	Eskdalemuir	63.36	322	eP	P	21 00 27.4	-1.6
	comp=Z,28nm,1.3s,mb5.2						
LPL	La Plagne	64.62	310	eP	P	21 00 39.6	+2.3
	comp=Z,3.7nm,0.7s,mb4.2						
LPG	La Plagne	64.62	310	eP	P	21 00 39.7	+2.4
MBDF	Montbardon	65.09	309	eP	P	21 00 40.5	+0.1
	comp=Z,6.8nm,0.8s,mb4.4						
ORIF	Oris-en-Rattie	65.46	309	eP	P	21 00 43.5	+0.7
	comp=Z,5.4nm,0.7s,mb4.4						
VIVF	Saint-Julien-I	66.17	310	eP	P	21 00 47.4	+0.1
WRAB	Tennant Creek	69.65	150	eP	P	21 01 08.4	-1.1
	comp=Z,6.0nm,1.0s,mb4.5						
WRA	Warramunga Arr	69.65	150	P	P	21 01 08.9	-0.6
	comp=Z,1.6nm,0.6s,mb4.1,baz=345,slow=7.1,SNR=26						
WRA	Warramunga Arr	69.65	150	P	P	21 01 08.9	-0.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	72.94	152	P	P	21 01 29.3	+0.1
	comp=Z,3.1nm,0.8s,mb4.3,baz=348,slow=7.4,SNR=24						
STKA	Stephens Creek	83.16	149	P	P	21 02 25.4	+0.1
	comp=Z,1.1nm,0.4s,mb4.2,baz=350,slow=11,SNR=6.7						
STKA	Stephens Creek	83.16	149	eP	P	21 02 24.9	-0.3

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*IDC **19** 21:41:06.5±9.9, 59.02S×25.60W, h53^{km}±82^{km}, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, ML4.0/1, Error ellipse: s-maj=63.3km s-min=29.9km az=45.0*

*NEIC **19** 21:41:09.8±2.7, 59.00S×25.50W, h84^{km}±23^{km}, mb4.0/7, Error ellipse: s-maj=30.5km s-min=11.5km az=219.0*

ISC 19 21:41:07.3±3.6, 58.8S±0.3×25.2W±0.5, h91^{km}±30^{km}, n23, σ0^{s}.88/15, mb4.0/7, 1C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.87	156	⇓i	P	21 44 21.5	+1.0
VNA2	Neumayer--Watz	14.27	156	⇑i	P	21 44 26.4	+0.8
SNAA	Sanae	15.82	154	⇓i	P	21 44 43.6	-1.8
SNAA	Sanae	15.82	154	P	P	21 44 43.5	-1.9
	0.5nm,0.3s,baz=322,slow=13,SNR=112						
SNAA				S	Sx	21 47 18.2	
	0.1nm,0.3s,baz=45,slow=18,SNR=4.7						
SNAA	Sanae	15.82	154	⇓iP	P	21 44 43.6	-1.8
EFI	East Falkland	19.88	277	eP	P	21 45 33.0	-0.3
	38nm,1.1s						
TRQA	Tornquist	31.41	295	eP	P	21 47 22.1	+0.7
	3.4nm,0.8s,mb4.1						
QSPA	South Pole Qui	31.48	180	eP	P	21 47 20.7	-1.0
	1.9nm,0.7s,mb3.9						
PLCA	Paso Flores	33.58	282	P	P	21 47 39.8	-0.5
	0.9nm,0.6s,mb3.8,baz=153,slow=11,SNR=3.6						
PLCA	Paso Flores	33.58	282	eP	P	21 47 39.5	-0.7
	2.0nm,0.9s,mb4.0						
MAW	Mawson	37.34	141	P	P	21 48 11.3	-0.6
	1.3nm,0.9s,mb3.9						
SBA	Scott Base	43.44	184	eP	P	21 49 02.9	+1.1
	2.9nm,1.1s,mb3.9						
VNDA	Vanda	43.90	182	P	P	21 49 05.3	-0.2
	1.3nm,0.6s,mb3.9,baz=184,slow=6.5,SNR=20						
VNDA	Vanda	43.90	182	eP	P	21 49 05.6	0.0
	1.6nm,0.6s,mb3.9						
ASAR	Alice Springs	96.07	161	P	P	21 54 25.8	+0.6
	0.4nm,0.5s,mb4.1,baz=185,slow=4.4,SNR=6.2						
NVAR	Mina Array Bea	123.39	290	PKP	PKPdf	21 59 57.5	+4.3
	0.4nm,0.7s,baz=136,slow=2.8,SNR=3.9						
NVAR	Mina Array Bea	123.39	290	PKP	PKPdf	21 59 57.5	+4.3
ARCES	ARCESS Array B	133.07	22	PKP	PKPdf	22 00 14.6	+3.9
	2.2nm,1.0s,baz=297,slow=2.7,SNR=5.3						
YKA	Yellowknife Ar	138.88	315	PKP	PKPdf	22 00 25.1	+3.5
	0.7nm,0.3s,baz=135,slow=2.1,SNR=7.3						
YKA	Yellowknife Ar	138.88	315	PKP	PKPdf	22 00 25.1	+3.5
INK	Inuvik	148.56	317	PKPbc	PKPdf	22 00 45.1	+7.3
	2.5nm,0.7s,baz=70,slow=2.7,SNR=6.3						
SONM	Songino Array	149.75	90	PKPbc	PKPdf	22 00 49.8	+9.5
	0.8nm,0.4s,baz=220,slow=3.9,SNR=6.5						
ILAR	Eielson Array	152.67	307	PKPbc	PKPdf	22 00 55.0	+11
	2.0nm,0.9s,baz=162,slow=2.2,SNR=14						

WEL 19 21:53:08.9±0.6, 35.90S×178.34E, h176^{km}±10^{km}, ML3.5/1, Error ellipse: s-maj=14.2km s-min=11.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.66	181	PN	P	21 53 42.2	-0.2
MXZ				SN	S	21 54 07.5	-0.7
PUZ	Puketiti	2.17	182	PN	P	21 53 47.7	-0.2
PUZ				SN	S	21 54 17.0	-1.0
MWZ	Matawai	2.51	195	PN	P	21 53 52.2	+0.2
MWZ				eSN	S	21 54 25.2	0.0
URZ	Urewera	2.55	202	PN	P	21 53 51.9	-0.6
URZ				SN	S	21 54 25.6	-0.4
KNZ	Kokohu	3.16	189	ePN	P	21 53 58.5	-1.4
BKZ	Black Stump Fm	3.58	204	PN	P	21 54 04.5	-0.6
MRZ	Mangatainoka R	5.22	204	PN	P	21 54 22.8	-3.7

IDC 19 22:09:07.4±2.3, 5.78S×152.08E, mb3.5/3, mb1 3.8/3, mb1mx3.6/12, Error ellipse: s-maj=169.0km s-min=30.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.26	229	P	P	22 14 06.3	-1.4
	0.7nm,0.8s,baz=54,slow=9.9,SNR=5.0						
ASAR	Alice Springs	24.95	223	P	P	22 14 32.6	-1.4
	1.0nm,0.7s,baz=58,slow=9.2,SNR=7.5						
ILAR	Eielson Array	83.33	22	P	P	22 21 36.1	-1.2
	0.6nm,0.8s,baz=246,slow=5.7,SNR=4.7						

CASC 19 22:28:50.7±1.5, 13.26N×90.20W, h36^{km}±384^{km}, MD3.7, ML4.1, 3C-10D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.80	44	⇓eP	P	22 29 05.9	+0.4
SBLS				eS	S	22 29 17.4	+0.9
RTR	El Retiro	0.83	40	⇓iP	P	22 29 06.5	+0.5
RTR				eS	S	22 29 18.4	+1.2
SNJE	San Jose	0.83	44	⇓eP	P	22 29 06.3	+0.3
SNJE				eS	S	22 29 17.3	+0.1
IXG	Ixpaco	0.94	345	⇓eP	P	22 29 07.5	-0.1
IXG				eS	S	22 29 20.6	+0.5
IXG				AML	AML	22 29 22.1	
	comp=E,6µm,0.3s						
RBDL	Robledal	0.98	30	⇓eP	P	22 29 08.9	+0.7
RBDL				eS	S	22 29 22.2	+1.1
BOQS	Boqueron	1.01	62	⇓eP	P	22 29 08.6	+0.1
BOQS				eS	S	22 29 22.7	+1.0
LFRS	El Faro	1.16	72	⇑eP	P	22 29 10.4	-0.3
LFRS				eS	S	22 29 26.0	+0.4
PCG	Pacaya	1.20	341	eP	P	22 29 11.9	+0.8
PCG				eS	S	22 29 28.4	+1.9
LBRS	Las Brisas	1.22	67	⇑eP	P	22 29 11.8	+0.3
LBRS				eS	S	22 29 26.8	-0.3
LCBS	La Ceiba	1.25	72	eP	P	22 29 11.7	-0.2
LCBS				eS	S	22 29 28.3	+0.4
NBG	Las Nubes	1.33	354	⇓eP	P	22 29 14.3	+1.2
FUG	Fuego 3	1.34	332	⇓eP	P	22 29 12.9	-0.3
FUG				eS	S	22 29 30.4	+0.3
SNVI	San Vicente	1.37	75	eP	P	22 29 13.8	+0.1
SNVI				eS	S	22 29 31.5	+0.6
MTO2	Montecristo 2	1.39	36	⇓eP	P	22 29 14.7	+0.6
MTO2				eS	S	22 29 34.0	+2.5
JAT	Jato	1.75	307	⇓eP	P	22 29 19.4	+0.3
JAT				eS	S	22 29 39.9	-0.5
VSM	San Miguel	1.88	85	eP	P	22 29 20.9	-0.1
VSM				eS	S	22 29 45.0	+1.3
CAHU	Cacacuatique	2.00	75	⇑eP	P	22 29 22.7	0.0
CNCH	Conchagua	2.30	89	eP	P	22 29 26.1	-0.9
CNCH				eS	S	22 29 54.1	-0.3

WEL 19 23:23:53.2±0.3, 38.43S×175.84E, h151^{km}±2^{km}, ML3.9/7, 4C-1D, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.56	192	PN	P	23 24 15.3	-0.1
MGZ	Maungaku	0.62	203	PN	P	23 24 15.5	-0.3
KAVZ	Karewarewa	0.68	193	PN	P	23 24 16.0	-0.1
WTVZ	West Tongariro	0.71	196	PN	P	23 24 15.9	-0.4
TWVZ	Taurewa	0.71	206	PN	P	23 24 15.8	-0.5
NGZ	Ngauruhoe	0.77	194	PN	P	23 24 16.6	0.0
NGZ				SN	S	23 24 35.6	+1.0
CNZ	Chateau	0.80	197	PN	P	23 24 16.7	-0.1
WPVZ	Whakapapa	0.81	197	PN	P	23 24 16.6	-0.2
TUVZ	Tukino	0.85	190	PN	P	23 24 17.1	0.0
BKZ	Black Stump Fm	0.89	146	⇑PN	P	23 24 17.4	0.0
BKZ				SN	S	23 24 35.7	-0.4
WNVZ	Wahianoa	0.92	192	PN	P	23 24 17.6	-0.1
MOVZ	Moawhango	0.98	184	⇑PN	P	23 24 17.6	-0.4
MOVZ				eSN	S	23 24 35.5	-1.7
URZ	Urewera	1.01	81	⇓PN	P	23 24 18.1	-0.2
URZ				SN	S	23 24 36.7	-1.0
VRZ	Vera Road	1.10	230	PN	P	23 24 18.5	-0.7
VRZ				SN	S	23 24 39.3	+0.2
MWZ	Matawai	1.33	86	PN	P	23 24 21.2	-0.3
MWZ				SN	S	23 24 42.2	-1.0
KNZ	Kokohu	1.55	113	PN	P	23 24 23.9	+0.2
KNZ				SN	S	23 24 46.7	-0.5
TSZ	Takapari Road	1.63	177	⇑PN	P	23 24 23.7	-0.8
TSZ				SN	S	23 24 45.8	-2.9
PWZ	Pawanui	1.78	154	PN	P	23 24 25.7	-0.5
PWZ				SN	S	23 24 51.1	-0.5
PUZ	Puketiti	1.93	80	PN	P	23 24 27.6	-0.4
PUZ				SN	S	23 24 52.9	-1.8
MXZ	Matakaoa Point	2.13	67	PN	P	23 24 30.0	-0.3
MXZ				SN	S	23 24 58.4	-0.4
MRZ	Mangatainoka R	2.24	185	⇑PN	P	23 24 29.5	-2.1
MRZ				SN	S	23 24 56.6	-4.6
BFZ	Birch Farm	2.27	172	PN	P	23 24 30.5	-1.5
BFZ				SN	S	23 24 57.4	-4.5
KIW	Kapiti Island	2.53	196	PN	P	23 24 32.5	-2.9
MTW	Mount Morrison	2.74	185	PN	P	23 24 34.9	-3.1
CAW	Cannon Point	2.74	192	PN	P	23 24 35.1	-2.9
CAW				SN	S	23 25 06.8	-5.5
MRW	Makara Radio	2.93	197	PN	P	23 24 37.2	-3.2
MRW				SN	S	23 25 10.8	-5.7
PAWZ	Paruwai Farm	2.96	186	PN	P	23 24 37.6	-3.3
SNZO	South Karori	3.00	197	PN	P	23 24 37.8	-3.6
MSWZ	Moikau Station	3.02	189	PN	P	23 24 38.0	-3.5
MSWZ				SN	S	23 25 12.0	-6.4
TUWZ	Tuamarina	3.33	205	PN	P	23 24 41.7	-3.9
TUWZ				SN	S	23 25 20.1	-5.7
NNZ	Nelson	3.37	214	PN	P	23 24 41.8	-4.3
NNZ				SN	S	23 25 21.4	-5.2
QRZ	Quartz Range	3.50	226	PN	P	23 24 43.1	-4.7
THZ	Tophouse	4.02	213	PN	P	23 24 49.9	-4.7

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*HEL **19** 23:34:44.9±0.1, 67.84N×20.15E, ML2.1, ML2.0(UPP), ML2.0(BER), Explosion*

*BER **19** 23:34:46.1±5.6, 67.69N×20.28E, ML2.0, ML2.1(NAO), Suspected explosion*

NAO ***19*** *23:34:47.6±4.2, 67.87N×20.80E, ML2.1*

ISC 19 23:34:43.6±0.5**, 67.81N**±0.02×**20.09E**±0.08**, n22,** $\sigma0\overset{s}{.}83$/30**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**32**	*i* P	**Pg**	**23 34 47.0**	**-0.1**
KUA				*i* S	**Sg**	**23 34 49.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.41**	**279**	*i* P	**Pg**	**23 34 51.8**	**+0.1**
DUNU	**Dundret**	**0.71**	**165**	*i* P	**Pg**	**23 34 57.9**	**+0.1**
DUNU				*i* S	**Sg**	**23 35 07.7**	**+0.4**
SALU	**Saltoluokta**	**0.74**	**236**	*i* P	**Pg**	**23 34 59.1**	**+0.6**
MASU	**Masugnsbyn**	**0.81**	**115**	*i* P	**Pg**	**23 34 59.2**	**-0.6**
KIF	**Kilpisjarvi**	**1.23**	**12**	*e*P	**Pb**	**23 35 07.0**	**-0.5**
KIF				*e*S	**Sb**	**23 35 23.2**	**-0.6**
PAJU	**Pajala**	**1.41**	**123**	*e*P	**Pb**	**23 35 09.6**	**-0.9**
ERTU	**Ertsjaerv**	**1.50**	**146**	*e*P	**Pn**	**23 35 11.9**	**0.0**
KTK1	**Kautokeino**	**1.68**	**42**	*e*P	**Pn**	**23 35 15.0**	**+0.5**
KTK1				*e*SN	**Sn**	**23 35 38.3**	**+1.3**
KTK1				AML	AML	23 35 41.9	
	comp=Z,18nm,0.3s						
SGF	**Sodankyl**	**2.49**	**95**	*e*P	**Pn**	**23 35 27.3**	**+1.3**
SGF				*e*SB	**Sb**	**23 35 59.8**	**-0.5**
SGF				MSG		23 36 04.1	
	comp=Z,6.3nm,0.3s						
LOF	**Lofoten**	**2.49**	**281**	*e*	**Sg**	**23 36 06.4**	**-0.2**
LOF				AML	AML	23 36 09.2	
	comp=Z,13nm,0.4s						
LOF	**Lofoten**	**2.49**	**281**	*e*Sg	**Sg**	**23 36 06.4**	**-0.2**
LOF				AML	AML	23 36 09.2	
	comp=Z,13nm,0.4s						
ARA0	**ARCESS Array S**	**2.63**	**46**	*e*P	**Pn**	**23 35 28.0**	**-0.1**
ARA0				*e*S	**Sn**	**23 36 02.7**	**+1.4**
ARA0	**ARCESS Array S**	**2.63**	**46**	Pn	**Pn**	**23 35 28.0**	**-0.1**
	baz=224,slow=16						
ARA0				S	**Sn**	**23 36 02.7**	**+1.4**
	baz=226,slow=28						
MOR8	**Moi Rana**	**2.76**	**236**	*e*SG	**Sg**	**23 36 07.3**	**-8.3**
MOR8				AML	AML	23 36 10.0	
	comp=Z,18nm,0.4s						
KEV	**Kevo**	**3.19**	**49**	*e*P	**Pn**	**23 35 36.1**	**+0.1**
KEV				*e*S	**Sn**	**23 36 14.0**	**-1.3**
KEV				MSG		23 36 21.3	
	comp=Z,7.1nm,0.3s						
OUL	**Oulu**	**3.59**	**137**	*e*SB	**Sb**	**23 36 33.6**	**+1.3**
NSS	**Namsos**	**4.65**	**229**	*e*SG	**Sg**	**23 37 10.0**	**-8.6**
NSS				AML	AML	23 37 20.0	
	comp=Z,6.0nm,0.6s						
APA0	**Apatity Array**	**4.92**	**86**	*e*S	**Sn**	**23 36 53.6**	**-5.5**
APA0				*e*SG		23 37 13.7	
APA0	**Apatity Array**	**4.92**	**86**	Sn	**Sn**	**23 36 53.6**	**-5.5**
	baz=287,slow=28						
APA0				Lg		23 37 13.7	
	baz=301,slow=28						
FIA0	**FINESS Array S**	**6.88**	**155**	*e*S	**Sn**	**23 37 46.2**	**-2.1**
FIA0				*e*SG		23 38 19.8	
FIA0	**FINESS Array S**	**6.88**	**155**	Sn	**Sn**	**23 37 46.2**	**-2.1**
	baz=354,slow=22						
FIA0				Lg		23 38 19.8	
	baz=329,slow=37						

IDC ***19*** *23:37:50.0±1.7, 5.01N×125.53E, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, Error ellipse: s-maj=112.0km s-min=22.2km az=67.0*

NEIC ***19*** *23:38:21.0±7.0, 4.18N×124.38E, h278^{km}±71^{km}, mb4.1/3, Error ellipse: s-maj=82.4km s-min=24.5km az=62.0*

ISC 19 23:38:28.7±1.4**, 4.3N**±0.3×**124.8E**±0.7**, h400^{km}, n10,** $\sigma0\overset{s}{.}75$/10**, mb3.6**/6**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**18.51**	**156**	*e*P	**P**	**23 42 19.3**	**+0.3**
	20nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.30**	**178**	*e*P	**P**	**23 42 55.6**	**+0.2**
	3.3nm,1.0s,mb3.7						
FITZ	**Fitzroy Crossi**	**22.30**	**178**	P	**P**	**23 42 55.6**	**+0.2**
	1.3nm,0.3s,mb3.8,baz=4.4,slow=10,SNR=16						
WRAB	**Tennant Creek**	**25.86**	**159**	*e*P	**P**	**23 43 26.7**	**-1.1**
	2.5nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**25.86**	**159**	P	**P**	**23 43 27.4**	**-0.5**
	0.9nm,0.3s,mb3.6,baz=342,slow=8.1,SNR=24						
WB2	**Warramunga Arr**	**25.87**	**159**	*e*P	**P**	**23 43 27.4**	**-0.5**
ASAR	**Alice Springs**	**29.20**	**163**	P	**P**	**23 43 57.1**	**0.0**
	0.5nm,0.4s,mb3.2,baz=344,slow=7.5,SNR=7.6						
STKA	**Stephens Creek**	**39.38**	**157**	P	**P**	**23 45 24.9**	**+1.9**
	1.3nm,0.4s,mb3.6,baz=350,slow=8.2,SNR=5.3						
STKA	**Stephens Creek**	**39.38**	**157**	*e*P	**P**	**23 45 24.6**	**+1.6**
MKAR	**Makanchi Array**	**55.99**	**326**	P	**P**	**23 47 29.4**	**-0.1**
	0.4nm,0.4s,mb3.1,baz=114,slow=7.2,SNR=10						

IDC ***19*** *23:51:44.9±5.0, 32.80N×86.51W, mb3.7/3, mb1 4.2/3, mb1mx3.7/21, Error ellipse: s-maj=96.1km s-min=77.2km az=170.0*

NEIC ***19*** *23:51:49.4±0.6, 33.20N×86.97W, h5^{km}, MN3.5, MW3.6(SLM), Error ellipse: s-maj=9.1km s-min=7.3km az=214.0*

NEIC Felt [III] at Bessemer, Helena, McCalla and Montevallo; [II] at Alabaster. Felt in Jefferson and Shelby Counties.

ISC 19 23:51:47.7±0.6**, 33.20N**±0.06×**86.93W**±0.05**, h5^{km}, n28,** $\sigma1\overset{s}{.}32$/27**, mb3.9**/2**, Alabama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRAL	**Lakeview Retre**	**0.17**	**198**	*e*P	**Pg**	**23 51 53.5**	**+2.2**
PLAL	**Pickwick Lake**	**2.02**	**332**	*e*Pn	**Pn**	**23 52 23.9**	**+1.2**
OXF	**Oxford**	**2.44**	**303**	*e*Pn	**Pn**	**23 52 30.1**	**+1.3**
CPCT	**Cooper Cave**	**3.00**	**41**	*e*Pn	**Pn**	**23 52 37.6**	**+0.7**
MET	**Memphis--Engin**	**3.14**	**308**	*e*Pn	**Pn**	**23 52 38.1**	**-0.7**
HALT	**Halls**	**3.35**	**324**	Pn	**Pn**	**23 52 41.1**	**-0.8**
UTMT	**University of**	**3.52**	**334**	Pn	**Pn**	**23 52 45.6**	**+1.4**
GLAT	**Glass**	**3.62**	**328**	*e*Pn	**Pn**	**23 52 46.0**	**+0.3**
GNAR	**Gosnell**	**3.75**	**318**	*e*Pn	**Pn**	**23 52 49.1**	**+1.6**
HBAR	**Harrisburg**	**3.87**	**308**	*e*Pn	**Pn**	**23 52 48.3**	**-0.9**
UALR	**University of**	**4.76**	**291**	*e*Pn	**Pn**	**23 53 00.6**	**-1.2**
USIN	**University of**	**4.79**	**353**	Pn	**Pn**	**23 53 03.2**	**+1.0**
JSC	**Jenkinsville**	**4.85**	**76**	Pn	**Pn**	**23 53 01.7**	**-1.3**
WCI	**Wyandotte Cave**	**5.05**	**6**	*e*Pn	**Pn**	**23 53 06.8**	**+0.9**
FVM	**French Village**	**5.56**	**330**	*e*Pn	**Pn**	**23 53 11.9**	**-1.2**
NHSC	**New Hope**	**5.67**	**89**	Pn	**Pn**	**23 53 15.3**	**+0.7**
TWB	**Tillmans-White**	**5.73**	**89**	Pn	**Pn**	**23 53 17.2**	**+1.7**
BLO	**Bloomington**	**5.97**	**3**	Pn	**Pn**	**23 53 23.6**	**+4.7**
CCM	**Cathedral Cave**	**5.98**	**325**	*e*Pn	**Pn**	**23 53 17.2**	**-1.8**
ELN	**Prospectdale**	**6.46**	**50**	Pn	**Pn**	**23 53 24.8**	**-1.0**
FWV	**Forest Hill**	**6.64**	**47**	Pn	**Pn**	**23 53 27.4**	**-1.0**
DWPF	**Disney**	**6.94**	**136**	Pn	**Pn**	**23 53 30.3**	**-2.2**
KSU1	**Kansas State U**	**9.79**	**310**	Pn	**P**	**23 54 09.1**	**-3.1**
WMOK	**Wichita Mounta**	**9.96**	**282**	*e*Pn	**P**	**23 54 11.1**	**-3.5**
PDAR	**Pinedale Array**	**20.18**	**305**	P	**P**	**23 56 26.0**	**+0.2**
	0.5nm,0.6s,baz=107,slow=9.4,SNR=6.2						
NVAR	**Mina Array Bea**	**25.89**	**291**	P	**P**	**23 57 23.5**	**+1.3**
	1.9nm,0.8s,mb3.6,baz=99,slow=8.5,SNR=8.1						
ILAR	**Eielson Array**	**47.76**	**330**	P	**P**	**00 00 27.6**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=102,slow=5.8,SNR=14						
ASAR	**Alice Springs**	**143.05**	**274**	PKP	PKPdf	00 11 20.6	-4.9
	2.1nm,1.2s,baz=65,slow=3.6,SNR=5.3						

DJA 20 00:13:32.6±0.6**, 8.38S×116.46E, h160^{km}, MD4.8**/4**, ML5.0**/3**, 5C-3D, Error ellipse: s-maj=37.1km s-min=17.8km az=1.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.36**	**252**	⇑*e*Pg	P	00 13 54.7	-0.2
	142nm,0.2s						
KEDI				⇓*e*Sg	S	00 14 10.4	-1.6
RATI	**Rata**	**0.98**	**249**	⇑*e*Pn	P	00 13 58.1	-0.1
	1µm,0.2s						
RATI				⇓*e*Sn	S	00 14 16.9	-1.1
INGI	**Ingas**	**1.37**	**251**	⇑*e*Pn	P	00 14 01.4	-0.5
	4µm,0.2s						
INGI				⇓*e*Sn	S	00 14 23.1	-1.5
KELI	**Kelakatan**	**1.95**	**275**	⇑*e*Pn	P	00 14 07.9	-0.2
	468nm,0.2s						
KELI				⇑*e*Sn	S	00 14 34.1	-1.4

ISK ***20*** *00:14:12.3, 36.88N×27.75E, h9^{km}, MD3.3*

NEIC ***20*** *00:14:14.3, 36.97N×27.92E, h38^{km}, MD3.0(ATH), After ATH.*

ATH ***20*** *00:14:14.3, 36.97N×27.92E, h38^{km}±6^{km}, MD3.0/4*

ISC 20 00:14:14.0±0.7**, 36.93N**±0.03×**27.85E**±0.05**, h10^{km}**±5^{km}**, n18,** $\sigma0\overset{s}{.}42$/23**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.35**	**293**	*i* P	**Pg**	**00 14 21.1**	**-0.2**
BDRM				*i* S	**Sg**	**00 14 26.7**	**+0.6**
MLSB	**Milas**	**0.37**	**351**	*i* PG	**Pg**	**00 14 20.8**	**-0.8**
MLSB				*i* SG	**Sg**	**00 14 27.3**	**+0.7**
YER	**Yerkesik**	**0.40**	**59**	*i* PG	**Pg**	**00 14 22.1**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.65**	**104**	PG	**Pg**	**00 14 26.8**	**-0.3**
NISR	**Nisiros**	**0.66**	**242**	*e*PN	**Pn**	**00 14 29.0**	**-0.1**
AYDN	**Tasoluk**	**0.73**	**2**	*i* P	**Pb**	**00 14 28.3**	**0.0**
AYDN				*i* S	**Sb**	**00 14 38.4**	**+0.3**
ARG	**Arkhangelos**	**0.75**	**163**	*e*PB	**Pb**	**00 14 28.5**	**-0.1**
ARG				*e*SN	**Sn**	**00 14 42.0**	**+0.3**
SMG	**Samos**	**1.12**	**314**	*e*PN	**Pn**	**00 14 35.6**	**-0.1**
DNZL	**Cakiroluk**	**1.22**	**51**	*i* P	**Pb**	**00 14 36.6**	**0.0**
DENT	**Denizli**	**1.25**	**48**	PN	**Pn**	**00 14 37.8**	**+0.3**
KARP	**Karpathos**	**1.49**	**202**	*e*PN	**Pn**	**00 14 41.0**	**+0.1**
KARP				*e*SN	**Sn**	**00 15 00.6**	**0.0**
IZM	**Izmir**	**1.54**	**342**	*e*PN	**Pn**	**00 14 40.8**	**-0.8**
KDAG	**Bornova**	**1.54**	**343**	⇑*i*P	**Pn**	**00 14 41.4**	**-0.3**
MANT	**Manisa**	**1.66**	**20**	*i* P	**Pn**	**00 14 43.6**	**+0.3**
ELL	**Elmali**	**1.66**	**96**	*e*PN	**Pn**	**00 14 43.9**	**+0.5**
AKS	**Akhisar**	**1.95**	**359**	*e*PN	**Pn**	**00 14 46.6**	**-0.9**
DST	**Dursunbey**	**2.74**	**13**	*e*PN	**Pn**	**00 14 59.2**	**+0.4**
ULDT	**Uludag**	**3.36**	**17**	*i* P	**Pn**	**00 15 15.8**	**+8.2**

WEL 20 00:18:28.3±0.3**, 37.69S×176.79E, h155^{km}**±3^{km}**, ML3.7**/4**, Error ellipse: s-maj=3.3km s-min=3.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.62**	**156**	PN	P	00 18 50.8	-0.5
URZ				SN	S	00 19 08.3	-0.6
MWZ	**Matawai**	**0.86**	**138**	PN	P	00 18 52.6	-0.1
MWZ				SN	S	00 19 11.3	-0.2
MXZ	**Matakaoa Point**	**1.21**	**84**	PN	P	00 18 55.5	-0.2
PUZ	**Puketiti**	**1.22**	**109**	PN	P	00 18 55.4	-0.4
PUZ				SN	S	00 19 16.3	-0.7
BKZ	**Black Stump Fm**	**1.49**	**189**	PN	P	00 18 57.9	-0.6
BKZ				SN	S	00 19 20.2	-1.6
KNZ	**Kokohu**	**1.50**	**153**	PN	P	00 18 58.4	-0.1
KNZ				SN	S	00 19 21.2	-0.7
MGZ	**Maungaku**	**1.64**	**217**	PN	P	00 19 00.5	+0.4
NGZ	**Ngauruhoe**	**1.75**	**212**	PN	P	00 19 01.6	+0.3
TUVZ	**Tukino**	**1.81**	**209**	PN	P	00 19 01.7	-0.2
WNVZ	**Wahianoa**	**1.88**	**209**	PN	P	00 19 02.3	-0.4
WNVZ				SN	S	00 19 28.8	-0.4
MOVZ	**Moawhango**	**1.90**	**205**	PN	P	00 19 02.0	-0.9
MOVZ				SN	S	00 19 27.4	-2.1
PWZ	**Pawanui**	**2.33**	**179**	PN	P	00 19 06.7	-1.4
TSZ	**Takapari Road**	**2.45**	**195**	PN	P	00 19 07.6	-2.0
MRZ	**Mangatainoka R**	**3.11**	**197**	PN	P	00 19 14.9	-3.1
MRZ				SN	S	00 19 51.9	-4.1
KIW	**Kapiti Island**	**3.48**	**204**	PN	P	00 19 19.2	-3.6
MTW	**Mount Morrison**	**3.60**	**196**	PN	P	00 19 20.2	-4.1
MTW				SN	S	00 20 01.4	-5.9
CAW	**Cannon Point**	**3.66**	**201**	PN	P	00 19 21.3	-3.8
PAWZ	**Paruwai Farm**	**3.83**	**196**	SN	S	00 20 06.7	-6.0
MQZ	**McQueen's Vall**	**6.78**	**206**	SN	S	00 21 11.0	-12

PRU ***20*** *00:19:10.6, 51.53N×16.01E*

WAR ***20*** *00:19:10.7, 51.56N×16.01E, ML2.6, Mining Induced*

ISC 20 00:19:08.4±1.3**, 51.55N**±0.06×**15.97E**±0.06**, n7,** $\sigma1\overset{s}{.}18$/16**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**164**	*e*PG	**Pg**	**00 19 24.0**	**+1.0**
KSP				*e*SG	**Sg**	**00 19 34.0**	**+1.2**
DPC	**Dobruska-Polom**	**1.22**	**169**	*e*PG	**Pg**	**00 19 33.1**	**+0.4**
DPC				*e*SG	**Sg**	**00 19 49.7**	**+0.7**
PRU	**Pruhonice**	**1.80**	**211**	*e*PG	**Pg**	**00 19 46.0**	**+1.6**
PRU				*e*SG	**Sg**	**00 20 08.6**	**+0.2**
	4.7nm,0.3s						
CLL	**Collm**	**1.87**	**264**	*e*PG	**Pg**	**00 19 45.0**	**-0.7**
CLL				*e*SG	**Sg**	**00 20 11.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.20**	**140**	*e*PG	**Pg**	**00 19 51.2**	**-1.1**
OKC				*e*SG	**Sg**	**00 20 19.6**	**-2.1**
NKC	**Novy Kostel**	**2.59**	**241**	*e*PN	**Pn**	**00 19 53.7**	**+1.5**
NKC				*e*PG	**Pg**	**00 19 58.8**	**-1.2**
NKC				*e*		00 20 14.2	
NKC				*e*SG	**Sg**	**00 20 34.1**	**-0.4**
KHC	**Kasperske Hory**	**2.86**	**213**	*e*PN	**Pn**	**00 19 57.5**	**+1.4**
KHC				*e*PG	**Pg**	**00 20 03.9**	**-1.6**
KHC				*e*		00 20 25.2	
KHC				*e*SG	**Sg**	**00 20 42.1**	**-1.6**

JMA 20 00:31:36.8±0.4**, 43.87N×147.48E, h1^{km}, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.36**	**249**	P	Pb	00 32 02.7	0.0
NEM2				*e*S	Sb	00 32 21.1	+0.6
JRA	**Rausu**	**1.71**	**273**	P	Pn	00 32 08.2	+0.3
JRA				*e*S	Sb	00 32 31.4	+0.8
JNK	**Nakash**	**2.02**	**263**	P	Pn	00 32 12.4	0.0
JNK				*e*S	Sn	00 32 38.9	+0.2
JAK	**Akkeshi**	**2.21**	**248**	*e*S	Sn	00 32 42.5	-0.9

DJA 20 00:38:57.5±1.0**, 8.69S×116.95E, h154^{km}**±7^{km}**, MD4.9**/3**, ML3.9**/3**, 5C-2D, Error ellipse: s-maj=52.4km s-min=23.8km az=7.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.85**	**284**	⇑*e*Pg	P	00 39 21.6	-0.1
	170nm,0.1s						
KEDI				⇓*e*Sg	S	00 39 39.2	-1.1
RATI	**Rata**	**1.40**	**269**	⇑*e*Pn	P	00 39 26.8	+0.1
	265nm,0.1s						
RATI				⇑*e*Sn	S	00 39 48.3	-0.9
INGI	**Ingas**	**1.79**	**266**	⇑*e*Pn	P	00 39 30.1	-0.7
KELI	**Kelakatan**	**2.48**	**281**	⇑*e*Pn	P	00 39 39.2	+0.1
	35nm,0.2s						
KELI				⇓*e*Sn	S	00 40 08.7	-2.2

IDC ***20*** *00:43:34.1±1.0, 0.55S×123.72E, mb3.7/5, mb1 3.8/5, mb1mx3.7/16, Error ellipse: s-maj=145.0km s-min=19.8km az=64.0*

DJA ***20*** *00:43:38.1±1.0, 0.43S×125.04E, h33^{km}, MD4.8/3, ML5.0/2, Error ellipse: s-maj=78.6km s-min=20.4km az=147.0*

ISC 20 00:43:43.4±3.2**, 0.3S**±0.1×**124.5E**±0.1**, h96^{km}**±32^{km}**, n9,** $\sigma0\overset{s}{.}90$/12**, mb3.6**/5**, 3C-4D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**5.34**	**231**	⇓*e*Pn	**P**	**00 45 00.7**	**-1.4**
BUNI	**Buntu Taipa**	**5.34**	**231**	⇑*e*P	**P**	**00 45 02.5**	**+0.4**
BUNI				⇑*e*Sn	**S**	**00 46 01.4**	**-1.5**
TANI	**Tanete Lipujan**	**5.98**	**238**	⇓*e*Pn	**P**	**00 45 11.2**	**+0.3**
	41nm,0.3s						
TANI				⇓*e*Sn	**S**	**00 46 20.3**	**+1.6**
NINI	**Niniconang**	**6.26**	**229**	⇓*e*Pn	**P**	**00 45 15.2**	**+0.4**
	188nm,0.2s						
NINI				⇑*e*Sn	**S**	**00 46 25.2**	**-0.3**
WRA	**Warramunga Arr**	**21.78**	**154**	P	**P**	**00 48 28.3**	**-0.5**
	1.5nm,1.0s,mb3.3,baz=330,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**24.97**	**159**	P	**P**	**00 49 00.4**	**+0.7**
	0.4nm,0.5s,mb3.1,baz=324,slow=6.6,SNR=4.9						
ASAR				PcP	PcP	00 52 35.2	+1.9
	0.6nm,0.5s,baz=348,slow=2.4,SNR=6.4						
SONM	**Songino Array**	**50.45**	**344**	P	**P**	**00 52 33.8**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=162,slow=5.7,SNR=5.6						
MKAR	**Makanchi Array**	**59.65**	**328**	P	**P**	**00 53 38.5**	**-1.3**
	1.9nm,0.6s,mb4.3,baz=123,slow=7.6,SNR=18						
MKAR				PcP	PcP	00 54 26.0	+0.4
	0.8nm,0.7s,baz=130,slow=5.4,SNR=4.6						
BVAR	**Borovoye Array**	**69.50**	**329**	P	**P**	**00 54 44.0**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=124,slow=5.2,SNR=3.7						

ROM ***20*** *00:52:25.6±0.3, 46.31N×13.60E, h10^{km}, MD2.4/3, Error ellipse: s-maj=2.6km s-min=2.4km az=90.0*

LJU ***20*** *00:52:26.4, 46.32N×13.58E, h7^{km}, ML1.4*

ISC 20 00:52:26.4±0.6**, 46.31N**±0.02×**13.58E**±0.03**, h10^{km}**±8^{km}**, n19,** $\sigma0\overset{s}{.}81$/37**, 5C-4D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.09**	**215**	⇓*i*Pg	**Pg**	**00 52 28.6**	**-0.3**
ROBS				*i* Sg	**Sg**	**00 52 30.0**	**-0.5**
	comp=Z,266nm,0.1s						
CADS	**Cadrg**	**0.14**	**128**	⇓*i*Pg	**Pg**	**00 52 29.5**	**-0.2**
CADS				*i* Sg	**Sg**	**00 52 31.8**	**-0.1**
	comp=Z,198nm,0.1s						
DRE	**Drenchia**	**0.15**	**163**	⇓*i*Pg	**Pg**	**00 52 29.6**	**-0.3**
DRE				*e*Sg	**Sg**	**00 52 32.1**	**-0.1**
PTCC	**Patocco-Chiusa**	**0.18**	**300**	*e*PG	**Pg**	**00 52 30.2**	**-0.3**
PTCC				SG	**Sg**	**00 52 33.2**	**0.0**
	comp=Z,47nm,0.2s						
COLI	**Coloredo**	**0.23**	**218**	⇓*e*Pg	**Pg**	**00 52 31.4**	**0.0**
COLI				*e*Sg	**Sg**	**00 52 34.1**	**-0.5**
GMNA	**Gemona**	**0.24**	**261**	*e*PG	**Pg**	**00 52 32.6**	**+1.0**
GMNA				SG	**Sg**	**00 52 37.7**	**+2.7**
	comp=Z,98nm,0.3s						
BAD	**Bernadia**	**0.25**	**252**	⇑*i*Pg	**Pg**	**00 52 31.4**	**-0.3**
BAD				*e*Sg	**Sg**	**00 52 35.5**	**+0.4**
BOO	**Bordano**	**0.33**	**271**	⇑*i*Pg	**Pg**	**00 52 32.7**	**-0.6**
BOO				*e*Sg	**Sg**	**00 52 37.7**	**-0.2**
VOY	**Vojsko**	**0.36**	**142**	*e*Pg	**Pg**	**00 52 33.3**	**-0.5**
VOY				*e*Sg	**Sg**	**00 52 38.9**	**+0.2**
TRI	**Trieste**	**0.62**	**168**	*e*PG	**Pg**	**00 52 37.9**	**-1.0**
TRI				SG	**Sg**	**00 52 47.5**	**+0.3**
	comp=Z,20nm,0.3s						
FVI	**Forni Avoltri**	**0.62**	**297**	*e*PG	**Pg**	**00 52 38.8**	**-0.2**
FVI				SG	**Sg**	**00 52 49.0**	**+1.7**
	comp=Z,10.0nm,0.3s						
OBKA	**Obir**	**0.70**	**73**	⇑*i*PG	**Pg**	**00 52 39.8**	**-0.7**
OBKA				*i* SG	**Sg**	**00 52 49.5**	**-0.4**
	comp=Z,4.2nm,0.2s						
KBA	**Koelnbreinsper**	**0.78**	**348**	⇑*i*PG	**Pg**	**00 52 41.6**	**-0.5**
KBA				*i* SG	**Sg**	**00 52 52.7**	**+0.1**
	comp=Z,3.1nm,0.2s						
CEY	**Cerknica**	**0.82**	**134**	*i* Pg	**Pg**	**00 52 41.2**	**-1.8**
CEY				*i* Sg	**Sg**	**00 52 55.3**	**+1.3**
	comp=Z,7.0nm,0.2s						
PDKS	**Podkum**	**1.01**	**103**	*i* Pg	**Pg**	**00 52 46.1**	**-0.6**
PDKS				*i* Sg	**Sg**	**00 53 01.9**	**+1.7**
	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**1.01**	**120**	*i* Pg	**Pg**	**00 52 46.1**	**-0.7**
VISS				*i* Sg	**Sg**	**00 53 00.3**	**0.0**
	comp=Z,5.0nm,0.2s						
LEGS	**Legarje**	**1.26**	**106**	*i* Pg	**Pg**	**00 52 51.5**	**-0.2**
LEGS				*i* Sg	**Sg**	**00 53 09.9**	**+1.3**
	comp=Z,4.0nm,0.3s						
GOLS	**Golise**	**1.45**	**101**	*i* Sg	**Sg**	**00 53 16.1**	**+1.2**
	comp=Z,2.0nm,0.2s						
MOA	**Molln**	**1.61**	**17**	⇑*i*PG	**Pg**	**00 52 57.4**	**-1.2**
MOA				*i* SG	**Sg**	**00 53 20.4**	**+0.4**
	comp=Z,1.0nm,0.3s						

MAN ***20*** *01:06:08.7, 13.61N×120.41E, h61^{km}, mb3.9, ML2.7, MS2.3*

IDC ***20*** *01:06:10.2±1.1, 14.70N×120.40E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, Error ellipse: s-maj=66.2km s-min=10.2km az=52.0*

ISC 20 01:06:08.2±0.7**, 13.60N**±0.03×**120.39E**±0.06**, h78^{km}**±7^{km}**, n17,** $\sigma0\overset{s}{.}79$/23**, mb3.8**/2**, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.19**	**315**	*e*P	**P**	**01 06 20.0**	**+0.3**
LUBP				*e*S	**S**	**01 06 27.2**	**-1.1**
TGY	**Tagaytay City**	**0.73**	**47**	⇓*i*P	**P**	**01 06 25.0**	**+0.6**
TGY				*i* S	**S**	**01 06 36.9**	**+0.6**
TGY	**Tagaytay City**	**0.73**	**47**	Pg	**P**	**01 06 25.1**	**+0.7**
	205nm,0.3s,baz=220,slow=2.8,SNR=8.6						
TGY				Lg		01 06 37.0	
	902nm,0.3s,baz=16,slow=21,SNR=49						
LBPH	**Los Banos**	**0.95**	**54**	*e*P	**P**	**01 06 26.9**	**+0.2**
NBP	**Mount Natib**	**1.14**	**1**	*e*P	**P**	**01 06 30.0**	**+0.9**
ARP	**Angono**	**1.20**	**38**	*e*P	**P**	**01 06 28.9**	**-1.0**
SJMP	**San Jose**	**1.34**	**148**	*e*P	**P**	**01 06 32.7**	**+0.8**
SJMP				*e*S	**S**	**01 06 50.0**	**+0.7**
BOAC	**Boac**	**1.42**	**95**	*e*P	**P**	**01 06 32.7**	**-0.3**
BOAC				*e*S	**S**	**01 06 50.8**	**-0.5**
BUSP	**Coron**	**1.59**	**187**	*e*P	**P**	**01 06 35.8**	**+0.6**
BUSP				*e*S	**S**	**01 06 55.8**	**+0.6**
BALP	**Baler**	**2.42**	**28**	*e*P	**P**	**01 06 47.1**	**+0.5**
BALP				*e*S	**S**	**01 07 14.4**	**-0.7**
ENPP	**El Nido**	**2.56**	**202**	*e*P	**P**	**01 06 48.7**	**+0.3**
ENPP				*e*S	**S**	**01 07 18.1**	**-0.4**
CUYO	**Cuyo Island**	**2.80**	**167**	*e*P	**P**	**01 06 47.1**	**-4.7**
CUYO				*e*S	**S**	**01 07 22.6**	**-1.9**
BOLP	**Bolinao**	**2.81**	**351**	*e*P	**P**	**01 06 48.2**	**-3.7**
WRA	**Warramunga Arr**	**36.05**	**157**	P	pP	01 13 21.8	-1.3
	0.7nm,0.6s,baz=334,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**01 13 03.9**	**-0.1**
	2.2nm,0.9s,mb4.1,baz=167,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**39.32**	**160**	P	pP	01 13 49.6	-0.8
	1.0nm,0.7s,baz=339,slow=6.9,SNR=8.3						
AKASG	**Malin Array Be**	**80.34**	**320**	P	**P**	**01 18 19.9**	**+7.5**
	0.3nm,0.3s,mb3.6,baz=57,slow=8.8,SNR=4.6						

MOS ***20*** *01:11:11.7±1.7, 50.28N×87.59E, h15^{km}, mb4.0/1, Error ellipse: s-maj=23.6km s-min=11.5km az=95.9*

NNC ***20*** *01:11:13.1±3.5, 50.23N×87.34E, h19^{km}±19^{km}, mpv4.1, Error ellipse: s-maj=31.4km s-min=16.2km az=79.0*

ISC 20 01:11:11.2±0.9**, 50.30N**±0.05×**87.5E**±0.1**, h15^{km}, n15,** $\sigma1\overset{s}{.}29$/26**, 9C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.07**	**77**	*e*PG	**Pg**	**01 11 13.1**	**-1.2**
ELDR	**Elanda**	**1.28**	**316**	*i* PG	**Pn**	**01 11 34.7**	**0.0**
ELDR				*i* S	**Sb**	**01 11 53.5**	**+2.8**
ARTR	**Artybash**	**1.50**	**355**	*i* P*	**Pb**	**01 11 39.2**	**+0.9**
ARTR				*i* S	**Sb**	**01 12 00.0**	**+2.9**
UKR	**Ust'-Kan**	**1.85**	**291**	*e*PN	**Pn**	**01 11 45.9**	**+3.0**
UKR				*e*S	**Sn**	**01 12 11.0**	**+4.9**
TASR	**Tashtagol**	**2.47**	**5**	*e*PN	**Pn**	**01 11 52.2**	**+0.5**
TASR				*e*S	**Sn**	**01 12 28.7**	**+6.9**
ELT	**Yel'tsovka**	**3.07**	**346**	*e*PN	**Pn**	**01 12 07.9**	**+7.7**
ELT				*e*	**Sn**	**01 12 36.1**	**-0.8**
ELT				*e*S	**Sg**	**01 12 48.6**	**-4.8**
MK31	**Makanchi Array**	**4.93**	**227**	⇑Pn	**Pn**	**01 12 27.5**	**+0.8**
	14nm,0.5s,baz=52,slow=13,SNR=750						
MK31				⇑Pg	**Pg**	**01 12 41.4**	**-8.4**
	37nm,0.6s,baz=47,slow=16,SNR=7.5						
MK31				⇑Sn	**Sn**	**01 13 25.3**	**+1.1**
	31nm,0.5s,baz=55,slow=23,SNR=5.7						
MK31				⇑Lg		01 13 45.0	
	53nm,0.5s,baz=57,slow=26,SNR=5.0						
MKAR	**Makanchi Array**	**4.93**	**227**	*e*PN	**Pn**	**01 12 27.4**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,13nm,0.5s						
NVS	**Novosibirsk**	**5.24**	**332**	*e*PN	**Pn**	**01 12 29.9**	**-1.1**
NVS				*e*		01 12 47.0	
NVS				*e*		01 13 31.7	
KURK	**Kurchatov**	**5.69**	**278**	Pn	**Pn**	**01 12 36.7**	**-0.6**
	comp=Z,6.0nm,0.6s,baz=87,slow=7.5,SNR=52						
KURK				⇓Sn	**Sn**	**01 13 41.9**	**-1.1**
	comp=Z,12nm,0.5s						
KURK				⇑Lg		01 14 07.5	
	comp=Z,97nm,0.9s,baz=356,slow=17,SNR=15						
KURK	**Kurchatov**	**5.69**	**278**	*i* PN	**Pn**	**01 12 36.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VOSK	**Vostochnaya**	**10.58**	**290**	⇓Pn	**P**	**01 13 40.9**	**-4.5**
	comp=Z,1.6nm,0.7s						
VOSK				⇑Sn	**S**	**01 15 34.7**	**-10**
	comp=Z,4.9nm,0.8s						
BVA0	**Borovoye Array**	**10.98**	**291**	Sn	**S**	**01 15 45.7**	**-8.5**
	comp=Z,1.5nm,0.9s,baz=103,slow=21,SNR=8.0						
ZRNK	**Zerenda**	**11.80**	**290**	⇑Pn	**P**	**01 13 57.6**	**-4.3**
	comp=Z,2.7nm,0.8s						
ZRNK				⇑Sn	**S**	**01 16 05.1**	**-9.2**
	comp=Z,3.9nm,0.8s						
ZRNK				⇓Lg		01 17 26.2	
	comp=Z,21nm,1.0s						
AB31	**Akbulak array**	**17.80**	**277**	⇑Pn	**P**	**01 15 18.0**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=78,slow=10,SNR=12						

*IDC **20** 01:33:38.4±1.1, 49.31S×120.99E, mb3.8/6, mb1 4.0/7, mb1mx3.9/12, ML2.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/14, Error ellipse: s-maj=53.0km s-min=18.3km az=104.0*

*NEIC **20** 01:33:39.6±0.5, 49.36S×120.99E, h10^{km}, mb4.1/4, Error ellipse: s-maj=24.3km s-min=9.2km az=104.0*

ISC 20 01:33:37.7±0.6, **49.36S**±0.09×**120.9E**±0.3, **h10^{km}, n16, σ0^{s}94**/15, **mb3.8**/8, **MS3.7**/1, **2C-1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	16.64	349	Pn	P	01 37 33.4	+0.8
	1.0nm,0.3s,baz=165,slow=10,SNR=5.6						
STKA	**Stephens Creek**	23.36	49	P	P	01 38 48.0	+0.9
	1.7nm,0.8s,mb3.5,baz=203,slow=13,SNR=2.4						
STKA	**Stephens Creek**	23.36	49	P	P	01 38 48.0	+0.9
ASAR	**Alice Springs**	27.61	26	P	P	01 39 26.1	-1.0
	1.1nm,0.9s,mb3.5,baz=205,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	31.26	25	P	P	01 39 57.6	-2.2
	0.3nm,0.5s,mb3.4,baz=199,slow=8.2,SNR=3.3						
FITZ	**Fitzroy Crossi**	31.41	9	P	P	01 40 02.0	+0.9
	2.9nm,0.9s,mb4.1,baz=178,slow=6.3,SNR=5.1						
VNDA	**Vanda**	32.23	164	P	P	01 40 08.4	+0.6
	1.3nm,0.7s,mb3.9,baz=304,slow=8.8,SNR=8.4						
VNDA				LR	LR	01 52 10.1	
	comp=Z,159nm,21.0s,MS3.7,baz=308,slow=34						
VNDA	**Vanda**	32.23	164	*e*P	P	01 40 07.8	0.0
	1.4nm,0.7s,mb3.9						
MAW	**Mawson**	33.75	216	P	P	01 40 20.6	-0.4
	1.3nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	40.77	180	*e*P	P	01 41 20.9	+0.9
	3.4nm,0.8s,mb4.0						
SNAA	**Sanae**	52.93	199	⇑*i*	P	01 42 54.8	-0.8
SNAA	**Sanae**	52.93	199	P	P	01 42 55.8	+0.1
	0.9nm,0.7s,mb3.8,baz=143,slow=10.0,SNR=18						
SNAA	**Sanae**	52.93	199	*e*P	P	01 42 54.8	-0.9
	8.9nm,1.1s,mb4.6						
VNA2	**Neumayer--Watz**	54.46	198	⇑*i*	P	01 43 06.7	-0.1
VNA1	**Neumayer--Stat**	54.85	198	⇓*i*	P	01 43 02.3	-7.5
PDAR	**Pinedale Array**	144.93	81	PKP	PKPdf	01 53 17.2	-0.2
	0.2nm,0.4s,baz=270,slow=0.9,SNR=2.5						

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*MAN **20** 02:04:02.9, 12.10N×125.06E, h24^{km}, mb4.5, ML3.3, MS3.2*

*IDC **20** 02:04:07.6±4.8, 11.95N×125.01E, h97^{km}±44^{km}, mb3.5/6, mb1 3.8/7, mb1mx3.5/19, Error ellipse: s-maj=56.7km s-min=17.4km az=64.0*

*NEIC **20** 02:04:07.7±2.6, 11.92N×124.99E, h98^{km}±22^{km}, Error ellipse: s-maj=42.7km s-min=11.9km az=64.0*

ISC 20 02:04:02.9±0.6, **12.13N**±0.04×**125.10E**±0.05, **h63^{km}**±5^{km}, **n26, σ1^{s}01**/35, **mb3.9**/8, **1C-2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	**Catarman**	0.57	311	*e*P	P	02 04 15.1	-0.8
CNP				*e*S	S	02 04 24.7	-0.9
BESP	**Borongan**	0.62	148	*e*P	P	02 04 15.6	-1.0
BESP				*e*S	S	02 04 25.6	-1.0
OCLP	**Ormoc**	1.18	204	*e*P	P	02 04 24.4	+0.8
MMPH	**Masbate**	1.46	279	⇓*i*P	P	02 04 26.9	-0.8
MMPH				*i* S	S	02 04 46.3	+0.3
PVCP	**Virac**	1.72	328	*e*P	P	02 04 31.8	+0.5
PVCP				*e*S	S	02 04 57.0	+4.8
MSLP	**Maasin**	2.00	187	*e*P	P	02 04 36.0	+0.9
MSLP				*e*S	S	02 04 59.7	+0.9
SCPH	**Surigao**	2.37	171	⇓*e*P	P	02 04 41.0	+0.8
SCPH				*e*S	S	02 05 09.6	+1.5
RCP	**Roxas**	2.38	256	⇑*e*P	P	02 04 40.5	+0.1
RCP				*e*S	S	02 05 08.7	+0.3
TBP	**Tagbilaran**	2.71	207	*e*P	P	02 04 44.7	-0.5
TBP				*e*S	S	02 05 14.3	-2.5
GUIM	**Jordan**	2.88	239	*e*P	P	02 04 47.3	-0.2
GUIM				*e*S	S	02 05 20.1	-1.0
OTRP	**Odiongan**	3.02	275	*e*P	P	02 04 49.1	-0.4
BOAC	**Boac**	3.44	293	*e*P	P	02 04 56.5	+1.1
SJMP	**San Jose**	3.91	275	*e*P	P	02 05 02.5	+0.6
BUKP	**Musuan**	4.23	181	*e*P	P	02 05 08.3	+1.9
TGY	**Tagaytay City**	4.50	296	P	P	02 05 13.7	+3.4
	55nm,0.3s,baz=268,slow=16,SNR=3.6						
PAGZ	**Pagadian**	4.58	202	*e*P	P	02 05 11.6	+0.3
BALP	**Baler**	4.96	317	*e*P	P	02 05 18.0	+1.4
LUBP	**Lubang**	4.99	289	*e*P	P	02 05 17.2	+0.1
CMAR	**Chiang Mai Arr**	25.98	287	P	P	02 09 30.9	-0.8
	2.1nm,0.7s,mb3.8,baz=96,slow=8.5,SNR=8.7						
WRA	**Warramunga Arr**	33.14	164	P	P	02 10 32.5	-3.0
	0.5nm,0.6s,mb3.6,baz=343,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	36.60	166	P	P	02 11 04.0	-1.0
	0.4nm,0.4s,mb3.6,baz=353,slow=8.0,SNR=6.3						
SONM	**Songino Array**	38.89	340	P	P	02 11 24.5	+0.7
	0.4nm,0.5s,mb3.4,baz=156,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	49.86	322	P	P	02 12 52.1	+0.3
	1.6nm,0.7s,mb4.2,baz=118,slow=8.5,SNR=7.3						
KURK	**Kurchatov**	53.89	325	*e*P	P	02 13 21.3	-0.7
	4.9nm,0.9s,mb4.4						
BRVK	**Borovoye**	59.56	325	*e*P	P	02 14 01.4	-0.8
	1.7nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	82.06	340	P	P	02 16 17.4	0.0
	1.8nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=4.7						

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*BER **20** 02:25:36.7±2.9, 59.71N×2.91E, h10^{km}, MD2.6, ML2.0, ML2.4(NAO)*

*BGS **20** 02:25:37.7±0.8, 59.73N×2.81E, h26^{km}±30^{km}, ML2.2*

*NAO **20** 02:25:38.1±3.4, 59.76N×3.07E, h35^{km}±53^{km}, ML2.4*

ISC 20 02:25:33.8±0.5, **59.78N**±0.04×**2.87E**±0.05, **h10^{km}, n30, σ1^{s}12**/50, **North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGD	**Espegrend**	1.28	66	*e*P	Pb	02 25 59.0	+1.4
EGD				*e*S	Sb	02 26 16.9	+3.0
EGD				AML	AML	02 26 19.9	
	comp=Z,42nm,0.2s						
EGD	**Espegrend**	1.28	66	*e*P	Pb	02 25 58.9	+1.3
KMY	**Karmoy**	1.34	114	*e*P	Pb	02 25 58.9	+0.3
KMY				*e*S	Sb	02 26 15.2	-0.4
KMY				AML	AML	02 26 16.3	
	comp=E,30nm,0.2s						
KMY				AML	AML	02 26 19.1	
	comp=N,47nm,0.4s						
KMY	**Karmoy**	1.34	114	*e*P	Pb	02 25 58.9	+0.3
KMY				*e*S	Sb	02 26 15.3	-0.4
KMY				AML	AML	02 26 19.2	
	comp=Z,72nm,0.4s						
ASK	**Askoy**	1.36	58	*e*P	Pb	02 25 59.9	+0.9
ASK				*e*S	Sb	02 26 16.8	+0.5
ASK				AML	AML	02 26 21.6	
	comp=Z,87nm,0.3s						
BER	**Bergen**	1.37	63	*e*P	Pn	02 26 00.3	+1.2
BER				*e*S	Sb	02 26 15.5	-1.2
BER				AML	AML	02 26 22.9	
	comp=Z,50nm,0.3s						
BER	**Bergen**	1.37	63	*e*P	Pn	02 26 00.0	+0.9
BER				*e*S	Sb	02 26 15.5	-1.2
RUND	**Rundenannen**	1.40	62	*e*P	Pn	02 26 00.7	+1.1
RUND				*e*S	Sb	02 26 17.8	+0.3
RUND				AML	AML	02 26 24.4	
	comp=Z,48nm,0.4s						
RUND	**Rundenannen**	1.40	62	*e*P	Pn	02 26 00.7	+1.1
RUND				*e*S	Sb	02 26 17.8	+0.3
SUE	**Sulen**	1.59	35	*e*P	Pn	02 26 03.1	+0.9
SUE				*e*S	Sb	02 26 22.6	-0.2
SUE				AML	AML	02 26 28.9	
	comp=N,26nm,0.4s						
SUE				AML	AML	02 26 32.0	
	comp=E,22nm,0.5s						
SUE	**Sulen**	1.59	35	*e*P	Pn	02 26 03.1	+0.9
SUE				*e*S	Sb	02 26 22.6	-0.2
SUE				AML	AML	02 26 30.0	
	comp=Z,21nm,0.2s						
BLS5	**Blasjo**	1.86	100	*e*P	Pn	02 26 07.7	+1.6
BLS5				*e*Sg	Sg	02 26 32.6	-3.2
BLS5				AML	AML	02 26 40.0	
	comp=Z,19nm,0.3s						
BLS5	**Blasjo**	1.86	100	*e*P	Pn	02 26 07.7	+1.6
BLS5				*e*S	Sn	02 26 29.1	-0.7
LRW	**Lerwick**	2.07	282	*e*P	Pn	02 26 09.2	+0.1
LRW				*e*S	Sn	02 26 31.6	-3.6
LRW				AML	AML	02 26 47.1	
	comp=E,10nm,0.4s						
LRW				AML	AML	02 26 51.0	
	comp=N,15nm,1.5s						
SAN1	**Sandwick**	2.08	278	*e*P	Pn	02 26 08.6	-0.8
FOO	**Floro**	2.11	29	*e*P	Pn	02 26 10.5	+0.7
FOO				*e*S	Sn	02 26 35.2	-1.0
FOO				AML	AML	02 26 46.1	
	comp=E,18nm,0.8s						
FOO				AML	AML	02 26 53.0	
	comp=N,16nm,0.4s						
FOO	**Floro**	2.11	29	*e*P	Pn	02 26 10.5	+0.8
FOO				*e*S	Sn	02 26 35.2	-1.0
YEL1	**Yell**	2.12	293	*e*P	Pn	02 26 10.2	+0.3
HYA	**Hoyanger**	2.15	48	*e*P	Pn	02 26 13.6	+3.4
HYA				*e*Sg	Sg	02 26 44.3	-1.2
HYA				AML	AML	02 26 48.5	
	comp=Z,17nm,0.3s						
HYA	**Hoyanger**	2.15	48	*e*P	Pn	02 26 13.6	+3.3
HYA				*e*S	Sn	02 26 36.8	-0.4
WAL1	**Walls**	2.30	284	*e*P	Pn	02 26 12.3	-0.2
OST	**Stronsay**	2.86	258	*e*P	Pn	02 26 20.6	+0.2
OWE	**Westray**	3.04	264	*e*P	Pn	02 26 22.7	-0.2
OHO	**Hoy**	3.28	256	*e*P	Pn	02 26 25.5	-0.9
MOL	**Molde**	3.60	37	*e*P	Pn	02 26 34.0	+3.1
MOL	**Molde**	3.60	37	*e*P	Pn	02 26 34.0	+3.1
MOL				*e*S	Sn	02 27 13.7	-0.3
DOMB	**Dombas**	3.78	50	*e*P	Sn	02 27 15.1	-3.5
DOMB	**Dombas**	3.78	50	*e*S	Sn	02 27 15.8	-2.7
NB2	**NORSAR Subarra**	4.33	69	Pn	Pn	02 26 40.6	-0.6
NB2				Pg	Pg	02 26 53.8	-6.4
NB2				Lg		02 27 51.8	
HFS	**Hagfors**	5.45	82	Pn	Pn	02 26 55.6	-1.5
	baz=271,slow=12						
HFS				Sn	Sn	02 27 53.2	-7.5
	baz=269,slow=37						
HFS				Lg		02 28 26.1	
	baz=276,slow=37						

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*IDC **20** 02:42:16.4±1.0, 12.40N×144.09E, mb3.9/6, mb1 4.1/6, mb1mx3.9/20, MS3.9/1, Ms1 3.8/1, ms1mx2.9/27, Error ellipse: s-maj=48.3km s-min=24.2km az=100.0*

*NEIC **20** 02:42:21.7±2.0, 12.39N×144.30E, h44^{km}±21^{km}, mb4.3/2, Error ellipse: s-maj=38.2km s-min=13.8km az=96.0*

ISC 20 02:42:19.6±2.8, **12.4N**±0.1×**144.1E**±0.3, **h36^{km}**±30^{km}, **n12, σ0^{s}72**/11, **mb4.0**/8, **MS3.9**/1, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	1.41	32	*e*Pn	P	02 42 43.6	+0.4
GUMO				*e*Sn	S	02 43 00.5	-0.3
WRA	**Warramunga Arr**	33.53	197	P	P	02 48 58.3	-0.1
	0.6nm,0.5s,mb3.8,baz=20,slow=9.8,SNR=4.5						
ASAR	**Alice Springs**	37.20	196	P	P	02 49 29.3	-0.2
	0.4nm,0.6s,mb3.4,baz=23,slow=9.6,SNR=4.1						
STKA	**Stephens Creek**	44.08	183	LR	LR	03 08 29.0	
	comp=Z,130nm,19.5s,MS3.9,baz=69,slow=36						
MKAR	**Makanchi Array**	61.84	317	P	P	02 52 37.9	+0.3
	1.1nm,0.6s,mb4.2,baz=87,slow=8.5,SNR=8.6						
KURK	**Kurchatov**	65.02	320	*e*P	P	02 52 58.1	-0.2
	1.8nm,0.5s,mb4.4						
ILAR	**Eielson Array**	69.96	25	P	P	02 53 28.2	-0.8
	0.5nm,0.5s,mb3.8,baz=252,slow=5.8,SNR=6.3						
BRVK	**Borovoye**	70.47	322	*e*P	P	02 53 31.6	-0.7
	1.6nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	88.25	51	P	P	02 55 12.3	+3.6
	0.4nm,0.6s,mb3.9,baz=281,slow=4.6,SNR=3.4						
NVAR	**Mina Array Bea**	88.25	51	P	P	02 55 12.3	+3.6
FINES	**FINESS Array B**	91.93	335	P	P	02 55 26.5	+1.1
	1.9nm,0.8s,mb4.5,baz=90,slow=5.6,SNR=2.9						
DBIC	**Dimbokro**	143.80	300	PKP	PKPdf	03 01 52.5	+0.4
	1.4nm,0.5s,baz=80,slow=2.8,SNR=6.8						

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*NEIC **20** 02:58:15.5, 34.62S×72.04W, h15^{km}, ML3.8(GUC), After GUC.*

GUC 20 02:58:15.5±0.5, **34.62S×72.04W, h15^{km}**±4^{km}, **MD4.0, ML3.8, 5C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.77	120	*i* P	Pb	02 58 28.1	-2.0
NICH				*i* S	Sb	02 58 37.9	-2.2
LNV	**Longovilo**	0.84	39	⇑*i*P	Pb	02 58 29.2	-2.0
LNV				*i* S	Sb	02 58 39.5	-2.6
SFDO	**San Fernando**	0.85	90	⇑*i*P	Pb	02 58 29.5	-1.9
SFDO				*i* S	Sb	02 58 39.7	-2.7
TALC	**Talca**	0.85	157	*e*P	Pb	02 58 29.4	-2.1
TALC				*i* S	Sb	02 58 40.1	-2.2
TALC				AMP		02 58 41.0	
	comp=E,11µm,0.1s						
LCCH	**Las Cruces**	1.20	19	*e*P	Pb	02 58 35.1	-2.4
CACH	**El Canelo**	1.29	68	⇑*i*P	Pb	02 58 37.1	-1.9
TACH	**Talagante**	1.33	44	*e*P	Pn	02 58 36.7	-2.9
CHCH	**Chadas Angostu**	1.34	60	*e*P	Pn	02 58 37.2	-2.5
CHCH				*i* S	Sb	02 58 53.6	-3.0
CICH	**Cipreses**	1.37	78	⇑*i*P	Pn	02 58 37.9	-2.4
CICH				*i* S	Sb	02 58 55.4	-2.2
RCDM	**Rinconada Maip**	1.52	43	*e*P	Pn	02 58 39.7	-2.7
RCDM				*i* S	Sb	02 58 58.3	-3.5
PCH	**Pirque**	1.61	52	*e*P	Pn	02 58 41.9	-1.8
PCH				*i* S	Sn	02 59 01.9	-2.3
LMEL	**Las Melosas**	1.71	64	⇑*i*P	Pn	02 58 43.6	-1.4
LMEL				AMP		02 59 07.3	
	comp=N,1µm,0.2s						
DSCH	**Colegio Aleman**	1.73	46	*i* P	Pn	02 58 43.1	-2.2
DSCH				*i* S	Sn	02 59 04.8	-2.3

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*NEIC **20** 03:00:25.6, 38.24N×22.55E, h16^{km}, ML3.0(ATH), ML2.8(THE), After ATH.*

*ATH **20** 03:00:25.6, 38.24N×22.55E, h16^{km}±2^{km}, MD3.0/10, ML3.0*

*THE **20** 03:00:26.2, 38.38N×22.70E, h10^{km}, ML2.8*

ISC 20 03:00:24.9±0.5, **38.31N**±0.03×**22.65E**±0.04, **h10^{km}, n18, σ0^{s}91**/24, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKIT	**Kithairon Oros**	0.50	104	*e*PN	Pn	03 00 36.0	-1.7
AGG	**Agios Georgios**	0.76	341	*e*Pg	Pg	03 00 39.1	-0.9
	comp=Z,14nm,0.1s						
AGG				*e*Sg	Sg	03 00 49.4	-0.8
NSAL	**Nisos Salamina**	0.76	122	*e*PN	Pn	03 00 41.0	-0.4
NAIG	**Nisos Aigina**	0.86	129	*e*PN	Pn	03 00 43.0	+0.1
MPAR	**Parnis Oros**	0.87	100	*e*PN	Pn	03 00 43.5	+0.5
MPAR				*e*SN	Sn	03 00 56.9	+1.2
EVR	**Evrytania**	0.90	313	*e*PN	Pn	03 00 42.6	-0.7
ATH	**Athens Observa**	0.91	111	*e*PN	Pn	03 00 44.0	+0.5
PTL	**Penteli**	0.99	105	*e*PN	Pn	03 00 45.0	+0.3
XOR	**Xorichti**	1.14	22	*e*Pg	Pg	03 00 46.9	-0.8
XOR				*e*Sg	Sg	03 01 02.5	-0.4
ITM	**Ithomi**	1.26	207	*e*PN	Pn	03 00 47.5	-1.1
AOS	**Alonnisos**	1.29	48	*e*Pb	Pb	03 00 48.8	0.0
AOS				*e*Sb	Sb	03 01 06.7	+1.4
VLI	**Veliai**	1.60	172	*e*PB	Pb	03 00 53.6	-0.5
LKD	**Levkas**	1.62	285	*e*Pb	Pb	03 00 55.1	+0.7
	comp=Z,2.3nm,0.1s						
VLS	**Valsamata**	1.63	266	*e*PN	Pn	03 00 55.0	+1.2
LIT	**Litokhoron**	1.79	356	*e*Pb	Pb	03 00 56.1	-1.4
LIT				*e*Sb	Sb	03 01 19.5	-0.4
MEV	**Metsovon**	1.84	324	*e*Pb	Pb	03 00 58.9	+0.7
	comp=Z,2.9nm,0.1s						
MEV				*e*Sb	Sb	03 01 23.5	+2.2
FNA	**Florina**	2.66	339	*e*Pn	Pn	03 01 09.2	+0.6
KNT	**Kendrikon**	2.86	4	*e*Pn	Pn	03 01 11.4	0.0

DJA 20 03:00:27.1±0.9, **9.88S×114.92E, h33^{km}, MD5.2**/3, **ML3.5**/3, **5C-2D, Error ellipse: s-maj=21.9km s-min=12.8km az=12.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	1.30	28	⇑*e*Pn	Pn	03 00 47.5	-1.8
	59nm,0.1s						
RATI				⇑*e*Sn	Sn	03 01 02.5	-3.1
KELI	**Kelakatan**	1.71	346	⇓*e*Pn	Pn	03 00 53.8	-1.3
	35nm,0.1s						
KELI				⇑*e*Sn	Sn	03 01 13.5	-2.5
KEDI	**Kedomdong**	1.82	40	⇓*e*Pn	Pn	03 00 55.6	-1.1
	25nm,0.1s						
KEDI	**Kedomdong**	1.82	40	⇑*e*P	P	03 00 56.2	-0.3
KEDI				⇑*e*Sn	Sn	03 01 16.2	-2.6

CASC 20 03:03:38.4±2.4, **11.65N×86.66W, h67^{km}**±16^{km}, **MD3.6, ML3.4, 10C-12D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	**El Crucero**	0.48	47	⇓*e*P	P	03 03 52.0	+1.1
COPN	**Copaltepe**	0.53	7	⇑*e*P	P	03 03 51.9	+0.5
COPN				*e*S	S	03 04 00.5	-0.4
TICN	**Ticuantepe**	0.56	48	⇑*e*P	P	03 03 52.6	+0.9
XAVN	**Gruta Xavier**	0.59	33	⇑*e*P	P	03 03 52.7	+0.6
MASN	**Masaya**	0.60	56	*e*P	P	03 03 53.0	+0.8
APON	**Apoyo**	0.64	65	⇓*e*P	P	03 03 53.1	+0.6
MGAN	**Managua**	0.64	39	⇑*e*P	P	03 03 53.1	+0.6
MGAN				*e*S	S	03 04 02.1	-0.9
MGAN				*i*		03 04 05.0	
	comp=N,2µm,0.4s						
WILN	**Americas 2**	0.69	42	⇑*e*P	P	03 03 53.4	+0.3
WILN				*e*S	S	03 04 04.2	+0.2
COFN	**Cofrada**	0.73	47	⇓*e*P	P	03 03 53.9	+0.3
MOMJ	**Momotombo**	0.76	9	⇓*e*P	P	03 03 54.4	+0.4
MOMJ				*e*S	S	03 04 05.2	-0.3
MIRN	**Miramar**	0.79	356	⇑*i*P	P	03 03 54.9	+0.7
MIRN				*e*S	S	03 04 06.0	0.0
LEON	**Leon**	0.79	343	⇓*i*P	P	03 03 55.0	+0.6
PYN	**Poneloya**	0.81	334	⇓*i*P	P	03 03 55.5	+0.9
CNGN	**Cerro Negro**	0.84	357	⇓*e*P	P	03 03 55.5	+0.5
CNGN				*e*S	S	03 04 08.0	+0.6
TEL3	**Telica 3**	0.93	349	⇓*e*P	P	03 03 56.9	+0.8
TEL3				*e*S	S	03 04 09.8	+0.4
TELN	**Telica**	0.96	350	⇓*e*P	P	03 03 57.2	+0.7
TELN				*e*S	S	03 04 10.5	+0.5
CONN	**Concepcion**	1.02	95	⇓*e*P	P	03 03 57.6	+0.4
CONN				*e*S	S	03 04 10.6	-0.6
PYTN	**Playitas**	1.06	34	*e*P	P	03 03 57.8	0.0
PYTN				*e*S	S	03 04 12.1	-0.1
PYTN				*i*		03 04 13.2	
	comp=N,443nm,0.7s						
CRIN	**San Cristobal**	1.11	340	⇑*e*P	P	03 03 59.5	+1.0
VCR	**Vista de Mar**	1.82	146	⇓*e*P	P	03 04 08.0	-0.2
CNCH	**Conchagua**	1.98	325	⇓*e*P	P	03 04 09.9	-0.4
CNCH				*e*S	S	03 04 33.3	-0.7
BLLM	**Bellamira**	2.35	319	⇑*e*P	P	03 04 15.7	0.0
PRS1	**Puriscal**	2.84	125	*e*P	P	03 04 22.6	+0.1
PRS1				*e*S	S	03 04 54.5	-1.1
SNVI	**San Vicente**	2.89	313	*e*P	P	03 04 22.2	-0.9
SNVI				*e*S	S	03 04 55.8	-1.0
LCBS	**La Ceiba**	3.02	312	⇑*e*P	P	03 04 24.4	-0.6
LCBS				*e*S	S	03 04 58.1	-2.0
LFRS	**El Faro**	3.06	310	⇑*e*P	P	03 04 25.0	-0.6
LFRS				*e*S	S	03 04 59.4	-1.7
LCR2	**La Lucha 2**	3.23	126	*e*P	P	03 04 29.2	+1.3
LCR2				*e*S	S	03 05 04.4	-0.9
BUS	**Buena Vista**	3.53	126	*e*P	P	03 04 33.5	+1.4
BUS				*e*S	S	03 05 13.2	+0.2
SBLS	**San Blas**	3.62	307	*e*P	P	03 04 34.0	+0.6
SBLS				*e*S	S	03 05 13.8	-1.3
RBDL	**Robledal**	3.83	310	*e*P	P	03 04 36.3	-0.1
RBDL				*e*S	S	03 05 20.0	-0.6

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*LDG **20** 03:13:58.5±0.1, 46.16N×6.88E, h2^{km}, Md2.0/2, Ml2.1/13, Error ellipse: s-maj=2.0km s-min=1.0km az=79.0*

*ZUR **20** 03:13:58.1, 46.17N×6.94E, h7^{km}, ML1.6/7*

ISC 20 03:13:56.4±0.3, **46.18N**±0.02×**6.78E**±0.02, **h7^{km}, n24, σ1^{s}12**/47, **4C-3D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SALAN	**Lac Salanfe**	0.14	106	⇓*i*Pg	Pg	03 14 00.0	+0.5
SALAN				*i* Sg	Sg	03 14 01.1	-0.5
EMV	**Vieux Emosson**	0.15	145	⇑*i*Pg	Pg	03 14 01.0	+1.4
	4.7nm,0.1s						
EMV				*e*Sg	Sg	03 14 02.8	+1.1
	4.7nm,0.1s						
AIGLE	**Aigle**	0.20	38	⇑*i*Pg	Pg	03 14 01.8	+1.2
	9.7nm,0.4s						
AIGLE				*e*Sg	Sg	03 14 04.2	+0.8
	9.7nm,0.4s						
GRYON	**Gryon**	0.24	74	⇑*i*Pg	Pg	03 14 01.5	+0.1
	6.1nm,0.1s						
GRYON				*e*Sg	Sg	03 14 03.8	-0.9
	6.1nm,0.1s						
SENIN	**Lac Senin**	0.40	63	⇑*i*Pg	Pg	03 14 04.6	0.0
	1.4nm,0.2s						
SENIN				*e*Sg	Sg	03 14 09.2	-0.8
	1.4nm,0.2s						
DIX	**Grande Dixence**	0.45	103	⇓*i*Pg	Pg	03 14 05.4	-0.1
	1.8nm,0.3s						
DIX				*e*Sg	Sg	03 14 10.1	-1.5
	1.8nm,0.3s						
TORNY	**Torny**	0.60	12	⇓*i*Pg	Pg	03 14 10.2	+1.7
	0.6nm,0.2s						
TORNY				*i* PmP		03 14 13.6	
	0.6nm,0.2s						
LKBD	**Leukerbad**	0.62	71	*e*Pg	Pg	03 14 08.5	-0.4
	1.9nm,0.5s						
LKBD				*e*Sg	Sg	03 14 15.4	-1.9
	1.9nm,0.5s						
CABF	**La Chapelle**	0.64	312	*e*Pg	Pg	03 14 12.3	+3.0
CABF				*e*Pn	Pn	03 14 15.2	+3.6
CABF				*e*Sg	Sg	03 14 22.0	+4.2
	4.1nm,0.3s						
LPL	**La Plagne**	0.67	183	*e*Pg	Pg	03 14 11.2	+1.4
LPL				*e*Sg	Sg	03 14 19.6	+0.9
	6.5nm,0.3s						
LPG	**La Plagne**	0.69	181	*e*Pg	Pg	03 14 11.4	+1.2
LPG				*e*Sg	Sg	03 14 20.6	+1.2
	5.3nm,0.2s						
ORIF	**Oris-en-Rattie**	1.41	207	*e*Pn	Pn	03 14 23.7	+1.0
ORIF				*e*Pg	Pg	03 14 25.1	+0.4
ORIF				*e*Sg	Sg	03 14 44.3	+0.8
	4.0nm,0.2s						
MBDF	**Montbardon**	1.46	180	*e*Pg	Pg	03 14 25.4	-0.1
MBDF				*e*Sg	Sg	03 14 43.1	-1.9
	2.1nm,0.3s						
HINF	**Hinteralfeld**	1.63	2	*e*Pg	Pg	03 14 29.2	+0.1
HINF				*e*Sg	Sg	03 14 50.1	-0.8
	6.1nm,0.2s						
HAU	**Haudompre**	1.85	351	*e*Pg	Pg	03 14 33.7	+0.4
HAU				*e*Sg	Sg	03 14 57.5	-0.4
	6.2nm,0.3s						
VIVF	**Saint-Julien-l**	1.99	229	*e*Pg	Pg	03 14 36.4	+0.3
VIVF				*e*Sg	Sg	03 15 02.6	0.0
	4.7nm,0.3s						
SMF	**Signal de Mont**	2.08	284	*e*Pg	Pg	03 14 38.9	+0.9
SMF				*e*Sg	Sg	03 15 05.9	+0.1
	2.3nm,0.2s						
LOR	**Lormes**	2.28	299	*e*Pg	Pg	03 14 42.5	+0.5
LOR				*e*Sg	Sg	03 15 12.5	+0.1
	1.7nm,0.3s						
SMRF	**Simiane la Rot**	2.37	202	*e*Sg	Sg	03 15 13.0	-2.2
	0.4nm,0.2s						
SSF	**Saint Saulge**	2.42	292	*e*Pg	Pg	03 14 44.5	-0.2
SSF				*e*Sg	Sg	03 15 16.1	-0.9
	0.7nm,0.3s						
AVF	**Avril sur Loir**	2.44	286	*e*Pn	Pn	03 14 38.8	+1.4
AVF				*e*Pg	Pg	03 14 44.9	-0.3
AVF				*e*Sg	Sg	03 15 16.1	-1.6
	0.9nm,0.3s						
FRF	**La Foret Royal**	2.62	182	*e*Pg	Pg	03 14 47.1	-1.7
BGF	**Bois d'Agland**	2.75	279	*e*Sg	Sg	03 15 26.6	-1.3
	5.0nm,0.4s						
LASF	**Ste Croix**	2.95	225	*e*Pg	Pg	03 14 53.7	-1.6
LASF				*e*Sg	Sg	03 15 32.0	-2.7
	0.5nm,0.2s						

WEL 20 03:30:49.2±0.3, **36.99S×177.47E, h5^{km}, ML3.6**/6, **Error ellipse: s-maj=2.3km s-min=1.6km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	**White Island**	0.58	202	PG	Pg	03 31 00.7	-0.2
MXZ	**Matakaoa Point**	0.88	131	P*	Pb	03 31 05.4	-1.2
MXZ				S*	Sb	03 31 17.0	-1.5
MXZ				S*	Sb	03 31 17.1	-1.4
MYRZ	**Mayor Island**	1.02	253	S*	Sb	03 31 21.2	-1.4
PUZ	**Puketiti**	1.25	150	P*	Pb	03 31 12.1	-0.8
PUZ				S*	Sb	03 31 29.0	-0.2
URZ	**Urewera**	1.30	192	P*	Pb	03 31 12.0	-1.8
MWZ	**Matawai**	1.35	178	P*	Pb	03 31 12.5	-2.0
MWZ				S*	Sb	03 31 29.4	-2.6

KUZ	Kuaotunu	1.42	279	PN	Pn	03 31 15.6	-0.1
KUZ				SN	Sn	03 31 32.9	-2.1
NGZ	Ngauruhoe	2.64	213	P*	Pb	03 31 35.9	-0.7
WCZ	Waipu Caves	2.73	292	PN	Pn	03 31 33.1	-1.3
OUZ	Omahuta	3.60	298	PN	Pn	03 31 47.3	+0.5

IDC 20 03:41:19.7±61.0**, 20.33S×179.28W, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.7**/14**, Error ellipse: s-maj=1113.0km s-min=156.8km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.79	244	P	P	03 48 28.6	-2.5
	0.9nm,0.5s,baz=83,slow=13,SNR=4.9						
ASAR	Alice Springs	43.39	257	P	P	03 49 24.4	-1.5
	1.4nm,0.7s,baz=97,slow=8.5,SNR=12						
WRA	Warramunga Arr	43.44	262	P	P	03 49 25.0	-1.3
	0.6nm,0.5s,baz=95,slow=7.6,SNR=12						

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*PRU **20** 03:43:41.9, 51.48N×16.10E*

*WAR **20** 03:43:41.3, 51.54N×16.09E, ML2.7, Mining Induced*

ISC 20 03:43:39.5±1.2**, 51.51N**±0.06×**16.05E**±0.06**, n8, σ1^{s}05**/20**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	167	*e*PG	Pg	03 43 54.0	+0.9
KSP				*e*SG	Sg	03 44 04.0	+1.8
DPC	Dobruska-Polom	1.17	171	*e*PG	Pg	03 44 03.0	+0.1
DPC				*e*SG	Sg	03 44 18.8	+0.3
PVCC	Panska Ves	1.35	224	*e*PG	Pg	03 44 07.2	+0.7
PVCC				*e*SG	Sg	03 44 26.2	+1.6
PRU	Pruhonice	1.79	213	*e*PN	Pn	03 44 11.6	-0.4
PRU				*e*PG	Pg	03 44 14.4	-1.0
PRU						03 44 31.3	
PRU				SG	Sg	03 44 38.9	-0.4
	5.5nm,0.3s						
CLL	Collm	1.92	265	*e*PG	Pg	03 44 18.0	+0.2
CLL				*e*SG	Sg	03 44 43.0	-0.3
OKC	Ostrava-Krasne	2.14	141	*e*PG	Pg	03 44 21.8	-0.4
OKC				*e*SG	Sg	03 44 48.7	-2.0
NKC	Novy Kostel	2.61	242	*e*PN	Pn	03 44 24.6	+0.9
NKC				*e*PG	Pg	03 44 31.8	+0.1
NKC						03 44 57.1	
NKC				*e*SG	Sg	03 45 05.6	-0.9
KHC	Kasperske Hory	2.86	215	*e*PN	Pn	03 44 28.1	+0.9
KHC				*e*PG	Pg	03 44 35.1	-1.4
KHC				SN	Sn	03 45 03.6	+0.8
KHC				*e*SG	Sg	03 45 12.1	-2.5

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*WAR **20** 03:47:52.7, 51.54N×16.09E, ML2.6, Mining Induced*

*PRU **20** 03:47:53.3, 51.47N×16.12E*

ISC 20 03:47:51.1±1.3**, 51.50N**±0.06×**16.03E**±0.06**, n9, σ1^{s}14**/19**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	166	*e*PG	Pg	03 48 06.0	+1.5
KSP				*e*SG	Sg	03 48 15.0	+1.5
DPC	Dobruska-Polom	1.16	171	*e*PG	Pg	03 48 14.4	+0.1
DPC				*e*SG	Sg	03 48 29.8	+0.1
	3.3nm,0.2s						
PVCC	Panska Ves	1.34	224	*e*PG	Pg	03 48 18.8	+1.1
PVCC				*e*		03 48 32.6	
PVCC				*e*SG	Sg	03 48 38.3	+2.7
PRU	Pruhonice	1.78	213	*e*PG	Pg	03 48 26.0	-0.6
PRU				*e*SG	Sg	03 48 50.1	-0.2
	5.6nm,0.4s						
CLL	Collm	1.90	266	*e*SG	Sg	03 48 54.0	-0.4
OKC	Ostrava-Krasne	2.14	140	*e*PG	Pg	03 48 32.8	-1.0
OKC				*e*SG	Sg	03 48 59.2	-3.1
NKC	Novy Kostel	2.60	242	*e*PN	Pn	03 48 35.7	+0.7
NKC				*e*PG	Pg	03 48 43.3	+0.4
NKC				*e*SG	Sg	03 49 17.0	-0.5
KHC	Kasperske Hory	2.84	214	*e*PN	Pn	03 48 39.3	+0.8
KHC				*e*PG	Pg	03 48 45.9	-1.9
KHC						03 49 09.4	
KHC				*e*SG	Sg	03 49 23.6	-2.0
MOX	Moxa	2.91	255	Pg	Pg	03 48 49.0	-0.2
MOX				Sg	Sg	03 49 28.0	0.0

MAN 20 03:51:25.9, 16.33N×120.94E, h23^{km}, mb4.2, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	Baler	0.85	134	*e*P	Pb	03 51 41.7	-0.1
BALP				*e*S	Sb	03 51 54.6	+1.7
BOLP	Bolinao	0.98	273	*e*P	Pb	03 51 43.7	-0.4
BOLP				*e*S	Sb	03 51 58.4	+1.6
CAUP	Cauayan	1.04	54	*e*P	Pb	03 51 44.5	-0.7
CAUP				*e*S	Sb	03 52 00.8	+2.3
ABRA	Dolores	1.33	351	*e*P	Pn	03 51 47.9	-1.4
ABRA				*e*S	Sn	03 52 06.1	-0.3
APYP	Conner	1.55	11	*e*P	Pn	03 51 52.2	-0.2
APYP				*e*S	Sn	03 52 12.9	+0.9

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*NEIC **20** 04:08:48.5±0.9, 9.16S×116.84E, h119^{km}±16^{km}, mb4.0/3, Error ellipse: s-maj=42.4km s-min=11.1km az=218.0*

*DJA **20** 04:08:48.9±0.9, 9.11S×116.78E, h130^{km}±9^{km}, MD4.6/4, ML5.4/4, Error ellipse: s-maj=41.6km s-min=19.2km az=0.0*

*IDC **20** 04:08:53.7±4.7, 9.64S×116.32E, h194^{km}±46^{km}, mb3.3/4, mb1 3.5/4, mb1mx3.3/14, Error ellipse: s-maj=44.3km s-min=14.3km az=42.0*

ISC 20 04:08:47.6±0.6**, 9.2S**±0.2×**116.8E**±0.1**, h133^{km}**±10^{km}**, n15, σ0^{s}91**/23**, mb3.5**/3**, 1C-9D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.92	315	⇓*e*Pn	P	04 09 11.2	+1.0
	3μm,0.2s						
KEDI				⇓*e*Sn	S	04 09 27.1	-0.4
RATI	Rata	1.29	289	⇓*e*Pn	P	04 09 14.6	+0.6
	3μm,0.3s						
RATI				⇓*e*Sn	S	04 09 33.8	-0.2
RATI	Rata	1.29	289	⇓*e*Pn	P	04 09 14.5	+0.5
RATI				*e*Sn	S	04 09 34.3	+0.3
INGI	Ingas	1.64	281	⇓*e*Pn	P	04 09 18.6	+0.8
	5μm,0.3s						
INGI				⇓*e*Sn	S	04 09 40.3	-0.6
KELI	Kelakatan	2.44	292	⇓*e*Pn	P	04 09 28.4	+0.7
	4μm,0.2s						
KELI				⇑*e*Sn	S	04 09 57.4	-0.9
KELI	Kelakatan	2.44	292	⇓*e*Pn	P	04 09 28.4	+0.7
KELI				*e*Sn	S	04 09 57.5	-0.8
FITZ	Fitzroy Crossi	12.38	137	*e*P	P	04 11 37.9	-2.5
	2.4nm,0.9s						
FITZ				*e*S	S	04 13 45.2	-11
KAKA	Kakadu	15.75	104	*e*P	P	04 12 23.1	-0.3
	15nm,1.3s						
WRA	Warramunga Arr	20.09	124	P	P	04 13 12.9	+0.1
	3.0nm,0.4s,baz=300,slow=12,SNR=49						
WRA				S	S	04 16 50.2	+4.3
	0.6nm,0.6s,baz=301,slow=26,SNR=6.0						
WRAB	Tennant Creek	20.09	124	*e*P	P	04 13 12.1	-0.8
	4.7nm,0.6s						
WB2	Warramunga Arr	20.10	124	*e*P	P	04 13 12.9	0.0
ASPA	Alice Springs	21.84	133	*e*P	P	04 13 31.5	+1.3
ASAR	Alice Springs	21.84	133	P	P	04 13 31.6	+1.3
	2.4nm,0.7s,mb3.7,baz=305,slow=8.8,SNR=24						
MKAR	Makanchi Array	63.61	334	P	P	04 19 05.8	-0.9
	0.3nm,0.5s,mb3.3,baz=149,slow=8.4,SNR=3.5						
VNDA	Vanda	72.19	171	P	P	04 19 54.4	-5.1
	0.3nm,0.2s,mb3.6,baz=330,slow=5.5,SNR=7.0						

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*CASC **20** 04:12:08.8±1.1, 12.59N×90.68W, h30^{km}±13^{km}, MD3.7, ML3.7*

*IDC **20** 04:12:15.9±4.7, 12.88N×90.14W, h76^{km}±95^{km}, mb3.4/3, mb1 3.7/4, mb1mx3.3/20, ML3.3/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=125.0km s-min=29.6km az=20.0*

ISC 20 04:12:07.1±1.4**, 12.59N**±0.08×**90.66W**±0.05**, h12^{km}**±12^{km}**, n21, σ0^{s}58**/32**, mb4.0**/2**, MS3.4**/1**, 10C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	1.58	7	⇑*e*P	Pn	04 12 34.2	-1.0
SBLS	San Blas	1.60	39	⇑*e*P	Pn	04 12 35.4	+0.1
SBLS				*e*S	Sn	04 12 56.8	+0.8
RTR	El Retiro	1.63	37	⇑*e*P	Pn	04 12 35.9	+0.1
RTR				*e*S	Sn	04 12 57.3	+0.5
SNJE	San Jose	1.63	39	⇑*e*P	Pn	04 12 35.8	0.0
BOQS	Boqueron	1.76	50	⇑*e*P	Pn	04 12 37.5	-0.2
BOQS				*e*S	Sn	04 13 01.0	+1.0
RBDL	Robledal	1.78	32	⇑*e*P	Pn	04 12 38.3	+0.3
LFRS	El Faro	1.86	57	⇑*e*P	Pn	04 12 38.6	-0.5
LFRS				*e*S	Sn	04 13 02.4	-0.3
LBRS	Las Brisas	1.94	54	*e*P	Pn	04 12 40.2	0.0
LCBS	La Ceiba	1.95	57	⇑*e*P	Pn	04 12 39.9	-0.5
LCBS				*e*S	Sn	04 13 04.5	-0.3
JAT	Jato	1.96	331	⇓*e*P	Pn	04 12 40.2	-0.3
JAT				*e*S	Sn	04 13 04.3	-0.8
JAT				AML	AML	04 13 07.8	
	comp=E,491nm,0.2s						
NBG	Las Nubes	2.00	9	⇓*e*P	Pn	04 12 41.8	+0.6
NBG				AML	AML	04 13 12.5	
	comp=N,1μm,0.5s						
MTO2	Montecristo 2	2.19	35	⇑*e*P	Pn	04 12 44.1	+0.2
TP2	Tecpan 2	2.20	351	⇓*e*P	Pn	04 12 44.1	+0.1
TP2				*e*S	Sn	04 13 11.1	-0.3
TP2				AML	AML	04 13 13.7	
	comp=N,544nm,0.4s						
VSM	San Miguel	2.47	70	*e*P	Pn	04 12 47.8	0.0
VSM				*e*S	Sn	04 13 18.3	+0.2
BLLM	Bellamira	2.51	70	*e*P	Pn	04 12 48.5	+0.1
BLLM				*e*S	Sn	04 13 19.0	-0.1
MRL	Marmol	2.63	21	⇑*e*P	Pn	04 12 50.5	+0.4
CNCH	Conchagua	2.84	76	⇓*e*P	Pn	04 12 52.2	-0.9
CNCH				*e*S	Sn	04 13 26.5	-0.9
JTS	JuntasAbangare	6.04	112	P	Pn	04 13 39.2	+0.7
	comp=N,0.8nm,0.3s,baz=320,slow=20,SNR=5.2						
JTS				S	Sn	04 14 42.0	-6.4
	comp=N,0.4nm,0.3s,baz=327,slow=18,SNR=1.9						
TXAR	Lajitas Array	20.58	326	P	P	04 16 49.0	+0.4
	comp=N,0.6nm,0.7s,baz=147,slow=12,SNR=13						
NVAR	Mina Array Bea	35.58	321	P	P	04 19 07.4	+1.0
	comp=N,0.5nm,0.6s,mb3.6,baz=124,slow=8.8,SNR=3.7						
SCHQ	Schefferville	46.10	19	P	P	04 20 29.1	-3.7
	comp=N,3.9nm,0.8s,mb4.4,baz=260,slow=12,SNR=3.2						
SCHQ				LR	LR	04 43 47.7	
	comp=N,37nm,18.5s,MS3.4,baz=35,slow=41						

WEL 20 04:34:09.0±0.5**, 38.29S×178.39E, h12^{km}, ML3.5**/2**, Error ellipse: s-maj=3.8km s-min=2.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	0.24	334	P*	Pb	04 34 14.3	-0.6
PUZ				S*	Sb	04 34 17.5	-1.3
MWZ	Matawai	0.68	266	P*	Pb	04 34 22.1	-0.2
MWZ				S*	Sb	04 34 31.6	+0.1
MXZ	Matakaoa Point	0.73	355	P*	Pb	04 34 22.6	-0.7
MXZ				S*	Sb	04 34 33.4	+0.4
URZ	Urewera	1.01	272	P*	Pb	04 34 27.2	-0.8
URZ				S*	Sb	04 34 40.8	-0.2

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*NEIC **20** 04:39:34.2±0.7, 17.57S×178.78W, h460^{km}, mb3.8/1, Error ellipse: s-maj=27.5km s-min=17.7km az=130.0*

*IDC **20** 04:39:36.7±6.7, 17.71S×178.77W, h488^{km}±75^{km}, mb3.2/6, mb1 3.4/6, mb1mx3.2/16, Error ellipse: s-maj=42.2km s-min=28.2km az=172.0*

ISC 20 04:39:32.6±0.9**, 17.6S**±0.2×**178.8W**±0.2**, h450^{km}, n10, σ0^{s}95**/7**, mb3.6**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	27.40	196	P	P	04 44 40.4	-1.2
	3.2nm,0.4s,mb4.1,baz=12,slow=9.3,SNR=5.9						
STKA	Stephens Creek	38.45	241	P	P	04 46 16.8	+1.4
	1.4nm,0.5s,mb3.6,baz=100,slow=13,SNR=5.2						
WRA	Warramunga Arr	44.32	259	P	P	04 47 02.1	-0.7
	0.6nm,0.5s,mb3.3,baz=95,slow=7.0,SNR=6.4						
WRA				PcP	PcP	04 48 36.3	-1.8
	0.3nm,0.9s,baz=94,slow=1.9,SNR=5.0						
ASAR	Alice Springs	44.52	254	P	P	04 47 04.5	+0.2
	5.6nm,0.4s,mb4.3,baz=89,slow=8.1,SNR=104						
ASAR				PcP	PcP	04 48 36.9	-1.8
	0.5nm,0.4s,baz=96,slow=4.2,SNR=6.2						
QSPA	South Pole Qui	72.44	180	*e*P	P	04 50 13.3	+0.4
	1.9nm,0.8s,mb3.7						
ILAR	Eielson Array	85.69	13	P	P	04 51 21.9	-1.1
	0.3nm,0.4s,mb3.3,baz=225,slow=5.8,SNR=5.2						
TXAR	Lajitas Array	86.15	58	P	P	04 51 27.2	+1.0
	0.2nm,0.7s,mb2.9,baz=247,slow=6.9,SNR=2.8						
BRTR	Keskin Array B	144.32	315	PKP	PKPdf	04 58 16.5	+0.2
	0.6nm,0.4s,slow=1.2,SNR=3.7						
GERES	GERESS Array B	147.24	345	PKPbc	PKPdf	04 58 24.6	+3.7
	0.6nm,0.5s,baz=27,slow=3.0,SNR=4.8						
GERES	GERESS Array B	147.24	345	PKPbc	PKPdf	04 58 24.6	+3.7

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*IDC **20** 04:47:33.7±0.9, 35.05N×141.35E, mb3.9/6, mb1 4.2/7, mb1mx3.9/23, ML3.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/34, Error ellipse: s-maj=36.8km s-min=17.9km az=118.0*

*JMA **20** 04:47:35.2±0.3, 35.03N×141.50E, h47^{km}±4^{km}, M3.1*

*NEIC **20** 04:47:39.7±0.5, 35.06N×141.24E, h40^{km}, mb4.6/2, Error ellipse: s-maj=13.8km s-min=9.9km az=46.0*

ISC 20 04:47:37.0±1.3**, 35.07N**±0.04×**141.4E**±0.1**, h37^{km}**±12^{km}**, n19, σ0^{s}93**/24**, mb4.0**/8**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.54	220	P	P	04 47 47.0	-1.1
BSO1				S	S	04 47 56.3	+0.2
BSO2	Boso 2	0.61	239	S	S	04 47 58.8	+0.8
CHOJ	Chosi	0.77	326	P	P	04 47 50.8	-0.6
CHOJ				S	S	04 48 02.0	0.0
BSO3	Boso 3	0.77	250	P	P	04 47 50.8	-0.6
BSO3				*e*S	S	04 48 02.5	+0.5
BSO4	Boso 4	0.87	265	P	P	04 47 52.5	-0.3
JOD2	Odawara 2	1.90	277	P	P	04 48 07.5	-0.1
JHJ	Hachijo jima 2	2.36	215	Pn	P	04 48 13.7	-0.5
	26nm,0.3s,baz=86,slow=22,SNR=5.2						
JHJ				Sn	S	04 48 43.3	+1.2
	86nm,0.3s,baz=279,slow=23,SNR=8.0						
JHJ				LR	LR	04 49 11.1	
	comp=Z,252nm,19.2s,baz=133,slow=42						
MAJO	Matsushiro	2.98	301	*e*Pn	P	04 48 24.9	+1.9
MAT	Matsushiro	2.98	301	P	P	04 48 22.2	-0.8
MAT				S	S	04 48 57.1	-0.8
MAT	Matsushiro	2.98	301	*e*P	P	04 48 24.0	+1.0
MAT				*e*S	S	04 48 57.0	-0.9
JNU	Nakatsue	8.94	260	LR	LR	04 53 05.0	
	comp=Z,57nm,20.9s,baz=38,slow=37						
MKAR	Makanchi Array	45.17	304	P	P	04 55 51.8	0.0
	0.6nm,0.6s,mb3.6,baz=88,slow=7.6,SNR=6.6						
KURK	Kurchatov	47.15	310	*e*P	P	04 56 06.6	-0.7
	2.5nm,0.7s,mb4.2						
ILAR	Eielson Array	51.17	31	P	P	04 56 38.4	+0.3
	0.4nm,0.7s,mb3.5,baz=274,slow=5.4,SNR=6.0						
WRAB	Tennant Creek	55.10	188	*e*P	P	04 57 06.0	-1.8
	8.1nm,0.7s,mb4.9						
WRA	Warramunga Arr	55.11	188	P	P	04 57 06.7	-1.3
	6.3nm,0.6s,mb4.8,baz=5.8,slow=7.6,SNR=39						
ASAR	Alice Springs	58.84	188	P	P	04 57 34.5	+0.2
	0.9nm,0.6s,mb4.0,baz=17,slow=12,SNR=4.9						
NVAR	Mina Array Bea	76.19	53	P	P	04 59 24.9	+1.9
	0.8nm,0.7s,mb3.8,baz=282,slow=7.9,SNR=8.9						
PDAR	Pinedale Array	79.06	45	P	P	04 59 39.9	+1.0
	0.4nm,0.6s,mb3.5,baz=291,slow=2.0,SNR=5.7						

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*INMG **20** 04:47:42.1±0.5, 37.58N×7.93W, h5^{km}, ML0.5, Error ellipse: s-maj=1.5km s-min=1.2km az=45.0*

MDD 20 04:47:42.2±0.5**, 37.59N×7.93W, mbLg1.1**/5**, Error ellipse: s-maj=4.6km s-min=2.8km az=34.0, PRXIMO, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.36	98	Pg	Pg	04 47 48.5	-0.8
	0.5nm,0.2s,SNR=5.8						
EGRO				Lg		04 47 53.6	
	1.7nm,0.1s,SNR=6.9						
PALC	Alcoutim	0.38	109	*e*Pg	Pg	04 47 48.9	-0.8
PALC				*e*Sg	Sg	04 47 54.2	-0.6
	2.5nm,0.1s						
PALC	Alcoutim	0.38	109	Pg	Pg	04 47 48.9	-0.8
PALC				Lg		04 47 54.2	
	1.2nm,0.1s						
PBEJ	Beja	0.44	6	*e*Pg	Pg	04 47 50.1	-0.9
PBEJ				*e*Sg	Sg	04 47 56.2	-0.7
	2.4nm,0.1s						
PBEJ	Beja	0.44	6	Pg	Pg	04 47 50.1	-0.9
PBEJ				Lg		04 47 56.2	
	1.2nm,0.1s						
PTEO	Sao Teotonio	0.64	267	*e*Sg	Sg	04 48 02.4	-0.9
EMIN	Mina Concepcio	1.01	79	Pg	Pg	04 48 00.6	-1.7
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		04 48 13.5	
	110nm,2.1s,SNR=7.9						
EBAD	Badajoz	1.37	31	Pg	Pg	04 48 08.1	-1.5
	0.5nm,0.2s,SNR=4.0						
EBAD				Lg		04 48 26.2	
	1.8nm,0.2s,SNR=6.4						

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*IDC **20** 04:48:52.9±1.9, 18.52S×177.97W, h571^{km}±21^{km}, mb3.6/14, mb1 3.8/14, mb1mx3.7/19, Error ellipse: s-maj=16.1km s-min=10.4km az=147.0*

*NEIC **20** 04:48:52.4±3.5, 18.43S×177.89W, h568^{km}±39^{km}, mb4.5/10, Error ellipse: s-maj=22.4km s-min=14.4km az=54.0*

ISC 20 04:48:52.4±1.9**, 18.5S**±0.1×**178.02W**±0.08**, h575^{km}**±23^{km}**, n35, σ0^{s}91**/33**, mb4.2**/19**, 4C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.14	191	P	P	04 52 47.0	-2.7
	26nm,0.5s,baz=26,slow=3.2,SNR=27						
RPZ	Rata Peaks	26.77	198	P	P	04 53 47.5	-1.4
	7.8nm,0.5s,mb4.6,baz=46,slow=3.5,SNR=9.6						
CTA	Charters Tower	33.72	261	⇓*i*P	P	04 54 49.7	+1.4
	16nm,0.6s,mb4.8						
CTAO	Charters Tower	33.72	261	*e*P	P	04 54 49.5	+1.2
	19nm,0.8s,mb4.8						
STKA	Stephens Creek	38.67	242	*e*P	P	04 55 30.7	+1.8
	8.3nm,0.9s,mb4.3						
STKA	Stephens Creek	38.67	242	P	P	04 55 30.5	+1.5
	9.3nm,0.8s,mb4.4,baz=83,slow=8.8,SNR=14						
WB2	Warramunga Arr	44.88	260	*e*P	P	04 56 18.5	+0.3
WB2				*e*		04 57 06.4	
WB2				*e*		05 01 44.8	
WB2				*e*S	S	05 02 13.6	-1.4
WRAB	Tennant Creek	44.88	260	*e*P	P	04 56 18.3	0.0
	8.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	44.89	260	P	P	04 56 18.3	0.0
	11nm,0.7s,mb4.5,baz=97,slow=7.7,SNR=115						
WRA				S	S	05 02 14.2	-1.0
	1.0nm,0.8s,baz=94,slow=13,SNR=3.6						
ASAR	Alice Springs	44.99	255	P	P	04 56 18.2	-0.8
	23nm,0.8s,mb4.8,baz=86,slow=8.6,SNR=187						
ASAR				ScP		05 00 47.0	
	0.7nm,0.8s,baz=105,slow=4.3,SNR=4.0						
ASAR				S	S	05 02 16.9	+0.4
	3.0nm,0.7s,baz=91,slow=16,SNR=28						
ASPA	Alice Springs	44.99	255	⇓*i*P	P	04 56 19.7	+0.6
ASPA				*e*S	S	05 02 16.6	0.0
KAKA	Kakadu	47.98	269	*e*P	P	04 56 41.9	0.0
	14nm,0.6s,mb4.7						
SBA	Scott Base	59.85	184	*e*P	P	04 58 05.3	+0.7
	10nm,0.9s,mb4.1						
VNDA	Vanda	59.89	185	P	P	04 58 05.0	+0.2
	2.6nm,0.8s,mb3.5,baz=352,slow=7.5,SNR=10						
FX1	Attu Island--F	71.49	354	P	P	04 59 16.3	-0.6
	7.7nm,1.0s,mb4.2,baz=324,slow=5.2,SNR=4.0						
QSPA	South Pole Qui	71.56	180	*e*P	P	04 59 17.2	+0.3
	15nm,0.7s,mb4.6						
NVAR	Mina Array Bea	79.60	44	P	P	05 00 01.9	+0.2
	0.9nm,0.6s,mb3.2,baz=213,slow=8.1,SNR=8.0						
PMSA	Palmer Station	83.12	157	*e*P	P	05 00 18.8	-0.3
	5.2nm,0.6s,mb4.2						
MAW	Mawson	83.43	200	P	P	05 00 19.8	-0.8
	2.6nm,0.7s,mb3.9,baz=134,slow=5.3,SNR=7.9						
MAW	Mawson	83.43	200	*e*P	P	05 00 20.4	-0.1
	2.6nm,0.8s,mb3.8						
TXAR	Lajitas Array	86.00	57	P	P	05 00 34.6	+0.7
	2.7nm,0.8s,mb4.0,baz=219,slow=6.4,SNR=39						
ILAR	Eielson Array	86.38	13	P	P	05 00 33.4	-1.4
	0.5nm,0.5s,mb3.4,baz=217,slow=4.7,SNR=5.7						
PDAR	Pinedale Array	87.53	43	P	P	05 00 40.6	-0.2
	0.5nm,0.6s,mb3.4,baz=222,slow=3.6,SNR=5.7						
SNAA	Sanae	90.00	178	⇑*i*	P	05 00 50.5	-1.1
SNAA	Sanae	90.00	178	P	P	05 00 50.9	-0.7
	1.3nm,0.7s,mb3.9,baz=213,slow=6.8,SNR=40						
SNAA	Sanae	90.00	178	*e*P	P	05 00 50.6	-1.1
	5.9nm,1.1s,mb4.3						
VNA2	Neumayer--Watz	90.57	177	⇑*i*	P	05 00 55.7	+1.4
PLCA	Paso Flores	90.66	134	P	P	05 00 55.6	+0.2
	1.2nm,0.6s,mb4.0,baz=228,slow=6.0,SNR=5.6						
VNA1	Neumayer--Stat	90.80	177	⇑*i*	P	05 00 56.5	+1.2
MKAR	Makanchi Array	109.81	314	PKiKP		05 06 18.6	
	0.3nm,0.6s,baz=249,slow=3.4,SNR=3.4						
ARCES	ARCESS Array B	126.96	350	PKP	PKPdf	05 06 51.5	+0.6
	0.9nm,0.6s,slow=2.4,SNR=7.0						
BRTR	Keskin Array B	145.46	314	PKPbc	PKPbc	05 07 25.6	-1.1
	2.5nm,1.2s,baz=27,slow=9.7,SNR=4.2						
CLL	Collm	146.12	348	⇑*i*PKP1	PKPbc	05 07 29.6	+1.7
GERES	GERESS Array B	148.28	345	PKPbc	PKPdf	05 07 35.4	+5.7
	0.9nm,0.7s,baz=333,slow=2.2,SNR=7.5						
DBIC	Dimbokro	166.48	150	PKP	PKPdf	05 07 53.2	+0.6
	0.8nm,0.6s,baz=293,slow=20,SNR=3.8						

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*IDC **20** 04:52:12.1±1.0, 35.02N×141.30E, mb3.7/5, mb1 3.9/6, mb1mx3.7/23, ML3.0/1, Error ellipse: s-maj=39.8km s-min=18.9km az=115.0*

*JMA **20** 04:52:14.2±0.2, 35.03N×141.42E, h46^{km}±3^{km}, M2.8*

*NEIC **20** 04:52:18.0±0.8, 35.08N×140.95E, h40^{km}, Error ellipse: s-maj=21.0km s-min=16.3km az=54.0*

ISC 20 04:52:14.9±1.2**, 35.06N**±0.04×**141.38E**±0.09**, h32^{km}**±6^{km}**, n15, σ0^{s}94**/21**, mb3.6**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.52	219	P	Pb	04 52 25.4	-0.4
BSO1				S	Sb	04 52 33.9	+0.6
BSO2	Boso 2	0.60	239	S	Sb	04 52 36.0	+0.7
BSO3	Boso 3	0.76	250	P	Pn	04 52 29.0	-0.4
BSO3				S	Sb	04 52 38.6	-1.1
CHOJ	Chosi	0.77	327	P	Pn	04 52 29.5	-0.1
CHOJ				*e*S	Sb	04 52 40.5	+0.4
BSO4	Boso 4	0.86	266	P	Pn	04 52 30.7	-0.1
JYT	Yasato	1.51	321	P	Pn	04 52 40.2	0.0
JOD2	Odawara 2	1.89	277	P	Pn	04 52 45.4	-0.1
JHJ	Hachijo jima 2	2.34	215	Pn	Pn	04 52 52.4	+0.3
	9.5nm,0.3s,baz=72,slow=17,SNR=5.8						
JHJ				Sn	Sn	04 53 21.4	+1.4
	32nm,0.3s,baz=92,slow=22,SNR=6.9						
MAT	Matsushiro	2.97	301	P	Pn	04 52 58.9	-2.1
MAT				*e*S	Sn	04 53 37.3	+1.3
MAT	Matsushiro	2.97	301	P	Pn	04 52 59.0	-2.0
MAT				S	Sn	04 53 37.0	+1.0
MKAR	Makanchi Array	45.17	304	P	P	05 00 29.6	-0.6
	0.4nm,0.6s,mb3.4,baz=69,slow=10,SNR=4.0						
ILAR	Eielson Array	51.18	31	P	P	05 01 17.5	+0.8
	0.3nm,0.8s,mb3.3,baz=262,slow=6.4,SNR=3.1						
WRA	Warramunga Arr	55.10	188	P	P	05 01 45.0	-1.5
	2.4nm,0.6s,mb4.4,baz=6.2,slow=7.5,SNR=28						
ASAR	Alice Springs	58.83	188	P	P	05 02 11.8	-1.0
	0.4nm,0.6s,mb3.6,baz=15,slow=10,SNR=4.5						
NVAR	Mina Array Bea	76.20	53	P	P	05 04 03.5	+1.8
	0.5nm,0.8s,mb3.5,baz=284,slow=5.8,SNR=4.7						

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*IDC **20** 05:06:30.6±2.1, 35.05N×141.31E, mb3.8/3, mb1 4.0/4, mb1mx3.6/23, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/36, Error ellipse: s-maj=53.3km s-min=28.2km az=81.0*

*JMA **20** 05:06:34.4±0.3, 35.04N×141.37E, h40^{km}±4^{km}, M2.8*

*NEIC **20** 05:06:37.8±2.6, 35.00N×141.02E, h40^{km}, mb4.5/2, Error ellipse: s-maj=86.0km s-min=10.9km az=58.0*

ISC 20 05:06:33.2±1.8**, 35.02N**±0.05×**141.5E**±0.2**, h34^{km}**±14^{km}**, n15, σ0^{s}64**/19**, mb4.1**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.56	229	P	P	05 06 45.1	+0.5
BSO1				S	S	05 06 52.1	-0.8
BSO3	Boso 3	0.84	255	P	P	05 06 49.1	+0.6
CHOJ	Chosi	0.85	323	P	P	05 06 48.9	+0.2
BSO4	Boso 4	0.95	268	P	P	05 06 50.1	-0.1
JIM2	Oshima 3	1.72	260	P	P	05 07 00.4	-0.8
JOD2	Odawara 2	1.99	278	P	P	05 07 04.3	-0.7
JHJ	Hachijo jima 2	2.37	217	Pn	P	05 07 09.7	-0.9
	10nm,0.3s,baz=81,slow=19,SNR=5.4						
JHJ				LR	LR	05 07 38.7	
	comp=Z,679nm,18.8s,baz=62,slow=30						
JHJ				Sn	S	05 07 39.9	+1.1
	28nm,0.3s,baz=88,slow=23,SNR=6.6						
MAJO	Matsushiro	3.07	301	ePn	P	05 07 20.8	+0.2
MAT	Matsushiro	3.07	301	P	P	05 07 21.4	+0.9
MAT				S	S	05 07 56.6	+0.1
MAT	Matsushiro	3.07	301	eP	P	05 07 21.0	+0.5
MAT				eS	S	05 07 57.0	+0.5
MKAR	Makanchi Array	45.27	304	P	P	05 14 48.6	-0.4
	0.5nm,0.7s,mb3.5,baz=86,slow=12,SNR=3.8						
KURK	Kurchatov	47.24	310	eP	P	05 15 04.2	-0.3
	3.9nm,0.8s,mb4.4						
WRAB	Tennant Creek	55.07	188	P	P	05 16 04.1	-0.1
	5.0nm,0.9s,mb4.5						
WRA	Warramunga Arr	55.08	188	P	P	05 16 03.7	-0.6
	4.1nm,1.0s,mb4.4,baz=5.6,slow=7.5,SNR=16						
ASAR	Alice Springs	58.81	188	P	P	05 16 31.8	+1.1
	1.0nm,0.9s,mb3.9,baz=9.4,slow=5.6,SNR=5.7						

JMA ***20*** *05:11:32.7±0.3, 34.98N×141.61E, h60^{km}±4^{km}, M3.1*

IDC ***20*** *05:11:33.8±1.0, 34.88N×141.61E, mb3.7/5, mb1 4.0/6, mb1mx3.7/23, ML3.1/1, Error ellipse: s-maj=36.0km s-min=20.1km az=117.0*

NEIC ***20*** *05:11:39.7±0.9, 35.05N×141.16E, h40^{km}, mb4.2/1, Error ellipse: s-maj=23.4km s-min=15.7km az=223.0*

ISC 20 05:11:34.7±1.6**, 35.04N**±0.05×**141.49E**±0.10**, h20**^{km}±10^{km}**, n20,** $\sigma 1^{s}$**12**/23**, mb3.8**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.57	228	P	Pb	05 11 46.1	+0.2
BSO2	Boso 2	0.67	245	S	Sb	05 11 58.4	+2.0
CHOJ	Chosi	0.84	322	P	Pb	05 11 49.9	-0.5
BSO3	Boso 3	0.84	254	P	Pb	05 11 49.9	-0.5
BSO4	Boso 4	0.95	267	P	Pb	05 11 51.5	-0.8
JCN	Nagara	1.12	290	eS	Sb	05 12 10.6	+1.2
JOD2	Odawara 2	1.98	277	P	Pn	05 12 06.4	-1.3
JAG	Ashikaga	2.16	310	P	Pn	05 12 09.6	-0.6
JIZS	Izushimoda	2.17	262	P	Pn	05 12 07.6	-2.8
JRY	Ryogami san	2.33	295	P	Pn	05 12 12.5	-0.1
JHJ	Hachijo jima 2	2.38	217	Pn	Pn	05 12 13.7	+0.2
	11nm,0.3s,baz=73,slow=22,SNR=5.7						
JHJ				Sn	Sn	05 12 42.3	-0.1
	41nm,0.3s,baz=54,slow=23,SNR=7.9						
MAJO	Matsushiro	3.06	300	ePn	Pn	05 12 23.3	+0.2
MAT	Matsushiro	3.06	300	P	Pn	05 12 22.9	-0.2
MAT				S	Sn	05 12 58.7	-0.8
MAT	Matsushiro	3.06	300	eP	Pn	05 12 23.0	-0.1
MAT				eS	Sn	05 12 55.0	-4.5
MKAR	Makanchi Array	45.25	304	P	P	05 19 54.2	+1.8
	0.2nm,0.5s,mb3.2,baz=90,slow=9.1,SNR=2.9						
KURK	Kurchatov	47.23	310	eP	P	05 20 08.2	+0.3
	2.0nm,0.7s,mb4.2						
ILAR	Eielson Array	51.15	31	P	P	05 20 38.0	0.0
	0.4nm,0.7s,mb3.5,baz=253,slow=5.3,SNR=4.1						
WRA	Warramunga Arr	55.10	188	P	P	05 21 05.3	-2.6
	1.9nm,0.5s,mb4.4,baz=5.7,slow=7.5,SNR=32						
ASAR	Alice Springs	58.83	188	P	P	05 21 34.5	+0.3
	0.5nm,0.6s,mb3.7,baz=16,slow=12,SNR=4.2						
NVAR	Mina Array Bea	76.14	53	P	P	05 23 24.9	+2.1
	0.4nm,0.4s,mb3.8,baz=287,slow=5.3,SNR=3.6						

IDC ***20*** *05:17:41.2±2.0, 34.90N×141.74E, mb3.8/3, mb1 3.9/4, mb1mx3.6/22, ML3.3/1, MS3.2/2, Ms1 3.4/2, ms1mx2.3/32, Error ellipse: s-maj=46.6km s-min=29.9km az=81.0*

JMA ***20*** *05:17:42.3±0.3, 35.01N×141.54E, h54^{km}±5^{km}, M2.8*

ISC 20 05:17:42.7±2.3**, 35.05N**±0.06×**141.6E**±0.2**, h28**^{km}±12^{km}**, n11,** $\sigma 1^{s}$**02**/13**, mb3.5**/2**, MS3.4**/1**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.62	231	P	Pb	05 17 54.8	-0.2
BSO2	Boso 2	0.73	246	eS	Sb	05 18 07.4	+1.0
CHOJ	Chosi	0.87	319	eS	Sb	05 18 10.6	+0.1
BSO3	Boso 3	0.90	255	P	Pn	05 17 58.5	-1.1
BSO3				eS	Sb	05 18 10.3	-0.9
BSO4	Boso 4	1.01	267	P	Pn	05 18 00.1	-1.0
JHJ	Hachijo jima 2	2.42	218	Pn	Pn	05 18 22.8	+1.3
	16nm,0.3s,baz=256,slow=18,SNR=6.1						
JHJ				LR	LR	05 18 48.4	
	comp=Z,348nm,20.9s,baz=0.9,slow=28						
JHJ				Sn	Sn	05 18 51.0	+0.5
	44nm,0.3s,baz=231,slow=22,SNR=6.2						
MAT	Matsushiro	3.11	300	P	Pn	05 18 31.5	+0.3
MAT				eS	Sn	05 19 03.5	-4.3
CMAR	Chiang Mai Arr	41.15	258	LR	LR	05 45 11.1	
	comp=Z,52nm,19.4s,MS3.4,baz=185,slow=40						
MKAR	Makanchi Array	45.30	304	P	P	05 26 02.2	+2.5
	0.7nm,1.0s,mb3.4,baz=91,slow=9.1,SNR=3.1						
WRA	Warramunga Arr	55.11	188	P	P	05 27 14.3	-0.7
	2.5nm,0.6s,baz=5.9,slow=7.6,SNR=36						
ASAR	Alice Springs	58.84	188	P	P	05 27 40.5	-0.9
	0.3nm,0.5s,mb3.6,baz=2.6,slow=7.0,SNR=4.9						

NEIC ***20*** *05:24:02.4±0.9, 11.88S×167.62E, h165^{km}, mb4.2/3, Error ellipse: s-maj=48.1km s-min=12.5km az=143.0*

IDC ***20*** *05:24:06.9±24.0, 11.81S×167.44E, h204^{km}±231^{km}, mb3.6/7, mb1 3.9/7, mb1mx3.6/14, Error ellipse: s-maj=67.8km s-min=58.2km az=13.0*

ISC 20 05:24:15.0±1.1**, 12.1S**±0.3×**167.4E**±0.3**, h300**^{km}**, n12,** $\sigma 0^{s}$**92**/12**, mb3.8**/9**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	21.79	246	P	P	05 28 45.3	+1.3
	3.0nm,0.8s,mb3.7						
CTAO	Charters Tower	21.79	246	eP	P	05 28 45.6	+1.6
	2.1nm,0.6s,mb3.6						
STKA	Stephens Creek	30.82	226	eP	P	05 30 05.9	+0.2
	3.5nm,0.6s,mb4.1						
STKA	Stephens Creek	30.82	226	P	P	05 30 06.5	+0.8
	5.1nm,0.7s,mb4.2,baz=47,slow=9.6,SNR=16						
WRAB	Tennant Creek	32.66	252	eP	P	05 30 20.6	-1.0
	5.7nm,0.8s,mb4.2						
WRA	Warramunga Arr	32.67	252	P	P	05 30 20.9	-0.8
	0.7nm,0.4s,mb3.6,baz=84,slow=8.8,SNR=16						
ASAR	Alice Springs	33.80	246	P	P	05 30 30.4	-0.8
	1.3nm,0.7s,mb3.6,baz=73,slow=8.9,SNR=18						
ILAR	Eielson Array	84.04	18	P	P	05 36 12.7	-0.2
	3.1nm,0.6s,mb4.3,baz=245,slow=5.5,SNR=20						
TXAR	Lajitas Array	94.92	61	P	P	05 37 05.3	+0.3
	0.1nm,0.7s,mb3.1,baz=207,slow=4.0,SNR=2.5						
YKA	Yellowknife Ar	95.19	27	P	P	05 37 04.6	-0.8
	0.4nm,0.5s,mb3.8,baz=259,slow=5.0,SNR=5.2						
YKA	Yellowknife Ar	95.19	27	P	P	05 37 04.6	-0.8
MKAR	Makanchi Array	95.44	317	P	P	05 37 08.4	+1.5
	0.2nm,0.6s,mb3.5,baz=104,slow=5.9,SNR=2.5						

BJI ***20*** *05:36:02.9, 51.71N×166.41W, h26^{km}, mB5.2, mb5.1, Ms4.1, Msz4.1*

HRVD ***20*** *05:36:05.6±0.7, 51.68N×166.33W, h18^{km}±2^{km}, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s39,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.27; $M_{\theta\theta}$1.27±.17; $M_{\phi\phi}$0.46±.15; $M_{r\theta}$-0.21±.34; $M_{\theta\phi}$0.71±.08; $M_{\phi r}$-0.26±.40; Best double couple: $M_0$1.74×10^{16} NP1:ϕ_s244°, δ40°, λ-84°. NP2:ϕ_s56°, δ50°, λ-95°. Principal axes: T 1.71, Plg5°, Azm150°; N .06, Plg4°, Azm59°; P -1.77, Plg84°, Azm295°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***20*** *05:36:05.3±1.0, 51.39N×166.43W, h48^{km}, mb5.2/48 Error ellipse: s-maj=8.5km s-min=7.1km az=87.7*

NEIC ***20*** *05:36:05.6±0.2, 51.81N×166.27W, mb5.0/94, MS3.9/3, ML4.3(AEIC), Error ellipse: s-maj=4.0km s-min=2.7km az=8.0*

IDC ***20*** *05:36:06.6±6.4, 51.64N×166.31W, h37^{km}±52^{km}, mb4.6/30, mb1 4.7/32, mb1mx4.7/34, ML3.8/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=18.3km s-min=13.4km az=20.0*

ISC 20 05:36:04.0±0.2**, 51.81N**±0.03×**166.25W**±0.03**, h26**^{km}**, h26**^{km}±.8^{km}**:pP-P, n415,** $\sigma 1^{s}$**18**/412**, mb5.0**/147**, MS3.7**/18**, 6C-14D, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	1.98	307	P	Pn	05 36 35.5	-0.9
NIKO				S	Sn	05 36 58.8	-1.8
OKER	East Rim	1.98	327	P	Pn	05 36 36.6	+0.1
MGOD	Makushin Gods	2.02	350	P	Pn	05 36 37.2	0.0
UNV	Unalaska Valle	2.05	356	P	Pn	05 36 37.0	-0.4
UNV				S	Sn	05 37 01.8	-0.6
MNAT	Makushin Natee	2.09	353	P	Pn	05 36 38.0	-0.2
MSW	Makushin Switc	2.13	352	P	Pn	05 36 38.4	-0.3
MTBL	Makushin Table	2.18	353	P	Pn	05 36 39.5	+0.1
MCIR	Makushin Cirqu	2.18	350	P	Pn	05 36 39.5	+0.1
AHB	Akutan Harbor	2.32	6	P	Pn	05 36 40.9	-0.6
LVA	Lava Point	2.36	3	P	Pn	05 36 41.6	-0.4
AKLV	Akutan Long Va	2.36	4	P	Pn	05 36 41.2	-0.8
AKGG	Akutan Green G	2.40	4	P	Pn	05 36 42.0	-0.5
WESS	West Dahl Sout	2.83	18	P	Pn	05 36 48.3	-0.3
WESE	West Dahl East	2.85	20	P	Pn	05 36 48.5	-0.4
WFAR	Faris Peak	2.87	17	P	Pn	05 36 49.0	-0.2
WESN	West Dahl Nort	2.94	19	P	Pn	05 36 50.3	+0.1
SSLW	Shishaldin Wes	3.23	22	P	Pn	05 36 54.1	-0.2
WTUG	Tugumak	3.24	19	P	Pn	05 36 54.3	-0.2
FALS	False Pass	3.49	28	P	Pn	05 36 57.2	-0.9
DRIA	Deer Island	3.96	35	P	Pn	05 37 03.4	-1.3
DTNA	Dutton South F	4.11	34	P	Pn	05 37 05.9	-0.9
DOL	Dolgoi Island	4.25	36	P	Pn	05 37 07.6	-1.2
HAG	Hague Volcano	4.37	35	P	Pn	05 37 10.0	-0.5
PVV	Pavlof Volcano	4.45	35	P	Pn	05 37 11.3	-0.4
BLHA	Black Hill	4.62	31	P	Pn	05 37 13.3	-0.8
ATKA	Atka Island	4.92	278	P	Pn	05 37 16.1	-2.3
SDPT	Sand Point	4.94	42	P	Pn	05 37 17.3	-1.3
GSIG	Igitkin Island	5.99	275	P	Pn	05 37 31.2	-2.2
GSMY	Great Sitkin M	6.07	276	P	Pn	05 37 32.4	-2.1
GSTR	Great Sitkin T	6.07	277	P	Pn	05 37 32.8	-1.8
GSTD	Great Sitkin T	6.13	276	P	Pn	05 37 33.2	-2.1
KINC	Kanaga Island	6.74	275	P	Pn	05 37 41.9	-2.0
KIWB	Kanaga Island	6.76	275	P	Pn	05 37 42.0	-2.3
KIKV	Kanaga Island	6.77	275	P	Pn	05 37 42.1	-2.3
KIMD	Kanaga Island	6.82	274	P	Pn	05 37 42.6	-2.4
CAHL	Cahill	8.87	41	P	P	05 38 11.2	-2.5
ANCK	Angle Creek	8.89	40	P	P	05 38 11.5	-2.5
KABR	Katmai Barrier	9.06	41	P	P	05 38 13.3	-3.0
KAWH	Katmai	9.29	40	P	P	05 38 16.8	-2.7
KDAK	Kodiak Island	9.89	47	P	P	05 38 23.5	-4.1
CNPM	China Poot	11.45	42	P	P	05 38 45.5	-3.4
RSO	Redoubt South	11.46	36	P	P	05 38 47.6	-1.4
SPU	Mount Spurr	12.21	34	eP	P	05 38 57.4	-1.6
SLKM	Skilak Lake	12.45	39	eP	P	05 39 00.1	-2.2
SEW	Seward	12.52	42	P	P	05 38 58.9	-4.4
FX1	Attu Island--F	12.63	283	Pn	P	05 39 01.1	-3.6
	1.4nm,0.3s,baz=190,slow=3.2,SNR=14						
FX1	Attu Island--F	12.63	283	eP	P	05 38 59.9	-4.9
MPA	Moose Pass	12.78	41	P	P	05 39 02.5	-4.2
PMS	Palmer South	13.16	38	eP	P	05 39 08.7	-3.0
	9.3nm,0.3s						
PMR	Palmer	13.54	37	eP	P	05 39 22.4	+5.9
PMR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMR	Palmer	13.54	37	P	P	05 39 13.5	-3.1
	comp=Z,7.3nm,0.6s						
SML	Sawmill	13.97	37	eP	P	05 39 28.2	+6.0
SML	Sawmill	13.97	37	eP	P	05 39 18.1	-4.1
EYAK	Cordova Ski Ar	14.33	44	eP	P	05 39 23.2	-3.8
SCM	Sheep Creek Mo	14.37	38	P	P	05 39 23.9	-3.5
VLZ	Valdez	14.37	42	P	P	05 39 24.1	-3.5
DIV	Divide	14.61	42	eP	P	05 39 26.8	-3.7
	comp=Z,39nm,0.7s						
MCK	McKinley	15.03	31	eP	P	05 39 42.9	+6.7
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MCK	McKinley	15.03	31	eP	P	05 39 32.1	-4.0
IMA	Indian Mountai	15.65	19	eP	P	05 39 49.1	+4.9
IMA				pmax	pmax		
	comp=Z,130nm,0.9s						
IMA	Indian Mountai	15.65	19	eP	P	05 39 42.9	-1.3
	comp=Z,2.0nm,0.8s						
THY	Trims Highway	15.90	35	P	P	05 39 48.6	+1.2
COLA	College	16.18	29	eP	P	05 39 49.0	-1.9
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
COLA	College	16.18	29	eP	P	05 39 49.0	-1.9
	comp=Z,8.2nm,0.9s						
ILAR	Eielson Array	16.40	30	Pn	P	05 39 50.1	-3.6
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=17						
DAWY	Dawson	18.63	38	eP	P	05 40 20.5	-1.0
SIT	Sitka	18.64	61	P	P	05 40 22.3	+0.6
SIT				pmax	pmax		
	comp=Z,31nm,0.9s						
SIT	Sitka	18.64	61	P	P	05 40 22.3	+0.6
	comp=Z,32nm,0.9s						
PET	Petropavlovsk	21.32	287	⇓iP	P	05 40 49.2	-1.6
PET				e		05 41 15.6	
PET				eS	S	05 44 45.7	+4.5
PET				eSSS	SSS	05 45 38.8	+8.2
PET				pmax	pmax		
	comp=Z,42nm,0.7s,mb4.9						
PET				pmax	pmax		
	comp=Z,100nm,13.5s						
PET				pmax	pmax		
	comp=E,100nm,13.1s						
PET				pmax	pmax		
	comp=E,100nm,13.4s						
PET				smax			
	comp=N,200nm,18.1s						
PET				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.4						
PET	Petropavlovsk	21.32	287	eP	P	05 40 49.1	-1.7
	comp=Z,46nm,1.0s,mb4.8						
DLBC	Dease Lake	21.54	58	P	P	05 40 57.1	+4.0
	comp=Z,12nm,0.9s,mb4.3,baz=267,slow=10,SNR=27						
DLBC	Dease Lake	21.54	58	P	P	05 40 52.6	-0.4
INK	Inuvik	22.79	31	P	P	05 41 05.4	+0.1
	comp=Z,42nm,0.8s,mb4.9,baz=232,slow=11,SNR=48						
INK				LR	LR	05 51 07.4	
	comp=Z,220nm,19.3s,MS3.6,baz=274,slow=39						
INK	Inuvik	22.79	31	eP	P	05 41 05.0	-0.3
INK				pmax	pmax		
	comp=Z,43nm,0.8s						
INK	Inuvik	22.79	31	eP	P	05 41 05.0	-0.3
	comp=Z,43nm,0.8s,mb4.9						
BBB	Bella Bella	23.31	74	P	P	05 41 12.6	+2.1
	comp=Z,6.8nm,0.9s,mb4.1,baz=281,slow=13,SNR=5.9						
BBB	Bella Bella	23.31	74	P	P	05 41 12.6	+2.1
SEY	Seymchan	24.46	313	eP	P	05 41 20.9	-0.6
MA2	Magadan	25.05	305	eP	P	05 41 28.0	+0.9
MA2				eS	S	05 45 52.6	+5.7
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
MA2	Magadan	25.05	305	eP	P	05 41 27.1	0.0
	comp=Z,22nm,1.0s,mb4.7						
VDB	Vedder Mountai	27.95	78	P	P	05 41 54.6	+0.6
BMW	Boistfort Moun	28.32	84	P	P	05 41 57.9	+0.5
RPW	Rockport	28.53	79	eP	P	05 41 59.2	-0.1
RPW				e	pP	05 42 08.0	+1.0
RMW	Rattlesnake Mo	28.77	81	eP	P	05 42 02.1	+0.7
SHW	Mount Saint He	29.07	84	P	P	05 42 04.3	+0.2
YKA	Yellowknife Ar	29.17	48	P	P	05 42 04.7	-0.1
	comp=Z,3.7nm,0.8s,mb4.2,baz=267,slow=7.4,SNR=15						
YKA				PcP	PcP	05 45 09.5	-2.6
	comp=Z,1.6nm,0.8s,baz=280,slow=2.0,SNR=5.5						
YKA				LR	LR	05 54 45.0	
	comp=Z,95nm,21.1s,MS3.4,baz=280,slow=38						
YKA	Yellowknife Ar	29.17	48	P	P	05 42 04.7	-0.1
YKA				PcP	PcP	05 45 09.5	-2.6
YKA				LR	LR	05 54 45.0	
NLW	Nelson Butte	29.40	79	P	P	05 42 08.0	+0.9
SSOR	Sweet Springs	29.56	86	eP	P	05 42 08.8	+0.2
ETW	Entiat	29.61	80	P	P	05 42 09.7	+0.8
TBM	Table Mountain	29.63	81	P	P	05 42 09.8	+0.6
WTV	Waterville	29.80	79	P	P	05 42 10.9	+0.2
MDW	Midway	30.39	81	P	P	05 42 16.6	+0.7
WAH2	Wahluke Slope	30.45	81	P	P	05 42 16.9	+0.5
HAWA	Hanford	30.64	81	eP	P	05 42 17.9	-0.2
	comp=Z,30nm,0.9s,mb5.1						
OD2	Odessa Site #2	30.69	79	P	P	05 42 18.7	+0.2
DPW	Davenport	30.79	78	eP	P	05 42 19.0	-0.4
YBH	Yreka Blue Hor	31.05	92	P	P	05 42 22.3	+0.5
	comp=Z,6.2nm,0.8s,mb4.5,baz=267,slow=2.7,SNR=8.5						
YBH	Yreka Blue Hor	31.05	92	eP	P	05 42 22.0	+0.2
YBH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YBH	Yreka Blue Hor	31.05	92	eP	P	05 42 22.0	+0.2
	comp=Z,5.7nm,0.8s,mb4.5						
NEW	Newport	31.28	77	P	P	05 42 23.8	+0.1
	comp=Z,9.9nm,0.5s,mb4.9,baz=298,slow=6.9,SNR=25						
NEW	Newport	31.28	77	eP	P	05 42 23.3	-0.4
NEW				pmax	pmax		
	comp=Z,23nm,1.0s						
NEW	Newport	31.28	77	eP	P	05 42 23.3	-0.4
	comp=Z,23nm,1.0s,mb5.0						
LNOR	Linction Mounta	31.65	82	eP	P	05 42 27.4	+0.4
WDC	Whiskeytown Da	31.81	93	eP	P	05 42 28.8	+0.3
WDC				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
WDC	Whiskeytown Da	31.81	93	eP	P	05 42 28.8	+0.3
	comp=Z,21nm,1.2s,mb4.8						
MOD	Modoc	32.45	89	eP	P	05 42 34.6	+0.6
	comp=Z,15nm,0.8s,mb4.9						
YSS	Yuzh-Sakhalins	32.99	282	⇑eP	P	05 42 38.5	-0.1
YSS				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
YSS				MLR	MLR		
	comp=Z,100nm,4.0s						
WVOR	Wild Horse Val	33.19	87	eP	P	05 42 40.1	-0.4
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
WVOR	Wild Horse Val	33.19	87	eP	P	05 42 40.0	-0.4
	comp=Z,9.1nm,0.8s,mb4.8						
BEKR	Beckwourth	33.58	92	eP	P	05 42 44.1	+0.2
	comp=Z,8.1nm,1.0s,mb4.6						
CHMT	Chamberlain Mo	34.22	77	eP	P	05 42 48.5	-0.8
WCN	Washoe City	34.29	93	eP	P	05 42 49.8	-0.2
WCN				e*PP	pP	05 42 58.0	+0.1
WCN				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
WCN	Washoe City	34.29	93	eP	P	05 42 49.8	-0.2
	comp=Z,18nm,1.1s,mb4.9						
WCN				epP	pP	05 42 58.0	+0.1
CMB	Columbia Colle	34.68	95	eP	P	05 42 53.2	-0.2
CMB				epP	pP	05 43 01.1	-0.1
YAK	Yakutsk	34.98	312	eP	P	05 42 54.3	-1.4
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
HRY	Holter Researc	35.18	76	eP	P	05 42 57.3	-0.2
HLID	Hailey	35.20	83	eP	P	05 42 57.5	-0.2
	comp=Z,14nm,1.0s,mb4.9						
BMN	Battle Mountai	35.20	89	eP	P	05 42 58.0	+0.2
BMN				e*PP	pP	05 43 06.0	+0.4
BMN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BMN	Battle Mountai	35.20	89	eP	P	05 42 58.0	+0.2
	comp=Z,8.5nm,0.8s,mb4.7						
BMN				epP	pP	05 43 06.0	+0.4
MCMT	McKenzie Canyo	35.49	80	eP	P	05 43 00.2	-0.1
NVAR	Mina Array Bea	35.72	93	P	P	05 43 02.4	+0.1
	comp=Z,12nm,0.9s,mb4.8,baz=297,slow=7.6,SNR=45						
NVAR				PcP	PcP	05 45 29.3	-1.0
	comp=Z,1.3nm,0.8s,baz=314,slow=2.4,SNR=3.9						
OMM	Old Mammoth Mi	35.80	94	eP	P	05 43 03.1	+0.2
OMM				epP	pP	05 43 12.0	+1.3
BOZ	Bozeman (W)	35.82	78	eP	P	05 43 02.9	-0.1
BOZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BOZ	Bozeman (W)	35.82	78	eP	P	05 43 02.9	-0.1
	comp=Z,11nm,0.9s,mb4.8						
RES	Resolute Bay	36.05	25	P	P	05 43 02.0	-2.7
MTUM	Tungsten Hills	36.23	94	eP	P	05 43 07.2	+0.6
MTUM				epP	pP	05 43 15.8	+1.4
QLMT	Earthquake Lak	36.36	79	eP	P	05 43 08.1	+0.6
TPH	Tonopah	36.61	92	eP	P	05 43 09.9	+0.2
TPH				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
TPH	Tonopah	36.61	92	eP	P	05 43 09.9	+0.2
	comp=Z,12nm,0.9s,mb4.7						
YMR	Madison River	36.73	79	eP	P	05 43 10.9	+0.2
HVU	Hansel Valley	37.18	84	eP	P	05 43 14.6	+0.1
HVU				e*PP	pP	05 43 23.3	+0.9
MOOW	Moose Ponds	37.35	80	eP	P	05 43 15.5	-0.3
TPAW	Teton Pass	37.36	80	eP	P	05 43 16.7	+0.8
WUWY	Wally Ulrich	37.46	80	eP	P	05 43 17.1	+0.3
REDW	Red Top Meadow	37.49	81	eP	P	05 43 17.4	+0.3
SNOW	Snow King Moun	37.49	80	eP	P	05 43 17.9	+0.8
BGU	Big Grassy Mou	37.51	85	eP	P	05 43 17.1	-0.2
DAC	Darwin (Calif)	37.51	95	eP	P	05 43 17.6	+0.3
DAC				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
DAC	Darwin (Calif)	37.51	95	eP	P	05 43 17.6	+0.2
	comp=Z,10nm,0.8s,mb4.6						
SPUT	South Promonto	37.65	84	eP	P	05 43 18.5	+0.1
AHID	Auburn Hatcher	37.66	82	eP	P	05 43 18.9	+0.4
	comp=Z,15nm,1.0s,mb4.7						
HWUT	Hardware Ranch	38.03	83	eP	P	05 43 21.5	-0.1
	comp=Z,7.0nm,1.0s,mb4.3						
DUG	Dugway	38.07	86	eP	P	05 43 22.1	+0.1
DUG				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.9						
DUG	Dugway	38.07	86	eP	P	05 43 22.1	+0.1
	comp=Z,29nm,1.1s,mb4.9						
TCUT	Toone Canyon	38.40	84	eP	P	05 43 24.3	-0.5
CTU	Camp Tracy	38.44	85	eP	P	05 43 24.9	-0.2
KLR	Kul'dur	38.46	291	eP	P	05 43 23.8	-1.3
KLR				pmax	pmax		
	comp=N,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
LAO	LASA Array	38.55	73	eP	P	05 43 25.8	-0.1
	comp=Z,9.1nm,0.8s,mb4.6						
MWC	Mount Wilson	38.57	98	eP	P	05 43 27.2	+0.9
BW06	Boulder Array	38.61	80	eP	P	05 43 26.1	-0.4
	comp=Z,22nm,0.9s,mb4.9						
PDAR	Pinedale Array	38.61	80	P	P	05 43 26.6	+0.2
	comp=Z,12nm,0.6s,mb4.8,baz=311,slow=5.1,SNR=80						
NLU	North Lily Min	38.67	86	eP	P	05 43 27.1	+0.1
JLU	Jordanelle	38.68	85	eP	P	05 43 27.5	+0.4
DGMT	Dagmar	38.85	70	eP	P	05 43 28.0	-0.5
	comp=Z,19nm,1.0s,mb4.8						
DAU	Daniels Canyon	38.91	85	eP	P	05 43 29.3	+0.3
MPU	Maple Canyon	38.91	86	eP	P	05 43 29.2	+0.2
MSU	Marysvale	39.48	88	eP	P	05 43 34.4	+0.7
NEN	Nelson	39.62	93	eP	P	05 43 35.3	+0.3
LDFC	Landfair	39.83	94	eP	P	05 43 36.4	-0.4
SRU	San Rafael	40.14	86	eP	P	05 43 39.2	0.0
BAR	Barrett	40.47	98	eP	P	05 43 41.5	-0.5
RSSD	Black Hills	41.21	75	eP	P	05 43 46.3	-1.6
RSSD				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
RSSD	Black Hills	41.21	75	eP	P	05 43 46.3	-1.7
	comp=Z,14nm,1.1s,mb4.5						
PV10	Paradox Valley	41.50	86	eP	P	05 43 50.7	+0.4
WUAZ	Wupatki	41.86	91	eP	P	05 43 53.9	+0.6
	comp=Z,26nm,1.1s,mb4.8						
WUAZ				epP	pP	05 44 02.4	+1.1
PV01	Paradox Valley	41.94	86	eP	P	05 43 53.6	-0.3
PV01				epP	pP	05 44 02.4	+0.5
MDJ	Mudanjiang	42.10	287	P	P	05 43 55.5	+0.4
MDJ				AP	pP	05 43 59.8	-3.2
MDJ				XP	sP	05 44 02.8	-3.5
MDJ				SCP		05 49 37.3	
MDJ				PCS		05 49 41.8	
MDJ				S	S	05 50 10.5	-2.2
MDJ				SS	SS	05 53 09.4	-5.7
MDJ				SCS	ScS	05 53 56.3	+2.8
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,117nm,6.2s						
MDJ				LR	LR		
	comp=N,96nm,27.9s						
MDJ				LR	LR		
	comp=E,42nm,33.3s						
MDJ				LR	LR		
	comp=Z,61nm,23.2s,MS3.4						
ULM	Lac du Bonnet	42.70	63	P	P	05 43 58.8	-1.1
	comp=Z,8.9nm,0.7s,mb4.6,baz=286,slow=7.5,SNR=7.9						
ISCO	Idaho Springs	42.75	82	eP	P	05 44 01.2	+0.7
ISCO				pmax	pmax		

	comp=Z,5.0nm,1.0s,mb4.2						
ISCO	Idaho Springs	42.75	82	eP	P	05 44 01.2	+0.7
	comp=Z,4.8nm,1.0s,mb4.2						
BOD	Bodaibo	43.83	310	⇑iP	P	05 44 07.8	-1.2
SDCO	Great Sand Dun	44.08	84	eP	P	05 44 11.4	0.0
	comp=Z,47nm,1.5s,mb5.0						
SDCO				epP	pP	05 44 19.7	+0.5
TUC	Tucson	44.36	94	eP	P	05 44 13.0	-0.7
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
TUC	Tucson	44.36	94	eP	P	05 44 13.0	-0.7
	comp=Z,9.8nm,0.9s,mb4.5						
CN2	Changchun	45.02	288	eP	P	05 44 18.3	-0.5
CN2				eAP	pP	05 44 26.3	-0.4
CN2				eS	S	05 50 49.3	-5.8
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
LAZ	Ladron	45.22	89	eP	P	05 44 21.1	+0.6
LAZ				epP	pP	05 44 28.8	+0.4
HIA	Hailar	45.22	297	eP	P	05 44 20.0	-0.3
HIA				pmax	pmax		
	comp=Z,46nm,1.2s						
HIA	Hailar	45.22	297	eP	P	05 44 20.0	-0.4
	comp=Z,46nm,1.3s,mb5.2						
ANMO	Albuquerque	45.28	88	⇑eP	P	05 44 21.4	+0.4
ANMO	Albuquerque	45.28	88	eP	P	05 44 21.0	-0.1
	comp=Z,22nm,1.3s,mb4.8						
LENM	Lemitar	45.48	89	eP	P	05 44 22.9	+0.4
BNM	Barren Site	45.70	89	eP	P	05 44 24.7	+0.3
CBKS	Cedar Bluff	46.95	79	eP	P	05 44 33.6	-0.6
CBKS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
CBKS	Cedar Bluff	46.95	79	eP	P	05 44 33.6	-0.5
	comp=Z,34nm,1.1s,mb5.2						
CPRX	Cap Rock	48.16	88	eP	P	05 44 43.3	-0.4
FRB	Frobisher Bay	48.31	36	P	P	05 44 44.4	-0.1
	comp=Z,22nm,0.7s,mb5.3,baz=286,slow=7.0,SNR=5.3						
JNU	Nakatsue	48.40	273	P	P	05 44 44.6	-1.0
	comp=Z,8.1nm,0.4s,mb5.1,baz=79,slow=12,SNR=4.8						
GDL2	Guadalupe Moun	48.41	89	eP	P	05 44 45.1	-0.6
GDL2				epP	pP	05 44 53.2	-0.5
KSU1	Kansas State U	48.66	76	eP	P	05 44 45.6	-1.9
CLNB	Carlsbad	48.67	88	eP	P	05 44 48.0	+0.3
CLNB				epP	pP	05 44 55.6	-0.1
KBS	Kingsbay	49.52	0	eP	P	05 44 53.8	+0.1
KBS				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.4						
KBS	Kingsbay	49.52	0	eP	P	05 44 53.8	+0.1
	comp=Z,48nm,1.1s,mb5.4						
DAG	Danmarks Havn	50.05	9	⇑iP	P	05 44 58.4	+0.7
	comp=Z,15nm,0.5s,mb5.3						
WMOK	Wichita Mounta	50.16	82	eP	P	05 44 57.2	-1.9
	comp=Z,20nm,0.9s,mb5.1						
WMOK				LR	LR		
	comp=Z,142nm,20.0s,MS4.0						
SUMG	Summit	50.74	18	eP	P	05 45 04.0	+1.0
	comp=Z,48nm,1.1s,mb5.3						
LTX	Lajitas	50.83	91	eP	P	05 45 03.2	-1.0
LTX				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
LTX	Lajitas	50.83	91	eP	P	05 45 03.2	-1.0
	comp=Z,27nm,0.7s,mb5.3						
TXAR	Lajitas Array	50.83	91	P	P	05 45 03.6	-0.7
	comp=Z,23nm,0.7s,mb5.2,baz=296,slow=5.6,SNR=194						
TXAR				LR	LR	06 07 10.1	
	comp=Z,51nm,18.3s,MS3.6,baz=110,slow=37						
JCT	Junction City	52.42	87	eP	P	05 45 14.5	-1.8
JCT				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
JCT	Junction City	52.42	87	eP	P	05 45 14.5	-1.8
	comp=Z,3.0nm,0.3s,mb4.7						
CCM	Cathedral Cave	52.55	74	eP	P	05 45 13.8	-3.4
CCM				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CCM	Cathedral Cave	52.55	74	eP	P	05 45 13.8	-3.4
	comp=Z,14nm,0.9s,mb4.9						
BJI	Beijing	52.78	290	P	P	05 45 18.6	-0.2
BJI				XP	sP	05 45 30.5	+0.5
BJI				S	S	05 52 51.8	+8.0
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
BJI				LR	LR		
	comp=Z,46nm,26.8s,MS3.4						
BJI	Beijing	52.78	290	P	P	05 45 18.6	-0.2
	comp=Z,14nm,0.9s,mb4.9						
BJI				sP	sP	05 45 30.5	+0.5
BJI				S	S	05 52 51.8	+8.0
BJI				SS	SS	05 56 43.3	+22
BJI				LR	LR		
	comp=Z,50nm,26.8s,MS3.4						
FVM	French Village	53.09	73	eP	P	05 45 17.7	-3.5
FVM				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
FVM	French Village	53.09	73	eP	P	05 45 17.7	-3.5
	comp=Z,14nm,0.8s,mb5.0						
ZAK	Zakamensk	53.20	307	⇓iP	P	05 45 22.0	+0.2
ZAK				e		05 46 29.1	
SONM	Songino Array	53.23	303	P	P	05 45 22.3	+0.3
	comp=Z,19nm,1.0s,mb5.0,baz=51,slow=7.9,SNR=52						
SONM				PcP	PcP	05 46 28.9	-0.7
	comp=Z,5.7nm,0.9s,baz=117,slow=2.8,SNR=6.2						
SCHQ	Schefferville	54.51	45	P	P	05 45 29.9	-1.4
	comp=Z,3.5nm,0.8s,mb4.5,baz=331,slow=6.7,SNR=3.8						
BLO	Bloomington	54.60	70	eP	P	05 45 30.3	-2.0
USIN	University of	54.73	72	eP	P	05 45 30.6	-2.6
	comp=Z,102nm,1.1s,mb5.8						
HHC	Hu-ho-hao-te	54.91	293	eP	P	05 45 34.5	0.0
HHC				AMB	AMB		
	comp=Z,28nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,51nm,6.3s						
WCI	Wyandotte Cave	55.37	70	eP	P	05 45 34.6	-3.2
WCI				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
WCI	Wyandotte Cave	55.37	70	eP	P	05 45 34.6	-3.2
	comp=Z,24nm,1.3s,mb5.1						
SSE	Sheshan	55.77	278	P	P	05 45 40.4	-0.5
SSE				AMB	AMB		
	comp=Z,133nm,4.1s						
SSE	Sheshan	55.77	278	P	P	05 45 40.4	-0.5
	comp=Z,63nm,0.7s,mb5.8						
BTO	Baotou	55.95	294	eP	P	05 45 42.3	+0.3
OXF	Oxford	56.02	76	eP	P	05 45 40.0	-2.6
OXF				e*PP	pP	05 45 48.7	-2.0
OXF				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.8						
OXF	Oxford	56.02	76	eP	P	05 45 40.0	-2.6
	comp=Z,85nm,0.9s,mb5.8						
OXF				epP	pP	05 45 48.7	-2.1
JMIC	Jan Mayen	56.47	9	LR	LR	06 08 56.7	
	comp=Z,78nm,20.8s,MS3.8,baz=355,slow=35						
PLAL	Pickwick Lake	56.50	75	eP	P	05 45 42.9	-3.2
	comp=Z,12nm,0.8s,mb5.0						
ALLY	Alegheny Colle	56.59	64	eP	P	05 45 43.6	-3.0
MSNY	Massena	57.20	58	eP	P	05 45 48.5	-2.4
MCWV	Mont Chateau	58.10	65	eP	P	05 45 54.3	-3.0
	comp=Z,35nm,1.0s,mb5.3						
NCB	Newcomb	58.23	58	eP	P	05 45 55.9	-2.2
	comp=Z,38nm,1.1s,mb5.3						
CPCT	Cooper Cave	58.29	72	eP	P	05 45 55.0	-3.7
BINY	Binghamton	58.50	61	eP	P	05 45 58.1	-1.9
	comp=Z,26nm,0.9s,mb5.2						
MIV	Mineville/With	58.52	58	P	P	05 45 58.0	-2.1
ARCES	ARCESS Array B	58.66	355	P	P	05 45 59.9	-0.9
	comp=Z,8.2nm,0.7s,mb4.8,baz=9.5,slow=7.4,SNR=12						
ACCN	Adirondack Com	58.92	58	eP	P	05 46 00.8	-2.2
FWV	Forest Hill	58.98	68	eP	P	05 46 01.2	-2.2
FWV				epP	pP	05 46 09.6	-2.0
PWV	Princeton	59.02	68	eP	P	05 46 01.4	-2.3
NVS	Novosibirsk	59.09	321	i P	P	05 46 02.6	-1.4
NVS				eS	S	05 54 07.8	+0.2
NVS				e		05 54 35.7	
NVS				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
NVS				pmax	pmax		
	comp=N,19nm,1.7s						
NVS				pmax	pmax		
	comp=E,14nm,1.7s						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
NVS				smax			
	comp=E,12nm,1.7s						
ELN	Prospectdale	59.26	68	eP	P	05 46 02.6	-2.8
BLA	Blacksburg	59.46	68	eP	P	05 46 04.6	-2.2
BLA				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
BLA	Blacksburg	59.46	68	eP	P	05 46 04.6	-2.2
	comp=Z,34nm,0.9s,mb5.4						
BLA				epP	pP	05 46 12.6	-2.4
LVZ	Lovozero	59.59	351	⇑eP	P	05 46 06.4	-0.9
LVZ				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.3						
WHN	Wuhan	60.33	283	⇓P	P	05 46 11.0	-1.8
WHN				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
XAN	Xi'an	61.10	289	P	P	05 46 16.8	-1.2
XAN				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.0						
GTA	Gaotai	62.44	299	eP	P	05 46 26.1	-0.8
GTA				AP	pP	05 46 33.8	-1.4
GTA				XP	sP	05 46 37.1	-1.0
GTA				PP	PP	05 48 45.5	-0.8
GTA				PPP	PPP	05 50 17.6	+1.5
GTA				S	S	05 54 52.1	+1.6
GTA				XS		05 55 04.8	
GTA				SS	SS	05 58 59.8	+3.4
GTA				AMB	AMB		
	comp=Z,57nm,4.3s						
GTA				LR	LR		
	comp=N,74nm,21.3s,MS4.0						
GTA				LR	LR		
	comp=E,78nm,23.6s,MS4.0						
GTA				LR	LR		
	comp=Z,44nm,18.6s,MS3.6						
NHSC	New Hope	62.49	71	eP	P	05 46 24.9	-2.5
	comp=Z,48nm,0.8s,mb5.7						
NHSC				epP	pP	05 46 34.0	-1.6
LZH	Lanzhou	62.58	294	eP	P	05 46 27.0	-0.9
LZH				XP	sP	05 46 44.0	+4.9
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.5						
LZH	Lanzhou	62.58	294	eP	P	05 46 27.0	-0.9
	comp=Z,58nm,1.5s,mb5.5						
LZH				pP	pP	05 46 41.5	+5.4
LZH				sP	sP	05 46 44.0	+4.9
ENH	Enshi	63.45	286	eP	P	05 46 32.1	-1.6
	comp=Z,45nm,1.1s,mb5.5						
KURK	Kurchatov	64.05	320	i P	P	05 46 37.0	-0.3
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KURK	Kurchatov	64.05	320	eP	P	05 46 36.2	-1.1
	comp=Z,23nm,1.1s,mb5.1						
BVA0	Borovoye Array	65.26	326	i P	P	05 46 45.3	+0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVAR	Borovoye Array	65.26	326	P	P	05 46 45.6	+0.5
	comp=Z,16nm,0.6s,mb5.2,baz=53,slow=7.4,SNR=73						
BRVK	Borovoye	65.27	326	eP	P	05 46 45.2	+0.1
BRVK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
BRVK	Borovoye	65.27	326	eP	P	05 46 45.2	+0.1
	comp=Z,32nm,1.3s,mb5.2						
VOSK	Vostochnaya	65.30	326	P	P	05 46 45.4	+0.1
VOSK				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
WMQ	Urumqi	65.38	310	⇓iP	P	05 46 46.4	+0.4
WMQ				AP	pP	05 46 54.0	-0.2
WMQ				XP	sP	05 46 56.3	-0.9
WMQ				PCP	PcP	05 47 18.4	+0.6
WMQ				PP	PP	05 49 12.3	+0.3
WMQ				S	S	05 55 26.9	0.0
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
WMQ				LR	LR		
	comp=E,139nm,23.6s						
WMQ				LR	LR		
	comp=Z,56nm,22.0s,MS3.7						
MKAR	Makanchi Array	65.57	315	P	P	05 46 46.4	-0.8
	comp=Z,7.4nm,0.7s,mb4.8,baz=50,slow=6.4,SNR=81						
MKAR				LR	LR	06 19 23.2	
	comp=Z,42nm,18.1s,MS3.7,baz=35,slow=40						
MKAR	Makanchi Array	65.57	315	i P	P	05 46 46.4	-0.8
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZRNK	Zerenda	65.79	327	P	P	05 46 48.8	+0.3
ZRNK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
ARU	Arti	65.97	335	P	P	05 46 50.3	+0.8
	comp=Z,269nm,0.6s,SNR=11						
ARU	Arti	65.97	335	⇓iP	P	05 46 50.1	+0.6
ARU				e		05 47 18.4	
ARU				e		05 49 15.2	
ARU				eS	S	05 55 38.4	+4.5
ARU				eSS	SS	05 59 57.7	+7.1
ARU				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
ARU	Arti	65.97	335	eP	P	05 46 49.8	+0.2
	comp=Z,24nm,0.7s,mb5.3						
CD2	Chengdu	66.37	290	⇓iP	P	05 46 52.6	0.0
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
FINES	FINESS Array B	66.67	354	P	P	05 46 53.9	0.0
	comp=Z,9.4nm,0.9s,mb4.8,baz=56,slow=6.9,SNR=10						
FINES				LR	LR	06 15 16.8	
	comp=Z,45nm,21.3s,MS3.6,baz=359,slow=35						
FINES	FINESS Array B	66.67	354	i P	P	05 46 54.2	+0.3
FINES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NB2	NORSAR Subarra	67.48	1	P	P	05 46 59.1	0.0
	comp=Z,2.2nm,0.8s,mb4.2,baz=2.0,slow=6.2						
NOA	NORSAR Array B	67.48	1	P	P	05 46 59.5	+0.5
	comp=Z,4.7nm,0.9s,mb4.5,baz=0.8,slow=6.3,SNR=7.5						
NOA				LR	LR	06 13 45.5	
	comp=Z,32nm,21.4s,MS3.5,baz=345,slow=33						
GYA	Guiyang	67.93	285	⇓iP	P	05 47 01.8	-0.7
GYA				AP	pP	05 47 08.8	-1.9
GYA				XP	sP	05 47 12.3	-1.4
GYA				S	S	05 55 58.1	0.0
GYA				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
GYA				AMB	AMB		
	comp=Z,100nm,4.6s						
GYA				LR	LR		
	comp=Z,90nm,15.5s,MS4.1						
KMI	Kunming	71.27	287	eP	P	05 47 22.3	-0.7
KMI				XP	sP	05 47 38.4	+4.2
KMI				PP	PP	05 50 02.6	-0.5
KMI				S	S	05 56 32.8	-4.6
KMI				XS		05 56 53.9	
KMI				SS	SS	06 01 13.4	-0.2
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,85nm,5.3s						
KMI				LR	LR		
	comp=Z,84nm,15.1s,MS4.1						
KMI	Kunming	71.27	287	eP	P	05 47 22.2	-0.8
	comp=Z,13nm,1.0s,mb4.8						
KMI				sP	sP	05 47 38.4	+4.2
KMI				PP	PP	05 50 02.6	-0.5
KMI				S	S	05 56 32.7	-4.7
KMI				sS		05 56 53.9	
KMI				SS	SS	06 01 13.4	-0.2
KMI				LR	LR		
	comp=Z,80nm,15.1s,MS4.1						
TKM2	Tokmak 2	71.53	317	P	P	05 47 25.1	+0.9
	SNR=11						
USP	Ospenovka	71.71	318	P	P	05 47 26.2	+0.9
	SNR=14						
OBN	Obninsk	71.77	346	eP	P	05 47 25.7	+0.3
OBN				e		05 47 39.9	
OBN				eS	S	05 56 41.4	-1.2
OBN				eSS	SS	06 01 22.5	+2.0
OBN				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
ULHL	Ulahol	71.81	316	P	P	05 47 26.8	+0.9
	SNR=9.3						
CHMS	Chumysh	71.83	318	P	P	05 47 26.9	+0.9
	SNR=6.9						
FRU	Bishkek	72.02	318	eP	P	05 47 28.2	+1.1
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
AAK	Ala-Archa	72.23	317	P	P	05 47 29.2	+0.8
	SNR=6.4						
AAK	Ala-Archa	72.23	317	eP	P	05 47 27.7	-0.7
AAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
AAK	Ala-Archa	72.23	317	eP	P	05 47 27.7	-0.7
	comp=Z,17nm,1.0s,mb4.9						
KZA	Kyzart	72.37	317	P	P	05 47 30.4	+1.2
	SNR=11						
EKS2	Erkin-Say	72.51	318	P	P	05 47 31.2	+1.2
	SNR=11						
UCH	Uchtor	72.56	317	P	P	05 47 31.8	+1.5
	SNR=6.9						
AML	Almayashu	72.98	318	P	P	05 47 34.6	+1.8
	SNR=12						
LSA	Lhasa	74.42	298	P	P	05 47 42.8	+1.5
LSA	Lhasa	74.42	298	eP	P	05 47 42.6	+1.3
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
LSA	Lhasa	74.42	298	eP	P	05 47 42.6	+1.3
	comp=Z,13nm,0.8s,mb4.9						
BSEG	Bad Segeberg	74.59	2	eP	P	05 47 43.3	+1.5
BSEG				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
CLZ	Clausthal	76.69	2	eP	P	05 47 55.2	+1.5
	comp=Z,20nm,1.3s,mb4.9						
AKASG	Malin Array Be	77.03	350	P	P	05 47 55.2	-0.5
	comp=Z,13nm,0.8s,mb4.9,baz=9.4,slow=5.4,SNR=30						
AKASG				PP	PP	05 50 45.6	-4.9
	comp=Z,0.2nm,0.3s,baz=6.6,slow=9.5,SNR=4.3						
AKASG				LR	LR	06 24 11.5	
	comp=Z,48nm,19.3s,MS3.8,baz=30,slow=37						
CLL	Collm	77.26	0	P	P	05 47 57.9	+1.0
	comp=Z,logA/T=1.0,mb4.7						
CLL				i *PP	pP	05 48 06.3	+1.0
CLL	Collm	77.26	0	i P	P	05 47 57.9	+1.0
CLL				i	pP	05 48 06.3	+1.0
CLL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
CLL	Collm	77.26	0	i P	P	05 47 57.9	+1.0
	comp=Z,11nm,1.0s,mb4.7						
CLL				i	pP	05 48 06.3	+1.0
BRG	Berggiesshubel	77.69	360	i P	P	05 48 00.8	+1.5
BRG				e	pP	05 48 09.9	+2.2
KSP	Ksiaz	77.70	358	eP	P	05 48 00.7	+1.3
KSP				e		05 48 04.4	
MOX	Moxa	77.91	1	i P	P	05 48 02.1	+1.6
	comp=Z,logA/T=1.3,mb5.0						
MOX	Moxa	77.91	1	eP	P	05 48 02.1	+1.6
MOX				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
MOX	Moxa	77.91	1	eP	P	05 48 02.1	+1.6
	comp=Z,26nm,1.4s,mb5.0						
PVCC	Panska Ves	78.04	359	eP	P	05 48 02.7	+1.5
GIVF	Givet	78.18	6	eP	P	05 48 02.5	+0.5
DPC	Dobruska-Polom	78.19	358	eP	P	05 48 04.0	+1.9
OJC	Ojcow	78.22	356	eP	P	05 48 03.6	+1.4
NKC	Novy Kostel	78.33	1	eP	P	05 48 04.3	+1.5
PRU	Pruhonice	78.58	359	eP	P	05 48 05.7	+1.5
CMAR	Chiang Mai Arr	78.62	285	P	P	05 48 04.2	-0.8
	comp=Z,10nm,0.8s,mb4.8,baz=25,slow=5.7,SNR=40						
KWP	Kalwaria	78.65	354	eP	P	05 48 06.0	+1.4
OKC	Ostrava-Krasne	78.66	357	eP	P	05 48 06.1	+1.4
GUN	Gumba	78.67	301	eP	P	05 48 06.0	+0.8
	comp=Z,80nm,1.1s,mb5.6						
MORC	Moravsky Berou	78.74	357	eP	P	05 48 05.8	+0.7
GRA1	Grafenberg Arr	78.85	2	eP	P	05 48 07.5	+1.8
	comp=Z,21nm,0.8s,mb5.1						
GRF	Grafenberg Arr	78.85	2	eP	P	05 48 07.5	+1.8
GRF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
KKN	Kakani	79.09	301	eP	P	05 48 07.6	+0.1
	comp=Z,72nm,1.3s,mb5.5						
PKI	Pulchoki	79.19	301	eP	P	05 48 07.9	-0.2
	comp=Z,74nm,1.2s,mb5.5						
GKN	Gorkha	79.26	302	eP	P	05 48 08.3	-0.1
	comp=Z,58nm,1.0s,mb5.5						
LDF	La Druitiere	79.28	9	eP	P	05 48 08.1	0.0
	comp=Z,38nm,1.0s,mb5.0						
DMN	Daman	79.32	301	eP	P	05 48 08.9	+0.1
	comp=Z,38nm,0.9s,mb5.3						
WET	Wettzell	79.42	1	eP	P	05 48 10.2	+1.4
WET				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
WET	Wettzell	79.42	1	eP	P	05 48 10.2	+1.4
	comp=Z,9.0nm,1.3s,mb4.5						
KHC	Kasperske Hory	79.44	0	eP	P	05 48 10.6	+1.7
KHC				e		05 48 13.6	
KHC				eAP	pP	05 48 16.6	-0.7
KHC				eXP	sP	05 48 23.3	+3.2
KHC	Kasperske Hory	79.44	0	eP	P	05 48 10.6	+1.7
KHC				e*PP	pP	05 48 16.6	-0.7
KHC				e		05 48 23.3	
GEC2	GERESS Array S	79.72	0	eP	P	05 48 11.8	+1.3
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GEC2	GERESS Array S	79.72	0	eP	P	05 48 11.8	+1.3
	comp=Z,9.0nm,0.9s,mb4.7						
GERES	GERESS Array B	79.72	0	P	P	05 48 11.4	+0.9
	comp=Z,5.0nm,0.8s,mb4.5,slow=4.0,SNR=33						
KECS	Kecovo	79.92	355	eP	P	05 48 12.8	+1.3
VYHS	Vyhne	79.98	357	i P	P	05 48 13.0	+1.1
VYHS				e	pP	05 48 20.4	+0.2
VYHS				e		05 48 33.8	
VYHS	Vyhne	79.98	357	i P	P	05 48 13.0	+1.1
VYHS				e		05 48 33.8	
KOLN	Koldanda	79.99	302	eP	P	05 48 12.3	0.0
	comp=Z,30nm,0.9s,mb5.2						
CDF	Champ du Feu	80.00	4	eP	P	05 48 12.6	+0.6
	comp=Z,43nm,1.3s,mb4.9						
BFO	Black Forest	80.13	4	eP	P	05 48 13.9	+1.2
BFO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BFO	Black Forest	80.13	4	eP	P	05 48 13.9	+1.2
	comp=Z,9.0nm,1.1s,mb4.6						
HAU	Haudompre	80.36	5	eP	P	05 48 14.5	+0.6
HAU				eR			
	comp=Z,49nm,19.5s						
HINF	Hinteralfeld	80.58	5	eP	P	05 48 15.6	+0.6
LOR	Lormes	80.94	7	eP	P	05 48 17.5	+0.5
	comp=Z,41nm,1.2s,mb4.9						
LOR				eR			
	comp=Z,48nm,18.2s						
SSF	Saint Saulge	81.12	7	eP	P	05 48 18.5	+0.6
	comp=Z,26nm,1.0s,mb4.8						
MFF	Saint Martin d	81.24	10	eP	P	05 48 19.2	+0.6
	comp=Z,29nm,0.9s,mb4.9						
WTTA	Wattenberg	81.29	1	⇓iP	P	05 48 20.8	+2.0
	comp=Z,21nm,1.3s,mb4.9						
ARSA	Arzberg	81.31	359	⇓iP	P	05 48 21.0	+2.1
	comp=Z,13nm,0.9s,mb4.9						
AVF	Avril sur Loir	81.37	7	eP	P	05 48 19.7	+0.5
	comp=Z,56nm,1.2s,mb5.1						
KBA	Koelnbreinsper	81.49	0	⇓iP	P	05 48 22.3	+2.5
	comp=Z,58nm,1.1s,mb5.4						
SMF	Signal de Mont	81.56	7	eP	P	05 48 20.7	+0.5
	comp=Z,51nm,1.1s,mb5.1						
BGF	Bois d'Agland	81.56	8	eP	P	05 48 20.8	+0.6
	comp=Z,107nm,1.5s,mb5.3						
DAVOX	Davos	81.73	3	P	P	05 48 23.2	+2.1
	comp=Z,9.0nm,0.9s,mb4.7,baz=358,slow=7.4,SNR=10.0						
CABF	La Chapelle	81.74	5	eP	P	05 48 22.5	+1.4
	comp=Z,26nm,0.8s,mb4.9						
TCF	Toulx Ste Croi	81.78	8	eP	P	05 48 21.7	+0.3
	comp=Z,25nm,1.0s,mb4.8						
OBKA	Obir	82.06	359	⇑iP	P	05 48 24.5	+1.7
	comp=Z,18nm,1.0s,mb5.0						
ROBS	Robic	82.33	0	i P	P	05 48 24.8	+0.6
SOC	Sochi	82.36	341	eP	P	05 48 24.1	-0.3
SOC				e		05 51 34.4	
SOC				eS	S	05 58 31.9	-5.4
SOC				e		05 58 37.4	
SOC				eSSS	SSS	06 07 25.7	+0.4
SOC				pmax	pmax		
	comp=N,41nm,0.9s						
SOC				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=E,22nm,0.7s						
MLR	Muntele Rosu	82.51	351	P	P	05 48 27.0	+1.8
	comp=E,4.9nm,0.8s,mb4.6,baz=200,slow=2.5,SNR=9.2						
RJF	Les Rejaudoux	82.69	9	eP	P	05 48 26.9	+0.8
	comp=E,15nm,0.8s,mb4.8						
RJF				eR			
	comp=E,48nm,17.0s						
VISS	Visnje	82.76	359	i P	P	05 48 27.2	+0.7
CEY	Cerknica	82.83	360	i P	P	05 48 27.9	+1.1
LPG	La Plagne	82.89	5	eP	P	05 48 28.3	+1.2
TRAV		82.92	4	P	P	05 48 30.7	+3.4

LSD	Ceresole Reale	82.95	5	P	P	05 48 30.0	+2.5
LFF	La Frestale	82.98	9	*e*P	P	05 48 28.4	+0.8
	comp=E,40nm,0.8s,mb5.2						
BOJS	Bojanci	83.06	359	*i* P	P	05 48 29.4	+1.4
CAF	Calviac	83.12	8	*e*P	P	05 48 29.1	+0.8
	comp=E,24nm,0.9s,mb4.9						
RSP	Reno Superiore	83.26	5	P	P	05 48 31.4	+2.4
BNI	Bardonecchia	83.33	5	*e*P	P	05 48 30.4	+1.0
BNI				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
BNI	Bardonecchia	83.33	5	*e*P	P	05 48 30.4	+1.1
	comp=Z,31nm,1.1s,mb5.2						
FENE	Fenestrelle	83.37	5	P	P	05 48 32.2	+2.6
VIVF	Saint-Julien-l	83.40	6	*e*P	P	05 48 30.8	+1.0
	comp=Z,17nm,0.8s,mb4.8						
ORIF	Oris-en-Rattie	83.41	6	*e*P	P	05 48 30.4	+0.6
	comp=Z,24nm,1.1s,mb4.8						
ORIF				*e*R			
	comp=Z,39nm,19.2s						
RRL	Cesana Torines	83.46	5	P	P	05 48 32.8	+2.7
MBDF	Montbardon	83.66	5	*e*P	P	05 48 33.1	+2.1
	comp=Z,35nm,0.8s,mb5.2						
PZZ	Prazzo	83.89	5	P	P	05 48 33.6	+1.4
GRAM		84.03	3	P	P	05 48 34.5	+1.6
LASF	Ste Croix	84.11	7	*e*P	P	05 48 34.5	+1.2
	comp=Z,24nm,1.0s,mb5.0						
CODM		84.12	3	P	P	05 48 35.1	+1.8
ROB	Roburent	84.14	4	P	P	05 48 34.0	+0.6
STV2	Anna di Valdie	84.16	5	P	P	05 48 34.3	+0.8
STV	Sta Anna Valdi	84.17	5	P	P	05 48 34.0	+0.4
ENR	Entracque	84.19	5	P	P	05 48 33.3	-0.4
BACM		84.24	3	P	P	05 48 35.7	+1.8
FIN	Finale Ligure	84.24	4	P	P	05 48 34.0	0.0
RORO		84.33	4	P	P	05 48 34.5	+0.1
SMRF	Simiane la Rot	84.33	6	*e*P	P	05 48 36.1	+1.7
	comp=Z,19nm,0.8s,mb5.0						
MONE	Monesi	84.35	4	P	P	05 48 34.1	-0.4
VINC	Vinca	84.38	3	P	P	05 48 35.6	+1.0
SEI	Scarperia	84.49	2	*e*P	P	05 48 38.2	+3.0
GNI	Garni	84.52	337	P	P	05 48 37.0	+1.5
	comp=Z,4.4nm,0.5s,mb4.9,baz=163,slow=13,SNR=3.3						
IMI	Imperia	84.53	4	P	P	05 48 35.8	+0.4
SBF	Sospel	84.55	5	*e*P	P	05 48 36.6	+1.1
	comp=Z,79nm,1.1s,mb5.5						
NEGI	Negi	84.58	4	P	P	05 48 35.3	-0.4
VMG	Vicchio	84.59	2	*e*P	P	05 48 38.6	+2.9
MAIM		84.61	2	P	P	05 48 36.5	+0.7
SFI	Santa Sofia	84.65	1	*e*P	P	05 48 38.4	+2.4
MTLF	Montolieu	84.70	8	*e*P	P	05 48 37.2	+0.9
	comp=Z,32nm,0.9s,mb5.2						
FRF	La Foret Royal	84.81	5	*e*P	P	05 48 37.7	+0.9
	comp=Z,21nm,0.9s,mb5.0						
EPF	Esparros	84.83	10	*e*P	P	05 48 36.9	0.0
	comp=Z,14nm,0.8s,mb4.8						
ETSF	Etsaut	84.86	11	*e*P	P	05 48 38.0	+0.9
LMR	La Mourre	85.03	5	*e*P	P	05 48 39.0	+1.1
	comp=Z,65nm,1.4s,mb5.3						
GRFL	Gerfalco	85.39	2	*e*P	P	05 48 41.1	+1.4
PGF	Pioggiola	85.93	4	*e*P	P	05 48 43.5	+1.1
	comp=Z,24nm,0.9s,mb5.1						
SKO	Skopje	86.36	354	*i* P	P	05 48 45.8	+1.2
BRTR	Keskin Array B	87.20	345	P	P	05 48 50.1	+1.4
	comp=Z,5.3nm,0.7s,mb4.9,baz=63,slow=2.8,SNR=20						
BRTR				LR	LR	06 29 59.1	
	comp=Z,30nm,18.2s,MS3.7,baz=35,slow=37						
ESDC	Sonseca Array	87.59	14	P	P	05 48 51.2	+0.6
	comp=Z,3.5nm,0.8s,mb4.7,baz=346,slow=3.7,SNR=8.4						
WRAB	Tennant Creek	88.19	234	*e*P	P	05 48 51.6	-2.2
WB2	Warramunga Arr	88.19	234	*e*P	P	05 48 51.2	-2.7
WRA	Warramunga Arr	88.20	234	P	P	05 48 51.7	-2.2
	comp=Z,5.6nm,0.8s,mb4.8,baz=39,slow=5.6,SNR=42						
HYB	Hyderabad	91.10	300	*i* P	P	05 49 07.0	-0.5
HYB	Hyderabad	91.10	300	*e*P	P	05 49 07.0	-0.5
FITZ	Fitzroy Crossi	91.26	242	*e*P	P	05 49 07.0	-1.3
	comp=Z,9.6nm,0.9s,mb5.1						
ASAR	Alice Springs	91.54	232	P	P	05 49 08.0	-1.5
	comp=Z,8.6nm,0.7s,mb5.2,baz=35,slow=4.4,SNR=87						
ASPA	Alice Springs	91.55	232	*e*P	P	05 49 07.8	-1.7
ASF	Jabal al Asfar	93.94	340	P	P	05 49 21.0	+0.7
	comp=Z,1.5nm,0.3s,mb4.9,baz=246,slow=2.9,SNR=3.7						
STKA	Stephens Creek	95.04	222	P	P	05 49 24.1	-1.4
	comp=Z,1.8nm,0.7s,mb4.6,baz=265,slow=2.5,SNR=3.4						
PLCA	Paso Flores	123.81	114	PKP	PKPdf	05 54 58.4	-5.6
	comp=Z,1.3nm,0.6s,baz=297,slow=1.4,SNR=5.3						
VNDA	Vanda	130.58	189	SKPbc		05 58 32.8	
	comp=Z,2.8nm,1.0s,baz=345,slow=4.3,SNR=12						
QSPA	South Pole Qui	141.57	180	*e*PKP	PKPdf	05 55 25.7	-10
TSUM	Tsumeb	147.32	353	PKPbc	PKPdf	05 55 45.6	-1.8
	comp=Z,5.2nm,0.8s,baz=352,slow=11,SNR=6.0						
TSUM	Tsumeb	147.32	353	*e*PKP	PKPdf	05 55 44.5	-3.0
MAW	Mawson	151.62	218	⇓*i*P	PKPdf	05 55 54.6	+1.9
	comp=Z,15nm,0.8s						
MAW	Mawson	151.62	218	PKPbc	PKPdf	05 55 54.9	+2.2
	comp=Z,18nm,0.8s,baz=94,slow=1.4,SNR=41						
MAW	Mawson	151.62	218	*e*PKIKP	PKPdf	05 55 54.2	+1.5
LBTB	Lobatse	151.75	337	PKIKP	PKPdf	05 55 50.1	-4.2
VNA2	Neumayer--Watz	158.55	161	⇓*i*PKPdf	PKPdf	05 55 56.9	-5.1
VNA2				*e*		05 56 34.2	
VNA1	Neumayer--Stat	158.59	160	⇓*i*PKPdf	PKPdf	05 55 55.9	-6.2
VNA1				*e*		05 56 33.4	
SNAA	Sanae	158.74	166	⇓*i*PKPdf	PKPdf	05 55 57.2	-5.0
SNAA				*e*		05 56 34.8	

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*NEIC **20** 05:46:39.8±2.1, 30.02N×114.14W, h10^{km}, mb4.0/6, Error ellipse: s-maj=27.1km s-min=8.6km az=219.0*

*ECX **20** 05:46:40.1±0.4, 30.23N×114.14W, h5^{km}±3^{km}, MD4.1, ML4.3*

*IDC **20** 05:46:41.0±2.4, 29.95N×113.92W, mb4.0/4, mb1 4.0/8, mb1mx3.9/23, ML3.6/4, MS3.5/6, Ms1 3.5/6, ms1mx3.1/29, Error ellipse: s-maj=40.1km s-min=11.2km az=31.0*

ISC 20 05:46:38.3±0.9**, 30.10N**±0.08×**114.09W**±0.04**, h10**^{km}**, n54,** σ1§**14**/58**, mb3.9**/5**, MS3.4**/4**, 1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.52	309	*e*PN	Pn	05 47 05.9	+0.2
SPX				*e*S	Sb	05 47 23.4	-2.0
EMX	El Mayor	2.13	333	*e*S	Sn	05 47 40.1	-1.2
EMX				⇓*e*		05 48 04.1	
	comp=N,1µm,0.9s						
RDX	Rancho Dowling	2.43	319	*e*PN	Pn	05 47 19.1	+0.3
RDX				*e*SN	Sn	05 47 49.1	+0.3
CPBX	Cerro Prieto	2.54	336	*e*PN	Pn	05 47 19.4	-0.9
ECNX	Esteban Cantu	2.66	306	*e*PN	Pn	05 47 22.4	+0.3
PGX	Piedras Gordas	2.75	313	*e*PN	Pn	05 47 23.2	-0.1
PGX				*e*S	Sn	05 47 56.5	-0.4
PBX	Punta Banda	2.80	307	*e*PN	Pn	05 47 23.6	-0.4
PBX				*e*SN	Sn	05 47 59.1	+0.9
ENX	Ensenada	2.84	309	*e*PN	Pn	05 47 24.6	0.0
ENX				*e*SN	Sn	05 47 59.3	0.0
CBX	Cerro Bola	3.12	316	*e*PN	Pn	05 47 28.6	-0.1
CBX				*e*S	Sn	05 48 04.8	-1.6
TUC	Tucson	3.59	51	*e*P	Pn	05 47 34.0	-1.2
LDFC	Landfair	5.04	350	*e*P	Pn	05 47 57.4	+1.5
MWC	Mount Wilson	5.32	322	*e*P	Pn	05 47 55.1	-4.6
NEN	Nelson	5.57	354	*e*P	Pn	05 48 02.0	-1.4
WUAZ	Wupatki	5.87	22	*e*P	Pn	05 48 06.9	-0.6
LAZ	Ladron	7.28	52	*e*P	Pn	05 48 28.0	+0.5
BNM	Barren Site	7.51	56	*e*P	Pn	05 48 31.1	+0.5
ANMO	Albuquerque	8.05	51	*e*P	P	05 48 38.5	+0.3
MSU	Marysvale	8.54	10	P	P	05 48 46.2	+1.1
LRV	Little Rabbit	8.57	319	P	P	05 48 46.3	+0.9
NVAR	Mina Array Bea	9.01	338	Pn	P	05 48 58.0	+6.5
	comp=N,0.1nm,0.3s,baz=170,slow=11,SNR=6.2						
NVAR				Pg	P	05 49 32.6	+41
	comp=N,0.1nm,0.3s,baz=165,slow=17,SNR=4.4						
NVAR				Lg		05 51 33.4	
	comp=N,0.1nm,0.3s,baz=337,slow=32,SNR=3.5						
LTX	Lajitas	9.09	92	*e*P	P	05 48 51.5	-1.1
TXAR	Lajitas Array	9.09	92	Pn	P	05 48 52.5	-0.1
	comp=N,0.5nm,0.3s,baz=262,slow=14,SNR=20						
TXAR				Sn	Sn	05 50 34.1	-2.1
	comp=N,0.7nm,0.3s,baz=268,slow=20,SNR=8.8						
TXAR				Lg		05 51 28.2	
	comp=N,0.5nm,0.3s,baz=268,slow=29,SNR=3.5						
TXAR				LR	LR	05 52 35.2	
	comp=N,392nm,21.1s,baz=255,slow=40						
CPRX	Cap Rock	9.20	69	*e*P	P	05 48 58.7	+4.7
PV01	Paradox Valley	9.23	28	P	P	05 48 53.6	-0.9
SRU	San Rafael	9.46	17	*e*P	P	05 48 56.7	-1.0
SDCO	Great Sand Dun	10.44	41	*e*P	P	05 49 12.3	+1.1
JCT	Junction City	12.35	85	P	P	05 49 36.3	-0.9
MOD	Modoc	12.80	339	P	P	05 49 43.3	+0.1
AHID	Auburn Hatcher	12.87	10	P	P	05 49 40.6	-3.4
BW06	Boulder Array	13.16	15	*e*P	P	05 49 48.7	+0.8
PDAR	Pinedale Array	13.16	15	Pn	P	05 49 52.5	+4.7
	comp=N,0.0nm,0.3s,baz=188,slow=10,SNR=9.4						
PDAR				Lg		05 53 49.7	
	comp=N,0.0nm,0.3s,baz=178,slow=24,SNR=2.7						
WMOK	Wichita Mounta	13.73	66	P	P	05 49 54.4	-1.1
	comp=N,9.4nm,1.4s						
MOOW	Moose Ponds	13.88	10	P	P	05 49 58.6	+1.1
MCMT	McKenzie Canyo	14.74	3	*e*P	P	05 50 15.2	+6.5
BOZ	Bozeman (W)	15.64	6	P	P	05 50 19.2	-1.3
	comp=N,6.1nm,1.2s						
LNOR	Lincton Mounta	16.09	349	*e*P	P	05 50 33.8	+7.6
RSSD	Black Hills	16.11	27	P	P	05 50 26.9	+0.4
	comp=N,10nm,1.3s						
CHMT	Chamberlain Mo	16.80	2	*e*P	P	05 50 34.8	-0.4
KSU1	Kansas State U	16.94	53	P	P	05 50 37.6	+0.6
LAO	LASA Array	17.66	18	*e*P	P	05 50 47.7	+1.8
	comp=N,20nm,1.3s						
NEW	Newport	18.29	354	P	P	05 50 59.1	+5.2
	comp=N,0.1nm,0.3s,baz=191,slow=13,SNR=3.4						
NEW				LR	LR	05 58 11.0	
	comp=N,177nm,18.6s,baz=66,slow=37						
NEW	Newport	18.29	354	*e*P	P	05 50 56.0	+2.2
	comp=N,2.8nm,1.0s						
RMW	Rattlesnake Mo	18.34	343	*e*P	P	05 50 58.4	+4.0
DGMT	Dagmar	19.85	20	*e*P	P	05 51 13.6	+1.4
	comp=N,44nm,1.4s						
PLAL	Pickwick Lake	22.44	71	*e*P	P	05 51 41.1	+2.4
	comp=N,11nm,1.1s,mb4.2						
ULM	Lac du Bonnet	24.35	29	P	P	05 52 00.0	+2.7
	comp=N,6.2nm,1.1s,mb4.0,baz=218,slow=10,SNR=3.4						
BBB	Bella Bella	24.38	339	P	P	05 52 01.8	+4.2
	comp=N,4.1nm,0.9s,mb3.8,baz=234,slow=23,SNR=3.2						
BBB				LR	LR	06 01 06.0	
	comp=N,163nm,21.9s,MS3.5,baz=178,slow=35						
CPCT	Cooper Cave	25.37	70	*e*P	P	05 52 05.9	-1.4
FFC	Flin Flon	26.11	16	P	P	05 52 13.5	-0.4
DLBC	Dease Lake	30.38	343	P	P	05 52 56.1	+3.6
	comp=N,2.9nm,1.1s,mb3.9,baz=169,slow=13,SNR=3.3						
YKA	Yellowknife Ar	32.41	360	LR	LR	06 08 53.3	
	comp=N,96nm,18.7s,MS3.5,baz=180,slow=41						
ILAR	Eielson Array	40.27	339	P	P	05 54 20.1	+3.2
	comp=N,1.1nm,0.9s,mb3.6,baz=150,slow=6.8,SNR=11						
FX1	Attu Island--F	56.45	316	LR	LR	06 16 13.3	
	comp=N,2.8nm,21.1s,MS2.3,baz=244,slow=31						
RAR	Rarotonga	67.33	226	LR	LR	06 20 57.0	
	comp=N,138nm,18.6s,MS4.2,baz=113,slow=30						

ECX 20 06:24:23.5±0.3**, 30.15N**×**114.10W, h8**^{km}±3^{km}**, ML3.5, 2C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.48	308	*e*P	Pn	06 24 49.4	-1.1
SPX				*e*S	Sb	06 25 08.9	-0.6
EMX	El Mayor	2.08	332	*e*PN	Pn	06 24 58.2	-0.9
EMX				*e*S	Sn	06 25 25.7	+0.3
EMX				⇓*e*		06 25 52.0	
	comp=E,328nm,0.9s						
RDX	Rancho Dowling	2.38	319	*e*PN	Pn	06 25 03.0	-0.4
RDX				*e*S	Sn	06 25 33.6	+0.5
CPBX	Cerro Prieto	2.48	336	*e*PN	Pn	06 25 04.2	-0.7
CPBX				⇑*e*		06 26 18.9	
	comp=E,472nm,0.9s						
CPBX				⇑*e*		06 26 19.1	
	comp=N,488nm,0.6s						
ECNX	Esteban Cantu	2.62	306	*e*PN	Pn	06 25 06.2	-0.6
ECNX				*e*S	Sn	06 25 39.1	0.0
PGX	Piedras Gordas	2.70	313	*e*PN	Pn	06 25 07.2	-0.7
PBX	Punta Banda	2.75	306	*e*PN	Pn	06 25 08.1	-0.7
PBX				*e*S	Sn	06 25 43.0	+0.4
ENX	Ensenada	2.80	309	*e*PN	Pn	06 25 08.5	-0.8
ENX				*e*S	Sn	06 25 43.6	-0.1
CBX	Cerro Bola	3.08	315	*e*PN	Pn	06 25 12.4	-0.9
CBX				*e*S	Sn	06 25 50.4	-0.3

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*ECX **20** 06:33:02.3±0.4, 30.18N×114.07W, h3^{km}±3^{km}, MD4.4, ML4.7*

*IDC **20** 06:33:03.0±1.2, 29.86N×114.02W, mb4.2/7, mb1 4.3/12, mb1mx4.1/24, ML3.7/5, MS4.3/19, Ms1 4.3/19, ms1mx4.2/27, Error ellipse: s-maj=21.5km s-min=9.4km az=34.0*

*BJI **20** 06:33:04.6, 30.82N×113.29W, h16^{km}, mB4.7, mb4.6, Ms4.6, Msz4.6*

*NEIC **20** 06:33:05.4±0.6, 29.86N×114.05W, h10^{km}, mb4.6/14, MS4.2/1, Error ellipse: s-maj=8.5km s-min=4.3km az=38.0*

ISC 20 06:33:03.9±1.9**, 29.99N**±0.05×**113.99W**±0.04**, h7**^{km}±11^{km}**, n132,** σ1§**37**/128**, mb4.4**/14**, MS4.3**/19**, 5C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.65	310	*e*PN	Pn	06 33 29.2	-4.3
SPX				*i* S	Sb	06 33 48.4	-6.7
ECBX	El Chinero	1.73	329	*e*PN	Pn	06 33 29.9	-4.8
EMX	El Mayor	2.26	332	*e*PN	Pn	06 33 37.3	-5.0
EMX				*e*S	Sn	06 34 04.4	-6.2
EMX				⇑*e*		06 34 30.3	
	comp=N,3µm,1.1s						
EMX				⇑*e*		06 34 30.8	
	comp=E,3µm,1.2s						
RDX	Rancho Dowling	2.56	320	⇓*e*PN	Pn	06 33 42.3	-4.3
CPBX	Cerro Prieto	2.67	335	*e*PN	Pn	06 33 43.5	-4.6
ECNX	Esteban Cantu	2.79	307	⇑*e*PN	Pn	06 33 45.4	-4.4
ECNX				*e*S	Sn	06 34 20.9	-3.2
PGX	Piedras Gordas	2.88	314	⇑*e*PN	Pn	06 33 46.3	-4.8
PGX				*e*SN	Sn	06 34 20.3	-6.0
PBX	Punta Banda	2.93	307	⇓*e*PN	Pn	06 33 47.4	-4.4
PBX				*e*SN	Sn	06 34 30.7	+3.1
ENX	Ensenada	2.97	310	*e*PN	Pn	06 33 47.9	-4.5
ENX				*e*SN	Sn	06 34 30.6	+1.9
RMX	La Rumorosa	3.16	326	*e*PN	Pn	06 33 49.8	-5.2
CBX	Cerro Bola	3.26	316	⇑*e*PN	Pn	06 33 51.9	-4.5
CBX				*e*S	Sn	06 34 30.0	-5.9
BAR	Barrett	3.53	320	*e*P	Pn	06 33 56.0	-4.3
TUC	Tucson	3.59	49	*e*P	Pn	06 33 58.5	-2.7
LDFC	Landfair	5.16	350	*e*P	Pn	06 34 19.3	-4.1
MWC	Mount Wilson	5.45	322	*e*P	Pn	06 34 24.7	-2.8
NEN	Nelson	5.69	353	*e*P	Pn	06 34 27.9	-3.0
WUAZ	Wupatki	5.93	21	*e*P	Pn	06 34 32.8	-1.6
LPIG	La Paz	6.72	150	*i* P	Pn	06 34 47.9	+2.4
LPIG				*i* S	Sn	06 36 04.8	+1.7
DAC	Darwin (Calif)	6.96	335	*e*P	Pn	06 34 47.9	-0.8
LENM	Lemitar	7.26	53	*e*P	Pn	06 34 50.9	-2.2
LAZ	Ladron	7.28	51	*e*P	Pn	06 34 51.3	-2.1
BNM	Barren Site	7.50	55	*e*P	Pn	06 34 53.9	-2.5
ANMO	Albuquerque	8.06	50	*e*P	P	06 35 01.6	-2.5
TPH	Tonopah	8.50	342	*e*P	P	06 35 14.1	+3.8
GDL2	Guadalupe Moun	8.54	73	*e*P	P	06 35 10.1	-0.8
MSU	Marysvale	8.63	10	*e*P	P	06 35 10.4	-1.8
OMM	Old Mammoth Mi	8.67	333	*e*P	P	06 35 12.5	-0.2
LRV	Little Rabbit	8.71	319	*e*P	P	06 35 10.3	-2.8
CLNB	Carlsbad	8.96	73	P	P	06 35 16.4	-0.3
LTX	Lajitas	9.01	92	*e*P	P	06 35 15.9	-1.4
TXAR	Lajitas Array	9.01	92	Pn	P	06 35 16.0	-1.4
	comp=E,1.1nm,0.3s,baz=263,slow=15,SNR=45						
TXAR				Sn	Sn	06 36 57.7	-2.4
	comp=E,0.8nm,0.3s,baz=39,slow=18,SNR=5.0						
TXAR				Lg		06 37 48.2	
	comp=E,0.9nm,0.3s,baz=274,slow=30,SNR=4.0						
TXAR				LR	LR	06 38 58.8	
	comp=E,3µm,20.9s,baz=280,slow=39						
TXAR	Lajitas Array	9.01	92	Pn	P	06 35 16.0	-1.4
TXAR				Sn	Sn	06 36 57.7	-2.4
TXAR				Lg		06 37 48.2	
TXAR				LR	LR	06 38 58.9	
NVAR	Mina Array Bea	9.14	338	Pn	P	06 35 20.4	+1.1
	comp=E,0.1nm,0.3s,baz=158,slow=14,SNR=11						
NVAR				Pg	P	06 35 55.1	+36
	comp=E,0.2nm,0.3s,baz=165,slow=17,SNR=5.7						
NVAR				Sn	Sn	06 37 03.4	-0.1
	baz=174,slow=12,SNR=2.5						
NVAR				Lg		06 37 59.0	
	comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=2.4						
NVAR	Mina Array Bea	9.14	338	Pn	P	06 35 20.4	+1.1
NVAR				Pg	P	06 35 55.1	+36
NVAR				Sn	Sn	06 37 03.4	-0.1
NVAR				Lg		06 37 59.0	
CPRX	Cap Rock	9.16	68	*e*P	P	06 35 20.6	+1.2
PV01	Paradox Valley	9.28	28	*e*P	P	06 35 19.3	-1.8
PV10	Paradox Valley	9.31	25	*e*P	P	06 35 20.2	-1.4
SRU	San Rafael	9.54	17	*e*P	P	06 35 23.1	-1.6
DUG	Dugway	10.23	5	*e*P	P	06 35 36.0	+1.9
WCN	Washoe City	10.43	334	*e*P	P	06 35 37.8	+0.8
SDCO	Great Sand Dun	10.46	40	*e*P	P	06 35 36.0	-1.4
DAU	Daniels Canyon	10.63	11	*e*P	P	06 35 40.7	+0.9
BMN	Battle Mountai	10.74	347	*e*P	P	06 35 40.5	-0.7
JLU	Jordanelle	10.79	10	*e*P	P	06 35 42.9	+1.1
NSHM	Saint Helena R	11.09	322	P	P	06 35 45.6	-0.4
BEKR	Beckwourth	11.15	334	*e*P	P	06 35 47.9	+1.1
SPUT	South Promonto	11.36	6	*e*P	P	06 35 49.5	-0.2
HWUT	Hardware Ranch	11.76	9	*e*P	P	06 35 55.7	+0.6
HVU	Hansel Valley	11.80	4	*e*P	P	06 35 55.7	0.0
ISCO	Idaho Springs	11.95	33	*e*P	P	06 36 00.7	+3.0
JCT	Junction City	12.28	84	*e*P	P	06 36 03.3	+1.2
ZAIG	Zacatecas	12.51	122	*i* P	P	06 36 08.1	+2.9
MOD	Modoc	12.93	338	*e*P	P	06 36 11.5	+0.6
WVOR	Wild Horse Val	12.97	345	*e*P	P	06 36 11.4	+0.1
PDAR	Pinedale Array	13.24	14	Pn	P	06 36 16.4	+1.5
	comp=E,0.0nm,0.3s,baz=180,slow=10,SNR=9.4						
PDAR				LR	LR	06 41 31.5	
	comp=E,762nm,18.1s,baz=297,slow=38						
HLID	Hailey	13.55	359	*e*P	P	06 36 19.9	+0.9
	comp=E,9.0nm,1.4s						
REDW	Red Top Meadow	13.58	10	*e*P	P	06 36 20.0	+0.6
YBH	Yreka Blue Hor	13.67	331	Pn	P	06 36 20.8	+0.1
	comp=E,0.0nm,0.3s,baz=1.8,slow=2.9,SNR=3.3						
TPAW	Teton Pass	13.69	9	*e*P	P	06 36 22.5	+1.7
SNOW	Snow King Moun	13.69	10	*e*P	P	06 36 21.9	+1.1
WMOK	Wichita Mounta	13.70	66	*e*P	P	06 36 20.5	-0.4
	comp=E,5.2nm,0.8s						
WUWY	Wally Ulrich	13.77	10	*e*P	P	06 36 23.0	+1.1
MOOW	Moose Ponds	13.97	10	*e*P	P	06 36 25.6	+1.1
CBKS	Cedar Bluff	14.68	49	*e*P	P	06 36 35.3	+1.5
	comp=E,55nm,1.5s						
MCMT	McKenzie Canyo	14.84	3	*e*P	P	06 36 37.8	+1.9
YMR	Madison River	14.85	8	P	P	06 36 38.0	+2.0
QLMT	Earthquake Lak	14.95	7	*e*P	P	06 36 39.6	+2.2
BOZ	Bozeman (W)	15.74	6	*e*P	P	06 36 49.7	+2.1
	comp=E,16nm,1.3s						
HKT	Hockley	15.74	86	*e*P	P	06 36 48.2	+0.5
	comp=E,34nm,1.5s						
RSSD	Black Hills	16.17	27	*e*P	P	06 36 52.6	-0.5
	comp=E,26nm,1.3s						
LNOR	Lincton Mounta	16.21	349	*e*P	P	06 36 56.5	+2.9
VGB	Gordon Butte	16.39	343	*e*P	P	06 36 58.2	+2.3
HRY	Holter Researc	16.78	5	*e*P	P	06 37 01.9	+1.0
CHMT	Chamberlain Mo	16.91	2	*e*P	P	06 37 01.8	-0.6
HAWA	Hanford	16.94	347	*e*P	P	06 37 04.3	+1.5
	comp=E,12nm,1.0s						
KSU1	Kansas State U	16.94	53	*e*P	P	06 37 02.8	-0.2
LAO	LASA Array	17.73	18	*e*P	P	06 37 12.6	-0.2
	comp=E,131nm,1.8s						
LON	Longmire	17.80	342	*e*P	P	06 37 14.4	+0.8
DPW	Davenport	18.15	351	*e*P	P	06 37 18.4	+0.4
NEW	Newport	18.41	353	P	P	06 37 21.9	+0.7
	comp=E,0.2nm,0.3s,baz=156,slow=11,SNR=6.8						
NEW				LR	LR	06 44 36.1	
	comp=E,1µm,19.7s,baz=177,slow=37						
NEW	Newport	18.41	353	*e*P	P	06 37 21.3	+0.1
	comp=E,2.4nm,0.7s						
RMW	Rattlesnake Mo	18.46	343	*e*P	P	06 37 22.1	+0.2
NLW	Nelson Butte	18.71	347	*e*P	P	06 37 26.2	+1.3
UALR	University of	18.89	70	P	P	06 37 28.7	+1.6
DGMT	Dagmar	19.92	19	*e*P	P	06 37 37.5	-1.5
	comp=E,164nm,1.7s						
CCM	Cathedral Cave	20.46	61	*e*P	P	06 37 44.0	-0.7
	comp=E,44nm,1.7s						
OXF	Oxford	21.25	71	*e*P	P	06 37 52.3	-0.6
	comp=E,49nm,1.2s,mb4.7						
CMIG	Matias Romero	21.68	122	*i* P	P	06 37 57.5	+0.2
UTMT	University of	21.93	67	P	P	06 38 02.0	+2.3
PLAL	Pickwick Lake	22.39	70	*e*P	P	06 38 04.0	-0.3
	comp=E,29nm,1.3s,mb4.5						
JFWS	Jewell Farm	22.95	49	*e*P	P	06 38 10.3	+0.5
	comp=E,31nm,1.1s,mb4.7						
LRAL	Lakeview Retre	23.19	76	*e*P	P	06 38 13.0	+0.8
	comp=E,11nm,1.0s,mb4.2						
BLO	Bloomington	24.32	61	*e*P	P	06 38 25.1	+1.9
	comp=E,61nm,1.3s,mb4.9						
ULM	Lac du Bonnet	24.40	29	P	P	06 38 23.2	-0.6
	comp=E,19nm,1.0s,mb4.5,baz=230,slow=9.9,SNR=7.6						
ULM				Lg		06 45 51.1	
	comp=E,1.4nm,0.8s,baz=278,slow=17,SNR=2.1						
ULM				LR	LR	06 48 00.4	
	comp=E,208nm,18.5s,MS3.6,baz=252,slow=37						
ULM	Lac du Bonnet	24.40	29	*e*P	P	06 38 22.5	-1.3
	comp=E,67nm,1.4s,mb4.9						
BBB	Bella Bella	24.51	339	LR	LR	06 48 06.9	
	comp=E,717nm,20.5s,MS4.2,baz=162,slow=37						
CPCT	Cooper Cave	25.33	70	*e*P	P	06 38 33.0	+0.2
ACSO	Alum Creek Sta	27.22	60	P	P	06 38 50.5	+0.2
	comp=E,33nm,1.3s,mb4.7						
ELN	Prospectdale	28.50	66	*e*P	P	06 39 01.3	-0.6
BLA	Blacksburg	28.77	67	P	P	06 39 05.5	+1.2
DLBC	Dease Lake	30.51	343	P	P	06 39 19.1	-0.5
	comp=E,2.6nm,0.9s,mb4.1,baz=139,slow=4.1,SNR=3.6						
DLBC				Lg		06 49 26.8	
	comp=E,0.4nm,0.5s,baz=102,slow=25,SNR=1.7						
DLBC				LR	LR	06 52 11.8	
	comp=E,1µm,19.8s,MS4.5,baz=160,slow=38						
SADO	Sadowa	31.11	52	Lg		06 49 32.5	
	comp=E,9.8nm,1.1s,baz=357,slow=7.3,SNR=3.1						
YKA	Yellowknife Ar	32.51	359	LR	LR	06 53 28.6	
	comp=E,826nm,19.0s,MS4.5,baz=195,slow=38						
JTS	JuntasAbangare	33.41	120	LR	LR	06 54 15.0	
	comp=E,399nm,20.1s,MS4.1,baz=214,slow=38						
DAWY	Dawson	37.69	342	*e*P	P	06 40 20.4	-0.9
INK	Inuvik	40.03	349	P	P	06 40 39.9	-1.0
	comp=E,1.4nm,0.9s,mb3.7,baz=242,slow=1.3,SNR=3.7						
INK				LR	LR	06 57 37.5	
	comp=E,583nm,20.1s,MS4.4,baz=164,slow=37						
ILAR	Eielson Array	40.40	339	P	P	06 40 43.2	-0.7
	comp=E,3.5nm,1.0s,mb4.0,baz=153,slow=7.0,SNR=17						
ROSC	El Rosal	44.98	116	LR	LR	07 05 01.1	
	comp=E,229nm,18.2s,MS4.2,baz=228,slow=43						
SDV	Santo Domingo	45.60	108	*e*P	P	06 41 26.9	+0.1
SUMG	Summit	57.35	20	P	P	06 42 53.4	-1.2
LPAZ	La Paz	63.79	130	LR	LR	07 09 42.6	
	comp=E,196nm,20.9s,MS4.3,baz=303,slow=34						
LPAZ	La Paz	63.79	130	P	P	06 43 38.7	-0.6
ARCES	ARCESS Array B	76.49	14	LR	LR	07 22 34.6	
	comp=E,217nm,18.4s,MS4.5,baz=85,slow=39						
CPUP	Villa Florida	77.97	130	P	P	06 45 03.7	-1.0
	comp=E,2.8nm,1.1s,mb4.1,baz=2.9,slow=6.8,SNR=3.8						
CPUP				LR	LR	07 18 40.6	
	comp=E,135nm,21.5s,MS4.2,baz=351,slow=35						
CPUP	Villa Florida	77.97	130	P	P	06 45 03.7	-1.0
CPUP				LR	LR	07 18 40.6	
BDFB	Brasilia	78.05	116	LR	LR	07 19 46.2	
	comp=E,169nm,20.5s,MS4.4,baz=343,slow=36						
PLCA	Paso Flores	81.06	148	LR	LR	07 14 20.1	
	comp=E,289nm,20.1s,MS4.6,baz=336,slow=31						
MDJ	Mudanjiang	85.84	320	P	P	06 45 43.9	-1.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.8						
JHJ	Hachijo jima 2	86.16	306	LR	LR	07 22 12.0	
	comp=Z,201nm,18.1s,MS4.6,baz=81,slow=34						
CLL	Collm	86.59	30	P	P	06 45 49.0	+0.2
CBIJ	Chichi jima	87.68	300	LR	LR	07 15 47.9	
	comp=Z,222nm,20.6s,MS4.6,baz=63,slow=29						
CN2	Changchun	88.65	321	*e*P	P	06 45 58.8	-0.1
GERES	GERESS Array B	88.69	32	P	P	06 45 58.2	-0.8
	comp=Z,0.2nm,0.3s,mb3.9,baz=321,slow=6.3,SNR=3.5						
JNU	Nakatsue	92.22	311	LR	LR	07 22 26.8	
	comp=Z,148nm,19.7s,MS4.4,baz=106,slow=32						
SONM	Songino Array	94.46	334	P	P	06 46 25.9	+0.2
	comp=Z,1.0nm,0.7s,mb4.4,baz=135,slow=3.5,SNR=5.8						
BJI	Beijing	96.20	324	P	P	06 46 33.0	-0.9
BJI				LR	LR		
	comp=Z,147nm,25.9s,MS4.3						
JOW	Kunigami	97.90	307	LR	LR	07 28 54.7	
	comp=Z,113nm,18.9s,MS4.4,baz=242,slow=34						
SSE	Sheshan	99.75	314	P	P	06 46 49.5	-0.7
SSE				LR	LR		
	comp=N,24nm,20.2s,MS4.1						
SSE				LR	LR		
	comp=E,56nm,20.2s,MS4.1						
SSE				LR	LR		
	comp=Z,81nm,21.0s,MS4.2						
SSE	Sheshan	99.75	314	P	P	06 46 49.5	-0.7
	comp=Z,23nm,0.6s						
SSE				LR	LR		
	comp=Z,80nm,21.0s						

NJ2	Nanjing	100.50	317	eP	P	06 46 52.4	-1.2
KMI	Kunming	114.85	323	ePKP	PKPdf	06 51 45.8	-2.6
KMI				XPKP		06 51 51.3	
KMI				PP	PP	06 52 47.5	-1.7
KMI				SS	SS	07 08 37.8	-2.8
KMI				LR	LR		
	comp=Z,151nm,22.1s,MS4.5						
ASAR	Alice Springs	119.86	258	PKP	PKPdf	06 51 55.1	-2.9
	comp=Z,1.0nm,1.0s,baz=122,slow=3.0,SNR=5.3						

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*ECX **20** 06:36:32.8±0.5, 30.20N×114.14W, h3^{km}±4^{km}, MD4.1, ML4.0*

*IDC **20** 06:36:32.9±1.2, 29.99N×113.97W, mb4.3/6, mb1 4.4/11, mb1mx4.2/23, ML3.7/4, MS4.2/1, Ms1 4.2/1, ms1mx3.1/26, Error ellipse: s-maj=24.4km s-min=11.6km az=26.0*

*NEIC **20** 06:36:35.1±1.3, 30.27N×113.96W, h10^{km}, mb4.1/5, Error ellipse: s-maj=21.9km s-min=14.2km az=225.0*

ISC 20 06:36:31.8±0.8, 30.23N±0.09×114.08W±0.06, h3^{km}, n33, σ1^{s}24/35, mb4.2/7, MS4.3/1, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	San Pedro Mart	1.44	305	eP	Pn	06 36 58.0	-0.9
SPX				eS	Sb	06 37 17.0	-0.7
ECBX	El Chinero	1.49	326	i S	Sb	06 37 18.4	-0.8
RDX	Rancho Dowling	2.33	317	ePN	Pn	06 37 11.7	+0.1
RDX				eS	Sn	06 37 42.2	+1.0
CPBX	Cerro Prieto	2.42	335	ePN	Pn	06 37 12.9	+0.1
CPBX				e		06 38 18.6	
	comp=E,2µm,0.6s						
CPBX				⇑e		06 38 26.2	
	comp=N,2µm,0.5s						
ECNX	Esteban Cantu	2.59	304	ePN	Pn	06 37 15.1	-0.2
PGX	Piedras Gordas	2.66	311	ePN	Pn	06 37 16.4	+0.1
ENX	Ensenada	2.76	307	ePN	Pn	06 37 17.6	-0.2
ENX				eS	Sn	06 37 52.4	+0.3
CBX	Cerro Bola	3.03	314	ePN	Pn	06 37 21.6	0.0
BAR	Barrett	3.30	318	P	Pn	06 37 24.1	-1.2
TUC	Tucson	3.50	53	P	Pn	06 37 29.2	+1.0
NVAR	Mina Array Bea	8.89	338	Pn	P	06 38 52.0	+7.9
	comp=N,0.1nm,0.3s,baz=158,slow=9.7,SNR=4.5						
NVAR				Pg	P	06 39 19.9	+36
	comp=N,0.1nm,0.3s,baz=164,slow=13,SNR=2.8						
NVAR				Lg		06 41 27.1	
	comp=N,0.1nm,0.3s,baz=148,slow=36,SNR=2.7						
TXAR	Lajitas Array	9.09	93	Pn	P	06 38 45.2	-1.7
	baz=264,slow=5.0,SNR=3.2						
TXAR				Sn	Sn	06 40 25.6	-5.5
	comp=N,0.4nm,0.3s,baz=58,slow=13,SNR=6.3						
TXAR				Lg		06 41 18.6	
	comp=N,0.8nm,0.3s,baz=149,slow=32,SNR=5.2						
TCUT	Toone Canyon	11.08	11	P	P	06 39 10.9	-3.3
ISCO	Idaho Springs	11.79	34	P	P	06 39 19.5	-4.5
PDAR	Pinedale Array	13.03	15	Pn	P	06 39 45.0	+4.5
	comp=N,0.1nm,0.3s,baz=175,slow=11,SNR=2.7						
YBH	Yreka Blue Hor	13.43	331	Pn	P	06 39 52.6	+6.8
	comp=N,0.1nm,0.3s,baz=97,slow=12,SNR=4.6						
BOZ	Bozeman (W)	15.51	6	P	P	06 40 14.2	+1.2
	comp=N,11nm,1.2s						
RSSD	Black Hills	15.99	27	P	P	06 40 16.9	-2.4
HAWA	Hanford	16.69	347	P	P	06 40 27.2	-0.9
	comp=N,17nm,1.1s						
LAO	LASA Array	17.53	18	P	P	06 40 38.9	+0.1
	comp=N,25nm,1.3s						
NEW	Newport	18.16	353	P	P	06 40 51.1	+4.5
	comp=N,0.1nm,0.3s,baz=182,slow=13,SNR=3.2						
DGMT	Dagmar	19.72	20	P	P	06 41 04.2	-1.0
	comp=N,43nm,1.5s						
LRAL	Lakeview Retre	23.20	76	eP	P	06 41 42.6	+1.8
	comp=N,9.7nm,1.4s,mb4.0						
ULM	Lac du Bonnet	24.23	29	P	P	06 41 52.3	+1.7
	comp=N,40nm,1.4s,mb4.6,baz=192,slow=6.4,SNR=4.2						
CPCT	Cooper Cave	25.32	70	eP	P	06 41 59.4	-1.9
DLBC	Dease Lake	30.26	343	P	P	06 42 48.4	+2.5
	comp=N,3.4nm,0.9s,mb4.1,baz=155,slow=9.8,SNR=6.1						
DLBC	Dease Lake	30.26	343	P	P	06 42 48.4	+2.5
ILAR	Eielson Array	40.15	339	P	P	06 44 12.1	+1.7
	comp=N,3.0nm,1.0s,mb4.0,baz=151,slow=7.0,SNR=15						
CPUP	Villa Florida	78.18	130	P	P	06 48 33.3	-1.1
	comp=N,6.6nm,1.2s,mb4.4,baz=333,slow=5.4,SNR=5.2						
GERES	GERESS Array B	88.52	31	P	P	06 49 27.2	+0.4
	comp=N,0.2nm,0.3s,mb4.0,baz=288,slow=8.4,SNR=3.9						
AKASG	Malin Array Be	93.14	22	LR	LR	07 34 58.9	
	comp=N,98nm,18.4s,MS4.3,slow=38						
SONM	Songino Array	94.21	334	P	P	06 49 55.6	+2.5
	comp=N,0.7nm,0.5s,mb4.3,baz=350,slow=15,SNR=4.4						
ASAR	Alice Springs	119.83	258	PKP	PKPdf	06 55 24.7	-1.4
	comp=N,0.5nm,0.8s,baz=135,slow=2.0,SNR=4.1						

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*IDC **20** 06:54:26.0±0.7, 12.55N×92.77E, h39^{km}±5^{km}, mb3.9/11, mb1 4.0/12, mb1mx3.8/20, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=26.7km s-min=12.4km az=56.0*

*NEIC **20** 06:54:26.1±0.3, 12.54N×92.77E, mb4.4/4, Error ellipse: s-maj=11.5km s-min=6.3km az=68.0*

ISC 20 06:54:24.2±0.5, 12.61N±0.06×92.87E±0.07, h41^{km}, h41^{km}±.8^{km}:pP-P, n28, σ0^{s}75/28, mb4.1/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	8.25	44	Pn	P	06 56 24.6	+0.4
	0.3nm,0.3s,baz=237,slow=14,SNR=7.2						
CMAR				Sn	S	06 57 56.0	-1.2
	0.4nm,0.3s,baz=236,slow=28,SNR=5.8						
CMAR				LR	LR	07 00 08.1	
	comp=Z,115nm,18.9s,baz=235,slow=41						
VIS	Vishakhapatnam	10.52	300	eP	P	06 56 50.1	-5.4
VIS				e	S	06 58 30.1	-23
SHL	Shillong	12.92	356	e	S	06 59 43.2	-8.1
PKI	Pulchoki	16.44	336	eP	P	06 58 13.0	-0.6
	13nm,0.6s						
DMN	Daman	16.60	335	eP	P	06 58 15.9	+0.3
	12nm,0.4s						
KKN	Kakani	16.69	336	eP	P	06 58 15.6	-1.1
LSA	Lhasa	17.08	355	P	P	06 58 22.9	+1.3
GKN	Gorkha	17.14	335	eP	P	06 58 21.5	-0.9
	11nm,0.3s						
KOLN	Koldanda	17.40	331	eP	P	06 58 25.6	0.0
	16nm,0.5s						
ENH	Enshi	23.36	39	eP	P	06 59 32.9	+3.0
	5.5nm,0.4s,mb4.3						
LZH	Lanzhou	25.38	21	eP	P	07 00 04.0	+15
LZH				pP	pP	07 00 15.5	+15
LZH				sP	sP	07 00 19.0	+14
MKAR	Makanchi Array	35.22	347	P	P	07 01 16.6	-0.1
	0.6nm,0.6s,mb3.7,baz=164,slow=8.8,SNR=4.9						
MKAR				pP	pP	07 01 28.2	+0.2
	1.0nm,0.6s,baz=162,slow=7.7,SNR=5.6						
SONM	Songino Array	36.89	15	P	P	07 01 32.0	+1.2
	0.2nm,0.3s,mb3.4,baz=327,slow=37,SNR=2.7						
SONM				pP	pP	07 01 43.5	+1.3
	5.1nm,1.2s,baz=202,slow=7.8,SNR=5.8						
FITZ	Fitzroy Crossi	44.46	133	eP	P	07 02 33.7	+0.2
	2.4nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	44.46	133	P	P	07 02 33.8	+0.2
	2.6nm,0.4s,mb4.4,baz=346,slow=7.8,SNR=33						
NWAO	Narrogin (SRO)	50.91	153	P	P	07 03 23.7	0.0
	2.6nm,0.3s,mb4.6,baz=330,slow=8.2,SNR=6.0						
NWAO	Narrogin (SRO)	50.91	153	P	P	07 03 23.7	0.0
WRA	Warramunga Arr	52.08	128	P	P	07 03 31.7	-0.9
	0.9nm,0.3s,mb4.2,baz=301,slow=10,SNR=32						
WRA				pP	pP	07 03 43.7	-0.6
	0.6nm,0.7s,baz=302,slow=10,SNR=1.4						
WRA				PcP	PcP	07 04 45.6	+1.3
	0.5nm,0.5s,baz=316,slow=3.0,SNR=8.9						
WRA				pPcP		07 04 57.5	
	0.4nm,0.6s,baz=318,slow=3.1,SNR=4.6						
WRAB	Tennant Creek	52.08	128	eP	P	07 03 32.8	+0.2
	3.1nm,0.5s,mb4.5						
WB2	Warramunga Arr	52.09	128	eP	P	07 03 32.9	+0.2
ASAR	Alice Springs	53.95	132	P	P	07 03 46.0	-0.5
	1.3nm,0.5s,mb4.1,baz=310,slow=7.0,SNR=22						
ASAR				PcP	PcP	07 04 52.1	+0.7
	0.2nm,0.5s,baz=308,slow=6.0,SNR=2.2						
BRTR	Keskin Array B	58.45	309	pP	pP	07 04 29.2	-1.2
	0.7nm,0.5s,baz=104,slow=5.1,SNR=3.3						
FINES	FINESS Array B	67.97	332	P	P	07 05 20.6	-0.3
	3.0nm,0.9s,mb4.3,baz=121,slow=11,SNR=4.1						
FINES				pP	pP	07 05 32.3	-0.7
	1.9nm,0.7s,baz=108,slow=6.0,SNR=2.6						
ARCES	ARCESS Array B	70.42	340	P	P	07 05 35.6	-0.1
	2.4nm,0.9s,mb4.1,baz=90,slow=6.3,SNR=4.2						
ARCES				pP	pP	07 05 47.1	-0.9
	5.1nm,1.1s,baz=90,slow=8.5,SNR=1.3						
GERES	GERESS Array B	73.50	317	P	P	07 05 54.6	+0.1
	0.6nm,0.6s,mb3.7,baz=108,slow=4.2,SNR=6.0						
GERES				pP	pP	07 06 07.1	+0.3
	0.4nm,0.5s,slow=1.3,SNR=2.5						
HFS	Hagfors	73.77	329	P	P	07 05 56.0	+0.2
	2.0nm,0.6s,mb4.3,baz=124,slow=5.3,SNR=5.1						
NOA	NORSAR Array B	75.02	330	P	P	07 06 03.2	+0.2
	0.5nm,0.5s,mb3.7,baz=98,slow=5.5,SNR=2.7						
CASY	Casey	79.75	173	eP	P	07 06 29.0	-0.3
	1.8nm,0.8s,mb4.0						

MEX 20 07:08:49.0±0.4, 18.35N×105.17W, h16^{km}±180^{km}, MD3.8, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	Chamela	1.15	6	i P	Pb	07 09 06.6	-3.5
CJM				eS	Sb	07 09 20.5	-4.1
COLM	Colima	1.63	59	eP	Pn	07 09 13.5	-3.8
COLM				i S	Sn	07 09 32.1	-5.9
SFJM	Santa Fe	2.93	43	i P	Pn	07 09 32.5	-3.4

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*IDC **20** 07:17:14.8±1.6, 7.25S×123.95E, h583^{km}±18^{km}, mb3.4/8, mb1 3.5/11, mb1mx3.4/16, Error ellipse: s-maj=31.6km s-min=8.8km az=63.0*

*NEIC **20** 07:17:14.7±0.6, 7.28S×123.86E, h585^{km}±7^{km}, mb4.3/14, Error ellipse: s-maj=9.2km s-min=4.9km az=67.0*

ISC 20 07:17:14.1±0.9, 7.27S±0.07×123.8E±0.1, h596^{km}±15^{km}, n48, σ0^{s}66/42, mb4.4/24, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	10.01	123	eP	P	07 19 33.0	-0.2
	6.1nm,0.5s						
FITZ	Fitzroy Crossi	10.91	171	⇑iP	P	07 19 41.8	-0.2
	2.8nm,0.2s						
FITZ				i S	S	07 21 40.7	-0.2
FITZ	Fitzroy Crossi	10.91	171	P	P	07 19 41.8	-0.2
	1.5nm,0.3s,baz=15,slow=6.8,SNR=62						
FITZ				S	S	07 21 41.6	+0.7
	1.2nm,0.3s,baz=11,slow=17,SNR=15						
WRA	Warramunga Arr	16.20	142	P	P	07 20 34.5	+0.6
	2.3nm,0.3s,baz=312,slow=12,SNR=121						
WRA				S	S	07 23 16.1	+1.5
	0.3nm,0.3s,baz=316,slow=15,SNR=4.2						
WRAB	Tennant Creek	16.20	142	eP	P	07 20 34.6	+0.7
	16nm,0.7s						
WB2	Warramunga Arr	16.21	142	⇑iP	P	07 20 34.4	+0.4
WB2				eS	S	07 23 11.8	-2.9
ASPA	Alice Springs	18.95	150	eP	P	07 21 00.4	+0.7
ASAR	Alice Springs	18.95	150	P	P	07 21 00.1	+0.4
	1.3nm,0.3s,baz=330,slow=8.9,SNR=46						
ASAR				S	S	07 24 00.9	-0.1
	0.1nm,0.3s,baz=322,slow=15,SNR=2.6						
ASAR				PcP	PcP	07 24 55.5	-0.8
	0.4nm,0.3s,baz=359,slow=1.3,SNR=11						
ASAR				ScP		07 27 35.9	
	0.1nm,0.3s,baz=347,slow=2.1,SNR=6.5						
PMG	Port Moresby	23.17	97	P	P	07 21 37.2	-1.0
	6.6nm,0.6s,mb4.4						
FORT	Forrest	23.72	171	eP	P	07 21 42.2	-0.8
	27nm,0.8s,mb4.9						
KLBR	Kellerberrin	24.86	192	eP	P	07 21 51.9	-1.1
	45nm,1.6s,mb4.8						
MUN	Mundaring	25.59	195	eP	P	07 21 58.8	-0.7
	4.4nm,0.4s,mb4.4						
STKA	Stephens Creek	29.55	148	eP	P	07 22 33.8	0.0
	2.4nm,0.9s,mb3.8						
STKA	Stephens Creek	29.55	148	P	P	07 22 33.8	0.0
	0.8nm,0.3s,mb3.8,baz=307,slow=13,SNR=7.4						
CMAR	Chiang Mai Arr	35.45	316	P	P	07 23 23.9	+0.6
	3.2nm,0.6s,mb4.1,baz=144,slow=6.9,SNR=13						
CMAR				PcP	PcP	07 25 37.7	+1.3
	1.6nm,0.6s,baz=165,slow=2.1,SNR=6.6						
ENH	Enshi	39.79	340	eP	P	07 23 58.1	-0.4
	6.5nm,0.6s,mb4.3						
SHL	Shillong	45.07	318	eP	P	07 24 40.0	-0.1
LSA	Lhasa	48.36	321	eP	P	07 25 06.1	+1.2
	10nm,0.4s,mb4.7						
GUN	Gumba	50.68	315	eP	P	07 25 22.3	+0.3
	72nm,0.5s,mb5.4						
PKI	Pulchoki	50.80	315	eP	P	07 25 22.7	-0.3
	42nm,0.4s,mb5.3						
KKN	Kakani	51.02	315	eP	P	07 25 24.3	-0.3
	31nm,0.6s,mb4.9						
DMN	Daman	51.04	314	eP	P	07 25 24.6	-0.1
	21nm,0.4s,mb4.9						
GKN	Gorkha	51.61	315	eP	P	07 25 28.7	0.0
	67nm,0.3s						
KOLN	Koldanda	52.21	314	eP	P	07 25 33.1	+0.1
	36nm,0.3s,mb5.2						
RPZ	Rata Peaks	54.89	139	P	P	07 25 51.2	-0.4
	4.5nm,0.6s,mb4.0,baz=354,slow=18,SNR=7.0						
SONM	Songino Array	56.99	346	P	P	07 26 05.3	-0.7
	3.5nm,0.7s,mb3.7,baz=166,slow=9.2,SNR=11						
CASY	Casey	59.63	186	eP	P	07 26 22.5	-1.0
	1.3nm,0.5s,mb3.4						
MKAR	Makanchi Array	65.24	330	P	P	07 26 59.8	0.0
	7.2nm,0.5s,mb4.3,baz=133,slow=7.8,SNR=41						
KURK	Kurchatov	69.68	331	eP	P	07 27 26.4	-0.1
	7.2nm,0.8s,mb4.2						
MAW	Mawson	72.50	201	P	P	07 27 43.1	+0.5
	0.5nm,0.3s,mb3.5,baz=90,slow=10,SNR=2.0						
MAW	Mawson	72.50	201	eP	P	07 27 42.9	+0.4
	1.2nm,0.3s,mb3.9						
VNDA	Vanda	72.98	172	P	P	07 27 45.3	+0.2
	0.9nm,0.4s,mb3.6,baz=325,slow=8.1,SNR=14						
SBA	Scott Base	73.93	171	eP	P	07 27 50.7	+0.2
BVAR	Borovoye Array	75.13	330	P	P	07 27 57.9	+0.3
	4.0nm,0.7s,mb4.1,baz=117,slow=6.6,SNR=6.8						
BRVK	Borovoye	75.20	330	eP	P	07 27 57.8	-0.1
	3.8nm,0.6s,mb4.1						
QSPA	South Pole Qui	82.71	180	eP	P	07 28 37.5	+0.6
	2.7nm,0.3s,mb4.2						
SNAA	Sanae	93.91	195	eP	P	07 29 30.1	+0.6
	1.7nm,0.9s,mb4.2						
YKA	Yellowknife Ar	110.64	25	PKiKP		07 34 40.6	
	0.8nm,1.0s,baz=293,slow=2.0,SNR=5.6						
PDAR	Pinedale Array	121.38	44	PKP	PKPdf	07 35 03.1	+2.5
	0.4nm,0.6s,baz=80,slow=3.3,SNR=4.6						
PV10	Paradox Valley	123.25	49	ePKPdf	PKPdf	07 35 07.1	+2.7
DBIC	Dimbokro	129.09	273	PKP	PKPdf	07 35 18.2	+1.9
	0.8nm,0.4s,baz=140,slow=13,SNR=4.9						
TXAR	Lajitas Array	130.27	58	SKPbc		07 37 50.0	
	0.9nm,1.0s,baz=270,slow=1.8,SNR=7.3						
SCHQ	Schefferville	131.81	8	PKP	PKPdf	07 35 21.2	+0.9
	1.8nm,0.4s,baz=272,slow=19,SNR=5.4						
CPUP	Villa Florida	146.58	178	PKPbc	PKPbc	07 35 52.2	+2.7
	2.8nm,0.7s,baz=145,slow=2.3,SNR=9.3						
CPUP	Villa Florida	146.58	178	ePKPdf	PKPdf	07 35 50.0	+2.4
CPUP				ePKPbc	PKPbc	07 35 52.1	+2.5
LVC	Limon Verde	147.78	158	PKPbc	PKPdf	07 35 56.2	+6.6
	3.8nm,0.6s,baz=264,slow=1.0,SNR=7.7						
LVC	Limon Verde	147.78	158	ePKPbc	PKPdf	07 35 55.8	+6.3
JTS	JuntasAbangare	151.39	82	PKPbc	PKPdf	07 36 03.8	+8.5
	4.7nm,0.6s,baz=281,slow=5.2,SNR=3.7						

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*BJI **20** 07:34:43.3, 25.12S×179.46W, h480^{km}, mB5.1, mb4.8*

*MOS **20** 07:34:45.5±2.3, 24.92S×179.99W, h466^{km}, mb4.8/2, Error ellipse: s-maj=26.2km s-min=18.6km az=178.6*

*NEIC **20** 07:34:45.7±0.9, 24.98S×179.98W, h468^{km}±10^{km}, mb4.7/34, Error ellipse: s-maj=8.1km s-min=7.0km az=183.0*

*SYO **20** 07:34:45.6, 24.98S×179.98W, h468^{km}, MB4.7*

*IDC **20** 07:34:47.7±0.7, 24.94S×179.95E, h487^{km}±6^{km}, mb4.2/17, mb1 4.3/19, mb1mx4.3/20, Error ellipse: s-maj=10.4km s-min=8.1km az=155.0*

ISC 20 07:34:46.5±0.2, 25.03S±0.03×180.00W±0.04, h486^{km}, h486^{km}±4.3^{km}:pP-P, n249, σ1^{s}12/163, mb4.7/56, 5C-41D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WCZ	Waipu Caves	11.92	203	P	P	07 37 29.1	+3.7
WCZ	Waipu Caves	11.92	203	eP	P	07 37 29.1	+3.7
MXZ	Matakaoa Point	12.58	186	S	S	07 39 46.8	+1.1
DZM	Mont Dzumac	12.78	281	eP	P	07 37 36.8	+2.3
DZM	Mont Dzumac	12.78	281	eP	P	07 37 36.8	+2.3
NOUC	Port Laguerre	12.90	280	eP	P	07 37 36.6	+0.9
NOUC	Port Laguerre	12.90	280	eP	P	07 37 36.6	+0.9
PUZ	Puketiti	13.09	186	P	P	07 37 37.1	-0.6
PUZ				S	S	07 39 53.0	-2.5
PUZ	Puketiti	13.09	186	eP	P	07 37 37.1	-0.6
URZ	Urewera	13.42	190	P	P	07 37 39.1	-2.0
	5.3nm,0.3s,baz=342,slow=0.7,SNR=24						
URZ				S	S	07 40 02.0	+0.2
	5.5nm,0.3s,baz=170,slow=8.7,SNR=3.0						
URZ	Urewera	13.42	190	P	P	07 37 37.9	-3.2
URZ	Urewera	13.42	190	eP	P	07 37 37.9	-3.2
MWZ	Matawai	13.43	188	P	P	07 37 39.4	-1.9
MWZ	Matawai	13.43	188	eP	P	07 37 39.4	-1.9
BKZ	Black Stump Fm	14.41	191	P	P	07 37 49.1	-2.2
BKZ				S	S	07 40 20.7	+0.3
BKZ	Black Stump Fm	14.41	191	eP	P	07 37 49.1	-2.2
MGZ	Maungaku	14.44	194	P	P	07 37 53.4	+1.8
VRZ	Vera Road	14.74	196	P	P	07 37 56.2	+1.5
NEZ	North Egmont	15.05	198	P	P	07 38 03.8	+6.0
TSZ	Takapari Road	15.37	192	S	S	07 40 37.2	-1.2
MRZ	Mangatainoka R	16.02	192	P	P	07 38 04.7	-2.9
MRZ				S	S	07 40 46.4	-3.9
MRZ	Mangatainoka R	16.02	192	eP	P	07 38 04.7	-2.9
KIW	Kapiti Island	16.36	194	P	P	07 38 10.9	0.0
MTW	Mount Morrison	16.52	192	P	P	07 38 10.2	-2.3
CAW	Cannon Point	16.56	193	P	P	07 38 12.7	-0.2
CAW				S	S	07 41 02.1	+2.1
CAW	Cannon Point	16.56	193	P	P	07 38 12.8	-0.1
MRW	Makara Radio	16.75	194	P	P	07 38 13.6	-1.2
SNZO	South Karori	16.83	194	P	P	07 38 15.5	-0.1
QRZ	Quartz Range	16.95	200	P	P	07 38 18.1	+1.3
NNZ	Nelson	17.06	197	P	P	07 38 17.0	-1.0
NNZ				S	S	07 41 08.8	-0.2
NNZ	Nelson	17.06	197	eP	P	07 38 17.6	-0.4
THZ	Tophouse	17.70	198	P	P	07 38 23.4	-0.9
THZ				S	S	07 41 21.6	+1.4
THZ	Tophouse	17.70	198	eP	P	07 38 24.1	-0.2
DSZ	Denniston Nort	18.01	200	P	P	07 38 28.2	+0.9
DSZ	Denniston Nort	18.01	200	P	P	07 38 28.4	+1.1
KHZ	Kahutara	18.15	196	P	P	07 38 28.6	0.0
KHZ				S	S	07 41 28.9	+0.9
KHZ	Kahutara	18.15	196	eP	P	07 38 28.6	0.0
LTZ	Lake Taylor	18.82	198	P	P	07 38 34.8	-0.3
LTZ	Lake Taylor	18.82	198	eP	P	07 38 34.8	-0.3
RAR	Rarotonga	18.98	83	P	P	07 38 36.3	-0.5
	1.7nm,0.3s,baz=258,slow=4.8,SNR=6.6						
WVZ	Waitaha Valley	19.55	201	P	P	07 38 41.6	-0.5
WVZ	Waitaha Valley	19.55	201	eP	P	07 38 41.8	-0.3
MQZ	McQueen's Vall	19.58	196	P	P	07 38 42.1	-0.3
MQZ	McQueen's Vall	19.58	196	eP	P	07 38 42.1	-0.3
RPZ	Rata Peaks	20.03	199	P	P	07 38 46.2	-0.5
	47nm,0.4s,baz=12,slow=1.9,SNR=75						
RPZ				S	S	07 41 59.2	-0.9
	8.9nm,0.8s,baz=154,slow=17,SNR=3.2						
LBZ	Lake Benmore	20.90	200	P	P	07 38 53.4	-1.4
JCZ	Jackson Bay	21.10	203	P	P	07 38 56.2	-0.4
AXZ	Alexandra	21.96	200	P	P	07 39 03.3	-1.3
TBI	Tubuai	27.88	93	eP	P	07 39 57.0	-0.7
	116nm,0.8s,mb5.4						
CNB	Canberra Magne	28.30	242	⇓iP	P	07 40 02.7	+1.4
	20nm,0.5s,mb4.8						
PAE	Paea	29.22	81	eP	P	07 40 07.9	-1.5
	108nm,1.0s,mb5.2						
PPT	Papeete	29.25	81	P	P	07 40 08.8	-0.9
	47nm,0.9s,mb4.9,baz=227,slow=4.9,SNR=3.9						
PPT	Papeete	29.25	81	eP	P	07 40 08.5	-1.2
	45nm,1.1s,mb4.8						
TIAR	Tiarei	29.46	81	eP	P	07 40 10.3	-1.2
	196nm,0.9s,mb5.5						
TVO	Taravao	29.47	82	eP	P	07 40 10.4	-1.2
	77nm,0.7s,mb5.3						
MEH	Mehetia	30.51	83	eP	P	07 40 19.1	-1.4
	45nm,1.0s,mb4.8						
CTA	Charters Tower	31.50	272	⇓iP	P	07 40 29.6	+0.6
	193nm,0.5s,mb5.8						
CTA				ePCP	PcP	07 43 07.8	-0.2
CTA				i S	S	07 45 03.2	+0.3
CTA				i SCP		07 46 07.0	
CTA	Charters Tower	31.50	272	P	P	07 40 29.6	+0.6
	218nm,0.5s,mb5.8,baz=97,slow=10,SNR=617						
CTA				ScP		07 46 05.8	
	9.9nm,1.1s,baz=128,slow=5.6,SNR=4.5						
CTAO	Charters Tower	31.50	272	⇓iP	P	07 40 29.5	+0.5
	219nm,0.6s,mb5.8						
TOO	Toolangi	31.85	239	⇓iP	P	07 40 33.0	+1.2
	22nm,0.5s,mb4.8						
STKA	Stephens Creek	34.32	250	⇓iP	P	07 40 53.5	+0.9
	32nm,0.4s,mb5.1						
STKA				ePCP	PcP	07 43 16.2	+0.3
STKA	Stephens Creek	34.32	250	P	P	07 40 53.5	+0.9
	33nm,0.4s,mb5.1,baz=95,slow=10,SNR=122						
STKA				PcP	PcP	07 43 16.3	+0.4
	7.0nm,0.6s,baz=96,slow=9.2,SNR=3.3						
STKA				ScP		07 46 16.0	
	3.5nm,0.8s,baz=106,slow=7.4,SNR=3.1						
PMG	Port Moresby	34.88	291	⇓iP	P	07 40 56.9	-0.6
	130nm,0.8s,mb5.4						
ASAR	Alice Springs	41.87	262	P	P	07 41 54.5	0.0
	26nm,0.4s,mb5.1,baz=92,slow=7.2,SNR=603						
ASAR				pP	pP	07 43 24.1	-1.1
	4.7nm,0.7s,baz=94,slow=7.7,SNR=3.6						
ASAR				ScP		07 46 45.0	
	4.0nm,0.8s,baz=110,slow=4.1,SNR=8.2						
ASAR				S	S	07 47 33.8	-3.6
	2.0nm,0.9s,baz=104,slow=14,SNR=3.8						
ASPA	Alice Springs	41.87	262	⇓iP	P	07 41 54.4	-0.2
ASPA				ePCS		07 47 29.9	
ASPA				i S	S	07 47 38.2	+0.8
WB2	Warramunga Arr	42.34	267	⇓iP	P	07 41 57.6	-0.7
WB2				i SCP		07 46 47.5	
WB2				eS	S	07 47 40.2	-3.9
WRAB	Tennant Creek	42.34	267	⇓iP	P	07 41 57.5	-0.8
WRAB				eScP		07 46 46.9	
WRA	Warramunga Arr	42.35	267	P	P	07 41 58.0	-0.4
	90nm,0.4s,mb5.6,baz=101,slow=7.8,SNR=1343						
WRA				PcP	PcP	07 43 40.9	-0.6
	3.2nm,0.7s,baz=100,slow=4.4,SNR=5.2						
WRA				ScP		07 46 47.7	
	16nm,0.9s,baz=103,slow=4.1,SNR=18						
WRA				S	S	07 47 40.8	-3.5
	8.0nm,1.0s,baz=104,slow=14,SNR=10						
WRA	Warramunga Arr	42.35	267	P	P	07 41 58.0	-0.4
WRA				PP	PP	07 43 40.9	-5.0
WRA				S	S	07 47 40.8	-3.5
FORT	Forrest	45.93	251	⇓iP	P	07 42 25.2	-1.1
	461nm,0.6s						
KAKA	Kakadu	46.46	276	⇓iP	P	07 42 28.8	-1.8
	56nm,0.4s,mb5.3						
FITZ	Fitzroy Crossi	50.76	267	⇓iP	P	07 43 02.1	-0.7
	85nm,0.7s,mb5.2						
FITZ				i pP	pP	07 44 44.1	+6.5
FITZ				eS	S	07 49 47.3	+6.3
FITZ	Fitzroy Crossi	50.76	267	P	P	07 43 02.1	-0.7
	91nm,0.6s,mb5.3,baz=164,slow=6.5,SNR=175						
SBA	Scott Base	53.26	183	⇓eP	P	07 43 22.3	+2.1
	25nm,0.9s,mb4.5						
SBA				ePcP	PcP	07 44 20.6	+0.4
VNDA	Vanda	53.26	185	P	P	07 43 21.4	+1.2
	6.0nm,0.5s,mb4.2,baz=1.9,slow=8.1,SNR=68						
VNDA				PcP	PcP	07 44 20.6	+0.4
	5.8nm,0.8s,baz=336,slow=5.0,SNR=7.5						
VNDA				ScP		07 47 31.2	
	2.6nm,0.6s,baz=345,slow=4.1,SNR=6.7						
VNDA	Vanda	53.26	185	eP	P	07 43 21.1	+0.9
	5.2nm,0.6s,mb4.0						
VNDA				ePcP	PcP	07 44 20.0	-0.3
VNDA				eScP		07 47 30.6	
KLBR	Kellerberrin	54.56	248	⇓iP	P	07 43 28.9	-1.1
	95nm,0.7s,mb5.2						
NWAO	Narrogin (SRO)	54.78	246	P	P	07 43 30.4	-1.2
	24nm,0.7s,mb4.6,baz=147,slow=6.8,SNR=8.9						
NWAO	Narrogin (SRO)	54.78	246	eP	P	07 43 30.1	-1.5
	33nm,0.9s,mb4.7						
MUN	Mundaring	55.79	247	⇓iP	P	07 43 37.8	-0.9
	39nm,0.8s,mb4.8						
CASY	Casey	59.10	206	⇓iP	P	07 44 00.2	-0.5
	54nm,0.7s,mb5.0						
QSPA	South Pole Qui	65.06	180	eP	P	07 44 40.8	+1.7
	39nm,0.7s,mb5.2						
QSPA				e	pP	07 46 25.1	+4.1
MIR	Mirnyy	66.13	206	⇓eP	P	07 44 45.8	-0.1
MIR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0						
JOW	Kunigami	71.75	312	P	P	07 45 19.9	-0.5
	comp=Z,38nm,0.7s,mb5.0,baz=170,slow=5.7,SNR=17						

MAJO	Matsushiro	72.83	326	*e*P	P	07 45 25.0	-1.4
MAT	Matsushiro	72.83	326	P	P	07 45 24.7	-1.8
MAT	Matsushiro	72.83	326	*e*P	P	07 45 25.0	-1.4
	comp=Z,18nm,0.9s,mb4.6						
JNU	Nakatsue	74.37	319	P	P	07 45 34.2	-1.1
	comp=Z,7.1nm,0.7s,mb4.3,baz=71,slow=16,SNR=5.9						
TATO	Taipei	75.32	307	P	P	07 45 39.1	-1.6
MAW	Mawson	76.70	201	⇓*i*P	P	07 45 48.6	+1.2
	comp=Z,21nm,0.6s,mb4.8						
MAW	Mawson	76.70	201	P	P	07 45 48.6	+1.2
	comp=Z,26nm,0.6s,mb4.9,baz=126,slow=7.1,SNR=138						
FX1	Attu Island--F	77.80	356	*e*P	P	07 45 51.8	-1.9
PMSA	Palmer Station	77.88	157	P	P	07 45 54.8	+0.9
	comp=Z,3.4nm,0.5s,mb4.0						
YSS	Yuzh-Sakhalins	79.15	335	*e*P	P	07 45 58.6	-2.3
	comp=Z,28nm,0.7s,mb4.9						
NJ2	Nanjing	81.40	311	*e*P	P	07 46 13.8	+0.8
NJ2				S	S	07 55 39.0	-4.1
SYO	Syowa Base	81.92	193	⇑P	P	07 46 15.1	+0.3
SYO	Syowa Base	81.92	193	⇑PcP	PcP	07 46 19.2	-0.3
MDJ	Mudanjiang	83.20	326	P	P	07 46 21.8	+0.1
MDJ				PP	PP	07 49 46.1	+3.9
MDJ				S	S	07 55 56.9	-3.7
MDJ				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,123nm,5.5s						
MDJ	Mudanjiang	83.20	326	*e*P	P	07 46 21.9	+0.1
	comp=Z,18nm,0.8s,mb4.7						
SNAA	Sanae	83.55	179	⇓*i*P	P	07 46 23.2	+0.4
SNAA	Sanae	83.55	179	*e*	P	07 46 26.0	+3.2
SNAA	Sanae	83.55	179	P	P	07 46 23.6	+0.7
	comp=Z,2.5nm,0.6s,mb3.9,baz=211,slow=7.8,SNR=99						
WHN	Wuhan	83.69	308	*e*P	P	07 46 24.8	+0.3
MAIT	Maitri	84.10	184	⇓*i*P	P	07 46 26.4	+0.8
MAIT				*e*PP	PP	07 50 25.6	+37
VNA2	Neumayer--Watz	84.17	178	⇑*i*P	P	07 46 28.4	+2.4
VNA2	Neumayer--Watz	84.17	178	*e*	P	07 46 31.1	+5.1
VNA1	Neumayer--Stat	84.41	177	⇑*i*P	P	07 46 29.4	+2.3
VNA1	Neumayer--Stat	84.41	177	*e*	P	07 46 32.1	+5.0
MTUM	Tungsten Hills	84.75	45	P	P	07 46 30.7	+1.1
CN2	Changchun	84.79	324	*e*P	P	07 46 29.9	+0.3
CN2				*e*S	S	07 56 11.0	-5.0
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
TIA	Tai'an	85.01	314	*e*P	P	07 46 30.5	-0.4
TIA				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0						
KLR	Kul'dur	85.51	331	*e*P	P	07 46 33.7	+0.7
NVAR	Mina Array Bea	85.56	44	P	P	07 46 34.1	+0.6
	comp=Z,3.4nm,0.8s,mb4.0,baz=210,slow=7.0,SNR=27						
NVAR				pP	pP	07 48 21.4	-0.7
	comp=Z,1.9nm,0.9s,baz=225,slow=7.7,SNR=5.1						
TPH	Tonopah	86.03	45	*e*P	P	07 46 35.8	+0.1
	comp=Z,9.0nm,1.1s,mb4.3						
NEN	Nelson	86.19	48	*e*P	P	07 46 36.6	0.0
ENH	Enshi	87.09	305	*e*P	P	07 46 40.3	-0.7
	comp=Z,33nm,1.0s,mb5.0						
TUC	Tucson	87.20	52	*e*P	P	07 46 42.7	+1.2
GYA	Guiyang	87.32	301	⇑*i*P	P	07 46 42.8	+0.6
GYA				S	S	07 56 39.8	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,210nm,4.5s						
PLCA	Paso Flores	87.48	134	P	P	07 46 44.6	+2.0
	comp=Z,2.9nm,0.7s,mb4.1,baz=229,slow=3.2,SNR=12						
PLCA	Paso Flores	87.48	134	*e*P	P	07 46 44.3	+1.7
	comp=Z,3.4nm,0.8s,mb4.1						
MA2	Magadan	87.66	346	*d* *i*P	P	07 46 41.9	-1.1
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MA2	Magadan	87.66	346	*e*P	P	07 46 41.7	-1.3
	comp=Z,14nm,0.8s,mb4.7						
WVOR	Wild Horse Val	87.76	41	*e*P	P	07 46 44.1	+0.3
	comp=Z,14nm,1.4s,mb4.5						
BJI	Beijing	87.84	316	P	P	07 46 45.1	+0.8
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
BJI				AMB	AMB		
	comp=Z,151nm,4.0s						
BJI	Beijing	87.84	316	P	P	07 46 45.1	+0.8
	comp=Z,8.0nm,1.0s,mb4.4						
WUAZ	Wupatki	88.48	49	*e*P	P	07 46 48.8	+1.4
	comp=Z,8.6nm,1.3s,mb4.3						
MSU	Marysvale	89.55	47	*e*P	P	07 46 53.2	+0.9
KMI	Kunming	89.79	298	*e*P	P	07 46 55.1	+1.4
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.9						
KMI	Kunming	89.79	298	*e*P	P	07 46 55.1	+1.4
	comp=Z,18nm,0.9s,mb4.9						
CMAR	Chiang Mai Arr	89.92	290	P	P	07 46 56.1	+1.7
	comp=Z,16nm,0.9s,mb4.8,baz=136,slow=3.6,SNR=52						
CMAR				PP	PP	07 50 38.9	+2.0
	comp=Z,0.5nm,0.3s,baz=101,slow=5.8,SNR=4.3						
DUG	Dugway	90.06	45	*e*P	P	07 46 54.9	+0.3
HLID	Hailey	90.93	41	*e*P	P	07 46 59.1	+0.6
	comp=Z,4.9nm,1.1s,mb4.3						
SRU	San Rafael	90.96	47	*e*P	P	07 46 59.5	+0.7
LTX	Lajitas	91.02	58	*e*P	P	07 46 59.7	+0.5
	comp=Z,8.1nm,0.9s,mb4.7						
TXAR	Lajitas Array	91.02	58	P	P	07 47 00.1	+0.8
	comp=Z,5.5nm,0.7s,mb4.6,baz=214,slow=6.5,SNR=85						
TXAR				pP	pP	07 48 48.6	-0.5
	comp=Z,2.7nm,1.1s,baz=217,slow=6.3,SNR=7.9						
TXAR				PKKPbc		08 04 21.8	
	comp=Z,0.4nm,0.5s,baz=126,slow=2.5,SNR=10						
DAU	Daniels Canyon	91.17	45	*e*P	P	07 47 00.7	+1.0
PV10	Paradox Valley	91.57	48	*e*P	P	07 47 01.6	0.0
HWUT	Hardware Ranch	91.62	44	*e*P	P	07 47 01.5	-0.2
	comp=Z,3.0nm,0.7s,mb4.3						
ANMO	Albuquerque	91.64	52	*e*P	P	07 47 02.7	+0.6
	comp=Z,2.1nm,0.8s,mb4.1						
CD2	Chengdu	91.70	303	P	P	07 47 03.0	+0.6
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
SNOW	Snow King Moun	93.11	43	*e*P	P	07 47 09.7	+1.1
ILAR	Eielson Array	93.12	14	P	P	07 47 06.7	-1.4
	comp=Z,0.5nm,0.7s,baz=224,slow=5.2,SNR=5.3						
ILAR				pP	pP	07 48 58.0	-0.1
	comp=Z,1.6nm,1.2s,baz=236,slow=5.1,SNR=4.5						
ILAR				PKKPbc		08 04 13.1	
	comp=Z,0.3nm,0.6s,baz=353,slow=2.3,SNR=4.7						
BW06	Boulder Array	93.49	44	*e*P	P	07 47 10.7	+0.4
	comp=Z,1.2nm,0.8s,mb4.0						
PDAR	Pinedale Array	93.49	44	P	P	07 47 10.2	-0.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=232,slow=3.7,SNR=11						
SDCO	Great Sand Dun	93.68	50	*e*P	P	07 47 11.3	0.0
	comp=Z,2.4nm,0.9s,mb4.2						
BOZ	Bozeman (W)	93.74	41	*e*P	P	07 47 11.3	-0.1
	comp=Z,1.1nm,0.6s,mb4.1						
TRQA	Tornquist	94.48	136	*e*P	P	07 47 15.5	+0.6
	comp=Z,4.6nm,1.1s,mb4.4						
GTA	Gaotai	98.41	309	*e*P	P	07 47 34.9	+2.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.7						
YKA	Yellowknife Ar	101.37	26	PKKPbc		08 03 51.8	
	comp=Z,0.7nm,0.5s,baz=33,slow=2.6,SNR=9.1						
MKAR	Makanchi Array	112.91	312	PKiKP		07 52 27.0	
	comp=Z,8.4nm,1.1s,baz=63,slow=2.7,SNR=17						
MKAR				PKKP		08 03 26.2	
	comp=Z,0.6nm,0.6s,baz=304,slow=5.2,SNR=3.7						
MKAR	Makanchi Array	112.91	312	*i* PKIKP	PKPdf	07 52 27.0	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	112.91	312	PKPdf	PKPdf	07 52 27.0	-0.1
MKAR				PKKP		08 03 26.2	
KURK	Kurchatov	116.01	316	*i* PKIKP	PKPdf	07 52 32.7	-0.4
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	Kurchatov	116.01	316	*e*P	PKPdf	07 52 32.8	-0.3
SUR	Sutherland	119.56	200	*e*PKPdf	PKPdf	07 52 41.9	+1.4
KKAR	Karatay Array	120.54	307	*i* PKIKP	PKPdf	07 52 42.2	+0.1
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VOSK	Vostochnaya	120.92	318	PKIKP	PKPdf	07 52 42.2	-0.3
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVA0	Borovoye Array	121.28	318	*i* PKIKP	PKPdf	07 52 43.2	0.0
BVAR	Borovoye Array	121.28	318	PKP	PKPdf	07 52 43.1	-0.1
	comp=Z,4.5nm,0.4s,baz=45,slow=2.1,SNR=30						
BRVK	Borovoye	121.34	318	*e*P	PKPdf	07 52 42.7	-0.7
ZRNK	Zerenda	122.12	318	PKIKP	PKPdf	07 52 44.7	-0.2
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	Arti	127.78	323	*e*PKPdf	PKPdf	07 52 56.3	+0.7
AB31	Akbulak array	127.99	314	*i* PKIKP	PKPdf	07 52 56.1	-0.2
LSZ	Lusaka	131.42	217	*e*PKPdf	PKPdf	07 53 03.6	-0.1
LSZ				*e*SKPdf		07 55 45.3	
ARCES	ARCESS Array B	132.99	348	PKhKP		07 52 56.1	
	comp=Z,1.7nm,0.8s,baz=288,slow=3.8,SNR=4.9						
ARCES				PKP	PKPdf	07 53 05.2	0.0
	comp=Z,6.9nm,0.9s,baz=46,slow=1.1,SNR=18						
ARCES				SKPbc		07 55 46.1	
	comp=Z,6.3nm,0.7s,baz=34,slow=4.4,SNR=9.9						
ARCES	ARCESS Array B	132.99	348	PKP	PKPdf	07 53 05.2	0.0
ARCES				SKPbc		07 55 46.1	
KMBO	Kilima Mbogo	135.54	240	*e*PKPdf	PKPdf	07 53 12.8	+1.4
FINES	FINESS Array B	139.51	341	PKhKP		07 53 08.7	
	comp=Z,2.7nm,0.5s,baz=87,slow=4.2,SNR=27						
FINES				SKPbc		07 56 07.7	
	comp=Z,6.9nm,0.7s,baz=117,slow=4.3,SNR=12						
FINES	FINESS Array B	139.51	341	PKP	PKPdf	07 53 08.7	-8.6
FINES				SKPbc		07 56 07.7	
NB2	NORSAR Subarra	143.19	351	PKP		07 53 21.0	
	comp=Z,4.2nm,0.6s,baz=16,slow=3.1						
NOA	NORSAR Array B	143.19	351	PKhKP		07 53 21.8	
	comp=Z,8.2nm,0.8s,baz=15,slow=4.8,SNR=20						
NOA				SKPbc		07 56 17.5	
	comp=Z,1.1nm,0.6s,baz=14,slow=4.2,SNR=4.1						
NAO01	NORSAR Array S	143.42	351	*e*PKPdf	PKPdf	07 53 22.4	-1.6
MALT	Malatya	144.97	302	*e*PKPdf	PKPdf	07 53 29.4	+1.9
AKASG	Malin Array Be	145.91	326	PKPbc	PKPbc	07 53 30.4	+0.3
	comp=Z,14nm,0.5s,baz=43,slow=4.2,SNR=69						
ASF	Jabal al Asfar	146.95	291	PKPbc	PKPbc	07 53 35.8	+2.7
	comp=Z,22nm,0.7s,baz=359,slow=2.2,SNR=33						
KSHT	Keshet	147.81	293	P	PKPdf	07 53 38.1	+5.8
KSHT	Keshet	147.81	293	⇓P	PKPdf	07 53 38.1	+5.8
HRI	Mount Hermon	147.85	293	P	PKPdf	07 53 38.1	+5.7
HMDT	Nahal Hemdat	148.11	291	P	PKPdf	07 53 38.8	+6.0
HMDT	Nahal Hemdat	148.11	291	⇓P	PKPdf	07 53 38.8	+6.0
MMLI	Mount Malkishu	148.18	292	P	PKPdf	07 53 39.2	+6.3
MMLI	Mount Malkishu	148.18	292	⇓P	PKPdf	07 53 39.2	+6.3
BRTR	Keskin Array B	148.25	306	PKPbc	PKPdf	07 53 37.9	+5.1
	comp=Z,9.3nm,0.6s,baz=108,slow=3.9,SNR=17						
DRGI	Dragot	148.26	290	P	PKPdf	07 53 38.9	+5.8
DRGI	Dragot	148.26	290	⇓P	PKPdf	07 53 38.9	+5.8
ZFRI	Zfri	148.48	288	P	PKPdf	07 53 39.7	+6.3
ZFRI	Zfri	148.48	288	⇓P	PKPdf	07 53 39.7	+6.3
SLTI	Sal'it	148.52	291	P	PKPdf	07 53 39.7	+6.2
SLTI	Sal'it	148.52	291	⇓P	PKPdf	07 53 39.7	+6.2
OFRI	'Ofer	148.54	292	P	PKPdf	07 53 39.3	+5.8
AQBJ	Aqaba	148.60	287	P	PKPdf	07 53 40.0	+6.3
PRNI	Paran	148.64	288	P	PKPdf	07 53 40.0	+6.3
PRNI	Paran	148.64	288	⇓P	PKPdf	07 53 40.0	+6.3
EIL	Elat	148.69	286	P	PKPdf	07 53 40.2	+6.4
EIL	Elat	148.69	286	⇓P	PKPdf	07 53 40.2	+6.4
MBH	Mount Berech	148.72	287	P	PKPdf	07 53 40.4	+6.5
MBH	Mount Berech	148.72	287	⇓P	PKPdf	07 53 40.4	+6.5
KMTI	Karmit	148.88	287	P	PKPdf	07 53 40.3	+6.2
KMTI	Karmit	148.88	287	⇓P	PKPdf	07 53 40.3	+6.2
KZIT	Kziot	149.14	289	P	PKPdf	07 53 41.1	+6.6
KZIT	Kziot	149.14	289	⇓P	PKPdf	07 53 41.1	+6.6
CSS	Prodhromos	149.61	297	⇓P	PKPdf	07 53 41.4	+6.3
	comp=Z,1.2nm,0.5s						
CSS	Prodhromos	149.61	297	⇓*i*P	PKPdf	07 53 41.4	+6.3
EKA	Eskdalemuir Ar	149.64	4	PKPbc	PKPdf	07 53 40.0	+5.5
	comp=Z,2.0nm,0.5s,baz=356,slow=3.9,SNR=10.0						
KWP	Kalwaria	149.75	330	*e*PKPbc	PKPdf	07 53 40.4	+5.5
SZAC	Souni-Zanaja	150.00	297	⇓P	PKPdf	07 53 42.5	+6.7
SZAC	Souni-Zanaja	150.00	297	⇓*i*P	PKPdf	07 53 42.5	+6.7
BSEG	Bad Segeberg	150.12	348	*e*PKPbc	PKPdf	07 53 42.2	+6.9
BSEG				*e*PKPab	PKPab	07 53 49.7	-1.5
ALFC	Alevga	150.16	297	⇓P	PKPdf	07 53 42.2	+6.2
	comp=Z,1.1nm,0.8s						
ALFC	Alevga	150.16	297	⇓*i*P	PKPdf	07 53 42.2	+6.2
OJC	Ojcow	150.55	334	⇓*i*PKIKP	PKPdf	07 53 43.1	+7.0
MLR	Muntele Rosu	150.79	321	PKPbc	PKPdf	07 53 42.9	+6.3
	comp=Z,6.6nm,0.5s,baz=325,slow=2.4,SNR=18						
KSP	Ksiaz	151.33	338	⇓*e*PKIKP	PKPdf	07 53 45.2	+8.0
KSP				*e*		07 53 55.4	
DPC	Dobruska-Polom	151.74	338	*e*PKP1	PKPdf	07 53 46.2	+8.4
DPC				*e*PKP2	PKPab	07 53 57.3	-0.8
MORC	Moravsky Berou	151.78	336	*e*PKPbc	PKPdf	07 53 44.9	+7.0
CLL	Collm	151.93	343	⇓*i*PKP1	PKPdf	07 53 46.1	+8.1
CLL				*i* PKP2	PKPab	07 53 57.3	-1.6
CLL	Collm	151.93	343	*i* PKIKP	PKPdf	07 53 46.1	+8.1
CLL				*i*		07 53 57.3	
CLL				pmax	pmax		
	comp=Z,27nm,0.7s						
CLL	Collm	151.93	343	*i* PKP	PKPdf	07 53 57.3	+19
CLL				pPKP		07 55 53.0	
BRG	Berggiesshubel	152.05	341	*i* PKIKP	PKPdf	07 53 46.8	+8.6
BRG				*i*		07 53 58.3	
BRG				pmax	pmax		
	comp=Z,16nm,0.6s						
BRG				MLR	MLR		
	comp=N,210nm,23.2s						
BRG				MLR	MLR		
	comp=E,240nm,23.2s						
BRG				MLR	MLR		
	comp=Z,280nm,19.6s						
BRG	Berggiesshubel	152.05	341	*i* PKP	PKPdf	07 53 46.8	+8.6
BRG				*i*		07 53 58.3	
BRG				*e*P'P'		07 55 52.4	
BRG				LR	LR		
	comp=Z,280nm,19.6s						
CLZ	Clausthal	152.08	346	*e*PKPbc	PKPdf	07 53 46.7	+8.5
PVCC	Panska Ves	152.16	340	*e*PKP1	PKPdf	07 53 46.7	+8.3
PVCC				*e*PKP2	PKPab	07 53 59.1	-0.8
VYHS	Vyhne	152.29	332	*i* PKP	PKPdf	07 53 46.9	+8.3
VRAC	Vranov	152.51	336	PKPbc	PKPdf	07 53 48.5	+10
	comp=Z,2.3nm,0.5s,baz=278,slow=9.6,SNR=3.4						
VRAC				PKPab	PKPab	07 54 00.1	-1.4
	comp=Z,4.7nm,0.5s,baz=4.9,slow=3.2,SNR=4.7						
PRU	Pruhonice	152.64	339	*e*PKP2	PKPab	07 54 00.9	-1.0
MOX	Moxa	152.90	344	*e*PKP2	PKPab	07 54 01.5	-1.5
KHC	Kasperske Hory	153.70	340	*e*PKP1	PKPdf	07 53 50.3	+10
KHC				*e*PKP2	PKPab	07 54 05.6	-0.8
GRA1	Grafenberg Arr	153.87	343	*e*PKPab	PKPab	07 54 06.3	-0.8
GRF	Grafenberg Arr	153.87	343	*e*PKP2	PKPab	07 54 06.3	-0.8
WET	Wettzell	153.90	341	*e*PKP2	PKPab	07 54 06.3	-1.0
GERES	GERESS Array B	153.91	339	PKP	PKPdf	07 53 41.8	+1.0
	comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=5.2						
GERES				PKPbc	PKPdf	07 53 50.5	+10
	comp=Z,1.6nm,0.6s,baz=90,slow=1.3,SNR=12						
GERES				PKPab	PKPab	07 54 06.1	-1.2
	comp=Z,6.1nm,1.0s,baz=34,slow=4.8,SNR=9.2						
CDF	Champ du Feu	155.97	348	*e*PKP2	PKPab	07 54 14.5	-1.5
	comp=Z,12nm,0.8s						
HAU	Haudompre	156.52	349	*e*PKP2	PKPab	07 54 16.8	-1.7
	comp=Z,11nm,0.5s						
HINF	Hinteralfeld	156.62	348	*e*PKP2	PKPab	07 54 17.0	-1.9
DAVOX	Davos	156.90	343	PKPab	PKPab	07 54 19.2	-0.9
	comp=Z,8.2nm,0.7s,baz=248,slow=1.0,SNR=8.5						
LOR	Lormes	157.59	353	*e*PKP2	PKPab	07 54 21.5	-1.6
SSF	Saint Saulge	157.83	354	*e*PKP2	PKPab	07 54 22.6	-1.5
	comp=Z,28nm,1.0s						
CABF	La Chapelle	157.92	349	*e*PKP2	PKPab	07 54 22.7	-1.8
	comp=Z,6.3nm,0.6s						
AVF	Avril sur Loir	158.12	354	*e*PKP2	PKPab	07 54 23.8	-1.5
SMF	Signal de Mont	158.21	353	*e*PKP2	PKPab	07 54 24.2	-1.5
	comp=Z,28nm,1.0s						
LPG	La Plagne	158.86	347	*e*PKP2	PKPab	07 54 28.3	-0.3
	comp=Z,11nm,0.7s						
ORIF	Oris-en-Rattie	159.59	348	*e*PKP2	PKPab	07 54 31.0	-0.7
	comp=Z,13nm,0.7s						
MBDF	Montbardon	159.59	346	*e*PKP2	PKPab	07 54 30.3	-1.5
RJF	Les Rejaudoux	159.73	357	*e*PKP2	PKPab	07 54 29.0	-3.3
VIVF	Saint-Julien-l	159.86	350	*e*PKP2	PKPab	07 54 31.2	-1.7
	comp=Z,4.5nm,0.6s						
LIC	Lamto	160.69	165	*e*P	PKPab	07 54 37.6	+0.2
	comp=Z,99nm,2.1s						
KIC	Kosan Boka	160.89	165	*e*P	PKPab	07 54 38.6	+0.3
	comp=Z,123nm,1.7s						
TIC	Toumodi	161.10	164	*e*P	PKPab	07 54 39.4	+0.2
	comp=Z,9.7nm,0.2s						
DBIC	Dimbokro	161.16	165	PKPab	PKPab	07 54 39.8	+0.3
	comp=Z,2.4nm,0.8s,baz=144,slow=13,SNR=3.9						

IDC ***20*** *07:43:38.4±3.1, 49.52S×163.90E, mb3.9/3, mb1 4.1/4, mb1mx3.8/11, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/17, Error ellipse: s-maj=70.4km s-min=31.9km az=159.0*

ISC 20 07:43:42.6±3.7**, 49.3S**±0.4×**163.9E**±0.4**, h33**^{km}±49^{km}**, n10, σ1**^{s}**.09**/13**, mb3.8**/3**, MS3.5**/1**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.33	40	P	Pn	07 44 47.7	-0.2
WHZ				S	Sn	07 45 36.0	-1.8
MLZ	Mavora Lakes	4.86	38	P	Pn	07 44 55.1	-0.3
MLZ				S	Sn	07 45 49.2	-2.1
TUZ	Tuapeka	5.08	52	P	Pn	07 44 57.6	-0.9
WKZ	Wanaka	5.63	40	P	Pn	07 45 06.7	+0.4
JCZ	Jackson Bay	6.16	34	P	Pn	07 45 14.6	+0.9
JCZ				S	Sn	07 46 24.9	+1.2
RPZ	Rata Peaks	7.41	44	Pn	Pn	07 45 31.3	0.0
	1.2nm,0.3s,baz=233,slow=6.6,SNR=6.6						
RPZ				Sn	Sn	07 46 57.4	+2.3
	0.4nm,0.3s,baz=349,slow=23,SNR=2.9						
ASAR	Alice Springs	34.75	306	P	P	07 50 31.7	0.0
	1.0nm,0.6s,mb3.9,baz=137,slow=8.6,SNR=8.8						
WRA	Warramunga Arr	37.61	310	P	P	07 50 55.2	-0.8
	0.8nm,0.8s,mb3.5,baz=151,slow=11,SNR=3.8						
WRA				LR	LR	08 06 52.8	
	comp=Z,89nm,21.4s,MS3.5,baz=230,slow=37						
FITZ	Fitzroy Crossi	43.74	302	P	P	07 51 46.9	+0.3
	1.8nm,0.7s,mb3.9,baz=203,slow=3.7,SNR=2.9						
AKASG	Malin Array Be	151.18	290	PKPbc	PKPdf	08 03 32.3	+6.9
	0.5nm,0.4s,baz=95,slow=1.5,SNR=5.0						

CASC 20 07:49:49.4±2.2**, 13.14N**×**90.99W, MD3.6, ML3.5, 4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	1.16	27	⇓*e*P	Pb	07 50 10.9	-1.1
IXG				*e*S	Sb	07 50 28.4	+1.0
IXG				AML	AML	07 50 32.9	
	comp=E,2μm,0.4s						
JAT	Jato	1.33	332	⇓*e*P	Pb	07 50 13.5	-1.5
JAT				*e*S	Sb	07 50 33.5	+1.0
JAT				AML	AML	07 50 34.8	
	comp=E,470nm,0.3s						
SBLS	San Blas	1.50	62	⇓*e*P	Pn	07 50 17.3	-0.4
SBLS				*e*S	Sb	07 50 38.6	+1.2
RTR	El Retiro	1.51	60	*e*P	Pn	07 50 17.8	0.0
RTR				*e*S	Sb	07 50 39.7	+2.1
SNJE	San Jose	1.53	62	*e*P	Pn	07 50 18.2	+0.1
SNJE				*e*S	Sb	07 50 39.2	+1.0
RBDL	Robledal	1.60	52	*e*P	Pn	07 50 18.7	-0.3
MRL	Marmol	2.29	33	⇓*e*P	Pn	07 50 30.0	+1.0
MRL				*e*S	Sn	07 51 01.3	+2.9

HEL ***20*** *07:58:31.5±0.3, 69.09N×17.28E, h5^{km}±2^{km}, ML2.0, ML2.2(UPP), ML1.7(BER)*

NAO ***20*** *07:58:33.2±1.9, 69.00N×17.77E, ML2.0*

NEIC ***20*** *07:58:33.4, 69.27N×17.17E, h15^{km}, ML1.7(BER), After BER.*

NEIC Felt at Stonglandseidet.

BER ***20*** *07:58:33.2±4.2, 69.28N×17.07E, h15^{km}±18^{km}, MD2.6, ML1.7, ML2.0(NAO)*

ISC 20 07:58:29.8±0.6**, 69.11N**±0.04×**17.26E**±0.09**, h5**^{km}**, n32, σ1**^{s}**.27**/51**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	Tromso	0.79	48	*i* P	Pg	07 58 45.1	-0.5
TRO				*i* S	Sg	07 58 56.3	+0.1
TRO				AML	AML	07 58 58.0	
	comp=Z,14nm,0.2s						
TRO	Tromso	0.79	48	*e*P	Pg	07 58 45.1	-0.5
TRO				*e*S	Sg	07 58 56.3	+0.1
TRO				AML	AML	07 58 58.0	
	comp=Z,14nm,0.2s						
KIF	Kilpisjarvi	1.28	93	*e*P	Pb	07 58 54.0	+0.1
KIF				*e*S	Sb	07 59 12.0	+1.5
NIKU	Nikkaluokta	1.41	151	*e*P	Pb	07 58 55.5	-0.7
NIKU				*e*S	Sb	07 59 14.5	+0.2
KUA	Kurravaara	1.62	134	*e*P	Pn	07 59 00.4	+1.3
KUA				*e*S	Sb	07 59 22.6	+2.2
LOF	Lofoten	1.68	236	*e*P	Pn	07 59 01.5	+1.5
LOF				*e*SG	Sg	07 59 22.7	-3.0
LOF				AML	AML	07 59 24.3	
	comp=Z,28nm,0.3s						
LOF	Lofoten	1.68	236	*e*P	Pn	07 59 01.5	+1.5
LOF				*e*S	Sn	07 59 22.9	+0.8
KTK1	Kautokeino	2.15	90	*e*P	Pn	07 59 09.0	+2.3
KTK1				*e*SG	Sg	07 59 39.0	-2.4
KTK1				AML	AML	07 59 42.5	
	comp=Z,15nm,0.3s						
DUNU	Dundret	2.35	147	*e*P	Pn	07 59 10.8	+1.3
MASU	Masugnsbyn	2.42	131	*e*P	Pn	07 59 12.1	+1.5
ARA0	ARCESS Array S	2.96	78	*e*P	Pn	07 59 18.9	+0.6
ARA0				*e*SG	Sg	08 00 01.7	-6.6
ARA0	ARCESS Array S	2.96	78	Pn	Pn	07 59 18.9	+0.6
	baz=258,slow=14						
ARA0				Sg	Sg	08 00 01.7	-6.6
	baz=262,slow=37						
PAJU	Pajala	3.04	131	*e*P	Pn	07 59 20.2	+0.9
PAJU				*e*S	Sn	07 59 58.4	+1.8
MOR8	Moi Rana	3.14	201	*e*S	Sn	07 59 57.8	-1.4
MOR8				AML	AML	08 00 05.2	
	comp=Z,6.5nm,0.5s						
MOR8	Moi Rana	3.14	201	*e*P	Pn	07 59 19.5	-1.4
ERTU	Ertsjaerv	3.17	142	*e*P	Pn	07 59 22.1	+0.8
KEV	Kevo	3.50	75	*e*P	Pn	07 59 25.8	-0.3
KEV				*e*PG	Pg	07 59 34.4	-5.3
KEV				*e*S	Sn	08 00 08.2	-0.2
KEV				*e*SG	Sg	08 00 20.7	-5.7
KEV				MSG		08 00 24.7	
	comp=Z,3.9nm,0.3s						
SGF	Sodankyl	3.83	112	*e*P	Pn	07 59 30.4	-0.2
SGF				*e*PG	Pg	07 59 39.3	-6.9
SGF				*e*S	Sn	08 00 14.5	-2.2
SGF				*e*SG	Sg	08 00 29.1	-8.2
SGF				MSG		08 00 31.8	
	comp=Z,2.2nm,0.2s						
LILU	Lilltraesk	3.97	164	*e*P	Pn	07 59 32.7	+0.1
SJUU	Sjulsmark	3.99	153	*e*P	Pn	07 59 33.1	+0.2
SVAU	Svanoeiden	4.72	168	*e*P	Pn	07 59 43.0	-0.3
BURU	Burvik	4.83	158	*e*P	Pn	07 59 45.4	+0.6
OUL	Oulu	5.26	136	*e*S	Sn	08 00 47.0	-5.7
OUL				*e*SG		08 01 10.7	
OUL				MSG		08 01 12.4	
	comp=Z,1.7nm,0.3s						
BREU	Bredtraesk	5.27	174	*e*P	Pn	07 59 50.3	-0.7
UMAU	Umeaa	5.42	164	*e*P	Pn	07 59 52.8	-0.5
APA0	Apatity Array	6.01	97	Pn	Pn	07 59 59.7	-1.8
	baz=301,slow=14						
APA0				Sn	Sn	08 01 05.7	-5.9
	baz=292,slow=28						
APA0				Lg		08 01 34.2	
	baz=287,slow=37						
APA0	Apatity Array	6.01	97	*e*P	Pn	07 59 59.7	-1.8
APA0				*e*S	Sn	08 01 05.7	-5.9
APA0				*e*SG		08 01 34.2	
KJN	Kajaani	6.53	136	*e*P	Pn	08 00 04.8	-4.0
KJN				*e*S	Sn	08 01 17.9	-6.7
KJN				*e*SG		08 01 49.1	
KJN				MSG		08 01 54.1	
	comp=Z,1.3nm,0.3s						
SUF	Sumiainen	7.37	146	*e*P	Pn	08 00 16.0	-4.6
SUF				*e*S	Sn	08 01 37.8	-7.7
FIA0	FINESS Array S	8.53	150	Lg		08 03 01.8	
	baz=352,slow=28						
FIA0	FINESS Array S	8.53	150	Lg		08 03 01.8	
	baz=352,slow=28						
HFS	Hagfors	9.14	191	*e*P	P	08 00 43.2	-2.0
HFS				*e*		08 03 18.7	

ECX ***20*** *08:06:13.9±0.3, 28.51N×113.20W, h5^{km}, ML4.7*

BJI ***20*** *08:06:13.3, 28.20N×113.10W, h10^{km}, mB5.1, mb4.9, Ms4.7, Msz4.2*

IDC ***20*** *08:06:13.6±0.8, 28.32N×113.17W, mb4.4/9, mb1 4.5/13, mb1mx4.3/21, ML4.0/4, MS4.2/16, Ms1 4.2/16, ms1mx4.0/30, Error ellipse: s-maj=18.4km s-min=11.3km az=47.0*

NEIC ***20*** *08:06:15.3±0.5, 28.22N×113.12W, h10^{km}, mb4.6/24, MS4.2/1, Error ellipse: s-maj=8.3km s-min=4.7km az=222.0*

ISC 20 08:06:12.8±0.5**, 28.25N**±0.04×**113.15W**±0.04**, h5**^{km}**, n144, σ1**^{s}**.36**/130**, mb4.4**/24**, MS4.3**/19**, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	3.44	325	*e*PN	Pn	08 07 05.0	-3.2

SPX				eSN	Sn	08 07 45.1	-4.7
ECBX	El Chinero	3.61	333	ePN	Pn	08 07 06.9	-3.7
RDX	Rancho Dowling	4.40	327	ePN	Pn	08 07 18.3	-3.5
ECNX	Esteban Cantu	4.53	319	ePN	Pn	08 07 20.2	-3.4
TUC	Tucson	4.54	26	eP	Pn	08 07 20.5	-3.2
PBX	Punta Banda	4.66	319	ePN	Pn	08 07 21.8	-3.7
PGX	Piedras Gordas	4.67	323	ePN	Pn	08 07 21.8	-3.8
ENX	Ensenada	4.73	321	ePN	Pn	08 07 22.8	-3.7
CBX	Cerro Bola	5.07	324	ePN	Pn	08 07 27.3	-3.9
BAR	Barrett	5.36	326	eP	Pn	08 07 31.0	-4.4
LDFC	Landfair	7.01	347	eP	Pn	08 07 56.2	-2.5
MWC	Mount Wilson	7.29	326	eP	Pn	08 07 58.1	-4.4
WUAZ	Wupatki	7.40	11	eP	Pn	08 08 01.1	-3.0
NEN	Nelson	7.52	349	eP	Pn	08 08 03.0	-2.8
LENM	Lemitar	7.92	40	eP	Pn	08 08 08.3	-3.1
LAZ	Ladron	8.00	38	eP	P	08 08 09.5	-3.0
BNM	Barren Site	8.11	42	eP	P	08 08 11.3	-2.7
LTX	Lajitas	8.39	80	eP	P	08 08 17.1	-0.8
TXAR	Lajitas Array	8.39	80	Pn	P	08 08 17.6	-0.3
	3.7nm,0.3s,baz=252,slow=13,SNR=182						
TXAR				Lg		08 10 40.1	
	1.2nm,0.3s,baz=230,slow=21,SNR=4.2						
GDL2	Guadalupe Moun	8.56	60	eP	P	08 08 19.5	-0.8
ANMO	Albuquerque	8.78	39	eP	P	08 08 19.9	-3.4
DAC	Darwin (Calif)	8.84	336	eP	P	08 08 24.9	+0.7
CLNB	Carlsbad	8.96	61	eP	P	08 08 26.3	+0.5
CPRX	Cap Rock	9.31	57	eP	P	08 08 30.8	+0.2
MTUM	Tungsten Hills	10.16	335	P	P	08 08 42.6	+0.3
MSU	Marysvale	10.27	4	eP	P	08 08 43.0	-0.8
TPH	Tonopah	10.38	342	eP	P	08 08 45.8	+0.5
LRV	Little Rabbit	10.52	323	eP	P	08 08 46.1	-1.2
OMM	Old Mammoth Mi	10.55	334	eP	P	08 08 48.5	+0.7
PV01	Paradox Valley	10.58	20	eP	P	08 08 47.6	-0.5
PV10	Paradox Valley	10.67	18	eP	P	08 08 48.3	-1.0
NVAR	Mina Array Bea	11.03	338	Pn	P	08 08 54.7	+0.4
	0.2nm,0.3s,baz=156,slow=15,SNR=32						
NVAR				Lg		08 12 02.5	
	0.0nm,0.3s,baz=158,slow=21,SNR=2.3						
NVAR				LR	LR	08 13 47.5	
	comp=Z,425nm,19.7s,baz=160,slow=41						
NVAR	Mina Array Bea	11.03	338	Pn	P	08 08 54.7	+0.4
NVAR				Lg		08 12 02.5	
NVAR				LR	LR	08 13 47.5	
SRU	San Rafael	11.05	11	eP	P	08 08 53.8	-0.8
SDCO	Great Sand Dun	11.44	32	eP	P	08 09 00.1	+0.2
NLU	North Lily Min	11.71	4	P	P	08 09 05.5	+1.9
MPU	Maple Canyon	11.80	6	eP	P	08 09 06.2	+1.4
JCT	Junction City	11.85	76	eP	P	08 09 05.7	+0.2
DUG	Dugway	11.92	1	eP	P	08 09 07.2	+0.8
DAU	Daniels Canyon	12.23	7	eP	P	08 09 12.4	+1.8
WCN	Washoe City	12.31	335	eP	P	08 09 13.1	+1.4
JLU	Jordanelle	12.40	6	eP	P	08 09 14.6	+1.7
CTU	Camp Tracy	12.47	5	eP	P	08 09 14.4	+0.7
BMN	Battle Mountai	12.61	346	eP	P	08 09 16.0	+0.4
TCUT	Toone Canyon	12.92	6	eP	P	08 09 18.0	-1.7
BEKR	Beckwourth	13.03	335	eP	P	08 09 21.8	+0.5
SPUT	South Promonto	13.04	2	eP	P	08 09 21.8	+0.4
HWUT	Hardware Ranch	13.39	5	eP	P	08 09 26.6	+0.6
HVU	Hansel Valley	13.50	1	eP	P	08 09 26.3	-1.2
WMOK	Wichita Mounta	13.86	59	eP	P	08 09 31.2	-1.0
	100nm,1.7s						
AHID	Auburn Hatcher	14.58	6	eP	P	08 09 42.4	+0.7
BW06	Boulder Array	14.78	10	eP	P	08 09 47.6	+3.4
	11nm,1.0s						
PDAR	Pinedale Array	14.78	10	Pn	P	08 09 47.5	+3.2
	0.1nm,0.3s,baz=188,slow=10,SNR=21						
MOD	Modoc	14.82	339	eP	P	08 09 44.0	-0.8
	36nm,1.0s						
WVOR	Wild Horse Val	14.84	344	eP	P	08 09 44.4	-0.7
	20nm,1.0s						
REDW	Red Top Meadow	15.20	6	eP	P	08 09 51.3	+1.6
HKT	Hockley	15.23	79	eP	P	08 09 48.0	-2.3
	70nm,1.6s						
SNOW	Snow King Moun	15.30	7	eP	P	08 09 52.2	+1.1
TPAW	Teton Pass	15.31	6	eP	P	08 09 51.6	+0.3
HLID	Hailey	15.32	357	eP	P	08 09 52.7	+1.4
	8.9nm,1.1s						
CBKS	Cedar Bluff	15.35	43	eP	P	08 09 51.7	0.0
	134nm,1.4s						
WUWY	Wally Ulrich	15.38	7	P	P	08 09 52.9	+0.8
YBH	Yreka Blue Hor	15.55	332	Pn	P	08 09 55.7	+1.3
	0.1nm,0.3s,baz=192,slow=14,SNR=2.7						
MOOW	Moose Ponds	15.59	6	eP	P	08 09 56.5	+1.7
HUMO	Hull Mountain	16.39	334	P	P	08 10 07.0	+2.0
NATX	Nacogdoches	16.39	73	eP	P	08 10 05.2	0.0
	260nm,1.8s						
YMR	Madison River	16.48	6	eP	P	08 10 08.4	+2.1
MCMT	McKenzie Canyo	16.55	1	eP	P	08 10 10.3	+3.2
QLMT	Earthquake Lak	16.61	4	P	P	08 10 11.9	+4.1
BOZ	Bozeman (W)	17.41	4	eP	P	08 10 19.4	+1.5
	18nm,1.5s						
RSSD	Black Hills	17.44	22	eP	P	08 10 18.8	+0.4
	5.3nm,0.8s						
KSU1	Kansas State U	17.48	48	eP	P	08 10 17.8	-1.2
LNOR	Lincton Mounta	18.05	348	eP	P	08 10 27.3	+1.3
VGB	Gordon Butte	18.27	343	P	P	08 10 29.0	+0.4
HRY	Holter Researc	18.46	3	eP	P	08 10 33.1	+2.1
CHMT	Chamberlain Mo	18.63	360	eP	P	08 10 32.9	-0.2
HAWA	Hanford	18.80	346	eP	P	08 10 34.9	-0.3
	28nm,1.1s						
LAO	LASA Array	19.20	15	eP	P	08 10 39.9	0.0
	32nm,0.9s						
SHW	Mount Saint He	19.29	341	P	P	08 10 41.7	+0.7
LON	Longmire	19.68	342	eP	P	08 10 43.8	-1.7
DPW	Davenport	19.98	350	eP	P	08 10 46.3	-2.5
NEW	Newport	20.22	352	eP	P	08 10 48.2	-3.1
	11nm,0.9s						
RMW	Rattlesnake Mo	20.34	343	eP	P	08 10 53.3	+0.7
NLW	Nelson Butte	20.57	346	eP	P	08 10 54.4	-0.6
CCM	Cathedral Cave	20.74	56	eP	P	08 10 57.2	+0.4
	32nm,1.3s						
OXF	Oxford	21.18	67	eP	P	08 11 01.3	-0.1
	40nm,1.0s,mb4.7						
FVM	French Village	21.32	57	eP	P	08 11 02.7	0.0
	15nm,0.8s,mb4.4						
DGMT	Dagmar	21.35	17	eP	P	08 11 03.1	+0.2
	13nm,0.8s,mb4.3						
PVMO	Portageville	21.39	62	P	P	08 11 05.1	+1.7
GLAT	Glass	21.67	62	eP	P	08 11 06.5	+0.3
PLAL	Pickwick Lake	22.35	66	eP	P	08 11 13.5	+0.4
	17nm,0.9s,mb4.5						
LRAL	Lakeview Retre	22.98	72	eP	P	08 11 19.6	+0.4
	20nm,1.2s,mb4.4						
USIN	University of	23.38	59	eP	P	08 11 24.4	+1.2
JFWS	Jewell Farm	23.58	46	eP	P	08 11 25.8	+0.7
	30nm,1.1s,mb4.6						
TEIG	Tepich	24.01	104	eP	P	08 11 29.6	+0.1
WCI	Wyandotte Cave	24.49	59	eP	P	08 11 34.3	+0.3
	26nm,0.9s,mb4.7						
CPCT	Cooper Cave	25.30	66	eP	P	08 11 41.0	-0.7
ULM	Lac du Bonnet	25.60	26	P	P	08 11 42.3	-2.1
	5.0nm,0.6s,mb4.2,baz=229,slow=8.5,SNR=7.9						
ULM	Lac du Bonnet	25.60	26	eP	P	08 11 41.8	-2.6
	17nm,0.9s,mb4.6						
BBB	Bella Bella	26.39	339	P	P	08 11 51.6	-0.1
	7.1nm,1.1s,mb4.1,baz=197,slow=18,SNR=2.4						
BBB				LR	LR	08 21 57.6	
	comp=Z,800nm,18.7s,MS4.3,baz=325,slow=36						
ACSO	Alum Creek Sta	27.52	56	eP	P	08 12 01.3	-0.9
	27nm,1.1s,mb4.8						
PWV	Princeton	28.36	63	P	P	08 12 06.9	-2.9
ELN	Prospectdale	28.57	63	eP	P	08 12 12.1	+0.4
FWV	Forest Hill	28.58	63	eP	P	08 12 08.2	-3.6
BLA	Blacksburg	28.83	64	P	P	08 12 14.1	0.0
JTS	JuntasAbangare	31.92	118	eP	P	08 12 42.5	+0.9
DLBC	Dease Lake	32.38	343	LR	LR	08 26 45.0	
	comp=Z,929nm,20.2s,MS4.5,baz=155,slow=38						
DLBC	Dease Lake	32.38	343	eP	P	08 12 44.3	-1.0
YKA	Yellowknife Ar	34.26	359	P	P	08 12 59.5	-2.0
	0.3nm,0.8s,mb3.3,baz=87,slow=14,SNR=3.3						
YKA				LR	LR	08 29 28.3	
	comp=Z,537nm,18.7s,MS4.3,baz=175,slow=41						
YKA	Yellowknife Ar	34.26	359	P	P	08 12 59.5	-2.0
YKA				LR	LR	08 29 28.3	
DAWY	Dawson	39.57	342	eP	P	08 13 45.6	-0.7
PMR	Palmer	40.98	335	eP	P	08 13 58.8	+0.9
	26nm,1.3s,mb4.7						
INK	Inuvik	41.88	349	eP	P	08 14 04.2	-1.0
MCK	McKinley	42.26	337	eP	P	08 14 10.5	+2.2
	4.3nm,0.8s,mb4.1						
ILAR	Eielson Array	42.28	339	P	P	08 14 07.9	-0.6
	6.0nm,0.8s,mb4.3,baz=152,slow=7.0,SNR=27						
ILAR				LR	LR	08 31 29.2	
	comp=Z,191nm,19.9s,MS4.0,baz=44,slow=36						
SCHQ	Schefferville	42.56	38	LR	LR	08 32 33.5	
	comp=Z,539nm,18.2s,MS4.5,baz=67,slow=37						
COLA	College	42.66	339	eP	P	08 14 11.7	+0.1
	4.2nm,0.8s,mb4.2						
COLA				LR	LR		
	comp=Z,300nm,18.0s,MS4.2						
OTAV	Otavalo	43.34	124	P	P	08 14 20.3	+2.5
ROSC	El Rosal	43.57	115	P	P	08 14 19.8	+0.1
	comp=Z,3.3nm,0.3s,mb4.5,baz=112,slow=22,SNR=2.0						
ROSC				LR	LR	08 36 27.4	
	comp=Z,158nm,19.4s,MS3.9,baz=35,slow=42						
SDV	Santo Domingo	44.37	107	eP	P	08 14 26.8	+0.6
	comp=Z,5.5nm,0.3s,mb4.8						
SUMG	Summit	58.73	20	eP	P	08 16 11.7	-1.8
	comp=Z,6.0nm,0.9s,mb4.6						
SAML	Samuel	60.80	120	eP	P	08 16 25.9	-2.5
LPAZ	La Paz	62.12	130	LR	LR	08 42 08.5	
	comp=Z,92nm,19.6s,MS4.0,baz=343,slow=35						
LPAZ	La Paz	62.12	130	eP	P	08 16 36.5	-0.8
JMIC	Jan Mayen	68.17	20	LR	LR	08 46 52.3	
	comp=Z,219nm,19.2s,MS4.4,baz=303,slow=36						
JMIC	Jan Mayen	68.17	20	AMS	AMS	08 47 14.4	
	comp=Z,215nm,17.4s,MS4.4						
KBS	Kingsbay	68.66	10	eS	S	08 26 22.1	+1.5
KBS				eSS	SS	08 30 48.4	+1.9
KBS				e		08 34 12.4	
KBS				AMS	AMS	08 48 17.1	
	comp=Z,245nm,17.6s,MS4.5						
CPUP	Villa Florida	76.28	130	P	P	08 18 05.2	+0.6
	comp=Z,3.3nm,1.0s,mb4.2,baz=5.9,slow=9.5,SNR=4.6						
TRO	Tromso	76.47	16	eS	S	08 27 48.9	-0.6
TRO				e		08 32 31.0	
TRO				AMS	AMS	08 57 35.9	
	comp=Z,90nm,18.3s,MS4.1						
BDFB	Brasilia	76.63	116	P	P	08 18 08.3	+1.6
	comp=Z,1.8nm,0.7s,mb4.1,baz=277,slow=7.7,SNR=3.1						
BDFB				LR	LR	08 53 12.3	
	comp=Z,101nm,18.5s,MS4.2,baz=82,slow=37						
ARCES	ARCESS Array B	78.01	14	LR	LR	08 56 23.6	
	comp=Z,174nm,19.1s,MS4.4,baz=4.6,slow=39						
PLCA	Paso Flores	79.19	148	P	P	08 18 22.5	+2.2
	comp=Z,3.8nm,0.9s,mb4.3,baz=310,slow=5.7,SNR=6.6						
PLCA				LR	LR	08 45 57.7	
	comp=Z,142nm,18.9s,MS4.3,baz=342,slow=30						
NOA	NORSAR Array B	80.28	24	P	P	08 18 28.3	+2.6
	comp=Z,1.5nm,0.8s,mb4.0,baz=322,slow=7.0,SNR=3.1						
FINES	FINESS Array B	84.73	18	P	P	08 18 47.8	-0.8
	comp=Z,3.2nm,0.9s,mb4.5,baz=292,slow=7.5,SNR=3.6						
FINES				LR	LR	08 57 34.0	
	comp=Z,150nm,18.9s,MS4.4,baz=343,slow=36						
MOX	Moxa	87.55	32	eP	P	08 19 05.0	+2.3
MOX				L		08 56 32.0	
MDJ	Mudanjiang	87.65	321	P	P	08 19 01.8	-1.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,164nm,4.5s						
CN2	Changchun	90.47	322	eP	P	08 19 15.3	-1.4
JNU	Nakatsue	93.91	311	LR	LR	08 57 31.9	
	comp=Z,69nm,18.9s,MS4.1,baz=73,slow=33						
AKASG	Malin Array Be	94.64	23	LR	LR	09 01 04.4	
	comp=Z,145nm,19.6s,MS4.5,baz=315,slow=35						
RPZ	Rata Peaks	99.63	225	LR	LR	08 55 55.2	
	comp=Z,164nm,18.7s,MS4.6,baz=283,slow=30						
NJ2	Nanjing	102.27	317	eP	Pdif	08 20 10.5	-0.3
KMI	Kunming	116.69	324	ePKP	PKPdf	08 24 57.4	-3.6
KMI				LR	LR		
	comp=Z,42nm,21.7s,MS4.0						
WRA	Warramunga Arr	118.52	262	PKP	PKPdf	08 25 02.3	-2.4
	comp=Z,0.8nm,0.8s,baz=69,slow=2.0,SNR=10						
ASAR	Alice Springs	120.22	258	PKP	PKPdf	08 25 05.4	-2.4
	comp=Z,0.8nm,0.7s,baz=82,slow=1.7,SNR=6.2						

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*NIED **20** 08:22:00,42.00N×142.60E,h56^{km},Mw3.7 Best double couple: $M_0$4.21×10^{14} NP1:ϕ_s27°,δ71°,λ93°. NP2:ϕ_s198°, δ20°,λ82°.*
*JMA **20** 08:22:16.3±0.1,42.04N×142.58E,h61^{km}±2^{km},M3.5*
JMA Felt I J1.
*IDC **20** 08:22:16.5±3.4,42.03N×142.59E,h66^{km}±28^{km},mb3.5/7, mb1 3.6/8,mb1mx3.4/25,ML4.0/1,Error ellipse: s-maj=31.8km s-min=24.6km az=91.0*
*NEIC **20** 08:22:17.5±0.8,42.01N×142.54E,h75^{km},mb4.1/2,Error ellipse: s-maj=18.8km s-min=16.0km az=162.0*
NEIC Recorded [1 JMA] in the Monbetsu area.
ISC 20 08:22:15.1±0.5**,42.00N**±0.05×**142.56E**±0.05**,h68**^{km}±4^{km}**, n22,**σ**0**^{s}**.48**/33**,mb3.8**/9**,3C-6D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.31	27	⇑P	P	08 22 26.1	-0.2
JNBK				eS	S	08 22 33.8	-0.7
JEM	Erimo	0.45	88	⇑P	P	08 22 27.8	+0.5
JEM				eS	S	08 22 36.0	-0.4
JBT2	Biratori 2	0.79	350	⇓P	P	08 22 31.1	0.0
JBT2				eS	S	08 22 42.3	-0.6
JCH	Churui	0.85	44	⇑P	P	08 22 32.1	+0.2
JCH				eS	S	08 22 43.8	-0.5
JKB	Kayabe	1.14	265	⇓P	P	08 22 36.0	+0.4
JKB				eS	S	08 22 50.9	0.0
JFR	Furan	1.16	1	⇓P	P	08 22 35.8	-0.1
JEW	Eniwo	1.17	316	⇓P	P	08 22 36.4	+0.4
JEW				eS	S	08 22 51.6	0.0
JNB	Noboribetsu	1.22	293	⇓P	P	08 22 36.3	-0.4
JNB				eS	S	08 22 52.3	-0.5
JOT	Ohata	1.29	242	⇓P	P	08 22 38.1	+0.5
JOT				eS	S	08 22 54.7	+0.3
JOB	Onbets	1.30	46	P	P	08 22 39.0	+1.0
JOB				eS	S	08 22 55.4	+0.5
JAB	Ashibetsu	1.52	351	P	P	08 22 41.3	+0.5
JAR	Ashorobuto	1.57	34	P	P	08 22 41.5	0.0
JAR				eS	S	08 23 00.5	-0.5
ASAJ	Asahikawa	2.11	1	P	P	08 22 49.7	+0.8
	34nm,0.3s,baz=215,slow=9.0,SNR=100						
ASAJ				S	S	08 23 14.6	+0.6
	16nm,0.3s,baz=74,slow=32,SNR=15						
SONM	Songino Array	26.09	295	P	P	08 27 44.4	+0.5
	0.4nm,0.4s,mb3.2,baz=82,slow=10,SNR=2.5						
MKAR	Makanchi Array	42.41	298	P	P	08 30 04.0	-0.1
	0.8nm,0.6s,mb3.6,baz=80,slow=9.9,SNR=7.5						
KURK	Kurchatov	43.72	304	eP	P	08 30 14.2	-0.5
	2.0nm,0.4s,mb4.2						
COLA	College	44.45	35	P	P	08 30 20.9	+0.4
	1.6nm,0.8s,mb3.8						
BVAR	Borovoye Array	48.00	309	P	P	08 30 48.9	+0.3
	0.9nm,0.3s,mb4.1,baz=78,slow=9.8,SNR=7.5						
INK	Inuvik	49.59	29	P	P	08 31 00.4	-0.4
	1.3nm,0.9s,mb3.9,baz=244,slow=10,SNR=6.5						
WRA	Warramunga Arr	62.10	189	P	P	08 32 30.4	-0.7
	0.8nm,1.1s,mb3.7,baz=6.6,slow=6.9,SNR=5.6						
FINES	FINESS Array B	64.85	332	P	P	08 32 47.6	-0.9
	0.9nm,0.6s,mb3.8,baz=68,slow=10,SNR=5.9						
NOA	NORSAR Array B	69.96	337	P	P	08 33 20.2	-0.2
	0.8nm,0.8s,mb3.6,baz=36,slow=6.7,SNR=2.8						

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*NEIC **20** 08:38:15.1,37.31S×176.53E,h232^{km},After WEL.*
WEL 20 08:38:15.3±0.2**,37.23S**×**176.47E,h223**^{km}±3^{km}**,ML3.9**/5**, Error ellipse: s-maj=5.1km s-min=4.9km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.15	154	PN	P	08 38 48.4	-0.2
URZ				SN	S	08 39 13.7	-0.8
URZ	Urewera	1.15	154	P	P	08 38 48.4	-0.2
MWZ	Matawai	1.39	143	PN	P	08 38 50.6	+0.1
MWZ				SN	S	08 39 17.6	-0.1
MWZ	Matawai	1.39	143	eP	P	08 38 50.6	+0.1
MWZ				S	S	08 39 17.6	-0.1
MXZ	Matakaoa Point	1.50	103	PN	P	08 38 51.0	-0.4
MXZ				SN	S	08 39 19.4	+0.1
MXZ	Matakaoa Point	1.50	103	P	P	08 38 51.0	-0.4
PUZ	Puketiti	1.65	121	PN	P	08 38 52.2	-0.5
PUZ				SN	S	08 39 20.5	-1.1
PUZ	Puketiti	1.65	121	eP	P	08 38 52.2	-0.5
MGZ	Maungaku	1.92	202	PN	P	08 38 55.5	+0.4
MGZ	Maungaku	1.92	202	P	P	08 38 55.5	+0.4
BKZ	Black Stump Fm	1.94	179	PN	P	08 38 54.5	-0.7
BKZ				SN	S	08 39 25.3	-0.7
BKZ	Black Stump Fm	1.94	179	eP	P	08 38 54.6	-0.6
KNZ	Kokohu	2.03	152	PN	P	08 38 55.7	-0.4
KNZ				SN	S	08 39 26.0	-1.7
KNZ	Kokohu	2.03	152	eP	P	08 38 55.7	-0.4
NGZ	Ngauruhoe	2.06	199	PN	P	08 38 57.2	+0.8
NGZ	Ngauruhoe	2.06	199	P	P	08 38 57.2	+0.7
CNZ	Chateau	2.10	200	PN	P	08 38 56.9	0.0
TUVZ	Tukino	2.13	197	PN	P	08 38 57.0	-0.2
TUVZ	Tukino	2.13	197	P	P	08 38 57.0	-0.2
FWVZ	Far West T-bar	2.15	199	PN	P	08 38 57.7	+0.3
FWVZ	Far West T-bar	2.15	199	eP	P	08 38 57.9	+0.5
WNVZ	Wahianoa	2.21	198	PN	P	08 38 57.7	-0.3
WNVZ				SN	S	08 39 30.7	-0.2
MOVZ	Moawhango	2.25	194	PN	P	08 38 57.9	-0.5
MOVZ				SN	S	08 39 30.9	-0.8
WAZ	Wanganui	2.78	204	PN	P	08 39 03.5	-0.6
WAZ	Wanganui	2.78	204	P	P	08 39 03.7	-0.4
PWZ	Pawanui	2.81	174	PN	P	08 39 02.9	-1.5
PWZ				SN	S	08 39 40.2	-2.4
PWZ	Pawanui	2.81	174	eP	P	08 39 02.9	-1.6
TSZ	Takapari Road	2.85	188	PN	P	08 39 03.5	-1.4
TSZ				SN	S	08 39 41.9	-1.5
TSZ	Takapari Road	2.85	188	eP	P	08 39 03.5	-1.4
MRZ	Mangatainoka R	3.50	191	PN	P	08 39 09.7	-2.7
MRZ				SN	S	08 39 53.3	-3.4
MRZ	Mangatainoka R	3.50	191	P	P	08 39 09.7	-2.7
KIW	Kapiti Island	3.83	198	PN	P	08 39 13.4	-3.0
KIW				SN	S	08 39 58.9	-4.8
KIW	Kapiti Island	3.83	198	P	P	08 39 13.4	-2.9
MTW	Mount Morrison	4.00	191	PN	P	08 39 14.8	-3.6
MTW	Mount Morrison	4.00	191	P	P	08 39 14.8	-3.6
CAW	Cannon Point	4.02	195	PN	P	08 39 15.5	-3.2
CAW				SN	S	08 40 03.7	-4.3
CAW	Cannon Point	4.02	195	P	P	08 39 15.5	-3.3
MRW	Makara Radio	4.22	198	PN	P	08 39 17.8	-3.4
MRW	Makara Radio	4.22	198	P	P	08 39 17.8	-3.4
PAWZ	Paruwai Farm	4.22	191	SN	S	08 40 07.6	-4.8
MSWZ	Moikau Station	4.29	192	PN	P	08 39 18.0	-3.9
MSWZ				SN	S	08 40 09.3	-4.5
SNZO	South Karori	4.30	198	PN	P	08 39 18.4	-3.8
SNZO	South Karori	4.30	198	P	P	08 39 18.4	-3.7
TUWZ	Tuamarina	4.63	204	PN	P	08 39 22.8	-3.5
NNZ	Nelson	4.65	210	PN	P	08 39 23.0	-3.5
NNZ				SN	S	08 40 17.6	-4.2
NNZ	Nelson	4.65	210	eP	P	08 39 23.0	-3.5
QRZ	Quartz Range	4.72	219	PN	P	08 39 23.6	-3.8
QRZ	Quartz Range	4.72	219	eP	P	08 39 23.7	-3.7
BSWZ	Blackbirch Sta	4.91	203	PN	P	08 39 26.6	-3.1
THZ	Tophouse	5.30	210	PN	P	08 39 30.5	-4.1
THZ				SN	S	08 40 31.9	-4.6
THZ	Tophouse	5.30	210	eP	P	08 39 30.5	-4.2
KHZ	Kahutara	5.65	203	PN	P	08 39 35.1	-4.0
KHZ	Kahutara	5.65	203	eP	P	08 39 35.3	-3.8
DSZ	Denniston Nort	5.78	217	SN	S	08 40 41.8	-5.4
LTZ	Lake Taylor	6.41	209	PN	P	08 39 44.1	-4.7
LTZ				SN	S	08 40 54.1	-7.8
LTZ	Lake Taylor	6.41	209	eP	P	08 39 44.2	-4.7
MQZ	McQueen’s Vall	7.09	203	PN	P	08 39 52.1	-5.4
MQZ				SN	S	08 41 09.5	-8.0
MQZ	McQueen’s Vall	7.09	203	eP	P	08 39 52.1	-5.5
WVZ	Waitaha Valley	7.30	215	SN	S	08 41 12.8	-10

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*IDC **20** 08:45:20.1±3.1,29.55N×114.18W,mb3.4/1,mb1 3.8/4, mb1mx3.6/21,ML3.4/3,MS3.4/5,Ms1 3.4/5,ms1mx3.0/18, Error ellipse: s-maj=48.4km s-min=12.4km az=27.0*
*ECX **20** 08:45:22.4±0.5,30.26N×114.18W,h6^{km},ML3.5*
ISC 20 08:45:19.5±2.2**,30.1N**±0.3×**114.1W**±0.1**,h6**^{km}±17^{km}**,n17,** σ**0**^{s}**.70**/17**,mb3.2**/1**,MS3.3**/4**,2D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.48	309	eP	Pn	08 45 46.3	-0.5
SPX				eS	Sb	08 46 04.7	-1.3
RDX	Rancho Dowling	2.39	319	ePN	Pn	08 46 00.1	+0.3
CPBX	Cerro Prieto	2.51	336	ePN	Pn	08 46 01.5	+0.1
CPBX				⇓e		08 47 00.4	
	comp=N,640nm,0.7s						
CPBX				⇓e		08 47 29.6	
	comp=E,662nm,0.5s						
ECNX	Esteban Cantu	2.62	306	ePN	Pn	08 46 03.4	+0.3
ECNX				eSN	Sn	08 46 35.3	-0.3
PGX	Piedras Gordas	2.71	313	ePN	Pn	08 46 04.3	-0.1
PGX				eSN	Sn	08 46 39.0	+1.1
PBX	Punta Banda	2.76	306	ePN	Pn	08 46 05.1	0.0
ENX	Ensenada	2.81	309	ePN	Pn	08 46 05.6	-0.1
ENX				eSN	Sn	08 46 40.1	-0.1
CBX	Cerro Bola	3.09	316	ePN	Pn	08 46 09.9	+0.2
NVAR	Mina Array Bea	8.98	338	Pn	P	08 47 40.6	+7.9
	comp=E,0.0nm,0.3s,baz=160,slow=11,SNR=4.8						
TXAR	Lajitas Array	9.12	92	Pn	P	08 47 34.7	0.0
	comp=E,0.2nm,0.3s,baz=263,slow=15,SNR=13						
TXAR				Sn	Sn	08 49 18.2	-0.6
	comp=E,0.3nm,0.3s,baz=270,slow=19,SNR=9.4						
TXAR				Lg		08 50 08.6	
	comp=E,0.2nm,0.3s,baz=283,slow=28,SNR=4.1						
PDAR	Pinedale Array	13.14	15	Pn	P	08 48 38.7	+9.4
	comp=E,0.0nm,0.3s,baz=202,slow=9.7,SNR=4.0						
NEW	Newport	18.27	354	LR	LR	08 57 00.6	
	comp=E,86nm,18.3s,baz=152,slow=37						
BBB	Bella Bella	24.35	339	LR	LR	09 00 42.4	
	comp=E,72nm,18.1s,MS3.2,baz=327,slow=37						
DLBC	Dease Lake	30.35	343	LR	LR	09 03 14.7	
	comp=E,89nm,20.8s,MS3.4,baz=23,slow=35						
YKA	Yellowknife Ar	32.38	360	LR	LR	09 05 35.7	
	comp=E,44nm,19.2s,MS3.2,baz=180,slow=37						
ILAR	Eielson Array	40.24	339	P	P	08 53 01.5	+3.2
	comp=E,0.5nm,1.0s,mb3.2,baz=142,slow=6.3,SNR=4.5						
SJG	San Juan	45.09	94	LR	LR	09 12 47.7	
	comp=E,43nm,19.7s,MS3.4,baz=94,slow=36						

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*ECX **20** 09:04:40.7±0.4,30.17N×114.12W,h6^{km},MD3.7,ML3.7*
*IDC **20** 09:04:40.9±2.9,29.88N×114.13W,mb3.5/1,mb1 3.6/4, mb1mx3.6/21,ML3.4/2,MS3.5/10,Ms1 3.5/10, ms1mx3.3/25,Error ellipse: s-maj=46.3km s-min=12.5km az=28.0*
*NEIC **20** 09:04:42.7±2.1,30.20N×114.07W,h10^{km},mb3.2/2,Error ellipse: s-maj=29.1km s-min=11.5km az=208.0*
ISC 20 09:04:39.3±1.1**,30.1N**±0.1×**114.07W**±0.05**,h6**^{km}**,n35,** σ**1**^{s}**.16**/33**,mb3.4**/1**,MS3.4**/7**,1C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.52	308	eP	Pn	09 05 06.2	-0.9
SPX				eS	Sb	09 05 25.8	-1.1
RDX	Rancho Dowling	2.43	319	ePN	Pn	09 05 19.8	-0.3
RDX				eSN	Sn	09 05 53.1	+2.6
CPBX	Cerro Prieto	2.53	336	ePN	Pn	09 05 21.1	-0.5
CPBX				⇑e		09 06 21.9	
	comp=N,1µm,0.5s						
CPBX				e		09 06 48.8	
	comp=E,888nm,0.9s						
ECNX	Esteban Cantu	2.66	306	ePN	Pn	09 05 22.8	-0.6
PGX	Piedras Gordas	2.75	313	ePN	Pn	09 05 24.3	-0.3
PBX	Punta Banda	2.80	306	ePN	Pn	09 05 24.6	-0.8
PBX				eSN	Sn	09 06 01.4	+1.4
ENX	Ensenada	2.84	309	ePN	Pn	09 05 25.6	-0.5
CBX	Cerro Bola	3.12	315	ePN	Pn	09 05 29.4	-0.6
CBX				eSN	Sn	09 06 10.0	+1.9
BAR	Barrett	3.39	320	eP	Pn	09 05 32.7	-1.1
BAR				eS	Sn	09 06 24.3	+9.4
TUC	Tucson	3.57	51	P	Pn	09 05 35.6	-0.8
LDFC	Landfair	5.03	350	P	Pn	09 05 50.3	-6.8
MWC	Mount Wilson	5.31	322	P	Pn	09 05 55.9	-5.2
NEN	Nelson	5.56	354	P	Pn	09 06 04.8	+0.2
WUAZ	Wupatki	5.85	22	eP	Pn	09 06 08.3	-0.3
LAZ	Ladron	7.27	52	eP	Pn	09 06 28.4	-0.3
ANMO	Albuquerque	8.04	51	P	P	09 06 39.2	-0.2
MSU	Marysvale	8.53	10	P	P	09 06 45.7	-0.5
NVAR	Mina Array Bea	9.01	338	Pn	P	09 06 57.8	+5.0
	comp=E,0.1nm,0.3s,baz=139,slow=9.6,SNR=3.8						
NVAR				Pg	P	09 07 35.2	+42
	comp=E,0.1nm,0.3s,baz=165,slow=21,SNR=2.9						
NVAR				LR	LR	09 10 21.7	
	comp=E,174nm,21.8s,baz=155,slow=37						
TXAR	Lajitas Array	9.08	92	Pn	P	09 06 54.3	+0.4
	comp=E,0.2nm,0.3s,baz=262,slow=15,SNR=11						
TXAR				Sn	Sn	09 08 38.6	+1.0
	comp=E,0.2nm,0.3s,baz=272,slow=19,SNR=6.3						
TXAR				Lg		09 09 31.3	
	comp=E,0.2nm,0.3s,baz=274,slow=30,SNR=4.6						
TXAR				LR	LR	09 10 35.6	
	comp=E,425nm,20.5s,baz=255,slow=39						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PV10	Paradox Valley	9.24	25	P	P	09 06 53.8	-2.2
WVOR	Wild Horse Val	12.84	345	eP	P	09 07 44.7	-0.3
PDAR	Pinedale Array	13.14	15	Pn	P	09 07 54.2	+5.1
	baz=180,slow=7.2,SNR=2.7						
LNOR	Lincton Mounta	16.08	349	P	P	09 08 34.1	+6.7
NEW	Newport	18.28	353	LR	LR	09 16 23.2	
	comp=E,150nm,18.9s,baz=40,slow=38						
NEW	Newport	18.28	353	eP	P	09 08 57.8	+2.7
	comp=E,1.4nm,0.8s						
CCM	Cathedral Cave	20.47	61	P	P	09 09 19.6	-0.8
	comp=E,0.7nm,0.6s						
BBB	Bella Bella	24.37	339	LR	LR	09 20 54.9	
	comp=E,48nm,21.2s,MS3.0,baz=74,slow=40						
CPCT	Cooper Cave	25.36	70	P	P	09 10 10.6	+2.0
DLBC	Dease Lake	30.37	343	LR	LR	09 24 18.6	
	comp=E,167nm,18.8s,MS3.7,baz=44,slow=38						
SADO	Sadowa	31.09	52	LR	LR	09 23 40.8	
	comp=E,26nm,19.8s,MS2.9,baz=283,slow=36						
YKA	Yellowknife Ar	32.39	360	LR	LR	09 24 56.3	
	comp=E,111nm,18.3s,MS3.6,baz=180,slow=37						
JTS	JuntasAbangare	33.53	120	LR	LR	09 25 52.8	
	comp=E,77nm,20.3s,MS3.4,baz=0.5,slow=38						
ILAR	Eielson Array	40.26	339	P	P	09 12 20.8	+2.5
	comp=E,0.9nm,1.1s,mb3.4,baz=154,slow=6.9,SNR=6.7						
ROSC	El Rosal	45.10	116	LR	LR	09 32 24.6	
	comp=E,49nm,20.7s,MS3.4,baz=217,slow=37						
PLCA	Paso Flores	81.20	148	LR	LR	09 46 53.5	
	comp=E,57nm,18.2s,MS4.0,baz=114,slow=31						

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*NEIC **20** 09:40:58.8±5.4, 10.75S×166.10E, h145^{km}±56^{km}, mb4.4/3, Error ellipse: s-maj=45.7km s-min=15.9km az=159.0*

*IDC **20** 09:41:02.3±15.0, 10.87S×166.15E, h180^{km}±146^{km}, mb3.6/7, mb1 3.7/7, mb1mx3.5/16, Error ellipse: s-maj=81.6km s-min=46.0km az=145.0*

ISC 20 09:41:02.8±1.1**, 11.0S**±0.1×**166.1E**±0.2**, h200^{km}, n14, σ0^{s}55**/15**, mb3.9**/9**, 2C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.01	179	eP	P	09 43 35.8	-0.1
DZM				eS	S	09 45 16.6	-19
CTA	Charters Tower	21.16	242	P	P	09 45 34.6	+1.4
	1.5nm,0.5s,mb3.8,baz=82,slow=14,SNR=3.2						
CTAO	Charters Tower	21.16	242	P	P	09 45 32.6	-0.6
	1.4nm,0.4s,mb3.8						
STKA	Stephens Creek	30.73	224	P	P	09 47 01.9	+0.5
	1.1nm,0.5s,mb3.7,baz=124,slow=13,SNR=3.6						
WRAB	Tennant Creek	31.85	250	eP	P	09 47 10.5	-0.7
	5.1nm,0.4s,mb4.4						
WB2	Warramunga Arr	31.85	250	⇑iP	P	09 47 10.9	-0.3
WRA	Warramunga Arr	31.86	250	P	P	09 47 11.1	-0.2
	2.0nm,0.5s,mb3.9,baz=84,slow=9.2,SNR=54						
ASAR	Alice Springs	33.15	243	P	P	09 47 21.9	-0.5
	0.7nm,0.6s,mb3.3,baz=66,slow=9.8,SNR=11						
FITZ	Fitzroy Crossi	39.76	255	⇑iP	P	09 48 18.5	+0.7
	5.1nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	39.76	255	P	P	09 48 18.5	+0.7
	5.7nm,0.6s,mb4.2						
ILAR	Eielson Array	83.36	18	P	P	09 53 08.1	-0.2
	0.3nm,0.5s,mb3.3,baz=240,slow=5.1,SNR=8.9						
MKAR	Makanchi Array	93.76	317	P	P	09 53 58.7	+0.7
	0.5nm,0.6s,mb3.7,baz=91,slow=8.0,SNR=4.6						
MKAR	Makanchi Array	93.76	317	P	P	09 53 58.7	+0.7
ZAL	Zalesovo	93.76	324	P	P	09 53 57.6	-0.2
	1.5nm,0.4s,mb4.3,baz=264,slow=3.9,SNR=3.5						

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*NEIC **20** 09:43:50.6±1.6, 29.34N×114.08W, h10^{km}, mb3.5/3, Error ellipse: s-maj=22.2km s-min=8.5km az=210.0*

*ECX **20** 09:43:54.7±0.5, 30.16N×114.14W, h5^{km}, ML3.9*

*IDC **20** 09:43:55.5±2.4, 29.87N×114.05W, mb4.0/2, mb1 4.1/6, mb1mx3.9/23, ML3.5/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/27, Error ellipse: s-maj=39.9km s-min=10.2km az=29.0*

ISC 20 09:43:50.1±1.2**, 29.7N**±0.1×**114.25W**±0.05**, h5^{km}, n62, σ1^{s}54**/59**, mb3.8**/2**, MS3.7**/9**, 1C-1D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.70	322	eP	Pn	09 44 19.9	-0.8
SPX				eS	Sn	09 44 39.4	-3.7
RDX	Rancho Dowling	2.66	327	ePN	Pn	09 44 34.2	-0.2
RDX				eSN	Sn	09 45 06.8	-0.7
ECNX	Esteban Cantu	2.81	315	ePN	Pn	09 44 37.0	+0.4
ECNX				eSN	Sn	09 45 10.2	-1.0
CPBX	Cerro Prieto	2.85	342	eP	Pn	09 44 35.1	-2.1
CPBX				⇓e		09 45 40.3	
	comp=N,2μm,0.8s						
CPBX				⇑e		09 46 03.8	
	comp=E,2μm,0.7s						
PGX	Piedras Gordas	2.94	321	ePN	Pn	09 44 38.4	0.0
PGX				eSN	Sn	09 45 13.1	-1.4
PBX	Punta Banda	2.95	314	ePN	Pn	09 44 38.9	+0.4
PBX				eSN	Sn	09 45 13.9	-0.8
ENX	Ensenada	3.01	317	ePN	Pn	09 44 39.4	+0.1
ENX				eSN	Sn	09 45 14.7	-1.6
CBX	Cerro Bola	3.33	322	ePN	Pn	09 44 43.6	-0.4
BAR	Barrett	3.62	326	eP	Pn	09 44 46.5	-1.6
TUC	Tucson	3.95	48	eP	Pn	09 44 50.9	-1.9
LDFC	Landfair	5.41	352	eP	Pn	09 45 12.9	-0.5
MWC	Mount Wilson	5.55	325	P	Pn	09 45 09.3	-6.1
NEN	Nelson	5.95	355	eP	Pn	09 45 19.0	-2.1
WUAZ	Wupatki	6.29	22	eP	Pn	09 45 24.8	-0.9
DAC	Darwin (Calif)	7.13	338	eP	Pn	09 45 39.1	+1.4
LAZ	Ladron	7.64	50	eP	Pn	09 45 41.7	-3.1
BNM	Barren Site	7.85	54	eP	Pn	09 45 43.0	-4.7
ANMO	Albuquerque	8.41	50	eP	P	09 45 53.7	-1.9
MSU	Marysvale	8.95	10	eP	P	09 46 03.9	+0.8
LTX	Lajitas	9.23	90	eP	P	09 46 01.0	-5.9
TXAR	Lajitas Array	9.23	90	Pn	P	09 46 08.2	+1.3
	comp=E,0.4nm,0.3s,baz=262,slow=14,SNR=25						
TXAR				Sn	Sn	09 47 51.4	-0.8
	comp=E,0.5nm,0.3s,baz=269,slow=19,SNR=5.9						
TXAR				Lg		09 48 41.9	
	comp=E,0.5nm,0.3s,baz=292,slow=30,SNR=6.5						
NVAR	Mina Array Bea	9.33	340	Pn	P	09 46 12.8	+4.5
	comp=E,0.1nm,0.3s,baz=165,slow=11,SNR=11						
NVAR				Pg	P	09 46 46.1	+38
	comp=E,0.1nm,0.3s,baz=170,slow=15,SNR=5.1						
NVAR				Lg		09 48 45.6	
	baz=172,slow=19,SNR=2.4						
NVAR				LR	LR	09 49 57.7	
	comp=E,247nm,18.2s,baz=150,slow=39						
PV01	Paradox Valley	9.64	28	eP	P	09 46 11.3	-1.4
PV10	Paradox Valley	9.67	25	eP	P	09 46 12.1	-0.9
SRU	San Rafael	9.88	17	eP	P	09 46 15.7	-0.1
WCN	Washoe City	10.60	336	eP	P	09 46 26.9	+1.1
SDCO	Great Sand Dun	10.83	40	eP	P	09 46 29.9	+0.9
ELK	Elko	11.05	356	eP	P	09 46 33.0	+1.1
BEKR	Beckwourth	11.31	335	eP	P	09 46 36.3	+0.8
ISCO	Idaho Springs	12.32	33	eP	P	09 46 51.7	+2.6
JCT	Junction City	12.54	83	P	P	09 46 47.4	-4.7
WVOR	Wild Horse Val	13.19	346	eP	P	09 47 03.4	+2.7
	comp=E,16nm,1.4s						
PDAR	Pinedale Array	13.57	15	Pn	P	09 47 08.4	+2.7
	comp=E,0.0nm,0.3s,baz=188,slow=10,SNR=6.8						
YBH	Yreka Blue Hor	13.82	333	Pn	P	09 47 14.4	+5.4
	comp=E,0.0nm,0.3s,baz=229,slow=9.3,SNR=2.6						
HLID	Hailey	13.83	359	eP	P	09 47 12.2	+3.0
	comp=E,5.4nm,1.4s						
TPAW	Teton Pass	14.01	10	P	P	09 47 14.5	+3.0
WMOK	Wichita Mounta	14.02	65	eP	P	09 47 12.0	+0.3
	comp=E,3.8nm,1.3s						
MOOW	Moose Ponds	14.30	10	eP	P	09 47 16.4	+1.1
MCMT	McKenzie Canyo	15.14	4	eP	P	09 47 29.4	+3.0
BOZ	Bozeman (W)	16.05	7	eP	P	09 47 42.5	+4.4
	comp=E,9.4nm,1.4s						
LNOR	Lincton Mounta	16.45	350	eP	P	09 47 48.5	+5.3
RSSD	Black Hills	16.53	27	eP	P	09 47 45.9	+1.7
	comp=E,4.1nm,0.9s						
CHMT	Chamberlain Mo	17.20	2	eP	P	09 47 56.7	+4.0
MIAR	Mount Ida	18.16	69	P	P	09 48 02.9	-1.9
NEW	Newport	18.67	354	LR	LR	09 55 56.8	
	comp=E,199nm,18.4s,baz=182,slow=39						
NEW	Newport	18.67	354	eP	P	09 48 12.7	+1.7
	comp=E,1.9nm,0.8s						
RMW	Rattlesnake Mo	18.67	344	eP	P	09 48 13.7	+2.7
CCM	Cathedral Cave	20.80	60	P	P	09 48 33.3	-1.5
LRAL	Lakeview Retre	23.48	75	P	P	09 48 59.0	-2.6
CPCT	Cooper Cave	25.64	69	P	P	09 49 18.7	-3.6
DLBC	Dease Lake	30.72	344	P	P	09 50 10.7	+2.6
	comp=E,2.2nm,1.0s,mb3.9,baz=149,slow=9.2,SNR=6.8						
DLBC				LR	LR	10 03 32.8	
	comp=E,266nm,18.6s,MS3.9,baz=158,slow=38						
DLBC	Dease Lake	30.72	344	P	P	09 50 10.7	+2.6
DLBC				LR	LR	10 03 32.8	
SADO	Sadowa	31.46	52	LR	LR	10 03 08.3	
	comp=E,70nm,20.7s,MS3.3,baz=278,slow=37						
YKA	Yellowknife Ar	32.80	360	LR	LR	10 04 09.2	
	comp=E,152nm,19.0s,MS3.7,baz=215,slow=37						
INK	Inuvik	40.27	349	LR	LR	10 09 31.2	
	comp=E,154nm,18.7s,MS3.9,baz=143,slow=38						
ILAR	Eielson Array	40.59	339	P	P	09 51 35.0	+3.0
	comp=E,1.5nm,0.8s,mb3.7,baz=154,slow=7.5,SNR=22						
SCHQ	Schefferville	42.04	40	LR	LR	10 08 21.1	
	comp=E,66nm,19.6s,MS3.5,baz=23,slow=35						
ROSC	El Rosal	45.06	115	LR	LR	10 15 19.2	
	comp=E,59nm,18.9s,MS3.5,baz=21,slow=42						
PSAN	Santo Antonio	71.40	57	e-		09 54 06.2	
BDFB	Brasilia	78.13	116	LR	LR	10 30 14.6	
	comp=E,58nm,21.5s,MS3.9,baz=125,slow=36						
ASAJ	Asahikawa	78.50	314	LR	LR	10 27 31.9	
	comp=E,38nm,18.8s,MS3.8,baz=168,slow=33						
PLCA	Paso Flores	80.93	148	LR	LR	10 24 39.2	
	comp=E,66nm,21.3s,MS4.0,baz=25,slow=30						

IDC 20 09:51:10.1±2.8**, 23.03S**×**112.49W, mb3.6**/3**, mb1 4.1**/3**, mb1mx3.8**/16**, MS3.8**/3**, Ms1 3.7**/3**, ms1mx3.2**/21**, Error ellipse: s-maj=141.0km s-min=66.4km az=81.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	52.74	10	P	P	10 00 25.6	-3.6
	0.3nm,0.9s,baz=171,slow=12,SNR=2.9						
TXAR				LR	LR	10 17 51.4	
	comp=Z,35nm,18.5s,baz=155,slow=30						
NVAR	Mina Array Bea	61.37	355	P	P	10 01 29.4	-0.8
	1.3nm,0.8s,baz=186,slow=8.2,SNR=12						
RPZ	Rata Peaks	64.89	231	LR	LR	10 26 41.8	
	comp=Z,130nm,18.3s,baz=328,slow=33						
PDAR	Pinedale Array	65.52	2	P	P	10 01 54.5	-2.9
	0.8nm,1.0s,baz=172,slow=6.4,SNR=4.5						
NEW	Newport	71.08	357	LR	LR	10 26 31.8	
	comp=Z,58nm,21.2s,baz=51,slow=30						
BRTR	Keskin Array B	146.88	52	PKPbc	PKPbc	10 10 55.0	+0.9
	0.9nm,0.6s,baz=270,slow=2.5,SNR=4.7						
MKAR	Makanchi Array	153.46	337	PKPbc	PKPdf	10 11 09.3	+5.0
	0.3nm,0.5s,baz=4.5,slow=3.1,SNR=4.1						

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*NEIC **20** 09:51:58.8, 32.66S×71.61W, h10^{km}, ML2.6(GUC), After GUC.*

GUC 20 09:51:58.8±0.5**, 32.66S**×**71.61W, h10^{km}**±3^{km}**, MD3.7, ML2.6, 3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.37	184	⇓iP	Pg	09 52 06.5	+0.1
IHA				i S	Sg	09 52 12.5	+1.0
LCCH	Las Cruces	0.82	178	i P	Pb	09 52 14.0	-0.6
JACH	Jahuel	0.86	92	i P	Pb	09 52 15.0	-0.2
JACH				i S	Sb	09 52 27.3	+0.8
TACH	Talagante	1.14	151	⇓iP	Pb	09 52 19.4	-0.8
DSCH	Colegio Aleman	1.15	131	eP	Pb	09 52 19.6	-0.6
DSCH				i S	Sb	09 52 34.9	0.0
DSCH				AMP		09 52 37.0	
	comp=N,266nm,0.5s						
FCH	Farellones	1.29	122	⇓iP	Pb	09 52 22.2	-0.6
FCH				i S	Sb	09 52 40.2	+1.0
FCH				AMP		09 52 41.5	
	comp=E,105nm,0.2s						
LNV	Longovilo	1.31	173	eP	Pb	09 52 20.5	-2.5
PCH	Pirque	1.33	137	i P	Pb	09 52 21.7	-1.7
PCH				i S	Sb	09 52 39.6	-0.7
CHCH	Chadas Angostu	1.50	148	eP	Pn	09 52 25.4	-0.5
CHCH				i S	Sb	09 52 45.3	-0.1
LMEL	Las Melosas	1.67	136	eP	Pn	09 52 28.1	-0.2
LMEL				i S	Sn	09 52 50.5	+0.5
LMEL				AMP		09 52 54.7	
	comp=N,185nm,0.2s						
CACH	El Canelo	1.68	150	eP	Pn	09 52 29.2	+0.7
CACH				i S	Sn	09 52 51.8	+1.5
SFDO	San Fernando	2.02	166	eP	Pn	09 52 33.1	-0.2

GUC 20 10:03:26.2±0.4**, 34.97S**×**72.57W, h31^{km}**±4^{km}**, MD3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.88	119	i S	Sn	10 03 54.4	+0.1
LNV	Longovilo	1.39	44	i P	Pn	10 03 50.2	+0.3
CACH	El Canelo	1.83	63	i P	Pn	10 03 57.5	+1.3
CACH				i S	Sn	10 04 21.3	+2.7
CICH	Cipreses	1.89	71	eP	Pn	10 03 57.7	+0.8
CICH				i S	Sn	10 04 22.2	+2.3
CHCH	Chadas Angostu	1.89	57	eP	Pn	10 03 58.1	+1.1
CHCH				i S	Sn	10 04 21.9	+1.9

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*PRU **20** 10:11:20.6, 51.43N×16.20E*

*WAR **20** 10:11:21.1, 51.45N×16.17E, ML2.8, Mining Induced*

*NEIC **20** 10:11:24.5±1.4, 51.21N×16.01E, h5^{km}, MG2.8(WAR), Error ellipse: s-maj=16.9km s-min=7.2km az=209.0*

ISC 20 10:11:17.8±1.3**, 51.48N**±0.06×**16.19E**±0.06**, n11, σ1^{s}12**/24**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	174	ePG	Pg	10 11 32.0	+1.3
KSP				eSG	Sg	10 11 40.0	+0.7
KSP	Ksiaz	0.64	174	ePg	Pg	10 11 32.3	+1.6
KSP				eSg	Sg	10 11 40.5	+1.2
UPC	Upice	0.98	187	ePG	Pg	10 11 38.4	+0.9
UPC				eSG	Sg	10 11 51.5	+0.9
DPC	Dobruska-Polom	1.14	176	ePG	Pg	10 11 41.2	+0.7
DPC				eSG	Sg	10 11 55.6	-0.1
PVCC	Panska Ves	1.40	228	ePG	Pg	10 11 46.6	+0.8
PVCC				eSG	Sg	10 12 04.9	+0.4
BRG	Berggiesshubel	1.54	248	i Pg	Pg	10 11 48.9	+0.3
BRG				i Sg	Sg	10 12 09.3	+0.2
PRU	Pruhonice	1.83	216	ePG	Pg	10 11 53.4	-0.9
PRU				eSG	Sg	10 12 16.7	-2.0
	16nm,0.3s						
CLL	Collm	2.00	266	ePG	Pg	10 11 58.0	+0.1
CLL				eSG	Sg	10 12 24.0	-0.6
OKC	Ostrava-Krasne	2.06	142	ePG	Pg	10 11 58.3	-0.8
OKC				eSG	Sg	10 12 24.2	-2.4
KHC	Kasperske Hory	2.89	216	ePN	Pn	10 12 07.0	+1.0
KHC				ePG	Pg	10 12 13.0	-2.5
KHC						10 12 41.8	
KHC				eSG	Sg	10 12 50.0	-4.0
KHC	Kasperske Hory	2.89	216	eP	Pn	10 12 07.0	+1.0
KHC				ePg	Pg	10 12 13.0	-2.5
KHC				e		10 12 41.8	
KHC				eSg	Sg	10 12 50.0	-4.0

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*IDC **20** 10:25:17.9±1.0, 53.41N×164.85W, h30^{km}±5^{km}, mb3.8/10, mb1 4.0/13, mb1mx3.8/27, ML3.3/3, MS3.3/4, Ms1 3.3/4, ms1mx2.7/33, Error ellipse: s-maj=27.3km s-min=12.8km az=2.0*

*NEIC **20** 10:25:17.4±0.3, 53.40N×164.51W, mb3.9/1, ML3.5(AEIC), Error ellipse: s-maj=5.3km s-min=3.0km az=170.0*

ISC 20 10:25:13.9±1.4**, 53.19N**±0.04×**164.40W**±0.06**, h22^{km}**±11^{km}**, h30^{km}**±1.5^{km}**:pP-P, n53, σ0^{s}91**/56**, mb4.0**/11**, MS3.2**/3**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	Akutan	1.25	320	P	Pn	10 25 36.3	0.0
AKA				S	Sb	10 25 53.6	+1.2
AHB	Akutan Harbor	1.25	318	P	Pn	10 25 36.4	0.0
WESE	West Dahl East	1.29	355	P	Pn	10 25 36.3	-0.6
WESS	West Dahl Sout	1.31	352	P	Pn	10 25 36.7	-0.4
WESS				S	Sn	10 25 54.1	+0.1
AKLV	Akutan Long Va	1.35	317	P	Pn	10 25 37.5	-0.2
AKLV				S	Sn	10 25 56.0	+1.1
WFAR	Faris Peak	1.37	351	P	Pn	10 25 37.4	-0.6
LVA	Lava Point	1.38	316	P	Pn	10 25 38.5	+0.4
AKGG	Akutan Green G	1.39	318	P	Pn	10 25 38.2	0.0
WESN	West Dahl Nort	1.39	356	P	Pn	10 25 38.0	-0.2
UNV	Unalaska Valle	1.42	299	P	Pn	10 25 38.7	0.0
WPOG	Pogromni	1.43	352	P	Pn	10 25 38.4	-0.4
MNAT	Makushin Natee	1.53	298	P	Pn	10 25 40.8	+0.5
MTBL	Makushin Table	1.57	301	P	Pn	10 25 41.3	+0.4
SSLW	Shishaldin Wes	1.59	6	P	Pn	10 25 40.8	-0.4
SSLW				S	Sn	10 26 02.6	+1.3
MSW	Makushin Switc	1.60	298	P	Pn	10 25 41.8	+0.6
MGOD	Makushin Gods	1.60	293	P	Pn	10 25 41.7	+0.4
WTUG	Tugumak	1.66	0	P	Pn	10 25 41.8	-0.4
MCIR	Makushin Cirqu	1.67	298	P	Pn	10 25 43.0	+0.7
FALS	False Pass	1.77	19	P	Pn	10 25 43.2	-0.5
DRIA	Deer Island	2.18	34	P	Pn	10 25 48.9	-0.7
OKER	East Rim	2.21	278	P	Pn	10 25 50.8	+0.8
DTNA	Dutton South F	2.33	32	P	Pn	10 25 51.5	-0.3
HAG	Hague Volcano	2.59	33	P	Pn	10 25 55.0	-0.4
NIKO	Nikolski	2.70	267	P	Pn	10 25 57.2	+0.2
SDPT	Sand Point	3.16	45	P	Pn	10 26 02.9	-0.6
ATKA	Atka Island	6.04	265	P	Pn	10 26 43.7	-0.7
GSMY	Great Sitkin M	7.19	265	P	Pn	10 27 00.3	-0.3
GSTD	Great Sitkin T	7.24	266	P	Pn	10 27 00.6	-0.6
KIMD	Kanaga Island	7.97	265	P	Pn	10 27 10.4	-1.0
KDAK	Kodiak Island	8.13	51	P	P	10 27 11.0	-2.6
FX1	Attu Island--F	13.50	278	Pn	P	10 28 27.0	+0.5
	1.1nm,0.3s,baz=22,slow=5.4,SNR=6.3						
ILAR	Eielson Array	14.63	31	Pn	P	10 28 40.5	-0.7
	0.0nm,0.3s,baz=225,slow=13,SNR=2.6						
ILAR				LR	LR	10 34 44.8	
	comp=Z,141nm,18.3s,baz=58,slow=39						
DAWY	Dawson	16.84	40	eP	P	10 29 10.2	+0.7
DLBC	Dease Lake	19.86	61	P	P	10 29 49.6	+3.4
	0.1nm,0.3s,baz=234,slow=14,SNR=3.3						
INK	Inuvik	21.02	32	P	P	10 29 58.5	+0.4
	3.8nm,0.6s,mb3.9,baz=241,slow=9.4,SNR=10.0						
YKA	Yellowknife Ar	27.41	50	P	P	10 31 00.4	+1.1
	0.6nm,0.7s,mb3.2,baz=276,slow=9.7,SNR=5.0						
YKA				LR	LR	10 42 57.7	
	comp=Z,26nm,21.7s,MS2.8,baz=250,slow=39						
YKA	Yellowknife Ar	27.41	50	P	P	10 31 00.4	+1.1
YKA				LR	LR	10 42 57.7	
NEW	Newport	29.89	80	P	P	10 31 22.5	+0.7
HLID	Hailey	33.93	86	P	P	10 31 57.4	+0.1
NVAR	Mina Array Bea	34.70	96	P	P	10 32 07.7	+3.7
	0.4nm,0.7s,mb3.4,baz=308,slow=10,SNR=3.6						
NVAR				pP	pP	10 32 17.1	+6.6
	1.2nm,0.8s,baz=301,slow=7.5,SNR=6.9						
MTUM	Tungsten Hills	35.25	98	eP	P	10 32 09.0	+0.3
DUG	Dugway	36.88	89	P	P	10 32 24.7	+2.3
PV01	Paradox Valley	40.74	89	eP	P	10 32 56.0	+1.4
WMOK	Wichita Mounta	48.88	85	eP	P	10 33 59.1	-0.6
	1.0nm,0.8s,mb3.9						
TXAR	Lajitas Array	49.75	94	P	P	10 34 08.0	+1.5
	0.6nm,0.8s,mb3.7,baz=298,slow=6.0,SNR=6.0						
SONM	Songino Array	53.43	303	P	P	10 34 33.1	-0.9
	0.8nm,0.4s,mb4.0,baz=51,slow=7.9,SNR=4.8						
ZAL	Zalesovo	58.82	320	P	P	10 35 10.7	-1.9
	1.8nm,0.3s,mb4.5,baz=117,slow=13,SNR=4.1						
ZAL				pP	pP	10 35 18.9	-0.4
	4.0nm,0.7s,baz=195,slow=6.6,SNR=5.1						
ZAL				LR	LR	10 59 38.6	
	comp=Z,26nm,21.1s,MS3.3,baz=264,slow=35						
KURK	Kurchatov	63.71	321	eP	P	10 35 43.5	-1.9
BVAR	Borovoye Array	64.73	327	P	P	10 35 50.9	-1.2
	3.2nm,0.8s,mb4.4,baz=53,slow=7.2,SNR=12						
ARU	Arti	65.20	335	P	PcP	10 36 21.6	-5.8
	308nm,0.5s,SNR=11						
MKAR	Makanchi Array	65.38	316	P	P	10 35 54.4	-2.0
	2.1nm,0.8s,mb4.2,baz=50,slow=6.1,SNR=19						
MKAR				pP	pP	10 36 04.3	+1.1
	1.2nm,0.4s,baz=153,slow=9.4,SNR=11						
MKAR				LR	LR	11 05 27.2	
	comp=Z,35nm,18.9s,MS3.6,baz=254,slow=37						
CMAR	Chiang Mai Arr	79.33	286	P	P	10 37 19.9	+0.5
	0.6nm,0.4s,mb3.9,baz=22,slow=4.9,SNR=5.1						
BRTR	Keskin Array B	86.15	346	P	P	10 37 54.8	+0.7
	5.4nm,1.1s,mb4.7,baz=45,slow=1.7,SNR=7.0						

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*IDC **20** 10:30:31.8±5.3, 26.28N×94.30E, mb4.0/3, mb1 4.3/4, mb1mx3.6/20, ML4.0/1, Error ellipse: s-maj=111.0km s-min=87.5km az=100.0*

ISC 20 10:30:59.8±1.3**, 24.4N**±0.4×**94.7E**±0.3**, h158^{km}**±10^{km}**, n12, σ0^{s}66**/17**, mb3.9**/3**, 2D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.78	301	⇓eP	P	10 31 23.0	-0.9
SHL	Shillong	2.79	296	⇓ePN	P	10 31 45.5	+0.1
SHL				eSN	S	10 32 20.0	-0.4
CMAR	Chiang Mai Arr	7.11	145	Pn	P	10 32 42.5	+0.3
	0.5nm,0.3s,baz=328,slow=13,SNR=20						
GUN	Gumba	8.64	296	ePn	P	10 33 03.4	+0.8
GUN				eSn	S	10 34 38.1	-0.5
	102nm,0.5s						
PKI	Pulchoki	8.92	293	ePn	P	10 33 07.0	+0.8
PKI				eSn	S	10 34 44.5	-0.6
	50nm,0.7s						
KKN	Kakani	9.10	294	ePn	P	10 33 09.1	+0.5
KKN				eSn	S	10 34 48.4	-0.9
	45nm,0.5s						
DMN	Daman	9.19	293	ePn	P	10 33 10.1	+0.4
GKN	Gorkha	9.71	294	ePn	P	10 33 17.5	+0.9
GKN				eSn	S	10 35 03.6	-0.1
	62nm,0.3s						
KOLN	Koldanda	10.51	291	ePn	P	10 33 28.3	+1.2
FITZ	Fitzroy Crossi	51.91	142	P	P	10 39 54.5	0.0
	3.1nm,1.1s,mb3.9,baz=315,slow=11,SNR=3.4						
WRA	Warramunga Arr	58.59	135	P	P	10 40 41.7	-0.9
	1.3nm,0.6s,mb4.0,baz=322,slow=7.5,SNR=20						
ASAR	Alice Springs	61.07	138	P	P	10 40 59.0	-0.5
	0.7nm,0.5s,mb3.8,baz=321,slow=7.0,SNR=16						

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*MOS **20** 11:12:08.3±1.7, 36.10N×28.05E, h10^{km}, mb4.7/13, Error ellipse: s-maj=11.4km s-min=4.0km az=105.4*

*BJI **20** 11:12:15.3, 36.96N×27.86E, h67^{km}, mB5.1, mb4.7, Ms4.2, Msz4.2*

*CSEM **20** 11:12:16.1, 36.39N×28.06E, h80^{km}, mb4.7*

*IDC **20** 11:12:17.8±1.1, 36.51N×27.76E, h68^{km}±9^{km}, mb4.3/17, mb1 4.5/26, mb1mx4.5/28, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=16.9km s-min=8.2km az=147.0*

*ATH **20** 11:12:17.1, 36.45N×27.91E, h72^{km}±1^{km}, ML4.8*

*ISK **20** 11:12:18.4, 36.56N×27.88E, h77^{km}, MD4.3, ML4.5*

*MED_RC **20** 11:12:18.1±0.3, 36.42N×27.87E, h71^{km}±3^{km}, MW4.5/13, Moment Tensor Solution. Body waves: s13,c17; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85±.26; $M_{\theta\theta}$-2.98±.27; $M_{\phi\phi}$2.13±.22; $M_{r\theta}$2.86±.14; $M_{\theta\phi}$5.27±.32; $M_{\phi r}$1.21±.07; Best double couple: $M_0$6.67×10^{15} NP1: ϕ_s345°, δ62°, λ172°. NP2: ϕ_s79°, δ83°, λ28°. Principal axes: T 6.61, Plg25°, Azm306°; N .13, Plg61°, Azm92°; P -6.73, Plg14°, Azm209°; nsta1 refers to waves, cutoff=35s.*

*PDG **20** 11:12:18.7±0.1, 36.53N×27.56E, h5^{km}*

*NEIC **20** 11:12:18.1, 36.54N×27.88E, h78^{km}, mb4.6/95, After ISK.*

NEIC Felt at Dodrum, Datca and Marmaris, Turkey.

*ZUR_RM **20** 11:12:18, 36.54N×27.88E, h66^{km}, Mw4.7/20, Moment Tensor Solution. s20 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.15; $M_{r\theta}$0.39; $M_{\theta\phi}$1.01; $M_{\phi r}$0.14; Best double couple: $M_0$1.11×10^{16} NP1: ϕ_s86°, δ84°, λ22°. NP2: ϕ_s353°, δ69°, λ173°. Principal axes: T 1.114, Plg20°, Azm311°; N -.01, Plg68°, Azm101°; P -1.104, Plg11°, Azm218°;*

*THE **20** 11:12:21.0, 36.51N×27.84E, h28^{km}, ML4.7*

*NIC **20** 11:12:20.6±0.2, 36.29N×28.28E, h51^{km}, mb4.8, ML4.5, Earthquake Dodecanese Islands, Greece 16 km W Rodhos.*

*DUSS **20** 11:12:21.4±0.9, 36.39N×28.12E, h15^{km}, ML5.6*

*NSSC **20** 11:12:33.5, 36.21N×29.59E, h22^{km}±20^{km}*

ISC 20 11:12:16.5±0.1**, 36.34N**±0.01×**27.98E**±0.01**, h82^{km}**±1^{km}**, h84^{km}**±.4^{km}**:pP-P, n501, σ1^{s}12**/569**, mb4.6**/88**, 52C-24D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.17	138	⇑iP	P	11 12 29.6	+1.2
ARG				eS	S	11 12 37.8	+0.5
DALT	Dalyan (Mudla)	0.68	51	i PG	P	11 12 33.7	+1.4
DALT				i SG	S	11 12 44.5	+0.5
DALT	Dalyan (Mudla)	0.68	51	Pg	P	11 12 33.7	+1.4
DALT				Sg	S	11 12 44.7	+0.7
NISR	Nisiros	0.74	292	eP	P	11 12 32.0	-1.0

YER	Yerkesik	0.83	17	ePG	P	11 12 34.2	+0.3
BDRM	Kayabasi	0.84	329	i P	P	11 12 33.5	-0.6
BDRM				i S	S	11 12 44.5	-2.6
MLSB	Milas	0.96	350	i PG	P	11 12 35.3	-0.2
KARP	Karpathos	1.04	220	⇓iP	P	11 12 38.0	+1.7
KARP				eS	S	11 12 52.0	+0.7
KSL	Kastellorizon	1.31	98	eP	P	11 12 41.5	+1.6
AYDN	Tasoluk	1.32	356	i P	P	11 12 40.1	0.0
AYDN				i S	S	11 12 55.6	-1.9
DNZL	Cakiroluk	1.59	32	i P	P	11 12 44.7	+1.1
DNZL				i S	S	11 13 05.8	+2.2
ELL	Elmali	1.60	75	i PN	P	11 12 46.6	+2.8
DENT	Denizli	1.64	30	i PN	P	11 12 45.1	+0.9
SMG	Samos	1.64	326	⇓iP	P	11 12 43.6	-0.7
SMG				eS	S	11 13 02.1	-2.6
ZKR	Zakros	1.89	230	Pn	P	11 12 49.5	+2.0
SANT	Santorini	2.04	272	⇑ePn	P	11 12 50.2	+0.7
SANT				eSn	S	11 13 12.8	-1.1
THR1	Thera Island	2.04	272	ePb	P	11 12 50.3	+0.7
THR1				eSb	S	11 13 13.2	-0.8
THR3	Thira Island,	2.08	273	ePb	P	11 12 51.0	+0.7
THR6	Thira Island,	2.09	271	ePb	P	11 12 51.2	+0.9
THR4	Thira Island,	2.09	274	ePb	P	11 12 51.1	+0.8
APE	Apeiranthos	2.10	291	i PN	P	11 12 50.7	+0.3
APE	Apeiranthos	2.10	291	eP	P	11 12 50.9	+0.5
APE				eS	S	11 13 14.0	-1.5
APE	Apeiranthos	2.10	291	eP	P	11 12 50.8	+0.4
APE				eS	S	11 13 14.0	-1.5
APE				eS	S	11 13 14.2	-1.3
THR5	Thira Island,	2.13	273	ePn	P	11 12 51.2	+0.3
IZM	Izmir	2.13	345	i PN	P	11 12 50.2	-0.7
KDAG	Bornova	2.13	345	i P	P	11 12 50.3	-0.7
KDAG				i S	S	11 13 12.2	-4.2
MANT	Manisa	2.19	12	i P	P	11 12 51.8	+0.1
MANT				i S	S	11 13 17.1	-0.8
NPS	Neapolis	2.21	241	eP	P	11 12 52.8	+0.8
NPS				eS	S	11 13 17.8	-0.4
KHL	Karahalli	2.33	31	i PN	P	11 12 54.2	+0.6
BCK	Bucak	2.37	61	i PN	P	11 12 56.6	+2.4
XRY	Khrisi	2.37	233	eP	P	11 12 56.0	+1.8
ISP	Isparta	2.51	53	ePN	P	11 12 57.1	+0.8
AKS	Akhisar	2.54	357	i PN	P	11 12 55.8	-0.8
IDI	Anoyia	2.73	248	P	P	11 12 59.4	+0.2
	86nm,0.3s,baz=62,slow=16,SNR=229						
IDI				S	S	11 13 28.9	-2.2
	191nm,0.3s,baz=301,slow=23,SNR=9.5						
ALT	Altintas	3.19	31	i PN	P	11 13 06.1	+0.4
PRK	Paraskevi	3.20	335	⇓iP	P	11 13 05.0	-0.8
PRK				eS	S	11 13 39.7	-3.2
VAM	Vamos	3.21	254	⇑iP	P	11 13 07.4	+1.4
BALB	Balikesir	3.29	359	i PN	P	11 13 06.5	-0.6
DST	Dursunbey	3.30	9	ePN	P	11 13 07.2	+0.1
GVD	Gavdhos	3.51	246	eP	P	11 13 12.0	+1.9
GVD				eS	S	11 13 50.0	-0.7
HDMB	Hadim	3.67	79	i PN	P	11 13 15.7	+3.3
ATH	Athens Observa	3.78	297	eP	P	11 13 14.8	+1.0
PPCY	Paphos	3.84	111	⇑P	P	11 13 15.0	+0.3
PPCY	Paphos	3.84	111	⇑eP	P	11 13 15.0	+0.3
MPAR	Parnis Oros	3.84	299	⇓iP	P	11 13 15.6	+0.9
KONT	Konya--Tatoy	3.85	64	i PN	P	11 13 16.7	+2.0
NAIG	Nisos Aigina	3.86	293	eP	P	11 13 15.5	+0.5
ESKT	Eskisehir	3.90	35	i P	P	11 13 15.8	+0.4
ESKT				i S	S	11 13 57.9	-2.4
ULDT	Uludag	3.90	13	i P	P	11 13 15.0	-0.5
KCT	Karacabey	3.93	4	i PN	P	11 13 14.9	-1.0
NSAL	Nisos Salamina	3.94	295	⇓iP	P	11 13 16.8	+0.8
ALFC	Alevga	3.94	106	⇑P	P	11 13 15.8	-0.2
	55nm,0.2s						
ALFC				S	S	11 13 59.1	-2.1
ALFC	Alevga	3.94	106	⇑eP	P	11 13 15.8	-0.2
ALFC				S	S	11 13 59.1	-2.1
KYTH	Kithira	4.00	271	eP	P	11 13 17.5	+0.7
KIZT	Kizilcal	4.00	50	i PN	P	11 13 17.7	+0.8
EDC	Edincik	4.00	359	i PN	P	11 13 15.9	-1.0
BNT	Bandirma	4.01	359	ePN	P	11 13 15.5	-1.5
VLI	Veliai	4.08	277	eP	P	11 13 18.8	+0.8
LPK	Lapseki	4.14	347	i PN	P	11 13 18.4	-0.4
LEF	Lefka	4.17	106	Pn	P	11 13 19.0	-0.3
LIA	Limnos Island	4.18	329	⇓iP	P	11 13 18.8	-0.6
MKIT	Kithairon Oros	4.19	297	eP	P	11 13 20.5	+1.0
SZAC	Souni-Zanaja	4.30	110	⇑P	P	11 13 21.0	0.0
	36nm,0.1s						
SZAC				S	S	11 14 08.0	-2.2
SZAC	Souni-Zanaja	4.30	110	⇑eP	P	11 13 21.0	0.0
SZAC				S	S	11 14 08.0	-2.2
AOS	Alonnisos	4.31	312	ePn	P	11 13 21.1	0.0
YLV	Yalova	4.36	14	i PN	P	11 13 21.2	-0.6
SART	Tekirdag	4.38	352	i P	P	11 13 21.4	-0.8
SART				i S	S	11 14 09.6	-2.8
MAMC	Mammari	4.41	104	P	P	11 13 22.7	+0.1
CSS	Prodhromos	4.57	106	P	P	11 13 24.4	-0.3
	28nm,0.3s						
CSS				S	S	11 14 15.3	-1.6
LKR	Lokris	4.58	302	⇓iP	P	11 13 25.5	+0.5
IKL	Isikli	4.61	90	i PN	P	11 13 28.0	+2.7
IKL	Isikli	4.61	90	Pn	P	11 13 26.1	+0.8
HRT	Hereke	4.66	16	i PN	P	11 13 25.4	-0.7
ISK	Istanbul-Kandi	4.79	10	ePN	P	11 13 26.5	-1.3
NEO	Neokhori	4.79	310	⇓iP	P	11 13 28.1	+0.3
ALN	Alexandroupoli	4.79	342	ePn	P	11 13 27.1	-0.7
	comp=Z,12nm,0.2s						
ALN				eSn	S	11 14 18.1	-4.5
CTT	Catalca	4.81	4	i PN	P	11 13 26.6	-1.5
MDU	Mudurnu	4.83	31	i PN	P	11 13 29.2	+0.8
XOR	Xorichti	4.85	310	ePn	P	11 13 28.7	+0.1
PAIG	Paliouri	4.93	318	ePn	P	11 13 29.4	-0.3
ITM	Ithomi	4.93	282	eP	P	11 13 31.7	+1.9
HENT	Hendek	5.02	26	i P	P	11 13 31.4	+0.4
OUR	Ouranopolis	5.08	323	ePn	P	11 13 31.5	-0.3
	comp=Z,8.4nm,0.3s						
PHNC	Paralimni	5.10	103	P	P	11 13 33.7	+1.6
RDO	Rodhopi	5.16	339	⇓iP	P	11 13 32.2	-0.7
ANTO	Ankara	5.17	46	i PN	P	11 13 33.9	+0.8
AGG	Agios Georgios	5.22	303	ePn	P	11 13 35.1	+1.4
SGKT	Sivrigoynuk	5.30	36	i P	P	11 13 36.0	+1.3
KAMT	Kaman	5.45	55	i PN	P	11 13 37.8	+1.0
RLS	Riolos of Patr	5.48	290	eP	P	11 13 39.1	+1.9
EVR	Evrytania	5.53	300	eP	P	11 13 39.8	+1.8
NIG	Nigde	5.57	70	PN	P	11 13 40.9	+2.4
EDRB	Edirne	5.58	350	ePN	P	11 13 37.3	-1.3
BRTR	Keskin Array B	5.60	51	P	P	11 13 39.7	+0.9
	10nm,0.3s,baz=229,slow=14,SNR=133						
BRTR				S	S	11 14 41.5	-1.1
	8.9nm,0.3s,baz=223,slow=24,SNR=7.1						
BRTR	Keskin Array B	5.60	51	P	P	11 13 39.7	+0.9
BRTR				S	S	11 14 41.5	-1.0
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KDZ	Kurdzhali	5.66	340	P	P	11 13 39.0	-0.8
SOH	Sokhos	5.76	322	ePn	P	11 13 40.7	-0.3
THE	Thessaloniki	5.82	319	ePn	P	11 13 42.5	+0.6
	comp=Z,4.5nm,0.2s						
SRS	Serrai	5.87	326	ePn	P	11 13 42.3	-0.4
SRS				eSn	S	11 14 46.2	-3.1
RZN	Rozhen	5.91	336	P	P	11 13 42.5	-0.7
NVR	Nevrokopi	5.95	329	⇑iP	P	11 13 43.4	-0.2
ELDT	Eldivan	5.95	44	i P	P	11 13 45.0	+1.3
AVNT	Avonos	5.98	64	i P	P	11 13 45.3	+1.3
DIM	Dimitrovgrad	6.01	342	P	P	11 13 44.0	-0.5
SAFT	Safranbolu	6.12	35	ePN	P	11 13 46.5	+0.5
CANT	Cankiri	6.14	44	i PN	P	11 13 47.2	+0.9
VLS	Valsamata	6.17	289	eP	P	11 13 48.0	+1.1
MMB	Musomiste	6.20	329	P	P	11 13 46.2	-1.0
KNT	Kendrikon	6.24	322	ePn	P	11 13 48.2	+0.5
KNT				eSn	S	11 14 56.4	-1.9
CEYT	Ceyhan	6.28	82	ePN	P	11 13 50.0	+1.7
CEYT	Ceyhan	6.28	82	Pn	P	11 13 49.2	+0.9
KZN	Kozani	6.29	311	eP	P	11 13 49.5	+1.1
PLD	Plovdiv	6.29	337	P	P	11 13 49.0	+0.5
MEV	Metsovon	6.34	305	ePn	P	11 13 50.8	+1.6
	comp=Z,9.5nm,0.4s						
ARNB	Al Arnab	6.49	92	⇑P	P	11 13 50.4	-0.8
ARNB				⇑S	S	11 14 45.9	-19
HTY	Hatay	6.59	90	ePN	P	11 13 54.3	+1.6
TOS	Tosya	6.65	43	i PN	P	11 13 54.0	+0.4
COBT	Iskenderun	6.67	86	i P	P	11 13 54.7	+0.9
MATL	Matirih	6.67	113	ePN	P	11 13 52.6	-1.3
KKB	Krupnik	6.70	327	P	P	11 13 54.0	-0.3
SLNF	Slenfeh	6.72	94	⇑P	P	11 13 54.4	-0.1
SLNF				⇑S	S	11 14 51.8	-18
BHL	Bhannes	6.74	109	ePN	P	11 13 53.1	-1.7
HNTI	Hanita	6.75	117	P	P	11 13 53.6	-1.4
HNTI				S	S	11 15 05.0	-6.0
HAF	Haifa	6.81	119	P	P	11 13 54.2	-1.5
FNA	Florina	6.81	313	ePn	P	11 13 56.5	+0.7
	comp=Z,2.2nm,0.4s						
HWQ	Hawqa	6.83	105	ePN	P	11 13 55.3	-0.7
IGT	Igoumenitsa	6.83	300	ePn	P	11 13 57.1	+1.0
IGT				eSn	S	11 15 10.9	-2.1
CTKT	Corum	6.84	49	i P	P	11 13 57.2	+1.1
BTCH	Batrach	6.86	90	⇑P	P	11 13 55.3	-1.1
BTCH				⇑S	S	11 14 56.1	-18
PGB	Panagyurishte	6.87	336	P	P	11 13 56.0	-0.5
OFRI	‘Ofer	6.87	121	P	P	11 13 55.4	-1.2
WRDH	Warideh	6.89	94	⇑P	P	11 13 55.4	-1.5
WRDH				⇑S	S	11 14 55.9	-18
BIDA	Albida	6.91	99	⇑P	P	11 13 55.4	-1.8
BIDA				⇑S	S	11 14 56.3	-19
DRWC	Darouich	7.00	85	⇑P	P	11 13 58.1	-0.3
DRWC				⇑S	S	11 14 59.2	-18
KSDI	Kefar Szold	7.05	114	P	P	11 13 58.6	-0.5
HRI	Mount Hermon	7.08	113	P	P	11 13 58.7	-0.7
SZH	Strazhica	7.09	348	eP	P	11 13 58.2	-1.4
SLTI	Sal’it	7.13	123	P	P	11 13 58.4	-1.7
SLTI				S	S	11 15 13.7	-6.6
BRBR	Barbar	7.17	112	⇑P	P	11 14 00.2	-0.5
BRBR				⇑S	S	11 15 04.5	-17
VTS	Vitosha	7.25	331	P	P	11 14 02.0	+0.2
KSHT	Keshet	7.27	115	P	P	11 14 01.5	-0.5
MMLI	Mount Malkishu	7.28	120	P	P	11 14 01.0	-1.2
KEK	Kerkira	7.28	300	eP	P	11 14 03.3	+1.1
MARH	Ras Al Marh	7.33	106	⇑P	P	11 14 02.8	-0.1
PSN	Preselentsi	7.33	1	eP	P	11 14 01.0	-1.9
OHR	Ohrid	7.36	312	⇑iPn	P	11 14 04.8	+1.5
QASN	Qassioun	7.36	110	⇑P	P	11 14 03.8	+0.4
DUSS	Damascus Unive	7.38	110	i P	P	11 14 05.3	+1.7
DUSS				i P		11 14 05.5	
DUSS				e		11 14 05.8	
	baz=296,slow=10						
DUSS				i P		11 14 06.1	
DUSS				eS	S	11 15 22.9	-3.6
DUSS				AML	AML	11 15 28.5	
	comp=E,9µm,0.5s						
DUSS				AML	AML	11 15 28.5	
	comp=N,11µm,0.5s						
DUSS				AML	AML	11 15 32.4	
	comp=Z,5µm,0.3s						
GAZ	Gaziantep	7.45	81	ePN	P	11 14 06.0	+1.4
GAZ	Gaziantep	7.45	81	Pn	P	11 14 04.9	+0.3
HMDT	Nahal Hemdat	7.46	121	P	P	11 14 03.3	-1.3
HMDT	Nahal Hemdat	7.46	121	⇑P	P	11 14 03.3	-1.3
TCHB	Talchebab	7.54	117	⇓P	P	11 14 05.5	-0.2
TCHB				⇓S	S	11 15 14.5	-16
TOTH	TOTAH	7.55	111	⇑P	P	11 14 06.2	+0.3
SKO	Skopje	7.58	320	⇑iPn	P	11 14 07.3	+1.0
	comp=Z,0.1nm,0.6s						
SKO	Skopje	7.58	320	⇑iPn	P	11 14 07.0	+0.7
	comp=Z,60nm,0.6s						
KZIT	Kziot	7.61	134	P	P	11 14 05.9	-0.9
KZIT				S	S	11 15 25.5	-6.7
KZIT	Kziot	7.61	134	⇑P	P	11 14 05.9	-0.9
KZIT				S	S	11 15 25.5	-6.7
RTMM	Retamin	7.68	131	P	P	11 14 06.9	-0.8
SVTA	Shivta	7.73	132	P	P	11 14 07.6	-0.7
SVTA	Shivta	7.73	132	⇓P	P	11 14 07.6	-0.7
GZT	Gaziantep	7.75	80	i P	P	11 14 08.8	+0.2
DRGI	Dragot	7.76	125	P	P	11 14 07.7	-1.1
DRGI	Dragot	7.76	125	⇑P	P	11 14 07.7	-1.1
MASH	Mash‘abbe Sade	7.78	131	P	P	11 14 08.2	-0.9
MZDA	Masada	7.93	127	P	P	11 14 10.2	-0.9
MZDA				S	S	11 15 33.7	-6.2
BARS	Barje	8.03	326	⇑iPn	P	11 14 12.3	-0.1
TIR	Tirane	8.07	311	ePn	P	11 14 14.7	+1.8
SALA	Sala	8.08	114	⇑P	P	11 14 13.9	+0.8
QSH	Qafa e Shtames	8.14	312	i Pn	P	11 14 15.0	+1.0
ZFRI	Zfri	8.33	132	P	P	11 14 15.4	-1.2
PRNI	Paran	8.38	133	P	P	11 14 15.8	-1.3
PRNI				S	S	11 15 44.3	-6.6
PRNI	Paran	8.38	133	⇑P	P	11 14 15.8	-1.3
PRNI				S	S	11 15 44.3	-6.6
KMTI	Karmit	8.40	136	P	P	11 14 16.3	-1.2
KMTI				S	S	11 15 44.6	-6.9
ASF	Jabal al Asfar	8.47	117	P	P	11 14 17.8	-0.6
	comp=Z,20nm,0.3s,baz=158,slow=6.2,SNR=82						
ASF				S	S	11 15 52.1	-1.1
	comp=Z,11nm,0.3s,slow=20,SNR=3.6						
MALT	Malatya	8.55	74	ePn	P	11 14 19.3	-0.2
LCI	Lecce	8.72	300	ePn	P	11 14 21.6	-0.2
MBH	Mount Berech	8.74	136	P	P	11 14 21.2	-0.9
BOLS	Boljevac	8.79	330	⇓iPn	P	11 14 23.0	+0.2
PVY	Plav	8.79	318	⇑iPn	P	11 14 23.0	+0.2
PVY				eSn	S	11 15 56.7	-4.4
ULC	Ulcinj	8.80	312	⇑iPn	P	11 14 22.9	0.0
ULC				eSn	S	11 15 56.5	-4.8
EIL	Elat	8.86	137	P	P	11 14 22.8	-0.9
AQBJ	Aqaba	8.87	136	P	P	11 14 23.3	-0.5
IVA	Berane	9.02	319	⇑iPn	P	11 14 26.9	+1.0
IVA				eSn	S	11 16 01.7	-5.0
TTG	Podgorica	9.08	315	⇑iPn	P	11 14 27.4	+0.6
TTG				eSn	S	11 16 03.7	-4.5
QURS	Qurayyt al Mil	9.20	120	P	P	11 14 32.1	+3.7
BUM	Brajici-Budva	9.21	313	⇑iPn	P	11 14 28.5	0.0
BUM				eSn	S	11 16 07.0	-4.5
MLR	Muntele Rosu	9.27	351	P	P	11 14 29.8	+0.5
	comp=Z,0.7nm,0.3s,baz=185,slow=5.1,SNR=44						
MLR	Muntele Rosu	9.27	351	P	P	11 14 29.8	+0.5
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HAQS	Haql	9.33	139	P	P	11 14 29.2	-0.9
HAQS				S	S	11 16 02.5	-12
TIP	Timpagrande	9.33	291	ePn	P	11 14 29.4	-0.7
TIP				eSn	S	11 16 05.9	-8.3
JMOS	Jabal al Moall	9.33	138	P	P	11 14 29.3	-0.8
NKY	Niksic	9.48	316	⇑iPn	P	11 14 33.0	+0.9
NKY				eSn	S	11 16 13.3	-4.5
GRI	Girifalco	9.51	289	ePn	P	11 14 31.5	-1.0
HCY	Herceg Novi	9.54	313	⇑iPn	P	11 14 33.1	+0.2
HCY				eSn	S	11 16 14.6	-4.7
BRT	Bari-Castellan	9.57	301	ePn	P	11 14 32.8	-0.6
PLE	Pljevlja	9.60	319	⇑iPn	P	11 14 34.9	+1.1
PLE				eSn	S	11 16 16.5	-4.3
SIM	Simferopol’	9.78	27c	iP	P	11 14 37.0	+0.9
SIM				eS	S	11 16 20.0	-5.0
SIM				pmax	pmax		
	comp=Z,30nm,0.7s						
UPM	Unac-Piva	9.78	317	⇑iPn	P	11 14 37.2	+1.0
UPM				eSn	S	11 16 20.9	-4.2
BRY	Bratogost	9.79	315	⇑iPn	P	11 14 36.4	+0.1
BRY				eSn	S	11 16 20.6	-4.7
ORI	Oriolo Calabro	9.81	296	ePn	P	11 14 37.5	+1.0
BDAS	Al Bad‘	9.92	141	P	P	11 14 37.2	-0.9
MTTG	Motta San Giov	9.95	283	ePn	P	11 14 38.4	-0.1
JMQS	Jabal Moqyreh	9.98	136	P	P	11 14 38.4	-0.5
PTRP	Pietrapertosa	10.24	298	P	P	11 14 41.8	-0.6
CUC	Castrocucco	10.25	294	P	P	11 14 42.2	-0.4
MGR	Morigerati	10.48	295	ePn	P	11 14 44.2	-1.6
SLCN	Sala Consilina	10.50	296	ePn	P	11 14 45.2	-0.8
MNO	Monte Soro	10.73	282	P	P	11 14 50.2	+1.2
MRLC	Muro Lucano	10.73	298	ePn	P	11 14 48.9	-0.1
FGMS	Monte Sant’Ang	10.78	303	ePn	P	11 14 47.9	-1.8
SGO	Sicignano	10.79	297	ePn	P	11 14 49.0	-0.9
TBKS	Tabuk	10.86	136	P	P	11 14 51.0	+0.2
VAE	Valguarnera	10.93	280	P	P	11 14 52.3	+0.6
	comp=Z,0.6nm,0.3s,baz=70,slow=12,SNR=2.6						
VAE				S	S	11 16 46.1	-6.7
	comp=Z,5.9nm,0.3s,baz=102,slow=21,SNR=5.8						
RGNG	Rignano Grg	11.01	303	ePn	P	11 14 51.0	-1.9
FG5	Orsara di Pugl	11.08	300	ePn	P	11 14 53.4	-0.3
CSSN	Cassano Irpino	11.10	298	P	P	11 14 54.4	+0.5
CSLB	Castelbuono	11.23	282	P	P	11 14 57.0	+1.2
SOC	Sochi	11.54	48	eP	P	11 15 00.0	+0.1
SOC				eS	S	11 17 07.3	-0.2
SOC				pmax	pmax		
	comp=Z,31nm,0.9s						
SOC				pmax	pmax		
	comp=N,33nm,0.8s						
SOC				pmax	pmax		
	comp=E,28nm,1.0s						
SOC				MLR	MLR		
	comp=Z,162nm,23.0s						
SOC				MLR	MLR		
	comp=N,148nm,30.0s						
SOC				MLR	MLR		
	comp=E,55nm,16.0s						
CII	Carovilli	11.91	301	ePn	P	11 15 05.4	+0.5
	comp=E,22nm,0.6s						
RHK1	Bakonya	12.26	326	eP	P	11 15 09.0	-0.5
PTQR	Pietraquaria	12.65	301	P	P	11 15 15.3	+0.6
AQU	L’Aquila	12.78	302	eP	P	11 15 18.5	+2.1
	comp=E,29nm,0.8s						
NRCA	Norcia	13.16	304	P	P	11 15 20.6	-0.8
ASS	Assisi	13.57	304	P	P	11 15 27.0	+0.4
UMJS	Umm Lajj	13.66	142	P	P	11 15 28.8	+1.0
GNI	Garni	13.71	69	LR	LR	11 22 09.5	
	comp=E,92nm,20.9s,baz=330,slow=43						
FSSB	Fossombrone	13.76	307	P	P	11 15 28.4	-0.7
VYHS	Vyhne	13.88	334	e	P	11 15 32.6	+2.0
VYHS	Vyhne	13.88	334	eP	P	11 15 37.6	+7.0
VYHS	Vyhne	13.88	334	eP	P	11 15 37.6	+7.0
TRI	Trieste	14.22	316	P	P	11 15 37.8	+2.8
KBRS	Khaybar	14.27	134	P	P	11 15 39.4	+3.5
ARSA	Arzberg	14.30	323	⇑iP	P	11 15 39.4	+3.3
	comp=E,7.4nm,0.6s						
VOY	Vojsko	14.34	317	ePn	P	11 15 37.9	+1.3
VOY				e		11 15 39.7	
VOY				e		11 16 16.7	
AKASG	Malin Array Be	14.38	3	P	P	11 15 36.9	-0.1
	comp=E,5.6nm,0.3s,baz=196,slow=12,SNR=20						
AKASG	Malin Array Be	14.38	3	P	P	11 15 36.9	-0.2
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
VMG	Vicchio	14.68	306	P	P	11 15 43.2	+2.2
SEI	Scarperia	14.84	306	P	P	11 15 45.6	+2.5
PTCC	Patocco-Chiusa	14.87	317	P	P	11 15 44.6	+1.2
OJC	Ojcow	15.08	339	eP	P	11 15 51.8	+5.7
OJC				eS	S	11 18 38.8	+7.5
OKC	Ostrava-Krasne	15.26	335	eP	P	11 15 52.8	+4.4
OKC						11 15 53.6	
OKC				e		11 18 56.2	
OKC	Ostrava-Krasne	15.26	335	eP	P	11 15 52.8	+4.4
OKC				e		11 15 53.6	
OKC				eS	S	11 18 56.2	+21
KBA	Koelnbreinsper	15.29	319	⇓iP	P	11 15 52.5	+3.7
	comp=Z,33nm,0.7s						
VRAC	Vranov	15.39	331	P	P	11 15 54.3	+4.2
	comp=Z,2.2nm,0.3s,baz=141,slow=9.2,SNR=28						
MORC	Moravsky Berou	15.42	334	eP	P	11 15 53.2	+2.7
	comp=Z,15nm,0.9s						
GSCL	Gusciola	15.47	306	P	P	11 15 53.9	+2.8
CTI	Castel Tesino	15.63	313	P	P	11 15 52.5	-0.6
PGF	Pioggiola	15.91	299	eP	P	11 15 58.3	+1.7
	comp=Z,46nm,0.7s						
GEC2	GERESS Array S	16.30	324	eP	P	11 16 02.8	+1.4
GERES	GERESS Array B	16.30	324	P	P	11 16 02.9	+1.5
	comp=Z,1.8nm,0.3s,baz=141,slow=8.7,SNR=25						
GERES	GERESS Array B	16.30	324	P	P	11 16 02.9	+1.5
GERES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MABI	Malga Bissina	16.31	312	P	P	11 16 03.8	+2.2
WTTA	Wattenberg	16.32	317	⇑iP	P	11 16 02.7	+0.9
	comp=Z,42nm,1.1s						
DPC	Dobruska-Polom	16.34	333	eP	P	11 16 02.5	+0.5
DPC						11 16 05.1	
DPC	Dobruska-Polom	16.34	333	eP	P	11 16 02.5	+0.5
DPC				e		11 16 05.1	
BOB	Bobbio (Coli)	16.38	307	P	P	11 16 05.4	+2.9
WATA	Walderalm	16.40	317	⇓iP	P	11 16 05.0	+2.3
	comp=Z,28nm,1.0s						
SQTA	Sankt Quirin	16.54	316	⇑iP	P	11 16 06.8	+2.4
	comp=Z,24nm,1.1s						
KHC	Kasperske Hory	16.55	325	eP	P	11 16 05.8	+1.1
KHC						11 16 07.3	
KHC				LM		11 20 00.0	
	comp=Z,0.1nm,8.6s						
KHC	Kasperske Hory	16.55	325	eP	P	11 16 05.8	+1.1
KHC				MLR	MLR		
	comp=Z,100nm,8.6s						
KHC	Kasperske Hory	16.55	325	eP	P	11 16 05.8	+1.1
KHC				e		11 16 07.3	
UPC	Upice	16.58	332	eP	P	11 16 06.4	+1.4
UPC						11 16 08.5	
UPC	Upice	16.58	332	eP	P	11 16 06.4	+1.4
UPC				e		11 16 08.5	
MOTA	Moosalm	16.67	316	⇑iP	P	11 16 07.6	+1.5
	comp=Z,14nm,0.9s						
KSP	Ksiaz	16.75	334	⇑eP	P	11 16 08.8	+1.7
KSP				eS	Sx	11 18 34.3	
PRU	Pruhonice	16.76	329	eP	P	11 16 07.7	+0.5
	comp=Z,26nm,0.8s						
PRU						11 16 08.8	
PRU				eS	S	11 19 18.0	+8.3
PRU				LM		11 21 10.0	
PRU	Pruhonice	16.76	329	eP	P	11 16 07.4	+0.2
PRU				eS	S	11 19 18.0	+8.3
PRU	Pruhonice	16.76	329	eP	P	11 16 07.4	+0.2
PRU				e		11 16 08.8	
PRU				eS	S	11 19 18.0	+8.3
WET	Wettzell	16.89	324	eP	P	11 16 09.5	+0.6
FIN	Finale Ligure	16.99	304	P	P	11 16 09.2	-0.8
RORO		17.05	303	P	P	11 16 10.4	-0.5
DAVOX	Davos	17.06	313	P	P	11 16 13.0	+2.1
	comp=Z,2.7nm,0.3s,baz=117,slow=9.4,SNR=25						
DAVOX	Davos	17.06	313	P	P	11 16 13.0	+2.1
FUR	Furstenfeldbru	17.06	319	eP	P	11 16 11.6	+0.6
IMI	Imperia	17.10	302	P	P	11 16 10.9	-0.6
PVCC	Panska Ves	17.16	330	eP	P	11 16 13.5	+1.2
PVCC						11 16 15.0	
PVCC	Panska Ves	17.16	330	eP	P	11 16 13.5	+1.2
PVCC				e		11 16 15.0	
NEGI	Negi	17.21	302	P	P	11 16 11.6	-1.2
ROB	Roburent	17.25	304	P	P	11 16 12.3	-1.0
MONE	Monesi	17.25	303	P	P	11 16 13.0	-0.4
VAI	Varese	17.29	309	P	P	11 16 15.1	+1.2
DAVA	Damuels	17.32	315	⇑iP	P	11 16 15.0	+0.7
	comp=Z,40nm,0.6s						
SBF	Sospel	17.40	302	eP	P	11 16 14.5	-0.7
	comp=Z,87nm,0.7s						
ENR	Entracque	17.52	303	P	P	11 16 15.1	-1.8
STV2	Anna di Valdie	17.59	303	P	P	11 16 16.0	-1.7
STV	Sta Anna Valdi	17.60	303	P	P	11 16 15.8	-1.9
LLS	Linth-Limmern	17.61	312	⇓P	P	11 16 18.6	+0.8
BRG	Berggiesshubel	17.68	330	i P	P	11 16 19.4	+0.7
BRG				i		11 16 26.9	
ORO	Oropa	17.68	308	P	P	11 16 19.0	+0.2
TRAV		17.79	307	P	P	11 16 17.2	-2.8
MCGN	Macugnaga	17.82	309	P	P	11 16 20.3	-0.1
BERN	Bernov	17.82	326	⇑P	P	11 16 10.4	-10
PZZ	Prazzo	17.84	304	P	P	11 16 18.5	-2.1
FRF	La Foret Royal	17.85	300	eP	P	11 16 19.9	-0.9
	comp=Z,16nm,0.5s						
MMK	Mattmark	17.88	309	⇑P	P	11 16 21.5	+0.4
LMR	La Mourre	17.88	300	eP	P	11 16 21.8	+0.6
	comp=Z,15nm,0.5s						
MUO	Muotathal	17.89	312	⇓P	P	11 16 21.5	+0.2
WILA	Wila	17.95	314	⇓P	P	11 16 21.8	-0.2
RSP	Reno Superiore	17.96	306	P	P	11 16 20.1	-2.0
SUW	Suwalki	17.98	351	eP	P	11 16 23.3	+1.0
FENE	Fenestrelle	18.05	305	P	P	11 16 20.8	-2.4
GRA1	Grafenberg Arr	18.06	323	eP	P	11 16 23.9	+0.6
	comp=Z,25nm,0.9s						
GRF	Grafenberg Arr	18.06	323	eP	P	11 16 23.9	+0.6
GRF				pmax	pmax		
	comp=Z,25nm,0.9s						
MBDF	Montbardon	18.13	304	eP	P	11 16 23.0	-1.2
	comp=Z,45nm,0.7s						
LSD	Ceresole Reale	18.15	307	P	P	11 16 22.1	-2.3
RRL	Cesana Torines	18.19	305	P	P	11 16 22.5	-2.4
LKBD	Leukerbad	18.23	310	⇓P	P	11 16 25.3	-0.1
DIX	Grande Dixence	18.24	309	⇓P	P	11 16 25.8	+0.4
BNI	Bardonecchia	18.31	305	eP	P	11 16 26.4	+0.1
	comp=Z,14nm,0.6s						
SLE	Schleitheim	18.38	314	⇓P	P	11 16 26.4	-0.6
CLL	Collm	18.40	329	⇑P	P	11 16 26.9	-0.4
	comp=Z,logA/T=1.8						
CLL				e		11 16 32.0	
CLL				i *PP		11 16 39.3	
CLL	Collm	18.40	329	⇑iP	P	11 16 26.9	-0.4
CLL				pmax	pmax		
	comp=Z,51nm,0.8s						
CLL	Collm	18.40	329	⇑iP	P	11 16 26.9	-0.4
	comp=Z,51nm,0.8s						
CLL				e		11 16 32.0	
CLL				i		11 16 39.3	
LPG	La Plagne	18.43	306	eP	P	11 16 26.8	-0.8

	comp=Z,51nm,0.5s						
LPL	La Plagne	18.44	306	eP	P	11 16 27.6	-0.2
	comp=Z,54nm,0.5s						
SULZ	Sulz-Cheisache	18.48	313	⇓P	P	11 16 28.5	+0.3
MOX	Moxa	18.52	326	i P	P	11 16 29.7	+1.0
	comp=Z,logA/T=1.7						
MOX	Moxa	18.52	326	eP	P	11 16 29.7	+1.0
MOX				pmax	pmax		
	comp=Z,42nm,0.8s						
MOX	Moxa	18.52	326	eP	P	11 16 29.7	+1.0
	comp=Z,42nm,0.8s						
STU	Stuttgart	18.54	318	eP	P	11 16 29.5	+0.6
	comp=Z,21nm,0.5s						
EMV	Vieux Emosson	18.55	308	⇓P	P	11 16 29.3	+0.2
SMRF	Simiane la Rot	18.71	301	eP	P	11 16 29.4	-1.5
	comp=Z,46nm,1.0s						
FELD	Feldberg	18.72	314	eP	P	11 16 35.5	+4.6
GDM	Grand'Maison	18.73	305	eP	P	11 16 31.1	0.0
BFO	Black Forest	18.77	316	eP	P	11 16 32.5	+1.0
BFO				pmax	pmax		
	comp=Z,17nm,0.8s						
BFO	Black Forest	18.77	316	eP	P	11 16 32.5	+1.0
	comp=Z,17nm,0.8s						
ORIF	Oris-en-Rattie	18.79	304	eP	P	11 16 30.0	-1.8
	comp=Z,26nm,0.6s						
ORIF				eR			
	comp=Z,70nm,22.2s						
GRN	Grenoble	18.99	305	eP	P	11 16 32.5	-1.6
RUE	Ruedersdorf	19.00	333	eP	P	11 16 31.4	-2.6
	comp=Z,31nm,0.6s						
LIBD	Limburg	19.09	315	eP	P	11 16 35.3	+0.2
MOF	Molkenrain	19.21	313	eP	P	11 16 36.0	-0.4
STR	Strasbourg	19.22	316	eP	P	11 16 37.2	+0.7
CABF	La Chapelle	19.29	309	eP	P	11 16 35.4	-1.9
	comp=Z,86nm,0.6s						
HINF	Hinteralfeld	19.36	313	eP	P	11 16 36.2	-1.8
	comp=Z,19nm,0.6s						
WLS	Welschbruch	19.36	315	eP	P	11 16 37.0	-1.1
ECH	Echery	19.38	314	eP	P	11 16 37.9	-0.3
CDF	Champ du Feu	19.41	315	eP	P	11 16 37.8	-0.7
	comp=Z,149nm,0.7s						
LANF	Langenberg	19.41	317	eP	P	11 16 40.3	+1.7
OG05	Jujurieux	19.47	307	eP	P	11 16 37.4	-1.8
VIVF	Saint-Julien-l	19.59	303	eP	P	11 16 38.1	-2.4
	comp=Z,28nm,0.5s						
OBN	Obninsk	19.68	15	eP	P	11 16 40.5	-0.9
OBN				eS	S	11 20 18.4	+4.8
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HAU	Haudompre	19.75	313	eP	P	11 16 41.3	-0.8
	comp=Z,158nm,0.9s						
HAU				eR			
	comp=Z,131nm,20.0s						
CLZ	Clausthal	19.92	327	eP	P	11 16 43.2	-0.7
	comp=Z,26nm,0.8s						
LASF	Ste Croix	19.93	300	eP	P	11 16 41.7	-2.4
	comp=Z,23nm,0.7s						
THEF	They Montfort	20.07	313	eP	P	11 16 45.9	+0.4
EJON	La Jonquera	20.29	295	P	P	11 16 45.5	-2.4
	comp=Z,9.1nm,0.6s						
SJAF	Saint Jean de	20.30	295	eP	P	11 16 45.6	-2.4
PLDF	La Plantade	20.64	305	eP	P	11 16 50.0	-1.4
LBL	Lubilhac	20.66	303	eP	P	11 16 51.7	0.0
WLF	Walferdange	20.69	317	eP	P	11 16 51.0	-1.0
	comp=Z,14nm,0.8s						
SMF	Signal de Mont	20.73	307	eP	P	11 16 50.8	-1.5
	comp=Z,54nm,0.5s						
MEZF	Maizieres J'vi	20.75	313	eP	P	11 16 51.5	-1.0
	comp=Z,61nm,0.4s						
VALF	Valcebollere	20.92	295	eP	P	11 16 53.3	-1.0
MTLF	Montolieu	20.93	297	eP	P	11 16 53.2	-1.2
	comp=Z,65nm,0.6s						
LOR	Lormes	20.95	309	eP	P	11 16 53.2	-1.4
	comp=Z,26nm,0.6s						
LOR				eR			
	comp=Z,45nm,18.5s						
PYM	Petit Puy Mans	20.98	304	eP	P	11 16 53.1	-1.7
AGO	Saint Agoulin	20.99	305	eP	P	11 16 54.9	-0.1
AVF	Avril sur Loir	21.10	307	eP	P	11 16 54.4	-1.6
	comp=Z,20nm,0.4s,mb4.5						
SSF	Saint Saulge	21.10	308	eP	P	11 16 54.9	-1.1
	comp=Z,111nm,0.8s,mb5.0						
EMIR	Miracle	21.22	293	P	P	11 16 57.4	+0.1
	comp=Z,78nm,0.9s,mb5.0						
BGF	Bois d'Agland	21.34	306	eP	P	11 16 57.2	-1.3
	comp=Z,39nm,0.6s,mb4.6						
CAF	Calviac	21.39	302	eP	P	11 16 57.9	-1.0
	comp=Z,17nm,0.6s,mb4.3						
BSEG	Bad Segeberg	21.45	331	eP	P	11 16 59.8	+0.3
BSEG				pmax	pmax		
	comp=Z,42nm,0.6s,mb5.0						
EPOB	Poblet	21.50	292	P	P	11 16 59.4	-0.7
	comp=Z,8.2nm,0.4s,mb4.4						
GIVF	Givet	21.66	317	eP	P	11 17 02.9	+1.4
	comp=Z,18nm,0.5s,mb4.4						
TCF	Toulx Ste Croi	21.67	305	eP	P	11 17 02.7	+0.9
	comp=Z,36nm,0.8s,mb4.4						
MLS	Moulis	21.68	296	eP	P	11 16 59.9	-1.9
RJF	Les Rejaudoux	21.86	302	eP	P	11 17 04.3	+0.7
	comp=Z,33nm,0.5s,mb4.6						
RJF				eR			
	comp=Z,52nm,22.0s						
EBR	Ebro Roquetas	21.91	290	eP	P	11 17 02.5	-1.6
BAIF	Baives	21.98	316	eP	P	11 17 03.9	-0.8
	comp=Z,25nm,0.5s,mb4.5						
EGRA	Graus	22.15	294	P	P	11 17 05.9	-0.6
	comp=Z,3.0nm,0.4s,mb4.0						
EPF	Esparros	22.24	296	eP	P	11 17 05.8	-1.5
	comp=Z,13nm,0.7s,mb4.1						
LFF	La Frestale	22.30	301	eP	P	11 17 09.2	+1.2
	comp=Z,49nm,0.6s,mb4.7						
LABF	Labassere	22.43	296	eP	P	11 17 10.6	+1.4
EMOS	Mosqueruela	22.63	289	P	P	11 17 11.1	-0.1
ESAC	San Caprasio	22.69	292	P	P	11 17 11.7	0.0
	comp=Z,24nm,0.4s,mb4.9						
ETSF	Etsaut	22.87	295	eP	P	11 17 14.4	+0.9
	comp=Z,28nm,0.6s,mb4.5						
MFF	Saint Martin d	23.32	305	eP	P	11 17 18.0	+0.2
	comp=Z,43nm,0.6s,mb4.7						
SJPF	Ste Jean	23.38	296	eP	P	11 17 18.9	+0.5
	comp=Z,43nm,0.8s,mb4.5						
EALK	Alkurruntz	23.60	296	P	P	11 17 21.4	+0.9
ETOR	Torete	23.84	290	P	P	11 17 25.1	+2.2
LDF	La Druitiere	23.93	310	eP	P	11 17 22.9	-0.7
	comp=Z,86nm,0.4s,mb5.2						
FLN	La Foliniere	24.21	310	eP	P	11 17 25.8	-0.5
	comp=Z,101nm,0.4s,mb5.2						
FLN				eR			
	comp=Z,62nm,20.8s						
EVIA	Vianos	24.25	285	P	P	11 17 28.5	+1.7
	comp=Z,27nm,0.6s,mb4.8						
GRR	Gorron	24.32	309	eP	P	11 17 26.5	-0.9
	comp=Z,104nm,0.5s,mb5.2						
EQES	Quesada	24.77	283	P	P	11 17 31.6	-0.3
	comp=Z,18nm,0.8s,mb4.6						
ELAN	Lanestosa	25.00	296	P	P	11 17 34.1	0.0
	comp=Z,36nm,1.0s,mb4.8						
FINES	FINESS Array B	25.15	358	P	P	11 17 34.3	-1.0
	comp=Z,3.5nm,0.4s,mb4.2,baz=159,slow=14,SNR=43						
FINES				PcP	PcP	11 21 08.1	0.0
	comp=Z,0.9nm,0.3s,baz=150,slow=4.4,SNR=5.9						
FINES				ScP		11 24 39.9	
	comp=Z,1.1nm,0.5s,baz=135,slow=2.7,SNR=6.8						
FINES				LR	LR	11 27 12.9	
	comp=Z,40nm,18.7s,baz=152,slow=36						
ESDC	Sonseca Array	25.32	287	P	P	11 17 37.1	+0.1
	comp=Z,5.6nm,0.5s,mb4.3,baz=80,slow=9.4,SNR=35						
ESDC				ScP		11 24 41.8	
	comp=Z,0.3nm,0.3s,baz=90,slow=3.0,SNR=4.8						
ESLA	Sonseca Array	25.32	287	eP	P	11 17 36.9	-0.1
	comp=Z,3.8nm,0.9s,mb3.8						
SGMF	Saint Gilles	25.36	308	eP	P	11 17 35.9	-1.4
	comp=Z,47nm,0.6s,mb4.8						
HFS	Hagfors	25.52	343	P	P	11 17 38.0	-0.7
	comp=Z,9.7nm,0.5s,mb4.5,baz=148,slow=14,SNR=25						
HFS	Hagfors	25.52	343	P	P	11 17 38.0	-0.8
HFS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QUIF	Quistinic	25.66	307	eP	P	11 17 38.7	-1.4
	comp=Z,25nm,0.5s,mb4.6						
KAF	Kangasniemi	25.82	358	ep	P	11 17 41.1	-0.3
ROSF	Rostrenen	25.84	307	eP	P	11 17 40.2	-1.6
	comp=Z,30nm,0.5s,mb4.7						
EADA	Adamuz	25.91	284	P	P	11 17 42.3	-0.3
	comp=Z,16nm,1.2s,mb4.3						
NAO01	NORSAR Array S	26.83	341	eP	P	11 17 50.2	-0.7
	comp=Z,20nm,0.8s,mb4.7						
NB2	NORSAR Subarra	26.92	342	P	P	11 17 50.0	-1.6
	comp=Z,4.3nm,0.5s,mb4.2,baz=145,slow=9.3						
NOA	NORSAR Array B	26.92	342	P	P	11 17 50.5	-1.1
	comp=Z,4.3nm,0.6s,mb4.2,baz=146,slow=9.3,SNR=15						
NOA				LR	LR	11 30 05.5	
	comp=Z,20nm,18.1s,baz=180,slow=40						
NOA	NORSAR Array B	26.92	342	P	P	11 17 50.6	-1.0
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,20nm,18.1s						
ECAL	Calabor	27.38	292	P	P	11 17 54.7	-1.3
	comp=Z,108nm,2.2s,mb5.0						
EMIN	Mina Concepcio	27.60	283	P	P	11 17 57.6	-0.5
	comp=Z,21nm,0.9s,mb4.7						
EBAD	Badajoz	27.75	286	P	P	11 17 58.0	-1.5
	comp=Z,5.8nm,0.6s,mb4.3						
PCBR	Castelo Branco	28.01	288	eP	P	11 18 00.9	-0.9
	comp=Z,21nm,1.2s,mb4.5						
MTE	Manteigas	28.03	289	eP	P	11 18 01.2	-0.7
	comp=Z,20nm,1.4s,mb4.5						
MTE	Manteigas	28.03	289	eP	P	11 18 01.1	-0.8
	comp=Z,5.4nm,0.4s,mb4.4						
PALC	Alcoutim	28.28	283	eP	P	11 18 03.5	-0.7
	comp=Z,38nm,1.0s,mb4.9						
PVIS	Viseu	28.28	290	eP	P	11 18 03.7	-0.5
EKA	Eskdalemuir Ar	28.47	322	P	P	11 18 04.2	-1.5
	comp=Z,3.1nm,0.6s,mb4.0,baz=120,slow=9.4,SNR=9.2						
EKA				PcP	PcP	11 21 16.2	+0.3
	comp=Z,1.8nm,0.5s,baz=107,slow=2.3,SNR=8.2						
EKA				ScP		11 24 50.4	
	comp=Z,1.1nm,0.8s,baz=124,slow=6.0,SNR=3.8						
ARCES	ARCESS Array B	33.28	358	P	P	11 18 46.8	-1.0
	comp=Z,4.9nm,0.9s,mb4.4,baz=180,slow=7.2,SNR=17						
ARCES				ScP		11 25 05.0	
	comp=Z,5.5nm,1.1s,baz=153,slow=2.7,SNR=4.7						
BVAR	Borovoye Array	33.87	47	P	P	11 18 54.8	+1.7
	comp=Z,0.4nm,0.3s,mb3.7,baz=243,slow=6.4,SNR=3.3						
KURK	Kurchatov	38.65	52	eP	P	11 19 34.4	+1.1
	comp=Z,0.9nm,0.6s,mb3.8						
MKAR	Makanchi Array	41.20	58	P	P	11 19 56.2	+1.7
	comp=Z,1.3nm,0.4s,mb4.1,baz=273,slow=8.5,SNR=18						
MKAR				ScP		11 25 36.8	
	comp=Z,0.7nm,0.6s,baz=258,slow=5.3,SNR=5.1						
DBIC	Dimbokro	42.11	233	P	P	11 20 03.2	+1.0
	comp=Z,3.1nm,0.4s,mb4.4,baz=20,slow=8.6,SNR=14						
DBIC	Dimbokro	42.11	233	P	P	11 20 03.3	+1.0
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
DBIC	Dimbokro	42.11	233	eP	P	11 20 03.0	+0.7
	comp=Z,4.0nm,0.4s,mb4.5						
TIC	Toumodi	42.23	234	eP	P	11 20 04.2	+0.9
	comp=Z,9.5nm,0.2s,mb5.1						
KIC	Kosan Boka	42.27	233	eP	P	11 20 04.8	+1.2
LIC	Lamto	42.55	233	eP	P	11 20 07.1	+1.1
	comp=Z,7.6nm,0.5s,mb4.4						
LIC	Lamto	42.55	233	eP	P	11 20 06.9	+0.9
	comp=Z,81nm,1.6s,mb5.2						
WMQ	Urumqi	45.42	61	⇑P	P	11 20 28.0	-0.7
WMQ				AP	pP	11 20 48.5	-0.1
WMQ				PCP	PcP	11 22 06.5	-0.6
WMQ				PP	PP	11 22 16.0	-0.8
WMQ				S	S	11 27 02.3	-0.8
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.3						
KOLN	Koldanda	47.35	84	eP	P	11 20 46.3	+2.2
	comp=Z,6.3nm,0.4s,mb4.7						
GKN	Gorkha	48.09	83	eP	P	11 20 52.1	+2.3
	comp=Z,11nm,0.4s,mb5.0						
DMN	Daman	48.63	83	eP	P	11 20 53.8	-0.2
	comp=Z,9.1nm,0.4s,mb5.0						
KKN	Kakani	48.69	83	eP	P	11 20 56.9	+2.4
	comp=Z,10nm,0.5s,mb5.0						
SUMG	Summit	48.71	338	eP	P	11 20 54.0	-0.1
	comp=Z,11nm,0.6s,mb5.0						
PKI	Pulchoki	48.89	83	eP	P	11 20 57.0	+1.0
SONM	Songino Array	56.96	52	P	P	11 21 57.2	+1.7
	comp=Z,1.8nm,0.5s,mb4.4,baz=283,slow=8.0,SNR=10						
BOD	Bodaibo	58.10	39	eP	P	11 22 02.1	-1.3
TIXI	Tiksi	59.25	21	⇑eP	P	11 22 11.2	0.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
RES	Resolute Bay	63.11	346	eP	P	11 22 36.3	-1.0
	comp=Z,12nm,0.8s,mb4.9						
SCHQ	Schefferville	63.77	320	P	P	11 22 40.4	-1.3
	comp=Z,6.3nm,0.5s,mb4.8,baz=54,slow=4.8,SNR=19						
KMI	Kunming	63.80	77	eP	P	11 22 42.8	+0.4
KMI				AP	pP	11 23 04.3	+0.8
KMI				XP	sP	11 23 13.5	+0.9
KMI				S	S	11 31 08.3	-1.0
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,94nm,4.0s						
KMI				LR	LR		
	comp=Z,28nm,27.1s						
KMI	Kunming	63.80	77	eP	P	11 22 42.7	+0.3
	comp=Z,6.0nm,0.7s,mb4.5						
KMI				pP	pP	11 23 04.3	+0.8
KMI				sP	sP	11 23 13.5	+0.9
KMI				S	S	11 31 08.2	-1.1
KMI				SS	SS	11 35 10.5	-10
KMI				LR	LR		
	comp=Z,30nm,27.1s						
CMAR	Chiang Mai Arr	64.17	85	P	P	11 22 45.8	+0.9
	comp=Z,2.2nm,0.9s,mb4.0,baz=293,slow=7.8,SNR=6.7						
CMAR	Chiang Mai Arr	64.17	85	P	P	11 22 45.8	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GYA	Guiyang	66.20	74	⇓P	P	11 22 59.5	+1.6
GYA				AP	pP	11 23 21.0	+1.9
GYA				XP	sP	11 23 27.8	-0.2
GYA				S	S	11 31 46.5	+7.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,90nm,16.3s						
GYA				LR	LR		
	comp=E,70nm,17.8s						
GYA				LR	LR		
	comp=Z,110nm,16.3s						
CN2	Changchun	70.67	50	eP	P	11 23 26.5	+1.3
HNH	Hanover	72.43	312	eP	P	11 23 36.7	+1.1
MDJ	Mudanjiang	72.72	47	P	P	11 23 36.1	-1.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,155nm,4.3s						
MA2	Magadan	73.42	27	eP	P	11 23 41.7	+0.7
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MA2	Magadan	73.42	27	eP	P	11 23 41.4	+0.3
	comp=Z,10.0nm,0.8s,mb4.7						
ACCN	Adirondack Com	73.44	312	eP	P	11 23 42.4	+0.8
INK	Inuvik	74.75	353	⇑iP	P	11 23 48.0	-0.6
	comp=Z,4.0nm,0.6s,mb4.3						
YKW3	Yellowknife Ar	76.95	343	eP	P	11 24 00.5	-0.7
YKA	Yellowknife Ar	77.01	343	P	P	11 24 00.9	-0.6
	comp=Z,6.8nm,1.0s,mb4.3,baz=31,slow=5.6,SNR=32						
YKA	Yellowknife Ar	77.01	343	P	P	11 24 00.9	-0.6
YKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YKA	Yellowknife Ar	77.01	343	P	P	11 24 00.9	-0.6
ERPA	Erie	77.94	314	eP	P	11 24 07.4	+0.3
COLA	College	79.06	358	⇑eP	P	11 24 13.5	+0.7
COLA	College	79.06	358	eP	P	11 24 13.2	+0.4
	comp=Z,2.4nm,0.4s,mb4.4						
ILAR	Eielson Array	79.14	358	P	P	11 24 13.3	+0.2
	comp=Z,3.1nm,0.5s,mb4.4,baz=340,slow=4.1,SNR=91						
ILAR	Eielson Array	79.14	358	P	P	11 24 13.4	+0.2
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DAWY	Dawson	79.43	354	⇑iP	P	11 24 15.6	+0.8
FFC	Flin Flon	79.64	333	eP	P	11 24 15.7	-0.4
	comp=Z,7.1nm,0.5s,mb4.8						
MCK	McKinley	80.23	359	eP	P	11 24 19.3	+0.3
	comp=Z,3.8nm,0.9s,mb4.2						
ULM	Lac du Bonnet	80.58	327	P	P	11 24 20.7	-0.5
	comp=Z,14nm,0.6s,mb5.0,baz=59,slow=4.7,SNR=33						
ULM				LR	LR	11 58 35.1	
	comp=Z,42nm,18.6s,baz=0.3,slow=35						
FWV	Forest Hill	81.28	310	eP	P	11 24 25.8	+0.6
SML	Sawmill	82.15	358	⇑eP	P	11 24 29.7	+0.6
PWA	Palmer West	82.34	359	eP	P	11 24 31.0	+0.9
PMS	Palmer South	82.74	359	eP	P	11 24 32.4	+0.2
SPU	Mount Spurr	82.82	0	P	P	11 24 32.5	-0.1
SVW	Sparrevohn	82.85	2	eP	P	11 24 34.3	+1.6
BLO	Bloomington	83.64	315	eP	P	11 24 37.8	+0.6
	comp=Z,18nm,0.6s,mb5.1						
DLBC	Dease Lake	83.80	349	eP	P	11 24 39.5	+2.1
WCI	Wyandotte Cave	84.14	314	eP	P	11 24 40.7	+1.0
	comp=Z,14nm,0.8s,mb4.8						
CPCT	Cooper Cave	84.93	311	⇑eP	P	11 24 45.0	+1.3
FX1	Attu Island--F	86.12	20	eP	P	11 24 50.1	+1.0
FVM	French Village	86.67	316	⇑iP	P	11 24 53.2	+1.0
	comp=Z,38nm,1.0s,mb5.3						
CCM	Cathedral Cave	87.08	316	⇑iP	P	11 24 54.9	+0.7
	comp=Z,46nm,0.5s						
PLAL	Pickwick Lake	87.39	312	eP	P	11 24 55.8	+0.1
	comp=Z,4.0nm,0.3s,mb4.8						
LAO	LASA Array	87.68	330	⇑iP	P	11 24 58.0	+1.1
	comp=Z,8.2nm,0.6s,mb4.9						
LRAL	Lakeview Retre	88.07	310	eP	P	11 24 59.4	+0.3
	comp=Z,9.0nm,0.6s,mb5.0						
BDFB	Brasilia	88.27	249	P	P	11 25 04.1	+3.7
	comp=Z,3.3nm,0.6s,mb4.6,baz=22,slow=5.0,SNR=4.5						
BDFB	Brasilia	88.27	249	P	P	11 25 04.1	+3.7
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSU1	Kansas State U	89.20	320	eP	P	11 25 03.9	-0.4
HRY	Holter Researc	89.79	334	eP	P	11 25 07.6	+0.8
CHMT	Chamberlain Mo	90.12	335	eP	P	11 25 08.8	+0.4
NEW	Newport	90.20	338	eP	P	11 25 09.2	+0.5
	comp=Z,2.0nm,0.5s,mb4.5						
BOZ	Bozeman (W)	90.62	333	⇑eP	P	11 25 11.9	+1.2
	comp=Z,4.6nm,0.6s,mb4.8						
MCMT	McKenzie Canyo	91.77	333	eP	P	11 25 17.4	+1.3
MOOW	Moose Ponds	91.90	331	eP	P	11 25 17.7	+1.0
BW06	Boulder Array	92.26	330	eP	P	11 25 18.1	-0.3
	comp=Z,1.1nm,0.6s,mb4.3						
PDAR	Pinedale Array	92.26	330	P	P	11 25 18.4	-0.1
	comp=Z,1.4nm,0.6s,mb4.3,baz=49,slow=4.9,SNR=17						
GNW	Green Mountain	92.48	341	eP	P	11 25 20.0	+0.8
ISCO	Idaho Springs	93.03	326	eP	P	11 25 22.6	+0.6
	comp=Z,1.6nm,0.7s,mb4.5						
HLID	Hailey	93.43	334	eP	P	11 25 25.6	+1.9
	comp=Z,0.8nm,0.6s,mb4.2						
WMOK	Wichita Mounta	93.63	319	eP	P	11 25 25.2	+0.3
	comp=Z,5.2nm,0.8s,mb4.9						
HWUT	Hardware Ranch	94.04	331	⇑eP	P	11 25 26.7	+0.2
	comp=Z,5.0nm,0.7s,mb5.0						
SDCO	Great Sand Dun	94.63	325	eP	P	11 25 29.5	+0.2
	comp=Z,2.1nm,0.8s,mb4.6						
PV01	Paradox Valley	95.71	327	eP	P	11 25 34.4	+0.2
PV10	Paradox Valley	95.71	327	eP	P	11 25 34.6	+0.4
SRU	San Rafael	95.73	329	eP	P	11 25 33.9	-0.4
DUG	Dugway	95.74	331	eP	P	11 25 34.7	+0.4
	comp=Z,1.2nm,0.5s,mb4.6						
NVAR	Mina Array Bea	99.34	334	P	P	11 25 51.7	+1.0
	comp=Z,0.8nm,0.7s,mb4.3,baz=42,slow=4.7,SNR=9.2						
TXAR	Lajitas Array	100.43	318	P	P	11 25 56.5	+0.7
	comp=Z,0.7nm,0.7s,SNR=3.5						
WRA	Warramunga Arr	114.45	97	PKP	PKPdf	11 30 50.1	+2.7
	comp=Z,0.4nm,0.8s,baz=314,slow=1.5,SNR=7.6						
ASAR	Alice Springs	116.01	101	PKP	PKPdf	11 30 53.0	+2.7
	comp=Z,0.6nm,0.9s,baz=303,slow=1.8,SNR=6.3						
PLCA	Paso Flores	118.33	239	PKP	PKPdf	11 30 58.2	+3.9
	comp=Z,0.3nm,0.4s,baz=37,slow=10,SNR=3.6						

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*MOS **20** 11:25:00.8±1.5, 36.43N×70.91E, h120^{km}, mb4.1/13, Error ellipse: s-maj=16.7km s-min=8.2km az=98.4*

*IDC **20** 11:25:01.9±4.6, 36.31N×70.99E, h118^{km}±42^{km}, mb3.7/16, mb1 3.9/18, mb1mx3.8/24, MS3.1/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=24.6km s-min=14.6km az=33.0*

*BJI **20** 11:25:02.1, 36.40N×70.94E, h147^{km}, mb4.4*

*NEIC **20** 11:25:03.1±1.9, 36.47N×70.99E, h123^{km}±18^{km}, mb4.4/6, Error ellipse: s-maj=16.6km s-min=9.8km az=45.0*

*NNC **20** 11:25:05.9±7.4, 36.73N×70.22E, h121^{km}±79^{km}, mpv4.5, Error ellipse: s-maj=82.5km s-min=57.3km az=72.0*

ISC 20 11:24:59.8±0.5**, 36.29N**±0.03×**70.93E**±0.06**, h121**^{km}±6^{km}**, n102, σ1§30**/121**, mb3.9**/16**, 1C-16D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.59	162	⇓P	P	11 25 43.7	+2.1
CHCP	Chirah Chowk	3.25	143	⇓P	P	11 25 52.9	+2.5
THW	Thamme Wali	3.55	169	⇓P	P	11 25 55.6	+1.2
SBDP	Sheikh Budin	3.98	181	P	P	11 26 00.5	+0.3
DRP	Derazinda	4.58	188	⇑P	P	11 26 08.7	+0.5
SARP	Sargodha	4.59	161	⇓P	P	11 26 08.5	+0.1
JMU	Jammu	4.84	136	⇓eP	P	11 26 14.0	+2.2
JMU				i S	S	11 27 08.0	+0.7
KSH	Kashi	5.13	50	⇓P	P	11 26 19.8	+4.2
KSH				S	S	11 27 17.4	+3.3
KSH				Smax			
	comp=N,410nm,0.3s						
KSH				Smax			
	comp=E,360nm,0.3s						
THN	Thein Dam	5.52	133	⇓eP	P	11 26 21.8	+0.9
	comp=E,2µm,0.2s						
THN				eS	S	11 27 23.5	-0.2
DLH	Dalhousie	5.60	130	eP	P	11 26 24.0	+2.1
DLH				eS	S	11 27 25.0	-0.6
PONG	Pong	6.00	135	eP	P	11 26 29.0	+1.5
PONG				eS	S	11 27 36.0	+0.5
AML	Almayashu	6.21	19	P	P	11 26 30.3	0.0
	SNR=76						
UCH	Uchtor	6.55	24	P	P	11 26 35.0	+0.1
	SNR=24						
BHK	Bhakra	6.67	135	e	P	11 26 41.2	+4.6
BHK				eS	S	11 27 53.4	+1.8
KZA	Kyzart	6.68	29	P	P	11 26 37.1	+0.4
	SNR=29						
EKS2	Erkin-Say	6.73	18	P	P	11 26 37.5	0.0
	SNR=13						
KK31	Karatay Array	6.81	357	⇓P	P	11 26 37.0	-1.5
	comp=E,16nm,0.3s,baz=186,slow=13,SNR=163						
KK31				⇓S	S	11 27 49.4	-5.7
	comp=E,17nm,0.4s,baz=35,slow=57,SNR=5.1						
KKAR	Karatay Array	6.81	357	PN	P	11 26 37.0	-1.5
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.2s						
AAK	Ala-Archa	6.91	22	P	P	11 26 40.0	+0.1
	SNR=18						
AAK	Ala-Archa	6.91	22	ePn	P	11 26 38.0	-1.8
	comp=Z,30nm,0.4s						
KBK	Karagaybulak	7.08	25	P	P	11 26 42.9	+0.8
	SNR=16						
FRU	Bishkek	7.13	22	⇓ePN	P	11 26 43.0	+0.2
FRU				pmax	pmax		
	comp=Z,170nm,2.2s						
ULHL	Ulahol	7.23	33	P	P	11 26 45.3	+1.0
	SNR=6.5						
SMLA	Simla	7.32	133	⇓iP	P	11 26 54.5	+9.1
	comp=Z,12µm,0.2s						
SMLA				i S	S	11 28 14.8	+7.4
CHMS	Chumysh	7.32	23	P	P	11 26 45.1	-0.3
	SNR=23						
USP	Ospenovka	7.49	20	P	P	11 26 48.0	+0.3
	SNR=7.5						
TKM2	Tokmak 2	7.54	27	P	P	11 26 48.1	-0.3
	SNR=27						
KKR	Kurukshetra	8.02	140	eP	P	11 26 55.2	+0.4
DDI	Dehra Dun	8.43	133	eP	P	11 26 59.2	-1.1
DDI				eS	S	11 28 31.0	-3.2
RTK	Rohtak	8.59	146	eP	P	11 27 01.0	-1.4
KHET	Khetri	9.18	152	eP	P	11 27 09.1	-1.2
KHET				eS	S	11 28 47.5	-4.8
KHET				e		11 28 49.3	
	comp=E,437nm,0.3s						
KHET				e		11 28 49.4	
	comp=N,329nm,0.2s						
JOSI	Joshimath	9.20	126	eP	P	11 27 12.1	+1.4
JOSI				eS	S	11 28 51.6	-1.3
NDI	New Delhi	9.26	143	eP	P	11 27 09.5	-1.9
NDI				eS	S	11 28 50.5	-3.8
JASL	Jaisalmer	9.34	180	eP	P	11 27 09.8	-2.7
AYAN	Aya Nagar	9.38	144	eP	P	11 27 13.3	+0.2
AYAN				eS	S	11 28 52.8	-4.4
KUDL	Kundal	9.39	148	eP	P	11 27 12.7	-0.4
KUDL				eS	S	11 28 52.3	-5.0
KUDL				e		11 28 56.4	
	comp=Z,209nm,0.2s						
SONA	Sohna	9.56	145	eP	P	11 27 15.3	-0.1
SONA				eS	S	11 28 55.5	-6.0
SONA				e		11 29 02.4	
	comp=N,115nm,0.2s						
SONA				e		11 29 02.5	

	comp=E,227nm,0.2s						
AJM	**Ajmer**	**10.28**	**161**	*e*P	**P**	**11 27 24.0**	**-1.1**
AJM				*e*S	**S**	**11 29 14.0**	**-4.8**
PTH	**Pithoragarh**	**10.30**	**128**	*e*P	**P**	**11 27 23.9**	**-1.4**
PTH				*e*S	**S**	**11 29 14.2**	**-4.9**
LGTI	**Lohaghat**	**10.38**	**128**	*e*P	**P**	**11 27 25.0**	**-1.5**
LGTI				*e*S	**S**	**11 29 14.7**	**-6.5**
MKAR	**Makanchi Array**	**13.49**	**35**	P	**P**	**11 28 07.4**	**+0.2**
	comp=E,0.3nm,0.3s,baz=222,slow=15,SNR=14						
KOLN	**Koldanda**	**13.69**	**125**	*e*P	**P**	**11 28 08.0**	**-1.8**
	comp=E,43nm,0.4s						
BHPL	**Bhopal**	**14.17**	**155**	*e*P	**P**	**11 28 15.0**	**-1.0**
BHPL				*i*		11 30 45.7	
GKN	**Gorkha**	**14.24**	**122**	*e*P	**P**	**11 28 15.6**	**-1.3**
DMN	**Daman**	**14.81**	**122**	*e*P	**P**	**11 28 23.1**	**-1.1**
	comp=E,156nm,0.7s						
KKN	**Kakani**	**14.82**	**121**	*e*P	**P**	**11 28 23.4**	**-0.9**
	comp=E,68nm,0.5s						
PKI	**Pulchoki**	**15.04**	**121**	*e*P	**P**	**11 28 26.6**	**-0.5**
	comp=E,97nm,0.5s						
AB31	**Akbulak array**	**15.24**	**332**	⇓P	**P**	**11 28 27.4**	**-2.1**
	comp=E,12nm,0.5s						
AB31				⇓S	**S**	**11 31 06.5**	**-8.5**
	comp=E,5.1nm,0.6s,baz=156,slow=22,SNR=5.5						
AB31	**Akbulak array**	**15.24**	**332**	P	**P**	**11 28 27.3**	**-2.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KURK	**Kurchatov**	**15.45**	**19**	*e*P	**P**	**11 28 34.0**	**+2.0**
	comp=Z,7.8nm,1.1s						
VOSK	**Vostochnaya**	**16.43**	**0**	⇓P	**P**	**11 28 41.9**	**-2.4**
	comp=Z,14nm,1.8s						
VOSK	**Vostochnaya**	**16.43**	**0**	P	**P**	**11 28 41.8**	**-2.5**
VOSK				pmax	pmax		
	comp=Z,25nm,1.8s						
ZRNK	**Zerenda**	**16.71**	**356**	⇓P	**P**	**11 28 48.1**	**+0.3**
	comp=Z,20nm,1.4s						
ZRNK	**Zerenda**	**16.71**	**356**	P	**P**	**11 28 48.0**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,29nm,1.4s						
BVA0	**Borovoye Array**	**16.74**	**359**	⇓P	**P**	**11 28 47.4**	**-0.7**
	comp=Z,1.2nm,1.1s						
BVA0	**Borovoye Array**	**16.74**	**359**	P	**P**	**11 28 47.3**	**-0.8**
BVAR	**Borovoye Array**	**16.74**	**359**	P	**P**	**11 28 47.4**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=165,slow=13,SNR=11						
BRVK	**Borovoye**	**16.77**	**359**	*e*P	**P**	**11 28 47.2**	**-1.3**
	comp=Z,32nm,1.4s						
BLSP	**Bilaspur**	**17.15**	**142**	*e*	**S**	**11 31 55.0**	**-3.4**
POO	**Poona**	**17.88**	**171**	*e*	PcP	11 33 31.0	-1.8
LSA	**Lhasa**	**18.18**	**105**	P	**P**	**11 29 07.0**	**+1.5**
LSA	**Lhasa**	**18.18**	**105**	*e*P	**P**	**11 29 07.6**	**+2.1**
	comp=Z,29nm,0.8s						
LATR	**Latur**	**18.49**	**163**	*e*	**S**	**11 32 22.4**	**-5.5**
	comp=Z,19nm,0.8s						
HYB	**Hyderabad**	**19.98**	**158**	*i* P	**P**	**11 29 28.0**	**+3.2**
HYB				*e*sP		11 30 08.0	
HYB				*e*S	**S**	**11 33 03.0**	**+5.4**
HYB				*e*		11 33 39.5	
HYB	**Hyderabad**	**19.98**	**158**	*e*P	**P**	**11 29 28.0**	**+3.2**
NVS	**Novosibirsk**	**20.40**	**21**	*e*P	**P**	**11 29 26.9**	**-1.9**
NVS				*e*		11 30 04.2	
NVS				pmax	pmax		
	comp=Z,20nm,1.2s						
NVS				pmax	pmax		
	comp=N,28nm,1.3s						
SHL	**Shillong**	**20.87**	**115**	*e*	**P**	**11 29 36.0**	**+2.2**
SHL				*e*		11 33 17.0	
GNI	**Garni**	**20.90**	**289**	P	**P**	**11 29 36.7**	**+2.7**
	comp=N,9.2nm,0.5s,baz=251,slow=4.2,SNR=4.5						
GNI	**Garni**	**20.90**	**289**	P	**P**	**11 29 36.7**	**+2.7**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VIS	**Vishakhapatnam**	**21.51**	**146**	*e*P	**P**	**11 29 46.0**	**+5.9**
ARU	**Arti**	**21.81**	**341**	P	**P**	**11 29 42.7**	**-0.1**
	comp=Z,8.1nm,0.4s,mb4.4						
SONM	**Songino Array**	**28.50**	**55**	P	**P**	**11 30 49.7**	**+4.0**
	comp=Z,0.4nm,0.4s,mb3.4,baz=270,slow=10.0,SNR=4.1						
BRTR	**Keskin Array B**	**29.44**	**288**	P	**P**	**11 30 54.6**	**+0.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=101,slow=9.0,SNR=8.7						
BRTR	**Keskin Array B**	**29.44**	**288**	P	**P**	**11 30 54.6**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.41**	**118**	P	**P**	**11 31 04.3**	**+1.4**
	comp=Z,0.6nm,0.3s,mb3.6,baz=307,slow=9.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.41**	**118**	P	**P**	**11 31 04.3**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**11 31 25.6**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=107,slow=8.6,SNR=6.4						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**11 31 25.6**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MLR	**Muntele Rosu**	**34.83**	**299**	P	**P**	**11 31 43.7**	**+2.9**
	comp=Z,1.9nm,0.5s,mb4.2,baz=225,slow=22,SNR=5.3						
MLR	**Muntele Rosu**	**34.83**	**299**	P	**P**	**11 31 43.7**	**+2.9**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**11 32 04.7**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.1,baz=124,slow=14,SNR=11						
FINES				LR	LR	11 49 29.8	
	comp=Z,26nm,18.8s,baz=165,slow=39						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**11 32 04.7**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,27nm,18.8s						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**11 32 04.7**	**+0.6**
FINES				LR	LR	11 49 29.8	
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**11 32 35.3**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.2,baz=110,slow=7.4,SNR=16						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**11 32 35.3**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**43.00**	**305**	P	**P**	**11 32 46.7**	**-1.8**
	comp=Z,0.1nm,0.3s,mb3.0,baz=76,slow=28,SNR=3.9						
HFS	**Hagfors**	**43.20**	**322**	P	**P**	**11 32 49.5**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.3,baz=127,slow=7.2,SNR=13						
HFS	**Hagfors**	**43.20**	**322**	P	**P**	**11 32 49.5**	**-0.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**11 32 59.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb3.9,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**11 33 00.3**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.0,baz=98,slow=7.8,SNR=7.8						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**11 33 00.3**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**11 33 00.3**	**-0.1**
INK	**Inuvik**	**74.12**	**9**	P	**P**	**11 36 25.7**	**+1.8**
	comp=Z,2.2nm,0.5s,mb4.1,baz=349,slow=4.2,SNR=15						
INK	**Inuvik**	**74.12**	**9**	P	**P**	**11 36 25.7**	**+1.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**75.00**	**16**	P	**P**	**11 36 29.6**	**+0.7**
	comp=Z,1.0nm,1.1s,mb3.5,baz=313,slow=4.9,SNR=8.3						
ILAR	**Eielson Array**	**75.00**	**16**	P	**P**	**11 36 29.6**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**11 37 06.1**	**+1.8**
	comp=Z,0.6nm,0.4s,mb3.8,baz=352,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**11 37 06.1**	**+1.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**11 37 06.1**	**+1.8**
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**11 37 07.6**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=325,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**11 37 07.6**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**84.18**	**125**	P	**P**	**11 37 19.1**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=310,slow=5.3,SNR=9.3						

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*IDC **20** 11:52:55.4±2.3, 6.94S×130.03E, mb3.8/1, mb1 3.7/3, mb1mx3.5/12, ML3.3/2, Error ellipse: s-maj=138.0km s-min=31.9km az=69.0*

ISC 20 11:52:56.5±1.8**, 6.6S**±0.2×**131.2E**±0.3**, h33**^{km}**, n5,** σ**1**^{s}**73**/6**,**
mb3.7/1**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.21**	**169**	*e*P	**P**	**11 54 30.2**	**+2.0**
	3.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**12.68**	**205**	*e*P	**P**	**11 55 57.2**	**-0.1**
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**13.64**	**167**	Pn	**P**	**11 56 08.4**	**-1.8**
	0.1nm,0.3s,baz=344,slow=14,SNR=16						
WRA				Sn	**S**	**11 58 36.3**	**-5.2**
	0.1nm,0.3s,baz=346,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**17.20**	**172**	P	**P**	**11 56 56.4**	**+0.5**
	0.2nm,0.3s,baz=351,slow=14,SNR=14						
MKAR	**Makanchi Array**	**68.52**	**326**	P	**P**	**12 03 57.8**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=127,slow=7.2,SNR=6.1						

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*IDC **20** 12:08:21.7±2.0, 5.66S×149.20E, mb3.7/4, mb1 4.0/4, mb1mx3.7/14, Error ellipse: s-maj=97.5km s-min=29.0km az=128.0*

ISC 20 12:08:26.2±1.9**, 5.4S**±0.5×**148.7E**±0.7**, h33**^{km}**, n5,** σ**0**^{s}**52**/5**,**
mb3.5/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**20.10**	**223**	*e*P	**P**	**12 12 59.6**	**-0.4**
WRA	**Warramunga Arr**	**20.11**	**223**	P	**P**	**12 12 59.7**	**-0.4**
	1.9nm,0.4s,baz=52,slow=10,SNR=42						
ASAR	**Alice Springs**	**23.10**	**217**	P	**P**	**12 13 30.8**	**+0.6**
	1.0nm,0.4s,mb3.6,baz=51,slow=9.3,SNR=50						
FITZ	**Fitzroy Crossi**	**25.81**	**239**	P	**P**	**12 13 56.6**	**+0.3**
	2.0nm,0.8s,mb3.7,baz=48,slow=7.8,SNR=8.6						
ILAR	**Eielson Array**	**84.24**	**23**	P	**P**	**12 20 55.4**	**-0.1**
	0.1nm,0.6s,mb3.1,baz=256,slow=4.6,SNR=4.0						

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*IDC **20** 12:57:36.5±1.9, 9.07S×108.07W, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, MS3.8/9, Ms1 3.8/9, ms1mx3.5/19, Error ellipse: s-maj=110.0km s-min=40.1km az=26.0*

*NEIC **20** 12:57:38.7±1.4, 9.00S×107.99W, h10^{km}, mb4.3/2, Error ellipse: s-maj=47.4km s-min=28.0km az=186.0*

ISC 20 12:57:42.3±4.2**, 9.7S**±0.6×**107.5W**±0.4**, h10**^{km}**, n12,**
σ**0**^{s}**31**/6**, mb4.0**/6**, MS3.8**/9**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**29.95**	**49**	LR	LR	13 12 45.6	
	comp=Z,152nm,20.8s,MS3.6,baz=274,slow=30						
LPAZ	**La Paz**	**38.90**	**104**	P	**P**	**13 05 10.4**	**+0.3**
	1.0nm,1.0s,mb3.5,baz=243,slow=4.5,SNR=2.5						
LPAZ				LR	LR	13 17 59.6	
	comp=Z,101nm,18.6s,MS3.7,baz=12,slow=31						
LVC	**Limon Verde**	**39.14**	**114**	P	**P**	**13 05 11.6**	**-0.4**
	5.8nm,1.2s,mb4.2,baz=288,slow=6.4,SNR=3.2						
LVC				LR	LR	13 17 27.4	
	comp=Z,153nm,19.2s,MS3.8,baz=229,slow=30						
SAML	**Samuel**	**43.74**	**93**	*e*P	**P**	**13 05 49.9**	**-0.1**
	2.5nm,1.0s,mb3.9						
PLCA	**Paso Flores**	**45.02**	**140**	P	**P**	**13 06 00.1**	**+0.1**
	1.3nm,0.8s,mb3.8,baz=311,slow=12,SNR=3.5						
PLCA				LR	LR	13 20 33.5	
	comp=Z,111nm,19.2s,MS3.8,baz=348,slow=30						
NVAR	**Mina Array Bea**	**48.88**	**349**	LR	LR	13 22 01.6	
	comp=Z,33nm,18.9s,MS3.3,baz=175,slow=30						
CPUP	**Villa Florida**	**50.21**	**116**	P	**P**	**13 06 40.9**	**+0.2**
	1.5nm,0.6s,mb4.2,baz=290,slow=10,SNR=4.6						
CPUP				LR	LR	13 24 33.6	
	comp=Z,105nm,18.2s,MS3.9,baz=329,slow=32						
USHA	**Ushuaia**	**54.65**	**153**	LR	LR	13 25 10.9	
	comp=Z,104nm,20.2s,MS3.9,baz=115,slow=30						
BDFB	**Brasilia**	**58.22**	**102**	LR	LR	13 30 34.3	
	comp=Z,93nm,18.2s,MS3.9,baz=26,slow=34						
RPZ	**Rata Peaks**	**77.21**	**227**	LR	LR	13 36 23.1	
	comp=Z,241nm,19.3s,MS4.5,baz=90,slow=30						
QSPA	**South Pole Qui**	**80.44**	**180**	*e*P	**P**	**13 09 55.2**	**0.0**
	5.1nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**152.91**	**292**	PKPbc	PKPdf	13 17 35.0	-1.4
	0.9nm,0.7s,baz=90,slow=0.9,SNR=4.1						

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*GUC **20** 13:08:37.9±0.8, 35.67S×68.39W, h4^{km}±10^{km}, MD4.2, ML4.2*

*IDC **20** 13:08:38.1±2.2, 35.51S×68.74W, mb1 3.9/4, mb1mx3.8/16, ML4.0/4, Error ellipse: s-maj=63.5km s-min=18.4km az=111.0*

*NEIC **20** 13:08:39.9±1.4, 36.06S×68.63W, h81^{km}±24^{km}, mb3.8/1, MD4.2(GUC), Error ellipse: s-maj=27.4km s-min=10.5km az=215.0*

ISC 20 13:08:38.3±0.8**, 36.07S**±0.08×**68.49W**±0.10**, h76**^{km}±20^{km}**,**
n17, σ**1**^{s}**00**/24**, 1D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**2.35**	**317**	*e*P	**P**	**13 09 15.6**	**0.0**
CICH				*i* S	**S**	**13 09 43.5**	**+0.1**
NICH	**Los Niches**	**2.47**	**295**	*e*P	**P**	**13 09 18.7**	**+1.4**
NICH				*i* S	**S**	**13 09 50.4**	**+4.0**
SFDO	**San Fernando**	**2.52**	**304**	*e*P	**P**	**13 09 19.5**	**+1.5**
CACH	**El Canelo**	**2.60**	**318**	*e*P	**P**	**13 09 18.4**	**-0.8**
LMEL	**Las Melosas**	**2.62**	**327**	*e*P	**P**	**13 09 18.4**	**-1.1**
LMEL				*e*S	**S**	**13 09 49.8**	**-0.4**
LMEL				AMP		13 09 52.5	
	comp=N,1µm,0.3s						
CHCH	**Chadas Angostu**	**2.77**	**320**	*e*P	**P**	**13 09 20.9**	**-0.5**
PCH	**Pirque**	**2.95**	**325**	*e*P	**P**	**13 09 23.3**	**-0.7**
PCH				*i* S	**S**	**13 09 57.5**	**-0.9**
FCH	**Farellones**	**3.11**	**331**	⇓*i*P	**P**	**13 09 25.4**	**-0.8**
FCH				AMP		13 10 10.0	
	comp=N,498nm,0.6s						
TACH	**Talagante**	**3.14**	**319**	*e*P	**P**	**13 09 26.3**	**-0.3**
TACH				*e*S	**S**	**13 10 07.4**	**+4.4**
DSCH	**Colegio Aleman**	**3.16**	**327**	AMP		13 10 09.9	
	comp=E,1µm,0.4s						
MDZ	**Mendoza**	**3.19**	**355**	*e*P	**P**	**13 09 28.7**	**+1.4**
MDZ				*i*		13 09 32.7	
MDZ				*i* S	**S**	**13 10 04.9**	**+0.6**
PLCA	**Paso Flores**	**4.93**	**199**	Pn	**P**	**13 10 01.8**	**+10**
	comp=E,0.6nm,0.3s,baz=3.2,slow=13,SNR=15						
PLCA				Pg	P	13 10 17.4	+26
	comp=E,3.3nm,0.3s,baz=13,slow=16,SNR=18						
PLCA				Lg		13 11 26.8	
	comp=E,13nm,0.3s,baz=138,slow=14,SNR=7.0						
TRQA	**Tornquist**	**5.57**	**113**	*e*Pn	**P**	**13 10 01.3**	**+1.0**
	comp=E,26nm,0.3s						
TRQA				Sn	**S**	**13 11 02.1**	**-1.6**
LVC	**Limon Verde**	**13.41**	**358**	Pn	**P**	**13 11 46.6**	**0.0**
	comp=E,0.4nm,0.3s,baz=156,slow=10.0,SNR=3.3						
LVC				Lg		13 15 23.9	
	comp=E,0.2nm,0.3s,baz=275,slow=20,SNR=3.2						
CPUP	**Villa Florida**	**13.61**	**48**	Pn	**P**	**13 11 51.1**	**+1.9**
	comp=E,0.2nm,0.3s,baz=245,slow=14,SNR=3.0						
CPUP				Sn	**S**	**13 14 30.2**	**+11**
	comp=E,0.1nm,0.3s,baz=247,slow=19,SNR=2.1						
CPUP				Lg		13 15 40.1	
	comp=E,0.3nm,0.3s,baz=330,slow=20,SNR=3.6						
LPAZ	**La Paz**	**19.70**	**1**	P	**P**	**13 13 03.1**	**-0.9**
	comp=E,0.1nm,0.3s,baz=166,slow=12,SNR=9.9						
LPAZ	**La Paz**	**19.70**	**1**	*e*P	**P**	**13 13 03.4**	**-0.6**
	comp=E,5.5nm,1.1s						
LPAZ				*e*pP		13 13 13.1	
LPAZ				*e*sP		13 13 18.2	

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*NEIC **20** 13:17:32.1, 31.51S×69.68W, h17^{km}, ML2.7(GUC), After GUC.*

GUC 20 13:17:32.1±1.3**, 31.51S**×**69.68W, h17**^{km}±17^{km}**, MD3.5,**
ML2.7, 2C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.18**	**286**	⇑*i*P	Pb	13 17 53.4	-0.3
CMCH				*i* S	Sb	13 18 08.9	+0.4
CMCH				AMP		13 18 09.3	
	comp=N,741nm,0.1s						
ILCH	**Illapel**	**1.28**	**264**	⇑*i*P	Pb	13 17 53.7	-1.7
ILCH				AMP		13 18 10.8	
	comp=E,365nm,0.2s						
MDZ	**Mendoza**	**1.54**	**153**	*e*P	Pn	13 18 03.5	+4.4
TLL	**Tololo Astrono**	**1.65**	**324**	*e*P	Pn	13 18 01.0	+0.3
TLL				*i* S	Sn	13 18 21.7	+0.1
TLL				AMP		13 18 24.7	
	comp=N,68nm,0.2s						
FCH	**Farellones**	**1.89**	**196**	*i* P	Pn	13 18 04.9	+0.8
FCH				*i* P		13 18 05.0	
FCH				*i* S	Sn	13 18 29.2	+1.5
FCH				AMP		13 18 30.7	
	comp=E,80nm,0.2s						
FCH	**Farellones**	**1.89**	**196**	P	Pn	13 18 05.0	+0.9
LMEL	**Las Melosas**	**2.38**	**191**	*i* S	Sn	13 18 41.8	+1.7
LMEL				AMP		13 18 46.4	
	comp=N,59nm,0.1s						

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*IDC **20** 13:46:18.1±2.4, 14.46N×54.43E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, MS3.0/1, Ms1 3.0/1, ms1mx2.0/21, Error ellipse: s-maj=73.2km s-min=30.7km az=72.0*

ISC 20 13:46:18.1±2.0**, 14.5N**±0.2×**54.4E**±0.4**, h10**^{km}**, n7,** σ**1**^{s}**06**/6**,**
mb3.8/6**, MS2.9**/1**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNI	**Garni**	**26.88**	**344**	LR	LR	14 04 36.5	
	comp=Z,31nm,18.8s,MS2.9,baz=329,slow=41						
MKAR	**Makanchi Array**	**39.73**	**30**	P	**P**	**13 53 51.6**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=206,slow=7.7,SNR=4.6						
BVAR	**Borovoye Array**	**40.45**	**15**	P	**P**	**13 53 57.9**	**-0.5**
	0.8nm,0.7s,mb3.5,baz=180,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**51.07**	**343**	P	**P**	**13 55 22.9**	**+0.3**
	1.4nm,0.7s,mb4.0,baz=143,slow=14,SNR=3.6						
SONM	**Songino Array**	**54.15**	**41**	P	**P**	**13 55 47.2**	**+1.5**
	0.5nm,0.8s,mb3.5,baz=225,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**85.74**	**112**	P	**P**	**13 58 59.1**	**-0.3**
	1.0nm,0.8s,mb4.1,baz=302,slow=4.2,SNR=4.3						
ASAR	**Alice Springs**	**86.45**	**115**	P	**P**	**13 59 03.0**	**+0.1**
	0.8nm,0.7s,mb4.0,baz=293,slow=4.9,SNR=10						

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*NEIC **20** 13:57:18.9, 32.58S×71.30W, h33^{km}, ML2.8(GUC), After GUC.*

GUC 20 13:57:18.9±0.9**, 32.58S**×**71.30W, h33**^{km}±5^{km}**, MD3.5,**
ML2.8, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.61**	**100**	⇓*i*P	P	13 57 31.8	+0.9
JACH				*i* S	S	13 57 40.0	+0.3
LCCH	**Las Cruces**	**0.93**	**194**	⇑*i*P	P	13 57 35.8	+0.3
LCCH				*i* S	S	13 57 48.0	+0.2
ILCH	**Illapel**	**0.94**	**7**	*i* P	P	13 57 36.2	+0.5
ILCH				*i* S	S	13 57 49.2	+1.0
ILCH				AMP		13 57 50.2	
	comp=N,810nm,0.1s						
TACH	**Talagante**	**1.12**	**164**	⇓*i*P	P	13 57 38.8	+0.5
TACH				*i* S	S	13 57 53.7	+1.1
FCH	**Farellones**	**1.13**	**132**	⇓*i*P	P	13 57 39.4	+0.9
FCH				*i* P		13 57 39.4	
FCH				*i* S	S	13 57 55.3	+2.2
FCH				AMP		13 57 56.4	
	comp=N,176nm,0.2s						
FCH	**Farellones**	**1.13**	**132**	P	P	13 57 39.4	+0.9
PCH	**Pirque**	**1.23**	**148**	*e*S	S	13 57 57.1	+1.5
LNV	**Longovilo**	**1.38**	**184**	*e*P	P	13 57 41.4	-0.6
LNV				*e*S	S	13 57 59.9	+0.6
CMCH	**Combarbala**	**1.42**	**10**	AMP		13 58 03.6	
	comp=E,700nm,0.4s						
CHCH	**Chadas Angostu**	**1.46**	**158**	*e*P	P	13 57 43.9	+0.8
CHCH				*i* S	S	13 58 03.8	+2.5
LMEL	**Las Melosas**	**1.57**	**144**	⇓*i*P	P	13 57 45.6	+0.9
LMEL				*i* S	S	13 58 06.8	+2.7
LMEL				AMP		13 58 08.2	
	comp=N,241nm,0.1s						
CICH	**Cipreses**	**1.89**	**157**	*i* P	P	13 57 50.4	+1.1
CICH				*i* S	S	13 58 14.1	+2.0
SFDO	**San Fernando**	**2.05**	**173**	*e*P	P	13 57 52.4	+0.8
SFDO				*i* S	S	13 58 18.7	+2.5
TLL	**Tololo Astrono**	**2.44**	**10**	AMP		13 58 35.5	
	comp=N,38nm,0.2s						

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*IDC **20** 13:58:25.6±3.0, 7.13S×155.81E, h55^{km}±7^{km}, mb3.6/4, mb1 3.8/4, mb1mx3.5/14, Error ellipse: s-maj=80.9km s-min=25.1km az=111.0*

*NEIC **20** 13:58:25.4±0.7, 7.14S×155.87E, mb4.0/1, Error ellipse: s-maj=18.2km s-min=13.7km az=207.0*

ISC 20 13:58:24.5±0.8**, 7.1S**±0.1×**155.78E**±0.08**, h57**^{km}**, n8,**
σ**0**^{s}**94**/9**, mb3.8**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.71**	**119**	P	**P**	**13 59 33.0**	**-1.8**
HNR				S	**S**	**14 00 30.0**	**+1.2**
GUMO	**Guam**	**23.26**	**332**	P	**P**	**14 03 28.3**	**+0.4**
WRAB	**Tennant Creek**	**24.38**	**236**	P	**P**	**14 03 39.1**	**+0.4**
	4.5nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**24.39**	**236**	P	**P**	**14 03 39.5**	**+0.7**
	2.9nm,0.7s,mb3.8,baz=62,slow=9.6,SNR=16						
WRA				pP		14 03 53.8	
	1.5nm,0.8s,baz=60,slow=9.6,SNR=6.1						
ASAR	**Alice Springs**	**26.68**	**230**	P	**P**	**14 03 59.2**	**-1.0**
	0.3nm,0.8s,mb2.9,baz=58,slow=10,SNR=3.5						
ASAR				pP	pP	14 04 13.0	-1.3
	0.3nm,0.7s,baz=62,slow=10,SNR=3.0						
ASAR				sP	sP	14 04 20.6	-0.6
	0.2nm,0.5s,baz=58,slow=10,SNR=2.0						
CMAR	**Chiang Mai Arr**	**61.55**	**295**	P	**P**	**14 08 39.0**	**+0.5**
	1.1nm,0.9s,mb4.0,baz=119,slow=6.2,SNR=5.3						
MKAR	**Makanchi Array**	**84.02**	**319**	P	**P**	**14 10 49.6**	**-0.6**
	2.0nm,0.7s,mb4.4,baz=105,slow=5.8,SNR=18						
MKAR				pP	pP	14 11 05.6	-0.9
	0.9nm,0.6s,baz=105,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**84.02**	**319**	P	**P**	**14 10 49.6**	**-0.6**
MKAR				pP	pP	14 11 05.6	-0.9

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*NEIC **20** 13:59:41.5±2.0, 18.96N×108.53W, h10^{km}, mb4.1/8, Error ellipse: s-maj=40.1km s-min=27.6km az=59.0*

*IDC **20** 13:59:42.3±7.8, 19.25N×108.54W, mb3.8/5, mb1 4.3/5, mb1mx4.0/18, MS3.4/4, Ms1 3.4/4, ms1mx2.9/23, Error ellipse: s-maj=135.0km s-min=128.1km az=124.0*

ISC 20 13:59:39.5±3.3**, 18.9N**±0.3×**108.7W**±0.4**, h10**^{km}**, n25,**
σ**0**^{s}**75**/22**, mb3.9**/13**, MS3.3**/4**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	**Tucson**	**13.51**	**352**	*e*P	**P**	**14 02 52.2**	**-1.7**
	6.7nm,0.8s						
LDFC	**Landfair**	**17.11**	**342**	*e*P	**P**	**14 03 42.2**	**+1.7**
NVAR	**Mina Array Bea**	**21.21**	**339**	P	**P**	**14 04 26.9**	**-0.8**
	6.8nm,1.0s,mb3.9,baz=164,slow=12,SNR=15						
NVAR				LR	LR	14 11 16.7	
	comp=Z,107nm,20.7s,MS3.2,baz=175,slow=33						
DUG	**Dugway**	**21.54**	**351**	*e*P	**P**	**14 04 30.0**	**-1.0**
	20nm,1.2s,mb4.4						
WCN	**Washoe City**	**22.50**	**337**	*e*P	**P**	**14 04 40.5**	**-0.1**
	16nm,1.0s,mb4.4						
ELK	**Elko**	**22.51**	**347**	*e*P	**P**	**14 04 40.3**	**-0.4**
	4.1nm,0.9s,mb3.9						
HWUT	**Hardware Ranch**	**22.79**	**354**	*e*P	**P**	**14 04 44.4**	**+0.9**
	5.6nm,1.1s,mb3.9						
BW06	**Boulder Array**	**23.83**	**358**	*e*P	**P**	**14 04 54.3**	**+0.7**
	3.7nm,1.0s,mb3.8						
PDAR	**Pinedale Array**	**23.83**	**358**	P	**P**	**14 04 53.8**	**+0.3**
	0.9nm,0.6s,mb3.4,baz=166,slow=8.7,SNR=10						
TPAW	**Teton Pass**	**24.61**	**356**	*e*P	**P**	**14 05 02.2**	**+1.0**
MOOW	**Moose Ponds**	**24.86**	**356**	*e*P	**P**	**14 05 03.2**	**-0.3**
WVOR	**Wild Horse Val**	**24.96**	**342**	*e*P	**P**	**14 05 04.6**	**+0.1**
	7.2nm,1.0s,mb4.2						
HLID	**Hailey**	**25.08**	**350**	*e*P	**P**	**14 05 06.3**	**+0.6**
	2.8nm,0.8s,mb3.8						
HLID				*e*		14 05 15.9	
MCMT	**McKenzie Canyo**	**26.11**	**353**	*e*P	**P**	**14 05 15.9**	**+0.6**
MCMT				*e*		14 05 25.7	
BOZ	**Bozeman (W)**	**26.81**	**355**	*e*P	**P**	**14 05 21.5**	**-0.2**
	2.1nm,0.7s,mb3.8						
BOZ				*e*		14 05 31.1	
HRY	**Holter Researc**	**27.88**	**355**	*e*P	**P**	**14 05 31.0**	**-0.5**
HRY				*e*		14 05 40.8	
CHMT	**Chamberlain Mo**	**28.21**	**353**	*e*P	**P**	**14 05 34.3**	**-0.2**
NEW	**Newport**	**30.10**	**349**	LR	LR	14 18 11.7	
	comp=Z,42nm,20.7s,MS3.1,baz=107,slow=37						
ULM	**Lac du Bonnet**	**32.93**	**15**	LR	LR	14 19 37.3	
	comp=Z,120nm,18.3s,MS3.6,baz=337,slow=37						
YKA	**Yellowknife Ar**	**43.77**	**356**	P	**P**	**14 07 46.2**	**-0.5**
	1.9nm,1.0s,mb3.8,baz=168,slow=8.5,SNR=3.8						
YKA	**Yellowknife Ar**	**43.77**	**356**	P	**P**	**14 07 46.2**	**-0.5**
INK	**Inuvik**	**51.83**	**349**	P	**P**	**14 08 49.2**	**-0.4**
	2.7nm,0.8s,mb4.2,baz=134,slow=8.2,SNR=4.0						
INK	**Inuvik**	**51.83**	**349**	P	**P**	**14 08 49.2**	**-0.4**
ILAR	**Eielson Array**	**52.45**	**340**	P	**P**	**14 08 54.3**	**0.0**
	1.2nm,0.9s,mb3.8,baz=154,slow=6.7,SNR=11						
ESDC	**Sonseca Array**	**88.93**	**48**	LR	LR	14 49 05.8	
	comp=Z,16nm,19.7s,MS3.4,baz=155,slow=34						

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*NEIC **20** 14:22:39.5±5.4, 18.82S×177.65W, h472^{km}±58^{km}, mb4.0/3, Error ellipse: s-maj=32.2km s-min=16.3km az=53.0*

*IDC **20** 14:22:43.5±3.0,18.94S×177.75W,h512^{km}±33^{km},mb3.1/8, mb1 3.3/9,mb1mx3.2/18,Error ellipse: s-maj=26.5km s-min=18.3km az=25.0*

ISC 20 14:22:41.4±3.2,18.9S±0.2×177.8W±0.2,h501^{km}±36^{km}, n14,σ0^{s}61/15,mb3.6/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	19.82	192	P	P	14 26 38.0	-0.9
	2.7nm,0.3s,baz=280,slow=2.1,SNR=13						
CTA	Charters Tower	33.88	262	eP	P	14 28 43.9	+0.8
	2.8nm,0.6s,mb3.9						
CTA	Charters Tower	33.88	262	P	P	14 28 43.8	+0.7
	2.2nm,0.4s,mb4.0,baz=88,slow=11,SNR=7.1						
STKA	Stephens Creek	38.70	242	P	P	14 29 23.7	+1.0
	0.6nm,0.3s,mb3.4,baz=84,slow=9.2,SNR=4.3						
WB2	Warramunga Arr	45.03	260	eP	P	14 30 12.9	-0.5
WRA	Warramunga Arr	45.05	260	P	P	14 30 13.4	-0.1
	2.6nm,0.4s,mb4.0,baz=95,slow=8.3,SNR=105						
ASAR	Alice Springs	45.11	255	P	P	14 30 14.0	+0.1
	2.6nm,0.4s,mb4.0,baz=89,slow=8.2,SNR=60						
ASAR				S	S	14 36 15.7	-0.6
	0.2nm,0.6s,baz=90,slow=16,SNR=4.7						
ASPA	Alice Springs	45.11	255	eP	P	14 30 14.3	+0.4
KAKA	Kakadu	48.20	270	eP	P	14 30 36.7	-1.0
	5.6nm,0.6s,mb4.1						
VNDA	Vanda	59.54	185	P	P	14 31 57.2	0.0
	0.5nm,0.5s,mb3.2,baz=1.1,slow=7.4,SNR=8.8						
QSPA	South Pole Qui	71.19	180	eP	P	14 33 10.7	+0.7
	3.8nm,0.8s,mb4.0						
MAW	Mawson	83.16	200	P	P	14 34 15.2	+0.5
	0.9nm,0.8s,mb3.3,baz=141,slow=10,SNR=5.2						
ILAR	Eielson Array	86.69	13	P	P	14 34 31.8	-0.1
	0.1nm,0.5s,mb2.8,baz=216,slow=5.3,SNR=4.2						
SNAA	Sanae	89.62	178	P	P	14 34 45.0	-0.5
	0.2nm,0.8s,mb3.0,baz=198,slow=9.6,SNR=6.7						

DJA 20 15:07:15.2±0.9,9.48S×115.17E,h15^{km},MD5.4/4, ML3.2/2,8C,Error ellipse: s-maj=18.8km s-min=10.0km az=5.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.66	358	⇑ePn	Pn	15 07 26.6	-3.2
	256nm,0.2s						
INGI				⇑eSn	Sn	15 07 35.6	-4.2
RATI	Rata	0.84	26	⇑ePn	Pn	15 07 29.1	-3.2
	79nm,0.2s						
RATI				⇑eSn	Sn	15 07 39.7	-4.6
KEDI	Kedomdong	1.36	43	⇑ePn	Pn	15 07 37.6	-2.2
	23nm,0.2s						
KEDI				⇑eSn	Sn	15 07 53.7	-3.9
KELI	Kelakatan	1.43	332	⇑ePn	Pn	15 07 38.2	-2.5
	29nm,0.1s						
KELI				⇑eSn	Sn	15 07 56.4	-2.8

IDC 20 15:09:46.3±12.0,4.95N×94.90E,h178^{km}±113^{km},mb3.4/6, mb1 3.6/7,mb1mx3.4/19,Error ellipse: s-maj=110.0km s-min=14.8km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.99	16	P	P	15 12 57.4	-0.7
	0.1nm,0.3s,baz=210,slow=11,SNR=20						
MKAR	Makanchi Array	43.09	347	P	P	15 17 28.0	-2.4
	2.3nm,0.7s,baz=164,slow=8.8,SNR=16						
SONM	Songino Array	43.85	11	P	P	15 17 34.5	-2.0
	0.6nm,0.8s,baz=189,slow=9.2,SNR=3.8						
WRA	Warramunga Arr	45.98	124	P	P	15 17 52.0	-1.7
	1.5nm,0.5s,baz=301,slow=9.2,SNR=12						
ASAR	Alice Springs	47.49	128	P	P	15 18 03.6	-1.8
	0.6nm,0.6s,baz=300,slow=8.2,SNR=12						
ZAL	Zalesovo	49.53	352	P	P	15 18 20.0	-0.7
	0.7nm,0.3s,baz=202,slow=7.6,SNR=3.6						
BVAR	Borovoye Array	51.98	341	P	P	15 18 37.2	-2.0
	1.1nm,0.7s,baz=84,slow=14,SNR=4.7						

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*NEIC **20** 15:25:39.8±2.6,22.66S×176.23W,h47^{km}±22^{km},mb4.7/22, Error ellipse: s-maj=10.3km s-min=7.9km az=161.0*

*IDC **20** 15:25:49.3±2.8,22.76S×176.27W,h130^{km}±24^{km}, mb4.2/17,mb1 4.4/19,mb1mx4.4/23,MS3.8/8,Ms1 3.8/8, ms1mx3.6/22,Error ellipse: s-maj=19.2km s-min=10.8km az=156.0*

ISC 20 15:25:31.6±3.7,22.84S±0.07×176.19W±0.07,h1^{km}±22^{km}, n95,σ1^{s}07/68,mb4.7/31,MS3.9/8,5C-3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	15.31	87	P	P	15 29 08.2	-2.5
	4.8nm,0.3s,baz=210,slow=4.0,SNR=8.1						
RAR				S	S	15 31 39.7	-22
	4.4nm,0.3s,baz=74,slow=22,SNR=5.9						
RAR				LR	LR	15 33 35.5	
	comp=Z,246nm,19.5s,baz=153,slow=30						
MWZ	Matawai	16.36	198	eP	P	15 29 21.9	-2.2
URZ	Urewera	16.41	199	P	P	15 29 27.0	+2.2
	3.3nm,0.3s,baz=1.1,slow=4.3,SNR=24						
URZ				S	S	15 32 36.3	+9.0
	2.1nm,0.3s,baz=88,slow=23,SNR=9.6						
BKZ	Black Stump Fm	17.43	199	P	P	15 29 37.1	-0.5
NNZ	Nelson	20.32	203	eP	P	15 30 07.7	-4.1
NNZ				eS	S	15 33 43.1	-12
THZ	Tophouse	20.97	203	eP	P	15 30 15.8	-2.8
LTZ	Lake Taylor	22.09	203	eP	P	15 30 28.7	-1.1
WVZ	Waitaha Valley	22.92	205	P	P	15 30 39.0	+0.9
RPZ	Rata Peaks	23.34	204	P	P	15 30 40.9	-1.3
	10nm,0.7s,mb4.5,baz=286,slow=2.9,SNR=9.6						
RPZ				S	S	15 34 48.9	-2.8
	5.8nm,1.2s,baz=3.4,slow=19,SNR=3.1						
RPZ				LR	LR	15 39 11.5	
	comp=Z,605nm,20.5s,MS4.0,baz=31,slow=34						
RPZ	Rata Peaks	23.34	204	P	P	15 30 40.9	-1.3
RPZ				S	S	15 34 49.0	-2.8
RPZ				LR	LR	15 39 11.4	
JCZ	Jackson Bay	24.55	207	P	P	15 30 52.4	-1.5
CTA	Charters Tower	35.00	267	⇓iP	P	15 32 29.3	+1.5
	25nm,0.6s,mb5.3						
CTA	Charters Tower	35.00	267	P	P	15 32 29.4	+1.5
	70nm,1.1s,mb5.5,baz=99,slow=10,SNR=51						
CTAO	Charters Tower	35.00	267	eP	P	15 32 29.2	+1.4
	29nm,0.7s,mb5.3						
PMG	Port Moresby	37.54	285	eP	P	15 32 49.3	0.0
	28nm,0.9s,mb5.0						
STKA	Stephens Creek	38.37	247	eP	P	15 32 56.7	+0.6
	3.0nm,0.4s,mb4.4						
STKA	Stephens Creek	38.37	247	P	P	15 32 57.0	+0.9
	6.9nm,0.8s,mb4.5,baz=92,slow=9.9,SNR=22						
ASAR	Alice Springs	45.67	259	P	P	15 33 56.4	+0.4
	33nm,0.9s,mb5.4,baz=98,slow=7.1,SNR=189						
ASAR				S	S	15 40 31.2	-8.0
	0.6nm,0.6s,baz=94,slow=14,SNR=6.6						
ASPA	Alice Springs	45.67	259	eP	P	15 33 56.3	+0.3
WB2	Warramunga Arr	45.98	264	⇓iP	P	15 33 58.1	-0.3
WB2				eS	S	15 40 33.2	-10
WRAB	Tennant Creek	45.98	264	eP	P	15 33 57.6	-0.9
	13nm,0.8s,mb5.0						
WRA	Warramunga Arr	45.99	264	P	P	15 33 58.3	-0.2
	5.0nm,0.5s,mb4.8,baz=96,slow=8.3,SNR=219						
WRA				S	S	15 40 33.0	-11
	0.6nm,0.7s,baz=98,slow=14,SNR=4.2						
KAKA	Kakadu	49.78	273	eP	P	15 34 27.4	-0.7
	5.9nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	54.42	264	eP	P	15 35 02.7	-0.2
	2.7nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	54.42	264	P	P	15 35 02.6	-0.3
	14nm,1.0s,mb4.9,baz=149,slow=4.3,SNR=23						
FITZ				LR	LR	15 55 26.8	
	comp=Z,48nm,18.5s,MS3.6,baz=171,slow=33						
SBA	Scott Base	55.67	184	eP	P	15 35 14.1	+2.8
	9.1nm,0.8s,mb4.9						
VNDA	Vanda	55.75	186	P	P	15 35 12.6	+0.8
	2.9nm,0.9s,mb4.3,baz=7.8,slow=7.9,SNR=18						
VNDA				LR	LR	15 54 34.3	
	comp=Z,30nm,20.4s,MS3.4,baz=356,slow=31						
VNDA	Vanda	55.75	186	eP	P	15 35 13.7	+1.8
	4.4nm,1.0s,mb4.4						
VNDA				ePcP	PcP	15 36 10.9	-0.1
NWAO	Narrogin (SRO)	58.86	244	P	P	15 35 35.3	+0.8
	12nm,1.0s,mb4.9,baz=101,slow=16,SNR=2.0						
CASY	Casey	62.59	206	eP	P	15 35 59.5	+0.1
	17nm,0.9s,mb5.2						
QSPA	South Pole Qui	67.24	180	eP	P	15 36 30.9	+1.7
	24nm,1.2s,mb5.3						
QSPA				LR	LR		
	comp=Z,80nm,21.8s,MS3.9						
JNU	Nakatsue	75.12	316	LR	LR	16 05 50.7	
	comp=Z,148nm,20.6s,MS4.3,baz=242,slow=32						
FX1	Attu Island--F	75.97	353	eP	P	15 37 18.9	-2.9
MAW	Mawson	79.94	200	P	P	15 37 44.6	+1.2
	comp=Z,14nm,0.7s,mb5.0,baz=115,slow=5.9,SNR=48						
MAW				LR	LR	16 09 34.3	
	comp=Z,109nm,21.2s,MS4.2,baz=75,slow=33						
MAW	Mawson	79.94	200	eP	P	15 37 44.8	+1.4
	comp=Z,15nm,0.7s,mb5.0						
YBH	Yreka Blue Hor	81.08	38	P	P	15 37 50.3	+0.4
	comp=Z,5.0nm,0.7s,mb4.6,baz=42,slow=3.1,SNR=9.4						
NVAR	Mina Array Bea	81.59	42	P	P	15 37 52.6	-0.1
	comp=Z,2.9nm,0.8s,mb4.5,baz=217,slow=7.8,SNR=19						
LDFC	Landfair	81.65	47	eP	P	15 37 53.9	+0.8
TUC	Tucson	83.11	51	eP	P	15 38 01.1	+0.3
	comp=Z,2.5nm,0.9s,mb4.4						
WVOR	Wild Horse Val	83.86	39	eP	P	15 38 04.0	-0.3
	comp=Z,5.6nm,1.0s,mb4.8						
ELK	Elko	84.87	42	eP	P	15 38 09.3	-0.2
	comp=Z,3.2nm,1.0s,mb4.5						
MSU	Marysvale	85.54	45	eP	P	15 38 13.8	+1.0
SNAA	Sanae	85.63	178	⇓i	P	15 38 12.8	+0.3
SNAA	Sanae	85.63	178	P	P	15 38 12.3	-0.2
	comp=Z,2.7nm,1.0s,mb4.3,baz=204,slow=4.7,SNR=22						
SNAA	Sanae	85.63	178	eP	P	15 38 12.6	+0.1
	comp=Z,8.0nm,1.0s,mb4.8						
VNA2	Neumayer--Watz	86.16	176		P	15 38 18.0	+2.8
VNA2	Neumayer--Watz	86.16	176	⇑i	P	15 38 19.6	+4.4
VNA2	Neumayer--Watz	86.16	176	⇑iP	P	15 38 19.6	+4.4
VNA1	Neumayer--Stat	86.38	176	⇑i	P	15 38 21.1	+4.9
PLCA	Paso Flores	86.45	133	P	P	15 38 17.4	+0.1
	comp=Z,2.0nm,0.9s,mb4.2,baz=223,slow=8.5,SNR=4.2						
PLCA				LR	LR	16 08 19.0	
	comp=Z,36nm,18.5s,MS3.8,baz=183,slow=30						
PLCA	Paso Flores	86.45	133	eP	P	15 38 17.9	+0.6
	comp=Z,4.6nm,1.1s,mb4.5						
LAZ	Ladron	86.81	51	eP	P	15 38 19.9	+0.7
LTX	Lajitas	86.91	57	eP	P	15 38 20.1	+0.2
	comp=Z,1.9nm,0.7s,mb4.4						
TXAR	Lajitas Array	86.91	57	P	P	15 38 20.1	+0.3
	comp=Z,2.9nm,0.9s,mb4.5,baz=211,slow=7.3,SNR=14						
HLID	Hailey	87.01	40	P	P	15 38 19.8	-0.2
	comp=Z,0.9nm,0.6s,mb4.2						
ANMO	Albuquerque	87.56	50	eP	P	15 38 22.8	-0.1
	comp=Z,1.3nm,0.6s,mb4.4						
PDAR	Pinedale Array	89.52	43	P	P	15 38 31.2	-0.7
	comp=Z,1.0nm,0.8s,mb4.1,baz=196,slow=2.3,SNR=8.5						
BOZ	Bozeman (W)	89.83	39	eP	P	15 38 32.9	-0.4
	comp=Z,1.7nm,0.8s,mb4.3						
ILAR	Eielson Array	90.22	12	P	P	15 38 33.6	-1.1
	comp=Z,1.5nm,0.8s,mb4.2,baz=225,slow=4.9,SNR=5.8						
DAWY	Dawson	91.25	15	P	P	15 38 39.1	-0.3
CMAR	Chiang Mai Arr	92.47	289	P	P	15 38 46.3	+0.2
	comp=Z,1.9nm,0.8s,mb4.5,baz=128,slow=3.3,SNR=11						
RSSD	Black Hills	93.67	43	eP	P	15 38 50.6	-0.5
	comp=Z,3.7nm,0.9s,mb4.7						
LPAZ	La Paz	99.61	112	LR	LR	16 14 32.4	
	comp=Z,24nm,19.0s,MS3.7,baz=73,slow=29						
ZAL	Zalesovo	113.37	320	PKiKP		15 44 10.9	
	comp=Z,1.1nm,0.8s,baz=168,slow=1.1,SNR=5.1						
MKAR	Makanchi Array	114.02	313	PKiKP		15 44 12.1	
	comp=Z,1.1nm,0.6s,baz=180,slow=2.4,SNR=12						
MKAR	Makanchi Array	114.02	313	PKPdf	PKPdf	15 44 12.1	-2.4
KURK	Kurchatov	116.85	317	ePKPdf	PKPdf	15 44 17.3	-2.5
BRVK	Borovoye	122.01	319	ePKPdf	PKPdf	15 44 28.1	-1.7
ARCES	ARCESS Array B	131.51	350	PKP	PKPdf	15 44 46.2	-1.4
	comp=Z,3.6nm,0.7s,baz=45,slow=1.7,SNR=9.7						
FINES	FINESS Array B	138.48	344	PKP	PKPdf	15 44 58.6	-2.0
	comp=Z,1.9nm,0.7s,baz=117,slow=4.3,SNR=5.4						
HFS	Hagfors	142.09	352	PKhKP		15 44 59.9	
	comp=Z,1.6nm,0.4s,baz=207,slow=3.2,SNR=6.2						
MBAR	Mbarara	144.93	232	ePKPdf	PKPdf	15 45 12.2	-1.2
AKASG	Malin Array Be	145.87	331	PKPbc	PKPbc	15 45 12.7	-0.1
	comp=Z,2.6nm,0.5s,baz=42,slow=4.2,SNR=20						
MALT	Malatya	146.67	306	ePKPbc	PKPbc	15 45 17.4	+2.3
EKA	Eskdalemuir Ar	147.14	7	PKPbc	PKPdf	15 45 18.8	+3.0
	comp=Z,4.7nm,0.7s,baz=349,slow=2.7,SNR=10.0						
EKA	Eskdalemuir Ar	147.14	7	PKPbc	PKPdf	15 45 18.8	+3.0
BRTR	Keskin Array B	149.65	311	PKPbc	PKPdf	15 45 23.9	+3.5
	comp=Z,2.1nm,0.7s,baz=142,slow=4.0,SNR=10.0						
OJC	Ojcow	149.94	339	eP	PKPdf	15 45 24.6	+4.1
KSP	Ksiaz	150.40	344	ePKPdf	PKPdf	15 45 26.3	+5.1
CLZ	Clausthal	150.61	352	ePKPbc	PKPdf	15 45 26.4	+4.9
CLL	Collm	150.70	348	i PKP1	PKPdf	15 45 26.3	+4.7
UPC	Upice	150.78	344	ePKP1	PKPdf	15 45 27.0	+5.2
OKC	Ostrava-Krasne	150.79	341	ePKP1	PKPdf	15 45 27.2	+5.4
DPC	Dobruska-Polom	150.85	343	ePKP1	PKPdf	15 45 27.7	+5.8
BRG	Berggiesshubel	150.93	347	⇑iP	PKPdf	15 45 27.4	+5.4
BRG				i		15 45 33.8	
MORC	Moravsky Berou	151.03	341	ePKPbc	PKPdf	15 45 27.3	+5.2
MLR	Muntele Rosu	151.10	327	PKPbc	PKPdf	15 45 26.9	+4.5
	comp=Z,7.1nm,0.7s,baz=336,slow=7.3,SNR=17						
PVCC	Panska Ves	151.11	346	ePKP1	PKPdf	15 45 28.1	+5.9
KECS	Kecovo	151.18	337	ePKP	PKPdf	15 45 29.2	+6.8
PRU	Pruhonice	151.62	345	ePKP1	PKPdf	15 45 28.5	+5.5
	comp=Z,9.7nm,0.7s						
PRU				ePKP2	PKPab	15 45 35.4	-2.9
VRAC	Vranov	151.72	342	PKPbc	PKPdf	15 45 28.2	+5.0
	comp=Z,2.5nm,0.6s,baz=330,slow=7.6,SNR=4.4						
VYHS	Vyhne	151.75	339	ePKP	PKPdf	15 45 29.2	+5.9
KHC	Kasperske Hory	152.65	346	ePKP1	PKPdf	15 45 31.2	+6.7
KHC				ePKP2	PKPab	15 45 41.1	-1.6
GERES	GERESS Array B	152.89	346	PKPbc	PKPdf	15 45 31.2	+6.3
	comp=Z,3.1nm,0.7s,baz=45,slow=1.9,SNR=21						
WTTA	Wattenberg	154.83	347	⇑iP	PKPdf	15 45 35.9	+8.3

PRE 20 15:29:30.1±2.5,26.37S×29.21E,ML3.5,Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFT	Belfast (SA)	1.01	48	eP	Pb	15 29 48.8	-1.4
BFT				eS	Sg	15 30 01.0	-2.7
BFT				e		15 30 04.4	
	comp=Z,371nm,0.2s						
SLR	Silverton	1.05	307	eP	Pb	15 29 48.2	-2.5
SLR				eS	Sb	15 30 02.0	-2.9
SLR				e		15 30 14.7	
	comp=Z,493nm,0.7s						
NWL	Newcastle	1.50	154	eP	Pn	15 29 58.0	-0.4
NWL				eS	Sb	15 30 15.7	-2.4
NWL				e		15 30 19.0	
	comp=Z,2μm,0.6s						
KSR	Koster	2.14	283	eP	Pn	15 30 07.1	-0.4
KSR				eS	Sn	15 30 32.6	-2.6
KSR				e		15 30 37.6	
	comp=Z,421nm,0.2s						
SEK	Senekal	2.41	216	eP	Pn	15 30 10.2	-1.1
SEK				eS	Sn	15 30 39.7	-2.2
SEK				e		15 30 43.6	
	comp=Z,184nm,0.4s						
LEP	Lephalale	3.01	334	eP	Pn	15 30 19.3	-0.7
LEP				eS	Sn	15 31 01.5	+4.1
LEP				e		15 31 11.4	
	comp=Z,227nm,0.5s						
PKA	Prieska	6.58	239	eP	Pn	15 31 03.4	-7.1
PKA				eS	Sn	15 32 14.1	-13
UPI	Upington	7.35	253	eP	Pn	15 31 17.6	-3.7
UPI				eS	Sn	15 32 34.8	-12
UPI				e		15 32 39.0	
	comp=Z,11nm,0.2s						

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*IDC **20** 15:42:00.9±0.6,62.58N×25.85W,mb4.1/18,mb1 4.3/22, mb1mx4.3/28,ML3.8/4,MS3.9/15,Ms1 3.9/15, ms1mx3.7/26,Error ellipse: s-maj=21.6km s-min=11.5km az=7.0*

*BJI **20** 15:42:02.5,62.50N×25.80W,h10^{km},mB4.4,Ms4.0, Msz3.8*

*ZUR_RM **20** 15:42:02,62.46N×25.75W,h12^{km},Mw4.7/16,Moment Tensor Solution. s16 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.72; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.95; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.69; $M_{\phi r}$-0.93; Best double couple: $M_0$1.4×10^{16} NP1:ϕ_s15°,δ68°,λ-101°. NP2:ϕ_s222°,δ25°,λ-66°. Principal axes: T 1.6593, Plg22°, Azm113°; N -.5229, Plg10°, Azm19°; P -1.1364, Plg66°, Azm267°;*

*NEIC **20** 15:42:02.5±0.2,62.46N×25.75W,h10^{km},mb4.7/52, MS4.2/10 Error ellipse: s-maj=8.0km s-min=3.6km az=25.0*

ISC 20 15:42:00.9±0.2,62.44N±0.05×25.85W±0.07,h10^{km},n130, σ1^{s}17/124,mb4.4/64,MS3.9/22,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	3.07	39	Pn	Pn	15 42 47.6	-2.8
	102nm,0.3s,baz=219,slow=8.9,SNR=509						
BORG				Sn	Sn	15 43 29.4	+1.8
	14nm,0.3s,baz=114,slow=23,SNR=3.1						
BORG	Borgarnes	3.07	39	ePn	Pn	15 42 47.4	-3.1
BORG				Sn	Sn	15 43 29.4	+1.8
SUMG	Summit	11.22	340	eP	P	15 44 43.0	-1.2
	30nm,0.9s						
ESK	Eskdalemuir	13.65	111	Pn	P	15 45 13.9	-2.7
EKA	Eskdalemuir Ar	13.66	111	Pn	P	15 45 14.7	-2.1
	0.4nm,0.3s,baz=307,slow=14,SNR=9.6						
EKA	Eskdalemuir Ar	13.66	111	Pn	P	15 45 14.7	-2.1
NOA	NORSAR Array B	17.45	78	P	P	15 46 05.1	-0.5
	0.1nm,0.3s,baz=285,slow=11,SNR=4.3						
NOA				LR	LR	15 52 21.5	
	comp=Z,183nm,19.5s,baz=285,slow=36						
NOA	NORSAR Array B	17.45	78	P	P	15 46 05.1	-0.5
NOA				LR	LR	15 52 21.6	
ROSF	Rostrenen	18.93	128	eP	P	15 46 20.5	-3.4
HFS	Hagfors	18.93	79	P	P	15 46 23.0	-0.8
	0.0nm,0.3s,baz=315,slow=12,SNR=2.1						
FRB	Frobisher Bay	19.11	293	LR	LR	15 53 05.1	
	comp=Z,830nm,19.2s,baz=154,slow=35						
SGMF	Saint Gilles	19.26	127	eP	P	15 46 25.3	-2.6
QUIF	Quistinic	19.32	128	eP	P	15 46 26.7	-1.9
	105nm,1.2s						
FLN	La Foliniere	19.64	123	eP	P	15 46 30.2	-2.0
	123nm,1.1s						
FLN				eR			
	898nm,19.5s						
GRR	Gorron	19.80	124	eP	P	15 46 31.9	-2.1
	74nm,1.2s						
LDF	La Druitiere	19.92	122	eP	P	15 46 33.0	-2.3
	108nm,1.1s						
WTSB	Winterswijk	20.32	106	eP	P	15 46 38.9	-0.6
	17nm,1.1s						
WTSB				ex	x	15 46 43.6	
	18nm,1.5s						
BAIF	Baives	20.56	113	eP	P	15 46 41.9	-0.1
	93nm,1.4s						
BSEG	Bad Segeberg	20.62	98	eP	P	15 46 40.8	-1.8
HGN	Heimansgroeve	20.79	110	eP	P	15 46 45.3	+0.9
	14nm,1.1s						
HGN				ex	x	15 46 49.1	
	13nm,1.3s						
GIVF	Givet	20.79	112	eP	P	15 46 44.1	-0.3
ARCES	ARCESS Array B	21.43	49	P	P	15 46 49.5	-1.2
	5.9nm,1.1s,mb3.9,baz=270,slow=9.0,SNR=3.5						
MFF	Saint Martin d	21.54	125	eP	P	15 46 50.8	-1.3
	112nm,1.3s,mb4.8						
CLZ	Clausthal	22.02	102	eP	P	15 46 56.3	-0.5
	72nm,1.2s,mb5.0						
MEZF	Maizieres J'vi	22.10	115	eP	P	15 46 58.1	+0.4
	182nm,1.5s,mb5.0						
SCHQ	Schefferville	22.31	269	P	P	15 46 59.5	-0.2
	5.5nm,0.6s,mb4.1,baz=59,slow=5.5,SNR=4.6						
SCHQ				LR	LR	15 54 32.1	
	comp=Z,221nm,18.3s,MS3.6,baz=72,slow=34						
SCHQ	Schefferville	22.31	269	eP	P	15 47 00.5	+0.8
	35nm,1.2s,mb4.7						
LOR	Lormes	22.58	118	eP	P	15 47 01.2	-1.1
	96nm,1.2s,mb4.8						
LOR				eR			
	895nm,20.0s						
SSF	Saint Saulge	22.60	119	eP	P	15 47 02.6	+0.1
	84nm,1.2s,mb4.8						
THEF	They Montfort	22.71	114	eP	P	15 47 03.1	-0.5
TCF	Toulx Ste Croi	22.71	122	eP	P	15 47 03.0	-0.6
	113nm,1.2s,mb4.9						
BGF	Bois d'Agland	22.74	121	eP	P	15 47 03.9	0.0
AVF	Avril sur Loir	22.76	120	eP	P	15 47 02.8	-1.2
	68nm,1.1s,mb4.7						
LANF	Langenberg	22.92	110	eP	P	15 47 07.4	+1.8
HAU	Haudompre	23.04	114	eP	P	15 47 06.6	-0.2
	83nm,1.4s,mb4.7						
HAU				eR			
	356nm,19.0s						
SMF	Signal de Mont	23.07	119	eP	P	15 47 06.3	-0.8
	78nm,1.0s,mb4.8						
CDF	Champ du Feu	23.12	112	eP	P	15 47 07.6	0.0
	78nm,1.4s,mb4.7						
RUE	Ruedersdorf	23.15	97	eP	P	15 47 09.1	+1.3
	71nm,1.1s,mb5.0						
WLS	Welschbruch	23.15	112	eP	P	15 47 10.2	+2.3
ECH	Echery	23.22	112	eP	P	15 47 07.6	-0.9
RJF	Les Rejaudoux	23.26	125	eP	P	15 47 08.6	-0.4
	57nm,1.1s,mb4.6						
RJF				eR			
	436nm,22.8s						
AGO	Saint Agoulin	23.27	121	eP	P	15 47 13.0	+3.9
LFF	La Frestale	23.28	126	eP	P	15 47 08.3	-0.8
	126nm,1.3s,mb4.9						
HINF	Hinteralfeld	23.40	114	eP	P	15 47 10.5	+0.2
	21nm,0.9s,mb4.2						
MOX	Moxa	23.41	103	i P	P	15 47 12.2	+1.9
MOX				L		15 56 11.0	
MOX	Moxa	23.41	103	eP	P	15 47 12.2	+1.9
MOX				LR	LR		
	comp=Z,200nm,21.0s,MS3.5						
PYM	Petit Puy Mans	23.47	122	eP	P	15 47 13.0	+2.0
MOF	Molkenrain	23.49	113	eP	P	15 47 09.5	-1.7
PLDF	La Plantade	23.53	121	eP	P	15 47 12.4	+0.8
CLL	Collm	23.58	100	P	P	15 47 13.2	+1.2
	comp=Z,logA/T=1.2,mb4.4						
CLL				i		15 47 28.5	
CLL	Collm	23.58	100	i P	P	15 47 13.2	+1.2
	comp=Z,17nm,1.2s,mb4.3						
CLL				i		15 47 28.5	
BFO	Black Forest	23.64	111	eP	P	15 47 13.1	+0.5
	comp=Z,20nm,1.1s,mb4.5						
STU	Stuttgart	23.68	109	P	P	15 47 15.8	+2.8
LOMF	Lomont	23.75	114	eP	P	15 47 15.4	+1.7
CAF	Calviac	23.79	124	eP	P	15 47 14.4	+0.3
	comp=Z,76nm,1.2s,mb4.7						
FINES	FINESS Array B	23.91	69	P	P	15 47 16.1	+1.0
	comp=Z,3.1nm,0.8s,mb3.8,baz=315,slow=5.4,SNR=5.3						
FINES				LR	LR	15 55 59.0	
	comp=Z,132nm,18.6s,MS3.4,baz=276,slow=35						
FINES	FINESS Array B	23.91	69	P	P	15 47 16.1	+1.0
FINES				LR	LR	15 55 59.0	
GRA1	Grafenberg Arr	23.91	105	eP	P	15 47 14.4	-0.8
	comp=Z,24nm,1.2s,mb4.5						
GRA1				LR	LR		
	comp=Z,500nm,18.1s,MS4.0						
LBL	Lubilhac	23.99	122	eP	P	15 47 17.6	+1.5
SPAK	Spaichingen	24.01	111	eP	P	15 47 16.5	+0.3
CABF	La Chapelle	24.02	116	eP	P	15 47 16.0	-0.3
	comp=Z,84nm,1.3s,mb4.7						
SJPF	Ste Jean	24.15	132	eP	P	15 47 16.2	-1.4
BRG	Berggiesshubel	24.31	100	eP	P	15 47 19.8	+0.7
	comp=Z,13nm,1.2s,mb4.2						
MTE	Manteigas	24.67	145	eP	P	15 47 26.1	+3.4
	comp=Z,34nm,1.2s,mb4.8						
EPF	Esparros	24.77	129	eP	P	15 47 22.6	-1.1
	comp=Z,39nm,1.2s,mb4.5						
VIVF	Saint-Julien-l	24.87	121	eP	P	15 47 23.9	-0.7
	comp=Z,38nm,1.2s,mb4.5						
WET	Wettzell	25.05	104	eP	P	15 47 27.1	+0.8
	comp=Z,17nm,1.1s,mb4.5						
LPL	La Plagne	25.17	117	eP	P	15 47 28.5	+1.1
	comp=Z,30nm,1.1s,mb4.5						
LPG	La Plagne	25.19	117	eP	P	15 47 28.9	+1.3
	comp=Z,31nm,1.1s,mb4.5						
MTLF	Montolieu	25.20	126	eP	P	15 47 26.6	-1.1
	comp=Z,15nm,1.0s,mb4.2						
LASF	Ste Croix	25.20	123	eP	P	15 47 27.7	0.0
	comp=Z,67nm,1.1s,mb4.8						
PRU	Pruhonice	25.20	101	eP	P	15 47 29.1	+1.4
ORIF	Oris-en-Rattie	25.31	119	eP	P	15 47 29.2	+0.5
	comp=Z,46nm,1.2s,mb4.6						
ORIF				eR			
	comp=Z,618nm,17.8s						
MCGN	Macugnaga	25.34	115	eP	P	15 47 32.8	+3.8
KHC	Kasperske Hory	25.38	103	eP	P	15 47 30.1	+0.7
KHC				i AP	pP	15 47 32.7	+0.4
KSP	Ksiaz	25.41	98	eP	P	15 47 30.5	+0.9
ORO	Oropa	25.60	115	eP	P	15 47 32.8	+1.3
GEC2	GERESS Array S	25.64	104	eP	P	15 47 34.6	+2.8
	comp=Z,11nm,1.3s,mb4.2						
GERES	GERESS Array B	25.64	104	P	P	15 47 33.6	+1.7
	comp=Z,1.1nm,0.7s,mb3.5,baz=329,slow=7.8,SNR=7.8						

MBDF	**Montbardon**	**25.83**	**118**	*e*P	**P**	**15 47 34.4**	**+0.8**
	comp=Z,22nm,1.0s,mb4.3						
SMRF	**Simiane la Rot**	**25.96**	**121**	*e*P	**P**	**15 47 34.6**	**-0.3**
	comp=Z,44nm,1.2s,mb4.6						
ESDC	**Sonseca Array**	**26.36**	**140**	P	**P**	**15 47 39.1**	**+0.5**
	comp=Z,3.0nm,0.7s,mb3.9,baz=341,slow=8.7,SNR=11						
ESDC				LR	LR	15 56 55.9	
	comp=Z,155nm,19.2s,MS3.6,baz=330,slow=34						
ESLA	**Sonseca Array**	**26.36**	**140**	*e*P	**P**	**15 47 40.2**	**+1.6**
	comp=Z,3.0nm,1.1s,mb3.7						
VRAC	**Vranov**	**26.62**	**100**	P	**P**	**15 47 42.3**	**+1.4**
	comp=Z,1.8nm,0.5s,mb3.9,baz=326,slow=10,SNR=3.3						
MORC	**Moravsky Berou**	**26.73**	**98**	*e*P	**P**	**15 47 42.8**	**+0.9**
	comp=Z,7.2nm,1.0s,mb4.2						
CTI	**Castel Tesino**	**26.84**	**110**	*e*P	**P**	**15 47 46.1**	**+3.1**
VYHS	**Vyhne**	**28.24**	**99**	*e*P	**P**	**15 47 54.7**	**-0.9**
PGF	**Pioggiola**	**28.54**	**118**	*e*P	**P**	**15 47 54.8**	**-3.6**
	comp=Z,34nm,1.1s,mb4.7						
AKASG	**Malin Array Be**	**31.51**	**86**	P	**P**	**15 48 23.4**	**-1.3**
	comp=Z,12nm,1.2s,mb4.6,baz=313,slow=8.8,SNR=11						
MLR	**Muntele Rosu**	**33.74**	**96**	P	**P**	**15 48 47.2**	**+2.9**
	comp=Z,2.7nm,0.9s,mb4.2,baz=118,slow=6.5,SNR=3.3						
VAE	**Valguarnera**	**35.04**	**116**	LR	LR	16 03 33.5	
	comp=Z,297nm,18.1s,MS4.1,baz=277,slow=37						
YKA	**Yellowknife Ar**	**37.93**	**311**	P	**P**	**15 49 18.9**	**-0.7**
	comp=Z,1.7nm,0.8s,mb3.8,baz=48,slow=9.1,SNR=8.9						
YKA				LR	LR	16 04 20.2	
	comp=Z,343nm,18.3s,MS4.2,baz=70,slow=35						
FFC	**Flin Flon**	**38.21**	**294**	P	**P**	**15 49 22.4**	**+0.4**
	comp=Z,5.3nm,0.7s,mb4.4						
ULM	**Lac du Bonnet**	**38.67**	**285**	LR	LR	16 04 21.6	
	comp=Z,250nm,18.4s,MS4.1,baz=66,slow=35						
ELN	**Prospectdale**	**41.69**	**259**	*e*P	**P**	**15 49 52.0**	**+1.0**
BRTR	**Keskin Array B**	**41.78**	**94**	P	**P**	**15 49 51.4**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.2,baz=315,slow=7.0,SNR=18						
BRTR				LR	LR	16 08 28.8	
	comp=Z,70nm,20.2s,MS3.5,baz=300,slow=38						
BRTR	**Keskin Array B**	**41.78**	**94**	P	**P**	**15 49 51.4**	**-0.2**
BRTR				LR	LR	16 08 28.8	
DAWY	**Dawson**	**44.49**	**325**	*e*P	**P**	**15 50 13.8**	**+0.5**
MALT	**Malatya**	**45.14**	**91**	*e*P	**P**	**15 50 21.2**	**+2.2**
	comp=Z,5.5nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**45.81**	**329**	P	**P**	**15 50 22.7**	**-1.1**
	comp=Z,2.5nm,0.9s,mb4.1,baz=28,slow=6.0,SNR=14						
ILAR				PcP	PcP	15 51 59.6	-2.2
	comp=Z,1.0nm,0.7s,baz=358,slow=3.2,SNR=5.8						
ILAR				LR	LR	16 11 15.1	
	comp=Z,73nm,18.2s,MS3.7,baz=199,slow=38						
COLA	**College**	**45.95**	**330**	P	**P**	**15 50 25.0**	**+0.1**
	comp=Z,3.7nm,0.5s,mb4.6						
BRVK	**Borovoye**	**47.48**	**55**	*e*P	**P**	**15 50 36.3**	**-0.9**
	comp=Z,5.6nm,1.1s,mb4.4						
BRVK				LR	LR		
	comp=Z,23nm,19.0s,MS3.2						
LRAL	**Lakeview Retre**	**48.02**	**262**	*e*P	**P**	**15 50 41.7**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.7						
LRAL				LR	LR		
	comp=Z,289nm,20.0s,MS4.2						
HRY	**Holter Researc**	**48.34**	**293**	*e*P	**P**	**15 50 43.9**	**-0.1**
BOZ	**Bozeman (W)**	**49.09**	**292**	*e*P	**P**	**15 50 50.4**	**+0.6**
	comp=Z,6.4nm,0.9s,mb4.7						
BOZ				LR	LR		
	comp=Z,573nm,20.0s,MS4.6						
ASF	**Jabal al Asfar**	**49.48**	**97**	LR	LR	16 12 38.0	
	comp=Z,63nm,21.1s,MS3.6,baz=8.0,slow=37						
PDAR	**Pinedale Array**	**50.47**	**288**	P	**P**	**15 51 00.0**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.5,baz=54,slow=7.1,SNR=32						
HLID	**Hailey**	**51.95**	**293**	P	**P**	**15 51 11.8**	**+0.1**
WMOK	**Wichita Mounta**	**52.08**	**274**	*e*P	**P**	**15 51 12.4**	**-0.3**
WMOK				LR	LR		
	comp=Z,471nm,19.0s,MS4.5						
HWUT	**Hardware Ranch**	**52.29**	**289**	*e*P	**P**	**15 51 13.9**	**-0.3**
	comp=Z,2.5nm,0.4s,mb4.5						
KURK	**Kurchatov**	**52.45**	**51**	*e*P	**P**	**15 51 15.4**	**+0.1**
	comp=Z,7.5nm,1.1s,mb4.5						
DUG	**Dugway**	**53.99**	**289**	*e*P	**P**	**15 51 27.2**	**+0.4**
ELK	**Elko**	**54.60**	**291**	*e*P	**P**	**15 51 32.1**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**54.66**	**295**	*e*P	**P**	**15 51 31.3**	**-0.5**
	comp=Z,6.8nm,1.4s,mb4.5						
WVOR				LR	LR		
	comp=Z,443nm,19.0s,MS4.5						
MSU	**Marysvale**	**55.09**	**287**	*e*P	**P**	**15 51 35.1**	**+0.1**
LAZ	**Ladron**	**56.22**	**280**	*e*P	**P**	**15 51 43.8**	**+0.7**
GDL2	**Guadalupe Moun**	**56.77**	**277**	*e*P	**P**	**15 51 47.0**	**-0.1**
MKAR	**Makanchi Array**	**57.06**	**51**	P	**P**	**15 51 47.5**	**-1.4**
	comp=Z,3.8nm,0.8s,mb4.5,baz=333,slow=5.4,SNR=22						
AAK	**Ala-Archa**	**57.60**	**59**	*e*P	**P**	**15 51 53.2**	**+0.4**
	comp=Z,14nm,1.4s,mb4.8						
DBIC	**Dimbokro**	**57.76**	**155**	LR	LR	16 14 15.3	
	comp=Z,48nm,21.9s,MS3.6,baz=323,slow=33						
NVAR	**Mina Array Bea**	**57.84**	**292**	P	**P**	**15 51 54.4**	**-0.2**
	comp=Z,1.7nm,0.9s,mb4.1,baz=57,slow=5.5,SNR=8.9						
NVAR				LR	LR	16 17 03.3	
	comp=Z,355nm,18.0s,MS4.5,baz=270,slow=36						
TXAR	**Lajitas Array**	**58.86**	**274**	P	**P**	**15 52 00.6**	**-1.2**
	comp=Z,0.3nm,0.2s,mb3.9,baz=45,slow=3.5,SNR=5.3						
TXAR				LR	LR	16 16 50.5	
	comp=Z,88nm,18.2s,MS3.9,baz=110,slow=36						
DAC	**Darwin (Calif)**	**59.33**	**290**	*e*P	**P**	**15 52 05.0**	**-0.1**
	comp=Z,12nm,1.3s,mb4.8						
DAC				LR	LR		
	comp=Z,157nm,19.0s,MS4.2						
SONM	**Songino Array**	**63.67**	**34**	P	**P**	**15 52 32.5**	**-1.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=297,slow=2.8,SNR=4.2						
GTA	**Gaotai**	**69.53**	**42**	*e*P	**P**	**15 53 15.3**	**+4.0**
GTA				AP	pP	15 53 21.8	+7.4
GTA				XP	sP	15 53 24.4	+8.9
GTA				AMB	AMB		
	comp=Z,19nm,3.8s						
GTA				LR	LR		
	comp=N,43nm,16.3s,MS3.9						
GTA				LR	LR		
	comp=E,31nm,17.9s,MS3.9						
GTA				LR	LR		
	comp=Z,48nm,18.6s,MS3.8						
BDFB	**Brasilia**	**79.76**	**202**	LR	LR	16 22 06.6	
	comp=Z,59nm,20.9s,MS3.9,baz=28,slow=30						
LPAZ	**La Paz**	**85.20**	**220**	P	**P**	**15 54 39.8**	**+1.4**
	comp=Z,1.3nm,1.1s,mb4.0,baz=24,slow=5.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**88.47**	**51**	P	**P**	**15 54 54.5**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.3,baz=322,slow=5.8,SNR=7.7						
ASAR	**Alice Springs**	**138.89**	**29**	PKP	PKPdf	16 01 27.5	-2.7
	comp=Z,0.4nm,0.8s,baz=302,slow=2.4,SNR=3.9						
MAW	**Mawson**	**144.46**	**139**	PKP	PKPdf	16 01 36.0	-2.6
	comp=Z,5.3nm,0.9s,baz=319,slow=9.8,SNR=11						

BJI 20 15:45:16.9,42.71N×131.61E,h33^{km},ML3.5, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**2.40**	**323**	PG	P	15 45 56.9	+2.2
MDJ				SG	S	15 46 26.8	+3.6
MDJ				Smax			
	comp=N,309nm,1.0s						
MDJ				Smax			
	comp=E,329nm,0.9s						
CN2	**Changchun**	**4.63**	**286**	*e*PG	P	15 46 41.3	+15
CN2				Smax			
	comp=N,100nm,0.6s						
CN2				Smax			
	comp=E,100nm,0.6s						

NNC 20 16:20:25.4±5.5,36.57N×70.02E,h84^{km}±51^{km},mpv3.6, 4C,Error ellipse: s-maj=63.8km s-min=12.4km az=10.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.54**	**3**	⇑P	P	16 21 58.8	-1.9
	1.4nm,0.3s,baz=179,slow=12,SNR=37						
KK31				⇑S	S	16 23 13.2	-1.2
	3.2nm,0.6s,baz=194,slow=20,SNR=8.5						
MK31	**Makanchi Array**	**13.71**	**38**	P	P	16 23 36.0	-1.1
	0.3nm,0.4s,baz=209,slow=9.0,SNR=6.5						
AB31	**Akbulak array**	**14.65**	**333**	⇑P	P	16 23 48.1	-1.1
	1.2nm,0.3s,baz=164,slow=12,SNR=60						
AB31				⇑S	S	16 26 29.8	-0.1
	1.0nm,0.7s,baz=152,slow=24,SNR=2.9						

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*IDC **20** 17:13:17.4±0.4,8.23N×125.85E,mb4.6/25,mb1 4.7/27, mb1mx4.7/28,ML4.8/2,MS4.4/8,Ms1 4.4/8,ms1mx4.0/32, Error ellipse: s-maj=22.5km s-min=10.4km az=74.0*

*MAN **20** 17:13:21.0,8.24N×125.95E,h15^{km},MS5.0*

MAN F Bislig Surigao del Sur - Int III.

*MOS **20** 17:13:22.7±1.4,8.06N×125.74E,h55^{km},mb5.4/13,Error ellipse: s-maj=28.3km s-min=10.7km az=112.9*

*BJI **20** 17:13:24.5,7.90N×125.89E,h84^{km},mB5.0,mb4.9,Ms4.8, Msz4.6*

*HRVD **20** 17:13:25.5±0.2,8.29N×125.99E,h21^{km}±1^{km},MW5.3/60, Centroid moment Tensor Solution. LP body waves: s51,c82;Mantle waves: s60,c123; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.04±.03; $M_{\theta\theta}$0.94±.03; $M_{\phi\phi}$-0.90±.03; $M_{r\theta}$-0.13±.04; $M_{\theta\phi}$-0.48±.02; $M_{\phi r}$-0.27±.05; Best double couple: $M_0$1.08×10^{17} NP1: ϕ_s328°,δ76°,λ-9°. NP2:ϕ_s60°,δ82°,λ-166°. Principal axes: T 1.06, Plg4°, Azm193°; N .04, Plg74°, Azm91°; P -1.1, Plg16°, Azm284°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 17:13:25.5±1.5,8.19N×126.00E,h64^{km}±14^{km},mb5.0/29, MS4.4/8 Error ellipse: s-maj=10.3km s-min=5.3km az=71.0*

NEIC Felt [III PIVS] at Bislig.

*SYO **20** 17:13:25.4,8.19N×126.00E,h64^{km},MB5.0,MS4.4*

ISC 20 17:13:21.2±0.3,8.16N±0.02×126.06E±0.03,h40^{km}±2^{km}, h54^{km}±4.2^{km}:pP-P,n205,σ1^{s}30/227,mb4.9/79,MS4.6/37, 17C-18D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.30**	**86**	⇓*e*P	**P**	**17 13 28.5**	**-1.0**
BIPH				*e*S	**S**	**17 13 36.1**	**+0.9**
BUTP	**Butuan**	**0.91**	**332**	*e*P	**P**	**17 13 36.3**	**-1.3**
BUTP				*e*S	**S**	**17 13 51.4**	**+1.7**
BUKP	**Musuan**	**1.03**	**254**	*e*P	**P**	**17 13 38.2**	**-1.1**
BUKP				*e*S	**S**	**17 13 53.8**	**+1.1**
DAV	**Davao City (W)**	**1.19**	**204**	⇑*i*P	**P**	**17 13 43.0**	**+1.5**
MATI	**Mati**	**1.23**	**171**	*e*P	**P**	**17 13 43.0**	**+0.9**
MATI				*e*S	**S**	**17 13 59.2**	**+1.5**
CGP	**Cagayan de Oro**	**1.38**	**282**	*i* P	**P**	**17 13 42.8**	**-1.6**
CGP				*i* S	**S**	**17 14 03.1**	**+1.4**
KCP	**Kidapawan**	**1.50**	**220**	⇑*e*P	**P**	**17 13 46.6**	**+0.6**
KCP				*i* S	**S**	**17 14 07.4**	**+2.9**
SCPH	**Surigao**	**1.71**	**341**	⇑*e*P	**P**	**17 13 49.2**	**+0.3**
SCPH				*e*S	**S**	**17 14 17.3**	**+7.6**
CTBH	**Cotabato--PC H**	**2.03**	**243**	*e*P	**P**	**17 13 53.4**	**-0.2**
CTBH				*i* S	**S**	**17 14 20.9**	**+3.1**
MSLP	**Maasin**	**2.29**	**329**	*e*P	**P**	**17 13 56.7**	**-0.6**
TBP	**Tagbilaran**	**2.65**	**305**	*i* P	**P**	**17 14 01.3**	**-1.1**
TBP				*i* S	**S**	**17 14 35.6**	**+2.0**
PAGZ	**Pagadian**	**2.67**	**263**	*e*P	**P**	**17 14 04.4**	**+1.7**
PAGZ				*e*S	**S**	**17 14 41.0**	**+6.8**
DCPH	**Dipolog City**	**2.71**	**279**	⇓*e*P	**P**	**17 14 03.8**	**+0.5**
DCPH				*i* S	**S**	**17 14 39.6**	**+4.4**
LLP	**Lapu-Lapu**	**2.98**	**316**	⇓*e*P	**P**	**17 14 05.0**	**-2.1**
LLP				*e*S	**S**	**17 14 45.0**	**+3.1**
SNPH	**Sibulan**	**3.03**	**293**	⇑*i*P	**P**	**17 14 07.0**	**-0.8**
SNPH				*i* S	**S**	**17 14 44.5**	**+1.3**
PLP	**Palo**	**3.17**	**340**	*i* P	**P**	**17 14 09.8**	**0.0**
PLP				*i* S	**S**	**17 14 50.4**	**+3.6**
OCLP	**Ormoc**	**3.21**	**334**	*e*P	**P**	**17 14 09.5**	**-0.8**
BESP	**Borongan**	**3.47**	**350**	*e*P	**P**	**17 14 15.0**	**+0.9**
BESP				*e*S	**S**	**17 14 58.6**	**+4.1**
IPIL	**Ipil**	**3.48**	**264**	*e*P	**P**	**17 14 13.9**	**-0.3**
IPIL				*e*S	**S**	**17 15 02.6**	**+7.9**
GUIM	**Jordan**	**4.21**	**306**	*e*P	**P**	**17 14 22.7**	**-1.9**
GUIM				*e*S	**S**	**17 15 09.7**	**-3.5**
CNP	**Catarman**	**4.53**	**342**	*e*P	**P**	**17 14 30.7**	**+1.6**
CNP				*e*S	**S**	**17 15 25.4**	**+4.1**
AAP	**Anini-y**	**4.64**	**299**	*e*P	**P**	**17 14 23.0**	**-7.7**
RCP	**Roxas**	**4.70**	**316**	⇓*e*P	**P**	**17 14 30.4**	**-1.1**
MMPH	**Masbate**	**4.81**	**330**	⇓*i*P	**P**	**17 14 35.3**	**+2.2**
MMPH				*i* S	Sx	17 14 56.4	
KALP	**Kalibo**	**5.06**	**314**	⇑*e*P	**P**	**17 14 35.6**	**-1.0**
CUYO	**Cuyo Island**	**5.64**	**299**	*e*P	**P**	**17 14 42.7**	**-2.1**
CUYO				*e*S	**S**	**17 15 45.1**	**-4.1**
PVCP	**Virac**	**5.71**	**341**	*e*P	**P**	**17 14 46.0**	**+0.3**
PVCP				*e*S	**S**	**17 15 55.4**	**+4.4**
OTRP	**Odiongan**	**5.76**	**317**	*e*P	**P**	**17 14 44.7**	**-1.7**
AUQP	**San Andres**	**6.11**	**327**	*e*P	**P**	**17 14 55.4**	**+4.1**
SJMP	**San Jose**	**6.47**	**312**	*e*P	**P**	**17 14 55.4**	**-1.0**
BOAC	**Boac**	**6.70**	**322**	*e*P	**P**	**17 14 59.8**	**+0.3**
BUSP	**Coron**	**6.92**	**304**	*e*P	**P**	**17 15 00.2**	**-2.5**
ENPP	**El Nido**	**7.21**	**295**	*e*P	**P**	**17 15 04.2**	**-2.5**
POLP	**Polilio Island**	**7.67**	**329**	*e*P	**P**	**17 15 14.1**	**+1.0**
TGY	**Tagaytay City**	**7.75**	**320**	Pn	**P**	**17 15 18.6**	**+4.4**
	15nm,0.3s,baz=162,slow=11,SNR=12						
TGY				LR	LR	17 18 47.0	
	comp=Z,5µm,19.4s,baz=134,slow=44						
LUBP	**Lubang**	**7.95**	**315**	*e*P	**P**	**17 15 15.9**	**-1.1**
BATP	**Bataraza**	**8.20**	**275**	*e*P	**P**	**17 15 18.9**	**-1.4**
BALP	**Baler**	**8.71**	**330**	*e*P	**P**	**17 15 28.3**	**+0.7**
PALP	**Palanan**	**9.53**	**339**	*e*P	**P**	**17 15 33.8**	**-5.1**
CAUP	**Cauayan**	**9.66**	**335**	*e*P	**P**	**17 15 39.0**	**-1.7**
SCZP	**Santa Cruz**	**9.66**	**322**	*e*P	**P**	**17 15 36.5**	**-4.3**
BCPH	**Baguio City Da**	**9.76**	**327**	⇓*i*P	**P**	**17 15 42.5**	**+0.3**
KKM	**Kota Kinabalu**	**9.99**	**258**	⇑*e*P	**P**	**17 15 46.9**	**+1.6**
BOLP	**Bolinao**	**10.14**	**324**	*e*P	**P**	**17 15 47.7**	**+0.4**
APYP	**Conner**	**10.72**	**335**	*e*P	**P**	**17 15 55.4**	**+0.2**
SGCP	**Mt. Cagua**	**10.75**	**339**	*e*P	**P**	**17 15 54.5**	**-1.2**
ABRA	**Dolores**	**10.77**	**332**	*e*P	**P**	**17 16 02.1**	**+6.2**
BBP	**Basco**	**12.83**	**342**	*e*P	**P**	**17 16 24.1**	**+0.4**
JOW	**Kunigami**	**18.69**	**6**	P	**P**	**17 17 39.4**	**+0.8**
	4.5nm,0.3s,baz=221,slow=8.1,SNR=10						
JOW				LR	LR	17 24 59.1	
	comp=Z,2µm,18.6s,baz=198,slow=38						
QIZ	**Qiongzhong**	**19.09**	**306**	*i* PR		17 17 42.4	
QIZ				S	**S**	**17 21 12.8**	**+1.7**
QIZ				LR	LR		
	comp=N,1µm,14.9s						
QIZ				LR	LR		
	comp=E,2µm,16.9s						
QIZ				LR	LR		
	comp=Z,3µm,16.9s						
QIZ	**Qiongzhong**	**19.09**	**306**	*e*P	**P**	**17 17 42.4**	**-0.9**
	comp=Z,48nm,1.2s						
GZH	**Guangzhou**	**19.21**	**322**	P	**P**	**17 17 46.0**	**+1.3**
GZH				S	**S**	**17 21 23.8**	**+10**
GZH				LR	LR		
	comp=N,1µm,21.4s						
GZH				LR	LR		
	comp=E,2µm,23.9s						
GZH				LR	LR		
	comp=Z,2µm,20.8s						
KAKA	**Kakadu**	**21.66**	**163**	*e*P	**P**	**17 18 08.9**	**-1.4**
	comp=Z,136nm,0.7s,mb5.5						
SSE	**Sheshan**	**23.27**	**349**	P	**P**	**17 18 29.3**	**+3.2**
SSE				AP		17 18 42.9	
SSE				S	**S**	**17 22 34.8**	**+3.1**
SSE				AMB	AMB		
	comp=Z,44nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,203nm,5.5s						
SSE				LR	LR		
	comp=N,1µm,20.7s,MS4.4						
SSE				LR	LR		
	comp=E,1µm,21.0s,MS4.4						
SSE				LR	LR		
	comp=Z,2µm,20.0s,MS4.5						
SSE	**Sheshan**	**23.27**	**349**	P	**P**	**17 18 29.3**	**+3.2**
	comp=Z,44nm,0.8s,mb4.9						
SSE				pP		17 18 42.9	
SSE				S	**S**	**17 22 34.8**	**+3.1**
SSE				sS		17 22 53.6	
SSE				LR	LR		
	comp=Z,2µm,20.0s,MS4.5						
KGM	**Kluang**	**23.45**	**256**	⇓*e*P	**P**	**17 18 31.8**	**+3.8**
KKTK	**Khon Kaen**	**24.10**	**292**	P	**P**	**17 18 33.0**	**-1.3**
	comp=Z,556nm,1.0s,mb5.9						
CBIJ	**Chichi jima**	**24.25**	**37**	P	**P**	**17 18 35.7**	**0.0**
	comp=Z,44nm,0.4s,mb5.2,baz=234,slow=14,SNR=3.9						
CBIJ				LR	LR	17 27 41.0	
	comp=Z,681nm,18.4s,MS4.2,baz=193,slow=36						
NJ2	**Nanjing**	**24.70**	**345**	*e*P	**P**	**17 18 41.4**	**+1.4**
NJ2				PP	PP	17 19 18.5	+1.4
NJ2				S	**S**	**17 22 58.0**	**+1.7**
NJ2				LR	LR		
	comp=N,2µm,18.6s,MS5.0						
NJ2				LR	LR		
	comp=E,3µm,19.2s,MS5.0						
WHN	**Wuhan**	**24.82**	**335**	*e*P	**P**	**17 18 44.0**	**+2.8**
WHN				S	**S**	**17 23 03.0**	**+4.6**
WHN				AMB	AMB		
	comp=Z,400nm,7.4s						
WHN				LR	LR		
	comp=N,1µm,19.1s,MS4.7						
WHN				LR	LR		
	comp=E,2µm,21.0s,MS4.7						
WHN				LR	LR		
	comp=Z,4µm,18.3s,MS5.0						
IPM	**Ipoh**	**25.13**	**263**	⇓*e*P	**P**	**17 18 46.0**	**+1.7**
JNU	**Nakatsue**	**25.23**	**10**	P	**P**	**17 18 45.4**	**+0.2**
	comp=Z,33nm,1.0s,mb4.8,baz=157,slow=7.0,SNR=6.4						
GYA	**Guiyang**	**25.89**	**317**	P	**P**	**17 18 52.6**	**+1.3**
GYA				AP	pP	17 19 07.3	+5.2
GYA				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,180nm,4.8s						
GYA				LR	LR		
	comp=N,1µm,17.3s,MS4.8						
GYA				LR	LR		
	comp=E,2µm,17.6s,MS4.8						
GYA				LR	LR		
	comp=Z,2µm,17.0s,MS4.8						
FITZ	**Fitzroy Crossi**	**26.10**	**181**	*e*P	**P**	**17 18 52.1**	**-1.2**
	comp=Z,69nm,1.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**26.10**	**181**	P	**P**	**17 18 52.1**	**-1.2**
	comp=Z,39nm,0.8s,mb5.0,baz=9.8,slow=8.5,SNR=29						
NANT	**Nan**	**26.79**	**296**	⇑P	**P**	**17 18 58.0**	**-1.7**
ENH	**Enshi**	**26.92**	**327**	*e*P	**P**	**17 18 59.4**	**-1.4**
	comp=Z,9.5nm,0.9s,mb4.3						
PMG	**Port Moresby**	**27.32**	**129**	P	**P**	**17 19 03.8**	**-0.8**
	comp=Z,17nm,0.6s,mb4.8						
JHJ	**Hachijo jima 2**	**27.89**	**25**	LR	LR	17 29 38.3	
	comp=Z,735nm,20.4s,MS4.3,baz=297,slow=35						
KMI	**Kunming**	**27.91**	**310**	*e*P	**P**	**17 19 09.3**	**-0.6**
KMI				PP	PP	17 20 02.3	+2.3
KMI				S	**S**	**17 23 53.3**	**+4.2**
KMI				SS	SS	17 25 17.9	+6.1
KMI				AMB	AMB		
	comp=Z,167nm,5.0s						
KMI				LR	LR		
	comp=N,926nm,18.0s,MS4.7						
KMI				LR	LR		
	comp=E,1µm,15.2s,MS4.7						
KMI				LR	LR		
	comp=Z,2µm,24.9s						
KMI	**Kunming**	**27.91**	**310**	*e*P	**P**	**17 19 09.3**	**-0.6**
	comp=Z,0.2nm,5.0s						
KMI				pP	pP	17 19 16.5	-4.2
KMI				sP	sP	17 19 19.4	-6.3
KMI				PP	PP	17 20 02.2	+2.2
KMI				S	**S**	**17 23 53.2**	**+4.1**
KMI				sS		17 24 06.4	
KMI				SS	SS	17 25 17.9	+6.1
KMI				LR	LR		
	comp=Z,2µm,24.9s,MS4.5						
CHRT	**Chiangrai**	**27.98**	**297**	⇓P	**P**	**17 19 09.5**	**-1.0**
	comp=Z,203nm,1.0s,mb5.7						
CM31	**Chiang Mai Arr**	**28.26**	**294**	*e*P	**P**	**17 19 11.8**	**-1.2**
	comp=Z,36nm,1.3s,mb4.8						
CMAR	**Chiang Mai Arr**	**28.26**	**294**	P	**P**	**17 19 11.4**	**-1.6**
	comp=Z,5.2nm,1.1s,mb4.1,baz=125,slow=8.0,SNR=17						
CMAR				PcP	PcP	17 22 26.6	+0.8
	comp=Z,1.5nm,0.8s,baz=129,slow=1.6,SNR=4.2						
CHG	**Chiang Mai**	**28.37**	**295**	PG	**P**	**17 19 13.3**	**-0.7**
	comp=Z,15nm,1.4s,mb4.4						
WRAB	**Tennant Creek**	**29.09**	**164**	*e*P	**P**	**17 19 18.9**	**-1.5**
	comp=Z,10nm,0.8s,mb4.6						
WRAB				LR	LR		
	comp=Z,470nm,21.0s,MS4.1						
WRA	**Warramunga Arr**	**29.09**	**164**	P	**P**	**17 19 19.6**	**-0.8**
	comp=Z,4.6nm,1.0s,mb4.2,baz=340,slow=8.8,SNR=15						
WB2	**Warramunga Arr**	**29.10**	**164**	*e*P	**P**	**17 19 19.5**	**-1.0**
KS15	**Wonju Array Si**	**29.19**	**3**	*e*P	**P**	**17 19 20.4**	**-0.7**
XAN	**Xi’an**	**30.21**	**331**	P	**P**	**17 19 29.3**	**-1.0**
XAN				S	**S**	**17 24 21.1**	**-4.5**
XAN				LR	LR		
	comp=N,1µm,23.7s,MS4.7						
XAN				LR	LR		
	comp=E,2µm,26.7s,MS4.7						
XAN				LR	LR		
	comp=Z,2µm,17.5s						
MAJO	**Matsushiro**	**30.34**	**20**	P	**P**	**17 19 30.6**	**-0.8**
	comp=Z,9.3nm,0.7s,mb4.6						
MAJO				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
MAT	**Matsushiro**	**30.34**	**20**	P	**P**	**17 19 30.0**	**-1.4**
MAT				S	**S**	**17 24 32.0**	**+4.4**
MAT	**Matsushiro**	**30.34**	**20**	*e*P	**P**	**17 19 30.0**	**-1.4**
MAT				*e*S	**S**	**17 24 33.0**	**+5.4**
CD2	**Chengdu**	**30.76**	**320**	⇓*i*P	**P**	**17 19 35.1**	**0.0**
CD2				S	**S**	**17 24 35.3**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				LR	LR		
	comp=E,2µm,18.6s						
CD2				LR	LR		
	comp=Z,1µm,15.0s,MS4.6						
ASAR	**Alice Springs**	**32.55**	**167**	P	**P**	**17 19 50.1**	**-0.8**
	comp=Z,3.7nm,0.5s,mb4.6,baz=345,slow=7.0,SNR=70						
ASAR				PcP	PcP	17 22 39.0	+2.1
	comp=Z,1.8nm,0.9s,baz=335,slow=2.1,SNR=3.0						
ASAR				ScP		17 26 25.8	
	comp=Z,1.5nm,0.8s,baz=346,slow=3.7,SNR=4.2						
ASPA	**Alice Springs**	**32.55**	**167**	*e*P	**P**	**17 19 50.2**	**-0.7**
BJT	**Baijiatuau**	**32.93**	**346**	*e*P	**P**	**17 19 53.3**	**-0.8**
	comp=Z,6.4nm,0.6s,mb4.7						
BJI	**Beijing**	**32.95**	**346**	P	**P**	**17 19 56.1**	**+1.9**
BJI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
BJI				AMB	AMB		
	comp=Z,110nm,4.2s						
BJI				LR	LR		
	comp=N,699nm,20.8s,MS4.6						
BJI				LR	LR		
	comp=E,922nm,20.8s,MS4.6						
BJI				LR	LR		
	comp=Z,1µm,22.5s,MS4.6						
BJI	**Beijing**	**32.95**	**346**	P	**P**	**17 19 56.1**	**+1.9**
	comp=Z,13nm,1.2s,mb4.7						
BJI				pP	pP	17 20 08.6	+3.3
BJI				S	**S**	**17 25 22.6**	**+14**
BJI				SS	SS	17 28 02.6	+53
BJI				LR	LR		
	comp=Z,1µm,22.5s,MS4.6						
SNY	**Shenyang**	**33.60**	**357**	⇑P	**P**	**17 20 06.0**	**+6.2**
SNY				S	**S**	**17 25 25.6**	**+7.1**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SNY				AMB	AMB		
	comp=Z,190nm,4.9s						
SNY				LR	LR		
	comp=N,950nm,17.8s,MS4.7						
SNY				LR	LR		
	comp=E,850nm,20.2s,MS4.7						
SNY				LR	LR		
	comp=Z,1µm,17.3s,MS4.6						
CTA	**Charters Tower**	**34.40**	**145**	*e*P	**P**	**17 20 08.9**	**+2.0**
	comp=Z,6.8nm,0.6s,mb4.8						
CTA	**Charters Tower**	**34.40**	**145**	P	**P**	**17 20 08.0**	**+1.1**
	comp=Z,10nm,0.8s,mb4.8,baz=326,slow=11,SNR=12						
CTAO	**Charters Tower**	**34.40**	**145**	*e*P	**P**	**17 20 07.7**	**+0.8**
	comp=Z,37nm,1.4s,mb5.1						
CTAO				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
LZH	**Lanzhou**	**34.40**	**327**	*e*P	**P**	**17 20 07.8**	**+1.0**
LZH				PP	PP	17 21 30.0	+6.9
LZH				S	**S**	**17 25 34.0**	**+3.0**
LZH				XS		17 26 03.1	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,5.3s						
LZH				LR	LR		
	comp=E,2µm,15.0s						
LZH				LR	LR		
	comp=Z,2µm,16.4s,MS5.0						
LZH	**Lanzhou**	**34.40**	**327**	*e*P	**P**	**17 20 07.8**	**+1.0**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	17 20 19.4	+1.5
LZH				sP	sP	17 20 26.6	+3.5
LZH				PP	PP	17 21 30.0	+6.9
LZH				S	**S**	**17 25 34.0**	**+3.0**
LZH				sS		17 26 03.1	
LZH				SS	SS	17 27 52.0	+9.1
LZH				LR	LR		
	comp=Z,2µm,16.4s,MS5.0						

HHC	**Hu-ho-hao-te**	**35.01**	**341**	*e*P	**P**	**17 20 14.3**	**+2.3**
HHC				AP	pP	17 20 29.8	+6.7
HHC				XP	sP	17 20 47.1	+19
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,108nm,5.3s						
HHC				LR	LR		
	comp=N,608nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,520nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=Z,468nm,17.8s,MS4.3						
CN2	**Changchun**	**35.50**	**359**	*e*P	**P**	**17 20 17.3**	**+1.2**
CN2				*e*S	**S**	**17 25 52.0**	**+4.1**
CN2				*e*SS	SS	17 28 13.6	+5.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,600nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,700nm,19.0s,MS4.4						
MDJ	**Mudanjiang**	**36.44**	**4**	P	**P**	**17 20 24.8**	**+0.7**
MDJ				S	**S**	**17 26 04.1**	**+1.7**
MDJ				PCS		17 26 35.3	
MDJ				AMB	AMB		
	comp=Z,147nm,5.5s						
MDJ				LR	LR		
	comp=N,536nm,20.0s,MS4.4						
MDJ				LR	LR		
	comp=E,496nm,22.9s,MS4.4						
MDJ				LR	LR		
	comp=Z,686nm,20.0s,MS4.4						
MDJ	**Mudanjiang**	**36.44**	**4**	*e*P	**P**	**17 20 24.1**	**+0.1**
	comp=Z,29nm,0.9s,mb5.2						
SHL	**Shillong**	**36.84**	**302**	⇑*e*P	**P**	**17 20 27.8**	**+0.2**
	comp=Z,77nm,0.9s,mb5.5						
SHL				*e*		17 26 14.2	
ASAJ	**Asahikawa**	**38.61**	**19**	P	**P**	**17 20 42.8**	**+0.6**
	comp=Z,4.4nm,0.5s,mb4.4,baz=180,slow=19,SNR=4.4						
ASAJ				LR	LR	17 35 22.4	
	comp=Z,489nm,21.9s,MS4.3,baz=211,slow=34						
GTA	**Gaotai**	**39.01**	**327**	*e*P	**P**	**17 20 45.3**	**-0.2**
GTA				PP	PP	17 22 18.8	-0.5
GTA				PPP	PPP	17 22 43.3	+0.4
GTA				S	**S**	**17 26 38.8**	**-2.7**
GTA				SS	SS	17 29 23.8	-2.8
GTA				AMB	AMB		
	comp=Z,92nm,9.1s						
GTA				LR	LR		
	comp=N,1µm,24.3s,MS4.7						
GTA				LR	LR		
	comp=E,762nm,25.9s,MS4.7						
GTA				LR	LR		
	comp=Z,680nm,19.8s						
LSA	**Lhasa**	**39.11**	**308**	P	**P**	**17 20 46.3**	**-0.2**
LSA				S	**S**	**17 26 43.6**	**+0.4**
LSA				XS		17 27 15.3	
LSA				LR	LR		
	comp=N,700nm,21.1s,MS5.1						
LSA				LR	LR		
	comp=E,3µm,19.3s,MS5.1						
LSA	**Lhasa**	**39.11**	**308**	*e*P	**P**	**17 20 47.8**	**+1.3**
	comp=E,56nm,1.4s,mb5.1						
KLR	**Kul'dur**	**41.21**	**6**	*e*P	**P**	**17 21 04.5**	**+0.8**
KLR				*e*	PP	17 22 48.0	+6.1
KLR				*e*S	SS	17 30 22.0	+8.3
KLR				*e*		17 31 08.5	
NWAO	**Narrogin (SRO)**	**41.72**	**191**	P	**P**	**17 21 09.1**	**+1.1**
	comp=E,18nm,0.9s,mb4.7,baz=5.9,slow=10,SNR=7.8						
NWAO				LR	LR	17 37 48.4	
	comp=E,684nm,21.9s,MS4.5,baz=19,slow=35						
STKA	**Stephens Creek**	**42.49**	**160**	*e*P	**P**	**17 21 15.1**	**+0.6**
	comp=E,15nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**42.49**	**160**	P	**P**	**17 21 15.5**	**+1.1**
	comp=E,5.7nm,0.7s,mb4.3,baz=353,slow=8.2,SNR=12						
SONM	**Songino Array**	**42.92**	**341**	P	**P**	**17 21 15.9**	**-1.8**
	comp=E,2.0nm,0.7s,mb3.9,baz=160,slow=8.4,SNR=12						
PKI	**Pulchoki**	**42.97**	**302**	*e*P	**P**	**17 21 17.8**	**-0.6**
	comp=E,65nm,0.9s,mb5.3						
KKN	**Kakani**	**43.15**	**302**	*e*P	**P**	**17 21 19.7**	**-0.2**
	comp=E,73nm,1.0s,mb5.4						
DMN	**Daman**	**43.24**	**302**	*e*P	**P**	**17 21 19.8**	**-0.8**
	comp=E,56nm,0.8s,mb5.3						
GKN	**Gorkha**	**43.76**	**302**	*e*P	**P**	**17 21 23.6**	**-1.2**
	comp=E,42nm,0.7s,mb5.3						
ADE	**Adelaide**	**44.53**	**165**	*e*P	**P**	**17 21 32.6**	**+1.7**
KOLN	**Koldanda**	**44.56**	**302**	*e*P	**P**	**17 21 31.0**	**-0.2**
	comp=E,96nm,0.9s,mb5.6						
ZAK	**Zakamensk**	**46.15**	**340**	*e*P	**P**	**17 21 45.7**	**+2.1**
HYB	**Hyderabad**	**47.12**	**286**	*i* P	**P**	**17 21 53.0**	**+1.3**
HYB	**Hyderabad**	**47.12**	**286**	*e*P	pP	17 22 04.0	+1.0
CLNS	**Chul'man**	**48.56**	**359**	*e*P	**P**	**17 22 02.6**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
WMQ	**Urumqi**	**48.76**	**323**	⇑P	**P**	**17 22 04.4**	**+0.3**
WMQ				PCP	PcP	17 23 29.3	+0.3
WMQ				PP	PP	17 23 57.9	+0.6
WMQ				S	**S**	**17 29 01.4**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,42nm,7.0s						
WMQ				LR	LR		
	comp=N,3µm,29.8s,MS5.2						
WMQ				LR	LR		
	comp=E,1µm,29.8s,MS5.2						
WMQ				LR	LR		
	comp=Z,1µm,21.9s						
BHPL	**Bhopal**	**48.92**	**294**	*e*P	**P**	**17 22 04.6**	**-1.0**
BHPL				*e*P		17 22 04.9	
BHPL				AMb	AMB	17 22 14.8	
	comp=Z,52nm,1.1s,mb5.5						
DDI	**Dehra Dun**	**49.94**	**303**	*e*P	**P**	**17 22 12.0**	**-1.4**
DDI				*e*S	**S**	**17 29 22.0**	**+2.4**
BOD	**Bodaibo**	**50.41**	**352**	*e*P	**P**	**17 22 12.3**	**-4.3**
SDNR	**Sundarnagar**	**51.16**	**304**	*e*P	**P**	**17 22 21.4**	**-1.2**
KAD	**Karad**	**51.28**	**286**	*e*P	**P**	**17 22 20.0**	**-3.7**
KAD				AMb	AMB	17 22 24.5	
	comp=Z,48nm,2.4s,mb5.0						
POO				*e*P	**P**	**17 22 24.1**	**-2.5**
POO				AMb	AMB	17 22 25.5	
	comp=Z,43nm,0.6s,mb5.6						
PET	**Petropavlovsk**	**51.96**	**24**	*e*P	**P**	**17 22 38.2**	**+10**
PET				*e*S	**S**	**17 29 51.2**	**+4.1**
PET				*e*PS	PS	17 30 07.3	+4.8
PET				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
PET				pmax	pmax		
	comp=Z,100nm,27.3s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.3						
MKAR	**Makanchi Array**	**53.58**	**324**	P	**P**	**17 22 38.5**	**-2.0**
	comp=Z,12nm,0.7s,mb4.9,baz=123,slow=8.4,SNR=50						
MKAR				PcP	PcP	17 23 48.2	+1.5
	comp=Z,3.5nm,0.8s,baz=104,slow=5.9,SNR=1.5						
MKAR				LR	LR	17 47 45.7	
	comp=Z,407nm,18.1s,MS4.5,baz=106,slow=39						
MKAR	**Makanchi Array**	**53.58**	**324**	*i* P	**P**	**17 22 39.6**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**53.83**	**2**	*e*P	**P**	**17 22 43.9**	**+1.8**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK	**Yakutsk**	**53.83**	**2**	*e*P	**P**	**17 22 38.3**	**-3.8**
	comp=N,22nm,0.9s,mb5.1						
YAK				LR	LR		
	comp=Z,393nm,19.0s,MS4.5						
KSH	**Kashi**	**54.50**	**313**	*e*P	**P**	**17 22 50.0**	**+2.7**
KSH				*e*AP	pP	17 23 06.0	+7.0
KSH				*e*PCP	PcP	17 23 52.1	+1.8
KSH				*e*PP	PP	17 24 54.0	+2.8
KSH				*e*PPP	PP	17 25 07.0	+16
KSH				*e*SCP		17 27 42.0	
KSH				*e*PCS		17 27 49.1	
KSH				*e*S	**S**	**17 30 24.0**	**+2.2**
ULHL	**Ulahol**	**55.34**	**316**	P	**P**	**17 22 53.0**	**-0.4**
	SNR=8.4						
KZA	**Kyzart**	**55.95**	**316**	P	**P**	**17 22 58.5**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**56.04**	**317**	P	**P**	**17 22 58.2**	**-0.2**
	SNR=12						
ZAL	**Zalesovo**	**56.37**	**332**	P	**P**	**17 22 58.5**	**-2.2**
	comp=Z,3.3nm,1.0s,mb4.3,baz=249,slow=8.4,SNR=4.2						
UCH	**Uchtor**	**56.52**	**316**	P	**P**	**17 23 02.4**	**+0.5**
	SNR=25						
FRU	**Bishkek**	**56.67**	**316**	*e*P	**P**	**17 23 11.5**	**+8.5**
FRU				pmax	pmax		
	comp=Z,80nm,2.2s,mb5.4						
FRU				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.0						
AAK	**Ala-Archa**	**56.68**	**316**	*e*P	**P**	**17 23 02.0**	**-1.1**
	comp=Z,34nm,1.6s,mb5.1						
AAK				LR	LR		
	comp=Z,128nm,20.0s,MS4.0						
USP	**Ospenovka**	**56.91**	**317**	P	**P**	**17 23 04.0**	**-0.7**
	SNR=11						
AML	**Almayashu**	**57.05**	**315**	P	**P**	**17 23 05.8**	**+0.1**
	SNR=15						
EKS2	**Erkin-Say**	**57.18**	**316**	P	**P**	**17 23 06.5**	**-0.2**
	SNR=14						
NVS	**Novosibirsk**	**57.65**	**332**	*e*P	**P**	**17 23 07.3**	**-2.4**
NVS				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
NVS				pmax	pmax		
	comp=N,12nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.1s						
KURK	**Kurchatov**	**57.69**	**326**	P	**P**	**17 23 09.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
KURK	**Kurchatov**	**57.69**	**326**	*e*P	**P**	**17 23 08.1**	**-1.9**
	comp=Z,9.9nm,0.8s,mb4.9						
SEY	**Seymchan**	**57.90**	**14**	*e*P	**P**	**17 23 17.7**	**+6.3**
SEY				*e*S	**S**	**17 31 05.9**	**-0.6**
SEY				*e*SSS	SSS	17 37 29.9	+11
SEY				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
SEY				smax			
	comp=N,2µm,26.8s						
SEY				smax			
	comp=E,2µm,30.5s						
KKAR	**Karatay Array**	**59.59**	**316**	*i* P	**P**	**17 23 22.0**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**63.28**	**326**	P	**P**	**17 23 46.3**	**-1.8**
	comp=Z,5.9nm,0.8s,mb4.8,baz=121,slow=8.6,SNR=23						
BRVK	**Borovoye**	**63.35**	**326**	P	**P**	**17 23 46.7**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
BRVK	**Borovoye**	**63.35**	**326**	*e*P	**P**	**17 23 47.4**	**-1.2**
	comp=Z,31nm,1.0s,mb5.4						
TIXI	**Tiksi**	**63.45**	**1**	⇓*e*P	**P**	**17 23 51.4**	**+2.4**
TIXI				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.2						
ZRNK	**Zerenda**	**64.02**	**326**	P	**P**	**17 23 51.3**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
URZ	**Urewera**	**66.24**	**138**	P	**P**	**17 24 09.3**	**+1.8**
	comp=Z,4.1nm,0.6s,mb4.6,baz=270,slow=4.0,SNR=3.2						
AB31	**Akbulak array**	**68.33**	**320**	P	**P**	**17 24 19.0**	**-1.4**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARU	**Arti**	**70.87**	**327**	⇓*i*P	**P**	**17 24 35.3**	**-0.5**
ARU				*i*		17 24 58.4	
ARU				*e*S	S	17 33 35.9	-11
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ARU	**Arti**	**70.87**	**327**	*e*P	**P**	**17 24 33.9**	**-1.9**
	comp=Z,12nm,0.6s,mb5.0						
ARU				LR	LR		
	comp=Z,120nm,22.0s,MS4.1						
CASY	**Casey**	**75.11**	**186**	*e*P	**P**	**17 25 00.2**	**-0.3**
	comp=Z,18nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**81.42**	**26**	P	**P**	**17 25 35.9**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=241,slow=4.8,SNR=16						
OBN	**Obninsk**	**83.08**	**325**	⇓*e*P	**P**	**17 25 45.8**	**+1.9**
OBN				*e*S	S	17 35 49.6	-9.4
OBN				pmax	pmax		
	comp=Z,40nm,1.9s,mb5.1						
OBN				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.9						
ANN	**Anapa**	**83.34**	**314**	*e*P	**P**	**17 25 50.6**	**+5.1**
ANN				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.4						
ANN				MLR	MLR		
	comp=Z,293nm,18.0s,MS4.7						
ANN				MLR	MLR		
	comp=N,695nm,24.0s						
ANN				MLR	MLR		
	comp=E,338nm,20.0s						
APA	**Apatity**	**83.53**	**337**	⇑*i*P	**P**	**17 25 55.4**	**+9.5**
APA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
APA				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.3						
DAWY	**Dawson**	**84.71**	**26**	*e*P	**P**	**17 25 52.5**	**+0.6**
SIM	**Simferopol'**	**85.67**	**315**	P	**P**	**17 26 04.0**	**+6.9**
SIM				S	S	17 36 09.0	-16
SIM				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.4						
SIM				MLR	MLR		
	comp=Z,230nm,20.1s,MS4.6						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**17 25 59.0**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.6,baz=53,slow=6.1,SNR=5.9						
BRTR	**Keskin Array B**	**86.70**	**309**	P	**P**	**17 26 02.0**	**-0.3**
	comp=Z,0.9nm,0.7s,mb4.1,baz=90,slow=6.2,SNR=4.0						
BRTR				PP	PP	17 29 28.1	+1.1
	comp=Z,0.4nm,0.5s,baz=63,slow=5.5,SNR=4.1						
PPT	**Papeete**	**87.11**	**108**	*e*S	S	17 36 49.3	+10
PPT				*e*SS	SS	17 42 35.7	+9.4
PPT				*e*L		17 49 50.0	
	comp=Z,492nm,32.2s						
PPT				*e*R		17 53 20.2	
	comp=Z,458nm,30.0s						
KAF	**Kangasniemi**	**87.39**	**332**	*e*p	**P**	**17 26 05.3**	**+0.2**
FINES	**FINESS Array B**	**87.64**	**332**	P	**P**	**17 26 07.1**	**+0.8**
	comp=Z,2.6nm,0.5s,mb4.7,baz=87,slow=4.9,SNR=18						
FINES	**FINESS Array B**	**87.64**	**332**	P	**P**	**17 26 07.1**	**+0.8**
MAW	**Mawson**	**87.66**	**200**	P	**P**	**17 26 07.1**	**+0.8**
	comp=Z,0.8nm,0.6s,mb4.1,baz=60,slow=8.1,SNR=2.7						
MAW				LR	LR	18 03 36.9	
	comp=Z,103nm,20.1s,MS4.2,baz=66,slow=34						
VNDA	**Vanda**	**87.88**	**173**	P	**P**	**17 26 08.3**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.5,baz=317,slow=3.9,SNR=17						
VNDA	**Vanda**	**87.88**	**173**	*e*P	**P**	**17 26 07.5**	**+0.4**
	comp=Z,11nm,1.2s,mb5.0						
VNDA				LR	LR		
	comp=Z,205nm,20.0s,MS4.5						
AKASG	**Malin Array Be**	**88.06**	**321**	P	**P**	**17 26 08.9**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.5,baz=70,slow=4.2,SNR=6.7						
SBA	**Scott Base**	**88.79**	**172**	*e*P	**P**	**17 26 11.3**	**-0.2**
	comp=Z,80nm,2.1s,mb5.7						
KMBO	**Kilima Mbogo**	**88.98**	**269**	P	**P**	**17 26 13.2**	**-0.7**
	comp=Z,7.0nm,1.2s,mb4.9						
NOA	**NORSAR Array B**	**94.55**	**334**	P	**P**	**17 26 38.1**	**-0.3**
	comp=Z,0.7nm,0.8s,mb4.2,baz=260,slow=9.7,SNR=3.9						
YKA	**Yellowknife Ar**	**95.75**	**24**	P	**P**	**17 26 45.5**	**+1.6**
	comp=Z,1.4nm,0.6s,mb4.6,baz=302,slow=4.5,SNR=6.4						
YKA	**Yellowknife Ar**	**95.75**	**24**	P	**P**	**17 26 45.5**	**+1.6**
SYO	**Syowa Base**	**96.29**	**201**	⇓P	**P**	**17 26 47.7**	**+1.5**
SYO	**Syowa Base**	**96.29**	**201**	⇓pP	pP	17 27 02.2	+3.6
BRG	**Berggiesshubel**	**97.30**	**324**	*e*P	**P**	**17 26 55.6**	**+4.4**
BRG				pmax	pmax		
	comp=Z,11nm,1.4s,mb5.1						
BRG	**Berggiesshubel**	**97.30**	**324**	*e*P	**P**	**17 26 55.6**	**+4.4**
	comp=Z,11nm,1.4s,mb5.1						
CLL	**Collm**	**97.68**	**324**	*e*P	**P**	**17 27 03.0**	**+10**
CLL				MLR	MLR		
	comp=Z,400nm,17.5s,MS5.0						
QSPA	**South Pole Qui**	**98.04**	**180**	*e*P	**P**	**17 27 04.3**	**+10**
	comp=Z,6.9nm,1.1s,mb5.1						
QSPA				LR	LR		
	comp=Z,240nm,21.1s,MS4.7						
GERES	**GERESS Array B**	**98.22**	**322**	P	**P**	**17 26 55.1**	**-0.2**
	comp=Z,0.8nm,0.8s,mb4.3,baz=45,slow=1.4,SNR=4.7						
GERES				PP	PP	17 31 05.3	+7.3
	comp=Z,1.4nm,1.1s,baz=76,slow=5.5,SNR=4.5						
GRA1	**Grafenberg Arr**	**99.37**	**323**	*e*P	**P**	**17 27 07.8**	**+7.2**
	comp=Z,8.0nm,1.2s,mb5.1						
GRF	**Grafenberg Arr**	**99.37**	**323**	*e*P	**P**	**17 27 07.8**	**+7.2**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.1						
SNAA	**Sanae**	**109.30**	**195**	⇓*i*P	Pdif	17 27 44.4	+0.3
SNAA	**Sanae**	**109.30**	**195**	⇑*i*		17 28 00.3	
SNAA	**Sanae**	**109.30**	**195**	⇓*i*		17 28 07.7	
SNAA	**Sanae**	**109.30**	**195**		PP	17 32 12.4	-8.7
VNA2	**Neumayer--Watz**	**110.92**	**195**	⇑*i*P	Pdif	17 27 50.8	-0.5
VNA2	**Neumayer--Watz**	**110.92**	**195**	⇓*i*		17 28 07.1	
VNA2	**Neumayer--Watz**	**110.92**	**195**	⇑*i*		17 28 14.6	
VNA2	**Neumayer--Watz**	**110.92**	**195**	⇑*i*	PKPdf	17 31 50.5	+1.0
VNA2	**Neumayer--Watz**	**110.92**	**195**		PKPdf	17 31 58.0	+8.5
VNA1	**Neumayer--Stat**	**111.32**	**195**	⇑*i*P	Pdif	17 27 52.6	-0.4
VNA1	**Neumayer--Stat**	**111.32**	**195**	⇑*i*	PKPdf	17 31 49.6	-0.7
TXAR	**Lajitas Array**	**119.34**	**50**	PKP	PKPdf	17 32 08.8	+1.9
	comp=Z,0.2nm,0.5s,baz=225,slow=2.6,SNR=3.0						
DBIC	**Dimbokro**	**128.89**	**285**	PKP	PKPdf	17 32 28.7	+2.9
	comp=Z,2.2nm,0.8s,baz=11,slow=5.2,SNR=2.5						
PLCA	**Paso Flores**	**144.35**	**158**	PKP	PKPdf	17 32 57.2	+3.9
	comp=Z,3.3nm,0.7s,baz=210,slow=4.6,SNR=12						
PLCA	**Paso Flores**	**144.35**	**158**	*e*PKPdf	PKPdf	17 32 55.6	+2.3
TRQA	**Tornquist**	**149.37**	**167**	PKPbc	PKPdf	17 33 07.4	+5.6
CPUP	**Villa Florida**	**161.65**	**170**	PKPab	PKPab	17 34 05.5	-0.3
	comp=Z,5.3nm,1.3s,baz=90,slow=2.0,SNR=2.0						
LPAZ	**La Paz**	**163.96**	**122**	PKP	PKPdf	17 33 25.8	+5.1
	comp=Z,0.8nm,0.6s,baz=234,slow=3.0,SNR=3.7						
LPAZ				PKPab	PKPab	17 34 19.8	+3.8
	comp=Z,1.4nm,0.8s,baz=358,slow=1.4,SNR=1.9						

*ISK **20** 17:33:27.4, 36.34N×32.18E, h9^{km}, MD3.4*

*NIC **20** 17:33:28.7±0.3, 36.28N×32.28E, h25^{km}, ML3.3, MW3.0*

*NEIC **20** 17:33:28.7, 36.28N×32.28E, h25^{km}, ML3.3(NIC), After NIC.*

ISC 20 17:33:26.4±0.6**, 36.24N**±0.03×**32.22E**±0.08**, h9**^{km}**, n17, σ1**^{s}**04**/23**, 6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.75**	**16**	*e*PG	**Pg**	**17 33 41.2**	**-0.3**
HDMB				*e*SG	**Sg**	**17 33 50.2**	**-1.4**
ALFC	**Alevga**	**1.13**	**164**	⇓P	**Pb**	**17 33 47.5**	**-0.2**
	45nm,0.1s						
ALFC				S	**Sb**	**17 34 01.7**	**-0.5**
ALFC	**Alevga**	**1.13**	**164**	⇓*i*P	**Pb**	**17 33 47.5**	**-0.2**
ALFC				S	**Sb**	**17 34 01.7**	**-0.5**
IKL	**Isikli**	**1.18**	**90**	*i* PN	**Pn**	**17 33 51.0**	**+1.8**
AKMC	**Akamas**	**1.22**	**176**	⇓P	**Pb**	**17 33 49.0**	**-0.2**
AKMC	**Akamas**	**1.22**	**176**	⇓*i*P	**Pb**	**17 33 49.0**	**-0.2**
PPCY	**Paphos**	**1.36**	**176**	⇓P	**Pb**	**17 33 51.1**	**-0.5**
PPCY	**Paphos**	**1.36**	**176**	⇓*i*P	**Pb**	**17 33 51.1**	**-0.5**
CSS	**Prodhromos**	**1.56**	**144**	P	**Pn**	**17 33 53.1**	**-1.5**
	5.7nm,0.1s						
CSS				S	**Sb**	**17 34 13.1**	**-1.9**
CSS	**Prodhromos**	**1.56**	**144**	*e*Pn	**Pn**	**17 33 54.0**	**-0.6**
CSS				*e*Sn	**Sn**	**17 34 10.4**	**-4.8**
SZAC	**Souni-Zanaja**	**1.58**	**160**	P	**Pn**	**17 33 56.6**	**+1.8**
	9.9nm,0.3s						
SZAC				S	**Sb**	**17 34 16.5**	**+1.1**
KONT	**Konya--Tatoy**	**1.70**	**4**	*e*PN	**Pn**	**17 33 57.5**	**+0.9**
ISP	**Isparta**	**2.10**	**320**	*e*PN	**Pn**	**17 34 02.9**	**+0.6**
KIZT	**Kizilcal**	**2.65**	**354**	*e*PN	**Pn**	**17 34 09.4**	**-0.7**
NIG	**Nigde**	**2.67**	**45**	*e*PN	**Pn**	**17 34 11.8**	**+1.4**
YER	**Yerkesik**	**3.29**	**287**	*e*PN	**Pn**	**17 34 18.8**	**-0.4**
KAMT	**Kaman**	**3.34**	**20**	*e*PN	**Pn**	**17 34 19.6**	**-0.3**

*BJI **20** 17:37:51.3, 23.76N×123.54E, h35^{km}, mB5.2, mb5.0, ML4.8, Ms5.1, Msz5.0*

*IDC **20** 17:37:52.9±4.2, 23.98N×123.32E, h20^{km}±26^{km}, mb4.7/31, mb1 4.8/35, mb1mx4.7/38, ML4.5/4, MS4.6/24, Ms1 4.6/24, ms1mx4.5/35, Error ellipse: s-maj=15.0km s-min=9.7km az=71.0*

*HRVD **20** 17:37:53.7±0.2, 23.72N×123.41E, h34^{km}, MW5.3/60, Centroid moment Tensor Solution. LP body waves: s46,c72;Mantle waves: s60,c121; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.04; $M_{\theta\theta}$-0.81±.03; $M_{\phi\phi}$-0.03±.02; $M_{r\theta}$0.62±.03; $M_{\theta\phi}$-0.44±.02; $M_{\phi r}$0.62±.03; Best double couple: $M_0$1.28×10^{17} NP1: ϕ_s264°, δ26°, λ120°. NP2: ϕ_s50°, δ68°, λ76°. Principal axes: T 1.23, Plg65°, Azm297°; N .1, Plg13°, Azm56°; P -1.33, Plg21°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 17:37:53.7±0.2, 23.93N×123.37E, mb5.2/56, MS4.7/12, MW5.2(NIED) Error ellipse: s-maj=5.6km s-min=5.1km az=82.0*

NEIC Recorded [3 JMA] on Iriomote-jima, [2 JMA] on Ishigaki-jima and [1 JMA] on Tarama-shima and Yonaguni-jima.

*JMA **20** 17:37:54.0±0.1, 23.88N×123.37E, h30^{km}±2^{km}, M5.6*

JMA Felt III J1.

*CSEM **20** 17:37:58.5, 24.94N×123.13E, h33^{km}, mb5.5*

*MOS **20** 17:37:58.2±0.8, 24.76N×122.89E, h33^{km}, mb5.4/17, MS4.7/14, Error ellipse: s-maj=20.2km s-min=7.7km az=118.2*

*NIED **20** 17:38:00, 23.90N×123.40E, h38^{km}, Mw5.2 Best double couple: $M_0$6.88×10^{16} NP1: ϕ_s45°, δ70°, λ23°. NP2: ϕ_s306°, δ69°, λ158°.*

ISC 20 17:37:52.2±0.1**, 23.84N**±0.02×**123.33E**±0.02**, h26**^{km}**, h26**^{km}±.6^{km}**: pP-P, n350, σ1**^{s}**17**/379**, mb5.1**/101**, MS4.8**/48**, 31C-19D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.48**	**64**	P	**Pb**	**17 38 03.1**	**+1.0**
HATJ				S	**Sb**	**17 38 09.8**	**+0.9**
IRIF	**Iriomote-Funau**	**0.61**	**37**	P	**Pb**	**17 38 05.0**	**+0.8**
IRIF				S	**Sb**	**17 38 13.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.68**	**335**	P	**Pb**	**17 38 06.9**	**+1.5**
YOJ				S	**Sb**	**17 38 15.3**	**+0.8**
JKRS	**Kuro-shima**	**0.74**	**57**	P	**Pb**	**17 38 07.2**	**+0.9**
JKRS				*e*S	**Sb**	**17 38 17.2**	**+1.2**
JIJ	**Ishigaki jima**	**0.91**	**55**	P	**Pb**	**17 38 09.5**	**+0.4**
JIJ				S	**Sb**	**17 38 21.0**	**+0.2**
JTJ	**Tarama**	**1.48**	**57**	P	**Pn**	**17 38 18.5**	**+0.9**
JTJ				*e*S	**Sn**	**17 38 37.1**	**+0.8**
TATO	**Taipei**	**2.02**	**304**	*e*P	**Pn**	**17 38 27.5**	**+2.2**
JMJ	**Miyako jima 2**	**2.04**	**61**	P	**Pn**	**17 38 26.5**	**+1.0**
JMJ				*e*S	**Sn**	**17 38 50.8**	**+0.5**
JOGS	**Gusukube**	**2.10**	**64**	P	**Pn**	**17 38 27.1**	**+0.7**
JOGS				*e*S	**Sn**	**17 38 53.8**	**+1.8**
BBP	**Basco**	**3.61**	**201**	*e*P	**Pn**	**17 38 47.0**	**-0.9**
BBP				*e*S	**Sn**	**17 39 25.6**	**-4.7**
JKE	**Kume jima 2**	**3.99**	**51**	P	**Pn**	**17 38 52.0**	**-1.3**
JKE				*e*S	**Sn**	**17 39 45.3**	**+5.4**
QZH	**Quanzhou**	**4.46**	**285**	⇑*i*P	**Pn**	**17 39 00.1**	**+0.2**
QZH				Smax			
	comp=N,1µm,1.0s						
QZH				Smax			
	comp=E,2µm,1.4s						
QZH				LR	LR		
	comp=N,19µm,4.3s						
QZH				LR	LR		
	comp=E,5µm,8.8s						
QZH				LR	LR		
	comp=Z,30µm,16.0s						
JAGN	**Aguni-jima**	**4.48**	**52**	P	**Pn**	**17 38 58.7**	**-1.5**
JAGN				*e*S	**Sn**	**17 39 52.7**	**+0.6**
NAH1	**Naha**	**4.60**	**58**	P	**Pn**	**17 39 07.0**	**+5.0**
JJT2	**Tamagusuku 2**	**4.62**	**59**	P	**Pn**	**17 39 02.5**	**+0.3**
JIH	**Iheya**	**5.26**	**52**	P	**Pn**	**17 39 09.6**	**-1.7**
JOW	**Kunigami**	**5.37**	**55**	Pn	**Pn**	**17 39 10.3**	**-2.6**
	baz=228,slow=10						
JOW				Sn	**Sn**	**17 40 23.7**	**+9.0**
	comp=Z,13nm,0.3s,baz=128,slow=29,SNR=3.8						
JOW	**Kunigami**	**5.37**	**55**	P	**Pn**	**17 39 09.8**	**-3.1**
SGCP	**Mt. Cagua**	**5.70**	**192**	*e*P	**Pn**	**17 39 17.2**	**-0.2**
SGCP				*e*S	**Sn**	**17 40 18.6**	**-4.2**
PIP	**Pasuquin**	**6.04**	**205**	⇑*e*P	**Pn**	**17 39 22.8**	**+0.5**
APYP	**Conner**	**6.26**	**199**	*e*P	**Pn**	**17 39 24.6**	**-0.7**
APYP				*e*S	**Sn**	**17 40 33.4**	**-3.5**
JTK	**Tokunoshima**	**6.41**	**51**	P	**Pn**	**17 39 23.5**	**-4.0**
ABRA	**Dolores**	**6.63**	**202**	*e*P	**Pn**	**17 39 31.7**	**+1.2**
ABRA				*e*S	**Sn**	**17 40 44.6**	**-1.5**
PALP	**Palanan**	**6.80**	**187**	*e*P	**Pn**	**17 39 28.5**	**-4.4**
PALP				*e*S	**Sn**	**17 40 44.3**	**-6.0**

CAUP	**Cauayan**	**7.00**	**192**	*e*P	**Pn**	**17 39 37.1**	**+1.2**
CAUP				*e*S	**Sn**	**17 40 56.0**	**+0.6**
JAM	**Amami Oshima**	**7.25**	**50**	P	**Pn**	**17 39 34.4**	**-4.8**
JMZ	**Minamidaito 2**	**7.43**	**73**	P	**Pn**	**17 39 36.8**	**-5.0**
SSE	**Sheshan**	**7.47**	**346**	⇑P	**Pn**	**17 39 41.6**	**-0.8**
SSE				S	**Sn**	**17 41 08.8**	**+1.6**
SSE				AMB	AMB		
	comp=Z,223nm,0.7s						
SSE				Smax			
	comp=N,108nm,1.3s						
SSE				Smax			
	comp=E,107nm,1.9s						
SSE				LR	LR		
	comp=N,6µm,14.6s						
SSE				LR	LR		
	comp=E,3µm,14.6s						
SSE				LR	LR		
	comp=Z,8µm,14.5s						
SSE	**Sheshan**	**7.47**	**346**	⇑Pn	**Pn**	**17 39 41.6**	**-0.8**
	comp=Z,223nm,0.7s						
SSE				Sn	**Sn**	**17 41 08.7**	**+1.5**
BCPH	**Baguio City Da**	**7.86**	**200**	⇓*i*P	**Pn**	**17 39 48.0**	**+0.3**
BOLP	**Bolinao**	**8.09**	**204**	*e*P	**P**	**17 39 51.3**	**+0.4**
BALP	**Baler**	**8.22**	**192**	*e*P	**P**	**17 39 52.5**	**-0.4**
BALP				*e*S	**Sn**	**17 41 21.9**	**-4.1**
JNN	**Nakanoshima**	**8.36**	**43**	P	**P**	**17 39 53.7**	**-1.0**
SCZP	**Santa Cruz**	**8.64**	**202**	*e*P	**P**	**17 39 58.7**	**0.0**
NJ2	**Nanjing**	**9.09**	**335**	*e*P	**P**	**17 40 03.3**	**-1.5**
NJ2				AP		17 40 10.3	
NJ2				XP		17 40 15.3	
NJ2				Smax			
	comp=N,2µm,1.0s						
NJ2				Smax			
	comp=E,2µm,1.0s						
NJ2				LR	LR		
	comp=N,2µm,8.6s						
NJ2				LR	LR		
	comp=E,4µm,7.9s						
NJ2				LR	LR		
	comp=Z,5µm,9.2s						
POLP	**Polilio Island**	**9.16**	**188**	*e*P	**P**	**17 40 05.0**	**-0.9**
POLP				*e*S	**Sn**	**17 41 41.4**	**-7.7**
GQP	**Guinayangan**	**9.92**	**185**	⇓*i*P	**P**	**17 40 16.2**	**-0.1**
TGY	**Tagaytay City**	**9.95**	**194**	Pn	**P**	**17 40 18.1**	**+1.3**
	comp=Z,22nm,0.3s,baz=123,slow=13,SNR=6.4						
TGY				Sn	**Sn**	**17 42 04.4**	**-4.3**
	baz=234,slow=23,SNR=3.3						
TGY				LR	LR	17 44 33.8	
	comp=Z,6µm,19.7s,baz=39,slow=40						
PVCP	**Virac**	**10.22**	**175**	*e*P	**P**	**17 40 17.6**	**-2.9**
PVCP				*e*S	**S**	**17 41 59.7**	**-16**
WHN	**Wuhan**	**10.41**	**312**	*e*P	**P**	**17 40 24.0**	**+0.9**
WHN				LR	LR		
	comp=N,4µm,7.7s						
WHN				LR	LR		
	comp=E,11µm,12.0s						
WHN				LR	LR		
	comp=Z,13µm,14.4s						
BOAC	**Boac**	**10.42**	**188**	*e*P	**P**	**17 40 17.9**	**-5.3**
BOAC				*e*S	**S**	**17 42 12.4**	**-7.8**
LUBP	**Lubang**	**10.47**	**197**	*e*P	**P**	**17 40 24.0**	**+0.1**
AUQP	**San Andres**	**10.48**	**184**	*e*P	**P**	**17 40 27.3**	**+3.3**
JNU	**Nakatsue**	**11.38**	**34**	Pn	**P**	**17 40 36.7**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=234,slow=7.2,SNR=3.6						
OTRP	**Odiongan**	**11.48**	**186**	*e*P	**P**	**17 40 39.6**	**+1.8**
OTRP				*e*S	**S**	**17 42 35.6**	**-11**
SJMP	**San Jose**	**11.51**	**191**	*e*P	**P**	**17 40 39.7**	**+1.6**
BUSP	**Coron**	**12.14**	**195**	*e*P	**P**	**17 40 45.8**	**-0.8**
BESP	**Borongan**	**12.34**	**170**	*e*P	**P**	**17 40 49.3**	**0.0**
OCLP	**Ormoc**	**12.78**	**174**	*e*P	**P**	**17 40 58.0**	**+2.9**
CUYO	**Cuyo Island**	**13.11**	**190**	*e*P	**P**	**17 41 10.8**	**+11**
QIZ	**Qiongzhong**	**13.44**	**252**	P	**P**	**17 41 05.3**	**+1.5**
QIZ				XP		17 41 15.4	
QIZ				S	**S**	**17 43 37.5**	**+4.2**
QIZ				LR	LR		
	comp=N,4µm,22.7s						
QIZ				LR	LR		
	comp=E,1µm,24.4s						
QIZ				LR	LR		
	comp=Z,3µm,18.6s						
TIA	**Tai'an**	**13.44**	**338**	P	**P**	**17 41 06.1**	**+2.2**
TIA				AMB	AMB		
	comp=Z,41nm,1.4s						
TIA				LR	LR		
	comp=N,3µm,12.0s						
TIA				LR	LR		
	comp=E,1µm,11.0s						
TIA				LR	LR		
	comp=N,2µm,12.0s						
INCN	**Inchon**	**13.89**	**11**	P	**P**	**17 41 10.8**	**+1.1**
	comp=N,82nm,1.0s						
ENH	**Enshi**	**13.89**	**300**	*e*P	**P**	**17 41 12.2**	**+2.4**
	comp=N,14nm,0.6s						
KS15	**Wonju Array Si**	**14.11**	**15**	*e*P	**P**	**17 41 11.6**	**-1.1**
BUTP	**Butuan**	**14.95**	**171**	*e*P	**P**	**17 41 23.6**	**-0.1**
DL2	**Dalian**	**15.09**	**355**	*e*P	**P**	**17 41 29.5**	**+4.1**
DL2				S	**S**	**17 44 14.8**	**+2.4**
DL2				LR	LR		
	comp=N,2µm,12.3s						
DL2				LR	LR		
	comp=E,1µm,14.1s						
DL2				LR	LR		
	comp=Z,2µm,13.5s						
BATP	**Bataraza**	**15.87**	**200**	*e*P	**P**	**17 41 38.7**	**+3.0**
PAGZ	**Pagadian**	**15.90**	**180**	*e*P	**P**	**17 41 37.3**	**+1.2**
BUKP	**Musuan**	**15.96**	**174**	*e*P	**P**	**17 41 36.7**	**-0.1**
IPIL	**Ipil**	**15.98**	**183**	*e*P	**P**	**17 41 40.3**	**+3.2**
TIY	**Taiyuan**	**16.68**	**329**	⇑P	**P**	**17 41 47.0**	**+1.2**
TIY				LR	LR		
	comp=N,3µm,13.0s						
TIY				LR	LR		
	comp=Z,3µm,14.0s						
JHJ	**Hachijo jima 2**	**17.15**	**54**	P	**P**	**17 41 55.8**	**+4.0**
	comp=Z,6.3nm,0.3s,baz=201,slow=14,SNR=4.6						
JHJ				LR	LR	17 47 52.6	
	comp=Z,1µm,21.8s,baz=304,slow=35						
BJT	**Baijiatuau**	**17.23**	**341**	*e*P	**P**	**17 41 53.9**	**+1.3**
	comp=Z,76nm,1.2s						
BJI	**Beijing**	**17.24**	**341**	P	**P**	**17 41 54.0**	**+1.1**
BJI				XP		17 42 06.4	
BJI				S	**S**	**17 45 05.5**	**+3.3**
BJI				AMB	AMB		
	comp=Z,793nm,6.1s						
BJI				LR	LR		
	comp=N,5µm,14.3s						
BJI				LR	LR		
	comp=E,2µm,14.3s						
BJI				LR	LR		
	comp=Z,2µm,14.3s						
BJI	**Beijing**	**17.24**	**341**	P	**P**	**17 41 54.0**	**+1.1**
	comp=Z,21nm,1.4s						
BJI				sP		17 42 06.4	
BJI				S	**S**	**17 45 05.5**	**+3.3**
CBIJ	**Chichi jima**	**17.33**	**75**	P	**P**	**17 41 59.0**	**+5.0**
	comp=Z,3.7nm,0.3s,baz=288,slow=20,SNR=2.3						
CBIJ				LR	LR	17 48 11.8	
	comp=Z,2µm,18.3s,baz=259,slow=36						
SNY	**Shenyang**	**17.94**	**1**	⇓P	**P**	**17 42 02.8**	**+1.3**
SNY				AP		17 42 12.5	
SNY				S	**S**	**17 45 12.1**	**-5.9**
SNY				LR	LR		
	comp=N,2µm,14.3s						
SNY				LR	LR		
	comp=E,2µm,19.0s						
SNY				LR	LR		
	comp=Z,3µm,16.1s						
MAJO	**Matsushiro**	**18.02**	**42**	*e*P	**P**	**17 42 01.1**	**-1.5**
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**18.02**	**42**	P	**P**	**17 42 00.8**	**-1.8**
MAT				S	**S**	**17 45 27.0**	**+7.2**
MAT	**Matsushiro**	**18.02**	**42**	*e*P	**P**	**17 42 01.0**	**-1.6**
MAT				*e*S	**S**	**17 45 27.0**	**+7.2**
CD2	**Chengdu**	**18.74**	**296**	P	**P**	**17 42 12.0**	**+0.5**
CD2				XP		17 42 30.3	
CD2				S	**S**	**17 45 41.8**	**+5.6**
CD2				SS	SS	17 46 01.8	+0.6
CD2				AMB	AMB		
	comp=Z,120nm,1.0s						
CD2				LR	LR		
	comp=E,6µm,15.0s						
CD2				LR	LR		
	comp=Z,6µm,14.4s						
KMI	**Kunming**	**18.79**	**278**	*e*P	**P**	**17 42 13.3**	**+1.2**
KMI				AP		17 42 23.8	
KMI				XP		17 42 29.5	
KMI				S	**S**	**17 45 37.3**	**0.0**
KMI				XS		17 45 52.0	
KMI				SS	SS	17 46 04.3	+2.0
KMI				AMB	AMB		
	comp=Z,942nm,6.9s						
KMI				LR	LR		
	comp=N,4µm,17.6s						
KMI				LR	LR		
	comp=E,5µm,15.7s						
KMI				LR	LR		
	comp=Z,6µm,15.7s						
KMI	**Kunming**	**18.79**	**278**	*e*P	**P**	**17 42 13.3**	**+1.2**
	comp=Z,20nm,1.4s						
KMI				pP		17 42 23.7	
KMI				sP		17 42 29.5	
KMI				S	**S**	**17 45 37.2**	**-0.1**
KMI				sS		17 45 52.0	
KMI				SS	SS	17 46 04.3	+2.0
KKM	**Kota Kinabalu**	**18.97**	**202**	⇑*e*P	**P**	**17 42 15.7**	**+1.4**
HHC	**Hu-ho-hao-te**	**19.62**	**333**	*e*P	**P**	**17 42 20.3**	**-1.4**
HHC				PP	PP	17 42 35.3	-4.5
HHC				LR	LR		
	comp=N,2µm,14.3s						
HHC				LR	LR		
	comp=E,952nm,17.8s						
HHC				LR	LR		
	comp=Z,2µm,15.5s						
CN2	**Changchun**	**19.99**	**4**	*e*P	**P**	**17 42 23.3**	**-2.3**
CN2				*e*XP		17 42 33.9	
CN2				*e*S	**S**	**17 46 00.4**	**-3.2**
CN2				*e*SS	SS	17 46 28.5	-3.6
CN2				AMB	AMB		
	comp=Z,30nm,0.6s						
CN2				LR	LR		
	comp=N,4µm,13.0s						
CN2				LR	LR		
	comp=E,3µm,13.0s						
CN2				LR	LR		
	comp=Z,4µm,14.0s						
BTO	**Baotou**	**20.11**	**329**	*e*P	**P**	**17 42 26.3**	**-0.6**
BTO				S	**S**	**17 46 16.1**	**+10**
BTO				AMB	AMB		
	comp=Z,80nm,0.7s						
BTO				LR	LR		
	comp=N,4µm,11.8s,MS5.1						
BTO				LR	LR		
	comp=E,4µm,15.3s,MS5.1						
KKTK	**Khon Kaen**	**20.64**	**253**	P	**P**	**17 42 34.0**	**+1.5**
	comp=E,309nm,0.7s						
LZH	**Lanzhou**	**20.79**	**310**	⇑P	**P**	**17 42 34.1**	**+0.2**
LZH				AP		17 42 41.4	
LZH				XP		17 42 45.3	
LZH				PP	PP	17 42 59.0	+2.9
LZH				S	**S**	**17 46 27.0**	**+7.3**
LZH				XS		17 46 38.0	
LZH				AMB	AMB		
	comp=Z,70nm,1.0s						
LZH				AMB	AMB		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=E,4µm,13.1s						
LZH				LR	LR		
	comp=Z,8µm,15.6s,MS5.2						
LZH	**Lanzhou**	**20.79**	**310**	⇑P	**P**	**17 42 34.1**	**+0.2**
	comp=Z,70nm,1.0s						
LZH				pP		17 42 41.4	
LZH				sP		17 42 45.2	
LZH				PP	PP	17 42 59.0	+2.9
LZH				S	**S**	**17 46 27.0**	**+7.3**
LZH				sS		17 46 38.0	
LZH				SS	SS	17 47 05.0	+14
LZH				LR	LR		
	comp=Z,8µm,15.6s,MS5.2						
MDJ	**Mudanjiang**	**21.35**	**12**	P	**P**	**17 42 39.1**	**-0.5**
MDJ				AP		17 42 44.8	
MDJ				XP		17 42 47.3	
MDJ				PP	PP	17 43 05.3	+1.7
MDJ				S	**S**	**17 46 36.3**	**+6.0**
MDJ				SS	SS	17 46 59.8	-5.4
MDJ				SCP		17 50 17.8	
MDJ				PCS		17 50 20.3	
MDJ				LR	LR		
	comp=N,2µm,19.1s,MS4.8						
MDJ				LR	LR		
	comp=E,2µm,14.3s,MS4.8						
MDJ				LR	LR		
	comp=Z,3µm,18.0s,MS4.7						
MDJ	**Mudanjiang**	**21.35**	**12**	*e*P	**P**	**17 42 37.4**	**-2.2**
	comp=Z,32nm,1.4s,mb4.5						
NANT	**Nan**	**21.66**	**261**	⇑P	**P**	**17 42 43.0**	**+0.1**
CHRT	**Chiangrai**	**22.20**	**264**	⇑P	**P**	**17 42 52.0**	**+3.7**
	comp=Z,184nm,1.2s,mb5.4						
CHG	**Chiang Mai**	**23.25**	**262**	⇓P	**P**	**17 43 02.1**	**+3.5**
	comp=Z,32nm,1.2s,mb4.6						
CM31	**Chiang Mai Arr**	**23.35**	**261**	*e*P	**P**	**17 43 01.4**	**+1.7**
	comp=Z,16nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	**23.35**	**261**	P	**P**	**17 43 02.0**	**+2.4**
	comp=Z,3.8nm,0.8s,baz=60,slow=8.3,SNR=23						
CMAR				PcP	PcP	17 46 47.0	-0.7
	comp=Z,0.9nm,0.6s,baz=58,slow=0.8,SNR=5.8						
CMAR				LR	LR	17 54 12.9	
	comp=Z,990nm,18.0s,MS4.3,baz=75,slow=42						
BDT	**Bhumibol Dam**	**23.69**	**258**	P	**P**	**17 43 07.0**	**+4.1**
NNT	**Nongplab**	**25.01**	**248**	P	**P**	**17 43 27.4**	**+12**
GTA	**Gaotai**	**25.23**	**314**	*e*P	**P**	**17 43 15.8**	**-1.8**
GTA				PP	PP	17 43 54.9	-1.2
GTA				PPP	PPP	17 44 06.3	-1.0
GTA				PCP	PcP	17 46 49.4	-2.1
GTA				S	**S**	**17 47 39.6**	**+0.8**
GTA				XS		17 47 51.0	
GTA				SS	SS	17 48 41.6	+1.6
GTA				SCP		17 50 28.3	
GTA				PCS		17 50 29.8	
GTA				SCS	ScS	17 54 12.6	-2.3
GTA				AMB	AMB		
	comp=Z,201nm,11.0s						
GTA				LR	LR		
	comp=N,875nm,13.3s,MS4.7						
GTA				LR	LR		
	comp=E,1µm,13.7s,MS4.7						
GTA				LR	LR		
	comp=Z,1µm,14.4s,MS4.6						
HIA	**Hailar**	**25.53**	**355**	*e*P	**P**	**17 43 17.0**	**-3.3**
	comp=Z,38nm,1.1s,mb4.8						
ASAJ	**Asahikawa**	**25.66**	**33**	P	**P**	**17 43 19.3**	**-2.2**
	comp=Z,2.9nm,0.3s,mb4.2,baz=134,slow=32,SNR=7.6						
ASAJ				LR	LR	17 53 34.1	
	comp=Z,3µm,21.8s,MS4.7,baz=238,slow=37						
SONM	**Songino Array**	**27.48**	**335**	P	**P**	**17 43 35.6**	**-2.6**
	comp=Z,12nm,0.8s,mb4.5,baz=153,slow=8.3,SNR=49						
SONM	**Songino Array**	**27.48**	**335**	P	**P**	**17 43 35.6**	**-2.6**
YSS	**Yuzh-Sakhalins**	**27.83**	**29**	*e*P	**P**	**17 43 43.3**	**+1.9**
YSS				*e*	pP	17 43 50.7	+1.7
YSS				*e*		17 44 23.4	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
YSS				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.6						
YSS				MLR	MLR		
	comp=N,1µm,17.0s,MS4.6						
YSS				MLR	MLR		
	comp=E,1µm,20.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**27.83**	**29**	*e*P	**P**	**17 43 39.8**	**-1.5**
	comp=E,26nm,1.1s,mb4.8						
YSS				LR	LR		
	comp=Z,2µm,19.0s,MS4.6						
LSA	**Lhasa**	**29.26**	**289**	P	**P**	**17 43 57.3**	**+2.8**
LSA				LR	LR		
	comp=N,700nm,21.1s,MS4.9						
LSA				LR	LR		
	comp=E,3µm,19.3s,MS4.9						
LSA	**Lhasa**	**29.26**	**289**	*e*P	**P**	**17 43 56.0**	**+1.5**
	comp=E,20nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**30.75**	**335**	*e*P	**P**	**17 44 04.8**	**-2.6**
MOY	**Mondy**	**32.65**	**334**	*e*P	**P**	**17 44 22.0**	**-2.1**
PKI	**Pulchoki**	**34.28**	**284**	*e*P	**P**	**17 44 39.0**	**+0.5**
	comp=E,21nm,0.7s,mb5.2						
KKN	**Kakani**	**34.39**	**285**	*e*P	**P**	**17 44 39.8**	**+0.3**
	comp=E,38nm,0.8s,mb5.3						
DMN	**Daman**	**34.55**	**284**	*e*P	**P**	**17 44 41.5**	**+0.7**
	comp=E,71nm,1.2s,mb5.5						
GKN	**Gorkha**	**34.95**	**285**	*e*P	**P**	**17 44 44.5**	**+0.2**
	comp=E,49nm,0.9s,mb5.4						
WMQ	**Urumqi**	**35.31**	**313**	⇑P	**P**	**17 44 47.9**	**+0.7**
WMQ				AP	pP	17 44 55.4	+0.5
WMQ				XP	sP	17 44 58.4	+0.2
WMQ				PP	PP	17 46 07.4	+0.6
WMQ				PPP	PPP	17 46 25.9	+0.5
WMQ				*e*S	**S**	**17 50 19.9**	**+1.0**
WMQ				XS		17 50 31.8	
WMQ				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
WMQ				LR	LR		
	comp=N,551nm,14.6s,MS4.6						
WMQ				LR	LR		
	comp=E,697nm,15.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,514nm,14.6s,MS4.4						
KOLN	**Koldanda**	**35.88**	**285**	*e*P	**P**	**17 44 52.7**	**+0.6**
	comp=Z,41nm,0.9s,mb5.3						
SKR	**Severo-Kuril's**	**36.89**	**35**	*e*P	**P**	**17 45 01.2**	**+0.8**
SKR				*e*		17 45 12.5	
SKR				pmax	pmax		
	comp=N,40nm,1.0s						
SKR				pmax	pmax		
	comp=E,40nm,1.0s						
SKR				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
YAK	**Yakutsk**	**38.42**	**5**	*e*P	**P**	**17 45 09.0**	**-4.1**
YAK				*e**PP	pP	17 45 17.2	-3.7
YAK				*e*		17 46 40.7	
YAK				*e*PPP	PPP	17 47 02.6	-4.7
YAK				*e*SS	SS	17 54 05.7	+19
YAK				*e*		17 55 15.8	
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,719nm,13.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,617nm,12.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,416nm,14.0s,MS4.7						
YAK	**Yakutsk**	**38.42**	**5**	*e*P	**P**	**17 45 09.7**	**-3.4**
	comp=E,27nm,0.8s,mb5.0						
YAK				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
PET	**Petropavlovsk**	**39.50**	**33**	*e*P	**P**	**17 45 20.0**	**-2.3**
PET				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.1						
PET				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.5						
PET	**Petropavlovsk**	**39.50**	**33**	*e*P	**P**	**17 45 18.4**	**-3.9**
	comp=Z,14nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**39.95**	**315**	P	**P**	**17 45 24.4**	**-1.7**
	comp=Z,5.6nm,0.4s,mb4.6,baz=101,slow=8.7,SNR=7.7						
MKAR				LR	LR	18 03 17.5	
	comp=Z,1µm,18.7s,MS4.7,baz=104,slow=38						
PMG	**Port Moresby**	**40.42**	**142**	P	**P**	**17 45 30.9**	**+0.6**
	comp=Z,23nm,0.9s,mb4.9,baz=13,slow=5.3,SNR=5.2						
PMG	**Port Moresby**	**40.42**	**142**	*e*P	**P**	**17 45 28.9**	**-1.4**
	comp=Z,29nm,0.9s,mb5.0						
DDI	**Dehra Dun**	**40.62**	**289**	*e*	**P**	**17 45 31.2**	**-0.5**
NDI	**New Delhi**	**41.44**	**287**	⇑*e*P	**P**	**17 45 36.5**	**-2.0**
SDNR	**Sundarnagar**	**41.52**	**291**	*e*P	**P**	**17 45 40.2**	**+1.1**
ZAL	**Zalesovo**	**41.61**	**326**	P	**P**	**17 45 37.4**	**-2.2**
	comp=Z,8.9nm,0.6s,mb4.6,baz=274,slow=11,SNR=4.4						
ZAL				LR	LR	18 05 03.4	
	comp=Z,2µm,19.7s,MS4.9,baz=255,slow=39						
FITZ	**Fitzroy Crossi**	**41.75**	**177**	⇑*i*P	**P**	**17 45 40.4**	**-0.7**
	comp=Z,8.6nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.75**	**177**	P	**P**	**17 45 40.1**	**-1.0**
	comp=Z,19nm,1.3s,mb4.6,baz=6.2,slow=7.4,SNR=8.4						
FITZ				LR	LR	18 03 35.5	
	comp=Z,138nm,18.5s,MS3.9,baz=359,slow=37						
KSH	**Kashi**	**42.73**	**303**	*e*P	**P**	**17 45 48.6**	**-0.4**
KSH				*e*AP	pP	17 45 57.0	+0.3
KSH				*e*XP	sP	17 46 01.0	+1.1
KSH				*e*PP	PP	17 47 32.0	+1.4
KSH				*e*PCP	PcP	17 47 43.1	+2.2
KSH				*e*PPP	PPP	17 48 03.0	-1.6
KSH				*e*SCP		17 51 29.0	
KSH				*e*PCS		17 51 34.0	
KSH				*e*S	**S**	**17 52 09.5**	**-1.2**
KSH				*e*SS	SS	17 55 13.0	-2.6
KSH				*e*SCS	ScS	17 55 46.0	-0.1
KSH				AMB	AMB		
	comp=Z,20nm,0.3s,mb5.3						
KSH				LR	LR		
	comp=N,510nm,6.8s						
KSH				LR	LR		
	comp=E,480nm,7.8s						
KURK	**Kurchatov**	**43.62**	**320**	*e*P	**P**	**17 45 55.1**	**-0.8**
	comp=E,66nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**44.81**	**165**	*e*P	**P**	**17 46 05.0**	**-1.1**
	comp=E,20nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**44.82**	**165**	P	**P**	**17 46 04.8**	**-1.3**
	comp=E,14nm,0.8s,mb4.8,baz=347,slow=8.5,SNR=54						
WRA				LR	LR	18 04 58.0	
	comp=E,552nm,21.0s,MS4.5,baz=5.0,slow=36						
WB2	**Warramunga Arr**	**44.82**	**165**	⇓*i*P	**P**	**17 46 05.7**	**-0.5**
FX1	**Attu Island--F**	**47.34**	**39**	LR	LR	18 07 16.3	
	comp=E,9.6nm,18.0s,baz=269,slow=37						
FX1	**Attu Island--F**	**47.34**	**39**	*e*P	**P**	**17 46 24.8**	**-0.8**
SMY	**Shemya**	**47.84**	**39**	*e*P	**P**	**17 46 28.4**	**-1.1**
SMY				LR	LR		
	comp=Z,300nm,22.0s,MS4.2						
TIXI	**Tiksi**	**47.94**	**2**	⇓*e*P	**P**	**17 46 27.0**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.0						
ASAR	**Alice Springs**	**48.33**	**167**	P	**P**	**17 46 33.8**	**0.0**
	comp=Z,3.7nm,0.6s,mb4.6,baz=353,slow=14,SNR=76						
ASAR				ScP		17 51 51.9	
	comp=Z,2.1nm,1.2s,baz=333,slow=2.0,SNR=4.2						
ASAR				LR	LR	18 08 00.8	
	comp=Z,393nm,18.0s,MS4.4,baz=336,slow=37						
ASAR	**Alice Springs**	**48.33**	**167**	P	**P**	**17 46 33.8**	**0.0**
ASAR				ScP		17 51 51.9	
ASAR				LR	LR	18 08 00.8	
ASPA	**Alice Springs**	**48.33**	**167**	⇓*i*P	**P**	**17 46 33.7**	**0.0**
CTA	**Charters Tower**	**49.05**	**151**	*e*P	**P**	**17 46 40.0**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.7						
CTA	**Charters Tower**	**49.05**	**151**	P	**P**	**17 46 40.0**	**+0.7**
	comp=Z,29nm,1.3s,mb5.1,baz=331,slow=12,SNR=7.6						
CTA				LR	LR	18 05 22.4	
	comp=Z,1µm,21.1s,MS4.8,baz=337,slow=34						
CTAO	**Charters Tower**	**49.05**	**151**	*e*P	**P**	**17 46 39.4**	**+0.1**
	comp=Z,23nm,1.3s,mb5.0						
CTAO				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
BVAR	**Borovoye Array**	**49.18**	**320**	P	**P**	**17 46 37.9**	**-2.0**
	comp=Z,5.0nm,0.6s,mb4.7,baz=94,slow=9.9,SNR=5.5						
BRVK	**Borovoye**	**49.26**	**320**	P	**P**	**17 46 39.0**	**-1.4**
AB31	**Akbulak array**	**55.08**	**314**	*i* P	**P**	**17 47 23.1**	**-1.1**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ARU	**Arti**	**56.56**	**323**	P	**P**	**17 47 32.2**	**-2.5**
	comp=Z,211nm,0.8s,mb6.2,SNR=18						
ARU	**Arti**	**56.56**	**323**	⇑*i*P	**P**	**17 47 32.8**	**-1.9**
ARU				*i*		17 48 27.3	
ARU				*i*		17 49 38.0	
ARU				*e*PPP	PPP	17 50 51.9	-8.3
ARU				*e*S	**S**	**17 55 20.4**	**-2.6**
ARU				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
ARU				MLR	MLR		
	comp=E,300nm,17.0s						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
ARU	**Arti**	**56.56**	**323**	*e*P	**P**	**17 47 32.3**	**-2.4**
	comp=Z,22nm,0.8s,mb5.2						
ARU				LR	LR		
	comp=Z,152nm,22.0s,MS4.0						
NWAO	**Narrogin (SRO)**	**56.75**	**186**	P	**P**	**17 47 36.8**	**+0.4**
	comp=Z,12nm,0.9s,mb4.9,baz=4.3,slow=4.3,SNR=3.6						
SOKR	**Solikamsk**	**57.89**	**327**	⇓*i*P	**P**	**17 47 41.3**	**-2.8**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,780nm,19.0s,MS4.8						
STKA	**Stephens Creek**	**58.09**	**162**	P	**P**	**17 47 45.5**	**-0.4**
	comp=Z,11nm,0.7s,mb5.0,baz=352,slow=7.0,SNR=22						

STKA				LR	LR	18 15 08.5	
	comp=Z,835nm,18.7s,MS4.9,baz=132,slow=38						
STKA	Stephens Creek	58.09	162	eP	P	17 47 45.1	-0.7
ANM	Nome	60.70	28	eP	P	17 48 03.0	-0.5
SVW	Sparrevohn	65.13	32	eP	P	17 48 32.7	-0.1
RSO	Redoubt South	66.60	32	eP	P	17 48 41.0	-1.2
GNI	Garni	66.61	305	P	P	17 48 43.4	+0.9
	comp=Z,3.3nm,0.4s,mb4.7,baz=223,slow=16,SNR=5.2						
GNI				LR	LR	18 23 07.3	
	comp=Z,346nm,18.4s,MS4.6,baz=277,slow=41						
UMR	Umm Al-Rimmam	66.71	293	eP	P	17 48 43.5	+0.2
UMR				AMb	AMB	17 48 44.7	
	comp=Z,38nm,0.8s,mb5.5						
KBD	Kabd	66.82	293	eP	P	17 48 43.6	-0.5
SPU	Mount Spurr	66.84	32	eP	P	17 48 42.2	-1.5
GOF	Gofitskoye	66.86	311	⇓iP	P	17 48 43.0	-1.1
GOF				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.2						
MIB	Mutribah	66.96	294	eP	P	17 48 44.8	-0.2
MIB				AMb	AMB	17 48 45.8	
	comp=Z,70nm,0.7s,mb5.8						
RDF	Al-Radifah	67.01	293	eP	P	17 48 45.6	+0.3
RDF				AMb	AMB	17 48 46.8	
	comp=Z,106nm,0.7s,mb6.0						
KDAK	Kodiak Island	67.05	35	eP	P	17 48 43.7	-1.4
	comp=Z,107nm,1.5s,mb5.7						
RST	Umm Al-Ruwaisa	67.32	293	eP	P	17 48 47.0	-0.3
RST				AMb	AMB	17 48 48.3	
	comp=Z,31nm,0.8s,mb5.4						
PMS	Palmer South	68.03	31	eP	P	17 48 50.1	-1.1
PMR	Palmer	68.17	31	eP	P	17 48 50.7	-1.4
PMR				LR	LR		
	comp=Z,300nm,22.0s,MS4.5						
APA	Apatity	68.19	336	⇓iP	P	17 48 50.8	-1.3
APA				i		17 49 19.5	
APA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
APA				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.3						
COLA	College	68.19	27c	iP	P	17 48 51.4	-0.7
COLA	College	68.19	27	eP	P	17 48 50.9	-1.2
	comp=Z,7.4nm,0.6s,mb4.9						
COLA				LR	LR		
	comp=Z,401nm,19.0s,MS4.7						
ILAR	Eielson Array	68.62	27	P	P	17 48 52.9	-1.9
	comp=Z,2.5nm,0.6s,mb4.3,baz=289,slow=6.3,SNR=23						
OBN	Obninsk	68.98	322	⇓eP	P	17 48 55.0	-2.2
OBN				i	pP	17 49 04.9	-0.3
OBN				eS	S	17 57 53.7	-5.0
OBN				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
OBN				MLR	MLR		
	comp=Z,500nm,14.0s,MS4.9						
ERZM	Erzurum	69.19	305	i P	P	17 48 58.5	-0.2
SOC	Sochi	69.50	310	i P	P	17 48 59.5	-1.1
SOC				e		17 49 22.2	
SOC				eS	S	17 58 01.9	-3.3
SOC				eSSS	SSS	18 05 26.5	-12
SOC				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
SOC				pmax	pmax		
	comp=N,11nm,1.0s						
SOC				pmax	pmax		
	comp=E,18nm,0.9s						
SOC				MLR	MLR		
	comp=Z,433nm,17.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,564nm,22.0s						
SOC				MLR	MLR		
	comp=E,354nm,16.0s						
BEST	Besiri	69.77	303	i P	P	17 49 01.7	-0.6
KEV	Kevo	70.02	338	ep	P	17 49 02.9	-0.4
MZLS	Mizel	70.42	288	P	P	17 49 07.3	+0.8
ARCES	ARCESS Array B	70.59	338	P	P	17 49 04.0	-2.8
	comp=E,6.4nm,0.9s,mb4.6,baz=63,slow=8.1,SNR=6.8						
ARCES				LR	LR	18 27 21.5	
	comp=E,710nm,18.2s,MS5.0,baz=11,slow=42						
ARCES	ARCESS Array B	70.59	338	P	P	17 49 04.0	-2.8
ARCES				LR	LR	18 27 21.5	
ANN	Anapa	70.80	311	eP	P	17 49 07.7	-0.7
ANN				pmax	pmax		
	comp=Z,134nm,1.6s,mb5.6						
ELZG	Elazig	71.34	304	i P	P	17 49 11.5	-0.3
DAWY	Dawson	71.94	27	eP	P	17 49 14.3	-0.7
HILS	Ha’il	72.32	293	P	P	17 49 18.4	+0.6
AFFS	‘Afif	72.37	289	P	P	17 49 18.7	+0.5
KAF	Kangasniemi	72.42	331	ep	P	17 49 15.6	-2.2
FINES	FINESS Array B	72.73	330	P	P	17 49 18.5	-1.1
	comp=Z,11nm,0.7s,mb4.9,baz=87,slow=6.7,SNR=43						
FINES				LR	LR	18 24 43.0	
	comp=Z,1µm,19.5s,MS5.2,baz=79,slow=39						
GZT	Gaziantep	72.74	304	i P	P	17 49 20.3	+0.1
INK	Inuvik	72.80	22	P	P	17 49 18.8	-1.1
	comp=Z,20nm,0.7s,mb5.1,baz=301,slow=6.1,SNR=52						
INK				LR	LR	18 25 18.9	
	comp=Z,421nm,18.5s,MS4.8,baz=287,slow=39						
INK	Inuvik	72.80	22	eP	P	17 49 18.9	-1.1
	comp=Z,64nm,1.2s,mb5.4						
SIM	Simferopol’	73.03	312c	iP	P	17 49 21.0	-0.7
TATS	Tathlith	73.39	284	P	P	17 49 24.9	+0.6
BOYT	Boyabat	73.51	308	i P	P	17 49 24.7	+0.1
CTKT	Corum	73.83	308	i P	P	17 49 25.3	-1.2
COBT	Iskenderun	73.99	303	i P	P	17 49 26.1	-1.3
MNK	Minsk	74.02	323	eP	P	17 49 25.0	-2.2
TOS	Tosya	74.26	308	i P	P	17 49 30.1	+1.1
AVNT	Avonos	74.35	306	i P	P	17 49 28.4	-1.1
AKASG	Malin Array Be	74.43	319	P	P	17 49 28.6	-1.1
	comp=Z,12nm,0.8s,mb4.9,baz=59,slow=6.0,SNR=32						
BALT	Daday	74.56	309	i P	P	17 49 30.6	-0.1
NIG	Nigde	74.74	305	i P	P	17 49 33.4	+1.6
ASF	Jabal al Asfar	74.85	299	P	P	17 49 32.9	+0.4
	comp=Z,8.4nm,0.6s,mb4.8,baz=320,slow=4.4,SNR=17						
ASF				LR	LR	18 26 50.3	
	comp=Z,282nm,19.6s,MS4.6,baz=308,slow=39						
ELDT	Eldivan	74.86	308	i P	P	17 49 32.0	-0.4
BLJS	Baljurashi	74.94	285	P	P	17 49 34.6	+1.3
BRTR	Keskin Array B	74.95	307	P	P	17 49 33.0	0.0
	comp=Z,27nm,0.9s,mb5.2,baz=95,slow=5.8,SNR=95						
BRTR				LR	LR	18 29 41.6	
	comp=Z,193nm,21.7s,MS4.4,baz=160,slow=42						
KBRS	Khaybar	74.98	292	P	P	17 49 34.7	+1.3
KAMT	Kaman	75.01	307	P	P	17 49 33.8	+0.5
LOD	Lodumlu	75.54	307	P	P	17 49 37.1	+0.8
SGKT	Sivrigoynuk	75.83	308	i P	P	17 49 37.7	-0.3
KIS	Kishinev	75.89	315	eP	P	17 49 36.0	-2.2
KIS				e		17 54 18.0	
KIS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.8						
KIS				MLR	MLR		
	comp=Z,500nm,16.0s						
SIT	Sitka	76.22	33	eP	P	17 49 39.5	-0.3
	comp=Z,70nm,1.4s,mb5.4						
SIT				LR	LR		
	comp=Z,366nm,19.0s,MS4.7						
TBKS	Tabuk	76.44	295	P	P	17 49 42.6	+1.0
HENT	Hendek	76.57	309	i P	P	17 49 40.9	-1.2
CSS	Prodhromos	76.75	302	eP	P	17 49 42.3	-0.9
	comp=Z,33nm,0.8s,mb5.3						
SUW	Suwalki	76.75	323	eP	P	17 49 42.4	-0.4
SUW				MLR	MLR		
	comp=Z,500nm,23.4s,MS4.8						
JMQS	Jabal Moqyreh	76.77	296	P	P	17 49 44.1	+0.6
UMJS	Umm Lajj	76.82	292	P	P	17 49 45.6	+1.8
DAG	Danmarks Havn	77.00	352	⇓iP	P	17 49 42.2	-1.6
	comp=Z,6.7nm,0.6s,mb4.8						
ESKT	Eskisehir	77.05	308	i P	P	17 49 43.2	-1.6
HARR	Harsova	77.28	313	⇓iP	P	17 49 46.5	+0.5
JMOS	Jabal al Moall	77.31	296	P	P	17 49 47.3	+0.8
HAQS	Haql	77.49	296	P	P	17 49 48.4	+0.9
AYUS	‘Aynunah	77.51	295	P	P	17 49 48.2	+0.6
BDAS	Al Bad‘	77.57	296	P	P	17 49 48.8	+0.9
VRI	Vrincioaia	77.65	315	⇓iP	P	17 49 49.0	+1.0
ISR	Istrita	78.04	314	⇓iP	P	17 49 51.4	+1.3
ULDT	Uludag	78.07	309	i P	P	17 49 50.1	-0.3
DLBC	Dease Lake	78.24	31	P	P	17 49 51.5	+0.5
	comp=Z,4.0nm,0.8s,mb4.4,baz=283,slow=4.3,SNR=8.5						
DLBC	Dease Lake	78.24	31	eP	P	17 49 51.7	+0.7
DLBC				epP	pP	17 49 59.3	+0.1
MLR	Muntele Rosu	78.30	315	⇓iP	P	17 49 52.5	+1.0
BUC1	Bucharest	78.67	313	⇓iP	P	17 49 54.9	+1.3
KWP	Kalwaria	78.72	319	eP	P	17 49 54.1	+0.3
KWP				MLR	MLR		
	comp=Z,500nm,21.7s,MS4.8						
DNZL	Cakiroluk	79.02	306	i P	P	17 49 55.4	-0.3
SART	Tekirdag	79.26	310	i P	P	17 49 55.7	-1.2
NB2	NORSAR Subarra	79.44	333	P	P	17 49 56.3	-1.1
	comp=Z,12nm,0.7s,mb5.0,baz=59,slow=5.3						
NB2	NORSAR Subarra	79.44	333	P	P	17 49 56.3	-1.1
	baz=58,slow=5.6						
NOA	NORSAR Array B	79.44	333	P	P	17 49 56.2	-1.2
	comp=Z,9.4nm,0.7s,mb4.8,baz=60,slow=6.2,SNR=30						
NOA				LR	LR	18 28 50.0	
	comp=Z,1µm,18.6s,MS5.3,baz=70,slow=38						
NOA	NORSAR Array B	79.44	333	P	P	17 49 56.2	-1.2
NOA				LR	LR	18 28 50.0	
URZ	Urewera	79.74	140	LR	LR	18 25 12.2	
	comp=Z,689nm,18.6s,MS5.0,baz=207,slow=36						
KDAG	Bornova	80.06	308	i P	P	17 50 00.3	-0.9
OJC	Ojcow	80.19	321	⇑eP	P	17 50 02.0	+0.3
RPZ	Rata Peaks	80.22	147	P	P	17 50 03.5	+1.5
	comp=Z,8.5nm,1.0s,mb4.6,baz=243,slow=11,SNR=3.0						
RPZ				LR	LR	18 22 38.6	
	comp=Z,662nm,19.2s,MS5.0,baz=332,slow=33						
KECS	Kecovo	80.53	319	eP	P	17 50 05.7	+2.2
KECS				e		17 50 25.0	
RZN	Rozhen	80.59	311	P	P	17 50 04.0	0.0
PGB	Panagyurishte	80.62	312	P	P	17 50 05.0	+0.9
RAC	Raciborz	81.18	321	eP	P	17 50 07.6	+0.7
RAC				eS	S	18 00 11.3	-2.5
RAC				MLR	MLR		
	comp=Z,400nm,19.9s,MS4.8						
VTS	Vitosha	81.25	313	P	P	17 50 08.0	+0.6
MMB	Musomiste	81.30	312	P	P	17 50 08.0	+0.2
OKC	Ostrava-Krasne	81.31	321	eP	P	17 50 07.7	+0.1
VYHS	Vyhne	81.51	319	eP	P	17 50 09.6	+0.9
VYHS				e		17 50 25.7	
BOLS	Boljevac	81.56	314	⇓iP	P	17 50 09.0	0.0
KKB	Krupnik	81.63	312	P	P	17 50 09.0	-0.5
MORC	Moravsky Berou	81.69	321	eP	P	17 50 09.8	+0.2
	comp=Z,43nm,1.5s,mb5.2						
KSP	Ksiaz	81.91	322	⇑eP	P	17 50 10.2	-0.5
KSP				MLR	MLR		
	comp=Z,1µm,17.9s,MS5.4						
DPC	Dobruska-Polom	82.12	322	eP	P	17 50 12.7	+0.9
UPC	Upice	82.23	322	eP	P	17 50 12.4	+0.1
YKW3	Yellowknife Ar	82.47	23	eP	P	17 50 12.7	-0.6
YKA	Yellowknife Ar	82.52	23	P	P	17 50 13.6	0.0
	comp=Z,7.4nm,0.6s,mb4.9,baz=304,slow=5.2,SNR=43						
YKA				LR	LR	18 28 12.0	
	comp=Z,283nm,21.5s,MS4.6,baz=300,slow=37						
SKO	Skopje	82.70	313	⇑iP	P	17 50 15.5	+0.5
	comp=Z,0.0nm,0.8s						
DIVS	Divcibare	82.73	315	⇓iP	P	17 50 15.1	0.0
PVCC	Panska Ves	83.03	322	eP	P	17 50 17.1	+0.6
IDI	Anoyia	83.04	305	P	P	17 50 16.9	0.0
	comp=Z,7.3nm,0.6s,mb4.9,baz=17,slow=8.7,SNR=9.0						
RHK1	Bakonya	83.05	317	⇑eP	P	17 50 17.0	+0.3
BRG	Berggiesshubel	83.20	323	i P	P	17 50 17.6	+0.2
BRG				i		17 50 28.4	
BRG				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
BRG	Berggiesshubel	83.20	323	i P	P	17 50 17.6	+0.2
	comp=Z,24nm,1.4s,mb5.0						
BRG				i		17 50 28.4	
PRU	Pruhonice	83.30	322	eP	P	17 50 18.2	+0.3
	comp=Z,55nm,1.5s,mb5.4						
PRU				eAP	pP	17 50 27.2	+1.0
PRU				e		17 51 56.3	
CLL	Collm	83.50	324	⇑P	P	17 50 18.8	-0.1
	comp=Z,logA/T=1.4,mb5.3						
CLL				i *PP	pP	17 50 27.1	-0.1
CLL				i		17 50 34.8	
CLL				ePP	PP	17 53 29.0	-4.1
CLL	Collm	83.50	324	⇑iP	P	17 50 18.8	-0.1
CLL				i	pP	17 50 27.1	-0.1
CLL				i		17 50 34.8	
CLL				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2						
CLL	Collm	83.50	324	⇑iP	P	17 50 18.8	-0.1
	comp=Z,36nm,1.6s,mb5.2						
CLL				i	pP	17 50 27.1	-0.1
CLL				i		17 50 34.8	
BSEG	Bad Segeberg	83.54	327	eP	P	17 50 19.3	+0.3
BSEG				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
ARSA	Arzberg	84.06	319	⇑iP	P	17 50 22.3	+0.5
	comp=Z,48nm,1.8s,mb5.3						
KHC	Kasperske Hory	84.27	322	eP	P	17 50 23.1	+0.2
KHC				eAP	pP	17 50 32.1	+0.9
GEC2	GERESS Array S	84.35	321	eP	P	17 50 23.4	+0.2
GEC2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
GEC2	GERESS Array S	84.35	321	eP	P	17 50 23.4	+0.2
	comp=Z,20nm,1.0s,mb5.2						
GERES	GERESS Array B	84.35	321	P	P	17 50 23.3	+0.1
	comp=Z,7.2nm,0.7s,mb4.9,baz=56,slow=4.8,SNR=41						
NKC	Novy Kostel	84.35	323	eP	P	17 50 14.5	-8.7
MOA	Molln	84.51	320	⇑iP	P	17 50 25.0	+0.9
	comp=Z,24nm,1.2s,mb5.2						
MOX	Moxa	84.59	324	i P	P	17 50 24.7	+0.3
	comp=Z,logA/T=1.2,mb5.1						
MOX				L		18 33 58.0	
MOX	Moxa	84.59	324	eP	P	17 50 24.7	+0.3
MOX				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.1						
MOX				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.9						
MOX	Moxa	84.59	324	eP	P	17 50 24.7	+0.3
	comp=Z,25nm,1.6s,mb5.1						
MOX				LR	LR		
	comp=Z,500nm,20.0s,MS4.9						
PERS	Pernice	84.60	319	eP	P	17 50 24.6	0.0
CLZ	Clausthal	84.63	325	eP	P	17 50 25.1	+0.5
	comp=Z,76nm,1.4s,mb5.6						
WET	Wettzell	84.66	322	eP	P	17 50 24.9	+0.1
WET				pmax	pmax		
	comp=Z,38nm,1.8s,mb5.2						
WET	Wettzell	84.66	322	eP	P	17 50 24.9	+0.1
	comp=Z,38nm,1.8s,mb5.2						
OBKA	Obir	85.01	319	⇑iP	P	17 50 27.0	+0.4
	comp=Z,15nm,1.4s,mb4.9						
BOJS	Bojanci	85.07	318	i P	P	17 50 27.4	+0.5
LJU	Ljubljana	85.25	319	eP	P	17 50 27.9	+0.1
GRA1	Grafenberg Arr	85.31	323	eP	P	17 50 28.8	+0.8
	comp=Z,129nm,1.7s,mb5.8						
GRA1				LR	LR		
	comp=Z,400nm,21.1s,MS4.8						
GRF	Grafenberg Arr	85.31	323	eP	P	17 50 28.8	+0.8
GRF				pmax	pmax		
	comp=Z,129nm,1.7s,mb5.8						
GRF				MLR	MLR		
	comp=Z,400nm,21.1s,MS4.8						
KBA	Koelnbreinsper	85.44	320	⇑iP	P	17 50 29.1	+0.4
	comp=Z,182nm,3.6s						
JAVS	Javornik	85.61	319	eP	P	17 50 29.3	-0.3
VOY	Vojsko	85.64	319	eP	P	17 50 28.8	-1.0
VOY				e	pP	17 50 37.8	-0.3
ROBS	Robic	85.76	319	i P	P	17 50 29.4	-1.0
FUR	Furstenfeldbru	86.08	322	eP	P	17 50 32.1	+0.2
FUR				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.9						
FUR	Furstenfeldbru	86.08	322	eP	P	17 50 32.1	+0.2
	comp=Z,140nm,1.7s,mb5.9						
WTTA	Wattenberg	86.34	321	⇑iP	P	17 50 33.5	+0.3
	comp=Z,98nm,2.1s,mb5.7						
MOTA	Moosalm	86.61	321	⇑iP	P	17 50 34.7	+0.2
RAR	Rarotonga	87.19	115	LR	LR	18 23 46.1	
	comp=Z,542nm,18.3s,MS5.0,baz=305,slow=32						
DAVA	Damuels	87.34	321	⇑iP	P	17 50 39.5	+1.4
	comp=Z,7.5nm,0.9s,mb4.9						
GNW	Green Mountain	87.42	38	eP	P	17 50 39.8	+1.3
GNW				epP	pP	17 50 47.3	+0.6
CII	Carovilli	87.53	315	eP	P	17 50 40.2	+1.1
	comp=Z,36nm,1.4s,mb5.4						
BORG	Borgarnes	87.56	346	P	P	17 50 40.0	+1.3
BFO	Black Forest	87.65	323	eP	P	17 50 39.4	-0.1
BFO				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.3						
BFO	Black Forest	87.65	323	eP	P	17 50 39.4	-0.1
	comp=Z,29nm,1.6s,mb5.3						
BMW	Boistfort Moun	87.78	39	P	P	17 50 40.6	+0.4
RMW	Rattlesnake Mo	88.06	38	eP	P	17 50 42.5	+1.1
CDF	Champ du Feu	88.18	323	eP	P	17 50 40.0	-2.0
	comp=Z,124nm,1.7s,mb5.5						
LON	Longmire	88.45	39	eP	P	17 50 44.1	+0.7
NLW	Nelson Butte	88.52	37	eP	P	17 50 45.0	+1.3
HINF	Hinteralfeld	88.75	323	eP	P	17 50 42.3	-2.5
BAIF	Baives	88.85	326	eP	P	17 50 42.9	-2.3
HAU	Haudompre	88.92	323	eP	P	17 50 43.2	-2.4
VGB	Gordon Butte	89.73	39	eP	P	17 50 50.6	+1.1
DPW	Davenport	89.81	36	eP	P	17 50 50.7	+0.9
DPW				epP	pP	17 50 58.3	+0.2
CABF	La Chapelle	89.88	322	eP	P	17 50 48.0	-2.1
	comp=Z,58nm,1.4s,mb5.4						
HAWA	Hanford	89.94	38	eP	P	17 50 50.9	+0.4
	comp=Z,49nm,1.5s,mb5.6						
HAWA				epP	pP	17 50 58.9	+0.2
LPG	La Plagne	90.14	321	eP	P	17 50 52.0	+0.6
	comp=Z,37nm,0.8s,mb5.5						
LPL	La Plagne	90.14	321	eP	P	17 50 51.5	+0.1
	comp=Z,61nm,1.2s,mb5.5						
NEW	Newport	90.16	36	P	P	17 50 53.0	+1.6
	comp=Z,5.7nm,0.7s,mb5.0,baz=282,slow=3.7,SNR=9.2						
NEW	Newport	90.16	36	eP	P	17 50 52.2	+0.8
	comp=Z,32nm,1.3s,mb5.5						
NEW				epP	pP	17 50 59.9	+0.2
NEW				LR	LR		
	comp=Z,296nm,20.0s,MS4.7						
MBDF	Montbardon	90.57	320	eP	P	17 50 52.2	-1.2
	comp=Z,13nm,0.8s,mb5.0						
YBH	Yreka Blue Hor	90.68	43	P	P	17 50 55.6	+1.7
	comp=Z,2.6nm,1.1s,mb4.5,baz=115,slow=11,SNR=3.0						
LNOR	Lincton Mounta	90.95	38	eP	P	17 50 55.8	+0.7
LNOR				epP	pP	17 51 03.8	+0.4
ORIF	Oris-en-Rattie	90.98	321	eP	P	17 50 55.5	+0.2
	comp=Z,27nm,0.9s,mb5.3						
SMF	Signal de Mont	91.10	323	eP	P	17 50 53.6	-2.2
	comp=Z,102nm,1.5s,mb5.6						
FRF	La Foret Royal	91.31	319	eP	P	17 50 53.6	-3.2
LMR	La Mourre	91.53	319	eP	P	17 50 55.0	-2.8
	comp=Z,76nm,1.5s,mb5.5						
SMRF	Simiane la Rot	91.71	320	eP	P	17 50 55.0	-3.6
VIVF	Saint-Julien-l	91.71	321	eP	P	17 50 56.5	-2.1
	comp=Z,21nm,0.9s,mb5.2						
MOD	Modoc	92.07	42	eP	P	17 51 01.0	+0.6
	comp=Z,17nm,1.1s,mb5.3						
MOD				epP	pP	17 51 08.6	-0.1
TCF	Toulx Ste Croi	92.21	324	eP	P	17 50 59.4	-1.5
LASF	Ste Croix	92.64	321	eP	P	17 51 01.8	-1.1
	comp=Z,74nm,1.5s,mb5.6						
FFC	Flin Flon	92.65	24	eP	P	17 51 02.7	0.0
	comp=Z,26nm,1.2s,mb5.5						
WVOR	Wild Horse Val	92.78	41	eP	P	17 51 03.0	-0.6
CHMT	Chamberlain Mo	93.05	35	P	P	17 51 05.2	+0.4
PAHR	Pah Rah Range	93.90	43	eP	P	17 51 08.5	-0.4
	comp=Z,14nm,1.2s,mb5.3						
PPT	Papeete	94.38	107	eS	S	18 02 28.0	+9.4
	comp=Z,631nm,25.5s						
PPT				eSS	SS	18 08 43.6	-1.2
PPT				eR		18 21 27.3	
	comp=Z,1µm,23.0s,baz=291						
HLID	Hailey	94.55	38	eP	P	17 51 12.9	+1.2
	comp=Z,18nm,1.3s,mb5.3						
HLID				epP	pP	17 51 20.7	+0.7
MCMT	McKenzie Canyo	94.61	36	eP	P	17 51 13.1	+1.1
BOZ	Bozeman (W)	94.72	35	eP	P	17 51 13.0	+0.5
	comp=Z,7.0nm,1.4s,mb4.9						
BMN	Battle Mountai	94.82	42	P	P	17 51 13.5	+0.5
NVAR	Mina Array Bea	95.33	44	P	P	17 51 16.4	+1.0
	comp=Z,1.0nm,0.6s,mb4.4,baz=310,slow=3.9,SNR=7.8						
OMM	Old Mammoth Mi	95.36	45	eP	P	17 51 16.5	+0.9
TPH	Tonopah	96.23	44	eP	P	17 51 20.1	+0.6
	comp=Z,2.2nm,0.4s,mb4.9						
TBI	Tubuai	96.74	112	eSS	SS	18 09 28.0	+10
TBI				eR		18 22 05.9	
	comp=Z,647nm,24.8s,baz=295						
HWUT	Hardware Ranch	97.41	38	eP	P	17 51 25.7	+0.9
	comp=Z,16nm,1.6s,mb5.2						
PDAR	Pinedale Array	97.76	36	P	P	17 51 27.7	+1.4
	comp=Z,0.2nm,0.5s,slow=0.9,SNR=2.6						
CTU	Camp Tracy	97.91	39	P	P	17 51 29.9	+2.9
QSPA	South Pole Qui	113.63	180	ePKP	PKPdf	17 56 29.5	-2.7
QSPA				LR	LR		
	comp=Z,500nm,20.0s,MS5.1						
SNAA	Sanae	123.52	198	PKP	PKPdf	17 56 47.3	-4.3
	comp=Z,0.8nm,1.2s,baz=49,slow=6.4,SNR=4.2						
SNAA	Sanae	123.52	198	PKPdf	PKPdf	17 56 48.3	-3.3
VNA2	Neumayer--Watz	125.17	198	⇑i	PKPdf	17 56 55.4	+0.7
VNA2	Neumayer--Watz	125.17	198		PKPdf	17 57 05.5	+11
SDV	Santo Domingo	144.73	24	ePKPdf	PKPdf	17 57 27.8	-4.5
ROSC	El Rosal	146.68	33	PKPbc	PKPbc	17 57 35.1	+2.8
	comp=Z,13nm,0.4s,baz=251,slow=23,SNR=8.2						
PLCA	Paso Flores	159.52	149	PKPab	PKPab	17 58 30.1	+1.3
	comp=Z,1.5nm,0.8s,baz=207,slow=4.9,SNR=2.9						
LPAZ	La Paz	166.88	57	PKP	PKPdf	17 57 59.7	-1.1
	comp=Z,1.4nm,0.3s,baz=348,slow=2.6,SNR=6.4						
LPAZ	La Paz	166.88	57	ePKP	PKPdf	17 57 59.6	-1.1

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*NNC **20** 17:39:19.2±1.6, 44.14N×81.59E, mpv3.8, Error ellipse: s-maj=16.1km s-min=11.3km az=146.0*

*IDC **20** 17:39:20.9±2.2, 44.26N×81.63E, mb4.1/3, mb1 4.1/7, mb1mx3.8/21, ML3.8/4, MS4.4/2, Ms1 4.4/2, ms1mx3.6/25, Error ellipse: s-maj=29.1km s-min=19.9km az=138.0*

*MOS **20** 17:39:25.4±1.9, 44.66N×81.44E, $h15^{km}$, mb4.5/4, Error ellipse: s-maj=24.7km s-min=14.7km az=68.2*

*NEIC **20** 17:39:30.4±1.2, 44.58N×81.84E, $h72^{km}\pm12^{km}$, mb4.7/2, Error ellipse: s-maj=15.1km s-min=11.8km az=172.0*

ISC 20 17:39:28.3±1.1**, 44.51N**±0.08×**81.7E**±0.1**,** $h70^{km}\pm11^{km}$**, n35,** $\sigma 1^{s}25$/33**, mb4.3**/5**, 5C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.32	10	⇑Pn	P	17 40 06.6	+1.5
	13nm,0.3s,baz=190,slow=14,SNR=1596						
MK31				⇑Pg	P	17 40 17.0	+12
	36nm,0.5s,baz=174,slow=13,SNR=9.7						
MK31				Lg		17 40 44.0	
	214nm,0.6s,baz=187,slow=29,SNR=27						
MKAR	Makanchi Array	2.32	10	Pn	P	17 40 06.3	+1.3
	9.1nm,0.3s,baz=189,slow=14,SNR=159						
MKAR				Lg		17 40 43.7	
	74nm,0.3s,baz=188,slow=28,SNR=11						
AAA	Alma-Ata	3.67	252	ePN	P	17 40 22.5	-1.4
AAA				e		17 41 14.0	
AAA				pmax	pmax		
	comp=Z,120nm,0.4s						
AAA				smax			
	comp=N,600nm,0.7s						
AAA				smax			
	comp=E,480nm,0.7s						
FRU	Bishkek	5.42	254	ePN	P	17 40 47.5	-0.7
FRU				eS	S	17 42 06.5	+17
FRU				pmax	pmax		
	comp=Z,80nm,1.2s						
FRU				smax			
	comp=E,200nm,1.4s						
FRU				MLR	MLR		
	comp=Z,14µm,14.0s						
AAK	Ala-Archa	5.58	253	Pn	P	17 40 52.6	+2.2
	comp=Z,2.6nm,0.6s						
AAK				eSn	S	17 42 09.2	+15
KURK	Kurchatov	6.55	342	⇓Pn	P	17 41 02.4	-1.6
	comp=Z,5.7nm,1.0s,baz=177,slow=14,SNR=40						
KURK				⇑Lg		17 42 56.2	
	comp=Z,66nm,1.1s,baz=169,slow=16,SNR=3.5						
KURK	Kurchatov	6.55	342	ePn	P	17 41 01.3	-2.7
	comp=Z,6.5nm,0.4s						
KURK				eSn		17 42 53.7	
KK31	Karatay Array	8.23	264	Lg		17 43 31.9	
	comp=Z,22nm,0.6s,baz=75,slow=26,SNR=3.5						
ZAL	Zalesovo	9.65	11	Pn	P	17 41 45.1	-1.2
	comp=Z,5.0nm,0.3s,baz=189,slow=7.3,SNR=38						
ZAL	Zalesovo	9.65	11	P	P	17 41 45.1	-1.3
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.3s						
VOSK	Vostochnaya	10.86	323	⇑Pn	P	17 41 59.0	-3.7
	comp=Z,1.8nm,0.8s						
VOSK				⇓Lg		17 45 07.3	
	comp=Z,27nm,1.3s						
BVAR	Borovoye Array	11.32	323	Pn	P	17 42 05.5	-3.6
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=3.1						
BVAR				Sn	S	17 44 27.5	+13
	comp=Z,0.6nm,0.3s,baz=124,slow=21,SNR=4.3						
BVAR				Lg		17 45 22.1	
	comp=Z,1.2nm,0.3s,baz=132,slow=24,SNR=8.2						
BRVK	Borovoye	11.39	323	⇓Lg		17 45 28.6	
	comp=Z,36nm,1.4s						
ZRNK	Zerenda	11.89	320	⇑Pn	P	17 42 12.3	-4.4
	comp=Z,2.4nm,1.0s						
ZRNK				⇓Lg		17 45 34.9	
	comp=Z,22nm,1.2s						
ZAK	Zakamensk	15.70	60	eP	P	17 43 10.5	+4.3
SONM	Songino Array	17.39	70	P	P	17 43 27.3	-0.1

	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=14						
SONM	Songino Array	17.39	70	P	P	17 43 27.3	-0.1
BOD	Bodaibo	23.95	45	eP	P	17 44 37.1	+0.7
ENH	Enshi	26.09	114	P	P	17 44 56.1	-0.9
	comp=Z,73nm,1.4s,mb4.9						
FINES	FINESS Array B	36.22	318	P	P	17 46 26.3	+0.5
	comp=Z,2.0nm,1.0s,mb4.0,baz=106,slow=10,SNR=4.2						
FINES	FINESS Array B	36.22	318	P	P	17 46 26.3	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	37.45	331	P	P	17 46 36.6	+0.7
	comp=Z,3.8nm,0.9s,mb4.3,baz=96,slow=9.1,SNR=4.1						
ARCES	ARCESS Array B	37.45	331	P	P	17 46 36.6	+0.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TRO	Tromso	39.74	331	AMS	AMS	18 28 44.8	
	comp=Z,451nm,17.6s						
KBS	Kingsbay	42.84	345	eP	P	17 47 18.7	-1.6
KBS				ePP	PP	17 49 00.4	-2.6
KBS				AMS	AMS	18 09 04.0	
	comp=Z,652nm,22.0s						
NB2	NORSAR Subarra	43.41	318	P	P	17 47 25.6	+0.6
	comp=Z,1.4nm,0.5s,mb4.0,baz=79,slow=7.9						
NB2	NORSAR Subarra	43.41	318	P	P	17 47 25.6	+0.6
	baz=79,slow=8.6						
NOA	NORSAR Array B	43.41	318	P	P	17 47 25.9	+0.8
	comp=Z,1.3nm,0.5s,mb3.9,baz=80,slow=8.1,SNR=5.0						
NOA	NORSAR Array B	43.41	318	P	P	17 47 25.9	+0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NAO01	NORSAR Array S	43.60	318	P	P	17 47 26.9	+0.3
	comp=Z,2.0nm,0.3s,mb4.3						
JMIC	Jan Mayen	48.77	334	AMS	AMS	18 30 45.7	
	comp=Z,393nm,17.8s						
BUTP	Butuan	51.87	119	eP	P	17 48 27.7	-3.9
BUTP	Butuan	51.87	119	eP	P	17 48 32.5	+0.9
NEW	Newport	86.14	12	LR	LR	18 30 25.9	
	comp=Z,181nm,19.8s,baz=349,slow=36						
PDAR	Pinedale Array	92.52	8	LR	LR	18 38 47.1	
	comp=Z,168nm,19.7s,baz=342,slow=38						

GUC 20 17:43:19.5±0.9**, 33.14S×70.30W, h5^{km}±3^{km}, MD3.5, ML1.9, 4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.19	179	⇑iP	Pg	17 43 24.1	+0.7
FCH				iS	Sg	17 43 27.2	+1.3
DSCH	Colegio Aleman	0.34	222	iP	Pg	17 43 27.7	+1.3
DSCH				iS	Sg	17 43 33.4	+2.3
DSCH				AMP		17 43 34.0	
	comp=N,440nm,0.5s						
DSCH				AMP		17 43 37.3	
	comp=E,306nm,0.6s						
PCH	Pirque	0.51	201	⇑iP	Pg	17 43 30.4	+0.7
PCH				eS	Sg	17 43 38.0	+1.4
JACH	Jahuel	0.52	331	⇑iP	Pg	17 43 30.7	+0.8
JACH				iS	Sg	17 43 38.0	+1.0
LMEL	Las Melosas	0.71	174	⇓iP	Pg	17 43 33.5	-0.2
LMEL				iS	Sg	17 43 43.5	+0.4
LMEL				AMP		17 43 44.0	
	comp=N,100nm,0.2s						
LMEL				AMP		17 43 44.5	
	comp=E,61nm,0.1s						
TACH	Talagante	0.74	226	iP	Pg	17 43 34.5	+0.1
TACH				eS	Sg	17 43 45.1	+0.9
CHCH	Chadas Angostu	0.84	201	eP	Pb	17 43 36.3	0.0
CHCH				iS	Sg	17 43 48.4	+0.7
LCCH	Las Cruces	1.12	252	eP	Pb	17 43 40.1	-0.8
LCCH				iS	Sb	17 43 55.8	+0.2
CICH	Cipreses	1.18	185	⇑iP	Pb	17 43 42.1	+0.1
CICH				iS	Sb	17 43 58.0	+0.5

BJI ***20*** *18:01:32.8, 14.70N×54.60E, h10^{km}, mb4.8*

IDC ***20*** *18:01:32.7±0.9, 14.69N×54.70E, mb4.1/14, mb1 4.2/14, mb1mx4.1/20, MS3.8/2, Ms1 3.8/2, ms1mx3.1/29, Error ellipse: s-maj=26.4km s-min=17.6km az=44.0*

NEIC ***20*** *18:01:33.8±0.5, 14.73N×54.59E, h10^{km}, mb4.6/7, Error ellipse: s-maj=15.7km s-min=13.1km az=44.0*

ISC 20 18:01:31.8±0.6**, 14.7N**±0.1×**54.47E**±0.09**, h10^{km}, n33, σ1^{s}37**/31**, mb4.2**/22**, MS3.8**/2**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	23.21	229	eP	P	18 06 43.2	+3.1
	7.4nm,1.3s,mb4.0						
ASF	Jabal al Asfar	23.63	320	P	P	18 06 48.0	+3.9
	9.1nm,1.2s,mb4.1,baz=153,slow=4.5,SNR=5.2						
MKAR	Makanchi Array	39.51	30	P	P	18 09 04.8	+0.5
	1.8nm,0.8s,mb3.8,baz=214,slow=8.1,SNR=11						
MKAR				LR	LR	18 26 33.9	
	comp=Z,146nm,21.0s,MS3.8,baz=138,slow=38						
BVAR	Borovoye Array	40.23	15	P	P	18 09 10.8	+0.6
	4.6nm,1.1s,mb4.1,baz=198,slow=9.4,SNR=9.0						
BVAR				PcP	PcP	18 11 15.4	+0.6
	2.2nm,1.1s,baz=180,slow=4.4,SNR=5.9						
BRVK	Borovoye	40.23	15	eP	P	18 09 10.4	+0.2
	2.8nm,0.8s,mb4.0						
AKASG	Malin Array Be	41.27	336	P	P	18 09 20.6	+1.8
	0.7nm,0.6s,mb3.5,baz=142,slow=7.6,SNR=14						
CMAR	Chiang Mai Arr	42.70	79	P	P	18 09 31.2	+0.3
	1.8nm,0.9s,mb3.8,baz=278,slow=8.7,SNR=11						
VYHS	Vyhne	44.62	327	eP	P	18 09 48.0	+1.9
ZAL	Zalesovo	45.76	25	P	P	18 09 55.5	+0.4
	0.8nm,0.5s,mb3.9,baz=176,slow=8.6,SNR=6.5						
ZAL				LR	LR	18 29 26.9	
	comp=Z,98nm,19.7s,MS3.8,baz=30,slow=37						
ZAL	Zalesovo	45.76	25	P	P	18 09 55.5	+0.3
ZAL				LR	LR	18 29 26.9	
MORC	Moravsky Berou	46.06	327	eP	P	18 09 58.6	+1.1
	11nm,1.3s,mb4.6						
GTA	Gaotai	46.63	49	eP	P	18 10 03.3	+1.1
GTA				AP	pP	18 10 09.0	+3.8
GTA				XP	sP	18 10 12.3	+5.8
GERES	GERESS Array B	47.64	324	P	P	18 10 11.9	+1.9
	1.2nm,1.1s,mb3.9,baz=135,slow=9.4,SNR=6.4						
KHC	Kasperske Hory	47.86	325	eP	P	18 10 12.5	+0.8
MBDF	Montbardon	50.10	317	eP	P	18 10 27.0	-2.1
	12nm,0.9s,mb4.6						
LPG	La Plagne	50.40	318	eP	P	18 10 29.2	-2.1
	30nm,1.3s,mb4.9						
LPL	La Plagne	50.42	318	eP	P	18 10 29.9	-1.6
FINES	FINESS Array B	50.90	343	P	P	18 10 35.7	+0.8
	6.5nm,1.0s,mb4.5,baz=169,slow=9.7,SNR=7.1						
CABF	La Chapelle	51.24	319	eP	P	18 10 36.1	-1.6
LOR	Lormes	52.90	319	eP	P	18 10 48.0	-2.2
	51nm,1.5s,mb4.9						
SSF	Saint Saulge	53.06	318	eP	P	18 10 48.7	-2.7
	46nm,1.5s,mb4.9						
AVF	Avril sur Loir	53.06	318	eP	P	18 10 49.1	-2.3
SONM	Songino Array	53.93	41	P	P	18 10 56.9	-0.9
	1.3nm,1.0s,mb3.8,baz=231,slow=7.9,SNR=6.3						
ESDC	Sonseca Array	56.52	308	P	P	18 11 17.9	+1.2
	0.2nm,0.4s,mb3.5,baz=67,slow=6.9,SNR=5.9						
ARCES	ARCESS Array B	57.70	348	P	P	18 11 24.9	+0.2
	1.4nm,0.5s,mb4.2,baz=143,slow=6.1,SNR=13						
CN2	Changchun	66.25	48	eP	P	18 12 22.0	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MAW	Mawson	82.34	177	P	P	18 13 56.4	+1.7
	comp=Z,1.3nm,0.7s,mb4.0,baz=342,slow=6.4,SNR=2.6						
WRA	Warramunga Arr	85.73	112	P	P	18 14 12.1	-0.9
	comp=Z,3.0nm,0.8s,mb4.6,baz=296,slow=3.9,SNR=15						
WB2	Warramunga Arr	85.74	112	eP	P	18 14 12.0	-1.1
ASPA	Alice Springs	86.45	115	eP	P	18 14 16.2	-0.3
ASAR	Alice Springs	86.46	115	P	P	18 14 15.9	-0.6
	comp=Z,2.9nm,0.7s,mb4.6,baz=290,slow=4.6,SNR=39						
NVAR	Mina Array Bea	126.69	353	PKP	PKPdf	18 20 39.9	+0.9
	comp=Z,1.4nm,0.8s,baz=66,slow=1.3,SNR=11						
TXAR	Lajitas Array	131.37	334	PKP	PKPdf	18 20 49.0	+0.6
	comp=Z,0.4nm,0.3s,baz=35,slow=2.2,SNR=3.8						

FUNV ***20*** *18:06:48.3, 10.82N×62.30W, h73^{km}, MW2.9*

TRN ***20*** *18:06:50.8, 10.82N×62.25W, h79^{km}, MD3.4*

ISC 20 18:06:47.7±0.8**, 10.74N**±0.05×**62.43W**±0.03**, h81^{km}**±8^{km}**, n12, σ1^{s}05**/22**, 2C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.22	114	⇑iP	P	18 06 59.7	0.0
GUIV				eS	S	18 07 07.1	-1.7
GUNV	Guanoco	0.76	221	⇑iP	P	18 07 06.4	+2.1
GUNV				eS	S	18 07 17.9	+1.2
CRUV	Carupano	0.80	265	⇓iP	P	18 07 05.7	+1.0
CRUV				eS	S	18 07 17.9	+0.6
ITEV	Isla Los Testi	0.92	312	⇓iP	P	18 07 05.4	-0.7
ITEV				eS	S	18 07 19.4	-0.5
TRN	Trinidad (W)	1.01	95	eP	P	18 07 08.2	+1.0
TRN				eS	S	18 07 20.4	-1.4
TPP	Pointe-a-Pierr	1.05	113	eP	P	18 07 09.5	+1.9
TPP				eS	S	18 07 23.1	+0.5
TBH	Brigand Hill	1.36	101	eP	P	18 07 12.7	+0.9
TBH				eS	S	18 07 28.7	-0.9
GRW	Mount Saint Ca	1.60	28	eP	P	18 07 15.1	+0.2
GRW				eS	S	18 07 34.5	-0.4
PCRV	Puerto La Cruz	2.24	256	eP	P	18 07 24.0	+0.4
GURV	El Guri	3.03	192	eP	P	18 07 34.2	-0.3
GURV				eS	S	18 08 08.2	-1.7
CUPV	Cœpira	3.37	259	eS	S	18 08 18.1	-0.3
MERV	Las Mercedes	4.09	249	eP	P	18 07 49.2	0.0
MERV				eS	S	18 08 34.4	-1.7

IDC ***20*** *18:50:11.1±1.1, 24.72N×125.18E, mb3.5/4, mb1 3.6/5, mb1mx3.4/19, ML2.7/1, Error ellipse: s-maj=30.9km s-min=24.0km az=74.0*

NEIC ***20*** *18:50:14.5±0.7, 24.76N×125.24E, h25^{km}, mb4.0/1, Error ellipse: s-maj=16.4km s-min=16.0km az=177.0*

JMA ***20*** *18:50:16.5, 24.83N×125.40E, h50^{km}±1^{km}, M3.3*

JMA Felt I J1.

ISC 20 18:50:16.0±0.5**, 24.84N**±0.09×**125.43E**±0.06**, h54^{km}**±4^{km}**, n21, σ0^{s}94**/30**, mb3.6**/5**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.09	193	P	P	18 50 24.1	0.0
JOGS				S	S	18 50 29.8	-0.4
JMJ	Miyako jima 2	0.13	257	P	P	18 50 24.2	-0.1
JMJ				S	S	18 50 29.7	-0.7
JTJ	Tarama	0.69	253	P	P	18 50 30.0	+0.2
JTJ				S	S	18 50 39.5	-0.6
JIJ	Ishigaki jima	1.26	248	P	P	18 50 37.8	+0.1
JIJ				S	S	18 50 53.2	-0.7
JKRS	Kuro-shima	1.43	245	P	P	18 50 40.5	+0.4
JKRS				eS	S	18 51 00.0	+2.1
IRIF	Iriomote-Funau	1.63	252	P	P	18 50 42.5	-0.3
IRIF				eS	S	18 51 02.5	-0.2
HATJ	Hateruma jima	1.67	242	P	P	18 50 45.4	+1.9
HATJ				eS	S	18 51 04.7	+0.9
JKE	Kume jima 2	1.92	39	P	P	18 50 48.1	+1.2
YOJ	Yonaguni jima	2.23	261	P	P	18 50 50.8	-0.5
YOJ				eS	S	18 51 16.9	-0.8
JAGN	Aguni-jima	2.39	43	P	P	18 50 54.4	+0.9
JIH	Iheya	3.16	46	P	P	18 51 05.7	+1.2
JOW	Kunigami	3.24	52	Pn	P	18 51 06.2	+0.5
	1.3nm,0.3s,baz=205,slow=14,SNR=7.7						
JOW				Sn	S	18 51 51.0	+7.8
	3.3nm,0.3s,baz=131,slow=20,SNR=3.4						
JOW	Kunigami	3.24	52	P	P	18 51 05.8	+0.2
JTK	Tokunoshima	4.31	46	P	P	18 51 19.8	-0.9
JAM	Amami Oshima	5.16	46	P	P	18 51 31.5	-1.0
JMZ	Minamidaito 2	5.33	78	P	P	18 51 31.5	-3.4
LSA	Lhasa	30.78	287	P	P	18 56 26.8	-1.9
	1.4nm,0.6s,mb4.0						
MKAR	Makanchi Array	40.62	314	P	P	18 57 51.6	-0.4
	0.4nm,0.4s,mb3.4,baz=100,slow=9.6,SNR=8.1						
WRA	Warramunga Arr	45.35	168	P	P	18 58 30.0	-0.9
	0.8nm,1.1s,mb3.5,baz=348,slow=8.7,SNR=4.7						
ASAR	Alice Springs	48.92	170	P	P	18 58 58.7	-0.1
	0.3nm,0.8s,mb3.4,baz=353,slow=7.3,SNR=6.6						
BRTR	Keskin Array B	75.87	307	P	P	19 01 59.6	+1.2
	0.8nm,0.8s,mb3.7,baz=76,slow=5.9,SNR=3.7						

IDC ***20*** *18:52:04.6±0.8, 62.68N×25.80W, mb3.9/15, mb1 4.1/17, mb1mx4.0/26, ML3.7/2, MS3.8/18, Ms1 3.8/18, ms1mx3.7/37, Error ellipse: s-maj=25.0km s-min=13.0km az=8.0*

ZUR_RM ***20*** *18:52:05, 62.49N×25.76W, h12^{km}, Mw4.7/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.14; $M_{\phi\phi}$0.94; $M_{r\theta}$0.47; $M_{\theta\phi}$0.27; $M_{\phi r}$-0.28; Best double couple: $M_0$1.17×10^{16} NP1:ϕ_s356°, δ53°, λ-117°. NP2:ϕ_s216°, δ45°, λ-59°. Principal axes: T 1.034, Plg4°, Azm104°; N .266, Plg21°, Azm13°; P -1.3, Plg68°, Azm205°;*

NEIC ***20*** *18:52:05.4±0.2, 62.49N×25.76W, h10^{km}, mb4.5/24 Error ellipse: s-maj=7.9km s-min=3.7km az=27.0*

ISC 20 18:52:03.5±0.3**, 62.46N**±0.07×**25.79W**±0.10**, h10^{km}, n67, σ1^{s}03**/61**, mb4.2**/36**, MS3.8**/14**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	3.04	39	Pn	Pn	18 52 49.5	-3.1
	21nm,0.3s,baz=223,slow=8.0,SNR=94						
BORG				Sn	Sn	18 53 35.7	+6.3
	4.7nm,0.3s,baz=123,slow=19,SNR=3.9						
BORG	Borgarnes	3.04	39	ePn	Pn	18 52 49.7	-2.9
BORG				Sn	Sn	18 53 35.7	+6.3
JMIC	Jan Mayen	10.90	31	LR	LR	18 57 59.6	
	comp=Z,303nm,18.8s,baz=286,slow=33						
SUMG	Summit	11.22	340	eP	P	18 54 44.9	-1.8
	14nm,1.0s						
EKA	Eskdalemuir Ar	13.65	111	Pn	P	18 55 18.2	-1.0
	0.1nm,0.3s,baz=311,slow=13,SNR=3.8						
NOA	NORSAR Array B	17.42	78	LR	LR	19 02 14.8	
	comp=Z,272nm,18.5s,baz=290,slow=35						
ROSF	Rostrenen	18.92	128	eP	P	18 56 22.8	-3.6
FRB	Frobisher Bay	19.12	293	LR	LR	19 03 07.2	
	comp=Z,626nm,19.3s,baz=164,slow=35						
SGMF	Saint Gilles	19.25	127	eP	P	18 56 28.1	-2.2
QUIF	Quistinic	19.31	128	eP	P	18 56 30.1	-0.9
	393nm,1.8s						
FLN	La Foliniere	19.63	123	eP	P	18 56 33.1	-1.6
	24nm,0.9s						
FLN				eR			
	669nm,18.2s						
LDF	La Druitiere	19.90	122	eP	P	18 56 36.0	-1.7
	136nm,1.6s						
BAIF	Baives	20.54	113	eP	P	18 56 44.7	+0.3
ARCES	ARCESS Array B	21.40	49	P	P	18 56 52.2	-0.8
	3.4nm,0.9s,mb3.7,baz=349,slow=6.2,SNR=4.6						
ARCES				LR	LR	19 03 33.9	
	comp=Z,291nm,20.0s,MS3.7,baz=270,slow=32						
MFF	Saint Martin d	21.53	126	eP	P	18 56 53.7	-0.9
	121nm,1.6s,mb4.8						
MEZF	Maizieres J'vi	22.09	115	eP	P	18 57 01.1	+1.0
SCHQ	Schefferville	22.33	269	P	P	18 57 03.4	+0.9
	7.1nm,1.1s,mb4.0,baz=44,slow=11,SNR=4.0						
SCHQ				LR	LR	19 04 33.1	
	comp=Z,204nm,19.9s,MS3.5,baz=297,slow=34						
LOR	Lormes	22.57	119	eP	P	18 57 04.1	-0.6
	23nm,1.0s,mb4.3						
LOR				eR			
	644nm,19.8s						
SSF	Saint Saulge	22.59	119	eP	P	18 57 05.5	+0.6
	43nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	22.70	122	eP	P	18 57 05.8	-0.3
	71nm,1.5s,mb4.6						
BGF	Bois d'Agland	22.73	121	eP	P	18 57 06.9	+0.5
	110nm,1.4s,mb4.8						
AVF	Avril sur Loir	22.74	120	eP	P	18 57 06.1	-0.4
	39nm,1.3s,mb4.4						
HAU	Haudompre	23.02	114	eP	P	18 57 09.5	+0.3
HAU				eR			
	265nm,22.2s						
SMF	Signal de Mont	23.06	120	eP	P	18 57 09.5	-0.1
CDF	Champ du Feu	23.11	112	eP	P	18 57 10.6	+0.6
LFF	La Frestale	23.27	127	eP	P	18 57 11.0	-0.6
HINF	Hinteralfeld	23.38	114	eP	P	18 57 13.4	+0.7
	8.2nm,0.7s,mb4.0						
CLL	Collm	23.56	100	P	P	18 57 15.0	+0.6
	logA/T=1.3,mb4.5						
CLL	Collm	23.56	100	eP	P	18 57 15.0	+0.6
	37nm,1.9s,mb4.5						
FINES	FINESS Array B	23.88	69	P	P	18 57 18.6	+1.2
	2.4nm,0.8s,mb3.6,baz=295,slow=9.2,SNR=3.4						
FINES				LR	LR	19 05 51.2	
	comp=Z,140nm,19.5s,MS3.4,baz=154,slow=35						
GRA1	Grafenberg Arr	23.89	105	eP	P	18 57 18.8	+1.2
	15nm,2.0s,mb4.1						
BRG	Berggiesshubel	24.29	100	eP	P	18 57 25.0	+3.5
	3.2nm,0.8s,mb3.8						
LPL	La Plagne	25.16	117	eP	P	18 57 31.4	+1.5
LPG	La Plagne	25.18	117	eP	P	18 57 31.8	+1.7
	14nm,1.0s,mb4.1						
KHC	Kasperske Hory	25.36	103	eP	P	18 57 31.0	-0.7
ESDC	Sonseca Array	26.36	140	P	P	18 57 44.8	+3.6
	0.2nm,0.3s,mb3.1,baz=339,slow=9.7,SNR=6.3						
ESDC				LR	LR	19 07 00.3	
	comp=Z,99nm,18.7s,MS3.4,baz=60,slow=34						
AKASG	Malin Array Be	31.48	86	P	P	18 58 28.4	+1.3
	0.2nm,0.4s,mb3.3,baz=312,slow=8.6,SNR=6.4						
SADO	Sadowa	35.01	265	LR	LR	19 11 47.6	
	comp=Z,328nm,19.2s,MS4.1,baz=72,slow=34						
YKA	Yellowknife Ar	37.94	311	P	P	18 59 22.8	+0.5
	1.2nm,0.7s,mb3.7,baz=48,slow=8.6,SNR=7.2						
YKA				LR	LR	19 14 21.9	
	comp=Z,249nm,19.1s,MS4.0,baz=35,slow=35						
ULM	Lac du Bonnet	38.69	285	P	P	18 59 29.5	+0.8
	3.4nm,0.8s,mb4.1,baz=114,slow=6.3,SNR=3.1						
ULM	Lac du Bonnet	38.69	285	P	P	18 59 29.5	+0.8
INK	Inuvik	39.71	326	P	P	18 59 37.4	+0.4
	1.8nm,0.7s,mb3.9,baz=42,slow=9.5,SNR=4.9						
INK				LR	LR	19 16 13.3	
	comp=Z,162nm,20.9s,MS3.8,baz=97,slow=37						
BRTR	Keskin Array B	41.76	94	P	P	18 59 54.9	+0.8
	4.1nm,1.1s,mb4.0,baz=304,slow=4.5,SNR=7.4						
BRTR				LR	LR	19 19 28.7	
	comp=Z,61nm,19.4s,MS3.5,baz=15,slow=39						
ILAR	Eielson Array	45.81	329	P	P	19 00 25.7	-0.7
	1.0nm,0.7s,mb3.8,baz=33,slow=6.6,SNR=12						
ILAR				LR	LR	19 21 01.0	
	comp=Z,72nm,18.2s,MS3.7,baz=57,slow=38						
DLBC	Dease Lake	46.14	315	LR	LR	19 19 37.0	
	comp=Z,186nm,19.9s,MS4.0,baz=301,slow=36						
BRVK	Borovoye	47.45	55	P	P	19 00 40.1	+0.6
	1.8nm,0.5s,mb4.3						
BVAR	Borovoye Array	47.52	55	P	P	19 00 40.9	+0.8
	2.2nm,0.8s,mb4.2,baz=323,slow=7.2,SNR=9.0						
BVAR				LR	LR	19 20 15.6	
	comp=Z,4.0nm,18.6s,baz=285,slow=36						
BOZ	Bozeman (W)	49.10	292	eP	P	19 00 53.1	+0.6
	15nm,1.5s,mb4.8						
NEW	Newport	49.34	298	LR	LR	19 21 31.6	
	comp=Z,198nm,19.6s,MS4.1,baz=229,slow=36						
MCMT	McKenzie Canyo	50.28	292	eP	P	19 01 02.8	+1.3
PDAR	Pinedale Array	50.49	288	P	P	19 01 02.1	-1.1
	2.8nm,0.8s,mb4.3,baz=52,slow=7.7,SNR=10						
PDAR				LR	LR	19 21 44.8	
	comp=Z,103nm,18.4s,MS3.9,baz=81,slow=35						
PDAR	Pinedale Array	50.49	288	P	P	19 01 02.1	-1.1
PDAR				LR	LR	19 21 44.8	
HLID	Hailey	51.97	293	P	P	19 01 13.5	-0.8
	1.0nm,0.6s,mb3.9						
WMOK	Wichita Mounta	52.10	274	eP	P	19 01 14.5	-1.0
	4.6nm,1.1s,mb4.3						
KURK	Kurchatov	52.42	51	eP	P	19 01 17.2	-0.4
	4.7nm,1.3s,mb4.3						
DUG	Dugway	54.01	289	eP	P	19 01 32.0	+2.5
	10.0nm,1.6s,mb4.5						
ELK	Elko	54.62	291	eP	P	19 01 34.2	+0.3
	15nm,1.8s,mb4.7						
WVOR	Wild Horse Val	54.68	295	P	P	19 01 33.7	-0.8
	2.0nm,0.8s,mb4.2						
JCT	Junction City	56.12	272	eP	P	19 01 44.0	-1.1
	9.1nm,0.9s,mb4.8						
LAZ	Ladron	56.24	280	eP	P	19 01 46.1	+0.3
GDL2	Guadalupe Moun	56.80	277	eP	P	19 01 49.4	-0.4
MKAR	Makanchi Array	57.03	51	P	P	19 01 50.5	-0.8
	0.8nm,0.7s,mb3.9,baz=346,slow=5.0,SNR=6.7						
MKAR				LR	LR	19 26 06.9	
	comp=Z,68nm,18.1s,MS3.8,baz=90,slow=36						
AAK	Ala-Archa	57.57	59	eP	P	19 01 55.2	0.0
	17nm,1.5s,mb4.8						
NVAR	Mina Array Bea	57.86	292	P	P	19 01 57.1	-0.1
	0.9nm,0.9s,mb3.8,baz=62,slow=6.7,SNR=5.9						
NVAR				LR	LR	19 26 27.5	
	comp=Z,362nm,19.2s,MS4.5,baz=45,slow=36						
CMAR	Chiang Mai Arr	88.44	51	P	P	19 04 56.9	+0.1
	0.5nm,0.7s,mb3.8,baz=333,slow=4.0,SNR=3.5						
ASAR	Alice Springs	138.86	29	PKP	PKPdf	19 11 32.4	-0.4
	0.4nm,0.7s,baz=355,slow=2.2,SNR=6.6						
MAW	Mawson	144.46	139	PKP	PKPdf	19 11 38.6	-2.5
	1.7nm,0.7s,baz=321,slow=6.3,SNR=4.4						

TAP ***20*** *18:53:39.3, 24.63N×122.43E, h17^{km}±1^{km}, ML2.2*

JMA 20 18:53:39.1±0.1**, 24.68N×122.33E, h27^{km}, M1.6, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.66	109	P	Pb	18 53 51.7	-0.2
YOJ				eS	Sb	18 54 00.6	-0.1
IRIF	Iriomote-Funau	1.32	105	P	Pn	18 54 02.1	0.0
IRIF				eS	Sn	18 54 19.8	+0.9
JKRS	Kuro-shima	1.59	106	P	Pn	18 54 06.3	+0.3
JKRS				eS	Sn	18 54 25.6	-0.2
JIJ	Ishigaki jima	1.68	100	P	Pn	18 54 07.6	+0.4
JIJ				eS	Sn	18 54 28.4	+0.3

IDC ***20*** *18:55:30.2±0.8, 62.50N×25.97W, mb3.9/15, mb1 4.1/17, mb1mx4.0/26, ML3.6/2, Error ellipse: s-maj=25.2km s-min=13.8km az=14.0*

NEIC ***20*** *18:55:31.0±0.2, 62.34N×25.78W, h10^{km}, mb4.4/22, Error ellipse: s-maj=8.2km s-min=4.1km az=26.0*

ISC 20 18:55:29.0±0.3**, 62.30N**±0.07×**25.84W**±0.10**, h10^{km}, n55, σ0^{s}96**/54**, mb4.2**/34**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	3.18	38	Pn	Pn	18 56 16.4	-3.7
	42nm,0.3s,baz=220,slow=8.8,SNR=21						
BORG				Sn	Sn	18 57 05.7	+7.1
	baz=92,slow=9.6,SNR=1.7						
BORG	Borgarnes	3.18	38	ePn	Pn	18 56 16.2	-3.9
BORG				Sn	Sn	18 57 05.7	+7.1
SUMG	Summit	11.36	340	ePn	P	18 58 12.5	-1.7
	15nm,0.9s						
EKA	Eskdalemuir Ar	13.61	111	Pn	P	18 58 44.1	-0.2
	0.1nm,0.3s,baz=324,slow=17,SNR=2.5						
GRR	Gorron	19.72	123	eP	P	18 59 59.1	-2.1
	48nm,1.2s						
LDF	La Druitiere	19.84	122	eP	P	19 00 00.6	-2.0
	63nm,1.3s						
BAIF	Baives	20.50	113	eP	P	19 00 09.5	-0.1
	95nm,1.7s						
MFF	Saint Martin d	21.46	125	eP	P	19 00 18.1	-1.3
	107nm,1.6s,mb4.6						
ARCES	ARCESS Array B	21.52	48	P	P	19 00 20.2	+0.4
	4.4nm,0.8s,mb3.9,baz=292,slow=9.7,SNR=4.2						
MEZF	Maizieres J'vi	22.04	115	eP	P	19 00 25.6	+0.4
	57nm,1.3s,mb4.5						
LOR	Lormes	22.51	118	eP	P	19 00 29.1	-0.6
	32nm,1.2s,mb4.3						
SSF	Saint Saulge	22.53	119	eP	P	19 00 30.0	+0.1
	38nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	22.64	122	eP	P	19 00 30.7	-0.3
	27nm,1.2s,mb4.2						
BGF	Bois d'Agland	22.67	121	eP	P	19 00 31.5	+0.2
	27nm,0.8s,mb4.4						
AVF	Avril sur Loir	22.69	120	eP	P	19 00 30.2	-1.3
	28nm,1.1s,mb4.3						
HAU	Haudompre	22.98	114	eP	P	19 00 34.1	-0.2
	12nm,0.8s,mb4.1						
SMF	Signal de Mont	23.00	119	eP	P	19 00 33.8	-0.8
	43nm,1.2s,mb4.5						
CDF	Champ du Feu	23.07	112	eP	P	19 00 35.5	+0.3
RJF	Les Rejaudoux	23.18	125	eP	P	19 00 36.1	-0.2
	47nm,1.3s,mb4.5						
HINF	Hinteralfeld	23.34	113	eP	P	19 00 38.0	+0.2
CLL	Collm	23.55	100	P	P	19 00 40.0	+0.1
CLL				i		19 00 46.1	
CLL				e		19 00 57.0	
CLL				ePP	PP	19 01 11.0	-1.1
FINES	FINESS Array B	23.96	69	P	P	19 00 44.3	+0.6
	2.2nm,0.8s,mb3.6,baz=278,slow=9.8,SNR=3.9						
BRG	Berggiesshubel	24.29	100	P	P	19 00 47.7	+0.7
	7.5nm,1.2s,mb4.0						
KHC	Kasperske Hory	25.35	103	eP	P	19 00 59.0	+1.8
GERES	GERESS Array B	25.61	103	P	P	19 01 01.6	+2.0
	0.7nm,0.9s,mb3.2,baz=310,slow=10,SNR=3.5						
ESDC	Sonseca Array	26.25	139	P	P	19 01 09.5	+3.7
	0.2nm,0.3s,mb3.1,baz=333,slow=9.9,SNR=18						
YKA	Yellowknife Ar	38.03	311	P	P	19 02 47.7	-0.8
	1.7nm,0.9s,mb3.8,baz=49,slow=8.6,SNR=7.5						
YKA				PcP	PcP	19 05 04.7	+0.2
	0.8nm,0.8s,slow=1.9,SNR=4.3						
YKA	Yellowknife Ar	38.03	311	P	P	19 02 47.7	-0.8

YKA				PcP	PcP	19 05 04.7	+0.2
INK	Inuvik	39.83	326	P	P	19 03 01.9	-1.7
	2.9nm,1.0s,mb4.0,baz=66,slow=10,SNR=3.3						
ELN	Prospectdale	41.67	259	P	P	19 03 20.7	+1.8
BRTR	Keskin Array B	41.77	94	P	P	19 03 20.1	+0.4
	0.6nm,0.4s,mb3.5,baz=315,slow=6.1,SNR=4.1						
CPCT	Cooper Cave	44.86	261	eP	P	19 03 46.2	+1.3
ILAR	Eielson Array	45.93	329	P	P	19 03 52.4	-0.5
	2.4nm,0.9s,mb4.1,baz=29,slow=7.0,SNR=12						
ILAR				PcP	PcP	19 05 28.8	-1.6
	0.9nm,0.8s,baz=34,slow=3.3,SNR=6.0						
COLA	College	46.07	330	eP	P	19 03 53.1	-0.9
	5.2nm,0.7s,mb4.6						
BRVK	Borovoye	47.56	54	P	P	19 04 06.3	+0.4
	3.0nm,1.0s,mb4.3						
BVAR	Borovoye Array	47.63	54	P	P	19 04 07.6	+1.1
	2.2nm,0.7s,mb4.3,baz=315,slow=6.3,SNR=12						
BOZ	Bozeman (W)	49.14	292	eP	P	19 04 18.9	+0.6
	7.0nm,1.1s,mb4.6						
PDAR	Pinedale Array	50.52	288	P	P	19 04 28.5	-0.4
	2.6nm,0.9s,mb4.2,baz=53,slow=7.4,SNR=12						
HLID	Hailey	52.00	293	eP	P	19 04 39.7	-0.5
WMOK	Wichita Mounta	52.09	274	eP	P	19 04 41.1	+0.1
	5.6nm,1.1s,mb4.4						
HWUT	Hardware Ranch	52.34	289	eP	P	19 04 42.5	-0.2
	5.2nm,1.1s,mb4.4						
KURK	Kurchatov	52.53	51	eP	P	19 04 44.3	+0.2
	4.0nm,0.9s,mb4.3						
ELK	Elko	54.65	291	eP	P	19 05 00.8	+1.0
	4.4nm,1.2s,mb4.4						
MSU	Marysvale	55.13	287	eP	P	19 05 03.2	-0.2
JCT	Junction City	56.10	272	eP	P	19 05 10.0	-0.4
	7.9nm,0.8s,mb4.8						
LAZ	Ladron	56.24	281	eP	P	19 05 12.0	+0.6
MKAR	Makanchi Array	57.15	51	P	P	19 05 16.9	-0.9
	3.0nm,0.8s,mb4.4,baz=334,slow=5.9,SNR=21						
NVAR	Mina Array Bea	57.89	292	P	P	19 05 23.1	+0.1
	0.2nm,0.5s,mb3.4,baz=58,slow=6.5,SNR=4.9						
TXAR	Lajitas Array	58.87	274	P	P	19 05 29.9	-0.1
	0.2nm,0.2s,mb3.7,baz=72,slow=2.9,SNR=3.5						
TXAR	Lajitas Array	58.87	274	P	P	19 05 29.9	-0.1
SONM	Songino Array	63.79	34	P	P	19 06 03.7	+0.9
	0.8nm,0.8s,mb3.8,baz=338,slow=7.8,SNR=4.3						
CMAR	Chiang Mai Arr	88.56	51	P	P	19 08 25.2	+2.3
	2.0nm,0.8s,mb4.5,baz=319,slow=5.7,SNR=12						
WRA	Warramunga Arr	135.50	27	PKP	PKPdf	19 14 51.3	-1.0
	0.4nm,0.8s,baz=336,slow=2.6,SNR=4.6						
ASAR	Alice Springs	139.01	29	PKP	PKPdf	19 14 58.1	-0.5
	0.6nm,0.7s,baz=348,slow=2.3,SNR=6.8						
MAW	Mawson	144.35	139	PKP	PKPdf	19 15 05.9	-0.6
	4.4nm,1.0s,baz=309,slow=2.1,SNR=8.4						

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*IDC **20** 19:01:54.7±1.8, 62.68N×25.76W, mb3.6/4, mb1 3.8/5, mb1mx3.5/23, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=50.1km s-min=24.9km az=7.0*

*NEIC **20** 19:01:56.2±1.3, 62.85N×26.13W, h10^{km}, Error ellipse: s-maj=25.5km s-min=17.1km az=13.0*

ISC 20 19:01:54.4±1.5**, 63.0N**±0.2×**26.1W**±0.3**, h10^{km}, n9, σ0^{s}.32**/9**, mb3.5**/4**, MS3.0**/1**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	2.75	48	Pn	Pn	19 02 39.8	+0.4
	13nm,0.3s,baz=221,slow=8.1,SNR=44						
BORG				Sn	Sn	19 03 22.1	+9.2
	baz=351,slow=17,SNR=2.7						
BORG	Borgarnes	2.75	48	ePn	Pn	19 02 39.6	+0.2
BORG				Sn	Sn	19 03 22.1	+9.1
SUMG	Summit	10.69	340	eP	P	19 04 30.2	-0.2
	7.2nm,1.0s						
FRB	Frobisher Bay	18.82	291	LR	LR	19 13 06.2	
	comp=Z,115nm,18.6s,baz=329,slow=35						
FINES	FINESS Array B	23.81	70	LR	LR	19 16 00.4	
	comp=Z,44nm,19.0s,MS3.0,baz=7.8,slow=36						
BRTR	Keskin Array B	41.92	95	P	P	19 09 46.1	-0.1
	0.8nm,0.7s,mb3.5,baz=342,slow=9.1,SNR=3.2						
ILAR	Eielson Array	45.30	329	P	P	19 10 17.8	+4.5
	0.4nm,1.0s,mb3.2,baz=27,slow=4.0,SNR=4.0						
PDAR	Pinedale Array	50.22	288	P	P	19 10 52.2	+0.2
	0.6nm,0.7s,mb3.8,baz=63,slow=6.6,SNR=5.2						
MKAR	Makanchi Array	56.80	51	P	P	19 11 40.4	-0.2
	0.6nm,0.7s,mb3.7,baz=333,slow=5.4,SNR=6.0						

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*IDC **20** 19:17:16.7±1.7, 62.66N×25.87W, mb3.7/5, mb1 4.0/7, mb1mx3.7/25, ML3.9/2, Error ellipse: s-maj=52.2km s-min=21.4km az=1.0*

*NEIC **20** 19:17:17.8±0.9, 62.46N×25.81W, h10^{km}, mb3.9/2, Error ellipse: s-maj=26.7km s-min=13.7km az=180.0*

ISC 20 19:17:16.4±0.9**, 62.7N**±0.2×**26.0W**±0.2**, h10^{km}, n12, σ0^{s}.92**/11**, mb3.8**/7**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	2.88	43	Pn	Pn	19 18 03.0	-0.3
	15nm,0.3s,baz=214,slow=8.8,SNR=77						
BORG	Borgarnes	2.88	43	ePn	Pn	19 18 02.9	-0.4
FRB	Frobisher Bay	18.95	292	P	P	19 21 39.0	-0.7
	0.4nm,0.3s,baz=17,slow=5.3,SNR=3.4						
STU	Stuttgart	23.83	109	P	P	19 22 30.2	+0.3
BRTR	Keskin Array B	41.86	95	P	P	19 25 08.0	+0.2
	1.3nm,0.9s,mb3.6,baz=307,slow=6.2,SNR=4.2						
ILAR	Eielson Array	45.53	329	P	P	19 25 39.2	+2.0
	0.5nm,0.8s,mb3.5,baz=25,slow=6.9,SNR=4.1						
BVAR	Borovoye Array	47.41	55	P	P	19 25 53.4	+1.2
	0.7nm,0.7s,mb3.7,baz=307,slow=7.4,SNR=5.5						
PDAR	Pinedale Array	50.34	288	P	P	19 26 14.9	0.0
	1.1nm,0.8s,mb3.9,baz=53,slow=7.4,SNR=8.3						
WMOK	Wichita Mounta	52.02	273	eP	P	19 26 27.5	-0.3
	1.6nm,0.8s,mb4.0						
KURK	Kurchatov	52.30	51	eP	P	19 26 29.2	-0.5
	1.2nm,0.9s,mb3.8						
MKAR	Makanchi Array	56.91	51	P	P	19 27 01.9	-1.6
	0.8nm,0.9s,mb3.7,baz=323,slow=6.1,SNR=4.4						
ASAR	Alice Springs	138.65	29	PKP	PKPdf	19 36 45.0	-0.3
	0.2nm,0.6s,baz=2.1,slow=2.1,SNR=5.0						

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*NIED **20** 19:20:00, 23.80N×123.40E, h35^{km}, Mw4.0 Best double couple: M$_0$1.14×10^{15} NP1:ϕ$_s$60°, δ88°, λ77°. NP2:ϕ$_s$319°, δ13°, λ169°.*

*IDC **20** 19:20:14.3±1.1, 23.91N×123.32E, mb3.7/5, mb1 3.7/6, mb1mx3.6/21, ML2.7/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/31, Error ellipse: s-maj=44.8km s-min=20.2km az=69.0*

*JMA **20** 19:20:18.2±0.2, 23.85N×123.36E, h24^{km}±3^{km}, M3.5*

*NEIC **20** 19:20:18.2±0.7, 23.91N×123.44E, h25^{km}, Error ellipse: s-maj=16.1km s-min=11.8km az=51.0*

ISC 20 19:20:16.9±1.2**, 23.82N**±0.07×**123.32E**±0.04**, h28^{km}**±7^{km}**, n18, σ1^{s}.11**/23**, mb3.6**/5**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.51	62	P	Pb	19 20 27.4	+0.1
HATJ				eS	Sb	19 20 34.1	-0.4
IRIF	Iriomote-Funau	0.64	36	P	Pb	19 20 29.5	0.0
IRIF				eS	Sb	19 20 37.6	-0.5
YOJ	Yonaguni jima	0.70	337	P	Pb	19 20 31.5	+1.0
YOJ				S	Sb	19 20 39.9	+0.1
JKRS	Kuro-shima	0.76	56	P	Pb	19 20 31.7	+0.2
JKRS				eS	Sb	19 20 41.7	+0.2
JIJ	Ishigaki jima	0.93	54	P	Pn	19 20 34.1	-0.2
JIJ				eS	Sb	19 20 45.5	-0.9
JTJ	Tarama	1.51	57	P	Pn	19 20 43.6	+1.1
JTJ				eS	Sn	19 21 03.3	+1.9
TATO	Taipei	2.03	305	ePn	Pn	19 20 51.9	+1.9
TATO				Sn	Sn	19 21 14.1	-0.6
JMJ	Miyako jima 2	2.06	61	P	Pn	19 20 53.4	+3.0
JOGS	Gusukube	2.13	63	P	Pn	19 20 52.5	+1.1
JKE	Kume jima 2	4.02	51	P	Pn	19 21 16.4	-1.9
JOW	Kunigami	5.40	55	Pn	Pn	19 21 35.4	-2.5
	0.5nm,0.3s,baz=242,slow=15,SNR=3.3						
TGY	Tagaytay City	9.92	194	LR	LR	19 26 34.8	
	comp=Z,108nm,18.4s,baz=212,slow=38						
JNU	Nakatsue	11.41	34	LR	LR	19 27 51.2	
	comp=Z,46nm,18.3s,baz=49,slow=40						
SONM	Songino Array	27.50	335	P	P	19 26 01.9	-1.0
	0.5nm,0.8s,mb3.1,baz=166,slow=12,SNR=2.8						
MKAR	Makanchi Array	39.96	315	P	P	19 27 49.8	-0.9
	0.8nm,0.8s,mb3.5,baz=106,slow=10,SNR=4.4						
WRA	Warramunga Arr	44.80	165	P	P	19 28 29.7	-0.8
	0.4nm,0.6s,mb3.5,baz=347,slow=8.7,SNR=5.6						
ASAR	Alice Springs	48.30	167	P	P	19 28 59.1	+1.1
	0.5nm,0.6s,mb3.8,baz=352,slow=15,SNR=14						
STKA	Stephens Creek	58.07	162	P	P	19 30 09.7	-0.6
	1.8nm,0.7s,mb4.2,baz=1.7,slow=5.5,SNR=4.5						

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*BJI **20** 19:26:51.6, 52.02N×177.38W, h43^{km}, mB5.2, mb5.3, Ms4.4, Msz4.3*

*MOS **20** 19:26:52.2±0.8, 51.88N×177.04W, h56^{km}, mb4.7/16, Error ellipse: s-maj=14.6km s-min=9.0km az=101.4*

*HRVD **20** 19:26:53.8±0.4, 51.52N×176.76W, h50^{km}±2^{km}, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s35,c44;Mantle waves: s57,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.97±.20; M$_{\theta\theta}$-2.38±.18; M$_{\phi\phi}$-0.59±.15; M$_{r\theta}$1.14±.14; M$_{\theta\phi}$-1.30±.11; M$_{\phi r}$1.48±.10; Best double couple: M$_0$3.55×10^{16} NP1:ϕ$_s$254°, δ32°, λ111°. NP2:ϕ$_s$50°, δ61°, λ77°. Principal axes: T 3.58, Plg71°, Azm291°; N -.06, Plg11°, Azm56°; P -3.52, Plg15°, Azm149°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 19:26:53.8±0.6, 51.67N×176.97W, h63^{km}±4^{km}, mb4.9/37, ML4.8(AEIC) Error ellipse: s-maj=8.0km s-min=3.1km az=178.0*

*IDC **20** 19:26:53.3±1.7, 51.71N×176.94W, h53^{km}±14^{km}, mb4.3/28, mb1 4.5/29, mb1mx4.4/37, ML4.2/1, MS4.0/24, Ms1 4.0/24, ms1mx3.9/33, Error ellipse: s-maj=14.5km s-min=7.9km az=166.0*

ISC 20 19:26:52.2±0.7**, 51.73N**±0.06×**176.96W**±0.03**, h62^{km}**±5^{km}**, h58^{km}**±3.5^{km}**:pP-P, n211, σ0^{s}.96**/210**, mb4.9**/82**, 4C-6D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	1.78	74	P	P	19 27 19.6	-1.6
ATKA				S	S	19 27 43.4	+0.7
NIKO	Nikolski	5.12	73	P	P	19 28 07.5	-0.6
SMY	Shemya	5.58	284	P	P	19 28 14.0	-0.5
SMY				S	S	19 29 17.4	-0.8
FX1	Attu Island--F	6.17	285	P	P	19 28 21.6	-1.0
	19nm,0.3s,baz=224,slow=3.9,SNR=93						
FX1				S	S	19 29 34.5	+2.0
	31nm,0.3s,baz=65,slow=18,SNR=8.2						
FX1				LR	LR	19 30 32.9	
	comp=Z,75nm,20.2s,baz=78,slow=36						
FX1	Attu Island--F	6.17	285	P	P	19 28 21.6	-1.0
FX1				S	S	19 29 34.5	+1.9
FX1				pmax	pmax		
	comp=Z,19nm,0.3s						
FX1				MLR	MLR		
	comp=Z,75nm,20.2s						
FX1	Attu Island--F	6.17	285	P	P	19 28 21.7	-0.9
FX1				S	S	19 29 33.1	+0.6
UNV	Unalaska Valle	6.69	67	P	P	19 28 30.6	+0.6
SPIA	Saint Paul Isl	6.71	33	P	P	19 28 32.5	+2.2
WESE	West Dahl East	7.94	65	P	P	19 28 48.1	+0.9
WTUG	Tugumak	8.16	63	P	P	19 28 50.9	+0.7
FALS	False Pass	8.70	64	P	P	19 28 57.0	-0.6
DTNA	Dutton South F	9.42	63	P	P	19 29 06.7	-0.9
SDPT	Sand Point	10.46	63	P	P	19 29 20.0	-1.6
PET	Petropavlovsk	14.93	285	eP	P	19 30 26.8	+6.1
PET				eS	S	19 33 13.3	+8.4
PET				pmax	pmax		
	comp=Z,35nm,0.9s						
PET				pmax	pmax		
	comp=Z,100nm,18.7s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s						
PET	Petropavlovsk	14.93	285	P	P	19 30 20.2	-0.5
	comp=Z,22nm,0.8s						
SVW	Sparrevohn	15.01	43	eP	P	19 30 25.6	+3.9
KDAK	Kodiak Island	15.27	57	eP	P	19 30 22.3	-2.7
	comp=Z,20nm,0.3s						
RSO	Redoubt South	16.00	47	eP	P	19 30 39.7	+5.4
SKR	Severo-Kuril's	16.87	277	eP	P	19 30 54.4	+9.2
SKR				pmax	pmax		
	comp=Z,40nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,20.0s						
SKR				MLR	MLR		
	comp=E,2μm,24.0s						
SLKM	Skilak Lake	17.19	49	eP	P	19 30 49.6	+0.4
PMS	Palmer South	17.74	47	eP	P	19 30 56.6	+0.5
SML	Sawmill	18.49	46	eP	P	19 31 05.3	+0.2
IMA	Indian Mountai	18.56	30	eP	P	19 31 07.7	+1.8
MCK	McKinley	18.99	40	eP	P	19 31 09.7	-1.2
	comp=E,16nm,0.7s						
DIV	Divide	19.46	49	eP	P	19 31 15.8	-0.3
	comp=E,29nm,0.6s						
SEY	Seymchan	19.76	316	eP	P	19 31 22.2	+2.8
SEY				eS	S	19 34 58.3	+4.8
SEY				pmax	pmax		
	comp=E,70nm,1.0s						
SEY				pmax	pmax		
	comp=Z,90nm,1.0s						
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
COLA	College	19.93	38	eP	P	19 31 22.3	+1.2
THY	Trims Highway	20.17	43	eP	P	19 31 23.8	+0.2
ILAR	Eielson Array	20.25	38	P	P	19 31 22.4	-2.1
	comp=N,5.0nm,0.7s,baz=243,slow=10,SNR=23						
ILAR				S	S	19 35 11.1	+7.9
	comp=N,0.9nm,0.9s,baz=236,slow=13,SNR=4.1						
ILAR				PcP	PcP	19 35 34.5	-1.8
	comp=N,2.0nm,0.5s,baz=296,slow=3.9,SNR=9.4						
ILAR				LR	LR	19 40 20.8	
	comp=N,431nm,18.8s,baz=253,slow=40						
ILAR	Eielson Array	20.25	38	P	P	19 31 22.4	-2.1
ILAR				S	S	19 35 11.1	+7.9
ILAR						19 35 34.5	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,431nm,18.8s						
YSS	Yuzh-Sakhalins	26.43	276	⇓eP	P	19 32 25.0	+0.4
YSS				e	pP	19 32 36.9	-2.6
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS				MLR	MLR		
	comp=N,200nm,18.0s						
YSS				MLR	MLR		
	comp=E,300nm,17.0s						
YSS	Yuzh-Sakhalins	26.43	276	eP	P	19 32 24.5	-0.1
	comp=E,46nm,1.1s,mb4.9						
INK	Inuvik	26.51	35	P	P	19 32 25.2	0.0
	comp=E,3.6nm,0.4s,mb4.2,baz=263,slow=5.3,SNR=17						
INK				PcP	PcP	19 35 48.7	-0.4
	comp=E,13nm,0.8s,baz=264,slow=1.8,SNR=15						
INK				LR	LR	19 44 19.3	
	comp=E,449nm,19.1s,baz=228,slow=39						
INK	Inuvik	26.51	35	P	P	19 32 25.2	0.0
INK						19 35 48.7	
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,449nm,19.2s						
DLBC	Dease Lake	27.21	57	P	P	19 32 32.2	+0.6
	comp=Z,0.9nm,0.3s,baz=219,slow=6.5,SNR=3.5						
DLBC				PcP	PcP	19 35 50.6	-0.1
	comp=Z,2.7nm,1.0s,baz=273,slow=4.0,SNR=3.8						
DLBC				LR	LR	19 43 56.3	
	comp=Z,128nm,19.9s,baz=298,slow=38						
ASAJ	Asahikawa	27.85	270	P	P	19 32 37.7	0.0
	comp=Z,60nm,1.2s,mb5.1,baz=62,slow=6.9,SNR=9.0						
ASAJ	Asahikawa	27.85	270	P	P	19 32 37.7	0.0
ASAJ				pmax	pmax		
	comp=Z,60nm,1.2s						
BBB	Bella Bella	29.65	70	P	P	19 32 53.1	-0.5
	comp=Z,9.1nm,0.9s,mb4.5,baz=280,slow=10,SNR=4.7						
BBB				LR	LR	19 42 42.1	
	comp=Z,213nm,19.5s,baz=299,slow=32						
BBB	Bella Bella	29.65	70	P	P	19 32 53.1	-0.5
BBB				LR	LR	19 42 42.1	
YAK	Yakutsk	30.05	311	eP	P	19 32 57.2	+0.2
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
YAK				MLR	MLR		
	comp=Z,300nm,15.0s						
TIXI	Tiksi	30.90	330	eP	P	19 33 04.7	+0.2
TIXI				MLR	MLR		
	comp=Z,300nm,16.0s						
KLR	Kul'dur	32.19	286	eP	P	19 33 14.8	-1.1
KLR				pmax	pmax		
	comp=N,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.9						
YKA	Yellowknife Ar	34.15	47	P	P	19 33 32.1	-0.7
	comp=Z,7.1nm,1.0s,mb4.6,baz=284,slow=8.5,SNR=12						
YKA				PcP	PcP	19 36 08.9	0.0
	comp=Z,6.3nm,0.6s,baz=287,slow=2.9,SNR=26						
YKA				ScP		19 39 49.0	
	comp=Z,0.6nm,0.8s,baz=315,slow=2.0,SNR=3.8						
YKA				LR	LR	19 48 51.5	
	comp=Z,262nm,19.4s,baz=255,slow=39						
YKA	Yellowknife Ar	34.15	47	P	P	19 33 32.1	-0.7
YKA				PcP	PcP	19 36 08.9	0.0
YKA				ScP		19 39 49.0	
YKA				LR	LR	19 48 51.5	
MBW	Mount Baker	34.62	73	P	P	19 33 38.4	+1.4
MAT	Matsushiro	34.97	262	P	P	19 33 38.8	-1.3
MAT	Matsushiro	34.97	262	eP	P	19 33 39.0	-1.1
RPW	Rockport	35.00	73	eP	P	19 33 40.9	+0.7
FMW	Mount Fremont	35.61	75	P	P	19 33 46.8	+1.3
MDJ	Mudanjiang	35.64	280	P	P	19 33 44.3	-1.4
MDJ				AP	pP	19 33 58.5	-2.8
MDJ				XP	sP	19 34 06.5	-2.4
MDJ				PP	PP	19 35 08.5	+0.7
MDJ				S	S	19 39 24.1	+7.3
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,96nm,5.3s						
MDJ				LR	LR		
	comp=N,114nm,29.4s						
MDJ				LR	LR		
	comp=E,262nm,31.1s						
MDJ				LR	LR		
	comp=Z,379nm,29.4s						
NLW	Nelson Butte	35.87	73	eP	P	19 33 48.1	+0.5
SSOR	Sweet Springs	36.17	79	P	P	19 33 50.7	+0.5
JHJ	Hachijo jima 2	36.30	256	P	P	19 33 51.5	+0.1
	comp=Z,135nm,0.8s,mb5.9,baz=102,slow=9.3,SNR=4.1						
JHJ				LR	LR	19 46 34.0	
	comp=Z,151nm,20.3s,baz=129,slow=32						
VFP	Flag Point	36.54	78	P	P	19 33 54.7	+1.5
HAWA	Hanford	37.16	75	eP	P	19 33 56.7	-1.8
	comp=Z,13nm,0.7s,mb4.9						
OD2	Odessa Site #2	37.16	73	P	P	19 33 59.2	+0.7
NEW	Newport	37.69	71	P	P	19 34 03.8	+0.9
	comp=Z,23nm,0.5s,mb5.2,baz=298,slow=7.3,SNR=12						
NEW				LR	LR	19 46 44.4	
	comp=Z,252nm,21.4s,baz=257,slow=32						
NEW	Newport	37.69	71	P	P	19 34 03.8	+1.0
NEW				pmax	pmax		
	comp=Z,23nm,0.5s						
NEW				MLR	MLR		
	comp=Z,253nm,21.4s						
YBH	Yreka Blue Hor	37.70	83	P	P	19 34 04.3	+1.3
	comp=Z,2.4nm,0.6s,mb4.1,baz=245,slow=2.9,SNR=5.5						
YBH	Yreka Blue Hor	37.70	83	P	P	19 34 04.3	+1.3
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LNOR	Lincton Mounta	38.17	75	eP	P	19 34 07.9	+1.0
CN2	Changchun	38.60	282	eP	P	19 34 10.3	-0.2
CN2				eS	S	19 40 00.9	-1.1
CN2				eSS	SS	19 42 42.0	-3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,20.0s						
CN2				LR	LR		
	comp=E,500nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
BOD	Bodaibo	38.68	307	eP	P	19 34 10.1	-0.9
MOD	Modoc	39.09	82	eP	P	19 34 15.3	+0.7
	comp=Z,4.6nm,0.5s,mb4.5						
BSMT	Bassoo Peak	39.26	70	P	P	19 34 16.9	+1.0
CBIJ	Chichi jima	39.27	247	P	P	19 34 17.1	+0.9
	comp=Z,107nm,1.0s,mb5.5,baz=166,slow=4.2,SNR=3.1						
CBIJ				LR	LR	19 47 31.8	
	comp=Z,143nm,20.9s,baz=35,slow=32						
WVOR	Wild Horse Val	39.81	80	eP	P	19 34 21.1	+0.6
	comp=Z,14nm,0.9s,mb4.7						
CHMT	Chamberlain Mo	40.63	71	eP	P	19 34 27.1	-0.1
KS15	Wonju Array Si	40.81	272	eP	P	19 34 29.1	+0.3
SNY	Shenyang	40.85	280	⇓P	P	19 34 30.1	+1.0
SNY				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.0						
PAHR	Pah Rah Range	40.93	84	eP	P	19 34 30.6	+0.8
	comp=Z,7.9nm,0.8s,mb4.4						
WCN	Washoe City	40.94	84	eP	P	19 34 30.2	+0.3
HRY	Holter Researc	41.57	70	eP	P	19 34 35.3	+0.4
HLID	Hailey	41.74	76	eP	P	19 34 36.7	+0.4
	comp=Z,9.6nm,1.0s,mb4.4						
JNU	Nakatsue	41.75	264	P	P	19 34 37.9	+1.3
	comp=Z,40nm,0.8s,mb5.1,baz=53,slow=7.5,SNR=21						
MCMT	McKenzie Canyo	41.98	73	eP	P	19 34 38.1	-0.2
NVAR	Mina Array Bea	42.37	84	P	P	19 34 42.9	+1.2
	comp=Z,3.9nm,0.8s,mb4.1,baz=291,slow=7.7,SNR=16						
NVAR				PcP	PcP	19 36 34.8	+0.2
	comp=Z,4.6nm,0.8s,baz=294,slow=3.1,SNR=6.7						
NVAR				ScP		19 40 20.8	
	comp=Z,0.6nm,0.7s,baz=289,slow=2.6,SNR=4.3						
QLMT	Earthquake Lak	42.82	72	eP	P	19 34 45.9	+0.7
TPH	Tonopah	43.26	84	eP	P	19 34 49.4	+0.5
	comp=Z,6.9nm,0.9s,mb4.4						
SPUT	South Promonto	44.23	77	eP	P	19 34 56.4	-0.2
HWUT	Hardware Ranch	44.59	76	P	P	19 35 02.3	+2.8
LAO	LASA Array	44.83	67	eP	P	19 35 01.6	+0.2
	comp=Z,43nm,0.7s,mb5.4						
BW06	Boulder Array	45.11	74	eP	P	19 35 03.5	-0.1
PDAR	Pinedale Array	45.11	74	P	P	19 35 04.5	+0.8
	comp=Z,12nm,0.5s,mb5.0,baz=307,slow=5.6,SNR=19						
PDAR				LR	LR	19 51 19.9	
	comp=Z,190nm,20.8s,baz=307,slow=32						
JLU	Jordanelle	45.26	77	P	P	19 35 06.8	+1.9
DAU	Daniels Canyon	45.49	77	eP	P	19 35 06.5	-0.3
MSU	Marysvale	46.10	80	eP	P	19 35 12.5	+0.9
BJI	Beijing	46.42	283	P	P	19 35 14.8	+0.7
BJI				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
BJI				AMB	AMB		
	comp=Z,164nm,5.0s						
BJI				LR	LR		
	comp=N,269nm,19.8s						
BJI				LR	LR		
	comp=E,266nm,19.8s						
BJI				LR	LR		
	comp=Z,465nm,24.1s						
BJI	Beijing	46.42	283	P	P	19 35 14.7	+0.6
	comp=Z,38nm,1.0s,mb5.3						
BJI				S	S	19 42 06.9	+11
BJI				LR	LR		
	comp=Z,470nm,24.1s						
LDFC	Landfair	46.48	86	eP	P	19 35 14.2	-0.4
SRU	San Rafael	46.73	78	P	P	19 35 17.7	+1.1
SONM	Songino Array	47.51	297	P	P	19 35 23.7	+1.2
	comp=Z,7.5nm,0.8s,mb4.8,baz=51,slow=9.3,SNR=30						
SONM				PcP	PcP	19 36 52.4	+0.2
	comp=Z,9.6nm,0.7s,baz=57,slow=2.7,SNR=17						
SONM				ScP		19 40 41.6	
	comp=Z,1.7nm,0.8s,baz=27,slow=2.8,SNR=7.1						
RSSD	Black Hills	47.56	69	eP	P	19 35 22.5	-0.5
	comp=Z,13nm,0.7s,mb5.1						
ZAK	Zakamensk	47.75	302	eP	P	19 35 26.9	+2.5
JOW	Kunigami	47.76	260	P	P	19 35 24.9	+0.1
	comp=Z,13nm,0.9s,mb5.0,baz=122,slow=25,SNR=6.2						
JOW				LR	LR	19 53 56.4	
	comp=Z,67nm,20.0s,baz=67,slow=34						
TIA	Tai'an	48.25	278	eP	P	19 35 28.4	-0.1
WUAZ	Wupatki	48.50	83	eP	P	19 35 30.6	+0.2
	comp=Z,8.5nm,0.8s,mb4.8						
PV01	Paradox Valley	48.54	78	eP	P	19 35 30.7	0.0
HHC	Hu-ho-hao-te	48.69	287	eP	P	19 35 32.9	+1.1
HHC				AP	pP	19 35 42.0	-5.8
HHC				XP	sP	19 35 49.8	-5.1
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,133nm,5.1s						
HHC				LR	LR		
	comp=N,103nm,17.8s						
HHC				LR	LR		
	comp=E,104nm,19.0s						
HHC				LR	LR		
	comp=Z,118nm,22.6s						

SSE	Sheshan	49.15	270	P	P	19 35 35.8	+0.4
SSE				PCS		19 40 56.1	
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,95nm,3.6s						
SSE				LR	LR		
	comp=N,64nm,26.0s						
SSE				LR	LR		
	comp=E,52nm,26.4s						
SSE				LR	LR		
	comp=Z,94nm,32.7s						
SSE	Sheshan	49.15	270	P	P	19 35 35.7	+0.3
	comp=Z,48nm,0.7s,mb5.6						
SSE				sP	sP	19 35 58.3	-0.2
SSE				PcS		19 40 56.1	
SSE				S	S	19 42 33.8	-1.1
SSE				sS		19 43 00.4	
SSE				LR	LR		
	comp=Z,90nm,32.7s						
ISCO	Idaho Springs	49.27	74	P	P	19 35 36.6	+0.3
BTO	Baotou	49.76	287	eP	P	19 35 40.3	+0.3
BTO				AMB	AMB		
	comp=Z,49nm,0.9s,mb5.5						
NJ2	Nanjing	49.94	273	eP	P	19 35 41.3	-0.3
SDCO	Great Sand Dun	50.65	76	eP	P	19 35 47.0	+0.1
	comp=Z,10nm,1.0s,mb4.7						
TUC	Tucson	51.01	85	eP	P	19 35 48.7	-0.9
	comp=Z,2.0nm,0.7s,mb4.2						
LAZ	Ladron	51.85	81	eP	P	19 35 56.1	+0.2
ANMO	Albuquerque	51.90	80	⇓eP	P	19 35 56.6	+0.3
ANMO	Albuquerque	51.90	80	eP	P	19 35 56.0	-0.3
	comp=Z,8.6nm,1.5s,mb4.5						
LENM	Lemitar	52.11	81	eP	P	19 35 57.7	-0.2
FRB	Frobisher Bay	52.12	32	P	P	19 35 56.6	-1.0
	comp=Z,4.8nm,0.3s,mb4.8,baz=311,slow=10,SNR=6.2						
FRB				PcP	PcP	19 37 09.4	+0.6
	comp=Z,5.4nm,0.6s,baz=61,slow=3.4,SNR=3.3						
FRB	Frobisher Bay	52.12	32	P	P	19 35 56.6	-1.0
FRB						19 37 09.4	
FRB				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BNM	Barren Site	52.33	81	eP	P	19 35 59.5	0.0
CBKS	Cedar Bluff	53.40	72	eP	P	19 36 06.9	-0.6
	comp=Z,14nm,0.6s,mb5.1						
WHN	Wuhan	53.77	275	⇓P	P	19 36 09.8	-0.5
ZAL	Zalesovo	54.63	314	P	P	19 36 16.2	0.0
	comp=Z,0.6nm,0.3s,mb4.1,baz=38,slow=12,SNR=2.6						
ZAL				PcP	PcP	19 37 18.3	-0.1
	comp=Z,3.6nm,0.9s,baz=340,slow=4.8,SNR=17						
ZAL				LR	LR	20 03 43.7	
	comp=Z,165nm,19.7s,baz=345,slow=40						
ZAL	Zalesovo	54.63	314	P	P	19 36 16.2	0.0
ZAL						19 37 18.3	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,165nm,19.7s						
XAN	Xi'an	54.71	282	P	P	19 36 16.8	-0.3
XAN				AP	pP	19 36 29.8	-3.7
XAN				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.5						
XAN				LR	LR		
	comp=N,97nm,17.7s						
XAN				LR	LR		
	comp=E,117nm,26.1s						
XAN				LR	LR		
	comp=Z,249nm,23.8s						
CPRX	Cap Rock	54.78	80	eP	P	19 36 17.1	-0.6
GDL2	Guadalupe Moun	55.04	81	eP	P	19 36 18.9	-0.7
KSU1	Kansas State U	55.04	69	eP	P	19 36 17.9	-1.5
LZH	Lanzhou	56.38	287	eP	P	19 36 29.9	+0.8
LZH				AP	pP	19 36 45.9	+0.4
LZH				XP	sP	19 36 50.0	-2.6
LZH				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.7						
LZH				AMB	AMB		
	comp=Z,390nm,4.4s						
LZH				LR	LR		
	comp=E,1µm,17.4s						
LZH				LR	LR		
	comp=Z,2µm,19.8s						
LZH	Lanzhou	56.38	287	eP	P	19 36 29.9	+0.8
	comp=Z,100nm,1.3s,mb5.7						
LZH				pP	pP	19 36 45.9	+0.4
LZH				sP	sP	19 36 50.0	-2.6
LZH				LR	LR		
	comp=Z,2µm,19.8s						
GTA	Gaotai	56.49	293	eP	P	19 36 30.0	+0.1
GTA				AP	pP	19 36 46.8	+0.5
GTA				PCP	PcP	19 37 25.6	-0.2
GTA				PP	PP	19 38 38.3	+0.7
GTA				PPP	PPP	19 39 58.5	+2.6
GTA				SCP		19 41 17.3	
GTA				PCS		19 41 24.6	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,45nm,8.4s						
GTA				LR	LR		
	comp=N,62nm,22.8s						
GTA				LR	LR		
	comp=E,99nm,20.2s						
GTA				LR	LR		
	comp=Z,108nm,24.7s						
WMOK	Wichita Mounta	56.70	75	eP	P	19 36 30.0	-1.4
	comp=Z,6.3nm,0.8s,mb4.7						
LTX	Lajitas	57.47	83	eP	P	19 36 36.1	-0.9
	comp=Z,5.7nm,0.7s,mb4.7						
TXAR	Lajitas Array	57.47	83	P	P	19 36 36.5	-0.5
	comp=Z,4.5nm,0.7s,mb4.6,baz=297,slow=5.6,SNR=21						
TXAR				LR	LR	19 58 17.3	
	comp=Z,140nm,20.8s,baz=275,slow=33						
TXAR	Lajitas Array	57.47	83	P	P	19 36 36.5	-0.5
TXAR				LR	LR	19 58 17.3	
KEV	Kevo	57.57	350	ep	P	19 36 36.2	-0.9
ARCES	ARCESS Array B	57.93	351	P	P	19 36 39.6	0.0
	comp=Z,4.7nm,0.8s,mb4.6,baz=26,slow=8.0,SNR=12						
ARCES				LR	LR	20 02 54.3	
	comp=Z,368nm,18.0s,baz=196,slow=37						
ARCES	ARCESS Array B	57.93	351	P	P	19 36 39.6	0.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,368nm,18.0s						
APYP	Conner	58.76	259	eP	P	19 36 44.4	-1.7
CCM	Cathedral Cave	58.84	67	eP	P	19 36 43.7	-2.7
	comp=Z,10.0nm,0.8s,mb4.9						
FVM	French Village	59.36	66	eP	P	19 36 48.3	-1.7
	comp=Z,16nm,0.6s,mb5.2						
KURK	Kurchatov	59.60	314	P	P	19 36 50.3	-1.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	Kurchatov	59.60	314	eP	P	19 36 49.9	-1.6
	comp=Z,3.9nm,0.6s,mb4.6						
CD2	Chengdu	60.02	283	⇑iP	P	19 36 54.8	+0.2
CD2				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.8						
SADO	Sadowa	60.70	54	P	P	19 36 58.4	-0.7
	comp=Z,3.6nm,0.5s,mb4.8,baz=314,slow=11,SNR=3.2						
MKAR	Makanchi Array	60.70	309	P	P	19 36 57.9	-1.1
	comp=Z,1.6nm,0.5s,mb4.4,baz=48,slow=7.2,SNR=18						
MKAR				LR	LR	20 02 48.5	
	comp=Z,130nm,21.4s,baz=34,slow=36						
MKAR	Makanchi Array	60.70	309	i P	P	19 36 57.4	-1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
USIN	University of	60.94	65	eP	P	19 36 59.3	-1.4
	comp=Z,91nm,1.1s,mb5.8						
VOSK	Vostochnaya	61.35	320	P	P	19 37 02.6	-0.7
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
BVAR	Borovoye Array	61.35	321	P	P	19 37 03.1	-0.2
	comp=Z,9.5nm,0.5s,mb5.2,baz=52,slow=6.4,SNR=93						
BRVK	Borovoye	61.37	321	P	P	19 37 03.1	-0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BRVK	Borovoye	61.37	321	eP	P	19 37 02.4	-1.1
	comp=Z,7.2nm,0.6s,mb5.0						
GYA	Guiyang	61.42	277	⇑iP	P	19 37 03.9	-0.3
GYA				AP	pP	19 37 20.0	-0.8
GYA				XP	sP	19 37 27.0	-0.9
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.3						
GYA				LR	LR		
	comp=N,100nm,16.1s						
GYA				LR	LR		
	comp=E,130nm,18.4s						
GYA				LR	LR		
	comp=Z,160nm,17.8s						
TGY	Tagaytay City	61.84	257	P	P	19 37 07.6	+0.5
	comp=Z,115nm,0.4s,baz=185,slow=4.3,SNR=6.3						
TGY				LR	LR	19 59 22.8	
	comp=Z,56nm,22.0s,baz=59,slow=32						
TGY	Tagaytay City	61.84	257	P	P	19 37 07.6	+0.5
TGY				pmax	pmax		
	comp=Z,115nm,0.4s						
TGY				MLR	MLR		
	comp=Z,56nm,22.0s						
ZRNK	Zerenda	61.95	321	P	P	19 37 06.9	-0.4
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
OXF	Oxford	62.38	69	eP	P	19 37 09.0	-1.5
	comp=Z,71nm,0.9s,mb5.8						
PLAL	Pickwick Lake	62.82	67	eP	P	19 37 11.9	-1.5
	comp=Z,25nm,0.9s,mb5.3						
ARU	Arti	62.90	329	⇓iP	P	19 37 14.1	+0.5
ARU				e		19 37 49.3	
ARU				e		19 39 34.2	
ARU				eS	S	19 45 40.0	+3.1
ARU				eSS	SS	19 49 47.1	+2.1
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
ARU				MLR	MLR		
	comp=Z,300nm,21.0s						
ARU				MLR	MLR		
	comp=N,200nm,22.0s						
ARU				MLR	MLR		
	comp=E,200nm,23.0s						
ARU	Arti	62.90	329	eP	P	19 37 12.6	-1.0
	comp=E,7.4nm,0.6s,mb5.0						
CPCT	Cooper Cave	64.50	65	eP	P	19 37 23.2	-1.1
KMI	Kunming	64.81	279	eP	P	19 37 26.3	-0.2
KMI				AP	pP	19 37 42.8	-0.4
KMI				PP	PP	19 39 50.8	-0.8
KMI				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.5						
KMI				AMB	AMB		
	comp=Z,162nm,5.0s						
KMI				LR	LR		
	comp=N,126nm,18.9s						
KMI				LR	LR		
	comp=E,130nm,18.5s						
KMI				LR	LR		
	comp=Z,146nm,25.4s						
KMI	Kunming	64.81	279	eP	P	19 37 26.3	-0.2
	comp=Z,53nm,1.0s,mb5.5						
KMI				pP	pP	19 37 42.8	-0.4
KMI				sP	sP	19 37 50.1	0.0
KMI				PP	PP	19 39 50.8	-0.8
KMI				S	S	19 46 00.9	0.0
KMI				sS		19 46 27.7	
KMI				SS	SS	19 50 15.0	+0.1
KMI				LR	LR		
	comp=Z,150nm,25.4s						
LRAL	Lakeview Retre	64.84	68	eP	P	19 37 24.6	-1.9
	comp=Z,8.4nm,0.8s,mb4.8						
KAF	Kangasniemi	65.01	348	ep	P	19 37 26.6	-0.5
PWV	Princeton	65.05	61	eP	P	19 37 27.7	-0.1
ELN	Prospectdale	65.29	61	eP	P	19 37 28.9	-0.5
FINES	FINESS Array B	65.68	348	P	P	19 37 31.4	-0.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=90,slow=1.9,SNR=6.3						
FINES				LR	LR	20 08 24.5	
	comp=Z,174nm,18.4s,baz=193,slow=38						
FINES	FINESS Array B	65.68	348	P	P	19 37 31.4	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,174nm,18.4s						
JSC	Jenkinsville	67.18	63	eP	P	19 37 41.1	-0.2
NB2	NORSAR Subarra	67.39	356	P	P	19 37 42.6	+0.4
	comp=Z,1.1nm,0.5s,mb4.1,baz=3.0,slow=6.2						
NOA	NORSAR Array B	67.39	356	P	P	19 37 42.4	+0.2
	comp=Z,1.7nm,0.8s,mb4.2,baz=4.1,slow=6.2,SNR=4.6						
NOA				LR	LR	20 04 40.0	
	comp=Z,150nm,21.9s,baz=355,slow=34						
NOA	NORSAR Array B	67.39	356	P	P	19 37 42.4	+0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,150nm,21.9s						
AAK	Ala-Archa	67.51	311	eP	P	19 37 42.9	-0.4
	comp=Z,7.1nm,0.9s,mb4.7						
HFS	Hagfors	68.16	354	P	P	19 37 46.1	-0.9
	comp=Z,2.5nm,0.5s,mb4.5,baz=63,slow=3.3,SNR=17						
HFS	Hagfors	68.16	354	P	P	19 37 46.1	-0.9
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31	Akbulak array	68.34	324	P	P	19 37 48.5	+0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	Lhasa	68.39	291	P	P	19 37 51.0	+1.9
NHSC	New Hope	68.65	63	eP	P	19 37 50.0	-0.6
	comp=Z,131nm,1.0s,mb5.8						
KKAR	Karatay Array	68.98	314	i P	P	19 37 52.1	-0.4
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
OBN	Obninsk	69.93	340	⇓eP	P	19 37 57.3	-0.8
OBN				e	pP	19 38 17.9	+2.9
OBN				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.4						
OBN				MLR	MLR		
	comp=Z,100nm,5.0s						
CM31	Chiang Mai Arr	72.11	277	eP	P	19 38 11.3	-0.4
	comp=Z,6.9nm,0.6s,mb4.8						
CMAR	Chiang Mai Arr	72.11	277	P	P	19 38 12.2	+0.5
	comp=Z,9.6nm,0.6s,mb4.9,baz=29,slow=7.0,SNR=9.4						
CMAR				LR	LR	20 09 41.9	
	comp=Z,80nm,18.5s,baz=35,slow=36						
CMAR	Chiang Mai Arr	72.11	277	P	P	19 38 12.2	+0.5
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,80nm,18.5s						
EKA	Eskdalemuir Ar	73.18	4	P	P	19 38 18.4	+1.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=353,slow=4.7,SNR=5.5						
EKA	Eskdalemuir Ar	73.18	4	P	P	19 38 18.5	+1.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKN	Kakani	73.21	294	eP	P	19 38 18.9	+0.9
	comp=Z,26nm,0.6s,mb5.3						
PKI	Pulchoki	73.31	293	eP	P	19 38 19.3	+0.7
	comp=Z,18nm,0.6s,mb5.1						
GKN	Gorkha	73.42	294	eP	P	19 38 19.9	+0.7
	comp=Z,31nm,0.9s,mb5.2						
DMN	Daman	73.45	294	eP	P	19 38 20.1	+0.7
	comp=Z,26nm,0.9s,mb5.2						
RAR	Rarotonga	74.18	163	LR	LR	20 04 19.4	
	comp=Z,488nm,19.1s,baz=328,slow=30						
AKASG	Malin Array Be	75.55	343	P	P	19 38 30.4	-0.7
	comp=Z,3.2nm,0.8s,mb4.3,baz=19,slow=6.1,SNR=6.7						
AKASG				LR	LR	20 15 36.7	
	comp=Z,117nm,18.7s,baz=10.0,slow=39						
AKASG	Malin Array Be	75.55	343	P	P	19 38 30.4	-0.7
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,117nm,18.7s						
GERES	GERESS Array B	79.39	353	P	P	19 38 52.2	-0.2
	comp=Z,0.6nm,0.8s,slow=6.7,SNR=4.9						
GERES	GERESS Array B	79.39	353	P	P	19 38 52.2	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SOC	Sochi	79.89	334	eP	P	19 38 54.1	-1.2
SOC				e		19 39 05.2	
SOC				e		19 42 03.2	
SOC				ePPP	PPP	19 43 47.6	-2.3
SOC				eS	S	19 48 47.4	-4.9
SOC				e		19 49 02.6	
SOC				ePS	PS	19 49 17.1	-28
SOC				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,27nm,1.1s						
SOC				pmax	pmax		
	comp=E,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,181nm,20.0s						
SOC				MLR	MLR		
	comp=N,67nm,16.0s						
SOC				MLR	MLR		
	comp=E,82nm,20.0s						
MLR	Muntele Rosu	81.16	344	P	P	19 39 04.2	+2.2
	comp=E,21nm,1.3s,mb4.9,baz=208,slow=4.6,SNR=9.8						
MLR	Muntele Rosu	81.16	344	P	P	19 39 04.2	+2.3
MLR				pmax	pmax		
	comp=Z,21nm,1.3s						
BRTR	Keskin Array B	85.09	337	P	P	19 39 23.2	+1.3
	comp=Z,5.9nm,0.8s,mb4.8,baz=53,slow=2.5,SNR=26						
BRTR				LR	LR	20 26 09.1	
	comp=Z,58nm,18.5s,baz=345,slow=42						
BRTR	Keskin Array B	85.09	337	P	P	19 39 23.2	+1.3
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,58nm,18.5s						
HYB	Hyderabad	85.16	292	i P	P	19 39 23.5	+0.8
	comp=Z,80nm,1.0s,mb5.8						
HYB	Hyderabad	85.16	292	eP	P	19 39 23.5	+0.8
	comp=Z,80nm,1.0s,mb5.8						
STKA	Stephens Creek	90.85	214	LR	LR	20 15 18.9	
	comp=Z,217nm,20.2s,baz=26,slow=32						
ROSC	El Rosal	94.00	77	LR	LR	20 25 12.0	
	comp=Z,46nm,19.8s,baz=20,slow=37						
ADE	Adelaide	94.67	215	eP	P	19 40 06.9	-0.2
DBIC	Dimbokro	121.44	9	PKP	PKPdf	19 45 39.7	+1.0
	comp=Z,8.1nm,0.8s,baz=295,slow=4.6,SNR=16						
DBIC	Dimbokro	121.44	9	PKP	PKPdf	19 45 39.7	+1.0
TIC	Toumodi	121.44	9	ePKP1	PKPdf	19 45 39.6	+0.9
	comp=Z,12nm,0.2s						
KIC	Kosan Boka	121.75	9	ePKP1	PKPdf	19 45 40.4	+1.1
	comp=Z,28nm,0.7s						
LIC	Lamto	121.86	9	ePKP1	PKPdf	19 45 40.6	+1.1
	comp=Z,78nm,1.5s						
PLCA	Paso Flores	129.98	108	PKP	PKPdf	19 45 56.2	+1.8
	comp=Z,2.7nm,0.8s,baz=266,slow=0.9,SNR=8.7						
QSPA	South Pole Qui	141.49	180	ePKP	PKPdf	19 46 10.0	-4.4
TSUM	Tsumeb	145.58	335	ePKP	PKPdf	19 46 25.0	+1.9
MAW	Mawson	147.47	218	PKPbc	PKPdf	19 46 29.5	+4.6
	comp=Z,33nm,1.0s,baz=98,slow=3.0,SNR=27						
MAW	Mawson	147.47	218	ePKPbc	PKPdf	19 46 28.7	+3.8
SNAA	Sanae	159.82	175	PKP	PKPdf	19 46 42.0	0.0
	comp=Z,0.3nm,0.8s,baz=16,slow=11,SNR=4.6						
SNAA				PKPab	PKPab	19 47 21.3	-2.4
	comp=Z,0.5nm,0.7s,baz=192,slow=6.1,SNR=6.7						
VNA2	Neumayer--Watz	160.16	170	⇑iP	PKPdf	19 46 48.7	+6.3
VNA2	Neumayer--Watz	160.16	170	⇑iP	PKPdf	19 46 48.7	+6.3

KRSC 20 19:33:14.0±3.3,48.54N×155.50E,h22^{km}±14^{km},ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.18	10	eS	Sn	19 34 14.9	-1.5
ALID	Alaid	2.33	1	eP	Pn	19 33 51.8	-0.1
ALID				eS	Sn	19 34 21.2	+1.1
PAU	Pauzhetka	3.05	16	eP	Pn	19 34 03.0	+0.9
PAU				eS	Sn	19 34 35.5	-2.8
PAU				Smax			
	100nm,0.2s						
GRL	Gorelyy	4.34	21	eP	Pn	19 34 22.0	+1.6
RUS	Russkaya	4.35	25	eP	Pn	19 34 20.5	0.0
RUS				eS	Sn	19 35 10.9	-0.3
SDLR	Sedlovina	5.20	23	eP	Pn	19 34 33.5	+0.9
SDLR				eS	Sn	19 35 31.0	-1.8
GNL	Ganaly	5.39	16	eP	Pn	19 34 37.5	+2.3
SPN	Mys Shipunski	5.39	30	eP	Pn	19 34 35.0	-0.2
MKZ	Mys Kozlova	7.17	30	eP	Pn	19 34 58.7	-1.6

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*BJI **20** 19:34:09.5,7.65S×129.48E,h127^{km},mB5.1,mb5.0*

*HRVD **20** 19:34:16.6±0.8,7.08S×129.28E,h161^{km}±6^{km},MW4.9/42, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s42,c65; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.70±.20; $M_{\theta\theta}$-2.00±.16; $M_{\phi\phi}$0.31±.18; $M_{r\theta}$1.10±.16; $M_{\theta\phi}$0.47±.22; $M_{\phi r}$1.28±.16; Best double couple: $M_0$2.53×10^{16} NP1:ϕ_s307°,δ40°,λ139°. NP2:ϕ_s70°,δ65°,λ58°. Principal axes: T 2.76, Plg57°, Azm297°; N -.44, Plg29°, Azm85°; P -2.31, Plg14°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **20** 19:34:16.6,7.07S×129.29E,h128^{km},MB4.9*

*NEIC **20** 19:34:16.6±1.0,7.07S×129.29E,h128^{km}±9^{km},mb4.9/30, Error ellipse: s-maj=9.7km s-min=5.2km az=71.0*

*MOS **20** 19:34:18.1±0.9,7.25S×129.06E,h166^{km},mb5.1/8,Error ellipse: s-maj=23.8km s-min=9.9km az=114.4*

*IDC **20** 19:34:20.1±1.4,7.06S×129.18E,h155^{km}±11^{km},mb4.5/19, mb1 4.7/22,mb1mx4.6/24,MS3.4/4,Ms1 3.4/4, ms1mx3.1/25,Error ellipse: s-maj=17.4km s-min=8.2km az=69.0*

*DJA **20** 19:35:41.8±7.2,7.10S×122.94E,h30^{km},mb4.9/4,Error ellipse: s-maj=212.1km s-min=10.6km az=108.0*

ISC 20 19:34:18.3±0.7,7.12S±0.03×129.41E±0.05,h165^{km}±7^{km}, h161^{km}±4.2^{km}:pP-P,n188,σ1^{s}13/165,mb4.9/67,22C-13D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	6.28	152	⇓iP	P	19 35 50.7	+1.0
KAKA				eS	S	19 36 58.7	-2.0
BUNI	Buntu Taipa	9.68	290	⇓eP	P	19 36 48.0	+13
NINI	Niniconang	9.97	285	⇓eP	P	19 36 40.6	+2.0
TANI	Tanete Lipujan	10.63	290	⇓eP	P	19 36 57.8	+11
	2µm,0.6s						
TANI	Tanete Lipujan	10.63	290	⇓eP	P	19 36 58.0	+11
	2µm,0.6s						
FITZ	Fitzroy Crossi	11.52	198	eP	P	19 36 56.1	-2.6
	96nm,0.4s						
FITZ				eS	S	19 38 57.9	-6.7
FITZ	Fitzroy Crossi	11.52	198	P	P	19 36 56.3	-2.5
	23nm,0.3s,baz=17,slow=10.0,SNR=436						
FITZ				S	S	19 38 55.7	-8.9
	55nm,0.3s,baz=178,slow=21,SNR=7.5						
FITZ				LR	LR	19 41 37.3	
	comp=Z,51nm,21.1s,baz=29,slow=38						
KEDI	Kedomdong	13.24	263	⇑eP	P	19 37 18.2	-2.8
	101nm,0.2s						
WRAB	Tennant Creek	13.61	160	eP	P	19 37 23.3	-2.4
	303nm,0.8s						
WRA	Warramunga Arr	13.61	160	P	P	19 37 24.3	-1.5
	48nm,0.3s,baz=345,slow=13,SNR=562						
WRA				S	S	19 39 49.2	-4.2
	49nm,0.3s,baz=332,slow=23,SNR=14						
WB2	Warramunga Arr	13.62	160	⇓iP	P	19 37 23.5	-2.3
WB2				eS	S	19 39 50.3	-3.2
RATI	Rata	13.84	262	⇑eP	P	19 37 29.7	+1.1
	164nm,0.2s						
INGI	Ingas	14.23	262	⇑eP	P	19 37 34.8	+1.2
MATI	Mati	14.32	347	eP	P	19 37 38.1	+3.3
KCP	Kidapawan	14.68	343	⇓eP	P	19 37 41.1	+1.8
KELI	Kelakatan	14.82	265	⇑eP	P	19 37 41.8	+0.7
PAGZ	Pagadian	16.04	338	eP	P	19 37 58.8	+2.6
IPIL	Ipil	16.30	335	eP	P	19 38 02.1	+2.7
ASAR	Alice Springs	17.01	166	P	P	19 38 07.7	-0.1
	27nm,0.3s,baz=344,slow=9.8,SNR=1082						
ASAR				S	S	19 41 09.8	-0.2
	16nm,0.3s,baz=311,slow=17,SNR=80						
ASAR				LR	LR	19 45 26.7	
	comp=Z,222nm,20.2s,baz=344,slow=39						
ASPA	Alice Springs	17.01	166	eP	P	19 38 07.2	-0.7
ASPA				eS	S	19 41 11.0	+1.0
PMG	Port Moresby	17.71	99	P	P	19 38 19.6	+3.4
PMG				LR	LR	19 46 24.9	
	comp=Z,116nm,19.7s,baz=40,slow=40						
PMG	Port Moresby	17.71	99	eP	P	19 38 17.3	+1.2
	89nm,1.0s						
KKM	Kota Kinabalu	18.56	314	⇑eP	P	19 38 24.8	-0.4
	24nm,0.5s						
OCLP	Ormoc	18.67	345	eP	P	19 38 27.3	+0.9
GUIM	Jordan	18.89	339	eP	P	19 38 28.6	-0.1
BESP	Borongan	19.01	348	eP	P	19 38 30.8	+0.8
CUYO	Cuyo Island	19.71	335	eP	P	19 38 37.6	+0.4
OTRP	Odiongan	20.70	339	eP	P	19 38 50.0	+2.9
CTA	Charters Tower	20.81	130	eP	P	19 38 51.4	+3.3
	42nm,0.7s						
CTA				eS	S	19 43 05.7	+40
CTA	Charters Tower	20.81	130	P	P	19 38 51.3	+3.2
	53nm,0.7s,baz=308,slow=13,SNR=44						
CTAO	Charters Tower	20.81	130	eP	P	19 38 46.8	-1.4
	95nm,1.0s						
SJMP	San Jose	21.13	337	eP	P	19 38 52.4	+1.1
PVCP	Virac	21.23	346	eP	P	19 38 53.1	+0.7
BOAC	Boac	21.78	340	eP	P	19 38 57.4	-0.4

LUBP	Lubang	22.63	336	*e*P	P	19 39 06.4	+0.3
TGY	Tagaytay City	22.70	338	P	P	19 39 07.4	+0.6
	134nm,0.4s,mb5.7,baz=179,slow=5.9,SNR=9.6						
POLP	Polilio Island	22.94	341	*e*P	P	19 39 09.0	-0.1
FORT	Forrest	23.57	183	*e*P	P	19 39 16.3	+1.3
	1μm,0.8s						
FORT				*e*S	S	19 43 43.0	+29
BALP	Baler	24.00	341	*e*P	P	19 39 17.5	-1.8
CAUP	Cauayan	25.06	343	*e*P	P	19 39 28.1	-1.1
APYP	Conner	26.10	342	*e*P	P	19 39 36.4	-2.5
KLBR	Kellerberrin	26.67	203	*e*P	P	19 39 44.5	+0.6
	33nm,1.1s,mb4.9						
KLBR				*e*S	S	19 44 50.2	+45
STKA	Stephens Creek	27.13	157	⇓*i*P	P	19 39 49.1	+1.0
	30nm,0.5s,mb5.2						
STKA				*e*S	S	19 45 08.0	+55
STKA	Stephens Creek	27.13	157	P	P	19 39 49.1	+1.0
	44nm,0.7s,mb5.2,baz=330,slow=8.0,SNR=49						
MUN	Mundaring	27.62	205	*e*P	P	19 39 52.8	+0.2
	18nm,1.0s,mb4.7						
MUN				*e*S	S	19 45 11.0	+50
NWAO	Narrogin (SRO)	28.06	202	P	P	19 39 56.9	+0.4
	16nm,0.9s,mb4.7,baz=101,slow=5.5,SNR=8.5						
CNB	Canberra Magne	33.52	150	*e*P	P	19 40 46.9	+2.7
	41nm,1.6s,mb4.9						
TOO	Toolangi	33.65	157	*e*P	P	19 40 48.0	+2.6
	8.2nm,0.5s,mb4.7						
JOW	Kunigami	33.77	358	P	P	19 40 47.0	+0.5
	26nm,0.7s,mb5.1,baz=162,slow=8.6,SNR=11						
NANT	Nan	38.27	313	⇑P	P	19 41 22.0	-2.5
	212nm,0.5s						
BDT	Bhumibol Dam	38.59	309	P	P	19 41 28.0	+0.9
	18nm,0.8s,mb4.8						
SSE	Sheshan	38.81	349	P	P	19 41 28.9	+0.1
SSE				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,64nm,3.9s						
SSE	Sheshan	38.81	349	P	P	19 41 28.9	+0.1
	comp=Z,33nm,0.6s,mb5.1						
CMAR	Chiang Mai Arr	39.36	311	P	P	19 41 33.5	0.0
	comp=Z,22nm,0.7s,mb4.9,baz=142,slow=7.7,SNR=109						
CMAR				PcP	PcP	19 43 40.4	+1.3
	comp=Z,6.2nm,0.7s,baz=163,slow=3.0,SNR=14						
CMAR				ScP		19 47 14.2	
	comp=Z,1.8nm,0.9s,baz=149,slow=3.0,SNR=6.3						
CHG	Chiang Mai	39.58	311	⇑P	P	19 41 35.5	+0.3
	comp=Z,66nm,1.1s,mb5.2						
GYA	Guiyang	40.02	327	⇑*i*P	P	19 41 38.4	-0.4
GYA				PCP	PcP	19 43 42.4	+1.3
GYA				S	S	19 47 30.5	-1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				LR	LR		
	comp=N,180nm,15.7s						
GYA				LR	LR		
	comp=E,80nm,16.6s						
GYA				LR	LR		
	comp=Z,100nm,15.1s						
JNU	Nakatsue	40.04	2	P	P	19 41 39.0	+0.1
	comp=Z,9.4nm,0.7s,mb4.5,baz=15,slow=7.7,SNR=6.3						
WHN	Wuhan	40.14	340	⇓P	P	19 41 40.3	+0.6
NJ2	Nanjing	40.23	346	*e*P	P	19 41 40.8	+0.3
NJ2				S	S	19 47 35.0	+0.1
NJ2				LR	LR		
	comp=N,250nm,15.1s						
NJ2				LR	LR		
	comp=E,300nm,14.6s						
NJ2				LR	LR		
	comp=Z,360nm,14.7s						
JHJ	Hachijo jima 2	41.22	13	LR	LR	19 56 42.2	
	comp=Z,83nm,20.9s,baz=303,slow=33						
KMI	Kunming	41.25	322	*e*P	P	19 41 49.4	+0.5
KMI				S	S	19 47 54.8	+4.9
KMI				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,120nm,5.4s						
KMI				LR	LR		
	comp=N,126nm,20.6s						
KMI				LR	LR		
	comp=E,140nm,23.3s						
KMI				LR	LR		
	comp=Z,184nm,29.6s						
KMI	Kunming	41.25	322	*e*P	P	19 41 49.4	+0.5
	comp=Z,21nm,1.2s,mb4.6						
KMI				sP	sP	19 42 23.9	-20
KMI				S	S	19 47 54.8	+4.9
KMI				sS		19 48 36.0	
KMI				LR	LR		
	comp=Z,180nm,29.6s						
ENH	Enshi	41.81	334	*e*P	P	19 41 52.5	-1.0
	comp=Z,7.8nm,0.8s,mb4.4						
MAJO	Matsushiro	44.21	10	*e*P	P	19 42 11.6	-1.2
	comp=Z,20nm,0.7s,mb4.9						
MAT	Matsushiro	44.21	10	P	P	19 42 11.7	-1.1
MAT	Matsushiro	44.21	10	*e*P	P	19 42 12.0	-0.8
KS15	Wonju Array Si	44.35	358	*e*P	P	19 42 14.4	+0.5
CD2	Chengdu	45.09	328	⇑*i*P	P	19 42 18.8	-1.1
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
BJT	Baijiatuau	48.47	346	*e*P	P	19 42 45.5	-0.7
	comp=Z,37nm,0.6s,mb5.2						
BJI	Beijing	48.49	346	P	P	19 42 45.5	-0.8
BJI				AMB	AMB		
	comp=Z,54nm,0.6s,mb5.3						
BJI				AMB	AMB		
	comp=Z,164nm,3.7s						
BJI	Beijing	48.49	346	P	P	19 42 45.5	-0.8
	comp=Z,54nm,0.6s,mb5.3						
SNY	Shenyang	49.00	354	⇑P	P	19 42 49.8	-0.4
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SNY				LR	LR		
	comp=N,200nm,21.6s						
SNY				LR	LR		
	comp=Z,330nm,27.6s						
LZH	Lanzhou	49.24	333	⇑P	P	19 42 52.1	0.0
LZH				AP	pP	19 43 15.6	-14
LZH				AMB	AMB		
	comp=Z,90nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,380nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,18.4s						
LZH				LR	LR		
	comp=Z,2μm,19.8s						
LZH	Lanzhou	49.24	333	⇑P	P	19 42 52.1	0.0
	comp=Z,90nm,1.5s,mb5.2						
LZH				pP	pP	19 43 15.6	-14
LZH				sP	sP	19 43 28.0	-20
LZH				LR	LR		
	comp=Z,2μm,19.8s						
HHC	Hu-ho-hao-te	50.48	342	*e*P	P	19 42 58.3	-3.1
HHC				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
HHC				AMB	AMB		
	comp=Z,130nm,5.0s						
HHC				LR	LR		
	comp=N,103nm,15.5s						
HHC				LR	LR		
	comp=E,104nm,20.2s						
HHC				LR	LR		
	comp=Z,118nm,22.6s						
CN2	Changchun	50.81	356	*e*P	P	19 43 02.6	-1.3
CN2				*e*S	S	19 50 11.6	+6.1
CN2				*e*SS	SS	19 53 44.9	+4.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
MDJ	Mudanjiang	51.50	0	P	P	19 43 09.1	0.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,87nm,4.4s						
MDJ				LR	LR		
	comp=N,20nm,18.2s						
MDJ				LR	LR		
	comp=E,36nm,22.0s						
MDJ				LR	LR		
	comp=Z,35nm,15.7s						
MDJ	Mudanjiang	51.50	0	*e*P	P	19 43 09.0	-0.1
	comp=Z,7.3nm,0.8s,mb4.4						
RPZ	Rata Peaks	51.50	142	P	P	19 43 11.6	+2.5
	comp=Z,12nm,0.5s,mb4.8,baz=256,slow=3.3,SNR=21						
LSA	Lhasa	51.88	317	P	P	19 43 12.1	-0.1
LSA	Lhasa	51.88	317	*e*P	P	19 43 12.0	-0.2
	comp=Z,13nm,0.6s,mb4.7						
ASAJ	Asahikawa	52.38	12	P	P	19 43 15.4	-0.2
	comp=Z,9.4nm,0.5s,mb4.7,baz=223,slow=11,SNR=9.9						
URZ	Urewera	53.01	133	P	P	19 43 21.7	+1.3
	comp=Z,3.0nm,0.4s,mb4.3,baz=270,slow=7.4,SNR=5.9						
URZ				PcP	PcP	19 44 29.0	+2.3
	comp=Z,5.2nm,0.4s,baz=252,slow=9.4,SNR=4.2						
GTA	Gaotai	53.80	332	⇑*i*P	P	19 43 25.8	-0.4
GTA				PCP	PcP	19 44 30.0	+0.3
GTA				PP	PP	19 45 30.3	0.0
GTA				PPP	PPP	19 46 41.4	-2.4
GTA				SCP		19 48 16.8	
GTA				S	S	19 50 54.3	+8.2
GTA				SCS	ScS	19 53 01.6	+6.5
GTA				SS	SS	19 54 36.0	+6.8
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,40nm,4.6s						
GTA				LR	LR		
	comp=N,85nm,21.3s						
GTA				LR	LR		
	comp=E,154nm,19.8s						
GTA				LR	LR		
	comp=Z,187nm,22.8s						
PKI	Pulchoki	54.76	311	*e*P	P	19 43 32.1	-1.2
	comp=Z,54nm,0.5s,mb5.5						
KKN	Kakani	54.97	311	*e*P	P	19 43 33.7	-1.2
	comp=Z,67nm,0.5s,mb5.6						
DMN	Daman	55.01	311	*e*P	P	19 43 34.1	-1.0
	comp=Z,53nm,0.7s,mb5.4						
YSS	Yuzh-Sakhalins	55.13	11	*e*P	P	19 43 35.5	-0.2
GKN	Gorkha	55.57	311	*e*P	P	19 43 38.2	-1.0
	comp=Z,94nm,0.4s,mb5.9						
HYB	Hyderabad	55.84	297	*i* P	P	19 43 39.0	-2.2
HYB				*e*		19 43 42.0	
HYB	Hyderabad	55.84	297	*e*P	P	19 43 39.0	-2.2
HYB				*e*		19 43 42.0	
KLR	Kul'dur	56.15	2	*e*P	P	19 43 42.2	-0.8
KOLN	Koldanda	56.23	310	*e*P	P	19 43 43.1	-0.8
	comp=Z,44nm,0.4s,mb5.6						
SONM	Songino Array	58.37	342	P	P	19 43 58.9	+0.3
	comp=Z,6.1nm,0.6s,mb4.6,baz=155,slow=6.3,SNR=32						
SONM				PcP	PcP	19 44 47.4	0.0
	comp=Z,5.5nm,0.9s,baz=166,slow=5.1,SNR=6.4						
CASY	Casey	60.49	189	*e*P	P	19 44 13.0	+0.1
	comp=Z,4.4nm,0.9s,mb4.3						
ZAK	Zakamensk	61.59	341	⇑*e*P	P	19 44 20.2	-0.3
NDI	New Delhi	61.59	308	*e*P	P	19 44 15.0	-5.8
SDNR	Sundarnagar	63.08	311	*e*P	P	19 44 29.4	-1.2
WMQ	Urumqi	63.18	327	⇑P	P	19 44 30.6	-0.5
WMQ				PCP	PcP	19 45 07.4	+0.6
WMQ				PP	PP	19 46 51.9	-1.4
WMQ				S	S	19 52 51.6	+4.2
WMQ				PS	PS	19 53 24.6	-7.7
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
WMQ				LR	LR		
	comp=N,38nm,18.6s						
WMQ				LR	LR		
	comp=E,58nm,18.7s						
WMQ				LR	LR		
	comp=Z,53nm,20.0s						
MOY	Mondy	63.43	341	*e*P	P	19 44 33.0	+0.4
BOD	Bodaibo	65.92	351	*e*P	P	19 44 47.4	-1.2
MKAR	Makanchi Array	68.01	327	P	P	19 45 01.4	-0.4
	comp=Z,12nm,0.4s,mb4.9,baz=127,slow=7.8,SNR=146						
MKAR	Makanchi Array	68.01	327	*i* P	P	19 45 01.4	-0.5
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	Makanchi Array	68.01	327	P	P	19 45 01.4	-0.4
MA2	Magadan	68.63	11	*e*P	P	19 45 06.0	+0.6
MA2				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
YAK	Yakutsk	68.95	0	*c i*P	P	19 45 07.0	-0.3
YAK				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.5						
YAK	Yakutsk	68.95	0	*e*P	P	19 45 07.0	-0.4
	comp=Z,77nm,0.8s,mb5.5						
KZA	Kyzart	69.49	320	P	P	19 45 12.4	+1.4
	SNR=7.1						
TKM2	Tokmak 2	69.70	321	P	P	19 45 12.6	+0.3
	SNR=6.7						
UCH	Uchtor	70.04	320	P	P	19 45 15.7	+1.4
	SNR=11						
AAK	Ala-Archa	70.25	320	*e*P	P	19 45 15.0	-0.6
	comp=Z,6.6nm,0.9s,mb4.4						
FX1	Attu Island--F	70.34	26	P	P	19 45 17.1	+1.2
	comp=Z,8.8nm,0.5s,mb4.8,baz=99,slow=2.7,SNR=8.6						
FX1	Attu Island--F	70.34	26	*e*P	P	19 45 16.2	+0.3
AML	Almayashu	70.52	319	P	P	19 45 18.0	+0.8
	SNR=20						
USP	Ospenovka	70.57	321	P	P	19 45 17.3	-0.2
	SNR=8.1						
EKS2	Erkin-Say	70.73	320	P	P	19 45 19.1	+0.6
	SNR=14						
ZAL	Zalesovo	71.43	334	P	P	19 45 21.7	-0.7
	comp=Z,7.0nm,0.5s,mb4.7,baz=254,slow=4.8,SNR=39						
ZAL	Zalesovo	71.43	334	*i* P	P	19 45 21.7	-0.8
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SEY	Seymchan	72.03	11	*e*P	P	19 45 27.8	+2.0
SEY				*e*	pP	19 46 05.2	-0.5
SEY				*e*		19 46 22.2	
SEY				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
KURK	Kurchatov	72.32	329	*i* P	P	19 45 27.4	-0.3
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
KURK	Kurchatov	72.32	329	*e*P	P	19 45 27.2	-0.5
	comp=Z,21nm,0.8s,mb4.9						
VNDA	Vanda	72.40	173	P	P	19 45 28.9	+1.1
	comp=Z,2.4nm,0.6s,mb4.1,baz=326,slow=6.4,SNR=12						
VNDA	Vanda	72.40	173	*e*P	P	19 45 28.4	+0.5
	comp=Z,2.7nm,0.7s,mb4.1						
NVS	Novosibirsk	72.72	334	*e*P	P	19 45 26.5	-3.5
NVS				*e*	pP	19 46 05.6	-4.4
NVS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,22nm,1.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.4s						
KKAR	Karatay Array	73.05	319	*i* P	P	19 45 31.7	-0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MAW	Mawson	74.62	201	*e*P	P	19 45 42.2	+1.4
	comp=Z,2.2nm,0.4s,mb4.1						
MAW				*e*sP	sP	19 46 29.4	-9.4
MAW	Mawson	74.62	201	P	P	19 45 42.0	+1.2
	comp=Z,4.0nm,0.6s,mb4.2,baz=75,slow=6.3,SNR=12						
VOSK	Vostochnaya	77.39	328	P	P	19 45 55.8	-0.8
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
BVAR	Borovoye Array	77.85	328	P	P	19 45 59.3	+0.2
	comp=Z,12nm,0.9s,mb4.5,baz=124,slow=5.3,SNR=46						
BRVK	Borovoye	77.92	328	P	P	19 45 59.3	-0.2
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
BRVK	Borovoye	77.92	328	*e*P	P	19 45 59.0	-0.5
	comp=Z,19nm,1.0s,mb4.7						
ZRNK	Zerenda	78.55	328	P	P	19 46 02.5	-0.4
ZRNK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
TIXI	Tiksi	78.61	360	⇓*e*P	P	19 46 02.6	-0.3
TIXI				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
AB31	Akbulak array	82.24	322	P	P	19 46 22.2	-0.3
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
SYO	Syowa Base	83.34	201	⇓P	P	19 46 28.7	+1.0
SYO	Syowa Base	83.34	201	⇓PcP	PcP	19 46 30.0	-2.0
SYO	Syowa Base	83.34	201	⇓sP	sP	19 47 04.1	-22
ARU	Arti	85.50	328	P	P	19 46 38.3	-0.4
	SNR=20						
ARU	Arti	85.50	328	⇑*i*P	P	19 46 38.6	-0.1
ARU				*e*	pP	19 47 21.1	+1.2
ARU				*e*		19 49 59.1	
ARU				*e*PPP	PPP	19 51 51.3	-7.0
ARU				*e*S	S	19 56 41.4	-13
ARU				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
ARU	Arti	85.50	328	*e*P	P	19 46 38.2	-0.5
	comp=Z,30nm,0.9s,mb5.0						
QRN	Al-Qurain	85.98	299	*e*P	P	19 46 44.7	+3.0
QRN				AMb	AMB	19 46 45.0	
	comp=Z,62nm,0.5s,mb5.6						
RDF	Al-Radifah	86.33	300	*e*P	P	19 46 44.4	+1.0
RDF				AMb	AMB	19 46 45.2	
	comp=Z,31nm,0.7s,mb5.1						
MIB	Mutribah	86.67	300	*e*P	P	19 46 45.3	+0.3
MIB				AMb	AMB	19 46 46.2	
	comp=Z,34nm,0.8s,mb5.2						
RST	Umm Al-Ruwaisa	86.91	300	AMb	AMB	19 46 47.8	
	comp=Z,44nm,0.6s,mb5.5						
MCK	McKinley	92.65	26	*e*P	P	19 47 12.3	+0.1
	comp=Z,4.1nm,0.9s,mb4.6						
DIV	Divide	93.68	29	*e*P	P	19 47 17.7	+0.7
	comp=Z,14nm,0.6s,mb5.3						
ILAR	Eielson Array	93.71	25	P	P	19 47 16.8	-0.3
	comp=Z,2.7nm,0.9s,mb4.4,baz=271,slow=4.4,SNR=15						
SNAA	Sanae	95.41	194	⇑*i*P	P	19 47 19.4	-5.2
SNAA	Sanae	95.41	194	⇑*i*P	P	19 47 19.4	-5.2
ASF	Jabal al Asfar	95.86	302	P	P	19 47 28.1	+0.5
	comp=Z,2.0nm,0.7s,mb4.6,baz=347,slow=1.1,SNR=3.1						
ANN	Anapa	96.36	314	*e*P	P	19 47 20.4	-9.2
ANN				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.8						
VNA2	Neumayer--Watz	96.98	193	⇑*i*P	P	19 47 35.4	+3.6
VNA2	Neumayer--Watz	96.98	193	⇑*i*P	P	19 47 35.4	+3.6
OBN	Obninsk	97.42	325	⇑*e*P	P	19 47 33.3	-0.8
OBN				*e*		19 51 33.4	
OBN				*e*		19 57 51.7	
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.4						
LSZ	Lusaka	98.87	253	*e*P	P	19 47 41.9	+0.3
ARCES	ARCESS Array B	101.49	340	P	P	19 47 51.9	-0.3
	comp=Z,3.8nm,0.7s,baz=80,slow=6.1,SNR=15						
AKASG	Malin Array Be	101.92	320	P	P	19 47 53.0	-1.5
	comp=Z,0.2nm,0.3s,baz=65,slow=4.3,SNR=4.6						
AKASG	Malin Array Be	101.92	320	P	P	19 47 51.9	-2.6
FINES	FINESS Array B	102.59	331	P	Pdif	19 47 56.2	-1.0
	comp=Z,0.7nm,0.8s,baz=63,slow=4.3,SNR=5.3						
FINES	FINESS Array B	102.59	331	*i* P	Pdif	19 47 56.2	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	102.59	331	P	Pdif	19 47 56.2	-1.0
GERES	GERESS Array B	112.14	320	PKiKP		19 52 36.4	
	comp=Z,0.8nm,0.5s,baz=73,slow=1.7,SNR=11						
HLID	Hailey	113.75	45	*e*PKPdf	PKPdf	19 52 40.4	+3.0
HWUT	Hardware Ranch	116.27	47	*e*PKPdf	PKPdf	19 52 45.1	+2.7
BW06	Boulder Array	117.39	45	*e*PKPdf	PKPdf	19 52 47.2	+2.8
PDAR	Pinedale Array	117.39	45	PKP	PKPdf	19 52 47.5	+3.1
	comp=Z,0.6nm,0.6s,baz=317,slow=0.6,SNR=5.9						
RSSD	Black Hills	120.74	42	*e*PKPdf	PKPdf	19 52 53.4	+2.4
ISCO	Idaho Springs	121.12	48	*e*PKPdf	PKPdf	19 52 55.4	+3.6
SDCO	Great Sand Dun	121.83	50	*e*PKPdf	PKPdf	19 52 57.0	+3.7
ANMO	Albuquerque	121.85	53	*e*PKPdf	PKPdf	19 52 56.9	+3.5
TXAR	Lajitas Array	125.49	59	PKP	PKPdf	19 53 04.1	+3.5
	comp=Z,0.6nm,0.4s,baz=207,slow=2.8,SNR=4.5						
JCT	Junction City	128.45	57	*e*PKPdf	PKPdf	19 53 09.1	+2.8
PLCA	Paso Flores	128.96	161	PKP	PKPdf	19 53 10.2	+3.2
	comp=Z,3.1nm,0.8s,baz=185,slow=4.4,SNR=11						
PLCA				SKPbc		19 56 14.8	
	comp=Z,1.4nm,0.7s,baz=200,slow=5.8,SNR=4.5						
PLCA	Paso Flores	128.96	161	*e*PKPdf	PKPdf	19 53 10.7	+3.7
KIC	Kosan Boka	134.47	272	*e*P	PKPdf	19 53 19.6	+1.6
	comp=Z,22nm,0.7s						
DBIC	Dimbokro	134.61	272	PKP	PKPdf	19 53 21.3	+3.0
	comp=Z,3.8nm,0.5s,baz=90,slow=2.5,SNR=11						
DBIC				SKPbc		19 56 34.2	
	comp=Z,7.5nm,1.2s,baz=155,slow=4.2,SNR=4.5						
LIC	Lamto	134.75	272	*e*P	PKPdf	19 53 19.9	+1.3
	comp=Z,29nm,0.7s						
TIC	Toumodi	134.77	272	*e*P	PKPdf	19 53 21.6	+3.0
	comp=Z,9.9nm,0.3s						
LVC	Limon Verde	145.43	149	PKPbc	PKPbc	19 53 42.7	+4.6
	comp=Z,8.3nm,0.6s,baz=236,slow=4.1,SNR=11						
LVC				SKPbc		19 57 05.3	
	comp=Z,2.7nm,0.6s,baz=180,slow=5.1,SNR=3.1						
LVC	Limon Verde	145.43	149	*e*PKPdf	PKPdf	19 53 42.1	+4.7
JTS	JuntasAbangare	145.90	82	PKPbc	PKPbc	19 53 43.1	+3.6
	comp=Z,17nm,0.7s,baz=257,slow=4.3,SNR=10						
JTS				SKPbc		19 57 08.7	
	comp=Z,9.8nm,1.1s,baz=165,slow=18,SNR=2.5						
JTS	JuntasAbangare	145.90	82	PKPbc	PKPbc	19 53 43.1	+3.6
JTS				SKPbc		19 57 08.7	
CPUP	Villa Florida	146.11	169	PKPbc	PKPbc	19 53 42.9	+3.2
	comp=Z,20nm,1.1s,baz=221,slow=2.9,SNR=23						
CPUP				SKPbc		19 57 06.2	
	comp=Z,4.6nm,0.9s,baz=219,slow=3.0,SNR=4.4						
CPUP	Villa Florida	146.11	169	*e*PKPbc	PKPbc	19 53 42.5	+2.8
NNA	Nana	147.72	126	*e*PKPbc	PKPdf	19 53 48.2	+6.8
LPAZ	La Paz	150.98	143	PKP	PKPdf	19 53 50.5	+4.1
	comp=Z,2.5nm,0.3s,baz=170,slow=0.1,SNR=4.7						
LPAZ				PKPbc	PKPdf	19 53 56.6	+10
	comp=Z,8.0nm,0.4s,baz=59,slow=1.8,SNR=11						
LPAZ	La Paz	150.98	143	*e*PKPdf	PKPdf	19 53 50.8	+4.3
LPAZ				*e*PKPbc	PKPdf	19 53 56.7	+10
SAML	Samuel	159.69	142	*e*PKPdf	PKPdf	19 54 01.4	+3.3
SAML				*e*PKPab	PKPab	19 54 40.5	+0.5

IDC ***20*** *19:48:51.1±0.9, 18.89S×174.57W, mb4.3/9, mb1 4.6/10, mb1mx4.3/20, ML4.9/1, Error ellipse: s-maj=32.3km s-min=19.9km az=127.0*

NEIC ***20*** *19:48:55.4±0.6, 18.97S×174.56W, h25^{km}, mb4.5/8, Error ellipse: s-maj=18.4km s-min=12.4km az=141.0*

ISC 20 19:48:54.5±0.6, **19.0S**±0.1×**174.6W**±0.1, **h33**^{km}**, n23,** σ**0^{s}76**/20, **mb4.3**/13, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.10	101	Pn	P	19 52 03.8	-10
	5.7nm,0.3s,baz=257,slow=8.1,SNR=11						
URZ	Urewera	20.47	199	P	P	19 53 30.3	-1.7
	9.0nm,0.4s,baz=30,slow=2.7,SNR=13						
RPZ	Rata Peaks	27.40	203	P	P	19 54 40.6	+1.6
	7.8nm,0.6s,mb4.4,baz=157,slow=7.7,SNR=12						
CTA	Charters Tower	36.84	262	*e*P	P	19 56 03.5	+1.9
	5.5nm,0.4s,mb4.7						
CTA	Charters Tower	36.84	262	P	P	19 56 02.5	+0.9
	7.0nm,0.5s,mb4.8,baz=91,slow=10,SNR=21						
CTAO	Charters Tower	36.84	262	*e*P	P	19 56 03.1	+1.5
	11nm,0.9s,mb4.7						
STKA	Stephens Creek	41.30	243	P	P	19 56 38.2	-0.4
	1.5nm,0.5s,mb3.9,baz=95,slow=9.7,SNR=5.5						
WB2	Warramunga Arr	47.97	260	*e*P	P	19 57 31.5	-0.9
ASAR	Alice Springs	47.97	255	P	P	19 57 32.2	-0.1
	5.6nm,0.5s,mb4.9,baz=92,slow=8.8,SNR=103						
ASAR				PcP	PcP	19 59 00.1	-0.4
	1.9nm,0.6s,baz=106,slow=4.0,SNR=8.3						
WRAB	Tennant Creek	47.97	260	*e*P	P	19 57 32.0	-0.3
	10nm,0.8s,mb4.9						
ASPA	Alice Springs	47.97	255	*e*P	P	19 57 32.8	+0.5
WRA	Warramunga Arr	47.98	260	P	P	19 57 32.3	-0.1
	6.1nm,0.6s,mb4.8,baz=98,slow=8.0,SNR=124						
KAKA	Kakadu	51.21	269	*e*P	P	19 57 56.7	-0.5
	4.2nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	56.40	261	*e*P	P	19 58 35.6	+0.2
	2.1nm,0.5s,mb4.4						
VNDA	Vanda	59.66	186	P	P	19 58 58.4	+0.8
	0.4nm,0.7s,mb3.6,baz=14,slow=6.7,SNR=3.9						
VNDA	Vanda	59.66	186	*e*P	P	19 58 57.8	+0.3
	2.2nm,1.1s,mb4.1						
TUC	Tucson	79.58	51	*e*P	P	20 01 00.1	-0.1
	0.9nm,0.6s,mb3.9						
ANMO	Albuquerque	84.01	50	P	P	20 01 23.3	+0.1
	2.2nm,0.9s,mb4.3						
PDAR	Pinedale Array	85.73	42	P	P	20 01 31.1	-0.4
	0.3nm,0.8s,mb3.6,baz=270,slow=0.9,SNR=2.9						
ILAR	Eielson Array	86.21	12	P	P	20 01 33.6	+0.2
	1.1nm,0.6s,mb4.3,baz=227,slow=6.2,SNR=17						
CLL	Collm	147.24	351	*e*PKP1	PKPdf	20 08 37.0	+5.0
BRTR	Keskin Array B	148.11	316	PKPbc	PKPdf	20 08 38.3	+4.5
	1.3nm,0.7s,baz=126,slow=3.6,SNR=5.0						
GERES	GERESS Array B	149.51	349	PKPbc	PKPdf	20 08 41.7	+6.0
	0.4nm,0.5s,slow=2.7,SNR=4.5						

IDC ***20*** *20:21:59.7±1.1, 35.07N×141.19E, mb4.0/6, mb1 4.2/7, mb1mx3.8/24, ML3.4/1, Error ellipse: s-maj=38.5km s-min=22.4km az=106.0*

JMA ***20*** *20:22:00.9±0.2, 35.02N×141.47E, h39^{km}±4^{km}, M3.2*

NEIC ***20*** *20:22:05.6±0.8, 35.10N×141.02E, h40^{km}, mb4.4/2, Error ellipse: s-maj=24.9km s-min=10.8km az=57.0*

ISC 20 20:22:00.6±1.3, **35.06N**±0.04×**141.46E**±0.08, **h28**^{km}±7^{km},

n24,σ1^{s}09/30**,mb4.1**/8**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**225**	P	**Pb**	**20 22 12.2**	**+0.2**
BSO1				S	**Sb**	**20 22 18.4**	**-1.4**
BSO2	**Boso 2**	**0.66**	**242**	S	**Sb**	**20 22 23.3**	**+1.0**
CHOJ	**Chosi**	**0.81**	**323**	P	**Pn**	**20 22 16.3**	**0.0**
CHOJ				S	**Sn**	**20 22 27.6**	**+0.2**
BSO3	**Boso 3**	**0.82**	**252**	P	**Pn**	**20 22 15.9**	**-0.6**
BSO3				S	**Sn**	**20 22 29.0**	**+1.3**
BSO4	**Boso 4**	**0.93**	**266**	P	**Pn**	**20 22 17.6**	**-0.3**
KTR	**Katsuura**	**0.94**	**276**	P	**Pn**	**20 22 18.6**	**+0.4**
JCN	**Nagara**	**1.09**	**290**	P	**Pn**	**20 22 22.5**	**+2.2**
JYT	**Yasato**	**1.56**	**319**	P	**Pn**	**20 22 27.4**	**+0.4**
JIM2	**Oshima 3**	**1.70**	**259**	P	**Pn**	**20 22 27.5**	**-1.6**
JHJ	**Hachijo jima 2**	**2.38**	**216**	Pn	**Pn**	**20 22 39.0**	**+0.2**
	26nm,0.3s,baz=217,slow=15,SNR=15						
JHJ				Sn	**Sn**	**20 23 07.7**	**+0.3**
	79nm,0.3s,baz=274,slow=23,SNR=11						
MAJO	**Matsushiro**	**3.03**	**300**	*e*Pn	**Pn**	**20 22 47.0**	**-1.0**
MAT	**Matsushiro**	**3.03**	**300**	P	**Pn**	**20 22 49.0**	**+1.0**
MAT				S	**Sn**	**20 23 22.0**	**-1.8**
MAT	**Matsushiro**	**3.03**	**300**	*e*P	**Pn**	**20 22 49.0**	**+1.0**
MAT				*e*S	**Sn**	**20 23 22.0**	**-1.8**
MKAR	**Makanchi Array**	**45.23**	**304**	P	**P**	**20 30 16.5**	**-0.6**
	0.6nm,0.6s,mb3.6,baz=82,slow=8.4,SNR=6.6						
MKAR	**Makanchi Array**	**45.23**	**304**	P	**P**	**20 30 16.5**	**-0.6**
KURK	**Kurchatov**	**47.20**	**310**	*e*P	**P**	**20 30 32.3**	**-0.3**
	2.4nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**54.96**	**198**	P	**P**	**20 31 32.8**	**+1.0**
	1.1nm,0.6s,mb4.0,baz=9.2,slow=7.5,SNR=4.5						
WRAB	**Tennant Creek**	**55.10**	**188**	P	**P**	**20 31 31.7**	**-1.1**
	4.6nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**55.11**	**188**	*e*P	**P**	**20 31 31.9**	**-1.0**
WRA	**Warramunga Arr**	**55.11**	**188**	P	**P**	**20 31 31.9**	**-1.0**
	3.3nm,0.8s,mb4.4,baz=4.5,slow=7.4,SNR=41						
ASAR	**Alice Springs**	**58.84**	**188**	P	**P**	**20 31 59.1**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=3.6,slow=6.6,SNR=8.7						
NWAO	**Narrogin (SRO)**	**71.35**	**201**	P	**P**	**20 33 22.2**	**+2.2**
	15nm,1.0s,mb4.9,baz=34,slow=11,SNR=6.7						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**20 33 51.2**	**+3.4**
	0.5nm,0.6s,mb3.6,baz=286,slow=4.4,SNR=4.1						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**20 33 51.2**	**+3.4**

NIED **20** *20:33:00,35.00N×141.50E,h23^{km},Mw5.4 Best double couple: M$_0$1.27×10^{17} NP1:φ$_s$345°,δ80°,λ57°. NP2:φ$_s$240°,δ34°,λ161°.*

BJI **20** *20:33:00.5,35.11N×141.17E,h28^{km},mB5.2,mb5.2,Ms5.2,Msz5.2*

IDC **20** *20:33:00.1±0.3,35.06N×141.15E,mb4.9/30,mb1 5.1/35,mb1mx5.0/37,ML4.5/5,MS4.8/22,Ms1 4.8/22,ms1mx4.7/33,Error ellipse: s-maj=13.6km s-min=9.6km az=104.0*

JMA **20** *20:33:01.1±0.3,35.04N×141.48E,h38^{km}±4^{km},M5.4*

JMA Felt II J1.

HRVD **20** *20:33:04.2±0.3,34.92N×141.62E,h38^{km},MW5.2/58, Centroid moment Tensor Solution. LP body waves: s40,c64;Mantle waves: s58,c111; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.60±.03; M$_{\theta\theta}$0.06±.02; M$_{\phi\phi}$-0.66±.02; M$_{r\theta}$0.09±.02; M$_{\theta\phi}$-0.21±.01; M$_{\phi r}$0.53±.02; Best double couple: M$_0$.85×10^{17} NP1:φ$_s$200°,δ26°,λ98°. NP2:φ$_s$11°,δ65°,λ86°. Principal axes: T.79, Plg70°, Azm273°; N.12, Plg3°, Azm13°; P-.91, Plg20°, Azm104°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO **20** *20:33:04.1,35.05N×141.12E,h27^{km},MB5.3,MS4.8*

NEIC **20** *20:33:04.2±1.4,35.05N×141.12E,h27^{km}±9^{km},mb5.3/101,MS4.8/22,MW5.4(NIED),Error ellipse: s-maj=3.7km s-min=2.9km az=162.0*

NEIC Recorded [2 JMA] in Chiba and [1 JMA] in Kanagawa Prefectures.

MOS **20** *20:33:08.1±1.0,35.76N×141.01E,h40^{km},mb5.4/32,Error ellipse: s-maj=11.9km s-min=5.4km az=106.8*

ISC 20 20:33:03.4±0.5**,35.06N**±0.02×**141.18E**±0.02**,h32**^{km}±3^{km}**, h33**^{km}±.8^{km}**:pP-P,n456,σ1^{s}04**/474**,mb5.2**/158**,MS5.0**/65**, 25C-23D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.43**	**202**	⇑P	**Pb**	**20 33 12.6**	**-0.3**
BSO3	**Boso 3**	**0.60**	**245**	P	**Pb**	**20 33 16.4**	**+0.9**
BSO4	**Boso 4**	**0.69**	**265**	⇓P	**Pb**	**20 33 18.1**	**+1.1**
CHOJ	**Chosi**	**0.69**	**338**	P	**Pb**	**20 33 16.3**	**-0.7**
CHOJ				*e*S	**Sb**	**20 33 27.1**	**+0.7**
KTR	**Katsuura**	**0.71**	**278**	P	**Pb**	**20 33 18.4**	**+1.1**
KTR				S	**Sb**	**20 33 32.1**	**+5.2**
JCN	**Nagara**	**0.87**	**295**	P	**Pn**	**20 33 21.7**	**+2.1**
JCN				*e*S	**Sn**	**20 33 36.4**	**+5.1**
TATJ	**Tateyama 2**	**1.05**	**269**	P	**Pn**	**20 33 23.6**	**+1.4**
JYT	**Yasato**	**1.42**	**326**	P	**Pn**	**20 33 27.7**	**+0.4**
JYT				*e*S	**Sn**	**20 33 47.1**	**+2.1**
JIM2	**Oshima 3**	**1.47**	**257**	⇓P	**Pn**	**20 33 27.8**	**-0.4**
JMY	**Miyake jima 2**	**1.69**	**235**	P	**Pn**	**20 33 31.7**	**+0.5**
AJI	**Ajiro**	**1.71**	**270**	P	**Pn**	**20 33 32.8**	**+1.3**
JOD2	**Odawara 2**	**1.72**	**277**	P	**Pn**	**20 33 32.3**	**+0.6**
JIZS	**Izushimoda**	**1.92**	**260**	⇓P	**Pn**	**20 33 35.1**	**+0.6**
JAG	**Ashikaga**	**1.96**	**315**	P	**Pn**	**20 33 36.3**	**+1.2**
ONAJ	**Iwakimizuishiy**	**2.06**	**352**	P	**Pn**	**20 33 35.2**	**-1.4**
ONAJ				*e*S	**Sn**	**20 33 59.5**	**-2.0**
JYN	**Shimob**	**2.20**	**282**	P	**Pn**	**20 33 40.1**	**+1.6**
JHJ	**Hachijo jima 2**	**2.25**	**211**	Pn	**Pn**	**20 33 39.5**	**+0.2**
	174nm,0.3s,baz=42,slow=3.1,SNR=144						
JHJ				Sn	**Sn**	**20 34 07.8**	**+1.5**
	688nm,0.3s,baz=257,slow=23,SNR=8.8						
JFK	**Kawauchi**	**2.32**	**354**	P	**Pn**	**20 33 38.5**	**-1.7**
JMM	**Marumori**	**2.82**	**354**	P	**Pn**	**20 33 45.8**	**-1.6**
JMM				S	**Sn**	**20 34 19.6**	**-1.1**
MAJO	**Matsushiro**	**2.83**	**302**	*e*Pn	**Pn**	**20 33 49.0**	**+1.5**
MAT	**Matsushiro**	**2.83**	**302**	P	**Pn**	**20 33 48.5**	**+0.9**
MAT				S	**Sn**	**20 34 23.0**	**+2.0**
MAT	**Matsushiro**	**2.83**	**302**	P	**Pn**	**20 33 49.8**	**+2.2**
MAT	**Matsushiro**	**2.83**	**302**	*e*P	**Pn**	**20 33 49.0**	**+1.4**
MAT				*e*S	**Sn**	**20 34 23.0**	**+2.0**
JSD	**Sado**	**3.79**	**323**	P	**Pn**	**20 34 01.9**	**+0.8**
JSZ	**Suzu**	**3.90**	**309**	P	**Pn**	**20 34 04.1**	**+1.4**
CBIJ	**Chichi jima**	**7.98**	**174**	Pn	**Pn**	**20 34 57.0**	**-3.2**
	71nm,0.3s,baz=330,slow=6.6,SNR=22						
CBIJ				Sn	**Sn**	**20 36 20.6**	**-10**
	52nm,0.3s,baz=92,slow=21,SNR=3.4						
JNU	**Nakatsue**	**8.76**	**260**	Pn	**P**	**20 35 12.6**	**+1.6**
	1.5nm,0.3s,baz=80,slow=18,SNR=13						
JIU2	**Izumi 2**	**8.98**	**257**	P	**P**	**20 35 15.8**	**+1.8**
JTA	**Tamana**	**9.08**	**260**	P	**P**	**20 35 16.8**	**+1.4**
ASAJ	**Asahikawa**	**9.11**	**6**	Pn	**P**	**20 35 09.8**	**-6.0**
	20nm,0.3s,baz=234,slow=7.9,SNR=62						
ASAJ				Sn	**Sn**	**20 36 50.9**	**-7.5**
	1.1nm,0.3s,baz=92,slow=29,SNR=3.6						
ASAJ				LR	LR	20 39 28.3	
	comp=Z,7µm,20.1s,baz=187,slow=43						
ASAJ	**Asahikawa**	**9.11**	**6**	P	**P**	**20 35 09.9**	**-6.0**
ASAJ						20 36 50.9	
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,7µm,20.1s						
YUK	**Yuzh-Kuril’sk**	**9.67**	**21**	*e*P	**P**	**20 35 16.0**	**-7.5**
YUK				*e*S	**Sn**	**20 36 56.0**	**-16**
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				pmax	pmax		
	comp=N,200nm,0.4s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,1µm,0.5s						
YUK				smax			
	comp=N,4µm,1.0s						
YUK				smax			
	comp=E,8µm,1.3s						
YUK				smax			
	comp=Z,8µm,19.0s						
YUK				smax			
	comp=N,6µm,20.0s						
YUK				smax			
	comp=E,4µm,18.0s						
VLA	**Vladivostok**	**10.80**	**321**	⇓*i*P	**P**	**20 35 36.0**	**-3.0**
VLA				pmax	pmax		
	comp=N,1µm,6.0s						
VLA				pmax	pmax		
	comp=Z,600nm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,8.0s						
VLA				MLR	MLR		
	comp=N,4µm,16.0s						
VLA				MLR	MLR		
	comp=E,6µm,16.0s						
VLA				MLR	MLR		
	comp=E,6µm,17.0s						
KS15	**Wonju Array Si**	**10.99**	**286**	⇑*e*Pn	**P**	**20 35 43.0**	**+1.3**
KUR	**Kuril’sk**	**11.38**	**25**	*e*P	**P**	**20 35 44.0**	**-2.8**
KUR				*e*S	**S**	**20 37 39.0**	**-15**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,170nm,0.8s						
KUR				smax			
	comp=N,430nm,0.8s						
KUR				smax			
	comp=E,490nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.94**	**5**	*e*P	**P**	**20 35 47.8**	**-6.7**
YSS				*e*S	**S**	**20 37 57.9**	**-10**
YSS				pmax	pmax		
	comp=Z,90nm,0.7s						
YSS				pmax	pmax		
	comp=N,140nm,0.9s						
YSS				pmax	pmax		
	comp=E,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,140nm,1.0s						
YSS				pmax	pmax		
	comp=N,100nm,0.9s						
YSS				pmax	pmax		
	comp=E,80nm,0.9s						
YSS				smax			
	comp=N,180nm,1.2s						
YSS				smax			
	comp=E,70nm,1.1s						
YSS				MLR	MLR		
	comp=N,6µm,16.0s						
YSS				MLR	MLR		
	comp=Z,5µm,16.0s						
YSS				MLR	MLR		
	comp=E,5µm,17.0s						
YSS	**Yuzh-Sakhalins**	**11.94**	**5**	*e*Pn	**P**	**20 35 48.3**	**-6.2**
	comp=E,94nm,0.8s						
INCN	**Inchon**	**11.99**	**286**	*e*Pn	**P**	**20 35 56.8**	**+1.7**
	comp=E,92nm,1.4s						
MDJ	**Mudanjiang**	**13.04**	**321**	P	**P**	**20 36 06.6**	**-2.5**
MDJ				PP	PP	20 36 18.3	-0.8
MDJ				S	**S**	**20 38 32.6**	**-1.4**
MDJ				PCP	PcP	20 41 38.3	-2.2
MDJ				SCP		20 45 08.8	
MDJ				PCS		20 45 12.9	
MDJ				SCS	ScS	20 48 46.0	+0.7
MDJ				AMB	AMB		
	comp=Z,406nm,8.3s						
MDJ				LR	LR		
	comp=N,4µm,22.1s						
MDJ				LR	LR		
	comp=E,4µm,24.9s						
MDJ				LR	LR		
	comp=Z,5µm,14.4s						
MDJ	**Mudanjiang**	**13.04**	**321**	*e*P	**P**	**20 36 06.2**	**-2.9**
	comp=Z,29nm,1.1s						
JOW	**Kunigami**	**13.77**	**237**	Pn	**P**	**20 36 17.6**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=72,slow=13,SNR=6.2						
JOW				LR	LR	20 41 11.0	
	comp=Z,5µm,21.7s,baz=288,slow=36						
UGL	**Uglegorsk**	**14.03**	**2**	P	**P**	**20 36 29.5**	**+7.5**
UGL				pmax	pmax		
	comp=Z,82nm,0.9s						
UGL				MLR	MLR		
	comp=Z,6µm,17.0s						
UGL				MLR	MLR		
	comp=N,4µm,16.0s						
UGL				MLR	MLR		
	comp=E,2µm,14.0s						
CN2	**Changchun**	**14.95**	**310**	*e*P	**P**	**20 36 32.6**	**-1.5**
CN2				*e*AP		20 36 41.0	
CN2				*e*S	**S**	**20 39 17.5**	**-1.7**
CN2				*e*SS	SS	20 39 35.0	-1.7
CN2				PCP	PcP	20 41 44.9	+1.9
CN2				AMB	AMB		
	comp=Z,80nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,4µm,13.0s						
CN2				LR	LR		
	comp=E,4µm,13.0s						
CN2				LR	LR		
	comp=Z,4µm,19.0s						
SNY	**Shenyang**	**15.34**	**301**	⇑P	**P**	**20 36 38.5**	**-0.8**
SNY				AP		20 36 48.0	
SNY				XP		20 36 53.0	
SNY				LR	LR		
	comp=N,4µm,17.1s						
SNY				LR	LR		
	comp=E,6µm,17.7s						
SNY				LR	LR		
	comp=Z,7µm,19.6s						
KLR	**Kul’dur**	**15.77**	**337**	*e*P	**P**	**20 36 38.9**	**-5.9**
KLR				MLR	MLR		
	comp=E,2µm,15.0s						
KLR				MLR	MLR		
	comp=Z,6µm,15.0s						
TYV	**Tymovskoe**	**15.83**	**3**	*e*P	**P**	**20 36 42.4**	**-3.2**
TYV				pmax	pmax		
	comp=Z,40nm,0.9s						
TYV				MLR	MLR		
	comp=Z,5µm,18.0s						
DL2	**Dalian**	**16.08**	**290**	P	**P**	**20 36 46.5**	**-2.3**
DL2				S	**S**	**20 39 47.6**	**+1.8**
DL2				AMB	AMB		
	comp=Z,450nm,5.4s						
DL2				LR	LR		
	comp=N,1µm,14.1s						
DL2				LR	LR		
	comp=E,6µm,17.1s						
DL2				LR	LR		
	comp=Z,8µm,17.4s						
SSE	**Sheshan**	**17.21**	**262**	P	**P**	**20 37 03.6**	**+0.5**
SSE				XP		20 37 16.9	
SSE				S	**S**	**20 40 17.0**	**+5.3**
SSE				AMB	AMB		
	comp=Z,566nm,5.8s						
SSE				LR	LR		
	comp=N,2µm,15.0s						
SSE				LR	LR		
	comp=E,11µm,15.0s						
SSE				LR	LR		
	comp=Z,15µm,13.9s						
SSE	**Sheshan**	**17.21**	**262**	P	**P**	**20 37 03.6**	**+0.5**
	comp=Z,30nm,0.8s						
SSE				sP		20 37 16.9	
SSE				S	**S**	**20 40 17.0**	**+5.3**
SSE				sS		20 40 37.8	
NJ2	**Nanjing**	**18.84**	**267**	*e*P	**P**	**20 37 21.1**	**-2.1**
NJ2				XP		20 37 33.6	
NJ2				S	**S**	**20 40 49.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				LR	LR		
	comp=Z,24µm,14.5s						
SKR	**Severo-Kuril’s**	**19.02**	**30**	*e*P	**P**	**20 37 21.3**	**-3.8**
SKR				pmax	pmax		
	comp=N,800nm,4.0s						
SKR				pmax	pmax		
	comp=E,800nm,4.0s						
SKR				pmax	pmax		
	comp=Z,1µm,4.0s						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s						
SKR				MLR	MLR		
	comp=N,2µm,20.0s						
SKR				MLR	MLR		
	comp=E,2µm,20.0s						
TIA	**Tai’an**	**19.58**	**280**	P	**P**	**20 37 27.4**	**-4.3**
TIA				LR	LR		
	comp=N,3µm,12.2s						
TIA				LR	LR		
	comp=E,4µm,12.9s						
BJI	**Beijing**	**20.41**	**292**	P	**P**	**20 37 36.3**	**-4.2**
BJI				AP		20 37 47.3	
BJI				XP		20 37 52.4	
BJI				S	**S**	**20 41 20.0**	**-2.3**
BJI				AMB	AMB		
	comp=Z,338nm,3.8s						
BJI				LR	LR		
	comp=N,5µm,14.0s,MS5.1						
BJI				LR	LR		
	comp=E,4µm,15.6s,MS5.1						
BJI				LR	LR		
	comp=Z,5µm,21.8s						
BJI	**Beijing**	**20.41**	**292**	P	**P**	**20 37 36.3**	**-4.2**
	comp=Z,43nm,1.6s						
BJI				pP		20 37 47.3	
BJI				sP		20 37 52.4	
BJI				S	**S**	**20 41 20.0**	**-2.3**
BJI				sS		20 41 42.8	
BJI				LR	LR		
	comp=Z,5µm,21.8s,MS4.8						
BJT	**Baijiatuau**	**20.41**	**291**	*e*P	**P**	**20 37 36.3**	**-4.2**
	comp=Z,135nm,1.5s						
HIA	**Hailar**	**21.21**	**319**	*e*P	**P**	**20 37 44.1**	**-4.4**
	comp=Z,91nm,1.5s,mb4.9						
GUMO	**Guam**	**21.63**	**170**	P	**P**	**20 37 54.5**	**+1.4**
	comp=Z,1µm,1.8s,mb6.0						
PET	**Petropavlovsk**	**21.82**	**29**	*e*P	**P**	**20 37 53.4**	**-1.3**
PET				*e*		20 38 19.9	
PET				*e*S	**S**	**20 41 50.1**	**+1.1**
PET				pmax	pmax		
	comp=Z,70nm,1.5s,mb4.9						
PET				pmax	pmax		
	comp=Z,500nm,15.8s						
PET				pmax	pmax		
	comp=Z,300nm,13.1s						
PET				pmax	pmax		
	comp=Z,400nm,16.8s						
PET				smax			
	comp=E,1µm,20.6s						
PET				smax			
	comp=N,1µm,21.1s						
PET				MLR	MLR		
	comp=Z,2µm,15.0s,MS4.7						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
PET	**Petropavlovsk**	**21.82**	**29**	*e*P	**P**	**20 37 53.1**	**-1.5**
	comp=Z,217nm,1.6s,mb5.3						
WHN	**Wuhan**	**22.96**	**266**	⇑P	**P**	**20 38 04.0**	**-2.2**
WHN				S	**S**	**20 42 13.0**	**+3.0**
WHN				AMB	AMB		
	comp=Z,780nm,3.6s						
WHN				LR	LR		
	comp=Z,16µm,16.1s,MS5.5						
TIY	**Taiyuan**	**23.25**	**285**	⇑P	**P**	**20 38 03.0**	**-5.9**
TIY				S	**S**	**20 42 22.0**	**+7.1**
TIY				LR	LR		
	comp=N,5µm,13.0s						
TIY				LR	LR		
	comp=Z,7µm,16.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**23.99**	**293**	*e*P	**P**	**20 38 12.6**	**-3.4**
HHC				PP	PP	20 38 44.8	-5.5
HHC				S	**S**	**20 42 29.3**	**+1.6**
HHC				XS		20 42 37.9	
HHC				AMB	AMB		
	comp=Z,373nm,4.7s						
HHC				LR	LR		
	comp=N,2µm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,2µm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,2µm,15.5s,MS4.8						
CLNS	**Chul’man**	**24.43**	**338**	*e*P	**P**	**20 38 21.3**	**+1.2**
CLNS				*e**PP		20 38 35.7	
CLNS				*e*		20 42 00.6	
CLNS				*e*S	**S**	**20 42 35.7**	**+0.8**
CLNS				*e*SS	SS	20 43 31.1	+1.1
CLNS				pmax	pmax		
	comp=Z,127nm,1.2s,mb5.2						
CLNS				pmax	pmax		
	comp=N,68nm,0.9s						
CLNS				pmax	pmax		
	comp=E,42nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,62nm,1.0s						
CLNS				pmax	pmax		
	comp=E,71nm,1.1s						
CLNS				smax			
	comp=N,27nm,1.0s						
CLNS				smax			
	comp=Z,7.0nm,0.9s						
CLNS				smax			
	comp=E,13nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,3µm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,3µm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,400nm,16.0s,MS4.9						
BTO	**Baotou**	**25.14**	**292**	*e*P	**P**	**20 38 23.8**	**-3.3**
BTO				S	**S**	**20 42 52.4**	**+5.2**
BTO				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.8						
MA2	**Magadan**	**25.32**	**11**	*d* *i*P	**P**	**20 38 28.1**	**-0.5**
MA2	**Magadan**	**25.32**	**11**	*e*P	**P**	**20 38 28.2**	**-0.4**
	comp=Z,63nm,0.9s,mb5.1						
XAN	**Xi’an**	**26.53**	**277**	P	**P**	**20 38 37.4**	**-2.7**
XAN				AP	pP	20 38 45.5	-3.8
XAN				S	**S**	**20 43 06.5**	**-3.7**
XAN				LR	LR		
	comp=N,2µm,18.5s,MS5.2						
XAN				LR	LR		
	comp=E,5µm,15.8s,MS5.2						
XAN				LR	LR		
	comp=Z,8µm,17.0s,MS5.4						
ENH	**Enshi**	**27.04**	**269**	*e*P	**P**	**20 38 42.6**	**-2.2**
	comp=Z,28nm,0.8s,mb4.8						
YAK	**Yakutsk**	**27.96**	**348**	*e*P	**P**	**20 38 51.4**	**-1.4**
YAK				*e**PP	pP	20 38 59.7	-2.4
YAK				*e*		20 39 38.1	
YAK				*e*PPP	PPP	20 39 46.0	-8.7
YAK				*e*		20 42 07.1	
YAK				*e*S	**S**	**20 43 32.6**	**-0.4**
YAK				*e*SS	SS	20 44 48.4	-6.9
YAK				*e*SSS	SSS	20 45 03.3	-10
YAK				*e*		20 49 37.2	
YAK				pmax	pmax		
	comp=N,56nm,1.1s						
YAK				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=E,21nm,1.2s						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
YAK				smax			
	comp=N,38nm,0.9s						
YAK				smax			
	comp=E,54nm,1.4s						
YAK				MLR	MLR		
	comp=N,761nm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,671nm,14.0s,MS4.5						
YAK	**Yakutsk**	**27.96**	**348**	*e*P	**P**	**20 38 51.4**	**-1.4**
	comp=E,5.8nm,0.4s,mb4.6						
SEY	**Seymchan**	**28.76**	**11**	*e*P	**P**	**20 39 00.9**	**+0.9**
SEY				*e*		20 40 01.0	
SEY				pmax	pmax		
	comp=N,40nm,1.1s						
SEY				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.3						
SEY				pmax	pmax		
	comp=E,40nm,1.2s						
FX1	**Attu Island--F**	**28.77**	**42**	*e*P	**P**	**20 39 00.0**	**-0.2**
SONM	**Songino Array**	**28.77**	**307**	P	**P**	**20 38 59.5**	**-0.8**
	comp=E,12nm,0.9s,mb4.7,baz=112,slow=6.7,SNR=45						
BOD	**Bodaibo**	**29.12**	**330**	*e*P	**P**	**20 39 01.3**	**-2.0**
LZH	**Lanzhou**	**30.27**	**283**	*e*P	**P**	**20 39 11.8**	**-1.9**
LZH				AP	pP	20 39 21.3	-1.8
LZH				XP	sP	20 39 25.1	-2.1
LZH				PP	PP	20 40 12.0	-1.0

LZH				S	**S**	**20 44 08.1**	**-2.1**
LZH				XS		20 44 26.0	
LZH				SS	SS	20 45 50.0	+0.3
LZH				AMB	AMB		
	comp=Z,120nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,500nm,4.8s						
LZH				LR	LR		
	comp=Z,12µm,14.7s,MS5.7						
LZH	**Lanzhou**	**30.27**	**283**	*e*P	**P**	**20 39 11.7**	**-2.0**
	comp=Z,120nm,1.4s,mb5.4						
LZH				pP	pP	20 39 21.2	-1.9
LZH				sP	sP	20 39 25.1	-2.1
LZH				PP	PP	20 40 12.0	-1.0
LZH				S	**S**	**20 44 08.1**	**-2.1**
LZH				sS		20 44 26.0	
LZH				SS	SS	20 45 50.0	+0.3
LZH				LR	LR		
	comp=Z,12µm,14.7s,MS5.7						
GYA	**Guiyang**	**30.75**	**263**	⇑*i*P	**P**	**20 39 14.5**	**-3.6**
GYA				AP	pP	20 39 25.3	-2.1
GYA				XP	sP	20 39 28.3	-3.3
GYA				S	**S**	**20 44 10.4**	**-7.5**
GYA				LR	LR		
	comp=N,2µm,16.5s,MS5.0						
GYA				LR	LR		
	comp=E,2µm,19.5s,MS5.0						
GYA				LR	LR		
	comp=Z,3µm,18.6s,MS5.0						
IRK	**Irkutsk**	**31.32**	**315**	*e*P	**P**	**20 39 19.4**	**-3.4**
ZAK	**Zakamensk**	**31.38**	**311**	*e*P	**P**	**20 39 23.1**	**-0.3**
CD2	**Chengdu**	**31.54**	**273**	⇓*i*P	**P**	**20 39 22.8**	**-2.2**
CD2				PP	PP	20 40 30.4	+0.8
CD2				PPP	PPP	20 40 43.1	-1.5
CD2				S	**S**	**20 44 27.6**	**-2.5**
CD2				XS		20 44 45.8	
CD2				SS	SS	20 46 13.3	-6.3
CD2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
CD2				LR	LR		
	comp=Z,12µm,15.0s,MS5.7						
QIZ	**Qiongzhong**	**31.98**	**248**	P	**P**	**20 39 31.1**	**+2.1**
QIZ				SP		20 39 44.8	
QIZ				PP	PP	20 40 37.8	+2.4
QIZ				S	**S**	**20 44 39.6**	**+2.5**
QIZ				XS		20 44 55.8	
QIZ				LR	LR		
	comp=N,2µm,23.3s,MS4.8						
QIZ				LR	LR		
	comp=E,2µm,24.0s,MS4.8						
QIZ				LR	LR		
	comp=Z,2µm,17.1s						
GTA	**Gaotai**	**33.01**	**290**	⇑P	**P**	**20 39 36.4**	**-1.3**
GTA				AP	pP	20 39 46.9	-0.2
GTA				XP	sP	20 39 50.3	-0.9
GTA				PP	PP	20 40 46.8	-1.8
GTA				PPP	PPP	20 41 02.3	-2.3
GTA				PCP	PcP	20 42 21.3	+0.1
GTA				S	**S**	**20 44 50.5**	**-2.5**
GTA				XS		20 45 05.8	
GTA				SCP		20 46 02.4	
GTA				PCS		20 46 06.3	
GTA				SS	SS	20 46 49.9	-3.9
GTA				SCS	ScS	20 50 01.3	+0.7
GTA				AMB	AMB		
	comp=Z,147nm,5.7s						
GTA				LR	LR		
	comp=N,2µm,15.6s,MS5.0						
GTA				LR	LR		
	comp=E,2µm,17.9s,MS5.0						
GTA				LR	LR		
	comp=Z,3µm,17.9s,MS5.0						
MOY	**Mondy**	**33.10**	**313**	*e*P	**P**	**20 39 38.5**	**+0.1**
KMI	**Kunming**	**34.52**	**264**	*e*P	**P**	**20 39 47.8**	**-3.1**
KMI				AP	pP	20 39 59.5	-0.8
KMI				XP	sP	20 40 04.3	-0.1
KMI				PP	PP	20 41 08.5	+1.1
KMI				S	**S**	**20 45 19.1**	**+2.6**
KMI				AMB	AMB		
	comp=Z,120nm,4.8s						
KMI				LR	LR		
	comp=Z,6µm,15.3s,MS5.5						
KMI	**Kunming**	**34.52**	**264**	*e*P	**P**	**20 39 47.8**	**-3.1**
	comp=Z,9.0nm,1.8s,mb4.4						
KMI				pP	pP	20 39 59.5	-0.8
KMI				sP	sP	20 40 04.3	-0.1
KMI				PP	PP	20 41 08.5	+1.1
KMI				S	**S**	**20 45 19.1**	**+2.6**
KMI				sS		20 45 39.0	
KMI				SS	SS	20 47 38.2	+10
KMI				LR	LR		
	comp=Z,6µm,15.3s,MS5.5						
KKTK	**Khon Kaen**	**38.96**	**251**	P	**P**	**20 40 27.0**	**-1.5**
NANT	**Nan**	**39.26**	**256**	⇓P	**P**	**20 40 26.5**	**-4.4**
CHRT	**Chiangrai**	**39.42**	**259**	⇓P	**P**	**20 40 31.5**	**-0.8**
CHG	**Chiang Mai**	**40.65**	**258**	⇓P	**P**	**20 40 40.9**	**-1.5**
	comp=Z,14nm,1.2s,mb4.5						
CM31	**Chiang Mai Arr**	**40.84**	**257**	*e*P	**P**	**20 40 42.6**	**-1.4**
	comp=Z,5.3nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**40.84**	**257**	P	**P**	**20 40 42.3**	**-1.7**
	comp=Z,5.2nm,0.7s,mb4.3,baz=52,slow=7.2,SNR=22						
CMAR				PcP	PcP	20 42 46.0	+0.9
	comp=Z,5.9nm,1.1s,baz=31,slow=2.8,SNR=7.9						
CMAR				LR	LR	20 59 42.9	
	comp=Z,2µm,18.2s,MS5.1,baz=60,slow=39						
CMAR	**Chiang Mai Arr**	**40.84**	**257**	P	**P**	**20 40 42.3**	**-1.7**
CMAR						20 42 46.0	
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,2µm,18.2s						
BDT	**Bhumibol Dam**	**41.45**	**256**	P	**P**	**20 40 47.0**	**-2.0**
WMQ	**Urumqi**	**41.59**	**299**	⇑*i*P	**P**	**20 40 50.1**	**+0.3**
WMQ				AP	pP	20 41 00.1	+0.8
WMQ				XP	sP	20 41 04.3	+1.0
WMQ				PP	PP	20 42 30.1	+1.1
WMQ				PCP	PcP	20 42 47.6	+0.4
WMQ				S	**S**	**20 47 04.1**	**+0.5**
WMQ				XS		20 47 20.3	
WMQ				AMB	AMB		
	comp=Z,77nm,1.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,174nm,9.7s						
WMQ				LR	LR		
	comp=N,3µm,21.0s,MS5.1						
WMQ				LR	LR		
	comp=E,590nm,22.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,2µm,21.6s,MS4.9						
LSA	**Lhasa**	**42.23**	**277**	P	**P**	**20 40 56.3**	**+1.0**
LSA				AP	pP	20 41 07.6	+2.8
LSA				S	**S**	**20 47 14.9**	**+1.6**
LSA	**Lhasa**	**42.23**	**277**	*e*P	**P**	**20 40 55.4**	**0.0**
	comp=Z,12nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**43.13**	**314**	P	**P**	**20 41 01.9**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.5,baz=288,slow=8.0,SNR=55						
ZAL	**Zalesovo**	**43.13**	**314**	P	**P**	**20 41 01.9**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAL	**Zalesovo**	**43.13**	**314**	P	**P**	**20 41 01.9**	**-0.4**
NNT	**Nongplab**	**43.59**	**250**	P	**P**	**20 41 06.0**	**-0.6**
NVS	**Novosibirsk**	**44.08**	**315**	⇑*i*P	**P**	**20 41 08.2**	**-1.8**
NVS				*i*		20 42 53.6	
NVS				*e*S	**S**	**20 47 29.0**	**-11**
NVS				*i*		20 51 03.0	
NVS				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
NVS				pmax	pmax		
	comp=N,12nm,0.9s						
NVS				pmax	pmax		
	comp=E,38nm,1.4s						
NVS				smax			
	comp=E,19nm,2.0s						
PMG	**Port Moresby**	**44.58**	**172**	*e*P	**P**	**20 41 14.9**	**+0.3**
	comp=E,48nm,1.1s,mb5.2						
MKAR	**Makanchi Array**	**45.03**	**304**	P	**P**	**20 41 17.2**	**-0.5**
	comp=E,15nm,0.7s,mb5.0,baz=90,slow=10.0,SNR=93						
MKAR				LR	LR	21 01 14.3	
	comp=E,3µm,18.3s,MS5.2,baz=87,slow=38						
MKAR	**Makanchi Array**	**45.03**	**304**	P	**P**	**20 41 17.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,3µm,18.3s						
KURK	**Kurchatov**	**47.02**	**310**	*i* P	**P**	**20 41 32.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
KURK	**Kurchatov**	**47.02**	**310**	*e*P	**P**	**20 41 32.1**	**-1.3**
	comp=Z,98nm,0.8s,mb5.8						
SVW	**Sparrevohn**	**47.20**	**36**	*e*P	**P**	**20 41 34.6**	**-0.1**
PKI	**Pulchoki**	**47.70**	**277**	*e*P	**P**	**20 41 37.9**	**-1.3**
	comp=Z,121nm,1.3s,mb5.8						
KKN	**Kakani**	**47.72**	**277**	*e*P	**P**	**20 41 37.8**	**-1.5**
	comp=Z,68nm,0.9s,mb5.7						
DMN	**Daman**	**47.94**	**277**	*e*P	**P**	**20 41 39.3**	**-1.7**
	comp=Z,106nm,1.3s,mb5.7						
GKN	**Gorkha**	**48.16**	**278**	*e*P	**P**	**20 41 41.5**	**-1.2**
	comp=Z,448nm,1.5s,mb6.3						
KAKA	**Kakadu**	**48.22**	**192**	*e*P	**P**	**20 41 41.7**	**-1.6**
	comp=Z,180nm,1.5s,mb5.9						
IMA	**Indian Mountai**	**48.49**	**30**	*e*P	**P**	**20 41 44.8**	**+0.1**
RSO	**Redoubt South**	**48.58**	**37**	*e*P	**P**	**20 41 45.0**	**-0.5**
KDAK	**Kodiak Island**	**48.71**	**41**	*e*P	**P**	**20 41 45.0**	**-1.5**
	comp=Z,58nm,1.1s,mb5.5						
KDAK				LR	LR		
	comp=Z,308nm,22.0s,MS4.2						
SPU	**Mount Spurr**	**48.93**	**36**	*e*P	**P**	**20 41 47.9**	**-0.2**
KOLN	**Koldanda**	**49.09**	**278**	*e*P	**P**	**20 41 49.0**	**-0.9**
	comp=Z,321nm,1.7s,mb6.1						
PWA	**Palmer West**	**49.97**	**36**	*e*P	**P**	**20 41 55.3**	**-0.9**
ULHL	**Ulahol**	**50.13**	**299**	P	**P**	**20 41 57.6**	**0.0**
	SNR=9.0						
PMS	**Palmer South**	**50.14**	**36**	*e*P	**P**	**20 41 56.5**	**-0.9**
PMR	**Palmer**	**50.33**	**36**	*e*P	**P**	**20 41 57.7**	**-1.2**
PMR				LR	LR		
	comp=Z,600nm,21.0s,MS4.6						
MCK	**McKinley**	**50.39**	**33**	*e*P	**P**	**20 41 58.4**	**-0.9**
	comp=Z,24nm,1.4s,mb5.0						
MCK				LR	LR		
	comp=Z,361nm,20.0s,MS4.4						
TKM2	**Tokmak 2**	**50.42**	**300**	P	**P**	**20 41 59.8**	**-0.1**
	SNR=37						
SML	**Sawmill**	**50.70**	**35**	*e*P	**P**	**20 42 00.9**	**-0.9**
COLA	**College**	**50.86**	**31**	*e*P	**P**	**20 42 02.8**	**0.0**
COLA				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.6						
KZA	**Kyzart**	**50.88**	**299**	P	**P**	**20 42 04.2**	**+0.9**
	SNR=18						
KBK	**Karagaybulak**	**50.95**	**300**	P	**P**	**20 42 04.0**	**+0.2**
	SNR=20						
CHMS	**Chumysh**	**51.00**	**300**	P	**P**	**20 42 03.9**	**-0.4**
	SNR=8.2						
KSH	**Kashi**	**51.06**	**295**	*e*P	**P**	**20 42 05.8**	**+1.1**
KSH				*e*AP	pP	20 42 16.4	+2.0
KSH				*e*XP	sP	20 42 20.8	+2.6
KSH				*e*PP	PP	20 44 04.1	+2.0
KSH				*e*SCP		20 47 14.4	
KSH				*e*S	**S**	**20 49 18.4**	**-0.2**
KSH				*e*PS	PS	20 49 25.3	-6.0
KSH				*e*XS		20 49 35.3	
KSH				*e*SCS	ScS	20 51 49.3	-0.3
KSH				*e*SS	SS	20 52 48.3	-3.3
KSH				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.6						
KSH				AMB	AMB		
	comp=Z,330nm,4.4s						
KSH				LR	LR		
	comp=N,510nm,5.4s						
KSH				LR	LR		
	comp=E,850nm,16.8s						
USP	**Ospenovka**	**51.11**	**300**	P	**P**	**20 42 04.8**	**-0.2**
	SNR=17						
PTH	**Pithoragarh**	**51.13**	**282**	*e*P	**P**	**20 42 02.9**	**-2.5**
FRU	**Bishkek**	**51.14**	**300**	⇑*e*P	**P**	**20 42 05.5**	**+0.2**
FRU				pmax	pmax		
	comp=Z,110nm,1.9s,mb5.5						
FRU				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.5						
FRU				MLR	MLR		
	comp=E,2µm,16.0s						
ILAR	**Eielson Array**	**51.27**	**31**	P	**P**	**20 42 04.5**	**-1.4**
	comp=E,15nm,0.8s,mb5.0,baz=270,slow=6.0,SNR=108						
ILAR				LR	LR	21 05 21.2	
	comp=E,558nm,18.7s,MS4.6,baz=298,slow=38						
ILAR	**Eielson Array**	**51.27**	**31**	P	**P**	**20 42 04.6**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,15nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,558nm,18.7s						
AAK	**Ala-Archa**	**51.28**	**300**	P	**P**	**20 42 06.5**	**+0.2**
	SNR=7.0						
AAK	**Ala-Archa**	**51.28**	**300**	*e*P	**P**	**20 42 05.1**	**-1.2**
	comp=Z,27nm,1.2s,mb5.0						
UCH	**Uchtor**	**51.37**	**299**	P	**P**	**20 42 07.6**	**+0.6**
	SNR=16						
VOSK	**Vostochnaya**	**51.47**	**313**	P	**P**	**20 42 06.1**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
BVAR	**Borovoye Array**	**51.77**	**313**	LR	LR	21 05 50.9	
	comp=Z,14nm,18.4s,baz=225,slow=38						
EKS2	**Erkin-Say**	**51.78**	**300**	P	**P**	**20 42 09.8**	**-0.4**
	SNR=6.0						
BRVK	**Borovoye**	**51.83**	**313**	P	**P**	**20 42 09.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
BRVK	**Borovoye**	**51.83**	**313**	*e*P	**P**	**20 42 10.2**	**-0.2**
	comp=Z,44nm,1.1s,mb5.3						
DIV	**Divide**	**51.98**	**36**	*e*P	**P**	**20 42 10.9**	**-0.5**
	comp=Z,197nm,1.1s,mb6.0						
AML	**Almayashu**	**51.98**	**299**	P	**P**	**20 42 11.8**	**0.0**
	SNR=50						
EYAK	**Cordova Ski Ar**	**52.04**	**37**	*e*P	**P**	**20 42 11.4**	**-0.5**
ZRNK	**Zerenda**	**52.61**	**314**	P	**P**	**20 42 15.2**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.3						
SDNR	**Sundarnagar**	**52.97**	**286**	*e*P	**P**	**20 42 18.2**	**-1.0**
NDI	**New Delhi**	**53.88**	**282**	⇑*e*P	**P**	**20 42 23.0**	**-2.9**
KKAR	**Karatay Array**	**53.97**	**301**	*i* P	**P**	**20 42 25.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,137nm,1.4s,mb5.7						
FITZ	**Fitzroy Crossi**	**54.89**	**198**	*e*P	**P**	**20 42 31.8**	**-1.7**
	comp=Z,26nm,0.9s,mb5.3						
FITZ				*e*S	**S**	**20 50 13.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**54.89**	**198**	P	**P**	**20 42 32.1**	**-1.4**
	comp=Z,10nm,0.6s,mb5.0,baz=11,slow=7.7,SNR=38						
CTA	**Charters Tower**	**55.05**	**174**	*e*P	**P**	**20 42 34.5**	**-0.2**
	comp=Z,11nm,1.9s,mb4.5						
CTA	**Charters Tower**	**55.05**	**174**	P	**P**	**20 42 33.5**	**-1.1**
	comp=Z,5.3nm,1.0s,mb4.5,baz=357,slow=7.5,SNR=5.1						
CTA				LR	LR	21 05 08.8	
	comp=Z,856nm,19.6s,MS4.8,baz=348,slow=35						
CTA	**Charters Tower**	**55.05**	**174**	P	**P**	**20 42 33.5**	**-1.2**
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTA				MLR	MLR		
	comp=Z,856nm,19.6s						
WRAB	**Tennant Creek**	**55.07**	**188**	*e*P	**P**	**20 42 32.5**	**-2.3**
	comp=Z,153nm,1.0s,mb6.0						
WRAB				LR	LR		
	comp=Z,422nm,20.0s,MS4.5						
WB2	**Warramunga Arr**	**55.08**	**188**	*e*P	**P**	**20 42 31.9**	**-2.9**
WB2				*e*S	**S**	**20 50 10.7**	**-2.7**
WRA	**Warramunga Arr**	**55.08**	**188**	P	**P**	**20 42 32.7**	**-2.2**
	comp=Z,100nm,1.1s,mb5.8,baz=4.8,slow=7.4,SNR=354						
WRA				LR	LR	21 05 28.4	
	comp=Z,847nm,18.4s,MS4.8,baz=15,slow=35						
WRA	**Warramunga Arr**	**55.08**	**188**	P	**P**	**20 42 32.7**	**-2.2**
WRA				pmax	pmax		
	comp=Z,100nm,1.1s						
WRA				MLR	MLR		
	comp=Z,847nm,18.4s						
BHPL	**Bhopal**	**56.08**	**276**	⇑*i*P	**P**	**20 42 39.9**	**-2.1**
	comp=Z,52nm,1.3s,mb5.4						
INK	**Inuvik**	**56.24**	**26**	P	**P**	**20 42 41.2**	**-1.3**
	comp=Z,15nm,0.9s,mb5.0,baz=284,slow=7.4,SNR=20						
INK				LR	LR	21 12 07.6	
	comp=Z,721nm,18.6s,MS4.8,baz=284,slow=42						
INK	**Inuvik**	**56.24**	**26**	P	**P**	**20 42 41.3**	**-1.2**
INK				pmax	pmax		
	comp=Z,15nm,0.9s						
INK				MLR	MLR		
	comp=Z,721nm,18.6s						
INK	**Inuvik**	**56.24**	**26**	*e*P	**P**	**20 42 41.6**	**-1.0**
	comp=Z,31nm,1.3s,mb5.2						
AJM	**Ajmer**	**56.88**	**281**	⇑*i*P	**P**	**20 42 46.0**	**-1.7**
	comp=Z,82nm,0.8s,mb5.8						
ARU	**Arti**	**57.72**	**319**	P	**P**	**20 42 51.1**	**-2.1**
	comp=Z,271nm,1.2s,mb6.2,SNR=14						
ARU	**Arti**	**57.72**	**319**	⇑*i*P	**P**	**20 42 51.8**	**-1.4**
ARU				*i*	pP	20 43 01.5	-1.5
ARU				*i*		20 43 43.3	
ARU				*i*		20 44 59.2	
ARU				*e*PPP	PPP	20 46 17.3	-7.6
ARU				*i* S	**S**	**20 50 49.3**	**+1.3**
ARU				*i*		20 52 38.5	
ARU				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5						
ARU				MLR	MLR		
	comp=Z,800nm,16.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,900nm,17.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,800nm,17.0s,MS5.1						
ARU	**Arti**	**57.72**	**319**	*e*P	**P**	**20 42 52.0**	**-1.3**
	comp=E,54nm,1.0s,mb5.5						
SOKR	**Solikamsk**	**57.79**	**323**	*ce*P	**P**	**20 42 48.8**	**-4.8**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.0						
HYB	**Hyderabad**	**57.98**	**270**	*i* P	**P**	**20 42 53.0**	**-2.5**
HYB	**Hyderabad**	**57.98**	**270**	*e*P	**P**	**20 42 53.0**	**-2.5**
ASAR	**Alice Springs**	**58.81**	**188**	P	**P**	**20 42 59.5**	**-1.8**
	comp=Z,23nm,1.0s,mb5.2,baz=358,slow=5.8,SNR=81						
ASAR				LR	LR	21 07 07.0	
	comp=Z,630nm,20.4s,MS4.7,baz=5.8,slow=35						
ASAR				PKP2bc		21 12 47.9	
	comp=Z,1.6nm,1.1s,baz=200,slow=3.0,SNR=5.6						
ASAR	**Alice Springs**	**58.81**	**188**	P	**P**	**20 42 59.5**	**-1.8**
ASAR				LR	LR	21 07 07.0	
ASAR				⇑*e*		21 12 47.9	
ASPA	**Alice Springs**	**58.81**	**188**	*e*P	**P**	**20 42 59.8**	**-1.5**
ASPA				*e*S	**S**	**20 51 01.8**	**-0.9**
AB31	**Akbulak array**	**59.08**	**311**	*i* P	**P**	**20 43 01.0**	**-1.8**
AB31				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
CUD	**Cuddapah**	**59.33**	**266**	*e*P	**P**	**20 43 03.6**	**-1.4**
DLBC	**Dease Lake**	**60.31**	**37**	P	**P**	**20 43 11.7**	**+0.6**
	comp=Z,10nm,1.0s,mb4.8,baz=286,slow=7.5,SNR=18						
DLBC	**Dease Lake**	**60.31**	**37**	*e*P	**P**	**20 43 11.2**	**+0.1**
POO	**Poona**	**61.27**	**273**	*e*P	**P**	**20 43 15.0**	**-3.2**
TRD	**Trivandrum**	**64.09**	**262**	*e*P	**P**	**20 43 38.1**	**+1.1**
TRD				*e*	pP	20 43 46.1	-0.8
	comp=Z,39nm,0.9s						
APA	**Apatity**	**64.41**	**336**	*e*P	**P**	**20 43 37.2**	**-1.0**
APA				*i*		20 43 49.2	
APA				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
APA				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.1						
YKA	**Yellowknife Ar**	**65.61**	**30**	P	**P**	**20 43 45.0**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.8,baz=300,slow=6.5,SNR=22						
YKA	**Yellowknife Ar**	**65.61**	**30**	P	**P**	**20 43 45.0**	**-1.1**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**65.61**	**30**	P	**P**	**20 43 45.0**	**-1.0**
ARCES	**ARCESS Array B**	**65.78**	**340**	P	**P**	**20 43 46.6**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.6,baz=53,slow=6.1,SNR=7.6						
ARCES				LR	LR	21 14 35.6	
	comp=Z,1µm,21.6s,MS5.0,baz=180,slow=38						
ARCES	**ARCESS Array B**	**65.78**	**340**	P	**P**	**20 43 46.6**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,1µm,21.7s						
STKA	**Stephens Creek**	**66.58**	**180**	*e*P	**P**	**20 43 52.3**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**66.58**	**180**	P	**P**	**20 43 52.5**	**-0.3**
	comp=Z,11nm,1.1s,mb4.8,baz=9.6,slow=7.6,SNR=8.7						
STKA				LR	LR	21 12 23.9	
	comp=Z,1µm,19.8s,MS5.1,baz=109,slow=36						
FORT	**Forrest**	**66.64**	**192**	*e*P	**P**	**20 43 52.0**	**-1.2**
	comp=Z,205nm,0.8s,mb6.2						
DAG	**Danmarks Havn**	**67.72**	**355**	⇓*i*P	**P**	**20 43 58.8**	**-0.5**
	comp=Z,20nm,1.2s,mb5.0						
OCWA	**Octopus Mounta**	**67.85**	**47**	*e*P	**P**	**20 44 01.0**	**+0.5**
	comp=Z,34nm,1.0s,mb5.3						
GNW	**Green Mountain**	**68.74**	**46**	*e*P	**P**	**20 44 06.2**	**+0.1**
RPW	**Rockport**	**69.08**	**45**	*e*P	**P**	**20 44 08.0**	**-0.1**
RMW	**Rattlesnake Mo**	**69.39**	**46**	*e*P	**P**	**20 44 10.2**	**+0.2**
GSM	**Grass Mountain**	**69.53**	**46**	P	**P**	**20 44 11.3**	**+0.4**
OBN	**Obninsk**	**69.56**	**324**	⇓*e*P	**P**	**20 44 10.2**	**-0.8**
OBN				*e*		20 44 31.9	
OBN				*i*		20 46 43.7	
OBN				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
OBN				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
OBN	**Obninsk**	**69.56**	**324**	*e*P	**P**	**20 44 09.2**	**-1.8**
	comp=Z,45nm,1.2s,mb5.3						
COR	**Corvallis**	**69.90**	**49**	*e*P	**P**	**20 44 13.8**	**+0.6**
COR				LR	LR		
	comp=Z,139nm,20.0s,MS4.2						
NLW	**Nelson Butte**	**69.94**	**45**	*e*P	**P**	**20 44 13.1**	**-0.3**
KAF	**Kangasniemi**	**69.97**	**333**	*e*p	**P**	**20 44 11.7**	**-1.6**
SSOR	**Sweet Springs**	**70.29**	**49**	*e*P	**P**	**20 44 15.9**	**+0.3**
VLL	**Laurance Lake**	**70.46**	**48**	P	**P**	**20 44 17.1**	**+0.5**
FINES	**FINESS Array B**	**70.47**	**333**	P	**P**	**20 44 15.6**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0,baz=108,slow=6.0,SNR=18						
FINES				LR	LR	21 19 34.6	
	comp=Z,989nm,18.9s,MS5.1,baz=225,slow=40						
FINES	**FINESS Array B**	**70.47**	**333**	P	**P**	**20 44 15.6**	**-0.8**
FINES				pmax	pmax		
	comp=Z,18nm,0.8s						
FINES				MLR	MLR		
	comp=Z,989nm,18.9s						
FINES	**FINESS Array B**	**70.47**	**333**	P	**P**	**20 44 15.6**	**-0.8**
FINES				LR	LR	21 19 34.6	
VFP	**Flag Point**	**70.67**	**48**	P	**P**	**20 44 18.3**	**+0.5**
OD2	**Odessa Site #2**	**71.24**	**45**	P	**P**	**20 44 20.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**71.26**	**201**	P	**P**	**20 44 21.1**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=14,slow=4.9,SNR=12						
NWAO	**Narrogin (SRO)**	**71.26**	**201**	P	**P**	**20 44 21.1**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
GOF	**Gofitskoye**	**71.28**	**312**	⇑*i*P	**P**	**20 44 21.0**	**-0.5**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
DPW	**Davenport**	**71.28**	**44**	*e*P	**P**	**20 44 21.2**	**-0.3**
VIPM	**Ingram Point**	**71.60**	**48**	P	**P**	**20 44 23.9**	**+0.4**
NEW	**Newport**	**71.69**	**44**	*e*P	**P**	**20 44 23.3**	**-0.6**
	comp=Z,24nm,1.0s,mb5.1						
NEW				LR	LR		
	comp=Z,537nm,20.0s,MS4.8						
YBH	**Yreka Blue Hor**	**71.71**	**52**	P	**P**	**20 44 24.6**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=308,slow=2.0,SNR=13						
YBH	**Yreka Blue Hor**	**71.71**	**52**	P	**P**	**20 44 24.6**	**+0.4**
YBH				pmax	pmax		
	comp=Z,12nm,0.9s						
JMIC	**Jan Mayen**	**72.06**	**350**	LR	LR	21 19 15.7	
	comp=Z,218nm,18.8s,MS4.5,baz=294,slow=38						
LNOR	**Lincton Mounta**	**72.29**	**46**	*e*P	**P**	**20 44 27.6**	**+0.1**
LNOR				*e*		20 44 39.9	
SUMG	**Summit**	**72.66**	**360**	*e*P	**P**	**20 44 29.9**	**+0.7**
	comp=Z,42nm,1.1s,mb5.3						
OHCM	**Honcut**	**73.76**	**53**	*e*P	**P**	**20 44 35.5**	**-0.7**
WVOR	**Wild Horse Val**	**73.92**	**49**	*e*P	**P**	**20 44 37.0**	**-0.1**
	comp=Z,16nm,1.1s,mb4.8						
WVOR				LR	LR		
	comp=Z,415nm,20.0s,MS4.7						
MNK	**Minsk**	**74.05**	**326**	*e*P	**P**	**20 44 37.0**	**-0.6**
SOC	**Sochi**	**74.08**	**312**	*e*P	**P**	**20 44 39.7**	**+1.7**
SOC				*e*		20 44 54.0	
SOC				*e*		20 47 19.5	
SOC				*e*S	S	20 54 07.1	-0.1
SOC				*e*		20 54 44.6	
SOC				*e*SSS	SSS	21 02 07.4	+0.6
SOC				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.1						
SOC				pmax	pmax		
	comp=N,32nm,1.2s						
SOC				pmax	pmax		
	comp=E,23nm,1.2s						
SOC				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.1						
SOC				MLR	MLR		
	comp=N,500nm,17.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,565nm,18.0s,MS5.0						
BEKR	**Beckwourth**	**74.21**	**52**	*e*P	**P**	**20 44 38.6**	**-0.2**
	comp=E,27nm,1.0s,mb5.1						
BEKR				*e*	pP	20 44 50.3	+1.4
CHMT	**Chamberlain Mo**	**74.61**	**43**	*e*P	**P**	**20 44 40.5**	**-0.5**
ANN	**Anapa**	**74.76**	**314**	*e*P	**P**	**20 44 42.4**	**+0.4**
ANN				*e*S	S	20 54 13.5	-1.4

ANN				pmax	pmax		
	comp=Z,82nm,1.6s,mb5.4						
WCN	Washoe City	74.91	53	*e*P	P	20 44 43.1	+0.2
	comp=Z,19nm,1.0s,mb5.0						
PAHR	Pah Rah Range	74.93	52	*e*P	P	20 44 43.3	+0.3
	comp=Z,24nm,1.1s,mb5.0						
CMB	Columbia Colle	75.18	54	*e*P	P	20 44 44.2	-0.3
	comp=Z,31nm,1.6s,mb5.0						
CMB				LR	LR		
	comp=Z,714nm,20.0s,MS5.0						
FFC	Flin Flon	75.47	32	*e*P	P	20 44 45.3	-0.5
	comp=Z,32nm,1.1s,mb5.2						
HRY	Holter Researc	75.53	43	*e*P	P	20 44 46.4	+0.1
HLID	Hailey	75.86	47	*e*P	P	20 44 48.5	+0.3
	comp=Z,10.0nm,1.0s,mb4.7						
HLID				LR	LR		
	comp=Z,403nm,20.0s,MS4.7						
BMN	Battle Mountai	75.91	50	*e*P	P	20 44 49.3	+0.7
	comp=Z,29nm,1.4s,mb5.0						
BMN				*e*pP	pP	20 45 00.3	+1.7
NB2	NORSAR Subarra	75.93	337	P	P	20 44 47.9	-0.4
	comp=Z,40nm,1.1s,mb5.3,baz=40,slow=5.8						
NB2	NORSAR Subarra	75.93	337	P	P	20 44 47.9	-0.4
	baz=40,slow=5.9						
NOA	NORSAR Array B	75.93	337	P	P	20 44 48.1	-0.2
	comp=Z,19nm,0.9s,mb5.0,baz=39,slow=5.7,SNR=30						
NOA				LR	LR	21 21 31.7	
	comp=Z,876nm,19.8s,MS5.1,baz=25,slow=38						
NOA	NORSAR Array B	75.93	337	P	P	20 44 48.1	-0.2
NOA				pmax	pmax		
	comp=Z,19nm,0.9s						
NOA				MLR	MLR		
	comp=Z,877nm,19.8s						
MCMT	McKenzie Canyo	76.05	45	*e*P	P	20 44 49.1	-0.2
BOZ	Bozeman (W)	76.27	44	*e*P	P	20 44 50.8	+0.3
	comp=Z,19nm,1.1s,mb5.0						
BOZ				LR	LR		
	comp=Z,525nm,21.0s,MS4.8						
OMM	Old Mammoth Mi	76.33	54	*e*P	P	20 44 51.6	+0.5
NVAR	Mina Array Bea	76.33	53	P	P	20 44 51.5	+0.5
	comp=Z,20nm,0.8s,mb5.1,baz=292,slow=4.5,SNR=104						
NVAR				LR	LR	21 12 03.8	
	comp=Z,517nm,21.4s,MS4.8,baz=40,slow=31						
SUW	Suwalki	76.45	328	*e*P	P	20 44 51.9	+0.6
KBD	Kabd	76.48	296	*e*P	P	20 44 52.4	+0.3
QRN	Al-Qurain	76.55	296	*e*P	P	20 44 52.4	0.0
QRN				AMb	AMB	20 44 54.9	
	comp=Z,72nm,1.0s,mb5.6						
SIM	Simferopol’	76.60	316	*e*P	P	20 44 53.0	+0.6
SIM				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SIM				MLR	MLR		
	comp=Z,980nm,17.9s,MS5.2						
RDF	Al-Radifah	76.72	296	*e*P	P	20 44 52.9	-0.5
RDF				AMb	AMB	20 44 56.6	
	comp=Z,126nm,1.1s,mb5.8						
RST	Umm Al-Ruwaisa	76.82	297	*e*P	P	20 44 54.3	+0.4
RST				AMb	AMB	20 44 57.6	
	comp=Z,90nm,1.1s,mb5.6						
QLMT	Earthquake Lak	76.87	44	*e*P	P	20 44 54.6	+0.7
ELK	Elko	76.98	49	*e*P	P	20 44 55.0	+0.4
	comp=Z,16nm,1.2s,mb4.8						
HASS	Wahat al Ahsa’	77.12	292	P	P	20 44 55.0	-0.7
TPH	Tonopah	77.24	52	*e*P	P	20 44 56.1	0.0
	comp=Z,2.4nm,0.3s,mb4.6						
TPH				*e*pP	pP	20 45 07.8	+1.7
MALT	Malatya	77.84	308	*e*P	P	20 45 00.1	+0.8
	comp=Z,19nm,1.2s,mb4.9						
HVU	Hansel Valley	77.88	47	*e*P	P	20 45 00.6	+1.0
MOOW	Moose Ponds	77.91	45	*e*P	P	20 45 00.5	+0.9
TPAW	Teton Pass	77.94	45	*e*P	P	20 45 00.9	+1.1
DAC	Darwin (Calif)	78.01	54	*e*P	P	20 45 00.5	+0.1
	comp=Z,11nm,0.9s,mb4.8						
REDW	Red Top Meadow	78.08	45	*e*P	P	20 45 01.4	+0.8
BGU	Big Grassy Mou	78.23	48	*e*P	P	20 45 02.0	+0.5
KIS	Kishinev	78.27	320	*e*P	P	20 45 01.0	-0.5
KIS				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.6						
KIS				MLR	MLR		
	comp=N,1µm,17.0s,MS5.5						
KIS				MLR	MLR		
	comp=E,2µm,15.0s,MS5.5						
KIS				MLR	MLR		
	comp=Z,2µm,16.0s						
AHID	Auburn Hatcher	78.29	46	*e*P	P	20 45 02.0	+0.3
	comp=Z,7.1nm,0.8s,mb4.7						
SPUT	South Promonto	78.36	48	*e*P	P	20 45 03.0	+0.9
DGMT	Dagmar	78.51	38	*e*P	P	20 45 02.8	0.0
	comp=Z,10nm,0.6s,mb4.9						
LAO	LASA Array	78.60	40	*e*P	P	20 45 02.8	-0.5
	comp=Z,160nm,1.2s,mb5.8						
HWUT	Hardware Ranch	78.71	47	*e*P	P	20 45 03.6	-0.5
	comp=Z,2.0nm,0.4s,mb4.4						
HWUT				LR	LR		
	comp=Z,269nm,20.0s,MS4.6						
FRB	Frobisher Bay	78.74	13	P	P	20 45 04.0	+0.3
	comp=Z,20nm,0.7s,mb5.2,baz=344,slow=6.6,SNR=11						
FRB	Frobisher Bay	78.74	13	P	P	20 45 04.1	+0.3
FRB				pmax	pmax		
	comp=Z,20nm,0.7s						
DUG	Dugway	78.80	49	*e*P	P	20 45 05.5	+0.9
	comp=Z,41nm,1.3s,mb5.2						
DUG				*e*pP	pP	20 45 16.8	+2.1
DUG				LR	LR		
	comp=Z,406nm,19.0s,MS4.8						
MWC	Mount Wilson	78.86	56	*e*P	P	20 45 05.1	+0.1
BSD	Bornholm Skovb	79.09	332	*i* P	P	20 45 06.5	+0.6
	comp=Z,86nm,1.2s,mb5.5						
	comp=Z,1µm,19.0s						
TCUT	Toone Canyon	79.10	47	*e*P	P	20 45 06.2	0.0
CTU	Camp Tracy	79.15	48	P	P	20 45 06.9	+0.4
BW06	Boulder Array	79.19	45	*e*P	P	20 45 06.9	+0.2
	comp=Z,5.3nm,0.7s,mb4.6						
PDAR	Pinedale Array	79.19	45	P	P	20 45 06.8	+0.1
	comp=Z,6.3nm,0.6s,mb4.7,baz=290,slow=2.1,SNR=44						
JLU	Jordanelle	79.39	48	*e*P	P	20 45 08.4	+0.7
NLU	North Lily Min	79.40	48	*e*P	P	20 45 08.9	+1.0
GKP	Gorka Klasztor	79.51	330	*e*P	P	20 45 09.8	+1.6
BORG	Borgarnes	79.58	352	P	P	20 45 10.0	+1.7
	comp=Z,114nm,1.4s,mb5.6,baz=301,slow=2.3,SNR=2.6						
COP	Copenhagen	79.60	333	*i* P	P	20 44 53.7	-15
	comp=Z,28nm,0.6s,mb5.4						
	comp=Z,510nm,19.0s						
DAU	Daniels Canyon	79.62	48	*e*P	P	20 45 10.1	+1.1
KWP	Kalwaria	79.62	324	*e*P	P	20 45 09.4	+0.6
MPU	Maple Canyon	79.63	48	*e*P	P	20 45 09.7	+0.6
BRTR	Keskin Array B	80.02	312	P	P	20 45 11.6	+0.4
	comp=Z,7.8nm,0.9s,mb4.6,baz=108,slow=3.9,SNR=21						
BRTR				LR	LR	21 26 24.5	
	comp=Z,483nm,18.9s,MS4.9,baz=40,slow=40						
BRTR	Keskin Array B	80.02	312	P	P	20 45 11.6	+0.4
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,483nm,18.9s						
VRI	Vrincioaia	80.11	320	⇓*i*P	P	20 45 12.2	+0.7
MUD	Monsted U’grnd	80.17	335	*i* P	P	20 45 14.6	+3.0
	comp=Z,35nm,1.1s,mb5.2						
	comp=Z,760nm,19.0s						
NEN	Nelson	80.19	53	*e*P	P	20 45 13.0	+0.8
MSU	Marysvale	80.20	50	*e*P	P	20 45 12.9	+0.8
PFO	Pinyon Flat Ob	80.31	56	*e*P	P	20 45 13.1	+0.2
	comp=Z,46nm,1.1s,mb5.3						
OJC	Ojcow	80.57	326	*e*P	P	20 45 14.0	+0.1
OJC				*e*	pP	20 45 23.4	-0.6
OJC				*e*S	S	20 55 19.1	+1.9
OJC				MLR	MLR		
	comp=Z,2µm,17.4s,MS5.5						
ISR	Istrita	80.69	319	⇓*i*P	P	20 45 15.7	+1.0
BAR	Barrett	80.70	57	*e*P	P	20 45 14.9	-0.1
MLR	Muntele Rosu	80.77	320	LR	LR	21 24 43.1	
	comp=Z,2µm,18.2s,MS5.5,baz=39,slow=38						
SRU	San Rafael	80.86	48	*e*P	P	20 45 16.0	+0.4
MZLS	Mizel	81.17	293	P	P	20 45 18.2	+0.6
ULM	Lac du Bonnet	81.26	33	P	P	20 45 17.1	-0.5
	comp=Z,9.2nm,0.8s,mb4.8,baz=318,slow=5.7,SNR=7.4						
ULM				LR	LR	21 20 25.8	
	comp=Z,393nm,19.6s,MS4.8,baz=360,slow=35						
ULM	Lac du Bonnet	81.26	33	*e*P	P	20 45 16.8	-0.7
	comp=Z,9.4nm,0.7s,mb4.8						
ULM				LR	LR		
	comp=Z,751nm,22.0s,MS5.0						
RAC	Raciborz	81.39	327	*e*P	P	20 45 16.8	-1.4
RAC				*e*S	S	20 55 25.2	-0.5
RAC				MLR	MLR		
	comp=Z,1µm,17.5s,MS5.3						
RSSD	Black Hills	81.43	41	*e*P	P	20 45 18.6	+0.1
	comp=Z,4.4nm,0.7s,mb4.5						
RSSD				LR	LR		
	comp=Z,102nm,20.0s,MS4.2						
RUE	Ruedersdorf	81.51	331	*e*P	P	20 45 19.1	+0.3
	comp=Z,61nm,1.2s,mb5.4						
OKC	Ostrava-Krasne	81.59	327	*e*P	P	20 45 19.4	+0.2
OKC				*e*AP	pP	20 45 29.4	0.0
OKC				LM		21 25 20.0	
	comp=Z,1.4nm,15.3s						
KSP	Ksiaz	81.68	328	⇑*e*P	P	20 45 19.9	+0.2
KSP				*e**PP	pP	20 45 29.8	0.0
KSP				*e*S	S	20 55 30.6	+2.0
KSP				*e*SS	SS	21 00 42.9	-6.7
KSP				MLR	MLR		
	comp=Z,2µm,18.8s,MS5.6						
BSEG	Bad Segeberg	81.73	333	*e*P	P	20 45 19.0	-0.9
BSEG				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3						
HILS	Ha’il	81.80	298	P	P	20 45 21.4	+0.6
MORC	Moravsky Berou	81.91	327	*e*P	P	20 45 20.7	-0.2
	comp=Z,24nm,1.2s,mb5.0						
DPC	Dobruska-Polom	82.03	328	*e*P	P	20 45 22.2	+0.7
DPC				*e*S	S	20 55 35.0	+2.8
DPC				*e*SS	SS	21 00 57.0	+2.2
DPC				LM		21 26 00.0	
	comp=Z,1.3nm,14.9s						
DPC	Dobruska-Polom	82.03	328	*e*P	P	20 45 22.2	+0.7
DPC				*e*S	S	20 55 35.0	+2.8
DPC				MLR	MLR		
	comp=Z,1µm,14.9s,MS5.4						
PV10	Paradox Valley	82.23	48	*e*P	P	20 45 24.3	+1.5
PV10				*e*pP	pP	20 45 35.2	+2.3
VYHS	Vyhne	82.24	325	*e*P	P	20 45 23.7	+1.1
VYHS				*e*PP	PP	20 48 46.7	+13
ASF	Jabal al Asfar	82.45	304	P	P	20 45 24.9	+0.8
	comp=Z,30nm,1.2s,mb5.1,baz=348,slow=0.3,SNR=12						
ASF				LR	LR	21 27 17.2	
	comp=Z,632nm,19.1s,MS5.0,baz=164,slow=40						
WUAZ	Wupatki	82.53	52	*e*P	P	20 45 25.4	+0.9
PVCC	Panska Ves	82.65	329	LM		21 26 50.0	
	comp=Z,1.1nm,17.0s						
BRG	Berggiesshubel	82.65	329	*i* P	P	20 45 25.2	+0.5
BRG				*e*		20 45 37.5	
BRG				pmax	pmax		
	comp=Z,35nm,1.9s,mb5.1						
BRG				MLR	MLR		
	comp=N,890nm,15.8s,MS5.4						
BRG				MLR	MLR		
	comp=E,1µm,15.8s,MS5.4						
BRG				MLR	MLR		
	comp=Z,1µm,17.5s,MS5.2						
BRG	Berggiesshubel	82.65	329	*i* P	P	20 45 25.2	+0.5
	comp=Z,35nm,1.8s,mb5.1						
BRG				*i*		20 45 27.3	
BRG				*e*		20 45 37.5	
BRG				LR	LR		
	comp=Z,1µm,17.5s,MS5.2						
PV01	Paradox Valley	82.67	48	*e*P	P	20 45 26.1	+1.0
PV01				*e*pP	pP	20 45 37.0	+1.8
VRAC	Vranov	82.67	327	P	P	20 45 25.5	+0.6
	comp=Z,12nm,1.0s,mb4.9,baz=37,slow=6.7,SNR=14						
CLL	Collm	82.71	330	⇓P	P	20 45 25.1	+0.1
	comp=Z,logA/T=1.6,mb5.4						
CLL				*e*PP	PP	20 48 35.0	-1.9
CLL	Collm	82.71	330	⇓*i*P	P	20 45 25.1	+0.1
CLL				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
CLL	Collm	82.71	330	⇓*i*P	P	20 45 25.1	+0.1
	comp=Z,45nm,1.1s,mb5.4						
AFFS	‘Afif	82.89	294	P	P	20 45 27.0	+0.5
SRO	Srobarova	82.97	325	*e*P	P	20 45 27.7	+1.2
PRU	Pruhonice	83.06	329	*e*P	P	20 45 26.6	-0.3
	comp=Z,27nm,1.2s,mb5.2						
PRU				*e*AP	pP	20 45 36.9	-0.1
PRU				*e*S	S	20 55 48.7	+6.0
PRU				*e*SS	SS	21 01 12.7	+2.4
PRU				LM		21 28 20.0	
CSS	Prodhromos	83.12	308	*e*P	P	20 45 27.7	+0.2
	comp=Z,31nm,1.2s,mb5.2						
ZST	Bratislava	83.26	326	*e*P	P	20 45 30.3	+2.4
MMLI	Mount Malkishu	83.29	305	P	P	20 45 28.9	+0.5
HMDT	Nahal Hemdat	83.33	305	P	P	20 45 28.9	+0.3
CLZ	Clausthal	83.35	332	*e*P	P	20 45 28.0	-0.3
	comp=Z,38nm,1.2s,mb5.3						
ISCO	Idaho Springs	83.37	45	*e*P	P	20 45 29.6	+1.0
	comp=Z,6.5nm,0.8s,mb4.7						
ISCO				LR	LR		
	comp=Z,427nm,20.0s,MS4.8						
SLTI	Sal’it	83.66	305	P	P	20 45 30.4	+0.1
NKC	Novy Kostel	83.76	330	*e*P	P	20 45 31.8	+1.4
NKC				*e*S	S	20 55 49.5	-0.1
NKC				MLR	MLR		
	comp=N,2µm,16.9s						
MOX	Moxa	83.78	330	*i* P	P	20 45 31.0	+0.5
	comp=N,logA/T=1.3,mb5.2						
MOX				S	S	20 55 51.0	+1.1
MOX				L		21 27 15.0	
MOX	Moxa	83.78	330	*e*P	P	20 45 31.0	+0.5
MOX				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.2						
MOX				MLR	MLR		
	comp=Z,600nm,21.0s,MS5.0						
MOX	Moxa	83.78	330	*e*P	P	20 45 31.0	+0.5
	comp=Z,30nm,1.4s,mb5.2						
MOX				LR	LR		
	comp=Z,600nm,21.0s,MS5.0						
DRGI	Dragot	83.82	304	P	P	20 45 31.2	+0.1
RZN	Rozhen	83.97	318	P	P	20 45 32.8	+1.2
KHC	Kasperske Hory	84.12	328	*e*P	P	20 45 32.4	+0.2
KHC				*e*AP	pP	20 45 43.4	+1.0
KHC				*e*		20 52 42.0	
KHC				*e*S	S	20 55 50.9	-2.4
KHC				*e*		21 01 41.0	
KHC				LM		21 28 00.0	
	comp=Z,1.1nm,14.9s						
KHC	Kasperske Hory	84.12	328	*e*P	P	20 45 32.4	+0.2
KHC				*e**PP	pP	20 45 43.4	+1.0
KHC				*e*S	S	20 55 50.9	-2.4
KHC				MLR	MLR		
	comp=Z,1µm,14.9s,MS5.4						
VTS	Vitosha	84.18	319	P	P	20 45 33.2	+0.5
GEC2	GERESS Array S	84.29	328	*e*P	P	20 45 34.2	+1.1
GEC2				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
GEC2	GERESS Array S	84.29	328	*e*P	P	20 45 34.2	+1.1
	comp=Z,15nm,1.1s,mb5.0						
GERES	GERESS Array B	84.29	328	P	P	20 45 33.3	+0.3
	comp=Z,5.8nm,0.8s,mb4.7,baz=34,slow=4.8,SNR=24						
GERES	GERESS Array B	84.29	328	P	P	20 45 33.3	+0.2
GERES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RHK1	Bakonya	84.33	324	⇓*e*P	P	20 45 33.6	+0.3
WET	Wettzell	84.41	329	*e*P	P	20 45 33.7	0.0
WET				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
WET	Wettzell	84.41	329	*e*P	P	20 45 33.7	0.0
	comp=Z,20nm,1.2s,mb5.1						
KBRS	Khaybar	84.56	298	P	P	20 45 36.0	+1.0
MMB	Musomiste	84.58	318	*e*P	P	20 45 35.0	+0.3
GRUS	Gruza	84.59	321	⇓*i*P	P	20 45 35.2	+0.5
ZFRI	Zfri	84.60	304	P	P	20 45 35.0	-0.1
ZFRI	Zfri	84.60	304	⇑P	P	20 45 35.0	-0.1
ARSA	Arzberg	84.67	326	⇑*i*P	P	20 45 35.5	+0.5
	comp=Z,47nm,1.9s,mb5.3						
GRA1	Grafenberg Arr	84.68	330	*e*P	P	20 45 35.4	+0.4
	comp=Z,103nm,1.3s,mb5.8						
GRA1				LR	LR		
	comp=Z,700nm,19.8s,MS5.0						
GRF	Grafenberg Arr	84.68	330	*e*P	P	20 45 35.4	+0.4
GRF				pmax	pmax		
	comp=Z,103nm,1.3s,mb5.8						
GRF				MLR	MLR		
	comp=Z,700nm,19.8s,MS5.0						
KKB	Krupnik	84.74	319	*e*P	P	20 45 36.0	+0.5
SDCO	Great Sand Dun	84.78	47	*e*P	P	20 45 36.6	+0.8
	comp=Z,14nm,1.0s,mb5.0						
MOA	Molln	84.79	327	⇑*i*P	P	20 45 36.0	+0.4
	comp=Z,54nm,1.7s,mb5.4						
DIVS	Divcibare	84.81	322	⇓*i*P	P	20 45 35.6	-0.2
PRNI	Paran	84.84	304	P	P	20 45 36.3	0.0
PRNI	Paran	84.84	304	⇑P	P	20 45 36.3	0.0
TUC	Tucson	84.89	54	*e*P	P	20 45 37.1	+0.6
	comp=Z,19nm,1.3s,mb5.1						
KZIT	Kziot	84.91	304	P	P	20 45 36.4	-0.2
EKA	Eskdalemuir Ar	84.93	340	P	P	20 45 36.9	+0.8
	comp=Z,5.1nm,1.0s,mb4.6,baz=18,slow=5.3,SNR=6.4						
EKA	Eskdalemuir Ar	84.93	340	P	P	20 45 36.9	+0.8
EKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TATS	Tathlith	85.04	290	P	P	20 45 38.5	+1.0
TBKS	Tabuk	85.06	301	P	P	20 45 38.1	+0.7
JMQS	Jabal Moqyreh	85.12	302	P	P	20 45 38.4	+0.7
KMTI	Karmit	85.18	303	P	P	20 45 37.6	-0.4
MBH	Mount Berech	85.24	303	P	P	20 45 38.0	-0.3
EIL	Elat	85.29	303	P	P	20 45 38.2	-0.3
JMOS	Jabal al Moall	85.49	303	P	P	20 45 40.1	+0.6
GOLS	Golise	85.55	325	*i* P	P	20 45 39.3	-0.1
GOLS				*i* PcP	PcP	20 45 41.9	-0.8
SKO	Skopje	85.55	319	*i* P	P	20 45 41.5	+1.9
SKO				*i*	pP	20 45 51.2	+1.5
HAQS	Haql	85.68	303	P	P	20 45 40.7	+0.2
FUR	Furstenfeldbru	85.84	329	*e*P	P	20 45 42.0	+1.1
FUR				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.6						
FUR	Furstenfeldbru	85.84	329	*e*P	P	20 45 42.0	+1.1
	comp=Z,50nm,1.3s,mb5.6						
HGN	Heimansgroeve	85.89	333	*e*P	P	20 45 41.2	+0.2
	comp=Z,24nm,1.4s,mb5.2						
LAZ	Ladron	85.93	50	*e*P	P	20 45 42.5	+0.9
BDAS	Al Bad‘	85.94	302	P	P	20 45 42.8	+1.0
AYUS	‘Aynunah	85.97	302	P	P	20 45 42.2	+0.2
ANMO	Albuquerque	86.01	50	*d i*P	P	20 45 42.6	+0.6
ANMO	Albuquerque	86.01	50	*e*P	P	20 45 42.9	+0.9
	comp=Z,12nm,1.1s,mb5.0						
BOJS	Bojanci	86.10	325	*i* P	P	20 45 41.4	-0.8
BOJS				*i* PcP	PcP	20 45 43.1	-2.1
NAMS	An Nimas	86.23	291	P	P	20 45 44.7	+1.3
STU	Stuttgart	86.23	330	*e*P	P	20 45 43.4	+0.7
	comp=Z,50nm,1.1s,mb5.7						
BLJS	Baljurashi	86.28	292	P	P	20 45 44.7	+1.1
CEY	Cerknica	86.31	326	*i* P	P	20 45 44.3	+1.1
UMJS	Umm Lajj	86.31	298	P	P	20 45 44.4	+0.7
BNM	Barren Site	86.42	50	*e*P	P	20 45 44.6	+0.6
MOTA	Moosalm	86.56	329	⇑*i*P	P	20 45 45.4	+1.0
	comp=Z,36nm,1.6s,mb5.3						
GIVF	Givet	86.84	334	*e*P	P	20 45 47.3	+1.6
	comp=Z,66nm,1.4s,mb5.4						
BFO	Black Forest	86.93	331	*e*P	P	20 45 46.3	+0.1
BFO				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.6						
BFO	Black Forest	86.93	331	*e*P	P	20 45 46.3	+0.1
	comp=Z,55nm,1.4s,mb5.6						
BAIF	Baives	87.10	334	*e*P	P	20 45 48.3	+1.4
	comp=Z,100nm,1.6s,mb5.5						
DAVA	Damuels	87.12	329	⇑*i*P	P	20 45 48.3	+1.2
	comp=Z,91nm,2.0s,mb5.7						
CDF	Champ du Feu	87.28	331	*e*P	P	20 45 47.9	0.0
	comp=Z,68nm,1.3s,mb5.4						
SCHQ	Schefferville	87.29	16	P	P	20 45 48.5	+0.8
	comp=Z,9.7nm,0.7s,mb5.2,baz=6.4,slow=6.5,SNR=12						
SCHQ	Schefferville	87.29	16	*e*P	P	20 45 48.2	+0.5
	comp=Z,24nm,1.0s,mb5.4						
CBKS	Cedar Bluff	87.40	43	*e*P	P	20 45 48.5	-0.1
	comp=Z,31nm,1.1s,mb5.4						
HAU	Haudompre	87.98	332	*e*P	P	20 45 51.3	+0.1
HAU				*e*R			
	comp=Z,1µm,17.8s						
MEZF	Maizieres J’vi	88.07	333	*e*P	P	20 45 52.3	+0.7
CPRX	Cap Rock	88.89	50	*e*P	P	20 45 56.4	+0.5
KSU1	Kansas State U	88.92	41	*e*P	P	20 45 55.1	-0.9
GDL2	Guadalupe Moun	89.13	51	*e*P	P	20 45 57.4	+0.3
CABF	La Chapelle	89.22	331	*e*P	P	20 45 57.0	-0.2
AQU	L’Aquila	89.35	324	*e*P	P	20 45 58.3	+0.4
	comp=Z,19nm,1.0s,mb5.4						
CII	Carovilli	89.39	323	*e*P	P	20 45 57.1	-1.0
	comp=Z,88nm,1.8s,mb5.8						
LOR	Lormes	89.54	333	*e*P	P	20 45 58.7	0.0
	comp=Z,53nm,1.3s,mb5.4						
LOR				*e*R			
	comp=Z,1µm,19.2s						
FLN	La Foliniere	89.83	336	*e*P	P	20 45 59.9	-0.1
FLN				*e*R			
	comp=Z,1µm,22.2s						
LPL	La Plagne	89.84	330	*e*P	P	20 46 00.6	+0.5
	comp=Z,27nm,1.1s,mb5.2						
SSF	Saint Saulge	89.85	333	*e*P	P	20 46 00.2	+0.1
	comp=Z,38nm,1.2s,mb5.3						
LPG	La Plagne	89.85	330	*e*P	P	20 46 00.9	+0.7
	comp=Z,29nm,1.1s,mb5.2						
LDF	La Druitiere	89.85	335	*e*P	P	20 46 00.3	+0.2
SMF	Signal de Mont	90.07	332	*e*P	P	20 46 01.3	+0.2
	comp=Z,84nm,1.5s,mb5.6						
AVF	Avril sur Loir	90.13	333	*e*P	P	20 46 01.6	+0.2
	comp=Z,66nm,1.2s,mb5.5						
GRR	Gorron	90.28	336	*e*P	P	20 46 02.3	+0.2
MBDF	Montbardon	90.47	329	*e*P	P	20 46 02.7	-0.4
ORIF	Oris-en-Rattie	90.68	330	*e*P	P	20 46 04.1	+0.1
ORIF				*e*R			
	comp=Z,1µm,18.8s						
WMOK	Wichita Mounta	90.80	45	*e*P	P	20 46 04.8	0.0
	comp=Z,8.7nm,1.1s,mb5.0						
SGMF	Saint Gilles	90.96	337	*e*P	P	20 46 05.4	+0.2
	comp=Z,279nm,1.8s,mb6.0						
TCF	Toulx Ste Croi	90.98	333	*e*P	P	20 46 05.7	+0.3
	comp=Z,52nm,1.3s,mb5.4						
VIVF	Saint-Julien-l	91.22	331	*e*P	P	20 46 06.8	+0.3
	comp=Z,31nm,1.1s,mb5.2						
PGF	Pioggiola	91.25	327	*e*P	P	20 46 06.6	-0.1
	comp=Z,94nm,1.3s,mb5.7						
FRF	La Foret Royal	91.47	329	*e*P	P	20 46 06.9	-0.8
LTX	Lajitas	91.48	52	*e*P	P	20 46 08.6	+0.5
	comp=Z,3.1nm,0.6s,mb4.8						
TXAR	Lajitas Array	91.48	52	P	P	20 46 08.6	+0.5
	comp=Z,2.9nm,0.7s,mb4.8,baz=288,slow=4.0,SNR=11						
TXAR				LR	LR	21 23 29.3	
	comp=Z,636nm,19.3s,MS5.1,baz=255,slow=33						
TXAR	Lajitas Array	91.48	52	P	P	20 46 08.6	+0.5
TXAR				LR	LR	21 23 29.3	
MFF	Saint Martin d	91.57	334	*e*P	P	20 46 09.1	+1.0
	comp=Z,95nm,1.3s,mb5.7						
SMRF	Simiane la Rot	91.58	330	*e*P	P	20 46 07.2	-1.0
	comp=Z,38nm,1.4s,mb5.2						
LMR	La Mourre	91.71	329	*e*P	P	20 46 08.2	-0.6
	comp=Z,86nm,1.3s,mb5.6						
RJF	Les Rejaudoux	92.07	333	*e*P	P	20 46 11.1	+0.7
	comp=Z,80nm,1.3s,mb5.6						
RJF				*e*R			
	comp=Z,943nm,21.2s						
CAF	Calviac	92.19	332	*e*P	P	20 46 11.9	+1.0
	comp=Z,80nm,1.3s,mb5.6						
LASF	Ste Croix	92.20	331	*e*P	P	20 46 11.3	+0.3
CCM	Cathedral Cave	92.52	39	*e*P	P	20 46 12.5	-0.2
	comp=Z,12nm,0.9s,mb5.3						
LFF	La Frestale	92.67	333	*e*P	P	20 46 14.1	+0.9
	comp=Z,82nm,1.2s,mb5.7						
MTLF	Montolieu	93.46	331	*e*P	P	20 46 17.3	+0.5
	comp=Z,73nm,1.5s,mb5.6						
EPF	Esparros	94.45	332	*e*P	P	20 46 21.6	+0.2
ESDC	Sonseca Array	98.97	333	LR	LR	21 35 24.5	
	comp=Z,730nm,20.7s,MS5.2,baz=25,slow=38						
VNDA	Vanda	113.03	175	PKiKP		20 51 37.7	
	comp=Z,1.3nm,1.2s,baz=315,slow=2.9,SNR=3.5						
VNDA	Vanda	113.03	175	*i* PKIKP	PKPdf	20 51 37.7	-4.0
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
MAW	Mawson	117.67	205	PKP	PKPdf	20 51 47.3	-3.6
	comp=Z,1.2nm,0.6s,baz=360,slow=6.8,SNR=3.8						
MAW	Mawson	117.67	205	PKIKP	PKPdf	20 51 47.3	-3.6
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
QSPA	South Pole Qui	124.80	180	*e*PKP	PKPdf	20 52 00.2	-4.2
SYO	Syowa Base	126.35	206	⇓Pdiff	Pdif	20 48 44.9	+3.0
SYO	Syowa Base	126.35	206	⇓pPdiff		20 48 58.8	
SYO	Syowa Base	126.35	206	⇓PKPdf	PKPdf	20 52 04.1	-3.4
SNAA	Sanae	138.80	196		PKPdf	20 52 22.5	-8.4
VNA2	Neumayer--Watz	140.37	196	⇑*i*	PKPdf	20 52 28.1	-5.6
VNA1	Neumayer--Stat	140.77	196	⇑*i*	PKPdf	20 52 30.7	-3.6
SAML	Samuel	145.77	46	*e*PKPdf	PKPdf	20 52 40.4	-4.2
LPAZ	La Paz	147.82	62	PKPbc	PKPdf	20 52 48.2	+0.3
	comp=Z,7.5nm,0.8s,baz=295,slow=2.3,SNR=9.8						
LPAZ	La Paz	147.82	62	PKIKP	PKPdf	20 52 48.2	+0.3
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPAZ	La Paz	147.82	62	*e*PKPbc	PKPdf	20 52 47.4	-0.5
LVC	Limon Verde	150.99	73	PKPbc	PKPdf	20 52 56.0	+3.2
	comp=Z,10nm,0.8s,baz=236,slow=1.3,SNR=9.3						
LVC				PKPab	PKPab	20 53 00.8	-2.3
	comp=Z,14nm,1.0s,baz=311,slow=3.0,SNR=5.8						
LVC	Limon Verde	150.99	73	*e*PKPbc	PKPdf	20 52 55.7	+2.9

USHA	**Ushuaia**	151.53	143	PKPbc	PKPdf	20 52 57.4	+4.8
	comp=Z,11nm,1.0s,baz=292,slow=5.4,SNR=3.1						
USHA				PKPab	PKPab	20 53 03.8	-0.5
	comp=Z,5.9nm,0.7s,baz=31,slow=5.9,SNR=3.1						
PLCA	**Paso Flores**	154.42	112	PKPbc	PKPdf	20 53 03.6	+6.5
	comp=Z,0.9nm,0.8s,slow=1.0,SNR=2.5						
PLCA				PKPab	PKPab	20 53 16.3	-0.6
	comp=Z,1.4nm,0.8s,baz=248,slow=6.7,SNR=3.9						
PLCA	**Paso Flores**	154.42	112	PKIKP	PKPdf	20 53 03.6	+6.5
PLCA						20 53 16.3	
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PLCA	**Paso Flores**	154.42	112	PKPbc	PKPdf	20 53 03.6	+6.6
PLCA				PKPab	PKPab	20 53 16.3	-0.6
BDFB	**Brasilia**	158.98	25	PKPbc	PKPdf	20 53 11.5	+7.8
	comp=Z,4.4nm,0.6s,baz=45,slow=1.4,SNR=6.8						
BDFB				PKPab	PKPab	20 53 36.7	-0.5
	comp=Z,1.8nm,0.5s,baz=342,slow=3.2,SNR=3.1						
BDFB	**Brasilia**	158.98	25	PKIKP	PKPdf	20 53 11.5	+7.8
BDFB						20 53 36.7	
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						

WEL 20 20:39:31.9±0.5**, 35.23S**×**178.65E, h163**^{km}±13^{km}**, ML3.6**/1**, Error ellipse: s-maj=10.2km s-min=9.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.34	187	PN	P	20 40 12.1	-0.1
MXZ				SN	S	20 40 42.0	-1.3
MXZ				SN	S	20 40 42.3	-1.0
PUZ	**Puketiti**	2.85	186	PN	P	20 40 18.2	-0.3
PUZ				SN	S	20 40 51.8	-2.6
PUZ				SN	S	20 40 52.4	-2.0
MWZ	**Matawai**	3.23	196	PN	P	20 40 23.6	+0.4
MWZ				*e*SN	S	20 41 02.3	-0.5
MWZ				SN	S	20 41 02.7	0.0
URZ	**Urewera**	3.27	202	PN	P	20 40 23.3	-0.4
URZ				SN	S	20 41 03.3	-0.4
URZ				SN	S	20 41 03.4	-0.3

NIED ***20*** *20:40:00, 35.00N×141.40E, h17^{km}, Mw4.4 Best double couple: M$_0$4.84×10^{15} NP1:φ$_s$338°, δ68°, λ61°. NP2:φ$_s$214°, δ36°, λ140°.*

IDC ***20*** *20:40:09.2±0.6, 35.05N×141.14E, mb4.0/15, mb1 4.2/19, mb1mx4.2/27, ML3.9/4, Error ellipse: s-maj=21.1km s-min=13.1km az=97.0*

JMA ***20*** *20:40:12.5±0.3, 35.02N×141.38E, h32^{km}, M3.7*

NEIC ***20*** *20:40:16.4±1.0, 35.07N×141.02E, h47^{km}±9^{km}, mb4.7/4, MW4.4(NIED), Error ellipse: s-maj=10.0km s-min=6.2km az=98.0*

ISC 20 20:40:11.5±1.2**, 35.00N**±0.04×**141.43E**±0.09**, h32**^{km}±8^{km}**, n40, σ1^{s}05**/44**, mb4.1**/18**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.51	228	P	Pb	20 40 22.7	+0.6
BSO1				S	Sb	20 40 29.1	-0.3
BSO3	**Boso 3**	0.78	256	P	Pn	20 40 27.2	+0.8
CHOJ	**Chosi**	0.85	327	P	Pn	20 40 27.1	-0.2
BSO4	**Boso 4**	0.90	270	P	Pn	20 40 28.8	+0.7
KTR	**Katsuura**	0.93	280	P	Pn	20 40 28.9	+0.4
JCN	**Nagara**	1.09	293	P	Pn	20 40 32.0	+1.2
JYT	**Yasato**	1.59	321	P	Pn	20 40 38.0	0.0
JIM2	**Oshima 3**	1.67	261	P	Pn	20 40 38.3	-0.8
JHJ	**Hachijo jima 2**	2.32	217	Pn	Pn	20 40 49.2	+0.8
	44nm,0.3s,baz=67,slow=6.3,SNR=44						
JHJ				Sn	Sn	20 41 15.3	-0.8
	62nm,0.3s,baz=257,slow=23,SNR=6.2						
MAJO	**Matsushiro**	3.04	301	*e*Pn	Pn	20 40 59.0	+0.3
CBIJ	**Chichi jima**	7.90	175	Pn	Pn	20 42 05.8	-1.5
	14nm,0.3s,baz=283,slow=22,SNR=5.7						
CBIJ				Sn	Sn	20 43 29.1	-7.3
	23nm,0.3s,baz=312,slow=21,SNR=5.5						
JNU	**Nakatsue**	8.96	261	Pn	P	20 42 23.1	+1.2
	0.4nm,0.3s,baz=52,slow=12,SNR=4.0						
ASAJ	**Asahikawa**	9.15	5	Pn	P	20 42 22.7	-1.9
	2.2nm,0.3s,baz=323,slow=11,SNR=12						
ASAJ				Sn	Sn	20 44 00.1	-7.5
	0.5nm,0.3s,baz=198,slow=19,SNR=3.2						
YSS	**Yuzh-Sakhalins**	11.99	4	P	P	20 42 59.8	-3.4
	12nm,0.7s						
YAK	**Yakutsk**	28.06	348	P	P	20 46 01.5	-0.3
	13nm,0.6s,mb4.7						
SONM	**Songino Array**	28.98	307	P	P	20 46 07.4	-2.8
	0.9nm,0.8s,mb3.5,baz=63,slow=5.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	41.03	258	P	P	20 47 52.2	-1.5
	1.5nm,0.8s,mb3.7,baz=54,slow=5.8,SNR=7.5						
CMAR				PcP	PcP	20 49 55.2	+1.4
	0.8nm,1.0s,baz=63,slow=2.0,SNR=4.5						
ZAL	**Zalesovo**	43.33	314	P	P	20 48 11.6	-0.4
	1.4nm,0.7s,mb3.8,baz=278,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	45.24	304	P	P	20 48 27.1	-0.4
	2.3nm,0.8s,mb4.1,baz=82,slow=8.5,SNR=6.7						
KURK	**Kurchatov**	47.22	310	*e*P	P	20 48 42.1	-1.0
	19nm,0.9s,mb5.0						
ILAR	**Eielson Array**	51.21	31	P	P	20 49 14.8	+1.2
	1.1nm,0.7s,mb3.9,baz=273,slow=5.9,SNR=7.4						
FITZ	**Fitzroy Crossi**	54.90	198	*e*P	P	20 49 41.6	-0.1
	4.6nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	54.90	198	P	P	20 49 41.5	-0.2
	5.6nm,0.7s,mb4.7,baz=12,slow=9.3,SNR=7.7						
WRAB	**Tennant Creek**	55.04	188	*e*P	P	20 49 42.1	-0.5
	50nm,1.1s						
WB2	**Warramunga Arr**	55.05	188	*e*P	P	20 49 41.8	-1.0
WRA	**Warramunga Arr**	55.05	188	P	P	20 49 42.0	-0.8
	18nm,0.8s,mb5.2,baz=5.3,slow=7.5,SNR=86						
ASAR	**Alice Springs**	58.77	188	P	P	20 50 08.9	-0.2
	2.0nm,0.6s,mb4.3,baz=7.9,slow=7.0,SNR=16						
ASPA	**Alice Springs**	58.78	188	*e*P	P	20 50 10.5	+1.3
FORT	**Forrest**	66.63	193	*e*P	P	20 51 02.5	+1.3
	33nm,0.6s						
FINES	**FINESS Array B**	70.62	333	P	P	20 51 23.9	-1.5
	3.2nm,0.8s,mb4.3,baz=284,slow=5.7,SNR=4.0						
FINES	**FINESS Array B**	70.62	333	P	P	20 51 23.9	-1.5
AKASG	**Malin Array Be**	75.92	323	P	P	20 51 56.2	-0.4
	0.5nm,0.4s,mb3.8,baz=42,slow=5.6,SNR=5.5						
HFS	**Hagfors**	75.95	336	P	P	20 51 56.9	+0.4
	1.8nm,0.7s,mb4.1,baz=333,slow=3.2,SNR=3.0						
NB2	**NORSAR Subarra**	76.07	337	P	P	20 51 57.6	+0.4
	1.1nm,0.6s,mb4.0,baz=37,slow=5.8						
NOA	**NORSAR Array B**	76.07	337	P	P	20 51 57.6	+0.4
	2.2nm,0.8s,mb4.1,baz=39,slow=5.7,SNR=5.2						
NVAR	**Mina Array Bea**	76.20	53	P	P	20 52 01.1	+2.7
	1.2nm,0.7s,mb4.0,baz=286,slow=5.1,SNR=9.5						
PDAR	**Pinedale Array**	79.09	45	P	P	20 52 16.2	+2.0
	0.7nm,0.9s,mb3.6,baz=268,slow=2.1,SNR=4.7						
BRTR	**Keskin Array B**	80.22	312	P	P	20 52 20.5	+0.1
	0.8nm,0.8s,mb3.7,baz=72,slow=3.9,SNR=4.9						
CLL	**Collm**	82.87	330	P	P	20 52 35.0	+1.0
GERES	**GERESS Array B**	84.45	328	P	P	20 52 42.9	+0.9
	0.3nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=4.5						

IDC ***20*** *20:41:16.0±3.5, 5.91S×149.07E, mb3.7/3, mb1 4.1/5, mb1mx3.8/15, ML3.9/2, Error ellipse: s-maj=93.1km s-min=30.5km az=102.0*

ISC 20 20:41:19.3±2.7**, 6.0S**±0.2×**149.1E**±0.4**, h33**^{km}**, n7, σ0^{s}43**/7**, mb3.6**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	14.29	191	Pn	P	20 44 41.7	+0.3
	0.2nm,0.3s,baz=18,slow=13,SNR=3.0						
WB2	**Warramunga Arr**	19.93	225	*e*P	P	20 45 51.3	+0.1
WRA	**Warramunga Arr**	19.93	225	P	P	20 45 51.5	+0.1
	0.5nm,0.3s,baz=50,slow=10,SNR=6.1						
ASAR	**Alice Springs**	22.85	218	P	P	20 46 20.0	-0.9
	2.2nm,0.7s,mb3.7,baz=50,slow=9.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	25.84	240	*e*P	P	20 46 50.1	+0.3
	2.9nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	25.84	240	P	P	20 46 50.2	+0.5
	1.7nm,0.6s,mb3.8,baz=59,slow=8.3,SNR=7.9						
MKAR	**Makanchi Array**	78.80	320	P	P	20 53 20.6	0.0
	0.3nm,0.7s,mb3.4,baz=117,slow=6.4,SNR=2.3						

IDC ***20*** *20:54:28.1±1.6, 35.12N×141.32E, mb4.0/5, mb1 4.2/7, mb1mx3.9/24, ML3.9/2, Error ellipse: s-maj=43.5km s-min=18.3km az=83.0*

JMA ***20*** *20:54:30.8±0.3, 35.05N×141.45E, h36^{km}±4^{km}, M3.4*

NEIC ***20*** *20:54:35.5±9.0, 35.07N×141.01E, h44^{km}±45^{km}, mb4.5/3, Error ellipse: s-maj=170.2km s-min=12.8km az=68.0*

ISC 20 20:54:28.5±1.2**, 35.05N**±0.03×**141.62E**±0.07**, h22**^{km}±7^{km}**, n25, σ1^{s}00**/36**, mb4.2**/8**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.66	234	P	Pb	20 54 42.1	+0.9
BSO1				*e*S	Sb	20 54 48.6	-1.3
BSO2	**Boso 2**	0.77	248	*e*S	Sb	20 54 51.4	-1.7
CHOJ	**Chosi**	0.91	317	P	Pb	20 54 45.8	+0.5
CHOJ				*e*S	Sb	20 54 57.7	+0.8
BSO3	**Boso 3**	0.95	255	P	Pb	20 54 45.8	-0.2
BSO3				*e*S	Sb	20 54 57.8	-0.3
BSO4	**Boso 4**	1.06	267	P	Pb	20 54 47.5	-0.4
BSO4				*e*S	Sb	20 55 00.5	-0.8
KTR	**Katsuura**	1.08	276	P	Pb	20 54 48.1	-0.2
KTR				*e*S	Sb	20 55 03.5	+1.6
JCN	**Nagara**	1.22	288	P	Pn	20 54 51.0	+0.5
JCN				*e*S	Sb	20 55 07.6	+1.5
JYT	**Yasato**	1.66	316	P	Pn	20 54 56.6	-0.1
JYT				*e*S	Sn	20 55 18.6	+1.1
JHO	**Hitachi**	1.78	332	P	Pn	20 54 58.9	+0.4
JHO				*e*S	Sn	20 55 19.5	-1.1
JIM2	**Oshima 3**	1.83	260	P	Pn	20 54 57.5	-1.7
JHJ	**Hachijo jima 2**	2.46	219	Pn	Pn	20 55 08.5	+0.4
	36nm,0.3s,baz=270,slow=24,SNR=13						
JHJ				Sn	Sn	20 55 39.8	+2.0
	65nm,0.3s,baz=55,slow=23,SNR=7.8						
MAJO	**Matsushiro**	3.15	299	*e*Pn	Pn	20 55 17.9	-0.1
MAT	**Matsushiro**	3.15	299	P	Pn	20 55 18.5	+0.5
MAT				S	Sn	20 55 55.1	-0.3
MAT	**Matsushiro**	3.15	299	*e*P	Pn	20 55 19.0	+1.0
MAT				*e*S	Sn	20 55 55.0	-0.4
ASAJ	**Asahikawa**	9.09	4	Pn	P	20 56 41.0	-0.5
	2.1nm,0.3s,baz=210,slow=15,SNR=11						
SONM	**Songino Array**	29.07	307	P	P	21 00 27.7	-1.7
	2.6nm,1.4s,mb3.8,baz=101,slow=7.3,SNR=2.9						
ZAL	**Zalesovo**	43.41	314	P	P	21 02 29.9	-1.1
	0.6nm,0.3s,mb3.8,baz=91,slow=3.4,SNR=3.3						
MKAR	**Makanchi Array**	45.34	304	P	P	21 02 46.1	-0.5
	0.7nm,0.7s,mb3.6,baz=89,slow=9.2,SNR=7.0						
KURK	**Kurchatov**	47.31	310	*e*P	P	21 03 01.7	-0.4
	4.9nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	54.99	199	*e*P	P	21 04 00.9	+0.2
	1.9nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	55.11	188	*e*P	P	21 04 01.1	-0.5
	5.4nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	55.12	188	*e*P	P	21 03 57.4	-4.2
WB2				*e*		21 04 01.9	
WRA	**Warramunga Arr**	55.12	188	P	P	21 04 01.3	-0.4
	4.0nm,0.5s,mb4.7,baz=4.5,slow=7.6,SNR=69						
ASAR	**Alice Springs**	58.85	188	P	P	21 04 29.4	+1.4
	1.2nm,0.6s,mb4.1,baz=18,slow=13,SNR=15						
ASPA	**Alice Springs**	58.85	188	*e*P	P	21 04 30.0	+2.0

IDC ***20*** *20:58:07.2±0.9, 35.01N×141.32E, mb3.9/7, mb1 4.1/10, mb1mx3.9/25, ML3.8/3, Error ellipse: s-maj=26.4km s-min=16.8km az=103.0*

JMA ***20*** *20:58:09.9±0.3, 35.04N×141.39E, h37^{km}±4^{km}, M3.2*

NEIC ***20*** *20:58:09.9±10.0, 34.99N×141.20E, h16^{km}±62^{km}, mb4.5/3, Error ellipse: s-maj=25.9km s-min=13.8km az=86.0*

ISC 20 20:58:08.3±1.2**, 35.03N**±0.04×**141.51E**±0.09**, h29**^{km}±7^{km}**, n25, σ0^{s}90**/32**, mb4.0**/10**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.58	229	P	Pb	20 58 20.5	+0.6
BSO1				*e*S	Sb	20 58 28.3	+0.5
BSO2	**Boso 2**	0.68	246	*e*S	Sb	20 58 30.3	-0.4
BSO3	**Boso 3**	0.85	255	P	Pb	20 58 24.0	-0.4
CHOJ	**Chosi**	0.85	322	P	Pb	20 58 24.3	-0.2
CHOJ				*e*S	Sb	20 58 35.2	-0.4
BSO4	**Boso 4**	0.96	268	P	Pn	20 58 25.9	-0.1
KTR	**Katsuura**	0.99	277	P	Pn	20 58 25.8	-0.5
JCN	**Nagara**	1.14	290	P	Pn	20 58 29.4	+0.9
JHJ	**Hachijo jima 2**	2.39	217	Pn	Pn	20 58 46.9	+0.5
	32nm,0.3s,baz=84,slow=23,SNR=14						
JHJ				Sn	Sn	20 59 14.8	-0.2
	103nm,0.3s,baz=50,slow=20,SNR=8.3						
MAJO	**Matsushiro**	3.08	300	*e*Pn	Pn	20 58 56.9	+0.7
MAT	**Matsushiro**	3.08	300	P	Pn	20 58 56.6	+0.4
MAT				S	Sn	20 59 31.0	-1.5
MAT	**Matsushiro**	3.08	300	*e*P	Pn	20 58 57.0	+0.8
MAT				*e*S	Sn	20 59 36.0	+3.5
CBIJ	**Chichi jima**	7.93	176	Pn	Pn	20 59 59.8	-4.9
	4.7nm,0.3s,baz=272,slow=22,SNR=2.6						
CBIJ				Sn	Sn	21 01 29.1	-5.2
	7.6nm,0.3s,baz=286,slow=22,SNR=3.1						
ASAJ	**Asahikawa**	9.11	5	Pn	P	21 00 19.6	-1.4
	1.2nm,0.3s,baz=39,slow=31,SNR=5.4						
ASAJ				Sn	Sn	21 01 57.4	-6.3
	0.6nm,0.3s,baz=292,slow=32,SNR=4.0						
SONM	**Songino Array**	29.01	307	P	P	21 04 09.2	+1.5
	0.4nm,0.7s,mb3.3,baz=113,slow=11,SNR=2.8						
ZAL	**Zalesovo**	43.35	314	P	P	21 06 09.1	-0.3
	0.6nm,0.4s,mb3.7,baz=269,slow=2.9,SNR=3.1						
MKAR	**Makanchi Array**	45.27	304	P	P	21 06 24.7	-0.2
	1.0nm,0.7s,mb3.8,baz=89,slow=9.9,SNR=7.4						
KURK	**Kurchatov**	47.25	310	*e*P	P	21 06 40.0	-0.5
	2.8nm,0.6s,mb4.4						
ILAR	**Eielson Array**	51.15	31	P	P	21 07 12.2	+1.8
	0.6nm,0.7s,mb3.6,baz=268,slow=5.7,SNR=7.0						
FITZ	**Fitzroy Crossi**	54.95	199	*e*P	P	21 07 39.4	+0.2
	3.0nm,1.6s,mb4.1						
WRAB	**Tennant Creek**	55.08	188	*e*P	P	21 07 39.6	-0.6
	4.6nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	55.09	188	*e*P	P	21 07 40.0	-0.2
WRA	**Warramunga Arr**	55.09	188	P	P	21 07 40.0	-0.2
	2.3nm,0.4s,mb4.6,baz=4.6,slow=7.5,SNR=41						
ASAR	**Alice Springs**	58.82	188	P	P	21 08 07.1	+0.5
	0.8nm,0.6s,mb3.9,baz=5.2,slow=6.4,SNR=8.7						
ASPA	**Alice Springs**	58.82	188	*e*P	P	21 08 04.1	-2.6
NVAR	**Mina Array Bea**	76.13	53	P	P	21 09 58.7	+3.5
	1.0nm,0.7s,mb3.8,baz=294,slow=3.9,SNR=6.6						

NEIC ***20*** *21:02:41.7, 16.64N×100.36W, h5^{km}, MD4.1(MEX), After MEX.*

MEX 20 21:02:40.3±0.6**, 16.61N**×**100.43W, h3**^{km}±6^{km}**, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	0.46	20	*i* P	Pg	21 02 48.7	-0.8
CAIG				*i* S	Sg	21 02 55.7	+0.1
CAIG	**El Cayaco**	0.46	20	*e*P	Pg	21 02 48.7	-0.8
CAIG				*e*S	Sg	21 02 55.9	+0.3
ZIIG	**Zihuatanejo**	1.40	315	*e*P	Pb	21 03 03.9	-2.7
ZIIG				*i* S	Sb	21 03 19.6	-5.2
ZIIG	**Zihuatanejo**	1.40	315	*e*P	Pb	21 03 05.0	-1.6
ZIIG				*e*S	Sb	21 03 26.8	+2.0
PNIG	**Pinotepa**	2.22	95	*e*P	Pn	21 03 15.9	-2.6
PNIG				*i* S	Sn	21 03 40.9	-5.8
PNIG	**Pinotepa**	2.22	95	*e*P	Pn	21 03 17.6	-0.8
PNIG				*i* S	Sn	21 03 43.8	-3.0
YAIG	**Yautepec**	2.59	30	*i* P	Pn	21 03 21.1	-2.6
YAIG				*i* S	Sn	21 03 51.3	-4.7
UNM	**Universidad Na**	2.95	24	*e*P	Pn	21 03 34.0	+5.1
UNM				*e*S	Sn	21 04 01.4	-3.9
PPM	**Popocatepetl**	2.98	35	*e*P	Pn	21 03 21.5	-7.9
PPM				*e*P		21 03 26.1	
PPM				*e*S	Sn	21 04 01.4	-4.7
PPM	**Popocatepetl**	2.98	35	*e*P	Pn	21 03 26.1	-3.3
MOIG	**Morelia**	3.13	347	*i* P	Pn	21 03 29.6	-1.9
MOIG				*i* S	Sn	21 04 06.1	-3.7
MOIG	**Morelia**	3.13	347	*i* P	Pn	21 03 31.5	+0.1
MOIG				*i* S	Sn	21 04 06.1	-3.7
VHO	**Vista Hermosa**	3.57	82	*i* S	Sn	21 04 16.7	-4.3
OXX	**Oaxaca**	3.58	82	*e*P	Pn	21 03 34.0	-3.9
OXX				*e*S	Sn	21 04 36.5	+15
IISM	**Ciudad Serdan**	3.75	50	*e*P	Pn	21 03 44.5	+4.3
IISM				*e*S	Sn	21 04 40.5	+15
CMIG	**Matias Romero**	5.33	84	*e*P	Pn	21 03 58.8	-3.9
CMIG				*e*S	Sn	21 04 59.6	-5.9

THE ***20*** *21:06:33.8, 41.29N×20.18E, h10^{km}*

TIR ***20*** *21:06:33.9, 41.15N×20.33E, h8^{km}, Ml2.5*

ATH ***20*** *21:06:34.4, 41.35N×19.97E, h38^{km}, MD3.3/3*

PDG ***20*** *21:06:36.1±0.3, 41.08N×20.08E, h3^{km}±1^{km}*

NEIC ***20*** *21:06:36.1, 41.08N×20.08E, h3^{km}, MD3.3(ATH), MD2.7(PDG), After PDG.*

ISC 20 21:06:35.8±0.3**, 41.11N**±0.02×**20.24E**±0.03**, h8**^{km}**, n33, σ1^{s}43**/56**, 10C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	0.37	311	⇑*i*Pg	Pg	21 06 42.7	-0.6
TIR				*i* Sg	Sg	21 06 49.5	+1.2
OHR	**Ohrid**	0.43	89	*i* Pg	Pg	21 06 43.8	-0.6
OHR				*i*		21 06 44.3	
OHR				⇓*i*Sg	Sg	21 06 51.0	+0.9
QSH	**Qafa e Shtames**	0.48	329	*i* Pg	Pg	21 06 44.0	-1.5
QSH				*i* Sg	Sg	21 06 50.8	-1.3
KBN	**Korca**	0.64	139	*e*Pg	Pg	21 06 46.6	-2.0
KBN				*i* Sg	Sg	21 06 57.2	+0.1
LACI	**Lac**	0.66	323	*i* Pg	Pg	21 06 47.3	-1.7
LACI				*i* Sg	Sg	21 06 58.7	+0.8
BIA	**Bitola**	0.83	96	*i* Pg	Pg	21 06 50.4	-1.9
BIA				*i* Sg	Sg	21 07 04.0	+0.6
FNA	**Florina**	0.92	110	*e*Pg	Pg	21 06 52.9	-1.4
FNA				*e*Sg	Sg	21 07 08.1	+1.5
LSK	**Leskovik**	0.99	164	*e*pg?	Pg	21 06 52.0	-3.7
LSK				*i* Sg	Sg	21 07 06.2	-2.8
ULC	**Ulcinj**	1.13	319	⇑*i*Pg	Pg	21 06 56.0	-2.4
ULC				*e*Sg	Sg	21 07 13.4	-0.1
SKO	**Skopje**	1.25	46	*i* Pg	Pg	21 07 00.7	-0.1
SKO				*i*		21 07 05.5	
BCI	**Bajram Curri**	1.27	354	*e*Pn	Pn	21 06 58.5	-1.3
KEK	**Kerkira**	1.43	194	*e*PN	Pn	21 07 02.5	+0.4
KEK				*e*SN	Sn	21 07 23.0	+1.7
PVY	**Plav**	1.50	353	⇑*i*Pg	Pg	21 07 03.1	-2.6
PVY				*e*Sg	Sg	21 07 27.4	+1.6
TTG	**Podgorica**	1.51	331	*e*Pg	Pg	21 07 03.3	-2.6
TTG				*e*Sg	Sg	21 07 26.6	+0.5
JAN	**Janina**	1.52	162	*e*PN	Pn	21 07 04.8	+1.4
MEV	**Metsovon**	1.52	150	*e*Pb	Pb	21 07 03.9	+0.1
	comp=Z,4.3nm,0.1s						
MEV				*e*Sb	Sb	21 07 26.9	+3.8
BUM	**Brajici-Budva**	1.56	320	⇑*i*Pg	Pg	21 07 04.5	-2.4
BUM				*e*Sg	Sg	21 07 27.5	-0.2
IGT	**Igoumenitsa**	1.57	177	*e*Pb	Pb	21 07 04.5	-0.2
IGT				*e*Sb	Sb	21 07 28.3	+3.6
GRG	**Griva**	1.65	94	*e*Pb	Pb	21 07 04.1	-1.8
GRG				*e*Sb	Sb	21 07 26.5	-0.2
IVA	**Berane**	1.78	352	⇑*i*Pn	Pn	21 07 09.1	+1.9
IVA				*e*Sn	Sn	21 07 35.1	+4.9
LCI	**Lecce**	1.79	245	*e*Pn	Pn	21 07 08.9	+1.6
HCY	**Herceg Novi**	1.87	316	⇑*i*Pn	Pn	21 07 08.4	+0.1
HCY				*e*Sn	Sn	21 07 35.1	+2.7
NKY	**Niksic**	1.94	332	⇑*i*Pn	Pn	21 07 10.3	+1.0
NKY				*e*Sn	Sn	21 07 37.9	+3.8
BRY	**Bratogost**	2.19	325	⇑*i*Pn	Pn	21 07 13.7	+0.6
BRY				*e*Sn	Sn	21 07 43.8	+3.2
PLE	**Pljevlja**	2.31	345	⇑*i*Pn	Pn	21 07 16.7	+2.0
PLE				*e*Sn	Sn	21 07 48.1	+4.6
UPM	**Unac-Piva**	2.32	335	⇑*i*Pn	Pn	21 07 16.2	+1.4
UPM				*e*Sn	Sn	21 07 47.7	+4.0
LKD	**Levkas**	2.42	172	*e*Pn	Pn	21 07 15.6	-0.6
EVR	**Evrytania**	2.50	151	*e*PN	Pn	21 07 19.0	+1.6
AGG	**Agios Georgios**	2.63	142	*e*Pn	Pn	21 07 19.7	+0.4
AGG				*e*Sn	Sn	21 07 54.0	+2.3
XOR	**Xorichti**	2.85	127	*e*Pn	Pn	21 07 22.2	-0.3
MRLC	**Muro Lucano**	3.61	266	*e*Pn	Pn	21 07 32.6	-0.7
SGO	**Sicignano**	3.78	263	*e*Pn	Pn	21 07 33.8	-1.8
SGG	**Gregorio Mates**	4.42	276	*e*Pn	Pn	21 07 44.0	-0.8

JMA ***20*** *21:12:36.0±0.3, 35.07N×141.40E, h33^{km}±5^{km}, M2.9*

IDC ***20*** *21:12:38.7±3.2, 35.12N×141.33E, h41^{km}±26^{km}, mb3.6/4, mb1 3.7/6, mb1mx3.4/24, ML3.5/2, Error ellipse: s-maj=38.1km s-min=15.4km az=96.0*

NEIC ***20*** *21:12:39.7±1.7, 35.09N×141.08E, h40^{km}, mb4.4/3, Error ellipse: s-maj=53.8km s-min=9.1km az=59.0*

NIED ***20*** *21:13:00, 35.10N×141.40E, h14^{km}, Mw4.5 Best double couple: M$_0$5.52×10^{15} NP1:φ$_s$343°, δ86°, λ61°. NP2:φ$_s$246°, δ30°, λ172°.*

ISC 20 21:12:35.4±1.4**, 35.09N**±0.05×**141.5E**±0.1**, h34**^{km}±12^{km}**, n20, σ0^{s}85**/24**, mb4.1**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.59	223	P	P	21 12 47.1	-0.1
BSO1				*e*S	S	21 12 53.4	-2.4
CHOJ	**Chosi**	0.79	321	P	P	21 12 50.2	+0.2
BSO3	**Boso 3**	0.83	250	P	P	21 12 50.5	-0.2
BSO4	**Boso 4**	0.93	264	P	P	21 12 52.5	+0.4
KTR	**Katsuura**	0.94	274	P	P	21 12 52.9	+0.6
JIM2	**Oshima 3**	1.71	258	P	P	21 13 02.1	-1.2
JOD2	**Odawara 2**	1.95	276	P	P	21 13 06.5	-0.2
JHJ	**Hachijo jima 2**	2.41	216	P	P	21 13 14.3	+1.1
	11nm,0.3s,baz=58,slow=15,SNR=16						
JHJ				S	S	21 13 43.1	+1.2
	32nm,0.3s,baz=274,slow=21,SNR=5.9						
MAJO	**Matsushiro**	3.02	300	*e*Pn	P	21 13 23.1	+1.2
MAT	**Matsushiro**	3.02	300	P	P	21 13 21.0	-1.0
MAT				S	S	21 13 56.9	-0.4
MAT	**Matsushiro**	3.02	300	*e*P	P	21 13 23.0	+1.0
MAT				*e*S	S	21 13 57.0	-0.3
ASAJ	**Asahikawa**	9.06	5	P	P	21 14 46.2	-0.5
	1.0nm,0.3s,baz=150,slow=31,SNR=5.1						
ZAL	**Zalesovo**	43.28	314	P	P	21 20 35.3	+0.1
	0.4nm,0.5s,mb3.5,baz=238,slow=22,SNR=3.4						
MKAR	**Makanchi Array**	45.21	304	P	P	21 20 50.8	0.0
	0.6nm,0.7s,mb3.5,baz=88,slow=9.9,SNR=5.1						
KURK	**Kurchatov**	47.18	310	*e*P	P	21 21 06.2	-0.1
	3.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	54.99	198	*e*P	P	21 22 06.9	+1.1
	2.8nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	55.13	188	*e*P	P	21 22 05.7	-1.1
	7.3nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	55.14	188	*e*P	P	21 22 06.1	-0.8
WRA	**Warramunga Arr**	55.14	188	P	P	21 22 06.3	-0.6
	2.5nm,0.6s,mb4.4,baz=4.6,slow=7.6,SNR=25						
ASAR	**Alice Springs**	58.87	188	P	P	21 22 34.2	+0.9
	0.7nm,0.6s,mb3.9,slow=6.3,SNR=10						

MAN 20 21:13:42.9, 10.56N×**125.74E, h1**^{km}**, mb4.0, ML2.8, MS2.5, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.81	198	⇓*e*P	Pg	21 13 57.1	-2.0
SCPH				*e*S	Sg	21 14 08.3	-1.5
MSLP	**Maasin**	0.96	244	*e*P	Pb	21 14 01.8	-0.3
MSLP				*e*S	Sg	21 14 18.9	+3.9
PLP	**Palo**	0.96	309	*e*P	Pb	21 14 01.9	-0.2
PLP				*e*S	Sg	21 14 17.3	+2.3
BESP	**Borongan**	1.08	344	*e*P	Pb	21 14 04.9	+0.8
BESP				*e*S	Sb	21 14 23.9	+5.4
OCLP	**Ormoc**	1.22	294	*e*P	Pb	21 13 54.8	-12
CNP	**Catarman**	2.21	332	*e*P	Pn	21 14 21.3	0.0
CNP				*e*S	Sn	21 14 52.1	+2.5

IDC ***20*** *21:13:46.9±0.5, 35.09N×141.21E, mb4.3/21, mb1 4.4/25, mb1mx4.4/31, ML4.0/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=17.8km s-min=12.0km az=99.0*

MOS ***20*** *21:13:49.7±1.4, 35.21N×141.23E, h33^{km}, mb4.4/12, Error ellipse: s-maj=23.2km s-min=11.3km az=98.4*

BJI ***20*** *21:13:50.3, 34.97N×140.97E, h31^{km}, mB4.8, mb4.6*

JMA ***20*** *21:13:50.0±0.3, 35.08N×141.37E, h26^{km}±5^{km}, M4.3*

NEIC ***20*** *21:13:52.8±0.9, 35.11N×141.11E, h39^{km}±7^{km}, mb4.6/11, MW4.5(NIED), Error ellipse: s-maj=7.3km s-min=5.5km az=117.0*

ISC 20 21:13:50.2±0.8**, 35.01N**±0.04×**141.34E**±0.07**, h40**^{km}±6^{km}**, n83, σ0^{s}93**/88**, mb4.5**/34**, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.47	220	P	P	21 14 00.6	+0.1
BSO1				*e*S	S	21 14 07.1	-0.7

BSO3	Boso 3	0.72	253	P	P	21 14 04.4	+0.5
CHOJ	Chosi	0.80	330	P	P	21 14 03.7	-1.3
BSO4	Boso 4	0.83	269	P	P	21 14 06.3	+0.8
KTR	Katsuura	0.85	279	P	P	21 14 06.1	+0.2
JCN	Nagara	1.02	294	P	P	21 14 08.4	+0.2
JYT	Yasato	1.53	323	P	P	21 14 15.3	-0.3
JIM2	Oshima 3	1.60	260	P	P	21 14 15.7	-0.8
JHJ	Hachijo jima 2	2.29	215	Pn	P	21 14 27.3	+0.9
	60nm,0.3s,baz=284,slow=22,SNR=9.8						
JHJ				Sn	S	21 14 57.3	+3.7
	130nm,0.3s,baz=80,slow=22,SNR=7.7						
MAJO	Matsushiro	2.97	302	ePn	P	21 14 36.2	+0.1
MAT	Matsushiro	2.97	302	P	P	21 14 36.3	+0.2
MAT				S	S	21 15 12.0	+1.1
MAT	Matsushiro	2.97	302	eP	P	21 14 36.0	-0.1
MAT				eS	S	21 15 12.0	+1.1
CBIJ	Chichi jima	7.92	175	Pn	P	21 15 44.1	-1.5
	19nm,0.3s,baz=83,slow=17,SNR=6.4						
CBIJ				Sn	S	21 17 09.2	-5.9
	7.1nm,0.3s,baz=286,slow=21,SNR=2.8						
CBIJ				LR	LR	21 18 48.2	
	comp=Z,533nm,18.2s,baz=7.1,slow=38						
JNU	Nakatsue	8.88	261	Pn	P	21 15 59.5	+0.4
	0.3nm,0.3s,baz=57,slow=21,SNR=5.6						
ASAJ	Asahikawa	9.14	6	Pn	P	21 15 58.8	-3.8
	4.4nm,0.3s,baz=219,slow=9.4,SNR=15						
ASAJ				Sn	S	21 17 37.3	-8.0
	2.5nm,0.3s,baz=80,slow=28,SNR=5.0						
ASAJ	Asahikawa	9.14	6	P	P	21 15 58.8	-3.8
ASAJ						21 17 37.3	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KS15	Wonju Array Si	11.14	286	P	P	21 16 31.0	+1.1
YSS	Yuzh-Sakhalins	11.98	5	eP	P	21 16 35.8	-5.4
YSS	Yuzh-Sakhalins	11.98	5	eP	P	21 16 36.4	-4.8
	comp=Z,17nm,0.8s						
CN2	Changchun	15.08	310	eP	P	21 17 23.3	+1.3
BJT	Baijiatuau	20.56	292	P	P	21 18 23.7	-4.2
	comp=Z,5.1nm,0.5s						
HHC	Hu-ho-hao-te	24.13	293	eP	P	21 19 03.8	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,126nm,6.8s						
MA2	Magadan	25.34	11	P	P	21 19 14.8	0.0
	comp=Z,44nm,1.4s,mb4.8						
ENH	Enshi	27.17	269	eP	P	21 19 29.6	-2.4
	comp=Z,6.3nm,0.6s,mb4.3						
SONM	Songino Array	28.91	307	P	P	21 19 47.5	+0.1
	comp=Z,1.9nm,0.7s,mb3.9,baz=109,slow=9.6,SNR=12						
BOD	Bodaibo	29.23	330	eP	P	21 19 47.4	-2.7
ZAK	Zakamensk	31.51	311	⇓iP	P	21 20 10.2	-0.3
CM31	Chiang Mai Arr	40.97	257	P	P	21 21 30.4	-0.5
CMAR	Chiang Mai Arr	40.97	257	P	P	21 21 29.6	-1.2
	comp=Z,1.9nm,0.8s,mb3.8,baz=51,slow=6.8,SNR=12						
CMAR				PcP	PcP	21 23 32.2	+1.0
	comp=Z,0.6nm,0.4s,baz=48,slow=2.2,SNR=4.5						
CMAR	Chiang Mai Arr	40.97	257	P	P	21 21 29.7	-1.2
CMAR						21 23 32.3	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	Urumqi	41.73	299	eP	P	21 21 38.4	+1.5
LSA	Lhasa	42.37	277	P	P	21 21 43.1	+0.8
	comp=Z,3.2nm,0.9s,mb4.0						
ZAL	Zalesovo	43.27	314	P	P	21 21 49.2	-0.1
	comp=Z,2.4nm,0.7s,mb4.1,baz=294,slow=8.2,SNR=17						
ZAL	Zalesovo	43.27	314	P	P	21 21 49.2	-0.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	Zalesovo	43.27	314	P	P	21 21 49.2	-0.1
MKAR	Makanchi Array	45.17	304	P	P	21 22 04.5	-0.2
	comp=Z,5.2nm,0.7s,mb4.5,baz=90,slow=10.0,SNR=23						
MKAR	Makanchi Array	45.17	304	P	P	21 22 04.5	-0.2
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	Kurchatov	47.15	310	eP	P	21 22 19.2	-1.1
	comp=Z,22nm,0.8s,mb5.2						
PKI	Pulchoki	47.85	277	eP	P	21 22 25.6	-0.5
	comp=Z,19nm,0.9s,mb5.1						
KKN	Kakani	47.87	278	eP	P	21 22 25.9	-0.4
	comp=Z,22nm,0.9s,mb5.2						
DMN	Daman	48.08	277	eP	P	21 22 27.3	-0.6
	comp=Z,15nm,1.0s,mb5.0						
GKN	Gorkha	48.30	278	eP	P	21 22 29.3	-0.3
	comp=Z,37nm,0.9s,mb5.4						
KDAK	Kodiak Island	48.65	41	eP	P	21 22 32.0	+0.1
	comp=Z,6.7nm,0.7s,mb4.8						
SML	Sawmill	50.66	35	eP	P	21 22 47.4	+0.1
ILAR	Eielson Array	51.24	31	P	P	21 22 51.8	+0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=267,slow=6.5,SNR=16						
ILAR	Eielson Array	51.24	31	P	P	21 22 51.8	+0.2
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	Ala-Archa	51.42	300	eP	P	21 22 52.3	-0.9
BVAR	Borovoye Array	51.91	313	P	P	21 22 56.3	-0.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=74,slow=11,SNR=6.7						
BRVK	Borovoye	51.96	314	P	P	21 22 56.0	-1.2
	comp=Z,4.3nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	54.89	198	eP	P	21 23 19.5	+0.2
	comp=Z,3.6nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	54.89	198	P	P	21 23 19.5	+0.2
	comp=Z,4.3nm,0.7s,mb4.6,baz=23,slow=5.0,SNR=9.8						
WRAB	Tennant Creek	55.04	188	eP	P	21 23 19.9	-0.5
	comp=Z,27nm,0.9s,mb5.3						
WB2	Warramunga Arr	55.05	188	eP	P	21 23 20.1	-0.4
WRA	Warramunga Arr	55.05	188	P	P	21 23 20.0	-0.5
	comp=Z,21nm,1.0s,mb5.1,baz=6.3,slow=7.6,SNR=44						
WRA	Warramunga Arr	55.05	188	P	P	21 23 20.0	-0.5
WRA				pmax	pmax		
	comp=Z,21nm,1.0s						
INK	Inuvik	56.21	26	P	P	21 23 28.6	+0.5
	comp=Z,2.1nm,0.8s,mb4.2,baz=246,slow=6.9,SNR=3.8						
INK	Inuvik	56.21	26	P	P	21 23 28.7	+0.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	Arti	57.84	319	eP	P	21 23 36.3	-3.6
ARU	Arti	57.84	319	eP	P	21 23 38.1	-1.8
	comp=Z,6.4nm,0.9s,mb4.7						
ASAR	Alice Springs	58.78	188	P	P	21 23 47.2	+0.4
	comp=Z,3.2nm,0.8s,mb4.4,baz=11,slow=6.0,SNR=19						
ASPA	Alice Springs	58.78	188	eP	P	21 23 47.8	+0.9
YKA	Yellowknife Ar	65.59	30	P	P	21 24 31.3	-0.4
	comp=Z,1.0nm,0.7s,mb4.0,baz=305,slow=7.6,SNR=5.2						
YKA	Yellowknife Ar	65.59	30	P	P	21 24 31.3	-0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	Stephens Creek	66.53	180	P	P	21 24 39.2	+1.0
	comp=Z,1.9nm,0.8s,mb4.2,baz=298,slow=14,SNR=3.1						
FINES	FINESS Array B	70.58	333	P	P	21 25 02.5	-0.2
	comp=Z,2.5nm,0.8s,mb4.2,baz=59,slow=8.1,SNR=6.1						
FINES	FINESS Array B	70.58	333	P	P	21 25 02.5	-0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	70.58	333	P	P	21 25 02.5	-0.2
AKASG	Malin Array Be	75.86	323	P	P	21 25 33.5	-0.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=44,slow=6.2,SNR=6.8						
AKASG	Malin Array Be	75.86	323	P	P	21 25 33.5	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	Hagfors	75.91	336	P	P	21 25 34.4	+0.5
	comp=Z,3.2nm,0.7s,mb4.3,baz=180,slow=4.3,SNR=4.8						
HFS	Hagfors	75.91	336	P	P	21 25 34.4	+0.5
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	76.03	337	P	P	21 25 32.1	-2.5
	comp=Z,3.3nm,0.8s,mb4.3,baz=41,slow=5.6						
NOA	NORSAR Array B	76.03	337	P	P	21 25 35.0	+0.5
	comp=Z,2.3nm,0.8s,mb4.2,baz=40,slow=5.7,SNR=6.5						
NOA	NORSAR Array B	76.03	337	P	P	21 25 35.1	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	Mina Array Bea	76.25	53	P	P	21 25 38.9	+2.5
	comp=Z,4.3nm,0.8s,mb4.5,baz=290,slow=4.6,SNR=23						
PDAR	Pinedale Array	79.13	45	P	P	21 25 53.8	+1.6
	comp=Z,1.1nm,0.5s,mb4.0,baz=290,slow=3.0,SNR=4.4						
BRTR	Keskin Array B	80.15	312	P	P	21 25 58.0	+0.2
	comp=Z,2.2nm,1.0s,mb4.0,baz=108,slow=3.9,SNR=7.6						
BRTR	Keskin Array B	80.15	312	P	P	21 25 58.0	+0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASF	Jabal al Asfar	82.59	304	P	P	21 26 11.6	+1.0
	comp=Z,2.5nm,0.8s,mb4.3,baz=27,slow=6.8,SNR=2.2						
CLL	Collm	82.82	330	P	P	21 26 12.0	+0.6
GERES	GERESS Array B	84.40	328	P	P	21 26 20.4	+1.0
	comp=Z,0.5nm,0.6s,mb3.8,baz=45,slow=5.7,SNR=5.3						
GERES	GERESS Array B	84.40	328	P	P	21 26 20.4	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SAML	Samuel	145.70	47	ePKPbc	PKPbc	21 33 27.3	+1.6

JMA ***20*** *21:16:28.8±0.3, 23.68N×122.10E, h32^{km}, M2.5*
TAP ***20*** *21:16:29.0, 23.77N×122.02E, h15^{km}±1^{km}, ML3.0*
ISC 20 21:16:28.6±3.3**, 23.7N**±0.3×**122.1E**±0.3**, h24^{km}**±30^{km}**, n6, σ0^{s}27**/9**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.12	47	P	Pn	21 16 48.9	-0.1
YOJ				eS	Sb	21 17 03.4	0.0
HATJ	Hateruma jima	1.60	77	P	Pn	21 16 55.7	-0.1
IRIF	Iriomote-Funau	1.62	67	P	Pn	21 16 56.3	+0.3
IRIF				eS	Sn	21 17 16.7	+0.4
JKRS	Kuro-shima	1.82	73	P	Pn	21 16 59.4	+0.4
JIJ	Ishigaki jima	1.98	70	P	Pn	21 17 01.0	-0.2
JIJ				eS	Sn	21 17 25.1	-0.4
JTJ	Tarama	2.55	68	P	Pn	21 17 09.2	-0.2

IDC ***20*** *21:19:53.3±0.4, 35.09N×141.16E, mb4.7/31, mb1 4.8/36, mb1mx4.8/39, ML4.3/5, MS4.5/18, Ms1 4.5/18, ms1mx4.3/30, Error ellipse: s-maj=13.1km s-min=9.8km az=100.0*
BJI ***20*** *21:19:55.6, 35.20N×141.27E, h46^{km}, mB5.0, mb5.0, Ms5.0, Msz4.8*
JMA ***20*** *21:19:55.4±0.4, 35.06N×141.46E, h38^{km}±5^{km}, M5.1*
JMA Felt I J1.
HRVD ***20*** *21:19:58.7±0.4, 34.97N×141.55E, h31^{km}±1^{km}, MW5.1/49, Centroid moment Tensor Solution. LP body waves: s36,c47;Mantle waves: s49,c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$3.77±.23; M$_{\theta\theta}$0.32±.16; M$_{\phi\phi}$-4.09±.16; M$_{r\theta}$0.18±.23; M$_{\theta\phi}$-1.21±.10; M$_{\phi r}$3.52±.19; Best double couple: M$_0$5.4×10^{16} NP1:ϕ$_s$204°,δ26°,λ106°. NP2:ϕ$_s$6°,δ66°,λ82°. Principal axes: T 5.13, Plg68°, Azm261°; N .54, Plg7°, Azm9°; P -5.67, Plg20°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *21:19:58.7±0.5, 35.06N×141.12E, h35^{km}±4^{km}, mb5.1/75, MS4.9/7, MW5.1(NIED) Error ellipse: s-maj=3.4km s-min=2.8km az=158.0*
NEIC Recorded [1 JMA] in Chiba Prefecture.
SYO ***20*** *21:19:58.6, 35.06N×141.12E, h35^{km}, MB5.1, MS4.9*
MOS ***20*** *21:19:59.4±0.8, 35.65N×141.11E, h32^{km}, mb5.2/34, MS4.7/30, Error ellipse: s-maj=12.4km s-min=5.6km az=108.2*
NIED ***20*** *21:20:00, 35.00N×141.40E, h26^{km}, Mw5.1 Best double couple: M$_0$5.61×10^{16} NP1:ϕ$_s$345°,δ76°,λ54°. NP2:ϕ$_s$236°, δ38°,λ156°.*
ISC 20 21:19:56.9±0.2**, 35.00N**±0.03×**141.20E**±0.03**, h35^{km}, h35^{km}**±1.9^{km}**:pP-P, n389, σ1^{s}02**/398**, mb5.0**/131**, MS4.8**/46**, 24C-18D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.39	208	⇑P	P	21 20 06.8	+0.9
BSO3	Boso 3	0.60	251	P	P	21 20 10.4	+1.6
BSO4	Boso 4	0.71	270	P	P	21 20 12.4	+2.0
KTR	Katsuura	0.74	282	P	P	21 20 12.7	+1.8
CHOJ	Chosi	0.76	339	P	P	21 20 10.2	-1.0
JCN	Nagara	0.92	298	P	P	21 20 15.5	+2.1
JIM2	Oshima 3	1.48	260	P	P	21 20 22.1	+0.6
JMY	Miyake jima 2	1.67	237	P	P	21 20 25.9	+1.7
JOD2	Odawara 2	1.75	279	P	P	21 20 26.2	+0.8
JIZS	Izushimoda	1.93	262	P	P	21 20 28.7	+0.8
JAG	Ashikaga	2.01	316	P	P	21 20 29.7	+0.6
JHJ	Hachijo jima 2	2.21	213	Pn	P	21 20 33.5	+1.5
	164nm,0.3s,baz=74,slow=2.2,SNR=80						
JHJ				Sn	S	21 21 03.3	+5.0
	399nm,0.3s,baz=278,slow=23,SNR=11						
JHJ				LR	LR	21 21 15.2	
	comp=Z,1µm,19.8s,baz=290,slow=36						
JYN	Shimob	2.23	284	P	P	21 20 33.6	+1.4
JNT	Takato	2.65	290	P	P	21 20 39.7	+1.5
JNY	Yasuok	2.76	279	P	P	21 20 41.9	+2.1
MAJO	Matsushiro	2.88	303	eP	P	21 20 42.5	+1.0
MAT	Matsushiro	2.88	303	P	P	21 20 42.5	+1.0
MAT				S	S	21 21 21.2	+5.8
MAT	Matsushiro	2.88	303	P	P	21 20 42.7	+1.2
MAT	Matsushiro	2.88	303	eP	P	21 20 43.0	+1.5
MAT				eS	S	21 21 21.0	+5.6
JSD	Sado	3.85	323	P	P	21 20 55.4	+0.1
TSUJ	Tsu 2	3.94	267	P	P	21 20 59.4	+2.8
CBIJ	Chichi jima	7.92	174	Pn	P	21 21 49.9	-2.6
	40nm,0.3s,baz=270,slow=22,SNR=16						
CBIJ				Sn	S	21 23 14.8	-7.0
	25nm,0.3s,baz=289,slow=21,SNR=3.6						
JKI	Kunimi	8.08	263	P	P	21 21 57.1	+2.4
JNU	Nakatsue	8.77	261	Pn	P	21 22 06.2	+1.9
	1.4nm,0.3s,baz=72,slow=14,SNR=17						
JNU	Nakatsue	8.77	261	P	P	21 22 06.0	+1.8
ASAJ	Asahikawa	9.17	6	Pn	P	21 22 04.3	-5.6
	13nm,0.3s,baz=227,slow=6.9,SNR=43						
ASAJ				Sn	S	21 23 44.5	-8.6
	6.9nm,0.3s,baz=94,slow=29,SNR=5.6						
ASAJ				LR	LR	21 26 10.7	
	comp=Z,3µm,21.2s,baz=10,slow=42						
ASAJ	Asahikawa	9.17	6	P	P	21 22 04.3	-5.6
ASAJ						21 23 44.5	
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3µm,21.2s						
YUK	Yuzh-Kuril'sk	9.72	20	eP	P	21 22 11.3	-6.0
YUK				S	S	21 23 48.0	-18
YUK				pmax	pmax		
	comp=Z,310nm,0.4s						
YUK				pmax	pmax		
	comp=N,2µm,0.5s						
YUK				pmax	pmax		
	comp=E,1µm,0.5s						
YUK				pmax	pmax		
	comp=N,5µm,0.8s						
YUK				pmax	pmax		
	comp=E,3µm,1.5s						
YUK				MLR	MLR		
	comp=N,3µm,20.0s						
YUK				MLR	MLR		
	comp=Z,4µm,20.0s						
VLA	Vladivostok	10.86	321	eP	P	21 22 40.0	+6.9
VLA				pmax	pmax		
	comp=Z,500nm,7.0s						
VLA				pmax	pmax		
	comp=N,1µm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,4.0s						
VLA				MLR	MLR		
	comp=N,2µm,14.0s						
VLA				MLR	MLR		
	comp=N,4µm,12.0s						
VLA				MLR	MLR		
	comp=E,2µm,15.0s						
KS15	Wonju Array Si	11.03	287	P	P	21 22 34.1	-1.3
KUR	Kuril'sk	11.42	24	eP	P	21 22 42.8	+2.2
KUR				eS	S	21 24 31.5	-17
KUR				pmax	pmax		
	comp=E,140nm,0.9s						
KUR				pmax	pmax		
	comp=Z,140nm,0.9s						
KUR				smax			
	comp=N,710nm,0.9s						
KUR				smax			
	comp=E,280nm,0.9s						
KUR				MLR	MLR		
	comp=N,6µm,17.0s						
KUR				MLR	MLR		
	comp=E,7µm,17.0s						
KUR				MLR	MLR		
	comp=Z,4µm,17.0s						
YSS	Yuzh-Sakhalins	12.01	5	eP	P	21 22 43.0	-5.5
YSS				eS	S	21 24 50.9	-11
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				pmax	pmax		
	comp=N,60nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax			
	comp=N,180nm,1.3s						
YSS				smax			
	comp=E,110nm,1.3s						
YSS				MLR	MLR		
	comp=N,2µm,18.0s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s						
YSS				MLR	MLR		
	comp=E,2µm,17.0s						
YSS	Yuzh-Sakhalins	12.01	5	eP	P	21 22 43.4	-5.1
	comp=E,36nm,0.6s						
INCN	Inchon	12.02	286	eP	P	21 22 50.8	+2.0
	comp=E,32nm,1.0s						
MDJ	Mudanjiang	13.10	321	P	P	21 22 59.3	-3.8
MDJ				PCP	PcP	21 28 32.3	-1.4
MDJ				SCP		21 32 03.1	
MDJ				PCS		21 32 06.6	
MDJ				SCS	ScS	21 35 38.8	+0.5
MDJ				AMB	AMB		
	comp=Z,13nm,1.4s						
MDJ				LR	LR		
	comp=N,1µm,26.8s						
MDJ				LR	LR		
	comp=E,2µm,26.8s						
MDJ				LR	LR		
	comp=Z,937nm,17.2s						
MDJ	Mudanjiang	13.10	321	eP	P	21 23 01.7	-1.4
	comp=Z,19nm,0.9s						
JOW	Kunigami	13.75	237	Pn	P	21 23 11.5	-0.2
	comp=Z,0.4nm,0.3s,baz=44,slow=11,SNR=3.6						
JOW				LR	LR	21 28 13.9	
	comp=Z,2µm,20.5s,baz=288,slow=36						
CN2	Changchun	15.00	311	eP	P	21 23 26.0	-2.0
CN2				eAP		21 23 33.5	
CN2				eS	S	21 26 06.3	-7.4
CN2				eSS	SS	21 26 30.0	-1.4
CN2				PCP	PcP	21 28 35.6	-0.6
CN2				AMB	AMB		
	comp=Z,30nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,16.0s						
CN2				LR	LR		
	comp=E,2µm,16.0s						
CN2				LR	LR		
	comp=Z,2µm,17.0s						
SNY	Shenyang	15.39	302	⇓P	P	21 23 32.5	-0.6
SNY				AP		21 23 42.4	
SNY				XP		21 23 48.8	
SNY				AMB	AMB		
	comp=Z,50nm,1.3s						
SNY				AMB	AMB		
	comp=Z,590nm,9.2s						
SNY				LR	LR		
	comp=N,2µm,18.0s						
SNY				LR	LR		
	comp=E,2µm,18.0s						
SNY				LR	LR		
	comp=Z,3µm,18.9s						
KLR	Kul'dur	15.84	337	eP	P	21 23 33.3	-5.5
KLR				MLR	MLR		
	comp=E,1µm,15.0s						
KLR				MLR	MLR		
	comp=Z,2µm,15.0s						
TYV	Tymovskoe	15.89	3	eP	P	21 23 34.0	-5.5
TYV				pmax	pmax		
	comp=Z,22nm,0.8s						
TYV				MLR	MLR		
	comp=Z,3µm,18.0s						
DL2	Dalian	16.12	290	eP	P	21 23 42.8	+0.3
DL2				eS	S	21 26 41.6	+1.8
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
DL2				LR	LR		
	comp=E,2µm,16.8s						
DL2				LR	LR		
	comp=Z,3µm,16.8s						
SSE	Sheshan	17.22	263	P	P	21 23 57.8	+1.5
SSE				AP		21 24 08.0	
SSE				AMB	AMB		
	comp=Z,26nm,0.7s						
SSE				AMB	AMB		
	comp=Z,156nm,4.1s						
SSE				LR	LR		
	comp=N,1µm,15.2s						
SSE				LR	LR		
	comp=E,5µm,15.4s						
SSE				LR	LR		
	comp=Z,7µm,13.6s						
SSE	Sheshan	17.22	263	P	P	21 23 57.7	+1.4
	comp=Z,26nm,0.7s						
SSE				pP		21 24 08.0	
SSE				S	S	21 27 14.3	+9.2
SSE				sS		21 27 34.4	
NJ2	Nanjing	18.86	267	eP	P	21 24 14.3	-2.3
NJ2				AP		21 24 21.6	
NJ2				XP		21 24 26.8	
NJ2				PP	PP	21 24 30.0	-2.9
NJ2				S	S	21 27 38.0	-4.1
NJ2				XS		21 27 52.0	
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s						
NJ2				LR	LR		
	comp=N,6µm,16.9s						
NJ2				LR	LR		
	comp=E,6µm,15.0s						
NJ2				LR	LR		
	comp=Z,5µm,13.0s						
SKR	Severo-Kuril's	19.06	30	eP	P	21 24 15.5	-3.3
SKR				S	S	21 27 45.0	-1.5
SKR				pmax	pmax		
	comp=Z,90nm,1.0s						
SKR				pmax	pmax		
	comp=Z,800nm,4.0s						
SKR				smax			
	comp=N,800nm,10.0s						
SKR				smax			
	comp=E,2µm,10.0s						
SKR				MLR	MLR		
	comp=E,1µm,14.0s						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s						
TIA	Tai'an	19.61	281	eP	P	21 24 21.4	-3.6
BJI	Beijing	20.45	292	P	P	21 24 29.8	-4.2
BJI				XP		21 24 45.5	
BJI				S	S	21 28 19.5	+3.4
BJI				LR	LR		
	comp=N,2µm,16.2s,MS4.7						
BJI				LR	LR		
	comp=E,2µm,17.6s,MS4.7						
BJI				LR	LR		
	comp=Z,2µm,19.1s,MS4.4						
BJI	Beijing	20.45	292	P	P	21 24 29.7	-4.3
	comp=Z,28nm,1.7s						
BJI				sP		21 24 45.5	
BJI				S	S	21 28 19.5	+3.4
BJI				sS		21 28 40.8	
BJI				LR	LR		
	comp=Z,2µm,19.1s,MS4.4						
BJT	Baijiatuau	20.45	292	eP	P	21 24 29.9	-4.1
	comp=Z,153nm,1.6s						
HIA	Hailar	21.27	319	eP	P	21 24 38.2	-4.1
	comp=Z,23nm,0.9s,mb4.5						
PET	Petropavlovsk	21.86	29	eP	P	21 24 55.1	+6.9
PET				eS	S	21 28 55.4	+13
PET				pmax	pmax		
	comp=Z,52nm,1.0s,mb4.9						
PET				pmax	pmax		
	comp=Z,400nm,12.5s						
PET				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.2						
PET				MLR	MLR		
	comp=Z,900nm,17.0s						
PET	Petropavlovsk	21.86	29	eP	P	21 24 47.0	-1.1
	comp=Z,20nm,0.8s,mb4.6						
WHN	Wuhan	22.98	266	eP	P	21 24 57.5	-1.9
WHN				LR	LR		
	comp=Z,7µm,15.6s,MS5.2						
TIY	Taiyuan	23.29	285	eP	P	21 25 02.0	-0.3
TIY				S	S	21 29 13.0	+4.5
TIY				LR	LR		
	comp=N,2µm,14.0s						
TIY				LR	LR		

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       comp=Z,3µm,15.0s,MS4.8
HHC    Hu-ho-hao-te       24.03 293  eP     P        21 25 06.3 -3.2
HHC                                   AP             21 25 14.1
HHC                                   XP             21 25 21.3
HHC                                   PP     PP      21 25 40.8 -3.4
HHC                                   S      S       21 29 18.1 -3.3
HHC                                   AMB    AMB
       comp=Z,190nm,8.2s
HHC                                   LR     LR
       comp=N,678nm,15.5s,MS4.4
HHC                                   LR     LR
       comp=E,736nm,16.6s,MS4.4
HHC                                   LR     LR
       comp=Z,986nm,16.7s,MS4.4
CLNS   Chul'man           24.49 338  eP     P        21 25 14.7 +0.9
CLNS                                 e*PP            21 25 19.8
CLNS                                 e               21 28 54.2
CLNS                                 eS     S        21 29 21.9 -7.2
CLNS                                 eSS    SS       21 30 30.4 +5.6
CLNS                                  pmax   pmax
       comp=Z,100nm,0.9s,mb5.2
CLNS                                  pmax   pmax
       comp=N,55nm,0.8s
CLNS                                  pmax   pmax
       comp=E,43nm,0.9s
CLNS                                  pmax   pmax
       comp=Z,43nm,1.0s,mb4.8
CLNS                                  pmax   pmax
       comp=N,45nm,0.9s
CLNS                                  pmax   pmax
       comp=E,20nm,0.8s
CLNS                                  smax
       comp=Z,4.0nm,0.8s
CLNS                                  smax
       comp=N,17nm,1.0s
CLNS                                  smax
       comp=E,13nm,0.9s
CLNS                                  MLR    MLR
       comp=N,1µm,15.0s,MS4.6
CLNS                                  MLR    MLR
       comp=Z,1µm,15.0s,MS4.5
CLNS                                  MLR    MLR
       comp=E,1µm,13.0s,MS4.6
BTO    Baotou             25.19 292  eP     P        21 25 17.6 -3.1
BTO                                   S      S       21 29 29.5  -11
BTO                                   LR     LR
       comp=N,3µm,15.9s,MS5.1
BTO                                   LR     LR
       comp=E,4µm,15.8s,MS5.1
MA2    Magadan            25.38  11  eP     P        21 25 22.6 +0.3
MA2                                   pmax   pmax
       comp=Z,21nm,0.9s,mb4.7
MA2    Magadan            25.38  11  eP     P        21 25 21.2 -1.1
       comp=Z,21nm,0.8s,mb4.7
XAN    Xi'an              26.56 277   P     P        21 25 30.9 -2.6
XAN                                   AP     pP      21 25 41.4 -1.8
XAN                                   AMB    AMB
       comp=Z,18nm,1.2s,mb4.5
ENH    Enshi              27.05 269  eP     P        21 25 35.7 -2.5
       comp=Z,27nm,0.8s,mb4.8
YAK    Yakutsk            28.02 348  eP     P        21 25 44.8 -1.8
YAK                                  e               21 26 40.7
YAK                                  eS     S        21 30 28.5 +1.5
YAK                                  eSS    SS       21 32 01.1  +11
YAK                                   pmax   pmax
       comp=Z,42nm,1.0s,mb5.0
YAK                                   pmax   pmax
       comp=N,29nm,1.1s
YAK                                   pmax   pmax
       comp=E,14nm,1.1s
YAK                                   pmax   pmax
       comp=Z,10.0nm,0.8s,mb4.5
YAK                                   pmax   pmax
       comp=N,17nm,1.1s
YAK                                   pmax   pmax
       comp=E,11nm,1.3s
YAK                                   smax
       comp=N,24nm,1.0s
YAK                                   smax
       comp=E,44nm,1.4s
YAK    Yakutsk            28.02 348  eP     P        21 25 44.5 -2.1
       comp=E,55nm,0.6s,mb5.4
FX1    Attu Island--F     28.81  42   P     P        21 25 53.2 -0.5
       comp=E,11nm,0.8s,mb4.6,baz=246,slow=5.0,SNR=5.7
FX1    Attu Island--F     28.81  42   P     P        21 25 53.2 -0.5
FX1                                   pmax   pmax
       comp=Z,11nm,0.8s
FX1    Attu Island--F     28.81  42  eP     P        21 25 53.4 -0.3
SEY    Seymchan           28.82  11  eP     P        21 25 54.6 +0.9
SEY                                   pmax   pmax
       comp=Z,40nm,1.1s,mb5.1
SEY                                   pmax   pmax
       comp=N,20nm,0.9s
SEY                                   pmax   pmax
       comp=E,10.0nm,0.9s
SONM   Songino Array      28.83 307   P     P        21 25 53.0 -0.9
       comp=E,7.8nm,0.7s,mb4.5,baz=112,slow=6.7,SNR=44
SONM                                  PcP    PcP     21 29 03.2 -0.1
       comp=E,1.1nm,0.6s,baz=133,slow=2.7,SNR=4.3
BOD    Bodaibo            29.18 330⇓iP     P        21 25 55.2 -1.7
LZH    Lanzhou            30.30 283  eP     P        21 26 05.8 -1.3
LZH                                   AP     pP      21 26 13.3 -3.8
LZH                                   XP     sP      21 26 18.4 -3.2
LZH                                   AMB    AMB
       comp=Z,180nm,1.6s,mb5.5
LZH                                   AMB    AMB
       comp=Z,510nm,4.5s
LZH                                   LR     LR
       comp=E,4µm,12.6s
LZH                                   LR     LR
       comp=Z,6µm,14.4s,MS5.4
GYA    Guiyang            30.76 264⇑iP     P        21 26 08.5 -2.9
GYA                                   S      S       21 31 04.6 -6.3
GYA                                   AMB    AMB
       comp=Z,20nm,1.5s,mb4.7
GYA                                   LR     LR
       comp=N,900nm,15.9s,MS4.7
GYA                                   LR     LR
       comp=E,1µm,18.9s,MS4.7
GYA                                   LR     LR
       comp=Z,1µm,18.0s,MS4.5
IRK    Irkutsk            31.38 315  eP     P        21 26 15.4 -1.1
IRK                                  e               21 26 33.4
IRK                                  e               21 29 08.4
ZAK    Zakamensk          31.44 311  eP     P        21 26 14.9 -2.1
CD2    Chengdu            31.56 273⇓iP     P        21 26 16.0 -2.4
CD2                                   XP     sP      21 26 29.0 -3.9
CD2                                   AMB    AMB
       comp=Z,30nm,0.8s,mb5.2
CD2                                   LR     LR
       comp=N,4µm,15.0s
CD2                                   LR     LR
       comp=Z,5µm,15.6s,MS5.3
QIZ    Qiongzhong         31.98 248  eP     P        21 26 23.8 +1.7
QIZ                                   XP     sP      21 26 36.0 -0.6
QIZ                                  eS     S        21 31 33.3 +3.3
QIZ                                   XS             21 31 49.8
QIZ                                   LR     LR
       comp=N,705nm,21.6s,MS4.5
QIZ                                   LR     LR
       comp=E,895nm,21.8s,MS4.5
QIZ                                   LR     LR
       comp=Z,633nm,23.5s,MS4.2
GTA    Gaotai             33.05 290  eP     P        21 26 30.3 -0.9
GTA                                   AP     pP      21 26 39.9 -1.3
GTA                                   XP     sP      21 26 44.0 -1.8
GTA                                   PP     PP      21 27 43.0 +0.6
GTA                                   PPP    PPP     21 27 59.3 +0.8
GTA                                   PCP    PcP     21 29 14.1 -0.3
GTA                                   S      S       21 31 47.4 +0.8
GTA                                   XS             21 32 05.3
GTA                                   SCP            21 32 54.9
GTA                                   PCS            21 32 57.9
GTA                                   SCS    ScS     21 36 52.8 -0.8
GTA                                   AMB    AMB
       comp=Z,100nm,6.1s
GTA                                   LR     LR
       comp=N,827nm,15.6s,MS4.7
GTA                                   LR     LR
       comp=E,835nm,18.2s,MS4.7
GTA                                   LR     LR
       comp=Z,1µm,18.2s,MS4.6
MOY    Mondy              33.16 313  eP     P        21 26 32.0  0.0
KMI    Kunming            34.53 264  eP     P        21 26 41.9 -2.2
KMI                                   AP     pP      21 26 53.1 -1.1
KMI                                   XP     sP      21 26 58.0 -0.7
KMI                                   PP     PP      21 28 02.4 +1.6
KMI                                   S      S       21 32 10.0 +0.3
KMI                                   XS             21 32 26.5
KMI                                   SS     SS      21 34 19.3 -2.8
KMI                                   AMB    AMB
       comp=Z,102nm,6.8s
KMI                                   LR     LR
       comp=N,2µm,11.7s,MS5.2
KMI                                   LR     LR
       comp=E,2µm,11.7s,MS5.2
KMI                                   LR     LR
       comp=Z,3µm,13.7s,MS5.2
KMI    Kunming            34.53 264  eP     P        21 26 41.9 -2.2
       comp=Z,6.0nm,1.6s,mb4.3
KMI                                   pP     pP      21 26 53.1 -1.1
KMI                                   sP     sP      21 26 58.0 -0.7
KMI                                   PP     PP      21 28 02.4 +1.6
KMI                                   S      S       21 32 10.0 +0.3
KMI                                   sS             21 32 26.5
KMI                                   SS     SS      21 34 19.2 -2.9
KMI                                   LR     LR
       comp=Z,3µm,13.7s,MS5.2
KKTK   Khon Kaen          38.96 251   P     P        21 27 20.0 -1.5
NANT   Nan                39.26 256 ⇓P     P        21 27 21.0 -3.0
CHG    Chiang Mai         40.66 258 ⇑P     P        21 27 33.5 -2.1
       comp=Z,14nm,0.9s,mb4.6
CM31   Chiang Mai Arr     40.85 257  eP     P        21 27 35.4 -1.8
       comp=Z,8.1nm,0.7s,mb4.5
CMAR   Chiang Mai Arr     40.85 257   P     P        21 27 36.0 -1.1
       comp=Z,5.6nm,0.7s,mb4.3,baz=49,slow=6.8,SNR=33
CMAR                                  PcP    PcP     21 29 39.0 +0.8
       comp=Z,6.2nm,1.1s,baz=20,slow=2.0,SNR=11
CMAR                                  LR     LR      21 46 54.5
       comp=Z,1µm,18.2s,MS4.8,baz=60,slow=40
CMAR   Chiang Mai Arr     40.85 257   P     P        21 27 36.1 -1.1
CMAR                                                 21 29 39.0
CMAR                                  pmax   pmax
       comp=Z,6.0nm,0.7s
CMAR                                  MLR    MLR
       comp=Z,1µm,18.2s
BDT    Bhumibol Dam       41.46 256   P     P        21 27 41.0 -1.2
WMQ    Urumqi             41.64 299⇑iP     P        21 27 43.9 +0.5
WMQ                                   AP     pP      21 27 53.9 +0.4
WMQ                                   XP     sP      21 27 58.0 +0.1
WMQ                                   PP     PP      21 29 23.9 +1.2
WMQ                                   PCP    PcP     21 29 41.4 +0.9
WMQ                                   S      S       21 33 57.9 +0.6
WMQ                                   XS             21 34 14.0
WMQ                                   AMB    AMB
       comp=Z,73nm,1.1s,mb5.2
WMQ                                   AMB    AMB
       comp=Z,126nm,8.9s
WMQ                                   LR     LR
       comp=N,701nm,20.0s,MS4.6
WMQ                                   LR     LR
       comp=E,487nm,20.0s,MS4.6
WMQ                                   LR     LR
       comp=Z,714nm,20.0s,MS4.5
LSA    Lhasa              42.26 277   P     P        21 27 48.1 -0.6
LSA                                   LR     LR
       comp=N,300nm,16.3s,MS4.9
LSA                                   LR     LR
       comp=E,1µm,15.5s,MS4.9
LSA    Lhasa              42.26 277  eP     P        21 27 49.0 +0.3
       comp=E,24nm,1.4s,mb4.6
ZAL    Zalesovo           43.19 314   P     P        21 27 55.4 -0.6
       comp=E,10nm,0.7s,mb4.7,baz=287,slow=8.4,SNR=64
ZAL    Zalesovo           43.19 314   P     P        21 27 55.4 -0.6
ZAL                                   pmax   pmax
       comp=Z,10.0nm,0.7s
NVS    Novosibirsk        44.14 315⇑iP     P        21 28 01.9 -1.7
NVS                                  i               21 30 23.5
NVS                                  eS     S        21 34 33.8 +0.1
NVS                                   pmax   pmax
       comp=Z,25nm,1.0s,mb4.9
NVS                                   pmax   pmax
       comp=N,5.0nm,0.8s
NVS                                   pmax   pmax
       comp=E,21nm,1.0s
NVS                                   smax
       comp=E,9.0nm,1.5s
NVS                                   smax
       comp=N,6.0nm,1.2s
PMG    Port Moresby       44.52 172   P     P        21 28 07.4 +0.3
       comp=N,40nm,1.2s,mb5.1
PMG    Port Moresby       44.52 172   P     P        21 28 07.4 +0.2
PMG                                   pmax   pmax
       comp=Z,40nm,1.3s
MKAR   Makanchi Array     45.08 304   P     P        21 28 10.8 -0.4
       comp=Z,12nm,0.7s,mb4.8,baz=89,slow=9.7,SNR=69
MKAR                                  LR     LR      21 48 06.5
       comp=Z,949nm,18.1s,MS4.8,baz=195,slow=38
MKAR   Makanchi Array     45.08 304  i P    P        21 28 10.7 -0.5
MKAR                                  pmax   pmax
       comp=Z,84nm,1.3s
KURK   Kurchatov          47.07 310   P     P        21 28 25.9 -1.0
KURK                                  pmax   pmax
       comp=Z,59nm,1.0s,mb5.5
KURK   Kurchatov          47.07 310  eP     P        21 28 26.0 -0.9
       comp=Z,107nm,0.8s,mb5.8
SVW    Sparrevohn         47.24  36  eP     P        21 28 29.1 +1.0
PKI    Pulchoki           47.73 277  eP     P        21 28 31.5 -1.0
       comp=Z,66nm,1.1s,mb5.6
KKN    Kakani             47.75 278  eP     P        21 28 31.9 -0.7
       comp=Z,97nm,1.1s,mb5.8
DMN    Daman              47.96 277  eP     P        21 28 33.3 -1.0
       comp=Z,72nm,1.1s,mb5.6
KAKA   Kakadu             48.16 192⇑iP     P        21 28 35.0 -0.9
       comp=Z,18nm,0.6s,mb5.3
GKN    Gorkha             48.19 278  eP     P        21 28 35.1 -0.9
       comp=Z,183nm,1.1s,mb6.0
SPU    Mount Spurr        48.97  36  eP     P        21 28 41.1 -0.5
KOLN   Koldanda           49.12 278  eP     P        21 28 42.8 -0.4
       comp=Z,158nm,1.3s,mb5.9
PWA    Palmer West        50.01  36  eP     P        21 28 48.9 -0.7
PMR    Palmer             50.37  36  eP     P        21 28 51.1 -1.2
       comp=Z,30nm,1.3s,mb5.2
MCK    McKinley           50.43  33  eP     P        21 28 51.9 -0.8
       comp=Z,11nm,1.3s,mb4.7
TKM2   Tokmak 2           50.47 300   P     P        21 28 53.8 +0.5
       SNR=45
SML    Sawmill            50.74  35  eP     P        21 28 54.5 -0.7
COLA   College            50.90  31  eP     P        21 29 01.0 +4.7
KZA    Kyzart             50.93 299   P     P        21 28 58.0 +1.1
       SNR=16
KBK    Karagaybulak       51.00 300   P     P        21 28 57.4 +0.1
       SNR=25
CHMS   Chumysh            51.05 300   P     P        21 28 57.5 -0.2
       SNR=9.1
KSH    Kashi              51.10 296  eP     P        21 28 59.0 +0.8
KSH                                  eAP    pP       21 29 10.0 +1.6
KSH                                  eXP    sP       21 29 15.1 +2.4
KSH                                  ePCP   PcP      21 30 16.3 +2.5
KSH                                  ePP    PP       21 30 56.1 +0.5
KSH                                  ePCS            21 34 12.0
KSH                                  eS     S        21 36 13.0 +0.9
KSH                                  ePS    PS       21 36 23.6 -1.8
KSH                                  eXS             21 36 31.5
KSH                                  eSCS   ScS      21 38 44.1 +1.4
KSH                                   AMB    AMB
       comp=Z,60nm,1.0s,mb5.5
KSH                                   AMB    AMB
       comp=Z,370nm,6.0s
KSH                                   LR     LR
       comp=N,2µm,18.0s,MS5.3
KSH                                   LR     LR
       comp=E,2µm,18.2s,MS5.3
USP    Ospenovka          51.16 301   P     P        21 28 58.4 -0.2
       SNR=14
FRU    Bishkek            51.19 300⇑eP     P        21 28 59.0 +0.2
FRU                                   pmax   pmax
       comp=Z,50nm,1.6s,mb5.2
FRU                                   MLR    MLR
       comp=Z,1µm,19.0s,MS5.0
JOSI   Joshimath          51.30 283  eP     P        21 28 59.7 -0.1
ILAR   Eielson Array      51.31  31   P     P        21 28 58.1 -1.3
       comp=Z,4.2nm,0.7s,mb4.5,baz=270,slow=6.4,SNR=36
ILAR   Eielson Array      51.31  31   P     P        21 28 58.1 -1.3
ILAR                                  pmax   pmax
       comp=Z,4.0nm,0.7s
AAK    Ala-Archa          51.33 300   P     P        21 28 59.7 -0.2
       SNR=7.3
AAK    Ala-Archa          51.33 300  eP     P        21 28 58.6 -1.3
       comp=Z,13nm,0.9s,mb4.9
UCH    Uchtor             51.42 299   P     P        21 29 01.2 +0.7
       SNR=16
VOSK   Vostochnaya        51.53 313   P     P        21 29 00.0 -1.2
VOSK                                  pmax   pmax
       comp=Z,37nm,1.1s,mb5.2
BVAR   Borovoye Array     51.83 313   P     P        21 29 02.9 -0.6
       comp=Z,9.0nm,0.7s,mb4.8,baz=90,slow=7.4,SNR=40
EKS2   Erkin-Say          51.83 300   P     P        21 29 03.4 -0.2
       SNR=12
BRVK   Borovoye           51.89 314   P     P        21 29 02.8 -1.1
BRVK                                  pmax   pmax
       comp=Z,20nm,1.3s,mb4.9
BRVK   Borovoye           51.89 314  eP     P        21 29 03.1 -0.7
       comp=Z,24nm,0.9s,mb5.1
DIV    Divide             52.01  36  eP     P        21 29 04.4 -0.3
       comp=Z,137nm,1.3s,mb5.7
AML    Almayashu          52.03 299   P     P        21 29 05.8 +0.7
       SNR=59
ZRNK   Zerenda            52.67 314   P     P        21 29 08.5 -1.2
ZRNK                                  pmax   pmax
       comp=Z,46nm,1.2s,mb5.3
SDNR   Sundarnagar        53.01 286  eP     P        21 29 11.2 -1.4
NDI    New Delhi          53.91 282⇑eP     P        21 29 17.0 -2.3
KKAR   Karatay Array      54.02 301  i P    P        21 29 19.1 -0.8
KKAR                                  pmax   pmax
       comp=Z,98nm,1.2s,mb5.6
AYAN   Aya Nagar          54.07 282  eP     P        21 29 19.6 -0.8
AYAN                                 e               21 29 21.3
       comp=Z,122nm,1.1s
SONA   Sohna              54.20 282⇑eP     P        21 29 20.8 -0.6
RTK    Rohtak             54.41 283  eP     P        21 29 21.9 -1.1
DAWY   Dawson             54.61  32  eP     P        21 29 24.4 +0.5
KUDL   Kundal             54.72 282⇓eP     P        21 29 24.6 -0.6
KUDL                                 e               21 29 26.1
       comp=Z,64nm,1.2s
FITZ   Fitzroy Crossi     54.83 198  eP     P        21 29 25.7 -0.5
       comp=Z,18nm,0.8s,mb5.2
FITZ   Fitzroy Crossi     54.83 198   P     P        21 29 25.7 -0.5
       comp=Z,21nm,0.8s,mb5.2,baz=10,slow=7.5,SNR=30
WRAB   Tennant Creek      55.01 188  eP     P        21 29 25.7 -1.7
       comp=Z,143nm,1.1s,mb5.9
WB2    Warramunga Arr     55.02 188⇑iP     P        21 29 26.3 -1.2
WRA    Warramunga Arr     55.02 188   P     P        21 29 26.3 -1.2
       comp=Z,63nm,0.9s,mb5.6,baz=6.5,slow=7.6,SNR=126
WRA                                   LR     LR      21 51 55.4
       comp=Z,361nm,21.8s,MS4.4,baz=85,slow=35
WRA    Warramunga Arr     55.02 188   P     P        21 29 26.3 -1.2
WRA                                   pmax   pmax
       comp=Z,63nm,0.9s
WRA                                   MLR    MLR
       comp=Z,361nm,21.8s
KHET   Khetri             55.30 282  eP     P        21 29 28.4 -0.9
KHET                                 e               21 29 31.1
       comp=Z,152nm,1.4s
BHPL   Bhopal             56.10 276  eP     P        21 29 33.4 -1.8
BHPL                                 e               21 29 35.3
       comp=Z,37nm,1.3s
INK    Inuvik             56.28  26   P     P        21 29 33.5 -2.4
       comp=Z,7.8nm,1.0s,mb4.7,baz=294,slow=8.1,SNR=7.0
INK    Inuvik             56.28  26   P     P        21 29 33.5 -2.4
INK                                   pmax   pmax
       comp=Z,8.0nm,1.0s
INK    Inuvik             56.28  26  eP     P        21 29 33.4 -2.5
       comp=Z,12nm,1.1s,mb4.8
AJM    Ajmer              56.91 281⇑iP     P        21 29 40.0 -1.0
ARU    Arti               57.78 319   P     P        21 29 45.7 -1.0
       comp=Z,233nm,0.9s,mb6.2,SNR=29
ARU    Arti               57.78 319⇑iP     P        21 29 45.2 -1.5
ARU                                  i      pP       21 29 55.7 -1.5
ARU                                  e               21 30 35.7
ARU                                  i               21 31 51.9
ARU                                  i PPP  PPP      21 33 09.5 -9.3
ARU                                  eS     S        21 37 41.5 -0.1
ARU                                  eSS    SS       21 41 31.7 -2.1
ARU                                   pmax   pmax
       comp=Z,49nm,1.1s,mb5.5
ARU                                   MLR    MLR
       comp=N,500nm,18.0s,MS4.7
ARU                                   MLR    MLR
       comp=E,300nm,18.0s,MS4.7
ARU                                   MLR    MLR
       comp=Z,300nm,18.0s,MS4.5
ARU    Arti               57.78 319  eP     P        21 29 45.1 -1.7
       comp=Z,54nm,1.1s,mb5.5
SOKR   Solikamsk          57.85 323⇓eP     P        21 29 44.2 -3.0
SOKR                                  pmax   pmax
       comp=Z,10.0nm,1.0s,mb4.8
SOKR                                  MLR    MLR
       comp=Z,590nm,18.0s,MS4.7
HYB    Hyderabad          57.99 270  i P    P        21 29 47.5 -1.2
HYB    Hyderabad          57.99 270  eP     P        21 29 47.5 -1.2
ASAR   Alice Springs      58.75 188   P     P        21 29 53.0 -0.9
       comp=Z,13nm,1.0s,mb4.9,baz=9.7,slow=5.0,SNR=55
ASAR                                  LR     LR      21 54 02.0
       comp=Z,344nm,21.8s,MS4.4,baz=5.8,slow=35
ASPA   Alice Springs      58.75 188  eP     P        21 29 52.8 -1.1
AB31   Akbulak array      59.13 311  i P    P        21 29 54.7 -1.6
AB31                                  pmax   pmax
       comp=Z,4.0nm,0.5s,mb4.7
DLBC   Dease Lake         60.34  37   P     P        21 30 04.7 +0.3
       comp=Z,4.2nm,0.9s,mb4.5,baz=274,slow=8.3,SNR=9.3
DLBC   Dease Lake         60.34  37  eP     P        21 30 04.5  0.0
KAD    Karad              61.64 272⇓iP     P        21 30 13.0 -0.7
APA    Apatity            64.48 336⇑iP     P        21 30 29.2 -2.5
APA                                   pmax   pmax
       comp=Z,25nm,1.2s,mb5.1
APA                                   MLR    MLR
       comp=Z,1µm,17.0s,MS5.1
YKA    Yellowknife Ar     65.66  30   P     P        21 30 37.7 -1.7
       comp=Z,2.4nm,0.7s,mb4.3,baz=299,slow=6.4,SNR=8.7
YKA                                   LR     LR      22 03 51.4
       comp=Z,177nm,19.5s,MS4.3,baz=315,slow=40
YKA    Yellowknife Ar     65.66  30   P     P        21 30 37.7 -1.7
YKA                                   pmax   pmax
       comp=Z,2.0nm,0.7s
YKA                                   MLR    MLR
       comp=Z,177nm,19.5s
YKA    Yellowknife Ar     65.66  30   P     P        21 30 37.7 -1.7
YKA                                   LR     LR      22 03 51.4
ARCES  ARCESS Array B     65.84 340   P     P        21 30 38.2 -2.2
       comp=Z,3.2nm,0.7s,mb4.5,baz=45,slow=6.9,SNR=6.9
ARCES                                 LR     LR      22 03 18.7
       comp=Z,544nm,19.2s,MS4.8,baz=358,slow=40
ARCES  ARCESS Array B     65.84 340   P     P        21 30 38.3 -2.2
ARCES                                 pmax   pmax
       comp=Z,3.0nm,0.7s
ARCES                                 MLR    MLR
       comp=Z,544nm,19.2s
STKA   Stephens Creek     66.52 180  eP     P        21 30 45.0 -0.4
       comp=Z,4.2nm,0.9s,mb4.5
STKA   Stephens Creek     66.52 180   P     P        21 30 45.6 +0.2
       comp=Z,5.8nm,0.9s,mb4.6,baz=20,slow=9.2,SNR=7.1
STKA                                  LR     LR      21 58 36.1
       comp=Z,293nm,19.3s,MS4.5,baz=10,slow=35
FORT   Forrest            66.58 192  eP     P        21 30 46.0 +0.2
       comp=Z,71nm,0.6s,mb5.9
DAG    Danmarks Havn      67.79 355⇑iP     P        21 30 52.1 -0.6
       comp=Z,6.2nm,0.7s,mb4.8
GNW    Green Mountain     68.77  46  eP     P        21 30 59.8 +0.6
RPW    Rockport           69.11  45  eP     P        21 31 00.0 -1.2
RMW    Rattlesnake Mo     69.42  46   P     P        21 31 03.6 +0.4
OBN    Obninsk            69.63 324c iP     P        21 31 03.2 -1.1
OBN                                  i               21 31 25.0
OBN                                  i               21 33 35.1
OBN                                  i SS   SS       21 44 34.1 -4.6
OBN                                   pmax   pmax
       comp=Z,70nm,1.3s,mb5.4
OBN                                   MLR    MLR
       comp=Z,1µm,16.0s,MS5.3
NLW    Nelson Butte       69.97  45  eP     P        21 31 06.9 +0.3
KAF    Kangasniemi        70.04 333  ep     P        21 31 05.2 -1.5
FINES  FINESS Array B     70.54 333   P     P        21 31 09.2 -0.6
       comp=Z,13nm,0.8s,mb4.9,baz=90,slow=7.6,SNR=26
FINES                                 LR     LR      22 06 28.2
       comp=Z,429nm,18.5s,MS4.7,baz=227,slow=40
FINES  FINESS Array B     70.54 333   P     P        21 31 09.2 -0.6
FINES                                 pmax   pmax
       comp=Z,13nm,0.8s
FINES                                 MLR    MLR
       comp=Z,429nm,18.5s
NWAO   Narrogin (SRO)     71.21 201   P     P        21 31 14.6 +0.3
       comp=Z,11nm,0.9s,mb4.8,baz=14,slow=6.2,SNR=5.3
NWAO   Narrogin (SRO)     71.21 201   P     P        21 31 14.6 +0.3
NWAO                                  pmax   pmax
       comp=Z,11nm,0.9s
DPW    Davenport          71.31  44  eP     P        21 31 14.8 +0.1
GOF    Gofitskoye         71.33 312⇑iP     P        21 31 15.0 +0.1
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GOF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
NEW	**Newport**	71.72	44	P	P	21 31 17.1	0.0
	comp=Z,13nm,1.1s,mb4.8,baz=355,slow=3.1,SNR=6.6						
NEW	**Newport**	71.72	44	P	P	21 31 17.1	0.0
NEW				pmax	pmax		
	comp=Z,13nm,1.1s						
NEW	**Newport**	71.72	44	*e*P	P	21 31 17.0	0.0
	comp=Z,15nm,1.1s,mb4.8						
YBH	**Yreka Blue Hor**	71.74	52	P	P	21 31 17.5	+0.2
	comp=Z,3.7nm,0.8s,mb4.4,baz=280,slow=1.0,SNR=6.3						
YBH	**Yreka Blue Hor**	71.74	52	P	P	21 31 17.5	+0.2
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JMIC	**Jan Mayen**	72.12	350	LR	LR	22 03 06.0	
	comp=Z,133nm,20.1s,MS4.2,baz=81,slow=36						
SUMG	**Summit**	72.72	360	*e*P	P	21 31 22.9	+0.4
	comp=Z,35nm,1.3s,mb5.1						
GNI	**Garni**	72.79	307	P	P	21 31 23.2	-0.4
	comp=Z,20nm,1.0s,mb5.0,baz=312,slow=7.5,SNR=5.0						
GNI	**Garni**	72.79	307	P	P	21 31 23.2	-0.4
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
WVOR	**Wild Horse Val**	73.95	49	*e*P	P	21 31 30.7	+0.4
	comp=Z,7.5nm,1.1s,mb4.5						
SOC	**Sochi**	74.13	312	*e*P	P	21 31 29.5	-1.8
SOC				*e*	pP	21 31 40.2	-1.8
SOC				*e*		21 34 10.6	
SOC				*e*PPP	PPP	21 35 59.8	-4.0
SOC				*e*S	S	21 40 56.3	-4.4
SOC				*e*SS	SS	21 45 48.7	+0.2
SOC				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
SOC				pmax	pmax		
	comp=N,21nm,1.2s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
SOC				smax			
	comp=N,142nm,3.3s						
SOC				smax			
	comp=E,165nm,3.6s						
SOC				MLR	MLR		
	comp=Z,392nm,20.0s,MS4.7						
SOC				MLR	MLR		
	comp=N,411nm,22.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,261nm,18.0s,MS4.8						
BEKR	**Beckwourth**	74.23	52	*e*P	P	21 31 32.5	+0.5
	comp=E,9.0nm,0.9s,mb4.7						
ANN	**Anapa**	74.82	314	*e*P	P	21 31 24.0	-11
ANN				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.4						
PAHR	**Pah Rah Range**	74.95	52	*e*P	P	21 31 35.5	-0.6
	comp=Z,13nm,1.2s,mb4.7						
CMB	**Columbia Colle**	75.20	54	*e*P	P	21 31 37.6	0.0
FFC	**Flin Flon**	75.52	32	*e*P	P	21 31 38.6	-0.5
	comp=Z,18nm,1.1s,mb4.9						
HRY	**Holter Researc**	75.56	43	*e*P	P	21 31 39.6	+0.1
AKASG	**Malin Array Be**	75.81	323	P	P	21 31 40.1	-0.7
	comp=Z,6.8nm,0.6s,mb4.8,baz=43,slow=5.9,SNR=47						
AKASG				LR	LR	22 08 24.5	
	comp=Z,363nm,18.8s,MS4.7,baz=85,slow=38						
AKASG	**Malin Array Be**	75.81	323	P	P	21 31 40.1	-0.7
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,363nm,18.8s						
HFS	**Hagfors**	75.87	336	P	P	21 31 40.6	-0.4
	comp=Z,5.7nm,0.6s,mb4.7,baz=90,slow=3.0,SNR=17						
HFS	**Hagfors**	75.87	336	P	P	21 31 40.6	-0.4
HFS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HLID	**Hailey**	75.89	47	*e*P	P	21 31 42.1	+0.6
	comp=Z,4.9nm,1.1s,mb4.3						
BMN	**Battle Mountai**	75.94	50	*e*P	P	21 31 42.0	+0.2
	comp=Z,18nm,1.2s,mb4.9						
NB2	**NORSAR Subarra**	76.00	337	P	P	21 31 41.3	-0.4
	comp=Z,87nm,1.7s,mb5.4,baz=41,slow=5.8						
NB2	**NORSAR Subarra**	76.00	337	P	P	21 31 41.3	-0.4
	baz=41,slow=5.9						
NOA	**NORSAR Array B**	76.00	337	P	P	21 31 41.5	-0.1
	comp=Z,13nm,0.8s,mb4.9,baz=39,slow=5.8,SNR=30						
NOA				LR	LR	22 08 12.0	
	comp=Z,417nm,19.6s,MS4.8,baz=55,slow=38						
NOA	**NORSAR Array B**	76.00	337	P	P	21 31 41.6	-0.1
NOA				pmax	pmax		
	comp=Z,13nm,0.8s						
NOA				MLR	MLR		
	comp=Z,417nm,19.6s						
NAO01	**NORSAR Array S**	76.25	337	*e*P	P	21 31 42.8	-0.4
	comp=Z,5.4nm,0.6s,mb4.7						
BOZ	**Bozeman (W)**	76.30	44	*e*P	P	21 31 44.0	+0.3
	comp=Z,11nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	76.36	53	P	P	21 31 45.0	+0.8
	comp=Z,8.2nm,0.8s,mb4.7,baz=288,slow=5.0,SNR=34						
SUW	**Suwalki**	76.51	328	*e*P	P	21 31 44.0	-0.8
SUW				MLR	MLR		
	comp=Z,400nm,16.9s,MS4.8						
SIM	**Simferopol'**	76.66	316	*e*P	P	21 31 46.0	+0.2
SIM				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
QLMT	**Earthquake Lak**	76.90	44	*e*P	P	21 31 47.6	+0.5
HASS	**Wahat al Ahsa'**	77.17	292	P	P	21 31 48.4	-0.6
TPH	**Tonopah**	77.26	52	*e*P	P	21 31 49.9	+0.6
	comp=Z,13nm,1.1s,mb4.8						
MALT	**Malatya**	77.90	308	*e*P	P	21 31 53.7	+0.9
	comp=Z,21nm,1.3s,mb4.9						
HVU	**Hansel Valley**	77.91	47	*e*P	P	21 31 53.5	+0.7
MOOW	**Moose Ponds**	77.94	45	*e*P	P	21 31 53.8	+0.9
TPAW	**Teton Pass**	77.97	45	*e*P	P	21 31 54.0	+0.9
REDW	**Red Top Meadow**	78.11	45	*e*P	P	21 31 54.5	+0.7
HWUT	**Hardware Ranch**	78.74	47	*e*P	P	21 31 57.5	+0.2
	comp=Z,10nm,1.2s,mb4.6						
DUG	**Dugway**	78.83	49	*e*P	P	21 31 58.4	+0.6
	comp=Z,16nm,1.3s,mb4.8						
TCUT	**Toone Canyon**	79.13	47	P	P	21 32 00.5	+0.9
BW06	**Boulder Array**	79.22	45	P	P	21 31 59.6	-0.4
	comp=Z,6.4nm,0.8s,mb4.6						
GKP	**Gorka Klasztor**	79.58	330	*e*P	P	21 32 02.0	+0.3
GKP				MLR	MLR		
	comp=Z,600nm,18.7s,MS5.0						
DAU	**Daniels Canyon**	79.65	48	*e*P	P	21 32 02.9	+0.6
KWP	**Kalwaria**	79.69	324	*e*P	P	21 32 02.9	+0.6
KWP				MLR	MLR		
	comp=Z,900nm,18.2s,MS5.2						
BRTR	**Keskin Array B**	80.08	312	P	P	21 32 04.8	+0.1
	comp=Z,7.8nm,1.1s,mb4.6,baz=90,slow=3.7,SNR=25						
BRTR				LR	LR	22 13 07.0	
	comp=Z,220nm,18.1s,MS4.5,baz=345,slow=40						
BRTR	**Keskin Array B**	80.08	312	P	P	21 32 04.8	+0.2
BRTR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRTR				MLR	MLR		
	comp=Z,220nm,18.2s						
URZ	**Urewera**	80.13	152	P	P	21 32 05.0	0.0
	comp=Z,4.0nm,0.7s,mb4.4,baz=60,slow=8.3,SNR=3.7						
NEN	**Nelson**	80.21	53	*e*P	P	21 32 06.3	+0.8
MSU	**Marysvale**	80.23	50	*e*P	P	21 32 07.0	+1.6
PFO	**Pinyon Flat Ob**	80.33	56	*e*P	P	21 32 05.5	-0.6
	comp=Z,19nm,1.1s,mb4.9						
OJC	**Ojcow**	80.64	326	*e*P	P	21 32 07.6	+0.2
BAR	**Barrett**	80.72	57	*e*P	P	21 32 08.5	+0.3
MLR	**Muntele Rosu**	80.83	320	P	P	21 32 08.0	-0.5
	comp=Z,10nm,1.3s,mb4.6,baz=261,slow=1.9,SNR=6.8						
MLR	**Muntele Rosu**	80.83	320	P	P	21 32 08.0	-0.5
MLR				pmax	pmax		
	comp=Z,11nm,1.3s						
SRU	**San Rafael**	80.89	48	*e*P	P	21 32 09.5	+0.6
MZLS	**Mizel**	81.21	293	P	P	21 32 11.4	+0.4
ULM	**Lac du Bonnet**	81.30	33	P	P	21 32 11.6	+0.7
	comp=Z,4.7nm,0.9s,mb4.4,baz=346,slow=3.3,SNR=4.4						
RAC	**Raciborz**	81.46	327	*e*P	P	21 32 12.5	+0.8
RAC				*e*S	S	21 42 18.0	-1.2
RAC				MLR	MLR		
	comp=Z,700nm,17.8s,MS5.1						
RUE	**Ruedersdorf**	81.57	331	*e*P	P	21 32 12.4	+0.1
	comp=Z,44nm,1.3s,mb5.2						
OKC	**Ostrava-Krasne**	81.66	327	LM		21 12 10.0	
	comp=Z,0.6nm,17.6s						
OKC				*e*P		21 32 12.3	
OKC	**Ostrava-Krasne**	81.66	327	*e*P	P	21 32 12.3	-0.4
OKC				MLR	MLR		
	comp=Z,600nm,17.6s,MS5.0						
KSP	**Ksiaz**	81.74	328	⇓*e*P	P	21 32 13.8	+0.6
KSP				MLR	MLR		
	comp=Z,900nm,22.4s,MS5.1						
KSP	**Ksiaz**	81.74	328	⇓*e*P	P	21 32 13.8	+0.6
KSP				*e*PP	PP	21 35 33.4	+11
KSP				*e*S	S	21 42 49.2	+27
KSP				LR	LR		
	comp=Z,900nm,22.4s,MS5.1						
BSEG	**Bad Segeberg**	81.80	333	*e*P	P	21 32 13.4	0.0
BSEG				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
HILS	**Ha'il**	81.84	298	P	P	21 32 14.9	+0.7
MORC	**Moravsky Berou**	81.97	327	*e*P	P	21 32 14.4	+0.1
	comp=Z,26nm,1.4s,mb5.0						
DPC	**Dobruska-Polom**	82.09	328	*e*P	P	21 32 15.7	+0.7
DPC				LM		22 13 00.0	
	comp=Z,0.6nm,17.0s						
UPC	**Upice**	82.11	328	*e*P	P	21 32 14.4	-0.7
PV10	**Paradox Valley**	82.25	48	*e*P	P	21 32 17.7	+1.6
VYHS	**Vyhne**	82.30	325	*i* P	P	21 32 17.1	+1.0
ASF	**Jabal al Asfar**	82.50	304	P	P	21 32 18.2	+0.8
	comp=Z,24nm,1.2s,mb5.1,baz=179,slow=0.6,SNR=14						
ASF				LR	LR	22 14 09.2	
	comp=Z,263nm,18.2s,MS4.6,baz=70,slow=40						
WUAZ	**Wupatki**	82.55	52	*e*P	P	21 32 19.1	+1.4
	comp=Z,19nm,1.0s,mb5.1						
PV01	**Paradox Valley**	82.69	48	*e*P	P	21 32 19.5	+1.1
PVCC	**Panska Ves**	82.71	329	*e*P	P	21 32 18.3	+0.1
PVCC				LM		22 15 40.0	
	comp=Z,0.5nm,18.8s						
BRG	**Berggiesshubel**	82.72	329	⇓*i*P	P	21 32 18.7	+0.5
BRG				*e*		21 32 33.0	
BRG				*e*		21 35 25.2	
BRG				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
BRG				MLR	MLR		
	comp=N,460nm,18.3s,MS5.1						
BRG				MLR	MLR		
	comp=E,540nm,18.3s,MS5.1						
BRG				MLR	MLR		
	comp=Z,570nm,14.9s,MS5.1						
BRG	**Berggiesshubel**	82.72	329	⇓*i*P	P	21 32 18.7	+0.5
	comp=Z,20nm,1.4s,mb5.0						
BRG				*e*		21 32 33.0	
BRG				*e*PP	PP	21 35 25.2	-4.9
BRG				LR	LR		
	comp=Z,570nm,14.9s,MS5.1						
CLL	**Collm**	82.78	330	⇓P	P	21 32 18.5	0.0
	comp=Z,logA/T=1.5,mb5.3						
CLL				*i* PCP	PcP	21 32 23.3	-0.4
CLL				*e*PP	PP	21 35 18.0	-13
CLL	**Collm**	82.78	330	⇓*i*P	P	21 32 18.5	0.0
CLL				*i*		21 32 23.3	
CLL				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.3						
CLL	**Collm**	82.78	330	⇓*i*P	P	21 32 18.5	0.0
	comp=Z,39nm,1.2s,mb5.3						
CLL				*i*		21 32 23.3	
AFFS	**'Afif**	82.93	294	P	P	21 32 20.5	+0.7
SMOL	**Smolenice**	82.94	326	*e*P	P	21 32 20.5	+1.2
SRO	**Srobarova**	83.04	325	*e*P	P	21 32 20.9	+1.1
PRU	**Pruhonice**	83.13	329	*e*P	P	21 32 20.5	+0.2
	comp=Z,36nm,1.4s,mb5.2						
PRU				LM		22 16 40.0	
CSS	**Prodhromos**	83.18	308	*e*P	P	21 32 20.9	0.0
	comp=Z,18nm,0.9s,mb5.1						
ZST	**Bratislava**	83.32	326	*e*P	P	21 32 23.2	+1.9
MMLI	**Mount Malkishu**	83.34	305	P	P	21 32 22.9	+1.2
HMDT	**Nahal Hemdat**	83.38	305	P	P	21 32 22.8	+0.8
ISCO	**Idaho Springs**	83.40	45	P	P	21 32 23.6	+1.7
	comp=Z,2.9nm,0.8s,mb4.4						
CLZ	**Clausthal**	83.41	332	*e*P	P	21 32 21.7	0.0
	comp=Z,35nm,1.3s,mb5.2						
OFRI	**'Ofer**	83.52	305	P	P	21 32 23.2	+0.5
SLTI	**Sal'it**	83.72	305	P	P	21 32 24.3	+0.6
NKC	**Novy Kostel**	83.83	330	*e*P	P	21 32 23.9	+0.1
NKC				LM		22 13 40.0	
	comp=Z,0.4nm,21.5s						
MOX	**Moxa**	83.85	330	*i* P	P	21 32 23.9	0.0
	comp=Z,logA/T=1.2,mb5.1						
MOX				QM		22 11 03.0	
MOX				RM		22 14 38.0	
MOX	**Moxa**	83.85	330	*e*P	P	21 32 23.9	0.0
MOX				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.2						
MOX				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.8						
MOX	**Moxa**	83.85	330	*e*P	P	21 32 23.9	0.0
	comp=Z,30nm,1.7s,mb5.2						
MOX				LR	LR		
	comp=Z,400nm,19.0s,MS4.8						
DRGI	**Dragot**	83.87	304	P	P	21 32 25.0	+0.5
RZN	**Rozhen**	84.03	318	P	P	21 32 26.0	+1.0
KHC	**Kasperske Hory**	84.19	328	*e*P	P	21 32 25.9	+0.3
KHC				LM		22 15 00.0	
	comp=Z,0.5nm,16.7s						
VTS	**Vitosha**	84.24	319	P	P	21 32 27.0	+0.9
GEC2	**GERESS Array S**	84.35	328	*e*P	P	21 32 26.6	+0.1
GEC2				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.2						
GEC2	**GERESS Array S**	84.35	328	*e*P	P	21 32 26.6	+0.1
	comp=Z,27nm,1.5s,mb5.2						
GERES	**GERESS Array B**	84.35	328	P	P	21 32 26.6	+0.1
	comp=Z,4.7nm,0.9s,mb4.6,baz=41,slow=5.2,SNR=30						
GERES				PP	PP	21 35 42.5	-0.8
	comp=Z,1.3nm,1.0s,baz=45,slow=5.7,SNR=3.6						
GERES	**GERESS Array B**	84.35	328	P	P	21 32 26.6	+0.1
GERES						21 35 42.5	
GERES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WET	**Wettzell**	84.48	329	*e*P	P	21 32 27.1	0.0
WET				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.1						
WET	**Wettzell**	84.48	329	*e*P	P	21 32 27.1	0.0
	comp=Z,26nm,1.5s,mb5.1						
KBRS	**Khaybar**	84.61	298	P	P	21 32 29.1	+0.7
MMB	**Musomiste**	84.64	318	P	P	21 32 29.0	+0.9
ZFRI	**Zfri**	84.65	304	P	P	21 32 28.9	+0.5
GRUS	**Gruza**	84.65	321	⇑Ip		21 32 28.9	
ARSA	**Arzberg**	84.74	326	⇑*i*P	P	21 32 28.9	+0.5
	comp=Z,26nm,1.6s,mb5.1						
GRA1	**Grafenberg Arr**	84.75	330	*e*P	P	21 32 29.4	+1.0
	comp=Z,72nm,1.3s,mb5.6						
GRF	**Grafenberg Arr**	84.75	330	*e*P	P	21 32 29.4	+1.0
GRF				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.6						
KKB	**Krupnik**	84.80	319	P	P	21 32 30.0	+1.1
SDCO	**Great Sand Dun**	84.80	47	*e*P	P	21 32 29.5	+0.5
	comp=Z,8.6nm,1.0s,mb4.8						
MOA	**Molln**	84.86	327	⇑*i*P	P	21 32 29.5	+0.5
	comp=Z,44nm,1.8s,mb5.3						
DIVS	**Divcibare**	84.87	322	⇓*i*P	P	21 32 29.3	+0.1
PRNI	**Paran**	84.89	304	P	P	21 32 30.1	+0.5
TUC	**Tucson**	84.91	54	*e*P	P	21 32 30.3	+0.6
	comp=Z,8.1nm,1.1s,mb4.8						
KZIT	**Kziot**	84.96	304	P	P	21 32 30.2	+0.2
TATS	**Tathlith**	85.08	290	P	P	21 32 31.7	+0.9
TBKS	**Tabuk**	85.11	301	P	P	21 32 31.3	+0.5
JMQS	**Jabal Moqyreh**	85.17	302	P	P	21 32 31.5	+0.5
AQBJ	**Aqaba**	85.24	303	P	P	21 32 31.7	+0.4
MBH	**Mount Berech**	85.29	303	P	P	21 32 32.0	+0.4
EIL	**Elat**	85.34	303	P	P	21 32 32.1	+0.2
JMOS	**Jabal al Moall**	85.54	303	P	P	21 32 34.2	+1.3
SKO	**Skopje**	85.61	320	*i* P	P	21 32 34.0	+1.1
HAQS	**Haql**	85.73	303	P	P	21 32 34.3	+0.5
FUR	**Furstenfeldbru**	85.91	329	*e*P	P	21 32 34.1	-0.1
FUR				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.7						
FUR	**Furstenfeldbru**	85.91	329	*e*P	P	21 32 34.1	-0.1
	comp=Z,74nm,1.6s,mb5.7						
HGN	**Heimansgroeve**	85.95	333	*e*P	P	21 32 34.8	+0.5
	comp=Z,13nm,1.3s,mb5.0						
BDAS	**Al Bad'**	85.99	302	P	P	21 32 35.5	+0.5
AYUS	**'Aynunah**	86.02	302	P	P	21 32 35.6	+0.4
ANMO	**Albuquerque**	86.03	50	*d i*P	P	21 32 36.4	+1.3
ANMO	**Albuquerque**	86.03	50	*e*P	P	21 32 36.1	+1.0
	comp=Z,6.7nm,1.0s,mb4.8						
BOJS	**Bojanci**	86.16	325	*i* P	P	21 32 35.0	-0.4
NAMS	**An Nimas**	86.27	291	P	P	21 32 37.6	+1.0
BLJS	**Baljurashi**	86.32	292	P	P	21 32 38.2	+1.4
UMJS	**Umm Lajj**	86.36	298	P	P	21 32 38.0	+1.1
CEY	**Cerknica**	86.37	326	*i* P	P	21 32 36.0	-0.5
ROBS	**Robic**	86.41	327	*i* P	P	21 32 35.9	-0.7
JAVS	**Javornik**	86.42	326	*i* P	P	21 32 36.2	-0.5
BNM	**Barren Site**	86.44	50	*e*P	P	21 32 38.0	+0.9
WLF	**Walferdange**	86.77	333	*e*P	P	21 32 38.9	+0.5
	comp=Z,37nm,1.4s,mb5.4						
GIVF	**Givet**	86.90	334	*e*P	P	21 32 40.5	+1.5
BFO	**Black Forest**	87.00	331	*e*P	P	21 32 39.2	-0.3
BFO				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.3						
BFO	**Black Forest**	87.00	331	*e*P	P	21 32 39.2	-0.3
	comp=Z,27nm,1.2s,mb5.3						
BAIF	**Baives**	87.16	334	*e*P	P	21 32 41.6	+1.4
DAVA	**Damuels**	87.18	329	⇑*i*P	P	21 32 40.5	+0.1
	comp=Z,56nm,1.8s,mb5.5						
SCHQ	**Schefferville**	87.34	16	P	P	21 32 40.8	-0.2
	comp=Z,5.1nm,0.8s,mb4.8,baz=327,slow=8.5,SNR=5.5						
CDF	**Champ du Feu**	87.35	331	*e*P	P	21 32 41.2	0.0
	comp=Z,61nm,1.3s,mb5.4						
CBKS	**Cedar Bluff**	87.43	43	*e*P	P	21 32 42.0	+0.1
	comp=Z,26nm,1.2s,mb5.3						
HAU	**Haudompre**	88.04	332	*e*P	P	21 32 44.3	-0.2
HAU				*e*R			
	comp=Z,501nm,18.2s						
CPRX	**Cap Rock**	88.91	50	P	P	21 32 49.3	+0.2
KSU1	**Kansas State U**	88.95	41	*e*P	P	21 32 49.2	+0.1
CABF	**La Chapelle**	89.28	331	*e*P	P	21 32 50.5	0.0
AQU	**L'Aquila**	89.42	324	*e*P	P	21 32 51.7	+0.5
	comp=Z,25nm,1.2s,mb5.4						
LOR	**Lormes**	89.61	333	*e*P	P	21 32 51.8	-0.2
	comp=Z,88nm,1.6s,mb5.5						
LOR				*e*R			
	comp=Z,519nm,19.8s						
LPL	**La Plagne**	89.91	330	*e*P	P	21 32 53.7	+0.2
SSF	**Saint Saulge**	89.91	333	*e*P	P	21 32 53.4	0.0
	comp=Z,21nm,1.2s,mb5.0						
LPG	**La Plagne**	89.92	330	*e*P	P	21 32 53.6	+0.1
SMF	**Signal de Mont**	90.13	332	*e*P	P	21 32 54.3	-0.2
	comp=Z,84nm,1.6s,mb5.5						
AVF	**Avril sur Loir**	90.20	333	*e*P	P	21 32 54.7	-0.1
	comp=Z,60nm,1.4s,mb5.4						
GRR	**Gorron**	90.34	336	*e*P	P	21 32 55.4	0.0
	comp=Z,90nm,1.3s,mb5.6						
MBDF	**Montbardon**	90.53	329	*e*P	P	21 32 55.7	-0.7
ORIF	**Oris-en-Rattie**	90.75	330	*e*P	P	21 32 57.4	0.0
ORIF				*e*R			
	comp=Z,662nm,19.5s						
WMOK	**Wichita Mounta**	90.83	45	*e*P	P	21 32 58.1	+0.1
	comp=Z,5.7nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	91.02	337	*e*P	P	21 32 58.6	0.0
TCF	**Toulx Ste Croi**	91.05	333	*e*P	P	21 32 58.9	+0.1
	comp=Z,63nm,1.4s,mb5.5						
ROSF	**Rostrenen**	91.18	337	*e*P	P	21 32 59.4	+0.1
VIVF	**Saint-Julien-l**	91.29	331	*e*P	P	21 32 59.8	-0.1
TXAR	**Lajitas Array**	91.50	52	P	P	21 33 02.0	+0.7
	comp=Z,1.4nm,0.7s,mb4.4,baz=301,slow=7.3,SNR=5.6						
TXAR				LR	LR	22 09 43.8	
	comp=Z,274nm,19.4s,MS4.7,baz=245,slow=33						
FRF	**La Foret Royal**	91.53	329	*e*P	P	21 33 00.1	-1.0
MFF	**Saint Martin d**	91.64	334	*e*P	P	21 33 01.8	+0.3
LMR	**La Mourre**	91.77	329	*e*P	P	21 33 01.5	-0.7
	comp=Z,82nm,1.3s,mb5.6						
RJF	**Les Rejaudoux**	92.14	333	*e*P	P	21 33 04.0	+0.2
RJF				*e*R			
	comp=Z,516nm,21.5s						
CAF	**Calviac**	92.25	332	*e*P	P	21 33 05.0	+0.7
	comp=Z,79nm,1.6s,mb5.5						
LASF	**Ste Croix**	92.26	331	*e*P	P	21 33 04.6	+0.2
	comp=Z,33nm,1.2s,mb5.3						
CCM	**Cathedral Cave**	92.56	39	*e*P	P	21 33 05.9	0.0
MTLF	**Montolieu**	93.53	331	*e*P	P	21 33 10.5	+0.3
EPF	**Esparros**	94.52	332	*e*P	P	21 33 15.9	+1.2
	comp=Z,43nm,1.4s,mb5.4						
ESDC	**Sonseca Array**	99.04	333	LR	LR	22 21 18.1	
	comp=Z,245nm,19.8s,MS4.7,baz=10.0,slow=37						
QSPA	**South Pole Qui**	124.74	180	*e*PKP	PKPdf	21 38 54.5	+2.4
QSPA				LR	LR		
	comp=Z,210nm,20.2s,MS4.8						
SYO	**Syowa Base**	126.31	206	⇑P	Pdif	21 35 31.8	-3.1
SYO	**Syowa Base**	126.31	206	⇓Pdiff	Pdif	21 35 38.3	+3.4
SNAA	**Sanae**	138.75	196	⇓*i*	PKPdf	21 39 26.1	+7.5
SNAA	**Sanae**	138.75	196	⇑*i*		21 39 32.4	
VNA2	**Neumayer--Watz**	140.31	196	⇑*i*	PKPdf	21 39 29.0	+7.6
VNA2	**Neumayer--Watz**	140.31	196	⇑*i*	PKPdf	21 39 30.2	+8.8
VNA1	**Neumayer--Stat**	140.71	196			21 39 35.7	
SAML	**Samuel**	145.79	47	*e*PKPbc	PKPbc	21 39 33.3	0.0
PMSA	**Palmer Station**	146.52	161	*e*PKPdf	PKPdf	21 39 32.7	+0.5
PMSA				*e*PKPbc	PKPbc	21 39 36.9	+3.4
LPAZ	**La Paz**	147.84	62	PKPbc	PKPdf	21 39 41.2	+5.5
	comp=Z,4.1nm,0.6s,baz=251,slow=1.8,SNR=5.6						
LPAZ	**La Paz**	147.84	62	PKP2	PKPab	21 39 41.3	-2.0
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LPAZ	**La Paz**	147.84	62	*e*PKPbc	PKPdf	21 39 41.1	+5.4
PLCA	**Paso Flores**	154.37	112	PKPbc	PKPdf	21 39 56.3	+11
	comp=Z,1.3nm,0.9s,baz=115,slow=5.6,SNR=3.4						
PLCA				PKPab	PKPab	21 40 10.3	+0.5
	comp=Z,1.4nm,0.8s,baz=276,slow=11,SNR=3.7						
PLCA	**Paso Flores**	154.37	112	PKIKP	PKPdf	21 39 56.3	+11
PLCA						21 40 10.3	
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BDFB	**Brasilia**	159.03	26	PKPab	PKPab	21 40 30.6	+0.1
	comp=Z,1.3nm,0.4s,baz=177,slow=7.0,SNR=3.2						
BDFB	**Brasilia**	159.03	26	PKP2	PKPab	21 40 30.6	+0.1
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						

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*MDD **20** 21:45:20.9±0.4, 43.05N×0.07W, h11^{km}±1^{km}, mbLg1.0/8, Error ellipse: s-maj=4.0km s-min=2.2km az=171.0, PRXIMO*

*STR **20** 21:45:20.9±0.4, 43.04N×0.05W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 21:45:20.7±0.1, 43.08N×0.07W, h2^{km}, Md2.0/2, Ml1.9/3, Error ellipse: s-maj=2.0km s-min=1.4km az=169.0*

ISC 20 21:45:19.0±0.5**, 43.13N**±0.03×**0.06W**±0.03**, h12**^{km}±6^{km}**, n15,** σ1§**01**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	0.13	130	Pg	Pg	21 45 23.5	+1.1
LABF				Sg	Sg	21 45 25.5	+0.8
LABF	**Labassere**	0.13	130	Pg	Pg	21 45 23.6	+1.2
LABF				Lg		21 45 25.6	
VIEF	**Viey**	0.26	166	Pg	Pg	21 45 24.7	+0.2
VIEF				Sg	Sg	21 45 27.4	-0.8
VIEF	**Viey**	0.26	166	Pg	Pg	21 45 24.8	+0.2
VIEF				Lg		21 45 27.4	
EPF	**Esparros**	0.31	109	*e*Pg	Pg	21 45 26.5	+0.9
EPF				*e*Sg	Sg	21 45 30.9	+0.9
	9.1nm,0.2s						
ETSF	**Etsaut**	0.43	238	*e*Pg	Pg	21 45 28.6	+0.7
ETSF				*e*Sg	Sg	21 45 33.2	-0.6
	12nm,0.4s						
MELF	**Melles**	0.66	113	Pg	Pg	21 45 32.3	0.0
MELF				Sg	Sg	21 45 41.2	+0.1
MELF	**Melles**	0.66	113	Lg		21 45 41.3	
SJPF	**Ste Jean**	0.85	269	*e*Pg	Pg	21 45 36.8	+0.7
SJPF				*e*Sg	Sg	21 45 47.0	-0.5
	1.8nm,0.3s						
ESAC	**San Caprasio**	1.44	192	Pg	Pg	21 45 45.7	-2.1
	0.3nm,0.1s,SNR=7.9						
ESAC				Lg		21 46 04.7	
	9.4nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	1.68	82	*e*Pg	Pg	21 45 52.4	-0.2
MTLF				*e*Sg	Sg	21 46 13.5	-1.5
	1.5nm,0.4s						
LFF	**La Frestale**	1.90	17	*e*Pn	Pn	21 45 53.5	+1.9
LFF				*e*Pg	Pg	21 45 57.7	+0.8
LFF				*e*Sg	Sg	21 46 21.7	-0.6
	2.8nm,0.4s						
EPOB	**Poblet**	1.97	154	Pn	Pn	21 45 52.0	-0.6
	24nm,1.6s,SNR=7.9						
EPOB				Lg		21 46 20.4	
	0.3nm,0.2s,SNR=7.9						
CAF	**Calviac**	2.36	40	*e*Pg	Pg	21 46 05.1	-1.1
CAF				*e*Sg	Sg	21 46 36.0	-1.6
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	2.45	27	*e*Pn	Pn	21 46 00.7	+1.2

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*NIED **20** 21:50:00, 35.50N×140.20E, h56^{km}, Mw3.9 Best double couple: $M_0$7.06×10^{14} NP1: ϕ_s193°, δ81°, λ-40°. NP2: ϕ_s291°, δ51°, λ-168°.*

*NEIC **20** 21:50:08.7±0.9,34.70N×138.35E,h10^{km},mb4.3/2,Error ellipse: s-maj=35.2km s-min=10.9km az=89.0*
*JMA **20** 21:50:09.4±0.2,35.56N×140.11E,h73^{km}±2^{km},M3.8*
JMA Felt II J1.
*IDC **20** 21:50:10.4±1.9,34.37N×137.78E,mb3.8/3,mb1 4.1/5, mb1mx3.7/23,ML4.2/2,Error ellipse: s-maj=45.9km s-min=22.0km az=37.0*
ISC 20 21:50:09.1±0.6,**35.48N**±0.05×**140.13E**±0.08,**h79**^{km}±4^{km},**n24,**σ**0**^{s}.**58**/32,**mb4.0**/5,**2C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	Nagara	0.09	138	⇓P	P	21 50 20.7	+0.1
JCN				S	S	21 50 29.6	+0.6
KTR	Katsuura	0.37	156	P	P	21 50 22.3	+0.5
KTR				eS	S	21 50 31.4	0.0
TOK	Tokyo	0.37	304	P	P	21 50 21.7	-0.2
TOK				eS	S	21 50 31.0	-0.4
BSO3	Boso 3	0.75	155	⇓P	P	21 50 25.6	+0.1
BSO3				S	S	21 50 37.6	0.0
JOD2	Odawara 2	0.88	256	⇑P	P	21 50 26.9	0.0
JOD2				eS	S	21 50 39.3	-1.0
JIM2	Oshima 3	0.96	217	P	P	21 50 27.7	-0.1
BSO1	Boso 1	1.08	140	P	P	21 50 29.2	-0.1
JAG	Ashikaga	1.09	330	⇓P	P	21 50 28.7	-0.8
JRY	Ryogami san	1.13	298	⇓P	P	21 50 30.1	+0.1
JIZS	Izushimoda	1.28	234	⇑P	P	21 50 32.2	+0.2
JYN	Shimob	1.30	271	P	P	21 50 32.3	+0.1
JKT	Katashina	1.47	331	⇓P	P	21 50 33.6	-0.9
MAJO	Matsushiro	1.89	305	ePn	P	21 50 40.0	0.0
MAT	Matsushiro	1.89	305	P	P	21 50 40.0	0.0
MAT				S	S	21 51 03.8	+1.0
MAT	Matsushiro	1.89	305	eP	P	21 50 40.0	0.0
MAT				eS	S	21 51 04.0	+1.2
JHJ	Hachijo jima 2	2.38	187	Pn	P	21 50 47.3	+0.4
	81nm,0.3s,baz=115,slow=0.4,SNR=32						
JHJ				Sn	S	21 51 15.3	+0.4
	185nm,0.3s,baz=59,slow=24,SNR=13						
CBIJ	Chichi jima	8.54	168	Pn	P	21 52 06.8	-5.2
	16nm,0.3s,baz=296,slow=16,SNR=5.4						
TGY	Tagaytay City	27.41	224	P	P	21 55 39.0	-10
	64nm,0.3s,baz=152,slow=3.9,SNR=2.1						
MKAR	Makanchi Array	44.08	303	P	P	21 58 12.0	+1.3
	0.5nm,0.6s,mb3.4,baz=84,slow=8.8,SNR=7.8						
MKAR	Makanchi Array	44.08	303	P	P	21 58 12.0	+1.2
KURK	Kurchatov	46.09	309	eP	P	21 58 27.4	+0.7
	1.5nm,0.7s,mb3.8						
WRAB	Tennant Creek	55.38	187	eP	P	21 59 36.4	-1.0
	2.4nm,0.5s,mb4.5						
WRA	Warramunga Arr	55.39	187	P	P	21 59 36.4	-1.1
	0.9nm,0.4s,mb4.2,baz=2.7,slow=7.5,SNR=20						
ASAR	Alice Springs	59.12	187	P	P	22 00 03.9	+0.2
	0.6nm,0.5s,mb3.9,baz=19,slow=13,SNR=9.7						

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*IDC **20** 22:09:33.7±1.7,24.88N×99.15E,mb3.4/2,mb1 3.4/3, mb1mx3.3/18,ML3.4/1,Error ellipse: s-maj=58.7km s-min=19.0km az=89.0*
*BJI **20** 22:09:36.0,25.01N×98.98E,h22^{km},ML3.5,Ms3.6, Msz2.9*
ISC 20 22:09:32.7±1.7,**24.67N**±0.07×**99.24E**±0.08,**h13**^{km}±12^{km},**n9,**σ**1**^{s}.**31**/14,**mb3.2**/2,**1C,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	3.21	81	ePG	Pg	22 10 36.8	-0.1
KMI				SG	Sg	22 11 19.6	-0.1
KMI				Smax			
	comp=N,178nm,0.9s						
KMI				Smax			
	comp=E,127nm,0.9s						
KMI				LR	LR		
	comp=N,957nm,8.7s						
KMI				LR	LR		
	comp=Z,226nm,12.2s						
CHRT				PG	Pg	22 11 10.0	+1.4
CHRT				SG	Sg	22 12 12.0	-0.7
CHG	Chiang Mai	5.83	183	⇑P	Sg	22 12 47.6	+0.6
	comp=Z,36nm,0.6s						
NANT	Nan	6.00	167	P	Pg	22 11 28.5	-4.0
NANT				S	Sg	22 12 45.0	-7.4
CMAR	Chiang Mai Arr	6.19	183	Pn	Pn	22 11 09.7	+3.6
	comp=Z,0.2nm,0.3s,baz=358,slow=13,SNR=5.6						
CMAR				Pg	Pg	22 11 31.8	-4.5
	comp=Z,0.3nm,0.3s,baz=357,slow=16,SNR=4.8						
CMAR				Lg		22 12 55.2	
	comp=Z,0.1nm,0.3s,baz=2.0,slow=25,SNR=4.1						
GYA	Guiyang	6.94	74	P	Pn	22 11 20.4	+3.8
GYA				S	Sn	22 12 36.0	-0.2
GYA				Smax			
	comp=N,10.0nm,0.9s						
GYA				Smax			
	comp=E,10.0nm,0.9s						
BDT	Bhumibol Dam	7.39	182	P	Sg	22 13 34.0	-4.8
SONM	Songino Array	23.80	12	P	P	22 14 47.3	+1.3
	comp=E,0.4nm,0.8s,mb2.9,baz=207,slow=9.7,SNR=2.8						
MKAR	Makanchi Array	25.90	333	P	P	22 15 04.6	-1.4
	comp=E,1.0nm,0.6s,mb3.5,baz=152,slow=9.9,SNR=10						

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*WAR **20** 22:15:56.8,50.06N×18.45E,ML2.5,Mining Induced*
*PRU **20** 22:15:57.7,50.06N×18.40E*
ISC 20 22:15:55.7±0.5,**50.03N**±0.03×**18.37E**±0.03,**n17,**σ**1**^{s}.**30**/33,**2C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.12	295	⇑iPG	Pg	22 16 01.2	+3.0
RAC				⇑eSG	Sg	22 16 04.2	+4.3
OKC	Ostrava-Krasne	0.24	217	ePG	Pg	22 16 03.1	+2.6
OKC				eSG	Sg	22 16 07.9	+4.1
OJC	Ojcow	0.94	78	ePG	Pg	22 16 14.0	-0.4
OJC				eSG	Sg	22 16 27.0	+0.1
LIKS	Likavka	1.09	154	ePG	Pg	22 16 20.7	+3.2
LIKS				eSG	Sg	22 16 36.2	+4.1
DPC	Dobruska-Polom	1.35	284	ePG	Pg	22 16 22.9	+0.2
DPC				eSG	Sg	22 16 41.6	+0.8
NIE	Niedzica	1.40	115	ePG	Pg	22 16 22.0	-1.7
NIE				eSG	Sg	22 16 42.0	-0.4
KSP	Ksiaz	1.56	302	ePN	Pn	22 16 25.0	+0.2
KSP				ePG	Pg	22 16 27.0	+0.2
KSP				eSN	Sn	22 16 47.0	+1.0
KSP				e(SG)	Sg	22 16 49.0	+1.5
VYHS	Vyhne	1.57	169	ePG	Pg	22 16 26.4	-0.6
VYHS				eSG	Sg	22 16 48.8	+0.9
UPC	Upice	1.59	288	ePG	Pg	22 16 27.5	+0.1
UPC				eSG	Sg	22 16 48.9	+0.4
SMOL	Smolenice	1.64	202	eSG	Sg	22 16 50.7	+0.4
SRO	Srobarova	2.22	181	eSG	Sg	22 17 09.6	0.0
PRU	Pruhonice	2.47	270	ePG	Pg	22 16 42.1	-2.9
PRU				eSG	Sg	22 17 15.5	-2.5
	10nm,0.6s						
PVCC	Panska Ves	2.49	283	ePG	Pg	22 16 44.3	-1.1
PVCC				eSG	Sg	22 17 18.7	+0.1
KHC	Kasperske Hory	3.25	256	ePN	Pn	22 16 49.4	+0.5
KHC				ePG	Pg	22 16 55.6	-4.9
KHC				eSG	Sg	22 17 40.2	-3.6
MOA	Molln	3.48	233	i	Pn	22 17 01.1	+8.9
MOA	Molln	3.48	233	i SG	Sg	22 17 49.8	-1.7
	3.6nm,0.5s						
CLL	Collm	3.65	293	ePG	Pg	22 17 07.0	-1.5
CLL				eSG	Sg	22 17 54.0	-3.1

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*IDC **20** 22:24:15.8±0.7,62.48N×25.99W,mb3.9/15,mb1 4.2/16, mb1mx4.0/25,ML4.2/1,MS3.8/7,Ms1 3.8/7,ms1mx3.5/27, Error ellipse: s-maj=23.9km s-min=14.0km az=4.0*
*ZUR_RM **20** 22:24:16,62.23N×25.65W,h12^{km},Mw5.2/11,Moment Tensor Solution. s11 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.77; $M_{\theta\theta}$2.10; $M_{\phi\phi}$5.67; $M_{r\theta}$-1.32; $M_{\theta\phi}$0.89; $M_{\phi r}$-1.06; Best double couple: $M_0$7.01×10^{16} NP1:ϕ_s20°,δ51°,λ-82°. NP2:ϕ_s188°,δ40°,λ-99°. Principal axes: T 6.016, Plg6°, Azm105°; N 1.994, Plg6°, Azm195°; P -8.01, Plg82°, Azm331°;*
*NEIC **20** 22:24:16.4±0.2,62.23N×25.65W,h10^{km},mb4.6/29, MS4.3/15 Error ellipse: s-maj=9.8km s-min=4.2km az=198.0*
ISC 20 22:24:14.4±0.2,**62.09N**±0.06×**25.76W**±0.07,**h10**^{km},**n70,**σ**1**^{s}.**11**/66,**mb4.3**/41,**MS4.1**/19,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	Borgarnes	3.33	35	Pn	Pn	22 25 01.8	-6.0
	30nm,0.3s,baz=225,slow=9.1,SNR=15						
BORG	Borgarnes	3.33	35	ePn	Pn	22 25 01.9	-5.8
BORG				eSn	Sn	22 25 48.3	+0.5
SUMG	Summit	11.58	341	ePn	P	22 26 52.8	-10
NOA	NORSAR Array B	17.49	77	LR	LR	22 34 54.8	
	comp=Z,189nm,19.0s,baz=295,slow=36						
ROSF	Rostrenen	18.68	127	eP	P	22 28 31.3	-3.1
	99nm,1.4s						
SGMF	Saint Gilles	19.01	126	eP	P	22 28 36.8	-1.7
	118nm,1.5s						
QUIF	Quistinic	19.06	128	eP	P	22 28 38.0	-1.1
	196nm,1.6s						
FLN	La Foliniere	19.41	122	eP	P	22 28 41.4	-1.8
FLN				eR			
	692nm,17.5s						
ARCES	ARCESS Array B	21.64	48	P	P	22 29 05.5	-0.9
	2.3nm,0.8s,mb3.7,baz=284,slow=10.0,SNR=5.5						
ARCES				LR	LR	22 35 46.4	
	comp=Z,255nm,21.1s,MS3.6,baz=269,slow=32						
MEZF	Maizieres J'vi	21.92	114	eP	P	22 29 09.3	-0.1
	81nm,1.5s,mb4.6						
SCHQ	Schefferville	22.34	270	LR	LR	22 37 01.8	
	comp=Z,159nm,19.1s,MS3.5,baz=67,slow=34						
LOR	Lormes	22.37	118	eP	P	22 29 14.9	+1.0
	57nm,1.3s,mb4.5						
LOR				eR			
	756nm,20.0s						
SSF	Saint Saulge	22.39	119	eP	P	22 29 13.8	-0.3
	50nm,1.3s,mb4.5						
TCF	Toulx Ste Croi	22.49	122	eP	P	22 29 14.8	-0.3
	76nm,1.5s,mb4.6						
BGF	Bois d'Agland	22.52	120	eP	P	22 29 15.7	+0.4
	65nm,1.2s,mb4.6						
AVF	Avril sur Loir	22.54	119	eP	P	22 29 14.0	-1.5
	32nm,1.3s,mb4.3						
HAU	Haudompre	22.86	113	eP	P	22 29 18.8	+0.3
	57nm,1.5s,mb4.5						
HAU				eR			
	318nm,22.5s						
SMF	Signal de Mont	22.86	119	eP	P	22 29 18.1	-0.5
	66nm,1.5s,mb4.5						
CDF	Champ du Feu	22.95	111	eP	P	22 29 18.5	-1.0
	82nm,1.7s,mb4.6						
RJF	Les Rejaudoux	23.03	124	eP	P	22 29 19.8	-0.4
	60nm,1.3s,mb4.6						
RJF				eR			
	592nm,21.3s						
LFF	La Frestale	23.03	126	eP	P	22 29 19.7	-0.6
MOX	Moxa	23.29	102	eP	P	22 29 26.0	+3.3
MOX				L		22 39 55.0	
CLL	Collm	23.48	99	P	P	22 29 28.0	+3.5
CLL				e*PP		22 29 34.0	
CAF	Calviac	23.55	124	eP	P	22 29 25.2	-0.2
	68nm,1.3s,mb4.6						
FINES	FINESS Array B	24.00	68	P	P	22 29 31.4	+1.9
	1.8nm,0.8s,mb3.5,baz=248,slow=10,SNR=3.7						
FINES				LR	LR	22 38 12.2	
	comp=Z,158nm,18.6s,MS3.5,baz=106,slow=35						
BRG	Berggiesshubel	24.21	99	eP	P	22 29 34.3	+2.6
	1.0nm,0.6s,mb3.4						
BRG				LR	LR		
	comp=Z,480nm,16.7s,MS4.1						
LPG	La Plagne	24.99	117	eP	P	22 29 40.0	+0.7
KHC	Kasperske Hory	25.26	103	eP	P	22 29 44.0	+2.2
GERES	GERESS Array B	25.52	103	P	P	22 29 47.4	+3.2
	comp=Z,0.3nm,0.7s,baz=315,slow=9.4,SNR=4.0						
ESDC	Sonseca Array	26.06	139	P	P	22 29 55.0	+5.6
	comp=Z,1.0nm,0.6s,mb3.5,baz=346,slow=9.1,SNR=5.2						
ESDC				LR	LR	22 40 26.3	
	comp=Z,169nm,18.4s,MS3.6,baz=340,slow=37						
ESLA	Sonseca Array	26.06	139	P	P	22 29 55.1	+5.7
	comp=Z,0.3nm,0.5s						
ESLA				LR	LR		
	comp=Z,1μm,20.0s						
SADO	Sadowa	34.99	266	P	P	22 31 08.3	-0.2
	comp=Z,5.0nm,0.8s,mb4.5,baz=306,slow=7.3,SNR=2.8						
YKA	Yellowknife Ar	38.20	311	P	P	22 31 33.7	-1.7
	comp=Z,2.2nm,1.1s,mb3.8,baz=47,slow=9.3,SNR=5.6						
YKA	Yellowknife Ar	38.20	311	P	P	22 31 33.7	-1.7
INK	Inuvik	40.03	327	LR	LR	22 48 42.1	
	comp=Z,221nm,19.6s,MS4.0,baz=48,slow=37						
ACSO	Alum Creek Sta	40.30	264	eP	P	22 31 54.7	+1.6
	comp=Z,23nm,1.2s,mb4.8						
BRTR	Keskin Array B	41.72	94	P	P	22 32 07.3	+2.7
	comp=Z,1.6nm,0.9s,mb3.6,baz=326,slow=4.5,SNR=6.5						
WCI	Wyandotte Cave	43.45	266	eP	P	22 32 20.3	+1.5
	comp=Z,20nm,1.3s,mb4.7						
WCI				LR	LR		
	comp=Z,342nm,19.0s,MS4.3						
NHSC	New Hope	44.81	256	eP	P	22 32 32.9	+2.9
	comp=Z,17nm,0.5s,mb5.1						
ILAR	Eielson Array	46.14	329	P	P	22 32 38.7	-1.3
	comp=Z,2.2nm,1.1s,mb4.0,baz=27,slow=6.9,SNR=13						
BVAR	Borovoye Array	47.72	54	P	P	22 32 53.0	+0.3
	comp=Z,2.9nm,1.0s,mb4.3,baz=326,slow=5.3,SNR=11						
LRAL	Lakeview Retre	48.02	262	P	P	22 32 56.2	+1.0
LRAL				LR	LR		
	comp=Z,308nm,21.0s,MS4.3						
HRY	Holter Researc	48.52	294	eP	P	22 32 58.8	-0.1
BOZ	Bozeman (W)	49.26	293	eP	P	22 33 04.7	0.0
	comp=Z,5.8nm,1.0s,mb4.6						
BOZ				LR	LR		
	comp=Z,416nm,19.0s,MS4.5						
MIAR	Mount Ida	49.85	269	eP	P	22 33 09.8	+0.4
	comp=Z,8.2nm,1.2s,mb4.6						
BW06	Boulder Array	50.63	289	eP	P	22 33 14.1	-1.1
	comp=Z,4.6nm,1.1s,mb4.3						
BW06				LR	LR		
	comp=Z,207nm,19.0s,MS4.2						
PDAR	Pinedale Array	50.63	289	P	P	22 33 14.3	-0.9
	comp=Z,2.9nm,1.0s,mb4.2,baz=45,slow=6.3,SNR=14						
WMOK	Wichita Mounta	52.15	274	eP	P	22 33 26.9	0.0
	comp=Z,10nm,1.2s,mb4.6						
WMOK				LR	LR		
	comp=Z,380nm,19.0s,MS4.5						
HWUT	Hardware Ranch	52.45	289	eP	P	22 33 28.2	-0.8
	comp=Z,6.8nm,1.1s,mb4.5						
HWUT				LR	LR		
	comp=Z,328nm,21.0s,MS4.3						
KURK	Kurchatov	52.64	51	eP	P	22 33 29.0	-1.3
	comp=Z,3.2nm,0.9s,mb4.2						
KURK				LR	LR		
	comp=Z,33nm,20.0s,MS3.4						
SDCO	Great Sand Dun	52.82	282	eP	P	22 33 32.2	+0.4
	comp=Z,4.1nm,1.2s,mb4.2						
SDCO				LR	LR		
	comp=Z,377nm,19.0s,MS4.5						
SPUT	South Promonto	53.08	290	eP	P	22 33 33.6	-0.1
PV01	Paradox Valley	53.91	285	eP	P	22 33 40.0	+0.1
PV10	Paradox Valley	53.93	285	eP	P	22 33 40.1	+0.2
DUG	Dugway	54.15	289	eP	P	22 33 41.1	-0.4
	comp=Z,7.9nm,1.5s,mb4.4						
DUG				LR	LR		
	comp=Z,203nm,19.0s,MS4.2						
HKT	Hockley	54.73	268	eP	P	22 33 46.5	+0.5
	comp=Z,9.1nm,1.1s,mb4.7						
ELK	Elko	54.77	292	eP	P	22 33 46.6	+0.5
	comp=Z,12nm,1.6s,mb4.7						
ELK				LR	LR		
	comp=Z,439nm,22.0s,MS4.5						
WVOR	Wild Horse Val	54.85	295	P	P	22 33 45.5	-1.2
WVOR				LR	LR		
	comp=Z,425nm,19.0s,MS4.5						
MSU	Marysvale	55.24	288	eP	P	22 33 49.5	0.0
JCT	Junction City	56.15	272	eP	P	22 33 56.1	-0.1
	comp=Z,14nm,1.1s,mb4.9						
LAZ	Ladron	56.32	281	eP	P	22 33 58.1	+0.7
MKAR	Makanchi Array	57.25	51	P	P	22 34 02.8	-1.1
	comp=Z,1.8nm,0.9s,mb4.1,baz=323,slow=6.1,SNR=7.4						
NVAR	Mina Array Bea	58.01	292	P	P	22 34 08.9	-0.4
	comp=Z,0.5nm,0.4s,mb3.9,baz=74,slow=6.6,SNR=2.5						
LTX	Lajitas	58.93	275	P	P	22 34 15.0	-0.9
TXAR	Lajitas Array	58.93	275	P	P	22 34 15.7	-0.2
	comp=Z,0.4nm,0.4s,mb3.9,baz=56,slow=3.3,SNR=2.5						
TUC	Tucson	59.74	282	eP	P	22 34 21.8	+0.4
	comp=Z,2.1nm,0.9s,mb4.2						
TUC				LR	LR		
	comp=Z,207nm,19.0s,MS4.3						
BDFB	Brasilia	79.44	202	P	P	22 36 25.7	+3.4
	comp=Z,1.4nm,0.4s,mb4.2,baz=156,slow=3.6,SNR=3.2						
CMAR	Chiang Mai Arr	88.66	51	P	P	22 37 09.1	+0.2
	comp=Z,0.7nm,0.4s,mb4.3,baz=322,slow=6.1,SNR=6.8						
CMAR				LR	LR	23 22 48.8	
	comp=Z,47nm,18.3s,MS3.9,baz=112,slow=40						
ASAR	Alice Springs	139.18	29	PKP	PKPdf	22 43 44.2	-0.1
	comp=Z,0.7nm,1.0s,baz=3.2,slow=2.3,SNR=3.9						
MAW	Mawson	144.16	139	PKP	PKPdf	22 43 50.5	-1.1
	comp=Z,3.8nm,0.9s,baz=250,slow=3.9,SNR=6.9						

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*IDC **20** 22:25:04.2±1.4,62.41N×26.06W,mb3.8/8,mb1 4.1/9, mb1mx3.8/24,ML4.2/1,MS3.7/1,Ms1 3.7/1,ms1mx2.9/26, Error ellipse: s-maj=50.7km s-min=22.0km az=176.0*
*NEIC **20** 22:25:06.5±0.4,62.54N×25.98W,h10^{km},mb4.5/6,Error ellipse: s-maj=10.4km s-min=6.8km az=217.0*
ISC 20 22:25:04.5±0.6,**62.56N**±0.10×**26.0W**±0.2,**h10**^{km},**n21,**σ**0**^{s}.**69**/18,**mb4.1**/14,**MS3.7**/1,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	Borgarnes	3.04	42	Pn	Pn	22 25 49.9	-3.8
	25nm,0.3s,baz=210,slow=10,SNR=5.7						
SUMG	Summit	11.08	340	ePn	P	22 27 45.6	-0.3
ARCES	ARCESS Array B	21.42	49	P	P	22 29 55.2	+0.9
	4.2nm,0.9s,mb3.8,baz=283,slow=12,SNR=2.7						
LOR	Lormes	22.72	118	eP	P	22 30 06.5	-0.7
	40nm,1.3s,mb4.4						
SSF	Saint Saulge	22.74	119	eP	P	22 30 07.9	+0.4
	35nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	22.86	122	eP	P	22 30 08.4	-0.2
	56nm,1.4s,mb4.5						
BGF	Bois d'Agland	22.88	121	eP	P	22 30 09.6	+0.7
	49nm,1.0s,mb4.6						
AVF	Avril sur Loir	22.90	120	eP	P	22 30 08.7	-0.3
SMF	Signal de Mont	23.21	119	eP	P	22 30 11.7	-0.4
	28nm,1.2s,mb4.3						
RJF	Les Rejaudoux	23.41	125	eP	P	22 30 14.0	0.0
	48nm,1.4s,mb4.4						
CLL	Collm	23.69	100	e	Px	22 30 35.0	
ELN	Prospectdale	41.63	259	P	P	22 32 54.4	+0.4
BRTR	Keskin Array B	41.89	94	P	P	22 32 56.3	+0.2
	0.5nm,0.8s,mb3.2,baz=315,slow=3.5,SNR=4.0						
ILAR	Eielson Array	45.66	329	P	P	22 33 27.1	+0.8
	0.8nm,0.8s,mb3.7,baz=36,slow=7.8,SNR=2.5						
BVAR	Borovoye Array	47.55	54	P	P	22 33 41.6	+0.2
	1.0nm,0.8s,mb3.9,baz=270,slow=4.3,SNR=2.9						
PDAR	Pinedale Array	50.35	288	P	P	22 34 02.4	-0.7
	1.2nm,0.9s,mb3.9,baz=76,slow=6.1,SNR=4.4						
ZAL	Zalesovo	51.88	45	LR	LR	23 00 40.9	
	comp=Z,74nm,19.2s,MS3.7,baz=22,slow=41						
MKAR	Makanchi Array	57.06	51	P	P	22 34 51.1	-1.4
	1.2nm,0.9s,mb3.9,baz=338,slow=6.5,SNR=3.7						
TXAR	Lajitas Array	58.76	274	P	P	22 35 04.5	-0.2
	1.4nm,1.1s,mb3.9,baz=45,slow=2.6,SNR=2.3						
CMAR	Chiang Mai Arr	88.47	51	P	P	22 37 58.8	+0.8
	0.6nm,0.5s,mb4.1,baz=325,slow=12,SNR=3.3						
MAW	Mawson	144.61	139	PKP	PKPdf	22 44 39.3	-3.2
	3.0nm,1.1s,baz=294,slow=5.6,SNR=3.8						

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*NEIC **20** 22:26:50.9±0.5,62.07N×25.54W,h10^{km},mb4.3/9,Error ellipse: s-maj=13.3km s-min=7.8km az=209.0*
*IDC **20** 22:26:51.2±0.8,62.46N×25.92W,mb3.9/13,mb1 4.1/14, mb1mx4.0/24,ML3.8/1,MS3.7/2,Ms1 3.7/2,ms1mx3.1/34, Error ellipse: s-maj=25.0km s-min=16.1km az=6.0*
ISC 20 22:26:48.7±0.5,**62.0N**±0.1×**25.7W**±0.2,**h10**^{km},**n34,**σ**0**^{s}.**91**/28,**mb4.0**/22,**MS4.1**/1,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	Borgarnes	3.41	33	Pn	Pn	22 27 37.9	-5.2
	13nm,0.3s,baz=208,slow=9.4,SNR=5.5						
BORG	Borgarnes	3.41	33	ePn	Pn	22 27 37.1	-6.0
JMIC	Jan Mayen	11.29	30	LR	LR	22 32 45.9	
	comp=Z,176nm,21.5s,baz=276,slow=32						
SUMG	Summit	11.69	341	ePn	P	22 29 32.4	-6.0
	8.2nm,0.8s						
ARCES	ARCESS Array B	21.69	48	P	P	22 31 41.5	+0.3
	3.1nm,0.8s,mb3.8,baz=288,slow=8.6,SNR=3.6						
LOR	Lormes	22.30	118	eP	P	22 31 46.1	-1.3
	17nm,1.1s,mb4.1						
SSF	Saint Saulge	22.31	119	eP	P	22 31 47.7	+0.1
	48nm,1.4s,mb4.4						
TCF	Toulx Ste Croi	22.41	122	eP	P	22 31 48.6	+0.1
BGF	Bois d'Agland	22.44	120	eP	P	22 31 49.2	+0.3
	18nm,0.7s,mb4.3						
AVF	Avril sur Loir	22.46	119	eP	P	22 31 48.1	-1.0
	30nm,1.3s,mb4.3						
SMF	Signal de Mont	22.78	119	eP	P	22 31 51.4	-0.7
	18nm,1.0s,mb4.2						
HAU	Haudompre	22.79	113	eP	P	22 31 51.8	-0.3
CLL	Collm	23.43	99	e	Px	22 32 13.0	
CLL	Collm	23.43	99	e	Px	22 32 13.0	
FINES	FINESS Array B	24.02	68	P	P	22 32 07.0	+3.1
	3.6nm,0.9s,mb3.8,baz=233,slow=9.5,SNR=4.2						
MBDF	Montbardon	25.55	117	eP	P	22 32 18.9	+0.1
ESDC	Sonseca Array	25.96	139	P	P	22 32 28.8	+6.1
	2.3nm,0.9s,mb3.7,baz=108,slow=38,SNR=4.6						
AKASG	Malin Array Be	31.48	85	P	P	22 33 14.2	+2.0
	0.9nm,0.6s,mb3.8,baz=312,slow=8.6,SNR=4.6						
YKA	Yellowknife Ar	38.30	311	P	P	22 34 09.8	-0.7
	0.7nm,0.7s,mb3.5,baz=48,slow=9.4,SNR=3.8						
BRTR	Keskin Array B	41.68	94	P	P	22 34 43.5	+4.9
	1.5nm,0.8s,mb3.7,baz=301,slow=4.7,SNR=7.4						
ILAR	Eielson Array	46.25	329	P	P	22 35 13.8	-1.3
	4.4nm,1.2s,mb4.2,baz=25,slow=6.2,SNR=7.1						
COLA	College	46.39	330	P	P	22 35 15.0	-1.3
	8.2nm,0.9s,mb4.7						
BVAR	Borovoye Array	47.76	54	P	P	22 35 27.4	+0.2
	2.2nm,0.8s,mb4.2,baz=338,slow=8.0,SNR=9.3						
BOZ	Bozeman (W)	49.33	293	eP	P	22 35 40.0	+0.6
	1.6nm,0.8s,mb4.1						
PDAR	Pinedale Array	50.69	289	P	P	22 35 50.1	+0.2
	1.7nm,0.8s,mb4.1,baz=50,slow=8.1,SNR=9.6						
WMOK	Wichita Mounta	52.18	274	eP	P	22 36 02.0	+0.7
	2.9nm,0.9s,mb4.2						
KURK	Kurchatov	52.69	51	eP	P	22 36 04.3	-0.6
	3.6nm,0.9s,mb4.3						
MKAR	Makanchi Array	57.30	51	P	P	22 36 38.1	-0.4
	1.3nm,0.8s,mb4.0,baz=323,slow=6.1,SNR=7.4						
TXAR	Lajitas Array	58.97	275	P	P	22 36 51.3	+0.9
	0.3nm,0.7s,mb3.5,baz=63,slow=6.0,SNR=3.8						
ROSC	El Rosal	67.35	234	LR	LR	23 02 07.8	
	comp=Z,100nm,18.9s,MS4.1,baz=50,slow=31						
BDFB	Brasilia	79.35	202	P	P	22 39 01.5	+5.5
	2.2nm,0.9s,mb4.1,baz=14,slow=4.2,SNR=3.2						
CMAR	Chiang Mai Arr	88.71	51	P	P	22 39 44.8	+1.5
	0.4nm,0.4s,mb4.1,baz=325,slow=4.9,SNR=4.2						
ASAR	Alice Springs	139.26	29	PKP	PKPdf	22 46 19.0	+0.2
	0.3nm,0.9s,baz=307,slow=1.8,SNR=4.3						
MAW	Mawson	144.06	139	PKP	PKPdf	22 46 26.0	+0.3
	2.5nm,0.7s,baz=291,slow=9.8,SNR=7.5						

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*JMA **20** 22:28:33.6±0.2,34.97N×141.45E,h46^{km}±3^{km},M3.1*
*IDC **20** 22:28:34.6±1.5,34.82N×138.36E,mb3.9/3,mb1 4.2/3, mb1mx3.7/21,ML3.1/1,MS3.1/1,Ms1 3.1/1,ms1mx2.1/32, Error ellipse: s-maj=45.5km s-min=24.6km az=90.0*
*NEIC **20** 22:28:49.1±1.1,35.34N×136.42E,h152^{km}±13^{km},mb4.2/1, Error ellipse: s-maj=26.1km s-min=19.0km az=117.0*
ISC 20 22:28:34.5±1.3,**34.97N**±0.04×**141.4E**±0.1,**h38**^{km}±13^{km},**n16,**σ**0**^{s}.**76**/21,**mb4.2**/2,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.49	230	P	P	22 28 44.8	-0.3
BSO1				S	S	22 28 52.0	-0.5
BSO2	Boso 2	0.60	249	S	S	22 28 55.6	+0.3
BSO3	Boso 3	0.78	258	P	P	22 28 48.5	-0.5
BSO3				S	S	22 28 59.7	0.0
CHOJ	Chosi	0.87	327	P	P	22 28 49.4	-0.9
CHOJ				S	S	22 29 01.0	-0.9
BSO4	Boso 4	0.90	271	P	P	22 28 50.6	-0.2
BSO4				S	S	22 29 03.3	+0.5
KTR	Katsuura	0.93	281	S	S	22 29 04.4	+0.8
JYT	Yasato	1.61	321	P	P	22 29 01.4	+0.5
JHJ	Hachijo jima 2	2.30	217	Pn	P	22 29 11.7	+0.8
	15nm,0.3s,baz=99,slow=23,SNR=18						
JHJ				Sn	S	22 29 37.2	-0.9
	30nm,0.3s,baz=287,slow=22,SNR=5.2						
MAJO	Matsushiro	3.06	302	ePn	P	22 29 23.2	+1.6
MAT	Matsushiro	3.06	302	P	P	22 29 22.6	+1.0
MAT				S	S	22 29 55.8	-1.5
MAT	Matsushiro	3.06	302	eP	P	22 29 23.0	+1.4
MAT				eS	S	22 29 56.0	-1.3
JOW	Kunigami	13.90	238	LR	LR	22 34 58.8	
	comp=Z,83nm,19.2s,baz=77,slow=33						
ILAR	Eielson Array	51.23	31	P	sP	22 37 50.3	-1.3
	0.3nm,0.5s,baz=270,slow=4.5,SNR=2.8						

WB2	Warramunga Arr	55.02	188	eP	P	22 38 04.6	-0.2
WRA	Warramunga Arr	55.03	188	P	P	22 38 04.7	-0.1
	2.7nm,0.5s,mb4.6,baz=4.4,slow=7.3,SNR=37						
ASAR	Alice Springs	58.75	188	P	P	22 38 31.4	+0.2
	0.6nm,0.5s,mb3.9,baz=1.6,slow=6.9,SNR=11						

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*NNC **20** 22:43:19.9±11.0, 37.15N×69.63E, mpv3.9, Error ellipse: s-maj=195.7km s-min=78.6km az=111.0*

ISC 20 22:43:14.1±2.7**, 36.7N**±0.2×**70.2E**±0.2**, h33^{km}, n10, σ0$\overset{s}{.}$80**/11**, 1C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	6.04	26	P	P	22 44 44.3	+0.9
	SNR=60						
KK31	Karatay Array	6.38	2	⇓P	P	22 44 50.0	+2.0
	3.7nm,0.3s,baz=175,slow=11,SNR=232						
KK31				⇓S	S	22 46 00.3	-0.4
	1.0nm,0.3s,baz=194,slow=22,SNR=5.7						
UCH	Uchtor	6.43	30	P	P	22 44 49.2	+0.3
	SNR=34						
EKS2	Erkin-Say	6.54	24	P	P	22 44 50.9	+0.5
	SNR=12						
AAK	Ala-Archa	6.77	28	P	P	22 44 53.6	0.0
	SNR=5.3						
KBK	Karagaybulak	6.96	30	P	P	22 44 56.2	-0.2
	SNR=5.7						
CHMS	Chumysh	7.18	28	P	P	22 44 58.9	-0.4
	SNR=7.0						
USP	Ospenovka	7.32	25	P	P	22 45 00.4	-0.9
	SNR=5.4						
TKM2	Tokmak 2	7.45	32	P	P	22 45 02.3	-0.9
	SNR=20						
AB31	Akbulak array	14.58	332	⇑P	P	22 46 39.0	-0.7
	0.3nm,0.4s,baz=151,slow=13,SNR=10						

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*JMA **20** 22:51:45.1±0.3, 25.18N×122.24E, h13^{km}, M1.9*

TAP 20 22:51:49.3, 24.39N×121.94E, h22^{km}, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.98	86	P	Pb	22 52 03.8	-3.6
YOJ				S	Sb	22 52 16.8	-3.1
IRIF	Iriomote-Funau	1.63	92	P	Pn	22 52 13.4	-3.8
IRIF				eS	Sn	22 52 34.2	-3.5
JKRS	Kuro-shima	1.89	94	P	Pn	22 52 17.3	-3.6
JKRS				S	Sn	22 52 40.6	-3.7
JIJ	Ishigaki jima	2.01	90	P	Pn	22 52 17.4	-5.2
JIJ				eS	Sn	22 52 41.6	-5.7

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*JMA **20** 22:53:32.9±0.4, 22.72N×120.52E, h85^{km}, M3.1*

TAP 20 22:53:36.1, 22.94N×120.55E, h14^{km}, ML3.6, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	2.72	56	P	Pn	22 54 17.3	-2.8
YOJ				eS	Sn	22 54 51.3	-1.7
HATJ	Hateruma jima	3.19	69	P	Pn	22 54 23.2	-3.6
HATJ				S	Sn	22 55 01.2	-3.7
IRIF	Iriomote-Funau	3.23	64	P	Pn	22 54 24.4	-3.0
IRIF				S	Sn	22 55 03.8	-2.2
JKRS	Kuro-shima	3.43	67	P	Pn	22 54 27.0	-3.2
JKRS				S	Sn	22 55 08.6	-2.3
JIJ	Ishigaki jima	3.59	66	P	Pn	22 54 28.6	-3.9
JIJ				eS	Sn	22 55 10.7	-4.3
JTJ	Tarama	4.16	65	eS	Sn	22 55 25.7	-3.9

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*IDC **20** 22:56:18.4±2.0, 34.82N×141.50E, mb3.5/3, mb1 3.6/4, mb1mx3.5/22, ML3.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=47.2km s-min=29.1km az=81.0*

*JMA **20** 22:56:19.9±0.3, 35.02N×141.43E, h40^{km}±4^{km}, M2.6*

ISC 20 22:56:19.9±1.5**, 34.98N**±0.06×**141.45E**±0.09**, h32^{km}**±7^{km}**, n13, σ0$\overset{s}{.}$86**/17**, mb3.5**/3**, MS3.7**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.51	230	P	Pb	22 56 31.0	+0.4
BSO1				eS	Sb	22 56 37.0	-0.9
BSO2	Boso 2	0.61	248	S	Sb	22 56 41.9	+1.1
BSO3	Boso 3	0.79	257	P	Pn	22 56 34.8	-0.1
CHOJ	Chosi	0.87	326	P	Pn	22 56 35.1	-0.9
BSO4	Boso 4	0.91	271	P	Pn	22 56 36.5	-0.1
BSO4				S	Sn	22 56 48.5	-0.2
JIM2	Oshima 3	1.68	262	P	Pn	22 56 46.5	-1.1
JOD2	Odawara 2	1.96	279	P	Pn	22 56 50.7	-0.8
JOD2				S	Sn	22 57 14.2	-1.0
JHJ	Hachijo jima 2	2.31	217	Pn	Pn	22 56 56.7	0.0
	9.8nm,0.3s,baz=60,slow=15,SNR=5.6						
JHJ				LR	LR	22 57 24.4	
	comp=Z,631nm,20.6s,baz=136,slow=30						
JHJ				Sn	Sn	22 57 25.1	+0.8
	15nm,0.3s,baz=287,slow=22,SNR=4.8						
MAT	Matsushiro	3.06	302	P	Pn	22 57 08.1	+0.8
MAT				S	Sn	22 57 44.1	+0.8
MKAR	Makanchi Array	45.26	304	P	P	23 04 38.5	+2.5
	0.4nm,0.8s,mb3.3,baz=98,slow=10,SNR=2.7						
WRA	Warramunga Arr	55.03	188	P	P	23 05 50.4	-0.5
	0.4nm,0.4s,mb3.8,baz=4.6,slow=7.4,SNR=18						
ASAR	Alice Springs	58.76	188	P	P	23 06 17.2	-0.1
	0.4nm,0.9s,mb3.5,baz=359,slow=6.6,SNR=3.0						
FINES	FINESS Array B	70.64	333	LR	LR	23 38 12.2	
	comp=Z,38nm,19.4s,MS3.7,baz=270,slow=36						

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*JMA **20** 22:58:57.7±0.4, 24.92N×122.00E, h42^{km}, M2.2*

TAP 20 22:58:59.2, 24.41N×121.93E, h24^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.99	87	P	Pb	22 59 15.8	-1.7
YOJ				S	Sb	22 59 29.4	-0.7
IRIF	Iriomote-Funau	1.64	92	P	Pn	22 59 25.2	-1.8
IRIF				S	Sn	22 59 45.0	-2.6
JKRS	Kuro-shima	1.91	95	P	Pn	22 59 29.8	-1.0
JKRS				S	Sn	22 59 51.9	-2.3
JIJ	Ishigaki jima	2.02	91	P	Pn	22 59 30.7	-1.7
JIJ				S	Sn	22 59 53.7	-3.4

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*GUC **20** 23:06:57.9±0.8, 33.13S×70.12W, h105^{km}±3^{km}, MD3.5, ML3.6*

*NEIC **20** 23:06:57.9, 33.13S×70.12W, h105^{km}, MD3.5(GUC), After GUC.*

ISC 20 23:06:58.0±0.8**, 33.14S**±0.03×**70.23W**±0.09**, h111^{km}**±6^{km}**, n23, σ0$\overset{s}{.}$33**/42**, 5C-11D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	Farellones	0.20	195	⇑iP	P	23 07 13.4	-0.3
FCH				⇑iP		23 07 13.4	
FCH				i S	S	23 07 25.2	-0.3
FCH				AMP		23 07 26.5	
	comp=N,2μm,0.4s						
FCH	Farellones	0.20	195	P	P	23 07 13.4	-0.2
PEL	Peldehue	0.38	269	⇓iP	P	23 07 14.3	-0.1
PEL				i S	S	23 07 27.0	+0.2
DSCH	Colegio Aleman	0.39	228	⇓iP	P	23 07 14.4	-0.1
DSCH				i S	S	23 07 26.6	-0.2
DSCH				AMP		23 07 27.2	
	comp=N,7μm,0.4s						
FSR	Penalolen	0.42	216	⇓iP	P	23 07 14.6	0.0
FSR				i S	S	23 07 27.1	-0.1
FSR				AMP		23 07 28.3	
	comp=N,3μm,0.3s						
STL	Santa Lucia	0.46	229	⇓iP	P	23 07 14.7	-0.1
STL				i S	S	23 07 27.2	-0.3
STL				AMP		23 07 27.7	
	comp=N,2μm,0.4s						
SAN	Santiago	0.48	229	⇓iP	P	23 07 14.8	-0.2
SAN				i S	S	23 07 27.6	-0.2
PCH	Pirque	0.54	206	eP	P	23 07 15.1	-0.3
PCH				i S	S	23 07 28.6	+0.1
ANTU	Antumapu	0.55	218	⇓iP	P	23 07 15.4	-0.1
ANTU				i S	S	23 07 28.6	-0.1
ANTU				AMP		23 07 28.8	
	comp=N,2μm,0.5s						
JACH	Jahuel	0.55	326	⇓iP	P	23 07 15.4	-0.1
JACH				i S	S	23 07 29.0	+0.3
RCDM	Rinconada Maip	0.60	234	⇓iP	P	23 07 15.9	+0.1
RCDM				i S	S	23 07 29.5	+0.2
RCDM				AMP		23 07 30.1	
	comp=E,6μm,0.2s						
LMEL	Las Melosas	0.71	178	⇓iP	P	23 07 16.2	-0.5
LMEL				eS	S	23 07 30.8	0.0
LMEL				AMP		23 07 33.8	
	comp=N,1μm,0.3s						
TACH	Talagante	0.78	229	⇓iP	P	23 07 17.3	-0.1
TACH				i S	S	23 07 32.4	+0.4
CHCH	Chadas Angostu	0.87	204	e	P	23 07 18.1	-0.1
CHCH				eP		23 07 18.1	
CHCH				i S	S	23 07 33.3	-0.1
CACH	El Canelo	1.02	197	⇑iP	P	23 07 20.5	+0.6
CACH				i S	S	23 07 37.5	+1.2
LCCH	Las Cruces	1.17	253	⇓iP	P	23 07 21.6	+0.1
MDZ	Mendoza	1.19	78	eP	P	23 07 21.7	0.0
CICH	Cipreses	1.19	188	⇑iP	P	23 07 21.7	0.0
LNV	Longovilo	1.28	230	eP	P	23 07 22.3	-0.4
LNV				i S	S	23 07 40.5	-0.8
SFDO	San Fernando	1.61	204	⇑iP	P	23 07 26.6	-0.1
SFDO				i S	S	23 07 48.6	+0.4
ILCH	Illapel	1.70	332	eP	P	23 07 28.2	+0.5
ILCH				i S	S	23 07 49.9	-0.1
ILCH				AMP		23 07 51.4	
	comp=E,1μm,0.2s						
CMCH	Combarbala	2.07	341	eP	P	23 07 32.4	+0.1
CMCH				i S	S	23 07 58.3	+0.2
CMCH				AMP		23 08 00.3	
	comp=N,1μm,0.5s						
TLL	Tololo Astrono	3.00	350	eP	P	23 07 45.2	+0.2
TLL				eS	S	23 08 20.3	-0.2

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*NIED **20** 23:16:00, 35.10N×141.50E, h29^{km}, Mw3.9 Best double couple: M$_0$8.74×10^{14} NP1:ϕ_s159°, δ78°, λ-73°. NP2: ϕ_s282°, δ21°, λ-145°.*

*JMA **20** 23:16:41.4±0.3, 35.08N×141.48E, h34^{km}±4^{km}, M3.5*

*IDC **20** 23:16:45.2±4.3, 35.01N×141.34E, h38^{km}±38^{km}, mb3.7/9, mb1 4.0/12, mb1mx3.8/23, ML3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx2.6/28, Error ellipse: s-maj=27.0km s-min=19.2km az=88.0*

*NEIC **20** 23:16:45.8±0.5, 35.04N×141.17E, h40^{km}, mb4.3/1, MW3.9(NIED), Error ellipse: s-maj=13.9km s-min=9.7km az=49.0*

ISC 20 23:16:42.6±0.5**, 35.07N**±0.04×**141.42E**±0.05**, h34^{km}, n30, σ1$\overset{s}{.}$16**/39**, mb4.0**/11**, MS4.4**/1**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.55	221	P	P	23 16 53.2	-0.6
BSO1				S	S	23 17 04.8	+2.9
BSO2	Boso 2	0.63	240	eS	S	23 17 04.3	+0.3
CHOJ	Chosi	0.78	324	P	P	23 16 56.0	-1.2
CHOJ				S	S	23 17 07.7	-0.2
BSO3	Boso 3	0.79	251	P	P	23 16 56.7	-0.6
BSO3				eS	S	23 17 08.9	+0.8
BSO4	Boso 4	0.89	265	P	P	23 16 58.4	-0.3
BSO4				S	S	23 17 13.1	+2.5
KTR	Katsuura	0.91	275	P	P	23 16 58.5	-0.4
KTR				eS	S	23 17 11.4	+0.4
JCN	Nagara	1.06	290	P	P	23 17 02.7	+1.6
JYT	Yasato	1.53	320	P	P	23 17 07.9	0.0
JYT				eS	S	23 17 26.9	+0.1
JIM2	Oshima 3	1.67	259	P	P	23 17 08.2	-1.7
JOD2	Odawara 2	1.92	277	P	P	23 17 12.3	-1.2
JOD2				S	S	23 17 34.6	-2.0
JHJ	Hachijo jima 2	2.37	215	Pn	P	23 17 20.2	+0.3
	42nm,0.3s,baz=78,slow=19,SNR=11						
JHJ				Sn	S	23 17 48.5	+0.5
	131nm,0.3s,baz=249,slow=23,SNR=15						
MAJO	Matsushiro	3.00	300	ePn	P	23 17 30.3	+1.4
MAT	Matsushiro	3.00	300	P	P	23 17 28.9	0.0
MAT				S	S	23 18 01.8	-2.2
MAT	Matsushiro	3.00	300	eP	P	23 17 29.0	+0.1
MAT				eS	S	23 18 02.0	-2.0
CBIJ	Chichi jima	7.97	175	Pn	P	23 18 37.5	-1.5
	6.9nm,0.3s,baz=269,slow=19,SNR=3.2						
CBIJ				Sn	S	23 19 59.4	-10
	3.9nm,0.3s,baz=276,slow=20,SNR=2.4						
JNU	Nakatsue	8.96	260	LR	LR	23 22 11.4	
	comp=Z,71nm,19.3s,baz=270,slow=37						
ASAJ	Asahikawa	9.08	5	Pn	P	23 18 47.3	-7.0
	1.7nm,0.3s,baz=214,slow=20,SNR=5.5						
ASAJ				Sn	S	23 20 29.5	-7.0
	0.4nm,0.3s,baz=92,slow=31,SNR=2.5						
SONM	Songino Array	28.93	307	pP	pP	23 22 48.8	-1.5
	0.6nm,0.5s,baz=104,slow=7.7,SNR=2.5						
ZAL	Zalesovo	43.27	314	P	P	23 24 42.5	+0.1
	0.7nm,0.7s,mb3.5,baz=319,slow=9.2,SNR=3.4						
MKAR	Makanchi Array	45.19	304	P	P	23 24 58.1	+0.3
	0.7nm,0.6s,mb3.6,baz=84,slow=9.3,SNR=5.6						
KURK	Kurchatov	47.17	310	eP	P	23 25 13.6	+0.1
	3.5nm,0.9s,mb4.3						
ILAR	Eielson Array	51.16	31	P	P	23 25 44.1	+0.1
	0.8nm,0.7s,mb3.8,baz=272,slow=7.1,SNR=6.3						
WRAB	Tennant Creek	55.11	188	eP	P	23 26 12.2	-1.7
	7.3nm,0.7s,mb4.8						
WRA	Warramunga Arr	55.12	188	P	P	23 26 12.5	-1.5
	5.4nm,0.8s,mb4.7,baz=5.9,slow=7.5,SNR=39						
ASAR	Alice Springs	58.84	188	P	P	23 26 40.0	-0.4
	0.7nm,0.7s,mb3.8,baz=16,slow=12,SNR=9.0						
FINES	FINESS Array B	70.56	333	P	P	23 27 55.8	+0.2
	1.2nm,0.8s,mb3.9,baz=80,slow=12,SNR=2.9						
NOA	NORSAR Array B	76.00	337	P	P	23 28 29.0	+1.5
	1.2nm,0.9s,mb3.8,baz=63,slow=7.3,SNR=3.7						
NVAR	Mina Array Bea	76.17	53	P	P	23 28 30.9	+1.9
	1.6nm,0.8s,mb4.0,baz=287,slow=3.4,SNR=4.7						
PDAR	Pinedale Array	79.05	45	P	P	23 28 46.5	+1.7
	0.5nm,0.6s,mb3.6,baz=266,slow=1.8,SNR=6.0						
URZ	Urewera	80.11	152	LR	LR	00 01 27.4	
	comp=Z,162nm,19.3s,MS4.4,baz=237,slow=34						

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*NEIC **20** 23:35:16.3±0.7, 49.93N×8.42E, h7^{km}±5^{km}, ML3.2(LDG), ML2.9(VIE), ML2.9(FUR), ML2.8(LEDBW), ML2.8(SZGRF), ML2.7(STR), ML2.7(CLL), Error ellipse: s-maj=5.7km s-min=4.1km az=171.0*

*LEDBW **20** 23:35:17.6±0.5, 49.84N×8.49E, h10^{km}, ML2.8, Error ellipse: s-maj=14.0km s-min=6.0km az=24.0*

*LDG **20** 23:35:17.8±0.1, 49.85N×8.40E, h2^{km}, Md3.1/2, Ml3.2/34, Error ellipse: s-maj=2.8km s-min=2.2km az=169.0*

*BNS **20** 23:35:18.7±1.1, 49.87N×8.51E, h10^{km}, ML2.5*

*STR **20** 23:35:24.1±0.1, 49.70N×8.00E, h10^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

BGR 20 23:35:16.1±0.2**, 49.90N×8.45E, h10^{km}, ML2.7**/8**, 10C-9D, Error ellipse: s-maj=2.2km s-min=2.2km az=154.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOD	Tromm	0.37	142	⇑ePg	Pg	23 35 23.6	-0.1
TOD				i Sg	Sg	23 35 28.0	-0.8
SWS	Schriesheim	0.44	159	⇑ePg	Pg	23 35 24.8	-0.3
SWS				i Sg	Sg	23 35 30.4	-0.8
ABH	Alteburg	0.59	269	ePg	Pg	23 35 29.1	+1.1
KTD	Kalmit	0.62	203	⇓ePg	Pg	23 35 28.9	+0.2
KOE	Koppel	0.70	319	⇑iPg	Pg	23 35 32.4	+2.1
KOE				i Sg	Sg	23 35 42.4	+2.6
	321nm,0.4s						
BGG	Burgeitz	0.78	294	⇓ePg	Pg	23 35 33.4	+1.6
BGG				eSg	Sg	23 35 44.0	+1.6
	214nm,0.2s						
RUP	Ruppelstein	0.92	258	⇓ePg	Pg	23 35 35.2	+0.6
SIND	Sindeldorf	0.93	126	⇑eP	Pb	23 35 34.2	+0.4
SIND				eP		23 35 35.1	
SIND				i S	Sb	23 35 47.4	+1.4
LANF	Langenberg	1.01	205	ePn	Pn	23 35 35.6	-0.7
LANF	Langenberg	1.01	205	Pg	Pg	23 35 38.2	+1.9
LANF				Sg	Sg	23 35 48.5	-1.4
STU	Stuttgart	1.23	156	ePg	Pg	23 35 39.7	-0.9
	SNR=6.9						
STU				eSg	Sg	23 35 54.5	-2.5
	SNR=9.6						
STU	Stuttgart	1.23	156	ePg	Pg	23 35 40.0	-0.6
STU				eSg	Sg	23 35 54.9	-2.1
LBG	Lerchenberg	1.25	170	⇓ePn	Pn	23 35 39.1	-0.6
LBG				eSn	Sn	23 35 54.5	-2.1
LBG				Sg	Sg	23 35 56.7	-1.2
STB	Steinbach	1.25	305	ePg	Pg	23 35 41.6	+0.4
STB				i Sg	Sg	23 35 58.9	+1.0
	63nm,0.6s						
HROE	Hohe Rhon--Fla	1.27	59	ePn	Pn	23 35 40.8	+0.9
BNS	Bensberg	1.35	323	ePg	Pg	23 35 42.8	-0.2
BNS				eSg	Sg	23 36 01.6	+0.6
	123nm,0.5s						
STR	Strasbourg	1.39	199	Pg	Pg	23 35 45.4	+1.5
STR				Sg	Sg	23 36 01.5	-0.9
TUBL	Tuebingen Lnz	1.44	163	Pg	Pg	23 35 44.4	-0.4
TUBL				eSg	Sg	23 36 02.3	-1.7
WLF	Walferdange	1.51	262	ePg	Pg	23 35 44.6	-1.7
	SNR=7.4						
WLF				eSg	Sg	23 36 03.8	-2.7
	SNR=8.2						
WLF	Walferdange	1.51	262	ePn	Pn	23 35 44.1	+0.7
WLF				eSn	Sn	23 36 04.0	+0.8
BUCH	Bad Urach	1.56	157	ePg	Pg	23 35 45.7	-1.6
BUCH				eSg	Sg	23 36 06.2	-2.0
KLL	Kalltalsperre	1.57	299	ePg	Pg	23 35 45.5	-2.0
KLL				eSg	Sg	23 36 06.6	-1.7
	30nm,0.3s						
BFO	Black Forest	1.57	183	ePg	Pg	23 35 45.1	-2.4
	SNR=21						
BFO				eSg	Sg	23 36 06.3	-2.2
	SNR=4.4						
BFO	Black Forest	1.57	183	ePn	Pn	23 35 43.1	-1.1
BFO				eSg	Sg	23 36 06.0	-2.4
WLS	Welschbruch	1.65	206	Pn	Pn	23 35 44.5	-0.8
WLS				Sg	Sg	23 36 08.4	-2.7
WLS	Welschbruch	1.65	206	S	Sn	23 36 08.4	+1.6
WLS	Welschbruch	1.65	206	Pn	Pn	23 35 47.8	+2.4
WLS				Sg	Sg	23 36 08.8	-2.3
CDF	Champ du Feu	1.67	208	ePn	Pn	23 35 44.5	-1.2
CDF				ePg	Pg	23 35 48.6	-1.0
CDF				eSg	Sg	23 36 08.4	-3.5
	46nm,0.2s						
BUG	Bochum--Univer	1.72	334	ePn	Pn	23 35 46.0	-0.4
	SNR=0.7						
BUG				ePg	Pg	23 35 48.1	-2.4
	SNR=3.6						
BUG	Bochum--Univer	1.72	334	ePg	Pg	23 35 48.0	-2.5
HDH	Heidenheim	1.75	138	i Sg	Sg	23 36 10.9	-3.4
GRA1	Grafenberg Arr	1.81	95	ePn	Pn	23 35 49.8	+2.2
GRA1				eSg	Sg	23 36 13.4	-2.9
GRF	Grafenberg Arr	1.81	95	ePg	Pg	23 35 49.9	-2.3
	SNR=29						
GRF				eSg	Sg	23 36 13.1	-3.2
	SNR=6.6						
SPAK	Spaichingen	1.81	173	Pn	Pn	23 35 52.4	+4.7
HGN	Heimansgroeve	1.83	299	ePn	Pn	23 35 49.5	+1.5
	3.1nm,0.1s						
HGN				eSn	Sn	23 36 13.7	+2.3
LIBD	Limburg	1.83	198	Sg	Sg	23 36 16.0	-1.2
LIBD	Limburg	1.83	198	Pn	Pn	23 35 50.8	+2.8
LIBD				Sg	Sg	23 36 15.7	-1.6
GUT	Gutenstein	1.88	166	ePn	Pn	23 35 47.7	-1.0
GUT				Sg	Sg	23 36 16.3	-2.4
ECH	Echery	1.89	207	Pn	Pn	23 35 51.0	+2.3
ECH				Sg	Sg	23 36 16.1	-2.8
KIZ	Kirchzarten	1.97	191	Pn	Pn	23 35 49.2	-0.8
KIZ				Pg	Pg	23 35 54.4	-1.2
KIZ				Sn	Sn	23 36 12.4	-2.6
KIZ				eSg	Sg	23 36 19.0	-2.8
KIZ	Kirchzarten	1.97	191	PG	Pg	23 35 54.4	-1.1
KIZ				eSG	Sg	23 36 19.0	-2.9
MOX	Moxa	2.16	69	ePn	Pn	23 35 52.7	0.0
	SNR=2.5						
MOX				ePg	Pg	23 35 56.4	-3.0
	SNR=17						
MOX				eSg	Sg	23 36 24.8	-3.3
	SNR=3.1						
MOX	Moxa	2.16	69	ePg	Pg	23 35 57.2	-2.1
MOX				eSg	Sg	23 36 24.6	-3.6
MOF	Molkenrain	2.22	204	ePg	Pg	23 35 59.1	-1.4
MOF				Sg	Sg	23 36 27.3	-2.9
MOF	Molkenrain	2.22	204	Pn	Pn	23 35 55.8	+2.2
MOF				Sg	Sg	23 36 27.4	-2.8
SISB	Singen-Sch Ber	2.24	171	⇑ePn	Pn	23 35 53.0	-0.8
SISB				eSn	Sn	23 36 18.9	-2.8
SISB				i Sg	Sg	23 36 28.2	-2.5
MZEK	Zeckenberg-Ebn	2.26	87	⇓iPn	Pn	23 35 54.7	+0.6
CLZ	Clausthal	2.30	31	ePn	Pn	23 35 55.1	+0.4
	SNR=12						
CLZ				e(Sn)	Sn	23 36 23.0	-0.2
	SNR=3.7						
CLZ	Clausthal	2.30	31	ePn	Pn	23 35 55.4	+0.8
CLZ				eSn	Sn	23 36 24.2	+1.0
WTSB	Winterswijk	2.32	334	ePn	Pn	23 35 57.3	+2.3
	4.3nm,0.2s						
WTSB				eSn	Sn	23 36 32.4	+8.5
RFYF	Reffroy	2.33	238	ePn	Pn	23 35 55.3	+0.2
	baz=53						
RFYF				ePg	Pg	23 36 00.6	-2.0
RFYF				eSg	Sg	23 36 29.3	-4.4
	38nm,0.2s,baz=62						
THEF	They Montfort	2.33	225	ePn	Pn	23 35 54.1	-1.0
THEF				eSg	Sg	23 36 28.9	-4.8
THEF	They Montfort	2.33	225	Pn	Pn	23 35 56.2	+1.1
THEF				Sg	Sg	23 36 29.3	-4.4
HINF	Hinteralfeld	2.33	208	ePn	Pn	23 35 53.5	-1.7
HINF				ePg	Pg	23 35 59.0	-3.7
HINF				eSg	Sg	23 36 28.9	-5.0
	39nm,0.3s						
HAU	Haudompre	2.35	217	ePn	Pn	23 35 53.4	-2.0
HAU				ePg	Pg	23 36 01.6	-1.4
HAU				eSg	Sg	23 36 28.8	-5.5
	47nm,0.3s						
GIVF	Givet	2.35	276	ePn	Pn	23 35 56.5	+1.1
GIVF				eSn	Sn	23 36 23.9	-0.7
GIVF				eSg	Sg	23 36 30.1	-4.4
	34nm,0.3s						
MANZ	Manzenberg	2.36	86	⇓iPn	Pn	23 35 56.1	+0.5
MHAI	Haid-Arzberg	2.41	86	ePn	Pn	23 35 56.5	+0.3
ROTZ	Rotzenmuhle	2.43	92	⇓iPn	Pn	23 35 58.1	+1.5
UBR	Uberruh	2.47	153	Pn	Pn	23 35 57.3	+0.2
UBR				Sg	Sg	23 36 35.8	-2.7
WERD	Werda	2.54	76	ePn	Pn	23 35 57.6	-0.5
	SNR=2.9						
WERD				ePg	Pg	23 36 03.4	-3.4
	SNR=11						
WERD				eSn	Sn	23 36 27.3	-2.0
	SNR=3.1						
WERD				eSg	Sg	23 36 36.3	-4.4
	SNR=2.7						
GUNZ	Gunzen	2.54	78	ePn	Pn	23 35 57.8	-0.3
	SNR=2.0						
GUNZ				ePg	Pg	23 36 04.0	-2.8
	SNR=10						
GUNZ				eSg	Sg	23 36 36.1	-4.6
	SNR=2.1						
FUR	Furstenfeldbru	2.54	132	ePg	Pg	23 36 04.6	-2.3
	SNR=3.2						
FUR				eSg	Sg	23 36 36.5	-4.2
	SNR=5.4						
NKC	Novy Kostel	2.60	81	ePG	Pg	23 36 05.3	-2.7
NKC				eSG	Sg	23 36 38.7	-3.9
TANN	Tannenbergstha	2.63	77	ePn	Pn	23 35 58.4	-1.0
	SNR=2.7						
TANN				ePg	Pg	23 36 05.7	-2.9
	SNR=9.0						
TANN				eSg	Sg	23 36 39.6	-4.1
	SNR=3.6						
MEZF	Maizieres J’vi	2.63	239	ePn	Pn	23 35 59.0	-0.4
	baz=54						
MEZF				ePg	Pg	23 36 06.7	-2.0
MEZF				eSg	Sg	23 36 37.3	-6.5
	16nm,0.3s						
BAIF	Baives	2.75	275	ePn	Pn	23 36 02.1	+1.0
BAIF				eSn	Sn	23 36 33.6	-1.0
BAIF				eSg	Sg	23 36 43.3	-4.3
	13nm,0.2s						
LOMF	Lomont	2.77	204	Pn	Pn	23 36 03.1	+1.8
LOMF				Sg	Sg	23 36 44.6	-3.7
DAVA	Damuels	2.78	160	⇑iPN	Pn	23 36 02.0	+0.5
DAVA				i SG	Sg	23 36 45.9	-2.7
	17nm,0.6s						
SFTF	Sexfontaines	2.81	234	ePn	Pn	23 36 00.8	-1.2
	baz=50						
SFTF				ePg	Pg	23 36 10.1	-2.2
SFTF				eSn	Sn	23 36 33.7	-2.6
SFTF				eSg	Sg	23 36 42.2	-7.6
	12nm,0.2s						
WET	Wettzell	2.98	103	e(Pn)	Pn	23 36 05.4	+1.0
	SNR=5.6						
WET	Wettzell	2.98	103	ePn	Pn	23 36 05.4	+1.0

MOTA	Moosalm	3.10	144	⇓iPN	Pn	23 36 06.5	+0.4
MOTA				i SN	Sn	23 36 42.8	-0.8
CLL	Collm	3.22	62	i Pg	Pg	23 36 17.1	-3.4
CLL				eSn	Sn	23 36 43.6	-3.1
	SNR=4.3						
CLL				eSg	Sg	23 36 58.3	-5.2
	SNR=3.2						
CLL	Collm	3.22	62	i PG	Pg	23 36 17.1	-3.4
CLL				i		23 36 21.0	
CLL				i SN	Sn	23 36 45.5	-1.2
CLL				eSG	Sg	23 36 59.0	-4.5
CLL				i		23 37 11.4	
SQTA	Sankt Quirin	3.24	145	⇑iPN	Pn	23 36 08.8	+0.7
SQTA				i SN	Sn	23 36 47.0	-0.2
WATA	Walderalm	3.29	140	⇑iPN	Pn	23 36 09.4	+0.5
WATA				i SN	Sn	23 36 47.2	-1.3
WTTA	Wattenberg	3.38	140	⇓iPN	Pn	23 36 10.2	+0.2
WTTA				i SN	Sn	23 36 50.2	-0.4
WTTA				i SG	Sg	23 37 06.7	-1.9
	4.6nm,0.4s						
KHC	Kasperske Hory	3.43	101	ePN	Pn	23 36 10.5	-0.2
KHC				ePG	Pg	23 36 19.4	-5.1
KHC				eSG	Sg	23 37 03.3	-6.9
GEC2	GERESS Array S	3.59	105	e(Pn)	Pn	23 36 12.9	-0.1
	SNR=6.8						
GEC2				ePg	Pg	23 36 24.2	-3.5
	SNR=3.3						
GEC2	GERESS Array S	3.59	105	ePn	Pn	23 36 12.9	-0.1
RJOB	Jochberg	3.59	125	⇑iPn	Pn	23 36 14.6	+1.5
RMOA	Moar Alm	3.61	125	⇑iPn	Pn	23 36 14.6	+1.2
BRG	Berggiesshubel	3.65	72	ePg	Pg	23 36 24.1	-4.8
	SNR=5.1						
BRG				e(Sg)	Sg	23 37 10.3	-7.3
	SNR=2.4						
BRG	Berggiesshubel	3.65	72	ePg	Pg	23 36 24.1	-4.8
BRG				i		23 36 56.3	
BRG				i Sg	Sg	23 37 12.6	-4.9
CABF	La Chapelle	3.65	207	ePn	Pn	23 36 11.2	-2.7
CABF				ePg	Pg	23 36 24.7	-4.2
CABF				eSn	Sn	23 36 53.0	-4.4
CABF				eSg	Sg	23 37 09.6	-8.0
	18nm,0.5s						
PRU	Pruhonice	3.93	86	ePG	Pg	23 36 30.2	-4.5
PRU				eSG	Sg	23 37 20.3	-6.8
	8.4nm,0.6s						
PVCC	Panska Ves	3.98	79	ePG	Pg	23 36 31.9	-3.6
PVCC				eSG	Sg	23 37 23.6	-5.0
LOR	Lormes	4.03	231	ePn	Pn	23 36 17.0	-2.3
LOR				eSn	Sn	23 37 02.3	-4.8
LOR				eSg	Sg	23 37 20.4	-10
	11nm,0.3s						
SSF	Saint Saulge	4.34	231	ePn	Pn	23 36 21.1	-2.7
SSF				ePg	Pg	23 36 37.3	-5.6
SSF				eSn	Sn	23 37 09.0	-6.1
SSF				eSg	Sg	23 37 32.2	-8.6
	8.6nm,0.4s						
MOA	Molln	4.35	116	⇑iPN	Pn	23 36 24.1	+0.3
MOA				i SN	Sn	23 37 14.8	-0.4
SMF	Signal de Mont	4.48	225	ePn	Pn	23 36 23.4	-2.3
SMF				eSn	Sn	23 37 13.9	-4.6
SMF				eSg	Sg	23 37 36.6	-8.7
	8.7nm,0.3s						
LPL	La Plagne	4.53	196	ePn	Pn	23 36 27.3	+0.8
LPL				ePg	Pg	23 36 41.5	-5.1
LPL				eSg	Sg	23 37 39.2	-7.9
	3.5nm,0.4s						
LPG	La Plagne	4.55	195	ePn	Pn	23 36 26.9	+0.2
LPG				ePg	Pg	23 36 42.9	-4.0
LPG				eSg	Sg	23 37 39.3	-8.3
	7.1nm,0.5s						
AVF	Avril sur Loir	4.61	230	ePn	Pn	23 36 24.6	-2.9
AVF				eSn	Sn	23 37 15.2	-6.5
AVF				eSg	Sg	23 37 40.5	-9.0
	4.8nm,0.4s						
HYF	Humbligny	4.67	238	eSg	Sg	23 37 42.7	-8.9
BGF	Bois d'Agland	5.02	230	ePn	Pn	23 36 31.3	-2.0
BGF				eSn	Sn	23 37 25.6	-6.5
BGF				eSg	Sg	23 37 53.9	-9.3
	22nm,0.4s						
ORIF	Oris-en-Rattie	5.28	200	eSg	Sg	23 38 04.3	-7.5
	4.2nm,0.4s						
MBDF	Montbardon	5.30	193	ePn	Pn	23 36 35.8	-1.4
MBDF				eSg	Sg	23 38 02.9	-10
	11nm,0.9s						
TCF	Toulx Ste Croi	5.53	232	ePn	Pn	23 36 37.0	-3.5
TCF				ePg	Pg	23 36 59.1	-7.3
TCF				eSn	Sn	23 37 37.2	-7.6
TCF				eSg	Sg	23 38 07.4	-13
	2.9nm,0.3s						
VIVF	Saint-Julien-l	5.66	208	ePn	Pn	23 36 41.1	-1.2
VIVF				eSn	Sn	23 37 41.0	-7.2
VIVF				eSg	Sg	23 38 13.0	-11
	2.3nm,0.3s						
LDF	La Druitiere	5.77	260	ePn	Pn	23 36 42.4	-1.5
LDF				eSn	Sn	23 37 43.9	-7.0
LDF				eSg	Sg	23 38 17.1	-11
	6.4nm,0.3s						
FLN	La Foliniere	5.95	262	ePn	Pn	23 36 45.1	-1.4
FLN				eSn	Sn	23 37 48.5	-7.0
FLN				eSg	Sg	23 38 22.7	-12
	4.7nm,0.3s						
GRR	Gorron	6.29	260	ePn	Pn	23 36 49.7	-1.6
GRR				eSn	Sn	23 37 55.5	-8.6
	3.4nm,0.2s						
GRR				eSg	Sg	23 38 33.8	-12
RJF	Les Rejaudoux	6.56	228	ePn	Pn	23 36 51.9	-3.2
RJF				eSn	Sn	23 38 01.6	-9.2
RJF				eSg	Sg	23 38 41.8	-13
	6.2nm,0.6s						
CAF	Calviac	6.59	223	ePn	Pn	23 36 51.7	-3.9
CAF				eSg	Sg	23 38 42.4	-13
	3.9nm,0.5s						
LASF	Ste Croix	6.62	210	ePn	Pn	23 36 53.2	-2.7
LASF				eSg	Sg	23 38 41.9	-14
	1.7nm,0.5s						
MFF	Saint Martin d	6.62	243	ePn	Pn	23 36 52.6	-3.3
MFF				eSn	Sn	23 38 03.9	-8.3
MFF				eSg	Sg	23 38 44.8	-12
	7.9nm,0.6s						
LFF	La Frestale	7.21	229	eSg	Sg	23 39 01.7	-14
	13nm,0.6s						
SGMF	Saint Gilles	7.42	261	ePn	Pn	23 37 04.3	-2.8
SGMF				ePg	Pg	23 37 35.5	-8.7
SGMF				eSn	Sn	23 38 22.0	-10
	3.2nm,0.4s						
ROSF	Rostrenen	7.85	263	ePn	Pn	23 37 09.9	-3.3
ROSF				eSn	Sn	23 38 31.3	-12
	2.2nm,0.3s						
QUIF	Quistinic	7.91	260	ePn	Pn	23 37 09.2	-4.8
QUIF				eSn	Sn	23 38 32.4	-12
	4.3nm,0.4s						

*IDC **20** 23:53:46.0±0.7, 35.00N×141.26E, mb4.1/9, mb1 4.2/12, mb1mx4.1/24, ML3.7/3, MS3.1/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=27.5km s-min=15.3km az=105.0*
*JMA **20** 23:53:48.5±0.3, 35.00N×141.44E, h37^{km}±4^{km}, M3.4*
*NEIC **20** 23:53:52.4±1.8, 35.03N×141.13E, h42^{km}±16^{km}, Error ellipse: s-maj=18.0km s-min=10.3km az=95.0*
ISC 20 23:53:49.1±1.2**, 34.96N**±0.05×**141.41E**±0.10**, h36**^{km}±11^{km}**, n26, σ0^{s}85**/29**, mb4.0**/9**, MS3.2**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.47	230	P	P	23 53 59.2	-0.1
BSO1				S	S	23 54 06.6	+0.2
BSO2	Boso 2	0.58	250	S	S	23 54 09.7	+0.5
BSO3	Boso 3	0.76	259	P	P	23 54 02.9	-0.4
CHOJ	Chosi	0.87	329	P	P	23 54 03.9	-1.1
CHOJ				eS	S	23 54 11.3	-5.3
BSO4	Boso 4	0.88	273	P	P	23 54 04.7	-0.4
KTR	Katsuura	0.92	282	P	P	23 54 06.3	+0.7
KTR				S	S	23 54 18.2	+0.3
JCN	Nagara	1.09	295	P	P	23 54 09.2	+1.1
JIM2	Oshima 3	1.65	262	P	P	23 54 14.6	-1.5
JHJ	Hachijo jima 2	2.28	217	Pn	P	23 54 25.5	+0.4
	37nm,0.3s,baz=69,slow=4.0,SNR=16						
JHJ				LR	LR	23 54 51.7	
	comp=Z,638nm,18.4s,baz=313,slow=30						
JHJ				Sn	S	23 54 53.3	+1.1
	81nm,0.3s,baz=64,slow=22,SNR=9.8						
MAJO	Matsushiro	3.05	302	ePn	P	23 54 36.4	+0.3
MAT	Matsushiro	3.05	302	eP	P	23 54 37.0	+0.9
MAT				eS	S	23 55 11.0	-0.8
CBIJ	Chichi jima	7.87	175	Pn	P	23 55 42.4	-1.4
	4.3nm,0.3s,baz=280,slow=16,SNR=2.6						
CBIJ				Sn	S	23 57 03.4	-9.2
	3.8nm,0.3s,baz=115,slow=23,SNR=3.5						
ASAJ	Asahikawa	9.20	5	Pn	P	23 55 56.4	-5.9
	0.6nm,0.3s,baz=315,slow=34,SNR=2.2						
JOW	Kunigami	13.88	238	LR	LR	00 02 27.3	
	comp=Z,30nm,19.2s,baz=235,slow=38						
SONM	Songino Array	28.99	307	pP	pP	23 59 56.5	-1.1
	0.7nm,0.8s,baz=112,slow=7.8,SNR=2.7						
CMAR	Chiang Mai Arr	41.01	258	LR	LR	00 20 56.8	
	comp=Z,28nm,18.1s,MS3.2,baz=269,slow=40						
ZAL	Zalesovo	43.35	314	P	P	00 01 48.5	-0.7
	1.5nm,0.3s,mb4.2,baz=280,slow=2.6,SNR=3.9						
MKAR	Makanchi Array	45.25	304	P	P	00 02 03.8	-0.8
	0.7nm,0.6s,mb3.7,baz=90,slow=9.7,SNR=5.0						
ILAR	Eielson Array	51.26	31	P	P	00 02 51.1	+0.1
	0.7nm,0.7s,mb3.7,baz=273,slow=6.8,SNR=6.8						
FITZ	Fitzroy Crossi	54.85	198	P	P	00 03 17.7	-0.6
	2.4nm,0.8s,mb4.2,baz=4.7,slow=9.4,SNR=4.5						
WB2	Warramunga Arr	55.00	188	eP	P	00 03 18.9	-0.5
WRA	Warramunga Arr	55.01	188	P	P	00 03 18.9	-0.4
	8.0nm,0.7s,mb4.8,baz=5.3,slow=7.4,SNR=72						
ASAR	Alice Springs	58.73	188	P	P	00 03 45.6	-0.2
	1.0nm,0.6s,mb4.0,baz=15,slow=8.0,SNR=10						
FINES	FINESS Array B	70.65	333	P	P	00 05 02.4	-0.1
	4.4nm,1.1s,mb4.3,baz=68,slow=10,SNR=3.7						
NVAR	Mina Array Bea	76.24	53	P	P	00 05 37.8	+2.3
	0.8nm,0.5s,mb3.9,baz=284,slow=7.4,SNR=3.3						
PDAR	Pinedale Array	79.13	45	P	P	00 05 53.0	+1.6
	0.3nm,0.5s,mb3.5,baz=301,slow=2.3,SNR=4.0						

*NEIC **20** 23:57:19.9±0.6, 22.76S×171.70E, h10^{km}, mb4.4/3, Error ellipse: s-maj=21.7km s-min=12.6km az=181.0*
*IDC **20** 23:57:29.3±9.0, 22.79S×171.54E, h81^{km}±80^{km}, mb3.9/8, mb1 4.1/9, mb1mx3.9/16, ML3.7/1, MS3.6/5, Ms1 3.6/5, ms1mx3.4/19, Error ellipse: s-maj=41.1km s-min=26.0km az=16.0*
ISC 20 23:57:25.2±2.5**, 22.6S**±0.1×**171.3E**±0.1**, h54**^{km}±20^{km}**, n19, σ1^{s}18**/16**, mb4.2**/9**, MS3.6**/5**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.55	276	eP	P	23 58 33.8	+0.5
DZM				eS	S	23 59 21.8	-3.6
NOUC	Port Laguerre	4.67	276	eP	P	23 58 35.6	+0.6
NOUC				eS	S	23 59 27.5	-1.1
URZ	Urewera	16.34	164	P	P	00 01 12.9	+0.5
	0.3nm,0.3s,baz=299,slow=8.9,SNR=4.4						
RPZ	Rata Peaks	21.02	181	LR	LR	00 08 46.3	
	comp=Z,157nm,19.2s,MS3.4,baz=298,slow=32						
CTA	Charters Tower	23.47	272	LR	LR	00 09 32.5	
	comp=Z,94nm,19.9s,MS3.2,baz=43,slow=30						
ASAR	Alice Springs	34.35	261	P	P	00 04 09.8	+0.7
	5.0nm,1.1s,mb4.3,baz=83,slow=8.4,SNR=14						
ASAR				LR	LR	00 17 34.4	
	comp=Z,90nm,21.8s,MS3.5,baz=253,slow=35						
WRA	Warramunga Arr	34.50	267	P	P	00 04 10.3	-0.1
	0.5nm,0.4s,mb3.8,baz=97,slow=8.6,SNR=7.6						
FITZ	Fitzroy Crossi	42.93	267	eP	P	00 05 22.5	+1.8
	6.4nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	42.93	267	P	P	00 05 22.3	+1.6
	8.4nm,0.8s,mb4.5,baz=161,slow=6.4,SNR=10						
VNDA	Vanda	55.12	182	LR	LR	00 26 44.3	
	comp=Z,46nm,21.9s,MS3.5,baz=326,slow=32						
JOW	Kunigami	64.44	317	LR	LR	00 30 45.4	
	comp=Z,143nm,19.2s,MS4.2,baz=174,slow=31						
QSPA	South Pole Qui	67.43	180	eP	P	00 08 15.7	-1.0
	1.7nm,0.7s,mb4.2						
CMAR	Chiang Mai Arr	81.66	294	P	P	00 09 42.1	+2.4
	1.4nm,0.6s,mb4.1,baz=138,slow=4.3,SNR=7.4						
SNAA	Sanae	85.85	182	P	P	00 09 58.5	-1.2
	0.4nm,0.7s,mb3.8,baz=210,slow=7.4,SNR=9.5						
SNAA	Sanae	85.85	182	eP	P	00 09 58.0	-1.6
	3.2nm,1.1s,mb4.5						
NVAR	Mina Array Bea	89.62	48	P	P	00 10 18.1	-0.5
	1.4nm,0.6s,mb4.5,baz=222,slow=6.4,SNR=5.6						
SONM	Songino Array	91.09	322	P	P	00 10 25.8	+0.6
	2.0nm,1.1s,mb4.4,baz=135,slow=5.2,SNR=5.7						
ILAR	Eielson Array	92.91	17	P	P	00 10 31.6	-1.6
	0.3nm,0.5s,mb3.9,baz=230,slow=7.0,SNR=4.1						
GERES	GERESS Array B	148.40	331	PKPbc	PKPdf	00 17 07.0	+5.1
	0.8nm,0.6s,baz=27,slow=2.2,SNR=9.4						

*INMG **21** 00:31:56.1±1.6, 43.30N×16.03W, h10^{km}, ML2.3, Error ellipse: s-maj=9.8km s-min=8.1km az=72.0*
MDD 21 00:31:54.1±2.4**, 43.14N×16.03W, mb4.5**/14**, Error ellipse: s-maj=21.3km s-min=16.3km az=115.0, PRXIMO, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STS	Santiago	5.49	90	Pn	Pn	00 33 15.2	-4.0
	12nm,0.1s,SNR=10.0						
STS				Sn	Sn	00 34 14.9	-9.1
	8.8nm,0.9s						
EZAM	Zamans	5.50	98	Pn	Pn	00 33 16.2	-3.2
	3.2nm,0.1s,SNR=8.9						
EZAM				Sn	Sn	00 34 16.1	-8.1
	6.0nm,0.7s						
ELOB	Lobios	6.03	99	Pn	Pn	00 33 23.5	-3.3
	6.6nm,0.1s,SNR=9.0						
ELOB				Sn	Sn	00 34 28.9	-8.5
	SNR=7.9						
PVRL	Vila Real	6.45	104	ePn	Pn	00 33 29.3	-3.4
PVRL				eSn	Sn	00 34 39.0	-9.0
EPON	Pontenova	6.49	85	Pn	Pn	00 33 28.6	-4.7
	1.1nm,0.1s,SNR=8.5						
EPON				Sn	Sn	00 34 37.6	-11
	76nm,1.7s						
PVIS	Viseu	6.54	109	ePn	Pn	00 33 30.1	-3.8
PVIS				eSn	Sn	00 34 41.2	-8.9
ERUA	La Rua	6.59	93	Pn	Pn	00 33 30.0	-4.7
	2.1nm,0.1s,SNR=7.9						
ERUA				Sn	Sn	00 34 41.5	-10
	1.7nm,0.3s,SNR=8.4						
PTOM	Tomar	6.73	119	ePn	Pn	00 33 33.1	-3.5
PTOM				eSn	Sn	00 34 46.6	-8.3
	2.8nm,0.1s						
PTOM	Tomar	6.73	119	Pn	Pn	00 33 33.1	-3.5
PTOM				Sn	Sn	00 34 46.6	-8.3
	1.4nm,0.1s						
MTE	Manteigas	6.91	110	ePn	Pn	00 33 35.1	-4.1
MTE				eSn	Sn	00 34 49.9	-10
	3.0nm,0.5s						
MTE	Manteigas	6.91	110	Pn	Pn	00 33 35.1	-4.1
MTE				Sn	Sn	00 34 49.9	-10
	1.5nm,0.5s						
ECAL	Calabor	6.97	97	Pn	Pn	00 33 36.5	-3.6
	1.5nm,0.1s,SNR=21						
ECAL				Sn	Sn	00 34 50.0	-11
	99nm,1.9s						
PBRG	Braganca	7.00	98	ePn	Pn	00 33 36.9	-3.5
PCBR	Castelo Branco	7.22	114	ePn	Pn	00 33 39.6	-3.9
PCBR				eSn	Sn	00 34 57.8	-9.4
MOE	Montemor	7.43	126	ePn	Pn	00 33 43.1	-3.3
MOE				eSn	Sn	00 35 03.2	-9.3
PTEO	Sao Teotonio	7.90	133	ePn	Pn	00 33 49.7	-3.3
PTEO				eSn	Sn	00 35 14.1	-10
EBAD	Badajoz	8.11	120	Pn	P	00 33 52.1	-3.9
	2.3nm,0.1s,SNR=9.1						
EBAD				Sn	Sn	00 35 18.3	-11
	SNR=7.9						
EGRO	El Granado	8.60	128	Pn	P	00 33 59.6	-3.1
	11nm,1.6s,SNR=7.9						
EGRO				Sn	Sn	00 35 30.0	-12
	49nm,2.1s,SNR=7.9						
PALC	Alcoutim	8.65	128	ePn	P	00 34 00.2	-3.3
EMIN	Mina Concepcio	8.93	124	Pn	P	00 34 03.7	-3.6
	1.7nm,0.1s,SNR=13						
EMIN				Sn	Sn	00 35 36.5	-13
ELAN	Lanestosa	9.21	85	Sn	Sn	00 35 45.3	-11
	SNR=7.9						
ESDC	Sonseca Array	9.71	107	Pn	P	00 34 13.7	-4.3
	0.3nm,0.2s,baz=295,slow=13,SNR=13						
ESDC				Sn	Sn	00 35 58.2	-11
	0.2nm,0.2s,baz=291,slow=24,SNR=4.7						
ESPR	Espera	10.01	125	Pn	P	00 34 16.9	-5.3
	0.3nm,0.1s,SNR=7.9						
EADA	Adamuz	10.02	116	Pn	P	00 34 18.2	-4.2
	0.9nm,0.1s,SNR=12						
EADA				Sn	S	00 36 05.7	-11
	SNR=7.9						
EALK	Alkurruntz	10.61	85	Sn	S	00 36 17.3	-14
	1.4nm,3.1s,SNR=7.9						
EQES	Quesada	11.22	114	Pn	P	00 34 34.7	-4.1
	5.7nm,1.6s,SNR=7.9						
ETOB	Tobarra	11.85	107	Pn	P	00 34 42.7	-4.6
	99nm,3.2s,SNR=7.9						

*NEIC **21** 01:00:44.0, 16.29N×98.30W, h26^{km}, MD3.9(MEX), After MEX.*
MEX 21 01:00:43.6±1.1**, 16.21N×98.27W, h24**^{km}±12^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.23	36	i P	Pb	01 00 48.9	-0.7
PNIG				eS	Sb	01 00 51.9	-1.7
VHO	Vista Hermosa	1.70	59	i P	Pn	01 01 09.5	-2.8
VHO				eS	Sn	01 01 29.6	-3.8
OXX	Oaxaca	1.72	59	eP	Pn	01 01 08.5	-4.0
OXX				eS	Sn	01 01 30.5	-3.3
CAIG	El Cayaco	2.09	294	i P	Pn	01 01 16.4	-1.5
CAIG				i S	Sn	01 01 37.9	-5.4
HUIG	Huatulco	2.12	102	eP	Pn	01 01 16.9	-1.4
HUIG				i S	Sn	01 01 39.7	-4.4
HUIG	Huatulco	2.12	102	eP	Pn	01 01 18.0	-0.3
HUIG				eS	Sn	01 01 43.0	-1.1
YAIG	Yautepec	2.75	344	eP	Pn	01 01 30.2	+3.0
YAIG				eS	Sn	01 01 56.1	-3.9
PPM	Popocatepetl	2.86	353	eP	Pn	01 01 31.0	+2.2
IISM	Ciudad Serdan	2.89	17	eP	Pn	01 01 31.0	+1.7
UNM	Universidad Na	3.22	345	i S	Sn	01 02 06.8	-5.2
PBVM	Pinon	3.31	347	i P	Pn	01 01 33.3	-1.8
PBVM				i S	Sn	01 02 07.7	-6.5
CMIG	Matias Romero	3.36	74	ePG	Pn	01 01 31.6	-4.3
CMIG				eS	Sn	01 02 10.4	-5.1
ZIIG	Zihuatanejo	3.36	295	i S	Sn	01 02 11.4	-4.1
EVV	El Vigia	3.57	51	eP	Pn	01 01 41.0	+2.1

IDC 21 01:20:20.8±3.0**, 16.12S×177.80W, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.9**/15**, Error ellipse: s-maj=176.0km s-min=30.7km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	45.85	253	P	P	01 28 45.0	-1.9
	2.9nm,0.9s,baz=87,slow=7.8,SNR=17						
NVAR	Mina Array Bea	77.74	44	P	P	01 32 20.1	-1.4
	0.1nm,0.5s,baz=246,slow=8.9,SNR=3.0						
ILAR	Eielson Array	84.03	13	P	P	01 32 52.7	-1.4
	1.8nm,1.0s,baz=231,slow=5.8,SNR=9.8						
BRTR	Keskin Array B	143.91	317	PKP	PKPdf	01 39 59.4	-0.8
	3.0nm,0.9s,baz=56,slow=3.5,SNR=9.8						

IDC 21 01:24:20.1±8.4**, 14.25S×72.10W, h123**^{km}±54^{km}**, mb3.4**/2**, mb1 3.4**/5**, mb1mx3.3**/20**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.5**/16**, Error ellipse: s-maj=72.3km s-min=54.7km az=154.0, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	4.34	118	P	P	01 25 24.6	-0.7
	1.9nm,0.3s,baz=294,slow=12,SNR=42						
LPAZ				S	S	01 26 15.9	+0.6
	0.4nm,0.3s,baz=198,slow=24,SNR=10						
LVC	Limon Verde	8.85	160	P	P	01 26 18.4	-7.9
	0.6nm,0.3s,baz=31,slow=5.9,SNR=6.2						
LVC				S	S	01 27 48.7	-16
	1.4nm,0.3s,baz=193,slow=23,SNR=11						
LVC				LR	LR	01 30 02.6	
	comp=Z,28nm,20.3s,baz=272,slow=39						
CPUP	Villa Florida	18.32	133	P	P	01 28 23.1	-4.3
	0.2nm,0.3s,baz=325,slow=10,SNR=5.2						
BDFB	Brasilia	23.31	96	P	P	01 29 17.7	-0.3
	2.2nm,0.7s,baz=283,slow=12,SNR=3.7						
USHA	Ushuaia	40.60	177	LR	LR	01 47 58.4	
	comp=Z,96nm,18.7s,baz=47,slow=35						
SNAA	Sanae	70.09	162	P	P	01 35 18.9	-1.6
	0.5nm,0.6s,baz=279,slow=8.9,SNR=15						

*BJI **21** 01:25:56.2, 32.94S×178.64W, h17^{km}, mB5.3, mb5.2, Ms4.8, Msz4.3*
*HRVD **21** 01:25:57.6±0.3, 33.65S×179.01W, h39^{km}±1^{km}, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s46,c65;Mantle waves: s52,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.63±.24; $M_{\theta\theta}$-0.45±.17; $M_{\phi\phi}$5.08±.16; $M_{r\theta}$-0.14±.17; $M_{\theta\phi}$1.55±.17; $M_{\phi r}$-2.22±.17; Best double couple: $M_0$5.53×10^{16} NP1:ϕ_s201°,δ34°,λ-80°. NP2:ϕ_s9°,δ57°,λ-96°. Principal axes: T 5.94, Plg12°, Azm104°; N -.81, Plg5°, Azm13°; P -5.12, Plg77°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **21** 01:25:57.5, 33.55S×179.34W, h24^{km}, MB5.2, MS4.6*
*NEIC **21** 01:25:57.6±0.2, 33.55S×179.34W, mb5.2/25, MS4.6/6, Error ellipse: s-maj=8.9km s-min=4.6km az=126.0*
*MOS **21** 01:25:58.2±0.7, 33.69S×179.59W, h33^{km}, mb5.1/10, Error ellipse: s-maj=21.7km s-min=20.1km az=113.8*
*IDC **21** 01:26:02.7±2.7, 33.68S×179.49W, h63^{km}±22^{km}, mb4.5/16, mb1 4.7/18, mb1mx4.7/20, MS4.3/13, Ms1 4.3/13, ms1mx4.3/16, Error ellipse: s-maj=16.9km s-min=13.0km az=0.0*
ISC 21 01:25:58.2±0.2**, 33.70S**±0.03×**179.43W**±0.06**, h33**^{km}**, (h22**^{km}±2.1^{km}**:pP-P), n259, σ1^{s}30**/164**, mb5.0**/43**, MS4.5**/22**, 6C-6D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.28	205	P	P	01 27 02.5	-0.1
MXZ				S	S	01 27 51.2	-0.8
MXZ	Matakaoa Point	4.28	205	P	P	01 27 02.8	+0.2
WIZ	White Island	4.71	215	P	P	01 27 10.1	+1.3
WIZ	White Island	4.71	215	P	P	01 27 10.8	+2.0
PUZ	Puketiti	4.75	203	P	P	01 27 08.4	-1.0
PUZ				S	S	01 28 02.5	-1.6
PUZ	Puketiti	4.75	203	eP	P	01 27 09.1	-0.3
KUZ	Kuaotunu	5.00	231	P	P	01 27 17.1	+4.2
KUZ	Kuaotunu	5.00	231	eP	P	01 27 17.0	+4.1
MWZ	Matawai	5.24	207	eP	P	01 27 15.1	-1.2
MWZ				S	S	01 28 17.5	+1.1
MWZ	Matawai	5.24	207	eP	P	01 27 16.1	-0.2
MARZ	Manawahe	5.32	215	P	P	01 27 19.9	+2.5
URZ	Urewera	5.35	211	P	P	01 27 18.7	+1.0
	27nm,0.3s,baz=28,slow=5.6,SNR=102						
URZ				S	S	01 28 19.7	+0.7
	71nm,0.3s,baz=309,slow=23,SNR=11						
URZ	Urewera	5.35	211	P	P	01 27 17.0	-0.7
URZ	Urewera	5.35	211	P	P	01 27 17.6	-0.1
EDRZ	Edgecumbe	5.39	214	eP	P	01 27 19.9	+1.6
EDRZ	Edgecumbe	5.39	214	P	P	01 27 20.4	+2.1
MKRZ	Makatiti	5.54	216	P	P	01 27 23.6	+3.1
WCZ	Waipu Caves	5.59	245	⇑P	P	01 27 25.1	+4.0
WCZ	Waipu Caves	5.59	245	eP	P	01 27 25.4	+4.3
TAZ	Tarawera	5.60	215	eP	P	01 27 23.6	+2.4
TAZ	Tarawera	5.60	215	P	P	01 27 24.2	+3.0
KNZ	Kokohu	5.80	203	eP	P	01 27 22.4	-1.7
KNZ	Kokohu	5.80	203	eP	P	01 27 22.5	-1.6
PATZ	Paeroa	5.83	216	P	P	01 27 26.9	+2.3
PATZ	Paeroa	5.83	216	P	P	01 27 27.3	+2.7
OUZ	Omahuta	5.96	253	⇑P	P	01 27 29.9	+3.6
OUZ	Omahuta	5.96	253	eP	P	01 27 29.9	+3.6
BKZ	Black Stump Fm	6.37	210	P	P	01 27 31.5	-0.6
BKZ	Black Stump Fm	6.37	210	P	P	01 27 31.4	-0.7
RATZ	Rangitukua	6.45	216	P	P	01 27 34.0	+0.7
RATZ	Rangitukua	6.45	216	P	P	01 27 34.1	+0.8
KATZ	Kakaramea	6.58	215	eP	P	01 27 36.3	+1.3
KATZ	Kakaramea	6.58	215	P	P	01 27 36.5	+1.5
MGZ	Maungaku	6.67	216	eP	P	01 27 37.6	+1.3
MGZ	Maungaku	6.67	216	P	P	01 27 37.8	+1.5
KAVZ	Karewarewa	6.69	215	P	P	01 27 37.7	+1.0
NGZ	Ngauruhoe	6.78	215	eP	P	01 27 37.9	+0.1
NGZ	Ngauruhoe	6.78	215	P	P	01 27 38.0	+0.2
CNZ	Chateau	6.82	215	eP	P	01 27 39.2	+0.7
CNZ	Chateau	6.82	215	P	P	01 27 39.7	+1.2
TUVZ	Tukino	6.83	214	P	P	01 27 39.1	+0.6
PWZ	Pawanui	6.98	204	eP	P	01 27 37.4	-3.3
PWZ	Pawanui	6.98	204	eP	P	01 27 38.0	-2.7

TSZ	Takapari Road	7.35	209	*e*P	P	01 27 42.9	-2.9
TSZ	Takapari Road	7.35	209	*e*P	P	01 27 43.1	-2.7
BFZ	Birch Farm	7.78	205	*e*P	P	01 27 48.8	-3.0
BFZ	Birch Farm	7.78	205	*e*P	P	01 27 49.1	-2.7
MRZ	Mangatainoka R	8.01	208	*e*P	P	01 27 51.4	-3.6
KIW	Kapiti Island	8.45	211	*e*P	P	01 27 55.6	-5.6
KIW	Kapiti Island	8.45	211	P	P	01 27 56.8	-4.4
MTW	Mount Morrison	8.47	207	*e*P	P	01 27 56.3	-5.1
MTW	Mount Morrison	8.47	207	P	P	01 27 57.3	-4.1
CAW	Cannon Point	8.59	209	*e*P	P	01 27 59.0	-4.1
CAW	Cannon Point	8.59	209	P	P	01 27 59.4	-3.7
MRW	Makara Radio	8.85	210	*e*P	P	01 28 02.2	-4.4
MRW	Makara Radio	8.85	210	P	P	01 28 03.0	-3.6
SNZO	South Karori	8.91	210	*e*P	P	01 28 02.2	-5.3
BHW	Baring Head	8.93	209	*e*P	P	01 28 02.6	-5.2
BHW	Baring Head	8.93	209	P	P	01 28 03.2	-4.6
NNZ	Nelson	9.43	215	*e*P	P	01 28 09.8	-5.0
NNZ	Nelson	9.43	215	*e*P	P	01 28 10.6	-4.2
QRZ	Quartz Range	9.57	220	*e*P	P	01 28 12.3	-4.4
THZ	Tophouse	10.08	215	*e*P	P	01 28 17.7	-6.0
THZ	Tophouse	10.08	215	*e*P	P	01 28 18.3	-5.4
KHZ	Kahutara	10.32	210	*e*P	P	01 28 21.7	-5.2
KHZ	Kahutara	10.32	210	*e*P	P	01 28 22.9	-4.0
MQZ	McQueen's Vall	11.75	209	S	S	01 30 44.2	-13
MQZ	McQueen's Vall	11.75	209	*e*P	P	01 28 39.3	-7.0
RPZ	Rata Peaks	12.45	214	P	P	01 28 49.3	-6.5
	2.5nm,0.3s,baz=81,slow=3.2,SNR=14						
RPZ				S	S	01 31 01.7	-13
	5.9nm,0.3s,baz=342,slow=15,SNR=10						
JCZ	Jackson Bay	13.84	218	*e*P	P	01 29 07.8	-6.3
DZM	Mont Dzumac	17.01	309	*e*P	P	01 29 56.3	+1.2
NOUC	Port Laguerre	17.08	309	*e*P	P	01 29 59.7	+3.7
NOUC	Port Laguerre	17.08	309	*e*P	P	01 29 59.7	+3.7
RAR	Rarotonga	21.38	59	LR	LR	01 36 51.2	
	comp=Z,707nm,20.9s,MS4.0,baz=237,slow=30						
CNB	Canberra Magne	25.72	258	*e*P	P	01 31 30.4	+3.2
	9.4nm,0.7s,mb4.4						
TBI	Tubuai	28.19	76	*e*P	P	01 32 01.3	+11
	155nm,1.0s,mb5.6						
TBI				*e*L		01 37 07.0	
TBI				*e*R		01 38 47.7	
	1µm,24.8s,baz=238						
PAE	Paea	31.13	67	*e*P	P	01 32 27.6	+11
	137nm,1.4s,mb5.6						
PPT	Papeete	31.19	66	*e*P	P	01 32 27.9	+11
PPT	Papeete	31.19	66	*e*L		01 38 30.8	
PPT				*e*R		01 40 05.1	
	2µm,26.2s,baz=231						
TIAR	Tiarei	31.37	67	*e*P	P	01 32 30.1	+12
	62nm,0.9s,mb5.4						
STKA	Stephens Creek	32.69	262	*e*P	P	01 32 31.1	+1.5
	6.2nm,0.9s,mb4.5						
STKA	Stephens Creek	32.69	262	P	P	01 32 27.4	-2.2
	3.0nm,0.7s,mb4.3,baz=91,slow=18,SNR=3.7						
STKA				PcP	PcP	01 35 12.7	-2.3
	2.3nm,0.5s,baz=44,slow=19,SNR=3.5						
STKA				LR	LR	01 45 35.8	
	comp=Z,1µm,18.3s,MS4.7,baz=56,slow=36						
STKA	Stephens Creek	32.69	262	P	P	01 32 27.4	-2.2
STKA				PcP	PcP	01 35 12.7	-2.2
STKA				LR	LR	01 45 35.8	
CTA	Charters Tower	33.31	285	⇑*i*P	P	01 32 36.4	+1.3
	27nm,0.9s,mb5.2						
CTA	Charters Tower	33.31	285	P	P	01 32 35.4	+0.3
	34nm,0.9s,mb5.3,baz=119,slow=9.5,SNR=26						
CTA	Charters Tower	33.31	285	P	P	01 32 35.4	+0.3
CTA				pmax	pmax		
	comp=Z,34nm,1.0s						
CTAO	Charters Tower	33.31	285	*e*P	P	01 32 36.2	+1.1
	comp=Z,48nm,0.9s,mb5.4						
PMG	Port Moresby	39.07	300	*e*P	P	01 33 24.8	+0.9
ASAR	Alice Springs	41.84	271	P	P	01 33 46.8	0.0
	comp=Z,35nm,0.9s,mb5.0,baz=113,slow=7.5,SNR=162						
ASAR				PcP	PcP	01 35 39.7	-3.2
	comp=Z,6.3nm,0.9s,baz=116,slow=3.6,SNR=5.5						
ASAR				S	S	01 40 00.6	-1.6
	comp=Z,2.0nm,0.9s,baz=110,slow=15,SNR=4.4						
ASAR				LR	LR	01 48 26.8	
	comp=Z,394nm,20.5s,MS4.3,baz=114,slow=32						
ASPA	Alice Springs	41.85	271	*e*P	P	01 33 47.1	+0.3
ASPA				*e*S	S	01 40 02.6	+0.4
WB2	Warramunga Arr	43.12	276	*e*P	P	01 33 56.2	-1.1
WB2				*e*S	S	01 40 18.3	-2.6
WRAB	Tennant Creek	43.13	276	*e*P	P	01 33 56.9	-0.5
	comp=Z,57nm,0.8s,mb5.3						
WRA	Warramunga Arr	43.13	276	P	P	01 33 57.2	-0.2
	comp=Z,52nm,0.9s,mb5.3,baz=118,slow=7.6,SNR=141						
WRA				LR	LR	01 50 36.5	
	comp=Z,487nm,21.2s,MS4.4,baz=100,slow=34						
FORT	Forrest	44.12	259	*e*P	P	01 34 04.4	-0.8
	comp=Z,70nm,0.9s,mb5.4						
SBA	Scott Base	44.67	184	*e*P	P	01 34 11.5	+2.5
	comp=Z,19nm,1.1s,mb4.8						
VNDA	Vanda	44.70	186	P	P	01 34 10.3	+1.0
	comp=Z,1.8nm,0.9s,baz=354,slow=8.2,SNR=7.2						
VNDA				LR	LR	01 48 50.2	
	comp=Z,172nm,21.2s,baz=6.2,slow=31						
VNDA	Vanda	44.70	186	*e*P	P	01 34 09.7	+0.4
	comp=Z,4.3nm,1.0s,mb4.2						
KAKA	Kakadu	48.46	284	*e*P	P	01 34 39.8	+0.2
	comp=Z,20nm,1.0s,mb5.1						
FITZ	Fitzroy Crossi	51.24	273	*e*P	P	01 34 59.8	-1.1
	comp=Z,16nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	51.24	273	P	P	01 35 00.3	-0.6
	comp=Z,20nm,0.9s,mb5.1,baz=161,slow=6.1,SNR=23						
CASY	Casey	51.67	209	*e*P	P	01 35 00.4	-3.1
	comp=Z,19nm,1.2s,mb4.9						
NWAO	Narrogin (SRO)	52.17	252	P	P	01 35 05.3	-2.4
	comp=Z,17nm,1.0s,mb4.9,baz=156,slow=4.2,SNR=3.6						
NWAO				LR	LR	01 54 33.9	
	comp=Z,348nm,20.8s,MS4.4,baz=100,slow=33						
KLBR	Kellerberrin	52.20	254	*e*P	P	01 35 05.6	-2.4
	comp=Z,84nm,1.6s,mb5.4						
MUN	Mundaring	53.30	253	*e*P	P	01 35 14.1	-2.1
	comp=Z,24nm,1.9s,mb4.8						
QSPA	South Pole Qui	56.42	180	⇓*i*P	P	01 35 39.4	+1.2
	comp=Z,70nm,1.2s,mb5.6						
QSPA				*e*		01 40 34.7	
QSPA				LR	LR		
	comp=Z,270nm,22.0s,MS4.3						
MIR	Mirnyy	58.65	208	⇓*e*P	P	01 35 52.4	-1.7
MIR				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
MAW	Mawson	68.80	201	*e*P	P	01 36 59.7	-0.8
	comp=Z,20nm,1.0s,mb5.0						
MAW	Mawson	68.80	201	P	P	01 36 60.0	-0.6
	comp=Z,32nm,1.1s,mb5.2,baz=115,slow=7.3,SNR=30						
MAW				LR	LR	02 08 00.9	
	comp=Z,228nm,18.1s,MS4.5,baz=107,slow=37						
MAW	Mawson	68.80	201	P	P	01 37 00.0	-0.5
MAW				pmax	pmax		
	comp=Z,32nm,1.1s						
MAW				MLR	MLR		
	comp=Z,228nm,18.2s						
SYO	Syowa Base	73.64	194	⇑P	P	01 37 28.1	-1.3
SYO	Syowa Base	73.64	194	⇓pP	P	01 37 32.8	+3.4
SYO	Syowa Base	73.64	194	⇑P	pP	01 37 53.9	+14
TGY	Tagaytay City	74.03	299	P	P	01 37 31.3	-1.4
	comp=Z,103nm,0.3s,baz=162,slow=11,SNR=7.5						
TGY	Tagaytay City	74.03	299	P	P	01 37 31.3	-1.4
TGY				pmax	pmax		
	comp=Z,103nm,0.3s						
SNAA	Sanae	74.90	179	*e*	P	01 37 41.5	+4.8
SNAA	Sanae	74.90	179	P	P	01 37 36.5	-0.2
	comp=Z,4.6nm,1.0s,mb4.4,baz=196,slow=4.5,SNR=27						
SNAA	Sanae	74.90	179	⇓*i*P	P	01 37 33.6	-3.1
SNAA				*e*		01 37 41.5	
MAIT	Maitri	75.52	184	*e*P	P	01 37 40.5	+0.3
VNA2	Neumayer--Watz	75.52	177	*e*	P	01 37 47.6	+7.4
VNA2	Neumayer--Watz	75.52	177	⇓*i*P	P	01 37 41.3	+1.1
VNA2				*e*		01 37 47.6	
VNA1	Neumayer--Stat	75.76	177	*e*	P	01 37 49.4	+7.8
VNA1	Neumayer--Stat	75.76	177	⇓*i*P	P	01 37 42.9	+1.3
VNA1				*e*		01 37 49.4	
PLCA	Paso Flores	81.14	133	P	P	01 38 12.4	+0.7
	comp=Z,7.4nm,0.9s,mb4.6,baz=214,slow=5.4,SNR=14						
PLCA				LR	LR	02 09 25.0	
	comp=Z,103nm,18.7s,MS4.2,baz=236,slow=32						
PLCA	Paso Flores	81.14	133	*e*P	P	01 38 11.6	-0.2
	comp=Z,15nm,1.2s,mb4.8						
PLCA				*e*pP	pP	01 38 19.1	-3.1
QIZ	Qiongzhong	85.33	296	P	P	01 38 40.5	+7.0
QIZ				LR	LR		
	comp=Z,136nm,24.8s,MS4.2						
NJ2	Nanjing	87.49	312	*e*P	P	01 38 46.1	+2.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
BAR	Barrett	88.56	49	*e*P	P	01 38 49.1	+0.2
BAR				*e*pP	pP	01 38 55.1	-4.3
PFO	Pinyon Flat Ob	89.32	48	*e*P	P	01 38 52.5	0.0
	comp=Z,23nm,1.2s,mb5.4						
PFO				*e*pP	pP	01 39 00.4	-2.7
CMB	Columbia Colle	90.01	43	*e*P	P	01 38 55.1	-0.4
	comp=Z,24nm,1.0s,mb5.5						
CMB				LR	LR		
	comp=Z,246nm,22.0s,MS4.6						
SDPT	Sand Point	90.17	11	*e*P	P	01 38 55.1	-0.8
SDPT				LR	LR		
	comp=Z,200nm,22.0s,MS4.5						
MTUM	Tungsten Hills	90.58	44	*e*P	P	01 38 58.5	+0.2
WDC	Whiskeytown Da	90.63	40	*e*P	P	01 38 58.4	-0.1
	comp=Z,24nm,1.3s,mb5.4						
MDJ	Mudanjiang	90.67	326	P	P	01 38 59.3	+0.8
MDJ				AP	pP	01 39 05.4	-3.7
MDJ				XP	sP	01 39 08.3	-4.2
MDJ				S	S	01 49 53.8	+4.2
MDJ				XS		01 50 05.8	
MDJ				SP	SP	01 51 00.4	+0.4
MDJ				SS	SS	01 55 54.4	-0.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.5s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,88nm,5.9s						
MDJ				LR	LR		
	comp=N,79nm,24.6s,MS4.1						
MDJ				LR	LR		
	comp=E,44nm,23.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,126nm,22.5s,MS4.3						
LDFC	Landfair	91.12	48	*e*P	P	01 39 01.8	+0.9
LDFC				*e*pP	pP	01 39 11.9	+0.4
YBH	Yreka Blue Hor	91.36	39	P	P	01 39 02.3	+0.5
	comp=Z,8.3nm,1.1s,mb5.0,baz=204,slow=4.6,SNR=6.6						
YBH	Yreka Blue Hor	91.36	39	P	P	01 39 02.3	+0.5
YBH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YBH	Yreka Blue Hor	91.36	39	*e*P	P	01 39 01.7	-0.1
	comp=Z,15nm,1.3s,mb5.2						
NVAR	Mina Array Bea	91.47	43	P	P	01 39 02.4	0.0
	comp=Z,8.0nm,0.9s,mb5.0,baz=205,slow=6.3,SNR=36						
NVAR				LR	LR	02 14 32.2	
	comp=Z,144nm,18.1s,MS4.5,baz=270,slow=32						
NVAR	Mina Array Bea	91.47	43	P	P	01 39 02.4	0.0
NVAR				LR	LR	02 14 32.2	
NEN	Nelson	91.66	47	*e*P	P	01 39 03.8	+0.4
NEN				*e*pP	pP	01 39 13.1	-0.9
PAHR	Pah Rah Range	91.73	42	*e*P	P	01 39 03.2	-0.4
	comp=Z,22nm,1.6s,mb5.2						
TPH	Tonopah	91.85	44	*e*P	P	01 39 04.3	+0.1
	comp=Z,23nm,1.1s,mb5.4						
CN2	Changchun	92.05	324	*e*P	P	01 39 04.5	-0.4
CN2				*e*AP	pP	01 39 12.5	-3.0
CN2				*e*S	S	01 50 05.3	+3.5
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.7						
TUC	Tucson	92.10	52	*e*P	P	01 39 05.9	+0.5
	comp=Z,18nm,1.4s,mb5.2						
MOD	Modoc	92.75	40	*e*P	P	01 39 07.6	-0.6
	comp=Z,18nm,1.2s,mb5.4						
MOD				*e*pP	pP	01 39 13.9	-4.9
CMAR	Chiang Mai Arr	93.36	290	P	P	01 39 10.7	-0.8
	comp=Z,2.2nm,0.9s,mb4.6,baz=145,slow=3.3,SNR=8.9						
CMAR				PP	PP	01 42 55.7	-2.7
	comp=Z,1.4nm,0.5s,baz=136,slow=6.8,SNR=11						
CMAR	Chiang Mai Arr	93.36	290	P	P	01 39 10.7	-0.8
CMAR						01 42 55.7	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BMN	Battle Mountai	93.44	43	*e*P	P	01 39 11.2	-0.2
SSOR	Sweet Springs	93.72	37	P	P	01 39 09.5	-3.0
WVOR	Wild Horse Val	94.02	40	*e*P	P	01 39 13.6	-0.3
WVOR				*e*pP	pP	01 39 22.0	-2.5
WVOR				LR	LR		
	comp=Z,485nm,22.0s,MS4.9						
KMI	Kunming	94.24	297	*e*P	P	01 39 17.1	+1.8
KMI				AP	pP	01 39 26.1	+0.2
KMI				PP	PP	01 43 07.6	+2.5
KMI				S	S	01 50 25.4	+4.1
KMI				SS	SS	01 56 51.0	+4.3
KMI				SSS	SSS	02 00 31.8	+3.8
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.5						
KMI				LR	LR		
	comp=N,115nm,6.1s						
KMI				LR	LR		
	comp=E,92nm,6.8s						
KMI				LR	LR		
	comp=Z,70nm,6.8s						
BJI	Beijing	94.43	316	P	P	01 39 18.5	+2.6
BJI				S	S	01 50 19.5	-3.1
BJI				SS	SS	01 56 46.1	-3.0
BJI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.9						
BJI				LR	LR		
	comp=Z,107nm,23.8s,MS4.2						
TXAR	Lajitas Array	95.17	58	P	P	01 39 19.9	+0.4
	comp=Z,2.5nm,1.1s,mb4.6,baz=207,slow=5.6,SNR=14						
TXAR				LR	LR	02 18 28.7	
	comp=Z,181nm,18.0s,MS4.6,baz=200,slow=33						
GDL2	Guadalupe Moun	96.35	56	*e*P	P	01 39 24.6	-0.2
ANMO	Albuquerque	96.56	52	P	P	01 39 25.3	-0.4
HLID	Hailey	97.08	42	*e*P	P	01 39 28.0	+0.1
	comp=Z,3.2nm,1.1s,mb4.7						
HLID				LR	LR		
	comp=Z,184nm,20.0s,MS4.6						
LPAZ	La Paz	97.87	115	P	P	01 39 33.2	+1.3
	comp=Z,0.9nm,0.7s,mb4.4,baz=270,slow=4.0,SNR=2.9						
LPAZ				LR	LR	02 13 45.2	
	comp=Z,83nm,21.6s,MS4.2,baz=45,slow=29						
NEW	Newport	98.74	37	*e*P	P	01 39 34.5	-0.7
	comp=Z,1.9nm,0.9s,mb4.6						
NEW				LR	LR		
	comp=Z,272nm,19.0s,MS4.8						
CPUP	Villa Florida	98.86	130	LR	LR	02 16 04.7	
	comp=Z,247nm,21.9s,MS4.7,baz=263,slow=30						
PDAR	Pinedale Array	99.34	44	P	P	01 39 37.6	-0.4
	comp=Z,0.8nm,0.9s,mb4.3,baz=207,slow=3.3,SNR=6.7						
PDAR				LR	LR	02 19 39.1	
	comp=Z,119nm,18.6s,MS4.4,baz=241,slow=32						
MCK	McKinley	100.07	13	*e*Pdif	P	01 39 42.3	+1.4
ILAR	Eielson Array	101.40	14	P	P	01 39 46.2	-0.7
	comp=Z,1.9nm,1.1s,baz=231,slow=5.8,SNR=5.6						
ILAR	Eielson Array	101.40	14	P	P	01 39 46.2	-0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	Urumqi	114.29	308	*e*PKP	PKPdf	01 44 35.3	+1.0
WMQ				XPKP		01 44 46.3	
WMQ				PP	PP	01 45 35.4	+0.4
WMQ				LR	LR		
	comp=E,75nm,30.8s						
WMQ				LR	LR		
	comp=Z,64nm,25.7s						
MKAR	Makanchi Array	118.93	309	PKP	PKPdf	01 44 42.5	-0.7
	comp=Z,4.6nm,0.9s,baz=66,slow=1.3,SNR=15						
MKAR	Makanchi Array	118.93	309	PKIKP	PKPdf	01 44 42.5	-0.7
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL	Zalesovo	119.67	317	PKP	PKPdf	01 44 43.5	-0.9
	comp=Z,1.7nm,0.8s,baz=275,slow=0.9,SNR=8.3						
ZAL	Zalesovo	119.67	317	PKIKP	PKPdf	01 44 43.6	-0.9
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	122.41	313	*e*PKP	PKPdf	01 44 48.5	-1.3
LSZ	Lusaka	124.64	213	*e*PKP	PKPdf	01 44 55.3	+0.3
TSUM	Tsumeb	124.95	200	PKP	PKPdf	01 44 56.4	+0.9
	comp=Z,5.4nm,0.9s,baz=327,slow=4.3,SNR=4.7						
BRVK	Borovoye	127.94	314	*e*PKP	PKPdf	01 44 59.1	-1.2
KMBO	Kilima Mbogo	131.12	232	*e*PKP	PKPdf	01 45 08.5	+0.9
ARU	Arti	134.80	318	*e*PKIKP	PKPdf	01 45 12.9	-0.3
ARU	Arti	134.80	318	*e*PKP	PKPdf	01 45 12.0	-1.2
TATS	Tathlith	139.42	261	P	PKPdf	01 45 24.0	+1.3
ARCES	ARCESS Array B	141.52	346	PKhKP		01 45 19.4	
	comp=Z,3.7nm,0.9s,baz=45,slow=5.1,SNR=5.8						
HILS	Ha'il	144.12	271	P	PKPbc	01 45 28.6	-1.4
GOF	Gofitskoye	145.64	302	⇑*i*PKHKP		01 45 21.0	
GOF				pmax	pmax		
	comp=Z,36nm,1.1s						
KBRS	Khaybar	145.65	267	P	PKPdf	01 45 33.8	+0.4
BORG	Borgarnes	146.17	17	PKPbc	PKPbc	01 45 35.5	+1.3
	comp=Z,20nm,0.9s,baz=321,slow=4.6,SNR=3.9						
BTMT	Batman	146.76	290	*e*P	PKPdf	01 45 36.1	+1.2
VRT	Varto	146.80	291	*e*P	PKPdf	01 45 36.1	+1.1
VOR	Voronezh	146.88	315	*e*PKIKP	PKPdf	01 45 35.6	+0.9
VOR				pmax	pmax		
	comp=Z,150nm,1.6s						
EZM	Erzurum	146.97	293	*e*P	PKPdf	01 45 36.1	+0.9
UMJS	Umm Lajj	147.06	265	P	PKPdf	01 45 38.3	+2.5
KAF	Kangasniemi	147.19	338	*e*p	PKPdf	01 45 34.1	-0.8
	comp=Z,11nm,0.8s						
KAF	Kangasniemi	147.19	338	*e*PKIKP	PKPdf	01 45 34.1	-0.8
KAF				pmax	pmax		
	comp=Z,11nm,0.8s						
DIY	Diyarbakir	147.73	289	*e*P	PKPdf	01 45 39.7	+3.2
FINES	FINESS Array B	147.76	337	PKP	PKPdf	01 45 35.4	-0.4
	comp=Z,21nm,0.7s,baz=108,slow=6.0,SNR=38						
FINES				PKPbc	PKPdf	01 45 38.2	+2.4
	comp=Z,21nm,0.7s,baz=108,slow=4.4,SNR=42						
FINES	FINESS Array B	147.76	337	PKIKP	PKPdf	01 45 35.4	-0.4
FINES						01 45 38.2	
FINES				pmax	pmax		
	comp=Z,21nm,0.7s						
FINES				pmax	pmax		
	comp=Z,21nm,0.7s						
FINES	FINESS Array B	147.76	337	PKP	PKPdf	01 45 35.4	-0.4
FINES				PKPbc	PKPdf	01 45 38.2	+2.4
GUMT	Gumushane	148.42	294	*e*P	PKPdf	01 45 38.7	+1.2
TBKS	Tabuk	148.78	270	P	PKPdf	01 45 42.6	+4.1
QURS	Qurayyt al Mil	149.03	276	P	PKPdf	01 45 43.7	+4.9
MALT	Malatya	149.18	290	*e*PKPdf	PKPdf	01 45 38.7	-0.1
MALT				*e*PKPbc	PKPdf	01 45 43.1	+4.3
BDAS	Al Bad'	150.05	269	P	PKPdf	01 45 45.4	+4.9
GAZ	Gaziantep	150.06	287	*e*P	PKPdf	01 45 45.4	+5.1
HAQS	Haql	150.39	270	P	PKPdf	01 45 46.6	+5.6
MNK	Minsk	151.74	326	*e*PKIKP	PKPdf	01 45 46.0	+3.8
NB2	NORSAR Subarra	151.79	349	PKP	PKPdf	01 45 48.1	+6.0
	comp=Z,57nm,0.9s,baz=18,slow=2.6						
NB2	NORSAR Subarra	151.79	349	PKPa	PKPdf	01 45 48.1	+6.0
	baz=18,slow=2.6						
NOA	NORSAR Array B	151.79	349	PKP	PKPdf	01 45 42.2	+0.1
	comp=Z,3.6nm,1.0s,baz=314,slow=3.8,SNR=7.7						
NOA				PKPbc	PKPdf	01 45 48.5	+6.4
	comp=Z,25nm,0.8s,baz=13,slow=4.0,SNR=45						
NAO01	NORSAR Array S	152.02	349	PKPdf	PKPdf	01 45 43.0	+0.6
NAO01				*e*PKPbc	PKPdf	01 45 48.6	+6.2
LIC	Lamto	152.17	168	*e*PKIKP	PKPdf	01 45 49.9	+5.8
	comp=Z,74nm,0.9s						
LIC	Lamto	152.17	168	*e*P	PKPdf	01 45 49.7	+5.6
	comp=Z,134nm,1.0s						
KIC	Kosan Boka	152.36	169	*e*P	PKPdf	01 45 52.4	+8.1
	comp=Z,211nm,1.0s						
TIC	Toumodi	152.59	168	*e*P	PKPdf	01 45 49.3	+4.6
	comp=Z,113nm,0.9s						
DBIC	Dimbokro	152.64	168	PKPbc	PKPdf	01 45 51.1	+6.4
	comp=Z,11nm,0.9s,baz=143,slow=4.4,SNR=5.3						
DBIC	Dimbokro	152.64	168	PKIKP	PKPdf	01 45 51.1	+6.4
DBIC				pmax	pmax		
	comp=Z,11nm,0.9s						
DBIC	Dimbokro	152.64	168	PKP	PKPdf	01 45 46.1	+1.4
KAMT	Kaman	152.87	292	*i* P	PKPdf	01 45 51.3	+7.0
BRTR	Keskin Array B	152.92	292	PKP	PKPdf	01 45 43.7	-0.7
	comp=Z,1.6nm,1.1s,baz=90,slow=2.5,SNR=7.0						
BRTR				PKPbc	PKPdf	01 45 51.2	+6.9
	comp=Z,7.0nm,0.9s,baz=135,slow=1.7,SNR=19						
BRTR	Keskin Array B	152.92	292	PKIKP	PKPdf	01 45 43.7	-0.7
BRTR						01 45 51.3	
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CSS	Prodhromos	152.98	282	*e*PKPdf	PKPdf	01 45 45.4	+0.8
CSS				*e*PKPbc	PKPdf	01 45 52.5	+7.9
SUW	Suwalki	154.16	329	*e*PKPbc	PKPdf	01 45 54.3	+8.6
KWP	Kalwaria	157.17	321	*e*PKP	PKPdf	01 45 49.3	-0.5
BSEG	Bad Segeberg	158.62	344	*e*PKIKP	PKPdf	01 45 51.2	-0.3
OKC	Ostrava-Krasne	159.30	326	*e*PKIKP	PKPdf	01 45 52.5	+0.1
DPC	Dobruska-Polom	159.73	330	*e*PKIKP	PKPdf	01 45 53.4	+0.6
VYHS	Vyhne	159.88	323	*e*PKP	PKPdf	01 45 52.8	-0.3
VYHS				*i*		01 46 33.2	
CLL	Collm	160.21	336	*e*PKIKP	PKPdf	01 45 54.0	+0.7
CLL				*i* PKP2	PKPab	01 46 34.0	-2.0
BRG	Berggiesshubel	160.25	334	*i* PKIKP	PKPdf	01 45 53.7	+0.3
BRG				*i*		01 46 34.7	
BRG				pmax	pmax		
	comp=Z,17nm,1.3s						
PVCC	Panska Ves	160.29	333	*e*PKIKP	PKPdf	01 45 54.2	+0.8
CLZ	Clausthal	160.52	342	*e*PKPdf	PKPdf	01 45 54.1	+0.5
ZST	Bratislava	160.94	324	*e*PKP	PKPdf	01 45 54.2	+0.1
MOX	Moxa	161.23	338	*i* P	PKPdf	01 45 54.8	+0.5
MOX				PKP2	PKPab	01 46 45.0	+4.6
MOX	Moxa	161.23	338	*e*PKIKP	PKPdf	01 45 54.8	+0.5
KHC	Kasperske Hory	161.80	332	*e*PKIKP	PKPdf	01 45 55.3	+0.3
KHC				*e*		01 46 23.1	
KHC				*e*PKS	PKS	01 49 33.7	+6.3
GEC2	GERESS Array S	161.97	331	*e*PKIKP	PKPdf	01 45 55.2	+0.1
GERES	GERESS Array B	161.97	331	PKP	PKPdf	01 45 54.7	-0.4
	comp=Z,3.4nm,1.0s,SNR=17						
GERES	GERESS Array B	161.97	331	PKIKP	PKPdf	01 45 54.7	-0.4
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WET	Wettzell	162.06	333	*e*PKIKP	PKPdf	01 45 55.5	+0.3
GRA1	Grafenberg Arr	162.18	337	*e*PKPdf	PKPdf	01 45 55.6	+0.3
GRA1				*e*PKPab	PKPab	01 46 40.5	-4.1
GRF	Grafenberg Arr	162.18	337	*e*PKIKP	PKPdf	01 45 55.6	+0.3
GIVF	Givet	163.31	350	*e*PKIKP	PKPdf	01 45 57.1	+0.7
BAIF	Baives	163.43	352	*e*PKIKP	PKPdf	01 45 56.9	+0.3
MEZF	Maizieres J'vi	164.83	349	*e*PKIKP	PKPdf	01 45 58.7	+0.7
	comp=Z,72nm,1.5s						
HAU	Haudompre	165.06	345	*e*PKIKP	PKPdf	01 45 58.2	-0.1
HAU				*e*R			
	comp=Z,107nm,21.5s						
TIP	Timpagrande	165.87	297	*e*PKP	PKPdf	01 45 59.4	+0.1
LOR	Lormes	166.22	351	*e*PKIKP	PKPdf	01 46 00.1	+0.8
	comp=Z,22nm,1.2s						
LOR				*e*R			
	comp=Z,171nm,20.2s						
SSF	Saint Saulge	166.47	351	*e*PKIKP	PKPdf	01 46 00.0	+0.5
	comp=Z,55nm,1.5s						
CII	Carovilli	166.51	310	*e*PKP	PKPdf	01 46 00.3	+0.6
AVF	Avril sur Loir	166.75	352	*e*PKIKP	PKPdf	01 45 59.8	+0.1
	comp=Z,37nm,1.6s						
SMF	Signal de Mont	166.83	350	*e*PKIKP	PKPdf	01 46 00.0	+0.3
BGF	Bois d'Agland	167.04	353	*e*PKIKP	PKPdf	01 46 00.6	+0.7
	comp=Z,58nm,1.4s						
LPG	La Plagne	167.29	340	*e*PKIKP	PKPdf	01 46 01.0	+0.9
TCF	Toulx Ste Croi	167.36	355	*e*PKIKP	PKPdf	01 46 02.0	+1.9
	comp=Z,18nm,1.1s						
VIVF	Saint-Julien-l	168.41	345	*e*PKIKP	PKPdf	01 46 01.4	+0.6
	comp=Z,16nm,0.9s						
SMRF	Simiane la Rot	169.02	341	*e*PKIKP	PKPdf	01 46 00.9	-0.2
	comp=Z,60nm,1.3s						
ERUA	La Rua	169.41	33	PKP	PKPdf	01 46 04.9	+3.5
EMIN	Mina Concepcio	172.85	53	PKP	PKPdf	01 46 03.9	+0.4
ESDC	Sonseca Array	173.01	30	PKP	PKPdf	01 46 05.2	+1.7
	comp=Z,4.2nm,1.0s,baz=345,slow=2.0,SNR=11						
ESDC	Sonseca Array	173.01	30	PKP	PKPdf	01 46 05.2	+1.6
ESPR	Espera	173.87	57	PKP	PKPdf	01 46 04.9	+1.0
EADA	Adamuz	173.89	42	PKP	PKPdf	01 46 03.1	-0.8
EVIA	Vianos	174.48	26	PKP	PKPdf	01 46 04.8	+0.7
ETOB	Tobarra	174.77	19	PKP	PKPdf	01 46 05.4	+1.3
EQES	Quesada	174.94	35	PKP	PKPdf	01 46 02.5	-1.7

WEL ***21*** *01:49:23.7±0.1, 39.88S×175.83E, h48^{km}±2^{km}, ML3.5/6,*
Error ellipse: s-maj=1.5km s-min=0.6km az=90.0
ISC 21 01:49:22.4±0.4, **39.91S**±0.02×**175.80E**±0.05, **h59**^{km}±6^{km},
n52, σ0^{s}**74**/66, **8C-8D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.20	140	⇑PN	P	01 49 31.8	+0.1
TSZ				SN	S	01 49 38.0	-0.4
TSZ				SN	S	01 49 38.3	-0.1
MOVZ	Moawhango	0.50	356	⇓PN	P	01 49 33.8	-0.5
MOVZ				SN	S	01 49 41.6	-1.4
WNVZ	Wahianoa	0.60	345	⇓PN	P	01 49 35.3	-0.1
WNVZ				SN	S	01 49 43.9	-1.1

WAZ	Wanganui	0.64	283	⇓PN	P	01 49 36.6	+0.7
WAZ				SN	S	01 49 45.5	-0.5
TUVZ	Tukino	0.65	350	PN	P	01 49 36.0	+0.1
DRZ	Dome Shelter	0.66	344	PN	P	01 49 36.2	+0.1
DRZ				PN	P	01 49 36.4	+0.3
FWVZ	Far West T-bar	0.68	344	PN	P	01 49 36.5	+0.1
WPVZ	Whakapapa	0.73	345	PN	P	01 49 37.2	+0.2
WPVZ				SN	S	01 49 47.6	-0.2
CNZ	Chateau	0.73	345	⇓PN	P	01 49 37.3	+0.2
NGZ	Ngauruhoe	0.74	348	⇓PN	P	01 49 37.4	+0.2
NGZ				⇑PN	P	01 49 37.4	+0.2
NGZ				SN	S	01 49 48.1	-0.1
MRZ	Mangatainoka R	0.77	192	⇑PN	P	01 49 38.6	+1.0
WTVZ	West Tongariro	0.81	349	⇑PN	P	01 49 38.3	+0.3
WTVZ				SN	S	01 49 49.5	-0.1
KAVZ	Karewarewa	0.82	352	⇓PN	P	01 49 38.4	+0.3
PWZ	Pawanui	0.83	99	ePN	P	01 49 39.1	+0.8
BFZ	Birch Farm	0.85	156	PN	P	01 49 39.7	+1.1
TWVZ	Taurewa	0.88	342	⇑PN	P	01 49 38.9	0.0
BKZ	Black Stump Fm	0.92	36	PN	P	01 49 40.5	+1.1
MGZ	Maungaku	0.93	348	⇑PN	P	01 49 39.5	-0.1
RITZ	Rihia Road	0.93	3	PN	P	01 49 39.9	+0.3
KATZ	Kakaramea	0.93	355	PN	P	01 49 39.8	+0.1
RATZ	Rangitukua	1.04	359	⇑PN	P	01 49 41.1	0.0
VRZ	Vera Road	1.12	314	PN	P	01 49 42.1	-0.2
KIW	Kapiti Island	1.17	215	⇓PN	P	01 49 43.9	+1.1
KIW				SN	S	01 49 59.4	+1.2
WATZ	Wairara	1.20	358	PN	P	01 49 43.1	-0.2
RAEZ	Rainy Point	1.25	299	PN	P	01 49 45.2	+1.1
MTW	Mount Morrison	1.27	190	⇑PN	P	01 49 44.7	+0.4
CAW	Cannon Point	1.32	205	PN	P	01 49 45.5	+0.3
DFE	Dawson Falls	1.43	293	PN	P	01 49 47.7	+1.1
NEZ	North Egmont	1.46	295	PN	P	01 49 47.7	+0.7
PAWZ	Paruwai Farm	1.50	191	PN	P	01 49 47.4	-0.2
PAWZ				SN	S	01 50 05.9	-0.3
NRZ	Ngariki Road	1.55	291	PN	P	01 49 49.3	+1.0
MRW	Makara Radio	1.56	212	PN	P	01 49 48.6	+0.2
MSWZ	Moikau Station	1.56	195	PN	P	01 49 48.2	-0.3
MSWZ				SN	S	01 50 07.2	-0.6
PATZ	Paeroa	1.57	13	PN	P	01 49 48.6	+0.1
PKE	Pukeiti	1.57	296	⇓PN	P	01 49 49.7	+1.2
HIZ	Hauiti	1.57	332	PN	P	01 49 47.9	-0.6
WEL	Wellington	1.58	209	PN	P	01 49 48.9	+0.1
NWEZ	Newall Road	1.62	292	PN	P	01 49 50.4	+1.2
SNZO	South Karori	1.63	210	PN	P	01 49 49.1	-0.2
SNZO				SN	S	01 50 09.4	+0.1
BHW	Baring Head	1.66	205	PN	P	01 49 50.0	+0.2
KNZ	Kokohu	1.70	59	PN	P	01 49 49.9	-0.5
TAZ	Tarawera	1.76	19	PN	P	01 49 51.1	-0.1
URZ	Urewera	1.94	32	PN	P	01 49 52.9	-0.7
MWZ	Matawai	2.07	41	ePN	P	01 49 54.6	-0.9
TUWZ	Tuamarina	2.07	222	PN	P	01 49 54.8	-0.8
NNZ	Nelson	2.26	234	ePN	P	01 49 57.7	-0.5
BSWZ	Blackbirch Sta	2.32	218	ePN	P	01 49 58.1	-1.0
QRZ	Quartz Range	2.66	249	ePN	P	01 50 02.3	-1.6
THZ	Tophouse	2.87	229	ePN	P	01 50 04.9	-2.0
KHZ	Kahutara	3.03	213	SN	S	01 50 40.7	-3.7
DSZ	Denniston Nort	3.54	237	ePN	P	01 50 14.2	-2.2
MQZ	McQueen's Vall	4.46	211	SN	S	01 51 12.1	-8.4

WEL 21 02:02:25.2±0.1**, 41.08S**×**175.53E, h29**^{km}**, ML3.7**/7**, 2C-7D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTW	Mount Morrison	0.09	197	⇓P*	Pb	02 02 30.2	-0.2
MTW				S*	Sb	02 02 33.8	0.0
MTW				S*	Sb	02 02 33.9	+0.1
PAWZ	Paruwai Farm	0.32	195	P*	Pb	02 02 32.9	+0.1
PAWZ				S*	Sb	02 02 39.0	+1.0
CAW	Cannon Point	0.35	265	⇓P*	Pb	02 02 33.4	0.0
CAW				S*	Sb	02 02 39.2	+0.3
MSWZ	Moikau Station	0.40	212	⇓P*	Pb	02 02 34.0	0.0
MSWZ				S*	Sb	02 02 40.0	-0.1
MRZ	Mangatainoka R	0.41	5	⇑P*	Pb	02 02 34.3	0.0
MRZ				S*	Sb	02 02 40.7	+0.3
KIW	Kapiti Island	0.52	294	⇑P*	Pb	02 02 36.1	+0.2
KIW				S*	Sb	02 02 43.7	+0.6
BHW	Baring Head	0.60	236	⇓P*	Pb	02 02 37.1	-0.1
BHW				S*	Sb	02 02 45.5	+0.1
WEL	Wellington	0.61	250	P*	Pb	02 02 37.4	-0.1
MRW	Makara Radio	0.65	256	⇓P*	Pb	02 02 38.0	0.0
BFZ	Birch Farm	0.67	54	⇓P*	Pb	02 02 38.1	-0.2
SNZO	South Karori	0.67	249	P*	Pb	02 02 38.3	0.0
SNZO				S*	Sb	02 02 47.1	-0.1
TSZ	Takapari Road	1.07	18	⇓P*	Pb	02 02 44.0	-1.0
CMWZ	Cape Campbell	1.20	235	eP*	Pb	02 02 46.4	-0.8
TUWZ	Tuamarina	1.25	253	P*	Pb	02 02 45.8	-2.3
BSWZ	Blackbirch Sta	1.40	242	PN	Pn	02 02 48.2	-1.0
PWZ	Pawanui	1.46	44	PN	Pn	02 02 48.0	-1.9
NNZ	Nelson	1.63	264	PN	Pn	02 02 51.8	-0.6
MOVZ	Moawhango	1.68	6	ePN	Pn	02 02 52.6	-0.4
WNVZ	Wahianoa	1.75	2	PN	Pn	02 02 54.4	+0.3
DRZ	Dome Shelter	1.80	1	PN	Pn	02 02 55.7	+0.9
TUVZ	Tukino	1.81	3	PN	Pn	02 02 55.2	+0.2
WPVZ	Whakapapa	1.87	0	ePN	Pn	02 02 56.2	+0.4
CNZ	Chateau	1.87	0	PN	Pn	02 02 56.4	+0.5
NGZ	Ngauruhoe	1.90	2	PN	Pn	02 02 56.5	+0.2
NGZ				PN	Pn	02 02 56.7	+0.4
WTVZ	West Tongariro	1.96	1	PN	Pn	02 02 57.4	+0.3
KAVZ	Karewarewa	1.98	3	ePN	Pn	02 02 57.8	+0.5
TWVZ	Taurewa	2.00	358	PN	Pn	02 02 58.2	+0.4
VRZ	Vera Road	2.04	343	ePN	Pn	02 02 59.0	+0.8
BKZ	Black Stump Fm	2.04	21	ePN	Pn	02 02 56.6	-1.7
MGZ	Maungaku	2.07	0	PN	Pn	02 02 58.8	0.0
THZ	Tophouse	2.09	250	PN	Pn	02 02 56.9	-2.2
KATZ	Kakaramea	2.10	3	ePN	Pn	02 02 59.5	+0.4
NRZ	Ngariki Road	2.13	324	ePN	Pn	02 03 01.7	+2.2
PKE	Pukeiti	2.22	327	ePN	Pn	02 03 03.5	+2.6
QRZ	Quartz Range	2.29	275	ePN	Pn	02 03 01.3	-0.6
HIZ	Hauiti	2.61	348	ePN	Pn	02 03 06.9	+0.4
MWZ	Matawai	3.14	30	PN	Pn	02 03 10.2	-3.7
MQZ	McQueen's Vall	3.39	218	SN	Sn	02 03 49.3	-7.8

IDC 21 02:12:24.5±3.3**, 18.37S**×**177.44W, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=397.0km s-min=33.8km az=159.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.45	260	P	P	02 20 45.3	-2.0
	0.2nm,0.5s,baz=97,slow=6.6,SNR=3.5						
ASAR	Alice Springs	45.55	255	P	P	02 20 46.5	-1.6
	0.9nm,0.5s,baz=88,slow=8.8,SNR=12						
TXAR	Lajitas Array	85.47	57	P	P	02 25 04.7	-1.2
	0.2nm,0.7s,baz=217,slow=6.3,SNR=4.3						

IDC 21 02:32:23.5±2.3**, 6.56S**×**129.46E, mb3.4**/1**, mb1 3.7**/4**, mb1mx3.5**/13**, ML3.4**/3**, Error ellipse: s-maj=107.0km s-min=27.8km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.06	198	Pn	P	02 35 17.6	-2.1
	0.2nm,0.3s,baz=11,slow=12,SNR=9.9						
FITZ				Sn	S	02 37 19.6	-17
	0.2nm,0.3s,baz=202,slow=2.9,SNR=3.5						
WRA	Warramunga Arr	14.12	161	Pn	P	02 35 44.0	-3.2
	0.2nm,0.3s,baz=334,slow=13,SNR=7.6						
WRA				Sn	S	02 38 06.7	-19
	0.2nm,0.3s,baz=336,slow=23,SNR=4.1						
ASAR	Alice Springs	17.53	166	P	P	02 36 29.5	-1.6
	0.2nm,0.3s,baz=336,slow=8.4,SNR=5.2						
MKAR	Makanchi Array	67.57	327	P	P	02 43 21.9	-2.1
	0.1nm,0.3s,baz=111,slow=8.1,SNR=3.4						

IDC ***21*** *03:11:55.4±1.2, 34.98N×141.19E, mb3.8/5, mb1 4.0/6, mb1mx3.8/23, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/30, Error ellipse: s-maj=42.3km s-min=23.2km az=112.0*

NEIC ***21*** *03:11:57.0±0.8, 34.89N×141.19E, h10*^{km}*, mb4.2/1, Error ellipse: s-maj=24.8km s-min=11.4km az=56.0*

JMA ***21*** *03:11:58.7±0.3, 35.06N×141.34E, h25*^{km}*±4*^{km}*, M3.0*

ISC 21 03:11:56.3±1.5**, 35.01N**±0.04×**141.5E**±0.1**, h27**^{km}±7^{km}**, n17, σ0**^{s}**78**/21**, mb3.9**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.56	230	P	Pb	03 12 08.9	+1.4
BSO1				eS	Sb	03 12 14.8	-0.3
BSO2	Boso 2	0.66	247	eS	Sb	03 12 17.9	-0.2
CHOJ	Chosi	0.86	323	P	Pb	03 12 12.9	+0.3
CHOJ				eS	Sb	03 12 22.8	-1.1
BSO4	Boso 4	0.95	269	P	Pn	03 12 15.1	+1.0
KTR	Katsuura	0.98	278	P	Pn	03 12 14.5	+0.1
JIM2	Oshima 3	1.72	261	P	Pn	03 12 24.8	-0.3
JHO	Hitachi	1.77	335	eS	Sn	03 12 47.9	+0.4
JHJ	Hachijo jima 2	2.36	217	Pn	Pn	03 12 34.8	+0.5
	14nm,0.3s,baz=45,slow=18,SNR=2.8						
JHJ				Sn	Sn	03 13 02.1	-0.6
	48nm,0.3s,baz=294,slow=23,SNR=7.6						
MAJO	Matsushiro	3.08	301	eP	Pn	03 12 42.8	-1.6
MAT	Matsushiro	3.08	301	P	Pn	03 12 45.0	+0.5
MAT				S	Sn	03 13 21.5	+0.7
MAT	Matsushiro	3.08	301	eP	Pn	03 12 45.0	+0.5
MAT				eS	Sn	03 13 22.0	+1.2
JOW	Kunigami	13.96	238	LR	LR	03 20 06.0	
	comp=Z,44nm,18.1s,baz=239,slow=36						
MKAR	Makanchi Array	45.27	304	P	P	03 20 12.7	-0.6
	0.3nm,0.5s,mb3.4,baz=96,slow=9.7,SNR=2.9						
FITZ	Fitzroy Crossi	54.93	199	P	P	03 21 27.1	-0.3
	2.7nm,0.9s,mb4.3,baz=27,slow=5.8,SNR=4.2						
WRA	Warramunga Arr	55.07	188	P	P	03 21 28.1	-0.3
	1.1nm,0.4s,mb4.2,baz=5.0,slow=7.5,SNR=25						
ASAR	Alice Springs	58.80	188	P	P	03 21 54.5	-0.3
	0.7nm,0.9s,mb3.7,baz=358,slow=6.3,SNR=6.6						
NVAR	Mina Array Bea	76.15	53	P	P	03 23 47.4	+3.7
	0.6nm,0.7s,mb3.6,baz=297,slow=4.0,SNR=4.8						

NIED ***21*** *03:29:00, 35.00N×141.50E, h17*^{km}*, Mw4.1 Best double couple:* M_0*1.8×10*^{15} *NP1:*ϕ_s*152°, δ84°, λ-42°. NP2:*ϕ_s*247°, δ49°, λ-173°.*

IDC ***21*** *03:29:40.5±0.7, 35.04N×141.19E, mb4.1/9, mb1 4.2/12, mb1mx4.1/27, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/25, Error ellipse: s-maj=34.5km s-min=14.1km az=111.0*

JMA ***21*** *03:29:42.8±0.2, 35.01N×141.46E, h38*^{km}*±4*^{km}*, M3.7*

MOS ***21*** *03:29:42.8±1.5, 35.10N×141.31E, h33*^{km}*, mb4.4/4, Error ellipse: s-maj=78.3km s-min=17.6km az=86.2*

NEIC ***21*** *03:29:48.3±2.2, 35.01N×141.18E, h60*^{km}*±22*^{km}*, mb4.3/4, Error ellipse: s-maj=24.3km s-min=8.9km az=105.0*

ISC 21 03:29:42.9±0.9**, 34.99N**±0.03×**141.46E**±0.05**, h31**^{km}±6^{km}**, n38, σ0**^{s}**97**/46**, mb4.1**/12**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.52	230	P	Pb	03 29 54.0	+0.4
BSO1				S	Sb	03 30 00.3	-0.6
BSO2	Boso 2	0.62	248	S	Sb	03 30 04.0	+0.2
BSO3	Boso 3	0.80	257	P	Pn	03 29 57.9	-0.2
BSO3				eS	Sb	03 30 10.6	+1.9
CHOJ	Chosi	0.87	326	P	Pn	03 29 58.2	-0.9
CHOJ				eS	Sb	03 30 09.9	-0.7
BSO4	Boso 4	0.92	271	P	Pn	03 29 59.8	0.0
KTR	Katsuura	0.95	280	eS	Sn	03 30 13.2	+0.4
JCN	Nagara	1.11	293	P	Pn	03 30 03.2	+0.6
JCN				eS	Sn	03 30 18.0	+1.0
JYT	Yasato	1.61	321	P	Pn	03 30 09.7	0.0
JIM2	Oshima 3	1.69	261	P	Pn	03 30 09.8	-1.0
JHO	Hitachi	1.77	336	P	Pn	03 30 11.3	-0.8
JHO				eS	Sn	03 30 34.0	+0.2
JHJ	Hachijo jima 2	2.32	217	Pn	Pn	03 30 20.1	+0.2
	45nm,0.3s,baz=275,slow=21,SNR=27						
JHJ				LR	LR	03 30 46.4	
	comp=Z,840nm,19.6s,baz=144,slow=30						
JHJ				Sn	Sn	03 30 47.2	-0.5
	86nm,0.3s,baz=76,slow=22,SNR=6.6						
MAJO	Matsushiro	3.06	301	eP	Pn	03 30 30.4	0.0
MAT	Matsushiro	3.06	301	P	Pn	03 30 30.6	+0.1
MAT				S	Sn	03 31 06.2	-0.3
MAT	Matsushiro	3.06	301	eP	Pn	03 30 31.0	+0.5
MAT				eS	Sn	03 31 06.0	-0.5
JNU	Nakatsue	8.97	261	Pn	P	03 31 54.1	+0.6
	0.3nm,0.3s,baz=98,slow=9.2,SNR=3.8						
ASAJ	Asahikawa	9.16	5	Pn	P	03 31 52.6	-3.5
	2.2nm,0.3s,baz=192,slow=10,SNR=11						
ASAJ				Sn	Sn	03 33 33.8	-5.4
	0.5nm,0.3s,baz=285,slow=20,SNR=4.8						
ASAJ				LR	LR	03 36 08.1	
	comp=Z,90nm,19.5s,baz=184,slow=42						
ASAJ	Asahikawa	9.16	5	P	P	03 31 52.7	-3.4
ASAJ						03 33 33.8	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,90nm,19.5s						
YSS	Yuzh-Sakhalins	12.00	4	eP	P	03 32 31.5	-3.3
SONM	Songino Array	29.00	307	P	P	03 35 40.1	-1.9
	comp=Z,0.6nm,0.8s,mb3.4,baz=108,slow=8.4,SNR=4.8						
BOD	Bodaibo	29.30	330	eP	P	03 35 44.1	-0.4
ILAR	Eielson Array	51.21	31	P	P	03 38 45.7	+0.5
	comp=Z,1.3nm,0.8s,mb3.9,baz=269,slow=6.2,SNR=12						
ILAR	Eielson Array	51.21	31	P	P	03 38 45.7	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FITZ	Fitzroy Crossi	54.89	198	P	P	03 39 12.9	-0.3
	comp=Z,2.0nm,0.6s,mb4.3,baz=6.9,slow=10,SNR=6.1						
CTA	Charters Tower	54.96	174	P	P	03 39 13.6	0.0
	comp=Z,4.6nm,0.7s,mb4.6,baz=26,slow=12,SNR=5.0						
CTA	Charters Tower	54.96	174	P	P	03 39 13.6	0.0
CTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CTAO	Charters Tower	54.96	174	P	P	03 39 12.6	-1.0
	comp=Z,5.1nm,0.8s,mb4.6						
WRAB	Tennant Creek	55.03	188	eP	P	03 39 13.0	-1.2
	comp=Z,5.7nm,0.6s,mb4.8						
WB2	Warramunga Arr	55.04	188	eP	P	03 39 13.3	-0.9
WRA	Warramunga Arr	55.04	188	P	P	03 39 13.5	-0.7
	comp=Z,3.8nm,0.5s,mb4.7,baz=4.9,slow=7.6,SNR=49						
WRA	Warramunga Arr	55.04	188	P	P	03 39 13.5	-0.7
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	Inuvik	56.20	26	P	P	03 39 22.6	+0.7
	comp=Z,0.7nm,0.6s,mb3.9,baz=270,slow=12,SNR=3.1						
INK	Inuvik	56.20	26	P	P	03 39 22.6	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	58.77	188	P	P	03 39 40.5	-0.1
	comp=Z,1.0nm,0.5s,mb4.1,baz=2.8,slow=7.0,SNR=12						
NEW	Newport	71.58	44	P	P	03 41 04.0	+1.0
	comp=Z,1.0nm,0.6s,mb3.9						
HLID	Hailey	75.75	47	P	P	03 41 28.9	+1.7
	comp=Z,0.6nm,0.8s,mb3.6						
NVAR	Mina Array Bea	76.19	53	P	P	03 41 32.3	+2.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=285,slow=4.9,SNR=13						
PDAR	Pinedale Array	79.08	45	P	P	03 41 47.5	+1.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=356,slow=0.4,SNR=5.7						
SAML	Samuel	145.65	47	PKP	PKPdf	03 49 20.2	-3.7

IDC ***21*** *03:32:40.8±0.8, 37.79N×57.50E, mb4.5/21, mb1 4.6/25, mb1mx4.6/26, ML4.3/3, MS3.9/11, Ms1 3.9/11, ms1mx3.6/26, Error ellipse: s-maj=22.5km s-min=11.9km az=2.0*

BJI ***21*** *03:32:41.1, 38.22N×57.48E, h9*^{km}*, mB4.9, mb4.9, Ms4.8, Msz4.3*

MOS ***21*** *03:32:42.5±0.8, 38.20N×57.77E, h13*^{km}*, mb4.7/16, Error ellipse: s-maj=9.1km s-min=6.2km az=119.3*

NEIC ***21*** *03:32:42.4±0.5, 37.76N×57.62E, h10*^{km}*, mb4.7/43, Error ellipse: s-maj=12.7km s-min=6.2km az=176.0*

THR ***21*** *03:32:43.2±0.7, 37.64N×57.60E, h15*^{km}*, ML4.6*

NNC ***21*** *03:32:49.2±3.0, 38.60N×58.36E, Error ellipse: s-maj=33.2km s-min=23.0km az=56.0*

ISC 21 03:32:41.0±0.2**, 37.90N**±0.03×**57.64E**±0.02**, h10**^{km}**, (h22**^{km}±3.6^{km}**:pP-P), n216, σ1**^{s}**40**/229**, mb4.7**/70**, MS4.1**/21**, 12C-9D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAN	Vannovskaya	0.38	82	i P	Pg	03 32 51.0	+2.3
VAN				S	Sg	03 32 58.4	+4.5
DAMV	Damavand	5.08	245	ePN	Pn	03 33 60.0	+0.9
DAMV				AMP		03 35 31.0	
	comp=N,429nm,0.6s						
THKV	Tehran--Karaj	5.76	252	ePN	Pn	03 34 09.1	+0.3
THKV				AMP		03 35 58.8	
	comp=N,279nm,0.6s						
NASN	Na'in	6.44	219	ePN	Pn	03 34 16.7	-1.5
ASAO	Ashtian	7.00	244	ePN	Pn	03 34 25.5	-0.7
ZHSF	Zahedan	8.67	162	ePN	P	03 34 47.4	-2.0
SNGE	Sanandaj	8.74	254	ePN	P	03 34 49.5	-1.0
MAK	Makhachkala	9.23	306	eP	P	03 35 07.0	+10
MAK				MLR	MLR		
	comp=Z,2µm,13.0s						
MAK				MLR	MLR		
	comp=N,1µm,14.0s						
MAK				MLR	MLR		
	comp=E,2µm,14.0s						
GNI	Garni	10.28	287	Pn	P	03 35 09.6	-2.0
	comp=E,3.8nm,0.3s,baz=28,slow=2.2,SNR=22						
GNI				Sn	S	03 37 07.8	-0.2
	comp=E,2.3nm,0.3s,baz=351,slow=19,SNR=3.2						
GNI	Garni	10.28	287	P	P	03 35 09.6	-2.0
GNI						03 37 07.8	
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KK31	Karatay Array	11.09	58	⇑Pn	P	03 35 19.2	-3.5
	comp=Z,30nm,0.6s,baz=236,slow=17,SNR=561						
KK31				⇓Sn	S	03 37 20.6	-7.3
	comp=Z,22nm,0.6s						
KK31				⇑Lg		03 38 41.2	
	comp=Z,132nm,0.8s						
KKAR	Karatay Array	11.09	58	i P	P	03 35 19.8	-2.9
KKAR						03 37 25.2	
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TVAN	Van	11.22	278	i P	P	03 35 22.8	-1.6
AB31	Akbulak array	11.47	8	⇑Pn	P	03 35 23.3	-4.6
	comp=Z,30nm,0.7s,baz=193,slow=14,SNR=193						
AB31				⇑Sn	S	03 37 27.3	-10
	comp=Z,32nm,0.5s,baz=191,slow=23,SNR=8.5						
AB31	Akbulak array	11.47	8	eP	P	03 35 23.9	-4.0
AB31						03 37 28.9	
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RST	Umm Al-Ruwaisa	12.18	230	eP	P	03 35 35.2	-2.4
RST				AMb	AMB	03 35 37.9	
	comp=Z,31nm,0.8s						
QRN	Al-Qurain	12.21	224	eP	P	03 35 37.1	-0.9
QRN				AMb	AMB	03 35 39.8	
	comp=Z,140nm,0.8s						
CEP	Cherat	12.27	105	P	P	03 35 40.2	+1.5
RDF	Al-Radifah	12.28	226	eP	P	03 35 38.3	-0.6
RDF				AMb	AMB	03 35 40.8	
	comp=Z,72nm,1.0s						
ERZM	Erzurum	12.83	284	i P	P	03 35 45.5	-0.8
BEST	Besiri	12.93	275	i P	P	03 35 45.5	-2.0
AML	Almayashu	13.01	66	P	P	03 35 46.0	-2.6
	SNR=7.6						
GOF	Gofitskoye	13.07	308	eP	P	03 35 44.0	-5.3
EKS2	Erkin-Say	13.21	64	P	P	03 35 48.9	-2.3
	SNR=28						
CHCP	Chirah Chowk	13.37	104	P	P	03 35 55.2	+1.8
UCH	Uchtor	13.63	66	P	P	03 35 55.8	-0.9
	SNR=33						
AAK	Ala-Archa	13.71	65	P	P	03 35 56.5	-1.3
	SNR=19						
AAK	Ala-Archa	13.71	65	eP	P	03 35 54.4	-3.4
	comp=Z,24nm,0.7s						
AAK				e		03 36 05.3	
FRU	Bishkek	13.85	64	eP	P	03 35 58.0	-1.6
FRU				pmax	pmax		
	comp=Z,120nm,1.7s						
FRU				pmax	pmax		
	comp=E,790nm,1.9s						
FRU				MLR	MLR		
	comp=Z,2µm,13.0s						
USP	Ospenovka	13.89	62	P	P	03 35 57.6	-2.4
	SNR=40						
KBK	Karagaybulak	14.04	65	P	P	03 36 00.8	-1.3
	SNR=16						
KZA	Kyzart	14.13	67	P	P	03 36 02.0	-1.4
	SNR=20						
KSH	Kashi	14.41	78	eP	P	03 36 05.0	-2.0
KSH				eAP		03 36 10.6	
KSH				eXP		03 36 15.1	
KSH				AMB	AMB		
	comp=Z,160nm,1.5s						
KSH				LR	LR		
	comp=N,5µm,10.5s						
KSH				LR	LR		
	comp=E,3µm,6.2s						
TKM2	Tokmak 2	14.57	64	P	P	03 36 06.9	-2.1
	SNR=12						
ELZG	Elazig	14.68	278	i P	P	03 36 10.7	+0.2
ULHL	Ulahol	14.89	67	P	P	03 36 11.9	-1.3
	SNR=14						
MALT	Malatya	15.13	277	eP	P	03 36 16.6	+0.2
	comp=E,10nm,0.8s						
MALT				e		03 36 23.9	
GZT	Gaziantep	15.92	274	i P	P	03 36 25.4	-1.2
ANN	Anapa	16.64	301	eP	P	03 36 38.8	+3.0
ANN				pmax	pmax		
	comp=Z,77nm,1.3s						
ANN				MLR	MLR		
	comp=Z,275nm,15.0s						
ANN				MLR	MLR		
	comp=N,126nm,9.0s						
ANN				MLR	MLR		
	comp=E,106nm,10.0s						
HILS	Ha'il	16.95	236	P	P	03 36 37.0	-2.8
ZRNK	Zerenda	17.00	24	⇑Pn	P	03 36 36.2	-4.1
	comp=E,31nm,0.7s						
ZRNK				⇓Sn	S	03 39 34.0	-14
	comp=E,72nm,1.1s						
SDNR	Sundarnagar	17.12	106	eP	P	03 36 40.0	-1.9
MZLS	Mizel	17.43	221	P	P	03 36 44.6	-1.2
VOSK	Vostochnaya	17.50	28	⇑Pn	P	03 36 43.3	-3.3
	comp=E,60nm,1.4s						
VOSK				⇓Sn	S	03 39 50.0	-10
	comp=E,71nm,1.4s						
VOSK	Vostochnaya	17.50	28	P	P	03 36 43.2	-3.3
VOSK				pmax	pmax		
	comp=Z,87nm,1.5s						
BRVK	Borovoye	17.52	26	P	P	03 36 43.9	-2.9
BRVK				pmax	pmax		
	comp=Z,33nm,0.9s						
BRVK	Borovoye	17.52	26	eP	P	03 36 44.3	-2.5
	comp=Z,70nm,0.8s						
BRVK				e		03 36 50.5	
BVA0	Borovoye Array	17.53	26	Pn	P	03 36 44.3	-2.6
	comp=Z,11nm,0.7s,baz=218,slow=16,SNR=289						
BVA0				⇑Sn	S	03 39 48.0	-12
	comp=Z,7.0nm,0.9s,baz=210,slow=20,SNR=3.8						
BVA0	Borovoye Array	17.53	26	i P	P	03 36 44.2	-2.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	17.53	26	P	P	03 36 43.7	-3.2
	comp=Z,5.4nm,0.3s,baz=219,slow=9.5,SNR=49						
BVAR				S	S	03 39 56.4	-3.9
	comp=Z,0.4nm,0.3s,baz=240,slow=20,SNR=2.1						
BOYT	Boyabat	17.84	288	i P	P	03 36 51.9	+1.0
AVNT	Avonos	17.89	280	i P	P	03 36 51.9	+0.4
ASF	Jabal al Asfar	17.91	258	P	P	03 36 51.6	-0.2
	comp=Z,0.4nm,0.3s,baz=278,slow=3.1,SNR=9.9						
ASF				LR	LR	03 44 53.1	
	comp=Z,151nm,21.4s,baz=140,slow=41						
ARU	Arti	18.55	2	P	P	03 36 57.5	-2.1
	comp=Z,356nm,0.8s,SNR=10						
ARU	Arti	18.55	2	⇓iP	P	03 36 56.7	-2.9
ARU				i S	S	03 40 23.7	+0.3
ARU				pmax	pmax		
	comp=Z,28nm,0.9s						
ARU				MLR	MLR		
	comp=N,300nm,18.0s						
ARU				MLR	MLR		
	comp=Z,300nm,18.0s						
ARU				MLR	MLR		
	comp=E,500nm,17.0s						
ARU	Arti	18.55	2	eP	P	03 36 57.0	-2.6
	comp=E,47nm,0.8s						
ARU				e		03 37 03.1	
AFFS	'Afif	18.72	226	P	P	03 36 58.9	-2.9
NDI	New Delhi	18.74	114	eP	P	03 37 01.5	-0.6
	comp=E,43nm,0.5s						
BRTR	Keskin Array B	18.78	283	P	P	03 37 02.4	-0.1
	comp=E,0.4nm,0.3s,baz=97,slow=11,SNR=31						
BRTR				LR	LR	03 45 59.8	
	comp=E,142nm,21.9s,baz=75,slow=43						
ELDT	Eldivan	18.93	285	i P	P	03 37 02.7	-1.5
SIM	Simferopol'	18.95	299	deP	P	03 37 05.8	+1.3
SIM				eS	S	03 40 41.5	+8.9
SIM				pmax	pmax		

	comp=Z,50nm,0.8s						
SIM				MLR	MLR		
	comp=Z,200nm,16.0s						
VOR	Voronezh	18.96	323	eP	P	03 37 03.5	-1.0
VOR				pmax	pmax		
	comp=Z,280nm,1.2s						
BALT	Daday	18.99	289	iP	P	03 37 05.2	+0.3
KURK	Kurchatov	19.66	43	Pn	P	03 37 12.6	0.0
	comp=Z,18nm,0.9s,baz=249,slow=8.9,SNR=43						
KURK				⇓Sn	S	03 40 48.6	+0.3
	comp=Z,19nm,1.1s,baz=354,slow=17,SNR=3.6						
KURK				⇓Lg		03 42 59.5	
	comp=Z,84nm,1.4s						
KURK	Kurchatov	19.66	43	eP	P	03 37 12.3	-0.3
	comp=Z,36nm,0.8s						
KURK				e		03 37 28.1	
KBRS	Khaybar	19.69	238	P	P	03 37 13.2	0.0
CSS	Prodhromos	19.76	269	eP	P	03 37 12.7	-1.3
	comp=Z,30nm,1.1s						
CSS				e		03 37 20.5	
SGKT	Sivrigoynuk	19.97	286	iP	P	03 37 14.9	-1.3
MK31	Makanchi Array	20.21	56	⇑Pn	P	03 37 18.1	-0.5
	comp=Z,24nm,0.7s,baz=244,slow=9.4,SNR=208						
MK31				⇑Sn	S	03 40 59.7	-0.3
	comp=Z,12nm,0.8s						
MKAR	Makanchi Array	20.21	56	P	P	03 37 18.8	+0.1
	comp=Z,15nm,0.7s,baz=243,slow=10,SNR=92						
MKAR				LR	LR	03 46 30.3	
	comp=Z,372nm,21.1s,MS3.7,baz=256,slow=41						
MKAR	Makanchi Array	20.21	56	iP	P	03 37 18.6	-0.1
MKAR				pmax	pmax		
	comp=Z,40nm,0.9s						
MKAR	Makanchi Array	20.21	56	P	P	03 37 18.8	+0.1
MKAR				LR	LR	03 46 30.3	
JMOS	Jabal al Moall	20.66	252	P	P	03 37 27.1	+3.6
HENT	Hendek	20.85	286	iP	P	03 37 23.9	-1.4
ESKT	Eskisehir	20.94	283	iP	P	03 37 23.4	-2.9
BDAS	Al Bad‘	21.05	250	P	P	03 37 26.7	-0.8
AYUS	‘Aynunah	21.06	249	P	P	03 37 28.6	+1.0
UMJS	Umm Lajj	21.38	240	P	P	03 37 33.4	+2.6
TATS	Tathlith	22.06	218	P	P	03 37 36.6	-1.1
ULDT	Uludag	22.22	285	iP	P	03 37 37.4	-1.8
OBN	Obninsk	22.36	327	⇑eP	P	03 37 40.5	0.0
OBN				pmax	pmax		
	comp=Z,249nm,1.0s,mb5.6						
OBN				MLR	MLR		
	comp=Z,200nm,6.0s						
OBN	Obninsk	22.36	327	eP	P	03 37 40.5	0.0
	comp=Z,161nm,0.9s,mb5.5						
BLJS	Baljurashi	22.73	222	P	P	03 37 45.9	+1.5
KIS	Kishinev	23.02	302	eP	P	03 37 47.0	0.0
KIS				MLR	MLR		
	comp=Z,300nm,13.0s,MS3.9						
KIS				MLR	MLR		
	comp=Z,400nm,12.0s						
WMQ	Urumqi	23.41	66	⇑P	P	03 37 53.0	+2.2
WMQ				AP		03 38 01.3	
WMQ				XP		03 38 05.3	
WMQ				PP	PP	03 38 24.5	+2.1
WMQ				PPP	PPP	03 38 34.5	+2.1
WMQ				S	S	03 41 59.5	-0.5
WMQ				XS		03 42 15.0	
WMQ				AMB	AMB		
	comp=Z,31nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,38nm,8.8s						
WMQ				LR	LR		
	comp=N,194nm,14.4s,MS4.0						
WMQ				LR	LR		
	comp=E,300nm,15.2s,MS4.0						
WMQ				LR	LR		
	comp=Z,220nm,14.4s,MS3.8						
KOLN	Koldanda	23.97	107	eP	P	03 37 58.1	+1.7
	comp=Z,148nm,1.2s,mb5.3						
VRI	Vrincioaia	24.24	299	⇓iP	P	03 38 01.9	+3.1
ALN	Alexandroupoli	24.53	287	eP	P	03 38 02.1	+0.5
ZAL	Zalesovo	24.57	40	P	P	03 38 03.3	+1.4
	comp=Z,2.8nm,0.6s,mb4.0,baz=141,slow=5.4,SNR=6.4						
ZAL				S	S	03 42 36.4	+17
	comp=Z,2.6nm,0.5s,baz=102,slow=19,SNR=3.2						
ZAL				LR	LR	03 49 30.4	
	comp=Z,502nm,18.5s,MS4.0,baz=153,slow=41						
GKN	Gorkha	24.64	106	eP	P	03 38 04.5	+1.6
	comp=Z,58nm,0.6s,mb5.3						
MLR	Muntele Rosu	24.73	298	P	P	03 38 05.4	+1.8
	comp=Z,22nm,0.8s,mb4.7,baz=125,slow=6.1,SNR=26						
MLR				LR	LR	03 50 18.5	
	comp=Z,308nm,18.5s,MS3.8,baz=251,slow=43						
MLR	Muntele Rosu	24.73	298	P	P	03 38 05.4	+1.8
MLR				pmax	pmax		
	comp=Z,22nm,0.8s						
MLR				MLR	MLR		
	comp=Z,308nm,18.5s						
DMN	Daman	25.20	106	eP	P	03 38 10.6	+2.4
	comp=Z,102nm,0.9s,mb5.4						
KKN	Kakani	25.24	105	eP	P	03 38 10.9	+2.3
	comp=Z,88nm,0.7s,mb5.4						
PKI	Pulchoki	25.45	106	eP	P	03 38 12.8	+2.2
	comp=Z,233nm,1.1s,mb5.6						
RZN	Rozhen	25.49	289	iP	P	03 38 12.0	+1.2
GUN	Gumba	25.63	105	eP	P	03 38 14.4	+2.1
	comp=Z,204nm,1.1s,mb5.6						
PGB	Panagyurishte	25.87	291	eP	P	03 38 16.0	+1.6
OUR	Ouranopolis	26.14	286	eP	P	03 38 16.3	-0.6
MNK	Minsk	26.20	319	eP	P	03 38 17.0	-0.3
MMB	Musomiste	26.23	289	iP	P	03 38 18.5	+0.8
IDI	Anoyia	26.35	274	P	P	03 38 17.9	-0.9
	comp=Z,30nm,0.9s,mb4.8,baz=40,slow=9.7,SNR=11						
SRS	Serrai	26.36	288	eP	P	03 38 18.4	-0.6
SOH	Sokhos	26.57	287	eP	P	03 38 20.6	-0.2
VTS	Vitosha	26.58	291	eP	P	03 38 22.0	+1.1
KKB	Krupnik	26.70	289	eP	P	03 38 22.0	0.0
KNT	Kendrikon	26.89	288	eP	P	03 38 25.1	+1.4
KWP	Kalwaria	27.57	306	eP	P	03 38 30.5	+0.6
	comp=Z,196nm,2.0s,mb5.4						
FNA	Florina	28.07	287	eP	P	03 38 36.3	+1.8
SUW	Suwalki	28.50	316	P	P	03 38 39.4	+1.1
LSA	Lhasa	28.91	96	P	P	03 38 43.2	+1.0
	comp=Z,6.4nm,1.0s,mb4.3						
IGT	Igoumenitsa	29.02	285	eP	P	03 38 41.1	-2.0
OJC	Ojcow	29.53	307	eP	P	03 38 47.0	-0.5
VYHS	Vyhne	29.91	303	eP	P	03 38 52.5	+1.5
FINES	FINESS Array B	30.64	330	P	P	03 38 56.5	-0.8
	comp=Z,1.6nm,0.6s,mb4.0,baz=135,slow=11,SNR=7.0						
FINES				LR	LR	03 53 14.2	
	comp=Z,96nm,18.2s,MS3.5,baz=316,slow=40						
FINES	FINESS Array B	30.64	330	P	P	03 38 56.5	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,96nm,18.2s						
MORC	Moravsky Berou	30.90	306	eP	P	03 39 00.3	+0.6
	comp=Z,2.8nm,0.8s,mb4.1						
APA	Apatity	32.68	343	⇓iP	P	03 39 14.3	-0.8
APA				i		03 40 21.9	
APA				i		03 40 43.7	
APA				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
APA				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.0						
GTA	Gaotai	32.76	74	eP	P	03 39 17.6	+1.5
GTA				AP	pP	03 39 21.8	+2.7
GTA				XP	sP	03 39 24.8	+4.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,14nm,3.8s						
GTA				LR	LR		
	comp=N,244nm,14.9s,MS4.1						
GTA				LR	LR		
	comp=E,170nm,15.7s,MS4.1						
GTA				LR	LR		
	comp=Z,241nm,13.8s,MS4.1						
CII	Carovilli	33.24	290	eP	P	03 39 22.4	+2.1
	comp=Z,16nm,0.8s,mb5.0						
BRG	Berggiesshubel	33.32	307	iP	P	03 39 21.7	+0.9
BRG				e	pP	03 39 25.9	+2.1
BRG				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BRG	Berggiesshubel	33.32	307	iP	P	03 39 21.7	+0.9
	comp=Z,11nm,1.2s,mb4.7						
BRG				e	pP	03 39 25.9	+2.1
GEC2	GERESS Array S	33.33	303	eP	P	03 39 24.7	+3.8
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
GEC2	GERESS Array S	33.33	303	eP	P	03 39 24.7	+3.8
	comp=Z,7.0nm,1.2s,mb4.5						
GERES	GERESS Array B	33.33	303	P	P	03 39 20.7	-0.2
	comp=Z,1.7nm,0.6s,mb4.1,baz=100,slow=8.1,SNR=9.1						
GERES	GERESS Array B	33.33	303	P	P	03 39 20.7	-0.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KHC	Kasperske Hory	33.42	304	eP	P	03 39 21.9	+0.1
KHC				eAP	pP	03 39 28.1	+3.4
KHC				eXP	sP	03 39 32.9	+6.9
KHC				LM		03 51 50.0	
CLL	Collm	33.95	308	P	P	03 39 30.0	+3.7
CLL	Collm	33.95	308	eP	P	03 39 30.0	+3.7
ZAK	Zakamensk	34.52	54	⇑iP	P	03 39 33.0	+1.8
MOX	Moxa	34.77	307	iP	P	03 39 34.3	+0.9
	comp=Z,logA/T=1.1,mb4.8						
MOX				L		03 55 32.0	
MOX	Moxa	34.77	307	eP	P	03 39 34.3	+0.9
MOX				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MOX				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.9						
MOX	Moxa	34.77	307	eP	P	03 39 34.3	+0.9
	comp=Z,11nm,0.9s,mb4.8						
MOX				LR	LR		
	comp=Z,200nm,17.0s,MS3.9						
GRA1	Grafenberg Arr	34.98	305	eP	P	03 39 35.7	+0.5
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	Grafenberg Arr	34.98	305	eP	P	03 39 35.7	+0.5
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
HFS	Hagfors	35.45	323	P	P	03 39 40.3	+1.3
	comp=Z,3.7nm,0.6s,mb4.5,baz=100,slow=8.8,SNR=16						
HFS	Hagfors	35.45	323	P	P	03 39 40.3	+1.2
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	ARCESS Array B	36.08	341	P	P	03 39 44.3	0.0
	comp=Z,28nm,1.2s,mb5.0,baz=131,slow=11,SNR=11						
ARCES				LR	LR	03 55 37.0	
	comp=Z,264nm,19.4s,MS4.0,baz=270,slow=38						
ARCES	ARCESS Array B	36.08	341	P	P	03 39 44.3	0.0
ARCES				pmax	pmax		
	comp=Z,28nm,1.2s						
ARCES				MLR	MLR		
	comp=Z,265nm,19.4s						
STU	Stuttgart	36.30	303	eP	P	03 39 46.4	-0.1
	comp=Z,42nm,1.5s,mb5.2						
SONM	Songino Array	36.55	58	P	P	03 39 50.2	+1.7
	comp=Z,1.5nm,0.8s,mb3.9,baz=270,slow=9.9,SNR=12						
NB2	NORSAR Subarra	36.89	324	P	P	03 39 49.7	-1.5
	comp=Z,5.6nm,0.9s,mb4.4,baz=112,slow=8.6						
NOA	NORSAR Array B	36.89	324	P	P	03 39 50.3	-1.0
	comp=Z,3.4nm,0.8s,mb4.2,baz=110,slow=8.3,SNR=8.4						
NOA	NORSAR Array B	36.89	324	P	P	03 39 50.3	-0.9
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CDF	Champ du Feu	37.59	303	eP	P	03 39 57.6	+0.4
	comp=Z,5.4nm,0.8s,mb4.1						
LPG	La Plagne	38.20	298	eP	P	03 40 01.8	-0.6
LPL	La Plagne	38.21	298	eP	P	03 40 02.0	-0.5
HAU	Haudompre	38.23	302	eP	P	03 40 01.3	-1.4
HAU				eR			
	comp=Z,85nm,20.5s						
MBDF	Montbardon	38.29	297	eP	P	03 40 02.1	-1.0
	comp=Z,16nm,0.6s,mb4.6						
CD2	Chengdu	38.38	86	P	P	03 40 06.4	+2.4
CABF	La Chapelle	38.53	300	eP	P	03 40 07.9	+2.7
MEZF	Maizieres J’vi	39.06	303	eP	P	03 40 11.6	+2.0
	comp=Z,14nm,0.7s,mb4.5						
BAIF	Baives	39.51	306	eP	P	03 40 15.2	+1.9
VIVF	Saint-Julien-l	39.75	297	eP	P	03 40 15.9	+0.6
	comp=Z,11nm,0.7s,mb4.4						
LOR	Lormes	39.98	301	eP	P	03 40 17.0	-0.2
	comp=Z,18nm,1.1s,mb4.4						
LOR				eR			
	comp=Z,108nm,23.0s						
SMF	Signal de Mont	40.07	300	eP	P	03 40 16.7	-1.2
	comp=Z,36nm,1.2s,mb4.7						
KMI	Kunming	40.14	95	eP	P	03 40 19.8	+1.0
KMI				AP	pP	03 40 29.1	+7.3
KMI				XP	sP	03 40 32.8	+10
KMI				PP	PP	03 41 55.8	+0.8
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,92nm,4.1s						
KMI				LR	LR		
	comp=N,173nm,13.2s,MS4.2						
KMI				LR	LR		
	comp=E,197nm,18.2s,MS4.2						
KMI				LR	LR		
	comp=Z,185nm,16.5s,MS4.0						
SSF	Saint Saulge	40.24	301	eP	P	03 40 19.7	+0.3
	comp=Z,12nm,0.8s,mb4.4						
AVF	Avril sur Loir	40.38	301	eP	P	03 40 19.6	-0.9
	comp=Z,20nm,0.9s,mb4.5						
BGF	Bois d’Agland	40.76	300	eP	P	03 40 26.4	+2.8
	comp=Z,22nm,1.1s,mb4.4						
HYF	Humbligny	40.80	301	eP	P	03 40 24.3	+0.3
CMAR	Chiang Mai Arr	40.84	107	P	P	03 40 25.2	+0.7
	comp=Z,2.8nm,1.0s,mb3.9,baz=299,slow=7.9,SNR=6.3						
CMAR				LR	LR	03 59 37.1	
	comp=Z,109nm,20.5s,MS3.7,baz=295,slow=40						
CMAR	Chiang Mai Arr	40.84	107	P	P	03 40 25.3	+0.8
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,109nm,20.5s						
TCF	Toulx Ste Croi	41.23	300	eP	P	03 40 27.1	-0.4
	comp=Z,15nm,1.0s,mb4.3						
HHC	Hu-ho-hao-te	41.24	68	eP	P	03 40 26.3	-1.4
HHC				AMB	AMB		
	comp=Z,7.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,122nm,4.8s						
XAN	Xi’an	41.26	79	P	P	03 40 29.8	+1.9
XAN				AP	pP	03 40 36.3	+5.4
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.4						
BOD	Bodaibo	41.30	42	eP	P	03 40 28.1	+0.1
CAF	Calviac	41.56	298	eP	P	03 40 31.5	+1.3
	comp=Z,14nm,0.8s,mb4.3						
MTLF	Montolieu	41.76	296	eP	P	03 40 26.6	-5.2
	comp=Z,16nm,0.8s,mb4.4						
LFF	La Frestale	42.48	298	eP	P	03 40 38.9	+1.2
	comp=Z,17nm,0.7s,mb4.5						
FLN	La Foliniere	42.68	304	eP	P	03 40 40.4	+1.1
	comp=Z,23nm,0.9s,mb4.6						
FLN				eR			
	comp=Z,119nm,22.5s						
GRR	Gorron	42.98	304	eP	P	03 40 44.2	+2.4
	comp=Z,13nm,0.8s,mb4.4						
ETSF	Etsaut	43.84	296	eP	P	03 40 50.0	+1.2
	comp=Z,23nm,1.0s,mb4.6						
SGMF	Saint Gilles	44.12	304	eP	P	03 40 53.1	+2.1
	comp=Z,37nm,1.0s,mb4.8						
ROSF	Rostrenen	44.58	304	eP	P	03 40 56.6	+1.8
QUIF	Quistinic	44.59	303	eP	P	03 40 56.8	+2.0
BJI	Beijing	44.85	68	P	P	03 40 58.4	+1.4
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,429nm,15.2s,MS4.5						
BJI				LR	LR		
	comp=E,208nm,15.1s,MS4.5						
BJI				LR	LR		
	comp=Z,208nm,21.5s						
ESDC	Sonseca Array	47.21	292	P	P	03 41 14.3	-1.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=60,slow=8.4,SNR=6.0						
NJ2	Nanjing	49.72	77	eP	P	03 41 31.9	-3.4
NJ2				AP	pP	03 41 42.3	+3.9
NJ2				XP	sP	03 41 45.5	+6.0
NJ2				PP	PP	03 43 27.0	-3.7
NJ2				S	S	03 48 35.0	-8.0
NJ2				XS		03 48 52.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
NJ2				LR	LR		
	comp=N,540nm,16.7s,MS4.8						
NJ2				LR	LR		
	comp=E,510nm,15.2s,MS4.8						
KLR	Kul’dur	52.85	52	eP	P	03 41 58.2	-0.6
SUMG	Summit	56.09	339	eP	P	03 42 22.2	+0.2
	comp=E,30nm,1.3s,mb5.2						
YSS	Yuzh-Sakhalins	60.55	52	eP	P	03 42 52.0	-1.6
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.4						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
DBIC	Dimbokro	64.31	258	P	P	03 43 16.2	-3.0
	comp=Z,4.4nm,0.7s,mb4.6,baz=40,slow=5.8,SNR=6.3						
DBIC	Dimbokro	64.31	258	P	P	03 43 16.2	-3.0
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DBIC	Dimbokro	64.31	258	P	P	03 43 16.2	-3.0
KIC	Kosan Boka	64.41	258	eP	P	03 43 17.0	-2.9
	comp=Z,77nm,1.2s,mb5.6						
TIC	Toumodi	64.45	258	eP	P	03 43 17.2	-2.9
	comp=Z,112nm,1.4s,mb5.7						
LIC	Lamto	64.72	258	eP	P	03 43 19.0	-2.9
	comp=Z,20nm,0.8s,mb4.9						
LIC	Lamto	64.72	258	eP	P	03 43 18.9	-3.0
	comp=Z,31nm,0.8s,mb5.4						
FX1	Attu Island--F	73.74	35	P	P	03 44 16.8	+0.2
	comp=Z,12nm,0.9s,mb4.8,baz=351,slow=13,SNR=3.8						
FX1	Attu Island--F	73.74	35	P	P	03 44 16.8	+0.2
FX1				pmax	pmax		
	comp=Z,12nm,0.9s						
INK	Inuvik	73.78	4	P	P	03 44 16.8	+0.3
	comp=Z,5.4nm,0.8s,mb4.5,baz=22,slow=6.1,SNR=8.4						
INK	Inuvik	73.78	4	P	P	03 44 16.8	+0.2
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	College	75.63	11	eP	P	03 44 28.2	+0.9
	comp=Z,34nm,1.3s,mb5.1						
COLA				LR	LR		
	comp=Z,74nm,19.0s,MS4.0						
ILAR	Eielson Array	75.87	11	P	P	03 44 29.1	+0.4
	comp=Z,4.5nm,1.0s,mb4.4,baz=337,slow=4.6,SNR=28						
ILAR	Eielson Array	75.87	11	P	P	03 44 29.1	+0.5
ILAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SCHQ	Schefferville	76.12	331	P	P	03 44 31.1	+0.8
	comp=Z,5.7nm,0.7s,mb4.6,baz=39,slow=6.8,SNR=8.6						
MCK	McKinley	76.53	12	eP	P	03 44 33.6	+1.2
	comp=Z,9.2nm,1.3s,mb4.5						
SML	Sawmill	78.43	12	eP	P	03 44 43.5	+0.6
PMR	Palmer	78.50	13	eP	P	03 44 43.7	+0.4
	comp=Z,9.7nm,0.8s,mb4.8						
PMR				LR	LR		
	comp=Z,84nm,19.0s,MS4.1						
RSO	Redoubt South	78.86	15	eP	P	03 44 45.0	-0.3
DIV	Divide	79.49	11	eP	P	03 44 48.0	-0.7
	comp=Z,35nm,0.8s,mb5.3						
YKA	Yellowknife Ar	79.76	356	P	P	03 44 50.0	-0.1
	comp=Z,5.9nm,0.9s,mb4.5,baz=4.8,slow=6.3,SNR=18						
YKA				LR	LR	04 24 00.6	
	comp=Z,69nm,18.9s,MS4.0,baz=10.0,slow=39						
YKA	Yellowknife Ar	79.76	356	P	P	03 44 50.0	-0.1
YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,69nm,18.9s						
YKA	Yellowknife Ar	79.76	356	P	P	03 44 50.0	-0.1
YKA				LR	LR	04 24 00.6	
FFC	Flin Flon	86.10	348	P	P	03 45 22.3	-0.4
ULM	Lac du Bonnet	89.17	343	P	P	03 45 37.2	-0.5
	comp=Z,8.2nm,1.0s,mb5.0,baz=65,slow=3.7,SNR=6.7						
ULM	Lac du Bonnet	89.17	343	eP	P	03 45 35.2	-2.5
	comp=Z,24nm,1.3s,mb5.4						
NWAO	Narrogin (SRO)	89.67	133	LR	LR	04 22 11.0	
	comp=Z,100nm,18.1s,MS4.3,baz=1.9,slow=33						
WRA	Warramunga Arr	92.08	114	P	P	03 45 53.0	+1.1
	comp=Z,0.9nm,0.7s,mb4.2,baz=321,slow=4.3,SNR=3.1						
WRA	Warramunga Arr	92.08	114	P	P	03 45 53.0	+1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NEW	Newport	94.09	356	eP	P	03 46 02.2	+1.8
	comp=Z,4.3nm,0.7s,mb5.0						
NEW				LR	LR		
	comp=Z,75nm,19.0s,MS4.2						
ASAR	Alice Springs	94.13	117	P	P	03 46 01.1	-0.1
	comp=Z,0.5nm,0.6s,mb4.1,baz=322,slow=5.0,SNR=4.1						
CHMT	Chamberlain Mo	95.17	354	eP	P	03 46 04.8	-0.7
HRY	Holter Researc	95.24	353	P	P	03 46 06.9	+1.1
PDAR	Pinedale Array	98.87	350	LR	LR	04 33 13.9	
	comp=Z,85nm,19.9s,MS4.2,baz=255,slow=37						

IDC ***21*** *03:35:10.3±0.7, 5.89S×152.66E, mb4.5/14, mb1 4.7/14, mb1mx4.6/18, MS3.6/3, Ms1 3.6/3, ms1mx3.2/18, Error ellipse: s-maj=24.7km s-min=16.4km az=110.0*

NEIC ***21*** *03:35:17.6±1.6, 5.85S×152.49E, h50^{km}±14^{km}, mb4.8/14, Error ellipse: s-maj=10.5km s-min=7.7km az=106.0*

SYO ***21*** *03:35:17.6, 5.85S×152.49E, h50^{km}, MB4.8*

BJI ***21*** *03:35:20.4, 5.04S×152.24E, h49^{km}, mB5.3, mb4.7, Ms4.8, Msz4.2*

ISC 21 03:35:15.7±3.0**, 5.83S**±0.09×**152.5E**±0.1**, h45**^{km}±27^{km}**, n44,** σ**0**^{s}**67**/38**, mb4.6**/26**, MS3.6**/4**, 3C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.34	236	eP	P	03 36 48.5	-0.4
	71nm,0.4s						
CTAO	Charters Tower	15.40	202	eP	P	03 38 53.1	+1.5
	13nm,1.3s						
KAKA	Kakadu	20.93	250	eP	P	03 39 56.2	-0.8
	52nm,0.8s						
WRAB	Tennant Creek	22.50	230	eP	P	03 40 13.5	+0.7
	41nm,1.3s,mb4.7						
WB2	Warramunga Arr	22.50	230	eP	P	03 40 13.0	+0.2
WRA	Warramunga Arr	22.51	230	P	P	03 40 13.2	+0.3
	3.2nm,0.7s,mb3.9,baz=56,slow=10,SNR=5.6						
ASAR	Alice Springs	25.16	223	P	P	03 40 38.4	-0.2
	2.5nm,0.5s,mb4.0,baz=59,slow=8.7,SNR=17						
ASAR				LR	LR	03 51 08.8	
	comp=Z,100nm,18.1s,MS3.4,baz=43,slow=38						
ASPA	Alice Springs	25.17	223	eP	P	03 40 38.8	+0.2
STKA	Stephens Creek	27.83	200	eP	P	03 41 02.0	-1.1
	3.4nm,0.8s,mb4.0						
STKA	Stephens Creek	27.83	200	P	P	03 41 02.1	-1.0
	3.5nm,0.6s,mb4.2,baz=28,slow=13,SNR=7.3						
FITZ	Fitzroy Crossi	28.88	243	eP	P	03 41 11.7	-0.9
	14nm,1.2s,mb4.6						
FITZ	Fitzroy Crossi	28.88	243	P	P	03 41 11.8	-0.8
	3.3nm,0.3s,mb4.5,baz=42,slow=4.9,SNR=25						
FITZ				LR	LR	03 53 07.0	
	comp=Z,66nm,19.7s,MS3.2,baz=182,slow=37						
JNU	Nakatsue	43.82	334	P	P	03 43 18.8	-0.5
	9.4nm,0.9s,mb4.5,baz=60,slow=14,SNR=4.3						
RAR	Rarotonga	48.69	113	LR	LR	04 00 25.9	
	comp=Z,140nm,19.1s,MS4.0,baz=298,slow=31						
ENH	Enshi	54.61	314	eP	P	03 44 41.2	-1.0
	16nm,1.7s,mb4.8						
KMI	Kunming	57.28	305	eP	P	03 45 02.4	+0.8
KMI				AP	pP	03 45 14.1	-0.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	58.01	296	P	P	03 45 07.3	+0.6
	comp=Z,1.0nm,0.3s,mb4.3,baz=124,slow=6.5,SNR=4.8						
SONM	Songino Array	67.01	328	P	P	03 46 07.0	+0.9
	comp=Z,5.2nm,1.1s,mb4.5,baz=135,slow=5.2,SNR=17						
VNDA	Vanda	71.82	178	P	P	03 46 34.2	-1.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=325,slow=6.3,SNR=9.9						
VNDA	Vanda	71.82	178	P	P	03 46 34.2	-1.0
WMQ	Urumqi	76.26	318	⇑P	P	03 47 01.4	-0.1
WMQ				PCP	PcP	03 47 13.6	-0.1
WMQ				XP	sP	03 47 18.9	-0.7
WMQ				PP	PP	03 49 54.4	-0.4
WMQ				eS	S	03 56 40.8	-0.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
WMQ				LR	LR		
	comp=N,72nm,16.8s,MS4.1						
WMQ				LR	LR		
	comp=E,44nm,16.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,29nm,15.2s,MS3.7						
PMR	Palmer	80.76	24	eP	P	03 47 25.2	-0.6
	comp=Z,20nm,1.3s,mb4.9						
MKAR	Makanchi Array	80.87	319	P	P	03 47 27.3	+0.6
	comp=Z,6.1nm,0.8s,mb4.6,baz=112,slow=6.5,SNR=6.9						
SML	Sawmill	81.20	24	eP	P	03 47 28.2	+0.1
MCK	McKinley	81.94	23	⇑eP	P	03 47 31.4	-0.5
	comp=Z,9.5nm,0.8s,mb4.8						
DIV	Divide	81.94	26	eP	P	03 47 31.7	-0.3
COLA	College	82.93	22	⇑iP	P	03 47 36.2	-0.7
	comp=Z,12nm,0.8s,mb5.0						
ILAR	Eielson Array	83.24	22	P	P	03 47 37.3	-1.2
	comp=Z,5.7nm,0.8s,mb4.7,baz=252,slow=5.3,SNR=36						
QSPA	South Pole Qui	84.14	180	eP	P	03 47 42.6	-0.1

	comp=Z,10.0nm,1.2s,mb4.8						
KURK	Kurchatov	84.36	322	*e*P	P	03 47 44.7	+0.2
	comp=Z,16nm,1.1s,mb5.1						
INK	Inuvik	89.53	21	P	P	03 48 09.4	+0.3
	comp=Z,4.1nm,1.0s,mb4.7,baz=267,slow=4.4,SNR=5.8						
BVAR	Borovoye Array	89.86	323	P	P	03 48 11.2	+0.2
	comp=Z,4.4nm,0.7s,mb4.9,baz=90,slow=5.9,SNR=9.6						
BRVK	Borovoye	89.92	323	P	P	03 48 11.7	+0.4
PAHR	Pah Rah Range	92.27	51	*e*P	P	03 48 23.5	+1.0
	comp=Z,11nm,1.0s,mb5.1						
SYO	Syowa Base	92.59	199	⇓pP	pP	03 48 35.6	-1.2
NVAR	Mina Array Bea	92.99	52	P	P	03 48 26.9	+1.0
	comp=Z,2.6nm,0.8s,mb4.7,baz=266,slow=4.4,SNR=14						
NVAR	Mina Array Bea	92.99	52	P	P	03 48 26.9	+1.0
MNV	Mina	93.11	52	*e*P	P	03 48 26.8	+0.3
	comp=Z,2.5nm,0.8s,mb4.7						
HWUT	Hardware Ranch	98.31	49	*e*P	P	03 48 50.1	+0.2
	comp=Z,1.0nm,0.7s,mb4.5						
PDAR	Pinedale Array	99.79	48	P	P	03 48 56.4	-0.3
	comp=Z,1.0nm,1.0s,mb4.2,slow=3.6,SNR=5.7						
GERES	GERESS Array B	124.75	328	PKP	PKPdf	03 54 12.2	+1.4
	comp=Z,0.8nm,1.0s,slow=1.3,SNR=4.1						
LPAZ	La Paz	134.23	119	PKP	PKPdf	03 54 32.6	+2.9
	comp=Z,1.5nm,0.9s,baz=28,slow=4.1,SNR=5.2						
CPUP	Villa Florida	136.92	139	PKP	PKPdf	03 54 36.0	+1.6
	comp=Z,1.2nm,0.9s,baz=203,slow=13,SNR=3.2						
BDFB	Brasilia	150.57	137	PKPbc	PKPdf	03 55 02.6	+4.4
	comp=Z,4.1nm,0.7s,baz=190,slow=1.6,SNR=7.1						

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*MDD **21** 03:49:46.6±0.3, 43.10N×1.31W, h10^{km}±3^{km}, mbLg1.2/5, Error ellipse: s-maj=5.7km s-min=1.9km az=21.0, PRXIMO*

*LDG **21** 03:49:46.3±0.6, 43.03N×1.34W, h2^{km}, Md1.9/2, Ml2.0/1, Error ellipse: s-maj=11.6km s-min=7.2km az=69.0*

ISC 21 03:49:45.5±1.2**, 43.04N**±0.09×**1.31W**±0.08**, h12**^{km}±9^{km}**, n7,** σ**0.^{s}55**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.09	40	*e*Pg	Pg	03 49 48.7	+0.3
SJPF				*e*Sg	Sg	03 49 50.3	0.0
	16nm,0.2s						
OSSF	Osses	0.22	9	Pg	Pg	03 49 49.9	-0.5
OSSF				Lg		03 49 52.4	
EALK	Alkurruntz	0.23	320	Pg	Pg	03 49 50.5	-0.1
	5.7nm,0.0s,SNR=75						
EALK				Lg		03 49 53.7	
	11nm,0.1s,SNR=12						
LARF	Larrau	0.23	91	Pg	Pg	03 49 51.5	+0.8
ETSF	Etsaut	0.57	104	*e*Pg	Pg	03 49 57.2	+0.2
ETSF				*e*Sg	Sg	03 50 05.2	+0.5
	4.3nm,0.2s						
EPF	Esparros	1.21	90	*e*Pn	Pn	03 50 08.6	+0.4
EPF				*e*Pg	Pg	03 50 09.9	+0.2
EPF				*e*Sg	Sg	03 50 24.7	-1.2
	2.5nm,0.2s						
ESAC	San Caprasio	1.46	155	Pg	Pg	03 50 14.0	-0.7
	2.8nm,0.2s,SNR=7.9						
ESAC				Lg		03 50 35.6	
	14nm,0.3s,SNR=7.9						

DJA 21 04:12:28.5±1.0**, 8.61S**×**116.11E, h107**^{km}±6^{km}**, MD5.1**/4**, ML3.9**/1**, 1C-2D, Error ellipse: s-maj=39.9km s-min=15.9km az=161.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	0.12	3	⇑*e*Pn	P	04 12 43.3	-0.2
	229nm,0.2s						
KEDI				*e*Sn	S	04 12 53.8	-0.9
RATI	Rata	0.58	258	⇓*e*Pn	P	04 12 45.7	-0.1
	165nm,0.2s						
RATI				*e*Sn	S	04 12 58.2	-0.6
INGI	Ingas	0.97	257	⇓*e*Pn	P	04 12 48.9	-0.6
	185nm,0.2s						
INGI				*e*Sn	S	04 13 04.1	-1.2
KELI	Kelakatan	1.65	283	*e*Pn	P	04 12 57.0	-0.4

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*CASC **21** 04:29:31.5±2.0, 14.52N×89.76W, h286^{km}±8^{km}, MD4.2, ML4.5, mb4.5(NEIC)*

*BJI **21** 04:29:35.0, 14.50N×89.70W, h283^{km}*

*IDC **21** 04:29:35.5±1.7, 14.61N×89.60W, h285^{km}±17^{km}, mb3.5/9, mb1 3.8/11, mb1mx3.6/20, Error ellipse: s-maj=23.0km s-min=11.7km az=61.0*

*NEIC **21** 04:29:35.0±0.8, 14.52N×89.69W, h284^{km}±8^{km}, mb4.5/15, Error ellipse: s-maj=10.6km s-min=5.4km az=59.0*

ISC 21 04:29:33.3±0.3**, 14.54N**±0.06×**89.85W**±0.06**, h273**^{km}±3^{km}**, n93,** σ**0.^{s}97**/94**, mb4.0**/17**, 16C-8D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RBDL	Robledal	0.45	159	⇑*e*P	P	04 30 08.4	-0.5
CUSS	Cusmapa	0.63	188	⇑*e*P	P	04 30 08.1	-1.3
RTR	El Retiro	0.67	163	⇑*i*P	P	04 30 09.1	-0.5
IXG	Ixpaco	0.69	238	⇓*e*P	P	04 30 08.5	-1.1
IXG				*e*S	S	04 30 41.1	+3.1
IXG				AML	AML	04 30 44.9	
	comp=E,7µm,0.4s						
SNJE	San Jose	0.71	160	⇑*i*P	P	04 30 09.2	-0.5
SBLS	San Blas	0.73	162	⇑*i*P	P	04 30 09.2	-0.5
PCG	Pacaya	0.74	259	⇓*e*P	P	04 30 09.4	-0.5
FUG	Fuego 3	0.96	265	⇓*e*P	P	04 30 09.8	-1.0
BOQS	Boqueron	0.97	145	⇑*e*P	P	04 30 10.3	-0.4
BOQS				*e*S	S	04 30 41.0	+0.9
SNET	Serv Nac Est T	1.04	144	*e*P	P	04 30 09.8	-1.3
SNET				*i*		04 30 44.8	
	comp=Z,844nm,0.4s						
LBRS	Las Brisas	1.12	135	⇑*e*P	P	04 30 11.3	-0.3
TP2	Tecpan 2	1.16	282	⇑*e*P	P	04 30 11.9	0.0
TP2				*e*S	S	04 30 46.5	+4.6
LFRS	El Faro	1.19	140	⇑*i*P	P	04 30 11.6	-0.5
LCBS	La Ceiba	1.22	136	⇑*e*P	P	04 30 11.6	-0.6
LCBS				*e*S	S	04 30 42.6	0.0
SNVI	San Vicente	1.35	133	⇑*e*P	P	04 30 12.7	-0.3
JAT	Jato	1.74	263	⇑*e*P	P	04 30 14.2	-1.6
JAT				AML	AML	04 30 48.9	
	comp=E,7µm,0.3s						
JAT				*e*S	S	04 30 51.8	+2.8
CAHU	Cacacuatique	1.77	115	*e*P	P	04 30 16.3	+0.3
VSM	San Miguel	1.89	126	*e*P	P	04 30 17.3	+0.3
BLLM	Bellamira	1.91	125	*e*P	P	04 30 17.0	-0.2
CNCH	Conchagua	2.33	122	⇓*e*P	P	04 30 21.2	+0.3
CNCH				*e*S	S	04 30 58.2	+0.2
PYN	Poneloya	3.49	128	*e*P	P	04 30 34.0	+1.0
TEL3	Telica 3	3.52	123	*e*P	P	04 30 33.4	+0.2
LEON	Leon	3.57	126	⇓*e*P	P	04 30 34.9	+1.1
MIRN	Miramar	3.70	124	⇑*e*P	P	04 30 36.5	+1.2
MOMJ	Momotombo	3.86	123	*e*P	P	04 30 36.1	-0.8
MOMJ				*e*S	S	04 31 27.6	+0.9
COPN	Copaltepe	3.95	126	*e*P	P	04 30 39.2	+1.2
COPN				*e*S	S	04 31 29.4	+1.0
XAVN	Gruta Xavier	4.17	124	*e*P	P	04 30 39.0	-1.6
MGAN	Managua	4.24	124	*e*P	P	04 30 39.7	-1.7
MGAN				*e*S	S	04 31 32.6	-1.9
TICN	Ticuantepe	4.32	125	*e*P	P	04 30 41.8	-0.5
APON	Apoyo	4.51	125	*e*P	P	04 30 44.0	-0.6
CONN	Concepcion	5.07	125	*e*P	P	04 30 52.9	+1.7
TEIG	Tepich	5.85	15	P	P	04 31 01.6	+0.9
	comp=E,0.0nm,0.3s,baz=1.3,slow=24,SNR=10						
JTS	JuntasAbangare	6.38	131	P	P	04 31 07.0	-0.2
	comp=E,18nm,0.3s,baz=309,slow=13,SNR=65						
JTS				S	S	04 32 15.1	-5.7
	comp=E,38nm,0.3s,baz=310,slow=21,SNR=16						
JTS	JuntasAbangare	6.38	131	*e*P	P	04 31 06.9	-0.3
	comp=E,39nm,0.3s						
JTS				*e*S	S	04 32 15.2	-5.6
VPS2	Volcan Poas 2	6.99	128	*e*P	P	04 31 14.8	+0.1
PRS1	Puriscal	7.06	129	⇑*e*P	P	04 31 16.8	+1.2
ICR	Volcan Irazu	7.43	127	⇓*e*P	P	04 31 21.4	+1.2
LCR2	La Lucha 2	7.45	129	⇑*e*P	P	04 31 21.1	+0.6
URSC	Urasca	7.56	128	⇓*e*P	P	04 31 22.8	+0.9
BUS	Buena Vista	7.75	129	⇑*e*P	P	04 31 25.4	+1.1
ACR	Cerro Adams	8.78	131	*e*P	P	04 31 38.0	+0.9
DWPF	Disney	15.61	29	*e*P	P	04 32 59.8	-1.2
	comp=E,14nm,0.6s						
JCT	Junction City	18.32	332	*e*P	P	04 33 29.4	-0.3
	comp=E,7.0nm,0.5s						
LRAL	Lakeview Retre	18.60	8	*e*P	P	04 33 33.5	+0.9
	comp=E,9.8nm,0.8s						
LTX	Lajitas	19.49	321	*e*P	P	04 33 42.7	+1.1
TXAR	Lajitas Array	19.49	321	P	P	04 33 43.0	+1.4
	comp=E,0.4nm,0.3s,baz=144,slow=11,SNR=42						
MIAR	Mount Ida	20.20	351	*e*P	P	04 33 49.0	+0.4
	comp=E,32nm,0.8s						
MIAR				*e*		04 34 30.2	
UALR	University of	20.27	354	*e*P	P	04 33 50.0	+0.7
	comp=E,47nm,0.8s						
PLAL	Pickwick Lake	20.42	4	*e*P	P	04 33 51.8	+1.1
	comp=E,10nm,0.6s						
CPCT	Cooper Cave	21.37	12	*e*P	P	04 34 01.0	+1.0
WMOK	Wichita Mounta	21.66	340	*e*P	P	04 34 02.2	-0.7
	comp=E,6.5nm,0.9s,mb4.0						
CPRX	Cap Rock	22.39	328	*e*P	P	04 34 11.1	+1.2
CCM	Cathedral Cave	23.46	357	*e*P	P	04 34 19.6	-0.4
	comp=E,20nm,0.9s,mb4.5						
WCI	Wyandotte Cave	23.81	7	*e*P	P	04 34 22.9	-0.3
	comp=E,27nm,0.8s,mb4.6						
KSU1	Kansas State U	25.18	348	*e*P	P	04 34 34.4	-1.4
ANMO	Albuquerque	25.24	327	*e*P	P	04 34 38.0	+1.7
CBN	Corbin	26.03	23	P	P	04 34 42.3	-1.2
ISCO	Idaho Springs	28.71	334	*e*P	P	04 35 07.5	-0.2
	comp=E,2.0nm,0.8s,mb3.6						
RSSD	Black Hills	31.87	340	*e*P	P	04 35 35.0	-0.1
	comp=E,3.5nm,0.6s,mb4.1						
DUG	Dugway	32.50	326	P	P	04 35 40.8	+0.2
BW06	Boulder Array	32.85	333	*e*P	P	04 35 44.0	+0.4
PDAR	Pinedale Array	32.85	333	P	P	04 35 43.9	+0.3
	comp=E,0.7nm,0.7s,mb3.3,baz=134,slow=10.0,SNR=5.6						
REDW	Red Top Meadow	33.90	332	*e*P	P	04 35 52.5	0.0
SNOW	Snow King Moun	33.93	332	*e*P	P	04 35 53.4	+0.6
TPAW	Teton Pass	34.04	332	*e*P	P	04 35 54.0	+0.2
MOOW	Moose Ponds	34.15	333	*e*P	P	04 35 54.8	+0.1
NVAR	Mina Array Bea	34.60	319	P	P	04 35 59.5	+1.0
	comp=E,1.8nm,0.8s,mb3.7,baz=133,slow=8.0,SNR=14						
NVAR	Mina Array Bea	34.60	319	P	P	04 35 59.5	+1.0
SAML	Samuel	35.27	130	*e*P	P	04 36 01.6	-2.7
HLID	Hailey	35.75	329	*e*P	P	04 36 08.3	+0.2
	comp=E,1.1nm,0.7s,mb3.5						
DGMT	Dagmar	35.85	344	*e*P	P	04 36 07.9	-1.0
	comp=E,31nm,0.7s,mb4.9						
MCMT	McKenzie Canyo	35.94	332	*e*P	P	04 36 10.8	+1.2
ULM	Lac du Bonnet	35.95	353	P	P	04 36 08.3	-1.3
	comp=E,8.3nm,0.6s,mb4.5,baz=171,slow=9.0,SNR=18						
LPAZ	La Paz	37.40	144	P	P	04 36 22.1	-0.1
	comp=E,0.7nm,0.7s,mb3.2,baz=341,slow=4.0,SNR=4.4						
SCHQ	Schefferville	44.02	19	P	P	04 37 15.1	-0.5
	comp=E,13nm,0.5s,mb4.4,baz=218,slow=6.6,SNR=39						
YKA	Yellowknife Ar	51.01	346	P	P	04 38 08.5	-0.6
	comp=E,7.0nm,0.8s,mb4.0,baz=145,slow=7.8,SNR=27						
DLBC	Dease Lake	53.03	335	*e*P	P	04 38 24.4	+0.3
PLCA	Paso Flores	57.83	163	P	P	04 38 57.6	-0.9
	comp=E,0.9nm,0.7s,mb3.3,baz=329,slow=5.9,SNR=2.8						
ILAR	Eielson Array	63.18	336	P	P	04 39 32.8	-1.3
	comp=E,2.2nm,0.9s,mb3.8,baz=118,slow=4.6,SNR=19						
SUMG	Summit	65.17	15	*e*P	P	04 39 46.4	-0.4
	comp=E,6.2nm,0.7s,mb4.3						
ESDC	Sonseca Array	77.75	52	P	P	04 40 59.4	-2.5
	comp=E,0.8nm,0.6s,mb3.6,baz=300,slow=5.2,SNR=5.1						
TRO	Tromso	82.85	20	*e*P	P	04 41 40.9	+13
KTK1	Kautokeino	84.50	19	*e*P	P	04 41 40.5	+4.2
CN2	Changchun	113.59	333	*e*PKP	PKPdf	04 47 37.9	-1.3
WMQ	Urumqi	121.88	2	*e*PKP	PKPdf	04 47 54.8	-0.4
WMQ				PP	PP	04 49 37.0	+0.8
SSE	Sheshan	125.70	327	⇓PKP	PKPdf	04 48 01.4	-1.6
NJ2	Nanjing	126.12	330	*e*PKP	PKPdf	04 48 02.4	-1.4
NJ2				XPKP		04 49 43.8	
NJ2				PP	PP	04 50 04.0	-1.1
NJ2				PKS	PKS	04 51 38.0	-0.7
NJ2				SKS	SKS	04 54 45.0	+3.6
NJ2				LR	LR		
	comp=N,360nm,22.0s						
NJ2				LR	LR		
	comp=E,150nm,25.0s						
NJ2				LR	LR		
	comp=Z,180nm,26.6s						
LZH	Lanzhou	128.01	346	*e*PKP	PKPdf	04 48 06.8	-0.6
LZH				XPKP		04 49 48.1	
LZH				LR	LR		
	comp=N,157nm,18.0s						
LZH				LR	LR		
	comp=Z,215nm,20.1s						
WRA	Warramunga Arr	137.54	256	PKhKP		04 48 15.9	
	comp=Z,0.4nm,0.8s,baz=85,slow=2.7,SNR=4.8						
WRA				PKP	PKPdf	04 48 26.4	+0.9
	comp=Z,0.9nm,0.7s,baz=90,slow=2.4,SNR=9.7						
ASAR	Alice Springs	137.81	251	PKhKP		04 48 15.2	
	comp=Z,0.3nm,0.6s,baz=106,slow=3.4,SNR=5.4						
ASAR				PKP	PKPdf	04 48 27.0	+1.1
	comp=Z,1.1nm,0.9s,baz=94,slow=1.9,SNR=6.2						
KMI	Kunming	138.71	343	*e*PKP	PKPdf	04 48 27.6	+0.1
KMI				LR	LR		
	comp=Z,30nm,16.0s						
FITZ	Fitzroy Crossi	145.79	259	PKPbc	PKPbc	04 48 42.7	+1.4
	comp=Z,6.8nm,0.7s,baz=73,slow=2.4,SNR=24						
CMAR	Chiang Mai Arr	146.09	345	PKPbc	PKPbc	04 48 42.0	0.0
	comp=Z,1.2nm,0.7s,baz=338,slow=3.2,SNR=5.4						

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*MOS **21** 04:50:00.7±0.7, 36.33N×70.82E, h189^{km}, mb3.9/6, Error ellipse: s-maj=37.9km s-min=13.6km az=96.5*

*NEIC **21** 04:50:00.5±3.0, 36.34N×70.99E, h171^{km}±22^{km}, mb4.0/1, Error ellipse: s-maj=28.2km s-min=13.5km az=216.0*

*IDC **21** 04:50:04.3±6.7, 36.44N×71.08E, h204^{km}±58^{km}, mb3.5/8, mb1 3.7/10, mb1mx3.5/19, Error ellipse: s-maj=39.4km s-min=17.4km az=34.0*

*NNC **21** 04:50:13.1±5.3, 37.28N×71.06E, h218^{km}±40^{km}, mpv4.2, Error ellipse: s-maj=58.3km s-min=33.0km az=38.0*

ISC 21 04:50:04.7±0.4**, 36.64N**±0.03×**71.06E**±0.08**, h213**^{km}±6^{km}**, n55,** σ**0.^{s}78**/63**, mb3.6**/9**, 10C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.90	166	⇑P	P	04 50 55.4	+1.1
CEP				S	S	04 51 26.0	-6.8
CHCP	Chirah Chowk	3.48	148	⇑P	P	04 51 02.2	+0.9
CHCP				S	S	04 51 41.0	-4.1
THW	Thamme Wali	3.88	171	⇑P	P	04 51 06.8	+0.7
SBDP	Sheikh Budin	4.34	183	⇓P	P	04 51 11.9	+0.1
SARP	Sargodha	4.89	164	P	P	04 51 18.7	-0.1
DRP	Derazinda	4.94	188	P	P	04 51 20.0	+0.7
DRP				S	S	04 52 16.0	-1.2
THN	Thein Dam	5.69	136	*e*P	P	04 51 29.6	+0.6
	40nm,0.4s						
THN				*e*S	S	04 52 32.1	-2.4
AML	Almayashu	5.85	20	P	P	04 51 31.1	+0.1
	SNR=208						
UCH	Uchtor	6.19	25	P	P	04 51 35.7	+0.4
	SNR=147						
KZA	Kyzart	6.33	30	P	P	04 51 36.7	-0.4
	SNR=11						
EKS2	Erkin-Say	6.37	18	P	P	04 51 37.7	+0.1
	SNR=25						
KK31	Karatay Array	6.47	356	⇑P	P	04 51 38.8	-0.1
	7.1nm,0.3s,baz=179,slow=13,SNR=160						
KK31				⇑S	S	04 52 46.5	-5.8
	27nm,0.5s,baz=161,slow=19,SNR=19						
KKAR	Karatay Array	6.47	356	*e*PN	P	04 51 38.8	-0.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AAK	Ala-Archa	6.54	23	P	P	04 51 40.2	+0.3
	SNR=28						
AAK	Ala-Archa	6.54	23	*e*P	P	04 51 38.2	-1.7
	comp=Z,26nm,0.4s						
KBK	Karagaybulak	6.71	25	P	P	04 51 42.5	+0.4
	SNR=18						
ULHL	Ulahol	6.88	34	P	P	04 51 43.9	-0.4
	SNR=11						
CHMS	Chumysh	6.96	23	P	P	04 51 45.6	+0.3
	SNR=9.0						
SDNR	Sundarnagar	7.10	135	*e*P	P	04 51 46.0	-1.0
SDNR				*e*S	S	04 53 00.0	-6.9
USP	Ospenovka	7.13	21	P	P	04 51 47.5	+0.1
	SNR=14						
TKM2	Tokmak 2	7.18	28	P	P	04 51 48.2	+0.1
	SNR=72						
MK31	Makanchi Array	13.15	36	⇑P	P	04 53 04.2	-0.2
	comp=Z,9.6nm,0.9s,baz=220,slow=13,SNR=46						
MKAR	Makanchi Array	13.15	36	P	P	04 53 04.4	-0.1
	comp=Z,0.9nm,0.3s,baz=216,slow=9.1,SNR=45						
MKAR	Makanchi Array	13.15	36	P	P	04 53 04.4	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	Koldanda	13.81	126	*e*P	P	04 53 12.0	-0.7
	comp=Z,4.3nm,0.3s						
GKN	Gorkha	14.34	123	*e*P	P	04 53 20.0	+0.7
	comp=Z,13nm,0.3s						
DMN	Daman	14.91	123	*e*P	P	04 53 27.1	+0.7
	comp=Z,10nm,0.4s						
KKN	Kakani	14.91	122	*e*P	P	04 53 27.8	+1.4
	comp=Z,6.2nm,0.2s						
AB31	Akbulak array	14.98	331	⇑P	P	04 53 25.9	-1.2
	comp=Z,0.4nm,0.3s,baz=165,slow=9.2,SNR=35						
AB31				⇑S	S	04 56 07.7	+0.2
	comp=Z,2.3nm,0.8s,baz=152,slow=24,SNR=4.7						
AB31	Akbulak array	14.98	331	P	P	04 53 25.8	-1.3
AB31				S	S	04 56 14.4	+6.9
PKI	Pulchoki	15.14	123	*e*P	P	04 53 29.8	+0.6
	comp=Z,15nm,0.5s						
GUN	Gumba	15.25	121	*e*P	P	04 53 31.6	+1.1
	comp=Z,22nm,0.4s						
VOSK	Vostochnaya	16.08	360	⇑P	P	04 53 39.8	-0.6
	comp=Z,2.8nm,0.6s						
ZRNK	Zerenda	16.37	356	⇑P	P	04 53 43.8	-0.1
	comp=Z,3.5nm,0.5s						
ZRNK	Zerenda	16.37	356	P	P	04 53 43.8	-0.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVA0	Borovoye Array	16.39	359	P	P	04 53 44.0	-0.2
	comp=Z,0.4nm,0.3s,baz=222,slow=36,SNR=20						
BVAR	Borovoye Array	16.39	359	P	P	04 53 43.9	-0.3
	comp=Z,2.4nm,0.3s,baz=165,slow=11,SNR=20						
SONM	Songino Array	28.22	56	P	P	04 55 39.6	0.0
	comp=Z,1.2nm,0.6s,mb3.7,baz=264,slow=8.7,SNR=9.5						
FINES	FINESS Array B	37.39	326	P	P	04 56 58.2	-0.1
	comp=Z,1.3nm,0.6s,mb3.7,baz=124,slow=14,SNR=8.6						
FINES	FINESS Array B	37.39	326	P	P	04 56 58.2	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	37.39	326	P	P	04 56 58.2	-0.1
ARCES	ARCESS Array B	41.03	338	P	P	04 57 29.3	+1.1
	comp=Z,1.7nm,0.5s,mb3.8,baz=111,slow=8.0,SNR=18						
ARCES	ARCESS Array B	41.03	338	P	P	04 57 29.3	+1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	NORSAR Subarra	44.30	323	P	P	04 57 54.8	+0.3
	comp=Z,1.3nm,0.5s,mb3.5,baz=94,slow=7.4						
NOA	NORSAR Array B	44.30	323	P	P	04 57 54.9	+0.3
	comp=Z,1.5nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=5.7						
NOA	NORSAR Array B	44.30	323	P	P	04 57 54.9	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
COLA	College	74.33	16	*e*P	P	05 01 20.6	+0.7
	comp=Z,2.4nm,0.7s,mb3.9						
ILAR	Eielson Array	74.63	16	P	P	05 01 21.4	-0.2
	comp=Z,0.9nm,0.8s,mb3.5,baz=324,slow=5.0,SNR=11						
ILAR	Eielson Array	74.63	16	P	P	05 01 21.4	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	81.10	3	P	P	05 01 57.3	+0.4
	comp=Z,1.1nm,0.6s,mb3.7,baz=351,slow=5.5,SNR=8.0						
YKA	Yellowknife Ar	81.10	3	P	P	05 01 57.3	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	81.10	3	P	P	05 01 57.3	+0.4
WRA	Warramunga Arr	82.03	122	P	P	05 02 01.0	-1.4
	comp=Z,1.0nm,0.9s,mb3.4,baz=312,slow=6.4,SNR=9.7						
WRA	Warramunga Arr	82.03	122	P	P	05 02 01.0	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	84.30	125	P	P	05 02 12.9	-1.0
	comp=Z,0.9nm,0.6s,mb3.6,baz=313,slow=4.8,SNR=11						

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*IDC **21** 05:14:47.5±2.2, 17.41S×178.77W, h515^{km}±23^{km}, mb3.9/8, mb1 4.3/8, mb1mx3.9/15, Error ellipse: s-maj=26.9km s-min=13.9km az=143.0*

*NEIC **21** 05:14:49.6±1.4, 17.46S×178.81W, h541^{km}±15^{km}, mb4.2/19, Error ellipse: s-maj=11.7km s-min=7.3km az=146.0*

ISC 21 05:14:51.6±3.0**, 17.5S**±0.1×**178.9W**±0.1**, h579**^{km}±39^{km}**, n66,** σ**0.^{s}59**/38**, mb4.3**/26**, 1C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.50	249	*e*P	P	05 17 55.4	+0.1
RPZ	Rata Peaks	27.48	196	P	P	05 19 51.8	-2.3
	2.8nm,0.5s,mb4.2,baz=11,slow=5.9,SNR=4.7						
CTA	Charters Tower	33.02	260	*e*P	P	05 20 41.9	+0.3
	11nm,0.9s,mb4.5						
CTAO	Charters Tower	33.02	260	*e*P	P	05 20 41.7	+0.1
	14nm,0.8s,mb4.6						
CNB	Canberra Magne	33.29	232	⇓*i*P	P	05 20 44.5	+0.9
	21nm,0.5s,mb5.0						
TOO	Toolangi	37.05	230	*e*P	P	05 21 15.4	+0.8
	15nm,0.9s,mb4.5						
STKA	Stephens Creek	38.40	241	*e*P	P	05 21 26.9	+1.2
	15nm,0.5s,mb4.8						
STKA	Stephens Creek	38.40	241	P	P	05 21 26.9	+1.1
	21nm,0.5s,mb4.9,baz=89,slow=9.0,SNR=85						
WB2	Warramunga Arr	44.21	259	⇓*i*P	P	05 22 11.6	-0.4
WB2				*e*S	x	05 30 15.2	
WRAB	Tennant Creek	44.21	259	*e*P	P	05 22 11.3	-0.8
	12nm,0.5s,mb4.7						
WRA	Warramunga Arr	44.22	259	P	P	05 22 11.6	-0.5
	5.3nm,0.3s,mb4.6,baz=97,slow=7.6,SNR=145						
WRA				ScP		05 26 47.6	
	1.6nm,0.8s,baz=88,slow=4.1,SNR=6.0						
ASAR	Alice Springs	44.42	254	P	P	05 22 14.0	+0.3
	61nm,0.4s,mb5.4,baz=89,slow=8.0,SNR=211						
ASAR				ScP		05 26 48.5	
	2.6nm,1.0s,baz=94,slow=4.1,SNR=7.9						
ASPA	Alice Springs	44.43	254	⇓*i*P	P	05 22 14.0	+0.3
KAKA	Kakadu	47.13	269	⇓*i*P	P	05 22 34.1	-0.4
	27nm,0.3s,mb5.3						
FORT	Forrest	49.73	244	⇓*i*P	P	05 22 53.2	-0.5
	118nm,0.6s,mb5.5						
FITZ	Fitzroy Crossi	52.60	260	⇓*i*P	P	05 23 14.9	+0.3
	5.8nm,0.4s,mb4.3						
KLBR	Kellerberrin	58.57	243	*e*P	P	05 23 55.0	-0.6
	18nm,0.7s,mb4.3						
MUN	Mundaring	59.87	243	*e*P	P	05 24 04.5	+0.3
	16nm,1.2s,mb4.1						
VNDA	Vanda	60.81	185	P	P	05 24 09.8	0.0
	0.5nm,0.8s,baz=360,slow=5.3,SNR=3.0						
VNDA	Vanda	60.81	185	P	P	05 24 09.8	0.0
QSPA	South Pole Qui	72.56	180	*e*P	P	05 25 22.0	+0.5
	3.0nm,0.9s,mb3.8						
NVAR	Mina Array Bea	79.47	44	P	P	05 26 00.1	+0.1
	3.5nm,0.7s,mb3.8,baz=224,slow=8.8,SNR=30						
TPH	Tonopah	80.01	45	*e*P	P	05 26 02.9	+0.1
	3.4nm,1.0s,mb3.6						
MOD	Modoc	80.09	40	*e*P	P	05 26 03.1	0.0
	4.2nm,0.7s,mb3.9						
WVOR	Wild Horse Val	81.42	41	*e*P	P	05 26 09.8	-0.1
	6.6nm,1.0s,mb4.0						
TUC	Tucson	81.84	53	*e*P	P	05 26 12.8	+0.6
	3.6nm,0.8s,mb4.0						
RMW	Rattlesnake Mo	82.41	35	*e*P	P	05 26 14.9	+0.1
ELK	Elko	82.70	43	*e*P	P	05 26 16.5	+0.1
	4.0nm,0.8s,mb4.0						
HLID	Hailey	84.65	41	*e*P	P	05 26 26.2	+0.2
	3.1nm,0.8s,mb4.0						
ILAR	Eielson Array	85.60	13	P	P	05 26 29.1	-1.0
	1.8nm,0.4s,mb4.0,baz=224,slow=5.3,SNR=30						
PV01	Paradox Valley	86.03	48	P	P	05 26 32.1	-0.7
TXAR	Lajitas Array	86.20	58	P	P	05 26 34.7	+0.9
	3.1nm,0.7s,mb4.0,baz=217,slow=6.2,SNR=53						
ANMO	Albuquerque	86.23	52	*e*P	P	05 26 33.7	-0.1
	1.8nm,0.9s,mb3.7						
MCMT	McKenzie Canyo	86.25	41	*e*P	P	05 26 33.7	+0.1
TPAW	Teton Pass	86.82	43	*e*P	P	05 26 36.7	+0.3
CHMT	Chamberlain Mo	87.02	39	*e*P	P	05 26 36.7	-0.5
PDAR	Pinedale Array	87.40	44	P	P	05 26 39.0	0.0
	2.2nm,0.6s,mb4.1,baz=216,slow=2.9,SNR=27						
SNAA	Sanae	91.02	179	*e*P	P	05 26 55.0	-0.3
	0.5nm,0.5s,mb3.7						
MKAR	Makanchi Array	108.49	314	PKiKP		05 32 15.5	
	0.2nm,0.4s,slow=1.4,SNR=3.6						
ARCES	ARCESS Array B	125.82	350	PKP	PKPdf	05 32 50.2	+2.6
	3.4nm,0.9s,baz=21,slow=1.8,SNR=5.0						
BRTR	Keskin Array B	144.14	315	PKP	PKPdf	05 33 23.9	+1.9
	1.0nm,0.6s,baz=84,slow=3.5,SNR=5.2						
OKC	Ostrava-Krasne	144.92	341	*e*PKP	PKPdf	05 33 29.8	+6.8
CLZ	Clausthal	144.95	350	*e*PKPbc	PKPbc	05 33 26.0	+2.2
CLL	Collm	144.95	347	⇑*i*PKP1	PKPbc	05 33 25.6	+1.8
BRG	Berggiesshubel	145.15	346	*i* P	PKPdf	05 33 26.6	+3.3
KHC	Kasperske Hory	146.85	345	*e*PKP	PKPdf	05 33 31.2	+4.9
GEC2	GERESS Array S	147.09	345	*e*PKPbc	PKPdf	05 33 31.8	+5.1
GERES	GERESS Array B	147.09	345	PKPbc	PKPdf	05 33 32.0	+5.3
	2.2nm,0.5s,baz=19,slow=2.8,SNR=27						

GIVF	Givet	147.33	356	*e*PKP1	PKPdf	05 33 32.5	+5.5
	7.7nm,0.5s						
BAIF	Baives	147.42	356	*e*PKP1	PKPdf	05 33 32.7	+5.5
	3.3nm,0.4s						
BFO	Black Forest	148.68	351	*e*PKPbc	PKPdf	05 33 35.8	+6.6
CDF	Champ du Feu	148.75	352	*e*PKP1	PKPdf	05 33 36.1	+6.8
	4.8nm,0.5s						
FLN	La Foliniere	148.79	2	*e*PKP1	PKPdf	05 33 35.7	+6.4
	21nm,0.6s						
MEZF	Maizieres J'vi	148.90	355	*e*PKP1	PKPdf	05 33 37.7	+8.2
GRR	Gorron	149.15	3	*e*PKP1	PKPdf	05 33 36.7	+6.8
SGMF	Saint Gilles	149.18	5	*e*PKP1	PKPdf	05 33 37.1	+7.1
HAU	Haudompre	149.26	353	*e*PKP1	PKPdf	05 33 37.2	+7.1
HINF	Hinteralfeld	149.39	352	*e*PKP1	PKPdf	05 33 37.3	+7.0
	8.6nm,0.8s						
LOR	Lormes	150.22	356	*e*PKP1	PKPdf	05 33 39.6	+8.0
	7.8nm,0.4s						
SSF	Saint Saulge	150.45	357	*e*PKP1	PKPdf	05 33 40.1	+8.1
	11nm,0.5s						
CABF	La Chapelle	150.67	353	*e*PKP1	PKPdf	05 33 41.2	+8.9
	15nm,0.8s						
AVF	Avril sur Loir	150.73	357	*e*PKP1	PKPdf	05 33 40.3	+7.9
	2.7nm,0.5s						
MFF	Saint Martin d	150.96	2	*e*PKP1	PKPdf	05 33 41.0	+8.2
	23nm,1.0s						
BGF	Bois d'Agland	150.98	357	*e*PKP1	PKPdf	05 33 41.2	+8.4
	6.8nm,0.5s						
TCF	Toulx Ste Croi	151.27	358	*e*PKP1	PKPdf	05 33 41.7	+8.5
	10nm,0.9s						
LPG	La Plagne	151.68	352	*e*PKP1	PKPdf	05 33 43.9	+10

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*NEIC **21** 05:53:23.2, 39.18S×174.86E, h227^{km}, After WEL.*

WEL 21 05:53:24.4±0.4**, 39.20S×174.88E, h215**^{km}±3^{km}**, ML3.8**/3**, 4C-1D, Error ellipse: s-maj=2.6km s-min=2.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	Vera Road	0.12	310	PN	P	05 53 51.7	-1.1
VRZ	Vera Road	0.12	310	P	P	05 53 51.6	-1.1
RAEZ	Rainy Point	0.38	257	PN	P	05 53 52.6	-0.7
RAEZ	Rainy Point	0.38	257	P	P	05 53 52.6	-0.7
TWVZ	Taurewa	0.46	73	PN	P	05 53 52.8	-0.6
TWVZ				SN	S	05 54 14.9	-1.0
CNZ	Chateau	0.52	90	PN	P	05 53 53.2	-0.5
FWVZ	Far West T-bar	0.53	96	PN	P	05 53 53.4	-0.3
FWVZ				SN	S	05 54 15.6	-0.8
FWVZ	Far West T-bar	0.53	96	P	P	05 53 53.6	-0.1
MGZ	Maungaku	0.55	69	⇑PN	P	05 53 53.4	-0.5
MGZ	Maungaku	0.55	69	P	P	05 53 53.4	-0.4
WAZ	Wanganui	0.56	171	⇑PN	P	05 53 54.0	+0.2
WAZ	Wanganui	0.56	171	P	P	05 53 54.0	+0.2
WTVZ	West Tongariro	0.56	81	PN	P	05 53 53.4	-0.4
NGZ	Ngauruhoe	0.56	87	PN	P	05 53 53.4	-0.4
NGZ	Ngauruhoe	0.56	87	P	P	05 53 53.6	-0.2
WNVZ	Wahianoa	0.57	103	PN	P	05 53 53.8	-0.1
KAVZ	Karewarewa	0.61	80	PN	P	05 53 53.7	-0.3
KAVZ	Karewarewa	0.61	80	P	P	05 53 53.7	-0.3
TUVZ	Tukino	0.61	96	PN	P	05 53 53.8	-0.2
TUVZ				PN	P	05 53 53.9	-0.1
TUVZ				SN	S	05 54 16.2	-0.8
TUVZ	Tukino	0.61	96	P	P	05 53 53.9	-0.1
NEZ	North Egmont	0.61	263	⇓PN	P	05 53 53.7	-0.3
NEZ	North Egmont	0.61	263	P	P	05 53 53.8	-0.2
DFE	Dawson Falls	0.61	258	PN	P	05 53 53.7	-0.4
DFE	Dawson Falls	0.61	258	P	P	05 53 53.7	-0.3
MOVZ	Moawhango	0.71	107	⇑PN	P	05 53 53.9	-0.6
NRZ	Ngariki Road	0.74	259	PN	P	05 53 54.0	-0.6
NRZ	Ngariki Road	0.74	259	P	P	05 53 54.2	-0.4
NWEZ	Newall Road	0.79	265	PN	P	05 53 54.2	-0.6
NWEZ	Newall Road	0.79	265	P	P	05 53 54.3	-0.5
TSZ	Takapari Road	1.20	136	PN	P	05 53 57.4	0.0
TSZ	Takapari Road	1.20	136	P	P	05 53 57.5	+0.1
BKZ	Black Stump Fm	1.26	89	PN	P	05 53 57.0	-0.9
BKZ				SN	S	05 54 21.7	-2.1
BKZ	Black Stump Fm	1.26	89	P	P	05 53 57.1	-0.8
MRZ	Mangatainoka R	1.55	160	PN	P	05 53 59.7	-0.6
MRZ				SN	S	05 54 27.0	-1.0
MRZ	Mangatainoka R	1.55	160	P	P	05 53 59.7	-0.7
MRZ				S	S	05 54 27.0	-1.1
KIW	Kapiti Island	1.66	179	PN	P	05 54 00.6	-0.6
KIW				SN	S	05 54 28.0	-1.6
KIW	Kapiti Island	1.66	179	P	P	05 54 00.7	-0.6
PWZ	Pawanui	1.74	119	PN	P	05 54 01.7	-0.3
CAW	Cannon Point	1.91	176	PN	P	05 54 02.8	-0.7
CAW				SN	S	05 54 32.5	-1.2
CAW	Cannon Point	1.91	176	P	P	05 54 02.9	-0.7
CAW				S	S	05 54 33.1	-0.6
MTW	Mount Morrison	2.01	166	PN	P	05 54 03.6	-1.0
MTW	Mount Morrison	2.01	166	P	P	05 54 03.7	-0.9
MRW	Makara Radio	2.03	184	*e*PN	P	05 54 03.9	-0.8
MRW	Makara Radio	2.03	184	P	P	05 54 02.9	-1.8
SNZO	South Karori	2.11	184	*e*PN	P	05 54 04.5	-1.1
SNZO	South Karori	2.11	184	P	P	05 54 04.7	-0.9
KNZ	Kokohu	2.18	86	PN	P	05 54 05.1	-1.2
PAWZ	Paruwai Farm	2.22	169	PN	P	05 54 05.6	-1.1
MSWZ	Moikau Station	2.23	173	PN	P	05 54 05.7	-1.1
MWZ	Matawai	2.25	68	PN	P	05 54 04.7	-2.3
MWZ	Matawai	2.25	68	P	P	05 54 04.8	-2.2
NNZ	Nelson	2.32	209	⇑PN	P	05 54 06.3	-1.5
TUWZ	Tuamarina	2.34	197	PN	P	05 54 06.9	-1.1
QRZ	Quartz Range	2.42	227	P	P	05 54 06.5	-2.4
BSWZ	Blackbirch Sta	2.62	197	*e*PN	P	05 54 09.9	-1.1
PUZ	Puketiti	2.88	68	*e*PN	P	05 54 11.1	-2.9
THZ	Tophouse	2.97	210	PN	P	05 54 13.0	-1.9
THZ	Tophouse	2.97	210	*e*P	P	05 54 13.1	-1.8
MXZ	Matakaoa Point	3.15	60	PN	P	05 54 14.1	-3.1
MXZ	Matakaoa Point	3.15	60	P	P	05 54 14.2	-3.0
KHZ	Kahutara	3.37	197	PN	P	05 54 17.9	-1.8
KHZ	Kahutara	3.37	197	*e*P	P	05 54 18.0	-1.7
DSZ	Denniston Nort	3.46	222	PN	P	05 54 17.8	-2.9
DSZ	Denniston Nort	3.46	222	P	P	05 54 17.8	-3.0
LTZ	Lake Taylor	4.08	208	PN	P	05 54 25.7	-2.7
MQZ	McQueen's Vall	4.80	200	PN	P	05 54 33.3	-4.0
MQZ	McQueen's Vall	4.80	200	*e*P	P	05 54 33.4	-3.9
WVZ	Waitaha Valley	4.97	218	PN	P	05 54 35.7	-3.8
WVZ	Waitaha Valley	4.97	218	*e*P	P	05 54 35.8	-3.7
ODZ	Otahua Downs	6.63	207	PN	P	05 54 57.4	-3.4
ODZ	Otahua Downs	6.63	207	*e*P	P	05 54 57.5	-3.2
JCZ	Jackson Bay	6.68	221	*e*PN	P	05 54 56.3	-5.1

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*NEIC **21** 05:55:01.6±1.2, 25.39S×179.63E, h521^{km}±14^{km}, mb4.3/13, Error ellipse: s-maj=11.1km s-min=10.6km az=208.0*

*IDC **21** 05:55:02.0±2.3, 25.32S×179.67E, h524^{km}±25^{km}, mb3.6/13, mb1 3.8/14, mb1mx3.8/17, Error ellipse: s-maj=19.1km s-min=11.1km az=169.0*

ISC 21 05:55:00.7±1.3**, 25.45S**±0.10×**179.61E**±0.07**, h518**^{km}±15^{km}**, n43, σ0^{s}.81**/37**, mb4.1**/23**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.51	283	*e*P	P	05 57 46.5	+1.2
NOUC	Port Laguerre	12.63	283	*e*P	P	05 57 47.7	+1.2
URZ	Urewera	12.95	189	P	P	05 57 47.8	-1.9
	2.9nm,0.3s,baz=38,slow=5.1,SNR=13						
CTA	Charters Tower	31.16	273	⇓*i*P	P	06 00 38.9	+0.5
	26nm,0.6s,mb4.9						
CTA	Charters Tower	31.16	273	P	P	06 00 39.0	+0.6
	37nm,0.6s,mb5.1,baz=100,slow=10,SNR=61						
CTAO	Charters Tower	31.16	273	*e*P	P	06 00 38.9	+0.5
	48nm,0.8s,mb5.1						
STKA	Stephens Creek	33.84	250	*e*P	P	06 01 01.5	+0.6
	3.1nm,0.6s,mb4.0						
STKA	Stephens Creek	33.84	250	P	P	06 01 01.6	+0.7
	4.1nm,0.7s,mb4.1,baz=82,slow=9.3,SNR=14						
ASAR	Alice Springs	41.45	262	P	P	06 02 03.2	0.0
	6.4nm,0.4s,mb4.5,baz=88,slow=6.1,SNR=109						
ASAR				S	S	06 07 42.7	+1.0
	1.0nm,0.6s,baz=93,slow=15,SNR=9.5						
ASPA	Alice Springs	41.46	262	*e*P	P	06 02 03.4	+0.2
ASPA				*e*S	S	06 07 41.6	-0.1
WB2	Warramunga Arr	41.96	268	*e*P	P	06 02 06.4	-0.9
WB2				*e*S	S	06 07 48.8	-0.2
WRAB	Tennant Creek	41.96	268	*e*P	P	06 02 06.3	-1.1
	19nm,0.6s,mb4.8						
WRA	Warramunga Arr	41.97	268	P	P	06 02 06.9	-0.5
	15nm,0.6s,mb4.7,baz=104,slow=8.0,SNR=96						
WRA				S	S	06 07 49.4	+0.3
	0.9nm,0.8s,baz=102,slow=14,SNR=4.9						
KAKA	Kakadu	46.15	277	*e*P	P	06 02 38.6	-1.6
	9.3nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	50.37	267	*e*P	P	06 03 11.2	-0.6
	7.1nm,0.8s,mb4.2						
VNDA	Vanda	52.81	185	P	P	06 03 28.8	0.0
	0.8nm,0.5s,mb3.3,baz=1.5,slow=6.4,SNR=6.1						
SBA	Scott Base	52.82	183	*e*P	P	06 03 29.7	+0.8
	2.8nm,0.9s,mb3.6						
QSPA	South Pole Qui	64.64	180	*e*P	P	06 04 48.5	+0.4
	8.3nm,0.8s,mb4.2						
MAW	Mawson	76.18	201	P	P	06 05 56.8	+0.8
	1.8nm,0.5s,mb3.7,baz=122,slow=8.9,SNR=7.4						
SNAA	Sanae	83.13	179	P	P	06 06 32.0	-0.2
	0.7nm,0.9s,mb3.2,baz=198,slow=5.2,SNR=19						
YBH	Yreka Blue Hor	85.50	39	P	P	06 06 44.9	+0.4
	2.9nm,1.1s,mb3.8,baz=256,slow=9.0,SNR=3.2						
NVAR	Mina Array Bea	86.11	44	P	P	06 06 47.7	+0.3
	2.8nm,0.8s,mb3.9,baz=221,slow=8.3,SNR=20						
PAHR	Pah Rah Range	86.21	43	*e*P	P	06 06 47.3	-0.6
	6.7nm,0.7s,mb4.4						
LDFC	Landfair	86.24	48	*e*P	P	06 06 48.4	+0.3
MOD	Modoc	87.01	40	*e*P	P	06 06 51.5	-0.1
	2.6nm,0.8s,mb3.9						
PLCA	Paso Flores	87.45	134	P	P	06 06 54.6	+0.9
	1.6nm,0.7s,mb3.8,baz=254,slow=7.2,SNR=4.0						
TUC	Tucson	87.74	53	*e*P	P	06 06 56.3	+1.0
	3.8nm,0.9s,mb4.1						
WVOR	Wild Horse Val	88.31	41	*e*P	P	06 06 57.6	-0.1
	6.1nm,1.1s,mb4.2						
ELK	Elko	89.38	44	*e*P	P	06 07 02.7	-0.1
	1.4nm,0.7s,mb3.9						
RMW	Rattlesnake Mo	89.66	35	*e*P	P	06 07 04.1	+0.3
TXAR	Lajitas Array	91.55	58	P	P	06 07 13.4	+0.5
	1.4nm,0.7s,mb4.1,baz=213,slow=6.3,SNR=23						
ILAR	Eielson Array	93.61	14	P	P	06 07 19.4	-2.2
	0.4nm,0.7s,mb3.7,baz=224,slow=5.0,SNR=4.9						
PDAR	Pinedale Array	94.05	44	P	P	06 07 23.4	-0.8
	0.5nm,0.7s,mb3.8,baz=243,slow=3.3,SNR=5.4						
MKAR	Makanchi Array	112.93	312	PKiKP		06 12 38.3	
	0.3nm,0.6s,baz=134,slow=2.3,SNR=3.5						
BVAR	Borovoye Array	121.35	318	PKP	PKPdf	06 12 54.2	-0.2
	0.9nm,0.4s,baz=135,slow=2.1,SNR=4.5						
ARCES	ARCESS Array B	133.32	348	PKP	PKPdf	06 13 16.5	-0.3
	2.6nm,0.6s,baz=68,slow=4.3,SNR=7.3						
FINES	FINESS Array B	139.79	341	PKhKP		06 13 22.6	
	1.0nm,0.7s,baz=117,slow=8.5,SNR=3.6						
NB2	NORSAR Subarra	143.55	351	PKP		06 13 34.0	
	2.7nm,0.7s,baz=16,slow=3.1						
NOA	NORSAR Array B	143.55	351	PKP	PKPdf	06 13 34.1	-1.1
	4.9nm,0.8s,baz=15,slow=4.9,SNR=12						
HFS	Hagfors	143.98	348	PKP	PKPdf	06 13 35.5	-0.4
	8.5nm,0.6s,slow=1.5,SNR=28						
BRTR	Keskin Array B	148.20	305	PKPbc	PKPdf	06 13 49.2	+5.5
	0.9nm,0.5s,baz=166,slow=5.1,SNR=4.5						
EKA	Eskdalemuir Ar	150.08	3	PKPbc	PKPdf	06 13 52.3	+6.1
	1.4nm,0.5s,baz=343,slow=2.7,SNR=7.0						
CLL	Collm	152.22	342	*i* PKP1	PKPdf	06 13 57.9	+8.5

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*BJI **21** 06:02:51.9, 55.00S×33.60W, h10^{km}, mB5.0, Ms5.4, Msz5.3*

*NEIC **21** 06:02:52.0±0.2, 55.00S×33.59W, h10^{km}, mb5.0/17, Error ellipse: s-maj=9.2km s-min=7.7km az=60.0*

*SYO **21** 06:02:51.9, 55.00S×33.59W, h10^{km}, MB5.0*

*HRVD **21** 06:02:52.0±0.5, 54.99S×33.54W, h24^{km}±2^{km}, MW4.9/30, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s30,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.24; $M_{\theta\theta}$-1.23±.16; $M_{\phi\phi}$-0.68±.13; $M_{r\theta}$-0.95±.24; $M_{\theta\phi}$1.39±.10; $M_{\phi r}$1.36±.21; Best double couple: $M_0$2.72×10^{16} NP1:ϕ_s115°,δ28°,λ67°. NP2:ϕ_s321°,δ64°,λ102°. Principal axes: T 2.53, Plg69°, Azm253°; N .38, Plg10°, Azm135°; P -2.91, Plg19°, Azm42°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **21** 06:02:58.2±1.9, 55.08S×33.77W, h52^{km}±16^{km}, mb4.4/13, mb1 4.4/14, mb1mx4.4/16, ML3.8/1, MS3.8/7, Ms1 3.8/7, ms1mx3.7/16 Error ellipse: s-maj=18.6km s-min=12.1km az=45.0*

ISC 21 06:02:50.8±0.4**, 54.98S**±0.06×**33.6W**±0.1**, h10**^{km}**, (h26**^{km}±2.4^{km}**:pP-P), n92, σ1^{s}.03**/40**, mb4.8**/22**, MS4.2**/11**, 3C-6D, South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	Palmer Station	17.96	225	*e*P	P	06 07 03.7	+1.9
	53nm,0.9s						
VNA1	Neumayer--Stat	19.26	154	*e*		06 07 26.3	
VNA1	Neumayer--Stat	19.26	154	*e*		06 07 31.6	
VNA1	Neumayer--Stat	19.26	154	⇓*i*P	P	06 07 20.5	+2.8
VNA1				*e*		06 07 26.3	
VNA1				*e*		06 07 31.6	
VNA1				*e*		06 11 24.4	
VNA2	Neumayer--Watz	19.66	154	*e*		06 07 30.8	
VNA2	Neumayer--Watz	19.66	154	*e*		06 07 33.7	
VNA2	Neumayer--Watz	19.66	154	*e*	P	06 07 35.5	+13
VNA2	Neumayer--Watz	19.66	154	⇓*i*P	P	06 07 24.5	+2.3
VNA2				*e*		06 07 30.8	
VNA2				*e*		06 07 33.7	
VNA2				*e*		06 07 35.5	
VNA2				*e*		06 11 34.6	
USHA	Ushuaia	19.90	256	P	P	06 07 23.9	-1.1
	0.3nm,0.3s,baz=122,slow=15,SNR=2.8						
SNAA	Sanae	21.28	154	*e*	P	06 07 44.4	+5.2
SNAA	Sanae	21.28	154	*e*		06 07 47.2	
SNAA	Sanae	21.28	154	*e*		06 07 48.6	
SNAA	Sanae	21.28	154	P	P	06 07 38.5	-0.7
	7.0nm,0.9s,mb4.0,baz=311,slow=9.7,SNR=17						
SNAA				PcP	PcP	06 11 42.6	-1.6
	0.7nm,0.4s,baz=252,slow=3.8,SNR=10						
SNAA				LR	LR	06 14 32.1	
	comp=Z,212nm,18.8s,MS3.6,baz=334,slow=33						
SNAA	Sanae	21.28	154	⇑*i*P	P	06 07 37.6	-1.6
SNAA				*e*		06 07 44.4	
SNAA				*e*		06 07 47.2	
SNAA				*e*		06 07 48.6	
SNAA				*e*		06 11 41.3	
MAIT	Maitri	25.16	146	*e*P	P	06 08 17.1	+0.1
TRQA	Tornquist	25.57	300	*e*P	P	06 08 21.6	+0.4
	59nm,1.1s,mb5.0						
PLCA	Paso Flores	28.20	285	P	P	06 08 45.2	-0.1
	17nm,0.8s,mb4.7,baz=135,slow=8.8,SNR=45						
PLCA				LR	LR	06 19 29.1	
	comp=Z,435nm,21.1s,MS4.0,baz=131,slow=35						
PLCA	Paso Flores	28.20	285	*e*P	P	06 08 44.5	-0.8
	20nm,0.9s,mb4.7						
PLCA				LR	LR		
	comp=Z,517nm,20.0s,MS4.1						
CPUP	Villa Florida	33.47	319	P	P	06 09 31.7	-0.3
	comp=Z,17nm,0.8s,mb5.0,baz=175,slow=7.7,SNR=38						
CPUP				PcP	PcP	06 12 12.1	-1.2
	comp=Z,3.6nm,0.8s,baz=138,slow=1.4,SNR=4.1						
CPUP				LR	LR	06 22 12.2	
	comp=Z,220nm,19.8s,MS3.9,baz=180,slow=34						
CPUP	Villa Florida	33.47	319	*e*P	P	06 09 30.4	-1.7
	comp=Z,20nm,0.9s,mb5.0						
CPUP				LR	LR		
	comp=Z,295nm,21.0s,MS4.0						
SYO	Syowa Base	34.69	143	⇓P	P	06 09 41.0	-1.1
SYO	Syowa Base	34.69	143	⇓sP	sP	06 09 51.1	+4.7
SYO	Syowa Base	34.69	143	⇓PnPn		06 10 50.6	
QSPA	South Pole Qui	35.28	180	*e*P	P	06 09 47.1	0.0
	comp=Z,17nm,0.9s,mb5.0						
QSPA				*e*		06 09 57.5	
QSPA				*e*		06 12 16.0	
QSPA				LR	LR		
	comp=Z,220nm,20.1s,MS3.9						
BDFB	Brasilia	40.81	338	P	P	06 10 34.3	+0.4
	comp=Z,4.7nm,0.8s,mb4.2,baz=155,slow=9.0,SNR=8.0						
BDFB				PcP	PcP	06 12 35.3	-0.3
	comp=Z,4.7nm,0.8s,baz=166,slow=4.2,SNR=5.3						
BDFB				LR	LR	06 26 25.0	
	comp=Z,95nm,19.2s,MS3.7,baz=151,slow=34						
LVC	Limon Verde	41.65	307	P	P	06 10 42.3	+1.5
	comp=Z,30nm,0.7s,mb5.1,baz=141,slow=5.6,SNR=35						
LVC				PcP	PcP	06 12 38.2	-0.1
	comp=Z,6.8nm,0.6s,baz=180,slow=1.0,SNR=5.6						
LVC	Limon Verde	41.65	307	*e*P	P	06 10 40.6	-0.2
	comp=Z,32nm,0.8s,mb5.0						
MAW	Mawson	43.13	146	⇑*i*P	P	06 10 52.2	-0.1
	comp=Z,6.3nm,0.7s,mb4.5						
MAW				*e*PCP	PcP	06 12 41.5	-1.1
MAW	Mawson	43.13	146	P	P	06 10 52.6	+0.3
	comp=Z,5.8nm,0.6s,mb4.5,baz=237,slow=8.2,SNR=16						
MAW				PcP	PcP	06 12 41.6	-1.0
	comp=Z,5.3nm,0.7s,baz=233,slow=3.3,SNR=4.4						
MAW				LR	LR	06 27 49.5	
	comp=Z,112nm,19.4s,MS3.8,baz=62,slow=35						
SUR	Sutherland	44.01	82	P	P	06 11 01.7	+1.8
	comp=Z,5.7nm,0.8s,mb4.3,baz=191,slow=10,SNR=4.1						
SBA	Scott Base	46.84	186	*e*P	P	06 11 21.2	-0.6
	comp=Z,3.1nm,0.8s,mb4.3						
LPAZ	La Paz	46.85	312	P	P	06 11 24.1	+1.5
	comp=Z,23nm,0.7s,mb5.2,baz=153,slow=6.7,SNR=86						
LPAZ				PcP	PcP	06 12 56.1	+0.1
	comp=Z,2.3nm,0.7s,baz=153,slow=3.6,SNR=1.7						
LPAZ				LR	LR	06 30 19.0	
	comp=Z,57nm,19.1s,MS3.5,baz=290,slow=35						
LPAZ	La Paz	46.85	312	*e*P	P	06 11 24.0	+1.3
	comp=Z,24nm,0.7s,mb5.2						
VNDA	Vanda	47.42	185	P	P	06 11 26.2	-0.2
	comp=Z,3.1nm,0.8s,mb4.3,baz=176,slow=5.9,SNR=23						
VNDA	Vanda	47.42	185	*e*P	P	06 11 25.7	-0.7
	comp=Z,3.0nm,0.9s,mb4.2						
VNDA				*e*pP	pP	06 11 34.9	+5.5
ARE	Arequipa	48.18	308	*e*P	P	06 11 34.5	+1.4
SAML	Samuel	51.56	322	*e*P	P	06 11 58.2	-0.8
	comp=Z,25nm,0.8s,mb5.2						
TSUM	Tsumeb	52.52	68	P	P	06 12 07.0	+0.8
	comp=Z,5.4nm,1.0s,mb4.4,baz=236,slow=3.6,SNR=4.2						
TSUM	Tsumeb	52.52	68	*e*P	P	06 12 05.1	-1.1
	comp=Z,8.6nm,1.0s,mb4.6						
CASY	Casey	56.07	163	*e*P	P	06 12 30.1	-1.5
	comp=Z,6.4nm,0.8s,mb4.7						
CASY				*e*pP	pP	06 12 38.3	+3.7
LIC	Lamto	65.47	32	*e*P	P	06 13 36.0	-0.1
	comp=Z,85nm,0.8s,mb5.8						
KIC	Kosan Boka	65.68	32	*e*P	P	06 13 37.2	-0.3
	comp=Z,78nm,1.0s,mb5.7						
TIC	Toumodi	65.86	31	*e*P	P	06 13 38.4	-0.3
	comp=Z,70nm,0.8s,mb5.7						
DBIC	Dimbokro	65.94	32	P	P	06 13 39.0	-0.1
	comp=Z,10nm,0.7s,mb5.0,baz=155,slow=8.8,SNR=7.3						
DBIC				LR	LR	06 36 05.9	
	comp=Z,84nm,19.0s,MS4.0,baz=87,slow=30						
ROSC	El Rosal	68.49	316	P	P	06 13 54.5	-0.7
	comp=Z,8.5nm,1.0s,mb4.7,baz=121,slow=7.0,SNR=6.2						
JTS	JuntasAbangare	77.91	308	*e*P	P	06 14 50.4	0.0
	comp=Z,14nm,0.9s,mb4.9						
STKA	Stephens Creek	93.40	176	P	P	06 16 06.3	-0.8
	comp=Z,1.9nm,0.8s,mb4.6,baz=183,slow=4.5,SNR=3.6						
STKA	Stephens Creek	93.40	176	P	P	06 16 06.0	-1.0
STKA				*e*pP	pP	06 16 12.7	+2.5
ASAR	Alice Springs	100.95	168	P	P	06 16 40.0	-1.6
	comp=Z,0.8nm,0.5s,baz=176,slow=4.0,SNR=19						
ASAR				PKKPbc		06 32 53.0	
	comp=Z,0.3nm,0.5s,baz=18,slow=1.2,SNR=5.5						
WRA	Warramunga Arr	104.68	168	Pdiff	Pdif	06 16 56.4	-1.8
	comp=Z,0.4nm,0.5s,baz=193,slow=4.5,SNR=12						
WRA				PKiKP		06 21 14.9	
	comp=Z,0.5nm,0.7s,baz=210,slow=1.6,SNR=4.9						
GERES	GERESS Array B	110.81	31	PKiKP		06 21 23.9	
	comp=Z,0.2nm,0.3s,baz=180,slow=1.0,SNR=4.2						
PDAR	Pinedale Array	116.72	307	PKP	PKPdf	06 21 34.4	-3.4
	comp=Z,0.2nm,0.8s,baz=101,slow=4.6,SNR=4.2						
NVAR	Mina Array Bea	117.64	298	PKP	PKPdf	06 21 37.4	-2.2
	comp=Z,0.5nm,0.7s,baz=153,slow=2.0,SNR=4.3						
NVAR	Mina Array Bea	117.64	298	PKP	PKPdf	06 21 37.4	-2.2
MOOW	Moose Ponds	118.03	307	*e*PKP	PKPdf	06 21 37.5	-2.8
NB2	NORSAR Subarra	120.98	24	PKPdf	PKPdf	06 21 43.3	-2.3
	comp=Z,1.9nm,0.5s,baz=210,slow=1.9						
NOA	NORSAR Array B	120.98	24	PKP	PKPdf	06 21 43.6	-2.0
	comp=Z,2.4nm,0.6s,baz=208,slow=1.9,SNR=8.2						
FRB	Frobisher Bay	121.44	343	PKP	PKPdf	06 21 43.3	-3.1
	comp=Z,9.1nm,0.9s,baz=86,slow=0.8,SNR=5.2						
FINES	FINESS Array B	125.23	31	PKP	PKPdf	06 21 51.4	-2.2
	comp=Z,6.1nm,0.6s,baz=160,slow=4.9,SNR=37						
KAF	Kangasniemi	125.82	30	*e*p	PKPdf	06 21 51.6	-3.1
	comp=Z,10nm,0.7s						
SUMG	Summit	127.31	358	*e*PKP	PKPdf	06 21 55.1	-2.2
ARCES	ARCESS Array B	131.36	24	PKP	PKPdf	06 22 03.1	-2.0
	comp=Z,9.7nm,0.7s,baz=202,slow=1.4,SNR=45						
YKA	Yellowknife Ar	132.98	321	PKP	PKPdf	06 22 05.3	-3.1
	comp=Z,2.7nm,0.6s,baz=129,slow=2.2,SNR=18						
KMI	Kunming	136.32	115	*e*PKP	PKPdf	06 22 12.3	-3.2
DLBC	Dease Lake	136.78	310	PKP	PKPdf	06 22 13.1	-2.3
	comp=Z,1.8nm,0.9s,baz=32,slow=4.8,SNR=6.4						
DLBC	Dease Lake	136.78	310	PKP	PKPdf	06 22 13.1	-2.3
BVAR	Borovoye Array	137.35	60	PKP	PKPdf	06 22 15.2	-1.4
	comp=Z,4.8nm,1.0s,baz=135,slow=2.0,SNR=7.4						
BVAR				SKPbc		06 25 42.2	
	comp=Z,4.4nm,1.1s,baz=225,slow=4.2,SNR=6.4						
MKAR	Makanchi Array	140.06	74	PKhKP		06 22 12.6	
	comp=Z,0.6nm,0.5s,baz=239,slow=3.5,SNR=11						
MKAR				PKP	PKPdf	06 22 20.4	-1.4
	comp=Z,1.1nm,0.6s,baz=255,slow=1.9,SNR=7.0						
MKAR				SKPbc		06 25 50.8	
	comp=Z,0.8nm,0.8s,baz=225,slow=4.1,SNR=3.5						
MKAR	Makanchi Array	140.06	74	PKP	PKPdf	06 22 20.4	-1.4
MKAR				SKPbc		06 25 50.8	
WMQ	Urumqi	141.32	82	*e*PKP	PKPdf	06 22 18.4	-5.6
WMQ				XPKP		06 22 32.9	
INK	Inuvik	142.69	323	PKhKP		06 22 18.9	
	comp=Z,20nm,1.0s,baz=92,slow=2.8,SNR=28						
INK	Inuvik	142.69	323	PKP	PKPdf	06 22 18.9	-6.7
ENH	Enshi	143.97	118	*e*PKP	PKPdf	06 22 24.3	-4.6
EYAK	Cordova Ski Ar	144.85	307	*e*PKP	PKPdf	06 22 26.5	-3.1
DIV	Divide	145.08	308	*e*PKP	PKPdf	06 22 27.4	-2.5
ZAL	Zalesovo	145.20	66	PKPbc	PKPbc	06 22 28.6	+0.9
	comp=Z,3.2nm,0.5s,baz=162,slow=1.7,SNR=8.1						
LZH	Lanzhou	145.41	105	⇑PKP	PKPdf	06 22 29.1	-2.2
LZH				LR	LR		
	comp=N,317nm,18.0s						
LZH				LR	LR		
	comp=Z,448nm,20.2s,MS5.2						
GTA	Gaotai	145.46	97	*e*PKP	PKPdf	06 22 30.3	-1.0
GTA				APKP		06 22 36.4	
GTA				XPKP		06 22 39.6	
SML	Sawmill	146.47	309	*e*PKPbc	PKPbc	06 22 31.4	+0.9
ILAR	Eielson Array	146.71	314	PKPbc	PKPbc	06 22 32.1	+1.2
	comp=Z,37nm,0.6s,baz=130,slow=2.0,SNR=356						
PMR	Palmer	146.76	308	*e*P	PKPbc	06 22 32.4	+1.2
PMR				LR	LR		
	comp=Z,100nm,17.0s,MS4.7						
SLKM	Skilak Lake	146.91	306	*e*PKPbc	PKPbc	06 22 32.7	+1.1
COLA	College	147.13	314	*e*P	PKPdf	06 22 33.1	-0.2
MCK	McKinley	147.29	312	*e*PKPbc	PKPdf	06 22 33.9	+0.3
SPU	Mount Spurr	147.97	307	*e*PKPbc	PKPdf	06 22 35.3	+0.5
RSO	Redoubt South	148.08	305	*e*PKPbc	PKPdf	06 22 35.9	+0.9
NJ2	Nanjing	149.96	128	*e*PKP	PKPdf	06 22 35.9	-3.0
NJ2				PKP2	PKPab	06 22 48.8	+0.2
NJ2				PP	PP	06 26 19.0	+0.6
NJ2				SKS	SKS	06 29 40.0	-6.0
NJ2				LR	LR		
	comp=N,240nm,20.0s,MS5.2						
NJ2				LR	LR		
	comp=E,290nm,24.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,820nm,24.9s,MS5.4						
SSE	Sheshan	150.16	133	⇓PKP	PKPdf	06 22 35.3	-3.9
CBIJ	Chichi jima	151.97	172	PKPbc	PKPdf	06 22 45.2	+3.2
	comp=Z,61nm,0.6s,baz=180,slow=2.4,SNR=3.5						
HHC	Hu-ho-hao-te	153.05	107	*e*PKP	PKPdf	06 22 42.6	-0.5
HHC				PP	PP		
	comp=Z,59nm,4.7s						
HHC				LR	LR		
	comp=N,75nm,27.4s						
HHC				LR	LR		
	comp=E,74nm,52.3s						
SONM	Songino Array	154.34	89	PKP	PKPdf	06 22 42.9	-1.8
	comp=E,0.7nm,0.8s,baz=180,slow=4.3,SNR=3.1						
SONM				PKPbc	PKPdf	06 22 51.2	+6.6
	comp=E,2.4nm,0.5s,baz=226,slow=3.1,SNR=20						
SONM				PKPab	PKPab	06 23 06.8	+0.2
	comp=E,1.2nm,0.6s,baz=216,slow=4.4,SNR=4.1						
CN2	Changchun	162.45	121	*e*PKP	PKPdf	06 22 51.8	-2.6

MAN 21 06:18:57.8, 15.97N×120.91E, h2^{km}, mb4.8, ML3.7, MS3.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	Baguio City Da	0.52	323	⇑*i*P	Pg	06 19 08.7	+0.6
BCPH				*i* S	Sg	06 19 13.5	-1.5
BALP	Baler	0.68	109	*e*P	Pg	06 19 11.8	+0.3
BALP				*e*S	Sg	06 19 24.3	+3.8
SCZP	Santa Cruz	0.98	259	*e*P	Pb	06 19 17.4	+0.2
BOLP	Bolinao	1.04	293	*e*P	Pb	06 19 18.6	+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAUP	**Cauayan**	1.31	42	eP	Pb	06 19 22.4	-0.4
APYP	**Conner**	1.91	10	eP	Pn	06 19 32.4	+0.7
APYP				eS	Sn	06 19 58.6	+1.9
CVP	**Callao Caves**	1.94	27	eP	Pn	06 19 31.0	-1.1
CVP				eS	Sn	06 19 53.0	-4.3

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*JMA **21** 06:29:13.7±0.3, 34.99N×141.46E, h40^{km}±4^{km}, M3.1*
*IDC **21** 06:29:14.8±2.0, 34.41N×141.84E, mb3.7/3, mb1 3.9/3, mb1mx3.6/22, ML2.6/1, MS3.8/2, Ms1 3.8/2, ms1mx2.6/26, Error ellipse: s-maj=41.2km s-min=31.4km az=74.0*
ISC 21 06:29:15.1±1.2, **35.01N**±0.05×**141.4E**±0.1, **h48**^{km}±11^{km}, **n17**, σ**0^{s}84**/20, **mb3.8**/3, **MS3.9**/2, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.47	221	P	P	06 29 24.7	-1.1
BSO3	**Boso 3**	0.72	254	P	P	06 29 28.7	-0.4
CHOJ	**Chosi**	0.80	330	P	P	06 29 29.5	-0.7
CHOJ				S	S	06 29 41.6	+0.4
BSO4	**Boso 4**	0.83	269	P	P	06 29 30.6	0.0
KTR	**Katsuura**	0.86	280	P	P	06 29 31.5	+0.5
JCN	**Nagara**	1.02	294	P	P	06 29 34.8	+1.5
TATJ	**Tateyama 2**	1.20	272	P	P	06 29 35.9	+0.2
TATJ				S	S	06 29 51.9	+0.8
JYT	**Yasato**	1.54	323	P	P	06 29 40.5	-0.1
JIM2	**Oshima 3**	1.60	260	P	P	06 29 40.1	-1.5
JOD2	**Odawara 2**	1.87	278	P	P	06 29 45.0	-0.3
JHJ	**Hachijo jima 2**	2.29	215	Pn	P	06 29 52.5	+1.2
	4.7nm,0.3s,baz=80,slow=23,SNR=3.5						
JHJ				Sn	S	06 30 18.2	-0.1
	32nm,0.3s,baz=258,slow=20,SNR=5.2						
MAT	**Matsushiro**	2.98	302	P	P	06 30 02.4	+1.3
MAT				S	S	06 30 34.1	-1.7
MKAR	**Makanchi Array**	45.17	304	P	P	06 37 38.5	+10
	0.6nm,0.7s,mb3.6,baz=85,slow=8.6,SNR=2.7						
CTA	**Charters Tower**	54.99	174	LR	LR	06 59 08.4	
	comp=Z,103nm,21.3s,MS3.9,baz=210,slow=33						
WB2	**Warramunga Arr**	55.05	188	eP	P	06 38 44.6	+0.1
WB2				e		06 38 52.5	
WRA	**Warramunga Arr**	55.05	188	P	P	06 38 44.7	+0.2
	1.8nm,0.6s,mb4.2,baz=4.8,slow=7.3,SNR=54						
WRA				LR	LR	07 01 34.3	
	comp=Z,94nm,19.1s,MS3.9,baz=160,slow=36						
ASAR	**Alice Springs**	58.78	188	P	P	06 39 10.5	-0.4
	0.2nm,0.4s,mb3.5,baz=6.9,slow=8.0,SNR=4.7						

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*IDC **21** 06:45:55.1±1.7, 3.89S×152.10E, mb4.0/4, mb1 4.3/4, mb1mx3.9/14, Error ellipse: s-maj=69.3km s-min=24.3km az=118.0*
*NEIC **21** 06:46:06.4±3.6, 4.15S×152.14E, h96^{km}±31^{km}, Error ellipse: s-maj=76.2km s-min=23.7km az=120.0*
ISC 21 06:46:03.9±4.7, **4.0S**±0.3×**152.0E**±0.5, **h83**^{km}±41^{km}, **n7**, σ**0^{s}87**/7, **mb3.8**/4, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.23	222	eP	P	06 47 48.9	0.0
WRAB	**Tennant Creek**	23.41	226	eP	P	06 51 05.2	-1.0
WRA	**Warramunga Arr**	23.42	226	P	P	06 51 06.2	-0.2
	3.7nm,1.0s,mb3.7,baz=49,slow=9.7,SNR=9.8						
ASAR	**Alice Springs**	26.24	220	P	P	06 51 34.3	+1.1
	1.7nm,0.9s,mb3.5,baz=51,slow=9.3,SNR=7.7						
SONM	**Songino Array**	65.24	328	P	P	06 56 39.1	+0.2
	0.8nm,0.8s,mb3.6,baz=146,slow=5.2,SNR=3.6						
COLA	**College**	81.40	22	eP	P	06 58 13.1	+0.3
ILAR	**Eielson Array**	81.71	22	P	P	06 58 13.9	-0.5
	5.6nm,1.1s,mb4.3,baz=253,slow=5.4,SNR=18						

MAN 21 06:50:26, 5.83N×124.77E, h66^{km}, mb4.5, ML3.3, MS3.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	1.21	15⇑	eP	P	06 50 48.3	+0.9
KCP				iS	S	06 51 04.7	+1.4
CTBH	**Cotabato--PC H**	1.47	340⇑	iP	P	06 50 51.8	+0.7
CTBH				iS	S	06 51 10.4	+0.9
MATI	**Mati**	1.85	53	eP	P	06 50 56.3	+0.1
BUKP	**Musuan**	2.06	8	eP	P	06 50 59.5	+0.5
PAGZ	**Pagadian**	2.43	326	eP	P	06 51 03.9	-0.4
IPIL	**Ipil**	2.92	312	eP	P	06 51 12.1	+0.8

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*MDD **21** 07:54:32.4±0.5, 43.08N×0.71W, h6^{km}±5^{km}, mbLg1.4/7, Error ellipse: s-maj=4.8km s-min=2.4km az=23.0, PRXIMO*
*STR **21** 07:54:32.3±0.1, 43.08N×0.70W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 07:54:32.6±0.1, 43.08N×0.71W, h2^{km}, Md2.0/2, Ml2.0/1, Error ellipse: s-maj=3.0km s-min=1.5km az=15.0*
ISC 21 07:54:32.0±0.5, **43.10N**±0.04×**0.69W**±0.03, **h5**^{km}, **n18**, σ**0^{s}93**/27, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	0.21	301	Pg	Pg	07 54 36.8	+0.4
ORDF				Sg	Sg	07 54 40.1	+0.8
ORDF	**Ordiarp**	0.21	301	Pg	Pg	07 54 36.9	+0.5
ORDF				Lg		07 54 40.1	
REYF	**Montagne du Re**	0.22	99	Pg	Pg	07 54 37.4	+0.9
REYF				Sg	Sg	07 54 41.3	+1.9
REYF	**Montagne du Re**	0.22	99	Pg	Pg	07 54 37.6	+1.1
REYF				Lg		07 54 41.4	
ETSF	**Etsaut**	0.23	156	ePg	Pg	07 54 37.0	+0.4
ETSF				eSg	Sg	07 54 39.9	+0.2
	52nm,0.2s						
LARF	**Larrau**	0.23	254	Pg	Pg	07 54 36.9	+0.2
LARF				Sg	Sg	07 54 40.8	+0.9
LARF	**Larrau**	0.23	254	Pg	Pg	07 54 37.0	+0.2
LARF				Lg		07 54 40.7	
FDAF	**Les Forges d'A**	0.30	163	Pg	Pg	07 54 38.0	-0.1
FDAF				Sg	Sg	07 54 42.2	+0.1
FDAF	**Les Forges d'A**	0.30	163	Pg	Pg	07 54 38.1	0.0
FDAF				Lg		07 54 42.2	
SJPF	**Ste Jean**	0.40	272	ePg	Pg	07 54 39.5	-0.5
SJPF				eSg	Sg	07 54 45.0	-0.3
	34nm,0.3s						
VIEF	**Viey**	0.56	113	Pg	Pg	07 54 43.3	-0.1
VIEF				Sg	Sg	07 54 50.4	-0.5
VIEF	**Viey**	0.56	113	Pg	Pg	07 54 43.3	0.0
VIEF				Lg		07 54 50.5	
EALK	**Alkurruntz**	0.61	281	Pg	Pg	07 54 43.2	-1.1
	1.8nm,0.1s,SNR=7.9						
EALK				Lg		07 54 50.6	
	3.6nm,0.1s,SNR=7.9						
EPF	**Esparros**	0.76	95	ePg	Pg	07 54 46.7	-0.5
EPF				eSg	Sg	07 54 57.2	0.0
	5.9nm,0.3s						
EGRA	**Graus**	1.17	141	Pg	Pg	07 54 56.6	+1.2
	0.9nm,0.2s,SNR=4.0						
EGRA				Lg		07 55 10.5	
	1.9nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	1.39	173	Pg	Pg	07 54 58.2	-1.6
	6.0nm,0.2s,SNR=7.9						
ESAC				Lg		07 55 16.0	
	18nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	2.13	83	ePg	Pg	07 55 13.0	-1.7
MTLF				eSg	Sg	07 55 38.5	-4.7
	1.3nm,0.2s						
EPOB	**Poblet**	2.19	143	Pg	Pg	07 55 12.3	-3.4
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		07 55 40.6	
	SNR=7.9						

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*BJI **21** 07:58:22.4, 27.40N×111.60W, h10^{km}, mB4.8, mb4.8, Ms4.5, Msz4.2*
*NEIC **21** 07:58:26.5±0.5, 27.39N×111.55W, h10^{km}, mb4.3/20, Error ellipse: s-maj=7.9km s-min=4.1km az=206.0*
*IDC **21** 07:58:27.0±1.1, 27.70N×111.54W, mb4.2/5, mb1 4.4/9, mb1mx4.1/23, ML3.9/4, MS4.1/17, Ms1 4.1/17, ms1mx3.9/25, Error ellipse: s-maj=19.7km s-min=15.0km az=33.0*
ISC 21 07:58:24.2±0.7, **27.37N**±0.06×**111.58W**±0.04, **h10**^{km}, **n122**, σ**1^{s}15**/112, **mb4.3**/12, **MS4.0**/15, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	**Tucson**	4.97	8	eP	Pn	07 59 36.8	-3.9
BAR	**Barrett**	6.89	321	eP	Pn	08 00 05.9	-1.9
LTX	**Lajitas**	7.24	73	eP	Pn	08 00 12.6	-0.1
TXAR	**Lajitas Array**	7.24	73	Pn	Pn	08 00 13.0	+0.3
	1.8nm,0.3s,baz=253,slow=12,SNR=75						
TXAR				Pg	Pg	08 00 43.6	-5.1
	2.0nm,0.3s,baz=249,slow=15,SNR=15						
TXAR				Lg		08 02 14.2	
	5.8nm,0.3s,baz=252,slow=28,SNR=5.0						
TXAR	**Lajitas Array**	7.24	73	Pn	Pn	08 00 13.0	+0.3
TXAR				Pg	Pg	08 00 43.6	-5.1
TXAR				Lg		08 02 14.2	
PFO	**Pinyon Flat Ob**	7.50	327	eP	Pn	08 00 14.8	-1.5
LENM	**Lemitar**	7.84	29	eP	Pn	08 00 20.3	-0.8
GDL2	**Guadalupe Moun**	7.90	51	P	Pn	08 00 20.6	-1.3
LAZ	**Ladron**	7.98	27	eP	Pn	08 00 20.4	-2.6
BNM	**Barren Site**	7.99	31	P	Pn	08 00 19.6	-3.4
WUAZ	**Wupatki**	8.12	1	eP	P	08 00 22.7	-2.3
CLNB	**Carlsbad**	8.28	52	P	P	08 00 24.1	-3.0
NEN	**Nelson**	8.71	342	eP	P	08 00 28.8	-4.3
ANMO	**Albuquerque**	8.73	29	eP	P	08 00 30.1	-3.4
CPRX	**Cap Rock**	8.73	48	eP	P	08 00 33.1	-0.5
MWC	**Mount Wilson**	8.81	322	P	P	08 00 31.2	-3.3
JCT	**Junction City**	10.77	71	eP	P	08 01 01.8	+0.2
PV01	**Paradox Valley**	11.02	13	eP	P	08 01 04.7	-0.3
MSU	**Marysvale**	11.12	358	eP	P	08 01 05.7	-0.6
PV10	**Paradox Valley**	11.18	10	eP	P	08 01 04.8	-2.3
SDCO	**Great Sand Dun**	11.54	25	eP	P	08 01 09.1	-2.9
MTUM	**Tungsten Hills**	11.56	331	P	P	08 01 13.2	+0.8
TPH	**Tonopah**	11.68	337	eP	P	08 01 13.1	-0.8
SRU	**San Rafael**	11.74	4	eP	P	08 01 14.4	-0.3
OMM	**Old Mammoth Mi**	11.97	330	eP	P	08 01 18.1	+0.2
LRV	**Little Rabbit**	12.06	321	eP	P	08 01 16.9	-2.2
MNV	**Mina**	12.33	335	eP	P	08 01 22.1	-0.5
NVAR	**Mina Array Bea**	12.38	335	Pn	P	08 01 24.0	+0.6
	0.1nm,0.3s,baz=157,slow=14,SNR=19						
NVAR				LR	LR	08 06 02.7	
	comp=Z,381nm,19.4s,baz=295,slow=38						
NVAR	**Mina Array Bea**	12.38	335	Pn	P	08 01 24.0	+0.6
NVAR				LR	LR	08 06 02.7	
NLU	**North Lily Min**	12.55	358	eP	P	08 01 25.9	+0.2
MPU	**Maple Canyon**	12.61	360	eP	P	08 01 26.6	+0.1
DUG	**Dugway**	12.83	356	eP	P	08 01 28.6	-0.8
CMB	**Columbia Colle**	12.95	327	eP	P	08 01 30.2	-0.8
DAU	**Daniels Canyon**	13.01	1	eP	P	08 01 32.8	+1.1
WMOK	**Wichita Mounta**	13.19	53	eP	P	08 01 30.7	-3.5
JLU	**Jordanelle**	13.20	0	eP	P	08 01 34.5	+0.3
CTU	**Camp Tracy**	13.29	359	eP	P	08 01 36.1	+0.7
ISCO	**Idaho Springs**	13.35	20	eP	P	08 01 36.1	-0.1
	7.0nm,1.4s						
BGU	**Big Grassy Mou**	13.57	355	eP	P	08 01 37.1	-2.1
ELK	**Elko**	13.68	348	eP	P	08 01 39.7	-0.8
WCN	**Washoe City**	13.71	332	eP	P	08 01 41.0	0.0
TCUT	**Toone Canyon**	13.71	1	eP	P	08 01 41.7	+0.7
BMN	**Battle Mountai**	13.84	342	eP	P	08 01 43.2	+0.5
	36nm,1.4s						
PAHR	**Pah Rah Range**	13.91	334	P	P	08 01 44.5	+0.9
SPUT	**South Promonto**	13.92	357	eP	P	08 01 43.6	-0.1
HWUT	**Hardware Ranch**	14.20	0	eP	P	08 01 48.0	+0.5
	218nm,1.8s						
BEKR	**Beckwourth**	14.44	332	eP	P	08 01 51.7	+1.1
	45nm,1.3s						
CBKS	**Cedar Bluff**	15.11	38	eP	P	08 02 00.3	+0.9
	28nm,0.9s						
AHID	**Auburn Hatcher**	15.36	1	eP	P	08 02 04.5	+1.8
	80nm,1.7s						
BW06	**Boulder Array**	15.45	6	eP	P	08 02 05.0	+1.3
	11nm,1.1s						
PDAR	**Pinedale Array**	15.45	6	Pn	P	08 02 05.0	+1.2
	0.1nm,0.3s,baz=180,slow=12,SNR=17						
PDAR				Lg		08 06 25.4	
	0.1nm,0.3s,baz=192,slow=21,SNR=4.7						
PDAR				LR	LR	08 08 10.5	
	comp=Z,2µm,18.5s,baz=190,slow=39						
REDW	**Red Top Meadow**	15.96	2	P	P	08 02 10.5	+0.1
WDC	**Whiskeytown Da**	15.98	328	eP	P	08 02 10.2	-0.5
	29nm,1.5s						
SNOW	**Snow King Moun**	16.07	2	eP	P	08 02 13.6	+1.8
TPAW	**Teton Pass**	16.09	2	eP	P	08 02 13.7	+1.7
WVOR	**Wild Horse Val**	16.09	341	eP	P	08 02 12.1	+0.1
	40nm,1.3s						
WUWY	**Wally Ulrich**	16.14	2	eP	P	08 02 14.2	+1.4
MOD	**Modoc**	16.16	336	eP	P	08 02 14.1	+1.2
	72nm,1.4s						
HLID	**Hailey**	16.32	353	eP	P	08 02 16.2	+1.3
	14nm,1.3s						
MOOW	**Moose Ponds**	16.35	2	eP	P	08 02 16.2	+0.8
YBH	**Yreka Blue Hor**	16.98	330	Pn	P	08 02 24.6	+1.2
	0.1nm,0.3s,baz=171,slow=14,SNR=3.5						
KSU1	**Kansas State U**	17.11	43	eP	P	08 02 25.2	+0.2
YMR	**Madison River**	17.27	1	eP	P	08 02 28.3	+1.4
QLMT	**Earthquake Lak**	17.42	0	eP	P	08 02 30.6	+1.8
MCMT	**McKenzie Canyo**	17.45	357	eP	P	08 02 30.4	+1.3
RSSD	**Black Hills**	17.78	18	eP	P	08 02 32.6	-0.7
	8.6nm,1.1s						
HUMO	**Hull Mountain**	17.80	332	P	P	08 02 35.1	+1.5
UALR	**University of**	18.04	61	P	P	08 02 37.4	+0.8
BOZ	**Bozeman (W)**	18.24	360	eP	P	08 02 38.5	-0.6
	5.8nm,1.0s						
LCCM	**Lewis and Clar**	18.43	359	P	P	08 02 44.9	+3.5
VIPM	**Ingram Point**	18.58	339	P	P	08 02 45.1	+1.9
LNOR	**Lincton Mounta**	19.21	346	eP	P	08 02 50.3	-0.6
HRY	**Holter Researc**	19.30	359	eP	P	08 02 52.1	+0.2
VGB	**Gordon Butte**	19.53	340	eP	P	08 02 55.6	+1.0
CHMT	**Chamberlain Mo**	19.55	357	eP	P	08 02 53.9	-0.8
LAO	**LASA Array**	19.74	11	eP	P	08 02 55.6	-1.3
	32nm,1.1s						
HAWA	**Hanford**	20.00	344	eP	P	08 02 58.1	-1.6
	16nm,1.2s						
CCM	**Cathedral Cave**	20.11	53	eP	P	08 03 00.0	-0.9
	12nm,0.9s						
PVMO	**Portageville**	20.61	59	P	P	08 03 08.0	+1.8
FVM	**French Village**	20.67	54	eP	P	08 03 06.4	-0.3
	14nm,1.3s						
LON	**Longmire**	20.96	340	eP	P	08 03 09.1	-0.5
FMW	**Mount Fremont**	21.08	340	P	P	08 03 11.6	+0.7
DPW	**Davenport**	21.11	348	eP	P	08 03 10.3	-0.9
BMW	**Boistfort Moun**	21.17	337	eP	P	08 03 09.9	-2.0
NEW	**Newport**	21.30	350	P	P	08 03 11.7	-1.4
	18nm,0.9s,mb4.4,baz=170,slow=12,SNR=17						
NEW				LR	LR	08 11 40.0	
	comp=Z,550nm,21.9s,MS3.9,baz=270,slow=38						
NEW	**Newport**	21.30	350	eP	P	08 03 11.8	-1.3
	20nm,0.9s,mb4.5						
ETW	**Entiat**	21.33	344	P	P	08 03 13.0	-0.4
GSM	**Grass Mountain**	21.36	341	P	P	08 03 14.2	+0.5
PLAL	**Pickwick Lake**	21.46	64	eP	P	08 03 15.2	+0.4
	9.8nm,0.8s,mb4.2						
RMW	**Rattlesnake Mo**	21.59	341	eP	P	08 03 15.5	-0.6
NLW	**Nelson Butte**	21.77	344	P	P	08 03 17.2	-0.7
LRAL	**Lakeview Retre**	21.96	69	eP	P	08 03 20.1	+0.2
	8.9nm,1.0s,mb4.2						
OCWA	**Octopus Mounta**	22.60	337	eP	P	08 03 26.3	+0.2
WCI	**Wyandotte Cave**	23.78	57	eP	P	08 03 38.7	+1.0
	6.7nm,0.7s,mb4.2						
BLO	**Bloomington**	23.95	54	eP	P	08 03 41.1	+1.8
	4.3nm,0.3s,mb4.4						
CPCT	**Cooper Cave**	24.40	64	eP	P	08 03 44.9	+1.1
ULM	**Lac du Bonnet**	25.81	24	P	P	08 03 56.6	-0.4
	2.8nm,0.7s,mb3.9,baz=225,slow=10.0,SNR=3.4						
ULM				LR	LR	08 12 49.7	
	comp=Z,227nm,21.2s,MS3.7,baz=212,slow=34						
BBB	**Bella Bella**	27.71	338	LR	LR	08 16 43.5	
	comp=Z,244nm,21.5s,MS3.8,baz=38,slow=40						
ELN	**Prospectdale**	27.75	61	eP	P	08 04 15.5	+0.6
FWV	**Forest Hill**	27.77	61	eP	P	08 04 15.4	+0.3
SADO	**Sadowa**	31.17	48	LR	LR	08 17 09.8	
	comp=Z,319nm,20.2s,MS4.0,baz=260,slow=36						
DLBC	**Dease Lake**	33.62	343	P	P	08 05 07.2	+0.5
	baz=160,slow=7.0						
DLBC				LR	LR	08 18 40.5	
	comp=Z,598nm,20.9s,MS4.3,baz=152,slow=36						
YKA	**Yellowknife Ar**	35.17	358	LR	LR	08 19 37.0	
	comp=Z,327nm,18.2s,MS4.1,baz=185,slow=36						
ROSC	**El Rosal**	41.94	116	LR	LR	08 26 11.5	
	comp=Z,123nm,19.6s,MS3.8,baz=358,slow=40						
SCHQ	**Schefferville**	42.40	37	P	P	08 06 19.6	-0.6
	4.6nm,0.8s,mb4.2,baz=278,slow=7.2,SNR=4.6						
SDV	**Santo Domingo**	42.78	108	eP	P	08 06 24.8	+0.9
	4.5nm,0.4s,mb4.5						
INK	**Inuvik**	43.01	348	LR	LR	08 25 33.5	
	comp=Z,302nm,18.6s,MS4.2,baz=70,slow=38						
SPU	**Mount Spurr**	43.29	333	P	P	08 06 28.4	+1.0
ILAR	**Eielson Array**	43.59	339	P	P	08 06 30.5	+0.7
	1.6nm,0.9s,mb3.8,baz=153,slow=6.8,SNR=15						
ILAR				LR	LR	08 26 47.5	
	comp=Z,176nm,20.6s,MS4.0,baz=154,slow=39						
MCK	**McKinley**	43.60	337	P	P	08 06 30.1	+0.2
SVW	**Sparrevohn**	44.74	331	eP	P	08 06 39.8	+0.6
SAML	**Samuel**	59.16	121	eP	P	08 08 25.7	-2.1
	9.1nm,1.5s,mb4.6						
LPAZ	**La Paz**	60.49	131	LR	LR	08 33 17.2	
	comp=Z,52nm,20.1s,MS3.7,baz=89,slow=34						
BDFB	**Brasilia**	75.00	117	LR	LR	08 44 60.0	
	comp=Z,72nm,20.8s,MS4.0,baz=122,slow=37						
PLCA	**Paso Flores**	77.73	149	P	P	08 10 28.3	+5.4
	2.8nm,1.1s,mb4.1,baz=343,slow=5.9,SNR=4.6						
PLCA				LR	LR	08 38 36.1	
	comp=Z,92nm,19.2s,MS4.1,baz=2.3,slow=31						
ARCES	**ARCESS Array B**	78.52	14	LR	LR	08 47 05.6	
	comp=Z,113nm,18.1s,MS4.2,baz=99,slow=37						
FINES	**FINESS Array B**	85.11	19	LR	LR	08 49 24.1	
	comp=Z,166nm,18.3s,MS4.5,baz=311,slow=36						
MDJ	**Mudanjiang**	89.20	321	P	P	08 11 20.0	-1.4
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,33nm,6.6s						
CN2	**Changchun**	92.00	323	eP	P	08 11 33.6	-0.8
AKASG	**Malin Array Be**	94.89	24	LR	LR	08 56 18.7	
	comp=Z,127nm,18.0s,MS4.4,baz=340,slow=37						
WRA	**Warramunga Arr**	119.76	262	PKP	PKPdf	08 17 19.3	+1.2
	comp=Z,0.4nm,0.7s,baz=51,slow=1.7,SNR=6.8						
ASAR	**Alice Springs**	121.39	258	PKP	PKPdf	08 17 21.8	+0.4
	comp=Z,0.5nm,0.7s,baz=89,slow=3.0,SNR=4.8						

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*IDC **21** 08:00:30.7±1.2, 2.54S×100.39E, h60^{km}±5^{km}, mb4.0/11, mb1 4.1/11, mb1mx3.9/18, Error ellipse: s-maj=49.2km s-min=11.2km az=56.0*
*NEIC **21** 08:00:32.4±2.5, 2.51S×100.46E, h75^{km}±18^{km}, mb4.5/6, Error ellipse: s-maj=30.2km s-min=7.3km az=57.0*
NEIC Felt [II] at Padang.
ISC 21 08:00:28.8±0.7, **2.57S**±0.09×**100.5E**±0.1, **h58**^{km}, **h58**^{km}±2.0^{km}**:pP-P**, **n33**, σ**1^{s}10**/35, **mb4.6**/17, **1C-1D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGM	**Kluang**	5.37	32⇑	eP	P	08 01 49.2	+0.9
	167nm,0.8s						
IPM	**Ipoh**	7.12	4⇓	eP	P	08 02 14.0	+1.2
CMAR	**Chiang Mai Arr**	20.95	356	P	P	08 05 07.1	-2.1
	1.5nm,0.5s,baz=185,slow=9.7,SNR=7.9						
CMAR				pP		08 05 22.4	
	3.5nm,0.6s,baz=187,slow=9.7,SNR=8.5						
FITZ	**Fitzroy Crossi**	29.11	124	eP	P	08 06 26.4	-0.1
	2.0nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	29.11	124	P	P	08 06 26.4	-0.1
	1.1nm,0.5s,mb3.8,baz=293,slow=14,SNR=3.3						
PKI	**Pulchoki**	33.30	335	eP	P	08 07 03.8	+0.6
GUN	**Gumba**	33.40	336	eP	P	08 07 04.1	0.0
	30nm,0.5s,mb5.5						
DMN	**Daman**	33.46	335	eP	P	08 07 06.2	+1.6
KKN	**Kakani**	33.54	335	eP	P	08 07 06.3	+0.9
ENH	**Enshi**	33.77	14	eP	P	08 07 06.1	-1.3
	6.1nm,0.4s,mb4.9						
GKN	**Gorkha**	34.00	334	eP	P	08 07 12.1	+2.8
	11nm,0.3s,mb5.2						
KOLN	**Koldanda**	34.26	333	eP	P	08 07 15.8	+4.3
	15nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	37.30	120	P	P	08 07 37.5	+0.2
	1.6nm,0.4s,mb4.2,baz=306,slow=9.2,SNR=39						
WRA				pP	pP	08 07 53.4	+1.3
	2.4nm,0.5s,baz=303,slow=9.1,SNR=8.3						
WRA				pPcP		08 10 13.6	
	0.4nm,0.5s,baz=309,slow=2.5,SNR=4.8						
WRA				S	S	08 13 17.9	-2.2
	0.5nm,0.7s,baz=296,slow=16,SNR=4.2						
WRAB	**Tennant Creek**	37.31	120	eP	P	08 07 37.8	+0.4
	3.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	37.31	120	eP	P	08 07 37.6	+0.2
ASPA	**Alice Springs**	38.54	126	eP	P	08 07 50.7	+3.1
ASPA				eS	S	08 13 38.0	-0.9
ASAR	**Alice Springs**	38.54	126	P	P	08 07 48.2	+0.6
	3.4nm,0.5s,mb4.3,baz=301,slow=7.9,SNR=57						
ASAR				pP	pP	08 08 04.0	+1.6
	4.5nm,0.7s,baz=303,slow=7.6,SNR=11						
ASAR				pPcP		08 10 18.9	
	0.8nm,0.5s,baz=305,slow=2.4,SNR=5.6						
ASAR				S	S	08 13 39.2	+0.3
	0.6nm,0.8s,baz=298,slow=14,SNR=5.6						
JOW	**Kunigami**	39.68	41	P	P	08 07 57.4	+0.3
	11nm,0.7s,mb4.7,baz=349,slow=29,SNR=3.6						
CTA	**Charters Tower**	47.93	115	eP	P	08 09 03.8	0.0
	3.2nm,0.6s,mb4.5						
CTAO	**Charters Tower**	47.93	115	eP	P	08 09 03.8	0.0
	3.9nm,0.7s,mb4.5						
STKA	**Stephens Creek**	48.42	132	eP	P	08 09 12.2	+4.8
	5.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	48.42	132	P	P	08 09 08.1	+0.6
	2.8nm,0.4s,mb4.7,baz=323,slow=7.8,SNR=8.9						
STKA	**Stephens Creek**	48.42	132	eP	P	08 09 06.6	-0.8
SONM	**Songino Array**	50.46	5	P	P	08 09 22.8	-0.1
	1.8nm,0.4s,mb4.5,baz=189,slow=9.2,SNR=20						
MKAR	**Makanchi Array**	51.70	344	P	P	08 09 31.6	-0.7
	1.5nm,0.3s,mb4.4,baz=156,slow=9.7,SNR=29						
MKAR				pP	pP	08 09 47.3	-0.3
	4.5nm,0.4s,baz=149,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	51.70	344	P	P	08 09 31.6	-0.7
MKAR				pP	pP	08 09 47.3	-0.3
KURK	**Kurchatov**	56.28	343	eP	P	08 10 04.9	-0.9
	6.1nm,1.1s,mb4.5						
KURK				e	pP	08 10 18.9	-2.4
ZAL	**Zalesovo**	57.81	349	P	P	08 10 16.4	-0.2
	3.3nm,0.9s,mb4.4,baz=211,slow=5.1,SNR=11						
ZAL				pP	pP	08 10 30.8	-1.3
	3.6nm,0.7s,baz=205,slow=5.6,SNR=4.5						
BVAR	**Borovoye Array**	60.88	340	P	P	08 10 36.0	-1.7
	2.3nm,0.5s,mb4.6,baz=149,slow=8.6,SNR=9.8						
BVAR				pP	pP	08 10 52.0	-1.4
	1.2nm,0.4s,baz=141,slow=9.5,SNR=3.8						
BRVK	**Borovoye**	60.94	340	eP	P	08 10 36.3	-1.9
YSS	**Yuzh-Sakhalins**	61.72	32	P	P	08 10 42.9	-0.6
ARCES	**ARCESS Array B**	87.17	340	P	P	08 13 10.0	+0.6
	2.7nm,0.9s,mb4.5,baz=90,slow=5.4,SNR=3.4						
TXAR	**Lajitas Array**	144.86	38	PKP	PKPdf	08 20 01.3	+1.3
	1.6nm,0.6s,baz=247,slow=0.9,SNR=32						
TXAR				pPKP		08 20 18.6	
	5.5nm,1.1s,baz=344,slow=1.1,SNR=9.0						

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*JMA **21** 08:06:54.1±0.2, 41.51N×143.51E, h46^{km}±3^{km}, M3.0*
*IDC **21** 08:06:55.9±4.7, 41.43N×144.56E, h76^{km}±43^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.1/22, ML2.9/1, Error ellipse: s-maj=58.4km s-min=27.8km az=101.0*
ISC 21 08:06:52.6±1.0, **41.46N**±0.07×**143.58E**±0.09, **h51**^{km}±12^{km}, **n14**, σ**0^{s}64**/21, **mb3.6**/3, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	0.64	330	P	P	08 07 05.6	-0.1
JEM				eS	S	08 07 14.3	-1.1
JNBK	**Urakawa-nobuka**	1.03	323	P	P	08 07 11.6	+0.6
JCH	**Churui**	1.17	352	P	P	08 07 13.3	+0.4
JCH				eS	S	08 07 27.1	-0.9
JOB	**Onbets**	1.46	7	P	P	08 07 17.4	+0.3
JBT2	**Biratori 2**	1.60	326	P	P	08 07 20.2	+1.1
JAK	**Akkeshi**	1.75	28	P	P	08 07 21.5	+0.4
JAK				eS	S	08 07 41.9	-0.3
JAR	**Ashorobuto**	1.84	4	P	P	08 07 22.5	+0.1
JAR				eS	S	08 07 44.4	-0.2
JANG	**Nango**	1.91	236	P	P	08 07 23.0	-0.3
JANG				eS	S	08 07 45.9	-0.2
JOT	**Ohata**	1.91	269	P	P	08 07 24.0	+0.6
JOT				eS	S	08 07 45.8	-0.4
JKB	**Kayabe**	1.96	283	P	P	08 07 24.6	+0.5
JKB				eS	S	08 07 47.5	+0.1
ASAJ	**Asahikawa**	2.75	345	P	P	08 07 41.7	+6.3
	1.1nm,0.3s,baz=143,slow=15,SNR=4.6						
ILAR	**Eielson Array**	44.88	35	P	P	08 14 59.2	-4.0
	0.4nm,0.6s,mb3.4,baz=268,slow=7.0,SNR=4.4						
WRA	**Warramunga Arr**	61.69	190	P	P	08 17 06.7	-1.1
	0.2nm,0.3s,mb3.7,baz=20,slow=7.8,SNR=8.5						
FINES	**FINESS Array B**	65.69	332	P	P	08 17 33.9	+0.5
	0.4nm,0.5s,mb3.7,baz=90,slow=7.6,SNR=4.5						

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*IDC **21** 08:34:39.2±1.4, 4.53S×133.73E, mb3.9/2, mb1 4.3/6,* *mb1mx4.0/14, ML4.0/4, Error ellipse: s-maj=66.8km s-min=22.6km az=72.0*

*NEIC **21** 08:34:41.0±1.0, 4.47S×133.77E, h10^{km}, mb4.0/4, Error ellipse: s-maj=23.5km s-min=14.0km az=76.0*

ISC 21 08:34:41.1±2.8, **4.62S**±0.07×**133.7E**±0.1, **h25**^{km}±22^{km}, **n13**, σ1^{s}**22**/19, **mb3.9**/2, **1D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	8.13	189	⇓iP	P	08 36 43.0	+2.5
	16nm,0.5s						
KAKA				eS	Sn	08 38 16.5	+4.0
WRAB	Tennant Creek	15.24	178	eP	P	08 38 15.7	-0.9
	5.3nm,0.6s						
WRAB				e		08 38 24.6	
WRA	Warramunga Arr	15.25	178	Pn	P	08 38 15.4	-1.3
	0.4nm,0.3s,baz=4.7,slow=12,SNR=15						
WRA				Sn	S	08 40 59.9	-5.5
	0.2nm,0.3s,baz=359,slow=23,SNR=5.6						
WB2	Warramunga Arr	15.25	178	eP	P	08 38 15.4	-1.3
WB2				i		08 38 24.5	
FITZ	Fitzroy Crossi	15.53	210	eP	P	08 38 20.9	+0.5
	6.3nm,0.6s						
FITZ				eS	S	08 41 10.6	-1.4
FITZ	Fitzroy Crossi	15.53	210	Pn	P	08 38 20.4	0.0
	1.1nm,0.3s,baz=26,slow=8.7,SNR=18						
FITZ				Sn	S	08 41 10.4	-1.6
	0.6nm,0.3s,baz=194,slow=13,SNR=7.9						
ASAR	Alice Springs	18.94	179	P	P	08 39 03.8	+0.8
	0.8nm,0.3s,baz=3.4,slow=10,SNR=107						
ASAR				S	S	08 42 31.1	+1.3
	0.1nm,0.3s,slow=29,SNR=3.8						
ASPA	Alice Springs	18.94	179	eP	P	08 39 04.7	+1.7
ASPA				eS	S	08 42 29.5	-0.3
CTA	Charters Tower	19.67	142	eP	P	08 39 10.7	-0.7
	5.3nm,0.7s						
CTA	Charters Tower	19.67	142	P	P	08 39 10.2	-1.2
	0.3nm,0.3s,baz=329,slow=14,SNR=6.5						
CTAO	Charters Tower	19.67	142	eP	P	08 39 10.2	-1.2
	8.7nm,0.8s						
MKAR	Makanchi Array	68.32	325	P	P	08 45 42.0	-0.4
	2.1nm,0.8s,mb4.2,baz=105,slow=7.1,SNR=7.8						
BVAR	Borovoye Array	78.05	327	P	P	08 46 39.9	+0.7
	0.3nm,0.4s,mb3.6,baz=111,slow=6.1,SNR=2.4						

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*DMN **21** 09:07:02.9±0.7, 30.48N×88.26E, h10^{km}, Ml4.7/6, Error ellipse: s-maj=31.5km s-min=13.8km az=137.0*

*NDI **21** 09:07:03.5±3.2, 30.00N×88.79E, h15^{km}, mb4.5, mb4.2(NEIC)*

*IDC **21** 09:07:07.0±0.7, 29.94N×88.10E, mb4.1/15, mb1 4.3/17, mb1mx4.3/22, ML3.6/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/23, Error ellipse: s-maj=24.6km s-min=15.6km az=50.0*

*MOS **21** 09:07:09.9±1.4, 29.89N×88.17E, h33^{km}, mb4.3/10, Error ellipse: s-maj=24.9km s-min=11.1km az=109.3*

*NEIC **21** 09:07:11.1±3.5, 29.94N×88.09E, h26^{km}±25^{km}, mb4.2/5, Error ellipse: s-maj=14.0km s-min=8.0km az=47.0*

*BJI **21** 09:07:13.0, 30.16N×88.39E, h26^{km}, mB4.5, mb4.4, ML4.6, Ms4.6, Msz4.5*

ISC 21 09:07:09.5±1.6, **29.98N**±0.05×**88.14E**±0.03, **h26**^{km}±12^{km}, **n84**, σ1^{s}**41**/93, **mb4.2**/21, **MS4.0**/9, **2C, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	2.63	95	PG	Pn	09 07 57.5	+6.2
LSA	Lhasa	2.63	95	eP	Pn	09 07 55.4	+4.1
GUN	Gumba	2.86	224	ePn	Pn	09 07 59.4	+4.9
GUN				eSn	Sn	09 08 40.6	+12
	3µm,1.2s						
KKN	Kakani	3.32	230	ePn	Pn	09 08 04.9	+3.8
KKN				eSn	Sn	09 08 51.4	+11
	4µm,1.5s						
PKI	Pulchoki	3.39	226	ePn	Pn	09 08 06.2	+4.1
PKI				eSn	Sn	09 08 52.0	+10
	2µm,1.4s						
DMN	Daman	3.56	229	ePn	Pn	09 08 08.2	+3.8
DMN				eSn	Sn	09 08 57.1	+11
	2µm,1.3s						
GKN	Gorkha	3.64	238	ePn	Pn	09 08 08.9	+3.2
GKN				eSn	Sn	09 08 58.5	+10
	448nm,0.8s						
KOLN	Koldanda	4.55	242	ePn	Pn	09 08 20.6	+2.1
KOLN				eSn	Sn	09 09 19.0	+7.8
	749nm,1.3s						
LGTI	Lohaghat	6.88	268	e	Pn	09 08 57.5	+6.1
PTH	Pithoragarh	6.90	268	eP	Pn	09 08 52.4	+0.8
PTH				eS	Sn	09 10 10.5	+0.4
CAL	Calcutta	7.41	179	eP	Pn	09 08 51.5	-7.4
CAL				e		09 11 05.3	
JOSI	Joshimath	7.44	277	eS	Sn	09 10 23.5	-0.2
DDI	Dehra Dun	8.73	275	eP	P	09 09 16.9	-0.4
DDI				e		09 10 55.4	
AGRA	Agra	9.37	255	eP	P	09 09 22.2	-3.8
AGRA				eS	Sn	09 11 06.7	-4.9
NDI	New Delhi	9.62	265	eP	P	09 09 28.0	-1.5
NDI				eS	Sn	09 11 15.0	-2.8
SDNR	Sundarnagar	9.73	282	eP	P	09 09 29.8	-1.2
SDNR				e		09 11 18.4	
AYAN	Aya Nagar	9.73	264	eP	P	09 09 28.7	-2.4
AYAN				AMb	AMB	09 09 32.4	
	comp=Z,11nm,0.9s						
SONA	Sohna	9.82	263	eP	P	09 09 30.6	-1.7
SONA				eS	Sn	09 11 18.8	-4.0
BHK	Bhakra	10.19	281	e	S	09 11 33.0	+1.2
KUDL	Kundal	10.35	263	e	Px	09 07 27.3	
KUDL				eP		09 09 36.9	
KUDL				AMb	AMB	09 09 40.4	
	comp=Z,8.0nm,0.9s						
KHET	Khetri	10.96	263	eP	P	09 09 45.0	-2.8
KHET				AMb	AMB	09 09 48.0	
	comp=Z,7.7nm,0.5s						
KHET				eS	S	09 11 45.8	-4.8
NGP	Nagpur	12.02	225	eP	P	09 10 00.9	-1.4
NGP				eS	S	09 12 07.2	-9.3
GTA	Gaotai	13.44	42	eP	P	09 10 20.3	-0.7
GTA				AMB	AMB		
	comp=Z,2.0nm,1.8s						
GTA				AMB	AMB		
	comp=Z,16nm,4.6s						
GTA				LR	LR		
	comp=N,675nm,15.7s						
GTA				LR	LR		
	comp=E,625nm,11.9s						
GTA				LR	LR		
	comp=Z,706nm,12.2s						
CD2	Chengdu	13.51	82	eP	P	09 10 23.0	+0.9
KMI	Kunming	13.83	107	eP	P	09 10 26.9	+0.6
KMI				AP		09 10 33.3	
KMI				XP		09 10 38.3	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,54nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,12.3s						
KMI				LR	LR		
	comp=E,732nm,10.0s						
KMI				LR	LR		
	comp=Z,902nm,12.3s						
LZH	Lanzhou	14.51	61	⇑P	P	09 10 34.5	-0.7
LZH				AP		09 10 42.5	
LZH				XP		09 10 46.8	
LZH				PP	PP	09 10 48.5	+2.0
LZH				AMB	AMB		
	comp=Z,53nm,1.5s						
LZH				LR	LR		
	comp=N,1µm,8.2s						
LZH				LR	LR		
	comp=Z,2µm,10.1s						
CMAR	Chiang Mai Arr	15.11	137	Pn	P	09 10 41.2	-2.0
	comp=Z,0.1nm,0.3s,baz=315,slow=11,SNR=12						
CMAR				LR	LR	09 17 04.1	
	comp=Z,199nm,20.5s,baz=328,slow=40						
HYB	Hyderabad	15.27	217	i P	P	09 10 40.0	-5.2
HYB				eS	S	09 13 34.0	0.0
HYB	Hyderabad	15.27	217	eP	P	09 10 40.0	-5.2
HYB				eS	S	09 13 38.0	+4.0
JASL	Jaisalmer	15.46	263	e	P	09 10 41.9	-5.7
GYA	Guiyang	16.70	98	P	P	09 11 01.6	-1.9
GYA				S	S	09 14 06.6	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,1µm,10.2s						
GYA				LR	LR		
	comp=E,770nm,9.9s						
GYA				LR	LR		
	comp=Z,930nm,9.6s						
FRU	Bishkek	16.79	323	eP	P	09 11 08.0	+3.5
MKAR	Makanchi Array	17.39	346	P	P	09 11 11.6	-0.4
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=13						
KAD	Karad	17.93	228	e	P	09 11 22.0	+3.1
ENH	Enshi	18.47	84	P	P	09 11 23.9	-1.7
HHC	Hu-ho-hao-te	21.89	54	eP	P	09 12 04.1	+1.7
HHC				AP		09 12 11.1	
HHC				XP		09 12 16.1	
HHC				AMB	AMB		
	comp=Z,13nm,2.2s,mb4.0						
HHC				AMB	AMB		
	comp=Z,186nm,5.0s						
HHC				LR	LR		
	comp=N,588nm,8.9s						
HHC				LR	LR		
	comp=E,634nm,13.1s						
HHC				LR	LR		
	comp=Z,769nm,12.0s,MS4.3						
KURK	Kurchatov	21.91	344	eP	P	09 12 01.7	-0.8
	comp=Z,5.3nm,0.8s,mb4.0						
WHN	Wuhan	22.64	82	eP	P	09 12 14.5	+4.6
WHN				LR	LR		
	comp=N,970nm,12.0s,MS5.0						
WHN				LR	LR		
	comp=E,3µm,12.0s,MS5.0						
WHN				LR	LR		
	comp=Z,4µm,12.2s,MS5.1						
SONM	Songino Array	22.70	33	P	P	09 12 11.9	+1.6
	comp=Z,4.4nm,0.7s,mb4.0,baz=214,slow=7.9,SNR=16						
ZAK	Zakamensk	23.35	25	eP	P	09 12 18.4	+1.8
ZAL	Zalesovo	24.06	355	P	P	09 12 24.1	+0.7
	comp=Z,1.4nm,0.3s,mb3.9,baz=308,slow=3.1,SNR=2.1						
ZAL				LR	LR	09 22 28.2	
	comp=Z,57nm,18.2s,MS3.1,baz=2.0,slow=38						
ZAL	Zalesovo	24.06	355	P	P	09 12 24.2	+0.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,57nm,18.2s						
BVAR	Borovoye Array	26.44	336	P	P	09 12 45.3	-0.6
	comp=Z,0.3nm,0.4s,mb3.1,baz=143,slow=7.2,SNR=2.6						
BRVK	Borovoye	26.51	336	eP	P	09 12 47.8	+1.3
SNY	Shenyang	30.84	58	⇑P	P	09 13 28.0	+2.4
SNY				AP	pP	09 13 38.8	+5.6
SNY				XP	sP	09 13 43.8	+7.3
SNY				LR	LR		
	comp=N,390nm,9.2s						
SNY				LR	LR		
	comp=Z,510nm,9.2s						
CN2	Changchun	32.59	55	eP	P	09 13 43.8	+2.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BOD	Bodaibo	33.09	25	eP	P	09 13 44.4	-0.8
ARU	Arti	33.63	330	P	P	09 13 46.9	-3.0
MALT	Malatya	41.55	295	eP	P	09 14 58.8	+2.2
	comp=Z,3.9nm,0.9s,mb4.0						
JHJ	Hachijo jima 2	43.77	72	LR	LR	09 35 29.7	
	comp=Z,231nm,18.6s,MS4.1,baz=294,slow=39						
OBN	Obninsk	44.21	320	eP	P	09 15 17.7	-0.3
BRTR	Keskin Array B	45.16	298	P	P	09 15 25.8	-0.1
	comp=Z,1.3nm,0.7s,mb3.9,baz=98,slow=8.0,SNR=6.6						
BRTR	Keskin Array B	45.16	298	P	P	09 15 25.8	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	50.85	327	P	P	09 16 09.5	-0.3
	comp=Z,1.7nm,0.6s,mb4.2,baz=127,slow=9.5,SNR=10						
FINES				LR	LR	09 39 36.4	
	comp=Z,114nm,20.1s,MS3.9,baz=101,slow=38						
FINES	FINESS Array B	50.85	327	P	P	09 16 09.5	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,114nm,20.1s						
ARCES	ARCESS Array B	52.72	337	P	P	09 16 23.6	-0.2
	comp=Z,2.3nm,0.8s,mb4.2,baz=83,slow=7.3,SNR=4.0						
ARCES				LR	LR	09 40 25.1	
	comp=Z,135nm,19.9s,MS4.0,baz=120,slow=38						
ARCES	ARCESS Array B	52.72	337	P	P	09 16 23.6	-0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,135nm,19.9s						
IDI	Anoyia	52.74	293	P	P	09 16 23.4	-1.0
	comp=Z,3.1nm,0.6s,mb4.4,baz=11,slow=8.5,SNR=6.4						
NB2	NORSAR Subarra	58.00	326	P	P	09 17 00.8	-1.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=85,slow=7.0						
NOA	NORSAR Array B	58.00	326	P	P	09 17 00.8	-1.3
	comp=Z,2.3nm,0.8s,mb4.3,baz=86,slow=7.1,SNR=7.8						
NOA	NORSAR Array B	58.00	326	P	P	09 17 00.8	-1.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	58.00	326	P	P	09 17 00.8	-1.3
GERES	GERESS Array B	58.19	312	P	P	09 17 02.9	-0.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=76,slow=6.3,SNR=12						
GERES	GERESS Array B	58.19	312	P	P	09 17 02.9	-0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MBAR	Mbarara	62.47	252	eP	P	09 17 32.5	-0.8
	comp=Z,16nm,1.3s,mb5.0						
WRA	Warramunga Arr	66.65	132	P	P	09 17 59.8	-0.6
	comp=Z,1.2nm,0.5s,mb4.2,baz=326,slow=6.6,SNR=17						
WRA	Warramunga Arr	66.65	132	P	P	09 17 59.8	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WB2	Warramunga Arr	66.66	132	eP	P	09 17 59.8	-0.7
ASAR	Alice Springs	69.12	135	P	P	09 18 15.5	-0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=320,slow=5.9,SNR=10						
ESDC	Sonseca Array	73.05	306	LR	LR	09 52 14.6	
	comp=Z,26nm,19.4s,MS3.5,baz=345,slow=37						
COLA	College	75.97	21	eP	P	09 18 56.2	+0.7
	comp=Z,3.7nm,0.9s,mb4.3						
ILAR	Eielson Array	76.35	21	P	P	09 18 57.2	-0.4
	comp=Z,1.2nm,0.9s,mb3.8,baz=315,slow=4.5,SNR=15						
ILAR	Eielson Array	76.35	21	P	P	09 18 57.3	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	Inuvik	77.26	15	P	P	09 19 03.0	+0.4
	comp=Z,7.8nm,1.1s,mb4.5,baz=338,slow=5.6,SNR=8.1						
INK	Inuvik	77.26	15	P	P	09 19 03.1	+0.5
INK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SML	Sawmill	77.88	24	eP	P	09 19 06.9	+0.8
YKA	Yellowknife Ar	86.06	10	P	P	09 19 48.4	-0.2
	comp=Z,2.2nm,0.8s,mb4.4,baz=331,slow=5.0,SNR=4.4						
YKA				LR	LR	10 01 29.3	
	comp=Z,37nm,19.1s,MS3.8,baz=255,slow=38						
YKA	Yellowknife Ar	86.06	10	P	P	09 19 48.4	-0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,37nm,19.1s						
YKA	Yellowknife Ar	86.06	10	P	P	09 19 48.4	-0.2
YKA				LR	LR	10 01 29.3	
DBIC	Dimbokro	89.29	277	P	P	09 20 05.6	+0.2
	comp=Z,4.3nm,0.9s,mb4.8,baz=122,slow=9.5,SNR=3.4						
DBIC				LR	LR	10 03 33.6	
	comp=Z,62nm,20.4s,MS4.0,baz=55,slow=38						
DBIC	Dimbokro	89.29	277	P	P	09 20 05.6	+0.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,62nm,20.4s						
SAML	Samuel	145.98	302	eP	PKPbc	09 26 49.3	+1.5
CPUP	Villa Florida	149.40	268	PKPbc	PKPdf	09 26 57.8	+0.9
	comp=Z,6.1nm,0.9s,baz=92,slow=3.3,SNR=10						
CPUP	Villa Florida	149.40	268	PKP2	PKPab	09 26 57.8	-5.7
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.9s						

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*IDC **21** 09:08:45.7±0.7, 29.90N×88.09E, mb4.2/13, mb1 4.3/15, mb1mx4.2/21, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=27.7km s-min=16.2km az=51.0*

*NEIC **21** 09:08:52.4±1.7, 29.89N×88.03E, h48^{km}±16^{km}, mb4.0/1, Error ellipse: s-maj=19.6km s-min=8.4km az=56.0*

ISC 21 09:08:51.1±2.3, **29.8N**±0.1×**88.0E**±0.2, **h56**^{km}±20^{km}, **n23**, σ0^{s}**99**/21, **mb4.2**/14, **MS3.3**/1, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	2.77	92	eP	P	09 09 35.3	+1.1
CMAR	Chiang Mai Arr	15.10	136	Pn	P	09 12 20.8	-1.7
	0.1nm,0.3s,baz=322,slow=13,SNR=2.8						
MKAR	Makanchi Array	17.51	347	P	P	09 12 52.5	-0.2
	0.2nm,0.3s,baz=162,slow=12,SNR=6.2						
KURK	Kurchatov	22.01	344	eP	P	09 13 40.5	-1.4
	4.7nm,0.7s,mb4.0						
SONM	Songino Array	22.91	33	P	P	09 13 51.6	+0.9
	4.9nm,0.8s,mb4.0,baz=221,slow=10,SNR=8.4						
BRTR	Keskin Array B	45.11	298	P	P	09 17 05.4	+1.9
	0.6nm,0.5s,mb3.7,baz=91,slow=8.0,SNR=3.2						
BRTR				LR	LR	09 37 34.2	
	comp=Z,39nm,21.4s,MS3.3,baz=95,slow=38						
FINES	FINESS Array B	50.90	327	P	P	09 17 48.1	-0.2
	0.8nm,0.4s,mb4.0,baz=112,slow=10,SNR=7.1						
ARCES	ARCESS Array B	52.80	337	P	P	09 18 02.0	-0.5
	2.4nm,0.8s,mb4.2,baz=102,slow=8.3,SNR=3.6						
NB2	NORSAR Subarra	58.05	326	P	P	09 18 38.9	-1.5
	1.4nm,0.7s,mb4.1,baz=85,slow=7.4						
NOA	NORSAR Array B	58.05	326	P	P	09 18 39.1	-1.3
	5.4nm,1.1s,mb4.5,baz=86,slow=7.2,SNR=4.3						
GERES	GERESS Array B	58.19	312	P	P	09 18 41.2	-0.4
	0.8nm,0.5s,mb4.0,baz=79,slow=6.8,SNR=5.8						
FITZ	Fitzroy Crossi	59.91	138	P	P	09 18 53.4	-0.5
	2.6nm,1.1s,mb4.2,baz=345,slow=17,SNR=2.8						
WRA	Warramunga Arr	66.65	132	P	P	09 19 38.3	0.0
	1.8nm,0.5s,mb4.4,baz=326,slow=6.6,SNR=10						
WB2	Warramunga Arr	66.66	132	eP	P	09 19 38.3	0.0
ASAR	Alice Springs	69.11	135	P	P	09 19 54.1	+0.6
	2.3nm,1.0s,mb4.1,baz=320,slow=5.4,SNR=6.3						
ILAR	Eielson Array	76.54	21	P	P	09 20 35.9	-0.6
	1.1nm,0.8s,mb3.9,baz=306,slow=4.6,SNR=6.9						
INK	Inuvik	77.44	15	P	P	09 20 41.7	+0.2
	2.4nm,0.8s,mb4.2,baz=341,slow=5.6,SNR=4.8						
INK	Inuvik	77.44	15	P	P	09 20 41.7	+0.2
YKA	Yellowknife Ar	86.23	10	P	P	09 21 27.6	+0.5
	1.8nm,0.7s,mb4.4,baz=323,slow=3.7,SNR=4.6						
YKA	Yellowknife Ar	86.23	10	P	P	09 21 27.6	+0.5
DBIC	Dimbokro	89.17	277	P	P	09 21 44.7	+2.3
	8.1nm,1.1s,mb5.0,baz=121,slow=5.9,SNR=2.6						
SBA	Scott Base	116.61	167	eP	PKPdf	09 27 31.4	+3.4
CPUP	Villa Florida	149.25	268	PKPbc	PKPdf	09 28 36.0	+6.6
	3.2nm,0.8s,baz=141,slow=2.4,SNR=5.7						

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*ECX **21** 09:11:19.9±0.4, 30.25N×114.12W, h5^{km}±4^{km}, ML3.9*

*IDC **21** 09:11:20.2±2.6, 29.98N×114.00W, mb4.1/2, mb1 3.9/6, mb1mx3.8/22, ML3.8/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/27, Error ellipse: s-maj=41.6km s-min=12.3km az=29.0*

*NEIC **21** 09:11:21.9±1.6, 29.85N×114.06W, h10^{km}, mb3.6/3, Error ellipse: s-maj=21.0km s-min=8.7km az=214.0*

ISC 21 09:11:18.4±1.4, **29.8N**±0.1×**114.13W**±0.08, **h5**^{km}, **n55**, σ1^{s}**41**/53, **mb4.0**/2, **MS3.5**/7, **1C-2D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.68	317	⇑ePN	Pn	09 11 45.8	-2.8
CPBX	Cerro Prieto	2.78	339	ePN	Pn	09 11 59.6	-4.7
CPBX				e		09 13 15.8	
	comp=N,1µm,0.6s						
CPBX				⇓e		09 13 25.1	
	comp=E,2µm,0.7s						
ECNX	Esteban Cantu	2.80	311	⇓eSN	Sn	09 12 34.7	-4.6
ENX	Ensenada	3.00	314	eSN	Sn	09 12 39.4	-4.8
CBX	Cerro Bola	3.30	320	ePN	Pn	09 12 08.2	-3.5
BAR	Barrett	3.59	323	eP	Pn	09 12 12.2	-3.6
BAR				eS	Sn	09 12 58.4	-0.8
TUC	Tucson	3.80	48	eP	Pn	09 12 15.4	-3.5
PFO	Pinyon Flat Ob	4.27	333	eP	Pn	09 12 19.6	-5.9
LDFC	Landfair	5.31	351	eP	Pn	09 12 39.9	-0.4
MWC	Mount Wilson	5.51	324	eP	Pn	09 12 43.5	+0.4
NEN	Nelson	5.85	354	eP	Pn	09 12 42.7	-5.1
WUAZ	Wupatki	6.14	22	eP	Pn	09 12 48.5	-3.5
LAZ	Ladron	7.49	51	eP	Pn	09 13 08.0	-2.9
BNM	Barren Site	7.70	54	eP	Pn	09 13 09.5	-4.4
ANMO	Albuquerque	8.26	50	eP	P	09 13 18.8	-3.0
TPH	Tonopah	8.63	344	P	P	09 13 26.2	-0.6
MSU	Marysvale	8.82	10	eP	P	09 13 28.1	-1.5
LTX	Lajitas	9.13	90	P	P	09 13 35.4	+1.6
TXAR	Lajitas Array	9.13	90	Pn	P	09 13 32.4	-1.3
	comp=E,0.5nm,0.3s,baz=262,slow=14,SNR=28						
TXAR				Pg	P	09 13 49.8	+16
	comp=E,0.4nm,0.3s,baz=267,slow=15,SNR=13						
TXAR				Sn	Sn	09 15 14.4	-3.6
	comp=E,0.4nm,0.3s,baz=271,slow=20,SNR=6.1						
TXAR				Lg		09 16 07.7	
	comp=E,0.3nm,0.3s,baz=284,slow=29,SNR=4.2						
TXAR				LR	LR	09 17 15.3	
	comp=E,487nm,21.0s,baz=300,slow=39						
TXAR	Lajitas Array	9.13	90	Pn	P	09 13 32.4	-1.3
TXAR				Pg	P	09 13 49.8	+16
TXAR				Sn	Sn	09 15 14.4	-3.6
TXAR				Lg		09 16 07.7	
TXAR				LR	LR	09 17 15.3	
NVAR	Mina Array Bea	9.26	339	Pn	P	09 13 36.2	+0.6
	comp=E,0.1nm,0.3s,baz=170,slow=9.7,SNR=4.6						
NVAR	Mina Array Bea	9.26	339	Pn	P	09 13 36.2	+0.6
PV01	Paradox Valley	9.49	28	eP	P	09 13 35.7	-3.1
PV10	Paradox Valley	9.52	25	eP	P	09 13 38.0	-1.2
DUG	Dugway	10.41	6	P	P	09 13 50.1	-1.3
SDCO	Great Sand Dun	10.68	40	eP	P	09 13 56.0	+0.9
JLU	Jordanelle	10.98	11	P	P	09 13 58.9	-0.4
HWUT	Hardware Ranch	11.95	9	P	P	09 14 13.4	+1.1
JCT	Junction City	12.42	83	P	P	09 14 18.4	-0.4
MOD	Modoc	13.05	339	eP	P	09 14 28.1	+0.9
BW06	Boulder Array	13.44	15	P	P	09 14 32.8	+0.6
PDAR	Pinedale Array	13.44	15	Pn	P	09 14 32.0	-0.2
	comp=E,0.0nm,0.3s,baz=162,slow=9.4,SNR=6.9						
HLID	Hailey	13.72	359	P	P	09 14 37.2	+1.3
WMOK	Wichita Mounta	13.88	65	eP	P	09 14 38.3	+0.1
SNOW	Snow King Moun	13.88	10	eP	P	09 14 39.5	+1.4
MOOW	Moose Ponds	14.16	10	eP	P	09 14 43.6	+1.8
MCMT	McKenzie Canyo	15.02	4	eP	P	09 14 54.9	+1.9
BOZ	Bozeman (W)	15.93	6	eP	P	09 15 06.2	+1.5
	comp=E,6.8nm,1.4s						
LNOR	Lincton Mounta	16.36	350	P	P	09 15 13.7	+3.5
CHMT	Chamberlain Mo	17.09	2	eP	P	09 15 21.5	+2.0
KSU1	Kansas State U	17.14	53	P	P	09 15 19.9	-0.3
LAO	LASA Array	17.94	18	eP	P	09 15 30.5	+0.5
	comp=E,7.5nm,1.0s						
NEW	Newport	18.56	354	P	P	09 15 38.3	+0.4
	comp=E,0.2nm,0.3s,baz=185,slow=8.8,SNR=4.6						
NEW				LR	LR	09 23 30.3	
	comp=E,160nm,18.1s,baz=173,slow=40						
NEW	Newport	18.56	354	eP	P	09 15 38.0	+0.2
	comp=E,1.0nm,0.6s						
RMW	Rattlesnake Mo	18.59	343	eP	P	09 15 38.3	+0.1
ULM	Lac du Bonnet	24.61	29	P	P	09 16 39.2	-1.4
	comp=E,6.7nm,1.1s,mb4.1,baz=206,slow=10,SNR=4.7						
ULM	Lac du Bonnet	24.61	29	P	P	09 16 39.2	-1.4
BBB	Bella Bella	24.62	339	LR	LR	09 26 32.2	
	comp=E,132nm,18.2s,MS3.5,baz=50,slow=37						
YKA	Yellowknife Ar	32.69	360	LR	LR	09 31 35.5	
	comp=E,119nm,18.1s,MS3.6,baz=210,slow=37						
ROSC	El Rosal	45.02	116	LR	LR	09 41 20.2	
	comp=E,53nm,19.1s,MS3.5,baz=232,slow=40						
FX1	Attu Island--F	56.62	316	LR	LR	09 41 37.5	
	comp=E,2.6nm,19.8s,MS2.3,baz=324,slow=32						
ASAJ	Asahikawa	78.49	314	LR	LR	09 51 33.6	
	comp=E,48nm,20.9s,MS3.8,baz=346,slow=31						
JHJ	Hachijo jima 2	86.16	306	LR	LR	09 54 46.1	
	comp=E,53nm,19.7s,MS3.9,baz=306,slow=30						
USHA	Ushuaia	93.00	156	LR	LR	09 56 07.3	
	comp=E,82nm,20.1s,MS4.2,baz=300,slow=29						
SONM	Songino Array	94.56	334	P	P	09 24 42.2	+1.2
	comp=E,0.4nm,0.8s,mb3.9,baz=56,slow=4.5,SNR=3.7						

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*IDC **21** 09:20:43.8±0.8, 0.40S×133.04E, mb4.1/9, mb1 4.4/11, mb1mx4.3/18, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=36.8km s-min=12.4km az=75.0*

*NEIC **21** 09:20:45.7±0.4, 0.45S×132.94E, h10^{km}, mb4.4/7, Error ellipse: s-maj=16.5km s-min=5.6km az=74.0*

ISC 21 09:20:50.6±2.5, **0.68S**±0.05×**132.6E**±0.1, **h60**^{km}±24^{km}, **n28**, σ0^{s}**91**/34, **mb4.4**/15, **MS3.6**/2, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.94	181	eP	P	09 23 39.3	-1.1
	69nm,0.6s						
KAKA				eS	S	09 25 48.4	-4.4
FITZ	Fitzroy Crossi	18.61	201	eP	P	09 25 06.3	+0.6
	7.8nm,0.7s						
FITZ				eS	S	09 28 25.9	-1.8
FITZ	Fitzroy Crossi	18.61	201	P	P	09 25 06.0	+0.3

	0.7nm,0.3s,baz=21,slow=12,SNR=15						
FITZ				S	S	09 28 26.4	-1.4
	0.4nm,0.3s,baz=210,slow=3.7,SNR=5.0						
FITZ				LR	LR	09 32 24.0	
	comp=Z,86nm,20.4s,baz=332,slow=37						
WRAB	Tennant Creek	19.21	175	eP	P	09 25 12.9	+0.3
	17nm,0.7s						
WRA	Warramunga Arr	19.22	175	P	P	09 25 12.5	-0.2
	1.1nm,0.3s,baz=356,slow=13,SNR=44						
WRA				S	S	09 28 40.8	-0.5
	0.8nm,0.3s,baz=0.6,slow=22,SNR=6.5						
WB2	Warramunga Arr	19.22	175	eP	P	09 25 12.5	-0.2
WB2				eS	S	09 28 41.7	+0.4
ASAR	Alice Springs	22.88	177	P	P	09 25 51.8	+1.7
	15nm,0.9s,mb4.4,baz=354,slow=9.5,SNR=103						
ASAR				S	S	09 30 06.9	+16
	2.0nm,0.8s,baz=358,slow=19,SNR=4.4						
ASAR				LR	LR	09 36 14.5	
	comp=Z,178nm,19.2s,MS3.5,baz=349,slow=40						
ASPA	Alice Springs	22.88	177	eP	P	09 25 51.8	+1.7
ASPA				eS	S	09 30 09.9	+19
CTA	Charters Tower	23.47	146	eP	P	09 25 56.7	+0.9
	7.0nm,0.9s,mb4.1						
CTA	Charters Tower	23.47	146	P	P	09 25 56.1	+0.3
	5.2nm,0.9s,mb4.0,baz=326,slow=14,SNR=5.8						
CTAO	Charters Tower	23.47	146	eP	P	09 25 55.7	-0.1
	13nm,1.0s,mb4.3						
STKA	Stephens Creek	32.17	166	eP	P	09 27 14.4	-0.7
	6.4nm,0.9s,mb4.5						
STKA	Stephens Creek	32.17	166	P	P	09 27 14.3	-0.8
	5.7nm,0.6s,mb4.6,baz=331,slow=8.9,SNR=16						
STKA				LR	LR	09 42 43.5	
	comp=Z,147nm,18.4s,MS3.7,baz=191,slow=41						
CMAR	Chiang Mai Arr	38.15	302	P	P	09 28 07.0	+1.0
	2.9nm,1.0s,mb4.0,baz=126,slow=7.0,SNR=11						
PKI	Pulchoki	53.28	306	eP	P	09 30 06.2	+0.2
	20nm,1.2s,mb4.9						
SONM	Songino Array	53.43	338	P	P	09 30 05.4	-1.4
	0.5nm,0.8s,mb3.5,baz=191,slow=38,SNR=3.0						
KKN	Kakani	53.47	306	eP	P	09 30 07.3	-0.1
	8.3nm,0.5s,mb4.9						
DMN	Daman	53.54	306	eP	P	09 30 08.5	+0.6
GKN	Gorkha	54.08	306	eP	P	09 30 11.9	+0.1
	17nm,0.8s,mb5.0						
KOLN	Koldanda	54.83	305	eP	P	09 30 17.7	+0.4
	30nm,0.9s,mb5.3						
MKAR	Makanchi Array	64.51	324	P	P	09 31 23.4	-0.2
	1.5nm,0.7s,mb4.1,baz=111,slow=8.2,SNR=12						
KURK	Kurchatov	68.60	326	eP	P	09 31 48.8	-0.6
	3.7nm,0.9s,mb4.3						
BVAR	Borovoye Array	74.20	326	P	P	09 32 22.7	-0.1
	4.0nm,0.7s,mb4.5,baz=101,slow=7.6,SNR=16						
BRVK	Borovoye	74.27	326	eP	P	09 32 23.5	+0.3
	5.3nm,0.9s,mb4.5						
VNDA	Vanda	78.39	174	P	P	09 32 46.9	+1.0
	1.4nm,0.9s,mb3.9,baz=321,slow=6.3,SNR=7.8						
VNDA	Vanda	78.39	174	P	P	09 32 46.9	+1.0
ILAR	Eielson Array	86.57	25	P	P	09 33 25.8	-2.5
	0.4nm,0.6s,mb3.8,baz=250,slow=4.6,SNR=10						
CPUP	Villa Florida	151.49	161	PKPbc	PKPdf	09 40 41.0	+8.6
	2.6nm,0.8s,baz=309,slow=3.5,SNR=6.9						

IDC ***21*** *09:30:14.1±7.8, 26.04S×176.73W, h55^{km}±69^{km}, mb3.7/7, mb1 3.9/8, mb1mx3.8/16, ML4.2/1, Error ellipse: s-maj=42.4km s-min=29.0km az=18.0*

NEIC ***21*** *09:30:15.5±4.2, 26.12S×176.77W, h68^{km}±37^{km}, mb4.6/2, Error ellipse: s-maj=34.6km s-min=22.0km az=190.0*

ISC 21 09:30:16.4±7.1**, 26.2S**±0.3×**176.8W**±0.2**, h89**^{km}±63^{km}**, n12,** σ**0^{s}63**/11**, mb4.0**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	13.05	202	P	P	09 33 19.5	0.0
	1.3nm,0.3s,baz=297,slow=16,SNR=5.7						
CTA	Charters Tower	34.41	272	P	P	09 36 58.5	+1.3
	2.4nm,0.5s,mb4.3,baz=100,slow=11,SNR=5.2						
STKA	Stephens Creek	36.62	251	P	P	09 37 15.3	-0.5
	2.0nm,0.9s,mb4.0,baz=108,slow=13,SNR=3.6						
ASAR	Alice Springs	44.54	262	P	P	09 38 20.4	-0.7
	0.8nm,0.6s,mb3.7,baz=93,slow=7.0,SNR=18						
WB2	Warramunga Arr	45.15	267	eP	P	09 38 25.5	-0.5
WRAB	Tennant Creek	45.15	267	eP	P	09 38 25.6	-0.4
	4.7nm,0.6s,mb4.4						
WRA	Warramunga Arr	45.16	267	P	P	09 38 25.8	-0.2
	3.0nm,0.5s,mb4.3,baz=104,slow=8.5,SNR=31						
VNDA	Vanda	52.34	186	P	P	09 39 21.1	+0.3
	0.4nm,0.5s,mb3.7,baz=8.8,slow=10,SNR=3.6						
FITZ	Fitzroy Crossi	53.54	266	P	P	09 39 31.4	+1.0
	1.3nm,0.6s,mb4.2,baz=129,slow=6.5,SNR=6.7						
CASY	Casey	59.32	207	eP	P	09 40 06.1	-4.8
	3.8nm,0.6s,mb4.6						
NVAR	Mina Array Bea	84.46	42	P	P	09 42 40.3	-0.2
	0.1nm,0.4s,mb3.0,baz=231,slow=9.5,SNR=3.9						
NB2	NORSAR Subarra	144.76	353	PKP	PKPdf	09 49 41.3	-0.8
	1.0nm,0.7s,baz=7.0,slow=3.1						

IDC 21 09:35:47.0±3.2**, 1.13S×133.45E, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.5**/16**, ML3.4**/2**, Error ellipse: s-maj=79.2km s-min=30.3km az=88.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.54	185	eP	P	09 38 35.1	-1.1
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	18.53	204	P	P	09 40 06.7	-0.3
	0.1nm,0.3s,baz=29,slow=10,SNR=4.0						
WRA	Warramunga Arr	18.72	177	P	P	09 40 08.4	-1.0
	0.1nm,0.3s,baz=355,slow=11,SNR=4.0						
WRA				S	S	09 43 38.7	+2.9
	0.1nm,0.3s,baz=352,slow=24,SNR=4.3						
ASAR	Alice Springs	22.41	179	P	P	09 40 47.8	-1.0
	0.4nm,0.4s,baz=356,slow=12,SNR=10						
STKA	Stephens Creek	31.54	167	P	P	09 42 09.8	-3.4
	0.5nm,0.4s,baz=17,slow=11,SNR=3.1						

IDC ***21*** *09:47:42.5±0.8, 9.22S×157.71E, mb4.4/12, mb1 4.6/13, mb1mx4.6/15, ML3.7/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/14, Error ellipse: s-maj=28.4km s-min=18.0km az=118.0*

BJI ***21*** *09:47:45.2, 8.80S×157.81E, h14^{km}, mb4.8, Ms4.3, Msz4.1*

NEIC ***21*** *09:47:47.9±0.4, 9.27S×157.70E, h35^{km}, mb4.6/15, Error ellipse: s-maj=17.0km s-min=8.4km az=131.0*

ISC 21 09:47:46.4±0.5**, 9.28S**±0.09×**157.68E**±0.10**, h33**^{km}**, n42,** σ**0^{s}98**/37**, mb4.6**/26**, MS3.9**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	10.38	268	LR	LR	09 54 02.6	
	comp=Z,1µm,18.9s,baz=258,slow=36						
CTA	Charters Tower	15.40	224	eP	P	09 51 22.0	-1.1
	9.4nm,1.1s						
CTA	Charters Tower	15.40	224	Pn	P	09 51 21.6	-1.5
	0.2nm,0.3s,baz=48,slow=14,SNR=8.9						
CTAO	Charters Tower	15.40	224	eP	P	09 51 21.4	-1.7
	24nm,1.2s						
WRAB	Tennant Creek	24.90	242	eP	P	09 53 08.8	+0.8
	43nm,0.9s,mb5.0						
WB2	Warramunga Arr	24.90	242	eP	P	09 53 08.4	+0.4
WRA	Warramunga Arr	24.91	242	P	P	09 53 08.4	+0.3
	24nm,0.8s,mb4.8,baz=68,slow=9.7,SNR=72						
WRA				LR	LR	10 02 21.6	
	comp=Z,242nm,19.9s,MS3.7,baz=60,slow=35						
KAKA	Kakadu	25.04	260	eP	P	09 53 11.4	+2.0
	17nm,0.9s,mb4.6						
ASAR	Alice Springs	26.85	235	P	P	09 53 25.2	-1.0
	5.0nm,0.8s,mb4.1,baz=64,slow=9.2,SNR=37						
ASAR				PcP	PcP	09 56 47.7	-0.9
	0.5nm,0.7s,baz=67,slow=2.3,SNR=2.6						
ASPA	Alice Springs	26.85	235	eP	P	09 53 25.0	-1.2
STKA	Stephens Creek	26.99	211	eP	P	09 53 27.0	-0.3
	13nm,0.9s,mb4.5						
STKA	Stephens Creek	26.99	211	P	P	09 53 26.6	-0.8
	16nm,0.9s,mb4.6,baz=28,slow=11,SNR=25						
STKA				LR	LR	10 02 51.4	
	comp=Z,215nm,19.0s,MS3.7,baz=293,slow=34						
FITZ	Fitzroy Crossi	32.29	251	LR	LR	10 06 36.9	
	comp=Z,124nm,20.1s,MS3.6,baz=84,slow=35						
ENH	Enshi	60.73	312	eP	P	09 57 56.5	-0.9
	15nm,1.1s,mb5.0						
KMI	Kunming	63.48	304	eP	P	09 58 17.4	+1.5
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=E,112nm,17.2s						
KMI				LR	LR		
	comp=Z,144nm,24.5s						
CMAR	Chiang Mai Arr	64.16	296	P	P	09 58 20.3	-0.1
	comp=Z,4.4nm,1.0s,mb4.5,baz=116,slow=5.2,SNR=17						
VNDA	Vanda	68.25	179	P	P	09 58 45.2	-0.4
	comp=Z,0.5nm,0.7s,mb3.7,baz=7.2,slow=5.7,SNR=3.8						
VNDA	Vanda	68.25	179	eP	P	09 58 44.2	-1.4
	comp=Z,3.3nm,1.3s,mb4.2						
SONM	Songino Array	72.68	327	P	P	09 59 12.5	-0.3
	comp=Z,3.1nm,1.0s,mb4.2,baz=135,slow=5.2,SNR=15						
SHL	Shillong	72.73	300	e	P	09 59 14.0	+0.4
PKI	Pulchoki	78.86	300	eP	P	09 59 48.6	+0.2
	comp=Z,12nm,0.9s,mb4.8						
KKN	Kakani	79.03	301	eP	P	09 59 49.8	+0.4
	comp=Z,13nm,0.7s,mb5.0						
DMN	Daman	79.13	300	eP	P	09 59 50.7	+0.8
	comp=Z,45nm,1.1s,mb5.3						
GKN	Gorkha	79.64	301	eP	P	09 59 53.1	+0.5
	comp=Z,55nm,1.1s,mb5.4						
KOLN	Koldanda	80.46	300	eP	P	09 59 56.9	-0.1
QSPA	South Pole Qui	80.71	180	eP	P	09 59 59.3	+1.9
	comp=Z,2.9nm,1.0s,mb4.2						
PMR	Palmer	81.83	23	eP	P	10 00 02.9	-0.5
	comp=Z,4.5nm,0.9s,mb4.4						
MCK	McKinley	83.19	21	eP	P	10 00 08.8	-1.6
	comp=Z,4.8nm,0.9s,mb4.5						
MAW	Mawson	83.32	203	P	P	10 00 11.3	+0.3
	comp=Z,2.5nm,0.9s,mb4.2,baz=93,slow=5.5,SNR=3.6						
MAW	Mawson	83.32	203	eP	P	10 00 11.6	+0.6
	comp=Z,7.8nm,1.2s,mb4.6						
COLA	College	84.26	20	eP	P	10 00 14.5	-1.2
	comp=Z,8.0nm,0.9s,mb4.8						
ILAR	Eielson Array	84.53	21	P	P	10 00 15.7	-1.5
	comp=Z,1.4nm,0.6s,mb4.3,baz=254,slow=5.3,SNR=22						
ILAR				LR	LR	10 34 25.8	
	comp=Z,66nm,20.9s,MS4.0,baz=48,slow=33						
MKAR	Makanchi Array	86.86	318	P	P	10 00 28.7	-0.3
	comp=Z,3.7nm,0.6s,mb4.8,baz=102,slow=6.1,SNR=37						
ZAL	Zalesovo	87.55	326	P	P	10 00 30.8	-1.4
	comp=Z,1.2nm,0.4s,mb4.5,baz=254,slow=4.3,SNR=4.1						
ZAL				LR	LR	10 37 50.3	
	comp=Z,48nm,18.7s,MS3.9,baz=178,slow=34						
KURK	Kurchatov	90.26	321	eP	P	10 00 44.8	-0.3
NVAR	Mina Array Bea	91.05	51	P	P	10 00 50.1	+0.9
	comp=Z,2.2nm,0.8s,mb4.5,baz=238,slow=4.7,SNR=16						
NVAR				LR	LR	10 36 29.7	
	comp=Z,50nm,18.1s,MS4.0,baz=50,slow=32						
MNV	Mina	91.17	51	eP	P	10 00 50.7	+1.0
	comp=Z,3.3nm,0.8s,mb4.7						
ELK	Elko	93.78	50	P	P	10 01 02.3	+0.7
	comp=Z,1.6nm,1.0s,mb4.4						
YKA	Yellowknife Ar	97.10	28	LR	LR	10 38 09.5	
	comp=Z,71nm,21.4s,MS4.1,baz=270,slow=31						
PDAR	Pinedale Array	98.25	48	P	P	10 01 23.1	+1.3
	comp=Z,0.4nm,0.9s,mb4.0,baz=180,slow=5.9,SNR=4.8						
PDAR				LR	LR	10 38 00.7	
	comp=Z,42nm,20.1s,MS3.9,baz=150,slow=31						
RES	Resolute Bay	103.47	15	ePdif	Pdif	10 01 43.0	-1.6
	comp=Z,9.5nm,0.9s						
BDFB	Brasilia	144.50	134	PKP	PKPdf	10 07 20.2	-0.3
	comp=Z,1.1nm,0.4s,baz=267,slow=6.4,SNR=4.3						

IDC ***21*** *10:55:11.0±2.8, 24.04S×179.69E, h499^{km}±31^{km}, mb3.2/6, mb1 3.5/7, mb1mx3.2/15, Error ellipse: s-maj=36.9km s-min=18.7km az=168.0*

NEIC ***21*** *10:55:11.1±4.0, 24.03S×179.69E, h504^{km}±49^{km}, mb4.3/1, Error ellipse: s-maj=45.0km s-min=17.6km az=190.0*

ISC 21 10:55:08.6±4.9**, 23.9S**±0.1×**179.6E**±0.2**, h480**^{km}±58^{km}**, n12,** σ**0^{s}44**/10**, mb3.5**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.46	188	P	P	10 58 14.0	-0.2
	1.2nm,0.3s,baz=353,slow=9.2,SNR=7.7						
URZ				S	S	11 00 44.2	+0.1
	0.3nm,0.3s,baz=195,slow=23,SNR=6.3						
CTA	Charters Tower	31.14	270	P	P	11 00 49.6	+1.2
	4.3nm,0.3s,mb4.3,baz=91,slow=10,SNR=16						
CTAO	Charters Tower	31.14	270	eP	P	11 00 49.3	+0.8
	4.1nm,0.5s,mb4.1						
ASAR	Alice Springs	41.71	261	P	P	11 02 16.0	+0.2
	0.3nm,0.3s,mb3.1,baz=91,slow=8.4,SNR=11						
ASAR				ScP		11 07 03.0	
	0.3nm,0.9s,baz=107,slow=4.2,SNR=4.1						
WB2	Warramunga Arr	42.06	266	eP	P	11 02 18.2	-0.5
WRA	Warramunga Arr	42.08	266	P	P	11 02 18.2	-0.6
	0.8nm,0.3s,mb3.6,baz=93,slow=8.4,SNR=17						
NVAR	Mina Array Bea	84.99	44	P	P	11 06 53.4	-0.1
	0.5nm,0.8s,mb3.2,baz=223,slow=8.4,SNR=5.8						
TXAR	Lajitas Array	90.72	58	P	P	11 07 20.8	+0.2
	0.6nm,0.6s,mb3.7,baz=206,slow=5.7,SNR=12						
PDAR	Pinedale Array	92.93	44	P	P	11 07 30.4	0.0
	0.3nm,0.6s,mb3.5,baz=207,slow=2.0,SNR=3.4						
BDFB	Brasilia	119.08	125	PKP	PKPdf	11 13 04.5	+1.9
	1.7nm,0.4s,baz=244,slow=8.7,SNR=4.1						
ARCES	ARCESS Array B	131.83	348	PKP	PKPdf	11 13 24.4	-1.4
	2.1nm,0.7s,baz=326,slow=4.4,SNR=4.1						
CLL	Collm	150.77	343	ePKP1	PKPdf	11 14 05.0	+5.8

NEIC ***21*** *11:11:36.0±0.7, 40.34S×71.58W, h144^{km}±8^{km}, mb4.4/4, Error ellipse: s-maj=14.9km s-min=10.9km az=100.0*

GUC ***21*** *11:11:36.8±0.9, 40.38S×71.61W, h120^{km}, ML4.6*

IDC ***21*** *11:11:37.6±1.3, 40.35S×71.15W, h153^{km}±6^{km}, mb4.0/4, mb1 4.1/6, mb1mx3.8/14, Error ellipse: s-maj=40.4km s-min=17.0km az=100.0*

ISC 21 11:11:34.8±0.5**, 40.31S**±0.04×**71.69W**±0.08**, h149**^{km}±5^{km}**, n25,** σ**1^{s}18**/35**, mb4.0**/6**, 2C-2D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	0.96	116	P	P	11 12 00.2	+0.9
	300nm,0.3s,baz=296,slow=8.1,SNR=4867						
PLCA				S	S	11 12 18.2	+0.1
	21nm,0.3s,baz=198,slow=15,SNR=9.1						
PLCA	Paso Flores	0.96	116	P	P	11 12 00.2	+0.9
PLCA				S	S	11 12 18.2	+0.1
OSCH	Osorno	1.13	256	⇑iP	P	11 12 00.4	-0.5
OSCH				iS	S	11 12 18.7	-2.2
OSCH				AMP		11 12 20.6	
	comp=E,10µm,0.3s						
VLCH	Valdivia	1.30	292	eP	P	11 12 03.1	+0.6
VLCH				iS	S	11 12 22.7	-1.1
VLCH				AMP		11 12 25.4	
	comp=N,25µm,0.1s						
TMCH	Temuco	1.72	335	⇓iP	P	11 12 09.0	+2.0
TMCH				iS	S	11 12 32.8	+1.2
TMCH				AMP		11 12 36.6	
	comp=N,3µm,0.2s						
CCHI	Chillan	3.71	355	iP	P	11 12 33.8	+1.7
CCHI				iS	S	11 13 16.1	-0.1
COCH	Cobquecura	4.26	348	iP	P	11 12 41.0	+1.7
TALC	Talca	4.90	1	iP	P	11 12 47.8	0.0
TALC				iS	S	11 13 43.0	-1.1
NICH	Los Niches	5.31	4	iP	P	11 12 53.4	+0.2
NICH				iS	S	11 13 53.2	-0.7
CICH	Cipreses	6.06	10	⇑iP	P	11 13 03.8	+0.5
CICH				iS	S	11 14 11.7	-0.2
FCH	Farellones	7.06	10	⇓iP	P	11 13 15.2	-1.4
FCH				iS	S	11 14 33.1	-2.7
TRQA	Tornquist	7.87	76	eP	P	11 13 27.3	-0.2
	comp=N,6.9nm,0.6s						
LVC	Limon Verde	17.80	8	P	P	11 15 35.9	+1.5
	comp=N,5.2nm,0.3s,baz=193,slow=8.0,SNR=61						
LVC	Limon Verde	17.80	8	eP	P	11 15 35.5	+1.1
	comp=N,19nm,0.5s						
CPUP	Villa Florida	18.36	45	P	P	11 15 36.5	-4.0
	comp=N,0.6nm,0.3s,baz=240,slow=6.2,SNR=9.4						
LPAZ	La Paz	24.13	8	P	P	11 16 39.6	+1.5
	comp=N,2.4nm,0.3s,mb4.3,baz=171,slow=2.9,SNR=12						
LPAZ	La Paz	24.13	8	eP	P	11 16 39.8	+1.7
BDFB	Brasilia	32.07	47	P	P	11 17 47.4	-2.3
	comp=N,22nm,0.6s,mb5.0,baz=218,slow=6.6,SNR=24						
SNAA	Sanae	45.69	156	P	P	11 19 40.5	-1.2
	comp=N,0.5nm,1.1s,mb3.1,baz=253,slow=11,SNR=4.4						
QSPA	South Pole Qui	49.94	180	eP	P	11 20 14.3	-0.3
	comp=N,4.5nm,0.7s,mb4.2						
QSPA				e	pP	11 20 51.0	+2.3
SBA	Scott Base	56.98	192	P	P	11 21 07.5	+1.2
VNDA	Vanda	57.99	192	P	P	11 21 13.7	+0.3
	comp=N,0.6nm,0.6s,mb3.6,baz=153,slow=6.7,SNR=4.1						
VNDA	Vanda	57.99	192	eP	P	11 21 13.6	+0.2
	comp=N,0.6nm,0.6s,mb3.6						
DBIC	Dimbokro	77.03	70	P	P	11 23 12.6	-0.5
	comp=N,3.1nm,0.6s,mb4.1,baz=202,slow=8.4,SNR=8.1						
DBIC	Dimbokro	77.03	70	P	P	11 23 12.6	-0.5

NIED ***21*** *11:22:00, 43.20N×146.60E, h41^{km}, Mw3.8 Best double couple: M$_0$4.91×10^{14} NP1:φ$_s$111°, δ79°, λ112°. NP2: φ$_s$228°, δ25°, λ29°.*

MOS ***21*** *11:22:35.6±1.3, 43.21N×146.65E, h57^{km}, mb4.0/3, Error ellipse: s-maj=33.1km s-min=20.5km az=101.5*

JMA ***21*** *11:22:36.2±0.1, 43.18N×146.59E, h48^{km}±2^{km}, M3.8*

IDC ***21*** *11:22:39.3±4.2, 43.20N×146.57E, h67^{km}±39^{km}, mb3.3/7, mb1 3.6/8, mb1mx3.4/30, ML3.9/1, Error ellipse: s-maj=31.3km s-min=24.0km az=151.0*

ISC 21 11:22:36.2±1.1**, 43.23N**±0.07×**146.60E**±0.08**, h51**^{km}±9^{km}**, n23,** σ**0^{s}73**/34**, mb3.5**/7**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.64	283	P	P	11 22 49.3	+0.1
NEM2				eS	S	11 22 58.8	0.0
YUK	Yuzh-Kuril'sk	0.97	327	⇑iPN	P	11 22 52.8	-0.9
YUK				iS	S	11 23 05.7	-1.0
YUK				pmax	pmax		
	comp=Z,2µm,0.4s						
YUK				pmax	pmax		
	comp=N,1µm,0.3s						
YUK				pmax	pmax		
	comp=E,1µm,0.3s						
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				smax			
	comp=N,8µm,0.8s						
YUK				smax			
	comp=E,6µm,0.9s						
YUK				smax			
	comp=N,5µm,0.4s						
YUK				smax			
	comp=E,6µm,0.5s						
JRA	Rausu	1.28	304	P	P	11 22 58.5	+0.3
JRA				eS	S	11 23 14.8	+0.2
JAK	Akkeshi	1.41	261	P	P	11 22 59.6	-0.4
JAK				eS	S	11 23 17.0	-0.7
JNK	Nakash	1.41	285	P	P	11 22 59.7	-0.4
JNK				eS	S	11 23 17.1	-0.7
JOB	Onbets	2.05	262	P	P	11 23 08.8	-0.2
JOB				eS	S	11 23 33.0	-0.3
JAR	Ashorobuto	2.06	273	P	P	11 23 09.5	+0.3
JAR				eS	S	11 23 34.2	+0.5
JTKR	Abashiri--Toko	2.09	292	P	P	11 23 10.3	+0.8
KUR	Kuril'sk	2.20	24	⇓iPN	P	11 23 11.0	-0.2
KUR				iS	S	11 23 37.5	+0.3
KUR				pmax	pmax		
	comp=Z,120nm,0.4s						
KUR				smax			
	comp=N,300nm,0.5s						
KUR				smax			
	comp=E,450nm,0.5s						
JCH	Churui	2.45	257	P	P	11 23 15.4	+0.7
JCH				eS	S	11 23 43.8	+0.2
JMP	Maruseppu	2.48	289	P	P	11 23 15.9	+0.9
ASAJ	Asahikawa	3.03	288	P	P	11 23 24.6	+1.7
	comp=E,12nm,0.3s,baz=94,slow=16,SNR=61						
ASAJ				S	S	11 24 04.5	+6.2
	comp=E,4.1nm,0.3s,baz=206,slow=31,SNR=7.5						
ASAJ	Asahikawa	3.03	288	PN	P	11 23 24.7	+1.7
ASAJ				S	S	11 24 04.6	+6.3
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
SONM	Songino Array	28.30	293	P	P	11 28 27.4	+0.6
	comp=Z,0.5nm,0.7s,mb3.3,baz=80,slow=7.5,SNR=3.8						
ILAR	Eielson Array	42.15	36	P	P	11 30 24.5	-0.2
	comp=Z,1.1nm,0.9s,mb3.5,baz=263,slow=5.9,SNR=14						
ILAR	Eielson Array	42.15	36	P	P	11 30 24.5	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	44.47	298	P	P	11 30 44.0	+0.2
	comp=Z,0.2nm,0.5s,mb3.1,baz=80,slow=13,SNR=3.9						
WRA	Warramunga Arr	63.86	193	P	P	11 33 04.1	-1.7
	comp=Z,0.5nm,0.9s,mb3.5,baz=10,slow=6.9,SNR=5.0						
WRA	Warramunga Arr	63.86	193	P	P	11 33 04.1	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	65.16	333	P	P	11 33 11.8	-1.6
	comp=Z,1.4nm,0.8s,mb4.0,slow=7.6,SNR=4.6						
FINES	FINESS Array B	65.16	333	P	P	11 33 11.9	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	Mina Array Bea	68.20	57	P	P	11 33 33.8	+0.7
	comp=Z,0.4nm,0.7s,mb3.6,baz=302,slow=5.4,SNR=5.3						
TXAR	Lajitas Array	83.28	56	P	P	11 34 59.5	+0.8
	comp=Z,0.6nm,0.7s,mb3.7,baz=302,slow=3.6,SNR=7.7						

HRVD ***21*** *11:33:40.5±0.1, 22.17S×169.41E, h12^{km}, MW5.4/64, Centroid moment Tensor Solution. LP body waves: s62,c119;Mantle waves: s64,c126; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.56±.02; M$_{\theta\theta}$0.65±.02; M$_{\phi\phi}$0.92±.02; M$_{r\theta}$0.32±.05; M$_{\theta\phi}$-1.01±.02; M$_{\phi r}$-0.26±.06; Best double couple: M$_0$1.73×10^{17} NP1: φ$_s$142°, δ38°, λ-85°. NP2:φ$_s$316°, δ52°, λ-94°. Principal axes: T 1.85, Plg7°, Azm49°; N -.23, Plg3°, Azm318°; P -1.61, Plg83°, Azm206°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***21*** *11:33:40.1, 21.62S×169.36E, h6^{km}, mB5.5, mb5.3, Ms5.0, Msz4.8*

NEIC ***21*** *11:33:40.5±0.1, 22.04S×169.38E, h10^{km}, mb5.4/47, MS5.0/69, MW5.4, Error ellipse: s-maj=6.6km s-min=4.3km az=153.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.19; M$_{\theta\theta}$0.82; M$_{\phi\phi}$0.37; M$_{r\theta}$0.49; M$_{\theta\phi}$-0.58; M$_{\phi r}$-0.11; Best double couple: M$_0$1.3×10^{17} NP1:φ$_s$132°, δ35°, λ-76°. NP2:φ$_s$296°, δ56°, λ-99°. Principal axes: T 1.3, Plg11°, Azm33°; N 0, Plg8°, Azm301°; P -1.31, Plg77°, Azm176°;*

SYO ***21*** *11:33:40.5, 22.04S×169.38E, h10^{km}, MB5.4, MS5.0*

CSEM ***21*** *11:33:42.8, 22.26S×169.39E, h33^{km}, mb5.5*

MOS ***21*** *11:33:43.8±1.1, 22.15S×169.22E, h33^{km}, mb5.2/13, MS4.8/10, Error ellipse: s-maj=20.3km s-min=15.2km az=115.8*

IDC ***21*** *11:33:46.0±5.2, 22.12S×169.32E, h44^{km}±46^{km}, mb4.6/14, mb1 4.8/15, mb1mx4.7/17, ML4.4/1, MS4.7/18, Ms1 4.7/18, ms1mx4.7/22, Error ellipse: s-maj=23.6km s-min=18.3km az=42.0*

LDG ***21*** *11:33:49.5±0.2, 20.54S×167.64E, h10^{km}, Mb5.6/2, Ms4.8/7, Error ellipse: s-maj=28.2km s-min=6.1km az=119.0*

ORF ***21*** *11:33:57.0, 16.15S×166.28E, h30^{km}, mb6.0*

ISC 21 11:33:39.2±0.2**, 22.08S**±0.03×**169.33E**±0.03**, h10**^{km}**, (h13**^{km}±1.7^{km}**:pP-P), n390,** σ**0^{s}99**/169**, mb5.2**/68**, MS4.9**/102**, 38C-34D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.68	270	eP	Pn	11 34 24.0	+0.8
DZM				eS	Sn	11 34 55.4	-0.7
DZM	Mont Dzumac	2.68	270	eP	Pn	11 34 24.0	+0.8
DZM				eS	Sn	11 34 55.4	-0.7
NOUC	Port Laguerre	2.81	269	eP	Pn	11 34 25.7	+0.7
NOUC				eS	Sn	11 34 58.6	-0.8
NOUC	Port Laguerre	2.81	269	eP	Pn	11 34 25.7	+0.7
NOUC				eS	Sn	11 34 58.6	-0.8
BKM	Butte a Klehm	4.51	347	⇑iP	Pn	11 34 49.1	0.0
BKM				S	Sn	11 35 40.8	-1.5
WCZ	Waipu Caves	14.49	164	P	P	11 37 14.5	+8.2
URZ	Urewera	17.46	159	P	P	11 37 46.9	+2.5
	1.3nm,0.3s,baz=355,slow=5.5,SNR=40						
URZ	Urewera	17.46	159	P	P	11 37 47.0	+2.6
MWZ	Matawai	17.67	158	P	P	11 37 48.3	+1.3
BKZ	Black Stump Fm	18.10	162	P	P	11 37 53.7	+1.3
MRZ	Mangatainoka R	19.27	165	P	P	11 38 05.1	-1.4
NNZ	Nelson	19.38	171	eP	P	11 38 08.0	+0.1
SNZO	South Karori	19.70	168	eP	P	11 38 09.8	-1.7
	127nm,0.9s						
THZ	Tophouse	19.85	172	P	P	11 38 12.8	-0.4
WVZ	Waitaha Valley	20.97	177	eP	P	11 38 23.6	-1.3
RPZ	Rata Peaks	21.62	177	P	P	11 38 32.0	+0.5
	53nm,1.0s,mb4.9,baz=70,slow=3.6,SNR=13						
RPZ				LR	LR	11 45 28.8	

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           comp=Z,2µm,21.4s,MS4.6,baz=348,slow=33
CTA   Charters Tower   21.62 271  eP      P       11 38 33.8 +2.2
           36nm,1.2s,mb4.7
CTA                               i S     S       11 42 37.8  +12
CTA   Charters Tower   21.62 271   P      P       11 38 33.2 +1.6
           33nm,0.9s,mb4.8,baz=93,slow=12,SNR=32
CTA                                LR     LR      11 46 12.1
           comp=Z,3µm,20.1s,MS4.7,baz=96,slow=34
CTA   Charters Tower   21.62 271   P      P       11 38 33.2 +1.6
CTA                                pmax   pmax
           comp=Z,33nm,0.9s
CTA                                MLR    MLR
           comp=Z,3µm,20.1s
CTAO  Charters Tower   21.62 271⇓i P      P       11 38 32.5 +0.9
           comp=Z,98nm,1.3s,mb5.1
CTAO                               LR     LR
           comp=Z,3µm,19.0s,MS4.7
CNB   Canberra Magne   21.87 229⇑i P      P       11 38 36.3 +2.3
           comp=Z,37nm,0.7s,mb4.9
PMG   Port Moresby     24.74 297  eP      P       11 39 02.1  -0.2
           comp=Z,45nm,1.0s,mb5.0
STKA  Stephens Creek   26.51 243  eP      P       11 39 19.4 +0.6
           comp=Z,15nm,0.9s,mb4.5
STKA                              i S     S       11 44 16.1  +25
STKA  Stephens Creek   26.51 243   P      P       11 39 19.4 +0.7
           comp=Z,11nm,0.8s,mb4.4,baz=117,slow=6.9,SNR=6.5
STKA                               LR     LR      11 48 39.8
           comp=Z,4µm,21.8s,MS4.9,baz=81,slow=34
RAR   Rarotonga        28.70  94   LR     LR      11 48 44.4
           comp=Z,920nm,18.2s,MS4.4,baz=260,slow=31
KWAJ  Kwajalein Atol   30.74 357   PFAKE          11 40 10.0  +13
KWAJ                               LR     LR
           comp=Z,476nm,19.0s,MS4.2
ASAR  Alice Springs    32.63 260   P      P       11 40 12.7  -0.9
           comp=Z,14nm,0.8s,mb4.9,baz=77,slow=9.0,SNR=148
ASAR                               PcP    PcP     11 42 59.5  -0.3
           comp=Z,2.7nm,1.1s,baz=89,slow=5.3,SNR=4.9
ASAR                               LR     LR      11 52 44.3
           comp=Z,2µm,20.8s,MS4.7,baz=96,slow=35
ASPA  Alice Springs    32.64 260⇓i P      P       11 40 12.3  -1.2
WB2   Warramunga Arr   32.69 267  eP      P       11 40 12.2  -1.8
WRAB  Tennant Creek    32.69 267⇓eP      P       11 40 12.5  -1.5
           comp=Z,13nm,0.6s,mb5.0
WRA   Warramunga Arr   32.70 267   P      P       11 40 12.8  -1.3
           comp=Z,7.9nm,0.6s,mb4.9,baz=95,slow=8.4,SNR=76
WRA                                LR     LR      11 53 13.7
           comp=Z,2µm,19.6s,MS4.9,baz=85,slow=36
WRA   Warramunga Arr   32.70 267   P      P       11 40 12.8  -1.3
WRA                                pmax   pmax
           comp=Z,8.0nm,0.6s
WRA                                MLR    MLR
           comp=Z,2µm,19.6s
KAKA  Kakadu           36.38 279  eP      P       11 40 44.5  -1.2
           comp=Z,33nm,0.9s,mb5.3
FORT  Forrest          37.79 248  eP      P       11 40 57.7 +0.2
           comp=Z,44nm,0.5s,mb5.4
TBI   Tubuai           37.94 100  eS      S       11 46 34.9   -15
TBI                               eL              11 49 14.3
TBI                               eR              11 51 09.6
           comp=Z,823nm,28.5s
PPT   Papeete          38.83  91  eL              11 49 35.0
PPT                               eR              11 51 37.6
           comp=Z,2µm,25.5s,baz=253
FITZ  Fitzroy Crossi   41.13 267⇓i P      P       11 41 25.5 +0.3
           comp=Z,62nm,0.6s,mb5.4
FITZ  Fitzroy Crossi   41.13 267   LR     LR      11 57 52.2
           comp=Z,1µm,19.8s,MS4.7,baz=99,slow=35
KLBR  Kellerberrin     46.63 247  eP      P       11 42 08.9  -0.7
           comp=Z,56nm,1.2s,mb5.4
NWAO  Narrogin (SRO)   47.05 245   LR     LR      12 00 48.4
           comp=Z,4µm,21.8s,MS5.3,baz=93,slow=34
MUN   Mundaring        47.94 246  eP      P       11 42 18.7  -1.2
           comp=Z,14nm,1.0s,mb5.0
RKT   Rikitea          51.16 102  eS      S       11 49 45.5   -16
RKT                               eL              11 54 45.7
RKT                               eR              11 57 23.0
           comp=Z,609nm,27.5s
VNDA  Vanda            55.61 182   P      P       11 43 16.2  -0.8
           comp=Z,3.5nm,1.0s,mb4.3,baz=0.9,slow=7.2,SNR=18
VNDA                               LR     LR      12 04 37.3
           comp=Z,322nm,19.1s,MS4.4,baz=14,slow=33
VNDA  Vanda            55.61 182⇓i P      P       11 43 15.3  -1.8
           comp=Z,70nm,1.9s,mb5.4
VNDA                               LR     LR
           comp=Z,573nm,19.0s,MS4.7
SBA   Scott Base       55.84 181⇓i P      P       11 43 18.0  -0.7
           comp=Z,175nm,1.8s,mb5.8
SBA                                LR     LR
           comp=Z,630nm,20.0s,MS4.7
CASY  Casey            57.58 204  eP      P       11 43 28.9  -2.3
TGY   Tagaytay City    59.53 303   LR     LR      12 09 37.8
           comp=Z,321nm,18.9s,MS4.5,baz=123,slow=36
JOW   Kunigami         62.80 319   LR     LR      12 08 19.8
           comp=Z,327nm,18.2s,MS4.5,baz=142,slow=33
MIR   Mirnyy           64.51 206⇑eP      P       11 44 17.5  -0.6
MIR                                pmax   pmax
           comp=Z,80nm,1.5s,mb5.5
MAJO  Matsushiro       65.30 333⇓eP      P       11 44 22.6  -1.1
           comp=Z,43nm,1.3s,mb5.3
MAJO                               LR     LR
           comp=Z,530nm,19.0s,MS4.8
MAT   Matsushiro       65.30 333   P      P       11 44 22.5  -1.2
MAT                                S      S       11 53 08.0 +2.2
MAT   Matsushiro       65.30 333  eP      P       11 44 23.0  -0.7
           comp=Z,105nm,1.8s,mb5.6
MAT                               eS      S       11 53 08.0 +2.2
MAT                                LR     LR
           comp=Z,690nm,18.0s,MS4.9
JNU   Nakatsue         66.03 325   LR     LR      12 10 15.0
           comp=Z,244nm,18.6s,MS4.4,baz=294,slow=33
QSPA  South Pole Qui   67.99 180  eP      P       11 44 40.2 +0.1
           comp=Z,100nm,1.1s,mb5.8
QSPA                               LR     LR
           comp=Z,460nm,21.3s,MS4.7
SSE   Sheshan          70.19 317  ⇑P      P       11 44 54.8 +0.4
SSE                                S      S       11 54 06.6 +2.1
SSE                                XS             11 54 12.3
SSE                                SS     SS      11 58 32.8  -3.4
SSE                                AMB    AMB
           comp=Z,44nm,0.7s,mb5.5
SSE                                AMB    AMB
           comp=Z,226nm,8.7s
SSE                                LR     LR
           comp=N,83nm,23.1s,MS4.3
SSE                                LR     LR
           comp=E,174nm,23.1s,MS4.3
SSE                                LR     LR
           comp=Z,318nm,16.6s
QIZ   Qiongzhong       71.07 300   P      P       11 45 00.9 +0.9
QIZ                                XP     sP      11 45 13.4 +9.2
QIZ                                S      S       11 54 15.0   0.0
QIZ                                AMB    AMB
           comp=Z,292nm,8.0s
QIZ                                LR     LR
           comp=N,246nm,18.9s
INCN  Inchon           71.59 325  eP      P       11 45 03.0 +0.3
           comp=N,43nm,1.0s,mb5.3
NJ2   Nanjing          72.31 317  eP      P       11 45 07.9 +0.7
NJ2                                AP     pP      11 45 12.9 +2.6
NJ2                                XP     sP      11 45 15.6 +4.2
NJ2                                PP     PP      11 47 50.3 +0.6
NJ2                                S      S       11 54 31.0 +2.0
NJ2                                XS             11 54 37.0
NJ2                                PS     PS      11 55 04.0 +2.7
NJ2                                SKS    SKS     11 55 07.0  -5.0
NJ2                                AMB    AMB
           comp=Z,40nm,1.0s,mb5.3
NJ2                                LR     LR
           comp=N,240nm,11.8s
NJ2                                LR     LR
           comp=E,380nm,18.8s
NJ2                                LR     LR
           comp=Z,2µm,13.4s,MS5.5
YSS   Yuzh-Sakhalins   72.78 341beP      P       11 45 10.0 +0.3
YSS                               e               11 45 21.0
YSS                               e               11 45 26.0
YSS                               eS      S       11 54 40.0 +5.9
YSS                                pmax   pmax
           comp=Z,600nm,5.0s
YSS                                smax
           comp=E,500nm,12.0s
YSS                                MLR    MLR
           comp=N,500nm,18.0s
YSS                                MLR    MLR
           comp=Z,800nm,18.0s,MS5.0
SKR   Severo-Kuril's   73.38 351  eP      P       11 45 10.5  -2.6
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SKR                               e               11 45 24.0
SKR                               e               11 47 55.0
SKR                               ePPP    PPP     11 49 40.0  -2.3
SKR                               eS      S       11 54 43.0 +2.3
SKR                               e               11 55 09.0
SKR                                pmax   pmax
           comp=N,60nm,1.0s
SKR                                pmax   pmax
           comp=E,60nm,1.0s
SKR                                pmax   pmax
           comp=Z,70nm,1.0s,mb5.5
SKR                                pmax   pmax
           comp=Z,800nm,5.0s
SKR                                smax
           comp=E,800nm,12.0s
SKR                                MLR    MLR
           comp=Z,900nm,18.0s,MS5.1
VLA   Vladivostok      73.46 332⇑i P      P       11 45 24.0  +10
VLA                               i               11 45 30.0
VLA                               i PPP   PPP     11 49 42.0  -1.3
VLA                               i S     S       11 54 46.0 +4.2
VLA                                pmax   pmax
           comp=Z,4µm,9.0s
VLA                                pmax   pmax
           comp=N,500nm,6.0s
VLA                                smax
           comp=N,600nm,7.0s
VLA                                smax
           comp=Z,500nm,6.0s
VLA                                smax
           comp=E,800nm,7.0s
WHN   Wuhan            74.33 313  eP      P       11 45 19.0   0.0
SMY   Shemya           74.61   3   PFAKE          11 45 30.0  +10
SMY                                LR     LR
           comp=Z,2µm,20.0s,MS5.3
FX1   Attu Island--F   74.72   2   P      P       11 45 21.5 +0.7
           comp=Z,21nm,0.8s,mb5.1,baz=148,slow=9.5,SNR=3.7
FX1   Attu Island--F   74.72   2   P      P       11 45 21.5 +0.7
FX1                                pmax   pmax
           comp=Z,21nm,0.8s
PET   Petropavlovsk    75.36 353  eP      P       11 45 19.0  -5.5
PET                               e               11 45 35.2
PET                                pmax   pmax
           comp=Z,28nm,1.4s,mb5.0
PET                                pmax   pmax
           comp=Z,500nm,6.4s
PET                                pmax   pmax
           comp=Z,100nm,11.1s
PET                                pmax   pmax
           comp=Z,22nm,1.3s,mb4.9
PET                                MLR    MLR
           comp=Z,300nm,18.0s,MS4.6
MDJ   Mudanjiang       75.65 332   P      P       11 45 26.8 +0.5
MDJ                                AP     pP      11 45 29.9 +0.4
MDJ                                XP     sP      11 45 31.3 +0.7
MDJ                                S      S       11 55 10.5 +4.3
MDJ                                XS             11 55 15.4
MDJ                                AMB    AMB
           comp=Z,310nm,6.3s
MDJ                                LR     LR
           comp=N,291nm,17.8s,MS4.7
MDJ                                LR     LR
           comp=E,175nm,19.0s,MS4.7
MDJ                                LR     LR
           comp=Z,468nm,20.3s,MS4.8
MDJ   Mudanjiang       75.65 332  eP      P       11 45 26.4 +0.1
           comp=Z,58nm,1.5s,mb5.3
MAW   Mawson           75.85 202  eP      P       11 45 27.4 +0.4
           comp=Z,14nm,1.4s,mb4.7
MAW   Mawson           75.85 202   P      P       11 45 27.3 +0.3
           comp=Z,9.5nm,0.8s,mb4.8,baz=112,slow=7.7,SNR=20
MAW                                LR     LR      12 14 36.7
           comp=Z,632nm,20.1s,MS4.9,baz=95,slow=32
SNY   Shenyang         76.39 327  ⇓P      P       11 45 30.5   0.0
SNY                                S      S       11 55 17.3 +3.0
SNY                                AMB    AMB
           comp=Z,270nm,7.1s
SNY                                LR     LR
           comp=N,440nm,16.2s
SNY                                LR     LR
           comp=Z,350nm,14.9s,MS4.8
CN2   Changchun        76.92 329  eP      P       11 45 33.9 +0.4
CN2                               eS      S       11 55 20.5 +0.4
CN2                                AMB    AMB
           comp=Z,50nm,1.4s,mb5.2
CN2                                AMB    AMB
           comp=Z,200nm,3.0s
GYA   Guiyang          77.52 305  ⇓P      P       11 45 38.1 +1.0
GYA                                AP     pP      11 45 46.4 +6.1
GYA                                XP     sP      11 45 49.6 +8.2
GYA                                S      S       11 55 28.9 +2.0
GYA                                AMB    AMB
           comp=Z,300nm,6.9s
GYA                                LR     LR
           comp=N,310nm,15.4s,MS4.8
GYA                                LR     LR
           comp=E,180nm,15.0s,MS4.8
GYA                                LR     LR
           comp=Z,240nm,15.6s,MS4.6
ENH   Enshi            77.55 310  eP      P       11 45 37.6 +0.4
           comp=Z,104nm,1.7s,mb5.5
ENH                                LR     LR
           comp=Z,329nm,19.0s,MS4.7
KLR   Kul'dur          78.48 336  eP      P       11 45 42.2 +0.3
KLR                               eS      S       11 55 30.0  -6.8
KLR                                pmax   pmax
           comp=N,40nm,2.0s
KLR                                pmax   pmax
           comp=E,50nm,2.0s
KLR                                pmax   pmax
           comp=Z,72nm,2.0s,mb5.3
KLR                                pmax   pmax
           comp=Z,700nm,7.5s
BJT   Baijiatuau       79.18 321  eP      P       11 45 46.7 +0.8
           comp=Z,169nm,2.1s,mb5.6
BJT                                LR     LR
           comp=Z,364nm,19.0s,MS4.7
BJI   Beijing          79.19 321   P      P       11 45 46.8 +0.8
BJI                                AP     pP      11 45 50.1 +0.9
BJI                                S      S       11 55 50.3 +5.8
BJI                                AMB    AMB
           comp=Z,33nm,1.5s,mb5.0
BJI                                AMB    AMB
           comp=Z,756nm,7.0s
BJI                                LR     LR
           comp=N,232nm,19.1s,MS4.8
BJI                                LR     LR
           comp=E,386nm,19.0s,MS4.8
BJI                                LR     LR
           comp=Z,258nm,20.0s,MS4.6
CMAR  Chiang Mai Arr   79.75 295   P      P       11 45 50.6 +1.1
           comp=Z,2.3nm,0.7s,mb4.2,baz=126,slow=4.0,SNR=18
CMAR  Chiang Mai Arr   79.75 295   P      P       11 45 50.6 +1.1
CMAR                               pmax   pmax
           comp=Z,2.0nm,0.7s
KMI   Kunming          79.85 302  eP      P       11 45 50.6 +0.7
KMI                                PP     PP      11 48 50.8  -2.1
KMI                                S      S       11 55 52.6 +0.9
KMI                                AMB    AMB
           comp=Z,481nm,5.4s
KMI                                LR     LR
           comp=N,283nm,20.3s,MS4.9
KMI                                LR     LR
           comp=E,507nm,20.3s,MS4.9
KMI                                LR     LR
           comp=Z,344nm,16.1s,MS4.8
TIY   Taiyuan          79.98 318   PR             11 45 51.0
TIY                                S      S       11 55 56.0 +3.2
TIY                                LR     LR
           comp=N,220nm,15.0s
TIY                                LR     LR
           comp=Z,452nm,16.0s,MS4.9
XAN   Xi'an            80.09 313   P      P       11 45 51.8 +0.8
CD2   Chengdu          82.03 308   P      P       11 46 02.6 +1.4
SYO   Syowa Base       82.25 196  ⇓P      P       11 46 01.2  -0.4
SYO   Syowa Base       82.25 196  ⇑pP     pP      11 46 04.7  -0.1
SYO   Syowa Base       82.25 196  ⇓PcP    PcP     11 46 08.6 +1.1
SYO   Syowa Base       82.25 196  ⇑PKiKP          11 51 24.4
HHC   Hu-ho-hao-te     82.43 320  eP      P       11 46 03.9 +0.8
HHC                                AP     pP      11 46 07.8 +1.5
HHC                                XP     sP      11 46 14.4 +7.1
HHC                                S      S       11 56 19.9 +1.9
HHC                                XS             11 56 25.6
HHC                                AMB    AMB
           comp=Z,45nm,1.9s,mb5.1
HHC                                AMB    AMB
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           comp=Z,271nm,7.3s
HHC                                LR     LR
           comp=N,142nm,17.2s,MS4.5
HHC                                LR     LR
           comp=E,139nm,19.0s,MS4.5
HHC                                LR     LR
           comp=Z,201nm,17.8s,MS4.5
BTO   Baotou           83.22 319  eP      P       11 46 08.3 +1.1
HIA   Hailar           83.60 330   PFAKE          11 46 20.0  +11
HIA                                LR     LR
           comp=Z,372nm,20.0s,MS4.8
LZH   Lanzhou          84.69 312  ⇓P      P       11 46 16.1 +1.3
LZH                                AP     pP      11 46 19.5 +1.5
LZH                                PP     PP      11 49 34.4 +1.9
LZH                                SKS    SKS     11 56 37.3  -2.9
LZH                               eS      S       11 56 43.6 +2.8
LZH                                XS             11 56 51.5
LZH                                AMB    AMB
           comp=Z,81nm,1.4s,mb5.7
LZH                                AMB    AMB
           comp=Z,215nm,5.4s
LZH                                LR     LR
           comp=N,795nm,14.3s
LZH                                LR     LR
           comp=Z,1µm,18.2s,MS5.3
KDAK  Kodiak Island    85.67  19   PFAKE          11 46 30.0  +11
KDAK                               LR     LR
           comp=Z,159nm,20.0s,MS4.4
SEY   Seymchan         85.78 352  eP      P       11 46 21.5 +2.0
SEY                               eS      S       11 56 43.1  -7.7
SEY                                *SS            11 57 42.9
SEY                                pmax   pmax
           comp=Z,50nm,1.5s,mb5.5
SEY                                smax
           comp=N,900nm,20.6s
SEY                                smax
           comp=E,700nm,23.4s
NVL   N'lazarevskaya   86.06 187⇓eP      P       11 46 17.0  -3.8
NVL                                pmax   pmax
           comp=Z,364nm,3.3s
SNAA  Sanae            86.34 182  e       P       11 46 22.0  -0.1
SNAA  Sanae            86.34 182  e       P       11 46 23.2 +1.1
SNAA  Sanae            86.34 182⇓i P      P       11 46 19.4  -2.7
SNAA                              e       pP      11 46 22.0  -3.4
SNAA                              e       pP      11 46 23.2  -2.2
SNAA                              e               11 49 42.3
VNA2  Neumayer--Watz   87.22 181  e       P       11 46 28.7 +2.3
VNA2  Neumayer--Watz   87.22 181  e       P       11 46 29.8 +3.4
VNA2  Neumayer--Watz   87.22 181⇓i P      P       11 46 26.0  -0.4
VNA2                              e       pP      11 46 28.7  -0.9
VNA2                              e       pP      11 46 29.8 +0.2
VNA2                              e               11 49 49.1
VNA1  Neumayer--Stat   87.51 181  e       P       11 46 30.9 +3.1
VNA1  Neumayer--Stat   87.51 181  e       P       11 46 31.7 +3.9
VNA1  Neumayer--Stat   87.51 181⇓i P      P       11 46 27.9 +0.1
VNA1                              e       pP      11 46 30.9  -0.1
VNA1                              e       pP      11 46 31.7 +0.7
SVW   Sparrevohn       87.59  16  eP      P       11 46 29.1 +0.7
SAO   San Andreas Ge   87.62  49  eP      P       11 46 27.8  -1.4
           comp=Z,24nm,1.0s,mb5.4
HOPS  Hopland          87.63  46  eP      P       11 46 29.4 +0.2
           comp=Z,32nm,1.1s,mb5.5
HOPS                               LR     LR
           comp=Z,584nm,20.0s,MS5.0
NSHM  Saint Helena R   87.70  47  eP      P       11 46 29.5   0.0
LRV   Little Rabbit    87.75  49  eP      P       11 46 28.7  -1.1
RSO   Redoubt South    87.82  18  eP      P       11 46 28.1  -1.4
SLKM  Skilak Lake      88.59  19  eP      P       11 46 33.3 +0.1
SHL   Shillong         88.76 298  eP      P       11 46 35.5 +0.6
WDC   Whiskeytown Da   88.79  45  eP      P       11 46 35.0 +0.3
           comp=Z,125nm,1.8s,mb5.9
MWC   Mount Wilson     88.83  52  eP      P       11 46 34.8  -0.2
OHCM  Honcut           88.87  46  eP      P       11 46 35.2 +0.1
CMB   Columbia Colle   88.98  48⇓i P      P       11 46 34.7  -0.9
           comp=Z,26nm,1.1s,mb5.5
GTA   Gaotai           89.14 313  eP      P       11 46 38.0 +1.7
GTA                                AP     pP      11 46 45.1 +5.5
GTA                                XP     sP      11 46 48.9 +8.3
GTA                                AMB    AMB
           comp=Z,129nm,6.9s
GTA                                LR     LR
           comp=N,95nm,22.6s,MS4.3
GTA                                LR     LR
           comp=E,98nm,22.5s,MS4.3
BAR   Barrett          89.15  54⇓i P      P       11 46 35.6  -1.0
YBH   Yreka Blue Hor   89.27  44  eP      P       11 46 37.4 +0.5
           comp=E,20nm,1.1s,mb5.4
SONM  Songino Array    89.53 323   P      P       11 46 39.4 +1.4
           comp=E,17nm,1.1s,mb5.3,baz=135,slow=3.5,SNR=72
SONM                               PKKPbc         12 04 12.7
           comp=E,0.3nm,0.6s,baz=90,slow=1.4,SNR=4.0
HUMO  Hull Mountain    89.56  43  eP      P       11 46 38.7 +0.5
           comp=E,23nm,1.0s,mb5.5
YAK   Yakutsk          89.59 342deP      P       11 46 36.9  -1.0
YAK                                pmax   pmax
           comp=Z,17nm,1.3s,mb5.2
YAK                                MLR    MLR
           comp=Z,400nm,18.0s,MS4.9
PFO   Pinyon Flat Ob   89.73  53  eP      P       11 46 38.0  -1.3
           comp=Z,18nm,1.3s,mb5.2
OMM   Old Mammoth Mi   89.75  49  eP      P       11 46 39.7 +0.4
PMR   Palmer           89.78  18  eP      P       11 46 36.6  -2.2
PMR                                LR     LR
           comp=Z,600nm,21.0s,MS5.0
BEKR  Beckwourth       89.89  46  eP      P       11 46 40.4 +0.5
           comp=Z,116nm,2.1s,mb5.8
MTUM  Tungsten Hills   89.92  49  eP      P       11 46 40.7 +0.6
HSO   Harness Mounta   89.95  42  eP      P       11 46 37.4  -2.7
WCN   Washoe City      90.02  47  eP      P       11 46 41.0 +0.5
           comp=Z,26nm,1.2s,mb5.4
DAC   Darwin (Calif)   90.11  51   PFAKE          11 46 50.0 +9.0
DAC                                LR     LR
           comp=Z,613nm,21.0s,MS5.0
SML   Sawmill          90.19  19  eP      P       11 46 37.6  -3.1
COR   Corvallis        90.36  41  eP      P       11 46 41.4  -0.6
           comp=Z,22nm,1.0s,mb5.4
DIV   Divide           90.45  20  eP      P       11 46 40.8  -1.2
           comp=Z,158nm,1.9s,mb6.0
DIV                                LR     LR
           comp=Z,1µm,21.0s,MS5.4
PAHR  Pah Rah Range    90.47  47  eP      P       11 46 43.3 +0.7
           comp=Z,22nm,0.8s,mb5.5
NVAR  Mina Array Bea   90.61  48   P      P       11 46 43.4 +0.1
           comp=Z,11nm,0.8s,mb5.2,baz=215,slow=5.8,SNR=98
NVAR                               LR     LR      12 24 14.5
           comp=Z,398nm,18.2s,MS4.9,baz=305,slow=33
MNV   Mina             90.71  49⇓i P      P       11 46 43.3  -0.4
           comp=Z,33nm,1.1s,mb5.6
KMOR  Kings Mountain   90.79  40   P      P       11 46 44.5 +0.6
MOD   Modoc            90.92  45  eP      P       11 46 44.8 +0.3
           comp=Z,26nm,1.1s,mb5.5
SSOR  Sweet Springs    91.02  41  eP      P       11 46 44.6  -0.3
LSA   Lhasa            91.09 302  eP      P       11 46 47.6 +2.0
           comp=Z,58nm,2.1s,mb5.5
LSA                                LR     LR
           comp=Z,220nm,20.0s,MS4.6
TPH   Tonopah          91.20  49  eP      P       11 46 46.3 +0.3
           comp=Z,34nm,1.1s,mb5.6
TPH                                LR     LR
           comp=Z,537nm,19.0s,MS5.0
LDFC  Landfair         91.38  53  eP      P       11 46 47.4 +0.5
BMW   Boistfort Moun   91.38  40   P      P       11 46 47.3 +0.7
SIT   Sitka            91.42  27   PFAKE          11 47 00.0  +14
SIT                                LR     LR
           comp=Z,798nm,20.0s,MS5.2
OCWA  Octopus Mounta   91.49  38  eP      P       11 46 47.9 +0.8
           comp=Z,52nm,1.0s,mb5.8
OCWA                               LR     LR
           comp=Z,561nm,20.0s,MS5.0
RVW   Rose Valley      91.50  40   P      P       11 46 48.0 +0.8
MCK   McKinley         91.53  17  eP      P       11 46 45.1  -1.8
           comp=Z,5.8nm,1.1s,mb4.8
NEN   Nelson           91.82  52  eP      P       11 46 49.2 +0.3
VFP   Flag Point       91.86  41   P      P       11 46 49.3 +0.5
BOD   Bodaibo          91.91 334  eP      P       11 46 42.3  -6.4
VIPM  Ingram Point     91.98  42   P      P       11 46 49.9 +0.5
GNW   Green Mountain   92.18  39  eP      P       11 46 50.6 +0.4
IMA   Indian Mountai   92.23  14  eP      P       11 46 50.0   0.0
WVOR  Wild Horse Val   92.26  45⇑eP      P       11 46 51.0 +0.3
           comp=Z,27nm,1.2s,mb5.5
WVOR                               LR     LR
           comp=Z,729nm,19.0s,MS5.2
BMN   Battle Mountai   92.27  47  eP      P       11 46 51.0 +0.2
           comp=Z,13nm,1.0s,mb5.2
BMN                                LR     LR
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	comp=Z,447nm,21.0s,MS4.9						
LON	**Longmire**	**92.37**	**40**	*e*P	**P**	**11 46 50.7**	**-0.4**
FMW	**Mount Fremont**	**92.54**	**40**	P	**P**	**11 46 52.4**	**+0.5**
GSM	**Grass Mountain**	**92.60**	**40**	P	**P**	**11 46 52.6**	**+0.5**
ZAK	**Zakamensk**	**92.64**	**324**	⇓*i*P	**P**	**11 46 52.9**	**+0.6**
COLA	**College**	**92.72**	**17**	*e*P	**P**	**11 46 50.8**	**-1.5**
COLA				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.8						
RMW	**Rattlesnake Mo**	**92.72**	**39**	P	**P**	**11 46 53.1**	**+0.3**
ILAR	**Eielson Array**	**92.90**	**17**	P	**P**	**11 46 51.1**	**-2.0**
	comp=Z,3.4nm,0.6s,mb5.0,baz=238,slow=5.0,SNR=49						
ILAR				LR	LR	12 29 20.9	
	comp=Z,463nm,18.1s,MS5.0,baz=249,slow=36						
ILAR	**Eielson Array**	**92.90**	**17**	P	**P**	**11 46 51.2**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,463nm,18.1s						
TUC	**Tucson**	**93.49**	**57**	P	**P**	**11 46 56.8**	**+0.1**
TUC	**Tucson**	**93.49**	**57**	⇓*e*P	**P**	**11 46 56.6**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.8						
HAWA	**Hanford**	**93.56**	**41**	*e*P	**P**	**11 46 56.8**	**+0.1**
	comp=Z,17nm,1.2s,mb5.4						
HAWA				LR	LR		
	comp=Z,712nm,22.0s,MS5.1						
DGAR	**Diego Garcia**	**93.57**	**261**	PFAKE		11 47 10.0	+13
DGAR				LR	LR		
	comp=Z,470nm,20.0s,MS4.9						
ELK	**Elko**	**93.77**	**47**	*e*P	**P**	**11 46 57.7**	**0.0**
	comp=Z,7.9nm,1.1s,mb5.1						
LNOR	**Lincton Mounta**	**94.08**	**42**	*e*P	**P**	**11 46 57.9**	**-1.1**
WUAZ	**Wupatki**	**94.33**	**54**	⇓*i*P	**P**	**11 47 00.4**	**0.0**
	comp=Z,16nm,1.1s,mb5.4						
MSU	**Marysvale**	**94.96**	**50**	*e*P	**P**	**11 47 03.8**	**+0.6**
DUG	**Dugway**	**95.21**	**49**	⇓*i*P	**P**	**11 47 03.4**	**-0.9**
DUG				LR	LR		
	comp=Z,440nm,20.0s,MS4.9						
HLID	**Hailey**	**95.53**	**45**	⇓*i*P	**P**	**11 47 04.5**	**-1.3**
	comp=Z,3.3nm,1.1s,mb4.7						
NEW	**Newport**	**95.88**	**40**	PFAKE		11 47 20.0	+13
NEW				LR	LR		
	comp=Z,438nm,20.0s,MS4.9						
PLCA	**Paso Flores**	**96.36**	**139**	LR	LR	12 20 58.2	
	comp=Z,158nm,21.0s,MS4.5,baz=84,slow=29						
SRU	**San Rafael**	**96.39**	**50**	*e*P	**P**	**11 47 09.8**	**+0.1**
HWUT	**Hardware Ranch**	**96.64**	**48**	PFAKE		11 47 20.0	+9.1
HWUT				LR	LR		
	comp=Z,416nm,20.0s,MS4.9						
MCMT	**McKenzie Canyo**	**97.08**	**45**	*e*P	**P**	**11 47 13.1**	**+0.3**
PV10	**Paradox Valley**	**97.17**	**52**	*e*P	**P**	**11 47 12.9**	**-0.4**
MSO	**Missoula**	**97.21**	**42**	PFAKE		11 47 20.0	+6.8
MSO				LR	LR		
	comp=Z,653nm,22.0s,MS5.1						
AHID	**Auburn Hatcher**	**97.42**	**47**	PFAKE		11 47 30.0	+16
AHID				LR	LR		
	comp=Z,472nm,22.0s,MS4.9						
MNTX	**Cornudas Mount**	**97.49**	**59**	PFAKE		11 47 30.0	+15
MNTX				LR	LR		
	comp=Z,4.0nm,20.0s						
ANMO	**Albuquerque**	**97.83**	**56**	*e*P	**P**	**11 47 16.3**	**0.0**
ANMO	**Albuquerque**	**97.83**	**56**	PFAKE		11 47 30.0	+14
ANMO				LR	LR		
	comp=Z,337nm,21.0s,MS4.8						
LTX	**Lajitas**	**98.03**	**62**	PFAKE		11 47 30.0	+13
LTX				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
TXAR	**Lajitas Array**	**98.03**	**62**	P	**P**	**11 47 17.0**	**-0.4**
	comp=Z,0.6nm,0.8s,mb4.2,baz=236,slow=4.5,SNR=7.0						
TXAR				LR	LR	12 22 26.9	
	comp=Z,1µm,21.9s,MS5.3,baz=285,slow=30						
TXAR	**Lajitas Array**	**98.03**	**62**	P	**P**	**11 47 17.0**	**-0.4**
TXAR				LR	LR	12 22 26.9	
BOZ	**Bozeman (W)**	**98.20**	**44**	PFAKE		11 47 30.0	+12
BOZ				LR	LR		
	comp=Z,923nm,22.0s,MS5.2						
BW06	**Boulder Array**	**98.47**	**47**	PFAKE		11 47 30.0	+11
BW06				LR	LR		
	comp=Z,318nm,19.0s,MS4.8						
PDAR	**Pinedale Array**	**98.47**	**47**	P	**P**	**11 47 19.9**	**+0.8**
	comp=Z,0.9nm,0.7s,mb4.4,baz=180,slow=1.5,SNR=9.1						
PDAR				LR	LR	12 25 32.2	
	comp=Z,231nm,18.5s,MS4.7,baz=222,slow=32						
GDL2	**Guadalupe Moun**	**98.48**	**59**	P	**P**	**11 47 19.3**	**-0.1**
WMQ	**Urumqi**	**99.22**	**313**	⇑P	**P**	**11 47 23.8**	**+1.4**
WMQ				AP	pP	11 47 28.3	+2.7
WMQ				XP	sP	11 47 31.6	+5.0
WMQ				PP	PP	11 51 28.8	+1.3
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.2						
WMQ				LR	LR		
	comp=N,170nm,27.2s,MS4.5						
WMQ				LR	LR		
	comp=E,121nm,23.4s,MS4.5						
SDCO	**Great Sand Dun**	**99.55**	**53**	PFAKE		11 47 40.0	+16
SDCO				LR	LR		
	comp=Z,567nm,22.0s,MS5.0						
ISCO	**Idaho Springs**	**100.17**	**51**	PFAKE		11 47 40.0	+13
ISCO				LR	LR		
	comp=Z,303nm,19.0s,MS4.8						
JCT	**Junction City**	**101.58**	**62**	PFAKE		11 47 40.0	+6.6
JCT				LR	LR		
	comp=Z,946nm,21.0s,MS5.3						
LAO	**LASA Array**	**102.08**	**44**	PFAKE		11 47 50.0	+15
LAO				LR	LR		
	comp=Z,850nm,21.0s,MS5.2						
WMOK	**Wichita Mounta**	**103.72**	**58**	PFAKE		11 47 50.0	+7.2
WMOK				LR	LR		
	comp=Z,436nm,21.0s,MS5.0						
MKAR	**Makanchi Array**	**103.81**	**315**	Pdiff	Pdif	11 47 43.4	+0.5
	comp=Z,3.3nm,1.2s,baz=72,slow=3.8,SNR=3.6						
MKAR				PKiKP		11 51 58.6	
	comp=Z,0.7nm,0.7s,baz=108,slow=3.8,SNR=5.9						
MKAR				PKKPbc		12 03 32.9	
	comp=Z,0.6nm,0.6s,baz=288,slow=4.6,SNR=6.9						
MKAR	**Makanchi Array**	**103.81**	**315**	P	Pdif	11 47 43.4	+0.5
MKAR				*i*		11 51 58.6	
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DGMT	**Dagmar**	**103.94**	**43**	PFAKE		11 47 50.0	+6.5
DGMT				LR	LR		
	comp=Z,549nm,19.0s,MS5.1						
CBKS	**Cedar Bluff**	**104.18**	**54**	PFAKE		11 48 00.0	+15
CBKS				LR	LR		
	comp=Z,332nm,20.0s,MS4.9						
ZAL	**Zalesovo**	**104.43**	**323**	Pdiff	Pdif	11 47 46.4	+0.9
	comp=Z,0.8nm,0.3s,baz=13,slow=7.8,SNR=2.4						
ZAL				PP	PP	11 52 01.1	-5.8
	comp=Z,0.8nm,0.4s,baz=38,slow=7.6,SNR=3.6						
ZAL	**Zalesovo**	**104.43**	**323**	P	Pdif	11 47 46.4	+0.9
ZAL						11 52 01.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HKT	**Hockley**	**104.68**	**63**	PFAKE		11 48 00.0	+13
HKT				LR	LR		
	comp=Z,808nm,20.0s,MS5.3						
NATX	**Nacogdoches**	**106.17**	**62**	PFAKE		11 52 20.0	
NATX				LR	LR		
	comp=Z,965nm,21.0s,MS5.3						
MIAR	**Mount Ida**	**107.79**	**59**	PFAKE		11 52 20.0	
MIAR				LR	LR		
	comp=Z,695nm,21.0s,MS5.2						
AAK	**Ala-Archa**	**108.06**	**309**	PFAKE		11 52 20.0	
AAK				LR	LR		
	comp=Z,66nm,21.0s,MS4.2						
ULM	**Lac du Bonnet**	**109.65**	**43**	PFAKE		11 52 20.0	
ULM				LR	LR		
	comp=Z,804nm,20.0s,MS5.3						
CCM	**Cathedral Cave**	**110.44**	**56**	PFAKE		11 52 20.0	+5.2
CCM				LR	LR		
	comp=Z,402nm,21.0s,MS5.0						
OXF	**Oxford**	**111.12**	**60**	PFAKE		11 52 30.0	+14
OXF				LR	LR		
	comp=Z,695nm,19.0s,MS5.3						
LPAZ	**La Paz**	**112.02**	**119**	PFAKE		11 52 30.0	+12
LPAZ				LR	LR		
	comp=Z,91nm,19.0s,MS4.4						
JFWS	**Jewell Farm**	**112.13**	**51**	PFAKE		11 52 30.0	+12
JFWS				LR	LR		
	comp=Z,414nm,21.0s,MS5.0						
BRVK	**Borovoye**	**112.71**	**320**	PFAKE		11 52 30.0	+11
BRVK				LR	LR		
	comp=Z,78nm,20.0s,MS4.3						
LRAL	**Lakeview Retre**	**112.76**	**62**	PFAKE		11 52 30.0	+11
LRAL				LR	LR		
	comp=Z,783nm,22.0s,MS5.3						
MYNC	**Murphy**	**115.49**	**61**	PFAKE		11 52 30.0	+5.2
MYNC				LR	LR		
	comp=Z,859nm,21.0s,MS5.3						
DWPF	**Disney**	**116.43**	**69**	PFAKE		11 52 40.0	+13
DWPF				LR	LR		
	comp=Z,211nm,20.0s,MS4.8						
ACSO	**Alum Creek Sta**	**117.14**	**55**	PFAKE		11 52 40.0	+12
ACSO				LR	LR		
	comp=Z,796nm,20.0s,MS5.3						
NHSC	**New Hope**	**118.40**	**63**	PFAKE		11 52 40.0	+10
NHSC				LR	LR		
	comp=Z,613nm,21.0s,MS5.2						
BLA	**Blacksburg**	**118.77**	**59**	PFAKE		11 52 40.0	+8.9
BLA				LR	LR		
	comp=Z,560nm,20.0s,MS5.2						
MCWV	**Mont Chateau**	**119.48**	**56**	PFAKE		11 52 40.0	+7.7
MCWV				LR	LR		
	comp=Z,588nm,21.0s,MS5.2						
ERPA	**Erie**	**119.56**	**53**	PFAKE		11 52 40.0	+7.6
ERPA				LR	LR		
	comp=Z,362nm,20.0s,MS5.0						
ARU	**Arti**	**119.57**	**323**	⇓*i*PKIKP	PKPdf	11 52 29.7	-2.3
ARU				*e*		11 53 53.7	
ARU				*e*SS	SS	12 10 09.5	-6.4
ARU				pmax	pmax		
	comp=Z,11nm,1.3s						
ARU	**Arti**	**119.57**	**323**	PFAKE		11 52 40.0	+8.0
ARU				LR	LR		
	comp=Z,90nm,19.0s,MS4.4						
CBN	**Corbin**	**121.27**	**58**	PFAKE		11 52 50.0	+14
CBN				LR	LR		
	comp=Z,574nm,19.0s,MS5.2						
NCB	**Newcomb**	**123.83**	**51**	PFAKE		11 52 50.0	+9.3
NCB				LR	LR		
	comp=Z,748nm,19.0s,MS5.4						
HRV	**Harvard--Oak R**	**125.82**	**53**	PFAKE		11 52 50.0	+5.4
HRV				LR	LR		
	comp=Z,656nm,21.0s,MS5.3						
SCHQ	**Schefferville**	**127.13**	**37**	PFAKE		11 53 00.0	+13
SCHQ				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
BDFB	**Brasilia**	**127.61**	**132**	PKP	PKPdf	11 52 46.5	-2.2
	comp=Z,7.0nm,0.9s,baz=318,slow=3.1,SNR=5.4						
BDFB	**Brasilia**	**127.61**	**132**	PKIKP	PKPdf	11 52 46.5	-2.2
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARCES	**ARCESS Array B**	**127.82**	**345**	PKP	PKPdf	11 52 46.0	-1.7
	comp=Z,2.2nm,0.6s,baz=45,slow=1.3,SNR=10						
ARCES	**ARCESS Array B**	**127.82**	**345**	PKIKP	PKPdf	11 52 46.0	-1.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EMMW	**East Machias**	**128.63**	**50**	PFAKE		11 53 00.0	+10
EMMW				LR	LR		
	comp=Z,3µm,19.0s						
TSUM	**Tsumeb**	**130.54**	**216**	PFAKE		11 53 00.0	+5.8
TSUM				LR	LR		
	comp=Z,652nm,19.0s,MS5.3						
BBSR	**BB Station**	**131.31**	**66**	PFAKE		11 53 00.0	+4.6
BBSR				LR	LR		
	comp=Z,328nm,20.0s,MS5.0						
OBN	**Obninsk**	**131.89**	**325**	*i* PKIKP	PKPdf	11 52 53.4	-2.4
OBN				*e*		11 55 14.9	
OBN				*e*SS	SS	12 13 08.8	+18
OBN				pmax	pmax		
	comp=Z,36nm,1.3s						
FINES	**FINESS Array B**	**133.23**	**337**	PKhKP		11 52 52.8	
	comp=Z,3.2nm,1.1s,baz=90,slow=3.8,SNR=5.6						
FINES	**FINESS Array B**	**133.23**	**337**	*i* PKIKP	PKPdf	11 53 01.2	+3.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SOC	**Sochi**	**133.36**	**310**	*i* PKIKP	PKPdf	11 52 56.0	-2.9
SOC				*e*		11 55 26.0	
SOC				*e*SSS	SSS	12 17 58.6	-8.2
SOC				pmax	pmax		
	comp=Z,17nm,1.4s						
SOC				pmax	pmax		
	comp=N,3.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.6s						
MBAR	**Mbarara**	**133.77**	**246**	PFAKE		11 53 10.0	+10
MBAR				LR	LR		
	comp=Z,87nm,22.0s,MS4.4						
ANN	**Anapa**	**134.71**	**312**	*e*PKIKP	PKPdf	11 53 01.7	+0.3
ANN				pmax	pmax		
	comp=Z,43nm,0.9s						
BRTR	**Keskin Array B**	**138.58**	**305**	PKP	PKPdf	11 53 06.6	-2.0
	comp=Z,0.7nm,0.5s,baz=191,slow=6.3,SNR=6.9						
BRTR	**Keskin Array B**	**138.58**	**305**	PKIKP	PKPdf	11 53 06.6	-2.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RCBR	**Riachuelo**	**142.85**	**135**	PFAKE		11 53 30.0	+13
RCBR				LR	LR		
	comp=Z,281nm,19.0s,MS5.0						
OJC	**Ojcow**	**143.13**	**327**	*e*PKIKP	PKPdf	11 53 14.8	-1.5
KECS	**Kecovo**	**143.82**	**324**	*e*PKP	PKPdf	11 53 14.4	-3.1
ALN	**Alexandroupoli**	**143.84**	**310**	*e*P	PKPbc	11 53 14.0	+0.2
OKC	**Ostrava-Krasne**	**144.20**	**328**	*e*PKP	PKPdf	11 53 14.2	-3.9
OKC				*e*		11 54 30.8	
OKC				*e*		11 56 04.9	
OKC				LM		12 43 07.1	
KSP	**Ksiaz**	**144.41**	**330**	*e*PKIKP	PKPdf	11 53 16.0	-2.5
BSEG	**Bad Segeberg**	**144.44**	**339**	*e*PKIKP	PKPdf	11 53 15.8	-2.6
RZN	**Rozhen**	**144.49**	**312**	*i* P	PKPbc	11 53 17.0	+1.4
PGB	**Panagyurishte**	**144.53**	**313**	*i* P	PKPbc	11 53 17.0	+1.3
MORC	**Moravsky Berou**	**144.53**	**328**	*e*PKPdf	PKPdf	11 53 16.1	-2.7
VYHS	**Vyhne**	**144.69**	**325**	*i* PKP	PKPdf	11 53 17.4	-1.7
DPC	**Dobruska-Polom**	**144.73**	**330**	*e*PKP	PKPdf	11 53 16.7	-2.4
DPC				*e*		11 54 40.8	
DPC				*e*		11 57 01.7	
UPC	**Upice**	**144.77**	**330**	*e*PKP	PKPdf	11 53 17.6	-1.6
LOS	**Limnos**	**144.86**	**309**	*e*P	PKPbc	11 53 17.5	+0.8
VTS	**Vitosha**	**145.16**	**314**	*i* P	PKPbc	11 53 19.0	+1.6
BUD	**Budapest**	**145.20**	**324**	⇑*e*PKP/p	PKPbc	11 53 18.9	+1.6
MMB	**Musomiste**	**145.21**	**312**	*i* P	PKPbc	11 53 19.0	+1.4
SRO	**Srobarova**	**145.38**	**325**	*i* PKP	PKPdf	11 53 20.4	+0.1
PVCC	**Panska Ves**	**145.41**	**331**	*e*PKP	PKPdf	11 53 18.6	-1.7
PVCC				*e*		11 54 36.7	
PVCC				*e*		11 55 57.5	
PVCC				LM		12 42 52.7	
SMOL	**Smolenice**	**145.41**	**327**	*e*PKP	PKPdf	11 53 21.2	+0.9
BOLS	**Boljevac**	**145.41**	**317**	⇑*i*P	PKPbc	11 53 19.7	+1.7
BRG	**Berggiesshubel**	**145.43**	**332**	⇑*i*PKIKP	PKPdf	11 53 19.4	-0.9
BRG				*e*		11 53 29.9	
BRG				*i*		11 53 32.9	
BRG				pmax	pmax		
	comp=Z,195nm,1.7s						
BRG				MLR	MLR		
	comp=N,330nm,19.0s,MS5.2						
BRG				MLR	MLR		
	comp=E,240nm,19.0s,MS5.2						
BRG				MLR	MLR		
	comp=Z,460nm,23.5s,MS5.2						
BRG	**Berggiesshubel**	**145.43**	**332**	⇑*i*PKP	PKPdf	11 53 19.4	-0.9
BRG				*e*		11 53 29.9	
BRG				*i*		11 53 32.9	
BRG				*i*		11 53 43.8	
BRG				*e*		11 57 06.1	
BRG				LR	LR		
	comp=Z,460nm,23.5s,MS5.2						
SRS	**Serrai**	**145.49**	**311**	*e*P	PKPbc	11 53 17.9	-0.4
CLL	**Collm**	**145.50**	**334**	⇑*i*PKP1	PKPbc	11 53 19.5	+1.5
CLL				*e*		11 53 57.0	
CLL				*e*PP	PP	11 57 02.0	+20
CLL	**Collm**	**145.50**	**334**	*i* PKP2	PKPab	11 53 19.5	-0.2
CLL				pmax	pmax		
	comp=Z,545nm,2.6s						
OUR	**Ouranopolis**	**145.51**	**310**	*e*P	PKPbc	11 53 19.1	+0.7
KKB	**Krupnik**	**145.54**	**313**	*i* P	PKPbc	11 53 20.0	+1.6
SANT	**Santorini**	**145.62**	**303**	*e*PKPbc	PKPbc	11 53 18.5	-0.3
THR1	**Thera Island**	**145.62**	**303**	*e*P	PKPbc	11 53 19.0	+0.2
SVIS	**Svilajnac**	**145.65**	**318**	⇓*i*P	PKPbc	11 53 20.0	+1.5
THR3	**Thira Island,**	**145.66**	**303**	*e*P	PKPbc	11 53 20.2	+1.4
PKS2	**Kecel**	**145.67**	**322**	⇑*e*P	PKPbc	11 53 21.1	+2.5
THR5	**Thira Island,**	**145.70**	**303**	*e*P	PKPbc	11 53 19.7	+0.8
PKS8	**Sarbogard**	**145.75**	**323**	⇑*e*P	PKPbc	11 53 20.6	+1.9
SOH	**Sokhos**	**145.77**	**311**	*e*P	PKPbc	11 53 19.4	+0.4
ZST	**Bratislava**	**145.78**	**326**	*i* PKP	PKPdf	11 53 21.1	+0.1
BEO	**Belgrade**	**145.86**	**319**	⇓*i*P	PKPbc	11 53 20.9	+1.8
PAIG	**Paliouri**	**145.88**	**309**	*e*P	PKPbc	11 53 19.8	+0.5
KNT	**Kendrikon**	**145.96**	**312**	*e*P	PKPbc	11 53 19.0	-0.4
BARS	**Barje**	**145.97**	**315**	⇑*i*P	PKPbc	11 53 20.0	+0.6
AOS	**Alonnisos**	**146.00**	**308**	*e*P	PKPbc	11 53 20.0	+0.4
VAY	**Valandovo**	**146.12**	**312**	⇓*i*PKP	PKPdf	11 53 17.4	-4.4
THE	**Thessaloniki**	**146.12**	**311**	*e*P	PKPbc	11 53 19.6	-0.3
CLZ	**Clausthal**	**146.12**	**336**	*e*PKP	PKPdf	11 53 21.0	-0.4
VKA	**Vienna**	**146.13**	**327**	⇑*i*PKP	PKPdf	11 53 20.7	-0.9
PKS9	**Tamasi**	**146.14**	**323**	*e*P	PKPbc	11 53 20.9	+1.2
GRUS	**Gruza**	**146.17**	**317**	⇓*i*P	PKPbc	11 53 20.7	+0.8
ESK	**Eskdalemuir**	**146.34**	**352**	*e*PKPbc	PKPbc	11 53 20.6	+0.8
GRG	**Griva**	**146.38**	**312**	*e*P	PKPbc	11 53 20.1	-0.4
XOR	**Xorichti**	**146.43**	**309**	*e*P	PKPbc	11 53 20.9	+0.3
DIVS	**Divcibare**	**146.52**	**318**	⇑*i*P	PKPbc	11 53 20.2	-0.5
NKC	**Novy Kostel**	**146.55**	**333**	*e*PKP	PKPdf	11 53 21.4	-0.8
RHK1	**Bakonya**	**146.55**	**323**	⇑*i*P	PKPbc	11 53 23.3	+2.6
MOX	**Moxa**	**146.58**	**334**	*i* P	PKPbc	11 53 20.9	+0.3
	comp=Z,logA/T=2.1						
MOX	**Moxa**	**146.58**	**334**	*e*PKIKP	PKPdf	11 53 20.9	-1.4
MOX				pmax	pmax		
	comp=Z,310nm,2.6s						
MOX				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.9						
SKO	**Skopje**	**146.61**	**314**	⇑*i*PKP	PKPdf	11 53 21.4	-1.2
	comp=Z,0.1nm,1.2s						
KHC	**Kasperske Hory**	**146.86**	**330**	*e*PKP	PKPdf	11 53 21.5	-1.3
KHC						11 53 23.5	
KHC						11 53 43.0	
GEC2	**GERESS Array S**	**147.01**	**330**	*e*PKP2	PKPab	11 53 24.2	-1.4
GERES	**GERESS Array B**	**147.01**	**330**	PKP	PKPdf	11 53 21.4	-1.6
	comp=Z,9.6nm,1.1s,baz=135,slow=3.8,SNR=37						
GERES				PKPbc	PKPdf	11 53 23.7	+0.6
	comp=Z,9.9nm,1.1s,baz=117,slow=3.0,SNR=26						
GERES	**GERESS Array B**	**147.01**	**330**	PKIKP	PKPdf	11 53 21.4	-1.6
GERES						11 53 23.7	
GERES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GERES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FNA	**Florina**	**147.16**	**312**	*e*P	PKPdf	11 53 21.0	-2.6
WET	**Wettzell**	**147.17**	**331**	*e*PKIKP	PKPdf	11 53 22.1	-1.2
AGG	**Agios Georgios**	**147.18**	**309**	*e*P	PKPdf	11 53 21.2	-2.4
IVA	**Berane**	**147.19**	**316**	⇑*i*PKP	PKPdf	11 53 25.0	+1.4
ARSA	**Arzberg**	**147.21**	**326**	⇓*i*P	PKPdf	11 53 22.3	-1.1
WTSB	**Winterswijk**	**147.25**	**340**	*e*P	PKPdf	11 53 22.8	-0.5
	comp=Z,17nm,0.9s						
PVY	**Plav**	**147.28**	**316**	⇑*i*PKP	PKPdf	11 53 25.8	+2.1
PLE	**Pljevlja**	**147.28**	**317**	⇑*i*PKP	PKPdf	11 53 25.4	+1.7
OHR	**Ohrid**	**147.42**	**313**	*i* PKP	PKPdf	11 53 21.8	-2.1
MOA	**Molln**	**147.43**	**328**	⇑*i*P	PKPdf	11 53 22.2	-1.5
GRA1	**Grafenberg Arr**	**147.47**	**333**	*e*PKP	PKPdf	11 53 22.3	-1.4
GRF	**Grafenberg Arr**	**147.47**	**333**	*e*PKIKP	PKPdf	11 53 22.3	-1.4
UPM	**Unac-Piva**	**147.65**	**318**	⇑*i*PKP	PKPdf	11 53 25.4	+1.1
MEV	**Metsovon**	**147.68**	**310**	*e*P	PKPdf	11 53 23.5	-0.9
GROS	**Grobnik**	**147.73**	**325**	*e*PKPbc	PKPdf	11 53 25.5	+1.2
NKY	**Niksic**	**147.80**	**317**	⇑*i*PKP	PKPdf	11 53 24.9	+0.5
TTG	**Podgorica**	**147.82**	**316**	⇑*i*PKP	PKPdf	11 53 25.8	+1.3
QSH	**Qafa e Shtames**	**147.83**	**314**	*i* p	PKPdf	11 53 17.0	-7.6
BRY	**Bratogost**	**148.04**	**317**	⇑*i*PKP	PKPdf	11 53 26.8	+1.9
ULC	**Ulcinj**	**148.06**	**315**	⇑*i*PKP	PKPdf	11 53 25.6	+0.7
BUM	**Brajici-Budva**	**148.12**	**316**	⇑*i*PKP	PKPdf	11 53 26.1	+1.1
OBKA	**Obir**	**148.20**	**326**	⇓*i*P	PKPdf	11 53 21.9	-3.1
OBKA				*i*		11 53 27.0	
HCY	**Herceg Novi**	**148.30**	**317**	⇑*i*PKP	PKPdf	11 53 27.5	+2.2
IGT	**Igoumenitsa**	**148.41**	**311**	*e*P	PKPdf	11 53 27.6	+2.1
KBA	**Koelnbreinsper**	**148.42**	**328**	⇑*i*P	PKPdf	11 53 27.8	+2.5
VISS	**Visnje**	**148.50**	**325**	*e*PKPbc	PKPdf	11 53 27.9	+2.4
LKD	**Levkas**	**148.51**	**309**	*e*P	PKPdf	11 53 28.4	+2.6
LJU	**Ljubljana**	**148.51**	**325**	*e*PKPdf	PKPdf	11 53 24.3	-1.3
LJU				*e*PKPbc	PKPdf	11 53 27.7	+2.2
HGN	**Heimansgroeve**	**148.56**	**340**	*e*P	PKPdf	11 53 27.1	+1.7
	comp=Z,16nm,2.8s						
VOY	**Vojsko**	**148.85**	**326**	*e*PKPbc	PKPdf	11 53 27.5	+1.4
VOY				*e*		11 53 37.3	
STU	**Stuttgart**	**149.03**	**334**	*e*PKPbc	PKPdf	11 53 28.7	+2.4
GMNA	**Gemona**	**149.03**	**327**	*e*PKP	PKPdf	11 53 24.4	-1.9
FVI	**Forni Avoltri**	**149.03**	**328**	*e*PKP	PKPdf	11 53 28.9	+2.6
WATA	**Walderalm**	**149.08**	**330**	⇑*i*P	PKPdf	11 53 24.8	-1.6
WATA				*i*		11 53 29.4	
WTTA	**Wattenberg**	**149.11**	**330**	⇑*i*P	PKPdf	11 53 24.9	-1.5
WTTA				*i*		11 53 28.5	
MOTA	**Moosalm**	**149.29**	**330**	⇑*i*P	PKPdf	11 53 25.0	-1.8
MOTA				*i*		11 53 29.8	
SQTA	**Sankt Quirin**	**149.34**	**330**	⇑*i*P	PKPdf	11 53 25.4	-1.4
SQTA				*i*		11 53 30.1	
LANF	**Langenberg**	**149.40**	**336**	PKP	PKPdf	11 53 30.7	+3.8
WLF	**Walferdange**	**149.43**	**338**	*e*PKPbc	PKPdf	11 53 30.4	+3.5
GIVF	**Givet**	**149.49**	**340**	*e*PKIKP	PKPdf	11 53 29.5	+2.5
BAIF	**Baives**	**149.72**	**341**	*e*PKIKP	PKPdf	11 53 30.2	+2.9
	comp=Z,173nm,1.7s						
BFO	**Black Forest**	**149.72**	**334**	*e*PKP2	PKPab	11 53 30.8	-5.8
STR	**Strasbourg**	**149.74**	**335**	PKP	PKPdf	11 53 31.7	+4.3
DAVA	**Damuels**	**149.89**	**332**	⇓*i*P	PKPdf	11 53 25.3	-2.4
DAVA				*i*		11 53 31.5	
WLS	**Welschbruch**	**150.04**	**336**	PKP	PKPdf	11 53 31.9	+4.0
CDF	**Champ du Feu**	**150.07**	**336**	*e*PKIKP	PKPdf	11 53 30.9	+3.0
	comp=Z,298nm,1.9s						
ECH	**Echery**	**150.28**	**336**	PKP	PKPdf	11 53 31.9	+3.6
MOF	**Molkenrain**	**150.58**	**335**	PKP	PKPdf	11 53 33.0	+4.3
THEF	**They Montfort**	**150.70**	**337**	PKP	PKPdf	11 53 33.5	+4.6
HINF	**Hinteralfeld**	**150.72**	**335**	*e*PKIKP	PKPdf	11 53 32.3	+3.4
	comp=Z,282nm,1.9s						
HAU	**Haudompre**	**150.76**	**336**	*e*PKIKP	PKPdf	11 53 32.5	+3.5
HAU				*e*R			
	comp=Z,285nm,21.0s						
MEZF	**Maizieres J'vi**	**150.80**	**338**	*e*PKIKP	PKPdf	11 53 33.0	+4.0
	comp=Z,555nm,1.9s						
TIP	**Timpagrande**	**151.05**	**312**	*e*PKPdf	PKPdf	11 53 28.6	-1.2
TIP				*e*PKPbc	PKPdf	11 53 34.4	+4.7
TIP				*e*PKPab	PKPab	11 53 42.8	+0.4
LOMF	**Lomont**	**151.11**	**335**	PKP	PKPdf	11 53 34.7	+5.2
CII	**Carovilli**	**151.31**	**319**	*e*PKP	PKPdf	11 53 35.4	+5.4
AQU	**L'Aquila**	**151.48**	**321**	*e*PKPbc	PKPdf	11 53 35.9	+5.7
CABF	**La Chapelle**	**152.01**	**335**	*e*PKIKP	PKPdf	11 53 36.0	+5.1
FLN	**La Foliniere**	**152.16**	**345**	*e*PKIKP	PKPdf	11 53 35.3	+4.2
FLN				*e*R			
	comp=Z,268nm,19.8s						
LOR	**Lormes**	**152.27**	**338**	*e*PKIKP	PKPdf	11 53 36.0	+4.7
LOR				*e*R			
	comp=Z,392nm,21.5s						
SSF	**Saint Saulge**	**152.57**	**339**	*e*PKIKP	PKPdf	11 53 36.8	+5.1
GRR	**Gorron**	**152.60**	**346**	*e*PKIKP	PKPdf	11 53 36.6	+4.9
LPL	**La Plagne**	**152.63**	**333**	*e*PKIKP	PKPdf	11 53 37.5	+5.7
LPG	**La Plagne**	**152.64**	**333**	*e*PKIKP	PKPdf	11 53 37.6	+5.8
SMF	**Signal de Mont**	**152.82**	**338**	*e*PKIKP	PKPdf	11 53 37.1	+5.1
BNI	**Bardonecchia**	**153.03**	**332**	*e*PKPdf	PKPdf	11 53 30.2	-2.2
BNI				*e*PKPbc	PKPdf	11 53 38.4	+6.0
SGMF	**Saint Gilles**	**153.09**	**348**	*e*PKIKP	PKPdf	11 53 36.8	+4.4
ROSF	**Rostrenen**	**153.14**	**349**	*e*PKIKP	PKPdf	11 53 37.3	+4.9
BGF	**Bois d'Agland**	**153.23**	**339**	*e*PKIKP	PKPdf	11 53 38.0	+5.4
MBDF	**Montbardon**	**153.24**	**332**	*e*PKIKP	PKPdf	11 53 38.2	+5.5
ORIF	**Oris-en-Rattie**	**153.47**	**333**	*e*PKIKP	PKPdf	11 53 37.9	+4.9
ORIF				*e*R			
	comp=Z,266nm,21.5s						
QUIF	**Quistinic**	**153.53**	**349**	*e*PKIKP	PKPdf	11 53 38.1	+5.1
TCF	**Toulx Ste Croi**	**153.68**	**340**	*e*PKIKP	PKPdf	11 53 37.5	+4.3
VIVF	**Saint-Julien-l**	**154.02**	**335**	*e*PKIKP	PKPdf	11 53 38.0	+4.2
MFF	**Saint Martin d**	**154.09**	**343**	*e*PKIKP	PKPdf	11 53 37.5	+3.7
FRF	**La Foret Royal**	**154.21**	**330**	*e*PKIKP	PKPdf	11 53 38.4	+4.3
SMRF	**Simiane la Rot**	**154.36**	**332**	*e*PKIKP	PKPdf	11 53 38.5	+4.3
	comp=Z,43nm,1.3s						
CAF	**Calviac**	**154.93**	**338**	*e*PKIKP	PKPdf	11 53 39.9	+4.9
LASF	**Ste Croix**	**154.99**	**335**	*e*PKIKP	PKPdf	11 53 40.2	+5.1
LFF	**La Frestale**	**155.35**	**340**	*e*PKIKP	PKPdf	11 53 40.2	+4.7
SJPF	**Ste Jean**	**157.60**	**342**	*e*PKIKP	PKPdf	11 53 42.7	+4.1
ESLA	**Sonseca Array**	**161.55**	**343**	PFAKE		11 53 50.0	+6.9
ESLA				LR	LR		
	comp=Z,1µm,19.0s						
LIC	**Lamto**	**163.32**	**200**	*e*PKIKP	PKPdf	11 53 43.5	-2.1
LIC	**Lamto**	**163.32**	**200**	*e*P	PKPab	11 54 34.9	-0.8
	comp=Z,79nm,1.2s						
KIC	**Kosan Boka**	**163.36**	**201**	*e*P	PKPab	11 54 35.6	-0.2
	comp=Z,344nm,1.6s						
DBIC	**Dimbokro**	**163.69**	**201**	PKPab	PKPab	11 54 36.9	-0.4
	comp=Z,23nm,1.2s,baz=153,slow=5.6,SNR=7.3						
DBIC	**Dimbokro**	**163.69**	**201**	PKP2	PKPab	11 54 36.9	-0.4
DBIC				pmax	pmax		
	comp=Z,23nm,1.2s						
DBIC	**Dimbokro**	**163.69**	**201**	PFAKE		11 54 00.0	+14
DBIC				LR	LR		
	comp=Z,524nm,21.0s						

TIC	**Toumodi**	**163.72**	**200**	*e*P	PKPab	11 54 37.1	-0.3
	comp=Z,30nm,0.2s						

IDC 21 11:51:02.5±46.0**,20.18S**×**166.88E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.7**/14**,Error ellipse: s-maj=778.0km s-min=106.4km az=79.0,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.93**	**192**	*e*P	Pn	11 51 29.2	-7.7
DZM				*e*S	Sn	11 51 59.1	-3.0
NOUC	**Port Laguerre**	**1.99**	**196**	*e*P	Pn	11 51 30.9	-6.8
NOUC				*e*S	Sn	11 52 05.5	+1.7
STKA	**Stephens Creek**	**25.46**	**238**	P	P	11 56 32.1	-1.7
	2.2nm,0.8s,baz=61,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**30.54**	**265**	P	P	11 57 18.4	-1.6
	0.3nm,0.7s,baz=93,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**30.75**	**257**	P	P	11 57 18.4	-3.4
	0.5nm,0.8s,baz=83,slow=9.4,SNR=5.7						
FITZ	**Fitzroy Crossi**	**38.94**	**266**	P	P	11 58 31.2	-0.9
	2.5nm,0.7s,baz=90,slow=6.1,SNR=7.3						

IDC 21 11:54:00.2±2.1**,20.99S**×**168.99E,mb4.0**/6**,mb1 4.2**/6**, mb1mx4.0**/14**,Error ellipse: s-maj=106.0km s-min=24.5km az=153.0,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.60**	**245**	*e*P	Pn	11 54 33.3	-11
NOUC	**Port Laguerre**	**2.73**	**246**	*e*P	Pn	11 54 35.0	-11
NOUC				*e*S	Sn	11 55 11.9	-8.4
STKA	**Stephens Creek**	**26.75**	**240**	P	P	11 59 42.0	-1.5
	0.6nm,0.6s,baz=77,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**32.44**	**266**	P	P	12 00 32.4	-2.1
	0.9nm,0.8s,baz=99,slow=7.5,SNR=4.2						
ASAR	**Alice Springs**	**32.52**	**259**	P	P	12 00 32.0	-3.0
	1.0nm,0.8s,baz=83,slow=9.3,SNR=9.0						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	P	P	12 01 44.7	-1.0
	3.9nm,0.6s,baz=171,slow=9.3,SNR=13						
NVAR	**Mina Array Bea**	**90.13**	**49**	P	P	12 07 02.4	-1.4
	1.6nm,1.0s,baz=233,slow=11,SNR=7.9						
ILAR	**Eielson Array**	**91.97**	**17**	P	P	12 07 10.6	-1.0
	0.3nm,0.6s,baz=236,slow=5.3,SNR=9.6						

IDC 21 11:58:21.1±1.3**,11.14N**×**138.68E,mb3.8**/4**,mb1 4.0**/4**, mb1mx3.8**/19**,MS4.3**/3**,Ms1 4.3**/3**,ms1mx3.7**/28**,Error ellipse: s-maj=39.3km s-min=28.9km az=93.0,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.90**	**188**	P	P	12 05 14.9	-1.7
	0.4nm,0.5s,baz=15,slow=13,SNR=8.1						
CMAR	**Chiang Mai Arr**	**39.04**	**286**	P	P	12 05 47.9	-3.6
	1.0nm,0.4s,baz=108,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**59.16**	**318**	P	P	12 08 25.4	-0.7
	1.4nm,0.8s,baz=101,slow=9.0,SNR=12						
URZ	**Urewera**	**60.86**	**146**	LR	LR	12 30 49.3	
	comp=Z,170nm,18.6s,baz=36,slow=32						
ILAR	**Eielson Array**	**73.36**	**26**	P	P	12 09 54.0	-2.3
	0.6nm,0.8s,baz=246,slow=5.4,SNR=14						
AKASG	**Malin Array Be**	**93.43**	**323**	LR	LR	12 54 01.7	
	comp=Z,222nm,21.9s,baz=20,slow=36						
BRTR	**Keskin Array B**	**94.26**	**312**	LR	LR	12 59 23.1	
	comp=Z,124nm,20.5s,baz=95,slow=39						

DJA 21 12:03:44.8±1.0**,8.61S**×**116.00E,h96**^{km}±6^{km}**,MD5.1**/3**, ML3.8**/1**,2C-5D,Error ellipse: s-maj=37.6km s-min=14.5km az=159.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.17**	**43**	⇓*i*Pn	P	12 03 58.1	-0.4
	301nm,0.2s						
KEDI				⇑*i*Sn	S	12 04 08.5	-0.4
RATI	**Rata**	**0.47**	**257**	⇓*i*Pn	P	12 03 59.9	-0.3
	331nm,0.2s						
RATI				⇓*i*Sn	S	12 04 11.1	-0.6
INGI	**Ingas**	**0.86**	**256**	⇓*e*Pn	P	12 04 03.5	-0.3
	195nm,0.2s						
INGI				⇑*i*Sn	S	12 04 16.3	-1.6
KELI	**Kelakatan**	**1.54**	**285**	⇓*i*Pn	P	12 04 11.4	-0.4

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*NIC **21** 12:15:31.9±0.1,35.36N×32.71E,h70^{km},ML2.8,MW2.7*
*ISK **21** 12:15:31.8,35.99N×33.06E,h75^{km},MD3.4*
*NEIC **21** 12:15:31.9,35.36N×32.71E,h70^{km},After NIC.*
ISC 21 12:15:30.1±1.3**,35.73N**±0.05×**32.80E**±0.09**,h41**^{km}±38^{km}**, n8,**σ**0**^{s}**90**/14**,1C,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.60**	**196**	⇑P	**P**	**12 15 42.7**	**+0.5**
	1.7nm,0.1s						
ALFC				S	**S**	**12 15 51.1**	**+0.1**
LEF	**Lefka**	**0.61**	**173**	*e*PG	**S**	**12 15 50.0**	**-1.4**
MAMC	**Mammari**	**0.65**	**149**	P	**P**	**12 15 44.4**	**+1.4**
	6.7nm,0.2s						
MAMC				S	**S**	**12 15 53.9**	**+1.5**
IKL	**Isikli**	**0.88**	**54**	PG	**P**	**12 15 46.2**	**+0.1**
IKL				SG	**S**	**12 15 57.0**	**-0.8**
CSS	**Prodhromos**	**0.88**	**151**	P	**P**	**12 15 46.7**	**+0.5**
	4.0nm,0.1s						
CSS				S	**S**	**12 15 57.4**	**-0.6**
SZAC	**Souni-Zanaja**	**0.98**	**176**	P	**P**	**12 15 46.0**	**-1.5**
	0.4nm,0.3s						
SZAC				S	**S**	**12 15 56.2**	**-4.2**
HDMB	**Hadim**	**1.26**	**348**	*e*PN	**P**	**12 15 51.7**	**+0.2**
HDMB				*e*SN	**S**	**12 16 07.4**	**-0.1**
KONT	**Konya--Tatoy**	**2.24**	**351**	*e*PN	**P**	**12 16 05.8**	**+0.3**

WEL 21 12:20:18.0±0.4**,35.76S**×**179.22E,h33**^{km}**,ML3.6**/1**,Error ellipse: s-maj=6.1km s-min=4.2km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**202**	P*	Pb	12 20 48.6	-4.1
MXZ				S*	Sb	12 21 11.3	-5.5
PUZ	**Puketiti**	**2.44**	**198**	PN	Pn	12 20 55.0	-1.5
PUZ				SN	Sn	12 21 22.1	-3.3
MWZ	**Matawai**	**2.91**	**207**	P*	Pb	12 21 01.8	-7.3
MWZ				S*	Sb	12 21 35.2	-9.3
URZ	**Urewera**	**3.02**	**213**	P*	Pb	12 21 03.7	-7.2
URZ				S*	Sb	12 21 38.8	-8.8
BKZ	**Black Stump Fm**	**4.04**	**212**	*e*P*	Pb	12 21 17.0	-11

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*IDC **21** 12:29:13.2±3.4,20.53S×170.84E,mb3.6/4,mb1 3.9/4, mb1mx3.7/14,Error ellipse: s-maj=240.0km s-min=31.1km az=160.0*
ISC 21 12:29:12.3±1.3**,22.8S**±0.5×**171.57E**±0.10**,h33**^{km}**,n6,** σ**1**^{s}**13**/8**,mb3.6**/4**,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.80**	**278**	*e*P	**P**	**12 30 20.5**	**-3.7**
DZM				*e*S	**S**	**12 31 19.1**	**-0.3**
NOUC	**Port Laguerre**	**4.92**	**277**	*e*P	**P**	**12 30 22.4**	**-3.5**
NOUC				*e*S	**S**	**12 31 23.5**	**+1.0**
ASAR	**Alice Springs**	**34.56**	**261**	P	**P**	**12 36 00.8**	**+0.7**
	2.3nm,1.1s,mb4.0,baz=85,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**34.73**	**268**	P	**P**	**12 36 00.6**	**-1.0**
	0.1nm,0.5s,mb3.0,baz=95,slow=8.4,SNR=7.5						
FITZ	**Fitzroy Crossi**	**43.16**	**267**	P	**P**	**12 37 12.6**	**+0.7**
	1.3nm,0.9s,mb3.7,baz=166,slow=6.8,SNR=5.7						
NVAR	**Mina Array Bea**	**89.54**	**48**	P	**P**	**12 42 08.1**	**+0.3**
	0.5nm,0.8s,mb3.9,baz=216,slow=6.0,SNR=6.7						

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*ZUR **21** 12:30:50.6,48.04N×7.52E,h10^{km},ML2.5/6*
*LEDBW **21** 12:30:51.2±0.1,48.01N×7.53E,h5^{km},ML2.4,Error ellipse: s-maj=1.8km s-min=1.4km az=38.0*
*STR **21** 12:30:51.5±0.1,48.04N×7.50E,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **21** 12:30:51.4±0.5,48.02N×7.52E,h7^{km}±11^{km},ML2.3/2, Error ellipse: s-maj=4.4km s-min=2.2km az=165.0*
*NEIC **21** 12:30:51.5,48.04N×7.50E,h5^{km},ML2.8(LDG), ML2.4(STR),ML2.3(SZGRF),After STR.*
*LDG **21** 12:30:51.4±0.1,48.02N×7.50E,h5^{km},Md2.9/3,Ml2.8/18, Error ellipse: s-maj=1.0km s-min=0.8km az=173.0*
ISC 21 12:30:49.3±0.2**,47.99N**±0.01×**7.46E**±0.02**,h11**^{km}±2^{km}**, n68,**σ**1**^{s}**32**/132**,8C-10D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.18**	**31**	⇑*e*Pg	**Pg**	**12 30 54.7**	**+1.1**
LIBD				Sg	**Sg**	**12 30 57.5**	**+1.2**
LIBD	**Limburg**	**0.18**	**31**	⇑*i*P	**Pg**	**12 30 54.5**	**+1.0**
LIBD				⇑*e*P		12 30 54.7	
LIBD				*e*S	**Sg**	**12 30 57.1**	**+0.7**
MOF	**Molkenrain**	**0.26**	**237**	⇑*i*Pg	**Pg**	**12 30 57.3**	**+2.3**
MOF	**Molkenrain**	**0.26**	**237**	Pg	**Pg**	**12 30 57.1**	**+2.1**
ECH	**Echery**	**0.30**	**318**	⇓*i*Pg	**Pg**	**12 30 57.3**	**+1.6**
ECH				Sg	**Sg**	**12 31 01.5**	**+1.6**
ECH	**Echery**	**0.30**	**318**	Pg	**Pg**	**12 30 57.2**	**+1.5**
ECH				Sg	**Sg**	**12 31 01.7**	**+1.8**
KIZ	**Kirchzarten**	**0.31**	**97**	⇓*i*Pg	**Pg**	**12 30 56.5**	**+0.6**
KIZ				*i* Sg	**Sg**	**12 31 00.1**	**-0.1**
KIZ	**Kirchzarten**	**0.31**	**97**	⇓*i*P	**Pg**	**12 30 56.5**	**+0.6**
KIZ				⇓*i*P		12 30 56.5	
KIZ				*i* S	**Sg**	**12 31 00.1**	**-0.1**
KIZ				*e*S	**Sg**	**12 31 00.1**	**-0.1**
WLS	**Welschbruch**	**0.43**	**350**	⇓*i*Pg	**Pg**	**12 30 59.4**	**+1.3**
WLS				Sg	**Sg**	**12 31 04.8**	**+0.8**
WLS	**Welschbruch**	**0.43**	**350**	Pg	**Pg**	**12 30 59.2**	**+1.1**
WLS				Sg	**Sg**	**12 31 04.6**	**+0.7**
CDF	**Champ du Feu**	**0.44**	**344**	*e*Pg	**Pg**	**12 30 59.3**	**+1.0**
CDF				*e*Sg	**Sg**	**12 31 04.9**	**+0.6**
	57nm,0.3s						
HINF	**Hinteralfeld**	**0.45**	**247**	*e*Pg	**Pg**	**12 31 00.2**	**+1.7**
HINF				*e*Sg	**Sg**	**12 31 06.4**	**+1.8**
	59nm,0.2s						
BOURR	**Bourrignon**	**0.62**	**195**	⇑*i*Pg	**Pg**	**12 31 03.9**	**+2.0**
	17nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.64**	**136**	⇓*i*Pg	**Pg**	**12 31 03.3**	**+1.0**
	2.6nm,0.4s						
SULZ				*i* Sg	**Sg**	**12 31 12.4**	**+1.4**
	2.6nm,0.4s						
BFO	**Black Forest**	**0.67**	**60**	*e*Pg	**Pg**	**12 31 03.0**	**+0.1**
	SNR=24						
BFO				*e*Sg	**Sg**	**12 31 11.7**	**-0.3**
	SNR=4.2						
BFO	**Black Forest**	**0.67**	**60**	*e*Pg	**Pg**	**12 31 02.9**	**0.0**
BFO				*e*Sg	**Sg**	**12 31 11.5**	**-0.5**
BALST	**Balsthal**	**0.68**	**166**	⇓*i*Pg	**Pg**	**12 31 04.4**	**+1.4**
	12nm,0.5s						
SLE	**Schleitheim**	**0.73**	**108**	⇓*i*Pg	**Pg**	**12 31 04.4**	**+0.3**
	10nm,0.3s						
HAU	**Haudompre**	**0.75**	**271**	*e*Pg	**Pg**	**12 31 06.0**	**+1.6**
HAU				*e*Sg	**Sg**	**12 31 15.9**	**+1.4**
	100nm,0.2s						
LOMF	**Lomont**	**0.77**	**214**	⇑*e*Pg	**Pg**	**12 31 06.7**	**+1.8**
LOMF				*i* PmP		12 31 07.7	
LOMF	**Lomont**	**0.77**	**214**	Pg	**Pg**	**12 31 07.4**	**+2.5**
LOMF				Sg	**Sg**	**12 31 19.4**	**+4.1**
FLACH	**Flaach**	**0.86**	**119**	⇓*i*Pg	**Pg**	**12 31 07.2**	**+0.6**
	5.0nm,0.2s						
SPAK	**Spaichingen**	**0.90**	**83**	Pg	**Pg**	**12 31 07.9**	**+0.5**
SPAK				Sg	**Sg**	**12 31 19.5**	**+0.1**
ZUR	**Zurich**	**0.98**	**129**	*e*Pn	**Pn**	**12 31 09.8**	**+0.9**
	2.7nm,0.2s						
LANF	**Langenberg**	**1.01**	**13**	P	**Pb**	**12 31 10.4**	**+2.0**
LANF	**Langenberg**	**1.01**	**13**	Pg	**Pg**	**12 31 10.0**	**+0.3**
LANF				Sg	**Sg**	**12 31 23.5**	**+0.2**
THEF	**They Montfort**	**1.01**	**284**	*e*Pg	**Pg**	**12 31 11.3**	**+1.6**
	SNR=9.7						
THEF				⇑*i*Pn	**Pn**	**12 31 11.4**	**+2.0**
THEF				*e*Sg	**Sg**	**12 31 24.8**	**+1.5**
	SNR=8.6						
THEF				Sn	**Sn**	**12 31 24.9**	**+1.3**
THEF	**They Montfort**	**1.01**	**284**	⇑*i*P	**Pn**	**12 31 11.4**	**+2.0**
THEF	**They Montfort**	**1.01**	**284**	Pg	**Pg**	**12 31 11.1**	**+1.4**
THEF				Sg	**Sg**	**12 31 24.8**	**+1.5**
MSS	**Messtetten**	**1.03**	**79**	P	**Pb**	**12 31 09.6**	**+1.0**
MSS				*e*P		12 31 10.5	
MSS				*e*S	**Sb**	**12 31 22.8**	**+0.9**
SISB	**Singen-Sch Ber**	**1.06**	**106**	⇑*e*Pn	**Pn**	**12 31 11.1**	**+1.1**
SISB				*i* Pg	**Pg**	**12 31 11.3**	**+0.7**
SISB				*e*Sn	**Sn**	**12 31 24.7**	**0.0**
SISB				Sg	**Sg**	**12 31 25.3**	**+0.5**
GUT	**Gutenstein**	**1.11**	**85**	*e*Pn	**Pn**	**12 31 11.8**	**+1.0**
GUT				*e*Pg	**Pg**	**12 31 12.2**	**+0.5**
GUT				Sn	**Sn**	**12 31 25.9**	**-0.2**
GUT				*e*Sg	**Sg**	**12 31 26.3**	**-0.3**
LBG	**Lerchenberg**	**1.12**	**52**	⇓*i*Pn	**Pn**	**12 31 11.7**	**+0.9**
LBG				*e*Sn	**Sn**	**12 31 25.7**	**-0.4**
TUBL	**Tuebingen Lnz**	**1.21**	**63**	*e*Pn	**Pn**	**12 31 13.7**	**+1.6**
TUBL				*e*Sg	**Sg**	**12 31 28.8**	**-0.9**
BRANT	**Les Verrieres**	**1.25**	**213**	⇑*i*Pn	**Pn**	**12 31 14.0**	**+1.3**
	2.8nm,0.3s						
BUCH	**Bad Urach**	**1.35**	**69**	⇑*i*Pn	**Pn**	**12 31 13.9**	**-0.1**
BUCH				*e*Pg	**Pg**	**12 31 16.0**	**-0.3**
BUCH				*e*Sg	**Sg**	**12 31 33.1**	**-1.1**
STU	**Stuttgart**	**1.39**	**55**	*e*Sg	**Sg**	**12 31 34.1**	**-1.8**
	SNR=5.2						
RFYF	**Reffroy**	**1.47**	**296**	*e*Pn	**Pn**	**12 31 19.7**	**+3.8**
	baz=119						
RFYF				*e*Sg	**Sg**	**12 31 37.8**	**-0.6**
	41nm,0.2s,baz=121						
SFTF	**Sexfontaines**	**1.64**	**278**	*e*Pn	**Pn**	**12 31 19.2**	**+0.9**
	baz=113						
SFTF				*e*Sg	**Sg**	**12 31 44.3**	**+0.3**
	26nm,0.3s						
CABF	**La Chapelle**	**1.67**	**215**	*e*Pn	**Pn**	**12 31 19.7**	**+1.0**
CABF				*e*Pg	**Pg**	**12 31 22.6**	**-0.1**
CABF				*e*Sg	**Sg**	**12 31 45.1**	**+0.1**
	9.5nm,0.3s						
MEZF	**Maizieres J'vi**	**1.69**	**288**	*e*Pn	**Pn**	**12 31 20.2**	**+1.2**
MEZF				*e*Pg	**Pg**	**12 31 23.4**	**+0.3**
	baz=109						
MEZF				*e*Sg	**Sg**	**12 31 44.9**	**-0.8**
	25nm,0.3s						
UBR	**Uberruh**	**1.81**	**99**	Pg	**Pg**	**12 31 23.0**	**-2.5**
UBR				Sg	**Sg**	**12 31 48.1**	**-1.6**
UBR	**Uberruh**	**1.81**	**99**	S	**Sg**	**12 31 48.1**	**-1.6**
WLF	**Walferdange**	**1.88**	**333**	*e*Pg	**Pg**	**12 31 26.5**	**-0.5**
	SNR=1.6						
WLF				*e*Sg	**Sg**	**12 31 50.3**	**-1.8**
	SNR=2.4						
ABH	**Alteburg**	**1.89**	**2**	Sg	**Sg**	**12 31 49.4**	**-3.0**
HDH	**Heidenheim**	**1.93**	**71**	*e*Pg	**Pg**	**12 31 26.6**	**-1.3**
HDH				*e*Sg	**Sg**	**12 31 50.6**	**-3.0**
SIND	**Sindeldorf**	**1.97**	**46**	Pg	**Pg**	**12 31 27.8**	**-0.9**
SIND				Sg	**Sg**	**12 31 53.1**	**-1.8**
SIND	**Sindeldorf**	**1.97**	**46**	S	**Sg**	**12 31 53.1**	**-1.8**
LPL	**La Plagne**	**2.53**	**192**	*e*Pg	**Pg**	**12 31 40.5**	**+0.7**
LPL				*e*Sg	**Sg**	**12 32 12.0**	**-1.6**
	2.9nm,0.4s						
LOR	**Lormes**	**2.54**	**255**	*e*Pn	**Pn**	**12 31 31.5**	**+0.3**
LOR				*e*Pg	**Pg**	**12 31 39.4**	**-0.7**
LOR				*e*Sg	**Sg**	**12 32 12.1**	**-1.9**
	11nm,0.2s						
LPG	**La Plagne**	**2.54**	**191**	*e*Pn	**Pn**	**12 31 32.6**	**+1.4**
LPG				*e*Pg	**Pg**	**12 31 39.5**	**-0.7**
LPG				*e*Sg	**Sg**	**12 32 12.9**	**-1.2**
	4.4nm,0.4s						
FUR	**Furstenfeldbru**	**2.56**	**85**	*e*Sg	**Sg**	**12 32 12.4**	**-2.4**
GIVF	**Givet**	**2.73**	**322**	*e*Pn	**Pn**	**12 31 34.9**	**+1.0**
GIVF				*e*Sg	**Sg**	**12 32 17.0**	**-3.4**
	6.2nm,0.3s						
SMF	**Signal de Mont**	**2.81**	**243**	*e*Pg	**Pg**	**12 31 43.7**	**-1.7**
SMF				*e*Sg	**Sg**	**12 32 20.6**	**-2.3**
	10nm,0.3s						
SSF	**Saint Saulge**	**2.84**	**252**	*e*Pn	**Pn**	**12 31 36.2**	**+0.8**
SSF				*e*Pg	**Pg**	**12 31 45.0**	**-1.0**
SSF				*e*Sn	**Sn**	**12 32 08.9**	**-1.0**
SSF				*e*Sg	**Sg**	**12 32 19.7**	**-4.2**
	5.4nm,0.2s						
BAIF	**Baives**	**2.98**	**315**	*e*Pn	**Pn**	**12 31 37.5**	**+0.1**
BAIF				*e*Pg	**Pg**	**12 31 46.5**	**-2.3**
BAIF				*e*Sg	**Sg**	**12 32 23.1**	**-5.4**
	1.9nm,0.2s						
GRF	**Grafenberg Arr**	**3.01**	**54**	*e*Sg	**Sg**	**12 32 23.6**	**-6.0**
AVF	**Avril sur Loir**	**3.04**	**248**	*e*Pn	**Pn**	**12 31 38.1**	**-0.2**
AVF				*e*Pg	**Pg**	**12 31 48.6**	**-1.4**
AVF				*e*Sg	**Sg**	**12 32 27.0**	**-3.6**
	2.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.26**	**200**	*e*Pg	**Pg**	**12 31 52.5**	**-2.0**
HYF	**Humbligny**	**3.34**	**259**	*e*Pg	**Pg**	**12 31 54.1**	**-1.9**
HYF				*e*Sn	**Sn**	**12 32 21.2**	**-1.4**
HYF				*e*Sg	**Sg**	**12 32 37.1**	**-3.5**
BGF	**Bois d'Agland**	**3.45**	**247**	*e*Pg	**Pg**	**12 31 55.9**	**-2.4**
BGF				*e*Sg	**Sg**	**12 32 40.5**	**-3.9**
	9.7nm,0.3s						
MOX	**Moxa**	**3.80**	**44**	*e*P	**Pn**	**12 31 46.0**	**-3.1**
MOX				*e*		12 31 52.0	
MOX				S	**Sn**	**12 32 22.0**	**-12**
TCF	**Toulx Ste Croi**	**3.97**	**246**	*e*Pn	**Pn**	**12 31 49.9**	**-1.6**
TCF				*e*Pg	**Pg**	**12 32 05.6**	**-3.0**
TCF				*e*Sn	**Sn**	**12 32 36.5**	**-2.0**
TCF				*e*Sg	**Sg**	**12 32 57.0**	**-4.5**
	1.9nm,0.2s						
LASF	**Ste Croix**	**4.65**	**214**	*e*Pg	**Pg**	**12 32 17.2**	**-5.0**
RJF	**Les Rejaudoux**	**4.90**	**239**	*e*Pn	**Pn**	**12 32 04.4**	**-0.3**
FLN	**La Foliniere**	**5.35**	**281**	*e*Sg	**Sg**	**12 33 39.3**	**-8.1**
	2.1nm,0.2s						
MFF	**Saint Martin d**	**5.36**	**258**	*e*Sn	**Sn**	**12 33 09.4**	**-4.2**
GRR	**Gorron**	**5.58**	**277**	*e*Pn	**Pn**	**12 32 13.3**	**-1.0**

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*IDC **21** 12:42:53.7±0.8,29.86N×139.25E,h390^{km}±11^{km}, mb3.1/11,mb1 3.2/13,mb1mx3.1/24,Error ellipse: s-maj=29.6km s-min=9.4km az=75.0*
*JMA **21** 12:42:54.1±0.2,29.91N×139.68E,h415^{km},M3.3*
*NEIC **21** 12:42:54.0±1.1,29.88N×139.20E,h393^{km}±12^{km},mb3.4/1, Error ellipse: s-maj=21.9km s-min=10.1km az=77.0*
ISC 21 12:42:53.3±0.5**,29.83N**±0.06×**139.3E**±0.2**,h405**^{km}±7^{km}**, n25,**σ**0**^{s}**68**/30**,mb3.4**/13**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.30**	**7**	P	**P**	**12 44 00.6**	**+0.8**
JHJ	**Hachijo jima 2**	**3.30**	**7**	P	**P**	**12 43 59.6**	**-0.2**
	8.5nm,0.3s,baz=57,slow=22,SNR=16						
JHJ				S	**S**	**12 44 51.8**	**-0.5**
	13nm,0.3s,baz=274,slow=23,SNR=4.8						
CBIJ	**Chichi jima**	**3.70**	**137**	P	**P**	**12 44 03.6**	**+0.2**
	9.8nm,0.3s,baz=290,slow=22,SNR=20						
CBIJ				S	**S**	**12 44 58.4**	**-0.2**
	24nm,0.3s,baz=251,slow=23,SNR=11						
CBIJ	**Chichi jima**	**3.70**	**137**	P	**P**	**12 44 03.3**	**-0.1**
JHHJ	**Haha-jima-NKT**	**4.06**	**141**	P	**P**	**12 44 06.8**	**+0.1**
JHHJ				*e*S	**S**	**12 45 03.9**	**-0.5**
JIM2	**Oshima 3**	**4.88**	**1**	P	**P**	**12 44 15.4**	**+0.5**
BSO1	**Boso 1**	**5.01**	**16**	P	**P**	**12 44 16.1**	**-0.2**
BSO1				*e*S	**S**	**12 45 20.9**	**-0.4**
JIE	**Ise**	**5.07**	**335**	P	**P**	**12 44 18.9**	**+2.1**
JOD2	**Odawara 2**	**5.42**	**358**	P	**P**	**12 44 20.8**	**+0.3**
JRY	**Ryogami san**	**6.18**	**357**	P	**P**	**12 44 28.5**	**-0.2**
JRY				*e*S	**S**	**12 45 44.0**	**+0.2**
MAJO	**Matsushiro**	**6.76**	**352**	*e*P	**P**	**12 44 34.0**	**-1.2**
JMK	**Ichinoseki**	**9.23**	**9**	P	**P**	**12 45 03.8**	**+0.4**
SONM	**Songino Array**	**31.01**	**315**	P	**P**	**12 48 35.0**	**-1.7**
	0.3nm,0.5s,mb2.9,baz=112,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**46.81**	**308**	P	**P**	**12 50 45.5**	**-0.3**
	0.6nm,0.6s,mb3.1,baz=90,slow=10,SNR=6.1						
KURK	**Kurchatov**	**49.29**	**313**	*e*P	**P**	**12 51 03.8**	**-0.8**
	1.7nm,0.9s,mb3.4						
WRA	**Warramunga Arr**	**49.71**	**186**	P	**P**	**12 51 08.4**	**+0.2**
	0.8nm,0.6s,mb3.2,baz=5.1,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**53.44**	**186**	P	**P**	**12 51 36.0**	**+0.3**
	0.4nm,0.8s,mb2.7,baz=11,slow=11,SNR=6.4						
BVAR	**Borovoye Array**	**54.34**	**316**	P	**P**	**12 51 40.9**	**-0.8**
	1.8nm,0.5s,mb3.5,baz=109,slow=6.8,SNR=7.9						
ILAR	**Eielson Array**	**56.55**	**30**	P	**P**	**12 51 57.1**	**+0.1**
	0.3nm,0.9s,mb2.6,baz=235,slow=7.2,SNR=4.5						
STKA	**Stephens Creek**	**61.40**	**178**	P	**P**	**12 52 30.3**	**+0.3**
	0.7nm,0.5s,mb3.3,baz=178,slow=19,SNR=3.3						
ARCES	**ARCESS Array B**	**70.14**	**340**	P	**P**	**12 53 24.9**	**+0.7**
	20nm,1.3s,mb4.5,baz=45,slow=8.6,SNR=6.1						
FINES	**FINESS Array B**	**74.39**	**333**	P	**P**	**12 53 48.9**	**-0.1**
	1.2nm,0.8s,mb3.6,baz=79,slow=9.7,SNR=5.2						
HFS	**Hagfors**	**79.92**	**336**	P	**P**	**12 54 19.1**	**0.0**
	2.2nm,0.8s,mb3.9,baz=90,slow=10,SNR=4.1						
NOA	**NORSAR Array B**	**80.14**	**337**	P	**P**	**12 54 20.1**	**-0.1**
	1.6nm,0.8s,mb3.7,baz=38,slow=3.6,SNR=3.3						
BRTR	**Keskin Array B**	**82.31**	**311**	P	**P**	**12 54 33.0**	**+1.2**
	1.7nm,1.0s,mb3.7,baz=112,slow=6.7,SNR=4.7						

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*NEIC **21** 12:54:03.2,40.82N×21.04E,h18^{km},ML4.2(ATH), ML4.0(THE),ML3.7(PDG),After ATH.*
NEIC Felt [III] at Ohrid, former Yugoslav Republic of Macedonia.
*ATH **21** 12:54:03.2,40.82N×21.04E,h18^{km}±3^{km},MD3.9/15, ML4.2*
*TIR **21** 12:54:05.5,40.67N×20.86E,h17^{km},Ml3.4*
*PDG **21** 12:54:05.9±0.6,40.68N×20.96E,h15^{km}±2^{km}*
*THE **21** 12:54:06.2,40.75N×21.08E,h9^{km},ML4.0*
*IDC **21** 12:54:08.6±2.0,40.69N×20.94E,h54^{km}±30^{km},mb3.3/5, mb1 3.6/10,mb1mx3.4/25,ML3.4/5,Error ellipse: s-maj=36.8km s-min=14.3km az=56.0*
*LDG **21** 12:54:09.0±0.2,40.69N×20.87E,h10^{km},Ml4.1/4,Error ellipse: s-maj=6.1km s-min=3.8km az=50.0*
ISC 21 12:54:04.5±0.3**,40.71N**±0.01×**21.04E**±0.02**,h9**^{km}±2^{km}**, n114,**σ**1**^{s}**35**/162**,mb3.5**/4**,13C-4D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBN	**Korca**	**0.21**	**246**	*e*Pg	**Pg**	**12 54 09.0**	**+0.1**
KBN				*i* Sg	**Sg**	**12 54 12.3**	**+0.4**
FNA	**Florina**	**0.27**	**73**	*e*Pg	**Pg**	**12 54 10.5**	**+0.5**
FNA				*e*Sg	**Sg**	**12 54 15.1**	**+1.4**
BIA	**Bitola**	**0.38**	**35**	*i* Pg	**Pg**	**12 54 11.8**	**-0.4**
BIA				*i* Sg	**Sg**	**12 54 18.2**	**+0.8**
OHR	**Ohrid**	**0.44**	**336**	⇑*i*Pg	**Pg**	**12 54 13.4**	**0.0**
OHR				*i* Sg	**Sg**	**12 54 20.6**	**+1.2**
LSK	**Leskovik**	**0.65**	**211**	*e*Pg	**Pg**	**12 54 17.2**	**-0.4**
LSK				*i* Sg	**Sg**	**12 54 27.4**	**+1.1**
KZN	**Kozani**	**0.69**	**125**	*e*PN	**Pn**	**12 54 18.0**	**-2.1**
TPE	**Tepelena**	**0.89**	**243**	*e*Pg	**Pg**	**12 54 21.0**	**-1.2**
TPE				*i* Sg	**Sg**	**12 54 34.8**	**+0.7**
MEV	**Metsovon**	**0.93**	**171**	*e*Pg	**Pg**	**12 54 23.3**	**+0.1**
MEV				*e*Sg	**Sg**	**12 54 38.7**	**+3.0**
JAN	**Janina**	**1.06**	**188**	*e*PB	**Pb**	**12 54 24.5**	**-0.1**
JAN				*e*SN	**Sn**	**12 54 41.4**	**+1.0**
GRG	**Griva**	**1.06**	**76**	*e*Pg	**Pg**	**12 54 25.2**	**-0.5**
GRG				*e*Sg	**Sg**	**12 54 40.9**	**+0.9**
TIR	**Tirane**	**1.09**	**306**	*i* Pg	**Pg**	**12 54 25.5**	**-0.9**
TIR				*i* Sg	**Sg**	**12 54 43.4**	**+2.4**
QSH	**Qafa e Shtames**	**1.18**	**314**	*i* Pn	**Pn**	**12 54 28.8**	**+1.6**
QSH				*i* Sn	**Sn**	**12 54 47.0**	**+3.5**
IGT	**Igoumenitsa**	**1.29**	**205**	*e*Pb	**Pb**	**12 54 29.2**	**+0.7**
IGT				*e*Sb	**Sb**	**12 54 48.6**	**+3.5**
SKO	**Skopje**	**1.30**	**13**	*i* Pn	**Pn**	**12 54 29.8**	**+0.9**
SKO				*i*		12 54 33.0	
SKO				*i*		12 54 35.5	
SKO				*i* Sg	**Sg**	**12 54 48.2**	**+0.4**
SKO				Lg		12 54 54.5	
VAY	**Valandovo**	**1.31**	**62**	*i* Pn	**Pn**	**12 54 26.5**	**-2.5**
VAY				*i*		12 54 28.3	
VAY				*i* Sg	**Sg**	**12 54 46.7**	**-1.5**
KEK	**Kerkira**	**1.38**	**224**	⇓*i*PN	**Pn**	**12 54 30.8**	**+0.8**
KEK				*e*SN	**Sn**	**12 54 50.6**	**+2.2**
THE	**Thessaloniki**	**1.47**	**92**	*e*Pb	**Pb**	**12 54 31.6**	**+0.1**
KNT	**Kendrikon**	**1.48**	**72**	*e*Pb	**Pb**	**12 54 31.9**	**+0.1**
KNT				*e*Sb	**Sb**	**12 54 50.5**	**-0.1**
PUK	**Puka**	**1.59**	**327**	*e*Pn	**Pn**	**12 54 34.1**	**+1.1**
PUK				*i* Sn	**Sn**	**12 54 58.0**	**+4.2**
SOH	**Sokhos**	**1.76**	**86**	*e*Pb	**Pb**	**12 54 36.5**	**-0.1**
SOH				*e*Sb	**Sb**	**12 54 59.1**	**+0.4**
SDA	**Shkodra**	**1.77**	**320**	*e*Pn	**Pn**	**12 54 37.2**	**+1.5**
SDA				*i* Sn	**Sn**	**12 55 01.0**	**+2.5**
KPJ	**Monastery St.**	**1.80**	**33**	*i* Pn	**Pn**	**12 54 36.9**	**+0.9**
KPJ				*i*		12 54 40.3	
BCI	**Bajram Curri**	**1.81**	**337**	*e*Pn	**Pn**	**12 54 38.0**	**+1.8**
BCI				*i* Sn	**Sn**	**12 55 02.0**	**+2.5**
ULC	**Ulcinj**	**1.84**	**314**	*e*Pn	**Pn**	**12 54 37.2**	**+0.6**
ULC				*e*Sn	**Sn**	**12 55 02.2**	**+1.9**
PLG	**Polygyros**	**1.86**	**100**	*e*PN	**Pn**	**12 54 37.0**	**0.0**
EVR	**Evrytania**	**1.89**	**161**	*e*Pn	**Pn**	**12 54 39.6**	**+2.4**
EVR	**Evrytania**	**1.89**	**161**	*e*PN	**Pn**	**12 54 38.8**	**+1.6**
AGG	**Agios Georgios**	**1.96**	**149**	*e*Pb	**Pb**	**12 54 38.8**	**-1.1**
AGG				*e*Sb	**Sb**	**12 55 05.0**	**+0.6**
SRS	**Serrai**	**1.98**	**77**	*e*Pb	**Pb**	**12 54 38.4**	**-1.8**
LKD	**Levkas**	**2.02**	**189**	*e*Pn	**Pn**	**12 54 41.3**	**+2.1**
LKD				*e*Sn	**Sn**	**12 55 08.3**	**+3.5**
PVY	**Plav**	**2.05**	**337**	⇑*i*Pn	**Pn**	**12 54 41.5**	**+1.9**
PVY				*e*Sn	**Sn**	**12 55 08.8**	**+3.3**
XOR	**Xorichti**	**2.13**	**128**	*e*Pn	**Pn**	**12 54 41.0**	**+0.3**
XOR				*e*Sn	**Sn**	**12 55 09.1**	**+1.5**
PAIG	**Paliouri**	**2.16**	**110**	*e*Pn	**Pn**	**12 54 41.0**	**-0.3**

PAIG				eSn	Sn	12 55 08.2	-0.2
TTG	Podgorica	2.18	323	⇑iPn	Pn	12 54 42.6	+1.1
TTG				eSn	Sn	12 55 11.2	+2.4
NEO	Neokhori	2.19	129	ePn	Pn	12 54 42.6	+1.0
NEO	Neokhori	2.19	129	ePN	Pn	12 54 42.0	+0.4
BARS	Barje	2.19	15	⇓iPn	Pn	12 54 41.8	+0.1
BARS				Sn	Sn	12 55 09.4	+0.3
BUM	Brajici-Budva	2.26	315	⇑iPn	Pn	12 54 43.4	+0.8
BUM				eSn	Sn	12 55 12.5	+1.5
LCI	Lecce	2.26	261	ePn	Pn	12 54 42.5	-0.1
OUR	Ouranopolis	2.27	98	ePn	Pn	12 54 43.0	+0.2
	comp=Z,11nm,0.2s						
OUR				eSn	Sn	12 55 10.3	-1.0
IVA	Berane	2.32	339	⇑iPn	Pn	12 54 44.9	+1.3
IVA				eSn	Sn	12 55 15.2	+2.6
VLS	Valsamata	2.55	188	ePn	Pn	12 54 48.0	+1.2
VLS	Valsamata	2.55	188	ePN	Pn	12 54 47.2	+0.4
HCY	Herceg Novi	2.58	313	⇑iPn	Pn	12 54 47.5	+0.3
HCY				eSn	Sn	12 55 20.2	+1.2
NKY	Niksic	2.60	325	⇑iPn	Pn	12 54 48.0	+0.5
NKY				eSn	Sn	12 55 21.4	+1.9
BRY	Bratogost	2.88	320	⇑iPn	Pn	12 54 51.8	+0.4
BRY				eSn	Sn	12 55 27.5	+0.9
PLE	Pljevlja	2.89	335	⇑iPn	Pn	12 54 53.5	+1.8
PLE				eSn	Sn	12 55 29.4	+2.4
BRT	Bari-Castellan	2.92	275	ePn	Pn	12 54 52.6	+0.6
UPM	Unac-Piva	2.96	328	⇑iPn	Pn	12 54 53.6	+1.0
UPM				eSn	Sn	12 55 30.3	+1.7
NVSS	Nova Varos 2	2.97	341	⇓iPn	Pn	12 54 53.9	+1.1
NVSS				Sn	Sn	12 55 30.0	+1.1
MKIT	Kithairon Oros	3.05	145	ePN	Pn	12 54 54.0	+0.1
LOS	Limnos	3.19	103	ePn	Pn	12 54 55.3	-0.5
GRUS	Gruza	3.19	356	⇓iPn	Pn	12 54 55.7	-0.1
GRUS				Sn	Sn	12 55 34.0	-0.4
BOLS	Boljevac	3.19	12	⇑iPn	Pn	12 54 56.2	+0.3
MPAR	Parnis Oros	3.30	140	ePN	Pn	12 54 57.5	+0.1
NSAL	Nisos Salamina	3.37	145	ePN	Pn	12 54 58.0	-0.5
ATH	Athens Observa	3.43	142	ePn	Pn	12 55 00.5	+1.2
ATH	Athens Observa	3.43	142	ePN	Pn	12 54 58.5	-0.8
PTL	Penteli	3.44	140	ePN	Pn	12 55 00.0	+0.5
DIVS	Divcibare	3.48	347	ePn	Pn	12 54 58.8	-1.1
DIVS				Sn	Sn	12 55 43.2	+1.4
NAIG	Nisos Aigina	3.51	146	ePN	Pn	12 55 00.0	-0.4
ORI	Oriolo Calabro	3.56	261	ePn	Pn	12 55 01.0	-0.2
SVIS	Svilajnac	3.59	2	⇑iPn	Pn	12 55 00.4	-1.2
ITM	Ithomi	3.59	169	ePN	Pn	12 55 03.5	+1.9
TIP	Timpagrande	3.63	246	eP	Pn	12 55 00.8	-1.3
ALN	Alexandroupoli	3.81	86	ePn	Pn	12 55 05.3	+0.7
ALN				eSn	Sn	12 55 50.3	+0.2
FGMS	Monte Sant'Ang	3.96	286	ePn	Pn	12 55 05.8	-1.1
GRI	Girifalco	4.03	244	ePn	Pn	12 55 07.0	-0.8
SLCN	Sala Consilina	4.13	267	ePn	Pn	12 55 08.7	-0.5
SLCN				eSn	Sn	12 55 57.6	-0.7
BEO	Belgrade	4.13	354	⇑iPn	Pg	12 55 26.2	-0.8
MRLC	Muro Lucano	4.22	272	ePn	Pn	12 55 11.1	+0.6
MGR	Morigerati	4.23	264	ePn	Pn	12 55 10.3	-0.3
RGNG	Rignano Grg	4.23	285	ePn	Pn	12 55 09.3	-1.4
VLI	Veliai	4.25	159	ePN	Pn	12 55 13.0	+2.0
SGO	Sicignano	4.36	270	ePn	Pn	12 55 11.7	-0.8
CSSN	Cassano Irpino	4.57	274	ePn	Pn	12 55 15.6	+0.1
SCLL	Scilla	4.79	241	ePn	Pn	12 55 17.3	-1.3
APE	Apeiranthos	5.05	135	ePn	Pn	12 55 23.2	+0.9
CII	Carovilli	5.18	283	eP	Pn	12 55 23.3	-0.8
	16nm,0.4s						
RHK1	Bakonya	5.80	339	eP	Pn	12 55 32.7	-0.2
	1.1nm,0.3s						
RHK1				eS	Sn	12 56 38.8	-1.6
AQU	L'Aquila	5.96	289	eP	Pn	12 55 34.2	-1.0
	29nm,0.9s						
MLR	Muntele Rosu	5.98	35	P	Pn	12 55 35.9	+0.5
	0.6nm,0.3s,baz=147,slow=19,SNR=4.0						
IDI	Anoyia	6.21	149	P	Pn	12 55 39.6	+1.0
	0.7nm,0.3s,baz=45,slow=11,SNR=2.6						
IDI				S	Sn	12 56 46.9	-3.6
	1.3nm,0.3s,baz=102,slow=19,SNR=3.7						
VOY	Vojsko	7.44	318	ePn	Pn	12 55 53.9	-2.1
VOY				eSn	Sn	12 57 15.3	-6.1
GERES	GERESS Array B	9.66	330	P	P	12 56 24.6	-2.1
	0.2nm,0.3s,baz=153,slow=14,SNR=8.3						
GERES				S	Sn	12 58 09.1	-7.4
	0.2nm,0.3s,baz=151,slow=22,SNR=3.2						
BRTR	Keskin Array B	9.69	92	S	Sn	12 58 15.7	-1.6
	baz=287,slow=24,SNR=2.1						
KHC	Kasperske Hory	9.94	330	eP	P	12 56 29.0	-1.6
DAVOX	Davos	10.10	311	P	P	12 56 31.5	-1.2
	0.5nm,0.3s,baz=131,slow=15,SNR=4.3						
FRF	La Foret Royal	11.06	290	ePn	P	12 56 43.7	-2.3
LMR	La Mourre	11.12	288	ePn	P	12 56 44.0	-2.8
MBDF	Montbardon	11.24	296	ePn	P	12 56 44.5	-3.8
MBDF				eSn	S	12 58 41.9	-13
	9.6nm,0.6s						
LPG	La Plagne	11.49	299	ePn	P	12 56 49.4	-2.3
LPL	La Plagne	11.51	299	ePn	P	12 56 49.8	-2.2
LPL				eSn	S	12 58 47.9	-14
	7.4nm,0.4s						
ORIF	Oris-en-Rattie	11.90	296	ePn	P	12 56 54.7	-2.6
CABF	La Chapelle	12.32	304	ePn	P	12 57 00.2	-2.8
HINF	Hinteralfeld	12.39	310	eSn	S	12 59 11.3	-12
	2.5nm,0.4s						
CDF	Champ du Feu	12.46	313	ePn	P	12 57 01.8	-3.1
VIVF	Saint-Julien-l	12.72	294	ePn	P	12 57 06.3	-2.0
HAU	Haudompre	12.78	310	ePn	P	12 57 06.9	-2.3
SMF	Signal de Mont	13.78	301	ePn	P	12 57 17.8	-4.5
LOR	Lormes	13.99	304	ePn	P	12 57 23.0	-2.0
LOR				eSn	S	12 59 46.2	-15
	4.1nm,0.4s						
SSF	Saint Saulge	14.14	303	ePn	P	12 57 23.9	-3.1
AVF	Avril sur Loir	14.14	301	ePn	P	12 57 25.0	-2.1
BGF	Bois d'Agland	14.40	300	ePn	P	12 57 29.2	-1.3
HYF	Humbligny	14.76	302	ePn	P	12 57 33.8	-1.4
FLN	La Foliniere	17.24	305	ePn	P	12 58 07.0	0.0
HFS	Hagfors	19.98	349	P	P	12 58 36.8	-3.0
	0.0nm,0.3s,baz=156,slow=14,SNR=3.8						
FINES	FINESS Array B	20.99	7	P	P	12 58 47.0	-3.3
	0.6nm,0.6s,baz=180,slow=11,SNR=4.8						
NB2	NORSAR Subarra	21.23	347	P	P	12 58 49.2	-3.6
	1.1nm,0.5s,mb3.4,baz=152,slow=10						
NOA	NORSAR Array B	21.23	347	P	P	12 58 49.7	-3.1
	1.0nm,0.7s,mb3.2,baz=157,slow=11,SNR=2.8						
NOA	NORSAR Array B	21.23	347	P	P	12 58 49.7	-3.1
EKA	Eskdalemuir Ar	21.66	321	P	P	12 58 54.9	-2.2
	2.1nm,0.8s,mb3.6,baz=117,slow=11,SNR=4.6						
ARCES	ARCESS Array B	28.99	3	P	P	13 00 02.4	-3.8
	2.6nm,0.9s,mb4.0,baz=194,slow=10.0,SNR=8.2						
MKAR	Makanchi Array	43.67	61	P	P	13 02 08.9	-2.1
	0.2nm,0.4s,mb3.2,baz=295,slow=6.7,SNR=2.9						

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*ATH **21** 12:57:03.4, 40.77N×21.08E, h10^{km}, MD3.0/3*
*THE **21** 12:57:05.1, 40.68N×21.04E, h10^{km}, ML2.8*
*NEIC **21** 12:57:05.1, 40.68N×21.04E, h10^{km}, MD3.0(ATH), ML2.8(THE), After THE.*

ISC 21 12:57:04.8±0.8, 40.72N±0.04×21.06E±0.07, h10^{km}, n11, σ1^{s}11/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	Florina	0.25	74	ePg	Pg	12 57 10.6	+0.5
FNA				eSg	Sg	12 57 15.5	+1.9
BIA	Bitola	0.36	33	i Pg	Pg	12 57 10.9	-1.4
BIA				i Sg	Sg	12 57 17.2	-0.1
KZN	Kozani	0.68	127	ePB	Pb	12 57 17.0	-1.2
MEV	Metsovon	0.94	172	ePg	Pg	12 57 22.1	-1.4
	comp=Z,11nm,0.2s						
MEV				eSg	Sg	12 57 36.0	-0.2
GRG	Griva	1.04	76	ePg	Pg	12 57 24.5	-1.3
JAN	Janina	1.07	189	ePB	Pb	12 57 24.5	-0.4
IGT	Igoumenitsa	1.31	206	ePb	Pb	12 57 29.3	+0.3
IGT				eSb	Sb	12 57 46.8	+1.2
KEK	Kerkira	1.39	224	ePB	Pb	12 57 30.5	+0.1
KNT	Kendrikon	1.46	72	ePb	Pb	12 57 32.0	+0.4
	comp=Z,2.9nm,0.1s						
KNT				eSb	Sb	12 57 53.3	+3.1
AGG	Agios Georgios	1.95	150	ePb	Pb	12 57 38.4	-1.6
	comp=Z,2.0nm,0.1s						
AGG				eSb	Sb	12 58 04.0	-0.4
LKD	Levkas	2.03	189	ePn	Pn	12 57 40.4	+0.9
	comp=Z,2.5nm,0.4s						
LKD				eSn	Sn	12 58 06.6	+1.5

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*THR **21** 13:53:15.9±0.8, 35.49N×49.43E, h46^{km}±10^{km}, ML4.3*
*NEIC **21** 13:53:18.1±0.5, 35.43N×49.46E, h10^{km}, mb4.5/9, Error ellipse: s-maj=13.1km s-min=5.8km az=183.0*
*IDC **21** 13:53:19.1±5.5, 35.48N×49.44E, h16^{km}±32^{km}, mb3.9/16, mb1 4.1/17, mb1mx4.0/26, ML3.5/1, MS3.5/5, Ms1 3.6/5, ms1mx3.1/24, Error ellipse: s-maj=31.4km s-min=14.6km az=7.0*
*MOS **21** 13:53:20.9±1.6, 35.61N×49.53E, h33^{km}, mb4.2/10, Error ellipse: s-maj=22.2km s-min=13.7km az=122.7*
*NNC **21** 13:53:32.3±14.0, 36.15N×50.29E, h49^{km}±105^{km}, Error ellipse: s-maj=125.2km s-min=61.8km az=81.0*

ISC 21 13:53:15.9±0.3, 35.38N±0.05×49.44E±0.04, h10^{km}, n67, σ1^{s}11/68, mb4.2/31, MS3.5/5, 4C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAO	Ashtian	0.96	149	i PG	Pg	13 53 36.8	+1.7
ASAO				AMP		13 53 57.1	
	comp=N,3µm,0.9s						
THKV	Tehran--Karaj	1.29	65	i PG	Pg	13 53 39.6	-2.2
THKV				eSG	Sg	13 53 57.6	-1.5
THKV				AMP		13 54 03.5	
	comp=N,8µm,0.5s						
SNGE	Sanandaj	1.73	261	i PG	Pg	13 53 48.0	-2.6
SNGE				AMP		13 54 15.4	
	comp=N,2µm,0.5s						
DAMV	Damavand	2.08	82	i PG	Pg	13 53 53.2	-4.3
DAMV				AMP		13 54 25.3	
	comp=N,3µm,0.5s						
MAKU	Maku	5.49	318	ePN	Pn	13 54 34.9	-4.8
GNI	Garni	6.04	323	Pg	Pg	13 55 06.7	-10
	comp=N,1.7nm,0.3s,baz=172,slow=8.7,SNR=9.3						
GNI				Lg		13 56 27.5	
	baz=208,slow=11,SNR=1.5						
HILS	Ha'il	10.30	221	P	P	13 55 46.0	-0.8
HILS				S	S	13 57 37.1	-6.4
ASF	Jabal al Asfar	10.91	257	LR	LR	14 01 03.1	
	comp=N,210nm,18.2s,baz=122,slow=42						
SOC	Sochi	11.11	320	eP	P	13 55 50.5	-7.4
SOC				pmax	pmax		
	comp=Z,15µm,0.8s						
MZLS	Mizel	11.89	199	P	P	13 56 06.3	-2.3
AFFS	'Afif	12.70	208	P	P	13 56 16.4	-3.1
BRTR	Keskin Array B	13.26	294	Pn	P	13 56 30.4	+3.5
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=5.0						
AB31	Akbulak array	15.88	26	⇑P	P	13 56 60.0	-1.0
	comp=Z,1.9nm,0.7s,baz=214,slow=12,SNR=12						
AB31				⇓S	S	13 59 43.6	-14
	comp=Z,1.8nm,0.6s,baz=213,slow=24,SNR=4.8						
KK31	Karatay Array	18.03	58	⇑P	P	13 57 26.9	-1.2
	comp=Z,2.1nm,0.7s,baz=254,slow=6.1,SNR=7.7						
IDI	Anoyia	20.02	277	P	P	13 57 52.1	+0.4
	comp=Z,20nm,0.8s,baz=75,slow=9.5,SNR=11						
MLR	Muntele Rosu	20.47	307	P	P	13 57 57.3	+0.9
	comp=Z,3.7nm,0.6s,baz=123,slow=8.0,SNR=9.4						
MLR	Muntele Rosu	20.47	307	P	P	13 57 57.3	+0.9
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	Arti	21.96	14	⇓iP	P	13 58 11.5	+0.1
ARU				e		13 58 47.1	
ARU				eS	S	14 02 38.2	+30
ARU				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
ARU				MLR	MLR		
	comp=Z,90nm,16.5s,MS3.3						
ARU				MLR	MLR		
	comp=N,50nm,19.0s,MS3.3						
ARU				MLR	MLR		
	comp=E,100nm,18.5s,MS3.3						
ARU	Arti	21.96	14	eP	P	13 58 11.4	+0.1
	comp=E,11nm,0.8s,mb4.3						
ZRNK	Zerenda	22.36	32	⇑P	P	13 58 12.1	-3.4
	comp=E,5.5nm,1.1s,mb3.9						
BRVK	Borovoye	23.00	33	eP	P	13 58 22.6	+0.9
	comp=E,7.1nm,1.1s,mb4.0						
BVA0	Borovoye Array	23.03	34	P	P	13 58 23.2	+1.3
	comp=E,1.0nm,0.8s,mb3.3,baz=215,slow=3.5,SNR=14						
BVAR	Borovoye Array	23.03	34	P	P	13 58 22.9	+1.0
	comp=E,11nm,1.2s,mb4.2,baz=217,slow=7.4,SNR=9.5						
VOSK	Vostochnaya	23.10	35	⇑P	P	13 58 24.0	+1.4
	comp=E,11nm,2.1s,mb3.9						
KURK	Kurchatov	26.04	45	P	P	13 58 51.9	+1.0
	comp=E,13nm,0.8s,mb4.5,baz=223,slow=7.3,SNR=14						
KURK	Kurchatov	26.04	45	eP	P	13 58 51.5	+0.6
	comp=E,7.5nm,0.8s,mb4.3						
OJC	Ojcow	26.11	314	eP	P	13 58 55.3	+3.9
MK31	Makanchi Array	27.07	55	P	P	13 59 00.8	+0.4
	comp=E,2.8nm,1.0s,mb3.8,baz=242,slow=4.3,SNR=9.3						
MKAR	Makanchi Array	27.07	55	P	P	13 59 01.0	+0.7
	comp=E,1.1nm,0.8s,mb3.5,baz=244,slow=5.2,SNR=8.4						
MKAR	Makanchi Array	27.07	55	P	P	13 59 01.0	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	27.07	55	P	P	13 59 01.0	+0.7
GERES	GERESS Array B	29.44	308	P	P	13 59 21.8	+0.1
	comp=Z,0.3nm,0.3s,mb3.5,baz=106,slow=9.7,SNR=5.7						
GERES				PcP	PcP	14 02 27.1	-0.6
	comp=Z,0.2nm,0.3s,baz=90,slow=2.7,SNR=4.7						
KOLN	Koldanda	29.97	95	eP	P	13 59 35.4	+8.7
FINES	FINESS Array B	30.01	338	P	P	13 59 25.3	-1.4
	comp=Z,1.5nm,0.6s,mb3.9,baz=143,slow=9.5,SNR=6.1						
FINES				LR	LR	14 12 22.1	
	comp=Z,70nm,19.2s,MS3.3,baz=131,slow=38						
FINES	FINESS Array B	30.01	338	P	P	13 59 25.3	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,70nm,19.2s						
GKN	Gorkha	30.72	94	eP	P	13 59 34.0	+0.7
	comp=Z,12nm,0.7s,mb4.9						
ZAL	Zalesovo	30.81	42	P	P	13 59 33.2	-0.7
	comp=Z,0.8nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=5.1						
ZAL	Zalesovo	30.81	42	P	P	13 59 33.2	-0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	30.81	42	P	P	13 59 33.2	-0.7
DMN	Daman	31.26	94	eP	P	13 59 38.9	+0.8
	comp=Z,14nm,0.7s,mb4.9						
KKN	Kakani	31.33	94	eP	P	13 59 37.3	-1.4
	comp=Z,9.4nm,0.6s,mb4.8						
PKI	Pulchoki	31.52	94	eP	P	13 59 41.2	+0.8
	comp=Z,12nm,0.8s,mb4.8						
DAVOX	Davos	31.61	303	P	P	13 59 40.6	-0.4
	comp=Z,3.1nm,0.7s,mb4.2,baz=131,slow=9.3,SNR=4.4						
SBF	Sospel	33.15	298	eP	P	13 59 54.2	-0.2
MBDF	Montbardon	33.64	299	eP	P	13 59 58.7	0.0
	comp=Z,30nm,0.9s,mb4.9						
LPG	La Plagne	33.67	301	eP	P	14 00 00.0	+1.0
	comp=Z,15nm,0.8s,mb4.7						
LPL	La Plagne	33.69	301	eP	P	14 00 00.7	+1.6
	comp=Z,21nm,1.2s,mb4.7						
HFS	Hagfors	33.80	328	P	P	13 59 58.4	-1.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=135,slow=8.2,SNR=5.9						
HFS	Hagfors	33.80	328	P	P	13 59 58.4	-1.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CABF	La Chapelle	34.19	303	eP	P	14 00 03.0	-0.4
VIVF	Saint-Julien-l	35.13	300	eP	P	14 00 11.2	-0.3
	comp=Z,7.6nm,0.7s,mb4.4						
NOA	NORSAR Array B	35.32	329	P	P	14 00 11.8	-1.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=109,slow=9.5,SNR=3.6						
NOA				LR	LR	14 16 05.2	
	comp=Z,42nm,18.3s,MS3.2,baz=185,slow=39						
NOA	NORSAR Array B	35.32	329	P	P	14 00 11.8	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,42nm,18.3s						
LSA	Lhasa	35.43	87	P	P	14 00 14.3	+0.1
	comp=Z,8.2nm,0.8s,mb4.7						
TCF	Toulx Ste Croi	36.86	302	eP	P	14 00 27.3	+1.2
MFF	Saint Martin d	38.49	302	eP	P	14 00 39.9	+0.1
EKA	Eskdalemuir Ar	40.83	316	P	P	14 01 00.2	+1.2
	comp=Z,2.7nm,0.8s,mb3.9,baz=90,slow=9.2,SNR=6.1						
EKA	Eskdalemuir Ar	40.83	316	P	P	14 01 00.3	+1.2
EKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ESDC	Sonseca Array	42.05	292	P	P	14 01 08.4	-0.8
	comp=Z,2.4nm,0.7s,mb3.9,baz=68,slow=8.0,SNR=9.5						
SONM	Songino Array	43.44	55	P	P	14 01 20.4	-0.1
	comp=Z,0.3nm,0.5s,mb3.3,baz=263,slow=12,SNR=2.4						
CM31	Chiang Mai Arr	46.76	98	P	P	14 01 48.1	+0.7
	comp=Z,3.3nm,0.6s,mb4.4						
CMAR	Chiang Mai Arr	46.76	98	P	P	14 01 47.7	+0.3
	comp=Z,3.6nm,0.7s,mb4.4,baz=294,slow=8.0,SNR=17						
CMAR				LR	LR	14 24 00.9	
	comp=Z,53nm,20.0s,MS3.5,baz=137,slow=39						
CMAR	Chiang Mai Arr	46.76	98	P	P	14 01 47.7	+0.3
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,53nm,20.0s						
ILAR	Eielson Array	79.36	7	P	P	14 05 23.3	+0.4
	comp=Z,0.5nm,0.8s,mb3.5,baz=343,slow=5.1,SNR=6.2						
ILAR	Eielson Array	79.36	7	P	P	14 05 23.3	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FITZ	Fitzroy Crossi	89.58	113	P	P	14 06 16.0	+0.6
	comp=Z,1.5nm,0.8s,mb4.4,baz=333,slow=16,SNR=5.3						
NEW	Newport	95.87	351	LR	LR	14 52 03.2	
	comp=Z,58nm,20.2s,MS4.0,baz=159,slow=37						

WEL 21 14:23:53.1±0.1, 37.06S×177.42E, h142^{km}±1^{km}, ML3.5/2, 2C, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.87	126	PN	P	14 24 15.9	-0.3
MXZ				SN	S	14 24 33.6	-0.5
PUZ	Puketiti	1.21	147	⇑PN	P	14 24 19.0	-0.4
PUZ				SN	S	14 24 38.2	-1.4
URZ	Urewera	1.22	192	⇑PN	P	14 24 19.3	-0.2
URZ				SN	S	14 24 39.1	-0.6
URZ				SN	S	14 24 39.3	-0.5
MWZ	Matawai	1.28	176	PN	P	14 24 19.7	-0.3
MWZ				SN	S	14 24 40.2	-0.6
MWZ				SN	S	14 24 40.2	-0.5
KNZ	Kokohu	1.97	174	ePN	P	14 24 26.9	-0.8
KNZ				SN	S	14 24 53.3	-0.9
BKZ	Black Stump Fm	2.23	199	PN	P	14 24 30.2	-0.8
WCZ	Waipu Caves	2.72	293	PN	P	14 24 37.4	+0.1
PWZ	Pawanui	3.00	188	ePN	P	14 24 38.5	-2.4
PWZ				SN	S	14 25 13.9	-3.3
TSZ	Takapari Road	3.21	200	ePN	P	14 24 41.1	-2.5
MRZ	Mangatainoka R	3.87	201	ePN	P	14 24 48.8	-3.6
MRZ				SN	S	14 25 32.3	-5.6
TUWZ	Tuamarina	5.13	211	SN	S	14 26 00.6	-7.2
NNZ	Nelson	5.21	216	ePN	P	14 25 05.7	-4.4
THZ	Tophouse	5.86	215	ePN	P	14 25 13.8	-5.0
THZ				SN	S	14 26 19.3	-5.9
MQZ	McQueen's Vall	7.57	207	SN	S	14 26 54.6	-12

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*IDC **21** 15:37:47.5±7.2, 20.80S×178.22W, h388^{km}±70^{km}, mb3.2/5, mb1 3.5/6, mb1mx3.3/15, Error ellipse: s-maj=39.1km s-min=25.8km az=39.0*
*NEIC **21** 15:37:50.2±4.0, 20.98S×178.29W, h420^{km}±41^{km}, mb3.8/7, Error ellipse: s-maj=28.5km s-min=17.9km az=47.0*

ISC 21 15:37:50.1±6.1, 21.0S±0.2×178.4W±0.2, h430^{km}±64^{km}, n20, σ0^{s}96/14, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	17.65	192	P	P	15 41 30.6	+0.5
	1.3nm,0.3s,baz=226,slow=4.8,SNR=6.7						
CTAO	Charters Tower	33.12	265	eP	P	15 43 48.4	-1.7
	2.0nm,0.8s,mb3.5						
PMG	Port Moresby	35.14	284	eP	P	15 44 07.8	+0.6
	18nm,0.9s,mb4.4						
STKA	Stephens Creek	37.28	245	P	P	15 44 25.2	+0.3
ASAR	Alice Springs	44.09	257	P	P	15 45 20.6	+0.7
	0.7nm,0.7s,mb3.1,baz=97,slow=7.4,SNR=7.4						
ASAR				PcP	PcP	15 46 56.4	-0.4
	0.4nm,0.6s,baz=105,slow=3.7,SNR=5.5						
WRAB	Tennant Creek	44.20	263	P	P	15 45 19.9	-1.0
	18nm,1.4s,mb4.2						
WRA	Warramunga Arr	44.21	263	P	P	15 45 20.9	0.0
	0.4nm,0.3s,mb3.2,baz=96,slow=7.5,SNR=24						
VNDA	Vanda	57.39	185	P	P	15 46 58.1	+0.7
	0.6nm,0.7s,mb3.0,baz=1.6,slow=8.3,SNR=8.0						
VNDA	Vanda	57.39	185	eP	P	15 46 57.6	+0.2
	0.8nm,0.7s,mb3.2						
QSPA	South Pole Qui	69.08	180	eP	P	15 48 12.7	+0.3
	2.9nm,0.7s,mb4.0						
MCK	McKinley	87.52	13	P	P	15 49 51.1	-0.2
	1.3nm,0.7s,mb3.8						
SNAA	Sanae	87.53	179	eP	P	15 49 49.7	-1.6
	0.7nm,0.7s,mb3.5						
ILAR	Eielson Array	88.86	13	P	P	15 49 57.5	-0.1
	0.9nm,0.5s,mb3.8,baz=218,slow=5.4,SNR=8.3						
CMAR	Chiang Mai Arr	89.97	290	P	P	15 50 06.3	+2.5
	1.0nm,0.7s,mb3.7,baz=126,slow=4.1,SNR=6.8						
MKAR	Makanchi Array	111.30	313	PKiKP		15 55 35.0	
	0.4nm,0.6s,baz=206,slow=1.3,SNR=6.3						
ARCES	ARCESS Array B	129.34	349	PKP	PKPdf	15 56 08.4	+0.4
	2.5nm,1.0s,baz=45,slow=1.7,SNR=6.2						
FINES	FINESS Array B	136.15	343	PKP	PKPdf	15 56 23.3	+2.4
	1.5nm,0.8s,baz=45,slow=2.7,SNR=3.7						
BRTR	Keskin Array B	146.92	312	PKPbc	PKPbc	15 56 44.2	+1.7
	0.9nm,0.5s,baz=116,slow=2.3,SNR=6.0						
CLL	Collm	148.47	346	ePKP1	PKPdf	15 56 48.0	+5.6
CLL				ePKP2	PKPab	15 56 53.0	-0.9
GERES	GERESS Array B	150.58	344	PKPbc	PKPdf	15 56 52.8	+7.0
	1.3nm,0.9s,baz=27,slow=3.0,SNR=7.5						

MAN 21 15:46:06.0, 11.43N×122.14E, h10^{km}, mb4.0, ML2.8, MS2.5, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALP	Kalibo	0.31	37	eP	Pg	15 46 13.5	+1.0
KALP				eS	Sg	15 46 19.6	+2.7
RCP	Roxas	0.60	77	⇓eP	Pb	15 46 16.9	-1.3
GUIM	Jordan	0.91	151	eP	Pb	15 46 23.0	-0.4
OTRP	Odiongan	0.94	353	eP	Pb	15 46 24.1	+0.2
OTRP				eS	Sb	15 46 38.5	+2.3
CUYO	Cuyo Island	1.24	243	eP	Pb	15 46 27.9	-1.2
SJMP	San Jose	1.44	316	eP	Pn	15 46 33.5	+1.3
BUSP	Coron	1.99	287	eP	Pn	15 46 40.0	-0.2
BOAC	Boac	2.04	352	eP	Pn	15 46 40.7	-0.2
ENPP	El Nido	2.67	266	eP	Pn	15 46 49.1	-0.9
LUBP	Lubang	2.95	321	eP	Pn	15 46 53.9	0.0
IPIL	Ipil	3.64	173	eP	Pn	15 47 03.5	-0.2
PAGZ	Pagadian	3.76	161	eP	Pn	15 47 06.1	+0.8

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*IDC **21** 15:53:50.1±1.0, 9.95N×138.94E, mb3.8/7, mb1 4.0/7, mb1mx3.9/17, MS3.4/5, Ms1 3.5/5, ms1mx3.1/27, Error ellipse: s-maj=34.9km s-min=25.3km az=77.0*

ISC 21 15:53:53.5±0.8, 9.9N±0.1×138.8E±0.2, h33^{km}, n15, σ0^{s}74/11, mb4.1/10, MS3.3/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	17.91	285	LR	LR	16 03 39.1	
	comp=Z,245nm,21.0s,baz=220,slow=33						
JNU	Nakatsue	24.20	344	LR	LR	16 07 33.7	
	comp=Z,50nm,19.2s,MS3.0,baz=22,slow=34						
CTA	Charters Tower	30.73	166	LR	LR	16 12 49.3	
	comp=Z,59nm,20.0s,MS3.2,baz=305,slow=37						
ASAR	Alice Springs	33.72	188	P	P	16 00 33.5	-0.7
	0.4nm,0.7s,mb3.5,baz=15,slow=12,SNR=5.0						
CMAR	Chiang Mai Arr	39.44	287	P	P	16 01 24.0	+1.5
	0.4nm,0.4s,mb3.5,baz=108,slow=8.6,SNR=4.2						
CMAR				LR	LR	16 15 54.6	
	comp=Z,33nm,20.4s,MS3.1,baz=155,slow=33						
SONM	Songino Array	46.58	330	P	P	16 02 20.4	+0.2
	1.1nm,1.0s,mb3.8,baz=143,slow=7.2,SNR=5.8						
PKI	Pulchoki	53.05	297	eP	P	16 03 09.1	-0.9
KKN	Kakani	53.20	297	eP	P	16 03 10.8	-0.3
	22nm,1.1s,mb5.0						
DMN	Daman	53.33	297	eP	P	16 03 11.9	-0.1
	16nm,0.8s,mb5.0						
GKN	Gorkha	53.80	297	eP	P	16 03 15.3	-0.2
	8.0nm,0.5s,mb4.9						
MKAR	Makanchi Array	60.10	319	P	P	16 03 59.9	-0.1
	1.1nm,0.6s,mb4.1,baz=102,slow=8.8,SNR=15						
ILAR	Eielson Array	74.42	25	P	P	16 05 28.8	-1.0
	0.8nm,0.6s,mb3.8,baz=253,slow=5.7,SNR=6.7						
VNDA	Vanda	88.28	175	P	P	16 06 43.0	+0.6
	0.2nm,0.6s,mb3.5,baz=346,slow=5.4,SNR=3.9						
NVAR	Mina Array Bea	93.86	50	P	P	16 07 10.1	+1.0
	0.8nm,0.7s,mb4.3,baz=274,slow=4.3,SNR=8.4						
NOA	NORSAR Array B	98.19	337	LR	LR	16 55 09.8	
	comp=Z,24nm,18.5s,MS3.7,baz=320,slow=38						

OTT 21 15:59:36.0±0.2, 52.78N×67.27W, MN2.6/5, Blast, Mount

Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	Schefferville	2.08	7	PN	Pn	16 00 12.2	-0.3
SCHQ				SG	Sg	16 00 40.4	-4.7
SCHQ				Trac		16 00 41.8	
	comp=Z,17nm,0.1s						
MNQ	Manicouagan	2.43	203	PN	Pn	16 00 16.6	-1.0
MNQ				SN	Sn	16 00 47.3	-1.2
MNQ				Trac		16 00 52.1	
	comp=Z,4.8nm,0.1s						
SMQ	Clarke City	2.58	172	PN	Pn	16 00 18.2	-1.5
SMQ				SN	Sn	16 00 52.8	+0.5
SMQ				Trac		16 00 57.2	
	comp=Z,7.3nm,0.2s						
ICQ	Pointe Anglais	3.26	180	PN	Pn	16 00 27.4	-2.0
ICQ				SN	Sn	16 01 08.8	-0.6
ICQ				Trac		16 01 22.3	
	comp=Z,5.9nm,0.3s						
CNQ	Baie Comeau	3.52	189	PN	Pn	16 00 31.7	-1.3
CNQ				Trac		16 01 28.8	
	comp=Z,3.3nm,0.2s						
GSQ	Grosses Roches	3.87	178	PN	Pn	16 00 36.9	-1.2
LG4Q	La Grande 4	4.19	284	PN	Pn	16 00 40.2	-2.4
LMQ	La Malbaie	5.59	202	PN	Pn	16 00 59.1	-3.2
DRLN	Deer Lake	7.10	116	PN	Pn	16 01 20.4	-3.2
DRLN				SN	Sn	16 02 41.0	-5.1
LMN	Caledonia Moun	7.12	166	PN	Pn	16 01 20.2	-3.7
VLDQ	Val d'Or	8.00	238	PN	Pn	16 01 32.5	-3.7
VIMO	Victor Mine	9.98	277	PN	P	16 01 56.7	-6.9
SILO	Sutton Inlier	10.62	286	PN	P	16 02 06.0	-6.3

IDC ***21*** *16:05:47.9±0.9, 8.65S×124.20E, mb4.0/5, mb1 4.3/8, mb1mx4.1/14, ML4.0/3, Error ellipse: s-maj=61.1km s-min=16.9km az=57.0*

NEIC ***21*** *16:05:50.6±4.1, 8.67S×124.30E, h20^{km}±31^{km}, mb4.5/10, Error ellipse: s-maj=15.3km s-min=10.2km az=47.0*

ISC 21 16:06:00.3±1.7**, 9.16S**±0.08×**124.31E**±0.10**, h151**^{km}±18^{km}**, n24, σ0^{s}99**/31**, mb4.2**/12**, 1D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	8.69	115	eP	P	16 08 04.1	+0.2
	9.8nm,0.2s						
KAKA				eS	S	16 09 40.2	-0.2
FITZ	Fitzroy Crossi	8.99	172	eP	P	16 08 06.7	-1.1
	8.0nm,0.2s						
FITZ				eS	S	16 09 43.5	-3.9
FITZ	Fitzroy Crossi	8.99	172	Pn	P	16 08 07.0	-0.8
	1.3nm,0.3s,baz=6.4,slow=8.1,SNR=63						
FITZ				Sn	S	16 09 42.8	-4.6
	20nm,0.3s,baz=209,slow=8.7,SNR=19						
WRA	Warramunga Arr	14.46	139	Pn	P	16 09 18.7	-0.3
	1.3nm,0.3s,baz=323,slow=14,SNR=65						
WRA				Sn	S	16 11 51.0	-4.5
	2.5nm,0.3s,baz=313,slow=24,SNR=16						
WRAB	Tennant Creek	14.46	139	eP	P	16 09 18.7	-0.3
	26nm,0.6s						
WRAB				eS	S	16 11 51.0	-4.6
WB2	Warramunga Arr	14.46	139	⇓iP	P	16 09 18.8	-0.3
WB2				i pP		16 09 27.3	
WB2				eS	S	16 11 52.3	-3.5
ASPA	Alice Springs	17.10	149	eP	P	16 09 54.6	+2.9
ASPA				eS	S	16 12 54.9	-0.3
ASAR	Alice Springs	17.10	149	P	P	16 09 53.7	+2.0
	0.4nm,0.3s,baz=320,slow=11,SNR=53						
ASAR				S	S	16 12 55.5	+0.2
	0.8nm,0.3s,baz=323,slow=25,SNR=16						
FORT	Forrest	21.80	171	eP	P	16 10 45.9	+5.0
	43nm,0.7s,mb5.0						
PMG	Port Moresby	22.55	92	P	P	16 10 49.8	+1.3
	16nm,1.0s,mb4.4						
CTA	Charters Tower	23.82	120	eP	P	16 11 05.6	+4.9
	3.8nm,0.7s,mb4.0						
CTA	Charters Tower	23.82	120	P	P	16 11 07.5	+6.8
	3.3nm,0.9s,mb3.9,baz=288,slow=10,SNR=6.8						
CTAO	Charters Tower	23.82	120	eP	P	16 11 05.6	+4.9
	7.9nm,0.9s,mb4.2						
STKA	Stephens Creek	27.72	147	eP	P	16 11 42.4	+5.7
	2.5nm,0.8s,mb4.0						
STKA	Stephens Creek	27.72	147	P	P	16 11 42.3	+5.6
	2.6nm,0.8s,mb4.0,baz=310,slow=10,SNR=3.5						
CMAR	Chiang Mai Arr	37.14	318	P	P	16 12 58.2	0.0
	0.9nm,0.5s,mb3.7,baz=144,slow=6.8,SNR=7.5						
PALK	Pallekele	46.41	289	P	P	16 14 14.8	+1.0
	21nm,1.1s,mb4.7						
LSA	Lhasa	50.11	322	eP	P	16 14 42.9	+0.7
	4.3nm,0.7s,mb4.2						
MDJ	Mudanjiang	53.73	5	eP	P	16 15 08.3	-0.7
	5.9nm,0.8s,mb4.4						
SONM	Songino Array	58.92	346	P	P	16 15 44.9	-1.0
	0.8nm,0.7s,mb3.6,baz=161,slow=8.4,SNR=4.9						
MKAR	Makanchi Array	67.10	330	P	P	16 16 39.5	-0.2
	1.2nm,0.5s,mb4.0,baz=132,slow=8.3,SNR=16						
YAK	Yakutsk	71.09	3	P	P	16 17 03.8	+0.1
	4.8nm,0.6s,mb4.4						
KURK	Kurchatov	71.55	331	eP	P	16 17 05.6	-1.1
	3.1nm,0.9s,mb4.0						
CPUP	Villa Florida	144.69	177	PKPbc	PKPbc	16 25 26.4	+6.7
	1.1nm,0.6s,baz=210,slow=9.8,SNR=3.5						

IDC ***21*** *16:15:57.6±1.9, 7.47N×83.72W, mb3.6/1, mb1 4.1/2, mb1mx3.6/20, ML4.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/23, Error ellipse: s-maj=282.0km s-min=23.6km az=67.0*

UCR ***21*** *16:16:01.4, 8.18N×83.09W, h0^{km}, MD4.3*

CASC ***21*** *16:16:03.3±2.4, 8.08N×82.94W, h9^{km}±6^{km}, MD4.3*

UPA ***21*** *16:16:05.6, 8.27N×82.89W, h9^{km}, MD3.4*

ISC 21 16:16:00.7±1.1**, 7.97N**±0.06×**82.97W**±0.04**, h4**^{km}±5^{km}**, n27, σ0^{s}94**/34**, mb3.4**/1**, MS3.2**/4**, 8C-4D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTP1	Petroterminal	0.59	67	⇓iP	Pg	16 16 08.0	-4.4
PTP1				eS	Sg	16 16 09.7	-11
DVD	David	0.69	48	⇑iP	Pg	16 16 13.4	-1.2
ACR	Cerro Adams	0.70	344	⇑iP	Pg	16 16 15.3	+0.6
ACR				eS	Sg	16 16 24.3	+0.2
CNI	Changuinola	1.50	17	⇓eP	Pn	16 16 26.4	-2.1
BUS	Buena Vista	1.75	334	eP	Pn	16 16 31.7	-0.4
BUS				⇑iP		16 16 32.6	
BUS				eS	Sn	16 16 54.8	-0.3
URSC	Urasca	2.01	337	⇑eP	Pn	16 16 36.2	+0.4
LIO	Limon	2.02	358	eP	Pn	16 16 35.6	-0.3
LIO				eS	Sn	16 17 02.0	+0.2
LCR2	La Lucha 2	2.03	330	⇑eP	Pn	16 16 36.6	+0.5
LCR2				eS	Sn	16 17 02.4	+0.2
ICR	Volcan Irazu	2.17	337	⇑eP	Pn	16 16 38.7	+0.7
ICR				eS	Sn	16 17 07.0	+1.4
SJS	Escuela Geolog	2.23	331	⇓eP	Pn	16 16 38.8	-0.1
SJS				eS	Sn	16 17 07.3	+0.2
PRS1	Puriscal	2.40	327	eP	Pn	16 16 40.8	-0.4
PRS1				eS	Sn	16 17 11.3	-0.1
VPS2	Volcan Poas 2	2.53	331	eP	Pn	16 16 44.6	+1.4
VPS2				eS	Sn	16 17 15.9	+1.0
AZU	Azuero	2.68	94	⇑eP	Pn	16 16 44.9	-0.4
AZU				eS	Sn	16 17 19.5	+0.8
TRTC	Tortuguero	2.69	344	eP	Pn	16 16 46.0	+0.5
TRTC				eS	Sn	16 17 18.1	-0.8
FORC	Fortuna	2.99	326	eP	Pn	16 16 51.1	+1.3
FORC				eS	Sn	16 17 24.7	-1.9
JTS	JuntasAbangare	3.02	320	Pn	Pn	16 16 48.8	-1.3
	33nm,0.3s,baz=132,slow=15,SNR=123						
JTS				Sn	Sn	16 17 26.0	-1.2
	21nm,0.3s,baz=310,slow=22,SNR=5.7						
JTS				Lg		16 17 32.9	
	58nm,0.3s,baz=317,slow=23,SNR=14						
VCR	Vista de Mar	3.39	309	⇑eP	Pn	16 16 55.8	+0.4
UPA	Univ. de Panam	3.55	73	⇓eP	Pn	16 16 58.0	+0.3
UPA				eS	Sn	16 17 41.1	+0.5
CRZC	La Cruz	3.93	319	eP	Pn	16 17 04.2	+1.1
TXAR	Lajitas Array	28.81	320	LR	LR	16 36 03.3	
	comp=Z,34nm,20.9s,MS2.9,baz=290,slow=42						
LVC	Limon Verde	33.37	156	LR	LR	16 35 31.7	
	comp=Z,54nm,19.6s,MS3.3,baz=205,slow=35						
SADO	Sadowa	36.81	5	LR	LR	16 39 23.2	
	comp=Z,31nm,20.0s,MS3.1,baz=208,slow=38						
BDFB	Brasilia	41.83	124	LR	LR	16 41 40.0	
	comp=Z,45nm,18.9s,MS3.4,baz=304,slow=37						
ILAR	Eielson Array	71.87	336	P	P	16 27 24.3	-2.2
	0.3nm,0.6s,mb3.4,baz=101,slow=4.6,SNR=3.3						
ASAR	Alice Springs	141.39	242	PKP	PKPdf	16 35 27.6	-8.6
	0.4nm,0.5s,baz=121,slow=3.6,SNR=10						
WRA	Warramunga Arr	141.98	248	PKP	PKPdf	16 35 29.1	-8.2
	0.9nm,0.9s,baz=96,slow=3.1,SNR=8.2						
CMAR	Chiang Mai Arr	153.67	356	PKPbc	PKPdf	16 35 59.6	+3.6
	0.6nm,0.8s,baz=333,slow=4.0,SNR=4.2						

NEIC ***21*** *16:21:07.2, 16.28N×98.20W, h23^{km}, MD3.9(MEX), After MEX.*

MEX 21 16:21:07.2±0.9**, 16.28N×98.21W, h22**^{km}±6^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.13	35	i P	Pb	16 21 10.9	-0.9
PNIG				i S	Sb	16 21 13.9	-0.9
VHO	Vista Hermosa	1.62	61	eP	Pn	16 21 31.4	-3.3
VHO				eS	Sn	16 21 51.5	-3.6
OXX	Oaxaca	1.63	61	eP	Pn	16 21 31.0	-4.0
OXX				eS	Sn	16 21 51.0	-4.4
HUIG	Huatulco	2.08	104	eP	Pn	16 21 39.2	-2.3
HUIG				eS	Sn	16 22 04.4	-2.5
CAIG	El Cayaco	2.12	291	eP	Pn	16 21 38.3	-3.7
CAIG				i S	Sn	16 22 04.2	-3.6
CAIG				eS	Sn	16 22 04.9	-2.9
YAIG	Yautepec	2.69	342	eP	Pn	16 21 47.7	-2.5
YAIG				eS	Sn	16 22 19.1	-3.3
PPM	Popocatepetl	2.80	352	eP	Pn	16 21 50.6	-1.1
PPM				eS	Sn	16 22 21.0	-4.2
IISM	Ciudad Serdan	2.81	16	eP	Pn	16 21 50.5	-1.3
IISM				eS	Sn	16 22 19.0	-6.3
CMIG	Matias Romero	3.28	75	eP	Pn	16 21 53.8	-4.8
CMIG				eS	Sn	16 22 31.2	-6.2

IDC 21 16:43:12.4±10.0**, 8.21S×124.29E, h334**^{km}±90^{km}**, mb3.1**/1**, mb1 2.9**/4**, mb1mx2.7**/12**, Error ellipse: s-maj=143.0km s-min=94.8km az=94.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	9.92	173	P	P	16 45 29.5	-0.9
	0.1nm,0.3s,baz=11,slow=10,SNR=5.1						
FITZ				S	S	16 47 22.0	+2.7
	0.3nm,0.3s,baz=193,slow=3.4,SNR=5.5						
WRA	Warramunga Arr	15.19	141	P	P	16 46 29.1	-3.4
	0.3nm,0.3s,baz=312,slow=13,SNR=8.9						
WB2	Warramunga Arr	15.20	141	eP	P	16 46 28.9	-3.7
ASAR	Alice Springs	17.92	150	P	P	16 46 59.8	-1.2
	0.1nm,0.3s,baz=334,slow=12,SNR=12						
STKA	Stephens Creek	28.52	148	P	P	16 48 38.3	-2.0
	0.6nm,0.4s,baz=315,slow=11,SNR=3.0						

MAN 21 16:43:26.8, 18.52N×120.74E, h6^{km}**, mb3.8, ML2.5, MS2.1, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.22	212	⇑iP	Pg	16 43 32.1	+0.7
PIP				i S	Sg	16 43 42.3	+7.8
APYP	Conner	0.81	144	eP	Pb	16 43 41.9	-0.9
APYP				eS	Sg	16 44 00.5	+6.8
ABRA	Dolores	0.86	182	eP	Pb	16 43 43.8	0.0
CVP	Callao Caves	1.31	128	eP	Pb	16 43 50.0	-1.4
CAUP	Cauayan	1.87	146	eP	Pn	16 44 00.8	+1.1

MAN 21 16:56:11.1, 9.44N×122.33E, h30^{km}**, mb4.1, ML2.9, MS2.7, 1D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.90	96	⇓iP	Pn	16 56 27.5	-0.4
SNPH				i S	Sb	16 56 40.5	+0.7
GUIM	Jordan	1.21	12	eP	Pn	16 56 31.7	-0.5
GUIM				eS	Sn	16 56 48.3	+0.7
TBP	Tagbilaran	1.53	81	eP	Pn	16 56 36.4	-0.5
TBP				eS	Sn	16 56 54.5	-1.4
IPIL	Ipil	1.66	172	eP	Pn	16 56 38.6	-0.1
IPIL				eS	Sn	16 56 59.0	-0.2
LLP	Lapu-Lapu	1.83	62	eP	Pn	16 56 39.0	-2.2
PAGZ	Pagadian	1.90	147	eP	Pn	16 56 43.3	+1.3
CUYO	Cuyo Island	1.90	318	eP	Pn	16 56 42.0	-0.1
MSLP	Maasin	2.59	74	eP	Pn	16 56 52.3	+0.3
OCLP	Ormoc	2.76	54	eP	Pn	16 56 53.6	-0.8
ENPP	El Nido	3.35	302	eP	Pn	16 57 01.9	-1.0

IDC 21 17:00:04.9±6.2**, 10.62S×161.83E, mb3.8**/4**, mb1 4.1**/5**, mb1mx3.8**/16**, ML3.4**/1**, MS3.5**/1**, Ms1 3.4**/1**, ms1mx2.8**/15**, Error ellipse: s-maj=163.0km s-min=35.0km az=119.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	17.71	236	P	P	17 04 13.8	-1.0
	0.1nm,0.3s,baz=66,slow=13,SNR=6.4						
WRA	Warramunga Arr	28.05	247	P	P	17 05 56.6	-3.7
	0.6nm,0.8s,baz=77,slow=9.1,SNR=7.1						
STKA	Stephens Creek	28.24	218	LR	LR	17 16 51.4	
	comp=Z,96nm,19.5s,baz=201,slow=36						
ASAR	Alice Springs	29.60	240	P	P	17 06 14.0	-0.2
	1.3nm,1.0s,baz=73,slow=9.4,SNR=6.7						
FITZ	Fitzroy Crossi	35.79	254	P	P	17 07 05.7	-2.4
	3.6nm,1.1s,baz=79,slow=5.2,SNR=6.0						
SONM	Songino Array	76.08	325	P	P	17 11 54.7	-1.5
	0.5nm,0.8s,baz=117,slow=3.2,SNR=3.2						

IDC 21 17:10:38.1±2.0**, 4.48N×95.60E, mb3.3**/4**, mb1 3.5**/4**, mb1mx3.3**/16**, Error ellipse: s-maj=134.0km s-min=25.4km az=50.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	43.70	347	P	P	17 18 44.4	-2.2
	0.2nm,0.5s,baz=167,slow=7.3,SNR=4.3						
WRA	Warramunga Arr	45.15	124	P	P	17 18 56.8	-1.8
	0.3nm,0.6s,baz=299,slow=9.3,SNR=3.5						
ASAR	Alice Springs	46.65	129	P	P	17 19 08.6	-1.9
	0.2nm,0.5s,baz=297,slow=8.2,SNR=4.9						
AKASG	Malin Array Be	71.71	322	P	P	17 22 02.3	-1.6
	0.1nm,0.3s,baz=115,slow=6.1,SNR=5.1						

TIF ***21*** *17:19:28.1, 41.00N×42.86E, h14^{km}, Mpv3.7*

ISC 21 17:19:30.0±1.0**, 40.98N**±0.05×**42.89E**±0.10**, h14**^{km}**, n8, σ1^{s}35**/11**, 1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARS	Kars	0.40	158	i PG	Pg	17 19 36.1	-2.2
KARS				i SG	Sg	17 19 45.0	+1.2
AKH	Akhalkalaki	0.62	46	⇑iP	Pb	17 19 41.4	-0.8
	comp=Z,80nm,0.4s						
AKH				i S	Sb	17 19 50.8	+0.3
BAW	Bavra	0.70	78	i P	Pb	17 19 42.0	-1.4
STE	Stepanavan	1.14	88	i P	Pb	17 19 50.0	-1.0
EZM	Erzurum	1.59	228	ePN	Pn	17 19 58.3	+0.4
MTA	Mtatsminda	1.60	63	i S	Sn	17 20 20.7	+2.1
DUS	Dusheti	1.75	50	⇓iP	Pn	17 19 59.3	-1.0
DUS				i S	Sn	17 20 25.5	+3.0
VRT	Varto	2.12	210	PN	Pn	17 20 06.6	+1.0

BJI ***21*** *17:26:59.7, 42.26N×81.97E, h14^{km}, ML3.3*

NNC 21 17:26:58.2±3.5**, 42.30N×81.95E, h4**^{km}±9^{km}**, mpv3.0, 3C-2D, Error ellipse: s-maj=32.9km s-min=18.1km az=129.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	Urumqi	4.47	68	PG	Pg	17 28 19.5	-8.0
WMQ				S	Sn	17 29 02.9	+1.3
WMQ				SG	Sg	17 29 13.4	-14
WMQ				Smax			
	comp=N,25nm,1.0s						
WMQ				Smax			
	comp=E,30nm,1.0s						
MK31	Makanchi Array	4.50	3	⇑Pn	Pn	17 28 09.7	+1.0
	comp=E,0.3nm,0.2s,baz=186,slow=14,SNR=60						
MK31				⇑Pg	Pg	17 28 21.1	-6.9
	comp=E,5.8nm,0.8s						
MK31				⇓Sn	Sn	17 29 06.4	+4.2
	comp=E,1.9nm,0.2s,baz=29,slow=14,SNR=4.6						
MK31				⇑Lg		17 29 19.0	
	comp=E,7.9nm,0.5s,baz=174,slow=22,SNR=7.3						
KK31	Karatay Array	8.46	279	⇓Lg		17 31 23.4	
	comp=E,1.0nm,0.5s,baz=82,slow=26,SNR=4.0						

MDD ***21*** *17:27:44.5±0.8, 37.38N×8.47W, h10^{km}±1^{km}, mbLg1.8/7, Error ellipse: s-maj=8.3km s-min=3.4km az=19.0, PRXIMO*

INMG ***21*** *17:27:44.6±0.6, 37.37N×8.48W, h8^{km}±3^{km}, ML1.5, Error ellipse: s-maj=3.3km s-min=1.6km az=41.0*

ISC 21 17:27:42.0±1.4**, 37.28N**±0.08×**8.46W**±0.07**, h11**^{km}±6^{km}**, n12, σ0^{s}80**/20**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	Sao Teotonio	0.34	322	ePg	Pg	17 27 49.5	+0.4
PTEO				eSg	Sg	17 27 53.3	-0.5
	24nm,0.3s						
PTEO	Sao Teotonio	0.34	322	Pg	Pg	17 27 49.5	+0.4
PTEO				Lg		17 27 53.3	
	12nm,0.3s						
PALC	Alcoutim	0.81	76	ePg	Pg	17 27 59.4	+1.2
PALC				eSg	Sg	17 28 09.4	+0.3
	25nm,0.1s						
PALC	Alcoutim	0.81	76	Pg	Pg	17 27 59.4	+1.2
PALC				Lg		17 28 09.4	
	13nm,0.1s						
EGRO	El Granado	0.82	71	Pg	Pg	17 27 59.4	+0.9
	2.0nm,0.1s,SNR=14						
EGRO				Lg		17 28 09.8	
	11nm,0.1s,SNR=7.9						
PBEJ	Beja	0.89	32	eP	Pg	17 27 59.8	0.0
PBEJ				eS	Sb	17 28 10.5	+0.1
	6.7nm,0.1s						
PBEJ	Beja	0.89	32	Pg	Pg	17 27 59.8	0.0
PBEJ				Lg		17 28 10.5	
	3.3nm,0.1s						
MOE	Montemor	1.25	4	eP	Pb	17 28 05.7	+0.7
MOE				eS	Sb	17 28 21.3	+0.4
EMIN	Mina Concepcio	1.50	70	Pn	Pn	17 28 09.6	+0.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Pg	Pg	17 28 11.5	-0.6
	0.2nm,0.1s,SNR=9.6						
EMIN				Sn	Sn	17 28 29.5	+0.8
	1.0nm,0.1s,SNR=7.9						
EMIN				Lg		17 28 32.0	
	2.2nm,0.1s,SNR=7.9						
EBAD	Badajoz	1.87	37	Pn	Pn	17 28 14.0	-0.2
	1.3nm,3.2s,SNR=5.5						
EBAD				Pg	Pg	17 28 17.6	-1.8
	1.7nm,0.1s,SNR=7.9						
EBAD				Lg		17 28 40.7	
	3.0nm,0.2s,SNR=7.9						
ESPR	Espera	2.12	100	Pg	Pg	17 28 23.7	-0.7
	2.6nm,0.6s,SNR=7.9						
ESPR				Lg		17 28 53.5	
	4.6nm,0.4s,SNR=7.9						
EADA	Adamuz	3.21	73	Pn	Pn	17 28 33.3	0.0
	0.0nm,0.3s,SNR=7.9						
EADA				Sn	Sn	17 29 10.1	-1.8
	0.7nm,0.2s,SNR=7.9						
EADA				Lg		17 29 24.4	
	SNR=7.9						

DJA 21 17:28:09.0±0.9**, 9.48S×114.02E, h33**^{km}**, MD5.5**/4**, ML4.2**/4**, 6C-3D, Error ellipse: s-maj=19.1km s-min=11.6km az=27.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	1.30	59	⇑iPn	Pn	17 28 29.6	-1.5
	131nm,0.2s						
INGI				⇓iSn	Sn	17 28 44.7	-2.7
KELI	Kelakatan	1.34	21	⇑iPn	Pn	17 28 30.7	-1.1
	391nm,0.2s						
KELI	Kelakatan	1.34	21	⇑iP	P	17 28 31.3	-0.3
KELI				⇑iSn	Sn	17 28 46.4	-2.2
RATI	Rata	1.68	63	⇓iPn	Pn	17 28 35.2	-1.4
	406nm,0.2s						
RATI				⇓iSn	Sn	17 28 54.0	-3.1
KEDI	Kedomdong	2.30	65	⇑ePn	Pn	17 28 43.7	-1.7
	74nm,0.2s						
KEDI				⇑iSn	Sn	17 29 08.9	-3.9

IDC ***21*** *17:32:13.5±9.5, 30.21S×178.89W, h369^{km}±96^{km}, mb2.9/2, mb1 3.1/3, mb1mx2.9/14, Error ellipse: s-maj=95.9km s-min=49.2km az=15.0*

ISC 21 17:32:08.6±2.5**, 30.2S**±0.1×**178.2W**±0.6**, h382**^{km}±26^{km}**, n11, σ0^{s}72**/12**, mb3.1**/2**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	8.37	199	eP	P	17 34 07.7	-0.7
PUZ				S	S	17 35 42.5	-0.4
MWZ	Matawai	8.84	202	eP	P	17 34 13.4	-0.5
URZ	Urewera	8.91	204	P	P	17 34 16.7	+1.9
	0.6nm,0.3s,baz=185,slow=8.3,SNR=8.3						
URZ				S	S	17 35 55.2	+0.8
	1.3nm,0.3s,baz=120,slow=23,SNR=11						
URZ	Urewera	8.91	204	eP	P	17 34 16.3	+1.6
BKZ	Black Stump Fm	9.94	204	eP	P	17 34 26.5	-0.3
NNZ	Nelson	12.92	209	S	S	17 37 18.4	-0.9
MQZ	McQueen's Vall	15.31	206	S	S	17 38 07.5	+0.5
ASAR	Alice Springs	42.92	267	P	P	17 39 33.1	+0.2
	0.2nm,0.4s,mb2.8,baz=104,slow=7.2,SNR=6.0						
WB2	Warramunga Arr	43.88	272	eP	P	17 39 40.3	-0.2
WRA	Warramunga Arr	43.89	272	P	P	17 39 40.6	0.0
	0.8nm,0.4s,mb3.4,baz=110,slow=7.5,SNR=16						
FINES	FINESS Array B	144.89	340	PKP	PKPdf	17 51 05.2	+5.4
	0.6nm,0.3s,baz=72,slow=4.4,SNR=13						

WEL 21 17:57:17.1±0.7**, 37.17S×179.79E, h33**^{km}**, ML3.6**/4**, Error ellipse: s-maj=8.0km s-min=6.4km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.25	251	PN	Pn	17 57 37.4	-1.1
MXZ				SN	Sn	17 57 52.2	-2.1
MXZ				SN	Sn	17 57 52.7	-1.7
PUZ	Puketiti	1.52	233	PN	Pn	17 57 41.5	-0.9
MWZ	Matawai	2.14	236	PN	Pn	17 57 49.5	-1.8
MWZ				SN	Sn	17 58 15.1	-1.9
URZ	Urewera	2.39	242	PN	Pn	17 57 53.9	-1.0
URZ				SN	Sn	17 58 20.7	-2.6
KNZ	Kokohu	2.50	221	ePN	Pn	17 57 53.9	-2.5
BKZ	Black Stump Fm	3.28	231	PN	Pn	17 58 04.9	-2.6
BKZ				SN	Sn	17 58 41.8	-4.1
NGZ	Ngauruhoe	3.87	237	ePN	Pn	17 58 13.6	-2.2
CNZ	Chateau	3.91	237	ePN	Pn	17 58 14.4	-2.1
TSZ	Takapari Road	4.17	225	PN	Pn	17 58 16.2	-3.9
NNZ	Nelson	6.42	229	ePN	Pn	17 58 45.6	-6.3
NNZ				SN	Sn	17 59 54.5	-10
MQZ	McQueen's Vall	8.50	218	SN	Sn	18 00 39.5	-17

ISK ***21*** *18:01:27.9, 38.16N×26.77E, h13^{km}, MD3.0*

ATH ***21*** *18:01:27.7, 38.11N×27.10E, h39^{km}±12^{km}, MD3.1/3*

ISC 21 18:01:27.9±1.1**, 38.18N**±0.03×**26.75E**±0.05**, h1**^{km}±8^{km}**, n15, σ1^{s}01**/24**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	Izmir	0.46	62	i PG	Pg	18 01 37.9	+0.9
IZM				i SG	Sg	18 01 44.3	+1.2
KDAG	Bornova	0.46	61	i P	Pg	18 01 37.9	+0.8
KDAG				i S	Sg	18 01 44.1	+0.8
SMG	Samos	0.48	172	ePB	Pb	18 01 39.0	+0.1
SMG				eSB	Sb	18 01 45.5	-0.7
AYDN	Tasoluk	1.03	120	i P	Pb	18 01 49.0	+0.7
AYDN				i S	Sb	18 02 02.5	+0.2
AKS	Akhisar	1.08	50	PN	Pn	18 01 48.8	-1.4
PRK	Paraskevi	1.13	341	ePB	Pb	18 01 50.5	+0.6
PRK				eSN	Sn	18 02 08.5	+1.4
MLSB	Milas	1.20	137	ePN	Pn	18 01 50.8	-1.1
BDRM	Kayabasi	1.24	154	i P	Pb	18 01 52.9	+0.9
BDRM				i S	Sb	18 02 10.4	+2.0
MANT	Manisa	1.45	77	i P	Pn	18 01 56.5	+1.0
MANT				i S	Sb	18 02 13.7	-0.8
APE	Apeiranthos	1.48	221	ePN	Pn	18 01 54.3	-1.5

APE	**Apeiranthos**	**1.48**	**221**	*e*PN	**Pn**	**18 01 55.5**	**-0.3**
YER	**Yerkesik**	**1.60**	**130**	*e*PN	**Pn**	**18 01 56.0**	**-1.6**
DNZL	**Cakiroluk**	**1.88**	**104**	*i* P	**Pg**	**18 02 05.4**	**-0.1**
DNZL				*i* S	**Sg**	**18 02 30.1**	**-0.4**
KCT	**Karacabey**	**2.42**	**30**	*e*PN	**Pn**	**18 02 08.6**	**-0.8**
ULDT	**Uludag**	**2.69**	**43**	*i* P	**Pg**	**18 02 20.6**	**-1.1**
ULDT				*i* S	**Sg**	**18 02 56.1**	**-1.5**

PGC 21 18:06:39.2, 53.44N×131.66W, h13^{km}±20^{km}, ML3.8/13, 1D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOBC	**Moresby Island**	**0.28**	**210**	P	Pg	18 06 45.8	+0.4
MOBC				S	Sg	18 06 48.1	-1.4
MOBC				Trac		18 06 52.2	
	comp=Z,7μm,0.7s						
VIB	**Van Inlet**	**0.56**	**250**	P	Pb	18 06 49.3	-1.1
VIB				S	Sb	18 06 58.2	+0.2
VIB				Trac		18 07 03.5	
	comp=Z,826nm,0.3s						
BNB	**Barry Inlet**	**0.87**	**184**	P	Pb	18 06 54.3	-1.4
BNB				S	Sb	18 07 06.5	-0.5
BNB				Trac		18 07 08.8	
	comp=Z,4μm,0.5s						
RUBB	**Prince Rupert**	**1.22**	**43**	P	Pb	18 06 59.6	-2.0
RUBB				S	Sb	18 07 15.2	-1.7
RUBB				Trac		18 07 22.4	
	comp=Z,805nm,0.3s						
BBB	**Bella Bella**	**2.50**	**119**	P	Pn	18 07 16.6	-3.5
BBB				Sg	Sg	18 07 53.1	-9.2
BBB				Trac		18 08 03.9	
	comp=Z,463nm,0.5s						
HOLB	**Holberg**	**3.55**	**141**	P	Pn	18 07 30.9	-4.3
HOLB				Sg	Sg	18 08 31.6	-5.9
HOLB				Trac		18 08 33.4	
	comp=Z,115nm,0.6s						
PHC	**Port Hardy**	**3.78**	**135**	P	Pn	18 07 34.1	-4.4
PHC				Trac		18 08 48.7	
	comp=Z,51nm,0.5s						
BPBC	**Brooks Peninsu**	**4.08**	**142**	⇑P	Pn	18 07 39.6	-3.2
BPBC				S	Sn	18 08 27.1	-3.8
BPBC				Trac		18 08 28.8	
	comp=Z,37nm,0.3s						
MAYB	**Maynard**	**4.12**	**136**	⇓P	Pn	18 07 39.9	-3.5
MAYB				Trac		18 09 02.9	
	comp=Z,42nm,0.6s						
FSB	**Fort Saint Jam**	**4.45**	**74**	Pg	Pg	18 07 58.2	-10
FSB				Sg	Sg	18 08 53.7	-14
FSB				Trac		18 09 06.9	
	comp=Z,283nm,0.8s						
EDB	**Eliza Dome**	**4.56**	**140**	P	Pn	18 07 46.9	-2.7
EDB				Trac		18 09 09.6	
	comp=Z,38nm,0.7s						
GDR	**Gold River**	**5.07**	**134**	Trac		18 09 26.3	
	comp=Z,27nm,0.6s						
DLBC	**Dease Lake**	**5.09**	**10**	P	Pn	18 07 56.0	-1.0
DLBC				Pg	Pg	18 08 11.3	-10
DLBC				S	Sn	18 09 05.7	+9.4
DLBC				Sg	Sg	18 09 12.1	-17
DLBC				Trac		18 09 23.1	
	comp=Z,45nm,0.8s						
CBB	**Campbell River**	**5.19**	**129**	Pg	Pg	18 08 09.4	-14
CBB				Trac		18 09 27.7	
	comp=Z,40nm,0.7s						
BTB	**Buttle Lake**	**5.53**	**134**	P	Pn	18 08 04.0	+0.8
BTB				Sg	Sg	18 09 34.6	-8.7
BTB				Trac		18 09 35.4	
	comp=Z,33nm,0.7s						
OZB	**Mount Ozzard**	**5.93**	**137**	Trac		18 09 51.4	
	comp=Z,19nm,0.7s						
BMBC	**Bull Mountain**	**6.10**	**61**	P	Pn	18 08 10.1	-1.3
BMBC				Pg	Pg	18 08 31.9	-9.2
BMBC				Sg	Sg	18 09 49.1	-13
BMBC				Trac		18 09 59.2	
	comp=Z,68nm,0.7s						
SHB	**Sechelt**	**6.20**	**125**	Trac		18 10 01.4	
	comp=Z,31nm,0.6s						
MGB	**Mount Grey**	**6.24**	**133**	Trac		18 10 00.1	
	comp=Z,8.0nm,0.5s						
NLLB	**Nanaimo Lost L**	**6.40**	**128**	Trac		18 10 05.8	
	comp=Z,17nm,0.7s						
WPB	**Watts Point**	**6.49**	**122**	Trac		18 10 07.2	
	comp=Z,13nm,0.6s						
LLLB	**Lillooet**	**6.67**	**111**	P	Pn	18 08 15.9	-3.4
LLLB				Sg	Sg	18 10 07.5	-14
LLLB				Trac		18 10 21.2	
	comp=Z,24nm,0.7s						
PFB	**Port Renfrew**	**6.67**	**134**	Trac		18 10 18.1	
	comp=Z,7.1nm,0.6s						
LZB	**Mount Lazard**	**6.91**	**131**	Trac		18 10 34.8	
	comp=Z,5.0nm,1.0s						
LZB	**Mount Lazard**	**6.91**	**131**	S	Sn	18 10 10.3	+28
FNBB	**Fort Nelson**	**7.29**	**38**	P	Pn	18 08 25.6	-2.4
FNBB				Trac		18 10 37.4	
	comp=Z,26nm,0.9s						
WHY	**Whitehorse**	**7.45**	**348**	P	Pn	18 08 28.4	-1.8
WHY				Trac		18 10 50.6	
	comp=Z,5.0nm,0.7s						
DOWB	**Downie Slide**	**8.25**	**98**	S	Sn	18 10 57.9	+42
PNT	**Penticton**	**8.59**	**114**	Trac		18 11 34.5	
	comp=Z,18nm,0.9s						

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*NEIC **21** 18:08:50.5±3.5, 11.05S×164.05E, h36^{km}±25^{km}, mb4.4/5, Error ellipse: s-maj=29.9km s-min=19.3km az=106.0*
*IDC **21** 18:09:18.6±18.0, 11.24S×163.31E, h271^{km}±157^{km}, mb3.3/5, mb1 3.6/6, mb1mx3.4/15, MS3.3/3, Ms1 3.3/3, ms1mx3.1/17, Error ellipse: s-maj=112.0km s-min=53.3km az=90.0*
ISC 21 18:09:01.6±5.8**, 11.1S**±0.2×**163.7E**±0.3**, h140**^{km}±42^{km}**, n17,** σ**0**^{s}**81**/17**, mb3.9**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.04**	**294**	*e*P	**P**	**18 09 54.0**	**-9.0**
HNR				*e*S	**S**	**18 10 50.0**	**-0.1**
CTA	**Charters Tower**	**19.01**	**240**	*e*P	**P**	**18 13 16.7**	**+1.7**
	12nm,0.7s						
CTA	**Charters Tower**	**19.01**	**240**	P	**P**	**18 13 16.8**	**+1.7**
	1.1nm,0.3s,baz=68,slow=12,SNR=29						
CTA				LR	LR	18 19 39.6	
	comp=Z,105nm,21.8s,baz=203,slow=33						
CTAO	**Charters Tower**	**19.01**	**240**	*e*P	**P**	**18 13 16.7**	**+1.7**
	17nm,0.7s						
STKA	**Stephens Creek**	**29.04**	**221**	*e*P	**P**	**18 14 53.0**	**+2.2**
	2.4nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**29.04**	**221**	P	**P**	**18 14 50.9**	**0.0**
	2.8nm,0.8s,mb4.0,baz=45,slow=8.6,SNR=4.7						
STKA				LR	LR	18 25 36.4	
	comp=Z,108nm,20.9s,baz=181,slow=34						
STKA	**Stephens Creek**	**29.04**	**221**	*e*P	**P**	**18 14 50.8**	**-0.1**
WRAB	**Tennant Creek**	**29.56**	**249**	*e*P	**P**	**18 14 55.0**	**-0.6**
	3.1nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**29.56**	**249**	*e*P	**P**	**18 14 55.5**	**-0.1**
WRA	**Warramunga Arr**	**29.57**	**249**	P	**P**	**18 14 55.7**	**0.0**
	1.8nm,0.4s,mb4.1,baz=79,slow=9.3,SNR=15						
KAKA	**Kakadu**	**30.65**	**264**	*e*P	**P**	**18 15 03.9**	**-1.3**
	3.9nm,0.4s,mb4.5						
ASAR	**Alice Springs**	**30.97**	**242**	P	**P**	**18 15 07.5**	**-0.5**
	0.7nm,0.4s,mb3.7,baz=64,slow=10.0,SNR=18						
FITZ	**Fitzroy Crossi**	**37.42**	**255**	*e*P	**P**	**18 16 03.1**	**+0.1**
	4.9nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**37.42**	**255**	LR	LR	18 29 22.1	
	comp=Z,21nm,20.9s,baz=274,slow=32						
SONM	**Songino Array**	**77.52**	**325**	P	**P**	**18 20 44.0**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=108,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**92.18**	**317**	P	**P**	**18 21 57.2**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=104,slow=5.9,SNR=4.3						
PMSA	**Palmer Station**	**96.32**	**161**	*e*P	**P**	**18 22 14.1**	**-0.9**

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*STR **21** 18:17:13.9±0.2, 43.30N×1.23W, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 18:17:13.4±0.1, 43.30N×1.27W, h10^{km}, Md1.7/2, Error ellipse: s-maj=2.4km s-min=2.0km az=165.0*
MDD 21 18:17:14.2±0.4**, 43.27N×1.29W, h8**^{km}±3^{km}**, mbLg0.9**/2**, 1C, Error ellipse: s-maj=4.7km s-min=1.3km az=6.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSF	**Osses**	**0.03**	**125**	Pg	Pg	18 17 15.6	-0.1
OSSF				Sg	Sg	18 17 16.9	+0.2
OSSF	**Osses**	**0.03**	**125**	Pg	Pg	18 17 15.8	0.0
OSSF				Lg		18 17 17.1	
SJPF	**Ste Jean**	**0.17**	**163**	*e*Pg	Pg	18 17 17.6	-0.2
SJPF				*e*Sg	Sg	18 17 20.5	+0.3
	17nm,0.2s						
EALK	**Alkurruntz**	**0.17**	**252**	⇑Pg	Pg	18 17 17.8	0.0
	SNR=18						
EALK				Lg		18 17 19.9	
	5.8nm,0.1s,SNR=31						
ORDF	**Ordiarp**	**0.27**	**102**	Pg	Pg	18 17 18.9	-0.8
ORDF				Sg	Sg	18 17 22.5	-0.9
ORDF	**Ordiarp**	**0.27**	**102**	Pg	Pg	18 17 18.9	-0.8
ORDF				Lg		18 17 22.6	
LARF	**Larrau**	**0.32**	**136**	Pg	Pg	18 17 20.0	-0.8
LARF				Sg	Sg	18 17 24.9	-0.3
LARF	**Larrau**	**0.32**	**136**	Pg	Pg	18 17 20.0	-0.8
LARF				Lg		18 17 25.0	
ETSF	**Etsaut**	**0.65**	**125**	*e*Pg	Pg	18 17 26.2	-1.1
ETSF				*e*Sg	Sg	18 17 34.4	-1.7
	1.1nm,0.3s						
EPF	**Esparros**	**1.22**	**101**	*e*Pn	Pn	18 17 34.7	-2.8

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*ROM **21** 18:31:36.5±0.6, 46.52N×14.38E, h10^{km}, MD3.3/2, ML2.4/4, Error ellipse: s-maj=4.1km s-min=2.7km az=90.0*
*LDG **21** 18:31:36.7±0.4, 46.19N×14.75E, h10^{km}, Ml2.9/3, Error ellipse: s-maj=9.0km s-min=4.1km az=118.0*
*LJU **21** 18:31:37.4, 46.53N×14.33E, h12^{km}, ML2.4*
*NEIC **21** 18:31:38.1±0.4, 46.45N×14.31E, h10^{km}, ML3.0(VIE), ML2.9(FUR), ML2.9(LDG), ML2.8(SZGRF), ML2.4(LJU), Error ellipse: s-maj=5.3km s-min=3.8km az=7.0*
NEIC Felt [IV] at Ferlach.
ISC 21 18:31:37.1±0.2**, 46.55N**±0.01×**14.31E**±0.02**, h3**^{km}±3^{km}**, n77,** σ**1**^{s}**18**/122**, 17C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBKA	**Obir**	**0.17**	**104**	⇑*i*PG	**Pg**	**18 31 41.4**	**+0.9**
OBKA				*i* SG	**Sg**	**18 31 44.4**	**+1.6**
	1μm,0.2s						
CADS	**Cadrg**	**0.51**	**231**	*i* Pg	**Pg**	**18 31 47.0**	**-0.4**
LJU	**Ljubljana**	**0.53**	**164**	*i* Pg	**Pg**	**18 31 47.7**	**0.0**
LJU				*e*Sg	**Sg**	**18 31 54.5**	**-0.2**
PERS	**Pernice**	**0.56**	**81**	*i* Pg	**Pg**	**18 31 48.8**	**+0.4**
PERS				*i* Sg	**Sg**	**18 31 56.3**	**+0.4**
	comp=Z,134nm,0.1s						
BISS	**Bistriski jare**	**0.57**	**80**	*i* Pg	**Pg**	**18 31 49.0**	**+0.5**
BISS				*i* Sg	**Sg**	**18 31 56.6**	**+0.5**
VOY	**Vojsko**	**0.59**	**209**	*i* Pg	**Pg**	**18 31 48.4**	**-0.6**
VOY				*e*Sg	**Sg**	**18 31 56.8**	**-0.1**
DRE	**Drenchia**	**0.60**	**231**	⇑*e*Pg	**Pg**	**18 31 49.1**	**+0.1**
DRE				*e*Sg	**Sg**	**18 31 58.3**	**+1.3**
ROBS	**Robic**	**0.63**	**241**	*i* Pg	**Pg**	**18 31 49.6**	**-0.2**
PDKS	**Podkum**	**0.67**	**135**	*i* Pg	**Pg**	**18 31 50.6**	**+0.1**
JAVS	**Javornik**	**0.68**	**195**	*i* Pg	**Pg**	**18 31 50.0**	**-0.7**
PTCC	**Patocco-Chiusa**	**0.68**	**258**	*e*PG	**Pg**	**18 31 51.0**	**+0.3**
PTCC				SG	**Sg**	**18 32 00.8**	**+1.1**
	comp=Z,118nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.68**	**258**	*e*Pg	**Pg**	**18 31 51.0**	**+0.3**
PTCC				*e*Sg	**Sg**	**18 32 00.8**	**+1.0**
COLI	**Coloredo**	**0.77**	**238**	⇑*e*Pg	**Pg**	**18 31 52.2**	**-0.3**
COLI				*e*Sg	**Sg**	**18 32 03.9**	**+1.1**
GMNA	**Gemona**	**0.79**	**250**	*e*PG	**Pg**	**18 31 54.1**	**+1.1**
GMNA				SG	**Sg**	**18 32 07.6**	**+4.0**
	comp=Z,93nm,0.2s						
GMNA	**Gemona**	**0.79**	**250**	*e*Pg	**Pg**	**18 31 54.1**	**+1.2**
GMNA				*e*Sg	**Sg**	**18 32 07.6**	**+4.1**
BAD	**Bernadia**	**0.80**	**247**	⇑*e*Pg	**Pg**	**18 31 53.0**	**-0.2**
BAD				*e*Sg	**Sg**	**18 32 05.3**	**+1.4**
GROS	**Grobnik**	**0.83**	**96**	*i* Pg	**Pg**	**18 31 53.2**	**-0.4**
VISS	**Visnje**	**0.83**	**154**	*i* Pg	**Pg**	**18 31 53.1**	**-0.7**
	comp=Z,37nm,0.1s						
KBA	**Koelnbreinsper**	**0.85**	**309**	⇓*i*PG	**Pg**	**18 31 54.6**	**+0.5**
KBA				*i* SG	**Sg**	**18 32 06.3**	**+0.9**
	comp=Z,130nm,0.4s						
BOO	**Bordano**	**0.87**	**255**	*e*Pg	**Pg**	**18 31 54.3**	**-0.2**
LEGS	**Legarje**	**0.92**	**130**	*i* Pg	**Pg**	**18 31 55.0**	**-0.5**
TRI	**Trieste**	**0.92**	**205**	*e*PG	**Pg**	**18 31 54.3**	**-1.3**
TRI				SG	**Sg**	**18 32 08.3**	**+0.4**
	comp=Z,149nm,0.4s						
TRI	**Trieste**	**0.92**	**205**	*e*Pg	**Pg**	**18 31 54.3**	**-1.3**
TRI				*e*Sg	**Sg**	**18 32 08.3**	**+0.4**
MPRI	**Monte Prat**	**0.97**	**252**	⇑*e*Pg	**Pg**	**18 31 56.4**	**0.0**
MPRI				*e*Sg	**Sg**	**18 32 11.4**	**+2.0**
CESS	**Cesta pri Krsk**	**0.98**	**125**	*i* Pg	**Pg**	**18 31 56.5**	**-0.3**
FVI	**Forni Avoltri**	**1.06**	**273**	*e*PN	**Pn**	**18 31 58.0**	**-0.7**
	comp=Z,96nm,0.4s						
FVI	**Forni Avoltri**	**1.06**	**273**	*e*Pg	**Pg**	**18 31 58.0**	**-0.2**
GOLS	**Golise**	**1.06**	**120**	*i* Pg	**Pg**	**18 31 57.7**	**-0.5**
ARSA	**Arzberg**	**1.09**	**49**	⇑*i*PG	**Pg**	**18 31 58.9**	**+0.1**
ARSA				*i* SG	**Sg**	**18 32 13.3**	**0.0**
	comp=Z,50nm,0.2s						
BOJS	**Bojanci**	**1.23**	**148**	*e*Pg	**Pg**	**18 32 00.5**	**-1.3**
BOJS				*e*Sg	**Sg**	**18 32 18.0**	**-0.2**
	comp=Z,89nm,0.4s						
MLNI	**Malnisio**	**1.25**	**252**	⇑*e*Pg	**Pg**	**18 32 01.9**	**-0.1**
MLNI				*e*Sg	**Sg**	**18 32 21.6**	**+3.0**
MOA	**Molln**	**1.30**	**359**	⇑*i*PG	**Pg**	**18 32 03.3**	**+0.2**
MOA				*i* SG	**Sg**	**18 32 22.0**	**+1.6**
	comp=Z,20nm,0.3s						
CSO	**Casso**	**1.40**	**259**	⇑*e*Pg	**Pg**	**18 32 05.6**	**+0.4**
CSO				*e*Sg	**Sg**	**18 32 26.2**	**+2.4**
CAE	**Caneva**	**1.41**	**248**	⇓*e*Pg	**Pg**	**18 32 05.2**	**-0.1**
CAE				*e*Sg	**Sg**	**18 32 25.7**	**+1.6**
AFL	**Alpe Faloria**	**1.47**	**270**	*e*Pg	**Pg**	**18 32 06.8**	**+0.3**
AFL				*e*Sg	**Sg**	**18 32 29.4**	**+3.3**
RMOA	**Moar Alm**	**1.56**	**321**	⇑*i*Pg	**Pg**	**18 32 09.4**	**+1.0**
FAU	**Forcella Aurin**	**1.65**	**260**	⇓*e*Pg	**Pg**	**18 32 09.3**	**-0.7**
SCE	**Schlegeis**	**1.85**	**286**	⇑*i*Pg	**Pg**	**18 32 12.9**	**-1.2**
CGRP	**Cima Grappa**	**1.87**	**250**	⇓*e*Pg	**Pg**	**18 32 12.1**	**-2.4**
WTTA	**Wattenberg**	**1.97**	**292**	⇑*i*PG	**Pg**	**18 32 14.9**	**-1.5**
WTTA				*i* SG	**Sg**	**18 32 42.7**	**0.0**
	comp=Z,35nm,0.5s						
WATA	**Walderalm**	**2.03**	**294**	⇑*i*PG	**Pg**	**18 32 16.3**	**-1.4**
WATA				*i* SG	**Sg**	**18 32 45.0**	**+0.2**
	comp=Z,14nm,0.3s						
VKA	**Vienna**	**2.19**	**38**	⇑*i*PG	**Pg**	**18 32 19.8**	**-1.1**
VKA				*i* SG	**Sg**	**18 32 49.3**	**-0.8**
SQTA	**Sankt Quirin**	**2.23**	**289**	⇑*i*PG	**Pg**	**18 32 19.1**	**-2.6**
SQTA				*i* SG	**Sg**	**18 32 51.3**	**-0.1**
	comp=Z,14nm,0.4s						
OGA	**Obergurgl**	**2.28**	**279**	⇓*i*Pn	**Pn**	**18 32 21.5**	**+5.3**
GEC2	**GERESS Array S**	**2.33**	**350**	*e*Pn	**Pn**	**18 32 18.8**	**+1.9**
GEC2				*e*Sg	**Sg**	**18 32 53.5**	**-1.3**
MOTA	**Moosalm**	**2.34**	**291**	⇓*i*PG	**Pg**	**18 32 21.4**	**-2.4**
MOTA				*i* SG	**Sg**	**18 32 53.2**	**-1.8**
	comp=Z,40nm,0.7s						
FUR	**Furstenfeldbru**	**2.62**	**309**	⇑*i*Pn	**Pn**	**18 32 24.7**	**+3.6**
KHC	**Kasperske Hory**	**2.63**	**349**	PN	**Pn**	**18 32 23.0**	**+1.8**
KHC				PG	**Pg**	**18 32 29.5**	**-0.1**
KHC						18 32 34.0	
KHC				*e*SG	**Sg**	**18 33 01.5**	**-3.2**
KHC						18 33 11.5	
KHC	**Kasperske Hory**	**2.63**	**349**	Pn	**Pn**	**18 32 23.0**	**+1.8**
KHC				*e*		18 32 29.5	
KHC				*e*		18 32 34.0	
KHC				*e*Sg	**Sg**	**18 33 01.5**	**-3.2**
KHC				*e*		18 33 11.5	
WET	**Wettzell**	**2.77**	**340**	*e*Pn	**Pn**	**18 32 25.0**	**+1.8**
PRU	**Pruhonice**	**3.44**	**2**	*e*PN	**Pn**	**18 32 33.7**	**+0.9**
PRU				PG	**Pg**	**18 32 43.0**	**-2.9**
PRU				*e*SG	**Sg**	**18 33 26.0**	**-5.8**
	comp=Z,13nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.51**	**337**	⇑*i*Pn	**Pn**	**18 32 34.6**	**+0.8**
NKC	**Novy Kostel**	**3.89**	**342**	*e*PN	**Pn**	**18 32 40.0**	**+0.9**
NKC				*e*SG	**Sg**	**18 33 41.9**	**-4.7**
DPC	**Dobruska-Polom**	**4.03**	**19**	*e*SG	**Sg**	**18 33 44.2**	**-7.1**
UPC	**Upice**	**4.12**	**15**	*e*SG	**Sg**	**18 33 46.1**	**-8.1**
BRG	**Berggiesshubel**	**4.33**	**357**	*e*P	**Pn**	**18 32 47.8**	**+2.4**
BRG				*e*		18 32 59.9	
BRG				*e*Sg	**Sg**	**18 33 56.9**	**-4.5**
BFO	**Black Forest**	**4.43**	**296**	*e*Pn	**Pn**	**18 32 48.0**	**+1.2**
MOX	**Moxa**	**4.47**	**337**	*i* P	**Pn**	**18 32 48.2**	**+0.8**
MOX				S	**Sn**	**18 33 39.0**	**-1.6**
MOX				Sg	**Sg**	**18 34 04.0**	**-2.0**
MOX	**Moxa**	**4.47**	**337**	*e*Pn	**Pn**	**18 32 48.2**	**+0.8**
MOX				*e*Sn	**Sn**	**18 33 39.8**	**-0.8**
MOX				*e*Sg	**Sg**	**18 34 03.9**	**-2.1**
CLL	**Collm**	**4.84**	**350**	*i* PN	**Pn**	**18 32 54.3**	**+1.7**
CLL				*e*		18 34 06.0	
CLL				*e*		18 34 13.0	
CLL				*i* SG	**Sg**	**18 34 19.1**	**+0.9**
CLL	**Collm**	**4.84**	**350**	*i* Pn	**Pn**	**18 32 54.3**	**+1.7**
CLL				*e*		18 34 13.0	
CLL				*i* Sg	**Sg**	**18 34 19.1**	**+0.9**
CDF	**Champ du Feu**	**5.12**	**294**	*e*Pn	**Pn**	**18 32 56.7**	**+0.1**
CDF				*e*Sn	**Sn**	**18 33 56.6**	**-0.4**
	comp=Z,1.9nm,0.4s						
HINF	**Hinteralfeld**	**5.24**	**287**	*e*Pn	**Pn**	**18 32 58.2**	**-0.1**
HINF				*e*Sn	**Sn**	**18 33 59.0**	**-1.1**
	comp=Z,4.9nm,0.4s						
LPL	**La Plagne**	**5.38**	**262**	*e*Pn	**Pn**	**18 32 58.2**	**-2.0**
PGF	**Pioggiola**	**5.51**	**225**	*e*Pn	**Pn**	**18 32 56.8**	**-5.3**
HAU	**Haudompre**	**5.61**	**288**	*e*Pn	**Pn**	**18 33 04.2**	**+0.7**
HAU				*e*Sn	**Sn**	**18 34 07.6**	**-1.8**
	comp=Z,3.8nm,0.5s						
CABF	**La Chapelle**	**5.67**	**274**	*e*Pn	**Pn**	**18 33 03.6**	**-0.7**
ORIF	**Oris-en-Rattie**	**6.12**	**258**	*e*Pn	**Pn**	**18 33 08.2**	**-2.5**
FRF	**La Foret Royal**	**6.20**	**244**	*e*Pn	**Pn**	**18 33 07.3**	**-4.5**
LMR	**La Mourre**	**6.40**	**243**	*e*Pn	**Pn**	**18 33 10.4**	**-4.3**
MEZF	**Maizieres J'vi**	**6.57**	**291**	*e*Pn	**Pn**	**18 33 16.1**	**-0.9**
VIVF	**Saint-Julien-l**	**6.96**	**259**	*e*Pn	**Pn**	**18 33 19.7**	**-2.8**
LOR	**Lormes**	**7.20**	**280**	*e*Pn	**Pn**	**18 33 25.6**	**-0.2**
GIVF	**Givet**	**7.25**	**303**	*e*Pn	**Pn**	**18 33 28.0**	**+1.4**
AVF	**Avril sur Loir**	**7.54**	**276**	*e*Pn	**Pn**	**18 33 28.8**	**-1.9**
BAIF	**Baives**	**7.60**	**301**	*e*Pn	**Pn**	**18 33 31.6**	**+0.2**
BSD	**Bornholm Skovb**	**8.58**	**2**	*i* P	**Sn**	**18 35 25.5**	**+1.9**
	comp=Z,31nm,1.1s						

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*PRU **21** 18:45:29.6, 50.40N×18.87E*
WAR 21 18:45:29.1, 50.28N×18.92E, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.57**	**96**	*e*PG	Pg	18 45 41.0	+0.6
OJC				*e*SG	Sg	18 45 49.0	+1.0
OKC	**Ostrava-Krasne**	**0.67**	**229**	*e*PG	Pg	18 45 43.4	+1.0
OKC				*e*SG	Sg	18 45 54.6	+3.3
NIE	**Niedzica**	**1.25**	**133**	*e*PG	Pg	18 45 54.0	0.0
NIE				*e*SG	Sg	18 46 10.0	-0.6
DPC	**Dobruska-Polom**	**1.67**	**273**	*e*PG	Pg	18 45 58.9	-3.5
DPC				*e*SG	Sg	18 46 21.5	-3.1
KSP	**Ksiaz**	**1.77**	**290**	*e*PG	Pg	18 46 03.0	-1.4
KSP				*e*(SG)	Sg	18 46 25.0	-2.9
KHC	**Kasperske Hory**	**3.65**	**254**	*e*PN	Pn	18 46 23.5	-4.6
KHC				*e*SG	Sg	18 47 25.5	-5.2

IDC 21 18:51:14.1±2.0**, 2.36N×127.40E, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.2**/13**, Error ellipse: s-maj=149.0km s-min=24.4km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.18**	**163**	P	P	18 56 22.6	-1.0
	0.1nm,0.3s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.63**	**167**	P	P	18 56 54.1	-2.3
	0.3nm,0.6s,baz=351,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**59.06**	**325**	P	P	19 01 16.5	-2.0
	0.1nm,0.3s,baz=118,slow=7.2,SNR=3.4						

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*IDC **21** 18:51:23.9±17.0, 14.91S×166.42E, h244^{km}±146^{km}, mb3.4/6, mb1 3.4/7, mb1mx3.3/16, Error ellipse: s-maj=103.0km s-min=46.6km az=91.0*
ISC 21 18:51:28.0±3.5**, 15.1S**±0.4×**166.4E**±0.6**, h300**^{km}**, n7,** σ**0**^{s}**49**/7**, mb3.6**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**19.80**	**253**	P	**P**	**18 55 37.5**	**0.0**
	0.1nm,0.3s,baz=79,slow=9.7,SNR=3.7						
STKA	**Stephens Creek**	**28.08**	**229**	P	**P**	**18 56 54.8**	**+0.2**
	4.4nm,0.4s,mb4.2,baz=45,slow=8.4,SNR=24						
WRA	**Warramunga Arr**	**30.89**	**256**	P	**P**	**18 57 18.7**	**-0.6**
	0.4nm,0.5s,mb3.2,baz=86,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**31.72**	**249**	P	**P**	**18 57 26.1**	**-0.4**
	1.6nm,0.7s,mb3.7,baz=78,slow=8.9,SNR=45						
FITZ	**Fitzroy Crossi**	**39.09**	**260**	P	**P**	**18 58 29.2**	**+0.8**
	1.6nm,0.8s,mb3.5,baz=157,slow=22,SNR=5.2						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**19 03 18.0**	**+0.4**
	0.5nm,0.9s,mb3.2,baz=117,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**96.90**	**316**	P	**P**	**19 04 26.0**	**-0.5**
	0.2nm,0.6s,mb3.5,baz=108,slow=4.6,SNR=3.6						

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*IDC **21** 18:59:01.2±0.9, 0.56N×125.21E, mb3.5/5, mb1 3.7/6, mb1mx3.6/14, ML3.5/1, Error ellipse: s-maj=98.6km s-min=17.7km az=69.0*
*NEIC **21** 18:59:06.9±5.9, 0.57N×125.41E, h43^{km}±60^{km}, mb3.8/3, Error ellipse: s-maj=21.4km s-min=12.5km az=94.0*
ISC 21 18:59:03.8±0.7**, 0.57N**±0.09×**125.3E**±0.2**, h33**^{km}**, n13,** σ**0**^{s}**55**/13**, mb3.7**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.55**	**179**	*e*P	**P**	**19 03 19.8**	**-0.5**
	2.5nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.55**	**179**	P	**P**	**19 03 19.6**	**-0.7**
	0.1nm,0.3s,slow=13,SNR=4.2						
WRAB	**Tennant Creek**	**22.24**	**157**	*e*P	**P**	**19 03 59.1**	**-0.3**
	2.9nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**22.24**	**157**	P	**P**	**19 03 59.9**	**+0.5**
	0.6nm,0.5s,mb3.3,baz=335,slow=11,SNR=17						
WRA				PcP	PcP	19 07 56.3	+0.3
	0.1nm,0.4s,baz=336,slow=2.1,SNR=5.6						
WB2	**Warramunga Arr**	**22.25**	**157**	*e*P	**P**	**19 04 00.0**	**+0.6**
GUMO	**Guam**	**23.34**	**55**	P	**P**	**19 04 10.9**	**+0.5**
	249nm,1.3s						
PMG	**Port Moresby**	**23.96**	**115**	P	**P**	**19 04 15.1**	**-1.3**
	22nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**25.51**	**161**	P	**P**	**19 04 31.6**	**+0.3**
	0.3nm,0.5s,mb3.1,baz=335,slow=6.7,SNR=10						
ASAR				PcP	PcP	19 08 03.3	+0.4
	0.3nm,0.4s,baz=350,slow=2.1,SNR=16						
STKA	**Stephens Creek**	**35.79**	**156**	P	**P**	**19 06 02.5**	**+0.4**
	1.4nm,0.8s,mb4.0,baz=326,slow=15,SNR=3.3						
SONM	**Songino Array**	**49.85**	**343**	P	**P**	**19 07 56.1**	**+0.2**
	0.1nm,0.3s,mb3.3,baz=160,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**59.34**	**327**	P	**P**	**19 09 05.1**	**0.0**
	0.4nm,0.3s,mb3.9,baz=122,slow=7.7,SNR=22						
MKAR	**Makanchi Array**	**59.34**	**327**	P	**P**	**19 09 05.1**	**0.0**
KURK	**Kurchatov**	**63.63**	**329**	*e*P	**P**	**19 09 33.5**	**-0.5**

IDC 21 19:04:56.6±27.0**, 20.73S×172.47W, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/18**, Error ellipse: s-maj=499.0km s-min=168.5km az=75.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.61**	**263**	P	P	19 12 22.6	-0.9
	3.1nm,0.9s,baz=85,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**42.37**	**245**	P	P	19 12 51.6	-2.8
	1.3nm,0.7s,baz=90,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**49.50**	**256**	P	P	19 13 49.1	-2.0
	0.7nm,0.7s,baz=94,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**49.69**	**261**	P	P	19 13 50.7	-1.9
	0.2nm,0.3s,baz=95,slow=8.3,SNR=25						

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*JMA **21** 19:47:50.6±0.2, 24.76N×122.75E, h98^{km}±2^{km}, M1.9*
*TAP **21** 19:47:52.0, 24.67N×122.95E, h67^{km}±1^{km}, ML3.1*
ISC 21 19:47:50.5±2.6**, 24.7N**±0.3×**122.8E**±0.1**, h100**^{km}±19^{km}**, n6,** σ**0**^{s}**31**/10**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.35**	**138**	P	**P**	**19 48 05.5**	**+0.1**
YOJ				S	**S**	**19 48 16.6**	**0.0**
IRIF	**Iriomote-Funau**	**0.97**	**113**	P	**P**	**19 48 10.7**	**-0.1**
IRIF				*e*S	**S**	**19 48 26.4**	**+0.3**
HATJ	**Hateruma jima**	**1.16**	**124**	*e*S	**S**	**19 48 30.2**	**+0.1**
JKRS	**Kuro-shima**	**1.24**	**113**	P	**P**	**19 48 14.2**	**+0.1**
JKRS				*e*S	**S**	**19 48 31.7**	**0.0**
JIJ	**Ishigaki jima**	**1.31**	**105**	P	**P**	**19 48 14.8**	**-0.1**
JIJ				*e*S	**S**	**19 48 32.3**	**-0.8**
JTJ	**Tarama**	**1.77**	**92**	*e*S	**S**	**19 48 43.3**	**+0.4**

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*NIED **21** 19:57:00, 24.50N×122.20E, h47^{km}, Mw4.1 Best double* *couple: M$_0$1.47×10^{15} NP1:ϕ$_s$85°,δ62°,λ-148°. NP2: ϕ$_s$339°,δ62°,λ-32°.*

*BJI **21** 19:57:49.0,24.04N×122.51E,h53^{km},mb4.4,ML3.9*

*JMA **21** 19:57:55.2±0.2,24.51N×122.24E,h56^{km}±2^{km},M3.9*

*TAP **21** 19:57:56.7,24.32N×122.29E,h25^{km}±1^{km},ML4.5*

*NEIC **21** 19:57:56.1±1.0,24.43N×122.29E,h53^{km}±10^{km},mb4.2/4, Error ellipse: s-maj=13.7km s-min=9.9km az=213.0*

*IDC **21** 19:57:56.5±4.1,24.44N×122.33E,h57^{km}±44^{km},mb3.5/7, mb1 3.6/8,mb1mx3.4/21,ML3.8/1,MS2.9/2,Ms1 3.0/2, ms1mx2.5/22,Error ellipse: s-maj=26.2km s-min=16.9km az=60.0*

ISC 21 19:57:55.1±0.6**,24.46N**±0.09×**122.25E**±0.04**,h60**^{km}±7^{km}**, n25,**σ**0**^{s}**85**/32**,mb3.9**/11**,1C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**89**	P	**P**	**19 58 09.3**	**-0.1**
YOJ				S	**S**	**19 58 19.6**	**-0.4**
TATO	**Taipei**	**0.86**	**307**	*e*Pg	**P**	**19 58 12.4**	**+0.9**
IRIF	**Iriomote-Funau**	**1.35**	**95**	P	**P**	**19 58 18.1**	**-0.3**
IRIF				S	**S**	**19 58 35.5**	**-0.1**
HATJ	**Hateruma jima**	**1.47**	**105**	P	**P**	**19 58 20.4**	**+0.4**
JKRS	**Kuro-shima**	**1.62**	**97**	P	**P**	**19 58 22.3**	**+0.3**
JKRS				*e*S	**S**	**19 58 42.2**	**+0.3**
JIJ	**Ishigaki jima**	**1.73**	**93**	P	**P**	**19 58 23.5**	**0.0**
JIJ				S	**S**	**19 58 43.6**	**-0.9**
JTJ	**Tarama**	**2.24**	**85**	P	**P**	**19 58 31.1**	**+0.4**
JTJ				*e*S	**S**	**19 58 57.6**	**+0.4**
JMJ	**Miyako jima 2**	**2.79**	**82**	*e*S	**S**	**19 59 11.6**	**+0.5**
JOGS	**Gusukube**	**2.89**	**83**	P	**P**	**19 58 40.7**	**+0.8**
JOGS				*e*S	**S**	**19 59 14.3**	**+0.7**
QZH	**Quanzhou**	**3.36**	**279**	⇓*i*P	**P**	**19 58 44.8**	**-1.7**
QZH				S	**S**	**19 59 21.5**	**-4.0**
QZH				Smax			
	comp=N,220nm,0.6s						
QZH				Smax			
	comp=E,150nm,0.8s						
JKE	**Kume jima 2**	**4.51**	**65**	⇑P	**P**	**19 59 03.7**	**+1.1**
JOW	**Kunigami**	**5.93**	**65**	P	**P**	**19 59 21.2**	**-1.1**
	comp=E,5.6nm,0.3s,baz=124,slow=27,SNR=12						
JOW				S	**S**	**20 00 27.6**	**-2.2**
	baz=121,slow=27,SNR=1.5						
JOW	**Kunigami**	**5.93**	**65**	P	**P**	**19 59 21.4**	**-0.9**
JNU	**Nakatsue**	**11.48**	**39**	LR	LR	20 05 19.9	
	comp=E,30nm,18.7s,baz=73,slow=39						
CMAR	**Chiang Mai Arr**	**22.48**	**259**	P	**P**	**20 02 52.1**	**+1.7**
	comp=E,0.8nm,0.7s,mb3.3,baz=53,slow=8.8,SNR=5.9						
CMAR				LR	LR	20 11 20.7	
	comp=E,44nm,18.6s,baz=70,slow=36						
SONM	**Songino Array**	**26.51**	**336**	P	**P**	**20 03 29.3**	**+0.5**
	comp=E,0.9nm,0.5s,mb3.6,baz=152,slow=11,SNR=12						
MKAR	**Makanchi Array**	**38.83**	**315**	P	**P**	**20 05 16.2**	**+0.5**
	comp=E,1.5nm,0.8s,mb3.8,baz=102,slow=9.2,SNR=12						
KURK	**Kurchatov**	**42.51**	**320**	*e*P	**P**	**20 05 46.3**	**+0.2**
	comp=E,1.5nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**45.67**	**164**	P	**P**	**20 06 10.9**	**-1.1**
	comp=E,0.8nm,0.7s,mb3.8,baz=346,slow=8.8,SNR=10						
BVAR	**Borovoye Array**	**48.08**	**320**	P	**P**	**20 06 30.4**	**-0.1**
	comp=E,1.0nm,0.6s,mb4.1,baz=106,slow=8.0,SNR=10						
BRVK	**Borovoye**	**48.15**	**320**	*e*P	**P**	**20 06 31.1**	**+0.1**
	comp=E,1.9nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**49.15**	**166**	P	**P**	**20 06 39.0**	**-0.2**
	comp=E,0.3nm,0.6s,mb3.5,baz=350,slow=12,SNR=8.8						
CTAO	**Charters Tower**	**50.06**	**150**	*e*P	**P**	**20 06 50.8**	**+4.6**
	comp=E,7.3nm,0.9s,mb4.7						
ARU	**Arti**	**55.48**	**323**	*e*P	**P**	**20 07 24.4**	**-1.5**
	comp=E,1.6nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**71.70**	**330**	P	**P**	**20 09 12.8**	**+0.6**
	comp=E,1.0nm,0.8s,mb3.8,baz=59,slow=8.1,SNR=3.1						

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*HRVD **21** 20:11:48.9±0.8,10.60S×34.44E,h12^{km},MW4.7/29, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s29,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.19±.12; M$_{\theta\theta}$0.43±.10; M$_{\phi\phi}$-0.24±.10; M$_{r\theta}$-0.57±.27; M$_{\theta\phi}$-0.97±.10; M$_{\phi r}$-0.48±.48; Best double couple: M$_0$1.26×10^{16} NP1:ϕ$_s$346°,δ61°,λ-17°. NP2:ϕ$_s$84°,δ75°,λ-150°. Principal axes: T 1.15, Plg9°, Azm212°; N .23, Plg57°, Azm108°; P -1.38, Plg32°, Azm308°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **21** 20:11:48.4,9.96S×34.36E,h5^{km},mB5.3,mb4.9,Msz4.9*

*SYO **21** 20:11:48.9,10.59S×34.43E,h10^{km},MB4.9,MS4.2*

*NEIC **21** 20:11:48.9±0.3,10.59S×34.43E,h10^{km},mb4.9/37, MS4.2/5,Error ellipse: s-maj=9.2km s-min=6.1km az=102.0*

*MOS **21** 20:11:51.0±0.7,10.47S×34.44E,h33^{km},mb5.1/17,Error ellipse: s-maj=23.5km s-min=10.7km az=95.5*

*IDC **21** 20:11:51.7±0.5,10.57S×34.50E,h26^{km}±3^{km},mb4.4/21, mb1 4.4/22,mb1mx4.4/26,ML2.4/1,MS4.0/14,Ms1 4.0/14, ms1mx3.9/25,Error ellipse: s-maj=19.5km s-min=11.5km az=94.0*

ISC 21 20:11:49.4±0.3**,10.64S**±0.05×**34.26E**±0.07**,h26**^{km}**, h26**^{km}±1.4^{km}**:pP-P,n145,**σ**0**^{s}**96**/133**,mb4.8**/59**,MS4.1**/18**, 16C-6D,Malawi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.50**	**231**	*e*P	**Pn**	**20 13 39.7**	**-0.4**
	24nm,0.4s						
LSZ				S	**Sn**	**20 14 53.8**	**-11**
KMBO	**Kilima Mbogo**	**9.90**	**18**	*e*P	**P**	**20 14 08.8**	**-4.7**
	8.0nm,0.3s						
KMBO				*e*S	**Sn**	**20 15 48.1**	**-17**
MBAR	**Mbarara**	**10.57**	**340**	*e*P	**P**	**20 14 17.7**	**-4.9**
	15nm,0.6s						
MBAR				*e*S	**S**	**20 16 24.8**	**+3.7**
TSUM	**Tsumeb**	**18.22**	**240**	P	**P**	**20 16 02.6**	**+0.1**
	0.8nm,0.3s,baz=61,slow=9.4,SNR=24						
TSUM				Sn	**S**	**20 19 19.2**	**-2.6**
	0.5nm,0.3s,baz=124,slow=21,SNR=3.2						
TSUM				Lg		20 21 22.3	
	1.2nm,0.3s,baz=2.6,slow=18,SNR=2.2						
TSUM				LR	LR	20 22 51.8	
	comp=Z,243nm,21.3s,baz=52,slow=36						
TSUM	**Tsumeb**	**18.22**	**240**	*e*P	**P**	**20 16 02.5**	**0.0**
	7.9nm,0.9s						
TSUM				*e*S	**S**	**20 19 26.9**	**+5.2**
SUR	**Sutherland**	**24.95**	**208**	P	**P**	**20 17 13.9**	**+1.6**
	5.4nm,0.6s,mb4.2,baz=31,slow=13,SNR=9.2						
SUR				Sn	S	20 22 08.7	+37
	6.4nm,0.9s,baz=143,slow=22,SNR=2.7						
SUR				Lg		20 24 36.8	
	82nm,1.2s,baz=300,slow=21,SNR=5.1						
SUR				LR	LR	20 27 09.3	
	comp=Z,745nm,18.8s,MS4.2,baz=64,slow=36						
SUR	**Sutherland**	**24.95**	**208**	*e*P	**P**	**20 17 14.9**	**+2.6**
	12nm,0.6s,mb4.6						
AFFS	**‘Afif**	**35.40**	**14**	P	**P**	**20 18 47.1**	**+1.6**
UMJS	**Umm Lajj**	**35.78**	**5**	P	**P**	**20 18 50.2**	**+1.6**
KBRS	**Khaybar**	**36.53**	**8**	P	**P**	**20 18 56.3**	**+1.3**
AYUS	**‘Aynunah**	**38.61**	**1**	P	**P**	**20 19 13.9**	**+1.5**
TBKS	**Tabuk**	**38.70**	**3**	P	**P**	**20 19 14.5**	**+1.3**
BDAS	**Al Bad‘**	**38.85**	**1**	P	**P**	**20 19 15.4**	**+1.0**
JMQS	**Jabal Moqyreh**	**39.32**	**2**	P	**P**	**20 19 19.6**	**+1.2**
HAQS	**Haql**	**39.46**	**1**	P	**P**	**20 19 20.5**	**+0.9**
JMOS	**Jabal al Moall**	**39.58**	**1**	P	**P**	**20 19 21.8**	**+1.3**
DBIC	**Dimbokro**	**42.57**	**292**	P	**P**	**20 19 45.8**	**+0.4**
	4.8nm,1.0s,mb4.2,baz=84,slow=8.0,SNR=5.2						
DBIC				LR	LR	20 36 59.8	
	comp=Z,172nm,19.9s,MS3.9,baz=104,slow=35						
DBIC	**Dimbokro**	**42.57**	**292**	P	**P**	**20 19 45.8**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DBIC				MLR	MLR		
	comp=Z,172nm,19.9s						
ASF	**Jabal al Asfar**	**42.64**	**3**	P	**P**	**20 19 46.8**	**+1.1**
	comp=Z,7.5nm,0.8s,mb4.5,baz=9.6,slow=2.3,SNR=10						
IDI	**Anoyia**	**46.53**	**349**	P	**P**	**20 20 17.1**	**+0.3**
	comp=Z,20nm,0.8s,mb5.1,baz=174,slow=10,SNR=17						
GZT	**Gaziantep**	**47.84**	**4**	*i* P	**P**	**20 20 28.3**	**+1.2**
MALT	**Malatya**	**48.85**	**4**	*e*P	**P**	**20 20 36.4**	**+1.4**
	comp=Z,34nm,1.3s,mb5.2						
AVNT	**Avonos**	**49.16**	**1**	*i* P	**P**	**20 20 38.0**	**+0.7**
KDAG	**Bornova**	**49.22**	**353**	*i* P	**P**	**20 20 37.3**	**-0.5**
ESKT	**Eskisehir**	**50.00**	**357**	*i* P	**P**	**20 20 44.0**	**+0.2**
BRTR	**Keskin Array B**	**50.11**	**359**	P	**P**	**20 20 45.1**	**+0.6**
	comp=Z,18nm,0.7s,mb5.2,baz=177,slow=9.2,SNR=121						
BRTR				LR	LR	20 43 48.6	
	comp=Z,68nm,19.0s,MS3.7,baz=250,slow=38						
BRTR	**Keskin Array B**	**50.11**	**359**	P	**P**	**20 20 45.2**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,18nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,68nm,19.0s						
ERZM	**Erzurum**	**50.71**	**7**	*i* P	**P**	**20 20 51.3**	**+2.1**
ULDT	**Uludag**	**50.74**	**355**	*i* P	**P**	**20 20 49.8**	**+0.4**
ELDT	**Eldivan**	**50.87**	**359**	*i* P	**P**	**20 20 50.6**	**+0.2**
SGKT	**Sivrigoynuk**	**50.99**	**358**	*i* P	**P**	**20 20 52.0**	**+0.8**
CTKT	**Corum**	**51.00**	**1**	*i* P	**P**	**20 20 52.5**	**+1.2**
HENT	**Hendek**	**51.29**	**357**	*i* P	**P**	**20 20 53.6**	**+0.1**
SART	**Tekirdag**	**51.48**	**353**	*i* P	**P**	**20 20 54.9**	**-0.1**
BOYT	**Boyabat**	**51.80**	**1**	*i* P	**P**	**20 20 58.0**	**+0.5**
BALT	**Daday**	**51.92**	**359**	*i* P	**P**	**20 20 58.6**	**+0.3**
GOF	**Gofitskoye**	**56.00**	**7**	⇓*i*P	**P**	**20 21 28.0**	**-0.2**
GOF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3						
SYO	**Syowa Base**	**58.41**	**178**	⇑P	**P**	**20 21 47.1**	**+2.1**
SYO	**Syowa Base**	**58.41**	**178**	⇑pP	pP	20 21 48.8	-4.2
SYO	**Syowa Base**	**58.41**	**178**	⇑P	**P**	**20 21 55.9**	**+11**
OBKA	**Obir**	**59.57**	**344**	⇑*i*P	**P**	**20 21 54.0**	**+0.7**
	comp=Z,11nm,0.9s,mb4.9						
MAW	**Mawson**	**59.99**	**168**	P	**P**	**20 21 56.8**	**+0.9**
	comp=Z,2.7nm,0.6s,mb4.4,baz=320,slow=8.6,SNR=7.2						
MAW				pP	pP	20 22 04.7	+0.7
	comp=Z,7.4nm,0.8s,baz=325,slow=8.5,SNR=8.9						
MAW				LR	LR	20 45 38.4	
	comp=Z,104nm,21.0s,MS4.0,baz=250,slow=34						
MAW	**Mawson**	**59.99**	**168**	P	**P**	**20 21 56.8**	**+0.9**
MAW				*PP	pP	20 22 04.7	+0.7
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAW				pmax	pmax		
	comp=N,7.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,104nm,21.0s						
MAW	**Mawson**	**59.99**	**168**	*e*P	**P**	**20 21 57.2**	**+1.3**
	comp=Z,9.6nm,0.9s,mb4.8						
ARSA	**Arzberg**	**60.00**	**345**	⇑*i*P	**P**	**20 21 56.8**	**+0.5**
	comp=Z,8.8nm,1.1s,mb4.7						
SMRF	**Simiane la Rot**	**60.28**	**336**	*e*P	**P**	**20 21 56.9**	**-1.4**
	comp=Z,14nm,0.8s,mb4.7						
VYHS	**Vyhne**	**60.43**	**348**	*e*P	**P**	**20 21 59.0**	**-0.2**
VYHS				*e*PP	PP	20 24 16.9	+2.4
MBDF	**Montbardon**	**60.46**	**338**	*e*P	**P**	**20 21 59.4**	**-0.1**
	comp=Z,13nm,0.9s,mb4.7						
MOA	**Molln**	**60.88**	**345**	⇓*i*P	**P**	**20 22 02.1**	**-0.1**
	comp=Z,16nm,0.9s,mb5.2						
WTTA	**Wattenberg**	**61.07**	**343**	⇑*i*P	**P**	**20 22 03.9**	**+0.4**
	comp=Z,16nm,1.3s,mb5.0						
LPG	**La Plagne**	**61.13**	**338**	*e*P	**P**	**20 22 03.1**	**-0.9**
	comp=Z,37nm,1.4s,mb5.0						
LPL	**La Plagne**	**61.15**	**338**	*e*P	**P**	**20 22 03.2**	**-0.9**
SQTA	**Sankt Quirin**	**61.16**	**342**	⇑*i*P	**P**	**20 22 04.2**	**+0.1**
	comp=Z,7.2nm,0.9s,mb4.8						
DAVOX	**Davos**	**61.18**	**341**	P	**P**	**20 22 04.5**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.7,baz=140,slow=11,SNR=7.6						
AKASG	**Malin Array Be**	**61.24**	**356**	P	**P**	**20 22 03.4**	**-1.3**
	comp=Z,14nm,0.7s,mb5.2,baz=179,slow=5.9,SNR=88						
AKASG	**Malin Array Be**	**61.24**	**356**	P	**P**	**20 22 03.4**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,14nm,0.7s						
MOTA	**Moosalm**	**61.30**	**342**	⇓*i*P	**P**	**20 22 04.8**	**-0.3**
	comp=Z,8.5nm,1.1s,mb4.8						
ESDC	**Sonseca Array**	**61.35**	**327**	P	**P**	**20 22 06.0**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.1,baz=142,slow=7.3,SNR=7.7						
ESDC				LR	LR	20 50 52.6	
	comp=Z,101nm,18.6s,MS4.0,baz=120,slow=38						
VIVF	**Saint-Julien-l**	**61.37**	**336**	*e*P	**P**	**20 22 05.8**	**+0.2**
	comp=Z,33nm,1.2s,mb5.0						
DAVA	**Damuels**	**61.63**	**341**	⇑*i*P	**P**	**20 22 07.3**	**0.0**
	comp=Z,25nm,1.2s,mb5.2						
OJC	**Ojcow**	**61.91**	**350**	*e*P	**P**	**20 22 08.7**	**-0.5**
MORC	**Moravsky Berou**	**61.92**	**348**	*e*P	**P**	**20 22 08.2**	**-1.1**
	comp=Z,14nm,1.2s,mb5.0						
GEC2	**GERESS Array S**	**61.94**	**345**	*e*P	**P**	**20 22 08.8**	**-0.6**
GEC2				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
GEC2	**GERESS Array S**	**61.94**	**345**	*e*P	**P**	**20 22 08.8**	**-0.6**
	comp=Z,17nm,1.1s,mb5.1						
GERES	**GERESS Array B**	**61.94**	**345**	P	**P**	**20 22 08.9**	**-0.6**
	comp=Z,8.4nm,1.0s,mb4.8,baz=153,slow=6.0,SNR=42						
GERES	**GERESS Array B**	**61.94**	**345**	P	**P**	**20 22 08.9**	**-0.5**
GERES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FUR	**Furstenfeldbru**	**61.99**	**343**	*e*P	**P**	**20 22 09.3**	**-0.5**
FUR				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.3						
FUR	**Furstenfeldbru**	**61.99**	**343**	*e*P	**P**	**20 22 09.3**	**-0.5**
	comp=Z,22nm,0.9s,mb5.3						
KHC	**Kasperske Hory**	**62.24**	**345**	*e*P	**P**	**20 22 10.5**	**-0.9**
CABF	**La Chapelle**	**62.32**	**338**	*e*P	**P**	**20 22 11.3**	**-0.7**
	comp=Z,63nm,1.6s,mb5.2						
WET	**Wettzell**	**62.43**	**344**	*e*P	**P**	**20 22 11.4**	**-1.3**
WET				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
WET	**Wettzell**	**62.43**	**344**	*e*P	**P**	**20 22 11.4**	**-1.3**
	comp=Z,9.0nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**62.53**	**331**	*e*P	**P**	**20 22 14.3**	**+0.9**
	comp=Z,5.0nm,0.7s,mb4.4						
HINF	**Hinteralfeld**	**63.08**	**340**	*e*P	**P**	**20 22 16.2**	**-0.8**
	comp=Z,26nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**63.19**	**337**	*e*P	**P**	**20 22 16.9**	**-0.8**
	comp=Z,11nm,0.9s,mb4.7						
GRA1	**Grafenberg Arr**	**63.38**	**343**	*e*P	**P**	**20 22 18.6**	**-0.3**
	comp=Z,23nm,1.1s,mb5.2						
GRF	**Grafenberg Arr**	**63.38**	**343**	*e*P	**P**	**20 22 18.6**	**-0.3**
GRF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
HAU	**Haudompre**	**63.42**	**339**	*e*P	**P**	**20 22 18.4**	**-0.8**
HAU				*e*R			
	comp=Z,75nm,19.2s						
CDF	**Champ du Feu**	**63.46**	**340**	*e*P	**P**	**20 22 18.4**	**-1.0**
	comp=Z,11nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**63.49**	**337**	*e*P	**P**	**20 22 19.1**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.6						
BGF	**Bois d’Agland**	**63.50**	**336**	*e*P	**P**	**20 22 19.4**	**-0.4**
	comp=Z,12nm,0.9s,mb4.6						
TCF	**Toulx Ste Croi**	**63.53**	**336**	*e*P	**P**	**20 22 20.0**	**0.0**
	comp=Z,30nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**63.66**	**337**	*e*P	**P**	**20 22 20.5**	**-0.3**
LOR	**Lormes**	**63.70**	**337**	*e*P	**P**	**20 22 20.2**	**-0.9**
	comp=Z,7.9nm,0.8s,mb4.5						
LOR				*e*R			
	comp=Z,87nm,22.5s						
MOX	**Moxa**	**64.14**	**344**	*e*P	**P**	**20 22 24.0**	**+0.1**
MEZF	**Maizieres J’vi**	**64.30**	**339**	*e*P	**P**	**20 22 24.7**	**-0.3**
CLL	**Collm**	**64.39**	**345**	P	**P**	**20 22 24.0**	**-1.5**
CLL	**Collm**	**64.39**	**345**	*e*P	**P**	**20 22 19.0**	**-6.5**
CLL				*e*		20 22 24.0	
SNAA	**Sanae**	**65.04**	**192**	⇓*i*	**P**	**20 22 33.0**	**+3.6**
SNAA	**Sanae**	**65.04**	**192**	⇑*i*	**P**	**20 22 37.5**	**+8.1**
SNAA	**Sanae**	**65.04**	**192**	⇑*i*	pP	20 22 40.6	+3.2
SNAA	**Sanae**	**65.04**	**192**	P	**P**	**20 22 30.6**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=113,slow=2.6,SNR=4.8						
SNAA				pP	pP	20 22 38.4	+0.9
	comp=Z,1.4nm,1.0s,baz=29,slow=4.7,SNR=7.5						
SNAA	**Sanae**	**65.04**	**192**	P	**P**	**20 22 30.8**	**+1.4**
	comp=Z,20nm,1.7s,mb4.9						
VNA2	**Neumayer--Watz**	**65.50**	**194**	⇑*i*	pP	20 22 42.7	+2.3
VNA2	**Neumayer--Watz**	**65.50**	**194**		pP	20 22 45.1	+4.7
VNA2	**Neumayer--Watz**	**65.50**	**194**	⇑*i*P	**P**	**20 22 37.0**	**+4.6**
VNA2				*e*	pP	20 22 45.1	+4.7
VNA1	**Neumayer--Stat**	**65.52**	**194**	⇑*i*	**P**	**20 22 38.2**	**+5.7**
VNA1	**Neumayer--Stat**	**65.52**	**194**	⇑*i*	pP	20 22 42.8	+2.3
VNA1	**Neumayer--Stat**	**65.52**	**194**	⇑*i*	pP	20 22 45.8	+5.3
BAIF	**Baives**	**65.91**	**339**	*e*P	**P**	**20 22 33.2**	**-2.1**
	comp=Z,14nm,1.1s,mb4.6						
BSEG	**Bad Segeberg**	**67.46**	**345**	*e*P	**P**	**20 22 45.0**	**-0.1**
BSEG				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
ARU	**Arti**	**69.80**	**14**	⇑*i*P	**P**	**20 22 58.2**	**-1.4**
ARU				*e*		20 23 15.4	
ARU				*e*		20 25 35.5	
ARU				*e*SS	SS	20 36 34.4	-1.7
ARU				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
ARU				MLR	MLR		
	comp=N,60nm,17.0s,MS4.2						
ARU				MLR	MLR		
	comp=Z,90nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,100nm,19.0s,MS4.2						
ARU	**Arti**	**69.80**	**14**	*e*P	**P**	**20 22 58.6**	**-1.0**
	comp=E,29nm,1.3s,mb5.0						
CMAR	**Chiang Mai Arr**	**70.04**	**66**	P	**P**	**20 23 00.4**	**-1.2**
	comp=E,1.9nm,0.9s,mb4.0,baz=263,slow=7.0,SNR=9.3						
CMAR				pP	pP	20 23 09.1	-0.6
	comp=E,0.8nm,0.8s,baz=92,slow=22,SNR=2.4						
CMAR	**Chiang Mai Arr**	**70.04**	**66**	P	**P**	**20 23 00.4**	**-1.2**
CMAR				*PP	pP	20 23 09.1	-0.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
BRVK	**Borovoye**	**70.51**	**22**	*e*P	**P**	**20 23 02.6**	**-1.3**
	comp=N,9.1nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**70.52**	**22**	P	**P**	**20 23 02.7**	**-1.3**
	comp=N,12nm,0.6s,mb5.0,baz=214,slow=5.3,SNR=83						
BVAR				pP	pP	20 23 11.3	-0.7
	comp=N,4.2nm,0.7s,baz=194,slow=6.1,SNR=6.9						
MKAR	**Makanchi Array**	**71.43**	**33**	P	**P**	**20 23 08.2**	**-1.4**
	comp=N,24nm,0.7s,mb5.2,baz=225,slow=6.2,SNR=150						
MKAR				LR	LR	20 58 35.7	
	comp=N,90nm,18.4s,MS4.1,baz=256,slow=39						
MKAR	**Makanchi Array**	**71.43**	**33**	P	**P**	**20 23 08.3**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,24nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,91nm,18.4s						
FINES	**FINESS Array B**	**72.14**	**356**	P	**P**	**20 23 13.1**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=153,slow=8.5,SNR=16						
FINES	**FINESS Array B**	**72.14**	**356**	P	**P**	**20 23 13.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**72.22**	**28**	*e*P	**P**	**20 23 13.3**	**-1.0**
	comp=Z,19nm,0.8s,mb5.1						
WMQ	**Urumqi**	**72.70**	**38**	⇓P	**P**	**20 23 16.8**	**-0.4**
WMQ				AP	pP	20 23 20.8	-4.5
WMQ				XP	sP	20 23 23.6	-4.6
WMQ				PCP	PcP	20 23 34.8	+0.1
WMQ				*e*S	S	20 32 39.8	+0.2
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**72.79**	**356**	*e*p	**P**	**20 23 16.3**	**-1.1**
	comp=Z,6.5nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**72.79**	**356**	*e*P	**P**	**20 23 16.3**	**-1.1**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
NOA	**NORSAR Array B**	**73.74**	**349**	P	**P**	**20 23 23.1**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=157,slow=5.4,SNR=3.7						
NOA				LR	LR	20 57 09.8	
	comp=Z,27nm,19.1s,MS3.6,baz=100,slow=37						
NOA	**NORSAR Array B**	**73.74**	**349**	P	**P**	**20 23 23.2**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,27nm,19.1s						
KMI	**Kunming**	**75.55**	**61**	*e*P	**P**	**20 23 33.9**	**-0.2**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
NVS	**Novosibirsk**	**77.07**	**27**	⇓*i*P	**P**	**20 23 40.9**	**-1.1**
NVS				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
NVS				pmax	pmax		
	comp=N,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**78.44**	**122**	LR	LR	20 53 41.7	
	comp=N,124nm,21.7s,MS4.2,baz=209,slow=32						
QSPA	**South Pole Qui**	**79.46**	**180**	*e*P	**P**	**20 24 04.8**	**+10**
	comp=N,6.5nm,0.8s,mb4.6						
QSPA				LR	LR		
	comp=Z,100nm,20.2s,MS4.2						
BDFB	**Brasilia**	**79.84**	**256**	P	**P**	**20 24 00.8**	**+2.8**
	comp=Z,5.4nm,1.1s,mb4.4,baz=160,slow=6.2,SNR=4.2						
BDFB				LR	LR	20 56 29.7	
	comp=Z,118nm,19.5s,MS4.2,baz=118,slow=33						
BDFB	**Brasilia**	**79.84**	**256**	P	**P**	**20 24 00.8**	**+2.9**
BDFB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BDFB				MLR	MLR		
	comp=Z,118nm,19.5s						
ARCES	**ARCESS Array B**	**80.21**	**357**	P	**P**	**20 23 59.0**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.4,baz=207,slow=2.7,SNR=10.0						
ARCES				LR	LR	21 05 11.0	
	comp=Z,64nm,21.6s,MS3.9,baz=270,slow=40						
ARCES	**ARCESS Array B**	**80.21**	**357**	P	**P**	**20 23 59.0**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,65nm,21.6s						
ZAK	**Zakamensk**	**85.15**	**37**	*e*P	**P**	**20 24 24.6**	**-0.1**
SONM	**Songino Array**	**86.12**	**40**	P	**P**	**20 24 30.5**	**+1.0**
	comp=Z,3.9nm,0.8s,mb4.7,baz=246,slow=4.7,SNR=15						
SONM				pP	pP	20 24 38.8	+1.0
	comp=Z,1.5nm,0.7s,baz=236,slow=4.5,SNR=3.7						
VNDA	**Vanda**	**87.22**	**170**	P	**P**	**20 24 35.9**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.9,baz=265,slow=7.5,SNR=6.7						
VNDA				pP	pP	20 24 43.8	+1.3
	comp=Z,1.7nm,0.7s,baz=263,slow=5.5,SNR=11						
VNDA				LR	LR	21 03 07.9	
	comp=Z,101nm,18.9s,MS4.2,baz=213,slow=35						
VNDA	**Vanda**	**87.22**	**170**	P	**P**	**20 24 35.9**	**+1.6**
VNDA				*PP	pP	20 24 43.8	+1.2
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA				pmax	pmax		
	comp=N,2.0nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,101nm,18.9s						
VNDA	**Vanda**	**87.22**	**170**	*e*P	**P**	**20 24 35.7**	**+1.4**
	comp=Z,1.9nm,0.8s,mb4.4						
BOD	**Bodaibo**	**93.51**	**32**	*e*P	**P**	**20 24 56.8**	**-7.2**
PLCA	**Paso Flores**	**94.12**	**227**	LR	LR	21 04 13.3	
	comp=Z,96nm,18.1s,MS4.3,baz=180,slow=33						
ASAR	**Alice Springs**	**94.46**	**115**	P	**P**	**20 25 07.3**	**-1.9**
	comp=Z,7.8nm,1.3s,mb5.0,baz=263,slow=3.9,SNR=14						
ASAR				pP	pP	20 25 17.6	+0.1
	comp=Z,5.7nm,1.1s,baz=247,slow=5.0,SNR=13						
WRA	**Warramunga Arr**	**95.72**	**111**	P	**P**	**20 25 14.5**	**-0.6**
	comp=Z,1.2nm,0.9s,mb4.3,baz=255,slow=2.4,SNR=7.3						
WRA				pP	pP	20 25 22.8	-0.6
	comp=Z,3.4nm,1.1s,baz=248,slow=2.3,SNR=11						
WRA	**Warramunga Arr**	**95.72**	**111**	P	**P**	**20 25 14.5**	**-0.6**
WRA				*PP	pP	20 25 22.8	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,3.0nm,1.1s						
WRAB	**Tennant Creek**	**95.73**	**111**	P	**P**	**20 25 14.1**	**-1.0**
	comp=N,11nm,1.2s,mb5.2						
LPAZ	**La Paz**	**98.72**	**252**	LR	LR	21 07 45.1	
	comp=N,90nm,19.9s,MS4.3,baz=281,slow=34						
YAK	**Yakutsk**	**101.86**	**29**	PFAKE		20 25 50.0	+8.2
YAK				LR	LR		
	comp=Z,89nm,20.0s,MS4.3						
SDV	**Santo Domingo**	**106.13**	**276**	PFAKE		20 30 30.0	
SDV				LR	LR		
	comp=Z,101nm,20.0s,MS4.4						
MCK	**McKinley**	**126.94**	**2**	PFAKE		20 31 00.0	+4.4
MCK				LR	LR		
	comp=Z,60nm,19.0s,MS4.3						
PDAR	**Pinedale Array**	**135.10**	**322**	PKP	PKPdf	20 31 08.9	-2.9
	comp=Z,0.6nm,0.8s,baz=45,slow=2.1,SNR=5.3						
TXAR	**Lajitas Array**	**136.60**	**302**	PKhKP		20 31 05.3	
	comp=Z,0.5nm,0.7s,baz=90,slow=3.8,SNR=6.9						
TXAR				PKP	PKPdf	20 31 12.7	-2.1
	comp=Z,0.7nm,0.8s,baz=122,slow=3.5,SNR=7.3						
TXAR	**Lajitas Array**	**136.60**	**302**	PKP	PKPdf	20 31 05.3	-9.5
TXAR				PKP	PKPdf	20 31 12.7	-2.1
NVAR	**Mina Array Bea**	**143.01**	**323**	PKhKP		20 31 20.9	
	comp=Z,11nm,1.1s,baz=67,slow=5.3,SNR=35						
PFO	**Pinyon Flat Ob**	**144.75**	**315**	*e*PKP	PKPdf	20 31 26.8	-2.4

IDC 21 20:32:21.9±28.0**,18.95S**×**177.77W,h599**^{km}±367^{km}**, mb2.9**/5**,mb1 3.2**/5**,mb1mx3.0**/16**,Error ellipse: s-maj=178.0km s-min=70.1km az=3.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**242**	P	P	20 38 55.6	-1.5
	1.2nm,0.7s,baz=72,slow=9.6,SNR=3.1						
WB2	**Warramunga Arr**	**45.04**	**260**	*e*P	P	20 39 45.7	-1.7
WRA	**Warramunga Arr**	**45.05**	**260**	P	P	20 39 45.6	-1.9
	1.3nm,0.3s,baz=97,slow=7.5,SNR=42						
ASAR	**Alice Springs**	**45.10**	**255**	P	P	20 39 46.5	-1.4
	2.2nm,0.6s,baz=90,slow=7.6,SNR=41						
FITZ	**Fitzroy Crossi**	**53.46**	**261**	P	P	20 40 47.8	-1.6
	0.5nm,0.3s,baz=102,slow=8.3,SNR=4.7						
TXAR	**Lajitas Array**	**86.04**	**57**	P	P	20 44 00.5	-1.1
	0.2nm,0.7s,baz=202,slow=6.7,SNR=3.6						

MAN 21 20:53:27.4, 8.51N×126.87E, h1^{km}, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	0.60	237	⇓iP	Pg	20 53 39.2	-0.2
BIPH				i S	Sg	20 53 46.7	-0.8
BUTP	Butuan	1.32	290	eP	Pb	20 53 52.6	0.0
BUTP				eS	Sb	20 54 12.1	+2.2
MATI	Mati	1.67	201	eP	Pn	20 53 58.1	+0.2
SCPH	Surigao	1.86	313	⇑eP	Pn	20 54 01.2	+0.5
BUKP	Musuan	1.90	251	eP	Pn	20 54 01.9	+0.6
BUKP				eS	Sn	20 54 30.9	+4.7
MSLP	Maasin	2.56	309	eP	Pn	20 54 10.7	0.0
PAGZ	Pagadian	3.52	259	eP	Pn	20 54 25.7	+1.4

IDC 21 21:36:34.2±1.8, 0.41S×133.13E, mb4.0/4, mb1 4.1/5, mb1mx3.8/14, ML3.9/1, Error ellipse: s-maj=112.0km s-min=20.8km az=73.0

NEIC 21 21:36:38.7±0.9, 0.42S×133.27E, h35^{km}, mb4.0/5, Error ellipse: s-maj=40.0km s-min=11.3km az=76.0

ISC 21 21:36:39.2±2.3, 0.63S±0.06×132.9E±0.2, h49^{km}±21^{km}, n16, σ1^{s}29/22, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	12.00	182	eP	P	21 39 29.2	-1.0
	16nm,0.6s						
KAKA				eS	S	21 41 36.5	-7.0
FITZ	Fitzroy Crossi	18.75	202	eP	P	21 40 56.8	0.0
	2.8nm,0.6s						
FITZ				eS	S	21 44 20.4	-0.4
WRAB	Tennant Creek	19.24	176	eP	P	21 41 02.5	+0.1
	7.8nm,0.8s						
WRA	Warramunga Arr	19.25	176	P	P	21 41 03.1	+0.7
	0.4nm,0.3s,baz=356,slow=11,SNR=27						
WRA				S	S	21 44 30.1	-1.7
	0.2nm,0.3s,baz=353,slow=22,SNR=6.0						
WB2	Warramunga Arr	19.25	176	eP	P	21 41 03.1	+0.7
WB2				eS	S	21 44 31.4	-0.4
ASAR	Alice Springs	22.92	178	P	P	21 41 42.1	+2.1
	2.4nm,0.6s,mb3.8,baz=360,slow=9.4,SNR=26						
ASAR				S	S	21 45 43.1	+0.8
	0.3nm,0.8s,baz=5.4,slow=30,SNR=2.7						
ASPA	Alice Springs	22.92	178	eP	P	21 41 42.9	+2.9
ASPA				eS	S	21 45 58.3	+16
CTAO	Charters Tower	23.36	147	P	P	21 41 42.0	-2.4
	6.3nm,1.1s,mb4.0						
STKA	Stephens Creek	32.16	166	eP	P	21 43 04.6	0.0
	1.8nm,0.8s,mb4.0						
STKA	Stephens Creek	32.16	166	P	P	21 43 04.7	+0.1
	1.0nm,0.3s,mb4.1,baz=338,slow=9.9,SNR=7.7						
STKA	Stephens Creek	32.16	166	eP	P	21 43 04.3	-0.3
MKAR	Makanchi Array	64.63	324	P	P	21 47 13.4	-0.7
	1.8nm,1.1s,mb4.0,baz=108,slow=8.5,SNR=4.3						
CASY	Casey	67.41	190	P	P	21 47 33.9	+2.5
KURK	Kurchatov	68.71	326	P	P	21 47 37.3	-2.4
	1.0nm,0.7s,mb3.9						
BVAR	Borovoye Array	74.31	326	P	P	21 48 13.7	+0.5
	0.8nm,0.6s,mb3.9,baz=117,slow=6.6,SNR=6.9						
BRVK	Borovoye	74.38	326	eP	P	21 48 13.4	-0.2
	1.3nm,0.6s,mb4.0						

IDC 21 21:42:25.1±48.0, 22.73S×176.45W, mb4.2/3, mb1 4.4/3, mb1mx3.8/15, Error ellipse: s-maj=894.0km s-min=150.6km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	34.77	267	eP	P	21 49 21.2	+1.7
	6.1nm,0.4s						
STKA	Stephens Creek	38.19	247	eP	P	21 49 45.5	-2.7
	1.0nm,0.4s						
STKA	Stephens Creek	38.19	247	P	P	21 49 45.5	-2.7
	1.0nm,0.3s,baz=98,slow=10,SNR=8.6						
ASAR	Alice Springs	45.46	259	P	P	21 50 46.1	-1.8
	1.0nm,0.4s,baz=95,slow=8.0,SNR=24						
ASPA	Alice Springs	45.46	259	eP	P	21 50 46.3	-1.6
WB2	Warramunga Arr	45.75	264	eP	P	21 50 49.4	-0.9
WRA	Warramunga Arr	45.76	264	P	P	21 50 49.4	-0.9
	2.1nm,0.3s,baz=100,slow=8.2,SNR=65						
KAKA	Kakadu	49.53	273	eP	P	21 51 20.5	+0.6
	2.0nm,0.3s						
FORT	Forrest	49.78	248	eP	P	21 51 17.2	-4.4
	22nm,0.7s						
FITZ	Fitzroy Crossi	54.19	264	eP	P	21 51 53.9	-1.0
	2.0nm,0.6s						

JMA 21 21:53:18.9±0.5, 23.75N×121.54E, h48^{km}, M2.7

TAP 21 21:53:21.5, 23.78N×121.62E, h20^{km}±1^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.44	62	P	Pn	21 53 44.2	-2.6
YOJ				eS	Sn	21 54 02.8	-2.5
IRIF	Iriomote-Funau	2.01	74	P	Pn	21 53 52.3	-2.6
IRIF				eS	Sn	21 54 17.6	-2.0
HATJ	Hateruma jima	2.02	82	P	Pn	21 53 52.3	-2.8
HATJ				eS	Sn	21 54 18.0	-1.9
JKRS	Kuro-shima	2.23	78	P	Pn	21 53 55.9	-2.2
JKRS				eS	Sn	21 54 23.5	-1.9
JIJ	Ishigaki jima	2.38	75	P	Pn	21 53 57.0	-3.2
JIJ				S	Sn	21 54 25.0	-4.1
JTJ	Tarama	2.94	72	P	Pn	21 54 05.0	-3.2
JTJ				eS	Sn	21 54 39.7	-3.7

JSN 21 22:02:00.2±0.7, 17.73N×80.11W, h25^{km}±999^{km}, MD4.5

IDC 21 22:02:05.6±1.8, 17.56N×79.43W, mb3.7/2, mb1 4.0/2, mb1mx3.5/19, Error ellipse: s-maj=67.4km s-min=51.4km az=180.0

ISC 21 22:02:01.1±2.9, 16.6N±0.5×79.5W±0.2, h10^{km}, n7, σ1^{s}13/7, mb3.6/2, 2C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJ	Portland Cotta	2.49	63	⇓eP	Pn	22 02 43.5	+1.1
PCJ				eS	Sn	22 03 15.2	+2.0
STH	Stony Hill	2.94	60	⇑eP	Pn	22 02 47.5	-1.4
STH				eS	Sn	22 03 23.6	-1.0
GWJ	Greenwich	3.01	61	⇑eP	Pn	22 02 48.7	-1.1
TXAR	Lajitas Array	25.55	304	P	P	22 07 32.1	+0.2
	0.4nm,0.8s,mb3.0,baz=113,slow=9.5,SNR=6.3						
FINES	FINESS Array B	82.78	28	P	P	22 14 27.0	+0.4
	2.3nm,1.0s,mb4.2,baz=248,slow=7.5,SNR=3.5						
WRA	Warramunga Arr	147.75	259	PKPbc	PKPdf	22 21 53.2	+6.0
	0.3nm,0.6s,baz=94,slow=3.0,SNR=5.3						
ASAR	Alice Springs	147.93	252	PKPbc	PKPdf	22 21 53.9	+6.5
	0.6nm,0.7s,baz=118,slow=3.2,SNR=5.9						

HEL 21 22:44:34.5±0.2, 69.62N×25.48E, h16^{km}±1^{km}, ML1.9, MD2.5(BER), ML1.4(BER)

BER 21 22:44:37.5±1.2, 69.58N×25.12E, h5^{km}±12^{km}, MD2.5, ML1.4

ISC 21 22:44:33.4±0.7, 69.60N±0.04×25.49E±0.09, h10^{km}, n10, σ1^{s}24/21, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARA1	ARCESS Array S	0.06	173	i P	Pg	22 44 37.4	+1.9
ARA1				i S	Sg	22 44 39.7	+2.8
KEV	Kevo	0.56	72	i P	Pg	22 44 44.7	+0.1
KEV				i S	Sg	22 44 51.8	-0.2
KTK1	Kautokeino	0.99	235	eP	Pb	22 44 52.8	+0.6
KTK1				ePN	Pn	22 44 53.3	0.0
KTK1				eS	Sb	22 45 05.3	+0.2
KTK1				AML	AML	22 45 06.6	
	comp=Z,16nm,0.3s						
KTK1	Kautokeino	0.99	235	eP	Pb	22 44 52.8	+0.6
KTK1				i		22 44 53.3	
	baz=48,slow=5.1						
KTK1				eSg	Sb	22 45 05.3	+0.2
KTK1				AML	AML	22 45 06.6	
	comp=Z,16nm,0.3s						
KIF	Kilpisjarvi	1.77	253	eP	Pn	22 45 04.5	+0.1
KIF				eS	Sn	22 45 25.8	-1.3
SGF	Sodankyl	2.20	169	ePB	Pb	22 45 12.9	+0.1
SGF				eS	Sn	22 45 37.4	-0.6
SGF				eSB	Sb	22 45 39.8	-0.3
SGF				MSG		22 45 41.8	
	comp=Z,3.7nm,0.1s						
TRO	Tromso	2.30	274	eP	Pn	22 45 13.0	+1.1
TRO				eS	Sn	22 45 38.1	-2.4
TRO				AML	AML	22 45 42.5	
	comp=Z,3.9nm,0.3s						
APA0	Apatity Array	3.40	122	eS	Sn	22 46 05.3	-3.1
MSF	Maaselka	3.94	158	eP	Pn	22 45 36.0	+0.7
MSF				eS	Sn	22 46 19.7	-2.4
MSF				eSB	Sb	22 46 31.8	+1.1
MSF				MSG		22 46 35.0	
	comp=Z,1.9nm,0.3s						
KJN	Kajaani	5.61	170	eS	Sn	22 46 57.6	-6.5
KJN				MSG		22 47 27.0	
	comp=Z,1.2nm,0.3s						

LDG 21 22:44:50.3±0.1, 46.16N×7.44E, h2^{km}, Md1.9/2, Ml1.9/13, Error ellipse: s-maj=2.8km s-min=1.5km az=94.0

ZUR 21 22:44:49.6, 46.18N×7.45E, h5^{km}, ML1.3/6, 3C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIX	Grande Dixence	0.10	194	⇑iPg	Pg	22 44 52.3	+0.5
	6.2nm,0.3s						
DIX				i Sg	Sg	22 44 53.8	+0.6
	6.2nm,0.3s						
SENIN	Lac Senin	0.21	332	⇓iPg	Pg	22 44 54.2	+0.3
	1.3nm,0.3s						
SENIN				i Sg	Sg	22 44 57.1	+0.3
	1.3nm,0.3s						
GRYON	Gryon	0.24	288	ePg	Pg	22 44 54.7	+0.2
	1.3nm,0.5s						
GRYON				eSg	Sg	22 44 58.3	+0.5
	1.3nm,0.5s						
LKBD	Leukerbad	0.24	31	⇑iPg	Pg	22 44 54.8	+0.2
	2.5nm,0.4s						
LKBD				i Sg	Sg	22 44 58.3	+0.4
	2.5nm,0.4s						
SALAN	Lac Salanfe	0.33	264	eSg	Sg	22 45 01.0	+0.3
MMK	Mattmark	0.38	109	⇑iPg	Pg	22 44 57.3	0.0
	1.2nm,0.5s						
LPL	La Plagne	0.83	217	ePg	Pg	22 45 05.5	-0.6
LPL				eSg	Sg	22 45 15.5	-1.7
	3.3nm,0.3s						
LPG	La Plagne	0.83	216	ePg	Pg	22 45 05.9	-0.4
LPG				eSg	Sg	22 45 16.0	-1.4
	4.4nm,0.3s						
CABF	La Chapelle	1.03	295	ePg	Pg	22 45 09.8	-0.5
CABF				eSg	Sg	22 45 24.2	+0.1
	3.1nm,0.2s						
MBDF	Montbardon	1.53	198	ePg	Pg	22 45 18.5	-1.6
MBDF				eSg	Sg	22 45 37.9	-2.5
	4.0nm,0.5s						
ORIF	Oris-en-Rattie	1.67	222	ePg	Pg	22 45 21.8	-1.2
ORIF				eSg	Sg	22 45 43.1	-2.2
	2.4nm,0.3s						
HINF	Hinteralfeld	1.69	346	ePg	Pg	22 45 22.1	-1.2
HINF				eSg	Sg	22 45 43.1	-2.8
	2.1nm,0.3s						
HAU	Haudompre	1.98	338	ePn	Pn	22 45 23.1	-1.0
HAU				ePg	Pg	22 45 27.3	-1.8
CDF	Champ du Feu	2.24	357	ePn	Pn	22 45 27.4	-0.5
CDF				eSg	Sg	22 46 01.4	-2.8
	0.8nm,0.3s						
VIVF	Saint-Julien-l	2.35	237	eSg	Sg	22 46 03.7	-4.3
	2.8nm,0.4s						
SMF	Signal de Mont	2.54	282	ePg	Pg	22 45 37.1	-3.2
SMF				eSg	Sg	22 46 09.9	-4.2
	1.1nm,0.2s						
FRF	La Foret Royal	2.68	193	eSg	Sg	22 46 13.3	-5.4
	2.4nm,0.5s						
LOR	Lormes	2.70	295	ePn	Pn	22 45 31.8	-2.6
LOR				ePg	Pg	22 45 41.3	-2.2
LOR				eSg	Sg	22 46 15.1	-4.3
	1.0nm,0.3s						
MEZF	Maizieres J'vi	2.84	326	eSg	Sg	22 46 20.3	-3.8
	1.3nm,0.3s						
SSF	Saint Saulge	2.85	289	ePn	Pn	22 45 34.7	-2.0
SSF				ePg	Pg	22 45 43.2	-3.4
SSF				eSg	Sg	22 46 20.0	-4.7
	0.7nm,0.4s						
AVF	Avril sur Loir	2.89	284	ePn	Pn	22 45 37.0	-0.2
AVF				ePg	Pg	22 45 44.4	-3.0
AVF				eSg	Sg	22 46 21.1	-4.8
	0.8nm,0.3s						
BGF	Bois d'Agland	3.21	278	ePg	Pg	22 45 49.2	-4.4
TCF	Toulx Ste Croi	3.63	274	ePn	Pn	22 45 46.2	-1.5

NAO 21 23:01:14.5±6.8, 68.73N×17.89E, ML1.4

BER 21 23:01:15.6±4.9, 69.31N×17.08E, h12^{km}±36^{km}, MD2.2, ML1.4, ML1.4(NAO), Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRO	Tromso	0.73	63	eP	Pb	23 01 27.6	-2.2
TRO				eS	Sb	23 01 38.7	-0.7
LOF	Lofoten	1.75	229	eP	Pn	23 01 43.5	-2.6
LOF				ePg	Pg	23 01 44.2	-6.4
LOF				eS	Sn	23 02 05.7	-2.7
LOF				AML	AML	23 02 09.6	
	comp=Z,7.4nm,0.5s						
KTK1	Kautokeino	2.22	95	eP	Pn	23 01 51.5	-1.3
KTK1				eSg	Sg	23 02 21.5	-8.3
KTK1				AML	AML	23 02 24.8	
	comp=Z,2.8nm,0.2s						
ARA0	ARCESS Array S	2.99	82	Pn	Pn	23 02 01.0	-2.7
	baz=246,slow=12						
ARA0				Sg	Sg	23 02 43.9	-11
	baz=259,slow=28						
MOR8	Moi Rana	3.31	199	eS	Sn	23 02 39.7	-8.2
MOR8				AML	AML	23 02 53.7	
	comp=Z,3.2nm,0.5s						

IDC 21 23:02:57.9±3.4, 0.54N×126.77E, h44^{km}±31^{km}, mb4.2/8, mb1 4.3/9, mb1mx4.0/17, ML3.9/1, Error ellipse: s-maj=67.7km s-min=12.4km az=71.0

NEIC 21 23:03:00.0±3.5, 0.64N×127.01E, h73^{km}±35^{km}, mb4.3/12, Error ellipse: s-maj=24.3km s-min=7.9km az=73.0

ISC 21 23:02:51.6±3.2, 0.67N±0.08×126.9E±0.2, h16^{km}±22^{km}, n26, σ0^{s}79/29, mb4.5/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	14.35	158	eP	P	23 06 25.7	+9.2
	9.3nm,0.6s						
FITZ	Fitzroy Crossi	18.70	184	eP	P	23 07 13.4	+1.7
	4.2nm,0.9s						
FITZ	Fitzroy Crossi	18.70	184	P	P	23 07 11.1	-0.6
	0.3nm,0.3s,baz=11,slow=2.7,SNR=10						
WRAB	Tennant Creek	21.73	161	eP	P	23 07 44.7	+0.3
	69nm,0.9s,mb5.1						
WRA	Warramunga Arr	21.73	161	P	P	23 07 44.7	+0.3
	19nm,0.6s,mb4.8,baz=330,slow=11,SNR=307						
WRA				S	S	23 11 38.9	-0.4
	1.2nm,0.9s,baz=330,slow=20,SNR=5.0						
WB2	Warramunga Arr	21.74	161	eP	P	23 07 44.9	+0.4
WB2				eS	S	23 11 39.4	+0.1
QIZ	Qiongzhong	24.78	318	P	P	23 08 14.7	+0.3
ASPA	Alice Springs	25.12	165	eP	P	23 08 18.1	+0.5
ASAR	Alice Springs	25.12	165	P	P	23 08 18.2	+0.6
	10nm,0.5s,mb4.7,baz=345,slow=9.0,SNR=125						
ASAR				PcP	PcP	23 11 51.8	-0.9
	0.8nm,0.8s,baz=316,slow=1.8,SNR=4.7						
ASAR				S	S	23 12 40.8	+1.9
	0.9nm,0.9s,baz=350,slow=16,SNR=5.6						
CTAO	Charters Tower	28.00	139	eP	P	23 08 49.8	+5.6
	8.4nm,1.2s,mb4.2						
FORT	Forrest	31.29	178	eP	P	23 09 12.5	-0.9
	30nm,0.8s,mb5.2						
KLBR	Kellerberrin	33.25	194	eP	P	23 09 29.8	-0.7
	132nm,2.0s,mb5.5						
ENH	Enshi	33.79	332	P	P	23 09 35.3	+0.1
	3.3nm,0.7s,mb4.4						
NWAO	Narrogin (SRO)	34.65	194	P	P	23 09 42.1	-0.5
	6.6nm,0.9s,mb4.6,baz=64,slow=7.2,SNR=6.5						
STKA	Stephens Creek	35.22	158	eP	P	23 09 47.7	+0.2
	8.9nm,0.9s,mb4.7						
STKA	Stephens Creek	35.22	158	P	P	23 09 47.8	+0.3
	6.0nm,0.3s,mb4.9,baz=334,slow=8.9,SNR=46						
MAJO	Matsushiro	37.19	15	P	P	23 10 03.0	-1.1
	7.1nm,1.1s,mb4.4						
LSA	Lhasa	44.64	314	P	P	23 11 05.9	+0.2
	2.7nm,0.8s,mb4.1						
SONM	Songino Array	50.25	342	P	P	23 11 51.0	+1.8
	1.3nm,0.9s,mb4.0,baz=163,slow=8.5,SNR=8.8						
MKAR	Makanchi Array	60.18	326	P	P	23 13 01.5	+0.3
	5.1nm,0.6s,mb4.7,baz=120,slow=7.6,SNR=64						
KURK	Kurchatov	64.42	328	eP	P	23 13 29.2	-0.3
	6.4nm,0.8s,mb4.7						
CASY	Casey	67.83	187	P	P	23 13 44.6	-6.4
BVAR	Borovoye Array	69.99	328	P	P	23 14 04.3	-0.2
	2.1nm,0.9s,mb4.1,baz=127,slow=7.4,SNR=9.5						
BRVK	Borovoye	70.06	328	eP	P	23 14 04.9	0.0
	2.6nm,0.9s,mb4.2						
VNDA	Vanda	80.39	173	P	P	23 15 02.9	-0.6
	0.6nm,0.4s,mb3.9,baz=311,slow=4.8,SNR=10						
SBA	Scott Base	81.30	172	eP	P	23 15 06.2	-2.0
	2.5nm,1.1s,mb4.1						

IGQ 21 23:06:50.6, 2.44N×79.89W, h12^{km}±5^{km}, mb4.1, 1C-3D, Error ellipse: s-maj=17.5km s-min=5.9km az=152.9, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COTA	Cotacachi	2.60	143	P	Pn	23 07 33.4	+0.2
JOR1	San Jorge 1	2.72	153	P	Pn	23 07 39.2	+4.3
YANA	Yana	2.86	153	⇑P	Pn	23 07 39.1	+2.2
YANA				S	Sn	23 08 13.3	+1.7
PINO	Pino	2.88	154	⇓P	Pn	23 07 39.3	+2.2
CGGP	Crater GGP	2.89	154	P	Pn	23 07 39.5	+2.1
GGP	Refugio Guagua	2.90	153	⇓P	Pn	23 07 39.9	+2.5
JUA2	San Juan 2	2.93	154	P	Pn	23 07 40.0	+2.1
CAYA	Cayambe	3.02	141	P	Pn	23 07 41.7	+2.6
CAYR	Refugio Cayamb	3.05	142	P	Pn	23 07 42.9	+3.3
ANTI	Antisana	3.35	149	P	Pn	23 07 46.5	+2.7
NAS1	Nasa	3.36	155	P	Pn	23 07 50.7	+6.7
VC1	Cotopaxi 1	3.40	154	⇓P	Pn	23 07 51.5	+6.9
VC1				S	Sn	23 08 36.4	+11
TAMB	Tambo	3.46	154	P	Pn	23 07 52.2	+6.7

SVSA 21 23:21:53.4±0.7, 38.67N×29.49W, MD3.5, ML2.5, Error ellipse: s-maj=15.1km s-min=13.6km az=87.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	0.62	93	eP	Pg	23 22 04.1	-1.6
PCED				eS	Sg	23 22 12.4	-1.5
	76nm,0.2s						
CALA	Caldeira	0.62	97	eS	Sg	23 22 12.5	-1.6
PICO	Pico	0.85	101	eP	Pg	23 22 07.6	-2.7
PICO				eS	Sg	23 22 18.7	-3.0
ROSA	Rosais	0.98	86	eP	Pb	23 22 09.5	-3.4
ROSA				eS	Sg	23 22 21.4	-4.5
PID	Ribeirinha	1.10	101	eS	Sb	23 22 24.5	-5.1
PMAN	Manadas	1.10	91	eS	Sb	23 22 24.3	-5.3
	31nm,0.2s						

BJI 21 23:22:27.5, 7.80S×111.90E, h179^{km}, mB4.7, mb4.7

NEIC 21 23:22:27.6±1.1, 7.78S×111.94E, h180^{km}±9^{km}, mb4.4/15, Error ellipse: s-maj=16.7km s-min=6.6km az=64.0

DJA 21 23:22:27.5±0.9, 7.52S×112.53E, h257^{km}±12^{km}, MD4.6/4, ML5.2/4, Error ellipse: s-maj=80.6km s-min=26.7km az=16.0

IDC 21 23:22:29.5±3.3, 7.84S×111.86E, h198^{km}±30^{km}, mb3.8/9, mb1 4.0/10, mb1mx3.9/14, Error ellipse: s-maj=42.1km s-min=10.9km az=55.0

ISC 21 23:22:26.3±1.0, 7.77S±0.07×112.01E±0.09, h184^{km}±9^{km}, n61, σ1^{s}05/66, mb4.4/31, 5C-6D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	2.50	101	⇓iPn	P	23 23 12.1	+2.4
	1μm,0.3s						
KELI				⇓iSn	S	23 23 43.7	+0.5
INGI	Ingas	3.27	109	⇑ePn	P	23 23 20.0	+0.9
	1μm,0.2s						
INGI				⇑iSn	S	23 23 57.9	-1.9
RATI	Rata	3.61	106	⇓iPn	P	23 23 24.4	+1.1
	1μm,0.2s						
RATI				⇓iSn	S	23 24 05.8	-1.5
KEDI	Kedomdong	4.13	100	⇑iPn	P	23 23 28.3	-1.5
	364nm,0.2s						
KEDI				⇓iSn	S	23 24 14.3	-4.6
KEDI	Kedomdong	4.13	100	⇑iPn	P	23 23 28.3	-1.5
KEDI				i Sn	S	23 24 15.9	-3.0
FITZ	Fitzroy Crossi	16.78	129	eP	P	23 26 18.2	+6.0
	6.6nm,0.3s						
FITZ				eS	S	23 29 09.6	-2.0
FITZ	Fitzroy Crossi	16.78	129	P	P	23 26 13.4	+1.2
	0.2nm,0.3s,baz=338,slow=5.4,SNR=7.4						
FITZ				S	S	23 29 10.3	-1.2
	1.9nm,0.3s,baz=180,slow=20,SNR=8.8						
FITZ	Fitzroy Crossi	16.78	129	P	P	23 26 13.4	+1.2
FITZ				eS	S	23 29 09.6	-2.0
FITZ				S	S	23 29 10.3	-1.2
KLBR	Kellerberrin	24.30	168	eP	P	23 27 38.6	+10
	32nm,1.2s,mb4.7						
KLBR				e		23 27 57.6	
MUN	Mundaring	24.41	171	eP	P	23 27 29.5	+0.3
	16nm,1.6s,mb4.3						
MUN				e		23 27 58.2	
MUN				eS	Sx	23 32 15.1	
WRA	Warramunga Arr	24.79	122	P	P	23 27 33.5	+0.5
	1.3nm,0.5s,mb3.7,baz=296,slow=11,SNR=22						
WRAB	Tennant Creek	24.79	121	eP	P	23 27 33.6	+0.6
	9.4nm,1.0s,mb4.3						
WRAB				e		23 28 05.0	
WB2	Warramunga Arr	24.80	122	eP	P	23 27 33.9	+0.9
WB2				epP		23 28 06.2	
WB2				eS	Sx	23 32 17.6	
ASPA	Alice Springs	26.28	129	eP	P	23 27 47.1	+0.4
ASPA				epP	pP	23 28 23.8	+0.1
ASPA				eS	Sx	23 32 56.5	
ASAR	Alice Springs	26.28	129	P	P	23 27 47.4	+0.6
	3.1nm,0.6s,mb4.1,baz=304,slow=8.5,SNR=48						
FORT	Forrest	27.38	149	eP	P	23 27 56.7	+0.1
	20nm,0.6s,mb4.9						
FORT				epP	pP	23 28 40.5	+6.6
FORT				eS	Sx	23 33 22.5	
CMAR	Chiang Mai Arr	29.07	334	P	P	23 28 12.9	+1.0
	3.2nm,0.5s,mb4.3,baz=165,slow=8.4,SNR=18						
STKA	Stephens Creek	36.52	135	eP	P	23 29 17.2	+1.4
	2.4nm,0.4s,mb4.2						
STKA				epP	pP	23 29 54.3	-0.8
STKA	Stephens Creek	36.52	135	P	P	23 29 17.3	+1.5
	4.1nm,0.5s,mb4.3,baz=296,slow=6.8,SNR=12						
STKA	Stephens Creek	36.52	135	eP	P	23 29 16.9	+1.1
STKA				e	pP	23 29 53.7	-1.3
STKA				epP	pP	23 29 54.3	-0.8
ENH	Enshi	37.90	356	eP	P	23 29 28.2	+0.9
	5.0nm,0.6s,mb4.3						
SHL	Shillong	38.48	330	eP	P	23 29 33.0	+0.7
SHL				⇑eP		23 29 34.0	
CD2	Chengdu	39.26	349	P	P	23 29 40.5	+1.9
LSA	Lhasa	42.31	333	P	P	23 30 07.0	+3.3
LSA	Lhasa	42.31	333	eP	P	23 30 05.8	+2.1
	27nm,0.7s,mb5.0						
PKI	Pulchoki	43.55	325	eP	P	23 30 13.7	0.0
	9.9nm,0.4s,mb4.8						
DMN	Daman	43.75	325	eP	P	23 30 15.3	0.0
	48nm,0.6s,mb5.3						
KKN	Kakani	43.79	325	eP	P	23 30 15.4	-0.2
	30nm,0.7s,mb5.0						
LZH	Lanzhou	44.29	351	⇓P	P	23 30 21.3	+1.8
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
GKN	Gorkha	44.32	324	eP	P	23 30 19.6	-0.3
	comp=Z,33nm,0.3s,mb5.4						
KOLN	Koldanda	44.75	323	eP	P	23 30 23.1	-0.2
KAD	Karad	44.92	304	eP	P	23 30 23.2	-1.6
KAD				e		23 30 38.3	
	comp=Z,37nm,1.3s						
BHPL	Bhopal	45.75	313	eP	P	23 30 29.9	-1.4
BHPL				e		23 30 30.6	
	comp=Z,43nm,0.5s						
POO	Poona	45.82	305	eP	P	23 30 30.1	-1.7
POO				e		23 30 31.5	
	comp=Z,22nm,0.7s						
BJT	Baijiatuau	47.70	4	P	P	23 30 46.7	+0.5

	comp=Z,10nm,0.8s,mb4.5						
GTA	Gaotai	48.28	347	eP	P	23 30 52.9	+2.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
MAJO	Matsushiro	50.47	27	eP	P	23 31 06.0	-1.4
	comp=Z,4.8nm,0.7s,mb4.2						
SONM	Songino Array	55.58	355	P	P	23 31 45.4	+0.5
	comp=Z,5.5nm,0.7s,mb4.5,baz=176,slow=8.7,SNR=48						
SONM				ScP		23 36 22.9	
	comp=Z,1.0nm,1.0s,baz=153,slow=2.8,SNR=4.2						
TKM2	Tokmak 2	60.35	330	P	P	23 32 17.6	-0.5
	SNR=11						
MKAR	Makanchi Array	60.41	337	P	P	23 32 17.8	-0.6
	comp=Z,9.4nm,0.5s,mb4.8,baz=149,slow=7.4,SNR=104						
KBK	Karagaybulak	60.48	329	P	P	23 32 19.1	+0.1
	SNR=9.2						
AAK	Ala-Archa	60.69	329	eP	P	23 32 19.2	-1.2
	comp=Z,11nm,1.1s,mb4.6						
AML	Almayashu	60.75	328	P	P	23 32 20.6	-0.2
	SNR=8.8						
YSS	Yuzh-Sakhalins	60.95	24	P	P	23 32 22.0	0.0
	comp=Z,9.6nm,0.7s,mb4.7						
EKS2	Erkin-Say	61.08	329	P	P	23 32 23.0	0.0
	SNR=9.2						
USP	Ospenovka	61.15	329	P	P	23 32 22.9	-0.5
	SNR=5.6						
KURK	Kurchatov	65.01	337	eP	P	23 32 47.4	-1.3
	comp=Z,8.9nm,0.8s,mb4.7						
BVAR	Borovoye Array	70.09	335	P	P	23 33 19.5	-0.8
	baz=135,slow=8.2						
MA2	Magadan	73.88	19	eP	P	23 33 42.2	-0.3
	comp=Z,5.6nm,0.7s,mb4.4						
VNDA	Vanda	74.33	170	P	P	23 33 45.3	+0.5
	comp=Z,1.0nm,0.5s,mb3.9,baz=326,slow=10.0,SNR=4.2						
VNDA	Vanda	74.33	170	eP	P	23 33 44.8	-0.1
ARU	Arti	77.51	333	eP	P	23 34 02.1	-0.9
	comp=Z,8.1nm,1.1s,mb4.3						
MALT	Malatya	82.10	310	P	P	23 34 27.6	-0.1
	comp=Z,2.5nm,1.0s,mb3.8						
QSPA	South Pole Qui	82.22	180	eP	P	23 34 28.8	+1.1
	comp=Z,2.1nm,0.5s,mb4.0						
BRTR	Keskin Array B	86.06	311	P	P	23 34 47.4	-0.2
	comp=Z,1.1nm,0.7s,mb3.7,baz=131,slow=7.4,SNR=10						
SNAA	Sanae	90.25	197	eP	P	23 35 06.0	-0.7
	comp=Z,4.3nm,1.4s,mb4.2						
AKASG	Malin Array Be	91.40	321	P	P	23 35 11.7	-0.8
	comp=Z,0.1nm,0.3s,mb3.4,baz=83,slow=4.1,SNR=4.5						
TXAR	Lajitas Array	140.20	53	PKhKP		23 41 30.2	
	comp=Z,1.4nm,1.2s,baz=263,slow=3.8,SNR=3.4						
CPUP	Villa Florida	144.56	197	PKP	PKPdf	23 41 42.8	+1.4
	comp=Z,1.4nm,0.8s,baz=180,slow=12,SNR=3.6						
ACSO	Alum Creek Sta	145.00	20	ePKPdf	PKPdf	23 41 43.3	+1.5
WCI	Wyandotte Cave	145.45	26	ePKPdf	PKPdf	23 41 45.0	+2.4

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*IDC **21** 23:23:45.1±0.6, 56.27S×26.63W, h100^{km}±5^{km}, mb4.3/8, mb1 4.3/9, mb1mx4.2/14, MS3.3/6, Ms1 3.3/6, ms1mx3.2/17, Error ellipse: s-maj=19.1km s-min=13.9km az=54.0*

*NEIC **21** 23:23:45.8±1.8, 56.29S×26.66W, h109^{km}±17^{km}, mb4.8/21, Error ellipse: s-maj=8.9km s-min=7.0km az=46.0*

ISC 21 23:23:41.8±3.9**, 56.25S**±0.08×**26.6W**±0.1**, h86**^{km}±37^{km}**, n54,** σ**0**^{s}**93**/42**, mb4.8**/22**, 9C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.50	158	⇑i	P	23 27 29.3	+0.6
VNA1	Neumayer--Stat	16.50	158	⇑i	P	23 27 34.5	+5.8
VNA2	Neumayer--Watz	16.89	158	⇑i	P	23 27 34.8	+1.2
VNA2	Neumayer--Watz	16.89	158		P	23 27 36.1	+2.5
VNA2	Neumayer--Watz	16.89	158	⇑i	P	23 27 37.8	+4.2
VNA2	Neumayer--Watz	16.89	158	⇑i	P	23 27 39.9	+6.3
SNAA	Sanae	18.44	156	⇑i	P	23 27 50.9	-1.5
SNAA	Sanae	18.44	156	⇑i	P	23 27 57.8	+5.4
SNAA	Sanae	18.44	156	P	P	23 27 51.1	-1.3
	0.8nm,0.3s,baz=310,slow=9.7,SNR=161						
SNAA				LR	LR	23 33 53.6	
	comp=Z,21nm,19.8s,baz=252,slow=33						
SNAA	Sanae	18.44	156	eP	P	23 27 50.8	-1.6
SNAA				⇑iP		23 27 50.9	
SNAA				e		23 27 57.8	
PMSA	Palmer Station	20.00	230	eP	P	23 28 09.6	+0.2
	59nm,1.0s						
TRQA	Tornquist	29.68	293	eP	P	23 29 39.6	-1.7
	17nm,1.4s,mb4.5						
SYO	Syowa Base	31.24	141	⇓P	P	23 29 53.2	-1.5
SYO	Syowa Base	31.24	141	⇓P	P	23 29 54.7	0.0
PLCA	Paso Flores	32.34	280	LR	LR	23 42 52.1	
	comp=Z,80nm,19.0s,baz=315,slow=36						
QSPA	South Pole Qui	34.00	180	⇑iP	P	23 30 18.5	-0.1
	24nm,0.7s,mb5.1						
QSPA				e		23 36 29.4	
CPUP	Villa Florida	37.17	311	P	P	23 30 45.4	-0.6
	2.4nm,0.7s,mb4.2,baz=163,slow=9.3,SNR=7.8						
CPUP				LR	LR	23 45 19.0	
	comp=Z,30nm,19.3s,baz=164,slow=35						
CPUP	Villa Florida	37.17	311	eP	P	23 30 45.0	-0.9
	6.1nm,1.0s,mb4.5						
CPUP				ePcP	PcP	23 33 01.3	-3.5
MAW	Mawson	39.81	143	P	P	23 31 07.7	+0.3
	9.5nm,0.7s,mb4.7,baz=232,slow=6.1,SNR=23						
MAW	Mawson	39.81	143	eP	P	23 31 07.7	+0.3
	5.3nm,0.8s,mb4.4						
MAW				e		23 31 16.5	
SUR	Sutherland	40.40	74	P	P	23 31 14.1	+1.5
	8.6nm,0.8s,mb4.6,baz=217,slow=8.8,SNR=7.0						
SUR	Sutherland	40.40	74	eP	P	23 31 13.7	+1.1
	10nm,0.8s,mb4.7						
BDFB	Brasilia	43.69	329	P	P	23 31 40.7	+1.0
	3.4nm,0.8s,mb4.1,baz=64,slow=6.0,SNR=3.9						
BDFB				LR	LR	23 45 53.9	
	comp=Z,61nm,20.2s,baz=115,slow=30						
LVC	Limon Verde	45.66	300	eP	P	23 31 56.0	+0.6
	12nm,0.9s,mb4.6						
SBA	Scott Base	45.90	184	eP	P	23 31 56.8	+0.2
	8.8nm,1.0s,mb4.4						
VNDA	Vanda	46.39	183	P	P	23 32 00.8	+0.4
	8.3nm,0.6s,mb4.7,baz=188,slow=6.3,SNR=84						
VNDA				ScP		23 37 17.9	
	0.5nm,0.7s,baz=278,slow=3.1,SNR=5.2						
VNDA				LR	LR	23 50 35.5	
	comp=Z,44nm,19.2s,baz=203,slow=35						
VNDA	Vanda	46.39	183	eP	P	23 32 00.4	0.0
VNDA				P		23 32 00.8	
VNDA				ScP		23 37 17.9	
TSUM	Tsumeb	49.51	60	P	P	23 32 25.6	+0.1
	8.8nm,0.8s,mb4.8						
TSUM	Tsumeb	49.51	60	eP	P	23 32 25.4	0.0
	12nm,0.8s,mb4.9						
LPAZ	La Paz	50.74	305	P	P	23 32 35.7	+0.9
	4.6nm,0.5s,mb4.8,baz=127,slow=6.2,SNR=12						
LPAZ	La Paz	50.74	305	P	P	23 32 35.7	+0.9
CASY	Casey	53.62	160	eP	P	23 32 54.3	-1.4
	8.1nm,0.8s,mb4.8						
SAML	Samuel	55.16	314	eP	P	23 33 05.9	-1.7
	5.3nm,1.1s,mb4.5						
SAML				e	pP	23 33 24.4	-4.7
SAML				e		23 33 38.7	
LSZ	Lusaka	58.16	68	eP	P	23 33 28.1	-0.8
	16nm,0.9s,mb5.0						
NNA	Nana	58.61	298	P	P	23 33 32.4	+0.4
	22nm,1.1s,mb5.1						
LIC	Lamto	64.75	24	eP	P	23 34 13.0	-0.2
	44nm,0.7s,mb5.4						
KIC	Kosan Boka	64.95	24	eP	P	23 34 14.2	-0.3
	80nm,0.9s,mb5.5						
TIC	Toumodi	65.16	24	eP	P	23 34 15.6	-0.2
	51nm,0.7s,mb5.5						
DBIC	Dimbokro	65.22	24	P	P	23 34 15.7	-0.6
	8.5nm,0.6s,mb4.7,baz=164,slow=8.1,SNR=20						
DBIC				pP	pP	23 34 41.9	+3.5
	5.6nm,0.8s,baz=157,slow=7.7,SNR=2.1						
DBIC				LR	LR	23 55 21.3	
	comp=Z,42nm,21.7s,baz=86,slow=29						
DBIC	Dimbokro	65.22	24	eP	P	23 34 15.7	-0.5
	11nm,0.7s,mb4.8						
DBIC				pP	pP	23 34 41.9	+3.5
OTAV	Otavalo	70.02	303	eP	P	23 34 48.3	+2.1
	5.1nm,0.9s,mb4.3						
MBAR	Mbarara	71.97	62	eP	P	23 34 58.3	+0.4
	9.2nm,1.2s,mb4.5						
ASAR	Alice Springs	98.71	162	P	P	23 37 13.1	+0.6
	1.2nm,0.7s,mb4.5,baz=186,slow=4.7,SNR=6.6						
ASAR				PP	PP	23 41 10.7	-5.9
	0.4nm,0.6s,baz=190,slow=6.6,SNR=2.9						
NSHM	Saint Helena R	124.06	290	ePKPdf	PKPdf	23 42 29.3	-0.4
FINES	FINESS Array B	124.42	28	PKP	PKPdf	23 42 29.4	-0.4
	4.6nm,1.1s,baz=180,slow=5.7,SNR=5.3						
FINES				pPKP		23 42 57.0	
	1.2nm,0.6s,baz=217,slow=9.5,SNR=1.8						
ARCES	ARCESS Array B	131.01	22	PKP	PKPdf	23 42 42.8	+0.7
	5.5nm,1.0s,baz=207,slow=2.0,SNR=7.8						
ARCES				pPKP		23 43 09.3	
	1.8nm,0.7s,SNR=1.9						
YKA	Yellowknife Ar	136.52	318	PKP	PKPdf	23 42 52.5	+0.1
	0.7nm,0.5s,baz=123,slow=2.3,SNR=6.0						
YKA	Yellowknife Ar	136.52	318	PKP	PKPdf	23 42 52.5	+0.1
INK	Inuvik	146.15	320	PKPbc	PKPbc	23 43 11.4	+1.1
	5.0nm,0.7s,baz=66,slow=3.4,SNR=20						
INK	Inuvik	146.15	320	ePKPbc	PKPbc	23 43 11.1	+0.7
DAWY	Dawson	147.15	312	ePKPbc	PKPdf	23 43 14.0	+3.0
SONM	Songino Array	150.43	86	PKPbc	PKPdf	23 43 23.3	+6.6
	3.2nm,0.6s,baz=218,slow=3.3,SNR=24						
SONM				PKPab	PKPab	23 43 30.2	-0.9
	1.6nm,0.5s,baz=225,slow=4.6,SNR=8.1						
SONM				pPKPbc		23 43 49.5	
	2.8nm,0.5s,baz=226,slow=3.3,SNR=6.5						
ILAR	Eielson Array	150.48	311	PKPbc	PKPdf	23 43 22.8	+6.6
	3.8nm,0.7s,baz=137,slow=2.4,SNR=33						
ILAR				PKPab	PKPab	23 43 30.6	-0.1
	3.6nm,0.9s,baz=116,slow=2.0,SNR=9.9						
ILAR				pPKPbc		23 43 51.9	
	3.3nm,0.7s,baz=104,slow=0.9,SNR=4.8						
MCK	McKinley	151.13	309	ePKPbc	PKPdf	23 43 24.8	+7.6

MAN 21 23:41:20.3, 14.99N×123.26E, h15^{km}**, mb3.9, ML2.6, MS2.2, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POLP	Polilio Island	1.30	259	eP	Pb	23 41 43.0	-1.0
POLP				eS	Sb	23 42 00.7	+0.3
GQP	Guinayangan	1.33	216	⇑eP	Pn	23 41 42.9	-1.6
GQP				eS	Sb	23 42 00.1	-1.1
PVCP	Virac	1.63	148	eP	Pn	23 41 47.4	-1.3
PVCP				eS	Sn	23 42 10.2	+0.7
LQP	Lukban	1.88	243	⇑iP	Pn	23 41 52.4	+0.1
LQP				i S	Sn	23 42 21.4	+5.6
BOAC	Boac	2.05	222	eP	Pn	23 41 54.4	-0.3
ARP	Angono	2.09	258	⇓eP	Pn	23 41 56.1	+0.9
LBPH	Los Banos	2.18	248	⇓iP	Pn	23 41 56.5	-0.1
CAUP	Cauayan	2.39	325	eP	Pn	23 41 58.5	-1.1
OTRP	Odiongan	2.87	205	eP	Pn	23 42 05.5	-1.0
SJMP	San Jose	3.26	220	eP	Pn	23 42 12.5	+0.6
APYP	Conner	3.46	326	eP	Pn	23 42 14.4	-0.4
APYP				eS	Sn	23 42 52.0	-3.8

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*MOS **21** 23:53:50.2±1.3, 51.76N×91.75E, h15^{km}, mb4.1/5, Error ellipse: s-maj=16.0km s-min=12.2km az=87.8*

*IDC **21** 23:53:51.5±1.1, 52.00N×91.35E, mb3.8/6, mb1 3.9/9, mb1mx3.7/22, ML3.6/3, Error ellipse: s-maj=21.7km s-min=13.7km az=147.0*

*NEIC **21** 23:53:56.5±1.2, 51.81N×91.39E, h49^{km}±15^{km}, mb3.9/3, Error ellipse: s-maj=15.3km s-min=7.9km az=188.0*

*NNC **21** 23:53:57.1±4.3, 51.87N×90.49E, mpv3.7, Error ellipse: s-maj=38.5km s-min=25.2km az=110.0*

ISC 21 23:53:51.0±0.4**, 51.93N**±0.04×**91.28E**±0.06**, h15**^{km}**, n40,** σ**1**^{s}**09**/50**, mb4.1**/11**, 8C, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CERR	Cheremushki	0.93	5	i PG	Pg	23 54 10.4	+0.7
CERR				i S	Sb	23 54 23.0	+2.8
TASR	Tashtagol	2.24	293	ePN	Pg	23 54 34.5	-1.4
TASR				eS	Sg	23 55 05.0	-0.8
ARTR	Artybash	2.48	269	ePN	Pn	23 54 36.2	+4.6
ARTR				eS	Sn	23 55 09.4	+7.6
SHRR	Shira	2.66	346	ePN	Pn	23 54 38.2	+4.1
SHRR				e		23 55 16.3	
SHRR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
SHRR				pmax	pmax		
	comp=Z,456nm,0.6s						
SHRR				smax			
	comp=Z,3.0nm,0.7s						
AKAR	Aktash	2.81	236	ePN	Pn	23 54 40.4	+4.1
AKAR				e		23 54 44.2	
AKAR				eS	Sn	23 55 21.2	+11
UKR	Ust'-Kan	4.19	259	ePN	Pn	23 54 59.9	+4.0
UKR				e		23 55 10.8	
UKR				eS	Sb	23 56 05.5	+11
NVS	Novosibirsk	5.63	304	ePN	Pb	23 55 35.3	+6.7
NVS				eS	Sb	23 56 49.6	+13
MK31	Makanchi Array	7.80	232	⇑Pn	Pn	23 55 47.9	+1.2
	comp=Z,3.5nm,0.4s,baz=62,slow=12,SNR=119						
MK31				⇑Lg		23 57 48.1	
	comp=Z,83nm,1.1s,baz=46,slow=30,SNR=6.3						
MKAR	Makanchi Array	7.80	232	Pn	Pn	23 55 48.2	+1.5
	comp=Z,0.8nm,0.3s,baz=58,slow=12,SNR=30						
MKAR				Lg		23 57 59.0	
	comp=Z,2.7nm,0.3s,baz=47,slow=26,SNR=5.1						
KURK	Kurchatov	8.03	266	⇑Pn	P	23 55 50.1	+0.2
	comp=Z,1.6nm,0.7s,baz=62,slow=9.4,SNR=32						
KURK				⇑Lg		23 58 02.1	
	comp=Z,26nm,1.0s,baz=153,slow=17,SNR=8.1						
KURK	Kurchatov	8.03	266	ePn	P	23 55 49.9	0.0
	comp=Z,4.3nm,0.3s						
SONM	Songino Array	10.58	107	Pn	P	23 56 24.9	-0.1
	comp=Z,0.1nm,0.3s,baz=286,slow=12,SNR=3.3						
SONM				Lg		23 59 16.9	
	comp=Z,0.3nm,0.3s,baz=301,slow=29,SNR=7.5						
VOSK	Vostochnaya	12.44	282	⇑Pn	P	23 56 49.2	-1.1
	comp=Z,1.5nm,0.7s						
VOSK				⇑Sn	S	23 58 58.9	-11
	comp=Z,3.3nm,0.7s						
BVA0	Borovoye Array	12.78	283	Pn	P	23 56 54.6	-0.2
	comp=Z,0.1nm,0.3s,baz=85,slow=14,SNR=5.6						
BVA0				Sn	S	23 59 07.6	-10
	comp=Z,0.1nm,0.3s,baz=88,slow=27,SNR=4.5						
BVAR	Borovoye Array	12.78	283	Pn	P	23 56 53.0	-1.8
	comp=Z,0.4nm,0.3s,baz=84,slow=14,SNR=6.5						
BVAR				Sn	S	23 59 10.0	-7.7
	comp=Z,0.5nm,0.3s,baz=65,slow=21,SNR=3.9						
BRVK	Borovoye	12.84	283	eP	P	23 56 51.1	-4.5
ZRNK	Zerenda	13.62	283	⇑Pn	P	23 57 05.6	-0.2
	comp=Z,4.0nm,0.7s						
ZRNK				⇑Sn	S	23 59 29.2	-8.6
	comp=Z,0.2nm,0.4s						
BOD	Bodaibo	14.31	57	eP	P	23 57 13.5	-1.3
AAK	Ala-Archa	14.67	237	P	P	23 57 26.3	+6.6
KK31	Karatay Array	16.53	246	P	P	23 57 43.5	-0.2
	comp=Z,0.7nm,0.6s,baz=61,slow=13,SNR=10						
HIA	Hailar	18.22	87	P	P	23 58 04.5	-0.2
	comp=Z,3.1nm,0.8s						
AB31	Akbulak array	19.99	275	P	P	23 58 25.3	-0.3
	comp=Z,0.5nm,0.3s,baz=64,slow=8.0,SNR=13						
BJT	Baijiatuau	20.89	115	P	P	23 58 31.8	-3.1
	comp=Z,9.7nm,0.8s						
LSA	Lhasa	22.21	180	P	P	23 58 48.0	-0.3
	comp=Z,4.0nm,0.8s,mb3.9						
GKN	Gorkha	24.41	194	eP	P	23 59 11.0	+1.2
	comp=Z,6.9nm,0.5s,mb4.3						
KKN	Kakani	24.53	193	eP	P	23 59 11.6	+0.7
	comp=Z,8.7nm,0.5s,mb4.5						
PKI	Pulchoki	24.73	193	eP	P	23 59 13.4	+0.5
	comp=Z,7.2nm,0.6s,mb4.4						
DMN	Daman	24.73	193	eP	P	23 59 11.7	-1.2
KOLN	Koldanda	24.81	196	eP	P	23 59 09.6	-4.1
	comp=Z,12nm,0.5s,mb4.7						
ARCES	ARCESS Array B	34.47	325	P	P	00 00 40.5	+0.8
	comp=Z,2.4nm,0.8s,mb4.2,baz=70,slow=11,SNR=2.9						
ARCES	ARCESS Array B	34.47	325	P	P	00 00 40.5	+0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	35.57	311	P	P	00 00 49.8	+0.6
	comp=Z,2.7nm,1.1s,mb4.1,baz=78,slow=13,SNR=3.1						
FINES	FINESS Array B	35.57	311	P	P	00 00 49.8	+0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	40.94	276	P	P	00 01 35.1	+0.9
	comp=Z,1.3nm,0.9s,mb3.5,baz=83,slow=10.0,SNR=4.1						
BRTR	Keskin Array B	40.94	276	P	P	00 01 35.2	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	GERESS Array B	47.35	299	P	P	00 02 26.2	+0.5
	comp=Z,0.3nm,0.8s,mb3.3,slow=5.3,SNR=3.7						
ILAR	Eielson Array	55.29	26	P	P	00 03 25.1	-0.4
	comp=Z,1.0nm,0.7s,mb4.0,baz=316,slow=3.5,SNR=8.9						
ILAR	Eielson Array	55.29	26	P	P	00 03 25.1	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	55.56	19	P	P	00 03 27.1	-0.2
	comp=Z,0.7nm,0.5s,mb4.0,baz=328,slow=3.3,SNR=5.7						
INK	Inuvik	55.56	19	P	P	00 03 27.1	-0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NEIC **21** 23:56:44.4, 35.51N×29.80E, h33^{km}, MD3.5(ATH), After ATH.*

*ATH **21** 23:56:44.4, 35.51N×29.80E, h33^{km}, MD3.5/4*

*ISK **21** 23:56:45.7, 35.41N×29.52E, h13^{km}, MD3.7*

ISC 21 23:56:46.8±1.2**, 35.50N**±0.09×**29.53E**±0.07**, h10**^{km}**, n20,** σ**1**^{s}**00**/25**, 2C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.65	4	ePN	Pg	23 56 58.0	-2.0
ELL	Elmali	1.28	14	i PN	Pn	23 57 11.4	+0.5
ARG	Arkhangelos	1.35	303	ePN	Pn	23 57 11.5	-0.3
DALT	Dalyan (Mudla)	1.46	331	ePN	Pn	23 57 13.4	0.0
YER	Yerkesik	1.92	329	ePN	Pn	23 57 19.7	-0.3
KARP	Karpathos	1.94	272	ePN	Pn	23 57 20.0	-0.2
BCK	Bucak	2.14	23	ePN	Pn	23 57 23.9	+0.9
DNZL	Cakiroluk	2.22	350	⇑iP	Pn	23 57 25.8	+1.6
DNZL				i S	Sn	23 57 56.2	+4.1
MLSB	Milas	2.29	322	ePN	Pn	23 57 25.5	+0.3
DENT	Denizli	2.29	350	ePN	Pn	23 57 25.0	-0.2
BDRM	Kayabasi	2.30	313	i P	Pn	23 57 25.7	+0.3
BDRM				i S	Sn	23 58 01.8	+7.8
ISP	Isparta	2.47	18	ePN	Pn	23 57 27.9	+0.1
AYDN	Tasoluk	2.54	329	⇑iP	Pn	23 57 29.5	+0.7
AYDN				i S	Sn	23 57 59.1	-0.9
MANT	Manisa	3.09	346	i P	Pn	23 57 41.0	+4.4
MANT				i S	Sn	23 58 21.2	+7.2
NPS	Neapolis	3.21	267	ePN	Pn	23 57 38.0	-0.4
KONT	Konya--Tatoy	3.34	42	ePN	Pn	23 57 40.7	+0.6
KIZT	Kizilcal	3.86	28	PN	Pn	23 57 47.0	-0.6
ESKT	Eskisehir	4.15	14	ePN	Pn	23 57 51.3	-0.4
ESKT	Eskisehir	4.15	14	i P	Pn	23 57 49.9	-1.9
ESKT				i S	Sn	23 58 38.3	-2.6
KAMT	Kaman	5.10	39	ePN	Pn	23 58 04.8	-0.4

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*IDC **21** 23:57:25.2±0.9, 29.92N×139.34E, h299^{km}±8^{km}, mb3.6/20, mb1 3.8/24, mb1mx3.7/29, Error ellipse: s-maj=13.3km s-min=9.2km az=96.0*

*JMA **21** 23:57:26.2±0.2, 29.93N×139.80E, h319^{km}, M4.2*

*NEIC **21** 23:57:27.4±1.1, 29.95N×139.34E, h322^{km}±10^{km}, mb4.1/19, Error ellipse: s-maj=12.2km s-min=9.5km az=120.0*

ISC 21 23:57:24.6±0.4**, 29.86N**±0.04×**139.45E**±0.07**, h308**^{km}±3^{km}**, n65,** σ**1**^{s}**14**/74**, mb3.9**/33**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.25	5	P	P	23 58 25.7	+1.8
JHJ2				S	S	23 59 09.5	-0.7
JHJ	Hachijo jima 2	3.26	5	P	P	23 58 24.9	+0.9
	15nm,0.3s,baz=261,slow=20,SNR=12						
JHJ				S	S	23 59 09.1	-1.2
	101nm,0.3s,baz=70,slow=21,SNR=8.0						
CBIJ	Chichi jima	3.66	138	P	P	23 58 27.9	-0.2
	19nm,0.3s,baz=279,slow=17,SNR=25						
CBIJ				S	S	23 59 16.6	-1.2
	248nm,0.3s,baz=296,slow=22,SNR=38						
CBIJ	Chichi jima	3.66	138	P	P	23 58 28.1	0.0
CBIJ				S	S	23 59 17.3	-0.5
JHHJ	Haha-jima-NKT	4.02	143	P	P	23 58 32.8	+0.8
JHHJ				S	S	23 59 23.6	-1.1
TK01	Tokai 1	4.20	338	P	P	23 58 36.8	+2.9
JWZ	Kozaga	4.85	320	P	P	23 58 44.2	+3.0
BSO1	Boso 1	4.95	15	P	P	23 58 42.3	-0.1
BSO1				S	S	23 59 40.0	-3.3
JIE	Ise	5.08	333	P	P	23 58 46.8	+2.9
JOD2	Odawara 2	5.39	357	P	P	23 58 48.2	+0.7
JOD2				S	S	23 59 53.0	+0.4
JRY	Ryogami san	6.15	356	P	P	23 58 56.7	+0.1
JRY				S	S	00 00 05.7	-3.0
JTO	Tosashimizu	6.42	299	P	P	23 59 03.2	+3.4
MAJO	Matsushiro	6.74	351	ePn	P	23 59 03.0	-0.7
MAT	Matsushiro	6.74	351	P	P	23 59 03.6	-0.1
MAT				S	S	00 00 21.0	-0.4
MAT	Matsushiro	6.74	351	eP	P	23 59 04.0	+0.3
	19nm,0.6s						
MAT				eS	S	00 00 21.0	-0.4
JNU	Nakatsue	8.01	296	P	P	23 59 21.8	+2.7
	1.5nm,0.3s,baz=136,slow=8.8,SNR=8.2						
JMK	Ichinoseki	9.18	9	P	P	23 59 32.3	-1.2
KS15	Wonju Array Si	12.24	311	eP	P	00 00 12.0	+1.0
ASAJ	Asahikawa	14.45	9	P	P	00 00 37.5	+0.2
	1.7nm,0.3s,baz=251,slow=7.5,SNR=9.2						
ASAJ				S	S	00 03 15.4	+4.6
	0.3nm,0.3s,baz=251,slow=16,SNR=3.5						
YSS	Yuzh-Sakhalins	17.26	8	eP	P	00 01 09.3	+1.6
	16nm,0.4s						
MA2	Magadan	30.69	11	eP	P	00 03 09.4	-3.6
	12nm,0.7s,mb4.5						
CMAR	Chiang Mai Arr	38.48	262	P	P	00 04 18.8	-0.3
	0.9nm,0.4s,mb3.5,baz=58,slow=5.6,SNR=6.2						
MKAR	Makanchi Array	46.87	308	P	P	00 05 25.4	-0.7
	1.7nm,0.8s,mb3.4,baz=92,slow=8.3,SNR=6.5						
MKAR				PcP	PcP	00 06 52.9	-0.9
	0.7nm,0.4s,baz=76,slow=5.9,SNR=12						
KURK	Kurchatov	49.34	313	eP	P	00 05 43.3	-1.5
	4.1nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	49.51	197	eP	P	00 05 46.4	-0.1
	2.1nm,0.6s,mb3.6						
FITZ	Fitzroy Crossi	49.51	197	P	P	00 05 46.4	-0.1
	2.3nm,0.5s,mb3.7,baz=59,slow=4.6,SNR=11						
WRAB	Tennant Creek	49.75	186	P	P	00 05 47.5	-0.8
WRAB				e		00 06 01.1	
WB2	Warramunga Arr	49.76	186	eP	P	00 05 47.7	-0.7
WRA	Warramunga Arr	49.76	186	P	P	00 05 47.7	-0.7
	1.9nm,0.4s,mb3.8,baz=1.9,slow=7.7,SNR=86						
ASAR	Alice Springs	53.49	186	P	P	00 06 16.6	+0.9
	0.6nm,0.5s,mb3.2,baz=17,slow=11,SNR=5.5						
BVAR	Borovoye Array	54.38	316	P	P	00 06 21.2	-0.6
	2.4nm,0.4s,mb3.9,baz=90,slow=5.9,SNR=16						
BVAR				PcP	PcP	00 07 20.6	-0.9
	1.3nm,0.5s,baz=90,slow=3.0,SNR=7.1						
BRVK	Borovoye	54.45	316	P	P	00 06 18.3	-3.9
	5.2nm,0.9s,mb3.9						
MCK	McKinley	55.56	31	eP	P	00 06 30.0	0.0
	2.9nm,0.8s,mb3.8						
ILAR	Eielson Array	56.48	30	P	P	00 06 35.6	-0.8
	1.3nm,0.9s,mb3.4,baz=252,slow=5.9,SNR=9.1						
PALK	Pallekele	59.37	260	P	P	00 06 57.1	-0.1
	19nm,1.0s,mb4.5						
ARU	Arti	60.77	321	eP	P	00 07 04.6	-1.3
	5.1nm,0.6s,mb4.2						
INK	Inuvik	61.54	25	P	P	00 07 10.5	-0.4
	2.2nm,0.4s,mb4.2,baz=293,slow=5.6,SNR=19						
INK	Inuvik	61.54	25	eP	P	00 07 10.1	-0.8
	2.7nm,0.5s,mb4.1						
DLBC	Dease Lake	65.35	35	P	P	00 07 33.7	-1.8
ARCES	ARCESS Array B	70.14	340	P	P	00 08 05.1	+0.1
	2.9nm,0.8s,mb4.1,baz=74,slow=8.8,SNR=7.8						
ARCES	ARCESS Array B	70.14	340	P	P	00 08 05.1	+0.1
YKA	Yellowknife Ar	70.86	28	P	P	00 08 08.1	-1.3
	1.3nm,0.8s,mb3.6,baz=6.8,slow=3.2,SNR=4.1						
KAF	Kangasniemi	73.94	333	ep	P	00 08 26.1	-1.4
FINES	FINESS Array B	74.40	333	P	P	00 08 29.7	-0.5
	1.5nm,0.4s,mb4.0,baz=99,slow=5.4,SNR=29						
YBH	Yreka Blue Hor	76.13	50	P	P	00 08 41.5	+1.2
	1.2nm,0.5s,mb3.8,baz=253,slow=3.6,SNR=9.2						
NEW	Newport	76.48	42	P	P	00 08 42.9	+0.7
	2.5nm,0.5s,mb4.1,baz=288,slow=7.1,SNR=4.7						
NEW	Newport	76.48	42	eP	P	00 08 42.8	+0.7
	4.5nm,0.8s,mb4.2						
AKASG	Malin Array Be	78.97	323	P	P	00 08 54.5	-1.1
	0.9nm,0.4s,mb3.8,baz=49,slow=5.3,SNR=9.4						
CMB	Columbia Colle	79.46	52	eP	P	00 08 58.9	+0.4
	3.4nm,0.9s,mb4.1						
MALT	Malatya	79.91	308	eP	P	00 09 01.7	+0.9
	2.1nm,0.8s,mb3.9						
NB2	NORSAR Subarra	80.15	337	P	P	00 09 00.7	-0.8
	1.4nm,0.5s,mb4.0,baz=45,slow=4.8						
NOA	NORSAR Array B	80.15	337	P	P	00 09 01.3	-0.2
	2.2nm,0.6s,mb4.0,baz=45,slow=5.0,SNR=5.6						
HLID	Hailey	80.52	45	eP	P	00 09 05.0	+1.1
	2.1nm,0.9s,mb3.9						
NVAR	Mina Array Bea	80.68	51	P	P	00 09 06.5	+1.6

	4.2nm,1.0s,mb4.1,baz=293,slow=4.2,SNR=7.9						
TPH	**Tonopah**	81.60	51	eP	P	00 09 10.4	+0.9
	2.2nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	82.37	312	P	P	00 09 13.6	+0.1
	3.2nm,0.7s,mb4.2,baz=94,slow=3.6,SNR=23						
HWUT	**Hardware Ranch**	83.35	46	eP	P	00 09 19.4	+0.9
	6.7nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	83.92	44	P	P	00 09 22.1	+0.8
	0.4nm,0.4s,mb3.6,baz=297,slow=3.3,SNR=5.6						
MORC	**Moravsky Berou**	85.44	326	eP	P	00 09 25.8	-2.8
	0.9nm,0.7s,mb3.7						
PV10	**Paradox Valley**	86.80	47	eP	P	00 09 36.8	+1.4
GERES	**GERESS Array B**	87.90	328	P	P	00 09 39.8	-0.6
	0.7nm,0.8s,mb3.5,baz=45,slow=5.7,SNR=5.4						
SDCO	**Great Sand Dun**	89.41	46	eP	P	00 09 49.1	+1.4
	4.6nm,1.3s,mb4.2						
TXAR	**Lajitas Array**	95.83	52	P	P	00 10 18.7	+1.2
	0.7nm,0.7s,mb3.9,baz=127,slow=6.3,SNR=17						
LPAZ	**La Paz**	151.35	68	PKPbc	PKPdf	00 16 45.5	+10
	2.1nm,0.8s,baz=18,slow=3.0,SNR=8.4						
PLCA	**Paso Flores**	153.34	122	PKPbc	PKPdf	00 16 49.0	+11
	0.8nm,0.6s,baz=219,slow=3.6,SNR=3.0						

*NEIC **22** 00:09:19.8, 18.71N×68.43W, h180^{km}, MD3.6(RSPR), After RSPR.*

RSPR 22 00:09:19.8, 18.71N×68.43W, h180^{km}±2^{km}**, MD3.6**/7**, MD3.6**/7**, 8C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	**Las Mesas**	1.38	112	⇑eP	P	00 09 49.9	-1.1
LSP				eS	S	00 10 14.8	-0.3
LRS	**Lares**	1.56	105	⇑eP	P	00 09 52.4	-0.3
LRS				eS	S	00 10 18.0	-0.1
AOPR	**Arecibo Observ**	1.63	103	eS	S	00 10 19.1	-0.3
AOPR	**Arecibo Observ**	1.63	103	⇑eP	P	00 09 53.2	-0.2
PORP	**Portuguez**	1.82	111	⇑eP	P	00 09 54.3	-1.0
PORP				eS	S	00 10 22.6	-0.1
CELP	**Cerrillos**	1.87	110	⇑eP	P	00 09 55.7	-0.1
CELP				eS	S	00 10 23.6	+0.1
CSB	**Colonia Sabana**	2.20	101	eS	S	00 10 30.0	0.0
SJG	**San Juan**	2.24	105	eS	S	00 10 30.9	-0.1
SJG	**San Juan**	2.24	105	⇑eP	P	00 10 01.5	+1.5
SJG				eS	S	00 10 31.7	+0.8
SJG	**San Juan**	2.24	105	⇑eP	P	00 10 01.5	+1.5
SJG				eS	S	00 10 30.9	-0.1
SJG				eS	S	00 10 31.7	+0.8
CBYP	**Canovanas**	2.48	100	⇑eP	P	00 10 02.7	-0.1
CBYP				eS	S	00 10 36.1	+0.2
HUMP	**Col San Antoni**	2.51	103	eS	S	00 10 36.5	0.0

*NEIC **22** 00:43:46.5±1.3, 31.22S×69.24W, h150^{km}±24^{km}, MD3.7(GUC), Error ellipse: s-maj=15.7km s-min=8.8km az=75.0*

*GUC **22** 00:43:47.3±0.8, 31.25S×69.53W, h158^{km}±10^{km}, MD3.7, ML3.9*

ISC 22 00:43:46.7±0.9**, 31.22S**±0.04×**69.2W**±0.1**, h130^{km}**±14^{km}**, n18, σ0^{s}83**/32**, 8C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	1.54	271	⇓iP	**P**	**00 44 16.1**	**+0.5**
CMCH				i S	**S**	**00 44 37.3**	**-0.4**
CMCH				AMP		00 44 38.9	
	comp=N,5μm,0.5s						
MDZ	**Mendoza**	1.69	170	eP	**P**	**00 44 18.0**	**+0.6**
MDZ				e		00 44 37.8	
MDZ				S	**S**	**00 44 39.0**	**-1.8**
TLL	**Tololo Astrono**	1.73	307	⇑iP	**P**	**00 44 19.0**	**+1.2**
TLL				i S	**S**	**00 44 42.4**	**+0.9**
TLL				AMP		00 44 44.7	
	comp=N,1μm,0.5s						
ILCH	**Illapel**	1.73	255	⇑iP	**P**	**00 44 17.7**	**-0.1**
ILCH				i S	**S**	**00 44 40.1**	**-1.4**
ILCH				AMP		00 44 40.8	
	comp=N,1μm,0.2s						
JACH	**Jahuel**	1.88	218	i P	**P**	**00 44 20.0**	**+0.4**
JACH				i S	**S**	**00 44 45.1**	**+0.5**
LSCH	**La Serena**	2.19	306	eP	**P**	**00 44 23.7**	**+0.3**
LSCH				eS	**S**	**00 44 50.2**	**-1.2**
LSCH				AMP		00 44 51.3	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	2.29	213	⇑iP	**P**	**00 44 24.8**	**-0.1**
PEL				i S	**S**	**00 44 53.1**	**-0.8**
PEL				AMP		00 44 55.3	
	comp=N,351nm,0.7s						
FCH	**Farellones**	2.30	203	⇑iP	**P**	**00 44 25.9**	**+0.9**
FCH				i S	**S**	**00 44 55.5**	**+1.5**
FCH				AMP		00 45 01.4	
	comp=E,233nm,0.4s						
CLCH	**Cerro Calan**	2.45	207	⇑iP	**P**	**00 44 27.2**	**+0.3**
CLCH				i S	**S**	**00 44 57.7**	**+0.3**
CLCH				AMP		00 45 05.9	
	comp=E,276nm,0.6s						
PCH	**Pirque**	2.64	204	⇑iP	**P**	**00 44 29.8**	**+0.3**
PCH				i S	**S**	**00 45 02.2**	**+0.3**
LMEL	**Las Melosas**	2.76	197	i P	**P**	**00 44 31.5**	**+0.5**
LMEL				i S	**S**	**00 45 05.7**	**+1.2**
LMEL				AMP		00 45 13.7	
	comp=N,174nm,0.2s						
TACH	**Talagante**	2.84	211	i P	**P**	**00 44 31.3**	**-0.7**
TACH				i S	**S**	**00 45 05.4**	**-1.1**
VACH	**Vallenar**	2.95	333	AMP		00 45 04.5	
	comp=N,1μm,0.3s						
CHCH	**Chadas Angostu**	2.97	204	⇑iP	**P**	**00 44 33.7**	**-0.1**
CHCH				i S	**S**	**00 45 09.0**	**-0.6**
LCCH	**Las Cruces**	3.01	221	⇓iP	**P**	**00 44 33.0**	**-1.3**
CACH	**El Canelo**	3.12	202	i P	**P**	**00 44 36.0**	**+0.2**
CACH				i S	**S**	**00 45 13.5**	**+0.3**
CICH	**Cipreses**	3.26	198	⇓iP	**P**	**00 44 37.7**	**+0.1**
CICH				i S	**S**	**00 45 16.4**	**0.0**
TRQA	**Tornquist**	9.06	141	⇑eP	**P**	**00 45 53.9**	**-1.6**
	comp=N,26nm,1.0s						

IDC 22 00:51:25.3±10.0**, 4.74S×153.85E, h114^{km}**±64^{km}**, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.4**/15**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx2.9**/19**, Error ellipse: s-maj=86.0km s-min=63.4km az=24.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	8.09	235	P	P	00 53 20.4	-1.0
	5.0nm,0.3s,baz=44,slow=7.5,SNR=16						
PMG				S	S	00 54 50.0	-1.8
	2.9nm,0.3s,baz=126,slow=12,SNR=3.5						
CTA	**Charters Tower**	16.95	205	LR	LR	01 01 28.1	
	comp=Z,65nm,18.0s,baz=36,slow=36						
WB2	**Warramunga Arr**	24.26	230	eP	P	00 56 33.7	+0.5
WRA	**Warramunga Arr**	24.27	230	P	P	00 56 33.0	-0.3
	2.0nm,0.4s,baz=54,slow=10.0,SNR=41						
ASAR	**Alice Springs**	26.90	224	P	P	00 56 56.1	-1.6
	0.3nm,0.5s,baz=53,slow=9.1,SNR=4.7						
STKA	**Stephens Creek**	29.34	202	P	P	00 57 16.8	-2.9
	1.5nm,0.8s,baz=9.5,slow=18,SNR=2.3						
FITZ	**Fitzroy Crossi**	30.60	242	P	P	00 57 28.2	-2.8
	1.4nm,0.9s,baz=51,slow=6.5,SNR=5.3						
JNU	**Nakatsue**	43.50	332	LR	LR	01 14 33.2	
	comp=Z,101nm,20.3s,baz=55,slow=32						

*THE **22** 01:07:32.8, 38.59N×20.51E, h10^{km}, ML2.8*

*NEIC **22** 01:07:34.9, 38.68N×20.59E, h10^{km}, MD3.2(ATH), ML2.8(THE), After ATH.*

*ATH **22** 01:07:34.9, 38.68N×20.59E, h10^{km}, MD3.2/3*

ISC 22 01:07:34.1±1.0**, 38.65N**±0.06×**20.55E**±0.07**, h10^{km}, n11, σ1^{s}06**/15**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	**Levkas**	0.10	57	ePg	**Pg**	**01 07 35.2**	**-1.6**
LKD				eSg	**Sg**	**01 07 38.0**	**-0.6**
VLS	**Valsamata**	0.48	176	ePB	**Pb**	**01 07 45.0**	**+0.9**
IGT	**Igoumenitsa**	0.89	349	ePg	**Pg**	**01 07 49.6**	**-2.5**
IGT				eSg	**Sg**	**01 08 05.3**	**+1.2**
EVR	**Evrytania**	1.02	75	ePB	**Pb**	**01 07 53.5**	**0.0**
KEK	**Kerkira**	1.21	332	ePB	**Pb**	**01 07 57.5**	**+0.9**
AGG	**Agios Georgios**	1.44	75	ePb	**Pb**	**01 08 00.3**	**-0.4**
AGG				eSb	**Sb**	**01 08 20.6**	**+1.6**
LIT	**Litokhoron**	2.09	46	ePn	**Pn**	**01 08 09.7**	**0.0**
LIT				eSn	**Sn**	**01 08 39.5**	**+3.6**
FNA	**Florina**	2.22	17	ePn	**Pn**	**01 08 12.2**	**+0.6**
GRG	**Griva**	2.71	31	ePn	**Pn**	**01 08 18.1**	**-0.4**
SOH	**Sokhos**	3.06	44	ePn	**Pn**	**01 08 23.2**	**-0.3**
KNT	**Kendrikon**	3.09	35	ePn	**Pn**	**01 08 23.3**	**-0.7**

*NEIC **22** 01:08:38.7±0.9, 20.43S×68.54W, h121^{km}±16^{km}, mb4.0/2, Error ellipse: s-maj=20.9km s-min=11.6km az=87.0*

*IDC **22** 01:08:39.5±1.6, 20.50S×68.41W, h125^{km}±20^{km}, mb3.5/2, mb1 3.6/6, mb1mx3.4/17, Error ellipse: s-maj=40.6km s-min=16.9km az=101.0*

ISC 22 01:08:37.9±0.8**, 20.43S**±0.07×**68.6W**±0.2**, h136^{km}**±13^{km}**, n11, σ0^{s}83**/14**, mb3.9**/1**, 1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	2.19	188	P	**P**	**01 09 15.3**	**+0.2**
	33nm,0.3s,baz=23,slow=12,SNR=459						
LVC				S	**S**	**01 09 43.4**	**-0.1**
	33nm,0.3s,baz=83,slow=22,SNR=12						
LVC	**Limon Verde**	2.19	188	⇓ePn	**P**	**01 09 15.3**	**+0.2**
LVC				S	**S**	**01 09 43.4**	**-0.1**
LPAZ	**La Paz**	4.14	6	P	**P**	**01 09 42.4**	**+1.8**
	12nm,0.3s,baz=195,slow=9.3,SNR=284						
ARE	**Arequipa**	4.82	324	eP	**P**	**01 09 48.4**	**-1.3**
ARE				eS	**S**	**01 10 37.0**	**-8.0**
CPUP	**Villa Florida**	11.88	122	P	**P**	**01 11 23.4**	**-0.5**
	0.3nm,0.3s,baz=322,slow=13,SNR=11						
CPUP	**Villa Florida**	11.88	122	eP	**P**	**01 11 22.5**	**-1.3**
	4.3nm,0.8s						
TRQA	**Tornquist**	18.47	163	eP	**P**	**01 12 46.0**	**+0.2**
	0.4nm,0.4s						
BDFB	**Brasilia**	20.12	80	P	**P**	**01 13 03.1**	**0.0**
	0.3nm,0.3s,baz=289,slow=9.5,SNR=3.3						
PLCA	**Paso Flores**	20.31	184	P	**P**	**01 13 05.6**	**+0.7**
	0.9nm,0.7s,baz=12,slow=14,SNR=3.1						
DBIC	**Dimbokro**	68.13	74	P	**P**	**01 19 25.4**	**-0.3**
	5.0nm,1.1s,mb4.2,baz=248,slow=10,SNR=7.0						
DBIC	**Dimbokro**	68.13	74	eP	**P**	**01 19 25.6**	**-0.2**
	0.6nm,0.4s,mb3.7						

*BJI **22** 01:25:07.3, 32.30N×115.20W, h6^{km}, mB4.0, mb4.3, Ms4.5, Msz4.2*

*ECX **22** 01:25:11.2±0.5, 32.38N×115.26W, h5^{km}±3^{km}, MD4.2, ML4.5*

*NEIC **22** 01:25:12.3, 32.34N×115.22W, h6^{km}, mb4.0/1, ML4.2(PAS), After PAS.*

NEIC Felt at Calexico and El Centro, California.

*IDC **22** 01:25:15.9±5.4, 32.24N×115.13W, h24^{km}±34^{km}, mb3.9/4, mb1 3.9/9, mb1mx3.7/25, ML3.6/4, MS3.6/7, Ms1 3.6/7, ms1mx3.3/24, Error ellipse: s-maj=37.3km s-min=11.4km az=39.0*

ISC 22 01:25:10.6±0.3**, 32.43N**±0.02×**115.14W**±0.02**, h5^{km}, n81, σ1^{s}17**/85**, mb3.9**/5**, MS3.7**/6**, 4C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	0.14	267	⇑eP	**Pg**	**01 25 13.2**	**-0.3**
CPBX				eS	**Sg**	**01 25 15.3**	**-0.2**
CPBX				⇑e		01 25 18.2	
	comp=N,1452μm,0.3s						
COA	**Coachella**	0.44	2	⇓eP	**Pg**	**01 25 22.4**	**+3.0**
EMX	**El Mayor**	0.44	191	eP	**Pg**	**01 25 21.0**	**+1.4**
EMX				i S	**Sg**	**01 25 27.3**	**+1.8**
EMX				e		01 25 29.6	
	comp=N,20μm,0.6s						
EMX				⇑e		01 25 32.1	
	comp=E,23μm,0.9s						
YMD	**Yuma Desert**	0.52	76	⇓eP	**Pg**	**01 25 24.3**	**+3.2**
SGL	**Mount Signal**	0.54	295	⇓eP	**Pg**	**01 25 22.1**	**+0.6**
COK	**Cook Ranch**	0.65	311	⇓eP	**Pg**	**01 25 24.6**	**+0.9**
RMX	**La Rumorosa**	0.81	283	eP	**Pb**	**01 25 26.9**	**+0.1**
RMX				eS	**Sg**	**01 25 37.3**	**-0.3**
RDX	**Rancho Dowling**	0.84	234	eP	**Pb**	**01 25 27.3**	**0.0**
RDX				eS	**Sg**	**01 25 37.7**	**-0.9**
ECBX	**El Chinero**	0.95	175	eP	**Pb**	**01 25 29.1**	**-0.1**
PGX	**Piedras Gordas**	1.20	248	eP	**Pb**	**01 25 33.2**	**-0.1**
PGX				eS	**Sb**	**01 25 48.9**	**-0.1**
CBX	**Cerro Bola**	1.29	265	eP	**Pb**	**01 25 34.3**	**-0.7**
CBX				eS	**Sb**	**01 25 50.9**	**-0.9**
BAR	**Barrett**	1.32	282	eP	**Pb**	**01 25 34.3**	**-1.2**
ENX	**Ensenada**	1.40	248	eP	**Pn**	**01 25 36.4**	**-0.5**
ENX				eS	**Sb**	**01 25 54.7**	**-0.2**
SPX	**San Pedro Mart**	1.40	191	eP	**Pn**	**01 25 36.7**	**-0.2**
ECNX	**Esteban Cantu**	1.45	239	⇑eP	**Pn**	**01 25 37.4**	**-0.3**
ECNX				eS	**Sb**	**01 25 56.9**	**+0.5**
PBX	**Punta Banda**	1.51	244	eP	**Pn**	**01 25 38.0**	**-0.4**
PBX				eS	**Sb**	**01 25 58.4**	**+0.4**
PFO	**Pinyon Flat Ob**	1.62	317	eP	**Pn**	**01 25 38.1**	**-1.8**
LDFC	**Landfair**	2.65	1	ePn	**Pn**	**01 25 55.6**	**+0.9**
MWC	**Mount Wilson**	3.03	307	ePn	**Pn**	**01 26 00.4**	**+0.3**
NEN	**Nelson**	3.23	4	ePn	**Pn**	**01 26 02.5**	**-0.4**
TUC	**Tucson**	3.69	91	ePn	**Pn**	**01 26 07.4**	**-2.1**
WUAZ	**Wupatki**	4.39	44	ePn	**Pn**	**01 26 20.7**	**+1.1**
MTUM	**Tungsten Hills**	5.66	331	Pn	**Pn**	**01 26 37.9**	**+0.4**
TPH	**Tonopah**	5.89	344	ePn	**Pn**	**01 26 40.3**	**-0.4**
OMM	**Old Mammoth Mi**	6.07	330	ePn	**Pn**	**01 26 42.3**	**-0.9**
MNV	**Mina**	6.48	339	ePn	**Pn**	**01 26 49.4**	**+0.4**
NVAR	**Mina Array Bea**	6.52	338	Pn	**Pn**	**01 26 53.2**	**+3.6**
	comp=E,0.2nm,0.3s,baz=156,slow=16,SNR=5.2						
NVAR				Lg		01 28 51.0	
	baz=154,slow=35,SNR=1.8						
MSU	**Marysvale**	6.54	21	ePn	**Pn**	**01 26 52.9**	**+3.1**
LAZ	**Ladron**	6.98	71	ePn	**Pn**	**01 26 55.8**	**-0.2**
CMB	**Columbia Colle**	7.05	324	Pn	**Pn**	**01 27 00.5**	**+3.5**
LENM	**Lemitar**	7.06	74	ePn	**Pn**	**01 26 56.8**	**-0.3**
BNM	**Barren Site**	7.33	74	ePn	**Pn**	**01 27 00.6**	**-0.4**
SRU	**San Rafael**	7.65	28	Pn	**Pn**	**01 27 05.2**	**-0.3**
ANMO	**Albuquerque**	7.66	68	ePn	**Pn**	**01 27 05.6**	**0.0**
PV10	**Paradox Valley**	7.75	38	ePn	**Pn**	**01 27 05.7**	**-1.1**
PV01	**Paradox Valley**	7.83	42	ePn	**Pn**	**01 27 07.7**	**-0.3**
NLU	**North Lily Min**	7.91	17	ePn	**Pn**	**01 27 10.0**	**+0.9**
DUG	**Dugway**	7.98	13	ePn	**Pn**	**01 27 08.6**	**-1.5**
MPU	**Maple Canyon**	8.09	20	Pn	**P**	**01 27 13.4**	**+1.9**
ELK	**Elko**	8.30	359	P	**P**	**01 27 14.2**	**-0.3**
DAU	**Daniels Canyon**	8.56	20	ePn	**P**	**01 27 17.4**	**-0.8**
BGU	**Big Grassy Mou**	8.65	11	ePn	**P**	**01 27 18.3**	**-1.1**
JLU	**Jordanelle**	8.68	19	Pn	**P**	**01 27 19.4**	**-0.5**
CTU	**Camp Tracy**	8.69	17	Pn	**P**	**01 27 21.0**	**+1.1**
SPUT	**South Promonto**	9.12	13	ePn	**P**	**01 27 24.6**	**-1.4**
GDL2	**Guadalupe Moun**	9.12	89	ePn	**P**	**01 27 25.4**	**-0.6**
TCUT	**Toone Canyon**	9.18	18	Pn	**P**	**01 27 26.6**	**-0.1**
SDCO	**Great Sand Dun**	9.52	53	ePn	**P**	**01 27 28.8**	**-2.5**
HWUT	**Hardware Ranch**	9.60	16	ePn	**P**	**01 27 31.9**	**-0.6**
LTX	**Lajitas**	10.33	104	ePn	**P**	**01 27 39.9**	**-2.6**
TXAR	**Lajitas Array**	10.33	104	Pn	**P**	**01 27 43.0**	**+0.4**
	comp=E,0.4nm,0.3s,baz=285,slow=13,SNR=18						
TXAR				Lg		01 30 48.2	
	comp=E,0.2nm,0.3s,baz=262,slow=26,SNR=4.3						
TXAR				LR	LR	01 32 05.4	
	comp=E,411nm,19.3s,baz=245,slow=40						
TXAR	**Lajitas Array**	10.33	104	Pn	**P**	**01 27 43.0**	**+0.4**
TXAR				Lg		01 30 48.2	
TXAR				LR	LR	01 32 05.4	
ISCO	**Idaho Springs**	10.65	44	ePn	**P**	**01 27 47.5**	**+0.6**
AHID	**Auburn Hatcher**	10.81	16	Pn	**P**	**01 27 50.6**	**+1.6**
YBH	**Yreka Blue Hor**	11.08	329	Pn	**P**	**01 27 55.5**	**+2.7**
	comp=E,0.0nm,0.3s,baz=168,slow=11,SNR=3.0						
YBH				Lg		01 31 10.6	
	comp=E,0.1nm,0.3s,baz=309,slow=16,SNR=2.8						
HLID	**Hailey**	11.13	3	ePn	**P**	**01 27 50.6**	**-2.9**
BW06	**Boulder Array**	11.23	22	Pn	**P**	**01 27 53.3**	**-1.5**
PDAR	**Pinedale Array**	11.23	22	Pn	**P**	**01 28 00.1**	**+5.2**
	baz=217,slow=7.4,SNR=5.6						
PDAR				Lg		01 31 24.6	
	comp=E,0.2nm,0.3s,baz=193,slow=26,SNR=2.7						
MCMT	**McKenzie Canyo**	12.51	8	ePn	**P**	**01 28 10.8**	**-1.4**
JCT	**Junction City**	13.24	94	Pn	**P**	**01 28 22.9**	**+1.0**
LNOR	**Lincton Mounta**	13.64	351	Pn	**P**	**01 28 27.6**	**+0.5**
WMOK	**Wichita Mounta**	13.84	76	ePn	**P**	**01 28 30.1**	**+0.4**
	comp=E,3.6nm,0.9s						
RSSD	**Black Hills**	14.56	34	ePn	**P**	**01 28 38.1**	**-1.0**
	comp=E,6.0nm,1.0s						
LON	**Longmire**	15.19	342	ePn	**P**	**01 28 48.3**	**+0.9**
NEW	**Newport**	15.89	355	Pn	**P**	**01 28 60.0**	**+3.5**
	comp=E,0.1nm,0.3s,baz=175,slow=14,SNR=7.6						
NEW				Lg		01 33 45.9	
	comp=E,0.1nm,0.3s,baz=96,slow=20,SNR=2.0						
NEW				LR	LR	01 35 00.5	
	comp=E,85nm,18.4s,baz=59,slow=36						
NEW	**Newport**	15.89	355	Pn	**P**	**01 28 57.4**	**+0.8**
	comp=E,13nm,1.1s						
NLW	**Nelson Butte**	16.12	347	Pn	**P**	**01 28 58.5**	**-1.0**
BBB	**Bella Bella**	21.89	338	P	**P**	**01 30 09.7**	**+3.6**
	comp=E,5.7nm,0.7s,mb4.1,baz=186,slow=10,SNR=2.5						
BBB				LR	LR	01 38 23.9	
	comp=E,145nm,19.0s,MS3.4,baz=324,slow=36						
ULM	**Lac du Bonnet**	22.83	33	P	**P**	**01 30 19.8**	**+4.3**
	comp=E,2.5nm,0.8s,mb3.7						
DLBC	**Dease Lake**	27.90	343	P	**P**	**01 31 05.5**	**+2.3**
	comp=E,1.5nm,0.5s,mb3.8,baz=153,slow=6.8,SNR=3.3						
YKA	**Yellowknife Ar**	30.09	0	LR	LR	01 45 30.0	
	comp=E,77nm,18.3s,MS3.4,baz=235,slow=40						
INK	**Inuvik**	37.46	349	P	**P**	**01 32 28.6**	**+2.3**
	comp=E,3.1nm,1.0s,mb4.1,baz=170,slow=6.1,SNR=4.5						
ILAR	**Eielson Array**	37.78	338	P	**P**	**01 32 31.6**	**+2.5**
	comp=E,1.0nm,0.8s,mb3.6,baz=155,slow=6.7,SNR=11						
ILAR				LR	LR	01 46 45.0	
	comp=E,41nm,21.4s,MS3.2,baz=172,slow=34						
ILAR	**Eielson Array**	37.78	338	P	**P**	**01 32 31.6**	**+2.5**
ILAR				LR	LR	01 46 45.0	
CN2	**Changchun**	86.14	321	eP	**P**	**01 37 52.6**	**-1.2**
JOW	**Kunigami**	95.66	307	LR	LR	02 15 16.2	
	comp=E,97nm,21.1s,MS4.2,baz=164,slow=31						
SSE	**Sheshan**	97.35	314	⇓P	**P**	**01 38 47.6**	**+1.3**
SSE				LR	LR		
	comp=N,41nm,18.4s,MS4.2						
SSE				LR	LR		
	comp=E,64nm,18.3s,MS4.2						
SSE				LR	LR		
	comp=Z,60nm,17.6s,MS4.1						
NJ2	**Nanjing**	98.07	316	eP	**P**	**01 38 48.1**	**-1.4**
MKAR	**Makanchi Array**	99.59	348	LR	LR	02 25 11.9	
	comp=Z,30nm,18.5s,MS3.8,baz=172,slow=36						
WMQ	**Urumqi**	101.30	343	eP	P	01 39 06.0	+2.1
WMQ				AP		01 39 09.1	
WMQ				XP		01 39 12.5	
MAW	**Mawson**	144.76	179	PKP	PKPdf	01 44 49.6	-0.5
	comp=Z,4.8nm,1.1s,baz=173,slow=6.6,SNR=5.2						

*NEIC **22** 01:33:44.8±4.0, 5.12S×153.49E, h78^{km}±28^{km}, mb4.0/2, Error ellipse: s-maj=67.5km s-min=20.6km az=118.0*

*IDC **22** 01:33:45.8±6.0, 5.03S×153.28E, h83^{km}±50^{km}, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, ML2.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=62.8km s-min=27.3km az=120.0*

ISC 22 01:33:44.7±4.8**, 4.9S**±0.3×**153.1E**±0.4**, h77^{km}**±38^{km}**, n11, σ1^{s}15**/12**, mb3.6**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.41	232	P	**P**	**01 35 32.5**	**+0.3**
	0.9nm,0.3s,baz=19,slow=14,SNR=3.3						
PMG				S	**S**	**01 36 55.4**	**+0.1**
	1.3nm,0.3s,baz=93,slow=21,SNR=3.8						
PMG	**Port Moresby**	7.41	232	Pn	**P**	**01 35 32.7**	**+0.5**
PMG				eSn	**S**	**01 36 52.9**	**-2.5**
WRAB	**Tennant Creek**	23.60	229	eP	**P**	**01 38 50.4**	**+1.0**
	8.2nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	23.61	229	eP	**P**	**01 38 50.1**	**+0.7**
WRA	**Warramunga Arr**	23.61	229	P	**P**	**01 38 50.7**	**+1.1**
	3.3nm,0.5s,mb3.9,baz=53,slow=9.9,SNR=87						
ASAR	**Alice Springs**	26.30	223	P	**P**	**01 39 14.6**	**-0.4**
	0.6nm,0.6s,mb3.2,baz=53,slow=9.1,SNR=6.5						
STKA	**Stephens Creek**	28.96	200	LR	LR	01 49 32.6	
	comp=Z,76nm,18.9s,baz=32,slow=33						
FITZ	**Fitzroy Crossi**	29.88	242	eP	**P**	**01 39 45.7**	**-1.6**
	2.2nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	29.88	242	P	**P**	**01 39 45.3**	**-2.1**
	3.6nm,0.9s,mb4.0,baz=51,slow=8.2,SNR=8.1						
SONM	**Songino Array**	66.52	328	P	**P**	**01 44 29.6**	**+1.1**
	0.2nm,0.4s,mb3.3,baz=139,slow=5.2,SNR=2.7						
ILAR	**Eielson Array**	82.11	22	P	**P**	**01 45 56.4**	**-1.5**
	0.3nm,0.7s,mb3.2,baz=234,slow=7.8,SNR=4.1						

*ISK **22** 01:35:10.0, 38.94N×26.74E, h14^{km}, MD3.2*

*NEIC **22** 01:35:11.3, 38.85N×26.57E, h10^{km}, MD3.4(ATH), ML3.4(THE), After ATH.*

*ATH **22** 01:35:11.3, 38.85N×26.57E, h10^{km}, MD3.4/3*

*THE **22** 01:35:14.3, 38.94N×26.40E, h15^{km}, ML3.4*

ISC 22 01:35:10.1±0.6**, 38.95N**±0.02×**26.70E**±0.03**, h13^{km}**±5^{km}**, n40, σ0^{s}84**/57**, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	0.45	311	ePB	**Pb**	**01 35 20.2**	**+0.9**
KDAG	**Bornova**	0.70	141	⇑iP	**Pb**	**01 35 23.2**	**-0.5**
KDAG				i S	**Sb**	**01 35 32.9**	**-0.1**
IZM	**Izmir**	0.71	141	i PG	**Pg**	**01 35 23.5**	**-0.9**
IZM				i SG	**Sg**	**01 35 34.2**	**+0.2**
AKS	**Akhisar**	0.87	95	PG	**Pg**	**01 35 26.3**	**-1.3**
AKS				SG	**Sg**	**01 35 38.4**	**-0.9**
EZN	**Ezine**	0.92	342	i PG	**Pg**	**01 35 28.7**	**+0.1**
EZN				i SG	**Sg**	**01 35 42.2**	**+1.2**
BALB	**Balikesir**	1.14	53	PN	**Pn**	**01 35 31.8**	**0.0**
SMG	**Samos**	1.25	175	ePB	**Pb**	**01 35 33.2**	**+0.2**
MANT	**Manisa**	1.52	107	i P	**Pn**	**01 35 36.9**	**-0.3**
MANT				i S	**Sb**	**01 35 57.7**	**+1.0**
DST	**Dursunbey**	1.63	66	PN	**Pn**	**01 35 38.3**	**-0.4**
EDC	**Edincik**	1.66	32	PN	**Pn**	**01 35 39.6**	**+0.5**
BNT	**Bandirma**	1.69	33	PN	**Pn**	**01 35 39.6**	**+0.1**
SART	**Tekirdag**	1.77	12	⇑iP	**Pn**	**01 35 41.4**	**+0.7**
SART				i S	**Sn**	**01 36 06.9**	**+3.6**
KCT	**Karacabey**	1.83	44	PN	**Pn**	**01 35 42.2**	**+0.6**
ALN	**Alexandroupoli**	2.01	346	ePb	**Pb**	**01 35 44.9**	**-1.1**
	comp=Z,3.3nm,0.3s						
ALN				eSb	**Sb**	**01 36 10.1**	**-0.7**
APE	**Apeiranthos**	2.10	207	PN	**Pn**	**01 35 45.1**	**-0.3**
APE	**Apeiranthos**	2.10	207	ePN	**Pn**	**01 35 47.0**	**+1.6**
DENT	**Denizli**	2.19	122	ePN	**Pn**	**01 35 47.1**	**+0.4**
AOS	**Alonnisos**	2.21	277	ePb	**Pb**	**01 35 46.1**	**-3.3**
AOS				eSb	**Sb**	**01 36 11.1**	**-5.6**
ULDT	**Uludag**	2.23	57	i P	**Pn**	**01 35 47.1**	**-0.1**
ULDT				i S	**Sn**	**01 36 19.9**	**+5.1**
OUR	**Ouranopolis**	2.51	304	ePn	**Pn**	**01 35 52.1**	**+0.8**
	comp=Z,2.4nm,0.3s						
OUR				eSn	**Sn**	**01 36 18.9**	**-3.1**
PAIG	**Paliouri**	2.53	294	ePn	**Pn**	**01 35 50.1**	**-1.5**
CTT	**Catalca**	2.56	31	ePN	**Pn**	**01 35 51.8**	**-0.3**
YLV	**Yalova**	2.61	51	ePN	**Pn**	**01 35 53.1**	**+0.3**
BADT	**Buyukada**	2.66	44	ePN	**Pn**	**01 35 53.9**	**+0.5**
ALT	**Altintas**	2.66	87	PN	**Pn**	**01 35 53.2**	**-0.2**
DALT	**Dalyan (Mudla)**	2.66	144	ePN	**Pn**	**01 35 52.7**	**-0.8**
THR4	**Thira Island,**	2.69	203	ePn	**Pn**	**01 35 54.6**	**+0.6**
THR4				eSn	**Sn**	**01 36 26.9**	**+0.2**
THR3	**Thira Island,**	2.74	203	ePn	**Pn**	**01 35 56.0**	**+1.3**
THR3				eSn	**Sn**	**01 36 28.4**	**+0.5**
THR5	**Thira Island,**	2.75	203	ePn	**Pn**	**01 35 54.8**	**+0.1**
THR5				eSn	**Sn**	**01 36 27.3**	**-0.8**
XOR	**Xorichti**	2.76	280	ePn	**Pn**	**01 35 54.8**	**-0.1**
ISK	**Istanbul-Kandi**	2.78	40	ePN	**Pn**	**01 35 55.5**	**+0.3**
EDRB	**Edirne**	2.89	1	ePN	**Pn**	**01 35 56.3**	**-0.5**
HRT	**Hereke**	2.95	50	i PN	**Pn**	**01 35 58.1**	**+0.5**
SOH	**Sokhos**	3.18	307	ePn	**Pn**	**01 36 01.7**	**+0.9**
SOH				eSn	**Sn**	**01 36 38.2**	**-0.8**
SRS	**Serrai**	3.22	313	ePn	**Pn**	**01 36 02.0**	**+0.6**
SRS				eSn	**Sn**	**01 36 38.0**	**-2.0**
ESKT	**Eskisehir**	3.27	79	ePN	**Pn**	**01 36 01.7**	**-0.4**
ESKT	**Eskisehir**	3.27	79	i P	**Pn**	**01 36 01.9**	**-0.3**
ESKT				i S	**Sg**	**01 36 54.3**	**-4.7**
AGG	**Agios Georgios**	3.41	273	ePn	**Pn**	**01 36 04.2**	**+0.1**
AGG				eSn	**Sn**	**01 36 39.6**	**-5.1**
KNT	**Kendrikon**	3.66	308	ePn	**Pn**	**01 36 08.6**	**+1.0**
GRG	**Griva**	3.86	303	ePn	**Pn**	**01 36 11.1**	**+0.6**

MAN 22 01:37:26.6, 10.18N×125.99E, h28^{km}, mb3.5, ML2.2, MS1.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.64	231	⇓eP	Pb	01 37 40.0	+0.8
SCPH				eS	Sb	01 37 49.5	+1.7
MSLP	**Maasin**	1.12	268	eP	Pn	01 37 46.9	+0.3
MSLP				eS	Sn	01 38 01.6	+0.5
PLP	**Palo**	1.40	315	eP	Pn	01 37 49.7	-0.9
PLP				eS	Sn	01 38 07.6	-0.6
BESP	**Borongan**	1.51	339	eP	Pn	01 37 51.5	-0.7
BESP				eS	Sn	01 38 11.7	+0.6

MDD ***22*** *01:55:39.0±1.9, 36.16N×8.42W, mb3.1/5, Error ellipse: s-maj=16.6km s-min=10.6km az=29.0, PRXIMO*
INMG ***22*** *01:55:39.7±0.8, 35.95N×8.56W, h31^{km}±25^{km}, ML1.7, Error ellipse: s-maj=17.9km s-min=3.7km az=36.0*
ISC 22 01:55:38.0±1.4**, 36.14N**±0.06×**8.36W**±0.07**, h10**^{km}**, n18, σ1^{s}21**/33**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.43	348	*e*P	Pn	01 56 04.1	0.0
PTEO				*e*S	Sb	01 56 22.6	+0.1
	6.3nm,0.3s						
PTEO	Sao Teotonio	1.43	348	P	Pn	01 56 04.1	0.0
PTEO				S	Sb	01 56 22.6	+0.1
	3.2nm,0.3s						
PALC	Alcoutim	1.50	28	*e*P	Pn	01 56 06.7	+1.6
PALC				*e*S	Sb	01 56 26.4	+2.0
	2.8nm,0.2s						
PALC	Alcoutim	1.50	28	P	Pn	01 56 06.7	+1.6
PALC				S	Sb	01 56 26.4	+2.0
	1.4nm,0.2s						
EGRO	El Granado	1.56	27	P	Pn	01 56 07.5	+1.6
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sb	01 56 27.7	+1.6
	2.2nm,0.1s,SNR=7.9						
PBEJ	Beja	1.92	12	*e*Pn	Pn	01 56 11.7	+0.6
PBEJ				*e*Sn	Sn	01 56 35.9	+0.3
	2.6nm,0.1s						
PBEJ	Beja	1.92	12	P	Pn	01 56 11.7	+0.6
PBEJ				S	Sn	01 56 35.9	+0.3
	1.3nm,0.1s						
EMIN	Mina Concepcio	2.11	39	P	Pn	01 56 14.7	+0.9
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	01 56 40.9	+0.5
	0.7nm,0.1s,SNR=7.9						
ESPR	Espera	2.14	69	P	Pn	01 56 14.5	+0.2
	0.6nm,0.1s,SNR=4.0						
ESPR				S	Sn	01 56 40.9	-0.3
	3.7nm,0.2s,SNR=7.9						
MOE	Montemor	2.38	0	*e*Pn	Pn	01 56 17.8	+0.1
MOE				*e*Sn	Sn	01 56 46.0	-1.1
EBAD	Badajoz	2.82	22	P	Pn	01 56 24.4	+0.4
	0.4nm,0.1s,SNR=6.4						
EBAD				S	Sn	01 56 58.8	+0.4
	0.6nm,0.1s,SNR=5.9						
PTOM	Tomar	3.47	359	*e*Pn	Pn	01 56 32.0	-1.2
PTOM				*e*Sn	Sn	01 57 11.8	-3.0
EADA	Adamuz	3.64	55	P	Pn	01 56 35.9	+0.3
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	01 57 17.1	-1.9
	0.5nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	3.76	10	*e*Pn	Pn	01 56 36.5	-0.8
PCBR				*e*Sn	Sn	01 57 19.9	-2.2
	1.9nm,0.3s						
PCBR	Castelo Branco	3.76	10	P	Pn	01 56 36.5	-0.8
PCBR				S	Sn	01 57 19.9	-2.2
	0.9nm,0.3s						
EQES	Quesada	4.55	67	S	Sn	01 57 39.5	-2.6
	0.4nm,0.1s,SNR=7.9						
ELOB	Lobios	5.72	2	S	Sn	01 58 06.9	-4.8
	0.4nm,0.1s,SNR=7.9						
ETOB	Tobarra	5.97	63	S	Sn	01 58 11.9	-6.0
	0.1nm,0.0s,SNR=7.9						

NIED ***22*** *02:11:00, 28.70N×128.40E, h11^{km}, Mw4.0 Best double couple: M₀1.23×10^{15} NP1:φ$_s$58°, δ81°, λ168°. NP2:φ$_s$150°, δ78°, λ9°.*
JMA ***22*** *02:11:30.7±0.3, 28.73N×128.38E, h2^{km}, M3.7*
IDC ***22*** *02:11:33.3±1.0, 28.47N×128.18E, mb3.5/4, mb1 3.8/5, mb1mx3.6/21, ML3.5/1, MS3.2/3, Ms1 3.3/3, ms1mx2.6/29, Error ellipse: s-maj=33.6km s-min=17.7km az=84.0*
ISC 22 02:11:31.3±0.7**, 28.71N**±0.04×**128.44E**±0.06**, h2**^{km}**, n16, σ1^{s}07**/18**, mb3.8**/5**, MS3.3**/1**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.02	154	P	Pb	02 11 51.2	-0.2
JTK				*e*S	Sb	02 12 05.4	+0.2
JAM	Amami Oshima	1.07	106	P	Pb	02 11 52.0	-0.2
JAM				*e*S	Sb	02 12 07.0	+0.5
JZK	Kikaishima	1.41	106	P	Pb	02 11 58.5	+0.5
JZK				*e*S	Sb	02 12 20.9	+4.6
JNN	Nakanoshima	1.69	48	P	Pn	02 12 00.9	-1.2
JIH	Iheya	1.72	194	P	Pn	02 12 02.2	-0.3
JOW	Kunigami	1.87	184	Pn	Pn	02 12 04.0	-0.7
	baz=354,slow=12						
JOW				Sn	Sn	02 12 30.9	+1.6
	23nm,0.3s,baz=49,slow=16,SNR=4.8						
JKC	Kuchinoerabu	2.33	41	P	Pn	02 12 10.6	-0.6
JTN	Tanegashima 3	2.94	48	P	Pn	02 12 20.1	+0.1
JNU	Nakatsue	4.88	25	Pn	Pn	02 12 50.4	+3.0
	1.7nm,0.3s,baz=257,slow=2.8,SNR=13						
JNU				LR	LR	02 14 47.0	
	comp=Z,230nm,19.5s,baz=75,slow=37						
ASAJ	Asahikawa	19.10	33	LR	LR	02 22 35.5	
	comp=Z,62nm,21.8s,baz=52,slow=34						
SONM	Songino Array	25.62	324	P	P	02 17 03.8	+0.2
	0.5nm,0.8s,mb3.1,baz=141,slow=9.2,SNR=5.0						
CMAR	Chiang Mai Arr	28.82	256	LR	LR	02 30 39.3	
	comp=Z,67nm,18.8s,MS3.3,baz=71,slow=40						
MKAR	Makanchi Array	40.06	310	P	P	02 19 10.8	+1.3
	0.7nm,0.8s,mb3.4,baz=90,slow=10,SNR=2.6						
FX1	Attu Island--F	40.68	41	P	P	02 19 18.9	+4.4
	21nm,0.8s,mb4.8,baz=280,slow=12,SNR=2.7						
WRA	Warramunga Arr	48.70	173	P	P	02 20 16.6	-2.7
	0.5nm,0.6s,mb3.7,baz=355,slow=8.3,SNR=9.8						
ASAR	Alice Springs	52.34	174	P	P	02 20 45.9	-1.1
	1.2nm,1.1s,mb3.7,slow=11,SNR=4.4						

MDD ***22*** *02:23:41.5±0.3, 42.97N×0.28E, h11^{km}±1^{km}, mbLg1.0/1, Error ellipse: s-maj=3.2km s-min=2.1km az=6.0, PRXIMO*
STR ***22*** *02:23:41.5±0.1, 42.97N×0.25E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***22*** *02:23:41.0±0.1, 42.97N×0.27E, h13^{km}, Md1.5/2, Ml1.4/5, Error ellipse: s-maj=1.3km s-min=0.9km az=144.0*
ISC 22 02:23:40.8±0.6**, 42.97N**±0.05×**0.28E**±0.04**, h16**^{km}±5^{km}**, n15, σ0^{s}72**/25**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPF	Esparros	0.08	36	*e*Pg	Pb	02 23 44.0	-0.1
EPF				*e*Sg	Sb	02 23 45.9	-0.4
	5.4nm,0.2s						
RESF	Ens	0.17	164	Pg	Pb	02 23 45.4	+0.2
RESF				Sg	Sb	02 23 48.4	+0.3
RESF	Ens	0.17	164	Pg	Pb	02 23 45.5	+0.3
RESF				Lg		02 23 48.4	
LABF	Labassere	0.17	298	Pg	Pb	02 23 44.9	-0.3
LABF				Sg	Sb	02 23 47.9	-0.3
LABF	Labassere	0.17	298	Pg	Pb	02 23 45.1	-0.1
LABF				Lg		02 23 47.9	
VIEF	Viey	0.20	246	Pg	Pb	02 23 45.6	-0.2
VIEF				Sg	Sb	02 23 48.7	-0.3
VIEF	Viey	0.20	246	Pg	Pb	02 23 45.7	0.0
VIEF				Lg		02 23 48.7	
MELF	Melles	0.37	105	Pg	Pb	02 23 48.1	-0.4
MELF				Lg		02 23 53.1	
ETSF	Etsaut	0.62	264	*e*Pg	Pb	02 23 52.8	0.0
ETSF				*e*Sg	Sb	02 24 01.0	0.0
	3.6nm,0.4s						
SJPF	Ste Jean	1.11	278	*e*Pn	Pn	02 24 00.6	-1.1
SJPF				*e*Sg	Sb	02 24 16.5	+1.3
	1.1nm,0.2s						
EALK	Alkurruntz	1.33	282	Pg	Pn	02 24 05.3	+0.5
	0.1nm,0.3s,SNR=7.9						
EALK				Lg		02 24 23.5	
	1.5nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.47	75	*e*Pn	Pn	02 24 05.6	-1.2
MTLF				*e*Sg	Sb	02 24 26.7	+1.2
	0.3nm,0.3s						
LFF	La Frestale	2.00	9	*e*Pg	Pn	02 24 17.9	+3.5
LFF				*e*Sg	Sn	02 24 43.8	+4.5
	0.9nm,0.2s						
CAF	Calviac	2.34	33	*e*Pg	Pn	02 24 24.5	+5.1
CAF				*e*Sg	Sn	02 24 54.9	+6.8
	0.4nm,0.2s						
RJF	Les Rejaudoux	2.50	20	*e*Pg	Pn	02 24 27.7	+6.1
RJF				*e*Sg	Sn	02 24 59.5	+7.5
	0.4nm,0.2s						

FUNV ***22*** *02:28:32.6, 10.97N×62.16W, h101^{km}, MW2.9*
TRN ***22*** *02:28:33.5, 10.94N×62.30W, h16^{km}, MD3.0*
ISC 22 02:28:31.7±0.8**, 10.89N**±0.04×**62.27W**±0.03**, h108**^{km}±7^{km}**, n17, σ1^{s}05**/34**, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.24	169	*e*P	P	02 28 47.2	0.0
GUIV				*e*S	S	02 28 57.3	-1.5
TRN	Trinidad (W)	0.89	105	⇑*i*P	P	02 28 51.9	0.0
TRN				*e*S	S	02 29 03.8	-3.3
ITEV	Isla Los Testi	0.96	299	*e*P	P	02 28 53.0	+0.3
ITEV				*e*S	S	02 29 07.8	-0.7
CRUV	Carupano	0.97	258	*e*P	P	02 28 54.3	+1.6
CRUV				*e*S	S	02 29 09.4	+0.8
GUNV	Guanoco	0.98	223	*e*P	P	02 28 55.1	+2.3
GUNV				*e*S	S	02 29 10.0	+1.3
TPP	Pointe-a-Pierr	0.98	125	*e*P	P	02 28 54.4	+1.5
TPP				*e*S	S	02 29 08.8	-0.1
TBH	Brigand Hill	1.25	109	*e*P	P	02 28 56.1	+0.3
TBH				*e*S	S	02 29 14.3	+0.2
GRW	Mount Saint Ca	1.40	25	*e*P	P	02 28 57.0	-0.6
GRW				*e*S	S	02 29 17.2	0.0
ORIV	Oritupano	2.12	212	*e*P	P	02 29 08.1	+1.4
ORIV				*e*S	S	02 29 33.8	+0.8
PCRV	Puerto La Cruz	2.43	253	*e*P	P	02 29 11.4	+0.5
PCRV				*e*S	S	02 29 40.0	-0.3
IBAV	Isla La Blanqu	2.44	293	*e*P	P	02 29 10.5	-0.7
IBAV				*e*S	S	02 29 39.9	-0.8
RIOV	Rio Grande	2.83	171	*e*P	P	02 29 16.8	+0.3
RIOV				*e*S	S	02 29 48.0	-2.1
PARV	Pariaguan	3.13	233	*e*P	P	02 29 20.9	+0.5
PARV				*e*S	S	02 29 57.2	-0.1
GURV	El Guri	3.21	195	*e*P	P	02 29 20.9	-0.5
GURV				*e*S	S	02 29 57.4	-1.7
CUPV	Cœpira	3.56	257	*e*P	P	02 29 26.9	+0.8
CUPV				*e*S	S	02 30 05.9	-1.7
CAOV	Caicara del Or	5.34	229	*e*P	P	02 29 50.9	+0.6
CAOV				*e*S	S	02 30 47.3	-3.8
BAUV	El Baul	6.00	252	*e*P	P	02 29 58.4	-1.0
BAUV				*e*S	S	02 31 01.8	-5.6

IDC 22 02:46:01.6±18.0**, 18.98S×173.95W, mb3.9**/5**, mb1 4.0**/5**, mb1mx3.7**/18**, Error ellipse: s-maj=344.0km s-min=142.4km az=83.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.46	262	P	P	02 53 17.8	-0.9
	1.7nm,0.8s,baz=107,slow=11,SNR=3.1						
STKA	Stephens Creek	41.87	243	P	P	02 53 53.8	-1.5
	1.2nm,0.7s,baz=70,slow=12,SNR=2.4						
ASAR	Alice Springs	48.58	255	P	P	02 54 47.0	-2.1
	1.7nm,0.7s,baz=91,slow=8.5,SNR=13						
WRA	Warramunga Arr	48.60	260	P	P	02 54 46.5	-2.8
	0.3nm,0.4s,baz=98,slow=8.0,SNR=20						
FITZ	Fitzroy Crossi	57.02	260	P	P	02 55 50.1	-1.9
	1.4nm,0.9s,baz=351,slow=1.9,SNR=3.1						

HEL ***22*** *03:27:03.6±0.4, 67.70N×33.78E, ML2.8, ML2.5(BER), ML3.0(NAO), Explosion*
NAO ***22*** *03:27:03.7±2.0, 67.67N×33.71E, ML3.0*
IDC ***22*** *03:27:06.0±2.1, 67.72N×33.46E, mb1 3.4/4, mb1mx3.1/19, ML3.1/4, Error ellipse: s-maj=20.7km s-min=9.0km az=79.0*
ISC 22 03:27:06.8±0.5**, 67.60N**±0.04×**32.54E**±0.09**, n21, σ1^{s}55**/43**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	Apatity Array	0.17	86	*i* P	Pg	03 27 09.2	-1.1
APA0				*i* S	Sg	03 27 13.4	+0.8
APA0				*e*RG		03 27 15.5	
APA0	Apatity Array	0.17	86	Pg	Pg	03 27 09.2	-1.1
	baz=85,slow=16						
APA0				Lg		03 27 13.4	
	baz=81,slow=37						
APA0				Rg		03 27 15.5	
	baz=81,slow=37						
MSF	Maaselka	2.19	221	*e*P	Pn	03 27 47.6	+2.7
MSF				*e*S	Sn	03 28 18.1	+5.0
SGF	Sodankyl	2.32	269	*e*P	Pn	03 27 48.4	+1.7
SGF				*e*S	Sn	03 28 23.4	+7.0
SGF				MSG		03 28 32.6	
	comp=Z,24nm,0.4s						
KEV	Kevo	2.97	320	*e*P	Pn	03 27 55.9	0.0
KEV				*e*S	Sn	03 28 34.4	+1.6
KEV				MSG		03 28 45.0	
	comp=Z,40nm,0.3s						
ARA0	ARCESS Array S	3.23	310	*e*P	Pn	03 27 59.9	+0.1
ARA0				*e*PG	Pg	03 28 08.5	-2.9
ARA0				*e*S	Sn	03 28 40.3	+0.7
ARA0				*e*SG	Sg	03 28 52.9	-1.6
ARA0	ARCESS Array S	3.23	310	Pn	Pn	03 27 59.9	+0.1
	baz=123,slow=16						
ARA0				Pg	Pg	03 28 08.5	-2.9
	baz=116,slow=16						
ARA0				Sn	Sn	03 28 40.3	+0.7
	baz=126,slow=28						
ARA0				Lg		03 28 52.9	
	baz=122,slow=28						
ARCES	ARCESS Array B	3.23	310	Pn	Pn	03 27 59.9	+0.1
	comp=Z,5.8nm,0.3s,baz=120,slow=14,SNR=336						
ARCES				Pg	Pg	03 28 07.8	-3.5
	comp=Z,6.9nm,0.3s,baz=115,slow=15,SNR=29						
ARCES				Sn	Sn	03 28 40.9	+1.3
	comp=Z,4.7nm,0.3s,baz=117,slow=24,SNR=9.9						
ARCES				Lg		03 28 51.8	
	comp=Z,12nm,0.3s,baz=120,slow=32,SNR=14						
OUL	Oulu	3.68	230	*e*P	Pn	03 28 08.7	+2.6
OUL				*e*S	Sn	03 28 55.5	+4.7
OUL				MSG		03 29 13.9	
	comp=Z,26nm,0.4s						
KTK1	Kautokeino	3.74	297	*e*P	Pn	03 28 08.2	+1.3
KTK1				AML	AML	03 29 19.2	
	comp=Z,28nm,0.5s						
KJN	Kajaani	4.04	212	*e*P	Pn	03 28 11.5	+0.2
KJN				*e*S	Sn	03 29 01.6	+1.5
KIF	Kilpisjarvi	4.58	293	*e*P	Pn	03 28 18.4	-0.5
KIF				*e*S	Sn	03 29 15.2	+1.5
TRO	Tromso	5.38	299	*e*P	Pn	03 28 29.0	-1.2
TRO				*e*S	Sn	03 29 33.1	-0.7
TRO				AML	AML	03 30 03.2	
	comp=Z,8.6nm,0.5s						
FIA0	FINESS Array S	6.77	207	Pn	Pn	03 28 47.1	-2.7
	baz=38,slow=10						
FIA0				Sn	Sn	03 30 07.0	-1.7
	baz=28,slow=28						
FIA0				Lg		03 30 38.4	
	baz=33,slow=28						
FIA0	FINESS Array S	6.77	207	*e*P	Pn	03 28 47.1	-2.7
FIA0				*e*S	Sn	03 30 07.0	-1.7
FIA0				*e*SG		03 30 38.4	
FINES	FINESS Array B	6.77	207	Pn	Pn	03 28 47.5	-2.3
	comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=6.7						
FINES				Sn	Sn	03 30 04.4	-4.3
	comp=Z,0.6nm,0.3s,baz=29,slow=17,SNR=6.8						
FINES				Lg		03 30 40.0	
	comp=Z,2.2nm,0.3s,baz=39,slow=24,SNR=9.9						
MOR8	Moi Rana	7.26	267	*e*S	Sn	03 30 13.4	-7.5
HFS	Hagfors	11.13	237	Pn	P	03 29 45.8	-4.3
	baz=86,slow=18						
HFS				Sn	S	03 31 52.4	-4.2
	baz=43,slow=28						
HFS				Lg		03 32 58.7	
	baz=58,slow=28						
HFS	Hagfors	11.13	237	*e*P	P	03 29 45.8	-4.3
HFS				*e*S	S	03 31 52.4	-4.2
HFS				*e*SG		03 32 58.7	
HFS	Hagfors	11.13	237	Pn	P	03 29 47.5	-2.6
	comp=Z,0.0nm,0.3s,baz=45,slow=13,SNR=5.9						
HFS				Sn	S	03 31 51.5	-5.0
	comp=Z,0.1nm,0.3s,baz=48,slow=20,SNR=5.7						
HFS				Lg		03 33 01.4	
	comp=Z,0.1nm,0.3s,baz=56,slow=29,SNR=5.2						
NOA	NORSAR Array B	11.29	245	Pn	P	03 29 49.7	-2.6
	comp=Z,0.2nm,0.3s,baz=48,slow=12,SNR=2.7						
NOA				Sn	S	03 31 56.9	-3.6
	comp=Z,0.2nm,0.3s,baz=18,slow=21,SNR=2.7						
NOA				Lg		03 33 10.3	
	comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=3.9						

OTT 22 03:27:56.2±0.6**, 72.44N×71.19W, h18**^{km}**, ML3.6**/2**, 230km east from Pond Inlet, Nu Baffin Bay Seismic Zone., Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TULEG	Thule	4.17	8	PN	Pn	03 29 00.4	0.0
TULEG				SN	Sn	03 29 43.2	-6.1
IGL	Igloolik	4.65	234	SN	Sn	03 29 56.3	-5.2
IGL				SG	Sn	03 30 15.0	+14
IGL				Trac		03 30 21.6	
	comp=Z,27nm,0.3s						
RES	Resolute Bay	7.06	300	PN	Pn	03 29 39.3	-2.0
RES				SN	Sn	03 30 52.5	-9.5
EUNU	Eureka	8.42	342	SN	Sn	03 31 23.1	-13
FRB	Frobisher Bay	8.79	172	SN	Sn	03 31 34.0	-11
FRB				Trac		03 31 40.9	
	comp=Z,3.1nm,0.2s						
FCC	Fort Churchill	16.48	226	PN	P	03 31 42.0	-5.6
FCC				SN	S	03 34 33.4	-16
SCHQ	Schefferville	17.78	172	PN	P	03 31 59.0	-4.9
SCHQ				SN	S	03 35 08.0	-11
YKW3	Yellowknife Ar	18.82	261	PN	P	03 32 10.4	-6.4
YKW3				SN	S	03 35 25.8	-17
YKW3				LG		03 37 28.3	
SILO	Sutton Inlier	18.95	205	PN	P	03 32 14.0	-4.4
SILO				SN	S	03 35 30.2	-16
VIMO	Victor Mine	20.44	202	PN	P	03 32 31.9	-2.9
VIMO				SN	S	03 36 02.9	-15

PRU ***22*** *03:47:40.7, 51.43N×16.10E*
WAR ***22*** *03:47:40.4, 51.49N×16.10E, ML2.6, Mining Induced*
ISC 22 03:47:37.2±1.0**, 51.52N**±0.05×**16.11E**±0.05**, n10, σ1^{s}15**/23**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	170	*e*PG	Pg	03 47 52.0	+1.1
KSP				*e*SG	Sg	03 48 01.0	+1.0
UPC	Upice	1.01	184	*e*PG	Pg	03 47 59.4	+1.9
UPC				*e*SG	Sg	03 48 11.3	+0.3
DPC	Dobruska-Polom	1.18	173	*e*PG	Pg	03 48 01.1	+0.4
DPC				*e*SG	Sg	03 48 16.0	-0.4
PVCC	Panska Ves	1.39	225	*e*PG	Pg	03 48 05.7	+0.7
PVCC				*e*SG	Sg	03 48 24.6	+1.1
PRU	Pruhonice	1.83	214	*e*PN	Pn	03 48 11.1	+0.9
PRU				*e*PG	Pg	03 48 12.9	-0.8
PRU				*e*		03 48 29.7	
PRU				SG	Sg	03 48 35.7	-2.4
	6.0nm,0.4s						
CLL	Collm	1.96	265	*e*PG	Pg	03 48 16.0	-0.4
CLL				*e*SG	Sg	03 48 42.0	-0.5
OKC	Ostrava-Krasne	2.12	142	*e*PG	Pg	03 48 19.1	-0.5
OKC				*e*SG	Sg	03 48 44.1	-3.8
NKC	Novy Kostel	2.65	242	*e*PN	Pn	03 48 23.7	+1.7
NKC				*e*PG	Pg	03 48 30.1	-0.1
NKC				*e*SG	Sg	03 49 04.4	-1.2
OJC	Ojcow	2.67	118	*e*PG	Pg	03 48 30.0	-0.6
OJC				*e*SG	Sg	03 49 05.0	-1.2
KHC	Kasperske Hory	2.89	215	*e*PN	Pn	03 48 26.0	+0.6
KHC				*e*PG	Pg	03 48 32.0	-2.9
KHC				*e*SG	Sg	03 49 09.5	-3.9

UCR ***22*** *03:51:09.7, 12.03N×87.29W, h36^{km}, MD4.5*
INET ***22*** *03:51:13.7, 12.12N×86.80W, h86^{km}, MD3.1*
CASC 22 03:51:13.0±1.8**, 12.11N×86.87W, h84**^{km}±6^{km}**, MD3.7, 11C-19D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.28	75	⇓*e*P	P	03 51 26.1	+0.3
COPN				*e*S	S	03 51 34.8	-0.5
LEON	Leon	0.31	356	⇑*e*P	P	03 51 26.3	+0.4
PYN	Poneloya	0.31	331	⇑*i*P	P	03 51 26.8	+0.9
PYN				*e*S	S	03 51 34.5	-1.1
MIRN	Miramar	0.37	25	⇓*e*P	P	03 51 26.7	+0.5
MOMJ	Momotombo	0.44	47	⇑*e*P	P	03 51 27.0	+0.2
MOMJ				*e*S	S	03 51 37.3	+0.1
TEL3	Telica 3	0.47	3	⇑*e*P	P	03 51 27.7	+0.7
TEL3				*e*S	S	03 51 38.7	+1.2
TELN	Telica	0.50	4	⇓*i*P	P	03 51 28.3	+1.1
TELN				*e*S	S	03 51 39.5	+1.5
XAVN	Gruta Xavier	0.53	85	⇓*e*P	P	03 51 27.8	+0.2
XAVN				*e*S	S	03 51 38.6	+0.2
CRUN	El Crucero	0.57	102	⇓*e*P	P	03 51 28.6	+0.6
MGAN	Managua	0.61	86	⇓*e*P	P	03 51 28.2	-0.1
MGAN				*e*S	S	03 51 39.9	+0.2
CRIN	San Cristobal	0.62	343	⇑*e*P	P	03 51 29.2	+0.8
CRIN				*e*S	S	03 51 41.2	+1.4
TICN	Ticuantepe	0.63	96	⇓*e*P	P	03 51 28.8	+0.3
WILN	Americas 2	0.67	85	⇓*e*P	P	03 51 28.7	-0.3
WILN				*e*S	S	03 51 41.1	+0.4
MASN	Masaya	0.71	99	⇑*e*P	P	03 51 29.3	-0.1
MASN				*e*S	S	03 51 41.2	-0.3
COFN	Cofrada	0.74	86	⇑*e*P	P	03 51 29.4	-0.4
APON	Apoyo	0.81	103	⇓*e*P	P	03 51 30.0	-0.4
PYTN	Playitas	0.90	61	⇓*i*P	P	03 51 31.4	0.0
PYTN				*e*S	S	03 51 44.9	-0.3
QUIN	Quiabu	1.11	23	⇑*i*P	P	03 51 34.0	+0.2
CONN	Concepcion	1.33	114	⇓*e*P	P	03 51 36.2	-0.6
CNCH	Conchagua	1.50	321	⇓*e*P	P	03 51 38.3	-0.6
CNCH				*e*S	S	03 51 58.4	+0.3
BLLM	Bellamira	1.88	315	⇓*e*P	P	03 51 43.7	-0.3
BLLM				*e*S	S	03 52 07.8	+1.0
VSM	San Miguel	1.90	314	*e*P	P	03 51 44.4	+0.2
VSM				*e*S	S	03 52 09.5	+2.3
VCR	Vista de Mar	2.31	148	⇑*e*P	P	03 51 49.9	0.0
VCR				*e*S	S	03 52 17.3	0.0
SNVI	San Vicente	2.44	308	*e*P	P	03 51 51.6	-0.1
SNVI				*e*S	S	03 52 21.3	+0.8
LCBS	La Ceiba	2.57	307	⇓*e*P	P	03 51 53.0	-0.5
LCBS				*e*S	S	03 52 24.3	+0.5
LFRS	El Faro	2.62	305	*e*P	P	03 51 53.8	-0.4
LFRS				*e*S	S	03 52 24.6	-0.3
LBRS	Las Brisas	2.67	308	*e*P	P	03 51 55.3	+0.4
BOQS	Boqueron	2.85	305	*e*P	P	03 51 58.0	+0.5
BOQS				*e*S	S	03 52 31.1	+0.3
SBLS	San Blas	3.19	303	⇓*e*P	P	03 52 02.6	+0.4
SBLS				*e*S	S	03 52 39.3	+0.1
SNJE	San Jose	3.19	304	⇓*e*P	P	03 52 02.5	+0.3
SNJE				*e*S	S	03 52 39.8	+0.6
RTR	El Retiro	3.24	304	*e*P	P	03 52 03.1	+0.3
RTR				*e*S	S	03 52 40.5	+0.1
PRS1	Puriscal	3.28	130	*e*P	P	03 52 03.2	-0.2
PRS1				*e*S	S	03 52 43.7	+2.3
MTO2	Montecristo 2	3.33	314	⇓*e*P	P	03 52 03.6	-0.5
TRTC	Tortuguero	3.45	116	⇓*e*P	P	03 52 04.3	-1.4
CUSS	Cusmapa	3.50	301	*e*P	P	03 52 06.0	-0.3
CUSS				*e*S	S	03 52 46.0	-0.8
SJS	Escuela Geolog	3.50	128	*e*P	P	03 52 05.7	-0.7
ICR	Volcan Irazu	3.65	125	⇓*e*P	P	03 52 09.5	+0.9
LCR2	La Lucha 2	3.67	130	⇑*e*P	P	03 52 08.3	-0.4
LCR2				*e*S	S	03 52 52.6	+1.6
URSC	Urasca	3.78	126	⇑*e*P	P	03 52 10.4	+0.1
URSC				*e*S	S	03 52 54.6	+0.8
BUS	Buena Vista	3.97	129	*e*P	P	03 52 13.0	+0.1
BUS				*e*S	S	03 53 00.6	+2.0
ACR	Cerro Adams	5.00	133	*e*P	P	03 52 27.3	+0.1

MAN 22 03:51:25.4, 16.33N×120.92E, h18^{km}**, mb4.6, ML3.5, MS3.5, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.33	279	⇑*i*P	Pb	03 51 32.5	0.0
BCPH				*i* S	Sb	03 51 37.9	+0.7
BALP	Baler	0.86	133	*e*P	Pb	03 51 41.7	+0.2
BALP				*e*S	Sb	03 51 54.6	+2.0
BOLP	Bolinao	0.97	273	*e*P	Pb	03 51 43.7	+0.4
BOLP				*e*S	Sb	03 51 58.4	+2.7
CAUP	Cauayan	1.06	55	*e*P	Pb	03 51 44.5	-0.4
CAUP				*e*S	Sb	03 52 00.8	+2.5
ABRA	Dolores	1.32	351	*e*P	Pn	03 51 47.9	-1.3
ABRA				*e*S	Sb	03 52 06.1	+0.1
APYP	Conner	1.55	11	*e*P	Pn	03 51 52.2	-0.2
APYP				*e*S	Sn	03 52 12.9	+0.6

*STR **22** 03:59:17.3±0.2, 44.42N×6.83E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **22** 03:59:17.4±0.1, 44.42N×6.82E, h2^{km}, Md2.0/4, Ml2.0/7, Error ellipse: s-maj=2.0km s-min=1.0km az=71.0*

ISC 22 03:59:16.2±0.4**, 44.41N**±0.02×**6.79E**±0.04**, h11**^{km}±4^{km}**, n14, σ0^{s}69**/28**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.07**	**12**	Pg	**Pg**	**03 59 19.2**	**+0.5**
SURF				Sg	**Sg**	**03 59 20.8**	**+0.5**
MBDF	**Montbardon**	**0.31**	**357**	*e*Pg	**Pg**	**03 59 23.4**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 59 27.6**	**+0.4**
	19nm,0.2s						
TOUF	**Mont Tournerai**	**0.52**	**140**	Pg	**Pg**	**03 59 27.0**	**+0.3**
TOUF				Sg	**Sg**	**03 59 33.1**	**-0.7**
AUTN	**L'Aution**	**0.62**	**132**	Pg	**Pg**	**03 59 29.1**	**+0.3**
AUTN				Sg	**Sg**	**03 59 37.4**	**+0.3**
CALN	**Calern**	**0.66**	**174**	Pg	**Pg**	**03 59 30.1**	**+0.4**
CALN				Sg	**Sg**	**03 59 39.2**	**+0.6**
SBF	**Sospel**	**0.72**	**140**	*e*Pg	**Pg**	**03 59 31.0**	**+0.3**
SBF				*e*Sg	**Sg**	**03 59 40.4**	**0.0**
	7.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.82**	**308**	*e*Pg	**Pg**	**03 59 32.3**	**-0.5**
ORIF				*e*Sg	**Sg**	**03 59 43.3**	**-0.6**
	5.3nm,0.4s						
FRF	**La Foret Royal**	**0.86**	**187**	*e*Pg	**Pg**	**03 59 33.4**	**-0.1**
FRF				*e*Sg	**Sg**	**03 59 44.6**	**-0.4**
	4.9nm,0.2s						
SMRF	**Simiane la Rot**	**0.98**	**244**	*e*Pn	**Pn**	**03 59 37.3**	**+1.5**
SMRF				*e*Sn	**Sn**	**03 59 51.3**	**+1.7**
	4.5nm,0.3s						
LPG	**La Plagne**	**1.08**	**358**	*e*Pg	**Pg**	**03 59 37.9**	**-0.1**
LPG				*e*Sg	**Sg**	**03 59 52.2**	**-0.3**
	4.1nm,0.4s						
LMR	**La Mourre**	**1.10**	**191**	*e*Pg	**Pg**	**03 59 37.7**	**-0.6**
LMR				*e*Sg	**Sg**	**03 59 52.3**	**-0.6**
	12nm,0.3s						
LPL	**La Plagne**	**1.10**	**358**	*e*Pg	**Pg**	**03 59 38.0**	**-0.4**
LPL				*e*Sg	**Sg**	**03 59 53.0**	**-0.2**
	3.3nm,0.4s						
VIVF	**Saint-Julien-l**	**1.58**	**287**	*e*Pg	**Pg**	**03 59 47.5**	**-0.3**
VIVF				*e*Sg	**Sg**	**04 00 07.8**	**-1.1**
	1.3nm,0.3s						
PGF	**Pioggiola**	**2.46**	**138**	*e*Pn	**Pn**	**03 59 57.2**	**+0.2**
PGF				*e*Sn	**Sn**	**04 00 25.4**	**-1.9**
	0.4nm,0.2s						

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*IDC **22** 04:13:10.6±1.1, 14.76S×167.11E, mb4.2/9, mb1 4.3/9, mb1mx4.2/16, Error ellipse: s-maj=34.9km s-min=24.1km az=134.0*

*NEIC **22** 04:13:12.8±0.7, 14.78S×167.05E, h10^{km}, mb4.4/5, Error ellipse: s-maj=25.6km s-min=16.4km az=149.0*

ISC 22 04:13:12.5±1.0**, 14.5S**±0.2×**166.7E**±0.2**, h10**^{km}**, n20, σ0^{s}98**/18**, mb4.2**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.56**	**182**	*e*P	**Pn**	**04 15 13.2**	**+7.7**
DZM				*e*S	**Sn**	**04 16 41.5**	**+9.5**
CTA	**Charters Tower**	**20.33**	**251**	P	**P**	**04 17 52.8**	**+1.1**
	6.0nm,0.8s,baz=67,slow=12,SNR=8.6						
CTAO	**Charters Tower**	**20.33**	**251**	*e*P	**P**	**04 17 53.4**	**+1.7**
	5.8nm,0.8s						
STKA	**Stephens Creek**	**28.76**	**229**	P	**P**	**04 19 12.8**	**+0.3**
	1.4nm,0.8s,mb3.8,baz=56,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**28.76**	**229**	P	**P**	**04 19 13.6**	**+1.0**
WRAB	**Tennant Creek**	**31.37**	**255**	*e*P	**P**	**04 19 34.7**	**-1.2**
	5.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**31.38**	**255**	P	**P**	**04 19 35.1**	**-0.9**
	3.1nm,0.8s,mb4.2,baz=84,slow=8.7,SNR=18						
ASAR	**Alice Springs**	**32.28**	**249**	P	**P**	**04 19 43.6**	**-0.1**
	2.4nm,0.7s,mb4.2,baz=73,slow=9.4,SNR=40						
FITZ	**Fitzroy Crossi**	**39.55**	**259**	*e*P	**P**	**04 20 45.1**	**-0.6**
	4.2nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**39.55**	**259**	P	**P**	**04 20 45.4**	**-0.3**
	5.1nm,0.8s,mb4.3,baz=121,slow=4.1,SNR=11						
VNDA	**Vanda**	**63.10**	**181**	P	**P**	**04 23 37.1**	**-5.0**
	2.4nm,0.8s,mb4.4,baz=1.8,slow=5.3,SNR=8.9						
SBA	**Scott Base**	**63.38**	**180**	P	**P**	**04 23 45.0**	**+1.0**
	3.5nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**75.55**	**180**	*e*P	**P**	**04 24 56.3**	**-2.2**
	9.3nm,1.1s,mb4.6						
SONM	**Songino Array**	**81.99**	**324**	P	**P**	**04 25 34.5**	**+0.5**
	0.8nm,0.8s,mb3.7,baz=170,slow=7.5,SNR=5.6						
ILAR	**Eielson Array**	**86.45**	**18**	P	**P**	**04 25 55.9**	**-0.3**
	0.9nm,0.9s,mb4.0,baz=231,slow=6.9,SNR=5.7						
MKAR	**Makanchi Array**	**96.66**	**316**	P	**P**	**04 26 44.9**	**+0.7**
	0.6nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**96.66**	**316**	P	**P**	**04 26 44.9**	**+0.7**
ARCES	**ARCESS Array B**	**119.88**	**345**	PKP	PKPdf	04 32 03.5	-2.3
	2.2nm,0.8s,baz=27,slow=4.0,SNR=3.9						
BGF	**Bois d'Agland**	**145.28**	**340**	*e*PKIKP	PKPdf	04 32 52.5	-1.2
	14nm,0.9s						
ORIF	**Oris-en-Rattie**	**145.59**	**336**	*e*PKIKP	PKPdf	04 32 54.2	0.0
	11nm,0.9s						

IDC 22 04:14:44.7±18.0**, 23.89S**×**175.88W, mb4.5**/5**, mb1 4.7**/5**, mb1mx4.1**/17**, Error ellipse: s-maj=338.0km s-min=126.2km az=83.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.25**	**269**	*e*P	P	04 21 42.3	-0.8
	3.5nm,0.4s						
CTA	**Charters Tower**	**35.25**	**269**	P	P	04 21 42.7	-0.4
	5.1nm,0.4s,baz=97,slow=11,SNR=15						
STKA	**Stephens Creek**	**38.23**	**248**	*e*P	P	04 22 05.3	-2.8
	2.8nm,0.4s						
STKA	**Stephens Creek**	**38.23**	**248**	P	P	04 22 05.2	-3.0
	3.6nm,0.6s,baz=100,slow=12,SNR=17						
ASAR	**Alice Springs**	**45.75**	**260**	P	P	04 23 07.3	-2.5
	3.8nm,0.4s,baz=91,slow=7.7,SNR=94						
ASPA	**Alice Springs**	**45.75**	**260**	*e*P	P	04 23 07.3	-2.5
WB2	**Warramunga Arr**	**46.16**	**265**	*e*P	P	04 23 11.1	-1.9
WRA	**Warramunga Arr**	**46.17**	**265**	P	P	04 23 11.2	-1.9
	3.5nm,0.3s,baz=98,slow=7.6,SNR=71						
KAKA	**Kakadu**	**50.11**	**273**	*e*P	P	04 23 43.1	-0.8
	3.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.59**	**264**	P	P	04 24 16.0	-1.4
	1.7nm,0.6s,baz=121,slow=5.9,SNR=4.5						

IDC 22 04:34:48.9±1.7**, 0.40N**×**126.06E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/15**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/18**, Error ellipse: s-maj=177.0km s-min=22.9km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.78**	**159**	P	P	04 39 42.1	-2.4
	1.5nm,0.4s,baz=337,slow=11,SNR=20						
WB2	**Warramunga Arr**	**21.79**	**159**	*e*P	P	04 39 41.9	-2.6
ASAR	**Alice Springs**	**25.11**	**163**	P	P	04 40 16.1	-0.9
	0.4nm,0.3s,baz=338,slow=8.9,SNR=8.2						
JOW	**Kunigami**	**26.36**	**4**	LR	LR	04 49 38.4	
	comp=Z,149nm,19.3s,baz=124,slow=34						
STKA	**Stephens Creek**	**35.31**	**157**	P	P	04 41 45.8	-2.2
	1.8nm,0.9s,baz=318,slow=14,SNR=2.4						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	04 44 56.8	-2.4
	0.4nm,0.4s,baz=121,slow=7.6,SNR=8.8						

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*BJI **22** 04:54:08.0, 9.40N×78.60W, h74^{km}, mB4.9, Ms4.6, Msz4.4*

*IDC **22** 04:54:09.4±0.4, 9.38N×78.62W, h73^{km}±2^{km}, mb4.1/18, mb1 4.3/21, mb1mx4.3/24, MS3.4/9, Ms1 3.4/9, ms1mx3.3/20, Error ellipse: s-maj=13.4km s-min=8.1km az=51.0*

*NEIC **22** 04:54:09.1±0.2, 9.35N×78.57W, mb4.7/31, Error ellipse: s-maj=5.1km s-min=3.9km az=221.0*

NEIC Felt in Cocle, Colon, Darien, Panama and San Blas.

*CASC **22** 04:54:12.9±1.8, 9.36N×78.88W, h68^{km}±17^{km}, MD4.7, ML4.5, MW4.8, mb4.7(NEIC), Fault plane solution: NP1: ϕ$_s$242.85°, δ35.53°, λ-53.95°.*

ISC 22 04:54:08.0±0.2**, 9.37N**±0.03×**78.59W**±0.02**, h73**^{km}**, h73**^{km}±.7^{km}**:pP-P, n199, σ1^{s}08**/175**, mb4.5**/50**, 31C-18D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPA	**Univ. de Panam**	**1.01**	**248**	⇑*i*P	**P**	**04 54 27.8**	**+0.7**
	baz=59,slow=16						
UPA				⇑*e*P		04 54 27.9	
UPA				*e*S	**S**	**04 54 40.7**	**-0.6**
UPA	**Univ. de Panam**	**1.01**	**248**	⇑*i*P	**P**	**04 54 27.9**	**+0.8**
UPA				*e*S	**S**	**04 54 40.7**	**-0.6**
AZU	**Azuero**	**2.29**	**227**	⇑*i*P	**P**	**04 54 44.1**	**-0.3**
AZU	**Azuero**	**2.29**	**227**	⇑*e*P	**P**	**04 54 44.0**	**-0.4**
CNI	**Changuinola**	**3.88**	**271**	⇑*e*P	**P**	**04 55 06.9**	**+0.3**
CNI	**Changuinola**	**3.88**	**271**	*e*P	**P**	**04 55 08.0**	**+1.4**
DVD	**David**	**3.93**	**257**	⇓*e*P	**P**	**04 55 07.8**	**+0.5**
DVD	**David**	**3.93**	**257**	⇓*e*P	**P**	**04 55 08.0**	**+0.7**
PTP1	**Petroterminal**	**3.97**	**253**	*e*P	**P**	**04 55 13.5**	**+5.6**
BRU2	**Volcan**	**4.09**	**262**	⇑*i*P	**P**	**04 55 10.0**	**+0.4**
BRU2				*e*S	**S**	**04 55 52.0**	**-4.6**
BRU2				*e*S	**S**	**04 55 57.1**	**+0.5**
BRU2	**Volcan**	**4.09**	**262**	⇑*i*P	**P**	**04 55 10.0**	**+0.4**
LIO	**Limon**	**4.43**	**279**	⇑*e*P	**P**	**04 55 15.7**	**+1.3**
LIO				*e*S	**S**	**04 56 02.8**	**-2.3**
ACR	**Cerro Adams**	**4.58**	**261**	⇑*i*P	**P**	**04 55 16.7**	**+0.3**
BUS	**Buena Vista**	**5.10**	**272**	⇑*e*P	**P**	**04 55 24.6**	**+1.0**
URSC	**Urasca**	**5.14**	**276**	⇓*e*P	**P**	**04 55 24.7**	**+0.6**
TRTC	**Tortuguero**	**5.19**	**284**	⇓*e*P	**P**	**04 55 24.3**	**-0.5**
ICR	**Volcan Irazu**	**5.21**	**277**	*e*P	**P**	**04 55 26.2**	**+1.2**
OCAC	**Ocana**	**5.33**	**102**	⇑*e*P	**P**	**04 55 26.5**	**-0.2**
LCR2	**La Lucha 2**	**5.35**	**274**	⇑*e*P	**P**	**04 55 28.0**	**+1.0**
SJS	**Escuela Geolog**	**5.42**	**276**	⇑*e*P	**P**	**04 55 28.3**	**+0.4**
SJS				*e*S	**S**	**04 56 25.6**	**-4.1**
VPS2	**Volcan Poas 2**	**5.63**	**279**	⇓*e*P	**P**	**04 55 32.4**	**+1.6**
PRS1	**Puriscal**	**5.68**	**277**	⇓*e*P	**P**	**04 55 34.1**	**+2.6**
TOLC	**Tolima**	**5.74**	**146**	⇑*e*P	**P**	**04 55 33.4**	**+1.1**
FORC	**Fortuna**	**6.09**	**281**	*e*P	**P**	**04 55 39.6**	**+2.4**
ROSC	**El Rosal**	**6.16**	**136**	P	**P**	**04 55 40.0**	**+1.8**
	39nm,0.3s,baz=25,slow=1.9,SNR=152						
ROSC				S	**S**	**04 56 51.2**	**+3.1**
	baz=52,slow=23,SNR=5.4						
JTS	**JuntasAbangare**	**6.34**	**279**	P	**P**	**04 55 41.2**	**+0.4**
	28nm,0.3s,baz=91,slow=16,SNR=168						
JTS				S	**S**	**04 56 53.1**	**+0.7**
	23nm,0.3s,baz=337,slow=21,SNR=5.5						
JTS	**JuntasAbangare**	**6.34**	**279**	*e*P	**P**	**04 55 40.6**	**-0.2**
	185nm,0.8s						
VCR	**Vista de Mar**	**6.98**	**277**	⇓*e*P	**P**	**04 55 52.3**	**+2.5**
CONN	**Concepcion**	**7.26**	**288**	⇑*e*P	**P**	**04 55 53.2**	**-0.3**
APON	**Apoyo**	**7.78**	**290**	⇑*e*P	**P**	**04 56 01.1**	**+0.5**
SDV	**Santo Domingo**	**7.87**	**93**	*e*P	**P**	**04 56 00.5**	**-1.4**
COFN	**Cofrada**	**7.89**	**291**	⇑*e*P	**P**	**04 56 02.6**	**+0.5**
TICN	**Ticuantepe**	**7.96**	**290**	⇑*e*P	**P**	**04 56 04.0**	**+0.8**
WILN	**Americas 2**	**7.96**	**291**	⇓*e*P	**P**	**04 56 03.6**	**+0.4**
PYTN	**Playitas**	**7.98**	**294**	⇓*e*P	**P**	**04 56 03.3**	**-0.1**
PYTN				*e*S	**S**	**04 57 30.9**	**-2.1**
MGAN	**Managua**	**8.02**	**291**	⇑*e*P	**P**	**04 56 03.9**	**0.0**
MGAN				*e*		04 56 04.0	
MGAN				⇑*e*P		04 56 04.4	
MGAN				⇓*e*P		04 56 04.5	
MGAN				*e*S	**S**	**04 57 31.5**	**-2.3**
MGAN				*i*		04 57 45.9	
	comp=E,344nm,0.7s						
XAVN	**Gruta Xavier**	**8.09**	**291**	*e*P	**P**	**04 56 05.2**	**+0.3**
COPN	**Copaltepe**	**8.35**	**290**	⇓*e*P	**P**	**04 56 08.8**	**+0.4**
MOMJ	**Momotombo**	**8.37**	**292**	*e*P	**P**	**04 56 08.5**	**-0.2**
PCJ	**Portland Cotta**	**8.44**	**9**	⇑*e*P	**P**	**04 56 10.9**	**+1.3**
PCJ				*e*S	**S**	**04 57 37.9**	**-6.3**
MIRN	**Miramar**	**8.54**	**292**	⇑*e*P	**P**	**04 56 11.2**	**+0.2**
MCJ	**Malvern**	**8.55**	**6**	⇑*e*P	**P**	**04 56 12.4**	**+1.2**
LEON	**Leon**	**8.70**	**291**	⇓*e*P	**P**	**04 56 13.2**	**-0.1**
TEL3	**Telica 3**	**8.71**	**292**	⇑*e*P	**P**	**04 56 13.9**	**+0.6**
HOJ	**Hope**	**8.77**	**12**	⇑*e*P	**P**	**04 56 15.9**	**+1.8**
HOJ				*e*S	**S**	**04 57 46.9**	**-5.4**
STH	**Stony Hill**	**8.83**	**11**	⇓*e*P	**P**	**04 56 16.4**	**+1.5**
STH				*e*S	**S**	**04 57 47.3**	**-6.5**
GWJ	**Greenwich**	**8.84**	**12**	⇑*e*P	**P**	**04 56 16.7**	**+1.6**
CVJ	**Coleyville**	**8.86**	**7**	⇓*e*P	**P**	**04 56 16.0**	**+0.6**
CMJ	**Castle Mountai**	**8.98**	**14**	⇑*e*P	**P**	**04 56 19.2**	**+2.2**
GUVC	**San Jose del G**	**9.00**	**138**	⇑*e*P	**P**	**04 56 16.2**	**-1.2**
BNJ	**Bonny Gate**	**9.04**	**10**	⇑*e*P	**P**	**04 56 19.6**	**+1.7**
BBJ	**Bamboo Saint A**	**9.05**	**8**	⇓*e*P	**P**	**04 56 19.7**	**+1.7**
OTAV	**Otavalo**	**9.07**	**179**	*e*P	**P**	**04 56 17.8**	**-0.5**
LMGC	**Las Mercedes**	**10.74**	**8**	*e*P	**P**	**04 56 43.7**	**+2.6**
LMGC				*e*S	**S**	**04 58 34.6**	**-5.8**
	comp=N,186nm,2.3s						
	comp=E,2µm,0.6s						
RCC	**Rio Carpintero**	**10.93**	**14**	*e*P	**P**	**04 56 46.6**	**+3.0**
RCC				*e*S	**S**	**04 58 39.2**	**-5.6**
	comp=N,1µm,0.3s						
	comp=E,684nm,0.1s						
MOAC	**Moa**	**11.76**	**17**	*e*P	**P**	**04 56 58.3**	**+3.6**
MOAC				*e*S	**S**	**04 58 57.0**	**-7.8**
	comp=N,770nm,0.4s						
	comp=E,5µm,0.5s						
MGP	**Maguayo**	**14.08**	**51**	P	**P**	**04 57 23.3**	**-2.1**
TEIG	**Tepich**	**14.28**	**320**	P	**P**	**04 57 29.7**	**+1.7**
	comp=E,0.0nm,0.3s,baz=309,slow=24,SNR=2.5						
TEIG				S	**S**	**05 00 02.3**	**-2.7**
	comp=E,0.0nm,0.3s,baz=226,slow=24,SNR=7.0						
TEIG	**Tepich**	**14.28**	**320**	P	**P**	**04 57 26.2**	**-1.8**
TEIG				S	**S**	**05 00 02.3**	**-2.7**
SJG	**San Juan**	**14.87**	**53**	P	**P**	**04 57 34.3**	**-1.4**
	comp=E,1.6nm,0.3s,baz=360,slow=20,SNR=3.8						
SJG				S	**S**	**05 00 09.3**	**-10**
	comp=E,3.3nm,0.3s,baz=51,slow=22,SNR=9.1						
SJG				LR	LR	05 02 52.4	
	comp=E,94nm,21.3s,baz=7.9,slow=35						
SJG	**San Juan**	**14.87**	**53**	*e*P	**P**	**04 57 34.0**	**-1.6**
	comp=E,52nm,1.1s						
MTP	**Monte Pirata**	**15.34**	**54**	*e*P	**P**	**04 57 40.1**	**-1.5**
TRN	**Trinidad (W)**	**16.97**	**84**	*e*P	**P**	**04 58 02.5**	**+0.4**
SAML	**Samuel**	**23.80**	**139**	*e*P	**P**	**04 59 13.3**	**-1.8**
	comp=E,30nm,1.1s,mb4.5						
LRAL	**Lakeview Retre**	**24.80**	**343**	*e*P	**P**	**04 59 25.6**	**+0.9**
	comp=E,20nm,0.9s,mb4.6						
HKT	**Hockley**	**26.06**	**324**	*e*P	**P**	**04 59 35.6**	**-0.9**
	comp=E,6.0nm,1.0s,mb4.0						
OXF	**Oxford**	**26.92**	**340**	*e*P	**P**	**04 59 43.9**	**-0.5**
PLAL	**Pickwick Lake**	**26.93**	**343**	*e*P	**P**	**04 59 44.3**	**-0.2**
LPAZ	**La Paz**	**27.51**	**158**	P	**P**	**04 59 51.9**	**+1.9**
	comp=E,3.1nm,0.6s,mb4.0,baz=330,slow=4.7,SNR=4.6						
LPAZ				LR	LR	05 11 05.4	
	comp=E,51nm,18.7s,baz=272,slow=37						
LPAZ	**La Paz**	**27.51**	**158**	P	**P**	**04 59 49.9**	**0.0**
USIN	**University of**	**29.62**	**345**	*e*P	**P**	**05 00 08.9**	**+0.3**
	comp=E,76nm,0.8s,mb5.4						
USIN				*e*pP	pP	05 00 25.9	-0.1
USIN				*e*sP	sP	05 00 34.0	-0.7
FVM	**French Village**	**30.42**	**341**	*e*P	**P**	**05 00 15.1**	**-0.6**
	comp=E,26nm,0.8s,mb4.9						
FVM				*e*pP	pP	05 00 32.5	-0.7
FVM				*e*sP	sP	05 00 41.0	-0.9
BLO	**Bloomington**	**30.52**	**348**	*e*P	**P**	**05 00 16.0**	**-0.5**
	comp=E,26nm,1.2s,mb4.8						
BLO				*e*pP	pP	05 00 33.5	-0.5
BLO				*e*sP	sP	05 00 41.9	-0.9
CCM	**Cathedral Cave**	**30.75**	**340**	*e*P	**P**	**05 00 17.7**	**-0.9**
	comp=E,9.7nm,0.8s,mb4.6						
CCM				*e*pP	pP	05 00 35.5	-0.7
CCM				*e*sP	sP	05 00 43.1	-1.8
LTX	**Lajitas**	**30.77**	**314**	*e*P	**P**	**05 00 17.6**	**-1.2**
	comp=E,2.3nm,0.6s,mb4.1						
LTX				*e*sP	sP	05 00 43.0	-2.1
TXAR	**Lajitas Array**	**30.77**	**314**	P	**P**	**05 00 18.0**	**-0.8**
	comp=E,4.0nm,0.8s,mb4.2,baz=132,slow=8.7,SNR=30						
TXAR				pP	pP	05 00 36.1	-0.2
	comp=E,1.6nm,0.8s,baz=135,slow=7.1,SNR=5.1						
TXAR				sP	sP	05 00 43.8	-1.3
	comp=E,8.8nm,0.9s,baz=140,slow=9.8,SNR=14						
TXAR				PcP	PcP	05 03 13.9	-0.8
	comp=E,2.3nm,1.1s,baz=124,slow=4.5,SNR=4.0						
TXAR				LR	LR	05 13 55.0	
	comp=E,44nm,19.4s,baz=135,slow=39						
TXAR	**Lajitas Array**	**30.77**	**314**	P	**P**	**05 00 18.0**	**-0.8**
TXAR				pP	pP	05 00 36.1	-0.2
TXAR				sP	sP	05 00 43.8	-1.3
TXAR				PcP	PcP	05 03 13.9	-0.8
TXAR				LR	LR	05 13 55.0	
ACSO	**Alum Creek Sta**	**30.98**	**353**	P	**P**	**05 00 19.7**	**-0.9**
WMOK	**Wichita Mounta**	**31.30**	**327**	*e*P	**P**	**05 00 21.5**	**-1.9**
	comp=E,3.7nm,0.6s,mb4.3						
GDL2	**Guadalupe Moun**	**32.95**	**317**	P	**P**	**05 00 36.3**	**-1.6**
LVC	**Limon Verde**	**33.17**	**164**	P	**P**	**05 00 40.6**	**+0.8**
	comp=E,2.8nm,0.5s,mb4.3,baz=13,slow=4.2,SNR=6.7						
LVC				pP	pP	05 00 58.3	+0.7
	comp=E,6.3nm,0.8s,baz=343,slow=3.8,SNR=6.4						
KSU1	**Kansas State U**	**33.72**	**334**	*e*P	**P**	**05 00 43.3**	**-1.1**
SADO	**Sadowa**	**35.27**	**359**	P	**P**	**05 00 58.8**	**+1.1**
	comp=E,3.6nm,0.6s,mb4.4,baz=189,slow=9.1,SNR=6.8						
SADO				pP	pP	05 01 16.4	+0.9
	comp=E,9.4nm,0.7s,baz=207,slow=8.2,SNR=4.6						
SADO				LR	LR	05 16 49.8	
	comp=E,34nm,18.0s,baz=90,slow=39						
ANMO	**Albuquerque**	**36.02**	**319**	*e*P	**P**	**05 01 03.6**	**-0.5**
	comp=E,5.8nm,0.8s,mb4.6						
LAZ	**Ladron**	**36.13**	**318**	*e*P	**P**	**05 01 04.8**	**-0.2**
SDCO	**Great Sand Dun**	**37.24**	**324**	*e*P	**P**	**05 01 14.6**	**+0.3**
	comp=E,13nm,1.2s,mb4.8						
TUC	**Tucson**	**37.52**	**312**	*e*P	**P**	**05 01 16.2**	**-0.4**
	comp=E,3.4nm,0.8s,mb4.2						
TUC				*e*pP	pP	05 01 34.0	-0.7
TUC				*e*sP	sP	05 01 42.1	-1.4
ISCO	**Idaho Springs**	**38.71**	**326**	*e*P	**P**	**05 01 26.8**	**+0.3**
	comp=E,9.7nm,1.2s,mb4.5						
ISCO				*e*sP	sP	05 01 52.6	-0.6
BDFB	**Brasilia**	**39.17**	**129**	P	**P**	**05 01 30.4**	**-0.1**
	comp=E,5.6nm,1.1s,mb4.3,baz=283,slow=11,SNR=6.4						
BDFB				LR	LR	05 18 19.3	
	comp=E,107nm,18.1s,baz=171,slow=37						
PV01	**Paradox Valley**	**39.33**	**322**	*e*P	**P**	**05 01 32.2**	**+0.6**
PV01				*e*sP	sP	05 01 58.4	0.0
WUAZ	**Wupatki**	**39.62**	**316**	*e*P	**P**	**05 01 34.5**	**+0.4**
	comp=E,14nm,1.0s,mb4.7						
WUAZ				*e*pP	pP	05 01 52.7	+0.6
WUAZ				*e*sP	sP	05 02 00.5	-0.3
PV10	**Paradox Valley**	**39.77**	**321**	*e*P	**P**	**05 01 35.1**	**-0.2**
PV10				*e*sP	sP	05 02 01.1	-0.9
RSSD	**Black Hills**	**41.06**	**332**	*e*P	**P**	**05 01 46.2**	**+0.3**
	comp=E,13nm,1.4s,mb4.6						
SRU	**San Rafael**	**41.13**	**321**	*e*P	**P**	**05 01 46.7**	**+0.2**
SRU				*e*sP	sP	05 02 12.6	-0.6
MSU	**Marysvale**	**41.82**	**319**	*e*P	**P**	**05 01 52.8**	**+0.5**
MSU				*e*pP	pP	05 02 11.1	+0.7
MSU				*e*sP	sP	05 02 18.5	-0.4
LDFC	**Landfair**	**42.02**	**313**	*e*P	**P**	**05 01 54.1**	**+0.2**
NEN	**Nelson**	**42.10**	**314**	*e*P	**P**	**05 01 54.9**	**+0.3**
NEN				*e*pP	pP	05 02 13.2	+0.5
NEN				*e*sP	sP	05 02 20.9	-0.3
PFO	**Pinyon Flat Ob**	**42.33**	**310**	*e*P	**P**	**05 01 56.1**	**-0.4**
	comp=E,10.0nm,1.0s,mb4.5						
MPU	**Maple Canyon**	**42.37**	**322**	*e*P	**P**	**05 01 56.0**	**-0.7**
MPU				*e*pP	pP	05 02 15.1	+0.3
MPU				*e*sP	sP	05 02 22.6	-0.8
DAU	**Daniels Canyon**	**42.38**	**322**	*e*P	**P**	**05 01 57.2**	**+0.5**
JLU	**Jordanelle**	**42.61**	**322**	*e*P	**P**	**05 01 58.5**	**-0.1**
JLU				*e*pP	pP	05 02 17.1	+0.3
CTU	**Camp Tracy**	**42.84**	**322**	*e*P	**P**	**05 02 00.8**	**+0.3**
CTU				*e*pP	pP	05 02 19.2	+0.5
CTU				*e*sP	sP	05 02 27.0	-0.4
TCUT	**Toone Canyon**	**42.90**	**323**	*e*P	**P**	**05 02 00.8**	**-0.2**
BW06	**Boulder Array**	**42.90**	**326**	*e*P	**P**	**05 02 00.7**	**-0.3**
	comp=E,10nm,1.3s,mb4.4						
PDAR	**Pinedale Array**	**42.90**	**326**	P	**P**	**05 02 01.4**	**+0.4**
	comp=E,3.4nm,0.8s,mb4.1,baz=125,slow=9.5,SNR=33						
PDAR				pP	pP	05 02 20.0	+0.8
	comp=E,2.0nm,0.6s,baz=129,slow=11,SNR=6.5						
PDAR				sP	sP	05 02 27.3	-0.5
	comp=E,7.0nm,0.8s,baz=131,slow=6.8,SNR=14						
DUG	**Dugway**	**43.20**	**321**	*e*P	**P**	**05 02 03.4**	**-0.1**
	comp=E,12nm,1.2s,mb4.5						
DUG				*e*pP	pP	05 02 22.4	+0.7
DUG				*e*sP	sP	05 02 29.9	-0.3
ULM	**Lac du Bonnet**	**43.20**	**344**	P	**P**	**05 02 02.2**	**-1.1**
	comp=E,10.0nm,0.7s,mb4.7,baz=149,slow=9.1,SNR=13						
ULM				pP	pP	05 02 20.6	-0.9
	comp=E,10nm,1.1s,baz=149,slow=9.9,SNR=3.1						
ULM	**Lac du Bonnet**	**43.20**	**344**	*e*P	**P**	**05 02 01.4**	**-1.9**
HWUT	**Hardware Ranch**	**43.30**	**323**	*e*P	**P**	**05 02 03.6**	**-0.6**
	comp=E,15nm,1.3s,mb4.6						
AHID	**Auburn Hatcher**	**43.76**	**325**	*e*P	**P**	**05 02 07.6**	**-0.4**
	comp=E,2.0nm,0.4s,mb4.2						
BGU	**Big Grassy Mou**	**43.76**	**322**	*e*P	**P**	**05 02 07.5**	**-0.5**
BGU				*e*pP	pP	05 02 26.8	+0.6
BGU				*e*sP	sP	05 02 34.0	-0.7
REDW	**Red Top Meadow**	**44.01**	**326**	*e*P	**P**	**05 02 09.7**	**-0.3**
SNOW	**Snow King Moun**	**44.02**	**326**	*e*P	**P**	**05 02 10.0**	**-0.1**
SNOW				*e*pP	pP	05 02 28.6	+0.3
TPAW	**Teton Pass**	**44.15**	**326**	*e*P	**P**	**05 02 10.7**	**-0.4**
MOOW	**Moose Ponds**	**44.20**	**326**	*e*P	**P**	**05 02 10.9**	**-0.6**
MOOW				*e*pP	pP	05 02 30.1	+0.4
TPH	**Tonopah**	**44.95**	**316**	*e*P	**P**	**05 02 17.3**	**-0.3**
	comp=E,8.6nm,1.2s,mb4.4						
TPH				*e*pP	pP	05 02 36.3	+0.5
TPH				*e*sP	sP	05 02 43.6	-0.8
QLMT	**Earthquake Lak**	**45.28**	**327**	*e*P	**P**	**05 02 20.6**	**+0.5**
NVAR	**Mina Array Bea**	**45.87**	**316**	P	**P**	**05 02 25.1**	**+0.3**
	comp=E,3.6nm,0.8s,mb4.2,baz=118,slow=7.4,SNR=26						
NVAR				pP	pP	05 02 44.0	+0.8
	comp=E,2.1nm,0.8s,baz=150,slow=5.5,SNR=5.7						
NVAR				sP	sP	05 02 51.0	-0.6
	comp=E,6.2nm,0.7s,baz=120,slow=7.3,SNR=15						
NVAR				PcP	PcP	05 04 01.1	-0.4
	comp=E,2.1nm,0.7s,baz=146,slow=3.5,SNR=7.4						
NVAR				LR	LR	05 24 01.5	
	comp=E,38nm,19.2s,baz=140,slow=39						
NVAR	**Mina Array Bea**	**45.87**	**316**	P	**P**	**05 02 25.1**	**+0.3**
NVAR				pP	pP	05 02 44.0	+0.8
NVAR				sP	sP	05 02 51.0	-0.6
NVAR				PcP	PcP	05 04 01.1	-0.4
NVAR				LR	LR	05 24 01.5	
BOZ	**Bozeman (W)**	**45.93**	**328**	*e*P	**P**	**05 02 24.2**	**-1.0**
	comp=E,4.8nm,0.9s,mb4.2						
MCMT	**McKenzie Canyo**	**46.05**	**326**	*e*P	**P**	**05 02 26.4**	**+0.2**
BMN	**Battle Mountai**	**46.14**	**319**	*e*P	**P**	**05 02 26.0**	**-1.0**
BMN				*e*pP	pP	05 02 45.9	+0.7
HLID	**Hailey**	**46.16**	**324**	*e*P	**P**	**05 02 26.6**	**-0.4**
	comp=E,4.1nm,1.1s,mb4.1						
SCHQ	**Schefferville**	**46.30**	**9**	P	**P**	**05 02 29.2**	**+1.2**
	comp=E,3.6nm,0.8s,mb4.2,baz=186,slow=9.0						
SCHQ				pP	pP	05 02 47.0	+0.7
	comp=E,21nm,1.0s,baz=198,slow=6.3,SNR=11						
WCN	**Washoe City**	**47.28**	**316**	P	**P**	**05 02 36.6**	**+0.7**
WVOR	**Wild Horse Val**	**48.09**	**320**	*e*P	**P**	**05 02 41.2**	**-1.1**
	comp=E,14nm,1.1s,mb4.7						
WVOR				*e*pP	pP	05 03 00.5	-0.2
MOD	**Modoc**	**48.89**	**319**	*e*P	**P**	**05 02 47.6**	**-0.8**
	comp=E,2.3nm,0.7s,mb4.2						
TRQA	**Tornquist**	**49.67**	**163**	P	**P**	**05 02 51.1**	**-3.4**
PLCA	**Paso Flores**	**50.40**	**172**	P	**P**	**05 02 59.0**	**-1.0**
	comp=E,4.0nm,0.8s,mb4.4,baz=344,slow=10,SNR=11						
PLCA				pP	pP	05 03 17.7	-0.9
	comp=E,2.4nm,0.8s,baz=341,slow=11,SNR=3.7						
PLCA	**Paso Flores**	**50.40**	**172**	*e*P	**P**	**05 02 58.8**	**-1.2**
PLCA				*e*pP	pP	05 03 17.5	-1.0
NEW	**Newport**	**50.49**	**327**	LR	LR	05 26 16.3	
	comp=E,53nm,18.9s,baz=3.4,slow=38						
NEW	**Newport**	**50.49**	**327**	*e*P	**P**	**05 02 59.4**	**-1.3**
NEW				*e*pP	pP	05 03 18.2	-0.9
VGB	**Gordon Butte**	**51.02**	**323**	*e*P	**P**	**05 03 04.2**	**-0.4**
YKA	**Yellowknife Ar**	**59.08**	**341**	P	**P**	**05 04 00.9**	**-1.8**
	comp=E,7.0nm,0.7s,mb4.8,baz=132,slow=7.2,SNR=35						
YKA				pP	pP	05 04 19.8	-1.9
	comp=E,2.7nm,0.7s,baz=131,slow=7.5,SNR=5.6						
YKA	**Yellowknife Ar**	**59.08**	**341**	P	**P**	**05 04 00.9**	**-1.8**
YKA				pP	pP	05 04 19.8	-1.9
SUMG	**Summit**	**67.57**	**12**	*e*P	**P**	**05 04 56.8**	**-1.6**
	comp=E,9.1nm,1.0s,mb4.6						
SUMG				*e*pP	pP	05 05 16.5	-1.3
INK	**Inuvik**	**68.84**	**341**	*e*P	**P**	**05 05 04.8**	**-1.5**
	comp=E,27nm,1.6s,mb4.8						
DAWY	**Dawson**	**69.09**	**336**	*e*P	**P**	**05 05 06.8**	**-1.1**
DAWY				*e*pP	pP	05 05 26.4	-1.0
ESDC	**Sonseca Array**	**72.25**	**51**	P	**P**	**05 05 28.1**	**+0.7**
	comp=E,2.2nm,0.9s,mb4.0,baz=277,slow=5.6,SNR=9.9						
ESDC				pP	pP	05 05 47.0	-0.1
	comp=E,7.2nm,0.9s,baz=275,slow=5.7,SNR=13						
ILAR	**Eielson Array**	**72.39**	**335**	P	**P**	**05 05 26.9**	**-0.9**
	comp=E,2.4nm,0.8s,mb4.1,baz=107,slow=3.8,SNR=14						
ILAR				pP	pP	05 05 45.5	-2.1
	comp=E,1.9nm,1.1s,baz=80,slow=5.3,SNR=4.1						
ILAR				sP	sP	05 05 53.5	-1.7
	comp=E,2.6nm,0.9s,baz=111,slow=4.1,SNR=7.2						
TIC	**Toumodi**	**72.79**	**86**	*e*P	**P**	**05 05 29.0**	**-2.1**
	comp=E,152nm,1.5s,mb5.6						
LIC	**Lamto**	**72.84**	**86**	*e*P	**P**	**05 05 31.1**	**-0.3**
	comp=E,9.6nm,0.6s,mb4.5						
LIC	**Lamto**	**72.84**	**86**	*e*P	**P**	**05 05 31.6**	**+0.2**
	comp=E,35nm,1.1s,mb5.1						
DBIC	**Dimbokro**	**72.95**	**86**	P	**P**	**05 05 31.4**	**-0.7**
	comp=E,4.3nm,0.8s,mb4.3,baz=220,slow=7.1,SNR=4.5						
DBIC				pP	pP	05 05 50.0	-1.7
	comp=E,6.6nm,1.0s,baz=221,slow=9.9,SNR=2.9						
KIC	**Kosan Boka**	**73.10**	**86**	*e*P	**P**	**05 05 32.6**	**-0.3**

	comp=E,204nm,1.8s,mb5.7						
ROSF	**Rostrenen**	**73.30**	**42**	*e*P	pP	05 05 52.1	-1.0
	comp=E,12nm,0.8s						
QUIF	**Quistinic**	**73.34**	**43**	*e*P	pP	05 05 52.7	-0.7
SGMF	**Saint Gilles**	**73.77**	**42**	*e*P	pP	05 05 54.7	-1.2
	comp=E,34nm,1.0s						
SJPF	**Ste Jean**	**74.44**	**48**	*e*P	pP	05 05 59.5	-0.5
	comp=E,44nm,1.1s						
GRR	**Gorron**	**74.91**	**42**	*e*P	pP	05 06 01.5	-1.0
	comp=E,40nm,0.9s						
FLN	**La Foliniere**	**75.18**	**42**	*e*P	pP	05 06 03.2	-0.8
	comp=E,31nm,1.0s						
FLN				*e*R			
	comp=E,52nm,17.5s						
MFF	**Saint Martin d**	**75.32**	**44**	*e*P	pP	05 06 03.9	-1.0
	comp=E,79nm,1.5s						
EPF	**Esparros**	**75.59**	**48**	*e*P	pP	05 06 06.1	-0.4
	comp=E,26nm,1.0s						
LFF	**La Frestale**	**75.90**	**46**	*e*P	pP	05 06 07.5	-0.8
RJF	**Les Rejaudoux**	**76.45**	**46**	*e*P	pP	05 06 10.4	-1.0
	comp=E,8.6nm,0.8s						
RJF				*e*R			
	comp=E,48nm,17.4s						
CAF	**Calviac**	**76.84**	**46**	*e*P	pP	05 06 12.6	-1.0
	comp=E,16nm,1.0s						
TCF	**Toulx Ste Croi**	**76.94**	**45**	*e*P	pP	05 06 12.7	-1.5
	comp=E,46nm,1.4s						
MTLF	**Montolieu**	**76.96**	**48**	*e*P	pP	05 06 13.3	-1.0
	comp=E,38nm,1.3s						
BGF	**Bois d'Agland**	**77.38**	**44**	*e*P	pP	05 06 15.4	-1.2
	comp=E,33nm,1.2s						
AVF	**Avril sur Loir**	**77.73**	**44**	*e*P	pP	05 06 17.0	-1.5
	comp=E,27nm,1.2s						
SSF	**Saint Saulge**	**77.83**	**44**	*e*P	pP	05 06 17.6	-1.5
	comp=E,16nm,1.0s						
SMF	**Signal de Mont**	**78.06**	**44**	*e*P	pP	05 06 19.0	-1.4
	comp=E,27nm,1.1s						
LOR	**Lormes**	**78.07**	**44**	*e*P	pP	05 06 18.9	-1.5
	comp=E,38nm,1.3s						
LOR				*e*R			
	comp=E,62nm,21.8s						
LASF	**Ste Croix**	**78.13**	**47**	*e*P	pP	05 06 20.4	-0.4
	comp=E,20nm,1.2s						
BAIF	**Baives**	**78.26**	**41**	*e*P	pP	05 06 19.1	-2.3
	comp=E,16nm,1.1s						
GIVF	**Givet**	**78.66**	**41**	*e*P	pP	05 06 22.6	-1.0
VIVF	**Saint-Julien-l**	**78.69**	**46**	*e*P	pP	05 06 23.7	-0.2
	comp=E,20nm,1.0s						
MEZF	**Maizieres J'vi**	**78.84**	**42**	*e*P	pP	05 06 23.6	-1.0
	comp=E,19nm,0.8s						
WLF	**Walferdange**	**79.53**	**41**	P	**P**	**05 06 09.0**	**+0.6**
WLF				*e*pP	pP	05 06 27.3	-1.1
ORIF	**Oris-en-Rattie**	**79.55**	**46**	*e*P	pP	05 06 28.5	-0.1
	comp=E,30nm,0.9s						
ORIF				*e*R			
	comp=E,37nm,19.8s						
CABF	**La Chapelle**	**79.61**	**44**	*e*P	pP	05 06 28.0	-0.9
	comp=E,40nm,1.3s						
HINF	**Hinteralfeld**	**80.08**	**43**	*e*P	pP	05 06 29.9	-1.5
	comp=E,12nm,0.9s						
LPG	**La Plagne**	**80.13**	**45**	*e*P	pP	05 06 30.8	-0.9
FRF	**La Foret Royal**	**80.17**	**47**	*e*P	pP	05 06 31.0	-1.0
	comp=E,51nm,1.2s						
CDF	**Champ du Feu**	**80.33**	**42**	*e*P	pP	05 06 31.7	-1.0
	comp=E,17nm,1.2s						
NOA	**NORSAR Array B**	**81.78**	**29**	P	**P**	**05 06 23.6**	**+3.5**
	comp=E,1.0nm,0.8s,mb3.7,baz=282,slow=5.3,SNR=3.2						
NOA				LR	LR	05 37 28.1	
	comp=E,18nm,20.6s,baz=280,slow=32						
GRA1	**Grafenberg Arr**	**82.81**	**41**	*e*P	pP	05 06 45.9	+0.2
WET	**Wettzell**	**83.95**	**41**	*e*P	pP	05 06 51.4	-0.1
KHC	**Kasperske Hory**	**84.41**	**41**	*e*P	**P**	**05 06 34.5**	**+0.9**
KHC				AP	pP	05 06 53.5	-0.3
KHC	**Kasperske Hory**	**84.41**	**41**	*e*P	**P**	**05 06 34.5**	**+0.9**
KHC				*e*	pP	05 06 53.5	-0.3
GEC2	**GERESS Array S**	**84.53**	**42**	*e*P	pP	05 06 54.4	0.0
GERES	**GERESS Array B**	**84.53**	**42**	P	**P**	**05 06 34.7**	**+0.4**
	comp=E,0.9nm,0.7s,mb3.8,baz=315,slow=1.9,SNR=6.7						
GERES				pP	pP	05 06 54.4	0.0
	comp=E,2.3nm,0.9s,baz=252,slow=4.2,SNR=7.6						
ARCES	**ARCESS Array B**	**86.17**	**20**	P	**P**	**05 06 42.6**	**+0.8**
	comp=E,3.6nm,0.9s,mb4.3,baz=315,slow=3.4,SNR=11						
ARCES				pP	pP	05 07 02.4	+0.3
	comp=E,1.7nm,0.6s,baz=281,slow=3.8,SNR=1.9						
VAE	**Valguarnera**	**86.74**	**53**	P	**P**	**05 06 48.1**	**+2.7**
	comp=E,7.5nm,0.5s,mb4.9,baz=282,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**88.75**	**28**	P	**P**	**05 06 56.0**	**+1.5**
	comp=E,1.8nm,0.9s,mb4.1,baz=146,slow=6.9,SNR=3.8						
FINES				pP	pP	05 07 14.1	-0.7
	comp=E,1.8nm,0.9s,baz=135,slow=5.4,SNR=1.8						
FINES				LR	LR	05 43 37.4	
	comp=E,22nm,20.4s,baz=45,slow=33						
FINES	**FINESS Array B**	**88.75**	**28**	P	**P**	**05 06 56.0**	**+1.5**
FINES				pP	pP	05 07 14.1	-0.7
FINES				LR	LR	05 43 37.4	
VNA1	**Neumayer--Stat**	**92.39**	**162**	⇓*i*P	**P**	**05 07 10.5**	**-0.8**
SNAA	**Sanae**	**94.39**	**162**	⇑*i*P	**P**	**05 07 18.9**	**-1.4**
SNAA				*e*	pP	05 07 39.3	-1.5
SNAA				*e*		05 07 48.4	
QSPA	**South Pole Qui**	**99.36**	**180**	*e*P	**P**	**05 07 42.3**	**-0.5**
	comp=E,3.3nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**121.54**	**15**	PKP	PKPdf	05 12 53.1	-0.3
	comp=E,0.4nm,0.6s,baz=14,slow=5.0,SNR=3.6						
MKAR				pPKP		05 13 13.3	
	comp=E,2.4nm,1.0s,baz=315,slow=1.7,SNR=6.2						
CN2	**Changchun**	**122.75**	**339**	*e*PKP	PKPdf	05 12 52.3	-3.5
SONM	**Songino Array**	**122.88**	**356**	PKP	PKPdf	05 12 56.1	+0.2
	comp=E,0.3nm,0.7s,baz=333,slow=2.8,SNR=4.7						
WMQ	**Urumqi**	**125.61**	**12**	⇓PKP	PKPdf	05 13 01.6	+0.3
WMQ				LR	LR		
	comp=E,9.0nm,18.4s						
WMQ				LR	LR		
	comp=Z,24nm,20.0s						
LZH	**Lanzhou**	**134.73**	**357**	*e*PKP	PKPdf	05 13 18.5	-0.4
LZH				XPKP		05 13 48.3	
LZH				LR	LR		
	comp=N,189nm,18.0s						
LZH				LR	LR		
	comp=Z,297nm,20.0s						
SSE	**Sheshan**	**135.52**	**336**	⇓PKP	PKPdf	05 13 16.8	-3.7
KMI	**Kunming**	**145.69**	**358**	*e*PKP	PKPdf	05 13 39.4	+0.6
KMI				LR	LR		
	comp=Z,32nm,19.9s						
ASAR	**Alice Springs**	**145.87**	**241**	PKPbc	PKPbc	05 13 39.4	-0.7
	comp=Z,14nm,1.0s,baz=113,slow=3.5,SNR=47						
ASAR				pPKP		05 14 01.4	
	comp=Z,2.7nm,0.7s,baz=114,slow=3.7,SNR=4.6						
WRA	**Warramunga Arr**	**146.52**	**248**	PKPbc	PKPbc	05 13 40.9	-0.8
	comp=Z,3.3nm,0.8s,baz=99,slow=2.9,SNR=19						
WRA				pPKP		05 14 02.3	
	comp=Z,3.1nm,0.8s,baz=101,slow=3.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**152.24**	**5**	PKPbc	PKPdf	05 13 56.9	+7.6
	comp=Z,5.1nm,0.7s,baz=323,slow=3.4,SNR=22						
CMAR				pPKPbc		05 14 17.2	
	comp=Z,2.0nm,0.7s,baz=301,slow=2.4,SNR=3.6						

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*IDC **22** 04:57:20.2±0.7, 14.15N×120.66E, h131^{km}±8^{km}, mb3.1/5, mb1 3.3/5, mb1mx3.1/18, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=43.9km s-min=17.2km az=59.0*

ISC 22 04:57:19.3±0.4**, 14.15N**±0.05×**120.53E**±0.09**, h134**^{km}±5^{km}**, n22, σ0^{s}96**/27**, mb4.0**/10**, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.40**	**96**	*e*P	**P**	**04 57 38.9**	**+0.4**
TGY				*e*S	**S**	**04 57 53.6**	**+0.6**
TGY	**Tagaytay City**	**0.40**	**96**	P	**P**	**04 57 39.1**	**+0.6**
	387nm,0.3s,baz=266,slow=1.3,SNR=18						
TGY				S	**S**	**04 57 53.4**	**+0.4**
	271nm,0.3s,baz=29,slow=20,SNR=8.2						
LUBP	**Lubang**	**0.49**	**214**	*e*P	**P**	**04 57 39.0**	**+0.1**
LBPH	**Los Banos**	**0.64**	**89**	⇓*e*P	**P**	**04 57 40.3**	**+0.5**
QVPH	**Quezon City--P**	**0.72**	**46**	⇓*i*P	**P**	**04 57 39.9**	**-0.5**
QVPH				*e*S	**S**	**04 57 55.3**	**-1.2**
BOAC	**Boac**	**1.45**	**118**	*e*P	**P**	**04 57 49.1**	**+1.5**
POLP	**Polilio Island**	**1.49**	**67**	*e*P	**P**	**04 57 48.6**	**+0.7**
SJMP	**San Jose**	**1.77**	**161**	*e*P	**P**	**04 57 52.5**	**+1.3**
SJMP				*e*S	**S**	**04 58 14.3**	**-1.3**
BUSP	**Coron**	**2.15**	**189**	*e*P	**P**	**04 57 56.1**	**+0.3**
BUSP				*e*S	**S**	**04 58 22.5**	**-1.2**
BOLP	**Bolinao**	**2.30**	**345**	*e*P	**P**	**04 57 56.4**	**-1.3**
BOLP				*e*S	**S**	**04 58 20.4**	**-6.6**
ENPP	**El Nido**	**3.11**	**200**	*e*P	**P**	**04 58 09.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**21.15**	**285**	P	**P**	**05 01 56.7**	**+1.6**
	2.7nm,1.0s,mb3.5,baz=102,slow=8.4,SNR=10						
GUN	**Gumba**	**34.98**	**299**	*e*P	**P**	**05 04 02.9**	**+2.2**
	21nm,0.5s,mb5.0						
PKI	**Pulchoki**	**35.29**	**298**	*e*P	**P**	**05 04 03.1**	**-0.2**
	17nm,0.5s,mb4.9						
PMG	**Port Moresby**	**35.30**	**130**	LR	LR	05 17 41.9	
	comp=Z,37nm,20.8s,baz=312,slow=35						
KKN	**Kakani**	**35.46**	**298**	*e*P	**P**	**05 04 04.6**	**-0.2**
	8.6nm,0.5s,mb4.7						
DMN	**Daman**	**35.56**	**298**	*e*P	**P**	**05 04 04.9**	**-0.7**
	7.4nm,0.4s,mb4.7						
SONM	**Songino Array**	**35.58**	**344**	P	**P**	**05 04 04.9**	**-0.7**
	0.8nm,0.6s,mb3.5,baz=163,slow=8.9,SNR=6.8						
GKN	**Gorkha**	**36.06**	**298**	*e*P	**P**	**05 04 09.1**	**-0.7**
	5.6nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**36.50**	**158**	P	**P**	**05 04 12.5**	**-1.1**
	0.2nm,0.4s,mb3.1,baz=329,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**39.79**	**161**	P	**P**	**05 04 40.3**	**-0.6**
	0.2nm,0.4s,mb3.1,baz=333,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**45.57**	**323**	P	**P**	**05 05 27.9**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=129,slow=6.6,SNR=4.1						

WEL 22 05:10:15.0±0.3**, 46.83S**×**166.29E, h33**^{km}**, ML3.9**/3**, 1D, Error ellipse: s-maj=3.0km s-min=2.1km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.48**	**51**	PN	Pn	05 10 38.7	-1.0
WHZ				SN	Sn	05 10 56.0	-2.0
MLZ	**Mavora Lakes**	**1.98**	**42**	PN	Pn	05 10 45.6	-1.3
MLZ				SN	Sn	05 11 08.4	-2.3
TUZ	**Tuapeka**	**2.47**	**70**	PN	Pn	05 10 52.3	-1.6
TUZ				SN	Sn	05 11 20.4	-2.8
AXZ	**Alexandra**	**2.63**	**55**	PN	Pn	05 10 54.2	-2.0
AXZ				SN	Sn	05 11 24.5	-2.8
WKZ	**Wanaka**	**2.76**	**45**	PN	Pn	05 10 57.4	-0.7
WKZ				SN	Sn	05 11 28.3	-2.4
JCZ	**Jackson Bay**	**3.26**	**33**	PN	Pn	05 11 05.1	0.0
JCZ				SN	Sn	05 11 40.9	-2.2
ODZ	**Otahua Downs**	**3.52**	**61**	⇓PN	Pn	05 11 05.0	-3.8
ODZ				*e*SN	Sn	05 11 44.0	-5.8

IDC 22 05:17:43.0±7.1**, 8.33S**×**117.90E, h46**^{km}±66^{km}**, mb3.4**/3**, mb1 3.6**/5**, mb1mx3.4**/16**, ML3.3**/2**, Error ellipse: s-maj=185.0km s-min=29.6km az=61.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.29**	**143**	P	P	05 20 35.3	-2.8
	0.1nm,0.3s,baz=325,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**19.66**	**128**	P	P	05 22 08.2	-2.8
	0.1nm,0.3s,baz=303,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**21.63**	**137**	P	P	05 22 29.8	-1.5
	0.7nm,0.6s,baz=313,slow=8.8,SNR=10						
STKA	**Stephens Creek**	**32.16**	**140**	P	P	05 24 06.3	-2.4
	1.7nm,0.8s,baz=309,slow=14,SNR=2.7						
SONM	**Songino Array**	**56.83**	**351**	P	P	05 27 22.8	-2.4
	1.1nm,1.1s,baz=169,slow=7.3,SNR=3.2						

CASC 22 05:26:53.0±2.1**, 14.33N**×**91.88W, h62**^{km}±11^{km}**, MD3.6, ML3.8, 4C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**0.24**	**94**	⇓*e*P	P	05 27 02.3	-0.6
JAT				*e*S	S	05 27 11.9	+1.6
JAT				AML	AML	05 27 12.4	
	comp=E,8µm,0.3s						
TP2	**Tecpan 2**	**0.95**	**62**	*e*P	P	05 27 11.7	+1.0
TP2				*e*S	S	05 27 26.0	+2.2
TP2				AML	AML	05 27 31.7	
	comp=E,366nm,0.5s						
FUG	**Fuego 3**	**1.02**	**83**	⇑*e*P	P	05 27 11.2	-0.4
FUG				*e*S	S	05 27 25.9	+0.6
IXG	**Ixpaco**	**1.40**	**96**	⇓*e*P	P	05 27 16.2	-0.7
IXG				*e*S	S	05 27 35.5	+1.0
IXG				AML	AML	05 27 41.6	
	comp=N,4µm,0.5s						
CUSS	**Cusmapa**	**1.93**	**102**	*e*P	P	05 27 23.6	-0.5
CUSS				*e*S	S	05 27 46.9	-0.2
RBDL	**Robledal**	**2.14**	**96**	⇑*e*P	P	05 27 27.9	+0.7
RBDL				*e*S	S	05 27 52.8	+0.2
RTR	**El Retiro**	**2.21**	**101**	⇑*e*P	P	05 27 28.7	+0.5
MRL	**Marmol**	**2.24**	**71**	⇑*e*P	P	05 27 28.7	+0.1
MRL				*e*S	S	05 27 56.7	+1.6
SBLS	**San Blas**	**2.25**	**102**	*e*P	P	05 27 28.5	-0.2
SBLS				*e*S	S	05 27 54.9	-0.3
SNJE	**San Jose**	**2.26**	**102**	*e*P	P	05 27 29.1	+0.3

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*IDC **22** 06:42:58.3±0.7, 2.03N×97.16E, mb4.0/12, mb1 4.1/13, mb1mx4.0/18, ML4.0/1, MS3.5/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=38.9km s-min=14.7km az=58.0*

*NEIC **22** 06:43:08.4±3.3, 2.16N×97.44E, h78^{km}±28^{km}, mb4.6/5, Error ellipse: s-maj=32.9km s-min=7.8km az=57.0*

ISC 22 06:43:08.4±5.1**, 2.2N**±0.2×**97.5E**±0.3**, h91**^{km}±42^{km}**, n24, σ0^{s}81**/22**, mb4.0**/15**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.20**	**56**	⇓*e*P	**P**	**06 44 11.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.18**	**5**	Pn	**P**	**06 46 52.2**	**+0.5**
	0.2nm,0.3s,baz=203,slow=12,SNR=3.9						
CMAR				LR	LR	06 53 47.0	
	comp=Z,160nm,18.7s,baz=185,slow=40						
KAKA	**Kakadu**	**37.67**	**114**	*e*P	**P**	**06 50 14.7**	**-2.0**
	4.8nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**42.31**	**123**	P	**P**	**06 50 54.9**	**-0.2**
	3.9nm,0.7s,mb4.3,baz=301,slow=9.2,SNR=35						
WRAB	**Tennant Creek**	**42.32**	**123**	*e*P	**P**	**06 50 55.2**	**+0.1**
	5.7nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.33**	**123**	*e*P	**P**	**06 50 55.3**	**+0.1**
ASAR	**Alice Springs**	**43.77**	**128**	P	**P**	**06 51 06.8**	**-0.1**
	0.7nm,0.5s,mb3.6,baz=298,slow=7.4,SNR=9.2						
FORT	**Forrest**	**43.86**	**141**	*e*P	**P**	**06 51 08.8**	**+1.2**
	44nm,0.6s						
SONM	**Songino Array**	**46.07**	**8**	P	**P**	**06 51 25.6**	**+0.7**
	0.4nm,0.4s,mb3.5,baz=192,slow=6.3,SNR=3.8						
SONM				PcP	PcP	06 53 01.4	+1.1
	0.8nm,0.5s,baz=181,slow=2.4,SNR=4.5						
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**06 51 27.4**	**+0.5**
	1.5nm,0.6s,mb3.9,baz=159,slow=8.8,SNR=24						
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**06 51 27.4**	**+0.5**
KURK	**Kurchatov**	**50.89**	**345**	*e*P	**P**	**06 52 02.0**	**-0.1**
	2.1nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**52.59**	**351**	P	**P**	**06 52 14.6**	**-0.3**
	1.4nm,0.6s,mb4.2,baz=201,slow=6.5,SNR=7.4						
STKA	**Stephens Creek**	**53.81**	**133**	*e*P	**P**	**06 52 24.3**	**+0.1**
	4.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**53.81**	**133**	P	**P**	**06 52 24.7**	**+0.5**
	5.2nm,0.7s,mb4.7,baz=308,slow=8.8,SNR=17						
BVAR	**Borovoye Array**	**55.39**	**340**	P	**P**	**06 52 34.3**	**-1.1**
	2.3nm,0.6s,mb4.4,baz=143,slow=7.4,SNR=16						
BRTR	**Keskin Array B**	**68.66**	**312**	P	**P**	**06 54 02.3**	**-1.9**
	0.4nm,0.4s,mb3.6,baz=146,slow=5.2,SNR=2.5						
FINES	**FINESS Array B**	**79.24**	**332**	P	**P**	**06 55 05.0**	**0.0**
	1.7nm,1.1s,mb3.8,baz=157,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**81.68**	**340**	P	**P**	**06 55 18.4**	**+0.6**
	0.9nm,0.7s,mb3.7,baz=27,slow=2.7,SNR=3.7						
ARCES	**ARCESS Array B**	**81.68**	**340**	P	**P**	**06 55 18.4**	**+0.6**
GERES	**GERESS Array B**	**84.25**	**319**	P	**P**	**06 55 32.3**	**+1.1**
	0.7nm,0.9s,mb3.5,baz=90,slow=4.0,SNR=5.5						
VNDA	**Vanda**	**86.77**	**169**	P	**P**	**06 55 43.4**	**+0.3**
	0.6nm,1.1s,mb3.5,baz=315,slow=3.8,SNR=2.3						
TXAR	**Lajitas Array**	**142.63**	**31**	PKP	PKPdf	07 02 33.4	+1.8
	0.2nm,0.5s,baz=211,slow=1.7,SNR=3.7						
CPUP	**Villa Florida**	**145.98**	**223**	PKPbc	PKPbc	07 02 39.3	+0.8
	2.8nm,0.8s,baz=114,slow=6.0,SNR=5.8						

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*IDC **22** 07:01:43.6±0.9, 3.32S×134.40E, mb4.0/7, mb1 4.2/9, mb1mx4.1/15, ML3.9/2, Error ellipse: s-maj=51.9km s-min=19.9km az=66.0*

*NEIC **22** 07:01:46.8±0.6, 3.47S×134.14E, h20^{km}, mb4.0/6, Error ellipse: s-maj=21.5km s-min=10.6km az=76.0*

ISC 22 07:01:49.2±2.4**, 3.78S**±0.08×**133.9E**±0.1**, h50**^{km}±23^{km}**, n20, σ1^{s}37**/27**, mb3.9**/6**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.98**	**189**	*e*P	**P**	**07 04 00.2**	**+1.2**
	14nm,0.5s						
KAKA				*e*S	**S**	**07 05 38.0**	**-1.8**
WRAB	**Tennant Creek**	**16.06**	**178**	*e*P	**P**	**07 05 32.8**	**-0.5**
	11nm,0.8s						
WRAB				*e*S	**S**	**07 08 22.2**	**-7.3**
WB2	**Warramunga Arr**	**16.07**	**178**	*e*P	**P**	**07 05 32.1**	**-1.4**
WB2				*e*S	**S**	**07 08 22.5**	**-7.3**
WRA	**Warramunga Arr**	**16.07**	**178**	Pn	**P**	**07 05 33.2**	**-0.3**
	0.4nm,0.3s,baz=352,slow=14,SNR=7.4						
WRA				Sn	**S**	**07 08 23.8**	**-5.9**
	0.3nm,0.3s,baz=358,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**16.07**	**178**	Pn	**P**	**07 05 33.2**	**-0.3**
WRA				Sn	**S**	**07 08 23.8**	**-5.9**
FITZ	**Fitzroy Crossi**	**16.35**	**209**	*e*P	**P**	**07 05 38.5**	**+1.5**
	2.3nm,0.3s						
FITZ				*e*S	**S**	**07 08 33.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**16.35**	**209**	P	**P**	**07 05 38.9**	**+1.9**
	0.5nm,0.3s,baz=9.9,slow=3.3,SNR=22						
FITZ				S	**S**	**07 08 36.5**	**+0.3**
	0.8nm,0.3s,baz=178,slow=8.7,SNR=9.5						
ASAR	**Alice Springs**	**19.77**	**180**	P	**P**	**07 06 20.3**	**+2.3**
	7.7nm,0.5s,baz=6.5,slow=12,SNR=73						
ASAR				S	**S**	**07 09 54.5**	**+1.6**
	0.8nm,0.6s,baz=0.6,slow=27,SNR=3.3						
ASPA	**Alice Springs**	**19.77**	**180**	*e*P	**P**	**07 06 20.2**	**+2.1**
CTA	**Charters Tower**	**20.21**	**144**	*e*P	**P**	**07 06 22.0**	**-0.8**
	3.3nm,0.6s						
CTA	**Charters Tower**	**20.21**	**144**	P	**P**	**07 06 22.8**	**0.0**
	4.8nm,0.8s,baz=333,slow=11,SNR=4.5						
CTAO	**Charters Tower**	**20.21**	**144**	P	**P**	**07 06 21.5**	**-1.3**
	5.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.88**	**304**	P	**P**	**07 09 28.8**	**+0.4**
	0.5nm,0.4s,mb3.5,baz=131,slow=6.7,SNR=4.2						
MKAR	**Makanchi Array**	**67.76**	**324**	P	**P**	**07 12 43.7**	**-0.2**
	1.8nm,0.5s,mb4.4,baz=111,slow=8.4,SNR=16						
VNDA	**Vanda**	**75.19**	**174**	P	**P**	**07 13 28.8**	**+1.0**
	0.4nm,0.8s,mb3.4,baz=347,slow=8.8,SNR=3.8						
VNDA	**Vanda**	**75.19**	**174**	*e*P	**P**	**07 13 28.7**	**+0.9**
	2.5nm,1.3s,mb4.0						
BVAR	**Borovoye Array**	**77.47**	**326**	P	**P**	**07 13 40.6**	**-0.5**
	1.9nm,1.0s,mb4.0,baz=121,slow=8.6,SNR=5.9						
BRVK	**Borovoye**	**77.54**	**326**	*e*P	**P**	**07 13 40.7**	**-0.8**
	2.2nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**88.82**	**25**	P	**P**	**07 14 35.0**	**-3.8**
	0.5nm,0.7s,mb4.0,baz=250,slow=5.6,SNR=6.6						
CPUP	**Villa Florida**	**148.17**	**161**	PKPbc	PKPdf	07 21 33.1	+6.0
	1.7nm,0.8s,baz=252,slow=13,SNR=3.7						

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*IDC **22** 07:41:51.1±2.0, 4.03S×140.75E, mb3.7/4, mb1 3.9/5, mb1mx3.7/12, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/21, Error ellipse: s-maj=60.3km s-min=23.2km az=92.0*

*NEIC **22** 07:41:53.8±1.8, 4.12S×140.36E, h10^{km}, mb3.8/1, Error ellipse: s-maj=45.1km s-min=20.8km az=94.0*

ISC 22 07:41:49.4±1.9**, 4.1S**±0.1×**141.1E**±0.3**, h10**^{km}**, n10, σ0^{s}78**/10**, mb3.7**/2**, MS3.8**/1**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.12**	**224**	*e*P	**P**	**07 44 38.2**	**-7.1**
	10nm,0.4s						
WRAB	**Tennant Creek**	**17.07**	**202**	*e*P	**P**	**07 45 48.7**	**-1.3**
	3.2nm,0.4s						
WB2	**Warramunga Arr**	**17.08**	**202**	*e*P	**P**	**07 45 50.4**	**+0.3**
WRA	**Warramunga Arr**	**17.08**	**202**	P	**P**	**07 45 50.5**	**+0.4**
	0.6nm,0.3s,baz=18,slow=13,SNR=20						
WRA				S	**S**	**07 49 02.3**	**+3.3**
	0.1nm,0.3s,baz=12,slow=24,SNR=2.9						
FITZ	**Fitzroy Crossi**	**20.55**	**226**	P	**P**	**07 46 31.0**	**0.0**
	2.5nm,0.9s,baz=32,slow=9.5,SNR=3.1						
ASAR	**Alice Springs**	**20.67**	**199**	P	**P**	**07 46 31.6**	**-0.6**
	0.9nm,0.5s,baz=30,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**27.66**	**179**	P	**P**	**07 47 40.1**	**+0.5**
	2.3nm,1.1s,mb3.7,baz=354,slow=18,SNR=2.3						
JOW	**Kunigami**	**33.12**	**339**	LR	LR	07 58 50.4	
	comp=Z,174nm,20.1s,MS3.8,baz=154,slow=31						
MKAR	**Makanchi Array**	**72.30**	**322**	P	**P**	**07 53 17.5**	**+0.3**
	0.7nm,0.7s,mb3.7,baz=136,slow=7.4,SNR=6.4						
MKAR	**Makanchi Array**	**72.30**	**322**	P	**P**	**07 53 17.5**	**+0.3**

IDC 22 07:43:04.3±5.7**, 7.93S**×**120.00E, h200**^{km}±59^{km}**, mb3.3**/2**, mb1 3.3**/4**, mb1mx3.1**/16**, Error ellipse: s-maj=155.0km s-min=44.5km az=41.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.51**	**152**	P	P	07 45 44.0	+0.1
	0.1nm,0.3s,baz=173,slow=13,SNR=3.3						
FITZ				S	S	07 47 42.0	-7.2
	0.6nm,0.3s,baz=177,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**18.32**	**132**	P	P	07 47 03.7	-2.3
	0.4nm,0.3s,baz=304,slow=12,SNR=6.2						
WRA				S	S	07 50 23.6	+3.4
	0.1nm,0.3s,baz=36,slow=29,SNR=3.2						
ASAR	**Alice Springs**	**20.56**	**141**	P	P	07 47 27.1	-1.7
	0.9nm,0.5s,baz=314,slow=9.3,SNR=7.8						
STKA	**Stephens Creek**	**31.18**	**143**	P	P	07 49 05.1	-1.7
	1.5nm,0.5s,baz=305,slow=8.8,SNR=7.1						

IDC 22 07:44:11.8±11.0**, 21.40S**×**178.52W, h464**^{km}±107^{km}**, mb3.3**/5**, mb1 3.4**/6**, mb1mx3.2**/17**, Error ellipse: s-maj=108.0km s-min=35.9km az=26.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.22**	**192**	P	P	07 47 45.9	0.0
	0.5nm,0.3s,baz=137,slow=11,SNR=4.7						
CTA	**Charters Tower**	**32.92**	**266**	P	P	07 50 07.3	-0.6
	1.6nm,0.4s,baz=82,slow=10.0,SNR=5.6						
STKA	**Stephens Creek**	**36.96**	**245**	P	P	07 50 40.5	-1.0
	2.1nm,0.6s,baz=58,slow=9.7,SNR=6.8						
ASAR	**Alice Springs**	**43.84**	**258**	P	P	07 51 35.5	-1.8
	3.4nm,0.7s,baz=92,slow=8.2,SNR=27						
ASAR				PcP	PcP	07 53 12.2	-2.0
	0.4nm,0.6s,baz=100,slow=4.3,SNR=4.7						
WRA	**Warramunga Arr**	**44.00**	**263**	P	P	07 51 36.6	-1.8
	3.1nm,0.9s,baz=96,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	P	07 52 40.8	-1.4
	0.8nm,0.4s,baz=163,slow=11,SNR=6.1						
NOA	**NORSAR Array B**	**139.81**	**353**	PKhKP		08 02 38.9	
	0.6nm,0.8s,baz=43,slow=5.5,SNR=3.3						
AKASG	**Malin Array Be**	**143.55**	**330**	PKP	PKPdf	08 02 52.2	-0.1
	0.5nm,0.5s,baz=44,slow=5.3,SNR=4.6						

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*IDC **22** 07:44:36.9±11.0, 10.13N×126.01E, h70^{km}±104^{km}, mb3.6/10, mb1 3.8/10, mb1mx3.6/19, MS3.0/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=61.0km s-min=18.9km az=69.0*

*NEIC **22** 07:44:37.9±0.5, 10.12N×125.99E, h80^{km}, Error ellipse: s-maj=40.5km s-min=10.0km az=74.0*

ISC 22 07:44:35.6±0.9**, 10.12N**±0.05×**126.07E**±0.08**, h75**^{km}±9^{km}**, n27, σ0^{s}76**/30**, mb3.8**/10**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.19**	**271**	*e*P	**P**	**07 44 56.3**	**-0.8**
MSLP				*e*S	**S**	**07 45 12.2**	**-0.8**
BUTP	**Butuan**	**1.22**	**201**	*e*P	**P**	**07 44 57.1**	**-0.3**
PLP	**Palo**	**1.50**	**314**	*e*P	**P**	**07 45 00.8**	**-0.3**
PLP				*e*S	**S**	**07 45 18.6**	**-1.5**
BESP	**Borongan**	**1.60**	**337**	*e*P	**P**	**07 45 01.9**	**-0.6**
BESP				*e*S	**S**	**07 45 24.4**	**+2.0**
OCLP	**Ormoc**	**1.71**	**303**	*e*P	**P**	**07 45 05.2**	**+1.1**
LLP	**Lapu-Lapu**	**2.08**	**276**	*e*P	**P**	**07 45 09.0**	**-0.1**
LLP				*e*S	**S**	**07 45 35.0**	**+1.2**
TBP	**Tagbilaran**	**2.21**	**259**	*e*P	**P**	**07 45 11.1**	**+0.1**
TBP				*e*S	**S**	**07 45 37.1**	**-0.1**
BUKP	**Musuan**	**2.44**	**204**	*e*P	**P**	**07 45 15.0**	**+0.9**
CNP	**Catarman**	**2.75**	**330**	*e*P	**P**	**07 45 18.0**	**-0.5**
GUIM	**Jordan**	**3.46**	**279**	*e*P	**P**	**07 45 28.3**	**-0.1**
PAGZ	**Pagadian**	**3.48**	**230**	*e*P	**P**	**07 45 29.1**	**+0.4**
RCP	**Roxas**	**3.57**	**294**	⇓*e*P	**P**	**07 45 30.7**	**+0.8**
TGY	**Tagaytay City**	**6.39**	**309**	LR	LR	07 49 12.7	
	comp=Z,98nm,19.4s,baz=196,slow=44						
CMAR	**Chiang Mai Arr**	**27.53**	**291**	LR	LR	08 00 24.9	
	comp=Z,43nm,19.9s,baz=190,slow=34						
FITZ	**Fitzroy Crossi**	**28.04**	**181**	P	**P**	**07 50 22.0**	**-0.2**
	0.7nm,0.4s,mb3.5,baz=200,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**30.96**	**165**	P	**P**	**07 50 47.5**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=344,slow=9.4,SNR=3.5						
WRA	**Warramunga Arr**	**30.96**	**165**	P	**P**	**07 50 47.5**	**-0.6**

ASAR	**Alice Springs**	**34.44**	**167**	P	**P**	**07 51 17.8**	**-0.4**
	0.7nm,0.4s,mb3.8,baz=349,slow=6.9,SNR=16						
STKA	**Stephens Creek**	**44.32**	**161**	P	**P**	**07 52 40.3**	**+0.2**
	0.7nm,0.5s,mb3.7,baz=357,slow=9.6,SNR=5.0						
MKAR	**Makanchi Array**	**52.03**	**323**	P	**P**	**07 53 38.8**	**-1.0**
	0.6nm,0.6s,mb3.8,baz=120,slow=9.8,SNR=4.7						
MKAR				PcP	PcP	07 54 50.6	-0.5
	0.3nm,0.5s,baz=107,slow=4.8,SNR=4.6						
ZAL	**Zalesovo**	**54.67**	**331**	P	**P**	**07 53 58.9**	**-0.2**
	1.1nm,0.3s,mb4.4,baz=66,slow=9.9,SNR=2.8						
ILAR	**Eielson Array**	**79.66**	**26**	P	**P**	**07 56 36.9**	**+0.5**
	0.3nm,0.7s,mb3.2,baz=239,slow=4.9,SNR=5.5						
ARCES	**ARCESS Array B**	**84.27**	**340**	P	**P**	**07 57 00.3**	**+0.4**
	3.5nm,1.1s,mb4.1,baz=80,slow=5.5,SNR=3.5						
ARCES	**ARCESS Array B**	**84.27**	**340**	P	**P**	**07 57 00.3**	**+0.4**
FINES	**FINESS Array B**	**85.93**	**332**	P	**P**	**07 57 07.7**	**-0.6**
	2.0nm,1.0s,mb4.0,baz=100,slow=8.5,SNR=6.7						
VNDA	**Vanda**	**89.80**	**173**	P	**P**	**07 57 27.8**	**+1.2**
	0.3nm,0.7s,mb3.5,baz=279,slow=5.4,SNR=3.1						
VNDA	**Vanda**	**89.80**	**173**	P	**P**	**07 57 27.8**	**+1.2**

GUC 22 07:52:33.9±0.8**,32.91S×67.19W,h150^{km},ML3.5, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**2.63**	**260**	*e*P	P	07 53 14.3	-3.0
FCH				*i* S	S	07 53 48.0	-2.4
FCH				AMP		07 53 50.2	
	comp=N,123nm,0.2s						
CLCH	**Cerro Calan**	**2.85**	**259**	*i* P	P	07 53 20.3	+0.3
CLCH				*i* S	S	07 53 54.8	-0.4
CLCH				AMP		07 53 58.2	
	comp=E,105nm,0.6s						
PEL	**Peldehue**	**2.94**	**265**	*i* P	P	07 53 21.5	+0.3
PEL				*i* S	S	07 53 57.0	-0.4
PEL				AMP		07 53 59.2	
	comp=N,86nm,0.5s						
CMCH	**Combarbala**	**3.67**	**297**	*e*P	P	07 53 30.4	-0.3
CMCH				*i* S	S	07 54 14.1	-0.2

*DJA **22** 08:03:50.4±0.9,8.10S×118.52E,h150^{km}±23^{km},MD4.7/4, ML4.9/4,Error ellipse: s-maj=73.7km s-min=27.3km az=1.0*

ISC 22 08:03:51.6±1.6**,8.5S**±0.4×**118.4E**±0.1**,h160**^{km}±29^{km}**,n6,** σ**0**^{s}**78**/11**,3C-5D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.27**	**269**	⇓*e*Pn	**P**	**08 04 31.0**	**+0.1**
	292nm,0.2s						
KEDI				⇑*i*Sn	**S**	**08 05 01.1**	**0.0**
RATI	**Rata**	**2.86**	**264**	⇓*e*Pn	**P**	**08 04 38.7**	**+0.5**
	745nm,0.2s						
RATI				⇑*e*Sn	**S**	**08 05 14.4**	**+0.5**
INGI	**Ingas**	**3.25**	**263**	⇓*e*Pn	**P**	**08 04 43.6**	**+0.5**
	867nm,0.2s						
INGI				⇓*i*Sn	**S**	**08 05 22.3**	**-0.4**
KELI	**Kelakatan**	**3.88**	**273**	⇑*e*Pn	**P**	**08 04 51.6**	**+0.3**
	76nm,0.2s						
KELI				⇓*i*Sn	**S**	**08 05 35.8**	**-1.6**
KAKA	**Kakadu**	**14.39**	**108**	*e*P	**P**	**08 07 09.9**	**+0.9**
	6.1nm,0.6s						
KAKA				*e*S	**S**	**08 09 43.1**	**-1.5**
WB2	**Warramunga Arr**	**19.20**	**128**	*e*P	**P**	**08 08 06.0**	**+0.6**

*IDC **22** 08:16:34.5±9.0,24.31S×179.87W,h486^{km}±90^{km},mb3.3/6, mb1 3.5/7,mb1mx3.3/16,Error ellipse: s-maj=66.6km s-min=22.7km az=40.0*

*NEIC **22** 08:16:35.5±4.5,24.33S×179.91W,h498^{km}±43^{km},mb4.4/5, Error ellipse: s-maj=46.5km s-min=15.6km az=220.0*

ISC 22 08:16:32.3±4.3**,24.1S**±0.2×**179.8W**±0.4**,h488**^{km}±52^{km}**, n22,**σ**0**^{s}**48**/17**,mb3.8**/7**,1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.32**	**190**	P	**P**	**08 19 36.7**	**+0.5**
	2.6nm,0.3s,baz=347,slow=1.7,SNR=16						
URZ				S	**S**	**08 22 04.8**	**+0.2**
	0.4nm,0.3s,baz=76,slow=17,SNR=5.5						
SNZO	**South Karori**	**17.73**	**194**	P	**P**	**08 20 10.2**	**-0.2**
	6.0nm,0.5s						
RPZ	**Rata Peaks**	**20.93**	**199**	P	**P**	**08 20 39.8**	**-1.0**
	8.8nm,0.9s,baz=23,slow=7.7,SNR=6.7						
CTA	**Charters Tower**	**31.71**	**271**	*e*P	**P**	**08 22 17.7**	**+1.3**
	6.5nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**31.71**	**271**	*e*P	**P**	**08 22 16.2**	**-0.2**
	7.8nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**08 22 42.4**	**-0.3**
	1.2nm,0.3s,mb3.8,baz=84,slow=9.8,SNR=3.9						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**08 22 42.9**	**+0.2**
ASAR	**Alice Springs**	**42.22**	**261**	P	**P**	**08 23 43.3**	**+0.3**
	1.2nm,0.5s,mb3.6,baz=96,slow=7.0,SNR=18						
WB2	**Warramunga Arr**	**42.61**	**266**	⇓*i*P	**P**	**08 23 45.8**	**-0.3**
WRAB	**Tennant Creek**	**42.61**	**266**	*e*P	**P**	**08 23 45.8**	**-0.3**
	4.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**08 23 46.1**	**-0.1**
	3.0nm,0.4s,mb4.1,baz=98,slow=8.2,SNR=58						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**08 23 46.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.04**	**266**	*e*P	**P**	**08 24 50.7**	**+0.2**
	2.5nm,0.6s,mb3.7						
FITZ	**Fitzroy Crossi**	**51.04**	**266**	P	**P**	**08 24 50.7**	**+0.2**
	4.3nm,0.8s,mb3.9,baz=112,slow=4.7,SNR=11						
VNDA	**Vanda**	**54.16**	**185**	P	**P**	**08 25 12.1**	**-0.2**
	0.6nm,0.9s,mb2.9,baz=11,slow=8.0,SNR=3.9						
VNDA	**Vanda**	**54.16**	**185**	P	**P**	**08 25 13.0**	**+0.8**
ARCES	**ARCESS Array B**	**132.17**	**348**	PKP	PKPdf	08 34 51.5	+2.3
	2.0nm,1.0s,baz=22,slow=1.3,SNR=6.3						
FINES	**FINESS Array B**	**138.75**	**341**	PKhKP		08 34 56.0	
	5.7nm,1.1s,slow=1.9,SNR=3.4						
FINES				PKP	PKPdf	08 35 05.1	+3.6
	1.4nm,0.9s,baz=189,slow=25,SNR=5.9						
FINES	**FINESS Array B**	**138.75**	**341**	PKP	PKPdf	08 34 56.0	-5.5
FINES				PKP	PKPdf	08 35 05.1	+3.6
AKASG	**Malin Array Be**	**145.30**	**327**	PKPbc	PKPbc	08 35 16.1	+1.9
	0.7nm,0.4s,baz=44,slow=4.0,SNR=6.3						
BRTR	**Keskin Array B**	**147.91**	**307**	PKPbc	PKPdf	08 35 24.3	+6.5
	1.1nm,0.6s,baz=146,slow=4.5,SNR=3.2						
CLL	**Collm**	**151.15**	**343**	*e*PKP1	PKPdf	08 35 32.0	+9.5

*IDC **22** 08:22:52.1±11.0,6.05N×127.31E,h116^{km}±103^{km}, mb3.8/9,mb1 3.9/9,mb1mx3.8/19,Error ellipse: s-maj=102.0km s-min=19.2km az=71.0*

*NEIC **22** 08:22:55.7±4.9,5.98N×127.18E,h148^{km}±47^{km},mb4.4/4, Error ellipse: s-maj=64.8km s-min=11.8km az=71.0*

*MAN **22** 08:22:56.9,6.23N×127.02E,h133^{km},mb4.6,ML3.4, MS3.4*

ISC 22 08:22:52.8±1.2**,5.98N**±0.09×**127.1E**±0.2**,h136**^{km}±10^{km}**, n23,**σ**0**^{s}**70**/25**,mb3.9**/10**,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.29**	**318**	*e*P	**P**	**08 23 20.4**	**+1.0**
MATI				*e*S	**S**	**08 23 38.7**	**-1.1**
GSPH	**General Santos**	**2.17**	**273**	*e*P	**P**	**08 23 30.0**	**+0.4**
KCP	**Kidapawan**	**2.27**	**297**	⇓*e*P	**P**	**08 23 31.5**	**+0.6**
KCP				*i* S	**S**	**08 23 59.1**	**-0.7**
BUKP	**Musuan**	**2.79**	**313**	*e*P	**P**	**08 23 39.0**	**+1.4**
BUKP				*e*S	**S**	**08 24 10.9**	**-0.8**
BUTP	**Butuan**	**3.32**	**333**	*e*P	Px	08 24 00.6	
PAGZ	**Pagadian**	**4.15**	**297**	*e*P	**P**	**08 23 56.1**	**+0.4**
KAKA	**Kakadu**	**19.28**	**164**	*e*P	**P**	**08 27 09.6**	**+0.1**
	14nm,0.6s						
KAKA				*e*		08 27 13.9	
FITZ	**Fitzroy Crossi**	**23.97**	**183**	*e*P	**P**	**08 27 56.3**	**+0.4**
	2.8nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.97**	**183**	P	**P**	**08 27 56.4**	**+0.4**
	3.8nm,0.9s,mb3.9,baz=5.1,slow=9.6,SNR=9.1						
WRAB	**Tennant Creek**	**26.71**	**165**	*e*P	**P**	**08 28 21.0**	**-0.5**
WRA	**Warramunga Arr**	**26.72**	**165**	P	**P**	**08 28 20.9**	**-0.7**
	1.1nm,0.3s,mb3.9,baz=344,slow=11,SNR=13						
WB2	**Warramunga Arr**	**26.72**	**165**	*e*P	**P**	**08 28 21.0**	**-0.6**
ASAR	**Alice Springs**	**30.20**	**168**	P	**P**	**08 28 52.0**	**-0.8**
	0.6nm,0.3s,mb3.8,baz=342,slow=7.2,SNR=17						
STKA	**Stephens Creek**	**40.09**	**161**	*e*P	**P**	**08 30 17.6**	**+1.0**
	3.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**40.09**	**161**	P	**P**	**08 30 17.1**	**+0.4**
	5.4nm,0.7s,mb4.3,baz=332,slow=10,SNR=9.0						
SONM	**Songino Array**	**45.31**	**340**	P	**P**	**08 30 57.7**	**-1.1**
	1.1nm,0.5s,mb3.8,baz=157,slow=9.4,SNR=4.6						
BVAR	**Borovoye Array**	**65.67**	**326**	P	**P**	**08 33 25.1**	**+0.3**
	2.4nm,0.6s,mb4.2,baz=127,slow=7.4,SNR=10						
BRVK	**Borovoye**	**65.74**	**326**	*e*P	**P**	**08 33 25.0**	**-0.2**
	3.3nm,0.6s,mb4.3						
VNDA	**Vanda**	**85.59**	**173**	P	**P**	**08 35 16.7**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=336,slow=5.1,SNR=3.8						
VNDA	**Vanda**	**85.59**	**173**	P	**P**	**08 35 16.7**	**+0.2**
ARCES	**ARCESS Array B**	**88.49**	**340**	P	**P**	**08 35 30.9**	**+0.4**
	2.4nm,0.8s,mb4.1,baz=76,slow=5.0,SNR=5.0						
ARCES	**ARCESS Array B**	**88.49**	**340**	P	**P**	**08 35 30.9**	**+0.4**
FINES	**FINESS Array B**	**90.05**	**332**	P	**P**	**08 35 38.5**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=124,slow=5.0,SNR=3.8						

CASC 22 08:26:32.7±4.8**,13.35N×90.22W,h26**^{km}±11^{km}**,MD3.7, ML3.9,4C-14D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**0.62**	**26**	⇓*i*P	Pb	08 26 45.6	+0.8
CUSS				*e*S	Sb	08 26 54.5	+1.4
SBLS	**San Blas**	**0.76**	**50**	⇓*i*P	Pb	08 26 48.1	+0.9
SBLS				*e*S	Sb	08 26 58.8	+1.7
RTR	**El Retiro**	**0.78**	**46**	⇓*i*P	Pb	08 26 48.4	+0.8
SNJE	**San Jose**	**0.79**	**49**	⇓*i*P	Pb	08 26 48.5	+0.8
SNJE				*e*S	Sb	08 26 59.4	+1.4
IXG	**Ixpaco**	**0.85**	**345**	⇓*e*P	Pb	08 26 48.5	-0.3
IXG				*e*S	Sb	08 26 60.0	+0.2
IXG				AML	AML	08 27 01.6	
	comp=E,20µm,0.2s						
RBDL	**Robledal**	**0.92**	**34**	⇓*i*P	Pb	08 26 50.4	+0.5
RBDL				*e*S	Sb	08 27 02.5	+0.8
BOQS	**Boqueron**	**0.99**	**67**	⇓*e*P	Pn	08 26 51.4	+0.4
BOQS				*e*S	Sb	08 27 04.9	+1.0
SNET	**Serv Nac Est T**	**1.02**	**71**	⇓*e*P	Pn	08 26 51.6	+0.2
SNET				*e*S	Sb	08 27 04.4	-0.2
SNET				*i*		08 27 07.0	
	comp=Z,2µm,0.2s						
LFRS	**El Faro**	**1.16**	**76**	⇓*e*P	Pn	08 26 53.4	-0.1
LFRS				*e*S	Sn	08 27 08.7	+0.2
LBRS	**Las Brisas**	**1.21**	**71**	⇓*e*P	Pn	08 26 54.7	+0.5
LBRS				*e*S	Sn	08 27 09.8	0.0
NBG	**Las Nubes**	**1.24**	**354**	⇓*e*P	Pn	08 26 55.1	+0.5
NBG				*e*S	Sn	08 27 11.6	+1.1
NBG				AML	AML	08 27 13.5	
	comp=E,9µm,0.5s						
LCBS	**La Ceiba**	**1.25**	**76**	⇑*e*P	Pn	08 26 55.0	+0.3
LCBS				*e*S	Sn	08 27 10.4	-0.4
GCG	**Guatemala City**	**1.27**	**346**	*e*P	Pn	08 26 46.7	-8.2
GCG				*e*S	Sn	08 27 13.0	+1.8
MTO2	**Montecristo 2**	**1.34**	**39**	⇑*e*P	Pn	08 26 55.7	-0.3
MTO2				*e*S	Sn	08 27 12.9	-0.2
SNVI	**San Vicente**	**1.37**	**79**	⇓*e*P	Pn	08 26 57.0	+0.6
SNVI				*e*S	Sn	08 27 14.4	+0.6
TP2	**Tecpan 2**	**1.62**	**332**	⇓*e*P	Pn	08 27 00.3	+0.2
TP2				*e*S	Sn	08 27 21.1	+0.8
TP2				AML	AML	08 27 23.1	
	comp=E,925nm,0.3s						
JAT	**Jato**	**1.68**	**305**	⇑*e*P	Pn	08 27 00.2	-0.6
JAT				*e*S	Sn	08 27 20.7	-0.9
JAT				AML	AML	08 27 23.5	
	comp=E,2µm,0.4s						
MRL	**Marmol**	**1.78**	**17**	⇑*e*P	Pn	08 27 02.1	-0.3
MRL				*e*S	Sn	08 27 23.9	-0.4
MRL				AML	AML	08 27 33.7	
	comp=E,121nm,0.4s						
VSM	**San Miguel**	**1.90**	**87**	⇓*e*P	Pn	08 27 05.2	+1.2
VSM				*e*S	Sn	08 27 28.4	+1.2
BLLM	**Bellamira**	**1.93**	**87**	*e*P	Pn	08 27 05.3	+0.8
CNCH	**Conchagua**	**2.33**	**92**	*e*P	Pn	08 27 10.5	+0.3
CNCH				*e*S	Sn	08 27 38.4	+0.2

*NIED **22** 08:28:00,43.40N×145.10E,h92^{km},Mw4.1 Best double couple: M$_0$1.34×10^{15} NP1:φ$_s$189°,δ78°,λ91°. NP2:φ$_s$3°, δ12°,λ85°.*

*NEIC **22** 08:28:18.5±1.8,43.47N×144.98E,h79^{km}±17^{km},mb3.9/3, Error ellipse: s-maj=12.1km s-min=10.8km az=127.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

*MOS **22** 08:28:19.3±0.8,43.49N×145.00E,h107^{km},mb3.9/6,Error ellipse: s-maj=24.0km s-min=15.4km az=93.4*

*JMA **22** 08:28:20.1±0.1,43.39N×145.07E,h91^{km}±1^{km},M4.0 Broadband fault plane solution: P waves. NP1:φ$_s$347°,δ6°, λ42°. NP2:φ$_s$215°,δ86°,λ94°. Principal axes: T Plg49°, Azm130°; N Plg4°, Azm35°; P Plg41°, Azm301°;*

JMA Felt II J1.

*IDC **22** 08:28:22.5±1.5,43.51N×144.89E,h114^{km}±13^{km}, mb3.6/17,mb1 3.8/17,mb1mx3.7/24 Error ellipse: s-maj=17.2km s-min=14.0km az=143.0*

ISC 22 08:28:19.0±0.3**,43.39N**±0.04×**145.04E**±0.04**,h99**^{km}±2^{km}**, n45,**σ**0**^{s}**86**/58**,mb3.8**/19**,9C-1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.30**	**310**	⇑P	**P**	**08 28 33.5**	**-0.1**
JNK				*e*S	**S**	**08 28 43.6**	**-1.0**
JAK	**Akkeshi**	**0.47**	**212**	⇑P	**P**	**08 28 34.9**	**+0.2**
JAK				*e*S	**S**	**08 28 45.9**	**-0.4**
NEM2	**Nemuro 2**	**0.51**	**93**	⇓P	**P**	**08 28 34.9**	**-0.1**
NEM2				*e*S	**S**	**08 28 45.6**	**-1.3**
JRA	**Rausu**	**0.55**	**6**	⇑P	**P**	**08 28 35.4**	**+0.2**
JRA				*e*S	**S**	**08 28 46.9**	**-0.4**
YUK	**Yuzh-Kuril’sk**	**0.88**	**43**	⇑*i*PN	**P**	**08 28 38.0**	**-0.3**
YUK				*i* S	**S**	**08 28 52.0**	**-0.7**
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=N,600nm,0.2s						
YUK				pmax	pmax		
	comp=E,360nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3µm,0.2s						
YUK				pmax	pmax		
	comp=N,2µm,0.6s						
YUK				smax			
	comp=N,9µm,0.4s						
YUK				smax			
	comp=E,3µm,0.5s						
YUK				smax			
	comp=N,20µm,1.8s						
YUK				smax			
	comp=E,11µm,1.5s						
JAR	**Ashorobuto**	**0.93**	**264**	⇑P	**P**	**08 28 39.6**	**+0.7**
JAR				*e*S	**S**	**08 28 54.0**	**+0.2**
JTKR	**Abashiri--Toko**	**1.00**	**305**	⇑P	**P**	**08 28 40.2**	**+0.5**
JTKR				*e*S	**S**	**08 28 54.8**	**-0.4**
JOB	**Onbets**	**1.01**	**241**	⇑P	**P**	**08 28 40.5**	**+0.8**
JOB				*e*S	**S**	**08 28 55.3**	**0.0**
JMP	**Maruseppu**	**1.36**	**297**	⇑P	**P**	**08 28 44.6**	**+0.6**
JMP				*e*S	**S**	**08 29 02.6**	**0.0**
JCH	**Churui**	**1.46**	**238**	⇑P	**P**	**08 28 45.5**	**+0.4**
JCH				*e*S	**S**	**08 29 03.8**	**-0.7**
JKK2	**Kamakawa 2**	**1.73**	**287**	P	**P**	**08 28 49.6**	**+1.0**
JKK2				*e*S	**S**	**08 29 11.3**	**+0.9**
ASAJ	**Asahikawa**	**1.91**	**293**	P	**P**	**08 28 52.5**	**+1.6**
	comp=E,108nm,0.3s,baz=100,slow=11,SNR=835						
ASAJ				S	**S**	**08 29 16.0**	**+1.5**
	comp=E,37nm,0.3s,baz=324,slow=19,SNR=42						
ASAJ	**Asahikawa**	**1.91**	**293**	PN	**P**	**08 28 52.5**	**+1.6**
ASAJ				S	**S**	**08 29 16.0**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,109nm,0.3s						
ASAJ				smax			
	comp=N,37nm,0.3s						
KUR	**Kuril’sk**	**2.74**	**47**	*e*PN	**P**	**08 29 03.0**	**+0.8**
KUR				*e*S	**S**	**08 29 36.8**	**+2.3**
KUR				pmax	pmax		
	comp=N,90nm,0.6s						
KUR				pmax	pmax		
	comp=E,90nm,0.6s						
KUR				pmax	pmax		
	comp=Z,210nm,0.6s						
KUR				smax			
	comp=N,3µm,1.0s						
KUR				smax			
	comp=E,830nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.91**	**336**	PN	**P**	**08 29 16.7**	**-1.5**
YSS				*e*S	**S**	**08 30 01.7**	**-1.6**
YSS				smax			
	comp=E,90nm,1.1s						
MAJO	**Matsushiro**	**8.62**	**220**	P	**P**	**08 30 20.4**	**-2.2**
	comp=E,4.5nm,0.3s						
FX1	**Attu Island--F**	**20.91**	**53**	P	**P**	**08 32 56.0**	**+1.0**
	comp=E,22nm,0.7s,baz=253,slow=14,SNR=3.1						
SONM	**Songino Array**	**27.20**	**293**	P	**P**	**08 33 54.3**	**-0.7**
	comp=E,2.3nm,0.5s,mb4.0,baz=92,slow=8.6,SNR=8.9						
ILAR	**Eielson Array**	**42.68**	**36**	P	**P**	**08 36 06.7**	**-0.2**
	comp=E,1.0nm,0.6s,mb3.7,baz=268,slow=7.3,SNR=9.7						
ILAR	**Eielson Array**	**42.68**	**36**	P	**P**	**08 36 06.7**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.39**	**297**	P	**P**	**08 36 13.1**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.0,baz=80,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**43.39**	**297**	P	**P**	**08 36 13.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**47.48**	**30**	P	**P**	**08 36 45.0**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.6,baz=291,slow=3.0,SNR=8.8						
INK	**Inuvik**	**47.48**	**30**	P	**P**	**08 36 45.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**48.54**	**309**	P	**P**	**08 36 53.1**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=72,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**63.78**	**191**	P	**P**	**08 38 42.9**	**+0.1**
	comp=Z,0.2nm,0.6s,mb3.1,baz=12,slow=6.7,SNR=2.5						
FINES	**FINESS Array B**	**64.49**	**332**	P	**P**	**08 38 44.7**	**-2.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=53,slow=9.5,SNR=6.3						
FINES	**FINESS Array B**	**64.49**	**332**	P	**P**	**08 38 44.7**	**-2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.49**	**332**	P	**P**	**08 38 44.7**	**-2.0**
ASAR	**Alice Springs**	**67.51**	**191**	P	**P**	**08 39 07.0**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=16,slow=6.8,SNR=6.6						
BOZ	**Bozeman (W)**	**68.29**	**47**	*e*P	**P**	**08 39 11.3**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**08 39 17.0**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.7,baz=299,slow=5.1,SNR=9.2						
NOA	**NORSAR Array B**	**69.37**	**338**	P	**P**	**08 39 16.6**	**-0.8**
	comp=Z,2.1nm,0.9s,mb3.9,baz=34,slow=6.3,SNR=4.3						
NOA	**NORSAR Array B**	**69.37**	**338**	P	**P**	**08 39 16.6**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TPH	**Tonopah**	**69.94**	**56**	*e*P	**P**	**08 39 21.6**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.6						
AKASG	**Malin Array Be**	**70.95**	**323**	P	**P**	**08 39 25.6**	**-1.5**
	comp=Z,1.4nm,0.6s,mb4.0,baz=40,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**70.95**	**323**	P	**P**	**08 39 25.7**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BW06	**Boulder Array**	**71.30**	**49**	*e*P	**P**	**08 39 29.6**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**71.30**	**49**	P	**P**	**08 39 29.8**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.9,baz=272,slow=1.5,SNR=16						
ULM	**Lac du Bonnet**	**72.70**	**36**	P	**P**	**08 39 38.2**	**+0.8**
	comp=Z,2.0nm,0.8s,mb4.0,baz=1.3,slow=4.5,SNR=2.7						
STKA	**Stephens Creek**	**74.97**	**183**	P	**P**	**08 39 51.3**	**+0.4**
	comp=Z,1.8nm,0.9s,mb3.8,baz=333,slow=9.0,SNR=2.9						
GERES	**GERESS Array B**	**78.71**	**330**	P	**P**	**08 40 11.0**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.3,baz=34,slow=4.8,SNR=4.2						
TXAR	**Lajitas Array**	**84.12**	**55**	P	**P**	**08 40 39.8**	**-0.2**
	comp=Z,1.6nm,0.9s,mb3.8,baz=315,slow=5.3,SNR=4.9						
BDFB	**Brasilia**	**150.18**	**26**	PKPbc	PKPdf	08 47 59.0	+5.8
	comp=Z,1.9nm,1.0s,baz=149,slow=4.2,SNR=3.3						
BDFB	**Brasilia**	**150.18**	**26**	PKIKP	PKPdf	08 47 59.0	+5.8
BDFB				pmax	pmax		
	comp=Z,2.0nm,1.0s						

*NNC **22** 08:29:49.6±13.0,50.14N×91.25E,mpv3.9,Error ellipse: s-maj=166.5km s-min=147.5km az=64.0*

*IDC **22** 08:29:50.2±0.9,50.23N×91.26E,mb3.8/6,mb1 3.9/9, mb1mx3.7/23,ML3.1/3,Error ellipse: s-maj=16.7km s-min=13.3km az=23.0*

*MOS **22** 08:29:51.4±3.1,50.06N×91.10E,h15^{km},mb4.0/5,Error ellipse: s-maj=24.5km s-min=12.4km az=103.3*

*NEIC **22** 08:29:51.9±0.8,50.28N×91.18E,h10^{km},Error ellipse: s-maj=17.3km s-min=12.8km az=202.0*

ISC 22 08:29:50.4±1.4**,50.41N**±0.06×**90.89E**±0.08**,h1**^{km}±7^{km}**, n28,**σ**1**^{s}**08**/34**,mb3.7**/6**,3C-1D,Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	**Aktash**	**2.10**	**269**	*e*PN	**Pg**	**08 30 32.3**	**+0.1**
AKAR				*e*S	**Sg**	**08 31 04.4**	**+4.3**
CERR	**Cheremushki**	**2.47**	**7**	*i* PN	**Pg**	**08 30 39.0**	**-0.6**
CERR				*i* S	**Sg**	**08 31 12.5**	**0.0**
TASR	**Tashtagol**	**3.01**	**323**	*e*PN	**Pg**	**08 30 50.3**	**-0.1**
TASR				*e*S	**Sg**	**08 31 30.5**	**0.0**
UKR	**Ust’-Kan**	**3.92**	**280**	*e*PN	**Pg**	**08 31 07.0**	**-1.7**
UKR				*e*S	**Sg**	**08 32 01.5**	**+0.5**
SHRR	**Shira**	**4.12**	**354**	*e*PN	**Pn**	**08 30 56.8**	**+1.0**
SHRR				*e*		08 32 04.6	
SHRR				pmax	pmax		
	comp=Z,134nm,0.6s						
SHRR				smax			
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**5.15**	**316**	Pn	**Pn**	**08 31 12.4**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=256,slow=11,SNR=3.6						
ZAL				Pg	**Pg**	**08 31 24.8**	**-8.4**
	comp=Z,1.8nm,0.3s,baz=258,slow=14,SNR=8.8						
ZAL				Lg		08 32 38.0	
	comp=Z,3.2nm,0.3s,baz=117,slow=4.5,SNR=12						
NVS	**Novosibirsk**	**6.43**	**317**	*e*PN	**Pg**	**08 31 53.6**	**-5.2**
NVS				*e*S	**Sg**	**08 33 16.3**	**-8.2**
MK31	**Makanchi Array**	**6.75**	**241**	⇑Pn	**Pn**	**08 31 33.6**	**+0.6**
	comp=Z,6.8nm,0.5s,baz=72,slow=17,SNR=55						
MK31				⇓Lg		08 33 24.8	
	comp=Z,22nm,0.6s,baz=69,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**6.75**	**241**	Pn	**Pn**	**08 31 33.7**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=53,slow=14,SNR=28						
MKAR				Lg		08 33 25.3	
	comp=Z,3.1nm,0.3s,baz=60,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**6.75**	**241**	*i* PG	**Pg**	**08 32 14.8**	**+10**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**6.75**	**241**	Pn	**Pn**	**08 31 33.7**	**+0.6**
MKAR				Lg		08 33 25.3	
KURK	**Kurchatov**	**7.82**	**277**	⇑Pn	**Pn**	**08 31 48.4**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=94,slow=11,SNR=8.1						
KURK				⇑Lg		08 34 05.3	
	comp=Z,24nm,1.2s,baz=128,slow=15,SNR=3.3						
KURK	**Kurchatov**	**7.82**	**277**	*e*Pn	**Pn**	**08 31 48.2**	**+0.2**
	comp=Z,2.9nm,0.8s						
KURK				*e*		08 33 45.8	
SONM	**Songino Array**	**10.49**	**98**	Lg		08 35 14.6	
	comp=Z,0.5nm,0.3s,baz=285,slow=33,SNR=4.0						
BVAR	**Borovoye Array**	**12.97**	**290**	Pn	**P**	**08 32 57.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=79,slow=15,SNR=4.7						
BVAR				Sn	**S**	**08 35 22.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=219,slow=38,SNR=3.3						
BVAR				Lg		08 36 50.4	
	comp=Z,0.2nm,0.3s,baz=222,slow=45,SNR=3.1						
BOD	**Bodaibo**	**15.39**	**52**	*e*P	**P**	**08 33 34.2**	**+4.1**
FINES	**FINESS Array B**	**36.41**	**313**	P	**P**	**08 36 58.4**	**+0.7**
	comp=Z,2.2nm,1.0s,mb4.0,baz=74,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**36.41**	**313**	P	**P**	**08 36 58.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR	**Keskin Array B**	**40.87**	**278**	P	**P**	**08 37 36.5**	**+1.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=76,slow=5.9,SNR=2.4						
BRTR	**Keskin Array B**	**40.87**	**278**	P	**P**	**08 37 36.5**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**43.35**	**316**	P	**P**	**08 37 55.2**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=69,slow=7.2,SNR=2.7						
NOA	**NORSAR Array B**	**43.35**	**316**	P	**P**	**08 37 55.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**43.35**	**316**	P	**P**	**08 37 55.2**	**+0.1**
INK	**Inuvik**	**57.08**	**18**	P	**P**	**08 39 39.2**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=58,slow=11,SNR=2.7						
INK	**Inuvik**	**57.08**	**18**	P	**P**	**08 39 39.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**79.84**	**139**	P	**P**	**08 41 58.4**	**-3.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=342,slow=6.0,SNR=7.2						
WRA	**Warramunga Arr**	**79.84**	**139**	P	**P**	**08 41 58.4**	**-3.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**82.98**	**141**	P	**P**	**08 42 15.5**	**-2.8**
	comp=Z,0.5nm,0.5s,mb3.8,baz=342,slow=4.8,SNR=6.6						

*IDC **22** 08:34:19.0±9.3,13.50N×146.29E,h48^{km}±89^{km},mb3.9/15, mb1 4.1/15,mb1mx4.0/23,Error ellipse: s-maj=26.3km* *s-min=18.0km az=79.0*

*NEIC **22** 08:34:20.3±1.8, 13.48N×146.27E, h60^{km}±15^{km}, mb4.6/2, Error ellipse: s-maj=15.6km s-min=10.9km az=94.0*

ISC 22 08:34:20.5±2.2**, 13.5N**±0.1×**146.2E**±0.2**, h74**^{km}±17^{km}**, n21, σ0^{s}81**/20**, mb4.0**/18**, 1C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.29	276	*e*Pn	P	08 34 43.2	0.0
GUMO				*e*Sn	S	08 35 00.1	0.0
JNU	Nakatsue	24.04	327	P	P	08 39 30.1	+0.6
	12nm,0.9s,mb4.2,baz=114,slow=18						
WRA	Warramunga Arr	35.19	200	P	P	08 41 08.8	-0.7
	2.2nm,0.9s,mb4.0,baz=22,slow=9.3,SNR=12						
FITZ	Fitzroy Crossi	37.34	213	P	P	08 41 27.8	+0.2
	2.3nm,0.8s,mb4.2,baz=181,slow=19,SNR=3.7						
ASAR	Alice Springs	38.81	198	P	P	08 41 40.0	+0.2
	0.6nm,0.5s,mb3.7,baz=14,slow=12,SNR=12						
CMAR	Chiang Mai Arr	45.59	283	P	P	08 42 36.0	+0.7
	0.6nm,0.4s,mb3.7,baz=84,slow=6.1,SNR=4.7						
SONM	Songino Array	47.57	324	P	P	08 42 51.0	+0.5
	1.5nm,0.6s,mb4.0,baz=138,slow=7.4,SNR=8.7						
MKAR	Makanchi Array	62.47	316	P	P	08 44 37.9	-0.4
	1.5nm,0.5s,mb4.3,baz=98,slow=8.6,SNR=13						
KURK	Kurchatov	65.50	320	⇑*e*P	P	08 44 57.0	-1.0
	5.6nm,0.6s,mb4.6						
ILAR	Eielson Array	68.13	25	P	P	08 45 12.3	-1.9
	0.8nm,0.4s,mb3.9,baz=255,slow=5.7,SNR=22						
BVAR	Borovoye Array	70.82	322	P	P	08 45 30.6	-0.3
	5.1nm,0.5s,mb4.6,baz=107,slow=8.1,SNR=37						
BRVK	Borovoye	70.88	322	*e*P	P	08 45 31.4	+0.1
	3.3nm,0.6s,mb4.3						
YBH	Yreka Blue Hor	81.99	49	P	P	08 46 33.0	-0.8
	0.8nm,0.5s,mb3.8,baz=270,slow=2.0,SNR=3.9						
YKA	Yellowknife Ar	82.38	28	P	P	08 46 35.3	-0.1
	0.5nm,0.4s,mb3.7,baz=283,slow=5.1,SNR=5.7						
NEW	Newport	84.47	42	P	P	08 46 47.8	+1.5
	2.2nm,1.0s,mb3.9,baz=286,slow=16,SNR=3.4						
NVAR	Mina Array Bea	86.00	52	P	P	08 46 55.8	+1.8
	0.9nm,0.6s,mb3.9,baz=274,slow=4.2,SNR=15						
ARCES	ARCESS Array B	87.59	342	P	P	08 47 01.6	+0.5
	2.3nm,0.8s,mb4.2,baz=45,slow=10,SNR=5.0						
PDAR	Pinedale Array	91.14	46	P	P	08 47 18.4	0.0
	0.1nm,0.4s,mb3.3,baz=288,slow=2.9,SNR=4.4						
FINES	FINESS Array B	91.81	335	P	P	08 47 20.1	-0.9
	0.8nm,0.5s,mb4.2,baz=117,slow=8.5,SNR=12						
DBIC	Dimbokro	144.97	303	PKPbc	PKPbc	08 53 51.4	+1.1
	3.7nm,0.9s,baz=5.3,slow=9.9,SNR=3.6						
DBIC	Dimbokro	144.97	303	PKPbc	PKPbc	08 53 51.4	+1.1

IDC 22 08:51:48.9±7.7**, 5.86S**×**152.76E, h25**^{km}±6^{km}**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/14**, Error ellipse: s-maj=231.0km s-min=22.8km az=110.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.73	230	P	P	08 56 48.6	-1.9
	0.5nm,0.5s,baz=62,slow=10.0,SNR=12						
WRA				pP		08 56 56.0	
	0.9nm,0.8s,baz=62,slow=9.6,SNR=6.8						
ASAR	Alice Springs	25.35	224	P	P	08 57 15.1	-0.8
	0.3nm,0.6s,baz=56,slow=9.8,SNR=4.3						
SONM	Songino Array	67.19	328	P	P	09 02 42.3	-0.8
	0.9nm,0.5s,baz=121,slow=7.2,SNR=4.2						
SONM				pP	pP	09 02 49.5	-1.5
	1.3nm,0.8s,baz=135,slow=7.0,SNR=4.0						
MKAR	Makanchi Array	81.09	319	P	P	09 04 00.8	-2.7
	1.5nm,0.6s,baz=95,slow=6.1,SNR=10						
MKAR				pP	pP	09 04 10.2	-1.5
	2.6nm,0.7s,baz=110,slow=6.4,SNR=11						
ZAL	Zalesovo	82.01	326	pP	pP	09 04 12.4	-3.8
	0.9nm,0.3s,baz=90,slow=1.8,SNR=1.9						

*ISK **22** 08:59:20.4, 36.89N×27.81E, h16^{km}, MD3.5*

*NEIC **22** 08:59:21.6, 36.80N×27.81E, h5^{km}, MD3.6(ATH), ML3.1(NIC), After ATH.*

*ATH **22** 08:59:21.6, 36.80N×27.81E, h5^{km}, MD3.6/10*

*NIC **22** 08:59:27.1±0.5, 37.41N×28.44E, h55^{km}, ML3.1, MW3.3*

ISC 22 08:59:21.6±0.4**, 36.93N**±0.03×**27.85E**±0.03**, h19**^{km}±5^{km}**, n41, σ1^{s}08**/54**, 3C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.35	293	*i* P	Pb	08 59 28.3	-0.8
BDRM				*i* S	Sb	08 59 32.6	-1.6
MLSB	Milas	0.37	351	*i* PG	Pb	08 59 29.6	+0.2
MLSB				*i* SG	Sb	08 59 35.3	+0.6
YER	Yerkesik	0.40	59	*i* PG	Pb	08 59 29.8	-0.2
YER				*i* SG	Sb	08 59 37.0	+1.4
DALT	Dalyan (Mudla)	0.65	104	PG	Pb	08 59 33.6	-0.6
DALT				SG	Sb	08 59 44.4	+1.6
NISR	Nisiros	0.66	241	*e*PB	Pb	08 59 33.9	-0.4
AYDN	Tasoluk	0.73	2	⇑*i*P	Pb	08 59 36.0	+0.4
AYDN				*i* S	Sb	08 59 50.0	+5.0
ARG	Arkhangelos	0.75	163	⇑*i*PB	Pb	08 59 34.9	-0.9
SMG	Samos	1.12	314	*e*PN	Pn	08 59 43.5	+1.1
DNZL	Cakiroluk	1.22	51	*i* P	Pb	08 59 44.5	+0.6
DNZL				*i* S	Sb	08 59 56.9	-2.3
KARP	Karpathos	1.49	202	*e*PB	Pb	08 59 47.5	-0.9
KARP				*e*SB	Sb	09 00 07.0	0.0
IZM	Izmir	1.54	343	PN	Pn	08 59 48.6	+0.2
KSL	Kastellorizon	1.60	119	*e*PG	Pn	08 59 51.0	+1.7
APE	Apeiranthos	1.86	275	PN	Pn	08 59 52.2	-0.8
APE	Apeiranthos	1.86	275	*e*PN	Pn	08 59 52.7	-0.3
KHL	Karahalli	1.92	43	*e*PN	Pn	08 59 54.2	+0.3
AKS	Akhisar	1.95	359	PN	Pn	08 59 54.1	-0.1
SANT	Santorini	2.00	255	*e*Pn	Pn	08 59 55.3	+0.2
SANT				*e*Pg	Pn	09 00 01.2	+6.1
SANT				*e*Sg	Sn	09 00 29.2	+9.4
THR1	Thera Island	2.00	255	*e*P	Pn	08 59 59.5	+4.5
THR4	Thira Island,	2.03	257	*e*P	Pn	09 00 00.2	+4.8
THR6	Thira Island,	2.05	255	*e*P	Pn	09 00 00.3	+4.5
THR5	Thira Island,	2.08	256	*e*P	Pn	08 59 59.6	+3.5
NPS	Neapolis	2.46	228	*e*PN	Pn	09 00 03.0	+1.4
PRK	Paraskevi	2.63	332	*e*PG	Pn	09 00 12.3	+8.3
XRY	Khrisi	2.70	221	*e*PN	Pn	09 00 06.5	+1.5
BALB	Balikesir	2.71	1	*e*PN	Pn	09 00 05.1	0.0
DST	Dursunbey	2.74	13	*e*PN	Pn	09 00 05.4	-0.2
ALT	Altintas	2.77	39	*e*PN	Pn	09 00 06.9	+0.8
VAM	Vamos	3.32	244	*e*PG	Pn	09 00 22.7	+8.9
KCT	Karacabey	3.35	7	*e*PN	Pn	09 00 13.9	-0.4
BNT	Bandirma	3.42	1	PN	Pn	09 00 14.7	-0.6
LPK	Lapseki	3.54	346	*e*PN	Pn	09 00 16.7	-0.3
HDMB	Hadim	3.71	88	*e*PN	Pn	09 00 20.1	+0.7
KIZT	Kizilcal	3.73	57	*e*PN	Pn	09 00 20.4	+0.7
PPCY	Paphos	4.18	118	⇑P	Pn	09 00 27.2	+1.1
PPCY				S	Sn	09 01 13.6	-1.4
ALN	Alexandroupoli	4.20	341	*e*P	Pn	09 00 25.0	-1.4
ALFC	Alevga	4.24	113	P	Pn	09 00 27.0	+0.2
	2.5nm,0.3s						
ALFC				S	Sn	09 01 13.9	-2.5
LEF	Lefka	4.47	112	*e*PN	Pn	09 00 29.7	-0.4
OUR	Ouranopolis	4.55	319	*e*P	Pn	09 00 28.2	-3.1
SZAC	Souni-Zanaja	4.63	116	⇓P	Pn	09 00 33.4	+1.0
	3.6nm,0.3s						
SZAC				S	Sn	09 01 25.9	-0.4
IKL	Isikli	4.75	97	*e*PN	Pn	09 00 33.7	-0.4
CSS	Prodhromos	4.86	112	P	Pn	09 00 36.5	+0.8
CSS				S	Sn	09 01 29.5	-2.7

*LDG **22** 09:13:05.2±0.0, 44.21N×2.94E, h2^{km}, Md2.1/4, Ml1.9/8, Error ellipse: s-maj=0.7km s-min=0.5km az=6.0*

*STR **22** 09:13:07.0±0.7, 44.34N×2.80E, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 09:13:03.2±0.5**, 44.21N**±0.03×**2.90E**±0.03**, h5**^{km}±8^{km}**, n10, σ1^{s}01**/19**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LASF	Ste Croix	0.70	101	*e*Pg	Pg	09 13 18.0	+0.7
LASF				*e*Pn	Pn	09 13 20.2	+0.7
LASF				*e*Sg	Sg	09 13 26.5	-0.2
LASF				*e*Sn	Sn	09 13 30.7	-0.2
	3.9nm,0.2s						
CAF	Calviac	0.93	321	*e*Pg	Pg	09 13 23.3	+1.5
CAF				*e*Sg	Sg	09 13 35.5	+1.3
	3.6nm,0.2s						
MTLF	Montolieu	1.00	210	*e*Pg	Pg	09 13 24.3	+1.2
MTLF				*e*Sg	Sg	09 13 37.2	+0.8
	4.5nm,0.3s						
LBL	Lubilhac	1.05	14	Pg	Pg	09 13 24.7	+0.5
LBL				Sg	Sg	09 13 38.3	0.0
VIVF	Saint-Julien-l	1.43	62	*e*Pg	Pg	09 13 31.3	-0.4
VIVF				*e*Sg	Sg	09 13 49.4	-1.3
	1.9nm,0.2s						
RJF	Les Rejaudoux	1.47	319	*e*Pg	Pg	09 13 33.0	+0.4
RJF				*e*Sg	Sg	09 13 52.1	-0.1
	2.7nm,0.2s						
LFF	La Frestale	1.71	296	*e*Sg	Sg	09 13 59.8	-0.2
	2.0nm,0.2s						
EPF	Esparros	2.20	239	*e*Pn	Pn	09 13 40.7	-0.2
EPF				*e*Sg	Sg	09 14 15.0	-1.4
	1.1nm,0.2s						
AVF	Avril sur Loir	2.60	7	*e*Sg	Sg	09 14 26.8	-3.0
	0.6nm,0.3s						
ETSF	Etsaut	2.83	244	*e*Sg	Sg	09 14 35.3	-2.2
	0.9nm,0.3s						

*BJI **22** 09:28:07.2, 24.18N×104.41E, h11^{km}, mB4.4, mb4.4, ML4.1, Ms4.3, Msz3.7*

*IDC **22** 09:28:07.1±0.9, 24.26N×104.29E, mb3.9/7, mb1 4.1/8, mb1mx3.9/17, ML4.7/1, MS3.7/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=29.7km s-min=17.0km az=74.0*

*NEIC **22** 09:28:09.0±3.1, 24.23N×104.30E, h11^{km}±20^{km}, mb4.3/2, Error ellipse: s-maj=8.6km s-min=6.5km az=81.0*

*PLV **22** 09:28:09.0±0.3, 23.69N×105.02E, h10^{km}, MD3.9*

ISC 22 09:28:06.4±0.4**, 24.15N**±0.03×**104.32E**±0.04**, h11**^{km}**, n26, σ1^{s}02**/36**, mb4.0**/9**, MS3.7**/2**, 1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	1.74	304	*e*P	Pn	09 28 40.0	+3.2
KMI				PG	Pg	09 28 41.3	+0.1
KMI				S	Sn	09 29 02.8	+3.7
KMI				SG	Sg	09 29 04.3	-0.1
KMI				Smax			
	comp=N,1µm,0.9s						
KMI				Smax			
	comp=E,1µm,0.8s						
DBV	Dienbien	3.00	204	*e*PG	Pg	09 29 05.4	-0.9
	baz=39,slow=7.4						
DBV				*e*SG	Sg	09 29 43.8	-2.4
GYA	Guiyang	3.13	42	P	Pn	09 28 57.5	+0.8
GYA				S	Sn	09 29 33.6	-0.7
GYA				SG	Sg	09 29 43.0	-7.6
GYA				Smax			
	comp=N,2µm,0.9s						
GYA				Smax			
	comp=E,1µm,0.8s						
CD2	Chengdu	6.75	356	*e*P	Pn	09 29 46.5	-1.5
CD2				*e*PG	Pg	09 30 00.8	-20
CD2				Smax			
	comp=N,64nm,1.0s						
CD2				Smax			
	comp=E,93nm,1.0s						
QIZ	Qiongzhong	7.23	134	P	Pn	09 29 55.5	+0.8
QIZ				*e*Pg	Pg	09 30 25.0	-5.8
CHG	Chiang Mai	7.30	224	PG	Pg	09 30 25.6	-6.5
CHG				SG	Sg	09 32 02.0	-7.4
CM31	Chiang Mai Arr	7.56	223	*e*Pn	Pn	09 29 60.0	+0.6
CMAR	Chiang Mai Arr	7.56	223	Pn	Pn	09 29 59.7	+0.4
	comp=E,3.3nm,0.3s,baz=31,slow=13,SNR=13						
CMAR				Pg	Pg	09 30 30.2	-7.3
	comp=E,0.9nm,0.3s,baz=37,slow=17,SNR=28						
CMAR				Lg		09 32 09.3	
	comp=E,0.9nm,0.3s,baz=45,slow=30,SNR=6.8						
ENH	Enshi	7.64	36	*e*Pn	Pn	09 29 59.5	-0.8
	comp=E,27nm,0.4s						
KKTK	Khon Kaen	7.90	191	PN	Pn	09 30 05.0	+1.0
KKTK				PG	Pg	09 30 43.5	-0.6
KKTK				SG	Sg	09 32 22.0	-7.4
GZH	Guangzhou	8.34	95	P	P	09 30 09.0	-1.1
GZH				Smax			
	comp=N,179nm,0.9s						
GZH				Smax			
	comp=E,139nm,1.0s						
GZH				LR	LR		
	comp=N,824nm,3.8s						
GZH				LR	LR		
	comp=E,334nm,5.1s						
GZH				LR	LR		
	comp=Z,437nm,6.0s						
BDT	Bhumibol Dam	8.48	217	P	P	09 30 12.0	-0.2
XAN	Xi’an	10.64	21	P	P	09 30 38.6	-3.3
XAN				LG2		09 33 44.6	
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s						
XAN				LR	LR		
	comp=N,340nm,11.8s						
XAN				LR	LR		
	comp=E,639nm,12.3s						
XAN				LR	LR		
	comp=Z,253nm,11.0s						
WHN	Wuhan	10.95	52	⇓P	P	09 30 46.0	-0.2
GTA	Gaotai	15.69	347	*e*P	P	09 31 54.1	+5.1
GTA				AP		09 31 59.6	
GTA				XP		09 32 02.8	
GTA				AMB	AMB		
	comp=Z,12nm,0.8s						
SONM	Songino Array	23.70	3	P	P	09 33 19.9	+1.0
	comp=Z,0.9nm,0.5s,mb3.4,baz=188,slow=10,SNR=3.7						
MKAR	Makanchi Array	28.67	328	P	P	09 34 05.4	+0.2
	comp=Z,1.1nm,0.6s,mb3.8,baz=138,slow=8.4,SNR=6.9						
KURK	Kurchatov	33.14	330	*e*P	P	09 34 44.7	0.0
	comp=Z,2.8nm,0.7s,mb4.3						
ZAL	Zalesovo	33.16	339	P	P	09 34 43.7	-1.1
	comp=Z,2.3nm,0.5s,mb4.4,baz=257,slow=7.5,SNR=9.5						
ZAL				LR	LR	09 49 19.7	
	comp=Z,52nm,19.2s,MS3.3,baz=105,slow=38						
WRAB	Tennant Creek	52.68	144	*e*P	P	09 37 24.1	+0.8
	comp=Z,2.6nm,0.6s,mb4.3						
WRA	Warramunga Arr	52.68	144	P	P	09 37 24.2	+0.8
	comp=Z,1.8nm,0.6s,mb4.2,baz=331,slow=8.5,SNR=21						
WB2	Warramunga Arr	52.69	144	*e*P	P	09 37 24.6	+1.2
ASAR	Alice Springs	55.52	147	P	P	09 37 45.2	+1.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=328,slow=7.1,SNR=9.2						
FINES	FINESS Array B	63.50	328	P	P	09 38 38.0	-0.5
	comp=Z,1.8nm,0.9s,mb4.1,baz=45,slow=3.9,SNR=3.3						
NOA	NORSAR Array B	70.66	329	P	P	09 39 23.5	-0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=52,slow=5.9,SNR=2.8						
VAE	Valguarnera	75.67	305	LR	LR	10 21 37.0	
	comp=Z,92nm,19.3s,MS4.1,baz=130,slow=42						

*NEIC **22** 09:40:25.4±0.9, 43.12N×126.46W, h10^{km}, mb3.7/4, Error ellipse: s-maj=11.2km s-min=4.5km az=71.0*

*IDC **22** 09:40:26.3±3.5, 43.29N×126.19W, mb3.5/2, mb1 3.8/6, mb1mx3.6/25, ML3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/21, Error ellipse: s-maj=45.3km s-min=16.1km az=71.0*

ISC 22 09:40:24.0±1.1**, 43.17N**±0.04×**126.5W**±0.1**, h10**^{km}**, n64, σ0^{s}89**/64**, mb4.0**/2**, 2C, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.60	100	⇑P	Pn	09 40 52.3	-0.2
KBO	Bosley Butte	1.91	119	P	Pn	09 40 56.6	-0.4
RNO	Roman Nose	2.12	69	P	Pn	09 41 00.6	+0.5
DBO	Dodson Butte	2.37	90	⇑P	Pn	09 41 03.7	+0.2
HSO	Harness Mounta	2.50	81	P	Pn	09 41 05.5	+0.2
MPOR	Mary’s Peak	2.50	57	P	Pn	09 41 05.5	0.0
KRMB	Red Mountain	2.51	130	*e*P	Pn	09 41 04.3	-1.3
EUO	Eugene	2.62	70	P	Pn	09 41 07.5	+0.4
HUMO	Hull Mountain	2.65	101	P	Pn	09 41 07.4	-0.1
COR	Corvallis	2.70	57	P	Pn	09 41 08.5	+0.3
BBOR	Butler Butte	2.80	94	P	Pn	09 41 10.4	+0.7
YBH	Yreka Blue Hor	3.13	116	Pn	Pn	09 41 15.2	+0.7
	2.9nm,0.3s,baz=308,slow=13,SNR=51						
YBH				Sn	Sn	09 41 54.4	+2.0
	2.4nm,0.3s,baz=124,slow=14,SNR=8.0						
KMOR	Kings Mountain	3.27	40	P	Pn	09 41 15.6	-0.8
SSOR	Sweet Springs	3.35	58	*e*P	Pn	09 41 18.4	+0.8
HUOR	Husband	3.49	73	P	Pn	09 41 20.7	+1.2
VLMM	Larch Mountain	3.97	52	P	Pn	09 41 27.2	+0.9
BMW	Boistfort Moun	4.03	34	*e*P	Pn	09 41 26.2	-1.1
LVP	Lakeview Peak	4.10	44	P	Pn	09 41 28.6	+0.4
MTMW	Mount Mitchell	4.17	45	P	Pn	09 41 29.6	+0.3
SHW	Mount Saint He	4.28	44	*e*P	Pn	09 41 30.9	+0.2
HSR	South Ridge	4.29	44	P	Pn	09 41 31.8	+0.9
ERK	Elk Rock	4.30	42	P	Pn	09 41 31.4	+0.3
ESD	East Dome	4.32	44	P	Pn	09 41 32.1	+0.8
VIPM	Ingram Point	4.44	70	P	Pn	09 41 33.3	+0.3
VGB	Gordon Butte	4.71	58	*e*P	Pn	09 41 36.4	-0.5
MOD	Modoc	4.73	103	*e*P	Pn	09 41 36.0	-1.2
LON	Longmire	4.88	41	*e*P	Pn	09 41 39.4	+0.2
GL2	New Goldendale	4.91	53	P	Pn	09 41 40.0	+0.3
FMW	Mount Fremont	5.07	40	P	Pn	09 41 42.3	+0.3
GNW	Green Mountain	5.09	29	*e*P	Pn	09 41 41.5	-0.8
JBO	Jordan Butte	5.29	62	P	Pn	09 41 45.2	+0.2
TBM	Table Mountain	5.77	44	P	Pn	09 41 52.4	+0.6
LTY	Liberty	5.79	43	P	Pn	09 41 52.5	+0.4
WVOR	Wild Horse Val	5.81	95	*e*P	Pn	09 41 51.1	-1.3
PGC	Sidney	5.88	20	P	Pn	09 41 51.5	-1.8
MDW	Midway	5.88	52	P	Pn	09 41 53.5	+0.1
HAWA	Hanford	5.90	54	*e*P	Pn	09 41 53.0	-0.6
REDWA	Red Mountain	5.91	56	P	Pn	09 41 53.7	-0.1
WAH2	Wahluke Slope	6.07	51	P	Pn	09 41 56.4	+0.3
LOCW	Locke Island	6.13	52	P	Pn	09 41 57.2	+0.3
RPW	Rockport	6.32	32	*e*P	Pn	09 41 58.7	-0.9
WCN	Washoe City	6.37	125	P	Pn	09 41 57.3	-2.9
LNOR	Lincton Mounta	6.45	62	*e*P	Pn	09 42 00.2	-1.1
NVAR	Mina Array Bea	7.80	125	Pn	Pn	09 42 21.7	+1.4
	0.1nm,0.3s,baz=301,slow=12,SNR=6.6						
NEW	Newport	8.29	49	Pn	P	09 42 26.0	-1.2
	0.3nm,0.3s,baz=243,slow=5.2,SNR=4.0						
NEW				LR	LR	09 45 43.9	
	comp=Z,120nm,20.0s,baz=155,slow=39						
NEW	Newport	8.29	49	Pn	P	09 42 26.0	-1.2
NEW				LR	LR	09 45 43.9	
HLID	Hailey	8.80	83	*e*P	P	09 42 34.1	-0.1
BBB	Bella Bella	9.09	354	LR	LR	09 44 47.7	
	comp=Z,64nm,20.1s,baz=214,slow=29						
MCMT	McKenzie Canyo	9.96	76	*e*P	P	09 42 50.1	-0.1
AHID	Auburn Hatcher	11.28	87	P	P	09 43 06.0	-2.2
TPAW	Teton Pass	11.32	83	P	P	09 43 08.0	-0.8
MOOW	Moose Ponds	11.45	82	*e*P	P	09 43 09.3	-1.3
SNOW	Snow King Moun	11.46	83	P	P	09 43 07.8	-3.0
NEN	Nelson	11.71	126	P	P	09 43 14.0	-0.2
MSU	Marysvale	11.78	108	P	P	09 43 14.6	-0.6
PDAR	Pinedale Array	12.40	86	Pn	P	09 43 24.7	+1.2
	0.1nm,0.3s,baz=277,slow=15,SNR=12						
PV01	Paradox Valley	14.49	104	*e*P	P	09 43 50.7	-0.2
ISCO	Idaho Springs	15.99	95	*e*P	P	09 44 09.7	-0.8
	7.4nm,1.5s						
SDCO	Great Sand Dun	16.84	102	*e*P	P	09 44 22.5	+1.2
	18nm,1.8s						
ANMO	Albuquerque	17.55	111	*e*P	P	09 44 31.2	+0.9
	2.4nm,1.1s						
YKA	Yellowknife Ar	20.58	16	P	P	09 45 06.1	+0.7
	1.1nm,0.9s,baz=201,slow=11,SNR=3.8						
ULM	Lac du Bonnet	22.04	61	P	P	09 45 21.0	+0.8
	3.2nm,0.7s,mb3.9,baz=280,slow=12,SNR=3.1						
PMS	Palmer South	22.76	331	*e*P	P	09 45 28.3	+1.1
WMOK	Wichita Mounta	23.05	102	*e*P	P	09 45 31.1	+0.8
	10nm,1.1s,mb4.2						

ISC 22 09:51:40.9±2.6**, 36.2N**±0.1×**27.0E**±0.2**, h10**^{km}**, n6, σ1^{s}53**/9**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.94	20	*i* P	Pb	09 51 57.6	-1.2
BDRM				*i* S	Sb	09 52 08.9	-2.1
MLSB	Milas	1.26	28	PN	Pn	09 52 05.8	+1.3
YER	Yerkesik	1.38	46	PN	Pn	09 52 04.1	-2.2
DALT	Dalyan (Mudla)	1.41	65	PN	Pn	09 52 05.4	-1.4
AYDN	Tasoluk	1.62	24	⇑*i*P	Pn	09 52 10.4	+0.7
AYDN				*i* S	Sn	09 52 32.4	+1.7
DNZL	Cakiroluk	2.20	46	*i* P	Pn	09 52 20.3	+2.2
DNZL				*i* S	Sn	09 52 46.2	+0.7

*NEIC **22** 10:11:16.3±2.7, 3.72S×127.49E, h68^{km}±27^{km}, mb4.3/4, Error ellipse: s-maj=45.1km s-min=14.0km az=66.0*

*IDC **22** 10:11:19.5±6.1, 3.66S×127.61E, h97^{km}±57^{km}, mb3.8/9, mb1 3.9/11, mb1mx3.8/17, ML3.4/2, MS3.8/3, Ms1 3.8/3, ms1mx3.1/28, Error ellipse: s-maj=49.2km s-min=14.4km az=65.0*

ISC 22 10:11:14.1±0.6**, 3.8S**±0.1×**127.5E**±0.2**, h68**^{km}**, n23, σ1^{s}50**/22**, mb4.0**/10**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.10	151	*e*P	P	10 13 38.6	-0.1
	8.1nm,0.6s						
FITZ	Fitzroy Crossi	14.33	187	*e*P	P	10 14 42.5	+7.4
	8.7nm,0.8s						
FITZ	Fitzroy Crossi	14.33	187	P	P	10 14 32.4	-2.7
	0.1nm,0.3s,baz=7.4,slow=9.1,SNR=3.4						
FITZ				LR	LR	10 20 48.5	
	comp=Z,119nm,19.0s,baz=181,slow=39						
FITZ	Fitzroy Crossi	14.33	187	*e*P	P	10 14 42.5	+7.4
FITZ				LR	LR	10 20 48.5	
WRAB	Tennant Creek	17.38	158	*e*P	P	10 15 12.3	-1.5
	15nm,1.0s						
WRA	Warramunga Arr	17.39	158	P	P	10 15 12.1	-1.8
	0.2nm,0.3s,baz=342,slow=13,SNR=22						
WB2	Warramunga Arr	17.39	158	*e*P	P	10 15 12.3	-1.6
ASPA	Alice Springs	20.71	163	*e*P	P	10 15 53.3	+2.1
ASAR	Alice Springs	20.71	163	P	P	10 15 53.1	+1.9
	27nm,1.0s,baz=340,slow=8.8,SNR=52						
ASAR				PcP	PcP	10 19 58.5	-0.5
	0.4nm,0.6s,baz=346,slow=1.3,SNR=4.5						
CTA	Charters Tower	24.44	133	P	P	10 16 29.5	+1.6
	1.4nm,0.7s,mb3.4,baz=307,slow=10,SNR=2.5						
CTA				LR	LR	10 25 58.1	
	comp=Z,124nm,18.4s,baz=129,slow=36						
CTA	Charters Tower	24.44	133	P	P	10 16 29.5	+1.6
CTA				LR	LR	10 25 58.1	
FORT	Forrest	26.84	179	*e*P	P	10 16 49.0	-1.4
	32nm,0.7s,mb5.0						
STKA	Stephens Creek	30.92	156	P	P	10 17 27.8	+0.9
	2.3nm,1.0s,mb3.9,baz=312,slow=14,SNR=2.4						
CMAR	Chiang Mai Arr	35.77	309	P	P	10 18 10.6	+1.8
	0.5nm,0.4s,mb3.8,baz=146,slow=6.5,SNR=3.8						
SONM	Songino Array	54.64	343	P	P	10 20 38.3	0.0
	1.1nm,0.9s,mb3.9,baz=143,slow=6.2,SNR=4.1						
MKAR	Makanchi Array	64.19	327	P	P	10 21 41.9	-2.1
	2.1nm,0.6s,mb4.1,baz=115,slow=8.5,SNR=16						
MKAR	Makanchi Array	64.19	327	P	P	10 21 41.9	-2.1
ZAL	Zalesovo	67.62	334	P	P	10 22 06.2	+0.4
	3.2nm,0.3s,mb4.7,baz=294,slow=11,SNR=18						
KURK	Kurchatov	68.49	329	*e*P	P	10 22 09.1	-2.2
	4.9nm,1.0s,mb4.3						
VNDA	Vanda	75.92	173	P	P	10 22 55.4	+0.6
	0.7nm,0.9s,mb3.4,baz=287,slow=8.1,SNR=3.1						
VNDA	Vanda	75.92	173	*e*P	P	10 22 55.0	+0.3
	0.3nm,0.5s,mb3.3						
MAW	Mawson	77.02	201	P	P	10 23 02.5	+1.4
	1.1nm,0.7s,mb3.7,baz=45,slow=4.3,SNR=2.3						
MAW				LR	LR	10 52 41.7	
	comp=Z,267nm,20.5s,baz=24,slow=32						
CPUP	Villa Florida	149.69	171	PKPbc	PKPdf	10 30 59.5	+7.3
	1.5nm,0.8s,baz=80,slow=15,SNR=2.2						

*MDD **22** 10:12:37.9±0.4, 40.95N×1.59E, h10^{km}, mbLg3.0/37, Error ellipse: s-maj=3.8km s-min=2.5km az=141.0, PRXIMO*

*LDG **22** 10:12:37.9±0.2, 40.96N×1.56E, h2^{km}, Md3.4/3, Ml3.4/24, Error ellipse: s-maj=2.8km s-min=2.0km az=7.0*

*NEIC **22** 10:12:37.0, 40.92N×1.58E, h8^{km}, ML3.6(STR), ML3.4(LDG), ML3.0(MRB), MN3.1(MDD), After MRB.*

*STR **22** 10:12:40.1±0.5, 41.15N×1.51E, h5^{km}±1^{km}, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 10:12:35.3±0.3**, 41.03N**±0.02×**1.58E**±0.02**, h10**^{km}**, n90, σ1^{s}40**/166**, 5C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGAR	Garraf	0.43	309	Pg	Pg	10 12 45.7	+1.7
CGAR				Lg		10 12 51.8	
	193nm,0.2s						
CGAR	Garraf	0.43	309	Pg	Pg	10 12 45.8	+1.8
CGAR				Sg	Sg	10 12 51.8	+2.1
EPOB	Poblet	0.49	311	⇑Pg	Pg	10 12 47.9	+2.5
	43nm,0.1s,SNR=18						
EPOB				Lg		10 12 55.3	
	441nm,0.2s,SNR=5.0						
EBR	Ebro Roquetas	0.84	256	*e*PG	Pg	10 12 53.3	+1.1
EBR				*e*SG	Sg	10 13 05.0	+1.4
EMIR	Miracle	0.89	358	⇓Pg	Pg	10 12 55.8	+2.7
	104nm,0.2s,SNR=18						
EMIR				Lg		10 13 09.0	
	164nm,0.2s,SNR=56						
CFON	Fontmartina	0.98	41	Pg	Pg	10 12 56.4	+1.5
CFON				Lg		10 13 10.4	
	163nm,0.2s						

CFON	**Fontmartina**	0.98	41	Pn	Pn	10 12 56.5	+1.5
CFON				Sn	Sn	10 13 10.5	+1.6
CAVN	**Les Avellanes**	1.05	324	Pg	Pg	10 12 58.4	+2.0
CAVN				Lg		10 13 13.4	
	180nm,0.3s						
CAVN	**Les Avellanes**	1.05	324	Pg	Pg	10 12 58.5	+2.1
CAVN				Sg	Sg	10 13 13.4	+2.9
CORG	**Organya**	1.22	351	Pg	Pg	10 13 01.6	+2.0
CORG				Lg		10 13 19.1	
	45nm,0.2s						
CORG	**Organya**	1.22	351	Pg	Pg	10 13 01.6	+2.0
CORG				Sg	Sg	10 13 19.1	+3.3
CBRU	**Bruguera**	1.33	20	Pn	Pn	10 13 02.5	+2.5
CBRU				Lg		10 13 22.4	
	132nm,0.3s						
CBRU	**Bruguera**	1.33	20	Pn	Pn	10 13 02.6	+2.5
CBRU				Sn	Sn	10 13 22.4	+4.5
CSOR	**Sort**	1.39	346	Pg	Pg	10 13 04.7	+1.7
CSOR				Lg		10 13 24.8	
	141nm,0.3s						
CSOR	**Sort**	1.39	346	Pg	Pg	10 13 04.7	+1.7
CSOR				Sg	Sg	10 13 24.9	+3.3
CLLI	**Llivia**	1.48	12	Pg	Pg	10 13 04.9	0.0
CLLI				Lg		10 13 26.5	
	77nm,0.2s						
CLLI	**Llivia**	1.48	12	Pn	Pg	10 13 04.9	0.0
CLLI				Sn	Sn	10 13 26.6	+5.0
EGRA	**Graus**	1.50	321	⇑Pn	Pn	10 13 04.6	+2.2
	1.5nm,0.3s,SNR=18						
EGRA				Pg	Pg	10 13 06.7	+1.5
	28nm,0.2s,SNR=7.9						
EGRA				Lg		10 13 27.4	
	105nm,0.2s,SNR=7.9						
EGRA	**Graus**	1.50	321	⇑Pn	Pn	10 13 04.6	+2.2
EGRA				Pg	Pg	10 13 06.9	+1.6
EGRA				Lg		10 13 27.4	
ESAC	**San Caprasio**	1.69	295	⇑Pn	Pn	10 13 07.1	+2.0
	27nm,0.1s,SNR=18						
ESAC				Pg	Pg	10 13 10.5	+1.5
	108nm,0.1s,SNR=7.9						
ESAC				Lg		10 13 33.7	
	594nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	1.69	295	⇑Pn	Pn	10 13 07.1	+2.0
ESAC				Pg	Pg	10 13 10.7	+1.7
ESAC				Lg		10 13 33.7	
EMOS	**Mosqueruela**	1.69	248	Pn	Pn	10 13 05.9	+0.8
	2.1nm,0.2s,SNR=36						
EMOS				Pg	Pg	10 13 08.6	-0.5
	12nm,0.2s,SNR=14						
EMOS				Sn	Sn	10 13 27.7	+0.7
	11nm,0.1s,SNR=5.0						
EMOS				Lg		10 13 32.6	
	30nm,0.1s,SNR=7.5						
EMOS	**Mosqueruela**	1.69	248	Pn	Pn	10 13 05.9	+0.8
EMOS				Pg	Pg	10 13 09.1	0.0
EMOS				Sn	Sn	10 13 27.7	+0.7
EMOS				Lg		10 13 32.6	
FILF	**Fillols**	1.70	25	Pg	Pg	10 13 09.3	+0.1
FILF				Sg	Sg	10 13 30.4	-1.5
EJON	**La Jonquera**	1.73	34	Pn	Pn	10 13 07.4	+1.8
	0.6nm,0.1s,SNR=39						
EJON				Pg	Pg	10 13 10.9	+1.1
	3.5nm,0.1s,SNR=7.7						
EJON				Lg		10 13 34.1	
	99nm,0.3s,SNR=5.0						
EJON	**La Jonquera**	1.73	34	Pn	Pn	10 13 07.4	+1.7
EJON				Pg	Pg	10 13 11.2	+1.5
EJON				Lg		10 13 34.1	
SALF	**Salau**	1.75	351	Pg	Pg	10 13 11.3	+1.0
SALF				Sg	Sg	10 13 33.2	-0.5
LPEF	**Le Peyrat**	1.94	7	Pn	Pn	10 13 11.7	+3.1
LPEF				Sg	Sg	10 13 40.1	+0.3
MELF	**Melles**	1.94	342	Pg	Pg	10 13 14.2	+0.1
MELF				Sg	Sg	10 13 39.9	-0.1
RESF	**Ens**	2.00	333	Pg	Pg	10 13 15.4	+0.1
RESF				Sg	Sg	10 13 42.1	+0.1
EIBI	**Ibiza**	2.01	185	Pn	Pn	10 13 08.0	-1.6
	7.8nm,0.2s,SNR=23						
EIBI				Sn	Sn	10 13 34.2	-0.8
	15nm,0.2s,SNR=4.0						
VIEF	**Viey**	2.19	329	Pg	Pg	10 13 18.1	-0.8
VIEF				Sg	Sg	10 13 47.1	-1.0
EPF	**Esparros**	2.20	336	*e*Pn	Pn	10 13 14.4	+2.0
EPF				*e*Pg	Pg	10 13 19.7	+0.4
EPF				*e*Sg	Sg	10 13 48.4	-0.3
	169nm,0.3s						
LABF	**Labassere**	2.31	331	Pn	Pn	10 13 17.8	+3.9
LABF				Sg	Sg	10 13 51.6	-0.5
MTLF	**Montolieu**	2.36	11	*e*Pg	Pg	10 13 22.3	-0.1
MTLF				*e*Sg	Sg	10 13 53.2	-0.7
	92nm,0.4s						
ETSF	**Etsaut**	2.46	320	*e*Pn	Pn	10 13 18.3	+2.2
ETSF				*e*Pg	Pg	10 13 23.5	-0.8
ETSF				*e*Sg	Sg	10 13 56.7	-0.3
	143nm,0.4s						
EBEN	**Beniarda**	2.70	211	Pn	Pn	10 13 19.0	-0.6
	2.2nm,0.1s,SNR=26						
EBEN				Lg		10 14 01.0	
	7.7nm,0.3s,SNR=4.0						
ETOR	**Torete**	2.76	267	Pn	Pn	10 13 22.2	+1.8
	5.9nm,0.3s,SNR=31						
ETOR				Pg	Pg	10 13 29.6	-0.8
	17nm,0.2s,SNR=41						
ETOR				Lg		10 14 03.9	
	31nm,0.3s,SNR=6.3						
LARF	**Larrau**	2.77	317	Pg	Pg	10 13 29.2	-1.4
ORDF	**Ordiarp**	2.87	320	Pg	Pg	10 13 32.1	-0.6
SJPF	**Ste Jean**	2.95	316	*e*Pn	Pn	10 13 24.3	+1.2
SJPF				*e*Pg	Pg	10 13 33.4	-0.7
SJPF				*e*Sg	Sg	10 14 11.6	-1.8
	75nm,0.3s						
OSSF	**Osses**	3.07	317	Pn	Pn	10 13 26.5	+1.7
OSSF				Sg	Sg	10 14 15.8	-1.6
EALK	**Alkurruntz**	3.17	315	Pn	Pn	10 13 28.0	+1.7
	1.5nm,0.1s,SNR=9.1						
EALK				Pg	Pg	10 13 37.0	-1.5
	5.8nm,0.2s,SNR=13						
EALK				Sn	Sn	10 14 05.3	+0.7
	22nm,0.3s,SNR=5.0						
EALK				Lg		10 14 20.3	
	89nm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	3.17	315	Pn	Pn	10 13 27.9	+1.7
EALK				Pg	Pg	10 13 38.1	-0.5
EALK				Sn	Sn	10 14 09.7	+5.2
EALK				Lg		10 14 20.3	
ETOB	**Tobarra**	3.38	226	Pn	Pn	10 13 28.6	-0.7
	3.4nm,0.2s,SNR=23						
ETOB				Sn	Sn	10 14 06.4	-3.5
	4.7nm,0.2s,SNR=5.0						
ETOB				Lg		10 14 24.0	
	6.0nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	3.38	226	Pn	Pn	10 13 28.6	-0.7
ETOB				Sn	Sn	10 14 06.4	-3.5
ETOB				Lg		10 14 25.5	
LASF	**Ste Croix**	3.48	28	*e*Pn	Pn	10 13 32.0	+1.3
LASF				*e*Pg	Pg	10 13 43.8	-1.0
LASF				*e*Sg	Sg	10 14 30.1	-1.1
	34nm,0.5s						
CAF	**Calviac**	3.91	5	*e*Pn	Pn	10 13 39.0	+2.2
CAF				*e*Pg	Pg	10 13 51.5	-1.9
CAF				*e*Sg	Sg	10 14 42.9	-2.6
	23nm,0.3s						
LFF	**La Frestale**	3.96	351	*e*Pg	Pg	10 13 53.1	-1.2
LFF				*e*Sg	Sg	10 14 45.1	-1.9
	52nm,0.4s						
SMRF	**Simiane la Rot**	4.17	44	*e*Pn	Pn	10 13 41.8	+1.3
SMRF				*e*Pg	Pg	10 13 58.2	-0.4
SMRF				*e*Sg	Sg	10 14 50.0	-4.3
	20nm,0.7s						
RJF	**Les Rejaudoux**	4.27	359	*e*Pn	Pn	10 13 43.0	+1.1
RJF				*e*Pg	Pg	10 13 57.2	-3.4
RJF				*e*Sg	Sg	10 14 55.0	-2.6
	24nm,0.5s						
ELAN	**Lanestosa**	4.33	302	Pn	Pn	10 13 43.1	+0.4
	2.3nm,0.2s,SNR=13						
ELAN				Pg	Pg	10 13 57.0	-4.7
	5.0nm,0.2s,SNR=10						
ELAN				Sn	Sn	10 14 32.6	-1.2
	5.7nm,0.2s,SNR=7.9						
ELAN				Lg		10 14 55.0	
	10nm,0.2s,SNR=5.0						
LMR	**La Mourre**	4.33	56	*e*Pn	Pn	10 13 43.3	+0.6
LMR				*e*Sn	Sn	10 14 31.6	-2.3
	6.9nm,0.3s						
ESDC	**Sonseca Array**	4.44	254	Pn	Pn	10 13 43.7	-0.7
	1.3nm,0.2s,baz=73,slow=14,SNR=7.7						
ESDC				Pg	Pg	10 14 00.0	-4.0
	4.1nm,0.3s,baz=67,slow=17,SNR=7.5						
ESDC				Sn	Sn	10 14 33.2	-3.5
	3.8nm,0.2s,baz=71,slow=24,SNR=5.0						
ESDC				Lg		10 14 56.3	
	2.7nm,0.2s,baz=67,slow=29,SNR=7.9						
VIVF	**Saint-Julien-l**	4.45	30	*e*Pn	Pn	10 13 45.4	+1.0
VIVF				*e*Pg	Pg	10 14 01.7	-2.4
VIVF				*e*Sg	Sg	10 14 58.9	-4.6
	10nm,0.4s						
FRF	**La Foret Royal**	4.53	54	*e*Pn	Pn	10 13 45.2	-0.4
FRF				*e*Sn	Sn	10 14 37.0	-2.0
	6.0nm,0.3s						
EQES	**Quesada**	4.83	230	Pn	Pn	10 13 48.0	-1.8
EQES				Pg	Pg	10 14 06.9	-4.8
EQES				Lg		10 15 07.3	
ORIF	**Oris-en-Rattie**	5.01	38	*e*Pn	Pn	10 13 53.0	+0.7
TCF	**Toulx Ste Croi**	5.28	5	*e*Pn	Pn	10 13 56.8	+0.7
TCF				*e*Pg	Pg	10 14 15.5	-5.2
TCF				*e*Sg	Sg	10 15 24.3	-6.7
	19nm,0.6s						
MBDF	**Montbardon**	5.31	44	*e*Pn	Pn	10 13 58.7	+2.1
EADA	**Adamuz**	5.54	241	Pn	Pn	10 13 58.5	-1.4
	SNR=5.0						
EADA				Sn	Sn	10 14 57.3	-7.1
	1.0nm,0.2s,SNR=5.0						
EADA	**Adamuz**	5.54	241	Pn	Pn	10 13 58.5	-1.4
EADA				Pg	Pg	10 14 19.9	-6.0
EADA				Sn	Sn	10 14 57.3	-7.1
BGF	**Bois d’Agland**	5.60	9	*e*Pg	Pg	10 14 23.5	-3.7
BGF				*e*Sg	Sg	10 15 36.4	-5.5
	35nm,0.4s						
MFF	**Saint Martin d**	5.71	348	*e*Pn	Pn	10 14 02.1	-0.1
MFF				*e*Pg	Pg	10 14 24.5	-4.8
MFF				*e*Sg	Sg	10 15 38.9	-6.5
	8.6nm,0.4s						
PGF	**Pioggiola**	5.75	72	*e*Pn	Pn	10 14 02.1	-0.8
PGF				*e*Sn	Sn	10 15 04.9	-4.8
	5.0nm,0.3s						
SMF	**Signal de Mont**	5.85	16	*e*Pg	Pg	10 14 27.5	-4.6
SMF				*e*Sg	Sg	10 15 42.8	-7.2
	7.5nm,0.5s						
LPL	**La Plagne**	5.86	38	*e*Pn	Pn	10 14 04.4	+0.1
AVF	**Avril sur Loir**	5.90	12	*e*Pg	Pg	10 14 28.1	-5.0
AVF				*e*Sg	Sg	10 15 46.0	-5.8
	6.5nm,0.4s						
SSF	**Saint Saulge**	6.19	12	*e*Pg	Pg	10 14 34.0	-4.9
SSF				*e*Sg	Sg	10 15 53.8	-7.6
	3.7nm,0.4s						
PBRG	**Braganca**	6.30	280	*e*Pn	Pn	10 14 09.9	-0.7
PBRG				*e*Sg	Sg	10 15 58.1	-6.9
	4.9nm,0.4s						
PBRG	**Braganca**	6.30	280	Pn	Pn	10 14 09.9	-0.7
PBRG				Lg		10 15 58.1	
	2.5nm,0.4s						
ECAL	**Calabor**	6.31	281	Pn	Pn	10 14 09.8	-0.9
	1.1nm,0.2s,SNR=7.2						
ECAL				Lg		10 16 00.8	
	10nm,0.3s,SNR=4.0						
LOR	**Lormes**	6.45	14	Pg	Pg	10 14 38.3	-5.8
LOR				Lg		10 16 01.4	
	2.3nm,0.3s						
LOR	**Lormes**	6.45	14	*e*Pg	Pg	10 14 38.3	-5.8
LOR				*e*Sg	Sg	10 16 01.4	-8.7
ERUA	**La Rua**	6.67	285	Pn	Pn	10 14 15.7	0.0
	0.7nm,0.2s,SNR=4.0						
EPON	**Pontenova**	6.88	292	Pn	Pn	10 14 17.5	-1.1
	SNR=7.9						
MTE	**Manteigas**	6.96	268	*e*Sg	Sg	10 16 18.0	-8.9
	3.4nm,0.5s						
MTE	**Manteigas**	6.96	268	Lg		10 16 18.0	
	1.7nm,0.5s						
EBAD	**Badajoz**	6.98	254	Pn	Pn	10 14 17.2	-2.9
	SNR=7.9						
PCBR	**Castelo Branco**	7.01	263	*e*Sg	Sg	10 16 19.1	-9.5
	2.4nm,0.3s						
PCBR	**Castelo Branco**	7.01	263	Lg		10 16 19.1	
	1.2nm,0.3s						
PVRL	**Vila Real**	7.02	275	*e*Sg	Sg	10 16 21.1	-7.8
PVIS	**Viseu**	7.18	271	*e*Pn	Pn	10 14 21.9	-1.1
PVIS				*e*Sg	Sg	10 16 25.3	-9.2
GRR	**Gorron**	7.56	348	*e*Pn	Pn	10 14 27.5	-0.8
QUIF	**Quistinic**	7.67	335	*e*Pn	Pn	10 14 29.1	-0.8
QUIF				*e*Sn	Sn	10 15 52.6	-5.2
	2.5nm,0.3s						
SGMF	**Saint Gilles**	7.80	339	*e*Pn	Pn	10 14 31.1	-0.5
SGMF				*e*Sn	Sn	10 15 56.1	-4.8
	4.3nm,0.5s						
FLN	**La Foliniere**	7.87	350	*e*Pn	Pn	10 14 31.8	-0.8
ROSF	**Rostrenen**	8.08	336	Pn	P	10 14 34.3	-1.2
ROSF				Sn	Sn	10 16 01.1	-6.8
	0.8nm,0.3s						
ROSF	**Rostrenen**	8.08	336	*e*Pn	P	10 14 34.3	-1.2
ROSF				*e*Sn	Sn	10 16 01.1	-6.8
GIVF	**Givet**	9.36	13	*e*Pn	P	10 14 52.1	-1.1

ISK ***22*** *10:17:56.9, 38.95N×42.33E, h5^{km}, MD3.5*

ISC 22 10:17:58.3±0.7**, 38.96N**±0.03×**42.33E**±0.04**, h2**^{km}±7^{km}**, n15, σ0^{s}97**/23**, 2C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRT	**Varto**	0.65	286	*i* PG	Pg	10 18 11.2	0.0
AGRT	**Agri**	0.83	38	PG	Pg	10 18 13.7	-1.1
AGRT				SG	Sg	10 18 26.9	+1.0
TVAN	**Van**	0.94	116	*i* P	Pb	10 18 16.6	-0.3
TVAN				*i* S	Sg	10 18 31.2	+1.5
VANT	**Van**	0.97	121	PG	Pg	10 18 15.1	-2.6
ERZM	**Erzurum**	1.21	322	⇑*i*P	Pb	10 18 21.1	-0.3
ERZM				*i* S	Sb	10 18 37.1	-0.2
EZM	**Erzurum**	1.21	322	PN	Pn	10 18 21.1	-1.0
EZM				SN	Sn	10 18 39.1	-0.1
BEST	**Besiri**	1.35	218	⇑*i*P	Pb	10 18 23.2	-0.7
BEST				*i* S	Sb	10 18 42.7	+1.3
BINT	**Bingol**	1.44	267	PN	Pn	10 18 24.6	-0.7
KARS	**Kars**	1.76	19	*e*PN	Pn	10 18 30.7	+0.8
HKR	**Hakkari**	1.77	141	PN	Pn	10 18 30.3	+0.2
DIY	**Diyarbakir**	1.96	238	*e*PN	Pn	10 18 32.6	-0.2
DIY				*e*SN	Sn	10 18 58.6	+0.3
ELZG	**Elazig**	2.66	261	*i* P	Pn	10 18 46.5	+3.7
ELZG				*i* S	Sg	10 19 26.1	-0.5
KELT	**Kelkit**	2.66	298	*i* P	Pn	10 18 50.4	+7.6
KELT				*i* S	Sg	10 19 29.3	+2.6
MYA	**Malataya**	3.12	260	*e*PN	Pn	10 18 49.5	+0.1
MALT	**Malatya**	3.12	259	*e*PN	Pn	10 18 49.2	-0.2

NIED ***22*** *10:26:00, 24.20N×125.20E, h20^{km}, Mw3.8 Best double couple: M$_0$4.98×10^{14} NP1:ϕ_s258°, δ82°, λ-114°. NP2: ϕ_s150°, δ25°, λ-19°.*

IDC ***22*** *10:26:46.6±1.2, 24.12N×124.77E, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, Error ellipse: s-maj=42.8km s-min=23.3km az=69.0*

JMA ***22*** *10:26:49.9±0.2, 24.24N×125.19E, M3.7*

ISC 22 10:26:50.8±0.9**, 24.3N**±0.1×**125.27E**±0.07**, h50**^{km}±10^{km}**, n12, σ0^{s}98**/19**, mb3.6**/4**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	0.44	16	P	P	10 27 01.4	0.0
JOGS				S	S	10 27 09.8	+0.8
JMJ	**Miyako jima 2**	0.48	2	P	P	10 27 01.6	-0.3
JMJ				S	S	10 27 10.1	+0.3
JTJ	**Tarama**	0.60	301	P	P	10 27 02.2	-1.1
JTJ				S	S	10 27 10.1	-2.4
JIJ	**Ishigaki jima**	1.03	272	P	P	10 27 08.4	-0.8
JIJ				S	S	10 27 22.4	-0.4
JKRS	**Kuro-shima**	1.16	266	P	P	10 27 10.8	-0.1
JKRS				S	S	10 27 25.8	-0.1
IRIF	**Iriomote-Funau**	1.41	270	P	P	10 27 15.7	+1.1
IRIF				S	S	10 27 35.2	+3.0
YOJ	**Yonaguni jima**	2.07	274	P	P	10 27 24.8	+1.0
YOJ				S	S	10 27 52.3	+4.0
JOW	**Kunigami**	3.68	47	Pn	P	10 27 51.7	+5.0
	baz=126,slow=19						
MKAR	**Makanchi Array**	40.87	314	P	P	10 34 29.1	-0.3
	0.8nm,0.4s,mb3.7,baz=103,slow=9.8,SNR=13						
WRA	**Warramunga Arr**	44.88	168	P	P	10 35 01.4	-1.0
	0.6nm,0.8s,mb3.5,baz=348,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	48.44	169	P	P	10 35 30.6	+0.2
	0.2nm,0.7s,mb3.3,baz=353,slow=7.0,SNR=4.6						
FINES	**FINESS Array B**	73.19	330	P	P	10 38 18.3	+0.5
	3.1nm,1.1s,mb4.1,baz=72,slow=6.0,SNR=5.5						

NIED ***22*** *10:36:00, 36.60N×142.80E, h5^{km}, Mw4.4 Best double couple: M$_0$4.29×10^{15} NP1:ϕ_s22°, δ55°, λ86°. NP2:ϕ_s210°, δ35°, λ96°.*

MOS ***22*** *10:36:14.3±1.2, 36.58N×142.92E, h33^{km}, mb4.5/17, Error ellipse: s-maj=20.3km s-min=8.5km az=101.0*

IDC ***22*** *10:36:14.8±0.5, 36.47N×142.84E, mb4.1/22, mb1 4.3/26, mb1mx4.3/31, ML3.9/4, MS3.6/8, Ms1 3.7/8, ms1mx3.3/33, Error ellipse: s-maj=16.7km s-min=11.6km az=106.0*

JMA ***22*** *10:36:16.8±0.3, 36.61N×142.79E, h29^{km}, M4.6*

NEIC ***22*** *10:36:16.0±3.6, 36.49N×142.82E, h8^{km}±22^{km}, mb4.7/10, MW4.4(NIED), Error ellipse: s-maj=9.2km s-min=6.3km az=111.0*

BJI ***22*** *10:36:18.7, 36.67N×142.10E, h5^{km}, mB4.8, mb4.5, Ms4.4, Msz4.2*

ISC 22 10:36:17.1±0.3**, 36.55N**±0.03×**142.79E**±0.04**, h27**^{km}**, h27**^{km}±2.9^{km}**:pP-P, n115, σ1^{s}14**/132**, mb4.3**/45**, MS4.0**/19**, 11C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	1.69	290	⇑P	Pn	10 36 45.1	-0.2
JFK	**Kawauchi**	1.74	299	⇑P	Pn	10 36 45.6	-0.4
JFK				*e*S	Sn	10 37 06.4	-1.0
CHOJ	**Chosi**	1.78	242	P	Pn	10 36 47.2	+0.6
CHOJ				S	Sn	10 37 07.9	-0.5
JHO	**Hitachi**	1.79	273	⇑P	Pn	10 36 46.6	-0.1
JHO				S	Sn	10 37 08.7	0.0
JMM	**Marumori**	2.06	310	⇑P	Pn	10 36 50.2	-0.5
JMM				S	Sn	10 37 15.6	-0.2
JFT	**Otama**	2.19	297	⇑P	Pn	10 36 53.0	+0.6
JFT				S	Sn	10 37 19.6	+0.7
JIO	**Ouri**	2.22	329	⇑P	Pn	10 36 51.9	-1.0
BSO1	**Boso 1**	2.40	218	P	Pn	10 36 56.2	+0.7
BSO1				S	Sn	10 37 26.3	+2.0
JFY	**Yanaizu**	2.61	290	⇑P	Pn	10 36 58.8	+0.3
JAG	**Ashikaga**	2.69	268	⇑P	Pn	10 36 59.4	-0.2
JMK	**Ichinoseki**	2.70	333	⇑P	Pn	10 36 59.0	-0.8
JMK				S	Sn	10 37 28.6	-3.3
JYK	**Kaneyama**	3.05	322	P	Pn	10 37 04.2	-0.5
JOM	**Ohasama**	3.15	338	⇑P	Pn	10 37 05.0	-1.1
JRY	**Ryogami san**	3.19	262	P	Pn	10 37 06.2	-0.4
JOD2	**Odawara 2**	3.27	248	P	Pn	10 37 08.7	+0.9
JIM2	**Oshima 3**	3.29	237	P	Pn	10 37 07.3	-0.8
MAJO	**Matsushiro**	3.69	271	*e*Pn	Pn	10 37 14.2	+0.4
MAT	**Matsushiro**	3.69	271	P	Pn	10 37 13.8	0.0
MAT				*e*S	Sn	10 37 57.4	+0.5
MAT	**Matsushiro**	3.69	271	*e*P	Pn	10 37 14.0	+0.2
MAT				S	Sn	10 37 59.0	+2.1
JHJ	**Hachijo jima 2**	4.22	217	Pn	Pn	10 37 19.9	-1.4
	54nm,0.3s,baz=26,slow=20,SNR=13						
JHJ				Sn	Sn	10 38 07.2	-3.2
	70nm,0.3s,baz=255,slow=23,SNR=6.4						
ASAJ	**Asahikawa**	7.56	359	Pn	Pn	10 38 05.5	-2.8
	5.4nm,0.3s,baz=222,slow=8.4,SNR=28						
ASAJ				Sn	Sn	10 39 28.9	-5.2
	2.1nm,0.3s,baz=240,slow=30,SNR=7.4						
ASAJ				LR	LR	10 41 17.4	
	comp=Z,116nm,19.8s,baz=8.9,slow=40						
ASAJ	**Asahikawa**	7.56	359	P	Pn	10 38 05.6	-2.8
ASAJ						10 39 28.9	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,116nm,19.8s						
CBIJ	**Chichi jima**	9.44	183	Pn	P	10 38 29.4	-5.0
	comp=Z,4.1nm,0.3s,baz=312,slow=19,SNR=3.2						
CBIJ				Sn	Sn	10 40 07.5	-13
	comp=Z,8.9nm,0.3s,baz=284,slow=22,SNR=2.9						
JNU	**Nakatsue**	10.37	254	Pn	P	10 38 45.5	-1.7
	comp=Z,0.3nm,0.3s,baz=102,slow=4.9,SNR=3.1						
JNU				LR	LR	10 42 59.6	
	comp=Z,299nm,20.2s,baz=77,slow=39						
YSS	**Yuzh-Sakhalins**	10.39	360	*e*P	P	10 38 44.0	-3.5
YSS				*e*S	S	10 40 34.0	-10
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,700nm,15.0s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
YSS	**Yuzh-Sakhalins**	10.39	360	*e*Pn	P	10 38 44.8	-2.7
	comp=Z,14nm,0.5s						
VLA	**Vladivostok**	10.63	311	*e*P	P	10 39 00.0	+9.2
VLA				MLR	MLR		
	comp=N,1µm,15.0s						
VLA				MLR	MLR		
	comp=Z,600nm,15.0s						
VLA				MLR	MLR		
	comp=E,500nm,14.0s						
KS15	**Wonju Array Si**	11.95	279	*e*Pn	P	10 39 08.2	-0.6
MDJ	**Mudanjiang**	12.85	313	P	P	10 39 20.5	-0.3
KLR	**Kul’dur**	15.01	331	*e*P	P	10 39 53.8	+4.8
KLR				MLR	MLR		
	comp=Z,2µm,13.0s						
SSE	**Sheshan**	18.74	259	⇓P	P	10 40 37.0	+0.8
SSE				AMB	AMB		
	comp=Z,38nm,0.7s						
SSE				LR	LR		
	comp=N,502nm,16.1s						
SSE				LR	LR		
	comp=E,186nm,16.1s						
SSE				LR	LR		
	comp=Z,592nm,13.4s						
NJ2	**Nanjing**	20.26	264	*e*P	P	10 40 55.1	+1.9
NJ2				PP	PP	10 41 14.9	+1.5
NJ2				S	S	10 44 37.0	+3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,790nm,4.2s						
NJ2				LR	LR		
	comp=N,660nm,9.5s						
NJ2				LR	LR		
	comp=E,990nm,15.6s						
NJ2				LR	LR		
	comp=Z,420nm,15.6s,MS3.9						
HIA	**Hailar**	21.03	314	*e*P	P	10 40 59.1	-1.8
BJI	**Beijing**	21.15	288	*e*P	P	10 40 57.6	-4.6
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.0						
BJI				LR	LR		
	comp=N,331nm,13.2s,MS4.0						
BJI				LR	LR		
	comp=E,252nm,15.6s,MS4.0						
BJI				LR	LR		
	comp=Z,113nm,16.3s,MS3.3						
BJT	**Baijiatuau**	21.15	288	*e*P	P	10 40 57.5	-4.8
CLNS	**Chul’man**	23.58	335	*e*P	P	10 41 23.9	-2.2
CLNS				*e*S	S	10 45 33.5	-1.5
CLNS				*e*SS	SS	10 46 44.7	+21
CLNS				pmax	pmax		
	comp=N,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				smax			
	comp=N,234nm,13.2s						
CLNS				smax			
	comp=Z,117nm,12.8s						
CLNS				smax			
	comp=E,47nm,13.9s						
CLNS				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,80nm,13.0s,MS4.2						
WHN	**Wuhan**	24.40	264	*e*P	P	10 41 33.5	-0.8
HHC	**Hu-ho-hao-te**	24.67	290	*e*P	P	10 41 36.8	-0.1
HHC				AP		10 41 47.1	
HHC				AMB	AMB		

	comp=Z,16nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,121nm,5.8s						
HHC				LR	LR		
	comp=N,243nm,13.5s,MS4.0						
HHC				LR	LR		
	comp=E,139nm,11.9s,MS4.0						
HHC				LR	LR		
	comp=Z,134nm,13.2s,MS3.6						
YAK	**Yakutsk**	**26.79**	**346**	*e*P	**P**	**10 41 57.6**	**+1.2**
YAK				e*PP	pP	10 42 06.3	+2.0
YAK				*e*		10 42 44.2	
YAK				*e*PPP	PPP	10 42 51.1	-2.4
YAK				*e*S	**S**	**10 46 38.9**	**+10**
YAK				*e*		10 52 43.8	
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
YAK				smax			
	comp=E,26nm,6.3s						
YAK				MLR	MLR		
	comp=Z,231nm,14.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,152nm,16.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,94nm,18.0s,MS3.7						
YAK	**Yakutsk**	**26.79**	**346**	*e*P	**P**	**10 41 55.8**	**-0.6**
	comp=E,18nm,0.8s,mb4.6						
SEY	**Seymchan**	**27.07**	**10**	*e*P	**P**	**10 41 58.9**	**0.0**
SEY				*e*PPP	PPP	10 42 58.5	+1.2
SEY				*e*S	**S**	**10 46 27.7**	**-5.6**
SEY				*e*SSS	SSS	10 48 01.9	-4.7
SEY				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.9						
SEY				pmax	pmax		
	comp=N,10.0nm,1.2s						
XAN	**Xi'an**	**27.68**	**275**	P	**P**	**10 42 05.3**	**+0.5**
XAN				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.4						
ENH	**Enshi**	**28.40**	**267**	*e*P	**P**	**10 42 09.5**	**-1.9**
	comp=Z,16nm,0.8s,mb4.7						
BOD	**Bodaibo**	**28.53**	**327**	*e*P	**P**	**10 42 12.0**	**-0.2**
SONM	**Songino Array**	**28.97**	**304**	P	**P**	**10 42 16.8**	**+0.5**
	comp=Z,7.3nm,1.0s,mb4.3,baz=106,slow=9.0,SNR=33						
LZH	**Lanzhou**	**31.24**	**281**	⇓P	**P**	**10 42 36.8**	**+0.2**
LZH				AP	pP	10 42 45.3	+0.7
LZH				XP	sP	10 42 48.9	+0.8
LZH				PP	PP	10 43 40.1	+0.2
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,117nm,4.3s						
LZH				LR	LR		
	comp=N,331nm,10.1s						
LZH				LR	LR		
	comp=Z,459nm,14.8s,MS4.3						
ZAK	**Zakamensk**	**31.43**	**309**	*e*P	**P**	**10 42 38.1**	**0.0**
ZAK				*e*		10 44 03.5	
GYA	**Guiyang**	**32.24**	**262**	P	**P**	**10 42 44.5**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
CD2	**Chengdu**	**32.78**	**272**	*e*P	**P**	**10 42 52.0**	**+1.9**
CD2				*e*S	**S**	**10 48 09.5**	**+5.2**
CD2				LR	LR		
	comp=N,410nm,14.4s						
CD2				LR	LR		
	comp=Z,390nm,14.4s,MS4.2						
GTA	**Gaotai**	**33.76**	**288**	*e*P	**P**	**10 42 59.3**	**+0.8**
GTA				AP	pP	10 43 03.4	-3.2
GTA				XP	sP	10 43 06.9	-3.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,46nm,5.0s						
GTA				LR	LR		
	comp=N,104nm,15.3s,MS3.8						
GTA				LR	LR		
	comp=E,68nm,13.4s,MS3.8						
GTA				LR	LR		
	comp=Z,79nm,17.6s,MS3.5						
KMI	**Kunming**	**35.99**	**263**	*e*P	**P**	**10 43 16.3**	**-1.4**
KMI				S	**S**	**10 48 56.3**	**+2.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=N,268nm,13.2s,MS4.3						
KMI				LR	LR		
	comp=E,238nm,16.3s,MS4.3						
KMI				LR	LR		
	comp=Z,241nm,13.4s,MS4.1						
WMQ	**Urumqi**	**42.04**	**298**	⇓P	**P**	**10 44 10.6**	**+2.8**
WMQ				AP	pP	10 44 16.8	+0.8
WMQ				XP	sP	10 44 21.3	+2.0
WMQ				PP	PP	10 45 51.6	+3.4
WMQ				PCP	PcP	10 46 05.6	+2.5
WMQ				S	**S**	**10 50 27.6**	**+2.6**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
WMQ				LR	LR		
	comp=N,162nm,17.2s,MS4.0						
WMQ				LR	LR		
	comp=E,71nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,70nm,16.6s,MS3.6						
CMAR	**Chiang Mai Arr**	**42.45**	**257**	P	**P**	**10 44 13.0**	**+1.5**
	comp=Z,0.9nm,0.7s,mb3.5,baz=53,slow=7.8,SNR=4.5						
CMAR				LR	LR	11 02 52.1	
	comp=Z,73nm,18.4s,MS3.6,baz=190,slow=38						
CMAR	**Chiang Mai Arr**	**42.45**	**257**	P	**P**	**10 44 13.0**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,73nm,18.4s						
ZAL	**Zalesovo**	**43.07**	**313**	P	**P**	**10 44 16.6**	**+0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=290,slow=7.4,SNR=8.3						
ZAL	**Zalesovo**	**43.07**	**313**	P	**P**	**10 44 16.6**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**43.36**	**276**	P	**P**	**10 44 17.8**	**-1.0**
MKAR	**Makanchi Array**	**45.31**	**303**	P	**P**	**10 44 34.6**	**+0.4**
	comp=Z,3.4nm,0.7s,mb4.3,baz=88,slow=10,SNR=18						
MKAR				LR	LR	11 02 30.1	
	comp=Z,54nm,20.0s,MS3.5,baz=286,slow=35						
PMG	**Port Moresby**	**45.90**	**174**	LR	LR	11 00 26.0	
	comp=Z,74nm,20.9s,MS3.6,baz=181,slow=32						
KURK	**Kurchatov**	**47.10**	**309**	*e*P	**P**	**10 44 48.4**	**+0.1**
	comp=Z,13nm,0.8s,mb4.9						
MCK	**McKinley**	**48.42**	**34**	*e*P	**P**	**10 44 58.8**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**10 45 05.2**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=266,slow=6.7,SNR=23						
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**10 45 05.2**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**51.77**	**313**	*e*P	**P**	**10 45 24.0**	**-0.2**
	comp=Z,2.9nm,0.9s,mb4.2						
INK	**Inuvik**	**54.31**	**27**	P	**P**	**10 45 43.0**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=257,slow=4.6,SNR=6.2						
INK	**Inuvik**	**54.31**	**27**	P	**P**	**10 45 43.0**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CTA	**Charters Tower**	**56.42**	**176**	P	**P**	**10 45 57.2**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.2,baz=352,slow=16,SNR=2.0						
CTA	**Charters Tower**	**56.42**	**176**	P	**P**	**10 45 57.2**	**-1.6**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CTA	**Charters Tower**	**56.42**	**176**	P	**P**	**10 45 57.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**56.72**	**200**	P	**P**	**10 46 01.0**	**0.0**
	comp=Z,3.3nm,1.1s,mb4.3,baz=340,slow=11,SNR=3.3						
WRAB	**Tennant Creek**	**56.74**	**190**	*e*P	**P**	**10 45 57.9**	**-3.1**
	comp=Z,8.3nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**56.75**	**190**	*e*P	**P**	**10 45 59.2**	**-1.9**
WRA	**Warramunga Arr**	**56.75**	**190**	P	**P**	**10 46 00.0**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=7.4,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**56.75**	**190**	P	**P**	**10 46 00.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**57.45**	**319**	⇑*i*P	**P**	**10 46 05.7**	**+0.1**
ARU				*e*		10 46 57.0	
ARU				*e*		10 48 14.0	
ARU				*e*S	**S**	**10 54 02.4**	**+3.3**
ARU				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.7						
ARU				MLR	MLR		
	comp=N,50nm,17.0s,MS4.0						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.0						
DLBC	**Dease Lake**	**58.33**	**38**	P	**P**	**10 46 12.0**	**+0.3**
	comp=E,1.4nm,0.8s,mb4.1,baz=275,slow=12,SNR=4.2						
DLBC	**Dease Lake**	**58.33**	**38**	P	**P**	**10 46 12.0**	**+0.3**
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**10 46 25.1**	**-1.9**
	comp=E,1.3nm,0.8s,mb4.0,baz=9.5,slow=6.4,SNR=16						
YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**10 46 47.1**	**-0.6**
	comp=E,1.4nm,0.8s,mb4.0,baz=297,slow=6.7,SNR=5.1						
YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**10 46 47.1**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**68.08**	**181**	P	**P**	**10 47 15.5**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=247,slow=1.3,SNR=3.1						
STKA	**Stephens Creek**	**68.08**	**181**	P	**P**	**10 47 15.5**	**-1.0**
FORT	**Forrest**	**68.39**	**194**	*e*P	**P**	**10 47 18.4**	**0.0**
	comp=Z,25nm,0.7s,mb5.4						
OBN	**Obninsk**	**69.14**	**324**	*e*P	**P**	**10 47 23.0**	**+0.3**
OBN				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
FINES	**FINESS Array B**	**69.75**	**333**	P	**P**	**10 47 26.4**	**+0.1**
	comp=Z,4.8nm,1.1s,mb4.3,baz=135,slow=8.1,SNR=4.9						
FINES				LR	LR	11 20 43.1	
	comp=Z,86nm,19.2s,MS4.0,baz=33,slow=38						
FINES	**FINESS Array B**	**69.75**	**333**	P	**P**	**10 47 26.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES				MLR	MLR		
	comp=Z,86nm,19.2s						
SOC	**Sochi**	**74.04**	**313**	*e*P	**P**	**10 47 51.5**	**-0.6**
SOC				*e*		10 48 07.2	
SOC				*e*		10 50 41.8	
SOC				*e*PPP	PPP	10 52 17.5	-6.6
SOC				*e*S	S	10 57 18.3	-3.2
SOC				*e*		10 57 52.4	
SOC				*e*SSS	SSS	11 05 25.2	+4.3
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=N,7.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,140nm,20.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,225nm,23.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,63nm,20.0s,MS4.4						
BOZ	**Bozeman (W)**	**74.28**	**45**	*e*P	**P**	**10 47 54.6**	**+1.2**
	comp=E,1.7nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**74.39**	**54**	P	**P**	**10 47 55.3**	**+1.1**
	comp=E,0.9nm,0.7s,mb3.8,baz=274,slow=7.4,SNR=12						
ANN	**Anapa**	**74.66**	**315**	*e*P	**P**	**10 48 00.3**	**+4.7**
ANN				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
NB2	**NORSAR Subarra**	**75.05**	**338**	P	**P**	**10 47 58.5**	**+0.9**
	comp=Z,6.3nm,1.0s,mb4.5,baz=38,slow=5.6						
NOA	**NORSAR Array B**	**75.05**	**338**	P	**P**	**10 47 59.1**	**+1.5**
	comp=Z,5.2nm,1.3s,mb4.3,baz=68,slow=8.0,SNR=2.8						
NOA				LR	LR	11 24 31.7	
	comp=Z,59nm,18.4s,MS3.9,baz=5.0,slow=39						
NOA	**NORSAR Array B**	**75.05**	**338**	P	**P**	**10 47 59.1**	**+1.5**
NOA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NOA				MLR	MLR		
	comp=Z,59nm,18.4s						
AKASG	**Malin Array Be**	**75.35**	**323**	P	**P**	**10 48 00.3**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=45,slow=5.9,SNR=8.8						
AKASG				LR	LR	11 26 04.2	
	comp=Z,62nm,18.9s,MS3.9,baz=50,slow=40						
AKASG	**Malin Array Be**	**75.35**	**323**	P	**P**	**10 48 00.4**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,62nm,18.9s						
FRB	**Frobisher Bay**	**76.99**	**14**	P	**P**	**10 48 09.1**	**+0.6**
	comp=Z,6.8nm,0.8s,mb4.6,baz=294,slow=3.5,SNR=2.9						
FRB	**Frobisher Bay**	**76.99**	**14**	P	**P**	**10 48 09.1**	**+0.7**
FRB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PDAR	**Pinedale Array**	**77.21**	**46**	P	**P**	**10 48 11.4**	**+1.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=307,slow=4.5,SNR=3.3						
BRTR	**Keskin Array B**	**80.00**	**312**	P	**P**	**10 48 26.9**	**+1.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=104,slow=5.1,SNR=4.3						
BRTR	**Keskin Array B**	**80.00**	**312**	P	**P**	**10 48 26.9**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PV10	**Paradox Valley**	**80.26**	**49**	*e*P	**P**	**10 48 28.6**	**+1.8**
CLL	**Collm**	**82.06**	**331**	P	**P**	**10 48 37.0**	**+1.1**
CLL	**Collm**	**82.06**	**331**	*e*P	**P**	**10 48 37.0**	**+1.1**
PRU	**Pruhonice**	**82.47**	**329**	*e*P	**P**	**10 48 37.5**	**-0.6**
KHC	**Kasperske Hory**	**83.53**	**329**	*e*P	**P**	**10 48 45.0**	**+1.5**
KHC					pP	10 48 55.0	+2.8
KHC	**Kasperske Hory**	**83.53**	**329**	*e*P	**P**	**10 48 45.0**	**+1.5**
KHC				*e*	pP	10 48 55.0	+2.8
GERES	**GERESS Array B**	**83.70**	**329**	P	**P**	**10 48 46.0**	**+1.6**
	comp=Z,1.9nm,1.0s,mb4.2,baz=34,slow=4.8,SNR=9.5						
GERES	**GERESS Array B**	**83.70**	**329**	P	**P**	**10 48 46.0**	**+1.6**
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GRA1	**Grafenberg Arr**	**84.04**	**331**	*e*P	**P**	**10 48 48.3**	**+2.2**
	comp=Z,3.0nm,0.8s,mb4.5						
GRA1				*e*pP	pP	10 48 58.8	+4.0
GRF	**Grafenberg Arr**	**84.04**	**331**	*e*P	**P**	**10 48 48.3**	**+2.2**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ANMO	**Albuquerque**	**84.04**	**51**	*e*P	**P**	**10 48 45.0**	**-1.5**
TXAR	**Lajitas Array**	**89.53**	**53**	P	**P**	**10 49 14.4**	**+1.0**
	comp=Z,0.6nm,0.7s,mb4.0,baz=326,slow=3.3,SNR=4.2						
LPAZ	**La Paz**	**145.97**	**62**	PKPbc	PKPbc	10 55 58.2	+3.3
	comp=Z,1.6nm,0.3s,baz=283,slow=2.0,SNR=2.2						
LPAZ	**La Paz**	**145.97**	**62**	PKP2	PKPab	10 55 58.2	+1.0
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	**145.97**	**62**	PKPbc	PKPbc	10 55 58.2	+3.3

IDC 22 10:45:12.2±30.0**,15.98S**×**179.23E,mb3.9**/4**,mb1 4.1**/4**, mb1mx3.7**/16**,Error ellipse: s-maj=563.0km s-min=139.6km az=81.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.64**	**238**	P	P	10 52 27.7	-3.1
	1.1nm,0.7s,baz=89,slow=12,SNR=2.8						
WB2	**Warramunga Arr**	**42.78**	**258**	*e*P	P	10 53 12.5	-1.0
WRA	**Warramunga Arr**	**42.79**	**258**	P	P	10 53 12.2	-1.3
	0.3nm,0.3s,baz=88,slow=8.2,SNR=22						
ASAR	**Alice Springs**	**43.17**	**252**	P	P	10 53 14.8	-1.9
	1.8nm,0.4s,baz=89,slow=8.0,SNR=89						
ASPA	**Alice Springs**	**43.18**	**252**	*e*P	P	10 53 14.7	-2.0
KAKA	**Kakadu**	**45.41**	**268**	*e*P	P	10 53 34.8	0.0
	6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.13**	**259**	P	P	10 54 17.8	-1.4
	1.6nm,0.9s,baz=93,slow=19,SNR=2.7						

IDC ***22*** *10:52:06.5*±*5.1,60.50N*×*152.51W,h64*^{km}±*41*^{km}*,mb3.7/2, mb1 3.7/7,mb1mx3.4/23,ML3.7/5,Error ellipse: s-maj=41.6km s-min=26.1km az=71.0*

NEIC ***22*** *10:52:11.7,60.49N*×*151.92W,h73*^{km}*,After AEIC.*

ISC 22 10:52:09.0±0.3**,60.51N**±0.02×**151.89W**±0.05**,h97**^{km}±3^{km}**, n80,**σ**0**^{s}**86**/94**,mb4.1**/2**,Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDT	**Redoubt**	**0.26**	**284**	P	**P**	**10 52 22.5**	**-0.5**
RDT				S	**S**	**10 52 31.7**	**-2.0**
REF	**Redoubt East F**	**0.40**	**267**	P	**P**	**10 52 23.4**	**-0.5**
REF				S	**S**	**10 52 33.2**	**-1.9**
RSO	**Redoubt South**	**0.43**	**263**	P	**P**	**10 52 23.7**	**-0.3**
NCT	**North Crescent**	**0.52**	**276**	P	**P**	**10 52 23.9**	**-0.8**
NNL	**Ninilchik**	**0.56**	**148**	P	**P**	**10 52 26.1**	**+1.1**
BKG	**Blockade Glaci**	**0.59**	**342**	P	**P**	**10 52 25.3**	**0.0**
SPU	**Mount Spurr**	**0.68**	**353**	P	**P**	**10 52 26.2**	**+0.1**
SPU				S	**S**	**10 52 38.3**	**-0.5**
ILIM	**Iliamna**	**0.69**	**231**	P	**P**	**10 52 25.5**	**-0.6**
CKL	**Chakachamna La**	**0.72**	**342**	P	**P**	**10 52 26.5**	**0.0**
CKL				S	**S**	**10 52 39.9**	**+0.4**
CRP	**Crater Peak**	**0.77**	**350**	P	**P**	**10 52 27.6**	**+0.6**
IVS	**Iliamna South**	**0.78**	**230**	P	**P**	**10 52 27.0**	**-0.1**
CGLM	**Capps Glacier**	**0.80**	**356**	P	**P**	**10 52 27.7**	**+0.4**
CGLM				S	**S**	**10 52 40.6**	**-0.2**
ILS	**Iliamna Low So**	**0.81**	**227**	P	**P**	**10 52 27.0**	**-0.4**
SLKM	**Skilak Lake**	**0.83**	**90**	P	**P**	**10 52 28.1**	**+0.5**
HOM	**Homer**	**0.87**	**172**	P	**P**	**10 52 28.9**	**+0.9**
HOM				S	**S**	**10 52 43.0**	**+1.0**
BRLK	**Bradley Lake**	**0.91**	**146**	P	**P**	**10 52 28.8**	**+0.4**
CNPM	**China Poot**	**1.04**	**161**	P	**P**	**10 52 30.3**	**+0.4**
FIB	**Fire Island**	**1.06**	**51**	P	**P**	**10 52 31.9**	**+1.7**
XLV	**Seldovia**	**1.07**	**175**	P	**P**	**10 52 30.4**	**+0.2**
XLV				S	**S**	**10 52 46.2**	**+0.1**
OPT	**Oil Point**	**1.09**	**218**	P	**P**	**10 52 30.6**	**+0.1**
SUA	**Susitna One**	**1.10**	**30**	P	**P**	**10 52 31.8**	**+1.1**
RC01	**Rabbit Creek A**	**1.20**	**60**	P	**P**	**10 52 32.6**	**+0.7**
RC01				S	**S**	**10 52 49.8**	**+0.8**
MPA	**Moose Pass**	**1.25**	**90**	P	**P**	**10 52 33.1**	**+0.6**
SEW	**Seward**	**1.28**	**108**	P	**P**	**10 52 32.9**	**0.0**
PMS	**Palmer South**	**1.35**	**56**	P	**P**	**10 52 34.8**	**+1.1**
AUL	**Augustine Lava**	**1.38**	**215**	P	**P**	**10 52 34.0**	**+0.1**
AUE	**Augustine Isla**	**1.38**	**213**	P	**P**	**10 52 33.9**	**-0.1**
SKT	**Skwentna**	**1.48**	**7**	P	**P**	**10 52 35.7**	**+0.5**
PWA	**Palmer West**	**1.50**	**40**	P	**P**	**10 52 36.9**	**+1.4**
PMR	**Palmer**	**1.72**	**50**	P	**P**	**10 52 38.9**	**+0.6**
PMR				S	**S**	**10 52 59.9**	**-0.1**
PWL	**Port Wells**	**1.78**	**77**	P	**P**	**10 52 39.5**	**+0.4**
KNK	**Knik Glacier**	**1.90**	**60**	P	**P**	**10 52 41.4**	**+0.8**
GHO	**Glory Hole Cre**	**1.92**	**47**	P	**P**	**10 52 41.7**	**+0.9**
SVW	**Sparrevohn**	**1.92**	**290**	P	**P**	**10 52 40.3**	**-0.6**
SYI	**Shuyak Island**	**1.93**	**188**	P	**P**	**10 52 41.5**	**+0.6**
CUT	**Chulitna**	**2.05**	**22**	P	**P**	**10 52 43.7**	**+1.1**
CFI	**College Fiord**	**2.13**	**70**	P	**P**	**10 52 43.5**	**-0.1**
SML	**Sawmill**	**2.16**	**51**	P	**P**	**10 52 44.8**	**+0.7**
SML				S	**S**	**10 53 09.5**	**-0.6**
GLI	**Glacier Island**	**2.39**	**79**	P	**P**	**10 52 46.3**	**-0.9**
SCM	**Sheep Creek Mo**	**2.58**	**57**	P	**P**	**10 52 50.4**	**+0.5**
HIN	**Hinchinbrook I**	**2.67**	**90**	P	**P**	**10 52 50.1**	**-1.1**
FID	**Port Fidalgo**	**2.68**	**83**	P	**P**	**10 52 49.9**	**-1.4**
FID				S	**S**	**10 53 21.3**	**-1.5**
KDAK	**Kodiak Island**	**2.76**	**188**	P	**P**	**10 52 51.5**	**-0.9**
VLZ	**Valdez**	**2.79**	**75**	P	**P**	**10 52 52.3**	**-0.5**
VLZ				S	**S**	**10 53 24.8**	**-0.9**
KABR	**Katmai Barrier**	**2.86**	**215**	P	**P**	**10 52 54.2**	**+0.4**
MID	**Middleton Isla**	**3.00**	**109**	*e*P	**P**	**10 52 54.6**	**-1.0**
CAHL	**Cahill**	**3.03**	**217**	P	**P**	**10 52 56.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.04**	**87**	P	**P**	**10 52 53.9**	**-2.3**
TRF	**Thorofare Moun**	**3.04**	**14**	P	**P**	**10 52 56.6**	**+0.3**
DIV	**Divide**	**3.06**	**76**	P	**P**	**10 52 55.7**	**-0.8**
KTH	**Kantishna Hill**	**3.08**	**8**	P	**P**	**10 52 57.1**	**+0.3**
TT01	**Tatalina**	**3.10**	**322**	P	**P**	**10 52 56.8**	**-0.3**
DHY	**Denali Highway**	**3.35**	**38**	P	**P**	**10 53 01.1**	**+0.7**
TZL	**Tazlina**	**3.48**	**61**	P	**P**	**10 53 02.8**	**+0.6**
MCK	**McKinley**	**3.52**	**22**	P	**P**	**10 53 03.2**	**+0.5**
BMRM	**Bremner River**	**3.61**	**80**	P	**P**	**10 53 02.7**	**-1.3**
PAX	**Paxson**	**3.92**	**48**	P	**P**	**10 53 09.3**	**+0.9**
GLB	**Gilahina Butte**	**4.05**	**73**	P	**P**	**10 53 09.7**	**-0.3**
THY	**Trims Highway**	**4.11**	**42**	P	**P**	**10 53 12.5**	**+1.7**
WAX	**Waxell Ridge**	**4.47**	**87**	P	**P**	**10 53 14.2**	**-1.6**
HDA	**Harding Lake**	**4.53**	**28**	P	**P**	**10 53 17.1**	**+0.5**
CCB	**Clear Creek Bu**	**4.56**	**23**	P	**P**	**10 53 16.5**	**-0.5**
BALM	**Baldy**	**4.71**	**79**	P	**P**	**10 53 17.7**	**-1.4**
COLA	**College**	**4.75**	**21**	P	**P**	**10 53 20.2**	**+0.5**
IL1	**Eielson Array**	**4.86**	**26**	P	**P**	**10 53 21.3**	**+0.2**
ILAR	**Eielson Array**	**4.86**	**26**	P	**P**	**10 53 20.8**	**-0.3**
	12nm,0.3s,baz=218,slow=13,SNR=372						
ILAR				S	**S**	**10 54 14.8**	**-1.7**
	6.1nm,0.3s,baz=205,slow=24,SNR=7.4						
BCA3	**Beaver Creek A**	**5.43**	**58**	P	**P**	**10 53 29.1**	**+0.2**
IM3	**Indian Mountai**	**5.55**	**352**	P	**P**	**10 53 30.1**	**-0.5**
IMA	**Indian Mountai**	**5.63**	**353**	*e*P	**P**	**10 53 32.2**	**+0.5**
PCA	**Pinnacle**	**5.80**	**89**	P	**P**	**10 53 33.6**	**-0.3**
PNL	**Peninsula**	**6.31**	**92**	P	**P**	**10 53 39.8**	**-1.2**
DAWY	**Dawson**	**6.83**	**53**	P	**P**	**10 53 48.2**	**0.0**
INK	**Inuvik**	**11.09**	**38**	P	**P**	**10 54 45.6**	**0.0**
	0.3nm,0.3s,baz=239,slow=15,SNR=13						
INK				S	**S**	**10 56 46.9**	**-1.3**
	0.1nm,0.3s,baz=281,slow=20,SNR=2.3						
DLBC	**Dease Lake**	**11.30**	**91**	P	**P**	**10 54 49.6**	**+1.2**
	0.1nm,0.3s,baz=270,slow=19,SNR=4.2						
BBB	**Bella Bella**	**15.52**	**112**	P	**P**	**10 55 45.0**	**+1.9**
	0.3nm,0.3s,baz=301,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**17.74**	**67**	P	**P**	**10 56 11.8**	**+1.1**
	0.1nm,0.3s,baz=278,slow=10.0,SNR=3.7						
ARCES	**ARCESS Array B**	**50.23**	**1**	P	**P**	**11 00 55.3**	**-1.0**
	3.7nm,1.0s,mb4.3,baz=6.3,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	**50.23**	**1**	P	**P**	**11 00 55.3**	**-1.0**
FINES	**FINESS Array B**	**58.36**	**1**	P	**P**	**11 01 54.7**	**-0.9**
	0.8nm,0.7s,mb3.9,baz=14,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**58.36**	**1**	P	**P**	**11 01 54.7**	**-0.9**

IDC ***22*** *11:12:25.0*±*0.7,11.64N*×*85.44W,h173*^{km}±*19*^{km}*,mb3.4/7, mb1 3.7/7,mb1mx3.4/19,Error ellipse: s-maj=36.3km s-min=29.2km az=64.0*

NEIC ***22*** *11:12:25.9*±*0.8,11.54N*×*85.50W,h187*^{km}±*10*^{km}*,mb3.6/3, Error ellipse: s-maj=28.4km s-min=13.8km az=79.0*

CASC ***22*** *11:12:26.0*±*1.8,11.34N*×*85.86W,h179*^{km}±*5*^{km}*,MD3.8, mb3.6(NEIC)*

ISC 22 11:12:25.6±0.3**,11.60N**±0.08×**85.63W**±0.07**,h190**^{km}±3^{km}**, n49,**σ**0**^{s}**98**/66**,mb3.6**/10**,15C-8D,Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**0.04**	**179**	⇑*e*P	**P**	**11 12 50.5**	**-0.2**
APON	**Apoyo**	**0.53**	**306**	⇓*e*P	**P**	**11 12 51.8**	**-0.2**
COFN	**Cofrada**	**0.72**	**319**	⇓*e*P	**P**	**11 12 53.0**	**+0.2**
TICN	**Ticuantepe**	**0.73**	**306**	⇑*e*P	**P**	**11 12 52.8**	**0.0**
TICN				*e*S	**S**	**11 13 14.4**	**+0.4**
CRUN	**El Crucero**	**0.76**	**300**	⇓*e*P	**P**	**11 12 53.0**	**0.0**
WILN	**Americas 2**	**0.78**	**315**	⇑*e*P	**P**	**11 12 53.3**	**+0.2**
WILN				*e*S	**S**	**11 13 14.2**	**-0.2**
MGAN	**Managua**	**0.81**	**312**	⇑*e*P	**P**	**11 12 53.1**	**-0.2**
MGAN				*e*S	**S**	**11 13 14.4**	**-0.4**
XAVN	**Gruta Xavier**	**0.88**	**309**	⇑*e*P	**P**	**11 12 53.7**	**+0.1**
XAVN				*e*S	**S**	**11 13 15.5**	**+0.1**
PYTN	**Playitas**	**1.02**	**336**	⇓*e*P	**P**	**11 12 55.5**	**+0.9**
PYTN				*e*S	**S**	**11 13 16.9**	**-0.2**
COPN	**Copaltepe**	**1.11**	**301**	⇑*e*P	**P**	**11 12 54.6**	**-0.7**
MOMJ	**Momotombo**	**1.20**	**312**	⇑*e*P	**P**	**11 12 55.8**	**-0.3**
MIRN	**Miramar**	**1.35**	**308**	*e*P	**P**	**11 12 56.3**	**-1.1**
JTS	**JuntasAbangare**	**1.46**	**153**	P	**P**	**11 12 57.0**	**-1.4**
	125nm,0.3s,baz=342,slow=13,SNR=639						
JTS				S	**S**	**11 13 19.2**	**-4.5**
	287nm,0.3s,baz=140,slow=24,SNR=25						
JTS	**JuntasAbangare**	**1.46**	**153**	⇑*i*Pn	**P**	**11 12 57.2**	**-1.2**
JTS				*e*Sn	**S**	**11 13 19.3**	**-4.5**
VCR	**Vista de Mar**	**1.47**	**180**	⇑*i*P	**P**	**11 12 56.5**	**-2.0**
VCR				*e*S	**S**	**11 13 18.9**	**-4.9**
LEON	**Leon**	**1.48**	**303**	⇑*e*P	**P**	**11 12 57.8**	**-0.8**
LEON				*e*S	**S**	**11 13 22.5**	**-1.5**
PYN	**Poneloya**	**1.57**	**300**	⇑*e*P	**P**	**11 12 58.4**	**-1.1**
VPS2	**Volcan Poas 2**	**1.96**	**136**	⇑*e*P	**P**	**11 13 04.2**	**+1.0**
VPS2				*e*S	**S**	**11 13 33.3**	**+1.1**
PRS1	**Puriscal**	**2.06**	**141**	⇑*e*P	**P**	**11 13 04.7**	**+0.4**
TRTC	**Tortuguero**	**2.14**	**118**	⇓*e*P	**P**	**11 13 05.4**	**+0.2**
SJS	**Escuela Geolog**	**2.26**	**137**	⇓*e*P	**P**	**11 13 07.1**	**+0.5**
SJS				*e*S	**S**	**11 13 36.3**	**-1.9**
ICR	**Volcan Irazu**	**2.39**	**132**	*e*P	**P**	**11 13 08.8**	**+0.8**
ICR				*e*S	**S**	**11 13 44.0**	**+3.2**
LCR2	**La Lucha 2**	**2.44**	**139**	*e*P	**P**	**11 13 08.7**	**0.0**
LCR2				*e*S	**S**	**11 13 39.8**	**-2.1**
URSC	**Urasca**	**2.53**	**134**	⇓*e*P	**P**	**11 13 10.3**	**+0.6**
URSC				*e*S	**S**	**11 13 44.5**	**+0.9**
CNCH	**Conchagua**	**2.72**	**308**	*e*P	**P**	**11 13 12.8**	**+0.9**
CNCH				*e*S	**S**	**11 13 49.4**	**+1.7**
BUS	**Buena Vista**	**2.74**	**138**	⇑*e*P	**P**	**11 13 12.6**	**+0.4**
BUS				*e*S	**S**	**11 13 50.8**	**+2.7**
ACR	**Cerro Adams**	**3.80**	**140**	⇓*e*P	**P**	**11 13 24.8**	**-0.3**
ACR				*e*S	**S**	**11 14 11.5**	**+0.3**
LCBS	**La Ceiba**	**3.86**	**302**	*e*P	**P**	**11 13 26.1**	**+0.3**
LCBS				*e*S	**S**	**11 14 10.3**	**-2.1**
LFRS	**El Faro**	**3.91**	**301**	⇑*e*P	**P**	**11 13 26.8**	**+0.3**
LFRS				*e*S	**S**	**11 14 13.7**	**+0.1**
SBLS	**San Blas**	**4.49**	**300**	*e*P	**P**	**11 13 34.3**	**+0.4**
SBLS				*e*S	**S**	**11 14 28.4**	**+1.6**
RTR	**El Retiro**	**4.54**	**301**	*e*P	**P**	**11 13 35.7**	**+1.2**
RTR				*e*S	**S**	**11 14 29.0**	**+1.2**

SWET	Sewanee	23.51	359	eP	P	11 17 21.3	+1.7
TXAR	Lajitas Array	24.37	319	P	P	11 17 28.4	+0.8
	1.1nm,0.4s,mb3.7,baz=142,slow=9.6,SNR=13						
CCM	Cathedral Cave	26.82	350	eP	P	11 17 49.2	-1.0
	1.6nm,0.5s,mb3.9						
SDCO	Great Sand Dun	31.54	329	P	P	11 18 32.3	+0.2
	0.6nm,0.6s,mb3.5						
PDAR	Pinedale Array	37.37	331	P	P	11 19 21.6	0.0
	0.2nm,0.5s,mb3.0,baz=151,slow=9.3,SNR=2.6						
MNV	Mina	39.42	318	eP	P	11 19 39.0	+0.4
	1.0nm,0.7s,mb3.5						
ULM	Lac du Bonnet	39.45	350	P	P	11 19 37.9	-0.8
	2.5nm,0.7s,mb4.0,baz=167,slow=5.3,SNR=2.9						
ULM	Lac du Bonnet	39.45	350	P	P	11 19 37.9	-0.8
NVAR	Mina Array Bea	39.52	318	P	P	11 19 40.1	+0.8
	0.8nm,0.6s,mb3.5,baz=128,slow=7.1,SNR=12						
NVAR				PcP	PcP	11 21 43.7	+0.1
	0.4nm,0.7s,baz=123,slow=2.9,SNR=3.8						
NVAR	Mina Array Bea	39.52	318	P	P	11 19 40.1	+0.8
NVAR				PcP	PcP	11 21 43.7	+0.1
SCHQ	Schefferville	45.60	15	P	P	11 20 27.3	-1.0
	3.6nm,0.5s,mb4.3,baz=206,slow=4.6,SNR=10						
YKA	Yellowknife Ar	54.90	344	P	P	11 21 36.8	-1.7
	0.3nm,0.4s,mb3.4,baz=132,slow=8.2,SNR=4.2						
ILAR	Eielson Array	67.52	336	P	P	11 23 01.6	-1.4
	0.7nm,1.0s,mb3.3,baz=131,slow=4.4,SNR=4.5						
MOX	Moxa	85.67	39	eP	P	11 24 40.0	-4.0
STKA	Stephens Creek	132.16	237	PKP	PKPdf	11 31 19.1	+1.6
	1.3nm,0.8s,baz=306,slow=9.3,SNR=2.9						
ASAR	Alice Springs	140.59	247	PKP	PKPdf	11 31 34.7	+1.6
	0.5nm,0.5s,baz=99,slow=2.3,SNR=6.1						
WRAB	Tennant Creek	140.73	253	P	PKPdf	11 31 32.6	-0.8
WRA	Warramunga Arr	140.74	253	PKP	PKPdf	11 31 35.0	+1.5
	0.8nm,0.6s,baz=93,slow=2.6,SNR=9.3						

IDC 22 11:34:16.3±1.4**, 1.13N**×**126.75E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/14**, Error ellipse: s-maj=136.0km s-min=21.6km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.23	161	P	P	11 39 14.0	-2.2
	0.4nm,0.3s,baz=340,slow=11,SNR=24						
WB2	Warramunga Arr	22.23	161	eP	P	11 39 14.4	-1.9
ASAR	Alice Springs	25.61	165	P	P	11 39 48.3	-0.9
	0.2nm,0.4s,baz=347,slow=10.0,SNR=4.1						
SONM	Songino Array	49.76	342	P	P	11 43 11.0	-1.5
	0.2nm,0.4s,baz=162,slow=9.1,SNR=2.3						
MKAR	Makanchi Array	59.70	326	P	P	11 44 22.2	-2.8
	0.3nm,0.3s,baz=117,slow=7.9,SNR=6.2						

*LDG **22** 11:42:58.9±0.3, 40.95N×1.57E, h2^{km}, Md2.5/3, Ml2.5/5, Error ellipse: s-maj=4.4km s-min=2.2km az=173.0*

*MDD **22** 11:43:00.3±0.7, 41.00N×1.55E, mbLg1.9/17, Error ellipse: s-maj=5.7km s-min=2.9km az=162.0, PRXIMO AftershockPLICA*

*NEIC **22** 11:43:00.1, 40.98N×1.55E, ML2.5(LDG), MN2.0(MDD), After MDD.*

ISC 22 11:42:59.8±0.8**, 41.10N**±0.04×**1.46E**±0.05**, h10^{km}, n27, σ1^{s}31**/36**, 1C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGAR	Garraf	0.32	308	Pg	Pg	11 43 07.3	+1.0
CGAR				Lg		11 43 13.1	
	16nm,0.2s						
EPOB	Poblet	0.39	311	⇑Pg	Pg	11 43 09.1	+1.5
	4.1nm,0.1s,SNR=18						
EPOB				Lg		11 43 16.8	
	9.4nm,0.1s,SNR=5.0						
EBR	Ebro Roquetas	0.79	250	eSG	Sg	11 43 27.0	+0.9
EMIR	Miracle	0.82	3	Pg	Pg	11 43 16.9	+0.7
	8.3nm,0.2s,SNR=11						
EMIR				Lg		11 43 29.8	
	7.6nm,0.1s,SNR=5.0						
EMIR	Miracle	0.82	3	Pg	Pg	11 43 16.9	+0.7
EMIR				Lg		11 43 31.9	
CAVN	Les Avellanes	0.95	326	Pg	Pg	11 43 19.7	+0.9
CAVN				Lg		11 43 35.1	
	20nm,0.2s						
CFON	Fontmartina	0.99	48	Lg		11 43 32.7	
	10.0nm,0.2s						
CORG	Organya	1.14	355	Pg	Pg	11 43 23.1	+0.6
CORG				Lg		11 43 40.3	
	1.8nm,0.1s						
CSOR	Sort	1.30	349	Pg	Pg	11 43 26.4	+0.6
CSOR				Lg		11 43 46.1	
	9.9nm,0.4s						
CBRU	Bruguera	1.30	24	Pg	Pg	11 43 25.5	-0.3
EGRA	Graus	1.39	322	Pg	Pg	11 43 28.2	+0.6
	1.4nm,0.2s,SNR=7.9						
EGRA				Lg		11 43 48.8	
	5.2nm,0.2s,SNR=7.9						
CLLI	Llivia	1.43	15	Pn	Pn	11 43 28.8	+2.9
CLLI				Sn	Sn	11 43 47.5	+2.6
	1.1nm,0.0s						
ESAC	San Caprasio	1.58	294	Pn	Pn	11 43 28.5	+0.4
	5.8nm,0.3s,SNR=7.4						
ESAC				Lg		11 43 54.3	
	31nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.58	294	Pn	Pn	11 43 28.5	+0.4
ESAC				Lg		11 43 54.3	
EMOS	Mosqueruela	1.64	244	Pn	Pn	11 43 29.1	+0.2
	0.3nm,0.4s,SNR=4.0						
EMOS				Pg	Pg	11 43 31.0	-1.7
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		11 43 53.9	
	1.6nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	1.64	244	Pn	Pn	11 43 29.1	+0.2
EMOS				Pg	Pg	11 43 30.9	-1.7
EMOS				Sn	Sn	11 43 49.4	-0.9
EMOS				Lg		11 43 53.9	
SALF	Salau	1.67	353	Lg		11 43 56.1	
EJON	La Jonquera	1.72	38	Pn	Pn	11 43 30.9	+0.8
	0.2nm,0.1s,SNR=7.9						
EJON				Pg	Pg	11 43 32.6	-1.6
	0.3nm,0.1s,SNR=7.3						
EJON				Lg		11 43 55.6	
	5.1nm,0.2s,SNR=5.0						
EJON	La Jonquera	1.72	38	Pn	Pn	11 43 30.9	+0.8
EJON				Pg	Pg	11 43 32.6	-1.6
EJON				Lg		11 43 55.6	
MELF	Melles	1.85	344	Lg		11 44 01.5	
EPF	Esparros	2.10	337	ePg	Pg	11 43 41.0	-0.8
EPF				eSg	Sg	11 44 09.7	-0.2
	5.5nm,0.2s						
MTLF	Montolieu	2.31	14	ePg	Pg	11 43 43.9	-2.0
MTLF				eSg	Sg	11 44 15.4	-1.3
	5.0nm,0.4s						
ETSF	Etsaut	2.35	321	ePg	Pg	11 43 45.9	-0.7
ETSF				eSg	Sg	11 44 18.0	+0.1
	6.4nm,0.4s						
ETOR	Torete	2.68	265	Pn	Pn	11 43 45.8	+2.0
	SNR=4.0						
ETOR				Pg	Pg	11 43 50.9	-2.4
	1.8nm,0.4s,SNR=5.0						
ETOR				Lg		11 44 27.2	
	SNR=5.0						
SJPF	Ste Jean	2.84	316	ePg	Pg	11 43 54.6	-1.8
SJPF				eSg	Sg	11 44 32.6	-1.7
	2.8nm,0.3s						
EALK	Alkurruntz	3.06	315	Pg	Pg	11 44 00.2	-0.7
	SNR=5.0						
EALK				Sn	Sn	11 44 28.8	+2.6
	SNR=4.0						
EALK				Lg		11 44 42.1	
	1.1nm,0.2s,SNR=7.9						
LASF	Ste Croix	3.46	30	eSg	Sg	11 44 50.3	-4.7
	1.3nm,0.2s						

*CASC **22** 11:55:58.4±2.3, 10.39N×86.22W, h26^{km}±8^{km}, MD4.0*

ISC 22 11:55:58.2±1.5**, 10.4N**±0.1×**86.2W**±0.1**, h24^{km}**±10^{km}**, n20, σ0^{s}90**/24**, 6C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.64	117	⇑eP	Pb	11 56 10.0	-0.7
VCR				eS	Sb	11 56 19.2	0.0
CRZC	La Cruz	0.80	49	⇑eP	Pb	11 56 13.9	+0.6
CONN	Concepcion	1.27	27	⇑eP	Pn	11 56 21.6	+0.8
CRUN	El Crucero	1.55	357	⇓eP	Pn	11 56 24.8	0.0
TICN	Ticuantepe	1.60	359	eP	Pn	11 56 24.0	-1.5
MGAN	Managua	1.71	359	eP	Pn	11 56 28.7	+1.6
COPN	Copaltepe	1.79	348	⇓eP	Pn	11 56 27.8	-0.3
PRS1	Puriscal	1.92	103	⇑eP	Pn	11 56 29.1	-1.0
VPS2	Volcan Poas 2	1.96	97	⇑eP	Pn	11 56 31.1	+0.5
VPS2				eS	Sn	11 56 53.7	-0.9
MOMJ	Momotombo	2.00	351	eP	Pn	11 56 30.9	-0.2
MIRN	Miramar	2.06	346	eP	Pn	11 56 32.7	+0.6
LEON	Leon	2.09	341	eP	Pn	11 56 32.0	-0.5
LEON				eS	Sn	11 56 58.3	+0.3
PYN	Poneloya	2.10	338	eP	Pn	11 56 32.6	0.0
PYN				eS	Sn	11 56 58.3	0.0
PYTN	Playitas	2.11	4	eP	Pn	11 56 31.2	-1.5
SJS	Escuela Geolog	2.18	103	eP	Pn	11 56 35.2	+1.5
TEL3	Telica 3	2.22	344	eP	Pn	11 56 34.4	0.0
LCR2	La Lucha 2	2.28	107	⇑eP	Pn	11 56 34.9	-0.3
ICR	Volcan Irazu	2.38	100	eP	Pn	11 56 39.1	+2.5
TRTC	Tortuguero	2.46	86	eP	Pn	11 56 36.5	-1.2
URSC	Urasca	2.46	104	eP	Pn	11 56 38.2	+0.4

*BJI **22** 12:04:16.9, 40.24N×98.13E, h10^{km}, ML4.0*

*IDC **22** 12:04:16.4±0.9, 39.96N×98.71E, mb3.7/7, mb1 3.9/9, mb1mx3.7/22, ML4.4/2, Error ellipse: s-maj=28.8km s-min=16.9km az=61.0*

*NEIC **22** 12:04:17.8±0.6, 39.95N×98.61E, h10^{km}, mb3.5/2, Error ellipse: s-maj=17.7km s-min=10.3km az=51.0*

ISC 22 12:04:18.3±0.7**, 40.29N**±0.07×**98.36E**±0.08**, h10^{km}, n13, σ1^{s}77**/16**, mb3.7**/8**, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA	Gaotai	1.43	128	PG	Pg	12 04 45.4	-1.4
GTA				SG	Sg	12 05 06.6	+0.8
GTA				Smax			
	comp=N,1µm,0.6s						
GTA				Smax			
	comp=E,1µm,0.5s						
WMQ	Urumqi	8.68	297	eP	P	12 06 25.5	-1.4
WMQ				S	Sn	12 07 51.8	-14
WMQ				Smax			
	comp=N,33nm,0.7s						
WMQ				Smax			
	comp=E,38nm,0.7s						
SONM	Songino Array	9.49	35	Pn	P	12 06 36.6	-1.6
	comp=E,3.7nm,0.3s,baz=217,slow=16,SNR=35						
SONM				Sn	Sn	12 08 26.1	+0.1
	comp=E,1.2nm,0.3s,baz=215,slow=26,SNR=5.5						
SONM				Lg		12 09 20.7	
	comp=E,0.6nm,0.3s,baz=223,slow=27,SNR=6.4						
MKAR	Makanchi Array	13.34	304	Pn	P	12 07 26.9	-3.2
	comp=E,0.4nm,0.3s,baz=112,slow=15,SNR=11						
MKAR				Lg		12 11 21.1	
	comp=E,0.1nm,0.3s,baz=119,slow=26,SNR=3.1						
KURK	Kurchatov	17.27	314	P	P	12 08 23.6	+2.7
	comp=E,3.6nm,1.1s						
BVAR	Borovoye Array	22.86	313	P	P	12 09 24.2	+1.6
	comp=E,0.6nm,0.5s,mb3.3,baz=97,slow=12,SNR=6.6						
BRVK	Borovoye	22.94	313	P	P	12 09 25.0	+1.6
	comp=E,1.3nm,0.6s,mb3.5						
ARCES	ARCESS Array B	46.98	333	P	P	12 12 52.4	+1.7
	comp=E,1.7nm,0.7s,mb4.1,baz=72,slow=8.6,SNR=3.1						
FINES	FINESS Array B	47.41	322	P	P	12 12 55.9	+1.7
	comp=E,1.5nm,0.8s,mb4.0,baz=56,slow=10.0,SNR=3.6						
NOA	NORSAR Array B	54.46	323	P	P	12 13 48.8	+1.1
	comp=E,0.3nm,0.7s,mb3.4,baz=69,slow=6.1,SNR=2.6						
FITZ	Fitzroy Crossi	63.41	151	P	P	12 14 44.9	-5.5
	comp=E,1.2nm,0.6s,mb4.2,baz=315,slow=4.3,SNR=3.6						
WRA	Warramunga Arr	68.66	144	P	P	12 15 18.5	-5.5
	comp=E,0.4nm,0.7s,mb3.5,baz=343,slow=6.6,SNR=6.0						
ASAR	Alice Springs	71.73	146	P	P	12 15 37.9	-4.7
	comp=E,0.5nm,0.6s,mb3.6,baz=338,slow=6.1,SNR=9.3						

*NEIC **22** 12:15:34.9±2.0, 33.11S×178.58W, h50^{km}, mb3.9/1, Error ellipse: s-maj=41.3km s-min=21.8km az=98.0*

*IDC **22** 12:15:35.9±8.8, 33.07S×178.71W, h51^{km}±79^{km}, mb3.7/4, mb1 3.9/5, mb1mx3.6/16, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/22, Error ellipse: s-maj=60.9km s-min=55.7km az=145.0*

ISC 22 12:15:42.4±2.3**, 33.7S**±0.1×**178.8W**±0.3**, h132^{km}**±18^{km}**, n16, σ0^{s}71**/16**, mb3.7**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	4.93	208	eP	P	12 16 56.9	+1.3
URZ	Urewera	5.59	215	P	P	12 17 04.4	0.0
	2.6nm,0.3s,baz=322,slow=20,SNR=28						
URZ				S	S	12 18 15.0	+7.1
	2.2nm,0.3s,baz=154,slow=20,SNR=8.6						
URZ	Urewera	5.59	215	P	P	12 17 04.0	-0.4
KNZ	Kokohu	5.98	207	eP	P	12 17 09.2	-0.4
OUZ	Omahuta	6.44	255	P	P	12 17 15.3	-0.6
NNZ	Nelson	9.70	217	eS	S	12 19 48.1	+1.2
KHZ	Kahutara	10.54	213	eP	P	12 18 10.1	-0.7
MQZ	McQueen’s Vall	11.96	211	eS	S	12 20 39.7	-0.9
CTA	Charters Tower	33.81	285	P	P	12 22 14.5	+0.6
	1.3nm,0.6s,mb3.9,baz=117,slow=11,SNR=2.6						
CTA				LR	LR	12 33 26.3	
	comp=Z,154nm,21.6s,baz=216,slow=32						
CTA	Charters Tower	33.81	285	P	P	12 22 14.5	+0.6
CTA				LR	LR	12 33 26.3	
ASAR	Alice Springs	42.35	271	P	P	12 23 25.6	+0.6
	0.9nm,0.6s,mb3.6,baz=110,slow=7.7,SNR=16						
WB2	Warramunga Arr	43.64	276	eP	P	12 23 35.1	-0.4
WRAB	Tennant Creek	43.64	276	eP	P	12 23 36.1	+0.6
	1.0nm,0.4s,mb3.8						
WRA	Warramunga Arr	43.65	276	P	P	12 23 35.0	-0.6
	1.1nm,0.7s,mb3.6,baz=114,slow=8.0,SNR=33						
FITZ	Fitzroy Crossi	51.75	273	P	P	12 24 38.2	-0.4
	1.6nm,0.8s,mb3.7,baz=9.1,slow=3.9,SNR=3.5						
FINES	FINESS Array B	148.00	338	PKPbc	PKPdf	12 35 12.7	+4.7
	1.6nm,0.8s,baz=117,slow=3.1,SNR=4.6						

*IDC **22** 12:27:58.5±2.5, 5.20S×102.55E, h29^{km}±4^{km}, mb3.5/6, mb1 3.7/6, mb1mx3.5/14, Error ellipse: s-maj=108.0km s-min=14.7km az=58.0*

ISC 22 12:27:55.9±3.1**, 5.4S**±0.5×**102.3E**±0.7**, h33^{km}, n7, σ0^{s}52**/6**, mb3.7**/6**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.88	352	P	P	12 33 08.0	+0.3
	1.2nm,0.9s,mb3.3,baz=180,slow=7.2,SNR=5.0						
CMAR				sP		12 33 21.0	
	0.9nm,0.7s,baz=190,slow=8.2,SNR=3.7						
WRA	Warramunga Arr	34.39	118	P	P	12 34 42.4	0.0
	0.7nm,0.9s,mb3.6,baz=300,slow=10,SNR=3.6						
ASAR	Alice Springs	35.48	124	P	P	12 34 51.1	-0.6
	0.3nm,0.7s,mb3.3,baz=293,slow=7.7,SNR=4.5						
ASAR				pP	pP	12 35 00.0	-1.4
	0.6nm,0.4s,baz=295,slow=7.7,SNR=7.0						
STKA	Stephens Creek	45.25	131	P	P	12 36 12.8	+0.6
	0.8nm,0.6s,mb3.8,baz=315,slow=13,SNR=4.0						
STKA				sP	sP	12 36 24.2	-2.1
	0.8nm,0.4s,baz=317,slow=9.2,SNR=1.9						
SONM	Songino Array	53.08	3	P	P	12 37 12.2	-0.1
	0.9nm,0.6s,mb3.9,baz=182,slow=9.2,SNR=8.6						
SONM				sP	sP	12 37 24.4	-1.9
	0.8nm,0.7s,baz=198,slow=7.2,SNR=4.9						
MKAR	Makanchi Array	54.85	343	P	P	12 37 25.1	-0.3
	0.8nm,0.4s,mb4.1,baz=153,slow=8.8,SNR=16						
MKAR				pP	pP	12 37 35.0	-0.4
	0.3nm,0.6s,baz=130,slow=9.5,SNR=1.8						
MKAR				sP	sP	12 37 39.1	-0.3
	1.2nm,1.0s,baz=143,slow=6.1,SNR=2.9						
TXAR	Lajitas Array	145.78	43	PKPbc	PKPbc	12 47 34.4	+1.7
	0.7nm,0.5s,baz=270,slow=0.9,SNR=10						

IDC 22 12:31:22.1±3.1**, 5.04S**×**102.74E, h30^{km}**±5^{km}**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.4**/13**, Error ellipse: s-maj=128.0km s-min=19.5km az=55.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.13	119	P	P	12 38 05.0	-1.8
	0.6nm,0.6s,baz=290,slow=10,SNR=4.2						
ASAR	Alice Springs	35.28	125	P	P	12 38 14.5	-2.1
	0.3nm,0.8s,baz=300,slow=7.7,SNR=2.7						
ASAR				pP	pP	12 38 22.4	-3.0
	0.3nm,0.3s,baz=301,slow=7.9,SNR=3.9						
STKA	Stephens Creek	45.11	131	pP	pP	12 39 43.3	-3.4
	5.0nm,1.4s,baz=315,slow=10.0,SNR=1.5						
SONM	Songino Array	52.74	3	P	P	12 40 34.3	-2.2
	0.4nm,0.7s,baz=189,slow=9.1,SNR=4.0						
SONM				sP	sP	12 40 47.5	-1.6
	0.5nm,0.7s,baz=184,slow=9.5,SNR=3.2						
MKAR	Makanchi Array	54.69	343	P	P	12 40 47.7	-3.2
	0.3nm,0.4s,baz=152,slow=7.9,SNR=6.1						
MKAR				sP	sP	12 41 01.7	-1.8
	0.5nm,0.6s,baz=151,slow=9.0,SNR=2.9						
TXAR	Lajitas Array	145.25	43	PKPbc	PKPbc	12 50 56.8	-1.2
	0.3nm,0.4s,baz=225,slow=1.3,SNR=6.6						

IDC 22 12:51:33.9±16.0**, 16.99S**×**178.42W, h306^{km}**±166^{km}**, mb3.3**/7**, mb1 3.6**/7**, mb1mx3.4**/16**, Error ellipse: s-maj=99.1km s-min=31.2km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.07	240	P	P	12 58 31.7	-1.7
	1.5nm,0.8s,baz=95,slow=11,SNR=3.6						
WRA	Warramunga Arr	44.80	259	P	P	12 59 18.0	-1.9
	0.4nm,0.4s,baz=97,slow=7.5,SNR=7.0						
ASAR	Alice Springs	45.04	253	P	P	12 59 20.3	-1.4
	3.1nm,0.4s,baz=91,slow=8.0,SNR=103						
FITZ	Fitzroy Crossi	53.18	260	P	P	13 00 21.9	-1.4
	1.0nm,0.6s,baz=108,slow=6.4,SNR=5.2						
NVAR	Mina Array Bea	78.77	44	P	P	13 03 03.7	-0.8
	2.0nm,1.1s,baz=212,slow=6.5,SNR=8.3						
ILAR	Eielson Array	85.00	13	P	P	13 03 34.5	-1.4
	0.8nm,0.9s,baz=223,slow=5.5,SNR=9.4						
TXAR	Lajitas Array	85.51	58	P	P	13 03 38.1	-1.1
	1.3nm,1.1s,baz=259,slow=4.6,SNR=2.7						
GERES	GERESS Array B	146.72	345	PKPbc	PKPbc	13 10 39.2	-0.1
	0.4nm,0.7s,baz=14,slow=4.0,SNR=2.9						

IDC 22 13:38:44.2±8.2**, 1.91N**×**126.48E, h47^{km}**±83^{km}**, mb3.4**/5**, mb1 3.6**/6**, mb1mx3.4**/16**, ML3.8**/1**, Error ellipse: s-maj=94.5km s-min=21.5km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.90	182	P	P	13 43 12.7	-2.0
	0.2nm,0.3s,baz=7.2,slow=13,SNR=5.9						
WRA	Warramunga Arr	23.05	161	P	P	13 43 45.2	-1.3
	2.4nm,0.6s,baz=340,slow=11,SNR=25						
WB2	Warramunga Arr	23.05	161	eP	P	13 43 44.5	-2.0
ASAR	Alice Springs	26.43	165	P	P	13 44 16.6	-2.2
	0.6nm,0.7s,baz=345,slow=7.8,SNR=12						
ASAR				PcP	PcP	13 47 41.6	-2.1
	0.3nm,0.7s,baz=349,slow=2.2,SNR=5.1						
STKA	Stephens Creek	36.54	158	P	P	13 45 45.9	-1.5
	0.6nm,0.4s,baz=346,slow=8.8,SNR=3.0						
SONM	Songino Array	48.93	342	P	P	13 47 26.8	-1.0
	0.2nm,0.7s,baz=162,slow=9.1,SNR=2.4						
MKAR	Makanchi Array	58.90	326	P	P	13 48 36.6	-4.3
	0.4nm,0.6s,baz=124,slow=6.8,SNR=3.1						

*BJI **22** 13:46:25.8, 22.73N×120.77E, h11^{km}, ML4.2, Ms3.7, Msz3.8*

*TAP **22** 13:46:37.3, 23.49N×120.23E, h12^{km}, ML4.0*

TAP Felt II J at Szhu, II J at Chiayi, I J at Dacheng, I J at Mingjian.

ISC 22 13:46:38.5±0.3**, 23.50N**±0.01×**120.22E**±0.02**, h12^{km}, n56, σ0^{s}94**/96**, 12C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSF	Szhu	0.13	1	⇓iP	Pg	13 46 41.4	-0.5
WSF				S	Sg	13 46 45.1	+0.9
CHN8	Yiju	0.16	183	⇓iP	Pg	13 46 41.4	-0.9
CHN8				S	Sg	13 46 45.2	+0.3
CHY	Chiayi	0.19	92	⇑iP	Pg	13 46 41.5	-1.3
CHN2	Minshiung	0.24	83	⇑iP	Pg	13 46 42.7	-1.0
WGK	Gukeng	0.36	60	⇓iP	Pg	13 46 45.5	-0.5
WGK				S	Sg	13 46 52.0	+0.8
WTCT	Ta-ch’eng	0.36	9	⇓iP	Pg	13 46 45.4	-0.6
WTCT				S	Sg	13 46 52.0	+0.9
CHN4	Tsaushan	0.38	114	⇑iP	Pg	13 46 45.2	-1.1
CHN1	Nanshi	0.43	138	⇑iP	Pg	13 46 46.2	-1.1
CHN1				S	Sg	13 46 52.9	-0.2
CHN5	Tsauling	0.43	77	⇑iP	Pg	13 46 46.2	-1.1
WTP	Ta-pu	0.44	125	⇑iP	Pg	13 46 46.5	-1.1
WTP				S	Sg	13 46 53.5	-0.3
CHN3	Shinhua	0.45	162	eP	Pg	13 46 47.4	-0.3
CHN3				S	Sg	13 46 55.9	+2.1
SGST	Jiashian	0.54	141	⇑iP	Pb	13 46 48.5	-0.9
SGST				S	Sb	13 46 57.0	+0.3
ALS	Alishan	0.54	89	⇑iP	Pb	13 46 48.6	-0.8
ALS				S	Sb	13 46 56.8	+0.1
WNT	Mingjian	0.57	49	⇓iP	Pb	13 46 49.1	-0.7
WDGT	Dungji	0.57	245	⇑iP	Pb	13 46 49.2	-0.6
WDGT				S	Sb	13 46 58.0	+0.4
STYT	Tauyuan	0.60	124	⇑P	Pb	13 46 49.1	-1.2
PNG	Penghu	0.61	276	eP	Pb	13 46 49.9	-0.8
PNG				S	Sb	13 46 59.1	+0.2
YUS	Yu-Shan	0.67	91	⇑iP	Pb	13 46 51.1	-0.6
YUS				S	Sb	13 47 01.9	+1.2
TWM1	Shoushan	0.70	165	eP	Pb	13 46 53.1	+1.0
TYC	Yuchr	0.71	56	⇓iP	Pb	13 46 51.4	-0.8
TYC				S	Sb	13 47 01.9	+0.2
SMLT	Sun Moon Lake	0.73	59	⇓iP	Pb	13 46 51.9	-0.7
SMLT				S	Sb	13 47 02.7	+0.4
TCU	Taichung	0.77	33	⇓iP	Pb	13 46 52.8	-0.4
TCU				S	Sb	13 47 03.9	+0.6
ELDTW	Lidau	0.80	113	⇑P	Pb	13 46 52.8	-1.0
ELDTW				S	Sb	13 47 04.4	+0.1
SSD	Sandimen	0.84	153	eP	Pb	13 46 54.5	-0.1
SSD				S	Sb	13 47 07.1	+1.5
TWF1	Yuli	1.00	98	eP	Pb	13 46 56.2	-1.1
TWF1				S	Sb	13 47 09.9	-0.2
EHY	Hungye	1.01	90	eP	Pb	13 46 56.9	-0.6
EHY				S	Sb	13 47 11.3	+0.8
NSY	Sanyi	1.03	29	eP	Pb	13 46 57.9	0.0
NSY				S	Sb	13 47 12.8	+1.7
TWG	Pinlang	1.04	131	eP	Pb	13 46 57.5	-0.4
TWG				S	Sb	13 47 11.9	+0.7
CHKT	Chengkung	1.13	111	eP	Pb	13 46 59.5	+0.1
CHKT				S	Sb	13 47 16.2	+2.4
ECL	Taimali	1.13	143	eP	Pb	13 46 58.8	-0.6
ECL				S	Sb	13 47 14.5	+0.7
TTN	Taitung	1.13	131	eP	Pb	13 47 00.1	+0.6
TTN				S	Sb	13 47 17.3	+3.3
TWT	Tachien	1.15	49	eP	Pb	13 46 58.6	-1.2
TWT				S	Sb	13 47 14.2	-0.3
ESL	Shilin	1.16	74	eP	Pb	13 46 59.2	-0.7
ESL				S	Sb	13 47 14.5	-0.1
TWP	Hsiaoliuchiu	1.16	173	eP	Pb	13 47 01.3	+1.3
SCZT	Fangliau	1.19	162	eP	Pb	13 47 00.5	+0.1
EAST	Anshuo	1.26	152	eP	Pb	13 47 01.0	-0.7
NSTT	Nanjuang	1.33	32	eP	Pb	13 47 01.6	-1.3
NSTT				S	Sb	13 47 20.2	+0.5
HWA	Hwalien	1.35	69	eP	Pn	13 47 03.9	+0.6
HWA				S	Sb	13 47 20.8	+0.3
TWD	Chiawan	1.39	65	eP	Pn	13 47 03.4	-0.3
TWD				S	Sb	13 47 21.8	+0.4
NNS	Nan Shan	1.41	48	eP	Pn	13 47 03.2	-0.8
NNS				S	Sb	13 47 23.2	+1.3
HSN	Hsinchu	1.46	28	eP	Pn	13 47 04.5	-0.3
HSN				S	Sb	13 47 26.3	+2.8
NSK	Sanguang	1.56	41	eP	Pn	13 47 05.3	-0.9
NSK				S	Sb	13 47 27.1	+0.6
HEN	Hengchun	1.57	162	eP	Pn	13 47 07.6	+1.3
TWK1	Hengchun	1.65	161	eP	Pn	13 47 08.6	+1.1
ENA	Nanau	1.67	56	eP	Pn	13 47 07.4	-0.4
ENA				S	Sn	13 47 30.4	+1.2
ENTT	Nioudou	1.67	47	eP	Pn	13 47 07.3	-0.5
ENTT				S	Sn	13 47 29.3	0.0
TWE	Neicheng	1.79	47	eP	Pn	13 47 09.4	-0.1
TWE				S	Sn	13 47 33.7	+1.3
TWC	Suao	1.85	53	eP	Pn	13 47 10.9	+0.5
TWC				S	Sn	13 47 34.9	+1.0
KNM	Kinmen	1.87	299	eP	Pn	13 47 12.8	+2.2
TWS1	Kuangyinshan	1.93	34	eP	Pn	13 47 10.3	-1.2
TWS1				S	Sn	13 47 36.0	+0.1
QZH	Quanzhou	2.06	314	P	Pn	13 47 15.0	+1.6
QZH				S	Sn	13 47 41.4	+2.1
QZH				Smax			
	comp=N,1µm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QZH				Smax			
	comp=E,850nm,0.7s						
NWF	Wu-fen Shan	2.11	42	*e*P	Pn	13 47 12.9	-1.3
TWY	Chenhua	2.17	35	*e*P	Pn	13 47 13.7	-1.3
TWB1	Santiao Chiao	2.20	47	*e*P	Pn	13 47 14.8	-0.7
TWB1				S	Sn	13 47 42.1	-0.6
GZH	Guangzhou	6.33	268	P	Pn	13 48 07.5	-6.5
GZH				Smax			
	comp=E,94nm,0.9s						
GZH				Smax			
	comp=N,131nm,0.9s						
NJ2	Nanjing	8.60	352	*e*P	P	13 48 44.4	-1.3
NJ2				AP		13 48 47.4	
NJ2				XP		13 48 50.4	
NJ2				S	Sn	13 50 23.5	-0.1
NJ2				Smax			
	comp=N,170nm,0.8s						
NJ2				Smax			
	comp=E,100nm,0.8s						
NJ2				LR	LR		
	comp=N,250nm,10.4s						
NJ2				LR	LR		
	comp=E,250nm,10.4s						
NJ2				LR	LR		
	comp=Z,690nm,14.4s						

*IDC **22** 13:51:32.5±0.7, 50.76N×175.08E, mb3.7/13, mb1 4.0/14, mb1mx3.9/26, ML2.7/1, MS3.8/1, Ms1 3.7/1, ms1mx2.6/30, Error ellipse: s-maj=17.4km s-min=13.0km az=53.0*
*NEIC **22** 13:51:34.0±0.5, 50.85N×175.04E, h10^{km}, mb4.0/2, Error ellipse: s-maj=11.2km s-min=9.7km az=182.0*
ISC 22 13:51:33.4±4.9, **50.8N**±0.1×**175.1E**±0.1, **h17**^{km}±34^{km}, **n22, σ0^{s}.75**/23, **mb3.7**/15, **MS3.8**/1, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	2.00	343	*e*P	Pn	13 52 07.2	+0.2
FX1	Attu Island--F	2.38	331	Pn	Pn	13 52 12.4	+0.1
	5.3nm,0.3s,baz=189,slow=7.6,SNR=22						
FX1				Sn	Sn	13 52 41.2	-0.2
	124nm,0.3s,baz=218,slow=21,SNR=24						
FX1	Attu Island--F	2.38	331	*e*P	Pn	13 52 12.3	-0.1
ILAR	Eielson Array	24.12	40	P	P	13 56 49.2	+0.4
	0.6nm,0.5s,mb3.3,baz=257,slow=6.8,SNR=15						
DAWY	Dawson	27.15	43	*e*P	P	13 57 17.5	+0.2
INK	Inuvik	30.13	35	P	P	13 57 43.7	-0.4
	0.9nm,0.7s,mb3.6,baz=256,slow=7.9,SNR=3.7						
INK	Inuvik	30.13	35	P	P	13 57 43.7	-0.4
YKA	Yellowknife Ar	38.37	45	P	P	13 58 55.7	+0.8
	0.9nm,0.6s,mb3.7,baz=285,slow=8.3,SNR=3.7						
YKA	Yellowknife Ar	38.37	45	P	P	13 58 55.7	+0.8
HLID	Hailey	46.78	70	*e*P	P	14 00 03.3	-0.1
BOZ	Bozeman (W)	47.24	66	*e*P	P	14 00 05.7	-1.4
	2.0nm,1.0s,mb4.0						
NVAR	Mina Array Bea	47.45	78	P	P	14 00 08.9	+0.1
	0.2nm,0.3s,mb3.5,baz=270,slow=8.1,SNR=2.9						
BW06	Boulder Array	50.12	68	*e*P	P	14 00 28.8	-0.7
	0.7nm,0.7s,mb3.8						
PDAR	Pinedale Array	50.12	68	P	P	14 00 29.1	-0.4
	0.8nm,0.9s,mb3.8,baz=312,slow=4.0,SNR=6.5						
ULM	Lac du Bonnet	53.16	53	P	P	14 00 53.8	+1.5
	1.6nm,0.6s,mb4.1,baz=309,slow=6.5,SNR=2.7						
ULM				LR	LR	14 23 55.4	
	comp=Z,81nm,18.6s,MS3.8,baz=47,slow=36						
MKAR	Makanchi Array	57.28	305	P	P	14 01 20.6	-1.5
	0.9nm,0.7s,mb3.9,baz=62,slow=8.0,SNR=5.8						
TXAR	Lajitas Array	62.54	77	P	P	14 01 58.1	-0.5
	0.5nm,0.6s,mb3.8,baz=289,slow=4.2,SNR=4.3						
WRA	Warramunga Arr	79.05	219	P	P	14 03 38.3	0.0
	0.5nm,0.7s,mb3.5,baz=31,slow=6.3,SNR=4.5						
GERES	GERESS Array B	79.43	348	P	P	14 03 40.2	+0.5
	0.4nm,0.7s,mb3.5,baz=349,slow=5.0,SNR=4.5						
FITZ	Fitzroy Crossi	81.17	227	P	P	14 03 48.9	-0.6
	0.9nm,0.6s,mb3.9,baz=18,slow=3.2,SNR=5.0						
ASAR	Alice Springs	82.58	218	P	P	14 03 58.1	+1.3
	0.8nm,1.1s,mb3.7,baz=24,slow=5.6,SNR=4.2						
BRTR	Keskin Array B	83.70	331	P	P	14 04 03.0	+0.8
	0.3nm,0.3s,mb3.9,baz=22,slow=7.8,SNR=3.5						

IDC 22 13:59:35.0±2.0, **5.73S**×**150.97E, mb3.6**/4, **mb1 4.0**/4, **mb1mx3.6**/14, **Error ellipse: s-maj=103.0km s-min=27.5km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.47	227	P	P	14 04 24.9	-2.5
	0.7nm,0.4s,baz=54,slow=11,SNR=12						
ASAR	Alice Springs	24.25	221	P	P	14 04 53.9	-0.9
	1.6nm,0.7s,baz=54,slow=8.4,SNR=26						
FITZ	Fitzroy Crossi	27.62	241	P	P	14 05 24.6	-1.8
	0.7nm,0.5s,baz=76,slow=6.9,SNR=4.1						
ILAR	Eielson Array	83.71	22	P	P	14 12 05.6	-1.1
	0.3nm,0.6s,baz=254,slow=5.0,SNR=6.3						

*JMA **22** 14:14:53.2±0.1, 26.08N×128.73E, h44^{km}±5^{km}, M3.4*
*IDC **22** 14:14:55.3±1.2, 26.15N×128.73E, h31^{km}±6^{km}, mb3.6/4, mb1 3.7/5, mb1mx3.5/20, ML3.2/1, Error ellipse: s-maj=58.7km s-min=11.7km az=68.0*
*NEIC **22** 14:14:55.1±0.9, 26.14N×128.72E, mb4.1/1, Error ellipse: s-maj=35.5km s-min=13.4km az=78.0*
ISC 22 14:14:52.8±1.1, **26.07N**±0.04×**128.74E**±0.04, **h29**^{km}±8^{km}, **h30**^{km}±2.4^{km}**:pP-P, n18, σ0^{s}.66**/26, **mb3.8**/5, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	0.86	331	Pn	Pn	14 15 08.8	-0.3
	333nm,0.3s,baz=158,slow=18,SNR=429						
JOW				Sn	Sn	14 15 20.9	+0.2
	377nm,0.3s,baz=164,slow=22,SNR=27						
JOW	Kunigami	0.86	331	P	Pn	14 15 09.0	0.0
JOW				*e*S	Sb	14 15 20.3	0.0
JJT2	Tamagusuku 2	0.89	274	P	Pn	14 15 09.5	+0.1
JJT2				S	Sb	14 15 21.4	+0.3
NAH1	Naha	0.95	278	P	Pn	14 15 10.1	-0.2
NAH1				*e*S	Sn	14 15 23.2	+0.3
JIH	Iheya	1.18	324	P	Pn	14 15 13.9	+0.3
JIH				*e*S	Sn	14 15 28.7	-0.1
JAGN	Aguni-jima	1.44	291	P	Pn	14 15 17.4	+0.2
JTK	Tokunoshima	1.72	6	P	Pn	14 15 21.7	+0.5
JTK				*e*S	Sn	14 15 42.3	-0.1
JKE	Kume jima 2	1.77	279	P	Pn	14 15 21.4	-0.6
JKE				S	Sn	14 15 42.5	-1.3
JMZ	Minamidaito 2	2.25	96	P	Pn	14 15 29.3	+0.4
JMZ				S	Sn	14 15 55.0	-1.0
JAM	Amami Oshima	2.45	18	P	Pn	14 15 31.8	0.0
JAM				S	Sn	14 16 01.7	+0.6
JNU	Nakatsue	7.27	14	Pn	Pn	14 16 38.3	-1.6
	0.4nm,0.3s,baz=170,slow=26,SNR=3.0						
SONM	Songino Array	27.93	327	P	P	14 20 44.1	+1.6
	1.4nm,0.8s,mb3.6,baz=131,slow=9.8,SNR=8.8						
SONM				pP	pP	14 20 52.1	+1.2
	1.4nm,1.0s,baz=140,slow=9.3,SNR=5.3						
MKAR	Makanchi Array	41.98	312	P	P	14 22 42.2	-0.6
	0.9nm,0.7s,mb3.5,baz=98,slow=9.6,SNR=7.3						
MKAR				pP	pP	14 22 53.2	+1.7
	0.6nm,0.5s,baz=100,slow=10,SNR=3.6						
MKAR	Makanchi Array	41.98	312	P	P	14 22 42.2	-0.6
MKAR				pP	pP	14 22 53.2	+1.7
WRAB	Tennant Creek	46.05	173	P	P	14 23 15.7	-0.3
	0.7nm,0.3s,mb4.1						
WRA	Warramunga Arr	46.06	173	P	P	14 23 16.7	+0.6
	0.8nm,0.6s,mb3.8,baz=353,slow=8.5,SNR=12						
WRA				pP	pP	14 23 25.4	+0.5
	1.1nm,0.8s,baz=353,slow=8.3,SNR=5.6						
ASAR	Alice Springs	49.70	174	P	P	14 23 45.4	+0.9
	0.5nm,0.7s,mb3.7,baz=357,slow=6.2,SNR=12						
ASAR				pP	pP	14 23 54.3	+1.0
	0.5nm,0.6s,slow=7.2,SNR=4.5						
ILAR	Eielson Array	64.36	28	pP	pP	14 25 36.1	-0.7
	0.2nm,0.7s,baz=285,slow=8.7,SNR=2.2						

*IDC **22** 14:24:53.8±12.0, 7.65S×128.91E, h137^{km}±134^{km}, mb3.2/2, mb1 3.6/5, mb1mx3.4/13, ML3.7/3, Error ellipse: s-maj=83.2km s-min=44.8km az=28.0*
ISC 22 14:24:55.8±3.7, **7.8S**±0.1×**128.9E**±0.2, **h177**^{km}±42^{km}, **n5, σ1^{s}.86**/8, **mb3.4**/2, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.76	197	P	P	14 27 26.5	+0.4
	1.3nm,0.3s,baz=18,slow=12,SNR=43						
FITZ				S	S	14 29 23.3	-0.6
	1.1nm,0.3s,baz=120,slow=8.7,SNR=7.0						
WRA	Warramunga Arr	13.21	157	P	P	14 27 56.6	-1.0
	0.5nm,0.3s,baz=341,slow=12,SNR=41						
WRA				S	S	14 30 18.7	-2.1
	1.7nm,0.3s,baz=333,slow=23,SNR=18						
ASAR	Alice Springs	16.53	164	P	P	14 28 40.5	+1.5
	0.2nm,0.3s,baz=332,slow=9.8,SNR=20						
ASAR				S	S	14 31 40.1	+4.1
	0.4nm,0.3s,baz=317,slow=17,SNR=7.7						
CMAR	Chiang Mai Arr	39.40	312	P	P	14 32 10.2	+0.2
	0.3nm,0.5s,mb3.2,baz=139,slow=8.3,SNR=4.7						
MKAR	Makanchi Array	68.27	327	P	P	14 35 39.0	-0.5
	0.8nm,0.6s,mb3.6,baz=128,slow=8.1,SNR=8.0						

*GUC **22** 14:52:01.4±0.8, 40.26S×70.97W, h142^{km}±58^{km}, ML4.8*
*IDC **22** 14:52:01.7±0.8, 40.23S×70.86W, h182^{km}±6^{km}, mb3.7/8, mb1 3.8/11, mb1mx3.8/16, Error ellipse: s-maj=24.1km s-min=14.5km az=84.0*
*NEIC **22** 14:52:01.2±0.6, 40.23S×71.12W, h178^{km}±6^{km}, mb3.9/6, Error ellipse: s-maj=12.9km s-min=9.3km az=78.0*
ISC 22 14:52:00.1±0.4, **40.26S**±0.05×**71.23W**±0.09, **h182**^{km}±4^{km}, **n29, σ0^{s}.98**/34, **mb4.1**/14, **5C-1D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	0.71	133	P	P	14 52 27.5	+1.1
	368nm,0.3s,baz=311,slow=6.4,SNR=4939						
PLCA				S	S	14 52 47.0	+0.3
	11nm,0.3s,baz=131,slow=20,SNR=13						
PLCA	Paso Flores	0.71	133	⇑*i*Pn	P	14 52 27.7	+1.3
OSCH	Osorno	1.48	257	⇑*i*P	P	14 52 32.4	0.0
OSCH				*i* S	S	14 52 56.1	-1.3
OSCH				AMP		14 52 58.9	
	comp=N,20μm,0.7s						
VLCH	Valdivia	1.61	286	⇑*i*P	P	14 52 34.3	+0.6
VLCH				*i* S	S	14 52 58.5	-1.0
VLCH				AMP		14 52 59.2	
	comp=N,13μm,0.5s						
TMCH	Temuco	1.85	324	⇑*i*P	P	14 52 37.0	+1.0
TMCH				*i* S	S	14 53 03.5	-0.2
TMCH				AMP		14 53 05.1	
	comp=N,2μm,0.1s						
CCHI	Chillan	3.71	349	⇓*i*P	P	14 52 58.4	+0.2
CCHI				*i* S	S	14 53 42.6	-0.5
CCHI				AMP		14 53 45.4	
	comp=N,846nm,0.4s						
TRQA	Tornquist	7.52	76	*e*Pn	P	14 53 47.7	-0.2
	comp=N,8.0nm,0.6s						
EFI	East Falkland	14.61	146	*e*P	P	14 55 19.3	+0.2
	comp=N,41nm,0.4s						
USHA	Ushuaia	14.70	174	P	P	14 55 20.9	+0.7
	comp=N,0.8nm,0.3s,baz=29,slow=15,SNR=5.0						
LVC	Limon Verde	17.70	7	P	P	14 55 56.7	+0.4
	comp=N,0.4nm,0.3s,baz=212,slow=5.5,SNR=3.8						
CPUP	Villa Florida	18.08	44	P	P	14 55 55.9	-4.5
	comp=N,0.4nm,0.3s,baz=248,slow=8.7,SNR=7.4						
CPUP	Villa Florida	18.08	44	*e*P	P	14 55 55.9	-4.5
	comp=N,3.3nm,0.5s						
LPAZ	La Paz	24.03	7	P	P	14 57 01.7	+2.1
	comp=N,1.0nm,0.8s,mb3.4,baz=18,slow=4.6,SNR=4.7						
LPAZ	La Paz	24.03	7	*e*P	P	14 57 01.8	+2.2
	comp=N,0.6nm,0.5s,mb3.4						
PMSA	Palmer Station	24.91	173	*e*P	P	14 57 08.4	+1.0
	comp=N,1.9nm,0.7s,mb3.7						
BDFB	Brasilia	31.78	46	P	P	14 58 06.3	-3.1
	comp=N,7.6nm,0.5s,mb4.7,baz=226,slow=6.9,SNR=15						
SNAA	Sanae	45.59	156	⇑*i*	P	15 00 01.6	-1.5
SNAA	Sanae	45.59	156	P	P	15 00 02.5	-0.6
	comp=N,2.0nm,0.8s,mb3.8,baz=287,slow=7.7,SNR=21						
MAW	Mawson	67.02	163	P	P	15 02 33.9	-0.9
	comp=N,1.3nm,0.6s,mb3.9,baz=193,slow=7.1,SNR=4.4						
TXAR	Lajitas Array	75.50	331	P	P	15 03 26.0	+0.1
	comp=N,0.7nm,0.5s,mb3.6,baz=150,slow=7.8,SNR=10						
TXAR	Lajitas Array	75.50	331	P	P	15 03 26.0	+0.1
LIC	Lamto	76.25	69	*e*P	P	15 03 29.4	-1.0
	comp=N,89nm,1.9s,mb5.1						
TIC	Toumodi	76.55	69	*e*P	P	15 03 31.1	-0.9
	comp=N,10nm,0.3s,mb5.0						
KIC	Kosan Boka	76.55	70	*e*P	P	15 03 31.2	-0.9
	comp=N,56nm,1.2s,mb5.1						
DBIC	Dimbokro	76.68	69	P	P	15 03 31.8	-1.0
	comp=N,4.8nm,0.4s,mb4.5,baz=199,slow=6.3,SNR=21						
SDCO	Great Sand Dun	83.74	333	*e*P	P	15 04 10.4	+0.7
	comp=N,1.7nm,1.0s,mb3.7						
HWUT	Hardware Ranch	89.33	331	*e*P	P	15 04 37.1	+0.5
	comp=N,3.4nm,0.7s,mb4.4						
NVAR	Mina Array Bea	89.37	325	P	P	15 04 39.2	+2.4
	comp=N,0.3nm,0.8s,mb3.3,baz=172,slow=6.4,SNR=3.3						
PDAR	Pinedale Array	89.62	333	P	P	15 04 37.8	-0.1
	comp=N,0.9nm,0.9s,mb3.7,baz=162,slow=4.7,SNR=7.3						

*NEIC **22** 14:57:17.1±3.3, 37.29N×72.27E, h171^{km}±24^{km}, mb4.0/2, Error ellipse: s-maj=32.1km s-min=17.3km az=207.0*
*IDC **22** 14:57:18.3±7.1, 37.31N×72.31E, h183^{km}±59^{km}, mb3.3/7, mb1 3.3/10, mb1mx3.1/21, Error ellipse: s-maj=49.9km s-min=22.5km az=27.0*
ISC 22 14:57:19.1±0.5, **37.46N**±0.04×**72.3E**±0.2, **h197**^{km}±7^{km}, **n27, σ0^{s}.78**/30, **mb3.3**/7, **3C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.64	185	P	P	14 58 17.6	+0.6
CEP				S	S	14 58 59.0	-2.7
CHCP	Chirah Chowk	3.88	168	P	P	14 58 21.9	+2.0
THW	Thamme Wali	4.68	186	⇑P	P	14 58 30.5	+0.5
THW				S	S	14 59 25.0	0.0
AML	Almayashu	4.79	13	P	P	14 58 31.6	+0.2
	SNR=120						
KZA	Kyzart	5.14	25	P	P	14 58 35.8	-0.2
	SNR=39						
EKS2	Erkin-Say	5.32	12	P	P	14 58 38.4	+0.2
	SNR=20						
AAK	Ala-Archa	5.43	17	P	P	14 58 40.3	+0.6
	SNR=29						
AAK	Ala-Archa	5.43	17	⇑*e*Pn	P	14 58 39.2	-0.6
	31nm,0.4s						
SARP	Sargodha	5.54	177	P	P	14 58 40.6	-0.4
KBK	Karagaybulak	5.57	21	P	P	14 58 42.9	+1.3
	SNR=7.2						
ULHL	Ulahol	5.66	31	P	P	14 58 42.6	-0.1
	SNR=24						
KK31	Karatay Array	5.80	347	P	P	14 58 43.9	-0.6
	1.4nm,0.3s,baz=155,slow=12,SNR=77						
KK31				⇑S	S	14 59 45.1	-5.7
	15nm,0.4s,baz=161,slow=22						
CHMS	Chumysh	5.84	18	P	P	14 58 45.0	0.0
	SNR=11						
TKM2	Tokmak 2	6.01	24	P	P	14 58 47.4	+0.2
	SNR=15						
USP	Ospenovka	6.04	16	P	P	14 58 46.5	-1.0
	SNR=7.2						
MKAR	Makanchi Array	11.91	35	P	P	15 00 02.8	-0.8
	0.1nm,0.3s,baz=209,slow=10,SNR=4.6						
KURK	Kurchatov	14.00	17	P	P	15 00 29.1	-0.8
	1.2nm,0.9s						
BVAR	Borovoye Array	15.62	356	P	P	15 00 49.8	-0.1
	0.1nm,0.3s,baz=158,slow=8.0,SNR=3.9						
ZAL	Zalesovo	18.60	24	P	P	15 01 24.4	+1.0
	0.5nm,0.3s,baz=139,slow=5.5,SNR=4.5						
ZAL	Zalesovo	18.60	24	P	P	15 01 24.4	+1.0
FINES	FINESS Array B	37.27	325	P	P	15 04 13.1	-0.1
	0.9nm,0.8s,mb3.3,baz=100,slow=8.5,SNR=2.9						
ARCES	ARCESS Array B	40.66	337	P	P	15 04 41.8	+0.7
	4.0nm,1.1s,mb3.8,baz=119,slow=9.2,SNR=8.7						
HFS	Hagfors	42.96	321	P	P	15 04 59.7	0.0
	1.8nm,0.6s,mb3.7,baz=117,slow=13,SNR=6.1						
NOA	NORSAR Array B	44.24	322	P	P	15 05 09.9	0.0
	0.6nm,0.8s,mb3.0,baz=90,slow=7.2,SNR=3.2						
ILAR	Eielson Array	73.57	16	P	P	15 08 30.9	-0.7
	0.4nm,1.0s,mb3.0,baz=301,slow=5.3,SNR=4.9						
YKA	Yellowknife Ar	80.23	3	P	P	15 09 09.0	+0.7
	0.4nm,0.4s,mb3.4,baz=352,slow=5.3,SNR=4.2						
WRA	Warramunga Arr	81.63	123	P	P	15 09 15.8	-0.7
	0.5nm,1.1s,mb3.1,baz=331,slow=4.2,SNR=4.6						

*IDC **22** 15:03:49.3±0.9, 50.32S×112.55E, mb3.9/7, mb1 4.2/7, mb1mx4.0/11, MS3.7/2, Ms1 3.7/2, ms1mx3.3/17, Error ellipse: s-maj=48.8km s-min=19.2km az=104.0*
*NEIC **22** 15:03:50.8±0.6, 50.33S×112.60E, h10^{km}, mb4.2/3, Error ellipse: s-maj=31.8km s-min=10.5km az=104.0*
ISC 22 15:03:49.1±0.8, **50.3S**±0.1×**112.6E**±0.5, **h10**^{km}, **n14, σ0^{s}.35**/10, **mb4.0**/8, **MS3.8**/1, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.68	13	LR	LR	15 12 51.0	
	comp=Z,210nm,21.0s,baz=280,slow=31						
ASAR	Alice Springs	31.34	40	P	P	15 10 11.7	-0.2
	0.6nm,0.9s,mb3.4,baz=207,slow=8.4,SNR=5.9						
VNDA	Vanda	32.89	162	P	P	15 10 25.0	+0.1
	2.0nm,0.7s,mb4.2,baz=325,slow=7.1,SNR=4.1						
VNDA	Vanda	32.89	162	*e*P	P	15 10 24.5	-0.4
	2.7nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	33.77	23	P	P	15 10 33.7	+0.6
	3.3nm,0.9s,mb4.3,baz=191,slow=13,SNR=5.4						
WRA	Warramunga Arr	34.86	38	P	P	15 10 42.2	-0.3
	1.5nm,1.0s,mb3.9,baz=205,slow=8.5,SNR=6.0						
QSPA	South Pole Qui	39.85	180	*e*P	P	15 11 24.4	+0.5
	2.7nm,0.9s,mb4.0						
PMG	Port Moresby	49.78	47	LR	LR	15 30 02.9	
	comp=Z,84nm,19.7s,MS3.8,baz=234,slow=32						
SNAA	Sanae	50.17	202	P	P	15 12 45.9	-0.2
	0.9nm,0.9s,mb3.8,baz=149,slow=10,SNR=7.1						
SNAA	Sanae	50.17	202	*e*P	P	15 12 45.6	-0.6
	2.6nm,0.9s,mb4.3						
CMAR	Chiang Mai Arr	69.48	346	P	P	15 14 59.6	-0.1
	0.9nm,0.7s,mb3.8,baz=192,slow=6.4,SNR=7.2						
PLCA	Paso Flores	89.33	178	P	P	15 16 46.6	+0.1
	1.1nm,0.8s,mb4.3,baz=153,slow=14,SNR=2.7						
TXAR	Lajitas Array	145.67	114	PKPbc	PKPbc	15 23 28.4	+0.2
	0.3nm,0.8s,baz=207,slow=8.1,SNR=2.7						
PDAR	Pinedale Array	150.39	88	PKP	PKPdf	15 23 36.5	-1.3
	0.1nm,0.3s,baz=64,slow=41,SNR=2.1						
PDAR				PKPbc	PKPdf	15 23 41.7	+4.0
	0.4nm,0.8s,baz=135,slow=2.1,SNR=3.8						

*NNC **22** 15:09:15.2±1.2, 38.73N×71.21E, mpv3.8, Error ellipse: s-maj=19.9km s-min=8.6km az=86.0*
*NEIC **22** 15:09:16.9±5.1, 38.50N×72.24E, h51^{km}±46^{km}, mb3.7/1, Error ellipse: s-maj=47.8km s-min=20.8km az=210.0*
*IDC **22** 15:09:22.3±8.9, 38.67N×72.25E, h100^{km}±82^{km}, mb3.4/4, mb1 3.4/6, mb1mx3.2/20, ML3.3/2, Error ellipse: s-maj=73.5km s-min=25.6km az=23.0*
ISC 22 15:09:14.0±4.0, **38.4N**±0.2×**72.1E**±0.2, **h39**^{km}±36^{km}, **n11, σ0^{s}.81**/13, **mb3.6**/4, **3C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.60	23	Pn	P	15 10 22.1	-1.0
KK31	Karatay Array	4.83	346	⇑Pn	P	15 10 26.0	-0.2
	7.2nm,0.4s,baz=169,slow=10,SNR=15						
KK31				⇑Sn	S	15 11 21.9	+0.3
	6.4nm,0.4s,baz=175,slow=29,SNR=4.1						
MKAR	Makanchi Array	11.25	39	P	P	15 11 56.8	+1.5
	0.2nm,0.3s,baz=221,slow=16,SNR=6.8						
AB31	Akbulak array	13.90	325	⇓P	P	15 12 24.9	-5.6
	1.0nm,0.5s,baz=133,slow=14,SNR=14						
AB31				⇑S	S	15 14 53.8	-11
	1.3nm,0.6s,baz=138,slow=24,SNR=5.9						
BVAR	Borovoye Array	14.65	356	P	P	15 12 39.4	-0.9
	0.1nm,0.3s,baz=168,slow=13,SNR=3.3						
BRVK	Borovoye	14.69	356	*e*P	P	15 12 41.6	+0.8
	1.6nm,0.6s						
ARU	Arti	20.14	338	P	P	15 13 46.6	-0.7
	1.7nm,0.4s						
BRTR	Keskin Array B	29.71	285	P	P	15 15 19.3	+0.7
	0.6nm,0.5s,mb3.6,baz=68,slow=7.8,SNR=4.2						
AKASG	Malin Array Be	32.45	306	P	P	15 15 43.3	+0.7
	0.6nm,0.6s,mb3.6,baz=109,slow=8.4,SNR=3.6						
FINES	FINESS Array B	36.39	324	P	P	15 16 15.3	-0.9
	1.2nm,0.6s,mb4.0,baz=129,slow=8.9,SNR=7.8						
WRA	Warramunga Arr	82.30	123	P	P	15 21 32.9	-0.3
	0.3nm,0.9s,mb3.2,baz=325,slow=4.9,SNR=4.9						

IDC 22 15:12:14.1±5.9, **21.61S**×**176.00W, h388**^{km}±38^{km}, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.2**/16, **Error ellipse: s-maj=196.0km s-min=22.6km az=155.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.26	265	*e*P	P	15 18 34.4	-0.8
	2.0nm,0.3s						
CTA	Charters Tower	35.26	265	P	P	15 18 34.4	-0.8
	2.8nm,0.4s,baz=92,slow=12,SNR=17						
ASAR	Alice Springs	46.10	257	P	P	15 20 00.8	-2.3
	0.8nm,0.5s,baz=96,slow=7.7,SNR=44						
ASAR				ScP		15 24 45.6	
	0.3nm,0.6s,baz=118,slow=3.9,SNR=6.7						
WB2	Warramunga Arr	46.30	263	*e*P	P	15 20 03.0	-1.6
WRA	Warramunga Arr	46.31	263	P	P	15 20 03.1	-1.6
	1.5nm,0.3s,baz=96,slow=8.4,SNR=114						
NVAR	Mina Array Bea	80.56	42	P	P	15 23 44.8	-0.9
	0.1nm,0.3s,baz=252,slow=5.7,SNR=1.3						

*NNC **22** 15:26:02.3±2.5, 37.31N×70.00E, mpv4.5, Error ellipse: s-maj=26.0km s-min=18.5km az=111.0*
ISC 22 15:25:47.1±4.5, **36.2N**±0.2×**71.0E**±0.3, **h39**^{km}±55^{km}, **n15, σ0^{s}.54**/17, **mb2.8**/1, **2C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.32	19	P	P	15 27 20.4	+0.2
	SNR=71						
EKS2	Erkin-Say	6.84	18	P	P	15 27 27.7	+0.1
	SNR=31						
KK31	Karatay Array	6.94	357	⇓P	P	15 27 29.4	+0.5
	17nm,0.3s,baz=181,slow=13,SNR=674						
KK31				⇑S	S	15 28 38.0	-9.5
	3.8nm,0.3s,baz=183,slow=24,SNR=9.8						
AAK	Ala-Archa	7.01	22	P	P	15 27 30.3	+0.4
	SNR=10.0						
KBK	Karagaybulak	7.18	24	P	P	15 27 32.7	+0.5
	SNR=5.9						
CHMS	Chumysh	7.42	22	P	P	15 27 35.0	-0.6
	SNR=9.5						
USP	Ospenovka	7.60	20	P	P	15 27 37.6	-0.4
	SNR=6.0						
TKM2	Tokmak 2	7.63	26	P	P	15 27 38.2	-0.3
	SNR=14						
KOLN	Koldanda	13.59	124	*e*P	P	15 29 00.2	+0.7
	7.5nm,0.4s						
GKN	Gorkha	14.14	121	*e*P	P	15 29 06.6	-0.2
	22nm,0.7s						
DMN	Daman	14.71	121	*e*P	P	15 29 14.6	+0.3
	17nm,0.6s						
KKN	Kakani	14.72	121	*e*P	P	15 29 13.0	-1.4
	11nm,0.5s						
PKI	Pulchoki	14.95	121	*e*P	P	15 29 17.7	+0.4
	8.2nm,0.5s						
AB31	Akbulak array	15.37	332	P	P	15 29 22.1	-0.6
	2.4nm,0.5s,baz=142,slow=11,SNR=84						
AB31				⇑S	S	15 31 58.1	-14
	1.7nm,0.8s,baz=153,slow=24,SNR=7.3						
NB2	NORSAR Subarra	44.64	323	P	P	15 33 57.5	+0.3
	0.1nm,0.6s,mb2.8,baz=93,slow=7.9						

IDC 22 15:44:10.8±2.3, **3.11S**×**128.67E, mb3.5**/2, **mb1 3.6**/3, **mb1mx3.5**/14, **ML2.9**/1, **Error ellipse: s-maj=146.0km s-min=29.3km az=68.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.62	162	P	P	15 48 19.4	-0.2
	0.0nm,0.3s,baz=341,slow=12,SNR=3.4						
ASAR	Alice Springs	21.05	167	P	P	15 48 55.4	-3.6
	1.1nm,0.6s,baz=346,slow=11,SNR=19						
MKAR	Makanchi Array	64.27	326	P	P	15 54 48.4	-1.7
	0.4nm,0.8s,baz=143,slow=7.2,SNR=2.5						

*IDC **22** 15:52:55.1±1.1, 26.40N×141.35E, h108^{km}±11^{km}, mb3.4/8, mb1 3.5/10, mb1mx3.4/24, MS4.0/1, Ms1 4.0/1, ms1mx2.8/24, Error ellipse: s-maj=26.4km s-min=12.9km az=87.0*
*JMA **22** 15:52:56.0±0.2, 26.37N×141.49E, h112^{km}, M4.5*
*NEIC **22** 15:52:57.3±1.8, 26.42N×141.20E, h127^{km}±18^{km}, Error ellipse: s-maj=25.1km s-min=10.1km az=91.0*
ISC 22 15:52:54.0±0.9, **26.36N**±0.07×**141.3E**±0.2, **h114**^{km}±11^{km}, **n25, σ0^{s}.87**/28, **mb3.9**/10, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	Haha-jima-NKT	0.80	70	P	P	15 53 14.5	+0.7
JHHJ				S	S	15 53 27.8	-0.9
CBIJ	Chichi jima	1.05	46	P	P	15 53 16.6	+0.3
	751nm,0.3s,baz=157,slow=2.8,SNR=1895						
CBIJ				S	S	15 53 32.5	-0.6
	195nm,0.3s,baz=274,slow=23,SNR=6.5						
CBIJ	Chichi jima	1.05	46	P	P	15 53 17.0	+0.7
CBIJ				S	S	15 53 33.0	0.0
JHJ	Hachijo jima 2	6.87	349	P	P	15 54 34.0	+0.4
	5.3nm,0.3s,baz=92,slow=22,SNR=5.4						
JHJ				S	S	15 55 50.6	-0.1
	5.5nm,0.3s,baz=265,slow=22,SNR=1.9						
BSO1	Boso 1	8.27	358	P	P	15 54 52.0	-0.6
BSO3	Boso 3	8.44	355	P	P	15 54 53.6	-1.3
BSO4	Boso 4	8.64	355	P	P	15 54 57.0	-0.6
JOD2	Odawara 2	9.08	348	P	P	15 55 04.4	+1.0
MAJO	Matsushiro	10.49	346	ePn	P	15 55 24.1	+1.8
MAT	Matsushiro	10.49	346	P	P	15 55 22.2	-0.2
MAT	Matsushiro	10.49	346	P	P	15 55 22.0	-0.4
JOW	Kunigami	11.70	275	LR	LR	15 59 17.6	
	comp=Z,759nm,20.6s,baz=221,slow=33						
ASAJ	Asahikawa	17.74	3	P	P	15 56 57.9	+2.7
	0.4nm,0.3s,baz=254,slow=18,SNR=3.3						
WRAB	Tennant Creek	46.52	189	eP	P	16 01 12.5	+0.5
	7.3nm,0.4s,mb4.8						
WB2	Warramunga Arr	46.52	189	eP	P	16 01 12.2	+0.2
WRA	Warramunga Arr	46.53	189	P	P	16 01 12.5	+0.4
	3.6nm,0.3s,mb4.5,baz=12,slow=8.7,SNR=90						
FITZ	Fitzroy Crossi	46.76	201	P	P	16 01 14.5	+0.6
	1.0nm,0.3s,mb4.0,baz=14,slow=8.1,SNR=15						
ASAR	Alice Springs	50.25	189	P	P	16 01 40.5	-0.3
	0.4nm,0.4s,mb3.7,baz=10.0,slow=5.8,SNR=18						
MKAR	Makanchi Array	50.36	310	P	P	16 01 39.5	-1.8
	0.3nm,0.7s,mb3.4,baz=88,slow=9.5,SNR=3.2						
STKA	Stephens Creek	57.91	180	P	P	16 02 35.4	-1.2
	1.0nm,0.7s,mb3.9,baz=14,slow=7.8,SNR=4.2						
STKA	Stephens Creek	57.91	180	eP	P	16 02 36.1	-0.6
BVAR	Borovoye Array	58.07	318	P	P	16 02 37.1	-0.3
	0.4nm,0.6s,mb3.7,baz=104,slow=5.9,SNR=3.1						
ILAR	Eielson Array	58.72	28	P	P	16 02 42.0	+0.3
	0.4nm,0.8s,mb3.5,baz=258,slow=5.9,SNR=4.7						
NEW	Newport	77.96	42	P	P	16 04 41.2	+0.2
	1.0nm,0.7s,mb3.6,baz=79,slow=7.3,SNR=2.5						
FINES	FINESS Array B	78.27	334	P	P	16 04 41.6	-0.8
	1.4nm,0.8s,mb3.7,baz=90,slow=5.7,SNR=5.4						

CASC 22 15:54:05.2±1.8**, 13.69N×91.16W, h21^{km}±8^{km}, MD3.6, ML3.8, 5C-8D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.78	323	⇓eP	Pb	15 54 19.6	-0.3
JAT				eS	Sb	15 54 31.8	+1.9
JAT				AML	AML	15 54 32.4	
	comp=E,4μm,0.3s						
FUG	Fuego 3	0.81	22	⇓iP	Pb	15 54 20.8	+0.3
IXG	Ixpaco	0.84	55	⇑eP	Pb	15 54 20.9	0.0
IXG				eS	Sb	15 54 34.4	+2.7
PCG	Pacaya	0.88	38	⇓eP	Pb	15 54 22.0	+0.3
NBG	Las Nubes	1.19	41	eP	Pn	15 54 26.6	-0.2
NBG				eS	Sb	15 54 42.6	+0.7
CUSS	Cusmapa	1.20	79	⇓eP	Pn	15 54 26.0	-0.9
CUSS				eS	Sb	15 54 43.6	+1.5
RTR	El Retiro	1.49	82	⇑eP	Pn	15 54 30.6	-0.4
RTR				eS	Sn	15 54 51.2	+1.2
RBDL	Robledal	1.49	74	⇓eP	Pn	15 54 31.1	0.0
SBLS	San Blas	1.50	84	⇑eP	Pn	15 54 30.8	-0.5
SBLS				eS	Sn	15 54 51.4	+0.9
SNJE	San Jose	1.52	83	⇑eP	Pn	15 54 31.3	-0.3
SNJE				eS	Sn	15 54 51.2	+0.3
BOQS	Boqueron	1.83	88	eP	Pn	15 54 35.8	-0.2
BOQS				eS	Sn	15 54 59.4	+0.7
MTO2	Montecristo 2	1.88	68	⇓eP	Pn	15 54 37.5	+0.7
MTO2				eS	Sn	15 55 02.1	+2.1
MRL	Marmol	1.97	46	⇑eP	Pn	15 54 38.0	0.0
LFRS	El Faro	2.04	92	⇓eP	Pn	15 54 38.7	-0.3
LFRS				eS	Sn	15 55 04.2	+0.1
LCBS	La Ceiba	2.12	91	⇓eP	Pn	15 54 40.0	-0.1
LCBS				eS	Sn	15 55 05.8	-0.4
CNCH	Conchagua	3.26	97	eP	Pn	15 54 55.7	-0.8
CNCH				eS	Sn	15 55 34.8	-0.3

*MDD **22** 16:24:31.6±0.6, 42.90N×0.24E, h7^{km}±7^{km}, mbLg1.1/3, Error ellipse: s-maj=2.8km s-min=2.0km az=12.0, PRXIMO*
*STR **22** 16:24:31.0±0.1, 42.90N×0.24E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **22** 16:24:31.2±0.1, 42.89N×0.24E, h6^{km}, Md1.7/2, Ml1.7/1, Error ellipse: s-maj=2.3km s-min=1.0km az=174.0*
ISC 22 16:24:30.7±0.6**, 42.87N**±0.04×**0.24E**±0.03**, h7^{km}, n12, σ0^{s}71**/17**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RESF	Ens	0.10	132	Pg	Pg	16 24 34.2	+1.2
RESF				Lg		16 24 35.9	
VIEF	Viey	0.16	274	Pg	Pg	16 24 34.8	+0.6
VIEF				Sg	Sg	16 24 37.1	+0.7
VIEF	Viey	0.16	274	Pg	Pg	16 24 34.8	+0.7
VIEF				Lg		16 24 37.1	
EPF	Esparros	0.17	25	ePg	Pg	16 24 34.7	+0.3
EPF				eSg	Sg	16 24 37.0	+0.1
	25nm,0.3s						
LABF	Labassere	0.21	325	Pg	Pg	16 24 35.4	+0.2
LABF				Sg	Sg	16 24 38.1	0.0
LABF	Labassere	0.21	325	Pg	Pg	16 24 35.5	+0.3
LABF				Lg		16 24 38.2	
MELF	Melles	0.38	90	Pg	Pg	16 24 38.5	+0.1
MELF				Sg	Sg	16 24 44.0	+0.4
MELF	Melles	0.38	90	Pg	Pg	16 24 38.9	+0.5
MELF				Lg		16 24 43.9	
ETSF	Etsaut	0.59	273	ePg	Pg	16 24 42.4	-0.2
ETSF				eSg	Sg	16 24 50.1	-0.3
	2.3nm,0.2s						
SJPF	Ste Jean	1.10	283	ePg	Pg	16 24 51.7	-1.1
ESAC	San Caprasio	1.27	205	Pg	Pg	16 24 55.0	-1.1
	22nm,0.7s,SNR=7.9						
ESAC				Lg		16 25 13.7	
	9.8nm,0.5s,SNR=7.9						
MTLF	Montolieu	1.52	71	eSg	Sg	16 25 20.0	-1.4
	1.0nm,0.2s						

*NNC **22** 16:34:05.7±6.6, 37.47N×68.34E, mpv3.1, Error ellipse: s-maj=88.4km s-min=50.7km az=116.0*
ISC 22 16:34:03.7±4.1**, 36.9N**±0.2×**68.7E**±0.3**, h154^{km}±55^{km}, n11, σ0^{s}64**/13**, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.37	12	Pn	P	16 35 36.6	+0.3
	0.4nm,0.2s,baz=204,slow=15,SNR=37						
KK31				⇓Sn	S	16 36 48.3	0.0
	2.4nm,0.3s,baz=210,slow=18,SNR=4.7						
AML	Almayashu	6.53	35	P	P	16 35 38.1	-0.3
	SNR=16						
AAK	Ala-Archa	7.29	36	P	P	16 35 48.7	0.0
	SNR=8.0						
KBK	Karagaybulak	7.53	38	P	P	16 35 52.6	+0.8
	SNR=5.8						
CHMS	Chumysh	7.69	36	P	P	16 35 54.0	0.0
	SNR=7.3						
ULHL	Ulahol	7.94	45	P	P	16 35 56.6	-0.7
	SNR=7.8						
AB31	Akbulak array	13.89	336	P	P	16 37 14.6	-0.2
	1.0nm,0.5s,baz=154,slow=13,SNR=36						
AB31				⇑S	S	16 39 45.6	0.0
	0.6nm,0.4s,baz=164,slow=23,SNR=3.8						
GKN	Gorkha	16.12	119	eP	P	16 37 43.0	+0.1
	7.3nm,0.3s						
DMN	Daman	16.69	119	eP	P	16 37 46.7	-3.2
KKN	Kakani	16.70	118	eP	P	16 37 50.7	+0.7
	11nm,0.5s						
PKI	Pulchoki	16.93	118	eP	P	16 37 53.0	+0.3
	10nm,0.4s						

*JMA **22** 16:39:39.6±0.5, 23.95N×122.20E, h18^{km}, M2.6*
TAP 22 16:39:42.3, 23.77N×122.50E, h10^{km}±1^{km}, ML2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.83	34	P	Pb	16 39 56.2	-2.2
YOJ				S	Sb	16 40 08.4	-1.0
IRIF	Iriomote-Funau	1.26	63	P	Pb	16 40 05.5	-0.2
IRIF				S	Sb	16 40 22.2	+0.5
JKRS	Kuro-shima	1.46	71	eS	Sb	16 40 29.3	+1.8
JIJ	Ishigaki jima	1.61	68	P	Pn	16 40 10.6	-0.5
JIJ				S	Sn	16 40 31.0	-1.1

*INMG **22** 16:40:39.1±0.9, 37.87N×5.35W, h18^{km}±3^{km}, ML2.1, Error ellipse: s-maj=1.7km s-min=1.3km az=5.0*
MDD 22 16:40:38.0±0.4**, 37.90N×5.40W, h4^{km}±5^{km}, mbLg2.2**/18**, Error ellipse: s-maj=4.3km s-min=2.6km az=178.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EADA	Adamuz	0.70	68	Pg	Pg	16 40 51.3	-0.7
	29nm,0.1s,SNR=243						
EADA				Lg		16 41 00.6	
	22nm,0.1s,SNR=7.9						
ELUQ	Luque	0.96	110	Pg	Pg	16 40 54.6	-2.5
	7.1nm,0.2s,SNR=16						
ELUQ				Lg		16 41 08.6	
	14nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.02	263	Pg	Pg	16 40 56.8	-1.5
	3.9nm,0.1s,SNR=98						
EMIN				Lg		16 41 10.4	
	15nm,0.1s,SNR=7.9						
ESPR	Espera	1.09	200	Pg	Pg	16 40 58.5	-1.4
	0.7nm,0.1s,SNR=7.9						
ESPR				Lg		16 41 13.5	
	40nm,0.3s,SNR=7.9						
ELOJ	Sierra Loja	1.24	127	Pg	Pg	16 41 00.7	-2.1
	2.4nm,0.1s,SNR=9.4						
ELOJ				Lg		16 41 17.5	
	6.6nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.43	159	Pn	Pn	16 41 03.4	-1.3
	3.4nm,0.1s,SNR=7.9						
EMIJ				Lg		16 41 23.3	
	3.1nm,0.2s,SNR=7.9						
EBAD	Badajoz	1.53	304	Pn	Pn	16 41 05.4	-0.8
	5.0nm,0.1s,SNR=28						
EBAD				Lg		16 41 25.9	
	60nm,0.2s,SNR=7.9						
ERON	Agron	1.54	124	Pg	Pg	16 41 06.3	-2.5
	0.6nm,0.4s,SNR=7.9						
ERON				Sn	Sn	16 41 25.3	-1.8
	2.4nm,0.3s,SNR=7.9						
ERON				Lg		16 41 27.2	
	3.7nm,0.2s,SNR=7.9						
EGRO	El Granado	1.69	258	Pn	Pn	16 41 06.7	-1.9
	0.1nm,0.1s,SNR=7.9						
EGRO				Pg	Pg	16 41 08.9	-2.9
	1.8nm,0.1s,SNR=7.9						
EGRO				Lg		16 41 30.9	
	8.8nm,0.1s,SNR=7.9						
PALC	Alcoutim	1.71	256	ePn	Pn	16 41 06.9	-1.8
PALC				eSg	Sg	16 41 32.4	-2.4
	14nm,0.2s						
PALC	Alcoutim	1.71	256	Pn	Pn	16 41 06.9	-1.8
PALC				Lg		16 41 32.4	
	7.0nm,0.2s						
EQES	Quesada	1.84	92	Pn	Pn	16 41 08.3	-2.4
	0.8nm,0.1s,SNR=7.9						
EQES				Pg	Pg	16 41 11.3	-3.6
	6.6nm,0.3s,SNR=7.9						
EQES				Sn	Sn	16 41 33.2	-1.6
	0.4nm,0.3s,SNR=7.9						
EQES				Lg		16 41 36.4	
	4.7nm,0.1s,SNR=7.9						
PBEJ	Beja	1.96	274	ePn	Pn	16 41 11.1	-1.2
PBEJ				eSg	Sg	16 41 40.5	-2.6
	6.7nm,0.1s						
PBEJ	Beja	1.96	274	Pn	Pn	16 41 11.1	-1.2
PBEJ				Lg		16 41 40.5	
	3.3nm,0.1s						
ESDC	Sonseca Array	2.10	32	Pg	Pg	16 41 16.7	-3.2
	baz=216,slow=17,SNR=7.9						
ESDC				Lg		16 41 44.1	
	2.2nm,0.3s,baz=218,slow=29,SNR=20						
EVIA	Vianos	2.39	71	Pg	Pg	16 41 22.1	-3.7
	1.1nm,0.7s,SNR=7.9						
EVIA				Lg		16 41 54.5	
	3.8nm,0.3s,SNR=7.9						
MOE	Montemor	2.41	286	ePg	Pg	16 41 22.6	-3.5
MOE				eSg	Sg	16 41 54.8	-3.4
PCBR	Castelo Branco	2.53	321	eSg	Sg	16 41 58.3	-3.8
	6.0nm,0.2s						
PCBR	Castelo Branco	2.53	321	Lg		16 41 58.3	
	3.0nm,0.2s						
PTEO	Sao Teotonio	2.66	263	ePn	Pn	16 41 20.4	-2.0
PTEO				eSg	Sg	16 42 02.0	-4.6
PTOM	Tomar	2.91	307	eSg	Sg	16 42 10.1	-4.9
	10nm,0.3s						
PTOM	Tomar	2.91	307	Lg		16 42 10.1	
	5.2nm,0.3s						
ETOB	Tobarra	3.12	75	Pn	Pn	16 41 25.2	-3.7
	0.6nm,0.7s,SNR=7.9						
ETOB				Pg	Pg	16 41 35.6	-4.7
	0.2nm,0.3s,SNR=7.9						
ETOB				Sn	Sn	16 42 01.5	-5.6
	0.7nm,0.2s,SNR=4.0						
ETOB				Lg		16 42 17.2	
	2.1nm,0.2s,SNR=7.9						
EMUR	La Murta	3.29	90	Lg		16 42 21.1	
	0.3nm,0.2s,SNR=7.9						
ETOR	Torete	3.90	41	Lg		16 42 40.8	
	SNR=7.9						
ECAL	Calabor	4.16	346	Sn	Sn	16 42 29.0	-4.5
	0.1nm,1.1s,SNR=7.9						
ECAL				Lg		16 42 52.6	
	6.7nm,0.4s,SNR=7.9						
ELOB	Lobios	4.46	333	Sn	Sn	16 42 34.9	-6.1
	0.9nm,1.6s,SNR=7.9						

IDC 22 16:41:04.8±4.8**, 22.47N×142.95E, h52^{km}±91^{km}, mb3.2**/4**, mb1 3.4**/5**, mb1mx3.2**/23**, ML3.9**/1**, Error ellipse: s-maj=244.0km s-min=21.6km az=78.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	4.66	352	P	P	16 42 14.7	+0.2
	12nm,0.3s,baz=257,slow=17,SNR=7.6						
CBIJ				S	S	16 43 05.1	-2.7
	12nm,0.3s,baz=287,slow=23,SNR=6.6						
WRA	Warramunga Arr	42.98	192	P	P	16 48 58.4	-2.5
	0.9nm,1.0s,baz=13,slow=8.9,SNR=14						
ASAR	Alice Springs	46.70	191	P	P	16 49 28.8	-1.7
	0.3nm,0.9s,baz=10,slow=7.7,SNR=6.4						
MKAR	Makanchi Array	54.02	312	P	P	16 50 24.2	-1.8
	0.3nm,0.6s,baz=90,slow=8.0,SNR=1.6						
BVAR	Borovoye Array	61.95	319	P	P	16 51 19.2	-2.2
	0.4nm,0.4s,baz=100,slow=6.9,SNR=2.2						

*ISK **22** 16:51:16.0, 36.83N×27.74E, h9^{km}, MD3.0*
*ATH **22** 16:51:16.5, 36.98N×27.98E, h31^{km}, MD3.0/3*
ISC 22 16:51:17.9±0.7**, 36.87N**±0.03×**27.82E**±0.04**, h8^{km}±6^{km}, n13, σ1^{s}08**/20**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.36	303	i P	Pg	16 51 25.6	+0.3
BDRM				i S	Sg	16 51 31.1	+1.0
MLSB	Milas	0.42	355	PG	Pg	16 51 26.4	-0.2
MLSB				SG	Sg	16 51 32.2	-0.1
YER	Yerkesik	0.45	54	i PG	Pg	16 51 27.0	-0.1
NISR	Nisiros	0.61	245	ePN	Pn	16 51 32.0	-0.6
DALT	Dalyan (Mudla)	0.66	99	PG	Pg	16 51 29.5	-1.8
DALT				SG	Sg	16 51 41.3	+1.1
ARG	Arkhangelos	0.70	159	ePN	Pn	16 51 32.0	-1.8
AYDN	Tasoluk	0.79	3	i P	Pb	16 51 33.1	-0.4
AYDN				i S	Sb	16 51 43.4	-0.7
DNZL	Cakiroluk	1.27	50	i P	Pb	16 51 42.1	+0.3
DNZL				i S	Sb	16 52 01.3	+3.1
DENT	Denizli	1.31	47	PN	Pn	16 51 42.3	-0.3
KARP	Karpathos	1.42	202	ePN	Pn	16 51 44.6	+0.4
KARP				eSN	Sn	16 52 04.5	+1.2
IZM	Izmir	1.59	344	ePN	Pn	16 51 45.7	-0.8
MANT	Manisa	1.72	20	i P	Pn	16 51 50.9	+2.4
MANT				i S	Sn	16 52 17.8	+7.0
AKS	Akhisar	2.00	360	ePN	Pn	16 51 51.5	-1.0

*ISK **22** 17:14:07.8, 36.87N×27.75E, h8^{km}, MD3.4*
*NEIC **22** 17:14:09.8, 36.82N×27.75E, h10^{km}, MD3.5(ATH), After ATH.*
*ATH **22** 17:14:09.8, 36.82N×27.75E, h10^{km}, MD3.5/7*
ISC 22 17:14:08.9±0.6**, 36.90N**±0.03×**27.76E**±0.03**, h9^{km}±5^{km}, n25, σ0^{s}69**/30**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.31	303	i P	Pg	17 14 16.3	+1.1
BDRM				i S	Sg	17 14 49.7	+30
MLSB	Milas	0.40	1	i PG	Pg	17 14 16.6	-0.4
MLSB				i SG	Sg	17 14 23.5	+1.2
YER	Yerkesik	0.48	60	i PG	Pg	17 14 17.5	-1.1
YER				i SG	Sg	17 14 25.1	+0.1
NISR	Nisiros	0.58	241	ePB	Pb	17 14 21.0	+0.2
DALT	Dalyan (Mudla)	0.71	100	PG	Pg	17 14 21.9	-1.3
DALT				SG	Sg	17 14 33.3	+0.6
ARG	Arkhangelos	0.74	157	ePB	Pb	17 14 22.7	-0.8
AYDN	Tasoluk	0.77	7	i P	Pb	17 14 23.7	-0.2
AYDN				i S	Sb	17 14 34.7	+0.4
SMG	Samos	1.10	318	ePG	Pg	17 14 31.0	+0.2
DNZL	Cakiroluk	1.29	52	i P	Pb	17 14 32.5	-0.5
DNZL				i S	Sb	17 14 49.8	+0.3
DENT	Denizli	1.32	49	i PN	Pn	17 14 33.2	-0.4
KARP	Karpathos	1.43	200	ePB	Pb	17 14 35.2	-0.2
IZM	Izmir	1.55	345	PN	Pn	17 14 36.5	-0.3
KDAG	Bornova	1.55	345	i P	Pn	17 14 36.0	-0.8
KSL	Kastellorizon	1.65	116	ePB	Pb	17 14 40.2	+1.2
MANT	Manisa	1.71	21	i P	Pn	17 14 39.0	-0.2
ELL	Elmali	1.73	94	ePN	Pn	17 14 39.3	-0.1
APE	Apeiranthos	1.80	276	ePN	Pn	17 14 39.9	-0.5
APE	Apeiranthos	1.80	276	ePB	Pb	17 14 41.5	-0.1
AKS	Akhisar	1.98	1	PN	Pn	17 14 42.0	-1.0
KHL	Karahalli	1.99	44	ePN	Pn	17 14 43.7	+0.5
ISP	Isparta	2.38	66	ePN	Pn	17 14 49.1	+0.3
NPS	Neapolis	2.39	228	ePN	Pn	17 14 50.2	+1.4
PRK	Paraskevi	2.62	334	ePG	Pg	17 15 00.5	-0.8
HDMB	Hadim	3.78	88	ePN	Pn	17 15 09.3	+0.6
KIZT	Kizilcal	3.81	57	ePN	Pn	17 15 09.6	+0.5

DHMR 22 17:57:51.3±0.5**, 12.21N×44.56E, h9^{km}±4^{km}, MD3.6, ML3.7, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	At Turbah	1.08	337	eP	Pb	17 58 11.9	+0.2
TRBA				i S	Sb	17 58 27.9	+2.2
TRBA				AML	AML	17 58 29.3	
	comp=E,2μm,0.2s						
LBOS		1.79	22	i P	Pn	17 58 23.8	+1.2
LBOS				i S	Sn	17 58 48.3	+2.7
BDHA	Al Bayda’	2.01	29	i P	Pn	17 58 26.8	+1.0
BDHA				i S	Sn	17 58 54.9	+3.5
HAJJ	Hajjah	3.59	345	i P	Pn	17 58 49.8	+1.4
HAJJ				i S	Sn	17 59 35.8	+4.4

*MOS **22** 18:13:41.0±1.0, 36.71N×71.15E, h224^{km}, mb4.5/19, Error ellipse: s-maj=11.7km s-min=6.2km az=110.5*
*BJI **22** 18:13:42.3, 36.90N×71.05E, h243^{km}, mB4.3, mb4.5*
*IDC **22** 18:13:42.7±0.5, 36.64N×71.05E, h231^{km}±3^{km}, mb4.0/17, mb1 4.1/19, mb1mx4.1/22, Error ellipse: s-maj=13.0km s-min=8.3km az=31.0*
*NEIC **22** 18:13:42.6±0.2, 36.64N×71.21E, mb4.2/29, Error ellipse: s-maj=5.8km s-min=4.1km az=210.0*
*NNC **22** 18:13:45.0±3.4, 37.04N×70.86E, h219^{km}±25^{km}, mpv4.7, Error ellipse: s-maj=27.8km s-min=21.9km az=172.0*
ISC 22 18:13:40.5±0.3**, 36.63N**±0.02×**71.13E**±0.03**, h222^{km}±3^{km}, h228^{km}±2.1^{km}:pP-P, n202, σ0^{s}99**/233**, mb4.3**/61**, 20C-12D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.87	167	⇑P	P	18 14 31.5	+1.2
CEP				S	S	18 15 10.0	+1.0
CHCP	Chirah Chowk	3.44	149	⇑P	P	18 14 38.4	+1.4
THW	Thamme Wali	3.86	172	⇓P	P	18 14 42.9	+0.9
SBDP	Sheikh Budin	4.33	184	P	P	18 14 47.5	-0.2
KSH	Kashi	4.78	51	⇓iP	P	18 14 55.3	+1.9
KSH				S	S	18 15 49.9	-0.1
KSH				Smax			
	comp=N,1μm,0.6s						
KSH				Smax			
	comp=E,3μm,1.1s						
SARP	Sargodha	4.87	164	⇑P	P	18 14 55.0	+0.6
SARP				S	S	18 15 49.0	-2.9
TAS	Tashkent	4.90	344	ePN	P	18 14 54.0	-0.9
TAS				pmax	pmax		
	comp=Z,980μm,1.0s						
DRP	Derazinda	4.93	189	⇑P	P	18 14 56.0	+0.7
JMU	Jammu	4.99	140	e	P	18 15 00.0	+4.0
JMU				eS	S	18 15 54.0	-0.6
THN	Thein Dam	5.64	137	e	S	18 16 09.5	+0.1
DLH	Dalhousie	5.70	134	eP	P	18 15 07.0	+2.0
DLH				e		18 16 11.0	
AML	Almayashu	5.84	19	P	P	18 15 06.7	-0.1
	SNR=1185						
PONG	Pong	6.13	138	eP	P	18 15 11.0	+0.4
PONG				eS	S	18 16 20.0	-0.7
KZA	Kyzart	6.31	29	P	P	18 15 12.7	0.0
	SNR=47						
EKS2	Erkin-Say	6.36	18	P	P	18 15 13.2	-0.2
	SNR=97						
KK31	Karatay Array	6.48	356	⇓P	P	18 15 13.9	-1.1
	comp=Z,34nm,0.5s,baz=190,slow=14,SNR=892						
KK31				⇑S	S	18 16 23.8	-4.9
	comp=Z,375nm,0.6s,baz=169,slow=15,SNR=19						
KKAR	Karatay Array	6.48	356	ePN	P	18 15 13.8	-1.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
AAK	Ala-Archa	6.53	22	P	P	18 15 15.8	+0.2
	SNR=150						
KBK	Karagaybulak	6.70	25	P	P	18 15 18.2	+0.4
	SNR=115						
FRU	Bishkek	6.75	22	⇓iPN	P	18 15 19.0	+0.6
FRU				i S	S	18 16 31.0	-3.9
FRU				pmax	pmax		
	comp=Z,160nm,1.7s						
FRU				smax			
	comp=E,720nm,1.9s						
BHK	Bhakra	6.80	138	e	P	18 15 23.8	+4.7
BHK				eS	S	18 16 31.7	-4.4
ULHL	Ulahol	6.86	34	P	P	18 15 20.2	+0.3
	SNR=59						
CHMS	Chumysh	6.94	23	P	P	18 15 21.5	+0.6
	SNR=40						
SDNR	Sundarnagar	7.04	135	eP	P	18 15 22.4	+0.2
SDNR				e		18 16 34.6	
USP	Ospenovka	7.11	20	P	P	18 15 23.4	+0.3
	SNR=13						
TKM2	Tokmak 2	7.16	27	P	P	18 15 24.4	+0.7
	SNR=33						
SMLA	Simla	7.43	136	⇑e	P	18 15 38.0	+11
SMLA				e		18 16 58.6	
KKR	Kurukshetra	8.18	143	eP	P	18 15 37.3	+0.5
DDI	Dehra Dun	8.54	135	e	P	18 15 40.0	-1.5
DDI				eS	S	18 17 12.2	-4.0
RTK	Rohtak	8.78	148	eP	P	18 15 44.1	-0.5
JOSI	Joshimath	9.28	128	eP	P	18 15 52.2	+1.2
JOSI				eS	S	18 17 30.8	-2.3
BHGR	Bahadurgarh	9.31	147	eP	P	18 15 50.9	-0.5
BHGR				eS	S	18 17 29.7	-4.1
KHET	Khetri	9.40	154	e	P	18 15 50.8	-1.7
KHET				eS	S	18 17 29.7	-6.2
KHET				e		18 17 34.0	
	comp=N,152nm,0.4s						
KHET				e		18 17 34.1	
	comp=E,228nm,0.5s						
NDI	New Delhi	9.44	145	⇑eP	P	18 15 52.0	-1.0
NDI				eS	S	18 17 30.5	-6.3
	comp=E,114nm,0.5s						
AYAN	Aya Nagar	9.57	146	eP	P	18 15 54.4	-0.3
AYAN				eS	S	18 17 35.5	-4.3
AYAN				e		18 17 39.6	
	comp=Z,340nm,0.6s						
KUDL	Kundal	9.59	150	eP	P	18 15 54.5	-0.6
KUDL				eS	S	18 17 34.2	-6.3

KUDL				e		18 17 40.1	
	comp=Z,187nm,0.7s						
JASL	**Jaisalmer**	9.68	181	e	P	18 15 53.2	-2.9
SONA	**Sohna**	9.75	147	eP	P	18 15 56.5	-0.5
SONA				eS	S	18 17 38.9	-5.1
SONA				e		18 17 40.9	
	comp=N,150nm,0.5s						
SONA				e		18 17 41.0	
	comp=E,215nm,0.6s						
PTH	**Pithoragarh**	10.38	130	eP	P	18 16 05.3	+0.1
PTH				eS	S	18 17 52.4	-6.2
LGTI	**Lohaghat**	10.47	131	⇓eP	P	18 16 05.8	-0.5
LGTI				e		18 17 59.0	
AGRA	**Agra**	11.01	146	e	P	18 16 12.5	-0.7
AGRA				eS	S	18 18 07.4	-5.7
MK31	**Makanchi Array**	13.12	36	P	P	18 16 39.3	-0.3
	comp=E,26nm,0.8s,baz=220,slow=16,SNR=84						
MK31				⇓S	S	18 19 05.9	+4.8
	comp=E,6.1nm,0.7s						
MKAR	**Makanchi Array**	13.12	36	P	P	18 16 39.8	+0.1
	comp=E,2.4nm,0.3s,baz=221,slow=17,SNR=41						
MKAR				sP		18 17 39.4	
	baz=346,slow=15,SNR=1.8						
MKAR				S	S	18 19 05.1	+3.9
	comp=E,1.0nm,0.3s,baz=21,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	13.12	36	P	P	18 16 39.8	+0.2
MKAR				S	S	18 19 05.1	+3.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOLN	**Koldanda**	13.75	126	eP	P	18 16 47.8	+0.2
	comp=Z,57nm,0.4s						
GKN	**Gorkha**	14.28	123	eP	P	18 16 54.4	+0.3
	comp=Z,170nm,0.4s						
BHPL	**Bhopal**	14.41	156	⇑iP	P	18 16 55.3	-0.4
	comp=Z,236nm,0.7s						
BHPL				i		18 19 23.0	
WMQ	**Urumqi**	14.54	55	⇓P	P	18 16 57.1	0.0
WMQ				XP		18 17 53.6	
WMQ				S	S	18 19 33.3	+0.5
WMQ				PCP	PcP	18 21 57.6	+1.7
WMQ				PCS		18 25 31.6	
WMQ				SCS	ScS	18 28 45.1	+1.4
WMQ				AMB	AMB		
	comp=Z,23nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,14nm,8.2s						
DMN	**Daman**	14.85	123	eP	P	18 17 01.8	+0.7
	comp=Z,147nm,0.6s						
KKN	**Kakani**	14.86	122	eP	P	18 17 01.5	+0.4
	comp=Z,259nm,0.6s						
AB31	**Akbulak array**	15.02	331	⇑P	P	18 17 01.0	-2.1
	comp=Z,26nm,0.7s,baz=143,slow=11,SNR=237						
AB31				⇑S	S	18 19 41.3	-2.3
	comp=Z,22nm,0.8s						
AB31	**Akbulak array**	15.02	331	eP	P	18 17 00.9	-2.1
AB31						18 19 41.2	
AB31				pmax	pmax		
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**	15.07	19	⇓P	P	18 17 01.3	-2.4
	comp=Z,11nm,0.9s						
KURK				⇑S	S	18 19 48.2	+3.5
	comp=Z,14nm,1.3s						
KURK	**Kurchatov**	15.07	19	P	P	18 17 01.2	-2.5
KURK						18 19 48.2	
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	15.07	19	eP	P	18 17 02.0	-1.7
	comp=Z,24nm,1.0s						
PKI	**Pulchoki**	15.08	123	eP	P	18 17 04.4	+0.5
	comp=Z,151nm,0.5s						
VOSK	**Vostochnaya**	16.09	360	⇑P	P	18 17 14.6	-1.4
	comp=Z,15nm,0.8s						
ZRNK	**Zerenda**	16.39	355	⇑P	P	18 17 17.9	-1.6
	comp=Z,26nm,0.8s						
BVA0	**Borovoye Array**	16.40	358	⇑P	P	18 17 18.6	-1.1
	comp=Z,2.4nm,0.6s						
BVA0	**Borovoye Array**	16.40	358	P	P	18 17 18.5	-1.1
BVAR	**Borovoye Array**	16.40	358	P	P	18 17 18.9	-0.8
	comp=Z,3.5nm,0.3s,baz=160,slow=10,SNR=87						
BVAR				sP		18 18 17.9	
	baz=185,slow=18,SNR=1.3						
BVAR				S	S	18 20 15.8	+1.7
	comp=Z,0.4nm,0.3s,baz=166,slow=18,SNR=3.1						
BRVK	**Borovoye**	16.44	358	eP	P	18 17 19.0	-1.1
	comp=Z,28nm,0.8s						
BLSP	**Bilaspur**	17.32	144	eP	P	18 17 29.8	-0.3
BLSP				e		18 20 33.7	
LSA	**Lhasa**	18.11	107	P	P	18 17 41.5	+3.2
LSA	**Lhasa**	18.11	107	eP	P	18 17 41.0	+2.8
	comp=Z,26nm,0.8s						
POO	**Poona**	18.19	172	eP	P	18 17 40.5	+1.4
POO				e		18 17 41.2	
	comp=Z,42nm,0.8s						
LATR	**Latur**	18.76	164	eP	P	18 17 43.9	-1.1
	comp=Z,48nm,1.5s						
LATR				e		18 21 12.1	
KAD	**Karad**	19.43	171	eP	P	18 17 53.5	+1.6
KAD				e		18 17 55.2	
	comp=Z,29nm,1.3s						
NVS	**Novosibirsk**	20.02	21	eP	P	18 17 56.3	-1.3
NVS				i S	S	18 21 27.3	+2.1
NVS				pmax	pmax		
	comp=N,27nm,0.8s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,38nm,0.8s						
NVS				smax			
	comp=N,28nm,1.1s						
NVS				smax			
	comp=E,34nm,1.1s						
HYB	**Hyderabad**	20.23	159	i P	P	18 18 01.0	+1.1
	comp=E,60nm,1.0s						
HYB				e		18 18 03.0	
HYB				eS	S	18 21 29.0	-0.3
UMR	**Umm Al-Rimmam**	20.82	257	eP	P	18 18 06.8	+1.1
UMR				AMb	AMB	18 18 09.1	
	comp=Z,46nm,0.7s						
SHL	**Shillong**	20.87	116	eP	P	18 18 08.5	+2.3
SHL				eS	S	18 21 48.0	+7.3
GNI	**Garni**	20.95	288	P	P	18 18 10.4	+3.5
	comp=Z,5.8nm,0.6s,baz=336,slow=1.6,SNR=3.0						
GNI	**Garni**	20.95	288	P	P	18 18 10.4	+3.5
GNI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBD	**Kabd**	21.01	256	eP	P	18 18 09.6	+2.1
RDF	**Al-Radifah**	21.23	256	eP	P	18 18 11.4	+1.7
RDF				AMb	AMB	18 18 13.2	
	comp=Z,41nm,0.6s,mb5.1						
RST	**Umm Al-Ruwaisa**	21.41	258	eP	P	18 18 11.6	+0.2
RST				AMb	AMB	18 18 13.6	
	comp=Z,32nm,0.7s,mb5.0						
ARU	**Arti**	21.55	341	P	P	18 18 13.0	+0.5
	comp=Z,296nm,0.7s,SNR=26						
ARU	**Arti**	21.55	341	⇑iP	P	18 18 13.0	+0.5
ARU				eS	S	18 22 03.5	+11
ARU				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.0						
ARU	**Arti**	21.55	341	eP	P	18 18 12.9	+0.3
	comp=Z,40nm,0.8s,mb5.0						
GTA	**Gaotai**	22.73	74	eP	P	18 18 28.9	+4.8
GTA				XP		18 19 37.5	
GTA				SS	SS	18 23 27.6	+7.9
GTA				SCS	ScS	18 29 09.5	-0.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,47nm,7.7s						
GTA				LR	LR		
	comp=N,29nm,7.6s						
GTA				LR	LR		
	comp=E,45nm,7.3s						
GTA				LR	LR		
	comp=Z,31nm,10.3s						
GOF	**Gofitskoye**	22.78	300	eP	P	18 18 26.5	+1.9
GOF				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.1						
CUD	**Cuddapah**	23.09	161	eP	P	18 18 29.4	+1.5
CUD				e		18 18 31.0	
CUD				e		18 18 35.5	
CUD				eS	S	18 22 33.5	+14
CUD				e		18 22 52.4	
SOC	**Sochi**	24.91	296	eP	P	18 18 48.7	+4.1
SOC				e		18 19 34.4	
SOC				e		18 22 17.5	
SOC				eS	S	18 22 56.2	+7.0
SOC				eSS	SS	18 24 12.1	+0.8
SOC				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
SOC				pmax	pmax		
	comp=N,5.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
LZH	**Lanzhou**	26.28	81	eP	P	18 18 57.6	+0.3
LZH				AP	pP	18 19 41.6	+0.8
LZH				PP	PP	18 19 52.4	+3.5
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
ANN	**Anapa**	26.67	298	eP	P	18 18 56.8	-3.9
ANN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
ZAK	**Zakamensk**	26.82	49	eP	P	18 19 02.8	+0.8
ZAK				e	pP	18 19 49.9	+4.1
ZAK				e		18 20 14.1	
SONM	**Songino Array**	28.17	55	P	P	18 19 15.3	+1.1
	comp=Z,3.2nm,0.8s,mb4.0,baz=263,slow=9.7,SNR=27						
SONM				pP	pP	18 20 02.5	+4.0
	comp=Z,0.8nm,0.7s,baz=251,slow=9.4,SNR=2.8						
KMI	**Kunming**	29.32	104	eP	P	18 19 25.4	+0.7
KMI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	29.50	288	P	P	18 19 26.0	0.0
	comp=Z,1.6nm,0.6s,mb3.8,baz=104,slow=8.3,SNR=11						
BRTR				pP	pP	18 20 09.4	-1.3
	comp=Z,0.4nm,0.5s,baz=95,slow=9.6,SNR=2.0						
BRTR				sP	sP	18 20 38.6	+1.9
	comp=Z,1.4nm,1.0s,baz=82,slow=8.7,SNR=2.4						
OBN	**Obninsk**	29.91	319	c iP	P	18 19 28.8	-0.7
OBN				i *PP	pP	18 20 12.1	-2.2
OBN				e		18 20 38.6	
OBN				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.2						
OBN	**Obninsk**	29.91	319	eP	P	18 19 27.9	-1.6
	comp=Z,50nm,0.6s,mb5.3						
CM31	**Chiang Mai Arr**	30.42	119	eP	P	18 19 33.6	-0.7
CMAR	**Chiang Mai Arr**	30.42	119	P	P	18 19 35.0	+0.6
	comp=Z,5.6nm,0.7s,mb4.3,baz=304,slow=8.3,SNR=34						
CMAR				pP	pP	18 20 22.1	+2.8
	comp=Z,1.9nm,0.6s,baz=299,slow=8.0,SNR=3.4						
CMAR				sP	sP	18 20 50.8	+5.6
	comp=Z,4.5nm,1.1s,baz=277,slow=6.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	30.42	119	P	P	18 19 35.0	+0.7
CMAR				*PP	pP	18 20 22.1	+2.8
CMAR				*SP	sP	18 20 50.8	+5.6
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GYA	**Guiyang**	31.78	98	⇑iP	P	18 19 47.3	+1.2
GYA				AP	pP	18 20 33.6	+2.2
GYA				PP	PP	18 21 03.4	+3.5
GYA				S	S	18 24 40.0	+1.4
GYA				XS		18 26 01.8	
GYA				SS	SS	18 26 49.6	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,130nm,3.4s						
GYA				LR	LR		
	comp=N,170nm,15.2s						
GYA				LR	LR		
	comp=E,220nm,15.0s						
GYA				LR	LR		
	comp=Z,140nm,14.8s						
AKASG	**Malin Array Be**	32.95	309	P	P	18 19 55.0	-0.9
	comp=Z,6.6nm,0.5s,mb4.4,baz=78,slow=7.1,SNR=73						
AKASG				pP	pP	18 20 40.3	-1.2
	comp=Z,6.3nm,1.0s,baz=86,slow=7.1,SNR=2.9						
AKASG				sP	sP	18 21 07.6	+0.4
	comp=Z,1.1nm,0.7s,baz=87,slow=11,SNR=1.6						
AKASG	**Malin Array Be**	32.95	309	P	P	18 19 55.0	-0.9
AKASG				*PP	pP	18 20 40.3	-1.2
AKASG				*SP	sP	18 21 07.6	+0.4
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BOD	**Bodaibo**	35.18	39	eP	P	18 20 14.2	-0.6
KWP	**Kalwaria**	37.02	306	eP	P	18 20 31.4	+1.1
SUW	**Suwalki**	37.10	313	eP	P	18 20 30.5	-0.5
IDI	**Anoyia**	37.18	282	P	P	18 20 31.7	-0.1
	comp=Z,2.8nm,0.6s,mb4.0,baz=248,slow=20,SNR=2.7						
LVZ	**Lovozero**	37.38	338	c eP	P	18 20 32.6	-0.5
LVZ				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.8						
FINES	**FINESS Array B**	37.44	326	P	P	18 20 33.2	-0.4
	comp=Z,12nm,0.5s,mb4.7,baz=124,slow=12,SNR=92						
FINES				pP	pP	18 21 18.6	-1.6
	comp=Z,3.6nm,0.7s,baz=131,slow=18,SNR=2.4						
FINES	**FINESS Array B**	37.44	326	P	P	18 20 33.2	-0.4
FINES				*PP	pP	18 21 18.6	-1.5
FINES				pmax	pmax		
	comp=Z,12nm,0.5s						
FINES	**FINESS Array B**	37.44	326	P	P	18 20 33.2	-0.4
FINES				pP	pP	18 21 18.6	-1.6
KAF	**Kangasniemi**	37.58	327	ep	P	18 20 34.7	-0.1
OJC	**Ojcow**	38.91	307	eP	P	18 20 46.1	+0.1
NJ2	**Nanjing**	39.35	82	eP	P	18 20 50.9	+1.1
NJ2				AP	pP	18 21 37.3	+0.7
NJ2				XP	sP	18 22 04.0	+1.5
NJ2				PP	PP	18 22 28.3	+1.5
NJ2				S	S	18 26 33.0	-1.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
VYHS	**Vyhne**	39.57	304	eP	P	18 20 52.7	+1.2
OKC	**Ostrava-Krasne**	39.98	306	eP	P	18 20 50.9	-3.9
GKP	**Gorka Klasztor**	40.56	312	eP	P	18 21 00.3	+0.7
KEV	**Kevo**	40.72	338	ep	P	18 21 00.1	-0.6
ARCES	**ARCESS Array B**	41.07	337	P	P	18 21 03.5	0.0
	comp=Z,18nm,0.5s,mb4.7,baz=111,slow=8.0,SNR=114						
ARCES				pP	pP	18 21 52.4	+1.8
	comp=Z,3.0nm,0.6s,baz=106,slow=8.8,SNR=2.4						
ARCES				sP	sP	18 22 18.4	+2.0
	comp=Z,1.3nm,0.6s,baz=108,slow=7.7,SNR=1.1						
ARCES	**ARCESS Array B**	41.07	337	P	P	18 21 03.5	0.0
ARCES				*PP	pP	18 21 52.4	+1.8
ARCES				*SP	sP	18 22 18.4	+2.1
ARCES				pmax	pmax		
	comp=Z,18nm,0.5s						
CN2	**Changchun**	41.45	63	eP	P	18 21 07.5	+0.6
CN2				eAP	pP	18 21 54.3	+0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
SSE	**Sheshan**	41.55	83	⇓P	P	18 21 04.0	-3.8
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,214nm,5.9s						
PERS	**Pernice**	42.24	302	i P	P	18 21 14.2	+1.0
PRU	**Pruhonice**	42.30	307	eP	P	18 21 14.4	+0.8
BRG	**Berggiesshubel**	42.63	308	i P	P	18 21 17.4	+1.1
BRG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
BRG	**Berggiesshubel**	42.63	308	i P	P	18 21 17.4	+1.1
	comp=Z,15nm,1.1s,mb4.3						
LJU	**Ljubljana**	42.72	301	i P	P	18 21 08.9	-8.2
GEC2	**GERESS Array S**	42.94	305	eP	P	18 21 19.1	+0.3
GEC2				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.0						
GEC2	**GERESS Array S**	42.94	305	eP	P	18 21 19.1	+0.3
	comp=Z,11nm,1.7s,mb4.0						
GERES	**GERESS Array B**	42.94	305	P	P	18 21 18.9	+0.1
	comp=Z,0.4nm,0.6s,baz=74,slow=9.7,SNR=6.4						
GERES				pP	pP	18 22 09.5	+3.3
	comp=Z,0.6nm,0.8s,baz=72,slow=8.4,SNR=2.7						
GERES				PP	PP	18 23 06.3	+3.1
	comp=Z,1.8nm,0.9s,baz=74,slow=9.7,SNR=7.9						
GERES	**GERESS Array B**	42.94	305	P	P	18 21 18.9	+0.1
GERES				*PP	pP	18 22 09.5	+3.3
GERES						18 23 06.3	
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KHC	**Kasperske Hory**	43.00	306	eP	P	18 21 18.0	-1.3
CLL	**Collm**	43.19	309	⇓P	P	18 21 21.0	+0.2
	comp=Z,logA/T=1.1,mb4.3						
CLL	**Collm**	43.19	309	⇓iP	P	18 21 21.0	+0.2
CLL				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
CLL	**Collm**	43.19	309	⇓iP	P	18 21 21.0	+0.2
	comp=Z,13nm,1.1s,mb4.3						
ROBS	**Robic**	43.39	301	eP	P	18 21 22.3	-0.2
YAK	**Yakutsk**	43.80	36	c iP	P	18 21 25.1	-0.4
YAK				e*PP	pP	18 22 14.9	+1.9
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.6						
YAK	**Yakutsk**	43.80	36	eP	P	18 21 25.0	-0.5
	comp=Z,20nm,0.7s,mb4.6						
MOX	**Moxa**	44.12	308	i P	P	18 21 28.8	+0.6
	comp=Z,logA/T=1.0,mb4.1						
MOX	**Moxa**	44.12	308	eP	P	18 21 28.8	+0.6
MOX				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.1						
MOX	**Moxa**	44.12	308	eP	P	18 21 28.8	+0.6
	comp=Z,14nm,1.5s,mb4.1						
NB2	**NORSAR Subarra**	44.34	323	P	P	18 21 28.9	-0.9
	comp=Z,20nm,0.6s,mb4.6,baz=96,slow=7.4						
NB2	**NORSAR Subarra**	44.34	323	P	P	18 21 28.9	-0.9
	baz=96,slow=7.9						
NOA	**NORSAR Array B**	44.34	323	P	P	18 21 28.9	-0.9
	comp=Z,16nm,0.6s,mb4.5,baz=96,slow=7.7,SNR=68						
NOA				pP	pP	18 22 17.0	-0.4
	comp=Z,4.5nm,0.8s,baz=95,slow=8.1,SNR=4.6						
NOA	**NORSAR Array B**	44.34	323	P	P	18 21 29.0	-0.8
NOA				*PP	pP	18 22 17.0	-0.4
NOA				pmax	pmax		
	comp=Z,16nm,0.6s						
GRA1	**Grafenberg Arr**	44.47	307	eP	P	18 21 32.3	+1.3
	comp=Z,9.0nm,0.9s,mb4.1						
GRF	**Grafenberg Arr**	44.47	307	eP	P	18 21 32.3	+1.3
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
FUR	**Furstenfeldbru**	44.62	304	eP	P	18 21 33.0	+0.7
FUR				pmax	pmax		
	comp=Z,4µm,10.6s						
VAE	**Valguarnera**	44.68	289	P	P	18 21 32.2	-0.6
	comp=Z,8.8nm,0.3s,mb4.6,baz=70,slow=5.3,SNR=3.3						
BSEG	**Bad Segeberg**	44.68	313	eP	P	18 21 33.5	+0.9
BSEG				pmax	pmax		
	comp=Z,101nm,2.5s,mb4.7						
CLZ	**Clausthal**	44.79	310	eP	P	18 21 34.1	+0.6
	comp=Z,13nm,1.2s,mb4.1						
BFO	**Black Forest**	46.55	305	eP	P	18 21 48.0	+0.7
BFO				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.0						
BFO	**Black Forest**	46.55	305	eP	P	18 21 48.0	+0.7
	comp=Z,13nm,1.7s,mb4.0						
CDF	**Champ du Feu**	47.22	305	eP	P	18 21 52.7	+0.1
	comp=Z,3.1nm,0.8s,mb3.4						
PGF	**Pioggiola**	47.31	297	eP	P	18 21 54.1	+0.8
	comp=Z,29nm,0.9s,mb4.3						
HINF	**Hinteralfeld**	47.61	305	eP	P	18 21 55.2	-0.4
HAU	**Haudompre**	47.91	305	eP	P	18 21 57.6	-0.3
LPG	**La Plagne**	48.17	302	eP	P	18 22 00.3	+0.3
LPL	**La Plagne**	48.18	302	eP	P	18 22 00.4	+0.4
MBDF	**Montbardon**	48.34	301	eP	P	18 22 01.6	+0.4
CABF	**La Chapelle**	48.37	303	eP	P	18 22 01.5	0.0
MEZF	**Maizieres J'vi**	48.66	306	eP	P	18 22 03.7	+0.1
	comp=Z,18nm,1.1s,mb4.0						
FRF	**La Foret Royal**	48.72	299	eP	P	18 22 04.5	+0.4
BAIF	**Baives**	48.90	308	eP	P	18 22 05.9	+0.5
	comp=Z,11nm,0.9s,mb3.9						
KMBO	**Kilima Mbogo**	49.00	228	eP	P	18 22 07.5	+0.8
LOR	**Lormes**	49.71	305	eP	P	18 22 12.1	+0.4
	comp=Z,17nm,1.2s,mb3.9						
VIVF	**Saint-Julien-l**	49.75	301	eP	P	18 22 12.1	+0.1
SMF	**Signal de Mont**	49.87	304	eP	P	18 22 12.4	-0.5
	comp=Z,9.0nm,0.7s,mb3.9						
SSF	**Saint Saulge**	49.99	304	eP	P	18 22 13.1	-0.7
	comp=Z,12nm,1.1s,mb3.9						
AVF	**Avril sur Loir**	50.16	304	eP	P	18 22 14.5	-0.6
	comp=Z,12nm,0.8s,mb4.0						
LASF	**Ste Croix**	50.52	301	eP	P	18 22 18.0	+0.2
	comp=Z,8.4nm,0.9s,mb3.9						
TCF	**Toulx Ste Croi**	51.05	304	eP	P	18 22 21.6	-0.1
	comp=Z,16nm,1.0s,mb4.1						
MTLF	**Montolieu**	51.87	300	eP	P	18 22 28.1	+0.2
	comp=Z,8.9nm,0.9s,mb3.9						
EPF	**Esparros**	53.27	300	eP	P	18 22 38.8	+0.6
ETSF	**Etsaut**	53.94	300	eP	P	18 22 43.6	+0.5
	comp=Z,12nm,0.8s,mb4.1						
DAG	**Danmarks Havn**	54.64	344	⇑iP	P	18 22 47.7	0.0
	comp=Z,8.7nm,0.6s,mb4.5						
ESDC	**Sonseca Array**	57.49	298	P	P	18 23 07.8	-0.6
	comp=Z,0.3nm,0.5s,baz=68,slow=8.0,SNR=4.4						
ESDC				pP	pP	18 23 58.0	-0.6
	comp=Z,0.9nm,0.7s,baz=56,slow=7.2,SNR=3.1						
SUMG	**Summit**	60.97	341	eP	P	18 23 31.8	0.0
	comp=Z,29nm,1.1s,mb4.8						
LSZ	**Lusaka**	65.62	226	eP	P	18 24 02.1	-0.7
	comp=Z,2.6nm,0.7s,mb4.0						
INK	**Inuvik**	73.76	9	eP	P	18 24 51.8	+0.4
	comp=Z,8.0nm,0.5s,mb4.6						
INK				epP	pP	18 25 44.8	+0.7
COLA	**College**	74.32	16	eP	P	18 24 54.9	+0.3
	comp=Z,7.8nm,0.9s,mb4.3						
COLA				epP	pP	18 25 47.8	+0.4
ILAR	**Eielson Array**	74.63	16	P	P	18 24 56.0	-0.3
	comp=Z,3.3nm,0.9s,mb4.0,baz=317,slow=4.8,SNR=41						
ILAR				pP	pP	18 25 50.5	+1.3
	comp=Z,0.9nm,1.0s,baz=307,slow=4.5,SNR=3.2						
ILAR				PP	PP	18 27 46.2	-1.4
	comp=Z,0.8nm,0.8s,baz=318,slow=9.3,SNR=6.0						
ILAR	**Eielson Array**	74.63	16	P	P	18 24 56.1	-0.3
ILAR				*PP	pP	18 25 50.5	+1.4
ILAR						18 27 46.2	
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	74.81	267	P	P	18 24 56.6	-1.8
	comp=Z,2.4nm,0.6s,mb4.0,baz=53,slow=9.5,SNR=6.1						
DBIC	**Dimbokro**	74.81	267	P	P	18 24 56.7	-1.8
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	74.88	127	eP	P	18 24 58.1	-0.7
	comp=Z,3.1nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	74.88	127	P	P	18 24 58.4	-0.3
	comp=Z,3.4nm,0.8s,mb4.0,baz=319,slow=5.0,SNR=6.0						
FITZ				pP	pP	18 25 54.0	+2.5
	comp=Z,2.5nm,1.0s,baz=343,slow=23,SNR=2.3						
KIC	**Kosan Boka**	74.90	267	ePKP1	P	18 24 57.2	-1.8
	comp=Z,156nm,1.7s,mb5.4						
TIC	**Toumodi**	74.96	267	ePKP1	P	18 24 57.3	-2.0
	comp=Z,9.4nm,0.2s,mb5.0						
TSUM	**Tsumeb**	75.08	232	P	P	18 24 59.6	-0.3
	comp=Z,0.5nm,0.3s,mb3.6,baz=14,slow=6.5,SNR=4.2						
LIC	**Lamto**	75.21	267	ePKP1	P	18 24 58.3	-2.4
	comp=Z,109nm,2.3s,mb5.1						
DAWY	**Dawson**	76.77	13	eP	P	18 25 08.4	+0.1
PMR	**Palmer**	76.81	19	eP	P	18 25 08.6	0.0
	comp=Z,3.1nm,0.7s,mb4.0						
SML	**Sawmill**	76.83	18	eP	P	18 25 08.6	-0.1
SML				epP	pP	18 26 02.7	+0.9
YKA	**Yellowknife Ar**	81.11	3	P	P	18 25 32.1	+0.4
	comp=Z,3.0nm,0.5s,mb4.2,baz=351,slow=5.4,SNR=41						
YKA				pP	pP	18 26 26.6	+1.1
	comp=Z,2.0nm,0.7s,baz=350,slow=5.4,SNR=7.4						
YKA	**Yellowknife Ar**	81.11	3	P	P	18 25 32.1	+0.4
YKA				*PP	pP	18 26 26.6	+1.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	81.11	3	P	P	18 25 32.1	+0.4
YKA				pP	pP	18 26 26.6	+1.1
WRA	**Warramunga Arr**	81.97	122	P	P	18 25 36.1	-0.8
	comp=Z,2.8nm,0.7s,mb4.0,baz=324,slow=5.0,SNR=37						
WRA				pP	pP	18 26 33.8	+3.0
	comp=Z,0.9nm,0.7s,baz=321,slow=5.0,SNR=3.0						
WRA	**Warramunga Arr**	81.97	122	P	P	18 25 36.1	-0.8
WRA				*PP	pP	18 26 33.8	+3.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	**Tennant Creek**	81.97	122	eP	P	18 25 35.3	-1.7
WB2	**Warramunga Arr**	81.98	122	eP	P	18 25 35.9	-1.1
ASPA	**Alice Springs**	84.24	125	eP	P	18 25 47.5	-1.0
ASAR	**Alice Springs**	84.24	125	P	P	18 25 47.5	-1.0
	comp=Z,3.3nm,0.7s,mb4.2,baz=309,slow=5.0,SNR=51						
ASAR				pP	pP	18 26 45.2	+2.7
	comp=Z,0.6nm,0.7s,baz=317,slow=6.0,SNR=3.4						
ASAR				sP	sP	18 27 09.4	+3.8
	comp=Z,0.5nm,0.6s,baz=310,slow=5.5,SNR=1.5						
CTAO	**Charters Tower**	90.50	115	P	P	18 26 17.9	-0.5
STKA	**Stephens Creek**	94.78	126	P	P	18 26 37.1	-0.7
PLCA	**Paso Flores**	149.97	250	PKPbc	PKPdf	18 33 05.6	+6.7
	comp=Z,4.1nm,1.0s,baz=43,slow=5.4,SNR=7.0						
PLCA	**Paso Flores**	149.97	250	PKIKP	PKPdf	18 33 05.6	+6.7
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						

*NEIC **22** 18:22:27.8±0.8,21.17N×93.35E,h50^{km},Error ellipse:*

s-maj=33.2km s-min=8.9km az=48.0

*IDC **22** 18:22:30.4±7.6, 21.31N×93.63E, h73^{km}±65^{km}, mb3.2/5, mb1 3.4/6, mb1mx3.2/18, ML3.5/1, Error ellipse: s-maj=148.0km s-min=18.6km az=53.0*

ISC 22 18:22:28.8±3.7, **21.5N**±0.4×**93.8E**±0.6, **h74**^{km}±31^{km}, **n9**, σ**0^{s}74**/10, **mb3.4**/5, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	4.40	337	*e*P	P	18 23 35.0	+0.3
SHL				*e*S	S	18 24 24.0	-1.0
CM31	Chiang Mai Arr	5.72	121	P	P	18 23 53.4	+0.4
CMAR	Chiang Mai Arr	5.72	121	P	P	18 23 53.0	+0.1
	0.3nm,0.3s,baz=291,slow=14,SNR=8.4						
LSA	Lhasa	8.49	344	*e*P	P	18 24 31.2	0.0
MKAR	Makanchi Array	26.89	342	P	P	18 28 06.2	+1.6
	0.6nm,0.7s,mb3.2,baz=154,slow=8.3,SNR=4.2						
WRA	Warramunga Arr	57.18	133	P	P	18 32 09.6	-1.2
	0.4nm,0.6s,mb3.7,baz=318,slow=7.7,SNR=8.8						
ASAR	Alice Springs	59.51	137	P	P	18 32 26.4	-0.5
	0.2nm,0.5s,mb3.4,baz=317,slow=6.6,SNR=9.3						
GERES	GERESS Array B	67.69	315	P	P	18 33 20.5	+0.4
	0.2nm,0.5s,mb3.2,baz=79,slow=6.8,SNR=4.7						
NOA	NORSAR Array B	67.85	329	P	P	18 33 20.8	-0.1
	0.4nm,0.7s,mb3.4,baz=89,slow=4.3,SNR=2.4						

DHMR 22 18:31:36.7±1.2, **12.35N×44.73E**, **h5**^{km}±7^{km}, **MD3.8**, **ML3.6**, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.04	325	*e*P	Pb	18 31 56.4	-0.4
TRBA				*i* S	Sb	18 32 12.2	+1.7
TRBA				AML	AML	18 32 14.0	
	comp=E,1μm,0.3s						
LBOS		1.60	19	*e*P	Pn	18 32 06.8	+1.0
LBOS				*i* S	Sb	18 32 29.8	+3.0
BDHA	Al Bayda’	1.81	27	*e*P	Pn	18 32 09.1	+0.2
BDHA				*i* S	Sn	18 32 34.6	+2.1
DHBB	Dhamar BB	2.22	351	*i* S	Sn	18 32 46.6	+3.6
HAJJ	Hajjah	3.51	342	*e*P	Pn	18 32 34.5	+1.5
HAJJ				*i* S	Sn	18 33 20.1	+4.6

DJA 22 18:33:38.8±1.0, **9.78S×116.53E**, **h15**^{km}, **MD5.8**/4, **ML4.0**/4, **2C-4D**, **Error ellipse: s-maj=21.3km s-min=19.1km az=137.0**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.35	342	⇓*i*Pn	Pn	18 34 01.0	-2.2
	156nm,0.2s						
KEDI				⇑*i*Sn	Sn	18 34 17.0	-3.8
RATI	Rata	1.44	317	⇓*i*Pn	Pn	18 34 01.7	-2.8
	299nm,0.2s						
RATI				⇑*i*Sn	Sn	18 34 18.9	-4.2
INGI	Ingas	1.67	305	*e*Pn	Pn	18 34 05.0	-2.7
	159nm,0.2s						
INGI				⇓*i*Sn	Sn	18 34 24.4	-4.5
KELI	Kelakatan	2.54	307	⇓*e*Pn	Pn	18 34 17.9	-2.3
	34nm,0.2s						

IDC 22 18:39:34.1±48.0, **19.51S×178.80W**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/14, **Error ellipse: s-maj=883.0km s-min=157.9km az=81.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.56	243	P	P	18 46 50.1	-1.8
	2.2nm,1.0s,baz=75,slow=12,SNR=3.1						
WRA	Warramunga Arr	44.00	261	P	P	18 47 43.9	-1.4
	0.4nm,0.4s,baz=97,slow=7.5,SNR=19						
ASAR	Alice Springs	44.02	256	P	P	18 47 43.4	-2.0
	1.5nm,0.5s,baz=90,slow=8.6,SNR=13						

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*NEIC **22** 19:02:57.2±0.6, 37.09N×3.57W, h630^{km}±5^{km}, MG2.1(MDD), Error ellipse: s-maj=18.0km s-min=12.9km az=175.0*

*IDC **22** 19:02:58.0±2.3, 37.22N×3.56W, h636^{km}±18^{km}, mb2.7/5, mb1 2.9/7, mb1mx2.6/25, Error ellipse: s-maj=46.6km s-min=25.9km az=9.0*

*MDD **22** 19:02:59.6±1.8, 36.96N×3.40W, h601^{km}±13^{km}, mb2.1/10, Error ellipse: s-maj=40.3km s-min=27.3km az=150.0, PRXIMO*

ISC 22 19:02:56.2±0.9, **37.1N**±0.2×**3.4W**±0.2, **h629**^{km}±7^{km}, **n22**, σ**0^{s}78**/28, **mb3.4**/5, **4D**, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERON	Agron	0.31	265	P	P	19 04 09.3	-0.2
	SNR=7.9						
ERON				S	S	19 05 05.7	-2.0
	SNR=7.9						
ELOJ	Sierra Loja	0.60	280	P	P	19 04 10.4	+0.6
	1.7nm,0.3s,SNR=7.4						
ELOJ				S	S	19 05 07.6	-0.7
	0.6nm,0.2s,SNR=7.9						
EQES	Quesada	0.80	20	⇓P	P	19 04 10.6	+0.6
	3.6nm,0.1s,SNR=18						
EQES				S	S	19 05 08.6	-0.2
	19nm,0.5s,SNR=10						
ELUQ	Luque	0.85	307	⇓P	P	19 04 10.7	+0.6
	6.5nm,0.4s,SNR=18						
ELUQ				S	S	19 05 09.4	+0.5
	1.5nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.19	247	P	P	19 04 10.7	-0.1
	4.0nm,0.2s,SNR=7.9						
EMIJ				S	S	19 05 08.4	-1.8
	11nm,0.4s,SNR=7.9						
EADA	Adamuz	1.45	321	⇓P	P	19 04 12.2	+0.8
	18nm,0.6s,SNR=18						
ESPR	Espera	1.96	266	P	P	19 04 13.9	+0.9
	16nm,0.3s,SNR=28						
ESPR				S	S	19 05 14.1	-0.3
	3.3nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	2.66	351	P	P	19 04 17.3	+1.1
	3.6nm,0.3s,baz=174,slow=5.0,SNR=88						
ESDC	Sonseca Array	2.66	351	P	P	19 04 16.1	0.0
	1.3nm,0.2s,baz=176,slow=5.0,SNR=78						
ESLA	Sonseca Array	2.66	351	*e*P	P	19 04 17.2	+1.0
EMIN	Mina Concepcio	2.69	287	P	P	19 04 16.7	+0.3
	10nm,0.3s,SNR=48						
EGRO	El Granado	3.28	280	P	P	19 04 19.6	0.0
	3.3nm,0.3s,SNR=12						
EBAD	Badajoz	3.32	302	⇓P	P	19 04 20.3	+0.5
	16nm,0.2s,SNR=18						
ETOR	Torete	3.92	15	P	P	19 04 24.7	+1.1
	1.6nm,0.3s,SNR=7.9						
MTE	Manteigas	4.65	317	*e*P	P	19 04 28.7	+0.1
GERES	GERESS Array B	17.16	41	P	P	19 06 23.6	-0.3
	0.6nm,0.3s,baz=232,slow=8.7,SNR=36						
KHC	Kasperske Hory	17.27	40	*e*P	P	19 06 24.0	-0.9
IDI	Anoyia	22.89	86	P	P	19 07 17.3	+1.1
	4.0nm,0.8s,mb4.1,baz=280,slow=12,SNR=4.9						
FINES	FINESS Array B	30.60	28	P	P	19 08 22.2	-0.4
	1.7nm,0.9s,mb3.7,baz=231,slow=8.9,SNR=3.4						
ARCES	ARCESS Array B	36.11	17	P	P	19 09 07.4	-1.0
	0.6nm,0.6s,mb3.3,baz=219,slow=12,SNR=3.1						
MKAR	Makanchi Array	61.51	51	P	P	19 12 14.8	-0.5
	0.2nm,0.3s,mb2.8,baz=293,slow=5.5,SNR=4.3						
PDAR	Pinedale Array	75.99	313	P	P	19 13 41.0	-0.6
	0.4nm,0.6s,mb3.0,baz=53,slow=4.5,SNR=4.0						

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*LDG **22** 19:48:22.6±0.3, 44.47N×10.77E, h10^{km}, Ml2.4/14, Error ellipse: s-maj=6.1km s-min=3.4km az=94.0*

*ROM **22** 19:48:23.2±0.2, 44.35N×10.74E, h18^{km}±1^{km}, MD2.5/6, ML1.5/8, Error ellipse: s-maj=2.3km s-min=1.5km az=0.0*

*NEIC **22** 19:48:23.3, 44.35N×10.74E, h18^{km}, MD2.5(ROM), ML2.4(LDG), After ROM.*

ISC 22 19:48:22.5±0.3, **44.42N**±0.03×**10.64E**±0.04, **h29**^{km}±3^{km}, **n43**, σ**1^{s}11**/69, **8C-2D**, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSCL	Gusciola	0.08	208	⇑*i*PG	Pb	19 48 26.9	-0.6
GSCL				SG	Sn	19 48 30.5	-0.1
	64nm,0.2s						
GSCL	Gusciola	0.08	208	⇑*i*Pg	Pb	19 48 26.9	-0.6
GSCL				*e*Sg	Sn	19 48 30.5	0.0
ERBM	Eremo	0.16	270	*e*PG	Pb	19 48 28.2	+0.1
ERBM				SG	Sb	19 48 34.3	+2.3
	34nm,0.5s						
ERBM	Eremo	0.16	270	*e*Pg	Pb	19 48 28.2	+0.1
ERBM				*e*Sg	Sb	19 48 34.3	+2.3
ZCCA	Zocca	0.25	106	⇑*i*PG	Pb	19 48 28.1	-1.1
ZCCA				SG	Sb	19 48 32.5	-1.2
	232nm,0.2s						
ZCCA	Zocca	0.25	106	⇑*i*Pg	Pb	19 48 28.1	-1.1
ZCCA				*e*Sg	Sb	19 48 32.5	-1.2
VLC	Villacollemand	0.32	215	*e*Pg	Pb	19 48 29.6	-0.5
VLC				*e*Sg	Sb	19 48 35.4	+0.2
BDI	Bagni Di Lucca	0.36	185	⇓*i*PG	Pb	19 48 30.0	-0.6
BDI				SG	Sb	19 48 36.8	+0.6
	51nm,0.3s						
BDI	Bagni Di Lucca	0.36	185	⇓*i*Pg	Pb	19 48 29.9	-0.7
BDI				*e*Sg	Sb	19 48 36.9	+0.7
SEI	Scarperia	0.63	125	*e*PG	Pb	19 48 34.3	-0.7
	69nm,0.3s						
PII	Pisa	0.70	187	*e*PG	Pb	19 48 36.1	0.0
PII				SG	Sb	19 48 47.0	+1.5
	25nm,0.2s						
PII	Pisa	0.70	187	*e*Pg	Pb	19 48 36.1	-0.1
PII				*e*Sg	Sb	19 48 47.0	+1.6
BOB	Bobbio (Coli)	0.92	293	*e*PN	Pn	19 48 42.7	+3.1
	19nm,0.4s						
BOB	Bobbio (Coli)	0.92	293	*e*Pg	Pn	19 48 42.7	+3.1
PGD	Poggio Sodo	0.95	125	*e*PN	Pn	19 48 39.9	-0.1
	5.0nm,0.4s						
PGD	Poggio Sodo	0.95	125	*e*Pg	Pn	19 48 39.9	-0.1
SFI	Santa Sofia	1.01	120	*e*PN	Pn	19 48 41.2	+0.3
	11nm,0.5s						
SFI	Santa Sofia	1.01	120	*e*Pg	Pn	19 48 41.1	+0.3
CSNT	Castellina Chi	1.06	153	*e*PN	Pn	19 48 41.0	-0.6
	28nm,0.4s						
CSNT	Castellina Chi	1.06	153	*e*Pg	Pn	19 48 41.0	-0.6
TEOL	Teolo	1.19	38	⇑*i*Pg	Pn	19 48 42.8	-0.7
PGF	Pioggiola	2.22	213	*e*Pn	Pn	19 48 59.3	+1.1
PGF				*e*Sn	Sn	19 49 24.9	0.0
	2.8nm,0.2s						
SBF	Sospel	2.37	258	*e*Pn	Pn	19 49 01.4	+1.0
SBF				*e*Sn	Sn	19 49 29.8	+0.9
	7.3nm,0.5s						
MBDF	Montbardon	2.78	278	*e*Pn	Pn	19 49 07.5	+1.3
MBDF				*e*Sn	Sn	19 49 40.4	+1.2
	0.9nm,0.2s						
SQTA	Sankt Quirin	2.83	8	⇑*i*PN	Pn	19 49 07.5	+0.6
SQTA				*i* SN	Sn	19 49 42.5	+2.1
WTTA	Wattenberg	2.93	13	⇑*i*PN	Pn	19 49 09.0	+0.7
WTTA				*i* SN	Sn	19 49 44.0	+1.0
MOTA	Moosalm	2.94	6	⇑*i*PN	Pn	19 49 09.3	+0.8
MOTA				*i* SN	Sn	19 49 44.9	+1.6
LPG	La Plagne	2.96	293	*e*Pn	Pn	19 49 10.3	+1.5
LPG				*e*Sn	Sn	19 49 43.0	-0.8
	1.2nm,0.4s						
LPL	La Plagne	2.98	293	*e*Pn	Pn	19 49 10.1	+1.0
LPL				*e*Sn	Sn	19 49 43.6	-0.7
	1.9nm,0.3s						
FRF	La Foret Royal	3.01	255	*e*Pn	Pn	19 49 09.8	+0.4
FRF				*e*Sn	Sn	19 49 44.7	-0.2
	1.8nm,0.3s						
LMR	La Mourre	3.18	251	*e*Pn	Pn	19 49 11.9	+0.1
LMR				*e*Sn	Sn	19 49 47.8	-1.4
	1.9nm,0.2s						
ORIF	Oris-en-Rattie	3.43	280	*e*Pn	Pn	19 49 16.2	+0.7
ORIF				*e*Sn	Sn	19 49 54.2	-1.5
	2.3nm,0.4s						
SMRF	Simiane la Rot	3.67	265	*e*Pn	Pn	19 49 18.8	0.0
CABF	La Chapelle	3.88	306	*e*Pn	Pn	19 49 21.7	-0.1
VIVF	Saint-Julien-l	4.28	278	*e*Pn	Pn	19 49 27.0	-0.5
HINF	Hinteralfeld	4.30	324	*e*Pn	Pn	19 49 25.9	-1.9
HINF				*e*Sn	Sn	19 50 13.9	-3.7
	1.8nm,0.3s						
CDF	Champ du Feu	4.62	331	*e*Pn	Pn	19 49 30.2	-2.2
CDF				*e*Sn	Sn	19 50 20.5	-5.3
	0.9nm,0.2s						
HAU	Haudompre	4.66	322	*e*Sn	Sn	19 50 23.0	-3.8
	1.2nm,0.2s						
LASF	Ste Croix	4.88	268	*e*Pn	Pn	19 49 35.6	-0.5
KHC	Kasperske Hory	5.13	22	*e*SN	Sn	19 50 31.5	-7.0
LOR	Lormes	5.53	303	*e*Pn	Pn	19 49 43.5	-1.6
LOR				*e*Sn	Sn	19 50 43.9	-4.6
	1.2nm,0.3s						
AVF	Avril sur Loir	5.63	297	*e*Pn	Pn	19 49 44.8	-1.8
AVF				*e*Sn	Sn	19 50 46.8	-4.4
	0.4nm,0.2s						
ETSF	Etsaut	8.26	263	*e*Sn	Sn	19 51 49.6	-7.2
	0.2nm,0.2s						

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*LDG **22** 20:10:22.4±0.3, 40.91N×1.58E, h2^{km}, Md2.3/2, Ml2.2/4, Error ellipse: s-maj=5.0km s-min=2.5km az=179.0*

*MDD **22** 20:10:24.0±0.8, 40.99N×1.57E, mbLg1.6/16, Error ellipse: s-maj=5.6km s-min=2.7km az=174.0, PRXIMO AftershockPLICA*

ISC 22 20:10:23.3±0.9, **41.11N**±0.04×**1.51E**±0.05, **h10**^{km}, **n18**, σ**1^{s}12**/22, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGAR	Garraf	0.34	304	Pg	Pg	20 10 30.9	+0.6
CGAR				Lg		20 10 36.9	
	8.2nm,0.2s						
EPOB	Poblet	0.40	307	Pg	Pg	20 10 33.1	+1.4
	1.0nm,0.2s,SNR=12						
EPOB				Lg		20 10 40.7	
	4.6nm,0.2s,SNR=20						
EMIR	Miracle	0.81	1	Pg	Pg	20 10 40.8	+1.2
	1.9nm,0.1s,SNR=9.2						
EMIR				Lg		20 10 54.6	
	5.9nm,0.3s,SNR=8.3						
EBR	Ebro Roquetas	0.82	250	*e*SG	Sg	20 10 51.2	+0.4
CFON	Fontmartina	0.96	47	Pg	Pg	20 10 42.7	+0.2
CFON				Lg		20 10 56.6	
	4.8nm,0.2s						
CAVN	Les Avellanes	0.96	324	Pg	Pg	20 10 44.2	+1.6
CAVN				Lg		20 10 59.6	
	7.2nm,0.2s						
CORG	Organya	1.13	353	Pg	Pg	20 10 47.2	+1.2
CORG				Lg		20 11 04.9	
	0.8nm,0.1s						
CBRU	Bruguera	1.28	23	Pg	Pg	20 10 49.2	+0.3
CBRU				Lg		20 11 08.4	
	1.8nm,0.1s						
CSOR	Sort	1.30	348	Pg	Pg	20 10 50.8	+1.5
CSOR				Lg		20 11 10.4	
	1.9nm,0.2s						
ESAC	San Caprasio	1.61	293	Pg	Pg	20 10 56.4	+0.9
	2.8nm,0.2s,SNR=6.9						
ESAC				Lg		20 11 17.7	
	15nm,0.2s						
EMOS	Mosqueruela	1.68	244	Pg	Pg	20 10 55.6	-1.3
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		20 11 16.9	
	0.3nm,0.2s,SNR=7.9						
EJON	La Jonquera	1.69	37	Pg	Pg	20 10 56.4	-0.7
	0.9nm,0.3s,SNR=7.9						
EJON				Lg		20 11 19.3	
	2.4nm,0.2s,SNR=7.9						
EPF	Esparros	2.11	336	*e*Pn	Pn	20 10 59.7	+0.5
EPF				*e*Pg	Pg	20 11 05.4	-0.1
EPF				*e*Sg	Sg	20 11 33.7	+0.1
	2.9nm,0.2s						
MTLF	Montolieu	2.29	13	*e*Pg	Pg	20 11 07.6	-1.5
MTLF				*e*Sg	Sg	20 11 38.4	-1.3
	3.2nm,0.4s						
ETSF	Etsaut	2.36	320	*e*Pg	Pg	20 11 09.6	-0.9
ETSF				*e*Sg	Sg	20 11 41.9	-0.1
	2.1nm,0.3s						
ETOR	Torete	2.71	265	Pg	Pg	20 11 14.6	-3.0
	0.7nm,0.3s,SNR=5.3						
ETOR				Lg		20 11 51.9	
	1.2nm,0.3s,SNR=5.0						
SJPF	Ste Jean	2.85	315	*e*Pg	Pg	20 11 18.6	-1.7
SJPF				*e*Sg	Sg	20 11 57.1	-1.3
	2.1nm,0.3s						
EALK	Alkurruntz	3.08	314	Lg		20 12 06.6	
	1.7nm,0.3s,SNR=7.9						

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*IDC **22** 20:16:24.6±1.5, 36.26N×71.11E, mb3.5/3, mb1 3.6/5, mb1mx3.4/20, ML3.1/2, Error ellipse: s-maj=46.9km s-min=25.7km az=65.0*

*NEIC **22** 20:16:30.7±1.2, 36.32N×71.12E, h40^{km}, Error ellipse: s-maj=29.2km s-min=18.4km az=96.0*

*NNC **22** 20:16:32.6±2.0, 36.96N×69.92E, mpv3.4, Error ellipse: s-maj=38.1km s-min=14.6km az=108.0*

ISC 22 20:16:29.6±4.0, **36.6N**±0.2×**70.5E**±0.2, **h72**^{km}±39^{km}, **n8**, σ**0^{s}56**/10, **mb3.2**/3, **1C**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.45	0	P	P	20 18 04.7	+0.7
	1.0nm,0.3s,baz=184,slow=13,SNR=35						
KK31				⇑S	S	20 19 16.9	0.0
	3.6nm,0.6s						
AAK	Ala-Archa	6.74	26	*e*Pn	P	20 18 07.2	-0.8
	4.0nm,0.3s						
AAK				*e*Sn	S	20 19 24.4	+0.3
MKAR	Makanchi Array	13.44	37	Pn	P	20 19 38.7	+0.3
	0.1nm,0.3s,baz=225,slow=14,SNR=3.7						
AB31	Akbulak array	14.75	332	P	P	20 19 55.7	+0.3
	0.4nm,0.4s,baz=147,slow=14,SNR=27						
BVAR	Borovoye Array	16.38	360	Pn	P	20 20 14.9	-1.1
	0.1nm,0.3s,baz=180,slow=14,SNR=2.2						
NOA	NORSAR Array B	44.01	323	P	P	20 24 38.9	+7.7
	0.3nm,0.6s,mb3.2,baz=103,slow=5.7,SNR=2.3						
WRA	Warramunga Arr	82.44	122	P	P	20 28 45.5	-0.1
	0.3nm,0.7s,mb3.2,baz=325,slow=5.0,SNR=7.6						
ASAR	Alice Springs	84.69	125	P	P	20 28 57.3	+0.4
	0.3nm,0.8s,mb3.3,baz=307,slow=5.1,SNR=2.5						

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*NEIC **22** 20:35:14.3, 38.08S×175.86E, h190^{km}, After WEL.*

WEL 22 20:35:15.5±0.3, **38.07S×175.90E**, **h178**^{km}±3^{km}, **ML3.7**/1, **3C-2D**, **Error ellipse: s-maj=3.8km s-min=3.3km az=90.0**, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.97	102	⇓PN	P	20 35 42.8	-0.1
URZ				SN	S	20 36 03.5	-0.7
URZ	Urewera	0.97	102	*e*P	P	20 35 42.8	-0.2
BKZ	Black Stump Fm	1.19	157	⇓PN	P	20 35 44.8	0.0
BKZ				SN	S	20 36 06.6	-0.8
BKZ	Black Stump Fm	1.19	157	P	P	20 35 44.8	0.0
MWZ	Matawai	1.31	102	PN	P	20 35 45.7	-0.2
MWZ				SN	S	20 36 08.7	-0.6
MWZ	Matawai	1.31	102	P	P	20 35 45.8	-0.1
MOVZ	Moawhango	1.34	185	⇑PN	P	20 35 45.7	-0.4
MOVZ				SN	S	20 36 09.3	-0.5
KNZ	Kokohu	1.68	125	⇑PN	P	20 35 49.1	-0.3
KNZ				SN	S	20 36 14.5	-1.1
KNZ	Kokohu	1.68	125	*e*P	P	20 35 49.2	-0.3
PUZ	Puketiti	1.86	91	⇑PN	P	20 35 50.5	-0.7
PUZ				SN	S	20 36 17.1	-1.7
PUZ	Puketiti	1.86	91	*e*P	P	20 35 50.6	-0.7
TSZ	Takapari Road	1.99	179	PN	P	20 35 51.1	-1.5
TSZ	Takapari Road	1.99	179	P	P	20 35 51.6	-1.0
MRZ	Mangatainoka R	2.60	185	PN	P	20 35 57.2	-2.6
MRZ				*e*SN	S	20 36 29.7	-4.2
MRZ	Mangatainoka R	2.60	185	*e*P	P	20 35 57.4	-2.4
MTW	Mount Morrison	3.10	186	PN	P	20 36 02.5	-3.4
MTW	Mount Morrison	3.10	186	P	P	20 36 02.6	-3.3
MSWZ	Moikau Station	3.38	188	PN	P	20 36 05.5	-3.9
MSWZ				*e*SN	S	20 36 45.1	-5.8
TUWZ	Tuamarina	3.68	204	*e*SN	S	20 36 52.8	-4.9
NNZ	Nelson	3.70	211	SN	S	20 36 53.4	-4.7
QRZ	Quartz Range	3.79	222	*e*SN	S	20 36 55.6	-4.6
THZ	Tophouse	4.35	211	*e*PN	P	20 36 17.6	-4.1
THZ				SN	S	20 37 07.9	-5.0
KHZ	Kahutara	4.70	202	*e*PN	P	20 36 22.2	-4.2
KHZ				*e*SN	S	20 37 14.8	-6.3
KHZ	Kahutara	4.70	202	*e*P	P	20 36 22.4	-3.9
MQZ	McQueen’s Vall	6.14	203	*e*SN	S	20 37 43.4	-12

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*NEIC **22** 20:52:51.5±0.5, 5.74S×105.32E, h10^{km}, mb4.6/5, Error ellipse: s-maj=21.6km s-min=10.6km az=224.0*

*IDC **22** 20:53:14.5±7.5, 5.51S×105.89E, h204^{km}±73^{km}, mb3.3/10, mb1 3.5/10, mb1mx3.4/17, MS3.6/2, Ms1 3.7/2, ms1mx3.0/14, Error ellipse: s-maj=41.2km s-min=13.3km az=63.0*

ISC 22 20:53:11.8±0.7, **5.6S**±0.1×**105.8E**±0.2, **h200**^{km}, **n27**, σ**1^{s}21**/22, **mb4.0**/17, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.03	124	P	P	20 58 00.7	+0.3
	1.7nm,0.5s,mb3.9,baz=348,slow=6.6,SNR=10						
CMAR	Chiang Mai Arr	24.87	344	P	P	20 58 19.6	+1.7
	0.7nm,1.0s,mb3.3,baz=180,slow=8.1,SNR=3.3						
CMAR				LR	LR	21 09 12.9	
	comp=Z,81nm,18.3s,baz=170,slow=39						
KAKA	Kakadu	27.20	107	*e*P	P	20 58 38.2	-1.0
	7.8nm,0.7s,mb4.5						
NWAO	Narrogin (SRO)	29.18	160	P	P	20 58 58.7	+1.9
	10nm,0.9s,mb4.5,baz=348,slow=7.2,SNR=2.5						
NWAO				LR	LR	21 10 24.3	
	comp=Z,162nm,20.3s,baz=132,slow=35						
NWAO	Narrogin (SRO)	29.18	160	P	P	20 58 58.7	+1.9
NWAO				LR	LR	21 10 24.3	
WRA	Warramunga Arr	31.21	120	P	P	20 59 14.4	-0.3
	1.5nm,0.5s,mb3.9,baz=292,slow=10,SNR=16						
WRAB	Tennant Creek	31.21	120	*e*P	P	20 59 13.2	-1.5
	5.5nm,0.7s,mb4.3						
WB2	Warramunga Arr	31.22	120	*e*P	P	20 59 14.4	-0.3
ASAR	Alice Springs	32.48	126	P	P	20 59 25.8	+0.1
	0.9nm,0.5s,mb3.6,baz=304,slow=8.3,SNR=14						
PKI	Pulchoki	38.43	330	*e*P	P	21 00 26.7	+11
	8.6nm,0.8s,mb4.3						
DMN	Daman	38.61	330	*e*P	P	21 00 23.7	+6.4
	3.2nm,0.4s,mb4.2						
KKN	Kakani	38.67	330	*e*P	P	21 00 24.7	+6.9
	4.3nm,0.5s,mb4.2						
GKN	Gorkha	39.17	330	*e*P	P	21 00 17.8	-4.1
	7.2nm,0.5s,mb4.5						
CTA	Charters Tower	41.87	114	P	P	21 00 47.2	+3.0
	2.0nm,0.6s,mb3.7,baz=298,slow=17,SNR=3.3						
STKA	Stephens Creek	42.46	132	*e*P	P	21 00 49.3	+0.4
	12nm,0.4s,mb4.7						
STKA	Stephens Creek	42.46	132	P	P	21 00 49.6	+0.7
	15nm,0.5s,mb4.7,baz=309,slow=7.9,SNR=71						
SONM	Songino Array	53.24	1	P	P	21 02 12.2	+0.4
	0.4nm,1.0s,baz=180,slow=8.6,SNR=3.6						
MKAR	Makanchi Array	56.20	341	P	P	21 02 31.1	-2.0
	0.2nm,0.5s,mb3.0,baz=161,slow=9.1,SNR=5.5						
MAW	Mawson	68.31	196	*e*P	P	21 03 51.3	-1.7
	1.8nm,0.5s,mb4.0						
VNDA	Vanda	77.52	169	P	P	21 04 46.9	+0.5
	0.6nm,0.8s,mb3.3,baz=327,slow=4.1,SNR=3.9						
VNDA	Vanda	77.52	169	*e*P	P	21 04 47.0	+0.6
	1.1nm,0.9s,mb3.5						
BRTR	Keskin Array B	80.01	312	P	P	21 05 00.2	-0.3
	0.5nm,0.4s,mb3.5,baz=146,slow=8.2,SNR=3.6						
HGN	Heimansgroeve	100.56	320	*e*P	P	21 06 26.9	-11
	6.9nm,1.7s						
TXAR	Lajitas Array	143.56	46	PKP	PKPdf	21 12 26.6	+3.5
	1.1nm,0.7s,baz=285,slow=1.3,SNR=14						
JCT	Junction City	145.52	41	*e*PKPdf	PKPdf	21 12 31.5	+4.9
BDFB	Brasilia	146.51	230	PKPbc	PKPbc	21 12 33.5	+3.4
	1.2nm,0.4s,baz=22,slow=8.2,SNR=3.4						
SWET	Sewanee	148.65	19	*e*PKPbc	PKPdf	21 12 39.3	+7.7

BJI 22 21:01:18.5, **34.29N×102.43E**, **h15**^{km}, **ML3.5**, **Ms3.6**, **Msz3.0**, **Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	Lanzhou	2.13	32	PG	Pg	21 01 53.3	-7.9
LZH				Smax			
	comp=N,251nm,1.0s						
LZH				Smax			
	comp=E,392nm,1.0s						
CD2	Chengdu	3.55	161	*e*PG	Pg	21 02 22.1	-7.4
XAN	Xi’an	5.39	91	PG	Pg	21 02 55.0	-11
XAN				SG	Sg	21 04 04.8	-13
XAN				Smax			
	comp=N,25nm,1.0s						
XAN				Smax			
	comp=E,15nm,0.7s						
GTA	Gaotai	5.52	338	*e*PG	Pg	21 02 57.4	-11
HHC	Hu-ho-hao-te	9.77	45	*e*P	P	21 03 41.5	0.0
HHC				LR	LR		
	comp=N,96nm,5.7s						
HHC				LR	LR		
	comp=E,105nm,5.5s						
HHC				LR	LR		
	comp=Z,62nm,8.4s						

*ZUR **22** 21:07:16.3, 46.02N×7.86E, h2^{km}, ML1.6/5*
*LDG **22** 21:07:17.7±0.1, 45.96N×7.81E, h2^{km}, Md2.0/3, Ml1.8/8, Error ellipse: s-maj=3.1km s-min=1.4km az=90.0*
ISC 22 21:07:15.4±0.6**, 45.97N**±0.02×**7.85E**±0.04**, h7**^{km}±4^{km}**, n18, σ1^{s}10**/35**, 1C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMK	**Mattmark**	0.12	46	⇑*i*Pg	Pg	21 07 18.5	+0.4
	17nm,0.1s						
MMK				*i* Sg	Sg	21 07 20.0	+0.1
	17nm,0.1s						
DIX	**Grande Dixence**	0.32	290	⇓*i*Pg	Pg	21 07 23.4	+1.4
	2.0nm,0.4s						
DIX				*e*Sg	Sg	21 07 28.6	+2.2
	2.0nm,0.4s						
LKBD	**Leukerbad**	0.44	340	*e*Pg	Pg	21 07 25.2	+0.8
	0.8nm,0.2s						
LKBD				*i* Sg	Sg	21 07 31.2	+0.8
	0.8nm,0.2s						
SENIN	**Lac Senin**	0.55	316	*e*Pg	Pg	21 07 27.7	+1.3
	0.8nm,0.3s						
SENIN				*e*Sg	Sg	21 07 35.5	+1.8
	0.8nm,0.3s						
FUSIO	**Fusio**	0.75	49	⇓*i*Pg	Pg	21 07 29.1	-1.3
	0.2nm,0.1s						
MUGIO	**Muggio**	0.84	93	*e*P*P		21 07 30.3	
	0.3nm,0.1s						
LPG	**La Plagne**	0.90	239	*e*Pg	Pg	21 07 33.7	+0.3
LPG				*e*Pn	Pn	21 07 35.4	+1.1
LPG				*e*Sg	Sg	21 07 45.7	+0.2
	5.5nm,0.2s						
LPL	**La Plagne**	0.90	240	*e*Pg	Pg	21 07 34.0	+0.5
LPL				*e*Pn	Pn	21 07 36.0	+1.7
LPL				*e*Sg	Sg	21 07 45.1	-0.4
	2.8nm,0.2s						
CABF	**La Chapelle**	1.38	298	*e*Pg	Pg	21 07 43.6	+0.7
CABF				*e*Sg	Sg	21 08 01.5	+0.2
	1.9nm,0.3s						
MBDF	**Montbardon**	1.46	212	*e*Pn	Pn	21 07 43.5	+1.3
MBDF				*e*Sg	Sg	21 08 02.9	-1.0
	2.0nm,0.2s						
ORIF	**Oris-en-Rattie**	1.74	233	*e*Pg	Pg	21 07 49.6	-0.5
ORIF				*e*Sg	Sg	21 08 11.6	-1.7
	1.7nm,0.3s						
HINF	**Hinteralfeld**	1.97	340	*e*Pn	Pn	21 07 49.4	-0.1
HINF				*e*Pg	Pg	21 07 54.0	-0.7
HINF				*e*Sn	Sn	21 08 13.8	-0.9
HINF				*e*Sg	Sg	21 08 19.6	-1.4
SBF	**Sospel**	2.13	188	*e*Pn	Pn	21 07 52.4	+0.6
HAU	**Haudompre**	2.28	334	*e*Pg	Pg	21 08 00.1	-0.8
HAU				*e*Sg	Sg	21 08 28.8	-2.5
	1.5nm,0.3s						
VIVF	**Saint-Julien-l**	2.50	245	*e*Pn	Pn	21 07 57.1	0.0
VIVF				*e*Sg	Sg	21 08 36.7	-1.9
	0.7nm,0.3s						
LMR	**La Mourre**	2.80	200	*e*Pn	Pn	21 08 01.5	0.0
LOR	**Lormes**	3.04	297	*e*Pn	Pn	21 08 04.6	-0.2
LOR				*e*Pg	Pg	21 08 14.4	-1.7
LOR				*e*Sg	Sg	21 08 52.7	-3.9
	0.6nm,0.3s						
SSF	**Saint Saulge**	3.19	292	*e*Pn	Pn	21 08 06.6	-0.4

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*PRE **22** 22:01:58.7±1.3, 26.40S×27.45E, h2^{km}, ML3.6*
*IDC **22** 22:01:58.4±0.9, 26.47S×27.20E, mb3.8/8, mb1 4.0/10, mb1mx3.9/23, ML3.4/2, Error ellipse: s-maj=27.2km s-min=18.0km az=97.0*
*NEIC **22** 22:01:58.9±0.6, 26.36S×27.38E, h5^{km}, mb4.2/2, Error ellipse: s-maj=18.1km s-min=10.4km az=99.0*
ISC 22 22:01:57.3±1.9**, 26.40S**±0.03×**27.41E**±0.04**, h9**^{km}±13^{km}, **n25, σ1^{s}08**/35**, mb3.9**/9**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	**Koster**	0.71	319	*e*P	Pb	22 02 12.1	+0.7
KSR				*e*S	Sb	22 02 20.9	0.0
KSR				*e*		22 02 22.5	
	comp=Z,1μm,0.1s						
SLR	**Silverton**	1.03	50	*e*P	Pb	22 02 17.1	+0.3
SLR				*e*S	Sb	22 02 30.1	-0.1
SLR				*e*		22 02 35.5	
	comp=Z,2μm,0.2s						
SEK	**Senekal**	1.92	174	*e*P	Pn	22 02 32.8	+2.1
SEK				*e*S	Sn	22 02 56.2	+1.1
SEK				*e*		22 02 59.7	
	comp=Z,1μm,0.2s						
BFT	**Belfast (SA)**	2.47	74	*e*P	Pn	22 02 39.1	+0.6
BFT				*e*S	Sn	22 03 08.3	-0.8
BFT				*e*		22 03 14.7	
	comp=Z,386nm,0.4s						
NWL	**Newcastle**	2.62	121	*e*P	Pn	22 02 41.0	+0.4
NWL				*e*S	Sn	22 03 11.3	-1.6
LEP	**Lephalale**	2.76	6	*e*P	Pn	22 02 43.4	+0.8
LEP				*e*S	Sn	22 03 15.5	-0.8
LEP				*e*		22 03 22.3	
	comp=Z,278nm,0.2s						
PKA	**Prieska**	5.25	231	*e*P	Pn	22 03 02.3	-16
PKA				*e*S	Sn	22 03 59.4	-20
UPI	**Upington**	5.81	249	*e*P	Pn	22 03 24.8	-1.1
GRM	**Grahamstown**	6.93	186	*e*P	Pn	22 03 39.1	-2.5
SUR	**Sutherland**	8.28	222	Pn	P	22 03 59.0	-1.6
	comp=Z,2.7nm,0.3s,baz=46,slow=16,SNR=44						
SUR				Sn	Sn	22 05 29.1	-6.1
	comp=Z,5.5nm,0.3s,baz=334,slow=23,SNR=6.9						
SUR				Lg		22 06 12.4	
	comp=Z,6.4nm,0.3s,baz=151,slow=22,SNR=7.3						
SUR	**Sutherland**	8.28	222	*e*Pn	P	22 03 59.4	-1.1
SUR				Sn	Sn	22 05 29.1	-6.1
SUR				*e*Sg	Sg	22 06 09.4	-24
SUR				Lg		22 06 12.4	
LSZ	**Lusaka**	11.09	4	*e*Pn	P	22 04 36.1	-3.3
	comp=Z,4.6nm,0.4s						
LSZ				*e*Sn	S	22 06 30.7	-14
TSUM	**Tsumeb**	11.55	306	Pn	P	22 04 43.8	-1.7
	comp=Z,3.2nm,0.3s,baz=119,slow=11,SNR=55						
TSUM				Sn	S	22 06 45.2	-10
	comp=Z,0.6nm,0.3s,baz=25,slow=19,SNR=3.2						
TSUM				Lg		22 07 58.2	
	comp=Z,2.3nm,0.3s,baz=359,slow=17,SNR=3.2						
DBIC	**Dimbokro**	45.39	312	P	P	22 10 18.9	+0.6
	comp=Z,2.4nm,0.8s,mb4.1,baz=121,slow=15,SNR=3.2						
MAW	**Mawson**	46.49	162	P	P	22 10 20.3	-6.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=309,slow=6.5,SNR=4.5						
SNAA	**Sanae**	48.34	192	P	P	22 10 40.3	-0.5
	comp=Z,1.1nm,1.1s,mb3.8,baz=60,slow=7.5,SNR=8.1						
SNAA	**Sanae**	48.34	192	*e*P	P	22 10 40.6	-0.2
	comp=Z,4.3nm,1.1s,mb4.4						
ESDC	**Sonseca Array**	71.95	335	P	P	22 13 23.5	+0.3
	comp=Z,0.5nm,0.4s,mb3.8,baz=156,slow=5.7,SNR=8.6						
VNDA	**Vanda**	72.84	171	P	P	22 13 28.4	+0.7
	comp=Z,0.2nm,0.4s,mb3.4,baz=248,slow=6.3,SNR=5.2						
VNDA	**Vanda**	72.84	171	P	P	22 13 28.4	+0.7
TRQA	**Tornquist**	73.80	235	*e*P	P	22 13 34.4	+0.3
	comp=Z,0.7nm,0.4s,mb3.9						
GERES	**GERESS Array B**	75.90	351	P	P	22 13 47.2	+1.3
	comp=Z,0.3nm,0.7s,mb3.3,baz=170,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	87.53	359	P	P	22 14 47.0	+0.7
	comp=Z,1.5nm,0.8s,mb4.3,baz=214,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	88.10	34	P	P	22 14 50.3	+0.9
	comp=Z,0.4nm,0.6s,mb3.9,baz=244,slow=3.6,SNR=3.7						
NVAR	**Mina Array Bea**	148.84	301	PKPbc	PKPdf	22 21 49.2	+4.8
	comp=Z,0.8nm,0.7s,baz=74,slow=5.4,SNR=4.0						

NEIC 22 22:19:49.6, 54.38N×160.50W, h38^{km}**, ML3.6**(AEIC)**, After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	0.97	1	P	P	22 20 06.4	-0.6
SDPT				S	S	22 20 19.3	-0.5
DOL	**Dolgoi Island**	1.10	315	P	P	22 20 06.5	-2.3
DRIA	**Deer Island**	1.18	301	P	P	22 20 07.2	-2.7
HAG	**Hague Volcano**	1.24	320	P	P	22 20 09.4	-1.4
PVV	**Pavlof Volcano**	1.25	324	P	P	22 20 09.3	-1.4
DTNA	**Dutton South F**	1.28	308	P	P	22 20 09.0	-2.2
DTNA				S	S	22 20 25.6	-1.9
PN7A	**Pavlof North-7**	1.37	321	P	P	22 20 11.9	-0.7
BALA	**Baldy Mountain**	1.56	303	P	P	22 20 14.4	-0.9
BLHA	**Black Hill**	1.60	327	P	P	22 20 15.4	-0.6
BLHA				S	S	22 20 35.3	-0.4
FALS	**False Pass**	1.76	287	P	P	22 20 16.9	-1.3
FALS				S	S	22 20 38.9	-0.7
SSLN	**Shishaldin Nor**	2.08	284	P	P	22 20 21.9	-0.8
WTUG	**Tugumak**	2.31	283	P	P	22 20 25.4	-0.6
WESE	**West Dahl East**	2.39	274	P	P	22 20 26.8	-0.4
WESN	**West Dahl Nort**	2.39	276	P	P	22 20 26.4	-0.8
UNV	**Unalaska Valle**	3.57	264	P	P	22 20 41.4	-2.6
MSW	**Makushin Switc**	3.72	265	P	P	22 20 43.5	-2.6
MSW				S	S	22 21 23.7	-5.7

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*MOS **22** 22:34:58.2±1.0, 32.44N×139.94E, h72^{km}, mb4.9/18, Error ellipse: s-maj=15.6km s-min=7.7km az=96.0*
*NIED **22** 22:35:00, 32.20N×140.40E, h98^{km}, Mw4.7 Best double couple: M$_0$1.43×10^{16} NP1:φ$_s$134°, δ61°, λ135°. NP2: φ$_s$250°, δ52°, λ38°.*
*BJI **22** 22:35:01.2, 32.19N×140.22E, h137^{km}, mB4.6, mb4.6*
*JMA **22** 22:35:01.0±0.2, 32.23N×140.44E, h103^{km}±2^{km}, M4.7*
JMA Felt I J1.
*IDC **22** 22:35:02.4±0.5, 32.24N×140.02E, h106^{km}±3^{km}, mb4.2/24, mb1 4.4/28, mb1mx4.3/30, MS3.5/11, Ms1 3.5/11, ms1mx3.3/27, Error ellipse: s-maj=12.5km s-min=9.4km az=83.0*
*NEIC **22** 22:35:02.2±0.2, 32.18N×139.93E, mb4.6/43, MW4.7(NIED), Error ellipse: s-maj=4.9km s-min=4.9km az=77.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
ISC 22 22:35:01.3±0.5**, 32.19N**±0.04×**140.11E**±0.04**, h111**^{km}±3^{km}**, h108**^{km}±2.7^{km}**:pP-P, n225, σ1^{s}13**/235**, mb4.6**/77**, 6C-13D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	0.95	345	⇓P	P	22 35 22.3	0.0
JHJ2				S	S	22 35 37.5	-0.6
JHJ	**Hachijo jima 2**	0.96	344	P	P	22 35 22.4	-0.1
	671nm,0.3s,baz=85,slow=19,SNR=425						
JHJ				S	S	22 35 37.5	-0.8
	2μm,0.3s,baz=21,slow=15,SNR=39						
JMY	**Miyake jima 2**	1.93	345	⇓P	P	22 35 34.1	+0.2
JKO	**Kozu shima**	2.15	338	⇓P	P	22 35 37.4	+0.6
NJJJ	**Nii jima 2**	2.31	343	⇓P	P	22 35 39.5	+0.6
NJJJ				S	S	22 36 08.6	+1.4
BSO1	**Boso 1**	2.56	16	⇓P	P	22 35 39.9	-2.4
JIM2	**Oshima 3**	2.58	348	⇓P	P	22 35 42.2	-0.4
BSO2	**Boso 2**	2.61	12	S	S	22 36 12.8	-1.6
BSO3	**Boso 3**	2.62	7	⇓P	P	22 35 41.6	-1.6
TK01	**Tokai 1**	2.63	307	P	P	22 35 44.6	+1.3
TK01				*e*S	S	22 36 16.9	+2.0
JOD2	**Odawara 2**	3.18	345	⇓P	P	22 35 50.4	-0.3
JOD2				*e*S	S	22 36 28.0	-0.1
JYN	**Shimob**	3.54	339	⇓P	P	22 35 56.3	+0.7
JIE	**Ise**	3.59	309	⇓P	P	22 35 57.3	+1.0
JWZ	**Kozaga**	3.93	291	P	P	22 36 02.2	+1.4
JWZ				S	S	22 36 47.5	+1.2
JRY	**Ryogami san**	3.94	346	P	P	22 36 00.7	-0.3
JRY				S	S	22 36 45.5	-1.1
JAG	**Ashikaga**	4.26	353	P	P	22 36 00.4	-4.9
JAG				S	S	22 36 51.8	-2.5
JWY	**Kouya**	4.29	299	P	P	22 36 07.9	+2.2
JWY				S	S	22 36 57.2	+2.1
JGM	**Miyama**	4.49	322	P	P	22 36 09.7	+1.2
MAJO	**Matsushiro**	4.62	341	⇓*e*Pn	P	22 36 09.6	-0.6
MAT	**Matsushiro**	4.62	341	P	P	22 36 09.0	-1.2
MAT				*e*S	S	22 37 00.1	-2.9
MAT	**Matsushiro**	4.62	341	P	P	22 36 10.4	+0.2
MAT	**Matsushiro**	4.62	341	*e*P	P	22 36 09.0	-1.2
MAT				S	S	22 36 59.0	-4.0
JWT	**Wachi**	4.99	309	P	P	22 36 16.9	+1.7
JAI	**Aioi**	5.01	290	P	P	22 36 17.5	+2.0
JAI				S	S	22 37 15.6	+2.9
JKG	**Kaga**	5.13	324	P	P	22 36 18.9	+1.7
CBIJ	**Chichi jima**	5.39	160	P	P	22 36 17.6	-3.0
	123nm,0.3s,baz=347,slow=6.3,SNR=46						
CBIJ				S	S	22 37 15.8	-6.2
	142nm,0.3s,baz=273,slow=22,SNR=8.2						
JNU	**Nakatsue**	7.84	279	P	P	22 36 57.5	+3.5
	1.0nm,0.3s,baz=106,slow=14,SNR=21						
KS15	**Wonju Array Si**	11.32	301	P	P	22 37 39.5	-1.2
JOW	**Kunigami**	11.60	246	P	P	22 37 46.5	+2.1
	3.0nm,0.3s,baz=179,slow=27,SNR=3.8						
ASAJ	**Asahikawa**	12.06	9	P	P	22 37 45.0	-5.5
	5.5nm,0.3s,baz=221,slow=6.3,SNR=20						
ASAJ				S	S	22 39 53.2	-10
	0.8nm,0.3s,baz=357,slow=28,SNR=2.7						
ASAJ				LR	LR	22 43 20.4	
	comp=Z,107nm,18.9s,baz=360,slow=41						
ASAJ	**Asahikawa**	12.06	9	P	P	22 37 45.0	-5.5
ASAJ				S	S	22 39 53.3	-10
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,107nm,18.9s						
KUR	**Kuril'sk**	14.35	23	*e*P	P	22 38 17.7	-2.4
KUR				S	S	22 40 48.0	-8.7
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,60nm,0.7s						
KUR				smax			
	comp=E,70nm,0.7s						
MDJ	**Mudanjiang**	14.88	329	P	P	22 38 25.1	-1.7
MDJ				AMB	AMB		
	comp=Z,80nm,4.8s						
MDJ	**Mudanjiang**	14.88	329	*e*P	P	22 38 24.3	-2.5
	comp=Z,24nm,0.9s						
YSS	**Yuzh-Sakhalins**	14.88	7	⇑*e*P	P	22 38 22.0	-4.9
YSS				*i* S	S	22 41 08.5	-0.6
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax			
	comp=N,140nm,0.5s						
YSS	**Yuzh-Sakhalins**	14.88	7	*e*P	P	22 38 22.7	-4.2
	comp=N,27nm,0.6s						
YSS				*e*		22 38 30.6	
SNY	**Shenyang**	16.31	311	⇑P	P	22 38 47.0	+2.1
SNY				AMB	AMB		
	comp=Z,110nm,5.9s						
CN2	**Changchun**	16.34	319	*e*P	P	22 38 45.0	-0.2
CN2				*e*S	S	22 41 37.3	-5.0
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,200nm,11.0s						
CN2				LR	LR		
	comp=E,300nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
NJ2	**Nanjing**	18.00	275	*e*P	P	22 39 02.8	-2.9
NJ2				S	S	22 42 15.0	-4.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,690nm,15.5s						
NJ2				LR	LR		
	comp=E,490nm,14.7s						
NJ2				LR	LR		
	comp=Z,1μm,15.9s						
KLR	**Kul'dur**	18.14	342	*e*P	P	22 39 03.8	-3.3
HIA	**Hailar**	22.88	324	*e*P	P	22 39 54.2	-1.4
	comp=Z,12nm,0.6s,mb4.4						
PET	**Petropavlovsk**	24.75	27	*e*P	P	22 40 13.9	+0.2
PET				*e**SP		22 40 48.8	
PET				*e*S	S	22 44 26.8	+1.8
PET				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
PET				MLR	MLR		
	comp=Z,100nm,11.0s						
PET				MLR	MLR		
	comp=E,100nm,18.0s						
PET				MLR	MLR		
	comp=N,100nm,18.0s						
MA2	**Magadan**	28.30	11	*e*P	P	22 40 46.3	+0.1
MA2				*e*		22 41 03.6	
MA2				*e*	pP	22 41 12.3	+1.9
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
MA2	**Magadan**	28.30	11	*e*P	P	22 40 46.4	+0.2
SONM	**Songino Array**	29.89	311	P	P	22 41 00.5	0.0
	comp=Z,1.7nm,0.6s,mb3.9,baz=118,slow=7.8,SNR=11						
SONM				pP	pP	22 41 25.9	+1.0
	comp=Z,2.7nm,0.7s,baz=106,slow=9.0,SNR=5.5						
SONM				PcP	PcP	22 44 00.5	-0.3
	comp=Z,1.0nm,0.7s,baz=121,slow=2.8,SNR=3.6						
SONM				ScP		22 47 32.6	
	comp=Z,1.1nm,0.9s,baz=198,slow=3.9,SNR=4.6						
SONM	**Songino Array**	29.89	311	P	P	22 41 00.5	0.0
SONM				pP	pP	22 41 25.9	+1.0
SONM				PcP	PcP	22 44 00.5	-0.3
SONM				ScP		22 47 32.6	
LZH	**Lanzhou**	30.15	287	*e*P	P	22 41 01.6	-1.3
LZH				PP	PP	22 42 03.5	-2.1
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.7						
LZH				LR	LR		
	comp=N,256nm,13.2s						
LZH				LR	LR		
	comp=Z,343nm,17.0s						
YAK	**Yakutsk**	30.60	350	*e*P	P	22 41 04.3	-2.3
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s						
BOD	**Bodaibo**	31.20	333	*e*P	P	22 41 09.1	-2.8
FX1	**Attu Island--F**	31.53	39	*e*P	P	22 41 12.9	-1.8
ZAK	**Zakamensk**	32.67	315	*e*P	P	22 41 24.1	-0.6
ZAK				*e*		22 41 43.4	
ZAK				*e*		22 42 36.8	
KMI	**Kunming**	33.41	268	*e*P	P	22 41 29.3	-2.1
KMI				AP	pP	22 41 56.3	-0.1
KMI				PP	PP	22 42 43.9	-2.8
KMI				PPP	PPP	22 43 02.6	-1.7
KMI				PCP	PcP	22 44 07.1	-3.4
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.9						
CMAR	**Chiang Mai Arr**	39.40	260	P	P	22 42 21.6	-0.2
	comp=Z,0.6nm,0.6s,mb3.6,baz=45,slow=7.9,SNR=5.8						
CMAR				pP	pP	22 42 48.2	+0.9
	comp=Z,2.3nm,0.7s,baz=52,slow=7.7,SNR=9.5						
CMAR				ScP		22 48 08.4	
	comp=Z,3.5nm,0.9s,baz=38,slow=3.5,SNR=15						
CMAR				LR	LR	23 01 00.3	
	comp=Z,29nm,19.0s,baz=240,slow=40						
CMAR	**Chiang Mai Arr**	39.40	260	P	P	22 42 21.6	-0.2
CMAR				*PP	pP	22 42 48.2	+0.9
CMAR						22 48 08.4	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,29nm,19.0s						
WMQ	**Urumqi**	42.25	301	⇑P	P	22 42 44.0	-1.0
WMQ				S	S	22 48 54.6	-2.1
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.7						
WMQ				AMB	AMB		
	comp=Z,16nm,6.6s						
WMQ				LR	LR		
	comp=N,192nm,24.6s						
WMQ				LR	LR		
	comp=E,36nm,21.1s						
WMQ				LR	LR		
	comp=Z,53nm,24.6s						
MKAR	**Makanchi Array**	45.93	306	P	P	22 43 13.9	-0.6
	comp=Z,2.1nm,0.5s,mb4.1,baz=87,slow=9.7,SNR=21						
MKAR				PcP	PcP	22 44 49.5	-0.6
	comp=Z,2.0nm,0.6s,baz=78,slow=5.3,SNR=5.5						
MKAR				ScP		22 48 30.9	
	comp=Z,1.9nm,0.6s,baz=81,slow=5.6,SNR=8.0						
MKAR				LR	LR	23 01 52.6	
	comp=Z,50nm,19.9s,baz=99,slow=35						
KURK	**Kurchatov**	48.20	311	*i* P	P	22 43 30.6	-1.5
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
KURK	**Kurchatov**	48.20	311	*e*P	P	22 43 29.1	-3.0
	comp=Z,4.8nm,0.6s,mb4.5						
SVW	**Sparrevohn**	50.04	35	*e*P	P	22 43 47.3	+1.1
SPU	**Mount Spurr**	51.77	35	*e*P	P	22 43 59.3	0.0
FITZ	**Fitzroy Crossi**	51.89	198	*e*P	P	22 43 59.0	-1.7
	comp=Z,4.2nm,1.3s,mb4.3						
WRAB	**Tennant Creek**	52.12	187	*e*P	P	22 44 00.2	-2.2
	comp=Z,4.3nm,0.5s,mb4.7						
WRAB				*e*PcP	PcP	22 45 12.8	-0.1
WB2	**Warramunga Arr**	52.13	187	*e*P	P	22 44 00.2	-2.3
WB2				*e*		22 45 12.8	
WB2				*e*S	S	22 51 11.9	-4.5
WRA	**Warramunga Arr**	52.13	187	P	P	22 44 00.3	-2.2
	comp=Z,3.1nm,0.4s,mb4.7,baz=1.1,slow=7.6,SNR=155						
WRA				PcP	PcP	22 45 13.1	+0.2
	comp=Z,7.1nm,0.7s,baz=360,slow=4.0,SNR=13						
WRA				ScP		22 48 59.0	
	comp=Z,1.0nm,0.8s,baz=4.7,slow=4.6,SNR=4.5						
WRA	**Warramunga Arr**	52.13	187	P	P	22 44 00.3	-2.2
WRA						22 45 13.1	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	52.31	173	*e*P	P	22 44 03.1	-0.8
	comp=Z,1.6nm,0.5s,mb4.3						
SLKM	**Skilak Lake**	52.66	36	*e*P	P	22 44 04.8	-1.1
PMS	**Palmer South**	52.98	35	*e*P	P	22 44 07.6	-0.7
MCK	**McKinley**	53.28	32	*e*P	P	22 44 08.3	-2.2
	comp=Z,14nm,1.2s,mb4.8						
COLA	**College**	53.77	30	*e*P	P	22 44 14.0	0.0
ILAR	**Eielson Array**	54.18	30	P	P	22 44 15.5	-1.5
	comp=Z,7.1nm,0.7s,mb4.8,baz=271,slow=6.1,SNR=66						
ILAR	**Eielson Array**	54.18	30	P	P	22 44 15.5	-1.5
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	54.73	303	*i* P	P	22 44 19.5	-1.8
DIV	**Divide**	54.82	35	*e*P	P	22 44 20.8	-0.9
	comp=Z,53nm,1.1s,mb5.5						
EYAK	**Cordova Ski Ar**	54.87	36	*e*P	P	22 44 21.7	-0.5
ASAR	**Alice Springs**	55.86	187	P	P	22 44 28.4	-1.4
	comp=Z,1.5nm,0.5s,mb4.3,baz=5.4,slow=6.3,SNR=16						
ASAR				PcP	PcP	22 45 27.7	+0.7
	comp=Z,2.1nm,0.7s,baz=5.0,slow=4.5,SNR=5.9						
ASAR				LR	LR	23 06 20.6	
	comp=Z,25nm,18.6s,baz=16,slow=34						
ASPA	**Alice Springs**	55.86	187	*e*P	P	22 44 26.7	-3.1
INK	**Inuvik**	59.19	26	P	P	22 44 51.6	-0.9
	comp=Z,13nm,0.6s,mb5.2,baz=296,slow=6.1,SNR=45						
INK	**Inuvik**	59.19	26	P	P	22 44 51.7	-0.8
INK				pmax	pmax		
	comp=Z,13nm,0.6s						
INK	**Inuvik**	59.19	26	⇑*i*P	P	22 44 51.4	-1.1
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	59.33	320	P	P	22 44 52.5	-1.1
	comp=Z,156nm,0.8s,mb6.1,SNR=17						
ARU	**Arti**	59.33	320	⇓*i*P	P	22 44 52.2	-1.4
ARU				*e*		22 45 37.6	
ARU				*e*S	S	22 52 57.8	+6.4
ARU				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
ARU	**Arti**	59.33	320	⇓*e*P	P	22 44 52.1	-1.5
	comp=Z,22nm,1.0s,mb5.1						
DZM	**Mont Dzumac**	59.55	151	*e*P	P	22 44 56.2	+0.6
DZM	**Mont Dzumac**	59.55	151	*e*P	P	22 44 56.2	+0.6
AB31	**Akbulak array**	60.30	312	*e*P	P	22 44 58.7	-1.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
DLBC	**Dease Lake**	63.13	36	P	P	22 45 19.2	0.0
	comp=Z,2.6nm,0.6s,mb4.3,baz=271,slow=6.0,SNR=6.0						
DLBC				pP	pP	22 45 46.2	-0.4
	comp=Z,1.8nm,0.8s,baz=45,slow=13,SNR=2.3						
DLBC	**Dease Lake**	63.13	36	P	P	22 45 19.2	0.0
DLBC				pP	pP	22 45 46.2	-0.4
FORT	**Forrest**	63.66	192	*e*P	P	22 45 21.7	-1.4
	comp=Z,35nm,0.5s,mb5.5						
STKA	**Stephens Creek**	63.74	179	*e*P	P	22 45 22.3	-1.3
	comp=Z,2.7nm,0.4s,mb4.4						
STKA	**Stephens Creek**	63.74	179	P	P	22 45 23.0	-0.5
	comp=Z,3.1nm,0.5s,mb4.4,baz=350,slow=7.9,SNR=19						
ARCES	**ARCESS Array B**	68.15	340	P	P	22 45 50.4	-0.5
	comp=Z,1.5nm,0.5s,mb4.1,baz=48,slow=7.0,SNR=16						
ARCES				LR	LR	23 18 56.3	
	comp=Z,64nm,21.0s,baz=151,slow=39						
ARCES	**ARCESS Array B**	68.15	340	P	P	22 45 50.4	-0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				MLR	MLR		

	comp=Z,64nm,21.0s						
ARCES	ARCESS Array B	68.15	340	P	P	22 45 50.4	-0.5
ARCES				LR	LR	23 18 56.3	
YKA	Yellowknife Ar	68.54	29	P	P	22 45 52.4	-1.0
	comp=Z,5.2nm,0.8s,mb4.4,baz=297,slow=5.9,SNR=21						
YKA	Yellowknife Ar	68.54	29	P	P	22 45 52.4	-1.1
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA	Yellowknife Ar	68.54	29	P	P	22 45 52.4	-1.0
VDB	Vedder Mountai	71.13	44	P	P	22 46 09.8	+0.5
OBN	Obninsk	71.34	324	eP	P	22 46 11.6	+1.1
OBN				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.7						
CMW	Cultus Mountai	71.39	44	P	P	22 46 12.1	+1.1
JCW	Jim Creek	71.61	44	P	P	22 46 13.1	+0.8
RPW	Rockport	71.74	44	eP	P	22 46 13.3	+0.2
RMW	Rattlesnake Mo	72.03	45	eP	P	22 46 15.5	+0.7
KAF	Kangasniemi	72.12	333	ep	P	22 46 14.1	-0.9
FMW	Mount Fremont	72.36	45	P	P	22 46 17.7	+1.0
FINES	FINESS Array B	72.60	333	P	P	22 46 17.3	-0.5
	comp=Z,5.3nm,0.6s,mb4.6,baz=76,slow=7.2,SNR=46						
FINES				LR	LR	23 20 18.6	
	comp=Z,24nm,21.7s,baz=149,slow=38						
FINES	FINESS Array B	72.60	333	P	P	22 46 17.3	-0.5
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,25nm,21.7s						
EBG	Ellensburg	73.04	45	P	P	22 46 21.6	+0.9
HSO	Harness Mounta	73.09	49	eP	P	22 46 23.8	+2.7
HUMO	Hull Mountain	73.62	50	eP	P	22 46 25.0	+0.9
	comp=Z,7.1nm,1.0s,mb4.3						
GNI	Garni	73.75	307	LR	LR	23 24 10.9	
	comp=Z,26nm,18.7s,baz=286,slow=40						
DPW	Davenport	73.96	43	eP	P	22 46 26.2	+0.2
YBH	Yreka Blue Hor	74.20	51	P	P	22 46 28.9	+1.3
	comp=Z,6.7nm,0.7s,mb4.5,baz=332,slow=1.9,SNR=20						
YBH	Yreka Blue Hor	74.20	51	P	P	22 46 28.9	+1.3
YBH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YBH	Yreka Blue Hor	74.20	51	eP	P	22 46 28.6	+1.0
	comp=Z,5.0nm,0.7s,mb4.3						
NEW	Newport	74.38	43	P	P	22 46 29.1	+0.6
	comp=Z,4.0nm,0.8s,mb4.2,baz=284,slow=6.6,SNR=8.4						
NEW				LR	LR	23 16 27.6	
	comp=Z,33nm,19.3s,baz=109,slow=33						
NEW	Newport	74.38	43	P	P	22 46 29.1	+0.6
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW				MLR	MLR		
	comp=Z,33nm,19.3s						
NEW	Newport	74.38	43	eP	P	22 46 28.7	+0.3
	comp=Z,5.7nm,0.9s,mb4.3						
WDC	Whiskeytown Da	74.88	51	eP	P	22 46 31.9	+0.5
	comp=Z,7.1nm,1.1s,mb4.3						
LNOR	Lincton Mounta	74.92	45	eP	P	22 46 32.5	+0.9
SOC	Sochi	75.34	312	eP	P	22 46 34.6	+0.6
SOC				e		22 46 47.2	
SOC				e		22 49 21.5	
SOC				eS	S	22 56 05.0	+2.1
SOC				e		22 56 38.8	
SOC				eSS	SS	23 00 59.6	+2.0
SOC				eSSS	SSS	23 04 09.5	-3.6
SOC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
SOC				pmax	pmax		
	comp=N,5.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.8s						
SOC				MLR	MLR		
	comp=N,35nm,20.0s						
SOC				MLR	MLR		
	comp=Z,81nm,20.0s						
SOC				MLR	MLR		
	comp=E,34nm,15.0s						
ANN	Anapa	76.12	314	eP	P	22 46 39.6	+1.2
ANN				e*PP	pP	22 46 52.4	-14
ANN				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
WVOR	Wild Horse Val	76.47	48	eP	P	22 46 41.1	+0.7
	comp=Z,11nm,1.0s,mb4.5						
BEKR	Beckwourth	76.68	51⇑	eP	P	22 46 42.1	+0.5
	comp=Z,14nm,0.8s,mb4.8						
UMR	Umm Al-Rimmam	76.74	297	eP	P	22 46 41.8	-0.4
UMR				AMb	AMB	22 46 43.2	
	comp=Z,24nm,0.5s,mb5.2						
MIB	Mutribah	76.90	297	eP	P	22 46 42.0	-1.0
MIB				AMb	AMB	22 46 42.7	
	comp=Z,14nm,0.4s,mb5.0						
KBD	Kabd	76.94	296	eP	P	22 46 43.4	+0.1
RDF	Al-Radifah	77.18	296	eP	P	22 46 44.6	0.0
RDF				AMb	AMB	22 46 46.1	
	comp=Z,28nm,0.5s,mb5.2						
RST	Umm Al-Ruwaisa	77.31	297	eP	P	22 46 44.9	-0.5
RST				AMb	AMB	22 46 47.6	
	comp=Z,18nm,0.5s,mb5.0						
CHMT	Chamberlain Mo	77.32	42	eP	P	22 46 44.9	-0.1
AKASG	Malin Array Be	77.47	323	P	P	22 46 45.3	-0.5
	comp=Z,3.3nm,0.3s,mb4.5,baz=47,slow=5.8,SNR=28						
AKASG	Malin Array Be	77.47	323	P	P	22 46 45.3	-0.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CMB	Columbia Colle	77.60	53	eP	P	22 46 47.3	+0.5
	comp=Z,15nm,1.1s,mb4.6						
SIM	Simferopol'	78.03	316	eP	P	22 46 49.1	+0.2
SIM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
NB2	NORSAR Subarra	78.22	337	P	P	22 46 49.5	-0.2
	comp=Z,4.6nm,0.6s,mb4.4,baz=42,slow=5.3						
NOA	NORSAR Array B	78.22	337	P	P	22 46 49.8	+0.1
	comp=Z,4.2nm,0.6s,mb4.3,baz=42,slow=5.4,SNR=21						
NOA				pP	pP	22 47 16.8	-1.3
	comp=Z,1.5nm,0.7s,baz=42,slow=5.4,SNR=2.2						
NOA				LR	LR	23 22 07.1	
	comp=Z,30nm,20.8s,slow=36						
NOA	NORSAR Array B	78.22	337	P	P	22 46 49.8	+0.1
NOA				*PP	pP	22 47 16.8	-1.4
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,30nm,20.8s						
HRY	Holter Researc	78.24	42	eP	P	22 46 50.3	+0.2
BMN	Battle Mountai	78.43	49	eP	P	22 46 52.1	+0.8
	comp=Z,17nm,1.1s,mb4.7						
HLID	Hailey	78.49	46⇑	eP	P	22 46 52.3	+0.8
	comp=Z,5.5nm,0.9s,mb4.3						
LCCM	Lewis and Clar	78.71	43	P	P	22 46 53.1	+0.4
MCMT	McKenzie Canyo	78.72	44	eP	P	22 46 53.3	+0.6
NVAR	Mina Array Bea	78.79	52	P	P	22 46 54.4	+1.1
	comp=Z,12nm,0.8s,mb4.8,baz=296,slow=4.0,SNR=40						
NVAR				LR	LR	23 13 25.7	
	comp=Z,40nm,21.4s,baz=75,slow=29						
NVAR	Mina Array Bea	78.79	52	P	P	22 46 54.4	+1.1
NVAR				LR	LR	23 13 25.7	
FCC	Fort Churchill	78.81	26	eP	P	22 46 51.6	-1.4
	comp=Z,8.1nm,0.7s,mb4.7						
BOZ	Bozeman (W)	78.96	43	eP	P	22 46 53.0	-1.1
	comp=Z,7.7nm,0.8s,mb4.6						
MTUM	Tungsten Hills	79.19	53	eP	P	22 46 56.2	+0.8
QLMT	Earthquake Lak	79.55	43	eP	P	22 46 58.3	+1.0
TPH	Tonopah	79.70	52	eP	P	22 46 58.9	+0.7
	comp=Z,18nm,1.1s,mb4.8						
HVU	Hansel Valley	80.49	46	eP	P	22 47 03.4	+1.1
MOOW	Moose Ponds	80.57	44	eP	P	22 47 04.0	+1.3
TPAW	Teton Pass	80.60	44	eP	P	22 47 03.7	+0.8
REDW	Red Top Meadow	80.74	44	eP	P	22 47 04.5	+0.9
AHID	Auburn Hatcher	80.94	45	P	P	22 47 05.2	+0.5
	comp=Z,3.6nm,0.7s,mb4.3						
BRTR	Keskin Array B	81.25	312	P	P	22 47 07.2	+0.9
	comp=Z,2.5nm,0.5s,mb4.3,baz=128,slow=4.2,SNR=18						
BRTR				pP	pP	22 47 36.4	+1.4
	comp=Z,2.6nm,1.0s,baz=90,slow=3.7,SNR=2.3						
BRTR	Keskin Array B	81.25	312	P	P	22 47 07.3	+0.9
BRTR				*PP	pP	22 47 36.4	+1.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HWUT	Hardware Ranch	81.33	46	eP	P	22 47 07.5	+0.7
	comp=Z,25nm,1.0s,mb5.0						
DUG	Dugway	81.37	48	eP	P	22 47 07.9	+0.8
	comp=Z,24nm,1.0s,mb5.0						
KWP	Kalwaria	81.42	324	eP	P	22 47 07.7	+0.6
	comp=Z,19nm,0.9s,mb4.9						
MZLS	Mizel	81.46	293	P	P	22 47 08.2	+0.4
TCUT	Toone Canyon	81.71	46	eP	P	22 47 08.6	-0.2
FRB	Frobisher Bay	81.72	12	P	P	22 47 08.4	+0.1
	comp=Z,19nm,0.8s,mb5.0,baz=344,slow=4.8,SNR=11						
FRB	Frobisher Bay	81.72	12	P	P	22 47 08.5	+0.1
FRB				pmax	pmax		
	comp=Z,19nm,0.8s						
CTU	Camp Tracy	81.75	47	eP	P	22 47 09.0	+0.1
PDAR	Pinedale Array	81.85	44	P	P	22 47 09.9	+0.4
	comp=Z,4.8nm,0.9s,mb4.3,baz=297,slow=3.3,SNR=26						
PDAR				pP	pP	22 47 38.0	-0.2
	comp=Z,1.5nm,0.8s,baz=297,slow=3.3,SNR=2.3						
NLU	North Lily Min	81.97	48	eP	P	22 47 11.0	+0.9
JLU	Jordanelle	81.98	47	eP	P	22 47 11.1	+0.9
MPU	Maple Canyon	82.21	47	eP	P	22 47 12.4	+1.0
DAU	Daniels Canyon	82.21	47	eP	P	22 47 12.5	+1.1
HILS	Ha'il	82.33	297	P	P	22 47 12.6	+0.4
OJC	Ojcow	82.45	326	eP	P	22 47 10.2	-2.1
MSU	Marysvale	82.74	49	eP	P	22 47 15.3	+1.2
MSU				pP	pP	22 47 43.4	+0.6
BAR	Barrett	83.03	56	eP	P	22 47 15.7	0.0
AFFS	‘Afif	83.23	294	P	P	22 47 17.2	+0.4
SRU	San Rafael	83.44	48	eP	P	22 47 18.4	+0.8
KSP	Ksiaz	83.64	328	eP	P	22 47 20.5	+2.2
ULM	Lac du Bonnet	84.15	32	P	P	22 47 21.8	+1.0
	comp=Z,1.9nm,0.6s,mb4.1,baz=14,slow=4.2,SNR=4.0						
RSSD	Black Hills	84.17	41	eP	P	22 47 21.6	+0.5
BRG	Berggiesshubel	84.65	329	i P	P	22 47 24.1	+0.7
BRG				e		22 50 39.8	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRG	Berggiesshubel	84.65	329	i P	P	22 47 24.1	+0.7
	comp=Z,4.2nm,0.7s,mb4.5						
CLL	Collm	84.74	330	P	P	22 47 23.9	+0.1
	comp=Z,logA/T=1.1,mb4.8						
CLL				e*PP	pP	22 47 49.0	-3.7
CLL				e*SP	sP	22 48 02.0	-2.8
CLL	Collm	84.74	330	i P	P	22 47 23.9	+0.1
CLL				e	pP	22 47 49.0	-3.7
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CLL	Collm	84.74	330	i P	P	22 47 23.9	+0.1
	comp=Z,9.0nm,0.8s,mb4.8						
CLL				e	pP	22 47 49.0	-3.7
PV10	Paradox Valley	84.81	48	eP	P	22 47 25.7	+1.2
PV10				epP	pP	22 47 52.8	-0.5
WUAZ	Wupatki	85.01	51	eP	P	22 47 26.3	+0.8
	comp=Z,14nm,1.0s,mb4.8						
KBRS	Khaybar	85.09	297	P	P	22 47 27.1	+1.0
TATS	Tathlith	85.18	290	P	P	22 47 27.6	+0.9
PV01	Paradox Valley	85.25	47	eP	P	22 47 27.6	+0.9
JMQS	Jabal Moqyreh	85.87	302	P	P	22 47 29.7	-0.2
KHC	Kasperske Hory	86.08	328	eP	P	22 47 30.5	0.0
KHC						22 47 38.0	
KHC	Kasperske Hory	86.08	328	eP	P	22 47 30.5	0.0
KHC				e		22 47 38.0	
GERES	GERESS Array B	86.24	328	P	P	22 47 31.3	+0.1
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=5.7,SNR=9.0						
GERES				pP	pP	22 47 59.9	-0.3
	comp=Z,0.9nm,0.8s,baz=27,slow=6.0,SNR=4.3						
GERES				PP	PP	22 50 52.8	-2.0
	comp=Z,0.1nm,0.3s,baz=45,slow=9.4,SNR=4.4						
GERES	GERESS Array B	86.24	328	P	P	22 47 31.3	+0.1
GERES				*PP	pP	22 47 59.9	-0.3
GERES						22 50 52.8	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HAQS	Haql	86.46	302	P	P	22 47 32.1	-0.7
BDAS	Al Bad‘	86.69	302	P	P	22 47 30.8	-3.1
SDCO	Great Sand Dun	87.39	46	eP	P	22 47 37.8	+0.7
	comp=Z,1.8nm,0.8s,mb4.0						
CDF	Champ du Feu	89.35	331	eP	P	22 47 45.7	-0.4
SCHQ	Schefferville	90.28	15	P	P	22 47 51.4	+1.1
	comp=Z,1.7nm,0.6s,mb4.3,baz=263,slow=8.1,SNR=2.5						
LOR	Lormes	91.65	332	eP	P	22 47 56.4	-0.5
	comp=Z,1.8nm,0.5s,mb4.2						
LOR				eR			
	comp=Z,47nm,21.8s						
LPL	La Plagne	91.86	329	eP	P	22 47 57.7	-0.2
	comp=Z,2.4nm,0.5s,mb4.4						
LPG	La Plagne	91.86	329	eP	P	22 47 57.8	-0.1
	comp=Z,9.4nm,0.8s,mb4.8						
SSF	Saint Saulge	91.96	332	eP	P	22 47 57.9	-0.4
	comp=Z,2.6nm,0.7s,mb4.3						
SMF	Signal de Mont	92.17	332	eP	P	22 47 58.7	-0.5
AVF	Avril sur Loir	92.24	332	eP	P	22 47 59.2	-0.4
	comp=Z,9.5nm,0.8s,mb4.8						
MBDF	Montbardon	92.46	329	eP	P	22 47 59.7	-1.0
	comp=Z,4.0nm,0.7s,mb4.5						
BGF	Bois d'Agland	92.64	332	eP	P	22 48 00.6	-0.8
ORIF	Oris-en-Rattie	92.70	329	eP	P	22 48 01.2	-0.5
	comp=Z,2.9nm,0.6s,mb4.5						
ORIF				eR			
	comp=Z,38nm,18.2s						
TCF	Toulx Ste Croi	93.11	332	eP	P	22 48 03.4	-0.2
	comp=Z,2.4nm,0.6s,mb4.4						
VIVF	Saint-Julien-l	93.27	330	eP	P	22 48 03.8	-0.5
	comp=Z,7.0nm,0.8s,mb4.7						
LTX	Lajitas	93.94	52	eP	P	22 48 08.7	+0.9
	comp=Z,10nm,0.9s,mb5.2						
LTX				epP	pP	22 48 36.9	-0.2
TXAR	Lajitas Array	93.94	52	P	P	22 48 08.9	+1.1
	comp=Z,6.7nm,0.8s,mb5.0,baz=298,slow=3.0,SNR=72						
TXAR				pP	pP	22 48 35.0	-2.0
	comp=Z,3.1nm,0.8s,baz=297,slow=2.8,SNR=4.4						
TXAR				LR	LR	23 26 31.7	
	comp=Z,32nm,19.2s,baz=240,slow=33						
SADO	Sadowa	95.48	27	P	P	22 48 15.1	+0.6
	comp=Z,11nm,1.0s,mb5.2,slow=3.0,SNR=2.4						
SADO	Sadowa	95.48	27	P	P	22 48 15.1	+0.6
QSPA	South Pole Qui	121.95	180	ePKP	PKPdf	22 53 42.6	+0.9
QSPA				e		22 54 12.5	
SDV	Santo Domingo	129.70	41	ePKPdf	PKPdf	22 53 59.4	+1.2
SAML	Samuel	148.36	48	ePKPdf	PKPdf	22 54 33.3	+1.7
SAML				ePKPbc	PKPdf	22 54 36.6	+5.0
LPAZ	La Paz	149.90	65	PKPbc	PKPdf	22 54 42.0	+8.1
	comp=Z,3.5nm,0.3s,baz=326,slow=2.2,SNR=14						
LPAZ				pPKPbc		22 55 11.9	
	comp=Z,5.3nm,0.6s,baz=2.3,slow=3.7,SNR=3.4						
LPAZ	La Paz	149.90	65	ePKPdf	PKPdf	22 54 36.7	+2.8
LPAZ				ePKPbc	PKPdf	22 54 41.8	+7.9
LPAZ				PKPbc	PKPdf	22 54 42.0	+8.1
LPAZ				pPKPbc		22 55 11.9	
LVC	Limon Verde	152.60	77	PKPdf	PKPdf	22 54 40.3	+2.5
LVC				ePKPbc	PKPdf	22 54 47.4	+10
LVC				ePKPab	PKPab	22 54 58.9	+0.6
PLCA	Paso Flores	154.01	118	PKPbc	PKPdf	22 54 50.1	+11
	comp=Z,3.6nm,0.8s,baz=279,slow=2.2,SNR=6.8						
PLCA				PKPab	PKPab	22 55 04.0	+0.3
	comp=Z,3.4nm,0.9s,baz=260,slow=4.1,SNR=5.9						
PLCA	Paso Flores	154.01	118	PKIKP	PKPdf	22 54 50.2	+11
PLCA						22 55 04.0	
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BDFB	Brasilia	161.94	26	PKP	PKPdf	22 54 51.6	+2.2
	comp=Z,3.3nm,0.9s,baz=12,slow=6.6,SNR=3.9						
BDFB				PKPab	PKPab	22 55 37.9	-0.6
	comp=Z,0.8nm,0.6s,baz=56,slow=4.5,SNR=3.3						
BDFB	Brasilia	161.94	26	PKIKP	PKPdf	22 54 51.6	+2.2
BDFB						22 55 37.9	
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	Villa Florida	163.71	73	PKP	PKPdf	22 54 52.8	+1.9
	comp=Z,1.5nm,0.9s,baz=164,slow=12,SNR=3.4						
CPUP				PKPab	PKPab	22 55 44.8	-1.1
	comp=Z,2.0nm,0.8s,baz=333,slow=4.5,SNR=4.3						
CPUP	Villa Florida	163.71	73	PKIKP	PKPdf	22 54 52.8	+1.9
CPUP						22 55 44.8	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*JMA **22** 22:42:17.7±0.2, 31.12N×142.60E, h46^{km}, M3.9*

*IDC **22** 22:42:30.6±3.8, 30.43N×142.46E, h141^{km}±31^{km}, mb3.5/5, mb1 3.5/6, mb1mx3.3/22, Error ellipse: s-maj=76.1km s-min=24.2km az=74.0*

ISC 22 22:42:19.9±1.0**, 31.25N**±0.08×**142.5E**±0.2**, h33^{km}, n17,** σ**1^{s}34**/24**, mb3.9**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	3.63	340	P	P	22 43 15.0	-0.1
BSO1				eS	S	22 43 57.9	+0.5
BSO3	Boso 3	3.92	335	eS	S	22 44 06.6	+1.9
CBIJ	Chichi jima	4.14	184	P	P	22 43 20.6	-1.8
	5.6nm,0.3s,baz=106,slow=22,SNR=3.3						
CBIJ				S	S	22 44 02.5	-7.9
	5.7nm,0.3s,baz=296,slow=21,SNR=2.4						
CBIJ	Chichi jima	4.14	184	P	P	22 43 18.3	-4.2
JOD2	Odawara 2	4.92	326	P	P	22 43 33.3	-0.1
JOD2				eS	S	22 44 29.5	-0.4
JHU	Hanno	5.32	331	P	P	22 43 39.8	+0.8
JHO	Hitachi	5.58	344	P	P	22 43 41.7	-1.1
JHO				eS	S	22 44 42.5	-4.2
JRY	Ryogami san	5.62	329	P	P	22 43 43.5	+0.2
JRY				eS	S	22 44 46.7	-0.9
JNY	Yasuok	5.64	318	P	P	22 43 45.6	+2.0
JAG	Ashikaga	5.75	335	P	P	22 43 44.6	-0.5
MAT	Matsushiro	6.37	327	P	P	22 43 52.1	-1.8
MAT				eS	S	22 45 04.5	-1.8
JMK	Ichinoseki	7.76	353	P	P	22 44 11.8	-1.5
JMK				eS	S	22 45 33.0	-7.9
SONM	Songino Array	32.03	312	P	P	22 48 48.2	+2.6
	1.2nm,0.7s,mb3.9,baz=122,slow=8.2,SNR=5.3						
MKAR	Makanchi Array	48.12	307	P	P	22 51 00.2	+1.7
	0.7nm,0.5s,mb4.0,baz=93,slow=9.5,SNR=5.0						
WRA	Warramunga Arr	51.49	190	P	P	22 51 15.5	-9.1
	1.3nm,0.8s,mb3.9,baz=6.6,slow=14,SNR=5.7						
FINES	FINESS Array B	74.36	333	P	P	22 53 56.5	+0.9
	3.3nm,1.1s,mb4.2,baz=146,slow=6.9,SNR=5.2						
NOA	NORSAR Array B	79.87	338	P	P	22 54 27.6	+1.2
	0.3nm,0.5s,mb3.5,baz=32,slow=3.2,SNR=3.0						

*IDC **22** 22:55:46.4±2.4, 33.11N×77.86E, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, ML3.2/1, Error ellipse: s-maj=53.0km s-min=25.8km az=54.0*

*NDI **22** 22:55:47.2±5.6, 34.58N×77.16E, h4^{km}±67^{km}, MD3.3, ML3.0*

ISC 22 22:55:53.1±0.6**, 33.95N**±0.05×**77.80E**±0.09**, h10^{km}, n20,** σ**1^{s}41**/25**, mb3.6**/3**, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.08	228	eP	Pn	22 56 26.0	-2.5
DLH				eS	Sn	22 56 56.0	+1.3
THN	Thein Dam	2.31	230	eP	Pn	22 56 29.5	-2.3
THN				eSB	Sb	22 57 04.4	+1.3
PONG	Pong	2.52	218	eP	Pn	22 56 31.0	-3.9
PONG				eS	Sn	22 57 05.0	-1.0
SDNR	Sundarnagar	2.54	196	e	Pn	22 56 27.8	-7.4
SDNR				e		22 56 57.0	
BHK	Bhakra	2.78	205	e	Sn	22 57 06.7	-5.9
SMLA	Simla	2.86	191	eP	Pn	22 56 42.2	+2.4
SMLA				e		22 57 12.8	
DDI	Dehra Dun	3.62	176	e	Pn	22 56 44.2	-6.4
DDI				e		22 57 23.8	
KKR	Kurukshetra	4.06	192	eP	Pn	22 56 56.2	-0.6
KKR				e		22 57 41.5	
	comp=Z,173nm,0.3s						
RTK	Rohtak	5.04	194	e	Pn	22 57 16.6	+5.9
RTK				e		22 58 11.7	
	comp=Z,37nm,0.5s						
NDI	New Delhi	5.28	186	eP	Pn	22 57 15.0	+1.0
NDI				e		22 58 11.5	
AYAN	Aya Nagar	5.48	186	eP	Pn	22 57 14.8	-2.0
AYAN				e		22 58 36.9	
	comp=Z,11nm,0.6s						
SONA	Sohna	5.72	186	eP	Pn	22 57 23.9	+3.7
SONA				e		22 58 32.4	
	comp=E,6.8nm,0.4s						
KUDL	Kundal	5.90	191	eP	Pn	22 57 23.9	+1.2
KUDL				eS	Sn	22 58 32.5	+1.4
KUDL				e		22 58 45.3	
	comp=Z,12nm,0.5s						
KHET	Khetri	6.10	197	eP	Pn	22 57 25.3	-0.3
KHET				eS	Sn	22 58 35.5	-0.8
KHET				e		22 58 47.6	
	comp=N,6.7nm,0.1s						
MKAR	Makanchi Array	13.27	14	Pn	P	22 59 05.6	+1.4
	comp=N,0.1nm,0.3s,baz=184,slow=12,SNR=3.7						
BVAR	Borovoye Array	19.79	347	P	P	23 00 26.0	-0.3
	comp=N,0.6nm,0.6s,baz=156,slow=15,SNR=5.2						
ZAL	Zalesovo	20.59	12	P	P	23 00 35.9	+1.2
	comp=N,0.5nm,0.6s,baz=9.1,slow=13,SNR=3.0						
CMAR	Chiang Mai Arr	24.38	124	P	P	23 01 01.4	-11
	comp=N,1.4nm,0.8s,mb3.5,baz=293,slow=8.7,SNR=8.1						
SONM	Songino Array	25.51	48	P	P	23 01 21.7	-1.4
	comp=N,0.8nm,0.8s,mb3.3,baz=237,slow=10,SNR=6.5						
FINES	FINESS Array B	42.70	326	P	P	23 03 51.3	-0.1
	comp=N,5.4nm,1.2s,mb4.2,baz=264,slow=17,SNR=2.1						

*NEIC **22** 23:05:29.3, 30.93S×69.63W, h148^{km}, MD3.5(GUC), After GUC.*

GUC 22 23:05:29.3±0.7**, 30.93S×69.63W, h148^{km}**±13^{km}**, MD3.5, ML3.4, 2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.20	258⇓	iP	P	23 05 56.5	+0.5
CMCH				i S	S	23 06 16.7	+0.2
CMCH				AMP		23 06 18.4	
	comp=E,2µm,0.9s						
TLL	Tololo Astrono	1.27	307	eP	P	23 05 57.2	+0.6
TLL				i S	S	23 06 18.2	+0.5
TLL				AMP		23 06 21.2	
	comp=N,308nm,0.7s						
ILCH	Illapel	1.50	242	i P	P	23 05 58.8	-0.2
ILCH				i S	S	23 06 21.4	-0.5
ILCH				AMP		23 06 22.1	
	comp=E,483nm,0.2s						
LSCH	La Serena	1.73	306	i P	P	23 06 01.8	+0.3
LSCH				i S	S	23 06 25.5	-0.8
LSCH				AMP		23 06 26.8	
	comp=N,348nm,0.2s						
JACH	Jahuel	1.93	205	i S	S	23 06 30.4	+0.2
FCH	Farellones	2.45	193	eP	P	23 06 10.9	+0.6
FCH				i S	S	23 06 42.7	+1.0
FCH				AMP		23 06 45.1	
	comp=E,109nm,0.3s						
CLCH	Cerro Calan	2.58	197⇓	iP	P	23 06 11.9	0.0
CLCH				i S	S	23 06 44.3	-0.1
CLCH				AMP		23 06 46.6	
	comp=E,137nm,0.6s						
PCH	Pirque	2.78	195	eP	P	23 06 14.6	+0.1
PCH				i S	S	23 06 49.4	+0.3
TACH	Talagante	2.93	202	eP	P	23 06 14.3	-2.1
TACH				i S	S	23 06 50.3	-2.1
LMEL	Las Melosas	2.95	189	eP	P	23 06 16.8	+0.2
LMEL				i S	S	23 06 55.0	+2.3
LMEL				AMP		23 06 58.8	
	comp=N,95nm,0.2s						
CHCH	Chadas Angostu	3.12	196	eP	P	23 06 18.6	-0.2
CHCH				i S	S	23 06 55.8	-0.8

*IDC **22** 23:31:28.0±0.8, 50.23S×112.54E, mb4.2/7, mb1 4.4/7, mb1mx4.3/10, MS4.0/6, Ms1 4.0/6, ms1mx3.8/9, Error ellipse: s-maj=39.0km s-min=17.2km az=110.0*

*BJI **22** 23:31:29.6, 50.30S×112.60E, h10^{km}, mB4.7, mb4.6, Ms4.5, Msz4.4*

*NEIC **22** 23:31:29.6±0.5, 50.32S×112.63E, h10^{km}, mb4.6/8, MS4.0/1, Error ellipse: s-maj=28.1km s-min=8.9km az=105.0*

*SYO **22** 23:31:29.6, 50.32S×112.63E, h10^{km}, MB4.6, MS4.0*

ISC 22 23:31:27.7±0.6**, 50.33S**±0.08×**112.8E**±0.3**, h10^{km}, n33,** σ**1^{s}08**/22**, mb4.5**/12**, MS3.9**/7**, 1C-3D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	Casey	16.04	183	eP	P	23 35 13.2	-1.4
NWAO	Narrogin (SRO)	17.69	12	LR	LR	23 40 51.3	
	comp=Z,617nm,18.4s,baz=190,slow=32						
KLBR	Kellerberrin	19.08	13⇓	iP	P	23 35 52.5	-0.2
	34nm,1.0s						
STKA	Stephens Creek	28.20	60	LR	LR	23 46 45.8	
	comp=Z,160nm,20.9s,MS3.6,baz=29,slow=32						
MAW	Mawson	29.88	216	P	P	23 37 37.2	+0.1
	1.7nm,0.8s,mb3.8,baz=64,slow=9.2,SNR=3.3						
MAW				LR	LR	23 48 10.1	
	comp=Z,110nm,18.1s,MS3.5,baz=70,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**29.88**	**216**	*e*P	**P**	**23 37 36.8**	**-0.2**
	8.2nm,1.3s,mb4.3						
ASAR	**Alice Springs**	**31.28**	**39**	P	**P**	**23 37 50.0**	**+0.1**
	1.9nm,0.8s,mb4.0,baz=208,slow=7.7,SNR=14						
VNDA	**Vanda**	**32.80**	**162**	P	**P**	**23 38 03.1**	**+0.5**
	5.3nm,0.8s,mb4.5,baz=294,slow=9.1,SNR=26						
VNDA				LR	LR	23 50 21.3	
	comp=Z,434nm,20.2s,MS4.2,baz=332,slow=34						
VNDA	**Vanda**	**32.80**	**162**	*e*P	**P**	**23 38 02.5**	**-0.1**
	5.1nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.76**	**22**	*e*P	**P**	**23 38 12.4**	**+0.9**
	14nm,0.9s,mb4.9						
SBA	**Scott Base**	**33.89**	**162**	*e*P	**P**	**23 38 13.6**	**+1.4**
	12nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**34.80**	**37**	P	**P**	**23 38 19.8**	**-0.7**
	2.8nm,0.7s,mb4.3,baz=205,slow=8.5,SNR=12						
WRA				PcP	PcP	23 40 55.6	+1.6
	0.3nm,0.4s,baz=212,slow=2.7,SNR=6.4						
WB2	**Warramunga Arr**	**34.81**	**37**	*e*P	**P**	**23 38 19.0**	**-1.6**
WRAB	**Tennant Creek**	**34.82**	**37**	*e*P	**P**	**23 38 20.9**	**+0.3**
	8.8nm,0.9s,mb4.7						
SYO	**Syowa Base**	**38.49**	**214**	⇓P	**P**	**23 38 56.0**	**+4.9**
QSPA	**South Pole Qui**	**39.80**	**180**	*e*P	**P**	**23 39 01.4**	**-0.6**
	8.1nm,0.9s,mb4.5						
QSPA				LR	LR		
	comp=Z,270nm,21.8s,MS4.0						
SNAA	**Sanae**	**50.18**	**202**	⇓*i*	**P**	**23 40 24.1**	**-0.6**
SNAA	**Sanae**	**50.18**	**202**	P	**P**	**23 40 24.2**	**-0.5**
	comp=Z,2.9nm,0.9s,mb4.3,baz=151,slow=8.0,SNR=18						
CMAR	**Chiang Mai Arr**	**69.57**	**346**	P	**P**	**23 42 37.4**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=186,slow=5.7,SNR=13						
CMAR				LR	LR	00 13 01.5	
	comp=Z,97nm,18.5s,MS4.1,baz=180,slow=36						
KMI	**Kunming**	**75.64**	**351**	*e*P	**P**	**23 43 21.0**	**+6.4**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**89.27**	**177**	P	**P**	**23 44 26.2**	**+1.5**
	comp=Z,2.2nm,0.8s,mb4.5,baz=198,slow=13,SNR=4.1						
PLCA				LR	LR	00 26 46.0	
	comp=Z,82nm,18.9s,MS4.2,baz=176,slow=37						
PLCA	**Paso Flores**	**89.27**	**177**	*e*P	**P**	**23 44 26.1**	**+1.3**
	comp=Z,7.4nm,1.1s,mb4.9						
PLCA				*e*		23 44 31.8	
CN2	**Changchun**	**94.39**	**9**	*e*P	**P**	**23 44 52.8**	**+4.5**
WMQ	**Urumqi**	**96.29**	**342**	⇑P	**P**	**23 44 59.5**	**+2.5**
WMQ				AP	pP	23 45 04.5	+4.3
WMQ				XP	sP	23 45 06.3	+5.1
WMQ				*e*PP	PP	23 48 55.8	+3.0
WMQ				LR	LR		
	comp=N,90nm,23.4s,MS4.2						
WMQ				LR	LR		
	comp=E,44nm,23.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,33nm,21.6s,MS3.8						
TXAR	**Lajitas Array**	**145.51**	**114**	PKPbc	PKPbc	23 51 08.7	+2.4
	comp=Z,1.2nm,1.0s,baz=196,slow=5.1,SNR=5.9						
TPAW	**Teton Pass**	**149.70**	**86**	*e*PKPbc	PKPdf	23 51 19.8	+4.6
TPAW				*e*PKPab	PKPab	23 51 26.2	+1.9
REDW	**Red Top Meadow**	**149.70**	**86**	*e*PKPbc	PKPdf	23 51 21.3	+6.2
MOOW	**Moose Ponds**	**149.95**	**86**	*e*PKPdf	PKPdf	23 51 17.5	+2.0
MOOW				*e*PKPbc	PKPdf	23 51 21.6	+6.1
SDCO	**Great Sand Dun**	**150.07**	**100**	*e*PKPab	PKPab	23 51 27.1	+1.1
PDAR	**Pinedale Array**	**150.24**	**88**	PKPbc	PKPdf	23 51 20.4	+4.4
	comp=Z,1.2nm,1.0s,baz=180,slow=3.0,SNR=5.8						
BOZ	**Bozeman (W)**	**150.24**	**82**	*e*PKPbc	PKPdf	23 51 21.2	+5.3
YKA	**Yellowknife Ar**	**151.79**	**46**	PKPbc	PKPdf	23 51 22.8	+5.2
	comp=Z,0.6nm,0.6s,baz=283,slow=2.1,SNR=4.3						
YKA	**Yellowknife Ar**	**151.79**	**46**	PKPbc	PKPdf	23 51 22.8	+5.1

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*NEIC **22** 23:35:52.8±0.8, 4.50N×76.02W, h113^{km}±8^{km}, mb4.3/15, Error ellipse: s-maj=10.3km s-min=8.2km az=50.0*
NEIC Felt by people in tall buildings at Cali.
*IDC **22** 23:35:54.7±1.5, 4.64N×76.06W, h123^{km}±12^{km}, mb3.7/13, mb1 3.9/14, mb1mx3.8/21, Error ellipse: s-maj=21.1km s-min=13.1km az=38.0*
ISC 22 23:35:52.6±0.7**, 4.49N**±0.06×**76.13W**±0.06**, h124**^{km}±7^{km}**, n44,** σ**1**^{s}**01**/43**, mb4.2**/23**, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.83**	**78**	P	**P**	**23 36 24.4**	**-0.3**
	277nm,0.3s,baz=324,slow=4.1,SNR=368						
ROSC				S	**S**	**23 36 49.4**	**+0.5**
	86nm,0.3s,baz=90,slow=23,SNR=23						
OTAV	**Otavalo**	**4.82**	**209**	*e*Pn	**P**	**23 37 04.4**	**+0.1**
OTAV				*e*Sn	**S**	**23 37 58.7**	**-0.7**
SDV	**Santo Domingo**	**6.99**	**51**	*e*Pn	**P**	**23 37 29.9**	**-3.8**
	42nm,0.4s						
SDV				*e*Sn	**S**	**23 38 43.6**	**-8.6**
JTS	**JuntasAbangare**	**10.47**	**304**	P	**P**	**23 38 21.7**	**+1.3**
	0.6nm,0.3s,baz=268,slow=9.2,SNR=3.1						
SAML	**Samuel**	**18.57**	**136**	*e*P	**P**	**23 39 58.0**	**-4.6**
	8.8nm,1.3s						
ELN	**Prospectdale**	**32.86**	**353**	*e*P	**P**	**23 42 17.2**	**+0.6**
PWV	**Princeton**	**33.00**	**353**	*e*P	**P**	**23 42 18.1**	**+0.1**
CPUP	**Villa Florida**	**35.64**	**150**	P	**P**	**23 42 40.2**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=12,slow=12,SNR=4.1						
CPUP	**Villa Florida**	**35.64**	**150**	*e*P	**P**	**23 42 38.8**	**-1.7**
	0.5nm,0.4s,mb3.8						
BLO	**Bloomington**	**35.79**	**346**	*e*P	**P**	**23 42 40.9**	**-0.7**
	6.7nm,0.6s,mb4.8						
FVM	**French Village**	**35.80**	**341**	*e*P	**P**	**23 42 40.7**	**-1.1**
	5.6nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**35.92**	**317**	P	**P**	**23 42 43.1**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=131,slow=8.8,SNR=13						
TXAR				PcP	PcP	23 45 08.9	+1.4
	1.9nm,0.9s,baz=141,slow=5.8,SNR=18						
CCM	**Cathedral Cave**	**36.14**	**340**	*e*P	**P**	**23 42 42.8**	**-1.8**
	8.0nm,0.8s,mb4.7						
CCM				*e*PcP	PcP	23 45 08.1	0.0
WMOK	**Wichita Mounta**	**36.69**	**328**	*e*P	**P**	**23 42 47.9**	**-1.4**
	2.4nm,0.8s,mb4.2						
ANMO	**Albuquerque**	**41.30**	**321**	*e*P	**P**	**23 43 28.1**	**+0.7**
	2.9nm,0.8s,mb4.2						
LAZ	**Ladron**	**41.38**	**320**	*e*P	**P**	**23 43 29.6**	**+1.4**
SDCO	**Great Sand Dun**	**42.59**	**325**	*e*P	**P**	**23 43 38.6**	**+0.6**
	1.3nm,0.6s,mb3.8						
WUAZ	**Wupatki**	**44.83**	**318**	*e*P	**P**	**23 43 57.2**	**+1.2**
BW06	**Boulder Array**	**48.29**	**327**	*e*P	**P**	**23 44 22.8**	**-0.4**
	1.5nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**48.29**	**327**	P	**P**	**23 44 23.1**	**0.0**
	1.1nm,0.6s,mb3.9,baz=123,slow=9.2,SNR=12						
ULM	**Lac du Bonnet**	**48.54**	**343**	P	**P**	**23 44 22.6**	**-2.3**
	2.9nm,0.6s,mb4.4,baz=145,slow=6.8,SNR=9.4						
ULM	**Lac du Bonnet**	**48.54**	**343**	*e*P	**P**	**23 44 22.3**	**-2.6**
	3.5nm,0.5s,mb4.5						
TPAW	**Teton Pass**	**49.53**	**327**	*e*P	**P**	**23 44 32.5**	**-0.1**
SCHQ	**Schefferville**	**50.75**	**7**	P	**P**	**23 44 41.4**	**-0.4**
	9.1nm,0.8s,mb4.9,baz=202,slow=7.0,SNR=10.0						
SCHQ	**Schefferville**	**50.75**	**7**	*e*P	**P**	**23 44 41.3**	**-0.5**
	9.1nm,0.7s,mb4.9						
MNV	**Mina**	**50.96**	**317**	*e*P	**P**	**23 44 44.1**	**+0.4**
	3.4nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**51.06**	**317**	P	**P**	**23 44 45.5**	**+1.1**
	1.3nm,0.5s,mb4.2,baz=130,slow=7.6,SNR=9.9						
NVAR				PcP	PcP	23 45 59.8	+1.2
	2.4nm,0.8s,baz=128,slow=5.1,SNR=6.3						
LNOR	**Lincton Mounta**	**55.11**	**325**	*e*P	**P**	**23 45 13.7**	**-0.4**
YKA	**Yellowknife Ar**	**64.45**	**341**	P	**P**	**23 46 15.7**	**-2.0**
	3.1nm,0.5s,mb4.4,baz=134,slow=6.2,SNR=33						
YKA	**Yellowknife Ar**	**64.45**	**341**	P	**P**	**23 46 15.7**	**-2.0**
DBIC	**Dimbokro**	**70.92**	**85**	P	**P**	**23 46 58.4**	**-0.5**
	4.8nm,1.1s,mb4.3,baz=256,slow=10,SNR=4.3						
DBIC	**Dimbokro**	**70.92**	**85**	*e*P	**P**	**23 46 58.9**	**+0.1**
	1.0nm,0.5s,mb3.9						
SUMG	**Summit**	**71.83**	**11**	*e*P	**P**	**23 47 03.1**	**-0.2**
	9.2nm,0.7s,mb4.7						
ESDC	**Sonseca Array**	**73.44**	**50**	P	**P**	**23 47 13.3**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=271,slow=5.8,SNR=7.7						
ILAR	**Eielson Array**	**77.81**	**336**	P	**P**	**23 47 36.9**	**-0.6**
	1.7nm,0.7s,mb3.9,baz=118,slow=4.1,SNR=27						
NB2	**NORSAR Subarra**	**84.81**	**29**	P	**P**	**23 48 15.0**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=270,slow=4.8						
NOA	**NORSAR Array B**	**84.81**	**29**	P	**P**	**23 48 14.9**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=269,slow=5.0,SNR=3.8						
CLL	**Collm**	**85.99**	**39**	P	**P**	**23 48 21.0**	**+0.9**
	logA/T=0.8,mb4.5						
GERES	**GERESS Array B**	**86.54**	**41**	P	**P**	**23 48 24.1**	**+1.3**
	1.2nm,1.0s,mb3.8,baz=270,slow=2.7,SNR=6.7						
SNAA	**Sanae**	**89.03**	**162**	P	**P**	**23 48 36.5**	**+2.3**
	0.3nm,0.6s,mb3.5,baz=248,slow=5.4,SNR=4.5						
MKAR	**Makanchi Array**	**125.48**	**18**	PKP	PKPdf	23 54 40.2	+0.9
	0.4nm,0.6s,baz=344,slow=3.9,SNR=5.3						
MKAR	**Makanchi Array**	**125.48**	**18**	PKP	PKPdf	23 54 40.2	+0.9
ASAR	**Alice Springs**	**145.33**	**234**	PKPbc	PKPbc	23 55 18.6	+1.5
	4.0nm,0.6s,baz=116,slow=3.8,SNR=34						
WRA	**Warramunga Arr**	**146.59**	**240**	PKPbc	PKPbc	23 55 22.5	+2.3
	1.0nm,0.6s,baz=113,slow=3.0,SNR=9.0						

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*NEIC **22** 23:56:59.5, 36.12S×71.88W, h80^{km}, MD3.5(GUC), After GUC.*
GUC 22 23:56:59.5±0.9**, 36.12S**×**71.88W, h80**^{km}±6^{km}**, MD3.5, ML3.5, 3C-2D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.51**	**198**	*e*P	P	23 57 13.4	-0.1
CCHI				*i* S	S	23 57 24.0	0.0
CCHI				AMP		23 57 25.1	
	comp=E,998nm,0.3s						
COCH	**Cobquecura**	**0.74**	**269**	*e*P	P	23 57 16.1	+0.2
COCH				*i* S	S	23 57 28.0	0.0
COCH				AMP		23 57 29.6	
	comp=N,295nm,0.3s						
TALC	**Talca**	**0.74**	**15**	*e*P	P	23 57 15.9	0.0
TALC				*i* S	S	23 57 28.0	0.0
TALC				AMP		23 57 29.4	
	comp=E,8µm,0.1s						
NICH	**Los Niches**	**1.23**	**26**	⇓*i*P	P	23 57 21.8	+0.1
NICH				*i* S	S	23 57 38.5	+0.1
SFDO	**San Fernando**	**1.66**	**25**	⇑*i*P	P	23 57 27.0	-0.4
SFDO				*i* S	S	23 57 47.7	-0.2
CICH	**Cipreses**	**2.15**	**34**	*i* P	P	23 57 34.5	+0.3
CICH				*i* S	S	23 58 00.7	+0.9
LNV	**Longovilo**	**2.19**	**10**	⇑*i*P	P	23 57 34.0	-0.6
CACH	**El Canelo**	**2.25**	**28**	*i* P	P	23 57 34.9	-0.6
CACH				*i* S	S	23 58 02.7	+0.5
CHCH	**Chadas Angostu**	**2.40**	**25**	⇑*i*P	P	23 57 36.7	-0.9
CHCH				*i* S	S	23 58 05.8	-0.1
TACH	**Talagante**	**2.58**	**18**	*i* P	P	23 57 38.3	-1.8
LMEL	**Las Melosas**	**2.65**	**32**	⇓*i*P	P	23 57 41.3	+0.2
LMEL				*i* S	S	23 58 12.7	+0.6
LMEL				AMP		23 58 18.9	
	comp=N,130nm,0.2s						
PCH	**Pirque**	**2.73**	**25**	*i* P	P	23 57 41.0	-1.2
CLCH	**Cerro Calan**	**2.93**	**22**	*i* P	P	23 57 43.8	-1.2
CLCH				*i* S	S	23 58 17.8	-1.3
CLCH				AMP		23 58 21.1	
	comp=E,89nm,0.2s						
FCH	**Farellones**	**3.07**	**26**	*e*P	P	23 57 46.2	-0.8
FCH				*i* S	S	23 58 22.1	-0.6
FCH				AMP		23 58 25.3	
	comp=N,3µm,0.1s						
JACH	**Jahuel**	**3.59**	**18**	*i* P	P	23 57 52.4	-1.7
JACH				*i* S	S	23 58 33.9	-1.6

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*IDC **23** 00:51:00.4±1.5, 24.32S×179.98W, h488^{km}±14^{km}, mb3.5/14, mb1 3.8/15, mb1mx3.8/17, Error ellipse: s-maj=14.4km s-min=12.2km az=153.0*
*NEIC **23** 00:51:02.8±1.6, 24.38S×179.96E, h517^{km}±17^{km}, mb4.4/12, Error ellipse: s-maj=13.4km s-min=10.7km az=48.0*
ISC 23 00:50:58.8±2.5**, 24.26S**±0.09×**179.93E**±0.10**, h479**^{km}±27^{km}**, n64,** σ**0**^{s}**88**/42**, mb4.0**/20**, 11D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.60**	**277**	*e*P	**P**	**00 53 49.9**	**+4.8**
DZM	**Mont Dzumac**	**12.60**	**277**	*e*P	**P**	**00 53 49.9**	**+4.8**
URZ	**Urewera**	**14.16**	**189**	P	**P**	**00 54 00.5**	**-0.9**
	2.6nm,0.3s,baz=326,slow=3.6,SNR=7.9						
URZ				S	**S**	**00 56 30.2**	**+1.6**
	2.6nm,0.3s,baz=42,slow=23,SNR=12						
RPZ	**Rata Peaks**	**20.73**	**198**	P	**P**	**00 55 05.2**	**-0.7**
	14nm,0.6s,baz=333,slow=2.3,SNR=5.9						
CNB	**Canberra Magne**	**28.62**	**240**	*e*P	**P**	**00 56 17.8**	**+1.0**
	7.0nm,0.9s,mb4.1						
CTA	**Charters Tower**	**31.41**	**271**	⇓*i*P	**P**	**00 56 42.5**	**+1.5**
	24nm,0.5s,mb4.9						
CTAO	**Charters Tower**	**31.41**	**271**	⇓*i*P	**P**	**00 56 42.3**	**+1.3**
	34nm,0.6s,mb5.0						
TOO	**Toolangi**	**32.20**	**237**	*e*P	**P**	**00 56 48.2**	**+0.7**
	5.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**34.53**	**249**	⇓*i*P	**P**	**00 57 08.0**	**+0.8**
	9.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**34.53**	**249**	P	**P**	**00 57 08.1**	**+0.9**
	11nm,0.5s,mb4.5,baz=93,slow=10.0,SNR=52						
STKA				PcP	PcP	00 59 29.1	-0.4
	2.2nm,0.9s,baz=71,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**00 58 08.0**	**+0.3**
	6.1nm,0.6s,mb4.2,baz=95,slow=7.2,SNR=63						
ASAR				PcP	PcP	00 59 51.9	-1.1
	1.4nm,0.7s,baz=98,slow=3.7,SNR=5.1						
ASAR				S	**S**	**01 03 51.1**	**-0.2**
	0.6nm,0.8s,baz=90,slow=15,SNR=3.2						
ASPA	**Alice Springs**	**41.92**	**261**	⇓*i*P	**P**	**00 58 08.0**	**+0.2**
ASPA	**Alice Springs**	**41.92**	**261**	⇓*i*P	**P**	**00 58 07.9**	**+0.1**
WB2	**Warramunga Arr**	**42.31**	**267**	⇓*i*P	**P**	**00 58 10.7**	**-0.2**
WRAB	**Tennant Creek**	**42.31**	**267**	⇓*e*P	**P**	**00 58 10.7**	**-0.3**
	28nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**42.32**	**267**	P	**P**	**00 58 10.8**	**-0.2**
	15nm,0.5s,mb4.7,baz=103,slow=8.1,SNR=132						
WRA				PcP	PcP	00 59 53.4	-1.0
	5.5nm,1.2s,baz=98,slow=3.4,SNR=5.2						
WRA				ScP		01 02 59.2	
	2.2nm,0.8s,baz=100,slow=4.1,SNR=9.7						
WRA				S	**S**	**01 03 50.1**	**-7.0**
	1.0nm,0.9s,baz=98,slow=15,SNR=2.4						
FORT	**Forrest**	**46.13**	**250**	*e*P	**P**	**00 58 39.3**	**-1.3**
FORT	**Forrest**	**46.13**	**250**	⇓*i*P	**P**	**00 58 39.4**	**-1.2**
	114nm,0.6s						
KAKA	**Kakadu**	**46.32**	**276**	*e*P	**P**	**00 58 41.2**	**-1.1**
KAKA	**Kakadu**	**46.32**	**276**	⇓*i*P	**P**	**00 58 41.4**	**-0.9**
	15nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.74**	**266**	*e*P	**P**	**00 59 15.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.74**	**266**	⇓*i*P	**P**	**00 59 15.0**	**-0.5**
	15nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**00 59 15.4**	**-0.2**
	20nm,0.7s,mb4.5,baz=162,slow=6.1,SNR=54						
SBA	**Scott Base**	**54.02**	**183**	*e*P	**P**	**00 59 38.9**	**+0.4**
	3.8nm,0.9s,mb3.7						
VNDA	**Vanda**	**54.02**	**185**	P	**P**	**00 59 37.9**	**-0.6**
	0.5nm,0.5s,mb3.1,baz=3.1,slow=7.6,SNR=5.7						
VNDA				PcP	PcP	01 00 34.9	-1.3
	0.6nm,0.7s,baz=15,slow=12,SNR=4.3						
VNDA				ScP		01 03 44.5	
	0.9nm,0.7s,baz=357,slow=4.7,SNR=6.2						
VNDA	**Vanda**	**54.02**	**185**	*e*P	**P**	**00 59 37.5**	**-1.0**
	0.4nm,0.5s,mb3.0						
VNDA				PcP	PcP	01 00 34.9	-1.3
VNDA				ScP		01 03 44.5	
KLBR	**Kellerberrin**	**54.79**	**247**	*e*P	**P**	**00 59 43.2**	**-1.3**
QSPA	**South Pole Qui**	**65.83**	**180**	*e*P	**P**	**01 00 56.3**	**-0.5**
	5.2nm,0.7s,mb4.3						
MAW	**Mawson**	**77.39**	**200**	P	**P**	**01 02 04.0**	**-0.2**
	5.7nm,0.6s,mb4.2,baz=126,slow=6.2,SNR=30						
MAW	**Mawson**	**77.39**	**200**	*e*P	**P**	**01 02 03.6**	**-0.5**
	5.2nm,0.5s,mb4.3						
SNAA	**Sanae**	**84.31**	**179**	P	**P**	**01 02 38.2**	**-1.4**
	0.3nm,0.5s,mb3.1,baz=213,slow=13,SNR=13						
SNAA	**Sanae**	**84.31**	**179**	*e*P	**P**	**01 02 38.1**	**-1.6**
	0.8nm,0.4s,mb3.6						
NVAR	**Mina Array Bea**	**85.05**	**44**	P	**P**	**01 02 44.5**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=229,slow=9.6,SNR=3.6						
VNA1	**Neumayer--Stat**	**85.18**	**177**	*e*S	S	01 12 33.1	+0.6
PLCA	**Paso Flores**	**88.06**	**134**	P	**P**	**01 02 59.0**	**+0.7**
	1.0nm,0.6s,mb3.7,baz=194,slow=17,SNR=2.9						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**01 03 07.9**	**+2.0**
	3.2nm,0.9s,mb4.1,baz=138,slow=3.9,SNR=12						
TXAR	**Lajitas Array**	**90.67**	**58**	P	**P**	**01 03 11.4**	**+0.8**
	0.9nm,0.9s,mb3.7,baz=218,slow=5.8,SNR=7.1						
TXAR				PKKPbc		01 20 34.7	
	0.2nm,0.7s,baz=90,slow=1.8,SNR=3.5						
TXAR	**Lajitas Array**	**90.67**	**58**	P	**P**	**01 03 11.4**	**+0.8**
TXAR				PKKPbc		01 20 34.7	
ILAR	**Eielson Array**	**92.39**	**14**	P	**P**	**01 03 16.9**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=228,slow=5.1,SNR=8.5						
PDAR	**Pinedale Array**	**92.99**	**44**	P	**P**	**01 03 21.1**	**+0.2**
	0.1nm,0.6s,mb3.0,baz=256,slow=3.7,SNR=3.6						
MKAR	**Makanchi Array**	**112.35**	**313**	PKiKP		01 08 38.8	
	0.8nm,0.6s,baz=220,slow=1.7,SNR=8.8						
SUR	**Sutherland**	**120.25**	**200**	PKP	PKPdf	01 08 55.5	+0.6
	4.3nm,0.8s,baz=139,slow=8.1,SNR=6.0						
BVAR	**Borovoye Array**	**120.66**	**319**	PKP	PKPdf	01 08 55.0	-0.1
	2.1nm,0.4s,baz=150,slow=1.3,SNR=12						
ARU	**Arti**	**127.13**	**323**	*e*P	PKPdf	01 09 07.7	+0.3
ARCES	**ARCESS Array B**	**132.22**	**348**	PKP	PKPdf	01 09 16.6	-0.2
	2.2nm,0.7s,baz=50,slow=1.4,SNR=9.2						
TSUM	**Tsumeb**	**133.50**	**203**	PKP	PKPdf	01 09 21.9	+1.5
	1.0nm,0.5s,baz=170,slow=2.9,SNR=4.6						
TSUM	**Tsumeb**	**133.50**	**203**	*e*PKPdf	PKPdf	01 09 21.9	+1.4
KAF	**Kangasniemi**	**138.16**	**342**	*e*p	PKPdf	01 09 20.4	-7.5
FINES	**FINESS Array B**	**138.76**	**341**	PKhKP		01 09 19.8	
	3.2nm,1.1s,baz=90,slow=4.2,SNR=14						
FINES				PKP	PKPdf	01 09 30.1	+1.2
	1.6nm,0.4s,baz=124,slow=4.9,SNR=12						
FINES				SKP		01 12 17.2	
	1.1nm,0.5s,baz=90,slow=3.8,SNR=6.4						
FINES	**FINESS Array B**	**138.76**	**341**	PKP	PKPdf	01 09 19.8	-9.2
FINES				PKP	PKPdf	01 09 30.1	+1.2
FINES				SKP		01 12 17.2	
NOA	**NORSAR Array B**	**142.42**	**351**	PKhKP		01 09 32.5	
	8.4nm,1.2s,baz=16,slow=4.6,SNR=7.3						
NAO01	**NORSAR Array S**	**142.66**	**351**	*e*P	PKPdf	01 09 33.3	-2.5
HFS	**Hagfors**	**142.88**	**349**	PKhKP		01 09 33.8	
	12nm,0.4s,baz=63,slow=3.3,SNR=122						
AKASG	**Malin Array Be**	**145.24**	**327**	PKPbc	PKPbc	01 09 41.5	+0.1
	3.2nm,0.4s,baz=44,slow=4.3,SNR=31						
JMQS	**Jabal Moqyreh**	**147.60**	**286**	P	PKPdf	01 09 50.4	+5.3
BRTR	**Keskin Array B**	**147.74**	**307**	PKPbc	PKPdf	01 09 49.3	+4.3
	4.7nm,0.8s,baz=146,slow=5.4,SNR=12						
JMOS	**Jabal al Moall**	**148.27**	**287**	P	PKPdf	01 09 52.0	+5.9
BDAS	**Al Bad‘**	**148.28**	**285**	P	PKPdf	01 09 51.7	+5.5
HAQS	**Haql**	**148.43**	**286**	P	PKPdf	01 09 52.2	+5.8
CLL	**Collm**	**151.18**	**343**	⇓*i*PKP1	PKPdf	01 09 57.3	+7.3
CLL				*i* PKP2	PKPab	01 10 07.6	-1.1
KHC	**Kasperske Hory**	**152.96**	**340**	PKP2	PKPab	01 10 15.5	-0.8
GERES	**GERESS Array B**	**153.17**	**340**	PKPbc	PKPdf	01 10 01.7	+8.9
	0.7nm,0.5s,baz=25,slow=3.4,SNR=4.5						
GERES				PKPab	PKPab	01 10 16.8	-0.3
	0.5nm,0.4s,baz=37,slow=6.7,SNR=4.4						
DAVOX	**Davos**	**156.15**	**343**	PKPab	PKPab	01 10 29.7	-0.2
	2.8nm,0.6s,baz=244,slow=1.7,SNR=7.5						
ESDC	**Sonseca Array**	**164.28**	**11**	PKPab	PKPab	01 11 04.6	-0.7
	0.5nm,0.7s,baz=346,slow=6.1,SNR=4.6						

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*LDG **23** 00:53:46.4±0.1, 53.00N×85.20E, h10^{km}, Mb4.3/11, Error ellipse: s-maj=9.8km s-min=3.9km az=30.0*
*MOS **23** 00:53:47.1±1.8, 53.08N×85.41E, h11^{km}, mb3.9/5, Error ellipse: s-maj=14.2km s-min=9.0km az=99.6*
*IDC **23** 00:53:48.8±0.7, 53.02N×85.59E, h17^{km}±4^{km}, mb3.9/9, mb1 4.0/12, mb1mx3.9/23, ML4.2/3, Error ellipse: s-maj=12.0km s-min=10.9km az=43.0*
*NEIC **23** 00:53:48.7±0.4, 53.07N×85.60E, mb4.3/10, Error ellipse: s-maj=9.3km s-min=6.9km az=206.0*
*NNC **23** 00:53:55.0±4.8, 52.87N×85.05E, h25^{km}±29^{km}, mpv4.0, Error ellipse: s-maj=34.9km s-min=15.7km az=58.0*
ISC 23 00:53:47.5±0.3**, 53.09N**±0.03×**85.36E**±0.04**, h16**^{km}**, h16**^{km}±1.1^{km}**:pP-P, n61,** σ**1**^{s}**16**/73**, mb4.2**/19**, 9C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELT	**Yel'tsovka**	**0.55**	**72**	*i* PG	**Pb**	**00 53 58.5**	**+0.2**
ELT				*e*S	**Sb**	**00 54 05.4**	**-0.3**
TASR	**Tashtagol**	**1.56**	**101**	*e*P*	**Pb**	**00 54 14.3**	**-1.2**
TASR				*e*		00 54 16.2	
ARTR	**Artybash**	**1.75**	**137**	*e*PN	**Pn**	**00 54 17.7**	**+0.1**
ARTR				*e*S	**Sn**	**00 54 38.0**	**-1.7**
ELDR	**Elanda**	**1.93**	**166**	*e*PN	**Pn**	**00 54 21.2**	**+1.0**
ELDR				*e*S	**Sn**	**00 54 44.1**	**-0.2**
NVS	**Novosibirsk**	**2.15**	**325**	⇑*i*PN	**Pn**	**00 54 30.2**	**+6.8**
NVS				*i*		00 54 59.5	
UKR	**Ust'-Kan**	**2.19**	**190**	*e*PN	**Pn**	**00 54 26.0**	**+2.1**
UKR				*e*		00 54 27.9	
UKR				*e*S	**Sn**	**00 54 52.6**	**+1.7**
AKAR	**Aktash**	**3.11**	**152**	*e*PN	**Pn**	**00 54 38.1**	**+1.1**
AKAR				*e*S	**Sn**	**00 55 21.0**	**+6.8**
SHRR	**Shira**	**3.18**	**62**	*e*PN	**Pn**	**00 54 39.9**	**+1.9**
SHRR				*e*		00 54 43.7	
SHRR				*e*		00 55 25.1	
SHRR				pmax	pmax		
	comp=Z,124nm,0.6s						
SHRR				pmax	pmax		
	comp=Z,2µm,0.7s						
SHRR				smax			
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**4.81**	**243**	⇑Pn	**Pn**	**00 55 03.7**	**+2.6**
	comp=Z,30nm,0.6s,baz=264,slow=5.9,SNR=83						
KURK				⇑Lg		00 56 18.1	
	comp=Z,119nm,0.7s,baz=329,slow=16,SNR=12						
KURK	**Kurchatov**	**4.81**	**243**	*i* PN	**Pn**	**00 55 04.1**	**+3.0**
KURK				pmax	pmax		
	comp=Z,30nm,0.6s						
MK31	**Makanchi Array**	**6.61**	**199**	⇑Pn	**Pn**	**00 55 27.3**	**+0.8**
	comp=Z,8.5nm,0.2s,baz=24,slow=13,SNR=556						
MK31				⇑Sn	**Sn**	**00 56 38.4**	**-3.9**
	comp=Z,15nm,0.3s,baz=27,slow=27,SNR=5.8						
MK31				⇓Lg		00 57 14.2	
	comp=Z,132nm,0.6s,baz=25,slow=30,SNR=12						
MKAR	**Makanchi Array**	**6.61**	**199**	Pn	**Pn**	**00 55 27.1**	**+0.5**
	comp=Z,29nm,0.3s,baz=23,slow=13,SNR=295						
MKAR				Sn	**Sn**	**00 56 39.0**	**-3.3**
	comp=Z,27nm,0.3s,baz=73,slow=28,SNR=9.6						
MKAR				Lg		00 57 14.0	
	comp=Z,42nm,0.3s,baz=25,slow=31,SNR=14						
MKAR	**Makanchi Array**	**6.61**	**199**	Pn	**Pn**	**00 55 27.1**	**+0.5**
MKAR				Sn	**Sn**	**00 56 39.0**	**-3.3**
MKAR				Lg		00 57 14.0	
VOSK	**Vostochnaya**	**8.70**	**273**	⇓Pn	**P**	**00 55 56.1**	**+0.3**
	comp=Z,3.8nm,0.5s						
VOSK				⇑Sn	**Sn**	**00 57 33.0**	**-1.6**
	comp=Z,11nm,0.5s						
BVA0	**Borovoye Array**	**9.02**	**276**	⇓Pn	**P**	**00 55 59.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=89,slow=23,SNR=80						
BVA0				⇑Sn	**Sn**	**00 57 40.5**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=85,slow=25,SNR=3.7						
BVAR	**Borovoye Array**	**9.02**	**276**	Pn	**P**	**00 56 00.5**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=91,slow=14,SNR=9.9						
BVAR				Sn	**Sn**	**00 57 36.5**	**-6.0**
	comp=Z,7.5nm,0.3s,baz=78,slow=25,SNR=11						
BRVK	**Borovoye**	**9.08**	**276**	*e*Pn	**P**	**00 56 00.8**	**-0.1**
	comp=Z,1.5nm,0.3s						
BRVK				*e*Sn	**Sn**	**00 57 39.1**	**-4.9**
ZRNK	**Zerenda**	**9.86**	**276**	⇓Pn	**P**	**00 56 11.5**	**-0.2**
	comp=Z,4.2nm,0.6s						
ZRNK				⇓Sn	**Sn**	**00 58 01.6**	**-1.4**
	comp=Z,9.7nm,0.6s						
AAK	**Ala-Archa**	**12.74**	**219**	*e*Pn	**P**	**00 56 48.2**	**-2.6**
KK31	**Karatay Array**	**14.06**	**231**	⇑P	**P**	**00 57 08.5**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=39,slow=13,SNR=59						
SONM	**Songino Array**	**14.37**	**103**	Pn	**P**	**00 57 11.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=326,slow=4.5,SNR=3.8						
SONM				Lg		01 01 18.8	
	comp=Z,0.1nm,0.3s,baz=291,slow=28,SNR=6.8						
ARU	**Arti**	**15.78**	**293**	*e*P	**P**	**00 57 28.2**	**-2.2**
ARU				pmax	pmax		
	comp=Z,11nm,2.4s						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU	**Arti**	**15.78**	**293**	*e*Pn	**P**	**00 57 32.7**	**+2.2**
AB31	**Akbulak array**	**16.36**	**267**	⇑P	**P**	**00 57 40.7**	**+2.8**
	comp=Z,1.3nm,0.4s,baz=66,slow=9.5,SNR=4.3						
AB31	**Akbulak array**	**16.36**	**267**	*i* P	**P**	**00 57 35.7**	**-2.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**28.22**	**294**	P	**P**	**00 59 32.0**	**-9.2**
FINES	**FINESS Array B**	**32.05**	**309**	P	**P**	**01 00 15.8**	**+0.6**
	comp=Z,1.4nm,0.7s,mb3.9,baz=90,slow=7.6,SNR=9.8						
FINES				pP	pP	01 00 20.7	+0.9
	comp=Z,1.2nm,0.4s,baz=90,slow=9.5,SNR=3.0						
FINES	**FINESS Array B**	**32.05**	**309**	P	**P**	**01 00 15.8**	**+0.6**
FINES				*PP	pP	01 00 20.7	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.4s						
FINES	**FINESS Array B**	**32.05**	**309**	P	**P**	**01 00 15.8**	**+0.6**
FINES				pP	pP	01 00 20.7	+0.9
HFS	**Hagfors**	**38.23**	**310**	P	**P**	**01 01 09.5**	**+1.5**
	comp=N,4.5nm,0.8s,mb4.3,baz=82,slow=10,SNR=9.2						
HFS				pP	pP	01 01 13.5	+0.9
	comp=N,4.9nm,0.8s,baz=45,slow=6.1,SNR=4.2						
HFS	**Hagfors**	**38.23**	**310**	P	**P**	**01 01 09.5**	**+1.5**
HFS				*PP	pP	01 01 13.5	+0.8
HFS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS				pmax	pmax		
	comp=N,5.0nm,0.8s						
NB2	**NORSAR Subarra**	**39.01**	**312**	P	**P**	**01 01 19.6**	**+5.1**

	comp=N,0.5nm,0.5s,mb3.5,baz=93,slow=4.6						
NOA	NORSAR Array B	39.01	312	P	P	01 01 15.0	+0.5
	comp=N,0.6nm,0.8s,mb3.4,baz=69,slow=7.7,SNR=2.7						
NOA				pP	pP	01 01 19.4	+0.2
	comp=N,0.6nm,0.5s,baz=85,slow=5.4,SNR=2.9						
NOA	NORSAR Array B	39.01	312	P	P	01 01 15.0	+0.5
NOA				*PP	pP	01 01 19.4	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=N,1.0nm,0.5s						
NOA	NORSAR Array B	39.01	312	P	P	01 01 15.0	+0.5
NOA				pP	pP	01 01 19.4	+0.2
CLL	Collm	42.64	298	⇓P	P	01 01 45.5	+1.2
	comp=N,logA/T=1.0,mb4.5						
CLL				i *PP	pP	01 01 49.7	+0.7
GERES	GERESS Array B	43.60	295	P	P	01 01 53.5	+1.3
	comp=N,0.5nm,0.7s,mb3.4,baz=59,slow=7.8,SNR=3.5						
GERES	GERESS Array B	43.60	295	P	P	01 01 53.5	+1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CDF	Champ du Feu	47.33	298	eP	P	01 02 22.4	+0.5
HINF	Hinteralfeld	47.91	297	eP	P	01 02 27.0	+0.5
MEZF	Maizieres J’vi	48.46	299	eP	P	01 02 31.2	+0.5
LPL	La Plagne	49.40	295	eP	P	01 02 38.4	+0.4
	comp=Z,4.0nm,0.6s,mb4.3						
LPG	La Plagne	49.40	295	eP	P	01 02 38.4	+0.4
	comp=Z,3.1nm,0.5s,mb4.3						
MBDF	Montbardon	49.87	294	eP	P	01 02 43.3	+1.6
	comp=Z,13nm,0.8s,mb4.7						
SSF	Saint Saulge	50.17	298	eP	P	01 02 43.5	-0.4
	comp=Z,2.2nm,0.5s,mb4.2						
ORIF	Oris-en-Rattie	50.24	295	eP	P	01 02 44.0	-0.5
	comp=Z,6.0nm,0.6s,mb4.5						
FRF	La Foret Royal	50.69	293	eP	P	01 02 47.6	-0.3
VIVF	Saint-Julien-l	50.94	295	eP	P	01 02 49.8	0.0
	comp=Z,3.1nm,0.6s,mb4.1						
TCF	Toulx Ste Croi	51.35	298	eP	P	01 02 52.8	-0.1
MFF	Saint Martin d	52.39	300	eP	P	01 03 00.8	+0.1
	comp=Z,3.2nm,0.4s,mb4.3						
LFF	La Frestale	53.01	298	eP	P	01 03 05.7	+0.3
	comp=Z,6.0nm,0.6s,mb4.4						
ETSF	Etsaut	55.07	297	eP	P	01 03 20.5	-0.1
	comp=Z,2.9nm,0.7s,mb4.1						
ILAR	Eielson Array	55.77	24	P	P	01 03 24.1	-1.2
	comp=Z,1.1nm,0.6s,mb4.0,baz=322,slow=5.0,SNR=16						
ILAR				pP	pP	01 03 29.8	-0.4
	comp=Z,1.9nm,0.8s,baz=317,slow=4.8,SNR=13						
ILAR	Eielson Array	55.77	24	P	P	01 03 24.1	-1.2
ILAR				*PP	pP	01 03 29.8	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
ILAR	Eielson Array	55.77	24	P	P	01 03 24.1	-1.2
ILAR				pP	pP	01 03 29.8	-0.4
ESDC	Sonseca Array	59.16	296	P	P	01 03 49.2	-0.4
	comp=N,2.2nm,1.1s,mb4.1,baz=41,slow=8.9,SNR=3.4						
ESDC				pP	pP	01 03 54.2	-0.3
	comp=N,0.7nm,0.6s,baz=37,slow=7.7,SNR=3.8						
ULM	Lac du Bonnet	77.03	1	pP	pP	01 05 44.9	-0.7
	comp=N,1.8nm,0.6s,baz=28,slow=7.6,SNR=2.9						
FITZ	Fitzroy Crossi	78.97	141	P	P	01 05 50.1	-1.9
	comp=N,1.0nm,0.4s,mb4.1,baz=12,slow=3.6,SNR=5.6						
WRA	Warramunga Arr	84.15	134	P	P	01 06 17.0	-2.0
	comp=N,0.6nm,0.8s,mb3.8,baz=341,slow=5.1,SNR=5.3						
WRA	Warramunga Arr	84.15	134	P	P	01 06 17.0	-2.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	87.27	137	P	P	01 06 33.0	-1.4
	comp=Z,1.1nm,0.6s,mb4.3,baz=334,slow=4.7,SNR=7.6						

MAN ***23*** *00:55:26.9, 13.69N×120.54E, h88^{km}, mb4.3, ML3.1, MS2.9*

IDC ***23*** *00:55:26.8±0.8, 13.76N×121.08E, h104^{km}±8^{km}, mb3.6/3, mb1 3.8/3, mb1mx3.3/18, Error ellipse: s-maj=22.7km s-min=12.0km az=158.0*

ISC 23 00:55:25.7±0.6**, 13.70N**±0.04×**120.56E**±0.07**, h110**^{km}±5^{km}**, n16,** $\sigma 0^{s}58$/23**, mb3.9**/3**, 4C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.31	277	eP	P	00 55 41.6	0.0
LUBP				eS	S	00 55 52.6	-0.8
TGY	Tagaytay City	0.54	42	⇑iP	P	00 55 44.0	+1.1
TGY				i S	S	00 55 55.6	-0.3
TGY	Tagaytay City	0.54	42	P	P	00 55 43.4	+0.5
	1µm,0.3s,baz=262,slow=3.2,SNR=31						
TGY				S	S	00 55 55.5	-0.4
	2µm,0.3s,baz=158,slow=23,SNR=27						
LBPH	Los Banos	0.75	53	⇑iP	P	00 55 45.0	+0.3
ARP	Angono	1.01	34	⇑iP	P	00 55 46.7	-0.6
LQP	Lukban	1.04	66	⇓iP	P	00 55 47.7	+0.2
NBP	Mount Natib	1.05	352	⇓iP	P	00 55 47.8	+0.2
QVPH	Quezon City--P	1.07	27	⇑iP	P	00 55 48.0	+0.2
QVPH				eS	S	00 56 04.0	-0.4
BOAC	Boac	1.27	101	eP	P	00 55 50.2	+0.1
BOAC				eS	S	00 56 08.8	+0.2
SJMP	San Jose	1.34	156	eP	P	00 55 51.8	+0.8
SJMP				eS	S	00 56 09.8	-0.3
BUSP	Coron	1.72	192	eP	P	00 55 56.1	+0.5
BUSP				eS	S	00 56 17.7	-0.3
ENPP	El Nido	2.71	204	eP	P	00 56 09.4	+0.7
CUYO	Cuyo Island	2.86	171	eP	P	00 56 10.8	+0.1
SONM	Songino Array	36.02	344	P	P	01 02 18.6	+0.6
	0.8nm,0.4s,mb4.0,baz=160,slow=12,SNR=5.0						
WRA	Warramunga Arr	36.07	158	P	P	01 02 16.9	-1.7
	1.2nm,0.5s,mb4.0,baz=332,slow=10,SNR=6.9						
ASAR	Alice Springs	39.36	161	P	P	01 02 45.6	-0.4
	0.6nm,0.4s,mb3.8,baz=336,slow=7.3,SNR=7.1						

IDC ***23*** *00:57:12.0±0.6, 24.87S×13.62W, mb4.3/18, mb1 4.4/18, mb1mx4.4/21, MS4.7/20, Ms1 4.7/20, ms1mx4.6/24, Error ellipse: s-maj=18.2km s-min=15.0km az=145.0*

BJI ***23*** *00:57:13.0, 25.00S×13.70W, h10^{km}, mB5.3, Ms5.4, Msz5.1*

MOS ***23*** *00:57:13.8±2.4, 25.25S×13.86W, h10^{km}, mb4.6/13, MS4.6/6, Error ellipse: s-maj=23.5km s-min=14.3km az=64.1*

HRVD ***23*** *00:57:14.0±0.2, 24.97S×13.58W, h12^{km}, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s56,c102;Mantle waves: s65,c134; Half duration: $1^{s}3$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.03; $M_{\theta\theta}$-0.67±.03; $M_{\phi\phi}$0.86±.03; $M_{r\theta}$0.27±.07; $M_{\theta\phi}$1.37±.02; $M_{\phi r}$0.35±.07; Best double couple: $M_0$1.62×10^{17} NP1: ϕ_s345°,δ79°,λ173°. NP2:ϕ_s76°,δ83°,λ11°. Principal axes: T 1.76, Plg13°, Azm301°; N -.29, Plg77°, Azm109°; P -1.47, Plg2°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***23*** *00:57:14.0, 25.02S×13.72W, h10^{km}, MB5.0, MS4.9*

NEIC ***23*** *00:57:14.0±0.3, 25.02S×13.72W, h10^{km}, mb5.0/47, MS4.9/104, MW5.5, Error ellipse: s-maj=11.6km s-min=8.4km az=126.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$0.91; $M_{r\theta}$0.04; $M_{\theta\phi}$1.71; $M_{\phi r}$0.34; Best double couple: $M_0$1.9×10^{17} NP1:ϕ_s77°,δ81°,λ2°. NP2:ϕ_s347°,δ88°, λ171°. Principal axes: T 2.02, Plg8°, Azm302°; N -.16, Plg80°, Azm154°; P -1.86, Plg5°, Azm32°;*

ISC 23 00:57:12.8±0.3**, 24.93S**±0.05×**13.82W**±0.08**, h10**^{km}**, (h10**^{km}±2.6^{km}**:pP-P), n227,** $\sigma 1^{s}25$/118**, mb4.8**/59**, MS4.9**/120**, 7C-6D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	Riachuelo	28.44	308	PFAKE		01 03 20.0	+10
RCBR				LR	LR		
	comp=Z,2µm,22.0s,MS4.6						
TSUM	Tsumeb	29.62	85	P	P	01 03 16.2	-4.4
	comp=Z,4.5nm,0.8s,mb4.2,baz=236,slow=11,SNR=8.6						
TSUM				LR	LR	01 12 38.4	
	comp=Z,1µm,20.5s,MS4.5,baz=246,slow=32						
TSUM	Tsumeb	29.62	85	eP	P	01 03 15.7	-4.9
	comp=Z,4.7nm,0.8s,mb4.3						
TSUM				LR	LR		
	comp=Z,1µm,22.0s,MS4.5						
SUR	Sutherland	31.19	112	P	P	01 03 31.0	-3.4
	comp=Z,7.2nm,0.9s,mb4.5,baz=281,slow=7.3,SNR=4.3						
SUR				LR	LR	01 13 37.2	
	comp=Z,2µm,18.0s,MS4.8,baz=86,slow=32						
SUR	Sutherland	31.19	112	eP	P	01 03 30.7	-3.7
SUR				LR	LR		
	comp=Z,647nm,20.0s,MS4.3						
LIC	Lamto	32.13	17	eP	P	01 03 41.6	-1.2
	comp=Z,35nm,1.1s,mb4.8						
LIC	Lamto	32.13	17	eP	P	01 03 42.1	-0.7
	comp=Z,70nm,1.4s,mb5.3						
KIC	Kosan Boka	32.33	17	eP	P	01 03 41.7	-2.9
	comp=Z,217nm,1.7s,mb5.7						
TIC	Toumodi	32.53	16	eP	P	01 03 44.3	-2.1
	comp=Z,108nm,1.4s,mb5.6						
DBIC	Dimbokro	32.60	17	P	P	01 03 43.9	-3.1
	comp=Z,6.5nm,1.0s,mb4.5,baz=156,slow=12,SNR=3.1						
DBIC				LR	LR	01 13 46.8	
	comp=Z,2µm,19.1s,MS4.8,baz=176,slow=31						
DBIC	Dimbokro	32.60	17	eP	P	01 03 43.6	-3.3
	comp=Z,12nm,1.1s,mb4.7						
DBIC				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
BDFB	Brasilia	33.30	280	P	P	01 03 52.7	-0.3
	comp=Z,8.3nm,0.7s,mb4.8,baz=112,slow=7.5,SNR=18						
BDFB				LR	LR	01 15 15.6	
	comp=Z,3µm,19.7s,MS5.0,baz=114,slow=32						
CPUP	Villa Florida	39.12	258	P	P	01 04 43.2	+0.9
	comp=Z,7.6nm,1.2s,mb4.3,baz=114,slow=6.7,SNR=5.9						
CPUP				LR	LR	01 17 34.1	
	comp=Z,796nm,20.7s,MS4.5,baz=123,slow=31						
CPUP	Villa Florida	39.12	258	eP	P	01 04 43.0	+0.7
	comp=Z,26nm,1.4s,mb4.8						
CPUP				LR	LR		
	comp=Z,863nm,21.0s,MS4.6						
LSZ	Lusaka	40.46	84	eP	P	01 04 50.9	-2.6
	comp=Z,17nm,1.5s,mb4.5						
LSZ				LR	LR		
	comp=Z,2µm,22.0s,MS4.9						
TRQA	Tornquist	42.66	240	eP	P	01 05 11.7	+0.4
	comp=Z,24nm,1.1s,mb4.8						
TRQA				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
EFI	East Falkland	42.86	220	PFAKE		01 05 20.0	+7.2
EFI				LR	LR		
	comp=Z,282nm,21.0s,MS4.1						
VNA1	Neumayer--Stat	45.86	177	e	P	01 05 41.9	+5.2
VNA1	Neumayer--Stat	45.86	177	e	P	01 05 43.7	+7.0
VNA1	Neumayer--Stat	45.86	177	⇑iP	P	01 05 39.0	+2.4
VNA1				e	pP	01 05 41.9	+2.2
VNA1				e	pP	01 05 43.7	+4.0
VNA1				e		01 07 10.9	
VNA1				e		01 07 30.4	
VNA2	Neumayer--Watz	46.17	177	e	P	01 05 43.7	+4.6
VNA2	Neumayer--Watz	46.17	177	P	P	01 05 41.2	+2.1
VNA2				e	pP	01 05 43.7	+1.6
SNAA	Sanae	47.19	175	e	P	01 05 49.1	+2.0
SNAA	Sanae	47.19	175	e	P	01 05 50.7	+3.6
SNAA	Sanae	47.19	175	eS	S	01 12 39.7	+0.8
SNAA	Sanae	47.19	175	P	P	01 05 47.1	0.0
	comp=Z,1.2nm,0.8s,mb3.9,baz=338,slow=8.7,SNR=8.6						
SNAA	Sanae	47.19	175	⇑iP	P	01 05 46.1	-1.0
SNAA				e	pP	01 05 49.1	-1.0
SNAA				e	pP	01 05 50.7	+0.6
SNAA				e		01 07 18.0	
SNAA				e		01 07 37.5	
SNAA				eS	S	01 12 39.7	+0.8
MAIT	Maitri	48.18	169	eP	P	01 05 54.3	-0.6
MBAR	Mbarara	49.37	68	PFAKE		01 06 20.0	+15
MBAR				LR	LR		
	comp=Z,158nm,21.0s,MS4.0						
PLCA	Paso Flores	49.38	237	P	P	01 06 05.6	+1.0
	comp=Z,5.0nm,1.0s,mb4.5,baz=115,slow=9.0,SNR=8.3						
PLCA				LR	LR	01 22 53.0	
	comp=Z,820nm,21.7s,MS4.7,baz=96,slow=31						
PLCA	Paso Flores	49.38	237	eP	P	01 06 04.8	+0.1
	comp=Z,12nm,0.9s,mb4.9						
PLCA				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
SAML	Samuel	49.53	280	eP	P	01 06 06.1	0.0
	comp=Z,7.6nm,0.6s,mb4.9						
SAML				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
LVC	Limon Verde	50.18	261	P	P	01 06 10.8	-0.1
	comp=Z,2.5nm,0.7s,mb4.3,baz=74,slow=5.7,SNR=4.7						
LVC	Limon Verde	50.18	261	eP	P	01 06 10.2	-0.7
	comp=Z,6.1nm,0.9s,mb4.6						
LVC				LR	LR		
	comp=Z,478nm,20.0s,MS4.5						
PMSA	Palmer Station	51.12	205	eP	P	01 06 16.6	-1.0
PMSA				LR	LR		
	comp=Z,926nm,20.0s,MS4.8						
LPAZ	La Paz	51.28	269	P	P	01 06 18.5	-0.8
	comp=Z,2.2nm,0.3s,mb4.6,baz=73,slow=0.2,SNR=6.4						
LPAZ				LR	LR	01 25 40.3	
	comp=Z,884nm,20.8s,MS4.8,baz=277,slow=33						
LPAZ	La Paz	51.28	269	eP	P	01 06 18.7	-0.7
	comp=Z,12nm,1.2s,mb4.7						
LPAZ				LR	LR		
	comp=Z,925nm,21.0s,MS4.8						
SYO	Syowa Base	54.13	159	⇓P	P	01 06 38.4	-1.5
SYO	Syowa Base	54.13	159	⇓pP	pP	01 06 40.5	-2.4
SYO	Syowa Base	54.13	159	⇓sP	sP	01 06 43.7	-0.4
KMBO	Kilima Mbogo	54.65	72	PFAKE		01 07 00.0	+15
KMBO				LR	LR		
	comp=Z,723nm,19.0s,MS4.8						
NNA	Nana	60.69	270	PFAKE		01 07 40.0	+13
NNA				LR	LR		
	comp=Z,195nm,21.0s,MS4.2						
MAW	Mawson	62.15	155	eP	P	01 07 35.0	-1.2
	comp=Z,12nm,0.8s,mb5.1						
MAW	Mawson	62.15	155	P	P	01 07 33.0	-3.2
	comp=Z,6.4nm,1.0s,mb4.7,baz=282,slow=14,SNR=8.7						
MAW				LR	LR	01 27 51.0	
	comp=Z,619nm,21.8s,MS4.7,baz=283,slow=30						
SDV	Santo Domingo	64.74	294	eP	P	01 07 52.4	-1.7
	comp=Z,4.0nm,0.6s,mb4.6						
SDV				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
ESDC	Sonseca Array	64.92	8	P	P	01 07 52.3	-2.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=172,slow=9.1,SNR=2.6						
ESDC				LR	LR	01 34 51.6	
	comp=Z,266nm,18.2s,MS4.5,baz=195,slow=35						
ESLA	Sonseca Array	64.92	8	PFAKE		01 08 10.0	+15
ESLA				LR	LR		
	comp=Z,4µm,22.0s,MS5.6						
QSPA	South Pole Qui	65.29	180	eP	P	01 07 56.5	0.0
	comp=Z,19nm,1.0s,mb5.1						
ROSC	El Rosal	65.79	288	LR	LR	01 36 06.6	
	comp=Z,2µm,18.2s,MS5.4,baz=47,slow=35						
SJG	San Juan	66.53	305	PFAKE		01 08 20.0	+15
SJG				LR	LR		
	comp=Z,539nm,21.0s,MS4.7						
MGP	Maguayo	67.17	304	eP	P	01 08 07.4	-2.2
OTAV	Otavalo	67.21	281	PFAKE		01 08 20.0	+10
OTAV				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
VAE	Valguarnera	67.52	24	LR	LR	01 33 31.7	
	comp=Z,716nm,21.5s,MS4.9,baz=283,slow=32						
ETSF	Etsaut	68.59	10	eP	P	01 08 17.9	-0.1
	comp=Z,18nm,1.0s,mb4.7						
SJPF	Ste Jean	68.69	10	eP	P	01 08 18.3	-0.3
	comp=Z,22nm,1.0s,mb4.8						
FRF	La Foret Royal	70.70	16	eP	P	01 08 30.9	0.0
	comp=Z,44nm,1.3s,mb4.9						
LFF	La Frestale	70.79	11	eP	P	01 08 31.7	+0.3
	comp=Z,45nm,1.1s,mb5.0						
SMRF	Simiane la Rot	70.84	15	eP	P	01 08 32.2	+0.5
	comp=Z,26nm,1.4s,mb4.7						
CAF	Calviac	71.01	12	eP	P	01 08 33.4	+0.6
	comp=Z,46nm,1.4s,mb4.9						
RJF	Les Rejaudoux	71.28	11	eP	P	01 08 34.0	-0.4
RJF				eR			
	comp=Z,971nm,19.8s						
VIVF	Saint-Julien-l	71.47	14	eP	P	01 08 36.7	+1.1
	comp=Z,43nm,1.4s,mb4.9						
FIN	Finale Ligure	71.70	17	eP	P	01 08 38.9	+1.9
ORIF	Oris-en-Rattie	71.80	15	eP	P	01 08 37.8	+0.3
	comp=Z,24nm,1.1s,mb4.7						
ORIF				eR			
	comp=Z,2µm,21.2s						
MBDF	Montbardon	71.83	15	eP	P	01 08 39.2	+1.5
	comp=Z,18nm,0.9s,mb4.7						
CSNT	Castellina Chi	71.87	19	eP	P	01 08 39.2	+1.2
MFF	Saint Martin d	72.26	10	eP	P	01 08 40.5	+0.3
	comp=Z,97nm,1.6s,mb5.2						
TCF	Toulx Ste Croi	72.36	12	eP	P	01 08 41.9	+1.1
	comp=Z,17nm,1.0s,mb4.6						
LPG	La Plagne	72.55	15	eP	P	01 08 42.1	+0.1
	comp=Z,26nm,1.0s,mb4.8						
LPL	La Plagne	72.56	15	eP	P	01 08 42.1	+0.1
	comp=Z,24nm,1.0s,mb4.8						
BGF	Bois d’Agland	72.73	12	eP	P	01 08 43.2	+0.2
	comp=Z,22nm,1.1s,mb4.7						
SMF	Signal de Mont	73.01	13	eP	P	01 08 46.1	+1.5
AVF	Avril sur Loir	73.05	12	eP	P	01 08 45.3	+0.4
	comp=Z,53nm,1.5s,mb4.9						
SSF	Saint Saulge	73.34	12	eP	P	01 08 46.2	-0.4
	comp=Z,15nm,0.9s,mb4.6						
VAI	Varese	73.39	16	eP	P	01 08 51.0	+4.2
AFFS	‘Afif	73.41	53	P	P	01 08 44.4	-3.0
CABF	La Chapelle	73.45	14	eP	P	01 08 47.8	+0.6
	comp=Z,114nm,1.6s,mb5.2						
SKO	Skopje	74.12	27	i P	P	01 08 54.0	+2.8
DAVOX	Davos	74.52	17	P	P	01 08 54.5	+1.1
	comp=Z,7.2nm,1.0s,mb4.6,baz=202,slow=3.4,SNR=11						
ARSS	Ar Rass	74.77	52	P	P	01 08 54.7	-0.5
HAU	Haudompre	74.83	14	eP	P	01 08 55.6	+0.5
HAU				eR			
	comp=Z,562nm,23.0s						
BBSR	BB Station	74.84	317	PFAKE		01 09 10.0	+14
BBSR				LR	LR		
	comp=Z,254nm,20.0s,MS4.5						
DAVA	Damuels	74.99	16	⇑iP	P	01 08 52.3	-3.8
	comp=Z,15nm,1.0s,mb4.9						
MEZF	Maizieres J’vi	75.03	13	eP	P	01 08 56.5	+0.2
MZLS	Mizel	75.08	54	P	P	01 09 00.3	+3.2
CDF	Champ du Feu	75.42	14	eP	P	01 08 59.2	+0.7
WTTA	Wattenberg	75.44	18	⇓iP	P	01 08 56.9	-1.8
	comp=Z,15nm,1.2s,mb4.8						
KBA	Koelnbreinsper	75.75	19	⇑iP	P	01 09 02.3	+1.8
	comp=Z,14nm,1.2s,mb4.8						
BAIF	Baives	76.35	12	eP	P	01 09 02.8	-1.0
	comp=Z,43nm,1.3s,mb4.9						
ARSA	Arzberg	76.57	20	⇑iP	P	01 09 05.5	+0.5
	comp=Z,12nm,0.9s,mb4.8						
MOA	Molln	76.72	19	⇑iP	P	01 09 04.5	-1.4
	comp=Z,6.8nm,1.1s,mb4.5						
PAYG	Puerto Ayora	77.44	275	PFAKE		01 09 20.0	+9.4
PAYG				LR	LR		
	comp=Z,808nm,20.0s,MS5.0						
SBA	Scott Base	77.45	180	eP	P	01 09 10.1	+0.8
	comp=Z,19nm,1.4s,mb4.8						
SBA				LR	LR		
	comp=Z,653nm,19.0s,MS5.0						
GERES	GERESS Array B	77.45	18	P	P	01 09 09.4	-0.5
	comp=Z,1.5nm,0.9s,mb3.9,baz=219,slow=8.5,SNR=10						
GERES	GERESS Array B	77.45	18	P	P	01 09 09.4	-0.5
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GRA1	Grafenberg Arr	77.56	16	eP	P	01 09 16.0	+5.5
	comp=Z,12nm,1.2s,mb4.7						
GRA1				eS	S	01 19 02.0	+1.6
GRA1				eSS	SS	01 24 01.5	-1.2
GRA1				LR	LR		
	comp=Z,500nm,22.0s,MS4.8						
GRF	Grafenberg Arr	77.56	16	eP	P	01 09 16.0	+5.5
GRF				eS	S	01 19 02.0	+1.6
GRF				eSS	SS	01 24 01.5	-1.2
GRF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
JTS	JuntasAbangare	77.61	288	LR	LR	01 41 04.3	
	comp=Z,731nm,21.4s,MS5.0,baz=273,slow=34						
JTS	JuntasAbangare	77.61	288	PFAKE		01 09 20.0	+8.5
JTS				LR	LR		
	comp=Z,191nm,19.0s,MS4.4						
KHC	Kasperske Hory	77.68	18	P	P	01 09 15.5	+4.4
KHC				e		01 09 29.0	
VNDA	Vanda	77.75	179	P	P	01 09 12.6	+1.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=243,slow=3.1,SNR=4.7						
VNDA				LR	LR	01 39 30.7	
	comp=Z,359nm,18.2s,MS4.7,baz=178,slow=33						
VNDA	Vanda	77.75	179	eP	P	01 09 10.9	-0.1
	comp=Z,22nm,1.8s,mb4.8						
VNDA				LR	LR		
	comp=Z,530nm,19.0s,MS4.9						
BRTR	Keskin Array B	78.08	36	P	P	01 09 12.6	-0.9
	comp=Z,0.9nm,0.8s,mb3.8,baz=192,slow=7.2,SNR=6.0						
BRTR	Keskin Array B	78.08	36	P	P	01 09 12.6	-0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NKC	Novy Kostel	78.37	17	LM		01 42 00.0	
	comp=Z,0.4nm,18.0s						
MOX	Moxa	78.53	16	eP	P	01 09 20.0	+4.2
MOX				pP	pP	01 09 30.0	+11
MOX	Moxa	78.53	16	PFAKE		01 09 30.0	+14
MOX				LR	LR		
	comp=Z,300nm,21.0s,MS4.6						
PRU	Pruhonice	78.72	18	eP	P	01 09 21.2	+4.3
PRU				i		01 09 30.6	
PRU				eS	S	01 19 17.9	+5.0
PRU				LM		01 42 10.0	
VYHS	Vyhne	78.73	21	eP	P	01 09 21.6	+4.7
VYHS				e		01 09 30.3	
VYHS				e		01 09 35.2	
MLR	Muntele Rosu	78.87	27	LR	LR	01 39 34.4	
	comp=Z,125nm,20.8s,MS4.2,baz=221,slow=32						
PVCC	Panska Ves	79.22	18	eS	S	01 19 22.5	+4.3
PVCC				LM		01 42 00.0	
	comp=Z,0.6nm,19.2s						
BRG	Berggiesshubel	79.36	17	eP	P	01 09 25.7	+5.4
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRG	Berggiesshubel	79.36	17	eP	P	01 09 25.7	+5.4
	comp=Z,4.9nm,0.9s,mb4.4						
MORC	Moravsky Berou	79.43	20	eP	P	01 09 16.2	-4.5
CLL	Collm	79.50	17	eP	P	01 09 24.0	+2.9
CLL				e		01 09 32.0	
CLL				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.8						
DPC	Dobruska-Polom	79.56	19	LM		01 41 40.0	
	comp=Z,0.5nm,21.9s						
OKC	Ostrava-Krasne	79.67	20	eP	P	01 09 22.9	+0.9
OKC				e		01 18 49.0	
OKC				LM		01 41 50.0	
	comp=Z,0.6nm,21.3s						
OKC	Ostrava-Krasne	79.67	20	eP	P	01 09 22.9	+0.9
OKC				MLR	MLR		
	comp=Z,600nm,21.3s,MS4.9						
CASY	Casey	79.86	160	eP	P	01 09 26.4	+3.7
CASY				LR	LR		
	comp=Z,484nm,20.0s,MS4.8						
KSP	Ksiaz	79.99	19	⇑eP	P	01 09 26.5	+2.8
KSP				e	pP	01 09 28.3	+1.4
KSP				ePP	PP	01 12 27.5	+0.4
KSP				eS	S	01 19 29.0	+2.7
KSP				eSS	SS	01 24 35.0	-4.2
KSP				LR	LR		
	comp=Z,1µm,21.5s,MS5.2						
ESK	Eskdalemuir	80.43	6	PFAKE		01 09 40.0	+14
ESK				LR	LR		
	comp=Z,120nm,19.0s,MS4.3						
KWP	Kalwaria	81.03	23	P	P	01 09 26.9	-2.3
	comp=Z,22nm,0.8s,mb5.2						
COP	Copenhagen	83.36	15	eS	S	01 20 00.1	-0.6
COP				i		01 25 34.0	
	comp=Z,180nm,20.0s						
MUD	Monsted U’grnd	83.38	13	i S	S	01 20 05.5	+4.6
DGAR	Diego Garcia	83.56	95	PFAKE		01 09 50.0	+6.8
DGAR				LR	LR		
	comp=Z,219nm,19.0s,MS4.5						
ANN	Anapa	83.67	34	d iP	P	01 09 36.3	-6.7
ANN				e		01 09 41.9	
ANN				eS	S	01 19 57.6	-6.5
ANN				eSP	SP	01 20 56.9	-0.4
ANN				eSS	SS	01 25 37.3	+3.5
ANN				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.3						
ANN				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.5						
DWPF	Disney	83.74	305	PFAKE		01 10 00.0	+16
DWPF				LR	LR		
	comp=Z,418nm,21.0s,MS4.8						
AKASG	Malin Array Be	84.35	26	P	P	01 09 46.3	0.0
	comp=Z,4.4nm,0.8s,mb4.6,baz=220,slow=4.8,SNR=9.7						
AKASG				LR	LR	01 47 59.1	
	comp=Z,220nm,18.7s,MS4.6,baz=235,slow=36						
AKASG	Malin Array Be	84.35	26	P	P	01 09 46.3	0.0
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,220nm,18.7s						
GNI	Garni	84.62	41	LR	LR	01 45 12.1	
	comp=Z,168nm,21.6s,MS4.4,baz=39,slow=34						
EMMW	East Machias	84.84	325	PFAKE		01 10 00.0	+11

EMMW				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
WES	**Weston**	**85.42**	**321**	PFAKE		01 10 00.0	+8.2
WES				LR	LR		
	comp=Z,366nm,21.0s,MS4.8						
NHSC	**New Hope**	**85.54**	**310**	PFAKE		01 10 00.0	+7.3
NHSC				LR	LR		
	comp=Z,540nm,20.0s,MS4.9						
HRV	**Harvard--Oak R**	**85.63**	**321**	PFAKE		01 10 00.0	+7.1
HRV				LR	LR		
	comp=Z,417nm,21.0s,MS4.8						
CBN	**Corbin**	**86.53**	**315**	PFAKE		01 10 10.0	+13
CBN				LR	LR		
	comp=Z,732nm,20.0s,MS5.1						
BLA	**Blacksburg**	**87.97**	**313**	*e*P	**P**	**01 10 05.1**	**+0.7**
	comp=Z,17nm,1.0s,mb5.2						
BLA				LR	LR		
	comp=Z,712nm,22.0s,MS5.0						
BINY	**Binghamton**	**88.02**	**319**	*e*P	**P**	**01 10 04.4**	**-0.2**
	comp=Z,17nm,0.9s,mb5.3						
BINY				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
NB2	**NORSAR Subarra**	**88.04**	**12**	PKP		01 09 32.1	
	comp=Z,1.0nm,0.6s,baz=10.0,slow=3.4						
NB2	**NORSAR Subarra**	**88.04**	**12**	P	**P**	**01 10 11.7**	**+7.5**
	comp=Z,6.6nm,1.1s,mb4.8,baz=202,slow=4.8						
NOA	**NORSAR Array B**	**88.04**	**12**	P	**P**	**01 10 08.3**	**+4.1**
	comp=Z,1.0nm,1.0s,mb4.0,baz=192,slow=4.4,SNR=2.6						
NOA				LR	LR	01 48 34.5	
	comp=Z,159nm,20.4s,MS4.4,baz=220,slow=35						
NOA	**NORSAR Array B**	**88.04**	**12**	P	**P**	**01 10 08.3**	**+4.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,159nm,20.5s						
NOA	**NORSAR Array B**	**88.04**	**12**	P	**P**	**01 10 08.3**	**+4.1**
NOA				LR	LR	01 48 34.5	
NCB	**Newcomb**	**88.06**	**321**	PFAKE		01 10 20.0	+15
NCB				LR	LR		
	comp=Z,510nm,21.0s,MS4.9						
ELN	**Prospectdale**	**88.20**	**313**	*e*P	**P**	**01 10 03.8**	**-1.7**
FWV	**Forest Hill**	**88.43**	**313**	*e*P	**P**	**01 10 06.1**	**-0.6**
PWV	**Princeton**	**88.45**	**313**	*e*P	**P**	**01 10 07.6**	**+0.9**
MCWV	**Mont Chateau**	**88.95**	**315**	PFAKE		01 10 20.0	+11
MCWV				LR	LR		
	comp=Z,581nm,20.0s,MS5.0						
MYNC	**Murphy**	**89.36**	**309**	PFAKE		01 10 20.0	+8.9
MYNC				LR	LR		
	comp=Z,480nm,19.0s,MS4.9						
LRAL	**Lakeview Retre**	**90.38**	**306**	PFAKE		01 10 30.0	+14
LRAL				LR	LR		
	comp=Z,421nm,20.0s,MS4.9						
ERPA	**Erie**	**90.41**	**317**	PFAKE		01 10 30.0	+14
ERPA				LR	LR		
	comp=Z,516nm,21.0s,MS4.9						
OBN	**Obninsk**	**90.60**	**26**	*e*P	**P**	**01 10 21.4**	**+5.0**
OBN						01 20 52.0	
OBN				*e*PS	PS	01 22 24.7	+3.1
OBN				PPS	PPS	01 23 04.0	+12
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.6						
OBN	**Obninsk**	**90.60**	**26**	PFAKE		01 10 30.0	+14
OBN				LR	LR		
	comp=Z,68nm,19.0s,MS4.1						
SWET	**Sewanee**	**90.70**	**309**	*e*P	**P**	**01 10 16.8**	**-0.6**
ACSO	**Alum Creek Sta**	**91.28**	**314**	*e*P	**P**	**01 10 20.1**	**+0.2**
	comp=Z,18nm,1.0s,mb5.4						
ACSO				LR	LR		
	comp=Z,897nm,21.0s,MS5.2						
SCHQ	**Schefferville**	**91.48**	**332**	LR	LR	01 44 19.5	
	comp=Z,792nm,21.4s,MS5.1,baz=121,slow=31						
SCHQ	**Schefferville**	**91.48**	**332**	PFAKE		01 10 30.0	+10
SCHQ				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
FINES	**FINESS Array B**	**91.89**	**18**	P	**P**	**01 10 20.5**	**-1.6**
	comp=Z,5.1nm,1.1s,mb4.8,baz=259,slow=14,SNR=2.3						
FINES				LR	LR	01 50 09.2	
	comp=Z,323nm,21.5s,MS4.7,baz=234,slow=35						
FINES	**FINESS Array B**	**91.89**	**18**	P	**P**	**01 10 20.5**	**-1.6**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES				MLR	MLR		
	comp=Z,323nm,21.5s						
WCI	**Wyandotte Cave**	**92.46**	**311**	PFAKE		01 10 40.0	+15
WCI				LR	LR		
	comp=Z,413nm,20.0s,MS4.9						
OXF	**Oxford**	**92.85**	**307**	PFAKE		01 10 40.0	+13
OXF				LR	LR		
	comp=Z,483nm,22.0s,MS4.9						
NATX	**Nacogdoches**	**95.53**	**302**	PFAKE		01 10 50.0	+10
NATX				LR	LR		
	comp=Z,189nm,19.0s,MS4.6						
HKT	**Hockley**	**95.66**	**300**	PFAKE		01 10 50.0	+10
HKT				LR	LR		
	comp=Z,316nm,20.0s,MS4.8						
CCM	**Cathedral Cave**	**95.81**	**309**	*e*P	**P**	**01 10 42.1**	**+1.3**
	comp=Z,6.2nm,1.1s,mb5.0						
CCM				LR	LR		
	comp=Z,265nm,20.0s,MS4.7						
MIAR	**Mount Ida**	**95.93**	**305**	PFAKE		01 10 50.0	+8.6
MIAR				LR	LR		
	comp=Z,336nm,20.0s,MS4.8						
JFWS	**Jewell Farm**	**97.34**	**314**	PFAKE		01 11 00.0	+12
JFWS				LR	LR		
	comp=Z,597nm,22.0s,MS5.0						
ARCES	**ARCESS Array B**	**98.36**	**13**	LR	LR	01 54 33.7	
	comp=Z,290nm,18.2s,MS4.8,baz=180,slow=35						
JCT	**Junction City**	**99.01**	**299**	PFAKE		01 11 10.0	+15
JCT				LR	LR		
	comp=Z,206nm,20.0s,MS4.6						
WMOK	**Wichita Mounta**	**99.91**	**304**	PFAKE		01 11 10.0	+11
WMOK				LR	LR		
	comp=Z,268nm,20.0s,MS4.8						
ARU	**Arti**	**101.30**	**33**	PFAKE		01 11 20.0	+15
ARU				LR	LR		
	comp=Z,52nm,19.0s,MS4.1						
LTX	**Lajitas**	**101.66**	**297**	PFAKE		01 11 20.0	+13
LTX				LR	LR		
	comp=Z,200nm,20.0s,MS4.6						
CBKS	**Cedar Bluff**	**102.19**	**307**	PFAKE		01 11 20.0	+10
CBKS				LR	LR		
	comp=Z,391nm,21.0s,MS4.9						
MNTX	**Cornudas Mount**	**103.90**	**299**	PFAKE		01 11 30.0	+13
MNTX				LR	LR		
	comp=Z,4.0nm,22.0s						
ULM	**Lac du Bonnet**	**103.93**	**319**	PFAKE		01 11 30.0	+13
ULM				LR	LR		
	comp=Z,835nm,22.0s,MS5.2						
AAK	**Ala-Archa**	**105.26**	**50**	PFAKE		01 15 50.0	
AAK				LR	LR		
	comp=Z,92nm,21.0s,MS4.3						
ANMO	**Albuquerque**	**105.86**	**301**	PFAKE		01 15 50.0	
ANMO				LR	LR		
	comp=Z,412nm,20.0s,MS5.0						
SDCO	**Great Sand Dun**	**106.06**	**304**	PFAKE		01 15 50.0	
SDCO				LR	LR		
	comp=Z,327nm,20.0s,MS4.9						
BRVK	**Borovoye**	**106.14**	**39**	PFAKE		01 15 50.0	
BRVK				LR	LR		
	comp=Z,68nm,20.0s,MS4.2						
RSSD	**Black Hills**	**107.05**	**311**	PFAKE		01 15 50.0	
RSSD				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
TUC	**Tucson**	**108.43**	**298**	PFAKE		01 16 00.0	
TUC				LR	LR		
	comp=Z,326nm,22.0s,MS4.8						
DGMT	**Dagmar**	**108.47**	**315**	PFAKE		01 15 50.0	
DGMT				LR	LR		
	comp=Z,365nm,19.0s,MS5.0						
LAO	**LASA Array**	**109.28**	**313**	PFAKE		01 16 00.0	
LAO				LR	LR		
	comp=Z,424nm,20.0s,MS5.0						
KURK	**Kurchatov**	**110.38**	**43**	PFAKE		01 16 00.0	+12
KURK				LR	LR		
	comp=Z,54nm,21.0s,MS4.1						
BW06	**Boulder Array**	**110.51**	**309**	PFAKE		01 16 00.0	+12
BW06				LR	LR		
	comp=Z,324nm,20.0s,MS4.9						
AHID	**Auburn Hatcher**	**111.61**	**308**	*e*Pdif	Pdif	01 11 51.8	+0.9
AHID				LR	LR		
	comp=Z,390nm,19.0s,MS5.0						
DUG	**Dugway**	**112.22**	**305**	PFAKE		01 16 00.0	+8.2
DUG				LR	LR		
	comp=Z,417nm,22.0s,MS5.0						
BOZ	**Bozeman (W)**	**112.66**	**311**	PFAKE		01 16 00.0	+7.5
BOZ				LR	LR		
	comp=Z,361nm,19.0s,MS5.0						
PFO	**Pinyon Flat Ob**	**113.37**	**297**	PFAKE		01 16 00.0	+5.7
PFO				LR	LR		
	comp=Z,76nm,20.0s,MS4.3						
HLID	**Hailey**	**114.15**	**308**	PFAKE		01 16 10.0	+14
HLID				LR	LR		
	comp=Z,533nm,19.0s,MS5.2						
LSA	**Lhasa**	**114.25**	**67**	PFAKE		01 16 10.0	+14
LSA				LR	LR		
	comp=Z,274nm,22.0s,MS4.8						
MSO	**Missoula**	**114.47**	**312**	PFAKE		01 16 10.0	+14
MSO				LR	LR		
	comp=Z,279nm,20.0s,MS4.9						
WMQ	**Urumqi**	**114.86**	**51**	PKP	PKPdf	01 15 54.8	-2.1
WMQ				PP	PP	01 16 57.3	-0.1
WMQ				PP	PP		
	comp=Z,13nm,9.9s						
WMQ				LR	LR		
	comp=N,225nm,25.8s,MS4.9						
WMQ				LR	LR		
	comp=E,315nm,25.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,191nm,28.8s,MS4.5						
TPH	**Tonopah**	**115.05**	**302**	PFAKE		01 16 10.0	+13
TPH				LR	LR		
	comp=Z,351nm,22.0s,MS4.9						
BMN	**Battle Mountai**	**115.56**	**305**	PFAKE		01 16 10.0	+12
BMN				LR	LR		
	comp=Z,367nm,19.0s,MS5.0						
NEW	**Newport**	**116.83**	**313**	PFAKE		01 16 10.0	+9.4
NEW				LR	LR		
	comp=Z,438nm,20.0s,MS5.1						
WVOR	**Wild Horse Val**	**116.98**	**307**	PFAKE		01 16 10.0	+8.9
WVOR				LR	LR		
	comp=Z,564nm,20.0s,MS5.2						
CMB	**Columbia Colle**	**117.49**	**301**	PFAKE		01 16 10.0	+7.9
CMB				LR	LR		
	comp=Z,336nm,20.0s,MS5.0						
SAO	**San Andreas Ge**	**118.07**	**300**	PFAKE		01 16 10.0	+6.7
SAO				LR	LR		
	comp=Z,292nm,19.0s,MS4.9						
MOD	**Modoc**	**118.11**	**306**	PFAKE		01 16 10.0	+6.7
MOD				LR	LR		
	comp=Z,405nm,19.0s,MS5.1						
HAWA	**Hanford**	**118.21**	**311**	PFAKE		01 16 10.0	+6.7
HAWA				LR	LR		
	comp=Z,442nm,22.0s,MS5.0						
WDC	**Whiskeytown Da**	**119.57**	**304**	PFAKE		01 16 20.0	+14
WDC				LR	LR		
	comp=Z,274nm,19.0s,MS4.9						
HOPS	**Hopland**	**119.73**	**302**	PFAKE		01 16 20.0	+14
HOPS				LR	LR		
	comp=Z,396nm,21.0s,MS5.0						
YBH	**Yreka Blue Hor**	**119.86**	**305**	PFAKE		01 16 20.0	+13
YBH				LR	LR		
	comp=Z,553nm,22.0s,MS5.2						
COR	**Corvallis**	**120.64**	**308**	PFAKE		01 16 20.0	+12
COR				LR	LR		
	comp=Z,565nm,21.0s,MS5.2						
OCWA	**Octopus Mounta**	**121.50**	**312**	PFAKE		01 16 20.0	+10
OCWA				LR	LR		
	comp=Z,548nm,19.0s,MS5.2						
KMI	**Kunming**	**123.03**	**75**	*e*PKP	PKPdf	01 16 09.9	-3.2
KMI				LR	LR		
	comp=Z,142nm,29.3s,MS4.5						
WRAB	**Tennant Creek**	**125.71**	**142**	PFAKE		01 16 30.0	+11
WRAB				LR	LR		
	comp=Z,276nm,20.0s,MS4.9						
LZH	**Lanzhou**	**125.96**	**62**	*e*PKP	PKPdf	01 16 12.6	-6.0
LZH				XPKP		01 16 17.3	
LZH				LR	LR		
	comp=E,579nm,18.1s						
LZH				LR	LR		
	comp=Z,757nm,20.2s,MS5.4						
SIT	**Sitka**	**127.61**	**324**	PFAKE		01 16 30.0	+8.8
SIT				LR	LR		
	comp=Z,723nm,21.0s,MS5.3						
SONM	**Songino Array**	**128.14**	**48**	PKP	PKPdf	01 16 20.8	-1.7
	comp=Z,0.9nm,0.9s,baz=225,slow=1.7,SNR=3.7						
KKM	**Kota Kinabalu**	**128.66**	**103**	⇓*e*P	Pdif	01 13 03.3	-3.5
	comp=Z,28nm,0.5s						
ENH	**Enshi**	**129.91**	**70**	PFAKE		01 16 40.0	+14
ENH				LR	LR		
	comp=Z,340nm,20.0s,MS5.0						
ILAR	**Eielson Array**	**130.12**	**336**	PKP	PKPdf	01 16 22.9	-2.9
	comp=Z,0.6nm,0.8s,baz=4.6,slow=1.9,SNR=5.1						
ILAR	**Eielson Array**	**130.12**	**336**	PKIKP	PKPdf	01 16 23.0	-2.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**130.43**	**336**	PFAKE		01 16 40.0	+14
COLA				LR	LR		
	comp=Z,333nm,19.0s,MS5.1						
BOD	**Bodaibo**	**130.70**	**34**	*e*PKIKP	PKPdf	01 16 26.0	-1.1
DIV	**Divide**	**131.38**	**331**	PFAKE		01 16 40.0	+12
DIV				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
PMR	**Palmer**	**132.59**	**333**	PFAKE		01 16 40.0	+9.4
PMR				LR	LR		
	comp=Z,561nm,20.0s,MS5.3						
BJT	**Baijiatuau**	**135.77**	**58**	PFAKE		01 16 50.0	+13
BJT				LR	LR		
	comp=Z,433nm,19.0s,MS5.2						
KDAK	**Kodiak Island**	**136.03**	**329**	PFAKE		01 16 50.0	+13
KDAK				LR	LR		
	comp=Z,152nm,21.0s,MS4.7						
HIA	**Hailar**	**136.60**	**44**	PFAKE		01 16 50.0	+12
HIA				LR	LR		
	comp=Z,377nm,22.0s,MS5.1						
PMG	**Port Moresby**	**141.16**	**149**	PFAKE		01 17 00.0	+12
PMG				LR	LR		
	comp=Z,333nm,21.0s,MS5.1						
CN2	**Changchun**	**141.93**	**50**	*e*PKP	PKPdf	01 16 46.5	-1.6
CN2				PP	PP	01 19 55.8	+1.9
CN2				PP	PP		
	comp=Z,120nm,8.0s						
CN2				LR	LR		
	comp=N,300nm,20.0s,MS5.2						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS5.2						
CN2				LR	LR		
	comp=Z,300nm,20.0s,MS5.0						
KLR	**Kul'dur**	**143.85**	**39**	*e*PKIKP	PKPdf	01 16 48.2	-2.9
MDJ	**Mudanjiang**	**144.49**	**47**	PKPdf	PKPdf	01 16 49.5	-3.0
YSS	**Yuzh-Sakhalins**	**151.17**	**34**	PFAKE		01 17 10.0	+6.8
YSS				LR	LR		
	comp=Z,356nm,22.0s,MS5.1						
PET	**Petropavlovsk**	**151.37**	**10**	*i* PKIKP	PKPdf	01 17 05.8	+2.5
PET				*e*		01 17 14.7	
PET				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET	**Petropavlovsk**	**151.37**	**10**	PFAKE		01 17 10.0	+6.7
PET				LR	LR		
	comp=Z,271nm,19.0s,MS5.1						
MAJO	**Matsushiro**	**153.41**	**58**	PKPbc	PKPdf	01 17 13.2	+6.4
MAJO				LR	LR		
	comp=Z,238nm,19.0s,MS5.0						

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*IDC **23** 00:58:05.2±1.8, 16.53S×178.03W, mb4.0/5, mb1 4.3/5, mb1mx4.0/15, MS4.8/2, Ms1 4.7/2, ms1mx3.6/25, Error ellipse: s-maj=105.0km s-min=25.5km az=148.0*

ISC 23 00:58:27.3±1.6**, 16.7S**±0.6×**178.3W**±0.4**, h200**^{km}**, n6,** σ**0^{s}33**/5**, mb3.5**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.34**	**240**	P	**P**	**01 05 39.0**	**+0.2**
	1.6nm,0.6s,mb3.7,baz=94,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**44.98**	**258**	P	**P**	**01 06 24.8**	**+0.2**
	1.0nm,0.5s,mb3.4,baz=93,slow=7.0,SNR=13						
WRA				LR	LR	01 23 32.1	
	comp=Z,906nm,20.6s,baz=345,slow=34						
ASAR	**Alice Springs**	**45.25**	**253**	P	**P**	**01 06 26.3**	**-0.4**
	5.5nm,0.5s,mb4.1,baz=88,slow=8.5,SNR=89						
ILAR	**Eielson Array**	**84.66**	**13**	P	**P**	**01 10 39.4**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=222,slow=5.4,SNR=7.5						
TXAR	**Lajitas Array**	**85.24**	**58**	P	**P**	**01 10 42.9**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=194,slow=5.2,SNR=4.3						
ULM	**Lac du Bonnet**	**97.89**	**40**	LR	LR	01 50 24.8	
	comp=Z,443nm,21.0s,baz=92,slow=32						

TIF 23 01:08:23.7, 40.48N×45.27E, h15^{km}, Mpv4.0, 3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAD	**Vardenisi**	**0.46**	**129**	*i* P	Pb	01 08 33.0	+0.1
VAD				*i* S	Sb	01 08 40.0	+0.9
STE	**Stepanavan**	**0.84**	**308**	*i* P	Pb	01 08 40.5	+1.0
MTA	**Mtatsminda**	**1.27**	**344**	⇓*i*P	Pb	01 08 50.1	+3.4
MTA				*i* S	Sb	01 09 07.0	+4.4
AKH	**Akhalkalaki**	**1.64**	**305**	⇓*i*P	Pn	01 08 57.4	+5.2
AKH				*i* S	Sn	01 09 19.8	+6.8
DUS	**Dusheti**	**1.67**	**345**	⇓*i*P	Pn	01 08 57.2	+4.6
DUS				*i* S	Sn	01 09 20.4	+6.6

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*IDC **23** 01:09:51.6±0.5, 0.84S×127.52E, mb4.8/14, mb1 4.9/15, mb1mx4.8/19, ML4.8/1, MS4.4/12, Ms1 4.3/12, ms1mx4.0/26, Error ellipse: s-maj=29.9km s-min=11.8km az=67.0*

*HRVD **23** 01:09:52.7±0.2, 0.90S×127.56E, h20^{km}±1^{km}, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s40,c63;Mantle waves: s63,c115; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.62±.04; M$_{\theta\theta}$-0.46±.03; M$_{\phi\phi}$1.08±.03; M$_{r\theta}$-0.23±.06; M$_{\theta\phi}$0.47±.02; M$_{\phi r}$0.21±.06; Best double couple: M$_0$1.05×10^{17} NP1:ϕ_s51°, δ55°,λ-34°. NP2:ϕ_s162°,δ63°,λ-140°. Principal axes: T 1.22, Plg5°, Azm285°; N -.33, Plg43°, Azm191°; P -.89, Plg47°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **23** 01:09:52.6, 0.90S×127.70E, h7^{km}, mB5.2, mb4.9, Ms4.6, Msz4.3*

*NEIC **23** 01:09:52.7±4.1, 0.87S×127.68E, h8^{km}±25^{km}, mb4.9/24, MS4.4/4, MD4.9(DJA), Error ellipse: s-maj=12.1km s-min=5.8km az=52.0*

NEIC Felt [III] at Labuha.

*SYO **23** 01:09:52.6, 0.87S×127.68E, h8^{km}, MB4.9, MS4.4*

*MOS **23** 01:09:54.5±0.8, 0.73S×127.60E, h33^{km}, mb5.1/13, Error ellipse: s-maj=32.9km s-min=13.9km az=116.7*

*DJA **23** 01:09:57.9±0.3, 0.61S×127.47E, h100^{km}, MD4.8/3, ML5.4/1, Error ellipse: s-maj=10.2km s-min=6.1km az=167.0*

ISC 23 01:09:54.7±0.2**, 0.96S**±0.03×**127.54E**±0.04**, h32**^{km}**, h32**^{km}±1.5^{km}**:pP-P, n157,** σ**1^{s}14**/150**, mb5.1**/58**, MS4.4**/25**, 14C-14D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.82**	**350**	*e*Pn	**Pn**	**01 10 24.0**	**-0.3**
MNI	**Manado**	**3.60**	**311**	*e*Pg	**Pn**	**01 10 48.5**	**-1.3**
SWI	**Sorong**	**3.72**	**89**	*e*Pn	**Pn**	**01 10 55.0**	**+3.6**
BUNI	**Buntu Taipa**	**7.70**	**249**	⇑*e*Pn	**Pn**	**01 11 47.6**	**+0.2**
BUNI				⇑*e*Sn	**Sn**	**01 13 13.1**	**-1.3**
BUNI	**Buntu Taipa**	**7.70**	**249**	⇓*e*Pn	**Pn**	**01 11 47.6**	**+0.2**
BUNI				*e*Sn	**Sn**	**01 13 13.1**	**-1.3**
NINI	**Niniconang**	**8.50**	**246**	⇑*e*Pn	**P**	**01 12 00.1**	**+1.4**
NINI				⇑*e*Sn	**Sn**	**01 13 34.3**	**-0.2**
NINI	**Niniconang**	**8.50**	**246**	⇓*e*Pn	**P**	**01 12 00.6**	**+1.9**
NINI				*e*Sn	**Sn**	**01 13 34.3**	**-0.2**
TANI	**Tanete Lipujan**	**8.52**	**253**	⇑*e*Pn	**P**	**01 11 59.1**	**+0.3**
	104nm,0.5s						
TANI				⇓*e*Sn	**Sn**	**01 13 32.1**	**-2.7**
TANI	**Tanete Lipujan**	**8.52**	**253**	⇓*e*Pn	**P**	**01 11 59.8**	**+1.0**
TANI				*e*Sn	**Sn**	**01 13 32.1**	**-2.7**
KAKA	**Kakadu**	**12.62**	**158**	*e*P	**P**	**01 12 51.5**	**-3.4**
	100nm,0.6s						
KEDI	**Kedomdong**	**13.62**	**236**	⇑*e*P	**P**	**01 13 17.8**	**+10**
RATI	**Rata**	**14.23**	**237**	⇓*e*P	**P**	**01 13 23.4**	**+7.1**
KELI	**Kelakatan**	**14.87**	**241**	⇑*e*P	**P**	**01 13 30.6**	**+6.0**
TGY	**Tagaytay City**	**16.33**	**337**	LR	LR	01 20 48.2	
	comp=Z,482nm,20.8s,baz=83,slow=40						
FITZ	**Fitzroy Crossi**	**17.14**	**186**	*e*P	**P**	**01 13 52.2**	**-1.4**
	28nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.14**	**186**	P	**P**	**01 13 52.3**	**-1.4**
	2.4nm,0.3s,baz=11,slow=8.8,SNR=43						
FITZ				LR	LR	01 21 09.6	
	comp=Z,508nm,19.7s,baz=42,slow=39						
WRAB	**Tennant Creek**	**20.00**	**161**	*e*P	**P**	**01 14 25.1**	**-2.6**
	76nm,0.6s						
WRA	**Warramunga Arr**	**20.00**	**161**	P	**P**	**01 14 25.3**	**-2.4**
	39nm,0.5s,baz=342,slow=12,SNR=98						
WRA				S	**S**	**01 18 01.2**	**-4.3**
	6.2nm,0.8s,baz=336,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**20.00**	**161**	P	**P**	**01 14 25.3**	**-2.4**
WRA				S	**S**	**01 18 01.2**	**-4.3**
WRA				pmax	pmax		
	comp=Z,39nm,0.5s						
WRA				smax			
	comp=N,6.0nm,0.8s						
WB2	**Warramunga Arr**	**20.01**	**161**	⇑*i*P	**P**	**01 14 25.1**	**-2.7**
WB2				*e*S	**S**	**01 18 02.2**	**-3.4**
PMG	**Port Moresby**	**21.25**	**114**	*e*P	**P**	**01 14 40.0**	**-0.6**
	comp=N,16nm,0.8s,mb4.4						
PMG				LR	LR		
	comp=Z,2µm,22.0s,MS4.3						
ASAR	**Alice Springs**	**23.40**	**165**	P	**P**	**01 15 01.9**	**0.0**
	comp=Z,71nm,0.7s,mb5.2,baz=344,slow=10,SNR=351						
ASAR				S	**S**	**01 19 12.5**	**+3.5**
	comp=Z,8.0nm,0.8s,baz=346,slow=20,SNR=4.8						
ASPA	**Alice Springs**	**23.40**	**165**	*e*P	**P**	**01 15 01.2**	**-0.7**
ASPA				*e*S	**S**	**01 19 09.9**	**+0.9**
CTA	**Charters Tower**	**26.39**	**137**	⇑*i*P	**P**	**01 15 31.5**	**+1.2**
	comp=Z,6.8nm,0.6s,mb4.3						
CTA	**Charters Tower**	**26.39**	**137**	P	**P**	**01 15 31.4**	**+1.1**
	comp=Z,12nm,0.8s,mb4.5,baz=318,slow=10,SNR=15						
CTA	**Charters Tower**	**26.39**	**137**	P	**P**	**01 15 31.4**	**+1.1**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**26.39**	**137**	*e*P	**P**	**01 15 31.1**	**+0.8**
	comp=Z,37nm,1.2s,mb4.8						
CTAO				LR	LR		
	comp=Z,1µm,22.0s,MS4.4						
QIZ	**Qiongzhong**	**26.40**	**320**	P	**P**	**01 15 30.9**	**+0.5**
QIZ				AP	pP	01 15 41.0	+1.2
QIZ				XP	sP	01 15 45.1	+1.1
QIZ				S	**S**	**01 20 02.1**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,23nm,1.6s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,199nm,6.5s						
QIZ				LR	LR		
	comp=N,668nm,19.5s,MS4.3						
QIZ				LR	LR		
	comp=E,446nm,16.7s,MS4.3						
QIZ	**Qiongzhong**	**26.40**	**320**	*e*P	**P**	**01 15 30.1**	**-0.4**
	comp=E,36nm,1.1s,mb4.8						
IPM	**Ipoh**	**27.06**	**282**	⇓*e*P	**P**	**01 15 37.0**	**+0.5**
GZH	**Guangzhou**	**27.61**	**331**	P	**P**	**01 15 45.5**	**+4.1**
GZH				S	**S**	**01 20 22.3**	**+3.1**
GZH				LR	LR		
	comp=N,457nm,23.9s						
GZH				LR	LR		
	comp=E,529nm,18.3s						
GZH				LR	LR		
	comp=Z,643nm,27.1s,MS4.1						
JOW	**Kunigami**	**27.64**	**1**	LR	LR	01 24 58.6	
	comp=Z,619nm,19.9s,MS4.2,baz=114,slow=33						
FORT	**Forrest**	**29.66**	**179**	*e*P	**P**	**01 16 00.0**	**+0.1**
	comp=Z,121nm,0.7s,mb5.7						
NST	**Nakhon Sawan**	**31.73**	**303**	P	**P**	**01 16 18.0**	**-0.2**
NANT	**Nan**	**32.88**	**308**	P	**P**	**01 16 28.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**33.24**	**196**	P	**P**	**01 16 31.9**	**+0.7**
	comp=Z,7.4nm,0.7s,mb4.8,baz=67,slow=7.7,SNR=3.3						
NWAO	**Narrogin (SRO)**	**33.24**	**196**	P	**P**	**01 16 32.0**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BDT	**Bhumibol Dam**	**33.44**	**304**	P	**P**	**01 16 34.0**	**+0.9**
STKA	**Stephens Creek**	**33.49**	**158**	⇑*i*P	**P**	**01 16 33.5**	**0.0**
	comp=Z,24nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**33.49**	**158**	P	**P**	**01 16 33.6**	**+0.2**
	comp=Z,25nm,0.9s,mb5.2,baz=332,slow=8.4,SNR=38						
STKA				LR	LR	01 31 54.2	
	comp=Z,721nm,20.6s,MS4.4,baz=331,slow=39						
WHN	**Wuhan**	**33.75**	**339**	⇑P	**P**	**01 16 36.8**	**+1.1**
NJ2	**Nanjing**	**33.85**	**347**	*e*PKP	**P**	**01 16 34.1**	**-2.4**
NJ2				PP	Px	01 19 26.0	
NJ2				PKS		01 20 09.0	
NJ2				PP	Px		
	comp=Z,190nm,8.7s						
NJ2				LR	LR		

	comp=Z,710nm,27.7s,MS4.2						
CM31	**Chiang Mai Arr**	**34.10**	**306**	*e*P	**P**	**01 16 38.4**	**-0.4**
	comp=Z,35nm,1.3s,mb5.1						
CMAR	**Chiang Mai Arr**	**34.10**	**306**	P	**P**	**01 16 38.9**	**+0.1**
	comp=Z,7.9nm,0.9s,mb4.7,baz=131,slow=7.4,SNR=41						
CMAR				PcP	PcP	01 19 16.9	+1.0
	comp=Z,3.1nm,0.7s,baz=170,slow=1.9,SNR=7.7						
CMAR				ScP		01 23 00.9	
	comp=Z,2.7nm,0.8s,baz=154,slow=3.1,SNR=7.6						
CMAR	**Chiang Mai Arr**	**34.10**	**306**	P	**P**	**01 16 38.9**	**+0.1**
CMAR						01 19 16.9	
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=N,3.0nm,0.8s						
CHG	**Chiang Mai**	**34.29**	**306**	P	**P**	**01 16 40.7**	**+0.3**
	comp=N,25nm,0.9s,mb5.1						
KMI	**Kunming**	**35.34**	**319**	*e*P	**P**	**01 16 51.0**	**+1.6**
KMI				AP	pP	01 17 01.4	+2.5
KMI				PP	PP	01 18 12.5	+3.4
KMI				S	**S**	**01 22 22.1**	**+1.4**
KMI				SS	SS	01 24 39.9	+1.0
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,126nm,4.6s						
KMI				LR	LR		
	comp=N,608nm,21.4s,MS4.4						
KMI				LR	LR		
	comp=E,421nm,23.4s,MS4.4						
KMI				LR	LR		
	comp=Z,549nm,21.4s,MS4.3						
ADE	**Adelaide**	**35.40**	**164**	*e*P	**P**	**01 16 51.1**	**+1.3**
ENH	**Enshi**	**35.51**	**333**	*e*P	**P**	**01 16 50.5**	**-0.3**
	comp=Z,62nm,0.9s,mb5.5						
JHJ	**Hachijo jima 2**	**35.81**	**18**	LR	LR	01 31 23.2	
	comp=Z,411nm,18.4s,MS4.2,baz=230,slow=36						
MAT	**Matsushiro**	**38.61**	**14**	P	**P**	**01 17 16.9**	**+0.1**
MAT				S	**S**	**01 23 14.6**	**+4.1**
MAT	**Matsushiro**	**38.61**	**14**	*e*P	**P**	**01 17 17.0**	**+0.2**
	comp=Z,10nm,0.8s,mb4.6						
MAT				*e*S	**S**	**01 23 15.0**	**+4.5**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.5						
CD2	**Chengdu**	**38.93**	**327**	⇓*i*P	**P**	**01 17 19.9**	**+0.4**
CD2				S	**S**	**01 23 10.3**	**-5.1**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CD2				LR	LR		
	comp=E,910nm,22.8s						
CD2				LR	LR		
	comp=Z,570nm,18.0s,MS4.4						
XAN	**Xi'an**	**38.96**	**335**	P	**P**	**01 17 19.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.2						
TOO	**Toolangi**	**40.01**	**158**	*e*P	**P**	**01 17 31.8**	**+3.4**
	comp=Z,16nm,1.9s,mb4.4						
BJT	**Baijiatuau**	**42.09**	**347**	*e*P	**P**	**01 17 44.0**	**-1.4**
	comp=Z,14nm,0.6s,mb4.8						
BJT				LR	LR		
	comp=Z,376nm,20.0s,MS4.3						
BJI	**Beijing**	**42.11**	**347**	*e*P	**P**	**01 17 45.3**	**-0.3**
BJI				S	**S**	**01 23 58.6**	**-4.1**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
BJI				LR	LR		
	comp=N,356nm,17.1s						
BJI				LR	LR		
	comp=E,303nm,23.7s						
BJI				LR	LR		
	comp=Z,356nm,30.1s						
SNY	**Shenyang**	**42.74**	**356**	⇓P	**P**	**01 17 53.8**	**+3.0**
SNY				S	**S**	**01 24 08.3**	**-3.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
SNY				LR	LR		
	comp=N,350nm,15.3s,MS4.5						
SNY				LR	LR		
	comp=E,280nm,15.1s,MS4.5						
SNY				LR	LR		
	comp=Z,300nm,19.1s,MS4.2						
LZH	**Lanzhou**	**42.96**	**331**	⇑P	**P**	**01 17 53.8**	**+1.2**
LZH				AP	pP	01 18 03.1	+0.8
LZH				XP	sP	01 18 07.3	+1.0
LZH				AMB	AMB		
	comp=Z,57nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,237nm,5.3s						
LZH				LR	LR		
	comp=N,663nm,13.2s						
LZH				LR	LR		
	comp=Z,958nm,17.1s,MS4.8						
SHL	**Shillong**	**43.40**	**310**	*e*P	**P**	**01 17 56.9**	**+0.6**
SHL				AMb	AMB	01 17 58.4	
	comp=Z,45nm,0.6s,mb5.4						
SHL				*e*		01 24 20.0	
LSA	**Lhasa**	**46.20**	**314**	P	**P**	**01 18 20.0**	**+1.3**
LSA	**Lhasa**	**46.20**	**314**	*e*P	**P**	**01 18 20.6**	**+1.9**
	comp=Z,32nm,0.7s,mb5.4						
ASAJ	**Asahikawa**	**46.85**	**15**	LR	LR	01 39 24.9	
	comp=Z,329nm,18.9s,MS4.3,baz=199,slow=38						
VIS	**Vishakhapatnam**	**47.31**	**295**	*e*P	**P**	**01 18 28.5**	**+0.9**
GTA	**Gaotai**	**47.53**	**331**	*e*P	**P**	**01 18 29.9**	**+0.8**
GTA				AP	pP	01 18 37.4	-1.5
GTA				XP	sP	01 18 40.6	-2.2
GTA				SCP		01 23 52.4	
GTA				S	**S**	**01 25 21.1**	**+0.2**
GTA				SS	SS	01 28 44.5	+1.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,33nm,3.4s						
GTA				LR	LR		
	comp=N,153nm,18.6s,MS4.1						
GTA				LR	LR		
	comp=E,148nm,19.4s,MS4.1						
GTA				LR	LR		
	comp=Z,128nm,27.4s						
PKI	**Pulchoki**	**49.41**	**308**	*e*P	**P**	**01 18 44.4**	**+0.6**
	comp=Z,45nm,0.5s,mb5.8						
KKN	**Kakani**	**49.62**	**309**	*e*P	**P**	**01 18 46.1**	**+0.7**
	comp=Z,48nm,0.4s,mb5.9						
DMN	**Daman**	**49.67**	**308**	*e*P	**P**	**01 18 46.6**	**+0.8**
	comp=Z,87nm,0.6s,mb6.0						
GKN	**Gorkha**	**50.22**	**308**	*e*P	**P**	**01 18 50.8**	**+0.8**
	comp=Z,90nm,0.6s,mb6.0						
KOLN	**Koldanda**	**50.93**	**308**	*e*P	**P**	**01 18 56.6**	**+1.2**
	comp=Z,150nm,0.8s,mb6.0						
HYB	**Hyderabad**	**51.58**	**293**	*i* P	**P**	**01 19 01.0**	**+0.6**
	comp=Z,60nm,1.0s,mb5.5						
HYB	**Hyderabad**	**51.58**	**293**	*e*P	**P**	**01 19 01.0**	**+0.6**
SONM	**Songino Array**	**51.98**	**342**	P	**P**	**01 19 02.3**	**-0.7**
	comp=Z,6.1nm,0.7s,mb4.6,baz=157,slow=7.0,SNR=26						
SONM				ScP		01 24 10.1	
	comp=Z,1.7nm,0.8s,baz=159,slow=4.7,SNR=4.8						
LGTI	**Lohaghat**	**54.31**	**308**	*e*P	**P**	**01 19 21.5**	**+0.9**
BHPL	**Bhopal**	**54.33**	**300**	⇓*i*P	**P**	**01 19 20.2**	**-0.5**
BHPL				*e*		01 19 21.3	
	comp=Z,16nm,0.4s						
JOSI	**Joshimath**	**55.33**	**309**	*e*P	**P**	**01 19 28.6**	**+0.6**
SONA	**Sohna**	**56.38**	**305**	*e*P	**P**	**01 19 34.8**	**-0.8**
SONA				AMb	AMB	01 19 35.8	
	comp=Z,46nm,0.9s,mb5.5						
DDI	**Dehra Dun**	**56.41**	**308**	*e*P	**P**	**01 19 34.0**	**-1.8**
NDI	**New Delhi**	**56.43**	**306**	*e*P	**P**	**01 19 33.5**	**-2.5**
NDI				*e*		01 27 16.0	
KUDL	**Kundal**	**56.82**	**305**	*i* P	**P**	**01 19 37.8**	**-1.0**
KUDL				AMb	AMB	01 19 38.9	
	comp=Z,27nm,0.7s,mb5.4						
WMQ	**Urumqi**	**57.03**	**326**	⇑*i*P	**P**	**01 19 40.3**	**+0.3**
WMQ				PCP	PcP	01 20 35.3	+0.7
WMQ				PP	PP	01 21 48.4	+0.2
WMQ				S	**S**	**01 27 27.3**	**-3.2**
WMQ				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.2						
WMQ				LR	LR		
	comp=N,530nm,22.6s,MS4.7						
WMQ				LR	LR		
	comp=E,313nm,22.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,336nm,25.0s,MS4.3						
RTK	**Rohtak**	**57.22**	**306**	*i* P	**P**	**01 19 41.0**	**-0.5**
KHET	**Khetri**	**57.36**	**305**	*i* P	**P**	**01 19 42.0**	**-0.5**
KHET				AMb	AMB	01 19 51.8	
	comp=Z,47nm,1.0s,mb5.5						
RPZ	**Rata Peaks**	**57.50**	**144**	LR	LR	01 45 18.9	
	comp=Z,880nm,20.3s,MS4.9,baz=296,slow=37						
SDNR	**Sundarnagar**	**57.74**	**309**	*e*P	**P**	**01 19 46.0**	**+0.8**
URZ	**Urewera**	**58.62**	**135**	P	**P**	**01 19 52.0**	**+0.8**
	comp=Z,7.2nm,0.5s,mb5.0,baz=239,slow=4.7,SNR=5.8						
BOD	**Bodaibo**	**59.59**	**352**	*e*P	**P**	**01 19 55.9**	**-1.8**
JASL	**Jaisalmer**	**61.09**	**302**	*i* P	**P**	**01 20 08.4**	**+0.1**
MKAR	**Makanchi Array**	**61.87**	**326**	P	**P**	**01 20 12.3**	**-1.1**
	comp=Z,16nm,0.5s,mb5.5,baz=116,slow=7.8,SNR=103						
MKAR				ScP		01 24 53.8	
	comp=Z,5.5nm,0.8s,baz=122,slow=5.2,SNR=10						
MKAR				LR	LR	01 47 21.3	
	comp=Z,230nm,20.3s,MS4.3,baz=226,slow=36						
MKAR	**Makanchi Array**	**61.87**	**326**	P	**P**	**01 20 12.3**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,16nm,0.5s						
MKAR				pmax	pmax		
	comp=N,6.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,230nm,20.3s						
MKAR	**Makanchi Array**	**61.87**	**326**	P	**P**	**01 20 12.3**	**-1.1**
MKAR				ScP		01 24 53.8	
MKAR				LR	LR	01 47 21.2	
KSH	**Kashi**	**61.95**	**317**	*e*P	**P**	**01 20 15.3**	**+1.3**
KSH				*e*AP	pP	01 20 25.4	+1.4
KSH				*e*XP	sP	01 20 30.3	+2.7
MA2	**Magadan**	**63.04**	**13**	*e*P	**P**	**01 20 23.4**	**+2.5**
MA2				*e*		01 29 09.9	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**64.38**	**319**	*e*P	**P**	**01 20 28.9**	**-1.1**
	comp=Z,16nm,1.0s,mb5.0						
KURK	**Kurchatov**	**66.12**	**328**	*i* P	**P**	**01 20 39.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**66.12**	**328**	*e*P	**P**	**01 20 39.7**	**-1.4**
	comp=Z,37nm,0.9s,mb5.4						
CASY	**Casey**	**66.30**	**187**	*e*P	**P**	**01 20 42.0**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.7						
NVS	**Novosibirsk**	**66.40**	**334**	⇑*i*P	**P**	**01 20 39.8**	**-3.0**
NVS				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
BVA0	**Borovoye Array**	**71.68**	**328**	P	**P**	**01 21 14.4**	**-1.0**
BVAR	**Borovoye Array**	**71.68**	**328**	P	**P**	**01 21 14.5**	**-0.8**
	comp=E,9.5nm,0.8s,mb4.8,baz=135,slow=6.3,SNR=46						
BRVK	**Borovoye**	**71.75**	**328**	*e*P	**P**	**01 21 14.5**	**-1.3**
	comp=E,21nm,1.1s,mb5.0						
AB31	**Akbulak array**	**76.28**	**321**	*i* P	**P**	**01 21 41.0**	**-1.1**
AB31				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
VNDA	**Vanda**	**78.70**	**173**	P	**P**	**01 21 55.8**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.2,baz=317,slow=5.4,SNR=13						
VNDA	**Vanda**	**78.70**	**173**	P	**P**	**01 21 55.8**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**78.70**	**173**	*e*P	**P**	**01 21 55.7**	**+0.7**
	comp=Z,3.4nm,0.9s,mb4.3						
ARU	**Arti**	**79.31**	**328**	P	**P**	**01 21 57.7**	**-1.0**
	comp=Z,93nm,0.6s,mb5.9,SNR=8.2						
ARU	**Arti**	**79.31**	**328**	⇓*i*P	**P**	**01 21 57.3**	**-1.4**
ARU				*i*		01 22 05.2	
ARU				*i*	pP	01 22 08.2	-0.7
ARU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ARU				MLR	MLR		
	comp=Z,200nm,23.0s,MS4.4						
ARU				MLR	MLR		
	comp=N,100nm,18.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.5						
ARU	**Arti**	**79.31**	**328**	*e*P	**P**	**01 21 56.9**	**-1.7**
	comp=E,12nm,0.8s,mb4.9						
SBA	**Scott Base**	**79.61**	**172**	P	**P**	**01 22 00.6**	**+0.6**
	comp=E,7.0nm,1.0s,mb4.5						
MAW	**Mawson**	**79.67**	**201**	*e*P	**P**	**01 22 02.3**	**+1.9**
	comp=E,5.4nm,1.0s,mb4.4						
MAW	**Mawson**	**79.67**	**201**	P	**P**	**01 22 02.4**	**+2.0**
	comp=E,1.2nm,0.6s,mb4.0,baz=26,slow=5.3,SNR=4.1						
MAW				LR	LR	01 52 52.4	
	comp=E,139nm,21.9s,MS4.3,baz=174,slow=32						
QRN	**Al-Qurain**	**81.36**	**299**	*e*P	**P**	**01 22 09.6**	**-0.5**
QRN				AMb	AMB	01 22 10.3	
	comp=Z,44nm,0.5s,mb5.6						
UMR	**Umm Al-Rimmam**	**81.62**	**300**	*e*P	**P**	**01 22 11.3**	**-0.1**
UMR				AMb	AMB	01 22 13.0	
	comp=Z,29nm,1.1s,mb5.1						
RDF	**Al-Radifah**	**81.70**	**299**	*e*P	**P**	**01 22 11.7**	**-0.2**
RDF				AMb	AMB	01 22 12.7	
	comp=Z,23nm,0.6s,mb5.3						
MIB	**Mutribah**	**81.97**	**300**	*e*P	**P**	**01 22 12.6**	**-0.7**
MIB				AMb	AMB	01 22 15.2	
	comp=Z,40nm,0.8s,mb5.4						
RST	**Umm Al-Ruwaisa**	**82.24**	**300**	*e*P	**P**	**01 22 14.5**	**-0.1**
RST				AMb	AMB	01 22 15.2	
	comp=Z,50nm,0.5s,mb5.7						
PPT	**Papeete**	**82.92**	**107**	*e*SS	SS	01 37 58.4	-2.1
PPT				*e*L		01 45 29.2	
PPT				*e*R		01 48 37.9	
	comp=Z,623nm,25.5s						
TBI	**Tubuai**	**83.19**	**113**	*e*S	S	01 32 37.0	+0.9
TBI				*e*SS	SS	01 37 59.5	-4.7
TBI				*e*R		01 48 46.1	
	comp=Z,391nm,37.5s						
MZLS	**Mizel**	**83.38**	**294**	P	**P**	**01 22 21.4**	**+0.7**
TATS	**Tathlith**	**84.72**	**290**	P	**P**	**01 22 28.6**	**+1.0**
ARSS	**Ar Rass**	**85.29**	**296**	P	**P**	**01 22 30.6**	**+0.3**
AFFS	**‘Afif**	**85.39**	**294**	P	**P**	**01 22 31.7**	**+0.9**
NAMS	**An Nimas**	**85.90**	**289**	P	**P**	**01 22 35.3**	**+1.8**
BLJS	**Baljurashi**	**86.50**	**290**	P	**P**	**01 22 37.7**	**+1.3**
HILS	**Ha’il**	**86.66**	**297**	P	**P**	**01 22 38.4**	**+1.3**
PMR	**Palmer**	**87.65**	**28**	P	**P**	**01 22 41.0**	**0.0**
	comp=Z,5.4nm,0.9s,mb4.8						
SYO	**Syowa Base**	**88.37**	**201**	⇓P	**P**	**01 22 44.8**	**+0.5**
SYO	**Syowa Base**	**88.37**	**201**	⇓PcP	PcP	01 22 46.1	-0.1
SYO	**Syowa Base**	**88.37**	**201**	⇓pP	pP	01 23 01.6	+7.0
SYO	**Syowa Base**	**88.37**	**201**	⇓sP	sP	01 23 05.3	+7.4
KBRS	**Khaybar**	**88.86**	**296**	P	**P**	**01 22 48.0**	**+0.4**
ILAR	**Eielson Array**	**88.97**	**25**	P	**P**	**01 22 46.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=244,slow=3.5,SNR=4.4						
QSPA	**South Pole Qui**	**88.98**	**180**	*e*P	**P**	**01 22 48.3**	**+1.3**
	comp=Z,8.4nm,0.8s,mb5.1						
QURS	**Qurayyt al Mil**	**90.68**	**301**	P	**P**	**01 22 56.4**	**+0.4**
OBN	**Obninsk**	**91.34**	**325**	*e*P	**P**	**01 22 56.7**	**-1.8**
OBN				*e*		01 23 04.1	
OBN				*e*		01 23 11.2	
OBN				*e*SS	SS	01 40 12.0	+10
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.3						
BRTR	**Keskin Array B**	**93.62**	**310**	P	**P**	**01 23 08.1**	**-1.2**
	comp=Z,1.8nm,1.0s,mb4.5,baz=124,slow=4.5,SNR=7.5						
BRTR				PP	PP	01 26 54.5	-2.6
	comp=Z,1.0nm,0.8s,baz=112,slow=6.7,SNR=4.4						
BRTR	**Keskin Array B**	**93.62**	**310**	P	**P**	**01 23 08.1**	**-1.2**
BRTR						01 26 54.6	
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**94.20**	**22**	LR	LR	02 06 44.6	
	comp=Z,348nm,19.1s,MS4.8,baz=278,slow=36						
ARCES	**ARCESS Array B**	**95.10**	**340**	P	**P**	**01 23 14.3**	**-1.2**
	comp=Z,5.0nm,1.0s,mb4.9,baz=59,slow=7.1,SNR=8.1						
ARCES	**ARCESS Array B**	**95.10**	**340**	P	**P**	**01 23 14.3**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**96.02**	**321**	LR	LR	02 08 23.4	
	comp=Z,113nm,20.3s,MS4.3,baz=35,slow=37						
RKT	**Rikitea**	**96.51**	**113**	*e*SS	SS	01 41 26.6	+11
DLBC	**Dease Lake**	**97.32**	**31**	LR	LR	02 04 25.0	
	comp=Z,585nm,20.4s,MS5.1,baz=95,slow=34						
HLID	**Hailey**	**110.68**	**43**	*e*PKiKP		01 28 27.4	
PDAR	**Pinedale Array**	**114.28**	**43**	PKP	PKPdf	01 28 34.0	-2.7
	comp=Z,0.4nm,0.5s,baz=225,slow=2.1,SNR=4.9						
ULM	**Lac du Bonnet**	**118.62**	**30**	PKP	PKPdf	01 28 40.2	-4.6
	comp=Z,2.0nm,0.6s,baz=14,slow=4.2,SNR=4.6						
ESDC	**Sonseca Array**	**121.46**	**317**	PP	PP	01 30 22.7	+1.3
	comp=Z,1.6nm,1.0s,baz=51,slow=8.2,SNR=4.0						
TXAR	**Lajitas Array**	**123.72**	**55**	PKP	PKPdf	01 28 52.4	-2.9
	comp=Z,0.5nm,0.7s,baz=227,slow=2.3,SNR=8.2						
KSU1	**Kansas State U**	**124.66**	**41**	*e*PKPdf	PKPdf	01 28 52.7	-4.2
SCHQ	**Schefferville**	**125.03**	**10**	PKP	PKPdf	01 28 53.4	-3.8
	comp=Z,3.8nm,0.7s,baz=24,slow=8.1,SNR=4.9						
JCT	**Junction City**	**126.39**	**52**	*e*PKPdf	PKPdf	01 28 56.2	-4.2
LRAL	**Lakeview Retre**	**134.50**	**42**	*e*PKPdf	PKPdf	01 29 12.5	-3.3
JTS	**JuntasAbangare**	**146.40**	**73**	PKPbc	PKPbc	01 29 36.0	+2.5
	comp=Z,6.7nm,0.9s,baz=284,slow=4.2,SNR=3.5						
LVC	**Limon Verde**	**151.61**	**147**	PKPbc	PKPdf	01 29 50.7	+5.2
	comp=Z,5.2nm,0.8s,baz=333,slow=2.2,SNR=8.3						
LVC				PKPab	PKPab	01 29 59.3	+1.8
	comp=Z,7.6nm,0.7s,baz=277,slow=2.4,SNR=9.9						
LVC	**Limon Verde**	**151.61**	**147**	*e*PKPbc	PKPdf	01 29 50.7	+5.1
LVC				*e*PKPab	PKPab	01 29 59.4	+2.0
CPUP	**Villa Florida**	**152.47**	**171**	PKPbc	PKPdf	01 29 50.6	+3.9
	comp=Z,2.7nm,1.1s,baz=196,slow=6.0,SNR=6.5						
CPUP				PKPab	PKPab	01 29 60.0	-1.0
	comp=Z,3.5nm,0.8s,baz=265,slow=4.1,SNR=6.8						
CPUP	**Villa Florida**	**152.47**	**171**	PKIKP	PKPdf	01 29 50.6	+3.9
CPUP						01 30 00.0	
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.8s						

MAN 23 01:27:41.0,16.43N×122.28E,h30^{km},mb4.4,ML3.2, MS3.0,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.67**	**320**	*e*P	Pb	01 27 53.9	-0.3
CAUP				*e*S	Sb	01 28 04.4	+1.2
CAUP	**Cauayan**	**0.67**	**320**	*e*P	Pb	01 27 53.9	-0.3
CAUP				*e*S	Sb	01 28 04.3	+1.1
BALP	**Baler**	**0.96**	**225**	*e*P	Pn	01 27 58.2	-0.4
BALP				*e*S	Sn	01 28 11.3	0.0
BALP	**Baler**	**0.96**	**225**	*e*P	Pn	01 27 58.2	-0.4
BALP				*e*S	Sn	01 28 11.2	-0.2
CVP	**Callao Caves**	**1.34**	**341**	*e*P	Pn	01 28 04.0	0.0
CVP				*e*S	Sn	01 28 20.0	-0.9
BCPH	**Baguio City Da**	**1.63**	**269**	⇓*i*P	Pn	01 28 08.0	-0.2
BCPH				*i* S	Sn	01 28 28.6	+0.3
APYP	**Conner**	**1.73**	**325**	*e*P	Pn	01 28 07.8	-1.8
APYP	**Conner**	**1.73**	**325**	*e*P	Pn	01 28 08.1	-1.5
APYP				*e*S	Sn	01 28 29.0	-1.9
ABRA	**Dolores**	**1.93**	**309**	*e*P	Pn	01 28 10.9	-1.5
ABRA	**Dolores**	**1.93**	**309**	*e*P	Pn	01 28 10.9	-1.5
ABRA				*e*S	Sn	01 28 33.6	-2.3

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*IDC **23** 01:33:52.8±3.8,51.20N×179.06W,h50^{km}±31^{km},mb3.4/7, mb1 3.7/8,mb1mx3.5/24,ML3.1/1,Error ellipse: s-maj=58.0km s-min=18.8km az=7.0*

*NEIC **23** 01:33:53.5±1.2,51.24N×179.10W,h56^{km}±6^{km},mb3.8/2, ML3.1(AEIC),Error ellipse: s-maj=27.8km s-min=6.7km az=182.0*

ISC 23 01:33:49.4±1.7**,50.9N**±0.2×**179.21W**±0.08**,h51**^{km}±11^{km}**, n20,**σ**0^{s}70**/23**,mb3.7**/9**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**1.53**	**53**	P	**P**	**01 34 14.3**	**-0.6**
KIWB	**Kanaga Island**	**1.63**	**52**	P	**P**	**01 34 15.7**	**-0.6**
KIWB				S	**S**	**01 34 36.8**	**+0.6**
KIKV	**Kanaga Island**	**1.64**	**51**	P	**P**	**01 34 16.1**	**-0.3**
KIKV				S	**S**	**01 34 37.3**	**+1.0**
GSTD	**Great Sitkin T**	**2.26**	**57**	P	**P**	**01 34 25.5**	**+0.3**
GSMY	**Great Sitkin M**	**2.30**	**58**	P	**P**	**01 34 26.0**	**+0.2**
GSIG	**Igitkin Island**	**2.34**	**60**	P	**P**	**01 34 26.5**	**+0.1**
ATKA	**Atka Island**	**3.41**	**65**	P	**P**	**01 34 40.9**	**-0.5**
FX1	**Attu Island--F**	**5.14**	**296**	P	**P**	**01 35 06.2**	**+0.4**
	2.5nm,0.3s,baz=294,slow=14,SNR=7.9						
FX1				S	**S**	**01 36 04.6**	**0.0**
	baz=195,slow=19,SNR=1.6						
FX1	**Attu Island--F**	**5.14**	**296**	*e*P	**P**	**01 35 06.6**	**+0.8**
UNV	**Unalaska Valle**	**8.33**	**64**	*e*P	**P**	**01 35 49.5**	**-0.7**
ILAR	**Eielson Array**	**21.81**	**38**	P	**P**	**01 38 36.5**	**-2.0**
	0.3nm,0.4s,mb3.1,baz=235,slow=8.6,SNR=12						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**01 40 43.9**	**-1.1**
	0.8nm,0.8s,mb3.7,baz=283,slow=7.1,SNR=3.9						
NEW	**Newport**	**39.31**	**69**	P	**P**	**01 41 15.0**	**+0.3**
	0.7nm,0.6s,mb3.6						
BOZ	**Bozeman (W)**	**43.88**	**69**	P	**P**	**01 41 52.4**	**+0.3**
	1.1nm,0.5s,mb3.8						
BW06	**Boulder Array**	**46.72**	**72**	P	**P**	**01 42 15.8**	**+1.1**
PDAR	**Pinedale Array**	**46.72**	**72**	P	**P**	**01 42 15.8**	**+1.0**
	1.4nm,1.0s,mb3.9,baz=314,slow=4.3,SNR=8.5						
TXAR	**Lajitas Array**	**58.99**	**81**	P	**P**	**01 43 45.9**	**-0.1**
	0.1nm,0.5s,mb3.1,baz=315,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**60.16**	**308**	P	**P**	**01 43 53.9**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=45,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**66.23**	**347**	P	**P**	**01 44 33.0**	**-0.5**
	2.3nm,1.0s,mb4.2,slow=3.8,SNR=3.4						
AKASG	**Malin Array Be**	**75.96**	**342**	P	**P**	**01 45 32.4**	**+0.5**
	1.0nm,0.3s,mb4.2,baz=20,slow=6.7,SNR=8.0						

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*IDC **23** 01:39:31.1±4.2,37.03N×69.72E,mb3.9/2,mb1 4.0/4, mb1mx3.6/19,ML3.3/2,Error ellipse: s-maj=76.9km s-min=37.6km az=158.0*

*NNC **23** 01:39:38.1±5.9,37.66N×69.18E,h1^{km}±24^{km},mpv3.3, Error ellipse: s-maj=44.8km s-min=33.2km az=169.0*

ISC 23 01:39:33.1±1.8**,37.4N**±0.1×**69.5E**±0.2**,h10**^{km}**,n6,**σ**1^{s}29**/8**, mb3.8**/2**,4C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.71**	**7**	⇑Pn	**Pn**	**01 41 02.2**	**+2.1**
	0.9nm,0.5s,baz=187,slow=11,SNR=11						
KK31				⇑Pg	**Pg**	**01 41 18.9**	**-8.3**
	3.6nm,0.6s,baz=191,slow=17,SNR=6.3						
KK31				⇑Sn	**Sn**	**01 42 07.1**	**+0.5**
	5.0nm,0.7s,baz=189,slow=26,SNR=4.6						
KK31				⇓Lg		01 42 33.9	
	5.2nm,0.5s,baz=193,slow=26,SNR=5.2						
MKAR	**Makanchi Array**	**13.30**	**41**	Pn	**P**	**01 42 43.4**	**-1.2**
	0.1nm,0.3s,baz=232,slow=14,SNR=7.0						
AB31	**Akbulak array**	**13.70**	**333**	⇑P	**P**	**01 42 48.0**	**-1.8**
	0.3nm,0.3s,baz=274,slow=12,SNR=31						
BVAR	**Borovoye Array**	**15.60**	**2**	Pn	**P**	**01 43 13.4**	**-1.2**
	0.2nm,0.3s,baz=166,slow=12,SNR=4.3						
NOA	**NORSAR Array B**	**42.92**	**323**	P	**P**	**01 47 33.9**	**+0.7**
	2.4nm,1.2s,mb3.8,baz=101,slow=9.1,SNR=2.9						
YKA	**Yellowknife Ar**	**80.36**	**2**	P	**P**	**01 51 46.6**	**+1.1**
	0.6nm,0.5s,mb3.8,baz=353,slow=5.2,SNR=5.8						

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*MOS **23** 01:57:52.0±2.1,66.30N×142.42E,h10^{km},mb4.1/2,Error ellipse: s-maj=51.8km s-min=25.0km az=106.3*

*IDC **23** 01:57:53.4±1.9,66.22N×142.92E,mb3.6/4,mb1 3.7/4, mb1mx3.4/22,Error ellipse: s-maj=60.3km s-min=27.1km az=157.0*

ISC 23 01:57:53.4±0.9**,66.3N**±0.1×**142.8E**±0.3**,h10**^{km}**,n10,** σ**0^{s}97**/10**,mb3.4**/4**,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUUS	**Susuman**	**4.24**	**145**	*e*P	**Pn**	**01 59 00.7**	**+1.1**
SUUS				*e*		01 59 59.4	
SEY	**Seymchan**	**5.34**	**125**	*e*P	**Pn**	**01 59 14.3**	**-0.8**
BOD	**Bodaibo**	**15.81**	**251**	*e*P	**P**	**02 01 33.0**	**-4.4**
SONM	**Songino Array**	**26.50**	**244**	P	**P**	**02 03 32.5**	**+0.2**
	0.5nm,0.8s,mb3.1,baz=22,slow=9.1,SNR=3.9						
ILAR	**Eielson Array**	**27.76**	**60**	P	**P**	**02 03 43.3**	**-0.3**
	0.2nm,0.5s,mb3.0,baz=305,slow=7.6,SNR=5.4						
MKAR	**Makanchi Array**	**36.75**	**268**	P	**P**	**02 05 01.8**	**-0.6**
	1.1nm,1.1s,mb3.6,baz=44,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**36.75**	**268**	P	**P**	**02 05 01.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
FINES	**FINESS Array B**	**44.36**	**322**	P	**P**	**02 06 05.8**	**+0.9**
	comp=Z,2.1nm,0.9s,mb3.9,baz=39,slow=8.9,SNR=5.4						
FINES	**FINESS Array B**	**44.36**	**322**	P	**P**	**02 06 05.8**	**+1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**46.86**	**311**	*e*P	**P**	**02 06 19.6**	**-5.1**

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*IDC **23** 02:11:55.5±1.6,58.38S×22.92W,mb3.9/3,mb1 4.0/3, mb1mx3.8/13,MS3.7/1,Ms1 3.7/1,ms1mx3.3/15,Error ellipse: s-maj=78.8km s-min=35.8km az=25.0*

*NEIC **23** 02:11:59.6±0.9,58.26S×23.04W,h25^{km},mb4.6/1,Error ellipse: s-maj=34.1km s-min=11.2km az=54.0*

ISC 23 02:11:58.0±1.3, 58.3S±0.2×23.2W±0.5, h25^{km}, n10, σ1^{s}30/8, mb4.1/4, MS3.7/1, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.89	159	⇑i	P	02 15 15.9	+0.7
VNA2	Neumayer--Watz	14.28	159		P	02 15 21.0	+0.7
SNAA	Sanae	15.79	156	⇓i	P	02 15 38.4	-1.5
EFI	East Falkland	20.88	273	P	P	02 16 39.8	-0.7
PLCA	Paso Flores	34.52	280	P	P	02 18 47.8	+1.8
	1.2nm,0.7s,mb3.9,baz=163,slow=14,SNR=4.2						
PLCA				LR	LR	02 30 55.7	
	comp=Z,124nm,18.8s,MS3.7,baz=180,slow=33						
CPUP	Villa Florida	39.93	308	P	P	02 19 30.6	-1.1
	1.2nm,0.9s,mb3.6,baz=174,slow=14,SNR=3.0						
BDFB	Brasilia	46.44	326	P	P	02 20 26.3	+1.9
	2.3nm,1.0s,mb4.1,baz=190,slow=6.1,SNR=2.3						
SAML	Samuel	57.93	312	eP	P	02 21 49.0	-1.5
	5.9nm,0.9s,mb4.6						
SONM	Songino Array	148.69	87	PKPbc	PKPdf	02 31 42.9	+0.2
	2.8nm,0.9s,baz=229,slow=3.4,SNR=16						
ILAR	Eielson Array	153.23	308	PKPbc	PKPdf	02 31 53.2	+4.3
	0.7nm,0.9s,baz=90,slow=1.8,SNR=6.0						

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*IDC **23** 02:41:44.4±1.4, 24.29N×104.37E, mb3.4/3, mb1 3.8/4, mb1mx3.5/17, ML4.5/1, Error ellipse: s-maj=31.5km s-min=21.1km az=101.0*

*BJI **23** 02:41:45.0, 24.16N×104.57E, h16^{km}, mb4.3, ML3.8*

*NEIC **23** 02:41:45.7±0.6, 24.22N×104.28E, h10^{km}, mb4.0/1, Error ellipse: s-maj=13.0km s-min=9.5km az=108.0*

ISC 23 02:41:43.4±0.6, 24.22N±0.05×104.30E±0.05, h10^{km}, n14, σ0^{s}84/19, mb3.5/4, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	1.68	303	ePG	Pg	02 42 17.3	+0.3
KMI				SG	Sg	02 42 40.1	+0.7
KMI				Smax			
	comp=N,547nm,0.9s						
KMI				Smax			
	comp=E,600nm,1.0s						
GYA	Guiyang	3.09	43	⇑iP	Pn	02 42 34.4	+1.2
GYA				S	Sn	02 43 10.6	0.0
GYA				SG	Sg	02 43 20.3	-6.0
GYA				Smax			
	comp=N,860nm,0.7s						
GYA				Smax			
	comp=E,740nm,0.7s						
NANT	Nan	6.35	213	P	Pn	02 43 13.0	-6.4
NANT				S	Sn	02 45 04.0	+31
CD2	Chengdu	6.68	356	eP	Pn	02 43 22.8	-1.3
CD2				S	Sn	02 44 39.6	-1.4
CD2				Smax			
	comp=N,21nm,1.0s						
CD2				Smax			
	comp=E,38nm,1.2s						
QIZ	Qiongzhong	7.30	134	Pn	Pn	02 43 31.5	-1.1
ENH	Enshi	7.59	36	ePn	Pn	02 43 37.4	+0.6
	comp=E,16nm,0.5s						
CM31	Chiang Mai Arr	7.60	222	P	Pn	02 43 36.6	-0.3
CMAR	Chiang Mai Arr	7.60	222	Pn	Pn	02 43 36.5	-0.4
	comp=E,1.9nm,0.3s,baz=31,slow=13,SNR=8.4						
CMAR				Pg	Pg	02 44 06.5	-8.6
	comp=E,0.4nm,0.3s,baz=36,slow=17,SNR=17						
CMAR				Lg		02 45 47.3	
	comp=E,0.6nm,0.3s,baz=44,slow=30,SNR=6.4						
GZH	Guangzhou	8.37	96	P	P	02 43 41.6	-6.0
GZH				Smax			
	comp=N,85nm,0.9s						
GZH				Smax			
	comp=E,61nm,1.0s						
GTA	Gaotai	15.61	347	eP	P	02 45 30.6	+5.4
GTA				AP		02 45 35.8	
GTA				XP		02 45 38.8	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s						
SONM	Songino Array	23.63	4	P	P	02 46 56.2	+0.8
	comp=Z,0.3nm,0.4s,mb3.0,baz=184,slow=12,SNR=4.6						
MKAR	Makanchi Array	28.60	327	P	P	02 47 41.8	0.0
	comp=Z,0.2nm,0.5s,mb3.1,baz=122,slow=8.6,SNR=3.0						
KURK	Kurchatov	33.07	330	eP	P	02 48 20.8	-0.4
	comp=Z,1.8nm,0.9s,mb4.0						
WRA	Warramunga Arr	52.75	144	P	P	02 51 02.2	+1.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=331,slow=8.5,SNR=5.1						

IDC 23 02:49:06.6±2.0, 2.89S×150.42E, mb3.3/3, mb1 3.7/3, mb1mx3.5/14, Error ellipse: s-maj=168.0km s-min=28.6km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.10	222	P	P	02 54 12.5	-2.8
	0.2nm,0.4s,baz=49,slow=10,SNR=4.7						
ASAR	Alice Springs	26.11	216	P	P	02 54 43.9	-0.1
	0.5nm,0.8s,baz=49,slow=8.3,SNR=3.0						
ILAR	Eielson Array	81.31	23	P	P	03 01 24.4	-1.7
	0.3nm,0.6s,baz=252,slow=5.9,SNR=4.8						

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*NEIC **23** 03:09:24.7±0.7, 51.56N×6.54E, h2^{km}±5^{km}, ML2.8(LDG), Error ellipse: s-maj=6.4km s-min=3.8km az=136.0*

*BUG **23** 03:09:25.6, 51.51N×6.67E, h1^{km}, ML1.7*

*BNS **23** 03:09:25.8±1.0, 51.58N×6.65E, h1^{km}, ML2.1*

*BGR **23** 03:09:26.3±0.3, 51.53N×6.63E, h1^{km}, ML2.4/3, Error ellipse: s-maj=5.6km s-min=3.3km az=118.0*

*LDG **23** 03:09:26.7±0.2, 51.56N×6.53E, h1^{km}, Ml2.8/20, Error ellipse: s-maj=3.0km s-min=2.3km az=63.0, Suspected Mining induced.*

ISC 23 03:09:23.6±0.4, 51.48N±0.02×6.49E±0.04, n43, σ1^{s}35/90, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUG	Bochum--Univer	0.49	94	⇓iPg	Pg	03 09 33.8	+0.5
BUG				Sg	Sg	03 09 39.8	-0.1
BUG	Bochum--Univer	0.49	94	ePg	Pg	03 09 33.7	+0.4
BUG				eSg	Sg	03 09 39.5	-0.4
WTSB	Winterswijk	0.52	21	ePg	Pg	03 09 33.9	-0.1
	SNR=33						
WTSB				eSg	Sg	03 09 41.1	+0.1
	SNR=1.8						
WTSB	Winterswijk	0.52	21	⇓iPg	Pg	03 09 33.9	-0.1
	88nm,0.6s,baz=200						
WTSB				eSg	Sg	03 09 41.4	+0.4
BNS	Bensberg	0.67	140	ePg	Pg	03 09 38.9	+1.9
BNS				eSg	Sg	03 09 48.7	+2.7
HGN	Heimansgroeve	0.80	206	ePg	Pg	03 09 42.8	+3.3
	SNR=81						
HGN				eSg	Sg	03 09 55.4	+5.3
	SNR=10						
HGN	Heimansgroeve	0.80	206	ePn	Pn	03 09 43.2	+1.4
	7.0nm,0.3s,baz=30						
HGN				i Pg	Pg	03 09 44.0	+4.5
	83nm,0.2s						
HGN				eSn	Sn	03 09 55.5	+0.9
HGN				i Sg	Sg	03 09 57.3	+7.2
KLL	Kalltalsperre	0.84	188	ePg	Pg	03 09 43.8	+3.5
KLL				eSg	Sg	03 09 57.3	+5.7
	46nm,0.3s						
STB	Steinbach	0.91	166	ePg	Pg	03 09 44.7	+2.9
STB				eSg	Sg	03 09 58.5	+4.6
	103nm,0.3s						
IBBN	Ibbenburen	1.14	43	ePg	Pg	03 09 45.5	-0.9
	SNR=5.5						
IBBN				eSg	Sg	03 10 00.8	-0.8
	SNR=2.6						
IBBN	Ibbenburen	1.14	43	ePg	Pg	03 09 45.5	-0.8
IBBN				eSg	Sg	03 10 00.8	-0.8
KOE	Koppel	1.32	143	ePg	Pg	03 09 50.3	+0.5
KOE				eSg	Sg	03 10 08.8	+1.4
BGG	Burgeitz	1.38	157	ePg	Pg	03 09 51.9	+0.7
BGG				eSg	Sg	03 10 11.3	+1.7
	30nm,1.1s						
GIVF	Givet	1.74	218	ePn	Pn	03 09 57.8	+2.6
GIVF				ePg	Pg	03 09 59.9	+1.6
GIVF				eSg	Sg	03 10 24.3	+2.9
	31nm,0.3s						
WLF	Walferdange	1.83	187	ePg	Pg	03 10 01.4	+1.3
	SNR=4.7						
WLF				eSg	Sg	03 10 25.2	+0.7
	SNR=5.6						
BAIF	Baives	2.03	226	ePn	Pn	03 10 01.2	+1.8
BAIF				eSn	Sn	03 10 26.4	+0.6
BAIF				eSg	Sg	03 10 32.9	+1.8
	12nm,0.4s						
CLZ	Clausthal	2.45	80	ePn	Pn	03 10 04.6	-0.7
	SNR=7.8						
CLZ				eSg	Sg	03 10 40.3	-4.6
	SNR=2.8						
CLZ	Clausthal	2.45	80	ePn	Pn	03 10 04.6	-0.7
CLZ				eSg	Sg	03 10 40.3	-4.7
RFYF	Reffroy	2.93	193	ePg	Pg	03 10 22.6	+0.6
RFYF				eSg	Sg	03 11 01.1	+0.1
	9.3nm,0.3s						
CDF	Champ du Feu	3.11	170	ePn	Pn	03 10 15.8	+0.9
CDF				eSg	Sg	03 11 06.2	-1.0
	3.7nm,0.4s						
MEZF	Maizieres J'vi	3.12	198	ePn	Pn	03 10 16.7	+1.7
MEZF				eSg	Sg	03 11 07.4	-0.1
	6.0nm,0.4s						
MOX	Moxa	3.34	102	ePg	Pg	03 10 26.4	-3.8
MOX				eSg	Sg	03 11 10.4	-4.4
BFO	Black Forest	3.37	159	ePn	Pn	03 10 19.0	+0.5
	SNR=2.1						
BFO				eSn	Sn	03 10 57.6	-2.2
	SNR=1.5						
BFO	Black Forest	3.37	159	ePn	Pn	03 10 19.0	+0.5
BFO				eSn	Sn	03 10 57.6	-2.2
SFTF	Sexfontaines	3.41	197	ePg	Pg	03 10 31.1	-0.5
SFTF				eSg	Sg	03 11 14.4	-2.7
	5.2nm,0.3s						
HAU	Haudompre	3.48	182	ePg	Pg	03 10 32.9	-0.1
HAU				eSg	Sg	03 11 18.7	-0.7
	5.8nm,0.3s						
HINF	Hinteralfeld	3.67	176	ePg	Pg	03 10 36.5	-0.4
HINF				eSg	Sg	03 11 24.3	-1.6
	1.9nm,0.3s						
CLL	Collm	4.08	90	eSG	Sg	03 11 31.0	-8.5
LOR	Lormes	4.55	203	ePn	Pn	03 10 35.8	+0.5
LOR				ePg	Pg	03 10 52.5	-1.9
LOR				eSn	Sn	03 11 28.0	-1.8
LOR				eSg	Sg	03 11 51.8	-3.3
	5.3nm,0.4s						
SSF	Saint Saulge	4.83	205	ePn	Pn	03 10 39.3	0.0
SSF				eSn	Sn	03 11 34.7	-2.2
SSF				eSg	Sg	03 12 01.8	-2.7
	3.1nm,0.4s						
CABF	La Chapelle	4.88	183	ePn	Pn	03 10 40.7	+0.7
CABF				ePg	Pg	03 10 58.5	-2.5
CABF				eSg	Sg	03 12 01.8	-4.2
	2.4nm,0.5s						
HYF	Humbligny	4.91	212	ePn	Pn	03 10 41.4	+1.0
AVF	Avril sur Loir	5.12	205	ePn	Pn	03 10 43.4	0.0
AVF				eSn	Sn	03 11 40.2	-4.0
AVF				eSg	Sg	03 12 09.8	-4.4
	1.9nm,0.4s						
SMF	Signal de Mont	5.14	201	ePn	Pn	03 10 43.7	0.0
SMF				eSg	Sg	03 12 09.1	-5.7
	2.4nm,0.3s						
FLN	La Foliniere	5.24	241	ePn	Pn	03 10 45.3	+0.2
FLN				eSn	Sn	03 11 42.8	-4.4
	3.9nm,0.3s						
BGF	Bois d'Agland	5.48	207	ePn	Pn	03 10 48.2	-0.2
BGF				ePg	Pg	03 11 09.4	-3.5
BGF				eSg	Sg	03 12 20.1	-5.8
	10nm,0.5s						
GRR	Gorron	5.66	240	ePn	Pn	03 10 51.0	0.0
GRR				eSn	Sn	03 11 51.5	-6.2
	1.9nm,0.2s						
TCF	Toulx Ste Croi	5.91	210	ePn	Pn	03 10 53.9	-0.6
TCF				eSg	Sg	03 12 35.9	-4.5
	1.6nm,0.4s						
MFF	Saint Martin d	6.54	224	ePn	Pn	03 11 02.4	-1.0
MFF				eSn	Sn	03 12 13.8	-6.0
	0.7nm,0.3s						
SGMF	Saint Gilles	6.68	245	ePn	Pn	03 11 04.1	-1.2
RJF	Les Rejaudoux	7.01	210	ePn	Pn	03 11 09.1	-0.9
CAF	Calviac	7.19	206	ePn	Pn	03 11 11.8	-0.8
QUIF	Quistinic	7.21	244	ePn	Pn	03 11 10.9	-1.8

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*THR **23** 03:50:34.8±0.6, 36.63N×44.81E, h14^{km}±12^{km}, ML3.5*

ISC 23 03:50:36.8±0.6, 36.32N±0.05×44.86E±0.07, h10^{km}, n10, σ1^{s}02/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNGE	Sanandaj	2.37	120	ePN	Pn	03 51 18.3	+1.9
SNGE				eSG	Sg	03 51 55.2	-0.5
SNGE				AMP		03 52 12.1	
	comp=N,334nm,0.6s						
TVAN	Van	2.49	333	i P	Pn	03 51 16.8	-1.3
TVAN				i S	Sn	03 51 50.0	+1.2
MAKU	Maku	3.03	357	ePN	Pn	03 51 20.2	-5.7
BEST	Besiri	3.27	300	i P	Pb	03 51 34.5	0.0
BEST				i S	Sb	03 52 19.6	+5.0
ASAO	Ashtian	4.58	111	ePN	Pn	03 51 48.1	+0.4
ASAO				AMP		03 53 09.6	
	comp=N,24nm,0.7s						
THKV	Tehran--Karaj	4.89	93	ePN	Pn	03 51 51.5	-0.7
GZT	Gaziantep	5.94	282	i P	Pn	03 52 06.5	-0.5
HILS	Ha'il	9.28	197	P	P	03 52 54.9	+1.2
MZLS	Mizel	12.26	178	P	P	03 53 33.2	-1.2
MZLS				S	S	03 55 52.5	+0.4
AFFS	'Afif	12.46	188	P	P	03 53 36.2	-0.9
AFFS				S	S	03 56 01.3	+4.4

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*IDC **23** 04:28:04.0±1.0, 33.76S×72.09W, mb4.0/5, mb1 4.1/9, mb1mx4.0/18, ML4.5/4, MS3.5/5, Ms1 3.4/5, ms1mx3.2/20, Error ellipse: s-maj=38.2km s-min=18.2km az=90.0*

*NEIC **23** 04:28:09.4, 33.81S×72.33W, h46^{km}, mb4.6/2, MD4.2(GUC), After GUC.*

ISC 23 04:28:08.8±0.6, 33.81S±0.03×72.42W±0.06, h50^{km}±8^{km}, n36, σ0^{s}66/55, mb4.0/6, MS3.5/3, 14C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	Las Cruces	0.78	65	⇑iP	P	04 28 23.7	+0.1
LCCH				i S	S	04 28 34.1	-0.4
LNV	Longovilo	0.85	100	⇓iP	P	04 28 24.2	-0.3
LNV				i S	S	04 28 35.8	-0.5
IHA	Instituto Hidr	1.01	40	⇓iP	P	04 28 27.0	+0.2
IHA				i S	S	04 28 40.8	+0.5
TACH	Talagante	1.24	83	⇑iP	P	04 28 29.6	-0.5
TACH				i S	S	04 28 45.5	-0.5
SFDO	San Fernando	1.41	125	⇑iP	P	04 28 32.7	+0.1
SFDO				i S	S	04 28 50.1	-0.2
PUEX	Pudahuel	1.43	76	eP	P	04 28 34.0	+1.2
PUEX				i S	S	04 28 51.6	+0.9
CHCH	Chadas Angostu	1.47	95	⇑iP	P	04 28 33.4	0.0
CHCH				i S	S	04 28 51.4	-0.3
ANTU	Antumapu	1.51	81	⇑iP	P	04 28 33.9	0.0
ANTU				i S	S	04 28 51.9	-0.6
SAN	Santiago	1.51	77	⇑iP	P	04 28 34.0	+0.1
SAN				i S	S	04 28 52.2	-0.3
CACH	El Canelo	1.54	102	⇓iP	P	04 28 35.2	+0.8
CACH				i S	S	04 28 54.4	+1.0
PEL	Peldehue	1.59	66	⇑iP	P	04 28 35.9	+0.8
PEL				i S	S	04 28 55.4	+0.8
DSCH	Colegio Aleman	1.59	76	⇑iP	P	04 28 35.5	+0.4
DSCH				i S	S	04 28 54.8	+0.1
PCH	Pirque	1.60	84	⇑iP	P	04 28 35.0	-0.2
PCH				i S	S	04 28 54.7	0.0
TALC	Talca	1.71	158	⇑iP	P	04 28 36.8	0.0
LMEL	Las Melosas	1.84	92	⇓iP	P	04 28 38.8	+0.2
LMEL				i S	S	04 29 00.7	0.0
JACH	Jahuel	1.90	54	⇑iP	P	04 28 39.5	+0.2
JACH				i S	S	04 29 02.4	+0.3
COCH	Cobquecura	2.34	187	⇑iP	P	04 28 45.6	0.0
ILCH	Illapel	2.41	26	⇑iP	P	04 28 46.7	+0.1
ILCH				i S	S	04 29 14.9	0.0
CCHI	Chillan	2.80	174	⇓iP	P	04 28 52.8	+0.5
CCHI				i S	S	04 29 24.3	-0.7
CMCH	Combarbala	2.89	25	⇓iP	P	04 28 53.5	+0.1
CMCH				i S	S	04 29 26.4	-0.8
MDZ	Mendoza	3.12	74	eP	P	04 28 55.9	-0.9
MDZ				e		04 29 02.1	
MDZ				S	S	04 29 44.1	+11
TLL	Tololo Astrono	3.88	21	⇓iP	P	04 29 07.2	-0.2
TLL				i S	S	04 29 51.4	-0.8
PLCA	Paso Flores	7.07	168	Pn	P	04 29 50.4	-1.7
	7.8nm,0.3s,baz=334,slow=12,SNR=189						
PLCA				Sn	S	04 31 18.3	+6.3
	0.3nm,0.3s,baz=319,slow=17,SNR=1.5						
PLCA				LR	LR	04 32 52.4	
	comp=Z,213nm,19.8s,baz=359,slow=41						
PLCA	Paso Flores	7.07	168	⇑eP	P	04 29 50.8	-1.4
	28nm,0.6s						
LVC	Limon Verde	11.57	16	Pn	P	04 30 49.7	-4.2
	0.2nm,0.3s,baz=208,slow=15,SNR=4.8						
CPUP	Villa Florida	15.03	64	Pn	P	04 31 32.6	-6.8
	0.1nm,0.3s,baz=229,slow=13,SNR=5.2						
CPUP				LR	LR	04 37 53.6	
	comp=Z,109nm,18.4s,baz=119,slow=40						
LPAZ	La Paz	17.87	14	P	P	04 32 15.0	-0.4
	0.5nm,0.3s,baz=184,slow=2.0,SNR=4.8						
USHA	Ushuaia	21.21	174	P	P	04 32 53.1	+1.1
	6.0nm,0.6s,mb4.1,baz=351,slow=7.1,SNR=7.9						
USHA				LR	LR	04 40 59.3	
	comp=Z,177nm,19.1s,MS3.5,baz=161,slow=36						
BDFB	Brasilia	28.49	57	P	P	04 33 59.2	-2.3
	1.8nm,0.7s,mb3.8,baz=213,slow=19,SNR=3.8						
BDFB				LR	LR	04 46 40.2	
	comp=Z,65nm,18.4s,MS3.3,baz=266,slow=40						
SNAA	Sanae	51.88	158	P	P	04 37 13.5	-0.3
	1.6nm,0.6s,mb4.1,baz=270,slow=6.9,SNR=26						
SNAA	Sanae	51.88	158	eP	P	04 37 13.8	-0.1
	5.1nm,0.9s,mb4.5						
QSPA	South Pole Qui	56.43	180	eP	P	04 37 47.4	+0.4
	5.3nm,0.8s,mb4.6						
TXAR	Lajitas Array	69.41	331	P	P	04 39 15.2	+1.6
	0.2nm,0.8s,mb3.1,baz=151,slow=9.3,SNR=3.0						
MAW	Mawson	73.45	164	P	P	04 39 36.9	-0.1
	2.9nm,0.7s,mb4.3,baz=233,slow=7.0,SNR=7.9						
NEW	Newport	90.95	332	LR	LR	05 16 35.5	
	comp=Z,40nm,18.2s,MS3.9,baz=163,slow=32						
WRA	Warramunga Arr	120.78	210	PKP	PKPdf	04 46 56.7	+0.9
	0.3nm,0.7s,baz=160,slow=1.4,SNR=5.4						

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*ISK **23** 04:47:06.0, 36.92N×27.64E, h3^{km}, MD3.0*

*NEIC **23** 04:47:08.6, 36.94N×27.74E, h36^{km}, MD2.7(ATH), After ATH.*

*ATH **23** 04:47:08.6, 36.94N×27.74E, h36^{km}±8^{km}, MD2.7/4*

ISC 23 04:47:08.3±0.6, 36.93N±0.03×27.71E±0.04, h15^{km}±4^{km}, n16, σ0^{s}82/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.26	303	i P	Pg	04 47 14.5	+0.5
BDRM				i S	Sg	04 47 18.8	+0.9
BDRM	Kayabasi	0.26	303	i P	Pg	04 47 14.5	+0.5
BDRM				i S	Sg	04 47 18.8	+0.9
YER	Yerkesik	0.50	65	i PG	Pg	04 47 17.6	-1.1
NISR	Nisiros	0.56	236	ePN	Pn	04 47 20.5	-1.0
NISR				eSN	Sn	04 47 30.5	0.0
AYDN	Tasoluk	0.74	10	i P	Pb	04 47 22.2	-0.3
AYDN				i S	Sb	04 47 30.8	-1.5
AYDN	Tasoluk	0.74	10	i P	Pb	04 47 22.2	-0.3
AYDN				i S	Sb	04 47 30.8	-1.5
DALT	Dalyan (Mudla)	0.76	102	PG	Pg	04 47 22.3	-1.4
DALT				SG	Sg	04 47 34.4	+0.5
ARG	Arkhangelos	0.78	155	ePB	Pb	04 47 23.6	+0.5
ARG				eSN	Sn	04 47 36.3	+0.2
SMG	Samos	1.05	318	ePN	Pn	04 47 28.5	0.0
DNZL	Cakiroluk	1.31	54	i P	Pb	04 47 32.1	0.0
DNZL				i S	Sb	04 47 50.7	+2.2
DNZL	Cakiroluk	1.31	54	i P	Pb	04 47 32.1	0.0
DNZL				i S	Sb	04 47 50.7	+2.2
DENT	Denizli	1.34	51	ePN	Pn	04 47 32.2	-0.4
KARP	Karpathos	1.45	198	ePN	Pn	04 47 34.5	+0.3
IZM	Izmir	1.51	346	ePN	Pn	04 47 34.8	-0.3
MANT	Manisa	1.70	23	i P	Pn	04 47 38.6	+0.9
MANT				i S	Sn	04 47 59.6	+0.2
MANT	Manisa	1.70	23	i P	Pn	04 47 38.6	+0.9
MANT				i S	Sn	04 47 59.6	+0.2

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*IDC **23** 04:56:30.0±3.6, 51.19N×179.12W, h49^{km}±33^{km}, mb3.7/13, mb1 3.9/13, mb1mx3.7/25, MS3.8/3, Ms1 3.8/3, ms1mx2.8/29, Error ellipse: s-maj=36.0km s-min=15.0km az=173.0*

*NEIC **23** 04:56:30.9±1.4, 51.25N×179.14W, h56^{km}±8^{km}, mb3.8/2, ML3.4(AEIC), Error ellipse: s-maj=22.6km s-min=11.1km az=188.0*

ISC 23 04:56:28.6±1.3, 51.1N±0.2×179.24W±0.10, h59^{km}±8^{km}, n28, σ0^{s}98/29, mb3.9/15, MS3.8/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	Kanaga Island	1.43	61	P	P	04 56 51.8	-1.1
KIWB	Kanaga Island	1.52	58	P	P	04 56 53.3	-0.9
KIKV	Kanaga Island	1.52	57	P	P	04 56 53.5	-0.7
KINC	Kanaga Island	1.57	56	P	P	04 56 55.3	+0.4
KINC				S	S	04 57 16.5	+2.3
ADAG	Mount Adagdak	1.88	60	P	P	04 56 59.8	+0.7
GSTD	Great Sitkin T	2.17	62	P	P	04 57 03.4	+0.3
GSTD				S	S	04 57 30.8	+2.1
GSMY	Great Sitkin M	2.21	63	P	P	04 57 03.6	-0.2
GSIG	Igitkin Island	2.26	65	P	P	04 57 04.0	-0.5
ATKA	Atka Island	3.34	68	P	P	04 57 18.4	-1.3
FX1	Attu Island--F	5.03	294	P	P	04 57 43.7	+0.4
	baz=74,slow=7.2						
FX1				LR	LR	04 59 04.9	
	comp=Z,966nm,20.9s,baz=301,slow=31						
ILAR	Eielson Array	21.65	38	P	P	05 01 14.4	-0.9
	0.5nm,0.4s,mb3.3,baz=238,slow=8.6,SNR=16						
ASAJ	Asahikawa	26.43	270	P	P	05 02 02.0	+0.7
	3.7nm,0.4s,mb4.3,baz=164,slow=22,SNR=3.6						
INK	Inuvik	27.87	35	P	P	05 02 12.4	-1.8
	0.5nm,0.5s,mb3.5,baz=258,slow=9.1,SNR=4.9						
DLBC	Dease Lake	28.76	56	P	P	05 02 20.0	-2.3
	2.8nm,0.6s,mb4.2,baz=358,slow=7.7,SNR=6.3						
YKA	Yellowknife Ar	35.64	46	P	P	05 03 22.2	-0.1
	0.4nm,0.4s,mb3.7,baz=283,slow=7.7,SNR=3.7						
NEW	Newport	39.25	69	P	P	05 03 52.9	+0.3
HLID	Hailey	43.29	74	eP	P	05 04 25.9	+0.1
BOZ	Bozeman (W)	43.82	70	eP	P	05 04 30.6	+0.5
	0.9nm,0.6s,mb3.7						
BW06	Boulder Array	46.67	72	eP	P	05 04 53.7	+1.0
	0.8nm,0.6s,mb3.8						
PDAR	Pinedale Array	46.67	72	P	P	05 04 53.8	+1.1
	0.8nm,0.5s,mb4.0,baz=343,slow=3.1,SNR=13						
ARCES	ARCESS Array B	58.34	350	P	P	05 06 18.8	-0.5
	1.1nm,0.6s,mb4.1,baz=39,slow=7.8,SNR=3.7						
ARCES				LR	LR	05 33 23.7	
	comp=Z,56nm,21.9s,MS3.6,baz=26,slow=38						
TXAR	Lajitas Array	58.98	81	P	P	05 06 23.5	-0.7
	0.2nm,0.6s,mb3.3,baz=301,slow=5.3,SNR=2.7						
MKAR	Makanchi Array	60.00	308	P	P	05 06 31.0	0.0
	0.4nm,0.4s,mb3.8,baz=51,slow=6.5,SNR=7.6						
FINES	FINESS Array B	66.02	347	P	P	05 07 09.4	-0.9
	2.9nm,1.0s,mb4.2,SNR=4.5						
NOA	NORSAR Array B	67.92	355	P	P	05 07 22.9	+0.6
	0.6nm,0.8s,mb3.7,baz=257,slow=8.4,SNR=2.4						
CMAR	Chiang Mai Arr	70.77	276	P	P	05 07 41.5	+1.0
	1.0nm,0.3s,mb4.2,baz=80,slow=25,SNR=3.7						
AKASG	Malin Array Be	75.75	342	P	P	05 08 09.9	+0.9
	1.6nm,0.3s,mb4.4,baz=20,slow=6.9,SNR=11						
ASAR	Alice Springs	85.08	222	LR	LR	05 44 29.1	
	comp=Z,72nm,21.3s,MS4.0,baz=16,slow=34						

DJA 23 05:03:06.3±1.2, 1.92S×119.39E, h33^{km}, MD4.5/3, ML4.8/3, 2C-4D, Error ellipse: s-maj=27.8km s-min=26.4km az=18.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TANI	Tanete Lipujan	1.51	180	⇓ePn	Pn	05 03 30.0	-1.4
	2µm,0.2s						
TANI				⇓iSn	Sn	05 03 46.8	-3.2
BUNI	Buntu Taipa	1.96	152	⇑ePn	Pn	05 03 36.1	-1.8
	1µm,0.3s						
BUNI				⇓iSn	Sn	05 03 59.0	-2.6
NINI	Niniconang	2.51	172	⇓ePn	Pn	05 03 44.9	-0.9
	121nm,0.1s						
NINI				⇑eSn	Sn	05 04 18.0	+2.4

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*IDC **23** 05:41:27.5±8.0, 7.71S×120.31E, h159^{km}±88^{km}, mb3.6/3, mb1 3.7/5, mb1mx3.5/16, MS3.6/1, Ms1 3.6/1, ms1mx2.7/16, Error ellipse: s-maj=168.0km s-min=30.1km az=52.0*

ISC 23 05:41:27.0±4.1, 7.9S±0.5×120.1E±0.6, h178^{km}±47^{km}, n9,

σ0^{s}47/13,mb4.0/2,1C,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.52**	**153**	*e*P	**P**	**05 44 07.6**	**+0.4**
	1.6nm,0.4s						
FITZ				*e*S	**S**	**05 46 07.2**	**-5.8**
FITZ	**Fitzroy Crossi**	**11.52**	**153**	P	**P**	**05 44 07.5**	**+0.3**
	0.2nm,0.3s,baz=164,slow=18,SNR=6.4						
FITZ				S	**S**	**05 46 09.0**	**-4.0**
	0.4nm,0.3s,baz=191,slow=17,SNR=4.8						
WRA	**Warramunga Arr**	**18.29**	**133**	P	**P**	**05 45 29.5**	**-0.5**
	1.5nm,0.3s,baz=311,slow=10,SNR=108						
WRA				S	**S**	**05 48 45.1**	**+0.3**
	0.2nm,0.3s,baz=299,slow=24,SNR=5.9						
WB2	**Warramunga Arr**	**18.30**	**133**	⇑*i*P	**P**	**05 45 29.8**	**-0.3**
WB2				*e*S	**S**	**05 48 44.9**	**-0.1**
ASPA	**Alice Springs**	**20.55**	**142**	*e*P	**P**	**05 45 53.2**	**+0.1**
ASAR	**Alice Springs**	**20.55**	**141**	P	**P**	**05 45 53.8**	**+0.6**
	1.8nm,0.5s,baz=320,slow=11,SNR=30						
ASAR				S	**S**	**05 49 46.8**	**+19**
	0.8nm,0.7s,baz=316,slow=22,SNR=4.3						
NWAO	**Narrogin (SRO)**	**25.10**	**186**	LR	LR	05 57 34.7	
	comp=Z,125nm,20.3s,baz=348,slow=38						
STKA	**Stephens Creek**	**31.17**	**143**	P	**P**	**05 47 31.1**	**-0.4**
	1.2nm,0.4s,mb4.0,baz=314,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**63.95**	**332**	P	**P**	**05 51 43.4**	**+0.1**
	1.4nm,0.5s,mb4.0,baz=152,slow=7.2,SNR=9.4						

IDC 23 06:15:41.5±1.6**,1.88S**×**149.30E,mb3.4**/3**,mb1 3.8**/4**, mb1mx3.6**/14**,ML3.8**/1**,Error ellipse: s-maj=116.0km s-min=26.1km az=117.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.34**	**189**	P	P	06 19 59.3	+0.2
	0.2nm,0.3s,baz=62,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**23.16**	**218**	P	P	06 20 48.2	-2.5
	1.4nm,1.0s,baz=49,slow=9.7,SNR=7.9						
ASAR	**Alice Springs**	**26.30**	**213**	P	P	06 21 19.6	-1.1
	0.6nm,0.8s,baz=48,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**80.82**	**23**	P	P	06 27 56.9	-1.5
	0.2nm,0.6s,baz=245,slow=5.6,SNR=7.4						

IDC 23 06:17:59.9±1.9**,2.65S**×**150.71E,mb3.5**/3**,mb1 3.8**/3**, mb1mx3.6**/13**,Error ellipse: s-maj=169.0km s-min=26.7km az=124.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**222**	P	P	06 23 09.9	-2.3
	1.5nm,1.0s,baz=49,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**26.47**	**216**	P	P	06 23 41.0	+0.2
	0.7nm,0.7s,baz=51,slow=9.1,SNR=7.0						
ILAR	**Eielson Array**	**80.98**	**23**	P	P	06 30 15.8	-1.8
	0.3nm,0.8s,baz=233,slow=4.5,SNR=3.9						

*IDC **23** 06:43:30.2±4.0,22.99S×179.20W,h588^{km}±60^{km},mb3.2/7, mb1 3.4/8,mb1mx3.2/17,Error ellipse: s-maj=62.2km s-min=16.9km az=172.0*

*NEIC **23** 06:43:30.3±3.2,23.11S×179.19W,h590^{km}±45^{km},mb4.1/2, Error ellipse: s-maj=37.3km s-min=16.0km az=176.0*

ISC 23 06:43:26.7±1.0**,22.9S**±0.2×**179.3W**±0.1**,h550**^{km}**,n13, σ0^{s}78**/10**,mb3.9**/8**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.67**	**191**	P	**P**	**06 46 42.0**	**-0.3**
	0.7nm,0.3s,baz=345,slow=23,SNR=7.5						
PPT	**Papeete**	**28.31**	**85**	P	**P**	**06 48 38.1**	**0.0**
	7.8nm,0.2s,mb4.9,baz=265,slow=12,SNR=5.1						
CTA	**Charters Tower**	**32.18**	**268**	P	**P**	**06 49 11.3**	**+0.2**
	2.8nm,0.4s,mb4.2,baz=94,slow=10,SNR=6.6						
CTAO	**Charters Tower**	**32.18**	**268**	*e*P	**P**	**06 49 11.5**	**+0.4**
	2.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**35.76**	**247**	P	**P**	**06 49 42.6**	**+1.8**
	1.0nm,0.5s,mb3.6,baz=86,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**42.89**	**259**	P	**P**	**06 50 38.9**	**+0.3**
	1.6nm,0.6s,mb3.7,baz=101,slow=8.0,SNR=22						
WRAB	**Tennant Creek**	**43.17**	**265**	*e*P	**P**	**06 50 39.8**	**-0.9**
	3.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.17**	**265**	P	**P**	**06 50 39.8**	**-1.0**
	0.9nm,0.3s,mb3.8,baz=95,slow=7.8,SNR=44						
FITZ	**Fitzroy Crossi**	**51.60**	**265**	P	**P**	**06 51 43.9**	**-0.5**
	0.4nm,0.3s,mb3.2,baz=172,slow=18,SNR=10						
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**06 55 28.8**	**+0.4**
	0.7nm,0.3s,mb3.9,baz=127,slow=3.6,SNR=4.1						
ARCES	**ARCESS Array B**	**131.00**	**349**	PKP	PKPdf	07 01 34.7	-0.6
	1.7nm,0.7s,slow=6.1,SNR=3.9						
AKASG	**Malin Array Be**	**144.45**	**329**	PKP	PKPdf	07 01 58.6	-1.3
	0.8nm,0.3s,baz=43,slow=4.1,SNR=7.5						
CLL	**Collm**	**150.04**	**345**	*i* PKP1	PKPdf	07 02 15.3	+6.3
CLL				*i* PKP2	PKPab	07 02 22.1	-3.1

IDC 23 07:05:10.8±1.9**,6.81N**×**126.87E,mb3.7**/5**,mb1 3.8**/5**, mb1mx3.6**/18**,Error ellipse: s-maj=109.0km s-min=25.1km az=67.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.78**	**183**	P	P	07 10 35.5	-0.4
	0.5nm,0.4s,baz=344,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**27.58**	**165**	P	P	07 10 59.2	-2.6
	0.5nm,0.4s,baz=343,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**31.06**	**167**	P	P	07 11 30.1	-2.8
	0.3nm,0.4s,baz=354,slow=8.1,SNR=8.1						
STKA	**Stephens Creek**	**40.96**	**161**	P	P	07 12 55.5	-1.5
	0.8nm,0.3s,baz=328,slow=15,SNR=3.5						
MKAR	**Makanchi Array**	**55.14**	**324**	P	P	07 14 44.9	-2.4
	0.3nm,0.5s,baz=149,slow=9.0,SNR=5.1						

ISC 23 07:09:35.6±2.4**,25.7N**±0.1×**94.7E**±0.2**,h33**^{km}**,n8,σ0^{s}82**/9**, 1C,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.14**	**219**	⇑*e*P	**P**	**07 09 55.0**	**-0.3**
SHL	**Shillong**	**2.56**	**268**	*e*PN	**Pn**	**07 10 17.5**	**+1.6**
SHL				*e*SN	**Sn**	**07 10 46.0**	**-0.2**
GUN	**Gumba**	**8.21**	**288**	*e*P	**P**	**07 11 36.2**	**+1.0**
	80nm,0.4s						
PKI	**Pulchoki**	**8.54**	**285**	*e*P	**P**	**07 11 39.9**	**0.0**
	47nm,0.4s						
KKN	**Kakani**	**8.70**	**286**	*e*P	**P**	**07 11 42.0**	**0.0**
	32nm,0.2s						
DMN	**Daman**	**8.81**	**285**	*e*P	**P**	**07 11 43.3**	**-0.3**
	27nm,0.2s						
GKN	**Gorkha**	**9.30**	**287**	*e*P	**P**	**07 11 50.2**	**-0.2**
	60nm,0.5s						
KOLN	**Koldanda**	**10.16**	**284**	*e*P	**P**	**07 12 00.7**	**-1.6**
	16nm,0.2s						

*IDC **23** 07:19:34.9±1.1,61.62N×150.32W,mb3.6/7,mb1 3.9/12, mb1mx3.8/24,ML3.7/5,MS2.9/3,Ms1 2.9/3,ms1mx2.5/21, Error ellipse: s-maj=18.8km s-min=11.7km az=89.0*

*NEIC **23** 07:19:41.9,61.81N×149.93W,h43^{km},ML3.9(PMR), ML3.7(AEIC),After AEIC.*

NEIC Felt [III] at Anchorage, Eagle River, Palmer, Talkeetna and Wasilla.

ISC 23 07:19:40.3±0.2**,61.82N**±0.02×**149.90W**±0.04**,h57**^{km}±4^{km}**, n87,σ0^{s}84**/94**,mb3.5**/7**,MS2.8**/1**,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWA	**Palmer West**	**0.17**	**177**	P	**P**	**07 19 49.2**	**0.0**
PMR	**Palmer**	**0.43**	**122**	P	**P**	**07 19 51.0**	**-0.4**
PMR				S	**S**	**07 19 59.2**	**-0.3**
GHO	**Glory Hole Cre**	**0.47**	**95**	P	**P**	**07 19 51.9**	**+0.1**
SUA	**Susitna One**	**0.54**	**229**	P	**P**	**07 19 52.5**	**-0.1**
PMS	**Palmer South**	**0.60**	**164**	P	**P**	**07 19 53.3**	**+0.1**
CUT	**Chulitna**	**0.61**	**344**	P	**P**	**07 19 53.2**	**-0.1**
FIB	**Fire Island**	**0.67**	**192**	P	**P**	**07 19 54.6**	**+0.6**
RC01	**Rabbit Creek A**	**0.74**	**174**	P	**P**	**07 19 54.8**	**-0.1**
RC01				S	**S**	**07 20 06.3**	**+0.5**
SML	**Sawmill**	**0.74**	**90**	P	**P**	**07 19 55.2**	**+0.2**
SKT	**Skwentna**	**0.79**	**283**	P	**P**	**07 19 55.2**	**-0.4**
SKT				S	**S**	**07 20 06.3**	**-0.6**
KNK	**Knik Glacier**	**0.80**	**120**	P	**P**	**07 19 56.2**	**+0.4**
CGLM	**Capps Glacier**	**1.13**	**244**	P	**P**	**07 20 00.7**	**+0.4**
NCG	**North Capps Gl**	**1.16**	**250**	P	**P**	**07 20 00.6**	**0.0**
CFI	**College Fiord**	**1.21**	**121**	P	**P**	**07 20 01.9**	**+0.7**
CRP	**Crater Peak**	**1.21**	**244**	P	**P**	**07 20 01.9**	**+0.5**
CRP				S	**S**	**07 20 18.5**	**+1.4**
SPU	**Mount Spurr**	**1.22**	**239**	P	**P**	**07 20 01.7**	**+0.2**
SCM	**Sheep Creek Mo**	**1.22**	**88**	P	**P**	**07 20 02.4**	**+0.9**
PWL	**Port Wells**	**1.22**	**141**	P	**P**	**07 20 01.9**	**+0.4**
CKN	**Chakachatna No**	**1.25**	**242**	P	**P**	**07 20 02.7**	**+0.8**
BGL	**Barrier Glacie**	**1.32**	**246**	P	**P**	**07 20 03.5**	**+0.4**
SLKM	**Skilak Lake**	**1.32**	**187**	P	**P**	**07 20 03.0**	**-0.1**
CKL	**Chakachamna La**	**1.33**	**243**	P	**P**	**07 20 03.3**	**+0.2**
MPA	**Moose Pass**	**1.36**	**169**	P	**P**	**07 20 03.4**	**-0.2**
BKG	**Blockade Glaci**	**1.36**	**238**	P	**P**	**07 20 03.6**	**0.0**
TRF	**Thorofare Moun**	**1.65**	**354**	P	**P**	**07 20 08.0**	**+0.5**
RND	**Reindeer**	**1.67**	**16**	P	**P**	**07 20 08.4**	**+0.7**
DHY	**Denali Highway**	**1.72**	**42**	P	**P**	**07 20 09.3**	**+0.7**
SEW	**Seward**	**1.73**	**173**	P	**P**	**07 20 07.8**	**-0.9**
RDT	**Redoubt**	**1.74**	**225**	P	**P**	**07 20 09.0**	**+0.2**
KTH	**Kantishna Hill**	**1.80**	**345**	P	**P**	**07 20 10.3**	**+0.6**
KTH				S	**S**	**07 20 32.5**	**+1.1**
VLZ	**Valdez**	**1.85**	**110**	P	**P**	**07 20 10.4**	**+0.2**
REF	**Redoubt East F**	**1.90**	**227**	P	**P**	**07 20 11.5**	**+0.4**
KLU	**Klutina**	**1.93**	**98**	P	**P**	**07 20 12.1**	**+0.7**
RSO	**Redoubt South**	**1.94**	**227**	P	**P**	**07 20 12.2**	**+0.6**
MCK	**McKinley**	**1.97**	**13**	P	**P**	**07 20 12.1**	**+0.1**
DIV	**Divide**	**2.10**	**107**	P	**P**	**07 20 14.0**	**+0.2**
BRLK	**Bradley Lake**	**2.12**	**194**	P	**P**	**07 20 13.4**	**-0.7**
TZL	**Tazlina**	**2.13**	**82**	P	**P**	**07 20 16.0**	**+1.8**
ILIM	**Iliamna**	**2.30**	**222**	P	**P**	**07 20 16.9**	**+0.2**
PAX	**Paxson**	**2.37**	**59**	P	**P**	**07 20 18.5**	**+0.9**
EYAK	**Cordova Ski Ar**	**2.38**	**121**	P	**P**	**07 20 17.3**	**-0.5**
CNPM	**China Poot**	**2.39**	**197**	P	**P**	**07 20 17.3**	**-0.7**
ILS	**Iliamna Low So**	**2.43**	**221**	P	**P**	**07 20 19.1**	**+0.6**
THY	**Trims Highway**	**2.50**	**48**	P	**P**	**07 20 20.9**	**+1.3**
SGAM	**Sherman Glacie**	**2.63**	**118**	P	**P**	**07 20 20.1**	**-1.3**
BMRM	**Bremner River**	**2.69**	**106**	P	**P**	**07 20 21.3**	**-0.9**
OPT	**Oil Point**	**2.72**	**218**	P	**P**	**07 20 23.1**	**+0.4**
WANC	**Wrangell North**	**2.76**	**84**	P	**P**	**07 20 25.2**	**+1.9**
SVW	**Sparrevohn**	**2.84**	**258**	P	**P**	**07 20 23.9**	**-0.5**
RAGM	**Ragged Mountai**	**2.92**	**117**	P	**P**	**07 20 24.9**	**-0.5**
HDA	**Harding Lake**	**2.92**	**26**	P	**P**	**07 20 25.6**	**+0.1**
GLB	**Gilahina Butte**	**2.93**	**95**	P	**P**	**07 20 25.6**	**0.0**
MID	**Middleton Isla**	**2.97**	**142**	P	**P**	**07 20 27.0**	**+0.8**
CCB	**Clear Creek Bu**	**2.99**	**18**	P	**P**	**07 20 26.2**	**-0.3**
TT01	**Tatalina**	**3.06**	**294**	P	**P**	**07 20 26.3**	**-1.1**
HMT	**Hamilton**	**3.12**	**116**	P	**P**	**07 20 27.1**	**-1.2**
COLA	**College**	**3.20**	**16**	P	**P**	**07 20 29.4**	**-0.1**
MLY	**Manley**	**3.25**	**354**	P	**P**	**07 20 29.7**	**-0.4**
IL1	**Eielson Array**	**3.26**	**23**	P	**P**	**07 20 29.9**	**-0.4**
ILAR	**Eielson Array**	**3.26**	**23**	Pn	**P**	**07 20 29.9**	**-0.5**
	16nm,0.3s,baz=209,slow=14,SNR=1557						
ILAR				Sn	**S**	**07 21 07.6**	**-0.5**
	20nm,0.3s,baz=211,slow=24,SNR=7.6						
ILAR				Lg		07 21 25.4	
	30nm,0.3s,baz=207,slow=28,SNR=10						
WAX	**Waxell Ridge**	**3.68**	**109**	P	**P**	**07 20 35.3**	**-0.9**
BALM	**Baldy**	**3.71**	**99**	P	**P**	**07 20 36.0**	**-0.7**
BCA3	**Beaver Creek A**	**3.97**	**68**	P	**P**	**07 20 40.5**	**+0.2**
CTGM	**Chitina Glacie**	**4.21**	**98**	P	**P**	**07 20 44.1**	**+0.5**
KDAK	**Kodiak Island**	**4.27**	**200**	P	**P**	**07 20 42.5**	**-2.0**
KABR	**Katmai Barrier**	**4.49**	**217**	P	**P**	**07 20 47.0**	**-0.6**
IM3	**Indian Mountai**	**4.51**	**340**	P	**P**	**07 20 46.9**	**-1.0**
IMA	**Indian Mountai**	**4.58**	**340**	*e*P	**P**	**07 20 47.7**	**-1.1**
PCA	**Pinnacle**	**5.01**	**106**	P	**P**	**07 20 53.8**	**-1.0**
DAWY	**Dawson**	**5.30**	**60**	P	**P**	**07 20 58.1**	**-0.7**
PNL	**Peninsula**	**5.58**	**108**	P	**P**	**07 21 01.6**	**-1.1**
BM3	**Burnt Mountain**	**6.06**	**20**	P	**P**	**07 21 08.8**	**-0.7**
ANM	**Nome**	**7.51**	**298**	P	**P**	**07 21 28.8**	**-0.9**
INK	**Inuvik**	**9.47**	**40**	Pn	**P**	**07 21 56.0**	**-0.5**
	1.1nm,0.3s,baz=237,slow=16,SNR=47						
INK				Sn	**S**	**07 23 42.4**	**-0.2**
	0.6nm,0.3s,baz=68,slow=31,SNR=5.2						
INK				LR	LR	07 25 50.9	
	comp=Z,69nm,19.9s,baz=360,slow=39						
INK	**Inuvik**	**9.47**	**40**	*e*P	**P**	**07 21 54.9**	**-1.7**
DLBC	**Dease Lake**	**10.46**	**100**	Pn	**P**	**07 22 06.6**	**-3.3**
	0.1nm,0.3s,baz=0.2,slow=25,SNR=3.4						
DLBC				LR	LR	07 27 04.6	
	comp=Z,48nm,21.2s,baz=301,slow=42						
VIB	**Van Inlet**	**12.63**	**125**	Pn	**P**	**07 22 36.6**	**-2.6**
	SNR=60						
VIB				Sn	**S**	**07 24 50.1**	**-8.9**
	SNR=26						
BBB	**Bella Bella**	**15.22**	**119**	Pn	**P**	**07 23 11.8**	**-0.9**
	0.2nm,0.3s,baz=291,slow=18,SNR=3.3						
YKA	**Yellowknife Ar**	**16.38**	**72**	Pn	**P**	**07 23 29.7**	**+2.3**
	0.1nm,0.3s,baz=278,slow=9.6,SNR=3.1						
NEW	**Newport**	**22.85**	**111**	P	**P**	**07 24 40.7**	**+1.7**
	0.4nm,0.3s,mb3.3,baz=325,slow=19,SNR=3.9						
NEW				LR	LR	07 33 03.9	
	comp=Z,37nm,19.6s,MS2.8,baz=330,slow=35						
YBH	**Yreka Blue Hor**	**25.88**	**128**	P	**P**	**07 25 09.3**	**+1.2**
	1.7nm,0.8s,mb3.6,baz=321,slow=2.5,SNR=7.9						
NVAR	**Mina Array Bea**	**30.42**	**126**	P	**P**	**07 25 49.9**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=321,slow=7.3,SNR=7.3						
PDAR	**Pinedale Array**	**30.47**	**110**	P	**P**	**07 25 49.6**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=324,slow=3.8,SNR=7.6						
TXAR	**Lajitas Array**	**44.30**	**115**	P	**P**	**07 27 46.5**	**+0.5**
	0.2nm,0.6s,mb3.0,baz=322,slow=5.8,SNR=4.3						
TXAR				PcP	PcP	07 29 28.6	-1.3
	0.2nm,0.5s,baz=266,slow=0.9,SNR=3.7						
SONM	**Songino Array**	**54.93**	**307**	P	**P**	**07 29 05.4**	**-1.7**
	0.6nm,0.5s,mb3.9,baz=37,slow=6.2,SNR=6.1						
MKAR	**Makanchi Array**	**63.93**	**323**	P	**P**	**07 30 10.6**	**+1.7**
	0.3nm,0.7s,mb3.4,baz=45,slow=6.1,SNR=3.6						
QSPA	**South Pole Qui**	**151.63**	**180**	*e*P	PKPdf	07 39 27.0	+7.4

*KRSC **23** 07:19:57.1±0.7,52.26N×159.66E,h21^{km}±5^{km},ML3.9*

ISC 23 07:19:56.9±1.0**,52.22N**±0.04×**159.73E**±0.07**,h26**^{km}±6^{km}**, n24,σ0^{s}95**/40**,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.78**	**287**	*i* P	**Pb**	**07 20 11.4**	**-0.3**
RUS				*i* S	**Sb**	**07 20 21.3**	**-0.5**
SPN	**Mys Shipunski**	**0.90**	**11**	*e*P	**Pb**	**07 20 14.0**	**+0.2**
SPN				*e*S	**Sb**	**07 20 26.6**	**+1.2**
NLC	**Nalytchevo**	**0.98**	**346**	*e*P	**Pb**	**07 20 14.5**	**-0.7**
NLC				*e*S	**Sb**	**07 20 27.0**	**-0.7**
PET	**Petropavlovsk**	**1.04**	**321**	*i* P	**Pn**	**07 20 15.4**	**-0.6**
PET				*e*S	**Sb**	**07 20 28.6**	**-0.8**
GRL	**Gorelyy**	**1.07**	**289**	*i* P	**Pn**	**07 20 16.6**	**+0.2**
GRL				*e*S	**Sb**	**07 20 30.8**	**+0.6**
UGLR	**Uglovaya**	**1.14**	**331**	*i* P	**Pn**	**07 20 17.0**	**-0.4**
SDLR	**Sedlovina**	**1.18**	**335**	*i* P	**Pn**	**07 20 17.1**	**-0.9**
SMAR	**Somma**	**1.19**	**332**	*i* P	**Pn**	**07 20 17.6**	**-0.5**
AVH	**Avacha**	**1.21**	**331**	*e*P	**Pn**	**07 20 18.4**	**0.0**
AVH				*e*S	**Sn**	**07 20 33.8**	**-0.3**
KOK	**Koryaka**	**1.26**	**329**	*i* P	**Pn**	**07 20 19.5**	**+0.3**
APC	**Apacha**	**1.72**	**295**	*i* P	**Pn**	**07 20 26.6**	**+0.9**
APC				*e*S	**Sn**	**07 20 48.5**	**+1.4**
APC				Smax			
	150nm,0.6s						
MIPR	**Malaya Ipel’ka**	**1.83**	**273**	*e*P	**Pn**	**07 20 27.9**	**+0.6**
KII	**Karymskiy**	**1.83**	**355**	*i* P	**Pn**	**07 20 27.3**	**0.0**
KII				*e*S	**Sn**	**07 20 49.9**	**+0.1**
GNL	**Ganaly**	**1.83**	**325**	*i* P	**Pn**	**07 20 27.4**	**+0.1**
GNL				*e*S	**Sn**	**07 20 49.9**	**0.0**
PAU	**Pauzhetka**	**1.96**	**249**	*e*P	**Pn**	**07 20 29.0**	**-0.2**
PAU				*e*S	**Sn**	**07 20 51.2**	**-1.9**
PAU				Smax			
	260nm,0.6s						
MKZ	**Mys Kozlova**	**2.63**	**26**	*e*P	**Pn**	**07 20 37.9**	**-0.9**
MKZ				*e*S	**Sn**	**07 21 08.5**	**-1.7**
ALID	**Alaid**	**2.94**	**244**	*e*P	**Pn**	**07 20 43.2**	**+0.1**
TUMR	**Tumrok**	**3.08**	**4**	*e*P	**Pn**	**07 20 45.0**	**-0.1**
TUMR				*e*S	**Sn**	**07 21 19.8**	**-1.8**
KMNR	**Kamenistaya**	**3.56**	**5**	*e*P	**Pn**	**07 20 53.3**	**+1.4**
ESO	**Esso**	**3.76**	**351**	P	**Pn**	**07 20 57.0**	**+2.2**
ESO				*e*S	**Sn**	**07 21 39.5**	**+0.7**
LGNR	**Loginova**	**3.91**	**8**	*e*P	**Pn**	**07 20 58.4**	**+1.4**
LGNR				*e*S	**Sn**	**07 21 43.9**	**+1.3**
KBTR	**Krutoberegovo**	**4.39**	**23**	*e*P	**Pn**	**07 21 03.4**	**-0.3**
KBTR				*e*S	**Sn**	**07 21 52.6**	**-2.1**
SVLR	**Shiveluch**	**4.45**	**11**	*e*P	**Pn**	**07 21 06.3**	**+1.6**
SVLR				*e*S	**Sn**	**07 21 56.6**	**+0.3**
BKI	**Bering**	**4.76**	**49**	*e*S	**Sn**	**07 21 57.8**	**-6.3**

IDC 23 07:28:09.3±2.2**,3.63S**×**153.77E,mb3.7**/3**,mb1 4.0**/3**, mb1mx3.7**/14**,Error ellipse: s-maj=168.0km s-min=29.6km az=126.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.93**	**228**	*e*P	P	07 33 34.2	-1.5
WRA	**Warramunga Arr**	**24.94**	**228**	P	P	07 33 34.5	-1.3
	1.2nm,0.4s,baz=52,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**27.66**	**222**	P	P	07 33 58.9	-2.1
	0.5nm,0.7s,baz=58,slow=8.4,SNR=4.3						
ILAR	**Eielson Array**	**80.72**	**22**	P	P	07 40 24.3	-1.3
	0.6nm,0.8s,baz=239,slow=5.7,SNR=5.3						

*IDC **23** 07:44:54.7±2.0,40.38S×174.29E,h78^{km}±32^{km},mb3.8/3, mb1 3.9/5,mb1mx3.7/14,Error ellipse: s-maj=57.5km s-min=16.3km az=137.0*

*NEIC **23** 07:44:56.5,40.49S×174.34E,h99^{km},mb4.2/3, ML4.4(WEL),After WEL.*

NEIC Felt in Wellington.

*WEL **23** 07:44:57.1±0.2,40.49S×174.34E,h89^{km}±2^{km},ML4.3/8, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0*

WEL Felt from Manawatu to Wellington, maximum reported intensity MM 4.

ISC 23 07:44:55.0±0.3**,40.50S**±0.02×**174.34E**±0.04**,h101**^{km}±3^{km}**, n108,σ0^{s}96**/147**,mb4.1**/6**,15C-5D,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.78**	**160**	⇑PN	**P**	**07 45 14.5**	**+1.0**
MRW				SN	**S**	**07 45 27.3**	**0.0**
MRW				SN	**S**	**07 45 27.3**	**+0.1**
MRW	**Makara Radio**	**0.78**	**160**	P	**P**	**07 45 14.5**	**+1.0**
MRW				S	**S**	**07 45 27.4**	**+0.2**
CAW	**Cannon Point**	**0.82**	**138**	⇑PN	**P**	**07 45 14.9**	**+1.0**
CAW				SN	**S**	**07 45 28.2**	**+0.2**
CAW				SN	**S**	**07 45 28.4**	**+0.4**
WEL	**Wellington**	**0.85**	**158**	⇑PN	**P**	**07 45 15.1**	**+0.9**
WEL				SN	**S**	**07 45 28.1**	**-0.4**
WEL	**Wellington**	**0.85**	**158**	P	**P**	**07 45 15.1**	**+0.9**
SNZO	**South Karori**	**0.85**	**161**	⇓PN	**P**	**07 45 15.1**	**+0.9**
SNZO				SN	**S**	**07 45 28.3**	**-0.4**
SNZO	**South Karori**	**0.85**	**161**	P	**P**	**07 45 15.2**	**+0.9**
WAZ	**Wanganui**	**0.89**	**34**	⇑PN	**P**	**07 45 15.9**	**+1.2**
WAZ				SN	**S**	**07 45 27.9**	**-1.4**
WAZ	**Wanganui**	**0.89**	**34**	P	**P**	**07 45 15.8**	**+1.1**
WAZ				S	**S**	**07 45 30.1**	**+0.8**
MRZ	**Mangatainoka R**	**0.96**	**100**	⇑PN	**P**	**07 45 16.0**	**+0.7**
MRZ				SN	**S**	**07 45 29.4**	**-1.2**
MRZ				SN	**S**	**07 45 29.5**	**-1.0**
MRZ	**Mangatainoka R**	**0.96**	**100**	P	**P**	**07 45 16.1**	**+0.8**
TUWZ	**Tuamarina**	**0.98**	**198**	⇑PN	**P**	**07 45 16.1**	**+0.5**
TUWZ				SN	**S**	**07 45 29.9**	**-1.1**
BHW	**Baring Head**	**0.99**	**156**	⇑PN	**P**	**07 45 16.5**	**+0.8**
BHW				SN	**S**	**07 45 31.0**	**-0.2**
BHW	**Baring Head**	**0.99**	**156**	P	**P**	**07 45 16.6**	**+0.9**
NNZ	**Nelson**	**1.02**	**225**	⇑PN	**P**	**07 45 16.5**	**+0.4**
NNZ				SN	**S**	**07 45 31.0**	**-0.9**
NNZ				SN	**S**	**07 45 31.1**	**-0.8**
NNZ	**Nelson**	**1.02**	**225**	P	**P**	**07 45 16.5**	**+0.4**
NNZ				S	**S**	**07 45 31.5**	**-0.4**
MTW	**Mount Morrison**	**1.10**	**127**	⇑PN	**P**	**07 45 17.7**	**+0.7**
MTW				SN	**S**	**07 45 32.6**	**-0.8**
MTW	**Mount Morrison**	**1.10**	**127**	P	**P**	**07 45 17.7**	**+0.8**
MSWZ	**Moikau Station**	**1.14**	**143**	⇑PN	**P**	**07 45 18.4**	**+0.9**
MSWZ				SN	**S**	**07 45 34.8**	**+0.4**
DFE	**Dawson Falls**	**1.19**	**351**	⇓PN	**P**	**07 45 18.7**	**+0.6**
DFE	**Dawson Falls**	**1.19**	**351**	P	**P**	**07 45 18.7**	**+0.6**
NRZ	**Ngariki Road**	**1.20**	**345**	P	**P**	**07 45 18.9**	**+0.6**
PAWZ	**Paruwai Farm**	**1.20**	**137**	PN	**P**	**07 45 19.1**	**+0.8**
PAWZ				SN	**S**	**07 45 34.9**	**-0.8**
RAEZ	**Rainy Point**	**1.21**	**2**	PN	**P**	**07 45 19.4**	**+1.0**
RAEZ				SN	**S**	**07 45 35.1**	**-0.7**
RAEZ	**Rainy Point**	**1.21**	**2**	P	**P**	**07 45 19.1**	**+0.7**
NEZ	**North Egmont**	**1.24**	**351**	⇑PN	**P**	**07 45 19.1**	**+0.4**
NEZ	**North Egmont**	**1.24**	**351**	P	**P**	**07 45 19.1**	**+0.4**
CMWZ	**Cape Campbell**	**1.25**	**184**	⇑PN	**P**	**07 45 20.3**	**+1.5**
CMWZ				SN	**S**	**07 45 37.4**	**+0.8**
CMWZ				SN	**S**	**07 45 37.4**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.26**	**196**	⇑PN	**P**	**07 45 19.9**	**+1.0**
BSWZ				SN	**S**	**07 45 36.4**	**-0.4**
NWEZ	**Newall Road**	**1.28**	**343**	⇓PN	**P**	**07 45 19.6**	**+0.5**
NWEZ	**Newall Road**	**1.28**	**343**	P	**P**	**07 45 19.6**	**+0.5**
TSZ	**Takapari Road**	**1.31**	**71**	⇑PN	**P**	**07 45 19.8**	**+0.2**
TSZ				SN	**S**	**07 45 37.5**	**-0.3**
TSZ	**Takapari Road**	**1.31**	**71**	P	**P**	**07 45 19.8**	**+0.3**
PKE	**Pukeiti**	**1.33**	**348**	PN	**P**	**07 45 20.2**	**+0.4**
PKE				SN	**S**	**07 45 36.9**	**-1.2**
PKE	**Pukeiti**	**1.33**	**348**	P	**P**	**07 45 20.3**	**+0.6**
VRZ	**Vera Road**	**1.41**	**13**	⇓PN	**P**	**07 45 21.4**	**+0.7**
VRZ				SN	**S**	**07 45 39.5**	**-0.3**
VRZ	**Vera Road**	**1.41**	**13**	P	**P**	**07 45 21.4**	**+0.7**
BFZ	**Birch Farm**	**1.46**	**98**	PN	**P**	**07 45 21.8**	**+0.5**
BFZ				SN	**S**	**07 45 39.2**	**-1.7**
BFZ	**Birch Farm**	**1.46**	**98**	P	**P**	**07 45 21.9**	**+0.6**
WNVZ	**Wahianoa**	**1.52**	**40**	PN	**P**	**07 45 22.6**	**+0.6**
MOVZ	**Moawhango**	**1.54**	**45**	PN	**P**	**07 45 22.5**	**+0.2**
MOVZ				SN	**S**	**07 45 42.3**	**-0.2**
DRZ	**Dome Shelter**	**1.54**	**38**	P	**P**	**07 45 23.4**	**+1.1**
TUVZ	**Tukino**	**1.59**	**40**	PN	**P**	**07 45 23.7**	**+0.8**
TUVZ				SN	**S**	**07 45 43.3**	**-0.4**
TUVZ	**Tukino**	**1.59**	**40**	P	**P**	**07 45 23.8**	**+0.9**
WPVZ	**Whakapapa**	**1.59**	**36**	PN	**P**	**07 45 23.7**	**+0.7**
WPVZ				SN	**S**	**07 45 42.7**	**-1.0**
CNZ	**Chateau**	**1.60**	**36**	PN	**P**	**07 45 23.4**	**+0.4**
CNZ	**Chateau**	**1.60**	**36**	P	**P**	**07 45 23.8**	**+0.8**
NGZ	**Ngauruhoe**	**1.64**	**37**	PN	**P**	**07 45 24.2**	**+0.7**
NGZ	**Ngauruhoe**	**1.64**	**37**	P	**P**	**07 45 24.2**	**+0.7**
THZ	**Tophouse**	**1.67**	**220**	PN	**P**	**07 45 24.6**	**+0.8**
THZ	**Tophouse**	**1.67**	**220**	*e*P	**P**	**07 45 24.8**	**+1.0**
WTVZ	**West Tongariro**	**1.68**	**35**	PN	**P**	**07 45 24.6**	**+0.6**
KAVZ	**Karewarewa**	**1.72**	**36**	PN	**P**	**07 45 24.7**	**+0.1**
KAVZ	**Karewarewa**	**1.72**	**36**	P	**P**	**07 45 25.6**	**+1.0**
MGZ	**Maungaku**	**1.76**	**32**	PN	**P**	**07 45 25.2**	**+0.2**
MGZ	**Maungaku**	**1.76**	**32**	P	**P**	**07 45 25.5**	**+0.5**
KATZ	**Kakaramea**	**1.84**	**35**	P	**P**	**07 45 27.9**	**+1.8**
RATZ	**Rangitukua**	**1.97**	**35**	PN	**P**	**07 45 28.5**	**+0.8**
RATZ	**Rangitukua**	**1.97**	**35**	P	**P**	**07 45 29.0**	**+1.3**
PWZ	**Pawanui**	**1.98**	**77**	PN	**P**	**07 45 27.6**	**-0.3**
PWZ				SN	**S**	**07 45 52.2**	**-0.1**
PWZ	**Pawanui**	**1.98**	**77**	P	**P**	**07 45 27.7**	**-0.2**
KHZ	**Kahutara**	**2.01**	**197**	⇑PN	**P**	**07 45 29.1**	**+0.9**
KHZ	**Kahutara**	**2.01**	**197**	P	**P**	**07 45 29.2**	**+1.0**
HIZ	**Hauiti**	**2.02**	**11**	⇓PN	**P**	**07 45 28.9**	**+0.5**
HIZ				SN	**S**	**07 45 52.7**	**-0.5**
WATZ	**Wairara**	**2.09**	**31**	P	**P**	**07 45 30.5**	**+1.2**
BKZ	**Black Stump Fm**	**2.12**	**52**	PN	**P**	**07 45 29.1**	**-0.7**
BKZ	**Black Stump Fm**	**2.12**	**52**	P	**P**	**07 45 29.6**	**-0.2**
DSZ	**Denniston Nort**	**2.29**	**236**	PN	**P**	**07 45 31.9**	**-0.1**
DSZ				SN	**S**	**07 45 58.4**	**-1.2**
DSZ	**Denniston Nort**	**2.29**	**236**	P	**P**	**07 45 32.1**	**0.0**
LTZ	**Lake Taylor**	**2.76**	**214**	PN	**P**	**07 45 37.9**	**-0.6**
LTZ				SN	**S**	**07 46 07.9**	**-3.3**
LTZ	**Lake Taylor**	**2.76**	**214**	*e*P	**P**	**07 45 38.0**	**-0.5**
TOZ	**Tahuroa Road**	**2.91**	**18**	PN	**P**	**07 45 40.4**	**-0.2**
TOZ				SN	**S**	**07 46 14.1**	**-0.7**
TOZ	**Tahuroa Road**	**2.91**	**18**	*e*P	**P**	**07 45 40.5**	**-0.1**
KNZ	**Kokohu**	**2.96**	**61**	PN	**P**	**07 45 39.3**	**-2.0**
KNZ	**Kokohu**	**2.96**	**61**	*e*P	**P**	**07 45 39.3**	**-2.0**
URZ	**Urewera**	**3.10**	**45**	P	**P**	**07 45 40.5**	**-2.7**
	0.8nm,0.3s,baz=142,slow=21,SNR=17						
URZ				S	**S**	**07 46 16.6**	**-2.9**
	34nm,0.3s,baz=235,slow=6.7,SNR=30						
MWZ	**Matawai**	**3.28**	**50**	*e*P	**P**	**07 45 43.1**	**-2.6**
CRLZ	**Canterbury Las**	**3.33**	**202**	PN	**P**	**07 45 44.4**	**-1.9**
CRLZ	**Canterbury Las**	**3.33**	**202**	*e*P	**P**	**07 45 45.0**	**-1.3**
MQZ	**McQueen’s Vall**	**3.44**	**201**	PN	**P**	**07 45 45.9**	**-2.0**
MQZ				SN	**S**	**07 46 21.6**	**-6.2**
MQZ	**McQueen’s Vall**	**3.44**	**201**	*e*P	**P**	**07 45 45.9**	**-2.0**
MKAZ	**Moumakai**	**3.44**	**11**	PN	**P**	**07 45 47.5**	**-0.4**
MKAZ				SN	**S**	**07 46 25.2**	**-2.7**
MKAZ	**Moumakai**	**3.44**	**11**	P	**P**	**07 45 47.7**	**-0.2**
WTAZ	**Waiatarua**	**3.57**	**3**	PN	**P**	**07 45 50.0**	**+0.4**
WTAZ	**Waiatarua**	**3.57**	**3**	P	**P**	**07 45 50.0**	**+0.4**
OTAZ	**Otara**	**3.57**	**8**	P	**P**	**07 45 50.2**	**+0.5**
WVZ	**Waitaha Valley**	**3.73**	**225**	SN	**S**	**07 46 31.2**	**-3.7**
WVZ	**Waitaha Valley**	**3.73**	**225**	*e*P	**P**	**07 45 52.1**	**+0.3**
MTAZ	**Motutapu**	**3.73**	**7**	PN	**P**	**07 45 52.3**	**+0.5**
MTAZ	**Motutapu**	**3.73**	**7**	P	**P**	**07 45 52.4**	**+0.6**
PUZ	**Puketiti**	**3.89**	**53**	PN	**P**	**07 45 50.8**	**-3.1**
PUZ				SN	**S**	**07 46 35.3**	**-3.5**
PUZ	**Puketiti**	**3.89**	**53**	*e*P	**P**	**07 45 50.5**	**-3.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KUZ	Kuaotunu	3.90	16	PN	P	07 45 53.1	-1.1
KUZ	Kuaotunu	3.90	16	eP	P	07 45 54.1	0.0
RPZ	Rata Peaks	4.04	216	P	P	07 45 54.7	-1.3
	0.5nm,0.3s,baz=75,slow=12,SNR=4.2						
RPZ				S	S	07 46 37.2	-5.3
	6.9nm,0.3s,baz=338,slow=5.3,SNR=14						
WCZ	Waipu Caves	4.55	0	PN	P	07 46 03.0	0.0
WCZ	Waipu Caves	4.55	0	eP	P	07 46 03.3	+0.3
ODZ	Otahua Downs	5.29	210	PN	P	07 46 11.7	-1.4
ODZ	Otahua Downs	5.29	210	eP	P	07 46 11.9	-1.2
OUZ	Omahuta	5.30	353	eP	P	07 46 13.2	0.0
CTA	Charters Tower	31.44	302	P	P	07 51 07.9	-1.0
	1.3nm,0.3s,mb4.1,baz=244,slow=13,SNR=2.5						
ASAR	Alice Springs	37.78	284	P	P	07 52 02.8	-0.2
	2.3nm,1.1s,mb3.9,baz=128,slow=6.6,SNR=11						
WB2	Warramunga Arr	39.74	289	eP	P	07 52 19.6	+0.4
WRAB	Tennant Creek	39.75	289	eP	P	07 52 18.9	-0.4
	3.9nm,0.7s,mb4.3						
WRA	Warramunga Arr	39.75	289	P	P	07 52 19.3	0.0
	2.1nm,0.7s,mb4.1,baz=127,slow=8.0,SNR=29						
FITZ	Fitzroy Crossi	47.28	283	eP	P	07 53 20.4	+0.3
	2.2nm,0.6s,mb4.1						
QSPA	South Pole Qui	49.63	180	eP	P	07 53 41.6	+4.1
	1.5nm,0.7s,mb4.0						
ARCES	ARCESS Array B	146.62	341	PKPbc	PKPbc	08 04 24.6	+1.3
	1.0nm,0.6s,baz=63,slow=2.7,SNR=4.3						

CASC 23 08:29:12.5±1.2**, 12.10N**×**88.02W, h21**^{km}±5^{km}**, MD3.5, ML2.6, 2C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYN	Poneloya	1.02	74	⇓eP	Pb	08 29 30.9	-0.3
PYN				eS	Sb	08 29 45.4	+1.1
LEON	Leon	1.15	74	⇑eP	Pn	08 29 32.6	-0.9
CNCH	Conchagua	1.18	9	⇓eP	Pn	08 29 33.7	-0.3
CNCH				eS	Sb	08 29 49.5	+0.5
TEL3	Telica 3	1.24	68	eP	Pn	08 29 34.2	-0.7
MIRN	Miramar	1.33	75	⇑eP	Pn	08 29 35.1	-1.0
MIRN				eS	Sb	08 29 54.1	+0.9
BLLM	Bellamira	1.35	351	eP	Pn	08 29 37.1	+0.7
BLLM				eS	Sn	08 29 54.8	+1.1
COPN	Copaltepe	1.40	87	⇓eP	Pn	08 29 36.6	-0.5
MGAN	Managua	1.74	88	eP	Pn	08 29 40.9	-1.1
MGAN				eS	Sn	08 30 03.5	-0.2
MGAN				i		08 30 05.4	
	comp=N,68nm,0.7s						
LCBS	La Ceiba	1.80	329	eP	Pn	08 29 42.8	-0.1
LCBS				eS	Sn	08 30 05.2	-0.1
LFRS	El Faro	1.82	326	eP	Pn	08 29 42.8	-0.3
LFRS				eS	Sn	08 30 05.7	0.0
SOMN	Somoto	1.90	46	eP	Pn	08 29 45.2	+1.0

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*IDC **23** 08:34:45.0±1.8, 31.60S×179.77E, h400^{km}±18^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.5/16, Error ellipse: s-maj=32.2km s-min=15.1km az=167.0*

*NEIC **23** 08:34:49.2±1.4, 32.21S×179.86E, h465^{km}±15^{km}, mb4.0/5, Error ellipse: s-maj=23.7km s-min=17.5km az=212.0*

ISC 23 08:34:46.2±1.1**, 32.25S**±0.08×**179.7W**±0.2**, h478**^{km}±9^{km}**, n104,** σ1^{s}**27**/106**, mb3.8**/8**, 1C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.55	197	eP	P	08 36 16.7	-1.3
MXZ				eS	S	08 37 29.6	-1.0
MXZ	Matakaoa Point	5.55	197	P	P	08 36 17.4	-0.6
MXZ				S	S	08 37 31.0	+0.4
WIZ	White Island	5.85	205	P	P	08 36 22.1	+1.1
KUZ	Kuaotunu	5.86	219	P	P	08 36 21.1	0.0
KUZ	Kuaotunu	5.86	219	eP	P	08 36 21.1	0.0
PUZ	Puketiti	6.05	195	P	P	08 36 20.7	-2.3
PUZ				eS	S	08 37 38.3	-1.2
PUZ	Puketiti	6.05	195	eP	P	08 36 21.1	-1.9
WCZ	Waipu Caves	6.16	232	P	P	08 36 22.5	-1.6
OUZ	Omahuta	6.32	240	P	P	08 36 22.7	-3.0
OUZ	Omahuta	6.32	240	eP	P	08 36 23.0	-2.7
MTAZ	Motutapu	6.34	223	P	P	08 36 26.6	+0.7
TGRZ	Tauranga	6.39	210	P	P	08 36 28.0	+1.6
MKAZ	Moumakai	6.43	220	P	P	08 36 27.6	+0.8
MARZ	Manawahe	6.45	206	P	P	08 36 28.0	+1.0
OTAZ	Otara	6.45	222	P	P	08 36 28.0	+1.0
MWZ	Matawai	6.48	200	eP	P	08 36 23.3	-4.1
MWZ				eS	S	08 37 46.0	-1.5
EDRZ	Edgecumbe	6.53	205	P	P	08 36 29.3	+1.4
URZ	Urewera	6.54	203	P	P	08 36 27.7	-0.3
	86nm,0.3s,baz=24,slow=2.4,SNR=197						
URZ				S	S	08 37 47.6	-0.9
	59nm,0.3s,baz=73,slow=19,SNR=10						
URZ	Urewera	6.54	203	eP	P	08 36 24.8	-3.1
URZ	Urewera	6.54	203	P	P	08 36 25.8	-2.1
LIRZ	Lichensteins R	6.58	208	P	P	08 36 30.2	+1.9
WTAZ	Waiatarua	6.64	224	P	P	08 36 29.4	+0.4
TAZ	Tarawera	6.73	206	P	P	08 36 31.4	+1.5
TAZ	Tarawera	6.73	206	P	P	08 36 31.9	+2.0
UTU	Utuhina	6.80	208	P	P	08 36 32.6	+2.0
PATZ	Paeroa	6.95	207	P	P	08 36 32.9	+0.7
PATZ				S	S	08 38 00.5	+4.3
KNZ	Kokohu	7.09	197	P	P	08 36 33.8	+0.2
KNZ				eS	S	08 37 57.5	-1.3
KNZ	Kokohu	7.09	197	eP	P	08 36 34.1	+0.5
RATZ	Rangitukua	7.56	208	P	P	08 36 39.7	+1.1
BKZ	Black Stump Fm	7.56	203	P	P	08 36 36.6	-2.0
BKZ	Black Stump Fm	7.56	203	eP	P	08 36 36.8	-1.8
HIZ	Hauiti	7.67	214	P	P	08 36 40.5	+0.8
MGZ	Maungaku	7.77	208	P	P	08 36 40.6	-0.2
MGZ	Maungaku	7.77	208	P	P	08 36 40.7	-0.1
KAVZ	Karewarewa	7.81	208	P	P	08 36 42.4	+1.1
NGZ	Ngauruhoe	7.89	208	P	P	08 36 41.5	-0.7
NGZ	Ngauruhoe	7.89	208	P	P	08 36 42.0	-0.2
CNZ	Chateau	7.94	208	P	P	08 36 43.0	+0.4
CNZ	Chateau	7.94	208	P	P	08 36 43.2	+0.6
TUVZ	Tukino	7.96	207	P	P	08 36 41.5	-1.3
TUVZ				S	S	08 38 15.6	+0.3
TUVZ	Tukino	7.96	207	P	P	08 36 41.9	-0.9
PWZ	Pawanui	8.25	199	eP	P	08 36 44.3	-1.6
PWZ				eS	S	08 38 19.6	-1.4
PWZ	Pawanui	8.25	199	eP	P	08 36 45.2	-0.7
RAEZ	Rainy Point	8.50	213	P	P	08 36 51.0	+2.3
TSZ	Takapari Road	8.55	203	eP	P	08 36 46.9	-2.3
TSZ	Takapari Road	8.55	203	eP	P	08 36 47.6	-1.6
NEZ	North Egmont	8.63	214	P	P	08 36 53.3	+3.2
WAZ	Wanganui	8.64	208	P	P	08 36 50.6	+0.4
DFE	Dawson Falls	8.67	214	P	P	08 36 52.4	+1.9
NWEZ	Newall Road	8.74	215	eP	P	08 36 54.5	+3.2
BFZ	Birch Farm	9.03	200	P	P	08 36 53.5	-0.8
BFZ	Birch Farm	9.03	200	eP	P	08 36 53.8	-0.5
MRZ	Mangatainoka R	9.21	203	P	P	08 36 54.0	-2.4
MRZ	Mangatainoka R	9.21	203	eP	P	08 36 54.9	-1.5
MTW	Mount Morrison	9.69	202	P	P	08 37 00.4	-1.0
MTW	Mount Morrison	9.69	202	P	P	08 37 00.7	-0.7
CAW	Cannon Point	9.79	204	P	P	08 37 01.1	-1.4
CAW	Cannon Point	9.79	204	P	P	08 37 01.3	-1.2
MRW	Makara Radio	10.02	205	P	P	08 37 03.8	-1.2
WEL	Wellington	10.05	205	P	P	08 37 05.8	+0.5
WEL	Wellington	10.05	205	P	P	08 37 06.1	+0.8
SNZO	South Karori	10.09	205	P	P	08 37 06.4	+0.7
SNZO				S	S	08 38 57.4	+0.5
NNZ	Nelson	10.53	210	P	P	08 37 08.8	-1.6
NNZ	Nelson	10.53	210	eP	P	08 37 09.2	-1.2
QRZ	Quartz Range	10.59	214	P	P	08 37 10.6	-0.5
QRZ	Quartz Range	10.59	214	eP	P	08 37 10.6	-0.5
THZ	Tophouse	11.18	210	P	P	08 37 16.2	-1.1
THZ				S	S	08 39 18.8	+0.4
THZ	Tophouse	11.18	210	eP	P	08 37 17.1	-0.2
KHZ	Kahutara	11.48	206	P	P	08 37 20.3	-0.2
KHZ	Kahutara	11.48	206	eP	P	08 37 20.5	0.0
DSZ	Denniston Nort	11.65	213	P	P	08 37 22.9	+0.6
DSZ	Denniston Nort	11.65	213	P	P	08 37 23.1	+0.8
LTZ	Lake Taylor	12.29	209	eP	P	08 37 29.2	+0.1
MQZ	McQueen's Vall	12.92	206	P	P	08 37 37.4	+1.6
WVZ	Waitaha Valley	13.19	212	P	P	08 37 39.6	+1.0
WVZ	Waitaha Valley	13.19	212	eP	P	08 37 40.5	+1.9
RPZ	Rata Peaks	13.56	210	P	P	08 37 44.0	+1.6
	4.0nm,0.3s,baz=70,slow=1.8,SNR=19						
RPZ				S	S	08 40 10.4	+6.1
	4.0nm,0.3s,baz=99,slow=20,SNR=8.2						
ODZ	Otahua Downs	14.82	208	eP	P	08 38 01.0	+5.7
JCZ	Jackson Bay	14.87	214	P	P	08 37 57.3	+1.4
DZM	Mont Dzumac	15.94	306	⇑eP	P	08 38 01.7	-5.1
DZM	Mont Dzumac	15.94	306	⇑eP	P	08 38 01.7	-5.1
STKA	Stephens Creek	32.67	260	eP	P	08 40 41.3	+2.4
	2.0nm,0.6s,mb3.7						
STKA	Stephens Creek	32.67	260	P	P	08 40 41.0	+2.1
	2.3nm,0.4s,mb4.0,baz=96,slow=9.5,SNR=18						
CTA	Charters Tower	32.72	283	eP	P	08 40 38.4	-1.0
	7.5nm,0.9s,mb4.1						
CTA	Charters Tower	32.72	283	P	P	08 40 38.0	-1.4
	8.7nm,0.7s,mb4.3,baz=91,slow=9.8,SNR=13						
CTAO	Charters Tower	32.72	283	eP	P	08 40 38.3	-1.1
	7.8nm,0.7s,mb4.2						
ASAR	Alice Springs	41.59	270	P	P	08 41 52.8	+0.2
	1.6nm,0.5s,mb3.7,baz=105,slow=7.2,SNR=28						
ASAR				ScP		08 46 54.2	
	1.0nm,0.7s,baz=113,slow=3.6,SNR=8.4						
WB2	Warramunga Arr	42.74	275	eP	P	08 41 59.5	-2.2
WRAB	Tennant Creek	42.74	275	eP	P	08 42 00.1	-1.6
	3.7nm,0.7s,mb3.9						
WRA	Warramunga Arr	42.75	275	P	P	08 42 00.5	-1.3
	1.4nm,0.3s,mb3.8,baz=111,slow=7.9,SNR=58						
WRA				ScP		08 46 59.7	
	1.2nm,0.9s,baz=110,slow=3.7,SNR=8.2						
WRA				S	S	08 47 50.6	-0.1
	1.5nm,1.3s,baz=114,slow=13,SNR=3.9						
FITZ	Fitzroy Crossi	50.93	272	P	P	08 43 03.6	-0.7
	1.3nm,0.6s,mb3.5,baz=156,slow=11,SNR=7.2						
QSPA	South Pole Qui	57.87	180	eP	P	08 44 02.2	+10
	5.7nm,1.0s,mb3.9						
NVAR	Mina Array Bea	90.58	44	P	P	08 47 03.0	+5.7
	0.7nm,0.7s,mb3.7,baz=232,slow=8.8,SNR=7.5						
BVAR	Borovoye Array	126.68	315	PKP	PKPdf	08 52 59.4	+5.5
	1.0nm,0.4s,baz=63,slow=6.6,SNR=6.3						
ARCES	ARCESS Array B	140.06	347	PKhKP		08 53 17.6	
	3.6nm,1.0s,baz=45,slow=1.7,SNR=6.0						
ARCES				PKP	PKPdf	08 53 25.0	+6.6
	1.4nm,0.7s,baz=56,slow=4.4,SNR=5.3						
KAF	Kangasniemi	145.76	338	ep	PKPdf	08 53 32.6	+4.2
FINES	FINESS Array B	146.33	338	PKPbc	PKPbc	08 53 35.7	+4.6
	8.0nm,0.4s,baz=78,slow=4.1,SNR=53						
FINES	FINESS Array B	146.33	338	PKPbc	PKPbc	08 53 35.7	+4.6
NB2	NORSAR Subarra	150.32	349	PKP		08 53 46.6	
	2.1nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.32	349	PKPbc	PKPdf	08 53 46.5	+11
	1.2nm,0.5s,baz=17,slow=4.2,SNR=7.6						
NOA				PKPab	PKPab	08 53 53.5	+1.5
	3.5nm,0.8s,baz=22,slow=2.9,SNR=11						
NAO01	NORSAR Array S	150.56	349	ePKPbc	PKPdf	08 53 47.9	+12
NAO01				ePKPab	PKPab	08 53 53.9	+0.9
AKASG	Malin Array Be	151.81	319	PKPbc	PKPdf	08 53 50.1	+12
	1.3nm,0.4s,baz=51,slow=2.5,SNR=13						
BRTR	Keskin Array B	152.12	295	PKPbc	PKPdf	08 53 51.5	+13
	1.6nm,0.5s,baz=117,slow=2.8,SNR=6.5						
GERES	GERESS Array B	160.59	333	PKPab	PKPab	08 54 37.5	+1.4
	0.5nm,0.6s,baz=63,slow=6.0,SNR=3.5						

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*IDC **23** 08:35:12.4±4.9, 18.15N×103.31W, mb3.5/2, mb1 3.8/3, mb1mx3.6/20, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=134.0km s-min=45.8km az=99.0*

*MEX **23** 08:35:19.7±1.2, 18.48N×103.36W, h5^{km}, MD4.3*

*NEIC **23** 08:35:19.7, 18.48N×103.36W, h5^{km}, MD4.3(MEX), After MEX.*

ISC 23 08:35:15.9±0.9**, 18.48N**±0.07×**103.37W**±0.05**, h5**^{km}**, n18,** σ1^{s}**58**/24**, mb3.5**/2**, MS3.4**/1**, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGX	Ciudad Guzman	1.21	354	i P	Pb	08 35 39.3	+0.4
CJM	Chamela	1.88	303	eP	Pn	08 35 47.9	-1.1
CJM				i S	Sn	08 36 13.4	-0.1
ZIIG	Zihuatanejo	2.00	115	i P	Pn	08 35 51.4	+0.7
ZIIG				i S	Sn	08 36 15.2	-1.4
SFJM	Santa Fe	2.02	9	i P	Pn	08 35 50.8	-0.2
SFJM				i S	Sn	08 36 16.3	-0.6
MOIG	Morelia	2.38	60	eP	Pn	08 35 59.0	+2.9
MOIG				i S	Sn	08 36 24.1	-1.9
CAIG	El Cayaco	3.28	115	i S	Sn	08 36 46.0	-2.7
IIZ	Mezontepec	3.97	79	eP	Pn	08 36 25.0	+6.3
UNM	Universidad Na	4.05	77	i P	Pn	08 36 27.1	+7.2
UNM	Universidad Na	4.05	77	eP	Pn	08 36 26.0	+6.1
UNM				i P		08 36 27.1	
UNM				i S	Sn	08 37 20.5	+12
YAIG	Yautepec	4.09	84	eP	Pn	08 36 24.1	+3.6
YAIG				i S	Sn	08 37 08.8	-0.6
YAIG	Yautepec	4.09	84	i P	Pn	08 36 26.0	+5.5
YAIG				i S	Sn	08 37 16.3	+6.9
ZAIG	Zacatecas	4.33	10	eP	Pn	08 36 22.8	-1.2
PPM	Popocatepetl	4.53	82	eP	Pn	08 36 30.4	+3.7
PPM				i P		08 36 33.8	
VHO	Vista Hermosa	6.47	101	i S	Sn	08 38 06.5	-2.7
TXAR	Lajitas Array	10.81	359	Pn	P	08 37 56.1	+1.7
	0.0nm,0.3s,baz=170,slow=15,SNR=5.3						
TXAR				Lg		08 41 03.4	
	0.0nm,0.3s,baz=180,slow=29,SNR=5.0						
NVAR	Mina Array Bea	23.76	330	P	P	08 40 30.2	+0.2
	0.6nm,0.7s,mb3.1,baz=144,slow=11,SNR=5.4						
LVC	Limon Verde	52.94	139	LR	LR	09 01 37.4	
	comp=Z,38nm,21.8s,MS3.4,baz=50,slow=30						
ILAR	Eielson Array	54.58	339	P	P	08 44 44.1	-3.0
	1.0nm,0.9s,mb3.9,baz=150,slow=5.7,SNR=12						

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*IDC **23** 08:46:50.0±3.0, 28.71S×176.94W, mb3.9/3, mb1 4.1/4, mb1mx3.8/14, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/15, Error ellipse: s-maj=70.0km s-min=47.5km az=121.0*

*NEIC **23** 08:46:57.8±2.5, 28.97S×177.67W, h15^{km}, mb4.2/3, Error ellipse: s-maj=48.9km s-min=21.9km az=64.0*

ISC 23 08:46:58.4±1.9**, 29.02S**±0.10×**177.7W**±0.3**, h33**^{km}**, n10,** σ0^{s}**88**/9**, mb4.0**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	10.18	204	Pn	P	08 49 23.7	-1.7
	0.2nm,0.3s,baz=342,slow=19,SNR=2.5						
URZ				Sn	S	08 51 20.1	+0.5
	1.2nm,0.3s,baz=19,slow=23,SNR=7.4						
RAR	Rarotonga	17.96	68	LR	LR	08 55 40.7	
	comp=Z,145nm,20.9s,baz=116,slow=31						
STKA	Stephens Creek	35.09	255	P	P	08 53 51.2	+0.6
	2.1nm,0.9s,mb4.1,baz=90,slow=11,SNR=3.6						
STKA	Stephens Creek	35.09	255	eP	P	08 53 52.1	+1.5
ASAR	Alice Springs	43.49	265	P	P	08 55 00.7	+0.2
	1.0nm,0.5s,mb3.8,baz=98,slow=6.5,SNR=28						
WRAB	Tennant Creek	44.34	271	eP	P	08 55 07.0	-0.4
	3.1nm,0.8s,mb4.1						
WRA	Warramunga Arr	44.35	271	P	P	08 55 07.0	-0.5
	1.0nm,0.8s,mb3.6,baz=108,slow=7.8,SNR=21						
SBA	Scott Base	49.43	184	P	P	08 55 51.2	+4.5
	3.5nm,1.0s,mb4.3						
QSPA	South Pole Qui	61.08	180	eP	P	08 57 11.5	+0.5
	0.7nm,0.5s,mb4.0						
AKASG	Malin Array Be	150.37	324	PKPbc	PKPdf	09 06 43.1	+2.4
	0.3nm,0.3s,baz=32,slow=3.0,SNR=4.6						

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*IDC **23** 09:27:13.4±2.5, 36.01N×45.21E, mb3.7/4, mb1 3.9/5, mb1mx3.6/17, ML1.2/1, Error ellipse: s-maj=40.0km s-min=30.7km az=29.0*

*NEIC **23** 09:27:22.5±3.9, 36.15N×45.09E, h69^{km}±26^{km}, mb3.7/1, Error ellipse: s-maj=51.3km s-min=18.7km az=169.0*

ISC 23 09:27:13.6±1.2**, 35.97N**±0.09×**45.21E**±0.08**, h10**^{km}**, n18,** σ1^{s}**26**/22**, mb3.6**/5**, 2C, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HKR	Hakkari	1.99	324	i P	Pn	09 27 44.1	-3.7
VANT	Van	2.87	330	eP	Pn	09 27 59.8	-0.5
TVAN	Van	2.93	331	⇑iP	Pn	09 28 00.3	-0.9
TVAN				i S	Sn	09 28 34.7	-2.1
TVAN	Van	2.93	331	⇑iP	Pn	09 28 00.3	-0.9
TVAN				i S	Sn	09 28 34.7	-2.1
BEST	Besiri	3.69	302	i P	Pn	09 28 12.0	-0.1
BEST				i S	Sn	09 28 56.9	+0.7
BEST	Besiri	3.69	302	i P	Pn	09 28 12.0	-0.1
BEST				i S	Sn	09 28 56.9	+0.7
BTMT	Batman	3.71	308	eP	Pn	09 28 17.2	+4.9
AGRT	Agri	4.04	335	eP	Pn	09 28 22.4	+5.5
GNI	Garni	4.19	355	Pn	Pn	09 28 22.1	+3.0
	3.6nm,0.3s,baz=163,slow=7.2,SNR=11						
GNI				Sn	Sn	09 29 09.9	+1.3
	2.4nm,0.3s,baz=29,slow=18,SNR=2.3						
VRT	Varto	4.30	318	eP	Pn	09 28 25.4	+4.7
DIY	Diyarbakir	4.43	297	eP	Pn	09 28 31.2	+8.7
MALT	Malatya	5.90	295	ePn	Pn	09 28 44.5	+1.2
	2.0nm,0.4s						
ASF	Jabal al Asfar	7.87	244	Lg		09 31 21.8	
	0.9nm,0.3s,baz=142,slow=19,SNR=3.6						
BVAR	Borovoye Array	24.56	38	P	P	09 32 33.9	-0.7
	0.9nm,0.7s,mb3.4,baz=249,slow=12,SNR=4.3						
GERES	GERESS Array B	26.38	309	P	P	09 32 51.8	+0.1
	0.4nm,0.3s,mb3.4,baz=113,slow=10,SNR=5.4						
KURK	Kurchatov	28.13	48	P	P	09 33 08.2	+0.7
	2.0nm,0.9s,mb3.8						
MKAR	Makanchi Array	29.59	57	P	P	09 33 21.0	+0.1
	0.7nm,0.7s,mb3.5,baz=251,slow=7.7,SNR=4.1						
ARCES	ARCESS Array B	35.31	348	P	P	09 34 08.0	-2.5
	1.2nm,0.6s,mb4.0,baz=140,slow=7.0,SNR=8.4						

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*IDC **23** 09:27:11.6±1.0, 10.24N×93.02E, mb3.9/7, mb1 4.1/8, mb1mx3.8/18, ML4.1/1, Error ellipse: s-maj=46.1km s-min=19.2km az=49.0*

*NEIC **23** 09:27:13.1±0.6, 10.23N×92.99E, h10^{km}, mb4.2/1, Error ellipse: s-maj=18.7km s-min=11.1km az=60.0*

ISC 23 09:27:22.9±1.3**, 10.47N**±0.10×**93.4E**±0.1**, h106**^{km}±10^{km}**, n15,** σ1^{s}**08**/16**, mb3.8**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	1.36	330	eS	S	09 28 07.5	+0.3
CMAR	Chiang Mai Arr	9.56	33	Pn	P	09 29 37.9	-1.2
	0.4nm,0.3s,baz=224,slow=15,SNR=16						
BWNR	Bhubaneshwar	12.22	324	eP	P	09 30 20.6	+6.1
BWNR				e		09 30 20.7	
	comp=Z,26nm,0.2s						
BWNR				eS	S	09 32 24.2	-4.7
BWNR				e		09 32 25.6	
	comp=N,43nm,0.3s						
SHL	Shillong	15.09	355	eP	P	09 30 54.8	+3.1
SHL				eS	S	09 33 37.3	+1.2
LSA	Lhasa	19.25	354	P	P	09 31 39.0	-2.5
	comp=N,5.9nm,0.4s						
MKAR	Makanchi Array	37.42	347	P	P	09 34 26.9	-0.5
	comp=N,0.3nm,0.3s,mb3.6,baz=161,slow=9.0,SNR=7.6						
WRA	Warramunga Arr	50.35	127	P	P	09 36 11.9	+0.5
	comp=N,0.6nm,0.3s,mb4.0,baz=301,slow=10,SNR=29						
WB2	Warramunga Arr	50.36	127	eP	P	09 36 12.0	+0.5
ASAR	Alice Springs	52.12	131	P	P	09 36 25.1	+0.4
	comp=N,0.5nm,0.6s,mb3.7,baz=302,slow=7.2,SNR=7.4						
BRTR	Keskin Array B	60.23	310	P	P	09 37 21.2	-1.2
	comp=N,0.7nm,0.6s,mb3.9,baz=129,slow=9.2,SNR=3.6						
FINES	FINESS Array B	70.11	332	P	P	09 38 25.1	-0.4
	comp=N,2.2nm,1.0s,mb3.9,baz=124,slow=6.9,SNR=6.0						
ARCES	ARCESS Array B	72.60	340	P	P	09 38 40.5	+0.3
	comp=N,0.8nm,0.3s,mb4.0,baz=101,slow=7.2,SNR=16						
ARCES	ARCESS Array B	72.60	340	P	P	09 38 40.5	+0.3
GERES	GERESS Array B	75.44	318	P	P	09 38 57.8	+0.8
	comp=N,0.4nm,0.3s,mb3.6,baz=76,slow=5.5,SNR=5.9						
TXAR	Lajitas Array	137.13	22	PKP	PKPdf	09 46 38.5	+4.2
	comp=N,0.1nm,0.9s,baz=117,slow=2.8,SNR=4.2						

IDC 23 09:39:52.2±5.3**, 16.66S**×**174.76W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=176.0km s-min=105.6km az=156.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.28	241	P	P	09 47 48.4	-0.9
	0.9nm,0.8s,baz=90,slow=10,SNR=3.9						
WB2	Warramunga Arr	48.28	258	eP	P	09 48 35.2	-2.2
WRA	Warramunga Arr	48.29	258	P	P	09 48 35.5	-2.0
	0.7nm,0.4s,baz=95,slow=7.0,SNR=29						
ASAR	Alice Springs	48.49	253	P	P	09 48 36.7	-2.2
	3.2nm,0.9s,baz=92,slow=7.7,SNR=27						
ASAR				PcP	PcP	09 50 03.3	-2.1
	0.3nm,0.5s,baz=104,slow=3.9,SNR=3.8						
ASPA	Alice Springs	48.49	253	eP	P	09 48 36.8	-2.1

IDC 23 09:53:35.0±15.0**, 8.46S**×**119.03E, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.6**/15**, ML3.6**/1**, Error ellipse: s-maj=295.0km s-min=167.7km az=8.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.71	129	P	P	09 57 54.8	-2.4
	0.2nm,0.3s,baz=304,slow=12,SNR=16						
ASAR	Alice Springs	20.78	138	P	P	09 58 18.7	-1.6
	1.0nm,0.4s,baz=314,slow=9.0,SNR=24						
STKA	Stephens Creek	31.35	141	P	P	09 59 57.0	-2.6
	0.9nm,0.3s,baz=311,slow=13,SNR=6.0						

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*IDC **23** 10:39:07.0±1.5, 17.61S×174.66W, mb3.9/7, mb1 4.2/7, mb1mx3.9/16, Error ellipse: s-maj=75.8km s-min=18.6km az=149.0*

*NEIC **23** 10:39:25.0±0.9, 17.88S×174.65W, h155^{km}, mb4.2/3, Error ellipse: s-maj=48.1km s-min=10.4km az=149.0*

ISC 23 10:39:38.5±1.3**, 18.1S**±0.4×**174.8W**±0.3**, h300**^{km}**, n14,** σ0^{s}**50**/14**, mb3.8**/11**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	36.84	260	P	P	10 46 21.1	+0.9
	2.0nm,0.4s,mb3.9						
STKA	Stephens Creek	41.60	242	P	P	10 46 59.6	+0.3
	1.4nm,0.6s,mb3.4,baz=93,slow=12,SNR=5.5						
WB2	Warramunga Arr	48.00	259	eP	P	10 47 49.5	-0.3
WRAB	Tennant Creek	48.00	259	eP	P	10 47 49.3	-0.6
	4.0nm,0.5s,mb4.0						
WRA	Warramunga Arr	48.01	259	P	P	10 47 49.7	-0.3
	2.3nm,0.3s,mb3.9,baz=98,slow=6.9,SNR=147						
ASAR	Alice Springs	48.08	254	P	P	10 47 50.4	-0.1
	16nm,0.6s,mb4.5,baz=90,slow=8.3,SNR=268						
ASPA	Alice Springs	48.08	254	eP	P	10 47 50.2	-0.3
FITZ	Fitzroy Crossi	56.42	260	eP	P	10 48 51.9	+0.4
	1.8nm,0.8s,mb3.5						
FITZ	Fitzroy Crossi	56.42	260	P	P	10 48 51.8	+0.3
	0.8nm,0.3s,mb3.6,baz=85,slow=5.5,SNR=9.0						
JOW	Kunigami	71.04	308	P	P	10 50 25.6	-0.4
	22nm,0.7s,mb4.9,baz=134,slow=27,SNR=6.2						
YBH	Yreka Blue Hor	76.51	37	P	P	10 50 57.2	-0.2
	0.8nm,0.7s,mb3.6,baz=215,slow=2.4,SNR=3.8						
NVAR	Mina Array Bea	77.18	42	P	P	10 51 00.6	-0.6
	0.6nm,0.7s,mb3.4,baz=214,slow=7.8,SNR=6.3						
PDAR	Pinedale Array	85.12	42	P	P	10 51 42.5	+0.2
	0.5nm,0.9s,mb3.3,baz=214,slow=5.3,SNR=3.6						
ILAR	Eielson Array	85.32	12	P	P	10 51 43.6	+1.0
	0.2nm,0.5s,mb3.2,baz=223,slow=5.8,SNR=6.4						

IDC 23 10:58:09.7±2.1**, 3.66S**×**151.85E, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/14**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/14**, Error ellipse: s-maj=189.0km s-min=27.6km az=125.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.52	225	P	P	11 03 21.5	-1.0
	1.8nm,1.1s,baz=51,slow=9.5,SNR=4.1						
ASAR	Alice Springs	26.38	219	P	P	11 03 48.3	-1.4
	0.2nm,0.7s,baz=49,slow=9.6,SNR=3.0						
FITZ	Fitzroy Crossi	29.40	239	LR	LR	11 16 22.8	
	comp=Z,37nm,20.9s,baz=193,slow=37						
ILAR	Eielson Array	81.47	22	P	P	11 10 28.5	-1.4
	0.3nm,0.6s,baz=232,slow=5.6,SNR=7.9						

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*NIED **23** 11:14:00, 36.70N×141.30E, h32^{km}, Mw3.4 Best double couple: $M_0$1.46×10^{14} NP1: ϕ_s191°, δ71°, λ-73°. NP2: ϕ_s328°, δ26°, λ-130°.*

*JMA **23** 11:14:36.3±0.1, 36.70N×141.31E, h39^{km}±2^{km}, M3.6*

ISC 23 11:14:35.2±2.1**, 36.67N**±0.06×**141.4E**±0.1**, h24**^{km}±8^{km}**, n7,** σ0^{s}**65**/12**, 1C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.63	313	⇓P	Pb	11 14 48.0	+0.6
ONAJ				S	Sb	11 14 56.0	+0.1
JHO	Hitachi	0.65	265	⇑P	Pb	11 14 48.2	+0.4
JFK	Kawauchi	0.80	330	⇓P	Pb	11 14 50.5	+0.2
JFK				S	Sb	11 15 00.3	-0.4
JYT	Yasato	1.05	245	P	Pn	11 14 54.0	-0.5
JYT				S	Sb	11 15 06.8	-1.1
JFT	Otama	1.18	316	⇓P	Pn	11 14 56.8	+0.4
JFT				S	Sn	11 15 11.1	-0.8
JMM	Marumori	1.28	339	⇓P	Pn	11 14 57.2	-0.6

MAT	**Matsushiro**	2.55	268	P	Pn	11 15 16.5	+0.5
MAT				S	Sn	11 15 47.6	+1.0

DJA ***23*** *11:19:59.6±0.8, 7.25S×118.39E, h320^{km}, MD4.5/4, ML5.1/3, Error ellipse: s-maj=54.6km s-min=20.8km az=162.0*

NEIC ***23*** *11:20:09.6±1.8, 8.19S×118.67E, h175^{km}, mb4.1/2, Error ellipse: s-maj=61.2km s-min=9.1km az=193.0*

ISC 23 11:20:03.1±2.0**, 7.0S**±0.3×**118.4E**±0.2**, h245**^{km}±23^{km}**, n13, σ1^{s}08**/22**, 3C-6D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	2.74	236	⇑*i*Pn	P	11 20 53.4	+0.5
	1µm,0.2s						
KEDI	**Kedomdong**	2.74	236	*e*Pg	P	11 20 54.6	+1.7
KEDI				⇓*i*Sn	S	11 21 34.5	+2.9
KEDI	**Kedomdong**	2.74	236	⇑*i*Pn	P	11 20 53.4	+0.5
KEDI				*i* Sn	S	11 21 31.2	-0.4
RATI	**Rata**	3.35	238	⇓*i*Pn	P	11 20 59.4	-0.3
	637nm,0.2s						
RATI	**Rata**	3.35	238	*e*Pg	P	11 21 00.4	+0.7
RATI				⇓*i*Sn	S	11 21 43.3	-0.3
RATI	**Rata**	3.35	238	⇓*i*Pn	P	11 20 59.4	-0.3
RATI				*i* Sn	S	11 21 43.3	-0.3
INGI	**Ingas**	3.73	240	⇑*i*Pn	P	11 21 04.9	+0.8
	553nm,0.2s						
INGI				⇓*i*Sn	S	11 21 50.3	-1.1
KELI	**Kelakatan**	4.08	252	*e*Pg	P	11 21 14.1	+5.9
KELI				*e*Sn	S	11 22 00.0	+1.2
KELI	**Kelakatan**	4.08	252	⇓*i*Pn	P	11 21 08.1	-0.1
KELI				*i* Sn	S	11 21 57.2	-1.6
KAKA	**Kakadu**	14.92	114	*e*P	P	11 23 23.6	-0.5
	3.4nm,0.3s						
KAKA				*e*S	S	11 25 46.9	-16
WRAB	**Tennant Creek**	20.15	131	*e*P	P	11 24 19.0	-1.1
	3.3nm,0.5s						
WB2	**Warramunga Arr**	20.16	131	*e*P	P	11 24 19.1	-1.1
WB2				*e*S	S	11 27 48.5	+0.8
ASPA	**Alice Springs**	22.31	140	*e*P	P	11 24 43.2	+2.0

TAP ***23*** *11:34:36.0, 23.95N×122.74E, h3^{km}±1^{km}, ML3.1*

JMA ***23*** *11:34:36.7±0.2, 24.07N×122.85E, h22^{km}, M2.9*

ISC 23 11:34:36.4±3.0**, 24.1N**±0.2×**122.8E**±0.1**, h29**^{km}±10^{km}**, n5, σ0^{s}39**/9**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	0.40	27	P	Pb	11 34 45.3	+0.1
YOJ				*e*S	Sb	11 34 51.3	+0.1
IRIF	**Iriomote-Funau**	0.87	74	P	Pn	11 34 52.0	-0.7
IRIF				S	Sb	11 35 04.0	-0.1
HATJ	**Hateruma jima**	0.91	93	*e*S	Sb	11 35 05.2	0.0
JKRS	**Kuro-shima**	1.10	83	P	Pn	11 34 56.5	+0.5
JKRS				*e*S	Sn	11 35 11.0	+0.6
JIJ	**Ishigaki jima**	1.24	78	P	Pn	11 34 58.1	0.0
JIJ				S	Sn	11 35 13.5	-0.4

SKHL ***23*** *11:39:59.9±0.1, 52.97N×142.69E, h10^{km}, mb4.3/4*

ISC 23 11:40:00.5±0.7**, 52.95N**±0.03×**142.66E**±0.06**, h14**^{km}±5^{km}**, n9, σ1^{s}04**/19**, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	0.63	15	*i* Pg	Pg	11 40 12.9	-0.3
OKH				AMB	AMB	11 40 13.1	
	1µm,0.3s						
OKH				*i* Sg	Sg	11 40 21.9	+0.1
OKH				A		11 40 22.9	
	5µm,0.5s						
OKH				A		11 40 22.9	
	5µm,0.5s						
NKL	**Nikolayevsk**	1.21	280	*e*Pb	Pb	11 40 22.9	+0.2
NKL				*e*Pg	Pg	11 40 24.0	-0.9
NKL				AMB	AMB	11 40 24.5	
	94nm,0.3s						
NKL				AMB	AMB	11 40 24.5	
	140nm,0.3s						
NKL				*i* Sg	Sg	11 40 40.9	-0.2
NKL				A		11 40 44.5	
	320nm,0.4s						
NKL				A		11 40 44.5	
	700nm,0.4s						
TYV	**Tymovskoe**	2.09	180	*e*Pb	Pb	11 40 38.2	+0.5
TYV				*e*Pg	Pg	11 40 42.0	-0.2
TYV				*e*Sb	Sb	11 41 02.8	-0.6
TYV				*e*Sg	Sg	11 41 11.0	+0.9
TYV				A		11 41 19.0	
	17nm,0.6s						
TYV				A		11 41 19.0	
	20nm,0.6s						
GRNR	**Gornyy**	4.44	243	*e*Pg	Pg	11 41 28.2	-1.0
GRNR				AMB	AMB	11 41 29.4	
	12nm,0.5s						
GRNR				*e*Sb	Sb	11 42 10.0	-1.7
GRNR				*e*Sg	Sg	11 42 29.6	+1.2
GRNR				A		11 42 30.0	
	23nm,0.2s						
EKMR	**Ekimchan**	5.87	275	*e*Pn	Pn	11 41 31.0	+1.9
EKMR				*e*Pg	Pg	11 41 56.5	-1.1
EKMR				AMB	AMB	11 42 03.5	
	4.0nm,0.5s						
EKMR				*e*Sn	Sn	11 42 36.5	-0.4
EKMR				*e*Sb	Sb	11 42 51.0	-2.1
EKMR				*e*Sg	Sg	11 43 17.4	+1.6
EKMR				A		11 43 26.0	
	23nm,0.7s						
EKMR				A		11 43 26.0	
	8.0nm,0.7s						
EKMR				A		11 43 26.0	
	7.0nm,0.7s						
BMKR	**Bomnak**	8.37	288	*e*rx	rx	11 42 16.3	
BMKR				*e*S	Sn	11 43 40.7	+1.3
YASR	**Yasnyy**	8.84	278	*e*rx	rx	11 42 28.6	
YASR				*e*S	Sn	11 43 51.8	+0.6
ZEA	**Zeya**	9.26	281	*e*rx	rx	11 44 42.5	
KROS	**Kirovskiy**	9.43	285	*e*rx	rx	11 44 18.7	

NEIC ***23*** *11:43:32.4, 34.78S×70.79W, h104^{km}, mb4.3/1, MD3.8(GUC), After GUC.*

GUC 23 11:43:32.4±0.4**, 34.78S**×**70.79W, h104**^{km}±2^{km}**, MD3.8, ML3.7, 4C-11D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.25	311	⇓*i*P	P	11 43 47.6	+0.2
SFDO				*i* S	S	11 43 58.7	+0.1
NICH	**Los Niches**	0.43	238	⇓*i*P	P	11 43 48.1	-0.1
NICH				*i* S	S	11 44 00.1	0.0
CICH	**Cipreses**	0.55	34	⇑*i*P	P	11 43 49.2	+0.1
CICH				*i* S	S	11 44 02.1	+0.5
CACH	**El Canelo**	0.68	13	⇓*i*P	P	11 43 50.6	+0.4
CACH				*i* S	S	11 44 04.1	+0.7
CHCH	**Chadas Angostu**	0.85	8	⇓*i*P	P	11 43 51.8	0.0
CHCH				*i* S	S	11 44 06.5	+0.1
TALC	**Talca**	0.93	228	⇓*i*P	P	11 43 52.6	-0.1
TALC				*i* S	S	11 44 07.8	0.0
TALC				AMP		11 44 09.4	
	comp=E,4µm,0.4s						
LNV	**Longovilo**	0.97	328	⇑*i*P	P	11 43 53.0	-0.1
LNV				*i* S	S	11 44 08.4	-0.1
LMEL	**Las Melosas**	1.05	28	⇓*i*P	P	11 43 54.4	+0.5
LMEL				*i* S	S	11 44 10.9	+0.9
LMEL				AMP		11 44 12.5	
	comp=N,2µm,0.4s						
TACH	**Talagante**	1.13	354	⇓*i*P	P	11 43 54.8	-0.1
TACH				*i* S	S	11 44 11.8	0.0
PCH	**Pirque**	1.18	11	⇓*i*P	P	11 43 55.6	+0.1
PCH				*i* S	S	11 44 13.2	+0.4
ANTU	**Antumapu**	1.21	6	⇓*i*P	P	11 43 55.8	-0.1
ANTU				*i* S	S	11 44 13.7	+0.2
ANTU				AMP		11 44 15.5	
	comp=E,2µm,0.5s						
DSCH	**Colegio Aleman**	1.39	8	⇓*i*P	P	11 43 58.0	+0.1
DSCH				*i* S	S	11 44 17.4	+0.3
DSCH				AMP		11 44 22.7	
	comp=N,2µm,0.4s						
CLCH	**Cerro Calan**	1.40	9	⇑*i*P	P	11 43 58.1	0.0
CLCH				*i* S	S	11 44 17.4	+0.2
CLCH				AMP		11 44 18.5	
	comp=E,2µm,0.5s						
LCCH	**Las Cruces**	1.45	333	⇓*i*P	P	11 43 58.6	-0.1
LCCH				*i* S	S	11 44 18.4	0.0
FCH	**Farellones**	1.50	16	⇑*i*P	P	11 43 59.6	+0.2
FCH				*i* S	S	11 44 19.9	+0.4
FCH				AMP		11 44 22.6	
	comp=E,837nm,0.3s						
IHA	**Instituto Hidr**	1.89	338	*e*P	P	11 44 03.9	-0.2
JACH	**Jahuel**	2.10	4	*i* P	P	11 44 06.7	-0.2
JACH				*i* S	S	11 44 33.0	+0.3
TRQA	**Tornquist**	7.82	117	*e*Pn	P	11 45 22.0	-3.0
	comp=E,6.1nm,0.8s						

NIED ***23*** *11:48:00, 37.80N×141.80E, h47^{km}, Mw4.2 Best double couple: M$_0$2.61×10^{15} NP1:ϕ_s25°, δ72°, λ92°. NP2:ϕ_s200°, δ18°, λ85°.*

MOS ***23*** *11:48:06.2±1.1, 37.80N×141.86E, h33^{km}, mb4.4/8, Error ellipse: s-maj=25.7km s-min=13.7km az=92.4*

BJI ***23*** *11:48:08.8, 37.66N×141.91E, h71^{km}, mB4.8, mb4.6*

JMA ***23*** *11:48:08.6±0.1, 37.76N×141.83E, h40^{km}±2^{km}, M4.4*

JMA Felt I J1.

IDC ***23*** *11:48:09.6±2.5, 37.79N×141.84E, h42^{km}±23^{km}, mb3.9/14, mb1 4.1/17, mb1mx4.0/26, ML3.7/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=21.2km s-min=14.3km az=96.0*

NEIC ***23*** *11:48:11.1±1.4, 37.74N×141.82E, h58^{km}±11^{km}, mb4.5/6, MW4.2(NIED), Error ellipse: s-maj=13.8km s-min=8.7km az=99.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi Prefectures.

ISC 23 11:48:07.6±0.8**, 37.74N**±0.04×**141.91E**±0.07**, h45**^{km}±5^{km}**, n71, σ0^{s}98**/83**, mb4.4**/28**, MS3.5**/3**, 2C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	0.84	329	⇓P	P	11 48 23.4	+0.2
JIO				*e*S	S	11 48 33.2	-1.4
JMM	**Marumori**	0.89	279	⇓P	P	11 48 24.1	+0.2
JMM				*e*S	S	11 48 34.9	-0.9
JFK	**Kawauchi**	0.90	246	⇓P	P	11 48 24.3	+0.3
JFK				S	S	11 48 35.4	-0.6
ONAJ	**Iwakimizuishiy**	1.08	235	⇓P	P	11 48 27.0	+0.4
ONAJ				S	S	11 48 40.1	-0.6
JOU	**Okura**	1.17	303	⇓P	P	11 48 28.2	+0.5
JOU				*e*S	S	11 48 42.5	-0.2
JFT	**Otama**	1.26	261	P	P	11 48 30.3	+1.1
JFT				*e*S	S	11 48 45.7	+0.4
JMK	**Ichinoseki**	1.33	336	⇓P	P	11 48 30.5	+0.3
JYS	**Shirataka**	1.53	289	⇓P	P	11 48 33.4	+0.4
JYK	**Kaneyama**	1.70	315	⇓P	P	11 48 35.6	+0.3
JFY	**Yanaizu**	1.78	260	⇓P	P	11 48 37.3	+0.8
JOM	**Ohasama**	1.80	345	⇓P	P	11 48 37.4	+0.6
MAJO	**Matsushiro**	3.19	249	*e*Pn	P	11 48 57.6	+1.1
MAT	**Matsushiro**	3.19	249	P	P	11 48 57.8	+1.3
MAT				S	S	11 49 36.6	+3.0
MAT	**Matsushiro**	3.19	249	*e*P	P	11 48 58.0	+1.5
MAT				*e*S	S	11 49 37.0	+3.4
JHJ	**Hachijo jima 2**	4.92	201	P	P	11 49 20.8	-0.2
	19nm,0.3s,baz=124,slow=8.8,SNR=13						
JHJ				S	S	11 50 14.9	-2.4
	60nm,0.3s,baz=77,slow=23,SNR=5.8						
ASAJ	**Asahikawa**	6.40	4	P	P	11 49 40.2	-1.4
	3.4nm,0.3s,baz=121,slow=25,SNR=20						
ASAJ				S	S	11 50 49.1	-5.1
	0.7nm,0.3s,baz=139,slow=18,SNR=2.8						
ASAJ	**Asahikawa**	6.40	4	P	P	11 49 40.2	-1.4
ASAJ				S	S	11 50 49.1	-5.1
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KUR	**Kuril'sk**	8.72	29	P	P	11 50 12.3	-1.6
KUR				*e*S	S	11 51 42.8	-9.2
KUR				smax			
	comp=N,60nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
JNU	**Nakatsue**	10.10	246	P	P	11 50 31.6	-1.3
	comp=E,0.2nm,0.3s,baz=145,slow=6.6,SNR=2.2						
JNU				LR	LR	11 54 34.1	
	comp=E,218nm,19.2s,baz=56,slow=38						
MDJ	**Mudanjiang**	11.54	310	P	P	11 50 55.4	+3.0
MDJ				AMB	AMB		
	comp=Z,11nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,74nm,4.7s						
MDJ	**Mudanjiang**	11.54	310	*e*Pn	P	11 50 54.1	+1.7
	comp=Z,12nm,0.9s						
BJI	**Beijing**	20.14	285	*e*P	P	11 52 38.3	-2.2
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
MA2	**Magadan**	22.59	12	P	P	11 53 05.3	+0.4
	comp=Z,2.6nm,0.6s,mb3.8						
HHC	**Hu-ho-hao-te**	23.63	287	*e*P	P	11 53 15.6	+0.4
HHC				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,123nm,5.1s						
XAN	**Xi'an**	26.90	272	P	P	11 53 45.8	-0.4
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.3						
BOD	**Bodaibo**	27.15	327	*e*P	P	11 53 46.5	-1.8
SONM	**Songino Array**	27.73	303	P	P	11 53 53.9	+0.2
	comp=Z,6.2nm,0.8s,mb4.3,baz=99,slow=8.6,SNR=45						
ENH	**Enshi**	27.79	264	*e*P	P	11 53 53.3	-1.1
	comp=Z,27nm,0.8s,mb4.9						
ZAK	**Zakamensk**	30.15	307	⇑*i*P	P	11 54 14.7	-0.5
GYA	**Guiyang**	31.73	260	⇑*i*P	P	11 54 28.3	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
KMI	**Kunming**	35.46	261	*e*P	P	11 55 01.3	-0.3
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
WMQ	**Urumqi**	40.88	296	*e*P	P	11 55 43.8	-2.9
CMAR	**Chiang Mai Arr**	42.05	255	P	P	11 55 58.1	+1.6
	comp=Z,0.6nm,0.4s,mb3.6,baz=50,slow=6.6,SNR=5.7						
CMAR				LR	LR	12 16 14.8	
	comp=Z,50nm,18.0s,MS3.4,baz=276,slow=40						
CMAR	**Chiang Mai Arr**	42.05	255	P	P	11 55 58.2	+1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,51nm,18.0s						
MKAR	**Makanchi Array**	44.08	302	P	P	11 56 12.8	0.0
	comp=Z,2.1nm,0.5s,mb4.1,baz=86,slow=10,SNR=23						
MKAR	**Makanchi Array**	44.08	302	P	P	11 56 12.8	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	45.81	308	P	P	11 56 26.8	+0.3
	comp=Z,100nm,0.7s,SNR=14						
KURK	**Kurchatov**	45.81	308	*e*P	P	11 56 25.8	-0.7
	comp=Z,11nm,0.7s,mb4.9						
PKI	**Pulchoki**	48.00	275	*e*P	P	11 56 43.9	-0.2
	comp=Z,13nm,0.6s,mb5.1						
KKN	**Kakani**	48.01	275	*e*P	P	11 56 44.1	0.0
	comp=Z,29nm,0.8s,mb5.4						
DMN	**Daman**	48.23	275	*e*P	P	11 56 45.4	-0.4
	comp=Z,24nm,1.1s,mb5.1						
GKN	**Gorkha**	48.42	276	*e*P	P	11 56 47.1	-0.2
	comp=Z,41nm,0.8s,mb5.5						
ILAR	**Eielson Array**	48.69	33	P	P	11 56 49.5	+0.6
	comp=Z,0.5nm,0.6s,mb3.8,baz=266,slow=6.2,SNR=13						
ILAR	**Eielson Array**	48.69	33	P	P	11 56 49.5	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KOLN	**Koldanda**	49.34	276	*e*P	P	11 56 54.2	-0.2
	comp=Z,16nm,0.8s,mb5.1						
TKM2	**Tokmak 2**	49.65	298	P	P	11 56 57.4	+0.9
	SNR=12						
KZA	**Kyzart**	50.15	297	P	P	11 57 01.9	+1.5
	SNR=7.0						
KBK	**Karagaybulak**	50.18	298	P	P	11 57 01.2	+0.5
	SNR=6.1						
USP	**Ospenovka**	50.30	299	P	P	11 57 01.4	-0.2
	SNR=5.2						
BRVK	**Borovoye**	50.45	312	*e*P	P	11 57 01.9	-0.7
	comp=Z,2.3nm,0.6s,mb4.4						
AML	**Almayashu**	51.23	298	P	P	11 57 09.5	+0.9
	SNR=12						
FITZ	**Fitzroy Crossi**	57.61	198	P	P	11 57 55.8	+0.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=29,slow=4.4,SNR=3.6						
WRAB	**Tennant Creek**	57.80	188	*e*P	P	11 57 56.3	-0.5
	comp=Z,3.5nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	57.81	188	P	P	11 57 56.2	-0.7
	comp=Z,1.9nm,0.5s,mb4.4,baz=5.8,slow=7.3,SNR=32						
WRA	**Warramunga Arr**	57.81	188	P	P	11 57 56.2	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	61.53	188	P	P	11 58 22.4	0.0
	comp=Z,1.7nm,1.0s,mb4.1,baz=6.1,slow=5.1,SNR=11						
FINES	**FINESS Array B**	68.38	332	P	P	11 59 04.2	-1.7
	comp=Z,6.9nm,1.1s,mb4.6,baz=68,slow=10,SNR=5.7						
FINES				LR	LR	12 28 54.3	
	comp=Z,26nm,18.7s,MS3.5,baz=351,slow=36						
FINES	**FINESS Array B**	68.38	332	P	P	11 59 04.3	-1.6
FINES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FINES				MLR	MLR		
	comp=Z,26nm,18.7s						
NB2	**NORSAR Subarra**	73.69	337	P	P	11 59 38.3	+0.5
	comp=Z,0.8nm,0.6s,mb3.8,baz=43,slow=6.2						
NOA	**NORSAR Array B**	73.69	337	P	P	11 59 38.0	+0.2
	comp=Z,1.8nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=5.6						
NOA				LR	LR	12 34 22.4	
	comp=Z,34nm,20.2s,MS3.6,baz=110,slow=38						
NOA	**NORSAR Array B**	73.69	337	P	P	11 59 38.0	+0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,34nm,20.3s						
NOA	**NORSAR Array B**	73.69	337	P	P	11 59 38.0	+0.2
NOA				LR	LR	12 34 22.4	
AKASG	**Malin Array Be**	73.98	322	P	P	11 59 39.6	-0.1
	comp=Z,2.7nm,0.6s,mb4.4,baz=46,slow=5.7,SNR=10						
AKASG	**Malin Array Be**	73.98	322	P	P	11 59 39.6	-0.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PDAR	**Pinedale Array**	76.90	46	P	P	11 59 58.1	+1.5
	comp=Z,0.5nm,0.6s,mb3.6,baz=316,slow=1.1,SNR=5.8						
BRTR	**Keskin Array B**	78.68	312	P	P	12 00 07.4	+1.0
	comp=Z,1.1nm,0.8s,mb3.9,baz=63,slow=2.8,SNR=4.5						
BRTR	**Keskin Array B**	78.68	312	P	P	12 00 07.4	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLL	**Collm**	80.69	330	P	P	12 00 17.0	0.0
GERES	**GERESS Array B**	82.32	328	P	P	12 00 26.2	+0.6
	comp=Z,0.7nm,0.4s,mb3.9,baz=45,slow=7.5,SNR=6.5						
GERES	**GERESS Array B**	82.32	328	P	P	12 00 26.2	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	89.39	53	P	P	12 01 02.6	+1.9
	comp=Z,0.4nm,0.6s,mb3.9,baz=316,slow=3.3,SNR=4.1						

IDC 23 11:52:36.1±2.4**, 7.19S**×**118.68E, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.8**/15**, ML3.9**/1**, Error ellipse: s-maj=161.0km s-min=22.3km az=56.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	19.78	131	P	P	11 57 09.3	-1.7
	0.3nm,0.3s,baz=304,slow=12,SNR=34						
WB2	**Warramunga Arr**	19.79	131	*e*P	P	11 57 09.7	-1.3
ASAR	**Alice Springs**	21.95	140	P	P	11 57 30.9	-2.5
	0.7nm,0.4s,baz=315,slow=8.3,SNR=21						
SONM	**Songino Array**	55.86	350	P	P	12 02 14.9	-2.9
	0.2nm,0.4s,baz=164,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	62.72	333	P	P	12 03 03.5	-1.9
	0.9nm,0.5s,baz=140,slow=7.7,SNR=8.3						

MOS 23 12:21:01.8±1.5**, 41.71N**×**47.82E, h11**^{km}**, mb3.9**/1**, Error ellipse: s-maj=33.4km s-min=14.1km az=98.2, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKT	**Akhty**	0.24	197	*i* PG	Pg	12 21 08.5	+1.5
AKT				*e*S	Sg	12 21 12.0	+1.5
URKR	**Urkarakh**	0.47	343	*i* PG	Pg	12 21 10.5	-1.0
URKR				*e*S	Sg	12 21 16.5	-1.4
DRN	**Derbent**	0.49	50	*i* PG	Pg	12 21 12.8	+1.0
DRN				*i* S	Sg	12 21 22.0	+3.5
DRN				pmax	pmax		
	comp=Z,173nm,0.2s						
BUJR	**Buynaksk**	1.23	335	*e*PG	Pg	12 21 25.0	-1.5
BUJR				*i* S	Sb	12 21 42.0	+1.7
UNCR	**Uncukul**	1.26	323	PG	Pg	12 21 24.8	-2.2
UNCR				*e*S	Sb	12 21 40.8	-0.3
UNCR				pmax	pmax		
	comp=Z,27nm,0.3s						
DBC	**Dubki**	1.50	331	*e*PG	Pg	12 21 30.5	-1.3
DBC				*e*S	Sb	12 21 50.5	+2.4

IDC ***23*** *12:37:46.9±3.9, 6.85S×129.84E, h63^{km}±34^{km}, mb4.3/9, mb1 4.5/10, mb1mx4.5/11, ML5.3/3, MS3.3/4, Ms1 3.4/4, ms1mx3.0/19, Error ellipse: s-maj=39.4km s-min=15.0km az=68.0*

BJI ***23*** *12:37:47.1, 6.90S×129.90E, h65^{km}, mB5.2, mb4.8, Ms4.8, Msz4.6*

NEIC ***23*** *12:37:47.1±1.0, 6.89S×129.89E, h65^{km}±9^{km}, mb4.6/17, Error ellipse: s-maj=10.0km s-min=5.8km az=69.0*

SYO ***23*** *12:37:47.1, 6.89S×129.89E, h65^{km}, MB4.6*

ISC 23 12:37:44.5±1.4**, 6.88S**±0.05×**129.83E**±0.08**, h56**^{km}±13^{km}**, h54**^{km}±3.8^{km}**:pP-P, n93, σ0^{s}94**/79**, mb4.8**/41**, MS4.1**/5**, 8C-6D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	6.32	157	⇓*i*P	P	12 39 22.4	+5.2
	90nm,0.1s						
KAKA				*e*S	S	12 40 28.6	-0.2
FITZ	**Fitzroy Crossi**	11.88	200	*e*P	P	12 40 32.5	-1.1
	83nm,0.3s						
FITZ				*e*S	S	12 42 36.7	-8.8
FITZ	**Fitzroy Crossi**	11.88	200	P	P	12 40 32.5	-1.1
	48nm,0.3s,baz=19,slow=8.8,SNR=402						
FITZ				S	S	12 42 34.3	-11
	55nm,0.3s,baz=183,slow=24,SNR=9.6						
FITZ				LR	LR	12 46 04.6	
	comp=Z,54nm,20.1s,baz=44,slow=42						
WRAB	**Tennant Creek**	13.70	162	*e*P	P	12 40 57.3	-0.5
	104nm,0.6s						
WRA	**Warramunga Arr**	13.71	162	P	P	12 40 57.9	0.0
	15nm,0.3s,baz=344,slow=13,SNR=422						
WRA				S	S	12 43 19.6	-10
	9.2nm,0.3s,baz=332,slow=24,SNR=10						
WB2	**Warramunga Arr**	13.71	162	*e*P	P	12 40 57.4	-0.5
WB2				*e*		12 43 20.6	
ASPA	**Alice Springs**	17.15	167	*e*P	P	12 41 42.5	+0.6
ASPA				*e*S	S	12 44 43.0	-6.1
ASAR	**Alice Springs**	17.15	167	P	P	12 41 42.4	+0.5
	9.8nm,0.3s,baz=332,slow=9.1,SNR=345						
ASAR				S	S	12 44 44.5	-4.6
	9.7nm,0.3s,baz=354,slow=27,SNR=11						
ASAR				LR	LR	12 48 56.3	
	comp=Z,108nm,21.2s,baz=342,slow=39						
ASAR				ScP		12 49 46.2	
	0.6nm,0.3s,baz=350,slow=1.9,SNR=6.6						
PMG	**Port Moresby**	17.34	100	P	P	12 41 43.8	-0.5
KKM	**Kota Kinabalu**	18.69	313	⇓*e*P	P	12 42 03.0	+2.1
CTA	**Charters Tower**	20.65	131	*e*P	P	12 42 25.8	+3.8
	8.8nm,0.6s						
CTA				*e*S	S	12 46 23.6	+19
CTA	**Charters Tower**	20.65	131	P	P	12 42 25.8	+3.8
	11nm,0.7s,baz=308,slow=13,SNR=10						
CTAO	**Charters Tower**	20.65	131	*e*P	P	12 42 22.9	+0.9
	13nm,0.8s						
TGY	**Tagaytay City**	22.63	337	P	P	12 42 45.7	+3.8
	150nm,0.3s,mb5.9,baz=162,slow=5.0,SNR=7.2						
FORT	**Forrest**	23.84	184	*e*P	P	12 42 54.7	+1.2
	236nm,0.6s,mb5.8						
FORT				*e*pP		12 43 05.2	
FORT				*e*S	S	12 47 15.7	+13
KLBR	**Kellerberrin**	27.06	203	*e*P	P	12 43 23.8	-0.1
	124nm,1.7s,mb5.2						
KLBR				*e*		12 43 57.6	
KLBR				*e*S		12 48 29.9	
STKA	**Stephens Creek**	27.19	158	*e*P	P	12 43 25.9	+0.8
	7.8nm,0.9s,mb4.2						
STKA				*e*pP	Px	12 43 29.6	
STKA				*e*	sP	12 43 49.7	+4.1
STKA				*e*S		12 48 38.7	
STKA	**Stephens Creek**	27.19	158	P	P	12 43 26.1	+1.0
	14nm,0.5s,mb4.7,baz=335,slow=8.8,SNR=23						

MUN	**Mundaring**	28.02	205	*e*P	P	12 43 33.3	+0.7
	18nm,1.0s,mb4.6						
MUN				*e*		12 44 11.1	
MUN				*e*S	Sx	12 48 54.9	
TOO	**Toolangi**	33.71	157	*e*P	P	12 44 25.2	+2.6
	4.1nm,1.1s,mb4.3						
NANT	**Nan**	38.42	312	⇑P	P	12 45 03.0	+0.5
SSE	**Sheshan**	38.65	348	P	P	12 45 06.8	+2.4
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CM31	**Chiang Mai Arr**	39.52	310	*e*P	P	12 45 11.9	+0.1
	comp=Z,15nm,0.9s,mb4.7						
CMAR	**Chiang Mai Arr**	39.52	310	P	P	12 45 12.0	+0.3
	comp=Z,9.4nm,0.6s,mb4.7,baz=141,slow=6.6,SNR=53						
CMAR				LR	LR	13 02 09.0	
	comp=Z,35nm,19.5s,MS3.2,baz=120,slow=37						
CHG	**Chiang Mai**	39.74	310	⇑P	P	12 45 13.7	+0.2
	comp=Z,26nm,0.9s,mb5.0						
CHRT	**Chiangrai**	39.76	313	⇑P	P	12 45 14.5	+0.8
	comp=Z,184nm,1.0s,mb5.8						
GYA	**Guiyang**	40.04	327	⇓*i*P	P	12 45 17.0	+1.1
GYA				AP	pP	12 45 29.4	-1.0
GYA				PP	PP	12 46 55.4	+3.0
GYA				S	S	12 51 20.6	+3.0
GYA				XS		12 51 42.8	
GYA				SS	SS	12 54 18.3	+7.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GYA				LR	LR		
	comp=N,180nm,15.8s,MS4.2						
GYA				LR	LR		
	comp=E,240nm,16.0s,MS4.2						
GYA				LR	LR		
	comp=Z,230nm,15.4s,MS4.1						
WHN	**Wuhan**	40.06	339	*e*P	P	12 45 17.8	+1.7
NJ2	**Nanjing**	40.10	345	*e*P	P	12 45 17.3	+0.9
NJ2				AP	pP	12 45 32.6	+1.8
NJ2				XP	sP	12 45 39.5	+2.0
NJ2				S	S	12 51 20.5	+2.1
NJ2				XS		12 51 46.5	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,40nm,4.0s						
NJ2				LR	LR		
	comp=N,1µm,15.1s,MS5.0						
NJ2				LR	LR		
	comp=E,1µm,16.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,190nm,14.9s,MS4.1						
KMI	**Kunming**	41.31	321	⇑*i*P	P	12 45 27.6	+1.1
KMI				S	S	12 51 41.4	+4.8
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4						
ENH	**Enshi**	41.78	333	*e*P	P	12 45 29.9	-0.4
	comp=Z,5.9nm,0.6s,mb4.4						
MAJO	**Matsushiro**	43.90	10	*e*P	P	12 45 47.5	0.0
	comp=Z,8.9nm,0.8s,mb4.5						
MAT	**Matsushiro**	43.90	10	P	P	12 45 47.4	-0.1
MAT	**Matsushiro**	43.90	10	*e*P	P	12 45 47.0	-0.5
	comp=Z,11nm,1.0s,mb4.5						
BJT	**Baijiatuau**	48.34	346	*e*P	P	12 46 21.9	-0.7
	comp=Z,12nm,0.7s,mb5.0						
BJI	**Beijing**	48.35	346	*e*P	P	12 46 22.8	+0.1
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.1						
SHL	**Shillong**	48.99	313	*e*P	P	12 46 26.5	-1.3
LZH	**Lanzhou**	49.22	332	⇑P	P	12 46 29.0	-0.4
LZH				AP	pP	12 46 44.1	0.0
LZH				XP	sP	12 46 51.3	+0.8
LZH				PP	PP	12 48 24.1	+0.3
LZH				*e*S	S	12 53 29.3	-0.5
LZH				SS	SS	12 56 57.4	-0.2
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,203nm,5.3s						
LZH				LR	LR		
	comp=N,446nm,13.5s						
LZH				LR	LR		
	comp=Z,737nm,17.4s,MS4.7						
HHC	**Hu-ho-hao-te**	50.37	342	*e*P	P	12 46 38.8	+0.6
HHC				AMB	AMB		
	comp=Z,16nm,2.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,187nm,6.2s						
CN2	**Changchun**	50.59	356	*e*P	P	12 46 39.6	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	51.25	360	P	P	12 46 45.1	+0.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,100nm,5.6s						
GTA	**Gaotai**	53.78	331	*e*P	P	12 47 04.0	+0.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
PKI	**Pulchoki**	54.92	311	*e*P	P	12 47 10.9	-1.3
	comp=Z,12nm,0.6s,mb5.1						
KKN	**Kakani**	55.13	311	*e*P	P	12 47 12.2	-1.6
	comp=Z,25nm,0.8s,mb5.3						
DMN	**Daman**	55.17	310	*e*P	P	12 47 12.8	-1.2
	comp=Z,32nm,1.0s,mb5.3						
GKN	**Gorkha**	55.73	311	*e*P	P	12 47 16.7	-1.4
	comp=Z,12nm,0.2s,mb5.5						
KOLN	**Koldanda**	56.39	310	*e*P	P	12 47 21.6	-1.2
	comp=Z,13nm,0.4s,mb5.4						
SONM	**Songino Array**	58.27	342	P	P	12 47 35.9	+0.1
	comp=Z,3.1nm,0.8s,mb4.4,baz=151,slow=4.8,SNR=23						
WMQ	**Urumqi**	63.20	327	⇑*i*P	P	12 48 08.9	-0.4
WMQ				PCP	PcP	12 48 43.8	-2.3
WMQ				PP	PP	12 50 29.4	-0.9
WMQ				S	S	12 56 34.9	0.0
WMQ				PS	PS	12 57 00.9	-0.4
WMQ				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.3						
MKAR	**Makanchi Array**	68.03	327	P	P	12 48 39.7	-0.5
	comp=Z,7.6nm,0.5s,mb5.0,baz=120,slow=8.0,SNR=70						
MKAR	**Makanchi Array**	68.03	327	P	P	12 48 39.7	-0.5
YAK	**Yakutsk**	68.70	360	*e*P	P	12 48 43.6	-0.5
	comp=Z,43nm,0.8s,mb5.4						
KURK	**Kurchatov**	72.32	329	P	P	12 49 05.1	-1.0
	comp=Z,80nm,1.0s,mb5.6,SNR=13						
KURK	**Kurchatov**	72.32	329	*e*P	P	12 49 05.2	-0.9
	comp=Z,13nm,0.9s,mb4.8						
VNDA	**Vanda**	72.59	173	P	P	12 49 06.8	-0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=312,slow=8.6,SNR=3.4						
VNDA				LR	LR	13 17 55.7	
	comp=Z,46nm,18.9s,MS3.8,baz=102,slow=33						
VNDA	**Vanda**	72.59	173	P	P	12 49 06.9	-0.4
MAW	**Mawson**	75.00	201	*e*P	P	12 49 21.4	0.0
	comp=Z,3.5nm,0.6s,mb4.5						
MAW	**Mawson**	75.00	201	P	P	12 49 21.4	0.0
	comp=Z,4.6nm,0.7s,mb4.5,baz=63,slow=6.9,SNR=22						
BRVK	**Borovoye**	77.94	328	*e*P	P	12 49 37.2	-1.0
	comp=Z,9.9nm,1.0s,mb4.7						
SYO	**Syowa Base**	83.72	201	⇓P	P	12 50 08.1	-0.2
SYO	**Syowa Base**	83.72	201	⇑PcP	PcP	12 50 13.1	+0.3
SYO	**Syowa Base**	83.72	201	⇓pP	pP	12 50 21.9	-2.3
SYO	**Syowa Base**	83.72	201	⇓sP	sP	12 50 28.1	-2.2
PMR	**Palmer**	91.75	28	*e*P	P	12 50 46.0	-1.1
	comp=Z,1.3nm,0.7s,mb4.4						
COLA	**College**	92.92	25	P	P	12 50 52.2	-0.3
	comp=Z,1.2nm,0.6s,mb4.5						
ILAR	**Eielson Array**	93.31	25	P	P	12 50 52.9	-1.3
	comp=Z,1.4nm,0.8s,mb4.4,baz=275,slow=4.2,SNR=16						
SNAA	**Sanae**	95.75	194	P	P	12 51 05.8	+0.7
SNAA	**Sanae**	95.75	194	⇑*i*	pP	12 51 18.8	-2.5
SNAA	**Sanae**	95.75	194		sP	12 51 22.7	-4.3
DAWY	**Dawson**	96.47	26	*e*P	P	12 51 08.7	+0.1
BRTR	**Keskin Array B**	99.11	309	P	P	12 51 20.6	-0.6
	comp=Z,0.4nm,0.4s,mb4.3,baz=104,slow=5.9,SNR=2.6						
GERES	**GERESS Array B**	112.22	320	PKiKP		12 56 14.4	
	comp=Z,0.6nm,0.6s,slow=1.0,SNR=4.1						
BW06	**Boulder Array**	116.92	45	*e*PKPdf	PKPdf	12 56 24.9	+1.6
PDAR	**Pinedale Array**	116.92	45	PKP	PKPdf	12 56 25.2	+2.0
	comp=Z,0.9nm,0.7s,baz=298,slow=1.1,SNR=9.8						
PV10	**Paradox Valley**	118.49	50	*e*PKPdf	PKPdf	12 56 28.4	+2.0
PV01	**Paradox Valley**	118.91	50	*e*PKPdf	PKPdf	12 56 28.9	+1.7
RSSD	**Black Hills**	120.28	42	*e*PKPdf	PKPdf	12 56 30.7	+0.9
SDCO	**Great Sand Dun**	121.34	50	*e*PKPdf	PKPdf	12 56 34.1	+2.2
ANMO	**Albuquerque**	121.36	53	*e*PKPdf	PKPdf	12 56 34.2	+2.2
ULM	**Lac du Bonnet**	122.43	33	PKP	PKPdf	12 56 33.8	0.0
	comp=Z,1.6nm,0.7s,baz=225,slow=2.9,SNR=3.3						
MNTX	**Cornudas Mount**	123.03	57	PKPdf	PKPdf	12 56 37.1	+1.7
WMOK	**Wichita Mounta**	127.45	51	*e*PKPdf	PKPdf	12 56 45.0	+1.1
JCT	**Junction City**	127.96	57	*e*PKPdf	PKPdf	12 56 46.8	+1.8
DBIC	**Dimbokro**	135.02	273	PKP	PKPdf	12 56 58.1	-0.6
	comp=Z,5.6nm,1.1s,baz=243,slow=2.3,SNR=3.7						
DBIC	**Dimbokro**	135.02	273	PKPdf	PKPdf	12 56 59.2	+0.5
LRAL	**Lakeview Retre**	137.06	48	*e*PKPdf	PKPdf	12 57 03.0	+1.0
LVC	**Limon Verde**	145.42	148	*e*PKPbc	PKPbc	12 57 20.2	+2.5
CPUP	**Villa Florida**	146.27	168	PKPbc	PKPbc	12 57 21.1	+1.4
	comp=Z,13nm,0.7s,baz=221,slow=2.1,SNR=33						
CPUP	**Villa Florida**	146.27	168	*e*PKPbc	PKPbc	12 57 21.1	+1.4
CPUP				*e*		13 00 48.1	
NNA	**Nana**	147.52	125	*e*PKPbc	PKPdf	12 57 24.8	+3.9
LPAZ	**La Paz**	150.92	142	PKPbc	PKPdf	12 57 34.4	+8.3
	comp=Z,2.6nm,0.3s,baz=70,slow=2.0,SNR=5.9						
LPAZ	**La Paz**	150.92	142	PKPbc	PKPdf	12 57 34.9	+8.8
SAML	**Samuel**	159.62	140	*e*PKPab	PKPab	12 58 17.4	-1.4

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*ISK **23** 12:37:50.4,36.44N×28.64E,h15^{km},MD3.1*

*NEIC **23** 12:37:51.1,36.49N×28.76E,h18^{km},MD3.0(ATH),After ATH.*

*ATH **23** 12:37:51.1,36.49N×28.76E,h18^{km}±15^{km},MD3.0/4*

ISC 23 12:37:50.1±0.9,**36.41N**±0.04×**28.84E**±0.04,**h2**^{km}±6^{km},**n18**,σ**0**^{s}**97**/31,**2C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALT	**Dalyan (Mudla)**	0.39	336	*i* PG	Pg	12 37 57.4	-0.5
DALT				*i* SG	Sg	12 38 03.0	-0.1
ARG	**Arkhangelos**	0.61	251	*e*PN	Pg	12 38 02.2	-0.1
ARG				*e*SN	Sg	12 38 11.6	+1.3
KSL	**Kastellorizon**	0.66	113	*e*PB	Pb	12 38 03.8	-0.3
KSL				*e*SN	Sn	12 38 17.0	-0.3
KSL	**Kastellorizon**	0.66	113	*e*Pb	Pb	12 38 03.8	-0.3
KSL				*e*Sn	Sn	12 38 17.2	-0.1
YER	**Yerkesik**	0.84	328	PG	Pg	12 38 05.9	-1.1
ELL	**Elmali**	0.93	69	PG	Pg	12 38 10.9	+2.3
ELL				SG	Sg	12 38 26.6	+5.6
MLSB	**Milas**	1.22	316	*e*PN	Pn	12 38 12.4	-1.9
DNZL	**Cakiroluk**	1.28	7	⇑*i*P	Pb	12 38 14.3	-0.5
DNZL				*i* S	Sb	12 38 33.7	+2.1
DNZL	**Cakiroluk**	1.28	7	⇑*i*P	Pb	12 38 14.3	-0.5
DNZL				*i* S	Sb	12 38 33.7	+2.1
BDRM	**Kayabasi**	1.29	301	*i* P	Pb	12 38 14.3	-0.6
BDRM				*i* S	Sb	12 38 32.3	+0.4
BDRM	**Kayabasi**	1.29	301	*i* P	Pb	12 38 14.3	-0.6
BDRM				*i* S	Sb	12 38 32.3	+0.4
DENT	**Denizli**	1.35	7	PN	Pn	12 38 14.5	-1.5
AYDN	**Tasoluk**	1.46	329	*i* P	Pn	12 38 17.5	-0.2
AYDN				*i* S	Sb	12 38 37.3	+0.6
AYDN	**Tasoluk**	1.46	329	*i* P	Pn	12 38 17.5	-0.2
AYDN				*i* S	Sb	12 38 37.3	+0.6
KARP	**Karpathos**	1.61	238	*e*PN	Pn	12 38 20.2	+0.4
SMG	**Samos**	2.06	310	*e*PN	Pn	12 38 26.1	-0.1
KDAG	**Bornova**	2.34	328	*e*P	Pn	12 38 30.1	-0.3
KDAG				*i* S	Sn	12 39 00.8	+0.7
KDAG	**Bornova**	2.34	328	*e*P	Pn	12 38 30.1	-0.3
KDAG				*i* S	Sn	12 39 00.8	+0.7

IDC 23 12:57:01.7±7.7,**8.80S**×**121.97E**,**h88**^{km}±71^{km},**mb3.4**/2,**mb1 3.5**/4,**mb1mx3.4**/12,**ML3.1**/2,**Error ellipse: s-maj=121.0km s-min=14.9km az=58.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	16.31	134	P	P	13 00 44.5	-2.2
	0.1nm,0.3s,baz=305,slow=13,SNR=7.3						
WRA				S	S	13 03 45.4	+1.2
	0.1nm,0.3s,baz=305,slow=23,SNR=4.9						
ASAR	**Alice Springs**	18.68	144	P	P	13 01 14.3	-1.1
	0.1nm,0.3s,baz=330,slow=12,SNR=20						
ASAR				S	S	13 04 41.9	+4.5
	0.0nm,0.3s,baz=327,slow=28,SNR=2.8						
SONM	**Songino Array**	58.05	348	P	P	13 06 45.4	-2.4
	0.7nm,0.6s,baz=153,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	65.65	331	P	P	13 07 36.5	-2.3
	0.4nm,0.4s,baz=139,slow=7.8,SNR=2.9						

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*NEIC **23** 13:02:29.1,17.16N×101.61W,h5^{km},MD3.8(MEX),After MEX.*

MEX 23 13:02:29.1±0.8,**17.16N**×**101.61W**,**h5**^{km},**MD3.9,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	0.47	17	*i* P	Pg	13 02 38.0	-0.5
ZIIG				*i* S	Sg	13 02 44.0	-0.8
MOIG	**Morelia**	2.54	9	*i* P	Pn	13 03 09.1	-2.6
MOIG				*i* S	Sn	13 03 39.4	-3.9
PPM	**Popocatepetl**	3.42	56	*e*P	Pn	13 03 20.0	-4.1
SFJM	**Santa Fe**	3.58	338	*i* P	Pn	13 03 22.0	-4.4
SFJM				*i* S	Sn	13 04 05.0	-4.6

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*NEIC **23** 13:07:51.8±1.1,23.42N×94.65E,h90^{km}±11^{km},mb4.2/3, Error ellipse: s-maj=16.7km s-min=7.8km az=56.0*

*IDC **23** 13:07:52.8±0.9,23.44N×94.74E,h100^{km}±7^{km},mb3.7/11, mb1 3.9/12,mb1mx3.7/20,Error ellipse: s-maj=36.0km s-min=10.6km az=55.0*

*BJI **23** 13:07:53.3,23.52N×94.34E,h97^{km},mb4.7*

ISC 23 13:07:49.6±0.6,**23.28N**±0.06×**94.41E**±0.07,**h91**^{km}±6^{km},**h102**^{km}±1.3^{km}**:pP-P,n38,**σ**1**^{s}**28**/44,**mb4.0**/14,**1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	1.56	344	*e*P	P	13 08 18.0	+1.5
IMP				*e*S	S	13 08 37.0	+0.6
AGT	**Agartala**	2.96	282	*e*	P	13 08 41.0	+5.4
SHL	**Shillong**	3.23	315	⇓*e*PN	P	13 08 39.5	+0.1
SHL				*e*SN	S	13 09 13.5	-3.5
CHRT	**Chiangrai**	6.05	123	P	P	13 09 13.0	-5.0
	618nm,1.0s						
CHG	**Chiang Mai**	6.14	136	PG	P	13 09 20.0	+0.7
CHG				SG	S	13 11 10.2	+41
CMAR	**Chiang Mai Arr**	6.41	138	P	P	13 09 22.6	-0.5
	1.2nm,0.3s,baz=313,slow=14,SNR=22						
CMAR				S	S	13 10 34.7	-0.6
	0.6nm,0.3s,baz=307,slow=22,SNR=5.8						
LSA	**Lhasa**	7.02	336	*e*Pn	P	13 09 32.2	+0.6
	12nm,0.6s						
LSA				*e*Sn	S	13 10 44.4	-6.1
NANT	**Nan**	7.38	126	P	P	13 09 36.1	-0.3
BDT	**Bhumibol Dam**	7.40	143	P	P	13 09 36.0	-0.6
KMI	**Kunming**	7.83	75	*e*P	P	13 09 46.5	+4.0
KMI				AMB	AMB		
	comp=Z,30nm,1.0s						
PKI	**Pulchoki**	9.18	300	*e*P	P	13 09 58.4	-2.5
	comp=Z,30nm,0.3s						
KKN	**Kakani**	9.38	300	*e*P	P	13 10 01.1	-2.5
	comp=Z,23nm,0.2s						
DMN	**Daman**	9.44	299	*e*P	P	13 10 01.0	-3.4
	comp=Z,22nm,0.3s						
GKN	**Gorkha**	9.99	300	*e*P	P	13 10 09.1	-2.7
	comp=Z,59nm,0.3s						
KOLN	**Koldanda**	10.73	297	*e*P	P	13 10 18.6	-3.2
	comp=Z,36nm,0.3s						
GYA	**Guiyang**	11.57	72	P	P	13 10 39.0	+6.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	15.15	59	*e*P	P	13 11 21.9	+2.1
	comp=Z,12nm,0.8s						
HYB	**Hyderabad**	15.97	251	*i* P	P	13 11 34.0	+3.9
HYB				*e*S	S	13 14 27.5	+3.5
HYB	**Hyderabad**	15.97	251	*e*P	P	13 11 34.0	+3.9
NDI	**New Delhi**	16.36	293	*e*P	P	13 11 41.5	+6.6
NDI				*e*S	S	13 14 22.5	-10
WMQ	**Urumqi**	21.22	346	*e*P	P	13 12 29.6	+0.1
MKAR	**Makanchi Array**	25.41	340	P	P	13 13 11.6	+1.6
	comp=Z,10nm,0.7s,mb4.4,baz=150,slow=9.5,SNR=64						
SONM	**Songino Array**	26.30	18	P	P	13 13 17.8	-0.5
	comp=Z,0.7nm,0.4s,mb3.4,baz=211,slow=8.4,SNR=4.7						
SONM				pP	pP	13 13 39.2	+0.5
	comp=Z,0.6nm,0.5s,baz=203,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	34.86	335	P	P	13 14 33.8	+0.2
	comp=Z,0.3nm,0.3s,mb3.6,baz=90,slow=2.9,SNR=3.5						
BVAR				pP	pP	13 14 57.3	+2.2
	comp=Z,1.4nm,0.5s,baz=135,slow=10,SNR=5.2						
FITZ	**Fitzroy Crossi**	51.21	141	*e*P	P	13 16 47.0	+1.0
	comp=Z,2.8nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	57.99	135	P	P	13 17 35.0	-0.3
	comp=Z,1.8nm,0.5s,mb4.4,baz=322,slow=7.5,SNR=48						
WRAB	**Tennant Creek**	57.99	135	*e*P	P	13 17 35.3	+0.1
	comp=Z,2.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	58.00	135	*e*P	P	13 17 35.7	+0.4
MLR	**Muntele Rosu**	58.88	310	P	P	13 17 43.5	+2.4
	comp=Z,2.8nm,0.8s,mb4.4,baz=133,slow=9.9,SNR=3.8						
FINES	**FINESS Array B**	59.48	329	P	P	13 17 45.4	+0.5
	comp=Z,4.3nm,1.1s,mb4.4,baz=201,slow=27,SNR=2.5						
ASPA	**Alice Springs**	60.41	138	*e*P	P	13 17 52.3	+0.4
ASAR	**Alice Springs**	60.42	138	P	P	13 17 51.6	-0.3
	comp=Z,1.1nm,0.5s,mb4.1,baz=320,slow=6.7,SNR=48						
ARCES	**ARCESS Array B**	61.03	338	P	P	13 17 55.6	+0.2
	comp=Z,2.0nm,0.8s,mb4.2,baz=101,slow=6.9,SNR=5.1						
HFS	**Hagfors**	65.51	327	P	P	13 18 24.1	-0.9
	comp=Z,1.0nm,0.4s,mb4.0,baz=100,slow=9.0,SNR=6.6						
HFS				pP	pP	13 18 50.4	+2.0
	comp=Z,1.4nm,0.5s,baz=101,slow=7.3,SNR=2.3						
NB2	**NORSAR Subarra**	66.65	328	P	P	13 18 31.3	-0.9
	comp=Z,1.1nm,0.5s,mb3.9,baz=84,slow=6.5						
NOA	**NORSAR Array B**	66.65	328	P	P	13 18 31.8	-0.5
	comp=Z,0.6nm,0.7s,mb3.5,baz=90,slow=6.0,SNR=4.3						
NOA				pP	pP	13 18 57.5	+1.9
	comp=Z,0.5nm,0.5s,baz=92,slow=6.0,SNR=2.3						
ILAR	**Eielson Array**	80.46	22	P	P	13 19 50.9	-1.5
	comp=Z,0.3nm,0.7s,mb3.3,baz=302,slow=4.5,SNR=7.3						
INK	**Inuvik**	82.20	16	P	P	13 19 59.8	-1.6
	comp=Z,1.0nm,0.4s,mb4.0						

IDC 23 13:40:07.8±2.1,**5.48S**×**151.40E**,**mb3.2**/3,**mb1 3.6**/3,**mb1mx3.4**/13,**Error ellipse: s-maj=141.0km s-min=29.6km az=127.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.96	228	P	P	13 45 04.7	-0.4
	0.7nm,1.0s,baz=54,slow=10,SNR=4.1						
ASAR	**Alice Springs**	24.72	221	P	P	13 45 29.9	-2.2
	0.5nm,0.8s,baz=52,slow=8.1,SNR=6.7						
ILAR	**Eielson Array**	83.31	22	P	P	13 52 36.4	-1.2
	0.2nm,0.6s,baz=240,slow=5.0,SNR=6.3						

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*IDC **23** 14:02:18.9±6.6,22.10N×93.64E,h91^{km}±53^{km},mb3.0/4, mb1 3.1/5,mb1mx3.0/18,ML3.1/1,Error ellipse: s-maj=152.0km s-min=17.9km az=57.0*

ISC 23 14:02:22.1±1.2,**22.6N**±0.2×**94.5E**±0.2,**h128**^{km}±16^{km},**n11,**σ**0**^{s}**84**/12,**mb3.3**/4,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	3.83	321	*e*PN	P	14 03 20.3	-0.2
SHL				*e*SN	S	14 03 59.8	-5.3
CMAR	**Chiang Mai Arr**	5.83	134	P	P	14 03 47.2	-0.1
	0.1nm,0.3s,baz=305,slow=14,SNR=4.4						
GUN	**Gumba**	9.45	306	*e*P	P	14 04 38.8	+2.7
PKI	**Pulchoki**	9.63	303	*e*P	P	14 04 38.9	+0.3
	3.1nm,0.2s						
KKN	**Kakani**	9.84	304	*e*P	P	14 04 41.5	+0.1
	4.5nm,0.2s						
DMN	**Daman**	9.89	302	*e*P	P	14 04 41.6	-0.4
	3.0nm,0.3s						
GKN	**Gorkha**	10.44	303	*e*P	P	14 04 48.0	-1.3
	7.3nm,0.3s						
MKAR	**Makanchi Array**	26.10	341	P	P	14 07 46.2	+0.7
	0.5nm,0.4s,mb3.3,baz=155,slow=9.7,SNR=9.7						
BVAR	**Borovoye Array**	35.53	335	P	P	14 09 07.4	-0.9
	0.2nm,0.3s,mb3.5,baz=162,slow=4.6,SNR=2.9						
WRA	**Warramunga Arr**	57.43	134	P	P	14 11 59.7	-0.2
	0.1nm,0.4s,mb3.2,baz=320,slow=7.6,SNR=8.6						
ASAR	**Alice Springs**	59.83	138	P	P	14 12 16.9	+0.4
	0.2nm,0.8s,mb3.2,baz=307,slow=6.3,SNR=4.6						

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*IDC **23** 14:07:08.4±0.7,54.44N×161.46E,mb4.0/10,mb1 4.2/12, mb1mx3.9/25,ML4.0/2,Error ellipse: s-maj=20.9km s-min=14.0km az=19.0*

*MOS **23** 14:07:12.6±1.1,54.17N×161.75E,h49^{km},mb4.3/6,Error ellipse: s-maj=17.8km s-min=9.0km az=72.6*

*NEIC **23** 14:07:14.6±1.0,54.30N×161.74E,h45^{km}±10^{km},mb4.3/2, Error ellipse: s-maj=11.8km s-min=10.7km az=127.0*

*KRSC **23** 14:07:15.0±1.0,54.26N×161.43E,h33^{km}±4^{km},ML4.6*

ISC 23 14:07:13.6±0.4,**54.19N**±0.02×**161.63E**±0.05,**h49**^{km}±4^{km},**n70,**σ**1**^{s}**17**/108,**mb4.0**/13,**2D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	0.37	10	P	P	14 07 22.8	-0.6
MKZ				S	S	14 07 27.5	-2.8
MKZ	**Mys Kozlova**	0.37	10	*i* P	P	14 07 22.5	-0.9
MKZ				*i* S	S	14 07 28.1	-2.2
KII	**Karymskiy**	1.29	264	P	P	14 07 35.5	-0.2
KII				S	S	14 07 49.6	-2.5
KII	**Karymskiy**	1.29	264	*i* P	P	14 07 35.5	-0.2
KII				*i* S	S	14 07 50.1	-2.0
TUMR	**Tumrok**	1.39	322	*i* P	P	14 07 37.6	+0.5
TUMR				*i* S	S	14 07 53.6	-0.9
SPN	**Mys Shipunski**	1.45	222	P	P	14 07 37.3	-0.7
SPN				S	S	14 07 53.2	-2.9
SPN	**Mys Shipunski**	1.45	222	*i* P	P	14 07 37.2	-0.8
SPN				*e*S	S	14 07 55.4	-0.7
NLC	**Nalytchevo**	1.70	234	P	P	14 07 41.2	-0.2
NLC				S	S	14 08 00.4	-1.7
NLC	**Nalytchevo**	1.70	234	*i* P	P	14 07 41.1	-0.3
NLC				*e*S	S	14 08 04.1	+2.0
KMNR	**Kamenistaya**	1.76	333	*i* P	P	14 07 43.7	+1.5
SDLR	**Sedlovina**	1.87	242	*i* P	P	14 07 44.6	+0.8
SDLR				*i* S	S	14 08 05.9	-0.3
SMAR	**Somma**	1.92	242	*i* P	P	14 07 45.3	+0.8
SMAR				*i* S	S	14 08 06.9	-0.6
UGLR	**Uglovaya**	1.94	240	*i* P	P	14 07 45.6	+0.9
UGLR				*i* S	S	14 08 07.6	-0.3
AVH	**Avacha**	1.95	243	*i* P	P	14 07 46.0	+1.0
AVH				*e*S	S	14 08 08.5	+0.2
LGNR	**Loginova**	1.97	345	*i* P	P	14 07 47.0	+1.8
LGNR				*i* S	S	14 08 10.3	+1.6
CIRR	**Tsirk**	1.99	346	*e*P	P	14 07 47.0	+1.5
CIRR				*e*S	S	14 08 09.9	+0.7
KOK	**Koryaka**	1.99	244	*i* P	P	14 07 46.5	+1.0
KRSR	**Krestovskiy**	2.12	344	*e*P	P	14 07 47.9	+0.6
KRSR				*e*S	S	14 08 11.7	-0.7
KOZ	**Kozyrevsk**	2.12	332	*i* P	P	14 07 48.5	+1.1
KOZ				*i* S	S	14 08 12.7	+0.1
PET	**Petropavlovsk**	2.12	238	P	P	14 07 47.8	+0.4
PET				S	S	14 08 12.0	-0.6
PET	**Petropavlovsk**	2.12	238	*i* P	P	14 07 47.8	+0.4
PET				*i* S	S	14 08 11.6	-1.0
PET	**Petropavlovsk**	2.12	238	⇓*i*PN	P	14 07 47.8	+0.4
PET				*i* S	S	14 08 12.6	0.0
PET				pmax	pmax		
	comp=Z,215nm,0.3s						
PET				smax			
	comp=E,2µm,1.1s						
PET				smax			
	comp=E,1µm,0.4s						
PET				smax			
	comp=N,1µm,0.7s						
PET				MLR	MLR		
	comp=E,200nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET				MLR	MLR		
	comp=N,200nm,17.0s						
PET	**Petropavlovsk**	2.12	238	⇓*e*Pn	P	14 07 47.8	+0.3
PET				*e*Sn	S	14 08 11.8	-0.8
KBTR	**Krutoberegovo**	2.13	18	P	P	14 07 49.0	+1.5
KBTR				S	S	14 08 14.4	+1.6
KBTR	**Krutoberegovo**	2.13	18	*e*P	P	14 07 49.1	+1.6
KBTR				*e*S	S	14 08 13.7	+0.9
KBG	**Krutoberegovo**	2.16	16	*e*P	P	14 07 48.7	+0.8
KBG				*e*S	S	14 08 12.2	-1.3
KBG				Smax			
	comp=N,2µm,0.7s						
KLY	**Klyuchi**	2.20	346	P	P	14 07 49.1	+0.7
KLY				S	S	14 08 12.9	-1.6
KLY	**Klyuchi**	2.20	346	*i* P	P	14 07 49.0	+0.6
KLY				*e*S	S	14 08 13.3	-1.2
GNL	**Ganaly**	2.23	259	*i* P	P	14 07 49.9	+0.9
GNL				*e*S	S	14 08 15.1	-0.3
SRDR	**Sredinnyy**	2.39	334	*e*P	P	14 07 51.9	+0.7
SVLR	**Shiveluch**	2.40	355	*e*P	P	14 07 51.9	+0.5
SVLR				*e*S	S	14 08 18.5	-1.1

ESO	Esso	2.42	317	iP	P	14 07 52.0	+0.4
ESO				eS	S	14 08 18.5	-1.6
ESO				Smax			
	comp=N,400nm,0.4s						
RUS	Russkaya	2.57	228	P	P	14 07 54.4	+0.6
RUS				S	S	14 08 22.8	-1.1
RUS	Russkaya	2.57	228	eP	P	14 07 54.5	+0.7
RUS				eS	S	14 08 23.0	-0.9
GRL	Gorelyy	2.69	234	eP	P	14 07 56.3	+0.8
GRL				eS	S	14 08 26.2	-0.8
BKI	Bering	2.72	66	eP	P	14 07 55.9	0.0
BKI				eS	S	14 08 25.9	-1.8
BKI				Smax			
	comp=N,90nm,0.7s						
APC	Apacha	2.95	246	iP	P	14 08 00.4	+1.2
APC				eS	S	14 08 33.7	0.0
APC				Smax			
	comp=N,210nm,0.7s						
MIPR	Malaya Ipel'ka	3.50	239	eP	P	14 08 08.1	+1.2
MIPR				eS	S	14 08 46.7	-0.8
PAU	Pauzhetka	4.00	229	P	P	14 08 17.0	+3.0
PAU				Smax			
	comp=N,300nm,0.7s						
SKR	Severo-Kuril's	4.87	226	eP	P	14 08 24.8	-1.5
SKR				eS	S	14 09 19.5	-2.5
SKR	Severo-Kuril's	4.87	226	ePN	P	14 08 24.8	-1.5
SKR				pmax	pmax		
	comp=Z,20nm,0.4s						
ALID	Alaid	4.98	231	eP	P	14 08 29.4	+1.5
FX1	Attu Island--F	7.00	96	Pn	P	14 08 53.6	-2.5
	comp=Z,15nm,0.3s,baz=317,slow=5.4,SNR=71						
FX1				Sn	S	14 10 08.6	-6.6
	comp=Z,4.5nm,0.3s,baz=154,slow=17,SNR=3.8						
FX1	Attu Island--F	7.00	96	ePn	P	14 08 53.8	-2.3
FX1				eSn	S	14 10 08.7	-6.6
MA2	Magadan	8.02	317	ePn	P	14 09 09.4	-0.7
	comp=Z,6.5nm,0.6s						
ASAJ	Asahikawa	15.97	239	Pn	P	14 10 56.2	+0.1
	comp=Z,0.7nm,0.3s,baz=75,slow=22,SNR=5.3						
ASAJ	Asahikawa	15.97	239	P	P	14 10 56.3	+0.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	Tiksi	22.48	333	eP	P	14 12 09.4	-0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
MAJO	Matsushiro	23.95	232	eP	P	14 12 24.9	+1.0
	comp=Z,6.3nm,0.6s,mb4.2						
MAT	Matsushiro	23.95	232	P	P	14 12 25.6	+1.8
MAT	Matsushiro	23.95	232	eP	P	14 12 26.0	+2.2
KURK	Kurchatov	47.93	302	eP	P	14 15 47.9	-0.6
	comp=Z,1.9nm,0.5s,mb4.4						
MKAR	Makanchi Array	48.50	296	P	P	14 15 49.5	-3.5
	comp=Z,0.3nm,0.4s,mb3.6,baz=59,slow=8.4,SNR=6.6						
BVAR	Borovoye Array	50.42	308	P	P	14 16 03.4	-4.3
	comp=Z,0.7nm,0.3s,mb4.1,baz=63,slow=8.6,SNR=6.6						
ARCES	ARCESS Array B	52.52	342	P	P	14 16 20.8	-2.5
	comp=Z,2.9nm,0.8s,mb4.3,baz=49,slow=9.6,SNR=2.9						
ARCES	ARCESS Array B	52.52	342	P	P	14 16 20.8	-2.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	59.30	259	P	P	14 17 12.7	+0.1
	comp=Z,0.6nm,0.6s,mb3.8,baz=30,slow=7.3,SNR=5.3						
CMAR	Chiang Mai Arr	59.30	259	P	P	14 17 12.7	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	59.47	337	P	P	14 17 10.5	-2.8
	comp=Z,1.3nm,0.5s,mb4.3,baz=50,slow=11,SNR=7.6						
FINES	FINESS Array B	59.47	337	P	P	14 17 10.5	-2.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	59.47	337	P	P	14 17 10.4	-2.8
NB2	NORSAR Subarra	62.73	344	P	P	14 17 33.6	-1.7
	comp=Z,0.1nm,0.6s,mb3.1,baz=23,slow=6.5						
NOA	NORSAR Array B	62.73	344	P	P	14 17 33.9	-1.4
	comp=Z,0.8nm,0.5s,mb4.1,baz=20,slow=6.8,SNR=5.0						
NOA	NORSAR Array B	62.73	344	P	P	14 17 33.9	-1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	73.83	339	P	P	14 18 43.5	-0.7
	comp=Z,0.2nm,0.3s,mb3.5,baz=346,slow=5.5,SNR=3.8						
BRTR	Keskin Array B	76.34	321	P	P	14 18 59.0	+0.2
	comp=Z,0.7nm,0.4s,mb3.9,baz=16,slow=9.0,SNR=6.2						
BRTR	Keskin Array B	76.34	321	P	P	14 18 59.0	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	77.47	206	P	P	14 19 06.1	+0.7
	comp=Z,1.5nm,0.4s,mb4.2,baz=20,slow=6.0,SNR=36						
WRA	Warramunga Arr	77.47	206	P	P	14 19 06.1	+0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	81.14	206	P	P	14 19 26.6	+1.4
	comp=Z,1.9nm,1.0s,mb4.0,baz=17,slow=5.2,SNR=18						

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*IDC **23** 14:35:30.3±0.9,20.14N×70.62W,mb3.9/8,mb1 4.3/10, mb1mx4.0/23,ML4.9/2,MS3.7/15,Ms1 3.7/15, ms1mx3.6/22,Error ellipse: s-maj=28.1km s-min=17.7km az=39.0*

*NEIC **23** 14:35:36.3±1.2,20.04N×70.63W,h46^{km}±14^{km},mb4.1/4, Error ellipse: s-maj=11.3km s-min=9.4km az=55.0*

ISC 23 14:35:33.8±1.6,**20.09N**±0.07×**70.60W**±0.07,**h41**^{km}±19^{km}, **n30,**σ**0**^{s}**94**/23,**mb4.0**/10,**MS3.7**/13,**Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	4.64	114	Pn	P	14 36 43.8	+0.5
	8.8nm,0.3s,baz=302,slow=17,SNR=9.0						
SJG				Sn	S	14 37 37.0	+0.3
	54nm,0.3s,baz=98,slow=22,SNR=6.8						
SJG	San Juan	4.64	114	Pn	P	14 36 43.7	+0.3
SJG				ePg	P	14 36 59.0	+16
SJG				Sn	S	14 37 33.6	-3.1
MTP	Monte Pirata	5.16	112	ePn	P	14 36 50.6	0.0
MTP				eSn	S	14 37 49.7	-0.1
SEG	Port Louis	9.38	112	eP	P	14 37 54.7	+5.2
SDV	Santo Domingo	11.13	180	ePn	P	14 38 13.4	0.0
	5.1nm,0.6s						
ROSC	El Rosal	15.57	194	LR	LR	14 45 30.2	
	comp=Z,160nm,21.7s,baz=223,slow=38						
JTS	JuntasAbangare	16.92	237	Pn	P	14 39 30.0	+0.8
	0.4nm,0.3s,baz=25,slow=11,SNR=6.1						
JTS				LR	LR	14 45 37.3	
	comp=Z,120nm,20.7s,baz=198,slow=36						
BLA	Blacksburg	19.09	335	eP	P	14 39 56.3	+0.5
	9.4nm,0.7s						
ELN	Prospectdale	19.24	335	eP	P	14 39 57.6	+0.2
CPCT	Cooper Cave	19.61	324	eP	P	14 40 01.3	-0.2
OTAV	Otavalo	21.17	202	P	P	14 40 16.3	-1.6
	18nm,1.3s,mb4.2						
SADO	Sadowa	25.62	346	LR	LR	14 50 14.1	
	comp=Z,186nm,20.6s,MS3.6,baz=209,slow=35						
WMOK	Wichita Mounta	28.84	306	eP	P	14 41 29.2	-1.3
	2.4nm,0.6s,mb4.1						
TXAR	Lajitas Array	31.33	294	P	P	14 41 52.8	+0.1
	0.3nm,0.3s,mb3.6,baz=99,slow=12,SNR=1.9						
SCHQ	Schefferville	34.80	4	LR	LR	14 55 18.1	
	comp=Z,82nm,18.3s,MS3.5,baz=150,slow=34						
ULM	Lac du Bonnet	36.16	332	LR	LR	14 57 04.5	
	comp=Z,102nm,20.9s,MS3.6,baz=41,slow=36						
LPAZ	La Paz	36.23	176	P	P	14 42 36.2	+1.3
	1.8nm,0.2s,mb4.6,baz=0.9,slow=1.3,SNR=3.8						
LPAZ				LR	LR	14 58 56.2	
	comp=Z,106nm,19.0s,MS3.6,baz=266,slow=39						
PDAR	Pinedale Array	39.72	314	LR	LR	15 01 10.5	
	comp=Z,97nm,19.3s,MS3.7,baz=234,slow=39						
BDFB	Brasilia	41.87	146	P	P	14 43 21.9	-0.1
	3.8nm,0.8s,mb4.0,baz=312,slow=8.1,SNR=4.9						
BDFB				LR	LR	15 00 24.7	
	comp=Z,107nm,20.6s,MS3.7,baz=203,slow=36						
NVAR	Mina Array Bea	44.92	305	P	P	14 43 47.4	+1.0
	0.9nm,0.9s,mb3.6,baz=100,slow=7.5,SNR=5.6						
CPUP	Villa Florida	47.90	164	LR	LR	15 03 56.2	
	comp=Z,82nm,21.8s,MS3.7,baz=250,slow=36						
YKA	Yellowknife Ar	51.95	336	LR	LR	15 06 17.9	
	comp=Z,157nm,20.6s,MS4.0,baz=120,slow=36						
DLBC	Dease Lake	57.19	327	P	P	14 45 18.8	-0.2
	1.4nm,1.0s,mb4.0,baz=154,slow=7.8,SNR=3.4						
ESDC	Sonseca Array	59.68	55	P	P	14 45 36.7	+0.2
	0.5nm,0.5s,mb3.9,baz=282,slow=6.6,SNR=4.2						
ILAR	Eielson Array	66.17	333	P	P	14 46 17.2	-1.8
	1.1nm,1.2s,mb3.8,baz=99,slow=4.4,SNR=6.0						
ILAR				LR	LR	15 15 31.8	
	comp=Z,117nm,19.0s,MS4.1,baz=304,slow=36						
NOA	NORSAR Array B	68.69	31	LR	LR	15 14 30.0	
	comp=Z,24nm,18.5s,MS3.5,baz=255,slow=34						
ARCES	ARCESS Array B	73.47	21	LR	LR	15 13 48.2	
	comp=Z,47nm,21.8s,MS3.7,baz=180,slow=31						
FINES	FINESS Array B	75.71	30	LR	LR	15 15 17.5	
	comp=Z,33nm,19.4s,MS3.6,baz=346,slow=32						
AKASG	Malin Array Be	80.71	39	LR	LR	15 22 42.3	
	comp=Z,32nm,19.3s,MS3.7,baz=200,slow=35						
BRTR	Keskin Array B	87.76	48	P	P	14 48 23.1	+3.2
	0.4nm,0.3s,mb4.1,baz=225,slow=1.7,SNR=3.5						

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*MOS **23** 14:36:11.1±3.4,21.61S×176.48W,h101^{km},mb5.3/11, Error ellipse: s-maj=15.8km s-min=14.3km az=97.8*

*IDC **23** 14:36:14.6±1.5,21.79S×176.57W,h144^{km}±12^{km}, mb4.6/19,mb1 4.9/21,mb1mx4.9/21,MS3.8/3,Ms1 3.8/3, ms1mx3.4/18,Error ellipse: s-maj=16.7km s-min=10.6km az=139.0*

*HRVD **23** 14:36:16.6±0.3,21.84S×176.11W,h175^{km}±2^{km}, MW5.2/68,Centroid moment Tensor Solution. LP body waves: s41,c56;Mantle waves: s68,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.76±.20; M$_{\theta\theta}$-0.64±.24; M$_{\phi\phi}$3.39±.24; M$_{r\theta}$0.37±.17; M$_{\theta\phi}$2.61±.24; M$_{\phi r}$-5.18±.16; Best double couple: M$_0$6.57×10^{16} NP1: φ$_s$239°,δ28°,λ-33°. NP2:φ$_s$359°,δ75°,λ-114°. Principal axes: T 6.93, Plg26°, Azm108°; N -.73, Plg23°, Azm5°; P -6.21, Plg54°, Azm240°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **23** 14:36:16.5,22.00S×176.60W,h165^{km},mB5.2,mb5.0*

*SYO **23** 14:36:16.5,21.96S×176.62W,h166^{km},MB5.0*

*NEIC **23** 14:36:16.6±0.1,21.96S×176.62W,mb5.0/43,Error ellipse: s-maj=6.6km s-min=3.8km az=124.0*

*BGS **23** 14:36:18.6±9.3,21.74S×176.69W,h167^{km}*

ISC 23 14:36:15.3±0.2,**22.01S**±0.03×**176.59W**±0.04,**h166**^{km}, **h166**^{km}±.9^{km}**:pP-P,n421,**σ**1**^{s}**27**/211,**mb4.9**/68,**23C-60D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	14.91	284	⇑iP	P	14 39 44.5	+5.6
RAR	Rarotonga	15.66	90	P	P	14 39 45.5	-2.8
	4.9nm,0.3s,baz=247,slow=6.8,SNR=26						
RAR				S	S	14 42 28.2	-8.6
	15nm,0.3s,baz=102,slow=18,SNR=5.5						
RAR	Rarotonga	15.66	90	P	P	14 39 45.5	-2.8
RAR				S	S	14 42 28.2	-8.6
RAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
RAR				smax			
	comp=N,15nm,0.3s						
RAR	Rarotonga	15.66	90	eP	P	14 39 47.6	-0.7
	comp=N,559nm,1.0s						
DZM	Mont Dzumac	15.73	267	eP	P	14 39 48.4	-0.8
DZM				eS	S	14 42 45.0	+6.7
NOUC	Port Laguerre	15.86	266	eP	P	14 39 55.8	+5.0
KUZ	Kuaotunu	16.13	203	P	P	14 39 56.0	+2.0
KUZ	Kuaotunu	16.13	203	eP	P	14 39 56.0	+2.0
PUZ	Puketiti	16.61	194	P	P	14 39 57.1	-2.8
PUZ				S	S	14 42 48.5	-10
PUZ	Puketiti	16.61	194	eP	P	14 39 57.1	-2.8
MWZ	Matawai	17.04	196	P	P	14 40 04.6	-0.4
MWZ				S	S	14 42 59.7	-7.8
MWZ	Matawai	17.04	196	eP	P	14 40 04.6	-0.4
URZ	Urewera	17.08	197	P	P	14 40 04.9	-0.6
	comp=N,10nm,0.3s,baz=9.1,slow=4.8,SNR=113						
URZ				S	S	14 43 03.2	-5.2
	comp=N,5.1nm,0.3s,baz=327,slow=20,SNR=7.0						
URZ	Urewera	17.08	197	P	P	14 40 04.2	-1.3
URZ	Urewera	17.08	197	eP	P	14 40 04.2	-1.3
BKZ	Black Stump Fm	18.10	198	P	P	14 40 13.6	-3.4
BKZ				S	S	14 43 26.0	-4.3
BKZ	Black Stump Fm	18.10	198	eP	P	14 40 13.6	-3.4
MGZ	Maungaku	18.23	200	P	P	14 40 16.3	-2.1
MGZ	Maungaku	18.23	200	P	P	14 40 17.6	-0.8
NGZ	Ngauruhoe	18.37	200	P	P	14 40 18.5	-1.4
NGZ	Ngauruhoe	18.37	200	P	P	14 40 19.5	-0.4
CNZ	Chateau	18.41	200	P	P	14 40 19.2	-1.1
TUVZ	Tukino	18.44	199	P	P	14 40 16.8	-3.8
TUVZ	Tukino	18.44	199	P	P	14 40 17.3	-3.3
TSZ	Takapari Road	19.08	198	P	P	14 40 23.4	-3.8
MRZ	Mangatainoka R	19.75	198	P	P	14 40 29.8	-4.3
MRZ				S	S	14 43 58.5	-3.9
MRZ	Mangatainoka R	19.75	198	eP	P	14 40 31.4	-2.7
CAW	Cannon Point	20.31	198	P	P	14 40 37.1	-2.7
CAW	Cannon Point	20.31	198	P	P	14 40 38.9	-0.9
SNZO	South Karori	20.60	199	S	S	14 44 15.9	-2.4
SNZO	South Karori	20.60	199	eP	P	14 40 44.5	+1.8
	comp=N,104nm,0.6s						
QRZ	Quartz Range	20.90	204	P	P	14 40 45.1	-0.6
QRZ	Quartz Range	20.90	204	eP	P	14 40 46.1	+0.4
NNZ	Nelson	20.94	202	P	P	14 40 44.2	-1.9
NNZ				S	S	14 44 22.8	-1.8
NNZ	Nelson	20.94	202	eP	P	14 40 44.5	-1.6
THZ	Tophouse	21.59	202	P	P	14 40 51.3	-1.2
THZ				S	S	14 44 38.6	+2.4
THZ	Tophouse	21.59	202	eP	P	14 40 52.0	-0.5
KHZ	Kahutara	21.97	200	P	P	14 40 55.6	-0.5
KHZ				S	S	14 44 45.6	+2.7
KHZ	Kahutara	21.97	200	eP	P	14 40 56.2	+0.1
DSZ	Denniston Nort	21.97	204	P	P	14 40 58.4	+2.2
LTZ	Lake Taylor	22.71	202	P	P	14 41 04.2	+0.8
LTZ				S	S	14 44 58.3	+2.6
LTZ	Lake Taylor	22.71	202	eP	P	14 41 04.2	+0.8
WVZ	Waitaha Valley	23.52	204	P	P	14 41 11.5	+0.4
WVZ	Waitaha Valley	23.52	204	eP	P	14 41 11.9	+0.8
RPZ	Rata Peaks	23.95	202	P	P	14 41 15.9	+0.6
	comp=N,104nm,0.5s,mb5.6,baz=321,slow=2.4,SNR=40						
RPZ				S	S	14 45 30.5	+14
	comp=N,25nm,0.9s,baz=34,slow=24,SNR=5.9						
LBZ	Lake Benmore	24.85	203	P	P	14 41 23.1	-0.6
TBI	Tubuai	25.06	98	eP	P	14 41 23.7	-2.2
	comp=N,182nm,1.1s,mb5.5						
PAE	Paea	25.76	85	eP	P	14 41 30.3	-2.2
	comp=N,123nm,1.3s,mb5.4						
HNR	Honiara	25.77	295	⇑eP	P	14 41 34.0	+1.4
PPT	Papeete	25.79	85	P	P	14 41 30.4	-2.3
	comp=N,45nm,0.8s,mb5.2,baz=228,slow=3.9,SNR=7.5						
PPT	Papeete	25.79	85	eP	P	14 41 30.8	-1.9
	comp=N,66nm,1.2s,mb5.2						
PPT	Papeete	25.79	85	P	P	14 41 30.4	-2.3
PPT				pmax	pmax		
	comp=Z,45nm,0.8s						
AXZ	Alexandra	25.91	203	P	P	14 41 33.9	+0.3
TIAR	Tiarei	26.00	85	eP	P	14 41 32.8	-1.9
	comp=Z,193nm,0.9s,mb5.7						
TVO	Taravao	26.03	86	eP	P	14 41 32.9	-2.1
	comp=Z,70nm,0.9s,mb5.3						
TUZ	Tuapeka	26.40	202	P	P	14 41 39.9	+1.8
TUZ	Tuapeka	26.40	202	eP	P	14 41 39.9	+1.8
CNB	Canberra Magne	32.51	238	eP	P	14 42 33.7	+1.3
	comp=Z,102nm,1.3s,mb5.4						
CTA	Charters Tower	34.67	266	⇓iP	P	14 42 52.1	+1.1
	comp=Z,159nm,0.5s,mb5.9						
CTA				ePCP	PcP	14 45 22.1	+0.6
CTAO	Charters Tower	34.67	266	⇓iP	P	14 42 52.0	+1.1
	comp=Z,193nm,0.6s,mb5.9						
CTAO				ePcP	PcP	14 45 21.5	+0.1
TOO	Toolangi	36.11	236	⇓iP	P	14 43 03.7	+0.8
	comp=Z,22nm,0.6s,mb5.0						
TOO				ePCP	PcP	14 45 27.5	+2.0
TAU	Tasmania Unive	36.51	227	eP	P	14 43 07.6	+1.4
	comp=Z,15nm,0.6s,mb4.8						
STKA	Stephens Creek	38.35	246	⇓iP	P	14 43 22.8	+1.1
	comp=Z,39nm,0.6s,mb5.2						
STKA				ePCP	PcP	14 45 33.5	+1.1
STKA				ePCS		14 49 22.3	
STKA	Stephens Creek	38.35	246	P	P	14 43 22.8	+1.0
	comp=Z,46nm,0.5s,mb5.3,baz=93,slow=9.6,SNR=203						
STKA				ScP		14 49 06.9	
	comp=Z,3.1nm,0.9s,baz=134,slow=4.5,SNR=3.1						
ADE	Adelaide	41.03	242	eP	P	14 43 44.9	+1.1
ASAR	Alice Springs	45.47	258	P	P	14 44 19.9	+0.1
	comp=Z,125nm,0.6s,mb5.7,baz=99,slow=7.8,SNR=718						
ASAR				PcP	PcP	14 45 56.3	+0.1
	comp=Z,39nm,0.7s,baz=108,slow=3.8,SNR=16						
ASAR				ScP		14 49 35.8	
	comp=Z,2.0nm,1.0s,baz=111,slow=2.7,SNR=5.1						
ASAR				S	S	14 50 45.6	-2.0
	comp=Z,2.0nm,0.8s,baz=95,slow=15,SNR=4.3						
ASAR				LR	LR	15 01 20.3	
	comp=Z,144nm,18.2s,baz=207,slow=33						
ASPA	Alice Springs	45.47	258	⇓iP	P	14 44 19.8	+0.1
ASPA				iPCP	PcP	14 45 56.4	+0.2
ASPA				eS	S	14 50 44.6	-3.1
WB2	Warramunga Arr	45.70	263	⇓iP	P	14 44 21.1	-0.4
WB2				ePCP	PcP	14 45 57.4	+0.4
WB2				eS	S	14 50 46.7	-4.2
WRAB	Tennant Creek	45.70	263	⇓iP	P	14 44 21.0	-0.6
	comp=Z,146nm,1.0s,mb5.6						
WRA	Warramunga Arr	45.71	263	P	P	14 44 21.2	-0.5
	comp=Z,50nm,0.6s,mb5.3,baz=100,slow=8.1,SNR=484						
WRA				PcP	PcP	14 45 57.2	+0.1
	comp=Z,21nm,0.8s,baz=97,slow=3.9,SNR=9.7						
WRA	Warramunga Arr	45.71	263	P	P	14 44 21.2	-0.4
WRA						14 45 57.2	
WRA				pmax	pmax		
	comp=Z,50nm,0.6s						
WRA				pmax	pmax		
	comp=Z,21nm,0.8s						
KAKA	Kakadu	49.37	272	⇓iP	P	14 44 49.2	-0.8
	comp=Z,79nm,0.6s,mb5.5						
FORT	Forrest	49.92	248	⇓iP	P	14 44 53.4	-0.7
	comp=Z,523nm,0.6s						
FITZ	Fitzroy Crossi	54.14	263	⇓iP	P	14 45 25.4	-0.2
	comp=Z,59nm,1.4s,mb5.1						
SBA	Scott Base	56.47	184	⇓eP	P	14 45 44.8	+3.2
	comp=Z,38nm,1.2s,mb5.1						
VNDA	Vanda	56.54	185	P	P	14 45 44.6	+2.5
	comp=Z,6.0nm,0.8s,mb4.5,baz=353,slow=7.7,SNR=22						
VNDA	Vanda	56.54	185	P	P	14 45 44.6	+2.5
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VNDA	Vanda	56.54	185	⇓iP	P	14 45 44.4	+2.3
	comp=Z,8.2nm,0.9s,mb4.6						
VNDA				e		14 46 48.6	
KLBR	Kellerberrin	58.62	246	⇓iP	P	14 45 56.3	-1.0
	comp=Z,35nm,0.7s,mb5.3						
MUN	Mundaring	59.87	245	⇑iP	P	14 46 05.5	-0.3
	comp=Z,22nm,0.6s,mb5.2						
CASY	Casey	63.17	206	⇓iP	P	14 46 28.6	+1.1
	comp=Z,68nm,0.8s,mb5.5						
BUNI	Buntu Taipa	63.72	277	⇓iP	P	14 46 28.6	-3.2
NINI	Niniconang	63.95	276	⇓iP	P	14 46 31.7	-1.6
TANI	Tanete Lipujan	64.67	277	⇓iP	P	14 46 33.4	-4.6
KEDI	Kedomdong	65.86	270	⇓iP	P	14 46 43.9	-1.7
RATI	Rata	66.32	270	⇑iP	P	14 46 47.0	-1.5
INGI	Ingas	66.65	270	⇑iP	P	14 46 50.0	-0.6
KELI	Kelakatan	67.46	270	⇓iP	P	14 46 54.0	-1.7
MIR	Mirnyy	70.19	205	⇓eP	P	14 47 13.0	+1.5
MIR				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.3						
MAJO	Matsushiro	72.20	323	eP	P	14 47 21.6	-2.3
	comp=Z,22nm,0.6s,mb5.0						
MAT	Matsushiro	72.20	323	P	P	14 47 22.1	-1.8
MAT	Matsushiro	72.20	323	eP	P	14 47 22.0	-1.9
	comp=Z,17nm,0.7s,mb4.9						
FX1	Attu Island--F	75.10	354	eP	P	14 47 37.9	-2.6
PET	Petropavlovsk	77.75	345	⇓iP	P	14 47 52.7	-2.5
PET				eS	S	14 57 30.8	-1.2
PET				*SS		14 58 42.0	
PET				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.0						
YSS	Yuzh-Sakhalins	77.83	333	⇓iP	P	14 47 55.3	-0.4
YSS				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.2						
YSS	Yuzh-Sakhalins	77.83	333	eP	P	14 47 54.7	-1.0
	comp=Z,58nm,1.0s,mb5.2						
SAO	San Andreas Ge	78.24	42	eP	P	14 47 58.6	+0.4
	comp=Z,8.2nm,1.0s,mb4.3						
KS15	Wonju Array Si	78.90	318	eP	P	14 47 59.7	-2.1
CMB	Columbia Colle	79.69	42	eP	P	14 48 06.2	+0.2
	comp=Z,9.6nm,1.2s,mb4.3						
WDC	Whiskeytown Da	80.01	39	eP	P	14 48 07.8	+0.1
	comp=Z,11nm,1.1s,mb4.4						
OMM	Old Mammoth Mi	80.31	43	eP	P	14 48 10.5	+1.2
OMM				PcP	PcP	14 48 20.1	+3.9
OMM				epP	pP	14 48 50.6	+0.2
MTUM	Tungsten Hills	80.42	43	eP	P	14 48 10.8	+0.9
MTUM				PcP	PcP	14 48 20.8	+4.2
MTUM				epP	pP	14 48 51.0	+0.1
MAW	Mawson	80.59	200	⇓ipP	P	14 48 12.4	+2.2
	comp=Z,30nm,0.7s,mb5.0						
MAW				i	PcP	14 48 21.0	+4.2
MAW	Mawson	80.59	200	P	P	14 48 12.4	+2.2
	comp=Z,37nm,0.7s,mb5.1,baz=129,slow=6.7,SNR=122						
MAW	Mawson	80.59	200	P	P	14 48 12.4	+2.2
MAW				pmax	pmax		
	comp=Z,37nm,0.7s						
MAW	Mawson	80.59	200	⇓iP	P	14 48 12.1	+1.9
	comp=Z,59nm,0.9s,mb5.2						
YBH	Yreka Blue Hor	80.66	38	P	P	14 48 11.4	+0.4
	comp=Z,4.2nm,0.7s,mb4.2,baz=181,slow=4.0,SNR=11						
YBH	Yreka Blue Hor	80.66	38	P	P	14 48 11.4	+0.3
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YBH	Yreka Blue Hor	80.66	38	eP	P	14 48 12.0	+0.9
	comp=Z,9.8nm,1.1s,mb4.3						
YBH				e	pP	14 48 52.0	-0.2
BEKR	Beckwourth	80.84	40	eP	P	14 48 13.2	+1.1
BEKR				epP	pP	14 48 54.8	+1.6
NVAR	Mina Array Bea	81.23	43	P	P	14 48 14.4	+0.3
	comp=Z,14nm,1.3s,mb4.4,baz=213,slow=5.8,SNR=15						
NVAR				PKPPKP		15 14 58.6	
	comp=Z,0.7nm,0.9s,baz=71,slow=2.1,SNR=4.1						
NVAR				LR	LR	15 15 41.1	
	comp=Z,36nm,19.3s,baz=275,slow=29						
MNV	Mina	81.32	43	eP	P	14 48 14.8	+0.1
	comp=Z,5.6nm,1.0s,mb4.2						
MNV				epP	pP	14 48 55.4	-0.4
LDFC	Landfair	81.36	47	eP	P	14 48 14.6	-0.3
LDFC				epP	pP	14 48 57.5	+1.4
TPH	Tonopah	81.70	43	eP	P	14 48 17.4	+0.8
	comp=Z,13nm,1.3s,mb4.4						
TPH				e		14 48 29.1	
TPH				epP	pP	14 48 58.3	+0.5
NJ2	Nanjing	81.85	309	eP	P	14 48 19.8	+2.3
NJ2				AP	pP	14 48 59.3	+0.6
NJ2				XP	sP	14 49 16.8	+0.1
NJ2				PP	PP	14 51 30.8	+2.1
NJ2				S	S	14 58 17.0	+1.8
NJ2				SKS	SKS	14 58 20.0	+2.8
NJ2				XS		14 59 28.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
NJ2				LR	LR		
	comp=N,890nm,23.8s						
NJ2				LR	LR		
	comp=E,1µm,24.1s						
NJ2				LR	LR		
	comp=Z,910nm,22.5s						
NEN	Nelson	81.86	46	eP	P	14 48 17.4	-0.1
NEN				epP	pP	14 48 59.1	+0.4
MDJ	Mudanjiang	82.50	324	P	P	14 48 20.5	-0.1
MDJ				S	S	14 58 24.9	+3.4
MDJ				SS	SS	15 03 49.6	-0.2
MDJ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,97nm,6.4s						
MDJ	Mudanjiang	82.50	324	eP	P	14 48 19.9	-0.6
	comp=Z,29nm,1.0s,mb5.0						
TUC	Tucson	82.89	51	eP	P	14 48 23.5	+0.7
	comp=Z,8.4nm,1.1s,mb4.4						
TUC				epP	pP	14 49 05.4	+1.2
BMN	Battle Mountai	83.09	41	eP	P	14 48 24.4	+0.8
	comp=Z,15nm,1.2s,mb4.6						
BMN				e		14 48 35.6	
BMN				epP	pP	14 49 06.9	+1.9
WVOR	Wild Horse Val	83.45	39	eP	P	14 48 25.9	+0.5
	comp=Z,12nm,1.0s,mb4.6						
WVOR				epP	pP	14 49 07.1	+0.3
WUAZ	Wupatki	84.15	48	eP	P	14 48 30.1	+1.0
WUAZ				epP	pP	14 49 11.2	+0.6
CN2	Changchun	84.29	322	eP	P	14 48 28.6	-1.0
CN2				eXP	sP	14 49 25.9	-3.1
CN2				eS	S	14 58 37.6	-1.7
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
CN2				AMB	AMB		
	comp=Z,260nm,6.0s						
ELK	Elko	84.50	42	⇓eP	P	14 48 31.9	+1.2
	comp=Z,9.9nm,1.3s,mb4.4						
ELK				epP	pP	14 49 12.2	0.0
SVW	Sparrevohn	84.54	10	eP	P	14 48 29.4	-1.0
RMW	Rattlesnake Mo	84.87	34	eP	P	14 48 33.1	+0.7
RMW				e		14 48 42.7	
RMW				epP	pP	14 49 14.2	+0.3

SLKM	**Skilak Lake**	84.97	13	*e*P	P	14 48 31.8	-0.8
SLKM				*e*pP	pP	14 49 13.9	-0.2
BBB	**Bella Bella**	85.11	28	P	P	14 48 33.5	0.0
	comp=Z,9.2nm,0.9s,mb4.5,baz=348,slow=2.9,SNR=4.7						
MSU	**Marysvale**	85.22	45	*e*P	P	14 48 35.7	+1.4
MSU				*e*	pP	14 49 17.2	+1.3
SPU	**Mount Spurr**	85.23	12	*e*P	P	14 48 32.2	-1.7
SPU				*e*pP	pP	14 49 16.4	+1.0
HAWA	**Hanford**	85.39	36	*e*P	P	14 48 35.9	+0.9
HAWA				*e*pP	pP	14 49 16.7	+0.1
SYO	**Syowa Base**	85.55	192	⇑P	P	14 48 36.1	+0.9
SYO	**Syowa Base**	85.55	192	⇑PcP	PcP	14 48 37.0	-1.2
SYO	**Syowa Base**	85.55	192	⇓P	Px	14 48 46.4	
SYO	**Syowa Base**	85.55	192	⇓sP	sP	14 49 34.4	-0.4
MA2	**Magadan**	85.58	344	*e*P	P	14 48 34.2	-1.4
MA2				pmax	pmax		
	comp=Z,32nm,2.1s,mb4.7						
MA2	**Magadan**	85.58	344	⇓*i*P	P	14 48 34.0	-1.7
	comp=Z,4.7nm,0.6s,mb4.4						
PMS	**Palmer South**	85.78	13	*e*P	P	14 48 35.7	-0.8
PMR	**Palmer**	86.18	13	*e*P	P	14 48 37.4	-1.1
SNAA	**Sanae**	86.47	178	P	P	14 48 38.8	-0.9
SNAA	**Sanae**	86.47	178	⇑*i*	P	14 48 40.9	+1.2
SNAA	**Sanae**	86.47	178	⇑*i*	pP	14 49 23.9	+2.6
SNAA	**Sanae**	86.47	178	⇑*i*P	P	14 48 40.9	+1.2
DIV	**Divide**	86.50	14	⇓*i*P	P	14 48 39.3	-0.7
	comp=Z,143nm,1.2s,mb5.7						
DIV				*e*pP	pP	14 49 20.9	-0.8
SML	**Sawmill**	86.54	13	*e*P	P	14 48 39.5	-0.7
VNA3	**Neumayer Olymp**	86.55	176	⇑*i*P	P	14 48 42.1	+2.0
VNA3	**Neumayer Olymp**	86.55	176		P	14 48 43.8	+3.7
VNA3	**Neumayer Olymp**	86.55	176	⇑*i*	pP	14 49 22.0	+0.3
LAZ	**Ladron**	86.57	51	*e*P	P	14 48 42.4	+1.3
LAZ				*e*pP	pP	14 49 23.9	+1.2
HLID	**Hailey**	86.62	40	*e*P	P	14 48 41.3	+0.3
SRU	**San Rafael**	86.63	45	*e*P	P	14 48 43.0	+1.8
SRU				*e*pP	pP	14 49 22.6	-0.2
LTX	**Lajitas**	86.77	57	*e*P	P	14 48 43.0	+0.9
	comp=Z,12nm,1.1s,mb4.7						
LTX				*e*pP	pP	14 49 24.6	+0.9
TXAR	**Lajitas Array**	86.77	57	P	P	14 48 43.0	+1.0
	comp=Z,5.4nm,0.9s,mb4.3,baz=217,slow=6.3,SNR=13						
BNM	**Barren Site**	86.82	51	*e*P	P	14 48 41.3	-0.9
BNM				*e*pP	pP	14 49 24.7	+0.8
VNA2	**Neumayer--Watz**	87.01	176	P	P	14 48 44.0	+1.7
VNA2	**Neumayer--Watz**	87.01	176		P	14 48 46.4	+4.1
VNA2	**Neumayer--Watz**	87.01	176	⇑*i*	pP	14 49 23.2	-0.8
VNA2	**Neumayer--Watz**	87.01	176			14 53 47.3	
DPW	**Davenport**	87.02	35	*e*P	P	14 48 43.0	+0.2
DPW				*e*pP	pP	14 49 23.3	-1.2
DPW				*e*PP	PP	14 52 08.8	-1.9
VNA1	**Neumayer--Stat**	87.23	176	⇑*i*P	P	14 48 45.5	+2.2
VNA1	**Neumayer--Stat**	87.23	176	⇑*i*	P	14 48 47.2	+3.9
PLCA	**Paso Flores**	87.29	133	P	P	14 48 45.8	+1.5
	comp=Z,3.4nm,0.9s,mb4.2,baz=196,slow=7.8,SNR=6.3						
PLCA	**Paso Flores**	87.29	133	P	P	14 48 45.8	+1.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	**Paso Flores**	87.29	133	P	P	14 48 46.2	+1.9
	comp=Z,6.2nm,1.0s,mb4.4						
ANMO	**Albuquerque**	87.33	51	*e*P	P	14 48 44.7	+0.1
ANMO	**Albuquerque**	87.33	51	*e*P	P	14 48 45.3	+0.7
	comp=Z,8.9nm,1.4s,mb4.4						
ANMO				*e*pP	pP	14 49 26.9	+0.6
GDL2	**Guadalupe Moun**	87.56	54	*e*P	P	14 48 46.6	+0.8
GDL2				*e*	pP	14 49 28.2	+0.6
NEW	**Newport**	87.83	35	*e*P	P	14 48 46.3	-0.4
	comp=Z,5.8nm,1.1s,mb4.3						
BJT	**Baijiatuau**	87.88	315	*e*P	P	14 48 47.4	+0.3
	comp=Z,7.9nm,0.6s,mb4.7						
BJI	**Beijing**	87.88	315	*e*P	P	14 48 47.8	+0.6
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.9						
ENH	**Enshi**	87.97	304	*e*P	P	14 48 48.3	+0.5
	comp=Z,16nm,1.0s,mb4.8						
SEY	**Seymchan**	88.14	346	*e*P	P	14 48 48.4	+0.6
SEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.1						
MCK	**McKinley**	88.16	12	⇓*i*P	P	14 48 46.7	-1.2
	comp=Z,16nm,0.9s,mb4.9						
MCK				*e*pP	pP	14 49 29.1	-0.6
MCMT	**McKenzie Canyo**	88.26	40	*e*P	P	14 48 50.3	+1.5
MCMT				*e*		14 49 00.5	
CPRX	**Cap Rock**	88.32	53	*e*P	P	14 48 51.1	+1.7
CPRX				*e*pP	pP	14 49 32.5	+1.3
DLBC	**Dease Lake**	88.93	22	P	P	14 48 51.7	+0.1
	comp=Z,3.1nm,0.7s,mb4.3,baz=212,slow=4.9,SNR=13						
DLBC	**Dease Lake**	88.93	22	*e*P	P	14 48 51.6	0.0
BW06	**Boulder Array**	89.16	43	*e*P	P	14 48 52.9	-0.2
BW06				*e*		14 49 04.5	
BW06				*e*pP	pP	14 49 35.0	0.0
PDAR	**Pinedale Array**	89.16	43	P	P	14 48 53.1	0.0
	comp=Z,0.9nm,0.8s,baz=225,slow=4.2,SNR=8.2						
COLA	**College**	89.40	12	*e*P	P	14 48 52.6	-1.1
BOZ	**Bozeman (W)**	89.43	39	*e*P	P	14 48 54.7	+0.4
	comp=Z,14nm,1.2s,mb4.8						
BOZ				*e*pP	pP	14 49 36.2	0.0
ILAR	**Eielson Array**	89.49	12	P	P	14 48 53.0	-1.1
	comp=Z,7.0nm,0.6s,mb4.8,baz=225,slow=5.9,SNR=75						
ILAR	**Eielson Array**	89.49	12	P	P	14 48 53.1	-1.0
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
IMA	**Indian Mountai**	89.51	9	*e*P	P	14 48 54.1	-0.1
IMA				*e*pP	pP	14 49 38.9	+2.8
HRY	**Holter Researc**	89.89	38	*e*P	P	14 48 56.9	+0.5
DAWY	**Dawson**	90.55	15	⇓*i*P	P	14 48 59.0	-0.1
DAWY				*e*pP	pP	14 49 43.6	+2.5
KMI	**Kunming**	91.20	297	*e*P	P	14 49 03.8	+0.7
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
BDT	**Bhumibol Dam**	91.34	288	P	P	14 49 05.0	+1.1
HHC	**Hu-ho-hao-te**	91.34	314	*e*P	P	14 49 04.9	+1.5
HHC				AMB	AMB		
	comp=Z,7.0nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,168nm,6.2s						
HHC				LR	LR		
	comp=N,113nm,26.2s						
HHC				LR	LR		
	comp=E,85nm,25.0s						
CHRT	**Chiangrai**	91.66	291	P	P	14 49 08.0	+2.7
	comp=E,210nm,0.8s						
CM31	**Chiang Mai Arr**	91.85	289	*e*P	P	14 49 07.3	+1.1
	comp=E,16nm,0.9s,mb5.0						
CMAR	**Chiang Mai Arr**	91.85	289	P	P	14 49 07.4	+1.2
	comp=E,12nm,0.9s,mb4.9,baz=122,slow=3.2,SNR=50						
CMAR	**Chiang Mai Arr**	91.85	289	P	P	14 49 07.4	+1.2
CMAR				pmax	pmax		
	comp=Z,12nm,0.9s						
CHG	**Chiang Mai**	91.98	289	P	P	14 49 07.8	+1.0
	comp=Z,13nm,0.8s,mb5.0						
RSSD	**Black Hills**	93.33	43	*e*P	P	14 49 12.6	+0.2
	comp=Z,7.8nm,1.0s,mb4.8						
RSSD				*e*pP	pP	14 49 54.6	+0.1
YAK	**Yakutsk**	94.00	338	*d i*P	P	14 49 13.2	-1.8
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.3						
LZH	**Lanzhou**	94.72	307	⇑P	P	14 49 20.5	+1.6
LZH				AP	pP	14 50 00.6	-0.4
LZH				XP	sP	14 50 17.5	-1.4
LZH				PP	PP	14 53 13.8	+2.3
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,157nm,5.3s						
LZH				LR	LR		
	comp=E,216nm,15.4s						
LZH				LR	LR		
	comp=Z,302nm,18.3s						
INK	**Inuvik**	95.38	15	P	P	14 49 20.7	-0.5
	comp=Z,8.4nm,1.1s,mb4.9,baz=223,slow=5.9,SNR=8.9						
INK	**Inuvik**	95.38	15	P	P	14 49 20.7	-0.5
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK	**Inuvik**	95.38	15	P	P	14 49 20.7	-0.5
YKA	**Yellowknife Ar**	97.33	24	P	P	14 49 29.5	-0.7
	comp=Z,4.2nm,0.9s,mb4.8,baz=241,slow=4.1,SNR=11						
YKA				PKKPbc		15 06 07.9	
	comp=Z,1.1nm,0.6s,baz=43,slow=2.3,SNR=5.4						
YKA				LR	LR	15 24 31.2	
	comp=Z,44nm,20.4s,slow=30						
SONM	**Songino Array**	97.75	319	P	P	14 49 33.3	+0.9
	comp=Z,0.7nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=5.0						
SONM				PP	PP	14 53 28.4	-6.5
	comp=Z,1.4nm,1.0s,baz=127,slow=6.2,SNR=4.8						
TIXI	**Tiksi**	100.54	345	*e*P	P	14 49 41.8	-2.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PKI	**Pulchoki**	106.63	293	*e*P		14 54 21.8	
	comp=Z,22nm,1.1s						
KKN	**Kakani**	106.80	294	*e*P		14 54 21.7	
	comp=Z,14nm,0.7s						
DMN	**Daman**	106.90	293	*e*P		14 54 22.2	
GKN	**Gorkha**	107.41	294	*e*P		14 54 22.4	
	comp=Z,9.6nm,0.7s						
KOLN	**Koldanda**	108.22	293	*e*P		14 54 22.9	
WMQ	**Urumqi**	108.90	310	PDIF	Pdif	14 50 23.0	+1.0
WMQ				PP	PP	14 54 59.0	+0.1
MKAR	**Makanchi Array**	113.18	313	PKiKP		14 54 33.2	
	comp=Z,3.4nm,0.7s,baz=154,slow=0.7,SNR=35						
MKAR				PP	PP	14 55 25.6	-4.3
	comp=Z,0.9nm,0.7s,baz=80,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	113.18	313	*i* PKIKP	PKPdf	14 54 33.2	+0.4
MKAR						14 55 25.6	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	113.50	322	⇓*i*PKIKP	PKPdf	14 54 32.2	-1.0
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KURK	**Kurchatov**	115.99	317	*e*PKPdf	PKPdf	14 54 38.8	+0.6
BVAR	**Borovoye Array**	121.07	320	PKP	PKPdf	14 54 48.5	+0.5
	comp=Z,7.9nm,0.6s,baz=126,slow=1.2,SNR=64						
BRVK	**Borovoye**	121.13	320	*e*PKPdf	PKPdf	14 54 48.3	+0.2
BRVK				*e*pPKPdf		14 55 35.3	
SUR	**Sutherland**	123.42	198	*e*PKPdf	PKPdf	14 54 55.5	+2.5
ARU	**Arti**	127.18	325	*i* PKIKP	PKPdf	14 55 00.6	+1.0
ARU				*e*PS	PS	15 07 13.4	+5.5
ARU	**Arti**	127.18	325	*e*PKPdf	PKPdf	14 55 00.5	+0.9
ARU				*e*pPKPdf		14 55 46.6	
KEV	**Kevo**	130.19	349	*e*pkp	PKPdf	14 55 01.3	-3.8
ARCES	**ARCESS Array B**	130.63	350	PKP	PKPdf	14 55 06.6	+0.7
	comp=Z,9.9nm,0.5s,baz=19,slow=1.4,SNR=53						
ARCES	**ARCESS Array B**	130.63	350	PKIKP	PKPdf	14 55 06.6	+0.7
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARE0	**ARCESS Array S**	130.63	350	*e*PKPdf	PKPdf	14 55 06.4	+0.5
LSZ	**Lusaka**	135.69	215	*e*PKPdf	PKPdf	14 55 18.8	+2.1
KAF	**Kangasniemi**	136.95	344	*e*pkp	PKPdf	14 55 08.5	-9.3
FINES	**FINESS Array B**	137.58	344	PKhKP		14 55 08.0	
	comp=Z,1.9nm,0.6s,baz=90,slow=3.8,SNR=6.8						
FINES				PKP	PKPdf	14 55 20.0	+1.0
	comp=Z,9.7nm,0.6s,baz=117,slow=4.3,SNR=15						
FINES				SKPbc		14 58 39.4	
	comp=Z,7.2nm,0.9s,baz=90,slow=3.8,SNR=8.3						
FINES	**FINESS Array B**	137.58	344	*i* PKHKP		14 55 08.0	
FINES						14 55 20.0	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,7.0nm,0.9s						
OBN	**Obninsk**	138.70	332	*e*PKHKP		14 55 18.1	
OBN				*i*		14 55 22.6	
OBN				*e*PPS	PPS	15 10 22.7	-12
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OBN				pmax	pmax		
	comp=Z,28nm,1.0s						
QRN	**Al-Qurain**	139.41	289	*e*P	PKPdf	14 55 16.6	-6.7
QRN				AMb	AMB	14 55 28.3	
	comp=Z,75nm,0.9s						
RDF	**Al-Radifah**	139.74	289	*e*P	PKPdf	14 55 17.7	-6.1
RDF				AMb	AMB	14 55 29.7	
	comp=Z,75nm,1.0s						
RST	**Umm Al-Ruwaisa**	140.22	290	*e*P	PKPdf	14 55 16.4	-8.3
RST				AMb	AMB	14 55 30.2	
	comp=Z,63nm,0.9s						
NB2	**NORSAR Subarra**	140.62	354	PKP		14 55 17.5	
	comp=Z,11nm,0.9s,baz=19,slow=3.8						
NOA	**NORSAR Array B**	140.62	354	PKhKP		14 55 18.0	
	comp=Z,8.3nm,0.8s,baz=15,slow=5.0,SNR=20						
NOA				PKP	PKPdf	14 55 27.6	+3.2
	comp=Z,1.9nm,0.6s,baz=23,slow=2.0,SNR=13						
NOA				SKPbc		14 58 48.7	
	comp=Z,3.6nm,1.1s,baz=13,slow=4.5,SNR=4.0						
NOA	**NORSAR Array B**	140.62	354	*i* PKHKP		14 55 18.0	
NOA						14 55 27.6	
NOA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				pmax	pmax		
	comp=N,4.0nm,1.1s						
NOA	**NORSAR Array B**	140.62	354	PKP	PKPdf	14 55 18.0	-6.4
NOA				PKP	PKPdf	14 55 27.6	+3.2
NOA				SKPbc		14 58 48.7	
NAO01	**NORSAR Array S**	140.84	354	*e*PKPpre		14 55 22.1	
SOC	**Sochi**	143.07	314	*e*PKHKP		14 55 29.3	
SOC				*i*		14 55 32.1	
SOC				*e*		14 58 44.7	
SOC				*e*SSS	SSS	15 22 29.4	-1.9
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,13nm,0.6s						
SOC				pmax	pmax		
	comp=E,23nm,1.1s						
SOC				pmax	pmax		
	comp=Z,35nm,1.1s						
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.5s						
MLA1	**Latheron**	143.41	6	⇓*e*P	PKPbc	14 55 27.6	-0.3
MVH1	**Achvaich**	143.70	7	*e*P	PKPbc	14 55 28.1	-0.6
MCD	**Coleburn Disti**	144.13	6	⇓*e*P	PKPbc	14 55 29.2	-0.8
MDO	**Dochfour**	144.16	7	⇓*e*P	PKPbc	14 55 29.1	-1.0
BLJS	**Baljurashi**	144.33	274	P	PKPbc	14 55 34.3	+2.6
MME1	**Meikle Cairn**	144.43	6	⇓*e*P	PKPbc	14 55 30.1	-0.8
KELT	**Kelkit**	144.67	309	*i* P	PKPdf	14 55 33.5	+1.4
KELT	**Kelkit**	144.67	309	*i* P	PKPdf	14 55 33.5	+1.4
SUW	**Suwalki**	144.70	340	*e*PKHKP		14 55 31.9	
AKASG	**Malin Array Be**	144.96	331	PKP	PKPdf	14 55 32.1	-0.1
	comp=E,67nm,0.7s,baz=42,slow=3.9,SNR=153						
AKASG				SKPbc		14 58 58.2	
	comp=E,6.9nm,1.0s,baz=35,slow=2.4,SNR=6.4						
AKASG	**Malin Array Be**	144.96	331	PKHKP		14 55 32.2	
AKASG						14 58 58.2	
AKASG				pmax	pmax		
	comp=Z,67nm,0.7s						
AKASG				pmax	pmax		
	comp=N,7.0nm,1.0s						
MBAR	**Mbarara**	145.13	233	*e*PKPbc	PKPbc	14 55 36.0	+1.8
ELZG	**Elazig**	145.41	306	*i* P	PKPdf	14 55 36.4	+2.9
ELZG	**Elazig**	145.41	306	*i* P	PKPdf	14 55 36.4	+2.9
LTHS	**Al Lith**	145.50	274	P	PKPdf	14 55 37.0	+2.9
COP	**Copenhagen**	145.70	351	⇑*i*P	PKPdf	14 55 35.6	+2.2
	comp=N,95nm,0.9s						
BSD	**Bornholm Skovb**	145.83	348	⇓*i*P	PKPdf	14 55 35.1	+1.5
	comp=N,199nm,0.8s						
SIM	**Simferopol’**	145.99	320	*d i*PKIKP	PKPdf	14 55 37.0	+2.8
SIM				pmax	pmax		
	comp=Z,150nm,0.9s						
GZT	**Gaziantep**	146.83	305	*e*P	PKPdf	14 55 39.6	+3.8
GZT	**Gaziantep**	146.83	305	*e*P	PKPdf	14 55 39.6	+3.8
WAR	**Warsaw**	146.90	340	*e*PKIKP	PKPdf	14 55 39.3	+3.9
GKP	**Gorka Klasztor**	147.05	345	*e*PKIKP	PKPdf	14 55 39.6	+3.9
KBRS	**Khaybar**	147.07	284	P	PKPdf	14 55 41.7	+5.2
BOYT	**Boyabat**	147.21	313	*i* P	PKPdf	14 55 41.0	+4.7
BOYT	**Boyabat**	147.21	313	*i* P	PKPdf	14 55 41.0	+4.7
KAHT	**Ahir Dag**	147.26	306	*i* P	PKPdf	14 55 40.9	+4.4
KAHT	**Ahir Dag**	147.26	306	*i* P	PKPdf	14 55 40.9	+4.4
CTKT	**Corum**	147.64	312	*i* P	PKPdf	14 55 42.0	+4.9
CTKT	**Corum**	147.64	312	*i* P	PKPdf	14 55 42.0	+4.9
BSEG	**Bad Segeberg**	147.69	352	*e*PKIKP	PKPdf	14 55 41.4	+4.7
KIS	**Kishinev**	147.71	327	κ *i*PKIKP	PKPdf	14 55 40.0	+3.0
KIS				pmax	pmax		
	comp=Z,400nm,1.0s						
KIS				pmax	pmax		
	comp=Z,400nm,1.0s						
COBT	**Iskenderun**	148.08	304	*i* P	PKPdf	14 55 43.5	+5.6
COBT	**Iskenderun**	148.08	304	*i* P	PKPdf	14 55 43.5	+5.6
LHO	**Holmfirth**	148.26	6	*i* P	PKPdf	14 55 41.1	+3.4
AVNT	**Avonos**	148.34	309	*i* P	PKPdf	14 55 43.3	+5.0
AVNT	**Avonos**	148.34	309	*i* P	PKPdf	14 55 43.3	+5.0
KWP	**Kalwaria**	148.49	336	*e*PKIKP	PKPdf	14 55 43.6	+5.4
RUE	**Ruedersdorf**	148.55	348	*e*PKPbc	PKPdf	14 55 43.2	+5.0
ELDT	**Eldivan**	148.63	313	*i* P	PKPdf	14 55 44.5	+5.8
ELDT	**Eldivan**	148.63	313	*i* P	PKPdf	14 55 44.5	+5.8
UMJS	**Umm Lajj**	148.82	283	P	PKPdf	14 55 45.3	+5.8
BRTR	**Keskin Array B**	148.82	311	PKPbc	PKPdf	14 55 44.9	+5.8
	comp=Z,43nm,0.6s,baz=139,slow=3.8,SNR=162						
BRTR	**Keskin Array B**	148.82	311	PKIKP	PKPdf	14 55 44.9	+5.9
BRTR				pmax	pmax		
	comp=Z,43nm,0.6s						
OJC	**Ojcow**	149.03	339	*e*PKIKP	PKPdf	14 55 43.6	+4.6
WIT	**Witteveen**	149.15	356	*e*PKP	PKPdf	14 55 45.6	+6.5
	comp=Z,286nm,0.9s						
HLM1	**Long Mynd**	149.16	8	⇓*e*P	PKPdf	14 55 44.6	+5.4
HLM1				AMb	AMB	14 55 45.3	
	comp=Z,71nm,0.9s						
SSP1	**Stoney Pound**	149.23	8	⇓*e*P	PKPdf	14 55 44.8	+5.5
HRI	**Mount Hermon**	149.36	298	P	PKPdf	14 55 46.9	+6.8
KSHT	**Keshet**	149.36	298	P	PKPdf	14 55 46.9	+6.8
TBKS	**Tabuk**	149.43	288	P	PKPdf	14 55 47.4	+7.1
KSP	**Ksiaz**	149.50	344	*e*PKHKP		14 55 46.5	
KSP				*e*		14 55 51.4	
KSP				*e*		15 02 48.5	
KSP	**Ksiaz**	149.50	344	*e*PKP	PKPdf	14 55 46.5	+6.8
KSP				*e*PKPdf	PKPdf	14 55 47.1	+7.4
KSP				*e*PKPab	PKPab	14 55 51.4	-0.8
KSP				*e*SKSdf		15 02 48.5	
HTR	**Trewern Hill**	149.54	8	⇓*e*P	PKPdf	14 55 45.2	+5.5
HTR				AMb	AMB	14 55 47.3	
	comp=Z,68nm,1.5s						
VRI	**Vrincioaia**	149.54	327	⇓*i*P	PKPdf	14 55 46.2	+6.3
BRD	**Bordesti**	149.60	326	⇓*i*P	PKPdf	14 55 47.6	+7.6
MCH1	**Michaelchurch**	149.66	8	⇓*e*P	PKPdf	14 55 45.4	+5.4
RAC	**Raciborz**	149.66	341	*e*PKHKP		14 55 47.2	
HAE	**Alders End**	149.67	7	⇓*e*P	PKPdf	14 55 45.7	+5.8
HAE				AMb	AMB	14 55 54.8	
	comp=Z,153nm,1.8s						
HARR	**Harsova**	149.69	324	⇓*i*P	PKPdf	14 55 47.2	+7.0
CLZ	**Clausthal**	149.73	351	*e*PKPdf	PKPdf	14 55 42.2	+2.2
CLZ				*e*PKPbc	PKPdf	14 55 46.8	+6.8
CLZ				*e*PKPab	PKPab	14 55 52.1	-1.0
CLZ				*e*pPKPbc		14 56 33.7	
HMDT	**Nahal Hemdat**	149.75	297	P	PKPdf	14 55 47.9	+7.2
MKRJ	**Makawir**	149.79	295	P	PKPdf	14 55 48.1	+7.3
MMLI	**Mount Malkishu**	149.80	297	P	PKPdf	14 55 48.1	+7.3
CLL	**Collm**	149.81	348	*i* PKIKP	PKPdf	14 55 41.6	+1.4
	comp=Z,logA/T=0.9						
CLL				*i* PKP1	PKPdf	14 55 46.8	+6.6
CLL				*i* PKP2	PKPab	14 55 51.7	-1.7
CLL				*i* *PPKP		14 56 30.4	
CLL				*i*		14 57 00.7	
CLL	**Collm**	149.81	348	*i* PKP	PKPdf	14 55 41.6	+1.4
CLL				*i* PKP	PKPdf	14 55 46.8	+6.6
CLL				*i* pPKP		14 56 30.4	
HNTI	**Hanita**	149.86	298	P	PKPdf	14 55 47.5	+6.7
UPC	**Upice**	149.88	344	*e*PKP1	PKPdf	14 55 47.2	+6.9
UPC				*e*PKP2	PKPab	14 55 53.3	-0.4
UPC				*e*		14 56 00.4	
UPC				*e*APKP		14 56 30.9	
UPC	**Upice**	149.88	344	*e*PKP	PKPdf	14 55 47.2	+6.9
UPC				*e*		14 55 53.3	
UPC				*e*		14 56 30.9	
OKC	**Ostrava-Krasne**	149.89	341	*e*PKP1	PKPdf	14 55 47.0	+6.7
OKC				*e*PKP2	PKPab	14 55 53.0	-0.8
DPC	**Dobruska-Polom**	149.95	343	*e*PKPDF	PKPdf	14 55 47.8	+7.4
DPC				*i* PKP2	PKPab	14 55 53.6	-0.4
DPC				*e*APKP		14 56 32.5	
JMQS	**Jabal Moqyreh**	149.96	290	P	PKPdf	14 55 48.8	+7.7
WTSB	**Winterswijk**	149.98	356	⇓*i*PKP	PKPdf	14 55 47.0	+6.6
	comp=Z,73nm,0.6s						
WTSB				*e*x	x	14 55 52.4	
DRGI	**Dragot**	149.99	295	P	PKPdf	14 55 48.3	+7.2
HGH	**Gray Hill**	150.03	8	⇓*e*P	PKPdf	14 55 46.6	+6.1
HGH				AMb	AMB	14 55 48.5	
	comp=Z,79nm,1.3s						
BRG	**Berggiesshubel**	150.03	347	*i* PKIKP	PKPdf	14 55 42.6	+2.1
BRG				*i*		14 55 47.1	
BRG				*i*		14 55 53.1	
BRG				pmax	pmax		
	comp=Z,111nm,1.5s						
BRG	**Berggiesshubel**	150.03	347	*i* PKP	PKPdf	14 55 42.6	+2.1
BRG				*i*		14 55 47.1	
BRG				*i*		14 55 53.1	
BRG				*i* P’P’		14 56 31.2	
HAF	**Haifa**	150.05	298	P	PKPdf	14 55 47.5	+6.4
MZDA	**Masada**	150.06	295	P	PKPdf	14 55 48.4	+7.2
OFRI	**‘Ofer**	150.12	297	P	PKPdf	14 55 48.2	+6.9
ISR	**Istrita**	150.15	326	⇓P	PKPdf	14 55 48.1	+7.2
HENT	**Hendek**	150.15	315	*i* P	PKPdf	14 55 47.7	+6.6
HENT	**Hendek**	150.15	315	*i* P	PKPdf	14 55 47.7	+6.6
SLTI	**Sal’it**	150.16	297	P	PKPdf	14 55 48.8	+7.5
PSN	**Preselentsi**	150.19	322	P	PKPdf	14 55 48.0	+7.0
PVCC	**Panska Ves**	150.22	346	*e*PKP1	PKPdf	14 55 48.2	+7.4
PVCC				*e*PKP2	PKPab	14 55 54.1	-1.0
PVCC				*e*APKP		14 56 34.5	
PHNC	**Paralimni**	150.26	303	⇓P	PKPdf	14 55 49.3	+7.9
KECS	**Kecovo**	150.27	337	*e*PKP	PKPdf	14 55 48.8	+7.8
KECS				*e*		14 55 53.6	
KECS				*e*		14 56 04.8	
LIKS	**Likavka**	150.27	339	*e*PKP	PKPdf	14 55 49.2	+8.3
ZFRI	**Zfri**	150.35	293	P	PKPdf	14 55 49.4	+7.7
PRNI	**Paran**	150.53	293	P	PKPdf	14 55 49.9	+8.0
AQBJ	**Aqaba**	150.58	292	P	PKPdf	14 55 49.8	+7.8
JMOS	**Jabal al Moall**	150.59	291	P	PKPdf	14 55 50.2	+8.1
MASH	**Mash‘abbe Sade**	150.61	294	P	PKPdf	14 55 49.6	+7.6
EIL	**Elat**	150.67	292	P	PKPdf	14 55 49.9	+7.7
BDAS	**Al Bad‘**	150.68	289	P	PKPdf	14 55 50.0	+7.8
MBH	**Mount Berech**	150.68	292	P	PKPdf	14 55 50.3	+8.1
MOX	**Moxa**	150.70	349	*i* P	PKPdf	14 55 43.7	+2.2
MOX				PP2		14 55 49.0	
MOX				PKP2	PKPab	14 55 56.0	-1.2
MOX				pPKP		14 56 33.0	
MOX	**Moxa**	150.70	349	*e*PKIKP	PKPdf	14 55 43.7	+2.2
MOX				*e*		14 55 48.8	
MOX				pmax	pmax		
	comp=Z,60nm,1.6s						
MOX	**Moxa**	150.70	349	*e*PKP	PKPdf	14 55 43.7	+2.2
MOX				*e*		14 55 48.8	
MOX				*e*		14 56 32.9	
PRU	**Pruhonice**	150.73	345	*e*PKP1	PKPdf	14 55 49.1	+7.5
PRU				*e*PKP2	PKPab	14 55 56.1	-1.2
PRU				*e*APKP		14 56 33.0	
HAQS	**Haql**	150.76	290	P	PKPdf	14 55 50.3	+8.0
SBD	**Saint Breward**	150.80	11	⇓*e*P	PKPdf	14 55 43.5	+1.8
KMTI	**Karmit**	150.80	293	P	PKPdf	14 55 50.1	+7.7
CSS	**Prodhromos**	150.82	303	⇓P	PKPdf	14 55 50.7	+8.5
	comp=Z,2.4nm,0.7s						
VYHS	**Vyhne**	150.84	339	*e*PKP	PKPdf	14 55 49.4	+7.6
VYHS				*e*		14 55 56.4	
VYHS				*e*		14 56 03.8	
PRD	**Provadia**	150.94	322	P	PKPdf	14 55 50.0	+7.9
KZIT	**Kziot**	150.95	294	P	PKPdf	14 55 50.7	+8.1
HGN	**Heimansgroeve**	151.23	357	⇓*i*PKP	PKPdf	14 55 49.9	+7.5
	comp=Z,24nm,0.9s						
HGN				*i* x	x	14 55 57.4	
	comp=Z,21nm,0.8s						
SZAC	**Souni-Zanaja**	151.24	303	⇓P	PKPdf	14 55 51.7	+8.8
SMOL	**Smolenice**	151.28	340	*e*PKP	PKPdf	14 55 51.3	+8.8
SMOL				*e*		14 55 59.2	
ALFC	**Alevga**	151.33	304	⇓P	PKPdf	14 55 51.3	+8.3
PPCY	**Paphos**	151.62	303	P	PKPdf	14 55 51.9	+8.5
ULDT	**Uludag**	151.66	315	*i* P	PKPdf	14 55 51.6	+8.3
ULDT	**Uludag**	151.66	315	*i* P	PKPdf	14 55 51.6	+8.3
ZST	**Bratislava**	151.66	341	*e*PKP	PKPdf	14 55 50.6	+7.5
ZST				*e*		14 56 00.8	
GRA1	**Grafenberg Arr**	151.69	349	*e*PKPbc	PKPdf	14 55 51.4	+8.4
GRA1				*e*PKPab	PKPab	14 56 00.4	-0.9
GRF	**Grafenberg Arr**	151.69	349	*e*PKIKP	PKPdf	14 55 51.4	+8.4
SZH	**Strazhica**	151.72	324	P	PKPdf	14 55 51.0	+7.7
KHC	**Kasperske Hory**	151.75	346	*e*PKP1	PKPdf	14 55 51.5	+8.3
KHC				*e*		14 55 56.4	
KHC				PKP2	PKPab	14 56 00.8	-0.8
KHC				*e*APKP		14 56 35.5	
KHC	**Kasperske Hory**	151.75	346	*e*PKIKP	PKPdf	14 55 51.5	+8.3
KHC				*e*		14 56 00.8	
KHC	**Kasperske Hory**	151.75	346	*e*PKP	PKPdf	14 55 51.5	+8.3
KHC				*e*		14 55 56.4	
KHC				*e*		14 56 00.8	
KHC				*e*		14 56 35.5	

GEC2	**GERESS Array S**	**151.99**	**345**	*e*PKPbc	PKPdf	14 55 51.9	+8.4
GEC2				*e*PKPab	PKPab	14 56 01.6	-1.0
GEC2				*e*pPKPbc		14 56 39.0	
GERES	**GERESS Array B**	**151.99**	**345**	PKP	PKPdf	14 55 45.2	+1.7
	comp=Z,1.3nm,0.8s,slow=1.3,SNR=12						
GERES				PKPbc	PKPdf	14 55 52.0	+8.5
	comp=Z,9.9nm,0.7s,baz=27,slow=2.2,SNR=51						
GERES				PKPab	PKPab	14 56 01.3	-1.3
	comp=Z,6.6nm,1.0s,baz=45,slow=1.9,SNR=9.3						
GERES	**GERESS Array B**	**151.99**	**345**	PKIKP	PKPdf	14 55 45.2	+1.7
GERES						14 55 52.0	
GERES						14 56 01.3	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DIM	**Dimitrovgrad**	**152.74**	**322**	P	PKPdf	14 55 55.0	+10
MOA	**Molln**	**152.78**	**344**	⇑*i*P	PKPdf	14 55 46.0	+1.3
MOA				*i*		14 55 53.6	
MOA				*i*		14 56 05.2	
KDZ	**Kurdzhali**	**153.06**	**322**	P	PKPdf	14 55 54.0	+8.7
FUR	**Furstenfeldbru**	**153.15**	**348**	*e*PKPab	PKPab	14 56 06.4	-1.1
FUR				*e*pPKPbc		14 56 42.2	
PGB	**Panagyurishte**	**153.16**	**325**	P	PKPdf	14 55 55.0	+10
BFO	**Black Forest**	**153.44**	**353**	*e*PKPbc	PKPdf	14 55 54.8	+9.2
BFO				*e*PKPab	PKPab	14 56 07.2	-1.5
VTS	**Vitosha**	**153.64**	**326**	P	PKPdf	14 55 55.2	+9.2
KBA	**Koelnbreinsper**	**153.73**	**345**	⇑*i*P	PKPdf	14 55 47.1	+1.1
KBA				*i*		14 55 55.9	
KBA				*i*		14 56 09.7	
WATA	**Walderalm**	**153.88**	**347**	⇑*i*P	PKPdf	14 55 48.6	+2.4
WATA				*i*		14 55 56.1	
WATA				*i*		14 56 09.9	
GRUS	**Gruza**	**153.89**	**331**	⇓*i*P	PKPdf	14 55 54.7	+8.4
WTTA	**Wattenberg**	**153.94**	**347**	⇑*i*P	PKPdf	14 55 48.2	+1.9
WTTA				*i*		14 55 56.3	
WTTA				*i*		14 56 09.8	
DIVS	**Divcibare**	**154.05**	**332**	⇑*i*P	PKPdf	14 55 55.9	+9.4
MMB	**Musomiste**	**154.05**	**323**	P	PKPdf	14 55 56.0	+9.4
SQTA	**Sankt Quirin**	**154.07**	**348**	⇑*i*P	PKPdf	14 55 48.2	+1.7
SQTA				*i*		14 55 56.6	
SQTA				*i*		14 56 09.6	
KKB	**Krupnik**	**154.21**	**325**	P	PKPdf	14 55 57.0	+10
DAVA	**Damuels**	**154.24**	**350**	⇓*i*P	PKPdf	14 55 46.1	-0.6
DAVA				*i*		14 56 11.1	
PTCC	**Patocco-Chiusa**	**154.35**	**344**	*e*PKP	PKPdf	14 55 47.5	+0.6
LJU	**Ljubljana**	**154.37**	**342**	*i* PKPbc	PKPdf	14 55 57.0	+10
GMNA	**Gemona**	**154.50**	**344**	*e*PKP	PKPab	14 56 11.3	-2.0
VOY	**Vojsko**	**154.56**	**343**	*e*PKPdf	PKPdf	14 55 48.5	+1.4
VOY				*e*PKPbc	PKPdf	14 55 57.0	+10
VOY				*e*		14 56 11.1	
JAVS	**Javornik**	**154.63**	**342**	*i* PKPbc	PKPdf	14 55 57.2	+10
JAVS				*i* PKPab	PKPab	14 56 11.7	-2.2
BOJS	**Bojanci**	**154.64**	**340**	*e*PKPbc	PKPdf	14 55 57.8	+11
CEY	**Cerknica**	**154.67**	**342**	*e*PKPbc	PKPdf	14 55 56.7	+9.4
CEY				*i* PKPab	PKPab	14 56 12.1	-1.9
LOR	**Lormes**	**154.80**	**359**	*e*PKIKP	PKPdf	14 55 49.4	+2.0
	comp=Z,40nm,1.4s						
BRMO	**Bormio**	**154.94**	**349**	*e*PKP	PKPab	14 56 14.5	-0.6
SSF	**Saint Saulge**	**155.00**	**360**	*e*PKIKP	PKPdf	14 55 49.7	+2.0
	comp=Z,11nm,0.9s						
AVF	**Avril sur Loir**	**155.28**	**0**	*e*PKIKP	PKPdf	14 55 49.9	+1.8
CABF	**La Chapelle**	**155.36**	**356**	*e*PKIKP	PKPdf	14 55 50.7	+2.5
	comp=Z,21nm,1.1s						
SMF	**Signal de Mont**	**155.42**	**359**	*e*PKIKP	PKPdf	14 55 50.2	+2.0
TCF	**Toulx Ste Croi**	**155.76**	**2**	*e*PKIKP	PKPdf	14 55 50.6	+1.9
	comp=Z,24nm,1.1s						
VAI	**Varese**	**155.80**	**351**	*e*PKP	PKPab	14 56 17.0	-1.8
TRAV		**156.29**	**352**	P	PKPab	14 56 19.0	-2.0
LSD	**Ceresole Reale**	**156.41**	**353**	P	PKPab	14 56 20.6	-0.8
LPG	**La Plagne**	**156.41**	**354**	*e*PKIKP	PKPdf	14 55 51.4	+1.8
RSP	**Reno Superiore**	**156.70**	**353**	P	PKPab	14 56 21.3	-1.4
FENE	**Fenestrelle**	**156.84**	**353**	P	PKPab	14 56 22.0	-1.3
GRAM		**156.91**	**348**	P	PKPab	14 56 22.0	-1.6
RRL	**Cesana Torines**	**156.98**	**354**	P	PKPab	14 56 21.6	-2.3
CODM		**157.05**	**348**	P	PKPab	14 56 22.3	-2.0
ORIF	**Oris-en-Rattie**	**157.06**	**355**	*e*PKIKP	PKPdf	14 55 52.7	+2.2
	comp=Z,19nm,1.0s						
BACM		**157.12**	**348**	P	PKPab	14 56 22.2	-2.3
MBDF	**Montbardon**	**157.17**	**354**	*e*PKIKP	PKPdf	14 55 52.7	+2.0
	comp=Z,12nm,1.1s						
VIVF	**Saint-Julien-l**	**157.19**	**358**	*e*PKIKP	PKPdf	14 55 53.1	+2.4
VINC	**Vinca**	**157.23**	**347**	P	PKPab	14 56 22.4	-2.6
PZZ	**Prazzo**	**157.36**	**353**	P	PKPab	14 56 22.8	-2.8
MAIM		**157.38**	**347**	P	PKPab	14 56 22.8	-2.9
ROB	**Roburent**	**157.47**	**352**	P	PKPab	14 56 23.3	-2.7
FIN	**Finale Ligure**	**157.50**	**351**	P	PKPab	14 56 23.4	-2.8
RORO		**157.62**	**351**	P	PKPab	14 56 23.9	-2.8
IMI	**Imperia**	**157.84**	**351**	P	PKPab	14 56 25.4	-2.3
NEGI	**Negi**	**157.93**	**352**	P	PKPab	14 56 25.5	-2.5
LASF	**Ste Croix**	**157.99**	**359**	*e*PKIKP	PKPdf	14 55 54.1	+2.3
	comp=Z,17nm,1.0s						
SMRF	**Simiane la Rot**	**158.02**	**356**	*e*PKIKP	PKPdf	14 55 54.3	+2.5
PGF	**Pioggiola**	**158.99**	**348**	*e*PKIKP	PKPdf	14 55 54.7	+1.7
	comp=Z,42nm,1.1s						
ESDC	**Sonseca Array**	**161.30**	**18**	PKP	PKPdf	14 55 58.2	+2.6
	comp=Z,0.6nm,0.4s,baz=348,slow=2.3,SNR=8.5						
ESDC				PKPab	PKPab	14 56 41.9	-0.8
	comp=Z,4.1nm,0.7s,baz=333,slow=3.9,SNR=16						
LIC	**Lamto**	**162.32**	**151**	*e*PKIKP	PKPdf	14 55 58.5	+1.2
	comp=Z,21nm,1.0s						
LIC	**Lamto**	**162.32**	**151**	*e*PKP1	PKPab	14 57 06.8	+19
	comp=Z,67nm,1.3s						
KIC	**Kosan Boka**	**162.56**	**152**	*e*PKP1	PKPab	14 57 07.9	+19
	comp=Z,69nm,1.2s						
TIC	**Toumodi**	**162.69**	**151**	*e*PKP1	PKPab	14 57 07.3	+18
	comp=Z,60nm,0.2s						
DBIC	**Dimbokro**	**162.79**	**151**	PKP	PKPdf	14 55 59.1	+1.3
	comp=Z,4.1nm,0.9s,baz=194,slow=4.2,SNR=4.0						
DBIC				PKPab	PKPab	14 56 50.5	+0.6
	comp=Z,5.1nm,1.0s,baz=201,slow=5.4,SNR=2.9						
DBIC	**Dimbokro**	**162.79**	**151**	PKIKP	PKPdf	14 55 59.1	+1.3
DBIC						14 56 50.6	
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						

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*JMA **23** 14:40:16.1±0.2, 39.79N×144.43E, h52^{km}, M3.7*

ISC 23 14:40:14.4±1.1**, 39.78N**±0.05×**144.54E**±0.09**, h75**^{km}±40^{km}**, n14, σ0^{s}77**/26**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.06**	**275**	P	**P**	**14 40 48.1**	**+0.5**
JTH				*e*S	**S**	**14 41 12.0**	**-0.2**
MIYJ	**Miyako 2**	**2.10**	**265**	P	**P**	**14 40 48.9**	**+0.7**
MIYJ				*e*S	**S**	**14 41 13.2**	**0.0**
OFUJ	**Ofunato**	**2.33**	**253**	P	**P**	**14 40 51.5**	**+0.1**
OFUJ				*e*S	**S**	**14 41 17.7**	**-1.2**
JANG	**Nango**	**2.39**	**285**	P	**P**	**14 40 52.6**	**+0.3**
JANG				*e*S	**S**	**14 41 19.6**	**-0.8**
JOM	**Ohasama**	**2.52**	**264**	P	**P**	**14 40 55.0**	**+0.9**
JOM				*e*S	**S**	**14 41 23.5**	**-0.3**
JMK	**Ichinoseki**	**2.70**	**253**	P	**P**	**14 40 56.7**	**+0.1**
JMK				*e*S	**S**	**14 41 27.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.83**	**332**	P	**P**	**14 40 59.7**	**+1.2**
JCH	**Churui**	**2.96**	**343**	P	**P**	**14 41 00.6**	**+0.3**
JCH				*e*S	**S**	**14 41 34.5**	**-0.3**
JOT	**Ohata**	**3.10**	**302**	P	**P**	**14 41 03.3**	**+1.1**
JOT				*e*S	**S**	**14 41 38.3**	**+0.1**
JKB	**Kayabe**	**3.39**	**309**	P	**P**	**14 41 07.1**	**+0.9**
JKB				*e*S	**S**	**14 41 45.7**	**+0.3**
NEM2	**Nemuro 2**	**3.69**	**14**	P	**P**	**14 41 08.9**	**-1.5**
NEM2				*e*S	**S**	**14 41 49.1**	**-3.9**
JTKR	**Abashiri--Toko**	**4.21**	**354**	P	**P**	**14 41 17.8**	**+0.2**
JTKR				*e*S	**S**	**14 42 05.1**	**-0.8**
JRY	**Ryogami san**	**5.83**	**232**	P	**P**	**14 41 38.6**	**-1.4**
MAT	**Matsushiro**	**5.94**	**239**	P	**P**	**14 41 41.7**	**+0.1**
MAT				S	**S**	**14 42 49.8**	**+0.7**

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*IDC **23** 15:04:47.2±25.0, 22.66S×177.42W, h381^{km}±202^{km}, mb3.8/6, mb1 3.9/6, mb1mx3.5/17, Error ellipse: s-maj=232.0km s-min=40.7km az=55.0*

*NEIC **23** 15:05:06.5±2.9, 23.60S×178.90W, h490^{km}, mb4.5/5, Error ellipse: s-maj=67.0km s-min=18.1km az=46.0*

ISC 23 15:05:05.2±4.0**, 23.6S**±0.4×**178.9W**±0.5**, h490**^{km}**, n13, σ0^{s}55**/13**, mb4.2**/8**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**21.74**	**200**	P	**P**	**15 09 20.6**	**-0.5**
	26nm,1.1s,mb4.7,baz=354,slow=3.6,SNR=4.2						
CTA	**Charters Tower**	**32.50**	**269**	⇓*i*P	**P**	**15 10 56.5**	**+0.6**
	9.3nm,0.3s,mb4.7						
CTA	**Charters Tower**	**32.50**	**269**	P	**P**	**15 10 56.5**	**+0.6**
	11nm,0.3s,mb4.7,baz=95,slow=11,SNR=69						
CTAO	**Charters Tower**	**32.50**	**269**	*e*P	**P**	**15 10 56.3**	**+0.4**
	12nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**35.79**	**248**	P	**P**	**15 11 24.4**	**+1.0**
	2.1nm,0.7s,mb3.7,baz=89,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**43.10**	**260**	P	**P**	**15 12 23.0**	**+0.3**
	2.7nm,0.5s,mb3.9,baz=95,slow=7.3,SNR=74						
ASPA	**Alice Springs**	**43.10**	**260**	*e*P	**P**	**15 12 22.9**	**+0.2**
WB2	**Warramunga Arr**	**43.44**	**265**	⇓*i*P	**P**	**15 12 25.0**	**-0.4**
WRAB	**Tennant Creek**	**43.44**	**265**	*e*P	**P**	**15 12 24.5**	**-0.9**
	5.9nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**43.45**	**265**	P	**P**	**15 12 25.1**	**-0.4**
	2.4nm,0.3s,mb4.1,baz=94,slow=8.3,SNR=218						
FITZ	**Fitzroy Crossi**	**51.87**	**265**	*e*P	**P**	**15 13 29.4**	**0.0**
	2.5nm,0.8s,mb3.6						
FITZ	**Fitzroy Crossi**	**51.87**	**265**	P	**P**	**15 13 29.4**	**0.0**
	2.5nm,0.6s,mb3.8,baz=112,slow=2.7,SNR=7.5						
QSPA	**South Pole Qui**	**66.52**	**180**	*e*P	**P**	**15 15 06.9**	**+0.3**
	5.2nm,0.9s,mb4.2						

MAN 23 15:06:11.7, 9.78N×127.26E, h32^{km}, mb4.4, ML3.2, MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.80**	**244**	*e*P	Pn	15 06 40.1	-1.0
BUTP				*e*S	Sn	15 06 58.2	-4.9
BIPH	**Bislig**	**1.82**	**209**	*e*P	Pn	15 06 41.9	+0.6
BIPH				*e*S	Sn	15 06 59.1	-4.3
MSLP	**Maasin**	**2.39**	**279**	*e*P	Pn	15 06 50.1	+0.5
MSLP				*e*S	Sn	15 07 13.8	-4.2
BESP	**Borongan**	**2.54**	**316**	*e*P	Pn	15 06 50.9	-0.8
BESP				*e*S	Sn	15 07 23.5	+1.6
PLP	**Palo**	**2.63**	**302**	*i* P	Pn	15 06 53.4	+0.4
PLP				*e*S	Sn	15 07 17.5	-6.6
BUKP	**Musuan**	**2.88**	**229**	*e*P	Pn	15 06 54.3	-2.2
MATI	**Mati**	**2.98**	**199**	*e*P	Pn	15 06 57.2	-0.8
PAGZ	**Pagadian**	**4.28**	**244**	*e*P	Pn	15 07 16.7	+0.3

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*BJI **23** 15:28:30.4, 24.40S×179.90W, h492^{km}, mB4.7, mb4.5*

*IDC **23** 15:28:30.8±1.3, 24.41S×179.98W, h491^{km}±12^{km}, mb4.1/11, mb1 4.2/12, mb1mx4.0/17, Error ellipse: s-maj=14.8km s-min=11.5km az=156.0*

*NEIC **23** 15:28:30.4±2.2, 24.37S×179.90W, h492^{km}±22^{km}, mb4.6/14, Error ellipse: s-maj=17.0km s-min=10.9km az=214.0*

ISC 23 15:28:31.0±1.5**, 24.48S**±0.07×**179.93E**±0.09**, h501**^{km}±17^{km}**, n81, σ1^{s}01**/52**, mb4.4**/22**, 1C-9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**13.63**	**186**	P	**P**	**15 31 24.7**	**-2.8**
URZ	**Urewera**	**13.95**	**189**	P	**P**	**15 31 29.8**	**-1.0**
	4.8nm,0.3s,baz=351,slow=3.1,SNR=20						
URZ				S	**S**	**15 33 60.0**	**+4.4**
	2.4nm,0.3s,baz=232,slow=22,SNR=14						
MWZ	**Matawai**	**13.97**	**188**	S	**S**	**15 33 59.4**	**+3.5**
BKZ	**Black Stump Fm**	**14.94**	**190**	P	**P**	**15 31 40.4**	**-0.3**
BKZ				*e*S	**S**	**15 34 16.1**	**+2.2**
MRZ	**Mangatainoka R**	**16.55**	**192**	S	**S**	**15 34 42.0**	**-1.2**
QRZ	**Quartz Range**	**17.44**	**199**	P	**P**	**15 32 06.7**	**+1.1**
NNZ	**Nelson**	**17.57**	**197**	P	**P**	**15 32 06.0**	**-0.8**
THZ	**Tophouse**	**18.21**	**197**	P	**P**	**15 32 12.8**	**-0.2**
RPZ	**Rata Peaks**	**20.53**	**199**	P	**P**	**15 32 33.8**	**-1.3**
	37nm,1.0s,baz=6.9,slow=20,SNR=16						
ARMA	**Armidale**	**25.77**	**250**	⇓*i*P	**P**	**15 33 24.4**	**+1.7**
CNB	**Canberra Magne**	**28.51**	**241**	*e*P	**P**	**15 33 48.1**	**+1.3**
	8.9nm,0.6s,mb4.4						
CTA	**Charters Tower**	**31.42**	**271**	⇓*i*P	**P**	**15 34 12.8**	**+0.9**
	42nm,0.6s,mb5.0						
CTA	**Charters Tower**	**31.42**	**271**	P	**P**	**15 34 12.8**	**+1.0**
	65nm,0.7s,mb5.2,baz=99,slow=11,SNR=123						
CTAO	**Charters Tower**	**31.42**	**271**	*e*P	**P**	**15 34 12.6**	**+0.7**
	61nm,0.7s,mb5.1						
TOO	**Toolangi**	**32.09**	**238**	*e*P	**P**	**15 34 17.7**	**+0.3**
	7.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**34.45**	**249**	⇓*i*P	**P**	**15 34 38.4**	**+1.1**
	12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**15 34 38.5**	**+1.1**
	21nm,0.7s,mb4.7,baz=89,slow=9.2,SNR=68						
ASAR	**Alice Springs**	**41.88**	**261**	P	**P**	**15 35 38.3**	**+0.2**
	16nm,0.9s,mb4.5,baz=87,slow=6.5,SNR=85						
ASAR				PcP	PcP	15 37 21.0	-1.9
	1.7nm,0.7s,baz=100,slow=4.0,SNR=5.5						
ASAR				ScP		15 40 26.1	
	2.0nm,0.9s,baz=105,slow=3.9,SNR=9.0						
ASAR				S	**S**	**15 41 19.9**	**-0.3**
	0.5nm,0.8s,baz=82,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**41.88**	**261**	P	**P**	**15 35 38.3**	**+0.2**
ASAR				PcP	PcP	15 37 21.0	-1.9
ASAR				ScP		15 40 26.1	
ASAR				S	**S**	**15 41 19.9**	**-0.3**
ASPA	**Alice Springs**	**41.88**	**261**	⇓*i*P	**P**	**15 35 38.3**	**+0.2**
ASPA				*e*S	**S**	**15 41 19.1**	**-1.1**
WB2	**Warramunga Arr**	**42.30**	**267**	⇓*i*P	**P**	**15 35 41.1**	**-0.3**
WB2				*e*SCP		15 40 29.3	
WB2				*e*S	**S**	**15 41 23.4**	**-2.8**
WRAB	**Tennant Creek**	**42.30**	**267**	*e*P	**P**	**15 35 41.0**	**-0.5**
	32nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**15 35 41.2**	**-0.4**
	24nm,0.7s,mb4.8,baz=104,slow=8.1,SNR=156						
WRA				PcP	PcP	15 37 23.8	-0.6
	3.0nm,0.8s,baz=101,slow=3.3,SNR=5.7						
WRA				ScP		15 40 29.7	
	5.7nm,0.8s,baz=99,slow=3.9,SNR=20						
WRA				S	**S**	**15 41 26.1**	**-0.2**
	1.8nm,0.8s,baz=103,slow=14,SNR=9.3						
FORT	**Forrest**	**46.05**	**250**	⇓*i*P	**P**	**15 36 09.8**	**-0.9**
	189nm,0.6s						
KAKA	**Kakadu**	**46.34**	**276**	*e*P	**P**	**15 36 11.8**	**-1.2**
	25nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	⇓*i*P	**P**	**15 36 45.5**	**-0.4**
	26nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	**P**	**15 36 45.7**	**-0.3**
	30nm,0.7s,mb4.7,baz=166,slow=5.3,SNR=71						
SBA	**Scott Base**	**53.80**	**183**	*e*P	**P**	**15 37 08.6**	**+1.2**
	13nm,0.9s,mb4.2						
VNDA	**Vanda**	**53.80**	**185**	P	**P**	**15 37 07.9**	**+0.5**
	1.0nm,0.6s,mb3.4,baz=352,slow=7.4,SNR=6.4						
VNDA	**Vanda**	**53.80**	**185**	*e*P	**P**	**15 37 07.5**	**+0.1**
	1.2nm,0.6s,mb3.4						
KLBR	**Kellerberrin**	**54.71**	**248**	*e*P	**P**	**15 37 13.4**	**-1.0**
	26nm,0.8s,mb4.6						
CASY	**Casey**	**59.57**	**206**	*e*P	**P**	**15 37 46.1**	**-0.9**
	14nm,0.9s,mb4.4						
ASAJ	**Asahikawa**	**76.35**	**333**	P	**P**	**15 39 29.6**	**+0.4**
	7.4nm,0.7s,mb4.3,baz=202,slow=17,SNR=4.1						
MAW	**Mawson**	**77.19**	**200**	⇓*i*P	**P**	**15 39 33.9**	**+0.7**
	6.7nm,0.8s,mb4.2						
MAW	**Mawson**	**77.19**	**200**	P	**P**	**15 39 34.1**	**+0.9**
	9.3nm,0.8s,mb4.3,baz=129,slow=7.0,SNR=21						
SYO	**Syowa Base**	**82.44**	**193**	⇑P	**P**	**15 40 00.2**	**-0.4**
SYO	**Syowa Base**	**82.44**	**193**	⇓P	**P**	**15 40 05.1**	**+4.5**
MDJ	**Mudanjiang**	**82.70**	**326**	P	**P**	**15 40 02.8**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,101nm,4.3s						
SNAA	**Sanae**	**84.10**	**179**	*e*P	**P**	**15 40 08.3**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.6						
CN2	**Changchun**	**84.31**	**324**	*e*P	**P**	**15 40 10.5**	**+0.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
NVAR	**Mina Array Bea**	**85.21**	**44**	P	**P**	**15 40 14.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=228,slow=11,SNR=3.5						
ENH	**Enshi**	**86.72**	**305**	*e*P	**P**	**15 40 22.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6						
KMI	**Kunming**	**89.47**	**298**	*e*P	**P**	**15 40 35.9**	**+0.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**15 40 38.2**	**+1.9**
	comp=Z,5.0nm,0.9s,mb4.3,baz=137,slow=3.6,SNR=26						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**15 40 40.5**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.2,baz=217,slow=6.3,SNR=7.1						
MKAR	**Makanchi Array**	**112.49**	**313**	PKiKP		15 46 09.2	
	comp=Z,0.9nm,0.6s,baz=90,slow=1.2,SNR=7.6						
KURK	**Kurchatov**	**115.57**	**316**	*e*PKPdf	PKPdf	15 46 14.4	-0.8
BVAR	**Borovoye Array**	**120.83**	**318**	PKP	PKPdf	15 46 25.4	+0.1
	comp=Z,2.5nm,0.6s,baz=135,slow=2.1,SNR=17						
BRVK	**Borovoye**	**120.89**	**319**	*e*PKPdf	PKPdf	15 46 25.2	-0.3
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP	PKPdf	15 46 46.9	-0.2
	comp=Z,3.4nm,0.8s,baz=347,slow=1.5,SNR=5.9						
ARCES				SKPbc		15 49 28.1	
	comp=Z,2.1nm,0.8s,baz=18,slow=3.8,SNR=6.2						
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP	PKPdf	15 46 46.9	-0.2
ARCES				SKPbc		15 49 28.1	
FINES	**FINESS Array B**	**138.97**	**341**	PKhKP		15 46 49.6	
	comp=Z,3.2nm,1.0s,baz=104,slow=7.9,SNR=6.8						
FINES				PKP	PKPdf	15 46 59.0	-0.3
	comp=Z,1.9nm,0.8s,baz=124,slow=6.9,SNR=6.4						
FINES				SKPbc		15 49 48.4	
	comp=Z,3.4nm,0.6s,baz=100,slow=2.9,SNR=13						
FINES	**FINESS Array B**	**138.97**	**341**	PKP	PKPdf	15 46 59.0	-0.3
FINES				SKPbc		15 49 48.4	
NB2	**NORSAR Subarra**	**142.64**	**351**	PKP		15 47 02.4	
	comp=Z,1.2nm,0.7s,baz=9.0,slow=3.3						
NOA	**NORSAR Array B**	**142.64**	**351**	PKhKP		15 47 03.0	
	comp=Z,2.7nm,0.8s,baz=16,slow=4.5,SNR=8.4						
HFS	**Hagfors**	**143.09**	**349**	PKhKP		15 47 04.2	
	comp=Z,8.9nm,0.5s,baz=63,slow=3.3,SNR=62						
MALT	**Malatya**	**144.62**	**302**	*e*PKPdf	PKPdf	15 47 11.7	+1.8
AKASG	**Malin Array Be**	**145.42**	**327**	PKPbc	PKPbc	15 47 12.1	+0.1
	comp=Z,6.5nm,0.6s,baz=44,slow=4.0,SNR=31						
AKASG				SKPbc		15 50 04.6	
	comp=Z,0.2nm,0.3s,baz=36,slow=3.0,SNR=5.2						
ASF	**Jabal al Asfar**	**146.69**	**292**	PKPbc	PKPbc	15 47 17.5	+1.9
	comp=Z,5.2nm,0.5s,baz=23,slow=1.8,SNR=11						
BRTR	**Keskin Array B**	**147.87**	**306**	PKPbc	PKPdf	15 47 19.9	+4.7
	comp=Z,5.3nm,0.8s,baz=139,slow=3.4,SNR=18						
EKA	**Eskdalemuir Ar**	**149.09**	**3**	PKPbc	PKPdf	15 47 21.8	+5.2
	comp=Z,3.9nm,0.9s,baz=304,slow=3.0,SNR=4.8						
KWP	**Kalwaria**	**149.24**	**331**	*e*PKPbc	PKPdf	15 47 22.8	+5.8
CSS	**Prodhromos**	**149.29**	**298**	*e*PKPdf	PKPdf	15 47 23.6	+6.0
BSEG	**Bad Segeberg**	**149.56**	**348**	*e*PKPbc	PKPdf	15 47 23.5	+6.1
OJC	**Ojcow**	**150.02**	**334**	*e*P	PKPdf	15 47 24.3	+6.1
MLR	**Muntele Rosu**	**150.32**	**321**	PKPbc	PKPdf	15 47 25.5	+6.6
	comp=Z,3.3nm,0.6s,baz=4.0,slow=3.9,SNR=6.0						
MLR				PKPab	PKPab	15 47 33.6	-1.9
	comp=Z,2.3nm,0.8s,baz=345,slow=7.2,SNR=3.9						
OKC	**Ostrava-Krasne**	**150.97**	**335**	*e*PKP1	PKPdf	15 47 27.1	+7.4
UPC	**Upice**	**151.18**	**338**	*e*PKP1	PKPdf	15 47 27.7	+7.8
DPC	**Dobruska-Polom**	**151.21**	**338**	*e*PKP1	PKPdf	15 47 27.8	+7.8
MORC	**Moravsky Berou**	**151.25**	**336**	*e*PKPbc	PKPdf	15 47 27.6	+7.5
CLL	**Collm**	**151.38**	**343**	*e*PKIKP	PKPdf	15 47 21.0	+0.8
CLL				*i* PKP1	PKPdf	15 47 27.8	+7.6
CLL				*e*PKP2	PKPab	15 47 37.8	-1.9
CLL				*e**PPKP		15 49 29.0	
CLL	**Collm**	**151.38**	**343**	*e*PKP	PKPdf	15 47 21.0	+0.8
CLL				*i* PKP	PKPdf	15 47 27.8	+7.6
CLL				*e*		15 49 29.0	
BRG	**Berggiesshubel**	**151.51**	**341**	*i* P	PKPdf	15 47 28.5	+8.1
BRG				*e*		15 47 39.2	
CLZ	**Clausthal**	**151.53**	**346**	*e*PKPbc	PKPdf	15 47 28.4	+8.0
VYHS	**Vyhne**	**151.77**	**333**	*e*PKP	PKPdf	15 47 29.0	+8.2
VYHS				*e*		15 47 39.6	
VYHS				*e*		15 49 50.8	
VYHS				*e*		15 56 35.5	
VRAC	**Vranov**	**151.98**	**336**	PKPbc	PKPdf	15 47 28.6	+7.5
	comp=Z,1.4nm,0.3s,baz=313,slow=18,SNR=2.7						
VRAC				PKPab	PKPab	15 47 40.8	-1.5
	comp=Z,2.4nm,0.4s,baz=48,slow=8.0,SNR=3.7						
PRU	**Pruhonice**	**152.10**	**340**	*e*PKP1	PKPdf	15 47 29.5	+8.2
KHC	**Kasperske Hory**	**153.16**	**340**	*e*PKP1	PKPdf	15 47 32.0	+9.2
KHC				*e*PKP2	PKPab	15 47 46.4	-0.8
GEC2	**GERESS Array S**	**153.37**	**339**	*e*PKPbc	PKPdf	15 47 32.4	+9.4
GERES	**GERESS Array B**	**153.37**	**339**	PKPbc	PKPdf	15 47 32.2	+9.2
	comp=Z,0.8nm,0.6s,baz=63,slow=3.0,SNR=7.4						
GERES				PKPab	PKPab	15 47 46.7	-1.5
	comp=Z,0.6nm,0.5s,baz=45,slow=3.8,SNR=5.6						
DAVOX	**Davos**	**156.36**	**343**	PKPab	PKPab	15 48 00.1	-0.8
	comp=Z,1.0nm,0.5s,baz=340,slow=2.6,SNR=5.5						

OTT 23 15:59:09.9±0.2**, 52.79N×67.14W, MN2.8**/6**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.05**	**5**	PN	Pn	15 59 45.9	-0.2
SCHQ				SG	Sg	16 00 13.3	-4.9
SCHQ				Trac		16 00 15.3	
	comp=Z,29nm,0.2s						
MNQ	**Manicouagan**	**2.48**	**205**	PN	Pn	15 59 51.2	-1.1
MNQ				SG	Sg	16 00 24.8	-7.8
MNQ				Trac		16 00 27.6	
	comp=Z,18nm,0.2s						
SMQ	**Clarke City**	**2.59**	**174**	PN	Pn	15 59 52.9	-0.9
SMQ				SN	Sn	16 00 26.6	+0.2
SMQ				Trac		16 00 32.3	
	comp=Z,8.2nm,0.2s						
ICQ	**Pointe Anglais**	**3.28**	**182**	PN	Pn	16 00 01.4	-2.2
ICQ				SN	Sn	16 00 42.7	-1.2
ICQ				Trac		16 00 52.9	
	comp=Z,5.2nm,0.2s						
CNQ	**Baie Comeau**	**3.55**	**190**	PN	Pn	16 00 05.0	-2.5
CNQ				SN	Sn	16 00 48.8	-1.9
CNQ				SG	Sg	16 00 58.3	-10
CNQ				Trac		16 01 01.5	
	comp=Z,4.6nm,0.2s						
GSQ	**Grosses Roches**	**3.89**	**180**	PN	Pn	16 00 12.1	-0.2
GSQ				SN	Sn	16 00 54.7	-4.6
GSQ				SG	Sg	16 01 08.3	-11
LG4Q	**La Grande 4**	**4.27**	**284**	PN	Pn	16 00 15.3	-2.3
LG4Q				PG	Pg	16 00 23.5	-12
LG4Q				SN	Sn	16 01 04.2	-4.7
LG4Q				SG	Sg	16 01 21.9	-10
LMQ	**La Malbaie**	**5.64**	**203**	PN	Pn	16 00 33.2	-3.8
LMQ				SN	Sn	16 01 35.2	-8.2
LMQ				Trac		16 01 40.3	
	comp=Z,5.1nm,0.3s						
DRLN	**Deer Lake**	**7.03**	**116**	PN	Pn	16 00 54.2	-2.5
DRLN				SN	Sn	16 02 08.1	-10
DRLN				SG	Sg	16 02 44.8	-19
LMN	**Caledonia Moun**	**7.11**	**167**	PN	Pn	16 00 54.0	-3.8
VLDQ	**Val d'Or**	**8.08**	**239**	PN	P	16 01 06.9	-4.4
VIMO	**Victor Mine**	**10.06**	**277**	PN	P	16 01 31.4	-7.2
VIMO				SN	S	16 03 19.4	-14
SILO	**Sutton Inlier**	**10.69**	**286**	PN	P	16 01 39.8	-7.5
SILO				SN	S	16 03 31.3	-18

ISC 23 16:02:03.6±1.2**, 39.67N**±0.05×**32.48E**±0.06**, h1**^{km}±12^{km}**, n10, σ1^{s}16**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.31**	**44**	*i* PG	**Pg**	**16 02 09.1**	**-0.7**
LOD				SG	**Sg**	**16 02 14.3**	**+0.4**
ANTO	**Ankara**	**0.32**	**50**	*i* P	**Pg**	**16 02 09.2**	**-0.7**
ANTO				*i* S	**Sg**	**16 02 15.5**	**+1.5**
ANTO	**Ankara**	**0.32**	**50**	*i* P	**Pg**	**16 02 09.2**	**-0.7**
ANTO				*i* S	**Sg**	**16 02 15.5**	**+1.5**
SGKT	**Sivrigoynuk**	**0.96**	**340**	*i* P	**Pb**	**16 02 21.0**	**-1.7**
SGKT				*i* S	**Sb**	**16 02 37.0**	**+1.2**
SGKT	**Sivrigoynuk**	**0.96**	**340**	*i* P	**Pb**	**16 02 21.0**	**-1.7**
SGKT				*i* S	**Sb**	**16 02 37.0**	**+1.2**
KAMT	**Kaman**	**1.00**	**107**	PG	**Pg**	**16 02 24.2**	**+0.7**
KAMT				SG	**Sg**	**16 02 37.1**	**+0.3**
ELDT	**Eldivan**	**1.10**	**41**	*i* P	**Pb**	**16 02 23.3**	**-1.7**
ELDT				*i* S	**Sb**	**16 02 39.6**	**0.0**
ELDT	**Eldivan**	**1.10**	**41**	*i* P	**Pb**	**16 02 23.3**	**-1.7**
ELDT				*i* S	**Sb**	**16 02 39.6**	**0.0**
ESKT	**Eskisehir**	**1.27**	**264**	*i* P	**Pb**	**16 02 26.8**	**-1.1**
ESKT				*i* S	**Sb**	**16 02 46.9**	**+2.3**
ESKT	**Eskisehir**	**1.27**	**264**	*i* P	**Pb**	**16 02 26.8**	**-1.1**
ESKT				*i* S	**Sb**	**16 02 46.9**	**+2.3**

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*IDC **23** 16:28:37.6±1.8, 40.23S×174.49E, h90^{km}±20^{km}, mb3.9/4, mb1 3.9/6, mb1mx3.8/14, Error ellipse: s-maj=32.2km s-min=15.9km az=143.0*

*WEL **23** 16:28:39.6±0.1, 40.24S×174.45E, h106^{km}±1^{km}, ML4.7/9, Error ellipse: s-maj=1.0km s-min=0.4km az=90.0*

WEL Felt from Taranaki to Wellington, maximum reported intensity MM 4.

*NEIC **23** 16:28:39.2, 40.23S×174.45E, h112^{km}, mb4.3/5, After*

WEL.

ISC 23 16:28:37.8±0.3**,40.25S**±0.02×**174.47E**±0.03**,h113**^{km}±3^{km}**, n117,**σ**1**^{s}**03**/161**,mb4.1**/8**,36C-25D,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	Wanganui	0.64	39	⇑PN	P	16 28 57.6	+1.5
WAZ				SN	S	16 29 10.1	+0.2
WAZ	Wanganui	0.64	39	⇑P	P	16 28 57.6	+1.6
WAZ				eS	S	16 29 10.9	+1.0
MRZ	Mangatainoka R	0.94	116	⇑PN	P	16 29 00.1	+1.2
MRZ				SN	S	16 29 14.5	-0.3
MRZ	Mangatainoka R	0.94	116	⇑P	P	16 29 00.1	+1.1
MRZ				S	S	16 29 15.3	+0.5
RAEZ	Rainy Point	0.96	357	⇓PN	P	16 29 00.3	+1.2
RAEZ	Rainy Point	0.96	357	⇓P	P	16 29 00.3	+1.1
DFE	Dawson Falls	0.96	343	⇓PN	P	16 29 00.1	+1.0
DFE				SN	S	16 29 15.8	+0.6
DFE	Dawson Falls	0.96	343	⇓P	P	16 29 00.1	+0.9
CAW	Cannon Point	0.97	152	⇑PN	P	16 29 00.6	+1.4
CAW				SN	S	16 29 15.4	+0.1
CAW	Cannon Point	0.97	152	⇑P	P	16 29 00.6	+1.3
MRW	Makara Radio	0.99	170	⇑PN	P	16 29 00.8	+1.3
MRW				SN	S	16 29 14.9	-0.8
MRW	Makara Radio	0.99	170	⇑P	P	16 29 00.8	+1.3
MRW				eS	S	16 29 14.9	-0.8
NRZ	Ngariki Road	1.00	336	⇑PN	P	16 29 00.2	+0.7
NRZ				SN	S	16 29 16.0	+0.2
NRZ	Ngariki Road	1.00	336	⇑P	P	16 29 00.2	+0.7
NEZ	North Egmont	1.02	344	⇑PN	P	16 29 00.3	+0.6
NEZ				SN	S	16 29 13.6	-2.5
NEZ	North Egmont	1.02	344	⇑P	P	16 29 00.3	+0.6
WEL	Wellington	1.06	168	⇑PN	P	16 29 01.3	+1.1
WEL				SN	S	16 29 16.2	-0.7
SNZO	South Karori	1.07	170	PN	P	16 29 01.4	+1.1
SNZO				SN	S	16 29 16.5	-0.7
NWEZ	Newall Road	1.08	334	⇓PN	P	16 29 01.2	+0.9
NWEZ	Newall Road	1.08	334	⇓P	P	16 29 01.2	+0.8
PKE	Pukeiti	1.12	341	⇓PN	P	16 29 01.3	+0.5
PKE				SN	S	16 29 17.2	-0.9
PKE	Pukeiti	1.12	341	⇓P	P	16 29 01.3	+0.5
VRZ	Vera Road	1.15	11	⇓PN	P	16 29 01.9	+0.8
VRZ				SN	S	16 29 18.7	+0.1
VRZ	Vera Road	1.15	11	⇓P	P	16 29 01.9	+0.7
TSZ	Takapari Road	1.16	81	⇑PN	P	16 29 02.2	+0.8
TSZ				SN	S	16 29 18.3	-0.6
TSZ	Takapari Road	1.16	81	⇑P	P	16 29 02.2	+0.9
BHW	Baring Head	1.20	165	⇑PN	P	16 29 02.7	+1.0
BHW				SN	S	16 29 19.1	-0.6
BHW	Baring Head	1.20	165	⇑P	P	16 29 02.7	+0.9
MTW	Mount Morrison	1.20	139	⇑PN	P	16 29 02.9	+1.1
MTW				SN	S	16 29 20.7	+0.9
TUWZ	Tuamarina	1.25	198	PN	P	16 29 02.8	+0.5
TUWZ				SN	S	16 29 19.3	-1.3
WNVZ	Wahianoa	1.27	44	⇑PN	P	16 29 03.4	+0.9
WNVZ				SN	S	16 29 21.1	0.0
NNZ	Nelson	1.27	220	⇑PN	P	16 29 03.1	+0.5
NNZ				SN	S	16 29 20.3	-0.8
NNZ	Nelson	1.27	220	⇑P	P	16 29 03.1	+0.5
DRZ	Dome Shelter	1.29	41	PN	P	16 29 03.8	+1.0
DRZ				SN	S	16 29 20.9	-0.7
DRZ	Dome Shelter	1.29	41	eP	P	16 29 03.7	+0.9
MOVZ	Moawhango	1.30	50	⇑PN	P	16 29 03.4	+0.6
MOVZ				SN	S	16 29 21.5	-0.3
MSWZ	Moikau Station	1.31	153	⇑PN	P	16 29 04.1	+1.1
MSWZ				SN	S	16 29 21.2	-0.8
WPVZ	Whakapapa	1.33	39	⇑PN	P	16 29 04.0	+0.7
WPVZ				SN	S	16 29 22.7	+0.1
CNZ	Chateau	1.34	39	⇓PN	P	16 29 04.0	+0.6
TUVZ	Tukino	1.34	43	⇑PN	P	16 29 04.2	+0.8
TUVZ				SN	S	16 29 22.5	-0.2
TUVZ	Tukino	1.34	43	⇑P	P	16 29 04.2	+0.8
PAWZ	Paruwai Farm	1.35	148	PN	P	16 29 04.6	+1.2
PAWZ				SN	S	16 29 22.2	-0.5
NGZ	Ngauruhoe	1.38	40	PN	P	16 29 04.4	+0.6
NGZ				SN	S	16 29 24.2	+0.6
NGZ	Ngauruhoe	1.38	40	⇓P	P	16 29 04.5	+0.6
TWVZ	Taurewa	1.40	33	PN	P	16 29 04.4	+0.3
BFZ	Birch Farm	1.43	108	⇑PN	P	16 29 05.3	+0.9
BFZ				SN	S	16 29 23.6	-0.7
BFZ	Birch Farm	1.43	108	⇓P	P	16 29 05.3	+0.9
WTVZ	West Tongariro	1.43	38	⇑PN	P	16 29 04.9	+0.5
WTVZ				SN	S	16 29 24.1	-0.3
KAVZ	Karewarewa	1.47	39	PN	P	16 29 05.3	+0.4
KAVZ				SN	S	16 29 24.8	-0.4
KAVZ	Karewarewa	1.47	39	P	P	16 29 05.3	+0.4
MGZ	Maungaku	1.50	34	⇑PN	P	16 29 05.6	+0.4
MGZ	Maungaku	1.50	34	⇑P	P	16 29 05.6	+0.4
CMWZ	Cape Campbell	1.51	187	⇑PN	P	16 29 07.0	+1.6
CMWZ				SN	S	16 29 26.1	0.0
CMWZ				SN	S	16 29 26.6	+0.5
BSWZ	Blackbirch Sta	1.53	197	⇑PN	P	16 29 06.5	+0.9
QRZ	Quartz Range	1.58	248	⇓PN	P	16 29 05.9	-0.4
QRZ				SN	S	16 29 25.4	-2.2
QRZ	Quartz Range	1.58	248	⇑P	P	16 29 05.9	-0.4
KATZ	Kakaramea	1.59	37	PN	P	16 29 06.6	+0.3
KATZ				SN	S	16 29 27.5	-0.2
KATZ	Kakaramea	1.59	37	eP	P	16 29 06.7	+0.4
RITZ	Rihia Road	1.66	41	PN	P	16 29 07.8	+0.6
RITZ	Rihia Road	1.66	41	eP	P	16 29 07.8	+0.6
RATZ	Rangitukua	1.71	37	PN	P	16 29 08.0	+0.3
RATZ	Rangitukua	1.71	37	eP	P	16 29 08.0	+0.2
HIZ	Hauiti	1.76	10	⇓PN	P	16 29 09.0	+0.6
HIZ				SN	S	16 29 30.7	-0.7
WATZ	Wairara	1.82	33	⇓PN	P	16 29 09.9	+0.7
WATZ				SN	S	16 29 33.0	+0.2
WATZ	Wairara	1.82	33	⇓P	P	16 29 09.9	+0.7
PWZ	Pawanui	1.85	84	PN	P	16 29 09.8	+0.3
PWZ	Pawanui	1.85	84	eP	P	16 29 09.8	+0.3
BKZ	Black Stump Fm	1.90	56	⇑PN	P	16 29 10.2	0.0
BKZ				SN	S	16 29 33.5	-0.9
BKZ	Black Stump Fm	1.90	56	⇓P	P	16 29 10.2	+0.1
THZ	Tophouse	1.92	217	⇓PN	P	16 29 11.0	+0.6
THZ	Tophouse	1.92	217	⇓P	P	16 29 11.0	+0.6
KHZ	Kahutara	2.27	198	⇑PN	P	16 29 15.7	+0.6
KHZ	Kahutara	2.27	198	⇓P	P	16 29 15.7	+0.6
DSZ	Denniston Nort	2.51	233	⇓PN	P	16 29 17.9	-0.4
DSZ	Denniston Nort	2.51	233	⇓P	P	16 29 17.9	-0.3
TOZ	Tahuroa Road	2.64	18	PN	P	16 29 19.7	-0.3
TOZ	Tahuroa Road	2.64	18	eP	P	16 29 19.7	-0.3
KNZ	Kokohu	2.77	65	PN	P	16 29 20.3	-1.4
KNZ				SN	S	16 29 50.7	-4.1
KNZ	Kokohu	2.77	65	eP	P	16 29 20.4	-1.3
URZ	Urewera	2.86	47	P	P	16 29 21.4	-1.5
	6.3nm,0.3s,baz=247,slow=8.1,SNR=46						
URZ				S	S	16 29 54.4	-2.6
	39nm,0.3s,baz=264,slow=4.6,SNR=30						
URZ	Urewera	2.86	47	PN	P	16 29 21.3	-1.7
URZ				SN	S	16 29 54.5	-2.4
URZ	Urewera	2.86	47	eP	P	16 29 21.3	-1.6
TGRZ	Tauranga	2.88	30	PN	P	16 29 23.3	+0.1
LTZ	Lake Taylor	3.02	212	PN	P	16 29 24.2	-0.9
LTZ				SN	S	16 29 57.0	-3.9
LTZ	Lake Taylor	3.02	212	eP	P	16 29 24.2	-0.9
MWZ	Matawai	3.05	52	PN	P	16 29 23.6	-1.9
MWZ				SN	S	16 29 59.0	-2.6
MWZ	Matawai	3.05	52	eP	P	16 29 23.6	-1.9
MKAZ	Moumakai	3.18	10	⇓PN	P	16 29 27.0	-0.3
MKAZ	Moumakai	3.18	10	⇓P	P	16 29 27.0	-0.3
OTAZ	Otara	3.31	6	PN	P	16 29 29.2	+0.1
CRLZ	Canterbury Las	3.60	202	PN	P	16 29 30.8	-2.1
KUZ	Kuaotunu	3.63	16	PN	P	16 29 32.3	-1.1
KUZ	Kuaotunu	3.63	16	eP	P	16 29 32.3	-1.1
PUZ	Puketiti	3.66	55	PN	P	16 29 31.5	-2.3
PUZ				SN	S	16 30 13.4	-3.0
PUZ	Puketiti	3.66	55	eP	P	16 29 31.5	-2.3
MQZ	McQueen’s Vall	3.71	201	PN	P	16 29 32.2	-2.2
MQZ				SN	S	16 30 11.0	-6.6
MQZ	McQueen’s Vall	3.71	201	eP	P	16 29 32.2	-2.2
MQZ				eS	S	16 30 11.0	-6.6
MXZ	Matakaoa Point	4.02	49	PN	P	16 29 36.6	-2.1
MXZ	Matakaoa Point	4.02	49	eP	P	16 29 36.6	-2.1
RPZ	Rata Peaks	4.30	215	P	P	16 29 41.3	-1.1
	4.5nm,0.3s,baz=334,slow=2.4,SNR=27						
RPZ				S	S	16 30 26.4	-5.5
	21nm,0.3s,baz=335,slow=3.3,SNR=14						
WCZ	Waipu Caves	4.30	359	PN	P	16 29 42.1	-0.4
LBZ	Lake Benmore	5.21	216	PN	P	16 29 52.3	-2.4
ODZ	Otahua Downs	5.56	209	PN	P	16 29 57.3	-2.2
JCZ	Jackson Bay	5.71	226	PN	P	16 29 58.4	-3.1
STKA	Stephens Creek	27.73	277	P	P	16 34 17.7	0.0
	1.4nm,1.0s,mb3.5,baz=100,slow=14,SNR=3.6						
STKA	Stephens Creek	27.73	277	P	P	16 34 17.7	0.0
CTA	Charters Tower	31.39	301	P	P	16 34 51.4	+1.2
	2.2nm,0.8s,mb4.0,baz=132,slow=9.3,SNR=5.0						
CTAO	Charters Tower	31.39	301	eP	P	16 34 51.1	+0.9
	5.4nm,0.8s,mb4.3						
ASAR	Alice Springs	37.81	283	P	P	16 35 45.1	+0.2
	2.5nm,0.5s,mb4.3,baz=127,slow=7.1,SNR=127						
WB2	Warramunga Arr	39.75	289	⇑iP	P	16 36 01.2	+0.3
WRAB	Tennant Creek	39.75	289	eP	P	16 36 01.0	0.0
	4.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	39.76	289	P	P	16 36 01.0	0.0
	2.2nm,0.4s,mb4.3,baz=126,slow=8.3,SNR=76						
FITZ	Fitzroy Crossi	47.31	283	eP	P	16 37 02.0	+0.1
	2.9nm,0.6s,mb4.2						
QSPA	South Pole Qui	49.88	180	eP	P	16 37 23.4	+2.5
	2.0nm,0.6s,mb4.2						
SNAA	Sanae	68.37	181	eP	P	16 39 29.5	+1.1
	2.1nm,1.0s,mb3.9						
ARCES	ARCESS Array B	146.42	341	PKPbc	PKPbc	16 48 06.8	+2.6
	2.5nm,0.9s,baz=45,slow=2.6,SNR=7.6						
DBIC	Dimbokro	146.56	181	PKPbc	PKPbc	16 48 08.1	+1.9
	3.5nm,0.7s,baz=144,slow=3.0,SNR=6.0						

IDC 23 16:51:41.0±4.1**,7.66S**×**104.60E,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.6**/15**,Error ellipse: s-maj=150.0km s-min=28.9km az=51.0,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.55	348	P	P	16 57 19.6	-3.1
	1.4nm,0.7s,baz=183,slow=8.3,SNR=8.5						
WRA	Warramunga Arr	31.29	116	P	P	16 58 02.7	-2.4
	0.4nm,0.7s,baz=286,slow=10,SNR=5.4						
SONM	Songino Array	55.28	1	P	P	17 01 17.7	-0.8
	0.4nm,0.6s,baz=180,slow=6.2,SNR=4.1						
MKAR	Makanchi Array	57.74	342	P	P	17 01 33.8	-2.3
	0.3nm,0.5s,baz=142,slow=7.5,SNR=5.1						

MAN 23 16:57:45.6,17.85N×120.26E,h9^{km}**,mb4.5,ML3.3,MS3.2, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.48	115	eP	Pg	16 57 54.9	-0.4
ABRA				eS	Sg	16 58 06.2	+4.4
PIP	Pasuquin	0.59	36	eP	Pg	16 57 57.6	+0.2
PIP				eS	Sg	16 58 09.5	+4.2
APYP	Conner	0.94	89	eP	Pb	16 58 04.1	+0.4
APYP				eS	Sb	16 58 19.4	+3.4
CVP	Callao Caves	1.50	95	eP	Pn	16 58 12.5	-0.4
CAUP	Cauayan	1.75	121	eP	Pn	16 58 16.4	0.0

MAN 23 17:15:12.9,9.88N×123.16E,h4^{km}**,mb3.9,ML2.6,MS2.2, 1C,Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.54	172	⇑iP	Pg	17 15 23.5	-0.2
SNPH				i S	Sg	17 15 30.5	-0.4
GUIM	Jordan	0.93	323	eP	Pb	17 15 31.4	+0.3
GUIM				eS	Sb	17 15 45.8	+2.2
DCPH	Dipolog City	1.30	172	eP	Pb	17 15 36.0	-1.6
PAGZ	Pagadian	2.03	174	eP	Pn	17 15 49.2	+0.9
IPIL	Ipil	2.16	196	eP	Pn	17 15 50.2	+0.1
IPIL				eS	Sn	17 16 17.8	+0.1
CUYO	Cuyo Island	2.32	295	eP	Pn	17 15 52.6	+0.3

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*IDC **23** 17:17:44.8±1.1, 13.00N×86.97W, mb3.5/4, mb1 4.0/5, mb1mx3.7/20, ML3.7/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/16, Error ellipse: s-maj=109.0km s-min=13.7km az=55.0*

*SSS **23** 17:17:45.2, 13.20N×87.06W, h16^{km}, MD4.1*

*INET **23** 17:17:45.7, 12.78N×87.19W, h0^{km}, MD3.7, ML3.6*

*CASC **23** 17:17:46.0±1.6, 12.80N×87.25W, h11^{km}±5^{km}, MD4.1, ML3.6, mb4.1(NEIC)*

*NEIC **23** 17:17:48.7±4.2, 12.83N×87.08W, h28^{km}±33^{km}, mb4.1/3, Error ellipse: s-maj=52.0km s-min=10.6km az=57.0*

ISC 23 17:17:45.3±0.6**,12.90N**±0.06×**87.19W**±0.05**,h9**^{km}±4^{km}**, n41,**σ**0**^{s}**87**/50**,mb3.7**/6**,MS3.2**/5**,8C-12D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.24	147	⇓eP	Pg	17 17 51.3	+0.8
CRIN				eS	Sg	17 17 55.3	+1.4
TELN	Telica	0.46	131	⇓eP	Pg	17 17 54.7	+0.1
TELN				eS	Sg	17 18 01.3	+0.5
TEL3	Telica 3	0.47	135	⇓eP	Pg	17 17 54.7	-0.1
LEON	Leon	0.56	149	⇓eP	Pg	17 17 55.4	-1.3
MIRN	Miramar	0.65	135	⇑eP	Pg	17 17 57.7	-0.7
CNCH	Conchagua	0.73	301	⇑eP	Pb	17 17 59.1	-0.6
CNCH				eS	Sg	17 18 10.8	+1.0
MOMJ	Momotombo	0.80	128	eP	Pb	17 18 00.4	-0.5
MOMJ				eS	Sb	17 18 11.6	0.0
COPN	Copaltepe	0.92	141	⇑eP	Pb	17 18 02.1	-1.0
COPN				eS	Sb	17 18 15.3	+0.1
XAVN	Gruta Xavier	1.12	132	⇑eP	Pb	17 18 06.1	-0.4
BLLM	Bellamira	1.16	298	⇑eP	Pb	17 18 06.6	-0.5
PYTN	Playitas	1.16	108	⇓eP	Pb	17 18 07.5	+0.4
PYTN				eS	Sb	17 18 24.2	+2.2
VSM	San Miguel	1.18	296	⇓eP	Pb	17 18 07.0	-0.4
VSM				eS	Sb	17 18 24.8	+2.1
MGAN	Managua	1.19	129	eP	Pb	17 18 07.2	-0.4
MGAN				eS	Sb	17 18 23.5	+0.7
	comp=E,1µm,0.4s						
WILN	Americas 2	1.22	127	⇑eP	Pb	17 18 07.9	-0.3
CRUN	El Crucero	1.26	136	⇓eP	Pb	17 18 08.0	-0.8
TICN	Ticuantepe	1.27	133	⇓eP	Pb	17 18 08.5	-0.5
TICN				eS	Sb	17 18 26.5	+1.3
COFN	Cofrada	1.29	125	⇓eP	Pb	17 18 09.0	-0.3
MASN	Masaya	1.36	132	⇓eP	Pb	17 18 09.3	-1.2
MASN				eS	Sb	17 18 28.3	+0.5
APON	Apoyo	1.47	132	⇓eP	Pn	17 18 11.9	-0.2
APON				eS	Sb	17 18 32.1	+1.1
SNVI	San Vicente	1.76	294	eP	Pn	17 18 16.6	+0.4
LCBS	La Ceiba	1.90	293	⇑eP	Pn	17 18 17.6	-0.7
LFRS	El Faro	1.96	292	⇑eP	Pn	17 18 19.1	-0.1
LFRS				eS	Sn	17 18 44.2	+0.1
CONN	Concepcion	2.02	131	⇓eP	Pn	17 18 19.7	-0.3
BOQS	Boqueron	2.20	292	eP	Pn	17 18 22.4	-0.1
BOQS				eS	Sn	17 18 50.5	+0.4
SNJE	San Jose	2.54	292	eP	Pn	17 18 26.8	-0.6
SBLS	San Blas	2.55	292	eP	Pn	17 18 28.8	+1.2
RTR	El Retiro	2.59	293	eP	Pn	17 18 26.7	-1.4
JTS	JuntasAbangare	3.40	140	Pn	Pn	17 18 38.2	-1.4
	comp=E,7.4nm,0.3s,baz=316,slow=12,SNR=21						
JTS				Pg	Pg	17 18 44.5	-8.7
	comp=E,9.9nm,0.3s,baz=322,slow=18,SNR=22						
JTS				Sn	Sn	17 19 19.8	-0.6
	comp=E,7.0nm,0.3s,baz=304,slow=18,SNR=2.9						
JTS				Lg		17 19 32.3	
	comp=E,7.0nm,0.3s,baz=217,slow=17,SNR=6.6						
ROSC	El Rosal	15.00	121	LR	LR	17 27 12.2	
	comp=E,26nm,19.5s,baz=43,slow=38						
HKT	Hockley	18.76	336	eP	P	17 22 07.0	0.0
	comp=E,22nm,1.4s						
SJG	San Juan	20.91	73	LR	LR	17 30 27.8	
	comp=E,136nm,20.4s,MS3.3,baz=265,slow=37						
LTX	Lajitas	22.39	319	P	P	17 22 46.7	+1.1
	comp=E,3.0nm,0.8s,mb3.8						
TXAR	Lajitas Array	22.39	319	P	P	17 22 45.3	-0.3
	comp=E,1.6nm,1.0s,mb3.4,baz=135,slow=11,SNR=8.8						
WMOK	Wichita Mounta	24.15	336	eP	P	17 23 04.2	+1.5
	comp=E,8.1nm,1.0s,mb4.1						
LPAZ	La Paz	34.59	146	LR	LR	17 39 30.8	
	comp=E,40nm,20.4s,MS3.1,baz=95,slow=38						
PDAR	Pinedale Array	35.50	331	P	P	17 24 44.3	-0.1
	comp=E,0.3nm,0.6s,mb3.4,baz=111,slow=13,SNR=2.8						
NVAR	Mina Array Bea	37.54	318	P	P	17 25 02.1	+0.5
	comp=E,0.2nm,0.4s,mb3.2,baz=117,slow=9.6,SNR=4.0						
NVAR				LR	LR	17 43 08.0	
	comp=E,38nm,19.6s,MS3.2,baz=345,slow=40						
NEW	Newport	43.14	331	LR	LR	17 45 16.2	
	comp=E,35nm,18.6s,MS3.3,baz=293,slow=38						
YKA	Yellowknife Ar	53.25	345	P	P	17 27 04.3	-2.0
	comp=E,1.9nm,0.8s,mb4.1,baz=139,slow=7.2,SNR=8.6						
YKA				LR	LR	17 49 15.0	
	comp=E,25nm,20.9s,MS3.2,baz=250,slow=36						
WRA	Warramunga Arr	139.64	254	PKP	PKPdf	17 37 15.2	-2.3
	comp=E,0.2nm,0.6s,baz=89,slow=2.4,SNR=11						
ASAR	Alice Springs	139.67	249	PKP	PKPdf	17 37 14.6	-2.8
	comp=E,0.5nm,1.0s,baz=117,slow=1.2,SNR=4.6						

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*NEIC **23** 17:28:47.1±0.5, 55.60S×27.39W, h10^{km}, mb4.6/8, Error ellipse: s-maj=26.2km s-min=8.8km az=58.0*

*IDC **23** 17:28:52.7±2.7, 55.61S×27.39W, h48^{km}±23^{km}, mb4.2/6, mb1 4.3/7, mb1mx4.1/13, ML4.3/1, MS3.5/5, Ms1 3.5/5, ms1mx3.4/13, Error ellipse: s-maj=51.5km s-min=16.0km az=56.0*

ISC 23 17:28:45.6±1.0**,55.6S**±0.2×**27.5W**±0.5**,h10**^{km}**,n26,** σ**0**^{s}**81**/21**,mb4.5**/9**,MS3.6**/4**,4C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.25	158	⇑i	P	17 32 54.0	+6.2
VNA3	Neumayer Olymp	17.44	161	⇑i	P	17 32 55.3	+5.1
VNA2	Neumayer--Watz	17.64	158	⇑i	P	17 32 57.2	+4.5
VNA2	Neumayer--Watz	17.64	158	⇑i	P	17 33 04.9	+12
SNAA	Sanae	19.19	156	⇓i	P	17 33 11.3	-0.4
SNAA	Sanae	19.19	156	P	P	17 33 11.5	-0.2
	0.8nm,0.3s,baz=305,slow=10,SNR=144						
SNAA				LR	LR	17 39 31.4	
	comp=Z,41nm,20.5s,baz=352,slow=33						
SNAA				ScP		17 41 04.3	
	0.0nm,0.3s,baz=356,slow=2.6,SNR=11						
SNAA	Sanae	19.19	156	eP	P	17 33 10.9	-0.8
	13nm,0.6s						
TRQA	Tornquist	29.00	293	eP	P	17 34 47.1	-0.3
	3.8nm,0.6s,mb4.3						
QSPA	South Pole Qui	34.62	180	eP	P	17 35 36.6	+0.3
	14nm,0.4s,mb5.2						
CPUP	Villa Florida	36.40	311	P	P	17 35 51.7	-0.2
	4.1nm,0.7s,mb4.5,baz=155,slow=6.2,SNR=10						
CPUP	Villa Florida	36.40	311	eP	P	17 35 51.3	-0.7
	3.2nm,0.9s,mb4.2						
MAW	Mawson	40.59	144	eP	P	17 36 26.9	+0.4
	1.6nm,0.3s,mb4.1						
MAW	Mawson	40.59	144	P	P	17 36 27.1	+0.6
	2.0nm,0.4s,mb4.1,baz=243,slow=6.3,SNR=22						
MAW				ScP		17 42 12.5	
	3.3nm,0.7s,baz=277,slow=6.5,SNR=6.2						
MAW				LR	LR	17 50 14.5	
	comp=Z,109nm,20.0s,MS3.7,baz=42,slow=32						
MAW	Mawson	40.59	144	eP	P	17 36 26.8	+0.3
	3.2nm,0.3s,mb4.4						
BDFB	Brasilia	42.91	330	P	P	17 36 46.9	+0.9
	2.3nm,0.5s,mb4.1,baz=186,slow=9.2,SNR=3.5						
BDFB				LR	LR	17 52 33.2	
	comp=Z,103nm,18.4s,MS3.8,baz=282,slow=33						
VNDA	Vanda	46.98	183	P	P	17 37 18.5	+0.7
	3.8nm,0.6s,mb4.5,baz=195,slow=4.4,SNR=12						
VNDA	Vanda	46.98	183	eP	P	17 37 18.0	+0.2
	5.1nm,0.8s,mb4.5						
LPAZ	La Paz	49.99	305	P	P	17 37 43.1	+1.2
	8.5nm,0.8s,mb4.8,baz=166,slow=6.6,SNR=21						
LPAZ				LR	LR	17 57 53.5	
	comp=Z,38nm,20.7s,MS3.4,baz=127,slow=35						
LPAZ	La Paz	49.99	305	eP	P	17 37 42.8	+0.9
	7.3nm,0.7s,mb4.8						
SAML	Samuel	54.38	315	eP	P	17 38 13.6	-1.2
	5.9nm,0.6s,mb4.7						
JTS	JuntasAbangare	81.14	303	LR	LR	18 15 23.1	
	comp=Z,37nm,20.6s,MS3.7,baz=268,slow=34						
ASAR	Alice Springs	99.44	163	P	P	17 42 28.6	-1.0
	0.8nm,0.8s,mb4.3,baz=199,slow=5.3,SNR=5.8						
FINES	FINESS Array B	124.10	28	PKP	PKPdf	17 47 43.3	-3.1
	1.3nm,0.7s,baz=180,slow=9.5,SNR=3.8						
YKA	Yellowknife Ar	135.74	318	PKP	PKPdf	17 48 06.9	-1.4
	0.5nm,0.6s,baz=133,slow=2.1,SNR=5.4						
ILAR	Eielson Array	149.70	312	PKPbc	PKPdf	17 48 35.8	+3.5
	2.3nm,0.7s,baz=122,slow=1.5,SNR=23						
SONM	Songino Array	150.88	86	PKPbc	PKPdf	17 48 38.5	+3.9
	0.8nm,0.5s,baz=214,slow=3.6,SNR=7.4						

IDC 23 17:32:28.2±48.0**,15.03S**×**172.07W,mb4.1**/3**,mb1 4.3**/3**, mb1mx3.9**/17**,Error ellipse: s-maj=940.0km s-min=179.6km az=78.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.33	240	P	P	17 40 48.1	-1.8
	1.6nm,0.7s,baz=94,slow=11,SNR=5.1						
WRA	Warramunga Arr	51.17	256	P	P	17 41 33.4	-2.1
	0.4nm,0.5s,baz=92,slow=6.9,SNR=22						
ASAR	Alice Springs	51.44	252	P	P	17 41 35.6	-1.9
	8.2nm,0.7s,baz=90,slow=7.9,SNR=189						
ASPA	Alice Springs	51.45	252	eP	P	17 41 35.5	-2.1

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*MOS **23** 18:11:13.9±1.2, 14.80N×146.78E, h33^{km}, mb4.9/16, Error ellipse: s-maj=22.8km s-min=10.1km az=98.3*

*IDC **23** 18:11:14.5±3.7, 14.73N×146.97E, h25^{km}±24^{km}, mb4.4/20, mb1 4.5/20, mb1mx4.4/29, MS3.6/6, Ms1 3.6/6, ms1mx3.2/34, Error ellipse: s-maj=17.5km s-min=12.9km az=97.0*

*BJI **23** 18:11:16.3, 14.91N×147.00E, h54^{km}, mB5.2, mb4.8, Ms4.6, Msz4.4*

*NEIC **23** 18:11:18.2±1.1, 14.70N×146.80E, h57^{km}±10^{km}, mb4.7/15, Error ellipse: s-maj=8.9km s-min=6.3km az=94.0*

ISC 23 18:11:15.0±0.3**,14.75N**±0.05×**146.80E**±0.05**,h41**^{km}**, h41**^{km}±1.9^{km}**:pP-P,n120,**σ**1**^{s}**11**/113**,mb4.8**/58**,MS3.9**/10**, 5C-2D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.11	295	⇑iP	P	18 11 38.4	+4.1
GUMO	Guam	2.20	239	P	P	18 11 51.9	+2.0
JOW	Kunigami	21.05	308	P	P	18 15 59.5	+1.7
	31nm,0.4s,mb4.9,baz=144,slow=13,SNR=10.0						
MAJO	Matsushiro	23.02	342	eP	P	18 16 15.0	-2.4
	11nm,0.8s,mb4.3						
MAT	Matsushiro	23.02	342	P	P	18 16 15.4	-2.0
MAT	Matsushiro	23.02	342	eP	P	18 16 15.0	-2.4
	10.0nm,1.0s,mb4.2						
JNU	Nakatsue	23.32	324	P	P	18 16 21.0	+0.7
	23nm,0.9s,mb4.6,baz=105,slow=10,SNR=11						
PMG	Port Moresby	24.00	179	P	P	18 16 27.4	+0.4
	18nm,0.9s,mb4.5,baz=14,slow=13,SNR=3.5						
PMG	Port Moresby	24.00	179	P	P	18 16 27.4	+0.3
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
KS15	Wonju Array Si	28.16	327	eP	P	18 17 04.0	-1.7
SSE	Sheshan	28.55	309	P	P	18 17 07.8	-1.4
ASAJ	Asahikawa	29.49	354	P	P	18 17 17.4	-0.1
	comp=Z,13nm,0.9s,mb4.7,baz=188,slow=8.0,SNR=9.5						
ASAJ	Asahikawa	29.49	354	P	P	18 17 17.4	-0.1
ASAJ				pmax	pmax		
	comp=Z,13nm,0.9s						
NJ2	Nanjing	30.75	309	eP	P	18 17 28.4	-0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				LR	LR		
	comp=N,880nm,22.7s,MS4.5						
NJ2				LR	LR		
	comp=E,820nm,25.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,570nm,23.3s,MS4.2						
KAKA	Kakadu	30.77	208	eP	P	18 17 27.6	-1.6
	comp=Z,10.0nm,0.8s,mb4.7						
MDJ	Mudanjiang	33.16	337	P	P	18 17 49.3	-0.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,147nm,5.0s						
CN2	Changchun	34.22	332	eP	P	18 18 03.8	+4.9
CN2				eAP	pP	18 18 16.0	+5.8
CN2				eS	S	18 23 28.9	+7.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
KLR	Kul’dur	36.53	343	eP	P	18 18 17.0	-1.5
WRAB	Tennant Creek	36.57	200	eP	P	18 18 17.1	-2.0
	comp=Z,5.1nm,0.7s,mb4.5						
WB2	Warramunga Arr	36.58	200	eP	P	18 18 18.5	-0.7
WRA	Warramunga Arr	36.59	200	P	P	18 18 18.2	-1.0
	comp=Z,3.3nm,0.7s,mb4.3,baz=22,slow=9.8,SNR=28						
WRA				PcP	PcP	18 20 41.0	-1.3
	comp=Z,1.1nm,0.6s,baz=13,slow=3.2,SNR=5.2						
WRA				LR	LR	18 32 32.8	
	comp=Z,97nm,21.5s,MS3.5,baz=20,slow=35						

WRA	Warramunga Arr	36.59	200	P	P	18 18 18.2	-1.0
WRA						18 20 41.0	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				MLR	MLR		
	comp=Z,97nm,21.5s						
BJT	Baijiatuau	36.74	319	eP	P	18 18 19.8	-0.6
BJI	Beijing	36.75	319	eP	P	18 18 20.5	+0.1
BJI				S	S	18 24 05.3	+4.5
BJI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.7						
ENH	Enshi	37.57	301	eP	P	18 18 26.6	-0.8
	comp=Z,17nm,0.9s,mb4.8						
ENH				e	pP	18 18 38.2	-0.7
FITZ	Fitzroy Crossi	38.74	213	eP	P	18 18 37.3	+0.1
	comp=Z,8.4nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	38.74	213	P	P	18 18 37.4	+0.2
	comp=Z,9.2nm,0.8s,mb4.6,baz=20,slow=9.3,SNR=29						
GYA	Guiyang	39.18	294	⇑iP	P	18 18 43.1	+2.3
GYA				AP	pP	18 18 56.4	+4.1
GYA				XP	sP	18 19 01.6	+4.2
GYA				PP	PP	18 20 19.8	+4.8
GYA				S	S	18 24 42.3	+4.5
GYA				XS		18 25 04.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				LR	LR		
	comp=N,180nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=E,240nm,16.0s,MS4.2						
GYA				LR	LR		
	comp=Z,160nm,15.8s,MS4.0						
XAN	Xi’an	39.19	306	P	P	18 18 42.1	+1.3
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.3						
PET	Petropavlovsk	39.33	11	i P	P	18 18 42.3	+0.5
PET				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.6						
HHC	Hu-ho-hao-te	40.16	317	eP	P	18 18 48.1	-0.7
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,182nm,4.7s						
HHC				LR	LR		
	comp=N,118nm,23.8s						
HHC				LR	LR		
	comp=E,73nm,14.3s						
HHC				LR	LR		
	comp=Z,85nm,15.5s						
ASAR	Alice Springs	40.20	198	P	P	18 18 48.9	-0.5
	comp=Z,1.1nm,0.7s,baz=24,slow=8.8,SNR=20						
ASPA	Alice Springs	40.21	198	eP	P	18 18 49.1	-0.3
BTO	Baotou	41.06	316	eP	P	18 18 57.4	+1.1
BTO				AMB	AMB		
	comp=Z,41nm,1.4s,mb4.9						
KMI	Kunming	42.52	291	eP	P	18 19 05.3	-3.2
KMI				S	S	18 25 24.3	-3.2
KMI				XS		18 25 53.0	
KMI				SS	SS	18 28 29.8	-2.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,44nm,3.1s						
CD2	Chengdu	42.52	300	⇑iP	P	18 19 09.1	+0.7
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH	Lanzhou	43.79	307	⇑P	P	18 19 20.3	+1.6
LZH				AP	pP	18 19 32.8	+2.5
LZH				XP	sP	18 19 38.3	+3.0
LZH				PP	PP	18 21 04.5	+2.0
LZH				eS	S	18 25 46.9	+1.0
LZH				XS		18 26 07.4	
LZH				SS	SS	18 28 55.8	+1.2
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,197nm,5.7s						
LZH				LR	LR		
	comp=N,574nm,13.2s						
LZH				LR	LR		
	comp=Z,937nm,17.4s,MS4.8						
MA2	Magadan	44.85	3	d iP	P	18 19 27.1	+0.2
MA2				eS	S	18 26 01.4	+0.5
MA2				e		18 29 24.8	
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
CM31	Chiang Mai Arr	45.91	282	eP	P	18 19 35.1	-0.7
	comp=Z,13nm,0.9s,mb4.9						
CMAR	Chiang Mai Arr	45.91	282	P	P	18 19 37.5	+1.7
	comp=Z,18nm,1.1s,mb4.9,baz=79,slow=5.9,SNR=38						
CMAR				PcP	PcP	18 21 14.6	+1.7
	comp=Z,1.8nm,0.9s,baz=98,slow=0.9,SNR=4.6						
CMAR				LR	LR	18 39 01.4	
	comp=Z,37nm,19.3s,MS3.3,baz=90,slow=36						
CMAR	Chiang Mai Arr	45.91	282	P	P	18 19 37.6	+1.7
CMAR						18 21 14.6	
CMAR				pmax	pmax		
	comp=Z,19nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,37nm,19.3s						
SONM	Songino Array	46.90	323	P	P	18 19 43.8	+0.6
	comp=Z,5.1nm,0.6s,mb4.6,baz=138,slow=9.3,SNR=64						
GTA	Gaotai	47.83	310	eP	P	18 19 51.8	+1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
SEY	Seymchan	48.28	3	eP	P	18 19 55.3	+1.4
SEY				e		18 26 56.6	
SEY				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.6						
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK	Yakutsk	48.78	349	eP	P	18 19 56.6	-1.1
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK	Yakutsk	48.78	349	eP	P	18 19 55.5	-2.1
	comp=E,15nm,0.6s,mb5.2						
BOD	Bodaibo	49.54	338	eP	P	18 20 00.4	-3.2
ZAK	Zakamensk	49.95	325	eP	P	18 20 06.2	-0.7
SHL	Shillong	52.35	291	eP	P	18 20 15.5	-10
LSA	Lhasa	53.15	296	eP	P	18 20 32.4	+1.1
	comp=E,30nm,0.6s,mb5.4						
WMQ	Urumqi	57.72	313	P	P	18 21 05.3	+1.2
WMQ				AP	pP	18 21 17.5	+1.5
WMQ				XP	sP	18 21 23.0	+2.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
TIXI	Tiksi	57.89	353	eP	P	18 21 02.8	-2.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
PKI	Pulchoki	58.15	293	eP	P	18 21 07.3	0.0
	comp=Z,49nm,1.0s,mb5.5						
KKN	Kakani	58.26	294	eP	P	18 21 08.3	+0.2
	comp=Z,39nm,0.9s,mb5.4						
DMN	Daman	58.42	293	eP	P	18 21 09.5	+0.3
	comp=Z,50nm,0.8s,mb5.6						
GKN	Gorkha	58.83	294	eP	P	18 21 12.1	+0.1
	comp=Z,126nm,1.0s,mb5.9						
KOLN	Koldanda	59.75	294	eP	P	18 21 18.4	0.0
	comp=Z,45nm,0.8s,mb5.5						
MKAR	Makanchi Array	61.97	315	P	P	18 21 33.5	+0.3
	comp=Z,13nm,0.6s,mb5.2,baz=93,slow=7.7,SNR=181						
MKAR				S	S	18 29 57.7	+4.9
	comp=Z,0.9nm,0.9s,baz=85,slow=13,SNR=4.1						
MKAR				LR	LR	18 47 07.4	
	comp=Z,33nm,18.1s,MS3.5,baz=291,slow=35						
MKAR	Makanchi Array	61.97	315	P	P	18 21 33.5	+0.3
MKAR				S	S	18 29 57.7	+4.9
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MKAR				smax			
	comp=N,1.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,33nm,18.1s						
MKAR	Makanchi Array	61.97	315	P	P	18 21 33.5	+0.3
MKAR				S	S	18 29 57.7	+4.9
MKAR				LR	LR	18 47 07.4	
NVS	Novosibirsk	62.90	324	⇑iP	P	18 21 37.5	-1.8
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
PMR	Palmer	64.88	28	P	P	18 21 51.6	-0.5
KURK	Kurchatov	64.92	319	P	P	18 21 52.5	0.0
	comp=E,277nm,1.1s,SNR=57						
KURK	Kurchatov	64.92	319	eP	P	18 21 51.8	-0.7
	comp=E,48nm,0.9s,mb5.5						
SML	Sawmill	65.31	28	eP	P	18 21 54.1	-0.7
HYB	Hyderabad	65.32	283	i P	P	18 21 56.0	+0.4
HYB				e	pP	18 22 07.0	-0.8
HYB	Hyderabad	65.32	283	eP	P	18 21 56.0	+0.4
HYB				e	pP	18 22 07.0	-0.8
ILAR	Eielson Array	66.73	25	P	P	18 22 01.9	-1.9
	comp=E,1.9nm,0.8s,mb4.2,baz=252,slow=5.4,SNR=11						
ILAR	Eielson Array	66.73	25	P	P	18 22 01.9	-1.9
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
POO	Poona	69.57	285	eP	P	18 22 22.0	-0.2
DAWY	Dawson	69.77	27	P	P	18 22 23.5	+0.8
BVAR	Borovoye Array	70.19	321	P	P	18 22 25.5	+0.1
	comp=Z,7.0nm,0.5s,mb4.8,baz=106,slow=7.4,SNR=41						
BRVK	Borovoye	70.25	321	eP	P	18 22 25.3	-0.5
	comp=Z,12nm,1.0s,mb4.8						
INK	Inuvik	72.59	23	P	P	18 22 38.8	-0.7
	comp=Z,2.8nm,0.8s,mb4.3,baz=321,slow=6.5,SNR=5.0						
INK	Inuvik	72.59	23	P	P	18 22 38.8	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	72.59	23	eP	P	18 22 38.5	-1.0
	comp=Z,2.8nm,0.7s,mb4.3						
DLBC	Dease Lake	74.00	33	P	P	18 22 48.2	+0.3
	comp=Z,2.8nm,0.8s,mb4.3,baz=259,slow=3.3,SNR=11						
DLBC	Dease Lake	74.00	33	eP	P	18 22 48.4	+0.4
DLBC				e	pP	18 22 59.2	-1.0
ARU	Arti	76.89	325	P	P	18 23 04.6	+0.1
	comp=Z,96nm,0.9s,mb5.7,SNR=13						
ARU	Arti	76.89	325	⇓iP	P	18 23 04.7	+0.2
ARU				i	pP	18 23 16.2	-0.6
ARU				i		18 25 54.1	
ARU				ePPP	PPP	18 27 44.8	-2.3
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
ARU	Arti	76.89	325	eP	P	18 23 04.0	-0.5
	comp=Z,15nm,0.9s,mb4.9						
YBH	Yreka Blue Hor	80.70	49	P	P	18 23 26.1	+0.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=265,slow=1.4,SNR=3.6						
YBH	Yreka Blue Hor	80.70	49	P	P	18 23 26.1	+0.5
YBH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	80.97	28	P	P	18 23 25.8	-0.8
	comp=Z,1.6nm,0.6s,mb4.1,baz=285,slow=5.5,SNR=8.6						
YKA	Yellowknife Ar	80.97	28	P	P	18 23 25.8	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	80.97	28	P	P	18 23 25.8	-0.8
NEW	Newport	83.13	42	P	P	18 23 39.4	+1.5
WVOR	Wild Horse Val	83.51	48	eP	P	18 23 40.5	+0.4
	comp=Z,11nm,1.6s,mb4.7						
NVAR	Mina Array Bea	84.74	52	P	P	18 23 47.0	+0.6
	comp=Z,1.0nm,0.7s,mb4.0,baz=259,slow=5.8,SNR=6.7						
MNV	Mina	84.85	52	P	P	18 23 48.0	+1.1
HLID	Hailey	86.20	46	P	P	18 23 53.5	0.0
ARCES	ARCESS Array B	86.56	342	P	P	18 23 55.1	+0.6
	comp=Z,5.0nm,0.9s,mb4.8,baz=63,slow=8.1,SNR=5.2						
ARCES	ARCESS Array B	86.56	342	P	P	18 23 55.2	+0.6
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MCMT	McKenzie Canyo	86.91	45	eP	P	18 23 58.3	+1.4
DUG	Dugway	88.34	49	eP	P	18 24 03.8	-0.1
	comp=Z,2.6nm,0.6s,mb4.6						
HWUT	Hardware Ranch	88.80	47	P	P	18 24 07.1	+1.1
OBN	Obninsk	89.15	327	eP	P	18 24 08.2	+0.9
OBN				e		18 24 17.3	
OBN				ePS	PS	18 35 54.9	-9.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.1						
GNI	Garni	89.57	311	LR	LR	19 11 07.3	
	comp=Z,20nm,18.1s,MS3.6,baz=146,slow=40						
BW06	Boulder Array	89.82	46	P	P	18 24 13.3	+2.5
FINES	FINESS Array B	90.90	336	P	P	18 24 14.5	-0.9
	comp=Z,3.5nm,0.7s,mb4.8,baz=104,slow=7.9,SNR=7.2						
FINES	FINESS Array B	90.90	336	P	P	18 24 14.5	-0.9
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SOC	Sochi	91.88	316	eP	P	18 24 15.6	-4.8
SOC				e		18 24 23.5	
SOC				e		18 28 00.9	
SOC				eS	SKS	18 34 50.1	+2.1
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=E,19nm,0.8s						
SOC				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.5						
ANN	Anapa	92.91	318	eP	P	18 24 19.7	-5.4
ANN				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.7						
SDCO	Great Sand Dun	94.53	49	eP	P	18 24 33.6	+1.0
AKASG	Malin Array Be	95.14	326	P	P	18 24 34.1	-1.0
	comp=Z,0.3nm,0.5s,mb4.0,baz=46,slow=6.1,SNR=4.3						
BRTR	Keskin Array B	97.61	314	LR	LR	19 14 13.8	
	comp=Z,24nm,19.4s,MS3.7,baz=190,slow=39						
TXAR	Lajitas Array	99.16	56	LR	LR	19 06 22.4	
	comp=Z,48nm,19.0s,MS4.0,baz=290,slow=33						
KSP	Ksiaz	101.70	331	eP	P	18 25 03.7	-1.1
LSZ	Lusaka	120.89	261	ePKP	PKPdf	18 30 05.7	+1.9
DBIC	Dimbokro	144.75	305	PKP	PKPdf	18 30 49.3	+0.8
	comp=Z,19nm,1.1s,baz=93,slow=3.9,SNR=18						
DBIC	Dimbokro	144.75	305	PKIKP	PKPdf	18 30 49.3	+0.8
DBIC				pmax	pmax		
	comp=Z,19nm,1.1s						
DBIC	Dimbokro	144.75	305	ePKP	PKPdf	18 30 48.9	+0.4
DBIC				e		18 30 59.4	
KIC	Kosan Boka	144.84	305	ePKP1	PKPbc	18 30 49.7	+1.0
	comp=Z,103nm,1.1s						
TIC	Toumodi	144.89	305	ePKP1	PKPbc	18 30 49.6	+0.8
	comp=Z,98nm,1.0s						
LIC	Lamto	145.15	305	ePKP1	PKPbc	18 30 50.5	+1.0
	comp=Z,101nm,1.0s						
LVC	Limon Verde	145.35	108	ePKP	PKPdf	18 30 51.6	+2.3
LPAZ	La Paz	146.33	97	PKPbc	PKPbc	18 30 55.5	+3.2
	comp=Z,1.2nm,0.5s,baz=284,slow=3.5,SNR=4.4						
LPAZ	La Paz	146.33	97	PKP2	PKPab	18 30 55.5	+0.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	146.33	97	ePKPbc	PKPbc	18 30 55.6	+3.3
SAML	Samuel	150.12	82	ePKPbc	PKPdf	18 31 03.7	+6.4

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*IDC **23** 18:35:06.5±1.4, 63.51N×148.33W, mb3.5/3, mb1 3.9/3, mb1mx3.5/18, Error ellipse: s-maj=17.2km s-min=13.6km az=50.0*

*NEIC **23** 18:35:07.0, 63.49N×148.11W, h2^{km}, ML3.6(PMR), ML3.4(AEIC), After AEIC.*

ISC 23 18:35:06.8±0.8, **63.52N**±0.03×**148.11W**±0.06, **h6**^{km}±7^{km}, **n39**, σ0^{s}**53**/42, **mb3.5**/3, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RND	Reindeer	0.35	252	P	Pg	18 35 13.9	0.0
MCK	McKinley	0.43	301	P	Pg	18 35 15.8	+0.4
MCK				S	Sg	18 35 21.8	+0.7
DHY	Denali Highway	0.55	143	P	Pg	18 35 17.2	-0.7
TRF	Thorofare Moun	0.98	267	P	Pb	18 35 25.0	-0.7
TRF				S	Sb	18 35 38.5	-0.3
HDA	Harding Lake	1.03	29	P	Pb	18 35 26.9	+0.3
THY	Trims Highway	1.06	94	P	Pb	18 35 26.8	-0.4
CCB	Clear Creek Bu	1.14	7	P	Pb	18 35 28.8	+0.2
NEA	Nenana	1.15	339	P	Pb	18 35 29.6	+0.9
KTH	Kantishna Hill	1.26	273	P	Pb	18 35 30.0	-0.5
COLA	College	1.37	5	P	Pb	18 35 32.8	+0.4
IL1	Eielson Array	1.37	22	P	Pb	18 35 32.6	+0.1
ILAR	Eielson Array	1.37	22	Pn	Pn	18 35 32.4	-0.1
	82nm,0.3s,baz=205,slow=16,SNR=641						
ILAR				Pg	Pg	18 35 33.5	-0.7
	82nm,0.3s,baz=207,slow=16,SNR=657						
ILAR				Lg		18 35 51.0	
	241nm,0.3s,baz=205,slow=28,SNR=69						
CUT	Chulitna	1.49	222	P	Pn	18 35 34.0	-0.2
SDG	Sourdough	1.53	129	P	Pn	18 35 34.8	-0.1
SML	Sawmill	1.72	184	P	Pn	18 35 36.8	-0.7
SCM	Sheep Creek Mo	1.73	168	P	Pn	18 35 37.5	-0.1
GHO	Glory Hole Cre	1.79	192	P	Pn	18 35 37.9	-0.6
PMR	Palmer	1.99	194	P	Pn	18 35 41.5	+0.2
PWA	Palmer West	2.04	204	P	Pn	18 35 42.2	+0.1
SKT	Skwentna	2.20	227	P	Pn	18 35 44.4	0.0
PRP	Porcupine Dome	2.30	28	P	Pn	18 35 46.3	+0.5
PMS	Palmer South	2.38	197	eP	Pn	18 35 48.0	+1.1
SUA	Susitna One	2.40	212	P	Pn	18 35 47.4	+0.3
DIV	Divide	2.63	154	eP	Pn	18 35 51.0	+0.4
BCA3	Beaver Creek A	2.89	96	P	Pn	18 35 54.0	-0.2
SPU	Mount Spurr	2.98	220	eP	Pn	18 35 55.6	+0.1
BKG	Blockade Glaci	3.13	220	P	Pn	18 35 58.1	+0.5
EYAK	Cordova Ski Ar	3.18	158	eP	Pn	18 35 59.1	+0.8
SLKM	Skilak Lake	3.18	199	P	Pn	18 35 59.1	+0.8
IM3	Indian Mountai	3.46	318	P	Pn	18 36 01.8	-0.5
IMA	Indian Mountai	3.50	320	eP	Pn	18 36 02.6	-0.3
TT01	Tatalina	3.63	264	P	Pn	18 36 03.8	-1.0
DAWY	Dawson	3.91	78	P	Pn	18 36 08.6	-0.1
BM3	Burnt Mountain	4.18	19	P	Pn	18 36 12.2	-0.4
SVW	Sparrevohn	4.26	239	P	Pn	18 36 13.6	0.0
PDAR	Pinedale Array	30.35	115	P	P	18 41 21.6	+0.5
	0.3nm,0.7s,mb3.1,baz=333,slow=9.9,SNR=4.0						
NVAR	Mina Array Bea	30.81	130	P	P	18 41 25.2	0.0
	0.5nm,0.7s,mb3.5,baz=313,slow=6.7,SNR=4.0						
NVAR	Mina Array Bea	30.81	130	P	P	18 41 25.2	0.0
MKAR	Makanchi Array	63.06	324	P	P	18 45 33.0	-3.6
	0.5nm,0.5s,mb3.9,baz=34,slow=4.4,SNR=6.2						

IDC 23 18:38:54.3±4.9, **29.02S**×**177.51W**, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.8**/13, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx3.0**/21, **Error ellipse: s-maj=168.0km s-min=76.5km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	17.30	209	LR	LR	18 48 59.6	
	comp=Z,132nm,19.7s,baz=104,slow=35						
STKA	Stephens Creek	35.23	255	P	P	18 45 50.8	-1.7
	1.6nm,0.8s,baz=99,slow=13,SNR=3.3						
ASAR	Alice Springs	43.63	265	P	P	18 46 59.9	-2.5
	1.5nm,1.1s,baz=104,slow=7.6,SNR=8.5						
WRA	Warramunga Arr	44.50	270	P	P	18 47 08.2	-1.2
	0.5nm,0.4s,baz=111,slow=8.0,SNR=13						
FINES	FINESS Array B	143.99	341	PKP	PKPdf	18 58 30.2	-2.6
	2.2nm,0.9s,baz=90,slow=2.8,SNR=7.9						

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*IDC **23** 18:49:45.1±0.7, 22.28N×143.30E, h145^{km}±6^{km}, mb3.7/13, mb1 3.8/14, mb1mx3.7/25, Error ellipse: s-maj=20.7km s-min=9.8km az=84.0*

*NEIC **23** 18:49:45.2±0.3, 22.26N×143.30E, mb4.2/8, Error ellipse: s-maj=11.8km s-min=6.8km az=85.0*

ISC 23 18:49:43.8±1.6, **22.26N**±0.07×**143.2E**±0.1, **h149**^{km}±15^{km}, **h148**^{km}±1.2^{km}**:pP-P**, **n26**, σ0^{s}**85**/25, **mb4.0**/19, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.89	349	P	P	18 50 58.3	+1.6
	38nm,0.3s,baz=286,slow=20,SNR=9.6						
CBIJ				S	S	18 51 51.6	-1.3
	35nm,0.3s,baz=300,slow=23,SNR=9.2						
ENH	Enshi	31.17	292	P	P	18 55 51.1	+0.1
	3.7nm,0.7s,mb4.2						
SONM	Songino Array	38.91	320	P	P	18 56 57.7	+1.3
	1.3nm,0.5s,mb3.9,baz=131,slow=7.9,SNR=20						
CTA	Charters Tower	42.20	176	P	P	18 57 23.6	-0.1
	2.0nm,0.6s,mb3.9,baz=338,slow=14,SNR=4.1						
CTAO	Charters Tower	42.20	176	eP	P	18 57 23.2	-0.6
	4.0nm,0.8s,mb4.1						
WRAB	Tennant Creek	42.82	192	eP	P	18 57 29.4	+0.7
	18nm,1.0s,mb4.7						
WB2	Warramunga Arr	42.83	192	eP	P	18 57 28.8	0.0
WB2				e		18 57 30.7	
WRA	Warramunga Arr	42.83	192	P	P	18 57 28.1	-0.7
	2.4nm,0.3s,mb4.3,baz=16,slow=9.0,SNR=122						
WRA				PcP	PcP	18 59 17.5	-0.3
	2.3nm,1.0s,baz=5.3,slow=3.8,SNR=6.6						
WRA				ScP		19 02 53.9	
	1.8nm,0.8s,baz=6.2,slow=4.3,SNR=10.0						
FITZ	Fitzroy Crossi	43.64	205	eP	P	18 57 35.2	-0.2
	0.8nm,0.6s,mb3.5						
FITZ				e		18 57 38.3	
FITZ	Fitzroy Crossi	43.64	205	P	P	18 57 35.2	-0.1
	1.4nm,0.5s,mb3.9,baz=15,slow=7.0,SNR=13						
ASAR	Alice Springs	46.54	192	P	P	18 57 58.2	-0.1
	0.9nm,0.8s,mb3.5,baz=12,slow=6.0,SNR=18						
ASAR				PcP	PcP	18 59 30.8	+0.2
	1.1nm,0.8s,baz=22,slow=4.3,SNR=6.5						
ASAR				ScP		19 03 09.6	
	2.7nm,1.2s,baz=12,slow=3.8,SNR=7.4						
STKA	Stephens Creek	53.85	182	P	P	18 58 53.1	-0.6
	1.7nm,0.6s,mb3.9,baz=351,slow=11,SNR=5.3						
MKAR	Makanchi Array	54.32	312	P	P	18 58 57.7	+0.8
	1.5nm,0.7s,mb3.8,baz=88,slow=9.3,SNR=13						
MKAR	Makanchi Array	54.32	312	P	P	18 58 57.7	+0.8
KURK	Kurchatov	57.07	317	eP	P	18 59 15.4	-1.1
	7.4nm,1.3s,mb4.4						
ILAR	Eielson Array	61.53	27	P	P	18 59 45.0	-2.0
	0.6nm,0.7s,mb3.5,baz=250,slow=5.2,SNR=4.1						
ILAR				pP	pP	19 00 20.0	-2.5
	1.2nm,1.0s,baz=262,slow=5.1,SNR=3.8						
BVAR	Borovoye Array	62.25	319	P	P	18 59 51.6	-0.3
	2.9nm,0.5s,mb4.4,baz=90,slow=8.6,SNR=26						
BVAR				pP	pP	19 00 27.0	-0.6
	1.4nm,0.6s,baz=97,slow=6.8,SNR=2.9						
BRVK	Borovoye	62.31	319	eP	P	18 59 52.3	-0.1
	4.2nm,1.1s,mb4.2						
YKA	Yellowknife Ar	75.95	28	P	P	19 01 15.4	0.0
	0.8nm,0.4s,mb3.7,baz=293,slow=6.1,SNR=4.5						
ARCES	ARCESS Array B	78.39	341	P	P	19 01 29.8	+1.0
	1.3nm,0.8s,mb3.6,baz=72,slow=7.7,SNR=4.5						
FINES	FINESS Array B	82.68	334	P	P	19 01 50.8	-0.8
	1.2nm,0.7s,mb3.7,baz=108,slow=6.0,SNR=5.4						
FINES				pP	pP	19 02 28.6	-0.5
	0.8nm,0.6s,baz=117,slow=8.5,SNR=1.1						
NVAR	Mina Array Bea	82.78	52	P	P	19 01 53.5	+0.9
	1.6nm,1.1s,mb3.7,baz=260,slow=3.5,SNR=5.3						
NVAR				pP	pP	19 02 29.9	-0.2
	1.8nm,0.8s,baz=299,slow=4.1,SNR=5.0						
DUG	Dugway	85.95	48	P	P	19 02 09.1	+0.7
	1.5nm,0.5s,mb4.0						
HWUT	Hardware Ranch	86.18	46	eP	P	19 02 09.9	+0.4
	2.6nm,1.0s,mb3.9						
PLCA	Paso Flores	146.12	131	PKPbc	PKPbc	19 09 08.6	+2.2
	4.5nm,1.0s,baz=248,slow=8.6,SNR=6.5						
LPAZ	La Paz	149.88	84	PKPbc	PKPdf	19 09 19.6	+7.7
	2.2nm,0.3s,baz=17,slow=2.2,SNR=3.8						

IDC 23 19:11:14.3±3.4, **29.93S**×**177.55W**, **mb3.9**/3, **mb1 4.0**/4, **mb1mx3.8**/15, **ML3.5**/1, **Error ellipse: s-maj=69.3km s-min=51.9km az=108.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	9.42	207	Pn	P	19 13 30.3	-4.0
	0.4nm,0.3s,baz=16,slow=22,SNR=5.8						
URZ				Sn	Sn	19 15 08.1	-14
	1.7nm,0.3s,baz=163,slow=22,SNR=11						
STKA	Stephens Creek	34.97	256	P	P	19 18 08.4	-1.8
	1.7nm,0.8s,baz=99,slow=13,SNR=3.9						
ASAR	Alice Springs	43.53	266	P	P	19 19 19.8	-1.8
	0.5nm,0.5s,baz=100,slow=7.7,SNR=8.9						
WB2	Warramunga Arr	44.46	271	eP	P	19 19 27.4	-1.8
WRA	Warramunga Arr	44.47	271	P	P	19 19 27.6	-1.6
	1.2nm,0.3s,baz=111,slow=8.0,SNR=28						
FINES	FINESS Array B	144.83	340	PKP	PKPdf	19 30 51.9	-2.5
	0.8nm,0.4s,baz=76,slow=3.9,SNR=9.3						

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*ISK **23** 19:19:40.8, 36.13N×27.49E, h17^{km}, MD3.3*

*NEIC **23** 19:19:41.6, 36.08N×27.56E, h20^{km}, MD3.3(ATH), After ATH.*

*ATH **23** 19:19:41.6, 36.08N×27.56E, h20^{km}±4^{km}, MD3.3/8*

ISC 23 19:19:40.7±0.5, **36.04N**±0.04×**27.54E**±0.05, **h10**^{km}, **n23**, σ1^{s}**17**/33, **2C**, **Dodecanese Islands**

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

ARG	Arkhangelos	0.51	69	⇑*i*PB	Pb	19 19 51.5	+0.2
ARG				*e*SB	Sb	19 19 58.0	-0.4
KARP	Karpathos	0.58	212	⇑*i*PN	Pn	19 19 54.1	-0.6
KARP				*e*SN	Sn	19 20 03.0	-1.2
BDRM	Kayabasi	1.03	356	*i* P	Pb	19 19 60.0	-0.2
BDRM	Kayabasi	1.03	356	*i* P	Pb	19 19 60.0	-0.2
DALT	Dalyan (Mudla)	1.15	50	*i* PN	Pn	19 20 02.5	-0.3
DALT				*i* SN	Sn	19 20 18.0	-0.6
YER	Yerkesik	1.25	28	*i* PN	Pn	19 20 03.4	-0.8
MLSB	Milas	1.27	9	*i* PN	Pn	19 20 03.1	-1.5
MLSB				*i* SN	Sn	19 20 19.7	-2.0
AYDN	Tasoluk	1.64	9	*i* P	Pn	19 20 11.3	+1.4
AYDN				*i* S	Sn	19 20 31.8	+0.6
AYDN	Tasoluk	1.64	9	*i* P	Pn	19 20 11.3	+1.4
AYDN				*i* S	Sn	19 20 31.8	+0.6
KSL	Kastellorizon	1.66	86	*e*PN	Pn	19 20 12.0	+1.9
NPS	Neapolis	1.75	244	*e*PB	Pb	19 20 11.8	-0.7
SMG	Samos	1.76	342	*e*PN	Pn	19 20 12.9	+1.3
XRY	Khrisi	1.90	233	*e*PN	Pn	19 20 16.0	+2.4
APE	Apeiranthos	1.92	303	*e*PN	Pn	19 20 12.1	-1.7
ELL	Elmali	2.04	69	*e*PN	Pn	19 20 14.4	-1.2
DNZL	Cakiroluk	2.04	36	*i* P	Pn	19 20 16.9	+1.2
DNZL				*i* S	Sn	19 20 41.9	+0.4
DNZL	Cakiroluk	2.04	36	*i* P	Pn	19 20 16.9	+1.2
DNZL				*i* S	Sn	19 20 41.9	+0.4
DENT	Denizli	2.09	35	*e*PN	Pn	19 20 16.1	-0.2
KDAG	Bornova	2.37	355	*i* P	Pn	19 20 23.8	+3.4
KDAG	Bornova	2.37	355	*i* P	Pn	19 20 23.8	+3.4
MANT	Manisa	2.58	18	*i* P	Pn	19 20 23.4	+0.1
MANT				*i* S	Sn	19 21 01.2	+6.2
MANT	Manisa	2.58	18	*i* P	Pn	19 20 23.4	+0.1
MANT				*i* S	Sn	19 21 01.2	+6.2
VAM	Vamos	2.79	258	*e*PN	Pn	19 20 27.6	+1.3

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*IDC **23** 19:50:45.8±4.1, 4.44N×61.68E, mb3.6/5, mb1 3.8/5, mb1mx3.5/17, MS3.1/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=110.0km s-min=35.5km az=78.0*

ISC 23 19:50:45.4±3.6, **4.5N**±0.3×**61.6E**±0.6, **h10**^{km}**, n6,** σ**0**^{s}**32**/5, **mb3.5**/5, **MS3.1**/2, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	39.02	66	P	P	19 58 14.2	+0.1
	0.7nm,0.9s,mb3.4,baz=249,slow=7.7,SNR=4.8						
CMAR				LR	LR	20 14 39.1	
	comp=Z,23nm,19.6s,MS3.0,baz=165,slow=37						
MKAR	Makanchi Array	45.80	20	P	P	19 59 09.5	+0.3
	0.2nm,0.5s,mb3.3,baz=209,slow=12,SNR=2.8						
SONM	Songino Array	57.72	34	P	P	20 00 38.4	-0.4
	0.8nm,0.9s,mb3.7,baz=231,slow=7.7,SNR=5.7						
WRA	Warramunga Arr	75.38	112	P	P	20 02 31.8	+0.1
	0.7nm,1.0s,mb3.5,baz=278,slow=7.6,SNR=5.5						
ASAR	Alice Springs	75.68	116	P	P	20 02 33.2	-0.1
	0.8nm,0.9s,mb3.6,baz=298,slow=5.7,SNR=4.7						
SNAA	Sanae	86.42	197	LR	LR	20 37 51.7	
	comp=Z,11nm,18.1s,MS3.3,baz=344,slow=33						

MAN 23 19:58:55.3, 13.71N×120.59E, h114^{km}**, mb3.9, ML2.7, MS2.3, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.33	275	*e*P	P	19 59 13.2	+1.5
LUBP				*e*S	S	19 59 26.4	+2.2
BOAC	Boac	1.25	101	*e*P	P	19 59 20.3	+0.5
SJMP	San Jose	1.34	157	*e*P	P	19 59 21.5	+0.6
SJMP				*e*S	S	19 59 41.0	+0.7
BUSP	Coron	1.73	193	*e*P	P	19 59 25.9	+0.3
BUSP				*e*S	S	19 59 49.1	+0.7
ENPP	El Nido	2.73	205	*e*P	P	19 59 39.3	+0.6
CUYO	Cuyo Island	2.87	172	*e*P	P	19 59 39.5	-1.0

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*DJA **23** 20:06:46.3±0.9, 8.59S×116.38E, h133^{km}±6^{km}, MD4.5/3, ML4.3/1, Error ellipse: s-maj=35.5km s-min=17.0km az=177.0*

ISC 23 20:06:46.6±1.7, **8.7S**±0.2×**116.3E**±0.1, **h130**^{km}±12^{km}**, n5,** σ**0**^{s}**30**/9, **4C-4D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	0.26	318	⇓*i*Pn	P	20 07 04.4	-0.2
KEDI				⇓*i*Sn	S	20 07 18.5	+0.1
RATI	Rata	0.75	266	⇑*i*Pn	P	20 07 07.9	+0.5
	585nm,0.2s						
RATI				⇓*i*Sn	S	20 07 23.2	-0.2
INGI	Ingas	1.14	263	⇓*i*Pn	P	20 07 11.6	+0.5
INGI				⇑*i*Sn	S	20 07 29.6	-0.1
KELI	Kelakatan	1.84	284	⇑*i*Pn	P	20 07 19.1	+0.1
KELI				⇑*i*Sn	S	20 07 43.2	-0.4
FITZ	Fitzroy Crossi	13.05	137	*e*P	P	20 09 47.8	-0.3
	3.4nm,1.9s						

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*NIED **23** 20:13:00, 43.00N×147.00E, h29^{km}, Mw4.1 Best double couple: M$_0$1.85×10^{15} NP1:ϕ_s46°, δ79°, λ146°. NP2:ϕ_s143°, δ57°, λ13°.*

*SKHL **23** 20:13:35.2±2.5, 43.06N×147.02E, h33^{km}±8^{km}, mb5.5/2, Ms4.1/1*

*BJI **23** 20:13:35.1, 43.09N×146.77E, h43^{km}, mB4.9, mb4.6, Ms4.6, Msz4.4*

*MOS **23** 20:13:35.0±1.0, 43.06N×146.96E, h46^{km}, mb4.7/12, Error ellipse: s-maj=18.6km s-min=10.6km az=99.8*

*JMA **23** 20:13:35.6±0.1, 43.03N×146.95E, h54^{km}±3^{km}, M4.8*

*IDC **23** 20:13:37.8±0.6, 43.06N×146.83E, h51^{km}±5^{km}, mb4.0/17, mb1 4.2/18, mb1mx4.1/24, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=15.9km s-min=13.7km az=144.0*

*NEIC **23** 20:13:37.1±0.9, 43.05N×146.84E, h46^{km}±8^{km}, mb4.8/14, Error ellipse: s-maj=8.5km s-min=6.5km az=141.0*

ISC 23 20:13:35.7±0.7, **43.06N**±0.05×**146.94E**±0.05, **h51**^{km}±5^{km}, **h50**^{km}±1.4^{km}**:pP-P, n94,** σ**0**^{s}**97**/117, **mb4.5**/30, **MS3.9**/6, **2C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.92	290	P	P	20 13 53.0	+0.4
NEM2				*e*S	S	20 14 05.8	+0.7
YUK	Yuzh-Kuril'sk	1.25	322	*i* P	P	20 13 56.3	-0.8
YUK				AMB	AMB	20 13 58.3	
	2μm,0.4s						
YUK				AMB	AMB	20 13 58.3	
	1μm,0.4s						
YUK				AMB	AMB	20 13 58.3	
	5μm,0.4s						
YUK				*i* S	S	20 14 12.1	-1.0
YUK				A		20 14 13.0	
	56μm,0.5s						
YUK				A		20 14 13.0	
	34μm,1.2s						
YUK				A		20 14 13.0	
	31μm,0.5s						
YUK				A		20 14 13.0	
	15μm,0.5s						
YUK				AMS	AMS	20 14 30.0	
	10μm,8.5s						
YUK				AMS	AMS	20 14 30.0	
	5μm,13.0s						
YUK	Yuzh-Kuril'sk	1.25	322	⇑*i*PN	P	20 13 56.3	-0.8
YUK				*i* S	S	20 14 12.1	-1.0
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				smax			
	comp=N,34μm,1.2s						
YUK				smax			
	comp=E,56μm,0.5s						
YUK				smax			
	comp=N,15μm,0.5s						
YUK				smax			
	comp=E,31μm,0.5s						
JRA	Rausu	1.58	304	P	P	20 14 02.2	+0.3
JRA				*e*S	S	20 14 22.0	+0.6
JAK	Akkeshi	1.64	269	P	P	20 14 02.8	+0.1
JAK				*e*S	S	20 14 22.9	+0.1
JNK	Nakash	1.70	289	P	P	20 14 03.4	-0.1
JNK				*e*S	S	20 14 24.1	-0.1
KUR	Kuril'sk	2.27	17	*e*P	P	20 14 10.5	-1.1
KUR				AMB	AMB	20 14 13.3	
	comp=E,170nm,0.6s						
KUR				AMB	AMB	20 14 13.3	
	comp=E,460nm,0.6s						
KUR				*i* S	S	20 14 35.4	-3.1
KUR				A		20 14 42.9	
	comp=E,680nm,0.5s						
KUR				A		20 14 42.9	
	comp=E,550nm,0.5s						
KUR	Kuril'sk	2.27	17	*e*PN	P	20 14 10.5	-1.1
KUR				*i* S	S	20 14 35.4	-3.1
KUR				pmax	pmax		
	comp=N,170nm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				smax			
	comp=N,680nm,0.5s						
KUR				smax			
	comp=E,550nm,0.5s						
JOB	Onbets	2.28	267	P	P	20 14 11.8	0.0
JOB				*e*S	S	20 14 38.9	+0.2
JAR	Ashorobuto	2.33	277	P	P	20 14 12.7	+0.3
JAR				*e*S	S	20 14 40.5	+0.6
JTKR	Abashiri--Toko	2.38	293	P	P	20 14 14.0	+0.8
JTKR				*e*S	S	20 14 42.7	+1.4
JCH	Churui	2.67	262	P	P	20 14 16.9	-0.3
JCH				*e*S	S	20 14 47.3	-1.2
JMP	Maruseppu	2.77	291	P	P	20 14 19.5	+0.8
JMP				*e*S	S	20 14 51.4	+0.4
JEM	Erimo	2.98	251	P	P	20 14 22.4	+0.7
JKK2	Kamakawa 2	3.15	286	P	P	20 14 25.2	+1.0
JFR	Furan	3.18	273	P	P	20 14 24.8	+0.3
JFR				*e*S	S	20 15 01.9	+0.4
JNBK	Urakawa-nobuka	3.18	257	P	P	20 14 24.1	-0.4
JNBK				*e*S	S	20 15 00.5	-1.0
ASAJ	Asahikawa	3.32	290	P	P	20 14 27.9	+1.3
	comp=E,19nm,0.3s,baz=101,slow=9.1,SNR=58						
ASAJ				S	S	20 15 09.6	+4.5
	comp=E,37nm,0.3s,baz=65,slow=32,SNR=7.4						
ASAJ				LR	LR	20 15 57.5	
	comp=E,445nm,19.1s,baz=0.9,slow=43						
ASAJ	Asahikawa	3.32	290	P	P	20 14 28.0	+1.4
ASAJ	Asahikawa	3.32	290	PN	P	20 14 27.9	+1.3
ASAJ				S	S	20 15 09.6	+4.5
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				smax			
	comp=N,37nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,445nm,19.1s						
JBT2	Biratori 2	3.37	267	P	P	20 14 26.5	-0.7
JAB	Ashibetsu	3.47	279	P	P	20 14 30.4	+1.8
YSS	Yuzh-Sakhalins	4.89	324	⇑*e*P	P	20 14 48.6	0.0
YSS				*e*S	S	20 15 39.8	-4.8
YSS				A		20 15 44.3	
	comp=Z,50nm,0.5s						
YSS	Yuzh-Sakhalins	4.89	324	*e*P	P	20 14 48.0	-0.7
YSS				*e*Sn	S	20 15 43.1	-1.6
MAJO	Matsushiro	9.35	229	*e*Pn	P	20 15 47.4	-3.1
MAT	Matsushiro	9.35	229	P	P	20 15 49.3	-1.2
MAT				S	S	20 17 28.1	-7.2
MAT	Matsushiro	9.35	229	*e*P	P	20 15 49.0	-1.5
	comp=Z,7.0nm,1.0s						
MAT				*e*S	S	20 17 28.0	-7.3
SKR	Severo-Kuril's	9.88	36	*e*PN	P	20 15 52.0	-5.6
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
MDJ	Mudanjiang	12.62	283	P	P	20 16 30.8	-4.0
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,111nm,7.2s						
KS15	Wonju Array Si	15.58	255	*e*P	P	20 17 22.7	+9.4
CN2	Changchun	15.63	280	*e*P	P	20 17 12.3	-1.6
CN2				*e*AP		20 17 22.5	
CN2				*e*S	S	20 20 02.3	-3.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
FX1	Attu Island--F	20.02	51	P	P	20 18 07.3	+0.7
	comp=Z,22nm,0.6s,baz=266,slow=8.5,SNR=7.4						
FX1	Attu Island--F	20.02	51	P	P	20 18 07.3	+0.6
FX1				pmax	pmax		
	comp=Z,22nm,0.6s						
FX1	Attu Island--F	20.02	51	*e*P	P	20 18 05.9	-0.8
SEY	Seymchan	20.16	7	*e*P	P	20 18 06.4	-1.7
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2	Nanjing	24.71	253	*e*P	P	20 18 53.4	0.0
NJ2				AP		20 19 05.1	
NJ2				XP		20 19 10.3	
NJ2				S	S	20 23 09.0	0.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,50nm,5.0s						
NJ2				LR	LR		
	comp=N,2μm,14.7s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,16.1s,MS4.8						
HHC	Hu-ho-hao-te	26.28	277	*e*P	P	20 19 10.1	+2.1
HHC				AP	pP	20 19 13.8	-7.0
HHC				XP	sP	20 19 21.8	-5.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,110nm,5.9s						
SONM	Songino Array	28.60	294	P	P	20 19 29.5	+0.5
	comp=Z,4.4nm,0.8s,mb4.3,baz=88,slow=8.6,SNR=39						
ZAK	Zakamensk	30.45	299	*e*P	P	20 19 46.0	+0.6
LZH	Lanzhou	33.65	273	*e*P	P	20 20 11.3	-2.2
LZH				AP	pP	20 20 24.9	-1.9
LZH				XP	sP	20 20 29.8	-3.4
LZH				PP	PP	20 21 24.6	-2.6
LZH				*e*S	S	20 25 27.5	-4.1
LZH				XS		20 25 49.3	
LZH				SS	SS	20 27 33.5	-5.3
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,135nm,6.1s						
LZH				LR	LR		
	comp=N,737nm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.8						
IMA	Indian Mountai	39.34	34	*e*P	P	20 21 02.5	+1.4
	comp=Z,72nm,0.5s						
KMI	Kunming	40.22	258	*e*P	P	20 21 07.8	-1.1
KMI				AP	pP	20 21 20.9	-1.5
KMI				S	S	20 27 13.4	+1.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
COLA	College	41.72	36	P	P	20 21 21.1	+0.4
	comp=Z,6.9nm,0.7s,mb4.4						
ILAR	Eielson Array	42.14	36	P	P	20 21 24.6	+0.5
	comp=Z,2.0nm,0.5s,mb4.0,baz=282,slow=9.7,SNR=15						
ILAR				pP	pP	20 21 38.4	+0.7
	comp=Z,1.4nm,0.9s,baz=275,slow=9.0,SNR=3.2						
ILAR	Eielson Array	42.14	36	P	P	20 21 24.6	+0.5
ILAR				*PP	pP	20 21 38.4	+0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
WMQ	Urumqi	42.21	292	P	P	20 21 25.4	+0.4
WMQ				AP	pP	20 21 38.0	-0.5
WMQ				XP	sP	20 21 44.8	+0.2
MKAR	Makanchi Array	44.77	298	P	P	20 21 46.2	+0.5
	comp=N,6.5nm,0.5s,mb4.7,baz=81,slow=9.0,SNR=88						
MKAR	Makanchi Array	44.77	298	P	P	20 21 46.2	+0.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR	Makanchi Array	44.77	298	P	P	20 21 46.2	+0.5
KURK	Kurchatov	45.79	304	P	P	20 21 53.0	-0.8
	comp=Z,99nm,0.4s,SNR=17						
KURK	Kurchatov	45.79	304	*e*P	P	20 21 53.5	-0.3
	comp=Z,8.6nm,0.5s,mb4.9						
INK	Inuvik	47.08	30	P	P	20 22 04.9	+1.2
	comp=Z,11nm,0.7s,mb4.9,baz=300,slow=7.1,SNR=33						
INK	Inuvik	47.08	30	P	P	20 22 04.9	+1.2
INK				pmax	pmax		
	comp=Z,11nm,0.7s						
INK	Inuvik	47.08	30	*e*P	P	20 22 04.8	+1.1
	comp=Z,9.2nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	47.18	254	pP	pP	20 22 20.8	+1.9
	comp=Z,0.5nm,0.7s,baz=43,slow=7.8,SNR=4.6						
BRVK	Borovoye	49.87	310	*e*P	P	20 22 25.7	+0.2
	comp=Z,3.1nm,0.5s,mb4.6						
ZRNK	Zerenda	50.63	310	*e*P	P	20 22 30.7	-0.6
	comp=Z,6.1nm,0.6s,mb4.7						
ARU	Arti	54.74	317	*i* P	P	20 23 01.0	-0.9
ARU	Arti	54.74	317	*e*P	P	20 23 00.9	-1.0
	comp=Z,6.4nm,0.5s,mb4.9						
RES	Resolute Bay	55.67	16	*e*P	P	20 23 08.1	-0.4
	comp=Z,21nm,0.5s,mb5.4						
YKW3	Yellowknife Ar	56.42	33	*e*P	P	20 23 14.5	+0.5
YKA	Yellowknife Ar	56.46	33	P	P	20 23 13.8	-0.4
	comp=Z,1.9nm,0.7s,mb4.2,baz=303,slow=7.0,SNR=5.0						
YKA				LR	LR	20 48 35.4	
	comp=Z,42nm,18.3s,MS3.6,baz=330,slow=37						
YKA	Yellowknife Ar	56.46	33	P	P	20 23 13.8	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,42nm,18.3s						
ARCES	ARCESS Array B	59.84	340	P	P	20 23 36.4	-1.4
	comp=Z,6.9nm,1.1s,mb4.6,baz=43,slow=6.0,SNR=6.5						
ARCES	ARCESS Array B	59.84	340	P	P	20 23 36.4	-1.3
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WRA	Warramunga Arr	63.75	193	P	P	20 24 03.3	-1.4
	comp=Z,0.6nm,0.9s,mb3.6,baz=11,slow=7.2,SNR=6.2						
WRA				pP	pP	20 24 17.6	-1.3
	comp=Z,1.9nm,0.8s,baz=10,slow=6.8,SNR=9.1						
WRA	Warramunga Arr	63.75	193	P	P	20 24 03.3	-1.3
WRA				*PP	pP	20 24 17.6	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.8s						
SUMG	Summit	64.60	2	*e*P	P	20 24 09.7	+0.4
	comp=N,9.4nm,0.6s,mb5.0						
KAF	Kangasniemi	64.86	333	*e*p	P	20 24 10.1	-1.0
FINES	FINESS Array B	65.42	333	P	P	20 24 14.2	-0.5
	comp=N,2.6nm,0.5s,mb4.5,baz=66,slow=6.6,SNR=19						
FINES				LR	LR	20 56 46.9	
	comp=N,19nm,18.6s,MS3.3,baz=161,slow=40						
FINES	FINESS Array B	65.42	333	P	P	20 24 14.2	-0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,19nm,18.6s						
OBN	Obninsk	65.78	324	P	P	20 24 15.9	-1.3
FCC	Fort Churchill	66.70	30	*e*P	P	20 24 22.8	-0.1
	comp=Z,9.6nm,1.0s,mb4.8						
ASAR	Alice Springs	67.47	193	P	P	20 24 28.9	+0.6
	comp=Z,0.3nm,0.8s,baz=4.5,slow=5.5,SNR=3.6						
ASAR				pP	pP	20 24 42.7	0.0
	comp=Z,0.7nm,0.8s,baz=10,slow=6.4,SNR=4.8						
NVAR	Mina Array Bea	68.08	58	P	P	20 24 33.5	+1.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=288,slow=7.3,SNR=9.8						
NB2	NORSAR Subarra	70.19	339	P	P	20 24 44.0	-0.4
	comp=Z,3.1nm,0.4s,mb4.6,baz=32,slow=6.2						
NOA	NORSAR Array B	70.19	339	P	P	20 24 44.5	0.0
	comp=Z,3.0nm,0.5s,mb4.5,baz=32,slow=6.3,SNR=23						
NOA	NORSAR Array B	70.19	339	P	P	20 24 44.5	+0.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	NORSAR Array B	70.19	339	P	P	20 24 44.5	0.0
PDAR	Pinedale Array	70.48	49	P	P	20 24 47.2	+0.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=213,slow=1.5,SNR=6.9						
GNI	Garni	71.44	308	LR	LR	20 56 47.6	
	comp=Z,25nm,18.2s,MS3.5,baz=168,slow=36						
AKASG	Malin Array Be	72.04	324	P	P	20 24 55.7	-0.1
	comp=Z,2.8nm,0.3s,mb4.7,baz=40,slow=6.4,SNR=35						
AKASG				pP	pP	20 25 09.3	-1.0
	comp=Z,0.6nm,0.4s,baz=37,slow=5.8,SNR=3.6						
AKASG	Malin Array Be	72.04	324	P	P	20 24 55.7	0.0
AKASG				*PP	pP	20 25 09.3	-0.9
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.4s						
MALT	Malatya	76.29	310	P	P	20 25 19.6	-1.0
	comp=N,2.4nm,0.9s,mb4.1						
MORC	Moravsky Berou	77.50	329	P	P	20 25 27.6	+0.5
	comp=N,1.7nm,0.8s,mb4.0						
CLL	Collm	77.85	332	⇓P	P	20 25 29.5	+0.5
	comp=N,logA/T=0.9,mb4.6						
CLL	Collm	77.85	332	⇓*i*P	P	20 25 29.5	+0.5
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	Collm	77.85	332	⇓*i*P	P	20 25 29.5	+0.5
	comp=Z,8.0nm,1.0s,mb4.6						
BRTR	Keskin Array B	77.91	314	P	P	20 25 30.9	+1.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=75,slow=3.8,SNR=6.1						
BRTR				LR	LR	21 05 54.9	
	comp=Z,17nm,18.5s,MS3.4,baz=110,slow=40						
BRTR	Keskin Array B	77.91	314	P	P	20 25 30.9	+1.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,17nm,18.5s						
GERES	GERESS Array B	79.68	331	P	P	20 25 39.1	+0.1
	comp=Z,0.8nm,0.8s,mb3.7,baz=37,slow=6.7,SNR=5.3						
GERES	GERESS Array B	79.68	331	P	P	20 25 39.1	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	83.16	56	P	P	20 25 59.4	+1.8
	comp=Z,1.2nm,0.7s,mb4.0,baz=288,slow=4.0,SNR=6.2						
TXAR				pP	pP	20 26 15.2	+2.9
	comp=Z,0.9nm,0.6s,baz=288,slow=4.0,SNR=1.8						
TXAR	Lajitas Array	83.16	56	P	P	20 25 59.4	+1.8
TXAR				pP	pP	20 26 15.2	+2.9

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*NEIC **23** 20:13:39.6, 33.30S×71.85W, h28^{km}, ML3.4(GUC), After GUC.*

GUC 23 20:13:39.6±0.6, **33.30S×71.85W, h28**^{km}±5^{km}**, MD3.9, ML3.4, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	Las Cruces	0.29	127	⇑*i*P	Pb	20 13 46.7	0.0
LCCH				*i* S	Sb	20 13 51.9	+0.4
LNV	Longovilo	0.74	151	⇓*i*P	Pb	20 13 53.3	-0.6
LNV				*i* S	Sb	20 14 03.6	-0.2
TACH	Talagante	0.83	115	⇑*i*P	Pb	20 13 55.1	-0.3
TACH				*i* S	Sb	20 14 06.3	0.0
PEL	Peldehue	0.99	81	*e*P	Pn	20 13 57.4	-0.3
PEL				AMP		20 14 14.7	
	comp=N,2μm,0.2s						
STL	Santa Lucia	1.02	98	*e*P	Pn	20 13 57.9	-0.3
STL				*i* S	Sb	20 14 11.7	+0.2
ANTU	Antumapu	1.05	105	*e*P	Pn	20 13 58.1	-0.5
ANTU				*i* S	Sn	20 14 12.6	+0.2
ANTU				AMP		20 14 17.2	
	comp=E,1μm,0.8s						
DSCH	Colegio Aleman	1.07	95	*e*P	Pn	20 13 58.5	-0.4
DSCH				*i* S	Sn	20 14 13.3	+0.4
DSCH				AMP		20 14 20.0	
	comp=E,2μm,0.6s						
CLCH	Cerro Calan	1.10	95	*e*P	Pn	20 13 59.3	0.0
CLCH				*i* S	Sn	20 14 14.0	+0.4
CLCH				AMP		20 14 19.1	
	comp=N,2μm,0.6s						
PCH	Pirque	1.16	106	*e*P	Pn	20 14 00.4	+0.3
PCH				*i* S	Sn	20 14 15.8	+0.7
CHCH	Chadas Angostu	1.18	123	*e*P	Pn	20 14 00.2	-0.2
CHCH				*i* S	Sn	20 14 15.7	+0.1
JACH	Jahuel	1.22	60	*e*P	Pn	20 14 00.9	-0.1
JACH				*i* S	Sn	20 14 17.2	+0.4
FCH	Farellones	1.30	91	*e*P	Pn	20 14 02.7	+0.5
FCH				*i* S	Sn	20 14 20.1	+1.4
FCH				AMP		20 14 23.7	
	comp=E,1μm,0.3s						
CACH	El Canelo	1.32	128	*e*P	Pn	20 14 03.2	+0.8
CACH				*i* S	Sn	20 14 21.1	+2.0
LMEL	Las Melosas	1.48	112	*e*P	Pn	20 14 05.4	+0.8
LMEL				*i* S	Sn	20 14 25.0	+1.9
LMEL				AMP		20 14 26.9	
	comp=N,1μm,0.3s						

SFDO	**San Fernando**	**1.48**	**152**	*e*P	Pn	20 14 04.9	+0.2
SFDO				*i* S	Sn	20 14 24.6	+1.4
CICH	**Cipreses**	**1.56**	**131**	⇓*i*P	Pn	20 14 06.8	+0.9
CICH				*i* S	Sn	20 14 26.6	+1.3
CMCH	**Combarbala**	**2.24**	**19**	*e*P	Pn	20 14 14.6	-1.1
TLL	**Tololo Astrono**	**3.25**	**16**	*e*P	Pn	20 14 28.9	-1.1
TLL				*i* S	Sn	20 15 08.1	-0.1
TLL				AMP		20 15 23.2	
	comp=N,182nm,0.5s						
LVC	**Limon Verde**	**10.96**	**14**	P	P	20 16 15.6	-2.1

ISC 23 20:34:50.4±2.0**,37.62N**±0.05×**26.7E**±0.1**,h33**^{km}**,n10,**
σ**0**^{s}**63**/20**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.83**	**131**	*i* P	**P**	**20 35 06.3**	**+0.7**
BDRM				*i* S	**S**	**20 35 17.1**	**+0.1**
BDRM	**Kayabasi**	**0.83**	**131**	*i* P	**P**	**20 35 06.3**	**+0.7**
BDRM				*i* S	**S**	**20 35 17.1**	**+0.1**
IZM	**Izmir**	**0.91**	**31**	PG	**P**	**20 35 05.9**	**-0.9**
IZM				*e*SG	**S**	**20 35 18.4**	**-0.5**
KDAG	**Bornova**	**0.92**	**31**	*i* P	**P**	**20 35 07.2**	**+0.4**
KDAG				*i* S	**S**	**20 35 20.2**	**+1.1**
KDAG	**Bornova**	**0.92**	**31**	*i* P	**P**	**20 35 07.2**	**+0.4**
KDAG				*i* S	**S**	**20 35 20.2**	**+1.1**
MLSB	**Milas**	**0.95**	**110**	PG	**P**	**20 35 06.6**	**-0.7**
MLSB				SG	**S**	**20 35 20.0**	**+0.2**
AYDN	**Tasoluk**	**0.97**	**87**	*e*P	**P**	**20 35 07.4**	**-0.3**
AYDN				*i* S	**S**	**20 35 20.1**	**-0.3**
AYDN	**Tasoluk**	**0.97**	**87**	*e*P	**P**	**20 35 07.4**	**-0.3**
AYDN				*i* S	**S**	**20 35 20.1**	**-0.3**
MANT	**Manisa**	**1.73**	**59**	*i* P	**P**	**20 35 23.0**	**+4.5**
MANT				*e*S	**S**	**20 35 44.2**	**+4.5**
MANT	**Manisa**	**1.73**	**59**	*i* P	**P**	**20 35 23.0**	**+4.5**
MANT				*e*S	**S**	**20 35 44.2**	**+4.5**

IDC 23 20:35:16.9±3.0**,6.76S**×**104.97E,mb3.6**/4**,mb1 3.7**/4**,**
mb1mx3.5/15**,Error ellipse: s-maj=129.0km**
s-min=23.7km az=56.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.36**	**118**	P	P	20 41 39.0	-2.7
	0.3nm,0.5s,baz=288,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**42.30**	**131**	P	P	20 43 12.9	-1.3
	1.6nm,0.5s,baz=298,slow=8.7,SNR=7.9						
SONM	**Songino Array**	**54.37**	**1**	P	P	20 44 45.9	-1.9
	0.2nm,0.5s,baz=181,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**57.00**	**342**	P	P	20 45 04.1	-2.8
	0.2nm,0.3s,baz=152,slow=8.6,SNR=7.4						

*FUNV **23** 20:39:47.3,11.02N×62.06W,h108^{km},MW3.2*
*TRN **23** 20:39:48.4,11.03N×62.06W,h110^{km},MD3.3*
ISC 23 20:39:46.0±0.6**,10.97N**±0.03×**62.17W**±0.03**,h115**^{km}±6^{km}**,**
n25,σ**1**^{s}**09**/49**,4C-1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.33**	**190**	⇓*i*P	**P**	**20 40 03.4**	**+0.8**
GUIV				*e*S	**S**	**20 40 14.9**	**-0.1**
TRN	**Trinidad (W)**	**0.81**	**113**	⇑*i*P	**P**	**20 40 07.7**	**+1.7**
TRN				*e*S	**S**	**20 40 20.1**	**-1.0**
TPP	**Pointe-a-Pierr**	**0.96**	**133**	*e*P	**P**	**20 40 08.1**	**+0.6**
TPP				*e*S	**S**	**20 40 23.9**	**+0.3**
ITEV	**Isla Los Testi**	**1.02**	**292**	*e*P	**P**	**20 40 08.9**	**+0.7**
ITEV				*e*S	**S**	**20 40 24.6**	**-0.1**
CRUV	**Carupano**	**1.09**	**254**	⇑*i*P	**P**	**20 40 10.3**	**+1.4**
CRUV				*e*S	**S**	**20 40 26.2**	**+0.1**
GUNV	**Guanoco**	**1.11**	**224**	⇑*i*P	**P**	**20 40 11.4**	**+2.3**
GUNV				*e*S	**S**	**20 40 27.2**	**+0.9**
TBH	**Brigand Hill**	**1.18**	**114**	*e*P	**P**	**20 40 11.6**	**+1.7**
TBH				*e*S	**S**	**20 40 28.2**	**+0.4**
GRW	**Mount Saint Ca**	**1.28**	**23**	*e*P	**P**	**20 40 12.2**	**+1.2**
GRW				*e*S	**S**	**20 40 30.1**	**+0.4**
GRHS	**Sauteurs**	**1.35**	**22**	*e*P	**P**	**20 40 12.6**	**+0.9**
GRHS	**Sauteurs**	**1.35**	**22**	⇑*e*P	**P**	**20 40 12.7**	**+0.9**
GRHS				*e*S	**S**	**20 40 29.8**	**-1.4**
GRIC	**Isle de Caille**	**1.42**	**23**	*e*P	**P**	**20 40 13.7**	**+1.0**
GRIC				*e*S	**S**	**20 40 31.1**	**-1.7**
GRSS	**Sisters**	**1.43**	**22**	*e*P	**P**	**20 40 13.7**	**+1.0**
GRSS				*e*S	**S**	**20 40 31.3**	**-1.5**
BOT	**Bacolet**	**1.43**	**82**	*i* P	**P**	**20 40 13.1**	**+0.3**
BOT				*e*S	**S**	**20 40 31.4**	**-1.6**
GRCU	**Cariacou**	**1.65**	**25**	*e*P	**P**	**20 40 15.8**	**+0.5**
GRCU				*e*S	**S**	**20 40 35.9**	**-1.4**
ORIV	**Oritupano**	**2.25**	**213**	*e*P	**P**	**20 40 24.4**	**+1.3**
ORIV				*e*S	**S**	**20 40 51.4**	**+0.4**
SVB	**Belmont**	**2.45**	**21**	*e*P	**P**	**20 40 25.7**	**-0.1**
SVB				*e*S	**S**	**20 40 49.0**	**-6.7**
SVV	**Soufriere Volc**	**2.51**	**22**	*e*P	**P**	**20 40 26.4**	**-0.1**
SVV				*e*S	**S**	**20 40 51.9**	**-5.1**
IBAV	**Isla La Blanqu**	**2.51**	**290**	*e*P	**P**	**20 40 27.0**	**+0.5**
IBAV				*e*S	**S**	**20 40 56.5**	**-0.6**
PCRV	**Puerto La Cruz**	**2.56**	**252**	*e*P	**P**	**20 40 28.0**	**+0.9**
PCRV				*e*S	**S**	**20 40 57.1**	**-1.0**
RIOV	**Rio Grande**	**2.91**	**173**	*e*P	**P**	**20 40 31.6**	**-0.2**
RIOV				*e*S	**S**	**20 41 04.6**	**-1.8**
GURV	**El Guri**	**3.32**	**196**	*e*P	**P**	**20 40 37.2**	**-0.2**
GURV				*e*S	**S**	**20 41 14.4**	**-2.0**
MERV	**Las Mercedes**	**4.41**	**248**	*e*P	**P**	**20 40 52.3**	**+0.1**
MERV				*e*S	**S**	**20 41 40.5**	**-2.4**
LUEV	**Luepa**	**5.14**	**172**	*e*P	**P**	**20 41 00.6**	**-1.5**
LUEV				*e*S	**S**	**20 41 55.2**	**-5.5**
CAOV	**Caicara del Or**	**5.47**	**229**	*e*P	**P**	**20 41 06.2**	**-0.3**
CAOV				*e*S	**S**	**20 42 05.0**	**-3.8**
BAUV	**El Baul**	**6.13**	**251**	*e*P	**P**	**20 41 14.3**	**-1.1**
BAUV				*e*S	**S**	**20 42 19.5**	**-5.3**

*IDC **23** 20:43:00.2±35.0,21.32N×142.58E,h528^{km}±407^{km},*
mb2.9/6,mb1 3.0/6,mb1mx2.7/22,Error ellipse:
s-maj=225.0km s-min=26.1km az=66.0
*JMA **23** 20:44:40.8±0.4,33.77N×137.83E,h381^{km},M3.1*
ISC 23 20:42:15.1±3.5**,21.9N**±0.1×**143.5E**±0.7**,h93**^{km}±35^{km}**,n10,**
σ**0**^{s}**63**/10**,mb3.6**/6**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRY	**Ryogami san**	**14.67**	**345**	P	**P**	**20 45 38.4**	**-0.6**
JHO	**Hitachi**	**14.92**	**351**	P	**P**	**20 45 48.4**	**+6.2**
JAG	**Ashikaga**	**14.94**	**347**	P	**P**	**20 45 41.9**	**-0.5**
JFT	**Otama**	**15.84**	**351**	P	**P**	**20 45 54.9**	**+1.1**
WRA	**Warramunga Arr**	**42.51**	**193**	P	**P**	**20 50 03.4**	**+0.4**
	0.3nm,0.4s,mb3.4,baz=15,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**46.22**	**192**	P	**P**	**20 50 32.4**	**-0.3**
	0.3nm,0.9s,mb3.0,baz=12,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**54.82**	**313**	P	**P**	**20 51 38.1**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=93,slow=8.7,SNR=3.9						
BVAR	**Borovoye Array**	**62.76**	**319**	P	**P**	**20 52 32.6**	**0.0**
	1.0nm,0.5s,mb4.0,baz=101,slow=7.6,SNR=6.4						
ARCES	**ARCESS Array B**	**78.87**	**342**	P	**P**	**20 54 09.7**	**+0.6**
	2.1nm,0.9s,mb4.0,baz=39,slow=7.8,SNR=4.1						
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**20 54 30.7**	**-1.1**
	3.2nm,1.1s,mb4.1,baz=117,slow=8.5,SNR=3.4						

IDC 23 20:43:18.9±48.0**,16.86S**×**173.07W,mb3.9**/3**,mb1 4.1**/3**,**
mb1mx3.8/17**,Error ellipse: s-maj=918.0km**
s-min=184.2km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.60**	**241**	P	P	20 51 25.2	-1.6
	3.3nm,1.0s,baz=98,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**49.84**	**258**	P	P	20 52 13.8	-2.3
	0.5nm,0.8s,baz=95,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**49.98**	**253**	P	P	20 52 15.4	-1.7
	1.9nm,0.6s,baz=90,slow=8.3,SNR=34						

*IDC **23** 21:26:12.9±1.4,21.55S×66.63W,h212^{km}±13^{km},mb3.4/3,*
mb1 3.5/7,mb1mx3.4/17,Error ellipse: s-maj=23.6km
s-min=16.1km az=80.0
*NEIC **23** 21:26:12.5±0.7,21.51S×66.55W,h214^{km}±8^{km},mb3.9/1,*
Error ellipse: s-maj=15.9km s-min=9.4km az=74.0
ISC 23 21:26:11.7±0.8**,21.55S**±0.07×**66.6W**±0.1**,h217**^{km}±10^{km}**,**
n18,σ**1**^{s}**12**/16**,mb3.5**/3**,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.43**	**244**	P	**P**	**21 26 57.4**	**+1.1**
	6.9nm,0.3s,baz=51,slow=6.8,SNR=26						
LVC				S	**S**	**21 27 30.5**	**-0.4**
	14nm,0.3s,baz=242,slow=19,SNR=22						
LVC	**Limon Verde**	**2.43**	**244**	P	**P**	**21 26 57.4**	**+1.1**
LVC				S	**S**	**21 27 30.5**	**-0.4**
LPAZ	**La Paz**	**5.45**	**344**	P	**P**	**21 27 34.7**	**+1.9**
	11nm,0.3s,baz=150,slow=9.1,SNR=75						
LPAZ	**La Paz**	**5.45**	**344**	P	**P**	**21 27 34.7**	**+1.9**
ARE	**Arequipa**	**6.89**	**316**	*e*P	**P**	**21 27 49.5**	**-1.8**
ARE				*i* S	x	21 28 04.0	
CPUP	**Villa Florida**	**9.68**	**121**	P	**P**	**21 28 27.8**	**+0.4**
	0.1nm,0.3s,baz=326,slow=10,SNR=2.7						
CPUP	**Villa Florida**	**9.68**	**121**	P	**P**	**21 28 27.8**	**+0.4**
SAML	**Samuel**	**12.94**	**15**	*e*P	**P**	**21 29 07.8**	**-1.0**
	3.5nm,0.6s						
TRQA	**Tornquist**	**16.91**	**168**	*e*P	**P**	**21 29 54.9**	**-2.2**
PLCA	**Paso Flores**	**19.42**	**189**	P	**P**	**21 30 24.1**	**+0.8**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=2.1						
SNAA	**Sanae**	**61.52**	**161**	P	**P**	**21 36 06.9**	**-0.4**
PDAR	**Pinedale Array**	**75.27**	**329**	P	**P**	**21 37 32.2**	**-0.2**
	0.6nm,0.6s,mb3.4,baz=126,slow=7.3,SNR=4.7						
NVAR	**Mina Array Bea**	**76.91**	**321**	P	**P**	**21 37 42.3**	**+0.7**
	0.7nm,0.8s,mb3.3,baz=158,slow=7.0,SNR=4.0						
MAW	**Mawson**	**83.64**	**163**	P	**P**	**21 38 17.3**	**+0.8**
	1.1nm,0.7s,mb3.7,baz=188,slow=7.1,SNR=4.8						
ASAR	**Alice Springs**	**130.84**	**205**	PKP	PKPdf	21 44 58.3	+0.5
	0.4nm,0.4s,baz=152,slow=2.0,SNR=8.4						
WRA	**Warramunga Arr**	**133.98**	**208**	PKP	PKPdf	21 45 04.7	+0.9
	0.4nm,0.3s,baz=157,slow=1.8,SNR=21						
MKAR	**Makanchi Array**	**144.36**	**38**	PKP	PKPdf	21 45 22.1	+0.5
	3.1nm,0.5s,baz=330,slow=3.1,SNR=52						
SONM	**Songino Array**	**153.17**	**11**	PKP	PKPdf	21 45 37.9	+2.4
	0.4nm,0.6s,baz=291,slow=0.4,SNR=4.2						
SONM				PKPbc	PKPdf	21 45 44.8	+9.3
	0.7nm,0.5s,baz=300,slow=1.1,SNR=9.1						
SONM				PKPab	PKPab	21 45 58.1	-0.1
	0.5nm,0.8s,baz=315,slow=3.5,SNR=3.5						

*BJI **23** 21:51:42.2,49.98N×88.22E,h14^{km},mB4.5,mb4.4,ML4.4,*
Ms4.0,Msz4.0
*IDC **23** 21:51:43.7±0.8,49.77N×88.44E,mb3.8/7,mb1 4.0/10,*
mb1mx3.8/21,ML3.9/3,MS2.9/1,Ms1 3.0/1,ms1mx2.1/32,
Error ellipse: s-maj=15.6km s-min=11.4km az=170.0
*MOS **23** 21:51:44.4±2.7,49.49N×88.24E,h16^{km},mb4.1/4,Error*
ellipse: s-maj=16.0km s-min=9.2km az=106.2
*NEIC **23** 21:51:45.6±0.6,49.81N×88.29E,h10^{km},mb4.0/4,Error*
ellipse: s-maj=15.6km s-min=9.5km az=197.0
*NNC **23** 21:51:48.0±4.3,49.87N×87.91E,h8^{km}±21^{km},mpv4.3,*
Error ellipse: s-maj=34.8km s-min=19.5km az=87.0
ISC 23 21:51:46.5±1.8**,49.67N**±0.04×**88.22E**±0.06**,h26**^{km}±14^{km}**,**
n47,σ**1**^{s}**56**/67**,mb4.0**/12**,MS2.9**/1**,10C-5D,**
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTNR	**Kaitanak**	**1.84**	**286**	*e*PN	**Pn**	**21 52 17.8**	**+0.8**
KTNR				*i* S	**Sn**	**21 52 40.4**	**+0.7**
ARTR	**Artybash**	**2.21**	**345**	*e*PN	**Pn**	**21 52 21.9**	**-0.4**
UKR	**Ust'-Kan**	**2.55**	**301**	*e*PN	**Pn**	**21 52 29.6**	**+2.5**
UKR				*i* S	**Sn**	**21 53 03.2**	**+5.6**
TASR	**Tashtagol**	**3.10**	**356**	*e*PN	**Pn**	**21 52 36.3**	**+1.3**
TASR				*e*S	**Sn**	**21 53 14.7**	**+3.1**
ELT	**Yel'tsovka**	**3.80**	**342**	*e*PN	**Pn**	**21 52 49.7**	**+4.8**
ELT				*e*S	**Sn**	**21 53 35.8**	**+6.5**
MK31	**Makanchi Array**	**4.90**	**236**	⇓Pn	**Pn**	**21 53 02.4**	**+1.9**
	7.0nm,0.3s,baz=61,slow=12,SNR=625						
MK31				⇓Pg	**Pn**	**21 53 16.0**	**+16**
	55nm,0.6s,baz=52,slow=17,SNR=5.3						
MK31				⇑Sn	**Sn**	**21 53 59.0**	**+1.9**
	30nm,0.5s,baz=56,slow=25						
MK31				⇑Lg		21 54 21.6	
	112nm,0.6s,baz=41,slow=25,SNR=3.5						
MKAR	**Makanchi Array**	**4.90**	**236**	Pn	**Pn**	**21 53 02.4**	**+1.8**
	9.9nm,0.3s,baz=53,slow=15,SNR=374						
MKAR				Pg	**Pn**	**21 53 16.5**	**+16**
	43nm,0.3s,baz=52,slow=16,SNR=39						
MKAR				Sn	**Sn**	**21 54 02.1**	**+5.0**
	18nm,0.3s,baz=58,slow=28,SNR=5.7						
MKAR				Lg		21 54 24.9	
	20nm,0.3s,baz=50,slow=28,SNR=5.3						
MKAR	**Makanchi Array**	**4.90**	**236**	PN	**Pn**	**21 53 02.4**	**+1.9**
MKAR						21 53 16.5	
MKAR						21 54 02.1	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,43nm,0.3s						
MKAR				smax			
	comp=N,18nm,0.3s						
SHRR	**Shira**	**4.98**	**13**	*e*PN	**Pn**	**21 53 09.1**	**+7.4**
SHRR				*e*		21 54 11.8	
SHRR				pmax	pmax		
	comp=Z,222nm,0.6s						
SHRR				smax			
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**5.87**	**184**	*e*P	**Pn**	**21 53 15.8**	**+1.7**
WMQ				S	**Sn**	**21 54 21.5**	**+0.2**
WMQ				SG	Sn	21 54 50.8	+30
WMQ				Smax			
	comp=N,262nm,0.8s						
WMQ				Smax			
	comp=E,262nm,0.9s						
WMQ				LR	LR		
	comp=N,203nm,17.5s						
WMQ				LR	LR		
	comp=E,246nm,20.0s						
NVS	**Novosibirsk**	**6.01**	**331**	*e*PN	**Pn**	**21 53 13.1**	**-3.1**
NVS				*i* S	Sn	21 54 50.4	+25
KURK	**Kurchatov**	**6.25**	**283**	⇑Pn	**Pn**	**21 53 18.1**	**-1.5**
	comp=E,19nm,0.6s,baz=100,slow=8.9,SNR=99						
KURK				⇓Sn	**Sn**	**21 54 26.6**	**-4.4**
	comp=E,51nm,0.9s,baz=149,slow=16,SNR=4.7						
KURK				⇑Lg		21 54 57.2	
	comp=E,80nm,0.6s,baz=266,slow=14,SNR=3.6						
KURK	**Kurchatov**	**6.25**	**283**	Pn	**Pn**	**21 53 17.9**	**-1.7**
	comp=E,524nm,0.5s,SNR=15						
KURK	**Kurchatov**	**6.25**	**283**	*i* PN	**Pn**	**21 53 18.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**6.25**	**283**	*e*Pn	**Pn**	**21 53 17.7**	**-1.9**
	comp=Z,21nm,2.5s						
KURK				*e*Sn	**Sn**	**21 54 30.2**	**-0.8**
MOY	**Mondy**	**8.36**	**71**	*e*P	**P**	**21 53 47.4**	**-1.6**
MOY				pmax	pmax		
	comp=Z,17nm,1.0s						
VOSK	**Vostochnaya**	**11.24**	**292**	⇑P	**P**	**21 54 24.2**	**-4.3**
	comp=Z,2.8nm,0.5s						
VOSK				⇑S	**S**	**21 56 28.4**	**-5.9**
	comp=Z,6.3nm,0.7s						
BVA0	**Borovoye Array**	**11.64**	**294**	⇓P	**P**	**21 54 29.4**	**-4.6**
	comp=Z,0.6nm,0.6s						
BVA0				⇑S	**S**	**21 56 36.9**	**-7.2**
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**11.64**	**294**	Pn	**P**	**21 54 29.8**	**-4.2**
	comp=Z,1.0nm,0.3s,baz=109,slow=15,SNR=19						
BVAR				Sn	**S**	**21 56 35.4**	**-8.7**
	comp=Z,2.0nm,0.3s,baz=107,slow=20,SNR=5.0						
AAK	**Ala-Archa**	**11.83**	**239**	*e*P	**P**	**21 54 34.4**	**-2.2**
	comp=Z,0.1nm,0.7s						
AAK				*e*S	**S**	**21 56 43.4**	**-5.3**
SONM	**Songino Array**	**12.14**	**92**	Pn	**P**	**21 54 37.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=285,slow=14,SNR=7.7						
SONM				Pg	P	21 55 31.6	+51
	comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=5.1						
SONM				Lg		21 58 05.4	
	comp=Z,0.5nm,0.3s,baz=281,slow=25,SNR=10						
ZRNK	**Zerenda**	**12.46**	**293**	⇑P	**P**	**21 54 42.6**	**-2.3**
	comp=Z,5.0nm,0.8s						
ZRNK				⇑S	**S**	**21 56 57.8**	**-6.1**
	comp=Z,12nm,0.8s						
ZRNK	**Zerenda**	**12.46**	**293**	*e*P	**P**	**21 54 38.6**	**-6.4**
	comp=Z,0.1nm,0.5s						
KK31	**Karatay Array**	**13.86**	**248**	P	**P**	**21 55 00.2**	**-3.2**
	comp=Z,2.2nm,0.5s,baz=55,slow=13,SNR=43						
LZH	**Lanzhou**	**17.71**	**134**	*e*P	**P**	**21 55 54.8**	**+1.9**
LZH				AP		21 55 57.3	
LZH				XP		21 55 59.6	
LZH				PP	PP	21 56 10.3	+2.8
LZH				*e*S	**S**	**21 59 13.1**	**+6.1**
LZH				XS		21 59 18.0	
LZH				SS	SS	21 59 35.8	+6.2
LZH				AMB	AMB		
	comp=Z,24nm,1.3s						
LZH				AMB	AMB		
	comp=Z,112nm,4.3s						
LZH				LR	LR		
	comp=N,634nm,10.2s						
LZH				LR	LR		
	comp=Z,743nm,12.5s						
AB31	**Akbulak array**	**18.35**	**280**	⇑P	**P**	**21 55 59.8**	**-0.9**
	comp=Z,1.2nm,0.6s						
ARU	**Arti**	**18.96**	**302**	⇓*i*P	**P**	**21 56 08.5**	**+0.5**
ARU				*e*S	**S**	**21 59 43.6**	**+8.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**18.96**	**302**	*e*P	**P**	**21 56 06.1**	**-1.9**
	comp=Z,4.9nm,0.7s						
ARU				*e*S	**S**	**21 59 22.3**	**-13**
LSA	**Lhasa**	**20.07**	**173**	*e*P	**P**	**21 56 22.7**	**+2.0**
	comp=Z,2.7nm,0.7s						
LSA				*e*S	S	22 00 46.0	+46
BJT	**Baijiatuau**	**21.93**	**105**	P	**P**	**21 56 39.3**	**-0.3**
	comp=Z,7.3nm,0.9s,mb4.1						
ENH	**Enshi**	**25.17**	**132**	P	**P**	**21 57 12.2**	**+1.0**
	comp=Z,10nm,1.0s,mb4.3						
CN2	**Changchun**	**25.99**	**89**	*e*P	**P**	**21 57 18.1**	**-0.6**
CN2				*e*S	**S**	**22 01 46.0**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
MDJ	**Mudanjiang**	**28.32**	**84**	P	**P**	**21 57 35.6**	**-4.3**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.1						
NJ2	**Nanjing**	**28.82**	**116**	*e*P	**P**	**21 57 44.0**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**35.65**	**313**	P	**P**	**21 58 42.3**	**-1.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=76,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**35.65**	**313**	P	**P**	**21 58 42.3**	**-1.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**39.26**	**277**	P	**P**	**21 59 15.8**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=76,slow=7.6,SNR=4.4						
BRTR	**Keskin Array B**	**39.26**	**277**	P	**P**	**21 59 15.8**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**42.68**	**316**	P	**P**	**21 59 40.1**	**-2.1**
	comp=Z,1.0nm,0.6s,mb3.7,baz=66,slow=7.9						
NOA	**NORSAR Array B**	**42.68**	**316**	P	**P**	**21 59 43.1**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=64,slow=7.8,SNR=7.7						
NOA				LR	LR	22 17 31.9	
	comp=Z,16nm,20.4s,MS2.9,baz=90,slow=36						
NOA	**NORSAR Array B**	**42.68**	**316**	P	**P**	**21 59 43.1**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,17nm,20.4s						
CLL	**Collm**	**45.91**	**302**	P	**P**	**22 00 09.0**	**+0.7**
ILAR	**Eielson Array**	**58.16**	**24**	P	**P**	**22 01 39.5**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=318,slow=5.1,SNR=4.4						
ESDC	**Sonseca Array**	**62.34**	**299**	P	**P**	**22 02 08.9**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.8,baz=45,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**80.45**	**137**	P	**P**	**22 03 55.7**	**-1.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=342,slow=5.8,SNR=12						
WRA	**Warramunga Arr**	**80.45**	**137**	P	**P**	**22 03 55.7**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**83.53**	**139**	P	**P**	**22 04 12.1**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=334,slow=4.8,SNR=7.1						

GUC 23 21:55:07.3±0.7**,33.15S**×**70.27W,h12**^{km}±2^{km}**,MD3.6,**
ML2.4,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.17**	**187**	⇑*i*P	Pg	21 55 11.8	+0.3
FCH				*i* S	Sg	21 55 14.6	+0.3
FCH				AMP		21 55 15.1	
	comp=E,1µm,0.6s						
CLCH	**Cerro Calan**	**0.33**	**223**	⇑*i*P	Pg	21 55 14.9	+0.6
CLCH				*i* S	Sg	21 55 20.2	+1.2
CLCH				AMP		21 55 22.2	
	comp=E,2µm,0.6s						
DSCH	**Colegio Aleman**	**0.35**	**226**	*e*P	Pg	21 55 15.1	+0.5
DSCH				*i* S	Sg	21 55 20.6	+1.0
DSCH				AMP		21 55 24.3	
	comp=N,860nm,0.6s						
PCH	**Pirque**	**0.51**	**204**	*e*P	Pb	21 55 17.8	+0.2
PCH				*i* S	Sb	21 55 25.3	+0.6
JACH	**Jahuel**	**0.54**	**330**	⇓*i*P	Pb	21 55 18.3	+0.1
JACH				*i* S	Sb	21 55 26.1	+0.5
LMEL	**Las Melosas**	**0.69**	**176**	*e*P	Pb	21 55 21.0	+0.2
LMEL				*i* S	Sb	21 55 30.9	+0.9
LMEL				AMP		21 55 31.6	
	comp=N,220nm,0.1s						
TACH	**Talagante**	**0.75**	**228**	⇓*i*P	Pb	21 55 21.7	-0.1
CHCH	**Chadas Angostu**	**0.84**	**202**	*e*P	Pb	21 55 22.7	-0.6
CHCH				*i* S	Sb	21 55 34.3	0.0
CACH	**El Canelo**	**1.00**	**196**	*e*P	Pb	21 55 26.0	0.0
CACH				*i* S	Sb	21 55 40.4	+1.4
LCCH	**Las Cruces**	**1.14**	**253**	*i* P	Pb	21 55 28.4	0.0
CICH	**Cipreses**	**1.17**	**186**	*i* P	Pb	21 55 29.8	+0.8
CICH				*i* S	Sb	21 55 45.4	+1.6
LNV	**Longovilo**	**1.25**	**230**	*e*P	Pb	21 55 30.0	-0.3
SFDO	**San Fernando**	**1.58**	**203**	*e*P	Pn	21 55 34.6	-0.7

IDC 23 22:03:36.9±2.4**,6.43S**×**129.83E,mb3.4**/1**,mb1 4.3**/4**,**
mb1mx3.8/13**,ML4.2**/3**,Error ellipse: s-maj=111.0km**
s-min=27.8km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.30**	**199**	Pn	P	22 06 33.4	-3.0
	1.2nm,0.3s,baz=20,slow=11,SNR=23						
FITZ				Sn	S	22 08 36.2	-19
	1.9nm,0.3s,baz=23,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**14.13**	**162**	Pn	P	22 06 57.8	-2.9
	1.8nm,0.3s,baz=336,slow=13,SNR=84						
WRA				Sn	S	22 09 24.5	-15
	0.9nm,0.3s,baz=332,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.58**	**168**	P	P	22 07 44.0	-1.1
	0.6nm,0.3s,baz=344,slow=10,SNR=28						
ASAR				S	S	22 10 50.6	-9.3
	0.2nm,0.3s,baz=340,slow=27,SNR=5.1						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	22 14 36.0	-2.1
	0.3nm,0.6s,baz=122,slow=8.3,SNR=7.0						

*NEIC **23** 22:14:05.8,15.92N×92.97W,h150^{km},MD3.8(MEX),After*
MEX.
*MEX **23** 22:14:06.1±0.7,15.90N×93.01W,h148^{km}±9^{km},MD4.0*
ISC 23 22:14:04.7±1.5**,15.89N**±0.09×**93.1W**±0.1**,h141**^{km}±15^{km}**,**
n9,σ**0**^{s}**53**/15**,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**0.93**	**25**	*i* P	**P**	**22 14 28.6**	**+0.3**
SCX				*i* S	**S**	**22 14 46.2**	**-0.2**
CCIG	**Comitan**	**0.96**	**66**	*i* P	**P**	**22 14 29.2**	**+0.7**
CCIG				*i* S	**S**	**22 14 46.8**	**+0.1**
TPX	**Tapachula**	**1.24**	**142**	*i* P	**P**	**22 14 30.8**	**-0.4**
TPX				*i* S	**S**	**22 14 51.3**	**-0.2**
CMIG	**Matias Romero**	**2.13**	**304**	*e*P	**P**	**22 14 42.4**	**+1.1**
CMIG				*e*S	**S**	**22 15 09.4**	**+0.1**
TUIG	**Tuzandepetl**	**2.51**	**329**	*i* P	**P**	**22 14 46.0**	**-0.1**
TUIG				*i* S	**S**	**22 15 17.0**	**-0.7**
EVV	**El Vigia**	**3.37**	**320**	*e*S	**S**	**22 15 32.2**	**-5.5**
IISM	**Ciudad Serdan**	**5.16**	**307**	*e*P	**P**	**22 15 20.0**	**-1.0**
PPM	**Popocatepetl**	**6.19**	**301**	*e*P	**P**	**22 15 35.0**	**+0.1**
PPM				*i* P		22 15 36.7	
PPM				*i* S	**S**	**22 16 45.2**	**+0.3**
PPM	**Popocatepetl**	**6.19**	**301**	*e*P	**P**	**22 15 35.0**	**+0.1**
PPM				*i* P		22 15 39.5	

*IDC **23** 22:16:01.2±7.9,49.12N×158.99E,mb3.7/3,mb1 4.0/4,*
mb1mx3.6/23,ML4.0/1,Error ellipse: s-maj=204.0km
s-min=21.1km az=174.0
*MOS **23** 22:16:08.1±1.6,50.02N×159.01E,h48^{km},mb4.1/2,Error*
ellipse: s-maj=26.4km s-min=9.2km az=87.2
*KRSC **23** 22:16:09.1±1.1,50.16N×159.14E,h20^{km}±9^{km},ML4.5*
ISC 23 22:16:10.1±0.9**,50.14N**±0.05×**159.17E**±0.07**,h43**^{km}±11^{km}**,**

n40,σ0^{s}94/66,mb3.8/3,2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	2.00	312	i P	P	22 16 41.5	-0.6
PAU				eS	S	22 17 05.5	-0.6
PAU				Smax			
	500nm,0.2s						
SKR	Severo-Kuril's	2.03	287	i P	P	22 16 45.0	+2.5
SKR				i S	S	22 17 09.5	+2.8
SKR	Severo-Kuril's	2.03	287	⇓iPN	P	22 16 38.0	-4.5
SKR				i S	S	22 16 59.5	-7.2
SKR				pmax	pmax		
	comp=Z,140nm,0.2s						
RUS	Russkaya	2.33	350	P	P	22 16 47.0	+0.1
RUS				S	S	22 17 14.9	+0.4
RUS	Russkaya	2.33	350	i P	P	22 16 46.9	0.0
RUS				i S	S	22 17 14.8	+0.3
ALID	Alaid	2.42	289	i P	P	22 16 46.5	-1.7
ALID				i S	S	22 17 14.0	-2.8
GRL	Gorelyy	2.51	344	i P	P	22 16 50.0	+0.6
GRL				eS	S	22 17 20.1	+1.1
MIPR	Malaya Ipel'ka	2.62	326	i P	P	22 16 50.9	-0.1
MIPR				eS	S	22 17 21.8	0.0
PET	Petropavlovsk	2.90	354	P	P	22 16 55.5	+0.5
PET				S	S	22 17 29.0	0.0
PET	Petropavlovsk	2.90	354	eP	P	22 16 54.7	-0.3
PET				eS	S	22 17 28.4	-0.6
PET	Petropavlovsk	2.90	354	⇓iPN	P	22 16 55.0	0.0
PET				eS	S	22 17 29.0	0.0
PET				pmax	pmax		
	comp=Z,105nm,0.3s						
PET				smax			
	comp=N,153nm,0.3s						
PET				smax			
	comp=E,160nm,0.4s						
SPN	Mys Shipunski	3.01	10	P	P	22 16 56.7	+0.2
SPN				S	S	22 17 31.2	-0.4
SPN	Mys Shipunski	3.01	10	eP	P	22 16 56.5	0.0
SPN				eS	S	22 17 31.2	-0.4
NLC	Nalytchevo	3.04	2	eP	P	22 16 56.3	-0.6
NLC				eS	S	22 17 30.7	-1.6
APC	Apacha	3.06	336	i P	P	22 16 57.5	+0.3
APC				i S	S	22 17 32.4	-0.5
APC				Smax			
	comp=E,40nm,0.4s						
UGLR	Uglovaya	3.08	356	eP	P	22 16 57.6	+0.1
SMAR	Somma	3.13	356	eP	P	22 16 58.9	+0.6
AVH	Avacha	3.14	355	i P	P	22 16 58.7	+0.3
AVH				eS	S	22 17 35.1	+0.1
SDLR	Sedlovina	3.15	357	i P	P	22 16 58.0	-0.5
KOK	Koryaka	3.17	354	i P	P	22 16 59.4	+0.6
GNL	Ganaly	3.64	348	i P	P	22 17 06.0	+0.6
GNL				eS	S	22 17 48.1	+0.5
KII	Karymskiy	3.90	2	P	P	22 17 10.3	+1.1
KII				S	S	22 17 55.1	+0.8
KII	Karymskiy	3.90	2	i P	P	22 17 10.1	+0.9
KII				eS	S	22 17 55.1	+0.8
MKZ	Mys Kozlova	4.69	19	eP	P	22 17 19.1	-1.2
MKZ				eS	S	22 18 10.5	-3.7
TUMR	Tumrok	5.18	6	eP	P	22 17 27.9	+0.7
TUMR				eS	S	22 18 25.7	-0.9
KMNR	Kamenistaya	5.66	6	eP	P	22 17 35.6	+1.7
ESO	Esso	5.80	357	i P	P	22 17 36.2	+0.4
ESO				eS	S	22 18 42.2	+0.2
LGNR	Loginova	6.02	8	eP	P	22 17 40.3	+1.4
LGNR				eS	S	22 18 46.8	-0.7
CIRR	Tsirk	6.06	8	eP	P	22 17 39.1	-0.3
SRDR	Sredinnyy	6.20	3	eP	P	22 17 41.3	-0.1
KBTR	Krutoberegovo	6.46	18	P	P	22 17 44.5	-0.6
KBTR				S	S	22 18 54.3	-4.1
KBTR	Krutoberegovo	6.46	18	eP	P	22 17 44.4	-0.7
KBTR				eS	S	22 18 54.2	-4.2
BKI	Bering	6.54	37	eS	S	22 18 52.9	-7.5
BKI				Smax			
	comp=E,40nm,0.7s						
FX1	Attu Island--F	9.15	67	Pn	P	22 18 21.2	-1.2
	comp=E,5.0nm,0.3s,baz=246,slow=19,SNR=17						
FX1				Sn	S	22 19 55.9	-9.2
	comp=E,3.5nm,0.3s,baz=318,slow=15,SNR=14						
MKAR	Makanchi Array	48.96	297	P	P	22 24 51.9	-1.9
	comp=E,0.2nm,0.5s,mb3.4,baz=57,slow=6.7,SNR=4.7						
FINES	FINESS Array B	62.61	337	P	P	22 26 32.5	+0.8
	comp=E,1.2nm,0.8s,mb4.1,baz=37,slow=9.5,SNR=4.0						
FINES	FINESS Array B	62.61	337	P	P	22 26 32.5	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	NORSAR Subarra	66.22	344	P	P	22 26 56.1	+1.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=24,slow=6.5						
NOA	NORSAR Array B	66.22	344	P	P	22 26 56.4	+1.4
	comp=Z,0.5nm,0.6s,mb3.8,baz=24,slow=6.4,SNR=4.5						
NOA	NORSAR Array B	66.22	344	P	P	22 26 56.4	+1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*IDC **23** 22:17:07.8±0.8,53.53S×140.81E,mb4.3/8,mb1 4.5/8, mb1mx4.4/12,MS3.6/2,Ms1 3.7/2,ms1mx3.6/3,Error ellipse: s-maj=27.0km s-min=18.5km az=85.0*

*NEIC **23** 22:17:10.1±5.4,53.53S×140.75E,h16^{km}±35^{km},mb4.5/6, Error ellipse: s-maj=13.9km s-min=8.1km az=95.0*

ISC 23 22:17:07.5±0.5**,53.47S**±0.06×**140.7E**±0.2**,h10**^{km}**,n26, σ1^{s}18**/21**,mb4.3**/12**,MS3.6**/3**,2C,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAU	Tasmania Unive	11.45	25	P	P	22 19 53.3	-0.7
CASY	Casey	19.58	217	eP	P	22 21 36.1	-1.9
	60nm,1.7s						
STKA	Stephens Creek	21.59	2	eP	P	22 22 00.9	+1.6
	10nm,0.9s,mb4.2						
STKA	Stephens Creek	21.59	2	P	P	22 22 00.7	+1.4
	9.5nm,0.7s,mb4.3,baz=164,slow=11,SNR=20						
RPZ	Rata Peaks	22.16	76	P	P	22 22 06.2	+1.2
	15nm,0.8s,mb4.5,baz=231,slow=6.5,SNR=3.0						
VNDA	Vanda	25.35	169	P	P	22 22 35.5	+0.1
	6.3nm,0.9s,mb4.2,baz=321,slow=9.9,SNR=6.9						
URZ	Urewera	29.18	73	P	P	22 23 08.6	-2.2
	9.4nm,0.9s,mb4.5,baz=340,slow=20,SNR=4.2						
ASAR	Alice Springs	30.21	348	P	P	22 23 19.9	-0.2
	3.7nm,0.6s,mb4.3,baz=166,slow=10.0,SNR=54						
ASAR				PcP	PcP	22 26 25.4	+4.2
	0.6nm,0.7s,baz=156,slow=3.4,SNR=4.7						
ASAR				LR	LR	22 33 31.0	
	comp=Z,73nm,21.9s,MS3.3,baz=185,slow=32						
ASPA	Alice Springs	30.21	348	eP	P	22 23 20.1	-0.1
WB2	Warramunga Arr	33.83	349	eP	P	22 23 51.5	-0.4
WRA	Warramunga Arr	33.83	349	P	P	22 23 51.4	-0.5
	4.0nm,0.7s,mb4.5,baz=173,slow=7.6,SNR=73						
WRA				PcP	PcP	22 26 35.7	+4.6
	1.2nm,0.8s,baz=183,slow=2.1,SNR=5.6						
WRAB	Tennant Creek	33.84	349	eP	P	22 23 51.2	-0.7
	28nm,1.2s,mb5.1						
QSPA	South Pole Qui	36.64	180	eP	P	22 24 14.7	-0.6
	14nm,1.1s,mb4.7						
QSPA				LR	LR		
	comp=Z,120nm,20.9s,MS3.7						
FITZ	Fitzroy Crossi	37.20	336	eP	P	22 24 21.1	+0.6
	comp=Z,3.5nm,0.6s,mb4.4						
MAW	Mawson	37.94	218	eP	P	22 24 25.8	-0.4
	comp=Z,1.8nm,0.8s,mb3.9						
SNAA	Sanae	52.53	194		P	22 26 18.1	-4.3
SNAA	Sanae	52.53	194	P	P	22 26 21.1	-1.3
	comp=Z,1.6nm,1.0s,mb3.9,baz=164,slow=4.7,SNR=6.6						
VNA2	Neumayer--Watz	53.83	192	⇑i	P	22 26 33.8	+1.9
VNA1	Neumayer--Stat	54.19	192	⇑i	P	22 26 37.1	+2.5
CMAR	Chiang Mai Arr	80.16	320	P	P	22 29 20.6	+1.3
	comp=Z,0.6nm,0.8s,mb3.6,baz=181,slow=7.2,SNR=4.8						
CMAR				LR	LR	23 02 37.1	
	comp=Z,50nm,18.4s,MS3.9,baz=160,slow=34						
CMAR	Chiang Mai Arr	80.16	320	P	P	22 29 20.6	+1.3
CMAR				LR	LR	23 02 37.1	
WCI	Wyandotte Cave	144.59	96	ePKP	PKPdf	22 36 42.8	-3.8
GERES	GERESS Array B	147.09	284	PKPbc	PKPdf	22 36 52.5	+2.0
	comp=Z,0.7nm,0.8s,baz=135,slow=5.7,SNR=6.1						
ARCES	ARCESS Array B	147.14	324	PKPbc	PKPdf	22 36 50.7	+0.7
	comp=Z,5.6nm,1.1s,baz=18,slow=15,SNR=3.1						
ARCES	ARCESS Array B	147.14	324	PKPbc	PKPdf	22 36 50.7	+0.7
DAVOX	Davos	148.32	278	PKPbc	PKPdf	22 36 54.5	+1.9
	comp=Z,4.5nm,1.1s,baz=203,slow=7.5,SNR=3.2						

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*OTT **23** 22:33:07.5±0.1,64.66N×110.67W,h1^{km},MN3.0/13, Blast, Ekati mine, Nt Mining explosion.*

ISC 23 22:33:06.2±0.3**,64.64N**±0.02×**110.74W**±0.06**,n24, σ0^{s}97**/46**,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKTN	Ekati Mine	0.08	44	PG	Pg	22 33 08.2	+0.4
LDGN	Lac de Gras No	0.10	68	PG	Pg	22 33 09.3	+1.1
DVKN	Diavik Mine	0.23	125	PG	Pg	22 33 11.5	+0.8
ACKN	Achilles Lake	0.36	351	PG	Pg	22 33 13.7	+0.5
ACKN				SG	Sg	22 33 18.0	0.0
ACKN				Trac		22 33 20.1	
	comp=Z,248nm,0.2s						
LGSN	Lac de Gras So	0.41	139	PG	Pg	22 33 14.9	+0.6
LGSN				SG	Sg	22 33 20.6	+0.9
LGSN				Trac		22 33 22.0	
	comp=Z,92nm,0.1s						
YMBN	Yamba Lake	0.41	305	PG	Pg	22 33 15.1	+0.7
YMBN				SG	Sg	22 33 20.7	+0.8
YMBN				Trac		22 33 21.6	
	comp=Z,54nm,0.1s						
YNEN	Yamba Lake Nor	0.47	344	PG	Pg	22 33 15.8	+0.3
YNEN				SG	Sg	22 33 22.2	+0.4
YNEN				Trac		22 33 23.2	
	comp=Z,69nm,0.1s						
MCKN	MacKay Lake No	0.50	153	PG	Pg	22 33 16.6	+0.5
MCKN				SG	Sg	22 33 24.0	+1.1
MCKN				Trac		22 33 24.5	
	comp=Z,179nm,0.1s						
GLWN	Glow Worm Lake	0.61	81	PG	Pg	22 33 18.2	-0.2
GLWN				SG	Sg	22 33 26.3	-0.2
GLWN				Trac		22 33 27.2	
	comp=Z,105nm,0.1s						
COWN	Contwyoto Lake	0.66	343	PG	Pg	22 33 19.3	0.0
COWN				SG	Sg	22 33 27.9	-0.1
COWN				Trac		22 33 29.6	
	comp=Z,77nm,0.1s						
NODN	Nodinka Narrow	0.69	188	PG	Pg	22 33 20.4	+0.5
NODN				SG	Sg	22 33 29.4	+0.2
NODN				Trac		22 33 31.4	
	comp=Z,120nm,0.1s						
MLON	Marlo Lake	0.77	151	PG	Pg	22 33 21.6	+0.1
MLON				SG	Sg	22 33 32.2	+0.4
MLON				Trac		22 33 32.8	
	comp=Z,41nm,0.1s						
BOXN	Box Lake	0.91	150	PG	Pg	22 33 24.2	-0.1
BOXN				SG	Sg	22 33 35.6	-0.9
BOXN				Trac		22 33 40.6	
	comp=Z,65nm,0.1s						
CAMN	Camsell Lake	0.92	184	PG	Pg	22 33 24.5	+0.1
CAMN				SG	Sg	22 33 37.0	+0.4
CAMN				Trac		22 33 38.0	
	comp=Z,98nm,0.1s						
LUPN	Lupin Mine	1.12	349	PG	Pg	22 33 27.6	-1.0
LUPN				SG	Sg	22 33 42.4	-1.1
LUPN				Trac		22 33 46.9	
	comp=Z,50nm,0.1s						
IHLN	Indian Hill La	1.34	183	PG	Pg	22 33 31.9	-1.1
IHLN				SG	Sg	22 33 49.2	-1.7
IHLN				Trac		22 33 51.8	
	comp=Z,65nm,0.1s						
KNDN	Kennady Lake	1.40	150	PG	Pg	22 33 32.7	-1.4
KNDN				SG	Sg	22 33 51.7	-1.1
KNDN				Trac		22 33 53.9	
	comp=Z,48nm,0.1s						
DSMN	Discovery Mine	2.03	225	PN	Pn	22 33 42.3	+0.4
DSMN				SN	Sn	22 34 10.2	+1.8
DSMN				Trac		22 34 11.5	
	comp=Z,37nm,0.1s						
YKW3	Yellowknife Ar	2.71	221	PN	Pn	22 33 50.6	-1.1
YKW3				SN	Sn	22 34 28.0	+2.2
YKW3				SG	Sg	22 34 35.9	-0.6
YKW3				Trac		22 34 39.1	
	comp=Z,25nm,0.2s						
FNBB	Fort Nelson	8.18	231	PN	P	22 35 06.5	-2.5
FNBB				SN	Sn	22 36 29.7	-14
INK	Inuvik	9.79	302	PN	P	22 35 27.7	-3.3
INK				SN	Sn	22 37 10.4	-12
FCC	Fort Churchill	9.84	119	PN	P	22 35 26.9	-4.9
FCC				SN	Sn	22 37 10.4	-14
SILO	Sutton Inlier	16.44	116	PN	P	22 36 50.1	-9.4
SILO				SN	S	22 39 45.8	-17
VIMO	Victor Mine	18.16	118	PN	P	22 37 17.1	-4.0
VIMO				SN	S	22 40 27.6	-14

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*BJI **23** 22:49:29.8,20.92S×178.27W,h610^{km},mB4.4,mb4.3*

*NEIC **23** 22:49:31.2±2.9,20.50S×178.58W,h583^{km}±34^{km},mb4.0/7, Error ellipse: s-maj=18.2km s-min=14.7km az=177.0*

*SYO **23** 22:49:31.1,20.50S×178.58W,h583^{km},MB4.0*

*IDC **23** 22:49:33.9±3.8,20.56S×178.58W,h615^{km}±48^{km}, mb3.4/11,mb1 3.6/12,mb1mx3.5/18,Error ellipse: s-maj=38.1km s-min=17.8km az=167.0*

ISC 23 22:49:31.2±3.2**,20.6S**±0.1×**178.6W**±0.1**,h598**^{km}±42^{km}**, n45,σ0^{s}90**/34**,mb3.9**/18**,3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.97	191	P	P	22 53 08.2	+0.7
	2.2nm,0.3s,baz=334,slow=3.7,SNR=8.2						
CTA	Charters Tower	32.91	265	P	P	22 55 20.2	+1.1
	3.3nm,0.5s,mb4.3,baz=88,slow=12,SNR=6.8						
CTAO	Charters Tower	32.91	265	eP	P	22 55 19.4	+0.3
	4.0nm,0.6s,mb4.2						
PMG	Port Moresby	34.81	284	P	P	22 55 34.7	-0.3
TAU	Tasmania Unive	36.14	224	P	P	22 55 43.8	-1.8
	4.0nm,0.6s,mb4.1						
STKA	Stephens Creek	37.22	244	P	P	22 55 56.7	+2.0
	1.2nm,0.5s,mb3.7,baz=89,slow=23,SNR=5.2						
STKA	Stephens Creek	37.22	244	eP	P	22 55 56.0	+1.4
ASAR	Alice Springs	43.93	257	P	P	22 56 48.5	+0.2
	4.1nm,0.6s,mb4.1,baz=95,slow=7.5,SNR=49						
ASAR				PcP	PcP	22 58 20.5	-0.5
	1.1nm,0.6s,baz=102,slow=3.7,SNR=8.3						
ASPA	Alice Springs	43.94	257	eP	P	22 56 48.6	+0.3
WB2	Warramunga Arr	44.00	262	eP	P	22 56 48.4	-0.5
WRAB	Tennant Creek	44.01	262	eP	P	22 56 47.9	-1.0
WRA	Warramunga Arr	44.02	262	P	P	22 56 48.6	-0.4
	2.2nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=136						
KAKA	Kakadu	47.44	272	eP	P	22 57 14.0	-1.1
FITZ	Fitzroy Crossi	52.44	263	eP	P	22 57 51.4	-0.2
	2.1nm,0.4s,mb3.8						
FITZ	Fitzroy Crossi	52.44	263	P	P	22 57 51.5	-0.1
	2.5nm,0.6s,mb3.8,baz=128,slow=3.0,SNR=21						
VNDA	Vanda	57.75	185	P	P	22 58 27.1	-0.6
QSPA	South Pole Qui	69.45	180	eP	P	22 59 43.7	+2.1
	2.2nm,0.9s,mb3.6						
NJ2	Nanjing	79.51	310	eP	P	23 00 38.4	+0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
MDJ	Mudanjiang	80.28	325	P	P	23 00 42.8	+0.8
MDJ				AP	pP	23 02 48.8	+0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,92nm,4.6s						
YBH	Yreka Blue Hor	80.74	39	P	P	23 00 45.1	+0.7
	comp=Z,2.5nm,0.6s,mb3.8,baz=292,slow=0.1,SNR=5.9						
NVAR	Mina Array Bea	81.50	44	P	P	23 00 49.0	+0.6
	comp=Z,1.9nm,0.9s,mb3.6,baz=214,slow=7.9,SNR=8.1						
NVAR	Mina Array Bea	81.50	44	P	P	23 00 49.0	+0.6
MNV	Mina	81.60	44	P	P	23 00 48.5	-0.3
TPH	Tonopah	82.01	44	eP	P	23 00 50.7	-0.2
	comp=Z,6.7nm,1.3s,mb4.0						
CN2	Changchun	82.04	323	eP	P	23 00 52.0	+1.0
DUG	Dugway	86.04	44	P	P	23 01 10.3	-0.4
SYO	Syowa Base	86.49	193	⇓P	P	23 01 10.8	-1.3
HLID	Hailey	86.79	41	eP	P	23 01 13.7	-0.4
	comp=Z,1.9nm,0.8s,mb3.9						
TXAR	Lajitas Array	87.60	58	P	P	23 01 18.8	+0.5
	comp=Z,0.5nm,0.2s,mb3.8,baz=225,slow=5.3,SNR=4.9						
ILAR	Eielson Array	88.55	13	P	P	23 01 20.1	-1.8
	comp=Z,0.9nm,0.4s,mb4.0,baz=216,slow=5.6,SNR=8.3						
BW06	Boulder Array	89.44	43	eP	P	23 01 26.0	-0.5
	comp=Z,0.9nm,0.5s,mb3.9						
PDAR	Pinedale Array	89.44	43	P	P	23 01 26.5	-0.1
	comp=Z,1.3nm,0.7s,mb3.9,baz=211,slow=2.3,SNR=9.5						
CMAR	Chiang Mai Arr	89.61	290	P	P	23 01 29.1	+1.3
	comp=Z,1.1nm,0.7s,mb3.8,baz=128,slow=3.0,SNR=8.9						
LZH	Lanzhou	92.38	308	⇓P	P	23 01 40.5	+0.3
LZH				AP	pP	23 03 51.4	+1.2
LZH				XP	sP	23 04 50.3	+1.4
WMQ	Urumqi	106.57	311	PDIF	Pdif	23 02 43.0	-0.3
WMQ				ePP	PP	23 07 20.5	+1.5
WMQ				PP	PP		
	comp=Z,11nm,8.3s						
ARCES	ARCESS Array B	128.93	349	PKP	PKPdf	23 07 31.8	+0.5
	comp=Z,0.9nm,0.5s,baz=27,slow=2.7,SNR=7.3						
AKASG	Malin Array Be	142.83	331	PKhKP		23 07 54.3	
	comp=Z,3.1nm,0.4s,baz=41,slow=4.3,SNR=26						
BRTR	Keskin Array B	146.49	312	PKPbc	PKPbc	23 08 07.0	+1.3
	comp=Z,1.2nm,0.6s,baz=133,slow=3.7,SNR=5.9						
CLL	Collm	148.04	346	⇓iPKP1	PKPdf	23 08 10.4	+4.6
CLL				i PKP2	PKPab	23 08 15.0	-2.5
CLZ	Clausthal	148.05	349	ePKP	PKPdf	23 08 11.0	+5.2
BRG	Berggiesshubel	148.22	345	eP	PKPdf	23 08 11.4	+5.3
WET	Wettzell	150.09	345	ePKP	PKPdf	23 08 11.5	+2.4
GEC2	GERESS Array S	150.15	344	ePKP	PKPdf	23 08 09.5	+0.3
GERES	GERESS Array B	150.15	344	PKPbc	PKPdf	23 08 15.5	+6.3
	comp=Z,1.1nm,0.7s,baz=45,slow=1.9,SNR=12						
BFO	Black Forest	151.79	350	ePKP	PKPdf	23 08 07.3	-4.3

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*NIED **23** 23:13:00,42.30N×144.70E,h29^{km},Mw4.0 Best double couple: $M_0$1.18×10^{15} NP1:ϕ_s23°,δ74°,λ65°. NP2:ϕ_s262°, δ29°,λ146°.*

*JMA **23** 23:13:00.9,42.30N×144.73E,h32^{km}±1^{km},M3.7*

JMA Felt I J1.

*BJI **23** 23:13:01.7,42.43N×144.27E,h31^{km},mB4.7,mb4.5, Ms4.3,Msz4.2*

*NEIC **23** 23:13:04.4±0.6,42.63N×144.44E,mb4.3/8,Error ellipse: s-maj=17.0km s-min=10.1km az=174.0*

NEIC Recorded [1 JMA] in the Kushiro area.

*IDC **23** 23:13:05.0±1.2,42.67N×144.42E,h47^{km}±7^{km},mb3.6/11, mb1 3.8/11,mb1mx3.7/23,Error ellipse: s-maj=25.7km s-min=21.3km az=2.0*

ISC 23 23:13:00.2±0.5**,42.26N**±0.04×**144.70E**±0.06**,h37**^{km}**, h37**^{km}±4.5^{km}**:pP-P,n40,σ1^{s}23**/49**,mb4.1**/21**,MS4.1**/3**, 2C-5D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	Akkeshi	0.73	360	⇓P	P	23 13 14.3	+0.2
JAK				eS	S	23 13 24.1	-0.1
JOB	Onbets	0.91	315	⇓P	P	23 13 17.5	+1.0
JCH	Churui	1.05	290	⇓P	P	23 13 20.0	+1.4
JCH				eS	S	23 13 34.2	+1.9
JEM	Erimo	1.18	258	P	P	23 13 22.2	+1.9
JAR	Ashorobuto	1.24	327	⇓P	P	23 13 21.7	+0.4
JAR				eS	S	23 13 37.5	+0.4
JNK	Nakash	1.32	0	⇓P	P	23 13 22.3	-0.2
JNK				eS	S	23 13 38.5	-0.7
NEM2	Nemuro 2	1.34	34	P	P	23 13 23.2	+0.4
NEM2				eS	S	23 13 39.3	-0.4
JNBK	Urakawa-nobuka	1.45	271	P	P	23 13 25.2	+0.9
JRA	Rausu	1.70	10	⇑P	P	23 13 28.1	+0.2
JRA				eS	S	23 13 48.3	-0.4
ASAJ	Asahikawa	2.41	321	P	P	23 13 40.1	+2.1
	24nm,0.3s,baz=113,slow=15,SNR=39						
ASAJ				S	S	23 14 13.9	+7.3
	36nm,0.3s,baz=329,slow=30,SNR=18						
MAJO	Matsushiro	7.61	223	eP	P	23 14 49.3	-2.0
	11nm,0.7s						
MDJ	Mudanjiang	11.24	287	P	P	23 15 35.0	-6.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,72nm,4.8s						
CN2	Changchun	14.17	283	eP	P	23 16 17.5	-2.7
CN2				eS	S	23 18 50.5	-6.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
HIA	Hailar	18.72	301	eP	P	23 17 16.3	-1.6
	comp=Z,6.5nm,0.6s						
NJ2	Nanjing	22.91	252	eP	P	23 18 02.3	+0.7
NJ2				AP		23 18 11.4	
NJ2				XP		23 18 15.5	
NJ2				S	S	23 22 04.0	-0.6
NJ2				XS		23 22 19.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,30nm,4.5s						
NJ2				LR	LR		
	comp=N,960nm,13.7s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,15.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,3μm,15.7s,MS4.8						
SONM	Songino Array	27.43	295	P	P	23 18 43.7	-0.6
	comp=Z,2.4nm,0.7s,mb3.9,baz=72,slow=8.3,SNR=17						
ENH	Enshi	30.60	259	P	P	23 19 12.8	0.0
	comp=Z,8.3nm,0.9s,mb4.6						
LZH	Lanzhou	32.04	273	eP	P	23 19 24.8	-0.6
LZH				AP	pP	23 19 34.8	-1.0
LZH				XP	sP	23 19 38.9	-1.8
LZH				PP	PP	23 20 29.8	-2.5
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				LR	LR		
	comp=N,319nm,13.0s						
LZH				LR	LR		
	comp=Z,493nm,17.1s,MS4.3						
KMI	Kunming	38.44	257	eP	P	23 20 21.3	+1.3
KMI				AP	pP	23 20 30.3	-0.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2						
WMQ	Urumqi	40.98	292	⇑P	P	23 20 41.8	+0.9
WMQ				AP	pP	23 20 49.9	-1.7
WMQ				XP	sP	23 20 55.3	-0.9
WMQ				PP	PP	23 22 19.6	+1.1
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.0						
WMQ				LR	LR		
	comp=E,39nm,19.0s						
WMQ				LR	LR		
	comp=Z,33nm,16.2s,MS3.3						
COLA	College	43.33	35	P	P	23 21 00.5	+0.7
MKAR	Makanchi Array	43.70	298	P	P	23 21 02.6	-0.4
	comp=Z,1.0nm,0.5s,mb3.8,baz=88,slow=10.0,SNR=8.5						
ILAR	Eielson Array	43.74	35	P	P	23 21 05.2	+2.1
	comp=Z,1.1nm,0.9s,mb3.6,baz=273,slow=6.5,SNR=9.2						
KURK	Kurchatov	44.88	305	eP	P	23 21 11.6	-0.9
	comp=Z,3.5nm,0.7s,mb4.3						
BRVK	Borovoye	49.12	310	P	P	23 21 43.6	-2.1
	comp=Z,3.6nm,0.9s,mb4.4						
ZRNK	Zerenda	49.88	310	eP	P	23 21 50.7	-0.9
	comp=Z,5.4nm,0.8s,mb4.6						
ARU	Arti	54.21	317	eP	P	23 22 22.2	-1.7
	comp=Z,7.1nm,0.9s,mb4.6						
WRA	Warramunga Arr	62.63	191	P	P	23 23 27.1	+3.9
	comp=Z,0.6nm,0.8s,mb3.8,baz=5.6,slow=6.8,SNR=6.7						
FINES	FINESS Array B	65.37	332	P	P	23 23 39.1	-1.3
	comp=Z,1.3nm,0.5s,mb4.3,baz=76,slow=7.9,SNR=11						
FINES				pP	pP	23 23 51.1	-0.6
	comp=Z,1.4nm,0.5s,baz=63,slow=8.5,SNR=2.6						
CHMT	Chamberlain Mo	67.57	46	eP	P	23 23 54.6	+0.1
HLID	Hailey	69.01	50	eP	P	23 24 06.0	+2.4
	comp=Z,1.7nm,0.6s,mb4.2						
NVAR	Mina Array Bea	69.89	56	P	P	23 24 10.8	+1.8
	comp=Z,0.5nm,0.8s,mb3.5,baz=264,slow=9.1,SNR=2.8						
NB2	NORSAR Subarra	70.33	338	P	P	23 24 10.2	-1.1
	comp=Z,0.7nm,0.5s,mb3.9,baz=34,slow=6.2						
NOA	NORSAR Array B	70.33	338	P	P	23 24 10.5	-0.8
	comp=Z,1.0nm,0.6s,mb3.9,baz=34,slow=6.2,SNR=6.4						
NOA				pP	pP	23 24 23.5	+1.0
	comp=Z,1.0nm,0.7s,baz=35,slow=6.1,SNR=4.5						
NOA	NORSAR Array B	70.33	338	P	P	23 24 10.5	-0.8
NOA				pP	pP	23 24 23.5	+1.0
HFS	Hagfors	70.35	336	P	P	23 24 10.5	-0.9
	comp=Z,2.2nm,0.7s,mb4.2,baz=51,slow=9.5,SNR=7.4						
AKASG	Malin Array Be	71.70	323	P	P	23 24 17.7	-2.1
	comp=Z,0.7nm,0.5s,mb3.9,baz=42,slow=6.5,SNR=5.1						
AKASG				pP	pP	23 24 34.1	+3.1
	comp=Z,1.4nm,0.8s,baz=40,slow=5.2,SNR=3.4						
KHC	Kasperske Hory	79.37	330	eP	P	23 25 01.5	-1.9
GERES	GERESS Array B	79.56	330	P	P	23 25 04.2	-0.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=9.5,slow=8.1,SNR=4.1						
TXAR	Lajitas Array	84.97	55	P	P	23 25 34.2	+1.4
	comp=Z,0.3nm,0.5s,mb3.7,baz=297,slow=2.0,SNR=3.0						

CASC 23 23:36:12.9±1.9**,12.79N**×**87.24W,h17**^{km}±6^{km}**,MD4.0, ML3.6,11C-7D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.20	116	⇑eP	Pb	23 36 17.9	+0.1
CRIN				eS	Sb	23 36 21.8	+0.6
TELN	Telica	0.44	115	⇑eP	Pb	23 36 21.3	-0.5
TELN				eS	Sb	23 36 28.2	+0.4
TEL3	Telica 3	0.44	120	⇓eP	Pb	23 36 21.4	-0.5
LEON	Leon	0.50	138	⇓eP	Pb	23 36 22.1	-0.8
LEON				eS	Sb	23 36 28.7	-1.0
MIRN	Miramar	0.62	124	⇑eP	Pb	23 36 24.4	-0.5
COPN	Copaltepe	0.88	134	⇑eP	Pb	23 36 28.9	-0.3
XAVN	Gruta Xavier	1.10	126	⇑eP	Pb	23 36 32.8	-0.2
MGAN	Managua	1.16	123	eS	Sb	23 36 49.4	+0.7
	comp=E,1μm,0.3s						
PYTN	Playitas	1.18	102	⇑eP	Pb	23 36 33.8	-0.7
PYTN				eS	Sb	23 36 50.3	+1.0
WILN	Americas 2	1.20	121	⇓eP	Pb	23 36 34.7	-0.1
TICN	Ticuantepe	1.24	127	⇑eP	Pb	23 36 35.2	-0.2
TICN				eS	Sb	23 36 52.2	+1.2
APON	Apoyo	1.44	127	eP	Pn	23 36 39.1	+0.7
APON				eS	Sb	23 36 57.3	+0.6
SNVI	San Vicente	1.76	298	⇓eP	Pn	23 36 42.5	-0.5
SNVI				eS	Sn	23 37 04.4	-0.8
LCBS	La Ceiba	1.90	297	⇑eP	Pn	23 36 44.1	-0.9
LFRS	El Faro	1.96	295	⇑eP	Pn	23 36 45.1	-0.8
LFRS				eS	Sn	23 37 10.0	-0.2
CONN	Concepcion	1.99	128	⇑eP	Pn	23 36 46.6	+0.2
CONN				eS	Sn	23 37 09.7	-1.4
BOQS	Boqueron	2.20	295	⇓eP	Pn	23 36 50.0	+0.7
SNJE	San Jose	2.54	295	⇓eP	Pn	23 36 55.0	+0.8
SBLS	San Blas	2.54	294	⇑eP	Pn	23 36 55.2	+1.0
SBLS				eS	Sn	23 37 25.7	+0.6
CUSS	Cusmapa	2.86	293	⇓eP	Pn	23 36 57.8	-1.0

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*IDC **23** 23:41:07.1±12.0, 18.25S×175.36W, h172^{km}±115^{km}, mb4.1/9, mb1 4.4/9, mb1mx4.0/18, Error ellipse: s-maj=57.4km s-min=24.4km az=170.0*

*NEIC **23** 23:41:12.9±4.7, 18.37S×175.39W, h232^{km}±44^{km}, mb4.5/8, Error ellipse: s-maj=17.0km s-min=13.1km az=199.0*

ISC 23 23:41:11.7±0.7**, 18.4S**±0.1×**175.4W**±0.1**, h232^{km}, n24, σ0^{s}71**/21**, mb4.3**/12**, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.85	197	P	P	23 45 37.0	+0.5
	6.5nm,0.4s,baz=227,slow=1.1,SNR=9.3						
CTA	Charters Tower	36.17	261	eP	P	23 47 54.4	+0.5
	5.5nm,0.3s,mb4.6						
CTA	Charters Tower	36.17	261	P	P	23 47 54.3	+0.4
	15nm,0.7s,mb4.6,baz=94,slow=11,SNR=18						
CTAO	Charters Tower	36.17	261	eP	P	23 47 54.2	+0.2
	19nm,0.8s,mb4.7						
STKA	Stephens Creek	40.91	242	eP	P	23 48 33.7	+0.7
	1.4nm,0.4s,mb3.7						
STKA	Stephens Creek	40.91	242	P	P	23 48 33.5	+0.5
	3.5nm,0.8s,mb3.8,baz=101,slow=12,SNR=10						
WB2	Warramunga Arr	47.33	260	⇑iP	P	23 49 23.6	-0.6
WRAB	Tennant Creek	47.33	260	eP	P	23 49 23.3	-1.0
	38nm,0.6s,mb4.9						
WRA	Warramunga Arr	47.34	260	P	P	23 49 24.0	-0.3
	21nm,0.5s,mb4.7,baz=98,slow=6.0,SNR=445						
ASAR	Alice Springs	47.40	254	P	P	23 49 24.7	0.0
	36nm,0.7s,mb4.8,baz=88,slow=8.6,SNR=308						
ASPA	Alice Springs	47.40	254	⇑iP	P	23 49 24.7	-0.1
KAKA	Kakadu	50.45	269	eP	P	23 49 47.8	-0.3
	17nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	55.75	260	eP	P	23 50 26.9	+0.2
	3.2nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	55.75	260	P	P	23 50 27.0	+0.3
	5.5nm,0.6s,mb4.3,baz=129,slow=0.9,SNR=21						
SBA	Scott Base	60.15	184	P	P	23 50 56.3	-0.2
	16nm,1.6s,mb4.4						
QSPA	South Pole Qui	71.68	180	eP	P	23 52 08.8	-0.6
	4.1nm,1.1s,mb4.0						
NVAR	Mina Array Bea	77.82	42	P	P	23 52 45.7	+0.6
	0.7nm,0.8s,mb3.3,baz=227,slow=5.7,SNR=3.6						
NVAR	Mina Array Bea	77.82	42	P	P	23 52 45.7	+0.6
MCK	McKinley	84.40	12	P	P	23 53 18.2	-0.6
ILAR	Eielson Array	85.73	12	P	P	23 53 24.9	-0.5
	3.1nm,1.3s,mb3.9,baz=231,slow=5.6,SNR=5.5						
CMAR	Chiang Mai Arr	91.72	289	P	P	23 53 57.1	+2.5
	2.8nm,1.1s,mb4.1,baz=107,slow=3.1,SNR=8.0						
CLL	Collm	146.47	350	i PKP1	PKPbc	00 00 26.6	+1.6
CLL				e		00 00 44.0	
BRTR	Keskin Array B	147.10	316	PKPbc	PKPdf	00 00 29.0	+4.1
	1.1nm,0.6s,baz=139,slow=3.5,SNR=6.3						
GERES	GERESS Array B	148.72	348	PKPbc	PKPdf	00 00 32.9	+5.8
	0.7nm,0.6s,baz=27,slow=3.0,SNR=8.3						

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*JMA **23** 23:46:36.0±0.5, 34.30N×141.81E, h26^{km}±3^{km}, M3.3*

*IDC **23** 23:46:47.4±1.3, 33.03N×138.38E, mb3.6/3, mb1 3.7/3, mb1mx3.5/22, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=36.2km s-min=19.3km az=10.0*

ISC 23 23:46:35.6±1.7**, 34.39N**±0.05×**141.90E**±0.09**, h21**^{km}±12^{km}**, n16, σ0^{s}69**/22**, mb3.6**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.80	290	P	Pb	23 46 50.5	-0.3
BSO3	Boso 3	1.22	290	P	Pn	23 46 57.4	-0.2
BSO4	Boso 4	1.42	296	P	Pn	23 47 01.2	+0.7
JHJ2	Mitsune	2.15	234	P	Pn	23 47 11.1	+0.1
JHJ2				eS	Sn	23 47 35.7	-1.5
JHJ	Hachijo jima 2	2.17	235	Pn	Pn	23 47 11.3	+0.1
	18nm,0.3s,baz=98,slow=13,SNR=5.2						
JHJ				Sn	Sn	23 47 29.9	-7.8
	33nm,0.3s,baz=68,slow=22,SNR=5.1						
JOD2	Odawara 2	2.47	291	P	Pn	23 47 15.0	-0.5
JAG	Ashikaga	2.85	316	P	Pn	23 47 21.0	+0.1
JAG				S	Sn	23 47 56.0	+1.0
JRY	Ryogami san	2.94	304	P	Pn	23 47 22.0	-0.3
JYN	Shimob	2.97	293	P	Pn	23 47 22.6	0.0
JYN				S	Sn	23 47 57.8	-0.2
JFK	Kawauchi	3.09	345	P	Pn	23 47 24.4	+0.1
JFK				eS	Sn	23 47 59.1	-1.9
SHZ3	Shizuoka 3	3.11	284	P	Pn	23 47 25.4	+0.8
SHZ3				S	Sn	23 48 02.6	+1.0
MAT	Matsushiro	3.70	307	P	Pn	23 47 33.1	+0.1
MAT				S	Sn	23 48 16.0	-0.5
ASAJ	Asahikawa	9.73	3	LR	LR	23 54 05.7	
	comp=Z,43nm,20.3s,baz=2.0,slow=38						
SONM	Songino Array	29.65	308	P	P	23 52 42.5	+0.7
	0.7nm,0.7s,mb3.5,baz=100,slow=7.5,SNR=5.7						
MKAR	Makanchi Array	45.90	304	P	P	23 54 58.2	0.0
	0.4nm,0.5s,mb3.6,baz=93,slow=9.4,SNR=4.9						
WRA	Warramunga Arr	54.50	189	P	P	23 56 04.6	+0.3
	0.3nm,0.4s,mb3.7,baz=2.9,slow=7.6,SNR=4.8						

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*IDC **23** 23:46:41.3±6.0, 5.84S×150.84E, h59^{km}±52^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.7/13, ML3.7/1, MS3.4/4, Ms1 3.5/4, ms1mx3.2/15, Error ellipse: s-maj=49.8km s-min=32.8km az=109.0*

*NEIC **23** 23:46:42.2±2.9, 5.83S×150.83E, h68^{km}±25^{km}, mb4.0/1, Error ellipse: s-maj=26.7km s-min=20.9km az=107.0*

ISC 23 23:46:41.3±3.7**, 5.8S**±0.2×**150.7E**±0.2**, h70**^{km}±31^{km}**, n11, σ0^{s}59**/10**, mb3.8**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.01	224	P	P	23 47 55.8	+0.1
PMG				S	S	23 48 52.3	-0.5
PMG				LR	LR	23 50 18.7	
	comp=Z,194nm,18.2s,baz=19,slow=43						
CTA	Charters Tower	14.84	196	P	P	23 50 09.2	+0.5
	0.2nm,0.3s,baz=24,slow=12,SNR=3.0						
CTA				LR	LR	23 54 52.5	
	comp=Z,144nm,21.9s,baz=46,slow=33						
KAKA	Kakadu	19.30	248	eP	P	23 51 03.1	-0.3
	4.8nm,0.5s						
WB2	Warramunga Arr	21.21	227	eP	P	23 51 23.0	-0.3
WRA	Warramunga Arr	21.22	227	P	P	23 51 23.0	-0.3
	4.0nm,0.6s,mb3.9,baz=52,slow=10,SNR=5.1						
ASAR	Alice Springs	24.01	221	P	P	23 51 51.6	+0.9
	1.7nm,0.6s,mb3.5,baz=55,slow=8.7,SNR=6.7						
STKA	Stephens Creek	27.30	197	P	P	23 52 21.7	+0.1
	1.4nm,0.8s,mb3.5,baz=349,slow=16,SNR=2.9						
FITZ	Fitzroy Crossi	27.34	241	LR	LR	00 04 35.6	
	comp=Z,61nm,18.0s,baz=250,slow=39						
SONM	Songino Array	66.07	329	P	P	23 57 23.9	+0.8
	0.5nm,0.6s,mb3.5,baz=146,slow=4.5,SNR=3.6						
NVAR	Mina Array Bea	94.35	52	P	P	23 59 53.6	-1.1
	1.2nm,0.8s,mb4.3,baz=259,slow=4.6,SNR=7.5						
NVAR				LR	LR	00 33 40.8	
	comp=Z,58nm,20.5s,baz=15,slow=30						
GERES	GERESS Array B	123.77	327	PKP	PKPdf	00 05 32.3	+0.8
	0.3nm,0.5s,baz=63,slow=2.2,SNR=4.4						

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*NEIC **24** 00:16:54.1±1.5, 23.38N×94.24E, h80^{km}±13^{km}, mb4.6/1, Error ellipse: s-maj=44.9km s-min=9.6km az=60.0*

*IDC **24** 00:16:56.7±3.5, 23.44N×94.39E, h101^{km}±31^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.5/17, Error ellipse: s-maj=48.6km s-min=14.5km az=62.0*

ISC 24 00:16:51.2±0.8**, 23.15N**±0.09×**93.79E**±0.10**, h84**^{km}±10^{km}**, n19, σ0^{s}89**/21**, mb3.9**/8**, 1C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	1.63	5	⇑eP	P	00 17 19.0	+0.1
AGT	Agartala	2.44	288	eP	P	00 17 39.0	+9.1
SHL	Shillong	2.97	325	eP	P	00 17 38.5	+1.2
SHL				eS	S	00 18 08.0	-3.8
CMAR	Chiang Mai Arr	6.71	133	P	P	00 18 29.0	0.0
	0.6nm,0.3s,baz=317,slow=14,SNR=5.5						
CMAR				S	S	00 19 44.8	+0.2
	0.9nm,0.3s,baz=325,slow=19,SNR=3.7						
LSA	Lhasa	6.94	341	ePn	P	00 18 31.6	-0.5
	43nm,0.3s						
PKI	Pulchoki	8.76	302	eP	P	00 18 56.7	-0.3
	85nm,0.5s						
KKN	Kakani	8.97	303	eP	P	00 19 00.2	+0.4
	38nm,0.2s						
DMN	Daman	9.02	301	eP	P	00 19 00.6	+0.2
	19nm,0.2s						
GKN	Gorkha	9.57	302	eP	P	00 19 07.2	-0.8
	136nm,0.3s						
KOLN	Koldanda	10.29	299	eP	P	00 19 16.7	-1.0
	52nm,0.3s						
MKAR	Makanchi Array	25.34	341	P	P	00 22 13.3	+1.6
	0.4nm,0.4s,mb3.2,baz=161,slow=11,SNR=5.8						
SONM	Songino Array	26.61	19	P	P	00 22 22.5	-1.0
	2.4nm,0.7s,mb3.9,baz=194,slow=10,SNR=15						
WRA	Warramunga Arr	58.31	134	P	P	00 26 39.8	0.0
	1.0nm,0.5s,mb4.1,baz=324,slow=7.4,SNR=13						
WRAB	Tennant Creek	58.31	134	eP	P	00 26 39.1	-0.8
	2.9nm,0.6s,mb4.5						
WB2	Warramunga Arr	58.31	134	eP	P	00 26 39.9	0.0
ASAR	Alice Springs	60.70	137	P	P	00 26 56.9	+0.5
	1.4nm,0.5s,mb4.2,baz=318,slow=6.9,SNR=23						
ASAR				pP	pP	00 27 19.9	+2.0
	0.7nm,0.5s,baz=319,slow=6.7,SNR=7.3						
ARCES	ARCESS Array B	60.94	338	P	P	00 26 57.5	+0.3
	3.6nm,1.0s,mb4.4,baz=112,slow=26,SNR=2.4						
NOA	NORSAR Array B	66.46	328	P	P	00 27 36.3	+2.8
	0.6nm,0.8s,mb3.5,baz=111,slow=6.5,SNR=2.8						
ILAR	Eielson Array	80.79	22	P	P	00 28 55.4	-1.3
	0.7nm,0.6s,mb3.7,baz=294,slow=5.1,SNR=9.0						

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*IDC **24** 00:50:59.5±2.0, 12.02S×167.49E, mb4.3/6, mb1 4.5/6, mb1mx4.1/15, Error ellipse: s-maj=99.6km s-min=23.1km az=137.0*

*NEIC **24** 00:51:26.5±7.0, 12.25S×167.03E, h223^{km}±61^{km}, mb4.1/4, Error ellipse: s-maj=42.8km s-min=29.5km az=131.0*

ISC 24 00:51:33.1±1.9**, 12.4S**±0.3×**166.9E**±0.3**, h300^{km}, n13, σ0^{s}65**/11**, mb4.0**/9**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	21.22	246	P	P	00 55 56.6	0.0
	7.1nm,0.9s,mb4.0,baz=69,slow=11,SNR=5.2						
CTAO	Charters Tower	21.22	246	P	P	00 55 58.0	+1.5
	8.4nm,0.7s,mb4.2						
STKA	Stephens Creek	30.26	226	P	P	00 57 19.3	+0.4
	0.9nm,0.5s,mb3.6,baz=32,slow=9.5,SNR=3.9						
WB2	Warramunga Arr	32.10	252	eP	P	00 57 34.4	-0.5
WRAB	Tennant Creek	32.10	252	eP	P	00 57 34.1	-0.7
	1.2nm,0.4s,mb3.8						
WRA	Warramunga Arr	32.11	252	P	P	00 57 34.4	-0.5
	1.3nm,0.5s,mb3.7,baz=83,slow=8.7,SNR=14						
ASAR	Alice Springs	33.22	246	P	P	00 57 44.0	-0.5
	2.4nm,0.5s,mb4.0,baz=71,slow=9.6,SNR=32						
KAKA	Kakadu	33.66	266	eP	P	00 57 48.1	-0.2
	3.4nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	40.14	257	eP	P	00 58 43.0	+0.9
	2.3nm,0.3s,mb4.0						
ILAR	Eielson Array	84.46	18	P	P	01 03 32.6	-0.5
	5.0nm,0.6s,mb4.5,baz=247,slow=5.1,SNR=47						
MKAR	Makanchi Array	95.30	317	P	P	01 04 25.3	+0.9
	1.2nm,0.7s,mb4.2,baz=90,slow=8.5,SNR=8.2						
ARCES	ARCESS Array B	117.95	346	PKP	PKPdf	01 09 45.8	+2.0
	2.0nm,0.8s,baz=82,slow=2.8,SNR=9.9						
FINES	FINESS Array B	123.47	339	PKP	PKPdf	01 09 56.1	+1.5
	2.4nm,1.1s,baz=34,slow=6.9,SNR=4.0						

IDC 24 01:28:56.4±11.0**, 1.54S**×**128.59E, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.4**/14**, ML3.2**/1**, Error ellipse: s-maj=165.0km s-min=127.8km az=146.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.14	163	P	P	01 33 22.1	-1.6
	0.1nm,0.3s,baz=343,slow=11,SNR=6.2						
ASAR	Alice Springs	22.59	167	P	P	01 33 58.6	-1.5
	0.7nm,0.7s,baz=348,slow=11,SNR=7.2						
STKA	Stephens Creek	32.58	159	P	P	01 35 29.4	-2.3
	1.8nm,1.0s,baz=333,slow=11,SNR=2.9						

GUC 24 01:49:13.2±0.4**, 34.22S**×**70.08W, h8**^{km}±1^{km}**, MD3.7, ML2.0, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.30	250	⇓iP	Pg	01 49 19.7	+0.3
CICH				i S	Sg	01 49 24.6	+1.2
LMEL	Las Melosas	0.38	344	eP	Pg	01 49 21.3	+0.3
LMEL				i S	Sg	01 49 27.9	+1.7
LMEL				AMP		01 49 29.2	
	comp=N,346nm,0.2s						
CACH	El Canelo	0.44	283	⇑iP	Pg	01 49 22.3	+0.1
CACH				i S	Sg	01 49 28.9	+0.8
CHCH	Chadas Angostu	0.55	301	⇑iP	Pg	01 49 24.6	+0.2
CHCH				i S	Sg	01 49 33.0	+1.2
PCH	Pirque	0.70	329	⇓iP	Pg	01 49 27.1	-0.1
PCH				i S	Sg	01 49 37.5	+1.0
CLCH	Cerro Calan	0.90	335	eP	Pb	01 49 30.4	-0.4
CLCH				i S	Sb	01 49 43.1	+0.4
CLCH				AMP		01 49 49.6	
	comp=E,120nm,0.6s						
FCH	Farellones	0.91	349	eP	Pb	01 49 30.9	+0.1
FCH				i S	Sb	01 49 44.5	+1.7
FCH				AMP		01 49 45.8	
	comp=E,88nm,0.3s						
TACH	Talagante	0.91	308	eP	Pb	01 49 30.4	-0.4
TACH				i S	Sb	01 49 43.3	+0.4
LNV	Longovilo	1.14	283	i P	Pb	01 49 33.7	-1.0
LNV				i S	Sb	01 49 49.9	+0.4
LCCH	Las Cruces	1.45	300	i S	Sb	01 49 58.1	-0.4

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*NEIC **24** 01:52:53.1±1.0, 8.43N×75.11W, h67^{km}±10^{km}, mb4.1/4, Error ellipse: s-maj=12.7km s-min=10.0km az=54.0*

*IDC **24** 01:52:54.2±2.7, 8.39N×75.22W, h74^{km}±25^{km}, mb3.9/7, mb1 4.1/9, mb1mx3.7/21, MS3.3/6, Ms1 3.3/6, ms1mx3.1/20, Error ellipse: s-maj=27.6km s-min=16.7km az=58.0*

ISC 24 01:52:51.5±1.3**, 8.54N**±0.10×**75.15W**±0.08**, h60**^{km}±15^{km}**, n27, σ1^{s}01**/20**, mb4.2**/10**, MS3.4**/4**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.75	167	P	P	01 53 49.9	+1.5
	9.1nm,0.3s,baz=153,slow=22,SNR=20						
ROSC				S	S	01 54 37.6	+6.0
	25nm,0.3s,baz=230,slow=23,SNR=4.1						
ROSC				LR	LR	01 55 23.5	
	comp=Z,360nm,18.2s,baz=130,slow=41						
SDV	Santo Domingo	4.47	85	ePn	P	01 53 58.7	+0.2
JTS	JuntasAbangare	9.83	281	P	P	01 55 11.7	-1.0
	1.3nm,0.3s,baz=52,slow=22,SNR=6.4						
JTS	JuntasAbangare	9.83	281	eP	P	01 55 11.6	-1.1
SJG	San Juan	12.92	42	LR	LR	02 00 49.9	
	comp=Z,52nm,19.4s,baz=273,slow=36						
SJG	San Juan	12.92	42	eP	P	01 55 53.0	-1.3
SAML	Samuel	21.07	145	eP	P	01 57 28.3	-4.7
	9.5nm,0.9s,mb4.1						
LPAZ	La Paz	25.63	164	P	P	01 58 15.6	-1.8
	2.5nm,0.5s,mb4.0,baz=352,slow=1.3,SNR=8.1						
LPAZ				LR	LR	02 09 03.7	
	comp=Z,56nm,20.0s,MS3.1,baz=247,slow=38						
LPAZ	La Paz	25.63	164	eP	P	01 58 15.6	-1.9
	2.2nm,0.4s,mb4.0						
FVM	French Village	32.40	337	eP	P	01 59 18.4	+0.6
	8.8nm,0.7s,mb4.7						
FVM				e	pP	01 59 29.0	-3.8
TXAR	Lajitas Array	33.83	311	P	P	01 59 29.4	-0.9
	1.9nm,1.2s,mb3.9,baz=127,slow=9.3,SNR=5.2						
TXAR				PcP	PcP	02 02 08.7	+0.4
	0.4nm,0.8s,baz=141,slow=5.8,SNR=3.9						
MIV	Mineville/With	35.42	2	P	P	01 59 38.0	-5.8
BDFB	Brasilia	36.05	132	LR	LR	02 15 25.0	
	comp=Z,105nm,20.4s,MS3.6,baz=302,slow=38						
CPUP	Villa Florida	38.75	154	LR	LR	02 17 33.8	
	comp=Z,46nm,19.8s,MS3.3,baz=339,slow=38						
PDAR	Pinedale Array	45.52	324	P	P	02 01 07.4	+0.4
	0.6nm,0.6s,mb3.7,baz=124,slow=6.8,SNR=6.6						
REDW	Red Top Meadow	46.63	324	eP	P	02 01 16.4	+0.7
SCHQ	Schefferville	46.64	7	P	P	02 01 16.6	+0.9
	3.0nm,0.8s,mb4.3,baz=207,slow=9.0,SNR=3.8						
MOOW	Moose Ponds	46.80	325	P	P	02 01 18.0	+0.9
MOOW				e		02 01 28.3	
BOZ	Bozeman (W)	48.47	326	eP	P	02 01 30.4	+0.3
	1.5nm,0.8s,mb4.1						
NVAR	Mina Array Bea	48.85	314	PcP	PcP	02 02 57.4	+0.1
	0.5nm,0.6s,baz=119,slow=5.2,SNR=4.6						
YKA	Yellowknife Ar	60.97	340	P	P	02 02 59.6	-1.1
	1.4nm,0.5s,mb4.4,baz=131,slow=7.0,SNR=8.2						
YKA				LR	LR	02 31 25.1	
	comp=Z,32nm,18.0s,MS3.5,baz=225,slow=38						
DBIC	Dimbokro	69.61	86	P	P	02 03 56.3	-0.7
	4.2nm,0.6s,mb4.5,baz=244,slow=2.5,SNR=11						
ARCES	ARCESS Array B	85.76	20	P	P	02 05 26.4	+1.3
	2.5nm,0.7s,mb4.6,baz=280,slow=5.5,SNR=8.5						
ASAR	Alice Springs	148.40	238	PKPbc	PKPdf	02 12 32.2	+3.8
	2.1nm,0.5s,baz=117,slow=3.6,SNR=24						
WRAB	Tennant Creek	149.31	245	PKPbc	PKPdf	02 12 34.7	+4.6
WRA	Warramunga Arr	149.32	245	PKPbc	PKPdf	02 12 35.0	+5.0
	2.1nm,0.6s,baz=109,slow=2.8,SNR=26						
CMAR	Chiang Mai Arr	152.54	12	PKPbc	PKPdf	02 12 43.8	+8.8
	0.7nm,0.3s,baz=306,slow=2.5,SNR=5.0						

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*IDC **24** 03:02:19.3±1.4, 30.36S×177.57W, mb4.4/6, mb1 4.6/7, mb1mx4.3/17, ML3.3/1, MS3.6/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=45.4km s-min=24.2km az=147.0*

*NEIC **24** 03:02:29.1±6.7, 30.78S×177.60W, h81^{km}±66^{km}, mb4.9/5, Error ellipse: s-maj=76.1km s-min=22.1km az=180.0*

ISC 24 03:02:19.9±4.1**, 30.51S**±0.07×**177.8W**±0.2**, h6**^{km}±26^{km}**, n20, σ1^{s}36**/18**, mb4.5**/8**, MS3.5**/2**, 2D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	8.22	202	P	P	03 04 21.4	-1.1
PUZ				eS	Sn	03 05 54.6	-2.1
URZ	Urewera	8.79	207	Pn	P	03 04 31.1	+0.5
	0.3nm,0.3s,baz=12,slow=23,SNR=7.7						
URZ				Sn	Sn	03 06 13.2	+2.0
	1.7nm,0.3s,baz=203,slow=23,SNR=7.0						
MRZ	Mangatainoka R	11.47	206	eS	S	03 07 10.1	-6.7
CTA	Charters Tower	33.97	279	eP	P	03 09 07.6	+1.1
	6.6nm,0.4s,mb4.9						
CTA	Charters Tower	33.97	279	P	P	03 09 07.5	+1.0
	8.0nm,0.5s,mb5.0,baz=104,slow=13,SNR=13						
CTA				LR	LR	03 21 02.5	
	comp=Z,65nm,19.2s,MS3.4,baz=226,slow=33						
CTAO	Charters Tower	33.97	279	eP	P	03 09 07.6	+1.1
	9.9nm,0.4s,mb5.1						
STKA	Stephens Creek	34.61	257	⇓iP	P	03 09 13.9	+2.1
	5.8nm,0.9s,mb4.5						
STKA	Stephens Creek	34.61	257	P	P	03 09 14.0	+2.2
	7.0nm,0.7s,mb4.7,baz=105,slow=11,SNR=14						
STKA				LR	LR	03 22 29.6	
	comp=Z,132nm,21.4s,MS3.6,baz=204,slow=35						
ASAR	Alice Springs	43.26	267	P	P	03 10 23.9	-0.2
	1.9nm,0.4s,mb4.1,baz=103,slow=7.2,SNR=22						
WB2	Warramunga Arr	44.25	272	⇓iP	P	03 10 32.3	+0.2
WRAB	Tennant Creek	44.25	272	eP	P	03 10 30.6	-1.5
	9.3nm,0.6s,mb4.7						
WRA	Warramunga Arr	44.26	272	P	P	03 10 31.7	-0.4
	3.9nm,0.4s,mb4.5,baz=110,slow=8.1,SNR=94						
FITZ	Fitzroy Crossi	52.52	270	P	P	03 11 35.2	-1.1
	2.7nm,0.8s,mb4.3,baz=152,slow=9.7,SNR=5.0						
QSPA	South Pole Qui	59.60	180	P	P	03 12 28.8	+2.4
	9.1nm,0.8s,mb4.9						
SNAA	Sanae	78.05	178	P	P	03 14 28.5	+8.2
NVAR	Mina Array Bea	88.21	43	P	P	03 15 12.4	-0.8
	0.5nm,0.7s,mb3.8,baz=223,slow=6.4,SNR=3.7						
FINES	FINESS Array B	145.30	340	PKP	PKPdf	03 21 56.9	-3.5
	3.6nm,0.5s,baz=104,slow=5.3,SNR=25						
NB2	NORSAR Subarra	148.88	351	PKP		03 22 07.2	
	0.7nm,0.6s,baz=11,slow=2.7						
NOA	NORSAR Array B	148.88	351	PKPbc	PKPdf	03 22 07.3	+0.9
	0.9nm,0.6s,baz=15,slow=4.3,SNR=5.6						
AKASG	Malin Array Be	151.48	323	PKPbc	PKPdf	03 22 14.2	+3.5
	1.2nm,0.5s,baz=44,slow=2.7,SNR=7.7						

IDC 24 03:43:38.7±44.0**, 16.94S**×**174.58W, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/15**, Error ellipse: s-maj=835.0km s-min=174.0km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.29	241	P	P	03 51 35.0	-0.9
	0.8nm,0.4s,baz=85,slow=11,SNR=3.1						
WRA	Warramunga Arr	48.40	258	P	P	03 52 22.3	-2.5
	0.4nm,0.4s,baz=97,slow=7.0,SNR=26						
ASAR	Alice Springs	48.57	253	P	P	03 52 24.1	-1.9
	6.7nm,0.6s,baz=88,slow=8.5,SNR=98						

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*WEL **24** 03:59:16.9±0.2, 41.95S×174.14E, h11^{km}±1^{km}, ML3.7/11, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0*

WEL Felt in the Marlborough region, maximum reported intensity MM 3.

ISC 24 03:59:15.7±0.7**, 42.00S**±0.03×**174.15E**±0.03**, h10**^{km}±4^{km}**, n23, σ0^{s}78**/41**, 3C-1D, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.26	10	PG	Pg	03 59 21.3	+0.2
CMWZ				SG	Sg	03 59 26.1	+1.3
BSWZ	Blackbirch Sta	0.35	324	⇓PG	Pg	03 59 22.3	-0.7
BSWZ				SG	Sg	03 59 27.1	-0.8
TUWZ	Tuamarina	0.59	344	PG	Pg	03 59 26.8	-0.9
TUWZ				SG	Sg	03 59 35.3	-0.3
KHZ	Kahutara	0.62	227	⇑P*	Pb	03 59 29.4	+1.3
KHZ				eS*	Sb	03 59 38.1	+1.5
BHW	Baring Head	0.80	42	P*	Pb	03 59 32.4	+1.2
SNZO	South Karori	0.81	31	P*	Pb	03 59 32.1	+0.7
SNZO				eSG	Sg	03 59 42.8	+0.2
WEL	Wellington	0.85	33	P*	Pb	03 59 33.1	+1.0
WEL				SG	Sg	03 59 44.7	+0.5
MRW	Makara Radio	0.87	28	P*	Pb	03 59 33.1	+0.6
MRW				eSG	Sg	03 59 44.8	-0.1
THZ	Tophouse	0.96	284	P*	Pb	03 59 34.2	+0.1
THZ				S*	Sb	03 59 46.5	-0.1
NNZ	Nelson	0.97	323	P*	Pb	03 59 33.4	-0.8
NNZ				S*	Sb	03 59 46.7	-0.3
MSWZ	Moikau Station	1.01	55	P*	Pb	03 59 35.3	+0.5
MSWZ				SG	Sg	03 59 50.1	+0.7
CAW	Cannon Point	1.12	38	P*	Pb	03 59 37.3	+0.4
CAW				SG	Sg	03 59 52.3	-0.9
PAWZ	Paruwai Farm	1.14	57	P*	Pb	03 59 36.8	-0.2
PAWZ				SG	Sg	03 59 53.4	-0.2
KIW	Kapiti Island	1.27	27	P*	Pb	03 59 39.3	0.0
KIW				eS*	Sb	03 59 56.4	+0.8
MTW	Mount Morrison	1.32	51	P*	Pb	03 59 39.6	-0.5
MTW				eS*	Sb	03 59 56.8	-0.1
LTZ	Lake Taylor	1.60	240	⇑PN	Pn	03 59 44.4	+0.1
LTZ				SN	Sn	04 00 05.5	+0.3
QRZ	Quartz Range	1.69	313	PN	Pn	03 59 46.2	+0.6
QRZ				eSN	Sn	04 00 08.5	+0.9
MRZ	Mangatainoka R	1.71	39	⇑PN	Pn	03 59 44.9	-1.0
MRZ				S*	Sb	04 00 07.1	-1.4
DSZ	Denniston Nort	1.77	277	PN	Pn	03 59 47.4	+0.6
MQZ	McQueen's Vall	2.03	212	PN	Pn	03 59 49.1	-1.4
MQZ				SN	Sn	04 00 14.4	-1.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WNVZ	Wahianoa	2.89	23	PN	Pn	04 00 02.1	-0.6
TUVZ	Tukino	2.96	23	PN	Pn	04 00 03.1	-0.6
NGZ	Ngauruhoe	3.03	22	PN	Pn	04 00 04.2	-0.5

IDC 24 04:28:44.9±2.2**, 10.28S**×**160.41E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/15**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx3.0**/19**, Error ellipse: s-maj=83.3km s-min=33.1km az=133.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	13.09	273	LR	LR	04 35 50.6	
	comp=Z,102nm,21.7s,baz=226,slow=32						
CTA	Charters Tower	16.77	233	LR	LR	04 38 21.2	
	comp=Z,70nm,19.2s,baz=60,slow=34						
WRA	Warramunga Arr	26.90	246	P	P	04 34 27.9	-1.9
	0.9nm,0.6s,baz=74,slow=9.6,SNR=11						
STKA	Stephens Creek	27.66	216	P	P	04 34 33.4	-3.2
	2.3nm,1.0s,baz=21,slow=8.6,SNR=1.9						
ASAR	Alice Springs	28.56	239	P	P	04 34 44.5	-0.2
	0.6nm,1.0s,baz=66,slow=11,SNR=2.8						
FITZ	Fitzroy Crossi	34.55	253	P	P	04 35 35.0	-2.4
	0.7nm,0.6s,baz=77,slow=19,SNR=3.9						
ILAR	Eielson Array	84.53	20	P	P	04 41 19.6	-1.2
	0.1nm,0.4s,baz=243,slow=5.3,SNR=3.1						

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*BJI **24** 04:39:35.9, 12.60N×44.40W, h10^{km}, mB4.7, Ms4.9, Msz4.5*

*IDC **24** 04:39:36.2±0.6, 12.68N×44.37W, mb4.2/17, mb1 4.3/17, mb1mx4.2/24, MS3.7/16, Ms1 3.7/16, ms1mx3.6/21, Error ellipse: s-maj=19.8km s-min=13.1km az=133.0*

*NEIC **24** 04:39:37.9±0.3, 12.63N×44.38W, h10^{km}, mb4.7/26, Error ellipse: s-maj=9.1km s-min=5.3km az=143.0*

ISC 24 04:39:36.1±0.3**, 12.66N**±0.07×**44.37W**±0.06**, h10^{km}, n73,** σ**0^{s}91**/62**, mb4.4**/42**, MS3.8**/18**, 2C, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FDF	Fort de France	16.43	279	*e*P	P	04 43 29.2	+0.5
SJG	San Juan	21.68	287	P	P	04 44 28.8	-0.4
	13nm,1.0s,mb4.3,baz=119,slow=7.5,SNR=3.0						
SJG	San Juan	21.68	287	*e*P	P	04 44 29.7	+0.5
	20nm,0.9s,mb4.5						
SDV	Santo Domingo	26.06	264	P	P	04 45 11.3	-0.5
	6.8nm,0.8s,mb4.2						
BDFB	Brasilia	28.35	187	P	P	04 45 33.0	+0.3
	6.9nm,1.0s,mb4.2,baz=5.1,slow=8.1,SNR=7.4						
BDFB				LR	LR	04 56 30.8	
	comp=Z,205nm,18.5s,MS3.8,baz=221,slow=36						
SAML	Samuel	28.47	222	*e*P	P	04 45 33.6	-0.1
	12nm,0.6s,mb4.7						
ROSC	El Rosal	30.58	258	P	P	04 45 53.2	+0.5
	5.8nm,0.6s,mb4.6,baz=148,slow=16,SNR=4.8						
ROSC				LR	LR	04 57 28.0	
	comp=Z,122nm,21.5s,MS3.5,baz=66,slow=35						
LPAZ	La Paz	37.14	220	P	P	04 46 50.3	+1.2
	1.7nm,0.3s,mb4.3,baz=30,slow=4.4,SNR=5.9						
LPAZ				LR	LR	05 02 09.1	
	comp=Z,222nm,19.0s,MS4.0,baz=262,slow=36						
LPAZ	La Paz	37.14	220	*e*P	P	04 46 50.0	+0.9
	12nm,1.0s,mb4.7						
LIC	Lamto	39.30	96	*e*P	P	04 46 58.1	-9.2
	67nm,1.3s,mb4.9						
DBIC	Dimbokro	39.37	95	P	P	04 47 07.4	-0.5
	6.5nm,0.7s,mb4.5,baz=251,slow=6.0,SNR=12						
DBIC				LR	LR	05 00 40.7	
	comp=Z,46nm,18.3s,MS3.4,baz=174,slow=32						
DBIC	Dimbokro	39.37	95	*e*P	P	04 47 07.8	-0.1
	9.4nm,0.7s,mb4.6						
CPUP	Villa Florida	40.76	198	P	P	04 47 19.4	+0.3
	1.7nm,0.7s,mb3.8,baz=90,slow=3.3,SNR=5.5						
CPUP				LR	LR	05 04 51.6	
	comp=Z,90nm,18.2s,MS3.7,baz=221,slow=37						
LVC	Limon Verde	42.51	215	P	P	04 47 33.0	-0.7
	1.7nm,0.7s,mb3.9,baz=95,slow=11,SNR=3.3						
LVC	Limon Verde	42.51	215	P	P	04 47 33.0	-0.7
ESDC	Sonseca Array	44.60	45	P	P	04 47 51.0	+0.6
	3.5nm,0.8s,mb4.2,baz=246,slow=8.6,SNR=9.7						
ESDC				LR	LR	05 03 52.6	
	comp=Z,86nm,18.6s,MS3.7,baz=255,slow=33						
SCHQ	Schefferville	45.62	342	LR	LR	05 02 57.5	
	comp=Z,80nm,22.0s,MS3.6,baz=67,slow=31						
SJPF	Ste Jean	47.95	42	*e*P	P	04 48 18.6	+1.7
	49nm,1.2s,mb5.1						
ETSF	Etsaut	48.30	43	*e*P	P	04 48 21.4	+1.8
	7.3nm,0.6s,mb4.6						
EPF	Esparros	48.95	43	*e*P	P	04 48 26.5	+1.9
	7.0nm,0.6s,mb4.6						
MFF	Saint Martin d	50.21	39	*e*P	P	04 48 35.3	+1.1
	12nm,0.7s,mb4.7						
MTLF	Montolieu	50.33	44	*e*P	P	04 48 35.8	+0.6
	12nm,0.9s,mb4.6						
GRR	Gorron	50.64	36	*e*P	P	04 48 38.1	+0.6
CAF	Calviac	50.87	42	*e*P	P	04 48 40.1	+0.8
	8.8nm,0.7s,mb4.5						
FLN	La Foliniere	51.04	36	*e*P	P	04 48 40.4	-0.1
	30nm,1.1s,mb4.8						
FLN				*e*R			
	60nm,17.5s						
LDF	La Druitiere	51.17	36	*e*P	P	04 48 42.6	+1.1
	46nm,1.2s,mb5.0						
TCF	Toulx Ste Croi	51.53	40	*e*P	P	04 48 43.3	-1.0
	25nm,1.2s,mb4.7						
BGF	Bois d'Agland	52.04	40	*e*P	P	04 48 47.4	-0.8
	14nm,0.7s,mb4.7						
AVF	Avril sur Loir	52.45	40	*e*P	P	04 48 51.7	+0.4
SSF	Saint Saulge	52.66	40	*e*P	P	04 48 53.2	+0.4
	3.7nm,0.7s,mb4.2						
SMF	Signal de Mont	52.70	40	*e*P	P	04 48 52.8	-0.3
	2.4nm,0.4s,mb4.1						
LOR	Lormes	52.97	40	*e*P	P	04 48 55.3	+0.2
LOR				*e*R			
	151nm,22.0s						
FRF	La Foret Royal	53.42	45	*e*P	P	04 48 57.3	-1.2
CABF	La Chapelle	54.12	41	*e*P	P	04 49 02.7	-0.8
	9.4nm,0.7s,mb4.5						
MEZF	Maizieres J'vi	54.20	39	*e*P	P	04 49 04.5	+0.4
	9.4nm,0.6s,mb4.6						
BAIF	Baives	54.36	36	*e*P	P	04 49 04.3	-0.9
PGF	Pioggiola	54.76	47	*e*P	P	04 49 05.9	-2.4
	12nm,0.8s,mb4.7						
HINF	Hinteralfeld	55.05	40	*e*P	P	04 49 09.5	-0.9
	4.7nm,0.6s,mb4.4						
DAVOX	Davos	56.63	42	P	P	04 49 21.2	-0.5
	2.2nm,0.6s,mb4.3,baz=190,slow=20,SNR=6.4						
TXAR	Lajitas Array	57.23	297	P	P	04 49 25.6	-0.7
	0.3nm,0.6s,mb3.5,baz=122,slow=8.7,SNR=5.8						
TXAR				LR	LR	05 15 49.1	
	comp=Z,41nm,19.6s,MS3.5,baz=340,slow=38						
PLCA	Paso Flores	58.40	203	P	P	04 49 33.9	-0.4
	4.3nm,0.8s,mb4.5,baz=26,slow=8.4,SNR=7.3						
PLCA				LR	LR	05 17 29.5	
	comp=Z,115nm,18.2s,MS4.0,baz=248,slow=39						
GRA1	Grafenberg Arr	58.41	39	*e*P	P	04 49 34.4	+0.1
	13nm,1.6s,mb4.7						
SDCO	Great Sand Dun	59.58	306	P	P	04 49 42.8	+0.2
	1.6nm,0.9s,mb4.0						
GERES	GERESS Array B	59.70	40	P	P	04 49 42.4	-0.8
	0.8nm,0.8s,mb3.8,baz=256,slow=5.5,SNR=4.1						
KHC	Kasperske Hory	59.71	40	*e*P	P	04 49 43.0	-0.3
PV01	Paradox Valley	62.04	307	P	P	04 50 00.1	+0.8
NOA	NORSAR Array B	62.69	27	LR	LR	05 13 25.4	
	comp=Z,33nm,18.3s,MS3.5,baz=240,slow=32						
PDAR	Pinedale Array	63.32	312	P	P	04 50 06.9	-0.8
	3.9nm,1.4s,mb4.3,baz=104,slow=3.7,SNR=3.1						
PDAR				LR	LR	05 14 29.6	
	comp=Z,77nm,19.4s,MS3.9,baz=90,slow=33						
HFS	Hagfors	63.45	28	P	P	04 50 08.7	+0.4
	1.9nm,0.8s,mb4.3,baz=288,slow=9.1,SNR=2.9						
DAU	Daniels Canyon	64.33	309	*e*P	P	04 50 14.6	+0.2
HWUT	Hardware Ranch	64.67	310	P	P	04 50 15.0	-1.6
	6.6nm,1.0s,mb4.6						
BGU	Big Grassy Mou	65.72	309	*e*P	P	04 50 23.2	-0.1
NEW	Newport	69.18	317	*e*P	P	04 50 51.5	+6.6
	6.8nm,0.8s,mb4.6						
FINES	FINESS Array B	69.64	29	LR	LR	05 15 49.1	
	comp=Z,54nm,21.0s,MS3.8,baz=324,slow=31						
NVAR	Mina Array Bea	69.70	306	LR	LR	05 16 13.4	
	comp=Z,41nm,21.8s,MS3.6,baz=270,slow=32						
YKA	Yellowknife Ar	69.75	332	LR	LR	05 17 42.2	
	comp=Z,79nm,21.5s,MS3.9,baz=95,slow=33						
AKASG	Malin Array Be	69.92	41	LR	LR	05 19 33.8	
	comp=Z,24nm,18.7s,MS3.5,baz=270,slow=34						
ARCES	ARCESS Array B	71.22	20	P	P	04 50 56.1	-0.9
	3.1nm,0.9s,mb4.2,baz=243,slow=2.7,SNR=4.0						
BRTR	Keskin Array B	72.84	52	P	P	04 51 06.3	-0.9
	2.1nm,0.6s,mb4.2,baz=230,slow=5.7,SNR=6.0						
MBAR	Mbarara	75.61	94	P	P	04 51 21.5	-2.3
	4.5nm,0.6s,mb4.6						
MALT	Malatya	76.66	53	*e*P	P	04 51 30.4	+1.2
	3.8nm,0.7s,mb4.4						
ILAR	Eielson Array	83.91	335	P	P	04 52 07.8	+0.6
	0.2nm,0.5s,mb3.5,baz=53,slow=4.5,SNR=4.4						
ILAR				LR	LR	05 31 54.7	
	comp=Z,48nm,18.2s,MS3.9,baz=237,slow=37						
VNA2	Neumayer--Watz	87.10	169	*e*	P	04 52 28.4	+5.5
VNA2	Neumayer--Watz	87.10	169	*e*	P	04 52 29.5	+6.6
VNA2	Neumayer--Watz	87.10	169	⇑*i*P	P	04 52 25.0	+2.1
VNA2				*e*	pP	04 52 28.4	+2.3
VNA2				*e*	pP	04 52 29.5	+3.4
VNA2				*e*		04 55 53.8	
VNA2				*e*		04 57 22.2	
SNAA	Sanae	88.59	168	*e*	P	04 52 33.3	+3.2
SNAA	Sanae	88.59	168	*e*	P	04 52 34.5	+4.4
SNAA	Sanae	88.59	168	⇑*i*P	P	04 52 29.9	-0.2
SNAA				*e*	pP	04 52 33.3	0.0
SNAA				*e*	pP	04 52 34.5	+1.2
SNAA				*e*		04 55 59.2	
SNAA				*e*		04 57 28.0	
MDJ	Mudanjiang	122.73	5	PKP	PKPdf	04 58 32.3	-3.2
LZH	Lanzhou	122.97	31	*e*PKP	PKPdf	04 58 33.5	-2.7
LZH				XPKP		04 58 38.3	
LZH				LR	LR		
	comp=N,193nm,18.2s						
LZH				LR	LR		
	comp=Z,248nm,20.0s,MS4.9						
CN2	Changchun	123.05	9	*e*PKP	PKPdf	04 58 30.0	-6.2
BJI	Beijing	124.54	18	PKP	PKPdf	04 58 35.8	-3.5
NJ2	Nanjing	132.73	19	*e*PKP	PKPdf	04 58 48.3	-6.9
NJ2				PP	PP	05 01 19.0	-1.6
NJ2				PKS	PKS	05 02 26.0	-1.3
NJ2				PP	PP		
	comp=Z,30nm,8.4s						
NJ2				LR	LR		
	comp=N,40nm,20.6s,MS4.3						
NJ2				LR	LR		
	comp=E,50nm,20.7s,MS4.3						
NJ2				LR	LR		
	comp=Z,30nm,20.8s,MS4.0						

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*WAR **24** 04:46:50.3, 51.47N×16.11E, ML2.7, Mining Induced*

*PRU **24** 04:46:51.4, 51.40N×16.10E*

ISC 24 04:46:48.2±1.2**, 51.46N**±0.06×**16.15E**±0.05**, n9,** σ**1^{s}16**/18**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	172	*e*PG	Pg	04 47 02.0	+1.2
KSP				*e*SG	Sg	04 47 10.0	+0.9
UPC	Upice	0.96	185	*e*PG	Pg	04 47 09.5	+2.1
UPC				*e*SG	Sg	04 47 20.8	+0.6
DPC	Dobruska-Polom	1.12	174	*e*PG	Pg	04 47 11.3	+0.7
DPC				*e*SG	Sg	04 47 25.6	+0.1
	10nm,0.3s						
PVCC	Panska Ves	1.37	227	*e*PG	Pg	04 47 15.5	-0.1
PVCC				*e*SG	Sg	04 47 34.4	+0.6
PRU	Pruhonice	1.80	215	*e*PG	Pg	04 47 22.8	-1.3
PRU				*i*		04 47 27.0	
PRU				*i*		04 47 40.4	
PRU				*e*SG	Sg	04 47 46.7	-1.3
	8.4nm,0.4s						
CLL	Collm	1.98	267	*e*SG	Sg	04 47 54.0	-0.1
OKC	Ostrava-Krasne	2.06	141	*e*SG	Sg	04 47 55.1	-1.9
OJC	Ojcow	2.63	117	*e*PG	Pg	04 47 41.0	+0.3
OJC				*e*SG	Sg	04 48 15.0	-0.7
KHC	Kasperske Hory	2.86	216	*e*PN	Pn	04 47 36.5	+0.6
KHC				*e*PG	Pg	04 47 41.9	-3.4
KHC				*e*SN	Sn	04 48 07.7	-3.8
KHC						04 48 10.6	
KHC				*e*SG	Sg	04 48 19.6	-3.8

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*NEIC **24** 04:48:00.3, 33.35S×72.90W, h36^{km}, ML3.6(GUC), After GUC.*

GUC 24 04:48:00.3±0.7**, 33.35S**×**72.90W, h36^{km}**±3^{km}**, MD3.8, ML3.6, 1C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.12	97	⇓*i*P	P	04 48 20.2	+0.5
LNV	Longovilo	1.39	116	⇑*i*P	P	04 48 24.1	+0.6
LNV				*i* S	S	04 48 42.2	+1.3
TACH	Talagante	1.67	101	⇓*i*P	P	04 48 28.4	+0.8
TACH				*i* S	S	04 48 50.0	+1.9
CHCH	Chadas Angostu	1.97	108	*e*P	P	04 48 32.7	+0.9
CLCH	Cerro Calan	1.98	92	*e*P	P	04 48 33.0	+1.0
PCH	Pirque	2.02	98	*e*P	P	04 48 33.3	+0.8
PCH				*i* S	S	04 48 58.1	+1.4
SFDO	San Fernando	2.02	129	*e*P	P	04 48 32.9	+0.3
SFDO				*i* S	S	04 48 58.1	+1.3
JACH	Jahuel	2.05	72	*e*P	P	04 48 43.7	+11
JACH				*i* S	S	04 48 59.6	+2.0
CACH	El Canelo	2.07	112	*e*P	P	04 48 35.2	+1.9
CACH				*i* S	S	04 49 01.2	+3.1
FCH	Farellones	2.19	90	*e*P	P	04 48 36.7	+1.7
CICH	Cipreses	2.28	116	*e*P	P	04 48 37.6	+1.2
CICH				*i* S	S	04 49 05.7	+2.1
LMEL	Las Melosas	2.31	103	*e*P	P	04 48 37.9	+1.2
LMEL				AMP		04 49 11.1	
	comp=N,140nm,0.2s						
CMCH	Combarbala	2.70	37	⇓*i*P	P	04 48 42.5	+0.2
CMCH				*i* S	S	04 49 14.8	+0.7
CMCH				AMP		04 49 17.9	
	comp=E,812nm,0.6s						

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*NEIC **24** 05:06:45.1, 33.51S×72.34W, h5^{km}, ML3.2(GUC), After GUC.*

GUC 24 05:06:45.1±0.6**, 33.51S**×**72.34W, h5^{km}**±7^{km}**, MD4.0, ML3.2, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.65	87	⇑*i*P	Pg	05 06 58.4	+0.3
LCCH				*i* S	Sg	05 07 08.1	+1.3
IHA	Instituto Hidr	0.76	51	*i* P	Pg	05 06 59.9	-0.4
IHA				*i* S	Sg	05 07 11.1	+0.7
LNV	Longovilo	0.90	120	*e*P	Pb	05 07 03.1	+0.3
TACH	Talagante	1.18	97	*i* P	Pb	05 07 07.2	-0.5
TACH				*i* S	Sb	05 07 23.4	+0.3
ANTU	Antumapu	1.43	93	*i* S	Sb	05 07 30.4	+0.1
ANTU				AMP		05 07 38.5	
	comp=N,502nm,0.5s						
PEL	Peldehue	1.44	76	*e*P	Pn	05 07 10.8	-1.0
PEL				*i* S	Sb	05 07 30.7	+0.3
PEL				AMP		05 07 40.7	
	comp=N,409nm,0.5s						
CHCH	Chadas Angostu	1.47	107	*i* P	Pn	05 07 11.4	-1.0
CHCH				*i* S	Sb	05 07 31.1	-0.5
DSCH	Colegio Aleman	1.49	86	*e*P	Pn	05 07 12.0	-0.7
DSCH				*i* S	Sb	05 07 32.1	+0.1
DSCH				AMP		05 07 35.9	
	comp=E,628nm,0.5s						
CLCH	Cerro Calan	1.52	86	*e*P	Pn	05 07 12.2	-0.9
CLCH				AMP		05 07 38.6	
	comp=E,344nm,0.6s						
PCH	Pirque	1.53	95	*e*P	Pn	05 07 12.2	-1.1
SFDO	San Fernando	1.56	135	*e*P	Pn	05 07 13.1	-0.6
SFDO				*i* S	Sb	05 07 34.1	0.0
CACH	El Canelo	1.57	113	*e*P	Pn	05 07 13.8	-0.1
JACH	Jahuel	1.69	61	*i* P	Pn	05 07 13.9	-1.5
JACH				*i* S	Sn	05 07 38.0	+0.4
FCH	Farellones	1.73	85	*e*P	Pn	05 07 15.9	-0.2
FCH				*i* S	Sn	05 07 38.9	+0.2
FCH				AMP		05 07 47.6	
	comp=N,210nm,0.4s						
NICH	Los Niches	1.75	149	*e*P	Pn	05 07 15.9	-0.5
CICH	Cipreses	1.79	117	⇑*i*P	Pn	05 07 16.6	-0.3
LMEL	Las Melosas	1.82	101	*e*P	Pn	05 07 17.0	-0.4
CMCH	Combarbala	2.59	26	*e*P	Pn	05 07 25.7	-2.7
CMCH				*i* S	Sn	05 07 58.6	-2.0
CMCH				AMP		05 08 13.5	
	comp=E,566nm,0.7s						

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*NEIC **24** 05:52:56.7, 15.89N×93.86W, h90^{km}, MD4.1(MEX), After MEX.*

MEX 24 05:52:56.2±0.8**, 15.77N**×**93.85W, h71^{km}**±72^{km}**, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	San Cristobal	1.51	50	*i* P	P	05 53 20.2	-1.6
SCX				*i* S	S	05 53 39.8	-0.9
CMIG	Matias Romero	1.64	323	*e*P	P	05 53 21.8	-1.8
CMIG				*i* S	S	05 53 41.5	-2.4
CCIG	Comitan	1.72	73	*i* P	P	05 53 22.1	-2.6
CCIG				*i* S	S	05 53 43.4	-2.3
TUIG	Tuzandepetl	2.31	346	*i* P	P	05 53 30.5	-2.4
TUIG				*i* S	S	05 53 56.8	-3.4
OXX	Oaxaca	3.05	296	*i* P	P	05 53 43.5	+0.2
IISM	Ciudad Serdan	4.64	314	*e*P	P	05 54 11.5	+6.0

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*IDC **24** 06:07:42.4±1.6, 50.68N×98.35E, mb3.5/1, mb1 3.7/4, mb1mx3.5/21, ML3.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=46.6km s-min=15.2km az=23.0*

*MOS **24** 06:07:44.7±2.9, 51.08N×98.67E, h13^{km}, mb5.1/2, Error ellipse: s-maj=15.8km s-min=12.5km az=144.4*

ISC 24 06:07:46.6±0.7**, 51.23N**±0.08×**98.82E**±0.06**, h10^{km}, n21,** σ**1^{s}32**/25**, mb4.3**/3**, MS3.7**/2**, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOY	Mondy	1.43	71	*e*PN	Pn	06 08 13.9	+1.2
MOY				*e*		06 08 39.3	
MOY				pmax	pmax		
	comp=Z,186nm,0.8s						
MOY				smax			
	comp=N,1μm,1.0s						
ORL	Orlik	1.45	25	*e*PN	Pn	06 08 12.3	-0.7
ORL				*e*		06 08 36.2	
ORL				pmax	pmax		
	comp=Z,104nm,0.5s						
ORL				smax			
	comp=N,601nm,0.8s						
ARS	Arshan	2.36	71	*e*PN	Pb	06 08 28.4	-0.3
ARS				*e*		06 09 06.4	
ARS				pmax	pmax		
	comp=Z,152nm,0.6s						
ARS				smax			
	comp=E,1μm,0.9s						
ZAK	Zakamensk	2.96	105	*e*PN	Pn	06 08 33.4	-1.1
ZAK				*e*		06 08 39.0	
ZAK				*e*		06 09 22.9	
ZAK				pmax	pmax		
	comp=Z,95nm,1.0s						
ZAK				smax			
	comp=N,505nm,1.4s						
TLY	Talaya	3.05	80	*e*PN	Pb	06 08 42.2	+1.5
TLY				*e*		06 09 26.1	
TLY				pmax	pmax		
	comp=Z,46nm,0.8s						
TLY				smax			
	comp=E,444nm,0.6s						
IRK	Irkutsk	3.54	71	*e*PN	Pn	06 08 41.0	-1.8
IRK				*e*		06 08 50.5	
IRK				pmax	pmax		
	comp=Z,99nm,0.2s						
LSTR	Listvyanka	3.81	78	*e*PN	Pb	06 08 55.7	+2.1
LSTR				*e*		06 09 49.4	
LSTR				pmax	pmax		
	comp=Z,20nm,1.6s						
LSTR				smax			
	comp=N,231nm,1.4s						
CERR	Cheremushki	4.85	293	*e*PN	Pn	06 09 01.9	+0.5
CERR				*e*S	Sn	06 09 59.7	+1.3
TRG	Tyrgan	4.90	69	*e*PN	Pb	06 09 14.5	+2.2
TRG				pmax	pmax		
	comp=Z,40nm,0.7s						
OGRR	Ongureny	5.89	62	*e*PN	Pn	06 09 14.9	-1.2
SONM	Songino Array	5.99	122	Pg	Pb	06 09 30.9	+0.1
	comp=Z,1.7nm,0.3s,baz=304,slow=18,SNR=36						
SONM				Lg		06 10 56.0	
	comp=Z,6.7nm,0.3s,baz=302,slow=27,SNR=16						
SHRR	Shira	6.18	305	*e*PN	Pn	06 09 20.2	+0.1
AKAR	Aktash	7.16	267	*e*PN	Pn	06 09 41.1	+7.1
ZAL	Zalesovo	8.96	293	Pn	P	06 09 53.3	-5.7
	comp=Z,0.4nm,0.3s,baz=242,slow=4.1,SNR=2.4						
ZAL				Pg	P	06 10 14.7	+16
	comp=Z,0.2nm,0.3s,baz=275,slow=13,SNR=8.4						
ZAL				Lg		06 12 09.6	
	comp=Z,1.0nm,0.3s,baz=150,slow=24,SNR=3.9						
ZAL				LR	LR	06 13 50.5	
	comp=Z,95nm,19.3s,baz=73,slow=41						
BOD	Bodaibo	11.01	47	*e*P	P	06 10 22.4	-4.7
BOD				*e*S	S	06 12 30.4	-0.9
BOD				pmax	pmax		
	comp=Z,3.0nm,0.2s						
BOD				smax			
	comp=N,46nm,1.6s						
MKAR	Makanchi Array	11.72	254	Pn	P	06 10 25.2	-12
	comp=N,0.0nm,0.3s,baz=76,slow=15,SNR=5.3						
MKAR				Lg		06 13 35.3	
	comp=N,0.1nm,0.3s,baz=71,slow=30,SNR=4.6						
MKAR	Makanchi Array	11.72	254	*i* P	P	06 10 25.7	-11
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	17.50	287	Pn	P	06 11 43.5	-8.5
	comp=Z,0.3nm,0.3s,baz=72,slow=9.4,SNR=9.7						
OBN	Obninsk	36.42	301	*e*P	P	06 14 40.5	-12
OBN				*e*		06 17 08.6	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.7						
SOC	Sochi	39.75	283	*e*P	P	06 15 18.6	-2.2
SOC				*e*PPP	PP	06 16 57.9	+1.8
SOC				*e*S	S	06 21 18.5	-5.9
SOC				*e*SS	SS	06 24 02.2	-11
SOC				*e*SSS	SSS	06 24 39.4	-9.1
SOC				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
SOC				pmax	pmax		
	comp=N,8.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,97nm,21.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,168nm,24.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,122nm,25.0s,MS3.9						
WRA	Warramunga Arr	77.42	146	P	P	06 19 37.0	-6.5
	comp=E,0.3nm,0.7s,mb3.4,baz=348,slow=6.4,SNR=4.7						

IDC 24 06:21:09.5±1.4**, 29.84N**×**141.23E, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/19**, MS3.2**/3**, Ms1 3.2**/3**, ms1mx2.9**/20**, Error ellipse: s-maj=48.4km s-min=29.6km az=95.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.87	163	LR	LR	06 22 51.9	
	comp=Z,262nm,21.0s,baz=241,slow=36						
JNU	Nakatsue	9.42	293	LR	LR	06 26 08.7	
	comp=Z,93nm,18.5s,baz=86,slow=32						
MKAR	Makanchi Array	48.10	308	P	P	06 29 51.2	-1.6
	0.5nm,0.8s,baz=82,slow=10,SNR=3.4						
WRA	Warramunga Arr	49.94	188	P	P	06 30 05.0	-2.3
	0.4nm,0.5s,baz=4.4,slow=7.6,SNR=18						
WRA				LR	LR	06 51 26.1	
	comp=Z,43nm,20.0s,baz=215,slow=36						
ILAR	Eielson Array	55.73	30	P	P	06 30 47.2	-2.6
	0.4nm,0.7s,baz=260,slow=6.1,SNR=6.4						

DJA 24 06:26:22.9±1.0**, 9.78S**×**116.30E, h15^{km}, MD4.8**/3**, ML4.1**/1**, 1C-6D, Error ellipse: s-maj=21.4km s-min=16.9km az=145.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	1.29	324	⇓*i*Pn	Pn	06 26 42.9	-3.6
RATI				⇓*i*Sn	Sn	06 26 59.4	-4.2
KEDI	Kedomdong	1.30	352	⇑*i*Pn	Pn	06 26 44.5	-2.1
	206nm,0.2s						

KEDI				⇓*i*Sn	Sn	06 27 00.2	-3.5
INGI	**Ingas**	1.49	310	⇓*i*Pn	Pn	06 26 46.3	-3.0
INGI				⇓*i*Sn	Sn	06 27 04.0	-4.4
KELI	**Kelakatan**	2.37	311	⇓*i*Pn	Pn	06 27 00.4	-1.5

*NEIC **24** 06:27:13.7, 16.52N×94.81W, h85^{km}, MD4.0(MEX), After MEX.*

MEX 24 06:27:12.4±1.4**, 16.48N×94.75W, h91**^{km}±14^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	0.62	348	*i* P	P	06 27 27.3	-1.2
CMIG				*e*S	S	06 27 38.6	-1.8
HUIG	**Huatulco**	1.48	242	*i* P	P	06 27 35.8	-2.6
HUIG				*i* S	S	06 27 55.5	-2.2
HUIG	**Huatulco**	1.48	242	*i* P	P	06 27 35.9	-2.6
HUIG				*i* S	S	06 27 55.5	-2.2
TUIG	**Tuzandepetl**	1.57	11	*e*P	P	06 27 37.9	-1.7
TUIG				*i* S	S	06 27 57.1	-2.6
OXX	**Oaxaca**	1.98	288	*i* P	P	06 27 44.6	-0.3
OXX				*i* S	S	06 28 07.3	-1.5
EVV	**El Vigia**	2.04	344	*i* P	P	06 27 43.3	-2.5
SCX	**San Cristobal**	2.04	83	*i* P	P	06 27 47.6	+1.8
SCX				*i* S	S	06 28 09.7	-0.7
CCIG	**Comitan**	2.52	94	*e*P	P	06 27 52.7	+0.4
CCIG				*i* S	S	06 28 19.0	-3.0
IISM	**Ciudad Serdan**	3.53	315	*e*P	P	06 28 10.5	+4.2

*IDC **24** 07:08:14.6±2.9, 7.78S×110.24E, mb3.8/4, mb1 3.9/5, mb1mx3.8/14, ML3.1/1, Error ellipse: s-maj=180.0km s-min=23.2km az=50.0*

*DJA **24** 07:08:28.7±1.3, 7.03S×111.06E, h287^{km}±23^{km}, MD4.7/3, ML4.7/3, Error ellipse: s-maj=251.9km s-min=54.8km az=20.0*

ISC 24 07:08:31.4±3.8**, 7.5S**±0.3×**110.7E**±0.3**, h160**^{km}±32^{km}**, n8, σ0^{s}89**/10**, mb3.6**/4**, 3C-2D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	3.81	100	⇑*e*Pn	**P**	**07 09 31.5**	**+1.2**
	104nm,0.2s						
KELI				⇑*e*Sn	**S**	**07 10 16.5**	**+1.0**
RATI	**Rata**	4.92	104	⇓*e*Pn	**P**	**07 09 44.4**	**-0.4**
	245nm,0.2s						
RATI				⇓*e*Sn	**S**	**07 10 40.7**	**-0.8**
KEDI	**Kedomdong**	5.44	100	⇑*e*Pn	**P**	**07 09 50.1**	**-1.5**
	90nm,0.1s						
FITZ	**Fitzroy Crossi**	17.93	127	P	**P**	**07 12 28.2**	**-3.8**
	0.1nm,0.3s,baz=216,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	26.01	121	P	**P**	**07 13 52.0**	**+0.5**
	0.3nm,0.3s,mb3.4,baz=302,slow=11,SNR=12						
ASAR	**Alice Springs**	27.43	128	P	**P**	**07 14 04.5**	**0.0**
	0.8nm,0.6s,mb3.5,baz=299,slow=8.2,SNR=8.9						
STKA	**Stephens Creek**	37.59	134	P	**P**	**07 15 32.5**	**+0.3**
	1.9nm,0.4s,mb4.1,baz=313,slow=9.8,SNR=10						
MKAR	**Makanchi Array**	59.71	338	P	**P**	**07 18 21.4**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=155,slow=8.0,SNR=4.1						

DJA 24 07:22:37.2±0.9**, 9.45S×115.29E, h58**^{km}±12^{km}**, MD5.6**/4**, ML4.1**/2**, 6C-2D, Error ellipse: s-maj=30.8km s-min=10.3km az=3.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	0.64	347	⇑*e*Pg	P	07 22 50.0	-0.6
	545nm,0.2s						
INGI				⇓*e*Sg	S	07 22 59.5	-1.0
RATI	**Rata**	0.76	19	⇑*e*Pg	P	07 22 51.5	-0.6
	728nm,0.2s						
RATI				⇑*e*Sg	S	07 23 02.2	-0.9
KEDI	**Kedomdong**	1.25	41	⇑*e*Pn	P	07 22 57.9	-1.0
	111nm,0.2s						
KEDI				⇓*e*Sn	S	07 23 12.9	-2.1
KELI	**Kelakatan**	1.45	327	⇑*e*Pn	P	07 23 00.8	-0.9
	360nm,0.2s						
KELI				⇑*e*Sn	S	07 23 17.8	-2.1

*ISK **24** 07:36:06.7, 36.93N×27.59E, h8^{km}, MD3.3*

*ATH **24** 07:36:06.2, 36.99N×27.89E, h79^{km}±5^{km}*

ISC 24 07:36:07.7±0.6**, 36.91N**±0.03×**27.64E**±0.04**, h5**^{km}±5^{km}**, n18, σ1^{s}10**/28**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.22	315	*i* P	**Pg**	**07 36 13.2**	**+1.0**
BDRM				*i* S	**Sg**	**07 36 17.0**	**+1.8**
MLSB	**Milas**	0.40	16	PG	**Pg**	**07 36 15.0**	**-0.7**
MLSB				SG	**Sg**	**07 36 21.0**	**-0.1**
YER	**Yerkesik**	0.56	66	PG	**Pg**	**07 36 18.4**	**-0.5**
AYDN	**Tasoluk**	0.77	14	⇑*i*P	**Pg**	**07 36 22.6**	**-0.6**
AYDN				*i* S	**Sg**	**07 36 32.7**	**-0.8**
ARG	**Arkhangelos**	0.80	150	*e*P	**Pg**	**07 36 23.5**	**-0.1**
ARG				*e*S	**Sg**	**07 36 36.1**	**+1.9**
DALT	**Dalyan (Mudla)**	0.81	100	PG	**Pg**	**07 36 23.5**	**-0.5**
DALT				SG	**Sg**	**07 36 35.7**	**+0.9**
SMG	**Samos**	1.02	321	*e*P	**Pb**	**07 36 27.3**	**-0.2**
SMG				*e*S	**Sb**	**07 36 42.8**	**+1.7**
DNZL	**Cakiroluk**	1.36	55	*i* P	**Pb**	**07 36 33.3**	**-0.1**
DNZL				*i* S	**Sb**	**07 36 52.0**	**+0.9**
DENT	**Denizli**	1.39	52	PN	**Pn**	**07 36 33.0**	**-0.9**
KARP	**Karpathos**	1.41	196	*e*P	**Pn**	**07 36 33.6**	**-0.6**
IZM	**Izmir**	1.52	349	PN	**Pn**	**07 36 33.6**	**-2.0**
KDAG	**Bornova**	1.52	349	*i* P	**Pn**	**07 36 34.1**	**-1.6**
KDAG				*i* S	**Sb**	**07 36 56.7**	**+1.2**
APE	**Apeiranthos**	1.70	276	PN	**Pn**	**07 36 36.7**	**-1.5**
APE	**Apeiranthos**	1.70	276	*e*P	**Pn**	**07 36 37.5**	**-0.7**
MANT	**Manisa**	1.74	24	*i* P	**Pn**	**07 36 37.6**	**-1.2**
MANT				*i* S	**Sn**	**07 37 03.6**	**+2.0**
ELL	**Elmali**	1.83	94	PN	**Pn**	**07 36 40.6**	**+0.5**
AKS	**Akhisar**	1.97	4	PN	**Pn**	**07 36 41.7**	**-0.4**
ULDT	**Uludag**	3.43	20	*i* P	**Pn**	**07 37 13.9**	**+11**
ULDT				*i* S	**Sn**	**07 37 57.6**	**+13**

*NEIC **24** 07:39:49.1, 38.27S×176.03E, h161^{km}, After WEL.*

WEL 24 07:39:49.4±0.3**, 38.29S×176.06E, h159**^{km}±2^{km}**, ML4.0**/6**, 11C-9D, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UTU	**Utuhina**	0.16	43	PN	P	07 40 10.9	-0.1
UTU	**Utuhina**	0.16	43	P	P	07 40 10.9	-0.1
PATZ	**Paeroa**	0.18	119	⇓PN	P	07 40 11.1	0.0
PATZ	**Paeroa**	0.18	119	P	P	07 40 11.1	0.0
TAZ	**Tarawera**	0.36	80	PN	P	07 40 11.5	-0.1
TAZ	**Tarawera**	0.36	80	P	P	07 40 11.6	0.0
LIRZ	**Lichensteins R**	0.39	42	⇓PN	P	07 40 11.3	-0.4
LIRZ	**Lichensteins R**	0.39	42	P	P	07 40 11.3	-0.4
EDRZ	**Edgecumbe**	0.57	71	PN	P	07 40 12.1	-0.4
EDRZ	**Edgecumbe**	0.57	71	P	P	07 40 12.1	-0.4
MARZ	**Manawahe**	0.57	58	PN	P	07 40 12.4	-0.1
MARZ	**Manawahe**	0.57	58	P	P	07 40 12.4	-0.1
TGRZ	**Tauranga**	0.58	16	⇓PN	P	07 40 11.9	-0.7
TGRZ				SN	S	07 40 30.4	0.0
TGRZ	**Tauranga**	0.58	16	P	P	07 40 11.9	-0.7
MGZ	**Maungaku**	0.81	210	⇑PN	P	07 40 13.9	+0.1
MGZ	**Maungaku**	0.81	210	P	P	07 40 13.9	0.0
URZ	**Urewera**	0.83	88	⇓PN	P	07 40 13.4	-0.6
URZ				SN	S	07 40 31.8	-1.1
URZ	**Urewera**	0.83	88	P	P	07 40 13.4	-0.5
KAVZ	**Karewarewa**	0.87	202	PN	P	07 40 14.1	-0.1
WTVZ	**West Tongariro**	0.90	204	PN	P	07 40 14.3	-0.1
TWVZ	**Taurewa**	0.92	212	⇑PN	P	07 40 14.4	-0.1
BKZ	**Black Stump Fm**	0.94	159	⇓PN	P	07 40 14.8	+0.2
BKZ				SN	S	07 40 33.0	-1.1
BKZ	**Black Stump Fm**	0.94	159	P	P	07 40 14.9	+0.2
BKZ				S	S	07 40 33.4	-0.7
NGZ	**Ngauruhoe**	0.95	202	PN	P	07 40 14.7	0.0
NGZ	**Ngauruhoe**	0.95	202	P	P	07 40 14.9	+0.1
HIZ	**Hauiti**	0.97	256	⇑PN	P	07 40 14.2	-0.7
CNZ	**Chateau**	0.99	204	PN	P	07 40 14.9	-0.1
CNZ	**Chateau**	0.99	204	P	P	07 40 15.2	+0.2
WPVZ	**Whakapapa**	0.99	204	PN	P	07 40 15.2	+0.2
MYRZ	**Mayor Island**	1.02	8	PN	P	07 40 14.6	-0.7
TUVZ	**Tukino**	1.02	198	⇓PN	P	07 40 15.5	+0.2
TUVZ				SN	S	07 40 36.2	+0.9
WNVZ	**Wahianoa**	1.09	199	PN	P	07 40 16.0	0.0
MOVZ	**Moawhango**	1.14	192	⇑PN	P	07 40 16.0	-0.4
MOVZ				SN	S	07 40 35.6	-1.6
MWZ	**Matawai**	1.16	93	⇓PN	P	07 40 16.5	-0.1
MWZ				SN	S	07 40 36.9	-0.6
MWZ	**Matawai**	1.16	93	P	P	07 40 16.5	-0.1
MWZ				S	S	07 40 36.9	-0.7
VRZ	**Vera Road**	1.31	230	⇑PN	P	07 40 17.8	-0.3
VRZ	**Vera Road**	1.31	230	P	P	07 40 17.8	-0.3
KNZ	**Kokohu**	1.46	120	PN	P	07 40 19.9	+0.4
KNZ				SN	S	07 40 41.7	-1.1
KNZ	**Kokohu**	1.46	120	*e*P	P	07 40 19.9	+0.4
KUZ	**Kuaotunu**	1.57	350	PN	P	07 40 19.4	-1.2
KUZ	**Kuaotunu**	1.57	350	P	P	07 40 19.4	-1.2
WAZ	**Wanganui**	1.68	209	⇑PN	P	07 40 21.2	-0.6
WAZ	**Wanganui**	1.68	209	P	P	07 40 21.2	-0.7
PUZ	**Puketiti**	1.75	83	⇓PN	P	07 40 22.2	-0.3
PUZ				SN	S	07 40 45.9	-2.3
PUZ	**Puketiti**	1.75	83	*e*P	P	07 40 22.2	-0.4
TSZ	**Takapari Road**	1.77	182	⇑PN	P	07 40 22.2	-0.6
TSZ				SN	S	07 40 46.4	-2.1
TSZ	**Takapari Road**	1.77	182	P	P	07 40 22.2	-0.6
NEZ	**North Egmont**	1.82	237	PN	P	07 40 23.2	-0.1
NEZ	**North Egmont**	1.82	237	P	P	07 40 23.2	-0.1
DFE	**Dawson Falls**	1.84	235	PN	P	07 40 23.4	-0.2
DFE	**Dawson Falls**	1.84	235	P	P	07 40 23.5	-0.1
PWZ	**Pawanui**	1.84	160	PN	P	07 40 23.5	-0.1
PWZ				SN	S	07 40 47.0	-3.0
PWZ	**Pawanui**	1.84	160	P	P	07 40 23.5	-0.1
PKE	**Pukeiti**	1.85	240	⇑PN	P	07 40 23.3	-0.4
PKE	**Pukeiti**	1.85	240	P	P	07 40 23.3	-0.4
MXZ	**Matakaoa Point**	1.92	68	⇓PN	P	07 40 24.3	-0.1
MXZ				SN	S	07 40 50.6	-0.9
MXZ	**Matakaoa Point**	1.92	68	P	P	07 40 24.5	0.0
NRZ	**Ngariki Road**	1.96	237	PN	P	07 40 24.4	-0.5
NWEZ	**Newall Road**	1.97	240	PN	P	07 40 24.5	-0.5
NWEZ	**Newall Road**	1.97	240	P	P	07 40 24.5	-0.5
BFZ	**Birch Farm**	2.39	177	⇑PN	P	07 40 28.7	-1.4
BFZ				SN	S	07 40 58.6	-2.8
MRZ	**Mangatainoka R**	2.39	189	⇑PN	P	07 40 28.3	-1.9
MRZ				SN	S	07 40 57.6	-3.9
MRZ	**Mangatainoka R**	2.39	189	P	P	07 40 28.3	-1.9
KIW	**Kapiti Island**	2.71	199	PN	P	07 40 31.5	-2.7
KIW				SN	S	07 41 04.2	-4.3
KIW	**Kapiti Island**	2.71	199	P	P	07 40 31.5	-2.7
MTW	**Mount Morrison**	2.89	188	⇑PN	P	07 40 33.6	-2.8
MTW				SN	S	07 41 08.0	-4.4
MTW	**Mount Morrison**	2.89	188	P	P	07 40 33.7	-2.7
CAW	**Cannon Point**	2.91	195	PN	P	07 40 33.9	-2.8
CAW				SN	S	07 41 08.1	-4.8
CAW	**Cannon Point**	2.91	195	P	P	07 40 33.9	-2.8
MRW	**Makara Radio**	3.11	199	PN	P	07 40 36.0	-3.2
MRW				SN	S	07 41 12.6	-4.9
MRW	**Makara Radio**	3.11	199	P	P	07 40 36.0	-3.2
PAWZ	**Paruwai Farm**	3.12	189	PN	P	07 40 36.3	-3.1
WEL	**Wellington**	3.15	198	PN	P	07 40 36.5	-3.2
WEL	**Wellington**	3.15	198	P	P	07 40 36.5	-3.2
MSWZ	**Moikau Station**	3.18	191	PN	P	07 40 36.9	-3.2
MSWZ				SN	S	07 41 13.0	-6.0
SNZO	**South Karori**	3.19	199	PN	P	07 40 36.8	-3.4
SNZO				SN	S	07 41 13.7	-5.5
SNZO	**South Karori**	3.19	199	P	P	07 40 36.8	-3.4
TUWZ	**Tuamarina**	3.53	207	PN	P	07 40 40.4	-4.2
TUWZ				SN	S	07 41 20.9	-6.1
NNZ	**Nelson**	3.58	214	PN	P	07 40 41.0	-4.2
NNZ				SN	S	07 41 22.8	-5.3
NNZ	**Nelson**	3.58	214	*e*P	P	07 40 41.1	-4.1
QRZ	**Quartz Range**	3.72	226	PN	P	07 40 42.4	-4.6
QRZ	**Quartz Range**	3.72	226	*e*P	P	07 40 42.6	-4.4
BSWZ	**Blackbirch Sta**	3.81	205	PN	P	07 40 44.0	-4.1
THZ	**Tophouse**	4.23	214	PN	P	07 40 49.0	-4.6
THZ				SN	S	07 41 38.1	-5.1
THZ	**Tophouse**	4.23	214	*e*P	P	07 40 49.1	-4.6
KHZ	**Kahutara**	4.55	204	PN	P	07 40 53.4	-4.4
KHZ				SN	S	07 41 42.9	-7.7
KHZ	**Kahutara**	4.55	204	P	P	07 40 53.6	-4.2
DSZ	**Denniston Nort**	4.75	222	PN	P	07 40 55.3	-5.2
DSZ				SN	S	07 41 48.0	-7.4
DSZ	**Denniston Nort**	4.75	222	P	P	07 40 55.3	-5.2
LTZ	**Lake Taylor**	5.33	212	PN	P	07 41 02.9	-5.3
LTZ				SN	S	07 41 60.0	-9.2
LTZ	**Lake Taylor**	5.33	212	*e*P	P	07 41 03.0	-5.2
MQZ	**McQueen’s Vall**	5.99	204	PN	P	07 41 10.6	-6.3
MQZ				SN	S	07 42 13.2	-12
MQZ	**McQueen’s Vall**	5.99	204	*e*P	P	07 41 10.6	-6.3
WVZ	**Waitaha Valley**	6.26	219	*e*PN	P	07 41 14.5	-5.9
WVZ				SN	S	07 42 19.8	-11
ODZ	**Otahua Downs**	7.87	209	*e*PN	P	07 41 35.5	-6.4

*NIED **24** 07:42:00, 42.80N×143.40E, h68^{km}, Mw3.8 Best double couple: M₀5.65×10^{14} NP1:φ$_s$76°, δ74°, λ-152°. NP2: φ$_s$338°, δ63°, λ-18°.*

*MOS **24** 07:42:38.5±0.8, 42.76N×143.31E, h85^{km}, mb4.1/3, Error ellipse: s-maj=31.2km s-min=16.2km az=93.8*

*JMA **24** 07:42:40.1±0.1, 42.77N×143.35E, h68^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:φ$_s$74°, δ63°, λ-163°. NP2:φ$_s$336°, δ75°, λ-28°. Principal axes: T Plg8°, Azm27°; N Plg59°, Azm130°; P Plg30°, Azm292°;*

JMA Felt I J1.

*NEIC **24** 07:42:40.8±2.1, 42.78N×143.27E, h83^{km}±22^{km}, mb4.3/1 Error ellipse: s-maj=20.0km s-min=16.4km az=216.0*

*IDC **24** 07:42:40.1±1.9, 42.76N×143.25E, h78^{km}±14^{km}, mb3.4/8, mb1 3.7/9, mb1mx3.5/22, Error ellipse: s-maj=24.1km s-min=16.8km az=87.0*

ISC 24 07:42:38.3±0.4**, 42.74N**±0.03×**143.41E**±0.04**, h80**^{km}±3^{km}**, n35, σ0^{s}75**/51**, mb3.6**/9**, 7C-4D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	0.13	196	⇓P	**P**	**07 42 50.3**	**+0.4**
JCH				S	**S**	**07 42 57.2**	**-1.3**
JOB	**Onbets**	0.35	62	⇓P	**P**	**07 42 51.9**	**+0.9**
JOB				S	**S**	**07 43 00.5**	**-0.1**
JAR	**Ashorobuto**	0.62	25	⇑P	**P**	**07 42 53.6**	**+0.2**
JAR				*e*S	**S**	**07 43 03.5**	**-0.9**
JNBK	**Urakawa-nobuka**	0.67	227	⇑P	**P**	**07 42 54.5**	**+0.6**
JNBK				*e*S	**S**	**07 43 05.0**	**-0.4**
JFR	**Furan**	0.73	305	P	**P**	**07 42 55.0**	**+0.4**
JEM	**Erimo**	0.75	195	P	**P**	**07 42 55.5**	**+0.7**
JEM				*e*S	**S**	**07 43 07.1**	**+0.2**
JBT2	**Biratori 2**	0.77	273	⇑P	**P**	**07 42 55.3**	**+0.2**
JBT2				*e*S	**S**	**07 43 06.8**	**-0.6**
JAK	**Akkeshi**	0.98	74	⇓P	**P**	**07 42 58.0**	**+0.6**
JAK				*e*S	**S**	**07 43 11.3**	**-0.4**
JAB	**Ashibetsu**	1.16	312	⇓P	**P**	**07 43 00.4**	**+0.8**
JAB				*e*S	**S**	**07 43 15.5**	**0.0**
JKK2	**Kamakawa 2**	1.23	337	⇑P	**P**	**07 43 01.0**	**+0.5**
JKK2				*e*S	**S**	**07 43 17.0**	**-0.2**
JMP	**Maruseppu**	1.27	358	⇑P	**P**	**07 43 01.4**	**+0.4**
JMP				*e*S	**S**	**07 43 17.4**	**-0.6**
JNK	**Nakash**	1.28	48	⇑P	**P**	**07 43 01.5**	**+0.4**
JNK				*e*S	**S**	**07 43 17.5**	**-0.8**
JTKR	**Abashiri--Toko**	1.28	16	⇑P	**P**	**07 43 01.7**	**+0.5**
JTKR				*e*S	**S**	**07 43 17.8**	**-0.6**
JEW	**Eniwo**	1.45	275	*e*S	**S**	**07 43 22.2**	**+0.2**
ASAJ	**Asahikawa**	1.50	337	P	**P**	**07 43 04.8**	**+0.7**
	24nm,0.3s,baz=57,slow=0.8,SNR=49						
ASAJ				S	**S**	**07 43 22.9**	**-0.3**
	31nm,0.3s,baz=64,slow=32,SNR=30						
ASAJ	**Asahikawa**	1.50	337	PN	**P**	**07 43 04.8**	**+0.7**
ASAJ				S	**S**	**07 43 22.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.3s						
ASAJ				smax			
	comp=N,31nm,0.3s						
JHR	**Hokuryu**	1.59	310	P	**P**	**07 43 06.3**	**+1.0**
JHR				*e*S	**S**	**07 43 26.2**	**+1.0**
YUK	**Yuzh-Kuril’sk**	2.21	53	*e*PN	**P**	**07 43 14.5**	**+0.8**
YUK				*e*S	**S**	**07 43 40.0**	**+0.1**
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,270nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YSS	**Yuzh-Sakhalins**	4.24	354	*e*PN	**P**	**07 43 41.0**	**-1.0**
MAJO	**Matsushiro**	7.38	215	*e*P	**P**	**07 44 24.7**	**-0.6**
MAT	**Matsushiro**	7.38	215	P	**P**	**07 44 25.9**	**+0.6**
MAT	**Matsushiro**	7.38	215	*e*P	**P**	**07 44 26.0**	**+0.7**
	comp=E,12nm,0.9s						
JHJ	**Hachijo jima 2**	10.02	198	P	**P**	**07 44 59.5**	**-1.8**
	comp=E,16nm,0.3s,baz=248,slow=19,SNR=3.8						
SONM	**Songino Array**	26.36	294	P	**P**	**07 48 07.8**	**-0.7**
	comp=E,0.5nm,0.4s,mb3.3,baz=80,slow=7.5,SNR=5.5						
ZAL	**Zalesovo**	39.45	307	P	**P**	**07 50 01.9**	**+0.1**
	comp=E,1.2nm,0.3s,mb4.2,baz=324,slow=13,SNR=4.1						
ZAL	**Zalesovo**	39.45	307	P	**P**	**07 50 01.9**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	42.63	297	P	**P**	**07 50 28.2**	**+0.3**
	comp=Z,1.5nm,0.5s,mb3.9,baz=85,slow=9.3,SNR=9.8						
MKAR	**Makanchi Array**	42.63	297	P	**P**	**07 50 28.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	43.91	35	P	**P**	**07 50 38.9**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=259,slow=5.7,SNR=12						
ZRNK	**Zerenda**	48.84	309	P	**P**	**07 51 16.5**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	62.92	190	P	**P**	**07 52 58.3**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=7.0,slow=6.8,SNR=5.4						
FINES	**FINESS Array B**	64.50	332	P	**P**	**07 53 06.8**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=90,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	64.50	332	P	**P**	**07 53 06.8**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	70.74	322	P	**P**	**07 53 45.9**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=60,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	85.47	54	P	**P**	**07 55 10.3**	**+2.0**
	comp=Z,0.2nm,0.8s,mb3.1,baz=314,slow=2.4,SNR=3.9						

*CASC **24** 07:53:35.7±1.9, 12.05N×86.98W, h120^{km}±14^{km}, MD3.6*

ISC 24 07:53:35.8±1.3**, 12.2N**±0.2×**86.9W**±0.1**, h130**^{km}±13^{km}**, n16, σ0^{s}37**/25**, 5C-6D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	0.19	353	⇑*e*P	**P**	**07 53 53.6**	**-0.1**
TELN	**Telica**	0.38	6	⇑*e*P	**P**	**07 53 54.4**	**0.0**
CRIN	**San Cristobal**	0.50	340	⇓*i*P	**P**	**07 53 55.5**	**+0.5**
XAVN	**Gruta Xavier**	0.54	98	⇓*e*P	**P**	**07 53 55.3**	**+0.1**
CRUN	**El Crucero**	0.61	113	*e*P	**P**	**07 53 55.7**	**0.0**
MGAN	**Managua**	0.61	97	⇑*e*P	**P**	**07 53 55.7**	**0.0**
MGAN				*e*S	**S**	**07 54 09.9**	**-1.0**
MGAN				*e*S	**S**	**07 54 10.1**	**-0.8**
TICN	**Ticuantepe**	0.65	107	⇓*e*P	**P**	**07 53 56.5**	**+0.5**
TICN				*e*S	**S**	**07 54 11.8**	**+0.5**
WILN	**Americas 2**	0.67	96	⇓*e*P	**P**	**07 53 56.1**	**0.0**
WILN				*e*S	**S**	**07 54 11.3**	**-0.3**
COFN	**Cofrada**	0.75	96	*e*P	**P**	**07 53 56.7**	**0.0**
APON	**Apoyo**	0.84	111	*e*P	**P**	**07 53 57.6**	**+0.2**
PYTN	**Playitas**	0.85	69	⇑*e*P	**P**	**07 53 57.9**	**+0.5**
PYTN				*e*S	**S**	**07 54 13.7**	**-0.4**
CONN	**Concepcion**	1.39	118	⇓*e*P	**P**	**07 54 02.9**	**-0.1**
CNCH	**Conchagua**	1.40	318	⇓*e*P	**P**	**07 54 02.8**	**-0.4**
CNCH				*e*S	**S**	**07 54 24.6**	**+0.4**
BLLM	**Bellamira**	1.80	312	*e*P	**P**	**07 54 07.9**	**+0.2**
BLLM				*e*S	**S**	**07 54 32.8**	**+0.7**
LCBS	**La Ceiba**	2.50	305	⇑*e*P	**P**	**07 54 16.2**	**-0.4**
LCBS				*e*S	**S**	**07 54 47.3**	**-0.4**
LFRS	**El Faro**	2.55	303	*e*P	**P**	**07 54 17.1**	**-0.3**
LFRS				*e*S	**S**	**07 54 48.5**	**-0.3**

GUC 24 08:08:08.4±0.7**, 34.29S×69.96W, h7**^{km}±2^{km}**, MD3.6, ML2.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	0.39	266	*i* P	Pg	08 08 16.8	+0.6
CICH				*i* S	Sg	08 08 22.8	+1.4
LMEL	**Las Melosas**	0.49	335	*e*P	Pg	08 08 18.6	+0.4
LMEL				*i* S	Sg	08 08 26.3	+1.6
LMEL				AMP		08 08 28.6	
	comp=N,324nm,0.2s						
CACH	**El Canelo**	0.56	288	*e*P	Pg	08 08 19.3	-0.4
CHCH	**Chadas Angostu**	0.68	301	*i* P	Pg	08 08 21.8	-0.2
CHCH				*i* S	Sg	08 08 31.9	+0.8
FCH	**Farellones**	1.00	344	*e*P	Pb	08 08 27.6	-0.1
FCH				*i* S	Sb	08 08 42.3	+1.4
FCH				AMP		08 08 46.0	
	comp=E,66nm,0.2s						
CLCH	**Cerro Calan**	1.01	331	*e*P	Pb	08 08 27.4	-0.5
CLCH				*i* S	Sb	08 08 42.2	+1.0
CLCH				AMP		08 08 50.1	
	comp=E,89nm,0.4s						

*NEIC **24** 08:14:56.2±5.0, 21.17S×178.61W, h627^{km}±60^{km}, mb3.6/2, Error ellipse: s-maj=37.3km s-min=25.6km az=190.0*

*IDC **24** 08:14:57.3±2.7, 21.29S×178.63W, h639^{km}±36^{km}, mb3.3/10, mb1 3.6/11, mb1mx3.4/16, Error ellipse: s-maj=31.9km s-min=11.7km az=160.0*

ISC 24 08:14:54.1±2.6**, 21.2S**±0.2×**178.7W**±0.1**, h606**^{km}±35^{km}**, n21, σ1^{s}13**/16**, mb3.8**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	17.41	191	P	**P**	**08 18 24.2**	**-0.6**
	2.5nm,0.3s,baz=314,slow=1.0,SNR=15						
RPZ	**Rata Peaks**	24.04	198	P	**P**	**08 19 24.4**	**-0.9**
	6.4nm,0.6s,mb4.4,baz=356,slow=9.6,SNR=3.8						
STKA	**Stephens Creek**	36.88	245	P	**P**	**08 21 15.6**	**+1.3**
	2.6nm,0.7s,mb3.9,baz=113,slow=11,SNR=8.7						
STKA	**Stephens Creek**	36.88	245	P	**P**	**08 21 15.8**	**+1.5**
ASAR	**Alice Springs**	43.70	257	P	**P**	**08 22 09.2**	**+0.4**
	1.2nm,0.6s,mb3.6,baz=96,slow=7.9,SNR=11						
ASAR				PcP	PcP	08 23 42.5	+0.2
	0.9nm,0.6s,baz=98,slow=4.1,SNR=8.1						
ASAR				S	**S**	**08 27 55.9**	**-0.8**
	4.0nm,1.4s,baz=91,slow=16,SNR=6.1						
WRAB	**Tennant Creek**	43.82	263	P	**P**	**08 22 09.2**	**-0.6**
	1.6nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	43.83	263	P	**P**	**08 22 09.6**	**-0.4**
	0.5nm,0.2s,mb3.6,baz=97,slow=7.4,SNR=63						
WRA				S	**S**	**08 27 56.9**	**-1.7**
	0.5nm,0.8s,baz=101,slow=14,SNR=3.4						
QSPA	**South Pole Qui**	68.90	180	P	**P**	**08 25 02.0**	**+1.5**
	1.4nm,0.7s,mb3.5						
NVAR	**Mina Array Bea**	81.98	44	P	**P**	**08 26 13.1**	**+0.1**
	1.3nm,0.6s,mb3.7,baz=227,slow=10.0,SNR=8.7						
TXAR	**Lajitas Array**	88.00	58	P	**P**	**08 26 42.6**	**+0.2**
	1.1nm,0.9s,mb3.6,baz=213,slow=5.8,SNR=12						
ILAR	**Eielson Array**	89.11	13	P	**P**	**08 26 44.5**	**-2.2**
	0.6nm,0.5s,mb3.7,baz=222,slow=5.6,SNR=15						
CMAR	**Chiang Mai Arr**	89.69	290	P	**P**	**08 26 52.1**	**+1.6**
	0.8nm,0.5s,mb3.8,baz=138,slow=3.1,SNR=6.5						
PDAR	**Pinedale Array**	89.92	43	P	**P**	**08 26 49.9**	**-1.1**
	1.9nm,0.9s,mb3.9,baz=203,slow=3.9,SNR=14						
SONM	**Songino Array**	95.80	319	P	**P**	**08 27 19.1**	**+1.6**
	1.9nm,0.8s,mb4.4,baz=135,slow=18,SNR=4.2						
ARCES	**ARCESS Array B**	129.45	349	PKP	PKPdf	08 32 53.3	-1.0
	2.3nm,0.8s,baz=59,slow=7.1,SNR=4.8						
FINES	**FINESS Array B**	136.21	343	PKP	PKPdf	08 33 05.1	-2.0
	1.4nm,0.8s,baz=180,slow=2.8,SNR=2.3						
NOA	**NORSAR Array B**	139.56	353	PKP	PKPdf	08 33 11.2	-2.0
	0.8nm,0.8s,baz=42,slow=6.6,SNR=3.3						
AKASG	**Malin Array Be**	143.25	330	PKP	PKPdf	08 33 18.4	-1.5
	3.6nm,0.4s,baz=42,slow=4.3,SNR=21						
BRTR	**Keskin Array B**	146.77	311	PKPbc	PKPbc	08 33 29.9	+1.5
	1.2nm,0.5s,baz=123,slow=4.0,SNR=4.3						
CLL	**Collm**	148.55	346	*e*PKP1	PKPdf	08 33 35.0	+6.3
GERES	**GERESS Array B**	150.65	343	PKPbc	PKPdf	08 33 39.0	+7.0
	0.7nm,0.4s,baz=90,slow=1.3,SNR=6.6						

DJA 24 08:29:23.0±0.9**, 9.76S×117.12E, h15**^{km}**, MD5.2**/4**, ML4.9**/4**, 5C-3D, Error ellipse: s-maj=26.5km s-min=18.0km az=31.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	1.61	322	⇑*e*Pn	Pn	08 29 49.1	-2.1
	716nm,0.1s						
KEDI				⇑*e*Sn	Sn	08 30 07.7	-4.0
RATI	**Rata**	1.88	303	⇑*e*Pn	Pn	08 29 52.1	-2.9
	622nm,0.2s						
RATI				⇓*e*Sn	Sn	08 30 13.6	-4.9
INGI	**Ingas**	2.17	295	⇑*e*Pn	Pn	08 29 56.4	-2.7
	3μm,0.1s						
INGI				⇑*e*Sn	Sn	08 30 21.1	-4.7

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	3.02	300	⇓ePn	Pn	08 30 08.9	-2.4
	146nm,0.2s						
KELI				⇓eSn	Sn	08 30 42.5	-5.0

DJA 24 08:52:24.8±0.6, 8.71S×114.77E, h33^{km}, ML3.5/1, 7C-1D, Error ellipse: s-maj=23.4km s-min=6.2km az=30.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.39	106	⇑ePg	Pb	08 52 33.2	-0.5
INGI				⇑eSg	Sb	08 52 39.2	-0.6
KELI	Kelakatan	0.56	330	⇑ePg	P	08 52 35.5	-0.7
KELI				⇑eSg	Sb	08 52 43.0	-1.3
RATI	Rata	0.75	91	⇑ePg	P	08 52 37.9	-1.0
RATI				⇑eSg	S	08 52 46.9	-2.4
KEDI	Kedomdong	1.34	81	⇑ePn	Pn	08 52 45.8	-1.8
	54nm,0.2s						
KEDI				⇓eSn	Sn	08 53 01.8	-2.7

NEIC ***24*** *08:53:49.4±2.6, 51.11N×179.40W, h32^{km}±16^{km}, mb3.8/1, ML3.8(AEIC), Error ellipse: s-maj=29.1km s-min=6.3km az=182.0*

IDC ***24*** *08:53:54.4±4.0, 51.21N×179.04W, h70^{km}±33^{km}, mb3.6/11, mb1 3.8/12, mb1mx3.7/23, ML3.2/1, MS3.1/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=49.0km s-min=17.7km az=5.0*

ISC 24 08:53:45.5±2.1, 50.8N±0.1×179.50W±0.08, h26^{km}±14^{km}, n31, σ0^{s}98/35, mb3.9/12, MS2.9/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	Kanaga Island	1.69	56	P	Pn	08 54 13.7	-0.2
KIWB	Kanaga Island	1.78	55	P	Pn	08 54 15.1	-0.1
KIKV	Kanaga Island	1.79	54	P	Pn	08 54 15.3	0.0
KIKV				S	Sn	08 54 36.5	-0.9
KINC	Kanaga Island	1.84	53	P	Pn	08 54 16.5	+0.5
ADAG	Mount Adagdak	2.14	57	P	Pn	08 54 21.0	+0.7
GSTD	Great Sitkin T	2.42	59	P	Pn	08 54 24.8	+0.5
GSTD				S	Sn	08 54 54.5	+1.0
GSSP	Great Sitkin S	2.42	58	P	Pn	08 54 25.0	+0.7
GSMY	Great Sitkin M	2.46	59	P	Pn	08 54 25.3	+0.4
GSTR	Great Sitkin T	2.49	58	P	Pn	08 54 26.0	+0.8
GSIG	Igitkin Island	2.51	61	P	Pn	08 54 25.7	+0.1
GSIG				S	Sn	08 54 56.3	+0.6
ATKA	Atka Island	3.58	66	P	Pn	08 54 40.2	-0.6
SMY	Shemya	4.40	298	P	Pn	08 54 51.8	-0.6
FX1	Attu Island--F	4.99	297	P	Pn	08 55 08.6	+7.9
	2.8nm,0.3s,baz=268,slow=6.3,SNR=23						
FX1				S	Sn	08 56 12.5	+14
	1.4nm,0.3s,baz=64,slow=22,SNR=4.1						
FX1	Attu Island--F	4.99	297	P	Pn	08 55 00.4	-0.4
NIKO	Nikolski	6.92	68	P	Pn	08 55 26.6	-1.4
ILAR	Eielson Array	21.94	38	P	P	08 58 35.9	-2.6
	0.6nm,0.4s,mb3.4,baz=240,slow=8.5,SNR=25						
ILAR				LR	LR	09 06 35.4	
	comp=Z,43nm,19.1s,MS2.9,baz=355,slow=35						
DAWY	Dawson	24.80	42	eP	P	08 59 05.2	-1.1
YKA	Yellowknife Ar	35.92	46	P	P	09 00 43.3	-1.8
	0.5nm,0.4s,mb3.8,baz=278,slow=9.5,SNR=5.5						
NEW	Newport	39.49	69	eP	P	09 01 15.1	-0.2
HLID	Hailey	43.51	73	eP	P	09 01 49.5	+1.3
MCMT	McKenzie Canyo	43.77	71	eP	P	09 01 50.2	0.0
BOZ	Bozeman (W)	44.05	69	eP	P	09 01 52.5	0.0
	0.9nm,0.6s,mb3.7						
SONM	Songino Array	46.50	297	P	P	09 02 15.0	+3.0
	0.4nm,0.7s,mb3.4,baz=45,slow=7.0,SNR=3.7						
PDAR	Pinedale Array	46.89	71	P	P	09 02 14.8	-0.4
	1.6nm,0.8s,mb4.0,baz=314,slow=4.9,SNR=14						
ARCES	ARCESS Array B	58.55	350	P	P	09 03 41.6	+0.1
	3.9nm,0.9s,mb4.4,baz=36,slow=7.8,SNR=2.9						
TXAR	Lajitas Array	59.17	80	P	P	09 03 45.5	-0.9
	0.2nm,0.5s,mb3.4,baz=302,slow=4.9,SNR=5.2						
MKAR	Makanchi Array	60.02	308	P	P	09 03 52.7	+0.7
	1.2nm,0.8s,mb4.0,baz=56,slow=4.4,SNR=7.2						
FINES	FINESS Array B	66.21	347	P	P	09 04 30.4	-2.1
	1.6nm,0.7s,mb4.2,slow=5.7,SNR=3.6						
NOA	NORSAR Array B	68.14	354	P	P	09 04 45.1	+0.4
	0.5nm,0.7s,mb3.7,baz=354,slow=5.0,SNR=2.8						
AKASG	Malin Array Be	75.92	342	P	P	09 05 31.8	+0.8
	2.1nm,0.3s,mb4.5,baz=21,slow=6.5,SNR=13						
BRTR	Keskin Array B	85.25	335	P	P	09 06 22.5	+1.8
	2.2nm,1.1s,mb4.2,baz=30,slow=12,SNR=3.8						

TAP 24 09:04:46.0, 23.09N×121.32E, h8^{km}, ML3.5, 3C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	Chengkung	0.04	78	⇓iP	Pg	09 04 48.3	+0.5
CHKT				S	Sg	09 04 50.2	+1.3
TWF1	Yuli	0.26	355	⇑iP	Pg	09 04 52.0	+0.5
TWF1				S	Sg	09 04 56.6	+1.5
ELDTW	Lidau	0.30	290	⇑iP	Pg	09 04 52.6	+0.6
ELDTW				S	Sg	09 04 57.4	+1.2
TWG	Pinlang	0.35	221	⇓iP	Pg	09 04 53.4	+0.2
TWG				S	Sg	09 04 59.6	+1.6
TTN	Taitung	0.37	206	P	Pg	09 04 53.6	+0.1
TTN				S	Sg	09 05 00.4	+1.8
EHY	Hungye	0.41	0	eP	Pg	09 04 54.3	-0.1
EHY				S	Sg	09 05 00.8	+0.8
YUS	Yu-Shan	0.52	320	i P	Pg	09 04 56.6	+0.1
YUS				S	Sg	09 05 04.0	+0.5
STYT	Tauyuan	0.52	278	⇓iP	Pg	09 04 56.6	+0.1
STYT				S	Sg	09 05 04.1	+0.5
ECL	Taimali	0.60	215	eP	Pg	09 04 56.6	-1.4
ECL				S	Sg	09 05 04.7	-1.3
ALS	Alishan	0.63	312	⇑iP	Pg	09 04 58.9	+0.2
WTP	Ta-pu	0.67	284	eP	Pg	09 04 59.7	+0.3
WTP				S	Sg	09 05 09.8	+1.5
SGST	Jiashian	0.68	269	P	Pb	09 04 59.9	+0.3
SGST				S	Sg	09 05 10.4	+1.6
CHN4	Tsaushan	0.72	291	eP	Pb	09 05 00.6	+0.3
CHN4				S	Sb	09 05 12.2	+2.2
SSD	Sandimen	0.72	242	⇓iP	Pb	09 04 59.2	-1.1
ESL	Shilin	0.73	8	eP	Pb	09 04 58.7	-1.8
CHN1	Nanshi	0.73	278	eP	Pb	09 05 01.3	+0.7
CHN1				S	Sb	09 05 13.1	+2.6
CHN5	Tsauling	0.78	311	eP	Pb	09 05 01.7	+0.4
CHN5				S	Sb	09 05 14.9	+3.2
TWM1	Shoushan	0.87	252	eP	Pb	09 05 03.9	+1.0
SMLT	Sun Moon Lake	0.88	334	eP	Pb	09 05 02.6	-0.4
CHN3	Shinhua	0.88	269	eP	Pb	09 05 04.2	+1.1
CHN3				S	Sb	09 05 19.5	+4.8
TYC	Yuchr	0.92	332	eP	Pb	09 05 04.0	+0.4
TYC				S	Sb	09 05 19.1	+3.4
WGK	Gukeng	0.92	311	eP	Pb	09 05 04.3	+0.7
WGK				S	Sb	09 05 19.2	+3.4
CHY	Chiayi	0.92	296	eP	Pb	09 05 04.3	+0.6
HWA	Hwalien	0.92	16	eP	Pb	09 05 04.1	+0.3
SCZT	Fangliau	0.96	222	eP	Pb	09 05 02.9	-1.6
WNT	Mingjian	0.98	323	eP	Pb	09 05 05.4	+0.7
TWD	Chiawan	1.02	14	eP	Pb	09 05 03.2	-2.2
TWD				S	Sb	09 05 18.4	-0.3
TCU	Taichung	1.21	331	eP	Pb	09 05 09.2	+0.5
NNS	Nan Shan	1.34	2	eP	Pb	09 05 09.8	-1.2
NSY	Sanyi	1.42	339	eP	Pn	09 05 13.0	+0.9
NSY				S	Sb	09 05 33.1	+2.9
WDGT	Dungji	1.54	277	eP	Pn	09 05 12.6	-1.2
WDGT				S	Sb	09 05 34.1	+0.3
ENTT	Nioudou	1.56	8	eP	Pn	09 05 13.8	-0.3
TWE	Neicheng	1.65	11	eP	Pn	09 05 13.9	-1.6
PNG	Penghu	1.69	287	eP	Pn	09 05 15.2	-0.8

NEIC ***24*** *09:12:53.2±3.8, 33.49S×179.02W, h344^{km}±22^{km}, mb3.8/1, Error ellipse: s-maj=73.5km s-min=31.7km az=88.0*

ISC 24 09:12:54.4±1.0, 33.6S±0.2×179.3W±0.3, h350^{km}±18^{km}, n54, σ1^{s}00/65, mb3.6/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.42	206	eP	P	09 14 06.2	-2.1
MXZ				S	S	09 15 05.4	-1.0
MXZ	Matakaoa Point	4.42	206	eP	P	09 14 06.9	-1.4
PUZ	Puketiti	4.90	203	P	P	09 14 12.1	-1.4
PUZ				S	S	09 15 15.1	-0.4
PUZ	Puketiti	4.90	203	eP	P	09 14 12.4	-1.1
MWZ	Matawai	5.40	208	eP	P	09 14 17.6	-1.4
MWZ				eS	S	09 15 24.6	-0.8
MWZ	Matawai	5.40	208	eP	P	09 14 19.0	0.0
URZ	Urewera	5.50	211	P	P	09 14 19.2	-1.0
URZ	Urewera	5.50	211	eP	P	09 14 19.8	-0.4
KNZ	Kokohu	5.95	204	eP	P	09 14 26.6	+1.3
KNZ	Kokohu	5.95	204	eP	P	09 14 26.8	+1.5
BKZ	Black Stump Fm	6.53	210	eP	P	09 14 30.9	-1.1
BKZ				S	S	09 15 50.5	+1.9
BKZ	Black Stump Fm	6.53	210	eP	P	09 14 31.1	-0.9
MGZ	Maungaku	6.83	216	P	P	09 14 36.9	+1.4
MGZ	Maungaku	6.83	216	P	P	09 14 37.2	+1.7
KAVZ	Karewarewa	6.85	215	P	P	09 14 37.3	+1.5
NGZ	Ngauruhoe	6.94	215	eP	P	09 14 37.9	+1.1
NGZ	Ngauruhoe	6.94	215	P	P	09 14 38.2	+1.4
CNZ	Chateau	6.98	215	P	P	09 14 38.7	+1.4
TUVZ	Tukino	6.98	214	eP	P	09 14 38.4	+1.0
TUVZ	Tukino	6.98	214	P	P	09 14 36.1	-1.3
FWVZ	Far West T-bar	7.02	215	eP	P	09 14 36.5	-1.3
FWVZ	Far West T-bar	7.02	215	eP	P	09 14 39.0	+1.2
PWZ	Pawanui	7.13	205	eP	P	09 14 39.6	+0.5
PWZ	Pawanui	7.13	205	P	P	09 14 39.8	+0.7
TSZ	Takapari Road	7.50	209	eP	P	09 14 43.0	-0.4
TSZ				S	S	09 16 10.2	+1.0
TSZ	Takapari Road	7.50	209	P	P	09 14 43.3	-0.1
WAZ	Wanganui	7.69	215	eP	P	09 14 46.1	+0.5
WAZ				eS	S	09 16 14.8	+1.7
WAZ	Wanganui	7.69	215	eP	P	09 14 46.3	+0.7
BFZ	Birch Farm	7.93	205	eP	P	09 14 50.2	+1.7
BFZ	Birch Farm	7.93	205	P	P	09 14 49.8	+1.3
MRZ	Mangatainoka R	8.16	209	eP	P	09 14 51.8	+0.5
MRZ				S	S	09 16 22.3	-1.1
MRZ	Mangatainoka R	8.16	209	P	P	09 14 52.0	+0.7
KIW	Kapiti Island	8.61	211	eP	P	09 14 56.0	-0.6
KIW	Kapiti Island	8.61	211	P	P	09 14 56.4	-0.2
MTW	Mount Morrison	8.62	207	eP	P	09 14 55.9	-0.8
MTW	Mount Morrison	8.62	207	P	P	09 14 57.3	+0.6
CAW	Cannon Point	8.75	209	P	P	09 14 57.1	-1.1
MRW	Makara Radio	9.00	210	eP	P	09 15 01.2	-0.1
MRW	Makara Radio	9.00	210	P	P	09 15 01.4	+0.1
SNZO	South Karori	9.07	210	ePn	P	09 15 02.1	+0.1
NNZ	Nelson	9.59	215	eP	P	09 15 06.0	-2.3
NNZ				eS	S	09 16 53.1	-1.1
NNZ	Nelson	9.59	215	eP	P	09 15 06.3	-2.0
THZ	Tophouse	10.24	215	eP	P	09 15 15.9	-0.2
THZ				S	S	09 17 08.3	+0.1
THZ	Tophouse	10.24	215	eP	P	09 15 16.3	+0.2
KHZ	Kahutara	10.47	211	eP	P	09 15 19.1	+0.2
KHZ				S	S	09 17 13.6	+0.4
KHZ	Kahutara	10.47	211	eP	P	09 15 19.0	+0.1
DSZ	Denniston Nort	10.77	218	eP	P	09 15 22.5	0.0
DSZ				eS	S	09 17 19.3	-0.5
DSZ	Denniston Nort	10.77	218	P	P	09 15 22.6	+0.1
LTZ	Lake Taylor	11.32	213	eP	P	09 15 28.9	-0.2
LTZ	Lake Taylor	11.32	213	eP	P	09 15 29.3	+0.2
MQZ	McQueen's Vall	11.90	210	S	S	09 17 44.3	+0.2
WVZ	Waitaha Valley	12.28	217	eS	S	09 17 51.0	-1.3
WB2	Warramunga Arr	43.23	276	eP	P	09 20 23.7	-0.2
WRAB	Tennant Creek	43.24	276	eP	P	09 20 23.6	-0.3
	1.7nm,0.3s,mb3.6						

NEIC ***24*** *09:38:21.9, 39.24N×21.69E, h8^{km}, MD3.5(ATH), MD3.3(PDG), ML3.4(THE), After ATH.*

ATH ***24*** *09:38:21.8, 39.23N×21.69E, h8^{km}±7^{km}, MD3.5/15*

THE ***24*** *09:38:22.3, 39.17N×21.60E, h13^{km}, ML3.4*

PDG ***24*** *09:38:27.2±0.1, 39.26N×20.91E, h11^{km}±1^{km}*

IDC ***24*** *09:38:27.1±2.4, 38.95N×21.10E, h83^{km}±27^{km}, mb3.3/6, mb1 3.4/10, mb1mx3.3/24, MS2.7/1, Ms1 2.7/1, ms1mx2.0/15, Error ellipse: s-maj=38.9km s-min=16.1km az=59.0*

SOF ***24*** *09:38:31.0, 39.93N×22.29E, h2^{km}, MD2.9*

ISC 24 09:38:21.3±0.4, 39.21N±0.02×21.62E±0.02, h10^{km}±3^{km}, n68, σ1^{s}35/94, mb3.5/6, 9C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	Evrytania	0.33	154	ePB	Pb	09 38 28.3	-0.5
AGG	Agios Georgios	0.58	109	ePg	Pg	09 38 33.3	+0.3
AGG				eSg	Sg	09 38 43.5	+2.6
MEV	Metsovon	0.65	332	ePg	Pg	09 38 34.0	-0.3
MEV				eSg	Sg	09 38 44.9	+1.9
JAN	Janina	0.74	307	ePB	Pb	09 38 36.6	+0.7
LKD	Levkas	0.91	237	ePg	Pg	09 38 38.7	-0.9
IGT	Igoumenitsa	1.05	288	ePg	Pg	09 38 42.0	-0.3
IGT				eSg	Sg	09 38 56.5	+0.1
KZN	Kozani	1.10	6	ePN	Pn	09 38 42.3	-0.4
LIT	Litokhoron	1.11	37	ePg	Pg	09 38 42.6	-0.9
LIT				eSg	Sg	09 39 00.3	+1.9
RLS	Riolos of Patr	1.16	186	ePN	Pn	09 38 43.5	-0.1
LKR	Lokris	1.21	117	ePB	Pb	09 38 45.3	+1.4
LSK	Leskovik	1.22	320	ePn	Pn	09 38 45.0	+0.5
XOR	Xorichti	1.23	82	ePb	Pb	09 38 45.1	+0.9
XOR				eSb	Sb	09 39 03.2	+3.3
NEO	Neokhori	1.25	85	ePB	Pb	09 38 45.2	+0.7
VLS	Valsamata	1.31	218	ePB	Pb	09 38 45.1	-0.5
KEK	Kerkira	1.50	290	ePB	Pb	09 38 51.5	+2.7
KBN	Korca	1.55	336	ePn	Sn	09 39 07.0	-2.4
FNA	Florina	1.58	353	ePb	Pb	09 38 50.4	+0.2
FNA				eSb	Sb	09 39 12.1	+1.9
MKIT	Kithairon Oros	1.64	128	ePB	Pb	09 38 52.5	+1.2
PAIG	Paliouri	1.74	65	ePb	Pb	09 38 52.2	-0.8
PAIG				eSb	Sb	09 39 13.3	-1.6
THE	Thessaloniki	1.75	36	ePb	Pb	09 38 51.1	-2.1
THE				eSb	Sb	09 39 16.8	+1.6
AOS	Alonnisos	1.76	91	ePb	Pb	09 38 52.0	-1.2
	comp=Z,5.0nm,0.3s						
AOS				eSb	Sb	09 39 13.6	-1.6
BIA	Bitola	1.82	353	i Sg	Sg	09 39 20.5	-1.4
PLG	Polygyros	1.82	50	ePB	Pb	09 38 52.8	-1.6
GRG	Griva	1.84	19	ePb	Pb	09 38 53.5	-1.1
GRG				eSb	Sb	09 39 18.0	+0.2
NSAL	Nisos Salamina	1.95	132	ePG	Pg	09 38 57.2	-3.0
MPAR	Parnis Oros	1.97	122	ePN	Pn	09 38 57.0	+1.9
OHR	Ohrid	2.00	342	i Sg	Sg	09 39 25.6	-2.3
ITM	Ithomi	2.04	173	ePG	Pg	09 39 01.0	-1.1
NAIG	Nisos Aigina	2.06	134	ePG	Pg	09 38 59.5	-3.0
NAIG	Nisos Aigina	2.06	134	ePg	Pg	09 39 02.0	-0.5
SOH	Sokhos	2.09	39	ePn	Pn	09 38 57.1	+0.3
SOH				eSn	Sn	09 39 24.1	+1.0
PTL	Penteli	2.11	123	ePG	Pg	09 39 02.5	-0.9
OUR	Ouranopolis	2.14	58	ePn	Pn	09 38 57.7	+0.1
	comp=Z,9.5nm,0.3s						
OUR				eSn	Sn	09 39 24.6	+0.2
KNT	Kendrikon	2.18	26	ePn	Pn	09 38 58.5	+0.3
	comp=Z,7.8nm,0.7s						
KNT				eSn	Sn	09 39 26.4	+0.9
SRS	Serrai	2.43	38	ePn	Pn	09 39 01.6	-0.1
SRS				eSn	Sn	09 39 31.8	-0.1
TIR	Tirane	2.52	328	ePn	Pn	09 39 09.5	+6.4
QSH	Qafa e Shtames	2.65	331	ePn	Pn	09 39 10.2	+5.2
VLI	Veliai	2.70	157	ePB	Pb	09 39 07.2	-2.2
NVR	Nevrokopi	2.74	38	ePB	Pb	09 39 06.4	-3.6
SKO	Skopje	2.76	357	i Pn	Pn	09 39 10.5	+4.0
MMB	Musomiste	2.87	33	i P	Pn	09 39 07.7	-0.3
KKB	Krupnik	2.88	22	i P	Pn	09 39 07.5	-0.6
ULC	Ulcinj	3.29	327	⇑iPn	Pn	09 39 15.8	+1.8
ULC				eSn	Sn	09 39 52.6	-1.0
RZN	Rozhen	3.42	43	i P	Pn	09 39 16.0	+0.2
RDO	Rodhopi	3.57	56	ePN	Pn	09 39 17.6	-0.4
VTS	Vitosha	3.58	19	i P	Pn	09 39 18.0	-0.2
PVY	Plav	3.60	340	⇑iPn	Pn	09 39 21.4	+2.9
PVY				eSn	Sn	09 40 02.9	+1.3
TTG	Podgorica	3.68	332	⇑iPn	Pn	09 39 21.4	+1.9
TTG				eSn	Sn	09 40 02.9	-0.6
BUM	Brajici-Budva	3.71	327	⇑iPn	Pn	09 39 21.4	+1.3
BUM				eSn	Sn	09 40 03.0	-1.4
TIP	Timpagrande	3.78	271	ePn	Pn	09 39 20.9	-0.1
KDZ	Kurdzhali	3.78	49	i P	Pn	09 39 19.0	-2.0
ALN	Alexandroupoli	3.79	62	ePn	Pn	09 39 21.0	-0.1
ALN				eSn	Sn	09 40 04.3	-2.0
IVA	Berane	3.88	341	⇑iPn	Pn	09 39 25.5	+3.1
IVA				eSn	Sn	09 40 09.9	+1.3
HCY	Herceg Novi	4.01	325	⇑iPn	Pn	09 39 25.2	+1.0
HCY				eSn	Sn	09 40 09.4	-2.4
NKY	Niksic	4.11	332	ePn	Pn	09 39 27.7	+2.1
NKY				eSn	Sn	09 40 13.4	-0.9
BRY	Bratogost	4.36	329	⇑iPn	Pn	09 39 30.2	+1.0
BRY				eSn	Sn	09 40 18.8	-1.9
PLE	Pljevlja	4.44	339	⇑iPn	Pn	09 39 32.9	+2.5
PLE				eSn	Sn	09 40 22.7	-0.1
UPM	Unac-Piva	4.48	334	⇑iPn	Pn	09 39 32.7	+1.7
UPM				eSn	Sn	09 40 22.4	-1.4
IDI	Anoyia	4.71	145	P	Pn	09 39 35.1	+0.9
	0.5nm,0.3s,baz=350,slow=17,SNR=2.7						
IDI				S	Sn	09 40 31.7	+2.2
	1.0nm,0.3s,baz=252,slow=20,SNR=2.8						
MLR	Muntele Rosu	7.04	26	P	Pn	09 40 12.3	+5.2
	0.7nm,0.3s,baz=196,slow=19,SNR=5.4						
MLR				LR	LR	09 43 26.3	
	comp=Z,55nm,21.5s,baz=124,slow=40						
BRTR	Keskin Array B	9.31	83	P	P	09 40 40.0	+1.3
	0.2nm,0.3s,baz=315,slow=14,SNR=2.9						
GERES	GERESS Array B	11.18	332	P	P	09 41 03.4	-0.9
	0.3nm,0.3s,baz=159,slow=17,SNR=2.5						
HFS	Hagfors	21.53	349	P	P	09 43 12.6	+0.1
	1.7nm,0.7s,mb3.6,baz=174,slow=15,SNR=6.0						
FINES	FINESS Array B	22.43	6	P	P	09 43 23.7	+2.3
	2.3nm,1.0s,mb3.6,baz=297,slow=12,SNR=2.6						
NOA	NORSAR Array B	22.79	347	P	P	09 43 23.4	-1.5
	0.7nm,0.7s,mb3.2,baz=159,slow=11,SNR=3.6						
EKA	Eskdalemuir Ar	23.11	322	P	P	09 43 26.3	-1.8
	1.8nm,0.7s,mb3.6,baz=125,slow=11,SNR=4.3						
MKAR	Makanchi Array	44.03	60	P	P	09 46 29.2	-1.4
	0.5nm,0.4s,mb3.6,baz=280,slow=6.9,SNR=3.6						
TXAR	Lajitas Array	94.88	314	P	P	09 51 38.3	-6.6
	0.1nm,0.5s,mb3.5,baz=45,slow=6.4,SNR=2.6						

NNC ***24*** *09:45:43.0±8.9, 36.99N×70.15E, mpv3.9, Error ellipse: s-maj=96.0km s-min=65.5km az=106.0*

ISC 24 09:45:35.5±1.6, 36.51N±0.10×70.5E±0.2, h33^{km}, n9, σ0^{s}96/11, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	Dalhousie	5.99	130	eP	S	09 48 12.0	-0.4
AML	Almayashu	6.13	23	P	P	09 47 07.1	+1.0
	SNR=63						
UCH	Uchtor	6.50	27	P	P	09 47 11.4	+0.2
	SNR=26						
KK31	Karatay Array	6.59	360	⇓P	P	09 47 15.5	+2.9
	4.2nm,0.3s,baz=173,slow=12,SNR=108						
KK31				⇑S	S	09 48 26.2	-1.2
	30nm,0.7s,baz=175,slow=16,SNR=25						
EKS2	Erkin-Say	6.64	21	P	P	09 47 14.4	+1.1
	SNR=8.9						
KZA	Kyzart	6.66	32	P	P	09 47 13.2	-0.4
	SNR=16						
AAK	Ala-Archa	6.84	25	P	P	09 47 16.4	+0.3
	SNR=6.7						
ULHL	Ulahol	7.24	36	P	P	09 47 20.6	-1.1
	SNR=6.9						
AB31	Akbulak array	14.89	332	⇓P	P	09 49 04.8	-0.4
	0.8nm,0.4s						
AB31				⇓S	S	09 51 49.4	-0.4
	1.3nm,0.8s,baz=145,slow=22,SNR=4.3						

NNC ***24*** *10:05:27.0±4.6, 32.03N×92.69E, Error ellipse: s-maj=105.5km s-min=59.8km az=74.0*

IDC ***24*** *10:05:32.9±0.4, 32.43N×92.13E, mb5.3/22, mb1 5.4/25, mb1mx5.4/25, ML4.8/3, MS4.8/16, Ms1 4.8/16, ms1mx4.8/18, Error ellipse: s-maj=11.7km s-min=8.5km az=54.0*

BJI ***24*** *10:05:33.6, 32.57N×92.25E, h18^{km}, mB5.5, mb5.4, ML5.5, Ms5.5, Msz5.3*

LDG ***24*** *10:05:33.4±0.2, 32.76N×91.90E, h10^{km}, Mb5.9/44, Ms5.0/8, Error ellipse: s-maj=9.2km s-min=4.8km az=126.0*

HRVD ***24*** *10:05:34.5±0.2, 32.50N×92.28E, h12^{km}, MW5.5/67, Centroid moment Tensor Solution. LP body waves: s45,c74;Mantle waves: s67,c140; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.28±.05; $M_{\theta\theta}$-1.07±.05; $M_{\phi\phi}$2.36±.04; $M_{r\theta}$-0.30±.13; $M_{\theta\phi}$0.99±.04; $M_{\phi r}$0.89±.11; Best double couple: $M_0$2.34×10^{17} NP1:ϕ_s52°, δ49°, λ-30°. NP2:ϕ_s163°, δ68°, λ-135°. Principal axes: T 2.78, Plg11°, Azm284°; N -.87, Plg41°, Azm184°; P -1.9, Plg47°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *10:05:34.5±0.1, 32.54N×92.19E, h10^{km}, mb5.7/158, ME5.3, MS5.2/80, MW5.4 Error ellipse: s-maj=4.3km s-min=2.5km az=213.0 Broadband fault plane solution: P waves. NP1:ϕ_s215°, δ55°, λ-55°. NP2:ϕ_s344°, δ48°, λ-129°. Principal axes: T Plg4°, Azm281°; N Plg0°, Azm0°; P Plg62°, Azm184°; Moment Tensor Solution. s20 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.28; $M_{\theta\theta}$0.09; $M_{\phi\phi}$1.18; $M_{r\theta}$0.43; $M_{\theta\phi}$0.59; $M_{\phi r}$0.23; Best double couple: $M_0$1.4×10^{17} NP1:ϕ_s10°, δ39°, λ-111°. NP2:ϕ_s217°, δ54°, λ-74°. Principal axes: T 1.5, Plg8°, Azm295°; N -.09, Plg13°, Azm27°; P -1.4, Plg74°, Azm174°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

MOS ***24*** *10:05:36.5±0.9, 32.55N×92.19E, h33^{km}, mb5.8/55, MS5.3/25 Error ellipse: s-maj=8.3km s-min=4.3km az=121.9*

ISC 24 10:05:32.4±0.1, 32.53N±0.02×92.21E±0.02, h9^{km}, h9^{km}±.6^{km}:pP-P, n774, σ1^{s}09/787, mb5.6/197, MS5.2/115, 40C-72D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	Lhasa	2.96	198	PG	Pg	10 06 28.0	-3.6
LSA				SG	Sg	10 07 10.0	-1.2
LSA				Smax			
	comp=N,8µm,1.1s						
LSA				Smax			
	comp=E,6µm,1.0s						
LSA	Lhasa	2.96	198	ePn	Pn	10 06 27.8	+7.1
SHL	Shillong	6.95	182	eP	Pn	10 07 18.5	+1.5
SHL				eS	Sn	10 08 36.5	-0.4
KKN	Kakani	7.63	234	ePn	Pn	10 07 28.3	+1.7
KKN				eSn	Sn	10 08 54.0	-0.2
	comp=E,1µm,1.0s						
PKI	Pulchoki	7.69	232	ePn	Pn	10 07 29.3	+1.9
PKI				eSn	Sn	10 08 56.9	+1.3
	comp=E,3µm,1.5s						
IMP	Imphal	7.87	168	eP	Pn	10 07 31.0	+1.1
DMN	Daman	7.87	233	ePn	Pn	10 07 31.4	+1.5
DMN				eSn	Sn	10 09 00.9	+0.9
	comp=E,2µm,1.1s						
GKN	Gorkha	7.95	237	ePn	Pn	10 07 32.2	+1.1
AGT	Agartala	8.66	186	⇑iP	P	10 07 41.0	+0.1
AGT				i		10 08 29.0	
KOLN	Koldanda	8.83	240	ePn	P	10 07 43.7	+0.4
GTA	Gaotai	9.22	40	⇓P	P	10 07 49.6	+0.9
GTA				AP		10 07 52.9	
GTA				XP		10 07 55.8	
GTA				S	Sn	10 09 34.1	+0.4
GTA				XS		10 09 36.8	
GTA				AMB	AMB		
	comp=Z,528nm,3.6s						
GTA				LR	LR		
	comp=N,20µm,14.9s						
GTA				LR	LR		
	comp=E,17µm,15.3s						
GTA				LR	LR		
	comp=Z,13µm,9.5s						
CD2	Chengdu	9.97	96	⇑iP	P	10 08 01.0	+2.0
CD2				AP		10 08 05.8	
CD2				XP		10 08 10.8	
CD2				S	Sn	10 09 56.9	+4.8
CD2				SS	SS	10 10 08.5	+3.1
CD2				AMB	AMB		
	comp=Z,3µm,6.7s						
LZH	Lanzhou	10.26	67	⇑P	P	10 08 02.8	-0.1
LZH				AP		10 08 05.1	
LZH				eS	S	10 09 58.0	-1.1
LZH				SS	SS	10 10 09.4	-3.1
LZH				AMB	AMB		
	comp=Z,319nm,4.7s						
LZH				LR	LR		
	comp=Z,37µm,10.1s						
CAL	Calcutta	10.53	200	⇑i	P	10 07 55.6	-11
CAL				eS	S	10 09 56.4	-9.5
PTH	Pithoragarh	10.71	257	eP	P	10 08 07.9	-1.2
PTH				e		10 10 06.2	
LGTI	Lohaghat	10.71	256	eP	P	10 08 10.0	+0.8
JOSI	Joshimath	10.97	263	eP	P	10 08 12.5	-0.2
JOSI				e		10 08 16.1	
KMI	Kunming	11.81	126	⇑eP	P	10 08 24.4	+0.2

KMI				AP		10 08 30.3	
KMI				PP	PP	10 08 34.8	+1.2
KMI				S	**S**	**10 10 35.6**	**-1.7**
KMI				SS	SS	10 10 49.9	-1.6
WMQ	**Urumqi**	**11.81**	**344**	⇓*i*P	**P**	**10 08 23.6**	**-0.6**
WMQ				AP		10 08 28.8	
WMQ				PP	PP	10 08 33.4	-0.2
WMQ				S	**S**	**10 10 36.8**	**-0.4**
WMQ				XS		10 10 44.3	
WMQ				SS	SS	10 10 49.8	-1.6
WMQ				LR	LR		
	comp=N,13µm,18.2s						
WMQ				LR	LR		
	comp=E,23µm,18.3s						
WMQ				LR	LR		
	comp=Z,7µm,12.9s						
KLP	**Kalpa**	**11.89**	**269**	*e*P	**P**	**10 08 23.9**	**-1.4**
KLP				*e*		10 08 54.6	
DDI	**Dehra Dun**	**12.29**	**263**	*e*P	**P**	**10 08 26.7**	**-3.9**
DDI				*e*		10 12 20.0	
SMLA	**Simla**	**12.87**	**268**	⇑*i*	**P**	**10 08 43.5**	**+5.1**
SDNR	**Sundarnagar**	**12.97**	**270**	*e*P	**P**	**10 08 38.0**	**-1.8**
ASOR	**Ausora**	**12.99**	**257**	*e*P	**P**	**10 08 37.1**	**-2.9**
KKR	**Kurukshetra**	**13.41**	**263**	*e*P	**P**	**10 08 43.0**	**-2.6**
AGRA	**Agra**	**13.45**	**251**	*e*P	**P**	**10 08 43.1**	**-3.0**
AGRA				*e*P		10 08 43.3	
AGRA				*e*S	**S**	**10 10 58.3**	**-19**
AGRA				*e*		10 11 09.7	
BHK	**Bhakra**	**13.46**	**269**	*e*	**P**	**10 08 57.0**	**+11**
NDI	**New Delhi**	**13.47**	**257**	*e*P	**P**	**10 08 41.2**	**-5.1**
	comp=Z,45nm,0.8s						
NDI				*e*		10 11 10.2	
BLSP	**Bilaspur**	**13.69**	**223**	*e*P	**P**	**10 08 46.9**	**-2.3**
BLSP				*e*		10 11 13.0	
BHGR	**Bahadurgarh**	**13.70**	**258**	*e*P	**P**	**10 08 47.4**	**-1.9**
DLH	**Dalhousie**	**13.71**	**274**	*e*P	**P**	**10 08 49.0**	**-0.4**
PONG	**Pong**	**13.78**	**272**	*e*P	**P**	**10 08 48.0**	**-2.4**
GYA	**Guiyang**	**13.96**	**112**	⇓*i*P	**P**	**10 08 52.9**	**+0.1**
GYA				PP	PP	10 09 05.6	+1.7
GYA				S	**S**	**10 11 26.1**	**-2.9**
GYA				AMB	AMB		
	comp=Z,180nm,1.0s						
GYA				AMB	AMB		
	comp=Z,2µm,4.8s						
RTK	**Rohtak**	**14.02**	**260**	*e*P	**P**	**10 08 51.5**	**-2.0**
RTK				*e*		10 11 55.8	
	comp=Z,68nm,0.1s						
XAN	**Xi’an**	**14.06**	**79**	P	**P**	**10 08 53.3**	**-0.8**
XAN				LG2		10 13 08.8	
XAN				LR	LR		
	comp=N,15µm,9.9s						
XAN				LR	LR		
	comp=E,10µm,9.4s						
XAN				LR	LR		
	comp=Z,13µm,12.0s						
JBP	**Jabalpur**	**14.27**	**232**	⇓*e*P	**P**	**10 08 55.4**	**-1.5**
JBP				*e*		10 11 27.3	
CHRT	**Chiangrai**	**14.31**	**150**	P	**P**	**10 09 02.5**	**+5.0**
	comp=Z,1µm,0.8s						
KHET	**Khetri**	**14.85**	**257**	*e*P	**P**	**10 09 01.8**	**-2.7**
KHET				*e*		10 09 07.2	
	comp=Z,128nm,1.5s						
KHET				*e*S	**S**	**10 11 47.3**	**-2.7**
KSH	**Kashi**	**14.86**	**303**	⇑P	**P**	**10 09 05.0**	**+0.5**
KSH				*e*AP		10 09 10.0	
KSH				*e*XP		10 09 14.3	
KSH				*e*PP	PP	10 09 18.8	+2.4
KSH				*e*PPP	PPP	10 09 26.4	+3.0
KSH				*e*S	**S**	**10 11 50.0**	**-0.2**
KSH				*e*XS		10 11 58.0	
KSH				*e*SS	SS	10 12 08.0	+0.5
KSH				*e*PCP	PcP	10 14 17.0	+1.3
KSH				*e*PCS		10 17 48.6	
KSH				*e*SCS	ScS	10 21 25.3	+0.1
KSH				AMB	AMB		
	comp=Z,70nm,1.0s						
ENH	**Enshi**	**14.93**	**94**	*e*P	**P**	**10 09 05.0**	**-0.4**
CHG	**Chiang Mai**	**14.94**	**154**	⇓P	**P**	**10 09 05.8**	**+0.1**
	comp=Z,133nm,0.9s						
CHTO	**Chiang Mai**	**14.94**	**154**	Pn	**P**	**10 09 05.6**	**-0.1**
CM31	**Chiang Mai Arr**	**15.27**	**155**	*e*P	**P**	**10 09 10.0**	**0.0**
	comp=Z,166nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.27**	**155**	Pn	**P**	**10 09 09.6**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=332,slow=12,SNR=274						
CMAR	**Chiang Mai Arr**	**15.27**	**155**	P	**P**	**10 09 09.6**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NANT	**Nan**	**15.66**	**149**	⇓P	**P**	**10 09 13.0**	**-2.1**
	comp=Z,294nm,1.0s						
ULHL	**Ulahol**	**15.95**	**312**	P	**P**	**10 09 28.2**	**+10**
	SNR=6.0						
BHPL	**Bhopal**	**16.00**	**238**	*e*P	**P**	**10 09 17.9**	**-1.5**
BHPL				*e*		10 09 21.9	
	comp=Z,752nm,1.1s						
BHPL				*e*		10 12 11.0	
AAA	**Alma-Ata**	**16.10**	**316**	*i* P	**P**	**10 09 21.0**	**+0.4**
MK31	**Makanchi Array**	**16.14**	**335**	⇑P	**P**	**10 09 20.2**	**-0.9**
	comp=Z,230nm,1.2s,baz=139,slow=11,SNR=329						
MK31				⇓S	**S**	**10 12 32.5**	**+12**
	comp=Z,45nm,1.4s,baz=297,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**16.14**	**335**	Pn	**P**	**10 09 20.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=144,slow=14,SNR=72						
MKAR				PcP	PcP	10 14 15.2	-2.4
	comp=Z,0.3nm,0.3s,baz=108,slow=3.8,SNR=3.9						
MKAR				LR	LR	10 15 34.9	
	comp=Z,4µm,21.9s,baz=149,slow=37						
NGP	**Nagpur**	**16.30**	**229**	*e*P	**P**	**10 09 20.3**	**-3.1**
BTO	**Baotou**	**16.40**	**56**	*e*P	**P**	**10 09 22.5**	**-2.0**
BTO				S	**S**	**10 12 24.3**	**-2.0**
BTO				XS		10 12 36.1	
AJM	**Ajmer**	**16.43**	**253**	*e*P	**P**	**10 09 22.2**	**-2.7**
AJM				*e*		10 09 30.3	
	comp=Z,555nm,0.8s						
AJM				*e*		10 12 18.6	
KZA	**Kyzart**	**16.49**	**310**	P	**P**	**10 09 31.6**	**+6.0**
	SNR=47						
TKM2	**Tokmak 2**	**16.71**	**313**	P	**P**	**10 09 28.8**	**+0.4**
	SNR=26						
VIS	**Vishakhapatnam**	**16.78**	**211**	*e*P	**P**	**10 09 31.2**	**+1.8**
VIS				*e*		10 12 28.0	
KBK	**Karagaybulak**	**16.98**	**311**	P	**P**	**10 09 33.0**	**+1.3**
	SNR=18						
UCH	**Uchtor**	**17.04**	**310**	P	**P**	**10 09 35.1**	**+2.6**
	SNR=71						
AAK	**Ala-Archa**	**17.26**	**311**	P	**P**	**10 09 37.3**	**+2.1**
	SNR=29						
AAK	**Ala-Archa**	**17.26**	**311**	*e*P	**P**	**10 09 35.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,400nm,1.7s						
AAK	**Ala-Archa**	**17.26**	**311**	*e*P	**P**	**10 09 35.4**	**+0.1**
	comp=Z,404nm,1.7s						
FRU	**Bishkek**	**17.28**	**312**	*i* P	**P**	**10 09 37.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,440nm,1.6s						
CHMS	**Chumysh**	**17.28**	**312**	P	**P**	**10 09 35.4**	**-0.1**
	SNR=25						
TIY	**Taiyuan**	**17.33**	**67**	⇑P	**P**	**10 09 32.0**	**-4.1**
TIY				AP		10 09 40.0	
TIY				S	**S**	**10 12 53.0**	**+5.5**
AML	**Almayashu**	**17.54**	**308**	P	**P**	**10 09 41.5**	**+2.8**
	SNR=136						
USP	**Ospenovka**	**17.58**	**313**	P	**P**	**10 09 41.0**	**+1.8**
	SNR=38						
HHC	**Hu-ho-hao-te**	**17.58**	**56**	*e*P	**P**	**10 09 37.8**	**-1.5**
HHC				AP		10 09 42.5	
HHC				XP		10 09 43.8	
HHC				PP	PP	10 09 48.9	-5.0
HHC				XS		10 13 00.0	
HHC				AMB	AMB		
	comp=Z,509nm,3.7s						
HHC				LR	LR		
	comp=N,20µm,17.8s						
HHC				LR	LR		
	comp=E,9µm,14.3s						
HHC				LR	LR		
	comp=Z,9µm,14.3s						
EKS2	**Erkin-Say**	**17.73**	**310**	P	**P**	**10 09 44.3**	**+3.1**
	SNR=72						
AKL	**Akola**	**17.96**	**233**	*e*P	**P**	**10 09 46.2**	**+2.1**
AKL				*e*		10 12 51.2	
	comp=Z,479nm,1.4s						
NST	**Nakhon Sawan**	**18.26**	**155**	⇑P	**P**	**10 09 49.4**	**+1.4**
	comp=Z,292nm,1.0s						
SONM	**Songino Array**	**18.69**	**31**	P	**P**	**10 09 53.6**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=216,slow=11,SNR=151						
SONM				S	**S**	**10 13 29.0**	**+11**
	comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=2.5						
KKTK	**Khon Kaen**	**18.77**	**147**	⇓P	**P**	**10 09 55.0**	**+0.8**
	comp=Z,1µm,0.7s						
WHN	**Wuhan**	**18.98**	**90**	⇑P	**P**	**10 09 56.5**	**0.0**
WHN				AP		10 10 03.0	
JASL	**Jaisalmer**	**19.32**	**259**	*e*P	**P**	**10 09 58.5**	**-2.1**
HYB	**Hyderabad**	**19.45**	**223**	*i* P	**P**	**10 10 00.5**	**-1.8**
	comp=Z,460nm,1.0s						
HYB				*e*S	**S**	**10 13 44.0**	**+8.1**
HYB				LR	LR	10 17 44.0	
	comp=Z,14nm,12.0s						
HYB	**Hyderabad**	**19.45**	**223**	*e*P	**P**	**10 10 00.5**	**-1.8**
	comp=Z,460nm,1.0s						
HYB				*e*S	**S**	**10 13 44.0**	**+8.1**
ZAK	**Zakamensk**	**19.63**	**21**	⇑*i*P	**P**	**10 10 04.9**	**+0.8**
LATR	**Latur**	**19.89**	**229**	*e*P	**P**	**10 10 07.0**	**-0.2**
	comp=Z,281nm,1.3s						
LATR				*e*		10 13 32.8	
KK31	**Karatay Array**	**20.07**	**308**	⇑P	**P**	**10 10 08.5**	**-0.5**
	comp=Z,111nm,1.2s,baz=117,slow=11,SNR=264						
KKAR	**Karatay Array**	**20.07**	**308**	*i* P	**P**	**10 10 08.9**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,275nm,1.5s						
MOY	**Mondy**	**20.17**	**16**	*e*P	**P**	**10 10 11.9**	**+2.0**
BJT	**Baijiatuau**	**20.67**	**62**	P	**P**	**10 10 15.8**	**+0.6**
BJT				S	**S**	**10 14 12.3**	**+11**
BJT	**Baijiatuau**	**20.67**	**62**	*e*P	**P**	**10 10 15.6**	**+0.4**
	comp=Z,396nm,1.4s						
BJI	**Beijing**	**20.68**	**62**	P	**P**	**10 10 15.5**	**+0.2**
BJI				AMB	AMB		
	comp=Z,147nm,1.2s						
BJI				LR	LR		
	comp=Z,4µm,18.5s,MS4.9						
KURK	**Kurchatov**	**20.75**	**335**	⇓P	**P**	**10 10 15.6**	**-0.4**
	comp=Z,381nm,1.4s,baz=140,slow=8.7,SNR=375						
KURK	**Kurchatov**	**20.75**	**335**	P	**P**	**10 10 15.3**	**-0.7**
	comp=Z,2µm,1.4s						
KURK	**Kurchatov**	**20.75**	**335**	*e*P	**P**	**10 10 15.1**	**-0.9**
	comp=Z,237nm,1.3s						
KURK				LR	LR		
	comp=Z,1µm,19.0s,MS4.4						
QIZ	**Qiongzhong**	**20.77**	**126**	P	**P**	**10 10 17.1**	**+0.8**
QIZ				XP		10 10 23.3	
QIZ				S	**S**	**10 14 06.8**	**+3.6**
QIZ				XS		10 14 16.0	
QIZ				SS	SS	10 14 35.3	+1.0
QIZ				AMB	AMB		
	comp=Z,204nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,3µm,10.7s						
QIZ	**Qiongzhong**	**20.77**	**126**	*e*P	**P**	**10 10 17.0**	**+0.7**
	comp=Z,609nm,1.3s						
TIA	**Tai’an**	**20.87**	**73**	⇓P	**P**	**10 10 17.0**	**-0.3**
TIA				AP		10 10 26.0	
TIA				XP		10 10 30.9	
TIA				S	**S**	**10 14 12.0**	**+6.7**
TIA				AMB	AMB		
	comp=Z,137nm,1.3s						
TLY	**Talaya**	**20.89**	**20**	Pn	**P**	**10 10 19.8**	**+2.5**
	comp=Z,445nm,1.4s,SNR=20						
GZH	**Guangzhou**	**20.90**	**111**	P	**P**	**10 10 17.6**	**0.0**
GZH				S	**S**	**10 14 12.3**	**+6.5**
GZH				AMB	AMB		
	comp=Z,4µm,6.5s						
NNT	**Nongplab**	**21.01**	**159**	P	**P**	**10 10 20.3**	**+1.4**
IRK	**Irkutsk**	**21.57**	**20**	*e*P	**P**	**10 10 26.3**	**+2.1**
IRK				*e*		10 10 49.4	
POO	**Poona**	**21.61**	**234**	*e*P	**P**	**10 10 26.1**	**+1.2**
POO				*e*		10 10 31.2	
	comp=Z,333nm,1.6s						
CUD	**Cuddapah**	**21.75**	**217**	⇓*e*P	**P**	**10 10 27.2**	**+0.9**
CUD				*e*sP		10 10 29.8	
CUD				*e*PnPn		10 10 44.4	
CUD				*e*		10 13 01.4	
CUD				*e*S	**S**	**10 14 31.9**	**+10**
CUD				*e*		10 16 54.3	
CUD				*e*		10 18 31.3	
BHJ	**Bhuj**	**21.94**	**251**	⇓*e*	**P**	**10 10 32.8**	**+4.6**
BHJ				*e*S	**S**	**10 14 33.9**	**+8.5**
ZAL	**Zalesovo**	**22.04**	**348**	P	**P**	**10 10 29.7**	**+0.7**
	comp=Z,30nm,0.9s,mb4.7,baz=220,slow=11,SNR=40						
ZAL				LR	LR	10 20 32.1	
	comp=Z,4µm,18.2s,MS4.9,baz=213,slow=41						
KAD	**Karad**	**22.24**	**231**	*e*P	**P**	**10 10 31.0**	**-0.2**
KAD				*e*S	**S**	**10 14 38.6**	**+7.6**
MDRS	**Chennai**	**22.25**	**212**	⇓*e*P	**P**	**10 10 32.0**	**+0.6**
MDRS				*e*		10 14 48.0	
NJ2	**Nanjing**	**22.51**	**84**	*e*P	**P**	**10 10 34.5**	**+0.7**
NJ2				AP		10 10 39.0	
NJ2				XP		10 10 41.6	
NJ2				S	**S**	**10 14 37.0**	**+1.0**
NJ2				XS		10 14 44.0	
NVS	**Novosibirsk**	**23.19**	**347**	*i* P	**P**	**10 10 40.1**	**-0.1**
NVS				*i* S	**S**	**10 14 51.6**	**+3.8**
NVS				pmax	pmax		
	comp=Z,263nm,1.6s,mb5.4						
NVS				pmax	pmax		
	comp=N,536nm,1.7s						
NVS				pmax	pmax		
	comp=E,103nm,1.7s						
NVS				smax			
	comp=N,1µm,3.2s						
NVS				smax			
	comp=E,146nm,1.9s						
GOA	**Goa**	**23.80**	**229**	*e*P	**P**	**10 10 47.5**	**+1.0**
GOA				*e*S	**S**	**10 15 05.4**	**+6.5**
QZH	**Quanzhou**	**24.30**	**101**	*e*P	**P**	**10 10 50.6**	**-0.7**
QZH				S	**S**	**10 15 15.0**	**+7.7**
SSE	**Sheshan**	**24.64**	**86**	P	**P**	**10 10 55.4**	**+0.9**
SSE				S	**S**	**10 15 13.0**	**0.0**
SSE				AMB	AMB		
	comp=Z,105nm,1.2s,mb5.2						
SSE				LR	LR		
	comp=N,5µm,23.3s,MS5.0						
SSE				LR	LR		
	comp=E,2µm,23.4s,MS5.0						
SSE				LR	LR		
	comp=Z,6µm,19.0s,MS5.1						
DL2	**Dalian**	**24.65**	**67**	PR		10 10 56.0	
DL2				*e*S	**S**	**10 15 20.0**	**+6.8**
DL2				AMB	AMB		
	comp=Z,780nm,5.3s						
DL2				LR	LR		
	comp=N,8µm,19.3s						
DL2				LR	LR		
	comp=Z,4µm,14.2s						
VOSK	**Vostochnaya**	**25.35**	**329**	⇓P	**P**	**10 11 01.8**	**+0.7**
	comp=Z,288nm,1.2s,mb5.7						
VOSK	**Vostochnaya**	**25.35**	**329**	P	**P**	**10 11 01.7**	**+0.6**
VOSK				pmax	pmax		
	comp=Z,346nm,1.2s,mb5.8						
BVA0	**Borovoye Array**	**25.81**	**329**	P	**P**	**10 11 05.7**	**+0.3**
BVAR	**Borovoye Array**	**25.81**	**329**	P	**P**	**10 11 06.6**	**+1.2**
	comp=Z,30nm,0.7s,mb5.0,baz=130,slow=12,SNR=49						
BVAR				PcP	PcP	10 14 34.4	-1.2
	comp=Z,9.2nm,0.9s,baz=63,slow=3.3,SNR=3.9						
BVAR				S	**S**	**10 15 37.3**	**+4.7**
	comp=Z,1.3nm,0.6s,baz=137,slow=28,SNR=1.8						
BVAR				LR	LR	10 21 04.3	
	comp=Z,8.1nm,19.2s,baz=310,slow=36						
BVAR				PKiKP		10 22 14.1	
	comp=Z,2.1nm,1.0s,baz=135,slow=2.1,SNR=4.1						
BRVK	**Borovoye**	**25.88**	**329**	*e*P	**P**	**10 11 06.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,390nm,1.3s,mb5.8						
BRVK	**Borovoye**	**25.88**	**329**	*e*P	**P**	**10 11 06.8**	**+0.8**
	comp=Z,387nm,1.4s,mb5.7						
ZRNK	**Zerenda**	**26.38**	**328**	⇓P	**P**	**10 11 10.9**	**+0.2**
	comp=Z,132nm,1.4s,mb5.3						
ZRNK	**Zerenda**	**26.38**	**328**	P	**P**	**10 11 10.9**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,179nm,1.4s,mb5.4						
ZRNK	**Zerenda**	**26.38**	**328**	*e*P	**P**	**10 11 10.8**	**+0.1**
	comp=Z,188nm,1.2s,mb5.5						
SNG	**Songkhla**	**26.41**	**161**	P	**P**	**10 11 03.0**	**-8.4**
	comp=Z,412nm,0.8s,mb6.0						
HIA	**Hailar**	**26.48**	**43**	*e*P	**P**	**10 11 12.5**	**+0.8**
	comp=Z,202nm,1.1s,mb5.6						
SNY	**Shenyang**	**26.54**	**61**	⇓*i*P	**P**	**10 11 12.5**	**+0.2**
SNY				S	**S**	**10 15 46.3**	**+1.6**
SNY				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.2						
SNY				AMB	AMB		
	comp=Z,770nm,7.9s						
SNY				LR	LR		
	comp=Z,6µm,14.7s,MS5.3						
CN2	**Changchun**	**28.27**	**57**	⇓P	**P**	**10 11 27.9**	**-0.1**
CN2				*e*XP	sP	10 11 35.1	+3.4
CN2				*e*S	**S**	**10 16 11.5**	**-1.2**
CN2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.3						
CN2				AMB	AMB		
	comp=Z,600nm,10.0s						
CN2				LR	LR		
	comp=Z,5µm,16.0s,MS5.2						
INCN	**Inchon**	**28.53**	**70**	*e*P	**P**	**10 11 29.9**	**-0.5**
	comp=Z,131nm,1.4s,mb5.5						
INCN				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
IPM	**Ipoh**	**29.00**	**162**	⇓*e*P	**P**	**10 11 35.5**	**+0.6**
	comp=Z,47nm,0.6s,mb5.4						
AB31	**Akbulak array**	**29.27**	**314**	*i* P	**P**	**10 11 37.3**	**+0.3**
AB31				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
BOD	**Bodaibo**	**29.32**	**24**	⇓*i*P	**P**	**10 11 37.3**	**-0.1**
KS15	**Wonju Array Si**	**29.52**	**70**	*e*P	**P**	**10 11 38.3**	**-1.1**
MDJ	**Mudanjiang**	**31.35**	**56**	P	**P**	**10 11 54.8**	**-0.7**
MDJ				AP	pP	10 11 57.8	-0.2
MDJ				PCP	PcP	10 14 48.9	-0.5
MDJ				S	**S**	**10 17 00.9**	**-0.7**
MDJ				SCP		10 18 31.8	
MDJ				SCS	ScS	10 22 30.4	+2.9
MDJ				AMB	AMB		
	comp=Z,355nm,7.0s						
MDJ				LR	LR		
	comp=Z,4µm,15.8s,MS5.2						
KGM	**Kluang**	**32.10**	**159**	⇑*e*P	**P**	**10 12 03.4**	**+1.0**
	comp=Z,197nm,1.0s,mb5.9						
VLA	**Vladivostok**	**32.81**	**60**	*i* P	**P**	**10 12 08.0**	**-0.2**
VLA				*i*		10 13 28.0	
VLA				*i*		10 17 24.0	
CLNS	**Chul’man**	**33.09**	**33**	*e*P	**P**	**10 12 10.2**	**-0.3**
CLNS				*e**PP	pP	10 12 17.0	+4.0
CLNS				*e*PPP	PPP	10 13 25.1	-12
CLNS				*e*		10 14 56.7	
CLNS				*e*S	**S**	**10 17 22.8**	**-5.6**
CLNS				pmax	pmax		
	comp=N,35nm,1.1s						
CLNS				pmax	pmax		
	comp=E,36nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
CLNS				smax			
	comp=N,14nm,1.1s						
CLNS				smax			
	comp=E,9.0nm,0.9s						
CLNS				smax			
	comp=Z,4.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,3µm,11.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,1µm,12.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,12µm,12.0s,MS5.8						
ARU	**Arti**	**33.31**	**326**	P	**P**	**10 12 13.1**	**+0.6**
	comp=Z,274nm,1.0s,mb6.1,SNR=14						
ARU	**Arti**	**33.31**	**326**	⇑*i*P	**P**	**10 12 13.2**	**+0.7**
ARU				*i*		10 13 23.2	
ARU				*i* PPP	PPP	10 13 35.4	-5.2
ARU				*i*		10 14 53.8	
ARU				*i* S	**S**	**10 17 33.2**	**+1.2**
ARU				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3						
ARU				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.2						
ARU				MLR	MLR		
	comp=N,2µm,17.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,2µm,18.0s,MS5.1						
ARU	**Arti**	**33.31**	**326**	*e*P	**P**	**10 12 11.9**	**-0.6**
	comp=E,49nm,1.0s,mb5.4						
ARU				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
KLR	**Kul’dur**	**33.78**	**49**	⇑*i*P	**P**	**10 12 16.3**	**-0.3**
KLR				*e*		10 13 28.5	
KLR				*e*S	**S**	**10 17 37.0**	**-2.3**
KLR				*e*SSS	SSS	10 19 51.0	-19
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
KLR				pmax	pmax		
	comp=Z,800nm,7.0s						
KLR				MLR	MLR		
	comp=E,6µm,11.0s						
KLR				MLR	MLR		
	comp=Z,11µm,11.0s,MS5.8						
KKM	**Kota Kinabalu**	**34.57**	**135**	⇓*e*P	**P**	**10 12 25.8**	**+2.0**
	comp=Z,443nm,1.0s,mb6.3						
MAK	**Makhachkala**	**36.47**	**300**	*e*P	**P**	**10 12 39.0**	**-0.6**
MAK				*e*		10 14 06.0	
MAK				*e*PPP	PPP	10 14 22.0	-1.5
MAK				*e*S	**S**	**10 18 22.0**	**+1.0**
MAK				pmax	pmax		
	comp=Z,600nm,3.0s						
MAK				smax			
	comp=N,1µm,5.0s						
MAK				smax			
	comp=E,2µm,5.0s						
MAJO	**Matsushiro**	**37.83**	**71**	⇓*i*P	**P**	**10 12 49.6**	**-1.5**
	comp=E,59nm,1.6s,mb5.1						
MAJO				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
MAT	**Matsushiro**	**37.83**	**71**	P	**P**	**10 12 49.8**	**-1.3**
MAT				S	**S**	**10 18 38.0**	**-3.8**
MAT	**Matsushiro**	**37.83**	**71**	*e*P	**P**	**10 12 50.0**	**-1.1**
	comp=Z,39nm,1.2s,mb5.0						
MAT				*e*S	**S**	**10 18 38.0**	**-3.8**
MAT				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
YAK	**Yakutsk**	**38.00**	**28**	⇓*i*P	**P**	**10 12 52.9**	**+0.7**
YAK				*e*PP	PP	10 14 22.0	-0.1
YAK				*e*S	**S**	**10 18 50.0**	**+5.9**
YAK	**Yakutsk**	**38.00**	**28**	⇓*i*P	**P**	**10 12 52.8**	**+0.5**
	comp=Z,146nm,1.3s,mb5.5						
YAK				LR	LR		
	comp=Z,1µm,22.0s,MS4.7						
QRN	**Al-Qurain**	**38.09**	**276**	*e*P	**P**	**10 12 55.3**	**+1.9**
QRN				AMb	AMB	10 12 58.6	
	comp=Z,92nm,1.3s,mb5.3						
KBD	**Kabd**	**38.16**	**277**	*e*P	**P**	**10 12 55.1**	**+1.1**
MIB	**Mutribah**	**38.28**	**278**	*e*P	**P**	**10 12 54.9**	**-0.1**
MIB				AMb	AMB	10 12 59.6	
	comp=Z,178nm,0.9s,mb5.8						
RDF	**Al-Radifah**	**38.35**	**277**	*e*P	**P**	**10 12 55.9**	**+0.4**
RDF				AMb	AMB	10 13 00.9	
	comp=Z,102nm,0.8s,mb5.6						
GNI	**Garni**	**38.61**	**295**	P	**P**	**10 12 58.8**	**+1.2**
	comp=Z,47nm,1.0s,mb5.2,baz=338,slow=11,SNR=26						
GNI	**Garni**	**38.61**	**295**	P	**P**	**10 12 58.8**	**+1.2**
GNI				pmax	pmax		
	comp=Z,47nm,1.0s						
GNI	**Garni**	**38.61**	**295**	P	**P**	**10 12 58.8**	**+1.2**
RST	**Umm Al-Ruwaisa**	**38.65**	**278**	*e*P	**P**	**10 12 58.2**	**+0.2**
RST				AMb	AMB	10 13 02.1	
	comp=Z,150nm,1.1s,mb5.7						
GOF	**Gofitskoye**	**39.74**	**303**	⇑*i*P	**P**	**10 13 08.0**	**+1.0**
GOF				*i*		10 14 42.0	
GOF				*i* S	**S**	**10 19 14.0**	**+3.4**
GOF				*i*		10 21 54.0	
GOF				pmax	pmax		
	comp=Z,1µm,3.0s						
GOF				smax			
	comp=N,2µm,4.0s						
GOF				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.5						
TVAN	**Van**	**39.79**	**293**	*i* P	**P**	**10 13 10.1**	**+2.6**
ASAJ	**Asahikawa**	**40.61**	**58**	P	**P**	**10 13 14.1**	**0.0**
	comp=Z,44nm,1.1s,mb5.0,baz=261,slow=9.7,SNR=10						
ASAJ	**Asahikawa**	**40.61**	**58**	P	**P**	**10 13 14.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,44nm,1.1s						
YSS	**Yuzh-Sakhalins**	**40.75**	**54**	⇑*e*P	**P**	**10 13 15.0**	**-0.2**
YSS				*e*S	**S**	**10 19 26.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.1						
YSS				smax			
	comp=N,1µm,9.0s						
YSS				smax			
	comp=E,500nm,8.0s						

YSS				MLR	MLR		
	comp=E,5μm,15.0s						
YSS				MLR	MLR		
	comp=Z,5μm,15.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**40.75**	**54**	PFAKE		10 13 30.0	+15
YSS				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
ERZM	**Erzurum**	**41.21**	**295**	iP	**P**	**10 13 09.6**	**-10**
BEST	**Besiri**	**41.54**	**292**	iP	**P**	**10 13 24.2**	**+2.3**
SOC	**Sochi**	**42.15**	**301**	eP	**P**	**10 13 27.6**	**+0.9**
SOC				e		10 15 13.6	
SOC				ePPP	PPP	10 15 26.1	-13
SOC				eS	**S**	**10 19 40.9**	**-5.5**
SOC				eSSS	SSS	10 23 29.8	-2.5
SOC				pmax	pmax		
	comp=Z,129nm,1.3s,mb5.4						
SOC				pmax	pmax		
	comp=N,32nm,0.7s						
SOC				pmax	pmax		
	comp=E,119nm,1.8s						
SOC				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,982nm,14.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,845nm,17.0s,MS4.9						
GUMT	**Gumushane**	**42.59**	**296**	eP	**P**	**10 13 32.3**	**+1.9**
VOR	**Voronezh**	**42.68**	**313**	P	**P**	**10 13 30.0**	**-1.0**
VOR				e		10 13 45.0	
VOR				pmax	pmax		
	comp=E,130nm,1.8s						
VOR				pmax	pmax		
	comp=Z,190nm,1.8s,mb5.5						
KELT	**Kelkit**	**42.79**	**296**	iP	**P**	**10 13 36.0**	**+3.9**
ELZG	**Elazig**	**43.23**	**293**	iP	**P**	**10 13 38.2**	**+2.6**
HILS	**Ha'il**	**43.66**	**277**	P	**P**	**10 13 39.8**	**+0.6**
MYA	**Malataya**	**43.69**	**293**	eP	**P**	**10 13 42.0**	**+2.6**
MYA	**Malataya**	**43.69**	**293**	P	**P**	**10 13 42.3**	**+2.9**
MALT	**Malatya**	**43.69**	**293**	iP	**P**	**10 13 40.4**	**+1.0**
ANN	**Anapa**	**43.72**	**303**	iP	**P**	**10 13 41.5**	**+2.0**
ANN				eS	**S**	**10 20 12.4**	**+3.0**
ANN				pmax	pmax		
	comp=Z,155nm,1.1s,mb5.7						
AFFS	**'Afif**	**43.88**	**272**	P	**P**	**10 13 41.8**	**+0.8**
KAMS	**Al Khamasin**	**44.03**	**266**	P	**P**	**10 13 42.2**	**-0.2**
TANI	**Tanete Lipujan**	**44.09**	**139**⇓	eP	**P**	**10 13 43.6**	**+0.7**
TANI	**Tanete Lipujan**	**44.09**	**139**⇓	eP	**P**	**10 13 44.0**	**+1.1**
MOS	**Moscow**	**44.09**	**319**	eP	**P**	**10 13 43.5**	**+1.1**
MOS				e		10 15 22.8	
MOS				eS	**S**	**10 20 11.4**	**-3.2**
MOS				e		10 23 34.2	
MOS				pmax	pmax		
	comp=Z,538nm,1.8s,mb6.0						
MOS				MLR	MLR		
	comp=Z,8μm,11.5s,MS5.9						
GZT	**Gaziantep**	**44.53**	**292**	iP	**P**	**10 13 47.9**	**+1.7**
SVSK	**Karacayir**	**44.54**	**296**	eP	**P**	**10 13 46.3**	**0.0**
SVSK	**Karacayir**	**44.54**	**296**	P	**P**	**10 13 48.1**	**+1.8**
OBN	**Obninsk**	**44.61**	**318**⇑	eP	**P**	**10 13 47.2**	**+0.6**
OBN				e		10 15 31.3	
OBN				eS	**S**	**10 20 22.1**	**0.0**
OBN				iSS	SS	10 23 44.6	+11
OBN				pmax	pmax		
	comp=Z,154nm,1.8s,mb5.5						
OBN				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.4						
OBN	**Obninsk**	**44.61**	**318**	eP	**P**	**10 13 46.8**	**+0.2**
	comp=Z,391nm,1.9s,mb5.9						
OBN				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
BUNI	**Buntu Taipa**	**44.79**	**138**⇓	eP	**P**	**10 13 49.9**	**+1.2**
	comp=Z,174nm,0.6s,mb5.8						
BUNI				eS	PcP	10 15 30.9	-0.3
TOKT	**Tokat**	**44.83**	**296**	eP	**P**	**10 13 49.7**	**+1.1**
TOKT	**Tokat**	**44.83**	**296**	P	**P**	**10 13 50.0**	**+1.4**
GAZ	**Gaziantep**	**44.84**	**292**	iP	**P**	**10 13 50.0**	**+1.2**
GAZ	**Gaziantep**	**44.84**	**292**	P	**P**	**10 13 49.4**	**+0.6**
KAHT	**Ahir Dag**	**45.02**	**293**	iP	**P**	**10 13 52.0**	**+1.9**
KVT	**Kavak**	**45.10**	**298**	eP	**P**	**10 13 52.1**	**+1.4**
KVT	**Kavak**	**45.10**	**298**	P	**P**	**10 13 52.1**	**+1.4**
NINI	**Niniconang**	**45.11**	**139**⇓	eP	**P**	**10 13 52.3**	**+1.1**
	comp=Z,294nm,0.8s,mb5.8						
TATS	**Tathlith**	**45.30**	**266**	P	**P**	**10 13 52.9**	**+0.4**
COBT	**Iskenderun**	**45.73**	**291**	iP	**P**	**10 13 56.8**	**+1.0**
KELI	**Kelakatan**	**45.75**	**148**⇑	eP	**P**	**10 13 56.2**	**0.0**
KELI	**Kelakatan**	**45.75**	**148**⇓	eP	**P**	**10 13 56.2**	**0.0**
BOYT	**Boyabat**	**45.90**	**298**	iP	**P**	**10 13 58.2**	**+1.2**
CEYT	**Ceyhan**	**46.02**	**292**	eP	**P**	**10 14 00.1**	**+2.0**
CEYT	**Ceyhan**	**46.02**	**292**	P	**P**	**10 14 00.1**	**+2.0**
SIM	**Simferopol'**	**46.06**	**303**α	iP	**P**	**10 14 01.0**	**+2.7**
SIM				e		10 15 51.0	
SIM				iS	**S**	**10 20 48.0**	**+4.9**
SIM				MLR	MLR		
	comp=Z,1μm,17.1s,MS4.8						
DJNS	**Zahran al Janu**	**46.09**	**263**	P	**P**	**10 14 00.0**	**+1.2**
CTKT	**Corum**	**46.11**	**297**	iP	**P**	**10 14 00.1**	**+1.4**
ASF	**Jabal al Asfar**	**46.27**	**285**	P	**P**	**10 14 01.3**	**+1.2**
	comp=Z,54nm,1.0s,mb5.4,baz=315,slow=5.6,SNR=31						
KBRS	**Khaybar**	**46.33**	**276**	P	**P**	**10 14 02.3**	**+1.6**
AVNT	**Avonos**	**46.37**	**295**	iP	**P**	**10 14 02.1**	**+1.3**
NAMS	**An Nimas**	**46.53**	**266**	P	**P**	**10 14 03.8**	**+1.4**
INGI	**Ingas**	**46.58**	**148**⇓	eP	**P**	**10 14 01.0**	**-1.8**
INGI	**Ingas**	**46.58**	**148**⇑	eP	**P**	**10 14 01.5**	**-1.3**
TOS	**Tosya**	**46.62**	**298**	eP	**P**	**10 14 03.5**	**+0.8**
TOS	**Tosya**	**46.62**	**298**	P	**P**	**10 14 03.5**	**+0.8**
NIG	**Nigde**	**46.69**	**294**	iP	**P**	**10 14 05.3**	**+2.0**
NIG	**Nigde**	**46.69**	**294**	P	**P**	**10 14 05.3**	**+2.0**
KEDI	**Kedomdong**	**46.73**	**147**⇓	eP	**P**	**10 14 02.1**	**-1.8**
	comp=Z,44nm,0.6s,mb5.2						
BLJS	**Baljurashi**	**46.73**	**267**	P	**P**	**10 14 04.5**	**+0.6**
MA2	**Magadan**	**46.77**	**37**	eP	**P**	**10 14 02.3**	**-1.4**
	comp=Z,124nm,1.4s,mb5.7						
MA2				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
HRI	**Mount Hermon**	**46.92**	**287**	P	**P**	**10 14 06.2**	**+1.0**
CANT	**Cankiri**	**46.99**	**297**	eP	**P**	**10 14 09.1**	**+3.4**
CANT	**Cankiri**	**46.99**	**297**	P	**P**	**10 14 09.1**	**+3.5**
BRTR	**Keskin Array B**	**47.13**	**296**	P	**P**	**10 14 07.3**	**+0.6**
	comp=Z,29nm,0.8s,mb5.2,baz=100,slow=7.5,SNR=40						
BRTR	**Keskin Array B**	**47.13**	**296**	P	**P**	**10 14 07.4**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,29nm,0.9s						
KAMT	**Kaman**	**47.13**	**296**	iP	**P**	**10 14 06.2**	**-0.6**
KAMT	**Kaman**	**47.13**	**296**	P	**P**	**10 14 06.2**	**-0.7**
ELDT	**Eldivan**	**47.15**	**297**	iP	**P**	**10 14 07.7**	**+0.8**
HMDT	**Nahal Hemdat**	**47.36**	**286**	P	**P**	**10 14 09.5**	**+0.7**
MMLI	**Mount Malkishu**	**47.39**	**286**	P	**P**	**10 14 10.1**	**+1.1**
MKRJ	**Makawir**	**47.47**	**285**	P	**P**	**10 14 10.4**	**+0.8**
LTHS	**Al Lith**	**47.56**	**268**	P	**P**	**10 14 11.7**	**+1.3**
SAFT	**Safranbolu**	**47.58**	**298**	eP	**P**	**10 14 10.5**	**+0.2**
DRGI	**Dragot**	**47.66**	**285**	P	**P**	**10 14 11.9**	**+0.8**
OFRI	**'Ofer**	**47.70**	**286**	P	**P**	**10 14 12.2**	**+0.8**
ANTO	**Ankara**	**47.74**	**296**	P	**P**	**10 14 12.2**	**+0.6**
ANTO	**Ankara**	**47.74**	**296**	P	**P**	**10 14 12.2**	**+0.6**
LOD	**Lodumlu**	**47.76**	**296**	P	**P**	**10 14 13.0**	**+1.2**
LOD	**Lodumlu**	**47.76**	**296**	P	**P**	**10 14 13.0**	**+1.2**
TBKS	**Tabuk**	**47.76**	**280**	P	**P**	**10 14 13.6**	**+1.7**
SLTI	**Sal'it**	**47.76**	**286**	P	**P**	**10 14 12.7**	**+0.8**
SEY	**Seymchan**	**48.08**	**32**	eP	**P**	**10 14 16.0**	**+2.1**
SEY				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.7						
SEY				MLR	MLR		
	comp=N,950nm,9.0s						
SEY				MLR	MLR		
	comp=E,2μm,9.0s						
JMQS	**Jabal Moqyreh**	**48.10**	**281**	P	**P**	**10 14 17.4**	**+2.8**
SGKT	**Sivrigoynuk**	**48.17**	**298**	iP	**P**	**10 14 15.5**	**+0.6**
LVZ	**Lovozero**	**48.17**	**335**⇓	eP	**P**	**10 14 15.4**	**+0.8**
LVZ				eS	**S**	**10 21 13.5**	**+0.8**
LVZ				pmax	pmax		
	comp=Z,79nm,1.2s,mb5.6						
LVZ				pmax	pmax		
	comp=E,53nm,1.5s						
LVZ				smax			
	comp=N,443nm,11.5s						
LVZ				smax			
	comp=E,621nm,14.9s						
LVZ				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.6						
LVZ				MLR	MLR		
	comp=N,1μm,12.0s,MS5.5						
LVZ				MLR	MLR		
	comp=E,3μm,12.0s,MS5.5						
PRNI	**Paran**	**48.35**	**283**	P	**P**	**10 14 17.1**	**+0.6**
CSS	**Prodhromos**	**48.40**	**290**	P	**P**	**10 14 17.9**	**+1.1**
PUL	**Pulkovo**	**48.47**	**323**c	eP	**P**	**10 14 18.3**	**+1.3**
PUL				eS	**S**	**10 21 24.7**	**+7.7**
PUL				pmax	pmax		
	comp=Z,162nm,5.7s						
PUL				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.5						
PUL				MLR	MLR		
	comp=E,2μm,14.0s						
APA	**Apatity**	**48.54**	**334**⇓	eP	**P**	**10 14 17.0**	**-0.4**
APA				i		10 15 43.6	
APA				i		10 16 15.4	
APA				iS	**S**	**10 21 19.0**	**+1.1**
APA				MLR	MLR		
	comp=Z,6μm,12.0s,MS5.8						
HDMB	**Hadim**	**48.58**	**293**	eP	**P**	**10 14 17.9**	**-0.3**
HDMB	**Hadim**	**48.58**	**293**	P	**P**	**10 14 17.9**	**-0.2**
MBH	**Mount Berech**	**48.60**	**283**	P	**P**	**10 14 18.5**	**+0.1**
EIL	**Elat**	**48.61**	**283**	P	**P**	**10 14 18.4**	**-0.1**
KIZT	**Kizilcal**	**48.63**	**295**	eP	**P**	**10 14 18.3**	**-0.2**
KIZT	**Kizilcal**	**48.63**	**295**	P	**P**	**10 14 18.3**	**-0.2**
LEF	**Lefka**	**48.71**	**290**	eP	**P**	**10 14 20.6**	**+1.4**
LEF	**Lefka**	**48.71**	**290**	P	**P**	**10 14 20.6**	**+1.4**
SZAC	**Souni-Zanaja**	**48.81**	**290**	P	**P**	**10 14 20.5**	**+0.5**
MDU	**Mudurnu**	**48.82**	**298**	iP	**P**	**10 14 20.7**	**+0.8**
MDU	**Mudurnu**	**48.82**	**298**	P	**P**	**10 14 20.7**	**+0.7**
HAQS	**Haql**	**48.83**	**282**	P	**P**	**10 14 22.7**	**+2.6**
AKASG	**Malin Array Be**	**48.93**	**311**	P	**P**	**10 14 20.3**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0,baz=75,slow=6.4,SNR=33						
AKASG				LR	LR	10 38 17.2	
	comp=Z,2μm,19.3s,MS5.2,baz=90,slow=40						
AKASG	**Malin Array Be**	**48.93**	**311**	P	**P**	**10 14 20.3**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,15nm,0.9s						
AKASG				MLR	MLR		
	comp=Z,2μm,19.3s						
ALFC	**Alevga**	**48.93**	**290**	P	**P**	**10 14 20.4**	**-0.5**
	comp=Z,4.7nm,1.9s						
HENT	**Hendek**	**48.98**	**298**	iP	**P**	**10 14 17.7**	**-3.5**
ESKT	**Eskisehir**	**49.28**	**296**	eP	**P**	**10 14 21.3**	**-2.2**
ESKT	**Eskisehir**	**49.28**	**296**	iP	**P**	**10 14 21.2**	**-2.3**
ESKT	**Eskisehir**	**49.28**	**296**	P	**P**	**10 14 21.2**	**-2.3**
KIS	**Kishinev**	**49.52**	**306**	eP	**P**	**10 14 24.0**	**-1.3**
KIS				e		10 15 48.0	
KIS				e		10 16 21.0	
KIS				eS	**S**	**10 21 30.0**	**-1.9**
KIS				pmax	pmax		
	comp=Z,250nm,1.6s,mb6.0						
KIS				MLR	MLR		
	comp=N,1μm,12.0s,MS5.3						
KIS				MLR	MLR		
	comp=E,2μm,12.0s,MS5.3						
KIS				MLR	MLR		
	comp=Z,1μm,12.0s,MS5.2						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
EYL	**Eskiyayla**	**49.59**	**298**	eP	**P**	**10 14 18.6**	**-7.3**
MNK	**Minsk**	**49.62**	**316**	eP	**P**	**10 14 24.0**	**-2.0**
ISP	**Isparta**	**49.91**	**294**	P	**P**	**10 14 27.1**	**-1.3**
ISP	**Isparta**	**49.91**	**294**	P	**P**	**10 14 27.1**	**-1.3**
YLV	**Yalova**	**50.17**	**298**	eP	**P**	**10 14 31.2**	**+0.8**
PSN	**Preselentsi**	**50.45**	**302**	iP	**P**	**10 14 37.7**	**+5.3**
KAF	**Kangasniemi**	**50.62**	**326**	ep	**P**	**10 14 33.3**	**-0.1**
	comp=Z,62nm,0.9s,mb5.5						
KAF	**Kangasniemi**	**50.62**	**326**	eP	**P**	**10 14 33.3**	**-0.1**
KAF				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.5						
ELL	**Elmali**	**50.64**	**293**	eP	**P**	**10 14 33.7**	**-0.3**
ELL	**Elmali**	**50.64**	**293**	P	**P**	**10 14 33.7**	**-0.2**
FINES	**FINESS Array B**	**50.69**	**325**	P	**P**	**10 14 34.3**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.7,baz=112,slow=10,SNR=18						
FINES				LR	LR	10 37 24.1	
	comp=Z,2μm,18.9s,MS5.2,baz=265,slow=38						
FINES	**FINESS Array B**	**50.69**	**325**	P	**P**	**10 14 34.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,2μm,18.9s						
PET	**Petropavlovsk**	**50.92**	**46**	eP	**P**	**10 14 37.2**	**+1.4**
PET				e		10 16 36.7	
PET				ePPP	PPP	10 17 28.2	-3.9
PET				eS	**S**	**10 21 50.3**	**-0.8**
PET				eSS	SS	10 25 22.8	-0.9
PET				pmax	pmax		
	comp=Z,100nm,11.9s						
PET				pmax	pmax		
	comp=Z,200nm,10.8s						
PET				smax			
	comp=N,300nm,8.4s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.1						
PET	**Petropavlovsk**	**50.92**	**46**	P	**P**	**10 14 34.6**	**-1.3**
	comp=Z,22nm,0.9s,mb5.1						
PET				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
DENT	**Denizli**	**51.06**	**295**	eP	**P**	**10 14 37.5**	**+0.3**
DENT	**Denizli**	**51.06**	**295**	P	**P**	**10 14 37.5**	**+0.3**
DNZL	**Cakiroluk**	**51.07**	**295**	iP	**P**	**10 14 36.8**	**-0.5**
PRD	**Provadia**	**51.10**	**302**	iP	**P**	**10 14 42.5**	**+5.1**
MANT	**Manisa**	**51.25**	**296**	iP	**P**	**10 14 39.7**	**+1.1**
KEV	**Kevo**	**51.31**	**336**	ep	**P**	**10 14 38.6**	**0.0**
	comp=Z,230nm,1.8s,mb5.8						
KEV	**Kevo**	**51.31**	**336**	eP	**P**	**10 14 38.6**	**0.0**
KEV				pmax	pmax		
	comp=Z,231nm,1.8s,mb5.8						
DALT	**Dalyan (Mudla)**	**51.62**	**293**	eP	**P**	**10 14 42.1**	**+0.7**
DALT	**Dalyan (Mudla)**	**51.62**	**293**	P	**P**	**10 14 42.1**	**+0.7**
MLR	**Muntele Rosu**	**51.72**	**305**	P	**P**	**10 14 42.7**	**+0.7**
	comp=Z,61nm,0.9s,mb5.5,baz=71,slow=5.0,SNR=30						
MLR				S	**S**	**10 22 06.9**	**+4.7**
	comp=Z,1.7nm,0.7s,baz=52,slow=19,SNR=3.5						
MLR	**Muntele Rosu**	**51.72**	**305**	P	**P**	**10 14 42.7**	**+0.7**
MLR				S	**S**	**10 22 06.9**	**+4.7**
MLR				pmax	pmax		
	comp=Z,61nm,1.0s						
MLR				smax			
	comp=N,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**51.79**	**336**	P	**P**	**10 14 42.5**	**+0.3**
	comp=N,25nm,1.0s,mb5.1,baz=90,slow=8.5,SNR=14						
ARCES				LR	LR	10 38 12.8	
	comp=N,2μm,18.1s,MS5.2,baz=179,slow=38						
ARCES	**ARCESS Array B**	**51.79**	**336**	P	**P**	**10 14 42.6**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,25nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,2μm,18.1s						
ARE0	**ARCESS Array S**	**51.79**	**336**	eP	**P**	**10 14 42.5**	**+0.2**
YER	**Yerkesik**	**51.80**	**294**	eP	**P**	**10 14 44.2**	**+1.4**
JMB	**Yambol**	**51.83**	**301**	iP	**P**	**10 14 38.2**	**-4.7**
SZH	**Strazhica**	**52.14**	**302**	P	**P**	**10 14 45.5**	**+0.3**
MLSB	**Milas**	**52.15**	**294**	eP	**P**	**10 14 42.6**	**-2.8**
MLSB	**Milas**	**52.15**	**294**	P	**P**	**10 14 42.6**	**-2.8**
KDAG	**Bornova**	**52.25**	**296**	iP	**P**	**10 14 46.0**	**-0.1**
IZM	**Izmir**	**52.26**	**296**	eP	**P**	**10 14 45.9**	**-0.3**
IZM	**Izmir**	**52.26**	**296**	P	**P**	**10 14 45.9**	**-0.3**
LVV	**L'vov**	**52.33**	**311**	eP	**P**	**10 14 46.4**	**-0.2**
LVV				eS	**S**	**10 22 03.0**	**-7.6**
SUW	**Suwalki**	**52.38**	**316**	eP	**P**	**10 14 47.5**	**+0.6**
SUW				e		10 15 58.4	
SUW				e		10 16 48.4	
SUW				eS	**S**	**10 22 13.2**	**+2.0**
SUW	**Suwalki**	**52.38**	**316**	eP	**P**	**10 14 46.1**	**-0.8**
SUW				epP	pP	10 14 48.7	-0.9
SUW				ePcP	PcP	10 15 58.4	+0.5
SUW				ePP	PP	10 16 48.4	+1.7
SUW				eS	**S**	**10 22 13.2**	**+2.0**
ALN	**Alexandroupoli**	**52.57**	**299**	eP	**P**	**10 14 48.1**	**-0.4**
PVL	**Pavlikeni**	**52.58**	**302**	iP	**P**	**10 14 46.0**	**-2.5**
KDZ	**Kurdzhali**	**52.86**	**300**	P	**P**	**10 14 51.0**	**+0.3**
KWP	**Kalwaria**	**53.21**	**310**	eP	**P**	**10 14 53.1**	**0.0**
KWP				eS	**S**	**10 22 25.5**	**+3.0**
KWP	**Kalwaria**	**53.21**	**310**	eP	**P**	**10 14 53.1**	**0.0**
KWP				epP	pP	10 14 55.4	-0.4
KWP				eS	**S**	**10 22 25.5**	**+3.0**
RZN	**Rozhen**	**53.36**	**300**	iP	**P**	**10 14 54.5**	**+0.1**
PGB	**Panagyurishte**	**53.56**	**302**	P	**P**	**10 14 56.5**	**+0.7**
UZH	**Uzhgorod**	**53.64**	**309**	eP	**P**	**10 14 57.0**	**+0.7**
UZH				eS	**S**	**10 22 23.0**	**-5.4**
WAR	**Warsaw**	**53.87**	**314**	eP	**P**	**10 14 59.1**	**+1.2**
WAR				eS	**S**	**10 22 34.2**	**+2.7**
WAR				e*SS		10 22 37.3	
WAR	**Warsaw**	**53.87**	**314**	eP	**P**	**10 14 57.9**	**0.0**
WAR				epP	pP	10 15 00.9	+0.3
WAR				epP	pP	10 15 01.4	+0.8
WAR				eS	**S**	**10 22 34.2**	**+2.7**
WAR				eSS	Sx	10 22 37.3	
WAR				LR	LR		
	comp=Z,3μm,17.1s,MS5.4						
TRO	**Tromso**	**54.10**	**336**	eP	**P**	**10 14 57.5**	**-1.9**
TRO				eS	**S**	**10 22 34.8**	**+0.4**
TRO				eSS	SS	10 26 17.4	+1.9
TRO				AMS	AMS	10 40 32.2	
	comp=Z,1μm,16.2s,MS5.0						
MMB	**Musomiste**	**54.10**	**301**	P	**P**	**10 14 59.5**	**-0.3**
SANT	**Santorini**	**54.19**	**294**	eP	**P**	**10 14 59.7**	**-0.8**
OUR	**Ouranopolis**	**54.23**	**299**	eP	**P**	**10 14 59.0**	**-1.7**
VTS	**Vitosha**	**54.24**	**302**	iP	**P**	**10 15 01.3**	**+0.5**
SRS	**Serrai**	**54.32**	**300**	eP	**P**	**10 14 60.0**	**-1.4**
BJO	**Bjornoya**	**54.42**	**342**	AMS	AMS	10 41 39.7	
	comp=Z,2μm,20.1s,MS5.0						
KKB	**Krupnik**	**54.50**	**301**	iP	**P**	**10 15 02.0**	**-0.7**
PAIG	**Paliouri**	**54.56**	**299**	eP	**P**	**10 15 03.6**	**+0.5**
SOH	**Sokhos**	**54.57**	**300**	eP	**P**	**10 15 02.4**	**-0.8**
KNT	**Kendrikon**	**54.81**	**300**	eP	**P**	**10 15 04.0**	**-1.0**
BOLS	**Boljevac**	**54.84**	**304**⇓	iP	**P**	**10 15 04.9**	**-0.3**
KECS	**Kecovo**	**54.84**	**309**	eP	**P**	**10 15 05.3**	**+0.1**
KECS				epP	pP	10 15 08.0	+0.2
KECS				esP	sP	10 15 10.1	+1.2
THE	**Thessaloniki**	**54.90**	**300**	eP	**P**	**10 15 04.7**	**-1.0**
KPJ	**Monastery St.**	**54.94**	**302**	iP	**P**	**10 15 06.2**	**+0.2**
KPJ				i	pP	10 15 08.5	-0.1
OJC	**Ojcow**	**54.96**	**312**	eP	**P**	**10 15 05.3**	**-0.7**
OJC				iS	**S**	**10 22 47.6**	**+1.4**
OJC				eSS	SS	10 26 30.7	+1.2
OJC				LR	LR		
	comp=Z,3μm,19.1s,MS5.3						
VAY	**Valandovo**	**55.01**	**300**⇑	iP	**P**	**10 15 04.2**	**-2.3**
XOR	**Xorichti**	**55.07**	**298**	eP	**P**	**10 15 01.1**	**-5.8**
BARS	**Barje**	**55.17**	**302**⇓	iP	**P**	**10 15 07.1**	**-0.5**
GRG	**Griva**	**55.23**	**300**	eP	**P**	**10 15 06.5**	**-1.6**
PSZ	**Piszkesteto**	**55.35**	**309**⇑	eP	**P**	**10 15 09.2**	**+0.4**
PSZ	**Piszkesteto**	**55.35**	**309**	eP	**P**	**10 15 08.0**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,120nm,1.7s,mb5.7						
LIT	**Litokhoron**	**55.39**	**299**	eP	**P**	**10 15 07.8**	**-1.5**
SKO	**Skopje**	**55.66**	**301**	iP	**P**	**10 15 11.0**	**-0.2**
SKO				i	pP	10 15 13.3	-0.6
GRUS	**Gruza**	**55.70**	**304**⇓	iP	**P**	**10 15 11.7**	**+0.2**
AGG	**Agios Georgios**	**55.81**	**298**	eP	**P**	**10 15 10.0**	**-2.3**
MOR8	**Moi Rana**	**55.82**	**331**	eP	**P**	**10 15 10.7**	**-1.4**
MOR8				epP	pP	10 15 14.0	-0.7
MOR8				AMb	AMB	10 15 15.1	
	comp=Z,97nm,1.4s,mb5.7						
MOR8	**Moi Rana**	**55.82**	**331**	eP	**P**	**10 15 10.7**	**-1.4**
	comp=Z,97nm,1.4s,mb5.6						
VYHS	**Vyhne**	**55.92**	**310**	eP	**P**	**10 15 13.1**	**+0.2**
VYHS				epP	pP	10 15 15.8	+0.2
VYHS				e		10 16 06.5	
VYHS				eS	**S**	**10 23 01.6**	**+2.6**
VYHS				eSS	SS	10 26 35.1	-10
VYHS	**Vyhne**	**55.92**	**310**	eP	**P**	**10 15 13.1**	**+0.2**
VYHS				e		10 16 06.5	
VYHS				eS	**S**	**10 23 01.6**	**+2.6**
GKP	**Gorka Klasztor**	**55.98**	**316**	eP	**P**	**10 15 13.6**	**+0.3**
GKP				eS	**S**	**10 23 05.5**	**+5.7**
GKP	**Gorka Klasztor**	**55.98**	**316**	eP	**P**	**10 15 13.2**	**-0.1**
GKP				epP	pP	10 15 15.5	-0.5
GKP				eS	**S**	**10 23 05.5**	**+5.7**
GKP				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
RAC	**Raciborz**	**56.00**	**312**	eP	**P**	**10 15 13.5**	**0.0**
FNA	**Florina**	**56.02**	**300**	eP	**P**	**10 15 12.6**	**-1.2**
LOF	**Lofoten**	**56.06**	**334**	eP	**P**	**10 15 14.8**	**+1.1**
LOF				esP	sP	10 15 17.5	+0.1
LOF				AMb	AMB	10 15 19.3	
	comp=Z,148nm,1.7s,mb5.7						
LOF	**Lofoten**	**56.06**	**334**	eP	**P**	**10 15 14.8**	**+1.1**
	comp=Z,148nm,1.7s,mb5.7						
OKC	**Ostrava-Krasne**	**56.08**	**311**⇓	eP	**P**	**10 15 14.6**	**+0.5**
OKC				iAP	pP	10 15 16.7	-0.1
OKC				eS	**S**	**10 23 05.0**	**+3.9**
OKC				e		10 27 31.8	
OKC				LM		10 40 40.0	
	comp=Z,1.8nm,15.0s						
OKC	**Ostrava-Krasne**	**56.08**	**311**	eP	**P**	**10 15 14.6**	**+0.5**
OKC				eS	**S**	**10 23 05.0**	**+3.9**
OKC				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.3						
DIVS	**Divcibare**	**56.15**	**304**⇑	iP	**P**	**10 15 14.0**	**-0.7**
SRO	**Srobarova**	**56.41**	**309**	e	**P**	**10 15 12.7**	**-3.8**
MEV	**Metsovon**	**56.41**	**299**	eP	**P**	**10 15 15.2**	**-1.4**
KBS	**Kingsbay**	**56.45**	**347**	eP	**P**	**10 15 13.3**	**-3.1**
KBS				eS	**S**	**10 23 05.4**	**-0.3**
KBS				AMS	AMS	10 41 53.7	
	comp=Z,2μm,21.4s,MS5.1						
KBS	**Kingsbay**	**56.45**	**347**	eP	**P**	**10 15 17.4**	**+1.1**
KBS				e		10 23 05.7	
MORC	**Moravsky Berou**	**56.48**	**311**⇓	eP	**P**	**10 15 16.3**	**-0.7**
	comp=Z,90nm,1.2s,mb5.7						
BSD	**Bornholm Skovb**	**56.99**	**318**⇑	iP	**P**	**10 15 21.4**	**+0.9**
	comp=Z,32nm,0.9s,mb5.3						
BSD				iS	**S**	**10 23 08.9**	**-4.2**
BSD				i		10 23 21.9	
BSD				e		10 27 29.9	
	comp=Z,3μm,19.0s						
NSS	**Namsos**	**57.01**	**329**	eP	**P**	**10 15 18.6**	**-2.0**
NSS				AMb	AMB	10 15 23.2	
	comp=Z,94nm,1.6s,mb5.6						
NSS				eS	**S**	**10 23 12.8**	**-0.4**
NSS				AMS	AMS	10 42 21.4	
	comp=Z,2μm,18.9s,MS5.2						
NSS	**Namsos**	**57.01**	**329**	eP	**P**	**10 15 18.6**	**-2.0**
	comp=Z,94nm,1.6s,mb5.6						
KSP	**Ksiaz**	**57.03**	**313**	eP	**P**	**10 15 20.3**	**-0.6**
KSP				eS	**S**	**10 23 14.0**	**+0.3**
KSP				eSS	SS	10 27 00.0	-3.6
KSP	**Ksiaz**	**57.03**	**313**	eP	**P**	**10 15 20.3**	**-0.6**
KSP				epP	pP	10 15 23.2	-0.4
KSP				eS	**S**	**10 23 14.0**	**+0.3**
KSP				eSS	SS	10 27 00.0	-3.6
KSP				LR	LR		
	comp=Z,4μm,18.5s,MS5.6						
ZST	**Bratislava**	**57.11**	**310**	eP	**P**	**10 15 22.1**	**+0.6**
ZST				epP	pP	10 15 23.6	-0.6
ZST				eS	**S**	**10 23 17.0**	**+2.2**
ZST				eSS	SS	10 27 08.0	+3.0
ZST	**Bratislava**	**57.11**	**310**	eP	**P**	**10 15 22.1**	**+0.6**
ZST				eS	**S**	**10 23 17.0**	**+2.2**
ZST				eSS	SS	10 27 08.0	+3.0
DPC	**Dobruska-Polom**	**57.12**	**312**⇓	eP	**P**	**10 15 21.6**	**+0.1**
DPC				iAP	pP	10 15 24.0	-0.2
DPC				eS	**S**	**10 23 18.2**	**+3.4**
DPC				eSS	SS	10 27 12.5	+7.4
DPC				LM		10 41 10.0	
	comp=Z,2.3nm,16.9s						
DPC	**Dobruska-Polom**	**57.12**	**312**⇓	eP	**P**	**10 15 21.6**	**+0.1**
DPC				eS	**S**	**10 23 18.2**	**+3.4**
DPC				MLR	MLR		
	comp=Z,2μm,16.9s,MS5.3						
IGT	**Igoumenitsa**	**57.15**	**299**	eP	**P**	**10 15 19.2**	**-2.7**
LKD	**Levkas**	**57.16**	**298**	eP	**P**	**10 15 19.0**	**-3.0**
UPC	**Upice**	**57.28**	**313**⇑	eP	**P**	**10 15 22.5**	**-0.1**
UPC				iAP	pP	10 15 25.8	+0.5
UPC				ePP	PP	10 17 34.2	+2.8
UPC	**Upice**	**57.28**	**313**⇑	eP	**P**	**10 15 22.5**	**-0.1**
UPC				e		10 17 34.2	
NB2	**NORSAR Subarra**	**57.87**	**325**	P	**P**	**10 15 25.8**	**-0.8**
	comp=Z,83nm,0.9s,mb5.8,baz=81,slow=7.0						
NB2	**NORSAR Subarra**	**57.87**	**325**	P	**P**	**10 15 25.8**	**-0.8**
	baz=80,slow=7.4						
NOA	**NORSAR Array B**	**57.87**	**325**	P	**P**	**10 15 25.8**	**-0.8**
	comp=Z,33nm,0.8s,mb5.4,baz=80,slow=6.9,SNR=62						
NOA				LR	LR	10 42 28.4	
	comp=Z,2μm,19.0s,MS5.3,baz=85,slow=38						
NOA	**NORSAR Array B**	**57.87**	**325**	P	**P**	**10 15 25.8**	**-0.8**
NOA				pmax	pmax		
	comp=Z,33nm,0.8s						
NOA				MLR	MLR		
	comp=Z,2μm,19.0s						
NOA	**NORSAR Array B**	**57.87**	**325**	P	**P**	**10 15 25.8**	**-0.8**
NOA				LR	LR	10 42 28.4	
NAO01	**NORSAR Array S**	**58.06**	**325**	eP	**P**	**10 15 26.9**	**-1.1**
	comp=Z,69nm,1.0s,mb5.6						
PVCC	**Panska Ves**	**58.17**	**313**⇓	eP	**P**	**10 15 28.8**	**-0.1**

PVCC				*i* AP	pP	10 15 31.3	-0.3
PVCC				*e*S	S	10 23 32.0	+3.3
PVCC				*e*SS	SS	10 27 27.7	+5.8
PVCC				LM		10 41 40.0	
	comp=Z,1.7nm,18.4s						
PVCC	Panska Ves	58.17	313⇓	*e*P	P	10 15 28.8	-0.1
PVCC				*e*S	S	10 23 32.0	+3.3
PVCC				MLR	MLR		
	comp=Z,2µm,18.4s,MS5.2						
COP	Copenhagen	58.27	319	*i* P	P	10 15 30.6	+1.1
	comp=Z,50nm,0.9s,mb5.5						
COP				*i*		10 23 29.4	
COP				*i* S	S	10 23 33.4	+3.5
COP				*i*		10 27 46.6	
	comp=Z,2µm,18.0s						
SISC	Sisak	58.28	307	*i* P	P	10 15 31.7	+2.0
PRU	Pruhonice	58.32	312⇓	*e*P	P	10 15 29.5	-0.4
PRU				*i* AP	pP	10 15 32.1	-0.5
PRU				*e*S	S	10 23 33.9	+3.3
PRU				*e*SS	SS	10 27 26.0	+1.8
PRU				LM		10 42 00.0	
	comp=Z,2.4nm,15.0s						
PRU	Pruhonice	58.32	312⇓	*e*P	P	10 15 29.5	-0.4
PRU				*e*S	S	10 23 33.9	+3.3
PRU				*e*SS	SS	10 27 26.0	+1.8
ARSA	Arzberg	58.38	309⇓	*i*P	P	10 15 29.9	-0.5
	comp=Z,163nm,1.9s,mb5.7						
BRG	Berggiesshubel	58.47	313	*i* P	P	10 15 30.9	-0.1
BRG				*e*		10 17 42.0	
BRG				*i* S	S	10 23 32.0	-0.7
BRG				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
BRG				MLR	MLR		
	comp=N,5µm,22.9s,MS5.6						
BRG				MLR	MLR		
	comp=E,830nm,22.9s,MS5.6						
BRG				MLR	MLR		
	comp=Z,2µm,15.8s						
BRG	Berggiesshubel	58.47	313	*i* P	P	10 15 30.9	-0.1
	comp=Z,30nm,1.2s,mb5.2						
BRG				*i*	pP	10 15 33.8	+0.1
BRG				*i*		10 15 55.7	
BRG				*e*PP	PP	10 17 42.0	-0.2
BRG				*i* S	S	10 23 32.0	-0.7
BRG				*i* SS	SS	10 27 33.0	+6.3
BRG				LR	LR		
	comp=Z,2µm,15.8s,MS5.3						
CLL	Collm	58.94	314	P	P	10 15 33.6	-0.7
	comp=Z,logA/T=1.9,mb5.7						
CLL				*e*		10 15 49.0	
CLL				*e*		10 15 55.0	
CLL				*e*PCP	PcP	10 16 23.0	-0.2
CLL				*e*S	S	10 23 42.0	+3.2
CLL				*e*PPS	PPS	10 24 07.0	+5.3
CLL				*e*SS	Sx	10 28 36.0	
CLL	Collm	58.94	314	*i* P	P	10 15 33.6	-0.7
CLL				*e*		10 16 23.0	
CLL				*e*S	S	10 23 42.0	+3.2
CLL				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.7						
CLL	Collm	58.94	314	*i* P	P	10 15 33.6	-0.7
	comp=Z,140nm,1.7s,mb5.7						
CLL				*e*PcP	PcP	10 16 23.0	-0.2
CLL				*e*S	S	10 23 42.0	+3.2
BOJS	Bojanci	59.03	307	*e*P	P	10 15 34.1	-0.8
BOJS				*e*PP	PP	10 17 41.4	-5.9
BOJS				*e*S	S	10 23 41.4	+1.3
MOA	Molln	59.04	310⇑	*i*P	P	10 15 34.6	-0.4
	comp=Z,247nm,2.8s,mb5.8						
GEC2	GERESS Array S	59.14	311	*e*P	P	10 15 35.6	-0.1
GEC2				pmax	pmax		
	comp=Z,174nm,1.4s,mb5.9						
GEC2	GERESS Array S	59.14	311	*e*P	P	10 15 35.6	-0.1
	comp=Z,174nm,1.4s,mb5.9						
GERES	GERESS Array B	59.14	311	P	P	10 15 35.6	-0.1
	comp=Z,25nm,0.9s,mb5.2,baz=76,slow=5.5,SNR=70						
GERES				PKP2bc		10 45 17.6	
	comp=Z,0.6nm,0.7s,baz=259,slow=6.8,SNR=7.1						
GERES	GERESS Array B	59.14	311	P	P	10 15 35.6	-0.1
GERES				⇑*e*		10 45 17.6	
KHC	Kasperske Hory	59.14	311⇓	*e*P	P	10 15 35.3	-0.4
KHC				*i* AP	pP	10 15 38.1	-0.3
KHC				*e*PP	PP	10 17 49.7	+1.5
KHC				*e*S	S	10 23 46.1	+4.7
KHC				*e*SS	SS	10 27 39.5	+2.2
KHC				LM		10 42 30.0	
	comp=Z,1.9nm,13.9s						
KHC	Kasperske Hory	59.14	311	*e*P	P	10 15 35.3	-0.4
KHC				*e*		10 17 49.7	
KHC				*e*S	S	10 23 46.1	+4.7
KHC				*e*SS	SS	10 27 39.5	+2.2
KHC				MLR	MLR		
	comp=Z,2µm,13.9s,MS5.4						
KAKA	Kakadu	59.15	133⇓	*i*P	P	10 15 35.4	-0.8
	comp=Z,80nm,1.5s,mb5.5						
KAKA				*i* PCP	PcP	10 16 24.9	+0.4
OBKA	Obir	59.22	308⇓	*i*P	P	10 15 35.8	-0.5
	comp=Z,304nm,2.5s,mb5.9						
MOL	Molde	59.29	328	*e*P	P	10 15 37.7	+1.2
MOL				*e*sP	sP	10 15 40.5	+0.3
MOL				AMb	AMB	10 15 42.4	
	comp=Z,151nm,1.7s,mb5.8						
MOL	Molde	59.29	328	*e*P	P	10 15 37.7	+1.2
	comp=Z,151nm,1.7s,mb5.8						
LJU	Ljubljana	59.37	308	*e*P	P	10 15 36.8	-0.5
LJU				*e*	pP	10 15 39.3	-0.7
LJU				*e*S	S	10 23 44.0	-0.4
LJU				*e*SS	SS	10 27 48.0	+7.3
CEY	Cerknica	59.52	307	*e*P	P	10 15 37.7	-0.7
WET	Wettzell	59.58	312	*e*P	P	10 15 38.6	-0.1
WET				pmax	pmax		
	comp=Z,202nm,1.9s,mb5.8						
WET	Wettzell	59.58	312	*e*P	P	10 15 38.6	-0.1
	comp=Z,202nm,1.9s,mb5.8						
FX1	Attu Island--F	59.59	44	*e*P	P	10 15 37.4	-1.3
FITZ	Fitzroy Crossi	59.65	143⇓	*i*P	P	10 15 38.9	-0.7
	comp=Z,35nm,0.9s,mb5.4						
FITZ	Fitzroy Crossi	59.65	143	P	P	10 15 39.1	-0.5
	comp=Z,41nm,0.9s,mb5.5,baz=348,slow=6.2,SNR=51						
JAVS	Javornik	59.72	308	*e*P	P	10 15 38.6	-1.2
VOY	Vojsko	59.79	308	*e*P	P	10 15 39.4	-0.8
KBA	Koelnbreinsper	59.86	309⇓	*i*P	P	10 15 39.8	-0.8
	comp=Z,149nm,2.0s,mb5.7						
BSEG	Bad Segeberg	59.87	317	*e*P	P	10 15 41.1	+0.5
BSEG				pmax	pmax		
	comp=Z,108nm,1.1s,mb5.8						
TIP	Timpagrande	59.89	300	*e*P	P	10 15 39.1	-1.9
MOX	Moxa	59.96	313	*i* P	P	10 15 41.0	-0.3
	comp=Z,logA/T=2.0,mb5.8						
MOX				S	S	10 23 57.0	+5.1
MOX				L		10 45 05.0	
MOX	Moxa	59.96	313	*e*P	P	10 15 41.0	-0.3
MOX				pmax	pmax		
	comp=Z,185nm,2.0s,mb5.8						
MOX				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.2						
MOX	Moxa	59.96	313	*e*P	P	10 15 41.0	-0.3
	comp=Z,185nm,2.0s,mb5.8						
MOX				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
TRI	Trieste	59.97	308	*e*P	P	10 15 40.8	-0.7
ROBS	Robic	59.99	308	*e*P	P	10 15 40.0	-1.5
PTCC	Patocco-Chiusa	60.04	308	*e*P	P	10 15 41.1	-0.8
GMNA	Gemona	60.16	308	*e*P	P	10 15 42.7	-0.1
SMY	Shemya	60.18	44	PFAKE		10 15 50.0	+7.2
SMY				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
GRI	Girifalco	60.26	299	*e*P	P	10 15 42.9	-0.6
MRLC	Muro Lucano	60.30	302	*e*P	P	10 15 43.4	-0.3
SLCN	Sala Consilina	60.32	301	*e*P	P	10 15 44.0	+0.1
ODD1	Odda	60.33	325	*e*P	P	10 15 43.3	-0.3
ODD1				AMb	AMB	10 15 51.1	
	comp=Z,97nm,1.8s,mb5.5						
ODD1	Odda	60.33	325	*e*P	P	10 15 43.3	-0.3
	comp=Z,97nm,1.8s,mb5.5						
FVI	Forni Avoltri	60.37	309	*e*P	P	10 15 43.2	-0.9
CLZ	Clausthal	60.39	315	*e*P	P	10 15 44.3	+0.1
	comp=Z,146nm,1.2s,mb5.9						
MGR	Morigerati	60.46	301	*e*P	P	10 15 43.5	-1.4
GRA1	Grafenberg Arr	60.47	313	*e*P	P	10 15 45.5	+0.7
	comp=Z,226nm,1.5s,mb6.0						
GRA1				*e*	pP	10 15 47.2	-0.3
GRA1				*e*PP	PP	10 17 59.5	-0.7
GRA1				*e*S	S	10 23 59.9	+1.4
GRA1				*e*SS	SS	10 28 07.8	+10
GRA1				*e*P'P'		10 45 13.8	
GRA1				LR	LR		
	comp=Z,2µm,21.2s,MS5.2						
GRF	Grafenberg Arr	60.47	313	*e*P	P	10 15 45.5	+0.7
GRF				*e*		10 17 59.5	
GRF				*e*S	S	10 23 59.9	+1.4
GRF				pmax	pmax		
	comp=Z,226nm,1.5s,mb6.0						
GRF				MLR	MLR		
	comp=Z,2µm,21.2s,MS5.2						
SGO	Sicignano	60.49	302	*e*P	P	10 15 44.6	-0.5
BLS5	Blasjo	60.53	324	*e*P	P	10 15 47.0	+1.9
BLS5				AMb	AMB	10 15 50.7	
	comp=Z,34nm,1.5s,mb5.3						
BLS5	Blasjo	60.53	324	*e*P	P	10 15 47.0	+1.9
	comp=Z,34nm,1.5s,mb5.2						
CSSN	Cassano Irpino	60.60	302	*e*P	P	10 15 45.2	-0.6
SOI	Samo	60.78	299	*e*P	P	10 15 46.3	-0.8
RUND	Rundenannen	60.81	325	*e*P	P	10 15 46.8	-0.1
RUND				*e*pP	pP	10 15 49.7	0.0
RUND				AMb	AMB	10 15 51.5	
	comp=Z,215nm,1.4s,mb6.1						
BER	Bergen	60.83	325	*e*P	P	10 15 47.8	+0.7
BER				AMb	AMB	10 15 50.6	
	comp=Z,153nm,1.4s,mb6.0						
BER	Bergen	60.83	325	*e*P	P	10 15 47.8	+0.7
	comp=Z,611nm,1.5s,mb6.5						
CII	Carovilli	60.83	303	*e*P	P	10 15 49.5	+2.2
ASK	Askoy	60.87	326	*e*P	P	10 15 47.8	+0.4
ASK				AMb	AMB	10 15 50.4	
	comp=Z,192nm,1.3s,mb6.1						
ASK	Askoy	60.87	326	*e*P	P	10 15 47.8	+0.4
	comp=Z,771nm,1.3s,mb6.7						
FUR	Furstenfeldbru	60.88	311	*e*P	P	10 15 48.1	+0.5
FUR				pmax	pmax		
	comp=Z,284nm,1.3s,mb6.2						
FUR	Furstenfeldbru	60.88	311	*e*P	P	10 15 48.1	+0.5
	comp=Z,284nm,1.3s,mb6.2						
WTTA	Wattenberg	60.92	310⇓	*i*P	P	10 15 47.0	-0.8
	comp=Z,307nm,1.9s,mb6.1						
WATA	Walderalm	60.93	310⇑	*i*P	P	10 15 47.3	-0.7
	comp=Z,152nm,1.7s,mb5.8						
SCLL	Scilla	60.97	299	*e*P	P	10 15 48.9	+0.6
INTR	Introdacqua	61.02	303	*e*P	P	10 15 48.9	+0.2
TERO	Teramo	61.04	304	*e*P	P	10 15 48.0	-0.8
MTTG	Motta San Giov	61.07	299	*e*P	P	10 15 48.6	-0.4
CING	Cingoli	61.08	305	*e*P	P	10 15 48.4	-0.6
SQTA	Sankt Quirin	61.21	310⇑	*i*P	P	10 15 49.0	-0.8
	comp=Z,173nm,1.8s,mb5.9						
ARV	Arcevia	61.21	305	*e*P	P	10 15 49.8	-0.1
MOTA	Moosalm	61.24	310⇓	*i*P	P	10 15 49.0	-1.0
	comp=Z,72nm,1.3s,mb5.7						
AQU	L'Aquila	61.26	304	P	P	10 15 52.7	+2.4
AQU				pmax	pmax		
	comp=Z,75nm,1.1s,mb5.7						
AQU	L'Aquila	61.26	304	*e*P	P	10 15 50.2	-0.1
	comp=Z,220nm,1.4s,mb6.1						
FSSB	Fossombrone	61.26	306	*e*P	P	10 15 50.1	-0.1
CTI	Castel Tesino	61.28	308	*e*P	P	10 15 49.6	-0.7
NRCA	Norcia	61.31	305	*e*P	P	10 15 45.8	-4.8
ASS	Assisi	61.55	305	*e*P	P	10 15 53.3	+1.1
MURB	Monte Urbino	61.58	305	*e*P	P	10 15 52.6	+0.2
KMBO	Kilima Mbogo	61.67	248⇓	*i*P	P	10 15 53.0	-0.4
	comp=Z,152nm,1.8s,mb5.8						
KMBO				LR	LR		
	comp=Z,625nm,19.0s,MS4.8						
MNS	Montasola	61.76	304	*e*P	P	10 15 52.7	-0.9
SSY	Sortino	61.83	298	*e*P	P	10 15 52.7	-1.6
SFI	Santa Sofia	61.83	306	*e*P	P	10 15 54.5	+0.4
PGD	Poggio Sodo	61.93	306	*e*P	P	10 15 55.8	+1.0
BRMO	Bormio	61.98	309	*e*P	P	10 15 54.0	-1.1
STU	Stuttgart	62.01	312	P	P	10 15 55.5	+0.2
STU				pmax	pmax		
	comp=Z,220nm,1.5s,mb6.1						
STU	Stuttgart	62.01	312	*e*P	P	10 15 54.9	-0.3
	comp=Z,309nm,1.5s,mb6.2						
VMG	Vicchio	62.02	306	*e*P	P	10 15 56.1	+0.7
DAVA	Damuels	62.05	310⇑	*i*P	P	10 15 55.3	-0.2
	comp=Z,160nm,1.7s,mb5.9						
SEI	Scarperia	62.12	306	*e*P	P	10 15 57.4	+1.3
ZCCA	Zocca	62.28	307	*e*P	P	10 16 00.7	+3.6
CSNT	Castellina Chi	62.36	306	*e*P	P	10 15 56.8	-0.8
WTSB	Winterswijk	62.47	316	*e*P	P	10 15 58.4	+0.1
	comp=Z,46nm,1.4s,mb5.4						
WTSB				*e*S	S	10 24 24.3	+0.5
SPAK	Spaichingen	62.48	311	*e*P	P	10 15 58.5	+0.1
GSCL	Gusciola	62.54	307	*e*P	P	10 15 59.5	+0.7
BDI	Bagni Di Lucca	62.63	307	*e*P	P	10 15 59.0	-0.4
ERBM	Eremo	62.63	307	*e*P	P	10 16 00.8	+1.4
GRFL	Gerfalco	62.68	305	*e*P	P	10 15 58.9	-0.9
BFO	Black Forest	62.70	312	*e*P	P	10 15 59.0	-0.8
BFO				pmax	pmax		
	comp=Z,151nm,1.5s,mb5.9						
BFO	Black Forest	62.70	312	*e*P	P	10 15 59.0	-0.8
	comp=Z,151nm,1.5s,mb5.9						
VLC	Villacollemand	62.74	307	*e*P	P	10 16 00.6	+0.4
	comp=Z,63nm,1.0s,mb5.7						
MAIM		62.75	306	P	P	10 15 59.5	-0.7
VALM		62.77	307	P	P	10 16 01.1	+0.7
LANF	Langenberg	62.81	313	*e*P	P	10 16 00.5	-0.1
GRAM		62.84	307	P	P	10 16 00.8	0.0
BACM		62.91	307	P	P	10 16 01.7	+0.4
STR	Strasbourg	62.97	312	*e*P	P	10 16 03.6	+2.0
JMIC	Jan Mayen	62.99	339	*e*P	P	10 15 59.9	-1.5
JMIC				*e*S	S	10 24 31.5	+1.3
JMIC				*e*SS	SS	10 28 37.1	-0.7
JMIC				AMS	AMS	10 47 06.2	
	comp=Z,645nm,19.4s,MS4.8						
CODM		63.02	307	P	P	10 16 02.3	+0.3
DAG	Danmarks Havn	63.16	346⇓	*i*P	P	10 16 02.0	-0.5
	comp=Z,15nm,1.0s,mb5.1						
BOB	Bobbio (Coli)	63.16	308	*e*P	P	10 16 03.4	+0.5
LIBD	Limburg	63.22	312	*e*P	P	10 16 03.4	+0.2
VAI	Varese	63.24	309	*e*P	P	10 16 02.3	-1.1
WLS	Welschbruch	63.28	312	*e*P	P	10 16 03.6	-0.1
CDF	Champ du Feu	63.33	312	*e*P	P	10 16 02.5	-1.5
	comp=Z,392nm,1.6s,mb6.0						
HGN	Heimansgroeve	63.37	315	*e*P	P	10 16 04.0	-0.2
	comp=Z,22nm,1.3s,mb5.1						
HGN				*e*PcP	PcP	10 16 36.2	-4.9
	comp=Z,8.6nm,1.1s						
HGN				*e*S	S	10 24 29.7	-5.4
ECH	Echery	63.47	312	*e*P	P	10 16 04.5	-0.4
WLF	Walferdange	63.61	314	P	P	10 16 06.5	+0.8
WLF				pmax	pmax		
	comp=Z,290nm,1.5s,mb6.1						
WLF	Walferdange	63.61	314⇓	*e*P	P	10 16 05.8	0.0
	comp=Z,429nm,1.6s,mb6.2						
MOF	Molkenrain	63.61	311	*e*P	P	10 16 05.0	-0.8
MCGN	Macugnaga	63.72	309	*e*P	P	10 16 06.8	+0.2
HINF	Hinteralfeld	63.80	312	*e*P	P	10 16 05.5	-1.6
	comp=Z,372nm,1.7s,mb5.8						
ORO	Oropa	63.84	309	*e*P	P	10 16 07.8	+0.4
LOMF	Lomont	63.98	311	*e*P	P	10 16 08.1	-0.2
TRAV		64.03	309	P	P	10 16 08.3	-0.3
HAU	Haudompre	64.06	312	*e*P	P	10 16 07.1	-1.6
	comp=Z,208nm,1.6s,mb5.6						
HAU				*e*R			
	comp=Z,1µm,21.8s						
FIN	Finale Ligure	64.19	307	*e*P	P	10 16 09.0	-0.7
THEF	They Montfort	64.21	312	*e*P	P	10 16 09.5	-0.2
PGF	Pioggiola	64.25	305	*e*P	P	10 16 08.5	-1.6
	comp=Z,247nm,1.5s,mb5.7						
GIVF	Givet	64.26	314	*e*P	P	10 16 08.9	-1.1
	comp=Z,137nm,1.2s,mb5.6						
RORO		64.32	307	P	P	10 16 10.3	-0.2
ROB	Roburent	64.39	308	P	P	10 16 10.2	-0.7
LSD	Ceresole Reale	64.44	309	P	P	10 16 11.6	+0.3
RSP	Reno Superiore	64.48	309	P	P	10 16 10.5	-1.1
IMI	Imperia	64.51	307	*e*P	P	10 16 11.8	0.0
BAIF	Baives	64.65	315	*e*P	P	10 16 11.4	-1.1
	comp=Z,194nm,1.5s,mb5.6						
FENE	Fenestrelle	64.66	309	P	P	10 16 12.3	-0.4
NEGI	Negi	64.66	307	P	P	10 16 12.2	-0.6
MEZF	Maizieres J'vi	64.69	313	*e*P	P	10 16 11.8	-1.0
	comp=Z,578nm,1.7s,mb6.0						
LPG	La Plagne	64.69	309	*e*P	P	10 16 12.3	-0.6
	comp=Z,462nm,1.3s,mb6.0						
LPL	La Plagne	64.70	309	*e*P	P	10 16 12.3	-0.7
	comp=Z,371nm,1.3s,mb6.0						
ENR	Entracque	64.71	308	P	P	10 16 11.7	-1.4
CABF	La Chapelle	64.72	310	*e*P	P	10 16 11.7	-1.4
	comp=Z,28nm,0.9s,mb5.0						
TNA	Tin City	64.76	27	PFAKE		10 16 20.0	+7.0
TNA				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
STV2	Anna di Valdie	64.77	308	P	P	10 16 12.8	-0.6
STV	Sta Anna Valdi	64.77	308	P	P	10 16 12.8	-0.7
AUTN	L'Aution	64.79	307	*e*P	P	10 16 15.0	+1.4
PZZ	Prazzo	64.82	308	P	P	10 16 13.4	-0.4
SBF	Sospel	64.84	307	*e*P	P	10 16 12.4	-1.5
	comp=Z,314nm,1.1s,mb5.9						
RRL	Cesana Torines	64.88	309	P	P	10 16 13.7	-0.5
AURF	Auriere	64.90	307	*e*P	P	10 16 14.2	-0.1
BNI	Bardonecchia	64.90	309	P	P	10 16 14.0	-0.3
BNI				pmax	pmax		
	comp=Z,130nm,1.4s,mb5.8						
BNI	Bardonecchia	64.90	309⇓	*e*P	P	10 16 13.3	-1.0
	comp=Z,147nm,1.4s,mb5.8						
TOUF	Mont Tournerai	64.91	307	*e*P	P	10 16 14.5	+0.2
REVF	Revere	64.93	307	*e*P	P	10 16 14.5	0.0
MBDF	Montbardon	64.96	308	*e*P	P	10 16 14.1	-0.6
	comp=Z,144nm,1.4s,mb5.5						
MVIF	Mont Vial	65.01	307	*e*P	P	10 16 15.0	0.0
SURF	Saint Ours	65.03	308	*e*P	P	10 16 17.0	+1.9
GDM	Grand'Maison	65.22	309	*e*P	P	10 16 16.4	+0.1
OG05	Jujurieux	65.33	310	*e*P	P	10 16 16.9	-0.1
GRN	Grenoble	65.44	309	*e*P	P	10 16 18.0	+0.2
ORIF	Oris-en-Rattie	65.48	309	*e*P	P	10 16 16.3	-1.7
	comp=Z,73nm,0.9s,mb5.4						
ORIF				*e*R			
	comp=Z,4µm,21.8s						
FRF	La Foret Royal	65.48	307	*e*P	P	10 16 16.2	-1.8
	comp=Z,338nm,1.7s,mb5.8						
LMR	La Mourre	65.66	307	*e*P	P	10 16 17.6	-1.6
	comp=Z,265nm,1.4s,mb5.8						
LOR	Lormes	65.89	312	*e*P	P	10 16 20.2	-0.4
	comp=Z,273nm,1.6s,mb5.7						
LOR				*e*R			
	comp=Z,1µm,20.0s						
WRAB	Tennant Creek	65.92	136⇓	*i*P	P	10 16 21.4	+0.1
	comp=Z,190nm,0.9s,mb6.1						
WRAB				LR	LR		
	comp=Z,197nm,21.0s,MS4.3						
WRA	Warramunga Arr	65.93	136	P	P	10 16 21.3	+0.1
	comp=Z,76nm,0.8s,mb5.8,baz=330,slow=6.9,SNR=458						
WRA				PcP	PcP	10 16 52.0	0.0
	comp=Z,24nm,0.8s,baz=332,slow=4.8,SNR=9.2						
WRA				PKP2bc		10 44 54.1	
	comp=Z,3.4nm,1.1s,baz=128,slow=3.1,SNR=8.1						
WRA				LR	LR	10 47 05.6	
	comp=Z,446nm,18.6s,MS4.7,baz=350,slow=38						
WRA	Warramunga Arr	65.93	136	P	P	10 16 21.3	+0.1
WRA				PcP	PcP	10 16 52.0	0.0
WRA				⇑*e*		10 44 54.1	
WRA				LR	LR	10 47 05.6	
WB2	Warramunga Arr	65.93	136⇓	*i*P	P	10 16 21.3	0.0
WB2				*e*PKPPKP		10 45 01.7	
SMRF	Simiane la Rot	66.04	308	*e*P	P	10 16 20.4	-1.2
	comp=Z,242nm,1.5s,mb5.7						
SMF	Signal de Mont	66.14	311	*e*P	P	10 16 20.6	-1.6
	comp=Z,343nm,1.4s,mb5.9						
ANM	Nome	66.16	27	*e*P	P	10 16 23.2	+1.2
SSF	Saint Saulge	66.19	312	*e*P	P	10 16 22.3	-0.2
	comp=Z,247nm,1.4s,mb5.8						
VIVF	Saint-Julien-l	66.30	309	*e*P	P	10 16 21.9	-1.3
	comp=Z,384nm,1.5s,mb5.9						
AVF	Avril sur Loir	66.40	311	*e*P	P	10 16 22.3	-1.5
	comp=Z,463nm,1.5s,mb6.0						
HPK	Haverah Park	66.53	320	*e*P	P	10 16 24.8	+0.3
PLDF	La Plantade	66.54	311	*e*P	P	10 16 24.8	0.0
MBAR	Mbarara	66.56	253⇓	*i*P	P	10 16 24.0	-1.4
	comp=Z,47nm,1.2s,mb5.4						
MBAR				LR	LR		
	comp=Z,204nm,20.0s,MS4.3						
HYF	Humbligny	66.66	312	*e*P	P	10 16 24.4	-1.1
COLF	Collangettes	66.67	310	*e*P	P	10 16 25.7	+0.1
BGF	Bois d'Agland	66.81	311	*e*P	P	10 16 24.9	-1.6
	comp=Z,156nm,1.3s,mb5.6						
LHO	Holmfirth	66.81	320⇑	*e*P	P	10 16 26.3	-0.1
ESK	Eskdalemuir	66.82	322⇑	*e*P	P	10 16 26.2	-0.2
ESK				AMb	AMB	10 16 30.6	
	comp=Z,131nm,1.6s,mb5.7						
ESK	Eskdalemuir	66.82	322	P	P	10 16 27.2	+0.8
ESK	Eskdalemuir	66.82	322	*e*P	P	10 16 26.3	-0.1
	comp=Z,121nm,1.3s,mb5.8						
ESK				LR	LR		
	comp=Z,559nm,19.0s,MS4.8						
AGO	Saint Agoulin	66.83	311	*e*P	P	10 16 26.9	+0.3
PMG	Port Moresby	66.93	119	P	P	10 16 28.0	+0.2
	comp=Z,48nm,0.9s,mb5.5,baz=36,slow=1.7,SNR=8.2						
PMG	Port Moresby	66.93	119	P	P	10 16 28.0	+0.2
PMG				pmax	pmax		
	comp=Z,48nm,0.9s						
PMG	Port Moresby	66.93	119	*e*P	P	10 16 26.6	-1.2
	comp=Z,114nm,1.0s,mb5.9						
PMG				*e*PcP	PcP	10 16 56.8	+0.4
PMG				LR	LR		
	comp=Z,730nm,21.0s,MS4.9						
PYM	Petit Puy Mans	67.03	310	*e*P	P	10 16 28.1	+0.2
LBL	Lubilhac	67.08	310	*e*P	P	10 16 28.5	+0.3
LASF	Ste Croix	67.14	309	*e*P	P	10 16 27.6	-1.0
	comp=Z,325nm,1.4s,mb5.9						
TCF	Toulx Ste Croi	67.32	311	*e*P	P	10 16 28.6	-1.1
	comp=Z,528nm,1.5s,mb6.0						
FRNF	Fournols	67.46	310	*e*P	P	10 16 31.4	+0.8
LDF	La Druitiere	67.83	314	*e*P	P	10 16 31.3	-1.6
	comp=Z,110nm,1.1s,mb5.5						
CAF	Calviac	67.97	310	*e*P	P	10 16 32.9	-0.9
	comp=Z,203nm,1.3s,mb5.7						
FLN	La Foliniere	67.97	315	*e*P	P	10 16 32.1	-1.7
	comp=Z,179nm,1.4s,mb5.6						
FLN				*e*R			
	comp=Z,2µm,19.8s						
MUN	Mundaring	68.05	158	*e*P	P	10 16 34.3	-0.3
	comp=Z,116nm,0.9s,mb5.9						
RJF	Les Rejaudoux	68.16	311	*e*P	P	10 16 34.3	-0.7
	comp=Z,441nm,1.4s,mb6.0						
RJF				*e*R			
	comp=Z,2µm,22.5s						
KLBR	Kellerberrin	68.20	157⇓	*i*P	P	10 16 34.9	-0.6
	comp=Z,93nm,0.9s,mb5.8						
GRR	Gorron	68.36	314	*e*P	P	10 16 34.6	-1.6
	comp=Z,239nm,1.3s,mb5.8						
MTLF	Montolieu	68.53	308	*e*P	P	10 16 36.1	-1.2
	comp=Z,201nm,1.4s,mb5.5						
ASPA	Alice Springs	68.61	139⇓	*i*P	P	10 16 38.7	+0.5
ASPA				*e*S	S	10 25 43.9	+4.5
ASPA				*e*PKPPKP		10 44 54.8	
ASAR	Alice Springs	68.61	139	P	P	10 16 38.5	+0.4
	comp=Z,70nm,0.8s,mb5.7,baz=328,slow=6.6,SNR=656						
ASAR				S	S	10 25 43.0	+3.6
	comp=Z,2.4nm,1.1s,baz=310,slow=12,SNR=5.8						
ASAR				PKP2bc		10 44 51.8	
	comp=Z,3.3nm,1.0s,baz=142,slow=2.7,SNR=11						
ASAR				LR	LR	10 46 27.3	
	comp=Z,655nm,19.9s,MS4.9,baz=317,slow=36						
ASAR	Alice Springs	68.61	139	P	P	10 16 38.5	+0.4
ASAR				S	S	10 25 43.0	+3.6
ASAR				⇑*e*		10 44 51.8	
ASAR				LR	LR	10 46 27.3	
MFF	Saint Martin d	68.67	312	*e*P	P	10 16 36.7	-1.5
	comp=Z,370nm,1.7s,mb5.7						
LFF	La Frestale	68.82	310	*e*P	P	10 16 38.3	-0.8
	comp=Z,187nm,1.1s,mb5.6						
MLS	Moulis	69.43	308	*e*P	P	10 16 41.5	-1.4
SGMF	Saint Gilles	69.44	315	*e*P	P	10 16 41.9	-0.9
	comp=Z,244nm,1.4s,mb5.6						
EMIR	Miracle	69.59	307	P	P	10 16 43.2	-0.7
	comp=Z,144nm,1.4s,mb5.7						
IMA	Indian Mountai	69.64	23	*e*P	P	10 16 44.5	+0.7
IMA				pmax	pmax		
	comp=Z,290nm,1.4s,mb6.0						
IMA	Indian Mountai	69.64	23	*e*P	P	10 16 44.8	+1.0
	comp=Z,46nm,1.3s,mb5.2						
ROSF	Rostrenen	69.83	315	*e*P	P	10 16 44.2	-1.0
	comp=Z,429nm,1.6s,mb5.8						
SUMG	Summit	69.85	346	*e*P	P	10 16 45.5	+0.5
	comp=Z,63nm,1.2s,mb5.4						
EPF	Esparros	69.90	309	*e*P	P	10 16 44.1	-1.6
QUIF	Quistinic	69.95	315	*e*P	P	10 16 44.7	-1.3
	comp=Z,186nm,1.4s,mb5.5						
EPOB	Poblet	70.14	307	P	P	10 16 46.1	-1.2
	comp=Z,79nm,1.3s,mb5.5						
VIEF	Viey	70.17	309	*e*P	P	10 16 48.0	+0.6
EGRA	Graus	70.28	308	P	P	10 16 47.5	-0.6
	comp=Z,75nm,1.2s,mb5.5						
UNV	Unalaska Valle	70.54	38	PFAKE		10 17 00.0	+11
UNV				LR	LR		

	comp=Z,4μm,21.0s,MS5.6						
ETSF	Etsaut	70.55	309	eP	P	10 16 49.0	-0.7
	comp=Z,44nm,0.8s,mb5.1						
EBR	Ebro Roquetas	70.77	307	eP	P	10 16 52.0	+0.9
SJPF	Ste Jean	70.89	309	eP	P	10 16 51.0	-0.8
	comp=Z,41nm,1.0s,mb5.0						
ESAC	San Caprasio	71.02	308	P	P	10 16 52.1	-0.5
	comp=Z,122nm,1.5s,mb5.6						
EALK	Alkurruntz	71.03	310	P	P	10 16 52.2	-0.4
	comp=Z,97nm,1.5s,mb5.5						
FORT	Forrest	71.53	148	⇓iP	P	10 16 56.1	+0.2
	comp=Z,403nm,0.9s,mb6.3						
EMOS	Mosqueruela	71.64	306	P	P	10 16 55.7	-0.6
	comp=Z,117nm,1.4s,mb5.6						
SVW	Sparrevohn	71.76	28	eP	P	10 16 58.7	+2.0
	comp=Z,61nm,1.1s,mb5.4						
ELAN	Lanestosa	72.27	310	P	P	10 16 58.8	-1.2
	comp=Z,113nm,1.3s,mb5.6						
COLA	College	72.31	23	eP	P	10 17 00.8	+0.9
COLA				pmax	pmax		
	comp=Z,151nm,1.2s,mb5.8						
COLA	College	72.31	23	eP	P	10 17 00.8	+0.9
	comp=Z,151nm,1.2s,mb5.8						
MCK	McKinley	72.67	24	eP	P	10 17 01.4	-0.6
	comp=Z,19nm,1.3s,mb4.9						
MCK				LR	LR		
	comp=Z,642nm,19.0s,MS4.9						
ILAR	Eielson Array	72.69	23	P	P	10 17 01.6	-0.4
	comp=Z,26nm,1.0s,mb5.1,baz=297,slow=4.4,SNR=181						
ILAR				PP	PP	10 19 43.8	-1.9
	comp=Z,3.5nm,0.8s,baz=307,slow=4.9,SNR=7.8						
ILAR				LR	LR	10 54 50.5	
	comp=Z,438nm,19.9s,MS4.7,baz=111,slow=41						
ILAR	Eielson Array	72.69	23	P	P	10 17 01.6	-0.4
ILAR						10 19 43.8	
ILAR				pmax	pmax		
	comp=Z,26nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SPU	Mount Spurr	73.12	27	eP	P	10 17 04.8	+0.2
ETOB	Tobarra	73.17	305	P	P	10 17 04.8	-0.6
	comp=Z,67nm,2.0s,mb5.2						
RSO	Redoubt South	73.28	28	eP	P	10 17 06.5	+0.9
CTA	Charters Tower	73.53	127	⇓iP	P	10 17 08.4	+0.5
	comp=Z,37nm,0.9s,mb5.3						
CTAO	Charters Tower	73.53	127	⇓iP	P	10 17 08.4	+0.6
	comp=Z,45nm,0.9s,mb5.4						
CTAO				LR	LR		
	comp=Z,696nm,22.0s,MS4.9						
EVIA	Vianos	73.83	306	P	P	10 17 07.9	-1.3
	comp=Z,107nm,1.8s,mb5.5						
FIB	Fire Island	73.84	27	PFAKE		10 17 20.0	+11
FIB				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
INK	Inuvik	73.88	16	LR	LR	10 53 35.3	
	comp=Z,590nm,18.6s,MS4.9,baz=86,slow=39						
INK	Inuvik	73.88	16	P	P	10 17 09.6	+0.7
INK				pmax	pmax		
	comp=Z,110nm,1.3s						
INK	Inuvik	73.88	16	⇓eP	P	10 17 09.1	+0.1
	comp=Z,130nm,1.2s,mb5.7						
THY	Trims Highway	73.96	23	eP	P	10 17 10.4	+1.0
PMR	Palmer	73.96	26	P	P	10 17 09.7	+0.2
PMR				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.7						
PMR	Palmer	73.96	26	eP	P	10 17 09.8	+0.3
	comp=Z,120nm,1.1s,mb5.7						
SML	Sawmill	74.12	25	P	P	10 17 11.4	+1.0
SML	Sawmill	74.12	25	⇓iP	P	10 17 10.6	+0.2
ESDC	Sonseca Array	74.32	307	P	P	10 17 11.4	-0.7
	comp=Z,14nm,1.1s,mb4.8,baz=51,slow=6.3,SNR=17						
ESDC				LR	LR	10 53 51.9	
	comp=Z,682nm,18.5s,MS5.0,baz=350,slow=39						
ESDC	Sonseca Array	74.32	307	P	P	10 17 10.8	-1.2
	comp=Z,21nm,1.4s,mb4.9						
EPON	Pontenova	74.59	312	P	P	10 17 13.2	-0.4
	comp=Z,125nm,1.5s,mb5.6						
EQES	Quesada	74.63	305	P	P	10 17 12.8	-1.1
	comp=Z,59nm,1.5s,mb5.3						
KDAK	Kodiak Island	74.98	30	eP	P	10 17 15.4	-0.1
	comp=Z,122nm,1.2s,mb5.7						
KDAK				LR	LR		
	comp=Z,492nm,20.0s,MS4.8						
ECAL	Calabor	75.03	310	P	P	10 17 16.0	-0.1
	comp=Z,83nm,1.6s,mb5.4						
ERUA	La Rua	75.06	311	P	P	10 17 16.3	+0.1
	comp=Z,38nm,1.3s,mb5.2						
EADA	Adamuz	75.48	306	P	P	10 17 18.3	-0.5
	comp=Z,36nm,1.8s,mb5.0						
DIV	Divide	75.49	25	⇓iP	P	10 17 19.1	+0.8
	comp=Z,180nm,0.9s,mb6.0						
DIV				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
ERON	Agron	75.52	305	P	P	10 17 18.0	-1.0
	comp=Z,24nm,1.5s,mb4.9						
DAWY	Dawson	75.53	21	eP	P	10 17 18.4	-0.1
ELUQ	Luque	75.57	305	P	P	10 17 18.6	-0.7
	comp=Z,76nm,1.5s,mb5.4						
STS	Santiago	75.70	312	P	P	10 17 16.8	-3.1
	comp=Z,56nm,1.5s,mb5.3						
EYAK	Cordova Ski Ar	75.89	26	eP	P	10 17 21.4	+0.8
ELOB	Lobios	75.92	311	P	P	10 17 21.1	-0.1
	comp=Z,82nm,1.3s,mb5.5						
EZAM	Zamans	76.17	311	P	P	10 17 20.4	-2.2
	comp=Z,60nm,1.4s,mb5.3						
MTE	Manteigas	76.34	309	eP	P	10 17 24.2	+0.6
MTE				eS	S	10 27 10.5	+3.3
PVIS	Viseu	76.40	310	eP	P	10 17 25.0	+1.1
	comp=Z,9.4nm,0.9s,mb4.7						
PCBR	Castelo Branco	76.58	309	eP	P	10 17 26.5	+1.5
	comp=Z,5.6nm,1.1s,mb4.4						
EBAD	Badajoz	76.83	308	P	P	10 17 25.1	-1.2
	comp=Z,54nm,3.0s						
EMIN	Mina Concepcio	77.11	307	P	P	10 17 27.2	-0.7
	comp=Z,45nm,1.8s,mb5.1						
PTOM	Tomar	77.31	309	eP	P	10 17 30.8	+1.8
	comp=Z,18nm,1.1s,mb4.9						
LSZ	Lusaka	77.47	243	P	P	10 17 30.4	+0.1
LSZ				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
LSZ	Lusaka	77.47	243	⇓eP	P	10 17 29.7	-0.6
	comp=Z,73nm,1.1s,mb5.5						
LSZ				LR	LR		
	comp=Z,577nm,20.0s,MS4.9						
EGRO	El Granado	77.78	307	P	P	10 17 29.5	-2.1
	comp=Z,75nm,1.9s,mb5.3						
PBEJ	Beja	77.78	307	eP	P	10 17 32.3	+0.7
	comp=Z,5.5nm,1.1s,mb4.4						
PALC	Alcoutim	77.81	307	eP	P	10 17 32.6	+0.8
	comp=Z,8.2nm,0.9s,mb4.7						
STKA	Stephens Creek	79.25	139	⇓iP	P	10 17 40.3	+0.5
	comp=Z,30nm,0.8s,mb5.3						
STKA				ePCP	PcP	10 18 02.6	+14
STKA	Stephens Creek	79.25	139	P	P	10 17 39.0	-0.7
	comp=Z,36nm,0.8s,mb5.4,baz=321,slow=6.9,SNR=45						
STKA				LR	LR	10 58 18.8	
	comp=Z,525nm,18.7s,MS4.9,baz=307,slow=40						
ADE	Adelaide	80.08	143	⇓iP	P	10 17 45.6	+1.4
SIT	Sitka	82.15	24	eP	P	10 17 53.8	-0.8
DLBC	Dease Lake	82.75	21	eP	P	10 17 59.5	+1.8
YKW3	Yellowknife Ar	82.82	12	⇑eP	P	10 17 57.6	-0.4
YKA	Yellowknife Ar	82.88	12	P	P	10 17 58.7	+0.4
	comp=Z,27nm,1.0s,mb5.2,baz=337,slow=4.9,SNR=50						
YKA				LR	LR	10 56 51.8	
	comp=Z,784nm,20.6s,MS5.1,baz=320,slow=37						
YKA	Yellowknife Ar	82.88	12	P	P	10 17 58.7	+0.4
YKA				pmax	pmax		
	comp=Z,27nm,1.0s						
YKA				MLR	MLR		
	comp=Z,784nm,20.6s						
YKA	Yellowknife Ar	82.88	12	P	P	10 17 58.7	+0.4
YKA				LR	LR	10 56 51.8	
LBTB	Lobatse	85.46	237	P	P	10 18 12.6	+0.5
LBTB	Lobatse	85.46	237	P	P	10 18 17.9	+5.8
LBTB				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.9						
TOO	Toolangi	85.62	140	⇓iP	P	10 18 14.1	+1.5
	comp=Z,23nm,1.0s,mb5.4						
CNB	Canberra Magne	86.17	136	⇓iP	P	10 18 16.4	+1.0
	comp=Z,40nm,0.8s,mb5.7						
RIV	Riverview	86.21	134	eP	P	10 18 15.3	-0.3
TSUM	Tsumeb	87.90	246	eP	P	10 18 24.9	+0.8
	comp=Z,64nm,1.4s,mb5.7						
TSUM				LR	LR		
	comp=Z,632nm,19.0s,MS5.0						
FCC	Fort Churchill	88.90	3	P	P	10 18 29.0	+1.0
FCC				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.9						
FCC	Fort Churchill	88.90	3	eP	P	10 18 28.0	0.0
	comp=Z,82nm,1.1s,mb6.0						
NOUC	Port Laguerre	89.17	117	eP	P	10 18 31.7	+1.6
NOUC	Port Laguerre	89.17	117	eP	P	10 18 31.7	+1.6
DZM	Mont Dzumac	89.26	117	eP	P	10 18 30.0	-0.6
TAU	Tasmania Unive	90.46	143	eP	P	10 18 36.5	+0.8
	comp=Z,183nm,1.5s,mb6.2						
SCHQ	Schefferville	91.14	348	P	P	10 18 39.1	+0.6
	comp=Z,11nm,1.0s,mb5.2,baz=33,slow=10,SNR=6.3						
SCHQ				LR	LR	11 02 56.1	
	comp=Z,880nm,20.1s,MS5.2,baz=282,slow=38						
SCHQ	Schefferville	91.14	348	eP	P	10 18 39.8	+1.3
	comp=Z,40nm,1.2s,mb5.6						
SCHQ				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
FFC	Flin Flon	92.24	8	P	P	10 18 44.2	+0.6
FFC				pmax	pmax		
	comp=Z,220nm,1.5s,mb6.3						
FFC	Flin Flon	92.24	8	⇓eP	P	10 18 44.1	+0.5
	comp=Z,99nm,1.0s,mb6.1						
FFC				LR	LR		
	comp=Z,247nm,19.0s,MS4.7						
DBIC	Dimbokro	92.38	279	P	P	10 18 46.1	+0.9
	comp=Z,31nm,0.9s,mb5.7,baz=44,slow=5.3,SNR=24						
DBIC				LR	LR	11 04 29.9	
	comp=Z,899nm,20.1s,MS5.2,baz=38,slow=38						
DBIC	Dimbokro	92.38	279	⇑iP	P	10 18 46.4	+1.2
	comp=Z,54nm,1.0s,mb5.8						
DBIC				LR	LR		
	comp=Z,979nm,20.0s,MS5.2						
KIC	Kosan Boka	92.45	279	ePKP2	P	10 18 46.6	+1.1
	comp=Z,215nm,1.1s,mb6.4						
TIC	Toumodi	92.53	279	ePKP2	P	10 18 47.0	+1.1
	comp=Z,172nm,1.1s,mb6.4						
LIC	Lamto	92.76	279	eP	P	10 18 48.0	+1.1
	comp=Z,107nm,1.1s,mb5.9						
LIC	Lamto	92.76	279	ePKP2	P	10 18 47.9	+1.0
	comp=Z,126nm,1.1s,mb6.2						
SUR	Sutherland	93.28	233	PFAKE		10 19 00.0	+11
SUR				LR	LR		
	comp=Z,234nm,22.0s,MS4.6						
OCWA	Octopus Mounta	93.67	24	PFAKE		10 19 00.0	+10
OCWA				LR	LR		
	comp=Z,855nm,19.0s,MS5.2						
RPW	Rockport	93.93	22	eP	P	10 18 52.5	+1.0
NLW	Nelson Butte	94.62	21	eP	P	10 18 55.8	+1.1
NEW	Newport	95.39	19	P	P	10 19 00.2	+2.0
NEW				pmax	pmax		
	comp=Z,23nm,1.5s						
NEW	Newport	95.39	19	eP	P	10 18 59.6	+1.4
	comp=Z,17nm,1.1s,mb5.4						
NEW				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
DPW	Davenport	95.44	20	P	P	10 18 55.8	-2.7
DPW	Davenport	95.44	20	P	P	10 19 00.5	+2.0
HAWA	Hanford	96.37	21	PFAKE		10 19 10.0	+7.2
HAWA				LR	LR		
	comp=Z,655nm,21.0s,MS5.1						
COR	Corvallis	96.72	25	PFAKE		10 19 20.0	+16
COR				LR	LR		
	comp=Z,183nm,19.0s,MS4.6						
MSO	Missoula	97.56	18	eP	P	10 19 09.0	+0.9
	comp=Z,18nm,1.6s,mb5.3						
MSO				LR	LR		
	comp=Z,635nm,20.0s,MS5.1						
DGMT	Dagmar	98.04	11	PFAKE		10 19 20.0	+10
DGMT				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
BOZ	Bozeman (W)	99.24	17	eP	P	10 19 17.0	+1.3
	comp=Z,22nm,1.6s,mb5.4						
BOZ				LR	LR		
	comp=Z,745nm,20.0s,MS5.2						
LAO	LASA Array	99.41	13	PFAKE		10 19 30.0	+14
LAO				LR	LR		
	comp=Z,614nm,22.0s,MS5.1						
CASY	Casey	99.50	173	P	P	10 19 16.9	+0.5
	comp=Z,6.2nm,0.9s,mb5.1						
MCMT	McKenzie Canyo	99.70	18	ePdif	P	10 19 19.8	+1.9
MOD	Modoc	100.12	24	ePdif	P	10 19 21.1	+1.2
	comp=Z,20nm,1.8s						
WVOR	Wild Horse Val	100.20	23	ePdif	P	10 19 21.9	+1.7
	comp=Z,25nm,1.9s						
WVOR				LR	LR		
	comp=Z,664nm,21.0s,MS5.1						
HLID	Hailey	100.45	19	ePdif	P	10 19 21.2	-0.1
	comp=Z,20nm,2.2s						
HLID				LR	LR		
	comp=Z,766nm,19.0s,MS5.2						
EMMW	East Machias	100.93	345	PFAKE		10 19 40.0	+17
EMMW				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
MOOW	Moose Ponds	101.24	17	Pdif	P	10 19 26.0	+1.2
WVL	Waterville	101.51	347	PFAKE		10 19 40.0	+14
WVL				LR	LR		
	comp=Z,4μm,22.0s,MS5.8						
AHID	Auburn Hatcher	102.08	17	PFAKE		10 19 40.0	+11
AHID				LR	LR		
	comp=Z,550nm,19.0s,MS5.1						
MAW	Mawson	102.25	191	eP	Pdif	10 19 29.8	+1.0
	comp=Z,3.1nm,1.2s						
MAW	Mawson	102.25	191	P	Pdif	10 19 29.1	+0.3
	comp=Z,2.6nm,1.0s,baz=13,slow=5.7,SNR=6.2						
MAW				PKKPbc		10 35 31.8	
	comp=Z,1.5nm,0.8s,baz=225,slow=7.4,SNR=4.6						
RSSD	Black Hills	102.29	12	P	Pdif	10 19 31.0	+1.4
RSSD				pmax	pmax		
	comp=Z,21nm,1.5s						
RSSD	Black Hills	102.29	12	ePdif	Pdif	10 19 30.5	+0.9
	comp=Z,21nm,1.5s						
RSSD				LR	LR		
	comp=Z,233nm,19.0s,MS4.7						
BW06	Boulder Array	102.45	16	PFAKE		10 19 40.0	+10
BW06				LR	LR		
	comp=Z,631nm,19.0s,MS5.2						
PDAR	Pinedale Array	102.45	16	P	Pdif	10 19 30.7	+0.4
	comp=Z,0.7nm,1.0s,slow=4.4,SNR=4.5						
PDAR				PKiKP		10 23 52.4	
	comp=Z,0.8nm,0.7s,baz=90,slow=3.0,SNR=4.8						
PDAR				PKKPbc		10 35 29.4	
	comp=Z,1.1nm,1.0s,baz=135,slow=4.2,SNR=7.0						
BMN	Battle Mountai	102.47	23	PFAKE		10 19 40.0	+10
BMN				LR	LR		
	comp=Z,481nm,20.0s,MS5.0						
HWUT	Hardware Ranch	103.05	18	PFAKE		10 19 40.0	+7.0
HWUT				LR	LR		
	comp=Z,689nm,19.0s,MS5.2						
NVAR	Mina Array Bea	103.91	24	Pdiff	Pdif	10 19 36.9	+0.1
	comp=Z,0.8nm,0.9s,baz=340,slow=2.7,SNR=5.8						
NVAR				PP	PP	10 23 51.6	-4.9
	comp=Z,1.1nm,0.9s,baz=323,slow=4.5,SNR=6.6						
NVAR				PKKPbc		10 35 25.7	
	comp=Z,0.9nm,0.9s,baz=133,slow=2.1,SNR=6.5						
NVAR	Mina Array Bea	103.91	24	Pdif	Pdif	10 19 36.9	+0.1
NVAR				PP	PP	10 23 51.6	-4.9
NVAR				PKKPbc		10 35 25.7	
WES	Weston	103.93	348	PFAKE		10 19 50.0	+13
WES				LR	LR		
	comp=Z,830nm,21.0s,MS5.2						
DUG	Dugway	104.02	20	PFAKE		10 19 50.0	+13
DUG				LR	LR		
	comp=Z,558nm,19.0s,MS5.1						
TPH	Tonopah	104.59	24	PFAKE		10 19 50.0	+10
TPH				LR	LR		
	comp=Z,447nm,21.0s,MS5.0						
JFWS	Jewell Farm	104.89	2	PFAKE		10 19 50.0	+9.0
JFWS				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
ERPA	Erie	105.37	354	PFAKE		10 24 10.0	
ERPA				LR	LR		
	comp=Z,604nm,19.0s,MS5.2						
DAC	Darwin (Calif)	106.08	25	PFAKE		10 24 10.0	
DAC				LR	LR		
	comp=Z,449nm,20.0s,MS5.0						
ACSO	Alum Creek Sta	107.47	356	PFAKE		10 24 10.0	
ACSO				LR	LR		
	comp=Z,824nm,20.0s,MS5.3						
MCWV	Mont Chateau	107.80	354	PFAKE		10 24 10.0	
MCWV				LR	LR		
	comp=Z,683nm,20.0s,MS5.2						
CBKS	Cedar Bluff	108.16	10	PFAKE		10 24 10.0	
CBKS				LR	LR		
	comp=Z,630nm,19.0s,MS5.2						
SDCO	Great Sand Dun	108.16	15	ePP	PP	10 24 28.1	-0.3
SDCO				LR	LR		
	comp=Z,805nm,19.0s,MS5.3						
SYO	Syowa Base	108.33	198	⇑P	PP	10 24 24.5	-4.5
CBN	Corbin	108.96	351	PFAKE		10 24 20.0	
CBN				LR	LR		
	comp=Z,932nm,20.0s,MS5.3						
BLA	Blacksburg	110.28	354	PFAKE		10 24 20.0	+12
BLA				LR	LR		
	comp=Z,835nm,19.0s,MS5.3						
ANMO	Albuquerque	110.62	16	ePKIKP	PKPdf	10 24 07.9	-0.5
LAZ	Ladron	110.98	17	ePKP	PKPdf	10 24 08.7	-0.4
BNM	Barren Site	111.35	17	ePKPdf	PKPdf	10 24 09.6	-0.1
WVT	Waverly	111.70	0	ePKIKP	PKPdf	10 24 08.3	-2.0
TUC	Tucson	111.95	21	ePKPdf	PKPdf	10 24 09.9	-0.9
WMOK	Wichita Mounta	112.30	10	ePKPdf	PKPdf	10 24 08.8	-2.8
WMOK				LR	LR		
	comp=Z,813nm,19.0s,MS5.3						
MIAR	Mount Ida	113.06	5	PFAKE		10 24 20.0	+6.9
MIAR				LR	LR		
	comp=Z,904nm,21.0s,MS5.3						
OXF	Oxford	113.30	1	PFAKE		10 24 20.0	+6.4
OXF				LR	LR		
	comp=Z,148nm,21.0s,MS4.6						
GDL2	Guadalupe Moun	113.74	15	ePKPdf	PKPdf	10 24 13.4	-1.2
NHSC	New Hope	114.32	353	PFAKE		10 24 30.0	+14
NHSC				LR	LR		
	comp=Z,694nm,19.0s,MS5.3						
LRAL	Lakeview Retre	114.78	359	PFAKE		10 24 30.0	+14
LRAL				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
NATX	Nacogdoches	115.73	6	PFAKE		10 24 30.0	+12
NATX				LR	LR		
	comp=Z,527nm,21.0s,MS5.1						
JCT	Junction City	116.31	12	PKIKP	PKPdf	10 24 18.5	-1.1
JCT	Junction City	116.31	12	ePKPdf	PKPdf	10 24 17.9	-1.8
JCT				LR	LR		
	comp=Z,770nm,19.0s,MS5.3						
LTX	Lajitas	116.66	16	PFAKE		10 24 30.0	+10
LTX				LR	LR		
	comp=Z,635nm,19.0s,MS5.3						
TXAR	Lajitas Array	116.66	16	PKP	PKPdf	10 24 18.9	-1.3
	comp=Z,3.3nm,0.9s,baz=270,slow=1.3,SNR=34						
TXAR				PP	PP	10 25 26.2	-3.8
	comp=Z,1.9nm,0.9s,baz=342,slow=4.0,SNR=4.4						
TXAR				PKKPbc		10 34 45.9	
	comp=Z,1.5nm,0.9s,baz=180,slow=5.0,SNR=12						
TXAR				SKKPbc		10 38 28.5	
	comp=Z,2.1nm,1.4s,baz=180,slow=6.3,SNR=3.3						
TXAR	Lajitas Array	116.66	16	PKP	PKPdf	10 24 18.9	-1.3
TXAR				PP	PP	10 25 26.2	-3.8
TXAR				PKKPbc		10 34 45.9	
TXAR				SKKPbc		10 38 28.5	
VNDA	Vanda	117.29	167	PFAKE		10 24 30.0	+10
VNDA				LR	LR		
	comp=Z,408nm,19.0s,MS5.1						
SBA	Scott Base	118.38	167	ePKPdf	PKPdf	10 24 20.2	-2.4
SNAA	Sanae	122.09	202	ePKIKP	PKPdf	10 24 27.0	-2.8
QSPA	South Pole Qui	122.31	180	ePKP	PKPdf	10 24 28.7	-1.3
QSPA				e		10 26 09.0	
QSPA				e		10 34 25.4	
QSPA				LR	LR		
	comp=Z,380nm,19.3s,MS5.1						
PPT	Papeete	122.79	91	ePP	PP	10 26 11.2	-0.9
PPT				eSS	SS	10 42 45.2	-6.8
PPT				eR		11 03 09.1	
	comp=Z,2μm,34.5s						
RCBR	Riachuelo	124.94	287	PFAKE		10 24 50.0	+13
RCBR				LR	LR		
	comp=Z,871nm,21.0s,MS5.4						
TBI	Tubuai	125.40	97	ePP	PP	10 26 21.7	-7.6
TBI				eSS	SS	10 43 32.8	+8.2
TBI				eR		11 03 50.8	
	comp=Z,485nm,29.2s						
SDV	Santo Domingo	135.68	335	PKPdf	PKPdf	10 24 55.7	-1.3
SDV	Santo Domingo	135.68	335	ePKPdf	PKPdf	10 24 55.8	-1.3
BDFB	Brasilia	140.25	285	PKP	PKPdf	10 25 03.8	-1.6
	comp=Z,29nm,1.3s,baz=11,slow=2.0,SNR=6.8						
BDFB	Brasilia	140.25	285	PKIKP	PKPdf	10 25 03.8	-1.5
BDFB				pmax	pmax		
	comp=Z,29nm,1.3s						
ROSC	El Rosal	140.68	339	PKP	PKPdf	10 25 05.5	-0.8
	comp=Z,55nm,0.9s,baz=280,slow=24,SNR=20						
PMSA	Palmer Station	144.58	197	ePKPdf	PKPdf	10 25 08.8	-2.6
OTAV	Otavalo	146.24	343	ePKPdf	PKPdf	10 25 16.3	+0.4
OTAV				e		10 25 22.5	
SAML	Samuel	147.30	310	PKPdf	PKPdf	10 25 16.8	-0.8
SAML	Samuel	147.30	310	ePKPbc	PKPdf	10 25 16.8	-0.8
SAML				LR	LR		
	comp=Z,919nm,19.0s,MS5.6						
EFI	East Falkland	151.11	220	ePKPbc	PKPdf	10 25 27.3	+4.9
CPUP	Villa Florida	152.82	275	PKP	PKPdf	10 25 24.5	-1.2
	comp=Z,18nm,0.9s,baz=91,slow=2.0,SNR=27						
CPUP				PKPbc	PKPdf	10 25 31.6	+5.8
	comp=Z,42nm,0.9s,baz=88,slow=1.7,SNR=35						
CPUP	Villa Florida	152.82	275	PKPdf	PKPdf	10 25 24.7	-1.1
CPUP				PKPdf	PKPdf	10 25 31.4	+5.7
CPUP	Villa Florida	152.82	275	PKIKP	PKPdf	10 25 24.5	-1.2
CPUP						10 25 31.6	
CPUP				pmax	pmax		
	comp=Z,19nm,0.9s						
CPUP	Villa Florida	152.82	275	ePKPdf	PKPdf	10 25 24.4	-1.3
CPUP				ePKPbc	PKPdf	10 25 31.3	+5.6
CPUP				LR	LR		
	comp=Z,827nm,20.0s,MS5.5						
LPAZ	La Paz	155.94	308	PKP	PKPdf	10 25 30.1	-0.1
	comp=Z,7.7nm,0.9s,baz=42,slow=2.0,SNR=14						
LPAZ	La Paz	155.94	308	PKIKP	PKPdf	10 25 30.1	0.0
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NNA	Nana	157.21	331	ePKP	PKPdf	10 25 31.6	-0.3
TRQA	Tornquist	158.25	248	ePKPdf	PKPdf	10 25 31.8	-0.8
LVC	Limon Verde	160.59	296	ePKPdf	PKPdf	10 25 36.0	+0.4
LVC				ePKPab	PKPab	10 26 15.6	-1.1
PLCA	Paso Flores	163.94	234	PKP	PKPdf	10 25 38.6	+0.1
	comp=Z,18nm,1.3s,baz=287,slow=1.1,SNR=8.4						
PLCA				PKPab	PKPab	10 26 29.1	-1.7
	comp=Z,10nm,1.2s,baz=78,slow=3.7,SNR=6.5						
PLCA	Paso Flores	163.94	234	PKPdf	PKPdf	10 25 39.0	+0.6
PLCA	Paso Flores	163.94	234	PKIKP	PKPdf	10 25 38.6	+0.1
PLCA						10 26 29.1	
PLCA				pmax	pmax		
	comp=Z,18nm,1.3s						
PLCA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PLCA	Paso Flores	163.94	234	ePKPdf	PKPdf	10 25 38.6	+0.2
PLCA				ePKPab	PKPab	10 26 28.6	-2.2

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*IDC **24** 10:29:28.4±2.0, 26.88S×107.41W, mb3.9/7, mb1 4.3/7, mb1mx4.1/17, Error ellipse: s-maj=73.9km s-min=25.2km az=47.0*

*NEIC **24** 10:29:30.0±0.8, 26.78S×107.21W, h10km, mb4.5/3, Error ellipse: s-maj=29.7km s-min=17.7km az=67.0*

ISC 24 10:29:28.3±0.8**, 26.8S**±0.1×**107.2W**±0.2**, h10km, n12, σ1.s12**/11**, mb4.1**/10**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	33.25	124	P	P	10 36 08.3	+0.5
	1.8nm,0.6s,mb4.2,baz=300,slow=8.7,SNR=6.8						
PLCA	Paso Flores	33.25	124	P	P	10 36 08.3	+0.5
LVC	Limon Verde	34.96	92	P	P	10 36 24.1	+1.3
	2.8nm,0.7s,mb4.3,baz=279,slow=4.3,SNR=3.6						
SDV	Santo Domingo	50.17	50	P	P	10 38 23.9	-2.6
	4.4nm,0.8s,mb4.5						
TXAR	Lajitas Array	55.91	4	P	P	10 39 09.4	+0.5
	0.2nm,0.6s,mb3.4,baz=175,slow=10.0,SNR=2.9						
QSPA	South Pole Qui	63.39	180	eP	P	10 40 00.3	+0.6
	12nm,1.4s,mb4.8						
NVAR	Mina Array Bea	65.70	350	P	P	10 40 16.0	+0.6
	1.2nm,0.8s,mb4.0,baz=168,slow=9.0,SNR=8.1						
SNAA	Sanae	69.20	161	eP	P	10 40 35.0	-1.8
	1.8nm,0.8s,mb4.0						
PDAR	Pinedale Array	69.24	358	P	P	10 40 36.5	-1.0
	0.4nm,0.6s,mb3.5,baz=180,slow=5.9,SNR=4.3						
DLBC	Dease Lake	87.01	348	P	P	10 42 15.8	+1.0
	2.1nm,1.0s,mb4.3,baz=169,slow=12,SNR=4.2						
YKA	Yellowknife Ar	89.17	357	P	P	10 42 24.8	-0.2
	1.1nm,0.8s,mb4.2,baz=170,slow=4.3,SNR=4.5						
SONM	Songino Array	146.39	318	PKPbc	PKPbc	10 49 10.4	+1.2
	1.5nm,1.0s,baz=90,slow=4.9,SNR=4.1						

ISC 24 10:46:33.9±1.2**, 39.61N**±0.08×**29.29E**±0.10**, h10km, n9, σ0.s86**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.54	325	ePG	Pg	10 46 46.5	+1.8
ULDT	Uludag	0.55	347	i P	Pg	10 46 45.0	0.0
ULDT				i S	Sg	10 46 52.2	-0.1
ALT	Altintas	0.84	131	PG	Pg	10 46 50.7	0.0
YLV	Yalova	0.96	4	PG	Pg	10 46 53.0	-0.1
KCT	Karacabey	0.98	313	PG	Pg	10 46 53.3	-0.1
ESKT	Eskisehir	1.21	94	PN	Pn	10 46 55.6	-1.2
ESKT	Eskisehir	1.21	94	i P	Pb	10 46 56.4	0.0
ESKT				i S	Sb	10 47 13.4	+1.6
BADT	Buyukada	1.25	354	PN	Pn	10 46 56.8	-0.6
MDU	Mudurnu	1.71	59	PN	Pn	10 47 02.9	-1.0

IDC ***24*** *10:55:26.3±5.7, 17.41S×178.83W, h492^{km}±68^{km}, mb3.1/10, mb1 3.4/10, mb1mx3.3/16, Error ellipse: s-maj=31.4km s-min=21.4km az=168.0*

NEIC ***24*** *10:55:27.6±4.3, 17.37S×178.85W, h508^{km}±50^{km}, mb3.9/5, Error ellipse: s-maj=21.6km s-min=18.3km az=172.0*

ISC 24 10:55:26.2±0.6**, 17.4S**±0.1×**178.9W**±0.1**, h500**^{km}**, n21, σ0^{s}88**/18**, mb3.6**/15**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	21.12	189	P	P	10 59 34.3	-1.6
	3.1nm,0.3s,mb4.3,baz=20,slow=6.1,SNR=7.3						
CNB	Canberra Magne	33.40	231	eP	P	11 01 25.2	+1.4
	5.7nm,0.6s,mb4.2						
TOO	Toolangi	37.16	230	eP	P	11 01 56.3	+1.3
	2.9nm,0.9s,mb3.7						
STKA	Stephens Creek	38.49	240	P	P	11 02 06.3	+0.4
	2.3nm,0.6s,mb3.8,baz=92,slow=10,SNR=7.0						
STKA	Stephens Creek	38.49	240	P	P	11 02 06.3	+0.4
WB2	Warramunga Arr	44.26	259	eP	P	11 02 51.5	-0.8
WRA	Warramunga Arr	44.27	259	P	P	11 02 51.7	-0.6
	1.0nm,0.8s,mb3.3,baz=95,slow=7.1,SNR=16						
ASAR	Alice Springs	44.49	254	P	P	11 02 54.0	0.0
	5.8nm,0.5s,mb4.3,baz=86,slow=8.3,SNR=65						
KAKA	Kakadu	47.16	269	eP	P	11 03 14.5	-0.2
	5.5nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	52.66	260	eP	P	11 03 55.3	-0.1
	2.4nm,1.2s,mb3.4						
QSPA	South Pole Qui	72.70	180	eP	P	11 06 03.4	-0.2
	1.1nm,0.5s,mb3.6						
YBH	Yreka Blue Hor	78.39	39	P	P	11 06 35.8	+0.1
	0.7nm,0.5s,mb3.3,baz=194,slow=8.3,SNR=3.5						
NVAR	Mina Array Bea	79.35	44	P	P	11 06 41.7	+0.9
	0.5nm,0.8s,mb3.1,baz=219,slow=6.5,SNR=6.3						
NVAR	Mina Array Bea	79.35	44	P	P	11 06 41.7	+0.9
MAW	Mawson	84.22	200	P	P	11 07 04.9	+0.1
	0.7nm,0.6s,mb3.4,baz=118,slow=6.6,SNR=4.9						
ILAR	Eielson Array	85.46	13	P	P	11 07 09.9	-1.0
	0.3nm,0.5s,mb3.2,baz=219,slow=5.5,SNR=6.6						
TXAR	Lajitas Array	86.10	58	P	P	11 07 16.2	+1.4
	0.3nm,0.7s,mb3.0,baz=248,slow=6.7,SNR=5.0						
PDAR	Pinedale Array	87.28	44	P	P	11 07 18.9	-1.1
	0.3nm,0.5s,mb3.3,baz=236,slow=5.3,SNR=4.1						
CLL	Collm	144.82	347	i PKIKP	PKPdf	11 14 04.3	-0.9
GERES	GERESS Array B	146.96	345	PKPbc	PKPbc	11 14 12.8	+1.7
	0.9nm,0.6s,slow=2.7,SNR=3.7						
DAVOX	Davos	149.77	348	PKPbc	PKPdf	11 14 20.1	+6.6
	2.7nm,0.4s,baz=189,slow=13,SNR=4.6						

NIED ***24*** *11:52:00, 35.30N×141.20E, h14^{km}, Mw3.8 Best double couple: M$_0$5.11×10^{14} NP1:ϕ_s60°, δ85°, λ94°. NP2:ϕ_s196°, δ6°, λ47°.*

JMA ***24*** *11:52:02.8±0.1, 35.29N×141.22E, h34^{km}±2^{km}, M3.5*

IDC ***24*** *11:52:10.6±1.9, 34.01N×138.26E, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, Error ellipse: s-maj=57.9km s-min=25.3km az=43.0*

ISC 24 11:52:02.6±1.1**, 35.27N**±0.05×**141.2E**±0.1**, h35**^{km}±11^{km}**, n14, σ0^{s}85**/19**, mb3.8**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.53	324	P	P	11 52 13.2	-0.4
CHOJ				S	S	11 52 20.7	-0.9
BSO1	Boso 1	0.65	200	P	P	11 52 15.4	+0.1
BSO3	Boso 3	0.76	232	P	P	11 52 16.9	0.0
BSO3				S	S	11 52 28.3	+1.0
KTR	Katsuura	0.77	261	P	P	11 52 17.4	+0.4
KTR				S	S	11 52 26.5	-1.0
BSO4	Boso 4	0.79	250	P	P	11 52 17.7	+0.4
JCN	Nagara	0.86	280	P	P	11 52 19.0	+0.7
JYT	Yasato	1.28	319	P	P	11 52 24.5	+0.2
JHO	Hitachi	1.45	338	P	P	11 52 26.7	0.0
JHJ	Hachijo jima 2	2.46	210	Pn	P	11 52 39.8	-1.4
	27nm,0.3s,baz=270,slow=20,SNR=7.2						
JHJ				Sn	S	11 53 06.5	-3.9
	40nm,0.3s,baz=91,slow=23,SNR=6.3						
MAT	Matsushiro	2.77	298	P	P	11 52 47.9	+2.2
MAT				eS	S	11 53 17.6	-0.7
MKAR	Makanchi Array	44.96	304	P	P	12 00 16.5	+0.6
	0.3nm,0.4s,mb3.5,baz=85,slow=9.7,SNR=6.4						
WB2	Warramunga Arr	55.30	188	eP	P	12 01 34.4	-0.7
WRA	Warramunga Arr	55.30	188	P	P	12 01 34.5	-0.6
	2.0nm,0.5s,mb4.4,baz=3.0,slow=7.7,SNR=40						
ASAR	Alice Springs	59.02	188	P	P	12 02 02.1	+0.6
	0.4nm,0.7s,mb3.6,baz=11,slow=7.2,SNR=3.9						

IDC ***24*** *12:03:58.1±128.0, 16.72S×166.80E, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, Error ellipse: s-maj=2147.0km s-min=124.6km az=67.0, Low Confidence Location*

NEIC ***24*** *12:03:58.8±2.4, 16.69S×167.27E, h35^{km}, mb4.1/1, Error ellipse: s-maj=43.1km s-min=15.5km az=57.0*

ISC 24 12:03:59.5±2.5**, 17.0S**±0.1×**167.2E**±0.2**, h48**^{km}±27^{km}**, n11, σ0^{s}86**/15**, mb3.9**/4**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.20	127	⇑iP	P	12 04 19.2	-0.9
BKM				S	x	12 05 25.7	
DZM	Mont Dzumac	5.15	188	⇑eP	P	12 05 17.1	+1.1
DZM				eS	S	12 06 14.0	-0.8
DZM	Mont Dzumac	5.15	188	⇑eP	P	12 05 17.1	+1.1
DZM				eS	S	12 06 14.0	-0.9
NOUC	Port Laguerre	5.20	190	eP	P	12 05 18.0	+1.3
NOUC				eS	S	12 06 15.8	-0.3
NOUC	Port Laguerre	5.20	190	eP	P	12 05 18.0	+1.3
NOUC				eS	S	12 06 15.8	-0.3
STKA	Stephens Creek	27.58	233	P	P	12 09 45.5	+1.1
	2.9nm,0.7s,mb4.0,baz=73,slow=5.1,SNR=4.5						
STKA	Stephens Creek	27.58	233	eP	P	12 09 44.0	-0.4
WRA	Warramunga Arr	31.32	259	P	P	12 10 17.0	-0.7
	0.3nm,0.7s,mb3.2,baz=90,slow=11,SNR=3.7						
ASAR	Alice Springs	31.91	252	P	P	12 10 22.8	-0.1
	3.3nm,0.7s,mb4.3,baz=81,slow=8.8,SNR=33						
ASPA	Alice Springs	31.91	252	eP	P	12 10 22.0	-0.9
QSPA	South Pole Qui	73.09	180	eP	P	12 15 26.9	+1.0
	1.3nm,0.5s,mb4.1						

NAO ***24*** *12:17:36.4±4.2, 60.75N×28.90E, ML2.6*

BER ***24*** *12:17:38.2±4.7, 60.86N×28.93E, ML2.6(NAO), Suspected explosion*

HEL ***24*** *12:17:39.0±0.3, 60.95N×29.02E, ML1.9, ML2.6(NAO), Explosion*

ISC 24 12:17:37.0±1.7**, 60.96N**±0.06×**29.1E**±0.2**, n10, σ0^{s}90**/14**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	0.85	241	eP	Pg	12 17 53.4	-0.6
VJF				eS	Sg	12 18 04.9	-0.3
FIA0	FINESS Array S	1.52	290	eP	Pn	12 18 05.2	-0.3
FIA0				eS	Sb	12 18 25.6	+0.1
FIA0	FINESS Array S	1.52	290	Pn	Pn	12 18 05.1	-0.5
	baz=115,slow=16						
FIA0				Lg		12 18 25.6	
	baz=108,slow=37						
FIA0				Rg		12 18 32.8	
	baz=126,slow=37						
PVF	Pernaja	1.62	257	eP	Pn	12 18 07.6	+0.6
PVF				eS	Sb	12 18 28.9	+0.4
KAF	Kangasniemi	1.75	313	eP	Pn	12 18 09.8	+0.9
KAF				eS	Sn	12 18 31.8	-0.4
KJN	Kajaani	3.20	349	eP	Pn	12 18 31.1	+1.6
KJN				eS	Sn	12 19 08.3	-0.7
KJN				eSB	Sb	12 19 14.7	+0.4
KJN				MSG		12 19 17.7	
	comp=Z,3.4nm,0.4s						
HFS	Hagfors	7.62	270	Lg		12 21 31.3	
	baz=50,slow=37						
HFS	Hagfors	7.62	270	Lg		12 21 31.3	
	baz=50,slow=37						
ARA0	ARCESS Array S	8.74	352	Pn	P	12 19 44.7	-2.9
	baz=164,slow=16						
ARA0	ARCESS Array S	8.74	352	eP	P	12 19 44.7	-2.9

IDC ***24*** *12:20:55.9±1.1, 50.86N×176.91W, mb3.6/5, mb1 4.0/6, mb1mx3.7/22, ML3.1/1, Error ellipse: s-maj=31.9km s-min=14.2km az=12.0*

NEIC ***24*** *12:21:02.1±1.1, 51.32N×177.16W, h42^{km}±11^{km}, mb3.8/2, ML3.7(AEIC), Error ellipse: s-maj=18.8km s-min=5.9km az=172.0*

ISC 24 12:21:01.1±1.4**, 51.3N**±0.1×**177.16W**±0.07**, h47**^{km}±13^{km}**, n24, σ0^{s}59**/27**, mb3.8**/6**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.47	354	P	P	12 21 12.0	+0.1
KIWB	Kanaga Island	0.56	0	P	P	12 21 13.1	+0.1
KIKV	Kanaga Island	0.59	359	P	P	12 21 13.5	+0.1
KIKV				S	S	12 21 21.4	-0.8
KIRH	Kanaga Island	0.61	4	P	P	12 21 13.9	+0.3
KINC	Kanaga Island	0.64	2	P	P	12 21 14.2	+0.1
ADAG	Mount Adagdak	0.77	26	P	P	12 21 16.1	+0.3
GSCK	Great Sitkin C	0.95	40	P	P	12 21 18.7	+0.4
GSCK				S	S	12 21 30.3	-0.7
GSTD	Great Sitkin T	0.99	39	P	P	12 21 19.1	+0.2
GSMY	Great Sitkin M	1.02	42	P	P	12 21 19.4	+0.2
GSIG	Igitkin Island	1.03	47	P	P	12 21 19.4	-0.1
GSTR	Great Sitkin T	1.05	40	P	P	12 21 20.2	+0.5
ATKA	Atka Island	2.05	63	P	P	12 21 33.7	-0.2
ATKA				S	S	12 21 58.5	+0.1
NIKO	Nikolski	5.38	69	P	P	12 22 21.0	+0.1
SMY	Shemya	5.59	288	P	P	12 22 22.8	-1.0
FX1	Attu Island--F	6.17	289	Pn	P	12 22 31.6	-0.4
	1.3nm,0.3s,baz=33,slow=19,SNR=22						
FX1				Sn	S	12 23 43.6	+1.4
	2.3nm,0.3s,baz=257,slow=19,SNR=3.7						
FX1	Attu Island--F	6.17	289	P	P	12 22 31.6	-0.4
ILAR	Eielson Array	20.67	38	P	P	12 25 38.7	-0.4
	0.3nm,0.5s,baz=241,slow=9.3,SNR=5.9						
YKA	Yellowknife Ar	34.54	47	PcP	PcP	12 30 20.8	0.0
	0.2nm,0.4s,baz=277,slow=2.8,SNR=7.6						
BOZ	Bozeman (W)	42.51	71	eP	P	12 28 53.4	+0.3
	1.2nm,0.7s,mb3.7						
BW06	Boulder Array	45.35	73	eP	P	12 29 16.6	+0.5
	1.1nm,0.6s,mb3.9						
PDAR	Pinedale Array	45.35	73	P	P	12 29 16.3	+0.2
	1.3nm,0.7s,mb3.9,baz=320,slow=4.4,SNR=13						
CMAR	Chiang Mai Arr	72.05	277	P	P	12 32 21.7	-0.3
	0.7nm,0.7s,mb3.7,baz=26,slow=7.7,SNR=4.7						
WRA	Warramunga Arr	82.67	225	P	P	12 33 19.1	-1.9
	0.4nm,0.6s,mb3.6,baz=34,slow=6.0,SNR=4.1						
ASAR	Alice Springs	86.13	224	P	P	12 33 38.8	+0.7
	0.6nm,0.7s,mb3.9,baz=19,slow=4.5,SNR=5.3						

HEL ***24*** *12:29:10.5±0.3, 61.37N×31.82E, ML1.8, ML2.2(NAO), Explosion*

NAO ***24*** *12:29:15.0±4.6, 61.80N×31.08E, ML2.2*

BER ***24*** *12:29:16.1±4.8, 61.67N×31.27E, ML2.2(NAO), Suspected explosion*

ISC 24 12:29:10.5±1.9**, 61.42N**±0.07×**31.7E**±0.2**, n8, σ0^{s}50**/14**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	2.18	248	eP	Pn	12 29 49.0	+0.5
VJF				eS	Sn	12 30 16.6	0.0
KAF	Kangasniemi	2.63	288	eP	Pn	12 29 55.3	+0.3
KAF				eS	Sn	12 30 28.5	+0.4
KAF				eSB	Sb	12 30 32.0	+0.6
KAF				MSG		12 30 32.7	
	comp=Z,3.1nm,0.2s						
FIA0	FINESS Array S	2.68	273	eP	Pn	12 29 55.5	-0.1
FIA0				eS	Sn	12 30 29.1	-0.1
FIA0	FINESS Array S	2.68	273	Pn	Pn	12 29 55.6	0.0
	baz=91,slow=18						
FIA0				Lg		12 30 30.9	
	baz=79,slow=28						
PVF	Pernaja	2.95	255	eP	Pn	12 29 59.1	-0.4
PVF				eS	Sn	12 30 35.4	-0.8
KJN	Kajaani	3.23	328	eP	Pn	12 30 04.0	+0.4
KJN				eS	Sn	12 30 42.4	-0.9
ARA0	ARCESS Array S	8.54	345	Sn	Sn	12 32 43.5	-13
	baz=164,slow=28						
ARA0				Lg		12 33 30.5	
	baz=149,slow=37						
HFS	Hagfors	8.87	270	Sn	Sn	12 32 55.1	-10
	baz=75,slow=28						
HFS				Lg		12 33 46.0	
	baz=43,slow=28						

MOS ***24*** *12:38:49.4±1.2, 38.58N×23.68E, h11^{km}, mb4.5/13, Error ellipse: s-maj=13.5km s-min=5.3km az=82.2*

ZUR_RM ***24*** *12:38:50, 38.58N×23.59E, h15^{km}, Mw4.6/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-8.88; M$_{\theta\theta}$8.39; M$_{\phi\phi}$0.49; M$_{r\theta}$2.02; M$_{\theta\phi}$0.44; M$_{\phi r}$-0.39; Best double couple: M$_0$8.89×10^{15} NP1:ϕ_s270°, δ52°, λ-86°. NP2:ϕ_s84°, δ39°, λ-95°. Principal axes: T 8.639, Plg7°, Azm357°; N .496, Plg3°, Azm88°; P -9.134, Plg83°, Azm201°;*

NEIC ***24*** *12:38:50.1, 38.58N×23.59E, h22^{km}, mb4.3/28, MD4.1(PDG), ML4.4(ATH), ML4.3(THE), After ATH.*

NEIC Felt at Athens.

ATH ***24*** *12:38:50.1, 38.58N×23.59E, h22^{km}±2^{km}, MD4.1/23, ML4.4*

THE ***24*** *12:38:51.1, 38.57N×23.53E, h8^{km}, ML4.3*

BJI ***24*** *12:38:51.3, 39.05N×22.69E, h46^{km}, mB4.3, mb4.7, Ms4.5, Msz4.4*

PDG ***24*** *12:38:51.1±0.5, 38.57N×23.54E, h15^{km}±1^{km}*

IDC ***24*** *12:38:53.1±4.2, 38.57N×23.53E, h27^{km}±29^{km}, mb4.1/18, mb1 4.2/25, mb1mx4.2/29, ML4.0/7, MS3.3/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=13.6km s-min=12.6km az=151.0*

ISC 24 12:38:50.7±0.3**, 38.57N**±0.01×**23.51E**±0.02**, h20**^{km}±3^{km}**, h31**^{km}±1.3^{km}**:pP-P, n302, σ1^{s}12**/345**, mb4.6**/49**, MS3.8**/5**, 23C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.41	282	ePB	Pb	12 38 58.6	-0.6
MKIT	Kithairon Oros	0.43	208	ePB	Pb	12 38 59.1	-0.4
MPAR	Parnis Oros	0.45	157	ePB	Pb	12 38 59.5	-0.3
PTL	Penteli	0.58	152	⇑iPN	Pn	12 39 02.0	-1.7
ATH	Athens Observa	0.61	165	ePN	Pn	12 39 02.7	-1.4
NSAL	Nisos Salamina	0.66	184	ePN	Pn	12 39 03.2	-1.6
AOS	Alonnisos	0.67	25	ePg	Pb	12 39 03.4	-0.2
AOS				eSg	Sb	12 39 13.6	+1.2
NEO	Neokhori	0.77	343	⇑iPN	Pn	12 39 05.8	-0.6
NEO				eSN	Sn	12 39 17.1	-0.4
NAIG	Nisos Aigina	0.81	181	ePN	Pn	12 39 06.0	-0.9
XOR	Xorichti	0.84	343	ePg	Pb	12 39 06.9	+0.5
XOR				eSg	Sb	12 39 19.1	+1.8
AGG	Agios Georgios	1.03	297	ePg	Pb	12 39 10.6	+0.9
AGG				eSg	Sb	12 39 21.8	-1.1
PAIG	Paliouri	1.37	5	ePb	Pb	12 39 15.3	-0.1
EVR	Evrytania	1.38	285	ePN	Pn	12 39 16.4	+1.3
RLS	Riolos of Patr	1.69	253	ePB	Pb	12 39 20.9	0.0
LIT	Litokhoron	1.73	333	ePb	Pb	12 39 20.8	-0.8
OUR	Ouranopolis	1.80	11	ePb	Pb	12 39 21.6	-1.3
PLG	Polygyros	1.81	358	ePN	Pn	12 39 21.5	+0.3
LIA	Limnos Island	1.86	44	ePN	Pn	12 39 21.8	-0.1
ITM	Ithomi	1.87	223	ePN	Pn	12 39 24.1	+2.0
VLI	Veliai	1.90	194	ePB	Pb	12 39 23.3	-1.2
THE	Thessaloniki	2.11	349	ePn	Pn	12 39 25.6	+0.1
MEV	Metsovon	2.15	305	P	Pn	12 39 21.8	-4.4
APE	Apeiranthos	2.19	132	ePN	Pn	12 39 27.1	+0.5
KZN	Kozani	2.20	323	ePB	Pb	12 39 28.1	-1.6
LKD	Levkas	2.25	275	P	Pn	12 39 21.8	-5.7
PRK	Paraskevi	2.26	72	ePN	Pn	12 39 27.5	-0.1
SOH	Sokhos	2.26	357	ePn	Pn	12 39 28.4	+0.8
KYTH	Kithira	2.31	190	ePN	Pn	12 39 29.1	+0.7
VLS	Valsamata	2.33	261	ePB	Pb	12 39 31.1	-0.8
JAN	Janina	2.34	299	ePB	Pb	12 39 32.2	+0.2
EZN	Ezine	2.52	59	i P	Pn	12 39 33.2	+1.8
EZN	Ezine	2.52	59	Pn	Pn	12 39 33.1	+1.7
GRG	Griva	2.54	341	ePn	Pn	12 39 31.9	+0.3
SRS	Serrai	2.55	1	ePn	Pn	12 39 32.0	+0.2
THR5	Thira Island,	2.59	145	ePn	Pn	12 39 32.8	+0.4
THR3	Thira Island,	2.62	145	P	Pn	12 39 33.3	+0.5
KNT	Kendrikon	2.64	350	ePn	Pn	12 39 34.0	+1.0
	comp=Z,36nm,0.5s						
IGT	Igoumenitsa	2.66	292	P	Pn	12 39 36.4	+3.1
SANT	Santorini	2.68	144	ePn	Pn	12 39 33.4	-0.3
SANT				ePg	Pn	12 39 41.8	+8.1
SMG	Samos	2.76	107	ePN	Pn	12 39 35.0	+0.2
LSK	Leskovik	2.76	306	ePn	Pn	12 39 39.0	+4.2
LSK				i Sn	Sn	12 40 13.6	+5.7
NVR	Nevrokopi	2.79	5	ePN	Pn	12 39 35.2	-0.1
VAY	Valandovo	2.85	346	⇓iPn	Pn	12 39 33.7	-2.3
VAY				i		12 39 35.6	
VAY				i		12 39 45.4	
VAY				i Sn	Sn	12 40 06.9	-3.2
VAY				i Sb	Sb	12 40 12.8	-2.5
VAY				i Sg	Sn	12 40 17.7	+7.6
IZM	Izmir	2.95	92	eP	Pn	12 39 38.4	+0.9
IZM	Izmir	2.95	92	Pn	Pn	12 39 38.3	+0.8
KDAG	Bornova	2.95	92	i P	Pn	12 39 38.7	+1.2
BIA	Bitola	2.98	326	i Pn	Pn	12 39 40.8	+2.9
BIA				i Pg	Pn	12 39 49.3	+11
BIA				i Sn	Sn	12 40 15.8	+2.4
BIA				i Sg	Sn	12 40 26.0	+13
RDO	Rodhopi	3.01	30	ePN	Pn	12 39 37.4	-1.0
MMB	Musomiste	3.02	3	⇑iP	Pn	12 39 38.0	-0.6
LPK	Lapseki	3.09	53	i P	Pn	12 39 40.7	+1.2
KEK	Kerkira	3.11	293	ePB	Pb	12 39 42.6	-2.5
VAM	Vamos	3.20	170	ePN	Pn	12 39 42.0	+0.9
RZN	Rozhen	3.25	16	⇑iP	Pn	12 39 41.5	-0.3
OHR	Ohrid	3.29	321	i Pn	Pn	12 39 44.8	+2.4
OHR				i Pg	Pn	12 39 53.6	+11
OHR				i Sn	Sn	12 40 22.4	+1.1
OHR				i Sg	Sn	12 40 38.4	+17
KKB	Krupnik	3.31	354	⇑iP	Pn	12 39 43.0	+0.3
AKS	Akhisar	3.38	83	eP	Pn	12 39 45.0	+1.4
KDZ	Kurdzhali	3.41	25	⇑iP	Pn	12 39 42.5	-1.5
IDI	Anoyia	3.45	161	Pn	Pn	12 39 44.9	+0.2
	42nm,0.3s,baz=340,slow=11,SNR=75						
IDI				Sn	Sn	12 40 24.5	-0.9
	24nm,0.3s,baz=66,slow=21,SNR=4.0						
BDRM	Kayabasi	3.45	114	i P	Pn	12 39 45.2	+0.6
SART	Tekirdag	3.54	52	i P	Pn	12 39 46.2	+0.4
AYDN	Tasoluk	3.56	103	i P	Pn	12 40 00.7	+15
BALB	Balikesir	3.56	71	eP	Pn	12 39 41.5	-4.7
MLSB	Milas	3.60	109	eP	Pn	12 39 46.2	-0.5
MLSB	Milas	3.60	109	Pn	Pn	12 39 46.1	-0.6
PLD	Plovdiv	3.65	14	i P	Pn	12 39 47.7	+0.2
NPS	Neapolis	3.70	152	ePN	Pn	12 39 50.0	+1.8
KPJ	Monastery St.	3.75	347	⇑iPn	Pn	12 39 49.4	+0.6
GVD	Gavdhos	3.75	173	ePN	Pn	12 39 51.0	+2.2
GVD	Gavdhos	3.75	173	ePn	Pn	12 39 50.8	+1.9
GVD				ePn	Pn	12 39 51.0	+2.2
SKO	Skopje	3.75	336	i Pn	Pn	12 39 50.0	+1.1
SKO				i Pg	Pn	12 40 00.0	+11
SKO				i		12 40 10.0	
SKO				i Sn	Sn	12 40 31.5	-1.6
SKO				i Sg	Sn	12 40 49.9	+17
BNT	Bandirma	3.85	61	eP	Pn	12 39 51.4	+1.1
BNT	Bandirma	3.85	61	Pn	Pn	12 39 51.3	+1.0
TIR	Tirane	3.95	316	ePn	Pn	12 39 55.5	+3.8
TIR				i Sn	Sn	12 40 35.5	-2.4
MANT	Manisa	3.96	90	i P	Pn	12 39 52.0	+0.2
PGB	Panagyurishte	4.01	7	i P	Pn	12 39 52.0	-0.6
VTS	Vitosha	4.03	357	P	Pn	12 39 53.0	+0.2
VTS	Vitosha	4.03	357	P	Pn	12 39 53.7	+0.9
YER	Yerkesik	4.04	109	eP	Pn	12 39 52.4	-0.5
QSH	Qafa e Shtames	4.05	318	ePn	Pn	12 39 56.0	+2.9
QSH				i Sn	Sn	12 40 42.0	+1.5
XRY	Khrisi	4.08	154	ePN	Pn	12 39 55.5	+2.0
EDRB	Edirne	4.11	36	eP	Pn	12 39 52.4	-1.5
PRZA	Preza	4.11	315	ePn	Pn	12 40 02.0	+8.0
KCT	Karacabey	4.12	64	i P	Pn	12 39 53.3	-0.8
KARP	Karpathos	4.19	135	ePB	Pb	12 39 58.7	-4.9
ARG	Arkhangelos	4.36	121	ePB	Pb	12 40 01.5	-4.9
ORLT	Orhaneli	4.43	69	eP	Pn	12 39 58.7	+0.2
ORLT	Orhaneli	4.43	69	Pn	Pn	12 39 58.6	+0.1
BARS	Barje	4.44	344	⇑iPn	Pn	12 39 58.6	-0.1
LCI	Lecce	4.54	295	ePn	Pn	12 40 01.0	+0.9
CTT	Catalca	4.58	54	eP	Pn	12 39 58.2	-2.4
CTT	Catalca	4.58	54	Pn	Pn	12 39 58.1	-2.5
ULDT	Uludag	4.63	68	i P	Pn	12 40 02.2	+0.7
ULC	Ulcinj	4.71	317	⇓iPn	Pn	12 40 03.6	+1.1
ULC				eSn	Sn	12 40 57.1	-0.1
PVY	Plav	4.84	327	⇑iPn	Pn	12 40 05.7	+1.3
PVY				eSn	Sn	12 41 00.4	-0.2
PVL	Pavlikeni	4.85	16	i P	Pn	12 40 02.5	-1.9
BADT	Buyukada	4.89	60	eP	Pn	12 40 01.3	-3.7
BADT	Buyukada	4.89	60	Pn	Pn	12 40 01.2	-3.8
YLV	Yalova	4.95	64	eP	Pn	12 40 14.3	+8.4
SZH	Strazhica	5.04	21	i P	Pn	12 40 06.3	-0.9
TTG	Podgorica	5.04	321	⇑iPn	Pn	12 40 08.3	+1.1
TTG				eSn	Sn	12 41 05.1	-0.5
IVA	Berane	5.10	329	⇑iPn	Pn	12 40 09.1	+1.0
IVA				eSn	Sn	12 41 06.7	-0.5
BUM	Brajici-Budva	5.13	318	⇑iPn	Pn	12 40 09.1	+0.7
BUM				eSn	Sn	12 41 07.7	-0.1
ALT	Altintas	5.17	83	eP	Pn	12 40 06.5	-2.6
ALT	Altintas	5.17	83	Pn	Pn	12 40 06.4	-2.7
HRT	Hereke	5.25	63	eP	Pn	12 40 04.4	-5.8
HRT	Hereke	5.25	63	Pn	Pn	12 40 04.3	-5.9
TIP	Timpagrande	5.31	279	eP	Pn	12 40 10.9	0.0
BRT	Bari-Castellan	5.39	297	ePn	Pn	12 40 12.7	+0.7
ELL	Elmali	5.39	108	eP	Pn	12 40 15.8	+3.7
BOLS	Boljevac	5.39	348	⇑iPn	Pn	12 40 11.7	-0.4
HCY	Herceg Novi	5.45	317	⇑iPn	Pn	12 40 13.4	+0.5
HCY				eSn	Sn	12 41 15.7	0.0
NKY	Niksic	5.46	322	⇑iPn	Pn	12 40 13.9	+0.9
NKY				eSn	Sn	12 41 16.0	0.0
GRI	Girifalco	5.56	275	ePn	Pn	12 40 14.8	+0.4
ORI	Oriolo Calabro	5.68	287	ePn	Pn	12 40 17.0	+0.8
ORI				eSn	Sn	12 41 21.3	-0.3
PLE	Pljevlja	5.69	328	⇑iPn	Pn	12 40 17.2	+0.9
PLE				eSn	Sn	12 41 21.1	-0.8
GRUS	Gruza	5.72	339	⇑iPn	Pn	12 40 19.6	+2.9
BRY	Bratogost	5.74	321	⇑iPn	Pn	12 40 17.9	+0.8
BRY				eSn	Sn	12 41 22.3	-0.9
ESKT	Eskisehir	5.79	78	eP	Pn	12 40 17.9	+0.2
ESKT	Eskisehir	5.79	78	i P	Pn	12 40 18.1	+0.3
UPM	Unac-Piva	5.80	324	⇑iPn	Pn	12 40 18.8	+0.9
UPM				eSn	Sn	12 41 24.1	-0.4
SOI	Samo	5.89	268	ePn	Pn	12 40 18.9	-0.2
PTRP	Pietrapertosa	6.08	291	P	Pn	12 40 22.6	+0.7
HENT	Hendek	6.13	66	i P	Pn	12 40 22.8	+0.4
DIVS	Divcibare	6.13	336	⇓iPn	Pn	12 40 21.9	-0.7
SCLL	Scilla	6.13	270	ePn	Pn	12 40 22.7	+0.1
CUC	Castrocucco	6.14	286	P	Pn	12 40 23.8	+1.1
STON	Ston	6.17	316	i Pn	Pn	12 40 22.8	-0.3
STON				i Sn	Sn	12 41 30.2	-3.5
MTTG	Motta San Giov	6.18	267	ePn	Pn	12 40 22.7	-0.5
MTTG				eSn	Sn	12 41 31.8	-2.2
PSN	Preselentsi	6.21	33	i P	Pn	12 40 21.5	-2.2
ATN	Antennamare	6.34	269	ePn	Pn	12 40 25.4	-0.1
SLCN	Sala Consilina	6.36	289	ePn	Pn	12 40 26.7	+0.9
SLCN				eSn	Sn	12 41 38.5	-0.2
MGR	Morigerati	6.37	287	ePn	Pn	12 40 26.2	+0.3
MGR				eSn	Sn	12 41 35.0	-3.7
KIZT	Kizilcal	6.55	85	eP	Pn	12 40 25.7	-2.7
MRLC	Muro Lucano	6.57	292	ePn	Pn	12 40 28.6	-0.1
FGMS	Monte Sant'Ang	6.59	301	ePn	Pn	12 40 28.4	-0.6
SGO	Sicignano	6.65	290	ePn	Pn	12 40 30.0	+0.1
SLNA	Salina	6.80	273	ePn	Pn	12 40 31.5	-0.5
SLNA				eSn	Sn	12 41 46.6	-3.0
RGNG	Rignano Grg	6.82	300	ePn	Pn	12 40 31.3	-1.0
RGNG				eSn	Sn	12 41 48.0	-2.2
FG5	Orsara di Pugl	6.89	296	ePn	Pn	12 40 32.8	-0.5
FG5				eSn	Sn	12 41 51.2	-0.8
SGKT	Sivrigoynuk	6.90	70	i P	Pn	12 40 33.8	+0.4
CSSN	Cassano Irpino	6.94	292	ePn	Pn	12 40 34.9	+1.1
MNO	Monte Soro	6.97	268	ePn	Pn	12 40 34.3	-0.1
MRB1	Monte Rocchett	7.05	294	ePn	Pn	12 40 35.8	+0.3
MLR	Muntele Rosu	7.15	14	Pn	Pn	12 40 36.6	-0.3
	3.6nm,0.3s,baz=158,slow=9.9,SNR=16						

MLR				Sn	Sn	12 41 60.0	+1.5
	1.6nm,0.3s,baz=139,slow=14,SNR=2.9						
MLR				LR	LR	12 43 19.7	
	comp=Z,208nm,19.9s,baz=59,slow=37						
MLR	Muntele Rosu	7.15	14	P	Pn	12 40 36.6	-0.3
MLR						12 42 00.0	
MLR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MLR				smax			
	comp=N,2.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,208nm,19.9s						
PSB1	Pescosannita	7.20	294	P	Pn	12 40 39.1	+1.5
VAE	Valguarnera	7.27	264	Pn	Pn	12 40 39.6	+1.1
	comp=Z,14nm,0.3s,baz=11,slow=1.2,SNR=5.5						
VAE				Sn	Sn	12 42 02.9	+1.7
	baz=287,slow=6.2,SNR=2.3						
CSLB	Castelbuono	7.47	268	*e*Pn	Pn	12 40 41.8	+0.4
GIB	Gibilmanna	7.49	269	P	Pn	12 40 43.4	+1.8
SGG	Gregorio Mates	7.56	295	*e*Pn	Pn	12 40 43.6	+1.0
SGG				*e*Sn	Sn	12 42 04.5	-4.1
WDD	Wield Dalam	7.66	252	P	Pn	12 40 44.0	0.0
CII	Carovilli	7.73	297	*e*Pn	Pn	12 40 46.2	+1.3
CII				*e*Sn	Sn	12 42 08.1	-4.7
ELDT	Eldivan	7.90	73	*i* P	Pn	12 40 46.8	-0.5
BRTR	Keskin Array B	7.95	78	Pn	Pn	12 40 48.4	+0.2
	comp=Z,0.7nm,0.3s,baz=249,slow=13,SNR=6.4						
BRTR	Keskin Array B	7.95	78	P	Pn	12 40 48.4	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USI	Ustica	8.09	274	*e*Pn	P	12 40 48.2	-1.9
INTR	Introdacqua	8.11	298	*e*Pn	P	12 40 50.8	+0.5
VVLD	Villa Vallelon	8.26	297	P	P	12 40 52.8	+0.5
PTQR	Pietraquaria	8.46	297	*e*Pn	P	12 40 56.5	+1.2
RHK1	Bakonya	8.53	334	*e*P	P	12 40 55.3	-0.9
TERO	Teramo	8.56	301	P	P	12 40 57.9	+1.4
CERT	Cerreto	8.73	296	*e*Pn	P	12 40 59.5	+0.6
NRCA	Norcia	8.97	302	*e*Pn	P	12 41 01.4	-0.8
MNS	Montasola	9.09	298	*e*Pn	P	12 41 04.8	+0.9
BOJS	Bojanci	9.26	321	*e*Pn	P	12 41 04.8	-1.5
ASS	Assisi	9.38	302	*e*Pn	P	12 41 09.6	+1.7
FSSB	Fossombrone	9.58	306	*e*Pn	P	12 41 11.8	+1.2
PSZ	Piszkesteto	9.71	345	*e*P	P	12 41 12.4	0.0
	comp=Z,6.4nm,0.8s						
CEY	Cerknica	9.84	320	*e*Pn	P	12 41 08.0	-6.1
CEY				*e*Sn	Sn	12 42 59.3	-5.8
JAVS	Javornik	10.13	319	*e*Pn	P	12 41 16.4	-1.7
VOY	Vojsko	10.31	319	*e*Pn	P	12 41 18.7	-1.9
VOY				*e*Sn	S	12 43 10.8	-5.9
ROBS	Robic	10.65	319	*e*Pn	P	12 41 19.0	-6.3
PTCC	Patocco-Chiusa	10.84	320	*e*Pn	P	12 41 26.4	-1.5
GZT	Gaziantep	11.16	92	*i* P	P	12 41 35.5	+3.2
MALT	Malatya	11.70	87	*e*P	P	12 41 37.9	-1.7
OJC	Ojcow	11.95	348	*e*P	P	12 41 45.0	+2.1
OJC				*e*S	S	12 44 01.6	+5.0
GERES	GERESS Array B	12.48	329	Pn	P	12 41 50.4	+0.4
	comp=Z,0.1nm,0.3s,baz=145,slow=16,SNR=5.1						
KIEV	Kiev	12.78	17	P	P	12 41 56.0	+1.9
AKASG	Malin Array Be	12.79	17	Pn	P	12 41 50.6	-3.6
	comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=4.2						
DAVOX	Davos	12.95	314	Pn	P	12 41 54.1	-2.2
	comp=Z,0.3nm,0.3s,baz=147,slow=20,SNR=1.6						
SBF	Sospel	13.21	299	*e*P	P	12 41 59.7	0.0
	comp=Z,26nm,0.8s						
SOC	Sochi	13.21	63	*e*P	P	12 41 56.2	-3.5
SOC				*e*S	S	12 44 27.2	+0.2
SOC				pmax	pmax		
	comp=Z,19nm,0.8s						
SOC				pmax	pmax		
	comp=N,35nm,0.9s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,169nm,26.0s						
SOC				MLR	MLR		
	comp=N,139nm,18.0s						
SOC				MLR	MLR		
	comp=E,78nm,23.0s						
FRF	La Foret Royal	13.67	297	*e*P	P	12 42 08.7	+3.0
MBDF	Montbardon	13.94	302	*e*P	P	12 42 08.0	-1.3
	comp=E,16nm,0.7s						
BRG	Berggiesshubel	14.04	334	*i* P	P	12 42 19.6	+8.9
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRG	Berggiesshubel	14.04	334	P	P	12 42 19.6	+8.9
GRA1	Grafenberg Arr	14.18	326	*e*P	P	12 42 20.4	+8.0
GRF	Grafenberg Arr	14.18	326	*e*P	P	12 42 20.4	+8.0
LPG	La Plagne	14.24	304	*e*P	P	12 42 18.1	+4.8
LPL	La Plagne	14.26	305	*e*P	P	12 42 17.8	+4.3
SMRF	Simiane la Rot	14.53	298	*e*P	P	12 42 19.5	+2.5
ORIF	Oris-en-Rattie	14.60	301	*e*P	P	12 42 18.5	+0.5
	comp=Z,19nm,0.9s						
ORIF				*e*R			
	comp=Z,131nm,21.2s						
MOX	Moxa	14.73	329	*e*P	P	12 42 24.0	+4.4
MOX				L		12 48 56.0	
CLL	Collm	14.73	333	*e*	P	12 42 23.0	+3.3
CLL				*i*		12 42 26.3	
CLL	Collm	14.73	333	*e*P	P	12 42 23.0	+3.3
CLL				pmax	pmax		
	comp=Z,15nm,1.2s						
CLL	Collm	14.73	333	P	P	12 42 23.0	+3.3
	comp=Z,15nm,1.2s						
CABF	La Chapelle	15.12	308	*e*P	P	12 42 23.9	-0.9
	comp=Z,35nm,1.0s						
CDF	Champ du Feu	15.32	315	*e*P	P	12 42 28.2	+0.8
	comp=Z,2.5nm,0.4s						
SUW	Suwalki	15.45	359	*e*P	P	12 42 29.4	+0.3
HAU	Haudompre	15.63	313	*e*P	P	12 42 32.0	+0.6
	comp=Z,4.2nm,0.4s						
HAU				*e*R			
	comp=Z,68nm,22.3s						
CLZ	Clausthal	16.15	330	*e*P	P	12 42 45.5	+7.5
	comp=Z,8.0nm,1.4s						
SMF	Signal de Mont	16.55	306	*e*P	P	12 42 40.6	-2.6
	comp=Z,6.2nm,0.6s						
AVF	Avril sur Loir	16.92	306	*e*P	P	12 42 45.5	-2.3
SSF	Saint Saulge	16.93	307	*e*P	P	12 42 47.7	-0.1
	comp=Z,3.5nm,0.5s						
SSF				*e*P		12 42 50.8	
EMOS	Mosqueruela	18.60	283	P	P	12 43 08.5	-0.2
	comp=Z,26nm,1.1s						
ETSF	Etsaut	18.73	291	*e*P	P	12 43 09.8	-0.5
	comp=Z,3.9nm,0.5s						
OBN	Obninsk	18.75	24	⇓*e*P	P	12 43 15.2	+4.7
OBN				pmax	pmax		
	comp=Z,16nm,0.8s						
OBN				MLR	MLR		
	comp=Z,200nm,11.0s						
MFF	Saint Martin d	19.13	302	*e*P	P	12 43 15.7	+0.6
SJPF	Ste Jean	19.24	292	*e*P	P	12 43 15.5	-0.8
MOS	Moscow	19.61	24	*e*P	P	12 43 19.3	-1.2
MOS				*e*S	S	12 46 56.5	+1.6
MOS				pmax	pmax		
	comp=Z,65nm,0.6s						
LDF	La Druitiere	19.77	308	*e*P	P	12 43 21.1	-1.2
ETOR	Torete	19.79	285	P	P	12 43 21.0	-1.6
	comp=Z,6.3nm,0.7s						
GRR	Gorron	20.15	307	*e*P	P	12 43 24.5	-1.9
	comp=Z,17nm,0.6s						
EVIA	Vianos	20.32	278	P	P	12 43 27.9	-0.3
	comp=Z,22nm,1.0s						
EQES	Quesada	20.89	276	P	P	12 43 36.1	+2.0
	comp=Z,12nm,0.7s						
SGMF	Saint Gilles	21.18	306	*e*P	P	12 43 36.2	-0.8
ESDC	Sonseca Array	21.32	282	P	P	12 43 37.3	-1.2
	comp=Z,2.8nm,0.5s,mb3.9,baz=78,slow=10,SNR=19						
ESDC	Sonseca Array	21.32	282	P	P	12 43 38.4	0.0
	comp=Z,9.8nm,0.7s,mb4.2						
ESLA	Sonseca Array	21.32	282	*e*P	P	12 43 37.2	-1.2
	comp=Z,4.3nm,1.0s,mb3.7						
RST	Umm Al-Ruwaisa	21.41	108	*e*P	P	12 43 39.0	-0.4
RST				AMb	AMB	12 43 42.7	
	comp=Z,51nm,1.0s,mb4.8						
QUIF	Quistinic	21.48	304	*e*P	P	12 43 38.9	-1.1
	comp=Z,92nm,0.9s,mb4.8						
MIB	Mutribah	21.52	107	*e*P	P	12 43 41.3	+0.8
MIB				AMb	AMB	12 43 46.1	
	comp=Z,97nm,0.9s,mb5.2						
ROSF	Rostrenen	21.66	305	*e*P	P	12 43 44.0	+2.2
ELOJ	Sierra Loja	21.86	275	P	P	12 43 47.6	+3.7
	comp=Z,1.9nm,0.4s,mb3.9						
UMR	Umm Al-Rimmam	21.92	107	*e*P	P	12 43 45.1	+0.5
UMR				AMb	AMB	12 43 46.9	
	comp=Z,42nm,0.6s,mb5.0						
EADA	Adamuz	22.00	278	P	P	12 43 45.2	0.0
	comp=Z,15nm,0.8s,mb4.5						
RDF	Al-Radifah	22.12	109	AMb	AMB	12 43 56.0	
	comp=Z,46nm,1.2s,mb4.8						
HFS	Hagfors	22.47	347	P	P	12 43 49.3	-0.5
	comp=Z,3.9nm,0.5s,mb4.1,baz=168,slow=13,SNR=15						
HFS	Hagfors	22.47	347	P	P	12 43 49.3	-0.5
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HFS	Hagfors	22.47	347	P	P	12 43 49.3	-0.5
EMIJ	Mijas	22.48	274	P	P	12 43 50.0	0.0
	comp=Z,40nm,1.1s,mb4.8						
FINES	FINESS Array B	22.96	3	P	P	12 43 53.8	-0.7
	comp=Z,5.2nm,1.0s,mb3.9,baz=170,slow=12,SNR=5.1						
FINES				LR	LR	12 52 40.2	
	comp=Z,46nm,21.9s,MS2.9,baz=167,slow=36						
FINES	FINESS Array B	22.96	3	P	P	12 43 53.8	-0.7
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,46nm,21.9s						
EPON	Pontenova	23.57	291	P	P	12 43 53.0	-7.6
	comp=Z,12nm,0.6s,mb4.5						
EMIN	Mina Concepcio	23.70	278	P	P	12 44 02.0	+0.1
	comp=Z,8.9nm,0.7s,mb4.3						
NB2	NORSAR Subarra	23.78	345	P	P	12 44 02.4	0.0
	comp=Z,0.8nm,0.6s,baz=141,slow=11						
NOA	NORSAR Array B	23.78	345	P	P	12 44 02.3	-0.1
	comp=Z,5.1nm,0.6s,mb4.1,baz=148,slow=9.8,SNR=13						
NOA				PcP	PcP	12 47 46.0	-1.4
	comp=Z,1.5nm,0.8s,baz=135,slow=2.4,SNR=3.3						
NOA	NORSAR Array B	23.78	345	P	P	12 44 02.3	-0.1
NOA						12 47 46.1	
NOA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	Eskdalemuir Ar	24.53	322	P	P	12 44 10.1	+0.3
	comp=Z,3.6nm,0.6s,mb4.1,baz=120,slow=8.8,SNR=9.9						
EKA	Eskdalemuir Ar	24.53	322	P	P	12 44 10.1	+0.3
EKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	Arti	29.22	41	⇑*i*P	P	12 44 52.7	-0.2
ARU				*i*		12 45 47.3	
ARU				*e*PPP	PPP	12 45 54.1	-6.9
ARU				*i*		12 47 53.8	
ARU				*e*S	S	12 49 46.1	+3.0
ARU				*e*SS	SS	12 51 25.2	+11
ARU				*e*		12 55 36.0	
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
ARCES	ARCESS Array B	31.05	1	LR	LR	12 59 33.5	
	comp=Z,43nm,20.2s,MS3.1,baz=264,slow=40						
ZRNK	Zerenda	34.23	50	*e*P	P	12 45 37.0	+0.1
	comp=Z,4.2nm,0.9s,mb4.4						
BVAR	Borovoye Array	35.07	50	P	P	12 45 43.1	-1.0
	comp=Z,0.7nm,0.7s,mb3.7,baz=225,slow=6.3,SNR=5.2						
KURK	Kurchatov	40.15	54	*e*P	P	12 46 26.5	-0.3
	comp=Z,8.9nm,1.3s,mb4.3						
DBIC	Dimbokro	40.82	226	P	P	12 46 32.0	-0.6
	comp=Z,2.9nm,0.6s,mb4.1,baz=21,slow=10.0,SNR=8.6						
DBIC	Dimbokro	40.82	226	P	P	12 46 32.0	-0.6
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIC	Toumodi	40.93	226	*e*P	P	12 46 33.0	-0.5
	comp=Z,128nm,1.4s,mb5.4						
KIC	Kosan Boka	41.00	226	*e*P	P	12 46 33.2	-0.9
	comp=Z,277nm,1.9s,mb5.6						
LIC	Lamto	41.28	226	*e*P	P	12 46 35.9	-0.5
	comp=Z,36nm,0.8s,mb5.1						
KMBO	Kilima Mbogo	41.48	159	P	P	12 46 37.5	-0.5
NVS	Novosibirsk	42.69	47	*i* P	P	12 46 47.3	-0.1
NVS				pmax	pmax		
	comp=Z,19nm,2.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,8.0nm,1.8s						
MKAR	Makanchi Array	43.09	59	P	P	12 46 51.4	+0.5
	comp=E,3.0nm,0.5s,mb4.3,baz=274,slow=7.2,SNR=26						
MKAR	Makanchi Array	43.09	59	*i* P	P	12 46 51.1	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	43.66	49	P	P	12 46 55.8	+0.4
	comp=Z,6.6nm,1.1s,mb4.3,baz=116,slow=8.3,SNR=20						
ZAL	Zalesovo	43.66	49	P	P	12 46 55.8	+0.4
ZAL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SUMG	Summit	45.33	338	*e*P	P	12 47 09.5	+0.9
WMQ	Urumqi	47.51	62	⇑P	P	12 47 27.5	+1.3
WMQ				AP	pP	12 47 35.6	+3.3
WMQ				PCP	PcP	12 48 58.0	+1.4
WMQ				PP	PP	12 49 18.3	+1.3
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,16nm,5.9s						
WMQ				LR	LR		
	comp=E,41nm,11.3s						
KOLN	Koldanda	50.64	83	*e*P	P	12 47 50.7	+0.2
	comp=E,25nm,1.2s,mb5.0						
GKN	Gorkha	51.34	83	*e*P	P	12 47 54.7	-1.1
	comp=E,16nm,0.8s,mb5.0						
DMN	Daman	51.89	83	*e*P	P	12 47 59.1	-0.9
	comp=E,48nm,1.4s,mb5.2						
KKN	Kakani	51.94	82	*e*P	P	12 48 00.0	-0.4
	comp=E,27nm,1.1s,mb5.1						
PKI	Pulchoki	52.15	83	*e*P	P	12 48 01.5	-0.4
	comp=E,5.2nm,0.4s,mb4.8						
ZAK	Zakamensk	55.52	50	*e*P	P	12 48 25.6	-0.9
TSUM	Tsumeb	57.73	187	P	P	12 48 41.1	-1.5
	comp=E,3.3nm,1.0s,mb4.3,baz=188,slow=7.1,SNR=2.3						
SONM	Songino Array	58.38	52	P	P	12 48 46.3	-0.5
	comp=E,2.2nm,0.6s,mb4.4,baz=286,slow=9.0,SNR=5.9						
BOD	Bodaibo	58.61	39	*e*P	P	12 48 38.3	-10
SCHQ	Schefferville	59.76	318	P	P	12 48 55.2	-1.0
	comp=E,8.0nm,0.5s,mb5.0,baz=63,slow=5.5,SNR=15						
SCHQ	Schefferville	59.76	318	*e*P	P	12 48 54.8	-1.5
LZH	Lanzhou	61.92	65	⇓P	P	12 49 10.3	-0.9
LZH				AP	pP	12 49 20.4	+2.8
LZH				XP	sP	12 49 24.3	+4.5
LZH				PP	PP	12 51 28.5	-1.3
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.2						
LZH				LR	LR		
	comp=N,351nm,15.1s						
LZH				LR	LR		
	comp=Z,493nm,17.8s,MS4.7						
KMI	Kunming	66.74	76	*e*P	P	12 49 45.3	+2.6
KMI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
CMAR	Chiang Mai Arr	67.51	84	P	P	12 49 46.1	-1.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=308,slow=7.5,SNR=10						
CMAR	Chiang Mai Arr	67.51	84	P	P	12 49 46.2	-1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BJI	Beijing	68.29	56	P	P	12 49 52.0	-0.3
CN2	Changchun	71.89	48	*e*P	P	12 50 13.4	-0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MDJ	Mudanjiang	73.77	46	P	P	12 50 23.3	-1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
YKA	Yellowknife Ar	73.81	341	P	P	12 50 24.8	-0.1
	comp=Z,1.1nm,0.5s,mb4.0,baz=31,slow=5.4,SNR=8.2						
YKA	Yellowknife Ar	73.81	341	P	P	12 50 24.8	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	73.81	341	P	P	12 50 24.8	-0.1
NJ2	Nanjing	74.58	61	*e*P	P	12 50 27.5	-2.5
NJ2				AP	pP	12 50 37.9	+1.5
NJ2				S	S	13 00 00.0	-3.0
NJ2				XS		13 00 28.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=Z,160nm,15.4s,MS4.4						
IMA	Indian Mountai	75.67	359	P	P	12 50 38.8	+3.2
FFC	Flin Flon	76.02	331	P	P	12 50 38.1	+0.3
ILAR	Eielson Array	76.72	356	P	P	12 50 41.9	+0.3
	comp=Z,0.3nm,0.7s,baz=330,slow=3.3,SNR=4.5						
SSE	Sheshan	76.75	61	P	P	12 50 41.6	-0.8
LRAL	Lakeview Retre	83.91	308	*e*P	P	12 51 20.6	+0.1
	comp=Z,13nm,1.1s,mb5.0						
BDFB	Brasilia	85.82	246	P	P	12 51 32.1	+1.8
	comp=Z,3.5nm,0.6s,mb4.7,baz=121,slow=3.8,SNR=4.9						
BDFB	Brasilia	85.82	246	P	P	12 51 32.1	+1.8
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NEW	Newport	86.74	335	*e*P	P	12 51 34.9	+0.8
	comp=Z,2.7nm,0.8s,mb4.5						
NEW				*e*pP	pP	12 51 44.8	+4.1
DPW	Davenport	87.44	335	*e*P	P	12 51 38.6	+1.1
BW06	Boulder Array	88.52	327	P	P	12 51 42.4	-0.4
PDAR	Pinedale Array	88.52	327	P	P	12 51 43.0	+0.2
	comp=Z,0.7nm,0.7s,mb4.1,baz=61,slow=4.6,SNR=8.4						
PDAR				LR	LR	13 30 14.7	
	comp=Z,42nm,18.1s,MS3.9,baz=260,slow=35						
WMOK	Wichita Mounta	89.59	316	*e*P	P	12 51 48.2	+0.1
	comp=Z,6.6nm,1.1s,mb4.9						
HLID	Hailey	89.81	331	P	P	12 51 49.5	+0.5
SDCO	Great Sand Dun	90.73	322	*e*P	P	12 51 53.4	0.0
PV01	Paradox Valley	91.87	324	*e*P	P	12 51 59.0	+0.5
PV10	Paradox Valley	91.88	325	*e*P	P	12 51 59.5	+0.9
TXAR	Lajitas Array	96.38	316	P	P	12 52 20.7	+1.2
	comp=Z,0.8nm,0.4s,mb4.5,baz=63,slow=4.0,SNR=4.8						
VNA2	Neumayer--Watz	111.42	190	⇑*i*	PKPdf	12 57 32.5	+6.0
SNAA	Sanae	111.51	189	⇑*i*	PKPdf	12 57 33.7	+7.1
WRA	Warramunga Arr	118.21	94	PKP	PKPdf	12 57 36.3	-4.6
	comp=Z,0.6nm,0.8s,baz=278,slow=1.8,SNR=4.7						
WRA	Warramunga Arr	118.21	94	PKIKP	PKPdf	12 57 36.3	-4.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	119.88	98	PKP	PKPdf	12 57 40.1	-3.9
	comp=Z,1.5nm,0.8s,baz=299,slow=1.4,SNR=13						

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*NEIC **24** 12:42:53.4, 38.66N×23.52E, h22^{km}, ML3.8(ATH), ML3.7(THE), After ATH.*
*ATH **24** 12:42:53.2, 38.67N×23.59E, h26^{km}±2^{km}, ML3.8*
*THE **24** 12:42:58.5, 38.71N×23.51E, h9^{km}, ML3.7*
*SOF **24** 12:43:03.2, 39.35N×23.95E, h2^{km}, MD3.1*
ISC 24 12:42:54.5±0.6, **38.51N**±0.02×**23.66E**±0.05, **h21**^{km}±6^{km}, **n39**, σ**1**^{s}**12**/46, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.37	170	*e*PN	Pn	12 43 04.1	-0.2
MKIT	Kithairon Oros	0.45	224	*e*PN	Pn	12 43 04.0	-1.5
PTL	Penteli	0.49	160	*e*PN	Pn	12 43 06.5	+0.4
LKR	Lokris	0.53	285	*e*PB	Pb	12 43 01.8	-3.3
ATH	Athens Observa	0.54	175	*e*PN	Pn	12 43 07.5	+0.7
ATH	Athens Observa	0.54	175	*e*Pb	Pb	12 43 04.4	-0.8
NSAL	Nisos Salamina	0.62	194	*e*PN	Pn	12 43 08.5	+0.5
AOS	Alonnisos	0.68	15	*e*Pg	Pb	12 43 08.2	+0.6
AOS				*e*Sg	Sb	12 43 17.7	+1.2
NAIG	Nisos Aigina	0.77	190	*e*PN	Pn	12 43 11.2	+1.2
NEO	Neokhori	0.86	337	*e*PN	Pn	12 43 07.5	-3.9
XOR	Xorichti	0.93	337	*e*Pg	Pb	12 43 11.6	-0.1
XOR				*e*Sg	Sb	12 43 23.9	+0.3
AGG	Agios Georgios	1.16	297	*e*Pg	Pb	12 43 15.4	-0.3
AGG				*e*Sg	Sb	12 43 30.8	+0.6
PAIG	Paliouri	1.41	1	*e*Pb	Pb	12 43 20.0	0.0
PAIG				*e*Sb	Sb	12 43 38.2	+0.5
EVR	Evrytania	1.50	286	*e*PN	Pn	12 43 18.8	-1.7
RLS	Riolos of Patr	1.78	256	*e*PN	Pn	12 43 24.8	+0.3
LIA	Limnos Island	1.82	40	*e*PN	Pn	12 43 23.5	-1.6
LIT	Litokhoron	1.83	331	*e*Pb	Pb	12 43 25.5	-1.6
	comp=Z,17nm,0.3s						
OUR	Ouranopolis	1.84	8	*e*Pb	Pb	12 43 26.2	-1.0
PLG	Polygyros	1.87	355	*e*PN	Pn	12 43 23.1	-2.6
VLI	Veliai	1.88	198	*e*PN	Pn	12 43 25.7	-0.3
ITM	Ithomi	1.91	226	*e*PB	Pb	12 43 28.5	0.0
PRK	Paraskevi	2.17	69	*e*Pb	Pb	12 43 34.6	+1.7
MEV	Metsovon	2.27	305	*e*Pn	Pn	12 43 33.2	+1.6
	comp=Z,7.0nm,0.5s						
SOH	Sokhos	2.32	354	*e*Pn	Pn	12 43 33.0	+0.8
LKD	Levkas	2.36	276	*e*Pn	Pn	12 43 35.8	+2.9
	comp=Z,4.5nm,0.4s						
THR5	Thira Island,	2.49	147	*e*Pn	Pn	12 43 41.6	+6.9
THR5				*e*Sn	Sn	12 44 15.1	+10
THR3	Thira Island,	2.52	146	*e*Pn	Pn	12 43 43.1	+8.1
THR3				*e*Sn	Sn	12 44 17.5	+12
SRS	Serrai	2.60	359	*e*Pn	Pn	12 43 36.6	+0.4
GRG	Griva	2.62	339	*e*Pn	Pn	12 43 37.0	+0.4
KNT	Kendrikon	2.71	348	*e*Pn	Pn	12 43 38.6	+0.8
KNT				*e*Sn	Sn	12 44 10.3	0.0
IGT	Igoumenitsa	2.78	292	*e*Pn	Pn	12 43 41.3	+2.5
NVR	Nevrokopi	2.84	3	*e*PN	Pn	12 43 37.1	-2.5
MMB	Musomiste	3.07	1	*i* P	Pn	12 43 43.0	0.0
RZN	Rozhen	3.27	14	*i* P	Pn	12 43 45.0	-0.8
KKB	Krupnik	3.38	353	*i* P	Pn	12 43 47.3	0.0
KDZ	Kurdzhali	3.41	23	P	Pn	12 43 47.5	-0.3
PGB	Panagyurishte	4.05	5	P	Pn	12 43 57.0	+0.1
VTS	Vitosha	4.09	355	P	Pn	12 43 58.5	+1.1
PVL	Pavlikeni	4.87	15	P	Pn	12 44 07.0	-1.5

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*MAN **24** 12:56:33.9, 20.01N×120.43E, h14^{km}, mb4.9, ML3.8, MS3.8*
*IDC **24** 12:56:35.6±0.7, 20.10N×120.42E, h33^{km}±5^{km}, mb3.5/8, mb1 3.7/8, mb1mx3.6/18, MS3.3/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=30.1km s-min=14.3km az=65.0*
*NEIC **24** 12:56:35.7±0.5, 20.06N×120.41E, mb4.5/6, Error ellipse: s-maj=18.7km s-min=8.4km az=66.0*
ISC 24 12:56:34.6±1.1, **20.08N**±0.06×**120.4E**±0.1, **h39**^{km}±12^{km}, **h32**^{km}±1.5^{km}**:pP-P, n26**, σ**0**^{s}**92**/26, **mb4.0**/12, **MS3.6**/1, **1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	1.56	76	*e*P	P	12 56 59.5	-0.8
PIP	Pasuquin	1.76	172	⇑*i*P	P	12 57 02.3	-0.9
PIP				*i* S	S	12 57 23.0	-1.6
APYP	Conner	2.36	159	*e*P	P	12 57 11.7	0.0
APYP				*e*S	S	12 57 40.3	+0.6
SGCP	Mt. Cagua	2.43	138	*e*P	P	12 57 12.5	-0.2
ABRA	Dolores	2.44	172	*e*P	P	12 57 12.2	-0.8
CVP	Callao Caves	2.74	149	*e*P	P	12 57 18.0	+0.8
CVP				*e*S	S	12 57 49.5	0.0
CAUP	Cauayan	3.42	156	*e*P	P	12 57 29.1	+2.3
BALP	Baler	4.47	165	*e*P	P	12 57 43.9	+2.2
JNU	Nakatsue	16.03	34	LR	LR	13 06 14.5	
	comp=Z,84nm,19.5s,baz=11,slow=36						
BJT	Baijiatuau	20.20	351	P	P	13 01 08.4	-0.3
	32nm,0.9s						
BJT				*e*		13 01 17.7	
CMAR	Chiang Mai Arr	20.27	269	P	P	13 01 09.2	-0.4
	0.6nm,0.6s,baz=80,slow=9.0,SNR=6.7						
SONM	Songino Array	29.91	341	P	P	13 02 39.1	-1.8
	0.5nm,0.3s,mb3.6,baz=101,slow=8.7,SNR=3.0						
SONM				pP	pP	13 02 49.6	-2.1
	2.8nm,0.8s,baz=159,slow=11,SNR=5.8						
MKAR	Makanchi Array	40.85	320	P	P	13 04 14.7	+0.5
	0.5nm,0.5s,mb3.4,baz=122,slow=9.8,SNR=4.7						
MKAR				pP	pP	13 04 24.8	-0.5
	1.2nm,0.6s,baz=115,slow=8.5,SNR=7.3						
WRAB	Tennant Creek	42.06	160	P	P	13 04 23.9	-0.6
	12nm,1.0s,mb4.5						
WRA	Warramunga Arr	42.07	160	P	P	13 04 24.1	-0.5
	1.8nm,0.7s,mb3.8,baz=342,slow=9.0,SNR=14						
WRA				pP	pP	13 04 33.7	-2.0
	2.6nm,0.9s,baz=341,slow=9.0,SNR=7.7						
WB2	Warramunga Arr	42.07	160	*e*P	P	13 04 24.2	-0.4
ZAL	Zalesovo	43.33	330	pP	pP	13 04 44.4	-1.2
	1.6nm,0.8s,baz=225,slow=10.0,SNR=3.9						
KURK	Kurchatov	44.81	323	*e*P	P	13 04 50.7	+4.3
	5.5nm,0.9s,mb4.4						
KURK				*e*		13 04 56.3	
ASAR	Alice Springs	45.44	162	P	P	13 04 52.1	+0.3
	1.7nm,0.9s,mb3.9,baz=346,slow=6.7,SNR=11						
BVAR	Borovoye Array	50.41	323	P	P	13 05 30.8	+0.6
	0.5nm,0.6s,mb3.8,baz=90,slow=7.2,SNR=3.4						
BVAR				pP	pP	13 05 39.6	-1.8
	1.0nm,0.6s,baz=113,slow=11,SNR=4.7						
BRVK	Borovoye	50.49	323	P	P	13 05 31.8	+1.1
	3.5nm,0.7s,mb4.5						
BRVK				*e*	pP	13 05 40.0	-1.9
ZRNK	Zerenda	51.17	323	*e*P	P	13 05 36.0	+0.1
	3.7nm,0.8s,mb4.4						
ZRNK				*e*	pP	13 05 45.6	-1.6
ILAR	Eielson Array	73.21	27	P	P	13 08 03.1	+0.2
	0.2nm,0.5s,mb3.3,baz=281,slow=4.6,SNR=3.0						
ILAR				pP	pP	13 08 13.3	-1.4
	0.8nm,0.7s,baz=285,slow=5.2,SNR=7.0						
NOA	NORSAR Array B	81.48	332	LR	LR	13 47 34.0	
	comp=Z,25nm,20.0s,MS3.6,baz=5.0,slow=38						
GERES	GERESS Array B	85.51	321	P	P	13 09 09.9	+0.3
	0.7nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=5.4						
CASY	Casey	86.41	184	*e*P	P	13 09 08.7	-4.9
	10nm,1.0s,mb5.0						

*WAR **24** 13:14:15.8,51.50N×16.09E,ML2.7,Mining Induced*
*PRU **24** 13:14:16.7,51.44N×16.11E*
ISC 24 13:14:15.8±2.0,**51.44N**±0.08×**16.00E**±0.09,**n8,**σ**0^{s}85**/13,
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	163	ePG	Pg	13 14 28.0	-0.4
KSP				eSG	Sg	13 14 37.0	+0.2
UPC	Upice	0.94	179	ePG	Pg	13 14 35.3	+0.8
UPC				eSG	Sg	13 14 47.4	+0.4
DPC	Dobruska-Polom	1.11	169	ePG	Pg	13 14 38.2	+0.2
DPC				eSG	Sg	13 14 52.0	-0.9
PVCC	Panska Ves	1.29	225	ePG	Pg	13 14 41.5	0.0
PVCC				eSG	Sg	13 15 00.5	+1.9
PRU	Pruhonice	1.73	213	ePG	Pg	13 14 50.2	-0.1
PRU				eSG	Sg	13 15 12.5	-0.8
	12nm,0.3s						
CLL	Collm	1.88	267	eSG	Sg	13 15 18.0	-0.5
OKC	Ostrava-Krasne	2.11	139	eSG	Sg	13 15 21.0	-5.1
KHC	Kasperske Hory	2.79	215	eSG	Sg	13 15 45.2	-3.4

*IDC **24** 13:28:19.3±1.2,31.00S×177.64W,mb4.7/4,mb1 4.7/5,
mb1mx4.3/16,ML4.1/1,Error ellipse: s-maj=44.4km
s-min=29.8km az=2.0*
*NEIC **24** 13:28:28.3±7.1,31.19S×177.71W,h68^{km}±56^{km},mb4.7/7,
Error ellipse: s-maj=44.3km s-min=14.1km az=46.0*
ISC 24 13:28:28.4±0.9,**31.86S**±0.08×**178.2W**±0.1,**h57^{km},
h57^{km}**±3.9^{km}**:pP-P,n33,**σ**1^{s}35**/27,**mb4.6**/9,**7C-5D,
Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.39	206	eP	P	13 30 02.5	+0.4
MWZ	Matawai	7.36	207	eP	P	13 30 15.0	-0.6
MWZ				eS	S	13 31 44.2	+5.7
URZ	Urewera	7.47	210	eP	P	13 30 16.1	-1.0
BKZ	Black Stump Fm	8.49	209	eP	P	13 30 28.3	-2.9
NNZ	Nelson	11.54	214	eP	P	13 31 10.4	-2.4
NNZ				eS	S	13 33 21.9	+0.9
RPZ	Rata Peaks	14.57	213	Pn	P	13 32 00.1	+7.4
	0.8nm,0.3s,baz=52,slow=16,SNR=4.8						
ARMA	Armidale	25.86	265	eP	P	13 33 59.8	+3.4
CTA	Charters Tower	33.92	281	eP	P	13 35 08.0	-0.1
	6.6nm,0.9s,mb4.6						
CTAO	Charters Tower	33.92	281	eP	P	13 35 08.0	-0.1
	13nm,0.7s,mb5.0						
STKA	Stephens Creek	34.03	259	eP	P	13 35 11.3	+2.3
	6.9nm,0.9s,mb4.6						
STKA	Stephens Creek	34.03	259	P	P	13 35 11.6	+2.5
	3.8nm,0.6s,mb4.5,baz=116,slow=7.6,SNR=12						
ASAR	Alice Springs	42.91	269	P	P	13 36 23.4	+0.3
	7.3nm,0.7s,mb4.5,baz=105,slow=7.4,SNR=162						
ASAR				ScP		13 42 02.8	
	0.5nm,0.9s,baz=109,slow=4.6,SNR=4.6						
ASPA	Alice Springs	42.91	269	eP	P	13 36 23.7	+0.5
WB2	Warramunga Arr	44.02	274	⇓iP	P	13 36 31.8	-0.4
WB2				i	pP	13 36 43.0	-4.1
WRAB	Tennant Creek	44.02	274	eP	P	13 36 31.4	-0.9
	29nm,0.7s,mb5.1						
WRA	Warramunga Arr	44.03	274	P	P	13 36 31.8	-0.5
	3.8nm,0.4s,mb4.4,baz=111,slow=8.1,SNR=157						
FITZ	Fitzroy Crossi	52.23	271	eP	P	13 37 34.3	-1.7
	3.5nm,0.9s,mb4.3						
CASY	Casey	53.79	208	eP	P	13 37 48.2	+1.2
QSPA	South Pole Qui	58.26	180	P	P	13 38 22.6	+3.8
	11nm,0.7s,mb5.0						
QSPA				e		13 38 30.8	
QSPA				e	pP	13 38 40.0	+5.8
MAW	Mawson	70.90	201	P	P	13 39 43.9	+3.2
	2.1nm,0.8s,mb4.1						
USHA	Ushuaia	74.80	146	P	P	13 40 03.8	0.0
	18nm,1.1s,mb4.9,baz=233,slow=5.1,SNR=3.6						
SNAA	Sanae	76.70	178	⇑i	pP	13 40 25.7	-4.8
SNAA	Sanae	76.70	178	⇓i	P	13 40 33.3	+19
SNAA	Sanae	76.70	178	⇓iP	P	13 40 15.9	+1.5
SNAA				⇑iP		13 40 25.7	
SNAA				⇓iP	pP	13 40 33.3	+2.8
VNA3	Neumayer Olymp	76.86	176	⇑i	pP	13 40 30.1	-1.3
VNA3	Neumayer Olymp	76.86	176	⇑iP	P	13 40 14.3	-1.0
VNA3				⇑iP	pP	13 40 30.1	-1.3
VNA2	Neumayer--Watz	77.30	177	⇑i	pP	13 40 32.7	-1.2
VNA2	Neumayer--Watz	77.30	177	⇓iP	P	13 40 16.9	-0.8
VNA2				⇑iP	pP	13 40 32.7	-1.2
MKAR	Makanchi Array	118.59	309	PKP	PKPdf	13 47 07.6	-2.1
	0.4nm,0.5s,baz=227,slow=1.9,SNR=4.3						
KAF	Kangasniemi	145.87	340	ep	PKPdf	13 47 57.4	-2.4
FINES	FINESS Array B	146.46	339	PKPbc	PKPbc	13 47 59.9	-2.3
	7.1nm,0.5s,baz=95,slow=4.3,SNR=47						
NB2	NORSAR Subarra	150.17	351	PKP		13 48 09.3	
	1.2nm,0.9s,baz=17,slow=2.6						
AKASG	Malin Array Be	152.35	321	PKPbc	PKPdf	13 48 15.8	+5.4
	3.2nm,0.6s,baz=48,slow=2.6,SNR=4.9						

*NAO **24** 13:40:24.5±3.8,60.98N×29.69E,ML2.1*
*BER **24** 13:40:28.1±2.5,61.00N×29.48E,ML2.1(NAO),
Suspected explosion*
HEL 24 13:40:24.5±0.3**,60.99N×29.80E,ML1.1,Explosion,
Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	1.19	249	eP	Pb	13 40 46.1	-1.6
VJF				eS	Sb	13 41 01.1	-2.4
FIA0	FINESS Array S	1.86	286	eP	Pn	13 40 56.6	-1.3
FIA0				eS	Sn	13 41 21.5	-0.9
FIA0	FINESS Array S	1.86	286	Pn	Pn	13 40 56.6	-1.2
	baz=112,slow=18						
FIA0				Lg		13 41 22.1	
	baz=95,slow=28						
FIA0				Rg		13 41 30.1	
	baz=104,slow=56						
PVF	Pernaja	1.98	259	eP	Pn	13 40 58.9	-0.7
PVF				eS	Sn	13 41 24.6	-1.0
KAF	Kangasniemi	2.02	305	eP	Pn	13 40 59.3	-0.8
KAF				eS	Sn	13 41 24.8	-1.7
KAF				eSG	Sg	13 41 26.5	-5.1
KAF				MSG		13 41 26.6	
	comp=Z,0.7nm,0.1s						
KJN	Kajaani	3.25	344	eP	Pn	13 41 17.2	-0.6
KJN				eS	Sn	13 41 55.1	-2.7

*NIED **24** 13:42:00,44.00N×147.80E,h65^{km},Mw3.8 Best double
couple: $M_0$5.82×10^{14} NP1:ϕ_s249°,δ74°,λ-119°. NP2:
ϕ_s133°,δ33°,λ-30°.*
*JMA **24** 13:42:05.8±0.2,43.97N×147.82E,M4.0*
ISC 24 13:42:06.4±1.6,**44.0N**±0.2×**147.8E**±0.1,**n11,**σ**0^{s}71**/19,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.61	249	P	Pn	13 42 36.0	-0.2
NEM2				eS	Sb	13 42 57.5	-0.1
JRA	Rausu	1.94	270	P	Pn	13 42 40.7	-0.2
JRA				eS	Sn	13 43 06.5	+0.2
JNK	Nakash	2.27	261	P	Pn	13 42 45.5	-0.1
JNK				eS	Sn	13 43 14.4	-0.3
JAK	Akkeshi	2.46	248	P	Pn	13 42 48.1	-0.3
JAK				eS	Sn	13 43 18.6	-1.0
JTKR	Abashiri--Toko	2.81	271	P	Pn	13 42 52.6	-0.8
JAR	Ashorobuto	3.00	259	P	Pn	13 42 56.4	+0.2
JAR				eS	Sn	13 43 33.0	-0.4
JOB	Onbets	3.08	251	P	Pn	13 42 57.5	+0.3
JOB				eS	Sn	13 43 35.6	+0.3
JMP	Maruseppu	3.21	272	P	Pn	13 42 58.3	-0.8
JCH	Churui	3.51	249	P	Pn	13 43 03.7	+0.3
JCH				eS	Sn	13 43 46.1	-0.2
JFR	Furan	3.87	260	P	Pn	13 43 10.0	+1.5
JFR				eS	Sn	13 43 58.2	+2.9
JNBK	Urakawa-nobuka	4.06	247	P	Pn	13 43 11.5	+0.3

IDC 24 13:48:52.1±132.0,**48.88S**×**117.16E,mb3.7**/3,**mb1 3.8**/3,
mb1mx3.7/9,**Error ellipse: s-maj=2190.0km
s-min=133.1km az=41.0,Low Confidence Location,
Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	25.03	56	P	P	13 54 17.7	-1.4
	1.9nm,0.9s,baz=243,slow=9.0,SNR=3.0						
ASAR	Alice Springs	28.43	34	P	P	13 54 48.7	-1.7
	0.7nm,1.1s,baz=211,slow=8.3,SNR=5.4						
WRA	Warramunga Arr	32.01	32	P	P	13 55 19.9	-2.3
	0.6nm,0.7s,baz=202,slow=10,SNR=6.9						

*NEIC **24** 13:58:53.3,38.57N×23.50E,h5^{km},ML2.5(ATH),
ML2.4(THE),After ATH.*
*ATH **24** 13:58:53.3,38.57N×23.50E,h5^{km},MD2.6/7,ML2.5*
*THE **24** 13:58:54.9,38.59N×23.61E,h22^{km},ML2.4*
ISC 24 13:58:53.0±0.7,**38.57N**±0.04×**23.52E**±0.05,**h11^{km}**±8^{km},
n13,σ**0^{s}71**/17,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.41	281	ePG	Pg	13 59 00.9	-0.6
LKR				eSB	Sb	13 59 07.5	-0.2
MKIT	Kithairon Oros	0.44	207	ePB	Pb	13 59 01.9	-0.3
MPAR	Parnis Oros	0.46	158	ePB	Pb	13 59 02.0	-0.5
PTL	Penteli	0.59	152	ePB	Pb	13 59 05.0	+0.2
ATH	Athens Observa	0.62	165	ePG	Pg	13 59 05.2	-0.3
AOS	Alonnisos	0.66	25	ePg	Pg	13 59 05.9	-0.5
AOS				eSg	Sg	13 59 16.2	+0.9
NSAL	Nisos Salamina	0.67	184	ePB	Pb	13 59 07.4	+1.3
NEO	Neokhori	0.77	343	ePB	Pb	13 59 08.4	+0.6
NAIG	Nisos Aigina	0.81	181	ePB	Pb	13 59 09.1	+0.5
XOR	Xorichti	0.83	342	ePg	Pg	13 59 09.4	-0.3
XOR				eSg	Sg	13 59 21.5	+0.6
AGG	Agios Georgios	1.03	296	ePg	Pg	13 59 13.5	-0.2
AGG				eSg	Sg	13 59 27.6	+0.1
OUR	Ouranopolis	1.80	11	ePb	Pb	13 59 23.3	-2.2
	comp=Z,2.5nm,0.4s						
LKD	Levkas	2.25	274	ePn	Pn	13 59 31.1	+0.4

*IDC **24** 14:13:34.7±0.8,50.01S×113.80E,mb3.9/6,mb1 4.1/6,
mb1mx4.0/11,MS3.8/6,Ms1 3.7/6,ms1mx3.6/16,Error
ellipse: s-maj=50.6km s-min=18.5km az=118.0*
*NEIC **24** 14:13:36.0±0.6,50.15S×114.00E,h10^{km},mb4.1/2,Error
ellipse: s-maj=36.6km s-min=11.6km az=109.0*
ISC 24 14:13:33.8±0.7,**50.2S**±0.1×**114.2E**±0.4,**h10^{km},n21,**
σ**0^{s}92**/10,**mb3.9**/7,**MS3.7**/5,**1C-1D,Western
Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CASY	Casey	16.28	185	eP	P	14 17 22.9	-0.9
	21nm,1.1s						
NWAO	Narrogin (SRO)	17.36	8	LR	LR	14 22 37.3	
	comp=Z,298nm,20.5s,baz=239,slow=31						
MAW	Mawson	30.56	216	P	P	14 19 48.7	-0.4
	0.3nm,0.3s,mb3.5,baz=20,slow=12,SNR=3.0						
MAW				LR	LR	14 30 18.4	
	comp=Z,73nm,18.6s,MS3.4,baz=239,slow=33						
ASAR	Alice Springs	30.57	37	P	P	14 19 48.8	-0.9
	1.0nm,0.7s,mb3.8,baz=209,slow=7.7,SNR=14						
ASAR				PcP	PcP	14 22 48.8	+0.3
	0.3nm,0.7s,baz=187,slow=3.1,SNR=4.2						
ASAR				LR	LR	14 31 43.0	
	comp=Z,89nm,20.1s,MS3.4,baz=295,slow=36						
VNDA	Vanda	32.69	163	LR	LR	14 32 51.1	
	comp=Z,133nm,21.8s,MS3.6,baz=358,slow=35						
FITZ	Fitzroy Crossi	33.26	20	P	P	14 20 14.5	+1.2
	5.3nm,1.1s,mb4.4,baz=178,slow=14,SNR=3.6						
WRA	Warramunga Arr	34.12	35	P	P	14 20 20.6	-0.1
	2.2nm,0.8s,mb4.2,baz=202,slow=8.9,SNR=7.8						
RPZ	Rata Peaks	38.51	103	LR	LR	14 32 46.8	
	comp=Z,103nm,19.9s,MS3.6,baz=62,slow=30						
QSPA	South Pole Qui	39.97	180	eP	P	14 21 10.3	+0.8
	2.0nm,0.6s,mb4.0						
SNAA	Sanae	50.68	201	⇓i	P	14 22 34.8	+0.2
SNAA	Sanae	50.68	201	P	P	14 22 34.9	+0.2
	1.5nm,1.2s,mb3.8,baz=140,slow=14,SNR=8.1						
VNA2	Neumayer--Watz	52.25	201	⇑i	P	14 22 50.0	+3.4
CMAR	Chiang Mai Arr	69.63	345	P	P	14 24 44.6	-0.6
	0.5nm,0.6s,mb3.6,baz=187,slow=6.6,SNR=4.4						
PLCA	Paso Flores	89.40	176	LR	LR	15 07 59.1	
	comp=Z,189nm,19.3s,MS4.5,baz=181,slow=36						
TXAR	Lajitas Array	144.72	112	PKPbc	PKPbc	14 33 12.4	+2.1
	0.4nm,0.3s,baz=324,slow=7.8,SNR=2.5						
MSU	Marysvale	145.36	92	ePKPdf	PKPdf	14 33 15.6	+1.3
BNM	Barren Site	146.23	103	PKPdf	PKPdf	14 33 16.3	+0.3
ANMO	Albuquerque	146.85	102	PKPbc	PKPbc	14 33 19.1	+3.7
PDAR	Pinedale Array	149.31	87	PKPab	PKPab	14 33 32.2	+3.4
	0.7nm,0.8s,baz=237,slow=1.3,SNR=7.4						
YKA	Yellowknife Ar	151.01	46	PKPbc	PKPdf	14 33 27.9	+5.3
	0.9nm,0.7s,baz=305,slow=2.3,SNR=5.3						
YKA				PKPab	PKPab	14 33 35.5	+0.3
	2.0nm,0.7s,baz=284,slow=2.1,SNR=8.7						
YKA	Yellowknife Ar	151.01	46	PKPbc	PKPdf	14 33 27.9	+5.3
YKA				PKPab	PKPab	14 33 35.5	+0.3

*ISK **24** 14:17:57.7,39.70N×43.96E,h5^{km},MD3.8*
*TIF **24** 14:17:58.4,39.82N×44.40E,h14^{km},Mpv4.6*
ISC 24 14:17:58.9±0.8,**39.65N**±0.05×**43.98E**±0.07,**h5^{km},n14,**
σ**1^{s}41**/20,**1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGRT	Agri	0.77	267	i PG	Pg	14 18 12.9	-1.3
AGRT				i SG	Sg	14 18 25.1	+0.7
KARS	Kars	1.17	325	PN	Pn	14 18 20.5	-1.4
KARS				SN	Sn	14 18 37.5	-0.9
TVAN	Van	1.21	202	i P	Pb	14 18 19.4	-2.5
STE	Stepanavan	1.38	13	i P	Pb	14 18 21.0	-3.8
VAD	Vardenisi	1.45	68	eP	Pn	14 18 22.0	-3.8
AKH	Akhalkalaki	1.79	348	eP	Pn	14 18 27.8	-2.9
AKH				i S	Sn	14 18 57.5	+3.4
VRT	Varto	1.97	255	PN	Pn	14 18 33.7	+0.5
VRT				SN	Sn	14 18 59.1	+0.5
ERZM	Erzurum	2.03	278	i P	Pn	14 18 33.7	-0.4
EZM	Erzurum	2.03	278	PN	Pn	14 18 35.0	+0.9
HKR	Hakkari	2.08	185	ePN	Pn	14 18 36.2	+1.3
MTA	Mtatsminda	2.13	17	⇓iP	Pn	14 18 35.3	-0.3
MTA				i S	Sn	14 19 02.7	0.0
DUS	Dusheti	2.50	12	i P	Pn	14 18 42.5	+1.7
DUS				i S	Sn	14 19 13.9	+1.9
BEST	Besiri	2.75	231	i P	Pn	14 18 46.2	+1.7
BINT	Bingol	2.82	255	ePN	Pn	14 18 44.8	-0.6

*BJI **24** 14:37:00.8,5.90S×150.56E,h153^{km},mB5.0,mb4.9*
*NEIC **24** 14:37:06.5±1.6,5.62S×149.80E,h154^{km}±15^{km},mb4.7/13,
Error ellipse: s-maj=11.2km s-min=7.5km az=76.0*
*SYO **24** 14:37:06.4,5.62S×149.80E,h154^{km},MB4.7*
*IDC **24** 14:37:07.2±1.4,5.66S×149.70E,h151^{km}±12^{km},mb4.2/14,
mb1 4.3/16,mb1mx4.3/19,MS3.3/2,Ms1 3.3/2,
ms1mx2.9/22,Error ellipse: s-maj=15.3km s-min=9.1km
az=105.0*
ISC 24 14:37:04.8±0.3,**5.60S**±0.04×**149.86E**±0.07,**h150^{km},
h150^{km}**±3.7^{km}**:pP-P,n55,**σ**1^{s}16**/58,**mb4.5**/26,**2C-1D,New
Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.63	215	P	P	14 38 14.3	+0.1
	60nm,0.3s,baz=40,slow=7.8,SNR=102						
PMG				S	S	14 39 07.5	-0.2
	169nm,0.3s,baz=163,slow=24,SNR=30						
PMG	Port Moresby	4.63	215	ePn	P	14 38 14.2	0.0
PMG				e		14 38 39.9	
PMG				eS	S	14 39 07.6	-0.2
CTA	Charters Tower	14.82	193	eP	P	14 40 29.0	+0.9
	21nm,1.1s						
CTA	Charters Tower	14.82	193	P	P	14 40 29.2	+1.1
	0.6nm,0.3s,baz=19,slow=12,SNR=11						
CTA				LR	LR	14 45 53.3	
	comp=Z,121nm,21.1s,baz=42,slow=36						
CTAO	Charters Tower	14.82	193	eP	P	14 40 29.1	+1.0
	61nm,1.2s						
KAKA	Kakadu	18.62	247	eP	P	14 41 10.4	-3.0
	7.3nm,0.5s						
WRAB	Tennant Creek	20.75	225	eP	P	14 41 34.0	-1.2
	39nm,0.6s						
WB2	Warramunga Arr	20.75	225	⇑iP	P	14 41 34.4	-0.9
WB2				eS	S	14 45 15.8	+2.5
WRA	Warramunga Arr	20.76	225	P	P	14 41 34.5	-0.9
	11nm,0.5s,baz=48,slow=10,SNR=255						
WRA				S	S	14 45 16.6	+3.2
	5.4nm,0.8s,baz=45,slow=20,SNR=14						
WRA				ScP		14 49 02.5	
	3.2nm,0.7s,baz=49,slow=2.7,SNR=21						
NOUC	Port Laguerre	22.84	137	eP	P	14 41 55.6	-0.2
NOUC	Port Laguerre	22.84	137	eP	P	14 41 55.6	-0.3
DZM	Mont Dzumac	22.92	137	⇑eP	P	14 41 58.0	+1.5
ASAR	Alice Springs	23.64	219	P	P	14 42 03.7	+0.2
	8.6nm,0.3s,mb4.7,baz=53,slow=8.6,SNR=379						
ASAR				S	S	14 46 07.9	+4.1
	1.1nm,1.0s,baz=34,slow=16,SNR=3.0						
ASAR				ScP		14 49 10.0	
	2.2nm,0.7s,baz=49,slow=3.6,SNR=12						
ASAR				LR	LR	14 50 37.4	
	comp=Z,86nm,19.4s,baz=33,slow=34						
ASPA	Alice Springs	23.64	219	eP	P	14 42 03.5	0.0
ASPA				eS	S	14 46 07.4	+3.6
ARMA	Armidale	24.74	176	eP	P	14 42 14.3	+0.4
FITZ	Fitzroy Crossi	26.72	240	eP	P	14 42 30.2	-2.1
	8.6nm,1.0s,mb4.3						
FITZ				i	pP	14 43 00.0	-3.2
FITZ	Fitzroy Crossi	26.72	240	P	P	14 42 30.7	-1.5
	14nm,0.9s,mb4.6,baz=56,slow=5.4,SNR=46						
STKA	Stephens Creek	27.26	195	P	P	14 42 36.0	-1.2
	2.2nm,0.3s,mb4.2,baz=32,slow=9.7,SNR=14						
STKA	Stephens Creek	27.26	195	eP	P	14 42 35.7	-1.4
JOW	Kunigami	38.42	328	P	P	14 44 14.2	+0.6
	64nm,0.9s,mb5.3,baz=133,slow=16,SNR=9.6						
URZ	Urewera	40.85	147	P	P	14 44 34.7	+1.3
	2.8nm,0.3s,mb4.3,baz=9.5,slow=12,SNR=4.8						
RPZ	Rata Peaks	42.30	157	P	P	14 44 46.1	+0.8
	18nm,0.6s,mb4.9,baz=165,slow=0.4,SNR=11						
JNU	Nakatsue	42.52	336	P	P	14 44 47.2	+0.1
	19nm,0.8s,mb4.8,baz=75,slow=1.0,SNR=12						
MAJO	Matsushiro	43.32	346	eP	P	14 44 52.7	-0.9
	19nm,0.6s,mb4.9						
MAT	Matsushiro	43.32	346	P	P	14 44 53.3	-0.3
MAT	Matsushiro	43.32	346	eP	P	14 44 53.0	-0.6
	12nm,0.7s,mb4.6						
KS15	Wonju Array Si	47.48	336	eP	P	14 45 26.8	+0.3
NJ2	Nanjing	47.69	324	eP	P	14 45 29.8	+1.6
NJ2				AP	pP	14 46 01.3	-0.8
NJ2				XP	sP	14 46 17.6	-1.3
NJ2				PP	PP	14 47 22.4	+1.7
NJ2				PPP	PPP	14 48 14.1	-0.4
NJ2				S	S	14 52 15.0	+3.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
NJ2				LR	LR		
	comp=N,4μm,16.3s						
NJ2				LR	LR		
	comp=E,3μm,16.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.1s						
GYA	Guiyang	52.59	309	P	P	14 46 08.0	+2.5
GYA				AP	pP	14 46 44.8	+4.7
GYA				XP	sP	14 47 02.4	+5.9
GYA				PP	PP	14 48 10.3	+3.2
GYA				S	S	14 53 22.0	+2.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ENH	Enshi	52.60	315	P	P	14 46 05.4	-0.1
	comp=Z,7.4nm,0.7s,mb4.5						
MDJ	Mudanjiang	53.21	342	P	P	14 46 09.3	-0.5
MDJ				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,168nm,5.2s						
MDJ	Mudanjiang	53.21	342	eP	P	14 46 08.6	-1.1
	comp=Z,18nm,0.8s,mb4.8						
CN2	Changchun	53.89	338	eP	P	14 46 15.5	+0.7
KMI	Kunming	55.04	306	eP	P	14 46 26.3	+2.8
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
XAN	Xi'an	55.23	319	P	P	14 46 24.8	+0.1
CMAR	Chiang Mai Arr	55.59	297	P	P	14 46 26.4	-1.1
	comp=Z,0.7nm,0.6s,mb3.7,baz=123,slow=5.4,SNR=6.0						
LZH	Lanzhou	59.80	318	eP	P	14 46 57.8	+1.1
LZH				AP	pP	14 47 33.5	+1.4
LZH				XP	sP	14 47 50.3	+1.9
LZH				PP	PP	14 49 13.8	+1.6
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,157nm,6.1s						
LZH				LR	LR		
	comp=E,159nm,14.6s						
LZH				LR	LR		
	comp=Z,193nm,17.7s						
HIA	Hailar	60.62	338	eP	P	14 47 01.3	-0.7
	comp=Z,7.7nm,0.6s,mb4.7						
FX1	Attu Island--F	61.52	16	eP	P	14 47 08.3	+0.2
SONM	Songino Array	65.48	329	P	P	14 47 34.3	+0.2
	comp=Z,4.2nm,0.5s,mb4.5,baz=146,slow=5.0,SNR=46						
CASY	Casey	66.41	196	P	P	14 47 38.6	-1.1
WMQ	Urumqi	74.37	318	⇑P	P	14 48 27.5	-0.4
WMQ				PCP	PcP	14 48 41.5	-0.6
WMQ				AP	pP	14 49 05.1	+0.3
WMQ				XP	sP	14 49 20.8	-0.2
WMQ				PP	PP	14 51 17.5	+0.1
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,23nm,6.1s						
WMQ				LR	LR		
	comp=E,16nm,17.5s						
WMQ				LR	LR		
	comp=Z,23nm,18.1s						
MKAR	Makanchi Array	79.02	320	P	P	14 48 54.6	+1.0
	comp=Z,0.8nm,0.5s,mb3.6,baz=96,slow=8.4,SNR=17						
PMR	Palmer	81.63	25	P	P	14 49 06.0	-1.3
	comp=Z,4.1nm,0.5s,mb4.3						
MCK	McKinley	82.73	23	eP	P	14 49 10.9	-1.9
	comp=Z,7.6nm,0.6s,mb4.6						
COLA	College	83.69	22	eP	P	14 49 15.8	-1.9
	comp=Z,10nm,0.7s,mb4.7						
MAW	Mawson	83.71	203	P	P	14 49 17.9	+0.2
	comp=Z,1.2nm,0.6s,mb3.8,baz=145,slow=16,SNR=1.8						
ILAR	Eielson Array	84.01	23	P	P	14 49 17.8	-1.5
	comp=Z,7.9nm,0.6s,mb4.6,baz=250,slow=5.2,SNR=95						
DAWY	Dawson	86.72	25	eP	P	14 49 33.1	+0.6
SYO	Syowa Base	91.94	200	⇓pP	pP	14 50 35.3	0.0
NVAR	Mina Array Bea	94.88	52	P	P	14 50 12.4	+1.3
	comp=Z,2.0nm,1.1s,mb4.3,baz=271,slow=4.5,SNR=6.4						
PDAR	Pinedale Array	101.55	48	P	P	14 50 41.2	0.0
	comp=Z,0.3nm,0.5s,baz=207,slow=2.0,SNR=4.3						
SDV	Santo Domingo	139.71	83	PKPdf	PKPdf	14 56 18.6	+2.7
SAML	Samuel	144.03	113	ePKPdf	PKPdf	14 56 24.3	+0.8
BDFB	Brasilia	152.45	140	PKPbc	PKPdf	14 56 46.9	+10
	comp=Z,3.0nm,0.4s,baz=228,slow=3.6,SNR=4.4						

*JMA **24** 14:53:46.5±0.3,24.97N×128.12E,h73^{km},M3.3*
*NEIC **24** 14:53:48.6±0.6,25.01N×128.30E,h35^{km},mb4.5/1,Error
ellipse: s-maj=25.2km s-min=8.5km az=85.0*
*IDC **24** 14:53:49.0±0.9,24.97N×128.22E,h38^{km}±6^{km},mb3.6/6,
mb1 3.8/7,mb1mx3.6/22,ML3.5/1,MS3.2/3,Ms1 3.3/3,
ms1mx2.9/25,Error ellipse: s-maj=43.2km s-min=12.5km
az=74.0*
ISC 24 14:53:45.4±2.1,**24.95N**±0.04×**128.15E**±0.06,**h27^{km}**±17^{km},
h36^{km}±1.0^{km}**:pP-P,n22,**σ**0^{s}97**/30,**mb3.9**/7,**MS3.3**/3,
Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.23	343	P	Pn	14 54 08.2	+1.0
JJT2				eS	Sn	14 54 24.6	+1.5
NAH1	Naha	1.31	342	P	Pn	14 54 09.0	+0.7
NAH1				eS	Sn	14 54 25.7	+0.6
JAGN	Aguni-jima	1.82	334	P	Pn	14 54 16.5	+0.9
JAGN				S	Sn	14 54 37.9	-0.1
JKE	Kume jima 2	1.84	318	P	Pn	14 54 16.3	+0.5
JKE				eS	Sn	14 54 38.0	-0.4
JOW	Kunigami	1.88	4	Pn	Pn	14 54 16.7	+0.3
	44nm,0.3s,baz=177,slow=14,SNR=48						
JOW				Sn	Sn	14 54 36.9	-2.5
	35nm,0.3s,baz=67,slow=30,SNR=9.6						
JOW	Kunigami	1.88	4	P	Pn	14 54 16.7	+0.3
JOW				eS	Sn	14 54 38.6	-0.8
JIH	Iheya	2.08	356	P	Pn	14 54 19.9	+0.6
JIH				eS	Sn	14 54 44.9	+0.3
JMJ	Miyako jima 2	2.59	268	P	Pn	14 54 26.5	-0.1
JMJ				eS	Sn	14 54 56.1	-1.5
JMZ	Minamidaito 2	2.91	72	eS	Sn	14 55 01.9	-3.8
JTK	Tokunoshima	2.91	14	P	Pn	14 54 30.9	-0.3
JTK				eS	Sn	14 55 02.7	-3.1

JAM	**Amami Oshima**	3.69	20	P	Pn	14 54 42.1	-0.1
JIJ	**Ishigaki jima**	3.69	262	P	Pn	14 54 40.7	-1.5
JIJ				*e*S	Sn	14 55 19.6	-5.7
JNU	**Nakatsue**	8.48	16	Pn	P	14 55 48.1	-1.5
	0.5nm,0.3s,baz=200,slow=8.2,SNR=3.5						
SONM	**Songino Array**	28.59	329	P	P	14 59 40.9	-0.5
	0.5nm,0.7s,mb3.4,baz=135,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	42.34	313	P	P	15 01 39.2	+0.4
	1.3nm,0.5s,mb3.8,baz=99,slow=9.7,SNR=24						
MKAR				pP	pP	15 01 50.3	+3.5
	0.6nm,0.4s,baz=96,slow=10,SNR=4.5						
FITZ	**Fitzroy Crossi**	42.86	184	P	P	15 01 43.5	+0.1
	1.6nm,0.6s,mb3.9,baz=20,slow=15,SNR=6.2						
FITZ				pP	pP	15 01 54.0	+2.6
	1.3nm,0.6s,baz=9.8,slow=12,SNR=2.5						
WRAB	**Tennant Creek**	45.02	172	*e*P	P	15 02 01.6	+0.7
	4.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	45.03	172	P	P	15 02 00.8	-0.1
	0.8nm,0.4s,mb3.9,baz=348,slow=8.8,SNR=20						
WRA				pP	pP	15 02 11.1	+2.2
	2.0nm,0.6s,baz=348,slow=8.9,SNR=10.0						
ASAR	**Alice Springs**	48.65	173	P	P	15 02 29.9	+0.5
	0.5nm,0.7s,mb3.6,baz=360,slow=6.9,SNR=9.4						
ASAR				pP	pP	15 02 41.4	+3.9
	1.1nm,0.7s,baz=2.8,slow=8.5,SNR=7.9						
BVAR	**Borovoye Array**	51.18	319	P	P	15 02 49.7	+1.4
	1.3nm,0.5s,mb4.1,baz=79,slow=7.3,SNR=8.7						
BVAR				pP	pP	15 03 01.2	+4.8
	0.6nm,0.5s,baz=76,slow=6.1,SNR=3.2						
BVAR				LR	LR	15 27 33.4	
	comp=Z,5.2nm,19.7s,MS2.6,baz=265,slow=40						
NOA	**NORSAR Array B**	80.42	334	LR	LR	15 42 43.7	
	comp=Z,13nm,18.7s,MS3.3,baz=90,slow=36						
ULM	**Lac du Bonnet**	95.59	27	LR	LR	15 53 48.2	
	comp=Z,61nm,19.2s,MS4.1,baz=11,slow=38						

ROM ***24*** *14:57:52.6±0.1, 45.00N×9.91E, h5^{km}, MD2.7/9, ML2.2/12, Error ellipse: s-maj=1.3km s-min=1.3km az=0.0*

LDG ***24*** *14:57:52.9±0.3, 44.97N×10.14E, h10^{km}, Ml2.7/7, Error ellipse: s-maj=7.8km s-min=4.3km az=95.0*

NEIC ***24*** *14:57:52.6, 45.00N×9.91E, h5^{km}, MD2.7(ROM), ML2.7(LDG), ML2.6(GEN), After ROM.*

PRU ***24*** *14:58:09.5, 45.98N×10.60E*

ISC 24 14:57:51.2±0.2**, 45.01N**±0.02×**9.92E**±0.02**, h5^{km}, n58, $\sigma 1^{s}37$**/96**, 4C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	0.41	235	*e*PG	Pg	14 58 01.2	+1.7
BOB				SG	Sg	14 58 09.1	+4.1
BOB	**Bobbio (Coli)**	0.41	235	*e*Pg	Pg	14 58 01.2	+1.7
BOB				*e*Sg	Sg	14 58 09.1	+4.0
GRAM		0.53	169	P	Pg	14 58 02.2	+0.5
GRAM				S	Sg	14 58 09.5	+0.8
CODM		0.62	185	P	Pg	14 58 03.3	-0.2
CODM				S	Sg	14 58 11.4	-0.4
ERBM	**Eremo**	0.68	149	*e*PG	Pg	14 58 06.8	+1.9
	41nm,0.4s						
ERBM	**Eremo**	0.68	149	*e*Pg	Pg	14 58 06.8	+2.0
BACM		0.74	172	P	Pg	14 58 05.3	-0.6
BACM				S	Sg	14 58 15.0	-0.7
SAL	**Salo**	0.74	35	*e*PG	Pg	14 58 08.1	+2.2
SAL				SG	Sg	14 58 19.8	+4.1
	280nm,0.3s						
SAL	**Salo**	0.74	35	*e*Pg	Pg	14 58 08.1	+2.2
SAL				*e*Sg	Sg	14 58 19.8	+4.1
GSCL	**Gusciola**	0.81	144	*e*PG	Pg	14 58 08.7	+1.3
GSCL				SG	Sg	14 58 22.6	+4.4
	27nm,0.4s						
GSCL	**Gusciola**	0.81	144	*e*Pg	Pg	14 58 08.7	+1.3
GSCL				*e*Sg	Sg	14 58 22.6	+4.4
VINC	**Vinca**	0.88	169	P	Pb	14 58 07.5	-1.0
VINC				S	Sb	14 58 18.5	-1.9
VLC	**Villacollemand**	0.91	158	*e*P	Pb	14 58 10.0	+1.0
ZCCA	**Zocca**	1.00	131	*e*PG	Pg	14 58 12.8	+1.7
	81nm,0.3s						
ZCCA	**Zocca**	1.00	131	*e*Pg	Pg	14 58 12.8	+1.7
BDI	**Bagni Di Lucca**	1.06	153	*e*PG	Pg	14 58 12.7	+0.3
BDI				SG	Sg	14 58 30.1	+3.6
	34nm,0.2s						
BDI	**Bagni Di Lucca**	1.06	153	*e*Pg	Pg	14 58 12.7	+0.4
BDI				*e*Sg	Sg	14 58 30.1	+3.6
MAIM		1.17	159	P	Pb	14 58 11.5	-2.0
VAI	**Varese**	1.18	317	*e*PN	Pn	14 58 15.6	+1.3
VAI				SN	Sn	14 58 33.0	+2.0
	17nm,0.4s						
VAI	**Varese**	1.18	317	*e*Pg	Pg	14 58 15.6	+0.8
VAI				*e*Sg	Sg	14 58 33.0	+2.4
TEOL	**Teolo**	1.29	73⇑	*e*Pg	Pg	14 58 14.8	-2.0
TEOL				*e*Sg	Sg	14 58 32.1	-1.9
SEI	**Scarperia**	1.40	132	*e*PN	Pn	14 58 18.9	+1.5
SEI				SN	Sn	14 58 39.2	+2.8
	137nm,0.5s						
SEI	**Scarperia**	1.40	132	*e*Pg	Pg	14 58 18.9	-0.2
SEI				*e*Sg	Sg	14 58 39.2	+1.4
FIN	**Finale Ligure**	1.46	238	*e*PN	Pn	14 58 19.7	+1.4
FIN				SN	Sn	14 58 38.5	+0.5
	31nm,0.6s						
FIN	**Finale Ligure**	1.46	238	*e*Pg	Pg	14 58 19.7	-0.6
FIN				*e*Sg	Sg	14 58 38.5	-1.3
BRMO	**Bormio**	1.50	12	*e*PN	Pn	14 58 21.3	+2.4
	33nm,0.6s						
BRMO	**Bormio**	1.50	12	*e*Pg	Pg	14 58 21.3	+0.1
VMG	**Vicchio**	1.56	131	*e*PN	Pn	14 58 21.4	+1.7
VMG	**Vicchio**	1.56	131	*e*Pg	Pg	14 58 21.4	-1.0
CGRP	**Cima Grappa**	1.58	56⇑	*e*Pg	Pg	14 58 19.3	-3.5
CGRP				*e*Sg	Sg	14 58 39.6	-4.3
CTI	**Castel Tesino**	1.60	49	*e*PN	Pn	14 58 19.8	-0.5
CTI				SN	Sn	14 58 42.9	+1.4
	40nm,0.3s						
CTI	**Castel Tesino**	1.60	49	*e*Pg	Pg	14 58 19.8	-3.3
CTI				*e*Sg	Sg	14 58 42.9	-1.5
IMI	**Imperia**	1.82	234	*e*PN	Pn	14 58 23.9	+0.4
IMI				SN	Sn	14 58 47.4	+0.2
	68nm,0.6s						
IMI	**Imperia**	1.82	234	*e*Pg	Pg	14 58 23.9	-3.7
IMI				*e*Sg	Sg	14 58 47.4	-4.4
CSNT	**Castellina Chi**	1.82	147	*e*PN	Pn	14 58 23.2	-0.3
	19nm,0.3s						
CSNT	**Castellina Chi**	1.82	147	*e*Pg	Pg	14 58 23.2	-4.4
SBF	**Sospel**	2.12	238	*e*Pn	Pn	14 58 28.6	+0.9
SBF				*e*Sn	Sn	14 58 53.3	-1.4
	30nm,0.4s						
MBDF	**Montbardon**	2.26	264	*e*Pn	Pn	14 58 29.2	-0.5
DAVA	**Damuels**	2.28	359⇑	*i*PN	Pn	14 58 31.1	+1.1
DAVA				*i* SN	Sn	14 58 56.3	-2.5
LPG	**La Plagne**	2.29	283	*e*Pn	Pn	14 58 33.2	+3.0
LPL	**La Plagne**	2.31	284	*e*Pn	Pn	14 58 32.2	+1.8
LPL				*e*Sn	Sn	14 58 59.3	-0.3
	12nm,0.5s						
MOTA	**Moosalm**	2.48	19⇓	*i*PN	Pn	14 58 33.1	+0.2
MOTA				*i* SN	Sn	14 59 00.4	-3.5
PGF	**Pioggiola**	2.55	196	*e*Pn	Pn	14 58 32.5	-1.3
PGF				*e*Sn	Sn	14 59 01.6	-4.0
	7.3nm,0.3s						
WTTA	**Wattenberg**	2.55	27⇑	*i*PN	Pn	14 58 36.2	+2.3
WTTA				*i* SN	Sn	14 59 02.0	-3.8
FRF	**La Foret Royal**	2.76	240	*e*Pn	Pn	14 58 35.3	-1.6
FRF				*e*Sn	Sn	14 59 09.9	-1.1
	6.9nm,0.4s						
ORIF	**Oris-en-Rattie**	2.87	270	*e*Pn	Pn	14 58 38.8	+0.3
ORIF				*e*Sn	Sn	14 59 13.4	-0.4
	12nm,0.6s						
LMR	**La Mourre**	2.97	237	*e*Pn	Pn	14 58 40.1	+0.2
LMR				*e*Sn	Sn	14 59 14.8	-1.6
	6.9nm,0.4s						
VOY	**Vojsko**	2.97	68	*e*Pn	Pn	14 58 46.0	+6.1
VOY				*e*Sn	Sn	14 59 12.6	-3.8
KBA	**Koelnbreinsper**	3.16	48⇓	*i*PN	Pn	14 58 42.8	+0.3
KBA				*i* SN	Sn	14 59 19.6	-1.5
SMRF	**Simiane la Rot**	3.28	253	*e*Pn	Pn	14 58 44.4	+0.2
SMRF				*e*Sn	Sn	14 59 21.1	-3.0
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	3.73	270	*e*Pn	Pn	14 58 50.6	-0.1
CDF	**Champ du Feu**	3.86	333	*e*Pn	Pn	14 58 51.3	-1.2
HAU	**Haudompre**	3.88	322	*e*Pn	Pn	14 58 52.0	-0.9
LASF	**Ste Croix**	4.43	260	*e*Pn	Pn	14 59 00.3	-0.4
GEC2	**GERESS Array S**	4.63	33	*e*Pn	Pn	14 59 01.4	-2.1
GEC2				*e*Sn	Sn	14 59 53.4	-5.0
LOR	**Lormes**	4.78	300	*e*Pn	Pn	14 59 05.4	-0.2
KHC	**Kasperske Hory**	4.82	30	*e*PN	Pn	14 59 06.0	-0.2
KHC				*e*SN	Sn	14 59 57.5	-5.7
SSF	**Saint Saulge**	4.92	297	*e*Pn	Pn	14 59 07.7	+0.2

NEIC ***24*** *14:59:59.2±0.6, 24.99N×128.30E, h10^{km}, mb4.4/3, Error ellipse: s-maj=31.7km s-min=8.2km az=75.0*

JMA ***24*** *15:00:00.4±0.3, 24.96N×128.18E, h67^{km}, M3.1*

IDC ***24*** *15:00:02.8±0.8, 25.09N×128.51E, h41^{km}±7^{km}, mb3.5/6, mb1 3.6/6, mb1mx3.4/21, Error ellipse: s-maj=36.8km s-min=7.0km az=83.0*

ISC 24 15:00:01.2±0.5**, 25.02N**±0.04×**128.27E**±0.05**, h41^{km}, h41^{km}**±1.7^{km}**:pP-P, n21, $\sigma 0^{s}89$**/31**, mb3.9**/9**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	1.20	337	P	P	15 00 22.3	+0.5
JJT2				*e*S	S	15 00 38.6	+1.4
NAH1	**Naha**	1.28	336	P	P	15 00 23.1	+0.2
NAH1				*e*S	S	15 00 39.1	-0.1
JOW	**Kunigami**	1.80	0	P	P	15 00 30.7	+0.4
	18nm,0.3s,baz=176,slow=14,SNR=22						
JOW				S	S	15 00 51.5	-0.6
	19nm,0.3s,baz=124,slow=25,SNR=11						
JOW	**Kunigami**	1.80	0	P	P	15 00 30.7	+0.4
JOW				*e*S	S	15 00 52.5	+0.4
JAGN	**Aguni-jima**	1.81	330	P	P	15 00 30.6	+0.1
JAGN				*e*S	S	15 00 52.1	-0.3
JKE	**Kume jima 2**	1.86	314	P	P	15 00 30.4	-0.8
JKE				S	S	15 00 52.1	-1.5
JIH	**Iheya**	2.02	352	P	P	15 00 34.1	+0.7
JIH				*e*S	S	15 00 58.6	+1.0
JMJ	**Miyako jima 2**	2.71	266	P	P	15 00 40.8	-2.5
JMZ	**Minamidaito 2**	2.79	73	P	P	15 00 43.8	-0.6
JMZ				*e*S	S	15 01 17.0	-0.1
JTK	**Tokunoshima**	2.82	12	P	P	15 00 45.5	+0.6
JTK				*e*S	S	15 01 16.4	-1.5
JAM	**Amami Oshima**	3.58	19	P	P	15 00 56.5	+0.8
JAM				*e*S	S	15 01 35.4	-1.8
JIJ	**Ishigaki jima**	3.81	261	*e*S	S	15 01 34.2	-8.8
SONM	**Songino Array**	28.59	328	P	P	15 05 55.1	-0.4
	0.3nm,0.6s,mb3.2,baz=149,slow=8.4,SNR=2.8						
SONM				pP	pP	15 06 07.1	+0.6
	0.5nm,0.8s,baz=159,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	42.37	313	P	P	15 07 53.4	+0.4
	0.8nm,0.5s,mb3.6,baz=90,slow=9.7,SNR=19						
MKAR				pP	pP	15 08 06.0	+1.5
	1.3nm,0.9s,baz=102,slow=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	42.94	184	P	P	15 07 57.5	-0.6
	0.9nm,0.6s,mb3.7,baz=360,slow=8.7,SNR=4.5						
WRAB	**Tennant Creek**	45.08	172	P	P	15 08 15.6	+0.3
	6.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	45.09	172	P	P	15 08 15.2	-0.2
	1.0nm,0.8s,mb3.7,baz=348,slow=8.8,SNR=17						
WRA				pP	pP	15 08 26.0	-0.9
	2.1nm,0.6s,baz=353,slow=8.8,SNR=11						
ASAR	**Alice Springs**	48.71	173	P	P	15 08 44.0	+0.3
	0.4nm,0.6s,mb3.6,baz=2.3,slow=15,SNR=9.1						
ASAR				pP	pP	15 08 55.4	0.0
	0.9nm,0.7s,baz=359,slow=10,SNR=6.6						
BVAR	**Borovoye Array**	51.20	319	P	P	15 09 03.5	+1.1
	1.1nm,0.5s,mb4.0,baz=80,slow=9.0,SNR=7.3						
BVAR				pP	pP	15 09 15.2	+1.2
	0.5nm,0.4s,baz=90,slow=5.9,SNR=3.2						
BRVK	**Borovoye**	51.27	319	P	P	15 09 04.1	+1.2
	1.4nm,0.4s,mb4.2						
ZRNK	**Zerenda**	52.01	319	*e*P	P	15 09 09.1	+0.6
	2.3nm,0.6s,mb4.3						
ZRNK				*e*	pP	15 09 19.5	-0.6

NEIC ***24*** *15:08:06.1, 38.55N×23.48E, h24^{km}, ML3.0(ATH), ML2.8(THE), After ATH.*

ATH ***24*** *15:08:06.1, 38.56N×23.47E, h24^{km}±2^{km}, MD3.0/8, ML3.0*

THE ***24*** *15:08:08.4, 38.62N×23.55E, h20^{km}, ML2.8*

ISC 24 15:08:05.9±0.5**, 38.54N**±0.03×**23.59E**±0.05**, h21^{km}**±5^{km}**, n24, $\sigma 0^{s}94$**/33**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	0.41	164	*e*PB	Pb	15 08 15.1	+0.8
MKIT	**Kithairon Oros**	0.45	216	*e*PB	Pb	15 08 15.0	0.0
LKR	**Lokris**	0.48	283	*e*PB	Pb	15 08 14.3	-1.2
PTL	**Penteli**	0.54	157	*e*PN	Pn	15 08 17.5	-0.6
ATH	**Athens Observa**	0.58	170	*e*PN	Pn	15 08 18.3	-0.4
NSAL	**Nisos Salamina**	0.65	189	*e*PN	Pn	15 08 19.0	-0.7
AOS	**Alonnisos**	0.66	20	*e*Pg	Pb	15 08 18.9	+0.3
AOS				*e*Sg	Sb	15 08 28.9	+1.5
NAIG	**Nisos Aigina**	0.79	186	*e*PN	Pn	15 08 22.0	+0.3
NAIG	**Nisos Aigina**	0.79	186	*e*Pn	Pn	15 08 23.0	+1.3
NEO	**Neokhori**	0.81	339	*e*PN	Pn	15 08 21.5	-0.6
XOR	**Xorichti**	0.88	339	*e*Pg	Pb	15 08 22.9	+0.6
XOR				*e*Sg	Sb	15 08 35.6	+2.0
AGG	**Agios Georgios**	1.10	296	*e*Pg	Pb	15 08 26.4	+0.4
	comp=Z,6.0nm,0.7s						
AGG				*e*Sg	Sb	15 08 40.8	+0.9
PAIG	**Paliouri**	1.38	3	*e*Pb	Pb	15 08 30.9	0.0
PAIG				*e*Sb	Sb	15 08 48.0	-0.1
LIT	**Litokhoron**	1.77	332	*e*Pb	Pb	15 08 35.7	-1.9
	comp=Z,3.0nm,0.3s						
LIT				*e*Sb	Sb	15 08 57.3	-2.2
LOS	**Limnos**	1.81	39	*e*Pb	Pb	15 08 37.4	-0.7
OUR	**Ouranopolis**	1.81	9	*e*Pb	Pb	15 08 37.3	-0.9
PLG	**Polygyros**	1.83	356	*e*PB	Pb	15 08 37.4	-1.1
MEV	**Metsovon**	2.22	305	*e*Pn	Pn	15 08 43.4	+1.2
MEV				*e*Sn	Sn	15 09 09.9	+0.8
SOH	**Sokhos**	2.28	355	*e*Pn	Pn	15 08 44.5	+1.4
SRS	**Serrai**	2.57	360	*e*Pn	Pn	15 08 48.0	+0.7
SRS				*e*Sn	Sn	15 09 17.7	-0.5
GRG	**Griva**	2.58	340	*e*Pn	Pn	15 08 46.9	-0.5
GRG				*e*Sn	Sn	15 09 17.9	-0.5
KNT	**Kendrikon**	2.67	349	*e*Pn	Pn	15 08 49.4	+0.8
KNT				*e*Sn	Sn	15 09 19.9	-0.7
FNA	**Florina**	2.82	323	*e*Pn	Pn	15 08 50.3	-0.4
ALN	**Alexandroupoli**	3.02	38	*e*Pn	Pn	15 08 54.3	+0.7

IDC ***24*** *15:30:28.9±3.8, 6.92S×129.61E, h99^{km}±35^{km}, mb4.1/7, mb1 4.2/10, mb1mx4.1/14, MS3.6/1, Ms1 3.6/1, ms1mx2.9/16, Error ellipse: s-maj=37.4km s-min=15.1km az=64.0*

BJI ***24*** *15:30:29.8, 7.00S×129.50E, h109^{km}, mB4.9, mb4.8*

NEIC ***24*** *15:30:29.9±1.8, 6.98S×129.53E, h110^{km}±18^{km}, mb4.4/13, Error ellipse: s-maj=18.2km s-min=11.3km az=60.0*

SYO ***24*** *15:30:29.8, 6.98S×129.53E, h110^{km}, MB4.4*

ISC 24 15:30:30.3±1.4**, 7.13S**±0.05×**129.43E**±0.09**, h128^{km}**±14^{km}**, n45, $\sigma 1^{s}29$**/52**, mb4.5**/24**, 1C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	6.26	152⇓	*i*P	P	15 32 03.0	+1.7
	139nm,0.4s						
KAKA				*e*S	S	15 33 11.2	-0.8
FITZ	**Fitzroy Crossi**	11.51	198	*e*P	P	15 33 13.7	+2.0
	7.2nm,0.3s						
FITZ				*e*S	S	15 35 16.7	-1.4
FITZ	**Fitzroy Crossi**	11.51	198	P	P	15 33 13.1	+1.5
	1.2nm,0.3s,baz=17,slow=9.2,SNR=36						
FITZ				S	S	15 35 15.7	-2.4
	7.4nm,0.3s,baz=189,slow=15,SNR=8.0						
WRAB	**Tennant Creek**	13.59	160	*e*P	P	15 33 37.5	-1.3
WRA	**Warramunga Arr**	13.59	160	P	P	15 33 37.6	-1.3
	1.7nm,0.3s,baz=347,slow=13,SNR=122						
WRA				S	S	15 36 02.9	-4.2
	9.1nm,0.3s,baz=333,slow=22,SNR=12						
WB2	**Warramunga Arr**	13.60	160	*e*P	P	15 33 37.7	-1.3
WB2				*e*S	S	15 36 02.8	-4.5
ASAR	**Alice Springs**	16.99	166	P	P	15 34 23.1	+1.6
	2.6nm,0.3s,baz=341,slow=8.7,SNR=151						
ASAR				S	S	15 37 23.7	-1.1
	2.2nm,0.3s,baz=352,slow=26,SNR=7.8						
ASAR				ScP		15 42 20.6	
	0.1nm,0.3s,baz=353,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	16.99	166	P	P	15 34 23.1	+1.6
ASAR				S	S	15 37 23.7	-1.1
ASAR				ScP		15 42 20.6	
ASPA	**Alice Springs**	16.99	166	*e*P	P	15 34 23.8	+2.2
ASPA				*e*S	S	15 37 24.7	0.0
PMG	**Port Moresby**	17.69	99	P	P	15 34 29.5	-0.7
	41nm,1.0s						
CTA	**Charters Tower**	20.79	130	P	P	15 35 03.1	+0.1
	3.3nm,0.5s,baz=301,slow=12,SNR=4.3						
CTAO	**Charters Tower**	20.79	130	P	P	15 35 02.1	-0.8
	9.1nm,0.7s						
FORT	**Forrest**	23.56	183	*e*P	P	15 35 34.0	+4.0
	26nm,0.5s,mb4.8						
FORT				*e*S	S	15 40 01.0	+30
STKA	**Stephens Creek**	27.11	157	*e*P	P	15 36 03.6	+0.4
	2.8nm,0.4s,mb4.2						
STKA				*e*S	S	15 41 20.0	+50
STKA	**Stephens Creek**	27.11	157	P	P	15 36 03.8	+0.5
	3.2nm,0.4s,mb4.2,baz=337,slow=8.3,SNR=20						
CM31	**Chiang Mai Arr**	39.38	311	P	P	15 37 49.4	+0.3
	1.9nm,0.5s,mb4.2						
CMAR	**Chiang Mai Arr**	39.38	311	P	P	15 37 49.6	+0.4
	2.3nm,0.6s,mb4.2,baz=134,slow=7.4,SNR=20						
CMAR				PcP	PcP	15 39 56.3	+0.8
	0.5nm,0.5s,baz=151,slow=2.8,SNR=4.7						
NJ2	**Nanjing**	40.25	346	*e*P	P	15 37 58.6	+2.4
NJ2				AP	pP	15 38 17.0	-8.0
NJ2				PP	PP	15 39 35.5	+1.4
NJ2				PPP	PPP	15 40 03.1	-0.4
NJ2				S	S	15 44 01.0	+7.5
NJ2				XS		15 44 34.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,4μm,15.0s						
NJ2				LR	LR		
	comp=E,4μm,15.0s						
NJ2				LR	LR		
	comp=Z,5μm,14.9s						
KMI	**Kunming**	41.27	322	*e*P	P	15 38 05.8	+1.2
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
ENH	**Enshi**	41.83	334	*e*P	P	15 38 07.6	-1.6
	comp=Z,4.7nm,0.6s,mb4.4						
BJI	**Beijing**	48.51	346	P	P	15 39 05.4	+3.2
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
LZH	**Lanzhou**	49.26	333	*e*P	P	15 39 09.3	+1.3
LZH				AP	pP	15 39 30.1	-7.5
LZH				XP	sP	15 39 43.5	-8.3
LZH				PP	PP	15 41 05.3	+2.0
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.9						
LZH				LR	LR		
	comp=N,195nm,13.3s						
LZH				LR	LR		
	comp=Z,283nm,16.8s						
CN2	**Changchun**	50.82	356	*e*P	P	15 39 20.3	+0.5
MDJ	**Mudanjiang**	51.51	0	P	P	15 39 26.6	+1.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,110nm,5.3s						
ASAJ	**Asahikawa**	52.38	12	LR	LR	15 59 12.5	
	comp=Z,57nm,21.3s,baz=156,slow=33						
PKI	**Pulchoki**	54.78	311	*e*P	P	15 39 49.5	+0.2
	comp=Z,8.3nm,0.6s,mb4.9						
KKN	**Kakani**	55.00	311	*e*P	P	15 39 49.8	-1.1
DMN	**Daman**	55.03	311	*e*P	P	15 39 50.2	-1.0
	comp=Z,3.7nm,0.5s,mb4.7						
GKN	**Gorkha**	55.59	311	*e*P	P	15 39 53.4	-1.8
	comp=Z,6.2nm,0.3s,mb5.1						
KOLN	**Koldanda**	56.25	310	*e*P	P	15 39 59.0	-0.9
	comp=Z,7.6nm,0.5s,mb5.0						
SONM	**Songino Array**	58.39	342	P	P	15 40 13.4	-1.2
	comp=Z,1.0nm,0.4s,mb4.2,baz=160,slow=7.0,SNR=15						
WMQ	**Urumqi**	63.20	327	⇑P	P	15 40 47.3	+0.1
WMQ				PCP	PcP	15 41 21.8	-1.4
WMQ				PP	PP	15 43 10.8	+1.7
WMQ				S	S	15 49 14.8	+8.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
WMQ				LR	LR		
	comp=E,16nm,19.4s						
WMQ				LR	LR		
	comp=Z,16nm,17.8s						
MKAR	**Makanchi Array**	68.03	327	P	P	15 41 16.9	-1.0
	comp=Z,4.8nm,0.4s,mb4.7,baz=116,slow=8.5,SNR=87						
KURK	**Kurchatov**	72.34	329	P	P	15 41 42.3	-1.6
	comp=Z,44nm,0.8s,mb5.3,SNR=11						
KURK	**Kurchatov**	72.34	329	*e*P	P	15 41 42.8	-1.1
	comp=Z,5.6nm,0.7s,mb4.5						
MAW	**Mawson**	74.62	201	P	P	15 41 58.9	+2.0
	comp=Z,2.6nm,0.4s,mb4.3,baz=77,slow=6.6,SNR=18						
MAW	**Mawson**	74.62	201	*e*P	P	15 41 58.6	+1.8
	comp=Z,4.4nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	77.88	328	P	P	15 42 14.5	-0.8
	comp=Z,4.6nm,1.0s,mb4.2,baz=108,slow=4.7,SNR=13						
BRVK	**Borovoye**	77.95	328	*e*P	P	15 42 14.8	-0.9
	comp=Z,5.9nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	82.84	180	*e*P	P	15 42 41.7	+0.5
	comp=Z,1.1nm,0.6s,mb3.9						
SYO	**Syowa Base**	83.33	201	⇓P	P	15 42 45.8	+2.0
SYO	**Syowa Base**	83.33	201	⇓sP	sP	15 43 28.2	-2.3
ARU	**Arti**	85.52	328	*e*P	P	15 42 53.8	-1.1
	comp=Z,4.5nm,0.7s,mb4.5						
SNAA	**Sanae**	95.40	194	*e*P	P	15 43 42.5	+1.7
	comp=Z,1.0nm,0.6s,mb4.4						
CPUP	**Villa Florida**	146.09	169	PKPbc	PKPbc	15 49 57.0	+0.9
	comp=Z,2.8nm,0.5s,baz=139,slow=1.6,SNR=8.7						

IDC 24 15:38:22.8±6.0**, 29.04S**×**61.43E, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.7**/18**, Error ellipse: s-maj=165.0km s-min=53.6km az=60.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	59.51	42	P	P	15 48 28.1	-2.4
	0.8nm,0.7s,baz=230,slow=7.2,SNR=7.1						
ASAR	**Alice Springs**	64.24	104	P	P	15 49 00.1	-2.1
	0.6nm,1.0s,baz=248,slow=5.9,SNR=3.8						
MKAR	**Makanchi Array**	77.80	14	P	P	15 50 21.8	-1.7
	0.5nm,0.8s,baz=196,slow=10,SNR=4.5						

WEL 24 16:15:10.3±0.2**, 37.76S**×**176.60E, h148^{km}**±1^{km}**, ML3.5**/3**, 1C, Error ellipse: s-maj=1.7km s-min=1.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	0.27	275	PN	P	16 15 30.4	-0.6
URZ	**Urewera**	0.64	142	PN	P	16 15 32.2	-0.5
URZ				SN	S	16 15 49.4	-0.4
MWZ	**Matawai**	0.93	129	PN	P	16 15 34.1	-0.4
MWZ				SN	S	16 15 52.5	-0.6
PUZ	**Puketiti**	1.34	104	PN	P	16 15 38.0	-0.5
PUZ				SN	S	16 15 59.1	-1.0
MXZ	**Matakaoa Point**	1.36	82	PN	P	16 15 38.5	-0.1
MXZ				SN	S	16 15 59.5	-1.0
BKZ	**Black Stump Fm**	1.41	184	PN	P	16 15 38.9	-0.2
BKZ				SN	S	16 16 00.6	-0.7
MGZ	**Maungaku**	1.50	214	*e*PN	P	16 15 40.4	+0.3
KNZ	**Kokohu**	1.52	147	PN	P	16 15 40.0	-0.3
NGZ	**Ngauruhoe**	1.62	209	PN	P	16 15 41.5	+0.1
CNZ	**Chateau**	1.66	210	PN	P	16 15 42.0	+0.1
WPVZ	**Whakapapa**	1.67	210	PN	P	16 15 41.7	-0.2
TUVZ	**Tukino**	1.69	206	PN	P	16 15 42.1	+0.1
FWVZ	**Far West T-bar**	1.71	209	⇑PN	P	16 15 42.7	+0.3
WNVZ	**Wahianoa**	1.76	206	PN	P	16 15 42.8	-0.1
MOVZ	**Moawhango**	1.78	202	PN	P	16 15 42.2	-0.9
TSZ	**Takapari Road**	2.35	192	PN	P	16 15 48.3	-1.8
TSZ				SN	S	16 16 17.9	-2.6
WAZ	**Wanganui**	2.37	212	*e*PN	P	16 15 47.3	-2.9
BFZ	**Birch Farm**	2.94	185	PN	P	16 15 55.1	-2.4
MRZ	**Mangatainoka R**	3.01	195	PN	P	16 15 55.5	-3.0
MRZ				SN	S	16 16 31.5	-3.7
MTW	**Mount Morrison**	3.50	194	PN	P	16 16 01.1	-3.8
CAW	**Cannon Point**	3.55	199	PN	P	16 16 01.9	-3.7
TUWZ	**Tuamarina**	4.21	208	*e*PN	P	16 16 09.8	-4.4
NNZ	**Nelson**	4.26	215	SN	S	16 16 59.8	-4.7
QRZ	**Quartz Range**	4.41	225	*e*PN	P	16 16 12.9	-3.9
THZ	**Tophouse**	4.91	214	*e*PN	P	16 16 19.6	-3.9
MQZ	**McQueen's Vall**	6.66	206	*e*SN	S	16 17 50.4	-11

NIED ***24*** *16:49:00, 35.50N×139.90E, h44^{km}, Mw4.3 Best double couple: $M_0 3.39\times10^{15}$ NP1:ϕ_s189°, δ86°, λ-141°. NP2: ϕ_s95°, δ51°, λ-5°.*

IDC ***24*** *16:49:29.1±0.6, 35.51N×139.70E, mb4.2/17, mb1 4.4/20, mb1mx4.3/26, ML4.3/3, MS3.4/3, Ms1 3.5/3, ms1mx2.8/28, Error ellipse: s-maj=21.6km s-min=12.6km az=83.0*

MOS ***24*** *16:49:33.7±1.0, 35.43N×139.66E, h54^{km}, mb4.8/13, Error*

ellipse: s-maj=28.1km s-min=11.1km az=105.0

JMA ***24*** *16:49:35.1±0.2,35.54N×139.89E,h51^{km}±2^{km},M4.4 Broadband fault plane solution: P waves. NP1:ϕ_s94°,δ49°, λ-18°. NP2:ϕ_s196°,δ77°,λ-137°. Principal axes: T Plg18°, Azm319°; N Plg46°, Azm210°; P Plg39°, Azm64°;*

JMA Felt III J1.

BJI ***24*** *16:49:36.2,35.52N×139.71E,h78^{km},mB4.9,mb4.5, Ms4.6,Msz4.2*

NEIC ***24*** *16:49:37.4±1.4,35.45N×139.53E,h62^{km}±11^{km},mb4.6/9, MW4.3(NIED),Error ellipse: s-maj=13.3km s-min=10.3km az=85.0*

NEIC Felt in Ibaraki, Kanagawa and Tokyo Prefectures. Recorded [3 JMA] in Kanagawa; [2 JMA] in Chiba and Saitama; [1 JMA] in Ibaraki, Nagano, Shizuoka, Tochigi and Yamanashi Prefectures. Also recorded [1 JMA] on O-shima and Miyake-jima.

ISC 24 16:49:34.5±0.3**,35.47N**±0.03×**139.87E**±0.04**,h60**^{km}±2^{km}**, h56**^{km}±4.9^{km}**:pP-P,n98,**σ**0**^{s}**99**/117**,mb4.5**/35**,MS3.6**/4**, 12C-7D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOK	Tokyo	0.23	336	⇓P	P	16 49 43.8	-0.4
TOK				S	S	16 49 50.1	-1.1
JCN	Nagara	0.27	102	⇑P	P	16 49 44.6	+0.1
JCN				eS	S	16 49 52.0	+0.2
JYO	Yokosk	0.30	214	⇓P	P	16 49 45.3	+0.6
JYO				eS	S	16 49 52.8	+0.6
JOD2	Odawara 2	0.68	252	⇓P	P	16 49 48.8	+0.2
JOD2				S	S	16 49 58.4	-0.6
JIM2	Oshima 3	0.84	206	⇓P	P	16 49 50.7	+0.1
JIM2				eS	S	16 50 02.4	-0.2
BSO3	Boso 3	0.85	142	⇑P	P	16 49 50.7	-0.1
JRY	Ryogami san	0.96	305	⇑P	P	16 49 52.5	+0.3
JRY				eS	S	16 50 05.8	+0.4
JAG	Ashikaga	1.01	340	⇑P	P	16 49 52.8	-0.1
JYN	Shimob	1.08	272	⇓P	P	16 49 54.3	+0.3
JIZS	Izushimoda	1.11	228	P	P	16 49 54.6	+0.2
JIZS				S	S	16 50 08.9	-0.1
BSO1	Boso 1	1.22	132	⇑P	P	16 49 54.9	-0.9
JKT	Katashina	1.39	339	⇑P	P	16 49 58.0	-0.2
JKT				eS	S	16 50 14.2	-1.6
SHZ3	Shizuoka 3	1.42	254	⇓P	P	16 49 59.9	+1.2
SHZ3				eS	S	16 50 18.6	+2.0
MAJO	Matsushiro	1.72	309	eP	P	16 50 03.4	+0.6
MAJO				eS	S	16 50 22.9	-0.8
MAT	Matsushiro	1.72	309	P	P	16 50 03.4	+0.6
MAT				S	S	16 50 25.7	+2.0
MAT	Matsushiro	1.72	309	eP	P	16 50 03.0	+0.2
MAT				eS	S	16 50 26.0	+2.3
JHJ	Hachijo jima 2	2.35	182	Pn	P	16 50 11.3	-0.3
	434nm,0.3s,baz=18,slow=6.0,SNR=163						
JHJ				Sn	S	16 50 39.1	-0.2
	2μm,0.3s,baz=238,slow=23,SNR=60						
CBIJ	Chichi jima	8.58	166	Pn	P	16 51 34.8	-3.7
	22nm,0.3s,baz=90,slow=20,SNR=4.6						
CBIJ				Sn	S	16 53 07.0	-7.9
	3.8nm,0.3s,baz=308,slow=17,SNR=1.9						
ASAJ	Asahikawa	8.88	13	Pn	P	16 51 38.8	-3.8
	1.4nm,0.3s,baz=176,slow=15,SNR=5.5						
ASAJ				Sn	S	16 53 16.4	-5.8
	0.6nm,0.3s,baz=144,slow=19,SNR=2.9						
ASAJ	Asahikawa	8.88	13	P	P	16 51 38.8	-3.8
ASAJ						16 53 16.4	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KS15	Wonju Array Si	9.86	285	P	P	16 51 51.6	-4.3
MDJ	Mudanjiang	12.05	322	P	P	16 52 27.0	+1.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,130nm,6.0s						
CN2	Changchun	13.87	311	eP	P	16 52 48.6	-0.9
CN2				eAP		16 52 59.0	
CN2				eS	S	16 55 18.8	-3.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
KLR	Kul'dur	14.99	339	eP	P	16 53 03.8	-0.2
SSE	Sheshan	16.22	260	P	P	16 53 17.9	-2.0
SSE				S	S	16 56 11.1	-6.4
SSE				AMB	AMB		
	comp=Z,29nm,0.8s						
NJ2	Nanjing	17.80	265	eP	P	16 53 36.8	-2.9
NJ2				S	S	16 56 47.0	-6.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,30nm,5.0s						
NJ2				LR	LR		
	comp=N,3μm,14.4s						
NJ2				LR	LR		
	comp=E,2μm,14.5s						
NJ2				LR	LR		
	comp=Z,4μm,15.5s						
MA2	Magadan	25.14	13	⇓eP	P	16 54 56.8	+1.5
MA2				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
MA2	Magadan	25.14	13	eP	P	16 54 56.4	+1.2
	comp=Z,8.2nm,0.7s,mb4.4						
YAK	Yakutsk	27.35	350c	iP	P	16 55 14.1	-1.5
YAK				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.6						
YAK	Yakutsk	27.35	350	eP	P	16 55 13.8	-1.8
	comp=Z,12nm,0.8s,mb4.5						
SONM	Songino Array	27.67	307	P	P	16 55 17.8	-1.0
	comp=Z,1.1nm,0.7s,mb3.6,baz=129,slow=9.2,SNR=2.8						
BOD	Bodaibo	28.23	330	eP	P	16 55 17.7	-5.9
LZH	Lanzhou	29.14	282	eP	P	16 55 30.8	-1.1
LZH				AP	pP	16 55 45.4	-1.3
LZH				PP	PP	16 56 26.5	-1.5
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,131nm,5.5s						
LZH				LR	LR		
	comp=N,254nm,13.0s						
LZH				LR	LR		
	comp=Z,287nm,16.9s,MS4.0						
KMI	Kunming	33.51	262	eP	P	16 56 10.1	-0.3
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
CMAR	Chiang Mai Arr	39.90	256	LR	LR	17 15 14.3	
	comp=Z,72nm,18.9s,MS3.5,baz=356,slow=39						
WMQ	Urumqi	40.46	298	P	P	16 57 08.0	-0.6
WMQ				AP	pP	16 57 23.5	-0.5
WMQ				XP	sP	16 57 31.4	+0.3
WMQ				PP	PP	16 58 45.3	-0.6
WMQ				PCP	PcP	16 59 12.0	+0.8
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,10.0nm,4.0s						
NVS	Novosibirsk	43.04	315	i P	P	16 57 28.6	-1.0
NVS				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,12nm,1.5s						
MKAR	Makanchi Array	43.91	303	P	P	16 57 37.1	+0.3
	comp=E,5.3nm,0.6s,mb4.5,baz=89,slow=9.7,SNR=49						
MKAR				LR	LR	17 16 46.7	
	comp=E,45nm,19.6s,MS3.4,baz=263,slow=37						
MKAR	Makanchi Array	43.91	303	P	P	16 57 37.2	+0.4
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,45nm,19.6s						
KURK	Kurchatov	45.93	309	P	P	16 57 52.9	0.0
	comp=Z,214nm,0.6s,SNR=49						
KURK	Kurchatov	45.93	309	eP	P	16 57 52.3	-0.6
	comp=Z,31nm,0.8s,mb5.3						
PKI	Pulchoki	46.60	276	eP	P	16 57 57.7	-0.8
	comp=Z,8.0nm,0.6s,mb4.8						
KKN	Kakani	46.62	276	eP	P	16 57 58.8	+0.2
	comp=Z,5.3nm,0.5s,mb4.7						
DMN	Daman	46.83	276	eP	P	16 58 00.0	-0.3
	comp=Z,52nm,1.8s,mb5.2						
GKN	Gorkha	47.05	277	eP	P	16 58 01.9	-0.1
	comp=Z,19nm,0.9s,mb5.0						
KOLN	Koldanda	47.98	277	eP	P	16 58 08.7	-0.7
	comp=Z,7.5nm,0.7s,mb4.8						
TKM2	Tokmak 2	49.29	299	P	P	16 58 20.4	+1.2
	SNR=13						
KZA	Kyzart	49.75	298	P	P	16 58 24.4	+1.6
	SNR=8.6						
KBK	Karagaybulak	49.82	299	P	P	16 58 24.2	+0.9
	SNR=10						
KSH	Kashi	49.92	295	eP	P	16 58 25.6	+1.5
KSH				eAP	pP	16 58 41.5	+1.8
KSH				eXP	sP	16 58 49.0	+2.4
KSH				ePCP	PcP	16 59 46.4	+2.5
KSH				ePP	PP	17 00 22.6	+2.5
KSH				ePCS		17 03 42.3	
KSH				eS	S	17 05 28.1	-0.4
KSH				ePS	PS	17 05 37.3	-9.0
KSH				eXS		17 05 55.8	
KSH				eSCS	ScS	17 08 08.0	+1.3
KSH				eSS	SS	17 08 58.0	-0.4
KSH				LR	LR		
	comp=N,240nm,4.5s						
KSH				LR	LR		
	comp=E,230nm,5.9s						
USP	Ospenovka	49.98	300	P	P	16 58 24.9	+0.4
	SNR=7.3						
AAK	Ala-Archa	50.15	299	eP	P	16 58 25.0	-0.8
	comp=E,2.7nm,0.8s,mb4.3						
UCH	Uchtor	50.24	299	P	P	16 58 28.0	+1.5
	SNR=5.8						
EKS2	Erkin-Say	50.65	299	P	P	16 58 30.1	+0.4
	SNR=5.1						
BVAR	Borovoye Array	50.71	313	P	P	16 58 29.6	-0.4
	comp=E,6.6nm,0.9s,mb4.6,baz=104,slow=6.1,SNR=15						
BRVK	Borovoye	50.77	313	eP	P	16 58 30.2	-0.2
	comp=E,5.7nm,0.8s,mb4.5						
AML	Almayashu	50.85	299	P	P	16 58 32.7	+1.5
	SNR=36						
ILAR	Eielson Array	51.47	32	P	P	16 58 35.9	+0.4
	comp=E,1.0nm,0.7s,mb3.8,baz=277,slow=7.6,SNR=6.2						
ILAR	Eielson Array	51.47	32	P	P	16 58 35.9	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	Tennant Creek	55.35	186	eP	P	16 59 04.0	-0.8
WRA	Warramunga Arr	55.36	186	P	P	16 59 04.2	-0.7
	comp=Z,2.8nm,0.5s,mb4.5,baz=0.6,slow=7.5,SNR=45						
WRA	Warramunga Arr	55.36	186	P	P	16 59 04.2	-0.6
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CTAO	Charters Tower	55.59	173	P	P	16 59 05.5	-1.0
INK	Inuvik	56.34	26	P	P	16 59 11.6	+0.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=270,slow=6.6,SNR=3.9						
INK	Inuvik	56.34	26	P	P	16 59 11.6	+0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	56.34	26	P	P	16 59 11.5	+0.3
	comp=Z,1.8nm,0.6s,mb4.3						
ARU	Arti	56.71	319	P	P	16 59 13.6	-0.4
	comp=Z,105nm,0.5s,SNR=8.8						
ARU	Arti	56.71	319	⇑iP	P	16 59 13.5	-0.5
ARU				i		17 00 07.4	
ARU				i		17 01 20.9	
ARU				ePPP	PPP	17 02 36.3	-4.9
ARU				eS	S	17 06 58.4	-1.9
ARU				eSS	SS	17 10 49.8	+0.2
ARU				eSSS	SSS	17 13 07.4	+3.8
ARU				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
ARU	Arti	56.71	319	eP	P	16 59 12.9	-1.1
	comp=Z,20nm,1.1s,mb5.1						
ASAR	Alice Springs	59.09	186	P	P	16 59 31.9	+0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=18,slow=10,SNR=12						
ARCES	ARCESS Array B	65.02	339	P	P	17 00 09.8	-0.1
	comp=Z,6.5nm,0.9s,mb4.7,baz=51,slow=7.8,SNR=8.4						
ARCES	ARCESS Array B	65.02	339	P	P	17 00 09.9	-0.1
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YKA	Yellowknife Ar	65.78	29	P	P	17 00 15.6	+0.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=309,slow=6.6,SNR=4.3						
YKA	Yellowknife Ar	65.78	29	P	P	17 00 15.6	+0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	Stephens Creek	67.02	178	P	P	17 00 23.4	+0.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=353,slow=8.1,SNR=4.1						
STKA	Stephens Creek	67.02	178	P	P	17 00 23.1	-0.2
OBN	Obninsk	68.60	323	⇑eP	P	17 00 32.0	-0.8
OBN				e		17 00 58.2	
OBN				eS	S	17 09 22.4	-6.9
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KAF	Kangasniemi	69.12	333	ep	P	17 00 34.5	-1.4
FINES	FINESS Array B	69.61	332	P	P	17 00 38.7	-0.2
	comp=Z,6.6nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=16						
FINES				LR	LR	17 31 54.8	
	comp=Z,22nm,20.1s,MS3.4,baz=90,slow=37						
FINES	FINESS Array B	69.61	332	P	P	17 00 38.7	-0.2
FINES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,23nm,20.1s						
SOC	Sochi	73.00	312	eP	P	17 00 56.5	-3.0
SOC				e		17 01 20.6	
SOC				eS	S	17 10 11.2	-9.3
SOC				eSS	SS	17 14 57.1	-7.6
SOC				eSSS	SSS	17 18 15.1	0.0
SOC				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=N,20nm,0.6s						
SOC				pmax	pmax		
	comp=E,13nm,0.9s						
AKASG	Malin Array Be	74.76	322	P	P	17 01 09.6	+0.1
	comp=E,3.0nm,0.4s,mb4.6,baz=48,slow=5.9,SNR=25						
AKASG	Malin Array Be	74.76	322	P	P	17 01 09.6	+0.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NB2	NORSAR Subarra	75.14	337	P	P	17 01 11.6	+0.1
	comp=Z,8.2nm,0.8s,mb4.7,baz=40,slow=5.8						
NOA	NORSAR Array B	75.14	337	P	P	17 01 12.1	+0.6
	comp=Z,5.4nm,0.7s,mb4.6,baz=40,slow=5.8,SNR=20						
NOA	NORSAR Array B	75.14	337	P	P	17 01 12.1	+0.7
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NVAR	Mina Array Bea	76.92	52	P	P	17 01 25.0	+2.9
	comp=Z,0.7nm,0.7s,mb3.7,baz=313,slow=4.6,SNR=6.1						
MTUM	Tungsten Hills	77.37	53	eP	P	17 01 29.5	+5.0
BRTR	Keskin Array B	78.94	311	P	P	17 01 34.0	+0.8
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=2.5,SNR=7.2						
BRTR	Keskin Array B	78.94	311	P	P	17 01 34.0	+0.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	79.65	44	P	P	17 01 39.3	+2.4
	comp=Z,0.3nm,0.4s,mb3.5,baz=288,slow=4.7,SNR=4.6						
CLL	Collm	81.82	330	⇑P	P	17 01 49.0	+0.8
	comp=Z,logA/T=1.0,mb4.7						
CLL	Collm	81.82	330	⇑iP	P	17 01 49.0	+0.8
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	Collm	81.82	330	⇑iP	P	17 01 49.0	+0.8
	comp=Z,9.0nm,0.9s,mb4.7						
GERES	GERESS Array B	83.37	328	P	P	17 01 57.4	+1.2
	comp=Z,1.0nm,0.6s,mb4.1,baz=40,slow=6.5,SNR=7.9						
GERES	GERESS Array B	83.37	328	P	P	17 01 57.4	+1.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SDCO	Great Sand Dun	85.26	46	P	P	17 02 11.6	+5.7
SDCO				e	pP	17 02 23.6	+0.8
ANMO	Albuquerque	86.54	49	P	P	17 02 16.9	+4.7
ANMO				e		17 02 27.9	

MAN 24 17:06:31.4,5.64N×124.62E,h31^{km},mb4.3,ML3.1,MS3.0, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	0.55	37	⇑eP	Pb	17 06 46.0	+3.4
GSPH				i S	Sb	17 06 52.0	+1.6
KCP	Kidapawan	1.44	19	⇑iP	Pn	17 06 55.5	-0.1
KCP				i S	Sn	17 07 13.5	-0.1
MATI	Mati	2.08	51	eP	Pn	17 07 04.7	-0.2
BUKP	Musuan	2.27	11	eP	Pn	17 07 07.1	-0.4
BUKP				eS	Sn	17 07 34.0	-0.7
PAGZ	Pagadian	2.51	331	eP	Pn	17 07 11.9	+0.8
PAGZ				eS	Sn	17 07 41.3	+0.3
IPIL	Ipil	2.95	316	eP	Pn	17 07 16.5	-0.8
IPIL				eS	Sn	17 07 51.7	-0.3

NAO ***24*** *17:15:34.7±1.1,67.64N×33.63E,ML2.2*

HEL 24 17:15:35.6±0.7**,67.73N**×**33.61E,ML2.1,ML2.2**(NAO)**, Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	Apatity Array	0.27	242	i P	Pg	17 15 39.3	-1.6
APA0				i S	Sg	17 15 43.5	-0.9
APA0				eRG		17 15 45.0	
APA0	Apatity Array	0.27	242	Pg	Pg	17 15 39.3	-1.6
	baz=91,slow=16						
APA0				Lg		17 15 43.5	
	baz=82,slow=37						
APA0				Rg		17 15 45.0	
	baz=82,slow=37						
MSF	Maaselka	2.57	227	eP	Pn	17 16 19.2	0.0
MSF				eS	Sn	17 16 50.6	-1.0
SGF	Sodankyl	2.73	267	eP	Pn	17 16 21.4	-0.1
SGF				eS	Sn	17 16 54.3	-1.3
SGF				eSG	Sg	17 17 00.1	-6.3
SGF				MSG		17 17 03.5	
	comp=Z,7.5nm,0.5s						
KEV	Kevo	3.15	313	eP	Pn	17 16 26.3	-1.1
KEV				eS	Sn	17 17 03.8	-2.4
ARA0	ARCESS Array S	3.47	305	eP	Pn	17 16 29.9	-2.2
ARA0				ePG	Pg	17 16 38.5	-6.4
ARA0				eS	Sn	17 17 11.3	-3.2
ARA0				eSG		17 17 21.9	
ARA0	ARCESS Array S	3.47	305	Pn	Pn	17 16 29.9	-2.2
	baz=120,slow=16						
ARA0				Pg	Pg	17 16 38.5	-6.4
	baz=114,slow=18						
ARA0				Sn	Sn	17 17 11.3	-3.2
	baz=118,slow=28						
ARA0				Lg		17 17 21.9	
	baz=121,slow=28						
OUL	Oulu	4.08	233	eS	Sn	17 17 27.3	-2.5

TIF 24 17:32:16.0,41.70N×44.61E,h2^{km},Mpv3.6,2C,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTA	Mtatsminda	0.14	92	⇑iP	Pg	17 32 20.4	+1.6
MTA				i S	Sg	17 32 23.0	+2.4
DUS	Dusheti	0.40	10	⇑iP	Pg	17 32 24.3	+0.4
DUS				i S	Sg	17 32 30.9	+1.7
STE	Stepanavan	0.72	193	i P	Pg	17 32 31.0	+0.7
STE				i S	Sg	17 32 41.4	+1.5
AKH	Akhalkalaki	0.89	251	eP	Pg	17 32 34.0	+0.3
AKH				i S	Sg	17 32 47.1	+1.6

NEIC ***24*** *17:54:31.2,17.32N×94.95W,h132^{km},MD3.9(MEX),After MEX.*

MEX 24 17:54:31.2±1.6**,17.32N**×**94.95W,h132**^{km}±12^{km}**,MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.23	165	i P	P	17 54 48.0	-1.5
CMIG				i S	S	17 55 00.8	-2.7
TUIG	Tuzandepetl	0.87	35	i P	P	17 54 51.7	-1.5
TUIG				i S	S	17 55 08.2	-1.9
EVV	El Vigia	1.20	341	i P	P	17 54 53.8	-2.7
OXX	Oaxaca	1.71	262	i P	P	17 55 01.2	-1.1
OXX				i S	S	17 55 25.2	-0.9
VHO	Vista Hermosa	1.73	262	i P	P	17 55 01.0	-1.4
VHO				i S	S	17 55 24.6	-1.7
HUIG	Huatulco	1.90	216	i P	P	17 55 00.8	-3.7
HUIG				i S	S	17 55 26.2	-3.7
CCIG	Comitan	2.88	111	i P	P	17 55 16.2	-1.0
CCIG				i S	S	17 55 50.8	-1.3
PPM	Popocatepetl	3.91	297	i P	P	17 55 31.1	+0.4
PPM				i S	S	17 56 12.8	-3.5

DJA 24 18:12:04.9±0.9**,9.19S**×**113.56E,h104**^{km}±17^{km}**,MD4.9**/4**, ML4.2**/4**,2C-5D,Error ellipse: s-maj=40.7km s-min=18.0km az=18.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	1.34	44	ePn	P	18 12 29.3	-0.5
	161nm,0.2s						
KELI				⇓eSn	S	18 12 47.0	-1.5
INGI	Ingas	1.61	77	⇓ePn	P	18 12 32.9	-0.3
	453nm,0.2s						
INGI				⇓eSn	S	18 12 52.9	-1.3
RATI	Rata	2.00	77	⇓ePn	P	18 12 37.3	-0.8
	268nm,0.3s						
RATI				⇓eSn	S	18 13 01.4	-1.5
KEDI	Kedomdong	2.62	75	⇑ePn	P	18 12 45.7	-0.8
	35nm,0.2s						
KEDI				⇑eSn	S	18 13 15.7	-2.1

NEIC ***24*** *18:59:41.7,38.56N×23.48E,h7^{km},ML2.9(ATH), ML2.6(THE),After ATH.*

ATH ***24*** *18:59:41.7,38.56N×23.48E,h7^{km},MD2.8/3,ML2.9*

THE ***24*** *18:59:42.5,38.60N×23.50E,h11^{km},ML2.6*

ISC 24 18:59:41.0±0.6**,38.57N**±0.03×**23.51E**±0.06**,h14**^{km}±7^{km}**, n13,**σ**0**^{s}**55**/16**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	Lokris	0.41	282	ePB	Pb	18 59 49.3	-0.1
MKIT	Kithairon Oros	0.43	207	ePB	Pb	18 59 50.0	+0.1
MPAR	Parnis Oros	0.45	157	ePB	Pb	18 59 50.5	+0.2
ATH	Athens Observa	0.62	164	ePG	Pg	18 59 53.3	-0.3
NSAL	Nisos Salamina	0.66	183	ePG	Pg	18 59 54.0	-0.4
AOS	Alonnisos	0.67	26	ePg	Pg	18 59 54.1	-0.4
AOS				eSg	Sg	19 00 04.5	+0.9
NEO	Neokhori	0.77	343	ePB	Pb	18 59 56.4	+0.7
NAIG	Nisos Aigina	0.81	181	ePB	Pb	18 59 57.2	+0.8
XOR	Xorichti	0.83	343	ePg	Pg	18 59 57.6	-0.3
AGG	Agios Georgios	1.02	297	ePg	Pg	19 00 01.1	-0.5
AGG				eSg	Sg	19 00 16.1	+0.7
PAIG	Paliouri	1.36	6	ePb	Pb	19 00 06.0	+0.1
LIT	Litokhoron	1.72	333	ePb	Pb	19 00 11.8	-0.2
LIT				eSb	Sb	19 00 33.0	-0.3
OUR	Ouranopolis	1.80	12	ePb	Pb	19 00 12.3	-1.1

NEIC ***24*** *19:41:03.8±2.1,19.17S×177.41W,h500^{km},mb4.2/2, Error ellipse: s-maj=88.9km s-min=27.2km az=146.0*

IDC 24 19:41:10.2±15.0**,19.13S**×**177.77W,h556**^{km}±148^{km}**, mb3.1**/6**,mb1 3.3**/6**,mb1mx3.1**/17**,Error ellipse: s-maj=113.0km s-min=79.6km az=106.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.87	262	P	P	19 47 07.7	-0.7
	4.0nm,0.5s,baz=70,slow=11,SNR=6.6						
CTAO	Charters Tower	33.87	262	eP	P	19 47 07.3	-1.1
	6.7nm,0.6s						
STKA	Stephens Creek	38.59	243	P	P	19 47 46.4	-0.8
	0.9nm,0.5s,baz=81,slow=13,SNR=4.7						
WRAB	Tennant Creek	45.01	261	eP	P	19 48 36.5	-1.8
	3.2nm,0.5s						
WRA	Warramunga Arr	45.02	261	P	P	19 48 36.3	-2.1
	1.2nm,0.3s,baz=96,slow=7.7,SNR=31						
WRA				PcP	PcP	19 50 05.6	-2.0
	0.3nm,0.5s,baz=98,slow=3.4,SNR=4.4						
ASAR	Alice Springs	45.06	255	P	P	19 48 36.9	-1.7
	6.1nm,1.1s,baz=86,slow=7.7,SNR=34						
FITZ	Fitzroy Crossi	53.44	261	P	P	19 49 39.0	-1.7
	1.2nm,0.8s,baz=232,slow=2.2,SNR=7.9						
CMAR	Chiang Mai Arr	89.86	289	P	P	19 53 11.9	+0.3
	0.2nm,0.5s,baz=129,slow=2.7,SNR=5.4						
GERES	GERESS Array B	148.94	345	PKPbc	PKPdf	19 59 54.9	+4.6
	0.5nm,0.5s,baz=90,slow=2.7,SNR=5.1						

IDC 24 19:41:36.9±3.7**,18.13N**×**121.67E,mb3.4**/3**,mb1 3.7**/3**, mb1mx3.3**/17**,Error ellipse: s-maj=318.0km**

s-min=26.2km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.83	161	P	P	19 49 11.2	-2.7
	0.8nm,0.6s,baz=341,slow=8.7,SNR=6.9						
MKAR	Makanchi Array	43.13	320	P	P	19 49 39.0	-1.7
	0.2nm,0.5s,baz=110,slow=9.1,SNR=3.6						
ASAR	Alice Springs	43.23	164	P	P	19 49 41.0	-0.8
	0.3nm,0.6s,baz=354,slow=9.1,SNR=5.0						

IDC 24 19:47:05.7±17.0, 22.24S×175.06W, mb4.2/5, mb1 4.3/5, mb1mx4.0/17, Error ellipse: s-maj=322.0km s-min=136.9km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.08	266	eP	P	19 54 10.5	-0.7
	2.9nm,0.4s						
CTA	Charters Tower	36.08	266	P	P	19 54 10.6	-0.6
	3.4nm,0.4s,baz=82,slow=10,SNR=12						
STKA	Stephens Creek	39.56	246	P	P	19 54 37.9	-2.4
	1.9nm,1.0s,baz=94,slow=16,SNR=3.8						
ASAR	Alice Springs	46.81	258	P	P	19 55 36.8	-2.5
	1.1nm,0.4s,baz=95,slow=7.5,SNR=44						
WB2	Warramunga Arr	47.08	263	eP	P	19 55 38.9	-2.5
WRA	Warramunga Arr	47.09	263	P	P	19 55 39.2	-2.4
	1.5nm,0.3s,baz=96,slow=8.4,SNR=107						
FITZ	Fitzroy Crossi	55.52	263	P	P	19 56 43.7	-1.6
	1.2nm,0.7s,baz=132,slow=3.6,SNR=7.2						

STR ***24*** *19:50:33.9±0.3, 43.00N×0.27E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***24*** *19:50:33.1±0.1, 43.02N×0.25E, h15^{km}, Md1.8/2, Ml1.8/6, Error ellipse: s-maj=2.1km s-min=1.2km az=155.0*

ISC 24 19:50:31.6±0.4, 43.11N±0.03×0.29E±0.04, h15^{km}, n11, σ1^{s}08/20, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	Esparros	0.09	153	ePg	Pg	19 50 36.3	+1.5
EPF				eSg	Sg	19 50 38.9	+2.0
	16nm,0.2s						
LABF	Labassere	0.17	248	Pg	Pg	19 50 37.2	+1.4
LABF				Sg	Sg	19 50 40.3	+1.6
VIEF	Viey	0.30	220	Pg	Pg	19 50 38.2	+0.1
VIEF				Sg	Sg	19 50 41.8	-0.6
RESF	Ens	0.30	173	Pg	Pg	19 50 38.1	-0.1
RESF				Sg	Sg	19 50 41.8	-0.9
ETSF	Etsaut	0.66	251	ePg	Pg	19 50 44.9	0.0
ETSF				eSg	Sg	19 50 52.8	-1.0
	7.9nm,0.3s						
SJPF	Ste Jean	1.11	271	ePg	Pg	19 50 53.2	-0.6
SJPF				eSg	Sg	19 51 07.0	-1.6
	1.4nm,0.3s						
MTLF	Montolieu	1.43	80	ePg	Pg	19 51 00.9	+0.7
MTLF				eSg	Sg	19 51 19.1	-0.3
	1.1nm,0.3s						
LFF	La Frestale	1.86	10	eSg	Sg	19 51 34.5	+0.9
	3.8nm,0.4s						
CAF	Calviac	2.22	35	ePg	Pg	19 51 16.3	+0.3
CAF				eSg	Sg	19 51 45.3	-0.4
	0.9nm,0.3s						
RJF	Les Rejaudoux	2.37	22	eSg	Sg	19 51 51.0	+0.6
	1.9nm,0.3s						
LASF	Ste Croix	2.77	68	ePg	Pg	19 51 25.4	-1.5
LASF				eSg	Sg	19 52 01.7	-2.1
	0.6nm,0.3s						

IDC ***24*** *19:57:47.0±5.0, 8.08S×121.40E, h156^{km}±50^{km}, mb3.8/4, mb1 4.0/7, mb1mx3.7/16, Error ellipse: s-maj=87.7km s-min=19.5km az=63.0*

NEIC ***24*** *19:57:46.3±2.0, 8.18S×121.30E, h147^{km}±20^{km}, mb4.5/4, Error ellipse: s-maj=26.2km s-min=10.6km az=60.0*

DJA ***24*** *19:57:46.2±1.0, 8.70S×121.45E, h189^{km}±45^{km}, ML5.0/5, Error ellipse: s-maj=46.0km s-min=7.3km az=135.0*

ISC 24 19:57:49.9±0.6, 8.48S±0.06×121.23E±0.05, h210^{km}±10^{km}, n21, σ1^{s}06/31, mb3.8/5, 4C-4D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	Niniconang	4.29	340	⇓ePn	P	19 58 57.2	+0.9
	402nm,0.5s						
BUNI	Buntu Taipa	4.88	349	⇓ePn	P	19 59 03.4	-0.3
	29nm,0.5s						
KEDI	Kedomdong	5.06	270	ePn	P	19 59 06.6	+0.6
	250nm,0.1s						
KEDI				⇓eSn	S	20 00 05.0	-0.1
TANI	Tanete Lipujan	5.34	340	⇓ePn	P	19 59 10.0	+0.4
RATI	Rata	5.64	267	⇑ePn	P	19 59 13.1	-0.3
	222nm,0.2s						
RATI				⇑eSn	S	20 00 16.9	-1.5
KELI	Kelakatan	6.67	272	⇑ePn	P	19 59 28.4	+1.6
	74nm,0.3s						
KELI				eSn	S	20 00 42.6	+0.3
FITZ	Fitzroy Crossi	10.48	156	eP	P	20 00 15.6	-0.5
	5.5nm,0.3s						
FITZ				eS	S	20 02 08.7	-1.9
FITZ	Fitzroy Crossi	10.48	156	P	P	20 00 17.1	+1.1
	2.4nm,0.3s,baz=3.4,slow=9.6,SNR=31						
FITZ				S	S	20 02 08.5	-2.1
	2.3nm,0.3s,baz=189,slow=0.7,SNR=8.8						
KAKA	Kakadu	11.75	112	eP	P	20 00 30.0	-2.3
	24nm,0.4s						
KAKA				eS	S	20 02 33.2	-6.8
WRA	Warramunga Arr	17.05	133	P	P	20 01 37.4	-0.1
	2.2nm,0.3s,baz=311,slow=12,SNR=138						
WRA				S	S	20 04 39.1	+0.2
	0.6nm,0.3s,baz=294,slow=22,SNR=4.7						
WRA	Warramunga Arr	17.05	133	P	P	20 01 37.4	-0.1
WRA				S	S	20 04 39.1	+0.2
WRAB	Tennant Creek	17.05	133	eP	P	20 01 37.2	-0.3
	7.4nm,0.5s						
WRAB				eS	S	20 04 39.1	+0.2
WB2	Warramunga Arr	17.06	133	⇑iP	P	20 01 37.3	-0.3
WB2				eS	S	20 04 39.2	+0.2
ASPA	Alice Springs	19.37	143	eP	P	20 02 03.3	+1.7
ASAR	Alice Springs	19.37	143	P	P	20 02 03.7	+2.1
	1.6nm,0.3s,baz=332,slow=12,SNR=111						
ASAR				S	S	20 05 30.4	+5.9
	0.0nm,0.3s,baz=321,slow=20,SNR=5.5						
STKA	Stephens Creek	30.00	144	P	P	20 03 42.5	+1.3
	2.0nm,0.7s,mb3.9,baz=298,slow=6.7,SNR=10						
LSA	Lhasa	47.74	324	eP	P	20 06 08.4	+0.7
	1.9nm,0.5s,mb3.7						
SONM	Songino Array	57.59	348	P	P	20 07 18.4	-1.5
	1.0nm,0.6s,mb3.7,baz=163,slow=8.3,SNR=6.9						
MKAR	Makanchi Array	65.03	332	P	P	20 08 08.8	-0.9
	1.5nm,0.8s,mb3.7,baz=142,slow=8.9,SNR=11						
ZAL	Zalesovo	69.37	338	P	P	20 08 35.5	-1.2
	2.2nm,0.3s,mb4.2,baz=244,slow=2.6,SNR=6.3						
CPUP	Villa Florida	145.37	182	PKPbc	PKPbc	20 17 08.2	+4.1
	1.2nm,0.6s,baz=57,slow=0.8,SNR=4.8						

WEL 24 20:06:28.4±0.3, 35.40S×178.36E, h33^{km}, ML4.2/2, Error ellipse: s-maj=5.9km s-min=2.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.16	181	P*	Pb	20 07 02.0	-4.8
MXZ				S*	Sb	20 07 27.2	-6.2
PUZ	Puketiti	2.67	182	ePN	Pn	20 07 08.8	-1.4
PUZ				eSN	Sn	20 07 38.8	-3.0
MWZ	Matawai	3.01	193	P*	Pb	20 07 14.0	-7.2
MWZ				eS*	Sb	20 07 49.1	-8.7
URZ	Urewera	3.03	199	P*	Pb	20 07 14.5	-7.0
URZ				S*	Sb	20 07 49.8	-8.6
BKZ	Black Stump Fm	4.05	201	eP*	Pb	20 07 27.6	-11
MRZ	Mangatainoka R	5.70	202	PN	Pn	20 07 48.0	-5.0
MRZ				eSN	Sn	20 08 50.0	-8.1

IDC ***24*** *20:07:46.0±0.5, 55.28S×129.09W, mb4.6/13, mb1 4.8/13, mb1mx4.7/16, MS4.7/14, Ms1 4.7/14, ms1mx4.6/16, Error ellipse: s-maj=23.6km s-min=15.0km az=165.0*

HRVD ***24*** *20:07:48.5±0.1, 55.33S×129.07W, h12^{km}, MW5.4/69, Centroid moment Tensor Solution. LP body waves: s55,c94;Mantle waves: s69,c130; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.21±.02; M$_{\theta\theta}$0.97±.03; M$_{\phi\phi}$-0.76±.02; M$_{r\theta}$-0.03±.06; M$_{\theta\phi}$1.05±.02; M$_{\phi r}$0.27±.05; Best double couple: M$_0$1.39×10^{17} NP1: φ$_s$109°,δ78°,λ-7°. NP2:φ$_s$200°,δ83°,λ-168°. Principal axes: T 1.47, Plg3°, Azm334°; N -.15, Plg76°, Azm231°; P -1.32, Plg13°, Azm65°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***24*** *20:07:48.5, 55.20S×128.90W, h10^{km}, Ms4.8, Msz4.6*

SYO ***24*** *20:07:48.5, 55.18S×128.92W, h10^{km}, MB5.0, MS4.9*

NEIC ***24*** *20:07:48.5±0.4, 55.18S×128.92W, h10^{km}, mb5.0/17, MS4.9/3, Error ellipse: s-maj=21.6km s-min=14.2km az=141.0*

ISC 24 20:07:46.0±0.4, 55.18S±0.09×129.0W±0.2, h10^{km}, n116, σ1^{s}37/43, mb4.8/24, MS4.8/18, 2C-5D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	32.43	202	P	P	20 14 20.0	+2.3
	3.3nm,0.8s,mb4.2,baz=89,slow=10,SNR=3.3						
VNDA	Vanda	32.43	202	eP	P	20 14 19.6	+1.9
	6.7nm,0.9s,mb4.5						
USHA	Ushuaia	33.80	115	LR	LR	20 23 59.2	
	comp=Z,2μm,21.0s,MS4.8,baz=336,slow=29						
PLCA	Paso Flores	40.51	94	P	P	20 15 26.7	+0.2
	13nm,1.2s,mb4.5,baz=223,slow=10.0,SNR=6.3						
PLCA				LR	LR	20 28 21.5	
	comp=Z,1μm,18.6s,MS4.7,baz=227,slow=30						
PLCA	Paso Flores	40.51	94	eP	P	20 15 27.0	+0.5
	41nm,1.4s,mb4.9						
VNA3	Neumayer Olymp	46.83	157	⇓i	P	20 16 21.2	+4.1
TRQA	Tornquist	47.21	98	eP	P	20 16 20.2	-0.3
	21nm,0.8s,mb5.1						
VNA2	Neumayer--Watz	47.57	158	⇓i	P	20 16 27.2	+4.3
VNA1	Neumayer--Stat	47.59	157	⇓i	P	20 16 27.8	+4.8
SNAA	Sanae	47.94	160	⇑i	P	20 16 25.8	0.0
SNAA	Sanae	47.94	160	P	P	20 16 25.7	-0.1
	4.6nm,0.8s,mb4.6						
SNAA	Sanae	47.94	160	eP	P	20 16 25.5	-0.3
	16nm,0.8s,mb5.1						
CASY	Casey	50.83	207	P	P	20 16 49.5	+1.4
	5.4nm,0.6s,mb4.7						
MAIT	Maitri	51.26	164	eP	P	20 16 52.0	+0.7
LVC	Limon Verde	54.75	79	P	P	20 17 18.0	+0.1
	9.3nm,0.6s,mb5.0,baz=220,slow=6.5,SNR=14						
LVC	Limon Verde	54.75	79	eP	P	20 17 17.3	-0.6
	12nm,0.5s,mb5.2						
SYO	Syowa Base	55.84	175	⇓P	P	20 17 23.5	-1.6
SYO	Syowa Base	55.84	175	⇓pP	Px	20 17 26.2	
MAW	Mawson	57.21	185	eP	P	20 17 34.9	-0.1
	6.0nm,0.8s,mb4.7						
MAW	Mawson	57.21	185	P	P	20 17 34.9	0.0
	6.8nm,0.8s,mb4.8,baz=194,slow=8.1,SNR=19						
MAW				LR	LR	20 39 36.2	
	comp=Z,498nm,19.4s,MS4.6,baz=166,slow=33						
CPUP	Villa Florida	58.47	92	P	P	20 17 42.6	-1.7
	5.7nm,0.6s,mb4.8,baz=248,slow=6.3,SNR=13						
CPUP				LR	LR	20 39 28.2	
	comp=Z,1μm,18.6s,MS5.0,baz=244,slow=32						
CPUP	Villa Florida	58.47	92	eP	P	20 17 42.6	-1.8
	8.7nm,0.7s,mb4.9						
LPAZ	La Paz	60.26	75	P	P	20 17 56.8	0.0
	15nm,0.8s,mb5.0,baz=191,slow=5.1,SNR=30						
LPAZ				LR	LR	20 36 41.5	
	comp=Z,212nm,21.2s,MS4.3,baz=93,slow=29						
LPAZ	La Paz	60.26	75	P	P	20 17 57.0	+0.2
LPAZ	La Paz	60.26	75	eP	P	20 17 57.1	+0.3
	29nm,0.9s,mb5.3						
STKA	Stephens Creek	64.16	251	LR	LR	20 40 31.1	
	comp=Z,764nm,21.5s,MS4.8,baz=100,slow=31						
SAML	Samuel	69.00	75	eP	P	20 18 51.7	-2.0
	17nm,0.7s,mb5.1						
CTA	Charters Tower	70.77	262	LR	LR	20 48 50.7	
	comp=Z,305nm,18.4s,MS4.6,baz=224,slow=35						
BDFB	Brasilia	72.20	92	P	P	20 19 11.9	-1.1
	4.5nm,0.6s,mb4.6,baz=202,slow=4.5,SNR=7.0						
BDFB				LR	LR	20 48 36.4	
	comp=Z,702nm,18.1s,MS5.0,baz=213,slow=34						
ASAR	Alice Springs	74.79	251	P	P	20 19 27.2	-0.8
	2.9nm,0.7s,mb4.3,baz=142,slow=6.1,SNR=18						
ASAR				LR	LR	20 48 24.8	
	comp=Z,497nm,18.3s,MS4.8,baz=149,slow=33						
ASPA	Alice Springs	74.79	251	eP	P	20 19 26.4	-1.6
ROSC	El Rosal	74.85	57	P	P	20 19 30.7	+2.2
	13nm,0.7s,mb5.0,baz=165,slow=22,SNR=8.1						
ROSC				LR	LR	20 46 25.4	
	comp=Z,494nm,18.2s,MS4.8,baz=42,slow=31						
JTS	JuntasAbangare	74.93	45	P	P	20 19 29.8	+0.8
	15nm,1.2s,mb4.8,baz=264,slow=7.9,SNR=3.6						
JTS	JuntasAbangare	74.93	45	P	P	20 19 29.8	+0.8
WB2	Warramunga Arr	77.55	253	eP	P	20 19 42.1	-1.4
WRA	Warramunga Arr	77.55	253	P	P	20 19 42.5	-1.1
	2.0nm,0.6s,mb4.2,baz=142,slow=5.2,SNR=24						
WRA				LR	LR	20 50 23.2	
	comp=Z,516nm,20.1s,MS4.8,baz=175,slow=33						
SDV	Santo Domingo	80.14	59	P	P	20 19 59.4	+1.6
	12nm,1.1s,mb4.8						
FITZ	Fitzroy Crossi	83.75	247	eP	P	20 20 18.4	+1.9
	8.3nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	83.75	247	LR	LR	20 52 23.1	
	comp=Z,202nm,19.4s,MS4.5,baz=79,slow=32						
LTX	Lajitas	86.95	22	eP	P	20 20 31.8	-0.4
	5.6nm,0.8s,mb4.8						
TXAR	Lajitas Array	86.95	22	P	P	20 20 33.1	+1.0
	0.9nm,0.4s,mb4.3,baz=180,slow=10.0,SNR=6.9						
JCT	Junction City	88.93	25	P	P	20 20 50.0	+8.4
	12nm,1.0s,mb5.2						
CPRX	Cap Rock	90.48	21	P	P	20 20 49.9	+1.1
BNM	Barren Site	91.03	18	eP	P	20 20 48.8	-2.5
SAO	San Andreas Ge	91.81	6	P	P	20 20 52.8	-2.1
	12nm,0.9s,mb5.2						
ANMO	Albuquerque	91.84	18	eP	P	20 20 55.8	+0.8
	5.6nm,0.8s,mb5.0						
NVAR	Mina Array Bea	93.70	8	P	P	20 21 06.0	+2.5
	0.7nm,0.7s,mb4.2,baz=180,slow=6.1,SNR=4.3						
NVAR				LR	LR	20 53 38.1	
	comp=Z,297nm,20.9s,MS4.7,baz=230,slow=29						
SDCO	Great Sand Dun	94.73	19	P	P	20 21 16.8	+8.6
	4.6nm,0.9s,mb4.9						
PDAR	Pinedale Array	98.98	14	LR	LR	20 57 12.9	
	comp=Z,353nm,21.9s,MS4.8,baz=210,slow=30						
ILAR	Eielson Array	120.41	351	PKP	PKPdf	20 26 36.5	-3.1
	1.9nm,0.6s,baz=208,slow=2.0,SNR=13						
CMAR	Chiang Mai Arr	128.47	244	PKP	PKPdf	20 26 56.2	-0.1
	0.7nm,0.7s,baz=192,slow=1.6,SNR=6.1						
KMI	Kunming	131.88	253	ePKP	PKPdf	20 27 02.4	-0.2
KMI				SKKS		20 36 19.8	
KMI				SS	SS	20 46 57.5	-0.1
KMI				LR	LR		
	comp=N,108nm,29.7s,MS4.5						
KMI				LR	LR		
	comp=E,77nm,24.9s,MS4.5						
KMI				LR	LR		
	comp=Z,118nm,26.4s,MS4.5						
CN2	Changchun	132.54	289	ePKP	PKPdf	20 27 04.3	+0.9
CN2				ePP	PP	20 29 32.8	+4.9
LZH	Lanzhou	139.53	264	ePKP	PKPdf	20 27 14.9	-1.5
LZH				XPKP		20 27 19.5	
LZH				ePP	PP	20 30 15.1	+3.0
LZH				SKKS		20 37 05.3	
LZH				SS	SS	20 48 33.4	+5.4
LZH				LR	LR		
	comp=E,465nm,18.3s						
LZH				LR	LR		
	comp=Z,767nm,20.0s,MS5.4						
LSA	Lhasa	141.72	245	PKPdf	PKPdf	20 27 18.0	-2.4
PKI	Pulchoki	142.84	236	eP	PKPdf	20 27 20.9	-1.5
	comp=Z,9.3nm,1.0s						
DMN	Daman	143.02	236	eP	PKPbc	20 27 22.4	+4.8
	comp=Z,11nm,0.9s						
KKN	Kakani	143.09	236	eP	PKPbc	20 27 21.7	+3.9
GKN	Gorkha	143.57	236	eP	PKPbc	20 27 23.6	+4.4
KOLN	Koldanda	143.86	234	eP	PKPbc	20 27 28.2	+8.1
	comp=Z,13nm,0.8s						
GTA	Gaotai	144.13	265	ePKP	PKPdf	20 27 21.1	-3.1
GTA				APKP		20 27 27.5	
GTA				XPKP		20 27 30.3	
SJPF	Ste Jean	144.62	88	ePKP1	PKPbc	20 27 23.9	+2.1
	comp=Z,41nm,1.1s						
KAMS	Al Khamasin	144.85	170	P	PKPbc	20 27 24.9	+1.9
ETSF	Etsaut	144.87	89	ePKP1	PKPbc	20 27 23.3	+0.8
	comp=Z,26nm,0.9s						
EPF	Esparros	145.47	89	ePKP1	PKPbc	20 27 25.5	+1.5
	comp=Z,49nm,1.2s						
SONM	Songino Array	145.54	281	PKPbc	PKPbc	20 27 25.0	+1.0
	comp=Z,4.9nm,0.6s,baz=138,slow=4.2,SNR=20						
QUIF	Quistinic	146.33	79	ePKP1	PKPbc	20 27 27.1	+1.2
	comp=Z,162nm,1.6s						
ROSF	Rostrenen	146.50	79	ePKP1	PKPbc	20 27 27.4	+1.1
	comp=Z,49nm,1.1s						
MTLF	Montolieu	146.74	90	ePKP1	PKPbc	20 27 29.4	+2.4
	comp=Z,24nm,1.0s						
SGMF	Saint Gilles	146.85	79	ePKP1	PKPbc	20 27 30.3	+3.2
	comp=Z,96nm,1.1s						
LFF	La Frestale	146.86	87	ePKP1	PKPbc	20 27 31.0	+3.8
	comp=Z,91nm,1.3s						
MFF	Saint Martin d	147.31	84	ePKP1	PKPdf	20 27 30.1	+0.7
	comp=Z,70nm,1.3s						
DAG	Danmarks Havn	147.48	24	⇑iP	PKPdf	20 27 29.3	+0.4
	comp=Z,3.4nm,0.4s						
RJF	Les Rejaudoux	147.52	87	ePKP1	PKPdf	20 27 31.6	+1.8
	comp=Z,32nm,1.1s						
RJF				eR			
	comp=Z,321nm,21.0s						
CAF	Calviac	147.61	88	ePKP1	PKPdf	20 27 31.5	+1.6
YNBS	Yanbu‘ al Bahr	147.73	157	P	PKPdf	20 27 27.0	-3.8
AFFS	‘Afif	148.23	166	P	PKPdf	20 27 34.7	+3.1
FLN	La Foliniere	148.29	80	ePKP1	PKPdf	20 27 33.5	+2.6
	comp=Z,41nm,1.1s						
FLN				eR			
	comp=Z,217nm,22.0s						
TCF	Toulx Ste Croi	148.48	86	ePKP1	PKPdf	20 27 34.2	+2.9
	comp=Z,27nm,1.2s						
DDI	Dehra Dun	148.54	229	e	PKPdf	20 27 34.5	+2.6
BGF	Bois d’Agland	149.00	86	ePKP1	PKPdf	20 27 34.9	+2.8
	comp=Z,37nm,1.2s						
VIVF	Saint-Julien-l	149.06	90	ePKP1	PKPdf	20 27 36.6	+4.3
LMR	La Mourre	149.19	94	ePKP1	PKPdf	20 27 36.1	+3.6
	comp=Z,56nm,1.2s						
KBRS	Khaybar	149.41	159	P	PKPdf	20 27 35.2	+1.8
FRF	La Foret Royal	149.41	94	ePKP1	PKPdf	20 27 36.3	+3.4
	comp=Z,31nm,1.0s						
AVF	Avril sur Loir	149.41	86	ePKP1	PKPdf	20 27 33.2	+0.4
	comp=Z,30nm,1.1s						
SMF	Signal de Mont	149.61	86	ePKP1	PKPdf	20 27 36.0	+2.9
	comp=Z,31nm,1.2s						
VAE	Valguarnera	149.64	110	PKPab	PKPab	20 27 42.7	+0.3
	comp=Z,5.1nm,0.8s,baz=29,slow=23,SNR=2.3						
SSF	Saint Saulge	149.65	85	ePKP1	PKPdf	20 27 36.5	+3.3
ORIF	Oris-en-Rattie	149.79	91	ePKP1	PKPdf	20 27 38.6	+5.2
	comp=Z,16nm,0.9s						
ORIF				eR			
	comp=Z,215nm,20.8s						
EKA	Eskdalemuir Ar	149.81	67	PKPbc	PKPdf	20 27 36.6	+3.5
	comp=Z,2.7nm,0.6s,baz=248,slow=2.4,SNR=8.9						
LOR	Lormes	149.97	85	ePKP1	PKPdf	20 27 38.8	+5.2
	comp=Z,18nm,0.9s						
LOR				eR			
	comp=Z,229nm,22.0s						
SBF	Sospel	150.05	94	ePKP1	PKPdf	20 27 39.0	+5.1
PGF	Pioggiola	150.12	97	ePKP1	PKPdf	20 27 37.5	+3.5
	comp=Z,19nm,0.8s						
MBDF	Montbardon	150.19	92	ePKP1	PKPdf	20 27 39.2	+5.1
	comp=Z,12nm,0.9s						
LPG	La Plagne	150.63	91	ePKP1	PKPdf	20 27 41.3	+6.6
	comp=Z,28nm,1.0s						
LPL	La Plagne	150.63	91	ePKP1	PKPdf	20 27 41.1	+6.4
	comp=Z,30nm,1.2s						
MEZF	Maizieres J’vi	151.30	84	ePKP1	PKPdf	20 27 40.5	+4.9
JMQS	Jabal Moqyreh	151.56	151	P	PKPdf	20 27 40.2	+3.6
BAIF	Baives	151.59	81	ePKP1	PKPdf	20 27 40.1	+4.1
	comp=Z,12nm,0.9s						
JMOS	Jabal al Moall	151.61	150	P	PKPdf	20 27 39.2	+2.5
HAU	Haudompre	151.78	86	ePKP1	PKPdf	20 27 42.9	+6.6
HAU				eR			
	comp=Z,205nm,20.5s						
HINF	Hinteralfeld	151.97	87	ePKP1	PKPdf	20 27 42.3	+5.7
	comp=Z,20nm,0.9s						
CDF	Champ du Feu	152.53	86	ePKP1	PKPdf	20 27 43.3	+5.9
DAVOX	Davos	153.15	91	PKPbc	PKPdf	20 27 43.9	+5.6
	comp=Z,3.0nm,0.7s,baz=191,slow=6.6,SNR=3.4						
WMQ	Urumqi	153.88	260	PKP	PKPdf	20 27 39.1	-0.3
WMQ				APKP		20 27 43.6	
WMQ				XPKP		20 27 46.1	
WMQ				PKP2	PKPab	20 28 02.9	+2.9
WMQ				LR	LR		
	comp=N,70nm,30.8s						
WMQ				LR	LR		
	comp=E,72nm,24.8s						
WMQ				LR	LR		
	comp=Z,104nm,25.8s,MS4.5						
MOX	Moxa	156.08	84	ePKP	PKPdf	20 27 44.1	+2.0
MOX				LR	LR		
	comp=Z,100nm,22.0s,MS4.6						
GERES	GERESS Array B	156.43	90	PKP	PKPdf	20 27 41.0	-1.6
	comp=Z,0.9nm,0.8s,baz=180,slow=4.0,SNR=6.0						
KHC				e	PKPdf	20 27 34.0	-8.7
CLL	Collm	157.16	84	P	PKPdf	20 27 48.0	+4.5
CLL				e		20 28 06.0	
CLL	Collm	157.16	84	ePKP	PKPdf	20 27 48.0	+4.5
CLL				e		20 28 06.0	
ZAL	Zalesovo	160.44	280	PKPab	PKPab	20 28 27.0	-0.8
	comp=Z,1.1nm,0.6s,baz=272,slow=4.7,SNR=4.0						
BRTR	Keskin Array B	160.69	136	PKP	PKPdf	20 27 46.2	-1.8
	comp=Z,0.4nm,0.5s,baz=202,slow=6.7,SNR=5.0						
BRTR				PKPab	PKPab	20 28 26.7	-2.6
	comp=Z,0.3nm,0.4s,baz=196,slow=28,SNR=2.8						
MLR	Muntele Rosu	161.41	111	PKPab	PKPab	20 28 31.1	-1.1
	comp=Z,4.3nm,0.9s,baz=139,slow=2.5,SNR=2.8						
AKASG	Malin Array Be	166.17	100	PKPab	PKPab	20 28 51.6	-1.2
	comp=Z,0.2nm,0.2s,baz=250,slow=5.2,SNR=4.6						
BVAR	Borovoye Array	168.40	267	PKPab	PKPab	20 29 01.5	-0.9
	comp=Z,0.5nm,0.8s,baz=117,slow=3.2,SNR=2.7						

ROM ***24*** *20:24:33.0±0.3, 44.19N×10.24E, h5^{km}±2^{km}, MD2.7/10, ML2.0/9, Error ellipse: s-maj=1.6km s-min=1.5km az=0.0*

NEIC ***24*** *20:24:33.5, 44.21N×10.25E, h1^{km}, MD2.7(ROM), ML2.7(LDG), ML2.2(GEN), After GEN.*

LDG ***24*** *20:24:36.2±0.3, 44.03N×10.16E, h10^{km}, Ml2.7/17, Error ellipse: s-maj=6.8km s-min=3.4km az=87.0*

ISC 24 20:24:32.8±0.3, 44.14N±0.02×10.12E±0.02, h9^{km}±2^{km}, n59, σ1^{s}28/106, 5C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINC	Vinca	0.02	80	P	Pg	20 24 35.7	+1.2
VINC				S	Sg	20 24 37.4	+1.8
BACM		0.14	345	P	Pg	20 24 36.7	+0.5
BACM				S	Sg	20 24 39.2	+0.9
VLC	Villacollemand	0.19	83	eP	Pg	20 24 35.8	-1.2
VALM		0.23	23	P	Pg	20 24 36.6	-1.0
VALM				S	Sg	20 24 39.1	-1.8
CODM		0.32	322	P	Pg	20 24 40.2	+0.8
CODM				S	Sg	20 24 45.2	+1.4
MAIM		0.35	130	P	Pg	20 24 40.1	+0.2
MAIM				S	Sg	20 24 45.0	+0.3
BDI	Bagni Di Lucca	0.35	102	ePG	Pg	20 24 39.1	-0.9
BDI				SG	Sg	20 24 44.1	-0.7
	122nm,0.3s						
BDI	Bagni Di Lucca	0.35	102	ePg	Pg	20 24 39.1	-0.9
BDI				eSg	Sg	20 24 44.1	-0.6
ERBM	Eremo	0.35	36	⇑iPG	Pg	20 24 39.0	-1.0
ERBM				SG	Sg	20 24 43.2	-1.6
	203nm,0.2s						
ERBM	Eremo	0.35	36	⇑iPg	Pg	20 24 39.0	-1.1
ERBM				eSg	Sg	20 24 43.2	-1.6
GRAM		0.36	353	P	Pg	20 24 39.9	-0.2
GRAM				S	Sg	20 24 44.7	-0.3
GSCL	Gusciola	0.40	57	ePG	Pg	20 24 39.6	-1.3
GSCL				SG	Sg	20 24 44.1	-2.2
	123nm,0.3s						
GSCL	Gusciola	0.40	57	ePg	Pg	20 24 39.6	-1.3
GSCL				eSg	Sg	20 24 44.1	-2.2
PII	Pisa	0.51	145	ePG	Pg	20 24 43.4	+0.3
	426nm,0.2s						
PII	Pisa	0.51	145	ePg	Pg	20 24 43.4	+0.3
ZCCA	Zocca	0.65	71	ePG	Pg	20 24 45.8	-0.1
	60nm,0.4s						
ZCCA	Zocca	0.65	71	ePg	Pg	20 24 45.8	-0.1
BOB	Bobbio (Coli)	0.79	323	ePG	Pg	20 24 49.1	+0.3
BOB				SG	Sg	20 25 02.2	+2.8
BOB	Bobbio (Coli)	0.79	323	ePg	Pg	20 24 49.1	+0.3
BOB				eSg	Sg	20 25 02.2	+2.8
SEI	Scarperia	0.89	95	ePG	Pg	20 24 50.2	-0.5
SEI				SG	Sg	20 25 01.4	-1.3
	129nm,0.3s						
SEI	Scarperia	0.89	95	ePg	Pg	20 24 50.2	-0.5
SEI				eSg	Sg	20 25 01.4	-1.2
VMG	Vicchio	1.04	99	ePG	Pg	20 24 53.5	-0.2

VMG				SG	Sg	20 25 06.0	-1.5
	43nm,0.5s						
VMG	Vicchio	1.04	99	ePg	Pg	20 24 53.5	-0.1
VMG				eSg	Sg	20 25 06.0	-1.6
CSNT	Castellina Chi	1.08	128	ePG	Pg	20 24 54.0	-0.4
CSNT				SG	Sg	20 25 10.3	+1.5
	57nm,0.5s						
CSNT	Castellina Chi	1.08	128	ePg	Pg	20 24 54.0	-0.4
CSNT				eSg	Sg	20 25 10.3	+1.5
GRFL	Gerfalco	1.17	148	ePN	Pn	20 24 57.1	+1.8
GRFL				SN	Sn	20 25 12.1	+0.6
	11nm,0.5s						
GRFL	Gerfalco	1.17	148	ePg	Pg	20 24 57.1	+0.9
GRFL				eSg	Sg	20 25 12.2	+0.3
FIN	Finale Ligure	1.38	274	ePN	Pn	20 24 59.7	+1.3
FIN				SN	Sn	20 25 17.7	+0.8
	11nm,0.4s						
FIN	Finale Ligure	1.38	274	ePg	Pg	20 24 59.7	-0.8
FIN				eSg	Sg	20 25 17.7	-1.1
IMI	Imperia	1.63	263	ePN	Pn	20 25 03.8	+1.9
	11nm,0.3s						
IMI	Imperia	1.63	263	ePg	Pg	20 25 03.8	-1.6
PGF	Pioggiola	1.79	208	ePn	Pn	20 25 04.7	+0.5
PGF				ePg	Pg	20 25 08.3	-0.3
PGF				eSn	Sn	20 25 26.6	-0.6
	14nm,0.3s						
SBF	Sospel	1.96	263	ePn	Pn	20 25 07.3	+0.6
SBF				eSn	Sn	20 25 30.9	-0.7
	19nm,0.4s						
MBDF	Montbardon	2.47	285	ePn	Pn	20 25 14.8	+0.8
FRF	La Foret Royal	2.58	258	ePn	Pn	20 25 15.9	+0.4
FRF				eSn	Sn	20 25 45.9	-1.5
	4.7nm,0.3s						
LMR	La Mourre	2.74	254	ePn	Pn	20 25 18.0	+0.2
LMR				eSn	Sn	20 25 48.7	-2.7
	6.0nm,0.3s						
LPG	La Plagne	2.76	301	ePn	Pn	20 25 22.3	+4.2
LPG				eSn	Sn	20 25 52.4	+0.5
	5.2nm,0.4s						
LPL	La Plagne	2.78	301	ePn	Pn	20 25 22.0	+3.6
LPL				eSn	Sn	20 25 54.8	+2.4
	5.2nm,0.4s						
ORIF	Oris-en-Rattie	3.13	286	ePn	Pn	20 25 25.8	+2.4
ORIF				eSn	Sn	20 26 00.1	-1.3
	5.2nm,0.4s						
DAVA	Damuels	3.15	357	⇑iPN	Pn	20 25 26.5	+2.8
DAVA				i SN	Sn	20 26 03.3	+1.4
SQTA	Sankt Quirin	3.18	13	⇑iPN	Pn	20 25 26.7	+2.7
SQTA				i SN	Sn	20 26 04.5	+2.1
MOTA	Moosalm	3.28	12	⇑iPN	Pn	20 25 28.6	+3.1
MOTA				i SN	Sn	20 26 06.5	+1.4
SMRF	Simiane la Rot	3.28	269	ePn	Pn	20 25 26.3	+0.8
SMRF				eSn	Sn	20 26 04.5	-0.7
	5.1nm,0.4s						
WTTA	Wattenberg	3.30	18	⇓iPN	Pn	20 25 28.9	+3.1
WTTA				i SN	Sn	20 26 08.2	+2.6
CABF	La Chapelle	3.77	312	ePn	Pn	20 25 32.3	-0.1
CABF				eSn	Sn	20 26 16.4	-1.1
	3.2nm,0.5s						
VIVF	Saint-Julien-l	3.96	282	ePn	Pn	20 25 34.9	-0.3
VIVF				eSn	Sn	20 26 19.8	-2.6
	1.5nm,0.3s						
HINF	Hinteralfeld	4.33	329	ePn	Pn	20 25 42.0	+1.6
HINF				eSn	Sn	20 26 30.4	-1.2
	2.4nm,0.3s						
LASF	Ste Croix	4.51	271	ePn	Pn	20 25 42.9	-0.1
HAU	Haudompre	4.68	327	ePn	Pn	20 25 45.1	-0.2
HAU				eSn	Sn	20 26 38.9	-1.5
	8.6nm,0.5s						
CDF	Champ du Feu	4.71	336	ePn	Pn	20 25 46.0	+0.2
CDF				eSn	Sn	20 26 38.9	-2.4
	2.9nm,0.5s						
SMF	Signal de Mont	5.09	302	ePn	Pn	20 25 52.3	+1.2
SMF				eSn	Sn	20 26 47.4	-3.3
	2.5nm,0.3s						
LOR	Lormes	5.39	308	ePn	Pn	20 25 56.3	+0.9
LOR				eSn	Sn	20 26 55.4	-3.0
	3.0nm,0.4s						
AVF	Avril sur Loir	5.45	301	ePn	Pn	20 25 56.6	+0.3
AVF				eSn	Sn	20 26 56.3	-3.6
	2.7nm,0.5s						
SSF	Saint Saulge	5.49	305	ePn	Pn	20 25 56.5	-0.3
SSF				eSn	Sn	20 26 57.0	-3.8
	2.2nm,0.4s						
BGF	Bois d'Agland	5.67	298	ePn	Pn	20 25 59.2	-0.2
BGF				ePg	Pg	20 26 22.1	-4.0
MTLF	Montolieu	5.78	265	ePn	Pn	20 26 00.1	-0.9
CAF	Calviac	5.81	281	ePn	Pn	20 26 01.6	+0.2
LFF	La Frestale	6.75	280	ePn	Pn	20 26 13.4	-1.3
ETSF	Etsaut	7.86	265	ePn	Pn	20 26 28.8	-1.4

MAN 24 20:37:23.4, 9.03N×126.59E, h1^{km}, mb4.0, ML2.8, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	0.87	195	⇑iP	Pg	20 37 40.5	-0.4
BIPH				i S	Sg	20 37 50.3	-2.2
BUTP	Butuan	0.96	266	eP	Pb	20 37 42.1	-0.5
SCPH	Surigao	1.32	304	i P	Pb	20 37 48.3	-0.4
SCPH				i S	Sb	20 38 04.7	-1.2
BUKP	Musuan	1.90	233	eP	Pn	20 37 57.0	-0.3
BUKP				eS	Sn	20 38 19.7	-2.5
MATI	Mati	2.10	189	eP	Pn	20 38 00.3	+0.1
PAGZ	Pagadian	3.39	250	eP	Pn	20 38 19.1	+0.6

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*IDC **24** 20:38:01.0±21.0, 17.51N×144.87E, h130^{km}±198^{km}, mb3.5/9, mb1 3.7/9, mb1mx3.6/22, MS4.0/3, Ms1 4.0/3, ms1mx3.2/30, Error ellipse: s-maj=53.0km s-min=18.9km az=66.0*

*NEIC **24** 20:38:03.1±0.6, 17.46N×144.82E, h150^{km}, mb4.4/3, Error ellipse: s-maj=20.9km s-min=10.2km az=84.0*

ISC 24 20:38:01.8±0.9**, 17.5N**±0.1×**144.7E**±0.2**, h150^{km}, n15, σ0^{s}45**/12**, mb3.8**/12**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	17.85	304	LR	LR	20 47 21.1	
	comp=Z,504nm,19.6s,baz=116,slow=31						
JNU	Nakatsue	19.96	324	LR	LR	20 47 58.8	
	comp=Z,176nm,21.0s,baz=127,slow=30						
WRAB	Tennant Creek	38.54	196	eP	P	20 45 11.1	-0.4
	32nm,1.2s,mb4.8						
WRA	Warramunga Arr	38.55	196	P	P	20 45 11.4	-0.2
	5.3nm,0.8s,mb4.2,baz=15,slow=9.3,SNR=20						
FITZ	Fitzroy Crossi	40.03	209	P	P	20 45 24.0	+0.2
	2.2nm,0.8s,mb3.8,baz=14,slow=9.5,SNR=5.5						
ASAR	Alice Springs	42.23	195	P	P	20 45 42.0	+0.1
	1.1nm,0.7s,mb3.6,baz=19,slow=9.7,SNR=9.3						
CMAR	Chiang Mai Arr	43.48	279	P	P	20 45 53.0	+1.0
	1.1nm,0.8s,mb3.5,baz=76,slow=6.5,SNR=9.0						
SONM	Songino Array	43.54	323	P	P	20 45 51.7	-0.4
	0.6nm,0.9s,mb3.2,baz=320,slow=29,SNR=3.4						
LSA	Lhasa	50.21	294	P	P	20 46 44.3	-0.2
	2.3nm,0.6s,mb4.0						
MKAR	Makanchi Array	58.66	315	P	P	20 47 45.2	-0.4
	0.3nm,0.8s,mb3.1,baz=110,slow=6.7,SNR=2.9						
BVAR	Borovoye Array	66.84	321	P	P	20 48 39.1	-0.4
	1.5nm,0.7s,mb4.0,baz=97,slow=8.5,SNR=12						
ZRNK	Zerenda	67.67	321	P	P	20 48 45.2	+0.5
	6.6nm,1.1s,mb4.3						
NVAR	Mina Array Bea	84.62	52	P	P	20 50 20.3	+0.5
	1.0nm,0.8s,mb3.6,baz=269,slow=7.7,SNR=5.3						
FINES	FINESS Array B	87.61	335	P	P	20 50 33.5	-0.2
	1.7nm,1.0s,mb3.8,baz=166,slow=16,SNR=3.2						
BRTR	Keskin Array B	94.30	314	LR	LR	21 40 11.3	
	comp=Z,152nm,20.9s,baz=165,slow=40						

IDC 24 20:53:56.8±3.4**, 55.58S**×**129.12W, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.9**/15**, MS4.1**/11**, Ms1 4.1**/11**, ms1mx4.1**/14**, 2C-1D, Error ellipse: s-maj=121.0km s-min=36.4km az=39.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	32.05	203	LR	LR	21 10 17.4	
	comp=Z,293nm,21.5s,baz=78,slow=31						
PLCA	Paso Flores	40.53	94	LR	LR	21 14 05.4	
	comp=Z,223nm,19.7s,baz=225,slow=30						
VNA3	Neumayer Olymp	46.49	157	⇑i	P	21 02 38.4	+12
VNA2	Neumayer--Watz	47.22	158	⇓i	P	21 02 34.7	+2.2
SNAA	Sanae	47.59	160	⇑i	P	21 02 33.5	-1.9
SNAA	Sanae	47.59	160	P	P	21 02 33.5	-1.9
	1.8nm,1.2s,baz=236,slow=6.9,SNR=16						
MAW	Mawson	56.81	185	LR	LR	21 26 06.3	
	comp=Z,157nm,19.8s,baz=18,slow=34						
CPUP	Villa Florida	58.51	91	LR	LR	21 25 50.3	
	comp=Z,213nm,18.7s,baz=64,slow=33						
LPAZ	La Paz	60.40	75	LR	LR	21 23 25.4	
	comp=Z,119nm,21.5s,baz=3.5,slow=29						
STKA	Stephens Creek	63.99	251	LR	LR	21 25 05.6	
	comp=Z,286nm,21.8s,baz=205,slow=29						
BDFB	Brasilia	72.23	92	LR	LR	21 34 50.0	
	comp=Z,173nm,18.8s,baz=239,slow=34						
ASAR	Alice Springs	74.62	251	P	P	21 05 37.5	-1.9
	1.2nm,0.8s,baz=142,slow=4.9,SNR=8.0						
ASAR				LR	LR	21 34 36.0	
	comp=Z,94nm,20.1s,baz=173,slow=33						
ROSC	El Rosal	75.10	57	LR	LR	21 32 33.6	
	comp=Z,127nm,18.6s,baz=218,slow=31						
WRA	Warramunga Arr	77.40	253	P	P	21 05 53.3	-1.9
	1.4nm,0.9s,baz=143,slow=5.4,SNR=8.5						
NVAR	Mina Array Bea	94.09	8	LR	LR	21 40 39.0	
	comp=Z,79nm,20.9s,baz=90,slow=30						
PDAR	Pinedale Array	99.37	14	LR	LR	21 43 44.3	
	comp=Z,99nm,19.1s,baz=326,slow=30						
SONM	Songino Array	145.58	281	PKPbc	PKPbc	21 13 34.5	-2.0
	0.7nm,0.6s,baz=110,slow=36,SNR=4.5						
MKAR	Makanchi Array	158.60	259	PKPab	PKPab	21 14 32.6	+0.1
	0.3nm,0.7s,baz=117,slow=3.2,SNR=2.6						

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*NEIC **24** 21:47:29.0±1.8, 35.45S×178.96E, h291^{km}±9^{km}, mb4.0/3, Error ellipse: s-maj=28.9km s-min=22.9km az=93.0*

ISC 24 21:47:25.9±0.9**, 35.3S**±0.1×**179.2E**±0.2**, h295^{km}**±8^{km}**, n54, σ1^{s}10**/68**, mb4.0**/3**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.35	198	P	P	21 48 14.6	-0.9
MXZ				S	S	21 48 52.0	-2.1
MXZ	Matakaoa Point	2.35	198	P	P	21 48 14.8	-0.7
PUZ	Puketiti	2.84	196	P	P	21 48 20.4	+0.3
PUZ				eS	S	21 49 00.3	-2.1
MWZ	Matawai	3.29	204	P	P	21 48 24.9	+0.2
MWZ				S	S	21 49 11.9	+1.3
MWZ	Matawai	3.29	204	P	P	21 48 25.2	+0.5
MARZ	Manawahe	3.35	217	P	P	21 48 25.5	+0.2
MARZ	Manawahe	3.35	217	P	P	21 48 25.7	+0.4
URZ	Urewera	3.38	210	P	P	21 48 25.2	-0.4
URZ	Urewera	3.38	210	P	P	21 48 25.3	-0.3
TAZ	Tarawera	3.63	216	eP	P	21 48 30.0	+1.8
TAZ	Tarawera	3.63	216	P	P	21 48 30.1	+1.9
PATZ	Paeroa	3.86	217	eP	P	21 48 31.8	+1.0
PATZ	Paeroa	3.86	217	P	P	21 48 31.9	+1.1
KNZ	Kokohu	3.88	198	eP	P	21 48 31.4	+0.4
KNZ				eS	S	21 49 22.9	+1.0
KNZ	Kokohu	3.88	198	P	P	21 48 31.7	+0.7
BKZ	Black Stump Fm	4.41	209	P	P	21 48 37.0	+0.1
BKZ				eS	S	21 49 34.3	+1.9
BKZ	Black Stump Fm	4.41	209	eP	P	21 48 37.4	+0.5
MGZ	Maungaku	4.70	218	P	P	21 48 41.3	+1.1
KAVZ	Karewarewa	4.72	216	P	P	21 48 41.6	+1.1
HIZ	Hauiti	4.73	227	P	P	21 48 42.2	+1.6
NGZ	Ngauruhoe	4.80	216	P	P	21 48 42.0	+0.6
NGZ	Ngauruhoe	4.80	216	P	P	21 48 42.2	+0.8
TUVZ	Tukino	4.85	215	P	P	21 48 41.9	-0.1
TUVZ	Tukino	4.85	215	P	P	21 48 33.8	-8.2
FWVZ	Far West T-bar	4.89	216	P	P	21 48 42.3	-0.1
TSZ	Takapari Road	5.38	208	P	P	21 48 47.8	-0.4
TSZ				S	S	21 49 53.3	+0.5
TSZ	Takapari Road	5.38	208	P	P	21 48 48.1	-0.1
WAZ	Wanganui	5.55	216	P	P	21 48 50.7	+0.4
WAZ	Wanganui	5.55	216	P	P	21 48 50.8	+0.5
BFZ	Birch Farm	5.83	203	eP	P	21 48 53.9	+0.3
MRZ	Mangatainoka R	6.05	207	P	P	21 48 55.7	-0.5
MRZ				eS	S	21 50 06.5	-0.6
KIW	Kapiti Island	6.49	210	P	P	21 49 01.1	-0.4
MTW	Mount Morrison	6.51	206	P	P	21 49 01.2	-0.7
MTW				eS	S	21 50 19.0	+1.8
MTW	Mount Morrison	6.51	206	P	P	21 49 01.5	-0.4
CAW	Cannon Point	6.63	208	P	P	21 49 02.7	-0.6
CAW	Cannon Point	6.63	208	P	P	21 49 02.8	-0.5
MRW	Makara Radio	6.88	210	P	P	21 49 05.8	-0.6
MRW	Makara Radio	6.88	210	P	P	21 49 06.0	-0.4
SNZO	South Karori	6.95	209	P	P	21 49 06.0	-1.2
SNZO	South Karori	6.95	209	P	P	21 49 06.5	-0.7
NNZ	Nelson	7.46	216	P	P	21 49 11.4	-2.1
NNZ				eS	S	21 50 37.5	-0.5
NNZ	Nelson	7.46	216	eP	P	21 49 11.6	-1.9
QRZ	Quartz Range	7.61	222	P	P	21 49 13.6	-1.8
QRZ				S	S	21 50 40.8	-0.6
QRZ	Quartz Range	7.61	222	eP	P	21 49 13.6	-1.8
THZ	Tophouse	8.11	216	P	P	21 49 19.5	-2.0
THZ				S	S	21 50 54.1	+1.8
KHZ	Kahutara	8.35	210	P	P	21 49 23.6	-0.8
KHZ				eS	S	21 50 57.8	+0.2
KHZ	Kahutara	8.35	210	eP	P	21 49 23.8	-0.6
LTZ	Lake Taylor	9.20	214	P	P	21 49 34.4	-0.5
LTZ				S	S	21 51 14.5	-2.0
LTZ	Lake Taylor	9.20	214	eP	P	21 49 34.5	-0.4
MQZ	McQueen's Vall	9.78	209	eP	P	21 49 41.6	-0.5
MQZ				eS	S	21 51 29.3	-0.2
MQZ	McQueen's Vall	9.78	209	eP	P	21 49 41.5	-0.6
WRAB	Tennant Creek	42.25	279	P	P	21 54 52.0	-0.4
	5.5nm,0.7s,mb3.9						
QSPA	South Pole Qui	54.79	180	eP	P	21 56 38.0	+11
	1.9nm,0.6s,mb3.7						
MAW	Mawson	66.88	202	P	P	21 57 50.1	+2.5
	3.0nm,0.3s,mb4.5						

IDC 24 21:50:23.7±18.0**, 5.15N**×**124.20E, h488^{km}**±243^{km}**, mb3.0**/5**, mb1 3.2**/5**, mb1mx2.8**/19**, 1D, Error ellipse: s-maj=262.0km s-min=39.7km az=60.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.86	158	P	P	21 55 23.8	-2.2
	2.2nm,0.3s,baz=336,slow=9.6,SNR=49						
WB2	Warramunga Arr	26.86	158	⇓iP	P	21 55 25.1	-0.9
ASAR	Alice Springs	30.16	162	P	P	21 55 53.5	-1.3
	1.4nm,0.7s,baz=339,slow=7.3,SNR=17						
STKA	Stephens Creek	40.38	157	P	P	21 57 19.4	-0.3
	1.1nm,0.7s,baz=4.4,slow=13,SNR=3.3						
MKAR	Makanchi Array	54.97	326	P	P	21 59 08.5	-1.4
	0.5nm,0.3s,baz=124,slow=7.5,SNR=17						
BVAR	Borovoye Array	64.77	327	P	P	22 00 12.5	-2.4
	0.1nm,0.3s,baz=100,slow=8.8,SNR=2.5						

GUC 24 21:52:55.2±1.0**, 33.13S**×**70.23W, h4^{km}**±3^{km}**, MD3.6, ML2.3, 5C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	Farellones	0.21	194	⇑iP	Pg	21 53 00.2	+0.8
FCH				i P		21 53 00.3	
FCH				i S	Sg	21 53 03.2	+1.0
FCH				AMP		21 53 04.6	
	comp=N,834nm,0.3s						
CLCH	Cerro Calan	0.37	224	⇑iP	Pg	21 53 03.3	+0.7
CLCH				i S	Sg	21 53 09.2	+1.5
CLCH				AMP		21 53 11.1	
	comp=N,961nm,0.5s						
PEL	Peldehue	0.38	267	i S	Sg	21 53 08.6	+0.6
JACH	Jahuel	0.54	325	eP	Pg	21 53 06.2	+0.2
PCH	Pirque	0.55	206	⇑iP	Pg	21 53 06.6	+0.5
LMEL	Las Melosas	0.72	178	⇑iP	Pg	21 53 09.6	0.0
LMEL				AMP		21 53 24.1	
	comp=N,135nm,0.2s						
TACH	Talagante	0.79	228	eP	Pg	21 53 10.1	-0.9
CHCH	Chadas Angostu	0.88	204	⇑iP	Pb	21 53 12.5	-0.1
CHCH				i S	Sg	21 53 25.1	+0.6
CACH	El Canelo	1.04	197	eP	Pb	21 53 15.3	-0.1
CACH				eS	Sb	21 53 30.7	+1.6
LCCH	Las Cruces	1.18	252	eP	Pb	21 53 17.1	-0.6
CICH	Cipreses	1.20	188	⇓iP	Pb	21 53 18.4	+0.3
LNV	Longovilo	1.29	230	eP	Pb	21 53 18.8	-0.8

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*NEIC **24** 22:17:52.9, 37.13N×3.71E, MG3.6(MDD), After MDD.*

MDD 24 22:17:53.2±3.1**, 37.13N**×**3.65E, mb3.4**/8**, Error ellipse: s-maj=31.4km s-min=20.4km az=158.0, PRXIMO, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	Ibiza	2.63	317	P	Pn	22 18 35.6	-2.0
	0.4nm,0.1s,SNR=4.0						
EIBI				S	Sn	22 19 07.0	-3.6
	4.5nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.63	317	P	Pn	22 18 35.6	-2.0
EIBI				S	Sn	22 19 07.0	-3.6
EBEN	Beniarda	3.44	298	P	Pn	22 18 45.8	-3.4
	0.1nm,0.3s,SNR=7.9						
EBEN				S	Sn	22 19 24.3	-6.9
	24nm,1.0s,SNR=7.9						
ETOB	Tobarra	4.38	292	P	Pn	22 18 59.7	-2.8
	1.1nm,0.1s,SNR=16						
ETOB				S	Sn	22 19 49.5	-5.4
	0.1nm,0.0s,SNR=7.9						
EMOS	Mosqueruela	4.56	316	P	Pn	22 19 03.4	-1.6
	0.2nm,0.2s,SNR=7.9						
EMOS				S	Sn	22 19 54.4	-5.2
	SNR=7.9						
EMOS	Mosqueruela	4.56	316	P	Pn	22 19 02.0	-3.0
EMOS				S	Sn	22 19 54.4	-5.2
EPOB	Poblet	4.67	336	P	Pn	22 19 03.6	-3.0
	0.2nm,0.1s,SNR=7.9						
EMIR	Miracle	5.05	342	P	Pn	22 19 09.7	-2.4
	1.7nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.35	354	P	Pn	22 19 12.7	-3.5
	0.8nm,0.1s,SNR=6.7						
EQES	Quesada	5.38	279	P	Pn	22 19 13.9	-2.8
	0.9nm,0.3s,SNR=5.8						
EQES				S	Sn	22 20 15.2	-5.2
	SNR=7.9						

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*ROM **24** 22:25:48.6±1.2, 44.94N×13.78E, h10^{km}, MD2.9/2, ML2.2/3, Error ellipse: s-maj=13.0km s-min=6.0km az=90.0*

*LJU **24** 22:25:51.7, 45.87N×14.71E, h14^{km}, ML2.2*

*NEIC **24** 22:25:52.0±0.6, 45.88N×14.74E, h14^{km}±5^{km}, ML2.8(VIE), ML2.3(LJU), Error ellipse: s-maj=6.5km s-min=5.1km az=176.0*

NEIC Felt [IV] at Videm.

ISC 24 22:25:51.8±0.3**, 45.89N**±0.02×**14.72E**±0.02**, h4^{km}**±4^{km}**, n35, σ0^{s}92**/53**, 9C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VISS	Visnje	0.12	136	⇑iPg	Pg	22 25 55.2	+0.9
VISS				i Sg	Sg	22 25 57.1	+1.1
	comp=Z,769nm,0.1s						
LJU	Ljubljana	0.20	319	⇓iPg	Pg	22 25 57.0	+1.2
LJU				i Sg	Sg	22 25 60.0	+1.4
	comp=Z,62nm,0.0s						
CEY	Cerknica	0.26	233	⇓iPg	Pg	22 25 57.3	+0.4
	comp=Z,94nm,0.1s						
PDKS	Podkum	0.27	46	⇓iPg	Pg	22 25 58.1	+1.0
	comp=Z,279nm,0.2s						
LEGS	Legarje	0.42	82	⇑iPg	Pg	22 26 00.7	+0.5
	comp=Z,66nm,0.1s						
KNDS	Knezji Dol	0.44	213	i Pg	Pg	22 26 00.1	-0.4
	comp=Z,35nm,0.1s						
JAVS	Javornik	0.46	270	i Pg	Pg	22 26 00.8	-0.1
	comp=Z,32nm,0.1s						
CRES	Cresnjevec ost	0.52	97	⇑iPg	Pg	22 26 02.2	+0.1
	comp=Z,49nm,0.1s						
CESS	Cesta pri Krsk	0.53	81	⇑iPg	Pg	22 26 02.4	+0.2
	comp=Z,48nm,0.1s						
BOJS	Bojanci	0.54	136	⇓iPg	Pg	22 26 02.2	-0.3
	comp=Z,35nm,0.1s						
VBY	Vinica-Bojanci	0.54	136	eSg	Sg	22 26 10.5	+0.7
DOBS	Dobrina	0.58	64	⇑iPg	Pg	22 26 03.5	+0.1
	comp=Z,52nm,0.1s						
VOY	Vojsko	0.59	284	ePg	Pg	22 26 03.5	-0.1
VOY				eSg	Sg	22 26 12.4	+0.9
GCIS	Gornji Cirnik	0.62	92	⇓iPg	Pg	22 26 04.4	+0.2
	comp=Z,29nm,0.1s						
OBKA	Obir	0.63	349	⇓iPG	Pg	22 26 04.7	+0.4
OBKA				i SG	Sg	22 26 13.0	+0.3
	comp=Z,42nm,0.1s						
GOLS	Golise	0.64	79	⇑iPg	Pg	22 26 04.7	+0.1
	comp=Z,43nm,0.1s						
TRI	Trieste	0.69	255	ePG	Pg	22 26 04.8	-0.8
TRI				SG	Sg	22 26 14.9	+0.1
	comp=Z,40nm,0.2s						
CADS	Cadrg	0.76	297	i Pg	Pg	22 26 06.6	-0.3
	comp=Z,53nm,0.1s						
GROS	Grobnik	0.79	43	⇓iPg	Pg	22 26 07.4	-0.1
PERS	Pernice	0.79	20	⇓iPg	Pg	22 26 07.6	0.0
	comp=Z,30nm,0.1s						
DRE	Drenchia	0.80	291	ePg	Pg	22 26 07.2	-0.5
DRE				eSg	Sg	22 26 19.4	+1.0
BISS	Bistriski jare	0.81	20	⇓iPg	Pg	22 26 07.9	0.0
	comp=Z,64nm,0.1s						
ROBS	Robic	0.91	293	i Pg	Pg	22 26 09.3	-0.7
ROBS				i Sg	Sg	22 26 22.6	+0.4
	comp=Z,9.0nm,0.1s						
COLI	Coloredo	0.96	285	ePg	Pg	22 26 10.5	-0.5
COLI				eSg	Sg	22 26 24.3	+0.4
PTCC	Patocco-Chiusa	1.08	299	ePN	Pn	22 26 13.4	-0.1
GMNA	Gemona	1.10	291	ePN	Pn	22 26 14.5	+0.7
GMNA				SN	Sn	22 26 32.0	+2.4
	comp=Z,75nm,0.2s						
BUA	Buia	1.16	287	ePg	Pg	22 26 13.7	-1.1
BUA				eSg	Sg	22 26 31.4	+1.1
MPRI	Monte Prat	1.25	287	ePg	Pg	22 26 15.9	-0.9
MPRI				eSg	Sg	22 26 34.4	+0.9
NVLJ	Novalja	1.33	175	i Pg	Pg	22 26 16.8	-1.5
NVLJ				i Sg	Sg	22 26 35.3	-0.8
NVLJ				i Sn	Sn	22 26 36.4	+0.9
ARSA	Arzberg	1.47	22	⇑iPG	Pg	22 26 19.6	-1.5
ARSA				i SG	Sg	22 26 40.4	-0.2
	comp=Z,7.5nm,0.3s						
MLNI	Malnisio	1.49	281	ePg	Pg	22 26 19.6	-2.0
MLNI				eSg	Sg	22 26 41.2	-0.2
FVI	Forni Avoltri	1.52	298	ePN	Pn	22 26 20.2	+0.4
FVI				SN	Sn	22 26 41.9	+1.6
	comp=Z,16nm,0.3s						
KBA	Koelnbreinsper	1.52	322	⇑iPG	Pg	22 26 20.6	-1.5
KBA				i SG	Sg	22 26 41.9	-0.4
	comp=Z,10nm,0.3s						
CAE	Caneva	1.60	275	⇑iPg	Pg	22 26 20.9	-2.7
CAE				eSg	Sg	22 26 44.3	-0.6
KHC	Kasperske Hory	3.33	347	eSN	Sn	22 27 24.0	-2.3
KHC				e		22 28 36.5	

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*NEIC **24** 22:28:55.8, 37.81N×22.08E, h24^{km}, ML3.1(ATH), ML2.8(THE), After ATH.*

*ATH **24** 22:28:55.8, 37.81N×22.08E, h24^{km}±1^{km}, MD3.3/11, ML3.1*

*THE **24** 22:29:02.5, 37.97N×22.34E, h21^{km}, ML2.8*

ISC 24 22:28:57.1±0.6**, 37.89N**±0.03×**22.14E**±0.04**, h20^{km}**±6^{km}**, n27, σ1^{s}25**/38**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.56	288	ePN	Pb	22 29 06.5	-1.6
RLS				eSN	Sb	22 29 15.4	-0.1
ITM	Ithomi	0.72	193	ePN	Pb	22 29 08.5	-2.4
MKIT	Kithairon Oros	0.94	71	ePN	Pn	22 29 15.0	-0.2
LKR	Lokris	1.02	41	ePN	Pn	22 29 17.5	+1.0
NSAL	Nisos Salamina	1.05	89	ePN	Pn	22 29 16.5	-0.4
EVR	Evrytania	1.06	346	ePN	Pn	22 29 17.0	0.0
NAIG	Nisos Aigina	1.08	96	ePN	Pn	22 29 17.0	-0.3
AGG	Agios Georgios	1.14	8	ePg	Pb	22 29 20.3	+2.3
	comp=Z,4.1nm,0.4s						
AGG				eSg	Sb	22 29 34.0	+1.5
ATH	Athens Observa	1.25	86	ePN	Pn	22 29 20.8	+1.0
VLS	Valsamata	1.25	284	ePN	Pn	22 29 19.3	-0.5
MPAR	Parnis Oros	1.29	78	ePN	Pb	22 29 21.6	+1.0
VLI	Veliai	1.33	151	ePN	Pn	22 29 20.2	-0.7
PTL	Penteli	1.38	83	ePN	Pn	22 29 22.0	+0.5
LKD	Levkas	1.43	306	ePb	Pb	22 29 22.8	-0.1
	comp=Z,5.7nm,0.5s						
NEO	Neokhori	1.66	31	ePN	Pb	22 29 26.7	-0.1
XOR	Xorichti	1.69	29	ePb	Pb	22 29 27.6	+0.2
XOR				eSb	Sb	22 29 46.1	-2.3
AOS	Alonnisos	1.88	46	ePb	Pb	22 29 29.5	-1.0
AOS				eSb	Sb	22 29 49.7	-4.0
IGT	Igoumenitsa	2.17	320	ePn	Pb	22 29 36.8	+1.3
IGT				eSn	Sb	22 30 02.5	+0.4
LIT	Litokhoron	2.23	7	ePn	Pb	22 29 35.8	-0.8

LIT				eSn	Sn	22 30 00.5	-0.4
PAIG	Paliouri	2.37	30	ePn	Pn	22 29 36.5	+0.8
PAIG				eSn	Sn	22 30 03.0	-1.5
KEK	Kerkira	2.58	316	ePB	Pb	22 29 41.0	-1.6
OUR	Ouranopolis	2.83	30	ePn	Pn	22 29 42.9	+0.5
FNA	Florina	2.95	349	ePn	Pn	22 29 46.6	+2.5
FNA				eSn	Sn	22 30 19.3	0.0
GRG	Griva	3.07	4	ePn	Pn	22 29 47.7	+2.0
SOH	Sokhos	3.08	17	ePn	Pn	22 29 47.2	+1.4
SOH				eSn	Sn	22 30 20.5	-2.0
KNT	Kendrikon	3.32	10	ePn	Pn	22 29 51.0	+1.7
KNT				eSn	Sn	22 30 26.9	-1.8
SRS	Serrai	3.42	19	ePn	Pn	22 29 52.2	+1.6
SRS				eSn	Sn	22 30 29.3	-1.8

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*NEIC **24** 22:42:44.4, 9.35S×113.96E, h2^{km}, ML3.9(DJA), After DJA.*

DJA 24 22:42:43.5±0.9, 9.30S×113.86E, h80^{km}, MD5.1/4, ML3.9/4, 8C-4D, Error ellipse: s-maj=21.7km s-min=15.5km az=26.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	1.25	30	⇑ePn	P	22 43 05.7	-0.2
	39nm,0.1s						
KELI				⇑eSn	S	22 43 20.6	-2.1
KELI	Kelakatan	1.25	30	⇑ePn	P	22 43 05.7	-0.2
KELI				eSn	S	22 43 22.0	-0.7
INGI	Ingas	1.36	69	⇑ePn	P	22 43 05.8	-1.7
	310nm,0.3s						
INGI				⇑eSn	S	22 43 24.2	-1.1
INGI	Ingas	1.36	69	⇑ePn	P	22 43 05.2	-2.3
INGI				eSn	S	22 43 21.3	-4.0
RATI	Rata	1.75	71	⇑ePn	P	22 43 12.2	-0.4
	158nm,0.2s						
RATI				⇓eSn	S	22 43 32.4	-1.7
RATI	Rata	1.75	71	⇑ePn	P	22 43 13.6	+1.0
RATI				eSn	S	22 43 32.3	-1.8
KEDI	Kedomdong	2.37	70	⇓ePn	P	22 43 20.3	-0.9
	49nm,0.2s						
KEDI				⇓eSn	S	22 43 47.1	-2.1
KEDI	Kedomdong	2.37	70	⇓ePn	P	22 43 20.0	-1.2
KEDI				eSn	S	22 43 47.2	-2.0

IDC 24 22:59:06.9±2.0, 6.84S×129.44E, mb3.7/1, mb1 3.8/3, mb1mx3.6/12, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/13, Error ellipse: s-maj=107.0km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.87	160	Pn	P	23 02 24.2	-3.1
	0.4nm,0.3s,baz=339,slow=13,SNR=36						
WRA				Sn	S	23 04 47.2	-16
	0.5nm,0.3s,baz=331,slow=23,SNR=8.7						
ASAR	Alice Springs	17.27	166	P	P	23 03 10.3	-1.0
	0.2nm,0.3s,slow=11,SNR=7.5						
ASAR				S	S	23 06 14.4	-8.4
	0.2nm,0.3s,baz=346,slow=26,SNR=3.8						
JHJ	Hachijo jima 2	40.93	13	LR	LR	23 22 45.9	
	comp=Z,168nm,19.1s,baz=353,slow=35						
MKAR	Makanchi Array	67.79	327	P	P	23 10 06.8	-2.1
	0.4nm,0.4s,baz=116,slow=8.2,SNR=10.0						

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*IDC **24** 23:04:46.7±1.1, 69.00N×16.36W, mb3.8/6, mb1 3.9/11, mb1mx3.8/26, ML3.6/5, MS3.4/10, Ms1 3.4/10, ms1mx3.2/26, Error ellipse: s-maj=30.0km s-min=17.1km az=37.0*

*NEIC **24** 23:04:47.9±0.6, 68.97N×16.54W, h10^{km}, mb4.4/3, Error ellipse: s-maj=13.1km s-min=9.6km az=221.0*

ISC 24 23:04:45.9±0.6, 69.01N±0.07×16.6W±0.2, h10^{km}, n27, $\sigma1\overset{s}{.}22$/21, mb3.9/10, MS3.4/8, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	Jan Mayen	3.41	51	Pn	Pn	23 05 38.8	-1.5
	8.5nm,0.3s,baz=174,slow=22,SNR=4.7						
JMIC				LR	LR	23 06 41.1	
	comp=Z,376nm,18.5s,baz=163,slow=34						
BORG	Borgarnes	4.67	206	Pn	Pn	23 05 57.2	-0.9
	8.1nm,0.3s,baz=25,slow=7.2,SNR=38						
BORG	Borgarnes	4.67	206	ePn	Pn	23 05 57.2	-0.9
SUMG	Summit	8.02	306	ePn	P	23 06 44.0	-1.3
KBS	Kingsbay	12.46	25	P	P	23 07 47.0	+1.1
NOA	NORSAR Array B	14.06	111	Pn	P	23 08 06.0	-0.9
	0.1nm,0.3s,baz=306,slow=11,SNR=3.3						
NOA				LR	LR	23 13 04.8	
	comp=Z,54nm,19.6s,baz=320,slow=36						
EKA	Eskdalemuir Ar	15.02	149	Pn	P	23 08 15.5	-4.1
	0.1nm,0.3s,baz=344,slow=13,SNR=2.9						
FINES	FINESS Array B	19.01	92	P	P	23 09 09.4	-0.4
	0.1nm,0.3s,baz=329,slow=11,SNR=5.3						
WTSB	Winterswijk	20.36	135	eP	P	23 09 15.9	-9.0
	7.8nm,2.1s						
HGN	Heimansgroeve	21.25	138	eP	P	23 09 34.1	0.0
	16nm,1.2s,mb4.2						
CLL	Collm	22.65	126	P	P	23 09 48.7	+0.9
	logA/T=1.0,mb4.2						
CLL	Collm	22.65	126	i P	P	23 09 48.7	+0.9
	15nm,1.5s,mb4.2						
MOX	Moxa	22.85	129	eP	P	23 09 50.0	+0.2
GRA1	Grafenberg Arr	23.60	131	eP	P	23 09 58.9	+1.8
	7.0nm,0.4s,mb4.4						
GERES	GERESS Array B	25.06	128	P	P	23 10 13.4	+2.2
	3.0nm,0.9s,mb3.8,baz=333,slow=9.0,SNR=14						
MORC	Moravsky Berou	25.36	122	eP	P	23 10 14.6	+0.5
	9.2nm,1.2s,mb4.2						
SCHQ	Schefferville	26.61	263	LR	LR	23 20 12.3	
	comp=Z,52nm,18.9s,MS3.1,baz=50,slow=35						
AKASG	Malin Array Be	28.39	107	P	P	23 10 40.1	-1.8
	0.2nm,0.3s,mb3.3,baz=327,slow=9.4,SNR=4.6						
MLR	Muntele Rosu	31.80	116	LR	LR	23 24 29.2	
	comp=Z,51nm,19.7s,MS3.2,baz=254,slow=37						
VAE	Valguarnera	35.81	136	LR	LR	23 27 44.1	
	comp=Z,54nm,19.9s,MS3.3,baz=132,slow=38						
INK	Inuvik	36.37	326	P	P	23 11 51.3	0.0
	2.2nm,0.8s,mb4.1,baz=38,slow=12,SNR=3.4						
YKA	Yellowknife Ar	36.60	310	P	P	23 11 53.7	+0.3
	0.5nm,0.7s,mb3.5,baz=42,slow=8.3,SNR=2.9						
YKA				LR	LR	23 26 10.5	
	comp=Z,56nm,19.9s,MS3.4,baz=30,slow=35						
BRTR	Keskin Array B	39.50	111	P	P	23 12 16.8	-1.1
	1.4nm,1.1s,mb3.6,slow=12,SNR=3.0						
ULM	Lac du Bonnet	40.70	285	LR	LR	23 28 56.7	
	comp=Z,61nm,18.7s,MS3.5,baz=45,slow=36						
ILAR	Eielson Array	42.02	331	P	P	23 12 40.9	+2.8
	1.6nm,1.1s,mb3.6,baz=18,slow=6.0,SNR=8.2						
ILAR				LR	LR	23 33 06.8	
	comp=Z,42nm,19.6s,MS3.3,baz=230,slow=40						
PDAR	Pinedale Array	51.88	291	LR	LR	23 36 25.5	
	comp=Z,65nm,18.1s,MS3.7,baz=228,slow=36						
TXAR	Lajitas Array	61.93	279	LR	LR	23 39 58.2	
	comp=Z,35nm,19.1s,MS3.5,baz=30,slow=34						

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*IDC **24** 23:05:44.7±1.4, 26.16N×103.46E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, ML3.6/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/17, Error ellipse: s-maj=49.7km s-min=24.6km az=75.0*

*BJI **24** 23:05:46.8, 26.11N×103.29E, h21^{km}, mb3.9, ML3.6*

ISC 24 23:05:43.5±0.6, 25.86N±0.05×103.47E±0.06, h10^{km}, n9, $\sigma0\overset{s}{.}95$/15, mb3.3/3, MS3.2/1, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	0.99	222	⇑ePG	Pg	23 06 03.4	0.0
KMI				SG	Sg	23 06 16.5	-0.2
KMI				Smax			
	comp=N,1μm,0.5s						
KMI				Smax			
	comp=E,1μm,0.6s						
GYA	Guiyang	2.93	78	P	Pn	23 06 36.5	+5.4
GYA				PG	Pg	23 06 42.0	0.0
GYA				S	Sn	23 07 14.9	+8.3
GYA				SG	Sg	23 07 20.3	-0.7
GYA				Smax			
	comp=N,130nm,0.9s						
GYA				Smax			
	comp=E,840nm,0.8s						
CD2	Chengdu	5.04	3	P	Pn	23 07 01.1	+0.1
CD2				PG	Pg	23 07 14.6	-9.4
CD2				S	Sn	23 08 00.8	+0.9
CD2				SG	Sg	23 08 16.6	-15
CD2				Smax			
	comp=N,130nm,1.2s						
CD2				Smax			
	comp=E,150nm,1.0s						
CMAR	Chiang Mai Arr	8.48	211	Pn	P	23 07 54.1	+4.8
	comp=E,0.2nm,0.3s,baz=16,slow=13,SNR=5.3						
CMAR				LR	LR	23 11 29.9	
	comp=E,73nm,22.0s,baz=30,slow=40						
XAN	Xi'an	9.42	29	P	P	23 08 02.8	+0.5
SONM	Songino Array	22.05	5	P	P	23 10 39.6	-0.5
	comp=E,0.8nm,0.7s,mb3.2,baz=185,slow=10,SNR=4.5						
JOW	Kunigami	22.24	82	LR	LR	23 21 18.4	
	comp=E,90nm,18.5s,MS3.2,baz=146,slow=42						
MKAR	Makanchi Array	26.82	327	P	P	23 11 23.5	-2.3
	comp=E,0.3nm,0.5s,mb3.1,baz=135,slow=12,SNR=3.6						
WRA	Warramunga Arr	54.52	144	P	P	23 15 15.8	+1.8
	comp=E,0.3nm,0.4s,mb3.6,baz=330,slow=8.5,SNR=4.4						

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*PRU **24** 23:17:39.9, 50.09N×18.40E*

*WAR **24** 23:17:39.3, 50.06N×18.45E, ML2.4, Mining Induced*

ISC 24 23:17:38.4±0.5, 50.09N±0.03×18.42E±0.04, n15, $\sigma1\overset{s}{.}19$/29, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.14	268	⇓iPG	Pg	23 17 43.7	+2.4
RAC				⇓eSG	Sg	23 17 47.7	+4.5
OKC	Ostrava-Krasne	0.30	215	ePG	Pg	23 17 45.7	+1.2
OKC				eSG	Sg	23 17 50.3	+1.7
OJC	Ojcow	0.90	81	ePG	Pg	23 17 56.0	-0.4
OJC				eSG	Sg	23 18 09.0	+0.7
DPC	Dobruska-Polom	1.37	282	ePG	Pg	23 18 05.4	-0.4
DPC				eSG	Sg	23 18 24.3	+0.2
NIE	Niedzica	1.40	118	ePG	Pg	23 18 05.0	-1.4
NIE				eSG	Sg	23 18 25.0	-0.1
KSP	Ksiaz	1.55	300	ePN	Pn	23 18 08.0	+0.6
KSP				eSG	Sg	23 18 29.0	-1.1
UPC	Upice	1.60	286	ePG	Pg	23 18 10.1	-0.2
UPC				eSG	Sg	23 18 31.4	-0.2
VYHS	Vyhne	1.62	170	ePN	Pn	23 18 08.7	+0.3
VYHS				ePG	Pg	23 18 10.1	-0.7
VYHS				eSN	Sn	23 18 30.0	-0.3
VYHS				eSG	Sg	23 18 31.2	-1.1
SMOL	Smolenice	1.70	203	ePN	Pn	23 18 11.6	+2.0
SMOL				eSN	Sn	23 18 33.7	+1.3
ZST	Bratislava	2.08	205	ePN	Pn	23 18 15.8	+0.8
ZST				eSN	Sn	23 18 39.8	-2.2
PRU	Pruhonice	2.50	269	PG	Pg	23 18 24.4	-3.9
PRU				eSG	Sg	23 18 56.7	-5.0
	7.4nm,0.5s						
KHC	Kasperske Hory	3.29	255	ePG	Pg	23 18 39.0	-5.1
KHC				eSG	Sg	23 19 21.0	-6.9
MOA	Molln	3.54	232	i	Pn	23 18 42.8	+7.1
MOA	Molln	3.54	232	i SG	Sg	23 19 34.0	-2.1
	3.8nm,0.6s						
CLL	Collm	3.65	292	eSG	Sg	23 19 36.0	-4.0

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*NDI **25** 00:11:32.6±4.8, 23.19N×85.90E, h35^{km}±287^{km}, ML3.6*

ISC 25 00:11:44.0±2.0, 20.1N±0.2×83.59E±0.08, h10^{km}, n8, $\sigma0\overset{s}{.}78$/10, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BWNR	Bhubaneshwar	2.09	84	eP	Pn	00 12 17.9	-1.7
BWNR				eS	Sn	00 12 47.2	+1.4
BWNR				AML	AML	00 12 52.2	
	comp=N,510nm,0.4s						
BWNR				AML	AML	00 12 52.3	
	comp=E,500nm,0.4s						
BLSP	Bilaspur	2.44	326	eP	Pn	00 12 25.0	+0.4
BLSP				eS	Sn	00 13 07.8	+13
BLSP				e		00 13 23.1	
	comp=N,207nm,0.2s						
BLSP				e		00 13 23.3	
	comp=E,174nm,0.2s						
BHPL	Bhopal	6.54	300	i P	Pn	00 13 23.1	+0.5
BHPL				e		00 14 31.2	
BHPL				e		00 15 10.2	
	comp=N,28nm,0.4s						
BHPL				e		00 15 10.5	
	comp=E,31nm,0.7s						
DMN	Daman	7.61	10	eP	Pn	00 13 37.6	-0.1
	comp=E,9.1nm,0.4s						
PKI	Pulchoki	7.63	12	eP	Pn	00 13 38.1	+0.2
	comp=E,19nm,0.4s						
KOLN	Koldanda	7.64	0	eP	Pn	00 13 38.0	-0.1
	comp=E,4.2nm,0.2s						
KKN	Kakani	7.82	11	eP	Pn	00 13 40.5	-0.1
GKN	Gorkha	7.93	7	eP	Pn	00 13 41.5	-0.7
	comp=E,7.9nm,0.3s						

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*IDC **25** 00:27:32.3±1.6, 15.35S×177.49W, mb3.9/7, mb1 4.2/7, mb1mx4.1/15, MS4.1/16, Ms1 4.1/16, ms1mx3.9/23, Error ellipse: s-maj=114.0km s-min=21.2km az=149.0*

ISC 25 00:27:35.9±1.2, 15.4S±0.5×177.6W±0.4, h33^{km}, n18, $\sigma0\overset{s}{.}83$/7, mb3.8/7, MS4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	17.86	112	LR	LR	00 36 34.7	
	comp=Z,788nm,20.4s,baz=288,slow=30						
RPZ	Rata Peaks	29.87	197	LR	LR	00 44 26.2	
	comp=Z,444nm,22.0s,MS4.0,baz=27,slow=34						
STKA	Stephens Creek	40.59	239	P	P	00 35 13.9	-0.3
	5.1nm,1.0s,mb4.1,baz=258,slow=1.1,SNR=3.6						
STKA				LR	LR	00 48 55.4	
	comp=Z,204nm,21.2s,MS4.0,baz=35,slow=32						
WRA	Warramunga Arr	45.94	257	P	P	00 35 58.3	+0.4
	1.0nm,1.1s,mb3.6,baz=94,slow=7.4,SNR=2.8						
WRA				LR	LR	00 52 54.5	
	comp=Z,137nm,21.7s,MS3.9,baz=140,slow=33						
ASAR	Alice Springs	46.30	252	P	P	00 36 00.6	-0.1
	5.4nm,1.0s,mb4.5,baz=84,slow=8.3,SNR=20						
ASAR				LR	LR	00 53 48.6	
	comp=Z,240nm,21.9s,MS4.1,baz=88,slow=34						
VNDA	Vanda	63.03	185	LR	LR	00 59 44.6	
	comp=Z,166nm,19.9s,MS4.2,baz=12,slow=31						
JOW	Kunigami	67.27	308	LR	LR	01 07 33.0	
	comp=Z,261nm,18.2s,MS4.5,baz=235,slow=36						
NVAR	Mina Array Bea	77.04	44	P	P	00 39 27.1	-0.5
	0.7nm,0.4s,mb4.0,baz=222,slow=8.7,SNR=3.8						
NVAR				LR	LR	01 05 02.0	
	comp=Z,72nm,21.9s,MS4.0,baz=255,slow=29						
ILAR	Eielson Array	83.25	13	P	P	00 40 00.5	+0.4
	0.5nm,0.6s,mb3.7,baz=214,slow=5.1,SNR=4.1						
ILAR				LR	LR	01 11 14.6	
	comp=Z,59nm,19.0s,MS4.0,baz=56,slow=32						
TXAR	Lajitas Array	83.96	58	P	P	00 40 06.1	+1.6
	0.1nm,0.5s,mb3.2,baz=225,slow=3.5,SNR=4.0						
TXAR				LR	LR	01 10 10.9	
	comp=Z,67nm,20.1s,MS4.0,baz=355,slow=30						
PDAR	Pinedale Array	84.96	43	P	P	00 40 07.9	-1.3
	0.4nm,0.8s,mb3.6,baz=270,slow=1.5,SNR=3.8						
PDAR				LR	LR	01 10 49.0	
	comp=Z,68nm,19.2s,MS4.0,baz=350,slow=31						
MAW	Mawson	86.51	200	LR	LR	01 16 05.8	
	comp=Z,93nm,19.5s,MS4.2,baz=240,slow=34						
CMAR	Chiang Mai Arr	88.81	289	LR	LR	01 16 48.5	
	comp=Z,55nm,19.8s,MS4.0,baz=120,slow=33						
YKA	Yellowknife Ar	91.70	24	LR	LR	01 15 28.2	
	comp=Z,177nm,19.4s,MS4.5,baz=240,slow=31						
PLCA	Paso Flores	92.48	133	LR	LR	01 10 50.6	
	comp=Z,125nm,21.9s,MS4.3,baz=186,slow=28						
ULM	Lac du Bonnet	96.46	40	LR	LR	01 17 41.6	
	comp=Z,127nm,19.0s,MS4.4,baz=244,slow=31						
BRTR	Keskin Array B	143.52	318	PKP	PKPdf	00 47 09.3	+1.9
	1.2nm,0.9s,baz=135,slow=2.0,SNR=3.5						
KHC	Kasperske Hory	145.12	347	eP	PKPdf	00 47 14.3	+4.3
KHC				e		00 47 16.5	
KHC						00 47 18.3	

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*ISK **25** 00:59:28.4, 37.08N×27.66E, h5^{km}, MD3.3*

*IDC **25** 00:59:29.2±1.6, 36.50N×28.18E, mb3.7/1, mb1 3.5/5, mb1mx3.4/21, ML3.3/4, Error ellipse: s-maj=35.6km s-min=16.1km az=158.0*

*NEIC **25** 00:59:30.8, 36.82N×27.56E, h5^{km}, MD3.5(ATH), After ATH.*

*ATH **25** 00:59:30.8, 36.82N×27.56E, h5^{km}, MD3.5/5*

ISC 25 00:59:29.8±0.6, 36.97N±0.03×27.72E±0.03, h15^{km}±4^{km}, n22, $\sigma1\overset{s}{.}20$/31, mb3.5/1, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.24	293	i P	Pg	00 59 35.2	-0.1
BDRM				i S	Sg	00 59 40.8	+1.8
YER	Yerkesik	0.48	70	i PG	Pg	00 59 38.6	-1.0
YER				i SG	Sg	00 59 45.5	-0.7
AYDN	Tasoluk	0.70	10	i P	Pb	00 59 43.6	+0.4
AYDN				i S	Sb	00 59 53.7	+1.4
DALT	Dalyan (Mudla)	0.76	105	i PG	Pg	00 59 44.2	-1.0
DALT				i SG	Sg	00 59 58.2	+2.8
ARG	Arkhangelos	0.82	157	ePB	Pb	00 59 44.2	-1.0
ARG				eSB	Sb	00 59 57.3	+1.5
SMG	Samos	1.02	316	ePG	Pg	00 59 50.0	-0.3
DENT	Denizli	1.30	53	PN	Pn	00 59 54.1	+0.6
IZM	Izmir	1.47	346	PN	Pn	00 59 55.5	-0.4
KARP	Karpathos	1.49	198	ePB	Pb	00 59 55.9	-0.8
MANT	Manisa	1.66	23	i P	Sn	01 00 22.1	+2.4
MANT				i S	Sn	01 00 22.1	+2.4
KSL	Kastellorizon	1.71	118	ePN	Pn	01 00 04.0	+4.7
APE	Apeiranthos	1.76	274	ePN	Pn	00 59 59.0	-1.0
APE				eSN	Sn	01 00 21.8	-0.4
ELL	Elmali	1.77	97	ePN	Pn	01 00 01.7	+1.5
AKS	Akhisar	1.91	2	ePN	Pn	01 00 00.6	-1.6
BCK	Bucak	2.34	77	ePN	Pn	01 00 09.6	+1.2
PRK	Paraskevi	2.54	334	ePG	Pg	01 00 20.0	-0.6
ALT	Altintas	2.81	41	ePN	Pn	01 00 14.0	-1.0
IDI	Anoyia	2.84	235	Pn	Pn	01 00 16.8	+1.2
	1.5nm,0.3s,baz=91,slow=11,SNR=8.9						
IDI				Lg		01 01 02.4	
	4.3nm,0.3s,baz=119,slow=22,SNR=4.1						
BRTR	Keskin Array B	5.40	58	Pn	Pn	01 00 52.3	+0.5
	0.5nm,0.3s,baz=237,slow=15,SNR=12						
BRTR				Sn	Sn	01 01 52.6	-1.8
	baz=236,slow=27,SNR=2.2						
ASF	Jabal al Asfar	8.95	120	Pn	P	01 01 33.7	-7.9
	0.2nm,0.3s,baz=280,slow=19,SNR=2.1						
ASF				Sn	Sn	01 03 13.3	-10
	baz=117,slow=14,SNR=1.5						
GERES	GERESS Array B	15.66	324	Pn	P	01 03 21.1	+10
	0.2nm,0.3s,baz=139,slow=14,SNR=5.1						
MKAR	Makanchi Array	41.05	58	P	P	01 07 12.7	-1.4
	0.9nm,0.7s,mb3.5,baz=271,slow=7.9,SNR=5.3						

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*IDC **25** 01:01:53.3±3.4, 6.53S×128.06E, h514^{km}±40^{km}, mb3.5/6, mb1 3.6/9, mb1mx3.4/14, Error ellipse: s-maj=62.4km s-min=17.0km az=68.0*

*NEIC **25** 01:01:54.5±1.7, 6.59S×127.89E, h529^{km}±24^{km}, mb4.1/3, Error ellipse: s-maj=38.3km s-min=15.5km az=60.0*

ISC 25 01:01:54.4±2.7, 6.6S±0.2×127.8E±0.4, h542^{km}±39^{km}, n14, $\sigma0\overset{s}{.}75$/14, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.64	190	P	P	01 04 29.2	-0.6
	0.5nm,0.3s,baz=12,slow=9.3,SNR=5.8						
WRAB	Tennant Creek	14.70	155	eP	P	01 05 00.6	-0.2
	5.9nm,0.4s						
WRA	Warramunga Arr	14.71	155	P	P	01 05 01.3	+0.4
	0.8nm,0.3s,baz=341,slow=10.0,SNR=17						
ASAR	Alice Springs	17.96	162	P	P	01 05 36.1	+3.6
	0.8nm,0.3s,baz=345,slow=12,SNR=33						
CMAR	Chiang Mai Arr	37.83	312	P	P	01 08 26.8	+0.6
	2.2nm,0.5s,mb3.9,baz=138,slow=7.1,SNR=12						
SONM	Songino Array	57.39	343	P	P	01 10 51.8	-1.2
	4.8nm,0.9s,mb3.7,baz=169,slow=7.4,SNR=13						
MKAR	Makanchi Array	66.71	328	P	P	01 11 53.3	0.0
	4.0nm,0.4s,mb4.3,baz=115,slow=8.4,SNR=63						
MKAR				PcP	PcP	01 12 19.4	+1.9
	0.3nm,0.6s,baz=135,slow=5.1,SNR=4.3						
ZAL	Zalesovo	70.27	335	P	P	01 12 14.9	+0.4
	2.5nm,0.4s,mb4.1,baz=237,slow=3.4,SNR=9.0						
KURK	Kurchatov	71.05	329	eP	P	01 12 18.4	-0.8
	8.6nm,1.1s,mb4.2						
VNDA	Vanda	73.12	173	P	P	01 12 30.3	-0.4
	1.4nm,0.5s,mb3.6,baz=353,slow=4.6,SNR=7.7						
VNDA	Vanda	73.12	173	eP	P	01 12 30.4	-0.2
	1.4nm,0.6s,mb3.6						
BVAR	Borovoye Array	76.57	328	P	P	01 12 51.2	+1.1
	0.8nm,0.5s,mb3.4,baz=131,slow=13,SNR=4.3						
BRVK	Borovoye	76.65	328	P	P	01 12 50.0	-0.6
ZRNK	Zerenda	77.26	328	eP	P	01 12 54.5	+0.7

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*ISK **25** 01:06:42.5, 39.66N×39.66E, h7^{km}, MD3.6*

*NEIC **25** 01:06:47.4±1.0, 39.58N×39.48E, h20^{km}, mb3.6/1, Error ellipse: s-maj=21.5km s-min=13.7km az=143.0*

*IDC **25** 01:06:48.3±1.2, 39.86N×39.15E, mb3.5/4, mb1 3.6/8, mb1mx3.5/22, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/18, Error ellipse: s-maj=21.1km s-min=15.0km az=15.0*

ISC 25 01:06:43.4±0.4, 39.67N±0.03×39.65E±0.04, h7^{km}, n28, $\sigma1\overset{s}{.}24$/36, mb3.6/4, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZC	Erzincan	0.15	57	i PG	Pg	01 06 48.6	+1.9
KELT	Kelkit	0.57	328	⇑iP	Pg	01 06 54.4	-0.5
KELT				i S	Sg	01 07 02.8	+0.2
GUMT	Gumushane	0.80	351	i PG	Pg	01 06 58.6	-0.9
GUMT				i SG	Sg	01 07 09.8	-0.5
BINT	Bingol	1.02	140	PG	Pg	01 07 02.4	-1.5
BINT				SG	Sg	01 07 16.3	-1.3
ELZG	Elazig	1.28	204	⇑iP	Pb	01 07 06.5	-0.9
ELZG				i S	Sb	01 07 25.6	+1.8
EZM	Erzurum	1.34	79	i PN	Pn	01 07 08.1	-0.5
ERZM	Erzurum	1.34	79	⇑iP	Pb	01 07 08.6	0.0
ERZM				i S	Sb	01 07 30.0	+4.2
VRT	Varto	1.55	110	i PN	Pn	01 07 11.8	+0.2
MYA	Malataya	1.64	216	i PN	Pn	01 07 12.7	-0.2
MYA				i SN	Sn	01 07 34.1	-0.4
MALT	Malatya	1.65	216	i PN	Pn	01 07 11.9	-1.2
MALT	Malatya	1.65	216	eP	Pn	01 07 12.3	-0.8
DIY	Diyarbakir	1.82	166	ePN	Pn	01 07 15.4	-0.1
BTMT	Batman	2.05	135	ePN	Pn	01 07 18.6	-0.2
SVSK	Karacayir	2.06	278	PN	Pn	01 07 19.5	+0.6
SVST	Sivas	2.08	274	i P	Pn	01 07 21.6	+2.3
SVST				i S	Sn	01 07 52.5	+6.8
BEST	Besiri	2.18	144	i P	Pn	01 07 23.9	+3.2
BEST				i S	Sn	01 07 54.3	+6.2
KARS	Kars	2.80	69	ePN	Pn	01 07 28.6	-0.9
GAZ	Gaziantep	3.14	218	ePN	Pn	01 07 34.1	-0.2
HKR	Hakkari	3.82	122	ePN	Pn	01 07 44.5	+0.5
GNI	Garni	3.95	81	Pn	Pn	01 07 57.4	+12
	1.0nm,0.3s,baz=231,slow=8.6,SNR=8.2						
GNI				LR	LR	01 09 53.4	
	comp=Z,114nm,19.3s,baz=334,slow=43						
BRTR	Keskin Array B	4.64	273	Pn	Pn	01 07 56.0	+0.4
	0.7nm,0.3s,baz=92,slow=14,SNR=20						
BRTR				Lg		01 09 10.2	
	baz=102,slow=34,SNR=3.0						
ASF	Jabal al Asfar	7.80	197	Pn	Pn	01 08 43.9	+3.7
	0.1nm,0.3s,baz=278,slow=10,SNR=3.1						
ASF				Lg		01 10 59.6	
	0.1nm,0.3s,baz=260,slow=18,SNR=2.9						
AKASG	Malin Array Be	13.24	330	Pn	P	01 09 52.1	-2.3
	0.5nm,0.3s,baz=132,slow=14,SNR=5.7						
GERES	GERESS Array B	20.64	305	P	P	01 11 24.1	-2.0
	0.4nm,0.6s,baz=119,slow=10,SNR=4.1						
FINES	FINESS Array B	23.35	343	P	P	01 11 53.3	+0.4
	1.1nm,0.7s,mb3.4,baz=162,slow=13,SNR=5.3						
ZRNK	Zerenda	24.04	47	eP	P	01 12 02.9	+3.2
	1.3nm,0.8s,mb3.4						
BVAR	Borovoye Array	24.85	47	P	P	01 12 10.2	+2.7
	1.1nm,0.8s,mb3.5,baz=243,slow=6.4,SNR=4.0						
ESDC	Sonseca Array	33.32	284	P	P	01 13 23.9	0.0
	2.3nm,0.8s,mb4.1,baz=65,slow=9.8,SNR=4.9						

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*NEIC **25** 01:12:03.7, 16.81N×98.91W, h16^{km}, MD3.9(MEX), After MEX.*

MEX 25 01:12:03.7±0.9, 16.81N×98.91W, h16^{km}±14^{km}, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.85	119	i P	Pb	01 12 17.5	-2.1
PNIG				i S	Sb	01 12 27.4	-3.2
CAIG	El Cayaco	1.32	281	i P	Pn	01 12 22.2	-5.4
CAIG				i S	Sb	01 12 39.6	-4.7
VHO	Vista Hermosa	2.10	83	i P	Pn	01 12 36.7	-2.0
VHO				i S	Sn	01 12 59.0	-5.6
OXX	Oaxaca	2.11	82	eP	Pn	01 12 34.5	-4.4

PPM	Popocatepetl	2.26	7	eP	Pn	01 12 39.1	-2.0
PPM				iP		01 12 41.0	
PPM				iS	Sn	01 13 09.2	+0.4
IISM	Ciudad Serdan	2.61	34	iP	Pn	01 12 41.5	-4.6

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*THE **25** 01:17:27.0,39.28N×21.04E,h10^{km},ML2.6*

*NEIC **25** 01:17:26.4,39.26N×21.02E,h24^{km},MD3.0(ATH),ML2.6(THE),After ATH.*

*ATH **25** 01:17:26.2,39.25N×21.02E,h25^{km}±2^{km},MD3.0/4*

ISC 25 01:17:26.4±0.6**,39.27N**±0.03×**21.01E**±0.04**,h5**^{km}±5^{km}**, n19,σ1^{s}07**/32**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	Janina	0.41	342	ePB	Pb	01 17 35.1	-0.6
JAN				eSB	Sb	01 17 42.1	+0.1
MEV	Metsovon	0.55	18	ePg	Pg	01 17 37.1	-0.3
MEV				eSg	Sg	01 17 45.3	+0.6
IGT	Igoumenitsa	0.59	297	ePg	Pg	01 17 37.8	-0.5
IGT				eSg	Sg	01 17 47.7	+1.5
LKD	Levkas	0.62	207	ePg	Pg	01 17 38.7	-0.3
	comp=Z,8.5nm,0.3s						
LKD				eSg	Sg	01 17 49.3	+2.0
EVR	Evrytania	0.71	119	ePN	Pn	01 17 39.8	-3.0
KEK	Kerkira	1.04	296	ePN	Pn	01 17 46.2	-1.3
AGG	Agios Georgios	1.05	103	ePg	Pg	01 17 45.9	-1.6
	comp=Z,3.0nm,0.2s						
AGG				eSg	Sg	01 18 02.4	+0.9
VLS	Valsamata	1.14	197	ePN	Pn	01 17 48.2	-0.7
RLS	Riolos of Patr	1.26	163	ePn	Pn	01 17 52.5	+1.9
LIT	Litokhoron	1.41	53	ePb	Pb	01 17 52.5	-0.4
	comp=Z,2.8nm,0.4s						
LIT				eSb	Sb	01 18 11.6	+0.5
FNA	Florina	1.54	10	ePb	Pb	01 17 54.7	-0.4
FNA				eSb	Sb	01 18 16.8	+2.0
XOR	Xorichti	1.69	86	ePb	Pb	01 17 57.0	-0.7
XOR				eSb	Sb	01 18 20.4	+1.2
NEO	Neokhori	1.72	88	ePN	Pn	01 17 56.7	-0.5
GRG	Griva	2.00	32	ePb	Pb	01 18 01.6	-1.3
GRG				eSb	Sb	01 18 29.0	+1.0
PAIG	Paliouri	2.16	71	ePn	Pn	01 18 02.0	-1.6
PAIG				eSn	Sn	01 18 32.2	+1.1
AOS	Alonnisos	2.23	92	ePn	Pn	01 18 03.8	-0.7
AOS				eSn	Sn	01 18 34.1	+1.3
SOH	Sokhos	2.38	48	ePn	Pn	01 18 06.3	-0.3
SOH				eSn	Sn	01 18 36.1	-0.3
KNT	Kendrikon	2.38	37	ePn	Pn	01 18 07.3	+0.6
KNT				eSn	Sn	01 18 35.9	-0.7
SRS	Serrai	2.71	46	ePn	Pn	01 18 10.7	-0.6

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*IDC **25** 01:22:32.2±9.6,21.30S×175.73W,h139^{km}±85^{km},mb3.8/12,mb1 4.0/13,mb1mx4.0/21,MS3.8/6,Ms1 3.8/6,ms1mx3.5/25,Error ellipse: s-maj=25.1km s-min=21.6km az=94.0*

*NEIC **25** 01:22:43.5±3.9,21.35S×175.83W,h245^{km}±37^{km},mb4.1/6,Error ellipse: s-maj=16.1km s-min=12.9km az=114.0*

ISC 25 01:22:39.5±4.9**,21.4S**±0.1×**175.8W**±0.2**,h220**^{km}±44^{km}**, n38,σ0^{s}62**/27**,mb4.0**/16**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	14.98	92	LR	LR	01 30 11.4	
	comp=Z,178nm,18.2s,baz=280,slow=31						
RAR	Rarotonga	14.98	92	P	P	01 25 44.2	-18
DZM	Mont Dzumac	16.48	264	eP	P	01 26 19.9	0.0
DZM	Mont Dzumac	16.48	264	eP	P	01 26 19.9	0.0
NOUC	Port Laguerre	16.61	264	eP	P	01 26 22.6	+1.1
NOUC	Port Laguerre	16.61	264	eP	P	01 26 22.6	+1.1
URZ	Urewera	17.91	198	P	P	01 26 25.7	-10
	3.4nm,0.3s,baz=343,slow=11,SNR=11						
RPZ	Rata Peaks	24.82	203	P	P	01 27 42.2	-0.9
	19nm,1.0s,mb4.7,baz=7.2,slow=7.5,SNR=7.3						
CTA	Charters Tower	35.42	265	P	P	01 29 17.2	+0.7
	4.5nm,0.5s,mb4.3,baz=106,slow=11,SNR=6.9						
CTAO	Charters Tower	35.42	265	eP	P	01 29 17.0	+0.5
	4.2nm,0.5s,mb4.2						
PMG	Port Moresby	37.50	283	LR	LR	01 42 39.6	
	comp=Z,154nm,19.7s,baz=183,slow=32						
STKA	Stephens Creek	39.25	245	eP	P	01 29 48.6	+0.3
	1.7nm,0.4s,mb3.9						
STKA	Stephens Creek	39.25	245	P	P	01 29 47.9	-0.5
	2.1nm,0.5s,mb4.0,baz=108,slow=13,SNR=14						
STKA				LR	LR	01 42 36.6	
	comp=Z,192nm,21.0s,baz=25,slow=31						
ASAR	Alice Springs	46.29	257	P	P	01 30 44.5	-0.5
	11nm,0.8s,mb4.2,baz=94,slow=7.8,SNR=62						
ASPA	Alice Springs	46.29	257	eP	P	01 30 44.8	-0.3
WB2	Warramunga Arr	46.47	262	eP	P	01 30 45.5	-1.0
WRA	Warramunga Arr	46.48	262	P	P	01 30 45.9	-0.7
	2.1nm,0.5s,mb3.7,baz=98,slow=8.2,SNR=15						
KAKA	Kakadu	50.05	271	eP	P	01 31 13.8	-0.2
	5.3nm,0.9s,mb3.9						
FORT	Forrest	50.81	247	eP	P	01 31 19.8	+0.2
	61nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	54.91	262	eP	P	01 31 50.1	+0.3
	1.9nm,0.6s,mb3.8						
FITZ	Fitzroy Crossi	54.91	262	LR	LR	01 54 00.3	
	comp=Z,48nm,18.8s,baz=59,slow=34						
VNDA	Vanda	57.25	186	P	P	01 32 05.9	+0.3
	2.4nm,0.8s,mb3.9,baz=12,slow=6.8,SNR=8.7						
QSPA	South Pole Qui	68.72	180	eP	P	01 33 20.9	+0.2
	8.0nm,0.8s,mb4.4						
QSPA				e		01 33 38.8	
YBH	Yreka Blue Hor	79.72	37	P	P	01 34 24.2	-0.1
	2.2nm,0.8s,mb3.8,baz=225,slow=2.9,SNR=3.2						
NVAR	Mina Array Bea	80.28	42	P	P	01 34 27.1	-0.2
	1.9nm,0.8s,mb3.8,baz=217,slow=7.7,SNR=11						
MAW	Mawson	81.44	199	P	P	01 34 33.8	+1.0
	2.2nm,0.7s,mb3.9,baz=132,slow=8.6,SNR=6.8						
GDL2	Guadalupe Moun	86.62	54	eP	P	01 34 58.9	-0.6
SNAA	Sanae	87.09	178	P	P	01 35 01.3	+0.4
	0.6nm,1.0s,mb3.3,baz=189,slow=11,SNR=6.2						
PLCA	Paso Flores	87.22	133	LR	LR	02 06 40.0	
	comp=Z,171nm,20.5s,baz=181,slow=30						
PDAR	Pinedale Array	88.22	42	P	P	01 35 06.4	-0.4
	0.4nm,0.9s,mb3.2,baz=214,slow=3.3,SNR=3.0						
ILAR	Eielson Array	88.72	12	P	P	01 35 09.9	+1.3
	0.2nm,0.3s,mb3.4,baz=234,slow=5.3,SNR=4.5						
LPAZ	La Paz	99.87	112	LR	LR	02 10 43.1	
	comp=Z,34nm,20.4s,baz=25,slow=29						
AKASG	Malin Array Be	144.72	332	PKP	PKPdf	01 41 50.9	+1.2
	0.8nm,0.4s,baz=38,slow=3.8,SNR=7.9						
BRTR	Keskin Array B	148.90	313	PKPbc	PKPdf	01 42 04.7	+7.7
	1.7nm,0.8s,baz=130,slow=3.7,SNR=7.8						
CLL	Collm	149.32	349	ePKP1	PKPdf	01 42 05.0	+7.8
CLL				e		01 42 17.0	
PRU	Pruhonice	150.27	346	ePKP1	PKPdf	01 42 07.7	+9.0
KHC	Kasperske Hory	151.29	347	ePKP1	PKPdf	01 42 10.3	+10
GERES	GERESS Array B	151.53	347	PKPbc	PKPdf	01 42 09.5	+8.8
	0.9nm,0.8s,baz=90,slow=1.3,SNR=5.3						

SVSA 25 01:49:46.8±0.9**,38.76N×29.00W,h3**^{km}±5^{km}**,MD3.5, ML3.5,Error ellipse: s-maj=9.9km s-min=4.3km az=55.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	0.27	118	iP	Pg	01 49 51.8	-0.4
PCED				eS	Sg	01 49 55.7	-0.1
	974nm,0.2s						
CALA	Caldeira	0.29	126	eP	Pg	01 49 52.1	-0.6
CALA				eS	Sg	01 49 55.9	-0.7
PICO	Pico	0.52	119	iP	Pg	01 49 55.9	-1.3
PICO				iS	Sg	01 50 03.2	-0.9
ROSA	Rosais	0.60	93	iP	Pg	01 49 57.0	-1.7
ROSA				eS	Sg	01 50 04.5	-2.2
PID	Ribeirinha	0.76	114	eP	Pg	01 49 59.5	-2.5
PID				eS	Sg	01 50 08.6	-3.5
PGRA	Graciosa	0.84	71	eP	Pg	01 50 00.6	-3.1

DJA 25 02:15:10.8±1.2**,8.42S×115.87E,h61**^{km}±12^{km}**,MD4.7**/4**, ML4.7**/1**,7C-1D,Error ellipse: s-maj=21.8km s-min=11.7km az=157.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	0.25	106⇑	ePg	P	02 15 20.1	-0.6
	1µm,0.2s						
KEDI	Kedomdong	0.25	106⇓	ePn	P	02 15 20.4	-0.3
RATI	Rata	0.45	228⇑	ePg	P	02 15 21.6	-0.9
	2µm,0.2s						
INGI	Ingas	0.82	241⇑	ePg	P	02 15 26.0	-0.7
	3µm,0.2s						
INGI	Ingas	0.82	241⇑	ePn	P	02 15 26.4	-0.3
INGI			⇑	eSg	S	02 15 37.7	-0.9
KELI	Kelakatan	1.38	278⇑	ePn	P	02 15 33.4	-1.0
	817nm,0.2s						
KELI			⇑	eSn	S	02 15 50.0	-1.9

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*BJI **25** 02:22:13.2,61.65N×146.05W,h45^{km},mB5.3,mb5.1,Ms4.8,Msz4.6*

*MOS **25** 02:22:16.7±0.7,61.75N×146.47W,h54^{km},mb5.4/33,Error ellipse: s-maj=21.3km s-min=5.4km az=91.1*

*IDC **25** 02:22:17.5±0.4,61.74N×146.55W,h48^{km}±3^{km},mb4.9/23,mb1 5.0/27,mb1mx5.0/29,MS4.4/22,Ms1 4.4/22,ms1mx4.3/30,Error ellipse: s-maj=13.6km s-min=8.4km az=44.0*

*HRVD **25** 02:22:18.0±0.2,61.77N×146.56W,h53^{km},MW5.1/60,Centroid moment Tensor Solution. LP body waves: s54,c85;Mantle waves: s60,c111; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-5.31±.18; M$_{\theta\theta}$4.43±.16; M$_{\phi\phi}$0.88±.16; M$_{r\theta}$0.99±.13; M$_{\theta\phi}$2.60±.11; M$_{\phi r}$2.03±.11; Best double couple: M$_{0}$6.01×10^{16} NP1:φ$_{s}$76°,δ38°,λ-68°. NP2:φ$_{s}$229°,δ56°,λ-106°. Principal axes: T 6.1, Plg9°, Azm330°; N -.18, Plg13°, Azm238°; P -5.92, Plg74°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **25** 02:22:18.0,61.59N×146.42W,h40^{km},MB5.2,MS4.4*

*NEIC **25** 02:22:18.0,61.59N×146.42W,h40^{km},mb5.2/174,MS4.4/58,MW5.3,ML5.5(PMR),ML5.2(AEIC),Moment Tensor Solution. s13 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-5.60; M$_{\theta\theta}$6.97; M$_{\phi\phi}$-1.37; M$_{r\theta}$4.61; M$_{\theta\phi}$2.23; M$_{\phi r}$4.21; Best double couple: M$_{0}$9.2×10^{16} NP1:φ$_{s}$100°,δ30°,λ-48°. NP2:φ$_{s}$235°,δ68°,λ-111°. Principal axes: T 9.61, Plg21°, Azm340°; N -.87, Plg19°, Azm243°; P -8.74, Plg61°, Azm114°; After AEIC.*

NEIC Felt [IV] at Anchorage, Eagle River and Valdez; [III] at Chugiak, Gakona and Palmer; [II] at Girdwood and Sheep Mountain. Also felt at Cordova and Glennallen.

ISC 25 02:22:16.4±0.2**,61.67N**±0.01×**146.44W**±0.03**,h53**^{km}±1^{km}**, h48**^{km}±1.2^{km}**:pP-P,n717,σ0^{s}95**/705**,mb5.2**/232**,MS4.4**/90**, 16C-62D,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLU	Klutina	0.31	126	P	P	02 22 25.3	-0.6
SCM	Sheep Creek Mo	0.45	291	P	P	02 22 27.8	+0.5
VLZ	Valdez	0.55	174	P	P	02 22 27.1	-1.3
TZL	Tazlina	0.61	52	P	P	02 22 30.4	+1.2
JPK	Jack Peak	0.62	187	P	P	02 22 28.3	-1.0
DIV	Divide	0.64	149	P	P	02 22 28.4	-1.1
DIV				S	S	02 22 36.8	-2.3
CFI	College Fiord	0.81	233	P	P	02 22 31.7	0.0
GLI	Glacier Island	0.86	202	P	P	02 22 31.8	-0.6
SML	Sawmill	0.91	279	P	P	02 22 33.4	+0.3
SML				S	S	02 22 46.4	+0.8
FID	Port Fidalgo	0.93	181	P	P	02 22 33.1	-0.3
SDG	Sourdough	0.96	26	P	P	02 22 35.2	+1.4
KNK	Knik Glacier	1.00	256	P	P	02 22 35.2	+0.8
BMRM	Bremner River	1.14	128	P	P	02 22 35.7	-0.6
BMRM				S	S	02 22 50.6	-0.5
WANC	Wrangell North	1.17	73	P	P	02 22 38.2	+1.4
EYAK	Cordova Ski Ar	1.18	163	P	P	02 22 36.6	-0.2
EYAK				S	S	02 22 52.7	+0.6
GHO	Glory Hole Cre	1.19	276	P	P	02 22 37.8	+0.9
GLB	Gilahina Butte	1.28	99	P	P	02 22 38.1	-0.3
HIN	Hinchinbrook I	1.28	181	P	P	02 22 38.3	-0.1
PMR	Palmer	1.29	268	P	P	02 22 39.3	+0.9
PMR				S	S	02 22 56.3	+1.5
SGAM	Sherman Glacie	1.32	152	P	P	02 22 38.4	-0.6
PAX	Paxson	1.38	19	P	P	02 22 41.1	+1.3
PAX				S	S	02 22 59.8	+2.6
DHY	Denali Highway	1.47	343	P	P	02 22 42.7	+1.6
RAGM	Ragged Mountai	1.55	146	P	P	02 22 42.0	-0.3
PMS	Palmer South	1.56	255	P	P	02 22 43.3	+1.0
RC01	Rabbit Creek A	1.69	251	P	P	02 22 44.8	+0.7
RC01				S	S	02 23 06.4	+1.8
HMT	Hamilton	1.71	141	P	P	02 22 43.8	-0.7
LTI	Latouche	1.78	203	P	P	02 22 45.1	-0.2
THY	Trims Highway	1.78	10	P	P	02 22 47.6	+2.2
CRQM	Cirque	1.84	118	P	P	02 22 46.4	+0.1
MPA	Moose Pass	1.85	231	P	P	02 22 46.3	0.0
FIB	Fire Island	1.86	256	P	P	02 22 47.8	+1.3
CUT	Chulitna	1.95	294	P	P	02 22 49.7	+2.0
TGL	Tana Glacier	1.98	116	P	P	02 22 47.9	-0.3
KAIM	Kayak Island	2.02	150	P	P	02 22 47.7	-1.0
SUA	Susitna One	2.07	266	P	P	02 22 49.9	+0.4
BALM	Baldy	2.08	106	P	P	02 22 49.3	-0.2
WAX	Waxell Ridge	2.13	124	P	P	02 22 49.9	-0.5
DDM	Donnelly Dome	2.14	7	P	P	02 22 53.1	+2.7
SEW	Seward	2.15	224	P	P	02 22 51.0	+0.3
SLKM	Skilak Lake	2.18	239	P	P	02 22 51.3	+0.4
MID	Middleton Isla	2.25	179	P	P	02 22 51.4	-0.7
TMW	Tok Microwave	2.30	42	P	P	02 22 54.5	+1.7
SNH	Sunshine Point	2.31	129	P	P	02 22 52.2	-0.7
MCK	McKinley	2.36	332	P	P	02 22 55.6	+2.0
MCK				S	S	02 23 25.0	+3.5
SKT	Skwentna	2.43	279	P	P	02 22 55.5	+0.8
CYK	Cape Yakataga	2.51	128	P	P	02 22 55.5	-0.3
TRF	Thorofare Moun	2.52	317	P	P	02 22 57.3	+1.4
CTGM	Chitina Glacie	2.56	104	P	P	02 22 56.4	-0.1
BCA3	Beaver Creek A	2.58	55	P	P	02 22 57.8	+1.1
YAH	Yahtse	2.64	118	P	P	02 22 56.9	-0.6
SPU	Mount Spurr	2.74	262	P	P	02 22 58.7	-0.3
HDA	Harding Lake	2.75	355	P	P	02 23 00.4	+1.2
KTH	Kantishna Hill	2.80	314	P	P	02 23 01.3	+1.5
BKG	Blockade Glaci	2.87	260	P	P	02 23 00.4	-0.4
CKL	Chakachamna La	2.87	263	P	P	02 23 00.7	-0.2
BRLK	Bradley Lake	2.90	231	P	P	02 23 00.7	-0.6
CCB	Clear Creek Bu	3.05	349	P	P	02 23 04.0	+0.6
CHX	Chaix Hills	3.07	119	P	P	02 23 03.0	-0.6
RDT	Redoubt	3.10	252	P	P	02 23 03.7	-0.4
ILAR	Eielson Array	3.12	357	P	P	02 23 04.7	+0.4
	570nm,0.3s,baz=180,slow=13,SNR=1689						
ILAR				S	S	02 23 46.8	+6.2
	333nm,0.3s,baz=187,slow=23,SNR=6.7						
ILAR				LR	LR	02 24 17.5	
	comp=Z,166µm,20.1s,baz=360,slow=39						
ILAR	Eielson Array	3.12	357	P	P	02 23 04.7	+0.4
ILAR				S	S	02 23 46.8	+6.2
ILAR				pmax	pmax		
	comp=Z,570nm,0.3s						
ILAR				smax			
	comp=N,333nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,166µm,20.1s						
IL1	Eielson Array	3.12	357	P	P	02 23 04.7	+0.3
NEA	Nenana	3.15	339	P	P	02 23 05.2	+0.4
CNPM	China Poot	3.20	230	P	P	02 23 04.7	-0.8
REF	Redoubt East F	3.26	251	P	P	02 23 05.9	-0.5
COLA	College	3.27	349	Pn	P	02 23 07.1	+0.6
COLA				Pn	P	02 23 10.4	+3.9
RSO	Redoubt South	3.30	251	P	P	02 23 06.3	-0.6
PCA	Pinnacle	3.41	115	P	P	02 23 07.3	-1.2
XLV	Seldovia	3.43	232	P	P	02 23 07.6	-1.1
ILIM	Iliamna	3.56	246	P	P	02 23 09.6	-1.0
IVS	Iliamna South	3.65	246	P	P	02 23 11.0	-0.9
ILS	Iliamna Low So	3.67	245	P	P	02 23 11.2	-1.0
PRP	Porcupine Dome	3.88	6	P	P	02 23 15.8	+0.7
MLY	Manley	3.88	332	P	P	02 23 15.7	+0.5
OPT	Oil Point	3.91	242	P	P	02 23 14.7	-0.7
PNL	Peninsula	4.01	117	P	P	02 23 15.7	-1.2
DAWY	Dawson	4.02	50	P	P	02 23 17.8	+0.7
AUE	Augustine Isla	4.14	239	P	P	02 23 18.3	-0.4
AUL	Augustine Lava	4.15	239	P	P	02 23 18.6	-0.3
AGU	Augustine-Summ	4.16	239	P	P	02 23 18.4	-0.6
SVW	Sparrevohn	4.45	267	P	P	02 23 21.7	-1.4
MCNL	McNeil River	4.64	241	P	P	02 23 24.1	-1.7
TT01	Tatalina	4.64	290	P	P	02 23 24.6	-1.2
FYU	Fort Yukon	4.94	6	P	P	02 23 30.1	+0.1
KDAK	Kodiak Island	4.99	221	P	P	02 23 28.5	-2.1
KAHG	Katmai Hook Gl	5.16	235	P	P	02 23 32.8	-0.2
IM3	Indian Mountai	5.40	326	P	P	02 23 36.0	-0.4
IMA	Indian Mountai	5.45	327	eP	P	02 23 36.9	-0.1
KABR	Katmai Barrier	5.57	234	P	P	02 23 37.4	-1.3
GCSA	Galena City Sc	5.63	308	P	P	02 23 39.0	-0.6
ANCK	Angle Creek	5.73	237	P	P	02 23 41.0	0.0
CAHL	Cahill	5.75	235	P	P	02 23 39.9	-1.3
COLD	Coldfoot	5.81	345	P	P	02 23 41.9	-0.1
BM3	Burnt Mountain	5.82	7	P	P	02 23 42.0	-0.2
KJL	Kejulik	5.86	236	P	P	02 23 41.8	-0.9
BESE	Bessie Mountai	6.57	113	P	P	02 23 49.5	-3.2
SIT	Sitka	7.32	124	P	P	02 24 00.8	-2.4
INK	Inuvik	8.60	34	P	P	02 24 19.6	-1.2
	comp=Z,7.3nm,0.3s,baz=226,slow=15,SNR=96						
INK				S	S	02 25 53.4	-4.1
	comp=Z,12nm,0.3s,baz=145,slow=19,SNR=5.2						
INK				LR	LR	02 28 03.6	
	comp=Z,3µm,18.5s,baz=224,slow=40						
INK	Inuvik	8.60	34	P	P	02 24 19.6	-1.2
INK				S	S	02 25 53.4	-4.1
INK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
INK				smax			
	comp=N,12nm,0.3s						
INK				MLR	MLR		
	comp=Z,3µm,18.5s						
INK	Inuvik	8.60	34	ePn	P	02 24 19.2	-1.6
DLBC	Dease Lake	8.82	104	P	P	02 24 22.4	-1.5
	comp=Z,1.8nm,0.3s,baz=287,slow=13,SNR=50						
DLBC				Lg		02 26 50.5	
	comp=Z,9.6nm,0.3s,baz=241,slow=27,SNR=6.1						
DLBC				LR	LR	02 27 54.4	
	comp=Z,5µm,21.2s,baz=298,slow=38						
DLBC	Dease Lake	8.82	104	P	P	02 24 21.2	-2.7
ANM	Nome	9.04	297	P	P	02 24 24.4	-2.5
SDPT	Sand Point	9.69	235	eP	P	02 24 37.9	+2.3
	comp=Z,59nm,0.9s						
TNA	Tin City	10.30	302	ePn	P	02 24 42.4	-1.5
UNV	Unalaska Valle	13.22	243	ePn	P	02 25 20.8	-2.4
BBB	Bella Bella	13.75	125	P	P	02 25 30.2	+0.3
	comp=Z,1.3nm,0.3s,baz=331,slow=15,SNR=8.2						
BBB				S	S	02 27 57.5	-4.3
	comp=Z,1.9nm,0.3s,baz=161,slow=22,SNR=7.5						
BBB				LR	LR	02 30 42.1	
	comp=Z,2µm,19.3s,baz=317,slow=36						
BBB	Bella Bella	13.75	125	P	P	02 25 30.2	+0.3
BBB				S	S	02 27 57.5	-4.3
BBB				LR	LR	02 30 42.1	
YKW3	Yellowknife Ar	14.84	73	eP	P	02 25 41.4	-2.7
NIKO	Nikolski	14.84	244	eP	P	02 25 46.3	+2.2
YKA	Yellowknife Ar	14.86	73	P	P	02 25 42.9	-1.4
	comp=Z,1.3nm,0.3s,baz=275,slow=12,SNR=79						
YKA				Lg		02 30 05.0	
	baz=238,slow=28,SNR=2.4						
YKA				LR	LR	02 31 41.9	
	comp=Z,2µm,18.7s,baz=280,slow=38						
YKA	Yellowknife Ar	14.86	73	P	P	02 25 42.9	-1.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA				MLR	MLR		
	comp=Z,2µm,18.7s						
PGC	Sidney	18.37	125⇓	eP	P	02 26 29.5	+0.9
	comp=Z,94nm,1.1s						
OCWA	Octopus Mounta	18.83	128	eP	P	02 26 34.9	+0.8
	comp=Z,75nm,0.9s						
RPW	Rockport	19.31	122	P	P	02 26 39.6	+0.2
PNT	Penticton	19.42	117	P	P	02 26 40.9	+0.3
GNW	Green Mountain	19.50	126	eP	P	02 26 41.0	-0.5
RMW	Rattlesnake Mo	19.98	124	eP	P	02 26 47.8	+1.0
NLW	Nelson Butte	20.08	121	eP	P	02 26 47.9	+0.2
BMW	Boistfort Moun	20.25	128	eP	P	02 26 49.6	0.0
FMW	Mount Fremont	20.47	125	P	P	02 26 52.7	+0.9
WTV	Waterville	20.54	121	P	P	02 26 52.8	+0.3
LON	Longmire	20.56	125	eP	P	02 26 52.9	+0.1
SHW	Mount Saint He	20.86	127	P	P	02 26 57.5	+1.7
DPW	Davenport	21.13	118	eP	P	02 26 59.0	+0.5
NEW	Newport	21.29	116	LR	LR	02 36 05.8	
	comp=Z,2µm,18.2s,MS4.5,baz=315,slow=39						
NEW	Newport	21.29	116	eP	P	02 27 00.9	+0.8
	comp=Z,161nm,1.1s,mb5.3						
NEW				LR	LR		
	comp=Z,1µm,20.0s,MS4.4						
HAWA	Hanford	21.76	122	eP	P	02 27 04.9	0.0
	comp=Z,250nm,1.8s,mb5.3						
HAWA				LR	LR		
	comp=Z,891nm,22.0s,MS4.1						
COR	Corvallis	21.83	131	eP	P	02 27 07.2	+1.6
	comp=Z,148nm,1.0s,mb5.4						
COR				LR	LR		
	comp=Z,302nm,19.0s,MS3.7						
RES	Resolute Bay	22.16	33	eP	P	02 27 07.2	-1.4
	comp=Z,12nm,0.5s,mb4.6						
LNOR	Lincton Mounta	22.69	121	eP	P	02 27 15.0	+1.1
SMY	Shemya	22.83	265	P	P	02 27 17.6	+2.5
	comp=Z,83nm,1.0s,mb5.1						
SMY				LR	LR		
	comp=Z,2µm,19.0s,MS4.6						
HSO	Harness Mounta	22.83	132	eP	P	02 27 18.1	+2.8
KEBM	Edson Butte	22.97	135	eP	P	02 27 18.9	+2.2
FX1	Attu Island--F	23.18	266	P	P	02 27 18.4	-0.2
	comp=Z,73nm,0.6s,baz=283,slow=2.8,SNR=46						
FX1				LR	LR	02 36 07.2	
	comp=Z,27nm,19.3s,baz=78,slow=36						
FX1	Attu Island--F	23.18	266	P	P	02 27 18.4	-0.1
FX1				pmax	pmax		
	comp=Z,73nm,0.6s						
FX1				MLR	MLR		
	comp=Z,27nm,19.3s						
KBO	Bosley Butte	23.60	135	eP	P	02 27 24.5	+1.8
HUMO	Hull Mountain	23.68	133	eP	P	02 27 25.7	+2.2
	comp=Z,37nm,0.8s,mb4.9						
MSO	Missoula	23.77	114	eP	P	02 27 25.2	+0.9
	comp=Z,45nm,1.1s,mb4.8						
MSO				LR	LR		
	comp=Z,955nm,19.0s,MS4.3						
CHMT	Chamberlain Mo	24.00	113	eP	P	02 27 27.4	+0.8
FFC	Flin Flon	24.02	87⇓	iP	P	02 27 26.8	+0.1
	comp=Z,33nm,0.8s,mb4.8						
FFC				LR	LR		
	comp=Z,421nm,19.0s,MS3.9						
KRMB	Red Mountain	24.32	136	eP	P	02 27 31.3	+1.6
YBH	Yreka Blue Hor	24.54	134	P	P	02 27 33.8	+1.8
	comp=Z,68nm,0.9s,mb5.2,baz=5.4,slow=2.4,SNR=56						
YBH	Yreka Blue Hor	24.54	134	P	P	02 27 33.8	+1.9
YBH				pmax	pmax		
	comp=Z,68nm,0.9s						
YBH	Yreka Blue Hor	24.54	134	eP	P	02 27 34.0	+2.1
	comp=Z,130nm,1.2s,mb5.3						
HRY	Holter Researc	24.79	111	eP	P	02 27 34.6	+0.4
KHMM	Horse Mountain	24.96	136	eP	P	02 27 38.2	+2.2
MOD	Modoc	25.25	130	eP	P	02 27 39.7	+1.0
	comp=Z,95nm,1.0s,mb5.3						
MOD				LR	LR		
	comp=Z,696nm,20.0s,MS4.2						
WVOR	Wild Horse Val	25.42	126	eP	P	02 27 41.2	+1.0
	comp=Z,106nm,1.3s,mb5.2						
WVOR				LR	LR		
	comp=Z,1µm,19.0s,MS4.4						
FCC	Fort Churchill	25.59	73	eP	P	02 27 40.5	-1.2
	comp=Z,64nm,1.0s,mb5.1						
WDC	Whiskeytown Da	25.62	134⇓	iP	P	02 27 43.9	+1.7
	comp=Z,132nm,0.9s,mb5.5						
WDC				ePcP	PcP	02 31 11.2	-1.3
WDC				LR	LR		
	comp=Z,830nm,22.0s,MS4.2						
BOZ	Bozeman (W)	25.70	113	eP	P	02 27 43.2	+0.4
	comp=Z,216nm,1.5s,mb5.5						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS4.4						
MCMT	McKenzie Canyo	25.81	115	eP	P	02 27 44.5	+0.6
HLID	Hailey	26.17	119⇓	eP	P	02 27 47.8	+0.5
	comp=Z,20nm,0.8s,mb4.7						
HLID				ePcP	PcP	02 31 13.3	-0.4
HLID				e		02 31 28.6	
HLID				LR	LR		
	comp=Z,2µm,22.0s,MS4.5						
QLMT	Earthquake Lak	26.43	113	eP	P	02 27 50.6	+1.0
YMR	Madison River	26.76	113	eP	P	02 27 54.0	+1.3
HOPS	Hopland	26.88	137	eP	P	02 27 54.3	+0.5
	comp=Z,117nm,1.1s,mb5.3						
HOPS				LR	LR		
	comp=Z,1µm,20.0s,MS4.4						
DGMT	Dagmar	27.00	100	eP	P	02 27 54.9	0.0
	comp=Z,146nm,1.2s,mb5.4						
DGMT				LR	LR		
	comp=Z,1µm,20.0s,MS4.5						
BEKR	Beckwourth	27.02	132	eP	P	02 27 55.2	+0.1
	comp=Z,36nm,1.0s,mb4.9						
OHCM	Honcut	27.10	134	eP	P	02 27 55.7	-0.1
LAO	LASA Array	27.35	105	eP	P	02 27 57.9	-0.1
	comp=Z,316nm,1.8s,mb5.5						

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LAO                              LR      LR
      comp=Z,2µm,20.0s,MS4.7
PAHR  Pah Rah Range     27.51 131 eP      P       02 28 00.1 +0.5
      comp=Z,35nm,0.9s,mb5.0
SEY   Seymchan          27.53 300 eP      P       02 27 59.2 -0.3
SEY                                *SP    sP      02 28 18.4 -0.9
SEY                               e               02 28 44.9
SEY                               ePPP    PPP     02 28 58.9 -2.0
SEY                                               02 31 13.4
SEY                               eS      S       02 32 33.7 -1.4
SEY                                *SS            02 32 53.6
SEY                               eSS     SS      02 33 59.7 +3.6
SEY                                pmax   pmax
      comp=Z,50nm,0.8s,mb5.2
SEY                                pmax   pmax
      comp=N,30nm,0.9s
SEY                                pmax   pmax
      comp=E,40nm,0.9s
SEY                                MLR    MLR
      comp=Z,1µm,18.0s,MS4.5
SEY                                MLR    MLR
      comp=N,3µm,21.0s
MOOW  Moose Ponds       27.58 114 eP      P       02 28 01.3 +1.1
BMN   Battle Mountai    27.68 127 eP      P       02 28 01.7 +0.5
      comp=N,26nm,1.1s,mb4.8
BMN                                LR     LR
      comp=Z,546nm,20.0s,MS4.1
TPAW  Teton Pass        27.70 115 eP      P       02 28 02.6 +1.3
WCN   Washoe City       27.73 132 eP      P       02 28 01.9 +0.3
      comp=Z,99nm,1.4s,mb5.2
WUWY  Wally Ulrich      27.75 114 eP      P       02 28 02.7 +0.9
SNOW  Snow King Moun    27.81 114 eP      P       02 28 03.5 +1.3
REDW  Red Top Meadow    27.85 115 eP      P       02 28 03.7 +1.1
ELK   Elko              28.19 124 eP      P       02 28 06.6 +0.9
      comp=Z,98nm,1.4s,mb5.2
AHID  Auburn Hatcher    28.22 116 eP      P       02 28 06.4 +0.4
      comp=Z,43nm,1.0s,mb5.0
AHID                               LR     LR
      comp=Z,731nm,20.0s,MS4.3
HVU   Hansel Valley     28.32 119 eP      P       02 28 07.5 +0.6
HVU                               ePcP    PcP     02 31 17.9 -1.0
LKC   Lake Chabot       28.34 136 eP      P       02 28 08.3 +1.1
CMB   Columbia Colle    28.64 134  P      P       02 28 10.3 +0.6
CMB                                PcP    PcP     02 31 18.6 -1.1
CMB                                PcP    Px      02 31 33.8
CMB   Columbia Colle    28.64 134 eP      P       02 28 09.9 +0.1
      comp=Z,28nm,0.9s,mb5.0
CMB                                LR     LR
      comp=Z,564nm,20.0s,MS4.2
SPUT  South Promonto    28.85 119 eP      P       02 28 12.1 +0.5
BW06  Boulder Array     28.89 114 eP      P       02 28 12.2 +0.3
      comp=Z,90nm,0.9s,mb5.5
BW06                               LR     LR
      comp=Z,2µm,19.0s,MS4.7
PDAR  Pinedale Array    28.89 114  P      P       02 28 12.8 +0.8
      comp=Z,33nm,0.9s,mb5.0,baz=311,slow=6.0,SNR=183
PDAR                               sP     sP      02 28 30.9 -0.9
      comp=Z,47nm,0.9s,baz=309,slow=6.9,SNR=16
PDAR                               PcP    PcP     02 31 19.1 -1.3
      comp=Z,6.7nm,0.8s,baz=304,slow=1.3,SNR=5.9
PDAR                               pPcP           02 31 34.5
      comp=Z,4.1nm,0.8s,baz=225,slow=1.3,SNR=4.6
PDAR                               LR     LR      02 40 25.2
      comp=Z,1µm,20.7s,MS4.5,baz=342,slow=38
BGU   Big Grassy Mou    28.93 120 eP      P       02 28 12.5 +0.2
HWUT  Hardware Ranch    28.97 118 eP      P       02 28 12.8 +0.1
      comp=Z,22nm,0.9s,mb4.9
HWUT                               LR     LR
      comp=Z,2µm,21.0s,MS4.6
NVAR  Mina Array Bea    29.03 130  P      P       02 28 14.4 +1.2
      comp=Z,30nm,0.8s,mb5.1,baz=323,slow=6.7,SNR=155
NVAR                               sP     sP      02 28 32.4 -0.7
      comp=Z,24nm,0.9s,baz=323,slow=7.5,SNR=7.1
NVAR                               PcP    PcP     02 31 20.7 -0.1
      comp=Z,37nm,1.1s,baz=351,slow=1.6,SNR=15
NVAR                               pPcP           02 31 35.3
      comp=Z,7.7nm,0.8s,baz=274,slow=0.2,SNR=6.4
NVAR                               LR     LR      02 38 53.5
      comp=Z,603nm,18.0s,MS4.2,baz=20,slow=34
NVAR  Mina Array Bea    29.03 130  P      P       02 28 14.4 +1.2
NVAR                               sP     sP      02 28 32.4 -0.7
NVAR                               PcP    PcP     02 31 20.7 -0.1
NVAR                               pPcP           02 31 35.3
NVAR                               LR     LR      02 38 53.5
MNV   Mina              29.08 130 eP      P       02 28 14.0 +0.3
      comp=Z,66nm,1.0s,mb5.3
MNV                               ePcP    PcP     02 31 19.8 -1.1
SAO   San Andreas Ge    29.43 136 eP      P       02 28 16.7 -0.1
      comp=Z,37nm,0.9s,mb5.1
TCUT  Toone Canyon      29.44 118 eP      P       02 28 17.1 +0.3
OMM   Old Mammoth Mi    29.50 132 eP      P       02 28 18.6 +1.1
DUG   Dugway            29.63 121 eP      P       02 28 18.9 +0.3
      comp=Z,25nm,0.9s,mb5.0
DUG                               ePcP    PcP     02 31 20.9 -1.3
DUG                                LR     LR
      comp=Z,1µm,20.0s,MS4.4
CTU   Camp Tracy        29.65 119 eP      P       02 28 18.8 +0.1
ULM   Lac du Bonnet     29.73  89  P      P       02 28 18.2 -1.1
      comp=Z,16nm,0.9s,mb4.7,baz=304,slow=8.4,SNR=12
ULM                                PcP    PcP     02 31 20.8 -1.6
      comp=Z,11nm,0.8s,baz=239,slow=7.2,SNR=3.1
ULM                                pPcP           02 31 35.6
      comp=Z,28nm,0.8s,baz=298,slow=3.8,SNR=7.1
ULM                                LR     LR      02 40 49.0
      comp=Z,2µm,18.1s,MS4.7,baz=137,slow=37
ULM   Lac du Bonnet     29.73  89 eP      P       02 28 17.7 -1.6
      comp=Z,22nm,0.9s,mb4.9
ULM                                LR     LR
      comp=Z,2µm,22.0s,MS4.8
TPH   Tonopah           29.74 129 eP      P       02 28 19.9 +0.4
      comp=Z,60nm,0.9s,mb5.3
TPH                                LR     LR
      comp=Z,470nm,19.0s,MS4.1
MA2   Magadan           29.82 294  P      P       02 28 20.9 +0.9
MA2                               e*PP    pP      02 28 32.8 -0.7
MA2                               e*SP    sP      02 28 38.2 -1.8
MA2                               eS      S       02 33 12.9 +1.2
MA2                               e               02 35 14.7
MA2                                MLR    MLR
      comp=Z,2µm,14.9s,MS4.9
MA2   Magadan           29.82 294  P      P       02 28 21.0 +1.0
      comp=Z,48nm,1.2s,mb5.1
MA2                               epP     pP      02 28 32.7 -0.8
MA2                               esP     sP      02 28 38.6 -1.3
MA2                                LR     LR
      comp=Z,251nm,19.0s,MS3.9
JLU   Jordanelle        29.86 119 eP      P       02 28 20.9 +0.4
LRV   Little Rabbit     29.89 136 eP      P       02 28 22.1 +1.3
MTUM  Tungsten Hills    29.89 132 eP      P       02 28 22.2 +1.3
MTUM                              ePcP    PcP     02 31 22.7 -0.2
PET   Petropavlovsk     29.99 279 eP      sP      02 28 40.9 -0.7
PET                               e       PP      02 29 27.4 +6.5
PET                               eS      S       02 33 19.4 +4.9
PET                               eSS     SS      02 34 47.2 -7.0
PET                                pmax   pmax
      comp=Z,100nm,14.7s
PET                                pmax   pmax
      comp=Z,100nm,15.5s
PET                                smax
      comp=N,200nm,32.4s
PET                                MLR    MLR
      comp=Z,900nm,24.0s,MS4.3
PET                                MLR    MLR
      comp=E,600nm,27.0s,MS4.3
PET                                MLR    MLR
      comp=N,700nm,22.0s,MS4.3
PET   Petropavlovsk     29.99 279  P      P       02 28 23.8 +2.2
PET                                LR     LR
      comp=Z,785nm,21.0s,MS4.3
DAU   Daniels Canyon    30.09 119 eP      P       02 28 23.5 +0.9
NLU   North Lily Min    30.14 120⇓eP      P       02 28 23.6 +0.5
NLU                               ePcP    PcP     02 31 23.0 -0.5
MPU   Maple Canyon      30.27 120 eP      P       02 28 24.4 +0.1
RSSD  Black Hills       30.30 106⇓iP      P       02 28 24.7 +0.3
      comp=Z,239nm,0.7s,mb6.0
RSSD                              epP     pP      02 28 39.2 +1.2
RSSD                              esP     sP      02 28 44.1 -0.3
RSSD                              ePcP    PcP     02 31 23.2 -0.7
RSSD                              epPcP           02 31 38.2
RSSD                               LR     LR
      comp=Z,605nm,21.0s,MS4.2
DAC   Darwin (Calif)    31.20 131 eP      P       02 28 33.3 +0.8
      comp=Z,52nm,0.9s,mb5.4
DAC                               ePcP    PcP     02 31 25.5 -0.9
DAC                                LR     LR
      comp=Z,584nm,20.0s,MS4.2
MSU   Marysvale         31.32 122 eP      P       02 28 34.5 +1.0
MSU                               ePcP    PcP     02 31 26.6  0.0
SRU   San Rafael        31.49 119 eP      P       02 28 35.7 +0.7
TIXI  Tiksi             32.04 324⇓iP      P       02 28 38.7 -0.8
TIXI                               pmax   pmax
      comp=Z,22nm,1.1s,mb4.9
TIXI                               MLR    MLR
      comp=Z,352nm,14.0s,MS4.2
PV10  Paradox Valley    32.73 118 eP      P       02 28 46.3 +0.4
NEN   Nelson            32.77 128 eP      P       02 28 47.1 +0.9
NEN                               ePcP    PcP     02 31 30.3 -0.3
MWC   Mount Wilson      32.89 133 eP      P       02 28 47.7 +0.4
PV01  Paradox Valley    33.14 118 eP      P       02 28 49.6 +0.2
LDFC  Landfair          33.18 129 eP      P       02 28 49.8 +0.1
PFO   Pinyon Flat Ob    34.01 132 eP      P       02 28 57.1 +0.2
      comp=Z,47nm,1.0s,mb5.4
PFO                                LR     LR
      comp=Z,143nm,20.0s,MS3.7
WUAZ  Wupatki           34.23 124⇓iP      P       02 29 00.1 +1.3
      comp=Z,190nm,1.1s,mb5.9
WUAZ                              esP     sP      02 29 18.5 -0.7
WUAZ                              ePcP    PcP     02 31 34.5 -0.2
BAR   Barrett           34.77 133 eP      P       02 29 04.1 +0.7
SDCO  Great Sand Dun    34.78 114⇓iP      P       02 29 04.3 +0.8
      comp=Z,94nm,1.3s,mb5.6
SDCO                               LR     LR
      comp=Z,2µm,20.0s,MS4.9
CBKS  Cedar Bluff       36.47 107 eP      P       02 29 17.9 +0.1
      comp=Z,90nm,0.9s,mb5.7
CBKS                               LR     LR
      comp=Z,2µm,19.0s,MS4.9
ANMO  Albuquerque       36.73 118  P      P       02 29 21.4 +1.4
ANMO                               PcP    PcP     02 31 41.9 -0.2
ANMO                               ScP            02 35 52.1
ANMO  Albuquerque       36.73 118diP      P       02 29 21.2 +1.1
ANMO  Albuquerque       36.73 118 eP      P       02 29 20.8 +0.8
      comp=Z,46nm,1.3s,mb5.2
LAZ   Ladron            36.92 119 eP      P       02 29 22.8 +1.2
YAK   Yakutsk           36.96 309 eP      P       02 29 21.9 +0.3
YAK                               e       pP      02 29 39.6 +4.2
YAK                                pmax   pmax
      comp=N,3.0nm,0.9s
YAK                                pmax   pmax
      comp=E,5.0nm,0.9s
YAK                                pmax   pmax
      comp=Z,18nm,0.9s,mb4.9
YAK                                pmax   pmax
      comp=Z,38nm,0.9s,mb5.2
YAK                                pmax   pmax
      comp=N,18nm,1.2s
YAK                                pmax   pmax
      comp=E,21nm,1.1s
YAK                                MLR    MLR
      comp=Z,433nm,17.0s,MS4.3
YAK                                MLR    MLR
      comp=N,447nm,18.0s,MS4.4
YAK                                MLR    MLR
      comp=E,267nm,17.0s,MS4.4
LENM  Lemitar           37.19 119 eP      P       02 29 25.1 +1.2
TUC   Tucson            37.28 125  P      P       02 29 26.4 +1.7
TUC                                PcP    PcP     02 31 43.5 -0.2
TUC   Tucson            37.28 125 eP      P       02 29 25.9 +1.3
      comp=E,71nm,1.1s,mb5.4
TUC                               ePcP    PcP     02 31 43.3 -0.4
BNM   Barren Site       37.35 119 eP      P       02 29 26.5 +1.3
SUMG  Summit            37.47  28⇓eP      P       02 29 26.1 +0.2
      comp=E,34nm,0.6s,mb5.3
KSU1  Kansas State U    37.68 103 eP      P       02 29 27.3 -0.6
JFWS  Jewell Farm       37.70  93 eP      P       02 29 27.3 -0.7
      comp=E,46nm,0.7s,mb5.3
JFWS                               LR     LR
      comp=Z,2µm,20.0s,MS4.9
DAG   Danmarks Havn     38.00  17⇑iP      P       02 29 29.8 -0.5
      comp=Z,21nm,1.0s,mb4.8
KBS   Kingsbay          39.05   6 ePP     PP      02 31 12.7 -0.3
KBS                               eS      S       02 35 41.2 +7.1
KBS                               eSS     SS      02 38 35.2  +15
KBS                                AMS    AMS     02 45 48.9
      comp=Z,248nm,19.5s,MS4.0
KBS   Kingsbay          39.05   6  PFAKE          02 29 50.0  +11
KBS                                LR     LR
      comp=Z,523nm,21.0s,MS4.3
CPRX  Cap Rock          39.48 117 eP      P       02 29 44.2 +1.3
SCHQ  Schefferville     39.95  62  P      P       02 29 46.3 -0.3
      comp=Z,62nm,1.0s,mb5.3,baz=316,slow=7.6,SNR=38
SCHQ                               LR     LR      02 46 51.6
      comp=Z,677nm,18.2s,MS4.5,baz=122,slow=37
SCHQ  Schefferville     39.95  62 eP      P       02 29 45.8 -0.8
      comp=Z,68nm,0.9s,mb5.4
SCHQ                               LR     LR
      comp=Z,563nm,20.0s,MS4.4
GDL2  Guadalupe Moun    39.98 118 eP      P       02 29 48.2 +1.0
CLNB  Carlsbad          40.13 117 eP      P       02 29 49.4 +1.0
WMOK  Wichita Mounta    40.26 110 eP      P       02 29 49.5 +0.1
      comp=Z,84nm,0.9s,mb5.5
WMOK                               LR     LR
      comp=Z,2µm,20.0s,MS4.9
CCM   Cathedral Cave    41.02  99⇓iP      P       02 29 54.2 -1.5
      comp=Z,19nm,1.1s,mb4.6
CCM                               e       pP      02 30 08.6 -1.0
SLM   Saint Louis       41.04  98 eP      P       02 29 55.7 -0.1
FVM   French Village    41.47  98 eP      P       02 29 58.1 -1.2
      comp=Z,40nm,1.0s,mb5.0
YSS   Yuzh-Sakhalins    41.60 283  P      pP      02 30 12.2 -1.9
YSS                               e               02 30 35.2
YSS                                pmax   pmax
      comp=Z,70nm,1.1s,mb5.2
CLNS  Chul'man          42.24 305 eP      P       02 30 07.9 +2.7
CLNS                              e*PP    pP      02 30 24.1 +4.9
CLNS                              e               02 31 42.9
CLNS                              e               02 31 57.2
CLNS                              eS      S       02 36 21.7 +0.2
CLNS                              eSS     SS      02 39 21.7 -3.5
CLNS                              e               02 40 00.5
CLNS                              eSSS    SSS     02 40 18.4 +6.4
CLNS                               pmax   pmax
      comp=Z,38nm,0.7s,mb5.1
CLNS                               pmax   pmax
      comp=N,14nm,0.8s
CLNS                               pmax   pmax
      comp=E,29nm,1.1s
CLNS                               pmax   pmax
      comp=Z,14nm,0.8s,mb4.6
CLNS                               pmax   pmax
      comp=N,10.0nm,0.7s
CLNS                               pmax   pmax
      comp=E,10.0nm,0.9s
CLNS                               smax
      comp=E,78nm,13.4s
CLNS                               smax
      comp=N,124nm,11.8s
CLNS                               smax
      comp=Z,19nm,11.8s
CLNS                               MLR    MLR
      comp=Z,800nm,18.0s,MS4.7
CLNS                               MLR    MLR
      comp=N,200nm,17.0s,MS4.5
CLNS                               MLR    MLR
      comp=E,400nm,15.0s,MS4.5
BLO   Bloomington       42.38  94 eP      P       02 30 05.7 -0.9
      comp=E,32nm,0.9s,mb5.0
LTX   Lajitas           42.77 119 eP      P       02 30 10.9 +0.9
      comp=E,104nm,1.3s,mb5.4
LTX                                LR     LR
      comp=Z,943nm,22.0s,MS4.6
TXAR  Lajitas Array     42.77 119  P      P       02 30 11.4 +1.3
      comp=Z,26nm,0.8s,mb5.0,baz=329,slow=6.5,SNR=330
TXAR                               pP     pP      02 30 24.6 +0.6
      comp=Z,9.3nm,0.8s,baz=324,slow=3.7,SNR=7.5
TXAR                               sP     sP      02 30 29.2 -1.1
      comp=Z,18nm,0.7s,baz=332,slow=5.6,SNR=11
TXAR                               PcP    PcP     02 32 00.3 -1.0
      comp=Z,13nm,0.9s,baz=307,slow=2.2,SNR=6.4
TXAR                               LR     LR      02 49 58.2
      comp=Z,378nm,21.2s,MS4.3,baz=5.0,slow=39
TXAR  Lajitas Array     42.77 119  P      P       02 30 11.4 +1.4
TXAR                               pP     pP      02 30 24.6 +0.6
TXAR                               sP     sP      02 30 29.2 -1.1
TXAR                               PcP    PcP     02 32 00.3 -1.0
TXAR                               LR     LR      02 49 58.2
USIN  University of     42.79  96 eP      P       02 30 09.2 -0.8
      comp=Z,39nm,0.6s,mb5.3
MIAR  Mount Ida         42.80 104 eP      P       02 30 09.3 -0.9
      comp=Z,58nm,0.8s,mb5.4
MIAR                               LR     LR
      comp=Z,1µm,19.0s,MS4.9
UALR  University of     43.18 103 eP      P       02 30 11.7 -1.6
      comp=Z,24nm,0.7s,mb5.0
ERPA  Erie              43.20  85 eP      P       02 30 13.0 -0.3
      comp=Z,30nm,0.7s,mb5.1
ERPA                               LR     LR
      comp=Z,547nm,19.0s,MS4.5
ACSO  Alum Creek Sta    43.23  89 eP      P       02 30 12.9 -0.7
      comp=Z,70nm,0.8s,mb5.4
ACSO                              ePcP    PcP     02 32 01.2 -1.4
ACSO                               LR     LR
      comp=Z,432nm,22.0s,MS4.3
GNAR  Gosnell           43.29 100 eP      P       02 30 13.2 -1.0
JCT   Junction City     43.42 114 eP      P       02 30 15.3 -0.1
      comp=Z,106nm,0.6s,mb5.8
JCT                                LR     LR
      comp=Z,892nm,22.0s,MS4.6
MSNY  Massena           43.42  78 eP      P       02 30 14.0 -1.1
MSNY                              ePcP    PcP     02 32 01.4 -1.9
ALLY  Alegheny Colle    43.48  86 eP      P       02 30 15.6 -0.1
WVT   Waverly           44.19  97 eP      P       02 30 20.4 -1.0
      comp=Z,12nm,0.8s,mb4.7
JMIC  Jan Mayen         44.41  18  LR     LR      02 51 23.5
      comp=Z,136nm,21.1s,MS3.8,baz=164,slow=39
JMIC  Jan Mayen         44.41  18 eP      P       02 30 24.8 +2.0
JMIC                              eS      S       02 36 57.3 +4.3
JMIC                              eSS     SS      02 40 19.2  +15
JMIC                               AMS    AMS     02 51 36.3
      comp=Z,86nm,18.4s,MS3.7
NCB   Newcomb           44.50  79 eP      P       02 30 22.6 -1.2
      comp=Z,62nm,1.1s,mb5.2
NCB                                LR     LR
      comp=Z,510nm,20.0s,MS4.4
MIV   Mineville/With    44.74  78  P      P       02 30 25.2 -0.5
OXF   Oxford            44.76 100 eP      P       02 30 25.6 -0.4
      comp=Z,168nm,1.1s,mb5.8
OXF                                LR     LR
      comp=Z,1µm,20.0s,MS4.8
KLR   Kul'dur           44.91 293 eP      P       02 30 26.8 -0.2
KLR                               e       pP      02 30 45.2 +4.2
KLR                                MLR    MLR
      comp=E,400nm,15.0s
KLR                                MLR    MLR
      comp=Z,500nm,15.0s,MS4.6
PLAL  Pickwick Lake     45.01  99 eP      P       02 30 26.8 -1.2
      comp=Z,30nm,0.8s,mb5.2
BINY  Binghamton        45.03  82 eP      P       02 30 27.7 -0.3
BINY                              ePcP    PcP     02 32 07.8 -1.0
SSPA  Standing Stone    45.34  85 eP      P       02 30 28.7 -1.9
      comp=Z,93nm,1.3s,mb5.5
HNH   Hanover           45.61  78 eP      P       02 30 31.7 -1.0
      comp=Z,7.9nm,0.9s,mb4.6
HKT   Hockley           45.63 110 eP      P       02 30 33.1  0.0
      comp=Z,72nm,1.4s,mb5.4
WVL   Waterville        46.17  75 eP      P       02 30 36.0 -1.0
      comp=Z,476nm,1.2s,mb6.3
WVL                                LR     LR
      comp=Z,3µm,19.0s,MS5.3
CPCT  Cooper Cave       46.31  95 eP      P       02 30 37.0 -1.3
FWV   Forest Hill       46.36  90 eP      P       02 30 37.6 -1.1
PWV   Princeton         46.44  90 eP      P       02 30 38.4 -0.9
ELN   Prospectdale      46.67  90 eP      P       02 30 40.1 -1.0
QUA2  Belchertown       46.68  79 eP      P       02 30 42.6 +1.5
      comp=Z,95nm,1.2s,mb5.6
BLA   Blacksburg        46.84  90 eP      P       02 30 41.7 -0.7
      comp=Z,113nm,1.1s,mb5.7
BLA                                LR     LR
      comp=Z,790nm,20.0s,MS4.7
HRV   Harvard--Oak R    46.87  78 eP      P       02 30 41.7 -0.9
      comp=Z,92nm,1.5s,mb5.5
PAL   Palisades         46.94  81 eP      P       02 30 42.1 -1.0
      comp=Z,72nm,1.1s,mb5.5
EMMW  East Machias      47.06  73⇓eP      P       02 30 43.9 -0.2
      comp=Z,701nm,0.8s
EMMW                              epP     pP      02 30 56.6 -1.6
EMMW                              ePcP    PcP     02 32 14.7 -1.2
EMMW                               LR     LR
      comp=Z,4µm,19.0s
WES   Weston            47.08  78 eP      P       02 30 43.7 -0.5
      comp=Z,243nm,1.3s,mb6.0
LRAL  Lakeview Retre    47.11  99 eP      P       02 30 43.5 -1.2
      comp=Z,13nm,0.7s,mb5.0
LRAL                               LR     LR
      comp=Z,892nm,20.0s,MS4.7
BRYW  Bryant College    47.34  78 eP      P       02 30 45.3 -1.0
      comp=Z,240nm,1.3s,mb6.0
BORG  Borgarnes         47.45  28  LR     LR      02 50 59.3
      comp=Z,378nm,21.6s,MS4.3,baz=337,slow=36
CBN   Corbin            47.50  86 eP      P       02 30 46.4 -1.3
      comp=Z,48nm,0.6s,mb5.7
CBN                                LR     LR
      comp=Z,1µm,22.0s,MS4.8
TRO   Tromso            48.57   7 eP      P       02 30 55.6 +0.1
TRO                               eS      S       02 37 56.6 +4.5
TRO                               eSS     SS      02 41 29.0  +11
TRO                                AMS    AMS     02 49 52.5
      comp=Z,249nm,22.0s,MS4.2
KEV   Kevo              48.78   3 ep      P       02 30 55.7 -1.4
      comp=Z,1.6nm,0.3s,mb4.5
KEV   Kevo              48.78   3 eP      P       02 30 55.7 -1.4
KEV                                pmax   pmax
      comp=Z,2.0nm,0.3s,mb4.6
JSC   Jenkinsville      48.81  93 eP      P       02 30 57.0 -0.8
ARCES ARCESS Array B    48.95   4  P      P       02 30 58.1 -0.4
      comp=Z,16nm,0.6s,mb5.2,baz=1.6,slow=8.0,SNR=38
ARCES                              PcP    PcP     02 32 20.6 -1.7
      comp=Z,23nm,0.8s,baz=333,slow=2.7,SNR=6.7
ARCES                              LR     LR      02 52 23.3
      comp=Z,158nm,20.5s,MS4.0,baz=322,slow=37
ARCES ARCESS Array B    48.95   4  P      P       02 30 58.1 -0.4
ARCES                                             02 32 20.6
ARCES                              pmax   pmax
      comp=Z,16nm,0.6s
ARCES                              pmax   pmax
      comp=Z,23nm,0.8s
ARCES                              MLR    MLR
      comp=Z,159nm,20.5s
ZAIG  Zacatecas         49.04 122 i P     P       02 31 00.8 +1.0
MDJ   Mudanjiang        49.38 291  P      P       02 31 01.8 -0.3
MDJ                                PCP    PcP     02 32 26.4 +2.2
MDJ                                PCS            02 36 21.1
MDJ                                S      S       02 38 03.6 -0.2
MDJ                                PS     PS      02 38 23.0 +2.7
MDJ                                AMB    AMB
      comp=Z,12nm,0.7s,mb5.0
MDJ                                AMB    AMB
      comp=Z,161nm,4.4s
MDJ                                LR     LR
      comp=E,230nm,23.0s
MDJ                                LR     LR
      comp=Z,249nm,24.8s,MS4.1
MDJ   Mudanjiang        49.38 291 eP      P       02 31 01.8 -0.3
      comp=Z,13nm,0.8s,mb5.0
MDJ                               epP     pP      02 31 14.3 -1.9
MDJ                               esP     sP      02 31 20.1 -2.2
KTK1  Kautokeino        49.40   5 eP      P       02 31 02.3 +0.4
KTK1                               AMb    AMB     02 31 10.4
      comp=Z,70nm,1.5s,mb5.5
KTK1  Kautokeino        49.40   5 eP      P       02 31 02.3 +0.4
      comp=Z,70nm,1.5s,mb5.5
LOF   Lofoten           49.69  10 eP      P       02 31 05.8 +1.7
LOF                               epP     pP      02 31 16.5 -1.7
HIA   Hailar            49.96 301 eP      P       02 31 06.5  0.0
      comp=Z,18nm,0.9s,mb5.1
NHSC  New Hope          50.29  93 eP      P       02 31 08.3 -1.0
      comp=Z,258nm,1.1s,mb6.2
NHSC                               LR     LR
      comp=Z,840nm,20.0s,MS4.8
HBF   Harts Bluff       50.34  93 eP      P       02 31 09.2 -0.4
CSU   Charleston Sou    50.44  93 eP      P       02 31 09.1 -1.3
LVZ   Lovozero          50.72 359⇑eP      P       02 31 11.1 -1.0
LVZ                               eS      S       02 38 22.0  0.0
LVZ                                pmax   pmax
      comp=Z,80nm,1.0s,mb5.6
LVZ                                pmax   pmax
      comp=N,40nm,1.1s
LVZ                                pmax   pmax
      comp=E,15nm,1.3s
LVZ                                smax
      comp=N,163nm,9.2s
LVZ                                smax
      comp=Z,118nm,5.3s
LVZ                                smax
      comp=E,98nm,9.0s
SFJM  Santa Fe          50.90 124 i P     P       02 31 14.5 +0.5
APA   Apatity           51.06   0⇑iP      P       02 31 14.0 -0.6
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APA				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.4						
MOR8	**Moi Rana**	**51.68**	**10**	*e*P	**P**	**02 31 17.4**	**-1.9**
MOR8				AMb	AMB	02 31 27.0	
	comp=Z,24nm,1.4s,mb4.9						
MOR8				*e*sP	sP	02 31 37.2	-2.5
MOR8	**Moi Rana**	**51.68**	**10**	*e*P	**P**	**02 31 17.4**	**-1.9**
	comp=Z,24nm,1.4s,mb4.9						
MAJO	**Matsushiro**	**51.81**	**278**	*e*P	**P**	**02 31 20.3**	**-0.5**
	comp=Z,26nm,0.8s,mb5.2						
MAJO				*e*pP	pP	02 31 32.9	-2.0
MAT	**Matsushiro**	**51.81**	**278**	P	**P**	**02 31 20.0**	**-0.7**
MAT	**Matsushiro**	**51.81**	**278**	*e*P	**P**	**02 31 20.0**	**-0.7**
	comp=Z,23nm,0.8s,mb5.2						
CN2	**Changchun**	**51.86**	**293**	*e*P	**P**	**02 31 20.9**	**0.0**
CN2				*e*AP	pP	02 31 32.3	-2.9
CN2				*e*S	**S**	**02 38 37.8**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,11.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,11.0s,MS4.9						
CN2				LR	LR		
	comp=Z,500nm,13.0s,MS4.7						
MOIG	**Morelia**	**52.37**	**122**	*i* P	**P**	**02 31 25.6**	**+0.5**
CRX	**Cerrillo**	**53.23**	**121**	*e*P	**P**	**02 31 31.5**	**0.0**
DWPF	**Disney**	**53.85**	**97**	P	**P**	**02 31 35.0**	**-1.0**
DWPF	**Disney**	**53.85**	**97**	*e*P	**P**	**02 31 34.4**	**-1.6**
	comp=Z,69nm,1.4s,mb5.4						
PPM	**Popocatepetl**	**53.96**	**120**	*i* P	**P**	**02 31 37.5**	**+0.6**
ZIIG	**Zihuatanejo**	**54.12**	**124**	*i* P	**P**	**02 31 36.8**	**-1.3**
MOY	**Mondy**	**54.99**	**315**	*e*P	pP	02 31 54.0	-4.4
ZAK	**Zakamensk**	**55.29**	**313**	*e*P	**P**	**02 31 45.8**	**-0.4**
EVV	**El Vigia**	**55.88**	**117**	*i* P	**P**	**02 31 50.5**	**-0.3**
KS15	**Wonju Array Si**	**55.89**	**287**	P	**P**	**02 31 50.5**	**-0.2**
KS15				*e*pP	pP	02 32 03.5	-1.6
SONM	**Songino Array**	**56.31**	**309**	P	**P**	**02 31 54.1**	**+0.6**
	comp=Z,12nm,0.7s,mb5.0,baz=22,slow=6.4,SNR=69						
SONM				pP	pP	02 32 06.2	-1.8
	comp=Z,17nm,0.7s,baz=21,slow=6.6,SNR=13						
KAF	**Kangasniemi**	**56.41**	**4**	*e*p	**P**	**02 31 52.7**	**-1.4**
NB2	**NORSAR Subarra**	**56.42**	**13**	P	**P**	**02 31 52.2**	**-1.9**
	comp=Z,14nm,0.9s,mb5.0,baz=348,slow=7.0						
NB2	**NORSAR Subarra**	**56.42**	**13**	P	**P**	**02 31 52.2**	**-1.9**
	baz=348,slow=6.9						
NOA	**NORSAR Array B**	**56.42**	**13**	P	**P**	**02 31 52.6**	**-1.5**
	comp=Z,5.4nm,0.8s,mb4.6,baz=349,slow=7.1,SNR=20						
NOA				LR	LR	02 58 05.4	
	comp=Z,89nm,19.9s,MS3.9,baz=355,slow=38						
NOA	**NORSAR Array B**	**56.42**	**13**	P	**P**	**02 31 52.7**	**-1.4**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,89nm,19.9s						
OXX	**Oaxaca**	**56.53**	**119**	*i* P	**P**	**02 31 56.0**	**+0.5**
FINES	**FINESS Array B**	**57.07**	**4**	P	**P**	**02 31 57.3**	**-1.5**
	comp=Z,7.1nm,0.5s,mb5.0,baz=14,slow=6.2,SNR=49						
FINES				LR	LR	02 55 58.5	
	comp=Z,120nm,21.9s,MS4.0,baz=181,slow=35						
FINES	**FINESS Array B**	**57.07**	**4**	*i* P	**P**	**02 31 57.4**	**-1.4**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NVS	**Novosibirsk**	**57.42**	**328**	⇑*i*P	**P**	**02 31 58.4**	**-3.0**
NVS				pmax	pmax		
	comp=Z,37nm,1.8s,mb5.1						
ZAL	**Zalesovo**	**57.84**	**327**	P	**P**	**02 32 03.7**	**-0.6**
	comp=Z,2.8nm,0.4s,mb4.7,baz=352,slow=8.3,SNR=14						
ZAL	**Zalesovo**	**57.84**	**327**	P	**P**	**02 32 03.7**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**57.84**	**327**	P	**P**	**02 32 03.7**	**-0.6**
BBSR	**BB Station**	**58.25**	**80**	*e*P	**P**	**02 32 05.0**	**-2.4**
	comp=Z,170nm,1.5s,mb5.8						
BBSR				*e*	pP	02 32 19.3	-2.6
PUL	**Pulkovo**	**58.86**	**2**	⇓*e*P	**P**	**02 32 11.2**	**-0.1**
PUL				*e*S	**S**	**02 40 11.5**	**+0.3**
PUL				pmax	pmax		
	comp=N,59nm,0.6s						
PUL				pmax	pmax		
	comp=Z,74nm,0.6s,mb5.9						
PUL				pmax	pmax		
	comp=E,99nm,0.7s						
PUL				smax			
	comp=N,62nm,4.7s						
BJI	**Beijing**	**58.93**	**297**	P	**P**	**02 32 11.3**	**-0.7**
BJI				S	**S**	**02 40 18.0**	**+5.7**
BJI				LR	LR		
	comp=N,391nm,15.3s,MS4.8						
BJI				LR	LR		
	comp=E,390nm,13.5s,MS4.8						
BJI				LR	LR		
	comp=Z,217nm,20.4s						
BJT	**Baijiatuau**	**58.95**	**297**	*e*P	**P**	**02 32 11.8**	**-0.3**
	comp=Z,16nm,0.8s,mb5.1						
BJT				*e*pP	pP	02 32 24.0	-2.7
ESK	**Eskdalemuir**	**59.82**	**23**	*e*P	**P**	**02 32 16.8**	**-1.2**
	comp=Z,28nm,0.9s,mb5.3						
ARU	**Arti**	**60.62**	**344**	P	**P**	**02 32 22.8**	**-0.6**
	comp=Z,523nm,0.7s,SNR=12						
ARU	**Arti**	**60.62**	**344**	⇓*i*P	**P**	**02 32 22.7**	**-0.7**
ARU				*i*	pP	02 32 37.0	-1.0
ARU				*i*		02 33 05.7	
ARU				*e*		02 34 35.7	
ARU				*i* S	**S**	**02 40 35.6**	**+1.7**
ARU				*e*		02 42 09.0	
ARU				*e*SS	SS	02 44 40.0	+5.9
ARU				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.8						
ARU	**Arti**	**60.62**	**344**	*e*P	**P**	**02 32 22.4**	**-1.0**
	comp=Z,60nm,0.6s,mb5.9						
ARU				LR	LR		
	comp=Z,107nm,22.0s,MS4.0						
BTO	**Baotou**	**61.00**	**302**	*e*P	**P**	**02 32 25.9**	**-0.3**
BTO				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.2						
TIA	**Tai’an**	**61.72**	**294**	*e*P	**P**	**02 32 33.5**	**+2.4**
BRVK	**Borovoye**	**61.97**	**336**	P	**P**	**02 32 31.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**61.97**	**336**	*e*P	**P**	**02 32 31.1**	**-1.4**
	comp=Z,14nm,0.8s,mb5.1						
BVA0	**Borovoye Array**	**61.98**	**336**	*i* P	**P**	**02 32 31.5**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**61.98**	**336**	P	**P**	**02 32 31.4**	**-1.2**
	comp=Z,26nm,1.0s,mb5.3,baz=34,slow=5.3,SNR=57						
BVAR				pP	pP	02 32 43.8	-3.4
	comp=Z,26nm,0.8s,slow=1.5,SNR=15						
BVAR	**Borovoye Array**	**61.98**	**336**	P	**P**	**02 32 31.4**	**-1.2**
BVAR				pP	pP	02 32 43.8	-3.4
VOSK	**Vostochnaya**	**62.15**	**335**	P	**P**	**02 32 32.1**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**62.31**	**337**	P	**P**	**02 32 33.6**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1						
ZRNK	**Zerenda**	**62.31**	**337**	*e*P	**P**	**02 32 33.5**	**-1.3**
	comp=Z,19nm,0.8s,mb5.3						
ZRNK				*e*pP	pP	02 32 46.4	-3.1
KURK	**Kurchatov**	**62.34**	**329**	*e*P	**P**	**02 32 33.6**	**-1.5**
	comp=Z,7.3nm,0.3s,mb5.3						
KURK				*e*pP	pP	02 32 47.0	-2.7
MOS	**Moscow**	**62.89**	**357**	*i* P	**P**	**02 32 38.7**	**+0.1**
MOS				*e*	pP	02 32 55.3	+2.0
MOS				*e*		02 33 04.5	
MOS				*e*		02 34 51.9	
MOS				*e*S	**S**	**02 41 04.0**	**+1.4**
MOS				*e*		02 42 16.9	
MOS				*e*SS	SS	02 45 06.6	-3.8
MOS				pmax	pmax		
	comp=Z,300nm,0.8s						
MOS				pmax	pmax		
	comp=Z,157nm,0.6s						
MOS				MLR	MLR		
	comp=Z,400nm,14.7s						
BSEG	**Bad Segeberg**	**63.28**	**15**	*e*P	**P**	**02 32 40.6**	**-0.7**
BSEG				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
OBN	**Obninsk**	**63.53**	**358**	*d* *i*P	**P**	**02 32 42.5**	**-0.2**
OBN				*i* S	**S**	**02 41 11.8**	**+1.3**
OBN				*e*SS	SS	02 45 26.9	+6.8
OBN				pmax	pmax		
	comp=Z,190nm,0.8s,mb6.2						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
OBN	**Obninsk**	**63.53**	**358**	*e*P	**P**	**02 32 42.2**	**-0.6**
	comp=Z,164nm,0.7s,mb6.2						
OBN				*e*pP	pP	02 32 55.0	-2.4
MNK	**Minsk**	**64.08**	**4**	*e*P	**P**	**02 32 38.0**	**-8.3**
SSE	**Sheshan**	**64.23**	**288**	P	**P**	**02 32 49.6**	**+1.9**
SSE				AP	pP	02 33 03.6	+1.2
SSE				XP	sP	02 33 09.6	+1.2
SSE				S	**S**	**02 41 21.1**	**+1.5**
SSE				XS		02 41 45.5	
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=N,123nm,29.3s,MS4.0						
SSE				LR	LR		
	comp=E,96nm,29.3s,MS4.0						
SSE				LR	LR		
	comp=Z,191nm,32.7s,MS4.1						
SUW	**Suwalki**	**64.37**	**7**	*e*P	**P**	**02 32 47.3**	**-0.9**
NJ2	**Nanjing**	**64.47**	**290**	*e*P	**P**	**02 32 48.5**	**-0.7**
NJ2				AP	pP	02 33 01.0	-3.0
NJ2				XP	sP	02 33 08.3	-1.6
NJ2				S	**S**	**02 41 21.0**	**-1.5**
NJ2				SCS	ScS	02 42 37.0	+1.9
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.5						
GKP	**Gorka Klasztor**	**64.67**	**11**	*e*P	**P**	**02 32 50.4**	**+0.2**
WTSB	**Winterswijk**	**64.72**	**18**	*e*P	**P**	**02 32 50.2**	**-0.3**
	comp=Z,12nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**65.01**	**325**	P	**P**	**02 32 50.6**	**-1.9**
	comp=Z,3.9nm,0.6s,mb4.6,baz=49,slow=6.4,SNR=30						
MKAR				pP	pP	02 33 04.0	-3.3
	comp=Z,18nm,0.9s,baz=42,slow=7.1,SNR=12						
MKAR				LR	LR	03 03 55.7	
	comp=Z,510nm,21.9s,MS4.7,baz=26,slow=38						
MKAR	**Makanchi Array**	**65.01**	**325**	P	**P**	**02 32 50.6**	**-1.9**
MKAR				*PP	pP	02 33 04.0	-3.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,18nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,510nm,21.9s						
MKAR	**Makanchi Array**	**65.01**	**325**	P	**P**	**02 32 50.6**	**-1.9**
MKAR				pP	pP	02 33 04.0	-3.3
MKAR				LR	LR	03 03 55.7	
CLZ	**Clausthal**	**65.34**	**16**	*e*P	**P**	**02 32 54.7**	**+0.2**
	comp=Z,41nm,1.1s,mb5.4						
HGN	**Heimansgroeve**	**65.76**	**19**	*e*P	**P**	**02 32 56.9**	**-0.3**
	comp=Z,20nm,1.3s,mb5.0						
HGN				*e*S	S	02 41 35.6	-2.4
GTA	**Gaotai**	**65.98**	**309**	P	**P**	**02 32 59.0**	**+0.1**
GTA				AP	pP	02 33 09.4	-4.3
GTA				PP	PP	02 35 25.8	-1.0
GTA				S	S	02 41 44.3	+3.4
GTA				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,81nm,5.7s						
GTA				LR	LR		
	comp=N,229nm,20.6s,MS4.5						
GTA				LR	LR		
	comp=E,241nm,22.6s,MS4.5						
GTA				LR	LR		
	comp=Z,286nm,19.1s,MS4.5						
WMQ	**Urumqi**	**66.16**	**320**	⇑*i*P	**P**	**02 33 00.3**	**+0.4**
WMQ				AP	pP	02 33 11.3	-3.4
WMQ				PCP	PcP	02 33 30.5	+0.8
WMQ				PP	PP	02 35 28.3	+0.1
WMQ				S	S	02 41 45.3	+2.3
WMQ				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
WMQ				LR	LR		
	comp=N,297nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=E,184nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,324nm,19.0s,MS4.5						
BAIF	**Baives**	**66.17**	**20**	*e*P	**P**	**02 32 58.8**	**-1.0**
	comp=Z,31nm,0.7s,mb5.1						
CLL	**Collm**	**66.18**	**14**	P	**P**	**02 32 59.3**	**-0.6**
	comp=Z,logA/T=1.4,mb5.2						
CLL				*i* *PP	pP	02 33 07.2	-7.5
CLL				*i*	pP	02 33 14.7	0.0
CLL				*e*PCP	PcP	02 33 32.0	+2.3
CLL	**Collm**	**66.18**	**14**	*i* P	**P**	**02 32 59.3**	**-0.6**
CLL				*i*	pP	02 33 14.7	0.0
CLL				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
CLL	**Collm**	**66.18**	**14**	*i* P	**P**	**02 32 59.3**	**-0.6**
	comp=Z,28nm,1.1s,mb5.2						
CLL				*i*		02 33 07.2	
CLL				*i*	pP	02 33 14.7	0.0
GIVF	**Givet**	**66.23**	**20**	*e*P	**P**	**02 32 59.1**	**-1.1**
	comp=Z,33nm,0.9s,mb5.1						
ROSF	**Rostrenen**	**66.43**	**26**	*e*P	**P**	**02 32 59.6**	**-1.9**
	comp=Z,41nm,1.1s,mb5.1						
FLN	**La Foliniere**	**66.58**	**24**	*e*P	**P**	**02 33 01.0**	**-1.4**
FLN				*e*R			
	comp=Z,290nm,21.5s						
SGMF	**Saint Gilles**	**66.65**	**25**	*e*P	**P**	**02 33 01.2**	**-1.7**
	comp=Z,81nm,1.1s,mb5.4						
MOX	**Moxa**	**66.67**	**15**	*i* P	**P**	**02 33 02.9**	**-0.1**
	comp=Z,logA/T=1.7,mb5.5						
MOX				L		03 05 26.0	
MOX	**Moxa**	**66.67**	**15**	*e*P	**P**	**02 33 02.9**	**-0.1**
MOX				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.5						
MOX				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
MOX	**Moxa**	**66.67**	**15**	*e*P	**P**	**02 33 02.9**	**-0.1**
	comp=Z,56nm,1.1s,mb5.5						
MOX				LR	LR		
	comp=Z,100nm,20.0s,MS4.0						
BRG	**Berggiesshubel**	**66.72**	**13**	⇑*i*P	**P**	**02 33 03.3**	**+0.1**
BRG				*e*	pP	02 33 19.2	+1.1
BRG				*i*		02 33 37.2	
BRG				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
BRG				MLR	MLR		
	comp=N,280nm,27.6s,MS4.4						
BRG				MLR	MLR		
	comp=E,130nm,27.6s,MS4.4						
BRG				MLR	MLR		
	comp=Z,320nm,29.5s,MS4.4						
BRG	**Berggiesshubel**	**66.72**	**13**	⇑*i*P	**P**	**02 33 03.3**	**+0.1**
	comp=Z,38nm,1.2s,mb5.3						
BRG				*i*		02 33 09.7	
BRG				*e*	pP	02 33 19.2	+1.1
BRG				*i*		02 33 37.2	
BRG				LR	LR		
	comp=Z,320nm,29.5s,MS4.4						
LDF	**La Druitiere**	**66.81**	**24**	*e*P	**P**	**02 33 02.4**	**-1.5**
	comp=Z,62nm,1.4s,mb5.2						
QUIF	**Quistinic**	**66.85**	**26**	*e*P	**P**	**02 33 02.2**	**-1.9**
GRR	**Gorron**	**66.87**	**24**	*e*P	**P**	**02 33 03.1**	**-1.1**
	comp=Z,36nm,0.9s,mb5.1						
RUP	**Ruppelstein**	**66.97**	**18**	*e*P	**P**	**02 33 04.1**	**-0.7**
KSP	**Ksiaz**	**66.99**	**12**	*e*P	**P**	**02 33 04.8**	**-0.2**
KSP				*e**PP	pP	02 33 16.5	-3.3
KSP				*e*S	S	02 41 56.0	+3.1
XAN	**Xi’an**	**67.07**	**299**	P	**P**	**02 33 04.6**	**-1.2**
XAN				AP	pP	02 33 17.4	-3.2
PVCC	**Panska Ves**	**67.12**	**13**	⇓*e*P	**P**	**02 33 05.7**	**-0.1**
PVCC				LM		02 58 20.0	
	comp=Z,0.3nm,29.7s						
UPC	**Upice**	**67.29**	**12**	⇑*e*P	**P**	**02 33 06.8**	**-0.1**
UPC				*e*		02 33 11.9	
TOD	**Tromm**	**67.31**	**17**	*e*P	**P**	**02 33 06.7**	**-0.3**
LZH	**Lanzhou**	**67.35**	**304**	⇓P	**P**	**02 33 07.5**	**0.0**
LZH				AP	pP	02 33 20.1	-2.3
LZH				XP	sP	02 33 25.8	-2.3
LZH				PP	PP	02 35 37.5	-0.7
LZH				*e*S	S	02 41 57.6	+0.1
LZH				XS		02 42 18.4	
LZH				SS	SS	02 46 18.8	-0.9
LZH				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,235nm,5.5s						
LZH				LR	LR		
	comp=Z,2µm,18.2s,MS5.3						
AB31	**Akbulak array**	**67.42**	**342**	*i* P	**P**	**02 33 07.4**	**-0.3**
AB31				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
DPC	**Dobruska-Polom**	**67.48**	**12**	*e*P	**P**	**02 33 08.3**	**+0.2**
DPC				*e*S	S	02 42 03.7	+4.9
DPC				LM		03 00 30.0	
	comp=Z,0.2nm,23.1s						
KTD	**Kalmit**	**67.49**	**18**	*e*P	**P**	**02 33 07.9**	**-0.2**
GRA1	**Grafenberg Arr**	**67.55**	**15**	*e*P	**P**	**02 33 08.8**	**+0.3**
	comp=Z,35nm,1.1s,mb5.3						
GRA1				*e*PP	PP	02 35 23.9	-16
GRA1				*e*S	S	02 42 17.3	+18
GRA1				LR	LR		
	comp=Z,100nm,21.8s,MS4.0						
GRF	**Grafenberg Arr**	**67.55**	**15**	*e*P	**P**	**02 33 08.8**	**+0.3**
GRF				*e*S	S	02 42 17.3	+18
GRF				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
GRF				MLR	MLR		
	comp=Z,100nm,21.8s,MS4.0						
PRU	**Pruhonice**	**67.65**	**13**	⇓*i*P	**P**	**02 33 09.0**	**-0.1**
PRU				*e*AP	pP	02 33 23.3	-0.7
PRU				*e*S	S	02 41 59.5	-1.4
PRU				*e*SS	SS	02 46 27.0	+3.0
PRU				LM		02 59 10.0	
WHN	**Wuhan**	**67.75**	**293**	⇑P	**P**	**02 33 09.5**	**-0.6**
WHN				AP	pP	02 33 22.6	-2.4
LANF	**Langenberg**	**67.78**	**18**	*e*P	**P**	**02 33 08.8**	**-1.2**
MEZF	**Maizieres J’vi**	**67.82**	**20**	*e*P	**P**	**02 33 09.4**	**-0.8**
OJC	**Ojcow**	**67.92**	**9**	*e*P	**P**	**02 33 10.6**	**-0.2**
OJC				*e*S	S	02 42 04.4	+0.4
OJC				LR	LR		
	comp=Z,100nm,19.5s,MS4.0						
AKASG	**Malin Array Be**	**67.92**	**3**	P	**P**	**02 33 09.6**	**-1.3**
	comp=Z,46nm,0.6s,mb5.7,baz=355,slow=6.0,SNR=18						
AKASG				pP	pP	02 33 24.2	-1.4
	comp=Z,34nm,0.7s,baz=358,slow=6.0,SNR=12						
AKASG				LR	LR	03 06 34.1	
	comp=Z,117nm,19.5s,MS4.1,baz=15,slow=39						
AKASG	**Malin Array Be**	**67.92**	**3**	P	**P**	**02 33 09.6**	**-1.2**
AKASG				*PP	pP	02 33 24.3	-1.4
AKASG				pmax	pmax		
	comp=Z,46nm,0.6s						
AKASG				pmax	pmax		
	comp=N,34nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,117nm,19.5s						
OKC	**Ostrava-Krasne**	**68.16**	**11**	⇓*e*P	**P**	**02 33 12.3**	**0.0**
OKC				*e*AP	pP	02 33 26.3	-0.9
OKC				*e*S	S	02 42 08.7	+1.8
OKC				LM		03 02 00.0	
	comp=Z,0.2nm,21.8s						
STR	**Strasbourg**	**68.16**	**18**	*e*P	**P**	**02 33 10.0**	**-2.3**
MORC	**Moravsky Berou**	**68.16**	**11**	*e*P	**P**	**02 33 11.9**	**-0.4**
	comp=Z,40nm,1.1s,mb5.4						
THEF	**They Montfort**	**68.23**	**19**	*e*P	**P**	**02 33 11.4**	**-1.4**
CDF	**Champ du Feu**	**68.25**	**19**	*e*P	**P**	**02 33 12.2**	**-0.7**
	comp=Z,58nm,1.3s,mb5.2						
WLS	**Welschbruch**	**68.27**	**18**	*e*P	**P**	**02 33 12.5**	**-0.5**
WET	**Wettzell**	**68.30**	**14**	*e*P	**P**	**02 33 13.6**	**+0.4**
WET				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
WET	**Wettzell**	**68.30**	**14**	*e*P	**P**	**02 33 13.6**	**+0.4**
	comp=Z,52nm,1.2s,mb5.4						
KHC	**Kasperske Hory**	**68.39**	**14**	⇓*e*P	**P**	**02 33 14.0**	**+0.2**
KHC				*e*AP	pP	02 33 28.3	-0.3
KHC				*e*S	S	02 42 15.9	+6.2
KHC				*e*		02 46 25.7	
KHC				LM		02 59 30.0	
	comp=Z,0.2nm,16.0s						
KHC	**Kasperske Hory**	**68.39**	**14**	⇓*e*P	**P**	**02 33 14.0**	**+0.2**
KHC				*e*	pP	02 33 28.3	-0.3
KHC				*e*S	S	02 42 15.9	+6.2
KHC				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ECH	**Echery**	**68.43**	**19**	*e*P	**P**	**02 33 12.5**	**-1.5**
BFO	**Black Forest**	**68.49**	**18**	*e*P	**P**	**02 33 14.1**	**-0.3**
BFO				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
BFO	**Black Forest**	**68.49**	**18**	*e*P	**P**	**02 33 14.1**	**-0.3**
	comp=Z,31nm,1.4s,mb5.2						
HAU	**Haudompre**	**68.51**	**19**	*e*P	**P**	**02 33 13.5**	**-1.0**
	comp=Z,23nm,0.9s,mb4.8						
HAU				*e*R			
	comp=Z,123nm,19.5s						
HYF	**Humbligny**	**68.60**	**22**	*e*P	**P**	**02 33 14.3**	**-0.8**
LVV	**L’vov**	**68.60**	**7**	*e*P	**P**	**02 33 15.0**	**0.0**
LVV				*e*S	S	02 42 07.0	-5.2
GEC2	**GERESS Array S**	**68.69**	**14**	*e*P	**P**	**02 33 15.8**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
GEC2	**GERESS Array S**	**68.69**	**14**	*e*P	**P**	**02 33 15.8**	**+0.2**
	comp=Z,27nm,1.2s,mb5.0						
GERES	**GERESS Array B**	**68.69**	**14**	P	**P**	**02 33 15.7**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8,slow=4.0,SNR=54						
GERES	**GERESS Array B**	**68.69**	**14**	P	**P**	**02 33 15.7**	**+0.1**
GERES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KWP	**Kalwaria**	**68.71**	**8**	*e*P	**P**	**02 33 15.8**	**+0.1**
MFF	**Saint Martin d**	**68.72**	**24**	*e*P	**P**	**02 33 14.9**	**-0.9**
	comp=Z,15nm,0.7s,mb4.8						
HINF	**Hinteralfeld**	**68.77**	**19**	*e*P	**P**	**02 33 15.0**	**-1.1**
	comp=Z,12nm,0.7s,mb4.7						
MOF	**Molkenrain**	**68.78**	**19**	*e*P	**P**	**02 33 16.3**	**+0.1**
SPAK	**Spaichingen**	**68.78**	**18**	*e*P	**P**	**02 33 15.3**	**-0.9**
LOR	**Lormes**	**68.81**	**21**	*e*P	**P**	**02 33 15.4**	**-1.0**
	comp=Z,39nm,1.0s,mb5.0						
LOR				*e*R			
	comp=Z,117nm,19.8s						
SSF	**Saint Saulge**	**68.95**	**22**	*e*P	**P**	**02 33 16.3**	**-1.0**
	comp=Z,66nm,1.2s,mb5.2						
LIKS	**Likavka**	**69.02**	**10**	*e*P	**P**	**02 33 18.6**	**+0.9**
LIKS				*e*pP	pP	02 33 29.4	-3.2
FUR	**Furstenfeldbru**	**69.06**	**16**	*e*P	**P**	**02 33 18.0**	**+0.1**
FUR				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.5						
FUR	**Furstenfeldbru**	**69.06**	**16**	*e*P	**P**	**02 33 18.0**	**+0.1**
	comp=Z,61nm,1.0s,mb5.5						
AVF	**Avril sur Loir**	**69.19**	**22**	*e*P	**P**	**02 33 17.5**	**-1.2**
	comp=Z,20nm,0.8s,mb4.8						
LOMF	**Lomont**	**69.22**	**19**	*e*P	**P**	**02 33 18.0**	**-0.9**
MGP	**Maguayo**	**69.27**	**90**	*e*P	**P**	**02 33 18.0**	**-1.7**
BGF	**Bois d’Agland**	**69.32**	**22**	*e*P	**P**	**02 33 18.4**	**-1.2**
	comp=Z,30nm,0.8s,mb5.0						
SMOL	**Smolenice**	**69.40**	**11**	*e*P	**P**	**02 33 20.6**	**+0.6**
SMOL				*e*		02 33 42.0	
SMF	**Signal de Mont**	**69.41**	**21**	*e*P	**P**	**02 33 18.8**	**-1.3**
	comp=Z,40nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**69.47**	**23**	*e*P	**P**	**02 33 19.2**	**-1.2**
	comp=Z,48nm,1.1s,mb5.0						
VYHS	**Vyhne**	**69.55**	**10**	*e*P	**P**	**02 33 20.9**	**0.0**
VYHS				*e*		02 33 27.4	
VYHS				*e*	pP	02 33 35.4	-0.4
VYHS				*e*		02 33 44.3	
VYHS	**Vyhne**	**69.55**	**10**	*e*P	**P**	**02 33 20.9**	**0.0**
VYHS				*e**SP	sP	02 33 35.4	-6.1
VYHS				*e*		02 33 44.3	
SJG	**San Juan**	**69.63**	**90**	LR	LR	03 05 02.6	
	comp=Z,438nm,20.7s,MS4.7,baz=271,slow=37						
SJG	**San Juan**	**69.63**	**90**	*e*P	**P**	**02 33 19.6**	**-2.4**
	comp=Z,20nm,0.7s,mb5.2						
SJG				*e*pP	pP	02 33 32.8	-4.0
ZST	**Bratislava**	**69.69**	**12**	*e*P	**P**	**02 33 22.1**	**+0.3**
ZST				*e*		02 33 28.5	
ZST				*e*		02 33 43.2	
ZST	**Bratislava**	**69.69**	**12**	*e*P	**P**	**02 33 22.1**	**+0.3**
ZST				*e*		02 33 43.2	
KECS	**Kecovo**	**69.69**	**9**	*e*P	**P**	**02 33 22.1**	**+0.3**
KECS				*e*		02 33 27.6	
KECS				*e*pP	pP	02 33 37.8	+1.1
KECS	**Kecovo**	**69.69**	**9**	*e*P	**P**	**02 33 22.1**	**+0.3**
KECS				*e**SP	sP	02 33 37.8	-4.6
DAVA	**Damuels**	**69.73**	**17**	⇓*i*P	**P**	**02 33 22.2**	**+0.1**
	comp=Z,50nm,1.6s,mb5.2						
MOA	**Molln**	**69.73**	**14**	⇓*i*P	**P**	**02 33 21.9**	**-0.1**
	comp=Z,56nm,1.7s,mb5.2						
CABF	**La Chapelle**	**69.82**	**20**	*e*P	**P**	**02 33 22.0**	**-0.6**
	comp=Z,18nm,0.7s,mb4.8						
MOTA	**Moosalm**	**69.84**	**16**	⇓*i*P	**P**	**02 33 22.8**	**+0.1**
	comp=Z,31nm,1.2s,mb5.1						
AGO	**Saint Agoulin**	**69.86**	**22**	*e*P	**P**	**02 33 23.2**	**+0.4**
WATA	**Walderalm**	**69.91**	**16**	⇑*i*P	**P**	**02 33 23.5**	**+0.4**
	comp=Z,52nm,1.2s,mb5.3						
MTP	**Monte Pirata**	**69.93**	**89**	*e*P	**P**	**02 33 21.7**	**-2.0**
SQTA	**Sankt Quirin**	**69.98**	**16**	⇓*i*P	**P**	**02 33 24.0**	**+0.5**

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          comp=Z,74nm,1.2s,mb5.5
WTTA Wattenberg        69.99  16⇑iP     P        02 33 24.2 +0.6
          comp=Z,138nm,1.4s,mb5.7
PLDF La Plantade       70.03  22 eP     P        02 33 23.9  0.0
ENH  Enshi             70.09 297 eP     P        02 33 23.4 -1.1
          comp=Z,122nm,1.5s,mb5.6
SRO  Srobarova         70.18  11 eP     P        02 33 25.8 +1.0
PSZ  Piszkesteto       70.21  10⇓isP    P        02 33 25.6 +0.7
RJF  Les Rejaudoux     70.28  23 eP     P        02 33 24.3 -1.1
          comp=Z,15nm,0.7s,mb4.7
RJF                              eR
          comp=Z,286nm,22.8s
USP  Ospenovka         70.30 329  P     P        02 33 25.6  0.0
          SNR=8.6
EPON Pontenova         70.30  30  P     P        02 33 24.7 -0.9
          comp=Z,9.8nm,0.6s,mb4.9
TKM2 Tokmak 2          70.36 329  P     P        02 33 25.9  0.0
          SNR=12
KBA  Koelnbreinsper    70.39  15⇓iP     P        02 33 26.9 +0.9
          comp=Z,99nm,1.1s,mb5.7
ARSA Arzberg           70.46  13⇓iP     P        02 33 26.7 +0.2
          comp=Z,33nm,1.2s,mb5.1
LFF  La Frestale       70.49  24 eP     P        02 33 25.9 -0.8
          comp=Z,46nm,0.5s,mb5.3
CHMS Chumysh           70.49 329  P     P        02 33 26.8 +0.1
          SNR=10.0
BRMO Bormio            70.60  17 eP     P        02 33 28.0 +0.7
FRU  Bishkek           70.68 329 eP     P        02 33 28.5 +0.6
FRU                               pmax  pmax
          comp=E,50µm,1.2s
CAF  Calviac           70.75  23 eP     P        02 33 27.2 -1.1
          comp=E,16nm,0.8s,mb4.7
MCGN Macugnaga         70.76  19 eP     P        02 33 29.4 +1.1
FVI  Forni Avoltri     70.79  15 eP     P        02 33 28.4 -0.1
AAK  Ala-Archa         70.90 329  P     P        02 33 29.4 +0.2
          SNR=8.2
AAK  Ala-Archa         70.90 329 eP     P        02 33 28.3 -0.9
          comp=E,26nm,1.3s,mb5.0
AAK                               LR    LR
          comp=Z,96nm,21.0s,MS4.0
LPL  La Plagne         70.99  20 eP     P        02 33 30.0 +0.3
          comp=Z,19nm,0.8s,mb4.8
LPG  La Plagne         71.01  20 eP     P        02 33 30.2 +0.4
          comp=Z,98nm,1.4s,mb5.2
EZAM Zamans            71.03  32  P     P        02 33 30.4 +0.4
          comp=Z,34nm,0.8s,mb5.3
EKS2 Erkin-Say         71.05 330  P     P        02 33 30.6 +0.5
          SNR=18
ORO  Oropa             71.08  19 eP     P        02 33 31.3 +1.0
OBKA Obir              71.09  14⇓iP     P        02 33 30.7 +0.4
          comp=Z,111nm,1.1s,mb5.7
LSD  Ceresole Reale    71.12  19  P     P        02 33 31.5 +1.1
TRAV                   71.16  19  P     P        02 33 31.2 +0.6
CTI  Castel Tesino     71.19  16 eP     P        02 33 30.4 -0.4
GROS Grobnik           71.24  13 eP     P        02 33 31.1  0.0
CADS Cadrg             71.27  14 eP     P        02 33 30.6 -0.8
VIVF Saint-Julien-l    71.29  21 eP     P        02 33 30.7 -0.8
          comp=Z,28nm,0.9s,mb4.9
KKAR Karatay Array     71.38 332  P     P        02 33 31.5 -0.6
KKAR                              pmax  pmax
          comp=Z,7.0nm,0.7s,mb4.7
RSP  Reno Superiore    71.43  19  P     P        02 33 32.8 +0.4
BNI  Bardonecchia      71.44  20 eP     P        02 33 32.7 +0.3
          comp=Z,28nm,1.1s,mb5.1
ORIF Oris-en-Rattie    71.44  20 eP     P        02 33 31.8 -0.6
          comp=Z,9.5nm,0.6s,mb4.6
ORIF                             eR
          comp=Z,203nm,21.8s
ELOB Lobios            71.45  32  P     P        02 33 32.7 +0.1
          comp=Z,17nm,0.8s,mb5.0
VOY  Vojsko            71.48  14 eP     P        02 33 31.8 -0.8
VOY                              e      pP       02 33 50.6 +3.0
FENE Fenestrelle       71.52  19  P     P        02 33 33.6 +0.8
LJU  Ljubljana         71.54  14 eP     P        02 33 32.4 -0.6
AML  Almayashu         71.57 330  P     P        02 33 34.1 +0.9
          SNR=19
RRL  Cesana Torines    71.58  20  P     P        02 33 34.5 +1.3
KIS  Kishinev          71.61   3⇓iP     P        02 33 32.0 -1.4
KIS                              e      pP       02 33 46.0 -2.4
KIS                              e               02 33 52.0
KIS                              i               02 33 55.5
KIS                              e               02 43 10.0
KIS                               pmax  pmax
          comp=Z,140nm,1.3s,mb5.7
KIS                               MLR   MLR
          comp=Z,200nm,18.0s,MS4.4
EALK Alkurruntz        71.68  26  P     P        02 33 33.4 -0.5
MBDF Montbardon        71.77  20 eP     P        02 33 34.6 +0.2
          comp=Z,27nm,0.8s,mb4.9
PBRG Braganca          71.84  31 eP     P        02 33 35.0 +0.2
          comp=Z,39nm,1.6s,mb5.1
SJPF Ste Jean          71.84  26 eP     P        02 33 34.7 -0.1
          comp=Z,12nm,0.8s,mb4.5
RHK1 Bakonya           71.86  11⇑eP     P        02 33 35.3 +0.4
LASF Ste Croix         71.90  22 eP     P        02 33 34.7 -0.5
          comp=Z,25nm,1.0s,mb4.8
CD2  Chengdu           71.92 302  P     P        02 33 35.3 -0.2
CD2                               AMB   AMB
          comp=Z,90nm,0.8s,mb5.8
PZZ  Prazzo            72.04  20  P     P        02 33 36.9 +0.9
PVRL Vila Real         72.10  32 eP     P        02 33 36.8 +0.4
          comp=Z,40nm,1.1s,mb5.3
ETSF Etsaut            72.19  26 eP     P        02 33 36.8 -0.1
          comp=Z,27nm,0.8s,mb5.0
EPF  Esparros          72.24  25 eP     P        02 33 35.9 -1.3
          comp=Z,24nm,1.0s,mb4.8
SMRF Simiane la Rot    72.30  21 eP     P        02 33 37.6 +0.1
          comp=Z,99nm,1.3s,mb5.3
MTLF Montolieu         72.31  23 eP     P        02 33 36.8 -0.8
          comp=Z,22nm,0.8s,mb4.8
STV2 Anna di Valdie    72.33  19  P     P        02 33 37.1 -0.5
STV  Sta Anna Valdi    72.33  19  P     P        02 33 37.2 -0.4
ENR  Entracque         72.36  19  P     P        02 33 37.4 -0.5
ROB  Roburent          72.36  19  P     P        02 33 37.2 -0.7
FIN  Finale Ligure     72.50  19  P     P        02 33 37.8 -0.8
GRAM                   72.50  17  P     P        02 33 38.5 -0.1
TOUF Mont Tournerai    72.54  20 eP     P        02 33 40.0 +1.2
MONE Monesi            72.55  19  P     P        02 33 38.5 -0.3
CODM                   72.56  18  P     P        02 33 39.1 +0.1
RORO                   72.57  19  P     P        02 33 38.0 -1.0
PVIS Viseu             72.58  32 eP     P        02 33 39.5 +0.4
          comp=Z,29nm,0.9s,mb5.2
AUTN L'Aution          72.58  19 eP     P        02 33 38.4 -0.7
AURF Auriere           72.67  20 eP     P        02 33 40.5 +0.9
BACM                   72.71  17  P     P        02 33 40.1 +0.3
GSCL Gusciola          72.71  17 eP     P        02 33 40.9 +1.1
SBF  Sospel            72.72  19 eP     P        02 33 39.5 -0.3
          comp=Z,100nm,1.0s,mb5.4
CALN Calern            72.73  20 eP     P        02 33 39.3 -0.7
IMI  Imperia           72.74  19  P     P        02 33 39.7 -0.3
NEGI Negi              72.77  19  P     P        02 33 39.6 -0.6
REVF Revere            72.82  20 eP     P        02 33 41.1 +0.6
VINC Vinca             72.85  17  P     P        02 33 39.7 -1.0
FRF  La Foret Royal    72.88  20 eP     P        02 33 40.6 -0.2
          comp=Z,82nm,1.1s,mb5.3
MTE  Manteigas         72.97  32 eP     P        02 33 42.0 +0.6
          comp=Z,59nm,1.0s,mb5.5
MTE                              eS     S        02 43 05.8 +2.9
MTE  Manteigas         72.97  32 eP     P        02 33 40.7 -0.8
          comp=Z,28nm,0.8s,mb5.2
BDI  Bagni Di Lucca    72.99  17 eP     P        02 33 42.2 +0.8
LMR  La Mourre         73.08  20 eP     P        02 33 41.9 -0.1
          comp=Z,147nm,1.2s,mb5.5
SEI  Scarperia         73.11  17 eP     P        02 33 43.6 +1.4
MAIM                   73.12  17  P     P        02 33 40.9 -1.3
VMG  Vicchio           73.22  16 eP     P        02 33 44.0 +1.2
SFI  Santa Sofia       73.32  16 eP     P        02 33 44.5 +1.1
PGD  Poggio Sodo       73.33  16 eP     P        02 33 45.2 +1.7
GOF  Gofitskoye        73.35 353⇑iP     P        02 33 43.5  0.0
GOF                               pmax  pmax
          comp=Z,80nm,1.4s,mb5.5
GOF                               MLR   MLR
          comp=Z,1µm,16.0s,MS5.2
RSM  Repubblica di     73.37  16 eP     P        02 33 44.6 +0.9
PTOM Tomar             73.48  33 eP     P        02 33 44.6 +0.1
          comp=Z,28nm,1.2s,mb5.1
PCBR Castelo Branco    73.51  32 eP     P        02 33 44.8 +0.2
          comp=Z,18nm,0.7s,mb5.1
CSNT Castellina Chi    73.67  17 eP     P        02 33 45.2 -0.2
SIM  Simferopol'       73.73 360⇓iP     P        02 33 46.0 +0.2
SIM                              i S    S        02 43 16.0 +4.7
SIM                               pmax  pmax
          comp=Z,20nm,0.9s,mb5.0
SIM                               MLR   MLR
          comp=Z,200nm,20.1s,MS4.4
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ETOR Torete            73.86  27  P     P        02 33 47.4 +0.8
          comp=Z,4.8nm,0.7s,mb4.5
GRFL Gerfalco          73.94  17 eP     P        02 33 47.1 +0.1
PLOU Loures            73.98  33 eP     P        02 33 47.4  0.0
          comp=Z,85nm,0.9s,mb5.7
CING Cingoli           74.01  15 eP     P        02 33 47.8 +0.3
PGF  Pioggiola         74.24  19 eP     P        02 33 48.4 -0.4
          comp=Z,107nm,1.2s,mb5.4
ASS  Assisi            74.25  16 eP     P        02 33 49.0 +0.1
BOLS Boljevac          74.43   9⇓iP     P        02 33 49.4 -0.5
ESDC Sonseca Array     74.52  29  P     P        02 33 51.0 +0.5
          comp=Z,10nm,0.6s,mb4.9,baz=342,slow=5.5,SNR=42
ESDC                              LR    LR       03 06 39.1
          comp=Z,128nm,21.2s,MS4.2,baz=355,slow=36
ESDC Sonseca Array     74.52  29  P     P        02 33 51.1 +0.6
          comp=Z,9.3nm,0.6s,mb4.9
ESLA Sonseca Array     74.52  29 eP     P        02 33 50.6 +0.2
          comp=Z,23nm,1.4s,mb4.9
ESLA                              LR    LR
          comp=Z,1µm,21.0s,MS5.3
MOE  Montemor          74.53  33 eP     P        02 33 51.2 +0.6
NRCA Norcia            74.54  15 eP     P        02 33 50.9 +0.4
GYA  Guiyang           74.62 297⇓iP     P        02 33 51.0 -0.3
GYA                               AP    pP       02 34 05.4 -0.9
GYA                               XP    sP       02 34 09.8 -2.3
GYA                               PP    PP       02 36 38.6 -1.9
GYA                               AMB   AMB
          comp=Z,40nm,0.7s,mb5.5
GYA                               AMB   AMB
          comp=Z,150nm,4.6s
GYA                               LR    LR
          comp=N,210nm,17.4s,MS4.6
GYA                               LR    LR
          comp=E,180nm,16.8s,MS4.6
GYA                               LR    LR
          comp=Z,280nm,18.0s,MS4.6
EBAD Badajoz           74.65  32  P     P        02 33 51.5 +0.2
          comp=Z,18nm,0.7s,mb5.1
PLE  Pljevlja          74.72  11⇓iP     P        02 33 52.5 +1.0
UPM  Unac-Piva         74.81  11⇓iP     P        02 33 51.8 -0.2
MNS  Montasola         74.92  16 eP     P        02 33 52.3 -0.4
SOC  Sochi             74.98 355 i P    P        02 33 53.7 +0.7
SOC                              e      pP       02 34 09.8 +1.8
SOC                              e               02 36 42.8
SOC                              eS     S        02 43 25.4 +0.1
SOC                              ePS             02 43 48.3
SOC                              e               02 43 59.7
SOC                              eSSS   SSS      02 51 29.8 -1.2
SOC                               pmax  pmax
          comp=Z,50nm,0.7s,mb5.5
SOC                               pmax  pmax
          comp=N,25nm,0.8s
SOC                               pmax  pmax
          comp=E,37nm,0.9s
SOC                               MLR   MLR
          comp=Z,303nm,23.0s,MS4.5
SOC                               MLR   MLR
          comp=N,212nm,26.0s
SOC                               MLR   MLR
          comp=E,70nm,20.0s
AQU  L'Aquila          75.05  15 eP     P        02 33 53.2 -0.2
          comp=E,16nm,0.8s,mb5.0
BRY  Bratogost         75.07  11⇓iP     P        02 33 53.4 -0.2
PBEJ Beja              75.12  33 eP     P        02 33 54.3 +0.3
          comp=E,23nm,1.1s,mb5.0
NKY  Niksic            75.20  11⇓iP     P        02 33 53.4 -1.0
IVA  Berane            75.22  10⇓iP     P        02 33 54.2 -0.2
PTEO Sao Teotonio      75.36  34 eP     P        02 33 55.5 +0.2
BARS Barje             75.43   9⇓iP     P        02 33 54.7 -0.9
SDV  Santo Domingo     75.50  98  P     P        02 33 56.2 -0.4
SDV  Santo Domingo     75.50  98 eP     P        02 33 56.0 -0.5
          comp=E,27nm,0.8s,mb5.2
PVY  Plav              75.50  10⇓iP     P        02 33 55.6 -0.4
HCY  Herceg Novi       75.52  11⇓iP     P        02 33 55.4 -0.7
TTG  Podgorica         75.61  11⇓iP     P        02 33 55.8 -0.8
EMIN Mina Concepcio    75.67  32  P     P        02 33 58.0 +0.9
          comp=E,10.0nm,0.8s,mb4.8
EGRO El Granado        75.69  33  P     P        02 33 57.7 +0.5
          comp=E,12nm,0.6s,mb5.0
BUM  Brajici-Budva     75.70  11⇓iP     P        02 33 56.9 -0.3
PALC Alcoutim          75.76  33 eP     P        02 33 57.2 -0.4
CII  Carovilli         75.78  15 eP     P        02 33 58.5 +0.8
EADA Adamuz            75.81  30  P     P        02 33 59.1 +1.2
          comp=E,5.8nm,0.6s,mb4.7
EVIA Vianos            75.84  28  P     P        02 33 59.6 +1.5
          comp=E,27nm,0.9s,mb5.2
ULC  Ulcinj            76.07  11⇓iP     P        02 33 58.7 -0.5
SKO  Skopje            76.24   9 i P    P        02 34 00.7 +0.4
          comp=Z,0.0nm,0.9s
MSC  Monte Massico     76.26  15 eP     P        02 33 59.7 -0.7
ESPR Espera            76.73  32  P     P        02 34 04.4 +1.3
          comp=Z,17nm,0.9s,mb5.0
ELOJ Sierra Loja       76.88  30  P     P        02 34 05.7 +1.8
          comp=Z,19nm,1.2s,mb4.9
EMUR La Murta          76.89  28  P     P        02 34 05.3 +1.3
          comp=Z,14nm,0.9s,mb4.9
ERON Agron             77.09  30  P     P        02 34 06.7 +1.6
          comp=Z,13nm,0.8s,mb4.9
KNT  Kendrikon         77.15   8 eP     P        02 34 05.5  0.0
SRS  Serrai            77.24   8 eP     P        02 34 05.6 -0.3
EMIJ Mijas             77.29  31  P     P        02 34 07.5 +1.3
ROSC El Rosal          77.30 104  P     P        02 34 07.2 +0.4
          comp=Z,24nm,0.7s,mb5.3,baz=329,slow=23,SNR=16
ROSC                              LR    LR       03 08 33.7
          comp=Z,224nm,20.1s,MS4.5,baz=38,slow=36
GRG  Griva             77.32   9 eP     P        02 34 06.5 +0.1
FNA  Florina           77.42   9 eP     P        02 34 06.5 -0.4
KMI  Kunming           77.44 300⇓iP     P        02 34 07.0 -0.3
KMI                               AP    pP       02 34 20.3 -2.1
KMI                               XP    sP       02 34 24.6 -3.6
KMI                               PP    PP       02 37 06.3 +2.4
KMI                               S     S        02 43 57.1 +4.6
KMI                               SS    SS       02 48 50.8 -4.2
KMI                               AMB   AMB
          comp=Z,24nm,1.2s,mb5.0
KMI                               AMB   AMB
          comp=Z,148nm,4.3s
KMI                               LR    LR
          comp=N,308nm,27.1s,MS4.6
KMI                               LR    LR
          comp=E,270nm,30.4s,MS4.6
KMI                               LR    LR
          comp=Z,288nm,28.2s,MS4.4
MGR  Morigerati        77.49  14 eP     P        02 34 06.9 -0.4
SOH  Sokhos            77.52   8 eP     P        02 34 07.6 +0.2
ALN  Alexandroupoli    77.60   6 eP     P        02 34 08.3 +0.4
ORI  Oriolo Calabro    77.67  13 eP     P        02 34 09.2 +0.9
THE  Thessaloniki      77.68   8 eP     P        02 34 08.2 -0.2
LSA  Lhasa             77.83 311 eP     P        02 34 10.9 +1.5
          comp=Z,42nm,0.7s,mb5.5
SART Tekirdag          77.86   5 i P    P        02 34 06.3 -3.0
OUR  Ouranopolis       78.05   7 eP     P        02 34 10.1 -0.2
CTKT Corum             78.05 359 i P    P        02 34 10.2 -0.2
GNI  Garni             78.12 351  P     P        02 34 12.5 +1.7
          comp=Z,14nm,0.9s,mb4.9,baz=312,slow=2.1,SNR=12
GNI  Garni             78.12 351  P     P        02 34 12.5 +1.7
GNI                               pmax  pmax
          comp=Z,14nm,0.9s
GNI  Garni             78.12 351  P     P        02 34 12.5 +1.7
LIT  Litokhoron        78.18   9 eP     P        02 34 10.6 -0.4
ELDT Eldivan           78.19   0 i P    P        02 34 10.2 -1.0
MEV  Metsovon          78.40  10 eP     P        02 34 13.1 +0.8
KELT Kelkit            78.42 356 i P    P        02 34 13.0 +0.6
IGT  Igoumenitsa       78.57  10 eP     P        02 34 13.1 -0.2
TIP  Timpagrande       78.58  13 eP     P        02 34 12.7 -0.6
GRI  Girifalco         78.89  14 eP     P        02 34 14.4 -0.6
BRTR Keskin Array B    78.95 360  P     P        02 34 15.9 +0.6
          comp=Z,25nm,1.0s,mb5.1,baz=13,slow=2.7,SNR=65
BRTR Keskin Array B    78.95 360  P     P        02 34 15.9 +0.6
BRTR                              pmax  pmax
          comp=Z,25nm,1.0s
XOR  Xorichti          78.96   8 eP     P        02 34 14.4 -1.0
SLNA Salina            78.96  15 eP     P        02 34 15.0 -0.4
ESKT Eskisehir         79.13   2 i P    P        02 34 15.9 -0.4
ERC  Erice             79.19  17 eP     P        02 34 17.9 +1.3
AGG  Agios Georgios    79.24   9 eP     P        02 34 16.0 -0.9
OTAV Otavalo           79.49 109 eP     P        02 34 20.4 +1.6
          comp=Z,8.3nm,0.8s,mb4.7
SOI  Samo              79.59  14 eP     P        02 34 17.1 -1.8
TVAN Van               79.83 352 i P    P        02 34 19.7 -0.4
MALT Malatya           80.28 356 eP     P        02 34 23.5 +0.9
          comp=Z,23nm,1.0s,mb5.1
KAHT Ahir Dag          81.01 357 i P    P        02 34 26.4 +0.1
SHL  Shillong          81.31 309⇓eP     P        02 34 26.0 -2.2
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DDI  Dehra Dun         81.53 322 eP     P        02 34 26.7 -2.6
KKN  Kakani            81.61 315 eP     P        02 34 30.3 +0.5
          comp=Z,39nm,0.9s,mb5.3
GKN  Gorkha            81.63 316 eP     P        02 34 30.3 +0.5
          comp=Z,107nm,1.1s,mb5.7
PKI  Pulchoki          81.77 315 eP     P        02 34 31.1 +0.5
          comp=Z,85nm,1.3s,mb5.5
DMN  Daman             81.84 315 eP     P        02 34 31.7 +0.8
          comp=Z,54nm,0.9s,mb5.5
COBT Iskenderun        82.13 358 i P    P        02 34 32.2  0.0
KOLN Koldanda          82.19 317 eP     P        02 34 33.1 +0.4
          comp=Z,51nm,0.9s,mb5.4
IDI  Anoyia            83.12   7  P     P        02 34 36.2 -1.1
          comp=Z,15nm,0.8s,mb5.1,baz=325,slow=9.6,SNR=6.4
RAR  Rarotonga         83.29 193  LR    LR       03 02 21.5
          comp=Z,245nm,21.6s,MS4.5,baz=342,slow=29
CSS  Prodhromos        83.71   0 eP     P        02 34 40.2  0.0
          comp=Z,19nm,0.8s,mb5.3
NANT Nan               83.91 299 ⇓P     P        02 34 39.0 -2.6
CHG  Chiang Mai        84.63 300 ⇓P     P        02 34 44.9 -0.3
          comp=Z,22nm,0.9s,mb5.3
CM31 Chiang Mai Arr    84.95 300 eP     P        02 34 47.1 +0.4
          comp=Z,24nm,0.7s,mb5.4
CMAR Chiang Mai Arr    84.95 300  P     P        02 34 47.1 +0.3
          comp=Z,32nm,0.8s,mb5.5,baz=5.0,slow=6.0,SNR=144
CMAR                              pP    pP       02 35 01.1 -1.0
          comp=Z,20nm,0.8s,baz=10,slow=3.0,SNR=11
CMAR Chiang Mai Arr    84.95 300  P     P        02 34 47.1 +0.3
CMAR                              *PP   pP       02 35 01.1 -1.0
CMAR                              pmax  pmax
          comp=Z,32nm,0.8s
CMAR                              pmax  pmax
          comp=N,20nm,0.8s
KKTK Khon Kaen         85.21 296  P     P        02 34 48.0 -0.1
HRI  Mount Hermon      85.38 358  P     P        02 34 49.8 +1.2
KSHT Keshet            85.66 358  P     P        02 34 51.1 +1.1
BDT  Bhumibol Dam      86.01 299  P     P        02 34 52.0  0.0
MMLI Mount Malkishu    86.21 358  P     P        02 34 53.6 +0.9
MMLI Mount Malkishu    86.21 358 ⇓P     P        02 34 53.6 +0.9
HMDT Nahal Hemdat      86.39 358  P     P        02 34 54.4 +0.8
HMDT Nahal Hemdat      86.39 358 ⇓P     P        02 34 54.4 +0.8
ASF  Jabal al Asfar    86.45 357  P     P        02 34 55.2 +1.3
          comp=N,11nm,0.8s,mb5.2,baz=246,slow=2.8,SNR=19
NST  Nakhon Sawan      86.94 298  P     P        02 34 57.0 +0.4
DRGI Dragot            87.06 358  P     P        02 34 57.6 +0.8
MKRJ Makawir           87.09 358  P     P        02 34 58.0 +1.0
MZDA Masada            87.34 358  P     P        02 34 59.0 +0.8
MZDA Masada            87.34 358 ⇓P     P        02 34 59.0 +0.8
PMG  Port Moresby      87.38 245 eP     P        02 34 58.4 -0.4
          comp=N,18nm,0.8s,mb5.3
PMG                              epP    pP       02 35 11.1 -3.1
KZIT Kziot             87.75 359  P     P        02 35 00.8 +0.6
KZIT Kziot             87.75 359 ⇓P     P        02 35 00.8 +0.6
ZFRI Zfri              88.09 359  P     P        02 35 02.6 +0.8
ZFRI Zfri              88.09 359 ⇓P     P        02 35 02.6 +0.8
PRNI Paran             88.30 359  P     P        02 35 03.8 +1.0
PRNI Paran             88.30 359 ⇓P     P        02 35 03.8 +1.0
KMTI Karmit            88.55 359  P     P        02 35 04.8 +0.8
KMTI Karmit            88.55 359 ⇓P     P        02 35 04.8 +0.8
MBH  Mount Berech      88.86 359  P     P        02 35 06.3 +0.8
MBH  Mount Berech      88.86 359 ⇓P     P        02 35 06.3 +0.8
EIL  Elat              88.98 359  P     P        02 35 06.7 +0.6
EIL  Elat              88.98 359 ⇓P     P        02 35 06.7 +0.6
JMOS Jabal al Moall    89.47 359  P     P        02 35 09.9 +1.5
HAQS Haql              89.59 359  P     P        02 35 10.2 +1.2
JMQS Jabal Moqyreh     89.75 358  P     P        02 35 11.0 +1.3
BDAS Al Bad'           90.21 359  P     P        02 35 13.0 +1.2
TBKS Tabuk             90.39 357  P     P        02 35 14.3 +1.6
NNA  Nana              91.07 113 eP     P        02 35 14.7 -1.5
          comp=N,17nm,0.8s,mb5.4
ARSS Ar Rass           92.41 351  P     P        02 35 23.2 +1.0
MZLS Mizel             94.09 349  P     P        02 35 31.0 +1.2
AFFS 'Afif             94.36 351  P     P        02 35 32.2 +1.2
SAML Samuel            94.62 100 eP     P        02 35 30.5 -2.0
          comp=N,26nm,0.9s,mb5.7
LPAZ La Paz            98.75 108  LR    LR       03 25 16.2
          comp=N,135nm,19.4s,MS4.5,baz=130,slow=38
LPAZ La Paz            98.75 108  PFAKE          02 36 00.0 +8.9
LPAZ                              LR    LR
          comp=Z,158nm,20.0s,MS4.5
WRA  Warramunga Arr   102.36 251  PKiKP          02 40 29.2
          comp=Z,1.1nm,0.9s,baz=30,slow=1.7,SNR=4.8
LVC  Limon Verde      103.94 112  Pdiff Pdif     02 36 13.4 -0.8
          comp=Z,2.2nm,0.7s,baz=305,slow=7.8,SNR=4.4
FITZ Fitzroy Crossi   104.77 259  pPdiff         02 36 32.2
          comp=Z,4.9nm,1.0s,baz=356,slow=11,SNR=4.8
RCBR Riachuelo        104.78  74  PFAKE          02 36 30.0  +12
RCBR                              LR    LR
          comp=Z,153nm,19.0s,MS4.6
DBIC Dimbokro         105.65  40  PFAKE          02 40 50.0
DBIC                              LR    LR
          comp=Z,182nm,22.0s,MS4.6
ASAR Alice Springs    105.80 250  pPdiff         02 36 37.2
          comp=Z,0.9nm,0.7s,baz=45,slow=5.1,SNR=7.3
ASAR                              PKiKP          02 40 33.5
          comp=Z,1.1nm,0.8s,baz=26,slow=1.3,SNR=7.1
ASAR                              PKKPbc         02 51 55.9
          comp=Z,0.9nm,0.9s,baz=210,slow=1.9,SNR=6.0
ASAR                              PKKPab         02 52 10.5
          comp=Z,1.2nm,0.9s,baz=212,slow=2.2,SNR=6.2
STKA Stephens Creek   109.65 239  PKiKP          02 40 40.9
          comp=Z,1.7nm,0.7s,baz=359,slow=7.4,SNR=4.4
CPUP Villa Florida    112.40 104  PKiKP          02 40 46.0
          comp=Z,2.1nm,1.1s,baz=166,slow=5.4,SNR=3.2
CPUP Villa Florida    112.40 104 i PKIKP PKPdf   02 40 46.0 +0.1
CPUP                              pmax  pmax
          comp=Z,2.0nm,1.1s
PLCA Paso Flores      118.88 123  PKP   PKPdf    02 40 58.5 +0.3
          comp=Z,2.5nm,0.7s,baz=305,slow=3.6,SNR=12
PLCA                              pPKP           02 41 14.3
          comp=Z,3.5nm,0.8s,baz=264,slow=18,SNR=3.7
PLCA Paso Flores      118.88 123  PKIKP PKPdf    02 40 58.5 +0.3
PLCA                                             02 41 14.4
PLCA                              pmax  pmax
          comp=Z,3.0nm,0.7s
PLCA                              pmax  pmax
          comp=N,4.0nm,0.9s
KMBO Kilima Mbogo     119.54 356 ePKP   PKPdf    02 41 01.3 +1.1
TSUM Tsumeb           136.11  22  PKP   PKPdf    02 41 33.3 +1.8
          comp=N,4.4nm,0.6s,baz=282,slow=7.0,SNR=3.6
SBA  Scott Base       142.17 195 ePKPdf PKPdf    02 41 38.3 -2.4
VNDA Vanda            142.52 196  PKhKP          02 41 38.8
          comp=N,3.2nm,0.8s,baz=346,slow=4.3,SNR=10
VNDA Vanda            142.52 196 i PKIKP PKPdf   02 41 38.8 -2.5
VNDA                              pmax  pmax
          comp=Z,3.0nm,0.8s
VNDA Vanda            142.52 196 ePKP   PKPdf    02 41 37.8 -3.5
VNDA                              PKP   PKPdf    02 41 38.8 -2.5
LBTB Lobatse          142.96  12  PKPdf PKPdf    02 41 41.4 -2.1
CASY Casey            147.91 228 ePKP   PKPdf    02 41 53.7 +3.0
SUR  Sutherland       149.55  22  PKPbc PKPdf    02 42 00.9 +6.5
          comp=Z,27nm,0.8s,baz=254,slow=1.6,SNR=24
SUR  Sutherland       149.55  22 ePKPbc PKPdf    02 42 00.7 +6.3
QSPA South Pole Qui   151.49 180 ePKP   PKPdf    02 41 54.7 -1.3
QSPA                             ePKPbc PKPdf    02 42 02.9 +7.0
QSPA                             e               02 42 12.7
MIR  Mirnyy           154.48 233⇑ePKP2  PKPab    02 42 24.6 -1.3
MIR                               pmax  pmax
          comp=Z,35nm,1.1s
VNA3 Neumayer Olymp   160.75 138⇑iPKPdf PKPdf    02 42 04.4 -3.6
VNA3                             e               02 42 53.0
VNA1 Neumayer--Stat   161.29 136⇓iPKPdf PKPdf    02 42 05.4 -3.2
VNA1                             e               02 42 54.2
VNA2 Neumayer--Watz   161.53 137⇓iPKPdf PKPdf    02 42 07.1 -1.7
VNA2                             e               02 42 56.3
SNAA Sanae            162.79 141⇓iPKPdf PKPdf    02 42 10.4 +0.3
SNAA                             e               02 42 59.0
MAW  Mawson           166.22 232  PKP   PKPdf    02 42 13.8 +0.3
          comp=Z,8.2nm,1.1s,baz=53,slow=1.3,SNR=10
MAW                               PKPab PKPab    02 43 16.2 -0.4
          comp=Z,7.6nm,0.7s,baz=109,slow=5.3,SNR=20
MAW                               pPKPab         02 43 30.2
          comp=Z,16nm,0.8s,baz=96,slow=7.3,SNR=10.0
MAW  Mawson           166.22 232  PKIKP PKPdf    02 42 13.8 +0.3
MAW                                              02 43 16.2
MAW                               pmax  pmax
          comp=Z,8.0nm,1.1s
MAW                               pmax  pmax
          comp=Z,8.0nm,0.7s
MAW                               pmax  pmax
          comp=N,17nm,0.8s
MAW  Mawson           166.22 232 ePKP   PKPdf    02 42 13.7 +0.2
MAW                              ePKPab PKPab    02 43 15.6 -0.9
SYO  Syowa Base       172.22 196 ⇑PKPdf PKPdf    02 42 23.9 +6.8
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Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYO	Syowa Base	172.22	196	⇓PKPab	PKPab	02 43 49.0	+6.0

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*NDI **25** 02:22:43.9±3.1,31.64N×84.07E,h10^{km},MD3.6*

*IDC **25** 02:22:47.1±1.4,30.37N×83.57E,mb3.8/5,mb1 4.0/7, mb1mx3.8/20,ML4.2/2,MS3.1/1,Ms1 3.3/1,ms1mx2.4/26, Error ellipse: s-maj=41.8km s-min=21.7km az=54.0*

*BJI **25** 02:22:49.4,30.54N×83.46E,h30^{km},mB4.4,mb4.2*

*NEIC **25** 02:22:51.4±3.8,30.37N×83.36E,h33^{km}±31^{km},mb4.5/3, Error ellipse: s-maj=14.2km s-min=9.9km az=72.0*

ISC 25 02:22:52.1±0.6**,30.77N**±0.07×**84.16E**±0.05**,h33**^{km}**,n19,** σ**1**^{s}**63**/23**,mb3.9**/7**,1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	Pithoragarh	3.63	251	*e*P	P	02 23 46.8	-0.5
PTH				*e*S	S	02 24 28.8	-0.8
LGTI	Lohaghat	3.64	250	⇓*e*	P	02 23 50.3	+2.8
LGTI				*e*		02 24 38.0	
LSA	Lhasa	6.14	98	*e*P	P	02 24 29.5	+6.7
	93nm,1.1s						
SDNR	Sundarnagar	6.21	279	*e*PG	P	02 24 39.6	+16
NDI	New Delhi	6.39	253	*e*P	P	02 24 20.0	-6.3
NDI				*e*SB	Sb	02 26 01.0	+1.8
SHL	Shillong	8.56	125	*e*P	P	02 24 55.7	-0.9
SHL				*e*S	S	02 26 30.0	-3.0
GTA	Gaotai	15.43	52	*e*P	P	02 26 37.1	+8.3
GTA				AP		02 26 41.3	
GTA				XP		02 26 44.3	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	16.07	355	Pn	P	02 26 39.1	+2.1
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=24						
MKAR				Sn	S	02 29 23.4	-10
	comp=Z,0.1nm,0.3s,baz=203,slow=19,SNR=2.6						
CMAR	Chiang Mai Arr	18.16	129	P	P	02 27 04.7	+1.2
	comp=Z,0.7nm,0.3s,baz=314,slow=12,SNR=6.9						
CMAR				LR	LR	02 35 50.2	
	comp=Z,53nm,19.1s,baz=205,slow=43						
GYA	Guiyang	20.21	97	P	P	02 27 29.4	+2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KURK	Kurchatov	20.35	350	P	P	02 27 26.3	-1.9
	comp=Z,117nm,1.0s,SNR=7.4						
KURK	Kurchatov	20.35	350	*e*P	P	02 27 26.9	-1.4
	comp=Z,18nm,0.9s						
ZAL	Zalesovo	23.16	1	P	P	02 27 58.2	+2.0
	comp=Z,4.0nm,1.1s,mb3.7,baz=190,slow=7.8,SNR=6.2						
SONM	Songino Array	24.08	39	P	P	02 28 10.2	+4.9
	comp=Z,2.0nm,0.7s,mb3.7,baz=229,slow=9.5,SNR=14						
ZRNK	Zerenda	24.77	338	*e*P	P	02 28 11.3	-0.7
	comp=Z,7.8nm,1.1s,mb4.2						
YAK	Yakutsk	42.84	30	P	P	02 30 48.4	0.0
	comp=Z,14nm,0.6s,mb4.9						
AKASG	Malin Array Be	44.99	313	P	P	02 31 03.4	-2.4
	comp=Z,0.1nm,0.3s,mb3.1,baz=86,slow=6.6,SNR=4.0						
FINES	FINESS Array B	48.31	327	P	P	02 31 30.4	-1.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=117,slow=13,SNR=5.6						
WRA	Warramunga Arr	69.75	130	P	P	02 33 59.7	-1.4
	comp=Z,1.4nm,1.0s,mb3.9,baz=325,slow=6.5,SNR=9.8						

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*IDC **25** 02:36:27.2±2.5,7.05N×127.29E,mb3.8/3,mb1 3.9/3, mb1mx3.6/18,Error ellipse: s-maj=183.0km s-min=25.0km az=66.0*

*MAN **25** 02:36:32.5,7.08N×127.01E,mb4.7,ML3.6,MS3.6*

ISC 25 02:36:29.2±2.6**,6.82N**±0.08×**127.27E**±0.07**,h15**^{km}±17^{km}**, n9,**σ**1**^{s}**20**/15**,mb3.6**/3**,2C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	1.01	277	*e*P	Pb	02 36 47.5	-0.4
MATI				*e*S	Sb	02 36 59.3	-1.4
BIPH	Bislig	1.63	327	⇑*i*P	Pn	02 36 58.2	+0.6
BIPH				*i* S	Sn	02 37 17.3	-1.0
KCP	Kidapawan	2.17	275	⇑*i*P	Pn	02 37 05.9	+0.6
KCP				*i* S	Sn	02 37 32.6	+0.5
GSPH	General Santos	2.41	253	⇓*e*P	Pn	02 37 08.0	-0.9
GSPH				*i* S	Sn	02 37 34.0	-4.4
BUKP	Musuan	2.43	296	*e*P	Pn	02 37 10.3	+1.3
BUKP				*e*S	Sn	02 37 40.7	+2.0
TBP	Tagbilaran	4.42	310	*e*P	Pn	02 37 33.2	-4.1
TBP				*e*S	Sn	02 38 28.7	-0.3
WRA	Warramunga Arr	27.49	165	P	P	02 42 18.5	+1.3
	0.5nm,0.4s,mb3.4,baz=346,slow=10,SNR=9.6						
ASAR	Alice Springs	30.98	168	P	P	02 42 47.4	-1.1
	0.2nm,0.3s,mb3.4,baz=344,slow=6.3,SNR=3.6						
MKAR	Makanchi Array	55.37	324	P	P	02 46 01.8	-3.2
	1.9nm,0.9s,mb4.1,baz=114,slow=7.4,SNR=11						

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*IDC **25** 02:41:16.5±2.0,30.52N×139.58E,mb4.0/5,mb1 4.0/5, mb1mx3.6/21,Error ellipse: s-maj=93.0km s-min=28.0km az=76.0*

*NEIC **25** 02:42:03.6±1.6,30.12N×138.61E,h440^{km}±22^{km},mb3.8/2, Error ellipse: s-maj=58.3km s-min=18.9km az=76.0*

ISC 25 02:42:02.2±2.1**,30.1N**±0.2×**138.5E**±0.6**,h438**^{km}±29^{km}**,n7,** σ**0**^{s}**18**/7**,mb3.4**/6**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAJO	Matsushiro	6.46	358	*e*P	P	02 43 41.8	0.0
	9.1nm,0.4s						
MKAR	Makanchi Array	46.08	308	P	P	02 49 46.6	+0.2
	0.4nm,0.4s,mb3.1,baz=90,slow=8.6,SNR=4.2						
WRA	Warramunga Arr	49.88	185	P	P	02 50 15.7	0.0
	0.2nm,0.3s,mb2.9,slow=7.5,SNR=3.4						
BVAR	Borovoye Array	53.65	316	P	P	02 50 42.7	-0.1
	2.3nm,0.4s,mb3.8,baz=96,slow=7.1,SNR=13						
ZRNK	Zerenda	54.49	316	*e*P	P	02 50 48.6	-0.2
	1.3nm,0.5s,mb3.4						
ARCES	ARCESS Array B	69.65	340	P	P	02 52 27.3	+0.1
	2.4nm,0.8s,mb3.8,baz=63,slow=8.1,SNR=5.5						
FINES	FINESS Array B	73.83	332	P	P	02 52 51.5	0.0
	0.4nm,0.3s,mb3.5,baz=82,slow=5.3,SNR=9.3						

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*IDC **25** 02:49:07.6±2.8,7.03N×126.94E,mb3.8/3,mb1 4.0/3, mb1mx3.7/18,Error ellipse: s-maj=215.0km s-min=26.4km az=66.0*

ISC 25 02:49:18.5±4.9**,6.8N**±0.3×**126.5E**±0.6**,h108**^{km}±40^{km}**,n8,** σ**0**^{s}**86**/8**,mb3.6**/4**,1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	1.43	280	⇓*e*P	P	02 49 44.8	-0.1
GSPH	General Santos	1.68	247	*e*P	P	02 49 48.0	+0.1
KAKA	Kakadu	20.19	163	*e*P	P	02 53 46.9	0.0
	11nm,1.4s						
FITZ	Fitzroy Crossi	24.71	182	*e*P	P	02 54 31.0	-0.2
	2.6nm,1.1s,mb3.6						
WRA	Warramunga Arr	27.62	164	P	P	02 54 57.2	-0.9
	0.5nm,0.4s,mb3.4,baz=345,slow=9.5,SNR=6.0						
WB2				*e*	P	02 54 57.9	-0.3
ASAR	Alice Springs	31.08	167	P	P	02 55 30.3	+1.5
	0.9nm,1.1s,mb3.4,baz=344,slow=7.0,SNR=2.7						
MKAR	Makanchi Array	54.98	324	P	P	02 58 40.8	0.0
	1.4nm,0.8s,mb4.0,baz=121,slow=6.9,SNR=7.0						

IDC 25 03:01:55.9±3.2**,49.59S**×**115.96E,mb3.8**/2**,mb1 4.1**/2**, mb1mx3.7**/9**,MS4.1**/2**,Ms1 4.1**/2**,ms1mx3.6**/15**,Error ellipse: s-maj=180.0km s-min=58.8km az=116.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	29.46	35	P	P	03 08 01.9	-1.7
	0.7nm,0.8s,baz=206,slow=8.0,SNR=6.2						
WRA	Warramunga Arr	33.03	33	P	P	03 08 32.4	-2.6
	1.1nm,0.7s,baz=203,slow=9.1,SNR=6.6						
PMG	Port Moresby	47.74	44	LR	LR	03 27 28.4	
	comp=Z,128nm,19.6s,baz=188,slow=32						
ASAJ	Asahikawa	96.19	19	LR	LR	03 56 19.6	
	comp=Z,120nm,18.4s,baz=313,slow=34						
TXAR	Lajitas Array	143.87	109	PKP	PKPdf	03 21 31.5	-3.1
	0.7nm,0.9s,baz=202,slow=4.9,SNR=7.4						
YKA	Yellowknife Ar	149.82	45	PKPbc	PKPdf	03 21 46.4	+3.0
	0.8nm,0.6s,baz=315,slow=2.6,SNR=4.1						

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*NEIC **25** 03:10:01.0,36.02S×71.65W,h12^{km},ML3.0(GUC),After GUC.*

GUC 25 03:10:01.0±1.0**,36.02S**×**71.65W,h12**^{km}±6^{km}**,MD3.8, ML3.0,6D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	0.62	2	⇓*i*P	Pb	03 10 12.9	-0.4
TALC				*i* S	Sb	03 10 21.7	0.0
TALC				AMP		03 10 22.1	
	comp=E,9µm,0.1s						
CCHI	Chillan	0.67	210	⇓*i*P	Pb	03 10 13.8	-0.4
CCHI				*i* S	Sb	03 10 23.0	-0.1
CCHI				AMP		03 10 24.1	
	comp=E,779nm,0.3s						
CCHI				AMP		03 10 24.3	
	comp=E,2µm,0.3s						
COCH	Cobquecura	0.93	263	⇓*i*P	Pb	03 10 18.2	-0.2
COCH				*i* S	Sb	03 10 30.4	-0.1
COCH				AMP		03 10 32.1	
	comp=N,397nm,0.2s						
NICH	Los Niches	1.07	19	*i* P	Pb	03 10 20.0	-1.0
NICH				*i* S	Sb	03 10 34.6	-0.1
SFDO	San Fernando	1.50	21	*i* S	Sb	03 10 46.3	-0.8
CICH	Cipreses	1.98	31	⇓*i*P	Pn	03 10 35.0	+0.4
CICH				*i* S	Sn	03 11 01.3	+1.8
LNV	Longovilo	2.07	6	⇓*i*P	Pn	03 10 35.6	-0.4
CACH	El Canelo	2.09	25	⇓*i*P	Pn	03 10 36.1	-0.2
CACH				*i* S	Sn	03 11 03.7	+1.3
CHCH	Chadas Angostu	2.24	22	*i* P	Pn	03 10 37.7	-0.8
TACH	Talagante	2.44	14	*e*P	Pn	03 10 41.1	-0.1
LMEL	Las Melosas	2.47	29	*e*P	Pn	03 10 42.4	+0.6
LMEL				*i* S	Sn	03 11 14.4	+2.2
LMEL				AMP		03 11 18.6	
	comp=N,100nm,0.2s						
FCH	Farellones	2.91	23	*e*P	Pn	03 10 48.3	+0.2
FCH				*e*S	Sn	03 11 24.4	+1.1
FCH				AMP		03 11 34.2	
	comp=N,62nm,0.3s						

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*IDC **25** 03:11:56.6±1.0,7.09N×127.14E,mb3.8/5,mb1 4.0/5, mb1mx3.8/18,Error ellipse: s-maj=61.1km s-min=21.4km az=79.0*

*MAN **25** 03:12:10.4,6.87N×126.45E,h13^{km},mb4.5,ML3.4,MS3.3*

ISC 25 03:12:01.0±1.0**,6.52N**±0.08×**126.99E**±0.10**,h10**^{km}**,n8,** σ**1**^{s}**15**/10**,mb3.6**/5**,1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	1.94	285	⇓*i*P	Pn	03 12 34.3	-0.2
KCP				*i* S	Sn	03 12 60.0	+0.8
GSPH	General Santos	2.07	258	*e*P	Pn	03 12 35.0	-1.3
SCPH	Surigao	3.57	336	*e*P	Pn	03 12 59.1	+1.5
SCPH				*e*S	Sn	03 13 39.4	-0.9
FITZ	Fitzroy Crossi	24.50	183	P	P	03 17 24.2	+2.3
	2.5nm,0.9s,mb3.6,baz=22,slow=8.5,SNR=7.5						
WRA	Warramunga Arr	27.27	165	P	P	03 17 47.3	-0.4
	0.5nm,0.4s,mb3.4,baz=345,slow=10,SNR=5.8						
ASAR	Alice Springs	30.75	168	P	P	03 18 18.0	-0.9
	0.6nm,0.8s,mb3.5,baz=344,slow=7.2,SNR=3.1						
ASAR				PcP	PcP	03 21 11.3	-5.2
	1.3nm,1.1s,baz=354,slow=2.3,SNR=4.8						
MKAR	Makanchi Array	55.44	324	P	P	03 21 30.3	-7.8
	1.1nm,0.5s,mb4.1,baz=123,slow=8.4,SNR=9.3						
ILAR	Eielson Array	82.50	26	P	P	03 24 18.2	-6.7
	0.4nm,0.6s,mb3.5,baz=252,slow=5.7,SNR=7.2						

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*NIED **25** 03:22:00,36.20N×137.10E,h260^{km},Mw4.1 Best double couple: M$_0$1.48×10^{15} NP1:φ$_s$167°,δ76°,λ-60°. NP2: φ$_s$279°,δ33°,λ-154°.*

*IDC **25** 03:22:33.1±2.0,36.17N×137.00E,h244^{km}±20^{km}, mb3.5/15,mb1 3.7/18,mb1mx3.5/30,Error ellipse: s-maj=15.8km s-min=10.7km az=106.0*

*JMA **25** 03:22:34.7±0.1,36.17N×137.10E,h270^{km}±1^{km},M3.7*

*NEIC **25** 03:22:34.7±0.4,36.14N×136.90E,h261^{km}±4^{km},mb4.3/6, Error ellipse: s-maj=8.7km s-min=6.5km az=135.0*

ISC 25 03:22:34.2±0.3**,36.18N**±0.04×**136.98E**±0.06**,h271**^{km}±2^{km}**, n47,**σ**0**^{s}**83**/61**,mb3.7**/19**,5C-5D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGN	Niukaw	0.27	81	⇓P	P	03 23 09.3	+0.1
JGN				S	S	03 23 36.1	-0.4
JGM	Miyama	0.53	204	⇓P	P	03 23 10.0	+0.3
JGM				S	S	03 23 37.5	0.0
JKG	Kaga	0.53	280	⇓P	P	03 23 10.3	+0.5
MAJO	Matsushiro	1.05	70	*e*P	P	03 23 11.6	-0.2
MAT	Matsushiro	1.05	70	P	P	03 23 11.9	+0.1
MAT				S	S	03 23 40.8	-0.5
MAT	Matsushiro	1.05	70	P	P	03 23 12.0	+0.2
MAT				S	S	03 23 40.8	-0.5
MAT	Matsushiro	1.05	70	*e*P	P	03 23 12.0	+0.2
MAT				*e*S	S	03 23 41.0	-0.3
JSZ	Suzu	1.30	14	P	P	03 23 13.5	+0.1
JSZ				S	S	03 23 43.5	-0.5
JYN	Shimob	1.44	118	P	P	03 23 13.8	-0.5
JRY	Ryogami san	1.56	96	⇑P	P	03 23 14.6	-0.6
JWT	Wachi	1.57	236	⇓P	P	03 23 15.7	+0.5
JWT				*e*S	S	03 23 47.3	+0.1
JHG	Hegura jima	1.66	358	P	P	03 23 16.6	+0.7
JHG				*e*S	S	03 23 49.7	+1.3
JIE	Ise	1.80	187	⇓P	P	03 23 17.8	+0.8
JIE				*e*S	S	03 23 50.7	+0.4
JOD2	Odawara 2	1.94	118	⇑P	P	03 23 18.2	+0.1
JOD2				*e*S	S	03 23 52.8	+0.5
JAG	Ashikaga	2.01	82	⇑P	P	03 23 17.7	-1.0
JSD	Sado	2.11	29	⇑P	P	03 23 19.7	+0.1
JSD				*e*S	S	03 23 54.2	-0.8
JWY	Kouya	2.27	211	P	P	03 23 22.0	+0.9
JWY				*e*S	S	03 23 58.2	+0.7
JNS	Sasagawa	2.48	48	⇑P	P	03 23 22.9	-0.2
JWZ	Kozaga	2.84	202	P	P	03 23 27.1	+0.4
JWZ				*e*S	S	03 24 07.7	+0.1
JHJ	Hachijo jima 2	3.83	142	P	P	03 23 38.7	+1.2
	5.7nm,0.3s,baz=242,slow=21,SNR=5.7						
JHJ				S	S	03 24 25.6	-1.2
	10nm,0.3s,baz=270,slow=20,SNR=3.5						
JNU	Nakatsue	5.88	240	P	P	03 23 59.9	-2.0
	baz=69,slow=9.4						
ASAJ	Asahikawa	9.01	27	P	P	03 24 38.1	-2.8
	8.7nm,0.3s,baz=219,slow=10,SNR=22						
YSS	Yuzh-Sakhalins	11.59	20	*e*P	P	03 25 09.6	-3.6
	27nm,0.3s						
JOW	Kunigami	11.91	221	P	P	03 25 16.8	-0.5
	1.7nm,0.3s,baz=86,slow=16,SNR=3.6						
ENH	Enshi	23.70	264	*e*P	P	03 27 21.9	-1.3
	12nm,0.8s,mb4.3						
SONM	Songino Array	25.37	307	P	P	03 27 37.5	-0.8
	0.9nm,0.6s,mb3.4,baz=108,slow=9.3,SNR=5.1						
CMAR	Chiang Mai Arr	37.84	252	P	P	03 29 27.0	+0.4
	0.5nm,0.4s,mb3.3,baz=45,slow=6.4,SNR=3.5						
MKAR	Makanchi Array	41.55	302	P	P	03 29 57.0	+0.1
	2.8nm,0.6s,mb3.6,baz=93,slow=9.7,SNR=21						
KURK	Kurchatov	43.66	308	*e*P	P	03 30 12.8	-0.9
	10nm,0.8s,mb4.1						
BVAR	Borovoye Array	48.51	312	P	P	03 30 52.0	+0.6
	0.5nm,0.3s,mb3.3,baz=101,slow=7.3,SNR=3.6						
ZRNK	Zerenda	49.34	312	*e*P	P	03 30 57.7	-0.1
	0.8nm,0.4s,mb3.4						
ILAR	Eielson Array	52.11	32	P	P	03 31 18.0	-0.2
	1.0nm,0.9s,mb3.2,baz=287,slow=6.6,SNR=9.1						
FITZ	Fitzroy Crossi	55.05	193	P	P	03 31 39.4	-0.7
	1.7nm,0.7s,mb3.6,baz=16,slow=9.7,SNR=5.3						
WRAB	Tennant Creek	55.87	183	*e*P	P	03 31 44.5	-1.3
	5.0nm,0.3s,mb4.4						
WRA	Warramunga Arr	55.87	183	P	P	03 31 44.7	-1.2
	1.2nm,0.3s,mb3.8,baz=0.6,slow=7.6,SNR=47						
INK	Inuvik	56.75	26	P	P	03 31 51.8	+0.3
	2.0nm,0.5s,mb3.8,baz=314,slow=6.0,SNR=9.9						
INK	Inuvik	56.75	26	*e*P	P	03 31 51.6	+0.2
	1.8nm,0.5s,mb3.8						
ASAR	Alice Springs	59.59	183	P	P	03 32 11.9	+0.1
	0.7nm,0.6s,mb3.4,baz=356,slow=5.7,SNR=9.5						
HFS	Hagfors	73.34	334	P	P	03 33 37.1	-0.4
	1.5nm,0.6s,mb3.8,baz=68,slow=7.8,SNR=4.6						
NOA	NORSAR Array B	73.54	336	P	P	03 33 38.9	+0.2
	0.7nm,0.8s,mb3.4,baz=74,slow=4.0,SNR=3.6						
NVAR	Mina Array Bea	78.32	51	P	P	03 34 07.0	+1.2
	1.1nm,0.6s,mb3.8,baz=310,slow=3.9,SNR=7.0						
PDAR	Pinedale Array	80.77	43	P	P	03 34 19.2	+0.6
	1.0nm,0.6s,mb3.7,baz=308,slow=2.7,SNR=12						
EKA	Eskdalemuir Ar	82.67	338	P	P	03 34 28.8	+0.6
	0.7nm,0.4s,mb3.8,baz=39,slow=4.6,SNR=4.8						
PV10	Paradox Valley	83.97	46	*e*P	P	03 34 37.3	+2.3
PV01	Paradox Valley	84.41	46	*e*P	P	03 34 38.4	+1.1
TXAR	Lajitas Array	93.43	50	P	P	03 35 21.3	+1.2
	1.4nm,0.6s,mb4.0,baz=292,slow=3.4,SNR=25						
TXAR	Lajitas Array	93.43	50	P	P	03 35 21.3	+1.2

DJA 25 03:29:53.4±1.1**,8.43S**×**115.63E,h146**^{km}±8^{km}**,MD4.8**/3**, ML4.0**/1**,2C-4D,Error ellipse: s-maj=49.2km s-min=13.9km az=9.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	Rata	0.30	198	⇓*e*Pn	P	03 30 13.4	-0.6
	163nm,0.2s						
RATI				⇑*e*Sn	S	03 30 27.9	-1.8
KEDI	Kedomdong	0.48	96	⇑*e*Pn	P	03 30 14.1	-0.6
	29nm,0.2s						
KEDI				⇓*e*Sn	S	03 30 28.5	-2.5
KELI	Kelakatan	1.15	281	⇓*e*Pn	P	03 30 18.9	-0.5
	177nm,0.2s						
KELI				⇓*e*Sn	S	03 30 38.5	-0.9

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*MAN **25** 03:33:25.5,6.94N×127.04E,h1^{km},mb5.0,ML3.9,MS4.0*

*IDC **25** 03:33:29.4±8.3,6.77N×126.73E,h64^{km}±79^{km},mb3.7/10, mb1 3.8/10,mb1mx3.7/21,MS3.8/2,Ms1 3.9/2, ms1mx3.2/23,Error ellipse: s-maj=47.4km s-min=14.6km az=76.0*

*NEIC **25** 03:33:33.0±6.0,6.78N×126.68E,h98^{km}±58^{km},mb4.1/3, Error ellipse: s-maj=23.5km s-min=9.2km az=73.0*

ISC 25 03:33:31.5±1.2**,6.77N**±0.05×**126.8E**±0.1**,h104**^{km}±11^{km}**, n28,**σ**1**^{s}**21**/33**,mb3.9**/12**,1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	1.72	278	⇓*e*P	P	03 34 01.5	+0.4
KCP				*i* S	S	03 34 26.1	+3.0
GSPH	General Santos	1.96	250	*e*P	P	03 34 01.0	-3.2
GSPH				*i* S	S	03 34 28.0	-0.5
CTBH	Cotabato--PC H	2.58	280	⇑*e*P	P	03 34 11.2	-1.3
CTBH				*i* S	S	03 34 47.3	+3.9
CGP	Cagayan de Oro	2.68	309	*e*P	P	03 34 11.3	-2.7
CGP				*e*S	S	03 34 51.0	+5.1
SCPH	Surigao	3.27	337	*i* P	P	03 34 19.7	-2.3
SCPH				*e*S	S	03 35 00.7	+0.5
PAGZ	Pagadian	3.56	288	*e*P	P	03 34 26.1	+0.1
TBP	Tagbilaran	4.11	315	*e*P	P	03 34 30.7	-2.8
TBP				*e*S	S	03 35 23.4	+2.6
PLP	Palo	4.73	338	*e*P	P	03 34 42.7	+0.8
PLP				*e*S	S	03 35 45.3	+9.4
TGY	Tagaytay City	9.30	322	LR	LR	03 40 29.7	
	comp=Z,623nm,18.4s,baz=158,slow=45						
FITZ	Fitzroy Crossi	24.73	183	*e*P	P	03 38 45.4	+0.6
	4.7nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	24.73	183	P	P	03 38 44.6	-0.2
	1.0nm,0.4s,mb3.6,baz=12,slow=7.3,SNR=12						
JNU	Nakatsue	26.50	8	P	P	03 39 01.2	+0.2
	7.3nm,0.5s,mb4.4,baz=175,slow=7.5,SNR=4.8						
WRAB	Tennant Creek	27.55	165	*e*P	P	03 39 11.1	+0.2
WRA	Warramunga Arr	27.55	165	P	P	03 39 10.6	-0.3
	0.6nm,0.3s,mb3.7,baz=348,slow=9.9,SNR=32						
WB2	Warramunga Arr	27.56	165	*e*P	P	03 39 12.1	+1.2
CMAR	Chiang Mai Arr	29.52	296	LR	LR	03 51 31.9	
	comp=Z,148nm,18.0s,baz=120,slow=37						
ASAR	Alice Springs	31.03	167	P	P	03 39 41.8	0.0
	0.4nm,0.4s,mb3.5,baz=340,slow=7.4,SNR=4.2						
ASAR				PcP	PcP	03 42 36.1	+1.0
	0.5nm,0.4s,baz=356,slow=2.8,SNR=5.6						
STKA	Stephens Creek	40.94	161	P	P	03 41 05.6	+0.2
	5.0nm,1.1s,mb4.2,baz=349,slow=5.2,SNR=2.7						
STKA	Stephens Creek	40.94	161	*e*P	P	03 41 06.4	+1.1
SONM	Songino Array	44.47	340	P	P	03 41 33.7	-0.3
	0.3nm,0.4s,mb3.4,baz=135,slow=8.2,SNR=3.0						
MKAR	Makanchi Array	55.14	324	P	P	03 42 55.1	-0.2
	2.2nm,0.6s,mb4.4,baz=126,slow=7.9,SNR=19						
KURK	Kurchatov	59.25	327	*e*P	P	03 43 22.4	-1.9
	3.4nm,0.8s,mb4.4						
BVAR	Borovoye Array	64.84	326	P	P	03 44 01.3	-0.3
	3.4nm,0.9s,mb4.2,baz=117,slow=6.6,SNR=6.4						
BRVK	Borovoye	64.91	326	*e*P	P	03 44 01.2	-0.8
ZRNK	Zerenda	65.58	326	*e*P	P	03 44 05.8	-0.5
PMR	Palmer	81.27	29	*e*P	P	03 45 38.3	+1.0
	1.5nm,0.5s,mb4.1						
ILAR	Eielson Array	82.35	26	P	P	03 45 43.9	+1.0
	0.3nm,0.6s,mb3.3,baz=234,slow=5.4,SNR=4.4						
AKASG	Malin Array Be	89.60	321	P	P	03 46 19.3	+0.7
	0.2nm,0.3s,mb3.7,baz=65,slow=4.6,SNR=4.3						

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*IDC **25** 03:46:19.4±8.8,53.23N×168.42W,mb3.7/6,mb1 4.0/7, mb1mx3.7/24,ML3.7/1,MS2.9/1,Ms1 3.1/1,ms1mx2.5/29, Error ellipse: s-maj=157.0km s-min=34.5km az=83.0*

*NEIC **25** 03:46:37.2,53.38N×166.13W,h37^{km},mb3.8/1, ML3.7(AEIC),After AEIC.*

ISC 25 03:46:36.2±0.7**,53.5N**±0.1×**166.3W**±0.1**,h69**^{km}±7^{km}**,n33,** σ**0**^{s}**74**/38**,mb3.6**/5**,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	Unalaska Valle	0.36	337	P	P	03 46 47.3	-0.5
UNV				S	S	03 46 55.6	-0.8
MNAT	Makushin Natee	0.44	326	P	P	03 46 48.5	0.0
MNAT				S	S	03 46 57.9	+0.3
MSW	Makushin Switc	0.50	322	P	P	03 46 49.3	+0.2
MTBL	Makushin Table	0.52	331	P	P	03 46 49.6	+0.4
MCIR	Makushin Cirqu	0.57	319	P	P	03 46 50.5	+0.6
AKLV	Akutan Long Va	0.67	16	P	P	03 46 50.7	-0.2
AKLV				S	S	03 47 01.6	-0.2
AKGG	Akutan Green G	0.70	13	P	P	03 46 51.3	+0.1
AKGG				S	S	03 47 03.2	+0.8
OKER	East Rim	1.07	267	P	P	03 46 56.2	+0.4
WESS	West Dahl Sout	1.32	43	P	P	03 46 59.5	+0.2
WESS				S	S	03 47 17.4	+0.9
WESE	West Dahl East	1.38	45	P	P	03 47 00.1	+0.1
WESN	West Dahl Nort	1.45	43	P	P	03 47 01.3	+0.4
NIKO	Nikolski	1.65	252	P	P	03 47 03.3	-0.4
WTUG	Tugumak	1.73	39	P	P	03 47 04.7	0.0
SSLW	Shishaldin Wes	1.78	44	P	P	03 47 05.5	0.0
FALS	False Pass	2.14	50	P	P	03 47 10.4	-0.1
BALA	Baldy Mountain	2.64	49	P	P	03 47 18.0	+0.5
DRIA	Deer Island	2.76	57	P	P	03 47 18.6	-0.6
DTNA	Dutton South F	2.86	54	P	P	03 47 20.2	-0.4
HAG	Hague Volcano	3.12	53	P	P	03 47 23.7	-0.5
PVV	Pavlof Volcano	3.21	53	P	P	03 47 25.4	0.0
SDPT	Sand Point	3.84	59	P	P	03 47 33.0	-1.3
SPIA	Saint Paul Isl	4.32	330	P	P	03 47 41.3	+0.4
ATKA	Atka Island	4.99	258	P	P	03 47 49.8	-0.4
SML	Sawmill	12.65	42	P	P	03 49 31.2	-3.5
ILAR	Eielson Array	14.95	33	Pn	P	03 50 03.4	-1.1
	0.1nm,0.3s,baz=220,slow=11,SNR=6.0						
ILAR				LR	LR	03 56 51.2	
	comp=Z,45nm,18.7s,baz=220,slow=40						
DLBC	Dease Lake	20.68	62	P	P	03 51 14.8	+2.4
	1.6nm,0.7s,baz=284,slow=14,SNR=6.0						
INK	Inuvik	21.35	34	P	P	03 51 17.4	-1.6
	1.9nm,0.5s,mb3.7,baz=241,slow=7.9,SNR=11						
INK	Inuvik	21.35	34	P	P	03 51 17.3	-1.7
	2.0nm,0.5s,mb3.7						
YKA	Yellowknife Ar	28.06	51	P	P	03 52 22.4	-0.2
	0.5nm,0.3s,mb3.5,baz=274,slow=8.7,SNR=7.6						
YKA	Yellowknife Ar	28.06	51	P	P	03 52 22.4	-0.2
NVAR	Mina Array Bea	35.85	95	P	P	03 53 32.2	+1.4
	0.4nm,0.4s,mb3.7,baz=299,slow=9.3,SNR=3.7						
PDAR	Pinedale Array	38.37	83	P	P	03 53 52.4	+0.6
	0.3nm,0.6s,mb3.3,baz=304,slow=6.5,SNR=3.3						
TXAR	Lajitas Array	50.88	92	P	P	03 55 31.7	-0.2
	1.7nm,0.9s,mb4.1,baz=299,slow=5.6,SNR=15						

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*BJI **25** 03:59:23.6,16.01S×177.33W,h31^{km},mB4.9,mb4.7, Ms4.8,Msz4.7*

*IDC **25** 03:59:23.3±0.8,15.18S×177.52W,mb4.2/11,mb1 4.5/11, mb1mx4.4/16,MS4.6/16,Ms1 4.6/16,ms1mx4.5/23,Error ellipse: s-maj=42.6km s-min=17.3km az=144.0*

*NEIC **25** 03:59:25.3±0.4,15.23S×177.56W,h15^{km},mb4.7/8, MS4.4/1,Error ellipse: s-maj=20.8km s-min=11.7km az=140.0*

ISC 25 03:59:26.5±0.4**,15.3S**±0.1×**177.58W**±0.09**,h33**^{km}**,n59,** σ**1**^{s}**23**/37**,mb4.5**/22**,MS4.6**/20**,1C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.91**	**112**	LR	LR	04 08 37.5	
	comp=Z,1µm,21.4s,baz=244,slow=31						
RPZ	**Rata Peaks**	**29.97**	**197**	LR	LR	04 15 31.4	
	comp=Z,1µm,19.1s,MS4.5,baz=31,slow=32						
STKA	**Stephens Creek**	**40.64**	**239**	*e*P	**P**	**04 07 04.5**	**-0.7**
	15nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**40.64**	**239**	P	**P**	**04 07 06.7**	**+1.5**
	24nm,1.1s,mb4.8,baz=59,slow=5.9,SNR=13						
STKA				LR	LR	04 22 17.3	
	comp=Z,773nm,18.6s,MS4.6,baz=67,slow=34						
WRA	**Warramunga Arr**	**45.95**	**257**	P	**P**	**04 07 47.3**	**-1.2**
	1.9nm,0.9s,mb4.0,baz=90,slow=7.4,SNR=7.8						
ASAR	**Alice Springs**	**46.32**	**252**	P	**P**	**04 07 50.5**	**-0.9**
	6.4nm,0.6s,mb4.7,baz=85,slow=8.3,SNR=48						
ASAR				LR	LR	04 25 48.5	
	comp=Z,570nm,21.3s,MS4.5,baz=88,slow=34						
ASPA	**Alice Springs**	**46.32**	**252**	*e*P	**P**	**04 07 50.0**	**-1.4**
CBIJ	**Chichi jima**	**57.43**	**317**	LR	LR	04 28 23.9	
	comp=Z,771nm,20.8s,MS4.8,baz=34,slow=30						
SBA	**Scott Base**	**63.09**	**184**	*e*P	**P**	**04 09 51.4**	**-1.3**
	5.4nm,1.1s,mb4.6						
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**04 09 53.6**	**+0.7**
	0.9nm,0.8s,mb4.0,baz=11,slow=5.2,SNR=2.9						
VNDA				LR	LR	04 31 54.3	
	comp=Z,260nm,20.9s,MS4.4,baz=26,slow=31						
VNDA	**Vanda**	**63.13**	**185**	*e*P	**P**	**04 09 51.4**	**-1.6**
	2.3nm,1.1s,mb4.2						
JNU	**Nakatsue**	**68.81**	**315**	LR	LR	04 35 37.0	
	comp=Z,320nm,20.9s,MS4.5,baz=309,slow=32						
SSE	**Sheshan**	**74.69**	**309**	P	**P**	**04 11 05.3**	**+0.3**
SSE				S	S	04 20 40.5	+3.0
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=N,129nm,35.6s,MS4.3						
SSE				LR	LR		
	comp=E,224nm,35.7s,MS4.3						
SSE				LR	LR		
	comp=Z,273nm,32.4s,MS4.3						
QSPA	**South Pole Qui**	**74.78**	**180**	*e*P	**P**	**04 11 06.8**	**+2.3**
	comp=Z,12nm,1.1s,mb4.7						
QSPA				LR	LR		
	comp=Z,220nm,22.0s,MS4.4						
YBH	**Yreka Blue Hor**	**75.98**	**39**	P	**P**	**04 11 12.8**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=216,slow=2.8,SNR=7.1						
MDJ	**Mudanjiang**	**76.50**	**324**	P	**P**	**04 11 15.3**	**+0.3**
MDJ				S	S	04 21 01.3	+4.1
MDJ				SS	SS	04 26 01.8	+6.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,81nm,3.3s						
MDJ				LR	LR		
	comp=N,163nm,24.3s,MS4.4						
MDJ				LR	LR		
	comp=E,151nm,22.4s,MS4.4						
MDJ				LR	LR		
	comp=Z,209nm,24.3s,MS4.4						
NVAR	**Mina Array Bea**	**76.98**	**44**	P	**P**	**04 11 17.2**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=216,slow=7.6,SNR=10						
NVAR				LR	LR	04 37 02.6	
	comp=Z,216nm,21.6s,MS4.4,baz=275,slow=29						
CN2	**Changchun**	**78.44**	**322**	*e*P	**P**	**04 11 26.8**	**+1.0**
MSU	**Marysvale**	**81.20**	**46**	*e*P	**P**	**04 11 39.4**	**-1.3**
HLID	**Hailey**	**82.12**	**41**	*e*P	**P**	**04 11 44.2**	**-1.2**
	comp=Z,3.0nm,1.1s,mb4.1						
BJT	**Baijiatuau**	**82.47**	**315**	P	**P**	**04 11 45.4**	**-1.9**
BJI	**Beijing**	**82.48**	**315**	P	**P**	**04 11 46.6**	**-0.7**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=Z,306nm,25.7s,MS4.6						
ILAR	**Eielson Array**	**83.14**	**13**	P	**P**	**04 11 49.1**	**-1.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=230,slow=5.0,SNR=11						
ILAR				LR	LR	04 41 50.6	
	comp=Z,257nm,19.9s,MS4.6,baz=234,slow=31						
PV10	**Paradox Valley**	**83.35**	**47**	*e*P	**P**	**04 11 50.8**	**-1.0**
PV01	**Paradox Valley**	**83.58**	**48**	*e*P	**P**	**04 11 52.2**	**-0.8**
MCMT	**McKenzie Canyo**	**83.72**	**40**	*e*P	**P**	**04 11 55.7**	**+2.2**
ANMO	**Albuquerque**	**83.84**	**51**	*e*P	**P**	**04 11 55.8**	**+1.4**
	comp=Z,8.8nm,1.3s,mb4.7						
LTX	**Lajitas**	**83.91**	**58**	*e*P	**P**	**04 11 55.9**	**+0.9**
	comp=Z,16nm,1.5s,mb4.9						
TXAR	**Lajitas Array**	**83.91**	**58**	P	**P**	**04 11 55.0**	**0.0**
	comp=Z,1.7nm,1.0s,mb4.1,baz=243,slow=5.6,SNR=12						
TXAR				LR	LR	04 41 32.1	
	comp=Z,285nm,20.8s,MS4.6,baz=250,slow=30						
TPAW	**Teton Pass**	**84.31**	**42**	*e*P	**P**	**04 11 56.9**	**+0.3**
REDW	**Red Top Meadow**	**84.31**	**42**	P	**P**	**04 11 54.5**	**-2.1**
DAWY	**Dawson**	**84.34**	**16**	*e*P	**P**	**04 11 56.8**	**+0.6**
GDL2	**Guadalupe Moun**	**84.40**	**55**	*e*P	**P**	**04 11 56.6**	**-0.7**
QLMT	**Earthquake Lak**	**84.61**	**41**	*e*P	**P**	**04 11 59.0**	**+0.9**
HIA	**Hailar**	**84.69**	**324**	P	**P**	**04 11 57.9**	**-0.5**
	comp=Z,2.1nm,0.4s,mb4.6						
PDAR	**Pinedale Array**	**84.89**	**43**	P	**P**	**04 11 58.8**	**-0.8**
	comp=Z,2.0nm,1.1s,mb4.2,baz=207,slow=3.3,SNR=6.8						
PDAR				LR	LR	04 42 58.9	
	comp=Z,211nm,19.3s,MS4.5,baz=256,slow=31						
MAW	**Mawson**	**86.60**	**200**	LR	LR	04 50 21.5	
	comp=Z,361nm,19.4s,MS4.8,baz=314,slow=35						
KMI	**Kunming**	**87.35**	**297**	*e*P	**P**	**04 12 12.8**	**+0.9**
KMI				AP	pP	04 12 17.5	-5.0
KMI				SKS	SKS	04 22 37.3	+2.9
KMI				S	S	04 22 53.5	+5.3
KMI				SS	SS	04 28 44.3	+8.0
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.1						
KMI				LR	LR		
	comp=N,150nm,33.7s						
KMI				LR	LR		
	comp=E,215nm,26.4s						
CMAR	**Chiang Mai Arr**	**88.75**	**289**	P	**P**	**04 12 21.2**	**+2.5**
	comp=E,0.7nm,0.4s,mb4.3,baz=108,slow=4.5,SNR=4.5						
CMAR				LR	LR	04 48 29.8	
	comp=E,201nm,18.2s,MS4.6,baz=100,slow=33						
LZH	**Lanzhou**	**89.92**	**307**	⇑P	**P**	**04 12 24.9**	**+1.0**
LZH				PP	PP	04 16 00.3	+1.1
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.4						
LZH				LR	LR		
	comp=Z,493nm,17.8s,MS5.0						
YKA	**Yellowknife Ar**	**91.61**	**24**	LR	LR	04 47 59.9	
	comp=Z,740nm,19.6s,MS5.1,baz=235,slow=32						
SONM	**Songino Array**	**92.08**	**319**	P	**P**	**04 12 36.1**	**+2.4**
	comp=Z,0.6nm,0.8s,mb4.0,baz=90,slow=1.4,SNR=3.7						
PLCA	**Paso Flores**	**92.57**	**133**	LR	LR	04 44 56.9	
	comp=Z,227nm,19.5s,MS4.6,baz=325,slow=30						
SNAA	**Sanae**	**93.21**	**178**	P	**P**	**04 12 40.1**	**+1.8**
ULM	**Lac du Bonnet**	**96.38**	**40**	LR	LR	04 49 53.7	
	comp=Z,428nm,20.6s,MS4.9,baz=224,slow=32						
BRTR	**Keskin Array B**	**143.43**	**318**	PKP	PKPdf	04 18 59.8	+1.9
	comp=Z,1.2nm,0.8s,baz=45,slow=2.0,SNR=4.8						
VYHS	**Vyhne**	**144.21**	**341**	*e*PKP	PKPdf	04 19 01.1	+2.1
PSZ	**Piszkesteto**	**144.38**	**340**	*e*PKPdf	PKPdf	04 19 01.3	+2.0
GRA1	**Grafenberg Arr**	**144.92**	**350**	*e*PKP	PKPdf	04 19 03.1	+2.9
ZST	**Bratislava**	**145.00**	**343**	*e*PKP	PKPdf	04 19 04.6	+4.2
KHC	**Kasperske Hory**	**145.01**	**347**	*e*PKP	PKPdf	04 19 03.3	+2.9
KHC				*e*		04 19 19.8	
GERES	**GERESS Array B**	**145.25**	**347**	PKPbc	PKPbc	04 19 03.6	+2.4
	comp=Z,0.9nm,0.7s,slow=2.9,SNR=11						
ROSF	**Rostrenen**	**146.69**	**7**	*e*PKP1	PKPbc	04 19 11.2	+6.5
	comp=Z,134nm,1.4s						
CDF	**Champ du Feu**	**146.70**	**354**	*e*PKP1	PKPbc	04 19 09.3	+4.6
	comp=Z,22nm,1.1s						
HAU	**Haudompre**	**147.19**	**355**	*e*PKP1	PKPdf	04 19 11.2	+7.1
	comp=Z,36nm,1.4s						
SSF	**Saint Saulge**	**148.28**	**359**	*e*PKP1	PKPdf	04 19 15.0	+9.1
	comp=Z,35nm,1.3s						
CABF	**La Chapelle**	**148.60**	**355**	*e*PKP1	PKPdf	04 19 16.4	+10
	comp=Z,71nm,1.5s						
LPL	**La Plagne**	**149.62**	**354**	*e*PKP1	PKPdf	04 19 19.2	+11
	comp=Z,21nm,1.2s						
LPG	**La Plagne**	**149.64**	**354**	*e*PKP1	PKPdf	04 19 19.2	+11
	comp=Z,36nm,1.3s						

IDC 25 04:07:28.9±10.0**, 1.95S**×**129.92E, mb3.9**/2**, mb1 4.2**/3**, mb1mx3.8**/15**, ML3.8**/1**, Error ellipse: s-maj=255.0km s-min=134.1km az=93.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**167**	P	P	04 11 46.5	-0.9
	0.3nm,0.3s,baz=351,slow=12,SNR=30						
WB2	**Warramunga Arr**	**18.41**	**167**	*e*P	P	04 11 46.5	-0.9
ASAR	**Alice Springs**	**21.93**	**170**	P	P	04 12 22.6	-3.4
	2.6nm,0.7s,baz=351,slow=12,SNR=20						
STKA	**Stephens Creek**	**31.74**	**161**	P	P	04 13 55.6	-1.4
	1.3nm,0.5s,baz=336,slow=7.5,SNR=6.5						

*IDC **25** 04:20:54.5±1.9, 6.45N×125.09E, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, Error ellipse: s-maj=128.0km s-min=24.4km az=66.0*

ISC 25 04:20:57.0±1.8**, 6.6N**±0.4×**125.3E**±0.8**, h33**^{km}**, n5,** σ**0^{s}27**/5**, mb3.6**/5**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.51**	**179**	P	**P**	**04 26 14.9**	**+0.1**
	1.1nm,0.7s,mb3.5,baz=349,slow=8.7,SNR=9.0						
WRA	**Warramunga Arr**	**27.79**	**162**	P	**P**	**04 26 45.3**	**0.0**
	0.3nm,0.5s,mb3.2,baz=341,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**31.19**	**165**	P	**P**	**04 27 15.2**	**-0.3**
	0.5nm,0.4s,mb3.7,baz=341,slow=7.5,SNR=6.9						
STKA	**Stephens Creek**	**41.26**	**159**	P	**P**	**04 28 41.1**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=16,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**54.44**	**325**	P	**P**	**04 30 23.4**	**0.0**
	0.5nm,0.5s,mb3.8,baz=121,slow=7.5,SNR=6.0						

*IDC **25** 04:43:09.7±2.3, 6.70N×126.42E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, MS3.2/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=143.0km s-min=25.0km az=69.0*

*MAN **25** 04:43:21.3, 7.15N×126.53E, h4^{km}, mb4.3, ML3.1, MS2.9*

ISC 25 04:43:14.4±2.7**, 6.74N**±0.10×**127.1E**±0.2**, h47**^{km}±35^{km}**, n12,** σ**1^{s}12**/15**, mb3.5**/4**, MS3.1**/1**, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.84**	**284**	*e*P	**P**	**04 43 28.4**	**-1.6**
MATI				*e*S	**S**	**04 43 40.4**	**-1.0**
BIPH	**Bislig**	**1.60**	**334**	⇓*i*P	**P**	**04 43 39.2**	**-1.7**
BIPH				*i* S	**S**	**04 44 01.5**	**+1.1**
KCP	**Kidapawan**	**1.99**	**278**	⇓*e*P	**P**	**04 43 46.5**	**+0.2**
GSPH	**General Santos**	**2.21**	**253**	*e*P	**P**	**04 43 51.0**	**+1.5**
BUTP	**Butuan**	**2.64**	**327**	*e*P	**P**	**04 43 56.5**	**+0.9**
BUTP				*e*S	**S**	**04 44 37.1**	**+11**
SCPH	**Surigao**	**3.40**	**333**	*e*P	**P**	**04 44 14.6**	**+8.2**
SCPH				*e*S	**S**	**04 44 58.1**	**+12**
PAGZ	**Pagadian**	**3.83**	**287**	*e*P	**P**	**04 44 13.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.73**	**183**	P	**P**	**04 48 32.7**	**-0.3**
	1.3nm,0.7s,mb3.6,baz=23,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**27.46**	**165**	P	**P**	**04 48 58.9**	**+0.5**
	0.3nm,0.5s,mb3.1,baz=344,slow=10,SNR=8.5						
CMAR	**Chiang Mai Arr**	**29.77**	**296**	LR	LR	05 01 35.3	
	comp=Z,46nm,19.2s,MS3.1,baz=155,slow=38						
ASAR	**Alice Springs**	**30.95**	**168**	P	**P**	**04 49 29.2**	**-0.3**
	0.3nm,0.8s,mb3.2,baz=342,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**55.31**	**324**	P	**P**	**04 52 42.7**	**-3.0**
	1.3nm,0.8s,mb4.0,baz=137,slow=8.2,SNR=7.4						

*WAR **25** 04:53:04.7, 50.27N×18.86E, ML2.5, Mining Induced*

*PRU **25** 04:53:05.6, 50.31N×18.81E*

ISC 25 04:53:03.5±0.7**, 50.29N**±0.05×**18.81E**±0.04**, n10,** σ**1^{s}17**/17**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.62**	**224**	*e*PG	**Pg**	**04 53 17.5**	**+1.7**
OKC				*e*SG	**Sg**	**04 53 27.7**	**+3.7**
OJC	**Ojcow**	**0.64**	**95**	*e*PG	**Pg**	**04 53 17.0**	**+0.7**
OJC				*e*SG	**Sg**	**04 53 25.0**	**+0.2**
NIE	**Niedzica**	**1.31**	**131**	*e*PG	**Pg**	**04 53 28.0**	**-1.5**
NIE				*e*SG	**Sg**	**04 53 46.0**	**-0.9**
DPC	**Dobruska-Polom**	**1.59**	**273**	*e*PG	**Pg**	**04 53 34.4**	**-0.9**
DPC				*e*SG	**Sg**	**04 53 56.8**	**+0.3**
KSP	**Ksiaz**	**1.70**	**290**	*e*PG	**Pg**	**04 53 38.0**	**+0.7**
KSP				*e*SG	**Sg**	**04 54 00.0**	**+0.1**
VYHS	**Vyhne**	**1.79**	**179**	*e*PN	**Pn**	**04 53 39.2**	**+3.3**
VYHS				*e*SN	**Sn**	**04 54 01.0**	**+1.3**
VYHS				*e*SG	**Sg**	**04 54 02.3**	**-0.9**
UPC	**Upice**	**1.80**	**278**	*e*SG	**Sg**	**04 54 03.5**	**+0.1**
PRU	**Pruhonice**	**2.76**	**265**	*e*SG	**Sg**	**04 54 31.4**	**-3.9**
	4.1nm,0.4s						
KHC	**Kasperske Hory**	**3.58**	**253**	*e*SG	**Sg**	**04 54 59.5**	**-3.3**
CLL	**Collm**	**3.82**	**288**	*e*SG	**Sg**	**04 55 10.0**	**-0.7**

*CASC **25** 05:07:16.6±2.2, 11.20N×86.02W, h86^{km}±9^{km}, MD3.4*

*UCR **25** 05:07:16.5, 11.34N×85.93W, h72^{km}, MD3.9*

INET 25 05:07:18.4, 11.14N×**86.19W, h14**^{km}**, MD3.0, 11C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.70**	**53**	⇑*e*P	Pb	05 07 31.5	-0.3
CONN				*e*S	Sb	05 07 42.7	+1.7
APON	**Apoyo**	**0.78**	**9**	⇓*e*P	Pb	05 07 33.5	+0.2
TICN	**Ticuantepe**	**0.89**	**357**	⇓*e*P	Pb	05 07 35.2	+0.1
TICN				*e*S	Sb	05 07 46.8	+0.2
MGAN	**Managua**	**1.00**	**357**	⇓*e*P	Pb	05 07 36.1	-0.9
MGAN				*e*S	Sb	05 07 50.7	+0.8
XAVN	**Gruta Xavier**	**1.01**	**352**	*e*P	Pb	05 07 36.6	-0.6
WILN	**Americas 2**	**1.01**	**0**	⇓*e*P	Pb	05 07 36.1	-1.1
WILN				*e*S	Sb	05 07 50.4	+0.2
COPN	**Copaltepe**	**1.11**	**339**	⇑*e*P	Pb	05 07 38.3	-0.5
COPN				*e*S	Sb	05 07 52.9	0.0
MOMJ	**Momotombo**	**1.31**	**345**	⇓*e*P	Pb	05 07 40.1	-2.1
MOMJ				*e*S	Sb	05 07 57.9	-0.8
MIRN	**Miramar**	**1.39**	**338**	⇑*e*P	Pn	05 07 41.8	-1.7
MIRN				*e*S	Sb	05 08 01.2	+0.1
PYTN	**Playitas**	**1.40**	**5**	*e*S	Sb	05 07 57.0	-4.3
CNGN	**Cerro Negro**	**1.44**	**340**	⇑*e*P	Pn	05 07 42.4	-1.9
LEON	**Leon**	**1.44**	**332**	⇑*e*P	Pn	05 07 43.0	-1.3
LEON				*e*S	Sb	05 08 02.2	-0.5
JCR	**Jicaral**	**1.66**	**140**	⇑*e*P	Pn	05 07 44.4	-3.1
JCR				*e*S	Sn	05 08 04.6	-4.1
CGA2	**Cerro Gallo 2**	**2.03**	**123**	⇑*e*P	Pn	05 07 48.1	-4.6
CGA2				*e*S	Sn	05 08 11.9	-6.1
PRS1	**Puriscal**	**2.17**	**122**	⇓*e*P	Pn	05 07 50.2	-4.6
PRS1				*e*S	Sn	05 08 14.7	-7.0
LAJ	**Bijagual**	**2.40**	**122**	*e*P	Pn	05 07 50.5	-7.5
LAJ				*e*S	Sn	05 08 15.2	-12
TRTC	**Tortuguero**	**2.50**	**103**	⇑*e*P	Pn	05 07 52.4	-7.0
ICR	**Volcan Irazu**	**2.59**	**116**	⇑*e*P	Pn	05 07 55.5	-5.2
URSC	**Urasca**	**2.70**	**118**	⇓*e*P	Pn	05 07 57.0	-5.4
URSC				*e*S	Sn	05 08 29.4	-5.7
LCBS	**La Ceiba**	**3.70**	**313**	⇑*e*P	Pn	05 08 13.9	-2.6
LCBS				*e*S	Sn	05 08 54.3	-5.9
LFRS	**El Faro**	**3.74**	**312**	⇑*e*P	Pn	05 08 14.4	-2.6
LFRS				*e*S	Sn	05 08 56.4	-4.9
SBLS	**San Blas**	**4.29**	**309**	*e*P	Pn	05 08 23.4	-1.5

*HRVD **25** 05:12:49.8±0.4, 20.58S×69.18W, h114^{km}±3^{km}, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s23,c34;Mantle waves: s57,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.93±.22; M$_{\theta\theta}$-2.81±.20; M$_{\phi\phi}$5.74±.26; M$_{r\theta}$1.95±.12; M$_{\theta\phi}$-0.51±.21; M$_{\phi r}$-2.65±.20; Best double couple: M$_0$5.83×10^{16} NP1:ϕ_s213°,δ42°,λ-30°. NP2:ϕ_s326°,δ70°,λ-128°. Principal axes: T 6.6, Plg17°, Azm83°; N -1.53, Plg35°, Azm341°; P -5.07, Plg50°, Azm194°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **25** 05:12:49.7, 20.40S×68.90W, h93^{km}, mB5.2*

*SYO **25** 05:12:49.7, 20.35S×68.93W, h93^{km}, MB5.0*

*NEIC **25** 05:12:49.8±0.2, 20.35S×68.93W, mb5.0/67, Error ellipse: s-maj=7.4km s-min=3.8km az=69.0*

NEIC Felt [IV] at Caspana, Huara, Iquique, Pozo Almonte and Sibaya; [III] at Camina.

*GUC **25** 05:12:50.3±0.6, 20.64S×69.61W, h112^{km}±6^{km}, ML5.2*

*IDC **25** 05:12:50.2±0.3, 20.39S×69.07W, h95^{km}±2^{km}, mb4.6/23, mb1 4.7/26, mb1mx4.7/27, MS4.1/8, Ms1 4.0/8, ms1mx3.7/22, Error ellipse: s-maj=14.5km s-min=6.0km az=80.0*

ISC 25 05:12:48.2±0.2**, 20.32S**±0.03×**68.94W**±0.06**, h93**^{km}**, h93**^{km}±.5^{km}**:pP-P, n205,** σ**1^{s}00**/175**, mb4.9**/77**, 6C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**179**	⇓*i*P	**P**	**05 13 25.1**	**+0.1**
LVC				*i* S	**S**	**05 13 51.8**	**-0.5**
LVC				AMP		05 13 57.7	
	comp=N,17µm,0.5s						
LVC	**Limon Verde**	**2.28**	**179**	P	**P**	**05 13 25.7**	**+0.7**
	comp=N,828nm,0.3s,baz=348,slow=8.5,SNR=4408						
LVC				S	**S**	**05 13 52.8**	**+0.5**
	comp=N,2µm,0.3s,baz=126,slow=20,SNR=45						
ANCH	**Antofagasta**	**3.61**	**202**	⇑*i*P	**P**	**05 13 38.6**	**-4.7**
ANCH				*i* S	**S**	**05 14 14.6**	**-10**
LPAZ	**La Paz**	**4.08**	**11**	P	**P**	**05 13 55.5**	**+5.7**
	comp=N,32nm,0.3s,baz=199,slow=6.9,SNR=136						
LPAZ				S	**S**	**05 14 32.5**	**-4.2**
	comp=N,17nm,0.3s,baz=188,slow=14,SNR=5.1						
LPAZ	**La Paz**	**4.08**	**11**	*e*P	**P**	**05 13 55.1**	**+5.3**
CPN1	**Cerro Paranal**	**4.50**	**197**	*i* P	**P**	**05 13 51.3**	**-4.1**
ARE	**Arequipa**	**4.53**	**327**	⇓*i*P	**P**	**05 13 55.1**	**-0.9**
ARE				*e*		05 14 24.7	
ARE				S	**S**	**05 14 45.1**	**-2.8**
CPCH	**Copiapo**	**7.12**	**190**	*i* P	**P**	**05 14 23.6**	**-8.0**
CPCH				*i* S	**S**	**05 15 37.5**	**-14**
CMCH	**Combarbala**	**10.97**	**189**	*e*P	**P**	**05 15 14.6**	**-9.0**
CMCH				*i* S	**S**	**05 17 07.6**	**-17**
NNA	**Nana**	**11.23**	**316**	*e*P	**P**	**05 15 25.0**	**-2.1**
	comp=N,11nm,0.4s						
CPUP	**Villa Florida**	**12.23**	**121**	P	**P**	**05 15 40.7**	**+0.3**
	comp=N,1.7nm,0.3s,baz=326,slow=12,SNR=56						
CPUP				LR	LR	05 21 03.5	
	comp=N,456nm,21.0s,baz=322,slow=40						
CPUP	**Villa Florida**	**12.23**	**121**	*e*P	**P**	**05 15 40.4**	**0.0**
MDZ	**Mendoza**	**12.52**	**180**	*e*P	**P**	**05 15 43.5**	**-0.7**
SAML	**Samuel**	**12.60**	**27**	*e*P	**P**	**05 15 44.8**	**-0.6**
	comp=N,57nm,1.0s						
TRQA	**Tornquist**	**18.68**	**163**	*e*P	**P**	**05 16 59.8**	**-1.8**
	comp=N,88nm,0.8s						
PLCA	**Paso Flores**	**20.39**	**184**	P	**P**	**05 17 17.9**	**-1.8**
	comp=N,268nm,1.3s,baz=3.6,slow=12,SNR=102						
PLCA				PcP	PcP	05 21 28.3	-0.8
	comp=N,6.1nm,1.1s,baz=229,slow=0.5,SNR=3.0						
PLCA				LR	LR	05 25 01.3	
	comp=N,338nm,21.6s,baz=359,slow=36						
PLCA	**Paso Flores**	**20.39**	**184**	⇓*i*P	**P**	**05 17 17.8**	**-1.9**
	comp=N,247nm,1.3s						
BDFB	**Brasilia**	**20.44**	**80**	P	**P**	**05 17 20.8**	**+0.5**
	comp=N,58nm,0.4s,baz=263,slow=11,SNR=66						
BDFB				LR	LR	05 26 18.0	
	comp=N,704nm,18.3s,baz=265,slow=39						
VAO	**Valinhos**	**20.60**	**101**	*e*P	**P**	**05 17 22.0**	**+0.1**
OTAV	**Otavalo**	**22.45**	**334**	*e*P	**P**	**05 17 44.1**	**+3.7**
	comp=N,11nm,0.5s,mb4.5						
ROSC	**El Rosal**	**25.57**	**347**	P	**P**	**05 18 12.0**	**+1.6**
	comp=N,7.9nm,0.4s,mb4.5,baz=307,slow=22,SNR=13						
CAM3	**Guarapari**	**26.61**	**96**	*e*P	**P**	**05 18 20.8**	**+0.9**
CAM3				*i*		05 18 20.8	
CAM3				*i*		05 18 21.4	
CAM3				*i*		05 18 22.9	
SDV	**Santo Domingo**	**29.07**	**357**	*e*P	**P**	**05 18 41.9**	**-0.3**
	comp=N,10nm,0.5s,mb4.7						
EFI	**East Falkland**	**32.43**	**167**	P	**P**	**05 19 10.3**	**-1.1**
JTS	**JuntasAbangare**	**34.25**	**331**	P	**P**	**05 19 28.8**	**+1.3**
	comp=N,3.0nm,0.5s,mb4.4,baz=121,slow=18,SNR=4.3						
USHA	**Ushuaia**	**34.46**	**179**	P	**P**	**05 19 27.9**	**-0.9**
	comp=N,13nm,0.5s,mb5.0,baz=355,slow=8.7,SNR=15						
RCBR	**Riachuelo**	**35.16**	**70**	*e*P	**P**	**05 19 36.4**	**+1.2**
	comp=N,84nm,0.7s,mb5.7						
MGP	**Maguayo**	**38.13**	**3**	*e*P	**P**	**05 19 59.2**	**-0.9**
SJG	**San Juan**	**38.29**	**4**	P	**P**	**05 20 00.5**	**-0.9**
	comp=N,20nm,0.4s,mb5.3,baz=176,slow=4.0,SNR=14						
SJG	**San Juan**	**38.29**	**4**	*e*P	**P**	**05 20 00.2**	**-1.2**
	comp=N,21nm,0.5s,mb5.2						
MTP	**Monte Pirata**	**38.32**	**5**	*e*P	**P**	**05 20 00.1**	**-1.5**
PMSA	**Palmer Station**	**44.55**	**177**	*e*P	**P**	**05 20 50.4**	**-1.8**
	comp=N,25nm,0.9s,mb5.0						
DWPF	**Disney**	**49.63**	**345**	*e*P	**P**	**05 21 32.4**	**0.0**
	comp=N,25nm,0.8s,mb5.2						
CSU	**Charleston Sou**	**54.06**	**348**	*e*P	**P**	**05 22 06.0**	**+0.4**
CSU				*e*		05 22 50.4	
NHSC	**New Hope**	**54.20**	**348**	*e*P	**P**	**05 22 06.0**	**-0.5**
	comp=N,82nm,0.6s,mb5.9						
NHSC				*e*pP	pP	05 22 30.3	+0.8
JSC	**Jenkinsville**	**55.55**	**348**	*e*P	**P**	**05 22 16.1**	**-0.3**
JSC				*e*pP	pP	05 22 39.5	+0.1
LRAL	**Lakeview Retre**	**55.79**	**342**	*e*P	**P**	**05 22 14.9**	**-3.2**
	comp=N,8.7nm,0.9s,mb4.8						
LRAL				*e*	pP	05 22 39.0	-2.1
HKT	**Hockley**	**56.29**	**332**	*e*P	**P**	**05 22 21.2**	**-0.5**
	comp=N,11nm,1.1s,mb4.8						
HKT				*e*pP	pP	05 22 43.3	-1.5
CPCT	**Cooper Cave**	**57.40**	**345**	*e*P	**P**	**05 22 27.9**	**-1.6**
CPCT				*e*pP	pP	05 22 51.4	-1.3
CPCT				*e*sP	sP	05 23 02.5	-0.7
OXF	**Oxford**	**57.90**	**340**	*e*P	**P**	**05 22 30.2**	**-2.8**
	comp=N,24nm,0.9s,mb5.2						
OXF				*e*pP	pP	05 22 52.9	-3.3
OXF				*e*sP	sP	05 23 05.1	-1.7
PLAL	**Pickwick Lake**	**57.92**	**341**	*e*P	**P**	**05 22 31.2**	**-1.9**
	comp=N,14nm,0.9s,mb5.0						
PLAL				*e*pP	pP	05 22 54.5	-1.9
PLAL				*e*sP	sP	05 23 05.1	-1.8
BLA	**Blacksburg**	**58.23**	**349**	*e*P	**P**	**05 22 33.4**	**-1.9**
	comp=N,14nm,0.7s,mb5.1						
BLA				*e*pP	pP	05 22 59.4	+0.9
ELN	**Prospectdale**	**58.31**	**349**	*e*P	**P**	**05 22 35.2**	**-0.6**
ELN				*e*pP	pP	05 23 00.1	+1.0
PWV	**Princeton**	**58.47**	**349**	*e*P	**P**	**05 22 37.0**	**+0.2**
PWV				*e*pP	pP	05 22 58.6	-1.6
JCT	**Junction City**	**58.58**	**329**	*e*P	**P**	**05 22 35.9**	**-1.9**
	comp=N,9.7nm,0.8s,mb4.9						
JCT				*e*pP	pP	05 22 57.8	-3.2
FWV	**Forest Hill**	**58.66**	**349**	*e*P	**P**	**05 22 37.7**	**-0.5**
FWV				*e*pP	pP	05 23 00.7	-0.9
WVT	**Waverly**	**58.92**	**342**	*e*P	**P**	**05 22 37.8**	**-2.2**
	comp=N,25nm,0.7s,mb5.3						
WVT				*e*pP	pP	05 23 01.3	-2.0
UALR	**University of**	**59.13**	**338**	*e*P	**P**	**05 22 40.3**	**-1.2**
	comp=N,3.7nm,0.6s,mb4.6						
UALR				*e*pP	pP	05 23 04.0	-0.9
MIAR	**Mount Ida**	**59.38**	**336**	*e*P	**P**	**05 22 42.2**	**-1.0**
	comp=N,17nm,1.0s,mb5.0						
MIAR				*e*pP	pP	05 23 05.1	-1.5
MIAR				*e*sP	sP	05 23 16.3	-0.8
LTX	**Lajitas**	**59.65**	**325**	*e*P	**P**	**05 22 44.4**	**-0.7**
	comp=N,4.3nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	**59.65**	**325**	P	**P**	**05 22 43.8**	**-1.3**
	comp=N,2.0nm,0.6s,mb4.4,baz=151,slow=8.6,SNR=39						
TXAR				pP	pP	05 23 06.6	-1.9
	comp=N,1.5nm,0.8s,baz=129,slow=8.0,SNR=3.4						
TXAR				sP	sP	05 23 17.9	-1.2
	comp=N,4.8nm,0.9s,baz=130,slow=6.4,SNR=7.1						
MCWV	**Mont Chateau**	**60.53**	**350**	*e*P	**P**	**05 22 51.1**	**+0.1**
	comp=N,38nm,0.7s,mb5.5						
MCWV				*e*pP	pP	05 23 14.2	-0.2
VNA1	**Neumayer--Stat**	**61.40**	**161**	⇑*i*P	**P**	**05 22 56.8**	**+0.3**
VNA1				*e*	pP	05 23 20.2	+0.2
VNA1				*e*		05 23 30.2	
VNA1				*e*		05 23 33.8	
FVM	**French Village**	**61.41**	**341**	*e*P	**P**	**05 22 55.6**	**-1.4**
	comp=N,39nm,0.9s,mb5.4						
FVM				*e*pP	pP	05 23 18.8	-1.7
FVM				*e*sP	sP	05 23 29.9	-1.1
BLO	**Bloomington**	**61.42**	**344**	*e*P	**P**	**05 22 55.3**	**-1.8**
	comp=N,32nm,0.7s,mb5.5						
ACSO	**Alum Creek Sta**	**61.64**	**348**	*e*P	**P**	**05 22 57.0**	**-1.5**
	comp=N,28nm,0.8s,mb5.3						
ACSO				*e*pP	pP	05 23 21.3	-0.7
WMOK	**Wichita Mounta**	**61.66**	**332**	P	**P**	**05 22 55.5**	**-3.2**
	comp=N,3.9nm,1.1s,mb4.3						
CCM	**Cathedral Cave**	**61.73**	**340**	*e*P	**P**	**05 22 57.4**	**-1.7**
	comp=N,18nm,1.0s,mb5.0						
CCM				*e*pP	pP	05 23 19.0	-3.6
VNA2	**Neumayer--Watz**	**61.77**	**161**	⇑*i*P	**P**	**05 22 59.2**	**+0.2**
VNA2				*e*	pP	05 23 22.3	-0.2
VNA2				*e*		05 23 32.2	
VNA2				*e*		05 23 35.6	
BRYW	**Bryant College**	**61.97**	**358**	*e*P	**P**	**05 23 00.4**	**-0.2**
	comp=N,31nm,0.8s,mb5.4						
CLNB	**Carlsbad**	**62.06**	**327**	*e*P	**P**	**05 23 01.2**	**-0.3**
ALLY	**Alegheny Colle**	**62.52**	**351**	*e*P	**P**	**05 23 04.0**	**-0.4**
BINY	**Binghamton**	**62.54**	**354**	*e*P	**P**	**05 23 04.5**	**0.0**
	comp=N,14nm,0.7s,mb5.0						
BINY				*e*pP	pP	05 23 28.4	+0.4
HRV	**Harvard--Oak R**	**62.55**	**358**	*e*P	**P**	**05 23 04.8**	**+0.2**
	comp=N,8.3nm,0.7s,mb4.8						
CPRX	**Cap Rock**	**62.67**	**327**	*e*P	**P**	**05 23 04.3**	**-1.1**
ERPA	**Erie**	**62.95**	**351**	*e*P	**P**	**05 23 06.2**	**-1.1**

	comp=N,65nm,0.7s,mb5.7						
ERPA				*e*pP	pP	05 23 31.2	+0.3
SNAA	**Sanae**	**63.40**	**161**	*e*	pP	05 23 31.3	-2.1
SNAA	**Sanae**	**63.40**	**161**	*e*	pP	05 23 41.7	+8.3
SNAA	**Sanae**	**63.40**	**161**	*e*	pP	05 23 45.3	+12
SNAA	**Sanae**	**63.40**	**161**	P	**P**	**05 23 08.9**	**-0.9**
	comp=N,8.7nm,0.8s,mb4.7,baz=300,slow=6.3,SNR=87						
SNAA				pP	pP	05 23 34.3	+0.9
	comp=N,7.9nm,1.1s,baz=292,slow=5.2,SNR=5.2						
SNAA	**Sanae**	**63.40**	**161**	⇑*i*P	**P**	**05 23 08.1**	**-1.7**
SNAA				*e*	pP	05 23 31.3	-2.1
SNAA				*e*		05 23 41.7	
SNAA				*e*		05 23 45.3	
NCB	**Newcomb**	**64.15**	**356**	*e*P	**P**	**05 23 14.8**	**-0.2**
	comp=N,15nm,1.0s,mb4.8						
KSU1	**Kansas State U**	**64.53**	**336**	*e*P	**P**	**05 23 16.0**	**-1.6**
BNM	**Barren Site**	**64.97**	**326**	*e*P	**P**	**05 23 20.4**	**-0.1**
MSNY	**Massena**	**65.22**	**355**	*e*P	**P**	**05 23 22.1**	**+0.1**
LAZ	**Ladron**	**65.43**	**326**	*e*P	**P**	**05 23 23.9**	**+0.4**
ANMO	**Albuquerque**	**65.50**	**327**	*e*P	**P**	**05 23 24.0**	**0.0**
	comp=N,6.4nm,0.9s,mb4.5						
TUC	**Tucson**	**65.89**	**322**	*e*P	**P**	**05 23 26.5**	**+0.1**
	comp=N,10nm,1.2s,mb4.5						
SDCO	**Great Sand Dun**	**67.22**	**329**	*e*P	**P**	**05 23 34.7**	**0.0**
	comp=N,12nm,0.6s,mb4.9						
SDCO				*e*pP	pP	05 23 58.4	-0.3
MAIT	**Maitri**	**67.91**	**159**	*e*P	**P**	**05 23 38.5**	**0.0**
MAIT				*e*PcP	PcP	05 24 05.0	+0.7
LIC	**Lamto**	**68.09**	**74**	*e*P	**P**	**05 23 39.8**	**-0.8**
	comp=N,43nm,0.7s,mb5.4						
TIC	**Toumodi**	**68.28**	**74**	*e*P	**P**	**05 23 41.4**	**-0.3**
	comp=N,24nm,0.3s,mb5.5						
KIC	**Kosan Boka**	**68.41**	**74**	*e*P	**P**	**05 23 42.4**	**-0.1**
	comp=N,54nm,0.4s,mb5.8						
DBIC	**Dimbokro**	**68.43**	**74**	P	**P**	**05 23 42.5**	**-0.1**
	comp=N,10nm,0.4s,mb5.0,baz=213,slow=5.9,SNR=90						
DBIC				pP	pP	05 24 07.8	+1.2
	comp=N,9.5nm,0.4s,baz=230,slow=7.5,SNR=3.9						
DBIC				sP	sP	05 24 18.9	+2.3
	comp=N,27nm,1.0s,baz=209,slow=7.2,SNR=3.6						
DBIC	**Dimbokro**	**68.43**	**74**	*e*P	**P**	**05 23 42.4**	**-0.3**
	comp=N,9.5nm,0.4s,mb5.0						
DBIC				*e*pP	pP	05 24 07.2	+0.6
WUAZ	**Wupatki**	**68.56**	**324**	*e*P	**P**	**05 23 44.1**	**+1.0**
	comp=N,38nm,1.0s,mb5.2						
WUAZ				*e*pP	pP	05 24 08.1	+1.0
PV01	**Paradox Valley**	**69.04**	**327**	*e*P	**P**	**05 23 45.1**	**-0.9**
PV01				*e*pP	pP	05 24 10.3	+0.3
PV10	**Paradox Valley**	**69.46**	**327**	*e*P	**P**	**05 23 48.7**	**+0.1**
BAR	**Barrett**	**69.70**	**318**	*e*P	**P**	**05 23 50.9**	**+0.7**
QSPA	**South Pole Qui**	**69.87**	**180**	*e*P	**P**	**05 23 50.2**	**-0.2**
	comp=N,25nm,0.5s,mb5.3						
PFO	**Pinyon Flat Ob**	**70.19**	**319**	*e*P	**P**	**05 23 54.1**	**+1.0**
	comp=N,16nm,1.0s,mb4.8						
LDFC	**Landfair**	**70.39**	**321**	*e*P	**P**	**05 23 55.7**	**+1.4**
NEN	**Nelson**	**70.63**	**322**	*e*P	**P**	**05 23 55.9**	**+0.2**
SRU	**San Rafael**	**70.77**	**327**	*e*P	**P**	**05 23 57.3**	**+0.8**
SRU				*e*pP	pP	05 24 20.9	+0.3
MSU	**Marysvale**	**71.19**	**325**	*e*P	**P**	**05 23 59.9**	**+0.8**
MWC	**Mount Wilson**	**71.59**	**319**	*e*P	**P**	**05 24 02.3**	**+0.8**
RSSD	**Black Hills**	**71.72**	**334**	*e*P	**P**	**05 24 02.2**	**+0.1**
	comp=N,6.1nm,0.9s,mb4.4						
RSSD				*e*pP	pP	05 24 26.8	+0.5
MPU	**Maple Canyon**	**72.02**	**327**	*e*P	**P**	**05 24 04.8**	**+0.8**
MPU				*e*pP	pP	05 24 28.9	+0.7
DAU	**Daniels Canyon**	**72.12**	**327**	*e*P	**P**	**05 24 05.5**	**+0.9**
NLU	**North Lily Min**	**72.20**	**326**	*e*P	**P**	**05 24 05.9**	**+0.9**
JLU	**Jordanelle**	**72.36**	**327**	*e*P	**P**	**05 24 06.6**	**+0.7**
JLU				*e*pP	pP	05 24 30.9	+0.7
CTU	**Camp Tracy**	**72.58**	**327**	*e*P	**P**	**05 24 06.7**	**-0.6**
DAC	**Darwin (Calif)**	**72.68**	**321**	*e*P	**P**	**05 24 08.7**	**+0.8**
	comp=N,14nm,0.9s,mb4.8						
TCUT	**Toone Canyon**	**72.72**	**328**	*e*P	**P**	**05 24 07.0**	**-1.0**
DUG	**Dugway**	**72.76**	**326**	*e*P	**P**	**05 24 09.4**	**+1.1**
	comp=N,30nm,1.2s,mb5.0						
DUG				*e*pP	pP	05 24 33.5	+0.9
PDAR	**Pinedale Array**	**73.08**	**330**	P	**P**	**05 24 10.2**	**+0.1**
	comp=N,1.7nm,0.6s,mb4.1,baz=128,slow=6.8,SNR=15						
PDAR				pP	pP	05 24 33.9	-0.4
	comp=N,3.7nm,1.0s,baz=143,slow=7.4,SNR=4.6						
HWUT	**Hardware Ranch**	**73.17**	**328**	*e*P	**P**	**05 24 10.6**	**0.0**
	comp=N,25nm,0.8s,mb5.1						
HWUT				*e*pP	pP	05 24 35.2	+0.3
SPUT	**South Promonto**	**73.39**	**327**	*e*P	**P**	**05 24 12.8**	**+0.8**
SPUT				*e*pP	pP	05 24 36.7	+0.5
BGU	**Big Grassy Mou**	**73.41**	**327**	*e*P	**P**	**05 24 12.7**	**+0.6**
BGU				*e*pP	pP	05 24 36.9	+0.6
TPH	**Tonopah**	**73.68**	**322**	*e*P	**P**	**05 24 14.6**	**+0.9**
	comp=N,17nm,1.0s,mb4.7						
TPH				*e*pP	pP	05 24 38.4	+0.4
AHID	**Auburn Hatcher**	**73.81**	**329**	*e*P	**P**	**05 24 15.0**	**+0.6**
	comp=N,21nm,0.8s,mb4.9						
AHID				*e*pP	pP	05 24 38.6	-0.1
HVU	**Hansel Valley**	**73.90**	**327**	*e*P	**P**	**05 24 15.4**	**+0.5**
MTUM	**Tungsten Hills**	**73.98**	**321**	*e*P	**P**	**05 24 16.7**	**+1.1**
MTUM				*e*pP	pP	05 24 40.5	+0.6
REDW	**Red Top Meadow**	**74.14**	**330**	*e*P	**P**	**05 24 17.1**	**+0.8**
SNOW	**Snow King Moun**	**74.17**	**330**	*e*P	**P**	**05 24 17.1**	**+0.6**
ULM	**Lac du Bonnet**	**74.19**	**342**	P	**P**	**05 24 15.6**	**-0.8**
	comp=N,19nm,0.9s,mb4.8,baz=155,slow=7.2,SNR=23						
ULM				pP	pP	05 24 40.2	-0.6
	comp=N,11nm,0.7s,baz=149,slow=6.8,SNR=6.2						
ULM	**Lac du Bonnet**	**74.19**	**342**	*e*P	**P**	**05 24 15.4**	**-1.0**
	comp=N,20nm,0.8s,mb4.9						
ULM				*e*pP	pP	05 24 39.7	-1.0
TPAW	**Teton Pass**	**74.29**	**330**	*e*P	**P**	**05 24 17.8**	**+0.6**
OMM	**Old Mammoth Mi**	**74.41**	**321**	*e*P	**P**	**05 24 18.5**	**+0.5**
OMM				*e*pP	pP	05 24 42.8	+0.5
ELK	**Elko**	**74.44**	**325**	*e*P	**P**	**05 24 18.9**	**+0.8**
	comp=N,11nm,1.0s,mb4.5						
ELK				*e*pP	pP	05 24 42.7	+0.2
MNV	**Mina**	**74.46**	**322**	*e*P	**P**	**05 24 18.4**	**+0.1**
	comp=N,12nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**74.55**	**322**	P	**P**	**05 24 19.9**	**+1.2**
	comp=N,22nm,1.1s,mb4.8,baz=134,slow=8.0,SNR=47						
NVAR				pP	pP	05 24 44.0	+0.9
	comp=N,5.0nm,0.8s,baz=130,slow=8.2,SNR=5.4						
LAO	**LASA Array**	**74.71**	**334**	*e*P	**P**	**05 24 19.7**	**+0.2**
	comp=N,35nm,1.3s,mb4.9						
LAO				*e*pP	pP	05 24 44.0	+0.2
LRV	**Little Rabbit**	**74.86**	**319**	*e*P	**P**	**05 24 21.9**	**+1.3**
SCHQ	**Schefferville**	**74.86**	**1**	P	**P**	**05 24 20.4**	**+0.2**
	comp=N,10nm,0.6s,mb4.7,baz=168,slow=4.2,SNR=22						
SCHQ				sP	sP	05 24 56.4	+1.8
	comp=N,16nm,0.9s,baz=175,slow=4.4,SNR=5.4						
SCHQ	**Schefferville**	**74.86**	**1**	*e*P	**P**	**05 24 18.6**	**-1.6**
	comp=N,14nm,0.9s,mb4.7						
YMR	**Madison River**	**75.19**	**330**	*e*P	**P**	**05 24 24.1**	**+1.8**
YMR				*e*pP	pP	05 24 48.6	+2.0
DGMT	**Dagmar**	**75.38**	**337**	*e*P	**P**	**05 24 24.2**	**+1.0**
	comp=N,31nm,0.9s,mb5.0						
DGMT				*e*pP	pP	05 24 48.0	+0.3
CMB	**Columbia Colle**	**75.51**	**320**	*e*P	**P**	**05 24 24.8**	**+0.5**
	comp=N,3.8nm,0.8s,mb4.2						
QLMT	**Earthquake Lak**	**75.53**	**330**	*e*P	**P**	**05 24 25.8**	**+1.6**
PAHR	**Pah Rah Range**	**76.03**	**322**	*e*P	**P**	**05 24 28.3**	**+1.1**
	comp=N,59nm,0.9s,mb5.3						
HLID	**Hailey**	**76.03**	**328**	*e*P	**P**	**05 24 28.0**	**+0.9**
	comp=N,21nm,0.9s,mb4.9						
HLID				*e*pP	pP	05 24 53.2	+1.7
MCMT	**McKenzie Canyo**	**76.19**	**329**	*e*P	**P**	**05 24 29.5**	**+1.5**
MCMT				*e*pP	pP	05 24 53.8	+1.4
BOZ	**Bozeman (W)**	**76.23**	**331**	*e*P	**P**	**05 24 28.7**	**+0.5**
	comp=N,10nm,1.1s,mb4.5						
BOZ				*e*pP	pP	05 24 52.9	+0.3
BEKR	**Beckwourth**	**76.69**	**322**	*e*P	**P**	**05 24 32.2**	**+1.3**
	comp=N,12nm,1.0s,mb4.6						
SBA	**Scott Base**	**76.98**	**190**	*e*P	**P**	**05 24 32.4**	**+0.7**
	comp=N,32nm,1.4s,mb4.9						
HRY	**Holter Researc**	**77.13**	**331**	*e*P	**P**	**05 24 34.3**	**+1.2**
HRY				*e*pP	pP	05 24 59.1	+1.5
NSHM	**Saint Helena R**	**77.17**	**320**	*e*P	**P**	**05 24 33.6**	**+0.1**
SYO	**Syowa Base**	**77.61**	**160**	⇑P	**P**	**05 24 34.7**	**-0.7**
SYO	**Syowa Base**	**77.61**	**160**	⇓PcP	PcP	05 24 45.3	-0.3
SYO	**Syowa Base**	**77.61**	**160**	⇓sP	sP	05 24 55.5	-15
SYO	**Syowa Base**	**77.61**	**160**	⇑sP	sP	05 25 03.5	-6.6
CHMT	**Chamberlain Mo**	**77.93**	**331**	*e*P	**P**	**05 24 38.7**	**+1.2**
CHMT				*e*pP	pP	05 25 02.5	+0.5
VNDA	**Vanda**	**78.00**	**190**	P	**P**	**05 24 38.0**	**+0.6**
	comp=N,3.7nm,0.7s,mb4.2,baz=128,slow=6.9,SNR=14						
VNDA				LR	LR	05 59 34.7	
	comp=N,158nm,20.0s,baz=259,slow=36						
VNDA	**Vanda**	**78.00**	**190**	*e*P	**P**	**05 24 38.0**	**+0.6**
	comp=N,6.5nm,1.0s,mb4.3						
MOD	**Modoc**	**78.00**	**323**	*e*P	**P**	**05 24 38.3**	**+0.2**
	comp=N,13nm,1.1s,mb4.6						
MOD				*e*pP	pP	05 25 01.7	-0.9
WDC	**Whiskeytown Da**	**78.43**	**321**	*e*P	**P**	**05 24 38.5**	**-2.0**
	comp=N,6.7nm,0.5s,mb4.6						
SUR	**Sutherland**	**79.20**	**121**	P	**P**	**05 24 45.6**	**+0.8**
	comp=N,8.2nm,0.8s,mb4.6,baz=215,slow=7.0,SNR=4.2						
YBH	**Yreka Blue Hor**	**79.26**	**322**	P	**P**	**05 24 44.7**	**-0.3**
	comp=N,6.1nm,0.6s,mb4.6,baz=124,slow=3.9,SNR=6.5						
YBH	**Yreka Blue Hor**	**79.26**	**322**	*e*P	**P**	**05 24 44.2**	**-0.8**
	comp=N,10nm,1.0s,mb4.6						
LNOR	**Lincton Mounta**	**79.61**	**327**	*e*P	**P**	**05 24 46.9**	**+0.1**
HUMO	**Hull Mountain**	**79.96**	**323**	*e*P	**P**	**05 24 48.2**	**-0.6**
	comp=N,5.1nm,0.7s,mb4.5						
TSUM	**Tsumeb**	**80.41**	**107**	P	**P**	**05 24 53.0**	**+1.5**
	comp=N,8.0nm,0.8s,mb4.6,baz=234,slow=5.7,SNR=12						
TSUM	**Tsumeb**	**80.41**	**107**	*e*P	**P**	**05 24 52.8**	**+1.2**
	comp=N,15nm,0.9s,mb4.8						
TSUM				*e*pP	pP	05 25 19.3	+3.1
HAWA	**Hanford**	**80.60**	**327**	*e*P	**P**	**05 24 52.8**	**+0.7**
	comp=N,26nm,0.9s,mb5.1						
HAWA				*e*pP	pP	05 25 17.0	+0.3
GBL	**Gable Mountain**	**80.70**	**327**	P	**P**	**05 24 53.8**	**+1.2**
NEW	**Newport**	**80.71**	**330**	P	**P**	**05 24 52.9**	**+0.3**
	comp=N,3.2nm,0.7s,mb4.2,baz=140,slow=7.1,SNR=4.0						
NEW				pP	pP	05 25 17.1	-0.1
	comp=N,4.6nm,0.7s,baz=102,slow=6.8,SNR=3.9						
NEW	**Newport**	**80.71**	**330**	*e*P	**P**	**05 24 51.8**	**-0.8**
	comp=N,4.5nm,0.8s,mb4.3						
NEW				*e*pP	pP	05 25 15.8	-1.4
DPW	**Davenport**	**80.96**	**329**	*e*P	**P**	**05 24 54.6**	**+0.7**
DPW				*e*pP	pP	05 25 19.4	+0.9
WTV	**Waterville**	**81.70**	**328**	P	**P**	**05 24 58.8**	**+1.1**
NLW	**Nelson Butte**	**82.15**	**328**	*e*P	**P**	**05 25 00.9**	**+0.8**
NLW				*e*pP	pP	05 25 25.3	+0.6
PNT	**Penticton**	**82.63**	**329**	P	**P**	**05 25 02.9**	**+0.4**
RPW	**Rockport**	**82.98**	**328**	*e*P	**P**	**05 25 03.9**	**-0.4**
RPW				*e*pP	pP	05 25 29.1	+0.1
GNW	**Green Mountain**	**83.07**	**327**	P	**P**	**05 25 04.3**	**-0.4**
GNW				*e*pP	pP	05 25 29.8	+0.3
RAR	**Rarotonga**	**83.60**	**250**	LR	LR	05 52 01.3	
	comp=N,153nm,21.7s,baz=293,slow=28						
ESDC	**Sonseca Array**	**85.02**	**45**	P	**P**	**05 25 16.2**	**+1.5**
	comp=N,8.0nm,1.1s,mb4.5,baz=240,slow=5.7,SNR=12						
ESDC				pP	pP	05 25 41.9	+2.3
	comp=N,2.5nm,0.8s,baz=273,slow=4.1,SNR=2.0						
ESDC				LR	LR	05 59 43.3	
	comp=N,44nm,18.6s,baz=170,slow=33						
MAW	**Mawson**	**85.47**	**163**	P	**P**	**05 25 16.9**	**+0.7**
	comp=N,6.4nm,0.5s,mb4.8,baz=207,slow=5.5,SNR=21						
MAW				LR	LR	06 01 54.3	
	comp=N,73nm,21.2s,baz=240,slow=34						
MAW	**Mawson**	**85.47**	**163**	*e*P	**P**	**05 25 16.2**	**-0.1**
	comp=N,9.9nm,0.6s,mb4.9						
YKA	**Yellowknife Ar**	**90.07**	**341**	P	**P**	**05 25 38.7**	**+0.3**
	comp=N,15nm,0.8s,mb5.2,baz=135,slow=4.6,SNR=51						
YKA				pP	pP	05 26 04.2	+0.7
	comp=N,21nm,0.7s,baz=129,slow=4.9,SNR=17						
YKA	**Yellowknife Ar**	**90.07**	**341**	P	**P**	**05 25 38.7**	**+0.3**
YKA				pP	pP	05 26 04.2	+0.7
YKW3	**Yellowknife Ar**	**90.12**	**341**	*e*P	**P**	**05 25 39.3**	**+0.6**
YKW3				*e*pP	pP	05 26 04.3	+0.5
DLBC	**Dease Lake**	**93.14**	**333**	P	**P**	**05 25 54.0**	**+1.2**
	comp=N,4.1nm,0.8s,mb4.8,baz=121,slow=7.7,SNR=12						
DLBC				pP	pP	05 26 19.5	+1.6
	comp=N,13nm,1.1s,baz=122,slow=2.8,SNR=10						
DLBC	**Dease Lake**	**93.14**	**333**	*e*P	**P**	**05 25 53.8**	**+1.0**
DLBC				*e*pP	pP	05 26 18.6	+0.7
RPZ	**Rata Peaks**	**95.89**	**219**	LR	LR	05 57 28.1	
	comp=N,144nm,21.5s,baz=15,slow=28						
INK	**Inuvik**	**99.83**	**340**	P	**P**	**05 26 23.8**	**+0.9**
	comp=N,1.7nm,1.0s,mb4.6,baz=94,slow=4.8,SNR=4.2						
INK				pP	pP	05 26 47.4	-0.7
	comp=N,1.6nm,0.6s,baz=82,slow=8.0,SNR=3.3						
INK	**Inuvik**	**99.83**	**340**	P	**P**	**05 26 23.8**	**+0.9**
INK				pP	pP	05 26 47.4	-0.7
AKASG	**Malin Array Be**	**110.56**	**42**	PP	PP	05 31 53.0	+1.6
	comp=N,0.1nm,0.3s,baz=257,slow=7.4,SNR=7.9						
CTA	**Charters Tower**	**127.08**	**223**	PKP	PKPdf	05 31 43.0	+0.7
	comp=N,2.7nm,0.7s,baz=137,slow=3.8,SNR=3.5						
ASAR	**Alice Springs**	**130.94**	**208**	PKP	PKPdf	05 31 50.1	+0.5
	comp=N,2.9nm,0.5s,baz=122,slow=1.6,SNR=25						
ASAR				pPKP		05 32 17.9	
	comp=N,1.0nm,0.5s,baz=125,slow=1.6,SNR=2.5						
ASPA	**Alice Springs**	**130.94**	**208**	*e*P	PKPdf	05 31 49.7	0.0
WB2	**Warramunga Arr**	**133.94**	**211**	*e*P	PKPdf	05 31 56.1	+0.7
WRA	**Warramunga Arr**	**133.95**	**211**	PKhKP		05 31 51.1	
	comp=N,0.3nm,0.4s,baz=220,slow=1.6,SNR=4.8						
WRA				PKP	PKPdf	05 31 56.4	+1.0
	comp=N,4.7nm,0.7s,baz=154,slow=1.7,SNR=22						
ZRNK	**Zerenda**	**134.15**	**34**	*e*PKPpre		05 31 57.4	
BVAR	**Borovoye Array**	**134.84**	**34**	PKhKP		05 31 54.4	
	comp=N,1.6nm,0.7s,baz=270,slow=1.4,SNR=3.7						
BVAR				PKP	PKPdf	05 31 59.0	+2.8
	comp=N,3.0nm,0.7s,baz=270,slow=1.5,SNR=11						
BVAR				pPKP		05 32 25.5	
	comp=N,2.0nm,0.8s,baz=45,slow=2.1,SNR=3.1						
FITZ	**Fitzroy Crossi**	**139.23**	**202**	PKhKP		05 31 56.3	
	comp=N,2.4nm,0.5s,baz=188,slow=5.3,SNR=7.3						
FITZ				PKP	PKPdf	05 32 06.8	+1.6
	comp=N,3.7nm,0.7s,baz=174,slow=5.8,SNR=6.8						
ASAJ	**Asahikawa**	**144.65**	**319**	PKP	PKPdf	05 32 15.6	+1.6
	comp=N,19nm,0.8s,baz=291,slow=13,SNR=6.7						
MKAR	**Makanchi Array**	**144.69**	**35**	PKP	PKPdf	05 32 15.4	+1.5
	comp=N,50nm,1.2s,baz=315,slow=1.7,SNR=21						
MKAR				pPKP		05 32 41.8	
	comp=N,5.3nm,0.6s,baz=310,slow=3.7,SNR=4.0						
POO	**Poona**	**144.91**	**86**	*e*P	PKPdf	05 32 16.5	+1.3
NDI	**New Delhi**	**148.19**	**68**	*e*P	PKPdf	05 32 25.0	+4.6
DDI	**Dehra Dun**	**148.65**	**65**	*e*	PKPdf	05 32 27.3	+6.2
WMQ	**Urumqi**	**149.52**	**34**	PKP	PKPdf	05 32 25.3	+3.3
WMQ				PKP2	PKPab	05 32 36.3	+2.2
WMQ				APKP		05 32 51.6	
WMQ				XPKP		05 33 02.5	
WMQ				PKS	PKS	05 35 58.8	+2.9
WMQ				PP	PP		
	comp=Z,32nm,9.2s						
WMQ				LR	LR		
	comp=E,119nm,29.2s						
WMQ				LR	LR		
	comp=Z,52nm,23.4s						
HIA	**Hailar**	**150.29**	**348**	*e*PKPbc	PKPdf	05 32 29.8	+6.7
HIA				*e*pPKPbc		05 32 55.6	
MDJ	**Mudanjiang**	**151.30**	**332**	PKP	PKPdf	05 32 21.0	-3.7
MAJO	**Matsushiro**	**151.30**	**310**	*e*PKPbc	PKPdf	05 32 32.6	+7.6
MAJO				*e*pPKPbc		05 32 58.5	
MAT	**Matsushiro**	**151.30**	**310**	PKP	PKPdf	05 32 32.3	+7.3
MAT	**Matsushiro**	**151.30**	**310**	*e*PKP	PKPdf	05 32 32.0	+7.0
SONM	**Songino Array**	**152.29**	**7**	PKP	PKPdf	05 32 29.1	+3.1
	comp=Z,2.6nm,0.8s,baz=328,slow=1.9,SNR=14						
SONM				PKPbc	PKPdf	05 32 35.3	+9.3
	comp=Z,8.0nm,0.5s,baz=306,slow=1.3,SNR=46						
CN2	**Changchun**	**153.68**	**336**	*e*PKP	PKPdf	05 32 28.4	+0.3
CN2				*e*PP	PP	05 36 27.4	+0.5
GTA	**Gaotai**	**158.66**	**25**	*e*PKP	PKPdf	05 32 38.1	+3.4
BJI	**Beijing**	**159.86**	**349**	PKP	PKPdf	05 32 38.1	+2.0
LZH	**Lanzhou**	**163.06**	**20**	*e*PKP	PKPdf	05 32 39.0	-0.4
LZH				APKP		05 33 05.3	
LZH				XPKP		05 33 16.3	
LZH				*e*PP	PP	05 37 17.3	-0.1
LZH				PP	PP		
	comp=Z,165nm,7.4s						
LZH				LR	LR		
	comp=E,298nm,18.0s						
LZH				LR	LR		
	comp=Z,487nm,20.1s						
SSE	**Sheshan**	**165.92**	**322**	PKP	PKPdf	05 32 42.6	+0.3
NJ2	**Nanjing**	**166.39**	**331**	*e*PKP	PKPdf	05 32 42.9	+0.2
NJ2				PKP2	PKPab	05 33 47.5	+0.8
NJ2				PKS	PKS	05 36 17.0	+2.7
NJ2				SKS	SKS	05 39 36.0	+0.6
NJ2				SKKS		05 44 11.0	
NJ2				LR	LR		
	comp=N,1μm,26.0s						
NJ2				LR	LR		
	comp=E,2μm,24.0s						
NJ2				LR	LR		
	comp=Z,3μm,22.0s						
CMAR	**Chiang Mai Arr**	**168.42**	**97**	PKP	PKPdf	05 32 45.9	+1.6
	comp=Z,2.0nm,0.9s,baz=274,slow=1.8,SNR=10						
CMAR				pPKP		05 33 12.6	
	comp=Z,0.8nm,0.5s,baz=333,slow=2.0,SNR=1.9						
CMAR				PKPab	PKPab	05 33 56.5	+0.5
	comp=Z,0.6nm,0.3s,baz=261,slow=6.0,SNR=4.9						
KMI	**Kunming**	**170.96**	**57**	*e*PKP	PKPdf	05 32 46.8	+1.2
KMI				LR	LR		
	comp=Z,38nm,19.1s						

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*NIED **25** 05:19:00,44.30N×142.50E,h220^{km},Mw4.6 Best double couple: M$_0$7.81×10^{15} NP1:φ$_s$38°,δ86°,λ-9°. NP2:φ$_s$128°,δ81°,λ-176°.*

*SKHL **25** 05:19:31.7±1.4,44.35N×142.39E,h210^{km}±20^{km},mb6.3/1,mbh5.9/1,msh5.6/2*

*BJI **25** 05:19:32.7,44.27N×142.39E,h220^{km},mB5.0,mb4.8*

*MOS **25** 05:19:32.7±0.9,44.39N×142.41E,h224^{km},mb4.3/17,Error ellipse: s-maj=13.1km s-min=7.4km az=104.1*

*JMA **25** 05:19:33.6±0.1,44.29N×142.52E,h225^{km}±1^{km},M4.4*

JMA Felt I J1.

*IDC **25** 05:19:33.6±0.2,44.41N×142.44E,h217^{km}±2^{km},mb3.9/24,mb1 4.1/27,mb1mx4.1/29,Error ellipse: s-maj=9.5km s-min=8.4km az=128.0*

*NEIC **25** 05:19:33.3±0.6,44.36N×142.44E,h218^{km}±6^{km},mb4.5/29,MW4.6(NIED),Error ellipse: s-maj=6.7km s-min=5.0km az=129.0*

ISC 25 05:19:32.6±0.2**,44.33N**±0.03×**142.48E**±0.03**,h226**^{km}±1^{km}**,h219**^{km}±1.4^{km}**:pP-P,n179,**σ**0^{s}96**/214**,mb4.3**/64**,9C-22D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.23**	**158**	P	**P**	**05 20 03.1**	**+0.8**
	139nm,0.3s,baz=251,slow=4.1,SNR=297						
ASAJ				S	**S**	**05 20 25.3**	**-0.1**
	34nm,0.3s,baz=358,slow=31,SNR=41						
ASAJ	**Asahikawa**	**0.23**	**158**	⇓P	**P**	**05 20 03.1**	**+0.7**
ASAJ				*e*S	**S**	**05 20 25.7**	**+0.3**
ASAJ	**Asahikawa**	**0.23**	**158**	PN	**P**	**05 20 03.2**	**+0.8**
ASAJ				S	**S**	**05 20 25.3**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,139nm,0.3s						
ASAJ				smax			
	comp=N,34nm,0.3s						
JSS	**Shosan**	**0.45**	**279**	⇑P	**P**	**05 20 03.8**	**+0.9**
JSS				*e*S	**S**	**05 20 26.8**	**+0.4**
JKK2	**Kamakawa 2**	**0.50**	**157**	⇓P	**P**	**05 20 03.9**	**+0.9**
JKK2				*e*S	**S**	**05 20 26.8**	**+0.2**
JSE	**Soyaes**	**0.63**	**7**	⇓P	**P**	**05 20 04.2**	**+0.7**
JSE				*e*S	**S**	**05 20 27.1**	**-0.4**
JMP	**Maruseppu**	**0.71**	**117**	⇓P	**P**	**05 20 04.5**	**+0.7**
JMP				*e*S	**S**	**05 20 28.0**	**-0.1**
JYG	**Yagishiri**	**0.76**	**278**	⇑P	**P**	**05 20 04.8**	**+0.8**
JYG				*e*S	**S**	**05 20 28.4**	**0.0**
JHR	**Hokuryu**	**0.80**	**223**	P	**P**	**05 20 05.1**	**+0.9**
JHR				*e*S	**S**	**05 20 29.4**	**+0.6**
JWK2	**Keihoku**	**1.07**	**338**	⇓P	**P**	**05 20 06.6**	**+0.9**
JWK2				*e*S	**S**	**05 20 31.6**	**+0.1**
JTKR	**Abashiri--Toko**	**1.09**	**109**	⇓P	**P**	**05 20 06.8**	**+0.9**
JTKR				*e*S	**S**	**05 20 31.9**	**+0.2**
JFR	**Furan**	**1.17**	**176**	⇓P	**P**	**05 20 07.0**	**+0.5**
JFR				*e*S	**S**	**05 20 33.4**	**+0.7**
JAR	**Ashorobuto**	**1.39**	**137**	⇓P	**P**	**05 20 08.8**	**+0.6**
JAR				*e*S	**S**	**05 20 35.8**	**+0.1**
JEW	**Eniwo**	**1.67**	**207**	⇓P	**P**	**05 20 11.4**	**+1.0**
JEW				*e*S	**S**	**05 20 39.7**	**+0.1**
JSK	**Shakotan**	**1.75**	**237**	⇑P	**P**	**05 20 12.0**	**+0.9**
JSK				*e*S	**S**	**05 20 40.9**	**0.0**
JCH	**Churui**	**1.83**	**159**	⇓P	**P**	**05 20 11.1**	**-0.8**
JCH				*e*S	**S**	**05 20 39.3**	**-2.9**
JRA	**Rausu**	**1.95**	**101**	⇑P	**P**	**05 20 13.7**	**+0.7**
JRA				*e*S	**S**	**05 20 44.8**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.06**	**174**	⇓P	**P**	**05 20 13.7**	**-0.4**
JNBK				*e*S	**S**	**05 20 46.0**	**0.0**
JAK	**Akkeshi**	**2.09**	**129**	P	**P**	**05 20 13.3**	**-1.1**
JAK				*e*S	**S**	**05 20 44.4**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**2.45**	**96**	*e*P	**P**	**05 20 17.5**	**-0.6**
YUK				AMB	AMB	05 20 18.2	
	comp=N,190nm,0.5s						
YUK				AMB	AMB	05 20 18.2	
	comp=N,1μm,0.5s						
YUK				AMB	AMB	05 20 22.8	
	comp=N,2μm,1.0s						
YUK				AMB	AMB	05 20 22.8	
	comp=N,4μm,1.0s						
YUK				AMB	AMB	05 20 22.8	
	comp=N,3μm,2.0s						
YUK				*i* S	**S**	**05 20 52.9**	**-0.5**
YUK				A		05 20 54.1	
	comp=N,16μm,2.5s						
YUK				A		05 20 54.1	
	comp=N,8μm,2.5s						
YUK				A		05 20 55.0	
	comp=N,830nm,0.7s						
YUK				A		05 20 55.0	
	comp=N,2μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**96**	*e*PN	**P**	**05 20 17.5**	**-0.6**
YUK				*i* S	**S**	**05 20 52.9**	**-0.5**
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				pmax	pmax		
	comp=N,3μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,16μm,3.0s						
YUK				smax			
	comp=E,8μm,2.0s						
YUK				smax			
	comp=N,830nm,0.6s						
YUK				smax			
	comp=E,2μm,0.8s						
NEM2	**Nemuro 2**	**2.55**	**111**	P	**P**	**05 20 17.9**	**-1.3**
NEM2				*e*S	**S**	**05 20 51.7**	**-3.6**
YSS	**Yuzh-Sakhalins**	**2.63**	**4**	⇓*i*P	**P**	**05 20 19.9**	**-0.1**
YSS				⇓*i*P		05 20 19.9	
YSS				AMB	AMB	05 20 20.9	
	comp=E,1μm,1.0s						
YSS				AMB	AMB	05 20 20.9	
	comp=E,700nm,0.9s						
YSS				AMB	AMB	05 20 20.9	
	comp=E,160nm,0.9s						
YSS				*i* S	**S**	**05 20 55.0**	**-1.8**
YSS				A		05 20 56.1	
	comp=E,620nm,1.0s						
YSS				A		05 20 56.1	
	comp=E,1μm,1.0s						
YSS				A		05 20 57.0	
	comp=E,1μm,1.5s						
YSS	**Yuzh-Sakhalins**	**2.63**	**4**κ	*i*PN	**P**	**05 20 19.9**	**-0.1**
YSS				*i* S	**S**	**05 20 55.0**	**-1.8**
YSS				pmax	pmax		
	comp=Z,1μm,1.0s						
YSS				pmax	pmax		
	comp=N,700nm,0.9s						
YSS				pmax	pmax		
	comp=E,160nm,0.9s						
YSS				smax			
	comp=N,620nm,1.0s						
YSS				smax			
	comp=E,1μm,1.0s						
YSS				smax			
	comp=E,1μm,1.5s						
YSS	**Yuzh-Sakhalins**	**2.63**	**4**	*e*P	**P**	**05 20 19.7**	**-0.3**
JKB	**Kayabe**	**2.66**	**204**	⇓P	**P**	**05 20 20.2**	**-0.1**
JKB				*e*S	**S**	**05 20 54.6**	**-2.7**
UGL	**Uglegorsk**	**4.76**	**357**	*e*P	**P**	**05 20 44.0**	**-1.3**
UGL				AMB	AMB	05 20 45.5	
	comp=E,120nm,0.6s						
UGL				AMB	AMB	05 20 45.5	
	comp=E,240nm,0.6s						
MAJO	**Matsushiro**	**8.43**	**204**	*e*P	**P**	**05 21 30.8**	**-1.3**
	comp=E,48nm,0.6s						
MAT	**Matsushiro**	**8.43**	**204**	P	**P**	**05 21 30.9**	**-1.3**
MAT				S	**S**	**05 23 05.7**	**0.0**
MAT	**Matsushiro**	**8.43**	**204**	*e*P	**P**	**05 21 31.0**	**-1.2**
	comp=E,29nm,0.6s						
MAT				*e*S	**S**	**05 23 03.0**	**-2.7**
KLR	**Kul'dur**	**8.84**	**307**	*e*PN	**P**	**05 21 37.8**	**+0.4**
KLR				*e*		05 23 18.1	
NKL	**Nikolayevsk**	**8.91**	**353**	*e*P	**P**	**05 21 34.6**	**-3.7**
NKL				AMB	AMB	05 21 40.6	
	comp=E,30nm,0.7s						
NKL				AMB	AMB	05 21 40.6	

	comp=E,50nm,0.7s						
MDJ	Mudanjiang	9.22	276	P	P	05 21 42.6	+0.3
MDJ				S	S	05 23 25.0	+1.2
MDJ				AMB	AMB		
	comp=Z,209nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,80nm,3.7s						
MDJ	Mudanjiang	9.22	276	eP	P	05 21 42.4	+0.1
	comp=Z,156nm,0.8s						
SKR	Severo-Kuril's	11.20	51	eP	P	05 22 08.0	+0.6
SKR				AMB	AMB	05 22 10.1	
	comp=Z,200nm,1.0s						
SKR				AMB	AMB	05 22 10.1	
	comp=Z,470nm,1.0s						
SKR				AMB	AMB	05 22 10.1	
	comp=Z,70nm,0.4s						
SKR				eS	S	05 24 09.8	+0.5
SKR				A		05 24 15.0	
	comp=Z,50nm,0.5s						
SKR				A		05 24 15.0	
	comp=Z,80nm,0.5s						
SKR				A		05 24 15.0	
	comp=Z,30nm,0.5s						
SKR	Severo-Kuril's	11.20	51	ePN	P	05 22 08.0	+0.6
SKR				eS	S	05 24 09.8	+0.5
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
JHJ	Hachijo jima 2	11.39	192	P	P	05 22 08.0	-2.0
	comp=Z,66nm,0.3s,baz=251,slow=22,SNR=12						
JHJ				S	S	05 24 06.8	-6.9
	comp=Z,26nm,0.3s,baz=23,slow=22,SNR=5.2						
CN2	Changchun	12.26	273	eP	P	05 22 20.5	-0.4
CN2				eXP		05 23 10.5	
CN2				eS	S	05 24 32.5	-1.2
CN2				AMB	AMB		
	comp=Z,40nm,0.8s						
KS15	Wonju Array Si	13.00	243	eP	P	05 22 30.2	+0.2
ZEA	Zeya	13.70	319	eP	P	05 22 39.4	+0.8
ZEA				AMB	AMB	05 22 40.6	
	comp=Z,62nm,0.8s						
ZEA				AMB	AMB	05 22 40.6	
	comp=Z,42nm,0.8s						
ZEA				AMB	AMB	05 22 40.6	
	comp=Z,84nm,0.7s						
SNY	Shenyang	14.04	266	⇑P	P	05 22 43.3	+0.4
SNY				AMB	AMB		
	comp=Z,20nm,0.9s						
JNU	Nakatsue	14.38	223	P	P	05 22 48.4	+1.3
	comp=Z,2.2nm,0.3s,baz=73,slow=16,SNR=12						
MA2	Magadan	16.08	15	deP	P	05 23 06.9	-0.7
MA2				pmax	pmax		
	comp=Z,26nm,0.9s						
MA2	Magadan	16.08	15	eP	P	05 23 06.5	-1.1
	comp=Z,34nm,0.7s						
HIA	Hailar	16.31	296	eP	P	05 23 09.4	-0.9
	comp=Z,11nm,0.5s						
DL2	Dalian	16.49	258	P	P	05 23 12.5	-0.1
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
CLNS	Chul'man	16.71	325	eP	P	05 23 13.9	-1.0
CLNS				pmax	pmax		
	comp=Z,49nm,0.5s						
CLNS				pmax	pmax		
	comp=N,26nm,0.6s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.7s						
CBIJ	Chichi jima	17.20	181	P	P	05 23 21.8	+1.2
	comp=E,21nm,0.3s,baz=297,slow=10.0,SNR=5.1						
YAK	Yakutsk	19.25	342	eP	P	05 23 39.4	-2.0
YAK				eS	S	05 27 00.2	-2.3
YAK				pmax	pmax		
	comp=Z,27nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				smax			
	comp=E,21nm,1.1s						
YAK				smax			
	comp=N,28nm,1.0s						
YAK	Yakutsk	19.25	342	eP	P	05 23 39.1	-2.3
	comp=N,66nm,0.6s						
SEY	Seymchan	19.50	14	eP	P	05 23 44.7	+0.7
SEY				eS	S	05 27 09.6	+2.5
SEY				pmax	pmax		
	comp=E,40nm,0.6s						
SEY				pmax	pmax		
	comp=Z,90nm,0.6s						
SEY				smax			
	comp=N,60nm,1.2s						
SEY				smax			
	comp=E,40nm,1.4s						
BJI	Beijing	19.92	267	P	P	05 23 47.4	-1.0
BJI				AMB	AMB		
	comp=Z,61nm,0.8s						
BJT	Baijiatuau	19.93	267	eP	P	05 23 47.8	-0.7
	comp=Z,55nm,0.7s						
TIA	Tai'an	20.91	256	eP	P	05 23 58.3	0.0
TIA				AMB	AMB		
	comp=Z,58nm,1.1s						
SSE	Sheshan	21.33	239	P	P	05 24 01.8	-0.5
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,383nm,5.3s						
FX1	Attu Island--F	21.88	56	P	P	05 24 09.5	+2.0
	comp=Z,17nm,0.4s,mb4.9						
FX1	Attu Island--F	21.88	56	P	P	05 24 09.5	+1.9
FX1				pmax	pmax		
	comp=Z,17nm,0.4s						
FX1	Attu Island--F	21.88	56	eP	P	05 24 09.1	+1.5
NJ2	Nanjing	22.16	244	eP	P	05 24 10.8	+0.4
NJ2				PP	PP	05 24 48.3	+2.8
NJ2				S	S	05 27 57.0	+2.3
NJ2				PCS		05 31 41.0	
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.2						
NJ2				LR	LR		
	comp=N,4µm,11.9s						
NJ2				LR	LR		
	comp=E,4µm,14.2s						
NJ2				LR	LR		
	comp=Z,4µm,14.9s						
BOD	Bodaibo	22.20	318	eP	P	05 24 08.0	-2.6
HHC	Hu-ho-hao-te	22.95	272	eP	P	05 24 18.4	+0.4
HHC				S	S	05 28 15.3	+7.3
HHC				AMB	AMB		
	comp=Z,23nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,192nm,4.5s						
BTO	Baotou	24.14	273	eP	P	05 24 30.5	+1.4
BTO				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.2						
SONM	Songino Array	25.12	291	P	P	05 24 39.3	+1.1
	comp=Z,8.1nm,0.5s,mb4.6,baz=83,slow=8.7,SNR=70						
SONM				S	S	05 28 48.1	+4.0
	comp=Z,0.8nm,0.8s,baz=54,slow=12,SNR=4.0						
WHN	Wuhan	26.08	248	P	P	05 24 49.0	+1.9
ZAK	Zakamensk	27.00	297	eP	P	05 24 54.4	-0.9
XAN	Xi'an	27.79	260	P	P	05 25 02.3	-0.3
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
ENH	Enshi	29.53	253	eP	P	05 25 17.2	-0.9
	comp=Z,12nm,0.9s,mb4.5						
LZH	Lanzhou	30.40	268	⇑P	P	05 25 26.3	+0.6
LZH				AP	pP	05 26 10.8	-0.5
LZH				XP	sP	05 26 35.9	-1.7
LZH				S	S	05 30 08.6	+0.1
LZH				XS		05 31 28.4	
LZH				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,112nm,5.2s						
GYA	Guiyang	33.87	250	⇑iP	P	05 25 56.3	+0.7
GYA				AP	pP	05 26 41.4	-0.7
GYA				XP	sP	05 27 07.3	-1.0
GYA				PP	PP	05 27 14.0	-3.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
GYA				LR	LR		
	comp=N,160nm,15.0s						
GYA				LR	LR		
	comp=E,150nm,14.7s						
GYA				LR	LR		
	comp=Z,210nm,13.8s						
KMI	Kunming	37.41	253	eP	P	05 26 26.3	+0.9
KMI				AP	pP	05 27 12.8	+0.2
KMI				XP	sP	05 27 36.3	-2.6
KMI				S	S	05 31 57.5	+1.1
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.4						
KMI				LR	LR		
	comp=Z,26nm,22.5s						
WMQ	Urumqi	38.73	289	⇑iP	P	05 26 38.4	+2.2
WMQ				AP	pP	05 27 23.8	+0.1
WMQ				PP	PP	05 28 16.4	+4.7
WMQ				PCP	PcP	05 28 46.4	+2.9
WMQ				eS	S	05 32 18.6	+2.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
RSO	Redoubt South	40.85	43	P	P	05 26 54.6	+1.1
MKAR	Makanchi Array	41.31	295	P	P	05 26 58.1	+0.8
	comp=Z,6.9nm,0.6s,mb4.3,baz=80,slow=8.8,SNR=25						
KURK	Kurchatov	42.39	302	P	P	05 27 06.8	+0.9
	comp=Z,190nm,0.8s,SNR=22						
KURK	Kurchatov	42.39	302	P	P	05 27 06.1	+0.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
KURK	Kurchatov	42.39	302	eP	P	05 27 06.0	0.0
	comp=Z,13nm,0.4s,mb4.7						
COLA	College	42.60	36	eP	P	05 27 06.8	-0.6
COLA	College	42.60	36	eP	P	05 27 06.4	-1.0
	comp=Z,7.5nm,0.8s,mb4.2						
SML	Sawmill	42.78	41	eP	P	05 27 09.2	+0.2
ILAR	Eielson Array	43.02	36	P	P	05 27 10.6	-0.3
	comp=Z,3.9nm,0.7s,mb4.0,baz=247,slow=6.1,SNR=42						
ILAR				PP	PP	05 28 53.6	-1.8
	comp=Z,0.9nm,1.1s,baz=225,slow=9.3,SNR=2.7						
ILAR	Eielson Array	43.02	36	P	P	05 27 10.6	-0.2
ILAR						05 28 53.7	
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CMAR	Chiang Mai Arr	44.52	249	P	P	05 27 24.2	+0.8
	comp=Z,0.7nm,0.4s,mb3.4,baz=45,slow=6.4,SNR=4.0						
CMAR				PP	PP	05 29 08.3	-2.4
	comp=Z,0.6nm,0.4s,baz=32,slow=8.5,SNR=3.3						
CMAR	Chiang Mai Arr	44.52	249	P	P	05 27 24.3	+0.9
CMAR						05 29 08.4	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VOSK	Vostochnaya	46.27	307	P	P	05 27 36.5	-0.2
VOSK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
DAWY	Dawson	46.34	36	eP	P	05 27 36.5	-0.7
BVA0	Borovoye Array	46.50	308	i P	P	05 27 38.5	0.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.2						
BVAR	Borovoye Array	46.50	308	P	P	05 27 38.6	+0.1
	comp=Z,7.9nm,0.5s,mb4.3,baz=75,slow=8.5,SNR=49						
BVAR				S	S	05 34 07.9	-0.6
	comp=Z,1.8nm,0.9s,baz=90,slow=16,SNR=2.7						
BRVK	Borovoye	46.55	308	P	P	05 27 39.1	+0.2
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.1						
BRVK	Borovoye	46.55	308	eP	P	05 27 38.9	0.0
	comp=Z,22nm,1.1s,mb4.4						
ZRNK	Zerenda	47.31	308	P	P	05 27 45.0	+0.2
ZRNK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
ZRNK	Zerenda	47.31	308	eP	P	05 27 44.9	+0.1
	comp=Z,18nm,0.8s,mb4.4						
INK	Inuvik	47.60	30	P	P	05 27 46.2	-0.7
	comp=Z,5.8nm,0.3s,mb4.3,baz=281,slow=6.1,SNR=39						
INK	Inuvik	47.60	30	P	P	05 27 46.2	-0.6
INK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
INK	Inuvik	47.60	30	eP	P	05 27 46.0	-0.8
	comp=Z,6.4nm,0.5s,mb4.2						
GUN	Gumba	47.63	270	eP	P	05 27 46.8	-0.8
	comp=Z,23nm,0.3s,mb4.9						
KKN	Kakani	48.13	270	eP	P	05 27 50.5	-1.0
	comp=Z,18nm,0.5s,mb4.7						
PKI	Pulchoki	48.17	270	eP	P	05 27 51.8	0.0
	comp=Z,9.3nm,0.4s,mb4.5						
DMN	Daman	48.36	270	eP	P	05 27 52.6	-0.6
GKN	Gorkha	48.47	271	eP	P	05 27 52.7	-1.4
	comp=Z,16nm,0.4s,mb4.7						
KOLN	Koldanda	49.35	271	eP	P	05 28 01.2	+0.5
	comp=Z,14nm,0.4s,mb4.7						
ARU	Arti	51.59	315	eP	P	05 28 16.8	-0.3
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
ARU	Arti	51.59	315	eP	P	05 28 16.6	-0.6
	comp=Z,23nm,0.8s,mb4.7						
DLBC	Dease Lake	52.50	41	P	P	05 28 23.7	-0.1
	comp=Z,2.1nm,0.7s,mb3.7,baz=273,slow=6.9,SNR=5.9						
RES	Resolute Bay	55.35	16	eP	P	05 28 43.0	-1.4
	comp=Z,26nm,0.8s,mb4.8						
KEV	Kevo	56.95	338	ep	P	05 28 54.0	-1.7
	comp=Z,1.6nm,0.3s,mb4.1						
KEV	Kevo	56.95	338	eP	P	05 28 54.0	-1.7
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
YKA	Yellowknife Ar	57.16	33	P	P	05 28 56.9	-0.4
	comp=Z,4.1nm,0.5s,mb4.3,baz=308,slow=7.2,SNR=22						
YKA	Yellowknife Ar	57.16	33	P	P	05 28 56.9	-0.4
YKA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES	ARCESS Array B	57.49	338	P	P	05 28 58.4	-1.2
	comp=Z,4.2nm,0.8s,mb4.1,baz=53,slow=8.8,SNR=13						
ARCES	ARCESS Array B	57.49	338	P	P	05 28 58.4	-1.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	Kangasniemi	62.24	332	ep	P	05 29 27.0	-4.9
	comp=Z,2.7nm,0.4s,mb4.2						
KAF	Kangasniemi	62.24	332	eP	P	05 29 27.0	-4.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
FINES	FINESS Array B	62.78	331	P	P	05 29 34.2	-1.3
	comp=Z,13nm,0.5s,mb4.8,baz=70,slow=7.4,SNR=108						
FINES	FINESS Array B	62.78	331	P	P	05 29 34.2	-1.3
FINES				pmax	pmax		
	comp=Z,13nm,0.5s						
OBN	Obninsk	62.81	322	deP	P	05 29 34.6	-1.1
OBN				e		05 31 52.8	
OBN				eS	S	05 37 40.0	-5.3
OBN				eSS	SS	05 41 52.0	-4.7
OBN				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.7						
FITZ	Fitzroy Crossi	64.00	198	eP	P	05 29 43.8	-0.2
	comp=Z,1.9nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	64.00	198	P	P	05 29 44.1	+0.1
	comp=Z,2.9nm,0.7s,mb4.0,baz=6.1,slow=4.0,SNR=9.7						
WB2	Warramunga Arr	64.39	188	eP	P	05 29 45.8	-0.7
WRA	Warramunga Arr	64.39	188	P	P	05 29 45.8	-0.6
	comp=Z,2.9nm,0.5s,mb4.2,baz=7.4,slow=6.9,SNR=80						
WRA	Warramunga Arr	64.39	188	P	P	05 29 45.8	-0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YBH	Yreka Blue Hor	65.37	55	P	P	05 29 53.5	+1.1
	comp=Z,1.2nm,0.7s,mb3.6,baz=314,slow=2.4,SNR=3.5						
YBH	Yreka Blue Hor	65.37	55	P	P	05 29 53.5	+1.1
YBH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	67.79	337	P	P	05 30 06.5	-0.8
	comp=Z,11nm,0.7s,mb4.6,baz=36,slow=6.2						
NB2	NORSAR Subarra	67.79	337	P	P	05 30 06.5	-0.8
	baz=36,slow=6.5						
NOA	NORSAR Array B	67.79	337	P	P	05 30 06.5	-0.7
	comp=Z,8.3nm,0.6s,mb4.5,baz=36,slow=6.1,SNR=36						
NOA	NORSAR Array B	67.79	337	P	P	05 30 06.6	-0.7
NOA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ASAR	Alice Springs	68.11	188	P	P	05 30 10.3	+0.4
	comp=Z,1.4nm,0.5s,mb3.9,baz=357,slow=5.4,SNR=18						
SOC	Sochi	68.70	310	eP	P	05 30 02.0	-11
SOC				e		05 30 31.5	
SOC				e		05 39 37.0	
SOC				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,40nm,1.2s						
SOC				pmax	pmax		
	comp=E,25nm,0.7s						
BOZ	Bozeman (W)	69.00	46	eP	P	05 30 15.3	+0.4
	comp=E,2.5nm,0.7s,mb4.0						
AKASG	Malin Array Be	69.07	321	P	P	05 30 14.7	-0.6
	comp=E,5.4nm,0.4s,mb4.5,baz=42,slow=6.6,SNR=52						
AKASG	Malin Array Be	69.07	321	P	P	05 30 14.7	-0.6
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NVAR	Mina Array Bea	70.08	56	P	P	05 30 22.9	+1.3
	comp=Z,1.2nm,0.8s,mb3.6,baz=292,slow=7.6,SNR=7.5						
PDAR	Pinedale Array	72.06	47	P	P	05 30 34.0	+0.6
	comp=Z,2.7nm,0.9s,mb3.9,baz=320,slow=2.0,SNR=15						
DUG	Dugway	72.06	51	eP	P	05 30 34.2	+0.8
	comp=Z,1.0nm,0.7s,mb3.5						
KWP	Kalwaria	72.70	324	eP	P	05 30 38.0	+1.0
ULM	Lac du Bonnet	73.01	35	P	P	05 30 40.5	+1.7
	comp=Z,4.3nm,0.8s,mb4.1,baz=297,slow=6.8,SNR=4.1						
OJC	Ojcow	73.45	326	eP	P	05 30 42.1	+0.7
BRTR	Keskin Array B	74.66	311	P	P	05 30 48.9	+0.3
	comp=Z,1.5nm,0.8s,mb3.7,baz=72,slow=3.9,SNR=4.8						
BRTR	Keskin Array B	74.66	311	P	P	05 30 48.9	+0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DPC	Dobruska-Polom	74.72	328	eP	P	05 30 49.5	+0.8
CLL	Collm	75.19	330	⇓P	P	05 30 51.2	-0.1
	comp=Z,logA/T=1.3,mb4.7						
CLL	Collm	75.19	330	⇓iP	P	05 30 51.2	-0.1
CLL				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
CLL	Collm	75.19	330	⇓iP	P	05 30 51.2	-0.1
	comp=Z,14nm,0.7s,mb4.7						
VYHS	Vyhne	75.20	325	eP	P	05 30 52.4	+1.0
BRG	Berggiesshubel	75.20	329	i P	P	05 30 51.7	+0.3
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
BRG	Berggiesshubel	75.20	329	i P	P	05 30 51.7	+0.3
	comp=Z,4.0nm,0.8s,mb4.1						
PVCC	Panska Ves	75.25	329	eP	P	05 30 52.5	+0.9
PRU	Pruhonice	75.69	328	eP	P	05 30 54.9	+0.7
	comp=Z,7.9nm,0.7s,mb4.5						
STKA	Stephens Creek	75.84	181	P	P	05 30 56.2	+0.8
	comp=Z,3.2nm,0.7s,mb4.1,baz=340,slow=8.5,SNR=4.6						
STKA	Stephens Creek	75.84	181	P	P	05 30 56.2	+0.8
KHC	Kasperske Hory	76.76	328	eP	P	05 31 01.0	+0.9
KHC				e		05 31 04.5	
GERES	GERESS Array B	76.95	328	P	P	05 31 01.5	+0.4
	comp=Z,2.4nm,0.7s,mb3.9,baz=34,slow=4.8,SNR=8.6						
GERES	GERESS Array B	76.95	328	P	P	05 31 01.5	+0.4
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GRA1	Grafenberg Arr	77.16	330	eP	P	05 31 03.0	+0.7
	comp=Z,18nm,0.8s,mb4.8						
GRF	Grafenberg Arr	77.16	330	eP	P	05 31 03.0	+0.7
GRF				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
SCHQ	Schefferville	78.12	17	P	P	05 31 07.5	+0.1
	comp=Z,2.4nm,0.4s,mb4.1,baz=331,slow=6.4,SNR=7.6						
GIVF	Givet	78.98	334	eP	P	05 31 11.0	-1.1
ANMO	Albuquerque	79.33	51	eP	P	05 31 15.7	+1.4
CDF	Champ du Feu	79.63	331	eP	P	05 31 15.7	0.0
CABF	La Chapelle	81.59	331	eP	P	05 31 25.4	-0.6
LOR	Lormes	81.77	333	eP	P	05 31 26.1	-0.8
	comp=Z,14nm,0.8s,mb4.4						
SSF	Saint Saulge	82.06	333	eP	P	05 31 29.1	+0.7
	comp=Z,10nm,0.8s,mb4.2						
SMF	Signal de Mont	82.32	333	eP	P	05 31 29.3	-0.4
LPG	La Plagne	82.32	330	eP	P	05 31 28.8	-0.9
AVF	Avril sur Loir	82.35	333	eP	P	05 31 28.2	-1.7
	comp=Z,12nm,0.8s,mb4.3						
MBDF	Montbardon	82.98	330	eP	P	05 31 32.7	-0.5
	comp=Z,7.5nm,0.8s,mb4.2						
ORIF	Oris-en-Rattie	83.13	331	eP	P	05 31 33.4	-0.5
	comp=Z,11nm,0.9s,mb4.3						
VIVF	Saint-Julien-l	83.61	331	eP	P	05 31 35.1	-1.2
CAF	Calviac	84.42	333	eP	P	05 31 40.1	-0.2
	comp=Z,15nm,1.1s,mb4.4						
TXAR	Lajitas Array	85.07	53	P	P	05 31 45.2	+1.2
	comp=Z,0.7nm,0.6s,mb3.6,baz=296,slow=3.2,SNR=15						
TXAR	Lajitas Array	85.07	53	P	P	05 31 45.2	+1.2
MTLF	Montolieu	85.78	332	eP	P	05 31 46.3	-0.8
VNDA	Vanda	122.17	175	PKP	PKPdf	05 38 00.6	+1.4
	comp=Z,1.2nm,1.0s,baz=263,slow=3.3,SNR=3.7						
SNAA	Sanae	147.92	200	e	PKPdf	05 38 52.5	+6.4
SNAA	Sanae	147.92	200	e	PKPdf	05 38 54.9	+8.8
SNAA	Sanae	147.92	200	PKPbc	PKPdf	05 38 51.4	+5.3
	comp=Z,1.7nm,1.2s,baz=235,slow=5.6,SNR=9.0						
SNAA	Sanae	147.92	200	⇑iPKPdf	PKPdf	05 38 47.4	+1.3
SNAA				PKPbc	PKPdf	05 38 51.4	+5.3
SNAA				e		05 38 52.5	
SNAA				e		05 38 54.9	
VNA2	Neumayer--Watz	149.51	199	e	PKPab	05 39 05.9	+4.5
VNA2	Neumayer--Watz	149.51	199	⇓iPKPdf	PKPdf	05 38 56.2	+7.6
VNA2				e	PKPab	05 39 05.9	+4.5

KRSC ***25*** *05:34:44.1±0.7, 49.62N×155.12E, h106km±10km, ML4.3*

MOS ***25*** *05:34:45.5±1.0, 49.63N×155.30E, h119km, mb3.6/1, Error ellipse: s-maj=53.9km s-min=10.7km az=63.3*

IDC ***25*** *05:34:45.8±3.0, 49.67N×155.35E, h90km±33km, mb3.1/3, mb1 3.7/4, mb1mx3.3/22, Error ellipse: s-maj=124.0km s-min=24.9km az=154.0*

ISC 25 05:34:46.1±0.9**, 49.64N**±0.10×**155.4E**±0.1**, h115**km±9km**,**
n31, σ1§27/49**, mb3.4**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.14	24	ePN	P	05 35 10.5	+0.9
SKR				i S	S	05 35 27.8	+0.6
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ALID	Alaid	1.24	5	eP	P	05 35 08.3	-2.4
ALID				eS	S	05 35 26.8	-2.2
PAU	Pauzhetka	2.04	26	eP	P	05 35 20.6	+0.3
PAU				eS	S	05 35 46.6	+0.5
PAU				Smax			
	comp=Z,700nm,0.7s						
MIPR	Malaya Ipel'ka	2.78	18	i P	P	05 35 30.6	+0.4
MIPR				eS	S	05 36 04.7	+1.2
GRL	Gorelyy	3.37	29	eP	P	05 35 39.0	+0.8
GRL				eS	S	05 36 20.1	+2.3
RUS	Russkaya	3.42	34	i P	P	05 35 38.5	-0.4
RUS				eS	S	05 36 18.6	-0.4
PET	Petropavlovsk	3.96	30	P	P	05 35 46.2	+0.1
PET				S	S	05 36 32.6	+0.6
PET	Petropavlovsk	3.96	30	eP	P	05 35 45.3	-0.8
PET				eS	S	05 36 31.0	-1.0
UGLR	Uglovaya	4.17	30	eP	P	05 35 50.3	+1.3
KOK	Koryaka	4.18	28	eP	P	05 35 51.3	+2.1
AVH	Avacha	4.19	29	eP	P	05 35 50.6	+1.3
AVH				eS	S	05 36 39.6	+2.0
SMAR	Somma	4.21	29	eP	P	05 35 50.3	+0.8
SDLR	Sedlovina	4.25	30	i P	P	05 35 50.9	+0.8
NLC	Nalytchevo	4.32	33	eP	P	05 35 50.9	-0.1
NLC				eS	S	05 36 40.3	-0.4
GNL	Ganaly	4.36	20	eP	P	05 35 50.6	-1.0
GNL				eS	S	05 36 40.0	-1.7
SPN	Mys Shipunski	4.52	38	P	P	05 35 53.0	-0.7
SPN				S	S	05 36 43.4	-2.1
SPN	Mys Shipunski	4.52	38	eP	P	05 35 53.0	-0.7
SPN				eS	S	05 36 43.7	-1.8
KII	Karymskiy	5.07	28	P	P	05 36 02.2	+1.0
KII	Karymskiy	5.07	28	eP	P	05 36 01.5	+0.3
MKZ	Mys Kozlova	6.28	36	P	P	05 36 15.8	-1.8
MKZ				S	S	05 37 23.6	-5.0
MKZ	Mys Kozlova	6.28	36	i P	P	05 36 15.7	-1.9
MKZ				eS	S	05 37 23.6	-5.0
KBTR	Krutoberegovo	7.96	31	P	P	05 36 40.7	+0.2
KBTR				S	S	05 38 06.9	-2.5
KBTR	Krutoberegovo	7.96	31	eP	P	05 36 41.0	+0.5
KBTR				eS	S	05 38 07.1	-2.3
BKI	Bering	8.53	45	eS	S	05 38 13.7	-10
ASAJ	Asahikawa	10.35	243	P	P	05 37 10.7	-1.8
	comp=Z,2.0nm,0.3s,baz=98,slow=12,SNR=9.0						
ASAJ	Asahikawa	10.35	243	PN	P	05 37 10.7	-1.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	Attu Island--F	11.59	67	P	P	05 37 29.4	+0.6
FX1				S	S	05 39 33.9	-2.5
ILAR	Eielson Array	33.35	41	P	P	05 41 14.7	0.0
	comp=Z,0.6nm,0.8s,mb3.5,baz=258,slow=7.7,SNR=4.3						
ILAR	Eielson Array	33.35	41	P	P	05 41 14.7	0.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	61.84	56	P	P	05 44 55.5	+0.5
	comp=Z,0.2nm,0.5s,mb3.4,slow=2.7,SNR=3.6						
TXAR	Lajitas Array	74.78	63	P	P	05 46 16.4	+1.3
	comp=Z,0.2nm,0.4s,mb3.2,baz=294,slow=5.4,SNR=6.0						

*IDC **25** 06:06:14.1±1.1,21.94S×171.23E,mb4.0/4,mb1 4.3/4, mb1mx4.0/13,MS3.5/1,Ms1 3.5/1,ms1mx3.0/22,Error ellipse: s-maj=35.4km s-min=30.5km az=171.0*

*NEIC **25** 06:06:15.9±0.7,21.97S×171.19E,h10^{km},mb4.6/2,Error ellipse: s-maj=25.5km s-min=22.0km az=84.0*

ISC 25 06:06:31.8±2.7,**22.1S**±0.2×**170.8E**±0.2,**h154**^{km}±23^{km},**n20,**σ**0^{s}66**/16,**mb4.0**/6,**1C-2D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	4.04	269	*e*P	P	06 07 33.4	-0.1
DZM				*e*S	S	06 08 20.7	-0.3
NOUC	**Port Laguerre**	4.17	269	*e*P	P	06 07 36.3	+1.1
NOUC				*e*S	S	06 08 23.3	-0.7
RPZ	**Rata Peaks**	21.58	179	LR	LR	06 16 59.9	
	comp=Z,103nm,18.0s,baz=337,slow=30						
ASAR	**Alice Springs**	33.97	260	P	P	06 13 03.7	+1.0
	2.8nm,0.7s,mb4.1,baz=86,slow=9.2,SNR=29						
WRA	**Warramunga Arr**	34.05	267	P	P	06 13 03.4	0.0
	0.3nm,0.4s,mb3.4,baz=99,slow=8.4,SNR=8.1						
VNDA	**Vanda**	55.66	182	P	P	06 15 53.5	-0.2
	1.2nm,1.0s,mb3.7,baz=11,slow=6.5,SNR=3.2						
VNDA	**Vanda**	55.66	182	P	P	06 15 53.5	-0.3
SBA	**Scott Base**	55.86	181	*e*P	P	06 15 55.9	+0.8
	5.1nm,0.9s,mb4.3						
QSPA	**South Pole Qui**	67.99	180	*e*P	P	06 17 15.6	-0.2
	4.5nm,0.8s,mb4.2						
SNAA	**Sanae**	86.40	182	⇓*i*	P	06 18 54.6	-2.6
SNAA	**Sanae**	86.40	182	P	P	06 18 57.2	0.0
	baz=211,slow=6.9						
SNAA	**Sanae**	86.40	182	*e*P	P	06 18 56.9	-0.4
VNA2	**Neumayer--Watz**	87.24	181	⇓*i*	P	06 19 00.9	-0.4
NVAR	**Mina Array Bea**	89.59	48	P	P	06 19 12.8	-0.3
	2.6nm,1.1s,mb4.1,baz=221,slow=6.7,SNR=6.9						
NVAR	**Mina Array Bea**	89.59	48	P	P	06 19 12.8	-0.3
VYHS	**Vyhne**	145.45	327	*e*PKP	PKPdf	06 25 54.0	+2.8
VYHS				*e*		06 25 57.6	
BRG	**Berggiesshubel**	146.05	334	*i* P	PKPdf	06 25 55.7	+3.6
CLL	**Collm**	146.09	335	⇑*i*PKIKP	PKPdf	06 25 55.3	+3.1
	logA/T=0.9						
KHC	**Kasperske Hory**	147.51	332	*e*PKP	PKPdf	06 25 59.4	+4.8
GERES	**GERESS Array B**	147.67	331	PKPbc	PKPdf	06 25 59.9	+5.0
	3.5nm,0.7s,baz=45,slow=1.9,SNR=22						

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*IDC **25** 06:18:37.4±1.8,4.64S×133.46E,mb3.6/1,mb1 3.9/4, mb1mx3.7/11,ML3.5/3,Error ellipse: s-maj=93.9km s-min=26.4km az=67.0*

*NEIC **25** 06:18:42.0±1.3,4.75S×133.40E,h30^{km},mb4.0/2,Error ellipse: s-maj=35.8km s-min=17.5km az=70.0*

ISC 25 06:18:37.7±3.8,**4.7S**±0.1×**133.5E**±0.3,**h15**^{km}±26^{km},**n7,**σ**0^{s}76**/9,**mb3.7**/1,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	15.19	177	*e*P	P	06 22 13.9	+0.3
	6.6nm,0.6s						
WRA	**Warramunga Arr**	15.20	177	Pn	P	06 22 12.3	-1.4
	0.2nm,0.3s,baz=355,slow=13,SNR=14						
WRA				Sn	S	06 25 01.1	-1.2
	0.3nm,0.3s,baz=354,slow=24,SNR=6.3						
ASAR	**Alice Springs**	18.89	179	P	P	06 23 00.8	+0.7
	0.2nm,0.3s,baz=2.2,slow=12,SNR=12						
ASAR				S	S	06 26 27.4	+0.5
	0.1nm,0.3s,baz=355,slow=27,SNR=5.3						
CTA	**Charters Tower**	19.70	142	P	P	06 23 09.3	-0.2
	0.3nm,0.3s,baz=322,slow=11,SNR=3.8						
CTA	**Charters Tower**	19.70	142	P	P	06 23 09.3	-0.2
CTAO	**Charters Tower**	19.70	142	*e*P	P	06 23 09.4	-0.1
	6.0nm,0.9s						
MKAR	**Makanchi Array**	68.29	325	P	P	06 29 39.9	-0.4
	0.3nm,0.3s,mb3.7,baz=124,slow=6.4,SNR=3.3						

JMA 25 06:26:06.8±0.1,**42.82N**×**144.94E,h57**^{km}±1^{km},**M3.6, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	0.25	315	P	P	06 26 16.2	-0.1
JAK				S	S	06 26 23.2	0.0
JNK	**Nakash**	0.78	348	P	P	06 26 21.6	-0.4
JNK				*e*S	S	06 26 32.5	-0.8
NEM2	**Nemuro 2**	0.80	47	P	P	06 26 21.9	-0.4
NEM2				*e*S	S	06 26 32.9	-0.8
JOB	**Onbets**	0.82	276	P	P	06 26 22.4	0.0
JOB				*e*S	S	06 26 33.4	-0.7
JAR	**Ashorobuto**	0.98	299	P	P	06 26 24.6	-0.1
JAR				*e*S	S	06 26 37.4	-0.6
JRA	**Rausu**	1.12	7	P	P	06 26 26.4	-0.3
JRA				*e*S	S	06 26 40.9	-0.5
JCH	**Churui**	1.18	261	P	P	06 26 27.0	-0.4
JCH				*e*S	S	06 26 42.1	-0.7
JTKR	**Abashiri--Toko**	1.37	327	P	P	06 26 30.3	0.0
JTKR				*e*S	S	06 26 48.0	+0.4
JEM	**Erimo**	1.54	239	P	P	06 26 33.6	+1.0

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*MAN **25** 06:32:10,19.09N×120.97E,h11^{km},mb4.8,ML3.7,MS3.7*

*IDC **25** 06:32:13.7±4.8,18.99N×121.32E,h56^{km}±49^{km},mb3.5/6, mb1 3.7/7,mb1mx3.5/19,ML3.8/1,Error ellipse: s-maj=37.4km s-min=18.1km az=65.0*

*NEIC **25** 06:32:13.4±2.6,18.99N×121.31E,h54^{km}±27^{km},mb4.3/2, Error ellipse: s-maj=22.4km s-min=13.8km az=67.0*

ISC 25 06:32:11.9±0.6,**19.01N**±0.05×**121.05E**±0.09,**h48**^{km}±9^{km}, **n17,**σ**1^{s}29**/22,**mb3.8**/7,**2C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	0.80	211	⇑*i*P	P	06 32 25.5	-1.4
PIP				*e*S	S	06 32 36.5	-1.5
APYP	**Conner**	1.16	171	*e*P	P	06 32 31.2	-0.8
APYP				*e*S	S	06 32 47.0	+0.1
ABRA	**Dolores**	1.40	193	*e*P	P	06 32 34.7	-0.7
ABRA				*e*S	S	06 32 55.1	+2.2
BBP	**Basco**	1.66	31	*e*P	P	06 32 39.7	+0.6
BBP				*e*S	S	06 33 00.3	+1.0
BCPH	**Baguio City Da**	2.66	190	⇑*i*P	P	06 32 53.5	+0.2
BCPH				*i* S	S	06 33 27.8	+3.4
BALP	**Baler**	3.29	171	*e*P	P	06 33 04.0	+1.7
JOW	**Kunigami**	10.24	39	P	P	06 34 36.1	-2.9
	1.7nm,0.3s,baz=192,slow=12,SNR=3.6						
QIZ	**Qiongzhong**	10.60	272	*e*P	P	06 34 40.0	-4.0
	10nm,0.6s						
CMAR	**Chiang Mai Arr**	20.94	272	P	P	06 36 54.5	+1.5
	1.0nm,0.4s,baz=69,slow=9.3,SNR=4.4						
BJT	**Baijiatuau**	21.35	350	*e*P	P	06 36 56.0	-1.0
	9.4nm,1.0s,mb4.1						
SONM	**Songino Array**	31.13	341	P	P	06 38 28.4	+0.3
	1.1nm,0.8s,mb3.7,baz=162,slow=8.8,SNR=6.0						
WRA	**Warramunga Arr**	40.85	161	P	P	06 39 48.0	-2.8
	0.7nm,0.7s,mb3.4,baz=343,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	42.08	320	P	P	06 40 01.9	+1.3
	0.8nm,0.6s,mb3.6,baz=118,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	42.08	320	P	P	06 40 01.9	+1.3
ASAR	**Alice Springs**	44.23	163	P	P	06 40 18.2	-0.3
	0.2nm,0.4s,mb3.2,baz=349,slow=6.9,SNR=3.6						
ZRNK	**Zerenda**	52.42	323	*e*P	P	06 41 21.5	0.0
	5.4nm,1.2s,mb4.3						
ARCES	**ARCESS Array B**	74.28	339	P	P	06 43 44.9	-0.4
	3.9nm,1.1s,mb4.2,baz=90,slow=8.1,SNR=5.1						

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*IDC **25** 06:46:51.0±7.4,6.16S×147.01E,h83^{km}±76^{km},mb3.6/3, mb1 3.9/4,mb1mx3.5/13,ML4.2/1,Error ellipse: s-maj=67.9km s-min=32.1km az=142.0*

*NEIC **25** 06:46:53.3±2.4,6.33S×147.17E,h111^{km}±20^{km},mb4.1/2, Error ellipse: s-maj=27.5km s-min=19.0km az=148.0*

ISC 25 06:46:52.7±3.0,**6.3S**±0.2×**147.1E**±0.2,**h117**^{km}±26^{km},**n10,**σ**0^{s}86**/11,**mb3.6**/3,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	3.05	179	P	P	06 47 40.2	-0.4
PMG				S	S	06 48 17.4	+0.5
KAKA	**Kakadu**	15.82	245	*e*P	P	06 50 30.0	-0.2
	6.5nm,0.8s						
WB2	**Warramunga Arr**	18.35	221	*e*P	P	06 50 59.9	-0.8
WRA	**Warramunga Arr**	18.36	221	P	P	06 51 00.1	-0.7
	0.7nm,0.3s,baz=42,slow=12,SNR=22						
ASAR	**Alice Springs**	21.41	215	P	P	06 51 33.7	+1.2
	1.2nm,0.4s,mb3.6,baz=54,slow=9.3,SNR=17						
ASPA	**Alice Springs**	21.41	215	*e*P	P	06 51 33.7	+1.2
FITZ	**Fitzroy Crossi**	23.99	239	*e*P	P	06 51 58.1	+0.4
	6.4nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	23.99	239	P	P	06 51 58.0	+0.3
	5.9nm,0.6s,mb4.1,baz=61,slow=7.8,SNR=46						
STKA	**Stephens Creek**	25.93	191	P	P	06 52 14.2	-1.7
ILAR	**Eielson Array**	85.74	23	P	P	06 59 19.8	+0.3
	0.2nm,0.6s,mb3.2,baz=259,slow=4.6,SNR=4.1						

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*GRAL **25** 06:49:07.7±1.2,33.86N×35.34E,h46^{km}±87^{km},MD2.7*

*NSSC **25** 06:49:07.2,33.56N×35.94E,h22^{km}±2^{km}*

ISC 25 06:49:06.4±1.6,**33.56N**±0.05×**35.90E**±0.06,**h30**^{km}±13^{km}, **n7,**σ**0^{s}56**/13,**2D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRBR	**Barbar**	0.15	164	⇑P	Pb	06 49 12.1	-0.1
BRBR				⇓S	Sb	06 49 16.1	+0.1
QASN	**Qassioun**	0.32	94	⇑P	Pb	06 49 13.4	-0.6
QASN				⇑S	Sb	06 49 18.6	-0.7
BHL	**Bhannes**	0.41	329	*i* PG	Pb	06 49 15.1	-0.3
BHL				*i* SG	Sb	06 49 22.1	+0.7
MATL	**Matirih**	0.48	262	*i* PG	Pb	06 49 16.6	+0.1
TOTH	**TOTAH**	0.48	113	⇓P	Pb	06 49 16.2	-0.3
TOTH				⇑S	Sb	06 49 24.3	+0.8
MARH	**Ras Al Marh**	0.68	46	⇑P	Pb	06 49 19.8	+0.1
MARH				⇑S	Sb	06 49 29.6	+0.8
HWQ	**Hawqa**	0.72	3	*i* PG	Pb	06 49 20.8	+0.4
HWQ				*i* SG	Sb	06 49 29.0	-1.0

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*STR **25** 06:55:07.4±0.9,51.59N×16.42E,h2^{km}±1^{km},Ml4.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MOS **25** 06:55:08.1±0.8,51.61N×16.18E,h10^{km},mb4.1/3,Error ellipse: s-maj=9.6km s-min=5.3km az=88.1*

*BGR **25** 06:55:09.0±0.7,51.50N×16.23E,h1^{km},ML3.9/9,Error ellipse: s-maj=6.7km s-min=5.6km az=160.0*

*NEIC **25** 06:55:10.0±0.3,51.53N×16.11E,h5^{km},mb4.4/1, ML4.0(FUR),ML3.9(SZGRF),ML3.9(STR),ML3.9(VIE), ML3.6(CLL),ML3.3(BRG),Error ellipse: s-maj=4.1km s-min=3.6km az=166.0*

*PRU **25** 06:55:10.2,51.49N×16.14E,- Neic M4.4*

*LDG **25** 06:55:10.9±0.3,51.58N×16.16E,h1^{km},Ml4.1/14,Error ellipse: s-maj=7.9km s-min=3.7km az=172.0,Suspected Mining induced.*

*WAR **25** 06:55:11.1,51.47N×16.12E,ML3.6,Mining Induced*

*IDC **25** 06:55:12.4±1.6,51.46N×15.99E,h14^{km}±13^{km},mb3.5/6, mb1 3.9/15,mb1mx3.8/23,ML3.8/9,Error ellipse: s-maj=11.6km s-min=8.5km az=110.0*

ISC 25 06:55:07.7±0.3,**51.47N**±0.02×**16.10E**±0.02,**n140,**σ**1^{s}46**/246,**mb3.7**/7,**14C-5D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.64	169	*i* PG	Pg	06 55 22.8	+2.4
KSP				*i* SG	Sg	06 55 31.4	+2.5
KSP	**Ksiaz**	0.64	169	*i* Pg	Pg	06 55 22.8	+2.4
KSP				*i*		06 55 24.0	
KSP				*i* Sg	Sg	06 55 31.4	+2.5
KSP				*e*		06 55 35.5	
UPC	**Upice**	0.96	183	*e*PN	Pn	06 55 28.9	+0.7
UPC				*e*PG	Pg	06 55 29.7	+2.8
UPC						06 55 30.5	
UPC				*e*SG	Sg	06 55 41.8	+2.1
UPC	**Upice**	0.96	183	*e*P	Pn	06 55 28.9	+0.7
UPC				*e*		06 55 41.8	
UPC	**Upice**	0.96	183	*e*Pn	Pn	06 55 28.9	+0.7
UPC				*e*Pg	Pg	06 55 29.7	+2.8
UPC				*e*		06 55 30.5	
UPC				*e*Sg	Sg	06 55 41.8	+2.1
DPC	**Dobruska-Polom**	1.13	173	*e*PG	Pg	06 55 31.7	+1.5
DPC						06 55 33.1	
DPC				*e*SG	Sg	06 55 46.0	+0.8
	378nm,0.4s						
DPC	**Dobruska-Polom**	1.13	173	*e*P	Pg	06 55 31.7	+1.5
DPC				*e*		06 55 46.0	
DPC				smax			
	comp=N,378nm,0.4s						
DPC	**Dobruska-Polom**	1.13	173	*e*Pg	Pg	06 55 31.7	+1.5
DPC				*e*		06 55 33.1	
DPC				*e*Sg	Sg	06 55 46.0	+0.8
PVCC	**Panska Ves**	1.35	226	*e*PG	Pg	06 55 35.9	+1.3
PVCC				*i*		06 55 36.6	
PVCC				*e*SG	Sg	06 55 55.7	+3.1
	comp=N,697nm,0.2s						
PVCC	**Panska Ves**	1.35	226	*e*P	Pg	06 55 35.9	+1.3
PVCC				*e*		06 55 55.7	
PVCC				smax			
	comp=N,697nm,0.2s						
PVCC	**Panska Ves**	1.35	226	*e*Pn	Pg	06 55 35.9	+1.3
PVCC				*e*Pg	Pg	06 55 36.6	+2.0
PVCC				*e*Sg	Sg	06 55 55.7	+3.1
BRG	**Berggiesshubel**	1.48	247	*e*Pg	Pg	06 55 37.1	-0.2
BRG				*e*Sg	Sg	06 55 59.0	+1.9
BRG	**Berggiesshubel**	1.48	247	*i* P	Pn	06 55 37.1	+1.4
BRG				*i*		06 55 58.9	
BRG	**Berggiesshubel**	1.48	247	*i* Pn	Pn	06 55 37.1	+1.4
BRG				*i* Pg	Pg	06 55 38.8	+1.5
BRG				*i* Sg	Sg	06 55 58.9	+1.8
RUE	**Ruedersdorf**	1.76	306	*e*P	Pn	06 55 40.4	+0.8
PRU	**Pruhonice**	1.78	214	*i* PN	Pn	06 55 41.4	+1.4
PRU				PG	Pg	06 55 43.1	-0.1
PRU				*i*		06 56 00.6	
PRU				SG	Sg	06 56 06.8	-0.2
	comp=N,289nm,0.5s						
PRU	**Pruhonice**	1.78	214	*e*P	Pn	06 55 41.5	+1.5
PRU				*e*		06 56 07.2	
PRU	**Pruhonice**	1.78	214	*e*Pn	Pn	06 55 41.5	+1.5
PRU				*e*Pg	Pg	06 55 43.4	+0.2
PRU				*e*Sg	Sg	06 56 07.2	+0.2
RAC	**Raciborz**	1.92	135	*e*P	Pn	06 55 47.0	+5.1
RAC				*e*S	Sn	06 56 13.0	+5.9
RAC	**Raciborz**	1.92	135	*e*P	Pn	06 55 46.7	+4.8
RAC				*e*		06 56 13.4	
MORC	**Moravsky Berou**	1.92	151	*e*P	Pn	06 55 43.4	+1.3
CLL	**Collm**	1.95	267	*e*Pn	Pn	06 55 43.3	+1.0
CLL				*e*Sg	Sg	06 56 12.6	+0.1
CLL	**Collm**	1.95	267	*i* PN	Pn	06 55 43.4	+1.1
	comp=N,logA/T=1.8						
CLL				*e*PG	Pg	06 55 47.0	+0.4
CLL				*i*		06 55 50.7	
CLL				*i*		06 56 01.5	
CLL				*i* SG	Sg	06 56 12.3	-0.2
CLL				*e*L		06 56 24.0	
CLL	**Collm**	1.95	267	*i* P	Pn	06 55 43.4	+1.1
CLL				*i*		06 56 12.3	
CLL	**Collm**	1.95	267	*i* Pn	Pn	06 55 43.4	+1.1
CLL				*e*Pg	Pg	06 55 47.0	+0.4
CLL				*i* Sg	Sg	06 56 12.3	-0.2
OKC	**Ostrava-Krasne**	2.09	141	*e*PN	Pn	06 55 45.7	+1.4
OKC				*e*PG	Pg	06 55 49.1	-0.2
OKC				*e*		06 56 06.2	
OKC				*e*SG	Sg	06 56 15.7	-1.5
OKC	**Ostrava-Krasne**	2.09	141	*e*P	Pn	06 55 45.7	+1.4
OKC				*e*		06 56 15.7	
OKC	**Ostrava-Krasne**	2.09	141	*e*Pn	Pn	06 55 45.7	+1.4
OKC				*e*Pg	Pg	06 55 49.1	-0.2
OKC				*e*		06 55 50.6	
OKC				*e*Sn	Sn	06 56 06.2	-5.2
OKC				*e*Sg	Sg	06 56 15.7	-1.5
TANN	**Tannenbergstha**	2.53	247	*e*Pn	Pn	06 55 52.8	+2.0
TANN				*e*Sg	Sg	06 56 33.0	+1.0
WERD	**Werda**	2.61	248	*e*Pn	Pn	06 55 53.5	+1.7
WERD				*e*Sg	Sg	06 56 33.7	-0.8
GUNZ	**Gunzen**	2.63	247	*e*Pn	Pn	06 55 54.0	+1.9
GUNZ				*e*Sg	Sg	06 56 35.9	+0.7
OJC	**Ojcow**	2.66	117	*e*PN	Pn	06 55 51.0	-1.5
OJC				*i* PG	Pg	06 56 01.3	+0.6
OJC				*e*SN	Sn	06 56 23.3	-2.5
OJC				*i* SG	Sg	06 56 36.5	+0.4
OJC	**Ojcow**	2.66	117	*e*P	Pn	06 55 51.5	-1.0
OJC				*e*		06 56 22.5	
OJC	**Ojcow**	2.66	117	*e*Pn	Pn	06 55 51.5	-1.0
OJC				*i* Pg	Pg	06 56 01.3	+0.6
OJC				*e*Sn	Sn	06 56 22.5	-3.3
OJC				*i* Sg	Sg	06 56 36.5	+0.4
KHC	**Kasperske Hory**	2.84	216	*e*PN	Pn	06 55 56.4	+1.2
KHC				*e*PG	Pg	06 56 02.9	-1.5
KHC				*e*		06 56 21.2	
KHC				SN	Sn	06 56 31.3	+0.7
KHC				*e*SG	Sg	06 56 41.2	-1.1
KHC	**Kasperske Hory**	2.84	216	*e*P	Pn	06 55 56.4	+1.2
KHC				*e*		06 56 31.3	
KHC	**Kasperske Hory**	2.84	216	*e*Pn	Pn	06 55 56.4	+1.2
KHC				*e*Pg	Pg	06 56 02.9	-1.5
KHC				*e*Sn	Sn	06 56 21.2	-9.4
KHC				*e*		06 56 31.3	
KHC				*e*Sg	Sg	06 56 41.2	-1.1
MOX	**Moxa**	2.95	256	*e*Pn	Pn	06 55 57.7	+1.1
MOX				*e*Sg	Sg	06 56 46.1	+0.3
MOX	**Moxa**	2.95	256	*i* P	Pn	06 55 57.7	+1.1
MOX				Pg	Pg	06 56 06.0	-0.5
MOX				Sg	Sg	06 56 46.0	+0.2
MOX	**Moxa**	2.95	256	*e*Pn	Pn	06 55 57.7	+1.1
MOX				*e*Pg	Pg	06 56 06.2	-0.3
MOX				*e*Sg	Sg	06 56 46.1	+0.3
GEC2	**GERESS Array S**	3.04	211	*e*Pn	Pn	06 55 59.7	+1.6
GEC2				*e*Sg	Sg	06 56 47.4	-1.7
GEC2	**GERESS Array S**	3.04	211	*e*Pn	Pn	06 55 59.7	+1.7
GEC2				*e*Sg	Sg	06 56 47.4	-1.6
GERES	**GERESS Array B**	3.04	211	Pn	Pn	06 55 59.3	+1.3
	comp=N,7.1nm,0.3s,baz=27,slow=12,SNR=77						
GERES				Pg	Pg	06 56 07.3	-1.1
	comp=N,23nm,0.3s,baz=30,slow=16,SNR=54						
GERES				Lg		06 56 45.3	
	comp=N,19nm,0.3s,baz=34,slow=26,SNR=6.3						
SMOL	**Smolenice**	3.08	163	*e*PG	Pg	06 56 09.1	0.0
SMOL				*e*SG	Sg	06 56 49.3	-0.8
WET	**Wettzell**	3.11	223	*e*Pn	Pn	06 56 00.1	+1.1
WET				*e*Sg	Sg	06 56 49.7	-1.6
WET	**Wettzell**	3.11	223	*e*Pn	Pn	06 56 00.1	+1.1
WET				*e*Sg	Sg	06 56 49.7	-1.5
VKA	**Vienna**	3.21	177	⇓*i*PN	Pn	06 56 02.4	+2.1
VKA				*i* PG	Pg	06 56 11.9	+0.2
VKA				*i* SG	Sg	06 56 55.0	+0.5
ZST	**Bratislava**	3.34	168	*e*PN	Pn	06 56 04.3	+2.1
ZST				*e*PB	Pb	06 56 11.5	+4.0
ZST				*e*SB	Sb	06 56 56.4	+7.4
NIE	**Niedzica**	3.38	126	*e*P	Pn	06 56 03.0	+0.2
NIE				*e*S	Sn	06 56 58.0	+14
VYHS	**Vyhne**	3.46	148	*e*PN	Pn	06 56 04.4	+0.5
VYHS				*e*PG	Pg	06 56 15.6	-1.1
VYHS				*e*SG	Sg	06 57 03.9	+1.1
GRA1	**Grafenberg Arr**	3.58	242	*e*Pn	Pn	06 56 07.1	+1.5
GRA1				*e*Sg	Sg	06 57 05.6	-1.3
GRF	**Grafenberg Arr**	3.58	242	*e*Pn	Pn	06 56 07.1	+1.5
GRF				*e*Sg	Sg	06 57 05.6	-1.3
BSD	**Bornholm Skovb**	3.72	349	*i* P	Pn	06 56 06.7	-1.0
BSD				*i* S	Sn	06 56 47.6	-5.3
BSD				*i* LG		06 56 49.9	
MOA	**Molln**	3.81	199	⇑*i*PN	Pn	06 56 10.2	+1.3
MOA				*i* SG	Sg	06 57 12.7	-1.9
	comp=N,105nm,0.6s						
KECS	**Kecovo**	4.11	135	*e*PN	Pn	06 56 13.6	+0.4
KECS				*e*PG	Pg	06 56 27.4	-2.4
KECS				*e*SG	Sg	06 57 21.8	-2.8
ARSA	**Arzberg**	4.24	185	⇑*i*PN	Pn	06 56 16.8	+1.8
ARSA				*i* SG	Sg	06 57 25.9	-2.8
	comp=N,132nm,0.8s						
PSZ	**Piszkesteto**	4.32	144	⇑*i*Pn	Pn	06 56 17.3	+1.1
PSZ				*e*sB		06 57 26.1	
PSZ	**Piszkesteto**	4.32	144	⇑*i*P	Pn	06 56 17.3	+1.1
PSZ				*e*S	Sn	06 57 26.2	+18
KWP	**Kalwaria**	4.59	111	*e*PN	Pn	06 56 20.0	-0.1
KWP				*e*PG	Pg	06 56 34.0	-5.4
KWP				*e*SN	Sn	06 57 14.0	-1.0
KWP				*i* SG	Sg	06 57 38.0	-2.7
KWP	**Kalwaria**	4.59	111	*e*P	Pn	06 56 19.7	-0.4
KWP				*e*		06 57 14.4	
KWP	**Kalwaria**	4.59	111	*e*Pn	Pn	06 56 19.7	-0.4
KWP				*e*Pg	Pg	06 56 33.8	-5.6
KWP				*e*Sn	Sn	06 57 14.4	-0.6
KWP				*e*Sg	Sg	06 57 37.9	-2.8
KBA	**Koelnbreinsper**	4.75	203	⇑*i*PN	Pn	06 56 23.6	+1.4
KBA				*i* SG	Sg	06 57 43.4	-2.4
	comp=N,72nm,0.8s						
UZH	**Uzhgorod**	4.89	123	*e*P	Pn	06 56 24.5	+0.2
UZH				*e*S	Sn	06 57 24.4	+1.9
SUW	**Suwalki**	5.00	57	*e*PG	Pg	06 56 49.0	+1.5
TOD	**Tromm**	5.01	251	P	Pn	06 56 26.0	0.0
TOD				S	Sn	06 57 32.7	+7.2
OBKA	**Obir**	5.07	192	⇓*i*PN	Pn	06 56 28.1	+1.4
OBKA				*i* SG	Sg	06 57 53.3	-3.0
	comp=N,39nm,0.6s						
OBKA	**Obir**	5.07	192	⇓*i*Pn	Pn	06 56 28.1	+1.4
	comp=N,39nm,0.6s						
OBKA				*i* Sg	Sg	06 57 53.3	-3.0
WATA	**Walderalm**	5.08	217	⇑*i*PN	Pn	06 56 28.0	+1.1
WATA				*i* SG	Sg	06 57 54.3	-2.5
	comp=N,44nm,0.7s						
WATA	**Walderalm**	5.08	217	⇑*i*Pn	Pn	06 56 28.0	+1.1
	comp=N,44nm,0.7s						
WATA				*i* Sg	Sg	06 57 54.3	-2.5
WTTA	**Wattenberg**	5.12	216	⇓*i*PN	Pn	06 56 28.6	+1.1
WTTA				*i* SG	Sg	06 57 55.9	-2.2
	comp=N,65nm,1.0s						
WTTA	**Wattenberg**	5.12	216	⇓*i*Pn	Pn	06 56 28.6	+1.1
	comp=N,65nm,1.0s						
WTTA				*i* Sg	Sg	06 57 55.9	-2.2
MOTA	**Moosalm**	5.26	220	⇑*i*PN	Pn	06 56 30.2	+0.8
MOTA				*i* SG	Sg	06 58 00.0	-2.7
	comp=N,30nm,0.7s						
MOTA	**Moosalm**	5.26	220	⇑*i*Pn	Pn	06 56 30.2	+0.8
	comp=N,30nm,0.7s						
MOTA				*i* Sg	Sg	06 58 00.0	-2.7
LVV	**L’vov**	5.31	105	*e*P	Pn	06 56 28.5	-1.6
LVV				*e*S	Sn	06 57 30.6	-2.3
SQTA	**Sankt Quirin**	5.32	219	⇑*i*PN	Pn	06 56 31.6	+1.3
SQTA				*i* SG	Sg	06 58 01.9	-2.8
	comp=N,30nm,0.7s						
SQTA	**Sankt Quirin**	5.32	219	⇑*i*Pn	Pn	06 56 31.6	+1.3
	comp=N,30nm,0.7s						
SQTA				*i* Sg	Sg	06 58 01.9	-2.8
VOY	**Vojsko**	5.63	196	*e*Pn	Pn	06 56 36.0	+1.3
VOY				*e*Sn	Sn	06 58 10.5	+29
DAVA	**Damuels**	5.83	227	⇑*i*PN	Pn	06 56 37.4	-0.1
DAVA				*i* SG	Sg	06 58 17.3	-4.5
	comp=N,29nm,0.6s						
DAVA	**Damuels**	5.83	227	⇑*i*Pn	Pn	06 56 37.4	-0.1
	comp=N,29nm,0.6s						
DAVA				*i* Sg	Sg	06 58 17.3	-4.5
LANF	**Langenberg**	5.88	248	P	Pn	06 56 39.2	+1.0
LANF				S	Sn	06 57 53.1	+5.9
RUP	**Ruppelstein**	6.02	256	P	Pn	06 56 40.0	-0.2
DAVOX	**Davos**	6.22	223	Pn	Pn	06 56 43.5	+0.5
	comp=N,1.4nm,0.3s,baz=39,slow=11,SNR=8.8						
DAVOX	**Davos**	6.22	223	Pn	Pn	06 56 43.5	+0.5
WLS	**Welschbruch**	6.42	245	P	Pn	06 56 46.8	+1.0
CDF	**Champ du Feu**	6.46	245	*e*Pn	Pn	06 56 44.8	-1.6
CDF				*e*Sg	Sg	06 58 36.8	-6.1
	comp=N,80nm,0.8s						
ECH	**Echery**	6.63	244	P	Pn	06 56 48.6	-0.3
MOF	**Molkenrain**	6.85	242	P	Pn	06 56 51.6	-0.3
HINF	**Hinteralfeld**	7.03	242	*e*Pn	Pn	06 56 54.1	-0.3
HINF				*e*Pg	Pg	06 57 23.2	-4.8
HINF				*e*Sg	Sg	06 58 52.9	-8.8
	comp=N,40nm,0.6s						
HAU	**Haudompre**	7.21	245	*e*Pn	Pn	06 56 56.6	-0.3
HAU				*e*Pg	Pg	06 57 25.6	-6.0
HAU				*e*Sg	Sg	06 58 58.8	-8.8
	comp=N,74nm,0.9s						
GIVF	**Givet**	7.28	264	*e*Sg	Sg	06 59 00.2	-10
	comp=N,110nm,1.1s						
THEF	**They Montfort**	7.30	248	P	Pn	06 56 57.0	-1.2
BAIF	**Baives**	7.67	264	*e*Sg	Sg	06 59 12.0	-11
	comp=N,8.7nm,0.3s						
MEZF	**Maizieres J’vi**	7.72	252	*e*Sg	Sg	06 59 14.8	-10
	comp=N,16nm,0.4s						
CABF	**La Chapelle**	8.18	237	*e*Pn	P	06 57 09.1	-1.3
CABF				*e*Pg	P	06 57 45.1	+35
CABF				*e*Sg	Sg	06 59 30.2	-10
	comp=N,110nm,1.1s						
AKASG	**Malin Array Be**	8.30	90	Pn	P	06 57 09.2	-3.0
	comp=N,5.4nm,0.3s,baz=280,slow=12,SNR=27						
AKASG				Lg		06 59 38.2	
	baz=280,slow=27,SNR=4.3						
AKASG	**Malin Array Be**	8.30	90	P	P	06 57 09.2	-3.0
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.3s						

LPG	La Plagne	8.61	230	ePn	P	06 57 15.8	-0.7
LPG				eSg	Sg	06 59 43.7	-11
	comp=Z,15nm,0.7s						
HFS	Hagfors	8.79	352	Pn	P	06 57 16.7	-2.3
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=12						
HFS				Sn	Sn	06 58 52.0	-8.1
	comp=Z,0.2nm,0.3s,baz=174,slow=26,SNR=3.8						
HFS				Lg		06 59 49.9	
	comp=Z,0.1nm,0.3s,baz=211,slow=30,SNR=2.2						
FIN	Finale Ligure	8.99	219	P	P	06 57 22.1	+0.4
LOR	Lormes	9.02	247	ePn	P	06 57 20.8	-1.4
LOR				eSg	Sg	06 59 55.8	-12
	comp=Z,15nm,0.7s						
ROB	Roburent	9.05	221	P	P	06 57 22.1	-0.5
MBDF	Montbardon	9.18	226	ePn	P	06 57 22.6	-1.8
PZZ	Prazzo	9.21	224	P	P	06 57 23.6	-1.2
ENR	Entracque	9.30	222	P	P	06 57 24.6	-1.4
STV	Sta Anna Valdi	9.32	223	P	P	06 57 25.0	-1.4
IMI	Imperia	9.37	219	P	P	06 57 25.2	-1.8
SMF	Signal de Mont	9.38	244	eSg	Sg	07 00 07.0	-13
	comp=Z,21nm,0.7s						
ORIF	Oris-en-Rattie	9.46	230	ePn	P	06 57 27.0	-1.2
AVF	Avril sur Loir	9.57	246	ePn	P	06 57 27.2	-2.5
AVF				eSg	Sg	07 00 13.5	-13
	comp=Z,32nm,1.0s						
SBF	Sospel	9.59	221	ePn	P	06 57 29.6	-0.3
NAO01	NORSAR Array S	9.84	345	eP	P	06 57 28.6	-4.7
NB2	NORSAR Subarra	9.97	346	P	P	06 57 30.4	-4.7
	comp=Z,1.3nm,0.5s,baz=167,slow=12						
NOA	NORSAR Array B	9.97	346	Pn	P	06 57 31.4	-3.7
	comp=Z,0.6nm,0.3s,baz=174,slow=13,SNR=4.5						
NOA				Sn	Sn	06 59 13.0	-16
	comp=Z,0.3nm,0.3s,baz=167,slow=22,SNR=3.0						
NOA	NORSAR Array B	9.97	346	P	P	06 57 31.4	-3.7
NOA						06 59 13.0	
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PGF	Pioggiola	10.15	211	ePn	P	06 57 35.8	-1.8
FRF	La Foret Royal	10.16	223	ePn	P	06 57 37.1	-0.7
SMRF	Simiane la Rot	10.31	227	ePn	P	06 57 40.6	+0.8
LMR	La Mourre	10.41	222	ePn	P	06 57 38.3	-2.9
LASF	Ste Croix	11.06	233	ePn	P	06 57 48.3	-1.8
FINES	FINESS Array B	11.40	25	Pn	P	06 57 51.0	-3.7
	comp=Z,0.6nm,0.3s,baz=198,slow=12,SNR=16						
FINES				Sn	S	06 59 51.7	-12
	comp=Z,0.9nm,0.3s,baz=209,slow=21,SNR=6.7						
FINES	FINESS Array B	11.40	25	P	P	06 57 51.0	-3.8
FINES						06 59 51.7	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				smax			
	comp=N,1.0nm,0.3s						
EKA	Eskdalemuir Ar	12.12	296	Pn	P	06 58 00.3	-4.1
	comp=N,0.5nm,0.3s,baz=100,slow=14,SNR=7.8						
EKA	Eskdalemuir Ar	12.12	296	P	P	06 58 00.4	-4.1
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	12.77	65	eP	P	06 58 10.2	-2.9
OBN				eS	S	07 00 30.8	-6.4
OBN				pmax	pmax		
	comp=Z,26nm,1.6s						
BRTR	Keskin Array B	16.93	127	Pn	P	06 59 11.0	+3.6
	comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=3.0						
SOC	Sochi	17.74	107	eP	P	06 59 18.1	+0.7
SOC				eS	S	07 02 31.7	-2.1
SOC				pmax	pmax		
	comp=Z,41nm,0.9s						
SOC				pmax	pmax		
	comp=N,73nm,1.2s						
SOC				pmax	pmax		
	comp=E,38nm,0.9s						
SOC				MLR	MLR		
	comp=Z,40nm,16.0s						
SOC				MLR	MLR		
	comp=N,22nm,17.0s						
SOC				MLR	MLR		
	comp=E,6.0nm,8.0s						
ARCES	ARCESS Array B	18.67	10	Pn	P	06 59 25.2	-3.6
	comp=E,1.2nm,0.3s,baz=199,slow=12,SNR=18						
ARCES	ARCESS Array B	18.67	10	P	P	06 59 25.3	-3.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	25.16	62	P	P	07 00 35.7	+0.1
	comp=Z,4.1nm,0.4s,mb4.5						
ZAL	Zalesovo	40.22	59	iP	P	07 02 49.8	+2.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	42.23	69	P	P	07 03 04.9	+1.2
	comp=Z,0.6nm,0.8s,mb3.4,baz=297,slow=6.4,SNR=3.7						
MKAR	Makanchi Array	42.23	69	P	P	07 03 04.9	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	54.95	55	P	P	07 04 43.5	+1.3
	comp=Z,0.8nm,0.9s,mb3.7,baz=309,slow=7.9,SNR=5.2						
YKA	Yellowknife Ar	59.90	336	P	P	07 05 15.8	-1.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=22,slow=7.2,SNR=4.1						
YKA	Yellowknife Ar	59.90	336	P	P	07 05 15.8	-1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	71.37	84	P	P	07 06 32.0	+0.7
	comp=Z,2.3nm,0.2s,baz=306,slow=6.0,SNR=4.4						
PDAR	Pinedale Array	74.97	322	P	P	07 06 53.1	+1.1
	comp=Z,0.7nm,0.8s,mb3.7,baz=55,slow=6.4,SNR=6.2						
NVAR	Mina Array Bea	82.00	325	P	P	07 07 33.0	+2.6
	comp=Z,0.2nm,0.6s,mb3.4,baz=31,slow=5.3,SNR=3.4						
TXAR	Lajitas Array	83.74	310	P	P	07 07 41.5	+1.9
	comp=Z,0.1nm,0.5s,mb3.4,baz=99,slow=2.8,SNR=4.1						
BKM	Butte a Klehm	139.70	44	⇑iP	Pdif	07 11 39.0	-12

IDC 25 07:13:15.2±3.0**, 22.04S**×**179.98E, mb3.6**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, Error ellipse: s-maj=235.0km s-min=26.4km az=160.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.35	259	P	P	07 21 10.8	-2.1
	1.3nm,0.9s,baz=98,slow=8.2,SNR=7.1						
WRA	Warramunga Arr	42.54	264	P	P	07 21 13.2	-1.3
	0.9nm,0.6s,baz=97,slow=8.4,SNR=195						
NVAR	Mina Array Bea	83.44	44	P	P	07 25 45.8	-0.2
	0.2nm,0.6s,baz=234,slow=7.8,SNR=3.0						
TXAR	Lajitas Array	89.47	58	P	P	07 26 13.3	-2.5
	0.2nm,0.8s,baz=220,slow=7.0,SNR=4.6						

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*PRU **25** 07:15:44.0, 51.46N×16.20E*
*WAR **25** 07:15:44.4, 51.45N×16.16E, ML2.6, Mining Induced*
ISC 25 07:15:42.7±2.1**, 51.46N**±0.08×**16.13E**±0.10**, n6, σ0^{s}78**/11**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	ePG	Pg	07 15 56.0	+0.8
KSP				eSG	Sg	07 16 04.0	+0.4
UPC	Upice	0.96	184	ePG	Pg	07 16 02.4	+0.6
UPC				eSG	Sg	07 16 15.2	+0.6
DPC	Dobruska-Polom	1.12	174	ePG	Pg	07 16 04.4	-0.6
DPC				eSG	Sg	07 16 18.8	-1.1
PVCC	Panska Ves	1.36	227	ePG	Pg	07 16 10.0	+0.2
PVCC				eSG	Sg	07 16 29.0	+1.1
PRU	Pruhonice	1.79	215	ePG	Pg	07 16 17.2	-1.1
PRU				eSG	Sg	07 16 41.2	-1.0
	12nm,0.3s						
CLL	Collm	1.96	267	eSG	Sg	07 16 48.0	-0.1

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*NEIC **25** 07:24:53.5, 20.00N×68.99W, h25^{km}, MD3.5(RSPR), After RSPR.*
RSPR 25 07:24:53.5, 20.00N×**68.99W, h25**^{km}±40^{km}**, MD3.5**/6**, MD3.5**/6**, 10C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	Las Mesas	2.56	135	⇑eP	Pn	07 25 31.1	-3.2
LSP				eS	Sn	07 26 01.7	-3.3
LRS	Lares	2.65	129	⇑eP	Pn	07 25 33.0	-2.6
LRS				eS	Sn	07 26 03.8	-3.4
MGP	Maguayo	2.68	137	⇑eP	Pn	07 25 32.6	-3.4
MGP				eS	Sn	07 26 03.8	-4.2
AOPR	Arecibo Observ	2.68	127	⇑eP	Pn	07 25 35.0	-1.1
AOPR	Arecibo Observ	2.68	127	eS	Sn	07 26 04.2	-3.9
CELP	Cerrillos	2.98	130	⇑eP	Pn	07 25 38.3	-2.1
CELP				eS	Sn	07 26 12.0	-3.6
CSB	Colonia Sabana	3.17	122	⇑eP	Pn	07 25 40.7	-2.5
CSB				eS	Sn	07 26 16.8	-3.8
SJG	San Juan	3.28	124	eS	Sn	07 26 20.2	-3.0
CBYP	Canovanas	3.43	120	⇑eP	Pn	07 25 44.0	-2.7
CBYP				eS	Sn	07 26 22.4	-4.6
HUMP	Col San Antoni	3.50	121	⇑eP	Pn	07 25 45.0	-2.7
HUMP				eS	Sn	07 26 24.8	-4.0
CPD	Cerro la Pandu	3.50	123	⇑eP	Pn	07 25 45.2	-2.6
CPD				eS	Sn	07 26 24.9	-4.0
MTP	Monte Pirata	3.76	120	⇑eP	Pn	07 25 48.3	-3.2
MTP				eS	Sn	07 26 32.3	-3.1

IDC 25 07:28:53.7±9.8**, 18.57N**×**148.83E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/21**, Error ellipse: s-maj=365.0km s-min=22.8km az=82.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	Warramunga Arr	40.82	201	eP	P	07 36 37.2	-1.6
WRA	Warramunga Arr	40.82	201	P	P	07 36 36.8	-2.0
	0.3nm,0.4s,baz=31,slow=8.6,SNR=15						
ASAR	Alice Springs	44.43	200	P	P	07 37 07.0	-1.4
	0.2nm,0.4s,baz=28,slow=6.6,SNR=5.9						
SONM	Songino Array	45.12	320	P	P	07 37 12.5	-1.1
	0.3nm,0.5s,baz=129,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	60.70	314	P	P	07 39 06.3	-2.9
	0.3nm,0.7s,baz=104,slow=5.9,SNR=2.9						
BVAR	Borovoye Array	68.47	320	P	P	07 39 57.8	-1.9
	1.1nm,0.5s,baz=98,slow=10,SNR=4.8						

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*BJI **25** 07:44:24.0, 2.80N×125.80E, h107^{km}, mB5.1, mb4.8*
*NEIC **25** 07:44:24.1±2.3, 2.82N×125.77E, h107^{km}±22^{km}, mb4.7/16, Error ellipse: s-maj=16.1km s-min=5.8km az=79.0*
*SYO **25** 07:44:24.0, 2.82N×125.77E, h107^{km}, MB4.7*
*IDC **25** 07:44:26.4±2.1, 2.78N×125.61E, h127^{km}±18^{km}, mb4.2/16, mb1 4.3/16, mb1mx4.2/19, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=29.2km s-min=10.2km az=72.0*
ISC 25 07:44:25.1±0.7**, 2.82N**±0.04×**125.77E**±0.08**, h132**^{km}±6^{km}**, h122**^{km}±2.1^{km}**: pP-P, n68, σ1^{s}03**/81**, mb4.7**/39**, 3C-3D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	3.35	346	⇑iP	P	07 45 17.5	+0.2
GSPH				iS	S	07 45 56.0	-1.1
MATI	Mati	4.13	7	eP	P	07 45 28.4	+0.7
KCP	Kidapawan	4.22	351	⇑iP	P	07 45 30.5	+1.6
KCP				eS	S	07 46 18.4	+0.7
CTBH	Cotabato--PC H	4.63	341	⇓eP	P	07 45 35.0	+0.6
CTBH				iS	S	07 46 28.4	+0.8
BIPH	Bislig	5.36	6	iP	P	07 45 43.5	-0.6
BIPH				iS	S	07 46 43.0	-2.3
PAGZ	Pagadian	5.53	335	eP	P	07 45 46.7	+0.3
MSLP	Maasin	7.33	353	eP	P	07 46 19.9	+9.2
KAKA	Kakadu	16.76	157	eP	P	07 48 10.6	-2.9
	12nm,0.4s						
FITZ	Fitzroy Crossi	20.79	180	eP	P	07 48 57.1	-0.4
	14nm,0.6s						
FITZ				eS	S	07 52 38.4	+1.7
FITZ	Fitzroy Crossi	20.79	180	P	P	07 48 56.8	-0.6
	14nm,0.4s,baz=7.3,slow=10.0,SNR=47						
JOW	Kunigami	24.00	6	P	P	07 49 30.4	+1.6
	38nm,0.9s,mb4.9,baz=224,slow=8.6,SNR=4.5						
JOW				LR	LR	07 59 35.1	
	comp=Z,108nm,19.6s,baz=247,slow=38						
WRAB	Tennant Creek	24.13	160	eP	P	07 49 29.6	-0.5
	122nm,1.1s,mb5.3						
WRA	Warramunga Arr	24.13	160	P	P	07 49 30.0	-0.1
	11nm,0.4s,mb4.7,baz=335,slow=11,SNR=319						
WRA				S	S	07 53 35.2	-0.1
	3.5nm,1.2s,baz=337,slow=14,SNR=4.0						
WB2	Warramunga Arr	24.14	160	eP	P	07 49 29.8	-0.4
WB2				eS	S	07 53 43.2	+7.8
ASAR	Alice Springs	27.49	164	P	P	07 50 00.8	-0.5
	1.8nm,0.4s,mb4.1,baz=340,slow=7.3,SNR=35						
ASAR				PcP	PcP	07 53 17.1	+0.6
	4.6nm,1.1s,baz=350,slow=1.7,SNR=5.9						
ASAR				S	S	07 54 29.5	-1.1
	1.3nm,0.9s,baz=358,slow=22,SNR=2.9						
ASPA	Alice Springs	27.49	164	eP	P	07 50 00.7	-0.6
ASPA				eS	S	07 54 33.7	+3.1
NJ2	Nanjing	29.80	348	eP	P	07 50 23.0	+1.1
NJ2				AP	pP	07 50 50.3	0.0
NJ2				XP	sP	07 51 05.0	-0.5
NJ2				PP	PP	07 51 25.8	+1.7
NJ2				S	S	07 55 11.0	+3.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				LR	LR		
	comp=N,4µm,14.1s						
NJ2				LR	LR		
	comp=E,5µm,14.4s						
NJ2				LR	LR		
	comp=Z,5µm,14.4s						
CMAR	Chiang Mai Arr	30.53	303	P	P	07 50 28.1	-0.3
	comp=Z,3.4nm,0.8s,mb4.1,baz=130,slow=8.3,SNR=16						
CMAR				ScP		07 56 55.0	
	comp=Z,1.1nm,0.8s,baz=155,slow=1.9,SNR=5.1						
ENH	Enshi	31.36	332	P	P	07 50 35.0	-0.6
KMI	Kunming	31.37	317	eP	P	07 50 36.8	+1.1
KMI				S	S	07 55 36.0	+4.1
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
KMI				LR	LR		
	comp=Z,368nm,4.5s						
FORT	Forrest	33.48	176	eP	P	07 50 53.7	-0.2
	comp=Z,66nm,0.5s,mb5.6						
KS15	Wonju Array Si	34.51	3	eP	P	07 51 02.2	-0.5
KLBR	Kellerberrin	35.06	192	eP	P	07 51 06.7	-0.6
	comp=Z,110nm,1.8s,mb5.2						
MAJO	Matsushiro	35.47	17	eP	P	07 51 09.7	-1.0
	comp=Z,9.8nm,0.8s,mb4.5						
MAT	Matsushiro	35.47	17	P	P	07 51 09.5	-1.2
MAT	Matsushiro	35.47	17	eP	P	07 51 10.0	-0.7
	comp=Z,13nm,1.0s,mb4.5						
MUN	Mundaring	35.77	194	eP	P	07 51 13.7	+0.3
	comp=Z,27nm,1.4s,mb4.7						
STKA	Stephens Creek	37.64	158	eP	P	07 51 29.2	+0.2
	comp=Z,3.1nm,0.4s,mb4.3						
STKA	Stephens Creek	37.64	158	P	P	07 51 29.3	+0.3
	comp=Z,3.5nm,0.4s,mb4.3,baz=336,slow=8.0,SNR=26						
STKA				ScP		07 57 19.8	
	comp=Z,3.1nm,0.9s,baz=267,slow=6.8,SNR=3.7						
LZH	Lanzhou	38.82	331	eP	P	07 51 40.3	+1.5
LZH				AP	pP	07 52 08.5	+0.1
LZH				XP	sP	07 52 23.5	-0.6
LZH				PP	PP	07 53 16.3	+3.2
LZH				eS	S	07 57 29.5	+3.3
LZH				XS		07 58 18.5	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,137nm,5.1s						
LZH				LR	LR		
	comp=N,283nm,13.2s						
LZH				LR	LR		
	comp=Z,387nm,16.5s						
SNY	Shenyang	38.89	357	⇓P	P	07 51 39.8	+0.5
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
SHL	Shillong	39.66	308	eP	P	07 51 46.0	+0.2
MDJ	Mudanjiang	41.76	4	P	P	07 52 03.5	+0.6
MDJ				AP	pP	07 52 31.3	-1.5
MDJ				XP	sP	07 52 44.8	-3.5
MDJ				PP	PP	07 53 43.0	-1.3
MDJ				S	S	07 58 13.3	+3.5
MDJ				XS		07 59 00.5	
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,166nm,3.8s						
MDJ				LR	LR		
	comp=E,29nm,17.4s						
MDJ				LR	LR		
	comp=Z,34nm,19.3s						
MDJ	Mudanjiang	41.76	4	eP	P	07 52 03.7	+0.8
	comp=Z,4.9nm,0.8s,mb4.2						
LSA	Lhasa	42.34	313	eP	P	07 52 09.5	+1.7
	comp=Z,15nm,0.8s,mb4.7						
ASAJ	Asahikawa	43.74	18	P	P	07 52 20.1	+1.2
	comp=Z,9.2nm,0.5s,mb4.7,baz=234,slow=11,SNR=6.3						
TOO	Toolangi	44.16	157	eP	P	07 52 24.2	+1.8
	comp=Z,5.1nm,1.8s,mb3.9						
GUN	Gumba	45.50	307	eP	P	07 52 33.3	+0.1
	comp=Z,113nm,0.7s,mb5.6						
PKI	Pulchoki	45.73	307	eP	P	07 52 34.6	-0.4
KKN	Kakani	45.92	307	eP	P	07 52 36.1	-0.5
	comp=Z,64nm,0.8s,mb5.3						
DMN	Daman	45.99	306	eP	P	07 52 37.0	-0.1
	comp=Z,86nm,0.9s,mb5.4						
GKN	Gorkha	46.53	307	eP	P	07 52 41.0	-0.3
	comp=Z,65nm,0.9s,mb5.3						
KOLN	Koldanda	47.27	306	eP	P	07 52 47.2	+0.1
	comp=Z,160nm,0.8s,mb5.7						
SONM	Songino Array	47.86	342	P	P	07 52 51.7	+0.3
	comp=Z,1.9nm,0.6s,mb3.9,baz=158,slow=8.9,SNR=14						
SONM				PcP	PcP	07 54 18.6	+0.1
	comp=Z,1.5nm,0.7s,baz=180,slow=3.7,SNR=4.4						
DDI	Dehra Dun	52.73	306	e	P	07 53 27.8	-0.9
WMQ	Urumqi	52.93	326	⇑iP	P	07 53 30.3	+0.3
WMQ				AP	pP	07 53 57.5	-3.5
WMQ				XP	sP	07 54 13.3	-2.2
WMQ				PCP	PcP	07 54 37.3	+0.2
WMQ				PP	PP	07 55 33.3	+1.1
WMQ				eS	S	08 00 47.8	+0.7
WMQ				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,16nm,6.5s						
WMQ				LR	LR		
	comp=E,29nm,21.2s						
WMQ				LR	LR		
	comp=Z,54nm,21.2s						
SDNR	Sundarnagar	54.03	307	eP	P	07 53 37.0	-1.2
MKAR	Makanchi Array	57.76	326	P	P	07 54 03.2	-1.5
	comp=Z,9.1nm,0.7s,mb4.7,baz=125,slow=8.3,SNR=41						
MKAR				PcP	PcP	07 54 55.1	-0.6
	comp=Z,2.6nm,0.6s,baz=106,slow=3.1,SNR=6.3						
MKAR				ScP		07 58 42.0	
	comp=Z,1.1nm,0.7s,baz=117,slow=5.4,SNR=4.1						
MKAR	Makanchi Array	57.76	326	P	P	07 54 03.2	-1.5
MKAR				PcP	PcP	07 54 55.1	-0.6
MKAR				ScP		07 58 42.0	
KSH	Kashi	58.02	316	eP	P	07 54 06.0	-0.5
KSH				eAP	pP	07 54 36.0	-2.0
KSH				eXP	sP	07 54 50.3	-2.3
KSH				ePCP	PcP	07 54 57.0	+0.2
KSH				ePP	PP	07 56 18.3	+0.2
KSH				ePPP	PPP	07 57 42.3	+0.6
KSH				eSCP		07 58 47.3	
KSH				ePCS		07 58 58.0	
KSH				eS	S	08 01 53.3	-1.4
KSH				ePS	PS	08 02 06.5	-23
KSH				eXS		08 02 48.0	
KSH				eSCS	ScS	08 03 39.0	-0.1
KSH				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
KSH				LR	LR		
	comp=N,200nm,4.8s						
KSH				LR	LR		
	comp=E,170nm,6.4s						
ZAL	Zalesovo	60.97	334	P	P	07 54 25.3	-1.3
	comp=E,1.1nm,0.4s,mb4.0,baz=308,slow=9.9,SNR=5.2						
KURK	Kurchatov	62.00	328	P	P	07 54 31.7	-1.9
	comp=E,102nm,0.8s,mb5.7,SNR=9.4						
BRVK	Borovoye	67.64	327	eP	P	07 55 08.7	-1.1
ZRNK	Zerenda	68.28	327	eP	P	07 55 12.4	-1.4
MAW	Mawson	82.57	200	P	P	07 56 35.5	+1.1
	comp=E,8.5nm,1.1s,mb4.4,baz=71,slow=11,SNR=6.0						
MAW	Mawson	82.57	200	eP	P	07 56 35.2	+0.8
	comp=E,12nm,1.2s,mb4.5						
VNDA	Vanda	82.65	173	P	P	07 56 35.7	+1.1
	comp=E,3.0nm,0.8s,mb4.1,baz=327,slow=5.7,SNR=11						
VNDA	Vanda	82.65	173	eP	P	07 56 34.3	-0.3
	comp=E,5.6nm,1.1s,mb4.2						
SBA	Scott Base	83.57	172	eP	P	07 56 40.9	+1.6
	comp=E,2.4nm,0.9s,mb3.9						
KMBO	Kilima Mbogo	88.57	269	eP	P	07 57 06.0	+0.9
	comp=E,10nm,1.2s,mb4.6						
BRTR	Keskin Array B	89.86	310	P	P	07 57 09.8	-0.7
	comp=E,3.6nm,1.1s,mb4.2,baz=117,slow=5.5,SNR=7.8						
BRTR				PP	PP	08 00 47.3	+0.3
	comp=E,0.4nm,0.5s,baz=72,slow=14,SNR=3.8						
ARCES	ARCESS Array B	90.97	340	P	P	07 57 14.9	-0.1
	comp=E,4.4nm,0.8s,mb4.5,baz=83,slow=7.3,SNR=4.3						
SYO	Syowa Base	91.23	201	⇓P	P	07 57 17.0	+0.8
AKASG	Malin Array Be	91.99	321	P	P	07 57 19.1	-1.0
	comp=E,7.3nm,0.9s,mb4.7,baz=71,slow=4.1,SNR=15						
FINES	FINESS Array B	92.18	332	P	P	07 57 20.1	-0.6
	comp=E,1.3nm,0.8s,mb4.0,baz=100,slow=8.5,SNR=3.5						
QSPA	South Pole Qui	92.73	180	eP	P	07 57 24.6	+1.7
	comp=E,6.6nm,1.2s,mb4.6						
GERES	GERESS Array B	102.20	321	P	Pdif	07 58 06.7	+0.3
	comp=E,0.2nm,0.2s,slow=2.0,SNR=4.3						
TXAR	Lajitas Array	122.91	52	PKP	PKPdf	08 03 08.9	+2.6
	comp=E,0.9nm,1.1s,baz=243,slow=2.8,SNR=5.1						

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*PRU **25** 07:52:43.5, 51.45N×16.09E*
*WAR **25** 07:52:43.0, 51.50N×16.09E, ML2.9, Mining Induced*
*NEIC **25** 07:52:43.9±1.7, 51.42N×15.99E, h5^{km}, ML3.0(VIE), ML2.4(BRG), Error ellipse: s-maj=18.6km s-min=7.7km az=12.0*
ISC 25 07:52:41.1±0.8**, 51.47N**±0.04×**16.07E**±0.04**, n20, σ1^{s}21**/43**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	167	ePG	Pg	07 52 55.0	+1.0
KSP				iSG	Sg	07 53 04.2	+1.6
KSP	Ksiaz	0.65	167	ePg	Pg	07 52 55.3	+1.3
KSP				e		07 52 57.4	
KSP				iSg	Sg	07 53 04.2	+1.6
UPC	Upice	0.97	182	ePN	Pn	07 53 01.6	-0.1
UPC				ePG	Pg	07 53 02.0	+1.6
UPC						07 53 02.8	
UPC				eSG	Sg	07 53 14.4	+1.1
UPC						07 53 17.4	
UPC	Upice	0.97	182	ePn	Pn	07 53 01.6	-0.1
UPC				ePg	Pg	07 53 02.0	+1.6
UPC				e		07 53 02.8	
UPC				eSg	Sg	07 53 14.4	+1.1
UPC				e		07 53 17.4	
DPC	Dobruska-Polom	1.13	172	ePN	Pn	07 53 04.2	+0.1
DPC				ePG	Pg	07 53 04.8	+1.0
DPC				eSG	Sg	07 53 19.3	+0.4
DPC						07 53 21.6	
DPC	Dobruska-Polom	1.13	172	ePn	Pn	07 53 04.2	+0.1
DPC				ePg	Pg	07 53 04.8	+1.0
DPC				eSg	Sg	07 53 19.3	+0.4
DPC				e		07 53 21.6	
PVCC	Panska Ves	1.34	226	ePN	Pn	07 53 08.7	+1.7
PVCC				ePG	Pg	07 53 09.4	+1.6
PVCC				eSG	Sg	07 53 27.1	+1.5
BRG	Berggiesshubel	1.47	247	iPg	Pg	07 53 10.8	+0.4
BRG				iSg	Sg	07 53 30.7	+0.8
PRU	Pruhonice	1.77	214	ePG	Pg	07 53 16.3	-0.2
PRU						07 53 19.2	
PRU				eSG	Sg	07 53 39.4	-0.7
PRU						07 53 46.6	
PRU	Pruhonice	1.77	214	ePg	Pg	07 53 16.3	-0.2
PRU				e		07 53 19.2	
PRU				eSg	Sg	07 53 39.4	-0.7
PRU				e		07 53 46.6	
CLL	Collm	1.93	266	ePG	Pg	07 53 19.0	-0.6
CLL				eSG	Sg	07 53 44.0	-1.3
MORC	Moravsky Berou	1.94	150	ePn	Pn	07 53 15.6	0.0
OKC	Ostrava-Krasne	2.10	140	ePG	Pg	07 53 22.3	-0.8
OKC				eSG	Sg	07 53 49.5	-1.7
OJC	Ojcow	2.68	116	ePG	Pg	07 53 35.0	+0.4
OJC				eSG	Sg	07 54 09.0	-1.2
OJC	Ojcow	2.68	116	ePg	Pg	07 53 35.2	+0.6
OJC				eSg	Sg	07 54 09.3	-0.9
KHC	Kasperske Hory	2.83	215	ePG	Pg	07 53 35.2	-2.5
KHC						07 54 03.9	
KHC				eSG	Sg	07 54 12.9	-2.6
MOA	Molln	3.81	199	⇑iPN	Pn	07 53 42.5	+0.2
MOA				iSG	Sg	07 54 45.6	-2.3
	8.0nm,0.4s						
ARSA	Arzberg	4.24	185	iSG	Sg	07 54 56.4	-5.9
	1.9nm,0.4s						
ARSA	Arzberg	4.24	185	iP	Pn	07 53 48.1	-0.3
ARSA				iSg	Sg	07 54 56.4	-5.9
KBA	Koelnbreinsper	4.74	203	⇑iPN	Pn	07 53 54.7	-0.9
KBA				iSG	Sg	07 55 14.9	-4.1

4.2nm,0.6s

OTT 25 08:09:27.5±1.0**, 68.06N**×**66.77W, h18**^{km}**, MN3.0**/4**, Baffin Island Seismic Zone, Northwest Territories 127km northwest from Qikiqtarjuaq, Nu, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.39**	**190**	PN	Pn	08 10 34.8	-0.3
FRB				SN	Sn	08 11 20.7	-5.6
FRB				LG		08 11 43.4	
FRB				Trac		08 11 46.8	
	comp=Z,15nm,0.2s						
FRB	**Frobisher Bay**	**4.39**	**190**	PN	Pn	08 10 34.8	-0.3
FRB				SN	Sn	08 11 20.7	-5.6
FRB				LG		08 11 43.4	
FRB				Trac		08 11 46.8	
	comp=Z,15nm,0.2s						
IGL	**Igloolik**	**5.63**	**290**	PN	Pn	08 10 50.4	-2.1
IGL				SN	Sn	08 11 51.0	-6.5
IGL				LG		08 12 12.9	
IGL				Trac		08 12 18.4	
	comp=Z,7.4nm,0.2s						
IGL	**Igloolik**	**5.63**	**290**	PN	Pn	08 10 50.4	-2.1
IGL				SN	Sn	08 11 51.0	-6.5
IGL				LG		08 12 12.9	
IGL				Trac		08 12 18.4	
	comp=Z,7.4nm,0.2s						
TULEG	**Thule**	**8.55**	**357**	SN	Sn	08 13 00.8	-10
TULEG	**Thule**	**8.55**	**357**	SN	Sn	08 13 00.8	-10
KUQ	**Kuujjuuaa**	**10.02**	**185**	PN	P	08 11 46.3	-7.2
KUQ				SN	S	08 13 34.0	-12
KUQ				LG		08 14 31.0	
KUQ				Trac		08 14 41.9	
	comp=Z,1.9nm,0.3s						
KUQ	**Kuujjuuaa**	**10.02**	**185**	PN	P	08 11 46.3	-7.2
KUQ				SN	S	08 13 34.0	-12
KUQ				LG		08 14 31.0	
KUQ				Trac		08 14 41.9	
	comp=Z,1.9nm,0.3s						
RES	**Resolute Bay**	**11.05**	**319**	PN	P	08 12 02.7	-4.9
RES				SN	S	08 13 58.9	-13
RES				LG		08 15 03.2	
RES	**Resolute Bay**	**11.05**	**319**	PN	P	08 12 02.7	-4.9
RES				SN	S	08 13 58.9	-13
RES				LG		08 15 03.2	
SCHQ	**Schefferville**	**13.27**	**180**	PN	P	08 12 32.1	-5.4
SCHQ				SN	S	08 14 53.9	-12
SCHQ				LG		08 16 17.5	
SCHQ				Trac		08 16 40.1	
	comp=Z,2.9nm,0.8s						
SCHQ	**Schefferville**	**13.27**	**180**	PN	P	08 12 32.1	-5.4
SCHQ				SN	S	08 14 53.9	-12
SCHQ				LG		08 16 17.5	
SCHQ				Trac		08 16 40.1	
	comp=Z,2.9nm,0.8s						
LG4Q	**La Grande 4**	**14.89**	**197**	PN	P	08 12 48.8	-10
LG4Q				SN	S	08 15 28.9	-15
LG4Q	**La Grande 4**	**14.89**	**197**	PN	P	08 12 48.8	-10
LG4Q				SN	S	08 15 28.9	-15

DJA 25 08:11:08.6±0.9**, 8.74S**×**114.76E, h46**^{km}±10^{km}**, ML3.9**/1**, 5C-3D, Error ellipse: s-maj=26.2km s-min=6.8km az=29.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.38**	**101**	⇓*e*Pn	P	08 11 18.0	-0.2
INGI				⇑*e*Sn	S	08 11 24.1	-0.9
KELI	**Kelakatan**	**0.59**	**333**	⇓*e*Pn	P	08 11 20.1	-0.7
KELI				⇑*e*Sn	S	08 11 28.3	-1.2
RATI	**Rata**	**0.76**	**88**	⇓*e*Pn	P	08 11 21.7	-1.3
RATI				⇑*e*Sn	S	08 11 31.2	-2.4
KEDI	**Kedomdong**	**1.36**	**79**	⇑*e*Pn	P	08 11 30.1	-1.5
	126nm,0.2s						
KEDI				⇑*e*Sn	S	08 11 46.7	-2.0

IDC 25 08:20:59.7±1.5**, 2.06N**×**127.95E, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.9**/16**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/21**, Error ellipse: s-maj=126.0km s-min=19.0km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**164**	P	P	08 26 04.1	-0.8
	4.0nm,0.6s,baz=344,slow=11,SNR=57						
WB2	**Warramunga Arr**	**22.75**	**164**	*e*P	P	08 26 04.3	-0.7
ASAR	**Alice Springs**	**26.22**	**168**	P	P	08 26 35.8	-2.5
	0.5nm,0.6s,baz=349,slow=7.9,SNR=9.2						
CTA	**Charters Tower**	**28.41**	**142**	LR	LR	08 38 36.6	
	comp=Z,95nm,21.9s,baz=54,slow=37						
STKA	**Stephens Creek**	**36.15**	**160**	P	P	08 28 04.1	-1.7
	1.3nm,0.8s,baz=335,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**59.61**	**325**	P	P	08 31 06.2	-1.6
	3.3nm,0.5s,baz=120,slow=8.5,SNR=43						
BVAR	**Borovoye Array**	**69.38**	**327**	P	P	08 32 08.6	-2.7
	0.8nm,0.4s,baz=135,slow=6.3,SNR=6.7						

BJI ***25*** *08:54:53.4, 4.67S×128.26E, h210*^{km}*, mB5.0, mb5.2*

HRVD ***25*** *08:54:59.0±0.4, 4.10S×127.98E, h213*^{km}*±2*^{km}*, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s25,c33;Mantle waves: s58,c92; Half duration: 0 Moment tensor: Scale* 10^{16}*Nm;* M_{rr}*-2.90±.18;* $M_{\theta\theta}$*3.95±.16;* $M_{\phi\phi}$*-1.05±.19;* $M_{r\theta}$*-1.01±.15;* $M_{\theta\phi}$*-0.48±.21;* $M_{\phi r}$*-3.48±.16; Best double couple:* M_0*4.9×*10^{16} *NP1:*ϕ_s*304°,δ49°,λ-37°. NP2:*ϕ_s*61°,δ63°,λ-132°. Principal axes: T 4.1, Plg8°, Azm180°; N 1.6, Plg37°, Azm83°; P -5.7, Plg52°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***25*** *08:54:59.3±1.0, 4.27S×127.88E, h229*^{km}*, mb5.2/24 Error ellipse: s-maj=17.8km s-min=8.2km az=113.3*

NEIC ***25*** *08:54:59.0±0.1, 4.25S×127.94E, mb5.1/37, Error ellipse: s-maj=7.1km s-min=3.4km az=71.0*

SYO ***25*** *08:54:59.0, 4.25S×127.94E, h210*^{km}*, MB5.1*

IDC ***25*** *08:54:59.5±1.2, 4.28S×127.87E, h212*^{km}*±10*^{km}*, mb4.6/24, mb1 4.7/27, mb1mx4.7/28, Error ellipse: s-maj=15.2km s-min=6.8km az=65.0*

ISC 25 08:54:57.6±0.6**, 4.27S**±0.03×**127.96E**±0.05**, h212**^{km}±5^{km}**, h211**^{km}±1.5^{km}**:pP-P, n255,** σ**0**^{s}**96**/226**, mb5.0**/91**, 12C-19D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.46**	**153**	⇑*i*P	**P**	**08 57 10.4**	**0.0**
	272nm,0.6s						
KAKA				*e*S	**S**	**08 58 52.1**	**-2.3**
GSPH	**General Santos**	**10.72**	**344**	⇑*e*P	**P**	**08 57 26.0**	**-0.8**
MATI	**Mati**	**11.27**	**351**	*e*P	**P**	**08 57 35.3**	**+1.4**
KCP	**Kidapawan**	**11.56**	**346**	⇓*e*P	**P**	**08 57 36.3**	**-1.3**
BUKP	**Musuan**	**12.41**	**347**	*e*P	**P**	**08 57 48.5**	**+0.2**
PAGZ	**Pagadian**	**12.87**	**339**	*e*P	**P**	**08 57 54.4**	**+0.4**
BUTP	**Butuan**	**13.36**	**350**	*e*P	**P**	**08 58 00.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**13.93**	**189**	⇑*i*P	**P**	**08 58 07.6**	**+0.3**
	88nm,0.9s						
FITZ				*e*S	**S**	**09 00 47.7**	**+11**
FITZ	**Fitzroy Crossi**	**13.93**	**189**	P	**P**	**08 58 07.4**	**0.0**
	5.1nm,0.3s,baz=16,slow=9.3,SNR=146						
FITZ				S	**S**	**09 00 45.7**	**+8.5**
	0.8nm,0.3s,baz=184,slow=14,SNR=7.0						
SCPH	**Surigao**	**14.18**	**350**	*e*P	**P**	**08 58 10.8**	**+0.4**
MSLP	**Maasin**	**14.64**	**348**	*e*P	**P**	**08 58 15.6**	**-0.5**
KKM	**Kota Kinabalu**	**15.57**	**311**	⇓*e*P	**P**	**08 58 28.8**	**+1.2**
	393nm,1.0s						
OCLP	**Ormoc**	**15.58**	**348**	*e*P	**P**	**08 58 30.6**	**+2.9**
WRAB	**Tennant Creek**	**16.77**	**159**	*e*P	**P**	**08 58 40.9**	**-0.9**
	285nm,1.1s						
WRA	**Warramunga Arr**	**16.77**	**159**	P	**P**	**08 58 41.2**	**-0.7**
	19nm,0.3s,baz=341,slow=12,SNR=592						
WRA				S	**S**	**09 01 40.8**	**+0.3**
	1.3nm,0.3s,baz=338,slow=21,SNR=6.8						
WRA				ScP		09 06 31.4	
	baz=334,slow=2.5,SNR=4.8						
WRA	**Warramunga Arr**	**16.77**	**159**	P	**P**	**08 58 41.2**	**-0.7**
WRA				S	**S**	**09 01 40.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,19nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
WB2	**Warramunga Arr**	**16.78**	**159**	⇑*i*P	**P**	**08 58 41.3**	**-0.6**
WB2				*e*S	**S**	**09 01 40.7**	**+0.2**
WB2				*e*SCS	ScS	09 10 09.4	0.0
TGY	**Tagaytay City**	**19.54**	**339**	P	**P**	**08 59 12.3**	**+1.5**
	comp=N,30nm,0.3s,baz=193,slow=3.3,SNR=11						
TGY	**Tagaytay City**	**19.54**	**339**	P	**P**	**08 59 12.3**	**+1.4**
TGY				pmax	pmax		
	comp=Z,30nm,0.3s						
PMG	**Port Moresby**	**19.73**	**106**	P	**P**	**08 59 14.8**	**+2.0**
ASPA	**Alice Springs**	**20.12**	**164**	⇑*i*P	**P**	**08 59 17.5**	**+0.8**
ASPA				*e*S	**S**	**09 02 49.4**	**+3.7**
ASPA				*e*SCS	ScS	09 10 19.4	-0.4
ASAR	**Alice Springs**	**20.12**	**164**	P	**P**	**08 59 17.4**	**+0.7**
	comp=Z,81nm,0.7s,baz=344,slow=9.9,SNR=350						
ASAR				S	**S**	**09 02 48.9**	**+3.2**
	comp=Z,70nm,0.9s,baz=346,slow=24,SNR=8.5						
ASAR				ScP		09 06 38.6	
	comp=Z,23nm,1.2s,baz=358,slow=3.0,SNR=5.8						
CTA	**Charters Tower**	**23.77**	**133**	*e*P	**P**	**08 59 54.1**	**+1.9**
	comp=Z,25nm,1.2s,mb4.7						
CTA				*e*pP		09 00 37.0	
CTA	**Charters Tower**	**23.77**	**133**	P	**P**	**08 59 53.1**	**+0.9**
	comp=Z,29nm,0.9s,mb4.9,baz=318,slow=11,SNR=16						
CTA	**Charters Tower**	**23.77**	**133**	P	**P**	**08 59 53.2**	**+1.0**
CTA				pmax	pmax		
	comp=Z,29nm,0.9s						
CTAO	**Charters Tower**	**23.77**	**133**	*e*P	**P**	**08 59 52.4**	**+0.2**
	comp=Z,62nm,1.2s,mb5.1						
FORT	**Forrest**	**26.37**	**180**	*e*P	**P**	**09 00 15.9**	**-0.3**
	comp=Z,91nm,0.6s,mb5.6						
KLBR	**Kellerberrin**	**28.82**	**198**	*e*P	**P**	**09 00 37.5**	**-0.8**
	comp=Z,47nm,0.9s,mb5.1						
QIZ	**Qiongzhong**	**29.23**	**323**	P	**P**	**09 00 41.5**	**-0.5**
QIZ				AP	pP	09 01 23.0	-1.8
QIZ				S	**S**	**09 05 20.5**	**+2.9**
QIZ				AMB	AMB		
	comp=Z,81nm,1.1s,mb5.3						
QIZ	**Qiongzhong**	**29.23**	**323**	*e*P	**P**	**09 00 41.8**	**-0.2**
	comp=Z,74nm,1.0s,mb5.3						
SNG	**Songkhla**	**29.56**	**293**	P	**P**	**09 00 36.0**	**-9.0**
	comp=Z,330nm,0.9s,mb6.0						
UBT	**Ubonrachathani**	**29.87**	**311**	P	**P**	**09 00 47.5**	**-0.2**
	comp=Z,278nm,1.0s,mb5.8						
NWAO	**Narrogin (SRO)**	**30.22**	**198**	P	**P**	**09 00 50.1**	**-0.5**
	comp=Z,31nm,1.1s,mb4.8,baz=110,slow=12,SNR=5.5						
NWAO	**Narrogin (SRO)**	**30.22**	**198**	P	**P**	**09 00 50.1**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,31nm,1.2s						
STKA	**Stephens Creek**	**30.30**	**157**	⇓*i*P	**P**	**09 00 51.1**	**-0.2**
	comp=Z,23nm,0.8s,mb4.9						
STKA				*i* S	**S**	**09 05 33.0**	**-1.4**
STKA	**Stephens Creek**	**30.30**	**157**	P	**P**	**09 00 51.1**	**-0.2**
	comp=Z,28nm,0.7s,mb5.0,baz=324,slow=8.9,SNR=66						
JOW	**Kunigami**	**30.92**	**1**	P	**P**	**09 00 56.4**	**-0.4**
	comp=Z,34nm,0.7s,mb5.1,baz=219,slow=7.7,SNR=6.9						
ADE	**Adelaide**	**32.13**	**163**	*e*P	**P**	**09 01 08.2**	**+1.0**
KKTK	**Khon Kaen**	**32.20**	**310**	P	**P**	**09 01 08.5**	**+0.5**
NNT	**Nongplab**	**32.67**	**301**	P	**P**	**09 01 12.7**	**+0.7**
NST	**Nakhon Sawan**	**33.93**	**306**	P	**P**	**09 01 23.0**	**+0.2**
NANT	**Nan**	**35.30**	**311**	⇓P	**P**	**09 01 34.0**	**-0.4**
	comp=Z,462nm,1.0s,mb6.0						
BDT	**Bhumibol Dam**	**35.70**	**308**	P	**P**	**09 01 39.0**	**+1.3**
	comp=Z,56nm,0.6s,mb5.3						
SSE	**Sheshan**	**35.76**	**350**	P	**P**	**09 01 39.8**	**+1.7**
SSE				AP	pP	09 02 23.3	+0.9
SSE				S	**S**	**09 07 02.8**	**+4.0**
SSE				XS		09 08 21.5	
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,412nm,5.7s						
SSE				LR	LR		
	comp=N,40nm,20.0s						
SSE				LR	LR		
	comp=E,95nm,20.1s						
SSE				LR	LR		
	comp=Z,86nm,22.7s						
CM31	**Chiang Mai Arr**	**36.44**	**309**	*e*P	**P**	**09 01 45.1**	**+1.2**
	comp=Z,192nm,1.1s,mb5.5						
CMAR	**Chiang Mai Arr**	**36.44**	**309**	P	**P**	**09 01 44.8**	**+0.8**
	comp=Z,65nm,0.6s,mb5.3,baz=139,slow=7.5,SNR=264						
CMAR				PcP	PcP	09 04 03.9	+0.3
	comp=Z,9.5nm,0.9s,baz=162,slow=2.3,SNR=8.0						
CMAR				ScP		09 07 30.0	
	comp=Z,1.1nm,0.5s,baz=153,slow=3.0,SNR=7.4						
CMAR	**Chiang Mai Arr**	**36.44**	**309**	P	**P**	**09 01 44.8**	**+0.9**
CMAR						09 04 03.9	
CMAR				pmax	pmax		
	comp=Z,65nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
CHG	**Chiang Mai**	**36.64**	**310**	⇓P	**P**	**09 01 47.0**	**+1.4**
	comp=N,150nm,1.0s,mb5.5						
TOO	**Toolangi**	**36.82**	**156**	*e*P	**P**	**09 01 49.0**	**+2.0**
	comp=N,13nm,1.6s,mb4.2						
GYA	**Guiyang**	**36.85**	**327**	⇓*i*P	**P**	**09 01 48.0**	**+0.7**
GYA				AP	pP	09 02 34.5	+2.6
GYA				XP	sP	09 02 54.0	-2.5
GYA				PP	PP	09 03 19.5	+2.0
GYA				PCP	PcP	09 04 05.8	+1.0
GYA				S	**S**	**09 07 14.8**	**-0.7**
GYA				SS	SS	09 09 58.5	-0.2
GYA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.2						
GYA				LR	LR		
	comp=N,320nm,15.4s						
GYA				LR	LR		
	comp=E,260nm,14.8s						
GYA				LR	LR		
	comp=Z,380nm,15.0s						
WHN	**Wuhan**	**36.98**	**340**	⇑P	**P**	**09 01 49.3**	**+0.9**
NJ2	**Nanjing**	**37.15**	**347**	*e*P	**P**	**09 01 50.3**	**+0.6**
NJ2				AP	pP	09 02 33.5	-0.8
NJ2				XP	sP	09 02 57.0	-2.0
NJ2				PCP	PcP	09 04 06.0	+0.4
NJ2				S	**S**	**09 07 21.0**	**+1.1**
NJ2				PCS		09 07 53.0	
NJ2				XS		09 08 38.0	
NJ2				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.5						
NJ2				LR	LR		
	comp=N,3µm,14.4s						
NJ2				LR	LR		
	comp=E,2µm,15.1s						
NJ2				LR	LR		
	comp=Z,3µm,15.6s						
JNU	**Nakatsue**	**37.29**	**4**	P	**P**	**09 01 50.4**	**-0.6**
	comp=Z,15nm,0.8s,mb4.6,baz=190,slow=8.3,SNR=10						
KMI	**Kunming**	**38.13**	**321**	⇓*i*P	**P**	**09 02 00.0**	**+2.0**
KMI				AP	pP	09 02 43.5	+0.8
KMI				XP	sP	09 03 05.0	-2.4
KMI				PP	PP	09 03 36.0	+4.8
KMI				S	**S**	**09 07 38.5**	**+3.7**
KMI				XS		09 08 54.3	
KMI				SS	SS	09 10 29.0	+2.6
KMI				AMB	AMB		
	comp=Z,98nm,1.3s,mb5.2						
KMI				AMB	AMB		
	comp=Z,240nm,3.1s						
KMI				LR	LR		
	comp=Z,109nm,20.9s						
ENH	**Enshi**	**38.63**	**334**	*e*P	**P**	**09 02 01.8**	**-0.3**
	comp=Z,58nm,0.8s,mb5.2						
KS15	**Wonju Array Si**	**41.50**	**360**	*e*P	**P**	**09 02 26.2**	**+0.7**
INCN	**Inchon**	**41.56**	**358**	*e*P	**P**	**09 02 26.4**	**+0.3**
	comp=Z,16nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**41.72**	**12**	*e*P	**P**	**09 02 26.3**	**-1.1**
	comp=Z,10nm,0.7s,mb4.4						
MAJO				*e*pP	pP	09 03 11.6	-1.0
MAT	**Matsushiro**	**41.72**	**12**	P	**P**	**09 02 26.2**	**-1.2**
MAT	**Matsushiro**	**41.72**	**12**	*e*P	**P**	**09 02 26.0**	**-1.4**
	comp=Z,20nm,1.0s,mb4.5						
CD2	**Chengdu**	**41.93**	**328**	P	**P**	**09 02 29.0**	**-0.2**
CD2				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.2						
XAN	**Xi'an**	**42.13**	**336**	P	**P**	**09 02 29.8**	**-1.0**
XAN				AMB	AMB		
	comp=Z,68nm,1.0s,mb5.0						
BJT	**Baijiatuau**	**45.39**	**347**	*e*P	**P**	**09 02 55.7**	**-1.0**
	comp=Z,127nm,1.1s,mb5.2						
BJI	**Beijing**	**45.41**	**347**	P	**P**	**09 02 55.8**	**-1.1**
BJI				AMB	AMB		
	comp=Z,95nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,382nm,15.9s						
BJI				LR	LR		
	comp=E,247nm,14.7s						
BJI				LR	LR		
	comp=Z,61nm,24.7s						
SHL	**Shillong**	**45.87**	**312**	⇓*e*P	**P**	**09 03 00.5**	**-0.2**
SNY	**Shenyang**	**46.05**	**355**	⇓P	**P**	**09 03 01.3**	**-0.6**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LZH	**Lanzhou**	**46.06**	**333**	⇓P	**P**	**09 03 03.0**	**+0.9**
LZH				AP	pP	09 03 48.5	+0.4
LZH				XP	sP	09 04 11.5	-0.8
LZH				PP	PP	09 04 54.5	+2.2
LZH				S	**S**	**09 09 30.0**	**-0.3**
LZH				XS		09 10 50.3	
LZH				SS	SS	09 12 54.3	+0.7
LZH				AMB	AMB		
	comp=Z,135nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,394nm,5.3s						
HHC	**Hu-ho-hao-te**	**47.34**	**343**	*e*P	**P**	**09 03 11.5**	**-0.5**
HHC				PP	PP	09 05 02.5	-2.0
HHC				S	**S**	**09 09 45.5**	**-2.9**
HHC				SS	SS	09 13 16.0	+1.2
HHC				AMB	AMB		
	comp=Z,43nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,144nm,5.1s						
HHC				LR	LR		
	comp=N,111nm,17.8s						
HHC				LR	LR		
	comp=E,151nm,16.7s						
HHC				LR	LR		
	comp=Z,66nm,14.3s						
BTO	**Baotou**	**47.59**	**341**	*e*P	**P**	**09 03 13.3**	**-0.6**
BTO				AMB	AMB		
	comp=Z,38nm,0.7s,mb4.8						
CN2	**Changchun**	**47.90**	**358**	*e*P	**P**	**09 03 16.0**	**-0.3**
CN2				*e*XP	sP	09 04 24.0	-2.6
CN2				*e*S	**S**	**09 09 57.5**	**+1.3**
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
MDJ	**Mudanjiang**	**48.69**	**2**	P	**P**	**09 03 21.8**	**-0.4**
MDJ				AP	pP	09 04 08.0	-0.8
MDJ				XP	sP	09 04 27.0	-5.7
MDJ				PP	PP	09 05 18.8	+1.9
MDJ				S	**S**	**09 10 12.0**	**+4.9**
MDJ				XS		09 11 27.5	
MDJ				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,114nm,3.6s						
MDJ				LR	LR		
	comp=E,80nm,22.6s						
MDJ				LR	LR		
	comp=Z,82nm,20.6s						
MDJ	**Mudanjiang**	**48.69**	**2**	*e*P	**P**	**09 03 21.7**	**-0.6**
	comp=Z,60nm,1.4s,mb4.7						
LSA	**Lhasa**	**48.83**	**316**	P	**P**	**09 03 25.0**	**+1.5**
LSA	**Lhasa**	**48.83**	**316**	*e*P	**P**	**09 03 24.0**	**+0.4**
	comp=Z,70nm,0.7s,mb5.1						
GTA	**Gaotai**	**50.62**	**332**	⇓P	**P**	**09 03 37.0**	**0.0**
GTA				AP	pP	09 04 26.5	+2.6
GTA				XP	sP	09 04 48.3	+0.7
GTA				S	**S**	**09 10 35.5**	**+1.7**
GTA				AMB	AMB		
	comp=Z,45nm,0.9s,mb4.9						
GTA				LR	LR		
	comp=N,108nm,15.3s						
GTA				LR	LR		
	comp=E,73nm,7.3s						
GTA				LR	LR		
	comp=Z,62nm,11.8s						
PKI	**Pulchoki**	**51.82**	**310**	*e*P	**P**	**09 03 45.7**	**-0.3**
	comp=Z,75nm,0.5s,mb5.4						
KKN	**Kakani**	**52.03**	**310**	*e*P	**P**	**09 03 47.3**	**-0.3**
	comp=Z,328nm,0.8s,mb5.8						
DMN	**Daman**	**52.07**	**310**	*e*P	**P**	**09 03 47.8**	**-0.1**
	comp=Z,312nm,0.8s,mb5.8						
CUD	**Cuddapah**	**52.20**	**292**	*e*P	**P**	**09 03 48.0**	**-1.0**
GKN	**Gorkha**	**52.63**	**310**	*e*P	**P**	**09 03 51.8**	**-0.2**
	comp=Z,306nm,0.5s,mb6.0						
YSS	**Yuzh-Sakhalins**	**52.66**	**13**	*e*P	**P**	**09 03 51.4**	**-0.6**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
HYB	**Hyderabad**	**53.30**	**295**	*i* P	**P**	**09 03 56.0**	**-1.1**
	comp=Z,157nm,0.8s,mb5.5						
HYB	**Hyderabad**	**53.30**	**295**	*e*P	**P**	**09 03 56.0**	**-1.1**
	comp=Z,157nm,0.8s,mb5.5						
KOLN	**Koldanda**	**53.30**	**309**	*e*P	**P**	**09 03 56.8**	**-0.2**
	comp=Z,321nm,0.8s,mb5.8						
KLR	**Kul'dur**	**53.38**	**3**	*e*P	**P**	**09 03 57.0**	**-0.3**
KLR				*e*	pP	09 04 47.0	+2.3
KLR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.4						
HIA	**Hailar**	**53.80**	**353**	*e*P	**P**	**09 03 60.0**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.3						
RPZ	**Rata Peaks**	**54.62**	**143**	P	**P**	**09 04 06.6**	**+0.2**
	comp=Z,59nm,1.2s,mb5.0,baz=304,slow=3.6,SNR=6.1						
SONM	**Songino Array**	**55.23**	**342**	P	**P**	**09 04 10.6**	**-0.1**
	comp=Z,28nm,1.0s,mb4.7,baz=160,slow=6.2,SNR=105						
SONM				pP	pP	09 04 59.0	+0.6
	comp=Z,4.6nm,0.9s,baz=159,slow=10,SNR=1.4						
SONM				PcP	PcP	09 05 08.4	-0.5
	comp=Z,7.8nm,0.8s,baz=172,slow=4.0,SNR=6.8						
URZ	**Urewera**	**56.01**	**134**	P	**P**	**09 04 16.6**	**+0.2**
	comp=Z,4.1nm,0.4s,mb4.3,baz=288,slow=4.1,SNR=9.5						
BHPL	**Bhopal**	**56.35**	**301**	*e*P	**P**	**09 04 18.0**	**-1.0**
BHPL				*e*		09 04 20.2	
	comp=Z,85nm,1.3s						
KAD	**Karad**	**57.24**	**294**	⇓*i*P	**P**	**09 04 23.0**	**-2.3**
AGRA	**Agra**	**57.52**	**306**	*e*P	**P**	**09 04 24.8**	**-2.4**
AGRA				*e*		09 04 26.6	
	comp=Z,77nm,0.5s						
ZAK	**Zakamensk**	**58.44**	**342**	⇑*i*P	**P**	**09 04 32.3**	**-1.0**
ZAK				*e*	pP	09 05 21.5	0.0
NDI	**New Delhi**	**58.72**	**307**	*e*P	**P**	**09 04 31.5**	**-4.0**
DDI	**Dehra Dun**	**58.78**	**309**	*e*P	**P**	**09 04 34.0**	**-1.9**
KUDL	**Kundal**	**59.08**	**306**	*e*P	**P**	**09 04 35.7**	**-2.3**
KUDL				*e*		09 04 38.0	
	comp=Z,81nm,0.8s						
RTK	**Rohtak**	**59.51**	**307**	*e*P	**P**	**09 04 38.7**	**-2.2**
KKR	**Kurukshetra**	**59.58**	**308**	*e*P	**P**	**09 04 40.1**	**-1.2**
KHET	**Khetri**	**59.60**	**306**	*e*P	**P**	**09 04 39.5**	**-1.9**
KHET				*e*		09 04 41.9	
	comp=Z,77nm,1.1s						
WMQ	**Urumqi**	**60.01**	**327**	⇓*i*P	**P**	**09 04 44.0**	**-0.1**
WMQ				PCP	PcP	09 05 28.0	+0.2
WMQ				SP	pP	09 05 30.5	-2.2
WMQ				XP	sP	09 05 53.0	-2.6
WMQ				PP	PP	09 07 00.3	-0.6
WMQ				S	**S**	**09 12 38.3**	**+0.1**
WMQ				XS		09 14 01.0	
WMQ				LR	LR		
	comp=N,149nm,21.4s						
WMQ				LR	LR		
	comp=E,113nm,23.0s						
WMQ				LR	LR		
	comp=Z,37nm,24.6s						
SDNR	**Sundarnagar**	**60.15**	**310**	*e*P	**P**	**09 04 45.0**	**-0.2**
CLNS	**Chul'man**	**60.95**	**358**	*e*P	**P**	**09 04 44.7**	**-5.5**
CLNS				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
CLNS				pmax	pmax		
	comp=N,16nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
BOD	**Bodaibo**	**62.91**	**352**	⇑*i*P	**P**	**09 05 02.1**	**-1.1**
JASL	**Jaisalmer**	**63.20**	**303**	*e*P	**P**	**09 05 03.5**	**-2.1**
KSH	**Kashi**	**64.64**	**318**	*e*P	**P**	**09 05 15.0**	**+0.2**
KSH				*e*PCP	PcP	09 05 48.0	+1.2
KSH				*e*AP	pP	09 06 03.3	-0.8
KSH				*e*XP	sP	09 06 26.0	-0.7
KSH				*e*PP	PP	09 07 42.5	+1.3
KSH				*e*PPP	PPP	09 09 18.0	+1.6
KSH				*e*SCP		09 09 28.0	
KSH				*e*PCS		09 09 50.5	
KSH				*e*S	**S**	**09 13 32.3**	**-3.8**
KSH				*e*PS	PS	09 13 46.5	-47
KSH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
KSH				LR	LR		
	comp=N,240nm,4.4s						
KSH				LR	LR		

	comp=E,190nm,4.8s						
MKAR	Makanchi Array	64.84	327	P	P	09 05 15.4	-0.5
	comp=E,54nm,0.6s,mb5.3,baz=129,slow=7.9,SNR=452						
MKAR				PcP	PcP	09 05 47.2	-0.2
	comp=E,9.8nm,0.6s,baz=135,slow=5.1,SNR=6.2						
MKAR	Makanchi Array	64.84	327	P	P	09 05 15.5	-0.4
MKAR						09 05 47.2	
MKAR				pmax	pmax		
	comp=Z,54nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ULHL	Ulahol	65.84	320	P	P	09 05 22.6	+0.2
	SNR=13						
YAK	Yakutsk	66.13	1	eP	P	09 05 23.6	-0.3
YAK				e*PP	pP	09 05 48.6	-25
YAK				eS	S	09 13 53.9	+0.3
YAK				e		09 14 56.4	
YAK				eSSS	SSS	09 21 08.8	-5.5
YAK				pmax	pmax		
	comp=Z,88nm,0.8s,mb5.4						
YAK				pmax	pmax		
	comp=N,22nm,0.9s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax			
	comp=E,11nm,1.1s						
YAK				smax			
	comp=N,12nm,1.3s						
YAK	Yakutsk	66.13	1	eP	P	09 05 23.2	-0.7
	comp=N,191nm,0.8s,mb5.8						
MA2	Magadan	66.16	12c	iP	P	09 05 24.9	+0.8
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
MA2	Magadan	66.16	12	eP	P	09 05 24.5	+0.4
KZA	Kyzart	66.39	320	P	P	09 05 26.7	+0.8
	SNR=33						
TKM2	Tokmak 2	66.60	321	P	P	09 05 27.3	+0.1
	SNR=35						
KBK	Karagaybulak	66.88	320	P	P	09 05 29.3	+0.4
	SNR=8.5						
UCH	Uchtor	66.94	320	P	P	09 05 30.1	+0.8
	SNR=55						
AAK	Ala-Archa	67.16	320	P	P	09 05 31.1	+0.4
	SNR=19						
AAK	Ala-Archa	67.16	320	eP	P	09 05 29.6	-1.1
	comp=Z,53nm,1.0s,mb5.1						
CHMS	Chumysh	67.17	320	P	P	09 05 30.4	-0.4
	SNR=9.2						
FRU	Bishkek	67.18	320	⇓eP	P	09 05 31.0	+0.2
FRU				pmax	pmax		
	comp=Z,80nm,2.1s,mb5.0						
AML	Almayashu	67.43	319	P	P	09 05 33.0	+0.6
	SNR=104						
USP	Ospenovka	67.47	321	P	P	09 05 32.5	-0.1
	SNR=56						
EKS2	Erkin-Say	67.63	320	P	P	09 05 33.9	+0.3
	SNR=54						
ZAL	Zalesovo	68.25	334	P	P	09 05 36.8	-0.5
	comp=Z,32nm,0.9s,mb4.9,baz=268,slow=4.8,SNR=38						
ZAL	Zalesovo	68.25	334	P	P	09 05 36.8	-0.5
ZAL				pmax	pmax		
	comp=Z,32nm,0.9s						
FX1	Attu Island--F	68.47	28	P	P	09 05 39.0	+0.5
	comp=Z,47nm,1.1s,mb5.0,baz=274,slow=23,SNR=16						
FX1	Attu Island--F	68.47	28	P	P	09 05 39.0	+0.4
FX1				pmax	pmax		
	comp=Z,47nm,1.1s						
KURK	Kurchatov	69.14	329	P	P	09 05 42.4	-0.3
	comp=Z,778nm,0.8s,mb6.4						
KURK	Kurchatov	69.14	329	P	P	09 05 42.3	-0.4
KURK				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.2						
KURK	Kurchatov	69.14	329	⇓iP	P	09 05 42.3	-0.4
	comp=Z,153nm,1.0s,mb5.6						
KURK				epP	pP	09 06 31.8	-0.9
SEY	Seymchan	69.54	12	eP	P	09 05 46.9	+2.0
SEY				e		09 14 39.3	
SEY				pmax	pmax		
	comp=E,30nm,0.8s						
SEY				pmax	pmax		
	comp=Z,150nm,0.8s,mb5.7						
SEY				pmax	pmax		
	comp=N,40nm,0.9s						
NVS	Novosibirsk	69.54	334	⇓iP	P	09 05 43.1	-2.0
KKAR	Karatay Array	69.96	319	i P	P	09 05 47.2	-0.6
KKAR				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.1						
VOSK	Vostochnaya	74.22	328	P	P	09 06 12.2	-0.7
VOSK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.0						
BVA0	Borovoye Array	74.69	328	P	P	09 06 15.2	-0.3
BVAR	Borovoye Array	74.69	328	P	P	09 06 15.3	-0.3
	comp=Z,47nm,0.9s,mb5.1,baz=135,slow=6.3,SNR=105						
BRVK	Borovoye	74.76	328	P	P	09 06 15.7	-0.2
BRVK				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.0						
BRVK	Borovoye	74.76	328	eP	P	09 06 15.3	-0.6
	comp=Z,83nm,1.1s,mb5.3						
BRVK				epP	pP	09 07 06.8	+0.3
ZRNK	Zerenda	75.39	328	P	P	09 06 19.2	-0.3
ZRNK				pmax	pmax		
	comp=Z,88nm,1.1s,mb5.3						
ZRNK	Zerenda	75.39	328	eP	P	09 06 19.1	-0.4
	comp=Z,84nm,0.9s,mb5.4						
ZRNK				epP	pP	09 07 08.8	-1.3
VNDA	Vanda	75.39	173	P	P	09 06 18.9	-0.1
	comp=Z,5.7nm,0.7s,mb4.3,baz=314,slow=6.5,SNR=33						
VNDA	Vanda	75.39	173	P	P	09 06 18.9	-0.2
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VNDA	Vanda	75.39	173	eP	P	09 06 18.4	-0.7
	comp=Z,4.7nm,0.7s,mb4.2						
SBA	Scott Base	76.30	172	eP	P	09 06 24.6	+0.5
	comp=Z,13nm,1.2s,mb4.4						
MAW	Mawson	76.74	201	eP	P	09 06 26.8	+0.1
	comp=Z,4.4nm,1.1s,mb4.0						
MAW	Mawson	76.74	201	P	P	09 06 26.8	+0.1
	comp=Z,2.9nm,0.5s,mb4.1,baz=100,slow=6.1,SNR=4.0						
MAW	Mawson	76.74	201	P	P	09 06 26.8	+0.1
MAW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31	Akbulak array	79.12	322	P	P	09 06 39.8	-0.2
AB31				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.2						
HASS	Wahat al Ahsa’	81.23	296	P	P	09 06 51.9	+0.2
ARU	Arti	82.33	328	⇑iP	P	09 06 56.6	-0.1
ARU				e		09 10 09.5	
ARU				eS	S	09 16 45.1	-7.8
ARU				eSS	SS	09 22 21.5	-0.5
ARU				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.3						
ARU	Arti	82.33	328	eP	P	09 06 56.1	-0.6
	comp=Z,84nm,0.9s,mb5.4						
SDPT	Sand Point	83.14	33	eP	P	09 07 01.5	+0.6
	comp=Z,32nm,0.4s,mb5.4						
QRN	Al-Qurain	83.33	299	eP	P	09 07 02.7	+0.3
QRN				AMb	AMB	09 07 04.6	
	comp=Z,172nm,0.6s,mb6.0						
QRN	Al-Qurain	83.33	299	eP	P	09 07 02.7	+0.3
QRN				AMb	AMB	09 07 04.6	
	comp=Z,179nm,0.7s,mb5.9						
KBD	Kabd	83.59	300	eP	P	09 07 04.4	+0.6
KBD	Kabd	83.59	300	eP	P	09 07 04.8	+0.9
UMR	Umm Al-Rimmam	83.63	300	eP	P	09 07 04.7	+0.7
UMR	Umm Al-Rimmam	83.63	300	eP	P	09 07 04.5	+0.5
UMR				AMb	AMB	09 07 06.4	
	comp=Z,141nm,0.8s,mb5.7						
RDF	Al-Radifah	83.68	300	eP	P	09 07 05.1	+0.8
RDF	Al-Radifah	83.68	300	eP	P	09 07 05.1	+0.8
RDF				AMb	AMB	09 07 07.0	
	comp=Z,108nm,0.8s,mb5.6						
MIB	Mutribah	83.99	300	eP	P	09 07 05.8	0.0
MIB				AMb	AMB	09 07 07.6	
	comp=Z,211nm,1.0s,mb5.8						
MIB	Mutribah	83.99	300	eP	P	09 07 05.9	+0.2
MIB				AMb	AMB	09 07 07.7	
	comp=Z,211nm,0.9s,mb5.8						
RST	Umm Al-Ruwaisa	84.24	300	eP	P	09 07 07.7	+0.6
RST	Umm Al-Ruwaisa	84.24	300	eP	P	09 07 07.6	+0.6
RST				AMb	AMB	09 07 09.5	
	comp=Z,274nm,0.8s,mb6.0						
MZLS	Mizel	85.12	294	P	P	09 07 12.6	+1.1
KAMS	Al Khamasin	85.27	291	P	P	09 07 12.6	+0.3
SYO	Syowa Base	85.45	201	⇓P	P	09 07 12.5	+0.4
SYO	Syowa Base	85.45	201	⇓PcP	PcP	09 07 15.1	0.0
SYO	Syowa Base	85.45	201	⇓pP	pP	09 08 02.1	-1.9
QSPA	South Pole Qui	85.69	180	eP	P	09 07 13.6	+0.5
	comp=Z,13nm,0.8s,mb4.7						
TATS	Tathlith	86.22	290	P	P	09 07 18.5	+1.5
ARSS	Ar Rass	87.10	296	P	P	09 07 22.0	+0.9
AFFS	‘Afif	87.11	294	P	P	09 07 22.6	+1.4
SVW	Sparrevohn	87.19	28	eP	P	09 07 22.5	+1.9
	comp=Z,3.5nm,0.7s,mb4.2						
GNI	Garni	87.55	310	P	P	09 07 24.1	+1.3
	comp=Z,4.2nm,0.5s,mb4.6,baz=150,slow=8.4,SNR=7.1						
GNI	Garni	87.55	310	P	P	09 07 24.1	+1.2
GNI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BLJS	Baljurashi	88.02	290	P	P	09 07 26.9	+1.4
HILS	Ha’il	88.54	297	P	P	09 07 29.2	+1.4
PWA	Palmer West	90.01	28	eP	P	09 07 33.7	-0.2
	comp=Z,20nm,1.1s,mb4.9						
PMR	Palmer	90.35	28	eP	P	09 07 34.7	-0.8
	comp=Z,12nm,1.1s,mb4.6						
KMBO	Kilima Mbogo	90.62	269	eP	P	09 07 38.7	+0.8
KBRS	Khaybar	90.66	296	P	P	09 07 39.1	+1.3
SML	Sawmill	90.76	28	eP	P	09 07 37.1	-0.2
COLA	College	91.36	25	eP	P	09 07 40.1	+0.1
	comp=Z,2.2nm,0.6s,mb4.3						
SOC	Sochi	91.64	313	eP	P	09 07 40.3	-1.6
SOC				e		09 11 31.5	
SOC				eS	S	09 18 17.8	-2.9
SOC				eSS	SS	09 24 40.3	+3.8
SOC				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,56nm,1.5s						
SOC				pmax	pmax		
	comp=E,51nm,0.9s						
SOC				MLR	MLR		
	comp=Z,162nm,24.0s						
SOC				MLR	MLR		
	comp=N,475nm,42.0s						
SOC				MLR	MLR		
	comp=E,149nm,29.0s						
YNBS	Yanbu‘ al Bahr	91.70	294	P	P	09 07 44.0	+1.3
ILAR	Eielson Array	91.76	25	P	P	09 07 40.2	-1.7
	comp=E,2.5nm,0.9s,mb4.1,baz=277,slow=4.3,SNR=27						
ILAR				pP	pP	09 08 31.5	-2.8
	comp=E,1.2nm,0.8s,baz=263,slow=5.2,SNR=5.6						
ILAR	Eielson Array	91.76	25	P	P	09 07 40.2	-1.8
ILAR				*PP	pP	09 08 31.5	-2.8
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
DIV	Divide	91.90	29	eP	P	09 07 43.1	+0.4
	comp=N,67nm,1.0s,mb5.5						
DIV				epP	pP	09 08 34.6	-0.5
MALT	Malatya	92.25	308	eP	P	09 07 45.5	+0.6
	comp=N,19nm,1.3s,mb4.9						
ASF	Jabal al Asfar	93.14	302	P	P	09 07 49.5	+0.4
	comp=N,7.9nm,0.9s,mb4.8,baz=341,slow=3.4,SNR=8.0						
OBN	Obninsk	94.27	325	eP	P	09 07 52.2	-1.4
OBN				e		09 11 41.1	
OBN				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
DAWY	Dawson	94.97	26	eP	P	09 07 56.6	0.0
DAWY				epP	pP	09 08 47.2	-1.9
BRTR	Keskin Array B	96.03	309	P	P	09 08 01.9	-0.2
	comp=Z,2.9nm,0.9s,mb4.5,baz=117,slow=5.5,SNR=8.9						
BRTR	Keskin Array B	96.03	309	P	P	09 08 01.9	-0.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	97.10	22	P	P	09 08 05.6	-0.7
	comp=Z,2.4nm,0.7s,mb4.6,baz=264,slow=8.5,SNR=7.5						
INK				pP	pP	09 08 58.1	-0.6
	comp=Z,4.0nm,1.0s,baz=249,slow=4.9,SNR=4.6						
INK				PKKPbc		09 24 46.0	
	comp=Z,0.7nm,0.5s,baz=156,slow=4.9,SNR=6.2						
INK	Inuvik	97.10	22	P	P	09 08 05.6	-0.7
INK				*PP	pP	09 08 58.1	-0.6
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK				pmax	pmax		
	comp=N,4.0nm,1.0s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	97.10	22	P	P	09 08 05.6	-0.7
INK				pP	pP	09 08 58.1	-0.6
INK				PKKPbc		09 24 46.0	
SNAA	Sanae	97.81	194	⇑iPdif	P	09 08 09.0	-0.4
SNAA				e		09 12 10.7	
LSZ	Lusaka	98.28	254	eP	P	09 08 12.3	-0.5
ARCES	ARCESS Array B	98.33	340	P	P	09 08 11.1	-0.7
	comp=Z,8.4nm,0.6s,mb5.2,baz=79,slow=5.7,SNR=23						
ARCES				PKKPbc		09 24 42.5	
	comp=Z,2.2nm,0.8s,baz=180,slow=1.2,SNR=3.9						
ARCES	ARCESS Array B	98.33	340	P	P	09 08 11.1	-0.7
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	98.82	320	P	P	09 08 14.3	-0.2
	comp=Z,1.1nm,0.4s,mb4.5,baz=67,slow=4.7,SNR=6.2						
AKASG	Malin Array Be	98.82	320	P	P	09 08 14.3	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNA2	Neumayer--Watz	99.40	194	⇑iPdif	P	09 08 21.4	+4.7
VNA2				e		09 12 21.7	
FINES	FINESS Array B	99.41	332	P	P	09 08 15.3	-1.6
	comp=Z,2.7nm,0.8s,mb4.7,baz=59,slow=8.1,SNR=5.2						
FINES	FINESS Array B	99.41	332	i P	P	09 08 15.4	-1.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	Muntele Rosu	101.45	315	P	P	09 08 26.5	0.0
	comp=Z,2.0nm,0.7s,baz=22,slow=4.9,SNR=4.5						
MLR	Muntele Rosu	101.45	315	P	P	09 08 26.5	0.0
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	Hagfors	105.61	332	Pdiff	Pdif	09 08 43.2	-1.2
	comp=Z,2.1nm,0.4s,baz=108,slow=4.7,SNR=13						
HFS	Hagfors	105.61	332	P	Pdif	09 08 43.2	-1.2
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	NORSAR Subarra	106.44	333	P	Pdif	09 08 47.2	-0.8
	comp=Z,3.1nm,0.8s,baz=71,slow=4.3						
NB2	NORSAR Subarra	106.44	333	P	Pdif	09 08 47.2	-0.8
	baz=71,slow=4.4						
NOA	NORSAR Array B	106.44	333	Pdiff	Pdif	09 08 46.8	-1.2
	comp=Z,1.5nm,0.7s,baz=66,slow=4.7,SNR=4.7						
NOA	NORSAR Array B	106.44	333	P	Pdif	09 08 46.8	-1.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	109.04	320	PKiKP		09 13 03.0	
	comp=Z,0.3nm,0.3s,baz=90,slow=2.7,SNR=4.5						
GERES				PP	PP	09 13 34.5	-2.8
	comp=Z,1.0nm,0.8s,baz=90,slow=8.0,SNR=4.4						
LPG	La Plagne	114.58	319	ePP	PP	09 14 15.9	-1.2
LPL	La Plagne	114.59	319	ePP	PP	09 14 16.2	-0.9
	comp=Z,4.8nm,0.3s						
SNOW	Snow King Moun	115.33	44	ePKP	PKPdf	09 13 16.6	+2.6
LOR	Lormes	115.78	321	ePP	PP	09 14 20.5	-4.9
	comp=Z,6.9nm,0.7s						
PDAR	Pinedale Array	116.39	44	PKP	PKPdf	09 13 17.9	+1.8
	comp=Z,0.7nm,0.5s,baz=308,slow=1.6,SNR=10						
PDAR				PKKPbc		09 23 46.2	
	comp=Z,0.5nm,0.5s,baz=118,slow=5.5,SNR=7.9						
PV10	Paradox Valley	118.21	48	ePKP	PKPdf	09 13 22.6	+2.9
FRB	Frobisher Bay	119.44	8	PKP	PKPdf	09 13 22.7	+1.2
	comp=Z,10nm,1.0s,baz=280,slow=7.0,SNR=5.0						
FRB	Frobisher Bay	119.44	8	PKIKP	PKPdf	09 13 22.7	+1.2
FRB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RSSD	Black Hills	119.58	41	ePKP	PKPdf	09 13 23.6	+1.4
ULM	Lac du Bonnet	121.24	31	PKP	PKPdf	09 13 26.6	+1.2
	comp=Z,3.3nm,1.1s,baz=245,slow=3.1,SNR=6.8						
ANMO	Albuquerque	121.26	51	i PKIKP	PKPdf	09 13 23.2	-2.6
ANMO	Albuquerque	121.26	51	ePKP	PKPdf	09 13 27.9	+2.2
BNM	Barren Site	121.37	52	ePKP	PKPdf	09 13 28.9	+2.9
ESDC	Sonseca Array	124.14	316	PKP	PKPdf	09 13 32.4	+1.1
	comp=Z,0.4nm,0.4s,baz=90,slow=3.0,SNR=5.1						
ESDC				PP	PP	09 15 19.8	-3.2
	comp=Z,0.3nm,0.3s,baz=53,slow=7.4,SNR=5.5						
TXAR	Lajitas Array	125.22	57	PKP	PKPdf	09 13 35.7	+2.1
	comp=Z,0.5nm,0.4s,baz=197,slow=2.0,SNR=12						
TXAR	Lajitas Array	125.22	57	PKP	PKPdf	09 13 35.7	+2.1
KSU1	Kansas State U	126.82	43	ePKP	PKPdf	09 13 38.2	+1.8
JCT	Junction City	128.03	54	ePKP	PKPdf	09 13 41.0	+1.9
SCHQ	Schefferville	128.19	11	PKP	PKPdf	09 13 40.6	+2.0
	comp=Z,2.7nm,0.5s,baz=259,slow=1.8,SNR=14						
CCM	Cathedral Cave	130.96	41	ePKP	PKPdf	09 13 46.1	+1.7
PLCA	Paso Flores	132.11	161	PKP	PKPdf	09 13 48.1	+1.6
	comp=Z,2.1nm,1.0s,baz=211,slow=5.9,SNR=3.9						
PLCA				SKPbc		09 16 54.8	
	comp=Z,5.8nm,1.0s,baz=145,slow=6.7,SNR=5.4						
PLCA	Paso Flores	132.11	161	PKIKP	PKPdf	09 13 48.2	+1.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA				pmax	pmax		
	comp=N,6.0nm,1.0s						
KIC	Kosan Boka	132.87	275	ePKIKP	PKPdf	09 13 51.4	+2.7
	comp=N,59nm,0.9s						
DBIC	Dimbokro	132.98	275	PKP	PKPdf	09 13 51.0	+2.1
	comp=N,10nm,0.9s,baz=49,slow=4.7,SNR=7.9						
DBIC				SKPbc		09 16 57.3	
	comp=N,9.9nm,0.8s,baz=52,slow=5.0,SNR=7.3						
DBIC	Dimbokro	132.98	275	PKIKP	PKPdf	09 13 51.0	+2.1
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DBIC				pmax	pmax		
	comp=N,10.0nm,0.8s						
TIC	Toumodi	133.14	275	ePKIKP	PKPdf	09 13 51.1	+1.9
	comp=N,12nm,0.2s						
LIC	Lamto	133.15	275	ePKIKP	PKPdf	09 13 51.7	+2.5
	comp=N,39nm,0.7s						
PLAL	Pickwick Lake	134.78	43	ePKP	PKPdf	09 13 52.9	+1.4
LRAL	Lakeview Retre	136.61	44	ePKP	PKPdf	09 13 56.5	+1.5
JTS	JuntasAbangare	146.83	78	PKPbc	PKPbc	09 14 18.5	+3.1
	comp=N,13nm,0.7s,baz=334,slow=4.4,SNR=9.5						
JTS	JuntasAbangare	146.83	78	ePKPbc	PKPbc	09 14 17.6	+2.3
LVC	Limon Verde	148.60	149	PKPbc	PKPdf	09 14 23.6	+7.5
	comp=N,7.8nm,0.8s,baz=256,slow=4.0,SNR=6.0						
LVC	Limon Verde	148.60	149	PKPdf	PKPdf	09 14 18.9	+2.7
LVC				ePKPbc	PKPdf	09 14 23.2	+7.1
LVC				PKPbc	PKPdf	09 14 23.6	+7.5
CPUP	Villa Florida	149.15	171	PKPbc	PKPdf	09 14 23.2	+6.3
	comp=N,8.8nm,0.7s,baz=214,slow=1.7,SNR=22						
CPUP	Villa Florida	149.15	171	PKP2	PKPab	09 14 23.3	-5.5
CPUP				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CPUP	Villa Florida	149.15	171	ePKPdf	PKPdf	09 14 19.1	+2.2
CPUP				ePKPbc	PKPdf	09 14 23.2	+6.2
NNA	Nana	150.52	123	ePKPdf	PKPdf	09 14 21.5	+2.1
NNA				ePKPbc	PKPdf	09 14 27.3	+7.9
LPAZ	La Paz	154.11	142	PKPbc	PKPdf	09 14 35.9	+12
	comp=Z,4.0nm,0.8s,baz=159,slow=2.3,SNR=7.0						
LPAZ				PKPab	PKPab	09 14 50.9	+1.2
	comp=Z,4.3nm,0.8s,baz=224,slow=0.8,SNR=8.8						
LPAZ	La Paz	154.11	142	PKIKP	PKPdf	09 14 35.9	+12
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						

HEL ***25*** *09:00:47.5±0.6, 64.70N×30.87E, ML1.8, ML1.8(UPP), Explosion*

IDC ***25*** *09:00:47.4±3.4, 64.58N×31.76E, h17^{km}±17^{km}, mb1 3.2/4, mb1mx3.1/20, ML2.7/4, Error ellipse: s-maj=48.9km s-min=10.5km az=104.0*

ISC 25 09:00:45.2±1.3**, 64.68N**±0.04×**30.9E**±0.2**, n16, σ1^{s}28**/23**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	Maaselka	1.45	329	eP	Pn	09 01 12.9	+0.1
MSF				eS	Sb	09 01 31.3	-0.4
KJN	Kajaani	1.49	248	eP	Pn	09 01 14.9	+1.6
KJN				eS	Sb	09 01 33.0	+0.1
OUL	Oulu	2.16	283	eP	Pn	09 01 25.5	+2.7
OUL				eS	Sn	09 01 51.8	+1.1
KAF	Kangasniemi	3.29	221	eP	Pn	09 01 41.0	+2.0
KAF				MSG		09 02 34.0	
	comp=Z,1.4nm,0.2s						
FIA0	FINESS Array S	3.91	216	eP	Pn	09 01 48.2	+0.4
FIA0				MSG		09 02 50.5	
	comp=Z,2.5nm,0.2s						
FINES	FINESS Array B	3.91	216	Pn	Pn	09 01 48.4	+0.6
	comp=Z,0.1nm,0.3s,baz=41,slow=13,SNR=5.7						
FINES				Pg	Pg	09 01 57.1	-6.1
	comp=Z,0.4nm,0.3s,baz=30,slow=15,SNR=7.1						
FINES				Sn	Sn	09 02 33.9	-1.2
	comp=Z,0.2nm,0.3s,baz=53,slow=21,SNR=3.2						
FINES				Lg		09 02 47.9	
	comp=Z,1.1nm,0.3s,baz=48,slow=26,SNR=9.3						
SJUU	Sjulsmark	4.00	286	eP	Pn	09 01 49.8	+0.7
ERTU	Ertsjaerv	4.06	302	eP	Pn	09 01 51.4	+1.5
ERTU				eS	Sn	09 02 38.0	-0.8
UMAU	Umeaa	4.51	264	eP	Pn	09 01 54.7	-1.6
LILU	Lilltraesk	4.71	282	eP	Pn	09 01 58.9	-0.3
SVAU	Svanoeiden	4.87	273	eP	Pn	09 02 00.1	-1.3
DUNU	Dundret	4.88	305	eP	Pn	09 02 03.0	+1.5
ARCES	ARCESS Array B	5.30	339	Pn	Pn	09 02 06.5	-1.1
	comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=24						
ARCES				Sn	Sn	09 03 05.3	-5.0
	comp=Z,0.2nm,0.3s,baz=154,slow=25,SNR=3.1						
NIKU	Nikkaluokta	5.74	309	eP	Pn	09 02 13.1	-0.6
HFS	Hagfors	9.16	248	Pn	P	09 02 58.8	-2.8
	comp=Z,0.0nm,0.3s,baz=63,slow=13,SNR=3.9						
NOA	NORSAR Array B	9.67	257	Pn	P	09 03 07.0	-1.4
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=2.3						

IDC ***25*** *09:12:33.2±1.4, 19.35N×121.38E, mb3.7/3, mb1 4.0/4, mb1mx3.6/20, ML3.8/1, Error ellipse: s-maj=51.4km s-min=24.9km az=72.0*

ISC 25 09:12:35.5±1.1**, 19.4N**±0.1×**121.4E**±0.2**, h33^{km}, n5, σ1^{s}36**/5**, mb3.5**/3**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	1.24	215	⇓eP	S	09 13 11.5	-0.9
JOW	Kunigami	9.79	39	Pn	P	09 14 55.7	-1.3
	2.2nm,0.3s,baz=222,slow=15,SNR=4.2						
WRA	Warramunga Arr	41.07	161	P	P	09 20 18.0	+0.2
	0.8nm,0.6s,mb3.5,baz=343,slow=8.9,SNR=9.2						
MKAR	Makanchi Array	42.01	320	P	P	09 20 26.1	+0.9
	0.9nm,0.9s,mb3.4,baz=111,slow=10,SNR=5.8						
ASAR	Alice Springs	44.47	163	P	P	09 20 46.8	+1.2
	0.6nm,0.5s,mb3.6,baz=346,slow=6.8,SNR=11						

NEIC ***25*** *09:16:58.6, 16.06N×93.63W, h107^{km}, MD4.1(MEX), After MEX.*

MEX 25 09:16:58.4±0.9**, 16.12N×93.61W, h115^{km}**±16^{km}**, MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	San Cristobal	1.12	57	i P	P	09 17 20.0	-1.6
SCX				i S	S	09 17 38.0	-1.0
CCIG	Comitan	1.43	83	i P	P	09 17 23.5	-1.6
CCIG				i S	S	09 17 43.1	-2.2
CMIG	Matias Romero	1.56	309	i P	P	09 17 24.6	-2.1
CMIG				i S	S	09 17 45.7	-2.2
OXX	Oaxaca	3.13	288	i P	P	09 17 46.5	-0.8
OXX				i S	S	09 18 22.0	-2.3
VHO	Vista Hermosa	3.14	288	i P	P	09 17 46.4	-1.0
VHO				i S	S	09 18 21.5	-3.0

CASC ***25*** *09:30:04.7±2.3, 13.51N×90.05W, h44^{km}±19^{km}, MD4.1, ML4.5, mb3.8(NEIC)*

NEIC ***25*** *09:30:08.5±2.2, 13.68N×89.66W, h106^{km}±23^{km}, mb3.8/1, MD3.9(SNET), Error ellipse: s-maj=37.5km s-min=16.5km az=66.0*

NEIC Felt [II] at San Salvador.

IDC ***25*** *09:30:09.1±2.7, 13.77N×89.55W, h113^{km}±27^{km}, mb3.7/4, mb1 3.8/5, mb1mx3.5/20, MS3.1/1, Ms1 3.1/1, ms1mx2.6/26, Error ellipse: s-maj=41.9km s-min=17.6km az=55.0*

ISC 25 09:30:03.9±0.5**, 13.49N**±0.05×**90.05W**±0.04**, h65^{km}**±6^{km}**, n52, σ0^{s}96**/74**, mb4.1**/4**, 8C-15D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.54	50	⇓eP	P	09 30 16.2	-0.6
RTR	El Retiro	0.56	44	⇓eP	P	09 30 16.7	-0.4
SNJE	San Jose	0.57	49	⇓eP	P	09 30 16.7	-0.5
RBDL	Robledal	0.71	30	⇓eP	P	09 30 18.4	-0.3

IXG	Ixpaco	0.78	330	⇓eP	P	09 30 18.6	-1.0
IXG				eS	S	09 30 29.8	-1.4
IXG				AML	AML	09 30 33.7	
	comp=E,68µm,0.4s						
BOQS	Boqueron	0.79	72	⇑eP	P	09 30 19.5	-0.2
BOQS				eS	S	09 30 31.4	0.0
SNET	Serv Nac Est T	0.82	76	⇓eP	P	09 30 19.9	-0.1
SNET				eS	S	09 30 30.7	-1.4
SNET				i		09 30 40.4	
	comp=Z,10µm,0.4s						
LFRS	El Faro	0.97	82	⇑eP	P	09 30 21.7	-0.4
LBRS	Las Brisas	1.01	76	⇓eP	P	09 30 22.7	+0.1
PCG	Pacaya	1.05	329	⇑eP	P	09 30 22.9	-0.2
PCG				eS	S	09 30 36.8	-0.4
LCBS	La Ceiba	1.06	81	⇑eP	P	09 30 23.2	0.0
LCBS				eS	S	09 30 35.9	-1.5
MTO2	Montecristo 2	1.12	36	⇑eP	P	09 30 23.8	-0.2
MTO2				eS	S	09 30 38.7	-0.4
NBG	Las Nubes	1.13	345	⇓eP	P	09 30 24.4	+0.3
NBG				eS	S	09 30 41.0	+1.9
NBG				AML	AML	09 30 44.3	
	comp=E,13µm,0.3s						
GCG	Guatemala City	1.19	337	⇓iP	P	09 30 25.8	+1.0
GCG				eS	S	09 30 42.8	+2.3
GCG				AML	AML	09 30 53.3	
	comp=E,4µm,0.5s						
SNVI	San Vicente	1.19	84	⇑eP	P	09 30 25.6	+0.7
SNVI				eS	S	09 30 40.6	+0.1
FUG	Fuego 3	1.22	321	⇓eP	P	09 30 24.5	-0.9
MRL	Marmol	1.60	13	⇓eP	P	09 30 30.9	+0.2
VSM	San Miguel	1.73	92	⇓eP	P	09 30 33.6	+1.2
VSM				eS	S	09 30 55.2	+1.8
JAT	Jato	1.75	298	⇓eP	P	09 30 31.3	-1.3
JAT				eS	S	09 30 55.2	+1.4
JAT				AML	AML	09 30 55.4	
	comp=E,5µm,0.2s						
BLLM	Bellamira	1.77	91	⇓eP	P	09 30 33.8	+0.9
BLLM				eS	S	09 30 55.1	+0.8
CAHU	Cacacuatique	1.81	81	eP	P	09 30 33.8	+0.3
CNCH	Conchagua	2.17	95	⇑eP	P	09 30 38.2	-0.3
CNCH				eS	S	09 31 04.8	+0.6
LEON	Leon	3.26	109	eP	P	09 30 55.0	+1.1
LEON				eS	S	09 31 29.9	-1.8
TELN	Telica	3.26	105	⇓eP	P	09 30 54.5	+0.6
TELN				eS	S	09 31 31.6	0.0
CNGN	Cerro Negro	3.41	106	eP	P	09 30 56.0	0.0
CNGN				eS	S	09 31 35.2	-0.3
MIRN	Miramar	3.42	107	⇑eP	P	09 30 56.5	+0.3
MIRN				eS	S	09 31 34.4	-1.3
MOMJ	Momotombo	3.59	107	eP	P	09 30 58.5	0.0
MOMJ				eS	S	09 31 40.7	+0.7
COPN	Copaltepe	3.62	111	eP	P	09 30 58.6	-0.3
COPN				eS	S	09 31 40.8	+0.1
MGAN	Managua	3.94	109	eP	P	09 31 04.5	+1.0
MGAN				eS	S	09 31 48.4	-0.5
TICN	Ticuantepe	4.00	111	eP	P	09 31 05.6	+1.4
TICN				eS	S	09 31 52.6	+2.3
VCR	Vista de Mar	5.47	127	eP	P	09 31 23.7	-0.9
JTS	JuntasAbangare	5.92	122	P	P	09 31 30.5	-0.4
	comp=E,3.2nm,0.3s,baz=313,slow=17,SNR=22						
JTS				S	S	09 32 35.5	-2.7
	comp=E,1.5nm,0.3s,baz=234,slow=23,SNR=1.9						
JCR	Jicaral	6.04	126	eP	P	09 31 32.5	-0.1
CGA2	Cerro Gallo 2	6.47	122	eP	P	09 31 39.6	+1.0
PRS1	Puriscal	6.61	121	eP	P	09 31 41.1	+0.5
PRS1				eS	S	09 32 53.5	-1.9
LAJ	Bijagual	6.84	121	eP	P	09 31 40.1	-3.6
TEIG	Tepich	6.91	14	P	P	09 31 44.2	-0.6
	comp=E,0.0nm,0.3s,baz=200,slow=24,SNR=9.3						
LCR2	La Lucha 2	7.00	122	eP	P	09 31 46.5	+0.5
ICR	Volcan Irazu	7.02	119	eP	P	09 31 47.8	+1.5
URSC	Urasca	7.14	120	eP	P	09 31 47.9	-0.1
BUS	Buena Vista	7.30	122	eP	P	09 31 51.6	+1.4
BUS				eS	S	09 33 11.9	-0.5
ROSC	El Rosal	17.72	117	LR	LR	09 40 24.9	
	comp=E,67nm,20.1s,baz=212,slow=35						
TXAR	Lajitas Array	20.20	323	P	P	09 34 35.4	-0.5
	comp=E,1.1nm,0.6s,baz=147,slow=12,SNR=21						
TXAR				PcP	PcP	09 38 44.6	-3.4
	comp=E,0.2nm,0.6s,baz=180,slow=3.8,SNR=4.3						
TXAR	Lajitas Array	20.20	323	P	P	09 34 35.4	-0.5
TXAR				PcP	PcP	09 38 44.6	-3.4
WVT	Waverly	22.63	5	eP	P	09 35 00.0	-0.3
	comp=E,3.3nm,0.7s,mb3.9						
REDW	Red Top Meadow	34.73	333	eP	P	09 36 48.1	-1.7
NVAR	Mina Array Bea	35.27	320	P	P	09 36 54.5	+0.1
	comp=E,3.3nm,0.7s,mb4.4,baz=129,slow=9.1,SNR=42						
NVAR				PcP	PcP	09 39 22.0	-2.2
	comp=E,0.9nm,0.8s,baz=124,slow=4.7,SNR=6.8						
NVAR	Mina Array Bea	35.27	320	P	P	09 36 54.5	+0.1
NVAR				PcP	PcP	09 39 22.0	-2.2
ULM	Lac du Bonnet	36.96	354	P	P	09 37 04.0	-4.6
	comp=E,2.6nm,0.8s,mb4.1,baz=150,slow=13,SNR=5.0						
SCHQ	Schefferville	45.06	19	P	P	09 38 10.8	-4.3
	comp=E,3.3nm,1.0s,mb4.1,baz=209,slow=10,SNR=5.1						
SCHQ	Schefferville	45.06	19	P	P	09 38 10.8	-4.3
WRA	Warramunga Arr	137.10	255	PKP	PKPdf	09 49 22.4	+1.8
	comp=E,0.5nm,0.8s,baz=90,slow=2.5,SNR=4.7						

IDC ***25*** *09:51:19.2±2.2,35.71N×70.80E,mb3.9/3,mb1 4.0/5, mb1mx3.6/20,ML3.4/2,Error ellipse: s-maj=55.0km s-min=32.1km az=77.0*
MOS ***25*** *09:51:22.2±1.3,35.73N×70.65E,h33^{km},mb4.2/2,Error ellipse: s-maj=51.2km s-min=19.7km az=88.7*
NEIC ***25*** *09:51:27.7±7.8,35.91N×70.89E,h61^{km}±63^{km},mb3.4/2, Error ellipse: s-maj=62.0km s-min=22.1km az=218.0*
NNC ***25*** *09:51:39.1±5.2,36.80N×69.80E,h26^{km}±218^{km},mpv3.6, Error ellipse: s-maj=205.2km s-min=14.5km az=166.0*
ISC 25 09:51:28.1±2.2,**36.0N**±0.1×**70.8E**±0.2,**h76**^{km}±22^{km}**,n18, σ0^{s}71**/21**,mb3.7**/2**,3C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	7.05	359	⇑P	P	09 53 10.3	-0.4
	2.1nm,0.3s,baz=185,slow=14,SNR=60						
KK31				⇑S	S	09 54 22.5	-7.5
	6.5nm,0.5s,baz=186,slow=25,SNR=7.7						
KKAR	Karatay Array	7.05	359	eP	P	09 53 10.6	-0.1
KKAR				eS	S	09 54 23.6	-6.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	Koldanda	13.67	124	eP	P	09 54 39.7	0.0
	comp=Z,3.9nm,0.3s						
MKAR	Makanchi Array	13.78	35	Pn	P	09 54 40.7	-0.3
	comp=Z,0.1nm,0.3s,baz=207,slow=9.7,SNR=6.3						
GKN	Gorkha	14.23	120	eP	P	09 54 47.9	+0.8
	comp=Z,8.6nm,0.3s						
DMN	Daman	14.80	121	eP	P	09 54 54.3	-0.2
	comp=Z,6.2nm,0.4s						
KKN	Kakani	14.81	120	eP	P	09 54 55.1	+0.5
	comp=Z,9.5nm,0.5s						
PKI	Pulchoki	15.04	120	eP	P	09 54 57.0	-0.5
	comp=Z,12nm,0.7s						
AB31	Akbulak array	15.39	332	⇑P	P	09 55 00.7	-1.1
	comp=Z,1.9nm,0.6s						
AB31				⇓S	S	09 57 39.6	-11
	comp=Z,0.9nm,0.6s						
AB31	Akbulak array	15.39	332	P	P	09 55 01.0	-0.9
KURK	Kurchatov	15.72	19	P	P	09 55 06.6	+0.5
	comp=Z,2.1nm,0.6s						
KURK				e		09 55 21.3	
ZRNK	Zerenda	16.95	356	eP	P	09 55 21.8	+0.4
	comp=Z,1.3nm,0.6s						
BVAR	Borovoye Array	16.98	359	P	P	09 55 22.5	+0.8
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=5.3						
ZAL	Zalesovo	20.39	24	P	P	09 55 59.9	-0.9
	comp=Z,2.8nm,0.5s,baz=154,slow=8.6,SNR=6.2						
ZAL	Zalesovo	20.39	24	P	P	09 55 59.9	-0.9
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES	ARCESS Array B	41.49	338	P	P	09 59 10.2	+1.5
	comp=Z,3.7nm,1.0s,mb4.2,baz=104,slow=7.4,SNR=3.8						
ARCES	ARCESS Array B	41.49	338	P	P	09 59 10.2	+1.5
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	Warramunga Arr	81.92	122	P	P	10 03 39.9	-1.1
	comp=Z,0.2nm,0.5s,mb3.2,baz=327,slow=4.9,SNR=5.4						

IDC ***25*** *10:24:03.9±2.0,14.05S×14.11W,mb4.1/6,mb1 4.2/6, mb1mx3.9/18,MS3.8/15,Ms1 3.8/15,ms1mx3.8/18,Error ellipse: s-maj=104.0km s-min=27.5km az=139.0*
NEIC ***25*** *10:24:05.7±0.9,14.02S×14.15W,h10^{km},mb4.7/6,Error ellipse: s-maj=36.2km s-min=13.8km az=126.0*
ISC 25 10:24:04.3±0.9,**14.0S**±0.2×**14.1W**±0.2,**h10**^{km}**,n24, σ0^{s}98**/13**,mb4.4**/12**,MS3.9**/15**,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	Lamto	22.05	25	eP	P	10 29 02.9	+1.8
	96nm,1.8s,mb4.9						
KIC	Kosan Boka	22.29	25	eP	P	10 29 01.1	-2.4
	201nm,1.9s,mb5.2						
TIC	Toumodi	22.43	24	eP	P	10 29 05.4	+0.5
	60nm,0.9s,mb5.0						
DBIC	Dimbokro	22.52	25	P	P	10 29 06.6	+0.7
	6.3nm,0.8s,mb4.1,baz=188,slow=9.8,SNR=8.3						
DBIC				LR	LR	10 35 43.4	
	comp=Z,251nm,19.5s,MS3.7,baz=234,slow=31						
TSUM	Tsumeb	30.80	104	LR	LR	10 40 12.7	
	comp=Z,169nm,18.8s,MS3.7,baz=148,slow=32						
BDFB	Brasilia	32.77	263	LR	LR	10 41 21.9	
	comp=Z,228nm,20.3s,MS3.9,baz=95,slow=32						
CPUP	Villa Florida	42.16	246	P	P	10 31 59.1	+0.2
	1.4nm,0.9s,mb3.6,baz=101,slow=10,SNR=3.2						
CPUP				LR	LR	10 46 53.1	
	comp=Z,208nm,18.3s,MS4.0,baz=146,slow=32						
LPAZ	La Paz	52.04	260	LR	LR	10 53 35.9	
	comp=Z,87nm,18.7s,MS3.8,baz=97,slow=34						
ESDC	Sonseca Array	54.25	10	LR	LR	10 55 33.7	
	comp=Z,97nm,20.0s,MS3.9,baz=200,slow=35						
PLCA	Paso Flores	55.63	230	LR	LR	10 56 58.9	
	comp=Z,182nm,18.1s,MS4.2,baz=165,slow=36						
BRTR	Keskin Array B	69.52	38	P	P	10 35 15.6	+0.2
	2.0nm,0.9s,mb4.0,baz=198,slow=7.8,SNR=7.9						
BRTR				LR	LR	11 03 58.2	
	comp=Z,30nm,21.1s,MS3.5,baz=260,slow=34						
MAW	Mawson	72.18	157	LR	LR	10 59 02.8	
	comp=Z,15nm,19.9s,MS3.3,baz=144,slow=29						
AKASG	Malin Array Be	74.75	27	P	P	10 35 44.5	-1.7
	2.2nm,0.7s,mb4.2,baz=226,slow=5.9,SNR=9.0						
AKASG				LR	LR	11 10 09.0	
	comp=Z,49nm,19.2s,MS3.8,baz=240,slow=37						
QSPA	South Pole Qui	76.14	180	eP	P	10 35 53.9	+0.3
	1.8nm,0.7s,mb4.1						
NOA	NORSAR Array B	77.49	12	LR	LR	11 12 11.7	
	comp=Z,43nm,18.2s,MS3.8,baz=205,slow=37						
FINES	FINESS Array B	81.66	18	P	P	10 36 23.7	-0.2
	1.4nm,0.6s,mb4.1,baz=202,slow=10,SNR=4.4						
FINES				LR	LR	11 13 59.9	
	comp=Z,49nm,18.1s,MS3.9,baz=340,slow=37						
SCHQ	Schefferville	81.72	332	LR	LR	11 04 44.1	
	comp=Z,52nm,21.7s,MS3.9,baz=50,slow=30						
WVT	Waverly	85.45	309	eP	P	10 36 43.5	-0.2
	6.0nm,1.1s,mb4.6						
ARCES	ARCESS Array B	87.85	13	LR	LR	11 16 45.3	
	comp=Z,47nm,21.3s,MS3.9,baz=3.3,slow=36						
VNDA	Vanda	88.61	179	LR	LR	11 10 24.9	
	comp=Z,176nm,19.0s,MS4.5,baz=17,slow=31						
CCM	Cathedral Cave	88.67	310	eP	P	10 36 59.8	+0.4
	2.6nm,0.6s,mb4.7						
TXAR	Lajitas Array	96.34	299	P	P	10 37 34.7	-0.3
	0.2nm,0.7s,mb3.6,baz=108,slow=7.9,SNR=3.4						
TXAR	Lajitas Array	96.34	299	P	P	10 37 34.7	-0.3
SONM	Songino Array	120.67	42	PKP	PKPdf	10 42 57.7	-2.0
	0.5nm,0.9s,baz=315,slow=1.7,SNR=4.1						

ATH ***25*** *10:34:13.5,39.40N×27.86E,h13^{km},MD3.6/6*
THE ***25*** *10:34:30.2,38.94N×26.12E,h13^{km},ML3.6*
NEIC ***25*** *10:34:30.2,38.94N×26.12E,h13^{km},MD3.6(ATH), ML3.6(THE),After THE.*
ISK ***25*** *10:34:31.1,39.08N×26.13E,h10^{km},MD3.5*
SOF ***25*** *10:34:33.3,39.31N×26.02E,h18^{km},MD2.7*
ISC 25 10:34:29.9±0.8,**39.05N**±0.03×**26.00E**±0.03,**h9**^{km}±6^{km}**, n38,σ0^{s}89**/51**,2C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.28	47	ePG	Pg	10 34 36.8	+1.0
EZN	Ezine	0.81	18	i PG	Pg	10 34 46.2	0.0
IZM	Izmir	1.18	123	PN	Pn	10 34 52.6	0.0
IZM				SN	Sn	10 35 08.9	-0.1
KDAG	Bornova	1.18	123	⇑iP	Pb	10 34 52.8	+0.7
KDAG				i S	Sb	10 35 07.5	+0.1
AKS	Akhisar	1.42	96	i PN	Pn	10 34 56.2	+0.1
LPK	Lapseki	1.44	24	PN	Pn	10 34 56.9	+0.6
LPK				SN	Sn	10 35 16.1	+0.6
BALB	Balikesir	1.57	68	PN	Pn	10 34 58.8	+0.6
BALB				SN	Sn	10 35 17.7	-1.1
AOS	Alonnisos	1.66	275	ePb	Pb	10 34 59.2	-1.0
AOS				eSb	Sb	10 35 21.2	+0.2
ALN	Alexandroupoli	1.84	1	ePb	Pb	10 35 01.7	-1.7
	comp=Z,6.3nm,0.3s						
ALN				eSb	Sb	10 35 25.7	-0.7
SART	Tekirdag	1.87	29	⇑iP	Pn	10 35 04.4	+1.9
SART				i S	Sg	10 35 50.1	+18
EDC	Edincik	1.93	47	ePN	Pn	10 35 03.2	-0.1
BNT	Bandirma	1.97	48	PN	Pn	10 35 03.8	-0.1
MPAR	Parnis Oros	1.99	244	ePN	Pn	10 35 07.5	+3.3
PAIG	Paliouri	2.00	297	ePn	Pn	10 35 04.5	+0.2
PAIG				eSn	Sn	10 35 30.0	+0.4
APE	Apeiranthos	2.02	191	ePN	Pn	10 35 02.5	-2.1
OUR	Ouranopolis	2.02	310	ePn	Pn	10 35 04.8	+0.2
AYDN	Tasoluk	2.03	133	i P	Pn	10 35 05.8	+1.0
AYDN				i S	Sn	10 35 36.8	+6.4
MANT	Manisa	2.08	105	i P	Pn	10 35 04.0	-1.4
MANT				i S	Sn	10 35 38.0	+6.3
DST	Dursunbey	2.11	74	ePN	Pn	10 35 06.0	+0.1
KCT	Karacabey	2.18	56	PN	Pn	10 35 07.2	+0.3
XOR	Xorichti	2.21	279	ePn	Pn	10 35 06.9	-0.3
XOR				eSn	Sn	10 35 35.2	+0.3
BDRM	Kayabasi	2.29	150	i P	Pn	10 35 08.3	-0.1
NSAL	Nisos Salamina	2.30	241	ePB	Pb	10 35 15.5	+4.3
NAIG	Nisos Aigina	2.36	238	ePN	Pn	10 35 15.5	+6.0
ORLT	Orhaneli	2.45	65	ePN	Pn	10 35 11.4	+0.7
KDZ	Kurdzhali	2.63	350	i P	Pn	10 35 12.7	-0.7
ULDT	Uludag	2.65	65	i P	Pn	10 35 14.6	+0.9
ULDT				i S	Sn	10 35 46.1	-0.2
SOH	Sokhos	2.69	312	ePn	Pn	10 35 14.9	+0.6
RZN	Rozhen	2.81	340	i P	Pn	10 35 16.5	+0.6
EDRB	Edirne	2.85	11	ePN	Pn	10 35 17.6	+1.2
MMB	Musomiste	3.07	326	i P	Pn	10 35 19.0	-0.6
KNT	Kendrikon	3.18	312	ePn	Pn	10 35 21.7	+0.6
KNT				eSn	Sn	10 35 59.4	-0.2
KKB	Krupnik	3.58	323	eP	Pn	10 35 26.5	-0.4
PGB	Panagyurishte	3.76	339	i P	Pn	10 35 28.0	-1.4
ESKT	Eskisehir	3.79	81	i P	Pg	10 35 43.9	-1.7
VTS	Vitosha	4.12	330	eP	Pn	10 35 35.5	+1.0
PVL	Pavlikeni	4.19	353	eP	Pn	10 35 34.0	-1.5
SZH	Strazhica	4.21	359	eP	Pn	10 35 44.0	+8.2

WEL 25 10:43:40.3±0.2**,39.31S**×**173.91E,h17**^{km}**,ML3.6**/6**,3C-8D, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0,Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRZ	Ngariki Road	0.03	148	⇓P*	Pb	10 43 43.5	+0.1
NWEZ	Newall Road	0.05	316	⇑P*	Pb	10 43 43.5	0.0
PKE	Pukeiti	0.13	26	⇑P*	Pb	10 43 44.1	-0.2
PKE				S*	Sb	10 43 47.3	+0.4
PKE				S*	Sb	10 43 47.3	+0.4
NEZ	North Egmont	0.15	74	⇑P*	Pb	10 43 44.5	0.0
DFE	Dawson Falls	0.15	95	⇓P*	Pb	10 43 44.3	-0.2
RAEZ	Rainy Point	0.37	86	⇓P*	Pb	10 43 48.4	+0.3
VRZ	Vera Road	0.68	74	⇓P*	Pb	10 43 53.0	-0.4
VRZ				S*	Sb	10 44 03.0	+0.7
WAZ	Wanganui	0.94	118	P*	Pb	10 43 57.1	-0.6
WAZ				S*	Sb	10 44 10.1	+0.4
HIZ	Hauiti	1.08	43	⇓P*	Pb	10 43 58.7	-1.5
HIZ				S*	Sb	10 44 14.2	+0.2
TWVZ	Taurewa	1.21	79	⇓PN	Pn	10 44 01.1	-1.4
TWVZ				SN	Sn	10 44 17.6	-1.0
WPVZ	Whakapapa	1.27	86	PN	Pn	10 44 02.6	-0.9
WPVZ				SN	Sn	10 44 20.5	+0.4
FWVZ	Far West T-bar	1.27	88	PN	Pn	10 44 02.7	-0.7
FWVZ				SN	Sn	10 44 20.1	0.0
CNZ	Chateau	1.27	85	PN	Pn	10 44 02.6	-0.9
MGZ	Maungaku	1.30	77	PN	Pn	10 44 02.7	-1.2
WNVZ	Wahianoa	1.31	91	⇓PN	Pn	10 44 03.5	-0.4
WNVZ				SN	Sn	10 44 21.1	+0.1
WTVZ	West Tongariro	1.32	82	PN	Pn	10 44 03.4	-0.7
WTVZ				SN	Sn	10 44 21.7	+0.4
NGZ	Ngauruhoe	1.32	85	PN	Pn	10 44 03.5	-0.6
TUVZ	Tukino	1.35	89	⇓PN	Pn	10 44 04.2	-0.4
TUVZ				SN	Sn	10 44 21.8	-0.4
KAVZ	Karewarewa	1.36	81	PN	Pn	10 44 03.8	-0.9
KATZ	Kakaramea	1.43	77	PN	Pn	10 44 04.7	-0.9
KATZ				SN	Sn	10 44 23.4	-0.6
MOVZ	Moawhango	1.43	94	PN	Pn	10 44 05.0	-0.6
MOVZ				SN	Sn	10 44 23.7	-0.5
WATZ	Wairara	1.54	68	PN	Pn	10 44 06.8	-0.5
WATZ				SN	Sn	10 44 26.5	-0.5
KIW	Kapiti Island	1.73	154	PN	Pn	10 44 10.7	+0.8
KIW				SN	Sn	10 44 32.8	+1.1
TSZ	Takapari Road	1.75	116	PN	Pn	10 44 11.0	+0.7
TSZ				SN	Sn	10 44 34.4	+2.2
MRZ	Mangatainoka R	1.86	137	ePN	Pn	10 44 12.2	+0.4
MRZ				SN	Sn	10 44 35.7	+0.7
NNZ	Nelson	1.95	192	PN	Pn	10 44 12.5	-0.6
NNZ				SN	Sn	10 44 37.2	-0.1
CAW	Cannon Point	2.00	154	PN	Pn	10 44 14.5	+0.7
MRW	Makara Radio	2.01	163	ePN	Pn	10 44 14.8	+0.8
BKZ	Black Stump Fm	2.01	87	ePN	Pn	10 44 12.7	-1.3
TOZ	Tahuroa Road	2.01	39	PN	Pn	10 44 12.1	-1.9
TOZ				SN	Sn	10 44 35.5	-3.5
SNZO	South Karori	2.08	163	PN	Pn	10 44 16.1	+1.0
TUWZ	Tuamarina	2.12	179	PN	Pn	10 44 15.3	-0.2
MTW	Mount Morrison	2.21	147	PN	Pn	10 44 18.5	+1.7
BSWZ	Blackbirch Sta	2.40	181	PN	Pn	10 44 19.6	+0.1
THZ	Tophouse	2.57	197	PN	Pn	10 44 21.6	-0.4
DSZ	Denniston Nort	2.92	213	PN	Pn	10 44 25.8	-1.1
KUZ	Kuaotunu	2.93	30	PN	Pn	10 44 24.5	-2.7
WCZ	Waipu Caves	3.38	6	PN	Pn	10 44 30.6	-3.0
LTZ	Lake Taylor	3.68	199	PN	Pn	10 44 37.1	-0.8
OUZ	Omahuta	4.09	356	PN	Pn	10 44 41.0	-2.7
WVZ	Waitaha Valley	4.46	212	PN	Pn	10 44 46.9	-2.0
JCZ	Jackson Bay	6.12	217	ePN	Pn	10 45 09.1	-3.3

IGIL ***25*** *10:58:25.4,36.80N×9.60W,h5^{km},ML3.2*
MDD ***25*** *10:58:26.8±1.3,36.88N×9.61W,h15^{km}±8^{km},mb4.4/19, Error ellipse: s-maj=11.6km s-min=6.1km az=53.0, PRXIMO*
NEIC ***25*** *10:58:26.7,36.91N×9.42W,MN3.1(MDD),After MDD.*
LDG ***25*** *10:58:27.3±0.3,36.83N×9.52W,h10^{km},Ml3.4/3,Error ellipse: s-maj=4.9km s-min=3.5km az=43.0*
INMG 25 10:58:27.9±1.0**,36.82N**×**9.55W,h19**^{km}±17^{km}**,ML2.9,1C, Error ellipse: s-maj=16.6km s-min=3.1km az=51.0,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	Sao Teotonio	0.98	42	eP	Pb	10 58 45.3	-0.8
PTEO				eS	Sb	10 58 58.2	-0.3
	101nm,0.1s						
PTEO	Sao Teotonio	0.98	42	P	Pb	10 58 45.3	-0.8
PTEO				S	Sb	10 58 58.2	-0.3
	50nm,0.1s						
PALC	Alcoutim	1.78	68	ePn	Pn	10 58 56.0	-2.1
PALC				eSn	Sn	10 59 17.1	-3.2
	36nm,0.2s						
PALC	Alcoutim	1.78	68	P	Pn	10 58 56.0	-2.1
PALC				S	Sn	10 59 17.1	-3.2
	18nm,0.2s						
EGRO	El Granado	1.80	66	P	Pn	10 58 56.2	-2.1
	15nm,0.3s,SNR=38						
EGRO				S	Sn	10 59 17.6	-3.2
	16nm,0.1s,SNR=5.0						
PBEJ	Beja	1.80	47	ePn	Pn	10 58 56.2	-2.2
PBEJ				eSn	Sn	10 59 17.5	-3.5
LIS	Lisbon	1.92	9	eP	Pn	10 58 56.8	-3.3
LIS				eS	Sn	10 59 20.6	-3.4
LIS				eS	Sn	10 59 20.7	-3.3
LIS				AML	AML	10 59 23.6	
	comp=E,314nm,0.3s						
MOE	Montemor	1.95	29	ePn	Pn	10 58 58.5	-2.1
MOE				eSn	Sn	10 59 21.7	-3.0
PLOU	Loures	2.09	8	ePn	Pn	10 59 00.1	-2.4
PLOU				eSn	Sn	10 59 24.2	-4.0
	comp=E,82nm,0.1s						
PLOU	Loures	2.09	8	P	Pn	10 59 00.1	-2.4
PLOU				S	Sn	10 59 24.2	-4.0
	comp=E,41nm,0.1s						
ALMR	Almeirim	2.46	18	eP	Pn	10 59 05.0	-2.9
ALMR				eS	Sn	10 59 33.4	-4.3
ALMR				eS	Sn	10 59 33.4	-4.3
ALMR				AML	AML	10 59 36.3	
	comp=N,62nm,0.1s						
ALMR				AML	AML	10 59 36.6	
	comp=E,91nm,0.3s						
EMIN	Mina Concepcio	2.48	67	P	Pn	10 59 05.3	-2.8
	comp=E,12nm,0.1s,SNR=110						
EMIN				S	Sn	10 59 33.9	-4.3
	comp=E,6.4nm,0.1s						
EBAD	Badajoz	2.79	45	⇑P	Pn	10 59 09.5	-3.0
	comp=E,9.0nm,0.1s,SNR=18						
EBAD				S	Sn	10 59 41.1	-4.9
	comp=E,21nm,0.1s,SNR=14						
EBAD	Badajoz	2.79	45	Pn	Pn	10 59 09.5	-3.0
EBAD				Sn	Sn	10 59 40.3	-5.7
PTOM	Tomar	2.94	17	eSn	Sn	10 59 45.1	-4.7
	comp=E,47nm,0.1s						
PTOM	Tomar	2.94	17	S	Sn	10 59 45.1	-4.7
	comp=E,23nm,0.1s						
ESPR	Espera	2.96	88	P	Pn	10 59 12.1	-2.9
	comp=E,63nm,0.1s,SNR=8.7						
ESPR				S	Sn	10 59 47.8	-2.6
	comp=E,76nm,0.2s,SNR=7.9						
ESPR	Espera	2.96	88	Pn	Pn	10 59 12.1	-2.9
ESPR				Sn	Sn	10 59 45.3	-5.1
PCBR	Castelo Branco	3.43	28	ePn	Pn	10 59 18.3	-3.3
PCBR				eSn	Sn	10 59 56.7	-5.5
	comp=E,23nm,0.3s						
PCBR	Castelo Branco	3.43	28	P	Pn	10 59 18.3	-3.3
PCBR				S	Sn	10 59 56.7	-5.5
	comp=E,12nm,0.3s						
EMIJ	Mijas	3.84	92	P	Pn	10 59 24.2	-3.4
	comp=E,1.9nm,0.1s,SNR=7.9						
EMIJ				S	Sn	11 00 08.8	-4.0
	comp=E,8.3nm,0.3s,SNR=7.9						
EMIJ	Mijas	3.84	92	Pn	Pn	10 59 24.2	-3.4
EMIJ				Sn	Sn	11 00 06.9	-5.9
MTE	Manteigas	3.91	23	ePn	Pn	10 59 25.4	-3.0
MTE				eSn	Sn	11 00 08.2	-6.1
	comp=E,23nm,0.3s						
MTE	Manteigas	3.91	23	P	Pn	10 59 25.4	-3.0
MTE				S	Sn	11 00 08.2	-6.1
	comp=E,12nm,0.3s						
PVIS	Viseu	4.10	18	eSn	Sn	11 00 12.9	-6.4
	comp=E,26nm,0.1s						
PVIS	Viseu	4.10	18	S	Sn	11 00 12.9	-6.4
	comp=E,13nm,0.1s						
EADA	Adamuz	4.18	70	P	Pn	10 59 28.9	-3.3
	comp=E,9.3nm,0.1s,SNR=73						
EADA				S	Sn	11 00 14.5	-6.6
	comp=E,6.3nm,0.1s,SNR=5.0						
ELUQ	Luque	4.28	78	P	Pn	10 59 30.7	-3.1
	comp=E,4.0nm,0.2s,SNR=7.9						
ELUQ				S	Sn	11 00 18.2	-5.6
	comp=E,5.1nm,0.2s,SNR=7.9						
ELUQ	Luque	4.28	78	Pn	Pn	10 59 30.7	-3.1
ELUQ				Sn	Sn	11 00 16.2	-7.6
PVRL	Vila Real	4.68	17	eSn	Sn	11 00 25.8	-8.0
	comp=E,47nm,0.2s						
PVRL	Vila Real	4.68	17	S	Sn	11 00 25.8	-8.0
	comp=E,24nm,0.2s						
ELOB	Lobios	5.17	12	P	Pn	10 59 42.2	-4.2
	comp=E,0.8nm,0.1s,SNR=7.9						
ELOB				S	Sn	11 00 37.6	-8.7
	comp=E,11nm,0.1s,SNR=5.0						
ELOB	Lobios	5.17	12	Pn	Pn	10 59 42.5	-3.8
ELOB				Sn	Sn	11 00 37.6	-8.7
ESDC	Sonseca Array	5.24	55	P	Pn	10 59 43.2	-4.1
	comp=E,24nm,0.1s,baz=240,slow=13,SNR=69						
ESDC				S	Sn	11 00 40.7	-7.3
	comp=E,5.8nm,0.2s,baz=242,slow=23,SNR=14						
EQES	Quesada	5.25	77	P	Pn	10 59 43.5	-4.1
	comp=E,2.4nm,0.1s,SNR=11						
EQES				S	Sn	11 00 41.3	-7.0
	comp=E,1.7nm,0.1s,SNR=5.0						
EZAM	Zamans	5.37	7	P	Pn	10 59 44.8	-4.3
	comp=E,1.3nm,0.2s,SNR=7.9						
EZAM				S	Sn	11 00 42.5	-8.7

	comp=E,6.0nm,0.2s,SNR=5.1						
EZAM	Zamans	5.37	7	Pn	Pn	10 59 44.8	-4.3
EZAM				Sn	Sn	11 00 44.0	-7.1
PBRG	Braganca	5.44	23	*e*Sn	Sn	11 00 44.4	-8.5
	comp=E,13nm,0.3s						
PBRG	Braganca	5.44	23	S	Sn	11 00 44.4	-8.5
	comp=E,6.3nm,0.3s						
ECAL	Calabor	5.56	22	P	Pn	10 59 46.6	-5.2
	comp=E,3.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	11 00 48.2	-7.8
	comp=E,14nm,0.2s,SNR=7.9						
ERUA	La Rua	5.87	18	P	Pn	10 59 52.6	-3.6
	comp=E,1.9nm,0.2s,SNR=7.9						
ERUA				S	Sn	11 00 55.3	-8.4
	comp=E,4.1nm,0.2s,SNR=7.9						
EVIA	Vianos	5.87	70	P	Pn	10 59 51.7	-4.6
	comp=E,1.9nm,0.2s,SNR=6.9						
ETOB	Tobarra	6.60	72	P	Pn	11 00 01.7	-4.7
	comp=E,3.4nm,0.2s,SNR=7.9						
EPON	Pontenova	6.76	15	P	Pn	11 00 04.7	-4.0
	comp=E,0.6nm,0.1s,SNR=7.9						
EPON				S	Sn	11 01 15.6	-10
	comp=E,1.1nm,0.1s,SNR=7.9						
ETOR	Torete	7.08	53	P	Pn	11 00 09.1	-4.1
	comp=E,5.3nm,0.3s,SNR=11						
ETOR				S	Sn	11 01 24.1	-10
	comp=E,4.4nm,0.3s,SNR=5.0						
ETOR	Torete	7.08	53	Pn	Pn	11 00 09.1	-4.1
ETOR				Sn	Sn	11 01 22.8	-11
EMOS	Mosqueruela	7.94	61	P	Pn	11 00 21.6	-3.7
	comp=E,1.4nm,0.1s,SNR=7.9						
EMOS				S	Sn	11 01 45.1	-10
	comp=E,1.2nm,0.1s,SNR=7.9						
EALK	Alkurruntz	8.88	41	P	P	11 00 33.7	-4.7
	comp=E,3.1nm,0.3s,SNR=7.9						
EALK				S	Sn	11 02 06.7	-12
	comp=E,58nm,1.0s,SNR=7.9						
SJPF	Ste Jean	8.96	43	*e*Pn	P	11 00 34.8	-4.6
SJPF				*e*Sn	Sn	11 02 08.8	-12
	comp=E,1.7nm,0.3s						
ETSF	Etsaut	9.20	46	*e*Pn	P	11 00 37.9	-4.8
ETSF				*e*Sn	Sn	11 02 14.6	-12
	comp=E,2.2nm,0.3s						
EPF	Esparros	9.80	48	*e*Pn	P	11 00 46.4	-4.6
EPF				*e*Sn	Sn	11 02 27.9	-14
	comp=E,2.2nm,0.3s						

STR ***25*** *11:13:03.9±0.1, 42.41N×2.31E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***25*** *11:13:04.7±0.2, 42.40N×2.32E, mbLg1.9/20, Error ellipse: s-maj=2.2km s-min=1.1km az=171.0, PRXIMO*

LDG ***25*** *11:13:04.3±0.1, 42.39N×2.33E, h2^{km}, Md2.4/1, Ml2.4/11, Error ellipse: s-maj=1.7km s-min=0.9km az=165.0*

ISC 25 11:13:03.0±0.4**, 42.49N**±0.03×**2.30E**±0.03**, h10**^{km}±6^{km}**, n30, σ1^{s}09**/42**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FILF	Fillols	0.21	69	Pg	Pg	11 13 08.1	+0.6
FILF				Sg	Sg	11 13 10.6	0.0
FILF	Fillols	0.21	69	Pg	Pg	11 13 08.2	+0.6
FILF				Lg		11 13 10.7	
CBRU	Bruguera	0.22	204	Pg	Pg	11 13 07.6	-0.2
CBRU				Lg		11 13 10.0	
	55nm,0.1s						
VALF	Valcebollere	0.23	248	Pg	Pg	11 13 08.8	+0.9
VALF				Sg	Sg	11 13 11.8	+0.7
VALF	Valcebollere	0.23	248	Pg	Pg	11 13 08.8	+0.9
VALF				Lg		11 13 11.8	
CLLI	Llivia	0.24	268	Pg	Pg	11 13 09.7	+1.5
CLLI				Lg		11 13 13.3	
	52nm,0.1s						
SJAF	Saint Jean de	0.43	90	Pg	Pg	11 13 12.2	+0.4
SJAF				Sg	Sg	11 13 18.2	+0.5
SJAF	Saint Jean de	0.43	90	Pg	Pg	11 13 12.4	+0.6
SJAF				Lg		11 13 18.0	
EJON	La Jonquera	0.44	95	⇑Pg	Pg	11 13 12.5	+0.6
	8.6nm,0.3s,SNR=18						
EJON				Lg		11 13 18.2	
	6.1nm,0.1s,SNR=17						
CFON	Fontmartina	0.73	172	Pg	Pg	11 13 16.4	-1.3
CFON				Lg		11 13 24.9	
	12nm,0.1s						
CORG	Organya	0.77	251	Pg	Pg	11 13 18.8	+0.3
CORG				Lg		11 13 29.5	
	7.4nm,0.1s						
EMIR	Miracle	0.81	225	Pg	Pg	11 13 18.9	-0.4
	6.4nm,0.1s,SNR=7.9						
EMIR				Lg		11 13 29.1	
	2.3nm,0.0s,SNR=5.5						
MTLF	Montolieu	0.86	356	*e*Pg	Pg	11 13 22.5	+2.3
MTLF				*e*Sg	Sg	11 13 34.6	+2.9
	22nm,0.3s						
SALF	Salau	0.86	289	Pg	Pg	11 13 21.0	+0.7
SALF				Sg	Sg	11 13 33.2	+1.3
SALF	Salau	0.86	289	Pg	Pg	11 13 21.2	+0.8
SALF				Lg		11 13 33.1	
CSOR	Sort	0.87	263	Pg	Pg	11 13 20.8	+0.3
CSOR				Lg		11 13 32.5	
	7.6nm,0.2s						
MELF	Melles	1.20	289	Lg		11 13 44.1	
CAVN	Les Avellanes	1.30	243	Pg	Pg	11 13 28.2	-0.8
CAVN				Lg		11 13 45.8	
	13nm,0.1s						
EPOB	Poblet	1.45	219	⇑Pg	Pg	11 13 30.6	-1.5
	2.9nm,0.3s,SNR=18						
EPOB				Lg		11 13 48.4	
	1.0nm,0.1s						
EGRA	Graus	1.50	259	Pg	Pg	11 13 33.2	+0.2
	16nm,1.6s,SNR=7.9						
EGRA				Lg		11 13 53.1	
	0.9nm,0.2s,SNR=7.9						
EPF	Esparros	1.54	291	*e*Pn	Pn	11 13 32.2	+1.5
EPF				*e*Pg	Pg	11 13 34.5	+0.7
EPF				*e*Sg	Sg	11 13 55.2	+0.8
	9.1nm,0.3s						
LASF	Ste Croix	1.95	35	*e*Pn	Pn	11 13 37.9	+1.3
LASF				*e*Pg	Pg	11 13 41.8	-0.3
LASF				*e*Sg	Sg	11 14 07.8	-0.4
	2.5nm,0.3s						
ETSF	Etsaut	2.15	282	*e*Pg	Pg	11 13 45.8	-0.1
ETSF				*e*Sg	Sg	11 14 13.3	-1.3
	8.0nm,0.3s						
ESAC	San Caprasio	2.20	251	Pg	Pg	11 13 45.8	-1.1
	SNR=7.9						
ESAC				Lg		11 14 13.5	
	8.8nm,0.1s,SNR=5.6						
CAF	Calviac	2.44	356	*e*Sg	Sg	11 14 24.5	0.0
	3.5nm,0.2s						
SJPF	Ste Jean	2.67	285	*e*Pg	Pg	11 13 55.0	-1.3
SJPF				*e*Sg	Sg	11 14 29.9	-2.0
	2.2nm,0.3s						
LFF	La Frestale	2.70	336	*e*Sg	Sg	11 14 32.5	-0.5
	4.8nm,0.3s						
RJF	Les Rejaudoux	2.87	349	*e*Sg	Sg	11 14 37.2	-1.5
	2.9nm,0.3s						
VIVF	Saint-Julien-l	2.93	35	*e*Pn	Pn	11 13 50.7	+0.2
VIVF				*e*Pg	Pg	11 14 00.0	-1.5
VIVF				*e*Sg	Sg	11 14 38.0	-2.6
	1.3nm,0.2s						
BGF	Bois d'Agland	4.09	5	*e*Sg	Sg	11 15 15.2	-4.0
	3.6nm,0.3s						

IDC ***25*** *11:22:37.8±1.5, 50.09N×88.15E, mb3.4/1, mb1 4.0/4, mb1mx3.6/21, ML3.9/3, Error ellipse: s-maj=19.8km s-min=10.7km az=98.0*

MOS ***25*** *11:22:39.0±2.5, 49.95N×87.71E, h13^{km}, mb4.2/1, Error ellipse: s-maj=15.4km s-min=8.8km az=110.2*

NNC ***25*** *11:22:44.3±4.0, 50.08N×87.36E, h18^{km}±29^{km}, mpv3.8, Error ellipse: s-maj=37.8km s-min=17.4km az=84.0*

ISC 25 11:22:38.3±1.4**, 49.92N**±0.07×**87.7E**±0.1**, h14**^{km}±7^{km}**, n26, σ1^{s}34**/37**, mb3.1**/1**, 8C-8D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	Aktash	0.41	354	*e*PG	Pg	11 22 46.2	-0.5
KTNR	Kaitanak	1.45	280	*i* PG	Pg	11 23 07.7	+0.3
KTNR				*i* S	Sb	11 23 26.7	+3.8
UKR	Ust'-Kan	2.13	300	*i* PN	Pn	11 23 18.9	+4.9
UKR				*i* S	Sn	11 23 46.2	+5.8
TASR	Tashtagol	2.85	2	*e*PN	Pn	11 23 28.4	+4.1
TASR				*e*S	Sn	11 24 04.4	+5.7
ELT	Yel'tsovka	3.47	345	*e*PN	Pn	11 23 34.9	+1.8
ELT				*e*		11 23 41.9	
ELT				*e*S	Sn	11 24 21.9	+7.5
ZAL	Zalesovo	4.41	337	Pn	Pn	11 23 47.4	+0.9
	10.0nm,0.3s,baz=230,slow=10,SNR=33						
ZAL				Sn	Sn	11 24 37.4	-0.7
	11nm,0.3s,baz=251,slow=8.6,SNR=5.2						
ZAL				Lg		11 24 58.2	
	25nm,0.3s,baz=8.8,slow=14,SNR=9.4						
ZAL	Zalesovo	4.41	337	PN	Pn	11 23 47.4	+1.0
ZAL						11 24 37.4	
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ZAL				smax			
	comp=N,11nm,0.3s						
MK31	Makanchi Array	4.77	231	⇑Pn	Pn	11 23 57.7	+6.1
	comp=N,15nm,0.6s,baz=53,slow=13,SNR=186						
MK31				⇓Sn	Sn	11 24 54.7	+7.4
	comp=N,7.6nm,0.3s,baz=60,slow=24,SNR=6.4						
MK31				⇑Lg		11 25 14.9	
	comp=N,43nm,0.6s,baz=55,slow=25,SNR=6.9						
MKAR	Makanchi Array	4.77	231	Pn	Pn	11 23 57.6	+6.1
	comp=N,9.1nm,0.3s,baz=48,slow=13,SNR=191						
MKAR				Sn	Sn	11 24 55.1	+7.8
	comp=N,10nm,0.3s,baz=59,slow=28,SNR=5.9						
MKAR				Lg		11 25 16.9	
	comp=N,16nm,0.3s,baz=59,slow=28,SNR=12						
MKAR	Makanchi Array	4.77	231	PN	Pn	11 23 57.6	+6.0
MKAR						11 24 55.1	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR				smax			
	comp=N,11nm,0.3s						
SHRR	Shira	4.83	17	*e*PN	Pn	11 23 52.8	+0.3
SHRR				*e*		11 25 03.2	
SHRR				pmax	pmax		
	comp=Z,27nm,0.5s						
SHRR				pmax	pmax		
	comp=Z,195nm,0.6s						
NVS	Novosibirsk	5.63	333	*e*PN	Pn	11 24 05.0	+1.2
NVS				*i*		11 24 21.5	
NVS				*i* S	Sn	11 25 33.8	+25
KURK	Kurchatov	5.87	281	⇓Pn	Pn	11 24 09.1	+2.1
	comp=Z,3.6nm,0.5s,baz=108,slow=12,SNR=32						
KURK				⇑Sn	Sn	11 25 15.4	+0.6
	comp=Z,13nm,0.6s						
KURK				⇑Lg		11 25 41.4	
	comp=Z,56nm,0.8s						
KURK	Kurchatov	5.87	281	*e*PN	Pn	11 24 09.1	+2.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VOSK	Vostochnaya	10.83	291	⇓Pn	P	11 25 13.8	-2.2
	comp=Z,1.5nm,0.6s						
VOSK				⇑Sn	S	11 27 10.1	-7.8
	comp=Z,4.9nm,0.7s						
VOSK				⇓Lg		11 28 17.9	
	comp=Z,17nm,0.9s						
VOSK	Vostochnaya	10.83	291	P	P	11 25 13.7	-2.2
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	11.23	293	⇓Pn	P	11 25 20.0	-1.4
	comp=Z,0.6nm,0.9s,baz=111,slow=15,SNR=15						
BVA0				⇓Sn	S	11 27 19.0	-8.7
	comp=Z,0.8nm,0.8s						
BVA0	Borovoye Array	11.23	293	*e*P	P	11 25 20.0	-1.4
BVA0						11 27 19.0	
BVAR	Borovoye Array	11.23	293	Pn	P	11 25 20.2	-1.2
	comp=Z,1.1nm,0.3s,baz=106,slow=14,SNR=12						
BVAR				Sn	S	11 27 20.5	-7.2
	comp=Z,1.3nm,0.3s,baz=98,slow=22,SNR=6.9						
BVAR				Lg		11 28 35.1	
	baz=63,slow=32,SNR=1.8						
BRVK	Borovoye	11.30	293	P	P	11 25 20.4	-1.9
BRVK						11 27 21.3	
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZRNK	Zerenda	12.05	292	⇓Pn	P	11 25 30.7	-1.8
	comp=Z,1.5nm,0.5s						
ZRNK				⇑Sn	S	11 27 40.0	-7.6
	comp=Z,5.1nm,0.8s						
ZRNK				⇓Lg		11 29 00.0	
	comp=Z,18nm,1.1s						
ZRNK	Zerenda	12.05	292	P	P	11 25 30.8	-1.7
ZRNK						11 27 40.0	
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	12.49	92	Lg		11 29 00.0	
	comp=Z,0.1nm,0.3s,baz=276,slow=22,SNR=3.8						
KK31	Karatay Array	13.64	247	⇑Pn	P	11 25 55.0	+1.4
	comp=Z,0.8nm,0.5s,baz=54,slow=14,SNR=5.5						
AB31	Akbulak array	17.97	279	⇑P	P	11 26 50.4	+1.3
	comp=Z,0.2nm,0.2s,baz=70,slow=9.6,SNR=11						
WRA	Warramunga Arr	80.86	136	P	P	11 34 52.4	-0.9
	comp=Z,0.1nm,0.4s,mb3.1,baz=341,slow=6.1,SNR=5.1						

IDC ***25*** *12:23:19.4±0.7, 2.06N×97.20E, mb4.2/14, mb1 4.3/15, mb1mx4.2/20, ML3.9/1, MS3.5/1, Ms1 3.7/1, ms1mx2.7/18, Error ellipse: s-maj=38.9km s-min=13.0km az=52.0*

NEIC ***25*** *12:23:21.3±11.0, 1.97N×97.11E, h14^{km}±71^{km}, mb4.4/3, Error ellipse: s-maj=35.3km s-min=6.7km az=55.0*

ISC 25 12:23:22.2±0.6**, 2.00N**±0.10×**97.1E**±0.1**, h33**^{km}**, n24, σ0^{s}63**/23**, mb4.2**/17**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	4.65	56	⇓*e*P	P	12 24 32.8	+0.8
CMAR	Chiang Mai Arr	16.45	6	Pn	P	12 27 11.8	-0.5
	0.2nm,0.3s,baz=198,slow=12,SNR=6.4						
CMAR				LR	LR	12 34 08.2	
	comp=Z,144nm,18.8s,baz=185,slow=40						
FITZ	Fitzroy Crossi	34.45	127	P	P	12 30 08.2	-1.0
	1.7nm,0.7s,mb4.1,baz=347,slow=0.3,SNR=6.1						
WRA	Warramunga Arr	42.51	123	P	P	12 31 16.1	-0.5
	4.2nm,0.7s,mb4.3,baz=300,slow=9.2,SNR=34						
WRA	Warramunga Arr	42.51	123	P	P	12 31 16.1	-0.5
WB2	Warramunga Arr	42.52	123	*e*P	P	12 31 16.8	+0.1
ASAR	Alice Springs	43.93	128	P	P	12 31 28.1	0.0
	1.0nm,0.7s,mb3.7,baz=298,slow=7.5,SNR=13						
SONM	Songino Array	46.36	9	P	P	12 31 46.8	-0.3
	0.7nm,0.6s,mb3.8,baz=191,slow=9.6,SNR=6.3						
SONM				PcP	PcP	12 33 22.0	-0.3
	1.2nm,0.7s,baz=190,slow=3.9,SNR=5.7						
MKAR	Makanchi Array	46.46	346	P	P	12 31 48.0	+0.1
	1.4nm,0.4s,mb4.2,baz=161,slow=8.7,SNR=28						
KURK	Kurchatov	51.01	345	*e*P	P	12 32 23.3	+0.3
	7.3nm,1.3s,mb4.5						
ZAL	Zalesovo	52.76	351	P	P	12 32 36.6	+0.5
	2.8nm,0.7s,mb4.3,baz=171,slow=5.6,SNR=11						
CTA	Charters Tower	52.92	117	P	P	12 32 37.7	0.0
	4.3nm,0.8s,mb4.4,baz=266,slow=7.4,SNR=7.4						
CTA	Charters Tower	52.92	117	P	P	12 32 37.7	0.0
STKA	Stephens Creek	53.94	133	P	P	12 32 46.1	+0.9
	5.6nm,0.6s,mb4.7,baz=319,slow=6.7,SNR=19						
STKA	Stephens Creek	53.94	133	*e*P	P	12 32 45.7	+0.5
BVAR	Borovoye Array	55.48	341	P	P	12 32 55.1	-1.0
	2.8nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=16						
BRVK	Borovoye	55.54	341	*e*P	P	12 32 55.8	-0.7
	3.1nm,0.7s,mb4.5						
ZRNK	Zerenda	55.88	340	*e*P	P	12 32 58.0	-1.0
	1.5nm,0.6s,mb4.2						
BRTR	Keskin Array B	68.53	312	P	P	12 34 24.0	+0.3
	0.6nm,0.4s,mb3.8,baz=135,slow=9.6,SNR=3.0						
AKASG	Malin Array Be	74.59	322	P	P	12 34 59.6	-0.1
	1.2nm,0.6s,mb4.0,baz=97,slow=4.6,SNR=5.6						
FINES	FINESS Array B	79.27	332	P	P	12 35 26.3	+0.6
	0.9nm,0.8s,mb3.7,baz=243,slow=43,SNR=2.6						
ARCES	ARCESS Array B	81.77	340	P	P	12 35 39.5	+0.6
	3.8nm,1.0s,mb4.3,baz=76,slow=5.0,SNR=4.3						
GERES	GERESS Array B	84.17	319	P	P	12 35 52.8	+1.3
	0.3nm,0.2s,mb4.0,slow=4.0,SNR=3.5						
CPUP	Villa Florida	145.54	223	PKPbc	PKPbc	12 43 00.9	+2.4
	3.1nm,0.8s,baz=142,slow=3.3,SNR=8.7						

NEIC 25 12:32:20.0, 61.59N×146.41W, h38^{km}**, ML3.9**(PMR)**, ML3.6**(AEIC)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLU	Klutina	0.26	113	P	P	12 32 27.2	-0.3
VLZ	Valdez	0.46	175	P	P	12 32 29.0	-1.1
SCM	Sheep Creek Mo	0.50	300	P	P	12 32 29.7	-0.9
JPK	Jack Peak	0.55	190	P	P	12 32 30.2	-1.1
DIV	Divide	0.56	146	P	P	12 32 30.1	-1.3
DIV				S	S	12 32 38.7	-0.9
TZL	Tazlina	0.65	45	P	P	12 32 32.2	-0.6
CFI	College Fiord	0.77	238	P	P	12 32 33.5	-0.9
GLI	Glacier Island	0.79	205	P	P	12 32 33.7	-1.0
FID	Port Fidalgo	0.84	182	P	P	12 32 35.0	-0.5
SML	Sawmill	0.94	284	P	P	12 32 35.5	-1.3
SML				S	S	12 32 48.5	-0.8
KNK	Knik Glacier	1.00	261	P	P	12 32 37.0	-0.6
SDG	Sourdough	1.02	23	P	P	12 32 37.0	-1.0
BMRM	Bremner River	1.07	125	P	P	12 32 37.1	-1.6
BMRM				S	S	12 32 52.6	-0.1
EYAK	Cordova Ski Ar	1.09	163	P	P	12 32 38.4	-0.5
EYAK				S	S	12 32 54.1	+1.0
PWL	Port Wells	1.19	233	P	P	12 32 39.7	-0.6
HIN	Hinchinbrook I	1.20	182	P	P	12 32 40.0	-0.5
GHO	Glory Hole Cre	1.21	280	P	P	12 32 39.6	-1.1
SGAM	Sherman Glacie	1.24	151	P	P	12 32 40.1	-1.0
GLB	Gilahina Butte	1.26	96	P	P	12 32 39.9	-1.4
PMR	Palmer	1.30	271	P	P	12 32 41.0	-1.1
PMR				S	S	12 32 58.3	-0.1
PAX	Paxson	1.45	17	P	P	12 32 43.0	-1.1
PAX				S	S	12 33 01.5	-0.7
RAGM	Ragged Mountai	1.48	144	P	P	12 32 44.0	-0.5
PMS	Palmer South	1.55	258	P	P	12 32 45.1	-0.5
DHY	Denali Highway	1.56	344	P	P	12 32 44.6	-1.0
HMT	Hamilton	1.64	139	P	P	12 32 45.6	-1.2
PWA	Palmer West	1.66	274	P	P	12 32 46.4	-0.7
RC01	Rabbit Creek A	1.68	254	P	P	12 32 46.5	-0.9
RC01				S	S	12 33 08.1	+0.1
LTI	Latouche	1.71	205	P	P	12 32 46.7	-1.1
MPA	Moose Pass	1.81	234	P	P	12 32 48.2	-1.0
THY	Trims Highway	1.86	9	P	P	12 32 49.6	-0.3
KAIM	Kayak Island	1.94	149	P	P	12 32 49.9	-1.1
CUT	Chulitna	2.00	296	P	P	12 32 51.4	-0.5
BALM	Baldy	2.04	104	P	P	12 32 51.0	-1.5
WAX	Waxell Ridge	2.08	122	P	P	12 32 51.5	-1.5
SUA	Susitna One	2.08	268	P	P	12 32 51.7	-1.4
SEW	Seward	2.11	226	P	P	12 32 51.9	-1.6
SLKM	Skilak Lake	2.15	241	P	P	12 32 53.2	-0.9
MID	Middleton Isla	2.17	179	P	P	12 32 53.2	-1.2
MCK	McKinley	2.44	333	P	P	12 32 57.4	-1.0
SKT	Skwentna	2.46	281	P	P	12 32 57.3	-1.3
CTGM	Chitina Glacie	2.53	102	P	P	12 32 58.3	-1.2
YAH	Yahtse	2.59	116	P	P	12 32 58.6	-1.8
TRF	Thorofare Moun	2.59	318	P	P	12 32 59.5	-1.0
BCA3	Beaver Creek A	2.62	54	P	P	12 32 59.6	-1.2
SPU	Mount Spurr	2.75	264	*e*P	P	12 33 00.6	-2.1
NCG	North Capps Gl	2.76	269	P	P	12 33 00.6	-2.2
BRLK	Bradley Lake	2.87	232	P	P	12 33 02.5	-1.8
BKG	Blockade Glaci	2.87	262	P	P	12 33 02.2	-2.2
KTH	Kantishna Hill	2.87	315	P	P	12 33 03.2	-1.2
CKL	Chakachamna La	2.88	265	P	P	12 33 02.8	-1.7
CCB	Clear Creek Bu	3.13	349	P	P	12 33 05.9	-2.2
CNPM	China Poot	3.16	231	P	P	12 33 06.5	-2.0
IL1	Eielson Array	3.20	356	P	P	12 33 06.5	-2.6
RSO	Redoubt South	3.29	253	*e*P	P	12 33 08.4	-2.0
COLA	College	3.36	349	P	P	12 33 09.0	-2.4
PCA	Pinnacle	3.36	114	P	P	12 33 09.1	-2.3
ILIM	Iliamna	3.55	248	P	P	12 33 11.4	-2.6
OPT	Oil Point	3.88	243	P	P	12 33 17.3	-1.4
PNL	Peninsula	3.96	116	P	P	12 33 16.8	-3.0
DAWY	Dawson	4.07	49	P	P	12 33 19.6	-1.8
SVW	Sparrevohn	4.46	268	P	P	12 33 23.6	-3.4
TT01	Tatalina	4.68	291	P	P	12 33 26.4	-3.7
IM3	Indian Mountai	5.48	327	P	P	12 33 38.2	-3.0
IMA	Indian Mountai	5.52	328	*e*P	P	12 33 38.7	-3.2
WHY	Whitehorse	5.67	94	P	P	12 33 40.3	-3.6
GCSA	Galena City Sc	5.70	308	P	P	12 33 41.3	-3.0
COLD	Coldfoot	5.89	345	P	P	12 33 44.5	-2.5
BM3	Burnt Mountain	5.90	7	P	P	12 33 45.0	-2.3
SIT	Sitka	7.26	124	*e*P	P	12 34 02.2	-4.1

IDC ***25*** *12:38:25.5±2.2, 19.34S×174.96E, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, MS3.8/11, Ms1 3.8/11, ms1mx3.7/23, Error ellipse: s-maj=105.0km s-min=31.6km az=151.0*

NEIC ***25*** *12:38:27.0±1.0, 19.30S×174.96E, h10^{km}, mb4.7/2, Error ellipse: s-maj=28.2km s-min=22.8km az=169.0*

ISC 25 12:38:25.6±1.0**, 19.4S**±0.2×**174.9E**±0.2**, h10**^{km}**, n17, σ0^{s}63**/8**, mb4.1**/7**, MS3.8**/11**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	23.78	99	LR	LR	12 50 15.1	
	comp=Z,194nm,21.3s,MS3.5,baz=271,slow=30						
RPZ	Rata Peaks	24.46	187	LR	LR	12 51 43.6	
	comp=Z,232nm,21.5s,MS3.6,baz=346,slow=32						
STKA	Stephens Creek	32.40	241	P	P	12 44 59.0	+1.2
	4.3nm,1.0s,mb4.2,baz=63,slow=9.0,SNR=5.7						
STKA	Stephens Creek	32.40	241	*e*P	P	12 44 58.9	+1.1
WRA	Warramunga Arr	38.17	262	P	P	12 45 46.3	-0.9
	1.7nm,0.8s,mb3.8,baz=100,slow=8.6,SNR=11						
WRA				LR	LR	13 01 39.5	
	comp=Z,101nm,20.0s,MS3.6,baz=230,slow=36						
ASAR	Alice Springs	38.31	256	P	P	12 45 48.2	-0.1
	7.7nm,1.0s,mb4.4,baz=86,slow=9.3,SNR=44						
VNDA	Vanda	58.52	183	LR	LR	13 11 10.4	
	comp=Z,115nm,20.0s,MS4.0,baz=353,slow=34						
SBA	Scott Base	58.63	182	*e*P	P	12 48 25.2	+0.3
	5.2nm,1.1s,mb4.5						
JHJ	Hachijo jima 2	62.09	327	LR	LR	13 12 42.7	
	comp=Z,91nm,18.1s,MS4.0,baz=22,slow=33						
QSPA	South Pole Qui	70.66	180	*e*P	P	12 49 42.2	-0.7
	9.0nm,1.1s,mb4.6						
CMAR	Chiang Mai Arr	83.52	292	P	P	12 50 55.9	+0.2
	0.5nm,0.7s,mb3.7,baz=144,slow=5.0,SNR=4.0						
NVAR	Mina Array Bea	84.94	46	P	P	12 51 02.6	+0.2
	0.5nm,0.8s,mb3.7,baz=220,slow=7.6,SNR=3.5						
NVAR				LR	LR	13 20 34.5	
	comp=Z,66nm,21.0s,MS4.0,baz=160,slow=30						
ILAR	Eielson Array	88.87	15	LR	LR	13 23 48.9	
	comp=Z,48nm,20.9s,MS3.9,baz=58,slow=31						
SNAA	Sanae	89.15	181	LR	LR	13 28 23.8	
	comp=Z,24nm,21.5s,MS3.6,baz=78,slow=34						
TXAR	Lajitas Array	92.15	60	LR	LR	13 26 47.1	
	comp=Z,32nm,19.5s,MS3.8,baz=310,slow=32						
PDAR	Pinedale Array	92.83	46	LR	LR	13 24 29.4	
	comp=Z,52nm,19.6s,MS4.0,baz=79,slow=30						
YKA	Yellowknife Ar	98.38	26	LR	LR	13 36 55.2	
	comp=Z,38nm,18.2s,MS3.9,slow=36						

IDC ***25*** *12:57:21.5±5.3, 32.47N×92.30E, h41^{km}±51^{km}, mb3.6/6, mb1 3.8/9, mb1mx3.7/20, ML3.5/2, MS3.4/1, Ms1 3.5/1, ms1mx2.2/24, Error ellipse: s-maj=39.0km s-min=18.6km az=59.0*

NEIC ***25*** *12:57:22.7±1.4, 32.52N×92.38E, h55^{km}±18^{km}, mb3.9/2, Error ellipse: s-maj=16.3km s-min=10.4km az=62.0*

ISC 25 12:57:19.4±1.5**, 32.50N**±0.06×**92.28E**±0.09**, h42**^{km}±19^{km}**, n20, σ0^{s}94**/21**, mb3.7**/7**, MS3.5**/1**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	2.95	199	*e*P	P	12 58 09.7	+4.7
LSA				*e*S	S	12 58 50.9	+11
SHL	Shillong	6.91	183	*e*P	P	12 59 02.2	+1.4
SHL				*e*S	S	13 00 19.5	+0.5
KKN	Kakani	7.66	234	*e*P	P	12 59 11.7	+0.5
	22nm,0.7s						
PKI	Pulchoki	7.71	232	*e*P	P	12 59 12.1	+0.2
	11nm,0.4s						
DMN	Daman	7.89	234	*e*P	P	12 59 13.0	-1.4
GKN	Gorkha	7.98	238	*e*P	P	12 59 16.3	+0.7
	20nm,0.4s						
KOLN	Koldanda	8.87	240	*e*P	P	12 59 26.5	-1.4
ENH	Enshi	14.87	94	P	P	13 00 48.3	-0.1
	3.9nm,0.5s						
CMAR	Chiang Mai Arr	15.21	155	P	P	13 00 51.8	-1.2
	0.1nm,0.3s,baz=328,slow=13,SNR=8.2						
MKAR	Makanchi Array	16.20	335	P	P	13 01 05.9	+0.5
	0.1nm,0.3s,baz=148,slow=14,SNR=8.7						
SONM	Songino Array	18.69	31	P	P	13 01 36.0	-0.5
	baz=225,slow=14,SNR=5.6						
KURK	Kurchatov	20.81	335	*e*P	P	13 01 58.0	-1.5
	17nm,1.4s						
ZAL	Zalesovo	22.09	348	P	P	13 02 14.4	+2.1
	2.1nm,0.2s,mb4.1,baz=210,slow=7.6,SNR=4.8						
BVAR	Borovoye Array	25.87	329	P	P	13 02 50.0	+1.2
	0.4nm,0.4s,mb3.3,baz=140,slow=12,SNR=5.3						
BRVK	Borovoye	25.94	329	P	P	13 02 49.1	-0.4
	1.5nm,0.7s,mb3.6						
BRTR	Keskin Array B	47.19	296	P	P	13 05 49.6	-0.2

	0.3nm,0.4s,mb3.6,baz=104,slow=5.1,SNR=4.0						
NOA	**NORSAR Array B**	**57.93**	**325**	LR	LR	13 34 12.1	
	comp=Z,31nm,18.2s,MS3.5,baz=105,slow=38						
WRA	**Warramunga Arr**	**65.86**	**136**	P	**P**	**13 08 02.8**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=308,slow=11,SNR=13						
ASAR	**Alice Springs**	**68.54**	**139**	P	**P**	**13 08 20.4**	**+0.4**
	1.4nm,0.7s,mb4.0,baz=325,slow=6.3,SNR=17						
ILAR	**Eielson Array**	**72.70**	**23**	P	**P**	**13 08 44.0**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=288,slow=5.2,SNR=5.8						

MAN 25 13:02:00.0,17.69N×120.63E,h23^{km},mb3.8,ML2.5,MS2.1,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.64**	**359**	⇓*i*P	Pb	13 02 12.5	+0.1
CAUP	**Cauayan**	**1.36**	**123**	*e*P	Pn	13 02 24.2	+0.3

BJI 25 13:19:14.6,39.42N×122.28E,h16^{km},ML3.6,1D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**0.72**	**225**	PG	Pb	13 19 25.3	-3.0
DL2				SG	Sb	13 19 33.8	-3.9
DL2				Smax			
	comp=N,894nm,0.2s						
DL2				Smax			
	comp=E,635nm,0.2s						
SNY	**Shenyang**	**2.60**	**22**	⇓PG	Pn	13 20 00.3	+3.5
SNY				SG	Sn	13 20 33.8	+5.5
SNY				Smax			
	comp=N,370nm,0.8s						
SNY				Smax			
	comp=E,300nm,0.7s						

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*NAO **25** 13:30:02.7±3.8,67.93N×25.63E,ML2.0*

*HEL **25** 13:30:03.9±0.1,67.94N×25.92E,ML1.3,ML1.7(UPP),ML1.4(BER),Explosion*

*BER **25** 13:30:05.0±1.0,67.97N×25.92E,ML1.4,ML2.0(NAO),Suspected explosion*

ISC 25 13:30:01.9±0.6,67.93N±0.03×26.1E±0.1,n13,σ1^{s}18/20,Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGF	**Sodankyl**	**0.52**	**161**	*e*P	**Pg**	**13 30 13.8**	**+1.5**
SGF				*e*S	**Sg**	**13 30 17.7**	**-1.5**
KTK1	**Kautokeino**	**1.51**	**317**	*e*P	**Pn**	**13 30 30.1**	**-0.2**
KTK1				*e*SB	**Sb**	**13 30 49.9**	**-0.4**
KTK1				AML	AML	13 30 53.8	
	comp=Z,7.8nm,0.5s						
ARA0	**ARCESS Array S**	**1.62**	**353**	*e*P	**Pn**	**13 30 32.3**	**+0.3**
ARA0				*e*SG	**Sg**	**13 30 53.5**	**-2.5**
ARA0	**ARCESS Array S**	**1.62**	**353**	Pn	**Pn**	**13 30 32.3**	**+0.3**
	baz=178,slow=18						
ARA0				Lg		13 30 53.5	
	baz=171,slow=37						
MASU	**Masugnsbyn**	**1.64**	**255**	*e*P	**Pn**	**13 30 31.1**	**-1.0**
MASU				*e*S	**Sb**	**13 30 52.7**	**-1.1**
KEV	**Kevo**	**1.86**	**10**	*e*P	**Pn**	**13 30 36.8**	**+1.4**
KEV				*e*S	**Sn**	**13 31 00.7**	**+0.7**
KEV				MSG		13 31 03.0	
	comp=Z,1.5nm,0.2s						
ERTU	**Ertsjaerv**	**2.06**	**229**	*e*P	**Pn**	**13 30 39.0**	**+0.9**
ERTU				*e*S	**Sn**	**13 31 06.4**	**+1.6**
KUA	**Kurravaara**	**2.17**	**273**	*e*P	**Pn**	**13 30 39.6**	**-0.2**
KIF	**Kilpisjarvi**	**2.23**	**301**	*e*P	**Pn**	**13 30 41.8**	**+1.2**
KIF				*e*S	**Sn**	**13 31 09.2**	**-0.1**
MSF	**Maaselka**	**2.34**	**149**	*e*SG	**Sg**	**13 31 16.9**	**-2.9**
NIKU	**Nikkaluokta**	**2.67**	**272**	*e*P	**Pn**	**13 30 46.2**	**-0.8**
OUL	**Oulu**	**2.86**	**182**	*e*SB	**Sb**	**13 31 30.4**	**+0.9**
KJN	**Kajaani**	**3.92**	**170**	*e*SG	**Sg**	**13 32 06.0**	**-6.5**
KJN				MSG		13 32 08.5	
	comp=Z,0.5nm,0.2s						

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*NEIC **25** 13:38:31.3,36.15S×71.25W,h145^{km},MD3.0(GUC),After GUC.*

GUC 25 13:38:31.3±0.9,36.15S×71.25W,h145^{km}±7^{km},MD3.0,ML3.6,3C-8D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.81**	**236**	⇑*i*P	P	13 38 54.0	-0.3
CCHI				*i* S	S	13 39 11.2	-0.8
CCHI				AMP		13 39 12.9	
	comp=N,604nm,0.4s						
TALC	**Talca**	**0.82**	**337**	AMP		13 39 12.4	
	comp=N,5µm,0.1s						
NICH	**Los Niches**	**1.15**	**1**	⇓*i*P	P	13 38 57.3	+0.1
COCH	**Cobquecura**	**1.25**	**271**	AMP		13 39 25.0	
	comp=N,284nm,0.7s						
SFDO	**San Fernando**	**1.55**	**7**	⇑*i*P	P	13 39 01.4	+0.1
SFDO				*i* S	S	13 39 24.1	-0.3
CICH	**Cipreses**	**1.95**	**21**	⇓*i*P	P	13 39 06.2	+0.3
CACH	**El Canelo**	**2.10**	**15**	⇓*i*P	P	13 39 08.0	+0.3
LNV	**Longovilo**	**2.20**	**356**	⇓*i*P	P	13 39 09.2	+0.3
CHCH	**Chadas Angostu**	**2.27**	**13**	⇓*i*P	P	13 39 09.9	+0.1
LMEL	**Las Melosas**	**2.46**	**21**	⇓*i*P	P	13 39 12.4	+0.2
LMEL				*i* S	S	13 39 43.4	-0.1
LMEL				AMP		13 39 49.4	
	comp=N,170nm,0.2s						
TACH	**Talagante**	**2.51**	**6**	⇑*i*P	P	13 39 12.5	-0.4
PCH	**Pirque**	**2.60**	**14**	⇓*i*P	P	13 39 14.1	+0.1
PCH				*i* S	S	13 39 46.7	+0.1
LCCH	**Las Cruces**	**2.69**	**354**	*i* P	P	13 39 14.8	-0.3
CLCH	**Cerro Calan**	**2.81**	**12**	AMP		13 39 53.3	
	comp=N,161nm,0.6s						
FCH	**Farellones**	**2.93**	**16**	AMP		13 39 56.4	
	comp=N,180nm,0.3s						
JACH	**Jahuel**	**3.50**	**9**	⇓*i*P	P	13 39 25.0	-0.8

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*CASC **25** 13:41:17.0±2.0,13.93N×92.25W,h62^{km}±34^{km},MD4.1,ML4.7,mb4.0(NEIC)*

*NEIC **25** 13:41:20.9±1.5,13.97N×92.17W,h60^{km}±12^{km},mb4.0/2,MD4.5(MEX),Error ellipse: s-maj=23.2km s-min=12.7km az=223.0*

*MEX **25** 13:41:21.8±1.1,14.06N×92.50W,h16^{km}±999^{km},MD4.5*

*IDC **25** 13:41:25.2±4.0,14.26N×91.77W,h99^{km}±38^{km},mb3.4/5,mb1 3.8/7,mb1mx3.6/21,MS3.3/1,Ms1 3.3/1,ms1mx2.7/24,Error ellipse: s-maj=43.4km s-min=25.2km az=71.0*

ISC 25 13:41:17.5±0.9,13.92N±0.06×92.24W±0.05,h46^{km}±9^{km},n36,σ1^{s}25/48,mb3.8/6,MS3.2/1,5C-5D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.71**	**56**	⇓*e*P	**P**	**13 41 31.8**	**+0.5**
JAT				*e*S	**S**	**13 41 43.7**	**+2.3**
JAT				AML	AML	13 41 45.8	
	comp=E,15µm,0.3s						
FUG	**Fuego 3**	**1.46**	**69**	⇓*e*P	**P**	**13 41 40.9**	**-1.0**
TP2	**Tecpan 2**	**1.47**	**54**	⇓*e*P	**P**	**13 41 41.8**	**-0.2**
TP2				*e*S	**S**	**13 42 00.7**	**+0.5**
PCG	**Pacaya**	**1.66**	**73**	⇓*e*P	**P**	**13 41 44.0**	**-0.7**
PCG				*e*S	**S**	**13 42 05.0**	**+0.2**
IXG	**Ixpaco**	**1.75**	**81**	⇑*e*P	**P**	**13 41 45.1**	**-0.9**
IXG				*e*S	**S**	**13 42 06.7**	**-0.6**
IXG				AML	AML	13 42 17.4	
	comp=E,24µm,0.4s						
GCG	**Guatemala City**	**1.79**	**68**	*e*P	**P**	**13 41 47.1**	**+0.5**
GCG				*e*S	**S**	**13 42 10.5**	**+2.4**
NBG	**Las Nubes**	**1.96**	**70**	⇑*e*P	**P**	**13 41 49.0**	**+0.1**
NBG				*e*S	**S**	**13 42 15.5**	**+3.2**
NBG				AML	AML	13 42 19.6	
	comp=E,9µm,0.4s						
CCIG	**Comitan**	**2.36**	**2**	*i* P	**P**	**13 41 55.0**	**+0.4**
CCIG				*i* S	**S**	**13 42 21.0**	**-1.5**
RBDL	**Robledal**	**2.49**	**85**	⇑*e*P	**P**	**13 41 56.2**	**-0.3**
RBDL				*e*S	**S**	**13 42 26.3**	**+0.4**
RTR	**El Retiro**	**2.52**	**90**	⇑*e*P	**P**	**13 41 57.3**	**+0.3**
RTR				*e*S	**S**	**13 42 26.8**	**+0.1**
SBLS	**San Blas**	**2.55**	**91**	*e*P	**P**	**13 41 57.7**	**+0.4**
SBLS				*e*S	**S**	**13 42 27.6**	**+0.3**
SNJE	**San Jose**	**2.56**	**91**	*e*P	**P**	**13 41 57.1**	**-0.4**
SNJE				*e*S	**S**	**13 42 28.3**	**+0.6**
MRL	**Marmol**	**2.72**	**65**	*e*P	**P**	**13 41 59.1**	**-0.7**
SCX	**San Cristobal**	**2.83**	**352**	*i* P	**P**	**13 42 03.2**	**+1.8**
SCX				*i* S	**S**	**13 42 31.3**	**-3.2**
MTO2	**Montecristo 2**	**2.84**	**80**	⇑*e*P	**P**	**13 42 00.8**	**-0.7**
LFRS	**El Faro**	**3.10**	**95**	⇓*e*P	**P**	**13 42 04.8**	**-0.4**
LFRS				*e*S	**S**	**13 42 39.7**	**-1.8**
LCBS	**La Ceiba**	**3.18**	**94**	*e*P	**P**	**13 42 04.4**	**-2.0**
CMIG	**Matias Romero**	**4.06**	**321**	*e*P	**P**	**13 42 15.8**	**-2.9**
CMIG				*i* S	**S**	**13 43 00.3**	**-5.2**
OXX	**Oaxaca**	**5.34**	**307**	*e*P	**P**	**13 42 38.0**	**+1.2**
TEIG	**Tepich**	**7.33**	**31**	P	**P**	**13 43 03.5**	**-1.1**
	comp=E,0.0nm,0.3s,baz=319,slow=24,SNR=2.9						
TEIG				S	**S**	**13 44 18.5**	**-8.9**
	comp=E,0.0nm,0.3s,baz=22,slow=24,SNR=4.1						
JTS	**JuntasAbangare**	**7.99**	**116**	P	**P**	**13 43 15.1**	**+1.4**
	comp=E,1.2nm,0.3s,baz=329,slow=20,SNR=5.2						
JTS	**JuntasAbangare**	**7.99**	**116**	P	**P**	**13 43 15.1**	**+1.4**
TXAR	**Lajitas Array**	**18.64**	**327**	P	**P**	**13 45 34.9**	**+1.0**
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=7.1						
MIAR	**Mount Ida**	**20.58**	**357**	*e*P	**P**	**13 45 55.6**	**+0.6**
	comp=E,19nm,1.4s						
GDL2	**Guadalupe Moun**	**21.31**	**331**	*e*P	**P**	**13 46 02.6**	**0.0**
WMOK	**Wichita Mounta**	**21.56**	**345**	*e*P	**P**	**13 46 07.3**	**+2.3**
	comp=E,3.7nm,1.0s,mb3.8						
WMOK				*e*		13 46 22.3	
BNM	**Barren Site**	**24.00**	**330**	*e*P	**P**	**13 46 31.6**	**+2.7**
LAZ	**Ladron**	**24.45**	**329**	*e*P	**P**	**13 46 35.3**	**+1.9**
SJG	**San Juan**	**25.41**	**77**	LR	LR	13 56 40.4	
	comp=E,69nm,19.7s,MS3.2,baz=174,slow=37						
PDAR	**Pinedale Array**	**32.40**	**336**	P	**P**	**13 47 45.4**	**+0.2**
	comp=E,0.2nm,0.5s,mb3.2,baz=121,slow=10,SNR=3.3						
NVAR	**Mina Array Bea**	**33.59**	**321**	P	**P**	**13 47 56.2**	**+0.7**
	comp=E,1.4nm,0.7s,mb4.0,baz=133,slow=9.1,SNR=13						
YKA	**Yellowknife Ar**	**51.05**	**347**	P	**P**	**13 50 14.6**	**-2.5**
	comp=E,0.7nm,0.5s,mb3.9,baz=133,slow=8.6,SNR=5.0						
INK	**Inuvik**	**60.45**	**344**	P	**P**	**13 51 22.9**	**-1.7**
	comp=E,0.7nm,0.6s,mb3.9,baz=122,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**13 51 39.2**	**-1.5**
	comp=E,0.7nm,0.7s,mb3.9,baz=134,slow=4.2,SNR=8.7						
WRA	**Warramunga Arr**	**135.15**	**256**	PKP	PKPdf	14 00 33.3	+0.3
	comp=E,0.5nm,0.7s,baz=67,slow=1.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**146.00**	**341**	PKPbc	PKPbc	14 00 53.8	+0.4
	comp=E,1.8nm,0.9s,baz=350,slow=4.2,SNR=9.4						

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*MOS **25** 13:54:47.8±1.2,45.20N×80.99E,h10^{km},mb4.7/13,Error ellipse: s-maj=10.3km s-min=5.8km az=84.3*

*BJI **25** 13:54:48.9,45.29N×81.23E,h20^{km},mB4.9,mb4.7,ML5.3,Ms5.0,Msz4.6*

*IDC **25** 13:54:50.9±0.5,45.19N×81.22E,h22^{km}±2^{km},mb4.2/15,mb1 4.4/18,mb1mx4.4/22,ML4.6/3,MS3.6/7,Ms1 3.7/7,ms1mx3.3/27,Error ellipse: s-maj=10.9km s-min=8.1km az=82.0*

*NEIC **25** 13:54:50.6±0.3,45.20N×81.14E,mb4.7/15,Error ellipse: s-maj=6.9km s-min=5.6km az=220.0*

*NNC **25** 13:54:52.4±1.7,45.33N×80.65E,h20^{km}±12^{km},mpv4.3,Error ellipse: s-maj=9.5km s-min=6.1km az=156.0*

ISC 25 13:54:48.8±0.2,45.19N±0.02×81.10E±0.03,h22^{km},h22^{km}±.8^{km}:pP-P,n148,σ1^{s}33/160,mb4.6/42,MS3.9/10,16C-9D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.80**	**27**	⇓P	**Pn**	**13 55 22.7**	**+3.5**
	391nm,0.3s,baz=205,slow=16						
MK31				⇑S	**Sn**	**13 55 46.7**	**+5.1**
	2µm,0.3s,baz=204,slow=25,SNR=22						
MKAR	**Makanchi Array**	**1.80**	**27**	Pn	**Pn**	**13 55 22.4**	**+3.2**
	404nm,0.3s,baz=204,slow=16,SNR=5187						
MKAR				Lg		13 55 45.9	
	3µm,0.3s,baz=203,slow=25,SNR=52						
MKAR	**Makanchi Array**	**1.80**	**27**	*e*PN	**Pn**	**13 55 22.7**	**+3.6**
MKAR						13 55 46.8	
MKAR				pmax	pmax		
	comp=Z,347nm,0.4s						
AAA	**Alma-Ata**	**3.55**	**239**	*e*PN	**Pn**	**13 55 47.0**	**+3.0**
AAA				*e*		13 55 52.5	
AAA				*i*		13 56 39.5	
AAA				pmax	pmax		
	comp=Z,500nm,0.5s						
AAA				smax			
	comp=N,3µm,0.7s						
TKM2	**Tokmak 2**	**4.57**	**242**	P	**Pn**	**13 56 00.5**	**+2.0**
	SNR=22						
ULHL	**Ulahol**	**4.59**	**232**	P	**Pn**	**13 56 02.6**	**+3.8**
	SNR=32						
WMQ	**Urumqi**	**4.91**	**104**	⇑*i*P	**Pn**	**13 56 04.5**	**+1.1**
WMQ				S	**Sn**	**13 57 02.0**	**+1.7**
WMQ				SG	Sn	13 57 24.3	+24
CHMS	**Chumysh**	**5.07**	**247**	P	**Pn**	**13 56 07.1**	**+1.5**
	SNR=8.1						
KBK	**Karagaybulak**	**5.12**	**242**	P	**Pn**	**13 56 08.7**	**+2.4**
	SNR=36						
USP	**Ospenovka**	**5.12**	**250**	P	**Pn**	**13 56 07.5**	**+1.3**
	SNR=9.4						
FRU	**Bishkek**	**5.24**	**246**	*e*PN	**Pn**	**13 56 09.5**	**+1.6**
FRU				*e*		13 57 04.0	
FRU				*e*S	**Sn**	**13 57 22.0**	**+14**
FRU				pmax	pmax		
	comp=Z,190nm,1.4s						
FRU				pmax	pmax		
	comp=E,1µm,1.7s						
FRU				MLR	MLR		
	comp=Z,1µm,12.0s						
KZA	**Kyzart**	**5.26**	**236**	P	**Pn**	**13 56 11.7**	**+3.3**
	SNR=13						
AAK	**Ala-Archa**	**5.42**	**244**	P	**Pn**	**13 56 12.4**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**5.42**	**244**	*e*P	**Pn**	**13 56 11.2**	**+0.7**
	comp=Z,13nm,0.6s						
UCH	**Uchtor**	**5.62**	**240**	P	**Pn**	**13 56 16.1**	**+2.8**
	SNR=11						
KTNR	**Kaitanak**	**5.77**	**29**	*e*PN	**Pn**	**13 56 17.8**	**+2.4**
KTNR				*e*		13 57 24.0	
KURK	**Kurchatov**	**5.77**	**344**	⇓Pn	**Pn**	**13 56 14.9**	**-0.6**
	comp=Z,34nm,0.6s						
KURK				⇑Sn	**Sn**	**13 57 20.2**	**-1.6**
	comp=Z,158nm,1.1s						
KURK				⇓Lg		13 57 52.6	
	comp=Z,725nm,0.9s						
KURK	**Kurchatov**	**5.77**	**344**	Pn	**Pn**	**13 56 14.2**	**-1.3**
	comp=Z,898nm,0.4s,SNR=33						
KURK	**Kurchatov**	**5.77**	**344**	PN	**Pn**	**13 56 15.0**	**-0.5**
KURK						13 57 21.7	
KURK				pmax	pmax		
	comp=Z,13nm,0.4s						
KURK	**Kurchatov**	**5.77**	**344**	*e*P	**Pn**	**13 56 13.8**	**-1.7**
	comp=Z,78nm,0.5s						
EKS2	**Erkin-Say**	**5.86**	**247**	P	**Pn**	**13 56 18.4**	**+1.7**
	SNR=8.8						
AML	**Almayashu**	**6.18**	**243**	P	**Pn**	**13 56 24.2**	**+2.9**
	SNR=32						
UKR	**Ust'-Kan**	**6.25**	**22**	*e*PN	**Pn**	**13 56 25.0**	**+2.7**
UKR				*e*		13 57 33.6	
AKAR	**Aktash**	**6.75**	**38**	*e*PN	**Pn**	**13 56 31.8**	**+2.5**
AKAR				*e*		13 57 48.6	
ARTR	**Artybash**	**7.78**	**30**	*e*P	**Pn**	**13 56 45.2**	**+1.5**
KK31	**Karatay Array**	**7.90**	**258**	⇓Pn	**Pn**	**13 56 44.6**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=67,slow=13,SNR=36						
KK31				⇑Lg		13 58 52.3	
	comp=Z,61nm,0.5s,baz=67,slow=29,SNR=4.3						
KKAR	**Karatay Array**	**7.90**	**258**	P	**Pn**	**13 56 44.8**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ELT	**Yel'tsovka**	**8.74**	**21**	*e*P	**P**	**13 56 57.3**	**+0.2**
ELT				*e*		13 58 33.1	
TASR	**Tashtagol**	**8.78**	**28**	*e*P	**P**	**13 56 58.3**	**+0.7**
TASR				*e*		13 58 33.9	
ZAL	**Zalesovo**	**9.07**	**14**	Pn	**P**	**13 57 01.4**	**-0.3**
	comp=Z,23nm,0.3s,baz=181,slow=11,SNR=140						
ZAL				Sn	**Sn**	**13 58 41.9**	**-2.4**
	comp=Z,24nm,0.3s,baz=30,slow=18,SNR=13						
ZAL				Lg		13 59 36.3	
	comp=Z,12nm,0.3s,baz=217,slow=21,SNR=4.3						
ZAL	**Zalesovo**	**9.07**	**14**	P	**P**	**13 57 01.4**	**-0.3**
ZAL						13 58 41.9	
ZAL				pmax	pmax		
	comp=Z,23nm,0.3s						
ZAL				smax			
	comp=N,24nm,0.3s						
NVS	**Novosibirsk**	**9.75**	**7**	*e*P	**P**	**13 57 09.9**	**-1.0**
NVS				*e*		13 58 56.4	
VOSK	**Vostochnaya**	**10.05**	**322**	⇑Pn	**P**	**13 57 13.6**	**-1.3**
	comp=N,16nm,0.6s						
VOSK				⇑Sn	**S**	**13 58 59.8**	**-8.2**
	comp=N,32nm,0.8s						
VOSK				⇑Lg		14 00 01.0	
	comp=N,361nm,1.0s						
VOSK	**Vostochnaya**	**10.05**	**322**	P	**P**	**13 57 13.6**	**-1.3**
VOSK						13 59 02.0	
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BVA0	**Borovoye Array**	**10.51**	**322**	⇑Pn	**P**	**13 57 19.6**	**-1.8**
	comp=Z,1.1nm,0.5s						
BVA0				⇑Sn	**S**	**13 59 11.5**	**-8.0**
	comp=Z,4.3nm,0.6s,baz=133,slow=20,SNR=4.4						
BVA0				⇑Lg		14 00 14.8	
	comp=Z,45nm,1.1s,baz=142,slow=29,SNR=6.5						
BVA0	**Borovoye Array**	**10.51**	**322**	P	**P**	**13 57 19.5**	**-1.8**
BVAR	**Borovoye Array**	**10.51**	**322**	Pn	**P**	**13 57 19.7**	**-1.6**
	comp=Z,2.7nm,0.3s,baz=146,slow=16,SNR=31						
BVAR				Sn	**S**	**13 59 13.5**	**-6.0**
	comp=Z,3.0nm,0.3s,baz=122,slow=23,SNR=5.3						
BVAR				Lg		14 00 18.6	
	comp=Z,6.3nm,0.3s,baz=130,slow=25,SNR=5.3						
BRVK	**Borovoye**	**10.58**	**322**	P	**P**	**13 57 20.8**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s						
BRVK	**Borovoye**	**10.58**	**322**	*e*P	**P**	**13 57 20.5**	**-1.8**
	comp=Z,9.1nm,0.4s						
ZRNK	**Zerenda**	**11.09**	**319**	⇓Pn	**P**	**13 57 27.2**	**-2.0**
	comp=Z,8.9nm,0.6s						
ZRNK				⇑Sn	**S**	**13 59 24.9**	**-8.6**
	comp=Z,18nm,0.6s						
ZRNK				⇑Lg		14 00 33.0	
	comp=Z,440nm,1.6s						
ZRNK	**Zerenda**	**11.09**	**319**	P	**P**	**13 57 27.1**	**-2.1**
ZRNK						13 59 26.3	
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZRNK	**Zerenda**	**11.09**	**319**	*e*P	**P**	**13 57 26.3**	**-2.9**
	comp=Z,5.7nm,0.6s						
KLP	**Kalpa**	**13.82**	**190**	*e*P	**P**	**13 58 03.3**	**-2.4**
KLP				AMb	AMB	13 58 06.1	
	comp=Z,31nm,0.9s						
KLP				*e*		14 00 33.0	
SDNR	**Sundarnagar**	**14.05**	**195**	*e*P	**P**	**13 58 07.4**	**-1.4**
SDNR				*e*		14 00 36.0	
SMLA	**Simla**	**14.38**	**194**	*i*	**P**	**13 58 20.6**	**+7.6**
SMLA				*i* S	**S**	**14 00 52.6**	**-0.2**
	comp=Z,497nm,0.7s						
AB31	**Akbulak array**	**14.93**	**293**	⇓Pn	**P**	**13 58 17.6**	**-2.6**
	comp=Z,6.0nm,0.7s						
AB31				⇑Sn	**S**	**14 00 58.4**	**-7.2**
	comp=Z,3.8nm,0.5s						
AB31				⇑Lg		14 02 35.6	
	comp=Z,23nm,0.8s,baz=95,slow=19,SNR=3.9						
AB31	**Akbulak array**	**14.93**	**293**	P	**P**	**13 58 17.5**	**-2.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DDI	**Dehra Dun**	**15.04**	**190**	*e*P	**P**	**13 58 18.8**	**-2.9**
DDI				*e*		14 00 50.8	
KKR	**Kurukshetra**	**15.57**	**194**	*e*P	**P**	**13 58 26.9**	**-1.8**
KKR				AMb	AMB	13 58 28.4	
	comp=Z,90nm,0.4s						
ZAK	**Zakamensk**	**15.76**	**63**	*e*P	**P**	**13 58 32.1**	**+1.1**
NDI	**New Delhi**	**16.77**	**192**	*e*P	**P**	**13 58 39.0**	**-4.9**
NDI				*e*		14 01 37.0	
SONA	**Sohna**	**17.21**	**192**	*e*	**P**	**13 58 44.2**	**-5.2**
SONA				*e*		14 01 45.8	
LSA	**Lhasa**	**17.38**	**149**	*e*P	**P**	**13 58 52.9**	**+1.3**
	comp=Z,9.1nm,0.7s						
GKN	**Gorkha**	**17.39**	**169**	*e*P	**P**	**13 58 50.6**	**-1.1**
	comp=Z,112nm,0.7s						
KUDL	**Kundal**	**17.41**	**194**	*e*P	**P**	**13 58 49.7**	**-2.3**
KUDL				AMb	AMB	13 58 52.0	
	comp=Z,22nm,0.5s						
KOLN	**Koldanda**	**17.50**	**173**	*e*P	**P**	**13 58 50.7**	**-2.5**
	comp=Z,65nm,0.9s						
SONM	**Songino Array**	**17.59**	**72**	Pn	**P**	**13 58 53.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=275,slow=8.2,SNR=28						
SONM				Lg		14 03 58.8	
	comp=Z,0.1nm,0.3s,baz=273,slow=25,SNR=3.6						
KHET	**Khetri**	**17.60**	**196**	*e*P	**P**	**13 58 50.3**	**-4.1**
KHET				AMb	AMB	13 58 57.6	
	comp=Z,15nm,0.9s						
KHET				*e*		14 01 55.2	
KKN	**Kakani**	**17.69**	**168**	*e*P	**P**	**13 58 54.6**	**-0.8**
	comp=Z,24nm,0.5s						
DMN	**Daman**	**17.84**	**168**	*e*P	**P**	**13 58 57.0**	**-0.3**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**17.92**	**167**	*e*P	**P**	**13 58 57.9**	**-0.4**
	comp=Z,47nm,0.7s						
ARU	**Arti**	**18.05**	**317**	⇓*i*P	**P**	**13 59 09.3**	**+9.5**
ARU				*e*SS	SS	14 02 20.4	-21
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU				MLR	MLR		
	comp=Z,300nm,18.0s						
ARU				MLR	MLR		
	comp=N,80nm,17.0s						
ARU				MLR	MLR		
	comp=E,200nm,18.0s						
ARU	**Arti**	**18.05**	**317**	*e*P	**P**	**13 59 01.2**	**+1.4**
	comp=E,3.5nm,0.5s						
AGRA	**Agra**	**18.10**	**189**	*e*	**P**	**13 58 54.2**	**-6.4**
LZH	**Lanzhou**	**19.46**	**110**	⇓P	**P**	**13 59 16.5**	**-0.3**
LZH				AP		13 59 22.5	
LZH				XP		13 59 26.5	
LZH				PP	PP	13 59 34.3	-0.2
LZH				*e*S	**S**	**14 02 46.5**	**-3.1**
LZH				XS		14 02 57.5	
LZH				SS	SS	14 03 15.3	-1.0
LZH				AMB	AMB		
	comp=Z,45nm,1.2s						
LZH				AMB	AMB		
	comp=Z,241nm,4.5s						
LZH				LR	LR		
	comp=N,835nm,10.2s						
LZH				LR	LR		
	comp=Z,2µm,12.3s						
SHL	**Shillong**	**21.43**	**152**	⇑*e*P	**P**	**13 59 36.5**	**-1.0**
BHPL	**Bhopal**	**22.10**	**189**	*e*P	**P**	**13 59 40.4**	**-4.0**
BHPL				AMb	AMB	13 59 45.3	
	comp=Z,20nm,1.4s,mb4.4						
HHC	**Hu-ho-hao-te**	**22.62**	**90**	*e*P	**P**	**13 59 46.0**	**-3.3**
HHC				XP		13 59 57.8	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,147nm,5.6s						
CD2	**Chengdu**	**22.74**	**121**	P	**P**	**13 59 52.5**	**+2.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
BOD	**Bodaibo**	**23.79**	**46**	*e*P	**P**	**14 00 00.6**	**+0.2**
XAN	**Xi'an**	**24.04**	**108**	P	**P**	**14 00 03.8**	**+0.7**
XAN				AP		14 00 12.3	
XAN				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.8						
KMI	**Kunming**	**26.57**	**132**	*e*P	**P**	**14 00 30.5**	**+3.3**
KMI				AP	pP	14 00 34.3	+0.8
KMI				XP	sP	14 00 37.5	+1.2
KMI				S	**S**	**14 04 58.0**	**-0.5**
KMI				XS		14 05 13.3	
KMI				SS	SS	14 06 09.0	-0.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,110nm,3.1s						
ENH	**Enshi**	**26.77**	**114**	*e*P	**P**	**14 00 28.5**	**-0.4**
GNI	**Garni**	**27.05**	**272**	LR	LR	14 13 04.3	
	comp=Z,72nm,18.5s,MS3.3,baz=138,slow=40						
GYA	**Guiyang**	**27.73**	**124**	P	**P**	**14 00 37.5**	**-0.2**
GYA				AP	pP	14 00 44.8	+0.8
GYA				XP	sP	14 00 48.3	+1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				LR	LR		
	comp=N,900nm,8.8s						
GYA				LR	LR		
	comp=E,600nm,9.4s						
GYA				LR	LR		
	comp=Z,370nm,10.2s,MS4.2						
MOS	**Moscow**	**29.15**	**307**	*e*P	**P**	**14 00 50.8**	**+0.6**
MOS				pmax	pmax		
	comp=Z,67nm,0.7s,mb5.5						
OBN	**Obninsk**	**29.73**	**306**	*de*P	**P**	**14 00 57.2**	**+1.8**
OBN				*e*		14 01 59.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
OBN				MLR	MLR		

	comp=Z,400nm,14.0s,MS4.2						
CHG	**Chiang Mai**	**30.20**	**145**	⇑P	**P**	**14 01 00.9**	**+0.9**
	comp=Z,12nm,0.7s,mb4.7						
CM31	**Chiang Mai Arr**	**30.52**	**145**	eP	**P**	**14 01 02.5**	**-0.3**
	comp=Z,6.8nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**30.52**	**145**	P	**P**	**14 01 02.4**	**-0.4**
	comp=Z,12nm,0.9s,mb4.7,baz=322,slow=8.7,SNR=46						
CMAR				PcP	PcP	14 04 01.4	-0.2
	comp=Z,1.7nm,0.9s,baz=315,slow=3.5,SNR=5.3						
CMAR				LR	LR	14 14 42.2	
	comp=Z,70nm,20.6s,MS3.3,baz=330,slow=39						
CMAR	**Chiang Mai Arr**	**30.52**	**145**	P	**P**	**14 01 02.4**	**-0.4**
CMAR						14 04 01.4	
CMAR				pmax	pmax		
	comp=Z,12nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,70nm,20.6s						
CMAR	**Chiang Mai Arr**	**30.52**	**145**	P	**P**	**14 01 02.4**	**-0.4**
CMAR				PcP	PcP	14 04 01.4	-0.2
CMAR				LR	LR	14 14 42.2	
CN2	**Changchun**	**31.37**	**76**	eP	**P**	**14 01 10.3**	**+0.3**
NJ2	**Nanjing**	**31.98**	**101**	eP	**P**	**14 01 17.0**	**+1.5**
NJ2				AP	pP	14 01 23.5	+1.6
NJ2				XP	sP	14 01 26.0	+1.3
NJ2				S	**S**	**14 06 27.0**	**+2.3**
NJ2				XS		14 06 38.0	
NJ2				PCS		14 07 52.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				LR	LR		
	comp=N,2µm,14.9s,MS5.1						
NJ2				LR	LR		
	comp=E,2µm,15.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,2µm,15.2s,MS4.8						
MALT	**Malatya**	**32.27**	**273**	eP	**P**	**14 01 20.5**	**+2.5**
	comp=Z,5.0nm,0.9s,mb4.3						
YAK	**Yakutsk**	**32.42**	**41**	eP	**P**	**14 01 18.7**	**-0.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
NST	**Nakhon Sawan**	**33.52**	**145**	P	**P**	**14 01 28.0**	**-1.0**
SSE	**Sheshan**	**34.16**	**100**	P	**P**	**14 01 34.0**	**-0.4**
SSE				XP	sP	14 01 46.5	+2.9
SSE				S	**S**	**14 06 56.0**	**-2.5**
SSE				XS		14 07 11.3	
SSE				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
SSE				AMB	AMB		
	comp=Z,436nm,6.0s						
AKASG	**Malin Array Be**	**34.58**	**298**	P	**P**	**14 01 38.5**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=64,slow=8.7,SNR=9.2						
AKASG				pP	pP	14 01 44.6	+0.4
	comp=Z,2.3nm,0.5s,baz=68,slow=8.2,SNR=6.5						
AKASG				PcP	PcP	14 04 12.2	-0.2
	comp=Z,0.3nm,0.4s,baz=65,slow=3.4,SNR=3.4						
AKASG				pPcP		14 04 19.0	
	comp=Z,1.8nm,0.7s,baz=56,slow=3.1,SNR=4.6						
AKASG	**Malin Array Be**	**34.58**	**298**	P	**P**	**14 01 38.5**	**+0.6**
AKASG				*PP	pP	14 01 44.7	+0.4
AKASG						14 04 12.2	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.7s						
FINES	**FINESS Array B**	**35.42**	**317**	P	**P**	**14 01 45.5**	**+0.5**
	comp=N,0.6nm,0.3s,mb4.0,baz=111,slow=13,SNR=5.2						
FINES				PcP	PcP	14 04 13.8	-0.9
	comp=N,0.8nm,0.5s,baz=121,slow=11,SNR=3.2						
FINES				pPcP		14 04 21.3	
	comp=N,0.7nm,0.7s,baz=104,slow=7.9,SNR=4.6						
FINES				LR	LR	14 16 36.1	
	comp=N,180nm,21.6s,MS3.8,baz=266,slow=37						
FINES	**FINESS Array B**	**35.42**	**317**	P	**P**	**14 01 45.5**	**+0.6**
FINES						14 04 13.9	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,180nm,21.6s						
ARCES	**ARCESS Array B**	**36.63**	**331**	P	**P**	**14 01 56.0**	**+0.9**
	comp=Z,5.9nm,0.6s,mb4.6,baz=88,slow=8.3,SNR=28						
ARCES				pP	pP	14 02 02.5	+1.0
	comp=Z,4.5nm,0.7s,baz=83,slow=9.8,SNR=4.3						
ARCES				PcP	PcP	14 04 17.9	-0.4
	comp=Z,4.1nm,1.0s,baz=112,slow=4.9,SNR=2.7						
ARCES				pPcP		14 04 24.6	
	comp=Z,2.8nm,0.6s,baz=100,slow=7.4,SNR=4.3						
ARCES				LR	LR	14 17 36.2	
	comp=Z,125nm,21.0s,MS3.7,baz=94,slow=37						
ARCES	**ARCESS Array B**	**36.63**	**331**	P	**P**	**14 01 56.0**	**+0.9**
ARCES				*PP	pP	14 02 02.5	+1.0
ARCES						14 04 17.9	
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES				pmax	pmax		
	comp=N,5.0nm,0.7s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES				pmax	pmax		
	comp=N,3.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,125nm,21.0s						
KWP	**Kalwaria**	**38.91**	**298**	eP	**P**	**14 02 16.1**	**+1.8**
	comp=Z,5.2nm,0.4s,mb4.6						
NB2	**NORSAR Subarra**	**42.60**	**318**	P	**P**	**14 02 45.4**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=80,slow=7.9						
NOA	**NORSAR Array B**	**42.60**	**318**	P	**P**	**14 02 45.1**	**+0.6**
	comp=Z,3.1nm,0.5s,mb4.3,baz=79,slow=8.1,SNR=15						
NOA				pP	pP	14 02 51.7	+0.7
	comp=Z,3.3nm,0.6s,baz=79,slow=8.0,SNR=10						
NOA	**NORSAR Array B**	**42.60**	**318**	P	**P**	**14 02 45.1**	**+0.6**
NOA				*PP	pP	14 02 51.7	+0.7
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.6s						
MAJO	**Matsushiro**	**43.24**	**81**	P	**P**	**14 02 50.1**	**0.0**
BRG	**Berggiesshubel**	**43.86**	**303**	eP	**P**	**14 03 03.8**	**+8.9**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
CLL	**Collm**	**44.27**	**303**	e*SP	sP	14 03 07.0	-0.4
GERES	**GERESS Array B**	**44.73**	**300**	P	**P**	**14 03 04.6**	**+2.6**
	comp=Z,0.2nm,0.2s,mb3.5,baz=55,slow=21,SNR=2.8						
GERES				pP	pP	14 03 10.3	+1.8
	comp=Z,0.3nm,0.3s,baz=78,slow=9.0,SNR=2.3						
GERES				PcP	PcP	14 04 44.5	0.0
	comp=Z,0.2nm,0.3s,baz=270,slow=1.3,SNR=3.4						
GERES				pPcP		14 04 52.1	
	comp=Z,0.8nm,0.7s,baz=56,slow=4.8,SNR=5.5						
GERES	**GERESS Array B**	**44.73**	**300**	P	**P**	**14 03 04.6**	**+2.6**
GERES				*PP	pP	14 03 10.3	+1.8
GERES						14 04 44.5	
GERES						14 04 52.1	
GERES				pmax	pmax		
	comp=N,1.0nm,0.7s						
GRF	**Grafenberg Arr**	**45.92**	**302**	eP	**P**	**14 03 20.9**	**+10**
GRF				e	pP	14 03 27.0	+9.1
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TIP	**Timpagrande**	**46.93**	**286**	eP	**P**	**14 03 20.4**	**+0.9**
PGF	**Pioggiola**	**50.43**	**294**	eP	**P**	**14 03 45.7**	**-0.9**
	comp=Z,44nm,1.0s,mb5.2						
LPG	**La Plagne**	**50.45**	**299**	eP	**P**	**14 03 46.2**	**-0.4**
LPL	**La Plagne**	**50.45**	**299**	eP	**P**	**14 03 45.6**	**-1.0**
BNI	**Bardonecchia**	**50.70**	**298**	eP	**P**	**14 03 48.5**	**0.0**
	comp=Z,10.0nm,0.8s,mb4.8						
MBDF	**Montbardon**	**50.80**	**298**	eP	**P**	**14 03 48.1**	**-1.2**
	comp=Z,18nm,1.0s,mb4.7						
ORIF	**Oris-en-Rattie**	**51.26**	**298**	eP	**P**	**14 03 51.8**	**-1.0**
	comp=Z,16nm,0.8s,mb4.7						
LASF	**Ste Croix**	**52.94**	**298**	eP	**P**	**14 04 05.1**	**-0.4**
	comp=Z,33nm,1.2s,mb4.8						
SUMG	**Summit**	**55.31**	**341**	eP	**P**	**14 04 20.0**	**-2.5**
KMBO	**Kilima Mbogo**	**60.26**	**233**	P	**P**	**14 04 57.7**	**-0.4**
IMA	**Indian Mountai**	**61.36**	**22**	P	**P**	**14 05 03.4**	**-1.5**
	comp=Z,68nm,1.4s,mb5.6						
MBAR	**Mbarara**	**63.66**	**239**	eP	**P**	**14 05 19.7**	**-1.2**
INK	**Inuvik**	**63.89**	**14**	P	**P**	**14 05 21.7**	**+0.2**
	comp=Z,5.4nm,1.0s,mb4.5,baz=1.9,slow=9.1,SNR=10.0						
INK				pP	pP	14 05 28.3	+0.1
	comp=Z,8.2nm,0.9s,baz=355,slow=8.7,SNR=14						
INK	**Inuvik**	**63.89**	**14**	P	**P**	**14 05 21.7**	**+0.2**
INK				*PP	pP	14 05 28.3	+0.1
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK				pmax	pmax		
	comp=N,8.0nm,0.9s						
INK	**Inuvik**	**63.89**	**14**	eP	**P**	**14 05 21.3**	**-0.2**
	comp=N,13nm,1.0s,mb4.9						
INK				epP	pP	14 05 27.7	-0.6
ILAR	**Eielson Array**	**64.15**	**21**	P	**P**	**14 05 22.6**	**-0.7**
	comp=N,2.8nm,0.7s,mb4.4,baz=319,slow=5.0,SNR=32						
ILAR				pP	pP	14 05 29.2	-0.7
	comp=N,4.4nm,0.8s,baz=317,slow=5.2,SNR=20						
ILAR				LR	LR	14 33 52.2	
	comp=N,61nm,20.4s,MS3.8,baz=311,slow=36						
ILAR	**Eielson Array**	**64.15**	**21**	P	**P**	**14 05 22.6**	**-0.6**
ILAR				*PP	pP	14 05 29.2	-0.8
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,4.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,61nm,20.5s						
THY	**Trims Highway**	**65.55**	**21**	P	**P**	**14 05 32.3**	**+0.1**
RSO	**Redoubt South**	**65.95**	**26**	P	**P**	**14 05 33.4**	**-1.4**
PMR	**Palmer**	**66.13**	**24**	P	**P**	**14 05 35.5**	**-0.5**
SML	**Sawmill**	**66.18**	**23**	eP	**P**	**14 05 35.6**	**-0.7**
DAWY	**Dawson**	**66.51**	**18**	eP	**P**	**14 05 38.2**	**-0.2**
DAWY				epP	pP	14 05 44.5	-0.7
YKA	**Yellowknife Ar**	**71.93**	**8**	P	**P**	**14 06 11.9**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.4,baz=344,slow=5.8,SNR=9.6						
YKA				pP	pP	14 06 18.6	+0.1
	comp=Z,10nm,1.0s,baz=346,slow=6.0,SNR=12						
YKA				LR	LR	14 41 05.0	
	comp=Z,40nm,18.8s,MS3.7,slow=39						
YKA	**Yellowknife Ar**	**71.93**	**8**	P	**P**	**14 06 11.9**	**+0.1**
YKA				*PP	pP	14 06 18.6	0.0
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA				pmax	pmax		
	comp=N,10.0nm,1.0s						
YKA				MLR	MLR		
	comp=Z,40nm,18.8s						
FITZ	**Fitzroy Crossi**	**74.87**	**136**	P	**P**	**14 06 29.1**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.4,baz=341,slow=2.3,SNR=6.8						
FITZ				sP	sP	14 06 39.5	+0.6
	comp=Z,3.7nm,0.7s,baz=269,slow=2.0,SNR=5.3						
LSZ	**Lusaka**	**76.92**	**232**	eP	**P**	**14 06 41.2**	**-0.1**
FFC	**Flin Flon**	**80.42**	**2**	eP	**P**	**14 07 00.0**	**+0.4**
	comp=Z,5.5nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**80.89**	**130**	eP	**P**	**14 07 02.1**	**-0.7**
WRA	**Warramunga Arr**	**80.89**	**130**	P	**P**	**14 07 02.5**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=335,slow=4.9,SNR=53						
WRA				pP	pP	14 07 10.5	+0.7
	comp=Z,2.0nm,0.8s,baz=331,slow=4.9,SNR=6.5						
WRA	**Warramunga Arr**	**80.89**	**130**	P	**P**	**14 07 02.5**	**-0.3**
WRA				*PP	pP	14 07 10.5	+0.8
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.8s						
WB2	**Warramunga Arr**	**80.89**	**130**	eP	**P**	**14 07 02.5**	**-0.4**
DBIC	**Dimbokro**	**82.47**	**272**	P	**P**	**14 07 11.7**	**+0.6**
	comp=N,3.1nm,0.7s,mb4.4,baz=11,slow=7.3,SNR=9.4						
DBIC	**Dimbokro**	**82.47**	**272**	P	**P**	**14 07 11.7**	**+0.5**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**83.70**	**133**	P	**P**	**14 07 17.0**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.5,baz=326,slow=5.3,SNR=15						
ASAR				pP	pP	14 07 25.9	+1.6
	comp=Z,1.4nm,0.7s,baz=328,slow=5.2,SNR=5.1						
NEW	**Newport**	**85.57**	**12**	P	**P**	**14 07 26.0**	**-0.1**
NEW				epP	pP	14 07 33.4	+0.3
DPW	**Davenport**	**85.78**	**13**	P	**P**	**14 07 28.7**	**+1.5**
BOZ	**Bozeman (W)**	**88.85**	**9**	eP	**P**	**14 07 43.1**	**+1.0**
	comp=Z,4.8nm,0.9s,mb4.8						
BOZ				epP	pP	14 07 49.8	+0.7
BW06	**Boulder Array**	**91.91**	**8**	eP	**P**	**14 07 56.8**	**+0.5**
PDAR	**Pinedale Array**	**91.91**	**8**	P	**P**	**14 07 56.6**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.9,baz=45,slow=2.1,SNR=4.3						
HWUT	**Hardware Ranch**	**92.84**	**9**	P	**P**	**14 07 59.9**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.7						
DUG	**Dugway**	**94.08**	**11**	P	**P**	**14 08 06.0**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.6						
NVAR	**Mina Array Bea**	**94.94**	**15**	P	**P**	**14 08 12.6**	**+2.2**
	comp=Z,0.6nm,0.8s,mb4.1,baz=0.6,slow=3.9,SNR=4.4						
NVAR				LR	LR	14 58 34.7	
	comp=Z,40nm,20.0s,MS3.9,baz=325,slow=40						
NVAR	**Mina Array Bea**	**94.94**	**15**	P	**P**	**14 08 12.6**	**+2.1**
NVAR				LR	LR	14 58 34.7	
LVC	**Limon Verde**	**146.75**	**303**	ePKPbc	PKPbc	14 14 32.4	+3.5

CASC 25 14:06:04.2±2.0**,13.88N**×**92.18W,h73**^{km}±27^{km}**,MD3.7,**
ML4.1,2C-6D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.68**	**50**	⇓eP	P	14 06 18.8	-0.4
JAT				eS	S	14 06 31.4	+1.0
JAT				AML	AML	14 06 32.3	
	comp=E,4µm,0.3s						
FUG	**Fuego 3**	**1.41**	**66**	⇓eP	P	14 06 28.0	-0.6
TP2	**Tecpan 2**	**1.43**	**51**	⇓eP	P	14 06 28.9	0.0
PCG	**Pacaya**	**1.60**	**71**	⇓eP	P	14 06 31.3	+0.2
PCG				eS	S	14 06 52.3	+1.3
IXG	**Ixpaco**	**1.69**	**80**	⇑eP	P	14 06 32.0	-0.3
IXG				eS	S	14 06 54.0	+0.8
IXG				AML	AML	14 07 04.1	
	comp=E,4µm,0.4s						
NBG	**Las Nubes**	**1.91**	**68**	⇓eP	P	14 06 36.9	+1.6
RBDL	**Robledal**	**2.43**	**84**	⇑eP	P	14 06 43.1	+0.5
RBDL				eS	S	14 07 12.1	+1.0
SBLS	**San Blas**	**2.48**	**91**	eP	P	14 06 43.7	+0.4
SBLS				eS	S	14 07 13.0	+0.6
SNJE	**San Jose**	**2.50**	**90**	eP	P	14 06 43.5	-0.1
SNJE				eS	S	14 07 13.2	+0.3
MRL	**Marmol**	**2.68**	**64**	⇓eP	P	14 06 46.7	+0.6
LFRS	**El Faro**	**3.04**	**94**	eP	P	14 06 50.0	-1.1
LFRS				eS	S	14 07 24.5	-1.9

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*THE **25** 14:19:10.5,39.27N×24.07E,h17^{km},ML2.6*
*NEIC **25** 14:19:10.5,39.27N×24.07E,h17^{km},ML2.7(ATH),*
ML2.6(THE),After THE.
*ATH **25** 14:19:20.8,38.65N×23.70E,h29^{km},MD3.0/5,ML2.7*
ISC 25 14:19:09.8±0.5**,39.29N**±0.03×**24.10E**±0.05**,h17**^{km}**,n17,**
σ**0**^{s}**95**/26**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.21**	**235**	ePg	**Pb**	**14 19 14.6**	**-0.3**
AOS				eSg	**Sb**	**14 19 17.5**	**-0.9**
XOR	**Xorichti**	**0.71**	**276**	ePg	**Pb**	**14 19 24.6**	**+1.2**
XOR				eSg	**Sb**	**14 19 33.2**	**+0.6**
PAIG	**Paliouri**	**0.71**	**333**	ePg	**Pb**	**14 19 24.1**	**+0.7**
PAIG				eSg	**Sb**	**14 19 34.9**	**+2.1**
OUR	**Ouranopolis**	**1.05**	**355**	ePg	**Pb**	**14 19 29.7**	**+0.6**
OUR				eSg	**Sb**	**14 19 45.4**	**+3.0**
MPAR	**Parnis Oros**	**1.17**	**194**	ePB	**Pb**	**14 19 31.5**	**+0.2**
PTL	**Penteli**	**1.25**	**189**	ePB	**Pb**	**14 19 32.5**	**-0.1**
MKIT	**Kithairon Oros**	**1.29**	**211**	ePN	**Pn**	**14 19 32.9**	**-0.3**
ATH	**Athens Observa**	**1.35**	**193**	ePN	**Pn**	**14 19 34.8**	**+0.7**
AGG	**Agios Georgios**	**1.41**	**260**	ePb	**Pb**	**14 19 35.0**	**-0.2**
AGG				eSb	**Sb**	**14 19 51.6**	**-1.2**
NSAL	**Nisos Salamina**	**1.47**	**200**	ePN	**Pn**	**14 19 35.5**	**-0.3**
LIT	**Litokhoron**	**1.48**	**304**	ePb	**Pb**	**14 19 36.1**	**-0.5**
	comp=Z,2.5nm,0.5s						
LIT				eSb	**Sb**	**14 19 55.1**	**+0.1**
NAIG	**Nisos Aigina**	**1.60**	**198**	ePN	**Pn**	**14 19 39.0**	**+1.3**
SOH	**Sokhos**	**1.63**	**340**	ePb	**Pb**	**14 19 38.5**	**-0.7**
SOH				eSb	**Sb**	**14 19 58.6**	**-0.8**
SRS	**Serrai**	**1.87**	**348**	ePb	**Pb**	**14 19 41.5**	**-1.5**
SRS				eSb	**Sb**	**14 20 04.0**	**-2.1**
KNT	**Kendrikon**	**2.08**	**334**	ePn	**Pn**	**14 19 45.1**	**+0.5**
	comp=Z,2.7nm,0.5s						
GRG	**Griva**	**2.12**	**322**	ePn	**Pn**	**14 19 45.5**	**+0.4**
ALN	**Alexandroupoli**	**2.19**	**42**	ePn	**Pn**	**14 19 45.6**	**-0.5**
ALN				eSn	**Sn**	**14 20 12.6**	**-0.4**

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*IDC **25** 14:20:33.2±1.1,34.90S×108.56W,mb4.3/7,mb1 4.6/7,*
mb1mx4.3/18,MS3.9/6,Ms1 3.9/6,ms1mx3.6/22,Error
ellipse: s-maj=38.3km s-min=25.2km az=30.0
*NEIC **25** 14:20:36.1±0.7,34.65S×108.36W,h10^{km},mb4.5/11,*
Error ellipse: s-maj=23.2km s-min=16.4km az=57.0
ISC 25 14:20:35.1±0.8**,34.6S**±0.1×**108.3W**±0.2**,h10**^{km}**,n34,**
σ**0**^{s}**95**/26**,mb4.4**/15**,MS3.9**/6**,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**30.32**	**113**	P	**P**	**14 26 47.4**	**-1.4**
	4.3nm,1.0s,mb4.1,baz=266,slow=9.6,SNR=4.8						
PLCA	**Paso Flores**	**30.32**	**113**	eP	**P**	**14 26 48.1**	**-0.8**
	2.0nm,0.7s,mb4.0						
USHA	**Ushuaia**	**34.17**	**139**	LR	LR	14 36 50.1	
	comp=Z,164nm,21.9s,MS3.7,baz=177,slow=29						
LVC	**Limon Verde**	**36.34**	**81**	P	**P**	**14 27 42.6**	**+1.4**
	2.0nm,0.7s,mb4.2,baz=212,slow=4.0,SNR=3.0						
LVC	**Limon Verde**	**36.34**	**81**	P	**P**	**14 27 42.4**	**+1.3**
	2.2nm,0.7s,mb4.2						
LPAZ	**La Paz**	**40.25**	**73**	P	**P**	**14 28 14.8**	**+1.0**
	1.4nm,0.3s,mb4.2,baz=238,slow=10,SNR=7.3						
LPAZ				LR	LR	14 41 37.5	
	comp=Z,52nm,18.4s,MS3.4,baz=225,slow=31						
LPAZ	**La Paz**	**40.25**	**73**	eP	**P**	**14 28 16.4**	**+2.5**
	3.6nm,0.9s,mb4.1						
CPUP	**Villa Florida**	**44.29**	**94**	LR	LR	14 44 47.8	
	comp=Z,198nm,18.2s,MS4.1,baz=350,slow=33						
OTAV	**Otavalo**	**44.48**	**45**	eP	**P**	**14 28 46.5**	**-2.0**
	16nm,0.7s,mb4.8						
RAR	**Rarotonga**	**46.96**	**272**	LR	LR	14 43 51.1	
	comp=Z,160nm,20.4s,MS4.0,baz=259,slow=30						
QSPA	**South Pole Qui**	**55.62**	**180**	eP	**P**	**14 30 12.8**	**0.0**
	7.9nm,1.2s,mb4.6						
VNDA	**Vanda**	**56.51**	**195**	LR	LR	14 48 58.5	
	comp=Z,106nm,18.5s,MS4.0,baz=74,slow=30						
BDFB	**Brasilia**	**56.92**	**87**	LR	LR	14 52 47.2	
	comp=Z,181nm,18.6s,MS4.2,baz=293,slow=34						
TEIG	**Tepich**	**57.72**	**22**	eP	**P**	**14 30 25.2**	**-3.4**
TXAR	**Lajitas Array**	**63.72**	**4**	P	**P**	**14 31 09.1**	**-0.1**
	0.8nm,0.6s,mb3.9,baz=180,slow=8.8,SNR=5.3						
JCT	**Junction City**	**65.20**	**8**	eP	**P**	**14 31 18.7**	**-0.1**
	6.1nm,0.3s,mb5.1						
LAZ	**Ladron**	**68.63**	**1**	eP	**P**	**14 31 40.8**	**+0.3**
LDFC	**Landfair**	**69.59**	**354**	eP	**P**	**14 31 47.6**	**+1.2**
NEN	**Nelson**	**70.13**	**354**	P	**P**	**14 31 49.7**	**0.0**
PV01	**Paradox Valley**	**72.35**	**360**	eP	**P**	**14 32 03.0**	**0.0**
TPH	**Tonopah**	**72.76**	**353**	eP	**P**	**14 32 03.4**	**-2.1**
	3.8nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**73.23**	**352**	P	**P**	**14 32 09.1**	**+1.0**
	3.8nm,0.8s,mb4.4,baz=181,slow=7.4,SNR=30						
DUG	**Dugway**	**74.52**	**356**	P	**P**	**14 32 16.1**	**+0.5**
DAU	**Daniels Canyon**	**74.67**	**358**	eP	**P**	**14 32 16.9**	**+0.5**
ELK	**Elko**	**75.23**	**355**	eP	**P**	**14 32 19.5**	**-0.1**
	4.5nm,1.4s,mb4.2						
WDC	**Whiskeytown Da**	**75.94**	**349**	eP	**P**	**14 32 23.3**	**-0.4**
	1.6nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**76.98**	**359**	P	**P**	**14 32 29.1**	**-0.3**
	2.8nm,1.0s,mb4.2,baz=162,slow=4.7,SNR=19						
WVOR	**Wild Horse Val**	**77.23**	**352**	eP	**P**	**14 32 30.9**	**0.0**
	7.6nm,1.1s,mb4.5						
HLID	**Hailey**	**77.97**	**355**	eP	**P**	**14 32 35.5**	**+0.5**
	11nm,1.2s,mb4.7						
QLMT	**Earthquake Lak**	**79.09**	**358**	eP	**P**	**14 32 41.7**	**+0.7**
ULM	**Lac du Bonnet**	**85.17**	**8**	P	**P**	**14 33 11.6**	**-0.8**
	3.7nm,0.9s,mb4.5,baz=204,slow=7.9,SNR=3.8						
BRTR	**Keskin Array B**	**149.37**	**69**	PKPbc	PKPdf	14 40 24.1	+1.4
	2.3nm,1.0s,baz=225,slow=1.7,SNR=10.0						
CMAR	**Chiang Mai Arr**	**150.96**	**243**	PKPbc	PKPdf	14 40 28.1	+2.4
	2.2nm,0.8s,baz=176,slow=1.6,SNR=12						
SONM	**Songino Array**	**151.01**	**308**	PKPbc	PKPdf	14 40 26.5	+1.6
	1.5nm,0.8s,baz=114,slow=1.7,SNR=11						

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*IDC **25** 14:24:07.0±2.9,10.93S×118.89E,mb3.7/2,mb1 4.0/4,*
mb1mx3.8/12,ML3.9/2,Error ellipse: s-maj=159.0km
s-min=25.9km az=51.0
*NEIC **25** 14:24:07.6±1.0,10.04S×119.30E,h25^{km},mb4.4/3,Error*
ellipse: s-maj=49.1km s-min=7.3km az=211.0
*DJA **25** 14:24:12.0±0.9,11.59S×117.92E,h54^{km}±48^{km},MD4.8/4,*
ML5.6/3,Error ellipse: s-maj=46.1km s-min=23.1km
az=36.0
ISC 25 14:24:06.9±0.7**,11.5S**±0.2×**118.5E**±0.2**,h33**^{km}**,n18,**
σ**1**^{s}**16**/30**,mb4.2**/3**,6C-2D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**3.74**	**322**	⇑ePn	**Pn**	**14 25 05.0**	**+1.1**
	1µm,0.2s						
KEDI				eSn	**Sn**	**14 25 45.2**	**-2.1**
KEDI	**Kedomdong**	**3.74**	**322**	⇑ePn	**Pn**	**14 25 04.8**	**+0.9**
RATI	**Rata**	**3.95**	**313**	⇓ePn	**Pn**	**14 25 06.9**	**0.0**
	1µm,0.2s						
RATI				⇑eSn	**Sn**	**14 25 48.5**	**-4.2**
INGI	**Ingas**	**4.18**	**308**	⇑ePn	**Pn**	**14 25 09.3**	**-0.8**
	1µm,0.2s						
INGI	**Ingas**	**4.18**	**308**	eP	**P**	**14 25 10.6**	**+0.6**
INGI				⇑eSn	**Sn**	**14 25 50.2**	**-8.3**
INGI	**Ingas**	**4.18**	**308**	⇑ePn	**Pn**	**14 25 09.3**	**-0.8**
INGI				eSn	**Sn**	**14 25 52.0**	**-6.5**
KELI	**Kelakatan**	**5.06**	**309**	⇓ePn	**Pn**	**14 25 22.8**	**+0.3**
KELI				eSn	**Sn**	**14 26 12.6**	**-8.0**
FITZ	**Fitzroy Crossi**	**9.59**	**134**	eP	**P**	**14 26 25.5**	**-0.3**
	6.5nm,0.4s						
FITZ				eS	**S**	**14 28 07.0**	**-6.5**
WRA	**Warramunga Arr**	**17.45**	**121**	P	**P**	**14 28 09.7**	**+0.2**
	0.4nm,0.3s,baz=291,slow=14,SNR=17						
WRA				S	**S**	**14 31 13.7**	**-7.1**
	0.3nm,0.3s,baz=296,slow=26,SNR=5.7						
WRAB	**Tennant Creek**	**17.46**	**121**	eP	**P**	**14 28 10.1**	**+0.5**
	3.2nm,0.6s						
WB2	**Warramunga Arr**	**17.46**	**121**	eP	**P**	**14 28 10.1**	**+0.4**
WB2				eS	**S**	**14 31 12.4**	**-8.6**
ASPA	**Alice Springs**	**19.07**	**132**	eP	**P**	**14 28 34.5**	**+5.1**
ASPA				eS	**S**	**14 31 54.1**	**-3.1**
ASAR	**Alice Springs**	**19.07**	**132**	P	**P**	**14 28 32.5**	**+3.1**
	0.8nm,0.3s,baz=322,slow=14,SNR=46						
ASAR				S	**S**	**14 31 53.6**	**-3.6**
	0.2nm,0.3s,baz=308,slow=24,SNR=6.4						
KLBR	**Kellerberrin**	**20.06**	**182**	eP	**P**	**14 28 46.7**	**+6.5**
	7.6nm,0.3s						
KLBR				eS	**S**	**14 32 09.5**	**-9.3**
MUN	**Mundaring**	**20.54**	**185**	eP	**P**	**14 28 53.3**	**+8.1**
	19nm,1.2s						
MUN				eS	**S**	**14 32 22.9**	**-5.3**
FORT	**Forrest**	**21.20**	**157**	eP	**P**	**14 29 02.1**	**+10**
	74nm,0.8s,mb5.1						
SONM	**Songino Array**	**59.98**	**351**	P	**P**	**14 34 12.6**	**+0.1**
	0.5nm,0.9s,mb3.6,baz=169,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**66.39**	**334**	P	**P**	**14 34 55.7**	**+0.9**
	0.7nm,0.5s,mb3.9,baz=149,slow=7.0,SNR=8.5						

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*IDC **25** 14:41:20.8±27.0,37.46N×72.23E,h115^{km}±158^{km},*
mb3.8/1,mb1 3.4/4,mb1mx3.1/20,ML3.5/2,Error ellipse:
s-maj=269.0km s-min=90.4km az=4.0
*NEIC **25** 14:41:21.7±9.1,37.41N×72.21E,h132^{km}±42^{km},mb3.4/4,*
Error ellipse: s-maj=96.1km s-min=30.8km az=190.0
*NNC **25** 14:41:31.6±11.0,38.14N×70.49E,mpv3.4,Error ellipse:*
s-maj=133.7km s-min=60.2km az=30.0
ISC 25 14:41:22.1±1.2**,37.45N**±0.08×**72.3E**±0.2**,h154**^{km}±18^{km}**,**
n18,σ**0**^{s}**87**/20**,mb4.0**/1**,3C-1D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.44**	**17**	eP	**P**	**14 42 42.2**	**-0.1**
	6.0nm,0.4s						
DLH	**Dalhousie**	**5.75**	**147**	eP	**S**	**14 43 53.0**	**+1.2**
KK31	**Karatay Array**	**5.81**	**347**	⇑P	**P**	**14 42 47.4**	**+0.3**
	1.7nm,0.3s,baz=156,slow=11,SNR=31						
KK31				⇑S	**S**	**14 43 47.5**	**-5.6**
	18nm,0.3s,baz=170,slow=23,SNR=39						
SDNR	**Sundarnagar**	**7.08**	**146**	eP	**S**	**14 44 22.0**	**-1.7**
MKAR	**Makanchi Array**	**11.91**	**35**	P	**P**	**14 44 07.1**	**-0.7**
	0.0nm,0.3s,baz=229,slow=13,SNR=2.4						
KOLN	**Koldanda**	**13.55**	**132**	eP	**P**	**14 44 29.3**	**+0.3**
	2.7nm,0.3s						
KURK	**Kurchatov**	**14.01**	**17**	eP	**P**	**14 44 36.5**	**+1.9**
	1.3nm,0.7s						
GKN	**Gorkha**	**14.01**	**129**	eP	**P**	**14 44 36.4**	**+1.6**
	12nm,0.4s						
KKN	**Kakani**	**14.56**	**128**	eP	**P**	**14 44 41.9**	**+0.1**
	8.9nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DMN	Daman	14.58	129	eP	P	14 44 41.4	-0.6
	2.4nm,0.2s						
PKI	Pulchoki	14.80	128	eP	P	14 44 44.0	-0.8
	5.5nm,0.5s						
AB31	Akbulak array	14.81	327	⇑P	P	14 44 44.1	-0.6
	0.6nm,0.4s,baz=133,slow=13,SNR=15						
AB31				⇓S	S	14 47 15.0	-10
	3.1nm,0.8s						
BVAR	Borovoye Array	15.63	356	P	P	14 44 54.5	-0.4
	0.3nm,0.3s,baz=163,slow=9.1,SNR=5.6						
ZRNK	Zerenda	15.67	353	eP	P	14 44 55.4	0.0
	1.7nm,0.5s						
BRVK	Borovoye	15.67	355	eP	P	14 44 55.0	-0.4
	0.8nm,0.5s						
ZAL	Zalesovo	18.61	24	P	P	14 45 29.3	-0.5
	0.3nm,0.3s,baz=225,slow=4.3,SNR=3.6						
ARCES	ARCESS Array B	40.67	337	P	P	14 48 49.0	+0.7
	4.2nm,1.1s,mb4.0,baz=108,slow=8.6,SNR=5.4						
ARCES	ARCESS Array B	40.67	337	P	P	14 48 49.0	+0.7

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*MOS **25** 15:19:07.0±1.2, 50.27N×157.83E, h59^{km}, mb4.3/3, Error ellipse: s-maj=24.5km s-min=8.9km az=78.4*

*KRSC **25** 15:19:07.8±1.6, 50.37N×157.73E, h24^{km}±5^{km}, ML4.7*

*IDC **25** 15:19:09.0±4.0, 50.55N×157.43E, h36^{km}±36^{km}, mb3.6/8, mb1 3.9/9, mb1mx3.6/24, ML4.0/1, Error ellipse: s-maj=34.0km s-min=19.2km az=4.0*

*NEIC **25** 15:19:09.0±2.6, 50.49N×157.47E, h40^{km}±24^{km}, Error ellipse: s-maj=26.8km s-min=13.4km az=196.0*

ISC 25 15:19:08.3±0.7**, 50.35N**±0.05×**157.80E**±0.07**, h71**^{km}±7^{km}**, n58, σ1^{s}11**/91**, mb3.7**/8**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.13	288	i P	P	15 19 28.0	-0.8
SKR				i S	S	15 19 39.5	-4.5
SKR	Severo-Kuril's	1.13	288	⇓iPN	P	15 19 28.0	-0.8
SKR				i S	S	15 19 39.5	-4.5
SKR				pmax	pmax		
	comp=N,230nm,0.3s						
SKR				pmax	pmax		
	comp=E,320nm,0.3s						
SKR				pmax	pmax		
	comp=Z,690nm,0.3s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,4μm,2.0s						
SKR				smax			
	comp=N,5μm,0.2s						
SKR				smax			
	comp=E,3μm,0.2s						
PAU	Pauzhetka	1.29	331	i P	P	15 19 30.5	-0.4
PAU				eS	S	15 19 46.8	-0.9
PAU				Smax			
	comp=E,3μm,0.4s						
ALID	Alaid	1.53	291	eP	P	15 19 33.4	-0.8
ALID				eS	S	15 19 52.2	-1.1
MIPR	Malaya Ipel'ka	2.04	342	i P	P	15 19 41.8	+0.6
MIPR				i S	S	15 20 06.6	+1.1
RUS	Russkaya	2.14	12	P	P	15 19 42.3	-0.3
RUS				S	S	15 20 07.2	-0.7
RUS	Russkaya	2.14	12	i P	P	15 19 42.1	-0.5
RUS				i S	S	15 20 07.5	-0.4
GRL	Gorelyy	2.22	4	i P	P	15 19 44.2	+0.5
GRL				i S	S	15 20 10.6	+0.7
APC	Apacha	2.61	351	eP	P	15 19 49.3	0.0
APC				eS	S	15 20 20.0	+0.1
APC				Smax			
	comp=E,220nm,0.9s						
PET	Petropavlovsk	2.73	11	P	P	15 19 51.1	+0.1
PET				S	S	15 20 22.5	-0.4
PET	Petropavlovsk	2.73	11	i P	P	15 19 50.9	-0.1
PET				eS	S	15 20 22.8	-0.1
PET	Petropavlovsk	2.73	11	⇓iPN	P	15 19 51.0	0.0
PET				eS	S	15 20 23.0	+0.1
PET				pmax	pmax		
	comp=Z,121nm,0.5s						
PET				pmax	pmax		
	comp=N,67nm,0.4s						
PET				pmax	pmax		
	comp=E,19nm,0.6s						
PET				smax			
	comp=N,800nm,1.2s						
PET				smax			
	comp=E,623nm,0.6s						
PET				smax			
	comp=N,639nm,0.4s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	Petropavlovsk	2.73	11	eP	P	15 19 50.4	-0.6
UGLR	Uglovaya	2.94	12	i P	P	15 19 54.1	+0.3
AVH	Avacha	2.98	11	i P	P	15 19 55.4	+1.0
AVH				eS	S	15 20 30.4	+1.3
NLC	Nalytchevo	2.99	18	P	P	15 19 54.0	-0.5
NLC				S	S	15 20 27.5	-1.8
NLC	Nalytchevo	2.99	18	eP	P	15 19 54.0	-0.5
NLC				eS	S	15 20 27.9	-1.4
SMAR	Somma	2.99	12	eP	P	15 19 54.9	+0.4
KOK	Koryaka	3.00	10	i P	P	15 19 55.7	+1.0
SDLR	Sedlovina	3.01	12	i P	P	15 19 54.7	-0.2
SPN	Mys Shipunski	3.08	26	P	P	15 19 55.9	0.0
SPN				S	S	15 20 31.7	0.0
SPN	Mys Shipunski	3.08	26	i P	P	15 19 55.8	-0.1
SPN				eS	S	15 20 31.7	0.0
GNL	Ganaly	3.36	1	eP	P	15 20 00.2	+0.5
GNL				eS	S	15 20 38.9	+0.4
KII	Karymskiy	3.83	15	P	P	15 20 07.5	+1.2
KII				S	S	15 20 51.5	+1.1
KII	Karymskiy	3.83	15	eP	P	15 20 07.2	+0.9
KII				eS	S	15 20 51.5	+1.1
MKZ	Mys Kozlova	4.85	28	P	P	15 20 19.3	-1.2
MKZ				S	S	15 21 11.7	-4.2
MKZ	Mys Kozlova	4.85	28	eP	P	15 20 19.6	-0.9
MKZ				eS	S	15 21 13.3	-2.6
TUMR	Tumrok	5.15	15	eP	P	15 20 25.9	+1.3
ESO	Esso	5.62	5	eP	P	15 20 32.3	+1.3
ESO				eS	S	15 21 36.3	+1.4
KMNR	Kamenistaya	5.62	14	eP	P	15 20 32.4	+1.4
LGNR	Loginova	6.00	16	eP	P	15 20 38.2	+1.8
LGNR				eS	S	15 21 44.3	-0.2
CIRR	Tsirk	6.04	16	eP	P	15 20 38.4	+1.5
CIRR				eS	S	15 21 45.3	-0.2
KRSR	Krestovskiy	6.11	15	eS	S	15 21 46.4	-0.8
KLY	Klyuchi	6.22	15	P	P	15 20 40.8	+1.4
KLY				S	S	15 21 49.2	-0.6
KLY	Klyuchi	6.22	15	eP	P	15 20 41.1	+1.7
KLY				eS	S	15 21 49.7	-0.1
SVLR	Shiveluch	6.57	17	eP	P	15 20 45.0	+0.7
SVLR				eS	S	15 21 56.5	-1.9
KBTR	Krutoberegovo	6.60	25	P	P	15 20 43.7	-1.0
KBTR				S	S	15 21 54.5	-4.7
KBTR	Krutoberegovo	6.60	25	eP	P	15 20 44.2	-0.5
KBTR				eS	S	15 21 55.5	-3.7
KBG	Krutoberegovo	6.61	24	P	P	15 20 44.5	-0.4
KBG				eS	S	15 21 57.0	-2.4
KBG				Smax			
	comp=Z,280nm,0.8s						
BKI	Bering	6.94	42	eP	P	15 20 47.2	-2.3
BKI				eS	S	15 21 59.7	-8.0
FX1	Attu Island--F	9.89	69	Pn	P	15 21 28.6	-1.0
	comp=Z,4.9nm,0.3s,baz=309,slow=3.5,SNR=69						
FX1				Sn	S	15 23 12.4	-7.5
	comp=Z,8.2nm,0.3s,baz=141,slow=19,SNR=11						
FX1	Attu Island--F	9.89	69	eP	P	15 21 27.9	-1.8
SMY	Shemya	10.43	71	P	P	15 21 36.5	-0.6
YAK	Yakutsk	19.35	318	P	P	15 23 27.8	-2.5
SONM	Songino Array	33.21	286	P	P	15 25 40.0	-0.2
	comp=Z,0.2nm,0.5s,mb3.2,baz=59,slow=8.4,SNR=4.0						
ZAL	Zalesovo	43.12	304	P	P	15 27 03.2	+0.6
	comp=Z,0.6nm,0.3s,mb3.9,baz=333,slow=6.8,SNR=3.0						
ZAL	Zalesovo	43.12	304	P	P	15 27 03.3	+0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	Kurchatov	48.00	303	eP	P	15 27 40.9	-0.7
MKAR	Makanchi Array	48.09	297	P	P	15 27 41.8	-0.5
	comp=Z,1.0nm,0.4s,mb4.0,baz=61,slow=6.5,SNR=27						
MKAR	Makanchi Array	48.09	297	P	P	15 27 41.8	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	51.00	309	P	P	15 28 03.3	-1.2
	comp=Z,1.0nm,0.5s,mb4.1,baz=54,slow=8.4,SNR=8.8						
BRVK	Borovoye	51.03	309	eP	P	15 28 00.3	-4.4
ZRNK	Zerenda	51.73	310	eP	P	15 28 08.7	-1.3
CMAR	Chiang Mai Arr	56.21	258	P	P	15 28 45.4	+2.0
	comp=Z,2.3nm,1.1s,mb4.1,baz=36,slow=6.9,SNR=8.0						
CMAR	Chiang Mai Arr	56.21	258	P	P	15 28 45.4	+2.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	Mina Array Bea	58.08	67	P	P	15 28 59.8	+3.6
	comp=Z,0.2nm,0.5s,mb3.5,baz=297,slow=8.1,SNR=3.6						
TXAR	Lajitas Array	73.07	65	P	P	15 30 36.6	+4.3
	comp=Z,1.1nm,0.7s,mb3.8,baz=284,slow=5.2,SNR=4.6						
ASAR	Alice Springs	76.67	202	P	P	15 30 55.6	+2.6
	comp=Z,0.3nm,0.6s,mb3.2,baz=10,slow=5.6,SNR=9.1						

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*IDC **25** 15:25:57.7±2.0, 10.34S×166.15E, mb3.8/5, mb1 4.1/5, mb1mx3.8/15, Error ellipse: s-maj=101.0km s-min=26.8km az=143.0*

ISC 25 15:26:03.0±0.9**, 9.8S**±0.1×**165.6E**±0.2**, h33**^{km}**, n7, σ0^{s}78**/7**, mb3.8**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.21	176	eP	P	15 28 56.9	-0.6
NOUC	Port Laguerre	12.23	177	eP	P	15 28 58.9	+1.1
WRA	Warramunga Arr	31.82	248	P	P	15 32 27.1	-0.1
	0.3nm,0.4s,mb3.4,baz=82,slow=9.1,SNR=4.2						
ASAR	Alice Springs	33.26	242	P	P	15 32 39.0	-0.7
	0.6nm,0.8s,mb3.6,baz=69,slow=9.1,SNR=5.5						
ILAR	Eielson Array	82.39	19	P	P	15 38 23.2	+0.4
	0.8nm,0.5s,mb3.9,baz=236,slow=4.5,SNR=8.4						
NVAR	Mina Array Bea	85.32	50	P	P	15 38 37.2	-1.0
	0.7nm,0.8s,mb3.8,baz=217,slow=6.5,SNR=3.8						
MKAR	Makanchi Array	92.56	317	P	P	15 39 13.4	+1.0
	0.7nm,0.6s,mb4.3,baz=101,slow=6.2,SNR=6.3						

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*NEIC **25** 15:31:02.0, 30.43S×71.61W, h12^{km}, ML3.9(GUC), After GUC.*

GUC 25 15:31:02.0±1.5**, 30.43S×71.61W, h12**^{km}±11^{km}**, MD3.8, ML3.9, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.39	117	i P	Pg	15 31 10.7	+0.5
OVCH				i S	Sg	15 31 17.2	+1.6
OVCH				AMP		15 31 17.8	
	comp=E,15μm,0.4s						
LSCH	La Serena	0.61	31	i P	Pb	15 31 13.6	-0.4
LSCH				i S	Sb	15 31 22.8	+0.6
LSCH				AMP		15 31 23.5	
	comp=N,7μm,0.4s						
TLL	Tololo Astrono	0.74	70	⇓iP	Pb	15 31 16.4	+0.1
TLL				i S	Sb	15 31 26.5	+0.3
TLL				AMP		15 31 31.7	
	comp=N,4μm,0.6s						
CMCH	Combarbala	0.91	145	⇑iP	Pb	15 31 18.3	-0.9
CMCH				i S	Sb	15 31 31.1	+0.1
CMCH				AMP		15 31 33.0	
	comp=E,20μm,0.7s						
ILCH	Illapel	1.26	163	i P	Pb	15 31 23.8	-1.5
ILCH				i S	Sb	15 31 40.8	-0.4
ILCH				AMP		15 31 43.1	
	comp=E,3μm,0.3s						
VACH	Vallenar	1.99	22	AMP		15 31 58.6	
	comp=N,2μm,0.5s						
JACH	Jahuel	2.41	159	i P	Pn	15 31 42.5	+0.6
JACH				i S	Sn	15 32 13.3	+1.8
CLCH	Cerro Calan	3.10	163	AMP		15 32 41.3	
	comp=E,639nm,0.5s						
FCH	Farellones	3.10	159	AMP		15 32 38.8	
	comp=E,329nm,0.4s						
RCDM	Rinconada Maip	3.13	168	AMP		15 32 46.0	
	comp=E,398nm,0.2s						
LMEL	Las Melosas	3.61	161	AMP		15 32 54.6	
	comp=N,337nm,0.2s						

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*NIED **25** 15:50:00, 26.00N×125.70E, h5^{km}, Mw4.1 Best double couple: $M_0$1.63×10^{15} NP1:ϕ_s233°, δ54°, λ-47°. NP2: ϕ_s355°, δ54°, λ-133°.*

*JMA **25** 15:50:38.4±0.3, 25.97N×125.69E, h12^{km}±3^{km}, M3.8*

*IDC **25** 15:50:38.2±0.9, 25.82N×125.75E, mb3.9/5, mb1 4.0/6, mb1mx3.7/23, ML3.5/1, Error ellipse: s-maj=26.5km s-min=18.9km az=71.0*

ISC 25 15:50:39.7±1.0**, 25.92N**±0.06×**125.73E**±0.05**, h21**^{km}±8^{km}**, n19, σ0^{s}80**/31**, mb3.8**/5**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.04	67	P	Pb	15 50 57.9	-0.9
JKE				S	Sb	15 51 11.3	-0.7
JMJ	Miyako jima 2	1.17	200	P	Pb	15 51 00.5	-0.5
JMJ				S	Sb	15 51 16.3	+0.6
JOGS	Gusukube	1.19	194	P	Pn	15 51 00.9	-0.4
JOGS				eS	Sb	15 51 17.2	+0.9
JAGN	Aguni-jima	1.52	64	P	Pn	15 51 05.6	-0.4
JAGN				eS	Sn	15 51 24.6	-0.7
JTJ	Tarama	1.57	216	P	Pn	15 51 06.4	-0.4
JTJ				eS	Sn	15 51 26.5	-0.2
NAH1	Naha	1.79	80	P	Pn	15 51 10.3	+0.4
NAH1				eS	Sn	15 51 32.4	+0.2
JJT2	Tamagusuku 2	1.83	83	P	Pn	15 51 11.5	+0.9
JJT2				eS	Sn	15 51 34.0	+0.6
JIJ	Ishigaki jima	2.11	223	P	Pn	15 51 13.7	-0.8
JIJ				eS	Sn	15 51 40.4	+0.1
JIH	Iheya	2.30	61	P	Pn	15 51 17.4	+0.2
JIH				eS	Sn	15 51 45.6	+0.5
IRIF	Iriomote-Funau	2.40	229	P	Pn	15 51 19.9	+1.3
JOW	Kunigami	2.46	68	Pn	Pn	15 51 19.9	+0.4
	16nm,0.3s,baz=243,slow=13,SNR=20						
JOW				Sn	Sn	15 51 51.4	+2.1
	42nm,0.3s,baz=144,slow=29,SNR=7.0						
JOW	Kunigami	2.46	68	P	Pn	15 51 19.8	+0.3
JTK	Tokunoshima	3.43	56	P	Pn	15 51 33.5	+0.2
JTK				eS	Sn	15 52 12.9	-0.9
JAM	Amami Oshima	4.26	53	P	Pn	15 51 45.2	+0.1
JAM				eS	Sn	15 52 34.2	-0.6
SONM	Songino Array	26.65	330	P	P	15 56 20.5	+1.7
	1.5nm,0.7s,mb3.7,baz=144,slow=11,SNR=15						
MKAR	Makanchi Array	40.08	313	P	P	15 58 15.2	-0.1
	1.2nm,0.7s,mb3.8,baz=100,slow=11,SNR=15						
FITZ	Fitzroy Crossi	43.75	180	P	P	15 58 44.3	-1.4
	2.3nm,0.7s,mb4.0,baz=7.5,slow=11,SNR=6.9						
WRA	Warramunga Arr	46.35	169	P	P	15 59 05.1	-1.4
	1.3nm,0.7s,mb4.0,baz=352,slow=8.4,SNR=11						
ASAR	Alice Springs	49.92	170	P	P	15 59 34.0	-0.2
	0.5nm,0.7s,mb3.7,baz=355,slow=14,SNR=6.0						
ASAR				PcP	PcP	16 00 53.3	-1.4
	0.6nm,0.9s,baz=340,slow=2.7,SNR=4.2						

OTT 25 15:59:30.6±0.2**, 52.77N×67.23W, MN2.7**/6**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.08	6	PN	Pn	16 00 06.7	-0.5
SCHQ				SG	Sg	16 00 35.2	-4.6
SCHQ				Trac		16 00 39.7	
	comp=Z,21nm,0.2s						
MNQ	Manicouagan	2.44	204	PN	Pn	16 00 11.7	-0.5
MNQ				SN	Sn	16 00 44.1	+0.8
MNQ				Trac		16 00 48.3	
	comp=Z,17nm,0.2s						
SMQ	Clarke City	2.57	172	PN	Pn	16 00 12.7	-1.4
SMQ				Trac		16 00 50.7	
	comp=Z,7.9nm,0.2s						
ICQ	Pointe Anglais	3.25	181	PN	Pn	16 00 21.9	-2.0
ICQ				SN	Sn	16 00 59.7	-4.2
ICQ				Trac		16 01 03.4	
	comp=Z,8.6nm,0.2s						
CNQ	Baie Comeau	3.51	189	PN	Pn	16 00 25.8	-1.7
CNQ				Trac		16 01 26.8	
	comp=Z,4.3nm,0.2s						
GSQ	Grosses Roches	3.87	179	PN	Pn	16 00 31.5	-1.0
GSQ				SN	Sn	16 01 11.6	-7.8
GSQ				Trac		16 01 30.7	
	comp=Z,3.8nm,0.2s						
LG4Q	La Grande 4	4.22	284	PN	Pn	16 00 35.1	-2.5
LG4Q				SN	Sn	16 01 25.6	-2.7
DRLN	Deer Lake	7.07	116	PN	Pn	16 01 14.3	-3.6
LMN	Caledonia Moun	7.10	166	PN	Pn	16 01 14.2	-4.2
VIMO	Victor Mine	10.01	277	PN	P	16 01 52.3	-6.3
SILO	Sutton Inlier	10.64	286	PN	P	16 02 00.2	-7.1

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*NAO **25** 16:31:21.5±2.7, 67.07N×21.06E, ML2.0*

*HEL **25** 16:31:22.0±0.3, 67.11N×20.83E, ML2.3, ML1.6(BER), ML2.0(NAO), Explosion*

*BER **25** 16:31:23.0±3.0, 67.09N×20.69E, ML1.6, ML2.0(NAO), Suspected explosion*

ISC 25 16:31:19.8±0.7**, 67.08N**±0.04×**20.7E**±0.1**, n17, σ1^{s}16**/27**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.94	1	eP	Pn	16 31 55.7	+1.4
KTK1	Kautokeino	2.17	25	eP	Pn	16 31 59.4	+1.7
KTK1				eSG	Sg	16 32 30.9	-1.1
SGF	Sodankyl	2.30	78	eP	Pn	16 31 59.6	+0.1
SGF				eS	Sn	16 32 30.0	+1.1
MOR8	Moi Rana	2.65	253	eSG	Sg	16 32 41.9	-6.1
MOR8				AML	AML	16 32 45.4	
	comp=Z,7.7nm,0.4s						
TRO	Tromso	2.65	347	eP	Pn	16 32 04.8	+0.3
TRO				eSG	Sg	16 32 43.4	-4.7
TRO				AML	AML	16 32 46.2	
	comp=Z,4.5nm,0.2s						
OUL	Oulu	2.92	131	eP	Pn	16 32 09.2	+1.0
OUL				eSG	Sg	16 32 51.2	-5.7
LOF	Lofoten	2.93	294	ePB	Pb	16 32 13.4	+0.6
LOF	Lofoten	2.93	294	e	Pb	16 32 13.4	+0.6
ARA0	ARCESS Array S	3.05	34	Pn	Pn	16 32 09.4	-0.8
	baz=209,slow=16						
ARA0				Sn	Sn	16 32 47.1	-0.9
	baz=214,slow=28						
ARA0	ARCESS Array S	3.05	34	eP	Pn	16 32 09.4	-0.8
ARA0				eS	Sn	16 32 47.1	-0.9
MSF	Maaselka	3.55	105	eP	Pn	16 32 16.6	-0.7
KEV	Kevo	3.56	38	eP	Pn	16 32 15.9	-1.6
KEV				eS	Sn	16 33 01.4	+0.4
KEV				MSN		16 33 02.4	
	comp=Z,2.9nm,0.2s						
KJN	Kajaani	4.18	133	eP	Pn	16 32 28.4	+2.1
KJN				MSG		16 33 33.0	
	comp=Z,4.6nm,0.2s						
FIA0	FINESS Array S	6.12	155	Pn	Pn	16 32 52.0	-1.6
	baz=346,slow=14						
FIA0				Sn	Sn	16 33 58.9	-6.5
	baz=342,slow=28						
FIA0				Lg		16 34 32.9	
	baz=336,slow=28						
FIA0	FINESS Array S	6.12	155	eP	Pn	16 32 52.0	-1.6
FIA0				eS	Sn	16 33 58.9	-6.5
FIA0				eSG	Sg	16 34 32.9	-11
HFS	Hagfors	7.63	207	Pn	Pn	16 33 13.7	-1.2
	baz=33,slow=14						
HFS	Hagfors	7.63	207	eP	Pn	16 33 13.7	-1.2

JMA 25 16:45:02.6±0.4**, 23.46N×125.67E, M3.5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	1.32	350	eS	Sb	16 45 45.5	+0.3
JMJ	Miyako jima 2	1.39	346	eS	Sb	16 45 47.8	+0.4
JTJ	Tarama	1.47	323	P	Pn	16 45 30.2	-0.2
JTJ				eS	Sb	16 45 50.2	+0.5
JIJ	Ishigaki jima	1.66	303	P	Pn	16 45 33.2	0.0
JIJ				eS	Sb	16 45 55.8	+0.6
JKRS	Kuro-shima	1.71	297	P	Pn	16 45 34.4	+0.6
JKRS				eS	Sb	16 45 56.3	-0.2
IRIF	Iriomote-Funau	1.98	297	P	Pn	16 45 38.0	+0.3
IRIF				eS	Sn	16 46 02.9	-0.6
YOJ	Yonaguni jima	2.63	293	P	Pn	16 45 47.1	+0.1
YOJ				eS	Sn	16 46 17.9	-2.2
JKE	Kume jima 2	3.03	19	P	Pn	16 45 47.5	-5.2
JKE				eS	Sn	16 46 21.2	-9.0

MAN 25 16:53:29.4, 6.23N×123.79E, h27^{km}**, mb4.7, ML3.6, MS3.6, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	1.08	25	⇑iP	Pn	16 53 48.0	-1.0
CTBH				i S	Sb	16 54 03.0	-0.1
GSPH	General Santos	1.16	97	eP	Pn	16 53 53.0	+2.9
GSPH				i S	Sn	16 54 09.0	+3.8
KCP	Kidapawan	1.51	59	⇑iP	Pn	16 53 55.0	0.0
KCP				i S	Sn	16 54 12.0	-1.9
IPIL	Ipil	1.96	322	eP	Pn	16 54 01.5	0.0
IPIL				eS	Sn	16 54 25.8	+0.4

IDC 25 17:04:58.1±5.0**, 17.86S×174.85W, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.9**/15**, Error ellipse: s-maj=160.0km s-min=98.9km az=155.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.63	242	P	P	17 12 48.8	-1.1
	2.2nm,0.6s,baz=78,slow=9.3,SNR=6.6						
WRA	Warramunga Arr	47.97	259	P	P	17 13 38.9	-2.1
	1.7nm,0.4s,baz=98,slow=8.0,SNR=72						
ASAR	Alice Springs	48.06	254	P	P	17 13 39.4	-2.2
	2.6nm,0.4s,baz=86,slow=8.3,SNR=98						
ASAR				PcP	PcP	17 15 07.5	-2.3
	0.6nm,0.5s,baz=97,slow=3.7,SNR=5.1						

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*IDC **25** 17:49:17.6±3.1, 22.25S×170.13E, mb3.5/3, mb1 3.8/3, mb1mx3.7/13, MS3.4/1, Ms1 3.4/1, ms1mx2.8/13, Error ellipse: s-maj=159.0km s-min=35.9km az=157.0*

*NEIC **25** 17:49:21.6±2.1, 21.54S×169.67E, h10^{km}, mb4.0/1, Error ellipse: s-maj=108.0km s-min=14.4km az=159.0*

ISC 25 17:49:21.7±4.8**, 21.7S**±1.0×**169.7E**±0.2**, h19**^{km}±40^{km}**, n14, σ0^{s}42**/10**, mb3.6**/4**, MS3.2**/1**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.00	262	eP	Pn	17 50 08.8	-0.5
DZM				eS	Sn	17 50 45.5	+0.3
NOUC	Port Laguerre	3.14	262	eP	Pn	17 50 11.9	+0.6
NOUC				eS	Sn	17 50 48.3	-0.3
NOUC	Port Laguerre	3.14	262	eP	Pn	17 50 11.9	+0.6
NOUC				eS	Sn	17 50 48.3	-0.3
CTA	Charters Tower	21.91	270	LR	LR	18 01 01.7	
	comp=Z,97nm,21.5s,MS3.2,baz=45,slow=32						
CTAO	Charters Tower	21.91	270	P	P	17 54 15.4	-0.4
	5.0nm,0.8s,mb4.0						
ASAR	Alice Springs	32.99	260	P	P	17 55 57.5	-0.3
	0.5nm,0.6s,mb3.6,baz=87,slow=9.0,SNR=12						
WRA	Warramunga Arr	33.01	266	P	P	17 55 58.7	+0.6
	0.3nm,0.7s,mb3.3,baz=100,slow=8.3,SNR=4.7						
CMAR	Chiang Mai Arr	79.86	294	P	P	18 01 31.1	0.0
	0.7nm,1.0s,mb3.5,baz=154,slow=5.7,SNR=4.2						
ARCES	ARCESS Array B	127.52	345	PKP	PKPdf	18 08 24.1	-5.1
	1.5nm,0.6s,baz=45,slow=1.3,SNR=12						
BRG	Berggiesshubel	145.22	333	i P	PKPbc	18 08 58.9	+0.6
EKA	Eskdalemuir Ar	145.97	353	PKPbc	PKPbc	18 09 00.1	+0.1
	2.6nm,0.7s,baz=0.7,slow=2.3,SNR=7.4						
KHC	Kasperske Hory	146.66	331	ePKP	PKPdf	18 09 03.6	-0.9
GERES	GERESS Array B	146.81	331	PKPbc	PKPbc	18 09 03.5	+1.3
	1.6nm,0.9s,baz=45,slow=1.9,SNR=8.5						
DAVOX	Davos	150.07	332	PKPbc	PKPdf	18 09 12.7	+2.7
	2.2nm,0.5s,baz=328,slow=2.1,SNR=3.9						

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*IDC **25** 17:54:03.5±14.0, 36.56N×71.19E, h81^{km}±105^{km}, mb3.5/5, mb1 3.7/8, mb1mx3.4/20, ML4.0/3, Error ellipse: s-maj=118.0km s-min=29.5km az=6.0*

*NEIC **25** 17:54:06.2±4.1, 36.58N×71.16E, h110^{km}±32^{km}, mb3.6/4, Error ellipse: s-maj=38.5km s-min=15.5km az=217.0*

*MOS **25** 17:54:10.8±1.3, 36.92N×71.06E, h150^{km}, mb3.9/3, Error ellipse: s-maj=28.9km s-min=9.9km az=92.0*

*NNC **25** 17:54:14.9±8.4, 37.14N×70.84E, h174^{km}±69^{km}, mpv4.5, Error ellipse: s-maj=78.7km s-min=50.4km az=30.0*

ISC 25 17:54:05.9±0.5**, 36.52N**±0.03×**71.33E**±0.06**, h135**^{km}±8^{km}**, n60, σ1^{s}02**/69**, mb4.0**/8**, 3C-10D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.73	170	⇓P	P	17 54 51.0	+1.1
CHCP	Chirah Chowk	3.26	150	⇓P	P	17 54 58.4	+1.4
NIL	Nilore	3.27	151	Pn	P	17 54 59.9	+2.9

	234nm,0.4s,SNR=10.0						
THW	**Thamme Wali**	**3.73**	**175**	P	**P**	**17 55 03.1**	**0.0**
SBDP	**Sheikh Budin**	**4.23**	**186**	P	**P**	**17 55 09.3**	**-0.5**
SARP	**Sargodha**	**4.72**	**166**	P	**P**	**17 55 15.4**	**-0.9**
SARP				S	**S**	**17 56 07.0**	**-3.5**
DRP	**Derazinda**	**4.85**	**191**	⇓P	**P**	**17 55 17.9**	**-0.2**
THN	**Thein Dam**	**5.45**	**137**	*e*P	**P**	**17 55 26.4**	**+0.3**
	161nm,0.2s						
THN				*e*S	**S**	**17 56 27.6**	**-0.6**
DLH	**Dalhousie**	**5.51**	**135**	*e*P	**P**	**17 55 28.0**	**+1.1**
DLH				*e*S	**S**	**17 56 29.0**	**-0.6**
AML	**Almayashu**	**5.90**	**17**	P	**P**	**17 55 32.6**	**+0.5**
	SNR=74						
UCH	**Uchtor**	**6.21**	**22**	P	**P**	**17 55 37.0**	**+0.7**
	SNR=17						
KZA	**Kyzart**	**6.33**	**28**	P	**P**	**17 55 38.7**	**+0.7**
	SNR=9.9						
EKS2	**Erkin-Say**	**6.42**	**16**	P	**P**	**17 55 39.5**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**6.58**	**21**	P	**P**	**17 55 41.9**	**+0.5**
	SNR=8.5						
AAK	**Ala-Archa**	**6.58**	**21**	*e*P	**P**	**17 55 41.0**	**-0.4**
	6.4nm,0.4s						
KK31	**Karatay Array**	**6.61**	**355**	⇓P	**P**	**17 55 40.9**	**-0.8**
	19nm,0.3s,baz=186,slow=14,SNR=368						
KK31				⇓S	**S**	**17 56 50.3**	**-5.8**
	3.6nm,0.3s,baz=173,slow=20,SNR=4.8						
KKAR	**Karatay Array**	**6.61**	**355**	PN	**P**	**17 55 40.9**	**-0.8**
KKAR				*e*S	**S**	**17 56 50.6**	**-5.5**
KKAR				pmax	pmax		
	comp=Z,22nm,0.4s						
KBK	**Karagaybulak**	**6.74**	**23**	P	**P**	**17 55 48.9**	**+5.4**
	SNR=6.3						
SDNR	**Sundarnagar**	**6.85**	**135**	*e*P	**P**	**17 55 44.6**	**-0.5**
SDNR				*e*S	**S**	**17 56 59.0**	**-3.1**
ULHL	**Ulahol**	**6.87**	**32**	P	**P**	**17 55 45.9**	**+0.7**
	SNR=9.5						
CHMS	**Chumysh**	**6.99**	**21**	P	**P**	**17 55 47.1**	**+0.2**
	SNR=6.9						
USP	**Ospenovka**	**7.17**	**19**	P	**P**	**17 55 48.8**	**-0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.19**	**26**	P	**P**	**17 55 50.0**	**+0.3**
	SNR=14						
SMLA	**Simla**	**7.24**	**136**	⇓*i*P	**P**	**17 56 00.5**	**+10**
SMLA				*i* S	**S**	**17 57 17.7**	**+6.2**
MK31	**Makanchi Array**	**13.12**	**35**	⇓P	**P**	**17 57 08.4**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=217,slow=15,SNR=22						
MKAR	**Makanchi Array**	**13.12**	**35**	P	**P**	**17 57 07.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=18,SNR=6.7						
KOLN	**Koldanda**	**13.56**	**127**	*e*P	**P**	**17 57 12.2**	**-1.4**
	comp=Z,5.3nm,0.2s						
GKN	**Gorkha**	**14.09**	**123**	*e*P	**P**	**17 57 19.2**	**-1.2**
	comp=Z,34nm,0.5s						
DMN	**Daman**	**14.66**	**123**	*e*P	**P**	**17 57 27.4**	**-0.3**
	comp=Z,10nm,0.3s						
KKN	**Kakani**	**14.66**	**122**	*e*P	**P**	**17 57 26.7**	**-1.0**
	comp=Z,9.3nm,0.3s						
PKI	**Pulchoki**	**14.89**	**123**	*e*P	**P**	**17 57 30.4**	**-0.2**
	comp=Z,9.1nm,0.3s						
KURK	**Kurchatov**	**15.13**	**18**	⇓P	**P**	**17 57 36.0**	**+2.5**
	comp=Z,1.4nm,0.9s,baz=111,slow=14,SNR=4.0						
KURK	**Kurchatov**	**15.13**	**18**	P	**P**	**17 57 35.9**	**+2.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**15.13**	**18**	*e*P	**P**	**17 57 35.8**	**+2.4**
AB31	**Akbulak array**	**15.20**	**330**	⇓P	**P**	**17 57 32.6**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=149,slow=12,SNR=101						
AB31				⇑S	**S**	**18 00 06.5**	**-12**
	comp=Z,3.2nm,0.7s,baz=158,slow=22,SNR=6.1						
AB31	**Akbulak array**	**15.20**	**330**	*e*P	**P**	**17 57 32.7**	**-1.6**
AB31				*e*S	**S**	**18 00 07.7**	**-11**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**16.21**	**359**	⇑P	**P**	**17 57 44.7**	**-2.1**
	comp=Z,2.3nm,0.9s						
VOSK	**Vostochnaya**	**16.21**	**359**	P	**P**	**17 57 44.7**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZRNK	**Zerenda**	**16.51**	**355**	⇑P	**P**	**17 57 49.1**	**-1.5**
	comp=Z,6.0nm,1.6s						
ZRNK	**Zerenda**	**16.51**	**355**	P	**P**	**17 57 49.1**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
ZRNK	**Zerenda**	**16.51**	**355**	*e*P	**P**	**17 57 49.0**	**-1.6**
	comp=Z,1.3nm,0.4s						
BVA0	**Borovoye Array**	**16.52**	**358**	⇓P	**P**	**17 57 50.3**	**-0.4**
	comp=Z,0.3nm,0.9s						
BVA0	**Borovoye Array**	**16.52**	**358**	P	**P**	**17 57 50.8**	**+0.1**
BVAR	**Borovoye Array**	**16.52**	**358**	P	**P**	**17 57 48.6**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=174,slow=11,SNR=19						
BRVK	**Borovoye**	**16.56**	**358**	*e*P	**P**	**17 57 51.5**	**+0.3**
	comp=Z,1.6nm,0.4s						
LSA	**Lhasa**	**17.93**	**107**	*e*P	**P**	**17 58 09.5**	**+1.6**
	comp=Z,1.5nm,0.4s						
ZAL	**Zalesovo**	**19.77**	**24**	P	**P**	**17 58 26.9**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=164,slow=6.4,SNR=15						
ZAL	**Zalesovo**	**19.77**	**24**	P	**P**	**17 58 26.9**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MIB	**Mutribah**	**21.14**	**258**	*e*P	**P**	**17 58 42.0**	**+0.7**
MIB				AMb	AMB	17 58 45.0	
	comp=Z,18nm,0.7s,mb4.5						
RDF	**Al-Radifah**	**21.35**	**256**	*e*P	**P**	**17 58 43.7**	**+0.4**
RDF				AMb	AMB	17 58 45.7	
	comp=Z,30nm,0.6s,mb4.8						
RST	**Umm Al-Ruwaisa**	**21.54**	**258**	*e*P	**P**	**17 58 45.3**	**+0.2**
RST				AMb	AMB	17 58 46.5	
	comp=Z,16nm,0.5s,mb4.7						
SONM	**Songino Array**	**28.11**	**55**	P	**P**	**17 59 48.3**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=270,slow=9.9,SNR=5.7						
AKASG	**Malin Array Be**	**33.14**	**309**	P	**P**	**18 00 31.0**	**0.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=76,slow=8.0,SNR=4.2						
AKASG	**Malin Array Be**	**33.14**	**309**	P	**P**	**18 00 31.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**18 01 09.4**	**+0.7**
	comp=Z,2.0nm,0.9s,mb3.7,baz=143,slow=9.5,SNR=4.1						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**18 01 09.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.23**	**337**	P	**P**	**18 01 39.9**	**+1.4**
	comp=Z,2.0nm,0.9s,mb3.8,baz=115,slow=8.4,SNR=7.0						
ARCES	**ARCESS Array B**	**41.23**	**337**	P	**P**	**18 01 39.9**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.23**	**337**	P	**P**	**18 01 39.9**	**+1.4**
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**18 02 05.1**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=109,slow=8.4,SNR=2.9						

IDC 25 17:56:54.0±2.4**, 5.74S**×**130.27E, mb3.7**/1**, mb1 3.7**/3**, mb1mx3.4**/12**, ML3.3**/2**, Error ellipse: s-maj=148.0km s-min=31.1km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.66**	**165**	Pn	P	18 00 21.1	-3.7
	0.2nm,0.3s,baz=348,slow=14,SNR=13						
WRA				Sn	S	18 02 56.6	-12
	0.2nm,0.3s,baz=341,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**18.16**	**169**	P	P	18 01 08.8	-0.7
	0.2nm,0.3s,baz=348,slow=9.2,SNR=19						
MKAR	**Makanchi Array**	**67.33**	**326**	P	P	18 07 50.9	-2.1
	0.3nm,0.4s,baz=117,slow=6.4,SNR=5.7						

IDC 25 18:07:53.6±50.0**, 16.67S**×**172.83W, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/17**, Error ellipse: s-maj=968.0km s-min=186.4km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.89**	**241**	P	P	18 16 02.0	-1.8
	1.5nm,0.9s,baz=97,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**50.10**	**258**	P	P	18 16 50.4	-2.4
	0.4nm,0.5s,baz=95,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**50.25**	**253**	P	P	18 16 52.4	-1.5
	3.9nm,0.5s,baz=90,slow=7.8,SNR=175						

IDC ***25*** *18:18:53.5±1.3, 4.66S×102.56E, mb4.1/9, mb1 4.2/9, mb1mx4.0/16, Error ellipse: s-maj=61.4km s-min=14.5km az=52.0*

NEIC ***25*** *18:18:54.9±1.0, 4.66S×102.63E, h10^{km}, mb4.3/3, Error ellipse: s-maj=45.9km s-min=9.4km az=52.0*

ISC 25 18:18:56.4±1.2**, 4.6S**±0.2×**102.7E**±0.3**, h33^{km}, n15, σ1^{s}00**/14**, mb4.1**/13**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.23**	**351**	P	**P**	**18 24 03.2**	**+1.5**
	0.9nm,0.5s,mb3.5,baz=180,slow=7.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**26.17**	**123**	P	**P**	**18 24 29.7**	**-0.1**
	2.6nm,0.9s,mb3.7						
WRA	**Warramunga Arr**	**34.40**	**119**	P	**P**	**18 25 42.7**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=300,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**34.41**	**119**	*e*P	**P**	**18 25 40.8**	**-2.1**
	3.3nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**35.58**	**125**	P	**P**	**18 25 53.7**	**+0.8**
	0.5nm,0.3s,mb3.9,baz=299,slow=7.9,SNR=38						
STKA	**Stephens Creek**	**45.44**	**131**	P	**P**	**18 27 15.6**	**+1.4**
	4.6nm,0.9s,mb4.3,baz=305,slow=8.2,SNR=7.2						
STKA	**Stephens Creek**	**45.44**	**131**	P	**P**	**18 27 15.6**	**+1.4**
SONM	**Songino Array**	**52.34**	**3**	P	**P**	**18 28 08.0**	**+0.8**
	2.5nm,0.6s,mb4.3,baz=184,slow=9.2,SNR=33						
SONM				PcP	PcP	18 29 17.4	-0.7
	0.3nm,0.5s,baz=176,slow=4.1,SNR=3.8						
MKAR	**Makanchi Array**	**54.28**	**343**	P	**P**	**18 28 21.4**	**-0.2**
	1.5nm,0.5s,mb4.2,baz=153,slow=8.8,SNR=30						
KURK	**Kurchatov**	**58.87**	**342**	*e*P	**P**	**18 28 53.7**	**-0.6**
	1.7nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**60.24**	**348**	P	**P**	**18 29 03.2**	**-0.4**
	1.8nm,0.3s,mb4.6,baz=211,slow=4.7,SNR=8.2						
BVAR	**Borovoye Array**	**63.56**	**339**	P	**P**	**18 29 25.0**	**-0.9**
	0.9nm,0.3s,mb4.2,baz=144,slow=10,SNR=14						
BRVK	**Borovoye**	**63.62**	**339**	*e*P	**P**	**18 29 25.2**	**-1.1**
	0.9nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**77.04**	**312**	P	**P**	**18 30 49.0**	**+0.9**
	0.6nm,0.6s,mb3.7,baz=110,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**145.00**	**42**	PKPbc	PKPbc	18 38 32.6	+1.5
	0.5nm,0.4s,baz=319,slow=2.0,SNR=4.4						

NEIC ***25*** *18:26:07.5±0.5, 51.72N×175.50W, h62^{km}±4^{km}, mb4.1/7, ML3.9(AEIC), Error ellipse: s-maj=12.6km s-min=4.2km az=170.0*

IDC ***25*** *18:26:10.2±3.2, 51.83N×175.56W, h87^{km}±29^{km}, mb3.8/14, mb1 4.0/16, mb1mx3.8/28, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=26.1km s-min=10.8km az=169.0*

ISC 25 18:26:06.9±0.5**, 51.8N**±0.1×**175.49W**±0.06**, h70^{km}**±4^{km}**, n45, σ0^{s}77**/48**, mb4.0**/21**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.31**	**300**	P	**P**	**18 26 17.8**	**-0.5**
GSMY	**Great Sitkin M**	**0.41**	**301**	P	**P**	**18 26 19.1**	**+0.1**
GSTR	**Great Sitkin T**	**0.44**	**307**	P	**P**	**18 26 19.9**	**+0.7**
GSCK	**Great Sitkin C**	**0.45**	**294**	P	**P**	**18 26 19.6**	**+0.1**
GSCK				S	**S**	**18 26 29.2**	**+0.6**
GSTD	**Great Sitkin T**	**0.46**	**299**	P	**P**	**18 26 19.8**	**+0.3**
ATKA	**Atka Island**	**0.88**	**65**	P	**P**	**18 26 23.6**	**-0.5**
ATKA				S	**S**	**18 26 36.2**	**-0.8**
KINC	**Kanaga Island**	**1.02**	**276**	P	**P**	**18 26 26.2**	**+0.2**
KIWB	**Kanaga Island**	**1.03**	**272**	P	**P**	**18 26 25.9**	**-0.2**
KIKV	**Kanaga Island**	**1.04**	**273**	P	**P**	**18 26 26.3**	**0.0**
KIMD	**Kanaga Island**	**1.09**	**267**	P	**P**	**18 26 26.5**	**-0.3**
NIKO	**Nikolski**	**4.22**	**72**	P	**P**	**18 27 09.4**	**-0.9**
UNV	**Unalaska Valle**	**5.81**	**66**	P	**P**	**18 27 30.9**	**-1.4**
SPIA	**Saint Paul Isl**	**6.16**	**28**	P	**P**	**18 27 39.6**	**+2.3**
AKGG	**Akutan Green G**	**6.20**	**64**	P	**P**	**18 27 37.9**	**+0.1**
FX1	**Attu Island--F**	**7.03**	**283**	P	**P**	**18 27 49.9**	**+0.6**
	7.2nm,0.3s,baz=152,slow=7.0,SNR=37						
FX1				S	**S**	**18 29 08.5**	**0.0**
	0.8nm,0.3s,baz=265,slow=21,SNR=2.3						
FX1	**Attu Island--F**	**7.03**	**283**	*e*P	**P**	**18 27 49.7**	**+0.3**
SLKM	**Skilak Lake**	**16.44**	**48**	*e*P	**P**	**18 29 54.2**	**+0.1**
ILAR	**Eielson Array**	**19.61**	**38**	P	**P**	**18 30 30.6**	**-1.2**
	0.5nm,0.3s,baz=226,slow=11,SNR=12						
INK	**Inuvik**	**25.91**	**35**	P	**P**	**18 31 33.1**	**-0.4**
	1.3nm,0.4s,mb3.7,baz=201,slow=7.0,SNR=11						
INK				LR	LR	18 42 10.6	
	comp=Z,36nm,18.4s,baz=136,slow=37						
BBB	**Bella Bella**	**28.76**	**70**	P	**P**	**18 32 00.4**	**+0.7**
	3.2nm,0.6s,mb4.2,baz=271,slow=13,SNR=4.9						
YKA	**Yellowknife Ar**	**33.41**	**47**	P	**P**	**18 32 40.8**	**+0.4**
	0.5nm,0.3s,mb3.8,baz=281,slow=7.2,SNR=4.5						
YKA				LR	LR	18 46 08.1	
	comp=Z,40nm,19.1s,baz=275,slow=36						
NEW	**Newport**	**36.79**	**72**	P	**P**	**18 33 10.0**	**+0.7**
	4.3nm,0.4s,mb4.7,baz=303,slow=10,SNR=8.2						
HLID	**Hailey**	**40.83**	**77**	*e*P	**P**	**18 33 43.6**	**+0.7**
	1.6nm,0.6s,mb4.0						
MCMT	**McKenzie Canyo**	**41.07**	**74**	*e*P	**P**	**18 33 45.5**	**+0.6**
BOZ	**Bozeman (W)**	**41.35**	**72**	*e*P	**P**	**18 33 47.6**	**+0.5**
	2.1nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**41.45**	**86**	P	**P**	**18 33 49.5**	**+1.5**
	0.7nm,0.8s,mb3.5,baz=297,slow=8.1,SNR=2.7						
MNV	**Mina**	**41.54**	**86**	P	**P**	**18 33 49.5**	**+0.7**
ELK	**Elko**	**41.94**	**81**	*e*P	**P**	**18 33 53.0**	**+1.0**
	1.5nm,0.5s,mb4.0						
BW06	**Boulder Array**	**44.20**	**75**	*e*P	**P**	**18 34 10.6**	**+0.3**
	6.5nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**44.20**	**75**	P	**P**	**18 34 11.0**	**+0.7**
	6.5nm,0.5s,mb4.6,baz=312,slow=4.4,SNR=76						
ULM	**Lac du Bonnet**	**47.70**	**59**	P	**P**	**18 34 37.2**	**-0.6**
	1.7nm,0.3s,mb4.3,baz=306,slow=8.3,SNR=4.9						
SONM	**Songino Array**	**48.27**	**298**	P	**P**	**18 34 41.4**	**-1.0**
	0.2nm,0.8s,mb3.0,baz=77,slow=9.2,SNR=2.1						
SONM				pP	pP	18 34 57.4	-2.7
	0.2nm,0.5s,baz=79,slow=7.3,SNR=2.1						
SDCO	**Great Sand Dun**	**49.73**	**77**	*e*P	**P**	**18 34 53.9**	**+0.1**
	1.7nm,0.7s,mb4.1						
WMOK	**Wichita Mounta**	**55.78**	**76**	P	**P**	**18 35 37.4**	**-1.4**
	1.4nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**56.55**	**84**	P	**P**	**18 35 43.5**	**-0.9**
	0.5nm,0.3s,mb4.0,baz=304,slow=4.5,SNR=5.4						
TXAR				pP	pP	18 35 58.5	-4.0
	0.3nm,0.3s,baz=301,slow=4.8,SNR=2.4						
TXAR	**Lajitas Array**	**56.55**	**84**	P	**P**	**18 35 43.5**	**-0.9**
TXAR				pP	pP	18 35 58.5	-4.0
KURK	**Kurchatov**	**60.18**	**315**	P	**P**	**18 36 08.4**	**-0.9**
MKAR	**Makanchi Array**	**61.34**	**310**	P	**P**	**18 36 15.6**	**-1.7**
	0.3nm,0.4s,mb3.7,baz=35,slow=6.8,SNR=8.9						
MKAR	**Makanchi Array**	**61.34**	**310**	P	**P**	**18 36 15.6**	**-1.7**
BVAR	**Borovoye Array**	**61.85**	**321**	P	**P**	**18 36 20.9**	**+0.3**
	0.6nm,0.4s,mb4.0,baz=49,slow=6.9,SNR=5.9						
PWV	**Princeton**	**64.20**	**62**	*e*P	**P**	**18 36 36.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.00**	**278**	P	**P**	**18 37 31.3**	**+0.5**
	1.1nm,0.9s,mb3.7,baz=23,slow=7.5,SNR=7.2						
WRA	**Warramunga Arr**	**83.80**	**227**	P	**P**	**18 38 28.8**	**-1.0**
	0.6nm,0.5s,mb3.7,baz=32,slow=5.6,SNR=16						
FITZ	**Fitzroy Crossi**	**86.39**	**235**	P	**P**	**18 38 42.8**	**+0.2**
	1.1nm,0.6s,mb4.0,baz=147,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**87.24**	**225**	P	**P**	**18 38 46.5**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=24,slow=4.4,SNR=12						

IDC 25 18:34:47.4±56.0**, 31.58S**×**59.14E, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/18**, Error ellipse: s-maj=1444.0km s-min=59.1km az=75.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**62.72**	**43**	P	P	18 45 14.3	-2.4
	0.7nm,0.8s,baz=221,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**65.57**	**104**	P	P	18 45 33.5	-1.7
	0.6nm,0.7s,baz=236,slow=5.8,SNR=6.2						
WRA	**Warramunga Arr**	**67.56**	**100**	P	P	18 45 45.8	-2.2
	0.7nm,0.8s,baz=242,slow=5.5,SNR=3.7						

NNC ***25*** *18:45:31.6±2.9, 37.66N×96.86E, Error ellipse: s-maj=91.4km s-min=35.8km az=50.0*

BJI ***25*** *18:45:32.7, 37.51N×96.65E, h11^{km}, mB4.9, mb4.7, ML4.8, Ms4.6, Msz4.2*

NEIC ***25*** *18:45:34.1±0.2, 37.53N×96.56E, h10^{km}, mb4.6/31, Error ellipse: s-maj=6.5km s-min=5.3km az=216.0*

MOS ***25*** *18:45:35.1±0.9, 37.49N×96.60E, h33^{km}, mb4.5/11, Error ellipse: s-maj=17.7km s-min=7.2km az=119.6*

IDC ***25*** *18:45:37.4±4.3, 37.45N×96.57E, h37^{km}±37^{km}, mb4.1/15, mb1 4.2/19, mb1mx4.1/25, ML3.7/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/33, Error ellipse: s-maj=23.5km s-min=13.1km az=50.0*

ISC 25 18:45:32.1±0.2**, 37.47N**±0.03×**96.54E**±0.03**, h11^{km}, n145, σ1^{s}10**/151**, mb4.5**/50**, MS3.8**/12**, 9C-7D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.22**	**52**	P	**Pn**	**18 46 26.3**	**+2.6**
GTA				PG	**Pg**	**18 46 31.5**	**-4.9**
GTA				S	**Sn**	**18 47 04.8**	**+2.4**
GTA				SG	**Sg**	**18 47 12.5**	**-6.8**
GTA				Smax			
	comp=N,380nm,1.1s						
GTA				Smax			
	comp=E,319nm,0.8s						
GTA				LR	LR		
	comp=N,5µm,8.8s						
GTA				LR	LR		
	comp=E,3µm,8.8s						
GTA				LR	LR		
	comp=Z,4µm,8.7s						
LZH	**Lanzhou**	**6.03**	**101**	P	**Pn**	**18 47 03.3**	**-0.1**
LZH				PG	**Pg**	**18 47 22.5**	**-10**
LZH				S	**Sn**	**18 48 13.5**	**+0.3**
LZH				SG	**Sg**	**18 48 42.0**	**-11**
LZH				Smax			
	comp=N,541nm,1.2s						
LZH				Smax			
	comp=E,465nm,1.2s						
LZH				LR	LR		
	comp=N,3µm,7.8s						
LZH				LR	LR		
	comp=Z,3µm,9.1s						
CD2	**Chengdu**	**8.87**	**135**	*e*P	**P**	**18 47 44.0**	**+0.9**
CD2				AP		18 47 45.5	
CD2				XP		18 47 50.8	
CD2				S	**Sn**	**18 49 24.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,450nm,5.6s						
CD2				LR	LR		
	comp=N,3µm,6.6s						
CD2				LR	LR		
	comp=Z,3µm,9.5s						
LSA	**Lhasa**	**8.96**	**212**	P	**P**	**18 47 47.0**	**+2.6**
LSA				AP		18 47 51.5	
LSA				LR	LR		
	comp=N,2µm,3.8s						
LSA				LR	LR		
	comp=E,3µm,4.4s						
LSA	**Lhasa**	**8.96**	**212**	*e*P	**P**	**18 47 47.0**	**+2.6**
WMQ	**Urumqi**	**9.23**	**316**	P	**P**	**18 47 48.3**	**0.0**
WMQ				AP		18 47 51.0	
WMQ				XP		18 47 54.3	
WMQ				XS		18 49 37.8	
WMQ				PCP	PcP	18 54 09.3	+0.7
WMQ				AMB	AMB		
	comp=Z,60nm,0.7s						
WMQ				LR	LR		
	comp=N,1µm,19.2s						
WMQ				LR	LR		
	comp=E,787nm,16.7s						
WMQ				LR	LR		
	comp=Z,500nm,20.0s						
XAN	**Xi’an**	**10.63**	**105**	P	**P**	**18 48 02.8**	**-4.6**
XAN				LG2		18 51 23.8	
XAN				LR	LR		
	comp=N,283nm,6.7s						
XAN				LR	LR		
	comp=E,568nm,10.2s						
XAN				LR	LR		
	comp=Z,608nm,7.4s						
BTO	**Baotou**	**10.95**	**69**	*e*P	**P**	**18 48 10.0**	**-1.7**
BTO				S	**S**	**18 50 18.8**	**+3.6**
BTO				AMB	AMB		
	comp=Z,73nm,1.0s						
BTO				LR	LR		
	comp=N,2µm,9.9s						
BTO				LR	LR		
	comp=E,2µm,14.2s						
SHL	**Shillong**	**12.51**	**200**	*e*P	**P**	**18 48 36.0**	**+3.0**
SHL				*e*		18 52 29.5	
SONM	**Songino Array**	**12.63**	**32**	Pn	**P**	**18 48 34.2**	**-0.3**
	comp=E,3.5nm,0.3s,baz=216,slow=14,SNR=76						
SONM				Lg		18 52 12.1	
	comp=E,0.3nm,0.3s,baz=210,slow=33,SNR=7.3						
ENH	**Enshi**	**12.93**	**120**	*e*P	**P**	**18 48 36.4**	**-2.2**
KMI	**Kunming**	**13.40**	**155**	⇓*e*P	**P**	**18 48 43.8**	**-1.0**
KMI				XP		18 48 50.5	
KMI				PP	PP	18 48 57.0	+1.6
KMI				S	**S**	**18 51 17.5**	**+2.8**
KMI				SS	SS	18 51 33.5	+3.2
KMI				AMB	AMB		
	comp=Z,8.0nm,1.7s						
KMI				AMB	AMB		
	comp=Z,189nm,3.9s						
KMI				LR	LR		
	comp=N,789nm,14.4s						
KMI				LR	LR		
	comp=E,1µm,14.7s						
KMI				LR	LR		
	comp=Z,482nm,7.0s						
KKN	**Kakani**	**13.52**	**228**	*e*P	**P**	**18 48 45.9**	**-0.5**
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**13.61**	**227**	*e*P	**P**	**18 48 48.3**	**+0.7**
	comp=Z,22nm,0.8s						
GKN	**Gorkha**	**13.75**	**230**	*e*P	**P**	**18 48 48.7**	**-0.7**
	comp=Z,68nm,1.2s						
DMN	**Daman**	**13.76**	**228**	*e*P	**P**	**18 48 49.7**	**+0.2**
	comp=Z,16nm,0.8s						
ZAK	**Zakamensk**	**13.78**	**18**	*e*P	**P**	**18 48 50.4**	**+0.8**
GYA	**Guiyang**	**13.93**	**139**	⇑*i*P	**P**	**18 48 50.0**	**-1.8**
GYA				AP		18 48 57.8	
GYA				XP		18 49 01.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,280nm,3.6s						
GYA				LR	LR		
	comp=N,1µm,9.6s						
GYA				LR	LR		
	comp=E,1µm,8.4s						
GYA				LR	LR		
	comp=Z,2µm,8.7s						
MK31	**Makanchi Array**	**14.07**	**316**	⇑Pn	**P**	**18 48 51.2**	**-2.2**
	comp=Z,18nm,1.0s,baz=122,slow=13,SNR=99						
MK31				⇑Sn	**S**	**18 51 33.7**	**+3.2**
	comp=Z,11nm,0.8s,baz=125,slow=21,SNR=3.5						
MK31				⇓Lg		18 52 57.6	
	comp=Z,47nm,1.5s						
MKAR	**Makanchi Array**	**14.07**	**316**	Pn	**P**	**18 48 51.5**	**-2.0**
	comp=Z,1.8nm,0.3s,baz=129,slow=14,SNR=49						
MKAR				Sn	**S**	**18 51 19.1**	**-11**
	baz=119,slow=28,SNR=2.0						
MKAR				Lg		18 53 02.0	
	baz=124,slow=26,SNR=2.3						
MKAR				LR	LR	18 54 42.0	
	comp=Z,593nm,20.4s,baz=124,slow=39						
MKAR	**Makanchi Array**	**14.07**	**316**	P	**P**	**18 48 51.5**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,593nm,20.4s						
KOLN	**Koldanda**	**14.56**	**232**	*e*P	**P**	**18 48 59.4**	**-0.6**
	comp=Z,30nm,0.9s						
BJT	**Baijiatuau**	**15.53**	**75**	*e*P	**P**	**18 49 13.6**	**+1.0**
	comp=Z,16nm,0.9s						
BJT				*e*		18 49 18.4	
KSH	**Kashi**	**16.23**	**284**	*e*P	**P**	**18 49 20.5**	**-1.1**
KSH				*e*AP		18 49 25.0	
KSH				*e*XP		18 49 29.3	
KSH				*e*PP	PP	18 49 35.3	+0.4
KSH				*e*PPP	PPP	18 49 43.5	+0.6
KSH				*e*S	**S**	**18 52 17.5**	**-3.9**
KSH				*e*PCP	PcP	18 54 17.3	+0.3
KSH				AMB	AMB		
	comp=Z,40nm,1.5s						
KSH				LR	LR		
	comp=N,510nm,9.2s						
KSH				LR	LR		
	comp=E,790nm,9.8s						
ULHL	**Ulahol**	**16.29**	**293**	P	**P**	**18 49 21.0**	**-1.3**
	SNR=16						
WHN	**Wuhan**	**16.30**	**110**	⇓P	**P**	**18 49 26.0**	**+3.5**
TIA	**Tai’an**	**16.53**	**88**	*e*P	**P**	**18 49 28.0**	**+2.6**
TKM2	**Tokmak 2**	**16.88**	**295**	P	**P**	**18 49 29.4**	**-0.5**
	SNR=82						
KZA	**Kyzart**	**16.99**	**292**	P	**P**	**18 49 30.1**	**-1.1**
	SNR=24						
SDNR	**Sundarnagar**	**17.19**	**256**	*e*P	**P**	**18 49 38.0**	**+4.3**
KBK	**Karagaybulak**	**17.30**	**294**	P	**P**	**18 49 34.9**	**-0.2**
	SNR=28						

CHMS	**Chumysh**	**17.51**	**295**	P	**P**	**18 49 39.3**	**+1.6**
	SNR=12						
UCH	**Uchtor**	**17.55**	**293**	P	**P**	**18 49 38.1**	**-0.2**
	SNR=20						
FRU	**Bishkek**	**17.57**	**295**	*e*P	**P**	**18 49 39.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,50nm,1.8s						
AAK	**Ala-Archa**	**17.63**	**294**	P	**P**	**18 49 43.2**	**+4.0**
	SNR=9.3						
AAK	**Ala-Archa**	**17.63**	**294**	*e*P	**P**	**18 49 37.7**	**-1.5**
	comp=Z,13nm,0.8s						
USP	**Ospenovka**	**17.74**	**296**	P	**P**	**18 49 40.0**	**-0.6**
	SNR=10						
THN	**Thein Dam**	**17.78**	**260**	*e*P	**P**	**18 49 39.9**	**-1.3**
	comp=Z,19nm,0.7s						
AML	**Almayashu**	**18.14**	**292**	P	**P**	**18 49 47.5**	**+1.9**
	SNR=19						
EKS2	**Erkin-Say**	**18.16**	**294**	P	**P**	**18 49 46.5**	**+0.7**
	SNR=14						
ZAL	**Zalesovo**	**18.35**	**338**	P	**P**	**18 49 47.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=239,slow=11,SNR=8.6						
ZAL				Lg		18 55 15.5	
	comp=Z,0.2nm,0.3s,baz=131,slow=19,SNR=2.5						
ZAL				LR	LR	18 57 34.4	
	comp=Z,199nm,18.8s,baz=226,slow=39						
KURK	**Kurchatov**	**18.40**	**322**	⇑P	**P**	**18 49 46.2**	**-2.5**
	comp=Z,30nm,1.7s,baz=126,slow=10,SNR=39						
KURK				⇑S	**S**	**18 53 12.6**	**+1.8**
	comp=Z,12nm,1.7s						
KURK				⇓Lg		18 55 12.5	
	comp=Z,19nm,1.7s						
KURK	**Kurchatov**	**18.40**	**322**	*e*P	**P**	**18 49 46.8**	**-1.9**
	comp=Z,22nm,0.9s						
CM31	**Chiang Mai Arr**	**19.06**	**173**	*e*P	**P**	**18 49 57.6**	**+0.6**
	comp=Z,3.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.06**	**173**	P	**P**	**18 49 57.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=350,slow=9.3,SNR=16						
CMAR				LR	LR	18 58 17.7	
	comp=Z,79nm,19.6s,baz=340,slow=40						
NVS	**Novosibirsk**	**19.60**	**337**	*e*P	**P**	**18 50 01.0**	**-2.0**
NVS				pmax	pmax		
	comp=Z,26nm,1.5s						
NVS				pmax	pmax		
	comp=N,39nm,1.6s						
NVS				pmax	pmax		
	comp=E,16nm,1.2s						
HIA	**Hailar**	**20.49**	**48**	*e*P	**P**	**18 50 11.8**	**-0.8**
	comp=E,3.0nm,0.6s						
KK31	**Karatay Array**	**20.59**	**294**	P	**P**	**18 50 13.1**	**-0.6**
	comp=E,15nm,0.8s,baz=94,slow=11,SNR=88						
KKAR	**Karatay Array**	**20.59**	**294**	*i* P	**P**	**18 50 13.1**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SNY	**Shenyang**	**21.23**	**70**	⇑P	**P**	**18 50 19.5**	**-0.7**
SNY				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
SNY				LR	LR		
	comp=E,520nm,5.8s						
SNY				LR	LR		
	comp=Z,290nm,6.7s						
BHPL	**Bhopal**	**21.69**	**235**	*e*P	**P**	**18 50 25.1**	**+0.1**
BHPL				AMb	AMB	18 50 27.3	
	comp=Z,37nm,0.8s,mb4.9						
CN2	**Changchun**	**22.76**	**65**	*e*P	**P**	**18 50 36.5**	**+1.1**
CN2				*e*XP		18 50 43.0	
CN2				*e*S	**S**	**18 54 38.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,300nm,7.0s						
CN2				LR	LR		
	comp=N,1µm,11.0s,MS4.6						
CN2				LR	LR		
	comp=E,500nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=Z,700nm,13.0s,MS4.3						
BOD	**Bodaibo**	**23.38**	**24**	*e*P	**P**	**18 50 41.1**	**-0.2**
VOSK	**Vostochnaya**	**23.45**	**319**	⇓P	**P**	**18 50 42.8**	**+0.8**
	comp=Z,30nm,0.9s,mb4.7						
VOSK	**Vostochnaya**	**23.45**	**319**	P	**P**	**18 50 42.9**	**+0.9**
VOSK				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.7						
BVA0	**Borovoye Array**	**23.91**	**319**	P	**P**	**18 50 48.0**	**+1.5**
	comp=Z,5.0nm,1.0s,mb3.9,baz=119,slow=10,SNR=79						
BVA0	**Borovoye Array**	**23.91**	**319**	*i* P	**P**	**18 50 47.9**	**+1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
BVAR	**Borovoye Array**	**23.91**	**319**	P	**P**	**18 50 47.9**	**+1.5**
	comp=Z,9.7nm,0.7s,mb4.4,baz=108,slow=9.4,SNR=56						
BRVK	**Borovoye**	**23.98**	**319**	P	**P**	**18 50 48.7**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.6						
BRVK	**Borovoye**	**23.98**	**319**	*e*P	**P**	**18 50 48.6**	**+1.5**
	comp=Z,13nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**24.60**	**318**	⇑P	**P**	**18 50 53.8**	**+0.6**
	comp=Z,13nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**24.60**	**318**	P	**P**	**18 50 53.7**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**24.60**	**318**	*e*P	**P**	**18 50 53.8**	**+0.6**
	comp=Z,22nm,1.1s,mb4.6						
KS15	**Wonju Array Si**	**24.83**	**80**	*e*P	**P**	**18 50 54.5**	**-1.1**
MDJ	**Mudanjiang**	**25.80**	**63**	P	**P**	**18 51 03.8**	**-0.9**
MDJ				AP	pP	18 51 08.8	+0.9
MDJ				XP	sP	18 51 11.8	+2.4
MDJ				PP	PP	18 51 43.0	-2.1
MDJ				S	**S**	**18 55 31.3**	**-0.2**
MDJ				XS		18 55 37.8	
MDJ				SS	SS	18 56 34.5	-1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,76nm,3.6s						
MDJ				LR	LR		
	comp=N,581nm,12.3s						
MDJ				LR	LR		
	comp=Z,221nm,11.0s,MS4.0						
JNU	**Nakatsue**	**28.27**	**88**	LR	LR	19 02 49.6	
	comp=Z,223nm,19.0s,MS3.8,baz=61,slow=36						
AB31	**Akbulak array**	**28.81**	**306**	P	**P**	**18 51 32.6**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.0,baz=94,slow=9.3,SNR=13						
AB31	**Akbulak array**	**28.81**	**306**	P	**P**	**18 51 32.2**	**+0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ARU	**Arti**	**31.55**	**319**	⇓*i*P	**P**	**18 51 56.2**	**-0.2**
ARU				*e*		18 52 58.5	
ARU				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
ARU				MLR	MLR		
	comp=E,200nm,18.0s						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS3.8						
ARU	**Arti**	**31.55**	**319**	*e*P	**P**	**18 51 56.2**	**-0.1**
	comp=Z,10.0nm,0.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**35.07**	**59**	P	**P**	**18 52 27.2**	**+0.2**
	comp=Z,3.6nm,0.4s,mb4.7						
ASAJ	**Asahikawa**	**35.13**	**64**	LR	LR	19 06 59.7	
	comp=Z,85nm,19.4s,MS3.5,baz=164,slow=36						
SOC	**Sochi**	**42.90**	**297**	*e*P	**P**	**18 53 32.6**	**+0.5**
SOC				*e*PPP	PPP	18 55 28.0	-20
SOC				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.0						
SOC				pmax	pmax		
	comp=N,51nm,1.1s						
SOC				pmax	pmax		
	comp=E,29nm,0.9s						
SOC				MLR	MLR		
	comp=Z,77nm,17.0s,MS3.7						
SOC				MLR	MLR		
	comp=N,43nm,12.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,77nm,17.0s,MS3.8						
MOS	**Moscow**	**42.95**	**315**	*e*P	**P**	**18 53 33.6**	**+1.2**
MOS				pmax	pmax		
	comp=Z,93nm,0.7s,mb5.6						
OBN	**Obninsk**	**43.56**	**314**	*e*P	**P**	**18 53 37.7**	**+0.4**
OBN				pmax	pmax		
	comp=E,19nm,0.6s						
OBN				MLR	MLR		
	comp=E,200nm,19.0s						
OBN	**Obninsk**	**43.56**	**314**	*e*P	**P**	**18 53 37.8**	**+0.5**
	comp=E,11nm,0.6s,mb4.8						
MALT	**Malatya**	**45.20**	**290**	*e*P	**P**	**18 53 53.2**	**+2.5**
	comp=E,1.8nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**48.30**	**293**	P	**P**	**18 54 16.2**	**+1.0**
	comp=E,2.7nm,0.7s,mb4.4,baz=92,slow=6.6,SNR=11						
BRTR				PP	PP	18 56 10.9	+3.6
	comp=E,6.4nm,1.3s,baz=90,slow=8.6,SNR=3.7						
BRTR				LR	LR	19 17 25.4	
	comp=E,45nm,18.7s,MS3.5,baz=35,slow=40						
BRTR	**Keskin Array B**	**48.30**	**293**	P	**P**	**18 54 16.2**	**+1.0**
BRTR						18 56 10.9	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BRTR				MLR	MLR		
	comp=Z,45nm,18.7s						
KEV	**Kevo**	**48.34**	**334**	*e*p	**P**	**18 54 14.6**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.7						
AKASG	**Malin Array Be**	**48.49**	**308**	P	**P**	**18 54 15.8**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.4,baz=68,slow=7.0,SNR=15						
AKASG	**Malin Array Be**	**48.49**	**308**	P	**P**	**18 54 15.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASF	**Jabal al Asfar**	**48.54**	**282**	P	**P**	**18 54 16.6**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.5,baz=284,slow=2.8,SNR=5.6						
KAF	**Kangasniemi**	**48.61**	**324**	*e*p	**P**	**18 54 16.7**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=87,slow=7.9						
KAF	**Kangasniemi**	**48.61**	**324**	*e*P	**P**	**18 54 16.7**	**-0.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**48.76**	**323**	P	**P**	**18 54 18.4**	**-0.1**
	comp=Z,9.1nm,1.1s,mb4.7,baz=104,slow=7.9,SNR=11						
FINES				LR	LR	19 15 19.9	
	comp=Z,75nm,19.3s,MS3.7,baz=278,slow=36						
FINES	**FINESS Array B**	**48.76**	**323**	*i* P	**P**	**18 54 18.7**	**+0.2**
FINES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARCES	**ARCESS Array B**	**48.85**	**334**	P	**P**	**18 54 18.7**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3,baz=72,slow=7.7,SNR=8.3						
ARCES				PcP	PcP	18 55 42.9	-1.1
	comp=Z,1.9nm,0.7s,baz=72,slow=2.9,SNR=6.0						
ARCES	**ARCESS Array B**	**48.85**	**334**	P	**P**	**18 54 18.7**	**-0.3**
ARCES						18 55 42.9	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EIL	**Elat**	**51.11**	**280**	*e*P	**P**	**18 54 36.8**	**0.0**
	comp=Z,11nm,1.0s,mb4.8						
KWP	**Kalwaria**	**52.82**	**308**	*e*P	**P**	**18 54 50.4**	**+0.9**
FX1	**Attu Island--F**	**53.60**	**47**	*e*P	**P**	**18 54 53.7**	**-1.5**
OJC	**Ojcow**	**54.44**	**310**	*e*P	**P**	**18 55 01.6**	**+0.2**
PSZ	**Piszkesteto**	**55.12**	**307**	*e*P	**P**	**18 55 09.3**	**+2.9**
	comp=Z,1.8nm,0.4s,mb4.5						
NB2	**NORSAR Subarra**	**55.89**	**324**	P	**P**	**18 55 10.8**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.5,baz=70,slow=7.0						
NOA	**NORSAR Array B**	**55.89**	**324**	P	**P**	**18 55 11.1**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.4,baz=72,slow=7.1,SNR=8.8						
NOA				LR	LR	19 19 31.2	
	comp=Z,78nm,18.7s,MS3.8,baz=85,slow=36						
NOA	**NORSAR Array B**	**55.89**	**324**	P	**P**	**18 55 11.1**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,78nm,18.7s						
MORC	**Moravsky Berou**	**55.96**	**310**	*e*P	**P**	**18 55 12.9**	**+0.4**
	comp=Z,4.4nm,0.7s,mb4.6						
IDI	**Anoyia**	**56.40**	**291**	P	**P**	**18 55 14.9**	**-0.9**
	comp=Z,9.2nm,0.9s,mb4.8,baz=264,slow=22,SNR=3.7						
BRG	**Berggiesshubel**	**57.75**	**312**	*e*P	**P**	**18 55 25.7**	**+0.6**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BRG	**Berggiesshubel**	**57.75**	**312**	*e*P	**P**	**18 55 25.7**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.5						
CLL	**Collm**	**58.14**	**313**	P	**P**	**18 55 28.1**	**+0.2**
CLL				*e**SP	sP	18 55 38.0	+5.5
CLL	**Collm**	**58.14**	**313**	*i* P	**P**	**18 55 28.1**	**+0.2**
CLL				*e*		18 55 38.0	
GERES	**GERESS Array B**	**58.64**	**310**	P	**P**	**18 55 31.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=68,slow=7.2,SNR=9.8						
GERES	**GERESS Array B**	**58.64**	**310**	P	**P**	**18 55 31.2**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MOX	**Moxa**	**59.20**	**312**	*e*P	**P**	**18 55 38.0**	**+2.7**
MOX				QM		19 17 55.0	
MOX				RM		19 22 22.0	
GRA1	**Grafenberg Arr**	**59.81**	**312**	P	**P**	**18 55 39.6**	**+0.1**
GRF	**Grafenberg Arr**	**59.81**	**312**	*e*P	**P**	**18 55 39.6**	**+0.1**
CDF	**Champ du Feu**	**62.70**	**311**	*e*P	**P**	**18 55 58.5**	**-0.6**
HINF	**Hinteralfeld**	**63.22**	**311**	*e*P	**P**	**18 56 01.2**	**-1.3**
	comp=Z,4.7nm,0.6s,mb4.5						
BAIF	**Baives**	**63.75**	**314**	*e*P	**P**	**18 56 05.5**	**-0.3**
LPG	**La Plagne**	**64.36**	**309**	*e*P	**P**	**18 56 09.9**	**0.0**
	comp=Z,11nm,0.7s,mb4.7						
LPL	**La Plagne**	**64.36**	**309**	*e*P	**P**	**18 56 09.8**	**-0.2**
	comp=Z,7.8nm,0.6s,mb4.6						
SBF	**Sospel**	**64.70**	**307**	*e*P	**P**	**18 56 11.3**	**-0.9**
	comp=Z,22nm,0.6s,mb5.1						
MBDF	**Montbardon**	**64.71**	**308**	*e*P	**P**	**18 56 12.9**	**+0.7**
	comp=Z,7.9nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**65.18**	**308**	*e*P	**P**	**18 56 15.4**	**+0.2**
	comp=Z,6.3nm,0.5s,mb4.6						
ORIF				*e*R			
	comp=Z,162nm,22.0s						
LOR	**Lormes**	**65.27**	**312**	*e*P	**P**	**18 56 15.2**	**-0.6**
LOR				*e*R			
	comp=Z,166nm,20.0s						
SMF	**Signal de Mont**	**65.59**	**311**	*e*P	**P**	**18 56 17.3**	**-0.5**
	comp=Z,15nm,0.8s,mb4.8						
AVF	**Avril sur Loir**	**65.81**	**311**	*e*P	**P**	**18 56 18.7**	**-0.6**
	comp=Z,5.3nm,0.8s,mb4.3						
TCF	**Toulx Ste Croi**	**66.74**	**311**	*e*P	**P**	**18 56 24.7**	**-0.5**
	comp=Z,16nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**66.75**	**25**	P	**P**	**18 56 25.1**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=294,slow=4.8,SNR=9.1						
ILAR				LR	LR	19 30 46.1	
	comp=Z,36nm,18.6s,MS3.6,baz=207,slow=41						
ILAR	**Eielson Array**	**66.75**	**25**	P	**P**	**18 56 25.1**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,36nm,18.6s						
LDF	**La Druitiere**	**66.93**	**314**	*e*P	**P**	**18 56 25.9**	**-0.5**
	comp=Z,7.3nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**67.29**	**141**	*e*P	**P**	**18 56 28.5**	**-0.7**
	comp=Z,13nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**67.29**	**141**	P	**P**	**18 56 28.0**	**-1.2**
	comp=Z,3.5nm,1.0s,mb4.4,baz=339,slow=6.3,SNR=16						
WRA	**Warramunga Arr**	**67.29**	**141**	P	**P**	**18 56 28.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GRR	**Gorron**	**67.46**	**314**	*e*P	**P**	**18 56 30.1**	**+0.3**
	comp=Z,9.0nm,0.5s,mb4.7						
SML	**Sawmill**	**68.12**	**28**	*e*P	**P**	**18 56 36.0**	**+2.4**
INK	**Inuvik**	**68.13**	**18**	P	**P**	**18 56 33.4**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=333,slow=11,SNR=6.1						
INK	**Inuvik**	**68.13**	**18**	P	**P**	**18 56 33.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MTLF	**Montolieu**	**68.25**	**308**	*e*P	**P**	**18 56 34.1**	**-0.7**
	comp=Z,7.5nm,0.9s,mb4.4						
SGMF	**Saint Gilles**	**68.49**	**315**	*e*P	**P**	**18 56 37.3**	**+1.1**
	comp=Z,43nm,1.1s,mb5.1						
ROSF	**Rostrenen**	**68.85**	**315**	*e*P	**P**	**18 56 38.8**	**+0.4**
QUIF	**Quistinic**	**69.02**	**315**	*e*P	**P**	**18 56 39.7**	**+0.2**
ASAR	**Alice Springs**	**70.25**	**144**	P	**P**	**18 56 47.0**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=302,slow=7.8,SNR=11						
ESDC	**Sonseca Array**	**74.14**	**308**	P	**P**	**18 57 10.8**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=45,slow=6.0,SNR=6.3						
STKA	**Stephens Creek**	**80.81**	**142**	P	**P**	**18 57 46.0**	**-1.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=354,slow=17,SNR=4.7						
STKA	**Stephens Creek**	**80.81**	**142**	*e*P	**P**	**18 57 46.9**	**-0.4**
ULM	**Lac du Bonnet**	**91.97**	**8**	LR	LR	19 42 53.8	
	comp=Z,59nm,18.2s,MS4.1,baz=25,slow=37						
SADO	**Sadowa**	**98.04**	**357**	LR	LR	19 43 17.5	
	comp=Z,58nm,20.8s,MS4.0,baz=63,slow=35						
SNAA	**Sanae**	**128.00**	**203**	⇓*i*P	PKPdf	19 04 42.9	+2.4
SNAA	**Sanae**	**128.00**	**203**		PKPdf	19 04 46.9	+6.4
VNA2	**Neumayer--Watz**	**129.43**	**204**	⇑*i*P	PKPdf	19 04 46.5	+3.2
VNA2	**Neumayer--Watz**	**129.43**	**204**	⇑*i*	PKPdf	19 04 50.2	+6.9
SAML	**Samuel**	**146.19**	**322**	*e*P	PKPbc	19 05 14.5	+1.4

IDC 25 18:49:51.0±2.8**, 7.27S**×**101.88E, mb4.0**/6**, mb1 4.2**/6**, mb1mx3.9**/16**, Error ellipse: s-maj=117.0km s-min=24.4km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.73**	**354**	P	P	18 55 23.9	-1.2
	1.5nm,0.6s,baz=188,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**34.78**	**122**	P	P	18 56 43.5	-2.0
	1.2nm,0.7s,baz=299,slow=7.6,SNR=16						
SONM	**Songino Array**	**55.01**	**4**	P	P	18 59 24.4	-2.1
	0.7nm,0.7s,baz=175,slow=8.7,SNR=6.0						
MKAR	**Makanchi Array**	**56.58**	**344**	P	P	18 59 35.5	-2.4
	2.2nm,0.9s,baz=155,slow=8.8,SNR=11						
ZAL	**Zalesovo**	**62.66**	**349**	P	P	19 00 17.2	-2.5
	0.7nm,0.3s,baz=202,slow=15,SNR=3.3						
BVAR	**Borovoye Array**	**65.75**	**340**	P	P	19 00 37.1	-2.6
	1.9nm,0.5s,baz=149,slow=8.4,SNR=13						

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*NEIC **25** 18:50:47.7±2.5, 30.21N×86.07E, h48^{km}±22^{km}, mb4.4/2, Error ellipse: s-maj=33.6km s-min=9.5km az=58.0*

*IDC **25** 18:50:48.9±7.5, 30.24N×86.13E, h58^{km}±69^{km}, mb3.5/5, mb1 3.7/7, mb1mx3.5/20, ML3.7/1, Error ellipse: s-maj=58.6km s-min=20.9km az=50.0*

ISC 25 18:50:45.6±3.5**, 30.2N**±0.2×**86.0E**±0.3**, h45**^{km}±32^{km}**, n10,** $\sigma 0^{s}$**65**/10**, mb4.0**/7**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.50**	**95**	*e*P	**P**	**18 51 52.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.57**	**132**	P	**P**	**18 54 37.1**	**+0.8**
	0.1nm,0.3s,baz=307,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**16.84**	**351**	P	**P**	**18 54 39.7**	**+0.2**
	baz=174,slow=13,SNR=1.9						
KURK	**Kurchatov**	**21.25**	**347**	P	**P**	**18 55 29.0**	**-0.8**
	26nm,1.3s,mb4.4						
SONM	**Songino Array**	**23.59**	**36**	P	**P**	**18 55 53.7**	**+0.8**
	0.8nm,0.9s,mb3.1,baz=219,slow=9.2,SNR=2.2						
AKASG	**Malin Array Be**	**46.55**	**313**	P	**P**	**18 59 11.2**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=78,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**49.67**	**327**	P	**P**	**18 59 34.2**	**-0.4**
	0.6nm,0.7s,mb3.8,baz=117,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**68.16**	**131**	P	**P**	**19 01 43.0**	**-0.5**
	2.2nm,1.1s,mb4.1,baz=325,slow=6.3,SNR=8.1						
WRAB	**Tennant Creek**	**68.16**	**131**	P	**P**	**19 01 39.2**	**-4.2**
	4.5nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**70.57**	**134**	P	**P**	**19 01 57.9**	**-0.3**
	2.4nm,1.2s,mb4.0,baz=318,slow=5.9,SNR=7.6						

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*NEIC **25** 19:22:36.5±0.7, 6.72N×126.05E, h100^{km}, mb4.1/4, Error ellipse: s-maj=54.0km s-min=9.1km az=69.0*

*IDC **25** 19:22:37.7±11.0, 6.73N×126.26E, h116^{km}±104^{km}, mb3.7/8, mb1 3.8/8, mb1mx3.5/21, Error ellipse: s-maj=70.5km s-min=20.3km az=67.0*

*MAN **25** 19:22:51.3, 7.17N×125.98E, h25^{km}*

ISC 25 19:22:40.0±0.6**, 6.70N**±0.06×**126.19E**±0.10**, h155**^{km}±6^{km}**, n19,** $\sigma 0^{s}$**83**/23**, mb3.9**/11**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.14**	**286**	⇓*i*P	**P**	**19 23 07.3**	**+0.6**
KCP				*i* S	**S**	**19 23 28.2**	**+0.9**
GSPH	**General Santos**	**1.38**	**244**	*e*P	**P**	**19 23 14.0**	**+4.9**
GSPH				*i* S	**S**	**19 23 30.0**	**-1.5**
BIPH	**Bislig**	**1.48**	**6**	⇑*i*P	**P**	**19 23 10.1**	**-0.1**
BIPH				*i* S	**S**	**19 23 32.7**	**-0.7**
BUKP	**Musuan**	**1.62**	**316**	*e*P	**P**	**19 23 12.6**	**+1.0**
BUKP				*e*S	**S**	**19 23 26.2**	**-10**
KAKA	**Kakadu**	**20.23**	**162**	*e*P	**P**	**19 27 04.3**	**-0.7**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.65**	**181**	P	**P**	**19 27 48.1**	**+0.2**
	1.8nm,0.6s,mb3.8,baz=17,slow=10,SNR=9.2						
WRAB	**Tennant Creek**	**27.66**	**163**	*e*P	**P**	**19 28 17.4**	**+1.9**
	3.4nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**27.66**	**163**	P	**P**	**19 28 15.5**	**-0.1**
	0.7nm,0.3s,mb3.8,baz=345,slow=9.3,SNR=20						
WB2	**Warramunga Arr**	**27.66**	**163**	*e*P	**P**	**19 28 16.6**	**+0.9**
ASAR	**Alice Springs**	**31.11**	**166**	P	**P**	**19 28 44.9**	**-1.4**
	1.0nm,0.3s,mb4.0,baz=346,slow=7.1,SNR=23						
ASAR				PcP	PcP	19 31 38.1	+0.4
	0.4nm,0.5s,baz=330,slow=2.2,SNR=4.6						
NWAO	**Narrogin (SRO)**	**40.32**	**192**	P	**P**	**19 30 03.7**	**-0.1**
	13nm,1.1s,mb4.5,baz=22,slow=11,SNR=3.0						
NWAO	**Narrogin (SRO)**	**40.32**	**192**	P	**P**	**19 30 03.7**	**-0.1**
STKA	**Stephens Creek**	**41.08**	**160**	P	**P**	**19 30 10.1**	**0.0**
	1.4nm,0.6s,mb3.8,baz=332,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**54.84**	**324**	P	**P**	**19 31 56.3**	**0.0**
	0.3nm,0.5s,mb3.3,baz=106,slow=6.3,SNR=7.4						
MKAR				PcP	PcP	19 32 56.7	+0.2
	0.4nm,0.5s,baz=108,slow=3.8,SNR=3.9						
MKAR	**Makanchi Array**	**54.84**	**324**	P	**P**	**19 31 56.3**	**0.0**
MKAR				PcP	PcP	19 32 56.7	+0.2
KURK	**Kurchatov**	**58.97**	**327**	*e*P	**P**	**19 32 24.8**	**-0.7**
	1.1nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**64.56**	**326**	P	**P**	**19 33 02.1**	**-0.6**
	0.5nm,0.7s,mb3.5,baz=117,slow=6.4,SNR=4.5						
ZRNK	**Zerenda**	**65.30**	**326**	*e*P	**P**	**19 33 07.0**	**-0.5**
	1.2nm,0.8s,mb3.8						
ARCES	**ARCESS Array B**	**87.50**	**340**	P	**P**	**19 35 11.8**	**+0.9**
	2.0nm,0.9s,mb4.0,baz=67,slow=6.9,SNR=5.4						

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*NIED **25** 19:57:00, 42.30N×143.00E, h59^{km}, Mw3.8 Best double couple: $M_0$5.72×10^{14} NP1:ϕ_s33°, δ67°, λ97°. NP2:ϕ_s196°, δ24°, λ74°.*

*IDC **25** 19:57:43.0±20.0, 41.93N×143.52E, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, Error ellipse: s-maj=440.0km s-min=71.8km az=159.0*

*JMA **25** 19:57:55.6±0.1, 42.34N×143.01E, h53^{km}±1^{km}, M3.7*

JMA Felt II J1.

ISC 25 19:57:54.1±0.7**, 42.30N**±0.07×**143.02E**±0.06**, h67**^{km}±5^{km}**, n14,** $\sigma 0^{s}$**59**/20**, mb3.7**/4**, 5C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.20**	**265**	⇑P	**P**	**19 58 04.0**	**-0.4**
JNBK				*e*S	**S**	**19 58 10.9**	**-1.1**
JEM	**Erimo**	**0.30**	**160**	⇑P	**P**	**19 58 05.4**	**+0.3**
JEM				*e*S	**S**	**19 58 13.3**	**+0.2**
JCH	**Churui**	**0.40**	**38**	⇑P	**P**	**19 58 05.9**	**0.0**
JCH				*e*S	**S**	**19 58 13.9**	**-0.7**
JBT2	**Biratori 2**	**0.68**	**315**	⇓P	**P**	**19 58 09.0**	**+0.3**
JOB	**Onbets**	**0.85**	**44**	⇑P	**P**	**19 58 11.9**	**+1.1**
JFR	**Furan**	**0.92**	**340**	P	**P**	**19 58 11.3**	**-0.4**
JAR	**Ashorobuto**	**1.14**	**29**	⇑P	**P**	**19 58 14.8**	**+0.3**
JAR				*e*S	**S**	**19 58 29.0**	**-0.8**
JEW	**Eniwo**	**1.28**	**296**	⇓P	**P**	**19 58 17.1**	**+0.6**
JEW				*e*S	**S**	**19 58 34.0**	**+0.9**
JAB	**Ashibetsu**	**1.34**	**334**	⇓P	**P**	**19 58 18.0**	**+0.6**
JAK	**Akkeshi**	**1.42**	**60**	P	**P**	**19 58 18.8**	**+0.4**
JAK				*e*S	**S**	**19 58 36.7**	**+0.3**
SONM	**Songino Array**	**26.28**	**295**	P	**P**	**20 03 24.3**	**-0.5**
	1.1nm,0.7s,mb3.4,baz=77,slow=8.2,SNR=9.5						
ZAL	**Zalesovo**	**39.49**	**308**	P	**P**	**20 05 19.3**	**0.0**
	1.2nm,0.5s,mb4.0,baz=299,slow=8.7,SNR=8.2						
MKAR	**Makanchi Array**	**42.58**	**298**	P	**P**	**20 05 44.7**	**0.0**
	1.2nm,0.6s,mb3.8,baz=85,slow=9.8,SNR=14						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**20 08 25.9**	**-1.1**
	0.6nm,0.4s,mb3.8,baz=53,slow=6.9,SNR=13						

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*JMA **25** 20:20:53.2±0.1, 34.76N×138.38E, h28^{km}±2^{km}, M3.3 Broadband fault plane solution: P waves. NP1:ϕ_s271°, δ38°, λ53°. NP2:ϕ_s135°, δ60°, λ115°. Principal axes: T Plg65°, Azm90°; N Plg22°, Azm302°; P Plg12°, Azm207°;*

JMA Felt II J1.

*NIED **25** 20:21:00, 34.70N×138.40E, h11^{km}, Mw3.4 Best double couple: $M_0$1.47×10^{14} NP1:ϕ_s264°, δ61°, λ53°. NP2:ϕ_s141°, δ45°, λ137°.*

ISC 25 20:20:53.6±0.6**, 34.74N**±0.04×**138.38E**±0.03**, h24**^{km}±6^{km}**, n15,** $\sigma 0^{s}$**61**/26**, 1C-9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.17**	**247**	⇓P	**Pb**	**20 20 58.9**	**+0.1**
JSG				S	**Sb**	**20 21 03.1**	**+0.8**
OMA	**Omae zaki**	**0.19**	**224**	⇓P	**Pb**	**20 20 59.2**	**+0.2**
OMA				S	**Sb**	**20 21 03.6**	**+0.9**
JKKG	**Kakegawa**	**0.34**	**278**	P	**Pb**	**20 21 00.7**	**-0.4**
JKKG				S	**Sb**	**20 21 05.9**	**-0.3**
SHZ3	**Shizuoka 3**	**0.35**	**337**	⇓P	**Pb**	**20 21 01.1**	**-0.2**
SHZ3				S	**Sb**	**20 21 06.6**	**0.0**
JIZS	**Izushimoda**	**0.41**	**93**	⇓P	**Pb**	**20 21 02.0**	**-0.3**
JIZS				S	**Sb**	**20 21 08.1**	**-0.1**
TK04	**Tokai 4**	**0.55**	**230**	⇓P	**Pb**	**20 21 04.7**	**+0.2**
HMMJ	**Hamamatsu 2**	**0.55**	**282**	⇑P	**Pb**	**20 21 04.2**	**-0.4**
HMMJ				S	**Sb**	**20 21 11.8**	**-0.3**

KTJJ	Kamata 2	0.59	72	⇓P	Pb	20 21 04.9	-0.3
KTJJ				S	Sb	20 21 13.1	-0.1
JNY	Yasuok	0.75	326	⇓P	Pb	20 21 07.6	-0.3
JNY				S	Sb	20 21 17.8	+0.2
JYN	Shimob	0.77	10	⇓P	Pb	20 21 07.6	-0.6
JOD2	Odawara 2	0.78	48	⇓P	Pb	20 21 07.9	-0.5
JKO	Kozu shima	0.84	131	P	Pb	20 21 08.9	-0.4
JIM2	Oshima 3	0.87	91	P	Pb	20 21 09.6	-0.3
JIM2				eS	Sb	20 21 22.0	+0.9
JAO	Obara	1.06	300	P	Pn	20 21 12.1	-1.0
JAO				S	Sb	20 21 26.4	-0.2
MAT	Matsushiro	1.80	356	P	Pn	20 21 24.6	+0.9
MAT				S	Sn	20 21 48.5	+2.4

IDC 25 20:21:52.1±3.0, 32.33S×178.38W, mb3.9/3, mb1 4.1/4, mb1mx3.9/16, ML3.7/1, Error ellipse: s-maj=67.4km s-min=45.0km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	6.97	211	Pn	Pn	20 23 33.6	-4.4
	1.3nm,0.3s,baz=195,slow=3.9,SNR=7.6						
URZ				Sn	Sn	20 24 50.5	-8.4
	3.1nm,0.3s,baz=149,slow=9.8,SNR=8.3						
ASAR	Alice Springs	42.72	269	P	P	20 29 51.4	-1.3
	0.6nm,0.5s,baz=109,slow=7.6,SNR=12						
WB2	Warramunga Arr	43.88	274	eP	P	20 30 00.5	-1.6
WRA	Warramunga Arr	43.89	274	P	P	20 30 00.5	-1.7
	1.4nm,0.6s,baz=113,slow=8.0,SNR=43						
FITZ	Fitzroy Crossi	52.06	272	P	P	20 31 03.7	-2.3
	1.1nm,0.8s,baz=169,slow=4.4,SNR=2.9						
FINES	FINESS Array B	146.84	339	PKPbc	PKPbc	20 41 34.9	-0.1
	1.4nm,0.8s,baz=72,slow=4.4,SNR=6.3						

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*STR **25** 20:45:16.7±0.1, 46.35N×6.66E, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **25** 20:45:16.9, 46.33N×6.64E, h6^{km}, ML2.3/7*
*NEIC **25** 20:45:16.7, 46.35N×6.66E, h5^{km}, ML2.9(LDG), ML2.9(GEN), ML2.8(STR), ML2.3(SZGRF), After STR.*
*LDG **25** 20:45:17.4±0.1, 46.35N×6.60E, h2^{km}, Md2.9/3, Ml2.9/32, Error ellipse: s-maj=1.2km s-min=0.9km az=122.0*
ISC 25 20:45:14.8±0.2, 46.36N±0.01×6.50E±0.02, h3^{km}±2^{km}, n89, σ1^{s}20/171, 12C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OG01	Vacheresse	0.13	102	Pg	Pg	20 45 17.8	+0.4
OG01				Sg	Sg	20 45 18.5	-0.6
GIMEL	Gimel	0.24	317	⇓iPg	Pg	20 45 23.6	+3.9
GIMEL				eSg	Sg	20 45 30.0	+7.0
AIGLE	Aigle	0.31	92	⇑iPg	Pg	20 45 21.5	+0.4
AIGLE				eSg	Sg	20 45 25.1	-0.2
CABF	La Chapelle	0.39	312	ePg	Pg	20 45 25.9	+3.3
CABF				eSg	Sg	20 45 31.5	+3.8
	233nm,0.5s						
SALAN	Lac Salanfe	0.39	123	⇑ePg	Pg	20 45 22.6	0.0
SALAN				⇑iSg	Sg	20 45 27.2	-0.6
EMV	Vieux Emosson	0.40	137	⇑iPg	Pg	20 45 22.9	0.0
EMV				i Sg	Sg	20 45 27.9	-0.3
GRYON	Gryon	0.43	104	⇑iPg	Pg	20 45 23.6	+0.1
GRYON				i Sg	Sg	20 45 28.7	-0.6
TORNY	Torny	0.52	37	⇑iPg	Pg	20 45 27.1	+1.8
	36nm,2.0s						
SENIN	Lac Senin	0.55	89	⇑iPg	Pg	20 45 25.9	0.0
SENIN				eSg	Sg	20 45 33.0	-0.2
BRANT	Les Verrieres	0.58	358	⇓iPg	Pg	20 45 29.0	+2.5
	20nm,2.0s						
DIX	Grande Dixence	0.69	113	⇑iPg	Pg	20 45 28.4	-0.2
DIX				i Sg	Sg	20 45 36.8	-0.9
LKBD	Leukerbad	0.78	87	⇓iPg	Pg	20 45 30.1	-0.3
WIMIS	Wimmis	0.83	68	⇓iPg	Pg	20 45 31.7	+0.2
	17nm,2.0s						
LPL	La Plagne	0.85	169	ePg	Pg	20 45 32.1	+0.2
LPL				ePn	Pn	20 45 35.2	+1.6
LPL				eSg	Sg	20 45 43.8	+0.5
	42nm,0.3s						
LPG	La Plagne	0.88	169	ePg	Pg	20 45 32.5	+0.2
LPG				ePn	Pn	20 45 35.5	+1.6
LPG				eSg	Sg	20 45 45.1	+1.1
	36nm,0.2s						
LSD	Ceresole Reale	1.01	153	P	Pb	20 45 34.8	+0.2
LSD				S	Sb	20 45 46.6	-1.5
LOMF	Lomont	1.02	12	Pn	Pn	20 45 36.3	+0.4
MMK	Mattmark	1.06	106	⇓iPg	Pg	20 45 34.8	-1.2
MCGN	Macugnaga	1.10	111	ePn	Pn	20 45 36.2	-0.9
MCGN				eSn	Sn	20 45 49.8	-3.3
BOURR	Bourrignon	1.15	25	⇑iP*P		20 45 39.2	
BOURR				eS*S		20 45 55.5	
GDM	Grand'Maison	1.18	193	Pg	Pg	20 45 40.3	+1.8
GDM				Sg	Sg	20 45 56.9	+2.6
HASLI	Hasliberg	1.21	70	ePg	Pg	20 45 38.9	0.0
	16nm,2.0s						
TRAV		1.21	134	P	Pb	20 45 38.0	-0.1
TRAV				S	Sb	20 45 51.2	-2.8
GRN	Grenoble	1.23	206	Pg	Pg	20 45 41.4	+1.9
GRN				Sg	Sg	20 45 58.3	+2.4
ORO	Oropa	1.26	125	ePn	Pn	20 45 39.9	+0.5
ORO				eSn	Sn	20 45 55.6	-1.4
BALST	Balsthal	1.28	39	ePn	Pn	20 45 40.3	+0.7
BALST				eSn	Sn	20 45 58.3	+0.8
BNI	Bardonecchia	1.31	175	eP	Pb	20 45 40.6	+0.8
RSP	Reno Superiore	1.31	156	P	Pb	20 45 40.7	+0.9
RSP				S	Sb	20 45 55.5	-1.5
FENE	Fenestrelle	1.38	163	P	Pb	20 45 41.9	+0.8
FENE				S	Sb	20 45 57.4	-1.5
BNALP	Bannalp	1.42	68	⇓iP*	Pb	20 45 42.4	+0.7
	11nm,2.0s						
RRL	Cesana Torines	1.45	172	P	Pn	20 45 43.8	+1.7
RRL				S	Sb	20 46 01.4	+0.5
HINF	Hinteralfeld	1.48	9	ePn	Pn	20 45 42.9	+0.4
HINF				ePg	Pg	20 45 44.1	-0.3
HINF				eSg	Sg	20 46 03.3	-0.9
	41nm,0.2s						
ORIF	Oris-en-Rattie	1.50	197	ePg	Pg	20 45 46.3	+1.4
ORIF				eSg	Sg	20 46 05.3	+0.4
	28nm,0.3s						
MOF	Molkenrain	1.56	16	Pn	Pn	20 45 44.3	+0.7
BHB	Bricherasio	1.60	160	P	Pn	20 45 44.9	+0.6
BHB				S	Sb	20 46 02.9	-2.6
MBDF	Montbardon	1.64	173	ePg	Pg	20 45 48.2	+0.6
MBDF				eSg	Sg	20 46 08.8	-0.6
	20nm,0.5s						
VAI	Varese	1.65	106	ePn	Pn	20 45 46.9	+1.9
VAI				eSn	Sn	20 46 05.2	-1.7
HAU	Haudompre	1.65	356	ePn	Pn	20 45 45.9	+0.9
HAU				eSg	Sg	20 46 08.6	-1.3
	23nm,0.2s						
MUGIO	Muggio	1.82	103	⇑iPn	Pn	20 45 48.7	+1.4
	5.1nm,2.0s						
SMF	Signal de Mont	1.86	280	ePn	Pn	20 45 49.5	+1.5
SMF				ePg	Pg	20 45 52.7	+0.7
SMF				eSg	Sg	20 46 17.6	+0.7
	27nm,0.2s						
PZZ	Prazzo	1.90	167	P	Pn	20 45 49.6	+1.2
ECH	Echery	1.91	13	Pn	Pn	20 45 48.3	-0.4
LIBD	Limburg	1.94	22	Pn	Pn	20 45 48.7	-0.5
SLE	Schleitheim	1.96	43	ePn	Pn	20 45 48.9	-0.5
	11nm,2.0s						
VIVF	Saint-Julien-l	1.98	221	ePn	Pn	20 45 50.3	+0.7
VIVF				eSg	Sg	20 46 19.2	-1.4
	30nm,0.3s						
LOR	Lormes	2.03	298	ePn	Pn	20 45 51.8	+1.4
LOR				ePg	Pg	20 45 56.6	+1.2
LOR				eSg	Sg	20 46 22.2	-0.3
	18nm,0.2s						
PLDF	La Plantade	2.04	260	Pn	Pn	20 45 50.9	+0.4
SFTF	Sexfontaines	2.10	332	ePn	Pn	20 45 49.8	-1.6
SFTF				ePg	Pg	20 45 57.1	+0.3
SFTF				eSg	Sg	20 46 24.6	-0.2
	22nm,0.3s						
CDF	Champ du Feu	2.12	14	ePn	Pn	20 45 51.5	-0.2
CDF				ePg	Pg	20 45 55.8	-1.4
CDF				eSg	Sg	20 46 23.0	-2.5
	20nm,0.3s						
WLS	Welschbruch	2.14	15	Pn	Pn	20 45 51.6	-0.3
WLS				Sg	Sg	20 46 25.8	-0.2
SSF	Saint Saulge	2.18	290	ePn	Pn	20 45 54.0	+1.5
SSF				ePg	Pg	20 45 59.1	+0.7
SSF				eSg	Sg	20 46 28.0	+0.5
	7.5nm,0.3s						
STV2	Anna di Valdie	2.19	164	P	Pn	20 45 54.0	+1.3
STV	Sta Anna Valdi	2.19	164	P	Pn	20 45 53.7	+1.0
AVF	Avril sur Loir	2.22	282	ePn	Pn	20 45 54.2	+1.1
AVF				ePg	Pg	20 45 59.7	+0.6
AVF				eSg	Sg	20 46 29.3	+0.6
	9.7nm,0.4s						
ENR	Entracque	2.23	163	P	Pn	20 45 53.9	+0.7
ROB	Roburent	2.27	154	P	Pn	20 45 54.5	+0.6
PCP	Pian Castagno	2.31	141	P	Pn	20 45 54.6	+0.2
BFO	Black Forest	2.33	31	ePn	Pn	20 45 53.3	-1.4
BFO				eSg	Sg	20 46 30.7	-1.8
AGO	Saint Agoulin	2.36	264	Pn	Pn	20 45 56.1	+1.0
MEZF	Maizieres J'vi	2.36	336	ePn	Pn	20 45 56.8	+1.6
MEZF				ePg	Pg	20 46 02.6	+0.6
MEZF				eSn	Sn	20 46 24.6	-0.5
MEZF				eSg	Sg	20 46 32.6	-0.9
	16nm,0.4s						
RFYF	Reffroy	2.38	343	ePn	Pn	20 45 56.7	+1.3
RFYF				ePg	Pg	20 46 04.3	+1.9
RFYF				eSn	Sn	20 46 23.8	-1.7
RFYF				eSg	Sg	20 46 33.5	-0.6
	17nm,0.2s						
MONE	Monesi	2.44	158	P	Pn	20 45 56.9	+0.6
FIN	Finale Ligure	2.46	150	P	Pn	20 45 56.3	-0.2
SMRF	Simiane la Rot	2.47	196	ePn	Pn	20 45 57.1	+0.4
SMRF				ePg	Pg	20 46 03.5	-0.6
SMRF				eSg	Sg	20 46 36.0	-1.0
	2.9nm,0.4s						
DAVA	Damuels	2.50	67	⇑iPN	Pn	20 46 00.0	+2.9
DAVA				i SN	Sn	20 46 30.9	+2.4
PYM	Petit Puy Mans	2.51	257	Pn	Pn	20 45 58.0	+0.8
PYM				Pg	Pg	20 46 05.5	+0.6
BGF	Bois d'Agland	2.54	276	ePn	Pn	20 45 58.8	+1.2
BGF				ePg	Pg	20 46 05.7	+0.2
BGF				eSg	Sg	20 46 39.6	+0.3
	19nm,0.3s						
LBL	Lubilhac	2.54	245	Pn	Pn	20 45 57.8	+0.1
SBF	Sospel	2.58	165	ePn	Pn	20 45 59.2	+1.0
IMI	Imperia	2.63	158	P	Pn	20 45 58.6	-0.5
FRF	La Foret Royal	2.80	178	ePn	Pn	20 46 01.7	+0.4
FRF				ePg	Pg	20 46 08.5	-2.2
FRF				eSn	Sn	20 46 33.3	-2.8
FRF				eSg	Sg	20 46 44.8	-3.2
	5.7nm,0.3s						
HYF	Humbligny	2.81	290	ePn	Pn	20 46 02.4	+0.9
LASF	Ste Croix	2.95	220	ePn	Pn	20 46 03.6	+0.1
LASF				ePg	Pg	20 46 12.8	-0.9
LASF				eSg	Sg	20 46 50.1	-2.9
	7.6nm,0.4s						
TCF	Toulx Ste Croi	2.98	270	ePn	Pn	20 46 04.5	+0.6
TCF				ePg	Pg	20 46 14.4	+0.1
TCF				eSn	Sn	20 46 39.8	-0.8
TCF				eSg	Sg	20 46 53.4	-0.5
	6.7nm,0.2s						
LMR	La Mourre	3.02	180	ePn	Pn	20 46 03.9	-0.7
LMR				eSn	Sn	20 46 39.1	-2.7
LMR				eSg	Sg	20 46 50.8	-4.6
	3.0nm,0.2s						
CAF	Calviac	3.43	247	eSn	Sn	20 46 50.3	-1.7
CAF				eSg	Sg	20 47 05.5	-3.4
	2.9nm,0.3s						
WTTA	Wattenberg	3.64	74	⇑iPN	Pn	20 46 14.1	+0.8
WTTA				i SN	Sn	20 46 58.5	+1.1
RJF	Les Rejaudoux	3.64	255	ePn	Pn	20 46 14.3	+0.9
RJF				ePg	Pg	20 46 26.0	-1.6
RJF				eSg	Sg	20 47 13.6	-2.5
	5.4nm,0.4s						
GIVF	Givet	3.91	344	ePn	Pn	20 46 15.2	-2.0
BAIF	Baives	4.01	338	ePn	Pn	20 46 19.3	+0.7
BAIF				ePg	Pg	20 46 32.6	-2.3
BAIF				eSn	Sn	20 47 03.0	-3.8
BAIF				eSg	Sg	20 47 23.8	-4.6
	2.0nm,0.3s						
LFF	La Frestale	4.28	253	eSg	Sg	20 47 34.5	-2.9
	4.7nm,0.3s						
MTLF	Montolieu	4.29	227	ePn	Pn	20 46 22.2	-0.3
MTLF				ePg	Pg	20 46 37.8	-2.6
MTLF				eSg	Sg	20 47 33.3	-4.3
	2.8nm,0.4s						
MFF	Saint Martin d	4.60	275	ePn	Pn	20 46 27.7	+0.7
MFF				ePg	Pg	20 46 43.8	-2.9
MFF				eSn	Sn	20 47 18.8	-3.0
MFF				eSg	Sg	20 47 43.7	-4.3
	2.6nm,0.4s						
LDF	La Druitiere	5.02	299	ePn	Pn	20 46 32.6	-0.3
LDF				eSg	Sg	20 47 56.7	-5.3
	3.3nm,0.5s						
FLN	La Foliniere	5.31	300	ePn	Pn	20 46 36.2	-0.8
FLN				eSg	Sg	20 48 05.3	-6.2
	4.8nm,0.4s						
GRR	Gorron	5.40	295	ePn	Pn	20 46 37.8	-0.5
GRR				eSn	Sn	20 47 37.2	-4.7
GRR				eSg	Sg	20 48 08.5	-6.1
	3.2nm,0.4s						
SGMF	Saint Gilles	6.45	290	ePn	Pn	20 46 51.7	-1.4
QUIF	Quistinic	6.78	287	ePn	Pn	20 46 56.3	-1.4
ROSF	Rostrenen	6.93	290	ePn	Pn	20 46 58.1	-1.8

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*NEIC **25** 20:56:09.0±0.5, 50.16N×18.43E, h5^{km}, ML3.2(CLL), ML3.0(VIE), Error ellipse: s-maj=5.8km s-min=5.3km az=71.0*
*WAR **25** 20:56:09.4, 50.06N×18.42E, ML2.7, Mining Induced*
*IDC **25** 20:56:09.1±1.8, 49.96N×18.52E, mb1 3.6/3, mb1mx3.4/17, ML3.0/4, Error ellipse: s-maj=29.8km s-min=9.5km az=132.0*
*PRU **25** 20:56:10.4, 50.05N×18.42E*
ISC 25 20:56:07.5±0.4, 50.15N±0.03×18.40E±0.03, n34, σ1^{s}28/64, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.15	243	⇑iPG	Pg	20 56 13.5	+3.1
RAC				⇑eSG	Sg	20 56 16.5	+4.1
OKC	Ostrava-Krasne	0.35	207	ePG	Pg	20 56 15.6	+1.1
OKC				eSG	Sg	20 56 20.2	+1.0
MORC	Moravsky Berou	0.67	236	eP	Pg	20 56 21.6	+0.8
OJC	Ojcow	0.90	85	ePG	Pg	20 56 26.0	+0.5
OJC				eSG	Sg	20 56 39.0	+1.4
OJC	Ojcow	0.90	85	ePg	Pg	20 56 26.5	+1.0
OJC				eSg	Sg	20 56 39.5	+1.9
LIKS	Likavka	1.19	157	ePG	Pg	20 56 31.9	+0.6
LIKS				eSG	Sg	20 56 49.3	+2.0
DPC	Dobruska-Polom	1.35	279	ePG	Pg	20 56 35.3	+0.9
DPC				e		20 56 37.5	
DPC				eSG	Sg	20 56 53.9	+1.6
	148nm,0.7s						
DPC	Dobruska-Polom	1.35	279	ePn	Pg	20 56 35.3	+0.9
DPC				ePg	Pg	20 56 35.7	+1.3
DPC				e		20 56 37.5	
DPC				eSg	Sg	20 56 53.9	+1.6
NIE	Niedzica	1.44	120	i PG	Pg	20 56 35.1	-1.2
NIE				i SG	Sg	20 56 55.2	-0.3
VRAC	Vranov	1.44	235	Pg	Pg	20 56 35.8	-0.4
	6.8nm,0.3s,baz=62,slow=13,SNR=52						
VRAC				Lg		20 56 54.2	
	14nm,0.3s,baz=136,slow=22,SNR=32						
KSP	Ksiaz	1.51	298	ePN	Pn	20 56 38.0	+2.1
KSP				eSG	Sg	20 57 00.0	+2.2
KSP	Ksiaz	1.51	298	ePg	Pg	20 56 37.6	-0.1
KSP				eSg	Sg	20 56 59.9	+2.1
UPC	Upice	1.57	284	ePG	Pg	20 56 40.2	+1.4
UPC				eSG	Sg	20 57 01.0	+1.3
KOLL	Kolacno	1.57	180	ePG	Pg	20 56 38.9	0.0
KOLL				eSG	Sg	20 56 57.5	-2.4
VYHS	Vyhne	1.68	170	ePN	Pn	20 56 38.6	+0.2
VYHS				eSN	Sn	20 57 00.4	-0.5
SMOL	Smolenice	1.76	201	ePN	Pn	20 56 40.3	+0.9
SMOL				eSN	Sn	20 57 02.7	-0.1
ZST	Bratislava	2.13	204	ePN	Pn	20 56 45.2	+0.4
ZST				eSN	Sn	20 57 11.9	-0.5
KECS	Kecovo	2.16	140	ePG	Pg	20 56 50.5	-0.1
PSZ	Piszkesteto	2.44	156	⇓ePn	Pn	20 56 49.8	+0.6
PSZ				eSB	Sb	20 57 20.5	-2.3
PVCC	Panska Ves	2.48	280	ePG	Pg	20 56 56.0	-1.0
PVCC				eSG	Sg	20 57 29.7	-0.4
PRU	Pruhonice	2.49	268	ePN	Pn	20 56 49.7	-0.2
PRU				PG	Pg	20 56 54.9	-2.3
PRU				SG	Sg	20 57 27.1	-3.3
	19nm,0.5s						
PRU	Pruhonice	2.49	268	ePn	Pn	20 56 52.0	+2.1
PRU				ePg	Pg	20 56 54.8	-2.4
PRU				eSg	Sg	20 57 26.4	-4.0
KWP	Kalwaria	2.84	99	ePG	Pg	20 57 03.0	-1.1
KWP	Kalwaria	2.84	99	ePg	Pg	20 57 02.9	-1.2
BRG	Berggiesshubel	2.93	286	i Pg	Pg	20 57 04.8	-1.3
BRG				i Sg	Sg	20 57 43.3	-1.9
KHC	Kasperske Hory	3.29	254	ePN	Pn	20 57 01.8	+0.4
KHC				ePG	Pg	20 57 09.2	-4.0
KHC				e		20 57 37.1	
KHC				e		20 57 50.2	
KHC						20 57 52.6	
KHC	Kasperske Hory	3.29	254	ePn	Pn	20 57 01.8	+0.4
KHC				ePg	Pg	20 57 09.2	-4.0
KHC				e		20 57 37.1	
KHC				eSg	Sg	20 57 50.2	-6.9
KHC				e		20 57 52.6	
GERES	GERESS Array B	3.33	249	Pn	Pn	20 57 02.3	+0.5
	0.2nm,0.3s,baz=68,slow=14,SNR=6.4						
GERES				Pg	Pg	20 57 10.7	-3.3
	0.9nm,0.3s,baz=64,slow=17,SNR=19						
GERES				Lg		20 57 53.3	
	4.8nm,0.3s,baz=67,slow=28,SNR=14						
MOA	Molln	3.56	231	⇓iPN	Pn	20 57 04.1	-1.1
MOA				i SG	Sg	20 58 00.4	-5.7
	8.6nm,0.4s						
CLL	Collm	3.62	291	ePG	Pg	20 57 20.0	+0.3
CLL				eSG	Sg	20 58 06.0	-1.9
BSD	Bornholm Skovb	5.40	338	i P	Pn	20 57 30.6	-0.7
BSD				i		20 57 39.6	
BSD				i S	Sn	20 58 28.6	-6.6
NOA	NORSAR Array B	11.63	342	Pn	P	20 58 53.9	-3.8
	0.1nm,0.3s,baz=2.1,slow=8.4,SNR=2.7						
FINES	FINESS Array B	12.10	18	Pn	P	20 58 59.5	-4.5
	0.1nm,0.3s,baz=200,slow=16,SNR=4.1						
ARCES	ARCESS Array B	19.75	7	P	P	21 00 40.3	-1.0
	0.1nm,0.3s,baz=191,slow=15,SNR=2.8						

ECX 25 21:09:07.0±0.4, 30.33N×113.98W, h8^{km}, MD4.0, ML4.1, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	El Chinero	1.46	321	ePN	Pn	21 09 33.6	-0.3
ECBX				eS	Sb	21 09 51.9	-0.8
SPX	San Pedro Mart	1.46	300	ePN	Pn	21 09 33.2	-0.6
RDX	Rancho Dowling	2.32	314	ePN	Pn	21 09 45.7	-0.4
RDX				⇑e		21 10 37.6	
	comp=N,764nm,1.0s						
ECNX	Esteban Cantu	2.61	301	ePN	Pn	21 09 49.4	-0.8
PGX	Piedras Gordas	2.66	308	ePN	Pn	21 09 50.2	-0.8
PBX	Punta Banda	2.74	302	ePN	Pn	21 09 51.2	-0.9
ENX	Ensenada	2.77	305	ePN	Pn	21 09 51.8	-0.8
CBX	Cerro Bola	3.03	311	ePN	Pn	21 09 55.4	-0.8
CBX				eSN	Sn	21 10 32.8	-0.3

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*LDG **25** 21:17:04.6±0.1, 44.13N×7.17E, h2^{km}, Md2.0/3, Ml2.0/6, Error ellipse: s-maj=3.6km s-min=2.2km az=64.0*
*STR **25** 21:17:05.0±0.1, 44.13N×7.16E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 25 21:17:03.9±0.5, 44.15N±0.02×7.11E±0.04, h5^{km}, n14, σ0^{s}79/25, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOUF	Mont Tournerai	0.17	143	Pg	Pg	21 17 08.1	+0.7
AUTN	L'Aution	0.28	124	Pg	Pg	21 17 09.8	+0.3
AUTN				Sg	Sg	21 17 13.6	+0.4
AURF	Auriere	0.30	149	Pg	Pg	21 17 10.5	+0.4
AURF				Sg	Sg	21 17 14.4	+0.2
SAOF	Saorge	0.36	117	Pg	Pg	21 17 11.4	+0.2
SBF	Sospel	0.37	140	ePg	Pg	21 17 11.5	+0.1
SBF				eSg	Sg	21 17 15.8	-0.5
	12nm,0.3s						
CALN	Calern	0.43	202	Pg	Pg	21 17 13.1	+0.6
CALN				Sg	Sg	21 17 19.4	+1.2
MBDF	Montbardon	0.63	337	ePg	Pg	21 17 17.4	+0.9
MBDF				eSg	Sg	21 17 25.3	+0.4
	4.3nm,0.3s						
FRF	La Foret Royal	0.68	210	ePg	Pg	21 17 17.1	-0.4
FRF				eSg	Sg	21 17 25.8	-0.7
	6.1nm,0.2s						
LMR	La Mourre	0.92	208	ePg	Pg	21 17 21.7	-0.7
LMR				eSg	Sg	21 17 33.5	-1.2
	6.1nm,0.2s						
SMRF	Simiane la Rot	1.12	262	ePg	Pg	21 17 26.9	+0.6
SMRF				eSg	Sg	21 17 42.8	+1.5
	3.1nm,0.2s						
ORIF	Oris-en-Rattie	1.17	312	ePg	Pg	21 17 27.8	+0.5
ORIF				eSg	Sg	21 17 42.6	-0.3
	1.2nm,0.2s						
LPL	La Plagne	1.39	349	eSg	Sg	21 17 49.6	-0.8
	1.3nm,0.3s						
VIVF	Saint-Julien-l	1.88	293	ePn	Pn	21 17 36.6	-0.5
VIVF				eSn	Sn	21 18 00.3	-1.2
	1.6nm,0.3s						
PGF	Pioggiola	2.11	139	ePn	Pn	21 17 38.4	-2.0
PGF				eSn	Sn	21 18 01.3	-6.0
	1.0nm,0.2s						

MAN 25 21:21:56.6, 11.61N×125.55E, h20^{km}, mb3.8, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	Palo	0.72	232	eP	Pb	21 22 10.7	+0.5
PLP				eS	Sb	21 22 23.2	+3.5
SCPH	Surigao	1.82	182	i P	Pn	21 22 26.7	-0.6
SCPH				eS	Sn	21 22 44.7	-5.2
PVCP	Virac	2.40	325	eP	Pn	21 22 35.5	-0.1

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*WEL **25** 21:44:11.7±0.3, 37.64S×176.94E, h127^{km}±3^{km}, ML3.7/4, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0*
*NEIC **25** 21:44:11.8, 37.66S×176.91E, h126^{km}, After WEL.*
ISC 25 21:44:11.6±1.1, 37.87S±0.07×177.2E±0.1, h145^{km}±10^{km}, n30, σ1^{s}04/41, 3C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.39	184	⇑PN	P	21 44 30.7	-1.7
URZ				SN	S	21 44 46.1	-2.1
URZ	Urewera	0.39	184	P	P	21 44 30.7	-1.6
MWZ	Matawai	0.55	147	⇑PN	P	21 44 32.9	-0.2
MWZ				SN	S	21 44 49.5	-0.1
PUZ	Puketiti	0.90	103	PN	P	21 44 36.4	+1.1
PUZ				SN	S	21 44 52.9	-0.5
MXZ	Matakaoa Point	0.97	72	ePN	P	21 44 34.9	-0.9
MXZ				SN	S	21 44 53.8	-0.6
MXZ	Matakaoa Point	0.97	72	P	P	21 44 35.7	-0.1
KNZ	Kokohu	1.22	160	PN	P	21 44 39.2	+1.0
KNZ				SN	S	21 44 59.8	+1.1
BKZ	Black Stump Fm	1.39	201	PN	P	21 44 40.4	+0.4
BKZ				SN	S	21 45 02.5	+0.7
BKZ	Black Stump Fm	1.39	201	P	P	21 44 40.4	+0.4
BKZ				S	S	21 45 02.5	+0.7
KATZ	Kakaramea	1.59	225	⇑PN	P	21 44 42.5	+0.5
KUZ	Kuaotunu	1.60	314	⇓PN	P	21 44 37.5	-4.7
WTVZ	West Tongariro	1.74	224	PN	P	21 44 44.5	+0.7
NGZ	Ngauruhoe	1.78	222	PN	P	21 44 45.2	+1.0
TWVZ	Taurewa	1.80	228	ePN	P	21 44 44.8	+0.4
TUVZ	Tukino	1.82	220	PN	P	21 44 45.6	+0.9
CNZ	Chateau	1.83	223	PN	P	21 44 46.0	+1.3
FWVZ	Far West T-bar	1.86	222	PN	P	21 44 46.2	+1.0
MOVZ	Moawhango	1.88	215	PN	P	21 44 45.7	+0.3
WNVZ	Wahianoa	1.90	219	PN	P	21 44 46.1	+0.6
PWZ	Pawanui	2.17	186	PN	P	21 44 49.6	+0.8
PWZ				SN	S	21 45 17.9	+0.6
PWZ	Pawanui	2.17	186	P	P	21 44 49.6	+0.8
TSZ	Takapari Road	2.37	203	PN	P	21 44 52.4	+0.9
TSZ	Takapari Road	2.37	203	P	P	21 44 52.4	+1.0
WAZ	Wanganui	2.53	221	PN	P	21 44 53.9	+0.5
WAZ	Wanganui	2.53	221	P	P	21 44 53.9	+0.5
BFZ	Birch Farm	2.89	194	PN	P	21 44 57.7	-0.3
BFZ				SN	S	21 45 33.9	+0.3
MRZ	Mangatainoka R	3.04	203	PN	P	21 44 58.9	-1.2
MRZ				SN	S	21 45 35.7	-1.3
KIW	Kapiti Island	3.45	209	PN	P	21 45 04.1	-1.3
KIW				SN	S	21 45 44.8	-1.8
CAW	Cannon Point	3.61	206	ePN	P	21 45 05.6	-1.9

THZ	Tophouse	5.08	219	ePN	P	21 45 24.6	-2.2

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*MDD **25** 21:44:25.3±0.5, 37.58N×7.96W, mbLg1.5/4, Error ellipse: s-maj=4.5km s-min=2.2km az=33.0, PRXIMO*

*INMG **25** 21:44:25.4±0.5, 37.57N×7.93W, h5^{km}±3^{km}, ML1.0, Error ellipse: s-maj=1.8km s-min=1.1km az=54.0*

ISC 25 21:44:24.4±1.0, **37.57N**±0.05×**7.93W**±0.07, **h7**^{km}±9^{km}, **n9**, σ**0^{s}52**/13, **1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.35	95	⇓Pg	Pg	21 44 32.0	+0.5
	3.3nm,0.1s,SNR=18						
EGRO				Lg		21 44 37.6	
	5.1nm,0.1s,SNR=32						
PALC	Alcoutim	0.37	106	ePg	Pg	21 44 32.3	+0.4
PALC				eSg	Sg	21 44 37.7	+0.7
	10nm,0.1s						
PALC	Alcoutim	0.37	106	Pg	Pg	21 44 32.3	+0.4
PALC				Lg		21 44 37.7	
	5.1nm,0.1s						
PBEJ	Beja	0.46	6	ePg	Pg	21 44 33.6	0.0
PBEJ				eSg	Sg	21 44 39.7	-0.1
PTEO	Sao Teotonio	0.63	268	ePg	Pg	21 44 37.0	-0.1
MOE	Montemor	1.01	341	eP	Pb	21 44 44.0	+0.2
MOE				eS	Sb	21 44 58.0	+0.9
EMIN	Mina Concepcio	1.01	78	Pg	Pg	21 44 44.1	-0.6
	0.9nm,0.1s,SNR=19						
EMIN				Lg		21 44 58.0	
	1.4nm,0.1s,SNR=8.6						
EBAD	Badajoz	1.39	31	Pn	Pn	21 44 50.0	-0.2
	0.2nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	21 44 51.4	-0.7
	2.2nm,0.1s,SNR=24						
EBAD				Lg		21 45 09.7	
	5.6nm,0.1s,SNR=12						
ESPR	Espera	1.79	112	Pn	Pn	21 44 55.4	-0.7
	0.2nm,0.1s,SNR=5.0						
ESPR				Lg		21 45 25.3	
	0.5nm,0.2s,SNR=4.0						

DJA 25 21:48:09.6±1.1, **9.71S×116.35E, h15**^{km}**, MD5.0**/3, **ML4.3**/3, **4C-2D, Error ellipse: s-maj=27.8km s-min=18.2km az=127.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.23	349	⇓ePn	Pn	21 48 29.9	-2.4
	254nm,0.2s						
KEDI				⇑eSn	Sn	21 48 45.3	-3.4
RATI	Rata	1.27	320	⇑ePn	Pn	21 48 30.1	-2.7
	253nm,0.2s						
RATI				⇑eSn	Sn	21 48 45.0	-4.5
INGI	Ingas	1.48	306	⇓ePn	Pn	21 48 33.0	-2.9
	441nm,0.2s						
KELI	Kelakatan	2.36	309	⇑ePn	Pn	21 48 46.3	-2.1

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*MDD **25** 21:52:51.0±0.5, 42.91N×1.44W, mbLg1.5/5, Error ellipse: s-maj=4.3km s-min=2.8km az=45.0, PRXIMO*

*LDG **25** 21:52:50.3±0.3, 42.96N×1.51W, h2^{km}, Md1.9/2, Ml1.8/1, Error ellipse: s-maj=6.2km s-min=5.5km az=28.0*

ISC 25 21:52:49.1±1.0, **42.88N**±0.07×**1.48W**±0.06, **h5**^{km}±17^{km}, **n7**, σ**0^{s}38**/9, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	39	ePg	Pg	21 52 55.4	+0.1
SJPF				eSg	Sg	21 52 59.0	-0.3
	45nm,0.2s						
EALK	Alkurruntz	0.34	357	Pg	Pg	21 52 56.7	+0.6
	0.5nm,0.1s,SNR=16						
EALK				Lg		21 53 01.2	
	12nm,0.1s,SNR=12						
ETSF	Etsaut	0.68	88	ePg	Pg	21 53 02.4	-0.3
ETSF				eSg	Sg	21 53 12.4	+0.6
	2.1nm,0.2s						
EPF	Esparros	1.35	83	ePn	Pn	21 53 14.7	0.0
EPF				eSg	Sg	21 53 33.6	-0.4
	2.0nm,0.3s						
ESAC	San Caprasio	1.38	147	Pg	Pg	21 53 16.8	+0.1
	11nm,0.3s,SNR=5.6						
ESAC				Lg		21 53 35.9	
	15nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.47	285	Pg	Pg	21 53 18.2	-0.4
	0.1nm,0.2s,SNR=7.9						
ELAN				Lg		21 53 38.8	
	0.7nm,0.2s,SNR=7.9						
ETOR	Torete	2.10	192	Lg		21 53 59.7	
	3.7nm,0.5s,SNR=7.9						

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*IDC **25** 21:58:05.1±1.8, 14.50N×147.14E, mb4.2/9, mb1 4.3/9, mb1mx4.1/21, Error ellipse: s-maj=65.4km s-min=20.8km az=86.0*

*MOS **25** 21:58:09.2±0.8, 14.49N×146.84E, h33^{km}, mb4.7/4, Error ellipse: s-maj=38.5km s-min=16.5km az=127.2*

*NEIC **25** 21:58:10.1±0.7, 14.52N×147.18E, h35^{km}, mb4.4/6, Error ellipse: s-maj=20.1km s-min=10.3km az=101.0*

ISC 25 21:58:10.2±3.9, **14.5N**±0.1×**147.1E**±0.3, **h51**^{km}±27^{km}, **n40**, σ**0^{s}61**/35, **mb4.5**/20, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.32	248	P	P	21 58 47.0	+0.3
MAJO	Matsushiro	23.35	342	eP	P	22 03 13.5	-1.3
	5.0nm,0.8s,mb4.0						
WRA	Warramunga Arr	36.44	200	P	P	22 05 11.6	-0.6
	0.7nm,0.7s,mb3.7,baz=21,slow=9.6,SNR=12						
WRA	Warramunga Arr	36.44	200	P	P	22 05 11.6	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	40.05	199	P	P	22 05 42.2	0.0
	comp=Z,0.4nm,0.6s,baz=20,slow=10,SNR=5.0						
CMAR	Chiang Mai Arr	46.22	282	P	P	22 06 32.6	+0.2
	comp=Z,1.6nm,1.0s,mb3.9,baz=80,slow=6.9,SNR=7.3						
CMAR				PcP	PcP	22 08 09.4	+1.5
	comp=Z,0.5nm,0.5s,baz=84,slow=2.1,SNR=4.6						
CMAR	Chiang Mai Arr	46.22	282	P	P	22 06 32.6	+0.2
CMAR						22 08 09.5	
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	47.26	323	P	P	22 06 40.6	+0.4
	comp=Z,1.1nm,0.5s,mb4.0,baz=138,slow=9.8,SNR=14						
LSA	Lhasa	53.50	296	eP	P	22 07 29.6	+1.5
	comp=Z,5.1nm,0.7s,mb4.6						
PKI	Pulchoki	58.49	294	eP	P	22 08 03.2	-0.6
	comp=Z,8.0nm,0.6s,mb4.9						
KKN	Kakani	58.60	294	eP	P	22 08 04.2	-0.4
	comp=Z,9.3nm,0.7s,mb5.0						
DMN	Daman	58.76	294	eP	P	22 08 05.6	-0.1
	comp=Z,15nm,0.9s,mb5.0						
GKN	Gorkha	59.17	294	eP	P	22 08 07.8	-0.7
	comp=Z,9.9nm,0.6s,mb5.0						
KOLN	Koldanda	60.09	294	eP	P	22 08 14.4	-0.5
	comp=Z,9.5nm,0.8s,mb4.9						
ZAL	Zalesovo	62.16	324	P	P	22 08 27.6	-0.8
	comp=Z,1.2nm,0.4s,mb4.4,baz=282,slow=7.6,SNR=5.6						
ZAL	Zalesovo	62.16	324	P	P	22 08 27.7	-0.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	62.34	315	P	P	22 08 30.1	+0.3
	comp=Z,5.5nm,0.5s,mb4.9,baz=91,slow=8.5,SNR=42						
MKAR	Makanchi Array	62.34	315	eP	P	22 08 30.0	+0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	Kurchatov	65.28	319	P	P	22 08 48.1	-0.9
	comp=Z,98nm,0.6s,SNR=18						
KURK	Kurchatov	65.28	319	P	P	22 08 48.5	-0.5
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	Kurchatov	65.28	319	eP	P	22 08 48.8	-0.2
	comp=Z,12nm,0.8s,mb5.0						
VOSK	Vostochnaya	70.19	321	P	P	22 09 19.3	-0.2
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KKAR	Karatay Array	70.48	311	i P	P	22 09 22.2	+0.7
BVA0	Borovoye Array	70.55	321	i P	P	22 09 22.1	+0.4
BVAR	Borovoye Array	70.55	321	P	P	22 09 21.4	-0.4
	comp=Z,5.7nm,0.6s,mb4.7,baz=102,slow=7.3,SNR=15						
BRVK	Borovoye	70.62	321	P	P	22 09 22.5	+0.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	Borovoye	70.62	321	eP	P	22 09 22.4	+0.3
	comp=Z,4.1nm,0.6s,mb4.5						
ZRNK	Zerenda	71.39	321	P	P	22 09 26.9	+0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	Zerenda	71.39	321	eP	P	22 09 26.9	+0.1
	comp=Z,2.3nm,0.9s,mb4.1						
ARU	Arti	77.25	325	eP	P	22 10 00.9	+0.3
	comp=Z,1.5nm,0.6s,mb4.1						
AB31	Akbulak array	77.31	318	P	P	22 10 01.1	0.0
ARCES	ARCESS Array B	86.88	343	P	P	22 10 51.1	+0.9
	comp=Z,9.8nm,1.3s,mb4.9,baz=67,slow=9.2,SNR=4.9						
ARCES	ARCESS Array B	86.88	343	P	P	22 10 51.1	+0.9
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.3s						
FINES	FINESS Array B	91.24	336	P	P	22 11 11.9	+0.9
	comp=Z,1.8nm,0.9s,mb4.4,baz=56,slow=5.0,SNR=3.1						
FINES	FINESS Array B	91.24	336	P	P	22 11 11.9	+0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DBIC	Dimbokro	145.11	305	PKPbc	PKPbc	22 17 45.6	+2.2
	comp=Z,11nm,0.7s,baz=52,slow=4.2,SNR=22						
DBIC	Dimbokro	145.11	305	PKIKP	PKPdf	22 17 45.6	+2.5
DBIC				pmax	pmax		
	comp=Z,11nm,0.7s						
KIC	Kosan Boka	145.20	305	ePKP2	PKPab	22 17 45.4	+0.3
	comp=Z,32nm,0.6s						
TIC	Toumodi	145.25	305	ePKP2	PKPab	22 17 45.7	+0.4
	comp=Z,23nm,0.5s						
LIC	Lamto	145.51	305	ePKP2	PKPab	22 17 46.6	+0.3
	comp=Z,52nm,0.7s						

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*IDC **25** 22:35:13.1±5.3, 4.82N×123.86E, h474^{km}±64^{km}, mb3.3/5, mb1 3.5/5, mb1mx3.1/19, Error ellipse: s-maj=97.4km s-min=17.0km az=62.0*

*NEIC **25** 22:35:14.3±0.7, 4.84N×123.86E, h500^{km}, mb4.0/6, Error ellipse: s-maj=89.7km s-min=9.9km az=65.0*

ISC 25 22:35:16.4±3.4, **4.7N**±0.3×**123.8E**±0.7, **h549**^{km}±47^{km}, **n13**, σ**0^{s}89**/14, **mb3.8**/9, **2C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	19.32	154	eP	P	22 39 07.4	+0.2
	15nm,0.5s						
FITZ	Fitzroy Crossi	22.75	175	P	P	22 39 38.6	-0.1
	2.6nm,0.9s,mb3.9,baz=353,slow=8.1,SNR=4.2						
WRAB	Tennant Creek	26.62	157	eP	P	22 40 12.2	-0.9
	4.7nm,0.6s,mb4.3						
WRA	Warramunga Arr	26.62	157	P	P	22 40 12.4	-0.7
	3.1nm,0.6s,mb4.1,baz=338,slow=9.6,SNR=40						
WRA				PcP	PcP	22 43 21.6	+2.5
	0.5nm,1.2s,baz=327,slow=3.5,SNR=2.6						
WB2	Warramunga Arr	26.63	157	⇑iP	P	22 40 12.4	-0.8
WB2				eS	S	22 44 09.7	-0.7
ASAR	Alice Springs	29.89	161	P	P	22 40 41.9	+0.4
	2.3nm,0.4s,mb4.1,baz=339,slow=7.2,SNR=24						
ASPA	Alice Springs	29.89	161	⇑iP	P	22 40 42.3	+0.8
STKA	Stephens Creek	40.16	156	eP	P	22 42 08.3	+1.8
	1.8nm,0.4s,mb4.0						
STKA	Stephens Creek	40.16	156	P	P	22 42 08.3	+1.8
	2.1nm,0.3s,mb4.1,baz=343,slow=10,SNR=9.8						
MKAR	Makanchi Array	55.08	326	P	P	22 43 59.2	+0.7
	0.5nm,0.4s,mb3.1,baz=123,slow=7.5,SNR=18						
MKAR				PcP	PcP	22 44 52.5	+1.0
	0.4nm,0.5s,baz=129,slow=3.4,SNR=4.9						
KURK	Kurchatov	59.34	328	eP	P	22 44 25.8	-1.7
	1.2nm,0.6s,mb3.3						
ZRNK	Zerenda	65.60	327	eP	P	22 45 08.4	+0.7
	1.3nm,0.5s,mb3.7						
ARU	Arti	72.53	328	eP	P	22 45 48.9	-0.1
	3.3nm,0.6s,mb3.9						

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*IDC **25** 22:41:14.1±1.8, 41.42N×19.35E, mb4.0/4, mb1 4.0/7, mb1mx3.8/22, ML3.4/3, Error ellipse: s-maj=22.6km s-min=15.4km az=31.0*

*PDG **25** 22:41:16.0±0.6, 41.38N×19.61E, h11^{km}±1^{km}*

*NEIC **25** 22:41:16.0, 41.38N×19.61E, h11^{km}, MD3.8(ATH), ML3.6(BUD), ML3.5(THE), ML3.3(PDG), ML3.3(ROM), After PDG.*

*TIR **25** 22:41:17.2, 41.50N×19.67E, h21^{km}, Ml2.5*

*THE **25** 22:41:18.8, 41.45N×19.63E, h10^{km}, ML3.5*

*ATH **25** 22:41:18.7, 41.34N×19.75E, h2^{km}, MD3.8/4*

*LDG **25** 22:41:24.2±0.6, 41.41N×19.03E, h10^{km}, Ml3.7/6, Error ellipse: s-maj=13.4km s-min=7.0km az=86.0*

ISC 25 22:41:16.6±0.3, **41.43N**±0.02×**19.49E**±0.02, **h14**^{km}±2^{km}, **n102**, σ**1^{s}28**/161, **mb3.8**/3, **9C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRZA	Preza	0.13	90	ePg	Pg	22 41 21.2	+0.9
PRZA				i Sg	Sg	22 41 24.0	+1.3
LACI	Lac	0.26	38	i Pg	Pg	22 41 22.6	+0.2
LACI				i Sg	Sg	22 41 26.3	0.0
TIR	Tirane	0.29	106	ePg	Pg	22 41 22.7	-0.3
TIR				i Sg	Sg	22 41 27.4	+0.2
QSH	Qafa e Shtames	0.32	74	i Pg	Pg	22 41 22.2	-1.3
QSH				i Sg	Sg	22 41 25.4	-2.8
ULC	Ulcinj	0.56	341	⇑iPg	Pg	22 41 28.3	+0.1
ULC				eSg	Sg	22 41 37.8	+2.0
SDA	Shkodra	0.62	0	i Pg	Pg	22 41 29.1	-0.2
SDA				i Sg	Sg	22 41 40.4	+2.7
PUK	Puka	0.68	26	i Pg	Pg	22 41 29.6	-0.9
PUK				i Sg	Sg	22 41 41.6	+1.9
PHP	Peshkopia	0.76	70	i Pg	Pg	22 41 29.5	-2.4
PHP				i Sg	Sg	22 41 41.5	-0.6
BUM	Brajici-Budva	0.98	333	⇓iPg	Pg	22 41 36.3	+0.1
BUM				eSg	Sg	22 41 52.5	+3.2
TTG	Podgorica	1.01	350	⇑iPg	Pg	22 41 36.0	-1.0
TTG				eSg	Sg	22 41 53.0	+2.4
BCI	Bajram Curri	1.03	24	i Pg	Pg	22 41 35.3	-2.0
BCI				i Sg	Sg	22 41 51.1	0.0
OHR	Ohrid	1.04	108	i Pg	Pg	22 41 35.3	-2.2
OHR				i Sg	Sg	22 41 51.4	0.0
PVY	Plav	1.22	17	⇑iPg	Pg	22 41 38.9	-2.2
PVY				eSg	Sg	22 41 58.5	+1.2
HCY	Herceg Novi	1.26	324	⇑iPg	Pg	22 41 41.4	-0.5
HCY				eSg	Sg	22 42 01.2	+2.5
NKY	Niksic	1.43	345	⇑iPg	Pg	22 41 43.5	-1.7
NKY				eSg	Sg	22 42 05.7	+1.3
BIA	Bitola	1.44	106	i Pn	Pn	22 41 42.4	-0.1
BIA				i		22 41 44.9	
BIA				i Sg	Sg	22 42 03.4	-1.4
IVA	Berane	1.47	12	⇓iPg	Pg	22 41 43.8	-2.4
IVA				eSg	Sg	22 42 06.1	+0.3
LCI	Lecce	1.51	224	ePn	Pn	22 41 44.1	+0.5
LCI				eSn	Sn	22 42 05.0	+1.9
LSK	Leskovik	1.53	146	ePn	Pn	22 41 45.8	+2.0
LSK				i Sn	Sn	22 42 06.8	+3.2
SKO	Skopje	1.56	69	i Pn	Pn	22 41 44.7	+0.5
SKO				i		22 41 46.0	
SKO				i Sn	Sn	22 42 03.7	-0.5
SKO				i		22 42 06.4	
SKO				Lg		22 42 09.0	
	comp=Z,0.1nm,0.6s						
FNA	Florina	1.56	114	ePb	Pb	22 41 44.8	-0.1
	comp=Z,9.5nm,0.5s						
FNA				eSb	Sb	22 42 05.8	+1.3
BRY	Bratogost	1.63	335	⇑iPn	Pn	22 41 46.9	+1.7
BRY				eSn	Sn	22 42 11.3	+5.2
KEK	Kerkira	1.73	172	ePG	Pg	22 41 48.9	-2.4
BRT	Bari-Castellan	1.81	253	ePn	Pn	22 41 49.5	+1.7
UPM	Unac-Piva	1.82	347	⇓iPn	Pn	22 41 49.8	+1.8
UPM				eSn	Sn	22 42 15.9	+4.9
PLE	Pljevlja	1.90	358	⇑iPn	Pn	22 41 50.8	+1.7
PLE				eSn	Sn	22 42 17.5	+4.5
STON	Ston	1.96	318	i Pn	Pn	22 41 50.8	+0.8
STON				i Sn	Sn	22 42 15.5	+1.0
IGT	Igoumenitsa	2.00	161	ePn	Pn	22 41 52.1	+1.5
IGT				eSn	Sn	22 42 18.4	+2.9
JAN	Janina	2.05	149	ePB	Pb	22 41 54.5	+1.2
KZN	Kozani	2.06	122	ePB	Pb	22 41 53.5	+0.1
NVSS	Nova Varos 2	2.08	4	⇓iPn	Pn	22 41 55.4	+3.7
NVSS				Sn	Sn	22 42 20.2	+2.6
MEV	Metsovon	2.11	141	ePn	Pn	22 41 53.7	+1.6
	comp=Z,5.0nm,0.5s						
MEV				eSn	Sn	22 42 21.1	+2.8
BARS	Barje	2.22	51	⇑iPn	Pn	22 41 54.6	+0.9
BARS				Sn	Sn	22 42 22.4	+1.2
GRG	Griva	2.25	101	ePn	Pn	22 41 54.7	+0.6
GRG				eSn	Sn	22 42 22.9	+1.1
KNT	Kendrikon	2.58	95	ePn	Pn	22 41 58.9	+0.1
KNT				eSn	Sn	22 42 29.5	-0.8
GRUS	Gruza	2.62	20	⇓iPn	Pn	22 42 00.5	+1.1
GRUS				Sn	Sn	22 42 33.5	+2.3
LIT	Litokhoron	2.64	119	ePn	Pn	22 42 00.1	+0.4
	comp=Z,2.8nm,0.5s						
LIT				eSn	Sn	22 42 31.6	-0.1
FGMS	Monte Sant'Ang	2.67	277	ePn	Pn	22 42 00.3	+0.2
FGMS				eSn	Sn	22 42 33.2	+0.7
ORI	Oriolo Calabro	2.69	240	ePn	Pn	22 42 01.3	+1.0
THE	Thessaloniki	2.75	106	ePn	Pn	22 42 01.1	-0.1
THE				eSn	Sn	22 42 33.9	-0.6
LKD	Levkas	2.86	162	ePn	Pn	22 42 03.0	+0.1
	comp=Z,3.8nm,0.5s						
LKD				eSn	Sn	22 42 37.8	+0.4
RGNG	Rignano Grg	2.94	276	ePn	Pn	22 42 04.0	0.0
SOH	Sokhos	2.98	101	ePn	Pn	22 42 04.6	+0.1
SOH				eSn	Sn	22 42 41.1	+0.7
TIP	Timpagrande	3.07	224	eP	Pn	22 42 05.3	-0.5
EVR	Evrytania	3.08	144	ePN	Pn	22 42 08.0	+2.1
MRLC	Muro Lucano	3.10	259	ePn	Pn	22 42 07.1	+0.9
SLCN	Sala Consilina	3.10	252	ePn	Pn	22 42 06.8	+0.5
SRS	Serrai	3.11	94	ePn	Pn	22 42 06.4	0.0
SRS				eSn	Sn	22 42 42.2	-1.4
SVIS	Svilajnac	3.13	23	eP	Pn	22 42 07.7	+1.0
AGG	Agios Georgios	3.24	137	ePn	Pn	22 42 09.3	+1.1
AGG				eSn	Sn	22 42 46.7	-0.3
MGR	Morigerati	3.26	248	ePn	Pn	22 42 09.4	+1.0
SGO	Sicignano	3.28	256	ePn	Pn	22 42 09.3	+0.5
CSSN	Cassano Irpino	3.42	262	ePn	Pn	22 42 12.0	+1.2
XOR	Xorichti	3.50	125	ePn	Pn	22 42 11.2	-0.6
XOR				eSn	Sn	22 42 53.5	-0.1
GRI	Girifalco	3.51	223	ePn	Pn	22 42 11.4	-0.7
PAIG	Paliouri	3.52	114	ePn	Pn	22 42 12.5	+0.3
OUR	Ouranopolis	3.58	106	ePn	Pn	22 42 12.3	-0.7
OUR				eSn	Sn	22 42 54.3	-1.2
SGG	Gregorio Mates	3.85	271	ePn	Pn	22 42 17.8	+1.0
SGG				eSn	Sn	22 43 00.7	-1.6
CPI2	Carpinone	3.89	274	ePn	Pn	22 42 18.5	+1.1
CPI2				eSn	Sn	22 43 03.9	+0.5
CII	Carovilli	3.90	276	ePn	Pn	22 42 18.6	+1.0
CII				eSn	Sn	22 43 02.0	-1.7
MSC	Monte Massico	4.17	269	ePn	Pn	22 42 21.8	+0.5
INTR	Introdacqua	4.22	280	ePn	Pn	22 42 22.4	+0.2
SOI	Samo	4.27	219	ePn	Pn	22 42 21.8	-1.2
TERO	Teramo	4.54	287	ePn	Pn	22 42 26.8	+0.1
PTQR	Pietraquaria	4.60	279	ePn	Pn	22 42 28.4	+0.9
NVLJ	Novalja	4.61	314	i Pn	Pn	22 42 27.1	-0.6
NVLJ				i Sn	Sn	22 43 19.3	-2.4
AQU	L'Aquila	4.64	283	P	Pn	22 42 28.5	+0.4
RHK1	Bakonya	4.77	348	eP	Pn	22 42 31.2	+1.2
RHK1				eS	Sn	22 43 25.8	0.0
ALN	Alexandroupoli	4.98	94	ePn	Pn	22 42 32.8	0.0
CING	Cingoli	5.05	295	ePn	Pn	22 42 33.1	-0.8
MNS	Montasola	5.17	283	ePn	Pn	22 42 36.4	+0.8
ARV	Arcevia	5.27	295	ePn	Pn	22 42 36.2	-0.7
FSSB	Fossombrone	5.45	297	ePn	Pn	22 42 38.7	-0.8
FSSB				eSn	Sn	22 43 37.9	-4.8
MURB	Monte Urbino	5.48	292	ePn	Pn	22 42 40.0	0.0
VOY	Vojsko	6.13	320	ePn	Pn	22 42 48.2	-0.9
VOY				eSn	Sn	22 43 55.9	-3.9
OBKA	Obir	6.20	327	⇓iPN	Pn	22 42 50.4	+0.2
OBKA				i SN	Sn	22 43 57.7	-3.9
MLR	Muntele Rosu	6.21	47	Pn	Pn	22 42 51.1	+0.9
	comp=Z,0.8nm,0.3s,baz=150,slow=17,SNR=10						
MLR				Sn	Sn	22 44 01.2	-0.5
	comp=Z,0.6nm,0.3s,baz=142,slow=22,SNR=7.0						
ARSA	Arzberg	6.48	335	⇓iPN	Pn	22 42 53.0	-1.0
ARSA				i SN	Sn	22 44 05.2	-3.3
PSZ	Piszkesteto	6.49	2	P	Pn	22 42 54.4	+0.2
PTCC	Patocco-Chiusa	6.66	320	ePn	Pn	22 42 54.5	-2.1
FVI	Forni Avoltri	7.07	319	ePn	Pn	22 43 02.3	-0.2
MOA	Molln	7.42	332	⇑iPN	Pn	22 43 07.5	+0.2
MOA				i SN	Sn	22 44 26.6	-5.5
IDI	Anoyia	7.46	144	Pn	Pn	22 43 05.8	-1.9
	comp=Z,0.2nm,0.3s,baz=86,slow=21,SNR=2.1						
IDI				Sn	Sn	22 44 25.9	-7.0
	comp=Z,0.3nm,0.3s,baz=278,slow=22,SNR=2.9						
PGF	Pioggiola	7.90	282	ePn	Pn	22 43 12.2	-1.7
GERES	GERESS Array B	8.47	333	Pn	P	22 43 19.1	-2.7
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=4.3						
GERES				Sn	Sn	22 44 53.2	-5.0
	comp=Z,0.2nm,0.3s,baz=153,slow=22,SNR=3.0						
SBF	Sospel	9.21	289	ePn	P	22 43 29.4	-2.8
FRF	La Foret Royal	9.72	287	ePn	P	22 43 39.6	+0.4
FRF				eSn	Sn	22 45 15.9	-13
	comp=Z,1.4nm,0.4s						
MBDF	Montbardon	9.87	294	ePn	P	22 43 39.2	-2.0
MBDF				eSn	Sn	22 45 20.7	-12
	comp=Z,2.0nm,0.5s						
LPG	La Plagne	10.11	298	ePn	P	22 43 44.3	-0.2
LPG				eSn	S	22 45 27.3	-12
	comp=Z,34nm,1.3s						
LPL	La Plagne	10.13	298	ePn	P	22 43 43.7	-1.1
LPL				eSn	S	22 45 27.8	-11
	comp=Z,4.3nm,0.4s						
ORIF	Oris-en-Rattie	10.54	294	ePn	P	22 43 49.1	-1.2
CABF	La Chapelle	10.95	303	ePn	P	22 43 53.8	-2.2
HINF	Hinteralfeld	11.03	310	ePn	P	22 43 55.1	-2.0
HAU	Haudompre	11.42	310	ePn	P	22 43 59.6	-2.8
SMF	Signal de Mont	12.40	300	eSn	S	22 46 22.1	-13
	comp=Z,2.4nm,0.4s						
LOR	Lormes	12.61	303	ePn	P	22 44 18.0	-0.5
LOR				eSn	S	22 46 27.2	-13
	comp=Z,2.0nm,0.3s						
AVF	Avril sur Loir	12.77	300	ePn	P	22 44 19.5	-1.1
FINES	FINESS Array B	20.44	9	P	P	22 45 52.6	-3.5
	comp=Z,50nm,1.5s,baz=184,slow=12,SNR=9.8						
KAF	Kangasniemi	21.11	9	ep	P	22 45 54.3	-8.7
ZAL	Zalesovo	44.16	50	P	P	22 49 24.4	-1.9
	comp=Z,1.3nm,0.4s,mb4.1,baz=79,slow=8.8,SNR=3.3						
MKAR	Makanchi Array	44.34	61	P	P	22 49 25.7	-2.2
	comp=Z,0.8nm,0.5s,mb3.8,baz=284,slow=7.9,SNR=12						
SONM	Songino Array	59.04	52	P	P	22 51 16.3	-2.0
	comp=Z,0.2nm,0.4s,mb3.5,baz=315,slow=8.2,SNR=2.7						

IDC 25 22:51:17.3±5.2, **8.18S×119.59E, h195**^{km}±66^{km}, **mb3.1**/2, **mb1 3.3**/4, **mb1mx3.1**/16, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.1**/6, **Error ellipse: s-maj=159.0km s-min=14.9km az=48.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.48	150	eP	P	22 53 55.2	-1.4
	3.5nm,1.2s						
FITZ				eS	S	22 55 53.9	-7.9
FITZ	Fitzroy Crossi	11.48	150	P	P	22 53 55.0	-1.7
	0.1nm,0.3s,baz=349,slow=13,SNR=5.2						
FITZ				S	S	22 55 51.2	-11
	0.1nm,0.3s,baz=12,slow=19,SNR=2.7						
WRA	Warramunga Arr	18.46	131	P	P	22 55 18.9	-1.9
	0.3nm,0.3s,baz=302,slow=12,SNR=29						
WRA				S	S	22 58 39.6	+3.2
	0.1nm,0.3s,baz=311,slow=22,SNR=4.3						
WB2	Warramunga Arr	18.46	131	eP	P	22 55 19.0	-1.9
ASPA	Alice Springs	20.62	140	eP	P	22 55 42.4	-0.4
ASAR	Alice Springs	20.62	140	P	P	22 55 42.2	-0.6
	1.5nm,0.3s,baz=311,slow=9.0,SNR=24						
CTA	Charters Tower	28.38	117	LR	LR	23 08 53.8	
	comp=Z,48nm,20.5s,baz=47,slow=37						
MKAR	Makanchi Array	64.00	332	P	P	23 01 30.0	-2.2
	0.2nm,0.5s,baz=125,slow=8.0,SNR=3.6						

IDC 25 22:57:21.8±2.7, **10.60S×162.56E, mb3.8**/5, **mb1 4.0**/6, **mb1mx3.9**/16, **ML4.2**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.9**/14, **Error ellipse: s-maj=93.3km s-min=29.5km az=132.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	18.32	237	P	P	23 01 41.2	+2.0
	0.5nm,0.3s,baz=66,slow=11,SNR=9.8						
WRA	Warramunga Arr	28.73	248	P	P	23 03 21.0	-2.2
	0.4nm,0.5s,baz=78,slow=8.8,SNR=10						
ASAR	Alice Springs	30.23	241	P	P	23 03 34.5	-2.2
	0.5nm,0.7s,baz=61,slow=10.0,SNR=3.9						
ASAR				LR	LR	23 14 08.3	
	comp=Z,70nm,18.6s,baz=192,slow=33						
SONM	Songino Array	76.48	325	P	P	23 09 14.6	-0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	1.4nm,0.8s,baz=121,slow=5.7,SNR=9.9						
ILAR	Eielson Array	84.11	19	P	P	23 09 54.0	-1.6
	0.4nm,0.8s,baz=239,slow=5.3,SNR=3.0						
MKAR	Makanchi Array	91.07	317	P	P	23 10 27.5	-2.0
	0.3nm,0.5s,baz=90,slow=8.5,SNR=3.8						

ISC 25 23:08:27.0±1.1**,46.45N**±0.07×**15.07E**±0.05**,n5,σ0^{s}50**/8**, 2C,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS	Pernice	0.19	9	*i* Pg	Pg	23 08 31.3	+0.4
BISS	Bistriski jare	0.20	11	*e*Pg	Pg	23 08 31.6	+0.6
GROS	Grobnik	0.30	87	*i* Pg	Pg	23 08 32.4	-0.6
GROS				*i* Sg	Sg	23 08 37.5	+0.6
	comp=Z,7.0nm,0.2s						
OBKA	Obir	0.37	280	⇑*i*PG	Pg	23 08 34.0	-0.3
OBKA				*i* SG	Sg	23 08 39.5	+0.3
	comp=Z,5.9nm,0.4s						
ARSA	Arzberg	0.86	21	⇑*i*PG	Pg	23 08 43.4	-0.8
ARSA				*i* SG	Sg	23 08 55.5	-0.2
	comp=Z,1.1nm,0.3s						

IDC 25 23:19:56.8±3.6**,30.03N**×**114.02W,mb3.6**/1**,mb1 3.9**/3**, mb1mx3.6**/19**,ML3.9**/2**,MS3.2**/1**,Ms1 3.3**/1**,ms1mx2.6**/20**, Error ellipse: s-maj=58.8km s-min=20.5km az=37.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	9.03	92	Pn	P	23 22 09.7	-1.8
	0.5nm,0.3s,baz=263,slow=15,SNR=10.0						
PDAR	Pinedale Array	13.20	15	Pn	P	23 23 09.6	+1.3
	0.1nm,0.3s,baz=185,slow=10.0,SNR=3.0						
ILAR	Eielson Array	40.35	339	P	P	23 27 35.9	-1.7
	0.7nm,0.8s,baz=151,slow=6.0,SNR=6.7						
ILAR				LR	LR	23 45 44.0	
	comp=Z,31nm,18.4s,baz=9.3,slow=38						

IDC 25 23:20:45.7±3.4**,30.11N**×**113.98W,mb3.9**/2**,mb1 3.9**/5**, mb1mx3.7**/20**,ML3.2**/3**,MS3.3**/3**,Ms1 3.3**/3**,ms1mx2.8**/25**, Error ellipse: s-maj=59.6km s-min=16.5km az=35.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	9.00	92	Pn	P	23 22 57.7	-2.2
	0.2nm,0.3s,baz=262,slow=13,SNR=2.7						
TXAR				LR	LR	23 25 59.6	
	comp=Z,201nm,21.2s,baz=275,slow=35						
NVAR	Mina Array Bea	9.04	338	Pn	P	23 22 56.8	-3.6
	0.3nm,0.3s,baz=147,slow=13,SNR=4.8						
NVAR				LR	LR	23 25 44.8	
	comp=Z,96nm,20.8s,baz=180,slow=33						
PDAR	Pinedale Array	13.12	14	Pn	P	23 23 58.6	+2.6
	0.0nm,0.3s,baz=158,slow=8.0,SNR=4.1						
ULM	Lac du Bonnet	24.29	29	P	P	23 26 04.8	-0.8
	3.7nm,0.9s,baz=232,slow=11,SNR=5.3						
INK	Inuvik	39.92	349	LR	LR	23 44 31.1	
	comp=Z,70nm,18.3s,baz=162,slow=36						
ILAR	Eielson Array	40.29	339	P	P	23 28 26.1	+0.1
	1.1nm,0.9s,baz=152,slow=7.2,SNR=7.9						

IDC ***25*** *23:26:00.4±2.0,41.31N×19.43E,mb3.7/2,mb1 3.7/5, mb1mx3.5/21,ML3.3/3,Error ellipse: s-maj=23.4km s-min=15.5km az=27.0*

TIR ***25*** *23:26:03.0,41.50N×19.61E,h21*^{km}*,Ml2.7*

PDG ***25*** *23:26:03.4±1.1,41.45N×19.54E,h13*^{km}*±3*^{km}

NEIC ***25*** *23:26:03.4,41.45N×19.54E,h13*^{km}*,MD3.6(ATH), ML3.4(ROM),ML3.3(PDG),After PDG.*

LDG ***25*** *23:26:04.7±0.3,41.43N×19.63E,h10*^{km}*,Ml3.6/4,Error ellipse: s-maj=6.5km s-min=3.3km az=105.0*

ATH ***25*** *23:26:32.7,39.37N×20.48E,h10*^{km}*,MD3.6/3*

ISC 25 23:26:02.9±0.3**,41.41N**±0.02×**19.50E**±0.03**,h18**^{km}±4^{km}**, n72,σ1^{s}38**/118**,mb3.7**/1**,10C-7D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRZA	Preza	0.13	83	*e*Pg	Pb	23 26 07.0	+0.1
PRZA				*i* Sg	Sb	23 26 09.0	-0.7
LACI	Lac	0.27	35	*i* Pg	Pb	23 26 08.8	-0.2
LACI				*i* Sg	Sb	23 26 12.4	-0.8
TIR	Tirane	0.28	103	*i* Pg	Pb	23 26 08.9	-0.3
TIR				*i* Sg	Sb	23 26 12.4	-1.0
QSH	Qafa e Shtames	0.32	70	*i* Pg	Pb	23 26 08.5	-1.3
QSH				*i* Sg	Sb	23 26 12.4	-2.1
ULC	Ulcinj	0.58	341	⇑*i*Pg	Pb	23 26 14.1	-0.1
ULC				*e*Sg	Sb	23 26 22.6	+0.6
SDA	Shkodra	0.64	360	*e*Pg	Pb	23 26 15.3	+0.1
SDA				*i* Sg	Sb	23 26 22.4	-1.2
PUK	Puka	0.69	25	*i* Pg	Pb	23 26 15.6	-0.6
PUK				*i* Sg	Sb	23 26 26.6	+1.4
PHP	Peshkopia	0.76	69	*i* pg?	Pb	23 26 15.0	-2.2
PHP				*i* Sg	Sb	23 26 26.0	-1.0
BUM	Brajici-Budva	0.99	333	⇓*i*Pg	Pb	23 26 22.2	+0.9
BUM				*e*Sg	Sb	23 26 36.8	+2.8
OHR	Ohrid	1.02	107	*i* Pg	Pb	23 26 21.4	-0.4
OHR				*i* Sg	Sb	23 26 37.6	+2.8
TTG	Podgorica	1.03	350	⇑*i*Pg	Pb	23 26 22.1	+0.2
TTG				*e*Sg	Sb	23 26 37.9	+2.9
BCI	Bajram Curri	1.04	24	*i* Pg	Pb	23 26 21.6	-0.5
BCI				*i* Sg	Sb	23 26 37.5	+2.2
PVY	Plav	1.23	16	⇓*i*Pg	Pb	23 26 24.9	-0.4
PVY				*e*Sg	Sb	23 26 44.4	+3.6
HCY	Herceg Novi	1.28	324	⇓*i*Pg	Pn	23 26 27.4	+1.4
HCY				*e*Sg	Sb	23 26 46.4	+4.3
BIA	Bitola	1.43	105	*i* Pn	Pn	23 26 28.6	+0.4
BIA				*i*		23 26 32.1	
BIA				*i* Sg	Sb	23 26 49.6	+3.1
NKY	Niksic	1.45	345	⇓*i*Pg	Pn	23 26 29.6	+1.2
NKY				*e*Sg	Sb	23 26 51.2	+4.2
IVA	Berane	1.49	11	⇑*i*Pg	Pn	23 26 29.9	+0.9
IVA				*e*Sg	Sn	23 26 51.8	+3.7
LCI	Lecce	1.51	225	*e*Pn	Pn	23 26 33.1	+3.8
LCI				*e*Sn	Sn	23 26 54.8	+6.2
LSK	Leskovik	1.51	146	*e*Pn	Pn	23 26 32.0	+2.6
LSK				*i* Sn	Sn	23 26 55.5	+6.8
SKO	Skopje	1.56	68	*i* Pn	Pn	23 26 30.8	+0.8
SKO				*i*		23 26 32.2	
SKO				*i* Sn	Sn	23 26 49.9	+0.1
SKO				*i* Sg	Sn	23 26 53.0	+3.2
SKO				Lg		23 26 55.0	
	comp=Z,0.1nm,0.6s						
BRY	Bratogost	1.65	335	⇑*i*Pn	Pn	23 26 33.3	+2.0
BRY				*e*Sn	Sn	23 26 56.4	+4.3
BRT	Bari-Castellan	1.82	254	*e*Pn	Pn	23 26 35.2	+1.5
BRT				*e*Sn	Sn	23 27 03.1	+6.7
UPM	Unac-Piva	1.84	346	⇓*i*Pn	Pn	23 26 36.2	+2.2
UPM				*e*Sn	Sn	23 27 00.8	+3.7
PLE	Pljevlja	1.92	358	⇑*i*Pn	Pn	23 26 36.8	+1.7
PLE				*e*Sn	Sn	23 27 03.0	+4.0
STON	Ston	1.98	318	*i* Pn	Pn	23 26 37.2	+1.1
STON				*i* Sn	Sn	23 27 01.8	+1.2
JAN	Janina	2.03	149	*e*PB	Pb	23 26 40.5	+1.5
NVSS	Nova Varos 2	2.10	4	⇑*i*Pn	Pn	23 26 42.1	+4.4
NVSS				Sn	Sn	23 27 08.4	+4.8
BARS	Barje	2.23	50	⇑*i*Pn	Pn	23 26 40.0	+0.4
GRUS	Gruza	2.63	19	⇑*i*Pn	Pn	23 26 46.3	+1.0
GRUS				Sn	Sn	23 27 16.6	-0.5
ORI	Oriolo Calabro	2.68	241	*e*Pn	Pn	23 26 47.5	+1.4
RGNG	Rignano Grg	2.95	276	*e*Pn	Pn	23 26 50.1	+0.1
EVR	Evrytania	3.06	144	*e*PB	Pb	23 26 54.0	-2.5
MRLC	Muro Lucano	3.10	259	*e*Pn	Pn	23 26 53.2	+1.1
SLCN	Sala Consilina	3.11	252	*e*Pn	Pn	23 26 53.3	+1.2
SVIS	Svilajnac	3.15	23	⇓*i*Pn	Pn	23 26 53.0	+0.3
MGR	Morigerati	3.26	248	*e*Pn	Pn	23 26 55.6	+1.3
SGO	Sicignano	3.29	256	*e*Pn	Pn	23 26 55.5	+0.8
VLS	Valsamata	3.34	165	*e*PB	Pb	23 26 55.5	-5.8
CSSN	Cassano Irpino	3.43	262	*e*Pn	Pn	23 26 57.3	+0.6
GRI	Girifalco	3.50	223	*e*Pn	Pn	23 26 57.6	-0.2
SGG	Gregorio Mates	3.85	271	*e*Pn	Pn	23 27 03.9	+1.2
SGG				*e*Sn	Sn	23 27 48.3	+0.3
CPI2	Carpinone	3.90	274	*e*Pn	Pn	23 27 04.6	+1.2
CPI2				*e*Sn	Sn	23 27 50.8	+1.6
CII	Carovilli	3.91	276	*e*Pn	Pn	23 27 04.8	+1.3
MSC	Monte Massico	4.17	269	*e*Pn	Pn	23 27 08.1	+0.8
SOI	Samo	4.26	220	*e*Pn	Pn	23 27 07.9	-0.7
SOI				*e*Sn	Sn	23 27 57.6	-0.9
NVLJ	Novalja	4.63	314	*i* Pn	Pn	23 27 13.3	-0.4
NVLJ				*i* Sn	Sn	23 28 05.3	-2.4
MNS	Montasola	5.18	283	*e*Pn	Pn	23 27 22.3	+0.7
ASS	Assisi	5.35	290	*e*Pn	Pn	23 27 24.4	+0.5
ASS				*e*Sn	Sn	23 28 23.8	-1.9
FSSB	Fossombrone	5.46	297	*e*Pn	Pn	23 27 24.8	-0.7
FSSB				*e*Sn	Sn	23 28 25.4	-3.3
MURB	Monte Urbino	5.49	292	*e*Pn	Pn	23 27 26.2	+0.2
MURB				*e*Sn	Sn	23 28 27.3	-2.1
VOY	Vojsko	6.15	321	*e*Pn	Pn	23 27 34.3	-0.9
VOY				*e*Sn	Sn	23 28 42.1	-3.7
MLR	Muntele Rosu	6.21	47	Pn	Pn	23 27 38.3	+2.2
	comp=Z,0.5nm,0.3s,baz=200,slow=2.8,SNR=14						
MLR				Sn	Sn	23 28 47.1	-0.3
	comp=Z,0.5nm,0.3s,baz=142,slow=21,SNR=7.4						
OBKA	Obir	6.22	327	⇓*i*PN	Pn	23 27 36.2	0.0
OBKA				*i* SN	Sn	23 28 43.9	-3.7
ARSA	Arzberg	6.50	335	⇑*i*PN	Pn	23 27 39.5	-0.6
ARSA				*i* SN	Sn	23 28 51.4	-3.1
PTCC	Patocco-Chiusa	6.68	320	*e*Pn	Pn	23 27 41.4	-1.2
PTCC				*e*Sn	Sn	23 28 53.8	-5.2
IDI	Anoyia	7.44	144	Pn	Pn	23 27 51.5	-1.8
	comp=Z,0.3nm,0.3s,baz=258,slow=12,SNR=2.7						
MOA	Molln	7.44	332	⇑*i*PN	Pn	23 27 53.1	-0.2
MOA				*i* SN	Sn	23 29 13.8	-4.3
PGF	Pioggiola	7.91	282	*e*Pn	Pn	23 27 59.3	-0.6
PGF				*e*Sn	Sn	23 29 24.6	-5.2
	comp=Z,2.2nm,0.3s						
GERES	GERESS Array B	8.48	333	Pn	P	23 28 06.0	-1.9
	comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=4.6						
GERES				Sn	Sn	23 29 44.3	+0.2
	comp=Z,0.2nm,0.3s,baz=153,slow=24,SNR=4.1						
FRF	La Foret Royal	9.74	287	*e*Pn	P	23 28 23.9	-1.3
LMR	La Mourre	9.81	286	*e*Pn	P	23 28 24.5	-1.6
MBDF	Montbardon	9.89	294	*e*Pn	P	23 28 25.6	-1.6
LPG	La Plagne	10.13	298	*e*Pn	P	23 28 30.2	-0.3
LPG				*e*Sn	S	23 30 16.4	-8.3
	comp=Z,1.9nm,0.3s						
LPL	La Plagne	10.15	298	*e*Pn	P	23 28 29.8	-1.0
LPL				*e*Sn	S	23 30 17.1	-8.0
	comp=Z,4.8nm,0.5s						
ORIF	Oris-en-Rattie	10.55	294	*e*Pn	P	23 28 34.6	-1.7
ORIF				*e*Sn	S	23 30 27.2	-7.8
	comp=Z,2.9nm,0.5s						
MOX	Moxa	10.73	332	*e*P	P	23 28 30.0	-8.7
CABF	La Chapelle	10.96	303	*e*Pn	P	23 28 39.4	-2.6
HINF	Hinteralfeld	11.05	310	*e*Pn	P	23 28 40.6	-2.5
HAU	Haudompre	11.44	310	*e*Pn	P	23 28 46.1	-2.3
FINES	FINESS Array B	20.45	9	P	P	23 30 38.6	-3.2
	comp=Z,2.0nm,0.7s,baz=186,slow=13,SNR=8.6						
MKAR	Makanchi Array	44.35	61	P	P	23 34 11.3	-2.2
	comp=Z,0.7nm,0.5s,mb3.7,baz=277,slow=7.8,SNR=8.0						
MKAR	Makanchi Array	44.35	61	P	P	23 34 11.3	-2.2

MOS 25 23:38:57.2±1.9**,51.10N**×**98.25E,h20**^{km}**,mb4.0**/1**,Error ellipse: s-maj=32.0km s-min=16.5km az=158.9, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	1.74	33	*e*PN	Pn	23 39 28.4	+1.7
ORL				*e*		23 39 51.1	
ORL				pmax	pmax		
	comp=Z,70nm,0.3s						
ORL				smax			
	comp=E,434nm,0.9s						
MOY	Mondy	1.81	71	*e*PN	Pn	23 39 30.1	+2.3
MOY				*e*		23 39 54.7	
MOY				pmax	pmax		
	comp=Z,76nm,0.3s						
MOY				smax			
	comp=N,1µm,1.5s						
ARS	Arshan	2.73	71	*e*PN	Pn	23 39 44.1	+3.1
ARS				*e*		23 40 21.3	
ARS				pmax	pmax		
	comp=Z,50nm,0.6s						
ARS				smax			
	comp=E,588nm,0.7s						
ZAK	Zakamensk	3.28	101	*e*PN	Pn	23 39 55.4	+6.7
ZAK				*e*		23 40 38.9	
ZAK				pmax	pmax		
	comp=Z,66nm,1.0s						
ZAK				smax			
	comp=N,271nm,1.0s						
TLY	Talaya	3.43	78	*e*PN	Pn	23 39 49.2	-1.6
TLY				*e*		23 39 58.8	
TLY				*e*		23 40 44.8	
TLY				pmax	pmax		
	comp=Z,14nm,0.5s						
TLY				smax			
	comp=N,231nm,1.0s						
IRK	Irkutsk	3.92	71	*e*PN	Pn	23 40 04.9	+7.1
IRK				*e*		23 40 57.2	
IRK				pmax	pmax		
	comp=Z,269nm,0.2s						
IRK				smax			
	comp=N,914nm,1.5s						
LSTR	Listvyanka	4.18	77	*e*PN	Pn	23 40 13.9	+12
LSTR				*e*		23 41 05.7	
LSTR				pmax	pmax		
	comp=Z,25nm,1.5s						
LSTR				smax			
	comp=N,236nm,1.2s						
TRG	Tyrgan	5.28	69	*e*PN	Pn	23 40 16.8	-0.3
TRG				*e*		23 40 32.3	
TASR	Tashtagol	6.63	289	*e*PN	Pn	23 40 56.0	+20
AKAR	Aktash	6.80	268	*e*PN	Pn	23 40 57.0	+19
AKAR				*e*S	Sn	23 42 27.1	+31
ARTR	Artybash	6.89	280	*e*PN	Pn	23 40 41.5	+1.7
ARTR				*e*		23 41 03.1	
ARTR				*e*S	Sn	23 42 29.9	+31

ATH ***26*** *00:00:55.6,34.94N×28.68E,h10*^{km}*,MD3.0/3*

ISK ***26*** *00:01:09.3,36.47N×28.83E,h9*^{km}*,MD3.2*

ISC 26 00:01:08.3±1.2**,36.40N**±0.06×**28.83E**±0.07**,h3**^{km}±8^{km}**, n11,σ0^{s}52**/15**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.40	337	*i* PG	Pg	00 01 15.8	-0.5
DALT				*i* SG	Sg	00 01 22.4	+0.8
ARG	Arkhangelos	0.60	252	*e*PB	Pb	00 01 21.0	0.0
KSL	Kastellorizon	0.66	112	*e*PB	Pb	00 01 22.1	0.0
YER	Yerkesik	0.85	329	*i* PG	Pg	00 01 24.4	-1.0
ELL	Elmali	0.94	68	PG	Pg	00 01 27.5	+0.5
MLSB	Milas	1.23	317	*i* PN	Pn	00 01 33.0	+0.7
BDRM	Kayabasi	1.29	301	*i* P	Pb	00 01 32.8	-0.1
BDRM				*i* S	Sb	00 01 50.4	+0.6
DENT	Denizli	1.36	7	*e*PN	Pn	00 01 33.3	-0.9
AYDN	Tasoluk	1.47	329	⇑*i*P	Pn	00 01 36.0	+0.2
AYDN				*i* S	Sb	00 01 54.8	-0.1
BCK	Bucak	1.76	53	*e*PN	Pn	00 01 40.4	+0.4
KDAG	Bornova	2.35	329	*i* P	Pn	00 01 48.4	0.0
KDAG				*i* S	Sn	00 02 17.8	-0.4

IDC ***26*** *00:09:10.6±7.2,6.78S×105.93W,mb3.8/6,mb1 4.1/6, mb1mx4.0/14,MS3.7/10,Ms1 3.7/10,ms1mx3.5/18,Error ellipse: s-maj=185.0km s-min=106.6km az=131.0*

NEIC ***26*** *00:09:16.1±1.4,6.05S×104.70W,h10*^{km}*,mb4.2/5,Error ellipse: s-maj=60.6km s-min=28.7km az=92.0*

ISC 26 00:09:15.2±1.2**,6.1S**±0.2×**105.7W**±0.7**,h10**^{km}**,n19, σ1^{s}16**/12**,mb4.0**/11**,MS3.7**/10**,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	26.28	52	LR	LR	00 23 03.9	
	comp=Z,361nm,21.1s,MS3.9,baz=68,slow=31						
TEIG	Tepich	31.23	33	*e*P	P	00 15 30.0	-7.4
ROSC	El Rosal	33.15	72	LR	LR	00 27 23.7	
	comp=Z,72nm,18.7s,MS3.4,baz=42,slow=32						
TXAR	Lajitas Array	35.23	3	P	P	00 16 14.5	+2.5
	0.1nm,0.5s,mb3.0,baz=169,slow=9.2,SNR=2.7						
TXAR				LR	LR	00 27 52.0	
	comp=Z,48nm,21.8s,MS3.2,baz=180,slow=31						
LPAZ	La Paz	38.18	109	LR	LR	00 29 12.8	
	comp=Z,87nm,21.5s,MS3.5,baz=327,slow=32						
WMOK	Wichita Mounta	41.09	9	P	P	00 17 05.9	+5.0
	3.2nm,1.1s,mb3.9						
TPH	Tonopah	45.19	347	P	P	00 17 29.5	-4.8
	4.3nm,1.0s,mb4.2						
NVAR	Mina Array Bea	45.77	346	P	P	00 17 38.0	-0.9
	0.3nm,0.3s,mb3.7,baz=125,slow=11,SNR=3.0						
NVAR				LR	LR	00 33 19.1	
	comp=Z,70nm,20.1s,MS3.6,baz=100,slow=31						
PLCA	Paso Flores	46.69	143	LR	LR	00 32 41.1	
	comp=Z,158nm,18.6s,MS4.0,baz=6.8,slow=30						
PDAR	Pinedale Array	48.71	356	P	P	00 18 02.4	+0.5
	0.2nm,0.4s,mb3.5,baz=198,slow=2.9,SNR=2.5						
RSSD	Black Hills	49.96	2	P	P	00 18 12.3	+0.9
	3.0nm,0.9s,mb4.3						
HLID	Hailey	50.01	352	P	P	00 18 12.9	+1.1
	1.8nm,0.9s,mb4.1						
CPUP	Villa Florida	50.28	119	LR	LR	00 36 54.4	
	comp=Z,82nm,19.6s,MS3.7,baz=77,slow=33						
ULM	Lac du Bonnet	56.71	8	P	P	00 19 00.4	-1.0
	3.9nm,1.1s,mb4.3,baz=211,slow=5.9,SNR=2.7						
BDFB	Brasilia	57.31	105	LR	LR	00 41 43.7	
	comp=Z,82nm,22.0s,MS3.8,baz=108,slow=34						
YKA	Yellowknife Ar	68.69	356	P	P	00 20 19.5	-1.3
	4.8nm,1.2s,mb4.3,baz=164,slow=5.9,SNR=4.9						
YKA				LR	LR	00 48 41.8	
	comp=Z,79nm,18.1s,MS4.0,baz=210,slow=34						
SCHQ	Schefferville	68.74	23	LR	LR	00 47 52.5	
	comp=Z,39nm,19.9s,MS3.6,baz=35,slow=33						
ILAR	Eielson Array	76.92	343	P	P	00 21 08.9	-0.3
	1.1nm,1.0s,mb3.7,baz=149,slow=5.5,SNR=7.8						
QSPA	South Pole Qui	84.02	180	*e*P	P	00 21 46.9	+0.3
	6.3nm,1.2s,mb4.6						

ECX 26 00:16:14.6±0.3**,30.65N**×**113.90W,h6**^{km}**,ML3.9,2D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECBX	El Chinero	1.28	310	*e*PN	Pn	00 16 38.7	-0.4
ECBX				*e*S	Sb	00 16 54.1	-1.4
SPX	San Pedro Mart	1.40	287	*e*P	Pn	00 16 39.0	-1.8
SPX				*e*S	Sb	00 16 58.2	-0.7
RDX	Rancho Dowling	2.17	307	*e*PN	Pn	00 16 51.1	-0.7
RDX				⇓*e*		00 17 41.6	
	comp=E,583nm,1.2s						
RDX				⇓*e*		00 17 43.5	
	comp=N,557nm,0.8s						
ECNX	Esteban Cantu	2.52	294	*e*PN	Pn	00 16 55.6	-1.1
PGX	Piedras Gordas	2.54	302	*e*PN	Pn	00 16 55.9	-1.2
ENX	Ensenada	2.67	298	*e*PN	Pn	00 16 57.7	-1.2
CBX	Cerro Bola	2.89	306	*e*PN	Pn	00 17 00.9	-1.1

IDC ***26*** *00:43:18.7±3.6,5.14S×146.03E,h72*^{km}*±34*^{km}*,mb3.7/4, mb1 3.9/6,mb1mx3.9/11,ML3.8/2,MS3.6/4,Ms1 3.6/4, ms1mx3.4/13,Error ellipse: s-maj=35.8km s-min=13.9km az=118.0*

NEIC ***26*** *00:43:20.0±2.5,5.30S×146.23E,h83*^{km}*±21*^{km}*,mb4.3/5, Error ellipse: s-maj=22.1km s-min=16.0km az=161.0*

ISC 26 00:43:18.9±0.9**,5.24S**±0.08×**146.1E**±0.1**,h83**^{km}**,n26, σ1^{s}29**/22**,mb4.2**/7**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.28	166	P	P	00 44 21.8	-1.2
PMG				S	S	00 45 13.7	+1.6
PMG				LR	LR	00 46 33.6	
	comp=Z,671nm,18.9s,baz=149,slow=44						
CTA	Charters Tower	14.77	179	*e*P	P	00 46 50.2	+5.6
	5.9nm,1.2s						
CTA	Charters Tower	14.77	179	P	P	00 46 43.6	-1.1
	0.2nm,0.3s,baz=3.8,slow=15,SNR=2.8						
CTA				LR	LR	00 52 14.2	
	comp=Z,245nm,18.9s,baz=54,slow=36						
CTAO	Charters Tower	14.77	179	P	P	00 46 43.4	-1.3
	19nm,1.2s						
KAKA	Kakadu	15.42	240	*e*P	P	00 46 53.9	+0.9
	13nm,0.5s						
WRAB	Tennant Creek	18.55	217	*e*P	P	00 47 30.0	-1.5
	8.1nm,0.7s						
WB2	Warramunga Arr	18.55	217	*e*P	P	00 47 32.4	+0.8
WRA	Warramunga Arr	18.56	217	P	P	00 47 30.3	-1.4
	0.3nm,0.3s,baz=36,slow=12,SNR=17						
WRA				S	S	00 50 58.8	+6.4
	0.1nm,0.3s,baz=38,slow=23,SNR=3.6						
ASAR	Alice Springs	21.77	211	P	P	00 48 05.0	-0.2
	1.0nm,0.5s,mb3.4,baz=40,slow=7.5,SNR=6.7						
ASAR				S	S	00 52 03.4	+7.8
	2.2nm,0.9s,baz=26,slow=23,SNR=8.2						
ASAR				LR	LR	00 57 59.1	
	comp=Z,128nm,18.6s,baz=205,slow=40						
ASPA	Alice Springs	21.77	211	*e*P	P	00 48 09.5	+4.3
FITZ	Fitzroy Crossi	23.73	236	*e*P	P	00 48 25.6	+1.3
	12nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	23.73	236	P	P	00 48 25.5	+1.3
	4.4nm,0.6s,mb3.9,baz=32,slow=6.7,SNR=16						
FITZ				pP		00 48 35.3	
	16nm,0.8s,baz=50,slow=4.1,SNR=13						
FITZ				LR	LR	00 58 52.2	
	comp=Z,118nm,20.0s,baz=176,slow=39						
STKA	Stephens Creek	26.84	188	P	P	00 48 54.0	+0.5
	3.2nm,0.9s,mb3.9,baz=351,slow=13,SNR=2.5						
STKA	Stephens Creek	26.84	188	P	P	00 48 51.2	-2.3
TAU	Tasmania Unive	37.53	179	*e*P	P	00 50 25.2	-1.3
	79nm,1.5s,mb5.3						
CMAR	Chiang Mai Arr	52.09	298	pP	Px	00 52 34.0	
	0.9nm,0.4s,baz=119,slow=6.0,SNR=4.6						
SONM	Songino Array	63.30	331	pP	Px	00 53 49.9	
	0.9nm,1.0s,baz=158,slow=6.7,SNR=3.8						
VNDA	Vanda	72.72	176	pP	Px	00 54 51.7	
	1.4nm,0.9s,baz=322,slow=6.4,SNR=3.0						
VNDA	Vanda	72.72	176	P	P	00 54 45.3	+6.0
	5.4nm,1.4s,mb4.2						
MKAR	Makanchi Array	76.34	321	pP	PcP	00 55 10.7	-1.7
	0.6nm,0.8s,baz=101,slow=7.3,SNR=4.3						
ZAL	Zalesovo	77.89	328	pP	PcP	00 55 18.9	-0.1
	0.5nm,0.3s,baz=282,slow=22,SNR=1.7						
QSPA	South Pole Qui	84.73	180	P	P	00 55 46.8	+2.5
	3.9nm,0.9s,mb4.3						
ILAR	Eielson Array	85.14	23	P	P	00 55 46.1	-0.6
	1.6nm,0.9s,mb3.9,baz=256,slow=5.5,SNR=9.0						
ILAR				pP	PcP	00 55 58.9	+8.7
	1.7nm,0.8s,baz=270,slow=5.2,SNR=4.3						
DPW	Davenport	97.68	43	*e*P	P	00 56 46.3	+0.7
CPUP	Villa Florida	141.27	145	PKP	PKPdf	01 02 40.2	-0.6
	1.7nm,0.9s,baz=265,slow=3.3,SNR=3.0						
CPUP	Villa Florida	141.27	145	PKP	PKPdf	01 02 40.2	-0.6

DJA 26 01:01:12.9±1.0**,8.60S**×**115.81E,h136**^{km}±7^{km}**,MD5.3**/4**, ML3.4**/1**,7D,Error ellipse: s-maj=39.8km s-min=15.3km az=170.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.30	246	⇓*e*Pn	P	01 01 31.6	-0.7
	261nm,0.2s						
RATI				⇓*e*Sn	S	01 01 45.0	-2.0
KEDI	Kedomdong	0.32	69	⇓*e*Pn	P	01 01 31.4	-0.9
	80nm,0.2s						
KEDI				⇓*e*Sn	S	01 01 45.6	-1.5
INGI	Ingas	0.69	252	⇓*e*Pn	P	01 01 33.8	-0.5
	446nm,0.2s						
INGI				⇓*e*Sn	S	01 01 48.6	-2.1
KELI	Kelakatan	1.36	286	⇓*e*Pn	P	01 01 39.9	-0.4
	41nm,0.2s						

IDC ***26*** *01:40:03.6±6.4,34.84N×28.72E,h44*^{km}*±27*^{km}*,mb3.7/5, mb1 3.6/11,mb1mx3.4/23,ML3.3/6,Error ellipse: s-maj=100.0km s-min=19.7km az=149.0*

NEIC ***26*** *01:40:05.5±0.7,35.09N×28.60E,h43*^{km}*±10*^{km}*, MD3.5(ATH),Error ellipse: s-maj=13.2km s-min=7.6km az=185.0*

ATH ***26*** *01:40:08.1,37.12N×28.32E,h10*^{km}*,MD3.5/3*

ISC 26 01:40:03.8±1.0**,35.01N**±0.09×**28.63E**±0.07**,h50**^{km}±12^{km}**, n17,σ0^{s}78**/18**,mb3.6**/4**,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	1.27	341	*e*PB	P	01 40 25.5	-0.1
KSL	Kastellorizon	1.38	34	*e*PB	P	01 40 34.5	+7.4
SMG	Samos	3.06	332	*e*PB	Px	01 40 32.9	
IDI	Anoyia	3.08	276	P	P	01 40 50.6	-0.6
	0.9nm,0.3s,baz=93,slow=17,SNR=11						
GVD	Gavdhos	3.74	269	*e*Pn	P	01 41 00.5	+0.1
CSS	Prodhromos	3.86	89	*e*Pn	P	01 41 02.2	+0.1
BRTR	Keskin Array B	6.17	39	P	P	01 41 33.4	-1.2

	0.2nm,0.3s,baz=238,slow=12,SNR=5.6						
BRTR				S	**S**	**01 42 44.8**	**+0.1**
	0.3nm,0.3s,baz=215,slow=27,SNR=7.9						
ASF	**Jabal al Asfar**	**7.45**	**110**	P	**P**	**01 41 53.0**	**+0.6**
	0.3nm,0.3s,baz=233,slow=8.2,SNR=3.2						
ASF				S	**S**	**01 43 24.8**	**+8.3**
	0.2nm,0.3s,baz=64,slow=21,SNR=3.0						
MLR	**Muntele Rosu**	**10.67**	**350**	P	**P**	**01 42 43.9**	**+7.3**
	0.0nm,0.3s,baz=180,slow=14,SNR=2.3						
AKASG	**Malin Array Be**	**15.69**	**1**	P	**P**	**01 43 46.0**	**+3.2**
	0.7nm,0.3s,baz=186,slow=8.1,SNR=5.9						
GERES	**GERESS Array B**	**17.69**	**326**	P	**P**	**01 44 09.1**	**+1.1**
	0.1nm,0.3s,baz=150,slow=16,SNR=3.2						
ESDC	**Sonseca Array**	**26.25**	**290**	P	**P**	**01 45 35.8**	**0.0**
	0.8nm,0.6s,mb3.5,baz=89,slow=8.8,SNR=4.7						
FINES	**FINESS Array B**	**26.51**	**357**	P	**P**	**01 45 37.6**	**-0.5**
	1.3nm,0.7s,mb3.6,baz=180,slow=11,SNR=3.5						
HFS	**Hagfors**	**26.95**	**343**	P	**P**	**01 45 42.6**	**+0.4**
	1.4nm,0.7s,mb3.6,baz=135,slow=6.3,SNR=5.3						
ARCES	**ARCESS Array B**	**34.62**	**358**	P	**P**	**01 46 48.7**	**-1.1**
	1.4nm,0.9s,mb3.9,baz=135,slow=3.4,SNR=4.5						
ARCES	**ARCESS Array B**	**34.62**	**358**	P	**P**	**01 46 48.7**	**-1.1**
SCHQ	**Schefferville**	**65.13**	**321**	P	**P**	**01 50 41.1**	**-0.1**
	3.3nm,1.0s,baz=49,slow=8.9,SNR=3.5						

IDC 26 01:54:06.8±22.0**, 24.55S**×**179.94E, h551**^{km}±218^{km}**, mb3.3**/5**, mb1 3.4**/5**, mb1mx3.2**/15**, Error ellipse: s-maj=137.0km s-min=89.5km az=83.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.43**	**271**	P	P	01 59 44.0	-0.7
	4.6nm,0.3s,baz=91,slow=11,SNR=10						
STKA	**Stephens Creek**	**34.43**	**249**	P	P	02 00 08.4	-1.4
	3.7nm,0.9s,baz=86,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**41.88**	**261**	P	P	02 01 08.9	-1.5
	0.9nm,0.4s,baz=92,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**42.31**	**267**	P	P	02 01 12.3	-1.7
	2.6nm,0.3s,baz=103,slow=8.1,SNR=60						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	P	02 02 16.7	-1.3
	0.7nm,0.3s,baz=152,slow=8.6,SNR=7.6						
NOA	**NORSAR Array B**	**142.71**	**351**	PKP	PKPdf	02 12 36.4	-0.1
	0.6nm,0.9s,baz=17,slow=5.2,SNR=2.6						
HFS	**Hagfors**	**143.17**	**349**	PKP	PKPdf	02 12 37.2	-0.1
	0.8nm,0.3s,baz=90,slow=5.8,SNR=8.3						

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*FUNV **26** 02:29:20.6, 10.98N×62.24W, h99^{km}, MW3.0*

*TRN **26** 02:29:21.9, 11.02N×62.05W, h92^{km}, MD3.2*

ISC 26 02:29:18.4±0.7**, 10.97N**±0.03×**62.28W**±0.03**, h103**^{km}±7^{km}**, n20,** σ**1^{s}28**/36**, 2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.33**	**171**	⇓eP	**P**	**02 29 35.0**	**+1.4**
GUIV				eS	**S**	**02 29 45.5**	**+0.6**
TRN	**Trinidad (W)**	**0.92**	**110**	eP	**P**	**02 29 39.2**	**+0.8**
TRN				eS	**S**	**02 29 52.4**	**-1.1**
ITEV	**Isla Los Testi**	**0.92**	**295**	⇓eP	**P**	**02 29 40.1**	**+1.5**
ITEV				eS	**S**	**02 29 54.1**	**+0.5**
BUAY	**Buenos Aires**	**1.03**	**146**	eP	**P**	**02 29 42.4**	**+2.7**
BUAY				eS	**S**	**02 29 55.0**	**-0.8**
GUNV	**Guanoco**	**1.04**	**219**	eP	**P**	**02 29 41.4**	**+1.7**
GUNV				eS	**S**	**02 29 57.0**	**+1.2**
TPP	**Pointe-a-Pierr**	**1.04**	**129**	eP	**P**	**02 29 42.0**	**+2.2**
SIPA	**Siparia**	**1.12**	**137**	eP	**P**	**02 29 42.9**	**+2.2**
SIPA				eS	**S**	**02 29 56.5**	**-0.9**
GRW	**Mount Saint Ca**	**1.33**	**27**	eP	**P**	**02 29 43.8**	**+0.6**
GRW				eS	**S**	**02 29 59.7**	**-2.0**
GRHS	**Sauteurs**	**1.39**	**26**	eP	**P**	**02 29 44.8**	**+0.8**
GRHS				eS	**S**	**02 30 02.5**	**-0.5**
GRSS	**Sisters**	**1.47**	**26**	eP	**P**	**02 29 45.9**	**+0.9**
GRSS				eS	**S**	**02 30 04.8**	**+0.1**
TPR	**Prospect**	**1.49**	**82**	eP	**P**	**02 29 44.7**	**-0.4**
TPR				eS	**S**	**02 30 01.7**	**-3.3**
BOT	**Bacolet**	**1.54**	**83**	eS	**S**	**02 30 03.3**	**-2.9**
GRCU	**Cariacou**	**1.69**	**28**	eP	**P**	**02 29 48.2**	**+0.5**
GRCU				eS	**S**	**02 30 08.3**	**-1.1**
ORIV	**Oritupano**	**2.19**	**211**	eS	**S**	**02 30 21.2**	**+0.2**
PCRV	**Puerto La Cruz**	**2.45**	**251**	eS	**S**	**02 30 26.1**	**-1.1**
PARV	**Pariaguan**	**3.18**	**231**	eP	**P**	**02 30 08.3**	**+0.5**
PARV				eS	**S**	**02 30 43.7**	**-1.4**
GURV	**El Guri**	**3.29**	**194**	eP	**P**	**02 30 09.5**	**+0.3**
GURV				eS	**S**	**02 30 45.6**	**-1.9**
CUPV	**Cœpira**	**3.57**	**256**	eP	**P**	**02 30 13.6**	**+0.6**
CUPV				eS	**S**	**02 30 52.9**	**-1.6**
MERV	**Las Mercedes**	**4.31**	**247**	eP	**P**	**02 30 23.2**	**0.0**
MERV				eS	**S**	**02 31 09.9**	**-2.8**
CAOV	**Caicara del Or**	**5.39**	**228**	eP	**P**	**02 30 37.2**	**-0.6**
CAOV				eS	**S**	**02 31 33.9**	**-5.3**

JMA 26 02:34:39.9±0.3**, 43.94N**×**147.82E, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.61**	**250**	P	Pn	02 35 09.9	+0.1
NEM2				eS	Sb	02 35 31.2	+0.1
JRA	**Rausu**	**1.95**	**271**	P	Pn	02 35 15.2	+0.6
JRA				eS	Sn	02 35 40.7	+0.6
JNK	**Nakash**	**2.27**	**262**	P	Pn	02 35 19.6	+0.4
JNK				eS	Sn	02 35 48.4	0.0
JAK	**Akkeshi**	**2.46**	**249**	P	Pn	02 35 22.0	+0.1
JAK				eS	Sn	02 35 52.9	-0.2
JAR	**Ashorobuto**	**3.01**	**259**	P	Pn	02 35 30.7	+0.9
JAR				eS	Sn	02 36 08.1	+1.0
JCH	**Churui**	**3.51**	**249**	eS	Sn	02 36 20.1	+0.3
JNBK	**Urakawa-nobuka**	**4.06**	**248**	P	Pn	02 35 44.7	0.0
JKB	**Kayabe**	**5.39**	**250**	P	Pn	02 36 03.2	-0.3
JKB				eS	Sn	02 37 05.5	-1.7

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*NEIC **26** 02:58:42.2, 32.31N×115.31W, h7^{km}, ML3.1(PAS), After PAS.*

*ECX **26** 02:58:43.1±0.6, 32.35N×115.31W, h3^{km}, MD3.4, ML3.7*

ISC 26 02:58:41.6±0.5**, 32.39N**±0.03×**115.29W**±0.03**, h11**^{km}±3^{km}**, n23,** σ**0^{s}77**/36**, 4C-4D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.03**	**339**	eP	**Pg**	**02 58 43.0**	**-0.6**
CPBX				eS	**Sg**	**02 58 44.7**	**-0.3**
CPBX				⇓e		02 58 46.2	
	comp=N,132µm,0.1s						
EMX	**El Mayor**	**0.40**	**174**	eP	**Pg**	**02 58 50.0**	**+0.2**
EMX				eS	**Sg**	**02 58 55.3**	**0.0**
SGL	**Mount Signal**	**0.45**	**305**	⇓eP	**Pg**	**02 58 51.4**	**+0.6**
COA	**Coachella**	**0.49**	**17**	⇑eP	**Pg**	**02 58 53.0**	**+1.4**
PLT	**Pilot Knob**	**0.58**	**54**	⇑eP	**Pb**	**02 58 54.0**	**+0.6**
YUH	**Yuha Desert**	**0.59**	**296**	⇓eP	**Pb**	**02 58 53.6**	**+0.1**
YMD	**Yuma Desert**	**0.65**	**75**	⇑eP	**Pb**	**02 58 55.2**	**+0.7**
RMX	**La Rumorosa**	**0.70**	**288**	eP	**Pb**	**02 58 55.6**	**+0.3**
RMX				eS	**Sb**	**02 59 04.7**	**0.0**
RDX	**Rancho Dowling**	**0.72**	**231**	⇑eP	**Pb**	**02 58 55.5**	**-0.1**
RDX				eS	**Sb**	**02 59 04.5**	**-0.7**
ECBX	**El Chinero**	**0.94**	**167**	eP	**Pb**	**02 58 58.9**	**-0.5**
ECBX				eS	**Sb**	**02 59 12.2**	**+0.7**
PGX	**Piedras Gordas**	**1.06**	**247**	eP	**Pb**	**02 59 01.7**	**+0.2**
PGX				eS	**Sb**	**02 59 15.2**	**-0.1**
CBX	**Cerro Bola**	**1.16**	**267**	eP	**Pb**	**02 59 03.2**	**0.0**
CBX				eS	**Sb**	**02 59 18.7**	**+0.5**
BAR	**Barrett**	**1.20**	**284**	⇓eP	**Pb**	**02 59 04.2**	**+0.3**
BAR	**Barrett**	**1.20**	**284**	eP	**Pb**	**02 59 03.9**	**0.0**
BAR				eS	**Sb**	**02 59 18.7**	**-0.6**
ENX	**Ensenada**	**1.27**	**247**	eP	**Pb**	**02 59 04.7**	**-0.4**
ENX				i S	**Sb**	**02 59 21.8**	**+0.6**
ECNX	**Esteban Cantu**	**1.33**	**237**	eP	**Pb**	**02 59 05.6**	**-0.4**
ECNX				eP		02 59 04.8	
ECNX				i S	**Sb**	**02 59 21.8**	**-1.1**
ECNX				eS	**Sb**	**02 59 23.5**	**+0.6**
SPX	**San Pedro Mart**	**1.35**	**186**	eP	**Pb**	**02 59 05.7**	**-0.7**
SPX				eS	**Sb**	**02 59 24.4**	**+0.9**
PBX	**Punta Banda**	**1.38**	**243**	eP	**Pn**	**02 59 06.5**	**-0.3**
PBX				eS	**Sb**	**02 59 24.8**	**+0.4**
PFO	**Pinyon Flat Ob**	**1.56**	**322**	eP	**Pn**	**02 59 07.9**	**-1.6**
LDFC	**Landfair**	**2.69**	**3**	ePn	**Pn**	**02 59 25.4**	**-0.2**
MWC	**Mount Wilson**	**2.95**	**309**	ePn	**Pn**	**02 59 32.2**	**+2.8**
NEN	**Nelson**	**3.27**	**6**	ePn	**Pn**	**02 59 33.4**	**-0.5**
TUC	**Tucson**	**3.81**	**90**	Pn	**Pn**	**02 59 39.2**	**-2.4**

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*TAP **26** 03:24:18.4, 24.61N×121.83E, h73^{km}, ML3.3*

JMA 26 03:24:17.5±0.2**, 25.01N**×**121.99E, h64**^{km}**, M2.5, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.08**	**120**	P	P	03 24 36.8	-0.2
YOJ				eS	S	03 24 51.0	-0.4
IRIF	**Iriomote-Funau**	**1.72**	**113**	P	P	03 24 45.5	-0.3
IRIF				eS	S	03 25 06.8	+0.1
JKRS	**Kuro-shima**	**1.99**	**112**	P	P	03 24 49.8	+0.2
JKRS				eS	S	03 25 12.8	-0.5
JIJ	**Ishigaki jima**	**2.06**	**108**	P	P	03 24 50.4	-0.1
JIJ				eS	S	03 25 15.9	+0.9

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*ATH **26** 04:04:24.7, 36.68N×27.92E, h10^{km}, MD3.0/3*

*ISK **26** 04:04:26.7, 36.95N×28.75E, h23^{km}, MD3.0*

ISC 26 04:04:23.5±0.9**, 36.63N**±0.06×**28.43E**±0.07**, h49**^{km}±10^{km}**, n11,** σ**0^{s}49**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALT	**Dalyan (Mudla)**	**0.21**	**50**	i PG	**P**	**04 04 31.6**	**-0.1**
DALT				i SG	**S**	**04 04 37.5**	**-0.1**
ARG	**Arkhangelos**	**0.49**	**211**	ePB	**P**	**04 04 34.4**	**-0.1**
YER	**Yerkesik**	**0.51**	**346**	i PG	**P**	**04 04 35.0**	**+0.2**
YER				i SG	**S**	**04 04 42.9**	**-0.1**
BDRM	**Kayabasi**	**0.90**	**299**	i P	**P**	**04 04 39.8**	**-0.2**
BDRM				i S	**S**	**04 04 52.0**	**-0.2**
AYDN	**Tasoluk**	**1.12**	**337**	i P	**P**	**04 04 43.4**	**+0.4**
AYDN				i S	**S**	**04 04 58.7**	**+1.2**
ELL	**Elmali**	**1.19**	**84**	ePG	**P**	**04 04 44.3**	**+0.3**
DENT	**Denizli**	**1.22**	**23**	PG	**P**	**04 04 44.3**	**-0.1**
KARP	**Karpathos**	**1.50**	**224**	ePB	**P**	**04 04 49.0**	**+0.5**
SMG	**Samos**	**1.67**	**311**	ePB	**P**	**04 04 50.0**	**-0.8**
MANT	**Manisa**	**1.86**	**3**	i P	**P**	**04 04 52.6**	**-0.9**
KDAG	**Bornova**	**2.00**	**333**	i P	**P**	**04 04 55.4**	**0.0**
KDAG				i S	**S**	**04 05 14.7**	**-4.5**

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*NIED **26** 04:04:00, 42.90N×145.00E, h50^{km}, Mw4.1 Best double couple: M$_0$1.35×10^{15} NP1:φ$_s$42°, δ67°, λ85°. NP2:φ$_s$234°, δ24°, λ101°.*

*JMA **26** 04:04:28.3±0.1, 42.88N×144.98E, h50^{km}±1^{km}, M3.9*

JMA Felt I J1.

*MOS **26** 04:04:31.5±1.2, 43.34N×144.83E, h77^{km}, mb4.2/7, Error ellipse: s-maj=25.4km s-min=19.3km az=80.9*

*IDC **26** 04:04:32.6±4.8, 42.97N×144.85E, h86^{km}±28^{km}, mb3.5/11, mb1 3.7/12, mb1mx3.5/26, Error ellipse: s-maj=59.1km s-min=17.1km az=178.0*

ISC 26 04:04:27.3±0.8**, 42.87N**±0.07×**145.00E**±0.07**, h55**^{km}±5^{km}**, n29,** σ**0^{s}87**/37**, mb3.8**/11**, 1C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.26**	**300**	⇓P	**P**	**04 04 36.8**	**+0.3**
JAK				eS	**S**	**04 04 43.1**	**-0.2**
NEM2	**Nemuro 2**	**0.74**	**47**	⇑P	**P**	**04 04 42.0**	**+0.2**
NEM2				eS	**S**	**04 04 51.9**	**-0.6**
JNK	**Nakash**	**0.75**	**344**	⇓P	**P**	**04 04 42.2**	**+0.3**
JNK				eS	**S**	**04 04 52.1**	**-0.6**
JOB	**Onbets**	**0.86**	**273**	⇓P	**P**	**04 04 43.7**	**+0.4**
JOB				eS	**S**	**04 04 54.9**	**-0.5**
JAR	**Ashorobuto**	**1.00**	**296**	⇓P	**P**	**04 04 45.7**	**+0.4**
JRA	**Rausu**	**1.07**	**5**	⇓P	**P**	**04 04 46.8**	**+0.4**
JRA				eS	**S**	**04 05 00.3**	**-0.2**
JCH	**Churui**	**1.23**	**259**	⇓P	**P**	**04 04 48.4**	**-0.2**
JCH				eS	**S**	**04 05 03.5**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**1.32**	**28**	ePN	**P**	**04 04 49.9**	**-0.1**
YUK				i S	**S**	**04 05 05.9**	**-0.9**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				smax			
	comp=N,4µm,0.5s						
YUK				smax			
	comp=E,4µm,0.5s						
YUK				smax			
	comp=N,6µm,0.7s						
YUK				smax			
	comp=E,6µm,0.7s						
JTKR	**Abashiri--Toko**	**1.36**	**325**	⇓P	**P**	**04 04 51.2**	**+0.7**
ASAJ	**Asahikawa**	**2.15**	**306**	P	**P**	**04 05 02.9**	**+1.4**
	comp=E,21nm,0.3s,baz=153,slow=10,SNR=41						
ASAJ				S	**S**	**04 05 29.9**	**+2.9**
	comp=E,19nm,0.3s,baz=304,slow=15,SNR=8.3						
FX1	**Attu Island--F**	**21.25**	**52**	P	**P**	**04 09 12.3**	**+1.7**
	comp=E,5.6nm,0.7s,mb4.0,baz=250,slow=15,SNR=3.1						
FX1	**Attu Island--F**	**21.25**	**52**	P	**P**	**04 09 12.3**	**+1.7**
FX1				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**27.38**	**294**	P	**P**	**04 10 09.0**	**-0.2**
	comp=Z,1.8nm,0.9s,mb3.6,baz=75,slow=8.6,SNR=11						
ILAR	**Eielson Array**	**43.12**	**36**	P	**P**	**04 12 23.6**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=242,slow=6.5,SNR=8.3						
ILAR	**Eielson Array**	**43.12**	**36**	P	**P**	**04 12 23.7**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**43.60**	**298**	P	**P**	**04 12 27.2**	**-0.3**
	comp=Z,1.7nm,0.6s,mb3.9,baz=87,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**43.60**	**298**	P	**P**	**04 12 27.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**47.95**	**30**	P	**P**	**04 13 01.5**	**-0.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=254,slow=7.7,SNR=5.6						
INK	**Inuvik**	**47.95**	**30**	P	**P**	**04 13 01.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.94**	**332**	P	**P**	**04 15 01.4**	**-1.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=72,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**64.94**	**332**	P	**P**	**04 15 01.4**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**69.85**	**338**	P	**P**	**04 15 32.5**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.85**	**338**	P	**P**	**04 15 32.5**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=6.2,SNR=4.0						
NOA	**NORSAR Array B**	**69.85**	**338**	P	**P**	**04 15 32.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**69.88**	**336**	P	**P**	**04 15 32.5**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=45,slow=4.1,SNR=3.2						
HFS	**Hagfors**	**69.88**	**336**	P	**P**	**04 15 32.5**	**-1.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.35**	**323**	P	**P**	**04 15 41.6**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.2,baz=44,slow=6.0,SNR=6.6						
PDAR	**Pinedale Array**	**71.67**	**48**	P	**P**	**04 15 45.5**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=198,slow=2.9,SNR=4.0						
TXAR	**Lajitas Array**	**84.44**	**55**	P	**P**	**04 16 56.8**	**+1.6**
	comp=Z,0.4nm,0.7s,mb3.7,baz=274,slow=2.1,SNR=6.2						

GUC 26 04:18:00.9±0.5**, 28.75S**×**71.27W, h39**^{km}±3^{km}**, MD4.0, ML3.9, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.48**	**69**	⇑iP	P	04 18 05.9	-5.4
VACH				i S	S	04 18 13.8	-4.9
VACH				AMP		04 18 15.5	
	comp=E,25µm,0.1s						
LSCH	**La Serena**	**1.16**	**179**	i P	P	04 18 21.2	+0.4
LSCH				i S	S	04 18 37.0	+1.4
LSCH				AMP		04 18 38.7	
	comp=E,2µm,0.4s						
TLL	**Tololo Astrono**	**1.47**	**164**	i P	P	04 18 26.8	+1.5
TLL				i S	S	04 18 46.3	+2.7
TLL				AMP		04 18 51.7	
	comp=E,2µm,0.6s						
CPCH	**Copiapo**	**1.60**	**31**	⇓iP	P	04 18 27.9	+0.6
CPCH				i S	S	04 18 48.7	+1.7
CPCH				AMP		04 18 55.8	
	comp=E,6µm,0.1s						

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*IDC **26** 05:12:11.7±6.9, 0.45S×133.29E, h44^{km}±65^{km}, mb3.8/8, mb1 4.1/10, mb1mx3.9/17, ML3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/20, Error ellipse: s-maj=47.8km s-min=18.5km az=59.0*

*NEIC **26** 05:12:11.0±0.4, 0.49S×133.26E, h35^{km}, mb4.4/9, Error ellipse: s-maj=15.9km s-min=5.5km az=74.0*

ISC 26 05:12:09.7±2.7**, 0.59S**±0.05×**133.0E**±0.1**, h36**^{km}±24^{km}**, n29,** σ**1^{s}00**/30**, mb4.1**/13**, MS3.9**/1**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.05**	**183**	eP	**P**	**05 15 00.5**	**-1.5**
	12nm,0.6s						
KAKA				eS	**S**	**05 17 17.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.85**	**202**	eP	**P**	**05 16 30.3**	**+0.8**
	4.5nm,0.9s						
FITZ				eS	**S**	**05 19 54.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.85**	**202**	P	**P**	**05 16 30.3**	**+0.9**
	0.3nm,0.3s,baz=18,slow=10,SNR=11						
FITZ				LR	LR	05 24 24.2	
	comp=Z,112nm,20.7s,baz=0.3,slow=38						
WRAB	**Tennant Creek**	**19.27**	**176**	eP	**P**	**05 16 34.2**	**0.0**
	18nm,1.0s						
WRAB				eS	**S**	**05 20 01.1**	**-3.2**
WRA	**Warramunga Arr**	**19.28**	**176**	P	**P**	**05 16 34.7**	**+0.4**
	0.3nm,0.3s,baz=357,slow=12,SNR=39						
WB2	**Warramunga Arr**	**19.28**	**176**	eP	**P**	**05 16 33.7**	**-0.6**
WB2				eS	**S**	**05 20 04.1**	**-0.4**
ASAR	**Alice Springs**	**22.96**	**178**	P	**P**	**05 17 13.4**	**+1.3**
	13nm,0.9s,mb4.3,baz=6.7,slow=9.7,SNR=50						
ASPA	**Alice Springs**	**22.96**	**178**	eP	**P**	**05 17 13.8**	**+1.7**
CTA	**Charters Tower**	**23.31**	**147**	P	**P**	**05 17 15.8**	**+0.2**
	5.3nm,0.8s,mb4.0,baz=314,slow=12,SNR=4.4						
CTAO	**Charters Tower**	**23.31**	**147**	eP	**P**	**05 17 15.4**	**-0.1**
	19nm,1.2s,mb4.4						
MBWA	**Marble Bar**	**24.21**	**212**	eP	**P**	**05 17 22.5**	**-1.8**
STKA	**Stephens Creek**	**32.16**	**166**	P	**P**	**05 18 35.7**	**-0.7**
	2.8nm,0.7s,mb4.2,baz=324,slow=6.5,SNR=4.0						
STKA	**Stephens Creek**	**32.16**	**166**	eP	**P**	**05 18 35.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**38.46**	**301**	P	**P**	**05 19 31.2**	**+1.0**
	1.6nm,1.0s,mb3.7,baz=118,slow=7.0,SNR=9.0						
MKAR	**Makanchi Array**	**64.69**	**324**	P	**P**	**05 22 45.8**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=117,slow=8.1,SNR=3.9						
KURK	**Kurchatov**	**68.76**	**326**	eP	**P**	**05 23 11.8**	**-0.2**
	2.8nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**05 23 44.8**	**-0.7**
	0.6nm,0.6s,mb3.7,baz=82,slow=10,SNR=4.4						
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**05 23 44.8**	**-0.7**
BRVK	**Borovoye**	**74.43**	**326**	eP	**P**	**05 23 45.7**	**-0.1**
	5.9nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**75.11**	**326**	P	**P**	**05 23 50.3**	**+0.5**
	5.9nm,1.3s,mb4.4						
VNDA	**Vanda**	**78.43**	**174**	P	**P**	**05 24 08.6**	**+0.6**
	3.2nm,1.1s,mb4.2,baz=315,slow=5.3,SNR=4.3						
VNDA	**Vanda**	**78.43**	**174**	eP	**P**	**05 24 08.7**	**+0.7**
	4.0nm,1.1s,mb4.3						
SBA	**Scott Base**	**79.27**	**173**	P	**P**	**05 24 13.0**	**+0.4**
	5.0nm,1.2s,mb4.3						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**05 24 47.5**	**-1.2**
	0.4nm,0.7s,mb3.8,baz=288,slow=2.9,SNR=4.9						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**05 24 47.5**	**-1.2**
QSPA	**South Pole Qui**	**89.34**	**180**	eP	**P**	**05 25 04.7**	**+1.6**
	2.8nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**96.62**	**340**	LR	LR	06 15 59.8	
	comp=Z,40nm,20.6s,MS3.9,baz=271,slow=40						
CPUP	**Villa Florida**	**151.44**	**160**	PKPbc	PKPdf	05 32 01.5	+7.1
	2.6nm,0.8s,baz=210,slow=1.0,SNR=5.2						
CPUP				PKPab	PKPab	05 32 09.1	-2.1
	2.7nm,0.9s,baz=162,slow=6.1,SNR=6.9						
CPUP	**Villa Florida**	**151.44**	**160**	PKPbc	PKPdf	05 32 01.5	+7.1
CPUP				PKPab	PKPab	05 32 09.1	-2.1

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*NEIC **26** 06:13:24.0, 15.87N×94.87W, h16^{km}, MD4.0(MEX), After MEX.*

MEX 26 06:13:24.0±0.8**, 15.87N**×**94.87W, h17**^{km}±82^{km}**, MD4.0, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.19**	**265**	⇑iP	Pb	06 13 42.1	-3.6
HUIG				i S	Sb	06 13 56.1	-4.6
CMIG	**Matias Romero**	**1.22**	**360**	eP	Pb	06 13 42.7	-3.4
CMIG				i S	Sb	06 13 56.8	-4.6
OXX	**Oaxaca**	**2.15**	**304**	eP	Pn	06 13 56.0	-3.7
OXX				i S	Sn	06 14 22.8	-3.3
VHO	**Vista Hermosa**	**2.15**	**304**	eP	Pn	06 13 58.1	-1.6
VHO				i S	Sn	06 14 22.0	-4.2
SCX	**San Cristobal**	**2.32**	**68**	i P	Pn	06 14 00.2	-1.9
SCX				i S	Sn	06 14 26.5	-4.0
CCIG	**Comitan**	**2.66**	**81**	eP	Pn	06 14 03.5	-3.5
CCIG				i S	Sn	06 14 35.3	-3.9

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*IDC **26** 06:13:19.0±1.4, 18.00S×168.70E, mb4.1/6, mb1 4.3/6, mb1mx4.1/14, Error ellipse: s-maj=76.2km s-min=23.4km az=155.0*

*NEIC **26** 06:13:31.4±2.8, 18.38S×168.75E, h102^{km}±25^{km}, mb4.1/1, Error ellipse: s-maj=31.5km s-min=18.1km az=171.0*

ISC 26 06:13:30.6±1.3**, 18.49S**±0.10×**168.7E**±0.2**, h106**^{km}±9^{km}**, n13,** σ**0^{s}84**/15**, mb3.9**/8**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.91**	**333**	⇑iP	**P**	**06 13 50.8**	**-0.1**
NOUC	**Port Laguerre**	**4.22**	**211**	eP	**P**	**06 14 35.4**	**+1.2**
NOUC				eS	**S**	**06 15 21.7**	**-1.0**
NOUC	**Port Laguerre**	**4.22**	**211**	eP	**P**	**06 14 35.4**	**+1.2**
NOUC				eS	**S**	**06 15 21.7**	**-1.0**
STKA	**Stephens Creek**	**27.80**	**236**	P	**P**	**06 19 12.7**	**+0.7**
	2.4nm,0.8s,mb3.8,baz=70,slow=9.0,SNR=4.9						
STKA	**Stephens Creek**	**27.80**	**236**	eP	**P**	**06 19 12.5**	**+0.6**
WRAB	**Tennant Creek**	**32.41**	**262**	P	**P**	**06 19 54.3**	**+1.6**
WRA	**Warramunga Arr**	**32.42**	**262**	P	**P**	**06 19 51.6**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=96,slow=8.3,SNR=15						
ASAR	**Alice Springs**	**32.79**	**255**	P	**P**	**06 19 55.2**	**-0.7**
	1.5nm,0.5s,mb4.1,baz=84,slow=8.6,SNR=31						
FITZ	**Fitzroy Crossi**	**40.79**	**264**	P	**P**	**06 21 03.6**	**+0.5**
	1.4nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**06 24 41.6**	**+0.1**
	2.7nm,0.9s,mb4.1						
SONM	**Songino Array**	**86.30**	**323**	P	**P**	**06 26 01.0**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=135,slow=5.2,SNR=4.3						
NVAR	**Mina Array Bea**	**88.71**	**49**	P	**P**	**06 26 12.9**	**-0.6**
	0.7nm,0.8s,mb3.8,baz=209,slow=6.2,SNR=4.5						
TXAR	**Lajitas Array**	**96.88**	**61**	P	**P**	**06 26 51.6**	**+0.3**
	1.4nm,1.3s,mb4.2,baz=225,slow=5.1,SNR=2.9						

WEL 26 06:43:51.6±0.3**, 37.67S**×**176.30E, h273**^{km}±3^{km}**, ML3.5**/3**, 2C, Error ellipse: s-maj=7.2km s-min=5.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.87**	**133**	⇑PN	P	06 44 28.4	-0.2
URZ				SN	S	06 44 57.1	-0.6
MWZ	**Matawai**	**1.18**	**125**	PN	P	06 44 30.3	0.0
MGZ	**Maungaku**	**1.46**	**204**	PN	P	06 44 32.2	+0.1
BKZ	**Black Stump Fm**	**1.51**	**174**	⇑PN	P	06 44 32.2	-0.2
BKZ				SN	S	06 45 04.2	-0.1
NGZ	**Ngauruhoe**	**1.61**	**200**	PN	P	06 44 33.1	0.0
TUVZ	**Tukino**	**1.68**	**197**	PN	P	06 44 33.6	-0.1
FWVZ	**Far West T-bar**	**1.69**	**200**	PN	P	06 44 33.9	+0.1
WNVZ	**Wahianoa**	**1.75**	**198**	PN	P	06 44 34.0	-0.2
WAZ	**Wanganui**	**2.33**	**206**	PN	P	06 44 38.3	-0.9
TSZ	**Takapari Road**	**2.41**	**186**	PN	P	06 44 38.0	-2.0
MRZ	**Mangatainoka R**	**3.04**	**190**	PN	P	06 44 44.2	-2.2
MRZ				SN	S	06 45 26.9	-2.2
KIW	**Kapiti Island**	**3.37**	**198**	PN	P	06 44 47.4	-2.5
MTW	**Mount Morrison**	**3.54**	**190**	PN	P	06 44 49.0	-2.8
CAW	**Cannon Point**	**3.57**	**195**	PN	P	06 44 49.6	-2.6
MRW	**Makara Radio**	**3.77**	**199**	PN	P	06 44 51.5	-2.8
SNZO	**South Karori**	**3.84**	**198**	PN	P	06 44 52.4	-2.8
TUWZ	**Tuamarina**	**4.18**	**205**	PN	P	06 44 55.8	-3.2
NNZ	**Nelson**	**4.21**	**212**	PN	P	06 44 55.6	-3.7
QRZ	**Quartz Range**	**4.31**	**222**	PN	P	06 44 56.1	-4.4
THZ	**Tophouse**	**4.86**	**212**	PN	P	06 45 02.6	-4.3
KHZ	**Kahutara**	**5.20**	**203**	PN	P	06 45 08.4	-2.6
LTZ	**Lake Taylor**	**5.97**	**210**	PN	P	06 45 16.1	-4.3

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*NEIC **26** 07:14:36.0, 37.64S×176.47E, h198^{km}, After WEL.*

WEL 26 07:14:36.1±0.3**, 37.63S**×**176.46E, h196**^{km}±3^{km}**, ML3.9**/6**, 2C, Error ellipse: s-maj=3.9km s-min=3.6km az=0.0, North Island**

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

URZ	Urewera	0.81	141	⇑PN	P	07 15 04.1	-0.3
URZ				SN	S	07 15 26.0	-0.4
URZ	Urewera	0.81	141	P	P	07 15 04.1	-0.3
MWZ	Matawai	1.10	130	PN	P	07 15 06.0	-0.4
MWZ				SN	S	07 15 28.4	-1.4
MWZ	Matawai	1.10	130	eP	P	07 15 06.1	-0.2
MXZ	Matakaoa Point	1.47	88	PN	P	07 15 09.1	-0.4
MXZ				SN	S	07 15 35.0	-0.3
MXZ	Matakaoa Point	1.47	88	eP	P	07 15 09.2	-0.3
PUZ	Puketiti	1.49	108	PN	P	07 15 09.3	-0.4
PUZ				SN	S	07 15 35.3	-0.4
PUZ	Puketiti	1.49	108	eP	P	07 15 09.4	-0.3
BKZ	Black Stump Fm	1.53	179	PN	P	07 15 09.6	-0.5
BKZ				SN	S	07 15 35.6	-0.8
BKZ	Black Stump Fm	1.53	179	P	P	07 15 09.6	-0.5
MGZ	Maungaku	1.55	208	PN	P	07 15 10.3	+0.1
MGZ	Maungaku	1.55	208	P	P	07 15 10.5	+0.3
KAVZ	Karewarewa	1.60	203	PN	P	07 15 10.6	-0.1
KAVZ	Karewarewa	1.60	203	P	P	07 15 10.7	0.0
NGZ	Ngauruhoe	1.68	203	PN	P	07 15 11.6	+0.1
NGZ	Ngauruhoe	1.68	203	P	P	07 15 11.6	+0.1
KNZ	Kokohu	1.69	146	PN	P	07 15 11.6	+0.1
KNZ	Kokohu	1.69	146	P	P	07 15 11.6	+0.1
CNZ	Chateau	1.72	204	PN	P	07 15 11.6	-0.3
CNZ	Chateau	1.72	204	P	P	07 15 11.7	-0.2
WPVZ	Whakapapa	1.73	204	PN	P	07 15 11.7	-0.2
TUVZ	Tukino	1.75	201	⇑PN	P	07 15 11.9	-0.2
TUVZ				SN	S	07 15 39.9	0.0
TUVZ	Tukino	1.75	201	P	P	07 15 12.0	-0.2
FWVZ	Far West T-bar	1.77	203	PN	P	07 15 12.2	-0.2
FWVZ	Far West T-bar	1.77	203	eP	P	07 15 12.3	0.0
WNVZ	Wahianoa	1.82	201	PN	P	07 15 12.5	-0.4
MOVZ	Moawhango	1.86	197	PN	P	07 15 12.2	-1.0
RAEZ	Rainy Point	2.32	224	PN	P	07 15 18.6	+0.5
RAEZ	Rainy Point	2.32	224	P	P	07 15 18.7	+0.6
WAZ	Wanganui	2.42	208	PN	P	07 15 17.9	-1.3
WAZ	Wanganui	2.42	208	eP	P	07 15 18.1	-1.1
PWZ	Pawanui	2.42	173	PN	P	07 15 18.1	-1.2
PWZ	Pawanui	2.42	173	eP	P	07 15 18.3	-0.9
TSZ	Takapari Road	2.46	189	PN	P	07 15 18.2	-1.5
TSZ	Takapari Road	2.46	189	P	P	07 15 18.3	-1.4
NEZ	North Egmont	2.48	228	PN	P	07 15 20.5	+0.6
NEZ	North Egmont	2.48	228	P	P	07 15 20.6	+0.7
DFE	Dawson Falls	2.51	227	PN	P	07 15 20.5	+0.3
DFE	Dawson Falls	2.51	227	P	P	07 15 20.3	0.0
BFZ	Birch Farm	3.05	183	PN	P	07 15 24.5	-2.1
BFZ	Birch Farm	3.05	183	eP	P	07 15 24.7	-1.9
MRZ	Mangatainoka R	3.10	192	PN	P	07 15 24.7	-2.6
MRZ	Mangatainoka R	3.10	192	P	P	07 15 24.7	-2.6
KIW	Kapiti Island	3.44	200	PN	P	07 15 28.0	-3.4
KIW	Kapiti Island	3.44	200	P	P	07 15 28.2	-3.2
MTW	Mount Morrison	3.60	192	PN	P	07 15 29.8	-3.5
MTW	Mount Morrison	3.60	192	P	P	07 15 30.1	-3.3
CAW	Cannon Point	3.64	197	PN	P	07 15 30.4	-3.4
CAW	Cannon Point	3.64	197	P	P	07 15 30.4	-3.4
PAWZ	Paruwai Farm	3.83	192	PN	P	07 15 32.7	-3.5
MRW	Makara Radio	3.84	200	PN	P	07 15 32.7	-3.7
MRW	Makara Radio	3.84	200	P	P	07 15 32.9	-3.5
MSWZ	Moikau Station	3.89	194	PN	P	07 15 33.1	-3.9
SNZO	South Karori	3.92	200	PN	P	07 15 33.3	-4.0
SNZO	South Karori	3.92	200	P	P	07 15 33.6	-3.7
TUWZ	Tuamarina	4.26	206	PN	P	07 15 37.7	-3.9
NNZ	Nelson	4.30	213	PN	P	07 15 37.9	-4.2
NNZ	Nelson	4.30	213	eP	P	07 15 38.1	-4.1
QRZ	Quartz Range	4.42	222	PN	P	07 15 39.6	-4.0
QRZ	Quartz Range	4.42	222	eP	P	07 15 39.7	-3.9
BSWZ	Blackbirch Sta	4.54	205	PN	P	07 15 41.5	-3.7
THZ	Tophouse	4.95	212	PN	P	07 15 45.8	-4.7
THZ				SN	S	07 16 42.2	-6.0
THZ	Tophouse	4.95	212	eP	P	07 15 46.5	-4.0
KHZ	Kahutara	5.28	204	PN	P	07 15 50.5	-4.2
KHZ	Kahutara	5.28	204	eP	P	07 15 50.6	-4.1
DSZ	Denniston Nort	5.46	220	PN	P	07 15 53.6	-3.4
LTZ	Lake Taylor	6.06	211	PN	P	07 15 59.7	-5.1
LTZ	Lake Taylor	6.06	211	eP	P	07 16 00.0	-4.8
MQZ	McQueen's Vall	6.72	204	SN	S	07 17 18.6	-11

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*ATH **26** 08:08:14.7, 38.61N×22.16E, h17^{km}±3^{km}, MD3.9/21, ML4.0*

*THE **26** 08:08:16.9, 38.71N×22.31E, h10^{km}, ML4.0*

*BJI **26** 08:08:16.2, 39.38N×21.75E, h13^{km}, mB4.5, mb4.8, Ms4.5, Msz4.3*

*NEIC **26** 08:08:16.9, 38.71N×22.31E, h10^{km}, MD3.7(PDG), ML4.0(THE), ML4.0(ATH), After THE.*

*PDG **26** 08:08:19.4±0.3, 38.54N×21.08E, h12^{km}±1^{km}*

*IDC **26** 08:08:19.3±3.2, 38.61N×22.25E, h34^{km}±26^{km}, mb3.6/9, mb1 3.8/14, mb1mx3.7/26, ML3.8/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=23.5km s-min=17.0km az=35.0*

ISC 26 08:08:15.4±0.5**, 38.67N**±0.02×**22.26E**±0.02**, h11**^{km}±3^{km}**, n103, σ1§19**/133**, mb4.2**/13**, MS3.9**/2**, 2C-11D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.36	9	ePg	Pg	08 08 22.9	+0.1
AGG				eSg	Sg	08 08 27.3	-0.5
EVR	Evrytania	0.43	305	⇑iPB	Pb	08 08 23.0	-1.5
MKIT	Kithairon Oros	0.92	121	ePN	Pn	08 08 32.6	-1.5
NEO	Neokhori	0.99	49	⇓iPN	Pn	08 08 36.0	+1.0
XOR	Xorichti	1.01	46	ePg	Pg	08 08 34.5	-1.1
XOR				eSg	Sg	08 08 49.5	+0.4
NSAL	Nisos Salamina	1.21	128	ePN	Pn	08 08 38.5	+0.2
LKD	Levkas	1.26	272	ePb	Pb	08 08 41.4	+2.7
LKD				eSb	Sb	08 08 58.0	+3.3
MPAR	Parnis Oros	1.27	113	ePN	Pn	08 08 40.0	+1.0
NAIG	Nisos Aigina	1.33	133	ePN	Pn	08 08 40.5	+0.6
ATH	Athens Observa	1.34	121	ePN	Pn	08 08 41.0	+0.9
AOS	Alonnisos	1.36	68	ePb	Pb	08 08 40.6	+0.2
AOS				eSb	Sb	08 08 59.1	+1.5
MEV	Metsovon	1.37	325	ePb	Pb	08 08 40.9	+0.3
MEV				eSb	Sb	08 09 00.4	+2.4
VLS	Valsamata	1.40	250	ePN	Pn	08 08 39.0	-1.9
PTL	Penteli	1.40	116	ePN	Pn	08 08 41.9	+0.9
LIT	Litokhoron	1.44	7	ePb	Pb	08 08 41.3	-0.5
LIT				eSb	Sb	08 09 01.7	+1.7
JAN	Janina	1.48	313	ePN	Pn	08 08 42.3	+0.3
ITM	Ithomi	1.51	190	ePN	Pn	08 08 42.0	-0.5
PAIG	Paliouri	1.67	41	ePb	Pb	08 08 44.9	-0.8
PAIG				eSb	Sb	08 09 07.3	+0.6
KZN	Kozani	1.68	347	ePN	Pn	08 08 45.4	+0.5
IGT	Igoumenitsa	1.73	301	ePb	Pb	08 08 47.2	+0.5
IGT				eSb	Sb	08 09 09.2	+0.8
PLG	Polygyros	1.94	28	ePB	Pb	08 08 48.3	-1.9
VLI	Veliai	2.02	164	ePN	Pn	08 08 49.5	-0.3
THE	Thessaloniki	2.04	15	ePn	Pn	08 08 49.4	-0.7
THE				eSn	Sn	08 09 14.9	-0.7
OUR	Ouranopolis	2.13	38	ePn	Pn	08 08 51.4	0.0
KEK	Kerkira	2.18	299	ePN	Pn	08 08 53.5	+1.4
KEK	Kerkira	2.18	299	ePg	Pg	08 08 57.0	-1.9
FNA	Florina	2.22	342	ePn	Pn	08 08 53.0	+0.3
FNA				eSn	Sn	08 09 20.5	+0.1
GRG	Griva	2.29	3	ePn	Pn	08 08 53.1	-0.6
GRG				eSn	Sn	08 09 22.2	+0.1
SOH	Sokhos	2.31	21	ePn	Pn	08 08 54.3	+0.3
KYTH	Kithira	2.46	165	ePB	Pb	08 08 56.6	-2.6
KNT	Kendrikon	2.54	11	ePn	Pn	08 08 57.4	+0.2
KNT				eSn	Sn	08 09 27.2	-1.2
SRS	Serrai	2.65	22	ePn	Pn	08 08 58.9	0.0
SRS				eSn	Sn	08 09 30.7	-0.6
VAY	Valandovo	2.66	5	i Pn	Pn	08 08 55.1	-3.9
VAY				i		08 09 01.6	
VAY				i Sg	Sg	08 09 34.7	-9.4
OHR	Ohrid	2.69	336	i Pn	Pn	08 09 01.0	+1.6
OHR				i		08 09 06.2	
OHR				i		08 09 12.2	
OHR				i Sn	Sn	08 09 32.3	+0.1
OHR				i		08 09 36.4	
OHR				i		08 09 40.4	
APE	Apeiranthos	3.04	121	ePN	Pn	08 09 05.5	+1.1
PRK	Paraskevi	3.18	78	ePN	Pn	08 09 06.7	+0.3
THR4	Thira Island,	3.33	130	ePn	Pn	08 09 08.8	+0.3
THR5	Thira Island,	3.33	132	ePn	Pn	08 09 09.1	+0.7
SKO	Skopje	3.36	350	i Pn	Pn	08 09 10.0	+1.1
SKO				i		08 09 16.5	
SKO				i		08 09 23.5	
THR3	Thira Island,	3.36	131	ePn	Pn	08 09 08.4	-0.6
THR6	Thira Island,	3.40	132	ePn	Pn	08 09 08.6	-0.8
RDO	Rodhopi	3.53	44	ePN	Pn	08 09 10.6	-0.8
VAM	Vamos	3.60	154	ePN	Pn	08 09 11.1	-1.3
ALN	Alexandroupoli	3.67	51	ePn	Pn	08 09 11.9	-1.4
IDI	Anoyia	3.98	147	Pn	Pn	08 09 17.0	-0.6
	2.2nm,0.3s,baz=339,slow=11,SNR=11						
IDI				Sn	Sn	08 10 01.7	-3.0
	5.0nm,0.3s,baz=57,slow=23,SNR=5.2						
ULC	Ulcinj	4.02	326	⇓iPn	Pn	08 09 18.9	+0.7
ULC				eSn	Sn	08 10 04.0	-1.9
GVD	Gavdhos	4.09	158	ePn	Pn	08 09 19.4	0.0
BARS	Barje	4.16	356	⇑iPn	Pn	08 09 20.2	-0.1
PVY	Plav	4.29	337	⇓iPn	Pn	08 09 25.0	+2.9
PVY				eSn	Sn	08 10 14.7	+1.9
TIP	Timpagrande	4.32	279	ePn	Pn	08 09 22.0	-0.6
TIP				eSn	Sn	08 10 05.5	-8.0
TTG	Podgorica	4.40	330	⇓iPn	Pn	08 09 24.0	+0.3
TTG				eSn	Sn	08 10 14.7	-0.8
BUM	Brajici-Budva	4.44	326	⇓iPn	Pn	08 09 24.7	+0.4
BUM				eSn	Sn	08 10 14.4	-2.2
IVA	Berane	4.57	338	ePn	Pn	08 09 29.5	+3.4
IVA				eSn	Sn	08 10 21.8	+2.1
XRY	Khrisi	4.68	143	ePN	Pn	08 09 29.1	+1.4
HCY	Herceg Novi	4.74	324	⇓iPn	Pn	08 09 28.0	-0.5
HCY				eSn	Sn	08 10 20.9	-3.2
NKY	Niksic	4.83	330	⇓iPn	Pn	08 09 30.1	+0.4
NKY				eSn	Sn	08 10 24.8	-1.5
SOI	Samo	4.91	265	ePn	Pn	08 09 33.6	+2.6
BRY	Bratogost	5.08	327	⇓iPn	Pn	08 09 33.6	+0.3
BRY				eSn	Sn	08 10 30.2	-2.6
PLE	Pljevlja	5.14	336	ePn	Pn	08 09 36.3	+2.2
PLE				eSn	Sn	08 10 34.2	0.0
BOLS	Boljevac	5.16	358	⇓iPn	Pn	08 09 33.6	-0.9
UPM	Unac-Piva	5.19	332	⇓iPn	Pn	08 09 35.1	+0.2
UPM				eSn	Sn	08 10 33.7	-1.8
GRUS	Gruza	5.34	348	⇓iPn	Pn	08 09 37.0	-0.1
MGR	Morigerati	5.40	288	ePn	Pn	08 09 37.5	-0.3
MGR				eSn	Sn	08 10 36.2	-4.5
SLCN	Sala Consilina	5.41	291	ePn	Pn	08 09 38.5	+0.6
MRLC	Muro Lucano	5.62	294	ePn	Pn	08 09 40.9	-0.1
SGO	Sicignano	5.69	292	ePn	Pn	08 09 41.8	-0.1
FGMS	Monte Sant'Ang	5.71	304	ePn	Pn	08 09 43.2	+1.1
RGNG	Rignano Grg	5.93	303	ePn	Pn	08 09 45.6	+0.4
CII	Carovilli	6.81	299	ePn	Pn	08 09 57.9	+0.2
MLR	Muntele Rosu	7.35	21	Pn	Pn	08 10 05.3	0.0
	0.9nm,0.3s,baz=196,slow=5.9,SNR=34						
MLR				Lg		08 12 17.9	
	baz=294,slow=19,SNR=2.3						
AQU	L'Aquila	7.69	301	P	Pn	08 10 07.5	-2.5
NRCA	Norcia	8.09	304	ePn	P	08 10 15.4	-0.3
BRTR	Keskin Array B	8.90	80	Pn	P	08 10 27.2	+0.4
	1.0nm,0.3s,baz=261,slow=12,SNR=18						
PSZ	Piszkesteto	9.41	350	ePn	P	08 10 31.7	-2.2
PSZ				eSn	Sn	08 12 15.1	-5.6
MORC	Moravsky Berou	11.61	345	P	P	08 11 10.3	+6.4
GERES	GERESS Array B	11.90	332	Pn	P	08 11 09.0	+1.1
	0.2nm,0.3s,baz=157,slow=13,SNR=3.5						
DAVOX	Davos	12.18	316	Pn	P	08 11 16.6	+4.9
	0.3nm,0.3s,baz=148,slow=12,SNR=2.8						
DAVOX				Sn	S	08 13 29.6	+1.2
	0.3nm,0.3s,baz=331,slow=23,SNR=3.5						
KHC	Kasperske Hory	12.18	332	eP	P	08 11 13.2	+1.5
KHC				e		08 11 21.4	
AKASG	Malin Array Be	13.00	20	Pn	P	08 11 20.8	-1.9
	0.9nm,0.3s,baz=203,slow=12,SNR=4.6						
SUW	Suwalki	15.36	2	eP	P	08 11 57.3	+3.7
ESDC	Sonseca Array	20.34	281	P	P	08 12 52.4	-1.9
	2.5nm,0.6s,baz=76,slow=11,SNR=8.3						
ESLA	Sonseca Array	20.34	281	eP	P	08 12 53.6	-0.7
	3.7nm,1.1s						
HFS	Hagfors	22.16	349	P	P	08 13 12.3	-0.4
	4.1nm,1.0s,mb3.8,baz=124,slow=16,SNR=2.2						
NB2	NORSAR Subarra	23.44	346	P	P	08 13 22.4	-2.6
	5.0nm,1.1s,mb3.9,baz=156,slow=9.3						
NOA	NORSAR Array B	23.44	346	P	P	08 13 26.8	+1.7
	0.3nm,0.5s,baz=140,slow=9.8,SNR=3.6						
NOA	NORSAR Array B	23.44	346	P	P	08 13 26.8	+1.7
EKA	Eskdalemuir Ar	23.84	323	P	P	08 13 29.6	+0.5
	4.5nm,0.9s,mb3.9,baz=118,slow=10,SNR=4.6						
ESK	Eskdalemuir	23.86	323	P	P	08 13 29.4	+0.2
	28nm,1.1s,mb4.6						
ARCES	ARCESS Array B	30.98	2	P	P	08 14 33.0	-1.4
	0.7nm,0.8s,mb3.6,baz=194,slow=11,SNR=3.4						
MKAR	Makanchi Array	43.88	59	P	P	08 16 22.0	-1.2
	1.5nm,0.5s,mb4.0,baz=276,slow=7.8,SNR=17						
MKAR	Makanchi Array	43.88	59	P	P	08 16 22.0	-1.2
ZAL	Zalesovo	44.34	49	P	P	08 16 26.9	0.0
	2.4nm,0.6s,mb4.1,baz=91,slow=4.6,SNR=5.4						
ZAL				LR	LR	08 36 59.2	
	comp=Z,36nm,19.3s,MS3.3,baz=291,slow=39						
WMQ	Urumqi	48.33	62	eP	P	08 17 02.5	+3.9
WMQ				XP	sP	08 17 12.5	+9.1
WMQ				PCP	PcP	08 18 29.0	+3.3
WMQ				PP	PP	08 18 55.0	+4.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,13nm,6.5s						
SONM	Songino Array	59.09	51	P	P	08 18 16.9	-0.8
	comp=Z,0.3nm,0.7s,mb3.4,baz=288,slow=9.1,SNR=2.7						
LZH	Lanzhou	62.76	64	eP	P	08 18 44.0	+1.1
LZH				AP	pP	08 18 55.0	+8.6
LZH				XP	sP	08 18 59.0	+11
LZH				PP	PP	08 21 04.0	+1.3
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,89nm,5.1s						
LZH				LR	LR		
	comp=N,156nm,14.7s						
LZH				LR	LR		
	comp=Z,236nm,17.8s,MS4.4						
LZH	Lanzhou	62.76	64	eP	P	08 18 44.0	+1.1
	comp=Z,23nm,1.5s,mb5.1						
LZH				pP	pP	08 18 54.9	+8.5
LZH				sP	sP	08 18 59.1	+11
LZH				PP	PP	08 21 04.0	+1.3
KMI	Kunming	67.66	75	eP	P	08 19 17.0	+2.4
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	Kunming	67.66	75	eP	P	08 19 17.1	+2.5
	comp=Z,10.0nm,0.8s,mb4.9						
CN2	Changchun	72.55	48	eP	P	08 19 45.0	+0.9
MDJ	Mudanjiang	74.40	45	P	P	08 19 53.5	-1.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,103nm,6.0s						
NJ2	Nanjing	75.39	61	eP	P	08 20 02.3	+1.5
ILAR	Eielson Array	76.55	355	P	P	08 20 05.2	-1.4
	comp=Z,0.5nm,0.9s,mb3.5,baz=342,slow=4.5,SNR=4.1						
SSE	Sheshan	77.55	60	P	P	08 20 14.5	+1.6

OTT 26 08:40:05.9±0.2**, 64.78N**×**86.39W, h18**^{km}**, MN3.3**/11**, Wager Bay area, Nu 170km northwest from Coral Harbour, Nu Boothia Ungava Seismic Zone., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGL	Igloolik	4.96	19	PN	Pn	08 41 19.6	-1.7
IGL				SN	Sn	08 42 12.3	-6.7
IGL				LG		08 42 40.3	
IGL				Trac		08 42 45.6	
	comp=Z,44nm,0.2s						
FCC	Fort Churchill	7.05	215	PN	Pn	08 41 48.2	-2.6
FCC				SN	Sn	08 43 02.7	-8.6
FCC				LG		08 43 44.8	
FCC				Trac		08 43 52.8	
	comp=Z,8.8nm,0.2s						
FRB	Frobisher Bay	7.83	89	PN	Pn	08 41 58.9	-2.9
FRB				SN	Sn	08 43 21.0	-10
FRB				SN	Sn	08 43 21.6	-9.4
FRB				LG		08 44 10.4	
FRB				Trac		08 44 24.1	
	comp=Z,11nm,0.4s						
PINU	Pond Inlet	8.51	17	PN	P	08 41 53.1	-18
PINU				SN	Sn	08 43 22.7	-25
PINU				LG		08 44 14.6	
GLWN	Glow Worm Lake	9.79	280	PN	P	08 42 27.1	-1.6
GLWN				SN	Sn	08 44 07.8	-11
GLWN				LG		08 45 05.9	
GLWN				LG		08 45 08.2	
GLWN				Trac		08 45 16.3	
	comp=Z,14nm,0.4s						
KNDN	Kennady Lake	10.05	273	PN	P	08 42 28.0	-4.3
KNDN				SN	S	08 44 13.4	-12
KNDN				LG		08 45 16.9	
KNDN				Trac		08 45 24.0	
	comp=Z,8.7nm,0.3s						
MGTN	Margaret Lake	10.14	274	PN	P	08 42 30.2	-3.3
MGTN				SN	S	08 44 13.2	-15
MGTN				Trac		08 44 36.5	
	comp=Z,9.6nm,0.1s						
BOXN	Box Lake	10.15	275	PN	P	08 42 29.5	-4.1
BOXN				SN	S	08 44 15.0	-13
BOXN				LG		08 45 16.5	
BOXN				Trac		08 45 29.2	
	comp=Z,9.1nm,0.3s						
MLON	Marlo Lake	10.19	276	PN	P	08 42 30.6	-3.7
MLON				SN	S	08 44 15.2	-14
MLON				LG		08 45 20.2	
MLON				Trac		08 45 24.8	
	comp=Z,6.6nm,0.6s						
LGSN	Lac de Gras So	10.21	278	PN	P	08 42 31.1	-3.3
LGSN				SN	S	08 44 16.2	-13
LGSN				LG		08 45 17.9	
LGSN				Trac		08 45 23.2	
	comp=Z,11nm,0.6s						
MCKN	MacKay Lake No	10.27	278	SN	S	08 44 18.8	-12
MCKN				LG		08 45 22.1	
LDGN	Lac de Gras No	10.30	280	SN	S	08 44 17.6	-14
LDGN				LG		08 45 24.9	
SILO	Sutton Inlier	10.36	175	PN	P	08 42 32.1	-4.5
SILO				SN	S	08 44 21.1	-12
SILO				LG		08 45 29.3	
SILO				Trac		08 45 42.2	
	comp=Z,4.9nm,0.5s						
RES	Resolute Bay	10.37	347	PN	P	08 42 33.3	-3.4
RES				SN	S	08 44 20.2	-13
RES				LG		08 45 23.2	
RES				Trac		08 45 44.2	
	comp=Z,6.2nm,0.6s						
ACKN	Achilles Lake	10.38	282	PN	P	08 42 32.9	-4.0
ACKN				SN	S	08 44 15.0	-19
ACKN				LG		08 45 26.0	
ACKN				Trac		08 45 38.3	
	comp=Z,9.9nm,0.5s						
LUPN	Lupin Mine	10.44	287	PN	P	08 42 33.7	-4.0
LUPN				SN	S	08 44 22.5	-13
LUPN				LG		08 45 26.3	
LUPN				Trac		08 45 55.0	
	comp=Z,7.6nm,0.6s						
YNEN	Yamba Lake Nor	10.44	283	PN	P	08 42 34.0	-3.6
YNEN				SN	S	08 44 21.4	-14
YNEN				LG		08 45 27.3	
YNEN				Trac		08 45 34.0	
	comp=Z,10nm,0.5s						
COWN	Contwyoto Lake	10.47	284	SN	S	08 44 21.8	-14
COWN				LG		08 45 28.2	
COWN				Trac		08 45 30.1	
	comp=Z,14nm,0.5s						
NODN	Nodinka Narrow	10.65	277	PN	P	08 42 36.5	-4.1
NODN				SN	S	08 44 26.8	-14
NODN				LG		08 45 35.7	
NODN				Trac		08 45 45.2	
	comp=Z,14nm,0.5s						
YMBN	Yamba Lake	10.68	282	PN	P	08 42 38.5	-2.5
YMBN				SN	S	08 44 25.6	-16
YMBN				LG		08 45 31.8	
YMBN				Trac		08 45 41.2	
	comp=Z,14nm,0.9s						
CAMN	Camsell Lake	10.69	276	PN	P	08 42 35.2	-5.8
CAMN				SN	S	08 44 29.1	-12
CAMN				LG		08 45 36.8	
CAMN				Trac		08 45 48.9	
	comp=Z,14nm,1.1s						
SNPN	Snap Lake	10.75	274	PN	P	08 42 37.0	-5.0
SNPN				SN	S	08 44 29.0	-14
SNPN				Trac		08 44 51.1	
	comp=Z,6.3nm,0.1s						
IHLN	Indian Hill La	10.81	273	PN	P	08 42 38.8	-3.9
IHLN				SN	S	08 44 31.7	-13
IHLN				LG		08 45 39.0	
IHLN				Trac		08 45 41.0	
	comp=Z,6.2nm,0.4s						
KUQ	Kuujjuuaa	10.86	120	PN	P	08 42 40.1	-3.4
KUQ				SN	S	08 44 32.9	-13
KUQ				LG		08 45 33.9	
KUQ				Trac		08 45 55.2	
	comp=Z,11nm,0.4s						
GBLN	Grizzly Bear L	11.45	279	PN	P	08 42 48.3	-3.1
GBLN				SN	S	08 44 48.7	-11
GBLN				Trac		08 45 09.5	
	comp=Z,9.7nm,0.1s						
VIMO	Victor Mine	12.07	172	PN	P	08 42 54.1	-5.8
VIMO				SN	S	08 45 00.7	-14
VIMO				Trac		08 46 34.2	
	comp=Z,4.9nm,0.5s						
DSMN	Discovery Mine	12.14	275	PN	P	08 42 56.7	-4.1
DSMN				SN	S	08 45 01.5	-15
DSMN				LG		08 46 22.7	
DSMN				Trac		08 46 39.1	
	comp=Z,10nm,0.6s						
YKW3	Yellowknife Ar	12.67	273	PN	P	08 43 03.4	-4.5
YKW3				SN	S	08 45 12.5	-17
YKW3				LG		08 46 37.4	
YKW3				Trac		08 46 57.9	
	comp=Z,6.8nm,0.4s						
LG4Q	La Grande 4	12.80	145	PN	P	08 43 04.3	-5.3
LG4Q				SN	S	08 45 19.1	-13
LG4Q				LG		08 46 37.5	
PKLO	Pickle Lake	13.47	191	PN	P	08 43 14.1	-4.4
PKLO				SN	S	08 45 31.9	-17
PKLO				LG		08 47 03.3	
PKLO				Trac		08 47 11.4	
	comp=Z,3.3nm,0.5s						
SCHQ	Schefferville	13.93	126	PN	P	08 43 18.4	-6.1
SCHQ				SN	S	08 45 43.4	-16
SCHQ				LG		08 47 18.4	
SCHQ				Trac		08 47 28.5	
	comp=Z,9.2nm,0.7s						
RDLO	Red Lake	14.39	199	PN	P	08 43 26.3	-4.1
RDLO				SN	S	08 45 53.4	-17
RDLO				LG		08 47 28.6	
RDLO				Trac		08 47 35.6	
	comp=Z,2.8nm,0.6s						
MALO	McAlpine Lake	15.20	164	PN	P	08 43 36.0	-5.0
MALO				SN	S	08 46 10.2	-19
MALO				LG		08 48 00.7	
MALO				Trac		08 48 31.3	
	comp=Z,6.9nm,0.6s						
ULM	Lac du Bonnet	15.40	203	PN	P	08 43 38.5	-5.1
ULM				SN	S	08 46 19.0	-15
ULM				LG		08 47 58.1	
ULM				Trac		08 48 20.5	
	comp=Z,1.5nm,0.4s						
EPLO	Experimental L	15.63	198	PN	P	08 43 53.0	+6.3
EPLO				SN	S	08 46 16.7	-23

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*NEIC **26** 09:04:44.9, 28.61S×72.33W, h24^{km}, ML3.8(GUC), After GUC.*

GUC 26 09:04:44.9±0.8**, 28.61S**×**72.33W, h24**^{km}±9^{km}**, MD3.8, ML3.8, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.39	89	i P	Pn	09 05 05.4	-3.6
VACH				i S	Sn	09 05 23.9	-2.9
VACH				AMP		09 05 26.2	
	comp=E,1µm,0.1s						
LSCH	La Serena	1.61	144	i P	Pn	09 05 13.4	+1.2
LSCH				i S	Sn	09 05 32.8	+0.3
TLL	Tololo Astrono	2.05	140	ePN3		09 04 52.3	
TLL				eP		09 05 20.7	
TLL				i S	Sn	09 05 46.2	+2.6
CPCH	Copiapo	2.15	55	eP	Pn	09 05 20.6	+0.6
CPCH				i S	Sn	09 05 47.5	+1.3
CPCH				AMP		09 05 50.5	
	comp=E,2µm,0.1s						

IDC 26 09:16:59.8±24.0**, 16.66S**×**172.22W, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/18**, Error ellipse: s-maj=450.0km**

s-min=167.2km az=71.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	39.48	259	P	P	09 24 32.5	-1.4
	2.5nm,0.8s,baz=284,slow=18,SNR=2.5						
STKA	Stephens Creek	44.41	241	P	P	09 25 13.2	-1.0
	2.2nm,1.0s,baz=80,slow=6.1,SNR=3.4						
WRA	Warramunga Arr	50.67	258	P	P	09 26 00.6	-2.6
	0.4nm,0.5s,baz=97,slow=6.8,SNR=16						
ASAR	Alice Springs	50.81	253	P	P	09 26 02.2	-2.1
	1.6nm,0.7s,baz=89,slow=8.8,SNR=24						

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*NAO **26** 09:17:26.0±3.4,59.43N×4.37E,ML2.5*
*BER **26** 09:17:29.2±3.3,59.57N×4.35E,MD2.0,ML1.8, ML2.5(NAO)*
ISC 26 09:17:26.3±1.4,**59.46N**±0.05×**4.5E**±0.1,**h10**^{km}**,n14, σ0**^{s}**82**/26**,Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMY	Karmoy	0.47	121	eP	Sg	09 17 41.5	-0.8
EGD	Espegrend	0.90	25	eP	Pb	09 17 42.8	-0.9
BLS5	Blasjo	1.02	91	eP	Pb	09 17 49.7	+4.1
BLS5				eS	Sb	09 18 04.7	+5.8
BER	Bergen	1.03	25	eP	Pb	09 17 45.8	0.0
BER				eS	Sb	09 17 58.8	-0.3
BER				AML	AML	09 17 59.5	
	comp=Z,43nm,0.4s						
RUND	Rundenannen	1.06	25	eP	Pb	09 17 46.5	+0.1
RUND				eS	Sb	09 18 00.1	0.0
ASK	Askoy	1.09	19	eP	Pb	09 17 46.5	-0.4
ASK				eS	Sb	09 17 59.9	-1.1
ASK				AML	AML	09 18 00.6	
	comp=Z,44nm,0.3s						
ODD1	Odda	1.19	67	eP	Pb	09 17 48.9	+0.3
ODD1				eS	Sb	09 18 05.2	+1.4
ODD1				AML	AML	09 18 06.0	
	comp=Z,28nm,0.3s						
SUE	Sulen	1.61	5	eP	Pn	09 17 54.8	-0.2
SUE				eS	Sn	09 18 14.6	-1.4
SUE				AML	AML	09 18 22.1	
	comp=Z,14nm,0.4s						
HYA	Hoyanger	1.92	26	eP	Pn	09 18 00.5	+1.1
HYA				eS	Sn	09 18 25.3	+1.5
HYA				AML	AML	09 18 29.0	
	comp=Z,16nm,0.7s						
FOO	Floro	2.17	7	eP	Pn	09 18 03.4	+0.4
FOO				eS	Sn	09 18 30.1	0.0
MOL	Molde	3.47	24	eP	Pn	09 18 22.9	+1.3
NC2	NORSAR Subarra	3.66	57	Pn	Pn	09 18 24.1	-0.1
NC2				Pg	Pg	09 18 33.8	-5.6
NC2				Lg		09 19 22.9	
NB2	NORSAR Subarra	3.72	62	Pn	Pn	09 18 25.0	-0.1
NB2				Pg	Pg	09 18 33.7	-7.0
NB2				Lg		09 19 24.2	
HFS	Hagfors	4.71	78	Pn	Pn	09 18 39.4	+0.1
	baz=263,slow=14						
HFS				Pg	Pg	09 18 53.5	-7.0
	baz=266,slow=18						
HFS				Sn	Sn	09 19 33.7	-1.0
	baz=264,slow=28						
HFS				Lg		09 19 55.3	
	baz=267,slow=37						

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*JMA **26** 09:25:51.7±0.4,22.87N×121.38E,h138^{km},M3.4*
*TAP **26** 09:25:52.1,22.89N×121.28E,h17^{km},ML4.0*
TAP Felt I J at Taitung, II J at Pinlang, II J at Chenggung, I J at Taimali.
ISC 26 09:25:51.7±0.6,**22.81N**±0.02×**121.37E**±0.02,**h15**^{km}±4^{km}**, n49,σ1**^{s}**10**/77**,7C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTN	Taitung	0.21	255	eP	Pg	09 25 57.1	+0.5
TTN				S	Sg	09 26 01.0	+1.0
TWG	Pinlang	0.27	272	⇓iP	Pb	09 25 57.0	-0.7
TWG				S	Sg	09 26 01.7	-0.2
CHKT	Chengkung	0.29	359	⇓iP	Pb	09 25 57.6	-0.3
CHKT				S	Sb	09 26 01.8	-0.5
ECL	Taimali	0.44	241	⇓iP	Pb	09 26 00.2	-0.3
ECL				S	Sb	09 26 06.3	-0.3
ELDTW	Lidau	0.50	319	⇑iP	Pb	09 25 59.9	-1.7
ELDTW				S	Sb	09 26 05.7	-2.6
TWF1	Yuli	0.54	353	P	Pb	09 26 01.2	-1.2
TWF1				S	Sb	09 26 09.1	-0.6
TAW	Tawu	0.63	224	eP	Pb	09 26 03.7	-0.1
TAW				S	Sb	09 26 12.7	+0.6
EAST	Anshuo	0.64	229	⇓iP	Pb	09 26 04.1	+0.1
STYT	Tauyuan	0.67	302	⇑iP	Pb	09 26 03.1	-1.3
STYT				S	Sb	09 26 11.2	-2.0
SSD	Sandimen	0.68	265	⇑iP	Pb	09 26 03.7	-1.0
SSD				S	Sb	09 26 11.4	-2.3
EHY	Hungye	0.69	356	eP	Pb	09 26 03.8	-1.2
EHY				S	Sb	09 26 14.3	+0.3
SGST	Jiashian	0.77	291	⇑iP	Pb	09 26 05.9	-0.4
SGST				S	Sb	09 26 16.0	-0.3
YUS	Yu-Shan	0.78	331	⇑iP	Pb	09 26 05.0	-1.3
YUS				S	Sb	09 26 13.8	-2.6
SGLT	Jiouru	0.81	264	eP	Pb	09 26 05.4	-1.6
SCZT	Fangliau	0.82	238	eP	Pb	09 26 07.1	0.0
WTP	Ta-pu	0.82	302	⇑iP	Pb	09 26 06.4	-0.7
WTP				S	Sb	09 26 17.6	0.0
CHN1	Nanshi	0.86	296	P	Pb	09 26 07.5	-0.3
CHN1				S	Sb	09 26 20.0	+1.1
ALS	Alishan	0.87	323	⇑P	Pb	09 26 07.2	-0.7
TWM1	Shoushan	0.87	271	eP	Pb	09 26 08.8	+0.9
CHN3	Shinhua	0.96	286	eP	Pb	09 26 10.7	+1.1
CHN3				S	Sb	09 26 25.9	+4.0
HEN	Hengchun	0.99	216	eP	Pb	09 26 12.8	+2.8
ESL	Shilin	1.00	3	eP	Pb	09 26 09.4	-0.8
ESL				S	Sb	09 26 24.4	+1.4
TWK1	Hengchun	1.01	211	eP	Pb	09 26 10.2	-0.1
CHN5	Tsauling	1.01	321	P	Pb	09 26 09.9	-0.4
CHN5				S	Sb	09 26 23.6	+0.4
TWP	Hsiaoliuchiu	1.04	244	eP	Pb	09 26 13.9	+3.1
SCLT	Jiali	1.14	289	eP	Pb	09 26 13.1	+0.5
SCLT				S	Sb	09 26 29.0	+2.0
WGK	Gukeng	1.15	320	eP	Pb	09 26 12.5	-0.1
WGK				S	Sb	09 26 27.6	+0.5
TYC	Yuchr	1.19	337	eP	Pb	09 26 13.1	-0.3
TYC				S	Sb	09 26 28.3	0.0
CHN8	Yiju	1.19	297	eP	Pb	09 26 13.1	-0.3
CHN8				S	Sb	09 26 30.5	+2.0
WNT	Mingjian	1.24	330	eP	Pb	09 26 14.3	+0.1
WNT				S	Sb	09 26 30.6	+0.9
TWD	Chiawan	1.28	9	eP	Pb	09 26 15.1	+0.1
WSF	Szhu	1.34	308	eP	Pn	09 26 15.0	-0.9
TCU	Taichung	1.48	335	eP	Pn	09 26 18.4	+0.5
NNS	Nan Shan	1.62	0	eP	Pn	09 26 18.7	-1.3
WDGT	Dungji	1.64	286	eP	Pn	09 26 19.0	-1.2
ENA	Nanau	1.65	12	eP	Pn	09 26 22.1	+1.8
NSY	Sanyi	1.69	341	eP	Pn	09 26 21.6	+0.6
NSY				S	Sn	09 26 44.7	+2.2
ENTT	Nioudou	1.83	6	eP	Pn	09 26 24.6	+1.6
PNG	Penghu	1.83	295	eP	Pn	09 26 21.1	-1.9
PNG				S	Sn	09 26 43.2	-2.8
NSTT	Nanjuang	1.84	350	eP	Pn	09 26 23.3	+0.2
TWC	Suao	1.84	14	eP	Pn	09 26 23.8	+0.6
TWE	Neicheng	1.92	8	eP	Pn	09 26 26.7	+2.4
YOJ	Yonaguni jima	2.23	42	P	Pn	09 26 28.7	0.0
YOJ				eS	Sn	09 26 56.3	+0.2
TWB1	Santiao Chiao	2.26	14	eP	Pn	09 26 30.0	+0.9
NWF	Wu-fen Shan	2.28	9	eP	Pn	09 26 29.9	+0.4
IRIF	Iriomote-Funau	2.65	55	P	Pn	09 26 33.9	-0.7
IRIF				eS	Sn	09 27 06.0	-0.7
JKRS	Kuro-shima	2.81	59	P	Pn	09 26 36.0	-1.0
JKRS				eS	Sn	09 27 11.3	+0.5
JIJ	Ishigaki jima	2.98	58	P	Pn	09 26 38.0	-1.4
JIJ				eS	Sn	09 27 13.9	-1.2
JTJ	Tarama	3.56	59	eS	Sn	09 27 28.5	-1.2

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*NAO **26** 09:27:23.2±3.4,60.00N×4.14E,ML3.0*
*BER **26** 09:27:25.5±3.1,59.60N×4.46E,h0^{km}±13^{km},MD1.8,ML2.1, ML3.0(NAO)*
ISC 26 09:27:22.2±1.4,**59.48N**±0.05×**4.5E**±0.2,**h10**^{km}**,n14, σ0**^{s}**80**/23**,Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMY	Karmoy	0.48	124	eP	Sg	09 27 37.1	-1.4
EGD	Espegrend	0.88	25	eP	Pb	09 27 38.3	-0.7
BER	Bergen	1.00	25	eP	Pb	09 27 42.3	+1.1
BER				eS	Sb	09 27 54.1	-0.1
BER				AML	AML	09 27 55.7	
	comp=Z,60nm,0.4s						
BLS5	Blasjo	1.02	93	eP	Pb	09 27 45.5	+4.1
RUND	Rundenannen	1.04	25	eP	Pb	09 27 42.1	+0.3
RUND				eS	Sb	09 27 55.7	+0.5
RUND				AML	AML	09 27 59.4	
	comp=Z,78nm,0.4s						
ASK	Askoy	1.07	20	eP	Pb	09 27 42.1	-0.2
ASK				eS	Sb	09 27 55.3	-0.8
ASK				AML	AML	09 27 59.3	
	comp=Z,54nm,0.7s						
ODD1	Odda	1.18	68	eP	Pb	09 27 44.6	+0.4
ODD1				eS	Sb	09 27 59.7	+0.5
SUE	Sulen	1.58	5	eP	Pn	09 27 50.6	0.0
SUE				eS	Sb	09 28 09.6	-1.6
HYA	Hoyanger	1.89	26	eP	Pn	09 27 56.1	+1.2
FOO	Floro	2.14	7	eP	Pn	09 27 57.5	-0.9
FOO				eS	Sn	09 28 25.1	-0.2
MOL	Molde	3.44	24	eP	Pn	09 28 18.3	+1.3
NC2	NORSAR Subarra	3.64	58	Pn	Pn	09 28 20.0	+0.2
NC2				Pg	Pg	09 28 29.1	-5.8
NC2				Lg		09 29 14.8	
NB2	NORSAR Subarra	3.71	62	Pn	Pn	09 28 20.5	-0.2
NB2				Pg	Pg	09 28 30.1	-6.1
NB2				Lg		09 29 19.0	
HFS	Hagfors	4.70	78	Pn	Pn	09 28 35.4	+0.4
	baz=270,slow=14						
HFS				Pg	Pg	09 28 47.9	-8.2
	baz=280,slow=18						
HFS				Lg		09 29 51.8	
	baz=266,slow=37						

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*STR **26** 09:38:12.6±0.1,44.42N×6.81E,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 09:38:12.7±0.1,44.42N×6.82E,h2^{km},Md2.7/2,Ml2.7/8, Error ellipse: s-maj=1.5km s-min=0.9km az=56.0*
*NEIC **26** 09:38:12.7,44.42N×6.82E,h2^{km},ML2.7(LDG), ML2.7(GEN),ML2.3(STR),After LDG.*
ISC 26 09:38:11.7±0.3,**44.41N**±0.01×**6.78E**±0.02,**h11**^{km}±2^{km}**, n36,σ0**^{s}**63**/69**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	17	Pg	Pg	09 38 14.6	+0.4
SURF				Sg	Sg	09 38 16.0	+0.1
PZZ	Prazzo	0.25	67	P	Pg	09 38 17.9	+0.9
PZZ				S	Sg	09 38 21.6	+1.0
MBDF	Montbardon	0.32	359	ePg	Pg	09 38 18.0	-0.3
MBDF				eSg	Sg	09 38 23.0	+0.2
	210nm,0.4s						
STV	Sta Anna Valdi	0.42	113	P	Pg	09 38 20.6	+0.2
STV				S	Sg	09 38 26.0	-0.2
STV2	Anna di Valdie	0.42	113	P	Pg	09 38 20.6	+0.2
STV2				S	Sg	09 38 26.0	-0.2
ENR	Entracque	0.49	112	P	Pg	09 38 21.8	0.0
ENR				S	Sg	09 38 28.1	-0.4
OG25	Le Caire	0.51	266	Pg	Pg	09 38 22.5	+0.4
RRL	Cesana Torines	0.51	0	P	Pg	09 38 22.6	+0.5
RRL				S	Sg	09 38 29.4	+0.4
TOUF	Mont Tournerai	0.52	140	Pg	Pg	09 38 22.4	+0.2
BHB	Bricherasio	0.55	38	P	Pb	09 38 22.9	0.0
BHB				S	Sg	09 38 30.2	-0.2
MVIF	Mont Vial	0.58	152	Pg	Pg	09 38 23.7	+0.3
AUTN	L'Aution	0.62	131	Pg	Pg	09 38 24.3	0.0
AUTN				Sg	Sg	09 38 33.2	+0.5
FENE	Fenestrelle	0.65	18	P	Pb	09 38 24.9	+0.3
FENE				S	Sb	09 38 33.6	+0.2
AURF	Auriere	0.65	143	Pg	Pg	09 38 25.4	+0.5
AURF				Sg	Sg	09 38 33.7	0.0
CALN	Calern	0.66	173	Pg	Pg	09 38 25.4	+0.3
CALN				Sg	Sg	09 38 34.3	+0.3
SAOF	Saorge	0.70	127	Pg	Pg	09 38 25.8	0.0
SAOF				Sg	Sg	09 38 34.9	-0.3
SBF	Sospel	0.72	139	ePg	Pg	09 38 26.2	0.0
SBF				eSg	Sg	09 38 35.4	-0.5
	47nm,0.3s						
MONE	Monesi	0.77	115	P	Pb	09 38 26.8	+0.1
MONE				S	Sb	09 38 36.9	0.0
ROB	Roburent	0.79	98	P	Pb	09 38 27.1	+0.2
ROB				S	Sb	09 38 37.3	-0.1
RSP	Reno Superiore	0.82	24	P	Pb	09 38 27.9	+0.5
RSP				S	Sb	09 38 38.5	+0.4
ORIF	Oris-en-Rattie	0.82	309	ePg	Pg	09 38 27.7	-0.5
ORIF				eSg	Sg	09 38 38.7	-0.5
	19nm,0.3s						
FRF	La Foret Royal	0.85	187	ePg	Pg	09 38 28.7	-0.2
FRF				eSg	Sg	09 38 39.6	-0.7
	37nm,0.2s						
NEGI	Negi	0.87	130	P	Pb	09 38 28.8	+0.5
NEGI				S	Sb	09 38 39.7	0.0
IMI	Imperia	0.94	122	ePg	Pg	09 38 30.2	-0.4
IMI				eSg	Sg	09 38 44.4	+1.3
RORO		0.97	107	P	Pb	09 38 30.1	+0.1
RORO				S	Sb	09 38 42.4	-0.2
SMRF	Simiane la Rot	0.97	244	ePg	Pg	09 38 31.7	+0.5
SMRF				ePn	Pn	09 38 33.3	+2.2
SMRF				eSg	Sg	09 38 45.4	+1.2
	34nm,0.3s						
FIN	Finale Ligure	1.04	101	ePg	Pg	09 38 31.9	-0.7
FIN				eSg	Sg	09 38 45.3	-1.3
LSD	Ceresole Reale	1.08	14	P	Pb	09 38 32.7	+0.8
LPG	La Plagne	1.09	359	ePg	Pg	09 38 33.3	-0.2
LPG				eSg	Sg	09 38 46.8	-1.3
	22nm,0.4s						
LMR	La Mourre	1.09	190	ePg	Pg	09 38 33.2	-0.4
LMR				eSg	Sg	09 38 47.0	-1.2
	63nm,0.3s						
LPL	La Plagne	1.11	358	ePg	Pg	09 38 33.5	-0.4
LPL				eSg	Sg	09 38 47.3	-1.4
	34nm,0.5s						
PCP	Pian Castagno	1.27	83	P	Pb	09 38 35.5	+0.3
TRAV		1.30	32	P	Pb	09 38 35.6	0.0
VIVF	Saint-Julien-l	1.57	287	ePn	Pn	09 38 40.3	+0.6
VIVF				ePg	Pg	09 38 42.4	-0.7
VIVF				eSn	Sn	09 38 59.6	-0.5
VIVF				eSg	Sg	09 39 03.1	-1.0
	7.0nm,0.3s						
LASF	Ste Croix	2.13	262	ePn	Pn	09 38 48.4	+0.7
LASF				eSn	Sn	09 39 14.0	-0.3
	2.3nm,0.3s						
PGF	Pioggiola	2.46	138	ePn	Pn	09 38 52.2	-0.3
PGF				eSn	Sn	09 39 20.9	-1.9
	4.2nm,0.3s						

MAN 26 10:06:45.9,9.30N×126.52E,h14^{km}**,mb3.6,ML2.4,MS1.9, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.94	250	eP	Pb	10 07 03.3	-0.2
SCPH	Surigao	1.12	295	i P	Pb	10 07 04.8	-1.7
SCPH				i S	Sb	10 07 22.9	+2.1
BUKP	Musuan	2.02	226	eP	Pn	10 07 19.7	-0.3
MATI	Mati	2.35	186	eP	Pn	10 07 50.0	+25
PLP	Palo	2.39	321	i P	Pn	10 07 24.9	-0.4
PLP				i S	Sn	10 07 55.0	+0.4
BESP	Borongan	2.52	335	eP	Pn	10 07 27.2	0.0
PAGZ	Pagadian	3.42	245	eP	Pn	10 08 10.9	+31

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*MAN **26** 10:17:36.5,9.03N×123.04E,h1^{km},mb4.9,ML3.8,MS3.8*
MAN F DUMAGUETE - INTENSITY I.
ISC 26 10:17:36.7±0.7,**9.04N**±0.03×**123.00E**±0.06,**h1**^{km}**,n15, σ0**^{s}**87**/22**,2C-2D,Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.38	37	⇑iP	Pg	10 17 43.7	-0.7
SNPH				i S	Sg	10 17 50.0	+0.5
DCPH	Dipolog City	0.57	142	⇓iP	Pg	10 17 47.3	-0.7
DCPH				i S	Sg	10 17 55.6	0.0
PAGZ	Pagadian	1.24	162	eP	Pb	10 17 59.9	-0.7
PAGZ				eS	Sb	10 18 18.2	+1.3
LLP	Lapu-Lapu	1.59	37	⇑iP	Pn	10 18 02.0	-4.1
LLP				eS	Sb	10 18 20.0	-7.1
GUIM	Jordan	1.63	346	eP	Pn	10 18 05.9	-0.8
GUIM				eS	Sb	10 18 28.3	0.0
CGP	Cagayan de Oro	1.77	109	eP	Pn	10 18 07.3	-1.5
CGP				eS	Sn	10 18 32.2	0.0
MSLP	Maasin	2.13	59	eP	Pn	10 18 13.4	-0.5
BUKP	Musuan	2.34	119	eP	Pn	10 18 17.3	+0.4
RCP	Roxas	2.52	354	⇓eP	Pn	10 18 20.7	+1.2
RCP				eS	Sn	10 18 50.8	-0.5
OCLP	Ormoc	2.55	38	eP	Pn	10 18 21.7	+1.8
BUTP	Butuan	2.59	91	eP	Pn	10 18 20.5	+0.1
CUYO	Cuyo Island	2.66	313	eP	Pn	10 18 21.8	+0.4
BESP	Borongan	3.50	43	eP	Pn	10 18 40.5	+7.1
MATI	Mati	3.83	123	eP	Pn	10 18 42.6	+4.4
BUSP	Coron	4.04	317	eP	Pg	10 18 53.3	-4.0

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*IDC **26** 10:24:47.3±0.6,54.33S×129.92W,mb4.3/10,mb1 4.5/10, mb1mx4.4/16,MS4.6/15,Ms1 4.6/15,ms1mx4.6/17,Error ellipse: s-maj=41.9km s-min=16.6km az=167.0*
*HRVD **26** 10:24:48.7±0.1,55.13S×129.55W,h12^{km},MW5.4/68, Centroid moment Tensor Solution. LP body waves: s53,c109;Mantle waves: s68,c136; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.02; $M_{\theta\theta}$1.11±.03; $M_{\phi\phi}$-0.91±.02; $M_{r\theta}$0.18±.06; $M_{\theta\phi}$1.14±.02; $M_{\phi r}$0.23±.05; Best double couple: $M_0$1.55×10^{17} NP1: ϕ_s111°,δ80°,λ1°. NP2:ϕ_s21°,δ89°,λ170°. Principal axes: T 1.66, Plg8°, Azm335°; N -.23, Plg80°, Azm194°; P -1.43, Plg6°, Azm66°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 10:24:48.7±0.4,54.56S×129.79W,h10^{km},mb5.0/8 Error ellipse: s-maj=17.9km s-min=10.2km az=156.0*
ISC 26 10:24:46.9±0.6,**54.7S**±0.1×**129.7W**±0.2,**h10**^{km}**,n59, σ1**^{s}**03**/27**,mb4.5**/15**,MS4.7**/15**,2C-1D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	31.72	201	eP	P	10 31 14.6	+2.1
SBA				e		10 31 29.6	
VNDA	Vanda	32.73	202	P	P	10 31 25.2	+3.9
	3.7nm,1.0s,mb4.3,baz=84,slow=8.9,SNR=7.4						
VNDA	Vanda	32.73	202	P	P	10 31 23.4	+2.1
	6.2nm,1.1s,mb4.5						
VNDA				e		10 31 34.5	
USHA	Ushuaia	34.34	116	LR	LR	10 40 33.8	
	comp=Z,707nm,21.7s,MS4.4,baz=324,slow=27						
QSPA	South Pole Qui	35.47	180	eP	P	10 31 44.5	-0.4
	32nm,1.1s,mb5.2						
QSPA				e		10 31 55.7	
RPZ	Rata Peaks	39.11	261	LR	LR	10 44 24.7	
	comp=Z,1μm,21.3s,MS4.8,baz=113,slow=30						
RAR	Rarotonga	40.40	314	LR	LR	10 43 03.2	
	comp=Z,260nm,21.0s,MS4.1,baz=154,slow=27						
PLCA	Paso Flores	40.93	95	P	P	10 32 31.9	+1.1
	6.9nm,1.1s,mb4.2,baz=208,slow=3.7,SNR=5.2						
PLCA				LR	LR	10 45 31.1	
	comp=Z,840nm,19.9s,MS4.6,baz=228,slow=30						
VNA3	Neumayer Olymp	47.42	158	⇓i	P	10 33 21.8	-0.9
VNA2	Neumayer--Watz	48.16	158	⇑i	P	10 33 26.9	-1.5
VNA1	Neumayer--Stat	48.17	158	⇑i	P	10 33 20.2	-8.4
MAW	Mawson	57.65	186	LR	LR	10 56 50.4	
	comp=Z,598nm,19.9s,MS4.7,baz=350,slow=33						
MAW	Mawson	57.65	186	P	P	10 34 43.1	+4.1
	18nm,1.1s,mb5.0						
CPUP	Villa Florida	58.87	92	P	P	10 34 47.1	-1.0
	6.9nm,1.2s,mb4.5,baz=220,slow=8.2,SNR=3.9						
CPUP				LR	LR	10 56 47.2	
	comp=Z,932nm,18.2s,MS5.0,baz=243,slow=32						
CPUP	Villa Florida	58.87	92	eP	P	10 34 47.2	-0.8
	73nm,1.9s,mb5.4						
CPUP				e		10 34 58.5	
LPAZ	La Paz	60.50	76	P	P	10 35 01.0	+1.6
	8.2nm,1.1s,mb4.8,baz=199,slow=6.5,SNR=7.1						
LPAZ				LR	LR	10 55 08.7	
	comp=Z,214nm,21.5s,MS4.2,baz=24,slow=30						
LPAZ	La Paz	60.50	76	P	P	10 35 00.3	+0.9
	18nm,1.1s,mb5.1						
STKA	Stephens Creek	63.95	251	LR	LR	10 57 16.0	
	comp=Z,1μm,20.8s,MS5.0,baz=94,slow=30						
STKA	Stephens Creek	63.95	251	eP	P	10 35 21.5	-0.8
SAML	Samuel	69.25	76	eP	P	10 35 55.4	-0.7
	7.5nm,1.1s,mb4.5						
BDFB	Brasilia	72.60	93	P	P	10 36 16.3	+0.1
	3.8nm,0.7s,mb4.4,baz=10,slow=1.3,SNR=4.3						
BDFB				LR	LR	11 04 10.1	
	comp=Z,824nm,21.9s,MS5.0,baz=212,slow=32						
ASAR	Alice Springs	74.59	251	P	P	10 36 27.2	-0.5
	1.8nm,0.8s,mb4.0,baz=145,slow=5.8,SNR=16						
ASAR				LR	LR	11 05 30.9	
	comp=Z,474nm,18.0s,MS4.8,baz=137,slow=33						
ROSC	El Rosal	74.92	58	LR	LR	11 04 43.0	
	comp=Z,369nm,18.3s,MS4.7,baz=223,slow=32						
WB2	Warramunga Arr	77.32	254	eP	P	10 36 42.9	-0.3
WRA	Warramunga Arr	77.33	254	P	P	10 36 43.1	-0.2
	1.3nm,0.6s,mb4.0,baz=145,slow=5.1,SNR=26						
WRA				LR	LR	11 07 27.8	
	comp=Z,485nm,18.0s,MS4.9,baz=125,slow=33						
WRAB	Tennant Creek	77.33	254	eP	P	10 36 43.2	0.0
	16nm,1.0s,mb4.9						
FITZ	Fitzroy Crossi	83.58	248	eP	P	10 37 20.2	+3.6
	5.2nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	83.58	248	P	P	10 37 16.8	+0.3
	4.3nm,0.7s,mb4.7,baz=185,slow=5.5,SNR=7.4						
TXAR	Lajitas Array	86.65	23	P	P	10 37 35.9	+4.3
	0.7nm,0.9s,mb3.9,baz=211,slow=7.3,SNR=4.4						
TXAR				LR	LR	11 08 22.9	
	comp=Z,64nm,18.6s,MS4.0,baz=195,slow=30						
TXAR	Lajitas Array	86.65	23	P	P	10 37 35.9	+4.3
ANMO	Albuquerque	91.51	19	P	P	10 37 54.7	+0.3
	4.3nm,1.1s,mb4.7						
NVAR	Mina Array Bea	93.28	9	P	P	10 38 06.7	+4.2
	0.3nm,0.7s,mb3.8,baz=249,slow=7.7,SNR=1.9						
NVAR				LR	LR	11 10 26.2	
	comp=Z,359nm,21.9s,MS4.8,baz=205,slow=30						
NVAR	Mina Array Bea	93.28	9	P	P	10 38 06.7	+4.2
PDAR	Pinedale Array	98.61	15	LR	LR	11 14 23.1	
	comp=Z,372nm,20.6s,MS4.9,baz=209,slow=30						
ILAR	Eielson Array	119.88	352	PKP	PKPdf	10 43 38.5	-0.9
	1.1nm,0.7s,baz=203,slow=2.0,SNR=11						
SONM	Songino Array	145.08	282	PKP	PKPdf	10 44 25.6	-1.0
	2.8nm,0.8s,baz=135,slow=3.1,SNR=11						
ETSF	Etsaut	145.24	88	ePKP1	PKPbc	10 44 33.3	+9.0
EPF	Esparros	145.84	89	ePKP1	PKPbc	10 44 32.8	+7.0
DAG	Danmarks Havn	147.19	23	i P	PKPdf	10 44 43.0	+14
DAG	Danmarks Havn	147.19	23	eP	PKPdf	10 44 43.0	+14
TCF	Toulx Ste Croi	148.82	85	ePKP1	PKPdf	10 44 40.5	+7.7
	23nm,1.2s						
BGF	Bois d'Agland	149.34	85	ePKP1	PKPdf	10 44 41.8	+8.2
	19nm,0.8s						
AVF	Avril sur Loir	149.75	85	ePKP1	PKPdf	10 44 41.7	+7.4
	23nm,1.2s						
FRF	La Foret Royal	149.82	93	ePKP1	PKPdf	10 44 39.8	+5.3
EKA	Eskdalemuir Ar	149.97	67	PKPbc	PKPdf	10 44 38.2	+3.9
	3.5nm,1.1s,baz=115,slow=30,SNR=2.8						
EKA				PKPab	PKPab	10 44 42.8	-1.3
	9.5nm,1.1s,baz=270,slow=2.5,SNR=7.3						
ORIF	Oris-en-Rattie	150.18	91	ePKP1	PKPdf	10 44 40.4	+5.4
LOR	Lormes	150.30	85	ePKP1	PKPdf	10 44 44.1	+9.0
	22nm,1.1s						
MEZF	Maizieres J'vi	151.63	84	ePKP1	PKPdf	10 44 47.5	+10
	20nm,0.9s						
HAU	Haudompre	152.12	86	ePKP1	PKPdf	10 44 48.2	+10
	9.4nm,0.9s						
HINF	Hinteralfeld	152.32	86	ePKP1	PKPdf	10 44 48.7	+11
	8.9nm,0.7s						
DAVOX	Davos	153.53	91	PKP	PKPdf	10 44 39.7	-0.1
	2.5nm,0.7s,baz=236,slow=18,SNR=2.7						
DAVOX				PKPab	PKPab	10 44 59.6	+0.2
	5.9nm,0.8s,baz=240,slow=10.0,SNR=5.9						
DAVOX	Davos	153.53	91	PKP	PKPdf	10 44 39.7	-0.1
DAVOX				PKPab	PKPab	10 44 59.6	+0.2
GERES	GERESS Array B	156.80	89	PKP	PKPdf	10 44 45.4	+1.3
	1.0nm,0.7s,baz=207,slow=2.2,SNR=8.0						
MKAR	Makanchi Array	158.42	262	PKPab	PKPab	10 45 20.2	0.0
	2.0nm,0.6s,baz=130,slow=4.0,SNR=12						
ZAL	Zalesovo	159.98	282	PKPab	PKPab	10 45 31.7	+5.0
	1.3nm,0.3s,baz=68,slow=2.8,SNR=2.6						
BRTR	Keskin Array B	161.29	136	PKPab	PKPab	10 45 34.2	+1.4
	2.2nm,0.8s,baz=188,slow=6.7,SNR=7.1						
MLR	Muntele Rosu	161.94	111	PKPab	PKPab	10 45 37.9	+2.4
	1.3nm,0.7s,baz=166,slow=6.9,SNR=5.3						
AKASG	Malin Array Be	166.62	99	PKPab	PKPab	10 45 56.4	+0.7
	0.2nm,0.3s,baz=254,slow=4.1,SNR=6.4						

BVAR	Borovoye Array	168.03	270	PKPab	PKPab	10 46 05.3	+3.6
	0.3nm,0.4s,baz=158,slow=16,SNR=2.7						

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*ATH **26** 10:41:56.7, 38.61N×22.14E, h2^{km}, MD3.2/14, ML3.2*
*THE **26** 10:41:59.5, 38.72N×22.32E, h13^{km}, ML3.0*
*NEIC **26** 10:41:59.5, 38.72N×22.32E, h13^{km}, ML3.2(ATH), ML3.0(THE), After THE.*
ISC 26 10:41:56.1±0.6**, 38.64N**±0.03×**22.22E**±0.03**, h3**^{km}±5^{km}**, n29, σ1^{s}06**/41**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	Agios Georgios	0.39	12	ePg	Pg	10 42 04.7	+0.8
AGG				eSg	Sg	10 42 11.2	+2.1
EVR	Evrytania	0.42	310	⇑iPG	Pg	10 42 05.0	+0.4
EVR				eSG	Sg	10 42 09.0	-1.3
MKIT	Kithairon Oros	0.93	119	ePG	Pg	10 42 14.5	-0.3
MKIT				eSB	Sb	10 42 31.5	+4.2
NEO	Neokhori	1.02	49	ePG	Pg	10 42 17.5	+1.0
XOR	Xorichti	1.04	46	ePg	Pg	10 42 16.8	-0.2
XOR				eSg	Sg	10 42 30.3	-0.6
NSAL	Nisos Salamina	1.22	127	ePN	Pn	10 42 21.0	+0.9
LKD	Levkas	1.23	273	ePb	Pb	10 42 19.3	-0.4
	comp=Z,8.5nm,0.4s						
LKD				eSb	Sb	10 42 40.3	+4.3
MPAR	Parnis Oros	1.29	112	ePB	Pb	10 42 22.0	+1.4
NAIG	Nisos Aigina	1.33	131	ePB	Pb	10 42 22.5	+1.1
ATH	Athens Observa	1.35	119	ePB	Pb	10 42 23.0	+1.2
VLS	Valsamata	1.36	251	ePN	Pn	10 42 22.5	+0.4
MEV	Metsovon	1.38	326	ePb	Pb	10 42 22.7	+0.5
	comp=Z,7.5nm,0.4s						
MEV				eSb	Sb	10 42 41.7	+1.6
AOS	Alonnisos	1.40	67	ePb	Pb	10 42 22.4	-0.2
	comp=Z,2.4nm,0.5s						
AOS				eSb	Sb	10 42 40.9	+0.2
PTL	Penteli	1.42	114	ePB	Pb	10 42 23.1	+0.2
JAN	Janina	1.47	314	ePB	Pb	10 42 23.0	-0.8
LIT	Litokhoron	1.47	8	ePb	Pb	10 42 23.3	-0.5
	comp=Z,7.2nm,0.5s						
LIT				eSb	Sb	10 42 43.4	+0.6
ITM	Ithomi	1.48	189	ePG	Pg	10 42 23.0	-2.6
PAIG	Paliouri	1.71	41	ePb	Pb	10 42 26.5	-1.4
PAIG				eSb	Sb	10 42 48.1	-1.7
IGT	Igoumenitsa	1.72	302	ePb	Pb	10 42 30.1	+2.0
IGT				eSb	Sb	10 42 51.1	+1.0
VLI	Veliai	2.00	163	ePN	Pn	10 42 31.0	-0.3
KEK	Kerkira	2.17	300	ePG	Pg	10 42 36.5	-2.9
KEK	Kerkira	2.17	300	ePg	Pg	10 42 38.0	-1.4
OUR	Ouranopolis	2.17	38	ePn	Pn	10 42 33.3	-0.4
FNA	Florina	2.24	343	ePn	Pn	10 42 34.6	0.0
FNA				eSn	Sn	10 43 02.6	-0.6
GRG	Griva	2.31	3	ePn	Pn	10 42 35.7	-0.1
SOH	Sokhos	2.34	21	ePn	Pn	10 42 36.3	+0.1
KYTH	Kithira	2.44	164	ePB	Pb	10 42 39.0	-1.5
KNT	Kendrikon	2.57	11	ePn	Pn	10 42 39.3	-0.1
KNT				eSn	Sn	10 43 08.7	-2.9
SRS	Serrai	2.69	23	ePn	Pn	10 42 40.4	-0.7

MAN 26 10:44:31.3, 9.13N×123.11E, h13^{km}, mb4.1, ML3.0, MS2.7, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.25	29	⇑iP	Pg	10 44 37.5	+0.8
SNPH				i S	Sg	10 44 43.5	+3.2
DCPH	Dipolog City	0.59	156	⇓iP	Pb	10 44 42.4	-0.6
DCPH				i S	Sb	10 44 50.7	-0.2
TBP	Tagbilaran	0.93	53	⇑eP	Pb	10 44 49.4	+0.7
TBP				eS	Sb	10 45 02.8	+2.1
PAGZ	Pagadian	1.30	168	eP	Pb	10 44 54.2	-0.9
PAGZ				eS	Sb	10 45 12.1	+0.7
IPIL	Ipil	1.44	202	eP	Pn	10 44 57.7	+0.5
IPIL				eS	Sb	10 45 17.2	+1.8
LLP	Lapu-Lapu	1.45	35	eP	Pn	10 44 56.5	-0.8
GUIM	Jordan	1.58	341	eP	Pn	10 44 57.9	-1.3
GUIM				eS	Sn	10 45 22.3	+2.8
MSLP	Maasin	1.99	60	eP	Pn	10 45 08.4	+3.3
BUKP	Musuan	2.29	123	eP	Pn	10 45 10.3	+0.9
CUYO	Cuyo Island	2.68	310	eP	Pn	10 45 20.4	+5.4
BESP	Borongan	3.36	43	eP	Pn	10 45 26.9	+2.3

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*UCR **26** 10:50:03.6, 11.96N×87.61W, h0^{km}, MD4.2*
*INET **26** 10:50:06.2, 12.30N×87.64W, h19^{km}, MD3.1, ML3.4*
CASC 26 10:50:04.7±1.9**, 12.28N×87.72W, h53**^{km}±42^{km}**, MD3.4, ML3.5, 6C-9D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	San Cristobal	0.78	58	⇓eP	P	10 50 20.9	+1.3
CRIN				eS	S	10 50 32.8	+2.1
TELN	Telica	0.93	70	eP	P	10 50 21.6	-0.1
CNCH	Conchagua	0.99	354	⇓eP	P	10 50 22.8	+0.2
CNCH				eS	S	10 50 35.5	-0.4
MIRN	Miramar	1.00	81	⇓eP	P	10 50 22.7	0.0
CNGN	Cerro Negro	1.02	78	⇑eP	P	10 50 23.1	+0.1
CNGN				eS	S	10 50 38.0	+1.4
COPN	Copaltepe	1.11	95	⇑eP	P	10 50 24.3	+0.1
COPN				eS	S	10 50 38.1	-0.6
MOMJ	Momotombo	1.16	84	⇓eP	P	10 50 25.3	+0.4
MOMJ				eS	S	10 50 39.9	-0.1
BLLM	Bellamira	1.26	336	eP	P	10 50 26.8	+0.4
BLLM				eS	S	10 50 42.2	-0.2
VSM	San Miguel	1.26	335	⇑eP	P	10 50 26.8	+0.5
VSM				eS	S	10 50 43.5	+1.0
XAVN	Gruta Xavier	1.37	95	eP	P	10 50 27.6	-0.5
MGAN	Managua	1.45	95	⇓eP	P	10 50 29.0	-0.1
MGAN				eS	S	10 50 46.4	-0.8
MGAN				i		10 50 47.7	
	comp=N,626nm,0.3s						
TICN	Ticuantepe	1.48	100	⇓eP	P	10 50 29.9	+0.4
TICN				eS	S	10 50 48.1	+0.3
WILN	Americas 2	1.50	95	eP	P	10 50 29.9	0.0
CAHU	Cacacuatique	1.55	342	eP	P	10 50 30.7	+0.1
CAHU				eS	S	10 50 50.0	+0.3
PYTN	Playitas	1.65	81	⇑eP	P	10 50 31.4	-0.4
PYTN				eS	S	10 50 51.5	-0.3
SNVI	San Vicente	1.71	321	⇓eP	P	10 50 33.2	+0.5
SNVI				eS	S	10 50 53.2	-0.2
LCBS	La Ceiba	1.83	318	⇑eP	P	10 50 34.5	+0.1
LCBS				eS	S	10 50 56.2	-0.2
LFRS	El Faro	1.86	316	⇓eP	P	10 50 34.9	0.0
LFRS				eS	S	10 50 57.2	0.0
LBRS	Las Brisas	1.94	318	⇑eP	P	10 50 36.4	+0.6
LBRS				eS	S	10 50 58.7	-0.3
BOQS	Boqueron	2.09	314	eP	P	10 50 38.6	+0.5
BOQS				eS	S	10 51 03.4	+0.5
CONN	Concepcion	2.17	109	eP	P	10 50 38.8	-0.5
SBLS	San Blas	2.41	310	⇓eP	P	10 50 42.8	+0.1
SBLS				eS	S	10 51 12.2	+1.2

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*INET **26** 11:31:22.3, 11.85N×86.35W, h111^{km}, ML2.7*
*UCR **26** 11:31:23.8, 8.55N×86.48W, h0^{km}, MD4.0*
CASC 26 11:31:23.2±1.8**, 11.81N×86.35W, h102**^{km}±13^{km}**, MD4.0, ML2.7, 5C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUN	El Crucero	0.18	17	⇑eP	P	11 31 37.9	+0.3
TICN	Ticuantepe	0.25	29	⇓eP	P	11 31 38.0	+0.2
APON	Apoyo	0.30	70	⇑eP	P	11 31 38.1	+0.1
MGAN	Managua	0.35	18	⇑eP	P	11 31 38.2	-0.1
MGAN				eS	S	11 31 50.5	+0.9
MGAN				i		11 31 51.4	
	comp=E,189nm,0.5s						
COPN	Copaltepe	0.43	327	⇓eP	P	11 31 38.4	-0.4
MOMJ	Momotombo	0.62	343	⇑eP	P	11 31 39.7	-0.5
MIRN	Miramar	0.71	331	⇓eP	P	11 31 40.8	-0.3
CONN	Concepcion	0.76	109	⇑eP	P	11 31 41.2	-0.3
CNGN	Cerro Negro	0.76	334	⇓eP	P	11 31 41.1	-0.4
PYTN	Playitas	0.78	22	eS	S	11 31 55.7	+0.3
JCR	Jicaral	2.30	148	eP	P	11 32 00.8	+0.4
JCR				eS	S	11 32 27.6	-0.6
CGA2	Cerro Gallo 2	2.58	134	eP	P	11 32 02.7	-1.5
CGA2				eS	S	11 32 36.1	+1.3
PRS1	Puriscal	2.71	132	⇓eP	P	11 32 08.3	+2.3
LAJ	Bijagual	2.93	131	eP	P	11 32 06.7	-2.3
LAJ				eS	S	11 32 39.8	-3.7
LCR2	La Lucha 2	3.09	131	eP	P	11 32 10.8	-0.4
LCR2				eS	S	11 32 48.1	+0.6
URSC	Urasca	3.21	128	eP	P	11 32 11.8	-1.0
URSC				eS	S	11 32 50.4	+0.2
BUS	Buena Vista	3.40	131	eP	P	11 32 16.6	+1.2
BUS				eS	S	11 32 56.9	+2.0

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*NIED **26** 11:38:00, 28.10N×139.90E, h480^{km}, Mw4.6 Best double couple: M$_0$9.93×10^{15} NP1:ϕ_s249°, δ78°, λ-85°. NP2:ϕ_s46°, δ13°, λ-112°.*
*BJI **26** 11:38:05.8, 27.87N×139.55E, h536^{km}, mB4.8, mb4.8*
*JMA **26** 11:38:05.5±0.3, 28.09N×139.94E, h530^{km}±5^{km}, M4.6*
*MOS **26** 11:38:05.5±0.7, 27.99N×139.36E, h514^{km}, mb4.4/19, Error ellipse: s-maj=18.4km s-min=8.5km az=101.2*
*IDC **26** 11:38:06.3±0.4, 28.00N×139.56E, h507^{km}±4^{km}, mb3.9/27, mb1 4.0/32, mb1mx4.0/36, Error ellipse: s-maj=10.0km s-min=6.0km az=88.0*
*NEIC **26** 11:38:06.9±0.6, 28.04N×139.49E, h514^{km}±6^{km}, mb4.5/36, MW4.6(NIED), Error ellipse: s-maj=6.5km s-min=4.1km az=96.0*
ISC 26 11:38:05.5±0.3**, 27.99N**±0.03×**139.53E**±0.05**, h511**^{km}±3^{km}**, h505**^{km}±3.7^{km}**:pP-P, n160, σ0^{s}99**/183**, mb4.3**/65**, 5C-11D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	2.52	110	P	P	11 39 15.3	+0.3
	63nm,0.3s,baz=273,slow=19,SNR=7.1						
CBIJ				S	S	11 40 08.6	-1.5
	841nm,0.3s,baz=306,slow=22,SNR=34						
CBIJ	Chichi jima	2.52	110	P	P	11 39 14.8	-0.2
CBIJ				eS	S	11 40 08.6	-1.4
JHHJ	Haha-jima-NKT	2.72	119	P	P	11 39 16.5	+0.3
JHHJ				eS	S	11 40 12.2	+0.1
JHJ2	Mitsune	5.11	3	P	P	11 39 35.5	+0.6
JHJ2				eS	S	11 40 45.0	-0.6
JHJ	Hachijo jima 2	5.12	2	P	P	11 39 34.9	0.0
	77nm,0.3s,baz=171,slow=5.5,SNR=12						
JHJ				S	S	11 40 43.8	-1.9
	112nm,0.3s,baz=66,slow=23,SNR=7.9						
TK01	Tokai 1	5.99	344	P	P	11 39 44.9	+1.8
TK01				eS	S	11 41 03.4	+2.9
JWZ	Kozaga	6.42	330	P	P	11 39 48.9	+1.6
JIM2	Oshima 3	6.71	359	P	P	11 39 50.1	0.0
JIM2				eS	S	11 41 13.2	+0.1
BSO1	Boso 1	6.76	10	P	P	11 39 49.9	-0.7
BSO1				eS	S	11 41 13.7	-0.3
JIE	Ise	6.82	340	P	P	11 39 53.3	+2.0
JIE				eS	S	11 41 17.3	+2.1
JOD2	Odawara 2	7.26	357	P	P	11 39 55.0	-0.7
JOD2				eS	S	11 41 23.2	0.0
JTO	Tosashimizu	7.57	312	P	P	11 40 00.8	+2.0
JRY	Ryogami san	8.02	356	P	P	11 40 02.6	-0.9
JRY				eS	S	11 41 35.1	-2.1
MAJO	Matsushiro	8.60	353	ePn	P	11 40 08.1	-1.4
	98nm,0.8s						
MAT	Matsushiro	8.60	353	P	P	11 40 07.9	-1.6
MAT				S	S	11 41 45.3	-2.8
MAT	Matsushiro	8.60	353	P	P	11 40 08.5	-1.0
MAT				eS	S	11 41 46.3	-1.8
MAT	Matsushiro	8.60	353	eP	P	11 40 08.0	-1.5
	86nm,1.0s						
MAT				eS	S	11 41 45.0	-3.1
JHS	Saijyo	8.87	324	P	P	11 40 13.5	+1.2
JHS				eS	S	11 41 57.8	+4.6
JNU	Nakatsue	9.04	307	P	P	11 40 15.6	+1.5
	2.8nm,0.3s,baz=96,slow=10,SNR=16						
JOW	Kunigami	10.07	266	P	P	11 40 26.4	+1.5
	2.0nm,0.3s,baz=107,slow=11,SNR=2.3						
JMK	Ichinoseki	11.02	7	P	P	11 40 34.9	+0.2
KS15	Wonju Array Si	13.59	317	P	P	11 40 59.7	-1.5
INCN	Inchon	14.39	314	eP	P	11 41 13.8	+4.4
	48nm,0.6s						
SSE	Sheshan	16.26	285	P	P	11 41 25.3	-2.8
SSE				AMB	AMB		
	comp=Z,19nm,0.6s						
SSE				AMB	AMB		
	comp=Z,140nm,3.7s						
SSE	Sheshan	16.26	285	P	P	11 41 25.3	-2.8
	comp=Z,19nm,0.6s						
ASAJ	Asahikawa	16.28	8	P	P	11 41 29.4	+1.2
	comp=Z,1.7nm,0.3s,baz=222,slow=12,SNR=17						
ASAJ	Asahikawa	16.28	8	P	P	11 41 29.4	+1.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NJ2	Nanjing	18.35	288	eP	P	11 41 47.5	-1.0
NJ2				XP		11 43 52.8	
NJ2				S	S	11 44 47.0	-1.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
MDJ	Mudanjiang	18.40	337	P	P	11 41 50.0	+1.1
MDJ				XP		11 43 55.5	
MDJ				S	S	11 44 54.8	+5.7
MDJ				PCP	PcP	11 45 48.8	-5.9
MDJ				SCS	ScS	11 52 22.3	+0.8
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,72nm,4.6s						
MDJ	Mudanjiang	18.40	337	eP	P	11 41 49.6	+0.8
	comp=Z,16nm,0.7s						
SNY	Shenyang	18.97	321	⇑P	P	11 41 55.0	+0.6
YSS	Yuzh-Sakhalins	19.10	7	eP	P	11 41 55.1	-0.5
CN2	Changchun	19.42	328	⇓P	P	11 41 59.3	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
KLR	Kul'dur	22.04	346	eP	P	11 42 23.0	+0.1
BJT	Baijiatuau	22.71	308	P	P	11 42 27.7	-1.4
	comp=Z,11nm,0.6s,mb4.7						
BJI	Beijing	22.71	308	P	P	11 42 32.8	+3.7
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
BJI	Beijing	22.71	308	P	P	11 42 32.8	+3.7
	comp=Z,10.0nm,0.7s,mb4.5						
HIA	Hailar	26.12	330	eP	P	11 42 58.9	-0.6
	comp=Z,25nm,0.7s,mb5.0						
ENH	Enshi	26.31	282	P	P	11 43 00.5	-0.9
	comp=Z,8.7nm,0.7s,mb4.5						
GYA	Guiyang	29.22	275	eP	P	11 43 27.0	+0.2
GYA				S	S	11 47 47.3	+3.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CLNS	Chul'man	30.65	344	eP	P	11 43 38.9	+0.1
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
LZH	Lanzhou	31.18	294	eP	P	11 43 43.0	-0.5
LZH				PP	PP	11 45 13.0	+4.6
LZH				eS	S	11 48 13.5	-0.3
LZH				SS	SS	11 50 56.3	+0.7
LZH				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,260nm,4.8s						
LZH	Lanzhou	31.18	294	eP	P	11 43 43.0	-0.5
	comp=Z,48nm,1.0s,mb5.0						
LZH				pP		11 45 09.7	
LZH				PP	PP	11 45 13.0	+4.6
LZH				sP	sP	11 46 07.3	-2.7
LZH				eS	S	11 48 13.6	-0.2
LZH				sS		11 50 48.2	
LZH				SS	SS	11 50 56.2	+0.6
SONM	Songino Array	32.44	317	P	P	11 43 54.3	+0.2
	comp=Z,5.6nm,0.6s,mb4.2,baz=136,slow=11,SNR=46						
SONM				ScP		11 49 20.7	
	comp=Z,5.2nm,0.6s,baz=142,slow=3.4,SNR=30						
MA2	Magadan	32.51	11	c iP	P	11 43 54.5	0.0
MA2				pmax	pmax		
	comp=Z,32nm,0.8s,mb4.9						
MA2	Magadan	32.51	11	eP	P	11 43 54.4	-0.1
	comp=Z,41nm,0.8s,mb5.0						
KMI	Kunming	32.95	274	eP	P	11 43 58.8	+0.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
KMI	Kunming	32.95	274	eP	P	11 43 58.7	+0.1
	comp=Z,7.0nm,0.7s,mb4.3						
YAK	Yakutsk	34.66	352	eP	P	11 44 11.8	-0.8
YAK				e		11 45 49.1	
YAK				eS	S	11 49 02.6	-4.4
YAK				e*SS		11 51 47.0	
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
YAK				smax			
	comp=N,4.0nm,1.0s						
YAK	Yakutsk	34.66	352	eP	P	11 44 11.5	-1.1
	comp=N,50nm,0.8s,mb5.1						
GTA	Gaotai	34.69	300	eP	P	11 44 13.3	+0.2
GTA				SCP		11 49 29.5	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
BOD	Bodaibo	34.77	336	eP	P	11 44 11.9	-1.6
FX1	Attu Island--F	35.16	36	P	P	11 44 18.2	+1.5
	comp=Z,84nm,1.1s,mb5.2,baz=183,slow=0.4,SNR=25						
FX1	Attu Island--F	35.16	36	P	P	11 44 18.2	+1.4
FX1				pmax	pmax		
	comp=Z,84nm,1.1s						
FX1	Attu Island--F	35.16	36	eP	P	11 44 18.0	+1.2
ZAK	Zakamensk	35.39	319	⇑iP	P	11 44 17.8	-1.0
PMG	Port Moresby	37.90	168	P	P	11 44 40.8	+1.0
	comp=Z,9.2nm,0.5s,mb4.6						
PMG	Port Moresby	37.90	168	P	P	11 44 40.8	+1.1
PMG				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PMG	Port Moresby	37.90	168	eP	P	11 44 40.4	+0.7
	comp=Z,9.3nm,0.5s,mb4.6						
CM31	Chiang Mai Arr	38.34	265	eP	P	11 44 44.4	+1.2
	comp=Z,6.1nm,0.7s,mb4.2						
CMAR	Chiang Mai Arr	38.34	265	P	P	11 44 44.5	+1.3
	comp=Z,2.2nm,0.5s,mb4.0,baz=78,slow=4.9,SNR=13						
CMAR				PcP	PcP	11 46 45.4	+0.7
	comp=Z,1.3nm,0.8s,baz=40,slow=2.6,SNR=4.1						
CMAR	Chiang Mai Arr	38.34	265	P	P	11 44 44.5	+1.3
CMAR						11 46 45.4	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAKA	Kakadu	41.03	191	⇓iP	P	11 45 05.3	+0.2
	comp=Z,22nm,0.8s,mb4.7						
WMQ	Urumqi	44.14	305	⇑iP	P	11 45 29.8	+0.5
WMQ				PCP	PcP	11 47 05.0	+1.2
WMQ				PP	PP	11 47 23.3	+2.7
WMQ				S	S	11 51 25.5	+0.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
PKI	Pulchoki	47.54	283	eP	P	11 45 56.1	+0.3
	comp=Z,5.0nm,0.5s,mb4.3						
KKN	Kakani	47.60	283	eP	P	11 45 56.7	+0.4
	comp=Z,9.7nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	47.75	198	⇓iP	P	11 45 57.6	+0.1
	comp=Z,21nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	47.75	198	P	P	11 45 57.8	+0.3
	comp=Z,22nm,0.6s,mb4.8,baz=10,slow=7.0,SNR=112						
DMN	Daman	47.80	283	eP	P	11 45 58.4	+0.7
	comp=Z,4.4nm,0.4s,mb4.4						
WRAB	Tennant Creek	47.90	187	eP	P	11 45 58.1	-0.5
	comp=Z,52nm,0.7s,mb5.2						
WB2	Warramunga Arr	47.91	187	⇓iP	P	11 45 58.2	-0.5
WB2				eS	S	11 52 15.1	-2.8
WRA	Warramunga Arr	47.91	187	P	P	11 45 58.1	-0.6
	comp=Z,33nm,0.6s,mb5.1,baz=2.9,slow=7.8,SNR=291						
WRA				PcP	PcP	11 47 17.3	-0.3
	comp=Z,3.6nm,0.6s,baz=359,slow=3.8,SNR=6.4						
WRA				pP	pP	11 47 34.6	-1.1
	comp=Z,2.3nm,1.1s,baz=22,slow=7.6,SNR=2.8						
WRA				ScP		11 50 20.5	
	comp=Z,1.2nm,0.7s,baz=360,slow=4.3,SNR=5.5						
WRA				S	S	11 52 15.0	-2.9
	comp=Z,3.1nm,0.9s,baz=6.1,slow=14,SNR=7.4						
WRA	Warramunga Arr	47.91	187	P	P	11 45 58.1	-0.6
WRA						11 47 17.3	
WRA				*PP	pP	11 47 34.6	-1.1
WRA				S	S	11 52 15.0	-2.9
WRA				pmax	pmax		
	comp=Z,33nm,0.6s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,2.0nm,1.1s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
WRA				smax			
	comp=N,3.0nm,0.9s						
MKAR	Makanchi Array	48.09	309	P	P	11 45 59.5	-0.2
	comp=N,28nm,1.2s,mb4.7,baz=88,slow=9.7,SNR=36						
MKAR				PcP	PcP	11 47 16.9	-1.0
	comp=N,0.9nm,0.4s,baz=78,slow=3.7,SNR=4.4						
MKAR				ScP		11 50 21.5	
	comp=N,8.2nm,1.0s,baz=79,slow=6.2,SNR=9.6						
MKAR	Makanchi Array	48.09	309	P	P	11 45 59.5	-0.1
MKAR						11 47 16.9	
MKAR				pmax	pmax		
	comp=Z,28nm,1.2s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=N,8.0nm,1.0s						
GKN	Gorkha	48.11	284	eP	P	11 45 59.8	-0.3
CTA	Charters Tower	48.24	172	⇓iP	P	11 46 01.2	+0.1
	comp=N,7.9nm,0.8s,mb4.3						
CTA	Charters Tower	48.24	172	P	P	11 46 00.9	-0.2
	comp=N,12nm,0.8s,mb4.5,baz=351,slow=7.7,SNR=10						
CTA	Charters Tower	48.24	172	P	P	11 46 00.9	-0.2
CTA				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	Charters Tower	48.24	172	eP	P	11 46 00.7	-0.5
	comp=Z,15nm,0.9s,mb4.5						
NVS	Novosibirsk	48.34	320	eP	P	11 45 55.3	-6.1
KOLN	Koldanda	49.05	284	eP	P	11 46 07.3	+0.1
	comp=Z,5.0nm,0.6s,mb4.2						
KURK	Kurchatov	50.67	314	P	P	11 46 18.3	-0.5
	comp=Z,178nm,0.6s,SNR=7.3						
KURK	Kurchatov	50.67	314	i P	P	11 46 18.2	-0.6
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
KURK	Kurchatov	50.67	314	eP	P	11 46 18.0	-0.8
	comp=Z,21nm,0.7s,mb4.6						
ASAR	Alice Springs	51.64	187	P	P	11 46 25.6	-0.6
	comp=Z,16nm,0.5s,mb4.6,baz=17,slow=13,SNR=279						
ASAR				PcP	PcP	11 47 31.9	+0.6
	comp=Z,3.5nm,0.8s,baz=18,slow=3.5,SNR=7.5						
ASAR				S	S	11 53 06.7	-1.8
	comp=Z,0.7nm,0.9s,baz=13,slow=20,SNR=4.4						
ASPA	Alice Springs	51.64	187	⇓iP	P	11 46 25.7	-0.6
ULHL	Ulahol	52.56	303	P	P	11 46 33.3	+0.6
	SNR=6.5						
TKM2	Tokmak 2	52.97	304	P	P	11 46 36.4	+0.8
	SNR=5.5						
KZA	Kyzart	53.31	303	P	P	11 46 39.7	+1.6
	SNR=5.5						
UCH	Uchtor	53.84	304	P	P	11 46 43.2	+1.4
	SNR=11						
AML	Almayashu	54.46	303	P	P	11 46 47.4	+1.3
	SNR=12						
VOSK	Vostochnaya	55.44	317	P	P	11 46 52.0	-0.8
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.0						
BVA0	Borovoye Array	55.79	317	i P	P	11 46 54.7	-0.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.4						
BVAR	Borovoye Array	55.79	317	P	P	11 46 54.8	-0.4
	comp=Z,22nm,0.4s,mb4.7,baz=93,slow=6.9,SNR=132						
BVAR				ScP		11 50 54.5	
	comp=Z,3.1nm,0.6s,baz=104,slow=6.1,SNR=10						
BRVK	Borovoye	55.85	317	eP	P	11 46 55.1	-0.5
	comp=Z,19nm,0.6s,mb4.5						
BRVK				e		11 47 11.6	
ZRNK	Zerenda	56.63	317	P	P	11 47 00.5	-0.5
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb3.9						
ZRNK	Zerenda	56.63	317	eP	P	11 47 00.3	-0.7
	comp=Z,19nm,0.8s,mb4.4						
KKAR	Karatay Array	56.65	305	i P	P	11 47 01.2	-0.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.4						
MCK	McKinley	57.13	30	eP	P	11 47 03.6	-0.7
	comp=Z,17nm,0.8s,mb4.3						
COLA	College	57.66	29	d iP	P	11 47 07.9	0.0
COLA	College	57.66	29	eP	P	11 47 07.0	-0.9
	comp=Z,8.0nm,0.7s,mb4.1						
ILAR	Eielson Array	58.07	29	P	P	11 47 09.2	-1.5
	comp=Z,2.7nm,0.4s,mb3.8,baz=251,slow=5.8,SNR=93						

ILAR				pP	pP	11 48 50.5	-2.8
	comp=Z,1.3nm,0.9s,baz=277,slow=7.0,SNR=6.6						
ILAR	**Eielson Array**	**58.07**	**29**	P	**P**	**11 47 09.2**	**-1.5**
ILAR				*PP	pP	11 48 50.5	-2.8
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
FORT	**Forrest**	**59.46**	**191**	⇓*i*P	**P**	**11 47 20.3**	**-0.2**
	comp=N,168nm,0.5s						
STKA	**Stephens Creek**	**59.57**	**178**	⇓*i*P	**P**	**11 47 20.9**	**-0.3**
	comp=N,9.2nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**59.57**	**178**	P	**P**	**11 47 20.9**	**-0.3**
	comp=N,11nm,0.8s,mb4.2,baz=341,slow=6.7,SNR=19						
ARU	**Arti**	**62.27**	**322**	*c i*P	**P**	**11 47 37.8**	**-0.8**
ARU				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
ARU	**Arti**	**62.27**	**322**	*e*P	**P**	**11 47 37.4**	**-1.2**
	comp=Z,17nm,0.7s,mb4.6						
KLBR	**Kellerberrin**	**62.78**	**201**	*e*P	**P**	**11 47 41.5**	**-0.7**
AB31	**Akbulak array**	**62.78**	**314**	*e*P	**P**	**11 47 41.3**	**-0.6**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
NWAO	**Narrogin (SRO)**	**64.18**	**201**	P	**P**	**11 47 51.0**	**-0.2**
	comp=Z,32nm,0.7s,mb4.8,baz=20,slow=7.4,SNR=14						
NWAO	**Narrogin (SRO)**	**64.18**	**201**	P	**P**	**11 47 51.0**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,32nm,0.7s						
NWAO	**Narrogin (SRO)**	**64.18**	**201**	P	**P**	**11 47 51.0**	**-0.2**
TOO	**Toolangi**	**65.46**	**175**	⇓*i*P	**P**	**11 47 59.7**	**+0.6**
	comp=Z,4.6nm,0.8s,mb4.0						
DLBC	**Dease Lake**	**66.83**	**35**	P	**P**	**11 48 07.2**	**0.0**
	comp=Z,2.1nm,0.6s,mb3.8,baz=245,slow=6.1,SNR=8.6						
DLBC	**Dease Lake**	**66.83**	**35**	P	**P**	**11 48 07.2**	**0.0**
KEV	**Kevo**	**71.35**	**340**	*e*p	**P**	**11 48 33.4**	**-0.7**
	comp=Z,6.4nm,0.6s,mb4.3						
KEV	**Kevo**	**71.35**	**340**	*e*P	**P**	**11 48 33.4**	**-0.7**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
RES	**Resolute Bay**	**71.74**	**13**	*e*P	**P**	**11 48 36.2**	**-0.2**
	comp=Z,11nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**71.92**	**340**	P	**P**	**11 48 37.4**	**0.0**
	comp=Z,8.1nm,0.6s,mb4.3,baz=68,slow=8.5,SNR=60						
ARCES	**ARCESS Array B**	**71.92**	**340**	P	**P**	**11 48 37.4**	**0.0**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YKW3	**Yellowknife Ar**	**72.43**	**28**	*e*P	**P**	**11 48 39.7**	**-0.8**
YKA	**Yellowknife Ar**	**72.47**	**28**	P	**P**	**11 48 40.4**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.0,baz=298,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**72.47**	**28**	P	**P**	**11 48 40.4**	**-0.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OBN	**Obninsk**	**74.44**	**324**	*d i*P	**P**	**11 48 52.0**	**+0.1**
OBN				*e**PP	pP	11 50 37.9	-3.8
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**75.64**	**334**	*e*p	**P**	**11 48 57.3**	**-1.1**
	comp=Z,6.4nm,0.4s,mb4.4,baz=55,slow=5.2						
KAF	**Kangasniemi**	**75.64**	**334**	*e*P	**P**	**11 48 57.3**	**-1.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**76.09**	**333**	P	**P**	**11 49 00.7**	**-0.2**
	comp=Z,9.8nm,0.3s,mb4.7,baz=90,slow=6.9,SNR=65						
FINES	**FINESS Array B**	**76.09**	**333**	P	**P**	**11 49 00.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.4s						
RPZ	**Rata Peaks**	**76.99**	**157**	P	**P**	**11 49 06.6**	**+0.4**
	comp=Z,14nm,0.7s,mb4.5,baz=320,slow=4.7,SNR=5.4						
YBH	**Yreka Blue Hor**	**77.28**	**49**	P	**P**	**11 49 09.6**	**+1.8**
	comp=Z,2.3nm,0.9s,mb3.6,baz=254,slow=3.9,SNR=5.1						
YBH	**Yreka Blue Hor**	**77.28**	**49**	P	**P**	**11 49 09.6**	**+1.8**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NEW	**Newport**	**77.83**	**42**	P	**P**	**11 49 11.2**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.5,baz=288,slow=7.9,SNR=4.5						
NEW	**Newport**	**77.83**	**42**	P	**P**	**11 49 11.2**	**+0.6**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BEKR	**Beckwourth**	**79.71**	**50**	*e*P	**P**	**11 49 21.8**	**+1.1**
	comp=Z,4.5nm,0.7s,mb3.9						
BEKR				*e*	pP	11 51 16.9	+4.6
AKASG	**Malin Array Be**	**80.49**	**323**	P	**P**	**11 49 23.6**	**-1.0**
	comp=Z,1.1nm,0.4s,mb3.6,baz=48,slow=5.3,SNR=6.3						
AKASG	**Malin Array Be**	**80.49**	**323**	P	**P**	**11 49 23.6**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**81.66**	**336**	P	**P**	**11 49 29.7**	**-0.6**
	comp=Z,4.4nm,0.5s,mb4.2,baz=117,slow=3.3,SNR=32						
HFS	**Hagfors**	**81.66**	**336**	P	**P**	**11 49 29.7**	**-0.6**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HLID	**Hailey**	**81.79**	**45**	*e*P	**P**	**11 49 32.8**	**+1.4**
	comp=Z,1.6nm,0.6s,mb3.6						
HLID				*e*	pP	11 51 23.5	-0.1
NVAR	**Mina Array Bea**	**81.80**	**51**	P	**P**	**11 49 32.5**	**+1.1**
	comp=Z,1.1nm,0.5s,mb3.5,baz=292,slow=6.3,SNR=9.2						
NVAR				pP	pP	11 51 24.1	+0.4
	comp=Z,0.3nm,0.3s,baz=270,slow=2.7,SNR=7.2						
NB2	**NORSAR Subarra**	**81.89**	**337**	P	**P**	**11 49 30.6**	**-0.9**
	comp=Z,8.2nm,0.8s,mb4.2,baz=46,slow=5.0						
NOA	**NORSAR Array B**	**81.89**	**337**	P	**P**	**11 49 30.9**	**-0.5**
	comp=Z,5.7nm,0.6s,mb4.2,baz=46,slow=4.9,SNR=25						
NOA	**NORSAR Array B**	**81.89**	**337**	P	**P**	**11 49 30.9**	**-0.6**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOA	**NORSAR Array B**	**81.89**	**337**	P	**P**	**11 49 30.9**	**-0.5**
FCC	**Fort Churchill**	**82.81**	**25**	P	**P**	**11 49 36.3**	**+0.1**
HWUT	**Hardware Ranch**	**84.61**	**45**	*e*P	**P**	**11 49 47.0**	**+1.6**
	comp=Z,5.0nm,1.0s,mb4.0						
BW06	**Boulder Array**	**85.22**	**44**	P	**P**	**11 49 48.6**	**+0.3**
PDAR	**Pinedale Array**	**85.22**	**44**	P	**P**	**11 49 49.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=315,slow=2.6,SNR=5.4						
PDAR				pP	pP	11 51 41.1	-0.4
	comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=2.8						
ULM	**Lac du Bonnet**	**87.96**	**32**	P	**P**	**11 50 01.5**	**+0.4**
	comp=Z,2.2nm,0.8s,mb3.9,baz=325,slow=6.6,SNR=3.1						
ULM	**Lac du Bonnet**	**87.96**	**32**	P	**P**	**11 50 01.5**	**+0.4**
GERES	**GERESS Array B**	**89.51**	**328**	P	**P**	**11 50 08.6**	**+0.2**
	comp=Z,0.2nm,0.2s,mb3.5,baz=37,slow=4.9,SNR=2.9						
ANMO	**Albuquerque**	**91.68**	**49**	*e*P	**P**	**11 50 19.9**	**+1.1**
ANMO	**Albuquerque**	**91.68**	**49**	*e*P	**P**	**11 50 20.6**	**+1.8**
	comp=Z,1.4nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**96.93**	**52**	P	**P**	**11 50 43.7**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.7,baz=270,slow=3.8,SNR=3.4						
TXAR				pP	pP	11 52 38.4	+0.5
	comp=Z,0.5nm,0.7s,baz=288,slow=4.0,SNR=5.2						
TXAR	**Lajitas Array**	**96.93**	**52**	P	**P**	**11 50 43.7**	**+0.9**
TXAR				pP	pP	11 52 38.4	+0.5
QSPA	**South Pole Qui**	**117.76**	**180**	*e*P	PKPdf	11 55 52.9	+0.7
PLCA	**Paso Flores**	**152.25**	**125**	PKPbc	PKPdf	11 57 05.0	+10
	comp=Z,4.9nm,0.6s,baz=226,slow=2.5,SNR=18						
PLCA				PKPab	PKPab	11 57 17.7	+0.6
	comp=Z,1.7nm,0.6s,baz=252,slow=4.0,SNR=4.7						
PLCA	**Paso Flores**	**152.25**	**125**	PKIKP	PKPdf	11 57 05.0	+10
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

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*NEIC **26** 11:52:16.5±1.9, 4.07S×142.81E, h118^{km}±16^{km}, mb4.2/5, Error ellipse: s-maj=16.7km s-min=12.1km az=133.0*

*SYO **26** 11:52:16.4, 4.07S×142.81E, h118^{km}, MB4.2*

*IDC **26** 11:52:17.6±0.8, 4.16S×142.80E, h125^{km}±6^{km}, mb3.8/7, mb1 3.9/9, mb1mx3.8/15, Error ellipse: s-maj=20.0km s-min=12.3km az=90.0*

ISC 26 11:52:14.7±2.2**, 4.07S**±0.09×**142.77E**±0.09**, h112**^{km}±20^{km}**, n24, σ0^{s}83**/23**, mb3.9**/10**, 2C, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.86**	**141**	P	**P**	**11 53 55.4**	**+1.2**
	3.8nm,0.3s,baz=285,slow=17,SNR=12						
PMG				S	**S**	**11 55 11.4**	**0.0**
	1.3nm,0.3s,baz=139,slow=23,SNR=2.9						
PMG	**Port Moresby**	**6.86**	**141**	*e*Pn	**P**	**11 53 54.9**	**+0.6**
KAKA	**Kakadu**	**13.37**	**229**	*e*P	**P**	**11 55 20.0**	**-1.0**
	22nm,0.5s						
KAKA				*e*S	**S**	**11 57 39.4**	**-7.8**
WRAB	**Tennant Creek**	**17.78**	**207**	*e*P	**P**	**11 56 15.8**	**-0.8**
	23nm,0.6s						
WB2	**Warramunga Arr**	**17.79**	**207**	*e*P	**P**	**11 56 16.0**	**-0.7**
WB2				*e*		11 56 30.2	
WRA	**Warramunga Arr**	**17.79**	**207**	P	**P**	**11 56 16.2**	**-0.6**
	0.8nm,0.3s,baz=36,slow=13,SNR=89						
WRA				S	**S**	**11 59 28.7**	**+0.3**
	0.2nm,0.3s,baz=36,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**21.28**	**203**	P	**P**	**11 56 54.5**	**+0.9**
	2.4nm,0.6s,mb3.7,baz=29,slow=12,SNR=28						
ASAR				pP		11 57 18.1	
	6.2nm,0.7s,baz=31,slow=9.3,SNR=9.5						
ASPA	**Alice Springs**	**21.28**	**203**	*e*P	**P**	**11 56 55.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**21.81**	**229**	P	**P**	**11 57 00.2**	**+1.2**
	5.8nm,0.7s,mb4.0,baz=59,slow=9.0,SNR=13						
STKA	**Stephens Creek**	**27.68**	**182**	P	**P**	**11 57 53.5**	**-0.9**
	2.8nm,0.8s,mb3.8,baz=350,slow=8.2,SNR=4.3						
STKA	**Stephens Creek**	**27.68**	**182**	*e*P	**P**	**11 57 53.5**	**-0.9**
MKAR	**Makanchi Array**	**73.35**	**321**	P	**P**	**12 03 37.1**	**+1.0**
	1.0nm,0.8s,mb3.7,baz=100,slow=7.4,SNR=6.7						
MKAR				pP	pP	12 04 07.8	+3.2
	1.0nm,0.8s,baz=112,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**73.35**	**321**	P	**P**	**12 03 37.1**	**+1.0**
MKAR				pP	pP	12 04 07.8	+3.2
MAW	**Mawson**	**82.41**	**202**	P	**P**	**12 04 25.6**	**+0.1**
	1.6nm,0.2s,mb4.4,baz=234,slow=18,SNR=2.7						
BVAR	**Borovoye Array**	**82.75**	**325**	P	**P**	**12 04 28.1**	**+0.7**
	0.9nm,0.6s,mb3.8,baz=90,slow=4.4,SNR=5.8						
ZRNK	**Zerenda**	**83.53**	**324**	P	**P**	**12 04 31.8**	**+0.3**
	1.0nm,0.7s,mb3.8						
MCK	**McKinley**	**84.20**	**25**	*e*P	**P**	**12 04 33.2**	**-1.2**
	2.2nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**85.40**	**24**	P	**P**	**12 04 39.9**	**-0.6**
	2.1nm,0.7s,mb4.2,baz=257,slow=4.9,SNR=27						
ILAR				pP	pP	12 05 11.2	+1.5
	1.1nm,1.0s,baz=261,slow=5.3,SNR=3.5						
QSPA	**South Pole Qui**	**85.89**	**180**	P	**P**	**12 04 42.6**	**+0.1**
	1.0nm,0.6s,mb3.9						
SYO	**Syowa Base**	**90.93**	**201**	⇑P	**P**	**12 05 05.6**	**-1.1**
SYO	**Syowa Base**	**90.93**	**201**	⇑PKiKP		12 09 57.1	
LPAZ	**La Paz**	**143.36**	**124**	PKP	PKPdf	12 11 37.3	+0.5
	1.8nm,0.3s,baz=294,slow=3.1,SNR=5.7						
CPUP	**Villa Florida**	**144.06**	**148**	PKP	PKPdf	12 11 39.1	+1.3
	0.9nm,0.4s,baz=347,slow=0.7,SNR=3.0						
DBIC	**Dimbokro**	**147.67**	**276**	PKPbc	PKPdf	12 11 48.6	+4.3
	2.1nm,0.7s,baz=76,slow=4.9,SNR=4.4						
DBIC				pPKPbc		12 12 21.4	
	2.0nm,0.7s,baz=139,slow=4.2,SNR=1.9						

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*IDC **26** 12:17:01.3±3.4, 0.09N×100.85E, mb3.9/6, mb1 4.1/6, mb1mx3.8/15, Error ellipse: s-maj=208.0km s-min=19.4km az=54.0*

*NEIC **26** 12:17:04.5±1.0, 0.08N×100.87E, h20^{km}, Error ellipse: s-maj=41.8km s-min=11.8km az=53.0*

ISC 26 12:17:01.4±2.9**, 0.2N**±0.7×**101.0E**±1.0**, h10**^{km}**, n8, σ0^{s}67**/8**, mb3.9**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.31**	**123**	P	**P**	**12 24 24.8**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=8.6						
WRAB	**Tennant Creek**	**38.32**	**123**	*e*P	**P**	**12 24 24.8**	**+0.4**
ASAR	**Alice Springs**	**39.80**	**129**	P	**P**	**12 24 36.6**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=299,slow=7.2,SNR=10.0						
MKAR	**Makanchi Array**	**49.21**	**343**	P	**P**	**12 25 51.4**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=156,slow=8.1,SNR=8.6						
STKA	**Stephens Creek**	**49.91**	**134**	P	**P**	**12 25 56.5**	**-1.0**
	2.8nm,0.8s,mb4.3,baz=319,slow=9.3,SNR=3.5						
ZAL	**Zalesovo**	**55.21**	**348**	P	**P**	**12 26 36.4**	**-0.4**
	0.8nm,0.3s,mb4.2,baz=82,slow=22,SNR=2.7						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**12 29 37.9**	**+1.2**
	3.2nm,1.2s,mb4.3,baz=131,slow=8.3,SNR=2.9						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**12 29 37.9**	**+1.2**

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*GUC **26** 12:18:21.5±0.5, 28.35S×70.11W, h96^{km}±7^{km}, ML4.1*

*IDC **26** 12:18:21.6±7.1, 28.13S×70.63W, h98^{km}±57^{km}, mb1 3.4/2, mb1mx3.2/15, Error ellipse: s-maj=76.7km s-min=39.1km az=71.0*

*NEIC **26** 12:18:21.5, 28.35S×70.11W, h96^{km}, After GUC.*

ISC 26 12:18:19.7±0.7**, 28.13S**±0.05×**70.7W**±0.2**, h100**^{km}**, n11, σ1^{s}38**/15**, 5C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.45**	**186**	⇑*i*P	**P**	**12 18 32.8**	**-2.6**
VACH				*i* S	**S**	**12 18 45.2**	**-1.8**
VACH				AMP		12 18 46.1	
	comp=E,43μm,0.1s						
CPCH	**Copiapo**	**0.82**	**22**	⇑*i*P	**P**	**12 18 42.0**	**+3.4**
CPCH				*i* S	**S**	**12 18 57.4**	**+4.8**
LSCH	**La Serena**	**1.84**	**195**	⇑*i*P	**P**	**12 18 52.2**	**+1.5**
LSCH				*i* S	**S**	**12 19 15.3**	**+1.7**
LSCH				AMP		12 19 17.2	
	comp=E,1μm,0.3s						
TLL	**Tololo Astrono**	**2.04**	**182**	⇑*i*P	**P**	**12 18 54.1**	**+0.8**
TLL				*i* S	**S**	**12 19 18.4**	**+0.3**
TLL				AMP		12 19 21.0	
	comp=N,930nm,0.8s						
FCH	**Farellones**	**5.20**	**176**	⇑*i*P	**P**	**12 19 35.1**	**-1.4**
FCH				*i* S	**S**	**12 20 31.1**	**-4.6**
FCH				AMP		12 20 33.1	
	comp=N,41nm,0.2s						
LVC	**Limon Verde**	**5.72**	**17**	P	**P**	**12 19 44.2**	**+0.6**
	comp=N,1.5nm,0.3s,baz=189,slow=9.8,SNR=27						
LVC				S	**S**	**12 20 49.3**	**+0.7**
	comp=N,2.9nm,0.3s,baz=180,slow=20,SNR=3.7						
LVC	**Limon Verde**	**5.72**	**17**	*e*P	**P**	**12 19 43.8**	**+0.1**
	comp=N,2.8nm,0.3s						
CPUP	**Villa Florida**	**12.04**	**85**	P	**P**	**12 21 09.0**	**-0.1**
	comp=N,0.2nm,0.3s,baz=272,slow=13,SNR=3.2						
OTAV	**Otavalo**	**29.16**	**344**	P	**P**	**12 24 12.5**	**-1.3**
	comp=N,87nm,1.1s						
WRA	**Warramunga Arr**	**126.43**	**210**	PKP	PKPdf	12 37 13.4	+1.9
	comp=N,0.3nm,0.4s,baz=161,slow=1.7,SNR=8.2						
MKAR	**Makanchi Array**	**151.81**	**41**	PKPbc	PKPdf	12 38 04.5	+8.6
	comp=N,0.7nm,0.5s,baz=290,slow=2.4,SNR=7.3						

ISC 26 12:37:30.4±1.9**, 37.47N**±0.07×**38.7E**±0.1**, h10**^{km}**, n5, σ1^{s}09**/9**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.87**	**346**	*i* P	**Pb**	**12 37 46.6**	**-0.6**
MALT				*i* S	**Sb**	**12 37 57.8**	**-0.7**
MYA	**Malataya**	**0.88**	**346**	PG	**Pg**	**12 37 47.6**	**-0.5**
MYA				SG	**Sg**	**12 37 59.4**	**-0.5**
GZT	**Gaziantep**	**0.91**	**263**	*i* P	**Pb**	**12 37 47.7**	**-0.2**
GZT				*i* S	**Sb**	**12 38 01.9**	**+2.1**
ELZG	**Elazig**	**1.05**	**12**	*i* P	**Pb**	**12 37 50.7**	**+0.5**
ELZG				*i* S	**Sb**	**12 38 05.7**	**+1.9**
GAZ	**Gaziantep**	**1.23**	**256**	*e*PN	**Pn**	**12 37 52.2**	**-1.4**

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*NAO **26** 12:39:00.4±3.4, 61.19N×29.35E, ML2.3*

*BER **26** 12:39:02.4±4.3, 61.12N×29.17E, ML2.3(NAO), Suspected explosion*

*HEL **26** 12:39:03.5±0.6, 60.95N×29.07E, ML2.0, ML2.3(NAO), Explosion*

ISC 26 12:39:01.2±1.9**, 60.96N**±0.06×**29.1E**±0.2**, n11, σ1^{s}12**/14**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.88**	**242**	*e*P	**Pg**	**12 39 18.7**	**-0.1**
VJF				*e*S	**Sg**	**12 39 30.3**	**-0.2**
FIA0	**FINESS Array S**	**1.56**	**289**	*e*P	**Pn**	**12 39 29.9**	**-0.3**
FIA0				*e*S	**Sb**	**12 39 50.6**	**-0.1**
FIA0	**FINESS Array S**	**1.56**	**289**	Pn	**Pn**	**12 39 29.8**	**-0.4**
	baz=115,slow=18						
FIA0				Lg		12 39 50.7	
	baz=116,slow=37						
FIA0				Rg		12 39 57.9	
	baz=116,slow=37						
PVF	**Pernaja**	**1.66**	**257**	*e*P	**Pn**	**12 39 31.5**	**-0.2**
PVF				*e*S	**Sb**	**12 39 54.1**	**+0.4**
KAF	**Kangasniemi**	**1.78**	**312**	*e*P	**Pn**	**12 39 34.7**	**+1.3**
KAF				*e*S	**Sn**	**12 39 56.4**	**-0.6**
SUF	**Sumiainen**	**2.26**	**323**	*e*P	**Pn**	**12 39 42.6**	**+2.3**
SUF				*e*S	**Sn**	**12 40 10.7**	**+1.4**
SUF				MSG		12 40 15.2	
	comp=Z,4.3nm,0.2s						
KJN	**Kajaani**	**3.21**	**349**	*e*SB	**Sb**	**12 40 36.6**	**-2.0**
KJN				MSG		12 40 51.5	
	comp=Z,5.5nm,0.3s						
HFS	**Hagfors**	**7.66**	**271**	Pn	**Pn**	**12 40 54.9**	**-1.8**
	baz=75,slow=14						
HFS	**Hagfors**	**7.66**	**271**	*e*P	**Pn**	**12 40 54.9**	**-1.8**
ARA0	**ARCESS Array S**	**8.74**	**352**	Lg		12 43 24.9	
	baz=172,slow=37						
ARA0	**ARCESS Array S**	**8.74**	**352**	Lg		12 43 24.9	
	baz=172,slow=37						

BJI 26 13:22:15.6, 42.04N×111.99E, h19^{km}, ML3.7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**1.23**	**195**	*e*PG	Pn	13 22 36.8	-1.2
HHC				SG	Sb	13 22 52.8	-0.7
HHC				Smax			
	comp=N,977nm,0.5s						
HHC				Smax			
	comp=E,1μm,0.4s						
BTO	**Baotou**	**2.06**	**227**	*e*PG	Pn	13 22 52.5	+2.6
BTO				SG	Sn	13 23 19.0	+3.7
BTO				Smax			
	comp=N,1μm,0.4s						
BTO				Smax			
	comp=E,468nm,0.3s						
BJI	**Beijing**	**3.74**	**121**	PG	Pn	13 23 20.0	+6.2
BJI				SG	Sn	13 24 09.3	+11
BJI				Smax			
	comp=N,167nm,0.7s						
BJI				Smax			
	comp=E,189nm,0.7s						

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*IDC **26** 13:53:56.5±0.8, 30.27S×177.78W, mb4.6/6, mb1 4.7/9, mb1mx4.5/17, ML4.2/3, Error ellipse: s-maj=32.9km s-min=21.9km az=151.0*

*NEIC **26** 13:54:03.2±3.7, 30.20S×177.79W, h48^{km}±33^{km}, mb5.1/13, Error ellipse: s-maj=15.5km s-min=12.3km az=178.0*

*SYO **26** 13:54:03.2, 30.20S×177.79W, h48^{km}, MB5.1*

ISC 26 13:54:02.4±0.9**, 31.00S**±0.06×**178.0W**±0.1**, h48**^{km}**, n59, σ1^{s}49**/47**, mb4.9**/15**, 6C-2D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.24**	**204**	P	**P**	**13 55 48.6**	**+0.4**
PUZ	**Puketiti**	**7.72**	**203**	P	**P**	**13 55 55.3**	**+0.5**
PUZ				S	**S**	**13 57 28.4**	**+6.6**
WCZ	**Waipu Caves**	**8.10**	**230**	P	**P**	**13 56 08.4**	**+8.3**
MWZ	**Matawai**	**8.21**	**206**	P	**P**	**13 56 00.3**	**-1.3**
OUZ	**Omahuta**	**8.24**	**237**	P	**P**	**13 56 09.8**	**+7.8**
URZ	**Urewera**	**8.31**	**208**	Pn	**P**	**13 56 02.5**	**-0.4**
	1.3nm,0.3s,baz=246,slow=5.2,SNR=13						
URZ				Sn	**S**	**13 57 42.3**	**+5.9**
	12nm,0.3s,baz=96,slow=22,SNR=14						
URZ	**Urewera**	**8.31**	**208**	P	**P**	**13 56 02.0**	**-0.9**
BKZ	**Black Stump Fm**	**9.33**	**208**	P	**P**	**13 56 14.9**	**-2.2**
BKZ				S	**S**	**13 58 02.7**	**+1.0**
MRZ	**Mangatainoka R**	**10.98**	**207**	P	**P**	**13 56 36.2**	**-3.3**
MRW	**Makara Radio**	**11.81**	**208**	S	**S**	**13 58 59.9**	**-2.1**
NNZ	**Nelson**	**12.37**	**212**	P	**P**	**13 56 56.5**	**-1.7**
THZ	**Tophouse**	**13.02**	**212**	P	**P**	**13 57 09.1**	**+2.2**
THZ				S	**S**	**13 59 30.1**	**-0.9**
KHZ	**Kahutara**	**13.28**	**208**	S	**S**	**13 59 32.0**	**-5.2**
MQZ	**McQueen's Vall**	**14.71**	**208**	S	**S**	**14 00 04.3**	**-6.9**
RPZ	**Rata Peaks**	**15.39**	**211**	Pn	**P**	**13 57 38.2**	**+0.4**
	0.7nm,0.3s,baz=148,slow=13,SNR=4.0						
RPZ				Sn	**S**	**14 00 21.5**	**-5.6**
	1.3nm,0.3s,baz=47,slow=23,SNR=7.7						
MSZ	**Milford Sound**	**17.59**	**215**	P	**P**	**13 58 07.7**	**+2.1**
RAR	**Rarotonga**	**18.99**	**63**	P	**P**	**13 58 14.8**	**-8.0**
	1.7nm,0.3s,baz=255,slow=8.4,SNR=6.0						
CNB	**Canberra Magne**	**27.62**	**252**	*e*P	**P**	**13 59 51.1**	**+3.6**
	30nm,1.4s,mb4.7						
CTA	**Charters Tower**	**33.93**	**280**	⇑*i*P	**P**	**14 00 44.1**	**+0.9**
	18nm,0.4s,mb5.3						
CTAO	**Charters Tower**	**33.93**	**280**	*e*P	**P**	**14 00 43.9**	**+0.7**
	24nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**34.38**	**258**	*e*P	**P**	**14 00 49.3**	**+2.3**
	17nm,0.5s,mb5.2						
STKA	**Stephens Creek**	**34.38**	**258**	P	**P**	**14 00 49.3**	**+2.3**
	20nm,0.5s,mb5.3,baz=102,slow=10,SNR=100						
ASAR	**Alice Springs**	**43.12**	**268**	P	**P**	**14 02 00.1**	**+0.3**
	4.7nm,0.4s,mb4.6,baz=104,slow=7.4,SNR=196						
ASPA	**Alice Springs**	**43.12**	**268**	*e*P	**P**	**14 02 00.5**	**+0.6**
WB2	**Warramunga Arr**	**44.15**	**273**	*e*P	**P**	**14 02 07.4**	**-0.9**
WRAB	**Tennant Creek**	**44.15**	**273**	*e*P	**P**	**14 02 07.3**	**-0.9**
	20nm,0.4s,mb5.2						
WRA	**Warramunga Arr**	**44.16**	**273**	P	**P**	**14 02 07.6**	**-0.8**
	12nm,0.3s,mb5.1,baz=110,slow=8.1,SNR=412						
FORT	**Forrest**	**45.93**	**256**	*e*P	**P**	**14 02 22.6**	**+0.2**
	37nm,0.6s,mb5.5						
SBA	**Scott Base**	**47.45**	**184**	*e*P	**P**	**14 02 40.4**	**+6.7**
	10nm,0.9s,mb4.8						
SBA				*e*		14 02 45.0	
VNDA	**Vanda**	**47.51**	**186**	P	**P**	**14 02 39.2**	**+5.0**
	1.3nm,0.6s,mb4.2,baz=24,slow=8.6,SNR=4.9						
VNDA	**Vanda**	**47.51**	**186**	*e*P	**P**	**14 02 39.0**	**+4.8**
	3.4nm,1.0s,mb4.3						
KAKA	**Kakadu**	**49.11**	**280**	*e*P	**P**	**14 02 46.2**	**-1.2**
	24nm,1.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.40**	**270**	*e*P	**P**	**14 03 11.3**	**-0.9**
	5.0nm,0.8s,mb4.5						
CASY	**Casey**	**54.63**	**208**	*e*P	**P**	**14 03 29.9**	**+1.7**
	26nm,0.6s,mb5.4						
QSPA	**South Pole Qui**	**59.12**	**180**	*e*P	**P**	**14 04 04.2**	**+4.4**
	19nm,0.7s,mb5.2						
MAW	**Mawson**	**71.77**	**201**	P	**P**	**14 05 23.8**	**+2.7**
	5.1nm,0.9s,mb4.4,baz=153,slow=8.0,SNR=5.3						
MAW	**Mawson**	**71.77**	**201**	*e*P	**P**	**14 05 23.8**	**+2.7**
	4.4nm,0.8s,mb4.4						
SYO	**Syowa Base**	**76.55**	**193**	⇑P	**P**	**14 05 50.7**	**+2.0**
SYO	**Syowa Base**	**76.55**	**193**	⇓PcP	PcP	14 06 01.2	+0.8
SYO	**Syowa Base**	**76.55**	**193**	⇓pP	pP	14 06 13.8	+11
SYO	**Syowa Base**	**76.55**	**193**	⇑sP	sP	14 06 17.9	+10
SNAA	**Sanae**	**77.56**	**178**	⇑*i*	**P**	**14 05 51.3**	**-3.0**
VNA3	**Neumayer Olymp**	**77.71**	**176**	⇑*i*	**P**	**14 05 59.7**	**+4.6**
VNA2	**Neumayer--Watz**	**78.15**	**177**	⇑*i*	**P**	**14 06 02.7**	**+5.2**
NVAR	**Mina Array Bea**	**88.65**	**43**	P	**P**	**14 06 49.6**	**-2.1**
	0.4nm,0.6s,mb4.0,baz=220,slow=7.0,SNR=2.2						
NVAR				pP	pP	14 07 03.5	-2.3
	0.9nm,0.5s,baz=224,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**118.18**	**310**	PKP	PKPdf	14 12 43.4	-0.7
	1.2nm,0.5s,baz=223,slow=1.8,SNR=12						
ZAL	**Zalesovo**	**118.51**	**318**	PKP	PKPdf	14 12 45.2	+0.6
	1.1nm,0.3s,baz=19,slow=4.8,SNR=2.8						
ZAL	**Zalesovo**	**118.51**	**318**	PKP	PKPdf	14 12 45.2	+0.6
BVAR	**Borovoye Array**	**126.85**	**315**	PKP	PKPdf	14 13 00.6	-0.1
	3.7nm,0.6s,baz=137,slow=1.7,SNR=23						
ARCES	**ARCESS Array B**	**139.18**	**348**	PKhKP		14 13 15.0	
	0.9nm,0.7s,baz=63,slow=2.7,SNR=5.2						
ARCES				PKP	PKPdf	14 13 22.7	-0.6
	0.9nm,0.6s,baz=98,slow=1.6,SNR=7.4						
KAF	**Kangasniemi**	**145.12**	**340**	*e*pkp	PKPdf	14 13 31.3	-2.5
	baz=41,slow=3.3						
FINES	**FINESS Array B**	**145.71**	**340**	PKPbc	PKPbc	14 13 34.0	-1.6
	11nm,0.6s,baz=99,slow=4.9,SNR=67						
NB2	**NORSAR Subarra**	**149.34**	**351**	PKP		14 13 44.4	
	2.5nm,0.7s,baz=15,slow=2.7						
NOA	**NORSAR Array B**	**149.34**	**351**	PKPbc	PKPdf	14 13 44.7	+4.0
	2.8nm,0.7s,baz=15,slow=4.3,SNR=11						
NOA	**NORSAR Array B**	**149.34**	**351**	PKPbc	PKPdf	14 13 44.7	+4.0
AKASG	**Malin Array Be**	**151.79**	**322**	PKPbc	PKPdf	14 13 51.0	+6.2
	7.3nm,0.5s,baz=45,slow=2.9,SNR=27						
BRTR	**Keskin Array B**	**152.91**	**297**	PKPbc	PKPdf	14 13 54.4	+7.6
	0.8nm,0.4s,baz=165,slow=6.5,SNR=3.6						
DBIC	**Dimbokro**	**154.95**	**164**	PKPbc	PKPdf	14 14 01.4	+11
	1.3nm,0.6s,baz=46,slow=9.4,SNR=2.5						
DBIC	**Dimbokro**	**154.95**	**164**	PKPbc	PKPdf	14 14 01.4	+11

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*IDC **26** 13:54:26.6±0.5, 33.82N×105.03E, mb4.6/18, mb1 4.7/20, mb1mx4.7/23, ML4.5/2, MS3.8/9, Ms1 3.8/9, ms1mx3.6/25, Error ellipse: s-maj=20.5km s-min=12.6km az=55.0*

*BJI **26** 13:54:27.8, 33.80N×104.98E, h20^{km}, mB4.9, mb4.7, ML5.0, Ms4.7, Msz4.5*

*MOS **26** 13:54:29.7±0.8, 33.79N×105.06E, h33^{km}, mb4.8/18, Error ellipse: s-maj=14.0km s-min=7.7km az=109.2*

*HRVD **26** 13:54:30.0±0.8, 33.76N×104.90E, h18^{km}±4^{km}, MW4.6/28, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s28,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.59±.20; $M_{\theta\theta}$0.45±.12; $M_{\phi\phi}$-1.04±.13; $M_{r\theta}$-0.30±.35; $M_{\theta\phi}$-0.17±.07; $M_{\phi r}$-0.26±.25; Best double couple: M_0.98×10^{16} NP1:ϕ_s334°, δ46°, λ38°. NP2:ϕ_s216°, δ64°, λ130°. Principal axes: T .84, Plg53°, Azm175°; N .28, Plg35°, Azm16°; P -1.11, Plg10°, Azm278°; nsta1 refers* *to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **26** 13:54:30.0±1.3, 33.80N×104.97E, $h21^{km}\pm9^{km}$, mb4.9/40*

Error ellipse: s-maj=4.9km s-min=4.3km az=54.0

ISC 26 13:54:25.9±0.8**, 33.81N**±0.02×**104.97E**±0.03**,** $h6^{km}\pm5^{km}$**,**
n168, $\sigma1^{s}10$/185**, mb4.8**/64**, MS3.9**/12**, 5C-8D, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	2.46	338	⇓P	Pn	13 55 10.0	+2.9
LZH				PG	Pg	13 55 13.3	-1.6
LZH				SG	Sg	13 55 44.8	-2.9
LZH				Smax			
	comp=N,11µm,1.1s						
LZH				Smax			
	comp=E,14µm,1.3s						
LZH				LR	LR		
	comp=N,29µm,6.8s						
LZH				LR	LR		
	comp=Z,31µm,9.0s						
LZH	**Lanzhou**	2.46	338	⇓Pn	Pn	13 55 10.0	+2.9
LZH				Pg	Pg	13 55 13.3	-1.6
LZH				Sg	Sg	13 55 44.7	-3.0
CD2	**Chengdu**	3.07	200	P	Pn	13 55 18.8	+3.0
CD2				PG	Pg	13 55 25.8	-1.4
CD2				S	Sn	13 55 57.8	+4.5
CD2				SG	Sg	13 56 06.3	-1.7
CD2				Smax			
	comp=N,5µm,1.0s						
CD2				Smax			
	comp=E,5µm,0.8s						
CD2				LR	LR		
	comp=N,11µm,4.8s						
CD2				LR	LR		
	comp=Z,9µm,7.2s						
XAN	**Xi'an**	3.29	85	P	Pn	13 55 20.5	+1.5
XAN				PG	Pg	13 55 27.0	-4.6
XAN				S	Sn	13 56 03.0	+4.1
XAN				SG	Sg	13 56 10.0	-5.5
XAN				Smax			
	comp=N,6µm,0.7s						
XAN				Smax			
	comp=E,5µm,0.8s						
ENH	**Enshi**	5.21	131	*e*Pn	Pn	13 55 48.0	+1.8
	comp=E,52nm,0.5s						
ENH				*e*Pg	Pg	13 56 05.5	-4.4
GTA	**Gaotai**	6.96	325	P	Pn	13 56 10.0	-0.9
GTA				PG	Pg	13 56 34.8	-10
GTA				S	Sn	13 57 29.3	-2.0
GTA				SG	Sg	13 58 08.8	-8.9
GTA				Smax			
	comp=N,164nm,1.0s						
GTA				Smax			
	comp=E,103nm,0.9s						
GTA				LR	LR		
	comp=N,2µm,9.1s						
GTA				LR	LR		
	comp=E,1µm,9.1s						
GTA				LR	LR		
	comp=Z,3µm,9.7s						
TIY	**Taiyuan**	7.21	55	*e*P	Pn	13 56 12.5	-1.9
TIY				PG	Pg	13 56 35.5	-14
TIY				Smax			
	comp=N,706nm,0.6s						
TIY				Smax			
	comp=E,526nm,0.5s						
GYA	**Guiyang**	7.47	168	⇓P	Pn	13 56 18.5	+0.4
GYA				S	Sn	13 57 41.8	-2.2
GYA				LR	LR		
	comp=N,2µm,4.8s						
GYA				LR	LR		
	comp=E,2µm,4.5s						
GYA				LR	LR		
	comp=Z,2µm,6.3s						
BTO	**Baotou**	7.89	29	*e*P	Pn	13 56 23.3	-0.6
BTO				S	Sn	13 58 01.5	+7.1
WHN	**Wuhan**	8.59	110	P	P	13 56 33.0	-0.6
WHN				*e*S	Sn	13 58 08.5	-3.4
WHN				Smax			
	comp=N,767nm,1.0s						
WHN				Smax			
	comp=E,644nm,1.0s						
WHN				LR	LR		
	comp=N,8µm,5.4s						
WHN				LR	LR		
	comp=E,6µm,7.7s						
WHN				LR	LR		
	comp=Z,7µm,9.2s						
HHC	**Hu-ho-hao-te**	8.77	35	*e*P	P	13 56 35.8	-0.4
HHC				Smax			
	comp=N,117nm,0.9s						
HHC				Smax			
	comp=E,74nm,0.9s						
KMI	**Kunming**	8.87	193	⇓*e*P	P	13 56 37.3	-0.3
KMI				S	Sn	13 58 14.8	-4.1
KMI				AMB	AMB		
	comp=Z,57nm,0.8s						
KMI				AMB	AMB		
	comp=Z,218nm,5.9s						
KMI				Smax			
	comp=N,84nm,1.7s						
KMI				Smax			
	comp=E,81nm,1.4s						
KMI				LR	LR		
	comp=N,1µm,9.6s						
KMI				LR	LR		
	comp=E,1µm,5.5s						
KMI				LR	LR		
	comp=Z,2µm,10.5s						
KMI	**Kunming**	8.87	193	⇓*e*P	P	13 56 37.3	-0.3
	comp=Z,57nm,0.8s						
KMI				S	Sn	13 58 14.8	-4.1
TIA	**Tai'an**	10.25	73	*e*P	P	13 56 59.0	+2.4
TIA				LR	LR		
	comp=N,2µm,6.0s						
BJT	**Baijiatuau**	10.89	52	*e*P	P	13 57 03.8	-1.6
BJT				*e*		13 57 40.8	
BJI	**Beijing**	10.91	52	P	P	13 57 06.5	+0.9
BJI				LR	LR		
	comp=N,5µm,10.2s						
BJI				LR	LR		
	comp=E,3µm,9.8s						
BJI	**Beijing**	10.91	52	P	P	13 57 06.4	+0.8
BJI				Lg		14 00 10.0	
NJ2	**Nanjing**	11.79	95	*e*P	P	13 57 18.5	+0.8
NJ2				AP		13 57 22.0	
NJ2				XP		13 57 25.0	
NJ2				PP	PP	13 57 28.3	+1.2
NJ2				S	S	13 59 32.0	+1.3
NJ2				XS		13 59 38.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s						
NJ2				LR	LR		
	comp=N,1µm,17.0s						
NJ2				LR	LR		
	comp=E,2µm,16.9s						
NJ2				LR	LR		
	comp=Z,6µm,17.2s						
LSA	**Lhasa**	12.46	255	P	P	13 57 25.5	-1.1
SSE	**Sheshan**	13.96	97	P	P	13 57 46.0	-0.5
SSE				XP		13 57 53.5	
SSE				S	S	14 00 21.5	-1.3
SSE				AMB	AMB		
	comp=Z,25nm,0.7s						
SSE				AMB	AMB		
	comp=Z,160nm,6.7s						
SSE	**Sheshan**	13.96	97	P	P	13 57 46.1	-0.4
	comp=Z,25nm,0.7s						
SSE				sP		13 57 53.5	
SSE				S	S	14 00 21.6	-1.2
SONM	**Songino Array**	14.05	4	Pn	P	13 57 46.3	-1.4
	comp=Z,0.6nm,0.3s,baz=187,slow=14,SNR=20						
SONM				Sn	S	14 00 20.4	-4.5
	comp=Z,0.2nm,0.3s,baz=188,slow=18,SNR=2.5						
SONM				Lg		14 01 54.2	
	comp=Z,0.4nm,0.3s,baz=188,slow=31,SNR=3.3						
QIZ	**Qiongzhong**	15.35	162	P	P	13 58 04.0	-0.8
QIZ				*e*S	S	14 01 00.8	+5.0
QIZ				LR	LR		
	comp=E,2µm,13.8s						
QIZ				LR	LR		
	comp=Z,2µm,11.9s						
QIZ	**Qiongzhong**	15.35	162	*e*P	P	13 58 02.0	-2.8
	comp=Z,33nm,1.0s						
NANT	**Nan**	15.43	195	P	P	13 58 05.0	-0.8
CHG	**Chiang Mai**	15.88	201	⇓P	P	13 58 12.4	+0.8
	comp=Z,16nm,0.9s						
CM31	**Chiang Mai Arr**	16.21	201	*e*P	P	13 58 16.2	+0.3
	comp=Z,36nm,0.8s						
CMAR	**Chiang Mai Arr**	16.21	201	Pn	P	13 58 16.2	+0.3
	comp=Z,0.6nm,0.3s,baz=22,slow=15,SNR=110						
CMAR				LR	LR	14 04 14.2	
	comp=Z,68nm,18.7s,baz=20,slow=36						
CMAR	**Chiang Mai Arr**	16.21	201	P	P	13 58 16.2	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,68nm,18.7s						
ZAK	**Zakamensk**	16.61	356	*e*P	P	13 58 20.5	-0.2
SNY	**Shenyang**	16.72	56	⇑P	P	13 58 25.0	+2.8
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SNY				LR	LR		
	comp=N,300nm,8.5s						
SNY				LR	LR		
	comp=E,430nm,5.3s						
SNY				LR	LR		
	comp=Z,370nm,6.3s						
WMQ	**Urumqi**	16.74	312	⇑P	P	13 58 22.0	-0.5
WMQ				AP		13 58 25.5	
WMQ				XP		13 58 28.5	
WMQ				PP	PP	13 58 36.0	-0.5
WMQ				S	S	14 01 26.5	-1.5
WMQ				AMB	AMB		
	comp=Z,17nm,0.6s						
WMQ				LR	LR		
	comp=N,2µm,20.0s						
WMQ				LR	LR		
	comp=E,655nm,18.4s						
WMQ				LR	LR		
	comp=Z,433nm,13.4s						
BDT	**Bhumibol Dam**	17.34	199	P	P	13 58 31.0	+0.8
KKTK	**Khon Kaen**	17.50	187	P	P	13 58 32.0	-0.2
	comp=Z,247nm,0.7s						
CN2	**Changchun**	18.78	52	⇑P	P	13 58 48.8	+1.0
CN2				*e*XP		13 58 55.0	
CN2				*e*S	S	14 02 05.3	-9.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
CN2				AMB	AMB		
	comp=Z,400nm,7.0s						
CN2				LR	LR		
	comp=N,1µm,11.0s						
CN2				LR	LR		
	comp=E,700nm,11.0s						
CN2				LR	LR		
	comp=Z,700nm,10.0s						
HIA	**Hailar**	18.94	31	*e*P	P	13 58 50.4	+0.7
	comp=Z,24nm,1.1s						
KS15	**Wonju Array Si**	18.96	72	*e*P	P	13 58 51.9	+1.7
JOW	**Kunigami**	21.26	103	LR	LR	14 07 27.5	
	comp=Z,362nm,20.9s,MS3.7,baz=324,slow=37						
MKAR	**Makanchi Array**	21.53	314	P	P	13 59 17.2	-0.5
	comp=Z,17nm,0.7s,mb4.6,baz=117,slow=11,SNR=54						
MKAR				LR	LR	14 08 32.1	
	comp=Z,347nm,19.2s,MS3.8,baz=114,slow=39						
MKAR	**Makanchi Array**	21.53	314	*e*P	P	13 59 16.9	-0.8
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
JNU	**Nakatsue**	21.61	85	LR	LR	14 08 22.3	
	comp=Z,335nm,18.2s,MS3.8,baz=115,slow=39						
NNT	**Nongplab**	21.66	194	P	P	13 59 20.3	+1.1
JOSI	**Joshimath**	21.74	268	*e*P	P	13 59 22.0	+2.1
MDJ	**Mudanjiang**	21.84	53	P	P	13 59 21.0	+0.2
MDJ				AP		13 59 24.0	
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,198nm,6.6s						
MDJ				LR	LR		
	comp=N,304nm,22.5s,MS3.7						
MDJ				LR	LR		
	comp=E,165nm,21.4s,MS3.7						
MDJ	**Mudanjiang**	21.84	53	*e*P	P	13 59 21.6	+0.9
	comp=E,20nm,1.0s,mb4.5						
KLP	**Kalpa**	22.59	272	*e*P	P	13 59 28.9	+0.5
KLP				AMb	AMB	13 59 35.6	
	comp=Z,48nm,1.4s,mb4.8						
SDNR	**Sundarnagar**	23.66	272	*e*	P	13 59 46.0	+7.1
KSH	**Kashi**	23.89	292	*e*P	P	13 59 46.0	+5.0
KSH				*e*AP		13 59 51.3	
KSH				*e*XP		13 59 54.8	
KSH				*e*PCP	PcP	14 03 23.3	-2.2
KSH				*e*S	S	14 04 01.3	+7.0
KSH				*e*XS		14 04 09.0	
KSH				LR	LR		
	comp=N,600nm,9.7s						
KSH				LR	LR		
	comp=E,600nm,6.8s						
NDI	**New Delhi**	24.24	265	*e*P	P	13 59 44.5	0.0
ZAL	**Zalesovo**	24.67	331	P	P	13 59 49.0	+0.6
	comp=E,3.7nm,0.4s,mb4.3,baz=245,slow=10.0,SNR=13						
ZAL	**Zalesovo**	24.67	331	P	P	13 59 49.0	+0.6
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BOD	**Bodaibo**	24.78	12	*e*P	P	13 59 50.4	+1.0
KUDL	**Kundal**	25.02	265	*e*P	P	13 59 53.0	+1.0
KLR	**Kul'dur**	25.11	44	*e*P	P	13 59 53.2	+0.6
FRU	**Bishkek**	25.35	300	*e*P	P	14 00 07.0	+12
FRU				*e*		14 00 18.0	
AAK	**Ala-Archa**	25.41	299	P	P	13 59 54.7	-0.8
	comp=Z,5.9nm,0.5s,mb4.4						
KURK	**Kurchatov**	25.60	319	P	P	13 59 57.1	-0.2
	comp=Z,194nm,0.8s,mb5.7,SNR=22						
KURK	**Kurchatov**	25.60	319	P	P	13 59 57.4	+0.1
KURK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
KURK	**Kurchatov**	25.60	319	*e*P	P	13 59 57.2	0.0
	comp=Z,51nm,1.1s,mb5.0						
KHET	**Khetri**	25.61	265	*e*P	P	13 59 58.1	+0.5
KHET				AMb	AMB	14 00 01.6	
	comp=Z,25nm,0.9s,mb4.7						
NVS	**Novosibirsk**	25.95	331	*e*P	P	14 00 01.0	+0.5
NVS				*e*		14 01 00.1	
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
NVS				pmax	pmax		
	comp=N,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
MAJO	**Matsushiro**	27.23	75	P	P	14 00 09.2	-3.2
	comp=E,5.3nm,0.6s,mb4.2						
KKAR	**Karatay Array**	28.37	299	*i* P	P	14 00 23.6	+0.9
VOSK	**Vostochnaya**	30.74	318	P	P	14 00 43.1	-0.7
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ASAJ	**Asahikawa**	30.77	59	P	P	14 00 44.0	-0.2
	comp=Z,8.5nm,0.9s,mb4.6,baz=218,slow=18,SNR=3.0						
ASAJ	**Asahikawa**	30.77	59	P	P	14 00 44.0	-0.2
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BVA0	**Borovoye Array**	31.19	319	P	P	14 00 46.9	-0.8
BVAR	**Borovoye Array**	31.19	319	P	P	14 00 47.4	-0.4
	comp=Z,3.4nm,0.6s,mb4.3,baz=112,slow=8.0,SNR=15						
BVAR				PcP	PcP	14 03 40.9	-1.8
	comp=Z,3.0nm,0.7s,baz=135,slow=2.1,SNR=5.7						
BRVK	**Borovoye**	31.26	319	*e*P	P	14 00 48.1	-0.3
	comp=Z,9.3nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	31.32	54	*e*P	P	14 01 03.6	+15
YSS	**Yuzh-Sakhalins**	31.32	54	*e*P	P	14 00 47.6	-1.4
	comp=Z,24nm,1.1s,mb5.0						
ZRNK	**Zerenda**	31.93	318	P	P	14 00 53.8	-0.5
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	31.93	318	*e*P	P	14 00 53.6	-0.7
	comp=Z,9.2nm,0.8s,mb4.7						
YAK	**Yakutsk**	32.33	22	*e*P	P	14 00 57.8	+0.2
YAK				*e*		14 03 45.7	
YAK				*e*		14 11 22.4	
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
YAK				MLR	MLR		
	comp=N,87nm,9.0s						
YAK				MLR	MLR		
	comp=E,71nm,9.0s						
YAK				MLR	MLR		
	comp=Z,101nm,9.0s						
YAK	**Yakutsk**	32.33	22	P	P	14 00 54.6	-3.0
	comp=Z,13nm,0.7s,mb4.9						
AB31	**Akbulak array**	36.49	309	P	P	14 01 43.6	+10
ARU	**Arti**	38.79	320	P	P	14 01 53.8	+1.0
	comp=Z,205nm,0.9s,mb5.9,SNR=20						
ARU	**Arti**	38.79	320	⇓*i*P	P	14 01 53.0	+0.2
ARU				*e*		14 03 22.8	
ARU				*e*PPP	PPP	14 03 43.3	-4.9
ARU				*i*		14 04 03.2	
ARU				*e*S	S	14 07 49.3	-0.9
ARU				*e*SSS	SSS	14 11 02.8	-2.7
ARU				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.0						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
ARU				MLR	MLR		
	comp=N,70nm,15.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,80nm,15.0s,MS3.8						
ARU	**Arti**	38.79	320	*e*P	P	14 01 52.5	-0.2
	comp=E,38nm,0.9s,mb5.1						
MA2	**Magadan**	39.45	35	P	P	14 01 56.6	-1.6
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.2						
GUMO	**Guam**	41.37	109	*e*P	P	14 02 14.3	-0.2
	comp=Z,243nm,1.2s,mb5.7						
QRN	**Al-Qurain**	48.50	280	*e*P	P	14 03 11.2	-0.3
QRN				AMb	AMB	14 03 12.3	
	comp=Z,30nm,0.9s,mb5.3						
MIB	**Mutribah**	48.60	282	*e*P	P	14 03 13.0	+0.7
MIB				AMb	AMB	14 03 16.2	
	comp=Z,45nm,0.9s,mb5.5						
RDF	**Al-Radifah**	48.74	281	*e*P	P	14 03 13.9	+0.6
RDF				AMb	AMB	14 03 17.2	
	comp=Z,29nm,0.8s,mb5.4						
RST	**Umm Al-Ruwaisa**	48.99	282	*e*P	P	14 03 15.4	+0.2
RST				AMb	AMB	14 03 18.6	
	comp=Z,36nm,0.7s,mb5.5						
MOS	**Moscow**	50.35	317	*e*P	P	14 03 27.1	+1.8
MOS				pmax	pmax		
	comp=Z,85nm,0.5s						
SOC	**Sochi**	50.67	301	*e*P	P	14 03 28.1	+0.2
SOC				*e*		14 04 44.0	
SOC				*e*S	S	14 10 39.9	-2.1
SOC				*e*SS	SS	14 14 08.1	-5.6
SOC				*e*SSS	SSS	14 15 47.4	+1.2
SOC				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,36nm,1.6s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,297nm,18.0s,MS4.3						
SOC				MLR	MLR		
	comp=N,240nm,30.0s						
SOC				MLR	MLR		
	comp=E,138nm,16.0s						
OBN	**Obninsk**	51.00	317	*d i*P	P	14 03 31.3	+1.1
OBN				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.0						
OBN	**Obninsk**	51.00	317	P	P	14 03 31.1	+0.9
	comp=Z,24nm,0.9s,mb5.1						
FX1	**Attu Island--F**	51.10	46	P	P	14 03 31.1	+0.1
	comp=Z,6.4nm,0.5s,mb4.8,baz=260,slow=20,SNR=5.8						
FX1	**Attu Island--F**	51.10	46	P	P	14 03 31.1	+0.1
FX1				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FX1	**Attu Island--F**	51.10	46	*e*P	P	14 03 30.9	-0.1
ANN	**Anapa**	52.02	303	*e*P	P	14 03 39.6	+1.5
ANN				*e*S	S	14 11 08.7	+8.2
ANN				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.2						
MALT	**Malatya**	52.94	295	P	P	14 03 45.5	+0.4
	comp=Z,5.0nm,0.9s,mb4.4						
KEV	**Kevo**	54.58	335	*e*p	P	14 03 57.8	+1.1
	comp=Z,9.0nm,0.7s,mb4.9						
KEV	**Kevo**	54.58	335	*e*P	P	14 03 57.8	+1.1
KEV				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	55.11	335	P	P	14 04 00.6	-0.1
	comp=Z,2.2nm,0.5s,mb4.4,baz=90,slow=4.9,SNR=26						
ARCES				PcP	PcP	14 05 04.4	+2.5
	comp=Z,1.3nm,0.5s,baz=90,slow=6.3,SNR=3.9						
ARCES	**ARCESS Array B**	55.11	335	P	P	14 04 00.6	-0.1
ARCES						14 05 04.4	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	55.11	335	P	P	14 04 00.6	-0.1
ARCES				PcP	PcP	14 05 04.4	+2.5
KAF	**Kangasniemi**	55.55	326	*e*p	P	14 04 04.7	+0.8
	comp=Z,7.9nm,0.6s,mb4.9,baz=81,slow=6.9						
KAF	**Kangasniemi**	55.55	326	*e*P	P	14 04 04.7	+0.8
KAF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
FINES	**FINESS Array B**	55.75	325	P	P	14 04 05.5	+0.2
	comp=Z,7.2nm,0.5s,mb4.9,baz=110,slow=8.2,SNR=26						
FINES				LR	LR	14 29 42.5	
	comp=Z,70nm,18.9s,MS3.8,baz=153,slow=38						
FINES	**FINESS Array B**	55.75	325	P	P	14 04 05.6	+0.2
FINES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,71nm,18.9s						
BRTR	**Keskin Array B**	56.08	298	P	P	14 04 08.2	+0.2
	comp=Z,3.1nm,0.7s,mb4.4,baz=102,slow=6.4,SNR=13						
BRTR				LR	LR	14 33 08.0	
	comp=Z,50nm,18.6s,MS3.6,baz=100,slow=41						
BRTR	**Keskin Array B**	56.08	298	P	P	14 04 08.3	+0.3
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,50nm,18.6s						
AKASG	**Malin Array Be**	56.10	312	P	P	14 04 07.6	-0.4
	comp=Z,3.9nm,0.7s,mb4.6,baz=67,slow=6.5,SNR=16						
AKASG				PcP	PcP	14 05 03.2	-2.8
	comp=Z,1.2nm,0.4s,baz=60,slow=6.6,SNR=5.7						
AKASG	**Malin Array Be**	56.10	312	P	P	14 04 07.6	-0.4
AKASG						14 05 03.2	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SUW	**Suwalki**	58.85	317	*e*P	P	14 04 26.8	-0.6
WRAB	**Tennant Creek**	60.33	148	*e*P	P	14 04 37.1	-1.0
	comp=Z,24nm,0.7s,mb5.3						
WRA	**Warramunga Arr**	60.34	148	P	P	14 04 37.1	-1.0
	comp=Z,9.9nm,0.6s,mb5.0,baz=342,slow=7.2,SNR=46						
WRA	**Warramunga Arr**	60.34	148	P	P	14 04 37.1	-1.0
WRA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WB2	**Warramunga Arr**	60.34	148	*e*P	P	14 04 37.1	-1.0
KWP	**Kalwaria**	60.42	312	*e*P	P	14 04 38.8	+0.5
OJC	**Ojcow**	62.00	314	*e*P	P	14 04 50.4	+1.4
NB2	**NORSAR Subarra**	62.79	327	P	P	14 04 52.7	-1.4
	comp=Z,7.4nm,0.6s,mb5.0,baz=71,slow=6.5						
NB2	**NORSAR Subarra**	62.79	327	P	P	14 04 52.7	-1.4
	comp=Z,7.4nm,0.6s,mb5.0						
NOA	**NORSAR Array B**	62.79	327	P	P	14 04 53.2	-0.9
	comp=Z,6.5nm,0.6s,mb4.9,baz=70,slow=6.7,SNR=24						
NOA				LR	LR	14 32 42.8	
	comp=Z,55nm,19.4s,MS3.7,baz=25,slow=37						
NOA	**NORSAR Array B**	62.79	327	P	P	14 04 53.2	-0.9
NOA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,55nm,19.4s						
ASPA	**Alice Springs**	63.44	150	*e*P	P	14 04 58.2	-0.7
ASAR	**Alice Springs**	63.44	150	P	P	14 04 58.2	-0.6
	comp=Z,6.9nm,0.7s,mb4.9,baz=334,slow=6.8,SNR=46						
MORC	**Moravsky Berou**	63.52	314	*e*P	P	14 04 59.7	+0.8
	comp=Z,4.4nm,0.8s,mb4.5						
JMIC	**Jan Mayen**	65.51	341	LR	LR	14 35 53.9	
	comp=Z,56nm,18.1s,MS3.8,baz=23,slow=38						
GERES	**GERESS Array B**	66.20	314	P	P	14 05 16.2	-0.1
	comp=Z,1.2nm,0.6s,mb4.1,baz=76,slow=5.5,SNR=7.7						
GERES	**GERESS Array B**	66.20	314	P	P	14 05 16.2	-0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
COLA	**College**	66.68	26	*c i*P	P	14 05 18.5	-0.7

COLA	College	66.68	26	eP	P	14 05 18.5	-0.6
	comp=Z,7.7nm,0.7s,mb4.8						
MCK	McKinley	66.84	28	P	P	14 05 18.7	-1.5
	comp=Z,2.4nm,0.8s,mb4.3						
ILAR	Eielson Array	67.09	26	P	P	14 05 20.2	-1.5
	comp=Z,1.6nm,0.8s,mb4.1,baz=286,slow=6.4,SNR=18						
ILAR	Eielson Array	67.09	26	P	P	14 05 20.3	-1.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PMR	Palmer	67.83	30	eP	P	14 05 24.6	-1.9
	comp=Z,5.9nm,0.8s,mb4.7						
FORT	Forrest	67.84	159	eP	P	14 05 26.9	-0.2
	comp=Z,43nm,1.1s,mb5.4						
SML	Sawmill	68.05	29	eP	P	14 05 26.4	-1.4
DAWY	Dawson	70.18	25	eP	P	14 05 39.4	-1.5
CABF	La Chapelle	71.79	314	eP	P	14 05 50.7	-0.2
LPG	La Plagne	71.94	313	eP	P	14 05 52.8	+0.9
	comp=Z,30nm,0.9s,mb4.9						
LPL	La Plagne	71.95	313	eP	P	14 05 52.7	+0.8
	comp=Z,34nm,1.1s,mb4.9						
ESK	Eskdalemuir	72.19	325	P	P	14 05 52.5	-0.6
	comp=Z,28nm,1.3s,mb5.0						
KMBO	Kilima Mbogo	72.25	256	eP	P	14 05 54.5	+0.3
	comp=Z,5.3nm,1.0s,mb4.4						
MBDF	Montbardon	72.32	312	eP	P	14 05 54.0	-0.1
	comp=Z,29nm,1.1s,mb4.8						
SBF	Sospel	72.34	311	eP	P	14 05 54.2	0.0
	comp=Z,55nm,0.9s,mb5.2						
ORIF	Oris-en-Rattie	72.77	313	eP	P	14 05 57.1	+0.4
	comp=Z,34nm,1.0s,mb5.0						
ORIF				eR			
	comp=Z,166nm,19.5s						
SMF	Signal de Mont	73.10	315	eP	P	14 05 58.5	-0.1
	comp=Z,16nm,0.9s,mb4.7						
AVF	Avril sur Loir	73.31	315	eP	P	14 05 59.9	0.0
	comp=Z,20nm,0.9s,mb4.7						
STKA	Stephens Creek	73.89	148	eP	P	14 06 03.3	-0.2
	comp=Z,11nm,0.6s,mb5.0						
STKA	Stephens Creek	73.89	148	P	P	14 06 03.4	-0.2
	comp=Z,14nm,0.6s,mb5.0,baz=336,slow=6.9,SNR=33						
TCF	Toulx Ste Croi	74.25	315	eP	P	14 06 05.7	+0.4
	comp=Z,22nm,1.1s,mb4.7						
CAF	Calviac	75.07	314	eP	P	14 06 10.8	+0.7
	comp=Z,13nm,0.9s,mb4.5						
MFF	Saint Martin d	75.44	317	eP	P	14 06 12.3	+0.1
	comp=Z,22nm,0.9s,mb4.8						
DLBC	Dease Lake	77.30	26	P	P	14 06 22.7	+0.3
YKW3	Yellowknife Ar	78.84	18	P	P	14 06 27.0	-3.7
YKA	Yellowknife Ar	78.90	18	P	P	14 06 30.9	-0.1
	comp=Z,4.2nm,0.6s,mb4.6,baz=330,slow=5.3,SNR=11						
YKA	Yellowknife Ar	78.90	18	P	P	14 06 30.9	-0.2
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKA	Yellowknife Ar	78.90	18	P	P	14 06 30.9	-0.1
CNB	Canberra Magne	80.33	145	eP	P	14 06 40.2	+0.8
	comp=Z,9.7nm,0.8s,mb4.8						
TOO	Toolangi	80.41	148	eP	P	14 06 40.8	+1.1
	comp=Z,2.4nm,0.6s,mb4.3						
ESDC	Sonseca Array	81.74	312	P	P	14 06 49.2	+2.5
	comp=Z,1.3nm,0.6s,mb4.0,baz=54,slow=4.5,SNR=4.7						
NLW	Nelson Butte	88.96	28	eP	P	14 07 23.3	+1.0
DPW	Davenport	89.96	27	eP	P	14 07 28.6	+1.5
SCHQ	Schefferville	91.44	355	P	P	14 07 36.0	+2.3
	comp=Z,3.0nm,0.7s,mb4.7,baz=14,slow=4.2,SNR=3.7						
PDAR	Pinedale Array	97.50	25	LR	LR	14 56 21.1	
	comp=Z,68nm,19.3s,MS4.2,baz=114,slow=38						
CASY	Casey	99.86	178	eP	P	14 08 20.7	+8.8
	comp=Z,7.3nm,0.6s,mb5.3						
QSPA	South Pole Qui	123.57	180	ePKP	PKPdf	14 13 24.4	-1.7
VNA3	Neumayer Olymp	129.52	202	⇑i	PKPdf	14 13 41.2	+3.6
BDFB	Brasilia	149.66	300	PKPbc	PKPdf	14 14 18.8	+4.0
	comp=Z,1.6nm,0.5s,baz=159,slow=11,SNR=2.3						
BDFB	Brasilia	149.66	300	PKP2	PKPab	14 14 18.8	-5.4
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SAML	Samuel	152.96	334	ePKPdf	PKPdf	14 14 19.2	-0.5
SAML				ePKPbc	PKPdf	14 14 25.8	+6.0
LPAZ	La Paz	161.48	339	PKP	PKPdf	14 14 30.6	+0.4
	comp=Z,2.2nm,0.3s,baz=13,slow=0.4,SNR=3.9						
LPAZ	La Paz	161.48	339	PKIKP	PKPdf	14 14 30.6	+0.4
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						

NEIC ***26*** *13:54:54.8, 31.79S×72.15W, h16^{km}, ML3.5(GUC), After GUC.*

GUC 26 13:54:54.8±0.7**, 31.79S×72.15W, h16^{km}**±4^{km}**, MD3.6, ML3.5, 4C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILCH	Illapel	0.85	80	⇑iP	Pb	13 55 10.3	-0.5
ILCH				i S	Sb	13 55 22.2	+0.5
CMCH	Combarbala	1.16	58	⇑iP	Pb	13 55 15.3	-0.7
CMCH				i S	Sb	13 55 30.7	0.0
CMCH				AMP		13 55 32.9	
	comp=E,7μm,0.7s						
JACH	Jahuel	1.59	124	⇓iP	Pn	13 55 22.4	-0.2
JACH				i S	Sn	13 55 42.8	-0.1
PEL	Peldehue	1.83	138	AMP		13 55 56.0	
	comp=N,685nm,1.0s						
TLL	Tololo Astrono	1.99	36	AMP		13 56 01.1	
	comp=E,490nm,0.5s						
CLCH	Cerro Calan	2.10	140	⇓iP	Pn	13 55 30.3	+0.4
CLCH				⇓iS	Sn	13 55 57.0	+1.1
CLCH				AMP		13 56 05.5	
	comp=E,594nm,0.6s						
TACH	Talagante	2.12	151	⇑iP	Pn	13 55 30.1	0.0
TACH				i S	Sn	13 55 57.2	+0.9
FCH	Farellones	2.20	135	AMP		13 56 05.5	
	comp=E,254nm,0.7s						
CHCH	Chadas Angostu	2.48	150	i P	Pn	13 55 35.6	+0.3
LMEL	Las Melosas	2.63	142	⇓iP	Pn	13 55 37.4	0.0
LMEL				i S	Sn	13 56 10.7	+1.5
LMEL				AMP		13 56 21.7	
	comp=E,140nm,0.5s						
CACH	El Canelo	2.66	151	eP	Pn	13 55 38.5	+0.6
CACH				i S	Sn	13 56 12.2	+2.1
CICH	Cipreses	2.91	150	i P	Pn	13 55 41.5	+0.1
SFDO	San Fernando	2.97	162	⇑iP	Pn	13 55 42.8	+0.4
SFDO				i S	Sn	13 56 18.9	+1.0

PGC ***26*** *14:12:43.5, 48.95N×129.91W, h10^{km}, MLSn3.4/1, West of Vancouver Island, British Columbia*

IDC ***26*** *14:12:44.6±2.3, 49.18N×129.84W, mb4.3/1, mb1 3.9/9, mb1mx3.7/27, ML3.6/7, MS3.2/7, Ms1 3.2/7, ms1mx3.0/25, Error ellipse: s-maj=34.2km s-min=13.3km az=69.0*

NEIC ***26*** *14:12:44.0, 48.95N×129.91W, h10^{km}, mb3.8/4, ML3.4(PGC), After PGC.*

ISC 26 14:12:44.5±1.5**, 49.15N**±0.04×**129.80W**±0.06**, h21^{km}**±18^{km}**, n61, σ1^{s}33**/74**, mb4.3**/1**, MS3.2**/3**, 1C, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.66	52	Pn	Pn	14 13 13.2	+0.3
BPBC				Sn	Sn	14 13 34.9	+1.1
	comp=Z,130nm,0.3s						
BPBC				Trac		14 13 40.0	
	comp=Z,130nm,0.3s						
HOLB	Holberg	1.84	35	Pn	Pn	14 13 15.9	+0.4
HOLB				Trac		14 13 44.9	
	comp=Z,62nm,0.4s						
EDB	Eliza Dome	1.89	66	Pn	Pn	14 13 15.8	-0.4
EDB				Sn	Sn	14 13 39.7	0.0
EDB				Trac		14 13 40.0	
	comp=Z,19nm,0.3s						
MAYB	Maynard	2.12	53	Pn	Pn	14 13 19.7	+0.3
MAYB				Sn	Sn	14 13 47.5	+2.1
	comp=Z,25nm,0.4s						
MAYB				Trac		14 13 56.7	
	comp=Z,25nm,0.4s						
ETB	Estevan Point	2.15	83	Pn	Pn	14 13 19.6	-0.3
PHC	Port Hardy	2.19	44	Pn	Pn	14 13 21.1	+0.6
PHC				Sn	Sn	14 13 48.0	+0.8
PHC				Trac		14 13 51.1	
	comp=Z,32nm,0.4s						
GDR	Gold River	2.54	74	Pn	Pn	14 13 24.9	-0.6
GDR				Sn	Sn	14 13 55.0	-1.1
	comp=Z,16nm,0.6s						
GDR				Trac		14 14 07.7	
	comp=Z,16nm,0.6s						
NCRB	Newcastle Ridg	2.73	61	Pn	Pn	14 13 29.1	+0.8
NCRB				Trac		14 14 10.5	
	comp=Z,61nm,0.9s						
BTB	Buttle Lake	2.82	82	⇑Pn	Pn	14 13 28.9	-0.5
BTB				Sn	Sn	14 14 04.8	+1.6
	comp=Z,29nm,0.5s						
BTB				Trac		14 14 11.4	
	comp=Z,29nm,0.5s						
OZB	Mount Ozzard	2.84	92	Pn	Pn	14 13 28.1	-1.6
OZB				Sn	Sn	14 14 01.3	-2.4
OZB				Trac		14 14 08.1	
	comp=Z,34nm,0.6s						
CBB	Campbell River	3.02	71	Pn	Pn	14 13 32.9	+0.6
CBB				Trac		14 14 12.4	
	comp=Z,9.0nm,0.4s						
BBB	Bella Bella	3.23	19	Pn	Pn	14 13 36.1	+0.9
	9.1nm,0.3s,baz=213,slow=14,SNR=67						
BBB				Sn	Sn	14 14 12.2	-1.2
	18nm,0.3s,baz=301,slow=23,SNR=9.2						
BBB	Bella Bella	3.23	19	Pn	Pn	14 13 36.0	+0.8
BBB				Sn	Sn	14 14 11.8	-1.6
BBB				Trac		14 14 15.2	
	comp=Z,35nm,0.3s						
ALB	Alberni	3.26	86	Pn	Pn	14 13 40.2	+4.5
ALB				Trac		14 14 22.6	
	comp=Z,4.0nm,0.3s						
MGB	Mount Grey	3.36	91	Pn	Pn	14 13 36.7	-0.5
MGB				Sn	Sn	14 14 13.2	-3.8
	comp=Z,7.0nm,0.4s						
MGB				Trac		14 14 18.7	
	comp=Z,7.0nm,0.4s						
TXB	Texada	3.55	79	Pn	Pn	14 13 39.8	+0.1
TXB				Sn	Sn	14 14 22.2	+0.6
	comp=Z,11nm,0.5s						
TXB				Trac		14 14 30.8	
	comp=Z,11nm,0.5s						
PFB	Port Renfrew	3.59	97	Trac		14 14 21.4	
	comp=Z,7.0nm,0.6s						
PFB	Port Renfrew	3.59	97	Sn	Sn	14 14 19.0	-3.6
BNB	Barry Inlet	3.65	341	Pn	Pn	14 13 39.3	-1.9
BNB				Sn	Sn	14 14 21.1	-3.0
	comp=Z,4.0nm,0.2s						
BNB				Trac		14 14 22.5	
	comp=Z,4.0nm,0.2s						
NLLB	Nanaimo Lost L	3.81	87	Pn	Pn	14 13 43.1	-0.4
NLLB				Sn	Sn	14 14 28.8	+0.4
NLLB				Trac		14 14 35.2	
	comp=Z,11nm,0.7s						
SHB	Sechelt	3.90	81	Pn	Pn	14 13 44.5	-0.3
SHB				Sn	Sn	14 14 28.9	-1.6
SHB				Trac		14 14 40.8	
	comp=Z,14nm,0.5s						
LZB	Mount Lazard	3.98	95	Pn	Pn	14 13 44.5	-1.5
LZB				Sn	Sn	14 14 30.6	-2.0
LZB				Trac		14 14 34.2	
	comp=Z,2.0nm,0.6s						
GOBB	Galiano Island	4.14	90	Pn	Pn	14 13 47.6	-0.6
PGC	Sidney	4.22	94	Trac		14 14 40.0	
	comp=Z,4.0nm,0.5s						
PGC	Sidney	4.22	94	eP	Pn	14 13 47.6	-1.7
BIB	Bowen Island	4.26	84	Pn	Pn	14 13 50.0	0.0
BIB				Sn	Sn	14 14 39.9	+0.2
	comp=Z,8.0nm,0.6s						
BIB				Trac		14 14 48.9	
	comp=Z,8.0nm,0.6s						
MOBC	Moresby Island	4.26	343	Pn	Pn	14 13 52.0	+2.0
MOBC				Sn	Sn	14 14 35.5	-4.2
MOBC				Trac		14 14 37.3	
	comp=Z,5.0nm,0.5s						
WPB	Watts Point	4.33	81	Pn	Pn	14 13 51.5	+0.5
WPB				Trac		14 14 52.9	
	comp=Z,5.0nm,0.5s						
SNB	Saturna Island	4.38	92	Pn	Pn	14 13 51.2	-0.5
VIB	Van Inlet	4.46	338	Pn	Pn	14 13 50.4	-2.3
VIB				Sn	Sn	14 14 39.4	-5.2
	comp=Z,3.0nm,0.2s						
VIB				Trac		14 14 41.0	
	comp=Z,3.0nm,0.2s						
WSLR	Whistler	4.58	75	Pn	Pn	14 13 56.2	+1.8
HNB	Haney	4.74	86	Pn	Pn	14 13 56.2	-0.4
HNB				Trac		14 14 54.6	
	comp=Z,6.0nm,0.3s						
VDB	Vedder Mountai	5.06	88	Pn	Pn	14 14 00.6	-0.7
LLLB	Lillooet	5.33	71	Pn	Pn	14 14 05.6	+0.6
LLLB				Trac		14 15 07.3	
	comp=Z,4.0nm,0.5s						
HOPB	Hope	5.49	84	Pn	Pn	14 14 07.5	+0.1
HOPB				Trac		14 15 49.2	
	comp=Z,7.0nm,0.4s						
RPW	Rockport	5.52	94	eP	Pn	14 14 07.3	-0.4
FSB	Fort Saint Jam	6.32	30	Pn	Pn	14 14 21.0	+2.0
HSO	Harness Mounta	7.29	138	P	Pn	14 14 31.6	-1.0
BMBC	Bull Mountain	8.33	31	Pn	P	14 14 49.1	+2.0
BMBC				Trac		14 16 31.6	
	comp=Z,4.0nm,0.6s						
NEW	Newport	8.44	91	Pn	P	14 14 48.6	0.0
	0.5nm,0.3s,baz=300,slow=14,SNR=2.6						
NEW				LR	LR	14 18 03.3	
	comp=Z,331nm,18.8s,baz=303,slow=38						
LNOR	Lincton Mounta	8.46	108	eP	P	14 14 45.6	-3.3
YBH	Yreka Blue Hor	8.93	143	Pn	P	14 14 57.3	+1.9
	0.1nm,0.3s,baz=335,slow=14,SNR=9.1						
DLBC	Dease Lake	9.31	359	Pn	P	14 14 59.6	-1.0
	baz=168,slow=20,SNR=2.1						
DLBC				LR	LR	14 18 56.1	
	comp=Z,77nm,20.1s,baz=11,slow=40						
WVOR	Wild Horse Val	10.28	127	eP	P	14 15 10.1	-3.9
HLID	Hailey	12.00	112	P	P	14 15 34.6	-2.8
NVAR	Mina Array Bea	13.54	138	Pn	P	14 15 59.7	+1.9
	0.0nm,0.3s,baz=310,slow=9.6,SNR=4.6						
NVAR	Mina Array Bea	13.54	138	Pn	P	14 15 59.7	+1.9
TPAW	Teton Pass	14.19	106	eP	P	14 16 08.3	+2.0
MOOW	Moose Ponds	14.19	105	P	P	14 16 13.8	+7.4
BW06	Boulder Array	15.44	107	P	P	14 16 23.6	+1.0
	1.2nm,0.8s						
PDAR	Pinedale Array	15.44	107	Pn	P	14 16 25.8	+3.2
	0.1nm,0.3s,baz=306,slow=12,SNR=5.2						
YKA	Yellowknife Ar	15.80	27	Pn	P	14 16 25.2	-2.0
	0.1nm,0.3s,baz=218,slow=10,SNR=2.5						
DAWY	Dawson	15.83	344	P	P	14 16 29.5	+2.0
FFC	Flin Flon	17.97	61	eP	P	14 16 55.1	+0.6
	6.2nm,0.6s						
ILAR	Eielson Array	18.11	336	P	P	14 16 57.1	+0.8
	0.1nm,0.3s,baz=151,slow=11,SNR=8.0						
ILAR				LR	LR	14 23 10.9	
	comp=Z,31nm,19.2s,baz=338,slow=35						
RSSD	Black Hills	18.35	96	eP	P	14 17 00.4	+1.0
	3.9nm,0.8s						
INK	Inuvik	19.31	356	LR	LR	14 24 44.4	
	comp=Z,88nm,18.3s,baz=82,slow=37						
SDCO	Great Sand Dun	20.91	114	P	P	14 17 29.2	+1.2
ULM	Lac du Bonnet	21.87	74	P	P	14 17 40.5	+2.9
	11nm,0.8s,mb4.3,baz=280,slow=11,SNR=10.0						
ULM				LR	LR	14 26 20.0	
	comp=Z,146nm,20.4s,MS3.4,baz=260,slow=37						
TXAR	Lajitas Array	28.07	125	LR	LR	14 31 02.5	
	comp=Z,19nm,19.4s,MS2.7,baz=5.0,slow=39						
SCHQ	Schefferville	38.02	57	LR	LR	14 36 08.5	
	comp=Z,98nm,19.3s,MS3.6,baz=74,slow=37						

IDC ***26*** *14:46:45.3±6.9, 7.58S×117.32E, h286^{km}±85^{km}, mb3.2/5, mb1 3.3/6, mb1mx3.2/15, Error ellipse: s-maj=92.9km s-min=20.1km az=51.0*

NEIC ***26*** *14:46:46.0±5.4, 7.59S×117.27E, h306^{km}±65^{km}, mb4.1/6, Error ellipse: s-maj=41.1km s-min=15.9km az=47.0*

DJA ***26*** *14:46:48.3±0.9, 8.47S×117.30E, h315^{km}±8^{km}, MD4.6/4, ML4.8/3, Error ellipse: s-maj=74.8km s-min=28.4km az=5.0*

ISC 26 14:46:45.5±0.7**, 7.6S**±0.2×**117.2E**±0.1**, h315^{km}**±12^{km}**, n18, σ1^{s}32**/25**, mb3.9**/7**, 3C-3D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.42	231	⇑iPn	P	14 47 31.9	+2.0
KEDI				eSn	S	14 48 03.6	-1.0
RATI	Rata	2.02	236	⇓ePn	P	14 47 35.1	+1.1
	396nm,0.2s						
RATI				⇓iSn	S	14 48 09.8	-2.1
INGI	Ingas	2.40	239	⇑iPn	P	14 47 38.7	+1.6
	1μm,0.2s						
INGI				⇓iSn	S	14 48 15.6	-1.9
KELI	Kelakatan	2.79	257	⇑iPn	P	14 47 44.5	+3.9
	214nm,0.2s						
KELI				eSn	S	14 48 25.1	+1.5
FITZ	Fitzroy Crossi	13.27	143	eP	P	14 49 44.9	+0.5
	0.9nm,0.4s						
FITZ				eS	S	14 52 16.0	+10
FITZ	Fitzroy Crossi	13.27	143	P	P	14 49 44.3	-0.1
	0.4nm,0.3s,baz=349,slow=12,SNR=13						
FITZ				S	S	14 52 13.3	+7.1
	0.1nm,0.3s,baz=174,slow=19,SNR=3.4						
KAKA	Kakadu	15.77	110	eP	P	14 50 10.7	-2.1
	3.9nm,0.5s						
KAKA				eS	S	14 52 59.2	+0.3
WRA	Warramunga Arr	20.63	128	P	P	14 51 02.2	0.0
	1.5nm,0.7s,baz=305,slow=11,SNR=38						
WRAB	Tennant Creek	20.63	128	eP	P	14 51 02.1	0.0
	3.7nm,0.8s						
WB2	Warramunga Arr	20.64	128	eP	P	14 51 02.4	+0.2
WB2				eS	S	14 55 04.2	+35
ASPA	Alice Springs	22.61	137	eP	P	14 51 22.4	+1.2
ASAR	Alice Springs	22.61	137	P	P	14 51 22.1	+0.9
	1.4nm,0.5s,mb3.5,baz=312,slow=8.8,SNR=52						
CTAO	Charters Tower	30.73	117	P	P	14 52 31.6	-2.6
	16nm,1.3s,mb4.4						
CMAR	Chiang Mai Arr	31.55	325	P	P	14 52 41.3	0.0
	0.7nm,0.6s,mb3.4,baz=150,slow=7.3,SNR=4.0						
ENH	Enshi	38.37	349	P	P	14 53 37.0	-1.6
	18nm,1.3s,mb4.3						
PALK	Pallekele	39.31	291	P	P	14 53 45.0	-1.4
	20nm,1.2s,mb4.4						
SONM	Songino Array	56.01	351	P	P	14 55 55.2	+1.3
	1.4nm,0.5s,mb3.7,baz=168,slow=8.8,SNR=16						
MKAR	Makanchi Array	62.42	334	P	P	14 56 38.1	+0.7
	0.7nm,0.6s,mb3.5,baz=149,slow=8.4,SNR=4.5						

GUC ***26*** *14:49:55.6±0.8, 28.61S×68.67W, h115^{km}, ML4.6*

NEIC ***26*** *14:49:55.6, 28.61S×68.67W, h115^{km}, mb4.1/3, After GUC.*

IDC ***26*** *14:49:56.2±4.7, 28.53S×68.45W, h103^{km}±37^{km}, mb3.8/2, mb1 3.7/4, mb1mx3.5/15, Error ellipse: s-maj=40.3km s-min=22.8km az=28.0*

ISC 26 14:49:54.0±0.5**, 28.62S**±0.03×**68.52W**±0.07**, h106^{km}**±11^{km}**, n22, σ0^{s}99**/31**, mb4.1**/4**, 4C-3D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.97	271	⇓iP	P	14 50 22.3	-4.6
VACH				i S	S	14 50 46.3	-5.2
VACH				AMP		14 50 50.5	
	comp=E,6μm,0.2s						
CPCH	Copiapo	2.05	307	⇓iP	P	14 50 28.7	+0.7
CPCH				i S	S	14 50 53.2	-0.2
CPCH				AMP		14 50 57.2	
	comp=E,8μm,0.1s						
TLL	Tololo Astrono	2.52	232	⇑iP	P	14 50 35.8	+1.4
TLL				i S	S	14 51 05.6	+0.9
TLL				AMP		14 51 15.7	
	comp=N,2μm,0.5s						
LSCH	La Serena	2.71	241	⇑iP	P	14 50 37.2	+0.3
LSCH				i S	S	14 51 07.9	-1.2
LSCH				AMP		14 51 11.4	
	comp=N,1μm,0.3s						
CMCH	Combarbala	3.34	220	⇓iP	P	14 50 45.4	0.0
CMCH				i S	S	14 51 24.1	-0.4
CMCH				AMP		14 51 31.5	
	comp=E,3μm,0.5s						
JACH	Jahuel	4.43	203	⇑iP	P	14 51 00.7	+0.3
JACH				i S	S	14 51 50.7	-0.4
FCH	Farellones	4.94	198	⇑iP	P	14 51 07.8	+0.6
FCH				i S	S	14 52 03.8	+0.2
PCH	Pirque	5.27	198	eP	P	14 51 11.2	-0.5
PCH				i S	S	14 52 09.3	-2.5
LMEL	Las Melosas	5.41	195	eP	P	14 51 14.7	+1.1
LMEL				i S	S	14 52 15.1	0.0
LVC	Limon Verde	5.99	357	P	P	14 51 23.1	+1.5
	comp=E,3.0nm,0.3s,baz=197,slow=9.9,SNR=57						
LVC				S	S	14 52 27.6	-1.8
	comp=E,3.7nm,0.3s,baz=197,slow=12,SNR=7.0						
LVC	Limon Verde	5.99	357	ePn	P	14 51 22.6	+1.0
LVC				P		14 51 23.1	
LVC				S	S	14 52 27.6	-1.8
CPUP	Villa Florida	10.19	80	P	P	14 52 18.1	-0.5
	comp=E,0.5nm,0.3s,baz=277,slow=12,SNR=11						
CPUP				S	S	14 54 11.6	+0.1
	comp=E,1.0nm,0.3s,baz=39,slow=19,SNR=3.4						
TRQA	Tornquist	10.88	152	ePn	P	14 52 26.2	-1.4
PLCA	Paso Flores	12.20	187	eP	P	14 52 49.1	+4.0
SAML	Samuel	20.20	15	eP	P	14 54 22.9	+0.4
	comp=E,2.0nm,0.5s						
BDFB	Brasilia	22.92	60	P	P	14 54 50.5	+1.0
	comp=E,1.9nm,0.4s,mb3.7,baz=229,slow=8.7,SNR=2.9						
SDV	Santo Domingo	37.34	357	P	P	14 56 56.0	-1.9
	comp=E,4.9nm,0.9s,mb4.4						
QSPA	South Pole Qui	61.60	180	P	P	15 00 03.3	+1.3
	comp=E,2.3nm,0.9s,mb4.2						
QSPA				e	pP	15 00 30.6	+2.3
DBIC	Dimbokro	70.58	71	P	P	15 00 59.9	-0.1
	comp=E,2.8nm,0.8s,mb4.1,baz=200,slow=8.5,SNR=4.5						
ASAR	Alice Springs	123.71	205	PKP	PKPdf	15 08 41.8	+2.0
	comp=E,0.1nm,0.4s,baz=142,slow=1.9,SNR=7.1						
WRA	Warramunga Arr	126.91	207	PKP	PKPdf	15 08 48.3	+2.3
	comp=E,0.3nm,0.5s,baz=160,slow=1.8,SNR=16						
WRA				pPKP		15 09 17.5	
	comp=E,0.4nm,0.6s,baz=161,slow=1.7,SNR=2.8						
MKAR	Makanchi Array	150.87	44	PKPbc	PKPdf	15 09 37.1	+9.2
	comp=E,2.9nm,0.7s,baz=308,slow=2.4,SNR=24						
MKAR				pPKPbc		15 10 06.2	
	comp=E,2.2nm,0.9s,baz=315,slow=1.7,SNR=4.3						

JMA ***26*** *15:00:32.4±0.2, 24.23N×121.79E, h81^{km}, M2.4*

TAP 26 15:00:33.9, 24.24N×121.72E, h45^{km}±1^{km}**, ML3.1, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.20	79	P	P	15 00 53.3	-1.2
YOJ				eS	S	15 01 09.2	-0.7
IRIF	Iriomote-Funau	1.84	87	P	P	15 01 01.8	-1.8
IRIF				eS	S	15 01 23.3	-2.4
JKRS	Kuro-shima	2.09	90	eS	S	15 01 30.7	-1.4
JIJ	Ishigaki jima	2.21	86	P	P	15 01 07.0	-2.0
JIJ				S	S	15 01 32.0	-3.3
JTJ	Tarama	2.75	81	eS	S	15 01 46.8	-2.0

NEIC ***26*** *15:44:39.3, 38.78N×22.03E, h5^{km}, MD3.2(ATH), ML3.0(THE), After ATH.*

ATH ***26*** *15:44:39.2, 38.78N×22.03E, h5^{km}, MD3.2/4*

THE ***26*** *15:44:43.1, 38.97N×21.89E, h11^{km}, ML2.8*

ISC 26 15:44:41.7±0.7**, 38.89N**±0.05×**21.89E**±0.04**, h12^{km}**±4^{km}**, n13, σ0^{s}75**/19**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.07	292	⇓iPG	Pg	15 44 43.0	-1.3
EVR				eSG	Sg	15 44 47.3	+1.3
AGG	Agios Georgios	0.37	69	ePg	Pg	15 44 49.0	-0.4
AGG				eSg	Sg	15 44 55.3	+0.9
LKD	Levkas	0.99	260	ePg	Pg	15 45 01.5	0.0
	comp=Z,7.8nm,0.3s						
MEV	Metsovon	1.03	330	ePg	Pg	15 45 01.8	-0.6
MEV				eSg	Sg	15 45 15.2	-1.0
JAN	Janina	1.11	314	ePB	Pb	15 45 03.3	+0.9
XOR	Xorichti	1.12	64	ePg	Pg	15 45 04.1	-0.1
XOR				eSg	Sg	15 45 19.2	+0.1
VLS	Valsamata	1.24	235	ePB	Pb	15 45 04.0	-0.7
LIT	Litokhoron	1.29	21	ePb	Pb	15 45 05.5	0.0
	comp=Z,3.7nm,0.3s						
LIT				eSb	Sb	15 45 21.8	-0.2
IGT	Igoumenitsa	1.37	298	ePb	Pb	15 45 06.5	-0.3
IGT				eSb	Sb	15 45 25.2	+1.1
AOS	Alonnisos	1.57	79	ePb	Pb	15 45 10.3	0.0
KEK	Kerkira	1.82	297	ePN	Pn	15 45 16.5	+3.3
KEK	Kerkira	1.82	297	ePn	Pn	15 45 17.5	+4.3
OUR	Ouranopolis	2.17	48	ePn	Pn	15 45 17.9	-0.2

NIED ***26*** *15:52:00, 46.20N×151.90E, h80^{km}, Mw4.2 Best double couple: $M_0 2.35\times10^{15}$ NP1:ϕ_s242°, δ71°, λ62°. NP2:ϕ_s120°, δ33°, λ144°.*

SKHL ***26*** *15:52:22.9±1.9, 46.26N×152.21E, h70^{km}±30^{km}, mb5.5/3*

MOS ***26*** *15:52:23.2±1.4, 46.31N×151.98E, h86^{km}, mb4.0/12, Error*

ellipse: s-maj=16.5km s-min=11.3km az=61.1

*IDC **26** 15:52:24.8±0.8, 46.40N×151.68E, h75km±7km, mb3.7/14, mb1 3.9/16, mb1mx3.8/23, Error ellipse: s-maj=20.0km s-min=14.1km az=123.0*

*NEIC **26** 15:52:25.0±1.4, 46.37N×152.00E, h77km±10km, mb4.6/17, Error ellipse: s-maj=16.8km s-min=8.6km az=158.0*

ISC 26 15:52:22.1±1.0**, 46.26N**±0.08×**152.06E**±0.08**, h68**km±8km**, h74**km±4.4km**: pP-P, n79, σ1§13**/87**, mb4.3**/36**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.11**	**252**	*e*P	**P**	**15 53 11.0**	**+1.0**
KUR				AMB	AMB	15 53 14.0	
	82nm,0.4s						
KUR				AMB	AMB	15 53 14.0	
	244nm,0.4s						
KUR				*e*S	**S**	**15 53 45.5**	**-0.6**
KUR				A		15 53 49.0	
	1μm,0.5s						
KUR				A		15 53 49.0	
	684nm,0.5s						
KUR	**Kuril'sk**	**3.11**	**252**	*e*PN	**P**	**15 53 11.0**	**+1.0**
KUR				*e*S	**S**	**15 53 45.5**	**-0.6**
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				pmax	pmax		
	comp=Z,240nm,0.4s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.92**	**245**	*e*P	**P**	**15 53 34.2**	**-1.0**
YUK				AMB	AMB	15 53 44.4	
	comp=E,430nm,0.2s						
YUK				*e*S	**S**	**15 54 27.0**	**-4.4**
YUK				A		15 54 36.8	
	comp=E,530nm,0.5s						
YUK				A		15 54 36.8	
	comp=E,390nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.92**	**245**	*e*PN	**P**	**15 53 34.2**	**-1.0**
YUK				*e*S	**S**	**15 54 27.0**	**-4.4**
YUK				pmax	pmax		
	comp=Z,430nm,0.2s						
YUK				smax			
	comp=N,530nm,0.5s						
YUK				smax			
	comp=E,390nm,0.5s						
SKR	**Severo-Kuril's**	**5.19**	**30**	*e*P	**P**	**15 53 36.0**	**-2.9**
SKR				AMB	AMB	15 53 38.2	
	comp=E,90nm,0.4s						
SKR				AMB	AMB	15 53 38.2	
	comp=E,70nm,0.4s						
SKR				AMB	AMB	15 53 38.2	
	comp=E,170nm,0.4s						
SKR				*e*S	**S**	**15 54 32.5**	**-5.6**
SKR				A		15 54 39.0	
	comp=E,120nm,0.2s						
SKR				A		15 54 39.0	
	comp=E,140nm,0.2s						
SKR				A		15 54 39.0	
	comp=E,70nm,0.4s						
SKR	**Severo-Kuril's**	**5.19**	**30**	*e*PN	**P**	**15 53 36.0**	**-2.9**
SKR				*e*S	**S**	**15 54 32.5**	**-5.6**
SKR				pmax	pmax		
	comp=N,90nm,0.4s						
SKR				pmax	pmax		
	comp=E,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,170nm,0.4s						
SKR				smax			
	comp=N,120nm,0.2s						
SKR				smax			
	comp=E,140nm,0.2s						
YSS	**Yuzh-Sakhalins**	**6.45**	**280**	⇓*i*P	**P**	**15 53 58.0**	**+1.5**
YSS				*e*S	**S**	**15 55 10.0**	**+0.5**
YSS				A		15 55 11.0	
	comp=E,40nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.45**	**280**	*e*Pn	**P**	**15 53 58.0**	**+1.5**
	comp=E,14nm,0.6s						
ASAJ	**Asahikawa**	**7.02**	**256**	P	**P**	**15 54 05.8**	**+1.3**
	comp=E,1.4nm,0.3s,baz=72,slow=22,SNR=9.4						
ASAJ	**Asahikawa**	**7.02**	**256**	PN	**P**	**15 54 05.8**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TYV	**Tymovskoe**	**7.76**	**310**	*e*P	**P**	**15 54 16.0**	**+1.4**
PET	**Petropavlovsk**	**8.01**	**30**	*e*Pn	**P**	**15 54 14.7**	**-3.3**
PET				*e*Sn	**S**	**15 55 36.2**	**-12**
MA2	**Magadan**	**13.37**	**357**	*d i*PN	**P**	**15 55 31.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**13.37**	**357**	*e*P	**P**	**15 55 31.5**	**+1.4**
	comp=Z,24nm,0.6s						
FX1	**Attu Island--F**	**15.18**	**56**	P	**P**	**15 55 55.2**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=322,slow=8.6,SNR=9.4						
FX1				S	**S**	**15 58 30.2**	**-10**
	comp=Z,1.2nm,0.3s,baz=80,slow=14,SNR=4.9						
YAK	**Yakutsk**	**20.36**	**329**	*e*P	**P**	**15 56 58.9**	**+3.8**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK	**Yakutsk**	**20.36**	**329**	P	**P**	**15 56 51.4**	**-3.7**
	comp=Z,45nm,0.8s						
SML	**Sawmill**	**36.83**	**43**	*e*P	**P**	**15 59 24.4**	**-0.5**
ILAR	**Eielson Array**	**37.39**	**38**	P	**P**	**15 59 29.4**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=261,slow=8.6,SNR=3.6						
ILAR	**Eielson Array**	**37.39**	**38**	P	**P**	**15 59 29.5**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**42.46**	**32**	P	**P**	**16 00 12.1**	**+0.8**
	comp=Z,3.7nm,1.0s,mb4.1,baz=285,slow=5.0						
INK	**Inuvik**	**42.46**	**32**	P	**P**	**16 00 12.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
INK	**Inuvik**	**42.46**	**32**	*e*P	**P**	**16 00 11.4**	**+0.1**
	comp=Z,2.1nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**16 00 41.8**	**-2.4**
	comp=Z,0.8nm,0.8s,mb3.5,baz=56,slow=8.0,SNR=6.6						
MKAR				PcP	PcP	16 02 17.1	-0.9
	comp=Z,0.3nm,0.5s,baz=71,slow=5.5,SNR=4.3						
MKAR				ScP		16 06 02.8	
	comp=Z,0.1nm,0.5s,baz=56,slow=5.2,SNR=3.7						
LSA	**Lhasa**	**49.57**	**273**	P	**P**	**16 01 09.0**	**+0.8**
	comp=Z,4.2nm,0.6s,mb4.5						
CMAR	**Chiang Mai Arr**	**51.55**	**256**	P	**P**	**16 01 22.1**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=36,slow=8.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**51.55**	**256**	P	**P**	**16 01 22.1**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKN	**Kakani**	**54.81**	**275**	*e*P	**P**	**16 01 46.4**	**-0.9**
	comp=Z,13nm,0.7s,mb5.1						
PKI	**Pulchoki**	**54.86**	**275**	*e*P	**P**	**16 01 46.3**	**-1.3**
ARU	**Arti**	**54.88**	**317**	P	**P**	**16 01 53.0**	**+5.6**
	comp=Z,6.5nm,0.7s,mb4.8						
DMN	**Daman**	**55.04**	**275**	*e*P	**P**	**16 01 47.6**	**-1.4**
	comp=Z,6.3nm,0.4s,mb5.0						
GKN	**Gorkha**	**55.12**	**276**	*e*P	**P**	**16 01 48.6**	**-0.9**
	comp=Z,21nm,0.8s,mb5.2						
PMG	**Port Moresby**	**55.58**	**186**	P	**P**	**16 01 43.9**	**-9.1**
	comp=Z,23nm,1.0s,mb5.2						
KOLN	**Koldanda**	**55.98**	**276**	*e*P	**P**	**16 01 55.1**	**-0.6**
	comp=Z,18nm,0.6s,mb5.2						
ARCES	**ARCESS Array B**	**58.08**	**341**	P	**P**	**16 02 08.4**	**-1.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=41,slow=8.3,SNR=6.4						
ARCES				PcP	PcP	16 02 59.9	-1.0
	comp=Z,1.7nm,0.8s,baz=45,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**58.08**	**341**	P	**P**	**16 02 08.4**	**-1.6**
ARCES						16 02 59.9	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SUMG	**Summit**	**61.24**	**4**	*e*P	**P**	**16 02 30.8**	**-0.9**
	comp=Z,10nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**63.31**	**62**	P	**P**	**16 02 47.5**	**+1.6**
	comp=Z,1.0nm,1.0s,mb3.7,baz=297,slow=6.0,SNR=2.4						
NVAR				pP	pP	16 03 05.1	+1.1
	comp=Z,0.3nm,0.5s,baz=296,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**64.18**	**334**	P	**P**	**16 02 48.3**	**-2.8**
	comp=Z,1.0nm,0.4s,mb4.0,baz=61,slow=5.7,SNR=14						
FINES	**FINESS Array B**	**64.18**	**334**	P	**P**	**16 02 48.3**	**-2.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**65.63**	**53**	P	**P**	**16 03 02.0**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.4,baz=315,slow=3.8,SNR=2.5						
PDAR				pP	pP	16 03 21.6	+2.6
	comp=Z,0.2nm,0.7s,baz=259,slow=32,SNR=1.4						
WRA	**Warramunga Arr**	**67.81**	**198**	P	**P**	**16 03 14.4**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.7,baz=20,slow=7.0,SNR=7.1						
WRA				pP	pP	16 03 35.5	+2.2
	comp=Z,0.6nm,0.8s,baz=13,slow=6.8,SNR=7.4						
WRA	**Warramunga Arr**	**67.81**	**198**	P	**P**	**16 03 14.4**	**-0.5**
WRA				*PP	pP	16 03 35.5	+2.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.46**	**341**	P	**P**	**16 03 16.5**	**-1.8**
	comp=N,1.4nm,0.5s,mb4.0,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.46**	**341**	P	**P**	**16 03 16.9**	**-1.4**
	comp=N,1.3nm,0.4s,mb4.1,baz=28,slow=6.4,SNR=8.6						
NOA	**NORSAR Array B**	**68.46**	**341**	P	**P**	**16 03 16.9**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.51**	**198**	P	**P**	**16 03 37.6**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.5,baz=17,slow=5.2,SNR=11						
AKASG	**Malin Array Be**	**71.55**	**326**	P	**P**	**16 03 34.9**	**-2.3**
	comp=Z,1.0nm,0.3s,mb4.1,baz=36,slow=6.1,SNR=8.1						
AKASG	**Malin Array Be**	**71.55**	**326**	P	**P**	**16 03 34.9**	**-2.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SCHQ	**Schefferville**	**74.05**	**22**	P	**P**	**16 03 53.2**	**+1.5**
	comp=Z,3.7nm,0.8s,mb4.2,baz=163,slow=4.2,SNR=3.0						
SCHQ	**Schefferville**	**74.05**	**22**	P	**P**	**16 03 52.9**	**+1.1**
	comp=Z,8.2nm,0.9s,mb4.5						
MORC	**Moravsky Berou**	**76.53**	**332**	*e*P	**P**	**16 04 05.1**	**-0.9**
	comp=Z,3.9nm,1.0s,mb4.1						
MALT	**Malatya**	**76.95**	**312**	*e*P	**P**	**16 04 09.2**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**78.25**	**316**	P	**P**	**16 04 15.6**	**-0.1**
	comp=Z,3.5nm,1.1s,mb4.0,baz=74,slow=3.8,SNR=6.4						
BRTR	**Keskin Array B**	**78.25**	**316**	P	**P**	**16 04 15.6**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
UMR	**Umm Al-Rimmam**	**78.26**	**300**	*e*P	**P**	**16 04 16.2**	**+0.2**
UMR				AMb	AMB	16 04 16.6	
	comp=Z,18nm,0.4s,mb5.2						
KBD	**Kabd**	**78.54**	**300**	*e*P	**P**	**16 04 18.4**	**+0.8**
GERES	**GERESS Array B**	**78.58**	**333**	P	**P**	**16 04 17.1**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=59,slow=7.8,SNR=6.8						
GERES	**GERESS Array B**	**78.58**	**333**	P	**P**	**16 04 17.1**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RST	**Umm Al-Ruwaisa**	**78.72**	**301**	*e*P	**P**	**16 04 18.7**	**+0.1**
RST				AMb	AMB	16 04 19.9	
	comp=Z,14nm,0.6s,mb5.0						
RDF	**Al-Radifah**	**78.81**	**300**	*e*P	**P**	**16 04 19.7**	**+0.6**
RDF				AMb	AMB	16 04 21.1	
	comp=Z,18nm,0.6s,mb5.1						
CDF	**Champ du Feu**	**80.84**	**337**	*e*P	**P**	**16 04 29.5**	**0.0**
	comp=Z,13nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**81.34**	**339**	*e*P	**P**	**16 04 32.5**	**+0.4**
HAU	**Haudompre**	**81.46**	**338**	*e*P	**P**	**16 04 32.6**	**-0.2**
FLN	**La Foliniere**	**82.39**	**342**	*e*P	**P**	**16 04 37.7**	**+0.1**
LDF	**La Druitiere**	**82.47**	**342**	*e*P	**P**	**16 04 38.0**	**0.0**
LOR	**Lormes**	**82.78**	**339**	*e*P	**P**	**16 04 39.8**	**+0.2**
	comp=Z,14nm,0.7s,mb4.6						
CABF	**La Chapelle**	**82.81**	**337**	*e*P	**P**	**16 04 40.2**	**+0.5**
GRR	**Gorron**	**82.82**	**342**	*e*P	**P**	**16 04 40.3**	**+0.5**
SSF	**Saint Saulge**	**83.06**	**339**	*e*P	**P**	**16 04 41.4**	**+0.4**
	comp=Z,6.8nm,0.7s,mb4.3						
SGMF	**Saint Gilles**	**83.30**	**343**	*e*P	**P**	**16 04 42.0**	**-0.2**
	comp=Z,4.2nm,0.4s,mb4.3						
AVF	**Avril sur Loir**	**83.35**	**339**	*e*P	**P**	**16 04 43.0**	**+0.5**
	comp=Z,8.4nm,0.6s,mb4.4						
ROSF	**Rostrenen**	**83.36**	**344**	*e*P	**P**	**16 04 42.8**	**+0.3**
SMF	**Signal de Mont**	**83.37**	**339**	*e*P	**P**	**16 04 43.0**	**+0.4**
	comp=Z,23nm,1.1s,mb4.6						
TCF	**Toulx Ste Croi**	**84.10**	**340**	*e*P	**P**	**16 04 47.2**	**+1.0**
	comp=Z,5.8nm,0.8s,mb4.2						
ORIF	**Oris-en-Rattie**	**84.43**	**337**	*e*P	**P**	**16 04 49.0**	**+1.2**
	comp=Z,10nm,0.6s,mb4.6						
RJF	**Les Rejaudoux**	**85.19**	**340**	*e*P	**P**	**16 04 52.8**	**+1.1**
CAF	**Calviac**	**85.42**	**339**	*e*P	**P**	**16 04 54.1**	**+1.3**
PLCA	**Paso Flores**	**148.88**	**95**	PKPbc	PKPdf	16 12 03.8	+6.4
	comp=Z,1.6nm,0.6s,baz=147,slow=3.3,SNR=4.5						

CASC 26 15:57:59.9±1.4**, 13.48N×90.08W, h48**km±12km**, MD3.5, ML3.6, 4C-11D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSS	**Cusmapa**	**0.45**	**17**	⇓*e*P	P	15 58 10.3	-0.1
CUSS				*e*S	S	15 58 19.1	+1.0
SBLS	**San Blas**	**0.57**	**51**	⇓*e*P	P	15 58 12.1	+0.1
SBLS				*e*S	S	15 58 22.0	+1.3
RTR	**El Retiro**	**0.59**	**45**	⇓*e*P	P	15 58 12.6	+0.3
RTR				*e*S	S	15 58 22.9	+1.7
SNJE	**San Jose**	**0.60**	**50**	⇓*e*P	P	15 58 12.5	+0.1
SNJE				*e*S	S	15 58 22.3	+0.8
RBDL	**Robledal**	**0.74**	**31**	*e*P	P	15 58 14.2	0.0
IXG	**Ixpaco**	**0.79**	**332**	⇓*e*P	P	15 58 14.3	-0.4
IXG				*e*S	S	15 58 26.4	+0.7
IXG				AML	AML	15 58 28.3	
	comp=N,5μm,0.3s						
BOQS	**Boqueron**	**0.82**	**72**	⇓*e*P	P	15 58 15.2	0.0
BOQS				*e*S	S	15 58 27.4	+0.9
SNET	**Serv Nac Est T**	**0.85**	**76**	⇓*e*P	P	15 58 15.8	+0.1
SNET				*e*S	S	15 58 28.0	+0.7
SNET				*i*		15 58 33.9	
	comp=Z,1μm,0.3s						
LFU	**La Fuente**	**0.98**	**74**	⇑*e*P	P	15 58 17.3	-0.2
LFU				*e*S	S	15 58 31.6	+1.1
LFRS	**El Faro**	**1.00**	**81**	⇑*e*P	P	15 58 17.5	-0.2
LFRS				*e*S	S	15 58 31.9	+0.8
LBRS	**Las Brisas**	**1.04**	**75**	⇓*e*P	P	15 58 18.8	+0.5
LBRS				*e*S	S	15 58 32.9	+0.9
LCBS	**La Ceiba**	**1.09**	**80**	⇑*e*P	P	15 58 18.8	-0.2
LCBS				*e*S	S	15 58 33.7	+0.6
NBG	**Las Nubes**	**1.14**	**347**	⇓*e*P	P	15 58 20.1	+0.5
NBG				*e*S	S	15 58 36.7	+2.4
NBG				AML	AML	15 58 38.1	
	comp=E,2μm,0.6s						
MTO2	**Montecristo 2**	**1.15**	**37**	⇓*e*P	P	15 58 19.5	-0.4
MTO2				*e*S	S	15 58 34.9	+0.1
SNVI	**San Vicente**	**1.22**	**83**	*e*P	P	15 58 20.6	-0.2
SNVI				*e*S	S	15 58 37.1	+0.7
FUG	**Fuego 3**	**1.22**	**323**	⇑*e*P	P	15 58 20.7	-0.2
FUG				*e*S	S	15 58 36.7	+0.3
TP2	**Tecpan 2**	**1.59**	**325**	*e*P	P	15 58 27.0	+0.9
TP2				*e*S	S	15 58 47.7	+2.0
TP2				AML	AML	15 58 49.4	
	comp=E,236nm,0.3s						
MRL	**Marmol**	**1.63**	**13**	⇓*e*P	P	15 58 26.6	-0.1
JAT	**Jato**	**1.73**	**299**	*e*S	S	15 58 50.6	+1.6
CNCH	**Conchagua**	**2.19**	**95**	*e*P	P	15 58 33.6	-1.1
CNCH				*e*S	S	15 59 01.9	+1.2

IDC 26 15:58:40.0±27.0**, 16.57S×171.42W, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.9**/17**, MS4.1**/1**, Ms1 4.1**/1**, ms1mx3.0**/26**, Error ellipse: s-maj=551.0km s-min=166.5km az=87.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**30.88**	**205**	LR	LR	16 16 09.6	
	comp=Z,333nm,20.6s,baz=31,slow=34						
STKA	**Stephens Creek**	**45.12**	**241**	P	P	16 06 59.1	-1.1
	0.8nm,0.7s,baz=84,slow=8.6,SNR=3.5						
WB2	**Warramunga Arr**	**51.43**	**257**	*e*P	P	16 07 47.3	-2.0
WRA	**Warramunga Arr**	**51.44**	**257**	P	P	16 07 47.1	-2.3
	0.5nm,0.4s,baz=97,slow=7.0,SNR=24						
ASAR	**Alice Springs**	**51.57**	**253**	P	P	16 07 48.4	-1.9
	1.8nm,0.5s,baz=90,slow=8.0,SNR=43						
FITZ	**Fitzroy Crossi**	**59.84**	**258**	P	P	16 08 47.4	-2.6
	4.7nm,1.4s,baz=268,slow=6.9,SNR=2.8						

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*TAP **26** 16:00:52.4, 23.93N×121.80E, h15km, ML3.8*

TAP Felt I J at Hualien, I J at Shilin.

*JMA **26** 16:00:53.1±0.3, 24.18N×121.75E, h79km, M2.9*

ISC 26 16:00:52.9±0.4**, 23.91N**±0.02×**121.84E**±0.02**, h20**km±4km**, n50, σ0§79**/84**, 10C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.23**	**287**	P	**Pb**	**16 00 58.2**	**-0.3**
HWA				S	**Sb**	**16 01 01.6**	**-0.7**
TWD	**Chiawan**	**0.28**	**307**	⇓*i*P	**Pb**	**16 00 58.7**	**-0.6**
TWD				S	**Sb**	**16 01 02.8**	**-0.9**
ESL	**Shilin**	**0.39**	**256**	⇑*i*P	**Pb**	**16 01 00.3**	**-0.7**
ESL				S	**Sb**	**16 01 06.3**	**-0.2**
ENA	**Nanau**	**0.52**	**350**	*e*P	**Pb**	**16 01 02.9**	**-0.4**
ENA				S	**Sb**	**16 01 10.3**	**0.0**
EHY	**Hungye**	**0.63**	**230**	⇑P	**Pb**	**16 01 04.3**	**-0.7**
NNS	**Nan Shan**	**0.68**	**321**	⇑P	**Pb**	**16 01 05.1**	**-0.8**
NNS				S	**Sb**	**16 01 13.8**	**-1.1**
TWC	**Suao**	**0.69**	**0**	P	**Pb**	**16 01 06.3**	**+0.1**
TWC				S	**Sb**	**16 01 16.6**	**+1.3**
TWF1	**Yuli**	**0.75**	**222**	⇑P	**Pb**	**16 01 06.3**	**-0.8**
TWF1				S	**Sb**	**16 01 17.4**	**+0.5**
ENTT	**Nioudou**	**0.77**	**341**	*e*P	**Pb**	**16 01 06.8**	**-0.6**
TWE	**Neicheng**	**0.82**	**349**	*e*P	**Pb**	**16 01 08.2**	**-0.2**
ILA	**Ilan**	**0.85**	**354**	*e*P	**Pb**	**16 01 09.4**	**+0.4**
TYC	**Yuchr**	**0.90**	**270**	⇑*i*P	**Pb**	**16 01 08.8**	**-1.0**
TYC				S	**Sb**	**16 01 19.8**	**-1.5**
YUS	**Yu-Shan**	**0.92**	**243**	⇑P	**Pb**	**16 01 09.8**	**-0.2**
YUS				S	**Sb**	**16 01 21.7**	**-0.1**
CHKT	**Chengkung**	**0.92**	**209**	*e*P	**Pb**	**16 01 10.1**	**+0.1**
ALS	**Alishan**	**1.03**	**247**	⇑*i*P	**Pb**	**16 01 11.8**	**-0.2**
ALS				S	**Sb**	**16 01 25.0**	**-0.1**
ELDTW	**Lidau**	**1.04**	**227**	*e*P	**Pb**	**16 01 11.0**	**-1.1**
NSTT	**Nanjuang**	**1.05**	**313**	*e*P	**Pb**	**16 01 11.7**	**-0.6**
NSTT				S	**Sb**	**16 01 24.6**	**-1.0**
WNT	**Mingjian**	**1.06**	**268**	*e*P	**Pb**	**16 01 12.2**	**-0.2**
WNT				S	**Sb**	**16 01 26.5**	**+0.6**
TWA	**Mucha**	**1.09**	**347**	*e*P	**Pb**	**16 01 12.9**	**-0.1**
TCU	**Taichung**	**1.09**	**283**	*e*P	**Pb**	**16 01 12.8**	**-0.2**
TCU				S	**Sb**	**16 01 28.5**	**+1.7**
TWB1	**Santiao Chiao**	**1.10**	**7**	*e*P	**Pb**	**16 01 13.8**	**+0.7**
TWB1				S	**Sb**	**16 01 28.3**	**+1.3**
NSY	**Sanyi**	**1.11**	**297**	*e*P	**Pb**	**16 01 13.2**	**0.0**
NSY				S	**Sb**	**16 01 27.6**	**+0.4**
CHN5	**Tsauling**	**1.11**	**254**	⇑*i*P	**Pb**	**16 01 13.3**	**0.0**
CHN5				S	**Sb**	**16 01 28.1**	**+0.8**
NWF	**Wu-fen Shan**	**1.16**	**357**	*e*P	**Pb**	**16 01 14.2**	**+0.1**
NWF				S	**Sb**	**16 01 30.2**	**+1.5**
TAP1	**Taipei**	**1.16**	**345**	*e*P	**Pb**	**16 01 13.5**	**-0.6**
TAP	**Taipei**	**1.17**	**345**	*e*P	**Pb**	**16 01 14.2**	**+0.1**
TAP				S	**Sb**	**16 01 29.0**	**+0.1**
HSN	**Hsinchu**	**1.19**	**318**	*e*P	**Pb**	**16 01 14.8**	**+0.2**
HSN				S	**Sb**	**16 01 30.2**	**+0.5**
WGK	**Gukeng**	**1.20**	**259**	*e*P	**Pb**	**16 01 14.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.20**	**63**	P	**Pb**	**16 01 14.6**	**-0.2**
YOJ				*e*S	**Sb**	**16 01 30.7**	**+0.8**
NCU	**National Centr**	**1.21**	**331**	*e*P	**Pb**	**16 01 15.0**	**0.0**
NCU				S	**Sb**	**16 01 30.6**	**+0.4**
STYT	**Tauyuan**	**1.25**	**233**	⇑P	**Pb**	**16 01 14.8**	**-0.7**
STYT				S	**Sb**	**16 01 32.5**	**+1.2**
TWS1	**Kuangyinshan**	**1.25**	**342**	*e*P	**Pn**	**16 01 14.6**	**-0.8**
TWS1				S	**Sb**	**16 01 32.1**	**+0.9**
TWG	**Pinlang**	**1.30**	**213**	*e*P	**Pn**	**16 01 14.3**	**-1.8**
WTP	**Ta-pu**	**1.31**	**240**	⇑P	**Pn**	**16 01 16.3**	**0.0**
WTP				S	**Sb**	**16 01 34.1**	**+1.0**
TWY	**Chenhua**	**1.38**	**351**	*e*P	**Pn**	**16 01 16.8**	**-0.4**
CHN1	**Nanshi**	**1.41**	**239**	*e*P	**Pn**	**16 01 17.7**	**0.0**
CHN1				S	**Sb**	**16 01 37.2**	**+1.3**
SGST	**Jiashian**	**1.42**	**235**	*e*P	**Pn**	**16 01 18.4**	**+0.5**
SGST				S	**Sb**	**16 01 37.6**	**+1.3**
WTCT	**Ta-ch'eng**	**1.43**	**268**	*e*P	**Pn**	**16 01 17.5**	**-0.5**
WTCT				S	**Sb**	**16 01 37.3**	**+0.7**
WSF	**Szhu**	**1.51**	**260**	*e*P	**Pn**	**16 01 19.2**	**0.0**
WSF				S	**Sn**	**16 01 39.7**	**+1.3**
CHN8	**Yiju**	**1.60**	**250**	*e*P	**Pn**	**16 01 20.2**	**-0.2**
CHN8				S	**Sn**	**16 01 41.0**	**+0.3**
SSD	**Sandimen**	**1.61**	**224**	*e*P	**Pn**	**16 01 21.4**	**+0.8**
TWM1	**Shoushan**	**1.70**	**231**	*e*P	**Pn**	**16 01 23.6**	**+1.8**
IRIF	**Iriomote-Funau**	**1.77**	**76**	P	**Pn**	**16 01 22.9**	**0.0**
IRIF				S	**Sn**	**16 01 45.4**	**+0.3**
EAST	**Anshuo**	**1.78**	**211**	*e*P	**Pn**	**16 01 23.5**	**+0.6**
SCZT	**Fangliau**	**1.90**	**217**	*e*P	**Pn**	**16 01 25.9**	**+1.1**
JKRS	**Kuro-shima**	**2.01**	**80**	P	**Pn**	**16 01 26.6**	**+0.3**
JKRS				S	**Sn**	**16 01 52.3**	**+1.3**
WDGT	**Dungji**	**2.11**	**253**	*e*P	**Pn**	**16 01 26.6**	**-1.1**
PNG	**Penghu**	**2.12**	**261**	*e*P	**Pn**	**16 01 26.7**	**-1.3**
PNG				S	**Sn**	**16 01 52.5**	**-1.5**
JIJ	**Ishigaki jima**	**2.15**	**77**	P	**Pn**	**16 01 27.7**	**-0.6**
JIJ				*e*S	**Sn**	**16 01 53.3**	**-1.3**
JTJ	**Tarama**	**2.71**	**74**	P	**Pn**	**16 01 36.0**	**-0.3**
JTJ				*e*S	**Sn**	**16 02 08.2**	**-0.6**

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*IDC **26** 16:05:51.7±1.7, 2.64N×128.02E, mb3.6/5, mb1 3.8/5, mb1mx3.6/15, Error ellipse: s-maj=92.8km s-min=22.5km az=69.0*

ISC 26 16:05:55.1±1.6**, 2.5N**±0.3×**127.7E**±0.6**, h33**km**, n6, σ0§84**/6**, mb3.6**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.60**	**186**	P	**P**	**16 10 34.2**	**0.0**
	0.8nm,0.7s,baz=179,slow=17,SNR=1.9						
WRA	**Warramunga Arr**	**23.25**	**164**	P	**P**	**16 11 01.3**	**+0.6**
	2.4nm,0.6s,mb3.8,baz=344,slow=10,SNR=22						
WB2	**Warramunga Arr**	**23.25**	**164**	*e*P	**P**	**16 11 01.4**	**+0.7**
ASAR	**Alice Springs**	**26.72**	**167**	P	**P**	**16 11 32.6**	**-1.1**
	0.2nm,0.5s,mb2.9,baz=346,slow=8.1,SNR=6.0						
STKA	**Stephens Creek**	**36.66**	**160**	P	**P**	**16 13 00.3**	**-0.4**
	3.6nm,1.0s,mb4.2,baz=336,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**59.11**	**325**	P	**P**	**16 15 54.9**	**+0.1**
	0.2nm,0.6s,mb3.4,baz=108,slow=6.3,SNR=3.4						

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*IDC **26** 16:16:49.1±21.0, 18.98S×177.31W, h200km±162km, mb4.1/6, mb1 4.1/7, mb1mx3.8/18, ML4.1/1, Error ellipse: s-maj=182.0km s-min=42.5km az=51.0*

ISC 26 16:16:55.8±8.0**, 19.1S**±0.6×**177.2W**±1.0**, h300**km**, n15, σ0§62**/15**, mb4.1**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.75**	**193**	P	**P**	**16 21 03.9**	**-0.8**
	0.6nm,0.3s,baz=293,slow=9.7,SNR=4.1						
RPZ	**Rata Peaks**	**26.48**	**199**	P	**P**	**16 22 09.1**	**+1.3**
	6.0nm,0.8s,mb4.1,baz=108,slow=18,SNR=2.6						
CTA	**Charters Tower**	**34.42**	**262**	*e*P	**P**	**16 23 18.0**	**+0.8**
	2.2nm,0.4s,mb4.0						
CTA	**Charters Tower**	**34.42**	**262**	P	**P**	**16 23 17.9**	**+0.6**
	2.9nm,0.5s,mb4.1,baz=112,slow=13,SNR=11						
TOO	**Toolangi**	**37.36**	**233**	*e*P	**P**	**16 23 41.2**	**-0.5**
	4.6nm,1.7s,mb3.6						
STKA	**Stephens Creek**	**39.11**	**243**	*e*P	**P**	**16 23 56.6**	**+0.4**
	5.7nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**39.11**	**243**	P	**P**	**16 23 56.6**	**+0.4**
	7.2nm,0.7s,mb4.2,baz=88,slow=11,SNR=20						
WB2	**Warramunga Arr**	**45.56**	**260**	*e*P	**P**	**16 24 47.9**	**-0.3**
WRA	**Warramunga Arr**	**45.58**	**260**	P	**P**	**16 24 48.1**	**-0.2**
	1.7nm,0.3s,mb3.8,baz=97,slow=7.3,SNR=134						
ASAR	**Alice Springs**	**45.61**	**255**	P	**P**	**16 24 48.7**	**+0.2**
	12nm,0.6s,mb4.4,baz=92,slow=8.4,SNR=414						
ASPA	**Alice Springs**	**45.61**	**255**	*e*P	**P**	**16 24 48.6**	**0.0**
KAKA	**Kakadu**	**48.77**	**270**	*e*P	**P**	**16 25 12.9**	**-0.1**
	4.2nm,0.9s,mb3.8						
FORT	**Forrest**	**50.57**	**246**	*e*P	**P**	**16 25 25.3**	**-1.0**
	49nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.99**	**261**	*e*P	**P**	**16 25 51.7**	**+0.2**
	2.1nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.99**	**261**	P	**P**	**16 25 52.1**	**+0.6**
	2.6nm,0.3s,mb4.0,baz=168,slow=3.2,SNR=29						

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*MAN **26** 16:52:00.5, 9.01N×122.52E, h27km, mb3.8, ML2.6, MS2.2*

ISC 26 16:51:58.3±3.5**, 9.03N**±0.05×**122.46E**±0.10**, h9**km±25km**, n4, σ0§39**/8**, 1C, Negros**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.99**	**116**	⇑*e*P	**Pb**	**16 52 16.9**	**-0.2**
DCPH				*e*S	**Sb**	**16 52 30.1**	**0.0**
IPIL	**Ipil**	**1.23**	**175**	*e*P	**Pb**	**16 52 21.8**	**+0.4**
IPIL				*e*S	**Sb**	**16 52 36.9**	**-0.3**
PAGZ	**Pagadian**	**1.49**	**142**	*e*P	**Pn**	**16 52 25.6**	**+0.3**
PAGZ				*e*S	**Sb**	**16 52 37.6**	**-6.9**
GUIM	**Jordan**	**1.59**	**5**	*e*P	**Pn**	**16 52 26.5**	**-0.3**
GUIM				*e*S	**Sn**	**16 52 47.9**	**+0.2**

TAP 26 17:06:55.5, 24.85N×122.31E, h99km±1km**, ML3.6, Taiwan region**

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*IDC **26** 17:08:16.0±5.1, 2.52S×138.35E, h36^{km}±41^{km}, mb3.6/2, mb1 3.8/4, mb1mx3.5/10, ML3.9/2, Error ellipse: s-maj=37.4km s-min=15.7km az=103.0*

*NEIC **26** 17:08:25.9±6.9, 2.83S×137.97E, h128^{km}±56^{km}, mb4.1/6, Error ellipse: s-maj=64.6km s-min=19.0km az=64.0*

ISC 26 17:08:13.0±3.5**, 2.55S**±0.09×**138.6E**±0.2**, h31**^{km}±26^{km}**, n12,** $\sigma 0^{s}.$**61**/17**, mb4.2**/5**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.78	211	eP	P	17 11 02.5	+0.3
	3.2nm,0.3s						
KAKA				eS	S	17 13 12.5	-1.1
WRAB	Tennant Creek	17.76	193	eP	P	17 12 20.5	+0.7
	6.6nm,0.7s						
WB2	Warramunga Arr	17.77	193	eP	P	17 12 19.8	-0.1
WB2				eS	S	17 15 34.5	+0.1
WRA	Warramunga Arr	17.77	193	P	P	17 12 19.8	-0.2
	0.4nm,0.3s,baz=14,slow=13,SNR=36						
WRA				S	S	17 15 29.8	-4.7
	0.2nm,0.3s,baz=8.1,slow=22,SNR=4.6						
FITZ	Fitzroy Crossi	19.98	218	eP	P	17 12 46.8	+0.8
	3.1nm,1.3s						
FITZ				eS	S	17 16 29.6	+6.0
FITZ	Fitzroy Crossi	19.98	218	P	P	17 12 45.3	-0.7
	0.2nm,0.3s,baz=21,slow=8.6,SNR=8.2						
FITZ				S	S	17 16 25.5	+1.8
	0.2nm,0.3s,baz=184,slow=15,SNR=5.6						
ASAR	Alice Springs	21.47	192	P	P	17 13 01.2	0.0
	0.9nm,0.5s,mb3.4,baz=16,slow=10,SNR=17						
ASAR				S	S	17 17 00.7	+8.0
	0.7nm,0.9s,baz=12,slow=26,SNR=3.0						
PALK	Pallekele	58.54	280	P	P	17 18 05.1	-4.4
	14nm,0.9s,mb5.0						
MKAR	Makanchi Array	69.56	322	P	P	17 19 21.2	+0.1
	1.1nm,0.5s,mb4.0,baz=111,slow=7.4,SNR=12						
ZRNK	Zerenda	79.86	325	eP	P	17 20 19.9	-0.3
	2.6nm,0.9s,mb4.2						
QSPA	South Pole Qui	87.40	180	P	P	17 20 57.8	-0.2
	3.1nm,1.1s,mb4.5						
LPAZ	La Paz	147.67	126	PKPbc	PKPdf	17 27 56.6	-1.3
	0.5nm,0.3s,baz=40,slow=5.6,SNR=4.8						

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*IDC **26** 17:31:36.9±1.7, 4.82N×125.94E, mb3.6/6, mb1 3.8/6, mb1mx3.6/16, Error ellipse: s-maj=83.1km s-min=19.0km az=61.0*

ISC 26 17:31:39.5±1.6**, 4.9N**±0.3×**126.0E**±0.4**, h33**^{km}**, n8,** $\sigma 0^{s}.$**37**/8**, mb3.5**/6**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.86	181	eP	P	17 36 41.3	0.0
	4.0nm,1.3s,mb3.7						
FITZ	Fitzroy Crossi	22.86	181	P	P	17 36 41.2	-0.1
	1.1nm,0.5s,mb3.5,baz=13,slow=10.0,SNR=21						
WRA	Warramunga Arr	26.00	162	P	P	17 37 11.3	-0.2
	0.2nm,0.3s,mb3.1,baz=341,slow=9.8,SNR=15						
WB2	Warramunga Arr	26.01	162	eP	P	17 37 11.9	+0.4
ASAR	Alice Springs	29.41	165	P	P	17 37 41.6	-0.7
	0.2nm,0.4s,mb3.2,baz=338,slow=7.5,SNR=8.5						
CMAR	Chiang Mai Arr	29.69	299	P	P	17 37 44.9	+0.1
	0.6nm,0.7s,mb3.4,baz=128,slow=7.7,SNR=4.4						
STKA	Stephens Creek	39.46	159	P	P	17 39 08.9	+0.5
	2.1nm,1.0s,mb3.8,baz=345,slow=12,SNR=2.4						
MKAR	Makanchi Array	56.20	325	P	P	17 41 18.5	-0.2
	0.5nm,0.5s,mb3.8,baz=118,slow=8.0,SNR=7.7						

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*IDC **26** 17:42:11.3±5.6, 24.43S×179.79W, h488^{km}±59^{km}, mb3.5/7, mb1 3.6/8, mb1mx3.4/15, Error ellipse: s-maj=39.0km s-min=22.2km az=32.0*

*NEIC **26** 17:42:11.0±2.5, 24.45S×179.79W, h486^{km}±26^{km}, mb4.2/9, Error ellipse: s-maj=22.1km s-min=12.5km az=216.0*

ISC 26 17:42:10.0±4.0**, 24.4S**±0.1×**179.9W**±0.2**, h485**^{km}±43^{km}**, n24,** $\sigma 0^{s}.$**76**/23**, mb4.0**/13**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.06	190	P	P	17 45 10.1	-1.2
	1.3nm,0.3s,baz=215,slow=4.8,SNR=8.6						
URZ				S	S	17 47 38.1	+0.6
	0.9nm,0.3s,baz=6.2,slow=22,SNR=11						
RPZ	Rata Peaks	20.66	199	P	P	17 46 16.6	+0.5
	13nm,0.6s,baz=324,slow=3.7,SNR=9.4						
CTA	Charters Tower	31.62	271	eP	P	17 47 55.1	+1.5
	3.4nm,0.3s,mb4.2						
CTAO	Charters Tower	31.62	271	eP	P	17 47 54.4	+0.8
	8.0nm,0.6s,mb4.3						
TOO	Toolangi	32.30	238	eP	P	17 47 59.8	+0.6
	3.5nm,1.2s,mb3.7						
TAU	Tasmania Unive	32.70	228	P	P	17 48 03.4	+0.9
STKA	Stephens Creek	34.67	249	eP	P	17 48 20.2	+1.0
	1.5nm,0.3s,mb3.9						
STKA	Stephens Creek	34.67	249	P	P	17 48 19.4	+0.2
	1.4nm,0.3s,mb3.9,baz=93,slow=8.9,SNR=17						
STKA				PcP	PcP	17 50 39.9	-0.6
	1.0nm,0.5s,baz=164,slow=19,SNR=3.6						
STKA	Stephens Creek	34.67	249	eP	P	17 48 19.4	+0.3
ASAR	Alice Springs	42.09	261	P	P	17 49 20.2	+0.3
	1.4nm,0.3s,mb3.9,baz=95,slow=6.5,SNR=92						
WB2	Warramunga Arr	42.51	267	eP	P	17 49 23.1	-0.1
WRAB	Tennant Creek	42.51	267	eP	P	17 49 22.9	-0.3
	5.7nm,0.5s,mb4.3						
WRA	Warramunga Arr	42.52	267	P	P	17 49 23.3	0.0
	2.1nm,0.3s,mb4.0,baz=98,slow=6.7,SNR=155						
FORT	Forrest	46.27	250	eP	P	17 49 51.6	-0.9
	33nm,0.5s,mb5.0						
KAKA	Kakadu	46.54	276	eP	P	17 49 53.9	-0.8
	2.3nm,0.2s,mb4.3						
FITZ	Fitzroy Crossi	50.93	266	eP	P	17 50 27.3	-0.4
	2.0nm,0.4s,mb3.8						
FITZ	Fitzroy Crossi	50.93	266	P	P	17 50 27.5	-0.2
	3.8nm,0.8s,mb3.8,baz=143,slow=4.6,SNR=23						
CASY	Casey	59.73	206	eP	P	17 51 26.7	-1.7
	1.0nm,0.4s,mb3.6						
QSPA	South Pole Qui	65.69	180	eP	P	17 52 06.7	+0.1
	3.6nm,0.7s,mb4.1						
MAW	Mawson	77.33	200	P	P	17 53 14.3	-0.2
	2.0nm,0.6s,mb3.9,baz=138,slow=9.0,SNR=3.8						
TXAR	Lajitas Array	90.57	58	P	P	17 54 21.7	+0.8
	0.3nm,0.4s,mb3.6,baz=202,slow=4.9,SNR=3.5						
TXAR	Lajitas Array	90.57	58	P	P	17 54 21.7	+0.8
ARCES	ARCESS Array B	132.40	348	PKP	PKPdf	18 00 28.2	+0.5
	0.4nm,0.7s,baz=45,slow=1.3,SNR=4.9						
AKASG	Malin Array Be	145.47	327	PKPbc	PKPbc	18 00 52.5	-0.2
	0.5nm,0.4s,baz=40,slow=4.2,SNR=6.1						

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*TAP **26** 17:44:24.5, 24.68N×122.59E, h64^{km}±1^{km}, ML3.5*

JMA 26 17:44:35.3±0.2**, 24.73N×122.42E, h84**^{km}**, M1.9, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.60	116	P	P	17 44 50.4	-0.1
YOJ				eS	S	17 45 01.6	-0.2
IRIF	Iriomote-Funau	1.26	108	P	P	17 44 57.9	-0.1
IRIF				eS	S	17 45 14.3	-0.8
JKRS	Kuro-shima	1.53	108	P	P	17 45 01.6	0.0
JKRS				S	S	17 45 21.6	+0.5
JIJ	Ishigaki jima	1.61	103	P	P	17 45 02.3	-0.4
JIJ				S	S	17 45 22.2	-0.7
JTJ	Tarama	2.08	92	eS	S	17 45 35.2	+1.4

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*NIED **26** 17:50:00, 42.80N×146.80E, h26^{km}, Mw4.0 Best double couple: $M_0 1.13\times10^{15}$ NP1: ϕ_s67°, δ78°, λ125°. NP2: ϕ_s173°, δ37°, λ20°.*

*MOS **26** 17:50:33.9±1.1, 42.71N×146.70E, h33^{km}, mb4.3/10, Error ellipse: s-maj=20.9km s-min=11.9km az=116.0*

*JMA **26** 17:50:35.2±0.2, 42.80N×146.80E, h57^{km}±4^{km}, M3.9*

*IDC **26** 17:50:37.3±0.7, 42.71N×146.69E, h44^{km}±5^{km}, mb3.9/13, mb1 4.0/14, mb1mx3.8/26, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=14.0km s-min=11.4km az=6.0*

*NEIC **26** 17:50:37.2±1.5, 42.76N×146.63E, h42^{km}±13^{km}, mb4.6/10, MW4.0(NIED), Error ellipse: s-maj=10.7km s-min=8.3km az=144.0*

ISC 26 17:50:36.1±0.9**, 42.79N**±0.05×**146.73E**±0.07**, h52**^{km}±7^{km}**, h45**^{km}±.7^{km}**:pP-P, n62,** $\sigma 0^{s}.$**85**/74**, mb4.2**/21**, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.92	309	P	P	17 50 52.6	-0.4
NEM2				eS	S	17 51 06.2	+0.6
YUK	Yuzh-Kuril'sk	1.40	333	ePN	P	17 50 57.5	-2.3
YUK				eS	S	17 51 17.7	+0.4
YUK				pmax	pmax		
	comp=N,960nm,0.3s						
YUK				pmax	pmax		
	comp=E,810nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1µm,0.3s						
YUK				smax			
	comp=N,6µm,0.5s						
YUK				smax			
	comp=E,3µm,0.5s						
YUK				smax			
	comp=N,9µm,0.7s						
YUK				smax			
	comp=E,6µm,1.2s						
JAK	Akkeshi	1.51	279	P	P	17 51 00.9	-0.4
JAK				eS	S	17 51 19.7	-0.2
JRA	Rausu	1.64	315	P	P	17 51 02.6	-0.5
JRA				eS	S	17 51 22.5	-0.7
JNK	Nakash	1.67	299	P	P	17 51 02.9	-0.7
JNK				eS	S	17 51 23.1	-0.8
JOB	Onbets	2.13	274	P	P	17 51 09.9	-0.1
JAR	Ashorobuto	2.23	284	P	P	17 51 11.2	-0.2
JAR				eS	S	17 51 37.8	0.0
JTKR	Abashiri--Toko	2.37	301	P	P	17 51 13.7	+0.2
JTKR				eS	S	17 51 42.3	+0.9
JCH	Churui	2.49	267	P	P	17 51 15.3	+0.2
JCH				eS	S	17 51 43.8	-0.5
JMP	Maruseppu	2.74	298	P	P	17 51 18.8	+0.1
JEM	Erimo	2.75	255	P	P	17 51 20.0	+1.1
JNBK	Urakawa-nobuka	2.98	262	P	P	17 51 22.0	-0.1
JNBK				eS	S	17 51 57.8	+0.9
JFR	Furan	3.06	278	P	P	17 51 23.2	0.0
JFR				eS	S	17 51 57.2	-1.6
JKK2	Kamakawa 2	3.10	292	P	P	17 51 25.9	+2.1
JBT2	Biratori 2	3.21	271	P	P	17 51 25.1	-0.3
ASAJ	Asahikawa	3.29	295	P	P	17 51 26.9	+0.5
	comp=E,5.6nm,0.3s,baz=82,slow=18,SNR=30						
ASAJ				S	S	17 52 05.8	+1.2
	comp=E,12nm,0.3s,baz=63,slow=16,SNR=4.7						
ASAJ				LR	LR	17 52 58.0	
	comp=E,336nm,18.4s,baz=315,slow=43						
ASAJ	Asahikawa	3.29	295	P	P	17 51 27.3	+0.9
ASAJ	Asahikawa	3.29	295	PN	P	17 51 26.9	+0.5
ASAJ				S	S	17 52 05.9	+1.3
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,13nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,336nm,18.4s						
JAB	Ashibetsu	3.37	284	P	P	17 51 29.1	+1.4
YSS	Yuzh-Sakhalins	5.03	327	PN	P	17 52 01.5	+11
YSS				MLR	MLR		
	comp=Z,400nm,20.0s						
YSS				MLR	MLR		
	comp=N,400nm,18.0s						
YSS	Yuzh-Sakhalins	5.03	327	ePn	P	17 51 49.9	-1.1
HIA	Hailar	19.76	298	P	P	17 55 02.5	-1.8
	comp=N,3.7nm,0.8s						
FX1	Attu Island--F	20.31	51	P	P	17 55 10.4	+0.4
	comp=N,5.7nm,0.5s,baz=340,slow=20,SNR=4.9						
FX1	Attu Island--F	20.31	51	P	P	17 55 10.4	+0.4
FX1				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FX1	Attu Island--F	20.31	51	eP	P	17 55 09.8	-0.1
YAK	Yakutsk	21.77	338	eP	P	17 55 21.0	-3.7
	comp=Z,3.2nm,0.6s,mb3.9						
JOW	Kunigami	21.90	229	P	P	17 55 25.6	-0.7
	comp=Z,31nm,0.8s,mb4.8,baz=358,slow=24,SNR=1.8						
SONM	Songino Array	28.57	294	P	P	17 56 29.5	+0.5
	comp=Z,7.7nm,0.7s,mb4.5,baz=84,slow=8.5,SNR=74						
SONM				pP	pP	17 56 41.3	-0.9
	comp=Z,2.9nm,0.6s,baz=88,slow=8.3,SNR=8.3						
ZAK	Zakamensk	30.45	300	eP	P	17 56 46.6	+0.9
ILAR	Eielson Array	42.45	36	P	P	17 58 27.9	+1.0
	comp=Z,0.9nm,0.6s,mb3.5,baz=277,slow=8.5,SNR=9.0						
ILAR				pP	pP	17 58 40.3	-0.4
	comp=Z,2.2nm,0.9s,baz=266,slow=6.8,SNR=8.1						
ILAR	Eielson Array	42.45	36	P	P	17 58 27.9	+1.0
ILAR				*PP	pP	17 58 40.3	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=N,2.0nm,0.9s						
MKAR	Makanchi Array	44.77	298	P	P	17 58 46.2	+0.3
	comp=N,0.7nm,0.3s,mb3.9,baz=79,slow=8.9,SNR=23						
MKAR				pP	pP	17 58 58.6	-1.1
	comp=N,2.6nm,0.5s,baz=17,slow=13,SNR=15						
MKAR	Makanchi Array	44.77	298	P	P	17 58 46.2	+0.3
MKAR				*PP	pP	17 58 58.7	-1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				pmax	pmax		
	comp=N,3.0nm,0.5s						
MKAR	Makanchi Array	44.77	298	P	P	17 58 46.2	+0.3
MKAR				pP	pP	17 58 58.6	-1.1
KURK	Kurchatov	45.82	305	i P	P	17 58 54.9	+0.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KURK	Kurchatov	45.82	305	eP	P	17 58 54.8	+0.5
	comp=Z,5.8nm,0.6s,mb4.7						
KURK				e	pP	17 59 07.4	-0.8
INK	Inuvik	47.39	30	P	P	17 59 07.8	+1.4
	comp=Z,4.4nm,0.8s,mb4.4,baz=295,slow=5.4,SNR=13						
INK				pP	pP	17 59 19.4	-0.9
	comp=Z,2.2nm,0.5s,baz=304,slow=4.3,SNR=3.6						
INK	Inuvik	47.39	30	P	P	17 59 07.8	+1.4
INK				*PP	pP	17 59 19.4	-0.9
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK				pmax	pmax		
	comp=N,2.0nm,0.5s						
INK	Inuvik	47.39	30	eP	P	17 59 07.3	+0.9
	comp=N,8.9nm,1.1s,mb4.6						
INK				e	pP	17 59 19.5	-0.8
VOSK	Vostochnaya	49.65	309	P	P	17 59 24.2	+0.1
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BVA0	Borovoye Array	49.88	310	eP	P	17 59 26.2	+0.3
BRVK	Borovoye	49.93	310	P	P	17 59 26.4	+0.2
	comp=Z,3.6nm,0.8s,mb4.5						
ZRNK	Zerenda	50.69	310	P	P	17 59 32.1	+0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	Zerenda	50.69	310	eP	P	17 59 31.7	-0.3
	comp=Z,3.1nm,0.7s,mb4.3						
ZRNK				e	pP	17 59 44.9	-1.2
ARU	Arti	54.84	317	eP	P	18 00 02.4	-0.4
	comp=Z,3.7nm,0.5s,mb4.7						
ARU				e	pP	18 00 14.5	-2.6
RES	Resolute Bay	55.98	16	eP	P	18 00 10.3	-0.6
	comp=Z,7.0nm,0.6s,mb4.9						
AB31	Akbulak array	57.43	309	eP	P	18 00 21.9	+0.4
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ARCES	ARCESS Array B	60.04	340	P	P	18 00 38.6	-0.7
	comp=Z,1.1nm,0.6s,mb4.1,baz=51,slow=7.8,SNR=7.2						
ARCES				pP	pP	18 00 51.6	-2.1
	comp=Z,0.8nm,0.6s,baz=27,slow=8.1,SNR=1.9						
ARCES	ARCESS Array B	60.04	340	P	P	18 00 38.6	-0.8
ARCES				*PP	pP	18 00 51.7	-2.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=N,1.0nm,0.6s						
WRA	Warramunga Arr	63.45	193	P	P	18 01 01.9	-1.0
	comp=N,1.7nm,0.8s,mb4.2,baz=10,slow=6.7,SNR=9.6						
WRA				pP	pP	18 01 14.5	-2.9
	comp=N,1.0nm,0.8s,baz=11,slow=6.8,SNR=5.6						
WRA	Warramunga Arr	63.45	193	P	P	18 01 01.9	-1.0
WRA				*PP	pP	18 01 14.5	-3.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.8s						
YBH	Yreka Blue Hor	63.68	57	P	P	18 01 06.1	+2.1
	comp=N,0.7nm,0.4s,mb4.0,baz=143,slow=6.8,SNR=2.7						
YBH	Yreka Blue Hor	63.68	57	P	P	18 01 06.1	+2.1
YBH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	65.59	333	P	P	18 01 15.6	-0.5
	comp=Z,1.8nm,0.7s,mb4.2,baz=72,slow=6.0,SNR=5.7						
FINES	FINESS Array B	65.59	333	P	P	18 01 15.6	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	67.17	193	P	P	18 01 26.6	-0.1
	comp=Z,0.4nm,0.8s,mb3.5,baz=16,slow=6.3,SNR=5.3						
NB2	NORSAR Subarra	70.39	339	P	P	18 01 45.9	0.0
	comp=Z,24nm,2.0s,mb4.8,baz=32,slow=6.2						
NOA	NORSAR Array B	70.39	339	P	P	18 01 45.8	-0.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=33,slow=6.3,SNR=8.4						
NOA				pP	pP	18 01 58.8	-1.9
	comp=Z,0.2nm,0.5s,baz=49,slow=5.1,SNR=1.3						
NOA	NORSAR Array B	70.39	339	P	P	18 01 45.8	-0.1
NOA				*PP	pP	18 01 58.8	-1.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	72.17	324	P	P	18 01 56.2	-0.6
	comp=Z,0.6nm,0.3s,mb3.9,baz=38,slow=5.9,SNR=6.5						
AKASG				pP	pP	18 02 09.3	-2.3
	comp=Z,1.4nm,0.7s,baz=37,slow=7.7,SNR=3.3						
AKASG	Malin Array Be	72.17	324	P	P	18 01 56.2	-0.6
AKASG				*PP	pP	18 02 09.3	-2.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.7s						
SDCO	Great Sand Dun	76.44	51	P	P	18 02 20.4	-1.2
	comp=N,7.3nm,1.4s,mb4.4						

OTT 26 17:57:20.8±0.3**, 52.83N×67.20W, MN2.6**/5**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	Schefferville	2.02	6	PN	Pn	17 57 56.4	-0.1
SCHQ				SG	Sg	17 58 23.2	-4.8
SCHQ				Trac		17 58 27.6	
	comp=Z,12nm,0.1s						
MNQ	Manicouagan	2.50	204	PN	Pn	17 58 01.8	-1.5
MNQ				SN	Sn	17 58 33.8	-1.1
MNQ				Trac		17 58 37.6	
	comp=Z,5.3nm,0.1s						
SMQ	Clarke City	2.63	173	PN	Pn	17 58 04.0	-1.1
SMQ				SN	Sn	17 58 39.0	+0.7
ICQ	Pointe Anglais	3.31	181	PN	Pn	17 58 12.5	-2.4
ICQ				SN	Sn	17 58 51.5	-4.0
ICQ				Trac		17 58 59.4	
	comp=Z,13nm,0.6s						
CNQ	Baie Comeau	3.57	189	PN	Pn	17 58 16.5	-2.1
CNQ				SN	Sn	17 59 04.9	+2.7
CNQ				Trac		17 59 11.6	
	comp=Z,2.1nm,0.1s						
GSQ	Grosses Roches	3.92	179	PN	Pn	17 58 20.7	-2.9
GSQ				SN	Sn	17 59 07.8	-3.2
LG4Q	La Grande 4	4.22	284	PN	Pn	17 58 25.7	-2.1
LG4Q				SN	Sn	17 59 15.8	-2.8
LG4Q				Trac		17 59 33.3	
	comp=Z,2.7nm,0.2s						
LMN	Caledonia Moun	7.16	166	PN	Pn	17 59 04.1	-5.1
VIMO	Victor Mine	10.02	277	PN	P	17 59 42.1	-6.7
VIMO				SN	S	18 01 30.0	-13
SILO	Sutton Inlier	10.64	286	PN	P	17 59 49.6	-7.8
SILO				SN	S	18 01 44.9	-14

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*THE **26** 17:58:45.4, 39.14N×25.57E, h20^{km}, ML3.2*

*NEIC **26** 17:58:46.5, 39.21N×25.81E, h53^{km}, MD3.5(ATH), After ATH.*

*ATH **26** 17:58:46.5, 39.21N×25.81E, h53^{km}±4^{km}, MD3.3/5, ML3.5*

ISC 26 17:58:45.1±0.5**, 39.19N**±0.03×**25.50E**±0.03**, h25**^{km}±5^{km}**, n35,** $\sigma 0^{s}.$**83**/48**, 1C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.60	84	⇓iP	Pb	17 58 57.5	+0.6
PRK				eS	Sb	17 59 04.5	-0.5
EZN	Ezine	0.90	45	i PG	Pb	17 59 02.2	+0.2
EZN				i SG	Sb	17 59 15.1	+1.5
AOS	Alonnisos	1.26	270	ePb	Pb	17 59 08.8	+0.7
	comp=Z,8.0nm,0.3s						
AOS				eSb	Sb	17 59 27.1	+3.1
IZM	Izmir	1.58	119	PN	Pn	17 59 12.4	+0.4
KDAG	Bornova	1.58	119	⇑iP	Pn	17 59 12.7	+0.6
KDAG				i S	Sn	17 59 38.5	+6.6
PAIG	Paliouri	1.59	298	ePb	Pb	17 59 13.3	-0.5
PAIG				eSb	Sb	17 59 34.4	+0.9
OUR	Ouranopolis	1.64	315	ePb	Pb	17 59 13.9	-0.6
	comp=Z,6.8nm,0.2s						
ALN	Alexandroupoli	1.76	14	ePb	Pb	17 59 15.2	-1.3
	comp=Z,3.0nm,0.6s						
ALN				eSb	Sb	17 59 37.2	-1.1
NEO	Neokhori	1.77	275	eP	Pn	17 59 19.5	+4.8
XOR	Xorichti	1.80	276	ePb	Pb	17 59 16.0	-1.3
XOR				eSb	Sb	17 59 39.1	-0.5
SMG	Samos	1.81	144	eP	Pn	17 59 15.0	-0.2
AKS	Akhisar	1.82	99	PN	Pn	17 59 15.6	+0.1
ATH	Athens Observa	1.85	230	eP	Pn	17 59 19.7	+3.8
BALB	Balikesir	1.90	75	PN	Pn	17 59 16.1	-0.4
BALB				SN	Sn	17 59 39.5	-0.3
RDO	Rodhopi	1.96	1	eP	Pn	17 59 18.4	+1.1
SART	Tekirdag	1.98	40	i P	Pn	17 59 20.8	+3.1
SART				i S	Sn	17 59 49.8	+7.9
APE	Apeiranthos	2.12	179	PN	Pn	17 59 19.8	+0.2
EDC	Edincik	2.16	57	ePN	Pn	17 59 19.8	-0.4
BNT	Bandirma	2.20	57	ePN	Pn	17 59 19.8	-1.0
SRS	Serrai	2.42	323	ePn	Pn	17 59 24.4	+0.4
SRS				eSn	Sn	17 59 53.1	0.0
AGG	Agios Georgios	2.47	267	ePn	Pn	17 59 25.7	+0.9
LIT	Litokhoron	2.50	292	ePn	Pn	17 59 25.6	+0.5
LIT				eSn	Sn	17 59 55.1	0.0
ORLT	Orhaneli	2.76	71	ePN	Pn	17 59 28.8	0.0
THR5	Thira Island,	2.77	183	ePn	Pn	17 59 27.0	-2.0
THR3	Thira Island,	2.77	182	ePn	Pn	17 59 28.0	-1.1
KNT	Kendrikon	2.81	315	ePn	Pn	17 59 29.3	-0.2
KNT				eSn	Sn	18 00 02.8	-0.1
EDRB	Edirne	2.82	19	ePN	Pn	17 59 29.3	-0.4
GRG	Griva	2.96	308	ePn	Pn	17 59 31.2	-0.6
GRG				eSn	Sn	18 00 06.6	-0.3
CTT	Catalca	2.98	48	PN	Pn	17 59 31.8	-0.1
YER	Yerkesik	3.00	132	ePN	Pn	17 59 32.3	+0.1
DNZL	Cakiroluk	3.16	117	i P	Pn	17 59 35.3	+0.8
YLV	Yalova	3.28	64	ePN	Pn	17 59 36.2	0.0
ESKT	Eskisehir	4.16	84	ePN	Pn	17 59 48.6	-0.1
ESKT	Eskisehir	4.16	84	i P	Pn	17 59 49.1	+0.4
KIZT	Kizilcal	4.97	92	eP	Pn	18 00 01.1	+0.8

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*DJA **26** 18:01:25.5±1.0, 9.32S×110.92E, h28^{km}±4^{km}, MD5.0/4, ML5.4/3, Error ellipse: s-maj=50.2km s-min=19.8km az=169.0*

*IDC **26** 18:01:34.7±1.1, 9.05S×111.67E, h61^{km}±8^{km}, mb4.1/9, mb1 4.1/10, mb1mx4.0/15, MS3.5/1, Ms1 3.7/1, ms1mx3.1/16, Error ellipse: s-maj=39.4km s-min=12.7km az=51.0*

*NEIC **26** 18:01:36.3±1.8, 9.09S×111.68E, h80^{km}±16^{km}, mb4.3/11, Error ellipse: s-maj=21.3km s-min=7.8km az=53.0*

*SYO **26** 18:01:36.2, 9.09S×111.68E, h81^{km}, MB4.3*

ISC 26 18:01:35.2±2.0**, 9.05S**±0.10×**111.7E**±0.1**, h88**^{km}±18^{km}**, n40,** $\sigma 0^{s}.$**89**/49**, mb4.3**/20**, 8C-4D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	2.92	74	ePn	P	18 02 20.6	-0.1
	2µm,0.3s						
KELI	Kelakatan	2.92	74	⇓iP	P	18 02 22.2	+1.5
KELI				⇑iSn	S	18 03 01.4	+6.6
KELI	Kelakatan	2.92	74	ePn	P	18 02 20.6	-0.1
KELI				i Sn	S	18 02 59.7	+4.9
INGI	Ingas	3.46	86	⇑ePn	P	18 02 28.6	+0.6
INGI				⇑iSn	S	18 03 12.8	+4.8
INGI	Ingas	3.46	86	⇓iPn	P	18 02 28.9	+0.9
INGI				i Sn	S	18 03 13.4	+5.4
RATI	Rata	3.84	85	⇑iPn	P	18 02 33.5	+0.1
	2µm,0.2s						
RATI	Rata	3.84	85	⇑iP	P	18 02 35.2	+1.8
RATI				⇓iSn	S	18 03 22.0	+4.4
RATI	Rata	3.84	85	⇑iPn	P	18 02 33.5	+0.1
RATI				i Sn	S	18 03 21.3	+3.7
KEDI	Kedomdong	4.44	83	⇑iPn	P	18 02 39.7	-1.9

	99nm,0.1s						
KEDI	**Kedomdong**	4.44	83	⇑*i*Pn	P	18 02 39.7	-1.9
KEDI				*i* Sn	S	18 03 31.6	-0.9
FITZ	**Fitzroy Crossi**	16.29	125	*e*P	P	18 05 14.2	-5.8
	5.4nm,0.6s						
FITZ				*e*S	S	18 08 03.7	-14
FITZ	**Fitzroy Crossi**	16.29	125	P	P	18 05 14.3	-5.7
	0.6nm,0.3s,baz=339,slow=5.1,SNR=23						
FITZ				S	S	18 08 03.7	-14
	0.3nm,0.3s,slow=12,SNR=4.0						
KAKA	**Kakadu**	20.69	102	*e*P	P	18 06 09.6	-0.8
	9.1nm,0.8s						
WRA	**Warramunga Arr**	24.45	119	P	P	18 06 47.6	+0.4
	4.4nm,0.7s,mb3.9,baz=291,slow=11,SNR=51						
WRA				pP		18 07 01.7	
	2.8nm,0.6s,baz=292,slow=12,SNR=9.9						
WRA				PcP	PcP	18 10 26.4	+1.3
	0.6nm,0.5s,baz=299,slow=1.9,SNR=8.2						
WRA				pPcP		18 10 39.6	
	1.3nm,0.8s,baz=304,slow=1.9,SNR=7.7						
WRAB	**Tennant Creek**	24.46	119	*e*P	P	18 06 45.6	-1.7
	6.1nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	24.46	119	*e*P	P	18 06 48.1	+0.7
ASPA	**Alice Springs**	25.76	127	*e*P	P	18 06 59.7	+0.1
ASAR	**Alice Springs**	25.77	127	P	P	18 06 59.3	-0.4
	4.4nm,0.5s,mb4.1,baz=305,slow=8.9,SNR=87						
ASAR				pP	pP	18 07 15.6	-3.6
	2.9nm,0.6s,baz=305,slow=9.0,SNR=7.8						
ASAR				PcP	PcP	18 10 29.6	+1.6
	0.6nm,0.8s,baz=328,slow=2.0,SNR=5.6						
ASAR				pPcP		18 10 43.1	
	0.6nm,0.5s,baz=323,slow=1.9,SNR=6.3						
CMAR	**Chiang Mai Arr**	30.07	335	P	P	18 07 38.6	0.0
	0.9nm,0.6s,mb3.6,baz=168,slow=8.1,SNR=10						
CMAR				pP	pP	18 07 54.1	-4.7
	1.2nm,0.7s,baz=174,slow=8.1,SNR=5.7						
CMAR				LR	LR	18 21 03.6	
	comp=Z,84nm,19.6s,baz=191,slow=39						
STKA	**Stephens Creek**	35.87	134	*e*P	P	18 08 28.8	+0.2
	4.2nm,0.9s,mb4.4						
STKA	**Stephens Creek**	35.87	134	P	P	18 08 28.8	+0.2
	2.8nm,0.5s,mb4.5,baz=314,slow=8.4,SNR=8.2						
LSA	**Lhasa**	43.29	334	*e*P	P	18 09 31.0	+0.9
	5.2nm,0.7s,mb4.4						
PKI	**Pulchoki**	44.40	326	*e*P	P	18 09 38.7	-0.4
DMN	**Daman**	44.60	326	*e*P	P	18 09 40.7	0.0
	9.2nm,0.6s,mb4.7						
KKN	**Kakani**	44.64	326	*e*P	P	18 09 40.6	-0.4
GKN	**Gorkha**	45.17	325	*e*P	P	18 09 44.6	-0.6
	6.4nm,0.3s,mb4.8						
KOLN	**Koldanda**	45.58	324	*e*P	P	18 09 47.9	-0.5
	15nm,0.6s,mb4.9						
POO	**Poona**	46.29	306	*e*P	P	18 09 53.0	-1.1
SONM	**Songino Array**	56.83	356	P	P	18 11 13.2	+0.4
	1.5nm,0.9s,mb4.0,baz=178,slow=7.9,SNR=11						
SONM				PcP	PcP	18 12 09.0	+1.6
	0.7nm,0.4s,baz=173,slow=3.2,SNR=6.7						
MKAR	**Makanchi Array**	61.45	337	P	P	18 11 44.6	-0.2
	7.3nm,0.5s,mb5.0,baz=151,slow=7.5,SNR=114						
KURK	**Kurchatov**	66.06	338	*e*P	P	18 12 14.6	-0.3
	3.1nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	71.10	335	P	P	18 12 45.5	-0.4
	2.7nm,0.6s,mb4.2,baz=117,slow=6.6,SNR=15						
ZRNK	**Zerenda**	71.63	334	*e*P	P	18 12 49.0	-0.1
	4.1nm,0.6s,mb4.4						
YAK	**Yakutsk**	72.24	9	*e*P	P	18 12 53.1	+0.6
	8.8nm,0.6s,mb4.8						
SYO	**Syowa Base**	75.20	201	⇓P	P	18 13 08.5	-1.1
ARU	**Arti**	78.49	333	*e*P	P	18 13 28.8	+0.6
	3.0nm,0.8s,mb4.1						
QSPA	**South Pole Qui**	80.95	180	*e*P	P	18 13 41.8	+0.8
	0.9nm,0.7s,mb3.7						
LSZ	**Lusaka**	81.41	256	P	P	18 13 44.3	-0.3
	4.6nm,0.8s,mb4.4						
SUR	**Sutherland**	85.93	238	P	P	18 14 08.8	+1.6
	7.9nm,0.9s,mb4.6,baz=200,slow=23,SNR=3.0						
BRTR	**Keskin Array B**	86.64	311	P	P	18 14 11.8	+1.4
	1.6nm,0.8s,mb4.0,baz=135,slow=5.2,SNR=8.0						

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*IDC **26** 18:06:45.3±1.2, 43.75N×105.38W, mb3.8/3, mb1 3.9/9, mb1mx3.7/24, ML3.6/6, Error ellipse: s-maj=24.1km s-min=6.9km az=150.0*

*NEIC **26** 18:06:45.4±0.4, 43.75N×105.22W, ML3.4, Error ellipse: s-maj=6.1km s-min=4.5km az=136.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 26 18:06:43.4±0.5**, 43.72N**±0.04×**105.19W**±0.06**, n42, σ1^{s}19**/45**, mb3.9**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	0.93	64	*e*Pg	Pg	18 07 04.2	+2.4
LAO	**LASA Array**	3.06	347	*e*Pn	Pn	18 07 33.2	-0.6
PDAR	**Pinedale Array**	3.33	255	Pn	Pn	18 07 38.8	+1.1
	3.7nm,0.3s,baz=74,slow=17,SNR=68						
PDAR				Pg	Pg	18 07 47.4	-2.4
	10nm,0.3s,baz=66,slow=18,SNR=35						
PDAR				Lg		18 08 25.1	
	13nm,0.3s,baz=74,slow=29,SNR=10						
BW06	**Boulder Array**	3.33	255	*e*Pn	Pn	18 07 38.6	+0.9
MOOW	**Moose Ponds**	4.03	272	*e*Pn	Pn	18 07 48.5	+0.9
WUWY	**Wally Ulrich**	4.03	269	P	Pn	18 07 52.7	+4.9
SNOW	**Snow King Moun**	4.05	268	*e*Pn	Pn	18 07 48.3	+0.4
REDW	**Red Top Meadow**	4.13	267	*e*Pn	Pn	18 07 51.6	+2.5
TPAW	**Teton Pass**	4.19	269	*e*Pn	Pn	18 07 50.6	+0.7
AHID	**Auburn Hatcher**	4.42	260	P	Pn	18 08 01.8	+8.5
QLMT	**Earthquake Lak**	4.62	286	Pn	Pn	18 07 57.5	+1.5
DGMT	**Dagmar**	4.80	8	*e*Pn	Pn	18 07 59.8	+1.2
BOZ	**Bozeman (W)**	4.98	295	*e*Pn	Pn	18 07 60.0	-1.2
HWUT	**Hardware Ranch**	5.15	248	*e*Pn	Pn	18 08 02.3	-1.3
	9.8nm,0.6s						
TCUT	**Toone Canyon**	5.29	243	*e*Pn	Pn	18 08 05.2	-0.3
HRY	**Holter Researc**	5.56	305	*e*Pn	Pn	18 08 08.6	-0.7
DAU	**Daniels Canyon**	5.59	236	*e*Pn	Pn	18 08 10.3	+0.5
JLU	**Jordanelle**	5.60	238	*e*Pn	Pn	18 08 10.2	+0.4
MCMT	**McKenzie Canyo**	5.61	284	Pn	Pn	18 08 02.6	-7.5
SDCO	**Great Sand Dun**	5.97	182	*e*Pn	Pn	18 08 15.4	+0.2
	1.9nm,0.7s						
MPU	**Maple Canyon**	6.07	235	P	Pn	18 08 28.4	+12
PV10	**Paradox Valley**	6.08	210	*e*Pn	Pn	18 08 24.3	+7.7
SRU	**San Rafael**	6.11	223	*e*Pn	Pn	18 08 16.3	-0.8
PV01	**Paradox Valley**	6.14	206	*e*Pn	Pn	18 08 18.4	+0.9
NLU	**North Lily Min**	6.37	236	P	Pn	18 08 17.2	-3.6
CBKS	**Cedar Bluff**	6.40	138	Pn	Pn	18 08 20.8	-0.3
	39nm,0.8s						
BGU	**Big Grassy Mou**	6.45	247	*e*Pn	Pn	18 08 22.1	+0.3
CHMT	**Chamberlain Mo**	6.52	302	*e*Pn	Pn	18 08 21.9	-1.0
DUG	**Dugway**	6.68	241	*e*Pn	Pn	18 08 23.4	-1.8
	3.7nm,0.3s						
HLID	**Hailey**	6.69	272	*e*Pn	Pn	18 08 25.8	+0.5
	4.0nm,0.9s						
MSU	**Marysvale**	7.41	228	*e*Pn	Pn	18 08 35.1	-0.3
ULM	**Lac du Bonnet**	9.12	41	Pn	P	18 08 57.1	-2.1
	1.5nm,0.3s,baz=231,slow=12,SNR=13						
ULM				Pg	P	18 09 31.2	+32
	1.4nm,0.3s,baz=234,slow=16,SNR=6.6						
ULM				Sn	Sn	18 10 35.6	-8.1
	0.4nm,0.3s,baz=162,slow=20,SNR=2.3						
ULM				Lg		18 11 29.3	
	0.4nm,0.3s,baz=128,slow=19,SNR=2.2						
ULM	**Lac du Bonnet**	9.12	41	Pn	P	18 08 57.1	-2.1
ULM				Pg	P	18 09 31.2	+32
ULM				Sn	Sn	18 10 35.6	-8.1
ULM				Lg		18 11 29.3	
NEW	**Newport**	9.46	303	Pn	P	18 09 00.4	-3.5
	0.4nm,0.3s,baz=69,slow=7.3,SNR=2.8						
NEW				Lg		18 11 30.9	
	0.2nm,0.3s,baz=84,slow=11,SNR=2.8						
WUAZ	**Wupatki**	9.48	212	*e*Pn	P	18 09 03.2	-1.0
WUAZ				*e*		18 09 13.5	
NVAR	**Mina Array Bea**	11.22	246	Pn	P	18 09 27.9	-0.1
	0.1nm,0.3s,baz=43,slow=10,SNR=3.9						
YBH	**Yreka Blue Hor**	13.04	267	Pn	P	18 09 55.7	+3.2
	0.1nm,0.3s,baz=79,slow=6.8,SNR=3.3						
YKA	**Yellowknife Ar**	19.60	347	P	P	18 11 14.9	-0.6
	0.1nm,0.3s,baz=150,slow=13,SNR=3.1						
ARCES	**ARCESS Array B**	61.42	18	P	P	18 17 01.6	-1.5
	1.2nm,0.9s,mb4.0,baz=333,slow=6.0,SNR=4.9						
SONM	**Songino Array**	84.68	339	P	P	18 19 20.7	+1.0
	0.4nm,0.7s,mb3.7,baz=34,slow=3.7,SNR=3.4						
MKAR	**Makanchi Array**	89.63	355	P	P	18 19 44.9	+1.1
	0.4nm,0.6s,mb3.8,baz=358,slow=3.7,SNR=3.2						
MKAR	**Makanchi Array**	89.63	355	P	P	18 19 44.9	+1.1

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*GUC **26** 18:19:39.6±0.8, 27.99S×71.08W, h31^{km}±13^{km}, ML5.0*

*BJI **26** 18:19:40.8, 27.90S×71.00W, h39^{km}, mB5.4, Ms4.8, Msz4.4*

*IDC **26** 18:19:40.2±0.7, 27.95S×71.03W, h36^{km}±5^{km}, mb4.4/12, mb1 4.4/16, mb1mx4.3/20, ML4.1/3, MS3.9/5, Ms1 3.8/5, ms1mx3.5/19, Error ellipse: s-maj=20.1km s-min=12.7km az=74.0*

*SYO **26** 18:19:40.8, 27.90S×71.04W, h39^{km}, MB4.9*

*NEIC **26** 18:19:40.8±0.6, 27.90S×71.04W, h39^{km}±5^{km}, mb4.9/19, Error ellipse: s-maj=8.2km s-min=4.4km az=87.0*

NEIC Felt [III] at Copiapo and Vallenar.

ISC 26 18:19:39.5±0.7**, 27.90S**±0.03×**71.04W**±0.08**, h43**^{km}±7^{km}**, h40**^{km}±1.5^{km}**:pP-P, n84, σ1^{s}09**/74**, mb4.7**/28**, MS4.0**/4**, 3C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	0.72	160	*e*P	P	18 19 47.5	-5.7
VACH				*i* S	S	18 19 57.1	-6.2
VACH				AMP		18 19 58.8	
	comp=N,204µm,0.4s						
CPCH	**Copiapo**	0.81	49	*e*P	P	18 19 55.8	+1.2
CPCH				*i* S	S	18 20 08.5	+2.9
CPCH				AMP		18 20 11.8	
	comp=E,118µm,0.5s						
LSCH	**La Serena**	2.01	185	*e*P	P	18 20 11.2	-0.3
LSCH				*i* S	S	18 20 36.0	+0.4
LSCH				AMP		18 20 47.4	
	comp=E,13µm,0.5s						
TLL	**Tololo Astrono**	2.27	175	⇑*i*P	P	18 20 15.8	+0.6
TLL				*i* S	S	18 20 43.0	+0.9
TLL				AMP		18 20 53.2	
	comp=N,20µm,0.6s						
OVCH	**Ovalle**	2.70	183	*e*P	P	18 20 21.0	-0.5
OVCH				*i* S	S	18 20 52.2	-1.0
OVCH				AMP		18 21 06.4	
	comp=N,6µm,0.6s						
ANCH	**Antofagasta**	4.24	8	*e*P	P	18 20 40.0	-3.2
MDZ	**Mendoza**	5.31	160	*e*P	P	18 21 00.0	+1.6
MDZ				*e*		18 21 08.9	
MDZ				*e*		18 21 17.1	
MDZ				*e*		18 21 23.7	
MDZ				*i* S	S	18 21 48.0	-11
LVC	**Limon Verde**	5.61	21	*e*P	P	18 21 00.9	-1.5
LVC	**Limon Verde**	5.61	21	Pn	P	18 21 02.1	-0.4
	comp=N,9.7nm,0.3s,baz=201,slow=8.4,SNR=134						
LVC				Sn	S	18 22 06.7	+0.2
	comp=N,24nm,0.3s,baz=192,slow=16,SNR=5.9						
LVC				Lg		18 22 24.5	
	comp=N,43nm,0.3s,baz=348,slow=22,SNR=8.9						
LVC				LR	LR	18 23 21.9	
	comp=N,637nm,21.5s,baz=211,slow=39						
LVC	**Limon Verde**	5.61	21	*e*Pn	P	18 21 01.7	-0.8
	comp=N,26nm,0.3s						
LVC				*e*Pb	P	18 21 11.0	+8.5
LVC				*e*Pg	P	18 21 20.4	+18
ARE	**Arequipa**	11.39	358	P	P	18 22 15.0	-7.5
LPAZ	**La Paz**	11.87	14	Pn	P	18 22 26.5	-2.3
	comp=N,0.8nm,0.3s,baz=199,slow=7.3,SNR=18						
LPAZ	**La Paz**	11.87	14	*e*P	P	18 22 26.6	-2.3
LPAZ				*e*		18 22 33.3	
CPUP	**Villa Florida**	12.31	86	Pn	P	18 22 34.5	-0.4
	comp=N,0.6nm,0.3s,baz=276,slow=11,SNR=11						
CPUP	**Villa Florida**	12.31	86	*e*P	P	18 22 35.3	+0.4
TRQA	**Tornquist**	12.66	145	*e*P	P	18 22 38.6	-0.9
PLCA	**Paso Flores**	12.81	178	Pn	P	18 22 40.3	-1.1
	comp=N,0.1nm,0.3s,baz=329,slow=18,SNR=1.6						
PLCA				LR	LR	18 27 55.6	
	comp=N,275nm,20.8s,baz=3.2,slow=39						
PLCA	**Paso Flores**	12.81	178	P	P	18 22 41.5	+0.1
	comp=N,6.6nm,0.8s						
SAML	**Samuel**	20.26	23	*e*P	P	18 24 13.5	-0.4
	comp=N,13nm,0.6s						
SAML				*e*		18 24 18.4	
BDFB	**Brasilia**	24.57	65	P	P	18 24 56.8	0.0
	comp=N,2.3nm,0.4s,mb4.0,baz=224,slow=9.7,SNR=4.1						
BDFB				LR	LR	18 35 54.2	
	comp=N,382nm,19.4s,MS3.9,baz=257,slow=40						
USHA	**Ushuaia**	26.98	177	P	P	18 25 17.0	-2.0
	comp=N,8.7nm,0.7s,mb4.4,baz=314,slow=10.0,SNR=5.4						
USHA				LR	LR	18 36 36.2	
	comp=N,282nm,18.1s,MS3.9,baz=342,slow=38						
OTAV	**Otavalo**	28.87	345	P	P	18 25 34.0	-2.3
ROSC	**El Rosal**	32.72	354	P	P	18 26 10.5	+0.1
	comp=N,7.8nm,0.3s,mb5.0,baz=150,slow=18,SNR=2.8						
JTS	**JuntasAbangare**	40.28	339	P	P	18 27 13.4	-0.8
	comp=N,1.7nm,0.3s,mb4.2,baz=236,slow=16,SNR=2.3						
SJG	**San Juan**	45.98	6	P	P	18 27 59.0	-1.6
	comp=N,22nm,0.2s,mb5.8,baz=308,slow=19,SNR=2.3						
TEIG	**Tepich**	50.67	339	P	P	18 28 37.5	+0.6
	comp=N,0.0nm,0.3s,baz=136,slow=24,SNR=3.5						
VNA3	**Neumayer Olymp**	54.72	160	⇓*i*	P	18 29 07.8	+1.5
VNA1	**Neumayer--Stat**	54.98	159	⇓*i*	P	18 29 10.0	+1.7
VNA2	**Neumayer--Watz**	55.34	159	⇓*i*	P	18 29 12.2	+1.4
SNAA	**Sanae**	56.94	159	⇑*i*	P	18 29 20.9	-1.4
QSPA	**South Pole Qui**	62.32	180	*e*P	P	18 29 58.3	-0.9
	comp=N,8.8nm,0.8s,mb4.9						
QSPA				*e*		18 30 13.9	
LTX	**Lajitas**	64.91	329	*e*P	P	18 30 17.3	+0.4
	comp=N,5.6nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	64.91	329	P	P	18 30 17.2	+0.3
	comp=N,2.5nm,0.7s,mb4.4,baz=148,slow=8.1,SNR=12						
TXAR	**Lajitas Array**	64.91	329	P	P	18 30 17.2	+0.3
USIN	**University of**	67.35	346	P	P	18 30 30.8	-1.4
	comp=N,22nm,1.0s,mb5.1						
WMOK	**Wichita Mounta**	67.60	336	*e*P	P	18 30 33.0	-0.8
	comp=N,6.7nm,1.2s,mb4.5						
CPRX	**Cap Rock**	68.15	331	*e*P	P	18 30 36.6	-0.7
CCM	**Cathedral Cave**	68.29	343	P	P	18 30 37.2	-0.8
	comp=N,15nm,0.7s,mb5.1						
SBA	**Scott Base**	69.21	191	P	P	18 30 41.2	-2.0
	comp=N,3.5nm,0.8s,mb4.3						
LAZ	**Ladron**	70.76	329	*e*P	P	18 30 54.8	+1.5
LAZ				*e*pP	pP	18 31 05.7	-0.2
ANMO	**Albuquerque**	70.91	330	*e*P	P	18 30 55.2	+1.0
	comp=N,2.7nm,0.8s,mb4.2						
SYO	**Syowa Base**	71.23	159	⇓P	P	18 30 54.2	-1.3
SYO	**Syowa Base**	71.23	159	⇑pP	pP	18 31 04.8	-3.4
SYO	**Syowa Base**	71.23	159	⇓sP	sP	18 31 07.4	-5.4
LIC	**Lamto**	72.08	73	*e*P	P	18 31 00.6	-0.9
	comp=N,43nm,0.9s,mb5.4						
TIC	**Toumodi**	72.31	72	*e*P	P	18 31 03.0	+0.1
	comp=N,69nm,1.0s,mb5.5						
KIC	**Kosan Boka**	72.40	73	*e*P	P	18 31 02.9	-0.5
	comp=N,78nm,0.9s,mb5.6						
DBIC	**Dimbokro**	72.46	72	P	P	18 31 03.6	-0.2
	comp=N,8.2nm,0.7s,mb4.8,baz=223,slow=5.2,SNR=11						
DBIC				pP	pP	18 31 14.9	-1.5
	comp=N,15nm,0.7s,baz=216,slow=6.3,SNR=11						
DBIC	**Dimbokro**	72.46	72	*e*P	P	18 31 03.5	-0.3
	comp=N,22nm,0.8s,mb5.1						
DBIC				*e*pP	pP	18 31 15.0	-1.4
SRU	**San Rafael**	76.17	329	*e*P	P	18 31 25.8	+0.9
SRU				*e*pP	pP	18 31 37.5	0.0
MSU	**Marysvale**	76.45	328	*e*P	P	18 31 27.4	+1.0
MSU				*e*pP	pP	18 31 39.1	-0.1
SUR	**Sutherland**	77.06	120	P	P	18 31 30.2	+0.1
	comp=N,6.2nm,0.8s,mb4.6,baz=82,slow=13,SNR=4.3						
SUR				pP	pP	18 31 41.8	-1.0
	comp=N,4.5nm,0.7s,baz=350,slow=6.6,SNR=1.8						
SUR	**Sutherland**	77.06	120	P	P	18 31 30.4	+0.4
RSSD	**Black Hills**	77.78	336	*e*P	P	18 31 34.1	+0.3
	comp=N,3.9nm,0.6s,mb4.5						
DUG	**Dugway**	78.09	329	*e*P	P	18 31 36.9	+1.4
	comp=N,7.2nm,0.8s,mb4.7						
DUG				*e*pP	pP	18 31 47.5	-0.8
HWUT	**Hardware Ranch**	78.66	330	*e*P	P	18 31 39.4	+0.8
	comp=N,14nm,0.9s,mb4.9						
HWUT				*e*	pP	18 31 53.9	+2.5
PDAR	**Pinedale Array**	78.75	332	P	P	18 31 39.6	+0.5
	comp=N,2.1nm,0.7s,mb4.2,baz=132,slow=4.5,SNR=15						
MAW	**Mawson**	78.77	164	P	P	18 31 38.5	-0.2
	comp=N,1.9nm,0.8s,mb4.0,baz=200,slow=8.1,SNR=4.7						
MAW				pP	pP	18 31 50.3	-1.1
	comp=N,2.3nm,0.6s,baz=223,slow=5.2,SNR=4.2						
MAW	**Mawson**	78.77	164	*e*P	P	18 31 38.5	-0.3
	comp=N,6.3nm,0.9s,mb4.5						
MAW				*e*pP	pP	18 31 50.4	-1.0
NVAR	**Mina Array Bea**	79.42	324	P	P	18 31 43.8	+0.9
	comp=N,1.8nm,0.8s,mb4.1,baz=142,slow=6.5,SNR=12						
TSUM	**Tsumeb**	80.08	106	*e*P	P	18 31 46.7	0.0
	comp=N,9.2nm,0.8s,mb4.8						
TSUM				*e*pP	pP	18 31 58.8	-0.7
ULM	**Lac du Bonnet**	80.86	344	P	P	18 31 49.5	-0.8
	comp=N,10.0nm,1.0s,mb4.7,baz=141,slow=7.1,SNR=7.5						
ULM				pP	pP	18 32 00.8	-2.3
	comp=N,3.1nm,0.8s,baz=262,slow=5.8,SNR=2.8						
ULM	**Lac du Bonnet**	80.86	344	P	P	18 31 49.5	-0.8
ULM				pP	pP	18 32 00.8	-2.3
QLMT	**Earthquake Lak**	81.22	332	P	P	18 31 54.3	+2.0
HLID	**Hailey**	81.49	330	*e*P	P	18 31 55.1	+1.4
	comp=N,10nm,1.0s,mb4.7						
HLID				*e*pP	pP	18 32 06.5	0.0
DGMT	**Dagmar**	81.62	338	*e*P	P	18 31 55.1	+0.8
	comp=N,23nm,0.7s,mb5.2						
DPW	**Davenport**	86.50	330	*e*P	P	18 32 19.1	+0.3
DPW				*e*pP	pP	18 32 33.6	+1.9
DLBC	**Dease Lake**	98.98	333	LR	LR	19 17 16.5	
	comp=N,71nm,18.7s,MS4.2,baz=307,slow=35						
ASAR	**Alice Springs**	123.37	208	PKP	PKPdf	18 38 33.0	+0.5
	comp=N,1.5nm,0.8s,baz=128,slow=1.9,SNR=16						
WB2	**Warramunga Arr**	126.47	210	*e*P	PKPdf	18 38 39.4	+0.8
WRA	**Warramunga Arr**	126.47	210	PKP	PKPdf	18 38 39.5	+0.9
	comp=N,3.3nm,0.7s,baz=157,slow=1.6,SNR=62						
WRA				pPKP		18 38 50.7	
	comp=N,1.1nm,0.6s,baz=153,slow=1.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	131.50	201	*e*P	PKPdf	18 38 49.4	+1.2
	comp=N,2.6nm,0.8s						
ZRNK	**Zerenda**	141.36	38	*e*PKPpre		18 39 01.8	
ZRNK				*e*PKPdf	PKPdf	18 39 07.2	+1.9
KURK	**Kurchatov**	147.66	37	*e*PKPdf	PKPdf	18 39 17.2	+1.0
AAK	**Ala-Archa**	148.50	53	*e*PKPdf	PKPdf	18 39 20.2	+2.4
AAK				*e*PKPbc	PKPdf	18 39 23.4	+5.6
MKAR	**Makanchi Array**	151.84	41	PKPbc	PKPdf	18 39 30.8	+8.0
	comp=N,5.7nm,0.6s,baz=316,slow=1.8,SNR=44						
MKAR				PKPab	PKPab	18 39 40.5	-0.3
	comp=N,4.1nm,0.7s,baz=327,slow=2.7,SNR=8.6						
MKAR	**Makanchi Array**	151.84	41	PKPbc	PKPdf	18 39 30.8	+8.0
MKAR				PKPab	PKPab	18 39 40.5	-0.3
WMQ	**Urumqi**	156.66	42	PKP	PKPdf	18 39 32.3	+2.9
WMQ				PKP2	PKPab	18 40 02.8	+1.6
WMQ				PP	PP	18 43 43.3	+2.9
WMQ				PP	PP		
	comp=Z,29nm,8.3s						
WMQ				LR	LR		
	comp=N,8.0nm,20.2s,MS4.1						
WMQ				LR	LR		
	comp=E,28nm,16.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,30nm,20.2s,MS4.1						
SONM	**Songino Array**	160.00	5	PKP	PKPdf	18 39 36.2	+2.8
	comp=Z,0.7nm,0.9s,baz=220,slow=3.9,SNR=4.5						
SONM				PKPab	PKPab	18 40 16.6	+1.1
	comp=Z,0.6nm,0.7s,baz=345,slow=6.4,SNR=5.3						
SONM				pPKPab		18 40 30.2	
	comp=Z,0.7nm,0.7s,baz=287,slow=0.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	166.85	133	PKPab	PKPab	18 40 44.2	-1.8
	comp=Z,1.2nm,1.0s,baz=247,slow=3.0,SNR=5.5						
CMAR				pPKPab		18 40 57.0	
	comp=Z,1.9nm,1.0s,baz=235,slow=4.1,SNR=5.6						
NJ2	**Nanjing**	170.48	298	*e*PKP	PKPdf	18 39 45.3	+2.7
LZH	**Lanzhou**	170.76	27	*e*PKP	PKPdf	18 39 44.5	+1.9
LZH				PP	PP	18 44 56.0	+1.8
LZH				*e*SKS	SKS	18 46 43.5	+3.5
LZH				SKKS		18 51 39.0	
LZH				PP	PP		
	comp=Z,171nm,5.8s						
LZH				LR	LR		
	comp=E,365nm,18.8s						
LZH				LR	LR		
	comp=Z,470nm,21.0s						
LZH	**Lanzhou**	170.76	27	*e*PKP	PKPdf	18 39 44.5	+1.9
LZH				pPKP		18 39 56.8	
LZH				sPKP		18 40 01.5	
LZH				PP	PP	18 44 56.1	+1.9
LZH				*e*SKS	SKS	18 46 43.5	+3.5
LZH				SKKS		18 51 38.9	
LZH				SS	SS	19 05 54.6	+4.2
GYA	**Guiyang**	177.50	125	*e*PKP	PKPdf	18 39 44.0	-1.3
GYA				PKS	PKS	18 43 14.8	-1.6
GYA				SKKS		18 52 04.5	
GYA				PP	PP		
	comp=Z,150nm,8.4s						

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*ROM **26** 18:56:32.8±0.4, 46.30N×13.65E, h10^{km}, MD2.2/3, ML1.7/4, Error ellipse: s-maj=3.1km s-min=2.7km az=90.0*

*LJU **26** 18:56:33.5, 46.31N×13.62E, h9^{km}, ML2.1*

ISC 26 18:56:33.2±0.3**, 46.34N**±0.02×**13.65E**±0.02**, h9**^{km}**, n28, σ0^{s}87**/46**, 8C-5D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CADS	**Cadrg**	0.12	152	⇑*i*Pg	Pg	18 56 36.5	+0.4
CADS				*i* Sg	Sg	18 56 38.5	+0.4
	comp=Z,120nm,0.1s						
ROBS	**Robic**	0.14	227	⇑*i*Pg	Pg	18 56 36.1	-0.3
ROBS				*i* Sg	Sg	18 56 37.7	-0.8
	comp=Z,1µm,0.1s						
DRE	**Drenchia**	0.16	182	⇓*i*Pg	Pg	18 56 36.7	-0.1
DRE				*e*Sg	Sg	18 56 38.8	-0.5
LSR	**Lussari**	0.16	328	*e*Pg	Pg	18 56 37.6	+0.7
LSR				*e*Sg	Sg	18 56 40.7	+1.4
PTCC	**Patocco-Chiusa**	0.22	289	*e*PG	Pg	18 56 37.9	0.0
PTCC				SG	Sg	18 56 41.9	+0.9
	comp=Z,105nm,0.3s						
COLI	**Coloredo**	0.28	223	*e*Pg	Pg	18 56 38.7	-0.3
COLI				*e*Sg	Sg	18 56 42.7	-0.2
GMNA	**Gemona**	0.29	258	*e*PG	Pg	18 56 40.3	+1.0
GMNA				SG	Sg	18 56 45.7	+2.3
	comp=Z,179nm,0.2s						
BAD	**Bernadia**	0.30	251	*e*Pg	Pg	18 56 38.9	-0.6
BAD				*e*Sg	Sg	18 56 43.8	+0.3
VOY	**Vojsko**	0.35	151	⇓*i*Pg	Pg	18 56 40.3	0.0
VOY				*e*Sg	Sg	18 56 45.8	+0.7
BOO	**Bordano**	0.38	268	⇓*i*Pg	Pg	18 56 40.3	-0.7
BUA	**Buia**	0.39	252	*e*Pg	Pg	18 56 40.7	-0.4
PLRO	**Paularo**	0.41	302	*e*Pg	Pg	18 56 41.7	+0.2
MPRI	**Monte Prat**	0.47	259	*e*Pg	Pg	18 56 42.4	-0.4
ZOU	**Zoufplan**	0.52	295	⇓*e*Pg	Pg	18 56 43.7	0.0
ZOU				*e*Sg	Sg	18 56 51.7	+1.0
JAVS	**Javornik**	0.53	147	⇑*i*Pg	Pg	18 56 43.4	-0.4
	comp=Z,17nm,0.1s						
TLI	**Talmassons**	0.56	223	⇑*e*Pg	Pg	18 56 43.7	-0.9
TRI	**Trieste**	0.63	173	*e*PG	Pg	18 56 44.9	-1.0
TRI				SG	Sg	18 56 54.6	+0.2
	comp=Z,25nm,0.2s						
OBKA	**Obir**	0.64	74	⇑*i*PG	Pg	18 56 46.7	+0.5
OBKA				*i* SG	Sg	18 56 55.9	+1.1
	comp=Z,21nm,0.2s						
FVI	**Forni Avoltri**	0.66	294	*e*PG	Pg	18 56 46.3	-0.1
FVI				SG	Sg	18 56 57.2	+2.0
	comp=Z,23nm,0.2s						
LJU	**Ljubljana**	0.67	115	*i* Pg	Pg	18 56 47.1	+0.3
LJU				*i* Sg	Sg	18 56 57.2	+1.3
	comp=Z,25nm,0.2s						
KBA	**Koelnbreinsper**	0.77	344	⇑*i*PG	Pg	18 56 47.8	-0.9
KBA				*i* SG	Sg	18 56 58.8	-0.3
	comp=Z,8.7nm,0.2s						
CRES	**Cresnjevec ost**	1.36	111	*e*Sg	Sg	18 57 18.9	+0.5
BOJS	**Bojanci**	1.39	126	*i* Sg	Sg	18 57 19.1	-0.6
VBY	**Vinica-Bojanci**	1.40	126	*e*Pg	Pg	18 57 02.3	+1.2
GOLS	**Golise**	1.41	103	*e*Pg	Pg	18 57 00.1	-1.3
MOA	**Molln**	1.57	15	⇑*i*PG	Pg	18 57 03.4	-1.2
MOA				*i* SG	Sg	18 57 25.6	0.0
	comp=Z,5.7nm,0.4s						
ARSA	**Arzberg**	1.58	54	⇓*i*PG	Pg	18 57 03.9	-0.8
ARSA				*i* SG	Sg	18 57 25.4	-0.4
	comp=Z,6.5nm,0.4s						
WTTA	**Wattenberg**	1.67	305	⇑*i*PG	Pg	18 57 04.6	-1.9
WTTA				*i* SG	Sg	18 57 27.0	-1.8
	comp=Z,3.7nm,0.4s						

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*TAP **26** 19:02:14.9, 24.77N×122.30E, h105^{km}±1^{km}, ML3.3*

*JMA **26** 19:02:25.3±0.2, 24.78N×122.48E, h101^{km}, M2.0*

ISC 26 19:02:25.2±2.7**, 24.6N**±0.5×**122.5E**±0.1**, h105**^{km}±19^{km}**, n5, σ0^{s}31**/9**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.52	105	P	P	19 02 41.9	+0.1
YOJ				S	S	19 02 54.3	0.0
IRIF	**Iriomote-Funau**	1.19	103	P	P	19 02 48.3	-0.2
IRIF				S	S	19 03 05.9	-0.1
JKRS	**Kuro-shima**	1.46	104	P	P	19 02 52.0	+0.3
JKRS				S	S	19 03 11.9	+0.4

JIJ	Ishigaki jima	1.55	98	P	P	19 02 52.6	-0.2
JIJ				S	S	19 03 12.8	-0.6
JTJ	Tarama	2.04	88	S	S	19 03 24.5	+0.3

MAN 26 19:12:52.0,12.00N×124.09E,h48^{km},mb3.9,ML2.7, MS2.4,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	1.07	151	*e*P	P	19 13 10.2	-0.6
PLP	Palo	1.20	133	*i* P	P	19 13 13.1	+0.4
PLP				*e*S	S	19 13 29.1	+1.0
BESP	Borongan	1.38	106	*e*P	P	19 13 15.8	+0.5
LLP	Lapu-Lapu	1.67	184	*e*P	P	19 13 20.0	+0.6

*IDC **26** 19:44:51.3±13.0,4.38N×94.98E,h82^{km}±115^{km},mb3.5/8, mb1 3.6/9,mb1mx3.5/18,ML3.6/1,Error ellipse: s-maj=101.0km s-min=14.6km az=58.0*

*NEIC **26** 19:44:52.0±8.6,4.39N×94.91E,h92^{km}±71^{km},mb4.2/5, Error ellipse: s-maj=79.4km s-min=10.3km az=57.0*

ISC 26 19:44:50.9±0.9,**4.4N**±0.1×**94.9E**±0.2,**h100^{km},n14, σ0^{s}.88**/14,**mb3.9**/13,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	14.56	16	P	P	19 48 13.9	+0.7
	0.1nm,0.3s,baz=209,slow=11,SNR=4.4						
LSA	Lhasa	25.44	352	*e*P	P	19 50 10.2	-1.0
	1.2nm,0.6s,mb3.5						
FITZ	Fitzroy Crossi	37.68	127	P	P	19 51 57.0	-1.4
	2.6nm,1.1s,mb4.0,baz=270,slow=20,SNR=2.5						
MKAR	Makanchi Array	43.64	347	P	P	19 52 47.5	+0.4
	0.7nm,0.4s,mb3.8,baz=161,slow=8.0,SNR=23						
SONM	Songino Array	44.42	11	P	P	19 52 53.4	0.0
	0.4nm,0.9s,mb3.1,baz=180,slow=7.2,SNR=2.9						
WRA	Warramunga Arr	45.70	123	P	P	19 53 04.1	+0.1
	1.4nm,0.6s,mb3.9,baz=300,slow=9.2,SNR=17						
WRAB	Tennant Creek	45.70	123	*e*P	P	19 53 04.0	0.0
	9.5nm,1.1s,mb4.4						
ASAR	Alice Springs	47.16	128	P	P	19 53 15.7	+0.2
	0.5nm,0.5s,mb3.5,baz=298,slow=7.9,SNR=19						
BVAR	Borovoye Array	52.52	342	P	P	19 53 55.9	0.0
	0.4nm,0.7s,mb3.6,baz=135,slow=4.1,SNR=2.8						
BRVK	Borovoye	52.58	342	P	P	19 53 55.1	-1.3
	2.1nm,0.8s,mb4.2						
ZRNK	Zerenda	52.90	341	*e*P	P	19 53 57.8	-1.1
	1.5nm,1.0s,mb4.0						
TAU	Tasmania Unive	66.73	141	P	P	19 55 34.5	+0.8
	20nm,0.9s,mb5.0						
FINES	FINESS Array B	76.13	333	P	P	19 56 30.1	+0.8
	0.5nm,0.4s,mb3.6,baz=117,slow=6.2,SNR=6.0						
ARCES	ARCESS Array B	78.78	340	P	P	19 56 45.7	+1.8
	1.8nm,1.1s,mb3.8,baz=104,slow=7.4,SNR=2.8						

WEL 26 19:47:38.7±0.5,**38.49S×175.97E,h152^{km}±3^{km},ML3.6**/5,**6C,Error ellipse: s-maj=3.2km s-min=2.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATZ	Rangitukua	0.41	203	⇑PN	P	19 47 59.9	-0.4
KATZ	Kakaramea	0.53	204	PN	P	19 48 00.4	-0.4
MGZ	Maungaku	0.61	213	PN	P	19 48 01.0	-0.3
WTVZ	West Tongariro	0.69	205	PN	P	19 48 01.4	-0.3
NGZ	Ngauruhoe	0.74	203	⇑PN	P	19 48 01.9	-0.1
CNZ	Chateau	0.78	205	PN	P	19 48 02.0	-0.2
WPVZ	Whakapapa	0.79	205	⇑PN	P	19 48 02.1	-0.2
BKZ	Black Stump Fm	0.79	149	⇑PN	P	19 48 02.3	0.0
BKZ				SN	S	19 48 20.1	-0.3
TUVZ	Tukino	0.82	198	PN	P	19 48 02.3	-0.1
FWVZ	Far West T-bar	0.83	203	PN	P	19 48 02.2	-0.4
WNVZ	Wahianoa	0.89	199	PN	P	19 48 02.9	-0.1
URZ	Urewera	0.92	76	PN	P	19 48 02.5	-0.7
URZ				SN	S	19 48 21.1	-1.0
MOVZ	Moawhango	0.93	190	⇑PN	P	19 48 02.9	-0.4
MWZ	Matawai	1.23	83	PN	P	19 48 06.2	+0.2
MWZ				SN	S	19 48 26.1	-1.0
KNZ	Kokohu	1.43	112	PN	P	19 48 08.1	+0.1
WAZ	Wanganui	1.48	211	PN	P	19 48 07.5	-1.0
TSZ	Takapari Road	1.57	180	PN	P	19 48 08.7	-0.7
TSZ				SN	S	19 48 30.9	-2.2
PUZ	Puketiti	1.85	78	PN	P	19 48 11.2	-1.3
PUZ				SN	S	19 48 36.3	-2.2
MXZ	Matakaoa Point	2.06	64	PN	P	19 48 14.1	-0.9
MRZ	Mangatainoka R	2.19	188	⇑PN	P	19 48 14.6	-2.0
MRZ				SN	S	19 48 42.5	-3.1
BFZ	Birch Farm	2.20	175	PN	P	19 48 15.0	-1.7
KIW	Kapiti Island	2.51	199	PN	P	19 48 17.6	-2.9
MTW	Mount Morrison	2.69	188	PN	P	19 48 19.9	-3.0
CAW	Cannon Point	2.71	195	PN	P	19 48 20.0	-3.0
MRW	Makara Radio	2.91	199	PN	P	19 48 22.1	-3.5
PAWZ	Paruwai Farm	2.92	188	PN	P	19 48 22.3	-3.5
MSWZ	Moikau Station	2.97	191	PN	P	19 48 22.9	-3.6
SNZO	South Karori	2.98	199	PN	P	19 48 22.6	-3.9
NNZ	Nelson	3.38	215	PN	P	19 48 26.9	-4.8
NNZ				SN	S	19 49 07.4	-4.9
QRZ	Quartz Range	3.54	228	PN	P	19 48 28.9	-4.9
THZ	Tophouse	4.03	215	PN	P	19 48 34.9	-5.3
LTZ	Lake Taylor	5.13	212	PN	P	19 48 49.5	-5.2

*IDC **26** 20:00:34.2±3.8,34.85S×179.18E,h136^{km}±31^{km},mb4.3/5, mb1 4.4/7,mb1mx4.2/13,Error ellipse: s-maj=31.9km s-min=21.7km az=28.0*

*NEIC **26** 20:00:43.1±1.0,35.89S×178.94E,h228^{km}±8^{km},mb4.6/12, Error ellipse: s-maj=16.1km s-min=14.8km az=108.0*

*SYO **26** 20:00:43.0,35.89S×178.94E,h228^{km},MB4.6*

ISC 26 20:00:43.1±1.1,**35.70S**±0.08×**178.5E**±0.1,**h206^{km}**±6^{km},**n123,σ1^{s}.47**/108,**mb4.5**/15,**4C-2D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.87	185	P	P	20 01 20.0	-1.1
MXZ	Matakaoa Point	1.87	185	P	P	20 01 20.2	-0.9
WIZ	White Island	2.11	210	P	P	20 01 24.9	+1.3
WIZ	White Island	2.11	210	P	P	20 01 25.4	+1.8
PUZ	Puketiti	2.38	185	P	P	20 01 26.1	-0.4
PUZ	Puketiti	2.38	185	P	P	20 01 26.2	-0.3
KUZ	Kuaotunu	2.48	244	P	P	20 01 27.6	0.0
KUZ	Kuaotunu	2.48	244	P	P	20 01 27.5	-0.1
MARZ	Manawahe	2.71	212	P	P	20 01 31.9	+1.7
MARZ	Manawahe	2.71	212	P	P	20 01 32.4	+2.2
MWZ	Matawai	2.75	196	P	P	20 01 31.3	+0.7
EDRZ	Edgecumbe	2.79	210	P	P	20 01 32.8	+1.7
EDRZ	Edgecumbe	2.79	210	P	P	20 01 33.3	+2.2
URZ	Urewera	2.79	203	P	P	20 01 31.9	+0.8
	34nm,0.3s,baz=350,slow=1.1,SNR=169						
URZ				S	S	20 02 15.5	+7.3
	82nm,0.3s,baz=142,slow=23,SNR=14						
URZ	Urewera	2.79	203	P	P	20 01 31.3	+0.2
URZ	Urewera	2.79	203	P	P	20 01 31.9	+0.8
LIRZ	Lichensteins R	2.86	216	P	P	20 01 34.3	+2.4
LIRZ	Lichensteins R	2.86	216	P	P	20 01 35.2	+3.3
TAZ	Tarawera	2.99	212	P	P	20 01 35.0	+1.6
TAZ	Tarawera	2.99	212	P	P	20 01 37.0	+3.6
PATZ	Paeroa	3.23	213	P	P	20 01 37.9	+1.7
PATZ	Paeroa	3.23	213	P	P	20 01 39.2	+3.0
KNZ	Kokohu	3.38	191	P	P	20 01 37.7	-0.4
KNZ	Kokohu	3.38	191	*e*P	P	20 01 37.9	-0.2
WCZ	Waipu Caves	3.39	265	P	P	20 01 36.6	-1.6
WCZ	Waipu Caves	3.39	265	*e*P	P	20 01 36.6	-1.6
BKZ	Black Stump Fm	3.82	204	P	P	20 01 44.0	+0.6
BKZ	Black Stump Fm	3.82	204	P	P	20 01 44.3	+0.9
KATZ	Kakaramea	3.96	214	P	P	20 01 47.9	+2.6
KATZ	Kakaramea	3.96	214	P	P	20 01 48.2	+3.0
MGZ	Maungaku	4.06	215	P	P	20 01 48.0	+1.6
MGZ	Maungaku	4.06	215	P	P	20 01 49.1	+2.7
KAVZ	Karewarewa	4.09	213	P	P	20 01 48.6	+1.8
KAVZ	Karewarewa	4.09	213	P	P	20 01 48.9	+2.1
NGZ	Ngauruhoe	4.17	213	P	P	20 01 49.5	+1.7
NGZ	Ngauruhoe	4.17	213	P	P	20 01 49.8	+2.0
CNZ	Chateau	4.21	213	P	P	20 01 48.5	+0.1
CNZ	Chateau	4.21	213	P	P	20 01 50.4	+2.0
TUVZ	Tukino	4.22	212	P	P	20 01 50.2	+1.7
TUVZ	Tukino	4.22	212	P	P	20 01 45.7	-2.8
TUVZ				P		20 01 50.2	
PWZ	Pawanui	4.52	196	P	P	20 01 50.9	-1.3
PWZ	Pawanui	4.52	196	P	P	20 01 51.3	-0.9
TSZ	Takapari Road	4.80	204	P	P	20 01 54.3	-1.4
WAZ	Wanganui	4.92	213	P	P	20 01 58.3	+1.0
WAZ	Wanganui	4.92	213	P	P	20 01 59.1	+1.8
BFZ	Birch Farm	5.29	199	P	P	20 02 01.4	-0.5
MRZ	Mangatainoka R	5.47	204	P	P	20 02 02.7	-1.6
MRZ	Mangatainoka R	5.47	204	*e*P	P	20 02 03.2	-1.1
KIW	Kapiti Island	5.88	208	P	P	20 02 08.4	-1.2
KIW	Kapiti Island	5.88	208	P	P	20 02 08.9	-0.7
MTW	Mount Morrison	5.94	202	P	P	20 02 08.3	-2.1
MTW	Mount Morrison	5.94	202	P	P	20 02 08.7	-1.7
CAW	Cannon Point	6.04	205	P	P	20 02 09.1	-2.5
CAW	Cannon Point	6.04	205	P	P	20 02 10.1	-1.5
MRW	Makara Radio	6.28	207	P	P	20 02 13.4	-1.3
MRW	Makara Radio	6.28	207	P	P	20 02 13.5	-1.2
SNZO	South Karori	6.35	207	P	P	20 02 13.5	-2.1
SNZO	South Karori	6.35	207	P	P	20 02 14.3	-1.3
NNZ	Nelson	6.82	215	P	P	20 02 20.7	-1.1
NNZ	Nelson	6.82	215	*e*P	P	20 02 21.6	-0.2
QRZ	Quartz Range	6.95	221	P	P	20 02 22.0	-1.4
QRZ	Quartz Range	6.95	221	*e*P	P	20 02 21.8	-1.6
THZ	Tophouse	7.47	214	P	P	20 02 28.7	-1.5
THZ	Tophouse	7.47	214	*e*P	P	20 02 29.5	-0.7
KHZ	Kahutara	7.74	208	P	P	20 02 33.0	-0.7
KHZ	Kahutara	7.74	208	*e*P	P	20 02 33.0	-0.7
DSZ	Denniston Nort	7.99	219	P	P	20 02 36.1	-0.9
LTZ	Lake Taylor	8.57	212	P	P	20 02 42.6	-1.9
LTZ	Lake Taylor	8.57	212	*e*P	P	20 02 42.7	-1.8
MQZ	McQueen's Vall	9.18	208	P	P	20 02 50.0	-2.4
MQZ	McQueen's Vall	9.18	208	*e*P	P	20 02 50.0	-2.4
WVZ	Waitaha Valley	9.51	217	P	P	20 02 53.7	-2.9
WVZ	Waitaha Valley	9.51	217	*e*P	P	20 02 54.3	-2.3
RPZ	Rata Peaks	9.85	213	P	P	20 03 00.3	-0.7
	2.4nm,0.3s,baz=19,slow=16,SNR=8.8						
RPZ				S	S	20 04 52.3	+3.3
	3.1nm,0.3s,baz=176,slow=9.0,SNR=7.7						
RPZ	Rata Peaks	9.85	213	P	P	20 03 00.2	-0.8
RPZ	Rata Peaks	9.85	213	*e*P	P	20 03 00.2	-0.8
LBZ	Lake Benmore	10.76	214	P	P	20 03 11.7	-1.1
ODZ	Otahua Downs	11.09	210	P	P	20 03 16.1	-0.9
ODZ	Otahua Downs	11.09	210	*e*P	P	20 03 16.2	-0.8
JCZ	Jackson Bay	11.22	219	P	P	20 03 18.3	-0.3
CNB	Canberra Magne	23.69	262	*e*P	P	20 05 41.9	+4.7
	40nm,1.8s,mb4.7						
STKA	Stephens Creek	30.79	266	*e*P	P	20 06 43.5	+2.1
	5.9nm,0.4s,mb4.6						
STKA	Stephens Creek	30.79	266	P	P	20 06 43.5	+2.1
	6.5nm,0.5s,mb4.6,baz=110,slow=11,SNR=49						
CTA	Charters Tower	32.29	290	*e*P	P	20 06 53.9	-0.6
	18nm,1.2s,mb4.5						
CTAO	Charters Tower	32.29	290	*e*P	P	20 06 53.7	-0.8
	48nm,1.1s,mb4.9						
ASAR	Alice Springs	40.25	275	P	P	20 08 01.9	+0.6
	41nm,0.5s,mb5.1,baz=115,slow=7.8,SNR=728						
ASPA	Alice Springs	40.25	275	*e*P	P	20 08 01.7	+0.4
WB2	Warramunga Arr	41.72	280	*e*P	P	20 08 12.3	-1.1
WRAB	Tennant Creek	41.73	280	*e*P	P	20 08 12.8	-0.6
	116nm,0.6s,mb5.5						
WRA	Warramunga Arr	41.73	280	P	P	20 08 12.7	-0.8
	53nm,0.5s,mb5.2,baz=118,slow=7.7,SNR=1003						
FORT	Forrest	42.10	262	*e*P	P	20 08 17.7	+1.3
	24nm,0.4s,mb5.0						
KAKA	Kakadu	47.34	287	*e*P	P	20 08 55.9	-2.1
	18nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	49.70	276	*e*P	P	20 09 16.1	0.0
	5.2nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	49.70	276	P	P	20 09 16.4	+0.4
	4.9nm,0.6s,mb4.0,baz=163,slow=6.5,SNR=45						
KLBR	Kellerberrin	50.04	256	*e*P	P	20 09 19.0	+0.5
MUN	Mundaring	51.11	255	*e*P	P	20 09 27.7	+1.1
	16nm,1.2s,mb4.3						
MAW	Mawson	66.32	202	P	P	20 11 13.4	+2.6
	0.9nm,0.5s,mb3.7,baz=135,slow=7.1,SNR=3.8						
PMSA	Palmer Station	68.65	156	*e*P	P	20 11 23.9	-1.4
	11nm,0.9s,mb4.5						
SYO	Syowa Base	71.29	194	⇓P	P	20 11 42.5	+1.3
SYO	Syowa Base	71.29	194	⇑sP	sP	20 12 50.5	-1.5
SNAA	Sanae	72.93	180	⇓*i*	P	20 11 53.7	+3.0
SNAA	Sanae	72.93	180	*e*P	P	20 11 53.0	+2.3
	3.2nm,0.9s,mb4.0						
VNA3	Neumayer Olymp	73.20	177	⇑*i*	P	20 11 57.2	+4.8
VNA2	Neumayer--Watz	73.60	178	⇑*i*	P	20 11 59.8	+5.2
VNA1	Neumayer--Stat	73.84	178	⇑*i*	P	20 12 02.1	+6.0
NVAR	Mina Array Bea	94.09	45	P	P	20 13 33.5	-5.3
	1.0nm,0.8s,mb3.9,baz=230,slow=9.0,SNR=3.9						
LTX	Lajitas	97.66	59	P	P	20 13 59.1	+3.7
	1.3nm,0.6s,mb4.4						
AHID	Auburn Hatcher	101.06	45	*e*Pdif	P	20 14 17.4	+7.0
AHID				*e*		20 14 36.3	
MKAR	Makanchi Array	118.85	309	PKP	PKPdf	20 19 05.0	-1.5
	0.2nm,0.5s,baz=177,slow=2.5,SNR=6.5						
BVAR	Borovoye Array	128.01	313	PKP	PKPdf	20 19 22.9	-1.0
	0.3nm,0.4s,baz=131,slow=0.7,SNR=4.3						
ARCES	ARCESS Array B	143.02	345	PKhKP		20 19 45.3	
	1.7nm,0.9s,baz=358,slow=2.1,SNR=10.0						
ARCES				PKP	PKPdf	20 19 49.6	-1.2
	1.4nm,0.5s,slow=0.9,SNR=13						
KAF	Kangasniemi	148.34	335	*e*pkp	PKPdf	20 20 01.1	+1.0
	baz=46,slow=2.6						
FINES	FINESS Array B	148.88	335	PKPbc	PKPdf	20 20 03.1	+2.1
	4.3nm,0.5s,baz=90,slow=4.3,SNR=50						
LIC	Lamto	150.49	173	*e*P	PKPdf	20 20 09.4	+4.5
	51nm,1.6s						
KIC	Kosan Boka	150.65	173	*e*P	PKPdf	20 20 12.5	+7.3
	145nm,1.7s						
TIC	Toumodi	150.91	173	*e*P	PKPdf	20 20 11.5	+5.9
	7.8nm,0.2s						
DBIC	Dimbokro	150.95	173	PKPbc	PKPdf	20 20 14.4	+8.8
	1.6nm,0.5s,baz=328,slow=22,SNR=7.9						
BRTR	Keskin Array B	152.02	289	PKPbc	PKPdf	20 20 13.8	+7.3
	0.9nm,0.5s,baz=150,slow=4.7,SNR=5.0						
AKASG	Malin Array Be	153.29	314	PKPbc	PKPdf	20 20 14.4	+6.6
	0.3nm,0.3s,baz=46,slow=2.9,SNR=4.0						
AKASG				PKPab	PKPab	20 20 26.4	-4.5
	0.4nm,0.4s,baz=44,slow=4.1,SNR=6.3						
NB2	NORSAR Subarra	153.37	346	PKP		20 20 13.3	
	1.4nm,0.5s,baz=22,slow=2.4						
NOA	NORSAR Array B	153.37	346	PKPbc	PKPdf	20 20 13.9	+6.3
	1.1nm,0.6s,baz=31,slow=2.1,SNR=11						
HFS	Hagfors	153.65	343	PKPbc	PKPdf	20 20 14.0	+6.0
	2.1nm,0.4s,baz=117,slow=3.3,SNR=15						
CLL	Collm	161.24	331	*e*PKP2	PKPab	20 21 06.0	+1.2

*LDG **26** 20:05:35.9±0.1,43.12N×0.43W,h10^{km},Md1.8/2,Ml1.8/5, Error ellipse: s-maj=2.5km s-min=1.5km az=127.0*

*MDD **26** 20:05:36.4±0.3,43.10N×0.40W,h11^{km}±1^{km},mbLg1.3/8, Error ellipse: s-maj=3.5km s-min=2.0km az=172.0, PRXIMO*

*STR **26** 20:05:37.0±0.1,43.05N×0.37W,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 20:05:34.4±0.5,**43.18N**±0.02×**0.40W**±0.03,**h11^{km},n19, σ1^{s}.06**/29,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	Montagne du Re	0.11	179	Pg	Pg	20 05 38.2	+0.9
REYF				Sg	Sg	20 05 39.4	+0.1
REYF	Montagne du Re	0.11	179	Pg	Pg	20 05 38.3	+0.9
REYF				Lg		20 05 39.5	
ETSF	Etsaut	0.31	203	*e*Pg	Pg	20 05 41.1	+0.3
ETSF				*e*Sg	Sg	20 05 44.0	-1.1
	18nm,0.2s						
LABF	Labassere	0.37	111	Pg	Pg	20 05 43.7	+1.7
LABF				Sg	Sg	20 05 48.1	+1.0
LABF	Labassere	0.37	111	Pg	Pg	20 05 43.3	+1.3
LABF				Lg		20 05 48.2	
FDAF	Les Forges d'A	0.39	199	Pg	Pg	20 05 42.4	+0.1
FDAF				Sg	Sg	20 05 46.8	-0.8
FDAF	Les Forges d'A	0.39	199	Pg	Pg	20 05 42.4	0.0
FDAF				Lg		20 05 47.0	
VIEF	Viey	0.43	134	Pg	Pg	20 05 43.7	+0.5
VIEF				Sg	Sg	20 05 48.6	-0.4
VIEF	Viey	0.43	134	Pg	Pg	20 05 43.6	+0.4
VIEF				Lg		20 05 48.2	
EPF	Esparros	0.56	106	*e*Pg	Pg	20 05 47.3	+1.6
EPF				*e*Sg	Sg	20 05 55.1	+1.8
	3.2nm,0.2s						
SJPF	Ste Jean	0.61	264	*e*Pn	Pn	20 05 47.8	-0.9
SJPF				*e*Sg	Sg	20 05 55.9	+0.9
	1.5nm,0.2s						
EALK	Alkurruntz	0.81	273	Pg	Pg	20 05 51.9	+1.2
	0.1nm,0.4s,SNR=7.9						
EALK				Lg		20 06 02.2	
	8.9nm,0.7s,SNR=7.9						
ESAC	San Caprasio	1.46	182	Pg	Pg	20 06 02.3	-1.3
	1.4nm,0.3s,SNR=7.9						
ESAC				Lg		20 06 21.0	
	3.5nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.92	84	*e*Pn	Pn	20 06 07.4	0.0
MTLF				*e*Sg	Sg	20 06 36.8	-1.4
	0.9nm,0.3s						
LFF	La Frestale	1.94	25	*e*Pn	Pn	20 06 07.8	+0.1
LFF				*e*Sg	Sg	20 06 39.2	+0.2
	2.4nm,0.3s						
EPOB	Poblet	2.13	149	Pg	Pg	20 06 14.1	-2.8
	0.1nm,0.2s,SNR=7.9						
EPOB				Lg		20 06 40.2	
	0.9nm,0.2s,SNR=7.9						
CAF	Calviac	2.49	45	*e*Pn	Pn	20 06 15.3	-0.2
CAF				*e*Sg	Sg	20 06 56.4	-0.8
	0.9nm,0.2s						
RJF	Les Rejaudoux	2.53	32	*e*Sg	Sg	20 06 57.9	-0.7
	0.9nm,0.2s						
LASF	Ste Croix	3.21	72	*e*Sg	Sg	20 07 18.0	-3.4
	0.9nm,0.3s						

*IDC **26** 20:23:00.8±1.9,26.51N×102.44E,mb3.5/3,mb1 3.7/4, mb1mx3.5/17,ML3.0/1,Error ellipse: s-maj=56.7km s-min=26.6km az=95.0*

*BJI **26** 20:23:01.7,26.38N×101.90E,h12^{km},ML3.5*

ISC 26 20:23:00.4±0.7,**26.47N**±0.04×**102.37E**±0.07,**h10^{km},n9, σ0^{s}.83**/15,**mb3.6**/3,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	1.38	166	*e*P	Pn	20 23 27.3	+1.5
KMI				SG	Sg	20 23 46.0	-0.5
KMI				Smax			
	comp=N,788nm,0.5s						
KMI				Smax			
	comp=E,501nm,0.6s						
KMI				LR	LR		
	comp=N,1µm,3.8s						
KMI				LR	LR		
	comp=E,1µm,3.8s						
KMI				LR	LR		
	comp=Z,309nm,5.8s						
GYA	Guiyang	3.84	89	*e*P	Pn	20 24 11.5	+11
GYA				PG	Pg	20 24 22.0	+4.9
GYA				S	Sn	20 24 58.3	+12
GYA				SG	Sg	20 25 08.5	+0.1
GYA				Smax			
	comp=N,20nm,0.5s						
GYA				Smax			
	comp=E,20nm,0.6s						
CD2	Chengdu	4.58	15	P	Pn	20 24 18.0	+6.6
CD2				PG	Pg	20 24 30.8	-1.1
CD2				SG	Sg	20 25 33.3	+0.3
CD2				Smax			
	comp=N,56nm,1.0s						
CD2				Smax			
	comp=E,58nm,1.0s						
CMAR	Chiang Mai Arr	8.58	202	Pn	P	20 25 08.2	+0.6
	comp=E,0.1nm,0.3s,baz=17,slow=12,SNR=4.3						
CMAR				Pg	P	20 25 38.1	+30
	comp=E,0.2nm,0.3s,baz=9.0,slow=16,SNR=6.7						
CMAR				Lg		20 27 24.2	
	comp=E,0.1nm,0.3s,baz=178,slow=40,SNR=2.8						
XAN	Xi'an	9.43	35	P	P	20 25 20.3	+1.0
SONM	Songino Array	21.56	7	P	P	20 27 51.8	-0.1
	comp=E,0.7nm,0.6s,mb3.3,baz=192,slow=12,SNR=6.6						
WRA	Warramunga Arr	55.59	143	P	P	20 32 38.0	-0.7
	comp=E,1.0nm,0.6s,mb4.0,baz=331,slow=8.1,SNR=18						
WB2	Warramunga Arr	55.60	143	*e*P	P	20 32 38.2	-0.6
ASAR	Alice Springs	58.43	146	P	P	20 32 58.5	-0.4
	comp=E,0.3nm,0.6s,mb3.5,baz=325,slow=7.2,SNR=6.9						

*IDC **26** 20:23:21.5±1.5,41.73N×72.43E,mb3.7/7,mb1 3.9/9, mb1mx3.7/22,ML3.8/2,Error ellipse: s-maj=22.7km s-min=16.6km az=179.0*

*NNC **26** 20:23:23.0±2.4,41.81N×72.70E,mpv4.3,Error ellipse: s-maj=30.0km s-min=6.9km az=11.0*

*MOS **26** 20:23:23.7±2.6,41.98N×72.31E,h10^{km},mb4.0/5,Error ellipse: s-maj=17.9km s-min=9.7km az=97.9*

*KNET **26** 20:23:24.5±0.7,41.83N×72.70E,h6^{km}±3^{km},ml3.8,Error ellipse: s-maj=5.7km s-min=4.4km az=151.0*

*NEIC **26** 20:23:29.0±3.4,42.09N×72.54E,h42^{km}±22^{km},mb3.7/3, Error ellipse: s-maj=40.9km s-min=13.1km az=199.0*

ISC 26 20:23:22.4±0.8,**41.89N**±0.08×**72.30E**±0.04,**h10^{km},n48, σ1^{s}.45**/62,**mb3.8**/8,**18C-6D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	1.07	77	P	Pb	20 23 40.7	-1.8
	428nm,0.2s,SNR=135						
AML				⇑S	Sb	20 23 52.7	-3.6
	3µm,0.3s						
EKS2	Erkin-Say	1.34	55	⇑P	Pb	20 23 46.8	-0.3
	81nm,0.2s,SNR=79						
EKS2				⇑S	Sb	20 24 03.5	-0.7
	342nm,0.3s						
UCH	Uchtor	1.69	78	⇓P	Pn	20 23 51.4	-0.7
	125nm,0.1s,SNR=516						
UCH				⇓S	Sn	20 24 12.1	-1.8
	885nm,0.2s						
KK31	Karatay Array	1.79	313	⇑P	Pn	20 23 59.3	+5.7
	310nm,0.5s,baz=119,slow=12,SNR=747						
KK31				⇓S	Sn	20 24 26.7	+10
	86nm,0.2s,baz=131,slow=27,SNR=13						
KKAR	Karatay Array	1.79	313	PN	Pn	20 23 59.3	+5.7
KKAR				S	Sn	20 24 26.6	+10
KKAR				pmax	pmax		
	comp=Z,37nm,0.2s						
AAK	Ala-Archa	1.79	65	⇓P	Pn	20 23 54.2	+0.5
	comp=Z,100nm,0.2s,SNR=109						
AAK	Ala-Archa	1.79	65	*e*Pn	Pn	20 23 53.2	-0.5
AAK				*e*Sn	Sn	20 24 13.2	-3.5
KBK	Karagaybulak	2.11	68	⇓P	Pn	20 23 59.7	+1.5
	comp=Z,119nm,0.2s,SNR=184						
KBK				⇑S	Sn	20 24 25.9	+1.2
	comp=Z,2µm,0.3s						
CHMS	Chumysh	2.13	58	⇑P	Pn	20 23 60.0	+1.5
	comp=Z,102nm,0.2s,SNR=123						
CHMS				⇑S	Sn	20 24 27.0	+1.8
	comp=Z,350nm,0.3s						
USP	Ospenovka	2.13	49	P	Pn	20 24 00.3	+1.8
	comp=Z,117nm,0.2s,SNR=126						
USP				⇑S	Sn	20 24 28.1	+2.9
	comp=Z,377nm,0.3s						
KZA	Kyzart	2.21	84	P	Pn	20 24 00.2	+0.5
	comp=Z,485nm,0.3s,SNR=373						
KZA				⇑S	Sn	20 24 27.7	+0.4
	comp=Z,1µm,0.3s						
TKM2	Tokmak 2	2.65	66	⇑P	Pn	20 24 06.8	+0.8
	comp=Z,61nm,0.2s,SNR=100						
TKM2				⇑S	Sn	20 24 41.9	+3.4
	comp=Z,388nm,0.2s						
ULHL	Ulahol	2.96	82	⇑P	Pn	20 24 10.5	+0.1
	comp=Z,45nm,0.2s,SNR=31						
AAA	Alma-Ata	3.70	67	*e*PN	Pn	20 24 25.8	+4.9
AAA				*e*		20 24 30.9	
AAA				*i*		20 25 12.7	
AAA				pmax	pmax		
	comp=Z,120nm,0.4s						
AAA				smax			
	comp=N,840nm,0.7s						
MK31	Makanchi Array	8.68	52	Pn	P	20 25 30.0	-0.9
	comp=N,2.2nm,0.4s,baz=229,slow=12,SNR=71						
MK31				⇑Lg		20 27 50.3	
	comp=N,6.2nm,0.6s						
MKAR	Makanchi Array	8.68	52	Pn	P	20 25 30.1	-0.8
	comp=N,2.3nm,0.3s,baz=234,slow=14,SNR=105						
MKAR				Sn	Sn	20 27 22.0	+12
	comp=N,0.5nm,0.3s,baz=246,slow=25,SNR=3.6						
MKAR				Lg		20 27 53.6	
	comp=N,1.1nm,0.3s,baz=234,slow=32,SNR=4.0						
MKAR	Makanchi Array	8.68	52	P	P	20 25 29.9	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	8.68	52	Pn	P	20 25 30.1	-0.8
MKAR				Sn	Sn	20 27 22.0	+12
MKAR				Lg		20 27 53.6	
KURK	Kurchatov	9.85	24	⇑Pn	P	20 25 44.0	-3.0
	comp=Z,2.8nm,1.7s,baz=184,slow=17,SNR=6.3						
KURK				⇑Lg		20 28 35.0	

	comp=Z,12nm,0.8s						
KURK	Kurchatov	9.85	24	P	P	20 25 43.9	-3.1
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURK	Kurchatov	9.85	24	*e*Pn	P	20 25 43.8	-3.2
	comp=Z,1.8nm,0.5s						
VOSK	Vostochnaya	10.87	356	⇑P	P	20 25 59.4	-1.7
	comp=Z,3.4nm,0.8s						
VOSK	Vostochnaya	10.87	356	P	P	20 25 59.3	-1.7
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVA0	Borovoye Array	11.21	354	⇑P	P	20 26 08.5	+2.8
	comp=Z,0.4nm,0.6s						
BVA0	Borovoye Array	11.21	354	P	P	20 26 08.4	+2.7
BVAR	Borovoye Array	11.21	354	Pn	P	20 26 04.9	-0.7
	comp=Z,0.3nm,0.3s,baz=152,slow=12,SNR=6.3						
BVAR				Sn	S	20 28 08.4	-3.7
	comp=Z,2.0nm,0.3s,baz=163,slow=26,SNR=6.4						
BVAR				Lg		20 29 19.5	
	comp=Z,1.1nm,0.3s,baz=194,slow=18,SNR=3.8						
BRVK	Borovoye	11.25	354	*e*P	P	20 25 58.7	-7.6
	comp=Z,3.9nm,0.6s						
ZRNK	Zerenda	11.29	350	⇓P	P	20 26 07.4	+0.7
	comp=Z,3.7nm,0.8s						
ZRNK	Zerenda	11.29	350	P	P	20 26 07.3	+0.6
ZRNK						20 28 07.6	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	Zerenda	11.29	350	*e*P	P	20 26 04.0	-2.7
	comp=Z,175nm,0.4s						
AB31	Akbulak array	11.36	315	⇑Pn	P	20 26 07.6	0.0
	comp=Z,5.5nm,0.7s						
AB31	Akbulak array	11.36	315	P	P	20 26 07.6	0.0
AB31						20 28 09.5	
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	17.05	333	P	P	20 27 20.5	-1.7
	comp=Z,3.3nm,0.8s						
SONM	Songino Array	24.75	64	P	P	20 28 44.3	-0.8
	comp=Z,0.9nm,0.9s,mb3.3,baz=263,slow=9.9,SNR=4.6						
FINES	FINESS Array B	33.73	321	P	P	20 30 06.0	+0.4
	comp=Z,1.3nm,0.7s,mb3.9,baz=184,slow=31,SNR=5.2						
FINES	FINESS Array B	33.73	321	P	P	20 30 06.0	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	36.63	335	P	P	20 30 31.1	+0.8
	comp=Z,1.7nm,0.6s,mb4.1,baz=104,slow=8.4,SNR=25						
ARCES	ARCESS Array B	36.63	335	P	P	20 30 31.1	+0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	40.81	319	P	P	20 31 05.3	+0.1
	comp=Z,0.5nm,0.5s,mb3.4,baz=91,slow=7.9						
NOA	NORSAR Array B	40.81	319	P	P	20 31 05.6	+0.3
	comp=Z,0.3nm,0.6s,mb3.1,baz=114,slow=7.3,SNR=5.1						
GERES	GERESS Array B	40.85	300	P	P	20 31 07.4	+1.8
	comp=Z,0.6nm,0.7s,mb3.3,baz=153,slow=30,SNR=3.4						
GERES	GERESS Array B	40.85	300	P	P	20 31 07.4	+1.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	Resolute Bay	63.40	356	*e*P	P	20 33 56.5	+2.8
	comp=Z,26nm,1.2s						
INK	Inuvik	68.43	10	P	P	20 34 23.8	-2.1
	comp=Z,0.7nm,0.5s,mb3.9,baz=2.7,slow=7.2,SNR=3.0						
INK	Inuvik	68.43	10	P	P	20 34 23.8	-2.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	69.33	17	P	P	20 34 29.6	-1.9
	comp=Z,0.5nm,0.8s,mb3.5,baz=319,slow=5.5,SNR=4.8						
ILAR	Eielson Array	69.33	17	P	P	20 34 29.6	-1.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SCHQ	Schefferville	77.53	337	*e*P	P	20 35 25.0	+5.6
	comp=Z,11nm,1.0s,mb4.8						

CASC 26 20:38:33.4±2.2, 13.24N×89.93W, h35^{km}±14^{km}, MD3.6, ML3.8, 15C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.66	26	⇑*e*P	P	20 38 46.8	+0.5
SBLS				*e*S	S	20 38 56.7	+1.1
SNJE	San Jose	0.69	27	⇑*e*P	P	20 38 47.3	+0.6
SNJE				*e*S	S	20 38 57.5	+1.1
RTR	El Retiro	0.70	23	⇑*e*P	P	20 38 47.6	+0.8
BOQS	Boqueron	0.80	52	⇑*e*P	P	20 38 48.5	+0.4
BOQS				*e*S	S	20 39 00.6	+1.6
SNET	Serv Nac Est T	0.81	57	⇑*e*P	P	20 38 48.6	+0.3
SNET				*e*S	S	20 38 59.8	+0.5
SNET				*i*		20 39 01.8	
	comp=Z,1μm,0.3s						
LFRS	El Faro	0.92	66	⇑*e*P	P	20 38 49.9	-0.1
LFRS				*e*S	S	20 39 02.1	0.0
LBRS	Las Brisas	0.99	60	⇑*e*P	P	20 38 51.1	+0.1
LBRS				*e*S	S	20 39 03.8	-0.1
LCBS	La Ceiba	1.01	66	⇑*e*P	P	20 38 51.0	-0.2
LCBS				*e*S	S	20 39 04.8	+0.4
IXG	Ixpaco	1.06	331	⇓*e*P	P	20 38 51.4	-0.5
IXG				*e*S	S	20 39 05.8	+0.2
IXG				AML	AML	20 39 07.8	
	comp=N,8μm,0.4s						
SNVI	San Vicente	1.12	71	⇑*e*P	P	20 38 53.2	+0.4
SNVI				*e*S	S	20 39 07.8	+0.6
MTO2	Montecristo 2	1.27	25	⇑*e*P	P	20 38 55.4	+0.4
MTO2				*e*S	S	20 39 12.8	+1.7
NBG	Las Nubes	1.40	343	⇑*e*P	P	20 38 57.8	+0.9
NBG				*e*S	S	20 39 16.9	+2.7
NBG				AML	AML	20 39 18.5	
	comp=N,4μm,0.3s						
FUG	Fuego 3	1.49	323	⇑*e*P	P	20 38 57.6	-0.5
FUG				*e*S	S	20 39 15.0	-1.6
VSM	San Miguel	1.62	83	⇓*e*P	P	20 39 00.2	+0.3
VSM				*e*S	S	20 39 21.4	+1.6
CAHU	Cacacuatique	1.75	72	⇑*e*P	P	20 39 01.6	-0.2
CAHU				*e*S	S	20 39 23.7	+0.6
MRL	Marmol	1.83	7	⇑*e*P	P	20 39 03.5	+0.6
TP2	Tecpan 2	1.86	325	*e*P	P	20 39 04.5	+1.0
TP2				*e*S	S	20 39 29.3	+3.3
TP2				AML	AML	20 39 33.2	
	comp=E,413nm,0.5s						
JAT	Jato	1.98	303	*e*P	P	20 39 04.8	-0.2
JAT				*e*S	S	20 39 29.3	+0.5
JAT				AML	AML	20 39 32.5	
	comp=E,530nm,0.3s						
CNCH	Conchagua	2.04	89	⇑*e*P	P	20 39 05.3	-0.6
CNCH				*e*S	S	20 39 30.3	0.0

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*TAP **26** 20:40:52.2, 22.02N×120.03E, h41^{km}±1^{km}, ML3.9*
*IDC **26** 20:40:52.3±0.9, 22.39N×119.70E, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, MS3.6/2, Ms1 3.6/2, ms1mx3.1/26, Error ellipse: s-maj=59.7km s-min=18.7km az=68.0*
*NEIC **26** 20:40:57.8±3.0, 22.36N×119.55E, h40^{km}±30^{km}, mb4.0/2, Error ellipse: s-maj=32.7km s-min=11.4km az=63.0*
ISC 26 20:40:56.4±4.3, 22.4N±0.2×119.6E±0.3, h46^{km}±41^{km}, n13, σ0^{s}43/11, mb3.8/8, MS4.3/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	Taipei	3.16	34	P	P	20 41 45.0	0.0
CMAR	Chiang Mai Arr	19.69	262	LR	LR	20 52 29.9	
	comp=Z,43nm,20.3s,baz=205,slow=35						
SONM	Songino Array	27.53	341	P	P	20 46 40.8	0.0
	1.0nm,0.9s,mb3.5,baz=150,slow=8.3,SNR=7.7						
MKAR	Makanchi Array	38.65	318	P	P	20 48 17.9	+0.9
	2.3nm,0.6s,mb4.1,baz=115,slow=9.7,SNR=21						
MKAR	Makanchi Array	38.65	318	P	P	20 48 17.9	+0.9
KURK	Kurchatov	42.57	322	P	P	20 48 48.5	-0.9
	2.8nm,1.1s,mb3.9						
WRA	Warramunga Arr	44.45	160	P	P	20 49 05.1	+0.2
	0.4nm,0.6s,mb3.4,baz=342,slow=9.0,SNR=3.9						
ASAR	Alice Springs	47.82	162	P	P	20 49 31.8	+0.1
	1.2nm,1.0s,mb3.9,baz=330,slow=7.3,SNR=4.7						
ZRNK	Zerenda	48.93	322	P	P	20 49 39.8	0.0
	1.7nm,1.0s,mb4.0						
STKA	Stephens Creek	57.90	158	P	P	20 50 46.0	-0.3
	1.3nm,0.5s,mb4.2,baz=332,slow=8.2,SNR=5.6						
STKA	Stephens Creek	57.90	158	P	P	20 50 46.0	-0.4
ILAR	Eielson Array	71.53	27	P	P	20 52 14.2	+0.1
	0.2nm,0.5s,mb3.3,baz=301,slow=7.5,SNR=4.8						
RAR	Rarotonga	89.78	113	LR	LR	21 28 09.8	
	comp=Z,106nm,19.4s,MS4.3,baz=52,slow=32						

IDC 26 20:55:36.7±16.0, 16.01S×175.17W, mb4.3/5, mb1 4.4/5, mb1mx4.1/16, Error ellipse: s-maj=312.0km s-min=141.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.85	258	P	P	21 02 48.5	-0.3
	2.0nm,0.5s,baz=96,slow=9.2,SNR=2.9						
STKA	Stephens Creek	42.26	240	P	P	21 03 31.4	-2.2
	1.9nm,0.7s,baz=97,slow=12,SNR=5.9						
WB2	Warramunga Arr	48.04	257	*e*P	P	21 04 18.2	-1.8
WRA	Warramunga Arr	48.05	257	P	P	21 04 17.9	-2.2
	1.3nm,0.6s,baz=90,slow=8.0,SNR=21						
ASAR	Alice Springs	48.30	252	P	P	21 04 19.3	-2.7
	7.9nm,0.5s,baz=88,slow=8.4,SNR=9.9						
ASPA	Alice Springs	48.31	252	*e*P	P	21 04 19.4	-2.7
KAKA	Kakadu	50.80	267	*e*P	P	21 04 40.4	-0.9
	2.6nm,0.4s						
FITZ	Fitzroy Crossi	56.42	259	P	P	21 05 20.7	-2.1
	4.5nm,1.2s,baz=154,slow=9.9,SNR=3.1						

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*IDC **26** 20:55:45.2±1.5, 20.23N×120.81E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, Error ellipse: s-maj=131.0km s-min=20.3km az=68.0*
*NEIC **26** 20:55:49.8±0.7, 20.23N×120.68E, h30^{km}, mb4.1/6, Error ellipse: s-maj=26.8km s-min=11.8km az=66.0*
ISC 26 20:55:48.8±4.6, 20.08N±0.07×120.5E±0.1, h33^{km}±35^{km}, n14, σ0^{s}91/16, mb3.8/9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	1.75	175	⇓*i*P	Pn	20 56 16.3	-1.1
PIP				*e*S	Sn	20 56 37.8	-1.0
CVP	Callao Caves	2.69	151	*e*P	Pn	20 56 32.0	+1.2
CVP				*e*S	Sn	20 57 03.0	+0.4
BJT	Baijiatuau	20.21	350	P	P	21 00 18.6	-5.0
	13nm,1.0s						
BJI	Beijing	20.23	350	P	P	21 00 19.9	-4.0
	11nm,1.1s						
GUMO	Guam	24.21	102	P	P	21 01 03.4	-0.3
	332nm,1.2s						
LSA	Lhasa	28.20	296	P	P	21 01 41.9	+1.2
	2.6nm,0.9s,mb3.9						
HIA	Hailar	29.13	359	P	P	21 01 48.6	-0.1
	2.9nm,0.6s,mb4.2						
SONM	Songino Array	29.95	341	P	P	21 01 54.7	-1.4
	0.5nm,0.8s,mb3.3,baz=170,slow=8.8,SNR=4.2						
FITZ	Fitzroy Crossi	38.28	172	P	P	21 03 07.9	-0.2
	2.1nm,1.0s,mb3.8,baz=336,slow=1.3,SNR=3.3						
MKAR	Makanchi Array	40.92	320	P	P	21 03 30.1	+0.5
	0.6nm,0.8s,mb3.3,baz=130,slow=9.5,SNR=3.9						
WRA	Warramunga Arr	42.03	160	P	P	21 03 38.8	-0.4
	0.8nm,0.4s,mb3.7,baz=341,slow=9.3,SNR=13						
KURK	Kurchatov	44.88	323	*e*P	P	21 04 02.1	+0.2
	4.1nm,1.3s,mb4.1						
ASAR	Alice Springs	45.41	163	P	P	21 04 06.5	+0.1
	0.5nm,0.4s,mb3.7,baz=347,slow=7.5,SNR=11						
ZRNK	Zerenda	51.24	323	P	P	21 04 46.8	-4.5
	1.8nm,1.0s,mb4.0						

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*NEIC **26** 21:04:52.0±6.0, 5.53S×153.18E, h57^{km}±34^{km}, mb4.2/4, Error ellipse: s-maj=82.6km s-min=20.4km az=106.0*
*IDC **26** 21:04:52.0±8.1, 5.55S×153.16E, h56^{km}±61^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.5/14, ML3.1/1, Error ellipse: s-maj=76.2km s-min=34.3km az=109.0*
ISC 26 21:04:49.2±5.3, 5.4S±0.2×153.1E±0.3, h41^{km}±39^{km}, n11, σ0^{s}70/12, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.11	235	P	P	21 06 33.2	0.0
	1.8nm,0.3s,baz=70,slow=14,SNR=4.2						
PMG				S	S	21 07 53.6	0.0
	3.6nm,0.3s,baz=147,slow=20,SNR=6.6						
KAKA	Kakadu	21.67	249	*e*P	P	21 09 38.5	+0.1
	11nm,1.1s,mb4.2						
WRAB	Tennant Creek	23.27	230	P	P	21 09 54.8	+0.7
	9.4nm,1.1s,mb4.1						
WB2	Warramunga Arr	23.27	230	*e*P	P	21 09 55.4	+1.2
WRA	Warramunga Arr	23.28	230	P	P	21 09 53.6	-0.7
	0.4nm,0.4s,mb3.2,baz=54,slow=9.8,SNR=15						
ASAR	Alice Springs	25.92	224	P	P	21 10 19.1	-0.5
	0.4nm,0.6s,mb3.2,baz=58,slow=8.7,SNR=7.0						
FITZ	Fitzroy Crossi	29.64	242	*e*P	P	21 10 52.2	-1.1
	2.4nm,1.2s,mb3.8						
FITZ	Fitzroy Crossi	29.64	242	P	P	21 10 52.4	-0.9
	2.7nm,1.1s,mb3.9,baz=66,slow=12,SNR=4.4						
SONM	Songino Array	66.97	328	P	P	21 15 39.9	+0.1
	0.3nm,0.5s,mb3.5,baz=147,slow=4.9,SNR=4.1						
MKAR	Makanchi Array	80.95	319	P	P	21 17 02.0	+1.0
	1.2nm,1.0s,mb3.8,baz=108,slow=5.3,SNR=3.9						
KURK	Kurchatov	84.41	322	P	P	21 17 17.7	-1.0
	2.9nm,1.3s,mb4.2						

DJA 26 21:20:08.3±1.0, 11.27S×118.49E, h33^{km}±6^{km}, ML4.6/3, 2C-5D, Error ellipse: s-maj=50.9km s-min=20.2km az=44.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.62	320	⇓*i*Pn	Pn	21 21 02.7	-0.9
	141nm,0.2s						
KEDI	Kedomdong	3.62	320	⇑*i*P	Pn	21 21 03.9	+0.3
KEDI				⇓*i*Sn	Sn	21 21 41.7	-4.1
RATI	Rata	3.86	311	⇓*i*Pn	Pn	21 21 05.2	-1.7
	154nm,0.2s						
RATI				⇑*i*Sn	Sn	21 21 48.1	-3.6
INGI	Ingas	4.09	306	⇓*i*Pn	Pn	21 21 09.3	-1.0
INGI				⇓*i*Sn	Sn	21 21 52.9	-4.9
KELI	Kelakatan	4.97	307	*e*Pn	Pn	21 21 20.8	-2.0
	66nm,0.2s						
FITZ	Fitzroy Crossi	9.69	135	*e*P	P	21 22 23.9	-4.9
	3.7nm,2.0s						
FITZ				*e*S	Sn	21 24 05.4	-12

MOS 26 21:28:08.3±2.2, 51.11N×98.02E, h8^{km}, mb4.0/1, Error ellipse: s-maj=99.9km s-min=33.1km az=147.1, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOY	Mondy	1.94	72	*e*PN	Pn	21 28 44.9	+2.9
MOY				*e*		21 29 09.1	
MOY				pmax	pmax		
	comp=Z,35nm,0.4s						
MOY				smax			
	comp=N,346nm,1.4s						
ARS	Arshan	2.87	72	*e*PN	Pn	21 28 59.0	+3.8
ARS				*e*		21 29 38.3	
ARS				pmax	pmax		
	comp=Z,34nm,0.4s						
ARS				smax			
	comp=E,292nm,0.5s						
IRK	Irkutsk	4.05	71	*e*PN	Pn	21 29 21.0	+9.0
IRK				*e*		21 30 12.6	
IRK				pmax	pmax		
	comp=Z,162nm,0.1s						
IRK				smax			
	comp=N,324nm,1.1s						
TRG	Tyrgan	5.41	69	*e*PN	Pn	21 29 30.2	-1.1
TRG				*e*		21 29 45.8	
TRG				*e*		21 30 55.4	
TRG				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TRG				smax			
	comp=N,103nm,1.5s						
OGRR	Ongureny	6.39	63	*e*PN	Pn	21 30 03.0	+18
OGRR				*e*		21 31 24.4	
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OGRR				smax			
	comp=E,38nm,1.1s						
YLYR	Ulyunkhan	8.78	59	*e*P	P	21 30 16.3	-2.2
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IGQ 26 21:54:50.5, 1.19S×78.46W, h18^{km}±2^{km}, mb4.1, 18C-5D, Error ellipse: s-maj=1.3km s-min=0.5km az=13.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PISA	Pisayambo	0.15	30	⇑P	Pb	21 54 55.2	+0.4
JUIV	Juive	0.23	181	⇑P	Pb	21 54 56.1	+0.2
RUN2	Runtun	0.23	168	⇑P	Pb	21 54 56.0	0.0
CUSU	Cusua	0.25	184	⇑P	Pb	21 54 56.6	+0.3
RETU	Refugio	0.26	177	⇑P	Pb	21 54 56.8	+0.4
PATA	Patacocha	0.31	175	⇑P	Pb	21 54 57.7	+0.4
ARRY	Arrayan	0.31	179	⇑P	Pb	21 54 57.4	+0.1
IGUA	Igualata	0.34	211	⇑P	Pb	21 54 58.6	+0.8
MARY	Rancho Maria	0.46	357	⇑P	Pb	21 55 00.1	+0.3
TAMB	Tambo	0.50	11	⇑P	Pb	21 55 01.1	+0.6
VC1	Cotopaxi 1	0.55	6	⇑P	Pb	21 55 02.1	+0.8
NAS1	Nasa	0.56	358	⇑P	Pb	21 55 02.4	+0.9
QIL1	Quilotoa	0.58	306	⇓P	Pb	21 55 02.9	+1.0
ANTI	Antisana	0.80	22	⇑P	Pb	21 55 05.6	0.0
JUA2	San Juan 2	0.98	352	⇑P	Pb	21 55 09.8	+1.1
JUA2				S	Sb	21 55 21.7	+0.5
CGGP	Crater GGP	1.02	352	⇑P	Pb	21 55 10.6	+1.2
CGGP				S	Sb	21 55 25.0	+2.7
GGP	Refugio Guagua	1.02	353	⇑P	Pb	21 55 10.4	+1.1
PINO	Pino	1.04	352	⇑P	Pb	21 55 10.8	+1.1
YANA	Yana	1.07	354	⇑P	Pb	21 55 11.1	+0.8
YANA				S	Sb	21 55 25.6	+1.8
EPALM	Reventador vol	1.22	37	⇓P	Pb	21 55 13.7	+1.0
EPALM				S	Sb	21 55 30.4	+2.4
ELAGU	Cayambe Volc	1.25	22	P	Pn	21 55 13.6	+0.3
ELAGU				S	Sb	21 55 31.6	+2.5
CAYR	Refugio Cayamb	1.28	21	⇓P	Pn	21 55 15.1	+1.4
CAYR				S	Sb	21 55 33.1	+3.2
CAYA	Cayambe	1.34	21	⇓P	Pn	21 55 16.5	+1.9
CONE	Cono NE Rev Vo	1.38	36	P	Pn	21 55 16.9	+1.7
COTA	Cotacachi	1.52	5	⇓P	Pn	21 55 19.4	+2.3
COTA				S	Sn	21 55 41.4	+4.7
HOJA	Cerro de Hojas	2.09	274	P	Pn	21 55 26.6	+1.3

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*IDC **26** 21:56:24.6±2.0, 43.41N×126.66W, mb3.5/4, mb1 3.8/9, mb1mx3.6/25, ML3.7/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/22, Error ellipse: s-maj=33.0km s-min=13.0km az=54.0*
*NEIC **26** 21:56:26.2±1.7, 43.35N×126.60W, h10^{km}, Error ellipse: s-maj=22.1km s-min=7.8km az=75.0*
ISC 26 21:56:23.0±0.9, 43.36N±0.05×126.84W±0.09, h10^{km}, n36, σ1^{s}12/40, mb3.7/4, MS3.1/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COR	Corvallis	2.83	63	*e*Pn	Pn	21 57 07.9	-1.2
COR				*e*Sn	Sn	21 57 44.8	+1.1
HUMO	Hull Mountain	2.94	103	*e*Pn	Pn	21 57 09.3	-1.4
HUMO				*e*Sn	Sn	21 57 46.3	-0.3
YBH	Yreka Blue Hor	3.46	117	Pn	Pn	21 57 18.5	+0.4
	1.8nm,0.3s,baz=292,slow=12,SNR=19						
YBH				Sn	Sn	21 58 01.6	+2.1
	0.3nm,0.3s,baz=26,slow=11,SNR=2.5						
YBH	Yreka Blue Hor	3.46	117	*e*Pn	Pn	21 57 17.7	-0.3
SSOR	Sweet Springs	3.49	63	*e*Pn	Pn	21 57 18.9	+0.4
GT2	Goat Mountain	3.74	60	P	Pn	21 57 22.8	+0.8
BMW	Boistfort Moun	4.03	38	*e*Pn	Pn	21 57 25.8	-0.4
TDH	Tom, Dick, Har	4.10	60	P	Pn	21 57 27.9	+0.7
SHW	Mount Saint He	4.33	48	*e*Pn	Pn	21 57 31.0	+0.6
VGB	Gordon Butte	4.84	62	*e*Pn	Pn	21 57 35.5	-2.2
LON	Longmire	4.92	45	*e*Pn	Pn	21 57 39.2	+0.5
REMR	Mount Rainier-	4.95	44	P	Pn	21 57 39.8	+0.7
HDW	Hoodsport	5.04	30	P	Pn	21 57 40.1	-0.5
GNW	Green Mountain	5.06	32	*e*Pn	Pn	21 57 40.5	-0.3
FMW	Mount Fremont	5.11	44	P	Pn	21 57 42.0	+0.5
RPW	Rockport	6.30	34	*e*Pn	Pn	21 57 57.8	-0.5
RPW				*e*Sn	Sn	21 59 10.6	-0.5
NLW	Nelson Butte	6.55	42	*e*Pn	Pn	21 58 07.8	+6.0
LNOR	Lincton Mounta	6.60	65	*e*Pn	Pn	21 58 00.2	-2.3
CMB	Columbia Colle	7.23	135	P	Pn	21 58 09.4	-2.0
DPW	Davenport	7.55	50	*e*Pn	Pn	21 58 15.1	-0.6
NVAR	Mina Array Bea	8.12	124	Pn	P	21 58 25.4	+1.6
	baz=302,slow=12,SNR=2.7						
NVAR	Mina Array Bea	8.12	124	Pn	P	21 58 25.4	+1.6
NEW	Newport	8.37	51	Pn	P	21 58 27.9	+0.6
	0.4nm,0.3s,baz=222,slow=15,SNR=4.0						
NEW				LR	LR	22 01 53.1	
	comp=Z,230nm,18.3s,baz=241,slow=40						
NEW	Newport	8.37	51	*e*Pn	P	21 58 26.5	-0.7
BBB	Bella Bella	8.87	355	Pn	P	21 58 35.2	+1.0
	0.3nm,0.3s,baz=221,slow=16,SNR=2.9						
BBB	Bella Bella	8.87	355	Pn	P	21 58 35.2	+1.0
TPAW	Teton Pass	11.56	84	*e*P	P	21 59 12.9	+1.8
DAU	Daniels Canyon	11.98	99	P	P	21 59 16.0	-0.8
BW06	Boulder Array	12.65	87	P	P	21 59 25.3	-0.5
	2.0nm,0.7s						
PDAR	Pinedale Array	12.65	87	Pn	P	21 59 26.9	+1.1
	0.1nm,0.3s,baz=277,slow=12,SNR=6.1						
ANMO	Albuquerque	17.86	111	P	P	22 00 31.1	-2.1
YKA	Yellowknife Ar	20.47	16	P	P	22 01 02.8	-0.4
	0.9nm,0.7s,baz=203,slow=10,SNR=3.0						
ULM	Lac du Bonnet	22.17	61	P	P	22 01 20.2	-0.4
	4.8nm,0.9s,mb3.9,baz=270,slow=11,SNR=5.8						
ULM				LR	LR	22 10 33.9	
	comp=Z,85nm,18.7s,MS3.2,baz=232,slow=38						
TXAR	Lajitas Array	23.23	119	P	P	22 01 34.3	+3.2
	0.5nm,0.3s,mb3.4,baz=301,slow=10,SNR=3.4						
WMOK	Wichita Mounta	23.34	102	*e*P	P	22 01 32.2	+0.1
	8.7nm,1.0s,mb4.1						
ILAR	Eielson Array	24.25	339	P	P	22 01 41.9	+1.2
	0.8nm,0.7s,mb3.3,baz=155,slow=8.6,SNR=8.9						
ILAR				LR	LR	22 09 21.7	
	comp=Z,58nm,19.9s,MS3.1,baz=194,slow=32						

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*NEIC **26** 22:06:56.9±4.3, 7.43S×128.04E, h110^{km}±46^{km}, mb4.1/3, Error ellipse: s-maj=39.6km s-min=17.7km az=218.0*
*IDC **26** 22:06:58.4±7.1, 7.48S×128.01E, h123^{km}±76^{km}, mb3.4/4, mb1 3.6/7, mb1mx3.5/12, Error ellipse: s-maj=59.2km s-min=26.0km az=46.0*
ISC 26 22:06:54.7±0.8, 7.62S±0.07×127.7E±0.2, h110^{km}, n11, σ0^{s}88/14, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.60	191	P	P	22 09 29.4	+4.8
	0.6nm,0.3s,baz=21,slow=9.2,SNR=18						
FITZ				S	S	22 11 21.8	+0.1
	0.8nm,0.3s,baz=155,slow=17,SNR=3.4						
WRAB	Tennant Creek	13.85	153	*e*P	P	22 10 07.8	+0.4
	8.2nm,0.6s						
WRA	Warramunga Arr	13.85	153	P	P	22 10 08.6	+1.2
	0.6nm,0.3s,baz=331,slow=14,SNR=30						
WRA				S	S	22 12 30.7	-8.1
	1.6nm,0.3s,baz=334,slow=22,SNR=12						
ASAR	Alice Springs	17.04	160	P	P	22 10 51.0	+3.5
	1.0nm,0.3s,baz=342,slow=11,SNR=78						
ASAR				S	S	22 13 50.6	-1.1
	0.6nm,0.3s,baz=315,slow=18,SNR=11						
CTA	Charters Tower	21.86	126	P	P	22 11 39.6	+0.1
	3.3nm,1.1s,mb3.6,baz=349,slow=10,SNR=2.5						
CTAO	Charters Tower	21.86	126	P	P	22 11 38.5	-1.0
	11nm,1.1s,mb4.1						
STKA	Stephens Creek	27.40	154	P	P	22 12 32.0	0.0
	4.0nm,1.1s,mb3.8,baz=325,slow=12,SNR=3.6						
STKA	Stephens Creek	27.40	154	*e*P	P	22 12 31.3	-0.7
SONM	Songino Array	58.33	343	P	P	22 16 40.8	+0.3
	0.2nm,0.4s,mb3.5,baz=158,slow=7.8,SNR=3.0						
MKAR	Makanchi Array	67.50	328	P	P	22 17 41.2	+0.2
	0.4nm,0.7s,mb3.4,baz=114,slow=9.9,SNR=3.6						
MKAR				pP	pP	22 18 03.4	-5.2
	0.3nm,0.7s,baz=126,slow=7.6,SNR=4.4						
KURK	Kurchatov	71.86	330	P	P	22 18 06.4	-1.0
	1.0nm,0.7s,mb3.8						

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*BER **26** 22:25:57.2±2.5, 77.69N×8.61E, h15^{km}±40^{km}, ML2.7(NAO)*
NAO 26 22:25:54.0±10.0, 77.59N×8.48E, h9^{km}±59^{km}, ML2.7, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.52	26	Pn	Pn	22 26 20.6	-1.0
KBS				Sg	Sg	22 26 38.9	-5.9
HSP	Hornsund	1.67	107	*e*Pg	Pg	22 26 22.7	-4.6
HSP				*e*Sg	Sg	22 26 37.9	-12
SPA0	Spitsbergen Ar	1.77	66	Pn	Pn	22 26 25.8	+0.6
	baz=251,slow=11						
SPA0				Lg		22 26 49.6	
ARA0	ARCESS Array S	9.36	141	Pn	P	22 28 07.5	-4.6

	baz=332,slow=14						
ARA0				Sn	Sn	22 29 44.6	-14
	baz=327,slow=22						

IDC 26 22:45:49.2±3.5**,29.79S**×**176.61W,mb3.5**/2**,mb1 3.7**/2**,**
mb1mx3.7/13**,Error ellipse: s-maj=172.0km**
s-min=41.8km az=159.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.35**	**266**	P	P	22 54 01.8	-1.3
	0.4nm,0.7s,baz=99,slow=7.5,SNR=3.4						
WRA	**Warramunga Arr**	**45.28**	**271**	P	P	22 54 08.1	-2.5
	0.3nm,0.4s,baz=110,slow=7.8,SNR=7.4						
FINES	**FINESS Array B**	**144.97**	**341**	PKP	PKPdf	23 05 26.5	-2.9
	3.9nm,0.7s,baz=90,slow=4.2,SNR=12						
NOA	**NORSAR Array B**	**148.31**	**353**	PKPbc	PKPdf	23 05 35.6	+0.6
	0.8nm,0.9s,baz=15,slow=4.4,SNR=3.2						
AKASG	**Malin Array Be**	**151.52**	**324**	PKPbc	PKPdf	23 05 44.1	+3.7
	1.1nm,0.5s,baz=45,slow=2.7,SNR=6.7						
AKASG				PKPab	PKPab	23 05 55.1	-0.4
	0.2nm,0.3s,baz=40,slow=2.7,SNR=4.3						

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*PRU **26** 22:54:57.9,50.09N×19.08E*
*WAR **26** 22:54:57.9,50.20N×19.14E,ML2.5,Mining Induced*
ISC 26 22:54:56.8±0.6**,50.20N**±0.05×**19.00E**±0.04**,n11,σ1§08**/21**,**
1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.51**	**87**	*e*PG	**Pg**	**22 55 07.0**	**-0.1**
OJC				*i* (SG)	**Sg**	**22 55 13.7**	**-0.2**
RAC	**Raciborz**	**0.53**	**258**	*e*PG	**Pg**	**22 55 11.0**	**+3.5**
RAC				*e*SG	**Sg**	**22 55 20.0**	**+5.5**
OKC	**Ostrava-Krasne**	**0.66**	**237**	*e*PG	**Pg**	**22 55 12.4**	**+2.4**
OKC				*e*SG	**Sg**	**22 55 18.5**	**-0.2**
NIE	**Niedzica**	**1.15**	**132**	*e*PG	**Pg**	**22 55 19.0**	**-0.8**
NIE				*e*SG	**Sg**	**22 55 35.0**	**-0.2**
DPC	**Dobruska-Polom**	**1.73**	**276**	*e*PG	**Pg**	**22 55 30.1**	**-1.2**
DPC				*e*SG	**Sg**	**22 55 54.8**	**+0.5**
KSP	**Ksiaz**	**1.85**	**292**	*e*PN	**Pn**	**22 55 31.0**	**+0.9**
KSP				*e*PG	**Pg**	**22 55 34.0**	**+0.3**
KSP				*e*SG	**Sg**	**22 55 59.0**	**+0.7**
PSZ	**Piszkesteto**	**2.35**	**165**⇑	*e*P	**Pn**	**22 55 38.8**	**+1.5**
PSZ				*e*S	**Sn**	**22 56 07.2**	**-0.1**
KWP	**Kalwaria**	**2.46**	**102**	*e*PG	**Pg**	**22 55 46.0**	**0.0**
PRU	**Pruhonice**	**2.88**	**268**	PG	**Pg**	**22 55 52.3**	**-2.0**
PRU				SG	**Sg**	**22 56 31.1**	**-1.6**
	6.2nm,0.5s						
GKP	**Gorka Klasztor**	**3.27**	**341**	*e*PG	**Pg**	**22 55 52.0**	**-10**
KHC	**Kasperske Hory**	**3.68**	**255**	*e*PG	**Pg**	**22 56 03.8**	**-6.5**
KHC				*e*SG	**Sg**	**22 56 54.3**	**-5.1**

IDC 26 23:06:17.8±2.0**,0.90N**×**126.96E,mb3.6**/4**,mb1 3.8**/4**,**
mb1mx3.6/13**,Error ellipse: s-maj=163.0km**
s-min=26.1km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.94**	**161**	P	P	23 11 12.4	-2.5
	1.1nm,0.6s,baz=340,slow=11,SNR=114						
ASAR	**Alice Springs**	**25.34**	**165**	P	P	23 11 46.8	-1.3
	0.5nm,0.4s,baz=350,slow=14,SNR=7.5						
STKA	**Stephens Creek**	**35.43**	**158**	P	P	23 13 16.1	-1.7
	1.1nm,0.5s,baz=329,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**60.00**	**326**	P	P	23 16 26.2	-2.4
	0.2nm,0.4s,baz=126,slow=8.9,SNR=3.6						

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*BJI **26** 23:11:36.0,64.80N×86.30W,h18^{km},mB4.9,mb4.8,Ms4.9,*
Msz4.7
*OTT **26** 23:11:37.1±0.2,64.76N×86.28W,h18^{km},MN5.0/16,*
Wager Bay region Nu 170km northwest from Coral
Harbour, Nu Southampton Island, Nu Boothia Ungava
Seismic Zone.
*NEIC **26** 23:11:37.0,64.75N×86.27W,h18^{km},mb4.6/44,*
MN5.0(OTT),After OTT.
*IDC **26** 23:11:40.0±0.3,64.75N×86.26W,h22^{km}±1^{km},mb4.1/23,*
mb1 4.3/27,mb1mx4.2/32,ML3.5/3,MS3.5/14,Ms1 3.5/14,
ms1mx3.4/34,Error ellipse: s-maj=9.0km s-min=6.7km
az=159.0
ISC 26 23:11:36.9±0.2**,64.79N**±0.04×**87.00W**±0.07**,h24**^{km}**,**
h24^{km}±.5^{km}**:pP-P,n172,σ1§18**/192**,mb4.5**/68**,MS3.5**/9**,15C,**
Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGL	**Igloolik**	**5.04**	**21**	PN	**Pn**	**23 12 50.6**	**-2.4**
IGL				SN	**Sn**	**23 13 43.9**	**-7.3**
IGL				LG		23 14 09.7	
IGL				Trac		23 14 16.9	
	comp=Z,2µm,0.4s						
FCC	**Fort Churchill**	**6.91**	**212**	PN	**Pn**	**23 13 18.9**	**-0.5**
FCC				SN	**Sn**	**23 14 33.8**	**-4.4**
FCC				LG		23 15 11.9	
FCC				Trac		23 15 17.8	
	comp=Z,1µm,0.7s						
FCC	**Fort Churchill**	**6.91**	**212**	*e*Pn	**Pn**	**23 13 18.6**	**-0.8**
	0.2nm,0.6s						
FCC				*e*Sn	**Sn**	**23 14 32.4**	**-5.8**
FRB	**Frobisher Bay**	**8.09**	**89**	Pn	**P**	**23 13 30.2**	**-5.8**
	1.8nm,0.3s,baz=282,slow=15,SNR=24						
FRB				Sn	**Sn**	**23 14 50.8**	**-17**
	19nm,0.3s,baz=249,slow=5.9,SNR=8.4						
FRB				Lg		23 15 39.3	
	71nm,0.3s,baz=29,slow=22,SNR=25						
FRB				LR	LR	23 16 48.6	
	comp=Z,272nm,18.1s,baz=143,slow=40						
FRB	**Frobisher Bay**	**8.09**	**89**	PN	**P**	**23 13 30.0**	**-6.0**
FRB				SN	**Sn**	**23 14 49.7**	**-18**
FRB				LG		23 15 38.7	
FRB				Trac		23 15 47.7	
	comp=Z,642nm,0.5s						
FRB	**Frobisher Bay**	**8.09**	**89**	Pn	**P**	**23 13 30.2**	**-5.8**
FRB				Sn	**Sn**	**23 14 50.8**	**-17**
FRB				Lg		23 15 39.3	
PINU	**Pond Inlet**	**8.58**	**18**	PN	**P**	**23 13 23.7**	**-19**
PINU				SN	Sn	23 14 53.9	-26
PINU				LG		23 15 45.5	
ACKN	**Achilles Lake**	**10.13**	**282**	PN	**P**	**23 14 04.0**	**+0.1**
ACKN				SN	**S**	**23 15 51.0**	**-6.8**
ACKN				LG		23 16 54.4	
ACKN				Trac		23 17 02.5	
	comp=Z,837nm,0.7s						
LUPN	**Lupin Mine**	**10.19**	**286**	PN	**P**	**23 14 04.3**	**-0.3**
LUPN				SN	**S**	**23 15 53.0**	**-6.3**
LUPN				LG		23 16 56.5	
LUPN				Trac		23 17 07.9	
	comp=Z,933nm,0.9s						
RES	**Resolute Bay**	**10.30**	**348**	PN	**P**	**23 14 04.0**	**-2.3**
RES				SN	**S**	**23 15 51.6**	**-10**
RES				LG		23 16 60.0	
RES				Trac		23 17 08.0	
	comp=Z,310nm,0.7s						
RES	**Resolute Bay**	**10.30**	**348**	*e*Pn	**P**	**23 14 03.2**	**-3.0**
RES				*e*Sn	**S**	**23 15 54.8**	**-7.2**
SILO	**Sutton Inlier**	**10.39**	**173**	PN	**P**	**23 14 02.1**	**-5.4**
SILO				SN	**S**	**23 15 51.6**	**-13**
SILO				LG		23 16 48.0	
SILO				Trac		23 17 24.8	
	comp=Z,486nm,0.7s						
YMBN	**Yamba Lake**	**10.43**	**282**	PN	**P**	**23 14 07.8**	**-0.1**
YMBN				SN	**S**	**23 15 59.4**	**-5.7**
YMBN				LG		23 17 05.4	
YMBN				Trac		23 17 10.2	
	comp=Z,632nm,0.5s						
SNPN	**Snap Lake**	**10.49**	**274**	PN	**P**	**23 14 08.8**	**-0.1**
SNPN				SN	**S**	**23 15 60.0**	**-6.8**
SNPN				Trac		23 16 25.6	
	comp=Z,131nm,0.1s						
KUQ	**Kuujjuuaa**	**11.10**	**118**	PN	**P**	**23 14 11.2**	**-6.0**
KUQ				SN	**S**	**23 16 01.4**	**-20**
KUQ				LG		23 17 11.2	
KUQ				Trac		23 17 25.8	
	comp=Z,719nm,0.6s						
DSMN	**Discovery Mine**	**11.88**	**275**	PN	**P**	**23 14 26.7**	**-1.1**
DSMN				SN	**S**	**23 16 31.0**	**-10**
DSMN				LG		23 17 51.0	
DSMN				Trac		23 18 07.1	
	comp=Z,604nm,0.8s						
VIMO	**Victor Mine**	**12.12**	**171**	PN	**P**	**23 14 25.2**	**-5.8**
VIMO				SN	**S**	**23 16 29.3**	**-17**
VIMO				LG		23 17 42.9	
VIMO				Trac		23 18 03.3	
	comp=Z,260nm,0.6s						
YKW3	**Yellowknife Ar**	**12.41**	**272**	PN	**P**	**23 14 33.8**	**-1.1**
YKW3				SN	**S**	**23 16 42.1**	**-11**
YKW3				LG		23 18 06.0	
YKW3				Trac		23 18 22.8	
	comp=Z,337nm,0.5s						
YKW3				Trac		23 18 26.1	
	comp=Z,1µm,1.4s						
YKW3	**Yellowknife Ar**	**12.41**	**272**	*e*P	**P**	**23 14 32.5**	**-2.4**
YKW3				*e*S	**S**	**23 16 42.5**	**-11**
YKW3				*e*Lg		23 18 05.8	
YKA	**Yellowknife Ar**	**12.43**	**272**	Pn	**P**	**23 14 33.4**	**-1.8**
	14nm,0.3s,baz=71,slow=12,SNR=127						
YKA				Sn	**S**	**23 16 44.0**	**-10**
	14nm,0.3s,baz=68,slow=24,SNR=13						
YKA				Lg		23 18 08.8	
	20nm,0.3s,baz=66,slow=29,SNR=5.9						
YKA				LR	LR	23 19 54.8	
	comp=Z,186nm,19.3s,baz=60,slow=39						
YKA	**Yellowknife Ar**	**12.43**	**272**	Pn	**P**	**23 14 33.4**	**-1.8**
YKA				Sn	**S**	**23 16 44.0**	**-10**
YKA				Lg		23 18 08.8	
FFC	**Flin Flon**	**12.56**	**224**	*e*P	**P**	**23 14 33.9**	**-3.0**
FFC				*e*S	**S**	**23 16 43.8**	**-13**
LG4Q	**La Grande 4**	**12.96**	**144**	PN	**P**	**23 14 36.8**	**-5.4**
LG4Q				SN	**S**	**23 16 45.7**	**-21**
LG4Q				LG		23 18 06.0	
LG4Q				Trac		23 18 16.9	
	comp=Z,546nm,0.6s						
TULEG	**Thule**	**13.14**	**19**	PN	**P**	**23 14 40.4**	**-4.1**
TULEG				SN	**S**	**23 16 55.1**	**-16**
SCHQ	**Schefferville**	**14.15**	**125**	Pn	**P**	**23 14 50.2**	**-7.5**
	1.9nm,0.3s,baz=327,slow=10,SNR=25						
SCHQ				Sn	S	23 17 13.2	-22
	12nm,0.3s,baz=14,slow=15,SNR=3.9						
SCHQ				Lg		23 18 47.5	
	24nm,0.3s,baz=226,slow=8.7,SNR=11						
SCHQ				LR	LR	23 19 11.5	
	comp=Z,66nm,21.6s,baz=343,slow=32						
SCHQ	**Schefferville**	**14.15**	**125**	PN	**P**	**23 14 49.9**	**-7.9**
SCHQ				SN	S	23 17 12.5	-22
SCHQ				LG		23 18 47.1	
SCHQ				Trac		23 18 50.1	
	comp=Z,561nm,0.8s						
SCHQ	**Schefferville**	**14.15**	**125**	*e*P	**P**	**23 14 50.0**	**-7.7**
	62nm,0.7s						
SCHQ				*e*S	S	23 17 06.0	-29
SCHQ				*e*Lg		23 18 46.5	
MALO	**McAlpine Lake**	**15.29**	**162**	PN	**P**	**23 15 06.8**	**-5.9**
MALO				SN	**S**	**23 17 41.9**	**-20**
MALO				LG		23 19 25.8	
MALO				Trac		23 19 47.5	
	comp=Z,547nm,0.8s						
ULM	**Lac du Bonnet**	**15.31**	**202**	Pn	**P**	**23 15 08.7**	**-4.2**
	2.3nm,0.3s,baz=19,slow=11,SNR=12						
ULM				Sn	**S**	**23 17 46.3**	**-16**
	6.0nm,0.3s,baz=272,slow=18,SNR=4.2						
ULM				Lg		23 19 28.8	
	9.8nm,0.3s,baz=100,slow=19,SNR=9.3						
ULM				LR	LR	23 21 16.2	
	comp=Z,303nm,18.6s,baz=42,slow=37						
ULM	**Lac du Bonnet**	**15.31**	**202**	PN	**P**	**23 15 09.5**	**-3.4**
ULM				SN	**S**	**23 17 46.1**	**-16**
ULM				LG		23 19 29.1	
ULM				Trac		23 19 30.5	
	comp=Z,659nm,1.2s						
ULM	**Lac du Bonnet**	**15.31**	**202**	*e*P	**P**	**23 15 07.9**	**-5.0**
	22nm,0.6s						
ULM				*e*S	S	23 17 40.8	-22
EUNU	**Eureka**	**15.35**	**0**	PN	**P**	**23 15 10.3**	**-3.0**
EUNU				SN	**S**	**23 17 53.5**	**-10**
VLDQ	**Val d’Or**	**17.49**	**158**	PN	**P**	**23 15 31.6**	**-9.0**
VLDQ				SN	**S**	**23 18 32.8**	**-20**
VLDQ				LG		23 20 26.6	
VLDQ				Trac		23 20 59.4	
	comp=Z,499nm,2.0s						
FNBB	**Fort Nelson**	**17.79**	**267**	PN	**P**	**23 15 44.9**	**+0.6**
FNBB				SN	**S**	**23 18 52.6**	**-6.8**
FNBB				LG		23 20 58.1	
FNBB				Trac		23 21 43.3	
	comp=Z,445nm,1.2s						
INK	**Inuvik**	**18.48**	**302**	Pn	**P**	**23 15 53.1**	**+0.4**
	2.6nm,0.3s,baz=73,slow=14,SNR=28						
INK				Sn	**S**	**23 19 06.5**	**-8.5**
	1.9nm,0.3s,baz=343,slow=23,SNR=6.7						
INK				Lg		23 21 13.6	
	2.0nm,0.3s,baz=299,slow=21,SNR=3.6						
INK				LR	LR	23 23 31.8	
	comp=Z,85nm,18.8s,baz=85,slow=38						
INK	**Inuvik**	**18.48**	**302**	PN	**P**	**23 15 53.1**	**+0.3**
INK				SN	**S**	**23 19 03.5**	**-11**
INK				LG		23 21 12.4	
INK				Trac		23 21 28.4	
	comp=Z,305nm,1.2s						
INK	**Inuvik**	**18.48**	**302**	*e*P	**P**	**23 15 50.9**	**-1.9**
	40nm,0.6s						
INK				*e*S	**S**	**23 18 56.1**	**-19**
SUMG	**Summit**	**18.73**	**45**	*e*P	**P**	**23 15 52.5**	**-3.2**
	35nm,0.8s						
DGMT	**Dagmar**	**18.78**	**218**	*e*P	**P**	**23 15 55.1**	**-1.4**
	32nm,0.6s						
DGMT				*e*S	**S**	**23 19 12.9**	**-8.9**
SADO	**Sadowa**	**20.54**	**164**	P	**P**	**23 16 14.6**	**-1.4**
	3.2nm,0.5s,baz=356,slow=11,SNR=5.1						
SADO				Lg		23 22 08.2	
	22nm,0.6s,baz=276,slow=20,SNR=4.9						
SADO				LR	LR	23 24 31.4	
	comp=Z,70nm,18.9s,MS3.0,baz=49,slow=38						
MSNY	**Massena**	**20.95**	**155**	*e*P	**P**	**23 16 18.9**	**-1.4**
MSNY				*e*Lg		23 22 14.1	
DLBC	**Dease Lake**	**21.06**	**273**	P	**P**	**23 16 26.6**	**+5.4**
	11nm,1.0s,mb4.1,baz=57,slow=6.6,SNR=12						
DLBC				LR	LR	23 25 22.4	
	comp=Z,176nm,18.6s,MS3.5,baz=41,slow=38						
DLBC	**Dease Lake**	**21.06**	**273**	PN	**P**	**23 16 27.6**	**+6.3**
DLBC				SN	**S**	**23 20 13.7**	**+4.0**
DLBC	**Dease Lake**	**21.06**	**273**	*e*P	**P**	**23 16 26.2**	**+5.0**
WHY	**Whitehorse**	**21.89**	**281**	PN	**P**	**23 16 37.5**	**+7.9**
NCB	**Newcomb**	**22.06**	**155**	*e*P	**P**	**23 16 28.1**	**-3.3**
	9.5nm,0.6s,mb4.4						
DAWY	**Dawson**	**22.10**	**292**	*e*P	**P**	**23 16 35.8**	**+4.1**
HRY	**Holter Researc**	**22.61**	**229**	*e*P	**P**	**23 16 40.6**	**+3.9**
RSSD	**Black Hills**	**22.80**	**213**	*e*P	**P**	**23 16 42.3**	**+3.7**
	12nm,0.5s,mb4.6						
CHMT	**Chamberlain Mo**	**22.90**	**231**	*e*P	**P**	**23 16 44.1**	**+4.6**
NEW	**Newport**	**23.10**	**239**	P	**P**	**23 16 47.9**	**+6.4**
	6.8nm,0.9s,mb4.1,baz=37,slow=12,SNR=6.0						
NEW	**Newport**	**23.10**	**239**	*e*P	**P**	**23 16 46.4**	**+5.0**
	18nm,1.0s,mb4.5						
NEW				*e*S	**S**	**23 20 50.4**	**+3.4**
BOZ	**Bozeman (W)**	**23.49**	**227**	*e*P	**P**	**23 16 49.6**	**+4.3**
	8.0nm,0.8s,mb4.2						
DAG	**Danmarks Havn**	**23.69**	**32**⇑	*i*P	**P**	**23 16 56.2**	**+9.3**
	13nm,0.9s,mb4.4						
DPW	**Davenport**	**23.82**	**240**	*e*P	**P**	**23 16 51.8**	**+3.2**
DPW				*e*S	**S**	**23 21 18.7**	**+19**
QLMT	**Earthquake Lak**	**24.16**	**226**	*e*P	**P**	**23 16 57.5**	**+5.7**
QLMT				*e*pP		23 17 05.3	
NLW	**Nelson Butte**	**24.45**	**243**	*e*P	**P**	**23 16 59.5**	**+4.9**
NLW				*e*pP		23 17 06.0	
RPW	**Rockport**	**24.61**	**245**	*e*P	**P**	**23 17 00.9**	**+4.8**
RPW				*e*pP		23 17 07.1	
MCMT	**McKenzie Canyo**	**24.61**	**228**	*e*P	**P**	**23 17 01.9**	**+5.7**
ILAR	**Eielson Array**	**24.70**	**297**	P	**P**	**23 17 01.8**	**+5.0**
	2.3nm,0.7s,mb3.9,baz=60,slow=8.6,SNR=26						
ILAR				LR	LR	23 27 25.2	
	comp=Z,95nm,18.6s,MS3.3,baz=264,slow=38						
ACSO	**Alum Creek Sta**	**24.71**	**173**	*e*P	**P**	**23 16 58.0**	**+0.9**
	9.8nm,0.6s,mb4.5						
ACSO				*e*		23 17 03.7	
SSPA	**Standing Stone**	**24.76**	**163**	*e*P	**P**	**23 16 57.8**	**+0.1**
	4.6nm,0.6s,mb4.2						
SSPA				*e*pP		23 17 04.4	
MOOW	**Moose Ponds**	**24.94**	**224**	*e*P	**P**	**23 17 05.5**	**+6.2**
MOOW				*e*pP		23 17 11.6	
SNOW	**Snow King Moun**	**25.20**	**224**	*e*P	**P**	**23 17 07.7**	**+5.8**
TPAW	**Teton Pass**	**25.23**	**224**	*e*P	**P**	**23 17 07.9**	**+5.7**
PDAR	**Pinedale Array**	**25.50**	**221**	P	**P**	**23 17 08.8**	**+4.2**
	5.4nm,0.6s,mb4.2,baz=29,slow=6.6,SNR=32						
PDAR				pP	pP	23 17 15.2	+3.6
	12nm,0.5s,baz=31,slow=6.2,SNR=26						
LNOR	**Linction Mounta**	**25.55**	**237**	*e*P	**P**	**23 17 08.6**	**+3.5**
HLID	**Hailey**	**26.24**	**229**	*e*P	**P**	**23 17 17.0**	**+5.4**
	10nm,0.7s,mb4.5						
HLID				*e*pP	pP	23 17 24.2	+5.7
KSU1	**Kansas State U**	**26.34**	**197**	*e*P	**P**	**23 17 14.8**	**+2.3**
KSU1				*e*pP	pP	23 17 22.5	+3.1
WCI	**Wyandotte Cave**	**26.60**	**179**	P	**P**	**23 17 13.9**	**-1.0**
	12nm,1.0s,mb4.4						
BORG	**Borgarnes**	**26.88**	**60**	LR	LR	23 27 22.9	
	comp=Z,164nm,19.5s,MS3.6,baz=310,slow=35						
CCM	**Cathedral Cave**	**26.89**	**187**	*e*P	**P**	**23 17 20.5**	**+3.0**
	8.7nm,0.6s,mb4.5						
CCM				*e*pP	pP	23 17 26.9	+2.4
FVM	**French Village**	**26.92**	**186**	*e*P	**P**	**23 17 19.4**	**+1.6**
	9.9nm,0.6s,mb4.5						
FVM				*e*pP	pP	23 17 25.6	+0.9
JMIC	**Jan Mayen**	**28.15**	**43**	LR	LR	23 28 15.5	
	comp=Z,98nm,19.6s,MS3.4,baz=247,slow=36						
WVOR	**Wild Horse Val**	**28.67**	**234**	P	**P**	**23 17 37.7**	**+4.1**
	2.7nm,0.8s,mb4.0						
PV10	**Paradox Valley**	**29.46**	**217**	P	**P**	**23 17 45.8**	**+5.0**
PV10				*e*pP	pP	23 17 52.9	+5.1
PLAL	**Pickwick Lake**	**29.84**	**182**	*e*P	**P**	**23 17 43.2**	**-1.0**
	9.0nm,0.6s,mb4.7						
PLAL				*e*pP	pP	23 17 50.5	-0.7
MSU	**Marysvale**	**30.18**	**222**	*e*P	**P**	**23 17 51.7**	**+4.5**
MSU				*e*pP	pP	23 17 58.2	+4.0
YBH	**Yreka Blue Hor**	**30.73**	**239**	P	**P**	**23 17 55.4**	**+3.4**
	1.6nm,0.8s,mb3.9,baz=48,slow=11,SNR=4.1						
BEKR	**Beckwourth**	**31.54**	**234**	P	**P**	**23 18 02.5**	**+3.4**
	5.9nm,0.9s,mb4.4						
LRAL	**Lakeview Retre**	**31.78**	**180**	P	**P**	**23 18 00.6**	**-0.8**
	6.3nm,0.8s,mb4.5						
LRAL				*e*pP	pP	23 18 07.4	-0.9
ANMO	**Albuquerque**	**32.11**	**211**	*e*P	**P**	**23 18 07.6**	**+3.4**
	3.5nm,0.8s,mb4.2						
ANMO				*e*pP	pP	23 18 14.0	+2.8
NVAR	**Mina Array Bea**	**32.14**	**230**	P	**P**	**23 18 06.3**	**+1.9**
	0.4nm,0.3s,mb3.7,baz=265,slow=16,SNR=2.7						
NVAR				sP	sP	23 18 15.9	+1.3
	1.7nm,0.8s,baz=53,slow=7.4,SNR=3.0						
NVAR				PcP	PcP	23 20 55.0	+1.7
	3.0nm,0.9s,baz=27,slow=2.0,SNR=5.1						
NVAR				LR	LR	23 31 49.0	
	comp=Z,209nm,20.1s,MS3.8,baz=275,slow=37						
NVAR	**Mina Array Bea**	**32.14**	**230**	P	**P**	**23 18 06.3**	**+1.9**
NVAR				sP	sP	23 18 15.9	+1.3
NVAR				PcP	PcP	23 20 55.0	+1.7
TPNV	**Topopah Spring**	**32.84**	**226**	P	**P**	**23 18 12.2**	**+1.7**
	9.4nm,1.1s,mb4.6						
LTX	**Lajitas**	**36.99**	**205**	P	**P**	**23 18 48.1**	**+2.0**
	8.4nm,1.1s,mb4.5						
TXAR	**Lajitas Array**	**36.99**	**205**	P	**P**	**23 18 48.9**	**+2.8**
	1.1nm,0.6s,mb3.9,baz=14,slow=5.2,SNR=8.5						
TXAR				pP	pP	23 18 55.1	+1.9
	2.7nm,0.8s,baz=14,slow=5.2,SNR=4.4						
TXAR				sP	sP	23 18 58.0	+1.8
	1.8nm,0.7s,baz=56,slow=4.5,SNR=4.2						
TXAR				PcP	PcP	23 21 08.9	+1.6
	1.2nm,0.9s,baz=31,slow=5.3,SNR=3.5						
TXAR				LR	LR	23 33 55.7	
	comp=Z,67nm,20.3s,MS3.4,baz=30,slow=36						
ARCES	**ARCESS Array B**	**37.98**	**32**	P	**P**	**23 18 53.9**	**-0.1**
	2.5nm,0.6s,mb4.2,baz=322,slow=7.0,SNR=13						
ARCES				sP	sP	23 19 03.4	-0.7
	2.8nm,0.6s,baz=328,slow=7.4,SNR=5.4						
NB2	**NORSAR Subarra**	**40.57**	**48**	P	**P**	**23 19 14.9**	**-0.7**
	2.4nm,0.6s,mb4.0,baz=312,slow=7.9						
NOA	**NORSAR Array B**	**40.57**	**48**	P	**P**	**23 19 14.9**	**-0.6**
	1.4nm,0.7s,mb3.7,baz=302,slow=9.4,SNR=8.5						
NOA				sP	sP	23 19 25.0	-0.7
	1.3nm,0.6s,baz=309,slow=7.9,SNR=6.0						
NOA				LR	LR	23 36 15.9	
	comp=Z,48nm,18.7s,MS3.4,baz=305,slow=37						
FINES	**FINESS Array B**	**44.62**	**39**	P	**P**	**23 19 48.2**	**-0.2**
	2.6nm,0.7s,mb4.2,baz=326,slow=6.9,SNR=7.4						
FINES				sP	sP	23 19 57.5	-1.1
	5.9nm,0.9s,baz=339,slow=7.7,SNR=6.6						
ROSF	**Rostrenen**	**45.23**	**69**	*e*P	**P**	**23 19 53.1**	**-0.3**
FLN	**La Foliniere**	**45.99**	**67**	*e*P	**P**	**23 19 59.2**	**-0.3**
FLN				*e*R			
	102nm,19.2s						
GRR	**Gorron**	**46.15**	**67**	*e*P	**P**	**23 20 00.7**	**0.0**
WTSB	**Winterswijk**	**46.18**	**59**	*e*PKP	**P**	**23 20 03.7**	**+2.8**
	9.5nm,1.3s,mb4.6						
WTSB				*e*x	x	23 20 10.8	
LDF	**La Druitiere**	**46.27**	**67**	*e*P	**P**	**23 20 01.4**	**-0.3**
BAIF	**Baives**	**46.76**	**62**	*e*P	**P**	**23 20 05.5**	**0.0**
	14nm,0.8s,mb4.6						
HGN	**Heimansgroeve**	**46.84**	**60**	*e*PKP	**P**	**23 20 06.4**	**+0.3**
	11nm,0.7s,mb4.9						
HGN				*e*x	x	23 20 15.7	
GIVF	**Givet**	**46.96**	**62**	*e*P	**P**	**23 20 06.9**	**-0.2**
	13nm,0.5s,mb4.8						
MFF	**Saint Martin d**	**47.88**	**68**	*e*P	**P**	**23 20 14.2**	**-0.2**
MEZF	**Maizieres J’vi**	**48.35**	**63**	*e*P	**P**	**23 20 18.3**	**+0.3**
	27nm,0.9s,mb5.0						
SJG	**San Juan**	**48.71**	**153**	P	**P**	**23 20 22.1**	**+1.0**
	3.5nm,0.3s,mb4.9,slow=19,SNR=2.2						
SJG				pP	pP	23 20 28.3	-0.1
	5.3nm,0.4s,baz=11,slow=12,SNR=2.2						
LOR	**Lormes**	**48.90**	**65**	*e*P	**P**	**23 20 22.2**	**-0.1**
LOR				*e*R			
	88nm,20.0s						
SSF	**Saint Saulge**	**48.94**	**65**	*e*P	**P**	**23 20 22.4**	**-0.2**
	7.4nm,0.6s,mb4.6						
CLL	**Collm**	**48.95**	**55**	⇑P	**P**	**23 20 22.5**	**-0.1**
	logA/T=0.9,mb4.7						
CLL				*i* *SP	sP	23 20 32.1	-0.6
CLL	**Collm**	**48.95**	**55**⇑	*i*P	**P**	**23 20 22.5**	**-0.1**
	6.0nm,0.8s,mb4.7						
CLL				*i*		23 20 32.1	
MOX	**Moxa**	**49.01**	**57**	*i* P	**P**	**23 20 23.3**	**+0.2**
	logA/T=1.2,mb5.0						
MOX				pP	pP	23 20 32.0	+1.7
MOX	**Moxa**	**49.01**	**57**	*e*P	**P**	**23 20 23.3**	**+0.2**
	16nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**49.07**	**67**	*e*P	**P**	**23 20 23.4**	**-0.2**
	10nm,0.7s,mb4.7						
BGF	**Bois d’Agland**	**49.09**	**66**	*e*P	**P**	**23 20 23.4**	**-0.4**
	5.8nm,0.6s,mb4.5						
AVF	**Avril sur Loir**	**49.10**	**65**	*e*P	**P**	**23 20 23.4**	**-0.4**
HAU	**Haudompre**	**49.25**	**62**	*e*P	**P**	**23 20 25.0**	**0.0**
	14nm,0.9s,mb4.7						
HAU				*e*R			
	57nm,18.8s						
CDF	**Champ du Feu**	**49.26**	**61**	*e*P	**P**	**23 20 25.4**	**+0.3**
	12nm,0.8s,mb4.7						
SMF	**Signal de Mont**	**49.41**	**65**	*e*P	**P**	**23 20 25.8**	**-0.4**
HINF	**Hinteralfeld**	**49.60**	**62**	*e*P	**P**	**23 20 27.7**	**+0.1**
LFF	**La Frestale**	**49.60**	**69**	*e*P	**P**	**23 20 27.6**	**-0.1**
RJF	**Les Rejaudoux**	**49.61**	**68**	*e*P	**P**	**23 20 28.0**	**+0.3**
RJF				*e*R			
	100nm,19.2s						
GRA1	**Grafenberg Arr**	**49.66**	**57**	*e*P	**P**	**23 20 28.7**	**+0.6**
GRA1				*e*pP	pP	23 20 35.8	+0.4
GRA1				*e*sP	sP	23 20 38.5	+0.3
CAF	**Calviac**	**50.14**	**68**	*e*P	**P**	**23 20 31.5**	**-0.3**
CABF	**La Chapelle**	**50.31**	**63**	*e*P	**P**	**23 20 33.1**	**0.0**
	13nm,0.8s,mb4.7						
ETSF	**Etsaut**	**50.77**	**71**	*e*P	**P**	**23 20 36.9**	**+0.2**
KHC	**Kasperske Hory**	**50.97**	**56**	*e*P	**P**	**23 20 39.0**	**+0.9**
KHC				*e*	pP	23 20 48.2	+2.8
KHC				*e*		23 21 02.8	
DAVA	**Damuels**	**51.17**	**60**⇑	*i*P	**P**	**23 20 40.1**	**+0.4**
	8.7nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**51.26**	**56**	P	**P**	**23 20 39.9**	**-0.4**
	1.8nm,0.8s,mb4.0,baz=323,slow=6.7,SNR=13						
GERES				sP	sP	23 20 49.9	-0.4
	3.2nm,0.9s,baz=323,slow=6.7,SNR=10						
EVO	**Evora**	**51.33**	**80**	*e*P	**P**	**23 20 39.3**	**-1.7**
	3.8nm,0.5s,mb4.2						
LPL	**La Plagne**	**51.47**	**64**	*e*P	**P**	**23 20 42.7**	**+0.8**
LPG	**La Plagne**	**51.49**	**64**	*e*P	**P**	**23 20 43.0**	**+0.9**
MTLF	**Montolieu**	**51.52**	**69**	*e*P	**P**	**23 20 42.2**	**-0.1**
MORC	**Moravsky Berou**	**51.81**	**53**	*e*P	**P**	**23 20 42.2**	**-2.3**
	8.2nm,1.1s,mb4.6						
MORC				*e*pP	pP	23 20 52.6	+0.8
ESDC	**Sonseca Array**	**52.07**	**76**	P	**P**	**23 20 46.0**	**-0.5**
	0.7nm,0.5s,mb3.8,baz=324,slow=8.3,SNR=8.0						
ESDC				pP	pP	23 20 52.7	-1.1
	1.6nm,0.6s,baz=323,slow=7.3,SNR=8.4						
ESDC				sP	sP	23 20 55.2	-1.5
	1.7nm,0.7s,baz=324,slow=8.2,SNR=8.1						
MBDF	**Montbardon**	**52.15**	**64**	*e*P	**P**	**23 20 47.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
FRF	**La Foret Royal**	**53.08**	**65**	*e*P	**P**	**23 20 53.7**	**-0.4**
	8.0nm,0.7s,mb4.5						
SBF	**Sospel**	**53.13**	**64**	*e*P	**P**	**23 20 55.1**	**+0.7**
LMR	**La Mourre**	**53.22**	**65**	*e*P	**P**	**23 20 55.0**	**-0.1**
VYHS	**Vyhne**	**53.35**	**53**	*e*P	**P**	**23 20 56.1**	**+0.2**
OBKA	**Obir**	**53.54**	**57**	⇑*i*P	**P**	**23 20 57.2**	**-0.2**
	8.3nm,0.8s,mb4.7						
OBKA				*i*	pP	23 21 04.2	-0.5
	14nm,0.7s						
PSZ	**Piszkesteto**	**54.20**	**53**	*e*P	**P**	**23 21 01.0**	**-1.2**
	5.2nm,0.8s,mb4.5						
PSZ				*e*pP	pP	23 21 09.2	-0.3
PSZ				*e*sP	sP	23 21 11.8	-0.6
AKASG	**Malin Array Be**	**54.76**	**44**	P	**P**	**23 21 04.7**	**-1.6**
	5.3nm,1.0s,mb4.5,baz=322,slow=6.9,SNR=14						
AKASG				pP	pP	23 21 12.3	-1.2
	2.2nm,0.6s,baz=330,slow=7.3,SNR=7.6						
AKASG				sP	sP	23 21 15.3	-1.1
	1.7nm,0.5s,baz=332,slow=6.6,SNR=7.5						
ZRNK	**Zerenda**	**61.14**	**16**	*e*P	**P**	**23 21 51.7**	**+0.6**
	6.7nm,0.9s,mb4.8						
ZRNK				*e*pP	pP	23 21 59.0	+0.5
ZRNK				*e*sP	sP	23 22 01.4	+0.3
BRVK	**Borovoye**	**61.19**	**15**	*e*P	**P**	**23 21 52.1**	**+0.8**
	9.3nm,0.9s,mb4.9						
BRVK				*e*pP	pP	23 21 59.6	+0.8
BRVK				*e*sP	sP	23 22 02.2	+0.8
BVAR	**Borovoye Array**	**61.23**	**15**	P	**P**	**23 21 52.6**	**+0.9**
	6.4nm,0.6s,mb4.9,baz=346,slow=6.1,SNR=54						
BVAR				pP	pP	23 21 59.6	+0.5
	5.2nm,0.7s,baz=346,slow=5.9,SNR=13						
BVAR				sP	sP	23 22 02.5	+0.7
	1.5nm,0.6s,baz=342,slow=4.6,SNR=12						
KURK	**Kurchatov**	**64.30**	**10**	P	**P**	**23 22 12.5**	**+0.7**
	36nm,1.1s,mb5.3,SNR=8.2						
KURK	**Kurchatov**	**64.30**	**10**	*e*P	**P**	**23 22 12.1**	**+0.3**
	7.6nm,1.0s,mb4.7						
KURK				*e*pP	pP	23 22 19.2	-0.1
KURK				*e*sP	sP	23 22 22.3	+0.3
BRTR	**Keskin Array B**	**65.99**	**47**	P	**P**	**23 22 23.3**	**+0.3**
	1.3nm,0.6s,mb4.1,baz=335,slow=4.5,SNR=7.4						
BRTR				pP	pP	23 22 30.3	-0.1
	1.6nm,0.7s,baz=342,slow=5.3,SNR=6.4						
BRTR				sP	sP	23 22 33.2	+0.1
	1.5nm,0.7s,baz=308,slow=3.3,SNR=6.1						
IDI	**Anoyia**	**67.11**	**55**	P	**P**	**23 22 29.9**	**-0.2**
	4.3nm,0.7s,mb4.6,baz=345,slow=8.3,SNR=5.6						
SONM	**Songino Array**	**67.23**	**350**	P	**P**	**23 22 33.1**	**+2.3**
	1.7nm,0.7s,mb4.2,baz=345,slow=5.7,SNR=16						
SONM				pP	pP	23 22 40.3	+2.1
	1.3nm,0.5s,baz=355,slow=6.0,SNR=10						
MDJ	**Mudanjiang**	**67.24**	**333**	P	**P**	**23 22 30.5**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,134nm,9.5s						
MKAR	**Makanchi Array**	**68.44**	**8**	P	**P**	**23 22 39.7**	**+1.4**
	comp=Z,1.8nm,0.5s,mb4.3,baz=21,slow=4.1,SNR=26						
MKAR				pP	pP	23 22 46.3	+0.5
	comp=Z,3.3nm,0.5s,baz=8.8,slow=5.2,SNR=19						
MKAR				sP	sP	23 22 49.0	+0.6
	comp=Z,2.3nm,0.5s,baz=18,slow=6.2,SNR=9.7						
MALT	**Malatya**	**68.74**	**43**	*e*P	**P**	**23 22 40.2**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.2						
MALT				*e*pP	pP	23 22 48.6	+0.9
WMQ	**Urumqi**	**71.65**	**4**	⇑P	**P**	**23 23 01.5**	**+3.6**
WMQ				AP	pP	23 23 09.0	+3.6
WMQ				XP	sP	23 23 12.5	+4.4
WMQ				PCP	PcP	23 23 21.5	+4.3
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
ASF	**Jabal al Asfar**	**73.96**	**47**	P	**P**	**23 23 12.9**	**+1.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=194,slow=8.5,SNR=6.7						
SAML	**Samuel**	**75.67**	**156**	*e*P	**P**	**23 23 20.8**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.6						
SAML				*e*pP	pP	23 23 27.8	-1.5
SAML				*e*sP	sP	23 23 31.2	-0.7
DBIC	**Dimbokro**	**80.65**	**94**	LR	LR	23 54 29.6	
	comp=Z,106nm,19.0s,MS4.2,baz=90,slow=32						
NJ2	**Nanjing**	**81.38**	**338**	*e*P	**P**	**23 23 54.5**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
BDFB	**Brasilia**	**85.49**	**143**	P	**P**	**23 24 14.8**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.1,baz=18,slow=8.8,SNR=3.3						
GYA	**Guiyang**	**88.44**	**348**	⇑P	**P**	**23 24 31.0**	**+3.1**
GYA				AP	pP	23 24 38.3	+2.8
GYA				XP	sP	23 24 40.3	+2.3
GYA				SKS	SKS	23 34 54.0	-6.5
GYA				S	S	23 35 14.8	+4.9
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.5						
GYA				LR	LR		
	comp=N,400nm,8.4s						
GYA				LR	LR		
	comp=E,310nm,8.7s						
GYA				LR	LR		
	comp=Z,310nm,7.8s						
KMI	**Kunming**	**90.07**	**351**	*e*P	**P**	**23 24 37.0**	**+1.4**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.7						
KMI	**Kunming**	**90.07**	**351**	*e*P	**P**	**23 24 37.1**	**+1.5**
	comp=Z,3.0nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**96.89**	**354**	P	**P**	**23 25 09.5**	**+2.5**
	comp=Z,0.7nm,0.7s,mb4.2,baz=348,slow=5.7,SNR=6.4						
WRA	**Warramunga Arr**	**127.51**	**308**	PKP	PKPdf	23 30 42.2	-2.0
	comp=Z,0.1nm,0.5s,baz=2.2,slow=2.1,SNR=10.0						
WRA				pPKP		23 30 49.8	
	comp=Z,0.8nm,0.5s,baz=2.1,slow=2.1,SNR=5.3						
ASAR	**Alice Springs**	**131.11**	**307**	PKP	PKPdf	23 30 49.2	-1.8
	comp=Z,0.8nm,0.8s,baz=1.2,slow=0.9,SNR=7.1						
ASAR				pPKP		23 30 57.1	
	comp=Z,0.8nm,0.7s,baz=14,slow=1.1,SNR=4.9						
STKA	**Stephens Creek**	**135.72**	**294**	pPKP		23 31 05.4	
	comp=Z,2.7nm,0.8s,baz=277,slow=6.5,SNR=2.8						
NWAO	**Narrogin (SRO)**	**144.82**	**323**	PKPbc	PKPbc	23 31 13.2	+2.2
	comp=Z,14nm,0.6s,baz=328,slow=4.4,SNR=8.5						
NWAO				pPKPbc		23 31 20.4	
	comp=Z,15nm,0.6s,baz=226,slow=0.9,SNR=3.7						
VNA1	**Neumayer--Stat**	**145.49**	**145**	⇑*i*	PKPbc	23 31 18.2	+6.6
VNA1	**Neumayer--Stat**	**145.49**	**145**	⇑*i*	PKPbc	23 31 25.5	+14
VNA3	**Neumayer Olymp**	**145.55**	**146**	⇑*i*	PKPbc	23 31 17.7	+6.0
VNA3	**Neumayer Olymp**	**145.55**	**146**	⇑*i*	PKPbc	23 31 25.1	+13
VNA2	**Neumayer--Watz**	**145.89**	**145**	⇑*i*	PKPbc	23 31 19.0	+6.4
VNA2	**Neumayer--Watz**	**145.89**	**145**	⇑*i*	PKPbc	23 31 26.2	+14
SNAA	**Sanae**	**147.50**	**144**	⇑*i*	PKPdf	23 31 19.1	+0.3
SNAA	**Sanae**	**147.50**	**144**	⇑*i*	PKPdf	23 31 26.6	+7.8
QSPA	**South Pole Qui**	**154.68**	**180**	*e*PKP	PKPdf	23 31 37.3	+8.0

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*IDC **26** 23:14:31.9±1.4, 2.75S×67.81E, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, Error ellipse: s-maj=41.5km s-min=23.0km az=45.0*

*NEIC **26** 23:14:34.2±0.6, 2.61S×67.91E, h10^{km}, mb4.4/8, Error ellipse: s-maj=14.5km s-min=11.9km az=191.0*

ISC 26 23:14:32.3±0.7**, 2.6S**±0.1×**67.94E**±0.10**, h10**^{km}**, n17,** σ**1**^{s}**06**/17**, mb4.1**/15**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.07**	**52**	*e*P	**P**	**23 18 21.1**	**+1.0**
	135nm,1.6s						
CMAR	**Chiang Mai Arr**	**37.00**	**54**	P	**P**	**23 21 45.8**	**+1.7**
	3.7nm,1.0s,mb4.2,baz=246,slow=10,SNR=14						
LSA	**Lhasa**	**39.04**	**33**	*e*P	**P**	**23 22 02.7**	**+1.6**
	21nm,1.5s,mb4.6						
LSZ	**Lusaka**	**41.15**	**250**	P	**P**	**23 22 19.4**	**+0.7**
	1.9nm,0.8s,mb3.8						
EIL	**Elat**	**45.00**	**318**	P	**P**	**23 22 51.3**	**+1.4**
	3.5nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**45.41**	**7**	*e*P	**P**	**23 22 48.8**	**-4.2**
	3.8nm,0.7s,mb4.3						
AAK				*e*		23 23 00.8	
MKAR	**Makanchi Array**	**50.78**	**13**	P	**P**	**23 23 34.6**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=169,slow=7.3,SNR=2.6						
BRTR	**Keskin Array B**	**52.57**	**327**	P	**P**	**23 23 48.1**	**-0.2**
	0.9nm,0.9s,mb3.7,baz=151,slow=13,SNR=4.2						
XAN	**Xi’an**	**53.04**	**43**	P	**P**	**23 23 50.5**	**-1.5**
KURK	**Kurchatov**	**53.88**	**8**	*e*P	**P**	**23 23 56.0**	**-1.9**
	2.3nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**55.35**	**1**	*e*P	**P**	**23 24 07.1**	**-1.5**
	2.5nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**58.56**	**110**	P	**P**	**23 24 32.1**	**+0.2**
	3.1nm,1.0s,mb4.3,baz=180,slow=4.0,SNR=3.3						
SONM	**Songino Array**	**60.40**	**29**	P	**P**	**23 24 44.1**	**-0.1**
	3.8nm,0.9s,mb4.5,baz=220,slow=6.2,SNR=16						
WRA	**Warramunga Arr**	**66.95**	**110**	P	**P**	**23 25 27.2**	**-0.5**
	0.8nm,0.7s,mb3.9,baz=286,slow=5.9,SNR=8.2						
WRAB	**Tennant Creek**	**66.96**	**110**	*e*P	**P**	**23 25 27.9**	**+0.2**
	4.1nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**66.98**	**115**	P	**P**	**23 25 27.0**	**-0.9**
	0.8nm,0.7s,mb3.9,baz=285,slow=6.3,SNR=8.7						
ESDC	**Sonseca Array**	**77.82**	**311**	P	**P**	**23 26 31.8**	**0.0**
	1.0nm,0.7s,mb3.9,baz=121,slow=6.6,SNR=3.7						

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*MAN **26** 23:15:24.0, 6.02N×127.47E, h5^{km}, mb4.4, ML3.3, MS3.1*

*IDC **26** 23:15:41.7±15.0, 6.69N×126.68E, h82^{km}±136^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.5/18, Error ellipse: s-maj=135.0km s-min=22.7km az=65.0*

ISC 26 23:15:39.0±1.6**, 6.70N**±0.10×**126.7E**±0.2**, h73**^{km}±15^{km}**, n14,** σ**0**^{s}**95**/14**, mb3.7**/6**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.53**	**298**	*e*P	**P**	**23 15 51.0**	**-1.6**
KCP	**Kidapawan**	**1.66**	**281**	⇓*e*P	**P**	**23 16 06.8**	**+0.1**
KCP				*i* S	**S**	**23 16 38.7**	**+12**
BUKP	**Musuan**	**2.03**	**305**	*e*P	**P**	**23 16 14.0**	**+2.2**
BUTP	**Butuan**	**2.51**	**334**	*e*P	**P**	**23 16 19.1**	**+0.6**
PAGZ	**Pagadian**	**3.51**	**289**	*e*P	x	23 17 04.9	
IPIL	**Ipil**	**4.26**	**285**	*e*P	**P**	**23 16 42.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.67**	**182**	P	**P**	**23 20 55.2**	**+0.6**
	7.7nm,1.4s,mb4.0,baz=333,slow=6.4,SNR=3.4						
WRA	**Warramunga Arr**	**27.51**	**164**	P	**P**	**23 21 20.7**	**-0.3**
	0.8nm,0.4s,mb3.6,baz=344,slow=10,SNR=9.9						
WB2	**Warramunga Arr**	**27.52**	**164**	*e*P	**P**	**23 21 21.9**	**+0.9**
ASAR	**Alice Springs**	**30.98**	**167**	P	**P**	**23 21 50.5**	**-1.3**
	0.2nm,0.3s,mb3.3,baz=345,slow=7.0,SNR=3.7						
ASAR				PcP	PcP	23 24 45.5	-0.9
	0.3nm,0.5s,baz=355,slow=2.6,SNR=4.4						
CN2	**Changchun**	**36.97**	**358**	*e*P	**P**	**23 22 43.0**	**0.0**
STKA	**Stephens Creek**	**40.90**	**161**	P	**P**	**23 23 16.4**	**+0.7**
	3.2nm,1.0s,mb4.1,baz=305,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**55.15**	**324**	P	**P**	**23 25 05.3**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=135,slow=5.1,SNR=3.6						
BVAR	**Borovoye Array**	**64.86**	**326**	P	**P**	**23 26 12.0**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=2.3						

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*NEIC **26** 23:25:53.0, 38.22S×179.05E, h25^{km}, ML3.9(WEL), After WEL.*

WEL 26 23:25:52.3±0.3**, 38.23S**×**179.09E, h23**^{km}±2^{km}**, ML3.5**/2**, 2C-1D, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.68**	**284**	⇑P*	Pb	23 26 05.1	-0.2
PUZ				S*	Sb	23 26 14.5	+0.3
PUZ	**Puketiti**	**0.68**	**284**	P	Pb	23 26 05.1	-0.2
PUZ				S	Sb	23 26 14.6	+0.4
MXZ	**Matakaoa Point**	**0.91**	**317**	⇑P*	Pb	23 26 09.2	-0.1
MXZ				S*	Sb	23 26 21.5	+0.4
MXZ	**Matakaoa Point**	**0.91**	**317**	P	Pb	23 26 09.2	-0.1
MXZ				S	Sb	23 26 22.0	+1.0
MWZ	**Matawai**	**1.23**	**265**	⇓PN	Pn	23 26 13.5	-0.9
MWZ				SN	Sn	23 26 28.8	-1.6
MWZ	**Matawai**	**1.23**	**265**	P	Pn	23 26 13.5	-0.8
MWZ				S	Sb	23 26 28.8	-1.5
KNZ	**Kokohu**	**1.36**	**234**	PN	Pn	23 26 15.2	-0.9
URZ	**Urewera**	**1.56**	**268**	PN	Pn	23 26 18.1	-0.9
URZ				SN	Sn	23 26 37.7	-1.0
URZ	**Urewera**	**1.56**	**268**	P	Pn	23 26 18.5	-0.5
BKZ	**Black Stump Fm**	**2.24**	**245**	PN	Pn	23 26 27.6	-1.1
BKZ				SN	Sn	23 26 54.4	-1.5
BKZ	**Black Stump Fm**	**2.24**	**245**	P	Pn	23 26 27.9	-0.8

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*IDC **26** 23:50:21.4±13.0, 6.47N×126.11E, h116^{km}±122^{km}, mb3.5/7, mb1 3.7/7, mb1mx3.5/17, MS3.8/2, Ms1 3.8/2, ms1mx3.3/14, Error ellipse: s-maj=77.2km s-min=22.0km az=65.0*

ISC 26 23:50:13.6±1.3**, 6.81N**±0.09×**126.9E**±0.2**, h69**^{km}±14^{km}**, n15,** σ**1**^{s}**07**/14**, mb3.7**/7**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**281**	*e*P	**P**	**23 50 27.1**	**-1.0**
BIPH	**Bislig**	**1.47**	**338**	⇓*i*P	**P**	**23 50 37.7**	**-0.9**
BIPH				*i* S	**S**	**23 50 57.0**	**-0.1**
BUKP	**Musuan**	**2.12**	**300**	*e*P	**P**	**23 50 49.9**	**+2.3**
BUTP	**Butuan**	**2.50**	**329**	*e*P	**P**	**23 50 55.1**	**+2.3**
PAGZ	**Pagadian**	**3.65**	**287**	*e*P	**P**	**23 51 08.0**	**-1.0**
TGY	**Tagaytay City**	**9.33**	**321**	LR	LR	23 57 04.6	
	comp=Z,836nm,18.9s,baz=156,slow=44						
FITZ	**Fitzroy Crossi**	**24.79**	**183**	P	**P**	**23 55 31.1**	**+0.5**
	0.7nm,0.6s,mb3.3,baz=38,slow=7.3,SNR=2.1						
JNU	**Nakatsue**	**26.43**	**7**	LR	LR	00 04 41.7	
	comp=Z,180nm,21.6s,baz=90,slow=32						
WRA	**Warramunga Arr**	**27.57**	**165**	P	**P**	**23 55 56.9**	**+0.5**
	1.5nm,0.7s,mb3.6,baz=343,slow=10,SNR=19						
WB2	**Warramunga Arr**	**27.58**	**165**	*e*P	**P**	**23 55 57.7**	**+1.2**
ASAR	**Alice Springs**	**31.05**	**168**	P	**P**	**23 56 26.6**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=351,slow=8.4,SNR=4.7						
ASAR				PcP	PcP	23 59 21.8	+0.1
	0.3nm,0.5s,baz=348,slow=2.8,SNR=3.8						
STKA	**Stephens Creek**	**40.95**	**161**	P	**P**	**23 57 50.4**	**-0.7**
	1.6nm,0.6s,mb4.0,baz=351,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**23 59 40.6**	**-0.8**
	0.7nm,0.5s,mb4.0,baz=115,slow=7.9,SNR=13						
ILAR	**Eielson Array**	**82.26**	**26**	P	**P**	**00 02 34.4**	**+5.9**
	0.3nm,0.5s,mb3.4,baz=252,slow=5.7,SNR=2.9						
ARCES	**ARCESS Array B**	**87.64**	**340**	P	**P**	**00 02 54.8**	**-0.3**
	2.6nm,1.1s,mb4.2,baz=68,slow=6.5,SNR=3.9						

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*ROM **27** 00:10:10.2±0.2, 46.22N×12.44E, h5^{km}, MD3.1/7, ML2.3/5, Error ellipse: s-maj=2.1km s-min=1.4km az=0.0*

*NEIC **27** 00:10:10.3, 46.22N×12.44E, h5^{km}, MD3.1(ROM), ML3.0(VIE), ML2.9(LDG), ML2.7(FUR), ML2.7(SZGRF), ML2.5(BRG), After ROM.*

*LDG **27** 00:10:12.2±0.1, 46.15N×12.56E, h10^{km}, Ml2.9/18, Error ellipse: s-maj=4.1km s-min=2.2km az=172.0*

ISC 27 00:10:10.1±0.2**, 46.20N**±0.01×**12.37E**±0.01**, h13**^{km}±1^{km}**, n108,** σ**1**^{s}**13**/189**, 21C-14D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSO	**Casso**	**0.08**	**337**	⇓*i*Pg	**Pg**	**00 10 13.1**	**+0.2**
CSO				*i* Sg	**Sg**	**00 10 14.9**	**+0.2**
MLNI	**Malnisio**	**0.17**	**106**	⇑*i*Pg	**Pg**	**00 10 13.9**	**-0.3**
MLNI				*i* Sg	**Sg**	**00 10 17.0**	**0.0**
CAE	**Caneva**	**0.20**	**166**	⇑*i*Pg	**Pg**	**00 10 14.4**	**-0.2**
CAE				*i* Sg	**Sg**	**00 10 17.9**	**+0.2**
FAU	**Forcella Aurin**	**0.27**	**277**	⇓*i*Pg	**Pg**	**00 10 16.2**	**+0.3**
MPRI	**Monte Prat**	**0.43**	**84**	⇑*e*Pg	**Pg**	**00 10 18.5**	**-0.5**
MPRI				*e*Sg	**Sg**	**00 10 25.5**	**+0.5**
FVI	**Forni Avoltri**	**0.49**	**35**	*e*PG	**Pg**	**00 10 20.1**	**0.0**
FVI				SG	**Sg**	**00 10 27.5**	**+0.7**
FVI	**Forni Avoltri**	**0.49**	**35**	*e*Pg	**Pg**	**00 10 20.1**	**0.0**
FVI				*e*Sg	**Sg**	**00 10 27.6**	**+0.7**
CGRP	**Cima Grappa**	**0.51**	**231**	*e*Pg	**Pg**	**00 10 21.0**	**+0.5**
CGRP				*e*Sg	**Sg**	**00 10 28.9**	**+1.5**
BOO	**Bordano**	**0.52**	**76**	⇓*i*Pg	**Pg**	**00 10 19.8**	**-0.9**
CTI	**Castel Tesino**	**0.52**	**254**	*e*PG	**Pg**	**00 10 20.7**	**0.0**
CTI				SG	**Sg**	**00 10 29.6**	**+1.7**
CTI	**Castel Tesino**	**0.52**	**254**	*e*Pg	**Pg**	**00 10 20.7**	**-0.1**
CTI				*e*Sg	**Sg**	**00 10 29.6**	**+1.8**
BUA	**Buia**	**0.52**	**88**	⇑*i*Pg	**Pg**	**00 10 20.5**	**-0.3**
ZOU	**Zoufplan**	**0.55**	**49**	⇑*e*Pg	**Pg**	**00 10 21.1**	**-0.2**
ZOU				*e*Sg	**Sg**	**00 10 29.2**	**+0.4**
TLI	**Talmassons**	**0.58**	**118**	⇓*i*Pg	**Pg**	**00 10 21.4**	**-0.4**
GMNA	**Gemona**	**0.61**	**82**	⇓*i*PG	**Pg**	**00 10 20.5**	**-1.9**
GMNA				SG	**Sg**	**00 10 29.0**	**-1.6**
	182nm,0.2s						
GMNA	**Gemona**	**0.61**	**82**	⇓*i*Pg	**Pg**	**00 10 20.5**	**-1.9**
GMNA				*e*Sg	**Sg**	**00 10 29.0**	**-1.7**
BAD	**Bernadia**	**0.61**	**86**	⇓*e*Pg	**Pg**	**00 10 21.4**	**-1.0**
BAD				*e*Sg	**Sg**	**00 10 30.9**	**+0.2**
PLRO	**Paularo**	**0.64**	**57**	*e*Pg	**Pg**	**00 10 22.6**	**-0.6**
PLRO				*e*Sg	**Sg**	**00 10 32.4**	**+0.6**
IESO	**Jesolo**	**0.69**	**169**	*e*Pg	**Pg**	**00 10 24.6**	**+0.6**
COLI	**Coloredo**	**0.70**	**95**	⇑*e*Pg	**Pg**	**00 10 23.3**	**-1.0**
COLI				*e*Sg	**Sg**	**00 10 34.1**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.71**	**73**	*e*PG	**Pg**	**00 10 23.2**	**-1.3**
PTCC				SG	**Sg**	**00 10 35.3**	**+1.2**
	50nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.71**	**73**	*e*Pg	**Pg**	**00 10 23.2**	**-1.3**
PTCC				*e*Sg	**Sg**	**00 10 35.3**	**+1.2**
LSR	**Lussari**	**0.85**	**70**	⇓*e*Pg	**Pg**	**00 10 25.5**	**-1.7**
LSR				*e*Sg	**Sg**	**00 10 39.0**	**+0.4**
DRE	**Drenchia**	**0.89**	**91**	⇑*e*Pg	**Pg**	**00 10 26.5**	**-1.4**
CADS	**Cadrg**	**0.95**	**88**	*e*Pn	**Pn**	**00 10 27.9**	**-1.2**
SCE	**Schlegeis**	**0.96**	**332**	⇓*i*Pg	**Pg**	**00 10 29.6**	**+0.3**
SCE				*e*Sg	**Sg**	**00 10 42.7**	**+0.6**
TEOL	**Teolo**	**0.97**	**211**	*e*Pg	**Pg**	**00 10 29.6**	**0.0**
TEOL				*e*Sg	**Sg**	**00 10 44.1**	**+1.5**
VOY	**Vojsko**	**1.07**	**98**	*e*Pg	**Pg**	**00 10 30.8**	**-0.8**
VOY				*e*(Sg)	**Sg**	**00 10 45.8**	**-0.2**
TRI	**Trieste**	**1.09**	**116**	*e*PG	**Pg**	**00 10 31.3**	**-0.6**
TRI				SG	**Sg**	**00 10 46.2**	**-0.3**
	111nm,0.3s						
TRI	**Trieste**	**1.09**	**116**	*e*Pg	**Pg**	**00 10 31.3**	**-0.6**
TRI				*e*Sg	**Sg**	**00 10 46.2**	**-0.3**
KBA	**Koelnbreinsper**	**1.11**	**37**	⇓*i*PG	**Pg**	**00 10 31.5**	**-0.8**
KBA				*i* SG	**Sg**	**00 10 47.4**	**+0.3**
	30nm,0.2s						
KBA	**Koelnbreinsper**	**1.11**	**37**	⇓*i*PG	**Pg**	**00 10 31.5**	**-0.8**
KBA				*i* SG	**Sg**	**00 10 47.4**	**+0.3**
	30nm,0.2s						
OGA	**Obergurgl**	**1.14**	**306**	⇑*i*Pg	**Pg**	**00 10 41.2**	**+8.2**
WTTA	**Wattenberg**	**1.18**	**335**	⇑*i*PG	**Pg**	**00 10 33.8**	**+0.1**
WTTA				*i* SG	**Sg**	**00 10 50.9**	**+1.4**
	44nm,0.4s						
WTTA	**Wattenberg**	**1.18**	**335**	⇑*i*PG	**Pg**	**00 10 33.8**	**+0.1**
WTTA				*i* SG	**Sg**	**00 10 50.9**	**+1.4**
	44nm,0.4s						
JAVS	**Javornik**	**1.22**	**104**	*i* Pn	**Pn**	**00 10 33.5**	**+0.6**
WATA	**Walderalm**	**1.26**	**335**	⇑*i*PG	**Pg**	**00 10 35.3**	**-0.1**
WATA				*i* SG	**Sg**	**00 10 53.7**	**+1.5**
	25nm,0.2s						
WATA	**Walderalm**	**1.26**	**335**	⇑*i*PG	**Pg**	**00 10 35.3**	**-0.1**
WATA				*i* SG	**Sg**	**00 10 53.7**	**+1.5**
	25nm,0.2s						
MABI	**Malga Bissina**	**1.30**	**264**	*e*PN	**Pn**	**00 10 36.0**	**+2.0**
MABI				SN	**Sn**	**00 10 54.1**	**+2.8**
MABI	**Malga Bissina**	**1.30**	**264**	*e*Pg	**Pg**	**00 10 36.0**	**-0.1**
MABI				*e*Sg	**Sg**	**00 10 54.1**	**+0.6**
SQTA	**Sankt Quirin**	**1.30**	**322**	⇑*i*PG	**Pg**	**00 10 35.8**	**-0.3**
SQTA				*i* SG	**Sg**	**00 10 54.6**	**+1.2**
	57nm,0.3s						
SQTA	**Sankt Quirin**	**1.30**	**322**	⇑*i*PG	**Pg**	**00 10 35.8**	**-0.3**
SQTA				*i* SG	**Sg**	**00 10 54.6**	**+1.2**
	57nm,0.3s						
BRMO	**Bormio**	**1.41**	**282**	*e*PN	**Pn**	**00 10 37.7**	**+2.1**
BRMO				SN	**Sn**	**00 10 57.6**	**+3.5**
	40nm,0.4s						
BRMO	**Bormio**	**1.41**	**282**	*e*Pg	**Pg**	**00 10 37.7**	**-0.6**
BRMO				*e*Sg	**Sg**	**00 10 57.6**	**+0.4**
SAL	**Salo**	**1.42**	**246**	*e*PN	**Pn**	**00 10 38.2**	**+2.5**
	176nm,0.4s						
SAL	**Salo**	**1.42**	**246**	*e*Pg	**Pg**	**00 10 38.2**	**-0.2**
MOTA	**Moosalm**	**1.44**	**323**	⇓*i*PG	**Pg**	**00 10 38.3**	**-0.6**
MOTA				*i* SG	**Sg**	**00 10 58.4**	**+0.3**
	25nm,0.3s						
MOTA	**Moosalm**	**1.44**	**323**	⇓*i*PG	**Pg**	**00 10 38.3**	**-0.6**
MOTA				*i* SG	**Sg**	**00 10 58.4**	**+0.3**
	25nm,0.3s						
CEY	**Cerknica**	**1.51**	**107**	*i* Pn	**Pn**	**00 10 37.7**	**+0.7**
LJU	**Ljubljana**	**1.51**	**95**	*i* Pn	**Pn**	**00 10 38.3**	**+1.2**
LJU				*e*		00 10 38.7	
LJU				*e*Sn	**Sn**	**00 10 58.8**	**+2.2**
OBKA	**Obir**	**1.54**	**78**	⇑*i*PG	**Pg**	**00 10 39.0**	**-1.9**
OBKA				*i* SG	**Sg**	**00 11 00.0**	**-1.5**
	15nm,0.3s						
OBKA	**Obir**	**1.54**	**78**	⇑*i*PG	**Pg**	**00 10 39.0**	**-1.9**
OBKA				*i* SG	**Sg**	**00 11 00.0**	**-1.5**
	15nm,0.3s						
VISS	**Visnje**	**1.77**	**102**	*i* Pn	**Pn**	**00 10 41.6**	**+0.9**
VISS				*i* Sn	**Sn**	**00 11 04.8**	**+1.7**
PDKS	**Podkum**	**1.83**	**93**	*i* Pn	**Pn**	**00 10 42.5**	**+0.9**
DAVA	**Damuels**	**2.03**	**303**	⇑*i*PG	**Pg**	**00 10 49.1**	**-1.5**
DAVA				*i* SG	**Sg**	**00 11 17.5**	**-0.2**
	50nm,0.5s						
DAVA	**Damuels**	**2.03**	**303**	⇑*i*PG	**Pg**	**00 10 49.1**	**-1.5**
DAVA				*i* SG	**Sg**	**00 11 17.5**	**-0.2**
	50nm,0.5s						
LEGS	**Legarje**	**2.07**	**96**	*i* Pn	**Pn**	**00 10 45.6**	**+0.6**
MOA	**Molln**	**2.10**	**37**	⇑*i*PN	**Pn**	**00 10 46.4**	**+0.9**
MOA				*i* SN	**Sn**	**00 11 13.2**	**+1.5**
MOA	**Molln**	**2.10**	**37**	⇑*i*PN	**Pn**	**00 10 46.4**	**+0.9**
MOA				*i* SN	**Sn**	**00 11 13.2**	**+1.5**
FUR	**Furstenfeldbru**	**2.10**	**340**	⇑*i*Pn	**Pn**	**00 10 48.5**	**+3.0**
FUR				*i* Sn	**Sn**	**00 11 18.1**	**+6.3**
BOJS	**Bojanci**	**2.13**	**108**	*i* Pn	**Pn**	**00 10 46.8**	**+0.8**
VBY	**Vinica-Bojanci**	**2.13**	**108**	*e*Sn	**Sn**	**00 11 17.0**	**+4.5**
CRES	**Cresnjevec ost**	**2.18**	**99**	*e*Pn	**Pn**	**00 10 47.2**	**+0.6**
GOLS	**Golise**	**2.27**	**94**	*e*Pn	**Pn**	**00 10 48.2**	**+0.2**
SFI	**Santa Sofia**	**2.32**	**189**	*e*PN	**Pn**	**00 10 50.7**	**+2.0**
SFI				SN	**Sn**	**00 11 18.1**	**+0.8**
	8.0nm,0.3s						
SFI	**Santa Sofia**	**2.32**	**189**	*e*Pg	**Pg**	**00 10 50.7**	**-5.8**
SFI				*e*Sg	**Sg**	**00 11 18.1**	**-9.3**
NVLJ	**Novalja**	**2.40**	**132**	*i* Pn	**Pn**	**00 10 50.0**	**+0.2**
NVLJ				*i* Sn	**Sn**	**00 11 19.5**	**+0.1**
GEC2	**GERESS Array S**	**2.80**	**18**	*e*Pn	**Pn**	**00 10 56.4**	**+0.9**
GEC2				*e*Sn	**Sn**	**00 11 30.9**	**+1.5**
WET	**Wettzell**	**2.97**	**6**	⇓*i*Pn	**Pn**	**00 10 58.9**	**+1.0**
WET				*e*Sn	**Sn**	**00 11 34.3**	**+0.6**
WET				*e*Sn	**Sn**	**00 11 34.6**	**+0.9**
KHC	**Kasperske Hory**	**3.05**	**15**	*e*PN	**Pn**	**00 10 59.8**	**+0.8**
KHC				*e*PG	**Pg**	**00 11 08.5**	**-2.4**
KHC				*e*SN	**Sn**	**00 11 36.3**	**+0.6**
KHC				*e*SG	**Sg**	**00 11 46.5**	**-5.0**
ASS	**Assisi**	**3.14**	**176**	*e*PN	**Pn**	**00 11 01.1**	**+0.8**
ASS	**Assisi**	**3.14**	**176**	*e*Pg	**Pn**	**00 11 01.1**	**+0.8**
NRCA	**Norcia**	**3.41**	**171**	*e*PN	**Pn**	**00 11 03.8**	**-0.3**
	3.0nm,0.3s						
NRCA	**Norcia**	**3.41**	**171**	*e*Pg	**Pn**	**00 11 03.8**	**-0.2**
LPG	**La Plagne**	**3.99**	**262**	*e*Pn	**Pn**	**00 11 14.0**	**+1.7**
LPG				*e*Sn	**Sn**	**00 11 59.2**	**-0.3**
	5.8nm,0.6s						
LPL	**La Plagne**	**4.00**	**262**	*e*Pn	**Pn**	**00 11 13.4**	**+0.9**
LPL				*e*Sn	**Sn**	**00 11 59.8**	**+0.1**
	2.7nm,0.3s						
NKC	**Novy Kostel**	**4.04**	**1**	*e*SN	**Sn**	**00 12 00.7**	**-0.1**
PRU	**Pruhonice**	**4.06**	**20**	*e*SG	**Sg**	**00 12 19.0**	**-6.4**
	6.5nm,0.6s						
HINF	**Hinteralfeld**	**4.11**	**295**	*e*Pn	**Pn**	**00 11 14.8**	**+0.8**
HINF				*e*Sn	**Sn**	**00 12 01.6**	**-0.9**
	15nm,0.4s						
CDF	**Champ du Feu**	**4.11**	**304**	*e*Pn	**Pn**	**00 11 14.8**	**+0.7**
MBDF	**Montbardon**	**4.20**	**252**	*e*Pn	**Pn**	**00 11 14.4**	**-1.0**
MBDF				*e*Sn	**Sn**	**00 12 03.6**	**-1.4**
	1.8nm,0.3s						
SBF	**Sospel**	**4.21**	**238**	*e*Pn	**Pn**	**00 11 17.2**	**+1.8**
SBF				*e*Sn	**Sn**	**00 12 03.3**	**-1.7**
	5.2nm,0.3s						
CABF	**La Chapelle**	**4.37**	**278**	*e*Pn	**Pn**	**00 11 19.2**	**+1.5**
CABF				*e*Sg	**Sg**	**00 12 31.2**	**-4.2**
	2.5nm,0.3s						
PGF	**Pioggiola**	**4.38**	**215**	*e*Pn	**Pn**	**00 11 16.6**	**-1.3**
PGF				*e*Sn	**Sn**	**00 12 06.3**	**-3.0**
	1.7nm,0.3s						
MOX	**Moxa**	**4.48**	**354**	*i* P	**Pn**	**00 11 19.4**	**+0.1**
MOX				Pg	**Pg**	**00 11 39.0**	**-0.5**
MOX				S	**Sn**	**00 12 09.0**	**-2.9**
MOX				Sg	**Sg**	**00 12 34.0**	**-5.2**
MOX	**Moxa**	**4.48**	**354**	*e*Pn	**Pn**	**00 11 19.4**	**+0.1**
MOX				*e*Pg	**Pg**	**00 11 38.6**	**-0.9**
MOX				*e*Sn	**Sn**	**00 12 09.9**	**-2.0**
MOX				*e*Sg	**Sg**	**00 12 34.0**	**-5.2**
HAU	**Haudompre**	**4.49**	**296**	*e*Pn	**Pn**	**00 11 20.1**	**+0.6**
HAU				*e*Sn	**Sn**	**00 12 10.9**	**-1.4**
	20nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.73**	**257**	*e*Pn	**Pn**	**00 11 24.5**	**+1.6**
ORIF				*e*Sn	**Sn**	**00 12 17.2**	**-1.2**
	2.8nm,0.4s						
BRG	**Berggiesshubel**	**4.79**	**12**	*e*Pg	**Pg**	**00 11 41.6**	**-4.2**
BRG				*e*Sn	**Sn**	**00 12 17.5**	**-2.4**
BRG				*e*Sg	**Sg**	**00 12 41.9**	**-7.8**
FRF	**La Foret Royal**	**4.85**	**239**	*e*Pn	**Pn**	**00 11 23.9**	**-0.6**
FRF				*e*Sn	**Sn**	**00 12 17.4**	**-3.8**
	1.6nm,0.2s						
DPC	**Dobruska-Polom**	**4.92**	**31**	*e*SN	**Sn**	**00 12 19.7**	**-3.4**
LMR	**La Mourre**	**5.06**	**238**	*e*Pn	**Pn**	**00 11 26.7**	**-0.9**
LMR				*e*Sn	**Sn**	**00 12 24.5**	**-2.1**
	3.6nm,0.5s						
CLL	**Collm**	**5.13**	**4**	*i* PN	**Pn**	**00 11 29.2**	**+0.6**
CLL				*i* SG	**Sg**	**00 12 54.6**	**-6.3**
SMRF	**Simiane la Rot**	**5.30**	**248**	*e*Pn	**Pn**	**00 11 31.8**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMRF				*e*Sn	Sn	00 12 28.1	-4.5
	1.0nm,0.3s						
MEZF	**Maizieres J'vi**	5.48	298	*e*Pn	Pn	00 11 33.5	0.0
MEZF				*e*Sn	Sn	00 12 34.7	-2.4
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	5.57	259	*e*Pn	Pn	00 11 34.8	0.0
SMF	**Signal de Mont**	5.91	277	*e*Pn	Pn	00 11 39.4	-0.2
SMF				*e*Sn	Sn	00 12 44.8	-3.2
	1.4nm,0.2s						
LOR	**Lormes**	5.95	283	*e*Pn	Pn	00 11 40.0	-0.1
LOR				*e*Sn	Sn	00 12 45.9	-2.9
	3.6nm,0.3s						
SSF	**Saint Saulge**	6.17	281	*e*Pn	Pn	00 11 42.7	-0.5
AVF	**Avril sur Loir**	6.25	279	*e*Pn	Pn	00 11 44.0	-0.4
GIVF	**Givet**	6.38	310	*e*Pn	Pn	00 11 44.3	-1.9
LASF	**Ste Croix**	6.38	254	*e*Pn	Pn	00 11 44.7	-1.5
BGF	**Bois d'Agland**	6.60	277	*e*Pn	Pn	00 11 48.5	-0.8
BGF				*e*Sn	Sn	00 13 01.2	-3.9
	4.2nm,0.4s						
BAIF	**Baives**	6.69	308	*e*Pn	Pn	00 11 49.8	-0.7
HYF	**Humbligny**	6.77	283	*e*Pn	Pn	00 11 52.4	+0.7
TCF	**Toulx Ste Croi**	7.05	274	*e*Pn	Pn	00 11 53.7	-1.9
TCF				*e*Sn	Sn	00 13 11.3	-5.0
	0.8nm,0.3s						
CAF	**Calviac**	7.34	264	*e*Pn	Pn	00 11 59.1	-0.6
MFF	**Saint Martin d**	8.66	277	*e*Pn	P	00 12 16.3	-1.8

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*ROM **27** 00:33:59.6±0.6, 46.31N×13.61E, h5^{km}, MD3.0/5, ML2.6/4, Error ellipse: s-maj=3.8km s-min=3.5km az=90.0*
*NEIC **27** 00:33:59.6, 46.31N×13.61E, h5^{km}, MD3.0(ROM), ML2.7(LJU), ML2.5(FUR), ML2.4(SZGRF), ML2.2(BRG), After ROM.*
NEIC Felt [V] at Bovec.
*LJU **27** 00:34:00.5, 46.32N×13.60E, h8^{km}, ML2.3*
ISC 27 00:34:00.4±0.2**, 46.33N**±0.01×**13.60E**±0.02**, h5^{km}, n68, σ0^{s}98**/118**, 18C-18D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROBS	**Robic**	0.11	217	⇓*i*Pg	Pg	00 34 02.9	+0.2
ROBS				*i* Sg	Sg	00 34 04.3	+0.1
	comp=Z,2µm,0.1s						
CADS	**Cadrg**	0.14	138	⇓*i*Pg	Pg	00 34 03.8	+0.6
CADS				*i* Sg	Sg	00 34 06.2	+1.0
	comp=Z,1µm,0.1s						
LSR	**Lussari**	0.15	340	⇓*i*Pg	Pg	00 34 04.5	+1.0
LSR				*i* Sg	Sg	00 34 07.5	+1.8
DRE	**Drenchia**	0.16	170	⇓*i*Pg	Pg	00 34 03.9	+0.2
DRE				*i* Sg	Sg	00 34 06.2	+0.3
PTCC	**Patocco-Chiusa**	0.19	293	*e*PG	Pg	00 34 04.5	+0.3
PTCC				SG	Sg	00 34 06.8	0.0
PTCC	**Patocco-Chiusa**	0.19	293	*e*Pg	Pg	00 34 04.5	+0.3
PTCC				*e*Sg	Sg	00 34 06.8	0.0
COLI	**Coloredo**	0.25	219	⇓*i*Pg	Pg	00 34 05.7	+0.2
COLI				*i* Sg	Sg	00 34 09.6	+0.7
GMNA	**Gemona**	0.26	258	*e*PG	Pg	00 34 06.8	+1.2
GMNA				SG	Sg	00 34 12.0	+2.8
	comp=Z,1µm,0.3s						
GMNA	**Gemona**	0.26	258	*e*Pg	Pg	00 34 06.8	+1.2
GMNA				*e*Sg	Sg	00 34 12.0	+2.8
BAD	**Bernadia**	0.27	250	⇑*i*Pg	Pg	00 34 05.7	-0.1
BAD				*i* Sg	Sg	00 34 09.8	+0.4
BAD	**Bernadia**	0.27	250	⇑*e*Pg	Pg	00 34 05.7	-0.1
BAD				*e*Sg	Sg	00 34 09.9	+0.5
BOO	**Bordano**	0.35	268	⇑*i*Pg	Pg	00 34 07.0	-0.5
BOO				*i* Sg	Sg	00 34 12.0	-0.1
BOO	**Bordano**	0.35	268	*e*Pg	Pg	00 34 07.1	-0.3
BOO				*e*Sg	Sg	00 34 12.0	-0.1
BUA	**Buia**	0.35	252	⇑*i*Pg	Pg	00 34 07.2	-0.2
VOY	**Vojsko**	0.36	146	⇓*i*Pg	Pg	00 34 07.6	0.0
VOY				*e*Sg	Sg	00 34 13.3	+0.8
PLRO	**Paularo**	0.38	305	⇑*e*Pg	Pg	00 34 08.5	+0.4
PLRO				*e*Sg	Sg	00 34 14.1	+0.9
MPRI	**Monte Prat**	0.44	258	⇓*i*Pg	Pg	00 34 08.8	-0.3
MPRI				*i* Sg	Sg	00 34 15.5	+0.5
ZOU	**Zoufplan**	0.49	298	⇓*i*Pg	Pg	00 34 10.3	0.0
ZOU				*i* Sg	Sg	00 34 18.4	+1.6
TLI	**Talmassons**	0.54	221	⇓*i*Pg	Pg	00 34 10.7	-0.5
JAVS	**Javornik**	0.54	144	⇓*i*Pg	Pg	00 34 10.7	-0.5
FVI	**Forni Avoltri**	0.63	295	*e*PG	Pg	00 34 12.7	-0.2
FVI				SG	Sg	00 34 22.1	+0.8
	comp=Z,103nm,0.3s						
FVI	**Forni Avoltri**	0.63	295	*e*Pg	Pg	00 34 12.7	-0.2
FVI				*e*Sg	Sg	00 34 22.1	+0.8
TRI	**Trieste**	0.63	170	*e*PG	Pg	00 34 12.1	-0.9
TRI				SG	Sg	00 34 21.8	+0.3
	comp=Z,236nm,0.4s						
TRI	**Trieste**	0.63	170	*e*Pg	Pg	00 34 12.1	-0.9
TRI				*e*Sg	Sg	00 34 21.8	+0.3
OBKA	**Obir**	0.68	74	⇓*i*PG	Pg	00 34 14.0	+0.1
OBKA				*i* SG	Sg	00 34 22.9	-0.1
	comp=Z,31nm,0.2s						
OBKA	**Obir**	0.68	74	⇓*i*PG	Pg	00 34 14.0	+0.1
OBKA				*i* SG	Sg	00 34 22.9	-0.1
	comp=Z,31nm,0.2s						
LJU	**Ljubljana**	0.70	114	*e*Pg	Pg	00 34 14.6	+0.2
LJU				*e*Sg	Sg	00 34 25.0	+1.2
	comp=Z,37nm,0.1s						
MLNI	**Malnisio**	0.71	256	⇑*i*Pg	Pg	00 34 14.1	-0.5
MLNI				*i* Sg	Sg	00 34 25.2	+1.0
KBA	**Koelnbreinsper**	0.77	347	⇑*i*PG	Pg	00 34 15.3	-0.4
KBA				*i* SG	Sg	00 34 26.3	+0.3
	comp=Z,20nm,0.2s						
KBA	**Koelnbreinsper**	0.77	347	⇑*i*PG	Pg	00 34 15.3	-0.4
KBA				*i* SG	Sg	00 34 26.3	+0.3
	comp=Z,20nm,0.2s						
CEY	**Cerknica**	0.82	136	*i* Pg	Pg	00 34 15.5	-1.3
	comp=Z,40nm,0.2s						
CAE	**Caneva**	0.87	249	*e*Pg	Pg	00 34 16.7	-1.1
CAE				*e*Sg	Sg	00 34 30.6	+1.1
PDKS	**Podkum**	1.00	104	*e*Pg	Pg	00 34 20.2	-0.2
	comp=Z,33nm,0.2s						
VISS	**Visnje**	1.01	121	*i* Pg	Pg	00 34 20.0	-0.5
PERS	**Pernice**	1.09	73	*i* Pg	Pg	00 34 21.5	-0.6
IESO	**Jesolo**	1.09	223	⇓*i*Pg	Pg	00 34 22.3	0.0
BISS	**Bistriski jare**	1.10	73	*e*Pg	Pg	00 34 21.8	-0.5
FAU	**Forcella Aurin**	1.13	265	*e*Pg	Pg	00 34 22.7	-0.2
LEGS	**Legarje**	1.25	107	*i* Pg	Pg	00 34 25.1	-0.2
DOBS	**Dobrina**	1.31	97	*i* Pg	Pg	00 34 25.8	-0.6
	comp=Z,15nm,0.2s						
CGRP	**Cima Grappa**	1.33	251	⇑*i*Pg	Pg	00 34 26.1	-0.9
CGRP				*i* Sg	Sg	00 34 45.1	+0.3
CTI	**Castel Tesino**	1.39	259	*e*PN	Pn	00 34 27.3	+0.9
CTI				SN	Sn	00 34 46.0	+0.7
	comp=Z,87nm,0.3s						
CTI	**Castel Tesino**	1.39	259	*e*Pg	Pg	00 34 27.3	-0.8
CTI				*e*Sg	Sg	00 34 46.0	-0.6
BOJS	**Bojanci**	1.42	125	*e*Pg	Pg	00 34 27.5	-1.2
BOJS				*i* Sg	Sg	00 34 47.1	-0.4
	comp=Z,30nm,0.2s						
GOLS	**Golise**	1.44	102	*e*Pg	Pg	00 34 28.0	-1.1
GCIS	**Gornji Cirnik**	1.47	108	*i* Pg	Pg	00 34 29.3	-0.4
SCE	**Schlegeis**	1.48	299	⇓*i*Pg	Pg	00 34 28.8	-1.2
MOA	**Molln**	1.58	16	⇑*i*PG	Pg	00 34 31.2	-0.8
MOA				*i* SG	Sg	00 34 53.5	+0.3
	comp=Z,21nm,0.5s						
MOA	**Molln**	1.58	16	⇑*i*PG	Pg	00 34 31.2	-0.8
MOA				*i* SG	Sg	00 34 53.5	+0.3
	comp=Z,21nm,0.5s						
ARSA	**Arzberg**	1.61	54	⇓*i*PG	Pg	00 34 31.3	-1.2
ARSA				*i* SG	Sg	00 34 53.6	-0.3
	comp=Z,8.4nm,0.3s						
ARSA	**Arzberg**	1.61	54	⇓*i*PG	Pg	00 34 31.3	-1.2
ARSA				*i* SG	Sg	00 34 53.6	-0.3
	comp=Z,8.4nm,0.3s						
WTTA	**Wattenberg**	1.64	305	⇑*i*PG	Pg	00 34 31.8	-1.4
WTTA				*i* SG	Sg	00 34 54.3	-0.8
	comp=Z,34nm,0.5s						
WTTA	**Wattenberg**	1.64	305	⇑*i*PG	Pg	00 34 31.8	-1.4
WTTA				*i* SG	Sg	00 34 54.3	-0.8
	comp=Z,34nm,0.5s						
TEOL	**Teolo**	1.66	235	⇑*e*Pg	Pg	00 34 30.3	-3.3
TEOL				*e*Sg	Sg	00 34 54.0	-1.8
WATA	**Walderalm**	1.72	307	⇑*i*PG	Pg	00 34 32.8	-1.9
WATA				*i* SG	Sg	00 34 57.0	-0.6
	comp=Z,15nm,0.3s						
WATA	**Walderalm**	1.72	307	⇑*i*PG	Pg	00 34 32.8	-1.9
WATA				*i* SG	Sg	00 34 57.0	-0.6
	comp=Z,15nm,0.3s						
SQTA	**Sankt Quirin**	1.87	299	⇓*i*PG	Pg	00 34 36.1	-1.6
SQTA				*i* SG	Sg	00 35 02.0	-0.7
	comp=Z,12nm,0.4s						
SQTA	**Sankt Quirin**	1.87	299	⇓*i*PG	Pg	00 34 36.1	-1.6
SQTA				*i* SG	Sg	00 35 02.0	-0.7
	comp=Z,12nm,0.4s						
NVLJ	**Novalja**	1.98	153	*i* Pn	Pn	00 34 35.8	+0.9
NVLJ				*i* Sn	Sn	00 35 03.0	+2.6
MOTA	**Moosalm**	1.99	301	⇑*i*PG	Pg	00 34 37.9	-2.3
MOTA				*i* SG	Sg	00 35 05.8	-1.0
	comp=Z,16nm,0.5s						
MOTA	**Moosalm**	1.99	301	⇑*i*PG	Pg	00 34 37.9	-2.3
MOTA				*i* SG	Sg	00 35 05.8	-1.0
	comp=Z,16nm,0.5s						
GEC2	**GERESS Array S**	2.52	1	*e*Pn	Pn	00 34 44.3	+1.7
GEC2				*e*Sg	Sg	00 35 22.0	-2.2
KHC	**Kasperske Hory**	2.80	360	*e*PN	Pn	00 34 48.2	+1.5
KHC				*e*SN	Sn	00 35 23.3	+2.0
WET	**Wettzell**	2.86	350	*e*Pn	Pn	00 34 48.6	+1.1
WET				*e*Sn	Sn	00 35 24.6	+1.9
ZST	**Bratislava**	3.03	51	*e*SG	Sg	00 35 42.6	+1.5
ZST				*e*PG	Sx	00 35 43.2	
MORC	**Moravsky Berou**	4.34	36	*e*Pn	Pn	00 35 13.2	+4.6
MORC				*e*Sn	Sn	00 35 41.4	-19
CLL	**Collm**	5.00	356	*i* PN	Pn	00 35 13.1	-4.8
CLL				*i* PG	Px	00 35 16.6	
CLL				*i*		00 35 20.0	
CLL				*i* SG	Px	00 35 42.6	
CLL				*i*		00 35 48.6	
CLL	**Collm**	5.00	356	*e*SG	Sg	00 36 42.0	-4.7

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*PRU **27** 00:34:40.2, 51.49N×16.14E*
*WAR **27** 00:34:40.4, 51.53N×16.14E, ML2.9, Mining Induced*
*NEIC **27** 00:34:43.3±2.3, 51.28N×15.82E, h5^{km}, MG2.8(WAR), Error ellipse: s-maj=26.9km s-min=10.8km az=201.0*
ISC 27 00:34:37.6±1.0**, 51.51N**±0.05×**16.15E**±0.04**, n15, σ1^{s}18**/31**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.68	172	*e*PG	Pg	00 34 53.0	+1.9
KSP				*e*SG	Sg	00 35 02.0	+1.9
KSP	**Ksiaz**	0.68	172	*i* Pg	Pg	00 34 53.1	+2.0
KSP				*e*Sg	Sg	00 35 02.2	+2.1
UPC	**Upice**	1.01	185	*e*PG	Pg	00 34 59.2	+1.5
DPC	**Dobruska-Polom**	1.17	175	*e*PG	Pg	00 35 01.9	+1.0
DPC				*e*SG	Sg	00 35 16.3	-0.2
	11nm,0.2s						
PVCC	**Panska Ves**	1.40	226	*e*PG	Pg	00 35 05.8	+0.2
PVCC				*e*SG	Sg	00 35 24.9	+0.6
BRG	**Berggiesshubel**	1.53	246	*i* Pg	Pg	00 35 08.8	+0.7
BRG				*i* Sg	Sg	00 35 29.0	+0.5
PRU	**Pruhonice**	1.84	214	PN	Pn	00 35 11.4	+0.8
PRU				PG	Pg	00 35 13.3	-0.9
PRU				*i*		00 35 17.7	
PRU				*i*		00 35 30.7	
PRU				SG	Sg	00 35 37.6	-1.1
	21nm,0.3s						
PRU	**Pruhonice**	1.84	214	*e*Pg	Pg	00 35 11.0	-3.2
PRU				*e*Sg	Sg	00 35 37.8	-0.9
RAC	**Raciborz**	1.93	137	*e*P	Pn	00 35 17.0	+5.0
RAC				*e*S	Sn	00 35 41.0	+3.7
OKC	**Ostrava-Krasne**	2.10	142	*e*PG	Pg	00 35 19.1	-0.5
OKC				*e*SG	Sg	00 35 46.0	-1.6
OJC	**Ojcow**	2.65	118	*e*PG	Pg	00 35 30.0	-0.5
OJC				*e*SG	Sg	00 36 05.0	-0.8
OJC	**Ojcow**	2.65	118	*e*Pg	Pg	00 35 29.9	-0.6
OJC				*e*Sg	Sg	00 36 05.1	-0.7
NKC	**Novy Kostel**	2.67	243	*e*PN	Pn	00 35 23.2	+0.6
NKC				*e*PG	Pg	00 35 30.5	-0.4
NKC				*e*SG	Sg	00 36 06.6	+0.1
KHC	**Kasperske Hory**	2.90	216	*e*PG	Pg	00 35 32.7	-2.7
KHC				*e*SG	Sg	00 36 11.2	-2.9
MOX	**Moxa**	2.99	255	*e*Pg	Pg	00 35 36.9	-0.3
MOX				*e*Sg	Sg	00 36 16.2	-0.8

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*IDC **27** 00:43:49.7±0.4, 27.48S×70.96W, mb5.3/17, mb1 5.3/21, mb1mx5.3/22, ML4.7/3, MS5.5/17, Ms1 5.5/17, ms1mx5.4/20, Error ellipse: s-maj=18.5km s-min=10.9km az=75.0*
*HRVD **27** 00:43:54.5±0.1, 27.63S×71.25W, h35^{km}, MW5.8/70, Centroid moment Tensor Solution. LP body waves: s69,c134;Mantle waves: s70,c151; Half duration: 2^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.07±.07; $M_{\theta\theta}$0.26±.05; $M_{\phi\phi}$-1.33±.06; $M_{r\theta}$1.02±.07; $M_{\theta\phi}$0.55±.04; $M_{\phi r}$6.73±.08; Best double couple: $M_0$6.94×10^{17} NP1:ϕ_s135°, δ8°, λ37°. NP2:ϕ_s8°, δ85°, λ96°. Principal axes: T 6.9, Plg49°, Azm285°; N .07, Plg6°, Azm188°; P -6.97, Plg40°, Azm92°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **27** 00:43:54.5, 27.40S×70.80W, h30^{km}, mB5.8, Ms5.8, Msz5.7*
*NEIC **27** 00:43:54.5±0.1, 27.42S×70.81W, h30^{km}, mb5.8/90, ME5.8, MS5.4/91, MW5.9, ML6.1(GUC), Error ellipse: s-maj=5.8km s-min=3.3km az=67.0 Broadband fault plane solution: P waves. NP1:ϕ_s5°, δ85°, λ90°. NP2:ϕ_s185°, δ5°, λ90°. Principal axes: T Plg50°, Azm275°; N Plg0°, Azm0°; P Plg40°, Azm95°; Moment Tensor Solution. s49 Moment tensor: Scale 10^{17} Nm; M_{rr}2.35; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-2.68; $M_{r\theta}$0.19; $M_{\theta\phi}$-1.40; $M_{\phi r}$6.15; Best double couple: $M_0$6.8×10^{17} NP1:ϕ_s226°, δ15°, λ132°. NP2:ϕ_s3°, δ79°, λ79°. Principal axes: T 6.54, Plg55°, Azm260°; N .49, Plg10°, Azm5°; P -7.03, Plg33°, Azm102°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Copiapo, [V] at Caldera and [IV] at Chanaral, Diego de Almagro, El Salvador, Huasco and Vallenar.
*SYO **27** 00:43:54.5, 27.42S×70.81W, h30^{km}, MB5.8, MS5.4*
*MOS **27** 00:43:55.4±0.8, 26.99S×70.82W, h33^{km}, mb6.0/44, MS5.6/8, Error ellipse: s-maj=24.2km s-min=7.4km az=110.2*
ISC 27 00:43:52.8±0.2**, 27.43S**±0.03×**70.79W**±0.05**, h31^{km}, h31^{km}**±.5^{km}**:pP-P, n480, σ0^{s}99**/315**, mb5.7**/107**, MS5.4**/115**, 98C-19D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	5.09	20	Pn	Pn	00 45 10.4	+1.3
	57nm,0.3s,baz=202,slow=11,SNR=930						
LVC				Pg	Pn	00 45 22.5	+13
	186nm,0.3s,baz=209,slow=12,SNR=51						
LVC				Sn	Sn	00 46 09.8	+2.2
	366nm,0.3s,baz=184,slow=1.5,SNR=5.9						
LVC				Lg		00 46 28.8	
	855nm,0.3s,baz=347,slow=16,SNR=8.4						
LVC	**Limon Verde**	5.09	20	*e*Pn	Pn	00 45 10.2	+1.1
MDZ	**Mendoza**	5.69	163	*e*P	Pn	00 45 17.9	+0.4
MDZ				*e*		00 45 27.5	
MDZ				*e*		00 45 51.5	
MDZ				*i* S	Sn	00 46 29.9	+7.4
ARE	**Arequipa**	10.94	356	⇓*i*P	P	00 46 27.6	-2.8
ARE				*e*S	S	00 48 26.4	-6.3
ARE				*e*		00 49 24.0	
LPAZ	**La Paz**	11.36	13	Pn	P	00 46 35.1	-1.1
	8.6nm,0.3s,baz=202,slow=4.2,SNR=54						
LPAZ				Sn	S	00 48 49.7	+6.6
	0.9nm,0.3s,baz=203,slow=17,SNR=1.2						
LPAZ	**La Paz**	11.36	13	*e*Pn	P	00 46 35.0	-1.2
CPUP	**Villa Florida**	12.07	88	Pn	P	00 46 45.1	-0.6
	0.5nm,0.3s,baz=291,slow=11,SNR=22						
CPUP				Lg		00 50 11.9	
	3.9nm,0.3s,baz=1.6,slow=17,SNR=1.7						
CPUP	**Villa Florida**	12.07	88	Pn	P	00 46 44.7	-1.0
CPUP	**Villa Florida**	12.07	88	⇓*i*P	P	00 46 44.8	-0.9
TRQA	**Tornquist**	12.92	147	*e*P	P	00 46 55.3	-1.8
	214nm,0.6s						
PLCA	**Paso Flores**	13.27	179	Pn	P	00 46 58.3	-3.4
	0.7nm,0.3s,baz=4.3,slow=12,SNR=9.2						
PLCA				Lg		00 50 36.3	
	1.0nm,0.3s,baz=75,slow=15,SNR=2.5						
PLCA				LR	LR	00 52 47.8	
	comp=Z,10µm,18.1s,baz=351,slow=41						
PLCA	**Paso Flores**	13.27	179	P	P	00 46 59.7	-2.0
LPA	**La Plata**	13.29	127	*de*P	P	00 47 03.0	+1.1
LPA				*e*sP		00 47 05.5	
LPA				*e*PP	PP	00 47 09.0	-3.1
LPA				*e*sP		00 47 13.0	
LPA				*e*S	S	00 49 27.0	-2.5
NNA	**Nana**	16.38	339	⇑*e*P	P	00 47 41.9	-0.4
	100nm,0.8s						
SAML	**Samuel**	19.74	23	*e*P	P	00 48 21.7	-1.5
	158nm,1.0s						
BDFB	**Brasilia**	24.17	66	P	P	00 49 08.5	+0.9
	106nm,1.1s,mb5.2,baz=254,slow=7.2,SNR=56						
BDFB				PP	PP	00 49 40.4	-2.1
	120nm,1.1s,baz=214,slow=15,SNR=4.2						
BDFB				S	S	00 53 25.4	+4.8
	19nm,0.9s,baz=138,slow=11,SNR=1.6						
BDFB				LR	LR	01 00 00.2	
	comp=Z,67µm,18.8s,MS6.2,baz=245,slow=40						
EFI	**East Falkland**	26.05	162	PFAKE		00 49 40.0	+15
EFI				LR	LR		
	comp=Z,4µm,22.0s,MS4.9						
USHA	**Ushuaia**	27.43	177	P	P	00 49 36.0	-1.7
	comp=Z,20nm,0.7s,mb4.7,baz=342,slow=5.6,SNR=7.5						
USHA				LR	LR	01 00 50.2	
	comp=Z,12µm,18.3s,MS5.5,baz=232,slow=37						
CAM3	**Guarapari**	28.38	83	*e*P	P	00 49 45.7	-0.9
CAM3				*i*	pP	00 49 56.2	+0.6
CAM3				*i*		00 50 06.3	
CAM3				*i*		00 50 24.2	
CAM3				*i*		00 50 37.3	
CAM3	**Guarapari**	28.38	83	*e*P	P	00 49 45.7	-0.9
CAM3				*i*	pP	00 49 56.2	+0.6
CAM3				*i*		00 50 06.3	
CAM3				*i*		00 50 24.2	
CAM3				*i*		00 50 37.3	
OTAV	**Otavalo**	28.48	344	*e*P	P	00 49 48.7	+1.2
	comp=Z,42nm,1.0s,mb5.0						
OTAV				LR	LR		
	comp=Z,6µm,21.0s,MS5.2						
ROSC	**El Rosal**	32.28	353	P	P	00 50 22.4	+1.2
	comp=Z,49nm,0.8s,mb5.4,baz=139,slow=6.7,SNR=24						
ROSC				S	S	00 55 36.8	+5.2
	comp=Z,2.4nm,0.5s,baz=173,slow=23,SNR=1.3						
ROSC				LR	LR	01 03 27.7	
	comp=Z,6µm,19.6s,MS5.3,baz=349,slow=36						
PAYG	**Puerto Ayora**	32.52	322	*e*P	P	00 50 23.7	+0.4
	comp=Z,134nm,1.2s,mb5.8						
PAYG				LR	LR		
	comp=Z,13µm,20.0s,MS5.6						
SDV	**Santo Domingo**	36.10	0	*e*P	P	00 50 53.0	-1.0
	comp=Z,49nm,0.8s,mb5.5						
SDV				LR	LR		
	comp=Z,4µm,21.0s,MS5.1						
PMSA	**Palmer Station**	37.60	175	*e*P	P	00 51 06.0	-0.2
	comp=Z,206nm,1.9s,mb5.5						
PMSA				LR	LR		
	comp=Z,11µm,19.0s,MS5.7						
RCBR	**Riachuelo**	39.50	63	⇓*i*P	P	00 51 24.2	+1.5
	comp=Z,542nm,1.4s,mb6.1						
RCBR				*e*pP	pP	00 51 33.1	+1.3
RCBR				LR	LR		
	comp=Z,19µm,21.0s,MS5.9						
JTS	**JuntasAbangare**	39.93	338	P	P	00 51 26.9	+0.8
	comp=Z,29nm,0.9s,mb5.0,baz=140,slow=2.5,SNR=19						
JTS				LR	LR	01 04 54.6	
	comp=Z,2µm,21.1s,MS5.0,baz=168,slow=32						
JTS	**JuntasAbangare**	39.93	338	⇑*i*P	P	00 51 27.2	+1.1
	comp=Z,692nm,2.1s,mb6.0						
JTS				LR	LR		
	comp=Z,574nm,20.0s,MS4.4						
BIM	**Bigot**	42.75	14	*e*P	P	00 51 48.8	-0.6
MVM	**Montagne Vaucl**	42.82	14	*e*P	P	00 51 48.9	-1.0
FDF	**Fort de France**	42.94	14	*e*P	P	00 51 49.0	-1.9
CRM	**Caravelle**	43.01	14	*e*P	P	00 51 50.1	-1.3
MGP	**Maguayo**	45.31	5	P	P	00 52 09.7	-0.2
MGP	**Maguayo**	45.31	5	⇑*i*P	P	00 52 08.8	-1.1
SJG	**San Juan**	45.49	6	P	P	00 52 10.0	-1.3
	comp=Z,113nm,0.7s,mb5.8,baz=165,slow=3.4,SNR=48						
SJG				S	S	00 58 43.5	-6.9
	comp=Z,3.2nm,0.3s,baz=346,slow=21,SNR=1.3						
SJG	**San Juan**	45.49	6	P	P	00 52 09.9	-1.5
SJG				pmax	pmax		
	comp=Z,120nm,0.8s						
SJG	**San Juan**	45.49	6	⇑*i*P	P	00 52 09.7	-1.7
	comp=Z,116nm,0.8s,mb5.8						
SJG				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
MTP	**Monte Pirata**	45.54	7	⇑*i*P	P	00 52 09.9	-1.8
CCIG	**Comitan**	48.13	332	*i* P	P	00 52 31.0	-1.2
HUIG	**Huatulco**	49.47	327	*i* P	P	00 52 42.2	-0.3
CMIG	**Matias Romero**	50.05	329	*i* P	P	00 52 45.2	-1.7
TEIG	**Tepich**	50.31	338	P	P	00 52 49.1	+0.2
	comp=Z,0.0nm,0.4s,baz=337,slow=24,SNR=38						
TEIG	**Tepich**	50.31	338	P	P	00 52 48.2	-0.7
TEIG				P		00 52 48.4	
TEIG				P		00 52 48.4	
TEIG				PKiKP		00 59 30.2	
TEIG				PKiKP		00 59 30.2	
TEIG				S	S	00 59 57.2	-1.0
TEIG				S	S	00 59 57.4	-0.9
TEIG				sS		01 00 16.8	
TEIG				sS		01 00 16.9	
TEIG	**Tepich**	50.31	338	*e*P	P	00 52 48.7	-0.2
VHO	**Vista Hermosa**	50.89	327	*i* P	P	00 52 54.0	+0.7
OXX	**Oaxaca**	50.90	327	*i* P	P	00 52 54.0	+0.6
PTCN	**Pitcairn Islan**	52.80	258	PFAKE		00 53 20.0	+12
PTCN				LR	LR		
	comp=Z,7µm,19.0s,MS5.7						
PPM	**Popocatepetl**	53.52	327	*e*P	P	00 53 14.0	+1.0
YAIG	**Yautepec**	53.56	326	*i* P	P	00 53 13.2	-0.2
UNM	**Universidad Na**	54.01	326	*i* P	P	00 53 19.5	+2.9
CRX	**Cerrillo**	54.32	326	*e*P	P	00 53 20.0	+1.1
VNA3	**Neumayer Olymp**	55.08	160	*e*	P	00 53 28.6	+4.8
VNA3	**Neumayer Olymp**	55.08	160	*e*	P	00 53 30.4	+6.6
VNA3	**Neumayer Olymp**	55.08	160	⇓*i*P	P	00 53 25.4	+1.6
VNA3				*e*		00 54 17.3	
MOIG	**Morelia**	55.32	325	*i* P	P	00 53 26.5	+0.3
VNA1	**Neumayer--Stat**	55.34	159	*e*	P	00 53 30.7	+5.0
VNA1	**Neumayer--Stat**	55.34	159	*e*	P	00 53 32.8	+7.1
VNA1	**Neumayer--Stat**	55.34	159	⇓*i*P	P	00 53 27.3	+1.6
VNA1				*e*		00 54 18.7	
VNA2	**Neumayer--Watz**	55.69	159	⇓*i*P	P	00 53 29.5	+1.3
VNA2	**Neumayer--Watz**	55.69	159	*e*	P	00 53 32.9	+4.7
VNA2	**Neumayer--Watz**	55.69	159	*e*	P	00 53 34.7	+6.5
DWPF	**Disney**	56.16	349	⇑*i*P	P	00 53 31.1	-1.1
DWPF				pP	pP	00 53 41.6	+0.1
DWPF				LR	LR		
	comp=Z,440nm,19.0s,MS4.6						
SFJM	**Santa Fe**	56.95	323	*i* P	P	00 53 34.0	-3.9
SNAA	**Sanae**	57.30	160	*e*	P	00 53 42.1	+2.4
SNAA	**Sanae**	57.30	160	*e*	P	00 53 43.9	+4.2
SNAA	**Sanae**	57.30	160	P	P	00 53 38.1	-1.6
SNAA				pmax	pmax		
	comp=Z,210nm,1.1s						
SNAA	**Sanae**	57.30	160	⇓*i*P	P	00 53 38.7	-1.0
SNAA				*e*		00 54 33.3	
RKT	**Rikitea**	57.64	259	*e*P	P	00 53 42.4	-0.3
	comp=Z,214nm,1.2s,mb6.0						
ZAIG	**Zacatecas**	58.59	325	*i* P	P	00 53 50.0	+0.6
BBSR	**BB Station**	59.75	6	PFAKE		00 54 10.0	+13
BBSR				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
RGRS	**Roger Stewart**	60.67	351	*e*P	P	00 54 03.1	-0.4
CSU	**Charleston Sou**	60.73	351	*e*P	P	00 54 03.8	-0.2
CSU				*e*pP	pP	00 54 13.3	-0.2
TWB	**Tillmans-White**	60.86	351	*e*P	P	00 54 04.5	-0.4
NHSC	**New Hope**	60.86	351	⇑*i*P	P	00 54 04.0	-0.8
	comp=Z,552nm,1.3s,mb6.5						
NHSC				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
HKT	**Hockley**	61.88	335	P	P	00 54 11.0	-0.9
HKT				S	S	01 02 31.3	-0.4
HKT	**Hockley**	61.88	335	P	P	00 54 10.4	-1.4
HKT				pmax	pmax		
	comp=Z,360nm,1.7s,mb6.2						
HKT	**Hockley**	61.88	335	⇑*i*P	P	00 54 11.0	-0.8
	comp=Z,363nm,1.8s,mb6.2						
HKT				LR	LR		
	comp=Z,316nm,20.0s,MS4.5						
MAIT	**Maitri**	61.92	158	*e*P	P	00 54 10.9	-0.7
MAIT				*e*sP	sP	00 54 17.0	-7.5
MAIT				*e*PcP	PcP	00 54 56.1	+4.3
LRAL	**Lakeview Retre**	62.07	345	⇑*i*P	P	00 54 11.0	-2.0
	comp=Z,27nm,1.0s,mb5.3						
LRAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
JSC	**Jenkinsville**	62.17	350	*e*P	P	00 54 12.9	-0.8
QSPA	**South Pole Qui**	62.79	180	*e*P	P	00 54 16.2	-1.0
	comp=Z,84nm,1.1s,mb5.8						
QSPA				LR	LR		

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      comp=Z,1µm,21.7s,MS5.1
NATX  Nacogdoches       63.10 337⇓iP   P      00 54 19.4 -0.5
      comp=Z,112nm,0.7s,mb6.1
NATX                              LR   LR
      comp=Z,1µm,22.0s,MS5.1
CPCT  Cooper Cave       63.87 348⇑iP   P      00 54 23.3 -1.6
CPCT                              pP   pP     00 54 31.6 -2.8
JCT   Junction City     63.91 332⇓iP   P      00 54 24.5 -0.7
      comp=Z,125nm,0.7s,mb6.0
JCT                               LR   LR
      comp=Z,770nm,19.0s,MS4.9
OXF   Oxford            64.08 343  P   P      00 54 24.9 -1.4
OXF                               pmax pmax
      comp=Z,190nm,1.0s,mb6.1
OXF   Oxford            64.08 343⇑iP   P      00 54 24.3 -2.0
      comp=Z,192nm,0.9s,mb6.1
OXF                               LR   LR
      comp=Z,885nm,21.0s,MS4.9
PLAL  Pickwick Lake     64.19 344⇑iP   P      00 54 24.9 -2.1
      comp=Z,78nm,1.0s,mb5.7
PLAL                              LR   LR
      comp=Z,1µm,20.0s,MS5.0
LTX   Lajitas           64.63 328  P   P      00 54 28.8 -1.1
LTX                               pmax pmax
      comp=Z,240nm,1.7s,mb6.0
LTX   Lajitas           64.63 328⇑iP   P      00 54 29.3 -0.7
      comp=Z,243nm,1.8s,mb5.9
LTX                               LR   LR
      comp=Z,2µm,19.0s,MS5.4
TXAR  Lajitas Array     64.63 328  P   P      00 54 29.6 -0.4
      comp=Z,12nm,0.6s,mb5.1,baz=152,slow=8.8,SNR=172
TXAR                              S    S      01 03 08.8 +2.8
      comp=Z,0.6nm,1.1s,baz=128,slow=12,SNR=1.0
TXAR                              LR   LR     01 18 54.8
      comp=Z,2µm,19.5s,MS5.3,baz=130,slow=33
TXAR                              PKPPKP      01 23 16.6
      comp=Z,0.3nm,1.0s,baz=315,slow=1.3,SNR=2.7
TXAR  Lajitas Array     64.63 328  P   P      00 54 29.6 -0.4
TXAR                              S    S      01 03 08.8 +2.8
TXAR                              LR   LR     01 18 54.8
TXAR                              P'P'        01 23 16.6
BLA   Blacksburg        64.93 352  P   P      00 54 31.1 -0.7
BLA                               pmax pmax
      comp=Z,21nm,0.8s,mb5.2
BLA   Blacksburg        64.93 352⇑iP   P      00 54 30.8 -1.0
      comp=Z,21nm,0.8s,mb5.2
BLA                               LR   LR
      comp=Z,2µm,21.0s,MS5.3
ELN   Prospectdale      64.99 351 eP   P      00 54 31.7 -0.5
UALR  University of     65.14 341⇑iP   P      00 54 31.9 -1.3
      comp=Z,85nm,1.1s,mb5.7
UALR                             epP   pP     00 54 42.0 -0.7
WVT   Waverly           65.23 345  P   P      00 54 31.7 -2.0
WVT                               pmax pmax
      comp=Z,170nm,1.2s,mb6.0
WVT   Waverly           65.23 345⇑iP   P      00 54 31.5 -2.2
      comp=Z,168nm,1.2s,mb6.0
WVT                               LR   LR
      comp=Z,1µm,22.0s,MS5.1
MIAR  Mount Ida         65.30 339⇑iP   P      00 54 33.2 -1.0
      comp=Z,114nm,1.1s,mb5.8
MIAR                              LR   LR
      comp=Z,1µm,19.0s,MS5.1
FWV   Forest Hill       65.35 351 eP   P      00 54 33.7 -0.7
FWV                               pP   pP     00 54 42.5 -1.5
CBN   Corbin            65.58 354⇑iP   P      00 54 35.5 -0.4
      comp=Z,25nm,0.5s,mb5.5
CBN                              epP   pP     00 54 46.1 +0.6
CBN                               LR   LR
      comp=Z,2µm,19.0s,MS5.3
GNAR  Gosnell           65.61 343⇑iP   P      00 54 35.4 -0.8
UTMT  University of     65.68 344  P   P      00 54 35.3 -1.3
      comp=Z,332nm,1.1s,mb6.3
GLAT  Glass             65.71 344 eP   P      00 54 35.5 -1.3
WCI   Wyandotte Cave    66.91 347  P   P      00 54 42.6 -1.8
WCI                               pmax pmax
      comp=Z,64nm,0.7s,mb5.8
WCI   Wyandotte Cave    66.91 347⇑iP   P      00 54 42.3 -2.1
      comp=Z,64nm,0.7s,mb5.8
WCI                              epP   pP     00 54 52.0 -2.0
WCI                               LR   LR
      comp=Z,292nm,22.0s,MS4.5
USIN  University of     66.95 346⇑iP   P      00 54 42.7 -2.0
      comp=Z,164nm,1.1s,mb6.0
CLNB  Carlsbad          67.20 330 eP   P      00 54 46.8 +0.4
WMOK  Wichita Mounta    67.27 335  P   P      00 54 45.1 -1.6
WMOK                              pmax pmax
      comp=Z,200nm,1.7s,mb5.9
WMOK  Wichita Mounta    67.27 335⇑iP   P      00 54 45.2 -1.6
      comp=Z,200nm,1.7s,mb5.9
WMOK                              LR   LR
      comp=Z,1µm,22.0s,MS5.0
GDL2  Guadalupe Moun    67.37 329 eP   P      00 54 47.4  0.0
FVM   French Village    67.62 343  P   P      00 54 47.6 -1.3
FVM                               pmax pmax
      comp=Z,1µm,1.5s,mb6.7
FVM   French Village    67.62 343⇑iP   P      00 54 47.8 -1.2
      comp=Z,1µm,1.5s,mb6.7
CPRX  Cap Rock          67.85 330 eP   P      00 54 50.7 +0.3
CPRX                              pP   pP     00 55 00.4 +0.4
BLO   Bloomington       67.87 347  P   P      00 54 49.1 -1.3
BLO                               pmax pmax
      comp=Z,43nm,0.8s,mb5.5
BLO   Bloomington       67.87 347⇑iP   P      00 54 48.3 -2.1
      comp=Z,43nm,0.8s,mb5.5
CCM   Cathedral Cave    67.91 343  P   P      00 54 49.0 -1.7
CCM                               pmax pmax
      comp=Z,160nm,0.8s,mb6.1
CCM   Cathedral Cave    67.91 343⇑iP   P      00 54 49.4 -1.3
      comp=Z,161nm,0.8s,mb6.1
CCM                               pP   pP     00 54 59.4 -0.9
CCM                               LR   LR
      comp=Z,193nm,20.0s
CPNY  Central Park      67.94 357 eP   P      00 54 50.7 -0.1
SSPA  Standing Stone    68.04 354⇑iP   P      00 54 51.0 -0.4
      comp=Z,14nm,0.6s,mb5.2
SSPA                              LR   LR
      comp=Z,247nm,20.0s,MS4.4
PAL   Palisades         68.15 357  P   P      00 54 52.5 +0.4
PAL   Palisades         68.15 357⇑iP   P      00 54 51.8 -0.4
SLM   Saint Louis       68.19 344  P   P      00 54 52.1 -0.4
SLM                               pmax pmax
      comp=Z,50nm,0.6s,mb5.7
SLM   Saint Louis       68.19 344 eP   P      00 54 51.2 -1.3
      comp=Z,50nm,0.6s,mb5.7
SLM                              epP   pP     00 55 01.4 -0.6
ACSO  Alum Creek Sta    68.26 350 eP   P      00 54 51.1 -1.7
      comp=Z,118nm,0.8s,mb6.0
ACSO                              pP   pP     00 55 00.5 -1.9
ACSO                              LR   LR
      comp=Z,2µm,22.0s,MS5.2
BRYW  Bryant College    69.00 359⇑iP   P      00 54 57.6 +0.2
      comp=Z,491nm,1.4s,mb6.2
BRYW                             epP   pP     00 55 07.1 +0.1
ALLY  Alegheny Colle    69.27 353 eP   P      00 54 58.2 -0.9
QUA2  Belchertown       69.37 359⇑iP   P      00 55 03.4 +3.7
      comp=Z,152nm,1.4s,mb5.7
BINY  Binghamton        69.45 356⇑iP   P      00 55 00.1 -0.1
      comp=Z,202nm,1.7s,mb5.8
BINY                             epP   pP     00 55 08.1 -1.6
BINY                              LR   LR
      comp=Z,3µm,20.0s,MS5.6
WES   Weston            69.47 360  P   P      00 55 01.1 +0.9
WES                               pmax pmax
      comp=Z,180nm,1.4s,mb5.8
WES   Weston            69.47 360⇑iP   P      00 55 00.6 +0.3
      comp=Z,182nm,1.5s,mb5.8
WES                              epP   pP     00 55 08.9 -0.9
WES                               LR   LR
      comp=Z,1µm,19.0s,MS5.1
HRV   Harvard--Oak R    69.59 359  P   P      00 55 01.8 +0.8
HRV                               pmax pmax
      comp=Z,210nm,1.4s,mb5.9
HRV   Harvard--Oak R    69.59 359⇑iP   P      00 55 01.6 +0.6
      comp=Z,214nm,1.4s,mb5.9
HRV                              epP   pP     00 55 10.4 -0.1
HRV                               LR   LR
      comp=Z,1µm,22.0s,MS5.2
SBA   Scott Base        69.71 191  P   P      00 55 01.0 -0.2
SBA                               pmax pmax
      comp=Z,220nm,1.9s,mb5.8
SBA   Scott Base        69.71 191 eP   P      00 55 01.2  0.0
      comp=Z,225nm,2.0s,mb5.8
SBA                               LR   LR
      comp=Z,1µm,21.0s,MS5.2
ERPA  Erie              69.72 353⇑iP   P      00 55 00.3 -1.4
      comp=Z,32nm,0.6s,mb5.4
ERPA                              LR   LR
      comp=Z,2µm,21.0s,MS5.2
BNM   Barren Site       70.03 329 eP   P      00 55 05.3 +1.5
TBI   Tubuai            70.06 253 eP   P      00 55 03.1 -1.1
      comp=Z,232nm,1.3s,mb6.0
TBI                              eSS   Sx     01 08 19.4
TBI                              eR           01 15 58.2
      comp=Z,5µm,29.5s,baz=112
GENY  Geneseo           70.15 355 eP   P      00 55 04.6 +0.3
GENY                             epP   pP     00 55 15.3 +1.4
LENM  Lemitar           70.20 329 eP   P      00 55 05.1 +0.2
KSU1  Kansas State U    70.44 339⇑iP   P      00 55 05.2 -1.1
LAZ   Ladron            70.47 329 eP   P      00 55 06.5  0.0
ACCN  Adirondack Com    70.51 358⇑iP   P      00 55 06.8 +0.2
ACCN                             epP   pP     00 55 14.6 -1.6
FFD   Franklin Falls    70.55 359 eP   P      00 55 07.0 +0.2
      comp=Z,153nm,1.1s,mb5.8
FFD                              epP   pP     00 55 17.2 +0.8
TUC   Tucson            70.56 325  P   P      00 55 07.0 -0.1
TUC                               pmax pmax
      comp=Z,85nm,1.5s,mb5.5
TUC   Tucson            70.56 325⇑iP   P      00 55 06.9 -0.1
      comp=Z,85nm,1.5s,mb5.5
TUC                               LR   LR
      comp=Z,4µm,22.0s,MS5.7
ANMO  Albuquerque       70.62 329  P   P      00 55 07.8 +0.4
ANMO                              S    S      01 04 21.1 +3.4
ANMO                              sS          01 04 41.2
ANMO  Albuquerque       70.62 329c iP  P      00 55 07.6 +0.2
ANMO  Albuquerque       70.62 329⇑iP   P      00 55 07.8 +0.4
      comp=Z,172nm,1.8s,mb5.7
ANMO                              LR   LR
      comp=Z,5µm,19.0s,MS5.7
HNH   Hanover           70.80 359⇑iP   P      00 55 09.1 +0.8
      comp=Z,21nm,1.5s,mb4.8
HNH                              epP   pP     00 55 18.2 +0.3
NCB   Newcomb           71.12 357⇑iP   P      00 55 10.1 -0.2
      comp=Z,87nm,1.4s,mb5.5
NCB                              epP   pP     00 55 19.6 -0.3
NCB                               LR   LR
      comp=Z,1µm,22.0s,MS5.1
CBKS  Cedar Bluff       71.24 336  P   P      00 55 11.6 +0.5
CBKS                              pmax pmax
      comp=Z,77nm,0.7s,mb5.7
CBKS  Cedar Bluff       71.24 336⇑iP   P      00 55 10.7 -0.4
      comp=Z,77nm,0.7s,mb5.7
CBKS                              LR   LR
      comp=Z,2µm,21.0s,MS5.2
SYO   Syowa Base        71.58 159 ⇓P   P      00 55 12.0 -0.6
SYO   Syowa Base        71.58 159 ⇓pP  pP     00 55 21.5 -0.7
SYO   Syowa Base        71.58 159 ⇓PcP PcP    00 55 28.7 -3.2
WVL   Waterville        71.65   1 eP   P      00 55 14.0 +0.5
      comp=Z,111nm,1.1s,mb5.7
WVL                              epP   pP     00 55 24.3 +1.3
WVL                               LR   LR
      comp=Z,5µm,21.0s,MS5.8
LIC   Lamto             71.73  73 eP   P      00 55 14.3 -0.2
      comp=Z,242nm,1.1s,mb6.0
LIC   Lamto             71.73  73 eP   P      00 55 14.6 +0.1
      comp=Z,103nm,1.1s,mb5.7
EMMW  East Machias      71.85   2⇑eP   P      00 55 15.2 +0.5
      comp=Z,684nm,1.5s,mb6.4
EMMW                             epP   pP     00 55 24.5 +0.2
EMMW                              LR   LR
      comp=Z,5µm,21.0s,MS5.7
TIC   Toumodi           71.96  72 eP   P      00 55 15.6 -0.2
      comp=Z,781nm,1.3s,mb6.5
TVO   Taravao           72.03 259 eP   P      00 55 15.4 -0.7
      comp=Z,233nm,1.4s,mb5.9
KIC   Kosan Boka        72.05  73 eP   P      00 55 16.1 -0.2
      comp=Z,950nm,1.2s,mb6.6
DBIC  Dimbokro          72.11  72  P   P      00 55 17.2 +0.6
      comp=Z,32nm,0.8s,mb5.3,baz=212,slow=6.3,SNR=55
DBIC                              S    S      01 04 37.0 +1.7
      comp=Z,2.1nm,1.0s,baz=358,slow=18,SNR=1.4
DBIC                              LR   LR     01 24 27.5
      comp=Z,7µm,21.8s,MS5.9,baz=237,slow=34
DBIC  Dimbokro          72.11  72  S   P      00 55 17.3 +0.6
DBIC                              S    pP     00 55 27.2 +0.9
DBIC                              S    S      01 04 38.0 +2.7
DBIC  Dimbokro          72.11  72⇓iP   P      00 55 17.1 +0.4
      comp=Z,66nm,1.1s,mb5.5
DBIC                            ⇓epP   pP     00 55 26.9 +0.6
DBIC                              LR   LR
      comp=Z,7µm,22.0s,MS5.9
MSNY  Massena           72.17 357 eP   P      00 55 16.8 +0.3
JFWS  Jewell Farm       72.25 345  P   P      00 55 16.8 -0.3
JFWS                              pmax pmax
      comp=Z,54nm,0.6s,mb5.7
JFWS  Jewell Farm       72.25 345⇑iP   P      00 55 16.3 -0.7
      comp=Z,54nm,0.6s,mb5.7
JFWS                              LR   LR
      comp=Z,2µm,19.0s,MS5.3
SADO  Sadowa            72.25 354  P   P      00 55 16.4 -0.6
      comp=Z,49nm,0.7s,mb5.5,baz=193,slow=5.6,SNR=50
SADO                              S    S      01 04 34.0 -2.4
      comp=Z,5.4nm,1.0s,baz=153,slow=19,SNR=2.4
SADO  Sadowa            72.25 354  P   P      00 55 16.4 -0.6
SADO                              S    S      01 04 34.0 -2.4
PAE   Paea              72.37 259 eP   P      00 55 17.0 -1.1
      comp=Z,246nm,1.3s,mb6.0
PPT   Papeete           72.40 259 eP   P      00 55 17.8 -0.5
      comp=Z,96nm,1.4s,mb5.5
PPT                              eSS   SS     01 09 04.7  -14
PPT                              eR           01 17 18.2
      comp=Z,6µm,20.0s,baz=103
SDCO  Great Sand Dun    72.55 332⇑iP   P      00 55 19.4 +0.4
      comp=Z,304nm,1.7s,mb6.0
SDCO                              LR   LR
      comp=Z,749nm,19.0s,MS5.0
WUAZ  Wupatki           73.40 326⇑iP   P      00 55 24.6 +0.7
      comp=Z,334nm,1.7s,mb6.0
PQI   Presque Isle      73.79   2  P   P      00 55 26.6 +0.7
PQI                              e     pP     00 55 37.3 +1.7
PQI                               LR   LR
      comp=Z,4µm,21.0s,MS5.7
BAR   Barrett           74.00 321⇑iP   P      00 55 27.7 +0.2
BAR                              epP   pP     00 55 38.5 +1.4
PV01  Paradox Valley    74.20 330 eP   P      00 55 29.1 +0.6
PFO   Pinyon Flat Ob    74.58 322  P   P      00 55 31.6 +0.8
PFO                               pmax pmax
      comp=Z,220nm,1.8s,mb5.8
PFO   Pinyon Flat Ob    74.58 322⇑iP   P      00 55 31.4 +0.6
      comp=Z,224nm,1.8s,mb5.8
PFO                               LR   LR
      comp=Z,666nm,21.0s,MS4.9
PV10  Paradox Valley    74.61 330 eP   P      00 55 30.9  0.0
NEN   Nelson            75.26 324⇑eP   P      00 55 34.8 +0.1
SRU   San Rafael        75.88 329  P   P      00 55 38.6 +0.5
SRU   San Rafael        75.88 329⇑iP   P      00 55 38.4 +0.3
MWC   Mount Wilson      75.92 321  P   P      00 55 39.0 +0.5
MWC   Mount Wilson      75.92 321⇑iP   P      00 55 38.7 +0.3
MSU   Marysvale         76.17 328  P   P      00 55 40.6 +0.8
MSU   Marysvale         76.17 328 eP   P      00 55 41.4 +1.6
MSU                              epP   pP     00 55 50.3 +0.8
TPNV  Topopah Spring    76.98 324  P   P      00 55 45.3 +0.9
TPNV                              pmax pmax
      comp=Z,190nm,1.6s,mb5.8
TPNV  Topopah Spring    76.98 324⇑iP   P      00 55 45.0 +0.6
      comp=Z,186nm,1.6s,mb5.8
TPNV                              LR   LR
      comp=Z,2µm,20.0s,MS5.4
SUR   Sutherland        77.10 120  P   P      00 55 46.7 +1.6
      comp=Z,12nm,0.7s,mb4.9,baz=243,slow=5.9,SNR=7.3
SUR                               LR   LR     01 25 00.1
      comp=Z,8µm,21.4s,MS6.0,baz=254,slow=32
SUR   Sutherland        77.10 120 eP   P      00 55 45.5 +0.3
      comp=Z,49nm,1.0s,mb5.4
SUR                               LR   LR
      comp=Z,2µm,21.0s,MS5.4
MPU   Maple Canyon      77.12 329⇑iP   P      00 55 45.5 +0.5
DAC   Darwin (Calif)    77.19 323  P   P      00 55 46.1 +0.6
DAC                               pmax pmax
      comp=Z,160nm,1.6s,mb5.7
DAC   Darwin (Calif)    77.19 323⇑iP   P      00 55 45.8 +0.3
      comp=Z,163nm,1.6s,mb5.7
DAC                               LR   LR
      comp=Z,3µm,22.0s,MS5.6
DAU   Daniels Canyon    77.27 329  P   P      00 55 46.8 +1.0
DAU   Daniels Canyon    77.27 329 eP   P      00 55 47.6 +1.7
NLU   North Lily Min    77.27 329⇑iP   P      00 55 46.6 +0.7
RSSD  Black Hills       77.44 336  P   P      00 55 47.2 +0.5
RSSD                              pmax pmax
      comp=Z,100nm,1.2s,mb5.6
RSSD  Black Hills       77.44 336⇑iP   P      00 55 47.0 +0.3
      comp=Z,101nm,1.3s,mb5.6
RSSD                              LR   LR
      comp=Z,270nm,20.0s,MS4.6
JLU   Jordanelle        77.51 329⇑iP   P      00 55 47.7 +0.6
JLU                              epP   pP     00 55 58.0 +1.1
CTU   Camp Tracy        77.71 329 eP   P      00 55 49.0 +0.7
DUG   Dugway            77.81 328  P   P      00 55 49.7 +0.9
DUG                               pmax pmax
      comp=Z,260nm,1.5s,mb5.9
DUG   Dugway            77.81 328⇑iP   P      00 55 49.3 +0.4
      comp=Z,260nm,1.5s,mb5.9
DUG                               LR   LR
      comp=Z,4µm,20.0s,MS5.7
TCUT  Toone Canyon      77.90 330⇑iP   P      00 55 49.1 -0.2
TCUT                             epP   pP     00 55 59.5 +0.5
TPH   Tonopah           78.34 324  P   P      00 55 52.4 +0.6
TPH                               pmax pmax
      comp=Z,220nm,1.7s,mb5.8
TPH   Tonopah           78.34 324⇑iP   P      00 55 52.2 +0.4
      comp=Z,217nm,1.8s,mb5.8
TPH                               LR   LR
      comp=Z,2µm,21.0s,MS5.4
HWUT  Hardware Ranch    78.37 330⇑iP   P      00 55 52.1 +0.3
      comp=Z,198nm,1.3s,mb5.9
HWUT                              LR   LR
      comp=Z,5µm,20.0s,MS5.8
BW06  Boulder Array     78.44 332⇑iP   P      00 55 52.2  0.0
      comp=Z,1µm,0.9s
BW06                              LR   LR
      comp=Z,3µm,20.0s
PDAR  Pinedale Array    78.44 332  P   P      00 55 52.3  0.0
      comp=Z,13nm,0.9s,mb4.9,baz=135,slow=6.3,SNR=82
PDAR                              PKKPbc      01 14 55.7
      comp=Z,0.7nm,0.9s,baz=315,slow=2.1,SNR=4.3
PDAR                              LR   LR     01 27 06.1
      comp=Z,2µm,20.9s,MS5.5,baz=157,slow=33
BGU   Big Grassy Mou    78.49 329⇑iP   P      00 55 52.6  0.0
MTUM  Tungsten Hills    78.51 323 eP   P      00 55 52.6 -0.2
SPUT  South Promonto    78.52 329⇑iP   P      00 55 53.1 +0.4
OMM   Old Mammoth Mi    78.94 323⇑iP   P      00 55 55.6 +0.5
HVU   Hansel Valley     79.05 329  P   P      00 55 56.0 +0.4
HVU   Hansel Valley     79.05 329⇑iP   P      00 55 55.7 +0.1
MNV   Mina              79.09 324  P   P      00 55 55.8 -0.1
MNV                               pmax pmax
      comp=Z,180nm,2.0s,mb5.7
MNV   Mina              79.09 324⇑iP   P      00 55 55.9  0.0
      comp=Z,183nm,2.1s,mb5.6
AHID  Auburn Hatcher    79.10 331⇑iP   P      00 55 56.0 +0.1
      comp=Z,334nm,1.5s,mb6.0
AHID                              LR   LR
      comp=Z,3µm,21.0s,MS5.6
MAW   Mawson            79.16 164 eP   P      00 55 55.9 +0.2
      comp=Z,37nm,0.7s,mb5.4
MAW   Mawson            79.16 164  P   P      00 55 56.5 +0.9
      comp=Z,57nm,1.2s,mb5.4,baz=220,slow=6.3,SNR=46
MAW                               LR   LR     01 32 43.1
      comp=Z,4µm,19.4s,MS5.8,baz=232,slow=37
MAW   Mawson            79.16 164⇑eP   P      00 55 55.9 +0.2
MAW                               pmax pmax
      comp=Z,180nm,1.4s
NVAR  Mina Array Bea    79.17 324  P   P      00 55 57.0 +0.6
      comp=Z,6.1nm,0.7s,mb4.7,baz=136,slow=6.9,SNR=37
NVAR                              LR   LR     01 25 36.3
      comp=Z,2µm,20.7s,MS5.5,baz=205,slow=32
REDW  Red Top Meadow    79.48 331⇑iP   P      00 55 58.3 +0.4
SNOW  Snow King Moun    79.52 332⇑iP   P      00 55 58.6 +0.6
WUWY  Wally Ulrich      79.57 332 eP   P      00 55 59.2 +0.8
TPAW  Teton Pass        79.62 331⇑iP   P      00 55 59.2 +0.5
RAR   Rarotonga         79.66 252  PFAKE      00 56 10.0  +11
RAR                               LR   LR
      comp=Z,7µm,20.0s,MS6.0
SAO   San Andreas Ge    79.66 321 eP   P      00 55 59.6 +0.6
SAO                               LR   LR
      comp=Z,2µm,20.0s,MS5.4
MOOW  Moose Ponds       79.75 332⇑iP   P      00 55 59.7 +0.4
CMB   Columbia Colle    79.99 322  P   P      00 56 00.9 +0.2
CMB   Columbia Colle    79.99 322  P   P      00 56 00.8  0.0
CMB                               pmax pmax
      comp=Z,24nm,1.9s,mb4.8
CMB   Columbia Colle    79.99 322⇑iP   P      00 56 00.6 -0.1
      comp=Z,25nm,2.0s,mb4.8
CMB                               LR   LR
      comp=Z,2µm,20.0s,MS5.4
TSUM  Tsumeb            80.00 106 eP   P      00 56 02.4 +1.3
      comp=Z,59nm,1.2s,mb5.4
TSUM                             epP   pP     00 56 12.1 +1.2
TSUM                              LR   LR
      comp=Z,9µm,20.0s,MS6.1
BMN   Battle Mountai    80.12 326  P   P      00 56 01.6 +0.2
BMN                               pmax pmax
      comp=Z,24nm,1.2s,mb5.0
BMN   Battle Mountai    80.12 326⇑iP   P      00 56 00.8 -0.5
      comp=Z,24nm,1.3s,mb5.0
BMN                               LR   LR
      comp=Z,3µm,21.0s,MS5.5
LAO   LASA Array        80.43 336⇑iP   P      00 56 03.1 +0.2
      comp=Z,540nm,1.7s,mb6.2
LAO                               LR   LR
      comp=Z,1µm,20.0s,MS5.3
ULM   Lac du Bonnet     80.47 344  P   P      00 56 02.4 -0.7
      comp=Z,66nm,0.9s,mb5.6,baz=155,slow=5.6,SNR=52
ULM                               S    S      01 06 03.5 -2.4
      comp=Z,0.8nm,0.5s,baz=60,slow=7.5,SNR=1.3
ULM                               LR   LR     01 36 42.4
      comp=Z,1µm,19.1s,MS5.2,baz=326,slow=39
ULM   Lac du Bonnet     80.47 344⇑iP   P      00 56 02.4 -0.7
      comp=Z,582nm,1.8s,mb6.2
ULM                               LR   LR
      comp=Z,2µm,20.0s,MS5.5
WCN   Washoe City       80.58 324  P   P      00 56 05.5 +1.6
WCN                               pmax pmax
      comp=Z,330nm,2.4s,mb5.8
WCN   Washoe City       80.58 324 eP   P      00 56 04.7 +0.8
      comp=Z,335nm,2.4s,mb5.8
WCN                              epP   pP     00 56 14.1 +0.5
YMR   Madison River     80.59 332⇑iP   P      00 56 05.1 +1.3
LKC   Lake Chabot       80.70 321 eP   P      00 56 05.3 +0.7
QLMT  Earthquake Lak    80.91 332 eP   P      00 56 06.7 +1.2
HLID  Hailey            81.20 330⇑iP   P      00 56 07.8 +0.9
      comp=Z,244nm,1.7s,mb5.9
HLID                             epP   pP     00 56 18.1 +1.3
HLID                              LR   LR
      comp=Z,2µm,20.0s,MS5.5
DGMT  Dagmar            81.27 338⇑iP   P      00 56 07.6 +0.3
      comp=Z,120nm,0.8s,mb5.9
DGMT                             epP   pP     00 56 17.4 +0.3
DGMT                              LR   LR
      comp=Z,1µm,20.0s,MS5.2
BEKR  Beckwourth        81.31 324⇑iP   P      00 56 08.2 +0.5
      comp=Z,194nm,1.7s,mb5.8
MCMT  McKenzie Canyo    81.51 331 eP   P      00 56 10.3 +1.7
OHCM  Honcut            81.53 323 eP   P      00 56 09.4 +0.6
NSHM  Saint Helena R    81.56 321 eP   P      00 56 10.2 +1.2
BOZ   Bozeman (W)       81.66 332  P   P      00 56 09.4 +0.1
BOZ                               pmax pmax
      comp=Z,170nm,1.9s,mb5.7
BOZ   Bozeman (W)       81.66 332⇑iP   P      00 56 09.2 -0.1
      comp=Z,174nm,1.9s,mb5.7
BOZ                               LR   LR
      comp=Z,2µm,21.0s,MS5.4
SCHQ  Schefferville     81.99   2  P   P      00 56 11.3 +0.5
      comp=Z,22nm,1.0s,mb5.0,baz=154,slow=3.7,SNR=14
SCHQ  Schefferville     81.99   2⇑iP   P      00 56 11.2 +0.3
      comp=Z,215nm,1.6s,mb5.8
SCHQ                             epP   pP     00 56 19.5 -1.2
SCHQ                              LR   LR
      comp=Z,2µm,20.0s,MS5.4
HOPS  Hopland           82.15 322  PFAKE      00 56 20.0 +8.0
HOPS                              LR   LR
      comp=Z,1µm,21.0s,MS5.3
WVOR  Wild Horse Val    82.32 326  P   P      00 56 13.4 +0.5
WVOR                              pmax pmax
      comp=Z,140nm,1.8s,mb5.6
WVOR  Wild Horse Val    82.32 326⇑iP   P      00 56 13.0 +0.1
      comp=Z,140nm,1.8s,mb5.6
WVOR                              LR   LR
      comp=Z,3µm,22.0s,MS5.6
HRY   Holter Researc    82.60 333 eP   P      00 56 15.1 +0.9
MOD   Modoc             82.77 325⇑iP   P      00 56 15.4 +0.2
      comp=Z,100nm,1.4s,mb5.7
MOD                               LR   LR
      comp=Z,3µm,19.0s,MS5.6
WDC   Whiskeytown Da    82.98 323  P   P      00 56 15.5 -0.8
WDC                               pmax pmax
      comp=Z,13nm,0.8s,mb5.0
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WDC	**Whiskeytown Da**	**82.98**	**323⇑**	*i*P	**P**	**00 56 15.3**	**-1.1**
	comp=Z,13nm,0.8s,mb5.0						
WDC				*e*pP	pP	00 56 23.8	-2.3
WDC				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
CHMT	**Chamberlain Mo**	**83.34**	**332**	*e*P	**P**	**00 56 17.8**	**-0.2**
MSO	**Missoula**	**83.56**	**332⇑**	*i*P	**P**	**00 56 19.7**	**+0.5**
	comp=Z,88nm,1.9s,mb5.6						
MSO				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
KHMM	**Horse Mountain**	**83.83**	**323**	*e*P	**P**	**00 56 21.9**	**+1.2**
YBH	**Yreka Blue Hor**	**83.89**	**324**	P	**P**	**00 56 20.8**	**-0.1**
YBH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YBH	**Yreka Blue Hor**	**83.89**	**324**	*e*P	**P**	**00 56 20.5**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.9						
YBH				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
LBTB	**Lobatse**	**84.09**	**115**	P	**P**	**00 56 22.7**	**+0.4**
LBTB				PcP	PcP	00 56 32.6	+6.0
KRMB	**Red Mountain**	**84.38**	**323**	*e*P	**P**	**00 56 24.3**	**+0.9**
HUMO	**Hull Mountain**	**84.64**	**324**	*e*P	**P**	**00 56 25.0**	**+0.3**
	comp=Z,98nm,2.0s,mb5.6						
LNOR	**Lincton Mounta**	**84.73**	**329**	P	**P**	**00 56 25.6**	**+0.5**
HSO	**Harness Mounta**	**85.36**	**325**	P	**P**	**00 56 29.5**	**+1.3**
HSO	**Harness Mounta**	**85.36**	**325**	*e*P	**P**	**00 56 29.3**	**+1.1**
MIR	**Mirnyy**	**85.51**	**174⇓**	*e*P	**P**	**00 56 28.0**	**-0.4**
MIR				*e*S	S	01 06 52.0	-4.3
MIR				pmax	pmax		
	comp=Z,95nm,1.8s,mb5.7						
VGB	**Gordon Butte**	**85.64**	**327**	P	**P**	**00 56 30.9**	**+1.3**
VGB	**Gordon Butte**	**85.64**	**327**	*e*P	**P**	**00 56 31.0**	**+1.4**
HAWA	**Hanford**	**85.70**	**329**	*e*P	**P**	**00 56 29.9**	**0.0**
	comp=Z,183nm,1.7s,mb6.0						
HAWA				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
SSOR	**Sweet Springs**	**85.99**	**326**	P	**P**	**00 56 31.7**	**+0.3**
SSOR	**Sweet Springs**	**85.99**	**326**	*e*P	**P**	**00 56 31.5**	**+0.2**
NEW	**Newport**	**86.03**	**331**	P	**P**	**00 56 31.4**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.8,baz=136,slow=5.1,SNR=19						
NEW				LR	LR	01 32 08.5	
	comp=Z,3µm,20.1s,MS5.6,baz=220,slow=34						
NEW	**Newport**	**86.03**	**331⇑**	*i*P	**P**	**00 56 30.9**	**-0.6**
	comp=Z,96nm,1.9s,mb5.7						
NEW				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
FFC	**Flin Flon**	**86.11**	**342**	*e*P	**P**	**00 56 31.1**	**-0.6**
	comp=Z,64nm,1.5s,mb5.6						
FFC				LR	LR		
	comp=Z,359nm,21.0s,MS4.8						
DPW	**Davenport**	**86.21**	**330**	P	**P**	**00 56 32.9**	**+0.6**
DPW	**Davenport**	**86.21**	**330**	*e*P	**P**	**00 56 32.5**	**+0.1**
COR	**Corvallis**	**86.22**	**325**	PFAKE		00 56 40.0	+7.5
COR				LR	LR		
	comp=Z,551nm,21.0s,MS4.9						
CASY	**Casey**	**86.58**	**181**	*e*P	**P**	**00 56 34.2**	**+0.4**
	comp=Z,119nm,1.2s,mb6.0						
LON	**Longmire**	**87.03**	**328**	P	**P**	**00 56 36.6**	**+0.2**
LON	**Longmire**	**87.03**	**328⇑**	*e*P	**P**	**00 56 35.9**	**-0.5**
NLW	**Nelson Butte**	**87.32**	**329**	*e*P	**P**	**00 56 38.1**	**+0.3**
BMW	**Boistfort Moun**	**87.52**	**327**	P	**P**	**00 56 39.7**	**+0.9**
BMW	**Boistfort Moun**	**87.52**	**327**	P	**P**	**00 56 39.8**	**+1.0**
PALC	**Alcoutim**	**87.70**	**45**	*e*P	**P**	**00 56 42.6**	**+2.7**
	comp=Z,71nm,1.4s,mb5.7						
PBEJ	**Beja**	**87.80**	**45**	*e*P	**P**	**00 56 43.3**	**+3.0**
	comp=Z,26nm,2.0s,mb5.1						
EVO	**Evora**	**88.02**	**44**	*e*P	**P**	**00 56 43.2**	**+1.9**
	comp=Z,24nm,0.9s,mb5.1						
FCC	**Fort Churchill**	**88.03**	**348**	P	**P**	**00 56 41.9**	**+1.0**
FCC				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.6						
FCC	**Fort Churchill**	**88.03**	**348⇑**	*i*P	**P**	**00 56 41.3**	**+0.4**
	comp=Z,35nm,0.9s,mb5.6						
GNW	**Green Mountain**	**88.10**	**328**	*e*P	**P**	**00 56 41.5**	**0.0**
RPW	**Rockport**	**88.12**	**329**	*e*P	**P**	**00 56 40.6**	**-1.0**
PTOM	**Tomar**	**88.44**	**43**	*e*P	**P**	**00 56 45.5**	**+2.2**
	comp=Z,28nm,1.2s,mb5.4						
OCWA	**Octopus Mounta**	**88.88**	**327**	PFAKE		00 57 00.0	+15
OCWA				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
PVIS	**Viseu**	**89.42**	**43**	*e*P	**P**	**00 56 48.9**	**+0.9**
	comp=Z,32nm,1.3s,mb5.5						
LSZ	**Lusaka**	**90.80**	**108**	P	**P**	**00 56 57.4**	**+2.5**
LSZ				pmax	pmax		
	comp=Z,160nm,1.5s,mb6.1						
LSZ	**Lusaka**	**90.80**	**108⇓**	*e*P	**P**	**00 56 56.7**	**+1.8**
	comp=Z,158nm,1.5s,mb6.1						
LSZ				*e*pP	pP	00 57 06.3	+1.5
ESDC	**Sonseca Array**	**91.23**	**45**	P	**P**	**00 56 59.3**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=225,slow=5.4,SNR=2.1						
ESDC				LR	LR	01 39 05.4	
	comp=Z,2µm,18.3s,baz=250,slow=36						
ESLA	**Sonseca Array**	**91.23**	**45**	PFAKE		00 57 10.0	+14
ESLA				LR	LR		
	comp=Z,14µm,19.0s,MS6.4						
BBB	**Bella Bella**	**93.76**	**329**	LR	LR	01 35 39.0	
	comp=Z,1µm,20.6s,MS5.3,baz=159,slow=33						
ETSF	**Etsaut**	**95.16**	**44**	*e*P	**P**	**00 57 15.8**	**+1.4**
EPF	**Esparros**	**95.78**	**44**	*e*P	**P**	**00 57 19.3**	**+2.1**
YKA	**Yellowknife Ar**	**96.20**	**341**	P	**P**	**00 57 17.8**	**-0.8**
	comp=Z,6.6nm,0.9s,mb5.0,baz=137,slow=4.6,SNR=22						
YKA				LR	LR	01 39 23.4	
	comp=Z,1µm,21.6s,MS5.3,baz=160,slow=35						
YKA	**Yellowknife Ar**	**96.20**	**341**	P	**P**	**00 57 17.8**	**-0.8**
YKA				LR	LR	01 39 23.4	
YKW3	**Yellowknife Ar**	**96.26**	**341⇑**	*e*P	**P**	**00 57 18.3**	**-0.7**
LASF	**Ste Croix**	**98.51**	**45**	*e*P	**P**	**00 57 27.7**	**-1.8**
DLBC	**Dease Lake**	**98.66**	**333**	P	**P**	**00 57 30.9**	**+1.1**
	comp=Z,12nm,1.0s,mb5.4,baz=137,slow=2.7,SNR=17						
DLBC				PP	PP	01 01 32.7	-0.7
	comp=Z,13nm,1.3s,baz=124,slow=4.3,SNR=6.7						
DLBC				LR	LR	01 39 42.7	
	comp=Z,2µm,20.7s,MS5.5,baz=119,slow=34						
DLBC	**Dease Lake**	**98.66**	**333**	*e*P	**P**	**00 57 30.1**	**+0.3**
DLBC				*e*pP	pP	00 57 40.4	+0.7
MBAR	**Mbarara**	**99.95**	**96**	PFAKE		00 57 50.0	+13
MBAR				LR	LR		
	comp=Z,561nm,19.0s,MS5.1						
SIT	**Sitka**	**100.08**	**330**	PFAKE		00 57 50.0	+14
SIT				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
LPL	**La Plagne**	**101.00**	**44**	*e*P	P	00 57 42.3	+1.5
	comp=Z,16nm,1.1s						
LPG	**La Plagne**	**101.00**	**44**	*e*P	P	00 57 42.8	+2.0
	comp=Z,39nm,1.3s						
GRA1	**Grafenberg Arr**	**105.56**	**42**	*e*Pdif	Pdif	00 58 18.7	+18
GRA1				*e*PP	PP	01 02 33.8	+7.9
GRA1				*e*SKSac		01 08 44.7	
GRA1				*e*SP	SP	01 11 40.6	+5.8
GRA1				*e*SS	SS	01 17 32.9	+14
GRA1				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
GRF	**Grafenberg Arr**	**105.56**	**42**	*e*P	Pdif	00 58 18.7	+18
GRF				*e*		01 08 44.7	
GRF				*e*SP	SP	01 11 40.6	+5.8
GRF				*e*SS	SS	01 17 32.9	+14
GRF				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.7						
INK	**Inuvik**	**105.90**	**340**	Pdiff	Pdif	00 58 01.4	-0.4
	comp=Z,4.3nm,1.1s,baz=184,slow=5.3,SNR=7.8						
INK				PKKPbc		01 13 35.0	
	comp=Z,1.2nm,0.8s,baz=138,slow=15,SNR=2.5						
INK				PKKP	PKKP	01 13 47.1	+6.0
	comp=Z,1.5nm,0.6s,baz=314,slow=6.0,SNR=4.5						
INK	**Inuvik**	**105.90**	**340**	P	Pdif	00 58 02.3	+0.5
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**105.90**	**340**	*e*Pdif	Pdif	00 58 01.9	+0.1
	comp=Z,6.8nm,1.4s						
BOJS	**Bojanci**	**106.42**	**47**	*e*PP	PP	01 02 36.5	+4.2
PDKS	**Podkum**	**106.47**	**46**	*e*PP	PP	01 02 29.8	-3.0
PDKS				*e*		01 02 52.4	
PDKS				*e*		01 08 47.5	
NKC	**Novy Kostel**	**106.50**	**42**	LM		01 46 30.0	
	comp=Z,1.9nm,18.7s						
GERES	**GERESS Array B**	**106.72**	**43**	PKiKP		01 02 16.9	
	comp=Z,1.1nm,0.9s,baz=270,slow=2.7,SNR=3.9						
GERES				PKKP	PKKP	01 13 47.1	+7.0
	comp=Z,0.4nm,0.8s,baz=56,slow=4.8,SNR=3.5						
KHC	**Kasperske Hory**	**106.75**	**43**	*e*PKP		01 02 11.3	
KHC				*e*SKS	SKS	01 08 45.9	-5.3
KHC				LM		01 50 40.0	
	comp=Z,1.2nm,17.2s						
KHC	**Kasperske Hory**	**106.75**	**43**	*e*PKP		01 02 05.0	
KHC				*e*		01 02 11.3	
KHC				*e*SKS	SKS	01 08 45.9	-5.3
KHC				LR	LR		
	comp=Z,1µm,17.2s,MS5.5						
CLL	**Collm**	**107.24**	**41**	*e*	Pdif	00 58 20.0	+12
CLL				*e*PKIKP		01 02 20.0	
CLL				*e*PP	PP	01 02 32.0	-6.6
CLL				*e*PPP	PPP	01 04 53.0	-2.1
CLL				*e*		01 08 47.0	
CLL				*e*		01 10 16.0	
CLL				*e*PS	PS	01 11 56.0	+0.7
CLL				*e*SS	SS	01 17 41.0	-0.5
CLL	**Collm**	**107.24**	**41**	*e*P	Pdif	00 58 20.0	+12
CLL				*e*		01 08 47.0	
CLL				MLR	MLR		
	comp=Z,2µm,17.9s,MS5.7						
CLL	**Collm**	**107.24**	**41**	P	Pdif	00 58 20.0	+12
CLL				*e*SKS	SKS	01 08 47.0	-6.2
CLL				*e*Sdif		01 10 16.0	
CLL				LR	LR		
	comp=Z,2µm,17.9s,MS5.7						
JMIC	**Jan Mayen**	**107.30**	**18**	*e*SS	SS	01 17 47.7	+5.8
JMIC				AMS	AMS	01 49 30.8	
	comp=Z,458nm,18.5s,MS5.1						
BRG	**Berggiesshubel**	**107.63**	**41**	*e*PKP		01 02 21.0	
BRG				*e*PP	PP	01 02 42.0	+0.7
BRG				*i* SKS	SKS	01 08 53.0	-1.9
BRG				*i* S	Sx	01 10 19.0	
BRG				*i* SP	SP	01 11 59.0	+3.5
BRG				*i* SS	SS	01 17 57.0	+10
BRG				LR	LR		
	comp=Z,2µm,20.7s,MS5.7						
PRU	**Pruhonice**	**107.66**	**42**	*e*SKS	SKS	01 08 49.8	-5.2
PRU				LM		01 58 50.0	
	comp=Z,1.1nm,15.0s						
PVCC	**Panska Ves**	**107.87**	**42**	LM		01 48 10.0	
	comp=Z,1.6nm,19.8s						
PMR	**Palmer**	**108.45**	**330**	PFAKE		01 02 30.0	
PMR				LR	LR		
	comp=Z,925nm,20.0s,MS5.3						
COP	**Copenhagen**	**108.56**	**36**	*i* P	PP	01 02 42.7	-5.6
COP				*i*		01 08 52.4	
COP				*i*		01 12 05.7	
COP				*i*		01 12 06.7	
	comp=Z,820nm,20.0s						
KDAK	**Kodiak Island**	**108.60**	**326**	PFAKE		01 02 30.0	
KDAK				LR	LR		
	comp=Z,239nm,20.0s,MS4.8						
ILAR	**Eielson Array**	**108.81**	**334**	Pdiff	Pdif	00 58 14.5	-0.2
	comp=Z,0.7nm,0.9s,baz=148,slow=3.9,SNR=5.6						
ILAR				PKiKP		01 02 19.4	
	comp=Z,0.8nm,0.9s,baz=120,slow=1.3,SNR=4.7						
ILAR				PP	PP	01 02 45.7	-4.4
	comp=Z,2.3nm,1.0s,baz=113,slow=5.4,SNR=7.5						
ILAR				PKKPab		01 13 37.1	
	comp=Z,1.3nm,0.8s,baz=287,slow=3.5,SNR=4.7						
DPC	**Dobruska-Polom**	**108.85**	**43**	LM		01 51 50.0	
	comp=Z,2.1nm,19.2s						
KSP	**Ksiaz**	**109.01**	**42**	*e*P	Pdif	00 58 23.5	+7.6
KSP				*e*		01 02 48.0	
KSP				*e*		01 08 55.0	
KSP				*e*SP	SP	01 12 08.0	-0.3
KSP				*e*SS	SS	01 18 01.0	-4.2
KSP				MLR	MLR		
	comp=Z,3800µm,20.7s						
KSP	**Ksiaz**	**109.01**	**42**	*e*Pdif	Pdif	00 58 23.5	+7.6
KSP				*e*PP	PP	01 02 48.0	-4.0
KSP				*e*SKS	SKS	01 08 55.0	-5.8
KSP				*e*Sdif		01 10 24.0	
KSP				*e*SP	SP	01 12 08.0	-0.3
KSP				*e*SS	SS	01 18 01.0	-4.2
KSP				LR	LR		
	comp=Z,4µm,20.7s,MS6.0						
COLA	**College**	**109.23**	**334**	*e*P	Pdif	00 58 15.2	-1.3
NAO01	**NORSAR Array S**	**109.67**	**31**	PFAKE		01 02 30.0	
NAO01				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
OKC	**Ostrava-Krasne**	**109.79**	**43**	*e*SKS	SKS	01 09 00.5	-3.6
OKC				LM		01 55 20.0	
	comp=Z,1.4nm,18.1s						
NSS	**Namsos**	**111.39**	**27**	AMS	AMS	01 52 29.5	
	comp=Z,914nm,20.6s,MS5.3						
KWP	**Kalwaria**	**112.54**	**45**	*e*PKIKP	PKPdf	01 02 26.4	-4.5
KWP				*e*		01 02 38.6	
KWP				*e*		01 03 12.8	
KWP				*e*SP	SP	01 12 49.2	+6.5
KWP				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.6						
STKA	**Stephens Creek**	**113.44**	**210**	PKKPbc		01 13 14.7	
	comp=Z,3.1nm,1.0s,baz=330,slow=11,SNR=3.1						
MLR	**Muntele Rosu**	**113.52**	**50**	PKiKP		01 02 30.7	
	comp=Z,1.2nm,0.7s,baz=329,slow=5.0,SNR=3.8						
SUW	**Suwalki**	**113.97**	**40**	*e*PKIKP	PKPdf	01 02 30.5	-3.2
SUW				*e*		01 02 40.0	
SUW				*e*		01 03 28.0	
SUW				*e*SP	SP	01 13 01.0	+5.2
TRO	**Tromso**	**115.32**	**23**	*e*PP	PP	01 03 29.2	-7.6
TRO				*e*SS	SS	01 19 27.0	-1.9
TRO				AMS	AMS	01 47 33.6	
	comp=Z,814nm,21.0s,MS5.3						
KBS	**Kingsbay**	**115.33**	**12**	*e*PP	PP	01 03 32.4	-4.3
KBS				*i*		01 11 13.1	
KBS				*e*SS	SS	01 19 25.2	-3.7
KBS				AMS	AMS	01 49 24.8	
	comp=Z,866nm,16.3s,MS5.5						
KBS	**Kingsbay**	**115.33**	**12**	PFAKE		01 02 40.0	+4.2
KBS				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
EIL	**Elat**	**115.82**	**69**	*e*PKPdf	PKPdf	01 02 34.2	-3.7
KIS	**Kishinev**	**115.82**	**49**	*e*PKIKP	PKPdf	01 02 34.0	-3.5
KIS				*e*PS	PS	01 13 10.0	-7.4
KIS				MLR	MLR		
	comp=N,1µm,20.0s,MS5.7						
KIS				MLR	MLR		
	comp=E,2µm,20.0s,MS5.7						
KIS				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.9						
KIS				MLR	MLR		
	comp=Z,2µm,20.0s						
BJO	**Bjornoya**	**116.19**	**17**	AMS	AMS	01 48 02.4	
	comp=Z,525nm,21.5s,MS5.1						
VSU	**Vasula**	**116.81**	**36**	*e*PKP	PKPdf	01 02 32.8	-6.3
AKASG	**Malin Array Be**	**116.87**	**45**	PKP	PKPdf	01 02 35.2	-4.2
	comp=Z,0.7nm,0.3s,baz=264,slow=2.9,SNR=12						
AKASG				PP	PP	01 03 45.6	-2.4
	comp=Z,0.1nm,0.3s,baz=258,slow=7.6,SNR=3.2						
AKASG				PKKPbc		01 12 59.6	
	comp=Z,1.5nm,0.7s,baz=34,slow=3.4,SNR=5.0						
FINES	**FINESS Array B**	**116.93**	**32**	PKP	PKPdf	01 02 35.3	-3.9
	comp=Z,1.7nm,0.9s,baz=315,slow=2.7,SNR=3.8						
BRTR	**Keskin Array B**	**117.55**	**57**	PKP	PKPdf	01 02 37.9	-3.1
	comp=Z,0.9nm,0.6s,baz=194,slow=5.1,SNR=8.4						
ARCES	**ARCESS Array B**	**117.60**	**23**	PKP	PKPdf	01 02 36.0	-4.4
	comp=Z,1.1nm,0.9s,baz=284,slow=5.0,SNR=4.1						
ARCES				PKKPbc		01 12 57.0	
	comp=Z,0.9nm,0.6s,baz=88,slow=3.8,SNR=7.7						
ASF	**Jabal al Asfar**	**118.15**	**66**	PKP	PKPdf	01 02 39.1	-3.2
	comp=Z,3.5nm,0.8s,baz=266,slow=2.2,SNR=7.1						
SIM	**Simferopol'**	**119.01**	**52**	*i* PKIKP	PKPdf	01 02 43.0	-0.7
SIM				*e*		01 02 51.0	
SIM				*e*		01 04 05.0	
SIM				*e*PPP	PPP	01 06 28.0	-6.2
SIM				*e*		01 09 33.0	
SIM				*e*PS	PS	01 13 48.0	+1.8
SIM				*e*SS	SS	01 20 22.0	+4.6
SIM				*e*SSS	SSS	01 24 35.0	-8.5
SIM				pmax	pmax		
	comp=Z,70nm,9.3s						
KLBR	**Kellerberrin**	**120.75**	**188**	*e*PKKP		01 02 42.9	
	comp=Z,42nm,1.3s						
MALT	**Malatya**	**120.87**	**60**	*e*PKPdf	PKPdf	01 02 44.5	-3.0
ANN	**Anapa**	**121.31**	**52**	*e*PKIKP	PKPdf	01 02 43.6	-4.6
ANN				*e**PP		01 02 59.4	
ANN				*e*		01 04 15.7	
ANN				*e*		01 09 39.8	
ANN				pmax	pmax		
	comp=Z,28nm,1.0s						
OBN	**Obninsk**	**121.83**	**40**	*i* PKIKP	PKPdf	01 02 45.4	-3.5
OBN				*i*		01 02 56.2	
OBN				*e*		01 09 51.9	
OBN				pmax	pmax		
	comp=Z,29nm,1.1s						
OBN				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.8						
OBN	**Obninsk**	**121.83**	**40**	*e*PKPdf	PKPdf	01 02 45.3	-3.5
OBN				*e*pPKPdf		01 02 54.4	
KWAJ	**Kwajalein Atol**	**122.00**	**263**	PFAKE		01 03 00.0	+10
KWAJ				LR	LR		
	comp=Z,764nm,22.0s,MS5.3						
MOS	**Moscow**	**122.46**	**39**	*e*PKIKP	PKPdf	01 02 46.8	-3.2
MOS				*e*		01 02 56.7	
MOS				*e*		01 04 19.1	
MOS				*e*		01 10 01.2	
MOS				pmax	pmax		
	comp=Z,70nm,1.4s						
MOS				pmax	pmax		
	comp=N,109nm,0.8s						
MOS				MLR	MLR		
	comp=Z,3µm,19.0s,MS6.0						
MOS				MLR	MLR		
	comp=N,2µm,17.5s						
SOC	**Sochi**	**122.76**	**54**	*i* PKIKP	PKPdf	01 02 59.4	+8.5
SOC				*e*		01 04 36.3	
SOC				*e*SSS	SSS	01 25 33.2	-6.5
SOC				pmax	pmax		
	comp=Z,14nm,0.7s						
SOC				pmax	pmax		
	comp=N,15nm,0.9s						
SOC				pmax	pmax		
	comp=E,18nm,1.0s						
VOR	**Voronezh**	**123.22**	**44**	PKIKP	PKPdf	01 02 49.0	-2.6
VOR						01 04 29.0	
VOR				pmax	pmax		
	comp=Z,50nm,2.0s						
ASAR	**Alice Springs**	**123.89**	**207**	PKP	PKPdf	01 02 48.9	-4.7
	comp=Z,8.2nm,1.1s,baz=142,slow=2.2,SNR=27						
ASAR				PKKPbc		01 12 37.1	
	comp=Z,0.8nm,0.7s,baz=329,slow=2.9,SNR=4.5						
ASAR				SKKPbc		01 16 16.7	
	comp=Z,1.2nm,0.9s,baz=356,slow=3.6,SNR=5.0						
GOF	**Gofitskoye**	**125.29**	**53⇑**	*i*PKIKP	PKPdf	01 02 53.0	-2.8
GOF				pmax	pmax		
	comp=Z,70nm,1.6s						
SMY	**Shemya**	**126.38**	**317**	PFAKE		01 03 10.0	+12
SMY				LR	LR		
	comp=Z,4µm,22.0s,MS6.0						
FX1	**Attu Island--F**	**126.94**	**317**	PKP	PKPdf	01 02 53.9	-4.7
	comp=Z,4.8nm,0.5s,baz=5.2,slow=22,SNR=8.8						
FX1	**Attu Island--F**	**126.94**	**317**	*e*PKPdf	PKPdf	01 02 53.7	-5.0
WRA	**Warramunga Arr**	**126.99**	**210**	PKP	PKPdf	01 02 55.4	-4.3
	comp=Z,13nm,1.0s,baz=160,slow=1.7,SNR=32						
WRAB	**Tennant Creek**	**126.99**	**210**	*e*PKPdf	PKPdf	01 02 54.8	-4.9
FITZ	**Fitzroy Crossi**	**132.02**	**201**	PKP	PKPdf	01 03 05.5	-3.9
	comp=Z,5.1nm,1.0s,baz=173,slow=7.9,SNR=7.8						
FITZ				SKP		01 06 42.4	
	comp=Z,4.5nm,0.8s,baz=344,slow=19,SNR=4.9						
ARU	**Arti**	**133.96**	**37⇑**	*i*PKIKP	PKPdf	01 03 08.8	-3.1
ARU				*i*		01 05 37.9	
ARU				*i* SS	SS	01 23 22.6	-1.5
ARU				pmax	pmax		
	comp=Z,35nm,1.8s						
ARU				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.9						
ARU				MLR	MLR		
	comp=N,500nm,18.0s,MS5.9						
ARU				MLR	MLR		
	comp=E,2µm,22.0s,MS5.9						
ARU	**Arti**	**133.96**	**37**	*e*PKPdf	PKPdf	01 03 08.9	-3.1
ARU				LR	LR		
	comp=Z,671nm,22.0s,MS5.3						
SEY	**Seymchan**	**134.75**	**334**	*e*PKIKP	PKPdf	01 03 10.1	-3.2
SEY				*e*		01 03 21.3	
SEY				*e*		01 16 00.5	
SEY				pmax	pmax		
	comp=Z,30nm,0.8s						
PET	**Petropavlovsk**	**135.58**	**319**	*e*PKIKP	PKPdf	01 03 09.8	-5.3
PET				*e*PPP	PPP	01 08 55.4	+5.9
PET				pmax	pmax		
	comp=Z,100nm,15.2s						
PET				pmax	pmax		
	comp=Z,300nm,16.4s						
PET				MLR	MLR		
	comp=Z,800nm,20.0s,MS5.4						
AB31	**Akbulak array**	**136.57**	**46**	*i* PKIKP	PKPdf	01 03 13.7	-3.2
AB31				pmax	pmax		
	comp=Z,27nm,1.1s						
MA2	**Magadan**	**137.13**	**330*d***	*i*PKIKP	PKPdf	01 03 14.6	-3.1
MA2				pmax	pmax		
	comp=Z,29nm,2.2s						
MA2				MLR	MLR		
	comp=Z,500nm,20.0s,MS5.2						
MA2	**Magadan**	**137.13**	**330**	*i* PKPr	PKPdf	01 03 14.7	-3.0
ZRNK	**Zerenda**	**140.86**	**38**	PKHKP		01 03 15.9	
ZRNK				pmax	pmax		
	comp=Z,46nm,1.2s						
BRVK	**Borovoye**	**141.51**	**38**	PKIKP	PKPdf	01 03 23.3	-2.4
BRVK	**Borovoye**	**141.51**	**38**	*e*PKPdf	PKPdf	01 03 23.1	-2.6
BRVK				*e*pPKPdf		01 03 33.2	
BVA0	**Borovoye Array**	**141.58**	**38**	PKIKP	PKPdf	01 03 23.3	-2.6
BVAR	**Borovoye Array**	**141.58**	**38**	PKhKP		01 03 17.7	
	comp=Z,0.3nm,0.4s,baz=51,slow=38,SNR=6.0						
BVAR				PKP	PKPdf	01 03 23.5	-2.4
	comp=Z,2.7nm,0.7s,baz=270,slow=1.5,SNR=18						
VOSK	**Vostochnaya**	**142.04**	**38**	PKHKP		01 03 18.9	
VOSK				pmax	pmax		
	comp=Z,95nm,2.2s						
YAK	**Yakutsk**	**142.81**	**344**	*e*PKIKP	PKPdf	01 03 22.4	-5.3
YAK				*e**PP		01 03 38.6	
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK	**Yakutsk**	**142.81**	**344**	*e*PKPdf	PKPdf	01 03 24.0	-3.7
KKAR	**Karatay Array**	**145.09**	**53**	*i* PKIKP	PKPdf	01 03 28.6	-3.7
KKAR				pmax	pmax		
	comp=Z,83nm,1.2s						
GOA	**Goa**	**145.11**	**103**	*e*PKP	PKPdf	01 03 28.6	-4.5
KOD	**Kodaikanal**	**145.58**	**114**	*e*PKP	PKPdf	01 03 33.0	-0.9
JASL	**Jaisalmer**	**146.01**	**82**	*e*PKP	PKPdf	01 03 32.3	-2.0
KAD	**Karad**	**146.18**	**100⇑**	*i*PKP	PKPdf	01 03 31.0	-3.8
PALK	**Pallekele**	**146.36**	**121**	*e*PKPbc	PKPbc	01 03 34.0	+2.7
PALK				LR	LR		
	comp=Z,665nm,19.0s,MS5.4						
POO	**Poona**	**146.36**	**98**	*e*PKP	PKPdf	01 03 30.5	-4.6
POO				*i* PKP	PKPdf	01 03 35.0	-0.1
POO				*e*		01 03 46.2	
	comp=Z,339nm,1.2s						
NVS	**Novosibirsk**	**146.72**	**27**	*i* PKIKP	PKPdf	01 03 31.3	-3.3
NVS				*i*		01 03 41.2	
NVS				pmax	pmax		
	comp=Z,330nm,1.9s						
NVS				pmax	pmax		
	comp=E,48nm,1.4s						
NVS				pmax	pmax		
	comp=N,40nm,1.9s						
KURK	**Kurchatov**	**147.15**	**37**	*i* PKIKP	PKPdf	01 03 33.1	-2.4
KURK				pmax	pmax		
	comp=Z,540nm,2.3s						
KURK	**Kurchatov**	**147.15**	**37**	*e*PKPbc	PKPdf	01 03 33.4	-2.1
YSS	**Yuzh-Sakhalins**	**147.28**	**316α**	*i*PKIKP	PKPdf	01 03 33.0	-2.8
YSS				*e*		01 03 49.0	
YSS				*e*		01 10 38.0	
YSS				*e*PPS	PPS	01 19 41.0	-2.5
YSS				*e*SS	SS	01 25 58.0	-1.3
YSS				pmax	pmax		
	comp=Z,520nm,2.0s						
YSS				pmax	pmax		
	comp=Z,1µm,6.0s						
YSS				pmax	pmax		
	comp=Z,2µm,9.0s						
YSS				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
YSS				MLR	MLR		
	comp=E,600nm,18.0s						
YSS	**Yuzh-Sakhalins**	**147.28**	**316**	*e*PKPbc	PKPdf	01 03 34.2	-1.6
EKS2	**Erkin-Say**	**147.52**	**53**	P	PKPdf	01 03 34.6	-1.7
	SNR=52						
AML	**Almayashu**	**147.61**	**54**	P	PKPdf	01 03 35.1	-1.4
	SNR=54						
USP	**Ospenovka**	**147.85**	**51**	P	PKPdf	01 03 34.8	-2.1
	SNR=39						
AAK	**Ala-Archa**	**148.04**	**53**	P	PKPdf	01 03 35.7	-1.5
	SNR=31						
AAK	**Ala-Archa**	**148.04**	**53**	PKIKP	PKPdf	01 03 34.9	-2.3
AAK	**Ala-Archa**	**148.04**	**53**	PFAKE		01 03 50.0	+13
AAK				LR	LR		
	comp=Z,497nm,22.0s,MS5.3						
FRU	**Bishkek**	**148.06**	**52**	*e*PKP2	PKPab	01 03 37.0	-3.1
FRU				pmax	pmax		
	comp=Z,490nm,2.0s						

FRU				pmax	pmax		
	comp=Z,1µm,2.2s						
CHMS	**Chumysh**	**148.11**	**52**	P	PKPdf	01 03 39.2	+1.9
	SNR=12						
UCH	**Uchtor**	**148.17**	**53**	P	PKPdf	01 03 36.4	-1.1
	SNR=41						
KBK	**Karagaybulak**	**148.35**	**52**	P	PKPdf	01 03 40.2	+2.6
	SNR=8.7						
ASAJ	**Asahikawa**	**148.48**	**311**	PKPbc	PKPdf	01 03 38.5	+0.7
	comp=Z,20nm,0.9s,baz=274,slow=14,SNR=5.1						
CLNS	**Chul'man**	**148.56**	**343**	*e*PKP2	PKPab	01 03 37.7	-4.0
CLNS				pmax	pmax		
	comp=Z,76nm,1.2s						
CLNS				pmax	pmax		
	comp=N,30nm,1.1s						
CLNS				pmax	pmax		
	comp=E,26nm,1.2s						
LATR	**Latur**	**148.69**	**100**	*e*PKP	PKPdf	01 03 37.1	-1.9
	comp=E,160nm,1.5s						
LATR				*e*PKP	PKPdf	01 03 40.0	+1.1
TKM2	**Tokmak 2**	**148.72**	**52**	P	PKPdf	01 03 36.8	-1.5
	SNR=18						
KZA	**Kyzart**	**148.74**	**53**	P	PKPdf	01 03 37.5	-0.8
	SNR=16						
CUD	**Cuddapah**	**148.88**	**108**	*e*PKPd		01 03 35.5	
CUD				*e*PKiK		01 03 40.0	
CUD				*e*		01 03 50.1	
CUD				*e*		01 11 11.2	
CUD				*e*		01 14 12.2	
CUD				*e*		01 19 37.8	
AJM	**Ajmer**	**149.23**	**84**	*e*PKP	PKPdf	01 03 30.0	-10
ULHL	**Ulahol**	**149.39**	**53**	P	PKPdf	01 03 42.8	+3.5
	SNR=15						
MDRS	**Chennai**	**149.40**	**112**	*e*PKP	PKPdf	01 03 38.0	-2.2
MDRS				*e*		01 07 35.0	
BOD	**Bodaibo**	**149.44**	**355**	*e*PKHKP		01 03 32.2	
AKL	**Akola**	**149.91**	**96**	*i*	PKPdf	01 03 43.3	+2.5
AKL				*i*		01 03 53.2	
	comp=E,112nm,1.5s						
KSH	**Kashi**	**149.94**	**58**	*e*PKP	PKPdf	01 03 39.8	-0.5
KSH				*e*XPKP		01 03 54.5	
KSH				*e*PKS	PKS	01 07 13.5	+4.6
KSH				*e*PP	PP	01 07 17.5	-0.4
KSH				*e*PPP	PPP	01 10 45.0	+3.3
KSH				LR	LR		
	comp=N,250nm,5.1s						
KSH				LR	LR		
	comp=E,280nm,6.9s						
HYB	**Hyderabad**	**150.03**	**103**	*i* Pdiff	PKPdf	01 03 39.0	-2.1
	comp=E,160nm,1.0s						
HYB				*e*PKPbc	PKPdf	01 03 43.5	+2.4
HYB				*e*		01 03 50.0	
HYB				*e*PKPAB	PKPab	01 03 54.0	+5.1
HYB	**Hyderabad**	**150.03**	**103**	*e*PKP	PKPdf	01 03 39.0	-2.1
HYB				*e*		01 03 43.5	
HYB				*e*PKPab	PKPab	01 03 54.0	+5.1
KHET	**Khetri**	**150.48**	**81**	*e*PKP	PKPdf	01 03 38.9	-2.6
KHET				*e*		01 03 48.4	
	comp=Z,88nm,1.7s						
PONG	**Pong**	**150.82**	**73**	*e*	PKPdf	01 03 45.0	+3.1
BHPL	**Bhopal**	**151.01**	**91**	*e*PKP	PKPdf	01 03 41.0	-1.5
BHPL				*e*		01 03 47.5	
	comp=Z,50nm,0.8s						
KUDL	**Kundal**	**151.09**	**81**	*e*PKP	PKPdf	01 03 40.1	-2.3
KUDL				*e*		01 03 58.4	
	comp=Z,279nm,1.2s						
BHK	**Bhakra**	**151.22**	**74**	*e*	PKPdf	01 03 53.2	+11
MKAR	**Makanchi Array**	**151.34**	**40**	PKP	PKPdf	01 03 39.0	-3.2
	comp=Z,1.9nm,0.8s,slow=4.3,SNR=11						
MKAR				PKPbc	PKPdf	01 03 45.4	+3.2
	comp=Z,38nm,0.7s,baz=322,slow=1.7,SNR=158						
MKAR				PKPab	PKPab	01 03 54.2	+0.7
	comp=Z,30nm,0.6s,baz=321,slow=1.5,SNR=19						
MKAR	**Makanchi Array**	**151.34**	**40**	*i* PKIKP	PKPdf	01 03 45.2	+3.0
MKAR				pmax	pmax		
	comp=Z,35nm,0.7s						
SONA	**Sohna**	**151.62**	**81**	*e*PKP	PKPdf	01 03 40.5	-2.7
SONA				*e*		01 03 59.3	
	comp=Z,45nm,1.1s						
SDNR	**Sundarnagar**	**151.69**	**74**	*e*PKP	PKPdf	01 03 40.6	-2.6
NDI	**New Delhi**	**151.78**	**80**	*e*PKP	PKPdf	01 03 40.0	-3.4
KLR	**Kul'dur**	**152.15**	**327**	*e*PKIKP	PKPdf	01 03 39.3	-4.0
KLR				*e*		01 03 56.0	
KLR				*e*		01 07 30.0	
KLR				pmax	pmax		
	comp=N,40nm,2.0s						
KLR				pmax	pmax		
	comp=Z,63nm,2.0s						
DDI	**Dehra Dun**	**152.61**	**76**	*e*PKP	PKPdf	01 03 42.5	-2.1
KLP	**Kalpa**	**152.79**	**74**	*i* PKP	PKPdf	01 03 43.4	-1.4
MAJO	**Matsushiro**	**153.86**	**298**	PKIKP	PKPdf	01 03 50.5	+4.4
MAJO	**Matsushiro**	**153.86**	**298**	*e*PKPbc	PKPdf	01 03 50.0	+3.9
MAJO				*e*PKPab	PKPab	01 04 04.5	0.0
MAJO				LR	LR		
	comp=Z,3µm,22.0s,MS6.1						
MAT	**Matsushiro**	**153.86**	**298**	PKP	PKPdf	01 03 42.3	-3.8
MAT	**Matsushiro**	**153.86**	**298**	*e*PKP	PKPdf	01 03 42.0	-4.1
MAT				LR	LR		
	comp=Z,3µm,22.0s,MS6.1						
VIS	**Vishakhapatnam**	**154.27**	**107**	*e*	PKPdf	01 03 50.0	+2.8
PTH	**Pithoragarh**	**154.46**	**78**	*e*	PKPdf	01 03 53.3	+6.2
PTH				*e*		01 07 50.0	
WMQ	**Urumqi**	**156.16**	**41**	PKP	PKPdf	01 03 46.5	-2.4
WMQ				APKP		01 03 56.5	
WMQ				XPKP		01 04 00.5	
WMQ				PP	PP	01 07 56.0	+3.1
WMQ				SKKS		01 14 38.5	
WMQ				LR	LR		
	comp=Z,2µm,24.0s,MS5.8						
MDJ	**Mudanjiang**	**156.32**	**322**	*e*PKPdf	PKPdf	01 03 45.3	-3.8
ZAK	**Zakamensk**	**156.64**	**10**	⇑*i*PKIKP	PKPdf	01 03 42.1	-7.2
KOLN	**Koldanda**	**157.31**	**83**	*e*P	PKPdf	01 03 47.6	-3.4
	comp=Z,89nm,1.5s						
GKN	**Gorkha**	**158.24**	**83**	*e*P	PKPdf	01 03 49.5	-2.7
	comp=Z,80nm,1.2s						
DMN	**Daman**	**158.63**	**84**	*e*P	PKPdf	01 03 49.0	-3.6
	comp=Z,99nm,1.5s						
KKN	**Kakani**	**158.79**	**83**	*e*P	PKPdf	01 03 49.9	-2.9
	comp=Z,160nm,1.7s						
PKI	**Pulchoki**	**158.89**	**84**	*e*P	PKPdf	01 03 50.1	-2.9
	comp=Z,53nm,1.2s						
SONM	**Songino Array**	**159.51**	**5**	PKP	PKPdf	01 03 50.7	-2.3
	comp=Z,17nm,1.3s,SNR=37						
SONM				PKPab	PKPab	01 04 28.5	+0.2
	comp=Z,5.0nm,0.7s,baz=328,slow=2.9,SNR=6.7						
SONM				PP	PP	01 08 08.4	-2.1
	comp=Z,2.5nm,1.0s,baz=346,slow=2.7,SNR=5.4						
LSA	**Lhasa**	**163.97**	**78**	PKP	PKPdf	01 03 57.8	-0.3
LSA	**Lhasa**	**163.97**	**78**	*e*PKPdf	PKPdf	01 03 56.5	-1.5
SHL	**Shillong**	**164.38**	**93**	⇓*e*PKP	PKPdf	01 03 57.0	-1.6
SHL				*e*		01 05 02.0	
SHL				*e*		01 08 42.0	
SHL				*e*		01 15 20.0	
GTA	**Gaotai**	**165.72**	**31**	PKP	PKPdf	01 03 57.3	-2.2
GTA				APKP		01 04 07.3	
GTA				XPKP		01 04 11.3	
GTA				PKP2	PKPab	01 04 56.5	+1.0
GTA				PPP	PPP	01 12 43.5	+4.2
GTA				SKKS		01 15 25.5	
GTA				SS	SS	01 29 17.3	+0.6
GTA				PP	PP		
	comp=Z,296nm,9.5s						
GTA				LR	LR		
	comp=N,173nm,24.7s						
GTA				LR	LR		
	comp=E,112nm,24.3s						
BJI	**Beijing**	**166.16**	**337**	PKP	PKPdf	01 03 56.0	-3.8
BJI				SS	SS	01 29 22.0	+0.9
HHC	**Hu-ho-hao-te**	**166.47**	**352**	*e*PKP	PKPdf	01 03 55.0	-5.0
HHC				APKP		01 04 10.8	
HHC				PP	PP		
	comp=Z,561nm,9.0s						
HHC				LR	LR		
	comp=N,432nm,22.6s						
HHC				LR	LR		
	comp=E,683nm,16.7s						
HHC				LR	LR		
	comp=Z,1µm,20.2s						
CM31	**Chiang Mai Arr**	**167.00**	**131**	PFAKE		01 04 10.0	+9.0
CM31				LR	LR		
	comp=Z,2µm,20.0s						
CMAR	**Chiang Mai Arr**	**167.00**	**131**	PKP	PKPdf	01 03 58.4	-2.6
	comp=Z,3.3nm,1.0s,baz=258,slow=1.9,SNR=18						
CMAR				PKPab	PKPab	01 05 01.5	-0.1
	comp=Z,5.9nm,1.0s,baz=241,slow=2.6,SNR=5.1						
CHG	**Chiang Mai**	**167.25**	**130**	P	PKPdf	01 03 58.7	-2.5
NANT	**Nan**	**168.38**	**136**	P	PKPdf	01 03 59.0	-2.8
SSE	**Sheshan**	**168.92**	**292**	PKP	PKPdf	01 04 00.0	-1.8
LZH	**Lanzhou**	**170.24**	**27**	⇑PKP	PKPdf	01 04 00.3	-2.2
LZH				APKP		01 04 10.5	
LZH				XPKP		01 04 14.5	
LZH				PKS	PKS	01 07 31.0	+2.1
LZH				PP	PP	01 09 10.0	+3.5
LZH				PP	PP		
	comp=Z,621nm,10.2s						
LZH	**Lanzhou**	**170.24**	**27**	⇑PKP	PKPdf	01 04 00.3	-2.2
LZH				pPKP		01 04 10.6	
LZH				sPKP		01 04 14.5	
NJ2	**Nanjing**	**170.44**	**301**	*e*PKP	PKPdf	01 03 57.3	-5.4
NJ2				APKP		01 04 07.5	
NJ2				XPKP		01 04 11.5	
NJ2				PKS	PKS	01 07 28.0	-1.1
NJ2				PP	PP	01 09 06.0	-1.7
NJ2				LR	LR		
	comp=N,840nm,26.3s						
NJ2				LR	LR		
	comp=E,700nm,27.7s						
NJ2				LR	LR		
	comp=Z,2µm,26.7s						
QIZ	**Qiongzhong**	**171.62**	**184**	PKP	PKPdf	01 03 59.3	-4.5
QIZ				SS	SS	01 30 15.0	-0.3
QIZ				LR	LR		
	comp=Z,2µm,22.9s						
XAN	**Xi'an**	**173.41**	**2**	PKP	PKPdf	01 04 01.5	-2.7
XAN				APKP		01 04 10.8	
KMI	**Kunming**	**173.75**	**110**	*e*PKP	PKPdf	01 04 02.3	-2.3
KMI	**Kunming**	**173.75**	**110**	*e*PKP	PKPdf	01 04 02.2	-2.4
CD2	**Chengdu**	**174.11**	**53**	PKP	PKPdf	01 04 02.5	-2.0
CD2				LR	LR		
	comp=E,930nm,12.6s						
WHN	**Wuhan**	**174.53**	**306**	PKP	PKPdf	01 04 02.5	-2.2
WHN				PKP2	PKPab	01 05 34.5	-0.2
WHN				PP	PP	01 09 35.0	+6.8
ENH	**Enshi**	**177.16**	**355**	*e*PKPdf	PKPdf	01 04 02.3	-3.0
ENH				*e*pPKPdf		01 04 11.8	
GYA	**Guiyang**	**177.53**	**112**	PKP	PKPdf	01 04 03.3	-2.2
GYA				APKP		01 04 13.0	
GYA				XPKP		01 04 19.5	
GYA				PKP2	PKPab	01 05 50.5	+2.4
GYA				PP	PP	01 09 43.5	+1.2
GYA				SKKS		01 16 24.8	
GYA				PP	PP		
	comp=Z,290nm,4.5s						
GYA				LR	LR		
	comp=N,1µm,19.2s						
GYA				LR	LR		
	comp=E,560nm,19.2s						
GYA				LR	LR		
	comp=Z,850nm,18.3s						

IGQ 27 00:47:26.1, 2.90S×77.86W, h12^{km}±4^{km}, mb4.1, 1C-4D,
Error ellipse: s-maj=11.1km s-min=1.7km az=153.2,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.50**	**337**	P	Pn	00 47 54.4	+1.4
ARRY	**Arrayan**	**1.50**	**336**	P	Pn	00 47 54.3	+1.2
ARRY				S	Sb	00 48 13.8	+1.3
ULBA	**Ulba**	**1.54**	**339**	⇓P	Pn	00 47 55.4	+1.8
RETU	**Refugio**	**1.55**	**338**	P	Pn	00 47 55.6	+1.8
RUN2	**Runtun**	**1.57**	**339**	P	Pn	00 47 55.6	+1.6
CUSU	**Cusua**	**1.57**	**337**	P	Pn	00 47 55.9	+1.9
CUSU				S	Sb	00 48 17.5	+3.1
JUIV	**Juive**	**1.58**	**337**	P	Pn	00 47 56.0	+1.8
JUIV				S	Sn	00 48 17.1	+2.3
IGUA	**Igualata**	**1.60**	**331**	P	Pn	00 47 56.8	+2.4
PISA	**Pisayambo**	**1.90**	**344**	P	Pn	00 48 01.7	+2.9
PISA				S	Sn	00 48 28.5	+5.7
MARY	**Rancho Maria**	**2.24**	**344**	P	Pn	00 48 07.8	+4.2
MARY				S	Sn	00 48 38.1	+6.7
TAMB	**Tambo**	**2.25**	**347**	P	Pn	00 48 07.4	+3.7
TAMB				S	Sn	00 48 36.8	+5.2
QIL1	**Quilotoa**	**2.30**	**332**	P	Pn	00 48 08.9	+4.3
VC1	**Cotopaxi 1**	**2.30**	**346**	⇓P	Pn	00 48 08.7	+4.1
VC1				S	Sn	00 48 40.4	+7.4
NAS1	**Nasa**	**2.33**	**345**	⇓P	Pn	00 48 09.5	+4.6
NAS1				S	Sn	00 48 41.3	+7.6
ANTI	**Antisana**	**2.45**	**353**	⇓P	Pn	00 48 10.3	+3.7
JUA2	**San Juan 2**	**2.77**	**344**	P	Pn	00 48 17.3	+6.1
JUA2				S	Sn	00 48 56.8	+12
GGP	**Refugio Guagua**	**2.80**	**345**	P	Pn	00 48 17.8	+6.1
GGP				S	Sn	00 48 56.5	+11
CGGP	**Crater GGP**	**2.80**	**344**	P	Pn	00 48 17.8	+6.2
CONE	**Cono NE Rev Vo**	**2.81**	**4**	P	Pn	00 48 17.1	+5.2
CONE				S	Sn	00 48 55.8	+10
PINO	**Pino**	**2.82**	**345**	⇑P	Pn	00 48 18.7	+6.8
YANA	**Yana**	**2.85**	**345**	P	Pn	00 48 18.1	+5.8
CAYR	**Refugio Cayamb**	**2.90**	**357**	P	Pn	00 48 18.9	+5.9
CAYR				S	Sn	00 48 56.0	+8.0
CAYA	**Cayambe**	**2.95**	**357**	P	Pn	00 48 20.7	+6.9
CAYA				S	Sn	00 49 00.1	+11

*IDC **27** 00:50:31.7±1.5, 27.39S×70.93W, mb4.5/6, mb1 4.7/8, mb1mx4.4/16, ML5.2/2, Error ellipse: s-maj=35.7km s-min=34.3km az=11.0*
*BJI **27** 00:50:40.4, 27.16S×71.31W, h43^{km}, mB5.1, Msz5.0*
*NEIC **27** 00:50:42.3±2.0, 26.82S×71.36W, h44^{km}±17^{km}, mb4.7/23, Error ellipse: s-maj=23.3km s-min=7.7km az=72.0*
*SYO **27** 00:50:42.2, 26.82S×71.36W, h44^{km}, MB4.7*
ISC 27 00:50:40.8±0.5**, 26.69S**±0.08×**71.5W**±0.1**, h44^{km}, (h44^{km}±.8^{km}:pP-P), n64, σ0^{s}.86**/53**, mb4.6**/26**, 4C-3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.67**	**30**	Pn	**P**	**00 51 51.7**	**+1.0**
	24nm,0.3s,baz=185,slow=8.4,SNR=22						
LVC				Pg	**P**	**00 52 03.4**	**+13**
	33nm,0.3s,baz=234,slow=14,SNR=6.1						
LVC				Lg		00 53 07.8	
	49nm,0.3s,baz=93,slow=20,SNR=6.2						
LVC	**Limon Verde**	**4.67**	**30**	*e*Pn	**P**	**00 51 52.1**	**+1.4**
LPAZ	**La Paz**	**10.80**	**17**	Pn	**P**	**00 53 16.9**	**+1.1**
	3.8nm,0.3s,baz=203,slow=5.3,SNR=12						
LPAZ	**La Paz**	**10.80**	**17**	*e*Pn	**P**	**00 53 16.6**	**+0.8**
SAML	**Samuel**	**19.31**	**25**	*e*P	**P**	**00 55 05.2**	**+0.2**
MGP	**Maguayo**	**44.63**	**6**	*e*P	**P**	**00 58 50.4**	**-0.6**
SJG	**San Juan**	**44.83**	**7**	P	**P**	**00 58 51.3**	**-1.3**
	24nm,0.8s,mb5.1,baz=180,slow=5.1,SNR=5.1						
SJG	**San Juan**	**44.83**	**7**	*e*P	**P**	**00 58 50.9**	**-1.7**
	14nm,0.6s,mb5.0						
VNA3	**Neumayer Olymp**	**55.98**	**160**	*e*	**P**	**01 00 23.8**	**+7.1**
VNA3	**Neumayer Olymp**	**55.98**	**160**	*e*	pP	01 00 28.8	-0.4
VNA3	**Neumayer Olymp**	**55.98**	**160**	⇑*i*P	**P**	**01 00 16.4**	**-0.3**
VNA3				*e*		01 00 23.8	
VNA3				*e*	pP	01 00 28.8	-0.4
VNA1	**Neumayer--Stat**	**56.25**	**159**	*e*	**P**	**01 00 13.9**	**-4.7**
VNA1	**Neumayer--Stat**	**56.25**	**159**	*e*	**P**	**01 00 19.5**	**+0.9**
VNA1	**Neumayer--Stat**	**56.25**	**159**	⇑*i*P	**P**	**01 00 07.0**	**-12**
VNA1				*e*		01 00 13.9	
VNA1				*e*	pP	01 00 19.5	-12
VNA2	**Neumayer--Watz**	**56.60**	**159**	*e*	**P**	**01 00 24.7**	**+3.5**
VNA2	**Neumayer--Watz**	**56.60**	**159**	*e*	**P**	**01 00 30.4**	**+9.2**
VNA2	**Neumayer--Watz**	**56.60**	**159**	⇑*i*P	**P**	**01 00 18.2**	**-3.0**
VNA2				*e*		01 00 24.7	
VNA2				*e*	pP	01 00 30.4	-3.2
SNAA	**Sanae**	**58.20**	**160**	*e*	**P**	**01 00 38.2**	**+5.8**
SNAA	**Sanae**	**58.20**	**160**	*e*	pP	01 00 42.9	-2.0
SNAA	**Sanae**	**58.20**	**160**	⇑*i*P	**P**	**01 00 29.8**	**-2.6**
SNAA				*e*		01 00 38.2	
SNAA				*e*	pP	01 00 42.9	-2.0
LRAL	**Lakeview Retre**	**61.20**	**345**	*e*P	**P**	**01 00 52.9**	**-0.7**
	1.7nm,0.3s,mb4.7						
JSC	**Jenkinsville**	**61.34**	**351**	*e*P	**P**	**01 00 53.8**	**-0.7**
JCT	**Junction City**	**62.98**	**333**	*e*P	**P**	**01 01 05.3**	**-0.2**
	7.0nm,0.6s,mb5.0						
CPCT	**Cooper Cave**	**63.02**	**348**	*e*P	**P**	**01 01 04.9**	**-0.9**
OXF	**Oxford**	**63.20**	**343**	P	**P**	**01 01 06.1**	**-0.8**
	9.9nm,0.8s,mb5.0						
PLAL	**Pickwick Lake**	**63.32**	**345**	P	**P**	**01 01 06.8**	**-1.0**
	2.3nm,0.3s,mb4.8						
QSPA	**South Pole Qui**	**63.53**	**180**	*e*P	**P**	**01 01 08.7**	**+0.3**
TXAR	**Lajitas Array**	**63.69**	**329**	P	**P**	**01 01 11.0**	**+0.8**
	1.2nm,0.6s,mb4.1,baz=155,slow=9.8,SNR=14						
WVT	**Waverly**	**64.36**	**345**	*e*P	**P**	**01 01 13.5**	**-1.0**
	8.5nm,1.0s,mb4.7						
MIAR	**Mount Ida**	**64.40**	**340**	*e*P	**P**	**01 01 14.7**	**-0.1**
	5.2nm,0.8s,mb4.6						
WCI	**Wyandotte Cave**	**66.05**	**347**	*e*P	**P**	**01 01 24.1**	**-1.3**
	6.6nm,0.7s,mb4.8						
WMOK	**Wichita Mounta**	**66.34**	**336**	*e*P	**P**	**01 01 27.5**	**+0.3**
	2.0nm,0.8s,mb4.2						
FVM	**French Village**	**66.75**	**344**	*e*P	**P**	**01 01 29.4**	**-0.3**
	19nm,0.9s,mb5.1						
CCM	**Cathedral Cave**	**67.02**	**343**	*e*P	**P**	**01 01 31.3**	**-0.1**
	20nm,1.1s,mb5.1						
ACSO	**Alum Creek Sta**	**67.43**	**350**	*e*P	**P**	**01 01 32.9**	**-1.1**
	7.0nm,0.6s,mb4.9						
JFWS	**Jewell Farm**	**71.39**	**346**	*e*P	**P**	**01 01 58.0**	**-0.2**
	4.8nm,0.4s,mb4.8						
SADO	**Sadowa**	**71.45**	**354**	P	**P**	**01 01 57.7**	**-0.8**
	4.6nm,0.7s,mb4.5,baz=182,slow=5.8,SNR=4.9						
SDCO	**Great Sand Dun**	**71.61**	**332**	*e*P	**P**	**01 02 00.5**	**+0.8**
	2.1nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**72.46**	**73**	P	**P**	**01 01 59.3**	**-5.7**
	4.2nm,0.6s,mb4.6,baz=215,slow=4.6,SNR=10.0						
DBIC	**Dimbokro**	**72.46**	**73**	*e*P	**P**	**01 01 58.7**	**-6.3**
	4.9nm,0.6s,mb4.6						
SYO	**Syowa Base**	**72.49**	**159**	⇓P	**P**	**01 01 58.1**	**-6.2**
SYO	**Syowa Base**	**72.49**	**159**	⇓pP	pP	01 02 08.2	-8.9
SYO	**Syowa Base**	**72.49**	**159**	⇓PcP	PcP	01 02 17.5	-4.6
PV10	**Paradox Valley**	**73.67**	**330**	*e*P	**P**	**01 02 12.7**	**+1.0**
RSSD	**Black Hills**	**76.52**	**336**	*e*P	**P**	**01 02 28.4**	**+0.5**
	3.3nm,0.6s,mb4.4						
DUG	**Dugway**	**76.86**	**329**	P	**P**	**01 02 30.6**	**+0.5**
	1.7nm,0.7s,mb4.1						
HWUT	**Hardware Ranch**	**77.43**	**330**	*e*P	**P**	**01 02 33.6**	**+0.5**
	4.1nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**77.51**	**332**	P	**P**	**01 02 34.7**	**+1.1**
	0.9nm,0.7s,mb3.8,baz=143,slow=4.5,SNR=3.4						
TPAW	**Teton Pass**	**78.69**	**332**	*e*P	**P**	**01 02 40.7**	**+0.7**
ULM	**Lac du Bonnet**	**79.60**	**344**	P	**P**	**01 02 44.4**	**-0.5**
	4.8nm,0.7s,mb4.5,baz=167,slow=3.4,SNR=4.9						
ULM	**Lac du Bonnet**	**79.60**	**344**	P	**P**	**01 02 44.3**	**-0.5**
	6.0nm,0.7s,mb4.6						
HLID	**Hailey**	**80.25**	**330**	*e*P	**P**	**01 02 49.4**	**+1.0**
	3.5nm,1.0s,mb4.2						
DGMT	**Dagmar**	**80.36**	**339**	*e*P	**P**	**01 02 49.7**	**+0.7**
	26nm,0.8s,mb5.2						
MCMT	**McKenzie Canyo**	**80.57**	**332**	*e*P	**P**	**01 02 51.4**	**+1.3**
BOZ	**Bozeman (W)**	**80.72**	**333**	*e*P	**P**	**01 02 51.2**	**+0.3**
	1.2nm,0.8s,mb3.9						
TSUM	**Tsumeb**	**80.78**	**107**	P	**P**	**01 02 53.0**	**+1.2**
	4.9nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**151.15**	**39**	PKPbc	PKPdf	01 10 27.0	+4.0
	3.7nm,0.5s,baz=332,slow=1.9,SNR=4.1						
CN2	**Changchun**	**158.11**	**326**	*e*PKP	PKPdf	01 10 35.3	+2.7
SSE	**Sheshan**	**168.08**	**295**	PKP	PKPdf	01 10 44.5	+2.1
SSE	**Sheshan**	**168.08**	**295**	P	PKPdf	01 10 44.4	+2.0
NJ2	**Nanjing**	**169.54**	**303**	*e*PKP	PKPdf	01 10 44.0	+0.7
NJ2				APKP		01 10 54.0	
NJ2				XPKP		01 10 59.5	
NJ2				PKS	PKS	01 14 15.0	+0.1
NJ2				PP	PP	01 15 51.0	+1.5
NJ2				SKS	SKS	01 17 42.0	+1.2
NJ2				SKKS		01 22 34.0	
LZH	**Lanzhou**	**169.81**	**22**	*e*PKP	PKPdf	01 10 46.5	+3.2
LZH				APKP		01 10 57.0	
LZH				XPKP		01 11 01.0	
LZH				PKS	PKS	01 14 18.0	+3.0
LZH				PP	PP	01 15 55.0	+4.3
LZH				SKKS		01 22 36.5	
LZH				SS	SS	01 36 47.5	+4.6
LZH				PP	PP		
	comp=Z,133nm,10.1s						
LZH				LR	LR		
	comp=Z,222nm,20.0s						
LZH	**Lanzhou**	**169.81**	**22**	*e*PKP	PKPdf	01 10 46.5	+3.2
LZH				pPKP		01 10 57.1	
LZH				sPKP		01 11 01.1	
LZH				PKP	PKPdf	01 11 03.8	+20
LZH				PKS	PKS	01 14 18.0	+3.0
LZH				PP	PP	01 15 55.0	+4.3
LZH				SKKS		01 22 36.5	
LZH				SS	SS	01 36 47.6	+4.7
LZH				LR	LR		
	comp=Z,220nm,20.0s						
KMI	**Kunming**	**174.55**	**105**	*e*PKP	PKPdf	01 10 45.0	-0.9
KMI				LR	LR		
	comp=Z,293nm,19.2s						

CASC 27 00:52:16.0±1.5**, 12.57N×87.76W, h64^{km}**±23^{km}**, MD3.7, ML3.4, 10C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.70**	**79**	⇑*e*P	P	00 52 31.3	+0.7
CRIN				*e*S	S	00 52 43.4	+1.9
CNCH	**Conchagua**	**0.71**	**354**	⇓*e*P	P	00 52 30.9	+0.3
CNCH				*e*S	S	00 52 41.8	+0.1
TELN	**Telica**	**0.91**	**87**	⇑*e*P	P	00 52 33.1	-0.1
TELN				*e*S	S	00 52 46.5	+0.6
BLLM	**Bellamira**	**0.99**	**332**	⇓*e*P	P	00 52 34.5	+0.3
BLLM				*e*S	S	00 52 48.0	+0.2
VSM	**San Miguel**	**0.99**	**330**	⇓*e*P	P	00 52 34.9	+0.6
MIRN	**Miramar**	**1.03**	**97**	⇑*e*P	P	00 52 34.4	-0.4
MIRN				*e*S	S	00 52 50.2	+1.5
CNGN	**Cerro Negro**	**1.04**	**94**	⇑*e*P	P	00 52 34.8	-0.2
CNGN				*e*S	S	00 52 49.5	+0.5
MOMJ	**Momotombo**	**1.20**	**97**	⇓*e*P	P	00 52 36.8	-0.3
MOMJ				*e*S	S	00 52 52.6	-0.3
COPN	**Copaltepe**	**1.20**	**108**	⇑*e*P	P	00 52 36.6	-0.5
COPN				*e*S	S	00 52 52.2	-0.7
CAHU	**Cacacuatique**	**1.28**	**340**	*e*P	P	00 52 38.9	+0.7
XAVN	**Gruta Xavier**	**1.46**	**106**	⇑*e*P	P	00 52 40.4	-0.4
SNVI	**San Vicente**	**1.48**	**315**	⇓*e*P	P	00 52 41.5	+0.4
SNVI				*e*S	S	00 53 00.2	+0.6
MGAN	**Managua**	**1.53**	**106**	⇑*e*P	P	00 52 41.4	-0.4
MGAN				*e*S	S	00 53 00.7	-0.2
MGAN				*i*		00 53 03.6	
	comp=N,489nm,0.2s						
TICN	**Ticuantepe**	**1.58**	**109**	⇑*e*P	P	00 52 42.3	-0.2
TICN				*e*S	S	00 53 02.1	+0.1
LCBS	**La Ceiba**	**1.61**	**312**	⇑*e*P	P	00 52 42.4	-0.4
LCBS				*e*S	S	00 53 01.9	-0.7
LFRS	**El Faro**	**1.65**	**310**	⇑*e*P	P	00 52 43.0	-0.3
LFRS				*e*S	S	00 53 03.6	0.0
PYTN	**Playitas**	**1.66**	**91**	*e*S	S	00 53 03.6	-0.2
LBRS	**Las Brisas**	**1.71**	**313**	⇓*e*P	P	00 52 44.8	+0.6
BOQS	**Boqueron**	**1.88**	**308**	*e*P	P	00 52 46.4	-0.2
BOQS				*e*S	S	00 53 10.2	+1.1
SBLS	**San Blas**	**2.21**	**305**	⇓*e*P	P	00 52 51.4	+0.2
SNJE	**San Jose**	**2.22**	**306**	*e*P	P	00 52 51.5	+0.3

*IDC **27** 01:04:03.4±2.3, 36.87N×21.38E, mb3.7/3, mb1 3.6/6, mb1mx3.5/23, ML3.7/2, Error ellipse: s-maj=46.5km s-min=23.0km az=39.0*
*NEIC **27** 01:04:03.8, 36.72N×21.08E, h2^{km}, MD3.7(ATH), ML3.4(THE), After ATH.*
*ATH **27** 01:04:03.8, 36.72N×21.08E, h2^{km}, MD3.7/13*
*THE **27** 01:04:07.5, 36.89N×21.29E, h10^{km}, ML3.4*
ISC 27 01:04:03.4±0.7**, 36.70N**±0.04×**21.18E**±0.03**, h8^{km}**±5^{km}**, n51, σ1^{s}.12**/65**, mb3.6**/3**, 1C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.77**	**51**	*e*PG	**Pg**	**01 04 19.1**	**+0.3**
VLI	**Veliai**	**1.41**	**89**	*e*PB	**Pb**	**01 04 31.1**	**+1.5**
VLS	**Valsamata**	**1.55**	**343**	*e*PB	**Pb**	**01 04 33.5**	**+1.6**
KYTH	**Kithira**	**1.56**	**105**	*e*PN	**Pn**	**01 04 33.3**	**+1.8**
LKD	**Levkas**	**2.05**	**348**	*e*Pb	**Pb**	**01 04 41.5**	**+1.0**
NAIG	**Nisos Aigina**	**2.13**	**59**	*e*PG	**Pg**	**01 04 44.1**	**-1.7**
NSAL	**Nisos Salamina**	**2.19**	**56**	*e*PN	**Pn**	**01 04 41.0**	**+0.4**
MKIT	**Kithairon Oros**	**2.22**	**48**	*e*PG	**Pg**	**01 04 47.0**	**-0.8**
MKIT	**Kithairon Oros**	**2.22**	**48**	*e*Pg	**Pg**	**01 04 47.1**	**-0.7**
EVR	**Evrytania**	**2.27**	**13**	*e*PG	**Pg**	**01 04 46.0**	**-2.7**
AGG	**Agios Georgios**	**2.49**	**21**	*e*Pn	**Pn**	**01 04 47.8**	**+2.8**
	comp=Z,2.9nm,0.3s						
AGG				*e*Sn	**Sn**	**01 05 15.1**	**-0.8**
MPAR	**Parnis Oros**	**2.50**	**54**	*e*PG	**Pg**	**01 04 51.0**	**-2.3**
PTL	**Penteli**	**2.53**	**57**	*e*PN	**Pn**	**01 04 46.1**	**+0.6**
VAM	**Vamos**	**2.77**	**117**	*e*PG	**Pg**	**01 04 56.7**	**-1.9**
IGT	**Igoumenitsa**	**2.91**	**347**	*e*Pn	**Pn**	**01 04 52.0**	**+1.2**
IGT				*e*Sn	**Sn**	**01 05 27.2**	**+0.8**

JAN	Janina	2.96	355	*e*PN	Pn	01 04 51.0	-0.7
XOR	Xorichti	3.10	30	*e*Pn	Pn	01 04 55.1	+1.4
XOR				*e*Sn	Sn	01 05 31.9	+0.5
KEK	Kerkira	3.20	341	*e*PN	Pn	01 04 55.6	+0.6
AOS	Alonnisos	3.26	40	*e*Pn	Pn	01 04 56.0	+0.1
IDI	Anoyia	3.32	114	Pn	Pn	01 04 56.4	-0.4
	0.3nm,0.3s,baz=156,slow=22,SNR=5.9						
IDI				Sn	Sn	01 05 36.1	-0.9
	1.4nm,0.3s,baz=253,slow=17,SNR=3.5						
THR6	Thira Island,	3.42	94	*e*Pn	Pn	01 05 01.7	+3.6
LIT	Litokhoron	3.55	16	*e*Pn	Pn	01 05 01.0	+1.0
LIT				*e*Sn	Sn	01 05 42.9	+0.2
PAIG	Paliouri	3.78	31	*e*Pn	Pn	01 05 03.6	+0.4
FNA	Florina	4.08	2	*e*Pn	Pn	01 05 08.3	+0.7
FNA				*e*Sn	Sn	01 05 56.2	0.0
THE	Thessaloniki	4.17	19	*e*Pn	Pn	01 05 08.6	-0.2
OUR	Ouranopolis	4.24	30	*e*Pn	Pn	01 05 10.3	+0.4
SOI	Samo	4.30	290	*e*Pn	Pn	01 05 10.6	-0.2
SOI				*e*Sn	Sn	01 05 57.9	-3.9
GRI	Girifalco	4.33	301	*e*Pn	Pn	01 05 11.5	+0.5
GRI				*e*Sn	Sn	01 06 00.7	-1.7
LCI	Lecce	4.35	327	*e*Pn	Pn	01 05 11.6	+0.1
GRG	Griva	4.36	12	*e*Pn	Pn	01 05 12.2	+0.6
GRG				*e*Sn	Sn	01 06 03.4	+0.2
SOH	Sokhos	4.45	22	*e*Pn	Pn	01 05 13.5	+0.6
SOH				*e*Sn	Sn	01 06 04.7	-0.9
KNT	Kendrikon	4.65	16	*e*Pn	Pn	01 05 16.3	+0.6
KNT				*e*Sn	Sn	01 06 10.0	-0.7
SRS	Serrai	4.80	22	*e*Pn	Pn	01 05 17.6	-0.2
ORI	Oriolo Calabro	5.01	314	*e*Pn	Pn	01 05 20.8	+0.1
ORI				*e*Sn	Sn	01 06 17.1	-2.4
MMB	Musomiste	5.27	21	*e*P	Pn	01 05 24.0	-0.4
KKB	Krupnik	5.37	15	*e*P	Pn	01 05 26.0	+0.2
VAE	Valguarnera	5.46	280	Pn	Pn	01 05 28.1	+0.9
	1.4nm,0.3s,baz=305,slow=23,SNR=8.5						
VAE				Sn	Sn	01 06 27.0	-4.1
	2.2nm,0.3s,baz=243,slow=11,SNR=3.2						
MGR	Morigerati	5.59	310	*e*Pn	Pn	01 05 29.0	+0.1
MGR				*e*Sn	Sn	01 06 29.5	-4.7
ALN	Alexandroupoli	5.66	41	*e*Pn	Pn	01 05 29.6	-0.3
RZN	Rozhen	5.69	28	*e*P	Pn	01 05 30.0	-0.3
SLCN	Sala Consilina	5.70	312	*e*Pn	Pn	01 05 31.2	+0.8
SGO	Sicignano	6.00	312	*e*Pn	Pn	01 05 35.5	+0.8
MRLC	Muro Lucano	6.01	314	*e*Pn	Pn	01 05 34.9	0.0
CSSN	Cassano Irpino	6.35	313	*e*Pn	Pn	01 05 41.1	+1.4
SGG	Gregorio Mates	7.06	314	*e*Pn	Pn	01 05 50.6	+0.9
DIVS	Divcibare	7.45	353	⇑*i*P	Pn	01 05 52.1	-2.9
NRCA	Norcia	8.72	317	*e*Pn	P	01 06 13.0	+0.2
GERES	GERESS Array B	13.31	338	Pn	P	01 07 14.5	-0.7
	0.2nm,0.3s,baz=153,slow=15,SNR=4.7						
HFS	Hagfors	23.94	351	P	P	01 09 16.9	-1.6
	0.8nm,0.4s,mb3.5,baz=157,slow=11,SNR=9.9						
FINES	FINESS Array B	24.96	6	P	P	01 09 26.6	-1.8
	1.4nm,0.6s,mb3.6,baz=172,slow=14,SNR=6.8						
ARCES	ARCESS Array B	32.98	3	P	P	01 10 37.6	-2.9
	0.9nm,0.8s,mb3.7,baz=180,slow=8.5,SNR=4.7						

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*NEIC **27** 01:37:40.3, 27.45S×70.95W, h47^{km}, MD4.1(GUC), After GUC.*

GUC 27 01:37:40.3±0.6**, 27.45S×70.95W, h47^{km}, MD4.1, ML4.3, 2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	Copiapo	0.54	81	⇓*i*P	P	01 37 52.0	+0.2
CPCH				*i* S	S	01 38 01.1	+1.0
CPCH				AMP		01 38 04.4	
	comp=E,29μm,0.1s						
VACH	Vallenar	1.14	172	*i* P	P	01 37 53.2	-6.9
VACH				*i* S	S	01 38 07.6	-7.2
VACH				AMP		01 38 10.9	
	comp=E,13μm,0.1s						
LSCH	La Serena	2.47	186	*e*P	P	01 38 17.9	-1.1
LSCH				AMP		01 39 01.3	
	comp=N,1μm,0.3s						
TLL	Tololo Astrono	2.71	177	⇓*i*P	P	01 38 22.9	+0.3
TLL				*e*S	S	01 38 54.7	+0.4
TLL				AMP		01 39 09.2	
	comp=N,2μm,0.3s						
CPN1	Cerro Paranal	2.85	10	*e*P	P	01 38 24.5	0.0
CPN1				*i* S	S	01 38 58.3	+0.5
CPN1				AMP		01 39 16.6	
	comp=E,774nm,0.7s						
LVC	Limon Verde	5.15	21	Pn	P	01 38 56.9	0.0
	comp=E,16nm,0.7s						
LMEL	Las Melosas	6.41	174	*e*P	P	01 39 13.5	-1.0
TRQA	Tornquist	12.99	147	*e*Pn	P	01 40 42.6	-1.9

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*TIR **27** 01:43:01.5, 41.51N×19.64E, h20^{km}, Ml2.1*
*PDG **27** 01:43:03.4±0.2, 41.53N×19.61E, h11^{km}*

ISC 27 01:43:01.5±0.8**, 41.43N**±0.04×**19.56E**±0.05**, h11^{km}, n16, σ1^{s}24**/30**, 7C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LACI	Lac	0.24	29	*i* Pg	Pg	01 43 06.3	-0.3
LACI				*i* Sg	Sg	01 43 10.2	+0.1
TIR	Tirane	0.25	108	*i* Pg	Pg	01 43 07.3	+0.5
TIR				*i* Sg	Sg	01 43 11.5	+1.2
ULC	Ulcinj	0.58	337	⇑*i*Pg	Pg	01 43 12.6	-0.7
ULC				*e*Sg	Sg	01 43 21.2	0.0
SDA	Shkodra	0.63	356	*i* Pg	Pg	01 43 13.1	-1.0
SDA				*i* Sg	Sg	01 43 23.5	+0.9
PUK	Puka	0.67	22	*i* Pg	Pg	01 43 13.9	-1.0
PUK				*i* Sg	Sg	01 43 25.5	+1.6
BUM	Brajici-Budva	1.00	331	⇑*i*Pg	Pg	01 43 21.4	-0.2
BUM				*e*Sg	Sg	01 43 35.7	+0.8
BCI	Bajram Curri	1.01	22	*e*Pn	Pn	01 43 19.6	-1.9
TTG	Podgorica	1.03	348	⇓*i*Pg	Pg	01 43 20.9	-1.1
TTG				*e*Sg	Sg	01 43 35.5	-0.3
PVY	Plav	1.21	15	⇑*i*Pg	Pg	01 43 23.6	-2.1
PVY				*e*Sg	Sg	01 43 41.1	-0.7
HCY	Herceg Novi	1.29	323	⇑*i*Pg	Pg	01 43 26.3	-1.0
HCY				*e*Sg	Sg	01 43 45.0	+0.5
NKY	Niksic	1.45	344	⇑*i*Pg	Pg	01 43 28.6	-1.8
NKY				*e*Sg	Sg	01 43 49.8	0.0
IVA	Berane	1.47	10	⇓*i*Pg	Pg	01 43 27.9	-2.9
IVA				*e*Sg	Sg	01 43 49.8	-0.7
SKO	Skopje	1.51	68	*e*Pn	Pn	01 43 29.0	+0.3
BRY	Bratogost	1.65	333	⇑*i*Pn	Pn	01 43 31.8	+1.1
BRY				*e*Sn	Sn	01 43 55.4	+3.4
UPM	Unac-Piva	1.84	345	⇑*i*Pn	Pn	01 43 35.2	+1.8
UPM				*e*Sn	Sn	01 43 59.5	+2.8
PLE	Pljevlja	1.91	356	⇓*i*Pn	Pn	01 43 35.3	+1.0
PLE				*e*Sn	Sn	01 44 01.0	+2.6

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*IDC **27** 02:22:33.5±1.2, 38.66N×143.59E, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, MS3.1/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=44.0km s-min=26.8km az=94.0*
*JMA **27** 02:22:36.4±0.3, 38.79N×143.32E, h30^{km}, M3.2*

ISC 27 02:22:36.5±0.9**, 38.75N**±0.08×**143.39E**±0.08**, h33^{km}, n14, σ0^{s}94**/16**, mb3.6**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	1.39	284	P	P	02 22 59.6	-0.1
MIYJ	Miyako 2	1.47	305	P	P	02 23 00.5	-0.5
MIYJ				*e*S	S	02 23 17.6	-1.7
JIO	Ouri	1.63	260	P	P	02 23 03.3	+0.1
JMK	Ichinoseki	1.71	278	P	P	02 23 04.7	+0.4
JOM	Ohasama	1.79	295	P	P	02 23 05.4	-0.1
JOU	Okura	2.17	261	P	P	02 23 11.2	+0.2
JMM	Marumori	2.23	248	P	P	02 23 11.2	-0.6
JMM				*e*S	S	02 23 37.2	-1.2
JYK	Kaneyama	2.38	275	P	P	02 23 14.8	+0.9
JYK				*e*S	S	02 23 43.4	+1.3
MAT	Matsushiro	4.67	243	P	P	02 23 47.5	+1.0
ASAJ	Asahikawa	5.40	354	LR	LR	02 25 40.4	
	comp=Z,205nm,21.5s,baz=157,slow=34						
MKAR	Makanchi Array	44.56	301	P	P	02 30 48.3	+1.5
	0.6nm,0.7s,mb3.5,baz=80,slow=9.4,SNR=3.7						
ILAR	Eielson Array	47.21	33	P	P	02 31 07.5	0.0
	0.4nm,0.7s,mb3.5,baz=258,slow=6.9,SNR=5.6						
WRA	Warramunga Arr	58.99	190	P	P	02 32 33.4	-2.0
	0.6nm,0.4s,mb3.9,baz=7.8,slow=7.0,SNR=9.0						
ASAR	Alice Springs	62.72	190	P	P	02 33 01.0	+0.4
	0.4nm,0.8s,mb3.6,baz=12,slow=6.1,SNR=3.3						

ISC 27 02:24:12.9±0.9**, 37.88N**±0.07×**38.2E**±0.1**, h10^{km}, n6, σ0^{s}92**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	Malatya	0.47	23	*i* P	Pg	02 24 21.7	-0.8
MALT				*i* S	Sg	02 24 29.0	+0.1
MYA	Malataya	0.48	22	*i* PG	Pg	02 24 22.0	-0.7
MYA				SG	Sg	02 24 29.3	0.0
GZT	Gaziantep	0.72	224	*i* P	Pb	02 24 26.2	-0.9
GZT				*i* S	Sb	02 24 38.2	+1.3
ELZG	Elazig	0.88	45	*i* P	Pb	02 24 30.2	+0.4
ELZG				*e*S	Sb	02 24 44.4	+3.1
GAZ	Gaziantep	1.05	228	PN	Pn	02 24 32.5	-1.1
GAZ				SN	Sn	02 24 48.0	-0.4
KAHT	Ahir Dag	1.08	257	P	Pb	02 24 34.0	+0.9
KAHT				*i* S	Sb	02 24 47.3	+0.2

MOS 27 03:09:19.6±2.4**, 51.23N×98.64E, h10^{km}, mb4.0**/1**, Error ellipse: s-maj=78.9km s-min=23.7km az=158.0, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOY	Mondy	1.54	73	*e*P*	Pb	03 09 46.2	-1.5
MOY				*e*		03 10 09.7	
MOY				pmax	pmax		
	comp=Z,65nm,0.6s						
MOY				smax			
	comp=N,682nm,1.4s						
ARS	Arshan	2.46	72	*e*PN	Pn	03 10 00.1	-0.4
ARS				*e*		03 10 39.7	
ARS				pmax	pmax		
	comp=Z,48nm,0.4s						
ARS				smax			
	comp=E,397nm,0.6s						
ZAK	Zakamensk	3.06	104	*e*PN	Pn	03 10 11.3	+2.2
ZAK				*e*		03 10 55.3	
ZAK				pmax	pmax		
	comp=Z,50nm,1.1s						
ZAK				smax			
	comp=N,185nm,1.0s						
TLY	Talaya	3.16	80	*e*PN	Pn	03 10 07.5	-3.0
TLY				*e*		03 10 59.1	
TLY				pmax	pmax		
	comp=Z,15nm,0.4s						
TLY				smax			
	comp=E,146nm,0.6s						
IRK	Irkutsk	3.65	72	*e*PN	Pn	03 10 21.2	+3.9
IRK				*e*		03 11 14.2	
IRK				pmax	pmax		
	comp=Z,98nm,0.2s						
IRK				smax			
	comp=N,773nm,1.6s						
LSTR	Listvyanka	3.92	78	*e*PN	Pn	03 10 28.7	+7.5
LSTR				*e*		03 11 22.5	
LSTR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSTR				smax			
	comp=N,134nm,1.0s						
OGRR	Ongureny	5.99	63	*e*PN	Pn	03 11 04.8	+14

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*NEIC **27** 03:24:59.2, 27.58S×71.00W, h35^{km}, MD4.0(GUC), After GUC.*

GUC 27 03:24:59.2±0.6**, 27.58S×71.00W, h35^{km}**±12^{km}**, MD4.0, ML3.9, 1C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	Copiapo	0.62	69	*e*P	P	03 25 11.1	-0.3
CPCH				*i* S	S	03 25 20.5	+0.3
VACH	Vallenar	1.02	168	⇑*i*P	P	03 25 11.4	-5.7
VACH				*i* S	S	03 25 25.3	-5.1
VACH				AMP		03 25 29.1	
	comp=E,8μm,0.4s						
LSCH	La Serena	2.33	185	*i* P	P	03 25 36.1	+0.2
LSCH				*i* S	S	03 26 04.6	+0.9
LSCH				AMP		03 26 19.5	
	comp=N,656nm,0.5s						
TLL	Tololo Astrono	2.59	176	*i* P	P	03 25 40.8	+1.2
TLL				*i* S	S	03 26 12.0	+1.9
TLL				AMP		03 26 27.5	
	comp=N,689nm,0.5s						
CMCH	Combarbala	3.58	180	*i* P	P	03 25 52.8	-1.0
LVC	Limon Verde	5.29	21	*e*Pn	P	03 26 15.8	-2.2
	comp=N,3.0nm,0.4s						
LVC				Sn	S	03 27 19.0	+0.3
MDZ	Mendoza	5.61	161	*e*P	P	03 26 21.2	-1.1
FCH	Farellones	5.76	174	*e*P	P	03 26 24.7	+0.1
TRQA	Tornquist	12.90	146	Pn	P	03 28 00.1	-2.8

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*IDC **27** 04:01:47.2±3.4, 19.51S×177.91W, h577^{km}±41^{km}, mb3.1/4, mb1 3.3/4, mb1mx3.1/14, Error ellipse: s-maj=117.0km s-min=18.2km az=158.0*
*NEIC **27** 04:01:50.2±5.5, 19.66S×177.96W, h615^{km}±63^{km}, mb4.2/4, Error ellipse: s-maj=33.6km s-min=27.5km az=51.0*

ISC 27 04:01:45.8±3.7**, 19.6S**±0.3×**177.9W**±0.2**, h575^{km}**±47^{km}**, n11, σ0^{s}46**/10**, mb3.8**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.69	263	*e*P	P	04 07 42.3	+0.9
	2.3nm,0.3s,mb4.3						
CTAO	Charters Tower	33.69	263	*e*P	P	04 07 42.3	+0.9
	3.6nm,0.5s,mb4.3						
STKA	Stephens Creek	38.27	243	P	P	04 08 19.4	+0.4
	2.6nm,0.8s,mb3.8,baz=40,slow=23,SNR=3.4						
WB2	Warramunga Arr	44.82	261	*e*P	P	04 09 10.9	-0.2
WRAB	Tennant Creek	44.82	261	*e*P	P	04 09 10.6	-0.6
	6.4nm,1.0s,mb4.1						
ASAR	Alice Springs	44.83	256	P	P	04 09 11.2	+0.1
	3.0nm,0.7s,mb3.9,baz=89,slow=8.6,SNR=25						
ASAR				PcP	PcP	04 10 39.4	-1.4
	0.4nm,0.4s,baz=93,slow=4.3,SNR=4.8						
ASAR				S	S	04 15 07.9	+0.2
	0.4nm,0.6s,baz=90,slow=16,SNR=4.1						
WRA	Warramunga Arr	44.83	261	P	P	04 09 10.5	-0.7
	1.0nm,0.3s,mb3.8,baz=98,slow=7.7,SNR=56						
QSPA	South Pole Qui	70.45	180	*e*P	P	04 12 03.7	-0.1
	2.4nm,0.8s,mb3.7						
TXAR	Lajitas Array	86.50	57	P	P	04 13 29.8	+0.2
	0.3nm,0.7s,mb3.0,baz=203,slow=8.0,SNR=5.8						
ARCES	ARCESS Array B	128.07	350	PKP	PKPdf	04 19 47.1	+0.7
	0.8nm,0.7s,slow=3.6,SNR=4.3						
GERES	GERESS Array B	149.38	345	PKPbc	PKPdf	04 20 31.2	+6.5
	0.8nm,0.7s,slow=5.3,SNR=5.0						

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*MOS **27** 04:34:03.5±1.7, 50.03N×88.00E, h15^{km}, mb4.1/3, Error ellipse: s-maj=22.2km s-min=13.1km az=101.0*
*NNC **27** 04:34:05.0±5.1, 50.18N×87.79E, h1^{km}±27^{km}, mpv4.0, Error ellipse: s-maj=43.0km s-min=23.1km az=85.0*
*IDC **27** 04:34:04.3±1.1, 50.22N×87.86E, mb3.8/4, mb1 3.9/7, mb1mx3.8/22, ML4.0/3, Error ellipse: s-maj=17.1km s-min=11.5km az=144.0*
*NEIC **27** 04:34:06.3±0.8, 50.40N×87.71E, h10^{km}, mb4.0/1, Error ellipse: s-maj=18.8km s-min=10.2km az=178.0*
*BJI **27** 04:34:12.3, 49.56N×87.52E, h20^{km}, mb4.4, ML4.1*

ISC 27 04:34:05.3±1.3**, 50.22N**±0.05×**87.75E**±0.08**, h15^{km}**±8^{km}**, n31, σ1^{s}58**/44**, mb3.8**/5**, 10C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	Aktash	0.13	319	*e*PG	Pg	04 34 10.3	+1.3
ARTR	Artybash	1.60	349	*e*PN	Pn	04 34 36.7	+3.4
ARTR				*e*S	Sn	04 34 58.3	+4.5
UKR	Ust'-Kan	2.03	292	*e*PN	Pn	04 34 44.9	+5.5
UKR				*e*S	Sn	04 35 13.1	+8.5
SHRR	Shira	4.53	18	*e*PN	Pn	04 35 17.0	+2.0
SHRR				*e*		04 35 27.1	
SHRR				*e*		04 36 30.1	
SHRR				pmax	pmax		
	comp=Z,41nm,0.4s						
SHRR				pmax	pmax		
	comp=Z,100nm,0.6s						
MK31	Makanchi Array	5.00	229	⇑Pn	Pn	04 35 23.0	+1.4
	comp=Z,12nm,0.5s,baz=59,slow=12,SNR=323						
MK31				⇑Pg	Pg	04 35 35.9	-9.1
	comp=Z,12nm,0.5s,baz=61,slow=15,SNR=4.6						
MK31				⇑Sn	Sn	04 36 20.1	+0.4
	comp=Z,36nm,0.6s,baz=62,slow=26,SNR=7.7						
MK31				⇑Lg		04 36 41.6	
	comp=Z,43nm,0.5s,baz=53,slow=29,SNR=5.8						
MKAR	Makanchi Array	5.00	229	Pn	Pn	04 35 22.7	+1.1
	comp=Z,10nm,0.3s,baz=49,slow=13,SNR=438						
MKAR				Sn	Sn	04 36 20.9	+1.2
	comp=Z,26nm,0.3s,baz=59,slow=26,SNR=18						
MKAR				Lg		04 36 42.8	
	comp=Z,18nm,0.3s,baz=55,slow=30,SNR=7.9						
MKAR	Makanchi Array	5.00	229	PN	Pn	04 35 22.9	+1.3
MKAR						04 36 20.3	
MKAR						04 36 41.1	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MKAR	Makanchi Array	5.00	229	Pn	Pn	04 35 22.7	+1.1
MKAR				Sn	Sn	04 36 20.9	+1.2
MKAR				Lg		04 36 42.8	
NVS	Novosibirsk	5.38	331	*e*PN	Pg	04 35 46.9	-5.9
NVS				*i*		04 36 57.5	
KURK	Kurchatov	5.85	278	⇑Pn	Pn	04 35 34.0	+0.3
	comp=Z,5.1nm,0.5s,baz=106,slow=8.0,SNR=39						
KURK				⇑Sn	Sn	04 36 42.5	+1.3
	comp=Z,12nm,0.6s,baz=10.0,slow=16,SNR=6.0						
KURK				⇓Lg		04 37 10.5	
	comp=Z,34nm,0.6s,baz=170,slow=16,SNR=7.8						
KURK	Kurchatov	5.85	278	Pn	Pn	04 35 34.2	+0.5
	comp=Z,112nm,0.5s,SNR=34						
KURK	Kurchatov	5.85	278	*e*PN	Pn	04 35 33.9	+0.2
KURK						04 36 43.3	
KURK						04 37 10.5	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK	Kurchatov	5.85	278	*e*Pn	Pn	04 35 34.0	+0.3
	comp=Z,8.2nm,0.4s						
KURK				*e*Sg	Sg	04 37 10.8	-9.4
WMQ	Urumqi	6.41	180	*e*PG	Pn	04 35 51.8	+10
WMQ				Smax			
	comp=N,45nm,1.0s						
WMQ				Smax			
	comp=E,48nm,0.8s						
VOSK	Vostochnaya	10.76	290	⇓Pn	P	04 36 39.8	-1.9
	comp=E,1.1nm,0.5s						
VOSK				⇓Sn	S	04 38 42.6	-0.3
	comp=E,3.6nm,0.7s						
BVA0	Borovoye Array	11.15	291	Pn	P	04 36 45.3	-1.9
	comp=E,0.3nm,0.5s,baz=110,slow=16,SNR=14						
BVA0				⇑Sn	S	04 38 48.6	-3.9
	comp=E,0.8nm,0.5s,baz=91,slow=24,SNR=8.4						
BVAR	Borovoye Array	11.15	291	Pn	P	04 36 44.9	-2.3
	comp=E,1.2nm,0.3s,baz=108,slow=16,SNR=16						
BVAR				Sn	S	04 38 46.4	-6.1
	comp=E,2.3nm,0.3s,baz=86,slow=26,SNR=8.6						
BRVK	Borovoye	11.22	291	*e*Pn	P	04 36 43.1	-5.0
	comp=E,2.0nm,0.3s						
ZRNK	Zerenda	11.97	290	⇑Pn	P	04 36 56.2	-2.1
	comp=E,2.5nm,0.8s						
ZRNK				⇑Sn	S	04 39 11.6	-1.0
	comp=E,4.0nm,0.5s						
ZRNK	Zerenda	11.97	290	*e*Pn	P	04 36 55.7	-2.6
	comp=E,1.9nm,0.3s						
ZRNK				*e*Sn	S	04 39 05.9	-6.6
SONM	Songino Array	12.47	94	Pn	P	04 37 04.1	-0.9
	comp=E,0.1nm,0.3s,baz=281,slow=13,SNR=6.0						
SONM				Pg	P	04 37 51.6	+47
	comp=E,0.1nm,0.3s,baz=290,slow=17,SNR=2.3						
SONM				Lg		04 40 35.2	
	comp=E,0.2nm,0.3s,baz=270,slow=25,SNR=7.4						
KK31	Karatay Array	13.80	246	⇑Pn	P	04 37 19.8	-2.7
	comp=E,1.6nm,0.7s,baz=49,slow=13,SNR=15						
AB31	Akbulak array	17.96	278	Pn	P	04 38 15.4	-0.5
	comp=E,0.7nm,0.5s,baz=80,slow=9.3,SNR=14						
MALT	Malatya	36.63	270	*e*P	P	04 41 13.2	+0.5
	comp=E,1.4nm,0.5s,mb4.0						
BRTR	Keskin Array B	38.90	276	P	P	04 41 31.3	-0.4
	comp=E,1.0nm,0.7s,mb3.7,baz=101,slow=6.3,SNR=6.3						
BRTR	Keskin Array B	38.90	276	P	P	04 41 31.3	-0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	42.07	315	P	P	04 41 56.8	-0.7
	comp=Z,0.6nm,0.6s,mb3.4,baz=65,slow=7.8,SNR=3.9						
NOA	NORSAR Array B	42.07	315	P	P	04 41 56.8	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	57.78	24	P	P	04 43 55.5	-2.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=302,slow=4.3,SNR=5.6						
INK	Inuvik	57.86	17	P	P	04 43 57.9	-0.2
	comp=Z,1.9nm,0.9s,mb4.1,baz=65,slow=4.4,SNR=3.7						
INK	Inuvik	57.86	17	P	P	04 43 57.9	-0.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						

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*NEIC **27** 04:40:54.9±2.7, 1.89N×127.78E, h102^{km}±27^{km}, mb4.6/11, Error ellipse: s-maj=17.3km s-min=7.3km az=65.0*
*IDC **27** 04:40:56.6±3.2, 1.87N×127.84E, h121^{km}±30^{km}, mb4.1/12, mb1 4.1/13, mb1mx4.0/18, Error ellipse: s-maj=32.1km s-min=11.4km az=71.0*

ISC 27 04:40:55.4±3.9**, 1.86N**±0.09×**127.7E**±0.1**, h122^{km}**±38^{km}**, n31, σ0^{s}83**/31**, mb4.7**/21**, 2C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	15.19	162	*e*P	P	04 44 25.0	+0.3
	5.3nm,0.5s						
FITZ	Fitzroy Crossi	19.94	186	*e*P	P	04 45 18.5	-1.5
	7.0nm,1.0s						
FITZ	Fitzroy Crossi	19.94	186	P	P	04 45 18.4	-1.6
	0.5nm,0.3s,baz=8.3,slow=7.5,SNR=18						
WRAB	Tennant Creek	22.61	164	*e*P	P	04 45 47.6	+1.0
	20nm,0.6s,mb4.6						
WRA	Warramunga Arr	22.62	164	P	P	04 45 46.8	+0.1
	12nm,0.5s,mb4.5,baz=344,slow=11,SNR=203						
WB2	Warramunga Arr	22.62	164	⇑*i*P	P	04 45 47.8	+1.1
JOW	Kunigami	24.84	1	P	P	04 46 05.8	-2.2
	35nm,0.5s,mb5.0,baz=156,slow=20,SNR=4.1						
ASAR	Alice Springs	26.07	167	P	P	04 46 19.4	-0.1
	4.0nm,0.4s,mb4.2,baz=346,slow=7.1,SNR=68						
ASAR				ScP		04 53 10.8	
	0.6nm,0.7s,baz=335,slow=2.4,SNR=4.0						
ASPA	Alice Springs	26.07	167	⇑*i*P	P	04 46 19.4	-0.1
FORT	Forrest	32.46	179	*e*P	P	04 47 15.3	-1.0
	21nm,0.4s,mb5.2						
CMAR	Chiang Mai Arr	32.69	302	P	P	04 47 18.6	+0.1
	1.0nm,0.4s,mb4.0,baz=131,slow=7.4,SNR=5.3						
KLBR	Kellerberrin	34.59	195	*e*P	P	04 47 33.7	-0.9
	6.6nm,0.3s,mb4.9						
NWAO	Narrogin (SRO)	35.99	195	P	P	04 47 46.0	-0.5
	4.5nm,0.3s,mb4.8,baz=350,slow=7.5,SNR=9.7						
STKA	Stephens Creek	36.04	160	*e*P	P	04 47 47.3	+0.5
	4.0nm,0.6s,mb4.5						
STKA	Stephens Creek	36.04	160	P	P	04 47 46.1	-0.7
	4.1nm,0.5s,mb4.6,baz=321,slow=7.8,SNR=14						
ARMA	Armidale	39.36	147	*e*P	P	04 48 16.7	+2.1
GUN	Gumba	47.63	307	*e*P	P	04 49 22.2	+0.9
	16nm,0.4s,mb5.2						
PKI	Pulchoki	47.87	306	*e*P	P	04 49 23.0	-0.1
KKN	Kakani	48.06	306	*e*P	P	04 49 24.8	+0.2
	7.2nm,0.6s,mb4.7						
DMN	Daman	48.13	306	*e*P	P	04 49 25.7	+0.6
	6.2nm,0.3s,mb4.9						
GKN	Gorkha	48.67	306	*e*P	P	04 49 30.1	+0.8
	11nm,0.7s,mb4.9						
SONM	Songino Array	49.38	341	P	P	04 49 34.1	-0.3
	0.7nm,0.6s,mb3.7,baz=161,slow=7.0,SNR=3.8						
KOLN	Koldanda	49.41	306	*e*P	P	04 49 35.8	+0.8
	28nm,0.6s,mb5.4						
MKAR	Makanchi Array	59.65	325	P	P	04 50 49.2	+0.2
	3.7nm,0.4s,mb4.8,baz=113,slow=7.7,SNR=29						
RPZ	Rata Peaks	59.66	145	P	P	04 50 48.3	-0.9
	26nm,0.6s,mb5.5,baz=264,slow=7.1,SNR=15						
KURK	Kurchatov	63.84	328	P	P	04 51 16.4	-0.7
	152nm,0.4s,SNR=9.9						
KURK	Kurchatov	63.84	328	*e*P	P	04 51 16.8	-0.3
	5.3nm,0.5s,mb4.6						
BVAR	Borovoye Array	69.42	327	P	P	04 51 51.9	-0.3
	0.6nm,0.6s,mb3.6,baz=153,slow=13,SNR=3.0						
ZRNK	Zerenda	70.15	327	*e*P	P	04 51 56.3	-0.3
	2.9nm,0.5s,mb4.4						
ILAR	Eielson Array	86.35	25	P	P	04 53 25.2	+0.7
	0.2nm,0.5s,baz=250,slow=5.0,SNR=5.2						
ARCES	ARCESS Array B	92.54	340	P	P	04 53 53.4	-0.3
	0.7nm,0.6s,mb4.2,baz=68,slow=6.5,SNR=5.2						

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*IDC **27** 04:45:15.8±1.1, 6.24S×145.50E, h111^{km}±8^{km}, mb3.8/8, mb1 4.0/10, mb1mx3.9/13, Error ellipse: s-maj=31.2km s-min=15.7km az=101.0*

*NEIC **27** 04:45:16.2±0.7,6.19S×145.37E,h110^{km},mb4.4/7,Error ellipse: s-maj=18.3km s-min=10.3km az=108.0*

ISC 27 04:45:14.2±4.9,**6.2S**±0.1×**145.4E**±0.2,**h105**^{km}±40^{km},**n21, σ0^{s}60**/21,**mb4.0**/9,**1D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.84**	**177**	*e*P	**P**	**04 48 36.9**	**+10**
	8.6nm,0.6s						
CTA	**Charters Tower**	**13.84**	**177**	P	**P**	**04 48 28.3**	**+1.4**
	0.2nm,0.3s,baz=348,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**13.84**	**177**	*e*P	**P**	**04 48 33.4**	**+6.5**
	8.7nm,0.5s						
KAKA	**Kakadu**	**14.35**	**242**	*e*P	**P**	**04 48 33.5**	**-0.1**
	54nm,0.5s						
WRAB	**Tennant Creek**	**17.37**	**217**	*e*P	**P**	**04 49 11.4**	**0.0**
	25nm,0.8s						
WB2	**Warramunga Arr**	**17.38**	**217**	⇓*i*P	**P**	**04 49 11.7**	**+0.2**
WRA	**Warramunga Arr**	**17.38**	**217**	P	**P**	**04 49 11.4**	**-0.2**
	1.0nm,0.3s,baz=40,slow=12,SNR=59						
WRA				pP		04 49 33.4	
	0.2nm,0.3s,baz=45,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**20.59**	**211**	P	**P**	**04 49 47.0**	**+0.2**
	4.6nm,0.6s,baz=42,slow=9.6,SNR=27						
ASAR				pP		04 50 05.8	
	5.1nm,0.9s,baz=45,slow=12,SNR=3.2						
ASPA	**Alice Springs**	**20.59**	**211**	*e*P	**P**	**04 49 45.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**22.62**	**237**	*e*P	**P**	**04 50 07.1**	**+0.2**
	4.9nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**22.62**	**237**	P	**P**	**04 50 06.5**	**-0.4**
	6.5nm,0.8s,mb4.0,baz=114,slow=3.3,SNR=11						
STKA	**Stephens Creek**	**25.80**	**187**	*e*P	**P**	**04 50 37.8**	**+0.6**
	4.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**25.80**	**187**	P	**P**	**04 50 36.5**	**-0.8**
	4.3nm,0.5s,mb4.1,baz=6.1,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**51.94**	**299**	P	**P**	**04 54 15.3**	**+0.5**
	3.1nm,0.7s,mb4.5,baz=122,slow=6.0,SNR=14						
CASY	**Casey**	**64.66**	**195**	*e*P	**P**	**04 55 42.1**	**-0.5**
	2.3nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**76.63**	**321**	P	**P**	**04 56 55.4**	**+0.3**
	0.6nm,0.3s,mb3.7,baz=97,slow=8.2,SNR=11						
MAW	**Mawson**	**81.46**	**203**	P	**P**	**04 57 20.8**	**+0.1**
	2.2nm,0.8s,mb4.0,baz=140,slow=6.9,SNR=3.8						
QSPA	**South Pole Qui**	**83.78**	**180**	*e*P	**P**	**04 57 33.4**	**+1.1**
	6.3nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**85.99**	**324**	P	**P**	**04 57 44.0**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=121,slow=8.4,SNR=3.2						
BVAR	**Borovoye Array**	**85.99**	**324**	P	**P**	**04 57 44.0**	**+0.2**
ILAR	**Eielson Array**	**86.29**	**23**	P	**P**	**04 57 43.9**	**-1.1**
	0.6nm,0.7s,mb3.6,baz=261,slow=5.0,SNR=9.3						
ILAR				pP	pP	04 58 14.0	+1.3
	0.5nm,0.6s,baz=251,slow=4.8,SNR=5.3						

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*IDC **27** 05:38:32.6±1.9,0.69S×128.18E,mb3.4/3,mb1 3.7/3, mb1mx3.5/13,Error ellipse: s-maj=129.0km s-min=25.0km az=67.0*

ISC 27 05:38:36.7±2.2,**1.2S**±0.5×**127.0E**±0.8,**h33**^{km},**n8,σ0^{s}87**/8, **mb4.7**/7,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.98**	**160**	P	**P**	**05 43 08.1**	**-1.1**
	0.4nm,0.5s,baz=343,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**23.33**	**164**	P	**P**	**05 43 44.2**	**+1.2**
	1.2nm,0.6s,mb3.5,baz=342,slow=9.4,SNR=12						
PKI	**Pulchoki**	**49.16**	**309**	*e*P	**P**	**05 47 24.2**	**+0.5**
	6.3nm,0.3s,mb5.1						
KKN	**Kakani**	**49.36**	**309**	*e*P	**P**	**05 47 25.4**	**+0.1**
	4.3nm,0.2s,mb5.1						
DMN	**Daman**	**49.41**	**309**	*e*P	**P**	**05 47 25.5**	**-0.2**
	8.6nm,0.4s,mb5.1						
GKN	**Gorkha**	**49.96**	**309**	*e*P	**P**	**05 47 29.8**	**-0.1**
	5.5nm,0.3s,mb5.1						
KOLN	**Koldanda**	**50.67**	**308**	*e*P	**P**	**05 47 31.8**	**-3.5**
	3.8nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**61.76**	**327**	P	**P**	**05 48 54.7**	**+0.2**
	0.5nm,0.4s,mb4.0,baz=110,slow=6.5,SNR=9.8						

IDC 27 06:12:37.1±3.3,**13.45S**×**170.26E,h612**^{km}±36^{km},**mb2.8**/4, **mb1 3.0**/4,**mb1mx2.8**/13,**Error ellipse: s-maj=99.3km s-min=26.8km az=149.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.03**	**230**	P	P	06 18 15.3	-1.6
	1.4nm,0.8s,baz=53,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**34.95**	**254**	P	P	06 18 40.1	-1.2
	0.4nm,0.3s,baz=86,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**35.84**	**248**	P	P	06 18 47.4	-1.1
	0.6nm,0.3s,baz=75,slow=9.7,SNR=7.6						
ASAR				ScP		06 23 46.0	
	0.3nm,0.6s,baz=91,slow=3.4,SNR=4.9						
NVAR	**Mina Array Bea**	**84.25**	**48**	P	P	06 24 06.0	-0.9
	0.4nm,0.7s,baz=239,slow=10,SNR=2.7						

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*IDC **27** 06:17:34.4±0.8,36.65N×87.83E,mb3.8/9,mb1 4.0/11, mb1mx3.9/21,ML3.7/2,Error ellipse: s-maj=29.8km s-min=15.1km az=61.0*

*NEIC **27** 06:17:36.1±0.5,36.61N×87.75E,h10^{km},mb3.7/3,Error ellipse: s-maj=16.8km s-min=7.7km az=57.0*

*BJI **27** 06:17:42.6,37.00N×87.96E,h38^{km},ML4.2,Ms4.3, Msz4.0*

ISC 27 06:17:34.4±7.3,**36.6N**±0.1×**87.7E**±0.2,**h12**^{km}±47^{km},**n16, σ0^{s}73**/16,**mb3.8**/7,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**9.71**	**291**	*e*P	**P**	**06 20 05.5**	**+8.6**
MKAR	**Makanchi Array**	**10.95**	**340**	Pn	**P**	**06 20 12.4**	**-1.5**
	0.2nm,0.3s,baz=156,slow=15,SNR=7.5						
MKAR				Lg		06 23 20.7	
	0.1nm,0.3s,baz=148,slow=27,SNR=3.1						
MKAR	**Makanchi Array**	**10.95**	**340**	Pn	**P**	**06 20 12.4**	**-1.5**
MKAR				Lg		06 23 20.7	
KURK	**Kurchatov**	**15.55**	**338**	P	**P**	**06 21 15.0**	**+0.2**
	1.8nm,0.7s						
SONM	**Songino Array**	**17.76**	**45**	Pn	**P**	**06 21 43.8**	**+0.9**
	0.1nm,0.3s,baz=236,slow=13,SNR=29						
SONM				Lg		06 26 53.7	
	0.1nm,0.3s,baz=238,slow=32,SNR=4.4						
BVAR	**Borovoye Array**	**20.42**	**329**	P	**P**	**06 22 13.8**	**-0.1**
	1.6nm,0.7s,baz=124,slow=11,SNR=8.7						
BRVK	**Borovoye**	**20.49**	**329**	*e*P	**P**	**06 22 14.9**	**+0.3**
	5.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.61**	**148**	P	**P**	**06 22 16.2**	**+0.2**
	1.1nm,0.4s,baz=321,slow=9.1,SNR=5.8						
ZRNK	**Zerenda**	**20.96**	**327**	*e*P	**P**	**06 22 20.1**	**+0.7**
	3.3nm,0.9s						
BRTR	**Keskin Array B**	**42.10**	**291**	P	**P**	**06 25 28.4**	**+0.7**
	0.3nm,0.4s,mb3.3,baz=98,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**46.55**	**335**	P	**P**	**06 26 02.9**	**-0.2**
	2.8nm,0.9s,mb4.2,baz=34,slow=8.7,SNR=5.2						
FITZ	**Fitzroy Crossi**	**65.14**	**140**	P	**P**	**06 28 16.7**	**-0.8**
	1.4nm,1.0s,mb4.0,baz=336,slow=12,SNR=2.1						
ILAR	**Eielson Array**	**70.32**	**22**	P	**P**	**06 28 48.7**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=316,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**71.42**	**134**	P	**P**	**06 28 55.5**	**-1.1**
	0.7nm,0.8s,mb3.7,baz=329,slow=6.0,SNR=7.2						
ASAR	**Alice Springs**	**74.11**	**137**	P	**P**	**06 29 13.4**	**+1.0**
	0.8nm,0.8s,mb3.7,baz=325,slow=7.3,SNR=5.9						
YKA	**Yellowknife Ar**	**79.62**	**10**	P	**P**	**06 29 42.3**	**0.0**
	1.3nm,1.0s,mb3.8,baz=350,slow=5.6,SNR=3.6						

IDC 27 06:24:24.4±45.0,**16.13S**×**176.77W,mb4.3**/3,**mb1 4.4**/3, **mb1mx4.0**/14,**Error ellipse: s-maj=836.0km s-min=149.2km az=78.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.87**	**240**	*e*P	P	06 32 09.1	-0.7
	1.5nm,0.4s						
STKA	**Stephens Creek**	**40.87**	**240**	P	P	06 32 08.7	-1.2
	1.8nm,0.4s,baz=91,slow=11,SNR=10						
WRA	**Warramunga Arr**	**46.52**	**258**	P	P	06 32 53.5	-2.2
	1.0nm,0.8s,baz=94,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**46.80**	**253**	P	P	06 32 56.1	-1.8
	6.6nm,0.6s,baz=88,slow=8.1,SNR=112						
ASPA	**Alice Springs**	**46.80**	**253**	*e*P	P	06 32 56.0	-1.9
KAKA	**Kakadu**	**49.25**	**267**	*e*P	P	06 33 16.7	-0.5
	5.3nm,0.4s						

IDC 27 06:36:25.2±2.0,**15.52S**×**166.03E,mb3.7**/4,**mb1 3.9**/4, **mb1mx3.7**/13,**Error ellipse: s-maj=114.0km s-min=36.6km az=154.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.57**	**229**	P	P	06 42 14.2	-1.8
	0.8nm,0.5s,baz=92,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**30.47**	**257**	P	P	06 42 40.5	-1.7
	0.5nm,0.8s,baz=82,slow=7.4,SNR=7.0						
ASAR	**Alice Springs**	**31.27**	**250**	P	P	06 42 46.5	-2.7
	0.5nm,0.5s,baz=77,slow=9.2,SNR=5.0						
TXAR	**Lajitas Array**	**97.71**	**62**	P	P	06 50 02.5	-1.3
	0.2nm,0.8s,baz=243,slow=4.0,SNR=3.4						

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*ISK **27** 06:45:17.1,37.35N×37.27E,h8^{km},MD3.1*

*NSSC **27** 06:45:23.6,37.18N×36.99E,h13^{km}±10^{km}*

ISC 27 06:45:18.3±0.5,**37.31N**±0.03×**37.28E**±0.04,**h7**^{km}±4^{km}, **n18,σ0^{s}97**/32,**1C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**201**	*i* PG	**Pg**	**06 45 21.4**	**-0.2**
GAZ				*i* SG	**Sg**	**06 45 24.4**	**+0.6**
GZT	**Gaziantep**	**0.23**	**80**	*i* P	**Pg**	**06 45 22.3**	**-0.8**
GZT				*i* S	**Sg**	**06 45 26.0**	**-0.3**
KAHT	**Ahir Dag**	**0.45**	**315**	*i* P	**Pg**	**06 45 27.1**	**-0.4**
KAHT				*i* S	**Sg**	**06 45 33.8**	**+0.3**
DRWC	**Darouich**	**0.85**	**216**	⇑P	**Pb**	**06 45 34.9**	**0.0**
DRWC				⇑S	**Sb**	**06 45 45.0**	**-1.3**
COBT	**Iskenderun**	**1.14**	**226**	⇑*i*P	**Pb**	**06 45 39.8**	**-0.2**
COBT				*i* S	**Sb**	**06 45 56.1**	**+1.3**
CEYT	**Ceyhan**	**1.26**	**257**	*e*PN	**Pn**	**06 45 42.0**	**-0.3**
MALT	**Malatya**	**1.35**	**42**	PN	**Pn**	**06 45 42.9**	**-0.7**
MALT				SN	**Sn**	**06 46 00.6**	**-1.3**
MALT	**Malatya**	**1.35**	**42**	*i* P	**Pb**	**06 45 42.7**	**-0.8**
MALT				*i* S	**Sb**	**06 46 01.6**	**+0.7**
MYA	**Malataya**	**1.36**	**42**	PN	**Pn**	**06 45 43.2**	**-0.5**
BTCH	**Batrach**	**1.43**	**208**	⇓P	**Pn**	**06 45 45.2**	**+0.4**
BTCH				⇑S	**Sb**	**06 46 02.2**	**-1.1**
HTY	**Hatay**	**1.50**	**218**	PN	**Pn**	**06 45 44.8**	**-1.0**
HTY				SN	**Sn**	**06 46 06.3**	**+0.5**
ARNB	**Al Arnab**	**1.79**	**216**	⇑P	**Pn**	**06 45 50.5**	**+0.6**
ARNB				⇑S	**Sn**	**06 46 11.8**	**-1.4**
ELZG	**Elazig**	**1.79**	**48**	*i* P	**Pn**	**06 45 49.3**	**-0.7**
ELZG				*i* S	**Sn**	**06 46 14.7**	**+1.6**
SLNF	**Slenfeh**	**1.92**	**207**	⇑P	**Pn**	**06 45 53.1**	**+1.4**
SLNF				⇑S	**Sn**	**06 46 15.4**	**-0.9**
WRDH	**Warideh**	**1.93**	**201**	⇑P	**Pn**	**06 45 53.6**	**+1.7**
AVNT	**Avonos**	**2.41**	**308**	*i* P	**Pn**	**06 46 02.6**	**+3.8**
AVNT				*i* S	**Sn**	**06 46 34.5**	**+5.7**
BIDA	**Albida**	**2.42**	**199**	⇓P	**Pn**	**06 45 59.7**	**+0.8**
BEST	**Besiri**	**3.22**	**78**	*i* P	**Pn**	**06 46 12.6**	**+2.2**
BEST				*i* S	**Sn**	**06 46 59.3**	**+10**

IDC 27 06:59:17.8±2.1,**5.76S**×**129.74E,mb3.8**/1,**mb1 4.5**/4, **mb1mx4.1**/11,**ML4.3**/3,**Error ellipse: s-maj=93.3km s-min=27.1km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.90**	**198**	Pn	P	07 02 23.2	-2.1
	2.7nm,0.3s,baz=22,slow=8.6,SNR=93						
FITZ				Sn	S	07 04 33.9	-17
	2.2nm,0.3s,baz=352,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**14.79**	**163**	Pn	P	07 02 47.9	-2.4
	0.6nm,0.3s,baz=345,slow=13,SNR=35						
WRA				Sn	S	07 05 19.9	-16
	1.4nm,0.3s,baz=332,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**18.25**	**168**	P	P	07 03 32.4	-2.0
	2.5nm,0.3s,baz=344,slow=10,SNR=72						
ASAR				S	S	07 06 44.2	-12
	0.5nm,0.3s,baz=348,slow=25,SNR=6.1						
MKAR	**Makanchi Array**	**67.06**	**327**	P	P	07 10 13.1	-2.1
	0.5nm,0.4s,baz=116,slow=7.9,SNR=9.0						

OTT 27 07:15:43.3±0.1,**64.74N**×**86.38W,h18**^{km},**MN3.0**/24, **Wager Bay region Nu 169km northwest from Coral Harbour, Nu (Aftershock) Boothia Ungava Seismic Zone.,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGL	**Igloolik**	**4.99**	**19**	PN	Pn	07 16 56.4	-2.9
IGL				SN	Sn	07 17 51.1	-6.2
IGL				LG		07 18 18.4	
IGL				Trac		07 18 23.4	
	comp=Z,17nm,0.2s						
FCC	**Fort Churchill**	**7.02**	**215**	PN	Pn	07 17 24.0	-3.8
FCC				SN	Sn	07 18 38.5	-9.4
FCC				LG		07 19 21.4	
FCC				Trac		07 19 32.1	
	comp=Z,3.8nm,0.2s						
FRB	**Frobisher Bay**	**7.83**	**89**	PN	Pn	07 17 35.6	-3.5
FRB				SN	Sn	07 18 58.3	-10
FRB				LG		07 19 48.0	
FRB				Trac		07 19 53.0	
	comp=Z,6.9nm,0.4s						
PINU	**Pond Inlet**	**8.55**	**17**	PN	P	07 17 28.9	-20
PINU				SN	Sn	07 18 58.4	-28
PINU				LG		07 19 55.3	
GLWN	**Glow Worm Lake**	**9.79**	**280**	PN	P	07 18 02.9	-3.3
GLWN				SN	Sn	07 19 45.0	-12
GLWN				LG		07 20 50.4	
GLWN				Trac		07 20 55.8	
	comp=Z,4.0nm,0.3s						
KNDN	**Kennady Lake**	**10.06**	**273**	PN	P	07 18 05.1	-4.8
KNDN				SN	S	07 19 51.2	-12
KNDN				LG		07 20 55.0	
KNDN				Trac		07 20 55.6	
	comp=Z,3.1nm,0.3s						
MGTN	**Margaret Lake**	**10.15**	**275**	PN	P	07 18 06.6	-4.5
MGTN				SN	S	07 19 52.3	-13
MGTN				Trac		07 20 26.3	
	comp=Z,3.5nm,0.1s						
BOXN	**Box Lake**	**10.16**	**276**	PN	P	07 18 07.2	-3.9
BOXN				LG		07 20 59.6	
BOXN				Trac		07 21 00.4	
	comp=Z,3.4nm,0.5s						
MLON	**Marlo Lake**	**10.20**	**276**	PN	P	07 18 07.1	-4.7
MLON				SN	S	07 19 52.8	-14
MLON				LG		07 21 02.2	
MLON				Trac		07 21 04.0	
	comp=Z,1.9nm,0.2s						
LGSN	**Lac de Gras So**	**10.21**	**279**	PN	P	07 18 07.6	-4.3
LGSN				SN	S	07 19 54.1	-13
LGSN				Trac		07 21 05.6	
	comp=Z,2.9nm,0.3s						
MCKN	**MacKay Lake No**	**10.28**	**278**	PN	P	07 18 08.0	-4.9
MCKN				SN	S	07 19 56.7	-12
MCKN				LG		07 20 58.9	
MCKN				Trac		07 21 02.3	
	comp=Z,5.8nm,0.3s						
SILO	**Sutton Inlier**	**10.32**	**175**	PN	P	07 18 08.7	-4.7
SILO				SN	S	07 19 57.6	-12
SILO				LG		07 21 03.6	
SILO				Trac		07 21 20.9	
	comp=Z,1.3nm,0.3s						
ACKN	**Achilles Lake**	**10.40**	**282**	PN	P	07 18 10.2	-4.3
ACKN				LG		07 21 07.5	
ACKN				Trac		07 21 10.3	
	comp=Z,2.9nm,0.3s						
RES	**Resolute Bay**	**10.41**	**347**	PN	P	07 18 03.5	-11
RES				SN	S	07 19 56.6	-15
RES				Trac		07 21 23.3	
	comp=Z,1.3nm,0.3s						
LUPN	**Lupin Mine**	**10.46**	**287**	PN	P	07 18 10.8	-4.4
LUPN				LG		07 21 06.1	
LUPN				Trac		07 21 18.4	
	comp=Z,3.7nm,0.3s						
YNEN	**Yamba Lake Nor**	**10.46**	**283**	PN	P	07 18 09.8	-5.5
YNEN				SN	S	07 20 00.1	-13
YNEN				LG		07 21 07.2	
YNEN				Trac		07 21 11.2	
	comp=Z,3.0nm,0.3s						
COWN	**Contwyoto Lake**	**10.48**	**284**	PN	P	07 18 11.5	-4.2
COWN				SN	S	07 20 03.1	-11
COWN				LG		07 21 03.4	
COWN				Trac		07 21 18.9	
	comp=Z,3.3nm,0.3s						
NODN	**Nodinka Narrow**	**10.66**	**277**	PN	P	07 18 13.7	-4.4
NODN				SN	S	07 20 05.5	-12
NODN				LG		07 21 13.4	
NODN				Trac		07 21 26.1	
	comp=Z,2.8nm,0.3s						
CAMN	**Camsell Lake**	**10.69**	**276**	PN	P	07 18 13.9	-4.6
CAMN				SN	S	07 20 05.2	-14
CAMN				LG		07 21 15.1	
CAMN				Trac		07 21 17.3	
	comp=Z,2.5nm,0.3s						
YMBN	**Yamba Lake**	**10.70**	**282**	PN	P	07 18 13.9	-4.6
YMBN				SN	S	07 20 06.0	-13
YMBN				LG		07 21 16.4	
YMBN				Trac		07 21 23.1	
	comp=Z,3.0nm,0.4s						
SNPN	**Snap Lake**	**10.76**	**275**	PN	P	07 18 15.1	-4.3
SNPN				SN	S	07 20 07.8	-13
SNPN				Trac		07 20 30.6	
	comp=Z,2.0nm,0.1s						
IHLN	**Indian Hill La**	**10.82**	**274**	PN	P	07 18 15.6	-4.6
IHLN				SN	S	07 20 08.8	-13
IHLN				LG		07 21 15.7	
IHLN				Trac		07 21 23.7	
	comp=Z,3.3nm,0.5s						
KUQ	**Kuujjuuaa**	**10.84**	**119**	PN	P	07 18 14.6	-6.0
KUQ				SN	S	07 20 09.1	-13
KUQ				Trac		07 21 36.8	
	comp=Z,3.0nm,0.3s						
VIMO	**Victor Mine**	**12.03**	**172**	PN	P	07 18 32.3	-4.4
VIMO				SN	S	07 20 36.8	-15
VIMO				LG		07 22 01.2	
VIMO				Trac		07 22 11.1	
	comp=Z,1.6nm,0.4s						
DSMN	**Discovery Mine**	**12.15**	**275**	PN	P	07 18 33.4	-4.8
DSMN				LG		07 21 60.0	
DSMN				Trac		07 22 12.2	
	comp=Z,2.4nm,0.3s						
YKW3	**Yellowknife Ar**	**12.68**	**273**	PN	P	07 18 40.6	-4.7
YKW3				SN	S	07 20 52.5	-15
YKW3				LG		07 22 18.1	
YKW3				Trac		07 22 26.7	
	comp=Z,1.2nm,0.3s						
LG4Q	**La Grande 4**	**12.76**	**145**	SN	S	07 20 53.9	-15
LG4Q				Trac		07 22 28.7	
	comp=Z,1.9nm,0.3s						
PKLO	**Pickle Lake**	**13.44**	**191**	PN	P	07 18 53.6	-1.8
PKLO				SN	S	07 21 11.0	-14
SCHQ	**Schefferville**	**13.91**	**126**	PN	P	07 18 55.0	-6.5
SCHQ				Trac		07 23 07.3	
	comp=N,1.7nm,0.5s						
RDLO	**Red Lake**	**14.35**	**200**	PN	P	07 19 03.8	-3.5
ULM	**Lac du Bonnet**	**15.37**	**204**	PN	P	07 19 12.7	-7.8
ULM				Trac		07 23 54.7	
	comp=Z,1.1nm,0.5s						

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*NEIC **27** 07:23:24.8±0.8,50.29N×18.79E,h5^{km},MG2.5(WAR), Error ellipse: s-maj=12.1km s-min=6.2km az=191.0*

*WAR **27** 07:23:25.3,50.26N×18.88E,ML2.7,Mining Induced*

*PRU **27** 07:23:26.0,50.25N×18.80E*

ISC 27 07:23:23.3±0.6,**50.29N**±0.04×**18.79E**±0.04,**n17,σ1^{s}11**/29, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.43**	**242**	*e*PG	**Pg**	**07 23 36.0**	**+4.1**
RAC				*e*(SG)	**Sg**	**07 23 43.0**	**+5.3**
OKC	**Ostrava-Krasne**	**0.61**	**223**	*e*PG	**Pg**	**07 23 37.6**	**+2.1**
OJC	**Ojcow**	**0.65**	**95**	*e*PG	**Pg**	**07 23 37.0**	**+0.7**
OJC				*i* SG	**Sg**	**07 23 45.3**	**+0.3**
OJC	**Ojcow**	**0.65**	**95**	*e*Pg	**Pg**	**07 23 37.2**	**+0.9**
OJC				*i* Sg	**Sg**	**07 23 45.3**	**+0.3**
MORC	**Moravsky Berou**	**0.95**	**238**	*e*Pn	**Pn**	**07 23 43.1**	**-0.6**
MORC				*e*Sn	**Sn**	**07 23 56.8**	**-1.4**
LIKS	**Likavka**	**1.25**	**170**	*e*SG	**Sg**	**07 24 06.7**	**+1.7**
NIE	**Niedzica**	**1.31**	**131**	*e*PG	**Pg**	**07 23 48.0**	**-1.5**
NIE				*i* SG	**Sg**	**07 24 06.2**	**-0.8**
DPC	**Dobruska-Polom**	**1.58**	**273**	*e*PG	**Pg**	**07 23 54.3**	**-0.6**
DPC				*e*SG	**Sg**	**07 24 15.9**	**-0.1**
	49nm,0.6s						
KSP	**Ksiaz**	**1.69**	**290**	*e*PG	**Pg**	**07 23 58.0**	**+1.0**
KSP				*e*(SG)	**Sg**	**07 24 21.0**	**+1.5**
KSP	**Ksiaz**	**1.69**	**290**	*e*Pg	**Pg**	**07 23 57.9**	**+0.9**
KSP				*e*Sg	**Sg**	**07 24 20.6**	**+1.1**
UPC	**Upice**	**1.79**	**278**	*e*SG	**Sg**	**07 24 22.1**	**-0.8**
VYHS	**Vyhne**	**1.79**	**179**	*e*PG	**Pg**	**07 23 59.6**	**+0.5**
VYHS				*e*SG	**Sg**	**07 24 23.2**	**+0.2**
KWP	**Kalwaria**	**2.61**	**103**	*e*Pg	**Pg**	**07 24 15.1**	**-0.4**
PRU	**Pruhonice**	**2.75**	**265**	*e*PG	**Pg**	**07 24 17.4**	**-0.8**
PRU				SG	**Sg**	**07 24 51.1**	**-3.7**
	12nm,0.6s						
BRG	**Berggiesshubel**	**3.15**	**283**	*i* Pg	**Pg**	**07 24 25.4**	**-0.7**
BRG				*i* Sg	**Sg**	**07 25 07.6**	**-0.4**
KHC	**Kasperske Hory**	**3.57**	**253**	*e*PG	**Pg**	**07 24 29.5**	**-5.2**
KHC				*e*SG	**Sg**	**07 25 18.7**	**-3.6**
CLL	**Collm**	**3.81**	**288**	*e*SG	**Sg**	**07 25 32.0**	**+1.8**

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*MDD **27** 08:02:58.9±0.2,42.44N×0.57E,h6^{km}±5^{km},mbLg1.6/13, Error ellipse: s-maj=2.0km s-min=1.7km az=57.0,PRXIMO*

*STR **27** 08:02:58.3±0.1,42.45N×0.56E,h10^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **27** 08:02:58.8±0.1,42.45N×0.59E,h2^{km},Md2.2/2,Ml2.3/5, Error ellipse: s-maj=2.6km s-min=1.4km az=33.0*

ISC 27 08:02:57.5±0.4,**42.45N**±0.03×**0.61E**±0.03,**h6**^{km},**n22, σ0^{s}84**/30,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRA	**Graus**	**0.33**	**221**	Pg	**Pg**	**08 03 03.8**	**-0.5**
	2.7nm,0.2s,SNR=7.9						
EGRA				Lg		08 03 08.9	
	11nm,0.3s,SNR=7.9						
CSOR	**Sort**	**0.39**	**100**	Pg	**Pg**	**08 03 06.5**	**+1.1**
CSOR				Lg		08 03 13.2	
	7.4nm,0.1s						
RESF	**Ens**	**0.41**	**331**	Pg	**Pg**	**08 03 06.3**	**+0.5**
RESF				Sg	**Sg**	**08 03 12.2**	**+0.8**
MELF	**Melles**	**0.44**	**14**	Pg	**Pg**	**08 03 07.2**	**+0.9**
MELF				Sg	**Sg**	**08 03 13.8**	**+1.6**
SALF	**Salau**	**0.53**	**53**	Pg	**Pg**	**08 03 08.9**	**+0.8**
SALF				Lg		08 03 16.6	
CORG	**Organya**	**0.57**	**112**	Pg	**Pg**	**08 03 09.6**	**+0.8**
CORG				Lg		08 03 18.5	
	2.2nm,0.1s						
CAVN	**Les Avellanes**	**0.57**	**170**	Pg	**Pg**	**08 03 09.0**	**0.0**
CAVN				Lg		08 03 17.0	
	22nm,0.2s						
VIEF	**Viey**	**0.62**	**315**	Pg	**Pg**	**08 03 09.6**	**-0.2**
VIEF				Lg		08 03 17.8	
EPF	**Esparros**	**0.62**	**341**	*e*Pg	**Pg**	**08 03 10.2**	**+0.3**
EPF				*e*Sg	**Sg**	**08 03 18.4**	**+0.3**
	10nm,0.2s						
LABF	**Labassere**	**0.72**	**327**	Pg	**Pg**	**08 03 11.8**	**-0.1**
LABF				Sg	**Sg**	**08 03 21.5**	**0.0**
EMIR	**Miracle**	**0.86**	**128**	Pg	**Pg**	**08 03 15.6**	**+0.9**
	0.1nm,0.1s,SNR=6.1						
EMIR				Lg		08 03 28.6	
	3.7nm,0.1s,SNR=6.3						
ETSF	**Etsaut**	**0.97**	**298**	*e*Pg	**Pg**	**08 03 17.2**	**+0.2**
ETSF				*e*Sg	**Sg**	**08 03 30.1**	**+0.1**
	6.9nm,0.2s						
ESAC	**San Caprasio**	**1.08**	**228**	Pg	**Pg**	**08 03 18.7**	**-0.5**
	2.3nm,0.1s,SNR=7.9						
ESAC				Lg		08 03 34.5	
	30nm,0.2s,SNR=7.9						
CARF	**Carcanieres**	**1.14**	**76**	Lg		08 03 36.9	
EPOB	**Poblet**	**1.15**	**162**	Pg	**Pg**	**08 03 20.1**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		08 03 35.3	
	3.6nm,0.1s,SNR=7.9						
CBRU	**Bruguera**	**1.17**	**97**	Pn	**Pn**	**08 03 21.1**	**+0.8**
MTLF	**Montolieu**	**1.48**	**52**	*e*Pg	**Pg**	**08 03 26.6**	**-0.5**
MTLF				*e*Sg	**Sg**	**08 03 45.3**	**-1.5**
	3.7nm,0.2s						
SJPF	**Ste Jean**	**1.51**	**297**	*e*Pg	**Pg**	**08 03 27.5**	**-0.1**
SJPF				*e*Sg	**Sg**	**08 03 46.5**	**-1.2**
	3.8nm,0.2s						
EJON	**La Jonquera**	**1.69**	**89**	Pg	**Pg**	**08 03 30.7**	**-0.5**
	0.5nm,0.1s,SNR=7.9						
EJON				Lg		08 03 54.7	
	3.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.74**	**297**	Pn	**Pn**	**08 03 28.6**	**+0.2**
	5.4nm,0.3s,SNR=7.9						

EALK				Lg		08 03 54.2	
	4.9nm,0.3s,SNR=7.9						
CAF	**Calviac**	2.69	23	*e*Pn	Pn	08 03 41.5	-0.6
CAF				*e*Sn	Sn	08 04 12.2	-3.1
	2.4nm,0.2s						
LASF	**Ste Croix**	2.88	54	*e*Pn	Pn	08 03 44.2	-0.5
LASF				*e*Sn	Sn	08 04 17.3	-2.7
	0.9nm,0.2s						

THE 27 08:10:53.9,41.54N×19.70E,h10^{km},ML3.5

PDG 27 08:10:54.0±0.3,41.47N×19.53E,h9^{km}

NEIC 27 08:10:54.0,41.47N×19.53E,h9^{km},MD3.5(PDG),ML3.5(THE),After PDG.

ISC 27 08:10:52.9±0.5,41.44N±0.02×19.53E±0.02,h8^{km}±3^{km},n51,σ1^{s}22/86,11C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	0.56	338	⇑*i*Pg	Pg	08 11 04.2	0.0
ULC				*e*Sg	Sg	08 11 12.6	+0.9
BUM	**Brajici-Budva**	0.98	331	⇓*i*Pg	Pg	08 11 11.9	-0.6
BUM				*e*Sg	Sg	08 11 26.8	+1.2
TTG	**Podgorica**	1.01	349	⇑*i*Pg	Pg	08 11 12.0	-1.1
TTG				*e*Sg	Sg	08 11 27.5	+0.9
OHR	**Ohrid**	1.01	109	*i* Pg	Pg	08 11 11.2	-2.0
OHR				*i*		08 11 15.7	
OHR				*i* Sg	Sg	08 11 27.7	+1.0
PVY	**Plav**	1.20	16	⇑*i*Pg	Pg	08 11 15.8	-1.1
PVY				*e*Sg	Sg	08 11 34.2	+1.3
HCY	**Herceg Novi**	1.27	323	⇑*i*Pg	Pg	08 11 17.2	-1.0
HCY				*e*Sg	Sg	08 11 36.6	+1.4
BIA	**Bitola**	1.42	107	*e*Pn	Pn	08 11 20.9	+1.8
BIA				*i*		08 11 21.2	
BIA				*i* Sg	Sg	08 11 39.8	-0.4
NKY	**Niksic**	1.43	344	⇑*i*Pg	Pg	08 11 19.9	-1.5
NKY				*e*Sg	Sg	08 11 41.7	+1.2
IVA	**Berane**	1.46	11	⇑*i*Pg	Pg	08 11 20.0	-2.0
IVA				*e*Sg	Sg	08 11 42.6	+1.2
SKO	**Skopje**	1.53	69	*e*Pn	Pn	08 11 21.7	+1.0
SKO				*i* Sg	Sg	08 11 40.9	-2.9
SKO				*i*		08 11 42.0	
SKO				Lg		08 11 45.0	
	comp=Z,0.2nm,0.5s						
LCI	**Lecce**	1.54	225	*e*Pn	Pn	08 11 23.2	+2.3
LCI				*e*Sn	Sn	08 11 43.5	+2.3
FNA	**Florina**	1.54	115	*e*Pb	Pb	08 11 21.5	+0.1
	comp=Z,7.7nm,0.7s						
FNA				*e*Sb	Sb	08 11 43.0	+2.1
BRY	**Bratogost**	1.63	334	*e*Pn	Pn	08 11 23.5	+1.3
BRY				*e*Sn	Sn	08 11 47.4	+3.9
KEK	**Kerkira**	1.74	173	*e*P	Pn	08 11 26.3	+2.6
UPM	**Unac-Piva**	1.82	346	⇓*i*Pn	Pn	08 11 26.2	+1.4
UPM				*e*Sn	Sn	08 11 51.7	+3.4
PLE	**Pljevlja**	1.89	357	⇑*i*Pn	Pn	08 11 27.5	+1.6
PLE				*e*Sn	Sn	08 11 53.3	+3.2
STON	**Ston**	1.97	317	*i* Pn	Pn	08 11 26.7	-0.3
STON				*i* Sn	Sn	08 11 51.4	-0.8
IGT	**Igoumenitsa**	2.00	162	*e*Pn	Pn	08 11 28.7	+1.2
IGT				*e*Sn	Sn	08 11 56.9	+3.9
KZN	**Kozani**	2.04	123	*e*P	Pn	08 11 31.2	+3.1
JAN	**Janina**	2.05	150	*e*P	Pn	08 11 30.8	+2.7
NVSS	**Nova Varos 2**	2.07	3	⇑*i*Pn	Pn	08 11 27.7	-0.7
NVSS				Sn	Sn	08 11 54.1	-0.5
MEV	**Metsovon**	2.10	141	*e*Pn	Pn	08 11 29.9	+1.0
	comp=Z,4.0nm,0.3s						
MEV				*e*Sn	Sn	08 11 58.5	+3.0
BARS	**Barje**	2.19	50	⇑*i*Pn	Pn	08 11 30.0	-0.2
BARS				Sn	Sn	08 11 57.4	-0.4
GRG	**Griva**	2.22	102	*e*Pn	Pn	08 11 30.8	+0.2
GRG				*e*Sn	Sn	08 11 57.9	-0.6
KNT	**Kendrikon**	2.55	95	*e*Pn	Pn	08 11 35.3	0.0
KNT				*e*Sn	Sn	08 12 06.1	-0.9
GRUS	**Gruza**	2.60	19	⇑*i*Pn	Pn	08 11 36.3	+0.3
GRUS				Sn	Sn	08 12 07.9	-0.2
LIT	**Litokhoron**	2.62	120	*e*Pn	Pn	08 11 37.4	+1.1
	comp=Z,2.6nm,0.6s						
LIT				*e*Sn	Sn	08 12 08.0	-0.5
DIVS	**Divcibare**	2.68	7	⇓*i*Pn	Pn	08 11 36.9	-0.2
DIVS				Sn	Sn	08 12 13.1	+3.0
THE	**Thessaloniki**	2.72	106	*e*Pn	Pn	08 11 37.1	-0.7
THE				*e*Sn	Sn	08 12 11.7	+0.4
LKD	**Levkas**	2.86	162	*e*Pn	Pn	08 11 38.8	-1.0
LKD				*e*Sn	Sn	08 12 20.5	+5.6
SOH	**Sokhos**	2.96	101	*e*Pn	Pn	08 11 40.2	-0.9
BOLS	**Boljevac**	2.99	36	⇑*i*Pn	Pn	08 11 42.8	+1.3
SRS	**Serrai**	3.08	95	*e*Pn	Pn	08 11 42.2	-0.6
SVIS	**Svilajnac**	3.11	23	*e*P	Pn	08 11 42.2	-1.1
SLCN	**Sala Consilina**	3.13	252	*e*Pn	Pn	08 11 43.2	-0.4
PLG	**Polygyros**	3.15	108	*e*P	Pn	08 11 44.1	+0.2
AGG	**Agios Georgios**	3.23	138	*e*Pn	Pn	08 11 45.0	0.0
AGG				*e*Sn	Sn	08 12 24.1	-0.1
MGR	**Morigerati**	3.29	248	*e*Pn	Pn	08 11 45.6	-0.2
SGO	**Sicignano**	3.31	256	*e*Pn	Pn	08 11 45.6	-0.6
VLS	**Valsamata**	3.36	166	*e*P	Pn	08 11 46.0	-0.9
XOR	**Xorichti**	3.48	125	*e*Pn	Pn	08 11 48.5	-0.1
PAIG	**Paliouri**	3.50	114	*e*Pn	Pn	08 11 47.9	-0.9
PAIG				*e*Sn	Sn	08 12 29.3	-1.6
OUR	**Ouranopolis**	3.55	107	*e*Pn	Pn	08 11 47.9	-1.7
OUR				*e*Sn	Sn	08 12 31.5	-0.8
SGG	**Gregorio Mates**	3.87	271	*e*Pn	Pn	08 11 54.0	-0.2
SGG				*e*Sn	Sn	08 12 40.8	+0.4
NVLJ	**Novalja**	4.63	314	*i* Pn	Pn	08 12 03.5	-1.3
NVLJ				*i* Sn	Sn	08 12 55.5	-4.0
NRCA	**Norcia**	4.97	288	*e*Pn	Pn	08 12 08.5	-1.2
NRCA				*e*Sn	Sn	08 13 06.3	-1.8
ASS	**Assisi**	5.36	290	*e*Pn	Pn	08 12 14.2	-0.9
ASS				*e*Sn	Sn	08 13 17.1	-0.7
MURB	**Monte Urbino**	5.50	292	*e*Pn	Pn	08 12 15.8	-1.3
VOY	**Vojsko**	6.14	320	*e*Pn	Pn	08 12 24.0	-2.2
VOY				*e*Sn	Sn	08 13 32.0	-5.5
PGD	**Poggio Sodo**	6.25	296	*e*Pn	Pn	08 12 27.0	-0.7
KHC	**Kasperske Hory**	8.76	333	*e*P	P	08 13 03.5	+0.7

JMA 27 08:18:20.2±0.1,42.89N×143.31E,h90^{km}±1^{km},M3.6

JMA Felt I J1.

IDC 27 08:18:20.2±1.2,42.83N×143.19E,h100^{km}±7^{km},mb3.5/8,mb1 3.8/8,mb1mx3.5/23,Error ellipse: s-maj=21.8km s-min=13.3km az=41.0

NEIC 27 08:18:21.5±1.9,43.18N×143.20E,mb4.1/1,Error ellipse: s-maj=58.5km s-min=15.5km az=179.0

ISC 27 08:18:19.2±0.4,42.88N±0.04×143.35E±0.05,h98^{km}±3^{km},h98^{km}±.9^{km}:pP-P,n26,σ0^{s}73/39,mb3.8/9,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	0.26	178	P	P	08 18 33.5	+0.1
JCH				*e*S	S	08 18 43.1	-1.0
JOB	**Onbets**	0.36	86	P	P	08 18 34.5	+0.7
JOB				*e*S	S	08 18 45.2	+0.3
JAR	**Ashorobuto**	0.52	36	P	P	08 18 35.1	+0.1
JAR				S	S	08 18 46.1	-0.8
JFR	**Furan**	0.63	298	P	P	08 18 35.4	-0.5
JFR				*e*S	S	08 18 47.5	-0.9
JBT2	**Biratori 2**	0.73	263	P	P	08 18 37.0	+0.1
JBT2				*e*S	S	08 18 49.9	-0.2
JNBK	**Urakawa-nobuka**	0.74	217	P	P	08 18 37.3	+0.3
JNBK				*e*S	S	08 18 50.2	0.0
JEM	**Erimo**	0.87	190	P	P	08 18 38.4	+0.1
JEM				*e*S	S	08 18 52.2	-0.3
JAK	**Akkeshi**	0.99	83	P	P	08 18 39.7	+0.1
JAK				*e*S	S	08 18 54.7	-0.2
JAB	**Ashibetsu**	1.04	308	P	P	08 18 40.6	+0.5
JAB				S	S	08 18 56.1	+0.3
JKK2	**Kamakawa 2**	1.09	336	P	P	08 18 40.8	+0.1
JMP	**Maruseppu**	1.13	0	P	P	08 18 41.3	+0.1
JMP				*e*S	S	08 18 57.3	-0.4
JTKR	**Abashiri--Toko**	1.17	20	P	P	08 18 41.6	-0.1
JTKR				*e*S	S	08 18 57.7	-0.8
ASAJ	**Asahikawa**	1.36	336	P	P	08 18 44.6	+0.7
	17nm,0.3s,baz=176,slow=4.1,SNR=28						
ASAJ				S	S	08 19 03.1	+0.8
	20nm,0.3s,baz=5.5,slow=8.9,SNR=8.4						
JEW	**Eniwo**	1.40	269	P	P	08 18 45.4	+0.9
JEW				*e*S	S	08 19 03.7	+0.4
JHR	**Hokuryu**	1.47	307	P	P	08 18 46.3	+1.0
JRA	**Rausu**	1.67	50	P	P	08 18 48.6	+0.7
FX1	**Attu Island--F**	22.21	53	P	P	08 23 10.0	+1.9
	4.1nm,0.5s,mb4.0,baz=252,slow=20,SNR=4.7						
MKAR	**Makanchi Array**	42.52	297	P	P	08 26 05.0	-1.2
	0.6nm,0.9s,mb3.3,baz=84,slow=8.5,SNR=4.5						
MKAR				pP	pP	08 26 27.8	-1.4
	0.3nm,0.5s,baz=95,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	42.52	297	P	P	08 26 05.0	-1.2
MKAR				pP	pP	08 26 27.8	-1.4
COLA	**College**	43.40	35	*e*P	P	08 26 12.2	-0.9
	2.3nm,0.6s,mb4.1						
ILAR	**Eielson Array**	43.82	36	P	P	08 26 16.1	-0.4
	1.7nm,0.9s,mb3.8,baz=269,slow=6.4,SNR=21						
ILAR				pP	pP	08 26 38.9	-0.7
	0.6nm,0.8s,baz=272,slow=7.4,SNR=4.1						
BVAR	**Borovoye Array**	47.90	309	P	P	08 26 47.9	-1.0
	0.4nm,0.3s,mb3.7,baz=87,slow=12,SNR=3.9						
FINES	**FINESS Array B**	64.36	332	P	P	08 28 43.9	-2.3
	0.9nm,0.8s,mb3.6,baz=76,slow=5.7,SNR=4.3						
NVAR	**Mina Array Bea**	70.38	56	P	P	08 29 25.1	+0.9
	0.7nm,0.7s,mb3.6,baz=301,slow=4.0,SNR=6.6						
PDAR	**Pinedale Array**	72.57	48	P	P	08 29 37.1	0.0
	0.9nm,0.5s,mb3.9,baz=291,slow=1.7,SNR=12						
PDAR				pP	pP	08 30 02.9	+0.5
	0.2nm,0.4s,SNR=2.1						
TXAR	**Lajitas Array**	85.42	54	P	P	08 30 47.6	+0.7
	0.6nm,0.5s,mb3.8,baz=297,slow=3.6,SNR=14						
TXAR				pP	pP	08 31 13.8	+1.0
	0.2nm,0.6s,baz=284,slow=3.2,SNR=2.9						

ROM 27 08:21:04.3±0.3,38.13N×11.99E,h5^{km},MD2.9/2,ML3.1/3,Error ellipse: s-maj=2.4km s-min=2.0km az=0.0

NEIC 27 08:21:04.4,38.13N×11.99E,h5^{km},MD2.9(ROM),ML3.5(LDG),After ROM.

LDG 27 08:21:08.2±0.6,37.89N×11.47E,h10^{km},Ml3.5/6,Error ellipse: s-maj=20.3km s-min=10.7km az=53.0

ISC 27 08:21:03.2±0.7,38.18N±0.05×11.90E±0.05,h9^{km}±6^{km},n32,σ0^{s}98/51,2D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVI	**Isola Levanzo**	0.40	118	⇓*i*PG	Pg	08 21 10.8	-0.5
LVI	**Isola Levanzo**	0.40	118	⇓*i*Pg	Pg	08 21 10.8	-0.5
ERC	**Erice**	0.56	104	*e*PG	Pg	08 21 14.3	-0.2
ERC				SG	Sg	08 21 21.9	-0.1
ERC	**Erice**	0.56	104	*e*Pg	Pg	08 21 14.3	-0.2
ERC				*e*Sg	Sg	08 21 21.9	-0.1
MTGR	**Montagna Grand**	0.73	112	*e*PG	Pg	08 21 18.6	+0.6
MTGR				SG	Sg	08 21 28.0	+0.2
MTGR	**Montagna Grand**	0.73	112	*e*Pg	Pg	08 21 18.6	+0.6
MTGR				*e*Sg	Sg	08 21 28.0	+0.2
CAVT	**Castelvetrano**	0.84	126	*e*PG	Pg	08 21 20.4	+0.4
CAVT				SG	Sg	08 21 31.0	-0.3
CAVT	**Castelvetrano**	0.84	126	*e*Pg	Pg	08 21 20.4	+0.4
CAVT				*e*Sg	Sg	08 21 31.0	-0.2
MFNL	**Monte Finestre**	0.90	115	*e*PG	Pg	08 21 22.0	+0.8
MFNL				SG	Sg	08 21 33.9	+0.8
MFNL	**Monte Finestre**	0.90	115	*e*Pg	Pg	08 21 22.1	+0.9
MFNL				*e*Sg	Sg	08 21 33.9	+0.8
CRJA	**Costa Raja**	0.95	113	*e*PG	Pg	08 21 22.7	+0.5
CRJA	**Costa Raja**	0.95	113	*e*Pg	Pg	08 21 22.7	+0.5
MMGO	**Monte Magaggia**	0.99	121	*e*PG	Pg	08 21 22.9	-0.2
MMGO				SG	Sg	08 21 35.8	-0.6
MMGO	**Monte Magaggia**	0.99	121	*e*Pg	Pg	08 21 22.9	-0.3
MMGO				*e*Sg	Sg	08 21 35.8	-0.7
USI	**Ustica**	1.14	62	*e*PN	Pn	08 21 25.7	+0.4
	560nm,0.2s						
USI	**Ustica**	1.14	62	*e*Pg	Pg	08 21 25.7	-0.2
CLTB	**Caltabellotta**	1.20	119	*e*PN	Pn	08 21 26.2	0.0
	472nm,0.4s						
CLTB	**Caltabellotta**	1.20	119	*e*Pg	Pg	08 21 26.2	-1.0
PTS	**Pantelleria**	1.36	177	*e*PN	Pn	08 21 29.1	+0.6
	180nm,0.2s						
PTS	**Pantelleria**	1.36	177	*e*Pg	Pg	08 21 29.1	-1.4
GIB	**Gibilmanna**	1.69	96	*e*PN	Pn	08 21 33.6	+0.4
GIB				SN	Sn	08 21 54.9	-0.2
GIB	**Gibilmanna**	1.69	96	*e*Pg	Pg	08 21 33.6	-3.3
GIB				*e*Sg	Sg	08 21 54.9	-4.6
CSLB	**Castelbuono**	1.72	97	*e*PN	Pn	08 21 33.8	+0.2
CSLB	**Castelbuono**	1.72	97	*e*Pg	Pg	08 21 33.8	-3.8
PGF	**Pioggiola**	4.90	334	*e*Pn	Pn	08 22 22.0	+3.1
PGF				*e*Sn	Sn	08 23 16.6	+0.2
	13nm,0.4s						
LMR	**La Mourre**	6.58	323	*e*Pn	Pn	08 22 43.4	+0.8
LMR				*e*Sn	Sn	08 23 54.5	-4.0
	8.0nm,0.4s						
SBF	**Sospel**	6.61	331	*e*Pn	Pn	08 22 44.5	+1.5
SBF				*e*Sn	Sn	08 23 56.7	-2.6
	15nm,0.5s						
FRF	**La Foret Royal**	6.69	325	*e*Pn	Pn	08 22 45.5	+1.3
FRF				*e*Pg	Pg	08 23 12.1	-4.7
FRF				*e*Sn	Sn	08 23 57.7	-3.6
	2.1nm,0.3s						
MBDF	**Montbardon**	7.59	331	*e*Pn	Pn	08 22 57.4	+0.6
MBDF				*e*Sn	Sn	08 24 22.7	-1.2
	8.8nm,0.7s						
ORIF	**Oris-en-Rattie**	8.11	328	*e*Pn	P	08 23 04.7	+0.7
LASF	**Ste Croix**	8.46	317	*e*Pn	P	08 23 08.1	-0.8
MTLF	**Montolieu**	8.97	308	*e*Pn	P	08 23 16.2	+0.2
MTLF				*e*Sn	Sn	08 24 48.9	-9.4
	2.2nm,0.3s						

DJA 27 08:23:08.1±1.0,8.13S×115.90E,h124^{km}±10^{km},MD5.5/4,ML4.5/1,2C-5D,Error ellipse: s-maj=37.5km s-min=16.9km az=167.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	0.41	149	⇓*i*Pn	P	08 23 25.9	-0.3
	79nm,0.2s						
KEDI				⇓*i*Sn	S	08 23 40.0	+0.1
RATI	**Rata**	0.69	212	⇓*i*Pn	P	08 23 26.4	-1.5
	157nm,0.3s						
RATI				⇑*i*Sn	S	08 23 40.9	-2.1
INGI	**Ingas**	1.01	227	⇑*i*Pn	P	08 23 31.8	+0.9
	655nm,0.3s						
INGI				⇓*i*Sn	S	08 23 47.3	-0.7
KELI	**Kelakatan**	1.39	266	⇓*i*Pn	P	08 23 34.5	-0.5

BER 27 08:29:35.7±2.1,69.34N×31.99E,ML2.1(NAO),Suspected explosion

NAO 27 08:29:33.7±2.9,69.36N×32.14E,ML2.1,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	1.79	169	Pn	Pn	08 30 05.8	-0.3
	baz=346,slow=11						
APA0				Lg		08 30 30.1	
	baz=358,slow=37						
ARA0	**ARCESS Array S**	2.35	277	Pn	Pn	08 30 13.9	-0.1
	baz=87,slow=14						
ARA0				Lg		08 30 45.7	
	baz=93,slow=28						

IDC 27 08:32:46.1±0.5,8.29S×120.97E,mb4.9/14,mb1 5.1/17,mb1mx5.0/21,ML5.1/3,MS4.2/15,Ms1 4.2/15,ms1mx4.0/21,Error ellipse: s-maj=27.1km s-min=10.7km az=60.0

DJA 27 08:32:50.4±0.3,8.45S×121.21E,h240^{km},MD4.7/6,ML5.3/1,Error ellipse: s-maj=9.2km s-min=7.6km az=13.0

HRVD 27 08:32:52.9±0.3,8.33S×121.27E,h41^{km}±1^{km},MW5.1/57,Centroid moment Tensor Solution. LP body waves: s27,c37;Mantle waves: s57,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.25; $M_{\theta\theta}$-3.25±.15; $M_{\phi\phi}$0.98±.20; $M_{r\theta}$-0.46±.19; $M_{\theta\phi}$-3.04±.12; $M_{\phi r}$2.88±.20; Best double couple: $M_0$5.1×10^{16} NP1:ϕ_s278°,δ54°,λ151°. NP2:ϕ_s26°,δ67°,λ40°. Principal axes: T 5.23, Plg44°, Azm247°; N -.26, Plg45°, Azm51°; P -4.97, Plg8°, Azm149°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 27 08:32:52.9,8.30S×121.30E,h51^{km},mB5.3,mb5.1,Ms4.5,Msz4.1

NEIC 27 08:32:52.9±0.3,8.32S×121.32E,mb5.1/38,Error ellipse: s-maj=9.3km s-min=5.8km az=52.0

NEIC Felt [IV] at Ruteng and [II] at Ende and Maumere. Also felt [II] at Waingapu, Sumba.

SYO 27 08:32:52.9,8.32S×121.32E,h51^{km},MB5.1

MOS 27 08:32:59.1±3.2,8.37S×121.39E,h122^{km},mb4.9/9,Error ellipse: s-maj=25.6km s-min=11.7km az=109.4

ISC 27 08:32:51.0±0.2,8.38S±0.03×121.32E±0.03,h49^{km},h49^{km}±1.7^{km}:pP-P,n161,σ1^{s}36/156,mb5.0/55,MS4.2/18,15C-21D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	1.63	218	⇑*i*Pn	P	08 33 17.5	-0.3
KUG	**Kupang**	2.86	128	*e*Pn	P	08 33 42.0	+6.7
NINI	**Niniconang**	4.23	338	⇓*i*Pn	P	08 33 58.5	+3.9
NINI				⇓*i*Sn	S	08 34 53.6	+10
NINI	**Niniconang**	4.23	338	⇓*e*Pn	P	08 33 58.5	+3.9
NINI				*i* Sn	S	08 34 53.5	+10
KEDI	**Kedomdong**	5.15	268	⇑*i*Pn	P	08 34 07.4	-0.1
KEDI	**Kedomdong**	5.15	268	⇓*e*Pn	P	08 34 07.4	-0.1
KEDI				*i* Sn	S	08 35 06.3	-0.1
TANI	**Tanete Lipujan**	5.28	339	⇓*i*Pn	P	08 34 11.9	+2.6
TANI	**Tanete Lipujan**	5.28	339	⇓*e*Pn	P	08 34 12.0	+2.7
RATI	**Rata**	5.73	266	⇓*i*Pn	P	08 34 16.2	+0.6
RATI				⇓*i*Sn	S	08 35 15.4	-5.5
RATI	**Rata**	5.73	266	⇓*e*Pn	P	08 34 16.2	+0.6
RATI				*i* Sn	S	08 35 16.9	-4.0
INGI	**Ingas**	6.12	265	⇓*i*Pn	P	08 34 21.8	+0.8
INGI				⇓*i*Sn	S	08 35 30.7	+0.1
INGI	**Ingas**	6.12	265	⇓*i*Pn	P	08 34 21.8	+0.8
INGI				*i* Sn	S	08 35 30.6	0.0
KELI	**Kelakatan**	6.75	271	⇓*i*Pn	P	08 34 29.6	-0.4
	192nm,0.3s						
KELI	**Kelakatan**	6.75	271	⇓*e*Pn	P	08 34 29.7	-0.3
KELI				*i* Sn	S	08 35 44.7	-1.7
FITZ	**Fitzroy Crossi**	10.54	157	*e*P	P	08 35 20.9	-1.3
	87nm,0.6s						
FITZ				*e*S	S	08 37 14.6	-5.2
FITZ	**Fitzroy Crossi**	10.54	157	Pn	P	08 35 21.3	-0.9
	14nm,0.3s,baz=355,slow=8.4,SNR=262						
FITZ				Sn	S	08 37 15.2	-4.6
	9.9nm,0.3s,baz=217,slow=21,SNR=4.7						
FITZ				LR	LR	08 39 24.8	
	comp=Z,341nm,20.6s,baz=310,slow=37						
KAKA	**Kakadu**	11.71	112	⇓*i*P	P	08 35 36.5	-1.6
	118nm,0.6s						
KKM	**Kota Kinabalu**	15.21	340	*e*P	P	08 36 28.0	+3.7
WRA	**Warramunga Arr**	17.06	134	P	P	08 36 46.1	-1.6
	6.4nm,0.3s,baz=308,slow=14,SNR=338						
WRA				S	S	08 39 46.2	-8.1
	1.0nm,0.3s,baz=302,slow=24,SNR=9.1						
WRA				LR	LR	08 44 47.2	
	comp=Z,1μm,18.2s,baz=305,slow=42						
WRA	**Warramunga Arr**	17.06	134	P	P	08 36 46.1	-1.6
WRA				S	S	08 39 46.2	-8.1
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,1μm,18.2s						
WRAB	**Tennant Creek**	17.06	134	*e*P	P	08 36 46.0	-1.7
	comp=Z,72nm,0.6s						
WRAB				*e*S	S	08 39 44.8	-10
WB2	**Warramunga Arr**	17.07	134	*e*P	P	08 36 45.1	-2.7
WB2				*e*S	S	08 39 44.7	-10
TBP	**Tagbilaran**	18.13	8	*e*P	P	08 37 05.0	+3.9
ASPA	**Alice Springs**	19.40	143	*e*P	P	08 37 15.3	-0.6
ASPA				*e*S	S	08 40 45.2	-1.7
ASAR	**Alice Springs**	19.40	143	P	P	08 37 18.5	+2.6
	comp=Z,7.0nm,0.3s,baz=316,slow=10,SNR=304						
ASAR				S	S	08 41 00.7	+14
	comp=Z,0.4nm,0.3s,baz=308,slow=21,SNR=4.5						
ASAR				LR	LR	08 45 48.4	
	comp=Z,583nm,20.9s,baz=318,slow=40						
ASAR	**Alice Springs**	19.40	143	P	P	08 37 18.5	+2.6
ASAR				S	S	08 41 00.7	+14
ASAR				LR	LR	08 45 48.4	
KGM	**Kluang**	20.70	299	⇓*e*P	P	08 37 31.0	+1.3
TGY	**Tagaytay City**	22.34	359	P	P	08 37 51.7	+5.6
	comp=Z,198nm,0.5s,mb5.8,baz=137,slow=1.3,SNR=6.4						
TGY	**Tagaytay City**	22.34	359	P	P	08 37 51.7	+5.6
TGY				pmax	pmax		
	comp=Z,198nm,0.5s						
FORT	**Forrest**	23.16	165	*e*P	P	08 37 55.4	+1.4
	comp=Z,317nm,0.7s,mb5.9						
KLBR	**Kellerberrin**	23.33	188	*e*P	P	08 37 56.4	+0.7
	comp=Z,52nm,0.6s,mb5.1						
KLBR				*e*S	S	08 42 04.3	+3.1
MUN	**Mundaring**	23.95	191	*e*P	P	08 38 02.3	+0.6
	comp=Z,14nm,0.5s,mb4.7						
MUN				*e*S	S	08 42 23.6	+12
IPM	**Ipoh**	23.98	302	⇑*e*P	P	08 38 02.5	+0.3
NWAO	**Narrogin (SRO)**	24.71	188	P	P	08 38 08.9	-0.2
	comp=Z,48nm,0.7s,mb5.1,baz=17,slow=9.2,SNR=29						
NWAO				S	S	08 42 41.3	+16
	comp=Z,47nm,0.7s,baz=280,slow=23,SNR=10						
NWAO				LR	LR	08 47 51.6	
	comp=Z,781nm,19.0s,MS4.2,baz=11,slow=37						
NWAO	**Narrogin (SRO)**	24.71	188	*e*P	P	08 38 09.1	-0.1
	comp=Z,27nm,0.6s,mb5.0						
NWAO				*e*		08 38 22.0	
CTA	**Charters Tower**	26.78	118	*e*P	P	08 38 30.7	+2.1
	comp=Z,18nm,0.9s,mb4.6						
CTA	**Charters Tower**	26.78	118	P	P	08 38 31.0	+2.4
	comp=Z,14nm,1.0s,mb4.5,baz=291,slow=9.2,SNR=8.9						
CTA				LR	LR	08 49 41.0	
	comp=Z,645nm,21.9s,MS4.1,baz=293,slow=37						
CTA	**Charters Tower**	26.78	118	P	P	08 38 31.0	+2.4
CTA				pmax	pmax		
	comp=Z,14nm,1.0s						
CTA				MLR	MLR		
	comp=Z,645nm,21.9s						
CTAO	**Charters Tower**	26.78	118	*e*P	P	08 38 30.6	+2.0
	comp=Z,13nm,0.9s,mb4.5						
CTAO				*e*	pP	08 38 44.2	+3.2
STKA	**Stephens Creek**	30.03	144	*e*P	P	08 38 58.9	+1.2
	comp=Z,15nm,0.6s,mb4.9						
STKA				*e*		08 39 36.1	
STKA	**Stephens Creek**	30.03	144	P	P	08 38 59.5	+1.8
	comp=Z,12nm,0.5s,mb4.9,baz=317,slow=8.9,SNR=54						
STKA				LR	LR	08 51 52.5	
	comp=Z,558nm,18.2s,MS4.2,baz=137,slow=38						
KKTK	**Khon Kaen**	30.63	323	P	P	08 39 04.4	+1.3
	comp=Z,370nm,0.6s						
ADE	**Adelaide**	30.90	151	*e*P	P	08 39 07.6	+2.3
NST	**Nakhon Sawan**	31.80	319	P	P	08 39 15.0	+1.6
BDT	**Bhumibol Dam**	33.69	319	P	P	08 39 31.0	+1.2
	comp=Z,13nm,0.8s,mb4.9						
NANT	**Nan**	33.81	323	P	P	08 39 32.0	+1.2
CM31	**Chiang Mai Arr**	34.62	321	*e*P	P	08 39 39.1	+1.3
	comp=Z,5.3nm,0.4s,mb4.8						
CMAR	**Chiang Mai Arr**	34.62	321	P	P	08 39 39.3	+1.5
	comp=Z,20nm,0.7s,mb5.1,baz=145,slow=6.7,SNR=78						
CMAR				LR	LR	08 53 21.5	
	comp=Z,248nm,21.8s,MS3.9,baz=140,slow=36						
CMAR	**Chiang Mai Arr**	34.62	321	P	P	08 39 39.3	+1.5
CMAR				pmax	pmax		
	comp=Z,20nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,248nm,21.8s						
CHG	**Chiang Mai**	34.89	321	⇑P	P	08 39 41.3	+1.2
	comp=Z,46nm,0.8s,mb5.5						
CHRT	**Chiangrai**	35.18	323	⇓P	P	08 39 45.0	+2.4
	comp=Z,763nm,0.8s						
TOO	**Toolangi**	36.37	147	*e*P	P	08 39 55.8	+3.3
	comp=Z,14nm,0.9s,mb4.9						
GYA	**Guiyang**	37.44	338	⇑*i*P	P	08 40 03.5	+1.9
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
KMI	**Kunming**	37.90	332	*e*P	P	08 40 08.3	+2.9
KMI				AP	pP	08 40 18.5	+0.1
KMI				SS	SS	08 48 27.0	-4.3
KMI				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.9						
KMI				LR	LR		
	comp=N,269nm,19.4s,MS4.2						
KMI				LR	LR		
	comp=E,303nm,22.0s,MS4.2						
KMI				LR	LR		
	comp=Z,488nm,27.2s						
KMI	**Kunming**	37.90	332	*e*P	P	08 40 08.2	+2.8
	comp=Z,32nm,1.3s,mb4.9						
KMI				pP	pP	08 40 18.6	+0.2
KMI				S	S	08 46 06.3	+13
KMI				SS	SS	08 48 26.9	-4.4
KMI				LR	LR		
	comp=Z,490nm,27.2s,MS4.2						
WHN	**Wuhan**	39.27	350	⇑P	P	08 40 20.0	+3.2

ENH	**Enshi**	**40.08**	**344**	*e*P	**P**	**08 40 24.3**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9						
ENH				*e*	pP	08 40 39.4	+2.9
JNU	**Nakatsue**	**42.26**	**12**	P	**P**	**08 40 42.0**	**+0.6**
	comp=Z,10.0nm,0.8s,mb4.5,baz=157,slow=16,SNR=3.8						
CD2	**Chengdu**	**42.54**	**337**	⇑*i*P	**P**	**08 40 45.0**	**+1.2**
CD2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.4						
XAN	**Xi'an**	**43.80**	**345**	P	**P**	**08 40 53.0**	**-1.0**
XAN				AP	pP	08 41 04.8	-2.3
XAN				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
SHL	**Shillong**	**44.26**	**321**	*e*P	**P**	**08 40 57.0**	**-0.8**
LZH	**Lanzhou**	**47.19**	**341**	*e*P	**P**	**08 41 22.5**	**+1.6**
LZH				AP	pP	08 41 37.8	+3.7
LZH				XP	sP	08 41 44.0	+4.1
LZH				AMB	AMB		
	comp=Z,45nm,1.7s,mb5.1						
LZH				AMB	AMB		
	comp=Z,161nm,4.0s						
LZH	**Lanzhou**	**47.19**	**341**	*e*P	**P**	**08 41 22.4**	**+1.5**
	comp=Z,45nm,1.7s,mb5.1						
LZH				pP	pP	08 41 37.7	+3.6
LZH				sP	sP	08 41 44.0	+4.1
MAJO	**Matsushiro**	**47.42**	**19**	*e*P	**P**	**08 41 22.5**	**-0.3**
	comp=Z,43nm,1.3s,mb5.2						
MAT	**Matsushiro**	**47.42**	**19**	P	**P**	**08 41 22.0**	**-0.7**
MAT	**Matsushiro**	**47.42**	**19**	*e*P	**P**	**08 41 22.0**	**-0.7**
	comp=Z,63nm,1.4s,mb5.3						
LSA	**Lhasa**	**47.71**	**324**	P	**P**	**08 41 25.5**	**+0.4**
LSA	**Lhasa**	**47.71**	**324**	*e*P	**P**	**08 41 25.6**	**+0.6**
	comp=Z,40nm,0.6s,mb5.6						
LSA				LR	LR		
	comp=Z,283nm,22.0s,MS4.2						
BJT	**Baijiatuau**	**48.39**	**355**	*e*P	**P**	**08 41 29.8**	**-0.4**
	comp=Z,24nm,0.6s,mb5.4						
BJT				*e*pP	pP	08 41 43.2	-0.2
BJI	**Beijing**	**48.41**	**355**	P	**P**	**08 41 30.0**	**-0.4**
BJI				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.6						
BJI				LR	LR		
	comp=N,346nm,16.6s,MS4.6						
BJI				LR	LR		
	comp=E,413nm,17.0s,MS4.6						
BJI				LR	LR		
	comp=Z,210nm,20.5s,MS4.1						
BJI	**Beijing**	**48.41**	**355**	P	**P**	**08 41 30.1**	**-0.3**
	comp=Z,41nm,0.7s,mb5.6						
BJI				S	S	08 48 51.8	+25
BJI				LR	LR		
	comp=Z,210nm,20.5s,MS4.1						
HYB	**Hyderabad**	**49.42**	**301**	*i* P	**P**	**08 41 36.0**	**-2.5**
HYB				*e*sP	sP	08 41 58.0	+0.6
HYB	**Hyderabad**	**49.42**	**301**	*e*P	**P**	**08 41 36.0**	**-2.5**
HYB				*e*		08 41 58.0	
GUN	**Gumba**	**49.76**	**318**	*e*P	**P**	**08 41 40.6**	**-0.3**
	comp=Z,131nm,0.8s,mb6.0						
PKI	**Pulchoki**	**49.85**	**317**	*e*P	**P**	**08 41 40.6**	**-1.0**
	comp=Z,36nm,0.6s,mb5.6						
DMN	**Daman**	**50.08**	**317**	*e*P	**P**	**08 41 42.2**	**-1.2**
	comp=Z,108nm,1.1s,mb5.8						
KKN	**Kakani**	**50.08**	**317**	*e*P	**P**	**08 41 42.4**	**-1.0**
	comp=Z,54nm,0.8s,mb5.6						
GKN	**Gorkha**	**50.65**	**317**	*e*P	**P**	**08 41 46.2**	**-1.5**
	comp=Z,47nm,0.5s,mb5.7						
KOLN	**Koldanda**	**51.21**	**316**	*e*P	**P**	**08 41 50.6**	**-1.4**
	comp=Z,58nm,0.8s,mb5.5						
GTA	**Gaotai**	**51.56**	**339**	*e*P	**P**	**08 41 55.3**	**+0.8**
GTA				AP	pP	08 42 09.0	+1.2
GTA				XP	sP	08 42 14.0	+0.5
MDJ	**Mudanjiang**	**53.28**	**7**	P	**P**	**08 42 07.3**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,106nm,6.8s						
MDJ	**Mudanjiang**	**53.28**	**7**	*e*P	**P**	**08 42 07.3**	**+0.1**
	comp=Z,27nm,1.3s,mb5.0						
MDJ				*e*pP	pP	08 42 19.5	-1.1
POO	**Poona**	**53.92**	**300**	*e*	**P**	**08 42 06.0**	**-6.3**
RPZ	**Rata Peaks**	**55.71**	**138**	P	**P**	**08 42 25.7**	**+0.8**
	comp=Z,20nm,0.8s,mb5.2,baz=240,slow=4.2,SNR=4.7						
RPZ				LR	LR	09 05 13.1	
	comp=Z,458nm,21.1s,MS4.5,baz=205,slow=35						
NDI	**New Delhi**	**56.28**	**313**	*e*	**P**	**08 42 23.0**	**-6.2**
SONM	**Songino Array**	**57.51**	**348**	P	**P**	**08 42 37.5**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.7,baz=163,slow=8.1,SNR=29						
URZ	**Urewera**	**58.19**	**130**	LR	LR	09 09 13.0	
	comp=Z,301nm,18.3s,MS4.5,baz=232,slow=37						
CASY	**Casey**	**58.29**	**185**	*e*P	**P**	**08 42 42.0**	**-0.9**
	comp=Z,10nm,1.2s,mb4.7						
CASY				*e*pP	pP	08 42 56.0	-0.5
CASY				LR	LR		
	comp=Z,643nm,20.0s,MS4.7						
ZAK	**Zakamensk**	**60.59**	**347**	*e*P	**P**	**08 42 57.3**	**-1.7**
KSH	**Kashi**	**63.50**	**322**	*e*P	**P**	**08 43 18.3**	**-0.4**
KSH				*e*AP	pP	08 43 31.3	-1.2
KSH				*e*XP	sP	08 43 39.3	+1.3
MKAR	**Makanchi Array**	**64.98**	**331**	P	**P**	**08 43 26.6**	**-1.6**
	comp=Z,12nm,0.5s,mb5.2,baz=142,slow=6.8,SNR=85						
MKAR	**Makanchi Array**	**64.98**	**331**	P	**P**	**08 43 26.6**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,12nm,0.5s						
KZA	**Kyzart**	**65.52**	**324**	P	**P**	**08 43 30.9**	**-0.8**
	SNR=9.4						
UCH	**Uchtor**	**66.04**	**324**	P	**P**	**08 43 34.2**	**-0.8**
	SNR=5.5						
KBK	**Karagaybulak**	**66.05**	**324**	P	**P**	**08 43 34.9**	**-0.2**
	SNR=5.4						
BOD	**Bodaibo**	**66.24**	**356**	*e*P	**P**	**08 43 32.7**	**-3.3**
AAK	**Ala-Archa**	**66.30**	**324**	*e*P	**P**	**08 43 34.4**	**-2.3**
	comp=Z,11nm,1.0s,mb4.9						
AAK				pP	pP	08 43 48.8	-1.7
AML	**Almayashu**	**66.47**	**323**	P	**P**	**08 43 36.7**	**-1.0**
	SNR=12						
USP	**Ospenovka**	**66.69**	**325**	P	**P**	**08 43 35.4**	**-3.7**
	SNR=6.8						
EKS2	**Erkin-Say**	**66.74**	**324**	P	**P**	**08 43 38.7**	**-0.7**
	SNR=8.8						
KURK	**Kurchatov**	**69.48**	**333**	P	**P**	**08 43 54.5**	**-1.8**
	comp=Z,72nm,0.9s,mb5.6,SNR=16						
KURK	**Kurchatov**	**69.48**	**333**	*e*P	**P**	**08 43 54.1**	**-2.2**
	comp=Z,18nm,1.1s,mb4.9						
KURK				*e*pP	pP	08 44 09.8	-0.5
KURK				LR	LR		
	comp=Z,58nm,20.0s,MS3.8						
NVS	**Novosibirsk**	**70.59**	**338**	*e*P	**P**	**08 43 59.4**	**-3.5**
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MAW	**Mawson**	**70.60**	**200**	⇑*i*P	**P**	**08 44 03.8**	**+1.0**
	comp=Z,14nm,1.4s,mb4.7						
MAW				*e*	pP	08 44 16.2	-0.6
MAW	**Mawson**	**70.60**	**200**	P	**P**	**08 44 03.8**	**+1.0**
	comp=Z,17nm,0.9s,mb5.0,baz=69,slow=7.0,SNR=39						
MAW				LR	LR	09 12 42.7	
	comp=Z,186nm,18.5s,MS4.4,baz=236,slow=34						
MA2	**Magadan**	**71.71**	**15**	*e*P	**P**	**08 44 25.3**	**+16**
MA2				*e*		08 53 52.6	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
MA2	**Magadan**	**71.71**	**15**	P	**P**	**08 44 08.8**	**-0.8**
	comp=Z,15nm,0.9s,mb4.9						
MA2				*e*	pP	08 44 24.1	+0.5
SBA	**Scott Base**	**73.23**	**171**	P	**P**	**08 44 19.9**	**+1.7**
	comp=Z,5.2nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**74.85**	**331**	P	**P**	**08 44 26.5**	**-1.6**
	comp=Z,12nm,1.0s,mb4.8,baz=135,slow=6.3,SNR=26						
BRVK	**Borovoye**	**74.92**	**331**	*e*P	**P**	**08 44 26.9**	**-1.6**
	comp=Z,8.0nm,0.8s,mb4.7						
SEY	**Seymchan**	**74.99**	**14**	*e*P	**P**	**08 44 30.6**	**+1.9**
SEY				*e*	pP	08 44 43.8	+1.0
SEY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**75.48**	**330**	*e*P	**P**	**08 44 29.5**	**-2.2**
	comp=Z,12nm,0.8s,mb4.9						
ZRNK				*e*pP	pP	08 44 44.2	-1.5
SYO	**Syowa Base**	**79.26**	**201**	⇓P	**P**	**08 44 53.3**	**+0.9**
SYO	**Syowa Base**	**79.26**	**201**	⇓PcP	PcP	08 45 01.3	+0.4
SYO	**Syowa Base**	**79.26**	**201**	⇑pP	pP	08 45 10.3	+3.7
SYO	**Syowa Base**	**79.26**	**201**	⇓sP	sP	08 45 14.4	+2.4
TIXI	**Tiksi**	**80.02**	**2**	*e*P	**P**	**08 44 51.4**	**-5.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
MZLS	**Mizel**	**80.88**	**296**	P	**P**	**08 45 00.8**	**-1.2**
DJNS	**Zahran al Janu**	**81.03**	**289**	P	**P**	**08 45 02.2**	**-0.6**
TATS	**Tathlith**	**81.46**	**291**	P	**P**	**08 45 04.1**	**-1.1**
QSPA	**South Pole Qui**	**81.61**	**180**	⇑*i*P	**P**	**08 45 06.6**	**+1.8**
	comp=Z,24nm,0.9s,mb5.1						
QSPA				LR	LR		
	comp=Z,150nm,20.9s,MS4.3						
AFFS	**'Afif**	**82.82**	**295**	P	**P**	**08 45 11.4**	**-0.7**
ARSS	**Ar Rass**	**83.03**	**297**	P	**P**	**08 45 12.0**	**-1.1**
BLJS	**Baljurashi**	**83.26**	**291**	P	**P**	**08 45 14.4**	**0.0**
KMBO	**Kilima Mbogo**	**83.96**	**270**	⇑*i*P	**P**	**08 45 17.7**	**-0.5**
	comp=Z,15nm,1.0s,mb5.1						
HILS	**Ha'il**	**84.62**	**299**	P	**P**	**08 45 21.3**	**+0.1**
KBRS	**Khaybar**	**86.52**	**297**	P	**P**	**08 45 31.0**	**+0.4**
GOF	**Gofitskoye**	**87.69**	**316**	*e*P	**P**	**08 45 34.0**	**-1.8**
GOF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.5						
MALT	**Malatya**	**89.60**	**309**	*e*P	**P**	**08 45 43.7**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.6						
ASF	**Jabal al Asfar**	**89.72**	**302**	P	**P**	**08 45 45.7**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.5,baz=360,slow=7.2,SNR=6.1						
ASF				LR	LR	09 26 55.6	
	comp=Z,120nm,20.8s,MS4.3,baz=322,slow=36						
LSZ	**Lusaka**	**90.81**	**255**	⇑*e*P	**P**	**08 45 51.0**	**-0.1**
	comp=Z,12nm,1.0s,mb5.2						
SNAA	**Sanae**	**92.20**	**195**	⇑*i*	**P**	**08 45 57.1**	**+0.8**
SNAA	**Sanae**	**92.20**	**195**	*e*	**P**	**08 46 11.4**	**+15**
SNAA	**Sanae**	**92.20**	**195**	LR	LR	09 24 09.4	
	comp=Z,81nm,18.0s,MS4.2,baz=205,slow=33						
SNAA	**Sanae**	**92.20**	**195**	*e*P	**P**	**08 45 57.9**	**+1.6**
	comp=Z,16nm,1.0s,mb5.3						
SNAA				*e*pP	pP	08 46 11.4	+0.6
BRTR	**Keskin Array B**	**93.51**	**309**	P	**P**	**08 46 01.0**	**-2.1**
	comp=Z,2.5nm,0.9s,mb4.6,baz=117,slow=5.5,SNR=7.7						
BRTR				LR	LR	09 34 28.0	
	comp=Z,60nm,20.0s,MS4.0,baz=150,slow=40						
VNA2	**Neumayer--Watz**	**93.82**	**195**	⇑*i*P	**P**	**08 46 06.6**	**+2.9**
VNA2				*e*	pP	08 46 20.3	+2.1
VNA3	**Neumayer Olymp**	**94.18**	**194**	⇑*i*	**P**	**08 46 07.7**	**+2.4**
VNA1	**Neumayer--Stat**	**94.22**	**195**	⇓*i*	**P**	**08 46 08.6**	**+3.1**
AKASG	**Malin Array Be**	**97.74**	**320**	LR	LR	09 39 54.2	
	comp=Z,40nm,19.1s,MS3.9,baz=50,slow=41						
ILAR	**Eielson Array**	**98.29**	**26**	P	**P**	**08 46 24.2**	**+0.1**
	comp=Z,0.4nm,0.9s,mb3.9,baz=247,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**99.81**	**331**	LR	LR	09 33 21.2	
	comp=Z,77nm,20.8s,MS4.2,baz=136,slow=36						
NVAR	**Mina Array Bea**	**118.86**	**51**	PKP	PKPdf	08 51 36.4	+1.9
	comp=Z,0.3nm,0.5s,baz=263,slow=2.9,SNR=4.0						
HLID	**Hailey**	**120.30**	**44**	*e*PKPdf	PKPdf	08 51 38.8	+1.6
DBIC	**Dimbokro**	**126.64**	**272**	PKP	PKPdf	08 51 50.6	+0.3
	comp=Z,9.8nm,1.3s,baz=116,slow=21,SNR=4.0						
DBIC	**Dimbokro**	**126.64**	**272**	PKIKP	PKPdf	08 51 50.6	+0.4
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TXAR	**Lajitas Array**	**132.98**	**58**	PKP	PKPdf	08 52 04.1	+2.2
	comp=Z,0.5nm,1.0s,baz=277,slow=2.2,SNR=3.6						
FWV	**Forest Hill**	**144.70**	**31**	*e*PKPdf	PKPdf	08 52 22.3	-0.5
ELN	**Prospectdale**	**145.00**	**32**	*e*PKPdf	PKPdf	08 52 22.9	-0.4
BLA	**Blacksburg**	**145.18**	**31**	*e*PKPdf	PKPdf	08 52 23.7	+0.1
BLA				*e*pPKPdf		08 52 38.8	
CPUP	**Villa Florida**	**145.47**	**182**	PKPbc	PKPbc	08 52 27.2	+2.2
	comp=Z,18nm,0.9s,baz=183,slow=1.8,SNR=39						
CPUP	**Villa Florida**	**145.47**	**182**	PKP2	PKPab	08 52 27.2	+0.3
CPUP				pmax	pmax		
	comp=Z,18nm,0.9s						
CPUP	**Villa Florida**	**145.47**	**182**	*e*PKPbc	PKPbc	08 52 27.1	+2.0
CPUP				*e*pPKPdf		08 52 40.5	
CAM3	**Guarapari**	**146.00**	**211**	*e*P	PKPdf	08 52 28.5	+3.0
CAM3				*i*		08 52 39.0	
CAM3				*i*		08 52 45.3	
CAM3				*i*		08 52 50.2	
CAM3	**Guarapari**	**146.00**	**211**	*e*P	PKPdf	08 52 28.4	+3.0
CAM3				*i*		08 52 39.0	
CAM3				*i*		08 52 45.3	
CAM3				*i*		08 52 50.2	
LVC	**Limon Verde**	**147.61**	**162**	*e*PKPbc	PKPdf	08 52 34.3	+6.2
LPAZ	**La Paz**	**153.77**	**159**	PKP	PKPdf	08 52 42.0	+4.4
	comp=Z,1.0nm,0.7s,baz=46,slow=7.1,SNR=4.3						
LPAZ				PKPbc	PKPdf	08 52 49.3	+12
	comp=Z,1.9nm,0.7s,baz=196,slow=5.0,SNR=7.9						
LPAZ	**La Paz**	**153.77**	**159**	PKIKP	PKPdf	08 52 42.0	+4.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**153.77**	**159**	*e*PKPdf	PKPdf	08 52 41.0	+3.5
LPAZ				*e*PKPbc	PKPdf	08 52 47.8	+10
BDFB	**Brasilia**	**153.90**	**204**	PKP	PKPdf	08 52 39.8	+2.1
	comp=Z,2.0nm,0.7s,baz=82,slow=8.0,SNR=3.3						
BDFB				PKPbc	PKPdf	08 52 48.4	+11
	comp=Z,2.3nm,0.6s,baz=338,slow=7.9,SNR=3.8						
BDFB	**Brasilia**	**153.90**	**204**	PKIKP	PKPdf	08 52 39.8	+2.1
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						

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*IDC **27** 09:04:16.7±1.0,21.35S×67.26W,h182^{km}±9^{km},mb3.6/8, mb1 3.8/11,mb1mx3.7/14,Error ellipse: s-maj=19.2km s-min=11.1km az=93.0*

*NEIC **27** 09:04:16.7±0.6,21.33S×67.22W,h182^{km}±6^{km},mb4.1/11, Error ellipse: s-maj=12.1km s-min=6.7km az=73.0*

ISC 27 09:04:16.1±0.6**,21.38S**±0.04×**67.26W**±0.09**,h192**^{km}±6^{km}**, n30,**σ**1^{s}08**/31**,mb3.9**/16**,1C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.97**	**231**	P	**P**	**09 04 54.5**	**+0.5**
	54nm,0.3s,baz=43,slow=7.4,SNR=294						
LVC				S	**S**	**09 05 23.1**	**-0.2**
	65nm,0.3s,baz=277,slow=20,SNR=49						
LPAZ	**La Paz**	**5.13**	**351**	P	**P**	**09 05 34.4**	**+1.7**
	8.9nm,0.3s,baz=157,slow=5.0,SNR=74						
LPAZ				S	**S**	**09 06 32.3**	**+0.2**
	2.0nm,0.3s,baz=330,slow=11,SNR=4.8						
ARE	**Arequipa**	**6.32**	**320**	⇑*i*P	**P**	**09 05 47.2**	**-1.0**
ARE				*e*S	**S**	**09 06 53.0**	**-6.9**
ARE				*e*		09 06 56.9	
CPUP	**Villa Florida**	**10.34**	**120**	P	**P**	**09 06 41.3**	**+0.6**
	0.3nm,0.3s,baz=323,slow=13,SNR=8.1						
SAML	**Samuel**	**12.96**	**18**	*e*Pn	**P**	**09 07 12.1**	**-2.1**
	8.3nm,1.0s						
SAML				Sn	**S**	**09 09 35.5**	**+0.8**
TRQA	**Tornquist**	**17.24**	**166**	*e*P	**P**	**09 08 04.4**	**-2.2**
	3.1nm,0.4s						
PLCA	**Paso Flores**	**19.50**	**188**	P	**P**	**09 08 30.4**	**0.0**
	0.3nm,0.3s,baz=4.4,slow=11,SNR=9.9						
PLCA	**Paso Flores**	**19.50**	**188**	*e*P	**P**	**09 08 29.6**	**-0.8**
	4.0nm,0.8s						
LRAL	**Lakeview Retre**	**57.30**	**340**	*e*P	**P**	**09 13 44.2**	**-1.8**
	4.4nm,0.4s,mb4.4						
WVT	**Waverly**	**60.41**	**341**	*e*P	**P**	**09 14 05.8**	**-1.7**
	19nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**61.42**	**324**	P	**P**	**09 14 14.2**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=149,slow=9.4,SNR=4.6						
SNAA	**Sanae**	**61.90**	**161**	*e*P	**P**	**09 14 17.0**	**+0.1**
	2.8nm,0.8s,mb3.9						
FVM	**French Village**	**62.93**	**340**	*e*P	**P**	**09 14 23.1**	**-1.1**
	14nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**67.22**	**73**	P	**P**	**09 14 50.9**	**-1.2**
	2.7nm,0.8s,mb4.0,baz=186,slow=15,SNR=3.6						
ANMO	**Albuquerque**	**67.25**	**326**	P	**P**	**09 14 51.3**	**-0.7**
	0.9nm,0.8s,mb3.5						
QSPA	**South Pole Qui**	**68.82**	**180**	*e*P	**P**	**09 15 02.5**	**+1.6**
	3.5nm,0.7s,mb4.1						
SDCO	**Great Sand Dun**	**68.94**	**328**	*e*P	**P**	**09 15 02.8**	**+0.5**
	1.3nm,0.6s,mb3.7						
PV01	**Paradox Valley**	**70.78**	**327**	P	**P**	**09 15 14.5**	**+1.0**
PDAR	**Pinedale Array**	**74.78**	**329**	P	**P**	**09 15 37.2**	**+0.4**
	0.5nm,0.5s,mb3.4,baz=124,slow=8.4,SNR=6.4						
HWUT	**Hardware Ranch**	**74.90**	**327**	*e*P	**P**	**09 15 38.0**	**+0.5**
	1.8nm,0.7s,mb3.8						
ULM	**Lac du Bonnet**	**75.67**	**341**	P	**P**	**09 15 41.6**	**0.0**
	2.7nm,0.4s,mb4.2,baz=130,slow=4.1,SNR=10						
NVAR	**Mina Array Bea**	**76.35**	**321**	P	**P**	**09 15 45.4**	**-0.3**
	0.3nm,0.5s,mb3.2,baz=124,slow=3.3,SNR=3.5						
MCMT	**McKenzie Canyo**	**77.91**	**329**	*e*P	**P**	**09 15 55.8**	**+1.7**
MAW	**Mawson**	**84.00**	**163**	P	**P**	**09 16 27.0**	**+1.5**
	1.5nm,0.6s,mb3.9,baz=191,slow=7.9,SNR=4.2						
ESDC	**Sonseca Array**	**84.67**	**44**	P	**P**	**09 16 29.5**	**0.0**
	1.2nm,0.6s,mb3.8,baz=243,slow=3.6,SNR=5.2						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	**P**	**09 17 02.7**	**+1.0**
	1.3nm,0.6s,mb4.1,baz=134,slow=4.9,SNR=8.4						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	**P**	**09 17 02.7**	**+1.0**
ASAR	**Alice Springs**	**130.72**	**206**	PKP	PKPdf	09 23 06.5	+1.6
	0.3nm,0.5s,baz=128,slow=1.9,SNR=6.9						
WRA	**Warramunga Arr**	**133.82**	**209**	PKP	PKPdf	09 23 12.9	+2.0
	0.4nm,0.6s,baz=158,slow=1.8,SNR=9.8						
MKAR	**Makanchi Array**	**144.62**	**37**	PKP	PKPdf	09 23 31.2	+1.8
	2.0nm,0.6s,baz=327,slow=4.3,SNR=9.1						

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*IDC **27** 09:11:07.8±2.5,21.94N×143.29E,h226^{km}±24^{km}, mb3.7/14,mb1 3.9/15,mb1mx3.8/24,Error ellipse: s-maj=18.6km s-min=11.3km az=95.0*

*NEIC **27** 09:11:07.5±2.9,21.93N×143.27E,h224^{km}±28^{km},mb4.2/8, Error ellipse: s-maj=15.2km s-min=6.4km az=89.0*

ISC 27 09:11:06.8±1.5**,21.92N**±0.06×**143.2E**±0.1**,h231**^{km}±14^{km}**, n30,**σ**0^{s}66**/30**,mb4.0**/21**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.23**	**350**	P	**P**	**09 12 25.6**	**+0.2**
	49nm,0.3s,baz=198,slow=20,SNR=2.6						
CBIJ				S	**S**	**09 13 19.7**	**-7.1**
	133nm,0.3s,baz=280,slow=20,SNR=4.6						
MAT	**Matsushiro**	**15.20**	**345**	P	**P**	**09 14 30.7**	**-0.7**
MAT	**Matsushiro**	**15.20**	**345**	P	**P**	**09 14 31.0**	**-0.4**
	7.0nm,0.5s						
ASAJ	**Asahikawa**	**22.15**	**359**	P	**P**	**09 15 44.9**	**+0.8**
	3.5nm,0.4s,mb4.2,baz=234,slow=19,SNR=4.7						
FX1	**Attu Island--F**	**38.50**	**29**	P	**P**	**09 18 07.3**	**-0.8**
	3.3nm,0.4s,mb4.2,baz=245,slow=17,SNR=3.7						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**09 18 14.7**	**+1.1**
	1.3nm,0.5s,mb3.8,baz=130,slow=7.1,SNR=11						
WRAB	**Tennant Creek**	**42.48**	**192**	*e*P	**P**	**09 18 41.0**	**0.0**
	5.6nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**42.49**	**192**	*e*P	**P**	**09 18 41.4**	**+0.3**
WRA	**Warramunga Arr**	**42.49**	**192**	P	**P**	**09 18 41.2**	**0.0**
	2.4nm,0.3s,mb4.0,baz=16,slow=9.4,SNR=94						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	*e*P	**P**	**09 18 48.4**	**+0.6**
	3.1nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**09 19 10.4**	**-0.1**
	0.7nm,0.5s,mb3.2,baz=18,slow=12,SNR=8.5						
ASPA	**Alice Springs**	**46.20**	**192**	*e*P	**P**	**09 19 09.8**	**-0.7**
STKA	**Stephens Creek**	**53.51**	**182**	P	**P**	**09 20 05.2**	**-0.3**
	1.7nm,0.8s,mb3.6,baz=27,slow=6.8,SNR=2.9						
FORT	**Forrest**	**54.37**	**196**	*e*P	**P**	**09 20 11.8**	**0.0**
	14nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**09 20 13.5**	**+0.6**
	0.9nm,0.6s,mb3.5,baz=99,slow=6.5,SNR=5.7						
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**09 20 13.5**	**+0.6**
KURK	**Kurchatov**	**57.31**	**317**	*e*P	**P**	**09 20 31.5**	**-0.9**
	4.2nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**61.85**	**27**	P	**P**	**09 21 01.5**	**-1.6**
	2.5nm,0.6s,mb4.0,baz=261,slow=5.5,SNR=49						
BVAR	**Borovoye Array**	**62.51**	**319**	P	**P**	**09 21 07.9**	**+0.2**
	5.6nm,0.3s,mb4.6,baz=94,slow=7.4,SNR=37						
ZRNK	**Zerenda**	**63.34**	**319**	*e*P	**P**	**09 21 13.0**	**-0.2**
	4.2nm,0.9s,mb4.1						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**09 22 31.1**	**0.0**
	4.7nm,0.6s,mb4.3,baz=291,slow=5.9,SNR=20						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**09 22 31.1**	**0.0**
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**09 22 44.5**	**+0.1**
	1.2nm,0.4s,mb3.9,baz=75,slow=7.9,SNR=17						
FINES	**FINESS Array B**	**82.98**	**334**	P	**P**	**09 23 06.3**	**-0.5**
	2.0nm,0.7s,mb4.0,baz=74,slow=5.6,SNR=6.8						
FINES	**FINESS Array B**	**82.98**	**334**	P	**P**	**09 23 06.3**	**-0.5**
NVAR	**Mina Array Bea**	**83.01**	**51**	P	**P**	**09 23 08.8**	**+1.4**
	2.9nm,0.7s,mb4.1,baz=289,slow=3.9,SNR=31						
DUG	**Dugway**	**86.19**	**48**	*e*P	**P**	**09 23 23.8**	**+0.5**
	2.2nm,0.7s,mb4.0						
HWUT	**Hardware Ranch**	**86.43**	**46**	*e*P	**P**	**09 23 25.1**	**+0.7**
	2.4nm,0.9s,mb3.9						
AKASG	**Malin Array Be**	**87.33**	**324**	P	**P**	**09 23 27.8**	**-0.6**
	0.3nm,0.3s,mb3.5,baz=50,slow=4.7,SNR=4.1						
LPAZ	**La Paz**	**149.92**	**85**	PKPbc	PKPdf	09 30 32.6	+7.6
	1.4nm,0.5s,baz=310,slow=6.4,SNR=6.8						

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*NEIC **27** 09:18:26.5±3.8,36.37N×71.01E,h198^{km}±28^{km},mb3.8/2, Error ellipse: s-maj=38.7km s-min=17.8km az=218.0*

*IDC **27** 09:18:29.6±8.0,36.49N×71.10E,h224^{km}±68^{km},mb3.3/6, mb1 3.4/8,mb1mx3.2/19,Error ellipse: s-maj=59.2km s-min=26.5km az=36.0*

*NNC **27** 09:18:35.2±8.3,37.03N×70.58E,h188^{km}±126^{km},mpv3.5, Error ellipse: s-maj=98.0km s-min=63.2km az=14.0*

ISC 27 09:18:32.9±3.1**,37.0N**±0.2×**71.0E**±0.2**,h240**^{km}±20^{km}**,n24,** σ**0^{s}66**/25**,mb3.4**/6**,2C,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.56**	**21**	P	**P**	**09 19 55.7**	**-0.2**
	SNR=96						
UCH	**Uchtor**	**5.91**	**26**	P	**P**	**09 20 00.7**	**+0.4**
	SNR=50						
KZA	**Kyzart**	**6.07**	**31**	P	**P**	**09 20 02.0**	**-0.2**
	SNR=20						
EKS2	**Erkin-Say**	**6.08**	**19**	P	**P**	**09 20 02.7**	**+0.3**
	SNR=12						
KK31	**Karatay Array**	**6.16**	**356**	⇑P	**P**	**09 20 03.1**	**-0.3**
	1.2nm,0.2s,baz=179,slow=12,SNR=40						
KK31				⇑S	**S**	**09 21 13.0**	**-1.1**
	9.5nm,0.5s,baz=180,slow=22,SNR=19						
AAK	**Ala-Archa**	**6.26**	**24**	P	**P**	**09 20 05.2**	**+0.5**
	SNR=15						
AAK	**Ala-Archa**	**6.26**	**24**	*e*P	**P**	**09 20 03.9**	**-0.9**
	28nm,0.6s						
KBK	**Karagaybulak**	**6.44**	**27**	P	**P**	**09 20 07.6**	**+0.6**
	SNR=17						
ULHL	**Ulahol**	**6.64**	**36**	P	**P**	**09 20 09.2**	**-0.3**
	SNR=24						
CHMS	**Chumysh**	**6.68**	**24**	P	**P**	**09 20 10.4**	**+0.4**
	SNR=6.8						
USP	**Ospenovka**	**6.84**	**22**	P	**P**	**09 20 11.6**	**-0.4**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.91**	**29**	P	**P**	**09 20 13.2**	**+0.3**
	SNR=19						
MKAR	**Makanchi Array**	**12.91**	**37**	P	**P**	**09 21 28.9**	**0.0**
	0.3nm,0.3s,baz=223,slow=16,SNR=7.9						
AB31	**Akbulak array**	**14.71**	**330**	P	**P**	**09 21 51.1**	**+0.1**
	2.3nm,0.5s,baz=143,slow=10,SNR=37						
KURK	**Kurchatov**	**14.79**	**19**	P	**P**	**09 21 48.0**	**-4.0**
	2.6nm,0.6s						
ZRNK	**Zerenda**	**16.06**	**356**	*e*P	**P**	**09 22 07.3**	**+0.3**
	1.7nm,0.4s						
BVAR	**Borovoye Array**	**16.08**	**359**	P	**P**	**09 22 08.6**	**+1.4**
	0.5nm,0.3s,baz=161,slow=9.9,SNR=5.3						
FINES	**FINESS Array B**	**37.13**	**326**	P	**P**	**09 25 22.0**	**+0.3**
	0.7nm,0.3s,mb3.6,baz=129,slow=12,SNR=5.4						
ARCES	**ARCESS Array B**	**40.74**	**337**	P	**P**	**09 25 51.7**	**+0.2**
	1.2nm,0.5s,mb3.6,baz=117,slow=8.1,SNR=12						
NOA	**NORSAR Array B**	**44.04**	**323**	P	**P**	**09 26 17.6**	**-0.5**
	0.6nm,0.4s,mb3.2,baz=100,slow=7.7,SNR=3.3						
ILAR	**Eielson Array**	**74.34**	**16**	P	**P**	**09 29 44.4**	**-0.7**
	0.7nm,1.1s,mb3.2,baz=328,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**80.79**	**3**	P	**P**	**09 30 20.6**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=352,slow=5.5,SNR=5.2						
YKA	**Yellowknife Ar**	**80.79**	**3**	P	**P**	**09 30 20.6**	**+0.3**
ASAR	**Alice Springs**	**84.49**	**125**	P	**P**	**09 30 36.0**	**-3.9**
	0.5nm,0.6s,mb3.4,baz=314,slow=5.6,SNR=7.3						

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*HEL **27** 09:21:34.6±0.1,59.24N×27.85E,ML1.5,ML2.1(NAO), Explosion*

*NAO **27** 09:21:38.0±4.5,59.41N×27.45E,ML2.1*

*BER **27** 09:21:38.8±3.3,59.39N×27.57E,ML2.1(NAO), Suspected explosion*

ISC 27 09:21:33.9±1.5**,59.28N**±0.04×**27.6E**±0.2**,n8,**σ**1^{s}14**/12**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.94**	**210**	*e*S	**Sg**	**09 22 04.3**	**-0.9**
VJF	**Virojoki**	**1.27**	**359**	*e*P	**Pb**	**09 21 58.1**	**-0.2**
VJF				*e*S	**Sb**	**09 22 15.0**	**-0.1**
PVF	**Pernaja**	**1.55**	**326**	*e*P	**Pn**	**09 22 04.1**	**+1.2**
PVF				*e*S	**Sb**	**09 22 25.0**	**+1.7**
PVF				MSG		09 22 28.1	
	comp=Z,2.9nm,0.1s						
FIA0	**FINESS Array S**	**2.30**	**341**	*e*P	**Pn**	**09 22 14.7**	**+1.0**
FIA0				*e*SG	**Sg**	**09 22 48.3**	**-2.4**
FIA0				MSG		09 22 49.0	
	comp=Z,2.2nm,0.1s						
FIA0	**FINESS Array S**	**2.30**	**341**	Pn	**Pn**	**09 22 14.8**	**+1.1**
	baz=161,slow=18						
FIA0				Lg		09 22 45.9	
	baz=159,slow=37						

KAF	**Kangasniemi**	2.92	348	*e*P	Pn	09 22 23.1	+0.7
KAF				*e*SG	Sg	09 23 06.1	-5.0
SUF	**Sumiainen**	3.53	349	*e*S	Sn	09 23 12.8	-1.3
HFS	**Hagfors**	7.10	283	Pn	Pn	09 23 21.6	-0.1
	baz=105,slow=12						
HFS				Lg		09 25 16.5	
	baz=105,slow=22						

MAN 27 09:26:25.4, 7.66N×126.45E, h33^{km}, mb4.6, ML3.4, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	0.74	195	*e*P	P	09 26 40.3	+1.0
MATI				*e*S	S	09 26 50.1	+0.6
BUKP	**Musuan**	1.39	279	*e*P	P	09 26 48.1	-0.6
BUKP				*e*S	S	09 27 06.1	+0.1
KCP	**Kidapawan**	1.50	244	*e*P	P	09 26 50.0	-0.2
KCP				*i* S	S	09 27 09.4	+0.7
BUTP	**Butuan**	1.53	328	*e*P	P	09 26 55.1	+4.4
BUTP				*e*S	S	09 27 15.3	+5.7
PAGZ	**Pagadian**	3.05	274	*e*P	P	09 27 11.3	-1.0

IDC 27 09:29:04.3±6.9**, 8.65S×151.49E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.7**/12**, Error ellipse: s-maj=190.0km s-min=38.2km az=115.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	20.03	234	P	P	09 33 39.7	-2.3
	0.6nm,0.5s,baz=62,slow=11,SNR=16						
ASAR	**Alice Springs**	22.50	226	P	P	09 34 05.7	-1.5
	1.0nm,0.7s,baz=59,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	26.82	247	P	P	09 34 46.0	-2.4
	1.7nm,0.5s,baz=78,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	82.38	320	P	P	09 41 28.7	-0.9
	0.6nm,0.7s,baz=104,slow=5.0,SNR=4.4						

IDC 27 09:45:25.4±2.2**, 7.30S×129.19E, mb3.7**/1**, mb1 3.7**/4**, mb1mx3.5**/11**, ML3.3**/3**, Error ellipse: s-maj=99.7km s-min=28.2km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	11.28	198	Pn	P	09 48 08.4	-2.6
	0.6nm,0.3s,baz=19,slow=7.3,SNR=29						
FITZ				Sn	S	09 50 05.7	-13
	0.8nm,0.3s,baz=187,slow=17,SNR=5.9						
WRA	**Warramunga Arr**	13.53	159	Pn	P	09 48 38.0	-3.2
	0.1nm,0.3s,baz=333,slow=14,SNR=13						
WRA				Sn	S	09 50 57.2	-16
	0.4nm,0.3s,baz=335,slow=19,SNR=12						
ASAR	**Alice Springs**	16.89	165	Pn	P	09 49 23.6	-1.4
	0.1nm,0.3s,baz=344,slow=12,SNR=4.4						
ASAR				Sn	S	09 52 21.9	-11
	0.2nm,0.3s,baz=355,slow=27,SNR=7.3						
MKAR	**Makanchi Array**	68.04	327	P	P	09 56 26.7	-2.1
	0.3nm,0.4s,baz=115,slow=8.1,SNR=6.3						

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*MDD **27** 09:54:01.9±0.4, 43.08N×0.64W, h6^{km}±4^{km}, mbLg2.1/13, Error ellipse: s-maj=4.0km s-min=2.1km az=16.0, PRXIMO*
*STR **27** 09:54:01.8±0.1, 43.06N×0.66W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 09:54:01.7±0.1, 43.14N×0.63W, h2^{km}, Md2.4/3, Ml2.6/8, Error ellipse: s-maj=1.7km s-min=1.4km az=177.0*
*NEIC **27** 09:54:01.8, 43.06N×0.66W, h5^{km}, ML2.6(LDG), ML2.4(STR), MN2.0(MDD), After STR.*
ISC 27 09:54:01.3±0.3**, 43.14N**±0.03×**0.65W**±0.03**, h17**^{km}±5^{km}**, n44,** σ1^{s}**13**/69**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	0.20	110	Pg	Pb	09 54 06.0	-0.2
REYF				Sg	Sb	09 54 09.0	-0.5
REYF	**Montagne du Re**	0.20	110	Pg	Pb	09 54 06.1	-0.2
REYF				Lg		09 54 09.0	
ORDF	**Ordiarp**	0.22	290	Pg	Pb	09 54 07.4	+0.8
ORDF				Sg	Sb	09 54 10.6	+0.5
ORDF	**Ordiarp**	0.22	290	Pg	Pb	09 54 07.4	+0.8
ORDF				Lg		09 54 11.6	
ETSF	**Etsaut**	0.25	164	*e*Pg	Pb	09 54 06.2	-0.8
ETSF				*e*Sg	Sb	09 54 08.3	-2.5
	688nm,0.2s						
LARF	**Larrau**	0.27	248	Pg	Pb	09 54 07.4	+0.1
LARF				Sg	Sb	09 54 09.6	-1.7
LARF	**Larrau**	0.27	248	Pg	Pb	09 54 07.4	+0.1
LARF				Lg		09 54 11.7	
FDAF	**Les Forges d'A**	0.33	169	Pg	Pb	09 54 07.4	-0.9
FDAF				Sg	Sb	09 54 11.0	-2.0
FDAF	**Les Forges d'A**	0.33	169	Pg	Pb	09 54 07.5	-0.8
FDAF				Lg		09 54 11.2	
SJPF	**Ste Jean**	0.42	267	*e*Pg	Pb	09 54 10.1	+0.2
SJPF				*e*Sg	Sb	09 54 15.8	0.0
	138nm,0.3s						
OSSF	**Osses**	0.46	285	Pg	Pb	09 54 10.9	+0.3
OSSF				Sg	Sb	09 54 18.1	+1.2
OSSF	**Osses**	0.46	285	Pg	Pb	09 54 10.7	+0.1
OSSF				Lg		09 54 17.6	
LABF	**Labassere**	0.54	100	Pg	Pb	09 54 12.1	+0.2
LABF				Sg	Sb	09 54 19.8	+0.7
LABF	**Labassere**	0.54	100	Pg	Pb	09 54 12.0	+0.1
LABF				Lg		09 54 18.9	
VIEF	**Viey**	0.56	117	Pg	Pb	09 54 12.1	-0.1
VIEF				Lg		09 54 19.0	
EALK	**Alkurruntz**	0.63	278	Pg	Pb	09 54 14.1	+0.5
	SNR=22						
EALK				Lg		09 54 22.4	
	21nm,0.3s,SNR=26						
EPF	**Esparros**	0.73	98	*e*Pg	Pb	09 54 15.3	+0.1
EPF				*e*Sg	Sb	09 54 24.8	0.0
	54nm,0.2s						
RESF	**Ens**	0.80	114	Pg	Pb	09 54 16.4	+0.1
RESF				Sg	Sb	09 54 27.1	+0.5
RESF	**Ens**	0.80	114	Pg	Pb	09 54 16.5	+0.1
RESF				Lg		09 54 26.8	
MELF	**Melles**	1.07	104	Pg	Pb	09 54 21.9	+0.9
MELF				Sg	Sb	09 54 36.5	+2.0
MELF	**Melles**	1.07	104	Pg	Pb	09 54 21.6	+0.7
MELF				Lg		09 54 35.8	
EGRA	**Graus**	1.18	143	Pg	Pb	09 54 24.2	+1.3
	4.3nm,0.2s,SNR=7.9						
EGRA				Lg		09 54 40.0	
	5.6nm,0.2s,SNR=7.9						
MLS	**Moulis**	1.29	97	Lg		09 54 42.4	
SALF	**Salau**	1.40	105	Pg	Pn	09 54 28.1	+1.8
SALF				Lg		09 54 46.0	
ESAC	**San Caprasio**	1.42	175	Pg	Pn	09 54 28.3	+1.7
	24nm,0.1s,SNR=8.9						
ESAC				Lg		09 54 46.4	
	79nm,0.3s,SNR=20						
GRBF	**Gourbit**	1.63	100	Pg	Pn	09 54 32.5	+2.9
EMIR	**Miracle**	2.02	127	Pg	Pn	09 54 39.9	+4.7
	5.9nm,0.1s,SNR=7.9						
EMIR				Lg		09 55 05.2	
	12nm,0.4s,SNR=4.6						
EMIR	**Miracle**	2.02	127	Pg	Pn	09 54 39.9	+4.7
EMIR				Lg		09 55 07.3	
ELAN	**Lanestosa**	2.04	274	Pg	Pn	09 54 39.1	+3.7
	2.9nm,0.3s,SNR=7.9						
ELAN				Lg		09 55 05.2	
	3.5nm,0.3s,SNR=5.6						
LFF	**La Frestale**	2.06	29	*e*Pn	Pn	09 54 35.2	-0.6
LFF				*e*Sg	Sn	09 55 06.4	+5.1
	12nm,0.3s						
CARF	**Carcanieres**	2.07	101	Lg		09 55 06.8	
VALF	**Valcebollere**	2.10	110	Pg	Pn	09 54 41.9	+5.6
VALF				Lg		09 55 08.9	
MTLF	**Montolieu**	2.11	84	*e*Pg	Pn	09 54 40.3	+3.9
MTLF				*e*Sg	Sn	09 55 06.5	+4.1
	7.0nm,0.3s						
EPOB	**Poblet**	2.20	144	Pg	Pn	09 54 42.0	+4.2
	1.8nm,0.1s,SNR=7.0						
EPOB				Lg		09 55 09.9	
	2.9nm,0.3s,SNR=7.9						
ETOR	**Torete**	2.54	205	Pn	Pn	09 54 43.5	+0.8
	0.9nm,0.2s,SNR=7.9						
ETOR				Pg	Pn	09 54 48.4	+5.7
	1.1nm,0.2s,SNR=8.1						
ETOR				Sn	Sn	09 55 13.6	+0.1
	3.2nm,0.3s,SNR=7.9						
ETOR				Lg		09 55 22.4	
	6.9nm,0.3s,SNR=5.7						
ETOR	**Torete**	2.54	205	Pn	Pn	09 54 43.5	+0.8
ETOR				Pg	Pn	09 54 48.4	+5.7
ETOR				Sn	Sn	09 55 13.6	+0.1
ETOR				Lg		09 55 22.4	
CAF	**Calviac**	2.65	47	*e*Pn	Pn	09 54 43.5	-0.7
CAF				*e*Sn	Sn	09 55 14.0	-2.2
CAF				*e*Sg	Sn	09 55 24.8	+8.6
	4.2nm,0.2s						
RJF	**Les Rejaudoux**	2.67	35	*e*Pn	Pn	09 54 43.7	-0.7
RJF				*e*Sg	Sn	09 55 25.0	+8.3
	5.2nm,0.2s						
EJON	**La Jonquera**	2.69	104	Pg	Pn	09 54 51.9	+7.1
	1.2nm,0.3s,SNR=7.9						
EJON				Lg		09 55 26.8	
	4.0nm,0.3s,SNR=5.9						
EJON	**La Jonquera**	2.69	104	Pg	Pn	09 54 52.0	+7.1
EJON				Lg		09 55 29.1	
EMOS	**Mosqueruela**	2.78	177	Pn	Pn	09 54 47.5	+1.5
	0.3nm,0.1s,SNR=7.9						
EMOS				Pg	Pn	09 54 53.4	+7.4
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	09 55 18.4	-1.0
	2.7nm,0.4s,SNR=7.9						
EMOS				Lg		09 55 27.1	
	3.5nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	3.41	72	*e*Pn	Pn	09 54 53.9	-1.0
LASF				*e*Sn	Sn	09 55 32.1	-3.2
LASF				*e*Sg	Sn	09 55 48.1	+13
	9.1nm,0.6s						
MFF	**Saint Martin d**	3.48	6	*e*Pn	Pn	09 54 54.6	-1.4
MFF				*e*Sg	Sn	09 55 50.4	+13
	3.4nm,0.3s						
TCF	**Toulx Ste Croi**	3.75	32	*e*Pn	Pn	09 54 58.4	-1.4
TCF				*e*Sn	Sn	09 55 39.8	-4.3
TCF				*e*Sg	Sn	09 55 58.8	+15
	4.0nm,0.3s						

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*NEIC **27** 10:06:04.8±4.0, 6.19S×153.06E, h99^{km}±28^{km}, mb4.3/6, Error ellipse: s-maj=40.7km s-min=19.7km az=87.0*
*IDC **27** 10:06:07.3±6.2, 6.16S×153.04E, h131^{km}±45^{km}, mb3.8/7, mb1 4.0/9, mb1mx3.9/15, MS3.5/5, Ms1 3.5/5, ms1mx3.3/19, Error ellipse: s-maj=56.6km s-min=22.5km az=89.0*
ISC 27 10:06:02.4±4.9**, 6.1S**±0.1×**153.1E**±0.3**, h93**^{km}±34^{km}**, n19,** σ1^{s}**20**/19**, mb4.0**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	6.77	241	P	P	10 07 41.2	+0.3
	5.7nm,0.3s,baz=20,slow=10,SNR=14						
PMG				S	S	10 09 04.2	+7.2
	1.4nm,0.3s,baz=179,slow=16,SNR=3.5						
PMG				LR	LR	10 09 45.9	
	comp=Z,179nm,19.3s,baz=62,slow=33						
CTA	**Charters Tower**	15.42	205	P	P	10 09 37.1	+1.1
	0.2nm,0.3s,baz=35,slow=13,SNR=5.2						
CTA				LR	LR	10 14 18.8	
	comp=Z,169nm,19.2s,baz=230,slow=32						
CTA	**Charters Tower**	15.42	205	*e*P	P	10 09 33.6	-2.5
	9.2nm,1.1s						
CTA				LR	LR	10 14 18.8	
CTAO	**Charters Tower**	15.42	205	P	P	10 09 35.5	-0.6
	51nm,1.5s						
KAKA	**Kakadu**	21.47	251	*e*P	P	10 10 44.2	-0.7
	12nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	22.85	231	*e*P	P	10 10 59.2	+0.7
	5.3nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	22.85	231	*e*P	P	10 11 00.3	+1.8
WRA	**Warramunga Arr**	22.86	231	P	P	10 10 59.0	+0.3
	5.4nm,1.1s,mb3.8,baz=56,slow=9.9,SNR=32						
WRA				PcP	PcP	10 14 43.9	-4.4
	0.5nm,0.5s,baz=58,slow=2.2,SNR=5.7						
WRA				LR	LR	10 20 18.2	
	comp=Z,92nm,18.0s,baz=265,slow=37						
ASAR	**Alice Springs**	25.44	225	P	P	10 11 22.9	-0.4
	13nm,1.1s,mb4.3,baz=56,slow=9.2,SNR=43						
ASAR				PcP	PcP	10 14 49.9	-3.9
	1.5nm,1.0s,baz=62,slow=2.5,SNR=7.0						
ASPA	**Alice Springs**	25.44	225	*e*P	P	10 11 23.6	+0.3
STKA	**Stephens Creek**	27.82	201	P	P	10 11 44.7	-0.4
	2.7nm,1.0s,mb3.7,baz=38,slow=10.0,SNR=3.0						
STKA				LR	LR	10 22 44.7	
	comp=Z,121nm,19.1s,baz=205,slow=36						
STKA	**Stephens Creek**	27.82	201	P	P	10 11 44.7	-0.4
STKA				LR	LR	10 22 44.7	
FITZ	**Fitzroy Crossi**	29.35	244	*e*P	P	10 11 57.0	-1.9
	6.5nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	29.35	244	P	P	10 11 57.1	-1.8
	7.5nm,0.7s,mb4.4,baz=125,slow=2.8,SNR=18						
CMAR	**Chiang Mai Arr**	58.73	296	P	P	10 15 50.1	-3.1
	0.9nm,0.4s,mb4.2,baz=98,slow=5.6,SNR=8.1						
SONM	**Songino Array**	67.60	328	P	P	10 16 50.7	-0.5
	0.3nm,0.5s,mb3.4,baz=152,slow=5.5,SNR=3.0						
MKAR	**Makanchi Array**	81.52	319	P	P	10 18 11.7	+0.5
	1.7nm,0.7s,mb4.0,baz=107,slow=5.0,SNR=9.6						
KURK	**Kurchatov**	84.99	322	P	P	10 18 31.2	+2.6
	4.8nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	99.48	48	LR	LR	11 00 45.1	
	comp=Z,41nm,20.9s,baz=168,slow=33						

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*NIED **27** 10:06:00, 45.10N×142.40E, h300^{km}, Mw4.1 Best double couple: M$_0$1.65×10^{15} NP1:φ$_s$180°, δ79°, λ37°. NP2:φ$_s$82°, δ54°, λ166°.*
*BJI **27** 10:06:42.2, 45.22N×142.36E, h282^{km}, mB4.7, mb4.5*
*JMA **27** 10:06:42.8±0.1, 45.11N×142.37E, h284^{km}±2^{km}, M3.7*
*SKHL **27** 10:06:43.0±0.5, 45.11N×142.33E, h300^{km}±15^{km}, mb4.9/7, msh4.7/4*
*NEIC **27** 10:06:43.5±0.6, 45.14N×142.28E, h272^{km}±6^{km}, mb4.2/24, Error ellipse: s-maj=9.7km s-min=5.6km az=152.0*
*IDC **27** 10:06:43.4±0.8, 45.57N×142.34E, h253^{km}±23^{km}, mb3.8/11, mb1 4.0/11, mb1mx3.7/22, Error ellipse: s-maj=50.8km s-min=13.1km az=179.0*
ISC 27 10:06:42.8±0.2**, 45.09N**±0.03×**142.31E**±0.04**, h281**^{km}±2^{km}**, n99,** σ0^{s}**87**/120**, mb4.1**/32**, 15C-10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	0.23	123	⇑P	P	10 07 19.2	+0.2
JSE				*e*S	S	10 07 47.1	-0.2
JWK2	**Keihoku**	0.37	308	⇑P	P	10 07 19.6	+0.3
JWK2				S	S	10 07 47.5	-0.2
JRR	**Rishiri**	0.71	275	⇑P	P	10 07 20.6	+0.4
JRR				*e*S	S	10 07 50.2	+0.8
JSS	**Shosan**	0.76	206	⇑P	P	10 07 20.9	+0.5
JSS				*e*S	S	10 07 50.4	+0.7
JYG	**Yagishiri**	0.91	224	⇑P	P	10 07 21.6	+0.6
JYG				*e*S	S	10 07 51.6	+0.8
ASAJ	**Asahikawa**	0.99	168	P	P	10 07 22.0	+0.7
	27nm,0.3s,baz=290,slow=5.8,SNR=181						
ASAJ				S	S	10 07 52.0	+0.6
	6.3nm,0.3s,baz=16,slow=33,SNR=18						
ASAJ	**Asahikawa**	0.99	168	⇑P	P	10 07 21.9	+0.6
ASAJ				*e*S	S	10 07 51.9	+0.5
JKK2	**Kamakawa 2**	1.25	165	⇑P	P	10 07 23.4	+0.6
JKK2				*e*S	S	10 07 54.5	+0.4
JMP	**Maruseppu**	1.31	145	⇑P	P	10 07 23.4	+0.2
JMP				*e*S	S	10 07 54.6	-0.1
JHR	**Hokuryu**	1.41	198	P	P	10 07 24.4	+0.6
JHR				*e*S	S	10 07 57.1	+1.3
JAB	**Ashibetsu**	1.58	182	⇑P	P	10 07 25.4	+0.4
JAB				*e*S	S	10 07 58.6	+0.7
JTKR	**Abashiri--Toko**	1.59	134	⇑P	P	10 07 25.5	+0.4
JTKR				*e*S	S	10 07 58.0	-0.1
YSS	**Yuzh-Sakhalins**	1.89	9	⇓*i*P	P	10 07 27.0	-0.3
YSS				AMB	AMB	10 07 27.2	
	280nm,0.2s						
YSS				*e*S	S	10 08 00.5	-1.5
YSS				A		10 08 01.4	
	310nm,0.6s						
YSS				A		10 08 01.4	
	140nm,0.6s						
YSS	**Yuzh-Sakhalins**	1.89	9	*e*Pn	P	10 07 27.4	0.0
JFR	**Furan**	1.93	174	P	P	10 07 27.8	+0.2
JFR				*e*S	S	10 08 03.3	+0.8
JAR	**Ashorobuto**	2.07	149	⇓P	P	10 07 29.2	+0.4
JAR				*e*S	S	10 08 04.2	-0.4
JSK	**Shakotan**	2.18	218	P	P	10 07 30.2	+0.4
JRA	**Rausu**	2.31	119	⇑P	P	10 07 31.9	+0.9
JEW	**Eniwo**	2.33	196	P	P	10 07 31.4	+0.2
JEW				*e*S	S	10 08 08.8	0.0
JCH	**Churui**	2.58	163	P	P	10 07 32.0	-1.6
JCH				*e*S	S	10 08 09.0	-4.1
JAK	**Akkeshi**	2.70	140	⇓P	P	10 07 33.6	-1.1
JAK				*e*S	S	10 08 12.7	-2.4
YUK	**Yuzh-Kuril'sk**	2.74	111	*e*P	P	10 07 34.6	-0.5
YUK				AMB	AMB	10 07 35.0	
	210nm,0.4s						
JNBK	**Urakawa-nobuka**	2.82	173	P	P	10 07 35.7	-0.2
JNBK				*e*S	S	10 08 15.6	-1.6
NEM2	**Nemuro 2**	3.00	124	P	P	10 07 36.0	-1.8
NEM2				*e*S	S	10 08 16.7	-3.8
JKB	**Kayabe**	3.33	197	⇓P	P	10 07 40.5	-0.7
JKB				*e*S	S	10 08 22.8	-3.9
KUR	**Kuril'sk**	3.93	86	⇓*e*P	P	10 07 48.0	+0.2
KUR				AMB	AMB	10 07 48.2	
	76nm,0.6s						
UGL	**Uglegorsk**	4.00	358	⇓*e*P	P	10 07 48.2	-0.4
UGL				*e*P		10 07 48.2	
UGL				AMB	AMB	10 07 49.0	
	110nm,0.7s						
UGL				*e*S	S	10 08 39.5	-0.3
UGL				*e*S	S	10 08 39.5	-0.3
UGL				A		10 08 42.0	
	600nm,2.0s						
UGL				A		10 08 42.0	
	500nm,2.0s						
UGL				A		10 08 43.0	
	72nm,0.9s						
UGL				A		10 08 43.0	
	70nm,0.9s						
UGL				A		10 08 43.0	
	67nm,0.9s						
TEY	**Ternei**	4.05	271	*e*P	P	10 07 48.0	-1.1
TEY				*i* S	S	10 08 40.0	-0.8
TEY				A		10 08 41.0	
	80nm,1.2s						
TYV	**Tymovskoe**	5.79	2	*e*P	P	10 08 09.8	+0.2
TYV				AMB	AMB	10 08 13.0	
	15nm,0.6s						
TYV				*e*S	S	10 09 19.0	+1.4
TYV				A		10 09 20.6	
	22nm,0.8s						
KLR	**Kul'dur**	8.31	304	*e*P	P	10 08 40.2	-0.6
MDJ	**Mudanjiang**	9.05	272	P	P	10 08 49.5	-0.6
MAJO	**Matsushiro**	9.08	201	*e*P	P	10 08 50.3	-0.2
	15nm,0.4s						
MAT	**Matsushiro**	9.08	201	P	P	10 08 50.3	-0.2
MAT	**Matsushiro**	9.08	201	*e*P	P	10 08 50.0	-0.5
	15nm,0.7s						
EKMR	**Ekimchan**	10.07	326	⇓*e*P	P	10 09 01.9	-0.8
EKMR				AMB	AMB	10 09 03.8	
	13nm,0.6s						
SKR	**Severo-Kuril's**	10.82	54	⇑*e*P	P	10 09 10.3	-1.7
SKR				AMB	AMB	10 09 11.1	
	80nm,0.6s						
SKR				AMB	AMB	10 09 11.1	
	110nm,0.6s						
CN2	**Changchun**	12.13	270	*e*P	P	10 09 30.0	+1.8
CN2				*e*XP		10 10 33.0	
CN2				*e*S	S	10 11 40.3	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KROS	**Kirovskiy**	13.61	319	⇑*e*P	P	10 09 46.0	-0.1
KROS				AMB	AMB	10 09 47.3	
	comp=Z,3.0nm,0.6s						
MA2	**Magadan**	15.38	16	*e*P	P	10 10 06.0	-1.3
	comp=Z,15nm,0.8s						
HIA	**Hailar**	15.89	293	*e*P	P	10 10 11.4	-1.6
	comp=Z,14nm,0.8s						
BJI	**Beijing**	19.86	265	P	P	10 10 53.3	-0.7
BJT	**Baijiatuau**	19.88	264	*e*P	P	10 10 54.5	+0.4
	comp=Z,8.6nm,0.6s						
FX1	**Attu Island--F**	21.57	58	*e*P	P	10 11 10.9	+0.4
SSE	**Sheshan**	21.63	237	P	P	10 11 14.8	+3.5
SSE				AMB	AMB		
	comp=Z,43nm,0.6s,mb5.0						
SSE	**Sheshan**	21.63	237	P	P	10 11 14.8	+3.5
	comp=Z,43nm,0.6s,mb5.0						
NJ2	**Nanjing**	22.39	243	*e*P	P	10 11 17.3	-1.4
SONM	**Songino Array**	24.76	289	P	P	10 11 41.4	+1.0
	comp=Z,9.1nm,0.8s,mb4.3,baz=83,slow=8.4,SNR=60						
LZH	**Lanzhou**	30.33	266	*e*P	P	10 12 29.8	-0.6
LZH				AP	pP	10 13 23.0	-2.5
LZH				PP	PP	10 13 44.0	+1.1
LZH				XP	sP	10 13 56.0	-2.0
LZH				*e*S	S	10 17 07.0	-1.8
LZH				SS	SS	10 19 13.0	-3.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,127nm,4.7s						
LZH	**Lanzhou**	30.33	266	*e*P	P	10 12 29.8	-0.6
	comp=Z,28nm,1.5s,mb4.6						
LZH				pP	pP	10 13 23.0	-2.5
LZH				PP	PP	10 13 44.0	+1.1
LZH				sP	sP	10 13 56.0	-2.0
LZH				*e*S	S	10 17 07.0	-1.8
LZH				sS		10 18 42.0	
LZH				SS	SS	10 19 13.0	-3.1
GTA	**Gaotai**	31.69	275	*e*P	P	10 12 45.5	+3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.2						
KMI	**Kunming**	37.53	251	*e*P	P	10 13 31.5	-0.2
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
KMI	**Kunming**	37.53	251	*e*P	P	10 13 31.5	-0.2
	comp=Z,11nm,0.8s,mb4.3						
WMQ	**Urumqi**	38.38	288	⇓P	P	10 13 39.5	+0.9
WMQ				AP	pP	10 14 36.5	+0.7
WMQ				XP	sP	10 15 08.8	+1.0
WMQ				PP	PP	10 15 16.8	+2.6
WMQ				PCP	PcP	10 15 48.5	+2.1
WMQ				S	S	10 19 12.0	-0.1
WMQ				XS		10 20 55.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	40.89	295	P	P	10 13 59.3	+0.2
	comp=Z,6.0nm,0.5s,mb4.0,baz=80,slow=8.9,SNR=54						
MCK	**McKinley**	41.73	39	*e*P	P	10 14 05.7	+0.1
KURK	**Kurchatov**	41.89	301	*e*P	P	10 14 06.1	-1.0
	comp=Z,2.6nm,0.6s,mb3.6						
COLA	**College**	42.06	37	*e*P	P	10 14 06.7	-1.5
	comp=Z,7.4nm,0.8s,mb4.0						
ILAR	**Eielson Array**	42.48	37	P	P	10 14 10.1	-1.5
	comp=Z,3.5nm,0.7s,mb3.7,baz=283,slow=7.2,SNR=39						
ZRNK	**Zerenda**	46.76	307	*e*P	P	10 14 44.9	-0.7
	comp=Z,1.6nm,0.6s,mb3.5						
DLBC	**Dease Lake**	52.01	42	*e*P	P	10 15 26.4	+1.4
YKA	**Yellowknife Ar**	56.59	33	P	P	10 15 57.0	-0.8
	comp=Z,1.6nm,0.5s,mb3.7,baz=308,slow=7.1,SNR=12						
YKA	**Yellowknife Ar**	56.59	33	P	P	10 15 57.0	-0.8
FINES	**FINESS Array B**	62.07	331	P	P	10 16 34.8	-0.4
	comp=Z,15nm,1.4s,mb4.4,baz=82,slow=9.8,SNR=4.0						
NEW	**Newport**	64.01	47	*e*P	P	10 16 47.9	0.0
	comp=Z,2.3nm,0.7s,mb3.9						
FCC	**Fort Churchill**	66.54	28	*e*P	P	10 17 03.2	-0.6
	comp=Z,11nm,0.9s,mb4.6						
FFC	**Flin Flon**	66.63	35	*e*P	P	10 17 04.1	-0.4
	comp=Z,2.1nm,0.7s,mb4.0						
CHMT	**Chamberlain Mo**	66.87	46	*e*P	P	10 17 06.4	+0.3
WVOR	**Wild Horse Val**	66.92	53	*e*P	P	10 17 07.1	+0.6
	comp=Z,2.7nm,0.7s,mb4.1						
HFS	**Hagfors**	67.06	335	P	P	10 17 05.4	-1.6
	comp=Z,0.8nm,0.4s,mb3.8,baz=37,slow=7.4,SNR=5.8						
HRY	**Holter Researc**	67.73	46	*e*P	P	10 17 11.8	+0.4
AKASG	**Malin Array Be**	68.41	321	P	P	10 17 15.1	-0.5
	comp=Z,0.6nm,0.4s,mb3.7,baz=43,slow=6.1,SNR=4.9						
MCMT	**McKenzie Canyo**	68.48	48	*e*P	P	10 17 16.6	+0.5
HLID	**Hailey**	68.50	50	*e*P	P	10 17 16.7	+0.4
	comp=Z,0.7nm,0.5s,mb3.6						
BOZ	**Bozeman (W)**	68.56	46	*e*P	P	10 17 17.1	+0.5
	comp=Z,2.3nm,0.5s,mb4.2						
NVAR	**Mina Array Bea**	69.75	56	P	P	10 17 25.0	+1.1
	comp=Z,3.0nm,0.7s,mb4.1,baz=290,slow=7.4,SNR=28						
NVAR	**Mina Array Bea**	69.75	56	P	P	10 17 25.0	+1.1
HWUT	**Hardware Ranch**	71.38	49	*e*P	P	10 17 34.4	+0.7
	comp=Z,3.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	71.63	48	P	P	10 17 35.6	+0.4
	comp=Z,5.5nm,0.7s,mb4.3,baz=310,slow=1.8,SNR=58						
DUG	**Dugway**	71.67	51	*e*P	P	10 17 36.2	+0.8
	comp=Z,6.6nm,1.1s,mb4.2						
TPNV	**Topopah Spring**	71.95	56	*e*P	P	10 17 37.9	+0.7
	comp=Z,2.5nm,0.7s,mb4.0						
NLU	**North Lily Min**	72.25	51	*e*P	P	10 17 39.6	+0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULM	Lac du Bonnet	72.46	35	P	P	10 17 39.2	-0.7
	comp=Z,4.0nm,0.5s,mb4.3,baz=336,slow=4.7,SNR=9.6						
ULM	Lac du Bonnet	72.46	35	P	P	10 17 39.2	-0.7
MSU	Marysvale	73.20	52	*e*P	P	10 17 46.1	+1.7
RSSD	Black Hills	73.44	43	*e*P	P	10 17 45.9	+0.1
	comp=Z,1.8nm,0.4s,mb4.0						
PV10	Paradox Valley	75.03	50	*e*P	P	10 17 55.8	+0.8
PV01	Paradox Valley	75.46	50	*e*P	P	10 17 57.6	+0.2
WUAZ	Wupatki	75.77	54	*e*P	P	10 17 59.4	+0.2
	comp=Z,1.2nm,0.4s,mb3.9						
SDCO	Great Sand Dun	77.40	49	*e*P	P	10 18 08.9	+0.8
	comp=Z,2.3nm,0.8s,mb4.0						
TXAR	Lajitas Array	84.71	53	P	P	10 18 47.5	+1.2
	comp=Z,0.9nm,0.6s,mb3.8,baz=294,slow=3.8,SNR=19						
WVT	Waverly	87.32	38	*e*P	P	10 18 58.7	-0.1
	comp=Z,2.2nm,0.7s,mb4.1						
SNAA	Sanae	148.59	200	*e*	PKPdf	10 25 58.9	+8.0
SNAA	Sanae	148.59	200	⇑*i*PKPdf	PKPdf	10 25 51.9	+1.0
SNAA				*e*		10 25 58.9	
VNA2	Neumayer--Watz	150.19	199	*e*	PKPdf	10 26 10.0	+17
VNA2	Neumayer--Watz	150.19	199	⇓*i*PKPdf	PKPdf	10 26 03.0	+10
VNA2				*e*		10 26 10.0	
VNA3	Neumayer Olymp	150.48	198	*e*	PKPdf	10 26 05.3	+12
VNA3	Neumayer Olymp	150.48	198	⇓*i*PKPdf	PKPdf	10 25 58.6	+4.8
VNA3				*e*		10 26 05.3	
VNA1	Neumayer--Stat	150.59	199	*e*	PKPdf	10 26 20.5	+27
VNA1	Neumayer--Stat	150.59	199	⇑*i*PKPdf	PKPdf	10 26 12.4	+18
VNA1				*e*		10 26 20.5	

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*IDC **27** 10:11:47.3±17.0, 18.49S×177.69W, h263^{km}±179^{km}, mb3.5/10, mb1 3.8/10, mb1mx3.7/17, MS3.6/1, Ms1 3.6/1, ms1mx3.1/10, Error ellipse: s-maj=76.5km s-min=18.7km az=179.0*

*NEIC **27** 10:11:51.5±7.1, 18.61S×177.70W, h308^{km}±73^{km}, mb3.9/4, Error ellipse: s-maj=30.7km s-min=17.7km az=186.0*

ISC 27 10:11:49.6±0.7**, 18.5S**±0.2×**177.8W**±0.1**, h300**^{km}**, n17, σ0^{s}.84**/17**, mb3.7**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.15	192	P	P	10 16 02.3	-0.2
	5.0nm,0.7s,baz=276,slow=5.6,SNR=4.6						
CTA	Charters Tower	33.94	261	*e*P	P	10 18 08.0	+1.0
	4.1nm,0.9s,mb4.0						
CTA	Charters Tower	33.94	261	P	P	10 18 08.1	+1.1
	8.5nm,0.9s,mb4.3,baz=99,slow=12,SNR=8.5						
CTA				LR	LR	10 29 46.3	
	comp=Z,90nm,20.8s,baz=310,slow=32						
CTAO	Charters Tower	33.94	261	*e*P	P	10 18 07.8	+0.8
	4.9nm,0.7s,mb4.2						
STKA	Stephens Creek	38.85	242	*e*P	P	10 18 49.2	+1.3
	4.3nm,1.1s,mb3.8						
STKA	Stephens Creek	38.85	242	P	P	10 18 49.1	+1.2
	2.3nm,0.6s,mb3.8,baz=78,slow=6.7,SNR=8.1						
WB2	Warramunga Arr	45.09	260	*e*P	P	10 19 37.1	-1.3
WB2				*e*S		10 24 28.8	
WRA	Warramunga Arr	45.11	260	P	P	10 19 37.9	-0.7
	0.9nm,0.8s,mb3.1,baz=95,slow=8.0,SNR=11						
ASAR	Alice Springs	45.20	255	P	P	10 19 39.2	0.0
	6.6nm,0.5s,mb4.1,baz=90,slow=8.4,SNR=150						
ASPA	Alice Springs	45.20	255	*e*P	P	10 19 39.4	+0.2
FITZ	Fitzroy Crossi	53.51	261	*e*P	P	10 20 42.3	+0.4
	1.9nm,1.0s,mb3.4						
FITZ	Fitzroy Crossi	53.51	261	P	P	10 20 42.0	+0.1
	2.0nm,0.9s,mb3.4,baz=187,slow=6.4,SNR=6.1						
QSPA	South Pole Qui	71.52	180	*e*P	P	10 22 38.5	-0.7
	1.6nm,0.7s,mb3.8						
NVAR	Mina Array Bea	79.47	43	P	P	10 23 25.1	+0.6
	1.7nm,0.9s,mb3.8,baz=230,slow=9.9,SNR=8.0						
TXAR	Lajitas Array	85.83	57	P	P	10 23 58.4	+1.3
	0.8nm,0.7s,mb3.6,baz=226,slow=6.1,SNR=12						
ILAR	Eielson Array	86.36	13	P	P	10 23 57.5	-1.4
	0.7nm,0.9s,mb3.5,baz=221,slow=5.4,SNR=5.4						
PDAR	Pinedale Array	87.40	43	P	P	10 24 04.0	-0.3
	0.4nm,0.6s,mb3.4,baz=210,slow=1.8,SNR=3.8						

IDC 27 10:38:12.6±6.2**, 56.19S**×**128.27W, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.8**/14**, Error ellipse: s-maj=441.0km s-min=39.3km az=139.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	74.86	250	P	P	10 49 54.5	-2.1
	0.7nm,0.8s,baz=153,slow=6.3,SNR=5.0						
WRA	Warramunga Arr	77.67	253	P	P	10 50 10.1	-2.3
	0.6nm,0.8s,baz=144,slow=5.0,SNR=5.4						
FITZ	Fitzroy Crossi	83.76	247	P	P	10 50 44.3	-0.4
	2.2nm,0.9s,baz=184,slow=12,SNR=2.4						
TXAR	Lajitas Array	87.72	21	P	P	10 51 02.3	-1.7
	0.2nm,0.8s,baz=180,slow=7.2,SNR=3.8						
ILAR	Eielson Array	121.47	351	PKP	PKPdf	10 57 05.7	-3.0
	0.3nm,0.7s,baz=200,slow=2.3,SNR=3.9						
SONM	Songino Array	146.15	279	PKPbc	PKPbc	10 57 54.9	+1.3
	0.3nm,0.6s,baz=135,slow=8.2,SNR=2.7						
MKAR	Makanchi Array	158.94	256	PKPab	PKPab	10 58 47.0	-2.6
	0.6nm,0.8s,baz=108,slow=4.6,SNR=2.9						

IDC 27 10:41:41.0±1.2**, 56.02S**×**129.23W, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.9**/14**, MS3.9**/6**, Ms1 3.9**/6**, ms1mx3.6**/19**, Error ellipse: s-maj=235.0km s-min=32.4km az=163.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	39.18	262	LR	LR	11 00 55.9	
	comp=Z,359nm,19.9s,baz=31,slow=30						
PLCA	Paso Flores	40.57	93	LR	LR	11 02 28.8	
	comp=Z,94nm,19.6s,baz=44,slow=31						
CPUP	Villa Florida	58.56	91	LR	LR	11 13 33.6	
	comp=Z,86nm,19.0s,baz=11,slow=33						
LPAZ	La Paz	60.58	75	P	P	10 51 53.8	-1.8
	0.7nm,0.7s,baz=193,slow=7.6,SNR=3.7						
LPAZ				LR	LR	11 11 18.2	
	comp=Z,66nm,21.8s,baz=173,slow=29						
BDFB	Brasilia	72.28	92	LR	LR	11 20 16.9	
	comp=Z,104nm,18.6s,baz=184,slow=32						
ASAR	Alice Springs	74.41	251	P	P	10 53 20.7	-1.7
	0.7nm,0.9s,baz=140,slow=6.3,SNR=4.9						
ROSC	El Rosal	75.40	57	LR	LR	11 22 28.7	
	comp=Z,72nm,18.5s,baz=105,slow=32						
WRA	Warramunga Arr	77.21	253	P	P	10 53 36.1	-2.2
	0.7nm,0.9s,baz=142,slow=5.4,SNR=6.2						
FITZ	Fitzroy Crossi	83.33	248	P	P	10 54 10.2	-0.7
	3.3nm,1.1s,baz=191,slow=10,SNR=2.6						
SONM	Songino Array	145.59	280	PKPbc	PKPbc	11 01 19.9	-0.8
	0.5nm,0.6s,baz=135,slow=3.5,SNR=4.2						
MKAR	Makanchi Array	158.45	258	PKPab	PKPab	11 02 14.6	-1.4
	0.5nm,0.6s,baz=124,slow=4.4,SNR=3.6						

JMA 27 10:45:55.8±0.2**, 44.15N**×**147.23E, h78**^{km}**, M3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.33	234	P	P	10 46 19.1	-0.3
NEM2				*e*S	S	10 46 36.6	-0.2
JRA	Rausu	1.54	263	P	P	10 46 21.9	-0.1
JRA				*e*S	S	10 46 40.7	-0.6
JNK	Nakash	1.90	254	P	P	10 46 26.8	-0.1
JNK				*e*S	S	10 46 50.3	+0.5
JAK	Akkeshi	2.17	239	P	P	10 46 30.4	-0.2
JAK				*e*S	S	10 46 56.0	-0.4
JTKR	Abashiri--Toko	2.40	267	P	P	10 46 32.8	-1.1
JAR	Ashorobuto	2.65	252	P	P	10 46 37.7	+0.3
JAR				*e*S	S	10 47 09.0	+0.6
JOB	Onbets	2.77	244	P	P	10 46 39.1	+0.1
JOB				*e*S	S	10 47 10.7	-0.6
JMP	Maruseppu	2.79	268	P	P	10 46 38.1	-1.3
JCH	Churui	3.21	243	P	P	10 46 45.0	-0.2
JCH				*e*S	S	10 47 21.4	-1.0
JKK2	Kamakawa 2	3.25	267	P	P	10 46 44.9	-0.8
JFR	Furan	3.51	255	P	P	10 46 47.8	-1.5
JNBK	Urakawa-nobuka	3.77	242	P	P	10 46 51.6	-1.3
JNBK				*e*S	S	10 47 34.8	-1.5

WEL 27 10:52:42.8±0.3**, 45.09S**×**167.52E, h122**^{km}±2^{km}**, ML3.8**/5**, 3C-1D, Error ellipse: s-maj=3.2km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.51	35	PN	P	10 53 00.8	-0.3
MSZ				SN	S	10 53 14.3	-0.7
MLZ	Mavora Lakes	0.53	119	⇑PN	P	10 53 00.8	-0.4
MLZ				SN	S	10 53 14.8	-0.4
WHZ	Wether Hill Ro	0.86	160	PN	P	10 53 03.3	-0.6
WHZ				SN	S	10 53 19.0	-0.7
WKZ	Wanaka	1.10	77	PN	P	10 53 06.2	-0.1
WKZ				SN	S	10 53 23.1	-0.7
AXZ	Alexandra	1.30	99	PN	P	10 53 08.0	-0.4
AXZ				SN	S	10 53 26.3	-1.4
JCZ	Jackson Bay	1.35	42	⇓PN	P	10 53 08.3	-0.7
JCZ				SN	S	10 53 27.4	-1.6
TUZ	Tuapeka	1.72	121	⇑PN	P	10 53 12.9	-0.4
TUZ				SN	S	10 53 33.8	-2.7
LBZ	Lake Benmore	2.03	71	PN	P	10 53 15.4	-1.7
LBZ				SN	S	10 53 39.9	-3.1
ODZ	Otahua Downs	2.22	90	⇑PN	P	10 53 18.2	-1.4
ODZ				SN	S	10 53 44.0	-3.4
RPZ	Rata Peaks	2.88	63	PN	P	10 53 25.6	-2.8
RPZ				SN	S	10 53 58.7	-4.3
LTZ	Lake Taylor	4.13	58	*e*PN	P	10 53 41.5	-3.7
LTZ				SN	S	10 54 27.6	-5.5

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*IDC **27** 10:59:31.4±0.8, 10.71N×125.63E, mb3.8/9, mb1 4.0/9, mb1mx3.9/17, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=62.4km s-min=16.3km az=71.0*

*MAN **27** 10:59:34.5, 10.72N×125.60E, mb4.7, ML3.6, MS3.5*

*NEIC **27** 10:59:50.8±0.5, 10.50N×125.41E, h170^{km}, mb4.4/1, Error ellipse: s-maj=43.8km s-min=8.8km az=71.0*

ISC 27 10:59:32.2±0.5**, 10.74N**±0.03×**125.83E**±0.05**, h10**^{km}**, n27, σ1^{s}.44**/35**, mb3.9**/10**, MS3.6**/1**, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.94	297	*i* P	Pb	10 59 49.8	-0.4
PLP				*i* S	Sb	11 00 00.0	-2.4
BESP	Borongan	0.94	336	*e*P	Pb	10 59 52.0	+1.8
BESP				*e*S	Sb	11 00 06.7	+4.2
SCPH	Surigao	1.01	200	*i* P	Pb	10 59 52.4	+1.2
SCPH				*i* S	Sb	11 00 01.4	-2.9
MSLP	Maasin	1.13	238	*e*P	Pb	10 59 53.8	+0.5
MSLP				*e*S	Sb	11 00 08.2	+0.3
OCLP	Ormoc	1.24	285	*e*P	Pb	10 59 54.4	-0.9
BUTP	Butuan	1.77	187	*e*P	Pn	11 00 06.1	+2.9
LLP	Lapu-Lapu	1.88	257	*e*P	Pn	11 00 03.0	-1.8
CNP	Catarman	2.10	327	*e*P	Pn	11 00 09.6	+1.6
CNP				*e*S	Sn	11 00 35.6	+1.2
TBP	Tagbilaran	2.20	242	*i* P	Pn	11 00 10.3	+1.0
TBP				*e*S	Sn	11 00 35.7	-1.2
CGP	Cagayan de Oro	2.53	206	*e*P	Pn	11 00 15.5	+1.5
CGP				*e*S	Sn	11 00 46.1	+0.9
SNPH	Sibulan	2.91	242	*e*P	Pn	11 00 21.0	+1.6
BUKP	Musuan	2.94	195	*e*P	Pn	11 00 23.3	+3.4
GUIM	Jordan	3.19	268	*e*P	Pn	11 00 23.6	+0.1
DCPH	Dipolog City	3.25	229	⇓*e*P	Pn	11 00 24.4	+0.1
PVCP	Virac	3.28	330	*e*P	Pn	11 00 28.2	+3.4
PVCP				*e*S	Sn	11 01 13.2	+8.9
PAGZ	Pagadian	3.75	220	*e*P	Pn	11 00 32.1	+0.7
KAKA	Kakadu	24.18	164	*e*P	P	11 04 51.2	+1.2
	6.4nm,0.5s,mb4.3						
WRA	Warramunga Arr	31.61	165	P	P	11 05 56.0	-1.8
	0.4nm,0.6s,mb3.4,baz=345,slow=9.3,SNR=13						
WB2	Warramunga Arr	31.62	165	*e*P	P	11 05 56.1	-1.7
ASAR	Alice Springs	35.09	167	P	P	11 06 27.1	-0.8
	0.5nm,0.4s,mb3.8,baz=350,slow=6.9,SNR=19						
ASAR				LR	LR	11 22 38.1	
	comp=Z,99nm,19.2s,MS3.6,baz=9.6,slow=40						
SONM	Songino Array	40.44	340	P	P	11 07 13.2	+0.8
	0.2nm,0.4s,mb3.2,baz=139,slow=8.4,SNR=2.8						
STKA	Stephens Creek	44.98	161	P	P	11 07 49.5	-0.1
	1.1nm,0.4s,mb4.0,baz=332,slow=17,SNR=4.4						
MKAR	Makanchi Array	51.40	323	P	P	11 08 37.6	-1.8
	1.4nm,0.7s,mb4.0,baz=120,slow=8.0,SNR=11						
BVAR	Borovoye Array	61.04	325	P	P	11 09 45.9	-2.4
	0.9nm,0.8s,mb4.0,baz=162,slow=14,SNR=3.7						
ILAR	Eielson Array	79.21	26	P	P	11 11 38.6	-0.1
	0.8nm,1.0s,mb3.6,baz=237,slow=5.3,SNR=7.2						
ARCES	ARCESS Array B	83.61	340	P	P	11 12 00.3	-1.4
	1.7nm,0.9s,mb4.2,baz=80,slow=7.4,SNR=5.3						
FINES	FINESS Array B	85.28	332	P	P	11 12 08.2	-2.0
	1.6nm,0.9s,mb4.1,baz=120,slow=11,SNR=3.5						

IDC 27 11:11:01.3±1.6**, 3.55N**×**128.24E, mb3.8**/5**, mb1 3.9**/5**, mb1mx3.7**/16**, Error ellipse: s-maj=90.5km s-min=21.0km az=69.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.66	187	*e*P	P	11 15 55.7	+0.1
	3.9nm,1.4s						
FITZ	Fitzroy Crossi	21.66	187	P	P	11 15 54.7	-0.9
	1.6nm,0.8s,slow=10,SNR=4.6						
WRA	Warramunga Arr	24.10	166	P	P	11 16 19.0	-0.7
	1.5nm,0.7s,baz=344,slow=10,SNR=20						
WB2	Warramunga Arr	24.10	166	*e*P	P	11 16 18.8	-0.9
ASAR	Alice Springs	27.61	169	P	P	11 16 50.5	-2.1
	0.3nm,0.7s,baz=350,slow=7.8,SNR=10.0						
STKA	Stephens Creek	37.45	161	P	P	11 18 15.6	-2.7
	1.0nm,0.3s,baz=343,slow=11,SNR=12						
MKAR	Makanchi Array	58.57	325	P	P	11 21 00.0	-2.2
	1.6nm,0.3s,baz=114,slow=7.2,SNR=39						

WEL 27 11:48:48.8±0.3**, 36.95S**×**177.43E, h143**^{km}±3^{km}**, ML3.5**/3**, Error ellipse: s-maj=3.8km s-min=3.1km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.93	131	PN	P	11 49 12.3	-0.3
MXZ				SN	S	11 49 30.5	-0.4
PUZ	Puketiti	1.30	150	PN	P	11 49 15.8	-0.4
PUZ				SN	S	11 49 35.9	-1.3
URZ	Urewera	1.33	191	PN	P	11 49 16.4	-0.1
URZ				SN	S	11 49 37.1	-0.6
MWZ	Matawai	1.39	177	PN	P	11 49 16.9	-0.2
MWZ				SN	S	11 49 38.1	-0.6
BKZ	Black Stump Fm	2.33	198	PN	P	11 49 27.2	-0.9
BKZ				*e*SN	S	11 49 55.2	-3.0
TSZ	Takapari Road	3.31	200	PN	P	11 49 38.0	-2.8
BFZ	Birch Farm	3.84	194	PN	P	11 49 44.6	-3.1
BFZ				SN	S	11 50 28.6	-4.2
MRZ	Mangatainoka R	3.98	201	PN	P	11 49 45.6	-3.9
MRZ				SN	S	11 50 29.6	-6.5
KIW	Kapiti Island	4.37	206	PN	P	11 49 50.7	-4.0
MTW	Mount Morrison	4.46	199	PN	P	11 49 51.2	-4.7
CAW	Cannon Point	4.54	203	PN	P	11 49 52.6	-4.4
NNZ	Nelson	5.30	215	PN	P	11 50 03.2	-3.8
THZ	Tophouse	5.95	215	PN	P	11 50 11.1	-4.6
LTZ	Lake Taylor	7.05	213	PN	P	11 50 24.3	-6.2

MAN 27 12:01:36.8, 9.12N×**125.59E, h1**^{km}**, mb4.2, ML3.1, MS2.8, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.15	170	*e*P	Pg	12 01 40.4	+0.6
BUTP				*e*S	Sg	12 01 44.0	+2.2
SCPH	Surigao	0.67	351	*i* P	Pg	12 01 49.7	-0.4
SCPH				*i* S	Sg	12 02 00.7	+1.8
CGP	Cagayan de Oro	1.11	233	⇓*e*P	Pb	12 01 57.3	-1.1
CGP				*e*S	Sb	12 02 14.1	+0.9
MSLP	Maasin	1.24	324	*e*P	Pb	12 01 59.7	-1.0
MSLP				*e*S	Sb	12 02 18.2	+1.2
BUKP	Musuan	1.34	203	*e*P	Pb	12 02 01.9	-0.5
BUKP				*e*S	Sb	12 02 18.6	-1.3
TBP	Tagbilaran	1.80	289	*e*P	Pn	12 02 08.6	-0.6
TBP				*e*S	Sn	12 02 33.2	+0.2
DCPH	Dipolog City	2.28	257	*e*P	Pn	12 02 15.6	-0.5
DCPH				*e*S	Sn	12 02 45.5	+0.3
PAGZ	Pagadian	2.53	240	*e*P	Pn	12 02 20.3	+0.7

MAN 27 12:08:53.0, 9.07N×**125.52E, mb4.2, ML3.0, MS2.7, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.14	134	*e*P	Pg	12 08 55.8	-0.1
BUTP				*e*S	Sg	12 08 59.5	+1.7
CGP	Cagayan de Oro	1.02	233	*e*P	Pb	12 09 12.8	-0.4
CGP						12 09 29.1	
MSLP	Maasin	1.24	329	*e*P	Pb	12 09 17.1	+0.1
BUKP	Musuan	1.27	201	*e*P	Pb	12 09 17.7	+0.3
BUKP				*e*S	Sb	12 09 38.5	+4.4
BESP	Borongan	2.52	358	*e*P	Pn	12 09 34.9	-0.9

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*IDC **27** 12:17:25.7±5.5, 5.78S×146.84E, h51^{km}±49^{km}, mb3.6/5, mb1 3.8/7, mb1mx3.6/13, ML3.6/2, Error ellipse: s-maj=40.8km s-min=28.9km az=129.0*

*NEIC **27** 12:17:25.9±2.1, 5.74S×146.71E, h54^{km}±16^{km}, mb3.9/5, Error ellipse: s-maj=19.6km s-min=14.7km az=168.0*

ISC 27 12:17:25.2±3.2**, 5.8S**±0.2×**146.7E**±0.1**, h57**^{km}±25^{km}**, n14, σ0^{s}.76**/16**, mb3.8**/7**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.58	173	P	P	12 18 20.1	+0.4
	14nm,0.3s,baz=1.3,slow=5.9,SNR=47						
PMG				S	S	12 19 00.9	-0.2
	8.9nm,0.3s,baz=6.4,slow=9.0,SNR=3.6						
KAKA	Kakadu	15.67	243	*e*P	P	12 21 04.6	+0.7
	5.2nm,0.6s						
WRAB	Tennant Creek	18.46	219	*e*P	P	12 21 37.8	-0.9
	2.4nm,0.4s						
WB2	Warramunga Arr	18.47	219	*e*P	P	12 21 37.9	-0.9
WB2				*e*S	S	12 24 51.8	-7.6
WRA	Warramunga Arr	18.47	219	P	P	12 21 37.9	-0.9
	0.4nm,0.3s,baz=38,slow=11,SNR=43						
ASAR	Alice Springs	21.59	213	P	P	12 22 12.2	+0.1
	0.7nm,0.5s,mb3.4,baz=54,slow=8.9,SNR=22						
ASPA	Alice Springs	21.60	213	*e*P	P	12 22 12.2	+0.1
FITZ	Fitzroy Crossi	23.91	238	*e*P	P	12 22 35.7	+0.9
	1.8nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	23.91	238	P	P	12 22 36.4	+1.6
	1.7nm,0.4s,mb3.8,baz=54,slow=5.3,SNR=19						
STKA	Stephens Creek	26.35	190	P	P	12 22 59.2	+1.3
	1.5nm,0.8s,mb3.6,baz=14,slow=12,SNR=3.8						
CASY	Casey	65.34	195	P	P	12 28 02.4	-1.0
	1.4nm,0.7s,mb4.1						
MAW	Mawson	82.29	203	P	P	12 29 41.7	0.0
	0.7nm,0.6s,mb3.8,baz=103,slow=7.0,SNR=3.9						
QSPA	South Pole Qui	84.14	180	*e*P	P	12 29 51.4	+0.6
	1.7nm,0.7s,mb4.3						
ILAR	Eielson Array	85.44	23	P	P	12 29 56.9	-0.6
	0.8nm,0.7s,mb4.0,baz=258,slow=5.0,SNR=15						

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*IDC **27** 12:22:37.8±4.8, 5.82S×146.80E, h54^{km}±46^{km}, mb3.5/5, mb1 3.7/7, mb1mx3.6/13, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/14, Error ellipse: s-maj=36.1km s-min=26.8km az=112.0*

*NEIC **27** 12:22:38.4±2.8, 5.85S×146.67E, h58^{km}±27^{km}, mb3.9/3, Error ellipse: s-maj=25.5km s-min=19.2km az=134.0*

ISC 27 12:22:36.6±3.1**, 5.8S**±0.1×**146.7E**±0.1**, h57**^{km}±29^{km}**, n12, σ0^{s}.75**/13**, mb3.6**/5**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.59	172	P	P	12 23 31.5	+0.4
	11nm,0.3s,baz=3.6,slow=5.0,SNR=24						
PMG				S	S	12 24 12.5	-0.1
	24nm,0.3s,baz=175,slow=21,SNR=10						
PMG				LR	LR	12 25 18.5	
	comp=Z,126nm,19.6s,baz=240,slow=45						
KAKA	Kakadu	15.65	243	*e*P	P	12 26 15.2	+0.1
	5.1nm,0.5s						
WRAB	Tennant Creek	18.44	219	P	P	12 26 46.8	-3.2
	5.4nm,0.9s						
WB2	Warramunga Arr	18.45	219	*e*P	P	12 26 49.7	-0.3
WRA	Warramunga Arr	18.45	219	P	P	12 26 49.2	-0.8
	0.3nm,0.3s,baz=38,slow=11,SNR=10						
WRA				PcP	PcP	12 31 18.8	+0.1
	0.0nm,0.3s,baz=35,slow=1.7,SNR=4.8						
ASAR	Alice Springs	21.58	213	P	P	12 27 23.6	+0.2
	0.7nm,0.7s,mb3.2,baz=53,slow=9.0,SNR=9.9						
ASPA	Alice Springs	21.58	213	*e*P	P	12 27 23.8	+0.4
FITZ	Fitzroy Crossi	23.88	237	*e*P	P	12 27 47.1	+1.1
	3.4nm,0.8s,mb3.8						
FITZ	Fitzroy Crossi	23.88	237	P	P	12 27 47.1	+1.1
	4.0nm,0.8s,mb3.9,baz=73,slow=4.2,SNR=12						
STKA	Stephens Creek	26.35	190	P	P	12 28 09.7	+0.3
	0.6nm,0.4s,mb3.5,baz=6.3,slow=9.2,SNR=3.8						
SONM	Songino Array	64.10	331	P	P	12 33 07.4	+0.3
	0.8nm,1.0s,mb3.7,baz=135,slow=4.1,SNR=3.0						
ILAR	Eielson Array	85.45	23	P	P	12 35 08.3	-0.7
	0.7nm,0.6s,mb4.0,baz=257,slow=5.1,SNR=13						

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*NIED **27** 13:11:00, 39.80N×143.50E, h17^{km}, Mw3.6 Best double couple: $M_0$3.01×10^{14} NP1:ϕ_s29°, δ58°, λ99°. NP2:ϕ_s192°, δ33°, λ76°.*

*IDC **27** 13:11:24.5±1.2, 39.65N×143.35E, mb3.4/5, mb1 3.5/6, mb1mx3.4/22, ML2.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/19, Error ellipse: s-maj=35.3km s-min=21.2km az=87.0*

*JMA **27** 13:11:25.7±0.2, 39.81N×143.54E, h23^{km}, M3.6*

ISC 27 13:11:23.3±2.2**, 39.69N**±0.06×**143.61E**±0.07**, h6**^{km}±15^{km}**, n17, σ0^{s}.81**/21**, mb3.4**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.37	281	P	Pb	13 11 48.8	-0.1
JTH				*e*S	Sb	13 12 06.0	-0.6
MIYJ	Miyako 2	1.39	266	P	Pn	13 11 49.7	+0.5
MIYJ				*e*S	Sb	13 12 06.9	-0.2
JANG	Nango	1.75	294	P	Pn	13 11 53.8	-0.7
JOM	Ohasama	1.80	264	P	Pn	13 11 55.8	+0.6
JOM				*e*S	Sn	13 12 18.5	-0.2
JMK	Ichinoseki	1.99	249	P	Pn	13 11 58.7	+0.8
JYK	Kaneyama	2.64	254	P	Pn	13 12 08.3	+1.2
JMM	Marumori	2.85	231	P	Pn	13 12 10.9	+0.6
JCH	Churui	2.93	356	P	Pn	13 12 11.0	-0.4
JAK	Akkeshi	3.41	14	P	Pn	13 12 17.4	-0.7
JAR	Ashorobuto	3.61	2	P	Pn	13 12 19.9	-1.1
JAR				*e*S	Sn	13 12 58.8	-5.7
ASAJ	Asahikawa	4.49	351	Pn	Pn	13 12 34.3	+0.8
	0.3nm,0.3s,baz=108,slow=19,SNR=2.2						
ASAJ				Sn	Sn	13 13 28.3	+1.5
	0.2nm,0.3s,slow=20,SNR=2.6						
JOW	Kunigami	18.10	230	LR	LR	13 22 20.3	
	comp=Z,242nm,18.2s,baz=108,slow=37						
SONM	Songino Array	27.87	299	P	P	13 17 14.2	-1.3
	0.3nm,0.5s,mb3.2,baz=111,slow=12,SNR=3.3						
MKAR	Makanchi Array	44.23	300	P	P	13 19 34.1	-0.7
	1.5nm,1.2s,mb3.6,baz=82,slow=8.6,SNR=4.0						
ILAR	Eielson Array	46.34	34	P	P	13 19 52.6	+1.3
	0.2nm,0.7s,mb3.2,baz=270,slow=6.3,SNR=3.7						
WRA	Warramunga Arr	59.94	190	P	P	13 21 31.7	-1.1
	0.4nm,0.6s,mb3.6,baz=7.8,slow=7.3,SNR=5.6						
ASAR	Alice Springs	63.67	190	P	P	13 21 57.7	-0.1
	0.2nm,0.8s,mb3.2,baz=10,slow=4.4,SNR=4.1						

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*IDC **27** 13:29:12.6±10.0, 6.58S×129.83E, h144^{km}±101^{km}, mb3.3/2, mb1 3.2/5, mb1mx3.1/12, Error ellipse: s-maj=89.0km s-min=33.0km az=52.0*

ISC 27 13:29:12.6±3.5**, 6.7S**±0.1×**129.7E**±0.2**, h161**^{km}±36^{km}**, n5, σ1^{s}.56**/8**, mb3.4**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.04	199	P	P	13 32 01.8	+1.9
	0.1nm,0.3s,baz=27,slow=10,SNR=6.6						
FITZ				S	S	13 34 10.1	-1.2
	0.6nm,0.3s,baz=348,slow=19,SNR=8.6						
WRA	Warramunga Arr	13.97	162	P	P	13 32 23.5	-1.2
	0.1nm,0.3s,baz=340,slow=11,SNR=25						
WRA				S	S	13 34 48.9	-7.2
	0.6nm,0.3s,baz=337,slow=22,SNR=12						
ASAR	Alice Springs	17.41	167	P	P	13 33 07.2	+0.2
	0.2nm,0.3s,baz=347,slow=11,SNR=23						
ASAR				S	S	13 36 14.6	+1.2
	0.1nm,0.3s,baz=354,slow=26,SNR=5.5						
STKA	Stephens Creek	27.46	158	P	P	13 34 44.8	-0.9
	2.0nm,1.0s,mb3.7,baz=340,slow=13,SNR=3.1						
MKAR	Makanchi Array	67.75	327	P	P	13 39 55.0	+0.2
	0.2nm,0.5s,mb3.1,baz=127,slow=7.2,SNR=3.1						

PGC 27 13:33:01.1, 51.36N×**131.33W, h10**^{km}**, ML3.5**/1**, 1C,**

South of Moresby Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	1.24	348	⇑Pn	Pn	13 33 22.1	-2.4
BNB				Sn	Sn	13 33 37.5	-4.0
	comp=Z,103nm,0.3s						
BNB				Trac		13 33 37.9	
	comp=Z,103nm,0.3s						
MOBC	**Moresby Island**	1.87	350	Pn	Pn	13 33 30.6	-2.9
MOBC				Trac		13 34 18.1	
	comp=Z,98nm,0.7s						
VIB	**Van Inlet**	2.03	339	Pn	Pn	13 33 33.5	-2.3
VIB				Sn	Sn	13 33 55.9	-5.6
	comp=Z,35nm,0.4s						
VIB				Trac		13 34 00.8	
	comp=Z,35nm,0.4s						
HOLB	**Holberg**	2.15	108	Pn	Pn	13 33 35.8	-1.7
HOLB				Sn	Sn	13 34 00.3	-4.1
	comp=Z,86nm,0.5s						
HOLB				Trac		13 34 15.9	
	comp=Z,86nm,0.5s						
BBB	**Bella Bella**	2.17	66	Pn	Pn	13 33 35.6	-2.1
BBB				Trac		13 34 16.0	
	comp=Z,75nm,0.5s						
BNAB	**Bonilla**	2.18	11	Pn	Pn	13 33 36.0	-1.9
BNAB				Trac		13 34 08.3	
	comp=Z,38nm,0.4s						
PHC	**Port Hardy**	2.55	103	Pn	Pn	13 33 40.6	-2.6
PHC				Sn	Sn	13 34 09.0	-5.6
PHC				Trac		13 34 34.4	
	comp=Z,35nm,0.5s						
BPBC	**Brooks Peninsu**	2.56	117	Pn	Pn	13 33 41.1	-2.3
BPBC				Pg	Pg	13 33 44.0	-8.3
BPBC				Sg	Sg	13 34 17.0	-9.5
BPBC				Trac		13 34 17.8	
	comp=Z,127nm,0.5s						
NDB	**Naden**	2.78	340	Pn	Pn	13 33 45.6	-0.9
NDB				Pg	Pg	13 33 55.3	-1.2
NDB				Trac		13 34 15.8	
	comp=Z,30nm,0.5s						
MAYB	**Maynard**	2.81	108	Pn	Pn	13 33 45.8	-1.1
MAYB				Sn	Sn	13 34 19.3	-1.8
	comp=Z,23nm,0.4s						
MAYB				Trac		13 34 26.8	
	comp=Z,23nm,0.4s						
RUBB	**Prince Rupert**	3.04	12	Pn	Pn	13 33 48.5	-1.8
RUBB				Trac		13 34 50.2	
	comp=Z,60nm,0.7s						
EDB	**Eliza Dome**	3.07	117	Pn	Pn	13 33 52.4	+1.7
EDB				Sn	Sn	13 34 29.0	+1.2
EDB				Trac		13 34 32.0	
	comp=Z,18nm,0.5s						
WOSB	**Woss**	3.25	110	Pn	Pn	13 33 51.3	-1.9
WOSB				Pn	Pn	13 33 53.5	+0.3
WOSB				Sn	Sn	13 34 29.3	-3.2
	comp=Z,52nm,0.6s						
WOSB				Trac		13 34 33.0	
	comp=Z,52nm,0.6s						
NCRB	**Newcastle Ridg**	3.48	104	Pn	Pn	13 33 54.9	-1.5
GDR	**Gold River**	3.73	113	Pn	Pn	13 34 00.5	+0.5
GDR				Sn	Sn	13 34 44.1	-0.4
	comp=Z,16nm,0.6s						
GDR				Trac		13 34 46.1	
	comp=Z,16nm,0.6s						
CBB	**Campbell River**	4.02	107	Pn	Pn	13 34 02.5	-1.6
CBB				Sn	Sn	13 34 47.6	-4.3
CBB				Trac		13 35 14.8	
	comp=Z,14nm,0.7s						
BTB	**Buttle Lake**	4.17	115	Pn	Pn	13 34 06.8	+0.5
BTB				Sn	Sn	13 34 54.4	-1.3
	comp=Z,11nm,0.4s						
BTB				Trac		13 35 05.3	
	comp=Z,11nm,0.4s						
TXB	**Texada**	4.71	108	Pn	Pn	13 34 12.1	-1.7
MGB	**Mount Grey**	4.88	116	Pn	Pn	13 34 16.9	+0.6
MGB				Sn	Sn	13 35 06.3	-7.2
	comp=Z,5.0nm,0.4s						
MGB				Trac		13 35 12.3	
	comp=Z,5.0nm,0.4s						
FSB	**Fort Saint Jam**	5.26	51	Pn	Pn	13 34 20.7	-1.1
FSB				Sg	Sg	13 35 44.0	-12
FSB				Trac		13 35 59.7	
	comp=Z,10nm,0.6s						
DLBC	**Dease Lake**	7.13	6	Pn	Pn	13 34 47.8	-0.3
DLBC				Sg	Sg	13 36 49.8	-8.7
DLBC				Trac		13 36 57.1	
	comp=Z,7.0nm,1.1s						

IDC 27 13:45:23.7±13.0, 11.05S×163.77E, h244^{km}±138^{km}, mb2.8/3, mb1 3.2/4, mb1mx3.0/15, Error ellipse: s-maj=152.0km s-min=55.2km az=139.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	19.10	240	P	P	13 49 28.6	-1.5
	0.3nm,0.3s,baz=70,slow=15,SNR=5.1						
WRA	**Warramunga Arr**	29.66	249	P	P	13 51 07.3	-1.9
	0.4nm,0.5s,baz=80,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	31.06	242	P	P	13 51 19.2	-2.1
	0.3nm,0.5s,baz=62,slow=10,SNR=5.5						
ILAR	**Eielson Array**	84.14	19	P	P	13 57 27.0	-1.2
	0.3nm,0.9s,baz=239,slow=5.3,SNR=4.8						

IDC 27 14:02:29.3±12.0, 6.65S×129.76E, h109^{km}±123^{km}, mb3.7/2, mb1 3.8/5, mb1mx3.6/12, ML3.9/3, Error ellipse: s-maj=138.0km s-min=33.2km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	12.07	199	P	P	14 05 18.0	-0.8
	1.1nm,0.3s,baz=24,slow=11,SNR=22						
FITZ				S	S	14 07 24.1	-7.4
	1.0nm,0.3s,baz=20,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	13.94	162	P	P	14 05 41.0	-2.3
	0.5nm,0.3s,baz=334,slow=14,SNR=37						
WRA				S	S	14 08 06.0	-10
	1.2nm,0.3s,baz=333,slow=22,SNR=8.1						
ASAR	**Alice Springs**	17.38	167	P	P	14 06 26.3	-0.2
	0.9nm,0.3s,baz=346,slow=9.4,SNR=66						
ASAR				S	S	14 09 33.4	-0.8
	0.2nm,0.3s,baz=356,slow=26,SNR=5.0						
STKA	**Stephens Creek**	27.43	158	P	P	14 08 04.5	-2.4
	0.8nm,0.4s,baz=330,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	67.80	327	P	P	14 13 15.6	-2.0
	0.8nm,0.4s,baz=119,slow=8.0,SNR=9.1						

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*MDD **27** 14:45:05.6±0.2, 43.07N×0.65W, h11^{km}±1^{km}, mbLg1.5/9, Error ellipse: s-maj=2.9km s-min=1.4km az=20.0, PRXIMO*

*STR **27** 14:45:05.5±0.1, 43.06N×0.65W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **27** 14:45:05.5±0.1, 43.08N×0.63W, h2^{km}, Md2.2/3, Ml2.0/3, Error ellipse: s-maj=1.7km s-min=1.3km az=1.0*

ISC 27 14:45:04.2±0.4, 43.14N±0.03×0.60W±0.03, h11^{km}, n23, σ1^{s}14/32, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	0.17	115	Pg	**Pg**	**14 45 09.5**	**+1.4**
REYF				Sg	**Sg**	**14 45 12.3**	**+1.6**
REYF	**Montagne du Re**	0.17	115	Pg	**Pg**	**14 45 09.3**	**+1.2**
REYF				Lg		14 45 12.3	
ETSF	**Etsaut**	0.25	172	*e*Pg	**Pg**	**14 45 09.3**	**-0.2**
ETSF				*e*Sg	**Sg**	**14 45 11.7**	**-1.3**
	135nm,0.2s						
ORDF	**Ordiarp**	0.25	286	Pg	**Pg**	**14 45 10.8**	**+1.2**
ORDF				Sg	**Sg**	**14 45 14.9**	**+1.7**
ORDF	**Ordiarp**	0.25	286	Pg	**Pg**	**14 45 10.6**	**+1.0**
ORDF				Lg		14 45 14.7	
LARF	**Larrau**	0.30	250	Pg	**Pg**	**14 45 10.6**	**+0.1**
LARF				Sg	**Sg**	**14 45 14.7**	**0.0**
LARF	**Larrau**	0.30	250	Pg	**Pg**	**14 45 10.6**	**+0.1**
LARF				Lg		14 45 14.5	
FDAF	**Les Forges d'A**	0.33	175	Pg	**Pg**	**14 45 10.6**	**-0.4**
FDAF				Sg	**Sg**	**14 45 14.4**	**-1.1**
FDAF	**Les Forges d'A**	0.33	175	Pg	**Pg**	**14 45 10.7**	**-0.2**
FDAF				Lg		14 45 14.4	
SJPF	**Ste Jean**	0.46	267	*e*Pg	**Pg**	**14 45 13.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**14 45 19.6**	**-0.1**
	27nm,0.2s						
OSSF	**Osses**	0.49	283	Pg	**Pg**	**14 45 14.3**	**0.0**
OSSF				Lg		14 45 21.3	
LABF	**Labassere**	0.51	101	Pg	**Pg**	**14 45 15.5**	**+1.1**
LABF				Sg	**Sg**	**14 45 23.4**	**+2.1**
LABF	**Labassere**	0.51	101	Pg	**Pg**	**14 45 15.7**	**+1.3**
LABF				Lg		14 45 23.4	
VIEF	**Viey**	0.53	119	Pg	**Pg**	**14 45 15.4**	**+0.5**
VIEF				Lg		14 45 22.2	
EALK	**Alkurruntz**	0.67	277	Pg	**Pg**	**14 45 17.2**	**-0.4**
	3.7nm,0.4s,SNR=8.0						
EALK				Lg		14 45 24.9	
	5.7nm,0.3s,SNR=11						
EPF	**Esparros**	0.70	99	*e*Pg	**Pg**	**14 45 19.2**	**+0.9**
EPF				*e*Sg	**Sg**	**14 45 29.1**	**+1.4**
	8.1nm,0.3s						
MELF	**Melles**	1.03	105	Lg		14 45 39.4	
EGRA	**Graus**	1.17	144	Pg	**Pg**	**14 45 26.6**	**-1.0**
	0.6nm,0.5s,SNR=7.9						
EGRA				Lg		14 45 41.8	
	2.7nm,0.4s,SNR=7.9						
SALF	**Salau**	1.37	106	Lg		14 45 49.6	
ESAC	**San Caprasio**	1.42	176	Pg	**Pg**	**14 45 31.8**	**-0.8**
	9.0nm,0.3s,SNR=6.2						
ESAC				Lg		14 45 49.7	
	30nm,0.2s,SNR=12						
LFF	**La Frestale**	2.04	28	*e*Pg	**Pg**	**14 45 44.5**	**-0.5**
LFF				*e*Sg	**Sg**	**14 46 12.3**	**+0.1**
	2.7nm,0.2s						
MTLF	**Montolieu**	2.07	84	*e*Pg	**Pg**	**14 45 43.5**	**-2.1**
MTLF				*e*Sg	**Sg**	**14 46 11.4**	**-1.8**
	1.6nm,0.2s						
RJF	**Les Rejaudoux**	2.64	34	*e*Pg	**Pg**	**14 45 55.4**	**-1.6**
RJF				*e*Sg	**Sg**	**14 46 29.8**	**-2.5**
	2.6nm,0.3s						

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*BER **27** 14:50:44.9±3.4, 69.06N×17.42E, MD2.2, ML1.5, ML1.8(NAO)*

*NAO **27** 14:50:45.1±4.0, 69.03N×17.71E, ML1.8*

ISC 27 14:50:41.9±0.8, 69.00N±0.08×17.6E±0.1, n5, σ1^{s}18/10, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	**Tromso**	0.80	37	*e*P	**Pg**	**14 50 57.3**	**-0.6**
TRO				*e*S	**Sg**	**14 51 08.9**	**+0.2**
LOF	**Lofoten**	1.71	241	*e*P	**Pn**	**14 51 13.1**	**-0.1**
LOF				*e*S	**Sb**	**14 51 36.0**	**0.0**
LOF				AML	AML	14 51 36.8	
	comp=Z,7.4nm,0.4s						
KTK1	**Kautokeino**	2.05	87	*e*P	**Pn**	**14 51 21.2**	**+3.1**
KTK1				*e*Sg	**Sg**	**14 51 49.4**	**-0.8**
KTK1				AML	AML	14 51 54.6	
	comp=Z,6.4nm,0.4s						
ARA0	**ARCESS Array S**	2.88	76	Pn	**Pn**	**14 51 30.8**	**+0.8**
	baz=260,slow=11						
ARA0				Pg	**Pg**	**14 51 36.6**	**-2.9**
	baz=259,slow=16						
ARA0				Sn	**Sn**	**14 52 07.2**	**+1.4**
	baz=264,slow=22						
ARA0				Lg		14 52 13.1	
	baz=265,slow=28						
MOR8	**Moi Rana**	3.08	204	*e*Sg	**Sg**	**14 52 16.8**	**-7.6**

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*IDC **27** 14:54:26.1±8.4, 8.43S×128.97E, h183^{km}±94^{km}, mb3.2/1, mb1 3.3/4, mb1mx3.1/12, Error ellipse: s-maj=65.3km s-min=38.6km az=32.0*

ISC 27 14:54:24.7±4.2, 8.4S±0.2×129.1E±0.2, h188^{km}±48^{km}, n4, σ0^{s}89/7, mb3.4/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	10.26	199	P	**P**	**14 56 48.6**	**+0.2**
	0.6nm,0.3s,baz=25,slow=12,SNR=42						
FITZ				S	**S**	**14 58 40.8**	**-0.2**
	0.7nm,0.3s,baz=355,slow=16,SNR=5.0						
WRA	**Warramunga Arr**	12.59	157	P	**P**	**14 57 17.4**	**-0.9**
	0.7nm,0.3s,baz=324,slow=13,SNR=86						
WRA				S	**S**	**14 59 34.9**	**-0.1**
	0.6nm,0.3s,baz=331,slow=22,SNR=7.9						
ASAR	**Alice Springs**	15.91	164	P	**P**	**14 58 01.1**	**+1.2**
	0.3nm,0.3s,baz=342,slow=9.6,SNR=24						
ASAR				S	**S**	**15 00 59.5**	**+9.2**
	0.1nm,0.3s,baz=342,slow=27,SNR=5.6						
MKAR	**Makanchi Array**	68.87	328	P	**P**	**15 05 10.8**	**-0.2**
	0.3nm,0.4s,mb3.4,baz=125,slow=8.4,SNR=8.7						

IDC 27 15:23:30.8±1.2, 3.35N×122.27E, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, Error ellipse: s-maj=165.0km s-min=20.7km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	26.01	153	P	P	15 29 05.8	-1.6
	0.5nm,0.3s,baz=336,slow=9.8,SNR=16						
WB2	**Warramunga Arr**	26.01	153	*e*P	P	15 29 06.0	-1.5
ASAR	**Alice Springs**	29.15	158	P	P	15 29 33.9	-2.1
	0.2nm,0.6s,baz=343,slow=7.5,SNR=6.6						
SONM	**Songino Array**	46.38	345	P	P	15 32 00.1	-0.6
	0.5nm,0.6s,baz=162,slow=9.4,SNR=5.4						
MKAR	**Makanchi Array**	55.40	328	P	P	15 33 06.0	-3.2
	0.5nm,0.3s,baz=128,slow=8.2,SNR=11						

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*IDC **27** 15:24:10.7±9.7, 35.28N×71.37E, mb3.7/2, mb1 3.7/4, mb1mx3.4/20, ML3.1/2, MS4.5/1, Ms1 4.5/1, ms1mx2.9/25, Error ellipse: s-maj=166.0km s-min=52.0km az=151.0*

*NNC **27** 15:24:36.3±22.0, 37.21N×69.91E, mpv3.9, Error ellipse: s-maj=200.6km s-min=159.7km az=136.0*

ISC 27 15:24:34.3±3.7, 36.9N±0.2×71.1E±0.2, h118^{km}±32^{km}, n16, σ0^{s}60/15, mb3.6/2, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	5.58	20	P	**P**	**15 25 56.5**	**+0.4**
	SNR=21						
UCH	**Uchtor**	5.92	25	P	**P**	**15 26 00.7**	**0.0**
	SNR=13						
KZA	**Kyzart**	6.07	30	P	**P**	**15 26 02.5**	**-0.2**
	SNR=8.0						
EKS2	**Erkin-Say**	6.09	19	P	**P**	**15 26 03.7**	**+0.6**
	SNR=11						
KK31	**Karatay Array**	6.20	356	⇑P	**P**	**15 26 04.7**	**+0.1**
	3.4nm,0.3s,baz=178,slow=13,SNR=77						
KK31				⇑S	**S**	**15 27 14.6**	**-0.1**
	1.5nm,0.3s,baz=187,slow=25,SNR=5.4						
AAK	**Ala-Archa**	6.28	23	P	**P**	**15 26 06.0**	**+0.4**
	SNR=9.1						
CHMS	**Chumysh**	6.69	24	P	**P**	**15 26 11.4**	**+0.1**
	SNR=7.1						
USP	**Ospenovka**	6.85	21	P	**P**	**15 26 13.7**	**+0.1**
	SNR=11						
TKM2	**Tokmak 2**	6.92	28	P	**P**	**15 26 14.2**	**-0.2**
	SNR=7.1						
SDNR	**Sundarnagar**	7.25	136	*e*P	Px	15 26 50.0	
MKAR	**Makanchi Array**	12.90	37	Pn	**P**	**15 27 32.9**	**-1.2**
	0.0nm,0.3s,baz=210,slow=12,SNR=3.9						
AB31	**Akbulak array**	14.77	330	⇑P	**P**	**15 27 57.1**	**-0.9**
	0.8nm,0.7s,baz=143,slow=13,SNR=18						
BVAR	**Borovoye Array**	16.12	358	Pn	**P**	**15 28 15.1**	**+0.1**
	0.2nm,0.3s,baz=156,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	40.80	337	P	**P**	**15 32 06.5**	**+1.4**
	0.8nm,0.6s,mb3.7,baz=98,slow=8.6,SNR=5.1						
NOA	**NORSAR Array B**	44.11	323	P	**P**	**15 32 31.4**	**-0.5**
	0.7nm,0.7s,mb3.5,baz=93,slow=7.7,SNR=3.4						
JHJ	**Hachijo jima 2**	55.26	72	LR	LR	15 59 18.7	
	comp=Z,409nm,20.1s,baz=354,slow=38						

OTT 27 15:58:43.5±0.3, 52.72N×67.17W, MN2.5/6, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	2.13	5	PN	Pn	15 59 19.1	-1.7
SCHQ				SN	Sn	15 59 47.6	-0.7
SCHQ				Trac		15 59 49.2	
	comp=Z,10nm,0.2s						
MNQ	**Manicouagan**	2.40	205	PN	Pn	15 59 24.1	-0.5
MNQ				SN	Sn	15 59 55.6	+0.4
MNQ				Trac		16 00 01.6	
	comp=Z,7.0nm,0.1s						
SMQ	**Clarke City**	2.51	173	PN	Pn	15 59 25.4	-0.8
SMQ				SN	Sn	15 59 58.0	-0.1
SMQ				Trac		16 00 05.7	
	comp=Z,9.5nm,0.2s						
ICQ	**Pointe Anglais**	3.20	181	PN	Pn	15 59 34.0	-2.1
ICQ				SN	Sn	16 00 12.3	-3.1
ICQ				Trac		16 00 28.2	
	comp=Z,1.9nm,0.1s						
CNQ	**Baie Comeau**	3.46	190	PN	Pn	15 59 38.0	-1.8
CNQ				SN	Sn	16 00 20.8	-1.4
CNQ				Trac		16 00 36.6	
	comp=Z,1.8nm,0.1s						
GSQ	**Grosses Roches**	3.81	179	PN	Pn	15 59 43.1	-1.6
GSQ				SN	Sn	16 00 27.8	-3.1
LG4Q	**La Grande 4**	4.26	285	PN	Pn	15 59 48.8	-2.4
LG4Q				SN	Sn	16 00 36.8	-5.6
LG4Q				Trac		16 00 56.9	
	comp=Z,1.6nm,0.2s						
LMQ	**La Malbaie**	5.55	203	PN	Pn	16 00 06.6	-2.8
VIMO	**Victor Mine**	10.05	277	PN	P	16 01 04.4	-7.7
SILO	**Sutton Inlier**	10.69	287	PN	P	16 01 11.1	-10

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*BGR **27** 16:15:17.6±0.4, 49.38N×6.89E, h1^{km}, ML2.0/2, Error ellipse: s-maj=15.6km s-min=4.4km az=48.0*

*BNS **27** 16:15:17.9±1.9, 49.39N×6.92E, ML1.9*

*LDG **27** 16:15:17.5±0.1, 49.39N×6.83E, h1^{km}, Md2.8/3, Ml3.0/16, Error ellipse: s-maj=1.3km s-min=0.8km az=110.0, Suspected Mining induced.*

*NEIC **27** 16:15:17.5, 49.39N×6.83E, h1^{km}, ML3.0(LDG), After LDG.*

ISC 27 16:15:15.1±0.3, 49.35N±0.01×6.74E±0.04, n26, σ1^{s}29/53, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	**Walferdange**	0.50	310	*e*Pg	**Pg**	**16 15 28.9**	**+3.8**
	SNR=7.7						
WLF				*e*Sg	**Sg**	**16 15 34.9**	**+3.2**
	SNR=6.8						
WLF	**Walferdange**	0.50	310	*e*Pg	**Pg**	**16 15 28.9**	**+3.8**
BGG	**Burgeitz**	0.94	24	*e*Pg	**Pg**	**16 15 33.8**	**-0.1**
BGG				*e*Sg	**Sg**	**16 15 46.7**	**+0.2**
	61nm,0.4s						
CDF	**Champ du Feu**	1.00	159	*e*Pg	**Pg**	**16 15 36.6**	**+1.6**
CDF				*e*Sg	**Sg**	**16 15 49.8**	**+1.4**
	27nm,0.2s						
RFYF	**Reffroy**	1.10	230	*e*Pg	**Pg**	**16 15 40.9**	**+3.8**
RFYF				*e*Sg	**Sg**	**16 15 55.7**	**+3.9**
	42nm,0.3s						
STB	**Steinbach**	1.25	3	*e*Pg	**Pg**	**16 15 40.4**	**+0.3**
STB				*e*Sg	**Sg**	**16 15 57.2**	**+0.4**
	27nm,0.5s						
KOE	**Koppel**	1.25	30	*e*Pg	**Pg**	**16 15 40.1**	**0.0**
KOE				*e*Sg	**Sg**	**16 15 54.9**	**-2.0**
KLL	**Kalltalsperre**	1.33	348	*e*Pg	**Pg**	**16 15 42.3**	**+0.6**
HAU	**Haudompre**	1.37	191	*e*Pg	**Pg**	**16 15 43.9**	**+1.5**
HAU				*e*Sg	**Sg**	**16 16 02.4**	**+1.8**
	28nm,0.4s						
MEZF	**Maizieres J'vi**	1.40	234	*e*Pg	**Pg**	**16 15 44.6**	**+1.5**
MEZF				*e*Sg	**Sg**	**16 16 03.5**	**+1.8**
	50nm,0.7s						
GIVF	**Givet**	1.46	302	*e*Pg	**Pg**	**16 15 45.1**	**+0.9**
GIVF				*e*Sg	**Sg**	**16 16 04.6**	**+0.9**
	48nm,0.7s						
BFO	**Black Forest**	1.46	134	*e*Pg	**Pg**	**16 15 44.1**	**-0.2**
	SNR=5.8						
BFO				*e*Sg	**Sg**	**16 16 02.4**	**-1.3**
	SNR=4.1						
BFO	**Black Forest**	1.46	134	*e*Pg	**Pg**	**16 15 44.1**	**-0.2**
BFO				*e*Sg	**Sg**	**16 16 02.4**	**-1.3**
HGN	**Heimansgroeve**	1.51	340	*e*Pg	**Pg**	**16 15 46.8**	**+1.5**
	SNR=3.0						
HGN				*e*Sg	**Sg**	**16 16 05.5**	**0.0**
	SNR=1.5						
HGN	**Heimansgroeve**	1.51	340	*e*Pg	**Pg**	**16 15 44.4**	**-0.9**
	11nm,0.2s						
HGN				*e*Sg	**Sg**	**16 16 05.4**	**-0.1**
HINF	**Hinteralfeld**	1.53	177	*e*Pg	**Pg**	**16 15 46.6**	**+0.9**
HINF				*e*Sg	**Sg**	**16 16 07.2**	**+1.1**
	50nm,0.3s						
SFTF	**Sexfontaines**	1.60	225	*e*Pg	**Pg**	**16 15 47.8**	**+0.6**
SFTF				*e*Sg	**Sg**	**16 16 10.2**	**+1.6**
	26nm,0.5s						
BNS	**Bensberg**	1.64	10	*e*Sg	**Sg**	**16 16 07.1**	**-2.7**
BAIF	**Baives**	1.79	294	*e*Pg	**Pg**	**16 15 50.4**	**-0.5**
BAIF				*e*Sg	**Sg**	**16 16 14.7**	**-0.2**
	34nm,0.7s						
CABF	**La Chapelle**	2.77	189	*e*Pn	**Pn**	**16 16 02.0**	**+0.4**
CABF				*e*Sg	**Sg**	**16 16 46.7**	**-0.7**
	26nm,0.6s						
LOR	**Lormes**	2.83	224	*e*Pn	**Pn**	**16 16 03.1**	**+0.7**
LOR				*e*Sn	**Sn**	**16 16 36.9**	**-0.9**
LOR				*e*Sg	**Sg**	**16 16 48.7**	**-0.8**
	17nm,0.6s						
SSF	**Saint Saulge**	3.15	225	*e*Pn	**Pn**	**16 16 07.1**	**+0.2**
SSF				*e*Sn	**Sn**	**16 16 44.1**	**-1.7**
SSF				*e*Sg	**Sg**	**16 16 58.1**	**-1.8**
	12nm,0.5s						
SMF	**Signal de Mont**	3.33	217	*e*Pn	**Pn**	**16 16 09.5**	**0.0**
SMF				*e*Sn	**Sn**	**16 16 48.7**	**-1.7**
SMF				*e*Sg	**Sg**	**16 17 04.3**	**-1.7**
	21nm,0.8s						
AVF	**Avril sur Loir**	3.42	223	*e*Pn	**Pn**	**16 16 10.7**	**-0.1**
AVF				*e*Sn	**Sn**	**16 16 51.0**	**-1.7**
AVF				*e*Sg	**Sg**	**16 17 06.4**	**-2.6**
	16nm,0.8s						
BGF	**Bois d'Agland**	3.83	225	*e*Pn	**Pn**	**16 16 16.2**	**-0.3**
BGF				*e*Sn	**Sn**	**16 17 00.3**	**-2.6**
BGF				*e*Sg	**Sg**	**16 17 18.9**	**-3.6**
	25nm,0.5s						
BRG	**Berggiesshubel**	4.88	69	*e*Sg	**Sg**	**16 17 53.5**	**-4.0**

MAN 27 17:28:36.0, 10.16N×124.77E, h18^{km}, mb4.0, ML2.8, MS2.5, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	0.10	107	*e*P	Pb	17 28 40.5	+0.8
MSLP				*e*S	Sb	17 28 44.0	+1.8
OCLP	**Ormoc**	0.90	350	*e*P	Pb	17 28 52.2	-0.5
OCLP				*e*S	Sb	17 29 06.5	+2.3
TBP	**Tagbilaran**	1.01	242	*i* P	Pb	17 28 54.3	-0.3
TBP				*e*S	Sb	17 29 09.2	+1.8
PLP	**Palo**	1.02	12	*e*P	Pb	17 28 55.5	+0.7
PLP				*e*S	Sb	17 29 09.1	+1.4
BESP	**Borongan**	1.57	25	*e*P	Pn	17 29 03.3	-0.1
GUIM	**Jordan**	2.19	282	*e*P	Pn	17 29 15.1	+2.9

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*HEL **27** 17:42:35.9±0.2, 67.84N×20.07E, ML1.9, ML2.2(UPP), ML1.8(BER), Explosion*

*NAO **27** 17:42:35.7±3.6, 67.79N×20.15E, ML2.3*

*BER **27** 17:42:37.9±3.5, 67.86N×20.10E, ML1.8, ML2.3(NAO), Suspected explosion*

ISC 27 17:42:34.6±0.6, 67.82N±0.03×20.08E±0.08, n21, σ0^{s}81/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.17	34	*i* P	**Pg**	**17 42 38.0**	**0.0**
KUA				*i* S	**Sg**	**17 42 40.4**	**+0.2**
NIKU	**Nikkaluokta**	0.40	278	*i* P	**Pg**	**17 42 42.7**	**+0.1**
MASU	**Masugnsbyn**	0.82	115	*i* P	**Pg**	**17 42 50.3**	**-0.6**
KIF	**Kilpisjarvi**	1.22	12	*e*P	**Pb**	**17 42 58.7**	**+0.4**
KIF				*e*S	**Sb**	**17 43 15.2**	**+0.7**
PAJU	**Pajala**	1.42	123	*e*P	**Pb**	**17 43 00.7**	**-0.9**
ERTU	**Ertsjaerv**	1.51	146	*e*S	**Sb**	**17 43 23.7**	**+0.8**
KTK1	**Kautokeino**	1.67	43	*e*P	**Pn**	**17 43 05.6**	**+0.2**
KTK1				*e*SN	**Sn**	**17 43 28.5**	**+0.7**
KTK1				AML	AML	17 43 31.0	
	comp=Z,9.4nm,0.4s						
TRO	**Tromso**	1.87	348	*e*P	**Pn**	**17 43 08.0**	**-0.2**
TRO				*e*SG	**Sg**	**17 43 33.8**	**-3.2**
TRO				AML	AML	17 43 37.3	
	comp=Z,16nm,0.4s						
LOF	**Lofoten**	2.49	280	*e*	**Sg**	**17 43 57.5**	**+0.1**
LOF				AML	AML	17 43 59.7	
	comp=Z,9.1nm,0.4s						
LOF	**Lofoten**	2.49	280	*e*Sg	**Sg**	**17 43 57.5**	**+0.1**
LOF				AML	AML	17 43 59.7	
	comp=Z,9.1nm,0.4s						

SGF	Sodankyl	2.49	96	*e*P	Pn	17 43 18.3	+1.2
SGF				*e*S	Sn	17 43 49.0	+0.4
SGF				MSG		17 43 56.0	
	comp=Z,3.4nm,0.3s						
ARA0	ARCESS Array S	2.63	46	Pn	Pn	17 43 18.8	-0.3
	baz=231,slow=16						
ARA0				Sn	Sn	17 43 52.6	+0.5
	baz=227,slow=28						
ARA0				Lg		17 43 56.9	
	baz=224,slow=37						
ARA0	ARCESS Array S	2.63	46	*e*P	Pn	17 43 18.8	-0.3
ARA0				*e*S	Sn	17 43 52.6	+0.5
ARA0				*e*SG	Sg	17 43 56.9	-5.2
MOR8	Moi Rana	2.76	236	*e*SG	Sg	17 43 58.8	-7.9
MOR8				AML	AML	17 44 02.9	
	comp=Z,16nm,0.3s						
KEV	Kevo	3.18	49	*e*P	Pn	17 43 26.9	-0.1
KEV				*e*S	Sn	17 44 04.3	-1.8
KEV				MSG		17 44 22.8	
	comp=Z,3.0nm,0.3s						
OUL	Oulu	3.60	137	*e*P	Pn	17 43 33.7	+0.9
OUL				*e*S	Sn	17 44 15.3	-1.4
OUL				MSG		17 44 34.1	
	comp=Z,3.9nm,0.4s						
NSS	Namsos	4.66	229	*e*SG	Sg	17 45 01.7	-8.1
NSS				AML	AML	17 45 04.6	
	comp=Z,4.2nm,0.5s						
FIA0	FINESS Array S	6.89	155	Lg		17 46 11.3	
	baz=340,slow=37						
FIA0	FINESS Array S	6.89	155	Lg		17 46 11.3	
	baz=340,slow=37						
HFS	Hagfors	8.20	203	*e*S	Sn	17 46 06.9	-5.4
HFS				*e*		17 46 52.9	
HFS	Hagfors	8.20	203	Sn	Sn	17 46 06.9	-5.4
	baz=22,slow=28						
HFS				Lg		17 46 52.9	
	baz=23,slow=37						

MOS 27 17:44:03.1±1.4**,51.09N×98.28E,h7^{km},mb4.2**/1**,Error ellipse: s-maj=17.1km s-min=10.0km az=155.4, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	1.73	33	*e*PN	Pn	17 44 34.3	+0.4
ORL				*e*		17 44 57.1	
ORL				pmax	pmax		
	comp=Z,150nm,0.4s						
ORL				smax			
	comp=N,1µm,0.8s						
MOY	Mondy	1.80	70	*e*PN	Pn	17 44 36.0	+1.2
MOY				*e*S	Sn	17 44 59.5	+1.4
MOY				pmax	pmax		
	comp=Z,156nm,0.4s						
MOY				smax			
	comp=N,3µm,1.3s						
ARS	Arshan	2.72	71	*e*PN	Pn	17 44 51.5	+3.5
ARS				*e*		17 45 28.8	
ARS				smax			
	comp=E,2µm,0.5s						
ZAK	Zakamensk	3.25	101	*e*PN	Pn	17 44 56.2	+0.6
ZAK				*e*		17 45 01.2	
ZAK				*e*		17 45 45.0	
ZAK				pmax	pmax		
	comp=Z,141nm,1.0s						
ZAK				smax			
	comp=N,627nm,1.0s						
TLY	Talaya	3.41	78	*e*PN	Pn	17 44 57.6	-0.3
TLY				*e*		17 45 04.8	
TLY				*e*		17 45 49.5	
TLY				pmax	pmax		
	comp=Z,34nm,0.6s						
TLY				smax			
	comp=E,670nm,0.6s						
IRK	Irkutsk	3.91	70	*e*PN	Pn	17 45 13.0	+8.2
IRK				*e*		17 46 02.9	
IRK				pmax	pmax		
	comp=Z,96nm,0.5s						
IRK				smax			
	comp=N,3µm,1.4s						
LSTR	Listvyanka	4.17	77	*e*PN	Pn	17 45 19.1	+10
LSTR				*e*		17 46 11.2	
LSTR				pmax	pmax		
	comp=Z,46nm,1.3s						
LSTR				smax			
	comp=N,700nm,1.0s						
CERR	Cheremushki	4.60	295	*i* PN	Pn	17 45 25.0	+10
CERR				*i* S	Sn	17 46 22.5	+13
TRG	Tyrgan	5.26	68	*e*PN	Pn	17 45 22.0	-2.1
TRG				*e*		17 45 37.3	
TRG				*e*		17 46 46.1	
TRG				pmax	pmax		
	comp=Z,43nm,0.5s						
TRG				smax			
	comp=N,783nm,1.4s						
KAB	Kabansk	5.31	76	*e*PN	Pn	17 45 38.9	+14
KAB				*e*		17 46 45.6	
KAB				pmax	pmax		
	comp=Z,107nm,0.4s						
KAB				smax			
	comp=E,2µm,1.4s						
OGRR	Ongureny	6.25	62	*e*PN	Pn	17 45 54.0	+16
OGRR				*e*		17 47 15.4	
OGRR				pmax	pmax		
	comp=Z,25nm,1.0s						
OGRR				smax			
	comp=E,283nm,0.6s						
ULN	Ulaanbaatar	6.56	116	*e*P*	Pb	17 46 12.3	+15
TASR	Tashtagol	6.65	289	*e*PN	Pn	17 46 00.0	+16
TASR				*e*S	Sn	17 47 28.3	+28
AKAR	Aktash	6.82	268	*e*PN	Pn	17 45 45.7	-0.3
AKAR				*e*		17 46 07.5	
AKAR				*e*S	Sn	17 47 31.7	+27
ARTR	Artybash	6.91	280	*e*PN	Pn	17 45 47.3	-0.1
ARTR				*e*		17 46 07.7	
NIZ	Nizh Angarsk	8.20	51	*e*P	P	17 46 04.1	-1.2
NIZ				pmax	pmax		
	comp=Z,11nm,0.6s						
KMO	Kumora	9.07	53	*e*P	P	17 46 15.0	-2.5
MKAR	Makanchi Array	11.36	254	*i* P	P	17 47 07.6	+19
SOC	Sochi	39.45	283	*e*P	P	17 51 41.7	+6.4
SOC				*e*		17 53 28.1	
SOC				*e*S	S	17 57 41.2	+4.0
SOC				MLR	MLR		
	comp=Z,86nm,21.0s						
SOC				MLR	MLR		
	comp=N,58nm,22.0s						
SOC				MLR	MLR		
	comp=E,51nm,24.0s						

*IDC **27** 17:46:40.5±1.2,28.32N×51.73E,mb4.0/8,mb1 4.1/10, mb1mx3.8/21,ML3.6/2,MS3.1/2,Ms1 3.1/2,ms1mx2.6/26, Error ellipse: s-maj=31.8km s-min=20.5km az=23.0*

*THR **27** 17:46:44.2±0.5,28.76N×51.69E,h6^{km}±75^{km},ML3.8*

*NEIC **27** 17:46:47.1±3.7,28.45N×51.57E,h40^{km}±30^{km},mb3.7/1, Error ellipse: s-maj=27.6km s-min=24.4km az=120.0*

ISC 27 17:46:39.3±0.7**,28.28N**±0.06×**51.67E**±0.07**,h10^{km},n23,** σ**1^{s}07**/25**,mb3.8**/8**,MS3.2**/1**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.16	89	*e*PG	Pg	17 47 08.1	+5.6
GHIR				AMP		17 47 30.3	
	comp=N,3µm,0.4s						
NASN	Na'in	4.61	12	*e*PN	Pn	17 47 50.5	-0.2
NASN				SN	Sn	17 48 38.8	-6.2
ASAO	Ashtian	6.40	348	*e*PN	Pn	17 48 15.4	-0.6
ASAO				AMP		17 49 55.7	
	comp=N,20nm,0.6s						
MZLS	Mizel	7.19	235	P	Pn	17 48 27.3	+0.3
DAMV	Damavand	7.33	2	*e*PN	Pn	17 48 27.4	-1.7
ARSS	Ar Rass	7.89	254	P	Pn	17 48 35.8	-1.1
HILS	Ha'il	8.79	266	P	P	17 48 48.1	-1.4
AFFS	‘Afif	8.92	243	P	P	17 48 50.6	-0.6
DJNS	Zahran al Janu	12.91	217	P	P	17 49 45.8	+0.1
ASF	Jabal al Asfar	13.35	290	Pn	P	17 49 52.4	+1.0
	comp=N,0.4nm,0.3s,baz=242,slow=3.1,SNR=3.1						
ASF				Sn	S	17 52 21.0	+0.1
	comp=N,0.2nm,0.3s,baz=145,slow=22,SNR=3.2						
ASF				LR	LR	17 55 47.1	
	comp=N,53nm,21.4s,baz=180,slow=41						
MALT	Malatya	14.91	316	*e*P	P	17 50 12.6	+0.7
	comp=N,3.1nm,0.8s						
BRTR	Keskin Array B	18.77	312	P	P	17 51 00.9	+0.2
	comp=N,0.2nm,0.3s,baz=134,slow=14,SNR=13						
MLR	Muntele Rosu	26.63	317	P	P	17 52 20.6	+0.8
	comp=N,1.4nm,0.8s,mb3.5,baz=153,slow=16,SNR=2.2						
MLR				LR	LR	18 05 36.6	
	comp=N,58nm,18.3s,MS3.2,baz=74,slow=43						
BVAR	Borovoye Array	28.33	24	P	P	17 52 35.4	+0.2
	comp=N,1.0nm,0.6s,mb3.6,baz=233,slow=7.4,SNR=7.9						
FINES	FINESS Array B	37.29	340	P	P	17 53 52.2	-0.8
	comp=N,4.6nm,0.9s,mb4.3,baz=150,slow=15,SNR=11						
FINES	FINESS Array B	37.29	340	P	P	17 53 52.2	-0.8
NB2	NORSAR Subarra	42.41	332	P	P	17 54 34.7	-0.6
	comp=N,1.1nm,0.7s,mb3.6,baz=122,slow=7.9						
NOA	NORSAR Array B	42.41	332	P	P	17 54 37.6	+2.2
	comp=N,2.3nm,1.0s,mb3.8,baz=122,slow=8.3,SNR=3.8						
ARCES	ARCESS Array B	43.98	347	P	P	17 54 50.6	+2.6
	comp=N,1.5nm,0.8s,mb3.8,baz=158,slow=6.5,SNR=6.9						
CMAR	Chiang Mai Arr	44.25	92	P	P	17 54 49.7	-1.2
	comp=N,0.4nm,0.5s,mb3.4,baz=292,slow=8.1,SNR=5.0						
DBIC	Dimbokro	57.48	259	P	P	17 56 31.7	+0.4
	comp=N,2.3nm,0.6s,mb4.4,baz=20,slow=7.6,SNR=4.7						
DBIC	Dimbokro	57.48	259	P	P	17 56 31.7	+0.4
ASAR	Alice Springs	94.52	114	P	P	18 00 04.8	+3.2
	comp=N,0.3nm,0.6s,mb3.9,baz=304,slow=4.6,SNR=7.3						

MAN 27 17:47:00.1,8.19N×126.10E,h38^{km},mb3.6,ML2.3,MS1.8, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.26	90	⇓*i*P	P	17 47 08.4	+0.6
BIPH				*i* S	S	17 47 13.4	+0.2
BUTP	Butuan	0.91	329	*e*P	P	17 47 17.9	+1.4
BUKP	Musuan	1.07	253	*e*P	P	17 47 18.1	-0.6
MATI	Mati	1.24	173	*e*P	P	17 47 21.3	+0.1
MATI				*e*S	S	17 47 38.0	+0.9

*IDC **27** 18:01:03.6±2.1,24.97N×101.85E,mb3.4/4,mb1 3.6/4, mb1mx3.5/16,Error ellipse: s-maj=68.6km s-min=28.4km az=89.0*

*BJI **27** 18:01:05.2,24.86N×101.30E,h18^{km},mb3.9,ML3.6, Ms3.9*

ISC 27 18:01:03.0±1.1**,24.62N**±0.06×**101.50E**±0.09**,h11**^{km}±9^{km}**, n12,**σ**1^{s}11**/14**,mb3.5**/4**,1D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	1.24	66	*e*PG	Pg	18 01 28.5	+0.8
CHRT	Chiangrai	4.98	199	⇓P	Pg	18 02 42.6	+0.1
	355nm,0.8s						
GYA	Guiyang	5.01	67	P	Pn	18 02 21.3	+1.2
GYA				S	Sn	18 03 17.5	-1.2
GYA				Smax			
	comp=N,40nm,0.8s						
GYA				Smax			
	comp=E,60nm,0.7s						
NANT	Nan	5.83	187	P	Pg	18 02 58.5	-1.0
CHG	Chiang Mai	6.24	203	PG	Pg	18 03 06.7	-0.9
CHG				SG	Sg	18 04 32.4	+1.6
CMAR	Chiang Mai Arr	6.57	202	Pg	Pg	18 03 12.9	-1.3
	comp=E,1.1nm,0.3s,baz=13,slow=16,SNR=14						
CMAR				Lg		18 04 39.5	
	comp=E,0.8nm,0.3s,baz=14,slow=31,SNR=5.3						
CD2	Chengdu	6.58	17	P	Pn	18 02 42.3	+0.1
GTA	Gaotai	14.82	355	*e*P	P	18 04 35.5	+1.1
GTA				AP		18 04 40.0	
GTA				AMB	AMB		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	23.50	8	P	P	18 06 11.5	-2.1
	comp=Z,0.3nm,0.5s,mb3.0,baz=191,slow=11,SNR=3.6						
WRA	Warramunga Arr	54.62	141	P	P	18 10 35.3	+1.1
	comp=Z,0.4nm,0.6s,mb3.6,baz=330,slow=7.9,SNR=4.7						
ASAR	Alice Springs	57.37	144	P	P	18 10 53.2	-0.7
	comp=Z,0.2nm,0.6s,mb3.3,baz=327,slow=6.4,SNR=4.2						
STKA	Stephens Creek	68.00	144	P	P	18 12 05.5	+1.0
	comp=Z,1.4nm,0.8s,mb4.0,baz=343,slow=11,SNR=3.1						

*BGR **27** 18:09:16.2±0.6,51.55N×16.14E,h1^{km},ML3.1/9,Error ellipse: s-maj=5.6km s-min=4.4km az=98.0*

*NEIC **27** 18:09:16.4±0.5,51.59N×16.09E,h5^{km},ML3.1(SZGRF), ML3.0(VIE),ML2.8(CLL),ML2.7(BRG),Error ellipse: s-maj=6.1km s-min=3.8km az=222.0*

*PRU **27** 18:09:17.4,51.53N×16.06E*

*WAR **27** 18:09:17.8,51.55N×16.05E,ML3.0,Mining Induced*

ISC 27 18:09:15.4±0.5**,51.51N**±0.03×**16.04E**±0.03**,n40,**σ**1^{s}16**/84**, 1C-1D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	166	*e*PG	Pg	18 09 31.0	+2.0
KSP				*e*SG	Sg	18 09 40.0	+1.8
KSP	Ksiaz	0.69	166	*e*Pg	Pg	18 09 31.0	+2.0
KSP				*e*		18 09 33.4	
KSP				*e*Sg	Sg	18 09 40.5	+2.3
KSP				*e*		18 09 44.1	
UPC	Upice	1.00	181	*e*PG	Pg	18 09 36.8	+1.4
DPC	Dobruska-Polom	1.17	171	*e*PG	Pg	18 09 39.5	+0.7
DPC				*e*SG	Sg	18 09 55.4	+1.0
	27nm,0.2s						
PVCC	Panska Ves	1.35	224	*e*PG	Pg	18 09 42.9	+0.6
PVCC				*e*SG	Sg	18 10 02.2	+2.0
BRG	Berggiesshubel	1.46	245	*e*Pn	Pn	18 09 43.7	+0.7
BRG				*e*Sg	Sg	18 10 05.1	+1.1
BRG	Berggiesshubel	1.46	245	*i* Pn	Pn	18 09 43.8	+0.7
BRG				*i* Pg	Pg	18 09 45.0	+0.5
BRG				*i* Sg	Sg	18 10 05.2	+1.2
RUE	Ruedersdorf	1.70	306	*e*Pn	Pn	18 09 46.3	-0.2
RUE				*e*Sg	Sg	18 10 11.9	-0.1
RUE	Ruedersdorf	1.70	306	*e*Pn	Pn	18 09 46.3	-0.2
RUE				*e*Sg	Sg	18 10 11.9	-0.1
PRU	Pruhonice	1.79	213	*i* PN	Pn	18 09 48.7	+0.9
PRU				PG	Pg	18 09 50.8	-0.3
PRU				*i*		18 09 54.5	
PRU				*i*		18 10 07.6	
PRU				SG	Sg	18 10 14.7	-0.3
	34nm,0.5s						
PRU	Pruhonice	1.79	213	*e*Pn	Pn	18 09 48.8	+1.0
PRU				*e*Pg	Pg	18 09 50.7	-0.4
PRU				*e*Sg	Sg	18 10 14.6	-0.4
CLL	Collm	1.91	265	*e*Pn	Pn	18 09 49.8	+0.4
CLL				*e*Sg	Sg	18 10 18.9	0.0
CLL	Collm	1.91	265	⇓*i*PN	Pn	18 09 49.6	+0.1
	logA/T=1.7						
CLL				*i* PG	Pg	18 09 52.7	-0.8
CLL				*i*		18 09 57.0	
CLL				*i* SG	Sg	18 10 18.5	-0.4
CLL	Collm	1.91	265	*i* Pn	Pn	18 09 49.6	+0.1
CLL				*i* Pg	Pg	18 09 52.7	-0.8
CLL				*i* Sg	Sg	18 10 18.5	-0.4
MORC	Moravsky Berou	1.98	150	*e*Pn	Pn	18 09 51.2	+0.7
MORC				*e*Sn	Sn	18 10 13.2	-3.2
OKC	Ostrava-Krasne	2.15	140	*e*PN	Pn	18 09 53.1	+0.3
OKC				*e*PG	Pg	18 09 57.4	-0.8
OKC				*e*SG	Sg	18 10 24.6	-2.2
WERD	Werda	2.58	247	*e*Pn	Pn	18 09 59.9	+0.8
WERD				*e*Sg	Sg	18 10 40.2	-1.2
NKC	Novy Kostel	2.61	242	*e*PN	Pn	18 10 00.3	+0.9
NKC				*e*PG	Pg	18 10 06.8	-0.6
NKC				*e*SG	Sg	18 10 40.7	-1.4
GUNZ	Gunzen	2.61	245	*e*Pn	Pn	18 10 00.3	+0.8
OJC	Ojcow	2.71	117	*e*PG	Pg	18 10 08.0	-1.5
OJC				*e*SG	Sg	18 10 44.0	-1.6
OJC	Ojcow	2.71	117	*e*Pg	Pg	18 10 07.9	-1.6
OJC				*e*Sg	Sg	18 10 43.7	-1.9
KHC	Kasperske Hory	2.85	214	*e*PN	Pn	18 10 03.5	+0.5
KHC				*e*PG	Pg	18 10 09.8	-2.5
KHC				*e*SN	Sn	18 10 38.5	0.0
KHC				*e*SG	Sg	18 10 48.9	-1.4
MOX	Moxa	2.92	255	*e*Pn	Pn	18 10 06.0	+2.1
MOX				*e*Sg	Sg	18 10 50.8	-1.7
MOX	Moxa	2.92	255	*i* P	Pn	18 10 04.3	+0.4
MOX				Pg	Pg	18 10 13.0	-0.6
MOX				Sg	Sg	18 10 52.0	-0.5
MOX	Moxa	2.92	255	*e*Pn	Pn	18 10 04.3	+0.4
MOX				*e*Pg	Pg	18 10 12.8	-0.8
MOX				*e*Sg	Sg	18 10 52.0	-0.5
GEC2	GERESS Array S	3.06	210	*e*Pn	Pn	18 10 07.5	+1.6
GEC2				*e*Sg	Sg	18 10 55.4	-1.7
GEC2	GERESS Array S	3.06	210	*e*Pn	Pn	18 10 07.5	+1.6
GEC2				*e*Sg	Sg	18 10 55.4	-1.8
WET	Wettzell	3.11	222	*e*Pn	Pn	18 10 07.8	+1.1
WET	Wettzell	3.11	222	*e*Pn	Pn	18 10 07.8	+1.1
SMOL	Smolenice	3.13	163	*e*PG	Pg	18 10 19.1	+1.3
SMOL				*e*SB	Sb	18 10 58.4	+7.8
ZST	Bratislava	3.39	168	*e*PG	Pg	18 10 22.9	-0.1
ZST				*e*SB	Sb	18 11 05.6	+7.5
VYHS	Vyhne	3.52	148	*e*PN	Pn	18 10 12.7	+0.3
VYHS				*e*PG	Pg	18 10 24.2	-1.4
VYHS				*e*SB	Sb	18 11 09.7	+7.9
CLZ	Clausthal	3.54	278	*e*Pn	Pn	18 10 13.3	+0.6
CLZ	Clausthal	3.54	278	*e*Pn	Pn	18 10 13.3	+0.6
GRA1	Grafenberg Arr	3.56	241	*e*Pn	Pn	18 10 13.9	+0.8
GRA1				*e*Sg	Sg	18 11 12.2	-1.8
GRF	Grafenberg Arr	3.56	241	*e*Pn	Pn	18 10 13.9	+0.8
GRF				*e*Sg	Sg	18 11 12.2	-1.9
BSD	Bornholm Skovb	3.67	350	*i* P	Pn	18 10 12.9	-1.7
BSD				*e*S	Sn	18 10 54.2	-5.1
BSD				*i* LG		18 10 55.5	
MOA	Molln	3.84	198	⇑*i*PN	Pn	18 10 17.9	+0.9
MOA				*i* SG	Sg	18 11 21.9	-1.2
	12nm,0.6s						
KWP	Kalwaria	4.65	111	*e*PN	Pn	18 10 44.0	+16
COP	Copenhagen	4.70	334	*i* P	Pn	18 10 20.5	-8.8
COP				*i*		18 10 32.5	

JMA 27 18:11:19.9±0.3**,44.01N×148.03E,M3.9,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.78	250	P	Pn	18 11 52.2	0.0
NEM2				*e*S	Sn	18 12 15.4	-0.4
JRA	Rausu	2.10	269	P	Pn	18 11 56.9	+0.2
JNK	Nakash	2.44	261	P	Pn	18 12 01.7	+0.2
JNK				*e*S	Sn	18 12 32.8	+0.3
JAK	Akkeshi	2.63	248	P	Pn	18 12 04.4	+0.1
JAK				*e*S	Sn	18 12 36.9	-0.5
JAR	Ashorobuto	3.17	258	P	Pn	18 12 12.6	+0.5
JAR				*e*S	Sn	18 12 50.9	-0.3
JCH	Churui	3.68	249	P	Pn	18 12 19.4	+0.1
JCH				*e*S	Sn	18 13 03.5	-0.5
JNBK	Urakawa-nobuka	4.23	248	P	Pn	18 12 26.9	-0.2
JNBK				*e*S	Sn	18 13 15.0	-3.0
JKB	Kayabe	5.56	250	P	Pn	18 12 45.2	-0.6
JKB				*e*S	Sn	18 13 49.3	-2.1

CASC 27 18:23:55.6±1.6**,13.09N×89.26W,h45**^{km}±22^{km}**,MD3.8, ML3.6,13C-5D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.56	19	⇑*i*P	P	18 24 07.4	0.0
SNET	Serv Nac Est T	0.60	2	⇓*e*P	P	18 24 07.9	+0.1
SNET				*e*S	S	18 24 17.9	+1.2
SNET				*i*		18 24 18.9	
	comp=Z,2µm,0.3s						
LCBS	La Ceiba	0.63	25	⇑*i*P	P	18 24 08.1	-0.1
BOQS	Boqueron	0.65	358	⇑*e*P	P	18 24 08.8	+0.4
BOQS				*e*S	S	18 24 19.5	+1.7
SNVI	San Vicente	0.66	38	⇑*e*P	P	18 24 08.6	-0.1
SNVI				*e*S	S	18 24 18.6	+0.4
LBRS	Las Brisas	0.68	18	⇑*e*P	P	18 24 09.2	+0.3
LBRS				*e*S	S	18 24 19.6	+0.9
SBLS	San Blas	0.83	334	⇓*e*P	P	18 24 11.1	+0.1
SNJE	San Jose	0.85	336	⇓*e*P	P	18 24 11.5	+0.3
SNJE				*e*S	S	18 24 23.2	+0.4
RTR	El Retiro	0.89	335	⇓*e*P	P	18 24 12.0	+0.1
VSM	San Miguel	1.01	70	⇑*e*P	P	18 24 13.7	+0.1
VSM				*e*S	S	18 24 28.2	+1.3
BLLM	Bellamira	1.05	70	⇓*e*P	P	18 24 14.2	+0.1
BLLM				*e*S	S	18 24 28.6	+0.8
CUSS	Cusmapa	1.06	321	*e*P	P	18 24 13.4	-0.8
CUSS				*e*S	S	18 24 28.4	+0.3
CAHU	Cacacuatique	1.22	56	⇑*e*P	P	18 24 17.1	+0.5
MTO2	Montecristo 2	1.31	355	⇑*e*P	P	18 24 17.9	0.0
MTO2				*e*S	S	18 24 34.5	0.0
CNCH	Conchagua	1.40	82	⇑*e*P	P	18 24 18.4	-0.7
CNCH				*e*S	S	18 24 36.6	0.0
IXG	Ixpaco	1.59	313	⇑*e*P	P	18 24 20.8	-1.0
IXG				*e*S	S	18 24 40.1	-1.3
IXG				AML	AML	18 24 45.1	
	comp=N,4µm,0.3s						
NBG	Las Nubes	1.83	325	⇑*e*P	P	18 24 26.1	+0.8
NBG				*e*S	S	18 24 49.3	+2.1
NBG				AML	AML	18 24 54.8	
	comp=N,1µm,0.6s						
MRL	Marmol	2.01	348	⇑*e*P	P	18 24 28.0	+0.2
MRL				*e*S	S	18 24 52.4	+0.6
MRL				AML	AML	18 25 12.0	
	comp=E,31nm,0.8s						
FUG	Fuego 3	2.05	311	*e*P	P	18 24 28.8	+0.4
FUG				*e*S	S	18 24 54.0	+1.3
JAT	Jato	2.62	298	⇑*e*P	P	18 24 35.3	-1.2
JAT				*e*S	S	18 25 07.6	+0.4
JAT				AML	AML	18 25 16.9	
	comp=E,492nm,0.3s						

*NEIC **27** 18:26:10.7,37.35S×177.31E,h137^{km},After WEL.*

WEL 27 18:26:11.0±0.2**,37.35S×177.33E,h134**^{km}±2^{km}**,ML3.9**/5**, 2D,Error ellipse: s-maj=1.8km s-min=1.4km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.81	106	PN	P	18 26 32.5	-0.2
MXZ				SN	S	18 26 49.1	-0.2
MXZ	Matakaoa Point	0.81	106	P	P	18 26 32.6	-0.1
MXZ				S	S	18 26 49.6	+0.3
URZ	Urewera	0.93	191	PN	P	18 26 33.5	-0.3
URZ				SN	S	18 26 50.8	-0.4
URZ	Urewera	0.93	191	P	P	18 26 33.5	-0.2
MWZ	Matawai	1.00	171	PN	P	18 26 34.2	-0.2
MWZ				SN	S	18 26 52.1	-0.2
MWZ	Matawai	1.00	171	P	P	18 26 34.2	-0.3
MWZ				S	S	18 26 52.3	0.0
PUZ	Puketiti	1.03	135	PN	P	18 26 34.6	-0.2
PUZ				SN	S	18 26 52.3	-0.6
PUZ	Puketiti	1.03	135	P	P	18 26 34.5	-0.3
PUZ				S	S	18 26 52.3	-0.6
KUZ	Kuaotunu	1.42	294	⇓PN	P	18 26 37.8	-1.1
KUZ	Kuaotunu	1.42	294	*e*P	P	18 26 37.8	-1.1
KNZ	Kokohu	1.69	171	PN	P	18 26 41.0	-1.0
KNZ	Kokohu	1.69	171	P	P	18 26 41.1	-0.9
MKAZ	Moumakai	1.74	277	⇓PN	P	18 26 42.5	-0.1
MKAZ	Moumakai	1.74	277	P	P	18 26 42.5	0.0
BKZ	Black Stump Fm	1.93	200	PN	P	18 26 43.6	-1.2
BKZ				SN	S	18 27 08.7	-1.8
BKZ	Black Stump Fm	1.93	200	*e*P	P	18 26 43.9	-0.9
OTAZ	Otara	1.96	281	PN	P	18 26 45.4	+0.3
OTAZ	Otara	1.96	281	P	P	18 26 45.3	+0.2
MTAZ	Motutapu	2.01	285	PN	P	18 26 45.8	0.0
KAAZ	Kauri Point	2.16	283	PN	P	18 26 47.9	+0.2
KAAZ	Kauri Point	2.16	283	P	P	18 26 47.9	+0.2
WTAZ	Waiatarua	2.24	280	PN	P	18 26 48.6	-0.1
WTAZ	Waiatarua	2.24	280	P	P	18 26 47.7	-1.0
NGZ	Ngauruhoe	2.28	216	PN	P	18 26 48.3	-0.8
TWVZ	Taurewa	2.28	220	PN	P	18 26 49.0	-0.2
CNZ	Chateau	2.32	217	PN	P	18 26 49.8	0.0
WPVZ	Whakapapa	2.33	217	PN	P	18 26 50.1	+0.3
TUVZ	Tukino	2.33	214	PN	P	18 26 49.1	-0.7
TUVZ	Tukino	2.33	214	P	P	18 26 49.1	-0.7
MOVZ	Moawhango	2.40	211	PN	P	18 26 49.1	-1.6
MOVZ				SN	S	18 27 18.8	-2.2
WNVZ	Wahianoa	2.40	214	PN	P	18 26 50.0	-0.8
PWZ	Pawanui	2.70	188	PN	P	18 26 52.5	-2.2
PWZ				SN	S	18 27 22.4	-5.5
PWZ	Pawanui	2.70	188	P	P	18 26 52.5	-2.2
TSZ	Takapari Road	2.91	201	PN	P	18 26 54.5	-2.9
TSZ	Takapari Road	2.91	201	P	P	18 26 54.7	-2.7
WAZ	Wanganui	3.03	217	PN	P	18 26 57.2	-1.7
WAZ	Wanganui	3.03	217	*e*P	P	18 26 57.3	-1.6
BFZ	Birch Farm	3.43	194	PN	P	18 27 01.0	-3.3
BFZ	Birch Farm	3.43	194	*e*P	P	18 27 01.0	-3.3
MRZ	Mangatainoka R	3.58	202	PN	P	18 27 02.3	-3.9
MRZ				SN	S	18 27 41.9	-6.6
MRZ	Mangatainoka R	3.58	202	*e*P	P	18 27 02.3	-3.9
KIW	Kapiti Island	3.98	207	PN	P	18 27 07.3	-4.3

KIW				SN	S	18 27 52.1	-5.9
KIW	**Kapiti Island**	**3.98**	**207**	P	P	18 27 07.3	-4.3
MTW	**Mount Morrison**	**4.06**	**200**	PN	P	18 27 07.9	-4.8
MTW	**Mount Morrison**	**4.06**	**200**	P	P	18 27 07.9	-4.8
CAW	**Cannon Point**	**4.15**	**204**	PN	P	18 27 09.0	-4.7
CAW				SN	S	18 27 55.4	-6.6
CAW	**Cannon Point**	**4.15**	**204**	P	P	18 27 09.0	-4.8
PAWZ	**Paruwai Farm**	**4.29**	**200**	PN	P	18 27 10.7	-5.0
PAWZ				SN	S	18 27 58.6	-6.8
MSWZ	**Moikau Station**	**4.37**	**201**	PN	P	18 27 11.6	-5.2
MSWZ				SN	S	18 27 59.7	-7.6
TUWZ	**Tuamarina**	**4.85**	**212**	PN	P	18 27 18.1	-5.1
TUWZ				SN	S	18 28 12.0	-6.8
NNZ	**Nelson**	**4.93**	**217**	PN	P	18 27 19.4	-4.9
NNZ				SN	S	18 28 14.6	-6.2
NNZ	**Nelson**	**4.93**	**217**	*e*P	P	18 27 19.6	-4.7
BSWZ	**Blackbirch Sta**	**5.11**	**210**	SN	S	18 28 17.8	-7.3
THZ	**Tophouse**	**5.58**	**216**	PN	P	18 27 27.9	-5.0
THZ				SN	S	18 28 30.5	-5.9
THZ	**Tophouse**	**5.58**	**216**	*e*P	P	18 27 28.2	-4.7
LTZ	**Lake Taylor**	**6.67**	**214**	PN	P	18 27 41.4	-6.3
LTZ				SN	S	18 28 53.5	-9.3
LTZ	**Lake Taylor**	**6.67**	**214**	*e*P	P	18 27 41.4	-6.3
MQZ	**McQueen's Vall**	**7.28**	**208**	SN	S	18 29 04.6	-13

*WAR **27** 18:34:57.8, 51.45N×16.08E, ML2.6, Mining Induced*
*PRU **27** 18:34:58.1, 51.44N×16.09E*
*NEIC **27** 18:35:01.1±1.5, 51.22N×15.90E, h5^{km}, MG2.6(WAR), Error ellipse: s-maj=17.5km s-min=6.7km az=203.0*
ISC 27 18:34:55.1±0.9**, 51.47N**±0.05×**16.07E**±0.04**, n15, σ0^{s}79**/30**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**168**	*e*PG	**Pg**	**18 35 09.0**	**+1.0**
KSP				*e*SG	**Sg**	**18 35 17.0**	**+0.4**
KSP	**Ksiaz**	**0.65**	**168**	*e*Pg	**Pg**	**18 35 09.2**	**+1.2**
KSP				*e*Sg	**Sg**	**18 35 17.5**	**+0.9**
UPC	**Upice**	**0.97**	**182**	*e*PG	**Pg**	**18 35 15.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	**18 35 17.9**	**+0.2**
DPC				*e*SG	**Sg**	**18 35 32.6**	**-0.3**
PVCC	**Panska Ves**	**1.34**	**226**	*e*PG	**Pg**	**18 35 22.3**	**+0.5**
PVCC				*e*SG	**Sg**	**18 35 41.0**	**+1.3**
BRG	**Berggiesshubel**	**1.47**	**247**	*e*Pg	**Pg**	**18 35 24.9**	**+0.5**
BRG				*e*Sg	**Sg**	**18 35 45.0**	**+1.0**
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pg**	**18 35 29.0**	**-1.5**
PRU				*e*		18 35 45.5	
PRU				SG	**Sg**	**18 35 52.6**	**-1.6**
	6.0nm,0.4s						
PRU	**Pruhonice**	**1.78**	**214**	*e*Pg	**Pg**	**18 35 29.6**	**-0.9**
PRU				*e*Sg	**Sg**	**18 35 54.1**	**-0.1**
CLL	**Collm**	**1.93**	**266**	*e*PG	**Pg**	**18 35 33.0**	**-0.6**
CLL				*e*SG	**Sg**	**18 35 59.0**	**-0.3**
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*PG	**Pg**	**18 35 36.0**	**-1.1**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PG	**Pg**	**18 35 47.0**	**-0.2**
NKC				*e*SG	**Sg**	**18 36 22.2**	**+0.2**
OJC	**Ojcow**	**2.67**	**117**	*e*PG	**Pg**	**18 35 49.0**	**+0.6**
OJC				*e*SG	**Sg**	**18 36 24.0**	**-0.1**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**18 35 48.7**	**+0.3**
OJC				*e*Sg	**Sg**	**18 36 23.8**	**-0.3**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**18 35 43.5**	**+1.0**
KHC				*e*PG	**Pg**	**18 35 50.2**	**-1.5**
KHC				*e*SN	**Sn**	**18 36 17.5**	**-0.4**
KHC				*e*SG	**Sg**	**18 36 28.5**	**-1.1**
MOX	**Moxa**	**2.93**	**255**	*e*Pg	**Pg**	**18 35 53.5**	**-0.1**
MOX				*e*Sg	**Sg**	**18 36 32.8**	**+0.1**

IDC 27 18:49:30.9±4.4**, 27.28N**×**111.61W, mb3.7**/1**, mb1 4.1**/4**, mb1mx3.7**/21**, ML3.6**/3**, MS3.3**/5**, Ms1 3.2**/5**, ms1mx3.0**/30**, Error ellipse: s-maj=55.9km s-min=20.5km az=16.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**7.30**	**72**	Pn	Pn	18 51 20.2	-1.1
	1.2nm,0.3s,baz=260,slow=13,SNR=7.9						
TXAR				Lg		18 53 19.8	
	2.1nm,0.3s,baz=249,slow=31,SNR=5.6						
TXAR				LR	LR	18 54 16.8	
	comp=Z,270nm,18.8s,baz=205,slow=39						
NVAR	**Mina Array Bea**	**12.46**	**335**	Pn	P	18 52 31.8	-0.5
	0.1nm,0.3s,baz=153,slow=14,SNR=7.3						
PDAR	**Pinedale Array**	**15.55**	**6**	Pn	P	18 53 15.7	+2.7
	0.0nm,0.3s,baz=173,slow=12,SNR=6.1						
PDAR				Lg		18 57 42.0	
	0.1nm,0.3s,baz=175,slow=21,SNR=5.7						
NEW	**Newport**	**21.39**	**350**	P	P	18 54 18.9	-3.2
	3.8nm,1.1s,baz=170,slow=12,SNR=4.2						
NEW				LR	LR	19 02 46.5	
	comp=Z,53nm,20.7s,baz=328,slow=37						
SADO	**Sadowa**	**31.26**	**47**	LR	LR	19 09 44.2	
	comp=Z,27nm,20.0s,baz=232,slow=39						
DLBC	**Dease Lake**	**33.71**	**343**	LR	LR	19 11 07.1	
	comp=Z,91nm,19.5s,baz=136,slow=38						
YKA	**Yellowknife Ar**	**35.27**	**358**	LR	LR	19 10 17.0	
	comp=Z,35nm,18.9s,baz=195,slow=35						

*NEIC **27** 18:50:58.3, 38.16S×176.18E, h156^{km}, After WEL.*
WEL 27 18:50:58.5±0.3**, 38.17S**×**176.19E, h154**^{km}±2^{km}**, ML3.9**/5**, 2C-1D, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.73**	**97**	PN	P	18 51 21.4	-0.5
URZ				SN	S	18 51 39.1	-0.8
URZ	**Urewera**	**0.73**	**97**	P	P	18 51 21.4	-0.5
MGZ	**Maungaku**	**0.97**	**211**	PN	P	18 51 23.8	+0.3
MGZ	**Maungaku**	**0.97**	**211**	P	P	18 51 23.8	+0.3
BKZ	**Black Stump Fm**	**1.03**	**167**	⇑PN	P	18 51 23.9	0.0
BKZ				SN	S	18 51 42.9	-0.7
BKZ	**Black Stump Fm**	**1.03**	**167**	P	P	18 51 23.9	0.0
BKZ				S	S	18 51 43.0	-0.5
MWZ	**Matawai**	**1.07**	**99**	PN	P	18 51 24.5	+0.2
MWZ				SN	S	18 51 43.9	-0.4
MWZ	**Matawai**	**1.07**	**99**	P	P	18 51 24.5	+0.2
MWZ				S	S	18 51 43.9	-0.4
TWVZ	**Taurewa**	**1.08**	**213**	PN	P	18 51 24.4	0.0
HIZ	**Hauiti**	**1.10**	**251**	⇑PN	P	18 51 24.5	-0.2
NGZ	**Ngauruhoe**	**1.11**	**204**	PN	P	18 51 24.7	0.0
NGZ	**Ngauruhoe**	**1.11**	**204**	P	P	18 51 24.7	0.0
CNZ	**Chateau**	**1.15**	**206**	PN	P	18 51 25.0	-0.1
CNZ	**Chateau**	**1.15**	**206**	P	P	18 51 25.0	-0.1
TUVZ	**Tukino**	**1.18**	**201**	PN	P	18 51 25.3	-0.1
TUVZ				SN	S	18 51 46.1	0.0
TUVZ	**Tukino**	**1.18**	**201**	P	P	18 51 25.3	-0.1
TUVZ				S	S	18 51 46.1	0.0
WNVZ	**Wahianoa**	**1.25**	**201**	PN	P	18 51 25.9	-0.2
WNVZ				SN	S	18 51 47.3	0.0
MOVZ	**Moawhango**	**1.28**	**195**	PN	P	18 51 25.8	-0.7
MOVZ				SN	S	18 51 46.8	-1.2
KNZ	**Kokohu**	**1.44**	**127**	PN	P	18 51 28.1	0.0
KUZ	**Kuaotunu**	**1.47**	**345**	⇓PN	P	18 51 27.6	-0.7
KUZ	**Kuaotunu**	**1.47**	**345**	P	P	18 51 27.6	-0.7
MXZ	**Matakaoa Point**	**1.78**	**71**	PN	P	18 51 31.4	-0.3
MXZ				SN	S	18 51 56.7	-0.5
MXZ	**Matakaoa Point**	**1.78**	**71**	P	P	18 51 31.4	-0.3
WAZ	**Wanganui**	**1.84**	**210**	PN	P	18 51 31.3	-1.0
WAZ				SN	S	18 51 57.7	-0.7
WAZ	**Wanganui**	**1.84**	**210**	*e*P	P	18 51 31.6	-0.7
TSZ	**Takapari Road**	**1.90**	**185**	PN	P	18 51 31.8	-1.1
TSZ	**Takapari Road**	**1.90**	**185**	P	P	18 51 31.8	-1.1
PWZ	**Pawanui**	**1.93**	**164**	PN	P	18 51 32.7	-0.6
PWZ				SN	S	18 51 58.0	-2.1
BFZ	**Birch Farm**	**2.51**	**179**	PN	P	18 51 38.4	-2.1
BFZ				SN	S	18 52 08.5	-4.1
BFZ	**Birch Farm**	**2.51**	**179**	*e*P	P	18 51 38.4	-2.0
MRZ	**Mangatainoka R**	**2.54**	**191**	PN	P	18 51 38.3	-2.5
MRZ				SN	S	18 52 08.5	-4.7
MRZ	**Mangatainoka R**	**2.54**	**191**	P	P	18 51 38.3	-2.5
KIW	**Kapiti Island**	**2.87**	**200**	PN	P	18 51 41.8	-3.1
KIW				SN	S	18 52 15.1	-5.4
KIW	**Kapiti Island**	**2.87**	**200**	P	P	18 51 42.1	-2.8
MTW	**Mount Morrison**	**3.03**	**190**	PN	P	18 51 43.7	-3.4
MTW				SN	S	18 52 19.1	-5.2
MTW	**Mount Morrison**	**3.03**	**190**	P	P	18 51 43.7	-3.4
CAW	**Cannon Point**	**3.06**	**196**	PN	P	18 51 44.1	-3.3
CAW				SN	S	18 52 19.7	-5.2
CAW	**Cannon Point**	**3.06**	**196**	P	P	18 51 44.1	-3.3
PAWZ	**Paruwai Farm**	**3.26**	**190**	SN	S	18 52 23.9	-5.6
MRW	**Makara Radio**	**3.27**	**200**	PN	P	18 51 46.5	-3.6
MRW	**Makara Radio**	**3.27**	**200**	P	P	18 51 46.5	-3.6
MSWZ	**Moikau Station**	**3.32**	**192**	PN	P	18 51 47.0	-3.8
TUWZ	**Tuamarina**	**3.69**	**207**	PN	P	18 51 51.4	-4.1
TUWZ				SN	S	18 52 33.1	-6.3
NNZ	**Nelson**	**3.74**	**215**	PN	P	18 51 51.8	-4.4
NNZ				SN	S	18 52 35.4	-5.2
NNZ	**Nelson**	**3.74**	**215**	*e*P	P	18 51 51.8	-4.4
THZ	**Tophouse**	**4.39**	**214**	PN	P	18 52 00.2	-4.5
THZ	**Tophouse**	**4.39**	**214**	*e*P	P	18 52 00.8	-3.9
KHZ	**Kahutara**	**4.70**	**205**	PN	P	18 52 04.1	-4.8
KHZ	**Kahutara**	**4.70**	**205**	*e*P	P	18 52 04.2	-4.7
MQZ	**McQueen's Vall**	**6.15**	**205**	SN	S	18 53 25.5	-12
WVZ	**Waitaha Valley**	**6.42**	**218**	SN	S	18 53 31.9	-12

DJA 27 19:01:48.6±0.9**, 8.72S**×**117.35E, h116**^{km}±10^{km}**, MD5.1**/4**, ML4.3**/3**, 7C-1D, Error ellipse: s-maj=48.4km s-min=21.4km az=0.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**1.25**	**281**	⇑*i*Pn	P	19 02 13.3	+0.1
	114nm,0.2s						
KEDI				⇑*i*Sn	S	19 02 31.6	-0.1
RATI	**Rata**	**1.80**	**270**	⇑*i*Pn	P	19 02 18.9	-0.9
	231nm,0.2s						
RATI				⇑*i*Sn	S	19 02 41.6	-1.6
INGI	**Ingas**	**2.18**	**267**	⇑*i*Pn	P	19 02 24.7	0.0
	523nm,0.2s						
INGI				⇑*i*Sn	S	19 02 51.0	-0.9
KELI	**Kelakatan**	**2.87**	**280**	⇑*e*Pn	P	19 02 33.7	-0.3
KELI				⇓*i*Sn	S	19 03 06.0	-2.3

MAN 27 19:02:19.8, 10.28N×**122.13E, h30**^{km}**, mb3.9, ML2.7, MS2.4, 1D, Panay**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAP	**Anini-y**	**0.23**	**307**	⇓*i*P	Pb	19 02 28.5	+2.2
GUIM	**Jordan**	**0.57**	**53**	*e*P	Pb	19 02 30.8	-0.5
GUIM				*e*S	Sb	19 02 38.7	-0.4
CUYO	**Cuyo Island**	**1.23**	**297**	*e*P	Pn	19 02 41.1	-0.1
CUYO				*e*S	Sn	19 02 56.3	-0.7
OTRP	**Odiongan**	**2.07**	**357**	*e*P	Pn	19 02 52.2	-1.0
IPIL	**Ipil**	**2.51**	**170**	*e*P	Pn	19 02 59.5	0.0
IPIL				*e*S	Sn	19 03 27.8	-1.8
ENPP	**El Nido**	**2.81**	**289**	*e*P	Pn	19 03 03.5	-0.4

*IDC **27** 19:09:25.3±0.9, 22.72N×109.28W, mb4.2/6, mb1 4.2/9, mb1mx4.0/20, ML3.9/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/24, Error ellipse: s-maj=29.6km s-min=19.7km az=82.0*
*NEIC **27** 19:09:26.3±0.7, 22.74N×109.56W, h10^{km}, mb3.8/3, MD4.3(MEX), Error ellipse: s-maj=18.7km s-min=10.6km az=71.0*
ISC 27 19:09:25.6±1.0**, 22.9N**±0.1×**109.5W**±0.1**, h10**^{km}**, n21, σ1^{s}22**/18**, mb4.0**/7**, MS3.5**/3**, 1C, Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.47**	**328**	⇑*e*P	**Pn**	**19 09 51.1**	**-1.2**
LPIG				*e*S	**Sb**	**19 10 09.8**	**-1.5**
TXAR	**Lajitas Array**	**8.29**	**38**	Pn	**P**	**19 11 28.1**	**-0.6**
	0.5nm,0.3s,baz=213,slow=13,SNR=5.3						
TXAR				Lg		19 13 44.7	
	0.4nm,0.3s,baz=208,slow=33,SNR=3.2						
ANMO	**Albuquerque**	**12.34**	**12**	P	**P**	**19 12 23.7**	**-0.5**
TPNV	**Topopah Spring**	**15.23**	**339**	*e*P	**P**	**19 13 03.7**	**+1.3**
NVAR	**Mina Array Bea**	**17.28**	**336**	P	**P**	**19 13 32.1**	**+3.5**
	0.1nm,0.3s,baz=157,slow=14,SNR=5.2						
BW06	**Boulder Array**	**19.86**	**360**	*e*P	**P**	**19 13 58.9**	**-0.8**
	6.2nm,1.5s						
PDAR	**Pinedale Array**	**19.86**	**360**	P	**P**	**19 13 59.4**	**-0.3**
	0.1nm,0.3s,baz=180,slow=7.4,SNR=4.5						
WVOR	**Wild Horse Val**	**20.98**	**341**	*e*P	**P**	**19 14 10.4**	**-1.0**
	10nm,1.0s						
HLID	**Hailey**	**21.06**	**350**	*e*P	**P**	**19 14 12.8**	**+0.6**
	2.7nm,1.0s,mb3.5						
MCMT	**McKenzie Canyo**	**22.10**	**354**	*e*P	**P**	**19 14 24.5**	**+1.9**
DLBC	**Dease Lake**	**38.50**	**343**	P	**P**	**19 16 51.5**	**+1.9**
	4.5nm,1.1s,mb4.1,baz=187,slow=16,SNR=4.3						
SCHQ	**Schefferville**	**44.95**	**34**	LR	LR	19 35 21.4	
	comp=Z,31nm,21.5s,MS3.2,baz=119,slow=35						
INK	**Inuvik**	**47.81**	**348**	LR	LR	19 38 45.9	
	comp=Z,62nm,18.9s,MS3.6,baz=307,slow=37						
ILAR	**Eielson Array**	**48.49**	**340**	P	**P**	**19 18 10.7**	**+0.5**
	2.1nm,1.1s,mb4.1,baz=156,slow=6.2,SNR=12						
LPAZ	**La Paz**	**56.10**	**130**	P	**P**	**19 19 06.5**	**-1.1**
	0.5nm,0.5s,mb3.9,baz=355,slow=11,SNR=3.7						
CPUP	**Villa Florida**	**70.25**	**131**	P	**P**	**19 20 39.5**	**-1.7**
	3.5nm,1.1s,mb4.2,baz=18,slow=8.4,SNR=5.1						
ARCES	**ARCESS Array B**	**82.40**	**15**	P	**P**	**19 21 49.5**	**+0.7**
	2.1nm,0.8s,mb4.1,baz=350,slow=7.4,SNR=4.8						
ARCES	**ARCESS Array B**	**82.40**	**15**	P	**P**	**19 21 49.5**	**+0.7**
NOA	**NORSAR Array B**	**83.78**	**25**	P	**P**	**19 21 57.5**	**+1.5**
	3.6nm,1.1s,mb4.4,baz=308,slow=5.2,SNR=3.5						
NOA				LR	LR	19 57 53.0	
	comp=Z,37nm,21.0s,MS3.7,baz=310,slow=35						
WRA	**Warramunga Arr**	**120.94**	**260**	PKP	PKPdf	19 28 19.1	-3.0
	0.5nm,0.7s,baz=70,slow=2.4,SNR=7.1						
ASAR	**Alice Springs**	**122.24**	**256**	PKP	PKPdf	19 28 22.0	-2.4
	0.4nm,0.8s,baz=94,slow=2.3,SNR=4.2						

*IDC **27** 19:10:11.7±8.5, 6.91S×129.68E, h84^{km}±76^{km}, mb3.6/1, mb1 3.9/4, mb1mx3.5/11, ML3.9/3, Error ellipse: s-maj=63.0km s-min=51.0km az=47.0*
ISC 27 19:10:10.7±4.2**, 6.9S**±0.2×**129.7E**±0.2**, h91**^{km}±53^{km}**, n4, σ0^{s}29**/7**, mb3.5**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.80**	**199**	P	**P**	**19 12 57.6**	**+0.3**
	0.3nm,0.3s,baz=24,slow=13,SNR=26						
FITZ				S	**S**	**19 15 07.3**	**-0.2**
	0.9nm,0.3s,baz=166,slow=17,SNR=7.3						
WRA	**Warramunga Arr**	**13.69**	**161**	P	**P**	**19 13 22.0**	**-0.2**
	1.2nm,0.3s,baz=341,slow=12,SNR=27						
WRA				S	**S**	**19 15 52.6**	**+0.2**
	0.8nm,0.3s,baz=334,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.12**	**167**	P	**P**	**19 14 05.5**	**-0.2**
	0.8nm,0.3s,baz=345,slow=10,SNR=59						
ASAR				S	**S**	**19 17 18.2**	**+6.8**
	0.2nm,0.3s,baz=0.4,slow=28,SNR=4.3						
STKA	**Stephens Creek**	**27.18**	**157**	P	**P**	**19 15 47.9**	**0.0**
	1.2nm,0.7s,mb3.5,baz=346,slow=8.3,SNR=2.8						

MAN 27 19:19:28.2, 14.96N×**121.84E, h1**^{km}**, mb4.5, ML3.4, MS3.3, 3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.25**	**157**	*e*P	Pg	19 19 33.6	+0.4
POLP				*e*S	Sg	19 19 37.7	+1.1
BALP	**Baler**	**0.81**	**342**	*e*P	Pg	19 19 44.3	-0.2
BALP				*e*S	Sg	19 19 57.4	+2.1
LQP	**Lukban**	**0.89**	**199**	⇓*e*P	Pg	19 19 45.0	-1.1
LQP				*i* S	Sg	19 20 00.5	+2.6
GQP	**Guinayangan**	**1.20**	**151**	⇓*e*P	Pb	19 19 49.3	-2.2
GQP				*e*S	Sb	19 20 05.2	-2.2
TGY	**Tagaytay City**	**1.22**	**226**	⇓*i*P	Pb	19 19 52.5	+0.7
TGY				*i* S	Sb	19 20 02.1	-5.8
BOAC	**Boac**	**1.49**	**180**	*e*P	Pn	19 19 55.6	-0.6
BOAC				*e*S	Sb	19 20 17.6	+1.8
LUBP	**Lubang**	**1.97**	**232**	*e*P	Pn	19 20 03.7	+0.7
CAUP	**Cauayan**	**1.97**	**360**	*e*P	Pn	19 20 02.5	-0.5
CAUP				*e*S	Sn	19 20 29.5	+0.7
PALP	**Palanan**	**2.17**	**15**	*e*P	Pn	19 20 03.8	-2.1
PALP				*e*S	Sn	19 20 29.9	-3.8
OTRP	**Odiongan**	**2.59**	**176**	*e*P	Pn	19 20 11.7	-0.3
PVCP	**Virac**	**2.62**	**121**	*e*P	Pn	19 20 12.6	+0.2
PVCP				*e*S	Sn	19 20 34.5	-11
APYP	**Conner**	**2.94**	**349**	*e*P	Pn	19 20 16.6	-0.4
APYP				*e*S	Sn	19 20 53.1	-0.3

*IDC **27** 19:27:28.4±0.9, 53.86S×131.84W, mb4.1/5, mb1 4.3/5, mb1mx4.1/13, MS4.2/14, Ms1 4.2/14, ms1mx4.2/15, Error ellipse: s-maj=45.0km s-min=23.0km az=170.0*
*NEIC **27** 19:27:29.9±0.7, 54.30S×131.52W, h10^{km}, mb4.6/4, Error ellipse: s-maj=22.9km s-min=17.8km az=188.0*
ISC 27 19:27:28.4±0.8**, 54.4S**±0.2×**131.5W**±0.2**, h10**^{km}**, n30, σ1^{s}02**/14**, mb4.3**/8**, MS4.2**/15**, 2C-3D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**35.80**	**180**	*e*P	**P**	**19 34 30.2**	**+1.0**
	9.6nm,1.2s,mb4.6						
QSPA				LR	LR		
	comp=Z,630nm,21.1s,MS4.3						
URZ	**Urewera**	**38.07**	**273**	LR	LR	19 46 11.3	
	comp=Z,431nm,20.2s,MS4.2,baz=140,slow=30						
RPZ	**Rata Peaks**	**38.14**	**262**	LR	LR	19 46 45.0	
	comp=Z,334nm,18.1s,MS4.2,baz=144,slow=30						
RAR	**Rarotonga**	**39.44**	**316**	LR	LR	19 46 00.7	
	comp=Z,580nm,20.9s,MS4.4,baz=293,slow=29						
PLCA	**Paso Flores**	**41.98**	**97**	LR	LR	19 49 00.5	
	comp=Z,180nm,18.0s,MS4.0,baz=206,slow=31						
VNA2	**Neumayer--Watz**	**48.84**	**159**	⇓*i*	**P**	**19 36 13.9**	**-1.3**
VNA2	**Neumayer--Watz**	**48.84**	**159**	⇑*i*	sP	19 36 24.3	+4.9
VNA1	**Neumayer--Stat**	**48.87**	**158**		**P**	**19 36 14.1**	**-1.3**
VNA1	**Neumayer--Stat**	**48.87**	**158**	⇓*i*	sP	19 36 25.2	+5.6
SNAA	**Sanae**	**49.18**	**161**	⇑*i*	**P**	**19 36 13.7**	**-4.0**
SNAA	**Sanae**	**49.18**	**161**	⇓*i*	sP	19 36 23.7	+1.7
MAW	**Mawson**	**57.87**	**186**	P	**P**	**19 37 24.3**	**+2.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=254,slow=23,SNR=2.5						
MAW				LR	LR	20 00 18.8	
	comp=Z,132nm,18.8s,MS4.1,baz=281,slow=34						
MAW	**Mawson**	**57.87**	**186**	*e*P	**P**	**19 37 24.3**	**+2.3**
	comp=Z,22nm,1.8s,mb4.9						
CPUP	**Villa Florida**	**59.91**	**94**	P	**P**	**19 37 36.9**	**+0.2**
	comp=Z,1.9nm,1.1s,mb4.0,baz=17,slow=1.3,SNR=3.0						
CPUP				LR	LR	19 59 55.5	
	comp=Z,238nm,19.2s,MS4.3,baz=240,slow=32						
CPUP	**Villa Florida**	**59.91**	**94**	P	**P**	**19 37 36.9**	**+0.2**
CPUP				LR	LR	19 59 55.5	
LPAZ	**La Paz**	**61.43**	**78**	P	**P**	**19 37 47.6**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=207,slow=4.4,SNR=7.8						
LPAZ				LR	LR	19 58 15.1	
	comp=Z,113nm,20.1s,MS4.0,baz=26,slow=30						
STKA	**Stephens Creek**	**63.08**	**252**	LR	LR	20 01 03.6	
	comp=Z,426nm,21.3s,MS4.6,baz=302,slow=32						
BDFB	**Brasilia**	**73.64**	**94**	LR	LR	20 05 35.5	
	comp=Z,93nm,21.0s,MS4.0,baz=239,slow=31						
ASAR	**Alice Springs**	**73.72**	**252**	P	**P**	**19 39 03.6**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.2,baz=143,slow=6.7,SNR=30						
ASAR				LR	LR	20 06 34.1	
	comp=Z,204nm,18.5s,MS4.4,baz=183,slow=32						
WB2	**Warramunga Arr**	**76.42**	**255**	*e*P	**P**	**19 39 19.6**	**-0.1**
WRA	**Warramunga Arr**	**76.43**	**255**	P	**P**	**19 39 19.0**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=146,slow=5.2,SNR=23						
WRA				LR	LR	20 11 18.3	
	comp=Z,192nm,19.7s,MS4.4,baz=115,slow=34						
WRAB	**Tennant Creek**	**76.43**	**255**	*e*P	**P**	**19 39 19.4**	**-0.3**
	comp=Z,8.0nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**82.75**	**249**	*e*P	**P**	**19 39 54.8**	**+1.0**
	comp=Z,4.2nm,1.8s,mb4.2						
TXAR	**Lajitas Array**	**86.75**	**24**	LR	LR	20 11 00.9	
	comp=Z,38nm,19.9s,MS3.8,baz=330,slow=30						
NVAR	**Mina Array Bea**	**93.12**	**10**	LR	LR	20 13 16.4	
	comp=Z,109nm,18.2s,MS4.3,baz=130,slow=30						
PDAR	**Pinedale Array**	**98.56**	**16**	LR	LR	20 17 35.8	
	comp=Z,161nm,19.3s,MS4.5,baz=18,slow=31						
ILAR	**Eielson Array**	**119.40**	**352**	PKP	PKPdf	19 46 17.6	-2.4
	comp=Z,0.8nm,0.8s,baz=207,slow=2.0,SNR=6.3						
SONM	**Songino Array**	**144.00**	**284**	PKP	PKPdf	19 47 04.2	-1.9
	comp=Z,2.2nm,0.9s,baz=124,slow=2.4,SNR=14						
MKAR	**Makanchi Array**	**157.44**	**264**	PKPab	PKPab	19 47 56.5	-1.0
	comp=Z,1.2nm,0.7s,baz=117,slow=5.4,SNR=5.0						
BRTR	**Keskin Array B**	**162.23**	**139**	PKPab	PKPab	19 48 21.7	+3.3
	comp=Z,1.2nm,1.0s,baz=204,slow=14,SNR=3.3						

IDC 27 19:33:01.9±5.1**, 15.80S**×**173.86W, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.8**/14**, Error ellipse: s-maj=246.0km s-min=30.6km az=138.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.45**	**240**	P	P	19 41 06.5	-2.0
	0.8nm,0.6s,baz=94,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**49.32**	**257**	P	P	19 41 53.0	-2.1
	0.3nm,0.7s,baz=93,slow=6.7,SNR=5.8						
ASAR	**Alice Springs**	**49.56**	**252**	P	P	19 41 54.9	-2.0
	1.2nm,0.6s,baz=89,slow=7.8,SNR=29						
ILAR	**Eielson Array**	**82.92**	**11**	P	P	19 45 27.3	-2.3
	0.4nm,0.5s,baz=233,slow=6.2,SNR=4.5						
BRTR	**Keskin Array B**	**146.18**	**320**	PKPbc	PKPbc	19 52 44.9	+0.4
	2.8nm,1.0s,baz=89,slow=3.4,SNR=7.6						
GERES	**GERESS Array B**	**146.47**	**351**	PKPbc	PKPbc	19 52 44.6	-0.2
	1.7nm,1.1s,baz=333,slow=3.0,SNR=5.5						

*IDC **27** 19:45:31.9±0.8, 54.58S×131.94W, mb4.2/7, mb1 4.4/7, mb1mx4.2/13, MS4.2/14, Ms1 4.2/14, ms1mx4.1/17, Error ellipse: s-maj=47.0km s-min=18.7km az=172.0*
*NEIC **27** 19:45:32.6±0.7, 54.40S×131.69W, h10^{km}, mb4.7/6, Error ellipse: s-maj=25.0km s-min=17.2km az=168.0*
ISC 27 19:45:30.9±0.8**, 54.4S**±0.2×**131.8W**±0.2**, h10**^{km}**, n26, σ1^{s}25**/15**, mb4.4**/12**, MS4.2**/15**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**31.53**	**201**	*e*P	**P**	**19 51 57.1**	**+2.4**
	7.2nm,1.3s,mb4.3						
PMSA	**Palmer Station**	**34.11**	**135**	*e*P	**P**	**19 52 17.1**	**-0.2**
	19nm,0.8s,mb5.1						
QSPA	**South Pole Qui**	**35.74**	**180**	*e*P	**P**	**19 52 29.8**	**-1.3**
	7.0nm,1.3s,mb4.4						
QSPA				LR	LR		
	comp=Z,380nm,21.1s,MS4.1						
RAR	**Rarotonga**	**39.33**	**316**	LR	LR	20 05 15.7	
	comp=Z,254nm,19.8s,MS4.1,baz=131,slow=30						
PLCA	**Paso Flores**	**42.20**	**97**	P	**P**	**19 53 25.7**	**+0.6**
	comp=Z,2.4nm,1.1s,mb3.7,baz=186,slow=8.7,SNR=1.8						
PLCA				LR	LR	20 06 13.2	
	comp=Z,205nm,19.4s,MS4.0,baz=193,slow=29						
PLCA	**Paso Flores**	**42.20**	**97**	P	**P**	**19 53 25.7**	**+0.7**
PLCA				LR	LR	20 06 13.2	
MAW	**Mawson**	**57.79**	**187**	P	**P**	**19 55 22.9**	**-1.0**
	comp=Z,5.2nm,1.3s,mb4.4,baz=180,slow=7.1,SNR=3.0						
CPUP	**Villa Florida**	**60.13**	**94**	P	**P**	**19 55 43.2**	**+2.6**
	comp=Z,11nm,1.3s,mb4.7,baz=237,slow=5.7,SNR=5.6						
CPUP				LR	LR	20 17 08.8	
	comp=Z,204nm,20.6s,MS4.2,baz=237,slow=32						
CPUP	**Villa Florida**	**60.13**	**94**	P	**P**	**19 55 43.2**	**+2.6**
CPUP				LR	LR	20 17 08.8	
LPAZ	**La Paz**	**61.66**	**78**	P	**P**	**19 55 51.9**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.0,baz=222,slow=6.8,SNR=5.3						
LPAZ				LR	LR	20 16 35.5	
	comp=Z,73nm,19.4s,MS3.9,baz=261,slow=30						
LPAZ	**La Paz**	**61.66**	**78**	*e*P	**P**	**19 55 50.1**	**-1.1**
	comp=Z,11nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**62.85**	**253**	P	**P**	**19 56 00.1**	**+1.2**
	comp=Z,5.4nm,1.3s,mb4.5,baz=149,slow=12,SNR=2.0						
STKA				LR	LR	20 18 26.6	
	comp=Z,439nm,21.5s,MS4.6,baz=204,slow=32						
SAML	**Samuel**	**70.39**	**78**	P	**P**	**19 56 45.1**	**-1.9**
	comp=Z,6.1nm,1.2s,mb4.4						
ASAR	**Alice Springs**	**73.49**	**252**	P	**P**	**19 57 04.8**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.9,baz=141,slow=6.0,SNR=11						
ASAR				LR	LR	20 24 56.9	
	comp=Z,147nm,19.7s,MS4.3,baz=296,slow=32						
JTS	**JuntasAbangare**	**75.59**	**48**	LR	LR	20 22 39.6	
	comp=Z,198nm,20.1s,MS4.4,baz=136,slow=29						
ROSC	**El Rosal**	**75.85**	**60**	LR	LR	20 25 22.8	
	comp=Z,102nm,19.0s,MS4.2,baz=239,slow=32						
WRA	**Warramunga Arr**	**76.20**	**255**	P	**P**	**19 57 20.6**	**-0.4**
	comp=Z,2.3nm,1.2s,mb4.0,baz=142,slow=5.4,SNR=14						
WRA				LR	LR	20 29 35.5	
	comp=Z,181nm,18.4s,MS4.4,baz=85,slow=35						
WRAB	**Tennant Creek**	**76.20**	**255**	*e*P	**P**	**19 57 20.8**	**-0.2**
	comp=Z,9.4nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**82.52**	**249**	LR	LR	20 29 07.2	
	comp=Z,128nm,18.9s,MS4.3,baz=95,slow=32						
TXAR	**Lajitas Array**	**86.89**	**24**	LR	LR	20 30 43.3	
	comp=Z,46nm,18.3s,MS3.9,slow=31						
SUR	**Sutherland**	**90.37**	**157**	LR	LR	20 31 49.8	
	comp=Z,141nm,20.0s,MS4.4,baz=229,slow=31						
NVAR	**Mina Array Bea**	**93.22**	**11**	LR	LR	20 30 45.4	
	comp=Z,92nm,21.1s,MS4.2,baz=290,slow=29						
PDAR	**Pinedale Array**	**98.68**	**16**	LR	LR	20 35 07.1	
	comp=Z,95nm,18.3s,MS4.3,baz=92,slow=30						

ILAR	**Eielson Array**	**119.44**	**353**	PKP	PKPdf	20 04 21.4	-1.1
	comp=Z,0.5nm,0.8s,baz=199,slow=2.8,SNR=5.4						
SONM	**Songino Array**	**143.80**	**284**	PKP	PKPdf	20 05 08.8	+0.6
	comp=Z,1.2nm,0.8s,baz=135,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**157.22**	**264**	PKPab	PKPab	20 06 00.7	+1.7
	comp=Z,0.5nm,0.7s,baz=112,slow=5.4,SNR=3.5						

IDC 27 20:08:53.5±4.0**, 16.69S**×**177.46W, mb4.1**/4**, mb1 4.3**/4**, mb1mx4.0**/15**, Error ellipse: s-maj=159.0km s-min=48.1km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.02**	**240**	P	P	20 16 31.1	-0.8
	0.9nm,0.4s,baz=93,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**45.76**	**258**	P	P	20 17 17.2	-1.7
	0.4nm,0.5s,baz=96,slow=6.9,SNR=22						
ASAR	**Alice Springs**	**46.00**	**253**	P	P	20 17 18.6	-2.1
	7.2nm,0.5s,baz=89,slow=8.2,SNR=173						
FITZ	**Fitzroy Crossi**	**54.13**	**259**	P	P	20 18 19.7	-3.2
	2.6nm,0.9s,baz=82,slow=15,SNR=3.7						
GERES	**GERESS Array B**	**146.66**	**347**	PKPbc	PKPbc	20 28 36.8	-0.1
	0.2nm,0.4s,baz=18,slow=3.1,SNR=4.1						

IDC 27 20:18:28.2±1.9**, 3.96N**×**125.90E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.6**/16**, Error ellipse: s-maj=123.0km s-min=22.5km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.92**	**181**	*e*P	P	20 23 23.7	-1.4
	0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.92**	**181**	P	P	20 23 23.8	-1.3
	0.9nm,0.3s,baz=5.7,slow=10,SNR=16						
WRA	**Warramunga Arr**	**25.15**	**161**	P	P	20 23 55.4	-1.4
	0.4nm,0.4s,baz=339,slow=9.9,SNR=13						
WB2	**Warramunga Arr**	**25.16**	**161**	*e*P	P	20 23 55.5	-1.3
ASAR	**Alice Springs**	**28.54**	**165**	P	P	20 24 25.2	-2.6
	0.2nm,0.3s,baz=344,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**56.90**	**326**	P	P	20 28 15.1	-2.3
	0.5nm,0.4s,baz=118,slow=7.3,SNR=16						

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*MOS **27** 20:26:48.8±0.8, 57.76S×25.81W, h33^{km}, mb5.3/16, Error ellipse: s-maj=52.1km s-min=18.9km az=109.3*

*HRVD **27** 20:26:54.0±0.7, 57.83S×25.36W, h50^{km}±2^{km}, MW4.9/28, Centroid moment Tensor Solution. LP body waves: s28,c33;Mantle waves: s17,c21; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$3.15±.24; M$_{\theta\theta}$-2.97±.18; M$_{\phi\phi}$-0.18±.18; M$_{r\theta}$-0.13±.28; M$_{\theta\phi}$0.52±.17; M$_{\phi r}$-0.49±.15; Best double couple: M$_0$3.15×10^{16} NP1:ϕ_s109°,δ45°,λ102°. NP2:ϕ_s272°,δ46°,λ78°. Principal axes: T 3.23, Plg81°, Azm103°; N -.16, Plg9°, Azm280°; P -3.06, Plg0°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **27** 20:26:54.0, 57.60S×25.60W, h64^{km}, mB5.5, Ms5.3, Msz5.2*

*NEIC **27** 20:26:54.0±0.1, 57.63S×25.60W, mb5.1/21, Error ellipse: s-maj=7.9km s-min=5.2km az=50.0*

*SYO **27** 20:26:54.0, 57.63S×25.60W, h65^{km}, MB5.1*

*IDC **27** 20:26:54.1±0.5, 57.73S×25.80W, h64^{km}±4^{km}, mb4.8/12, mb1 4.8/12, mb1mx4.7/14, MS3.9/8, Ms1 3.9/8, ms1mx3.8/13, Error ellipse: s-maj=19.0km s-min=12.6km az=38.0*

ISC 27 20:26:53.0±2.2**, 57.62S**±0.07×**25.7W**±0.1**, h68**^{km}±20^{km}**, h64**^{km}±1.1^{km}**:pP-P, n175,** σ**0^{s}97**/57**, mb5.0**/30**, 9C-6D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.02**	**157**	⇑*i*P	**P**	**20 30 22.8**	**+0.6**
VNA1	**Neumayer--Stat**	**15.02**	**157**	⇓*i*	**P**	**20 30 23.6**	**+1.4**
VNA2	**Neumayer--Watz**	**15.42**	**157**	⇑*i*P	**P**	**20 30 27.9**	**+0.6**
VNA2	**Neumayer--Watz**	**15.42**	**157**	⇑*i*	**P**	**20 30 28.7**	**+1.4**
SNAA	**Sanae**	**16.97**	**155**	⇓*i*P	**P**	**20 30 45.7**	**-1.0**
SNAA	**Sanae**	**16.97**	**155**	⇑*i*	**P**	**20 30 46.4**	**-0.3**
EFI	**East Falkland**	**19.53**	**274**	*e*P	**P**	**20 31 17.8**	**+0.5**
	77nm,0.6s						
PMSA	**Palmer Station**	**19.55**	**233**	*e*Pn	**P**	**20 31 18.2**	**+0.8**
PMSA				*e*		20 31 35.7	
PMSA				*e*PcP	PcP	20 35 33.5	-1.6
MAIT	**Maitri**	**20.47**	**145**	*e*P	**P**	**20 31 25.4**	**-1.6**
USHA	**Ushuaia**	**23.64**	**258**	P	**P**	**20 31 59.0**	**+0.7**
	14nm,0.8s,mb4.4,baz=117,slow=7.9,SNR=6.0						
USHA				PcP	PcP	20 35 42.2	-0.8
	9.4nm,0.8s,baz=49,slow=3.2,SNR=3.1						
USHA				LR	LR	20 39 34.4	
	comp=Z,244nm,18.1s,baz=71,slow=32						
SYO	**Syowa Base**	**29.84**	**139**	⇓P	**P**	**20 32 52.5**	**-2.9**
SYO	**Syowa Base**	**29.84**	**139**	⇓pP	pP	20 33 07.7	-4.0
SYO	**Syowa Base**	**29.84**	**139**	⇓sP	sP	20 33 14.6	-5.1
SYO	**Syowa Base**	**29.84**	**139**	⇑PP	PP	20 33 58.7	+4.0
SYO	**Syowa Base**	**29.84**	**139**	⇓PcP	PcP	20 35 55.6	-1.6
TRQA	**Tornquist**	**30.71**	**294**	*e*P	**P**	**20 33 01.4**	**-2.0**
	4.8nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**32.63**	**180**	⇑*i*P	**P**	**20 33 19.6**	**-0.1**
	54nm,0.7s,mb5.5						
QSPA				*e*		20 39 41.3	
QSPA				LR	LR		
	comp=Z,300nm,20.9s						
PLCA	**Paso Flores**	**33.11**	**281**	P	**P**	**20 33 22.7**	**-1.5**
	comp=Z,13nm,1.1s,mb4.7,baz=137,slow=7.0,SNR=14						
PLCA				PcP	PcP	20 36 05.3	-1.0
	comp=Z,2.2nm,0.8s,baz=311,slow=11,SNR=3.0						
PLCA				LR	LR	20 46 49.2	
	comp=Z,153nm,18.8s,baz=182,slow=36						
PLCA	**Paso Flores**	**33.11**	**281**	P	**P**	**20 33 22.7**	**-1.5**
PLCA						20 36 05.3	
PLCA				pmax	pmax		
	comp=Z,13nm,1.1s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA				MLR	MLR		
	comp=Z,153nm,18.8s						
MAW	**Mawson**	**38.39**	**142**	*e*P	**P**	**20 34 07.9**	**-0.8**
	comp=Z,28nm,1.0s,mb5.0						
MAW				*e*PCP	PcP	20 36 21.0	-0.6
MAW	**Mawson**	**38.39**	**142**	P	**P**	**20 34 08.2**	**-0.5**
	comp=Z,29nm,0.8s,mb5.2,baz=236,slow=7.9,SNR=45						
MAW				PcP	PcP	20 36 21.0	-0.6
	comp=Z,9.8nm,0.7s,baz=260,slow=5.6,SNR=8.3						
MAW				LR	LR	20 47 29.1	
	comp=Z,263nm,20.0s,baz=243,slow=32						
MAW	**Mawson**	**38.39**	**142**	P	**P**	**20 34 08.2**	**-0.5**
MAW						20 36 21.0	
MAW				pmax	pmax		
	comp=Z,29nm,0.8s						
MAW				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,263nm,20.0s						
CPUP	**Villa Florida**	**38.47**	**311**	P	**P**	**20 34 09.1**	**-0.6**
	comp=Z,15nm,0.8s,mb4.9,baz=173,slow=7.2,SNR=26						
CPUP				PcP	PcP	20 36 21.6	-0.7
	comp=Z,6.5nm,0.7s,baz=172,slow=2.5,SNR=6.4						
CPUP				ScP		20 40 02.2	
	comp=Z,1.7nm,0.8s,baz=247,slow=7.8,SNR=3.6						
CPUP				LR	LR	20 47 11.2	
	comp=Z,171nm,21.6s,baz=356,slow=32						
CPUP	**Villa Florida**	**38.47**	**311**	P	**P**	**20 34 09.1**	**-0.6**
CPUP						20 36 21.6	
CPUP						20 40 02.2	
CPUP				pmax	pmax		
	comp=Z,15nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CPUP				pmax	pmax		
	comp=N,2.0nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,171nm,21.6s						
CPUP	**Villa Florida**	**38.47**	**311**	*e*P	**P**	**20 34 08.9**	**-0.8**
	comp=Z,21nm,0.9s,mb5.0						
CPUP				*e*PcP	PcP	20 36 21.7	-0.6
SUR	**Sutherland**	**40.30**	**72**	P	**P**	**20 34 25.8**	**+1.0**
	comp=Z,13nm,0.8s,mb4.8,baz=197,slow=5.9,SNR=8.4						
SUR				PcP	PcP	20 36 29.6	+1.6
	comp=Z,12nm,0.9s,baz=56,slow=1.5,SNR=4.8						
SUR	**Sutherland**	**40.30**	**72**	*e*P	**P**	**20 34 25.5**	**+0.7**
	comp=Z,15nm,0.8s,mb4.9						
SBA	**Scott Base**	**44.57**	**184**	*e*P	**P**	**20 34 59.9**	**+0.9**
	comp=Z,43nm,1.3s,mb5.0						
BDFB	**Brasilia**	**45.14**	**329**	P	**P**	**20 35 05.8**	**+1.4**
	comp=Z,17nm,0.7s,mb4.9,baz=149,slow=3.4,SNR=29						
BDFB				LR	LR	20 51 56.7	
	comp=Z,108nm,20.5s,baz=357,slow=33						
BDFB	**Brasilia**	**45.14**	**329**	P	**P**	**20 35 05.8**	**+1.4**
BDFB				pmax	pmax		
	comp=Z,17nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,108nm,20.5s						
LVC	**Limon Verde**	**46.81**	**300**	*e*P	**P**	**20 35 16.7**	**-0.7**
	comp=Z,13nm,0.7s,mb4.8						
LVC				*e*PcP	PcP	20 36 50.1	+0.1
MIR	**Mirnyy**	**48.01**	**152**	⇑*e*P	**P**	**20 35 25.2**	**-1.1**
MIR				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.1						
LPAZ	**La Paz**	**51.96**	**305**	P	**P**	**20 35 57.0**	**-0.2**
	comp=Z,13nm,0.6s,mb5.1,baz=149,slow=7.2,SNR=51						
LPAZ				pP	pP	20 36 14.2	-0.3
	comp=Z,13nm,0.6s,baz=224,slow=8.5,SNR=8.7						
LPAZ				LR	LR	20 56 41.8	
	comp=Z,53nm,21.0s,baz=67,slow=34						
LPAZ	**La Paz**	**51.96**	**305**	P	**P**	**20 35 57.0**	**-0.1**
LPAZ				*PP	pP	20 36 14.2	-0.3
LPAZ				pmax	pmax		
	comp=Z,13nm,0.6s						
LPAZ				pmax	pmax		
	comp=N,13nm,0.6s						
LPAZ				MLR	MLR		
	comp=Z,53nm,21.0s						
LPAZ	**La Paz**	**51.96**	**305**	*e*P	**P**	**20 35 56.7**	**-0.4**
	comp=Z,13nm,0.6s,mb5.1						
LPAZ				*e*PcP	PcP	20 37 09.3	+0.5
SAML	**Samuel**	**56.50**	**314**	*e*P	**P**	**20 36 29.0**	**-1.3**
	comp=Z,28nm,0.7s,mb5.4						
LSZ	**Lusaka**	**58.20**	**67**	*e*P	**P**	**20 36 41.4**	**-0.8**
	comp=Z,48nm,0.9s,mb5.5						
LIC	**Lamto**	**65.80**	**23**	*e*P	**P**	**20 37 33.1**	**0.0**
	comp=Z,110nm,0.8s,mb5.8						
KIC	**Kosan Boka**	**66.00**	**23**	*e*P	**P**	**20 37 34.3**	**-0.1**
	comp=Z,142nm,0.8s,mb5.8						
TIC	**Toumodi**	**66.21**	**23**	*e*P	**P**	**20 37 35.6**	**-0.1**
	comp=Z,159nm,0.8s,mb5.9						
DBIC	**Dimbokro**	**66.27**	**23**	P	**P**	**20 37 36.1**	**0.0**
	comp=Z,22nm,0.7s,mb5.1,baz=169,slow=8.1,SNR=40						
DBIC				LR	LR	21 00 00.4	
	comp=Z,97nm,18.6s,baz=80,slow=30						
DBIC	**Dimbokro**	**66.27**	**23**	P	**P**	**20 37 36.1**	**0.0**
DBIC				pmax	pmax		
	comp=Z,22nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,97nm,18.6s						
OTAV	**Otavalo**	**71.21**	**303**	*e*P	**P**	**20 38 08.4**	**+1.9**
	comp=Z,8.9nm,0.8s,mb4.7						
OTAV				*e*		20 38 21.2	
MBAR	**Mbarara**	**72.15**	**61**	*e*P	**P**	**20 38 13.2**	**+1.0**
	comp=Z,36nm,1.3s,mb5.0						
ROSC	**El Rosal**	**73.54**	**309**	P	**P**	**20 38 20.2**	**-0.1**
	comp=Z,8.1nm,0.4s,mb4.8,baz=146,slow=23,SNR=4.1						
KMBO	**Kilima Mbogo**	**74.85**	**67**	*e*P	**P**	**20 38 31.4**	**+3.6**
	comp=Z,8.1nm,1.0s,mb4.4						
SDV	**Santo Domingo**	**75.70**	**314**	*e*P	**P**	**20 38 31.8**	**-0.9**
	comp=Z,21nm,0.8s,mb4.9						
MGG	**Marie-Galante**	**78.99**	**325**	*e*P	**P**	**20 38 52.2**	**+1.3**
DEG	**La Desirade**	**79.28**	**326**	*e*P	**P**	**20 38 53.5**	**+1.0**
MTP	**Monte Pirata**	**82.38**	**322**	*e*P	**P**	**20 39 08.7**	**-0.1**
URZ	**Urewera**	**82.58**	**198**	P	**P**	**20 39 09.7**	**+0.2**
	comp=Z,13nm,0.8s,mb4.8,baz=131,slow=5.0,SNR=6.3						
JTS	**JuntasAbangare**	**83.05**	**302**	*e*P	**P**	**20 39 12.1**	**-0.2**
	comp=Z,14nm,1.1s,mb4.7						
TOO	**Toolangi**	**84.88**	**173**	*e*P	**P**	**20 39 20.8**	**-0.1**
	comp=Z,5.0nm,0.8s,mb4.5						
MUN	**Mundaring**	**85.16**	**148**	*e*P	**P**	**20 39 22.3**	**-0.1**
	comp=Z,22nm,1.5s,mb4.9						
KLBR	**Kellerberrin**	**85.95**	**149**	*e*P	**P**	**20 39 27.8**	**+1.4**
CNB	**Canberra Magne**	**87.33**	**176**	*e*P	**P**	**20 39 33.7**	**+0.7**
	comp=Z,7.6nm,0.7s,mb4.7						
FORT	**Forrest**	**89.21**	**158**	*e*P	**P**	**20 39 42.7**	**+0.7**
	comp=Z,169nm,0.7s						
STKA	**Stephens Creek**	**90.21**	**169**	*e*P	**P**	**20 39 46.9**	**+0.2**
	comp=Z,6.6nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**90.21**	**169**	P	**P**	**20 39 46.7**	**0.0**
	comp=Z,8.6nm,0.8s,mb5.0,baz=162,slow=5.8,SNR=21						
STKA				pP	pP	20 40 04.6	-1.2
	comp=Z,4.8nm,0.8s,baz=196,slow=5.5,SNR=4.4						
STKA				LR	LR	21 16 14.9	
	comp=Z,154nm,19.0s,baz=205,slow=33						
ASPA	**Alice Springs**	**97.24**	**161**	*e*P	**P**	**20 40 18.2**	**-0.9**
ASPA				*e*pP	pP	20 40 36.9	-1.3
ASAR	**Alice Springs**	**97.24**	**161**	P	**P**	**20 40 18.4**	**-0.7**
	comp=Z,8.0nm,0.6s,mb5.3,baz=181,slow=4.0,SNR=109						
ASAR				pP	pP	20 40 36.2	-1.9
	comp=Z,3.5nm,0.7s,baz=189,slow=4.0,SNR=6.1						
ASAR				PP	PP	20 44 18.8	0.0
	comp=Z,1.2nm,0.9s,baz=182,slow=8.0,SNR=5.3						
ASAR				PKKPbc		20 56 57.4	
	comp=Z,0.6nm,0.7s,baz=15,slow=2.1,SNR=6.8						
FITZ	**Fitzroy Crossi**	**100.88**	**152**	P	P	20 40 35.8	+0.2
	comp=Z,0.6nm,0.7s,baz=198,slow=9.6,SNR=5.3						
WRA	**Warramunga Arr**	**100.95**	**161**	P	P	20 40 35.0	-0.9
	comp=Z,2.1nm,0.8s,baz=199,slow=4.3,SNR=25						
WRA				PKKPbc		20 56 45.6	
	comp=Z,1.2nm,0.9s,slow=2.9,SNR=12						
WRA	**Warramunga Arr**	**100.95**	**161**	P	P	20 40 35.0	-0.9
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WB2	**Warramunga Arr**	**100.95**	**161**	*e*P	P	20 40 35.2	-0.8
WRAB	**Tennant Creek**	**100.96**	**161**	*e*P	P	20 40 35.2	-0.7
	comp=Z,3.6nm,0.6s						
TXAR	**Lajitas Array**	**108.24**	**296**	PKKP	PKKP	20 56 39.3	+10
	comp=Z,0.4nm,0.8s,baz=180,slow=2.5,SNR=3.7						
GERES	**GERESS Array B**	**110.97**	**27**	PKKPbc		20 56 16.2	
	comp=Z,0.4nm,0.7s,slow=2.7,SNR=4.1						
AKASG	**Malin Array Be**	**116.98**	**36**	PKP	PKPdf	20 45 29.2	+0.1
	comp=Z,0.4nm,0.4s,baz=244,slow=1.9,SNR=9.0						
PV01	**Paradox Valley**	**117.76**	**298**	*e*PKPdf	PKPdf	20 45 32.4	+1.5
SRU	**San Rafael**	**119.47**	**297**	*e*PKPdf	PKPdf	20 45 35.3	+1.1
MSU	**Marysvale**	**119.80**	**296**	*e*PKPdf	PKPdf	20 45 36.9	+2.0
RSSD	**Black Hills**	**120.44**	**305**	*e*PKPdf	PKPdf	20 45 36.4	+0.4
TPNV	**Topopah Spring**	**120.58**	**291**	*e*PKPdf	PKPdf	20 45 38.5	+2.0
DUG	**Dugway**	**121.42**	**296**	*e*PKPdf	PKPdf	20 45 39.7	+1.7
HFS	**Hagfors**	**121.43**	**22**	PKKPbc		20 55 38.8	
	comp=Z,1.1nm,0.5s,baz=90,slow=1.5,SNR=4.9						
TCUT	**Toone Canyon**	**121.46**	**298**	*e*PKPdf	PKPdf	20 45 39.1	+1.0
NB2	**NORSAR Subarra**	**121.79**	**20**	PKPdf	PKPdf	20 45 37.8	-0.4
	comp=Z,5.1nm,1.1s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**121.79**	**20**	PKP	PKPdf	20 45 39.1	+1.0
	comp=Z,2.5nm,0.8s,baz=201,slow=1.7,SNR=5.4						
NOA				PKKPbc		20 55 37.5	
	comp=Z,1.0nm,0.7s,baz=50,slow=4.8,SNR=3.9						
NOA	**NORSAR Array B**	**121.79**	**20**	PKIKP	PKPdf	20 45 39.1	+0.9
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**121.87**	**300**	PKP	PKPdf	20 45 39.3	+0.5
	comp=Z,3.2nm,0.6s,baz=139,slow=4.7,SNR=31						
PDAR				PKKPbc		20 55 37.9	
	comp=Z,0.4nm,0.5s,baz=45,slow=2.1,SNR=4.3						
HWUT	**Hardware Ranch**	**121.92**	**298**	*e*PKPdf	PKPdf	20 45 40.2	+1.3
ULM	**Lac du Bonnet**	**121.95**	**315**	PKP	PKPdf	20 45 39.0	+0.3
	comp=Z,7.3nm,0.6s,baz=158,slow=1.8,SNR=9.5						
BGU	**Big Grassy Mou**	**122.09**	**297**	*e*PKPdf	PKPdf	20 45 40.9	+1.7
AHID	**Auburn Hatcher**	**122.59**	**299**	*e*PKPdf	PKPdf	20 45 41.6	+1.4
NVAR	**Mina Array Bea**	**122.76**	**291**	PKP	PKPdf	20 45 43.1	+2.5
	comp=Z,5.0nm,0.7s,baz=129,slow=3.4,SNR=42						
ELK	**Elko**	**123.02**	**295**	*e*PKPdf	PKPdf	20 45 42.8	+1.7
TPAW	**Teton Pass**	**123.08**	**300**	*e*PKPdf	PKPdf	20 45 42.8	+1.7
OBN	**Obninsk**	**123.08**	**37**	*i* PKIKP	PKPdf	20 45 41.5	+0.7
OBN				*e*		20 47 23.2	
OBN						20 52 40.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MOOW	**Moose Ponds**	**123.18**	**300**	*e*PKPdf	PKPdf	20 45 42.7	+1.4
KOLN	**Koldanda**	**123.23**	**90**	*e*P	PKPdf	20 45 41.8	0.0
	comp=Z,24nm,0.9s						
LAO	**LASA Array**	**123.40**	**306**	*e*PKPdf	PKPdf	20 45 42.5	+0.9
CMB	**Columbia Colle**	**123.51**	**289**	*e*PKPdf	PKPdf	20 45 43.9	+1.8
CM31	**Chiang Mai Arr**	**123.74**	**110**	*e*PKPdf	PKPdf	20 45 43.6	+0.7
CMAR	**Chiang Mai Arr**	**123.74**	**110**	PKP	PKPdf	20 45 43.8	+0.8
	comp=Z,8.0nm,0.7s,baz=230,slow=3.8,SNR=53						
CMAR	**Chiang Mai Arr**	**123.74**	**110**	PKIKP	PKPdf	20 45 43.8	+0.8
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BMN	**Battle Mountai**	**123.75**	**293**	*e*PKPdf	PKPdf	20 45 44.3	+1.8
DGMT	**Dagmar**	**123.91**	**308**	*e*PKPdf	PKPdf	20 45 43.5	+0.9
DMN	**Daman**	**123.92**	**91**	*e*P	PKPdf	20 45 43.5	+0.4
	comp=Z,49nm,1.3s						
GKN	**Gorkha**	**123.97**	**91**	*e*P	PKPdf	20 45 42.9	-0.3
	comp=Z,20nm,0.8s						
PKI	**Pulchoki**	**124.05**	**91**	*e*P	PKPdf	20 45 43.9	+0.5
	comp=Z,19nm,0.7s						
KKN	**Kakani**	**124.15**	**91**	*e*P	PKPdf	20 45 44.0	+0.4
	comp=Z,14nm,0.7s						
QLMT	**Earthquake Lak**	**124.33**	**301**	*e*PKPdf	PKPdf	20 45 46.2	+2.7
BEKR	**Beckwourth**	**124.89**	**291**	*e*PKPdf	PKPdf	20 45 46.9	+2.3
MCMT	**McKenzie Canyo**	**124.98**	**300**	*e*PKPdf	PKPdf	20 45 46.8	+2.2
BOZ	**Bozeman (W)**	**125.03**	**301**	*e*PKPdf	PKPdf	20 45 46.4	+1.7
FINES	**FINESS Array B**	**125.39**	**28**	PKP	PKPdf	20 45 45.6	+0.7
	comp=Z,8.4nm,0.6s,baz=153,slow=4.3,SNR=45						
FINES				pPKP		20 46 05.0	
	comp=Z,7.3nm,0.6s,baz=146,slow=6.9,SNR=8.2						
FINES	**FINESS Array B**	**125.39**	**28**	PKIKP	PKPdf	20 45 45.6	+0.7
FINES				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,7.0nm,0.6s						
FRB	**Frobisher Bay**	**125.42**	**338**	PKP	PKPdf	20 45 45.4	+0.4
	comp=N,11nm,0.8s,baz=125,slow=10,SNR=5.0						
FRB	**Frobisher Bay**	**125.42**	**338**	PKIKP	PKPdf	20 45 45.4	+0.5
FRB				pmax	pmax		
	comp=Z,11nm,0.8s						
HRY	**Holter Researc**	**125.93**	**302**	*e*PKPdf	PKPdf	20 45 48.6	+2.2
WVOR	**Wild Horse Val**	**125.96**	**294**	*e*PKPdf	PKPdf	20 45 49.1	+2.5
KAF	**Kangasniemi**	**126.02**	**27**	*e*p	PKPdf	20 45 44.6	-1.5
MOD	**Modoc**	**126.39**	**292**	*e*PKPdf	PKPdf	20 45 49.6	+2.2
CHMT	**Chamberlain Mo**	**126.73**	**301**	*e*PKPdf	PKPdf	20 45 49.5	+1.6
YBH	**Yreka Blue Hor**	**127.47**	**291**	PKP	PKPdf	20 45 50.7	+1.2
	comp=Z,3.7nm,0.7s,baz=63,slow=2.7,SNR=7.2						
YBH	**Yreka Blue Hor**	**127.47**	**291**	PKIKP	PKPdf	20 45 50.7	+1.2
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FFC	**Flin Flon**	**127.78**	**315**	*e*PKPdf	PKPdf	20 45 50.1	+0.4
HBO	**Huckleberry Mo**	**128.82**	**293**	P	PKPdf	20 45 54.3	+2.3
AML	**Almayashu**	**128.94**	**71**	P	PKPdf	20 45 54.1	+1.8
	SNR=15						
EKS2	**Erkin-Say**	**129.37**	**70**	P	PKPdf	20 45 54.7	+1.6
	SNR=11						
UCH	**Uchtor**	**129.42**	**71**	P	PKPdf	20 45 55.2	+2.0
	SNR=11						
KZA	**Kyzart**	**129.69**	**72**	P	PKPdf	20 45 55.8	+2.0
	SNR=5.1						
AAK	**Ala-Archa**	**129.71**	**71**	P	PKPdf	20 45 55.3	+1.5
	SNR=6.6						
AAK	**Ala-Archa**	**129.71**	**71**	*e*PKPdf	PKPdf	20 45 53.9	+0.2
USP	**Ospenovka**	**130.17**	**70**	P	PKPdf	20 45 54.3	-0.3
	SNR=7.2						
LON	**Longmire**	**130.66**	**296**	*e*PKPdf	PKPdf	20 45 56.6	+1.1
FMW	**Mount Fremont**	**130.72**	**296**	P	PKPdf	20 45 57.3	+1.8
BMW	**Boistfort Moun**	**131.15**	**295**	*e*PKPdf	PKPdf	20 45 58.6	+2.2
KMI	**Kunming**	**131.22**	**109**	*e*PKP	PKPdf	20 45 54.0	-3.1
KMI				LR	LR		
	comp=Z,64nm,18.2s						
RPW	**Rockport**	**131.71**	**297**	*e*PKPdf	PKPdf	20 45 58.9	+1.5
JCW	**Jim Creek**	**131.73**	**297**	P	PKPdf	20 45 58.9	+1.4
ARCES	**ARCESS Array B**	**132.09**	**22**	PKP	PKPdf	20 45 58.1	+0.5
	comp=Z,3.4nm,0.6s,baz=227,slow=2.0,SNR=28						
ARCES				pPKP		20 46 16.8	
	comp=Z,4.0nm,0.6s,baz=225,slow=1.7,SNR=4.9						
ARCES				PP	PP	20 48 19.8	-4.2
	comp=Z,3.4nm,0.8s,baz=225,slow=5.1,SNR=6.3						
ARCES	**ARCESS Array B**	**132.09**	**22**	PKIKP	PKPdf	20 45 58.1	+0.5
ARCES						20 48 19.8	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES				pmax	pmax		
	comp=N,4.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**132.13**	**48**	*e*PKIKP	PKPdf	20 45 58.4	+0.4
ARU	**Arti**	**132.13**	**48**	*e*PKPdf	PKPdf	20 45 58.6	+0.6
APA	**Apatity**	**132.24**	**26**	*ce*PKHKP		20 45 47.7	
MKAR	**Makanchi Array**	**136.59**	**72**	PKhKP		20 45 59.7	
	comp=Z,2.6nm,1.1s,baz=180,slow=1.2,SNR=4.4						
MKAR				PKP	PKPdf	20 46 06.4	-0.1
	comp=Z,4.0nm,0.8s,baz=270,slow=3.0,SNR=12						
MKAR				PKKP	PKKP	20 55 44.2	+10
	comp=Z,0.5nm,0.7s,baz=90,slow=1.4,SNR=3.8						
MKAR	**Makanchi Array**	**136.59**	**72**	*i* PKHKP		20 45 59.7	
MKAR						20 46 06.4	
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**137.31**	**65**	*e*PKPdf	PKPdf	20 46 08.7	+1.0
WMQ	**Urumqi**	**137.40**	**79**	PKP	PKPdf	20 46 11.0	+2.9
WMQ				XPKP		20 46 33.3	
WMQ				PP	PP	20 48 59.5	+1.9
WMQ				LR	LR		
	comp=E,52nm,24.6s						
WMQ				LR	LR		
	comp=Z,51nm,22.1s						
YKA	**Yellowknife Ar**	**137.89**	**316**	PKhKP		20 46 02.4	
	comp=Z,1.0nm,0.5s,baz=127,slow=2.9,SNR=6.3						
YKA				PKP	PKPdf	20 46 09.6	+1.2
	comp=Z,12nm,0.6s,baz=124,slow=2.3,SNR=30						
YKA				pPKP		20 46 27.8	
	comp=Z,7.2nm,0.7s,baz=130,slow=2.3,SNR=4.8						
YKA	**Yellowknife Ar**	**137.89**	**316**	*i* PKHKP		20 46 02.4	
YKA						20 46 09.6	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,12nm,0.6s						
YKA				pmax	pmax		
	comp=N,7.0nm,0.7s						
YKA	**Yellowknife Ar**	**137.89**	**316**	PKP	PKPdf	20 46 02.4	-6.1
YKA				PKP	PKPdf	20 46 09.7	+1.2
YKA				pPKP		20 46 27.8	
YKW3	**Yellowknife Ar**	**137.93**	**316**	*e*PKPdf	PKPdf	20 46 09.5	+1.0
LZH	**Lanzhou**	**140.50**	**101**	PKP	PKPdf	20 46 16.8	+2.9
LZH				XPKP		20 46 37.0	
LZH				PP	PP	20 49 21.3	+4.4
LZH				SS	SS	21 07 37.8	+4.0
LZH				PP	PP		
	comp=Z,240nm,6.8s						
LZH				LR	LR		
	comp=E,273nm,18.4s						
LZH				LR	LR		
	comp=Z,432nm,20.0s						
LZH	**Lanzhou**	**140.50**	**101**	PKP	PKPdf	20 46 16.8	+2.9
LZH				sPKP		20 46 37.0	
LZH				PP	PP	20 49 21.3	+4.4
LZH				SKKS		20 56 07.1	
LZH				SS	SS	21 07 37.8	+4.0
LZH				LR	LR		
	comp=Z,430nm,20.0s						
NVS	**Novosibirsk**	**142.04**	**63**	*i* PKHKP		20 46 12.1	
NVS				pmax	pmax		
	comp=Z,20nm,1.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.6s						
NJ2	**Nanjing**	**144.81**	**121**	*e*PKP	PKPdf	20 46 22.3	+0.9
NJ2				APKP		20 46 40.3	
NJ2				XPKP		20 46 50.3	
NJ2				PP	PP	20 49 44.0	+1.1
NJ2				PKS	PKS	20 49 57.0	+1.0
NJ2				SKS	SKS	20 53 27.0	+5.1
SSE	**Sheshan**	**145.05**	**125**	*e*PKP	PKPdf	20 46 26.5	+4.6
SSE	**Sheshan**	**145.05**	**125**	*e*P	PKPdf	20 46 26.6	+4.7
BTO	**Baotou**	**147.10**	**102**	*e*PKP	PKPdf	20 46 29.0	+3.9
INK	**Inuvik**	**147.54**	**319**	*e*PKPbc	PKPdf	20 46 28.9	+4.0
HHC	**Hu-ho-hao-te**	**148.09**	**103**	*e*PKP	PKPdf	20 46 31.0	+4.4
HHC				PP	PP		
	comp=Z,184nm,6.4s						
DAWY	**Dawson**	**148.45**	**310**	*e*PKPbc	PKPdf	20 46 31.4	+4.9
ZAK	**Zakamensk**	**149.78**	**82**	⇑*e*PKP2	PKPab	20 46 35.6	-6.0
BJI	**Beijing**	**149.88**	**109**	PKP	PKPdf	20 46 34.0	+4.5
SONM	**Songino Array**	**149.97**	**88**	PKP	PKPdf	20 46 30.4	+1.0
	comp=Z,29nm,0.7s,baz=199,slow=2.4,SNR=26						
SONM				PKPbc	PKPdf	20 46 35.8	+6.4
	comp=Z,27nm,0.6s,baz=226,slow=3.1,SNR=149						
SONM				pPKPbc		20 46 54.3	
	comp=Z,9.8nm,0.6s,baz=230,slow=3.3,SNR=5.9						
EYAK	**Cordova Ski Ar**	**150.00**	**301**	*e*PKPbc	PKPdf	20 46 36.3	+7.3
DIV	**Divide**	**150.22**	**302**	*e*PKPbc	PKPdf	20 46 36.8	+7.4

THY	Trims Highway	150.94	307	*e*PKPbc	PKPdf	20 46 38.5	+8.1
SML	Sawmill	151.60	303	*e*PKPbc	PKPdf	20 46 39.5	+8.1
ILAR	Eielson Array	151.77	309	PKP	PKPdf	20 46 31.1	-0.5
	comp=Z,1.9nm,0.9s,baz=269,slow=1.0,SNR=12						
ILAR				PKPbc	PKPdf	20 46 39.8	+8.2
	comp=Z,80nm,0.9s,baz=140,slow=2.0,SNR=236						
ILAR				PKKP	PKKP	20 55 11.7	+7.5
	comp=Z,0.4nm,0.5s,baz=243,slow=6.0,SNR=4.3						
ILAR	Eielson Array	151.77	309	PKIKP	PKPdf	20 46 31.1	-0.5
ILAR						20 46 39.8	
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,80nm,0.9s						
PMR	Palmer	151.90	302	*e*PKPbc	PKPdf	20 46 40.0	+8.2
SLKM	Skilak Lake	152.06	300	*e*PKPbc	PKPdf	20 46 40.5	+8.4
COLA	College	152.19	309	*e*PKPbc	PKPdf	20 46 40.3	+8.1
COLA				*e*PKPab	PKPab	20 46 49.9	-1.4
KDAK	Kodiak Island	152.23	293	*e*PKPbc	PKPdf	20 46 41.1	+8.7
FIB	Fire Island	152.25	301	*e*PKPbc	PKPdf	20 46 41.7	+9.4
MCK	McKinley	152.39	307	*e*PKPbc	PKPdf	20 46 41.4	+8.8
MAT	Matsushiro	156.35	146	PKP	PKPab	20 47 08.5	-1.3
MAT	Matsushiro	156.35	146	*e*PKP	PKPab	20 47 09.0	-0.8
CN2	Changchun	157.30	115	*e*PKP	PKPdf	20 46 45.3	+5.6
CN2				*e*APKP		20 46 56.0	
CN2				*e*PKP2	PKPab	20 47 17.5	+3.9
CN2				*e*PP	PP	20 50 59.5	+6.1
CN2				LR	LR		
	comp=N,600nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
BOD	Bodaibo	158.68	72	*e*PKIKP	PKPdf	20 46 40.0	-1.0
BOD				*e*		20 47 17.6	
MDJ	Mudanjiang	159.89	120	PKP	PKPdf	20 46 44.3	+1.5

IDC 27 20:42:25.0±79.0**,17.48S**×**166.70E,mb3.9**/3**,mb1 4.1**/3**,**
mb1mx3.7/12**,Error ellipse: s-maj=1325.0km**
s-min=116.0km az=70.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	26.85	233	P	P	20 48 07.5	-1.8
	0.9nm,0.5s,baz=16,slow=7.4,SNR=4.1						
WB2	Warramunga Arr	30.71	260	*e*P	P	20 48 42.3	-1.8
WRA	Warramunga Arr	30.72	260	P	P	20 48 41.9	-2.3
	0.1nm,0.3s,baz=91,slow=9.2,SNR=6.6						
ASAR	Alice Springs	31.27	253	P	P	20 48 47.0	-2.0
	3.0nm,0.5s,baz=79,slow=9.0,SNR=55						
ASPA	Alice Springs	31.27	253	*e*P	P	20 48 47.0	-2.0
FITZ	Fitzroy Crossi	39.04	263	*e*P	P	20 49 53.1	-2.4
	2.8nm,0.7s						

NEIC ***27*** *21:09:20.6±1.5,19.52N×109.29W,h10^{km},mb4.2/5,Error*
ellipse: s-maj=25.3km s-min=17.1km az=52.0
IDC ***27*** *21:09:22.0±8.9,19.93N×109.15W,mb3.7/3,mb1 3.9/4,*
mb1mx3.7/19,ML3.3/1,MS3.5/3,Ms1 3.6/3,ms1mx3.1/22,
Error ellipse: s-maj=155.0km s-min=67.0km az=155.0
ISC 27 21:09:18.4±1.7**,19.5N**±0.2×**109.5W**±0.2**,h10**^{km}**,n18,**
σ**0**^{s}**96**/16**,mb4.0**/5**,MS3.5**/3**,Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	11.15	27	Pn	P	21 11 56.8	-4.2
	0.1nm,0.3s,baz=205,slow=13,SNR=15						
TXAR	Lajitas Array	11.15	27	Pn	P	21 11 56.8	-4.2
TUC	Tucson	12.84	355	*e*P	P	21 12 24.1	+0.3
	5.0nm,1.0s						
BNM	Barren Site	14.84	9	*e*P	P	21 12 51.3	+1.1
LAZ	Ladron	15.02	7	P	P	21 12 52.8	+0.3
ANMO	Albuquerque	15.65	9	*e*P	P	21 13 00.0	-0.7
	13nm,1.5s						
NEN	Nelson	16.80	345	*e*P	P	21 13 17.0	+1.6
TPNV	Topopah Spring	18.40	343	*e*P	P	21 13 35.1	-0.3
	96nm,2.3s						
MSU	Marysvale	19.12	353	*e*P	P	21 13 42.1	-1.9
NVAR	Mina Array Bea	20.39	340	P	P	21 13 57.2	-0.9
	2.2nm,0.9s,baz=172,slow=13,SNR=8.6						
NVAR				LR	LR	21 20 58.5	
	comp=Z,85nm,21.7s,MS3.1,baz=140,slow=35						
NVAR	Mina Array Bea	20.39	340	P	P	21 13 57.2	-0.9
NVAR				LR	LR	21 20 58.5	
ELK	Elko	21.78	348	*e*P	P	21 14 12.6	+0.4
	17nm,1.8s,mb4.2						
HLID	Hailey	24.38	351	P	P	21 14 33.8	-4.0
	3.0nm,0.9s,mb3.7						
SDV	Santo Domingo	39.00	100	*e*P	P	21 16 47.1	+0.1
	5.9nm,0.8s,mb4.4						
INK	Inuvik	51.11	349	P	P	21 18 23.0	0.0
	1.2nm,0.6s,mb4.0,baz=175,slow=7.9,SNR=2.9						
ILAR	Eielson Array	51.65	341	P	P	21 18 27.6	+0.5
	1.5nm,1.1s,mb3.9,baz=146,slow=6.3,SNR=6.0						
LPAZ	La Paz	53.98	128	LR	LR	21 38 47.6	
	comp=Z,39nm,19.6s,MS3.5,baz=112,slow=33						
PLCA	Paso Flores	69.97	149	LR	LR	21 43 35.1	
	comp=Z,66nm,18.0s,MS3.9,baz=0.9,slow=29						

BGR ***27*** *21:47:35.1±0.9,43.85N×10.02E,h10^{km},ML3.8/5,Error*
ellipse: s-maj=11.1km s-min=7.8km az=31.0
ROM ***27*** *21:47:36.1±0.1,44.15N×10.21E,h5^{km},MD3.7/3,ML3.2,*
Error ellipse: s-maj=1.3km s-min=1.3km az=0.0
NEIC ***27*** *21:47:36.4,44.20N×10.25E,h1^{km},MD3.7(ROM),*
ML3.7(GEN),ML3.7(LDG),ML3.4(SZGRF),ML3.4(FUR),
After GEN.
IDC ***27*** *21:47:37.1±2.0,44.18N×10.35E,mb3.5/1,mb1 3.7/8,*
mb1mx3.6/23,ML3.7/7,Error ellipse: s-maj=23.2km
s-min=19.3km az=90.0
STR ***27*** *21:47:38.3±0.9,44.06N×10.10E,h10^{km}±1^{km},Ml3.8,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG ***27*** *21:47:38.3±0.1,44.05N×10.27E,h10^{km},Ml3.7/34,Error*
ellipse: s-maj=2.6km s-min=1.9km az=179.0
ZUR ***27*** *21:47:44.2,44.74N×9.99E,h5^{km},ML3.2/15*
ISC 27 21:47:36.1±0.2**,44.15N**±0.01×**10.17E**±0.01**,h12**^{km}±1^{km},
n225,σ**1**^{s}**29**/342**,mb3.7**/1**,26C-16D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VINC	Vinca	0.02	230	⇑P	Pb	21 47 38.7	+0.7
VINC				S	Sb	21 47 40.3	+1.1
BACM		0.14	331	P	Pg	21 47 39.7	0.0
BACM				S	Sg	21 47 42.0	-0.1
VLC	Villacollemand	0.16	87	*e*Pg	Pg	21 47 39.1	-0.8
VALM		0.20	16	⇑P	Pg	21 47 39.8	-1.0
VALM				S	Sg	21 47 42.2	-1.6
ERBM	Eremo	0.32	33	⇑*i*PG	Pg	21 47 42.0	-0.8
ERBM				SG	Sg	21 47 48.6	+1.3
ERBM	Eremo	0.32	33	⇑*i*Pg	Pg	21 47 42.0	-0.8
ERBM				*e*Sg	Sg	21 47 48.6	+1.3
BDI	Bagni Di Lucca	0.32	106	⇑*i*PG	Pg	21 47 42.1	-0.7
BDI				SG	Sg	21 47 47.2	-0.2
BDI	Bagni Di Lucca	0.32	106	⇑*i*Pg	Pg	21 47 42.1	-0.7
BDI				*e*Sg	Sg	21 47 47.1	-0.2
CODM		0.33	316	⇑P	Pg	21 47 43.1	0.0
CODM				S	Sg	21 47 48.1	+0.4
MAIM		0.33	136	⇑P	Pg	21 47 42.9	-0.2
MAIM				S	Sg	21 47 47.8	+0.1
GRAM		0.35	348	⇑P	Pg	21 47 43.0	-0.4
GRAM				S	Sg	21 47 47.9	-0.4
GSCL	Gusciola	0.36	56	*e*PG	Pg	21 47 42.6	-1.0
GSCL				SG	Sg	21 47 50.3	+1.7
GSCL	Gusciola	0.36	56	*e*Pg	Pg	21 47 42.6	-1.0
GSCL				*e*Sg	Sg	21 47 50.3	+1.7
PII	Pisa	0.50	149	*e*PG	Pg	21 47 46.2	-0.1
PII	Pisa	0.50	149	*e*Pg	Pg	21 47 46.2	-0.1
ZCCA	Zocca	0.61	71	⇓*i*PG	Pg	21 47 48.6	+0.1
ZCCA	Zocca	0.61	71	⇓*i*Pg	Pg	21 47 48.6	+0.1
BOB	Bobbio (Coli)	0.80	320	*e*PG	Pg	21 47 51.9	-0.4
BOB				SG	Sg	21 48 04.6	+1.5
BOB	Bobbio (Coli)	0.80	320	*e*Pg	Pg	21 47 51.9	-0.3
BOB				*e*Sg	Sg	21 48 04.6	+1.5
SEI	Scarperia	0.86	96	*e*PG	Pg	21 47 52.5	-0.9
SEI				SG	Sg	21 48 05.8	+0.8
SEI	Scarperia	0.86	96	*e*Pg	Pg	21 47 52.5	-0.9
SEI				*e*Sg	Sg	21 48 05.8	+0.8
GENL	Genova Univers	0.90	287	P	Pb	21 47 54.5	+1.4
VMG	Vicchio	1.01	100	*e*PG	Pg	21 47 55.6	-0.7
CSNT	Castellina Chi	1.06	130	*e*PG	Pg	21 47 56.4	-0.9
CSNT				SG	Sg	21 48 13.4	+1.9
CSNT	Castellina Chi	1.06	130	*e*Pg	Pg	21 47 56.4	-0.9
CSNT				*e*Sg	Sg	21 48 13.4	+1.9
PGD	Poggio Sodo	1.15	103	*e*PN	Pn	21 47 57.5	-0.5
PGD	Poggio Sodo	1.15	103	*e*Pg	Pg	21 47 57.5	-1.7
GRFL	Gerfalco	1.16	149	*e*PN	Pn	21 47 59.2	+1.1
	156nm,0.5s						
PCP	Pian Castagno	1.23	289	P	Pb	21 47 59.8	+1.0
PCP				S	Sb	21 48 15.6	+1.2
SFI	Santa Sofia	1.23	101	*e*PN	Pn	21 47 59.1	-0.1
SFI				SN	Sn	21 48 17.1	+1.3
	348nm,0.4s						
SFI	Santa Sofia	1.23	101	*e*Pg	Pg	21 47 59.1	-1.7
SFI				*e*Sg	Sg	21 48 17.1	-0.2
CRE	Caprese Michel	1.39	112	*e*PN	Pn	21 48 01.1	-0.3
	283nm,0.4s						
CRE	Caprese Michel	1.39	112	*e*Pg	Pg	21 48 01.1	-2.9
FIN	Finale Ligure	1.41	273	*e*PN	Pn	21 48 02.0	+0.3
	127nm,0.3s						
FIN	Finale Ligure	1.41	273	*e*Pg	Pg	21 48 02.0	-2.3
SAL	Salo	1.48	10	*e*PN	Pn	21 48 04.1	+1.5
SAL				SN	Sn	21 48 25.0	+3.0
SAL	Salo	1.48	10	*e*Pg	Pg	21 48 04.1	-1.5
SAL				*e*Sg	Sg	21 48 24.9	-0.5
RORO		1.52	269	P	Pn	21 48 03.2	+0.1
RORO				S	Sb	21 48 21.8	-0.9
TEOL	Teolo	1.61	41	⇓*e*Pn	Pn	21 48 04.6	0.0
TEOL				*e*Sn	Sn	21 48 29.1	+3.7
ROB	Roburent	1.66	276	P	Pn	21 48 05.7	+0.5
ROB				S	Sn	21 48 25.9	-0.7
IMI	Imperia	1.66	262	*e*PN	Pn	21 48 05.7	+0.4
IMI				SN	Sn	21 48 26.3	-0.3
	291nm,0.5s						
IMI	Imperia	1.66	262	*e*Pg	Pg	21 48 05.7	-3.7
IMI				*e*Sg	Sg	21 48 26.3	-5.2
MONE	Monesi	1.74	268	P	Pn	21 48 06.8	+0.4
MONE				S	Sn	21 48 28.4	-0.2
NEGI	Negi	1.81	261	P	Pn	21 48 07.8	+0.5
PGF	Pioggiola	1.81	208	*e*Pn	Pn	21 48 07.6	+0.1
PGF				*e*Sn	Sn	21 48 30.1	-0.4
	249nm,0.3s						
MAON	Monte Argentar	1.86	157	*e*PN	Pn	21 48 08.2	+0.1
MAON	Monte Argentar	1.86	157	*e*Pg	Pg	21 48 08.2	-5.1
SAOF	Saorge	1.89	266	Pn	Pn	21 48 09.4	+0.8
SAOF				Sg	Sg	21 48 32.7	-6.5
MABI	Malga Bissina	1.92	7	*e*PN	Pn	21 48 09.7	+0.7
MABI				SN	Sn	21 48 34.8	+1.6
MABI	Malga Bissina	1.92	7	*e*Pg	Pg	21 48 09.7	-4.7
MABI				*e*Sg	Sg	21 48 34.8	-5.2
MURB	Monte Urbino	1.93	117	*e*PN	Pn	21 48 09.6	+0.6
MURB	Monte Urbino	1.93	117	*e*Pg	Pg	21 48 09.6	-5.0
FSSB	Fossombrone	1.94	103	*e*PN	Pn	21 48 10.6	+1.3
	175nm,0.4s						
MUGIO	Muggio	1.94	336	⇓*i*Pn	Pn	21 48 10.4	+1.1
	37nm,0.6s						
ENR	Entracque	1.98	273	P	Pn	21 48 10.8	+1.0
ENR				S	Sn	21 48 34.1	-0.6
AUTN	L'Aution	1.98	266	Pn	Pn	21 48 11.5	+1.6
AUTN				Sg	Sg	21 48 35.5	-6.7
SBF	Sospel	1.99	263	*e*Pn	Pn	21 48 10.6	+0.6
SBF				*e*Sn	Sn	21 48 35.7	+0.6
	317nm,0.4s						
STV2	Anna di Valdie	2.05	274	P	Pn	21 48 11.4	+0.6
STV2				S	Sn	21 48 35.0	-1.5
STV	Sta Anna Valdi	2.05	274	P	Pn	21 48 11.4	+0.6
STV				S	Sn	21 48 35.2	-1.2
AURF	Auriere	2.07	264	Pn	Pn	21 48 12.1	+1.0
CGRP	Cima Grappa	2.08	33	⇓*e*Pn	Pn	21 48 11.4	+0.1
ASS	Assisi	2.11	120	*e*PN	Pn	21 48 11.3	-0.3
	69nm,0.5s						
TOUF	Mont Tournerai	2.11	267	Pn	Pn	21 48 13.0	+1.3
TOUF				Sg	Sg	21 48 39.9	-6.5
ARV	Arcevia	2.11	107	*e*PN	Pn	21 48 13.0	+1.3
	87nm,0.6s						
ARV	Arcevia	2.11	107	*e*Pg	Pn	21 48 13.0	+1.3
ORO	Oropa	2.14	314	*e*PN	Pn	21 48 14.0	+1.8
	344nm,0.5s						
ORO	Oropa	2.14	314	*e*Pg	Pn	21 48 14.0	+1.8
CTI	Castel Tesino	2.17	28	*e*PN	Pn	21 48 13.0	+0.5
CTI	Castel Tesino	2.17	28	*e*Pg	Pn	21 48 13.0	+0.5
BHB	Bricherasio	2.19	289	P	Pn	21 48 13.1	+0.2
MVIF	Mont Vial	2.19	264	Pn	Pn	21 48 14.3	+1.4
TRAV		2.20	309	P	Pn	21 48 14.2	+1.3
PZZ	Prazzo	2.23	280	P	Pn	21 48 13.1	-0.3
BERNI	Berninapass	2.26	357	⇑*i*P*	Pb	21 48 15.4	-1.1
	16nm,0.6s						
RSP	Reno Superiore	2.31	297	P	Pn	21 48 15.5	+1.0
MCGN	Macugnaga	2.38	320	*e*PN	Pn	21 48 16.6	+1.1
	139nm,0.4s						
MCGN	Macugnaga	2.38	320	*e*Pg	Pn	21 48 16.6	+1.1
FENE	Fenestrelle	2.39	293	P	Pn	21 48 15.4	-0.3
VDL	Val di Lei	2.39	348	⇑*i*Pn	Pn	21 48 17.4	+1.7
	15nm,0.6s						
CALN	Calern	2.40	262	Pn	Pn	21 48 16.8	+0.9
CAE	Caneva	2.45	40	⇓*e*Pn	Pn	21 48 16.0	-0.6
CAE				*e*Sn	Sn	21 48 50.1	+3.4
FUORN	Ofenpass	2.47	2	⇑*e*Pn	Pn	21 48 19.1	+2.3
	20nm,0.9s						
TOLF	Tolfa	2.48	147	*e*PN	Pn	21 48 17.6	+0.6
TOLF	Tolfa	2.48	147	*e*Pg	Pg	21 48 17.6	-8.1
MBDF	Montbardon	2.50	284	*e*Pn	Pn	21 48 17.6	+0.3
MBDF				*e*Sn	Sn	21 48 46.8	-1.2
	156nm,0.6s						
LSD	Ceresole Reale	2.51	302	P	Pn	21 48 18.3	+0.8
NRCA	Norcia	2.52	121	*e*PN	Pn	21 48 17.3	-0.2
	28nm,0.5s						
NRCA	Norcia	2.52	121	*e*Pg	Pn	21 48 17.3	-0.2
FUSIO	Fusio	2.54	336	⇓*i*Pn	Pn	21 48 18.9	+1.1
	20nm,0.7s						
RRL	Cesana Torines	2.54	289	P	Pn	21 48 18.7	+0.9
MNS	Montasola	2.55	133	*e*PN	Pn	21 48 18.3	+0.4
	25nm,0.3s						
FRF	La Foret Royal	2.62	258	*e*Pn	Pn	21 48 19.0	+0.1
FRF				*e*Sn	Sn	21 48 49.3	-1.6
	98nm,0.3s						
DAVOX	Davos	2.64	356	Pn	Pn	21 48 21.2	+2.0
	23nm,0.3s,baz=174,slow=9.4,SNR=74						
DAVOX				Sn	Sn	21 48 53.2	+1.8
	14nm,0.3s,baz=334,slow=22,SNR=8.4						
DAVOX				Lg		21 49 01.5	
	15nm,0.3s,baz=314,slow=22,SNR=6.9						
DAVOX	Davos	2.64	356	⇓*i*Pn	Pn	21 48 21.3	+2.1
	29nm,0.9s						
MLNI	Malnisio	2.64	40	⇑*e*Pn	Pn	21 48 18.5	-0.8
MLNI				*e*Sn	Sn	21 48 54.7	+3.1
BNI	Bardonecchia	2.65	291	*e*Pn	Pn	21 48 21.3	+1.9
BNI				*e*Sn	Sn	21 48 52.9	+1.1
LMR	La Mourre	2.78	254	*e*Pn	Pn	21 48 20.8	-0.4
LMR				*e*Sn	Sn	21 48 52.7	-2.2
	59nm,0.2s						
LPG	La Plagne	2.78	300	*e*Pn	Pn	21 48 22.6	+1.3
LPG				*e*Sn	Sn	21 48 55.4	+0.4
	100nm,0.5s						
OGA	Obergurgl	2.78	12	*e*Pn	Pn	21 48 24.4	+3.1
LPL	La Plagne	2.80	300	*e*Pn	Pn	21 48 22.8	+1.2
LPL				*e*Sn	Sn	21 48 56.6	+1.0
	78nm,0.4s						
LLS	Linth-Limmern	2.82	344	⇑*i*Pn	Pn	21 48 24.8	+3.0
	14nm,1.0s						
RSL	Roselend	2.95	303	Pn	Pn	21 48 27.1	+3.4
RSL				Sg	Sg	21 49 06.0	-8.3
OG25	Le Caire	2.95	276	Pn	Pn	21 48 25.2	+1.5
PLONS	Plons	2.95	349	⇓*i*Pn	Pn	21 48 26.0	+2.3
	7.1nm,0.5s						
AQU	L'Aquila	2.97	126	*e*Pn	Pn	21 48 25.3	+1.4
AQU				Sn	Sn	21 48 56.9	-2.9
HASLI	Hasliberg	2.97	332	*e*Pn	Pn	21 48 26.7	+2.8
	17nm,0.6s						
HASLI	Hasliberg	2.97	332	*e*P	Pn	21 48 26.6	+2.7
TRI	Trieste	2.99	57	*e*PN	Pn	21 48 23.1	-1.2
	41nm,0.3s						
TRI	Trieste	2.99	57	*e*Pg	Pn	21 48 23.1	-1.2
BOO	Bordano	3.00	43	*e*Pn	Pn	21 48 23.5	-0.9
SENIN	Lac Senin	3.00	319	⇑*i*Pn	Pn	21 48 27.4	+3.0
	6.9nm,0.5s						
EMV	Vieux Emosson	3.00	311	⇑*i*Pn	Pn	21 48 28.7	+4.3
	11nm,1.0s						
GRYON	Gryon	3.01	315	*e*Pn	Pn	21 48 28.6	+4.0
	11nm,0.7s						
GRYON	Gryon	3.01	315	*e*P	Pn	21 48 28.5	+3.9
MUO	Muotathal	3.02	340	⇑*i*Pn	Pn	21 48 27.1	+2.5
	33nm,0.7s						
FVI	Forni Avoltri	3.06	36	*e*PN	Pn	21 48 25.0	-0.3
	93nm,0.4s						
FVI	Forni Avoltri	3.06	36	*e*Pg	Pn	21 48 25.0	-0.3
SCE	Schlegeis	3.08	20	*e*Pn	Pn	21 48 25.9	+0.3
WIMIS	Wimmis	3.09	325	⇓*e*Pn	Pn	21 48 28.4	+2.8
	14nm,0.6s						
ZOU	Zoufplan	3.11	38	⇑*e*Pn	Pn	21 48 25.8	-0.2
ZOU				*e*Sn	Sn	21 49 06.2	+2.7
DAVA	Damuels	3.14	356	⇑*i*PN	Pn	21 48 28.7	+2.3
DAVA				*i* SN	Sn	21 49 08.9	+4.7
DAVA	Damuels	3.14	356	*e*Pn	Pn	21 48 28.2	+1.8
	SNR=33						
DAVA				*e*Sn	Sn	21 49 06.0	+1.8
	SNR=3.2						
AIGLE	Aigle	3.15	315	⇑*e*Pn	Pn	21 48 29.7	+3.1
	16nm,0.8s						
SQTA	Sankt Quirin	3.15	13	⇑*i*PN	Pn	21 48 28.2	+1.6
SQTA				*i* SN	Sn	21 49 07.6	+3.1
ORIF	Oris-en-Rattie	3.16	286	*e*Pn	Pn	21 48 28.8	+2.1
ORIF				*e*Sn	Sn	21 49 03.8	-0.9
	154nm,0.7s						
DRE	Drenchia	3.18	49	⇓*e*Pn	Pn	21 48 25.9	-1.1
DRE				*e*Sn	Sn	21 49 06.9	+1.7
PLRO	Paularo	3.19	40	⇓*e*Pn	Pn	21 48 26.5	-0.6
PLRO				*e*Sn	Sn	21 49 08.3	+2.9
VOY	Vojsko	3.24	53	*e*Pn	Pn	21 48 26.8	-1.0
VOY				*e*Sn	Sn	21 49 04.5	-2.2
OBER	Oberstdorf	3.26	1	⇓*i*Pn	Pn	21 48 30.2	+2.1
MOTA	Moosalm	3.26	11	⇓*i*PN	Pn	21 48 29.6	+1.5
MOTA				*i* SN	Sn	21 49 10.6	+3.4
WTTA	Wattenberg	3.28	18	⇑*i*PN	Pn	21 48 29.5	+1.1
WTTA				*i* SN	Sn	21 49 10.7	+3.1
WTTA	Wattenberg	3.28	18	*e*Pn	Pn	21 48 30.2	+1.8
	SNR=69						
SMRF	Simiane la Rot	3.32	269	*e*Pn	Pn	21 48 29.7	+0.8
SMRF				*e*Sn	Sn	21 49 08.4	-0.2
	65nm,0.6s						
LSR	Lussari	3.32	44	⇑*e*Pn	Pn	21 48 27.9	-1.0
LSR				*e*Sn	Sn	21 49 11.0	+2.3
WATA	Walderalm	3.33	17	⇓*i*PN	Pn	21 48 30.5	+1.4
WATA				*i* SN	Sn	21 49 12.3	+3.2
GRN	Grenoble	3.34	291	Pn	Pn	21 48 32.5	+3.3
WILA	Wila	3.38	345	*e*Pn	Pn	21 48 30.7	+0.9
	13nm,0.6s						
NVLJ	Novalja	3.40	81	*i* Pn	Pn	21 48 30.3	+0.2
NVLJ				*i* Sn	Sn	21 49 10.0	-0.6
LJU	Ljubljana	3.62	57	*e*Pn	Pn	21 48 32.5	-0.7
LJU				*e*		21 48 41.0	
LJU				*e*Pg	Pg	21 48 48.5	+0.1
LJU				*e*Sn	Sn	21 49 17.0	+0.7
LJU	Ljubljana	3.62	57	*e*Pn	Pn	21 48 32.5	-0.7
LJU				*e*Pg	Pg	21 48 48.5	+0.1
LJU				*e*Sn	Sn	21 49 17.0	+0.7
KBA	Koelnbreinsper	3.68	36	⇑*i*PN	Pn	21 48 34.4	+0.4
KBA				*i* SN	Sn	21 49 18.7	+0.9
KBA	Koelnbreinsper	3.68	36	*e*Pn	Pn	21 48 35.1	+1.1
	SNR=22						
CABF	La Chapelle	3.78	312	*e*Pn	Pn	21 48 36.7	+1.2
CABF				*e*Sn	Sn	21 49 19.9	-0.6
	55nm,0.6s						
BRANT	Les Verrieres	3.81	318	*e*Pn	Pn	21 48 37.8	+1.9
OG05	Jujurieux	3.83	301	Pn	Pn	21 48 38.2	+2.0
BOURR	Bourrignon	3.84	329	*e*Pn	Pn	21 48 37.3	+1.0
OBKA	Obir	3.88	51	⇑*i*PN	Pn	21 48 36.1	-0.9
OBKA				*i* SN	Sn	21 49 22.9	-0.1
OBKA	Obir	3.88	51	*e*Pn	Pn	21 48 37.0	0.0
	SNR=14						
LOMF	Lomont	3.96	325	Pn	Pn	21 48 39.5	+1.4
VIVF	Saint-Julien-l	4.00	282	*e*Pn	Pn	21 48 38.2	-0.3
VIVF				*e*Sn	Sn	21 49 24.0	-1.8
	11nm,0.3s						
MOF	Molkenrain	4.26	331	Pn	Pn	21 48 42.4	+0.1
HINF	Hinteralfeld	4.33	329	*e*Pn	Pn	21 48 43.2	-0.1
HINF				*e*Sn	Sn	21 49 31.9	-2.5
	45nm,0.4s						
BFO	Black Forest	4.37	344	*e*Pn	Pn	21 48 43.6	-0.3
	SNR=12						
BFO				*e*Sn	Sn	21 49 32.1	-3.2
	SNR=3.3						
LASF	Ste Croix	4.55	271	*e*Pn	Pn	21 48 45.6	-0.8
LASF				*e*Sn	Sn	21 49 36.1	-3.7
	13nm,0.4s						
ECH	Echery	4.57	334	Pn	Pn	21 48 47.6	+0.9
MOA	Molln	4.67	36	⇓*i*PN	Pn	21 48 48.1	0.0
MOA				*i* SN	Sn	21 49 42.6	-0.3
MOA	Molln	4.67	36	*e*Pn	Pn	21 48 48.2	0.0
	SNR=17						
MOA				*e*Sn	Sn	21 49 41.7	-1.2
	SNR=2.5						
STU	Stuttgart	4.67	352	*e*Pn	Pn	21 48 46.9	-1.2
STU				*e*Sn	Sn	21 49 39.8	-3.1
HAU	Haudompre	4.68	327	*e*Pn	Pn	21 48 47.8	-0.5
HAU				*e*Sn	Sn	21 49 41.7	-1.5
	122nm,0.5s						
WLS	Welschbruch	4.69	336	Pn	Pn	21 48 48.0	-0.4
CDF	Champ du Feu	4.71	336	*e*Pn	Pn	21 48 48.0	-0.7
CDF				*e*Sn	Sn	21 49 39.8	-4.1
	45nm,0.5s						
ARSA	Arzberg	4.87	49	⇑*i*PN	Pn	21 48 49.6	-1.3
ARSA				*i* SN	Sn	21 49 46.4	-1.4
ARSA	Arzberg	4.87	49	*e*Pn	Pn	21 48 49.6	-1.2
	SNR=26						
PLDF	La Plantade	4.98	294	Pn	Pn	21 48 53.1	+0.6
THEF	They Montfort	5.00	326	Pn	Pn	21 48 53.2	+0.3
LBL	Lubilhac	5.05	285	Pn	Pn	21 48 53.8	+0.3
LANF	Langenberg	5.10	342	Pn	Pn	21 48 54.6	+0.4
SMF	Signal de Mont	5.11	301	*e*Pn	Pn	21 48 54.2	-0.1
SMF				*e*Sn	Sn	21 49 51.8	-2.1
	61nm,0.4s						
GEC2	GERESS Array S	5.29	26	*e*Pn	Pn	21 48 55.5	-1.4
	SNR=12						
GEC2				*e*Sn	Sn	21 49 56.4	-2.1
	SNR=3.9						
GEC2	GERESS Array S	5.29	26	*e*Pn	Pn	21 48 55.5	-1.4
GEC2				*e*Sn	Sn	21 49 56.5	-2.0
GERES	GERESS Array B	5.29	26	Pn	Pn	21 48 55.3	-1.5
	3.0nm,0.3s,baz=202,slow=14,SNR=83						
GERES				Sn	Sn	21 49 56.4	-2.0
	4.6nm,0.3s,baz=209,slow=23,SNR=7.9						
PYM	Petit Puy Mans	5.33	290	Pn	Pn	21 48 59.2	+1.8
WET	Wettzell	5.33	20	*e*Pn	Pn	21 48 57.1	-0.4
	SNR=6.8						
WET				*e*Sn	Sn	21 49 56.9	-2.6
	SNR=1.7						
SFTF	Sexfontaines	5.40	320	*e*Pn	Pn	21 48 58.4	0.0
SFTF				*e*Sn	Sn	21 49 56.6	-4.6
	25nm,0.4s						
LOR	Lormes	5.41	307	*e*Pn	Pn	21 48 58.9	+0.4
LOR				*e*Sn	Sn	21 49 58.1	-3.3
	49nm,0.5s						
AVF	Avril sur Loir	5.47	301	*e*Pn	Pn	21 48 59.4	0.0
AVF				*e*Sn	Sn	21 49 59.7	-3.4
	27nm,0.5s						
KHC	Kasperske Hory	5.51	24	*e*PN	Pn	21 48 58.4	-1.5
KHC				*e*SN	Sn	21 50 00.0	-3.9
SSF	Saint Saulge	5.51	304	*e*Pn	Pn	21 48 59.6	-0.3
SSF				*e*Sn	Sn	21 50 00.0	-3.9
	24nm,0.5s						
RFYF	Reffroy	5.53	326	*e*Pn	Pn	21 48 59.3	-1.0
RFYF				*e*Sn	Sn	21 49 59.8	-4.7
	31nm,0.3s						
EJON	La Jonquera	5.58	255	P	Pn	21 48 59.7	-1.3
EJON				S	Sn	21 50 01.7	-4.1
MEZF	Maizieres J'vi	5.61	323	*e*Pn	Pn	21 49 00.9	-0.5
MEZF				*e*Sn	Sn	21 50 02.1	-4.4
	48nm,0.8s						
BGF	Bois d'Agland	5.69	298	*e*Pn	Pn	21 49 02.2	-0.4
BGF				*e*Sn	Sn	21 50 05.3	-3.3
	46nm,0.4s						
MTLF	Montolieu	5.82	265	*e*Pn	Pn	21 49 03.3	-1.0
MTLF				*e*Sn	Sn	21 50 07.6	-4.1
	21nm,0.5s						
CAF	Calviac	5.84	280	*e*Pn	Pn	21 49 04.4	-0.3
CAF				*e*Sn	Sn	21 50 08.6	-3.8
	6.5nm,0.6s						
TCF	Toulx Ste Croi	6.01	294	*e*Pn	Pn	21 49 06.7	-0.4
TCF				*e*Sn	Sn	21 50 12.1	-4.5
	11nm,0.3s						
HYF	Humbligny	6.12	303	*e*Pn	Pn	21 49 08.7	0.0
HYF				*e*Sn	Sn	21 50 16.5	-2.9
WLF	Walferdange	6.16	335	*e*Pn	Pn	21 49 08.0	-1.2
	SNR=1.5						
RJF	Les Rejaudoux	6.27	284	*e*Pn	Pn	21 49 10.8	+0.1
ZST	Bratislava	6.29	48	*e*PN	Pn	21 49 10.8	-0.1

ZST				*e*SN	Sn	21 50 20.6	-2.8
PRU	**Pruhonice**	6.56	26	*e*PN	Pn	21 49 13.4	-1.4
PRU				*e*SN	Sn	21 50 27.0	-3.2
PRU				*e*		21 51 02.9	
MOX	**Moxa**	6.57	8	*e*Pn	Pn	21 49 14.7	-0.2
MOX				*e*Sn	Sn	21 50 26.0	-4.5
MOX	**Moxa**	6.57	8	*i* P	Pn	21 49 14.7	-0.2
MOX				S	Sn	21 50 26.0	-4.5
SMOL	**Smolenice**	6.65	46	*e*PN	Pn	21 49 16.2	+0.1
SMOL				*e*SN	Sn	21 50 28.3	-4.3
EMIR	**Miracle**	6.72	254	P	Pn	21 49 16.9	-0.1
LFF	**La Frestale**	6.78	280	*e*Pn	Pn	21 49 17.2	-0.8
VRAC	**Vranov**	6.79	38	Pn	Pn	21 49 16.7	-1.3
	0.3nm,0.3s,baz=221,slow=14,SNR=2.3						
PVCC	**Panska Ves**	7.04	24	*e*PN	Pn	21 49 21.0	-0.6
BAIF	**Baives**	7.17	328	*e*Pn	Pn	21 49 22.0	-1.4
BRG	**Berggiesshubel**	7.19	19	*e*Pn	Pn	21 49 22.8	-0.9
BRG				*e*Sg	Sg	21 51 25.9	-10
BRG	**Berggiesshubel**	7.19	19	*e*Pn	Pn	21 49 22.8	-0.9
BRG				*e*		21 49 23.2	
BRG				*i*		21 50 39.3	
BRG				*e*Sg	Sg	21 51 25.9	-10
EPF	**Esparros**	7.22	264	*e*Pn	Pn	21 49 21.8	-2.3
EPF				*e*Sn	Sn	21 50 40.2	-6.7
	2.9nm,0.4s						
EPOB	**Poblet**	7.25	250	P	Pn	21 49 23.6	-0.9
EPOB				S	Sn	21 50 43.8	-3.8
VYHS	**Vyhne**	7.41	51	*e*PN	Pn	21 49 25.4	-1.3
VYHS				*e*SN	Sn	21 50 44.0	-7.4
CLL	**Collm**	7.41	14	*e*(Sg)	Sg	21 51 40.0	-2.8
CLL	**Collm**	7.41	14	*e*PN	Pn	21 49 26.0	-0.7
CLL				*e*SN	Sn	21 50 49.0	-2.5
CLL				*e*		21 51 01.0	
CLL				*e*SG	Sg	21 51 40.0	-2.8
CLL				*e*		21 51 46.0	
CLL	**Collm**	7.41	14	Pn	Pn	21 49 26.0	-0.7
CLL				*e*Sn	Sn	21 50 49.0	-2.5
CLL				Sg	Sg	21 51 40.0	-2.8
DPC	**Dobruska-Polom**	7.48	32	*e*PN	Pn	21 49 24.4	-3.3
MFF	**Saint Martin d**	7.67	292	*e*Pn	Pn	21 49 30.2	-0.1
MFF				*e*Sn	Sn	21 50 55.1	-2.8
	18nm,0.8s						
ETSF	**Etsaut**	7.90	265	*e*Pn	Pn	21 49 32.2	-1.3
ETSF				*e*Sn	Sn	21 50 56.6	-7.1
	5.0nm,0.7s						
ESAC	**San Caprasio**	8.18	256	P	P	21 49 36.8	-0.6
SJPF	**Ste Jean**	8.33	267	*e*Pn	P	21 49 37.8	-1.8
SJPF				*e*Sn	Sn	21 51 07.8	-6.7
	1.8nm,0.5s						
KECS	**Kecovo**	8.35	55	*e*SN	Sn	21 51 10.6	-4.4
EIBI	**Ibiza**	8.36	235	P	P	21 49 40.5	+0.5
LDF	**La Druitiere**	8.39	306	*e*Pn	P	21 49 38.7	-1.7
FLN	**La Foliniere**	8.68	306	*e*Pn	P	21 49 42.3	-2.1
GRR	**Gorron**	8.73	303	*e*Pn	P	21 49 44.7	-0.5
ETOR	**Torete**	9.62	254	P	P	21 49 58.0	+0.6
SGMF	**Saint Gilles**	9.73	299	*e*Pn	P	21 49 55.9	-2.9
QUIF	**Quistinic**	10.01	297	*e*Pn	P	21 50 01.2	-1.5
ROSF	**Rostrenen**	10.21	299	*e*Pn	P	21 50 02.1	-3.3
ROSF				*e*Sn	S	21 51 53.3	-7.5
	2.8nm,0.5s						
ESDC	**Sonseca Array**	11.44	252	Pn	P	21 50 24.8	+2.6
	0.3nm,0.3s,baz=61,slow=14,SNR=2.9						
EKA	**Eskdalemuir Ar**	14.09	327	Pn	P	21 50 58.6	+1.1
	0.2nm,0.3s,baz=139,slow=14,SNR=3.4						
AKASG	**Malin Array Be**	14.45	56	Pn	P	21 51 02.6	+0.4
	0.2nm,0.3s,baz=248,slow=11,SNR=2.8						
FINES	**FINESS Array B**	19.71	23	P	P	21 52 05.8	-2.1
	0.1nm,0.3s,baz=186,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	48.99	60	P	P	21 56 23.8	-0.3
	0.4nm,0.5s,mb3.7,baz=281,slow=6.6,SNR=5.7						

OTT 27 22:29:49.2±0.1, 64.66N×110.66W, h1^{km}, MN3.2/13, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKTN	**Ekati Mine**	0.05	26	PG	Pg	22 29 49.9	-0.3
LDGN	**Lac de Gras No**	0.06	69	PG	Pg	22 29 50.9	+0.4
DVKN	**Diavik Mine**	0.21	134	PG	Pg	22 29 53.1	-0.3
DVKN				SG	Sg	22 29 56.7	+0.5
DVKN				Trac		22 29 58.0	
	comp=Z,316nm,0.1s						
ACKN	**Achilles Lake**	0.35	345	PG	Pg	22 29 55.5	-0.7
ACKN				SG	Sg	22 30 00.9	+0.1
ACKN				Trac		22 30 01.8	
	comp=Z,203nm,0.2s						
LGSN	**Lac de Gras So**	0.40	145	PG	Pg	22 29 56.5	-0.7
LGSN				SG	Sg	22 30 01.5	-0.9
YMBN	**Yamba Lake**	0.43	301	PG	Pg	22 29 56.9	-1.0
YMBN				SG	Sg	22 30 03.0	-0.7
YMBN				Trac		22 30 05.5	
	comp=Z,516nm,0.2s						
YNEN	**Yamba Lake Nor**	0.47	339	PG	Pg	22 29 57.6	-0.9
YNEN				SG	Sg	22 30 03.5	-1.3
YNEN				Trac		22 30 06.0	
	comp=Z,73nm,0.1s						
MCKN	**MacKay Lake No**	0.50	157	PG	Pg	22 29 58.3	-0.9
GLWN	**Glow Worm Lake**	0.57	82	PG	Pg	22 29 59.8	-0.9
COWN	**Contwyoto Lake**	0.65	340	PG	Pg	22 30 01.1	-1.2
COWN				SG	Sg	22 30 09.9	-1.1
COWN				Trac		22 30 11.1	
	comp=Z,110nm,0.1s						
NODN	**Nodinka Narrow**	0.71	191	PG	Pg	22 30 02.1	-1.3
NODN				SG	Sg	22 30 10.1	-2.9
NODN				Trac		22 30 12.3	
	comp=Z,115nm,0.1s						
MLON	**Marlo Lake**	0.77	154	PG	Pg	22 30 03.4	-1.2
MLON				SG	Sg	22 30 13.8	-0.9
MLON				Trac		22 30 15.3	
	comp=Z,95nm,0.1s						
BOXN	**Box Lake**	0.91	153	PG	Pg	22 30 05.9	-1.4
BOXN				Trac		22 30 20.9	
	comp=Z,110nm,0.1s						
CAMN	**Camsell Lake**	0.93	187	PG	Pg	22 30 06.3	-1.6
CAMN				SG	Sg	22 30 19.4	-0.9
CAMN				Trac		22 30 22.5	
	comp=Z,56nm,0.1s						
MGTN	**Margaret Lake**	1.08	154	PG	Pg	22 30 09.1	-1.7
MGTN				SG	Sg	22 30 21.9	-3.4
MGTN				Trac		22 30 27.9	
	comp=Z,215nm,0.1s						
LUPN	**Lupin Mine**	1.12	347	PG	Pg	22 30 09.4	-2.1
LUPN				SG	Sg	22 30 23.9	-2.4
LUPN				Trac		22 30 25.5	
	comp=Z,36nm,0.1s						
SNPN	**Snap Lake**	1.15	186	PG	Pg	22 30 10.2	-2.0
SNPN				SG	Sg	22 30 24.8	-2.7
SNPN				Trac		22 30 30.6	
	comp=Z,562nm,0.1s						
IHLN	**Indian Hill La**	1.36	184	PG	Pg	22 30 13.6	-2.8
IHLN				SG	Sg	22 30 31.6	-2.9
IHLN				Trac		22 30 32.5	
	comp=Z,69nm,0.1s						
KNDN	**Kennady Lake**	1.40	152	PG	Pg	22 30 14.4	-2.7
KNDN				SG	Sg	22 30 32.5	-3.2
KNDN				Trac		22 30 36.2	
	comp=Z,40nm,0.1s						
DSMN	**Discovery Mine**	2.06	226	PN	Pn	22 30 23.6	-1.8
DSMN				SG	Sg	22 30 52.4	-5.5
DSMN				Trac		22 30 54.7	
	comp=Z,42nm,0.1s						
YKW3	**Yellowknife Ar**	2.75	222	PN	Pn	22 30 32.4	-2.8
YKW3				SN	Sn	22 31 05.4	-4.2
YKW3				SG	Sg	22 31 13.4	-7.3
YKW3				Trac		22 31 20.5	
	comp=Z,31nm,0.2s						
FCC	**Fort Churchill**	9.82	119	PN	P	22 32 08.7	-5.7
FCC				SN	Sn	22 33 52.6	-14
SILO	**Sutton Inlier**	16.42	116	PN	P	22 33 34.9	-7.2

*STR **27** 23:01:12.8±0.1, 43.07N×0.63W, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **27** 23:01:13.6±0.3, 43.07N×0.65W, mbLg1.1/3, Error ellipse: s-maj=2.9km s-min=1.6km az=23.0, PRXIMO*

*LDG **27** 23:01:13.2±0.1, 43.06N×0.65W, h2^{km}, Md1.7/3, Ml1.5/2, Error ellipse: s-maj=2.2km s-min=1.5km az=10.0*

ISC 27 23:01:12.1±0.5, 43.13N±0.03×0.60W±0.03, h2^{km}, n15, σ1$\overset{s}{.}$20/24, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	0.16	112	Pg	Pg	23 01 17.0	+1.6
REYF				Sg	Sg	23 01 19.7	+2.1
REYF	**Montagne du Re**	0.16	112	Pg	Pg	23 01 17.0	+1.6
REYF				Lg		23 01 19.7	
ETSF	**Etsaut**	0.23	173	*e*Pg	Pg	23 01 16.8	0.0
ETSF				*e*Sg	Sg	23 01 19.4	-0.6
	36nm,0.2s						
ORDF	**Ordiarp**	0.26	289	Pg	Pg	23 01 18.2	+0.9
ORDF				Sg	Sg	23 01 22.2	+1.4
ORDF	**Ordiarp**	0.26	289	Pg	Pg	23 01 18.1	+0.8
ORDF				Lg		23 01 21.9	
LARF	**Larrau**	0.30	252	Pg	Pg	23 01 18.2	+0.1
LARF				Sg	Sg	23 01 22.5	+0.4
LARF	**Larrau**	0.30	252	Pg	Pg	23 01 18.0	-0.1
LARF				Lg		23 01 22.3	
FDAF	**Les Forges d'A**	0.31	176	Pg	Pg	23 01 18.2	-0.2
FDAF				Sg	Sg	23 01 21.9	-0.7
FDAF	**Les Forges d'A**	0.31	176	Pg	Pg	23 01 18.3	-0.1
FDAF				Lg		23 01 21.9	
SJPF	**Ste Jean**	0.46	268	*e*Pg	Pg	23 01 21.1	-0.2
SJPF				*e*Sg	Sg	23 01 26.8	-0.6
	4.6nm,0.2s						
EALK	**Alkurruntz**	0.67	278	Pg	Pg	23 01 25.3	-0.2
	4.7nm,0.5s,SNR=7.9						
EALK				Lg		23 01 33.1	
	13nm,0.7s,SNR=5.6						
EPF	**Esparros**	0.70	98	*e*Pg	Pg	23 01 27.7	+1.7
EPF				*e*Sg	Sg	23 01 37.2	+1.9
	2.2nm,0.4s						
ESAC	**San Caprasio**	1.41	176	Pg	Pg	23 01 38.9	-1.4
	2.0nm,0.3s,SNR=7.9						
ESAC				Lg		23 01 57.1	
	3.4nm,0.7s,SNR=7.9						
MTLF	**Montolieu**	2.07	83	*e*Pg	Pg	23 01 51.5	-2.0
MTLF				*e*Sg	Sg	23 02 18.9	-2.1
	0.5nm,0.3s						
CAF	**Calviac**	2.63	46	*e*Pg	Pg	23 02 03.0	-1.6
CAF				*e*Sg	Sg	23 02 39.1	-0.6
	0.4nm,0.3s						

*ISK **27** 23:08:49.8, 38.80N×26.63E, h16^{km}, MD3.2*

*NEIC **27** 23:08:50.3, 38.73N×26.23E, h20^{km}, MD3.5(ATH), After ATH.*

*ATH **27** 23:08:50.3, 38.73N×26.23E, h20^{km}±13^{km}, MD3.5/4*

ISC 27 23:08:49.6±0.7, 38.81N±0.03×26.63E±0.04, h6^{km}±5^{km}, n29, σ0$\overset{s}{.}$90/39, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	0.52	327	*e*PN	Pg	23 09 00.6	+0.6
PRK				*e*SN	Sg	23 09 08.2	+1.3
KDAG	**Bornova**	0.64	129	*i* P	Pg	23 09 02.8	+0.4
KDAG				*i* S	Sg	23 09 09.2	-1.7
IZM	**Izmir**	0.64	130	*i* PG	Pg	23 09 02.7	+0.3
AKS	**Akhisar**	0.93	85	PG	Pg	23 09 08.4	+0.3
AKS				SG	Sg	23 09 21.7	+1.3
EZN	**Ezine**	1.04	347	PG	Pg	23 09 10.6	+0.2
SMG	**Samos**	1.11	172	*e*PB	Pb	23 09 10.5	-0.3
SMG				*e*SN	Sb	23 09 28.4	+3.1
BALB	**Balikesir**	1.28	49	*e*PN	Pn	23 09 13.5	-0.4
AYDN	**Tasoluk**	1.51	139	⇑*i*P	Pn	23 09 17.1	-0.1
AYDN				*i* S	Sb	23 09 37.3	+0.5
MANT	**Manisa**	1.54	101	*i* P	Pn	23 09 18.3	+0.6
MANT				*i* S	Sb	23 09 39.0	+1.2
LIA	**Limnos Island**	1.56	315	*e*PN	Pn	23 09 18.1	+0.1
LPK	**Lapseki**	1.56	4	PN	Pn	23 09 18.0	0.0
DST	**Dursunbey**	1.74	62	PN	Pn	23 09 20.2	-0.4
MLSB	**Milas**	1.76	149	*e*PN	Pn	23 09 20.5	-0.3
EDC	**Edincik**	1.81	31	PN	Pn	23 09 21.1	-0.4
BNT	**Bandirma**	1.84	32	PN	Pn	23 09 21.6	-0.3
BDRM	**Kayabasi**	1.85	160	*i* P	Pn	23 09 21.5	-0.7
BDRM				*i* S	Sn	23 09 51.9	+5.7
APE	**Apeiranthos**	1.94	207	*e*PN	Pn	23 09 22.3	-1.2
APE	**Apeiranthos**	1.94	207	*e*PN	Pn	23 09 21.6	-1.9
KCT	**Karacabey**	1.97	42	PN	Pn	23 09 23.4	-0.5
YER	**Yerkesik**	2.12	142	*e*PN	Pn	23 09 26.4	+0.4
ORLT	**Orhaneli**	2.15	54	*e*PN	Pn	23 09 26.4	+0.1
DENT	**Denizli**	2.16	118	*e*PN	Pn	23 09 26.7	+0.1
DNZL	**Cakiroluk**	2.21	120	*i* P	Pn	23 09 30.1	+2.9
DNZL				*i* S	Sn	23 10 04.6	+10
ULDT	**Uludag**	2.35	55	*i* P	Pn	23 09 34.3	+5.0
ULDT				*i* S	Sn	23 10 05.8	+7.0
RDO	**Rodhopi**	2.48	341	*e*PN	Pn	23 09 31.4	+0.2
CTT	**Catalca**	2.71	30	*e*PN	Pn	23 09 34.5	0.0
YLV	**Yalova**	2.75	49	*e*PN	Pn	23 09 34.1	-0.9
NVR	**Nevrokopi**	3.31	321	*e*PN	Pn	23 09 42.3	-0.7
ESKT	**Eskisehir**	3.35	76	*i* P	Pg	23 09 54.1	-2.5
ESKT				*i* S	Sg	23 10 40.9	-0.4

*IDC **27** 23:10:06.5±0.7, 54.43S×131.94W, mb4.2/8, mb1 4.4/8, mb1mx4.3/13, MS3.9/11, Ms1 3.9/11, ms1mx3.8/15, Error ellipse: s-maj=41.2km s-min=19.2km az=168.0*

*NEIC **27** 23:10:07.1±0.5, 54.86S×131.71W, h10^{km}, mb4.7/9, Error ellipse: s-maj=16.9km s-min=13.7km az=123.0*

ISC 27 23:10:05.7±0.7, 54.9S±0.1×131.8W±0.2, h10^{km}, n46, σ1$\overset{s}{.}$24/27, mb4.4/14, MS3.9/12, 4C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	35.28	180	*e*P	P	23 16 60.0	-2.1
	14nm,1.3s,mb4.7						
QSPA				LR	LR		
	comp=Z,230nm,21.1s,MS3.9						
RPZ	**Rata Peaks**	37.89	263	LR	LR	23 28 07.2	
	comp=Z,180nm,21.8s,MS3.8,baz=355,slow=29						
PLCA	**Paso Flores**	42.10	97	P	P	23 18 01.7	+2.5
	comp=Z,1.0nm,0.6s,mb3.6,baz=283,slow=13,SNR=3.0						
PLCA				LR	LR	23 31 38.9	
	comp=Z,102nm,18.3s,MS3.7,baz=52,slow=31						
PLCA	**Paso Flores**	42.10	97	P	P	23 18 01.7	+2.5
PLCA				LR	LR	23 31 38.9	
VNA2	**Neumayer--Watz**	48.42	159		P	23 18 48.5	-0.8
VNA2	**Neumayer--Watz**	48.42	159	⇑*i*	P	23 18 55.0	+5.7
VNA2	**Neumayer--Watz**	48.42	159	⇓*i*	P	23 19 02.1	+13
VNA1	**Neumayer--Stat**	48.45	158	⇑*i*	P	23 18 48.8	-0.7
VNA1	**Neumayer--Stat**	48.45	158	⇑*i*	P	23 18 55.0	+5.5
VNA1	**Neumayer--Stat**	48.45	158	⇓*i*	P	23 19 02.7	+13
SNAA	**Sanae**	48.74	161	⇑*i*	P	23 18 44.7	-7.0
SNAA	**Sanae**	48.74	161		P	23 18 51.4	-0.3
SNAA	**Sanae**	48.74	161		P	23 18 58.6	+6.9
SNAA	**Sanae**	48.74	161	*e*P	P	23 18 52.5	+0.8
	comp=Z,6.1nm,1.1s,mb4.5						
TRQA	**Tornquist**	48.80	100	*e*P	P	23 18 52.6	0.0
	comp=Z,20nm,1.4s,mb5.0						
MAW	**Mawson**	57.34	187	P	P	23 19 59.3	+3.8
	comp=Z,5.9nm,1.1s,mb4.5,baz=149,slow=13,SNR=4.1						
MAW				LR	LR	23 45 26.0	
	comp=Z,47nm,20.6s,MS3.6,baz=243,slow=37						
MAW	**Mawson**	57.34	187	*e*P	P	23 19 56.4	+0.8
	comp=Z,2.9nm,0.6s,mb4.5						
CPUP	**Villa Florida**	60.05	94	P	P	23 20 14.1	-0.9
	comp=Z,3.1nm,1.0s,mb4.3,baz=90,slow=1.4,SNR=5.6						
CPUP				LR	LR	23 42 16.4	
	comp=Z,124nm,21.9s,MS4.0,baz=55,slow=32						
CPUP	**Villa Florida**	60.05	94	*e*P	P	23 20 14.4	-0.7
	comp=Z,18nm,1.4s,mb4.9						
LPAZ	**La Paz**	61.71	78	P	P	23 20 26.4	0.0
	comp=Z,3.6nm,0.9s,mb4.5,baz=190,slow=2.8,SNR=12						
LPAZ				LR	LR	23 40 54.9	
	comp=Z,48nm,19.4s,MS3.7,baz=125,slow=30						
LPAZ	**La Paz**	61.71	78	*e*P	P	23 20 26.4	-0.1
	comp=Z,6.1nm,0.9s,mb4.7						
STKA	**Stephens Creek**	62.76	253	P	P	23 20 33.6	+0.4
	comp=Z,4.0nm,1.1s,mb4.5,baz=105,slow=2.3,SNR=4.3						
OTAV	**Otavalo**	70.02	59	*e*P	P	23 21 19.1	-0.5
	comp=Z,5.2nm,1.0s,mb4.4						
SAML	**Samuel**	70.45	77	*e*P	P	23 21 21.1	-1.1
	comp=Z,8.1nm,1.2s,mb4.5						
ASAR	**Alice Springs**	73.39	253	P	P	23 21 39.9	+0.3
	comp=Z,3.5nm,1.0s,mb4.2,baz=143,slow=6.4,SNR=11						
ASAR				LR	LR	23 48 59.0	
	comp=Z,110nm,18.5s,MS4.2,baz=189,slow=32						
BDFB	**Brasilia**	73.78	94	P	P	23 21 45.5	+3.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=56,slow=8.5,SNR=2.8						
BDFB				LR	LR	23 48 39.7	
	comp=Z,77nm,20.4s,MS4.0,baz=340,slow=31						
JTS	**JuntasAbangare**	75.86	48	LR	LR	23 47 13.8	
	comp=Z,115nm,18.4s,MS4.2,baz=349,slow=30						
ROSC	**El Rosal**	76.04	60	LR	LR	23 50 42.8	
	comp=Z,88nm,18.3s,MS4.1,baz=132,slow=32						
WRA	**Warramunga Arr**	76.12	255	LR	LR	23 50 00.9	
	comp=Z,78nm,21.9s,MS4.0,baz=170,slow=31						
TXAR	**Lajitas Array**	87.30	24	P	P	23 22 54.5	+1.0
	comp=Z,0.9nm,0.9s,mb4.0,baz=203,slow=9.5,SNR=4.7						
ANMO	**Albuquerque**	92.09	21	*e*P	P	23 23 14.6	-1.3
	comp=Z,2.9nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	99.11	16	LR	LR	23 59 30.6	
	comp=Z,51nm,19.5s,MS4.0,baz=247,slow=30						
ILAR	**Eielson Array**	119.90	353	PKP	PKPdf	23 28 56.0	-2.3
	comp=Z,1.2nm,0.7s,baz=188,slow=2.0,SNR=14						
SONM	**Songino Array**	143.95	283	PKP	PKPdf	23 29 40.6	-2.7
	comp=Z,0.9nm,0.7s,baz=162,slow=3.9,SNR=8.3						
SJPF	**Ste Jean**	146.19	89	*e*PKIKP	PKPdf	23 29 48.1	+0.7
ETSF	**Etsaut**	146.44	90	*e*PKIKP	PKPdf	23 29 47.6	-0.2
	comp=Z,11nm,1.1s						
EPF	**Esparros**	147.04	91	*e*PKIKP	PKPdf	23 29 50.0	+1.2
	comp=Z,6.7nm,0.9s						
ROSF	**Rostrenen**	147.98	80	*e*PKIKP	PKPdf	23 29 50.8	+0.6
	comp=Z,188nm,1.8s						
MTLF	**Montolieu**	148.31	92	*e*PKIKP	PKPdf	23 29 52.2	+1.4
	comp=Z,1.9nm,0.7s						
LASF	**Ste Croix**	149.70	92	*e*PKIKP	PKPdf	23 29 58.1	+5.0
	comp=Z,56nm,1.6s						
TCF	**Toulx Ste Croi**	150.03	87	*e*PKIKP	PKPdf	23 29 54.5	+1.0
LMR	**La Mourre**	150.78	96	*e*PKIKP	PKPdf	23 29 56.9	+2.2
	comp=Z,35nm,1.4s						
EKA	**Eskdalemuir Ar**	151.15	68	PKPbc	PKPdf	23 29 58.5	+3.7
	comp=Z,1.7nm,1.0s,baz=270,slow=0.8,SNR=3.6						
SSF	**Saint Saulge**	151.20	87	*e*PKIKP	PKPdf	23 29 56.2	+1.0
	comp=Z,3.1nm,0.8s						
LOR	**Lormes**	151.51	87	*e*PKIKP	PKPdf	23 29 56.3	+0.6
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	157.21	263	PKPab	PKPab	23 30 34.6	+0.8
	comp=Z,1.3nm,0.8s,baz=133,slow=5.6,SNR=7.2						

*HEL **27** 23:15:30.8±0.9, 67.74N×20.03E, ML1.8, ML1.6(UPP), ML1.8(BER), Explosion*

*BER **27** 23:15:35.1±3.0, 67.83N×20.09E, ML1.8, Suspected explosion*

ISC 27 23:15:27.8±0.6, 67.74N±0.03×19.90E±0.09, n14, σ1$\overset{s}{.}$37/22, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.28	37	*i* P	Pg	23 15 35.7	+2.4
KUA				*i* S	Sg	23 15 37.7	+0.8
KIF	**Kilpisjarvi**	1.32	14	*e*P	Pb	23 15 52.2	-0.9
KIF				*e*S	Sb	23 16 08.8	-1.7
KTK1	**Kautokeino**	1.78	42	*e*P	Pn	23 16 03.6	+3.5
KTK1				*e*SN	Sn	23 16 27.8	+4.0
KTK1				AML	AML	23 16 29.5	
	comp=Z,14nm,0.2s						
TRO	**Tromso**	1.94	350	*e*P	Pn	23 16 06.1	+3.7
TRO				*e*SG	Sg	23 16 31.4	-1.0
TRO				AML	AML	23 16 33.2	
	comp=Z,13nm,0.3s						
LOF	**Lofoten**	2.44	282	*e*	Sg	23 16 54.6	+5.7
LOF				AML	AML	23 16 58.2	
	comp=Z,9.2nm,0.4s						
LOF	**Lofoten**	2.44	282	*e*Sg	Sg	23 16 54.6	+5.7
LOF				AML	AML	23 16 58.2	
	comp=Z,9.2nm,0.4s						
SGF	**Sodankyl**	2.56	94	*e*P	Pn	23 16 12.0	+0.8
SGF				*e*S	Sn	23 16 44.6	+1.2
SGF				MSG		23 16 51.8	
	comp=Z,3.4nm,0.2s						
MOR8	**Moi Rana**	2.66	236	*e*	Sg	23 16 56.2	-0.3
MOR8				AML	AML	23 16 57.3	
	comp=Z,14nm,0.4s						
MOR8	**Moi Rana**	2.66	236	*e*Sg	Sg	23 16 56.2	-0.3
MOR8				AML	AML	23 16 57.3	
	comp=Z,14nm,0.4s						
KEV	**Kevo**	3.29	49	*e*P	Pn	23 16 21.3	-0.3
KEV				*e*S	Sn	23 17 00.3	-1.7
KEV				MSG		23 17 19.6	
	comp=Z,2.5nm,0.3s						
OUL	**Oulu**	3.59	135	*e*PB	Pb	23 16 31.0	-1.0
OUL				*e*S	Sn	23 17 08.8	-0.8
MSF	**Maaselka**	4.05	113	*e*P	Pn	23 16 32.8	+0.4
MSF				*e*S	Sn	23 17 20.2	-1.1
MSF				MSG		23 17 41.0	
	comp=Z,2.0nm,0.3s						
NSS	**Namsos**	4.55	229	*e*	Sg	23 17 60.0	+0.5
NSS				AML	AML	23 18 00.9	
	comp=Z,6.4nm,0.4s						
NSS	**Namsos**	4.55	229	*e*Sg	Sg	23 17 60.0	+0.5
NSS				AML	AML	23 18 00.9	
	comp=Z,6.4nm,0.4s						

*HEL **27** 23:17:57.8±0.1, 67.84N×20.13E, ML1.9, ML2.0(UPP), ML1.9(BER), Explosion*

*BER **27** 23:17:59.2±4.4, 67.83N×20.17E, ML1.9, Suspected explosion*

ISC 27 23:17:56.6±0.6, 67.81N±0.03×20.18E±0.09, n15, σ0$\overset{s}{.}$84/23, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.16	22	*i* P	Pg	23 18 00.1	+0.3
KUA				*i* S	Sg	23 18 01.9	0.0
NIKU	**Nikkaluokta**	0.44	278	*i* P	Pg	23 18 05.1	-0.3
DUNU	**Dundret**	0.71	168	*i* P	Pg	23 18 11.2	+0.5
MASU	**Masugnsbyn**	0.78	116	*i* P	Pg	23 18 12.4	+0.2
KIF	**Kilpisjarvi**	1.22	11	*e*P	Pb	23 18 20.4	+0.1
KIF				*e*S	Sb	23 18 35.9	-0.7
KTK1	**Kautokeino**	1.66	42	*e*P	Pn	23 18 27.9	+0.8
KTK1				*e*SN	Sn	23 18 51.5	+2.1
KTK1				AML	AML	23 18 52.5	
	comp=Z,14nm,0.3s						
TRO	**Tromso**	1.89	347	*e*P	Pn	23 18 30.1	-0.3
TRO				*e*SG	Sg	23 18 55.0	-4.5
TRO				AML	AML	23 18 57.5	
	comp=Z,19nm,0.4s						
SGF	**Sodankyl**	2.46	96	*e*P	Pn	23 18 39.6	+1.0
SGF				*e*S	Sn	23 19 10.1	+0.3
LOF	**Lofoten**	2.52	280	*e*	Sg	23 19 20.6	-0.1
LOF				AML	AML	23 19 23.2	
	comp=Z,12nm,0.4s						
LOF	**Lofoten**	2.52	280	*e*Sg	Sg	23 19 20.6	-0.1
LOF				AML	AML	23 19 23.2	
	comp=Z,12nm,0.4s						
MOR8	**Moi Rana**	2.79	237	*e*SG	Sg	23 19 20.6	-9.0
MOR8				AML	AML	23 19 23.8	
	comp=Z,20nm,0.4s						
KEV	**Kevo**	3.16	49	*e*P	Pn	23 18 48.3	-0.3
KEV				*e*S	Sn	23 19 25.6	-2.0
KEV				MSG		23 19 47.4	
	comp=Z,3.0nm,0.3s						
OUL	**Oulu**	3.57	137	*e*PG	Pg	23 19 01.7	-6.2
OUL				*e*SB	Sb	23 19 44.3	-0.3
OUL				MSG		23 19 52.1	
	comp=Z,3.0nm,0.3s						
MSF	**Maaselka**	3.98	114	*e*P	Pn	23 19 00.5	+0.2
MSF				*e*S	Sn	23 19 46.9	-1.5
MSF				MSG		23 20 06.3	
	comp=Z,2.3nm,0.3s						
NSS	**Namsos**	4.68	229	*e*SG	Sg	23 20 24.1	-8.4

*MDD **27** 23:20:02.6±1.2, 41.20N×1.77E, h11^{km}±10^{km}, mbLg1.7/14, Error ellipse: s-maj=9.5km s-min=4.9km az=150.0, PRXIMO*

*LDG **27** 23:20:03.5±0.4, 41.21N×1.77E, h6^{km}, Md2.3/3, Ml2.3/5, Error ellipse: s-maj=6.1km s-min=3.4km az=173.0*

ISC 27 23:20:02.1±1.0, 41.25N±0.05×1.66E±0.05, h11^{km}, n18, σ1$\overset{s}{.}$35/24, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPOB	**Poblet**	0.45	283	Pg	Pg	23 20 13.1	+1.8
	SNR=9.1						
EPOB				Lg		23 20 21.0	
	3.0nm,0.1s,SNR=12						
EMIR	**Miracle**	0.67	351	Pg	Pg	23 20 16.7	+1.0
	1.8nm,0.1s,SNR=10						
EMIR				Lg		23 20 27.8	
	5.7nm,0.1s,SNR=12						
CFON	**Fontmartina**	0.77	48	Pg	Pg	23 20 17.4	-0.3
CFON				Lg		23 20 27.6	
	7.2nm,0.1s						

CAVN	Les Avellanes	0.93	313	Pg	Pg	23 20 22.2	+1.4
CAVN				Lg		23 20 36.3	
	8.1nm,0.2s						
CORG	Organya	1.01	345	Pg	Pg	23 20 23.2	+0.7
CORG				Lg		23 20 38.4	
	2.2nm,0.1s						
CBRU	Bruguera	1.11	20	Pg	Pg	23 20 24.2	-0.1
CBRU				Lg		23 20 40.1	
	5.3nm,0.1s						
CSOR	Sort	1.19	341	Pn	Pn	23 20 26.7	+2.0
CSOR				Sn	Sn	23 20 44.2	+3.2
	2.7nm,0.1s						
CLLI	Llivia	1.25	11	Pn	Pn	23 20 27.1	+1.5
CLLI				Sn	Sn	23 20 44.0	+1.5
	11nm,0.1s						
EJON	La Jonquera	1.51	37	Pg	Pg	23 20 29.8	-2.5
	0.6nm,0.1s,SNR=5.7						
EJON				Lg		23 20 50.0	
	1.6nm,0.1s,SNR=8.2						
ESAC	San Caprasio	1.67	287	Pg	Pg	23 20 35.0	-0.5
	5.3nm,0.2s,SNR=7.9						
ESAC				Lg		23 20 58.8	
	5.4nm,0.1s,SNR=7.7						
EMOS	Mosqueruela	1.85	242	Pg	Pg	23 20 36.6	-2.4
	0.2nm,0.2s,SNR=4.0						
EMOS				Lg		23 21 02.6	
	0.8nm,0.2s,SNR=7.9						
EPF	Esparros	2.04	332	*e*Pg	Pg	23 20 42.3	-0.5
EPF				*e*Sg	Sg	23 21 10.1	+0.2
	2.3nm,0.2s						
MTLF	Montolieu	2.13	11	*e*Pn	Pn	23 20 38.4	+0.2
MTLF				*e*Pg	Pg	23 20 43.6	-1.1
MTLF				*e*Sg	Sg	23 21 10.4	-2.7
	8.3nm,0.5s						
ETSF	Etsaut	2.34	316	*e*Pg	Pg	23 20 48.6	-0.2
ETSF				*e*Sg	Sg	23 21 19.5	-0.4
	3.8nm,0.5s						
SJPF	Ste Jean	2.84	312	*e*Pn	Pn	23 20 48.8	+0.5
SJPF				*e*Sg	Sg	23 21 35.6	-1.2
	3.2nm,0.5s						
ETOR	Torete	2.84	263	Lg		23 21 35.5	
	0.3nm,0.2s,SNR=7.9						
EALK	Alkurruntz	3.07	311	Pg	Pg	23 21 01.0	-2.4
	0.8nm,0.3s,SNR=7.9						
EALK				Lg		23 21 43.4	
	1.2nm,0.2s,SNR=7.9						
CAF	Calviac	3.69	4	*e*Sg	Sg	23 21 59.6	-5.3
	1.4nm,0.3s						

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*NIED **27** 23:59:00, 45.50N×151.50E, h5^{km}, Mw4.2 Best double couple: M$_0$2.46$\times10^{15}$ NP1:φ$_s$48°, δ72°, λ87°. NP2:φ$_s$237°, δ18°, λ98°.*

*BJI **27** 23:59:52.7, 45.80N×151.79E, h70^{km}, mb4.5*

*MOS **27** 23:59:54.3±1.3, 45.37N×151.48E, h58^{km}, mb4.5/10, Error ellipse: s-maj=15.4km s-min=12.5km az=134.0*

*NEIC **27** 23:59:55.0±0.4, 45.46N×151.44E, mb4.3/6, Error ellipse: s-maj=11.4km s-min=8.3km az=171.0*

*IDC **27** 23:59:55.0±0.6, 45.49N×151.44E, h45^{km}±6^{km}, mb3.7/18, mb1 3.9/19, mb1mx3.8/26, ML4.0/1, Error ellipse: s-maj=19.2km s-min=14.1km az=141.0*

ISC 27 23:59:53.1±1.6, **45.4N**±0.1×**151.6E**±0.1, **h43**^{km}±14^{km}, **h46**^{km}±1.0^{km}**:pP-P, n69,** σ**1**^{s}**03**/69, **mb4.1**/33, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.61	268	*e*PN	P	00 00 32.6	-1.2
KUR				*i* S	S	00 01 04.0	-0.6
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				pmax	pmax		
	comp=E,70nm,0.4s						
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
KUR				smax			
	comp=N,760nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
YUK	Yuzh-Kuril'sk	4.29	253	*e*PN	P	00 00 58.0	+0.4
YUK				*e*S	S	00 01 48.0	+1.1
YUK				pmax	pmax		
	comp=Z,170nm,0.3s						
YUK				smax			
	comp=E,320nm,0.5s						
YUK				smax			
	comp=N,390nm,0.3s						
YUK				smax			
	comp=N,2μm,1.0s						
SKR	Severo-Kuril's	6.11	28	*e*PN	P	00 01 16.9	-6.2
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
YSS	Yuzh-Sakhalins	6.31	287	*e*PN	P	00 01 27.2	+1.2
ASAJ	Asahikawa	6.51	262	P	P	00 01 28.4	-0.4
	comp=Z,3.4nm,0.3s,baz=87,slow=17,SNR=9.1						
ASAJ	Asahikawa	6.51	262	PN	P	00 01 28.4	-0.4
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KLR	Kul'dur	13.97	293	*e*P	P	00 03 12.5	+2.4
MDJ	Mudanjiang	15.56	275	P	P	00 03 32.5	+1.7
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s						
CN2	Changchun	18.64	274	*e*P	P	00 04 06.8	-2.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SONM	Songino Array	30.79	291	P	P	00 06 05.3	-1.3
	comp=Z,0.6nm,0.6s,mb3.6,baz=72,slow=7.8,SNR=5.7						
SML	Sawmill	37.70	42	*e*P	P	00 07 05.2	-0.5
ILAR	Eielson Array	38.28	37	P	P	00 07 10.3	-0.2
	comp=Z,0.5nm,0.9s,mb3.2,baz=271,slow=8.6,SNR=6.3						
ILAR				pP	pP	00 07 22.4	+0.1
	comp=Z,0.7nm,0.9s,baz=260,slow=8.0,SNR=3.9						
ILAR	Eielson Array	38.28	37	P	P	00 07 10.3	-0.2
ILAR				*PP	pP	00 07 22.4	+0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
INK	Inuvik	43.37	32	P	P	00 07 51.8	-0.5
	comp=N,4.6nm,1.1s,mb4.1,baz=305,slow=4.9,SNR=4.8						
INK	Inuvik	43.37	32	P	P	00 07 51.8	-0.6
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	Inuvik	43.37	32	*e*P	P	00 07 52.4	0.0
MKAR	Makanchi Array	46.61	298	P	P	00 08 17.5	-1.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=68,slow=7.8,SNR=13						
MKAR				PcP	PcP	00 09 51.3	-1.1
	comp=Z,0.8nm,0.5s,baz=294,slow=0.5,SNR=6.8						
MKAR	Makanchi Array	46.61	298	P	P	00 08 17.5	-1.0
MKAR						00 09 51.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	47.22	304	*e*P	P	00 08 21.1	-2.1
	comp=Z,1.7nm,0.8s,mb4.0						
BVAR	Borovoye Array	50.89	310	P	P	00 08 50.6	-0.9
	comp=Z,0.8nm,0.5s,mb3.9,baz=63,slow=6.4,SNR=3.1						
SHL	Shillong	51.26	268	*e*P	P	00 08 54.5	-0.1
ZRNK	Zerenda	51.67	310	*e*P	P	00 08 56.1	-1.3
	comp=Z,0.8nm,0.6s,mb3.8						
ARCES	ARCESS Array B	58.77	341	P	P	00 09 46.6	-2.0
	comp=Z,1.9nm,0.7s,mb4.2,baz=21,slow=10,SNR=4.1						
ARCES	ARCESS Array B	58.77	341	P	P	00 09 46.6	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FFC	Flin Flon	62.47	39	P	P	00 10 13.0	-0.9
	comp=Z,4.6nm,1.1s,mb4.5						
NVAR	Mina Array Bea	64.03	61	P	P	00 10 23.8	-0.5
	comp=Z,0.4nm,0.8s,mb3.5,baz=284,slow=7.4,SNR=3.1						
NVAR				pP	pP	00 10 37.4	+0.6
	comp=Z,0.6nm,0.6s,baz=296,slow=6.1,SNR=5.1						
NVAR	Mina Array Bea	64.03	61	P	P	00 10 23.8	-0.5
NVAR				pP	pP	00 10 37.4	+0.6
FINES	FINESS Array B	64.80	334	P	P	00 10 27.0	-1.9
	comp=Z,2.1nm,0.5s,mb4.4,baz=49,slow=6.5,SNR=24						
FINES	FINESS Array B	64.80	334	P	P	00 10 27.0	-1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	Pinedale Array	66.42	53	P	P	00 10 39.6	0.0
	comp=Z,0.2nm,0.5s,mb3.4,baz=333,slow=2.0,SNR=2.1						
PDAR				pP	pP	00 10 52.2	+0.1
	comp=Z,0.4nm,0.8s,baz=315,slow=2.6,SNR=2.9						
WRA	Warramunga Arr	66.89	198	P	P	00 10 42.0	-1.0
	comp=Z,0.4nm,0.5s,mb3.7,baz=14,slow=6.9,SNR=2.9						
WRA				pP	pP	00 10 55.5	0.0
	comp=Z,1.7nm,0.7s,baz=17,slow=6.7,SNR=7.4						
WRA	Warramunga Arr	66.89	198	P	P	00 10 42.0	-0.9
WRA				*PP	pP	00 10 55.5	0.0
WRA				pmax	pmax		
	comp=N,2.0nm,0.7s						
NB2	NORSAR Subarra	69.15	341	P	P	00 10 55.3	-1.1
	comp=N,1.7nm,0.6s,mb4.2,baz=27,slow=6.5						
NOA	NORSAR Array B	69.15	341	P	P	00 10 55.5	-0.9
	comp=N,5.3nm,0.8s,mb4.5,baz=29,slow=6.2,SNR=8.3						
NOA	NORSAR Array B	69.15	341	P	P	00 10 55.5	-0.9
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAR	Alice Springs	70.59	197	P	P	00 11 05.8	+0.1
	comp=Z,0.5nm,0.7s,mb3.5,baz=15,slow=6.1,SNR=5.5						
ASAR				pP	pP	00 11 19.2	+0.9
	comp=Z,2.0nm,0.9s,baz=14,slow=6.1,SNR=10						
AKASG	Malin Array Be	72.06	326	P	P	00 11 13.2	-0.9
	comp=Z,1.4nm,0.4s,mb4.2,baz=36,slow=6.0,SNR=9.7						
AKASG	Malin Array Be	72.06	326	P	P	00 11 13.2	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DPC	Dobruska-Polom	77.04	332	*e*P	P	00 11 43.0	+0.2
CLL	Collm	77.24	335	P	P	00 11 43.6	-0.3
CLL	Collm	77.24	335	*i* P	P	00 11 43.6	-0.3
PVCC	Panska Ves	77.44	334	*e*P	P	00 11 45.7	+0.7
MLR	Muntele Rosu	77.54	324	P	P	00 11 45.1	-0.6
	comp=Z,4.3nm,0.8s,mb4.4,baz=209,slow=10						
MLR	Muntele Rosu	77.54	324	P	P	00 11 45.1	-0.6
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VRAC	Vranov	77.84	332	P	P	00 11 47.0	-0.3
	comp=Z,3.8nm,0.9s,mb4.3,baz=24,slow=6.6,SNR=4.0						
PRU	Pruhonice	77.92	333	*e*P	P	00 11 48.0	+0.4
MOX	Moxa	78.24	335	*e*P	P	00 11 50.0	+0.6
BRTR	Keskin Array B	78.62	316	P	P	00 11 50.6	-1.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=14,slow=5.1,SNR=4.1						
BRTR	Keskin Array B	78.62	316	P	P	00 11 50.6	-1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KHC	Kasperske Hory	78.98	333	*e*P	P	00 11 53.7	+0.2
TXAR	Lajitas Array	79.11	59	P	P	00 11 56.0	+1.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=269,slow=3.0,SNR=4.3						
GERES	GERESS Array B	79.19	333	P	P	00 11 54.4	-0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=4.8,SNR=6.5						
GERES	GERESS Array B	79.19	333	P	P	00 11 54.4	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRA1	Grafenberg Arr	79.20	335	*e*P	P	00 11 55.3	+0.6
	comp=Z,7.0nm,1.3s,mb4.4						
GRF	Grafenberg Arr	79.20	335	*e*P	P	00 11 55.3	+0.6
GRF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
DAVOX	Davos	82.21	335	P	P	00 12 11.3	+0.7
	comp=Z,0.9nm,0.4s,mb4.0,baz=49,slow=11,SNR=3.1						
LOR	Lormes	83.45	339	*e*P	P	00 12 17.3	+0.4
	comp=Z,5.6nm,0.7s,mb4.4						
SSF	Saint Saulge	83.74	339	*e*P	P	00 12 19.0	+0.7
	comp=Z,7.2nm,1.0s,mb4.5						
AVF	Avril sur Loir	84.03	339	*e*P	P	00 12 20.6	+0.8
	comp=Z,6.4nm,0.8s,mb4.5						
SMF	Signal de Mont	84.04	338	*e*P	P	00 12 20.5	+0.7
	comp=Z,12nm,1.0s,mb4.7						
LPL	La Plagne	84.28	336	*e*P	P	00 12 22.4	+1.3
	comp=Z,5.0nm,0.8s,mb4.4						
LPG	La Plagne	84.29	336	*e*P	P	00 12 22.5	+1.3
	comp=Z,4.3nm,0.7s,mb4.4						
TCF	Toulx Ste Croi	84.78	339	*e*P	P	00 12 24.7	+1.1
	comp=Z,8.4nm,0.9s,mb4.6						
MBDF	Montbardon	84.99	336	*e*P	P	00 12 25.9	+1.2
	comp=Z,5.0nm,0.8s,mb4.4						
ORIF	Oris-en-Rattie	85.07	336	*e*P	P	00 12 26.3	+1.2
	comp=Z,9.0nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	85.47	337	*e*P	P	00 12 28.1	+1.1
CAF	Calviac	86.09	339	*e*P	P	00 12 30.8	+0.8
	comp=Z,8.2nm,1.0s,mb4.6						
BDFB	Brasilia	146.07	35	PKPbc	PKPbc	00 19 29.7	+1.0
	comp=Z,3.1nm,0.9s,baz=201,slow=9.9,SNR=3.3						
BDFB	Brasilia	146.07	35	PKP2	PKPab	00 19 29.7	-1.5
BDFB				pmax	pmax		
	comp=Z,3.0nm,1.0s						

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*IDC **28** 00:13:42.0±8.4, 5.36N×126.97E, h135^{km}±85^{km}, mb3.5/9, mb1 3.6/9, mb1mx3.5/17, MS3.6/1, Ms1 3.6/1, ms1mx2.1/25, Error ellipse: s-maj=80.0km s-min=14.9km az=77.0*

ISC 28 00:13:31.4±2.4, **5.64N**±0.10×**127.4E**±0.2, **h55**^{km}±21^{km}, **n15,** σ**0**^{s}**56**/15, **mb3.8**/9, **1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	2.68	301	⇓*e*P	P	00 14 13.6	+0.3
KCP				*e*S	S	00 14 44.4	-0.3
BUKP	Musuan	3.23	314	*e*P	P	00 14 21.7	+0.8
BUTP	Butuan	3.76	332	*e*P	S	00 15 11.0	-0.7
TGY	Tagaytay City	10.55	323	LR	LR	00 21 01.4	
	comp=Z,357nm,20.3s,baz=46,slow=42						
JOW	Kunigami	21.09	2	P	P	00 18 19.9	+6.4
	44nm,0.5s,baz=172,slow=19,SNR=3.0						
FITZ	Fitzroy Crossi	23.66	184	P	P	00 18 38.8	0.0
	1.9nm,0.7s,mb3.6,baz=15,slow=8.7,SNR=3.7						
WRA	Warramunga Arr	26.32	165	P	P	00 19 04.0	-0.1
	2.6nm,0.5s,mb4.0,baz=343,slow=10,SNR=14						
WB2	Warramunga Arr	26.32	165	*e*P	P	00 19 04.5	+0.3
ASAR	Alice Springs	29.81	168	P	P	00 19 35.4	-0.2
	0.5nm,0.6s,mb3.4,baz=346,slow=7.4,SNR=2.8						
STKA	Stephens Creek	39.68	161	P	P	00 20 58.9	-1.0
	1.2nm,0.6s,mb3.8,baz=336,slow=12,SNR=3.3						
SONM	Songino Array	45.73	340	P	P	00 21 48.9	-0.1
	0.2nm,0.4s,mb3.4,baz=162,slow=9.1,SNR=2.3						
MKAR	Makanchi Array	56.40	324	P	P	00 23 08.9	-0.7
	0.6nm,0.4s,mb4.0,baz=120,slow=7.5,SNR=7.0						
BVAR	Borovoye Array	66.11	326	P	P	00 24 15.0	+0.1
	0.4nm,0.4s,mb3.8,baz=121,slow=8.4,SNR=3.7						
ARCES	ARCESS Array B	88.90	340	P	P	00 26 21.6	+0.9
	1.1nm,0.7s,mb4.3,baz=90,slow=6.3,SNR=2.8						
FINES	FINESS Array B	90.48	332	P	P	00 26 28.9	+0.7
	0.9nm,0.9s,mb4.1,baz=90,slow=5.7,SNR=4.5						

IDC 28 00:36:27.1±16.0, **19.03N**×**145.38E, h589**^{km}±147^{km}, **mb3.0**/7, **mb1 3.3**/7, **mb1mx2.9**/19, **Error ellipse: s-maj=155.0km s-min=32.9km az=177.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	42.70	321	P	P	00 43 33.4	-1.3
	1.9nm,0.8s,baz=132,slow=6.5,SNR=17						
MKAR	Makanchi Array	58.02	314	P	P	00 45 24.5	-1.9
	0.7nm,0.7s,baz=89,slow=8.5,SNR=8.3						
ILAR	Eielson Array	63.48	26	P	P	00 45 59.7	-2.1
	0.8nm,0.5s,baz=247,slow=5.9,SNR=7.6						
YKA	Yellowknife Ar	77.84	28	P	P	00 47 24.8	-0.6
	0.9nm,0.6s,baz=283,slow=5.8,SNR=4.3						
ARCES	ARCESS Array B	82.09	342	P	P	00 47 47.3	0.0
	1.4nm,0.7s,baz=68,slow=6.5,SNR=3.6						
NVAR	Mina Array Bea	83.17	52	P	P	00 47 52.9	-0.5
	0.3nm,0.6s,baz=260,slow=5.5,SNR=3.1						
FINES	FINESS Array B	86.46	335	P	P	00 48 06.8	-1.9
	1.0nm,0.8s,baz=56,slow=5.0,SNR=4.3						

IDC 28 00:42:46.5±2.9, **8.58S**×**112.36E, mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/12, **MS4.0**/2, **Ms1 4.0**/2, **ms1mx3.0**/19, **Error ellipse: s-maj=162.0km s-min=26.7km az=48.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.07	120	P	P	00 48 03.8	-0.9
	0.7nm,0.7s,baz=294,slow=12,SNR=5.0						
ASAR	Alice Springs	25.50	129	P	P	00 48 17.1	-1.3
	1.3nm,0.9s,baz=300,slow=9.3,SNR=8.4						
JHJ	Hachijo jima 2	49.00	31	LR	LR	01 09 58.8	
	comp=Z,318nm,21.0s,baz=350,slow=33						
ASAJ	Asahikawa	59.16	25	LR	LR	01 22 33.6	
	comp=Z,61nm,18.4s,baz=130,slow=40						
MKAR	Makanchi Array	61.29	337	P	P	00 53 03.7	-2.4
	0.5nm,0.6s,baz=143,slow=6.1,SNR=5.7						

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*JMA **28** 00:57:24.8±0.7, 25.05N×122.72E, M2.9*

*TAP **28** 00:57:26.7, 24.88N×122.40E, h5^{km}±1^{km}, ML3.6*

ISC 28 00:57:24.8±2.3, **25.02N**±0.10×**122.6E**±0.2, **h5**^{km}**, n6,** σ**0**^{s}**61**/8, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.66	147	P	Pg	00 57 37.7	-0.2
YOJ				S	Sg	00 57 46.9	+0.2
IRIF	Iriomote-Funau	1.22	124	P	Pb	00 57 46.4	-1.5
HATJ	Hateruma jima	1.44	131	*e*S	Sb	00 58 10.6	+0.3
JKRS	Kuro-shima	1.48	121	P	Pn	00 57 52.6	+0.4
JIJ	Ishigaki jima	1.53	115	P	Pn	00 57 53.5	+0.6
JIJ				*e*S	Sb	00 58 12.6	-0.2
JTJ	Tarama	1.93	101	P	Pn	00 57 58.9	+0.3

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*IDC **28** 00:59:06.2±10.0, 7.36S×129.34E, h144^{km}±110^{km}, mb3.6/4, mb1 3.7/7, mb1mx3.7/12, ML4.0/3, Error ellipse: s-maj=79.6km s-min=42.3km az=40.0*

ISC 28 00:59:07.2±3.4, **7.5S**±0.1×**129.1E**±0.2, **h170**^{km}±36^{km}**, n7,** σ**1**^{s}**09**/10, **mb3.8**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.09	198	P	P	01 01 43.2	+1.3
	2.1nm,0.3s,baz=21,slow=9.5,SNR=66						
FITZ				S	S	01 03 41.8	-1.4
	3.1nm,0.3s,baz=165,slow=14,SNR=4.4						
WRA	Warramunga Arr	13.37	158	P	P	01 02 09.3	-2.0
	1.0nm,0.3s,baz=340,slow=14,SNR=12						
WRA				S	S	01 04 30.0	-6.3
	3.1nm,0.3s,baz=332,slow=22,SNR=9.6						
ASAR	Alice Springs	16.73	165	P	P	01 02 54.1	+1.0
	0.4nm,0.3s,baz=344,slow=9.4,SNR=11						
ASAR				S	S	01 05 53.1	+0.8
	1.2nm,0.3s,baz=322,slow=14,SNR=6.4						
CMAR	Chiang Mai Arr	39.39	311	P	P	01 06 22.8	+0.8
	1.4nm,0.8s,mb3.7,baz=135,slow=8.0,SNR=5.1						
SONM	Songino Array	58.63	342	P	P	01 08 47.9	-0.8
	0.5nm,0.5s,mb3.6,baz=162,slow=7.3,SNR=5.1						
MKAR	Makanchi Array	68.16	327	P	P	01 09 51.0	-0.1
	2.4nm,0.5s,mb4.2,baz=123,slow=8.2,SNR=36						
BVAR	Borovoye Array	78.02	328	P	P	01 10 48.2	0.0
	0.8nm,0.6s,mb3.5,baz=135,slow=8.2,SNR=6.8						

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*NIED **28** 01:17:00, 37.20N×140.80E, h104^{km}, Mw3.8 Best double couple: M$_0$5.8$\times10^{14}$ NP1:φ$_s$42°, δ50°, λ-65°. NP2:φ$_s$186°, δ46°, λ-117°.*

*IDC **28** 01:17:44.0±2.0, 37.18N×140.69E, h101^{km}±20^{km}, mb3.4/12, mb1 3.7/14, mb1mx3.6/24, MS3.9/1, Ms1 3.9/1, ms1mx2.7/21, Error ellipse: s-maj=23.0km s-min=13.6km az=91.0*

*JMA **28** 01:17:44.9±0.1, 37.22N×140.81E, h102^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:φ$_s$212°, δ41°, λ-103°. NP2:φ$_s$49°, δ51°, λ-79°. Principal axes: T Plg5°, Azm131°; N Plg8°, Azm222°; P Plg80°, Azm9°;*

JMA Felt I J1.

ISC 28 01:17:43.2±0.4, **37.19N**±0.04×**140.85E**±0.07, **h111**^{km}±3^{km}**, n27,** σ**0**^{s}**83**/38, **mb3.6**/12, **5C-4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.10	204	⇓P	P	01 17 59.5	+0.8
ONAJ				S	S	01 18 10.3	+0.2
JFK	Kawauchi	0.18	7	⇓P	P	01 17 59.5	+0.7
JFK				S	S	01 18 09.8	-0.7
JFT	Otama	0.52	309	⇓P	P	01 18 01.0	+0.5
JFT				S	S	01 18 13.3	-0.1
JMM	Marumori	0.68	356	⇑P	P	01 18 02.2	+0.6
JMM				S	S	01 18 14.7	-0.8
JFY	Yanaizu	0.94	284	⇑P	P	01 18 04.6	+0.5
JFY				*e*S	S	01 18 19.2	-0.6
JOU	Okura	1.18	353	⇑P	P	01 18 07.6	+0.8
JOU				S	S	01 18 24.5	0.0
JYS	Shirataka	1.20	329	⇑P	P	01 18 07.7	+0.6
JYS				*e*S	S	01 18 24.9	0.0
JIO	Ouri	1.32	17	⇑P	P	01 18 08.7	+0.3
JIO				*e*S	S	01 18 25.8	-1.6
JKT	Katashina	1.35	252	P	P	01 18 10.0	+1.3
JAG	Ashikaga	1.35	236	⇓P	P	01 18 09.7	+0.9
JAG				*e*S	S	01 18 27.7	-0.4
JNS	Sasagawa	1.37	298	P	P	01 18 09.2	+0.2
JNS				*e*S	S	01 18 27.4	-1.0
MAT	Matsushiro	2.21	254	P	P	01 18 20.6	+1.0
MAT				S	S	01 18 47.5	+0.6
JHJ	Hachijo jima 2	4.16	192	P	P	01 18 45.2	-0.7
	10.0nm,0.3s,baz=221,slow=19,SNR=2.4						
JHJ				S	S	01 19 32.2	-1.6
	24nm,0.3s,baz=246,slow=23,SNR=7.9						
ASAJ	Asahikawa	7.04	10	P	P	01 19 24.4	-0.8
	1.6nm,0.3s,baz=198,slow=13,SNR=4.3						
JOW	Kunigami	14.83	229	LR	LR	01 26 09.8	
	comp=Z,488nm,21.2s,baz=90,slow=34						
SONM	Songino Array	27.32	304	P	P	01 23 19.5	+0.1
	0.4nm,0.4s,mb3.3,baz=109,slow=10.0,SNR=4.0						
MKAR	Makanchi Array	43.65	302	P	P	01 25 37.8	-0.3
	0.5nm,0.7s,mb3.4,baz=104,slow=5.0,SNR=3.7						
ILAR	Eielson Array	49.60	32	P	P	01 26 24.9	+0.3
	0.6nm,0.6s,mb3.7,baz=274,slow=5.6,SNR=6.7						
BVAR	Borovoye Array	50.13	312	P	P	01 26 27.7	-1.2
	0.9nm,0.9s,mb3.7,baz=76,slow=5.9,SNR=2.9						
WRA	Warramunga Arr	57.16	187	P	P	01 27 20.4	-0.4
	0.6nm,0.3s,mb4.1,baz=5.2,slow=7.0,SNR=4.6						
ASAR	Alice Springs	60.88	187	P	P	01 27 45.0	-1.5
	0.8nm,1.0s,mb3.7,baz=10,slow=5.3,SNR=4.3						
FINES	FINESS Array B	68.47	332	P	P	01 28 34.0	-0.9
	0.9nm,0.7s,mb3.7,baz=90,slow=5.7,SNR=4.1						
NOA	NORSAR Array B	73.87	337	P	P	01 29 06.5	-0.5
	0.7nm,0.6s,mb3.6,baz=39,slow=5.7,SNR=3.3						
AKASG	Malin Array Be	73.90	322	P	P	01 29 07.2	-0.2
	0.7nm,0.3s,mb3.8,baz=46,slow=6.3,SNR=6.8						
NVAR	Mina Array Bea	75.26	53	P	P	01 29 17.2	+1.8
	0.4nm,0.5s,mb3.4,baz=292,slow=7.7,SNR=4.7						
GERES	GERESS Array B	82.34	328	P	P	01 29 54.1	+0.4
	0.3nm,0.4s,mb3.5,baz=45,slow=5.7,SNR=5.6						
TXAR	Lajitas Array	90.38	52	P	P	01 30 35.0	+1.8
	0.3nm,0.6s,mb3.6,baz=297,slow=2.8,SNR=3.7						

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*NEIC **28** 01:22:09.7±1.6, 30.35S×179.24W, h209^{km}±16^{km}, mb4.3/2, Error ellipse: s-maj=14.3km s-min=11.0km az=184.0*

*IDC **28** 01:22:17.4±2.6, 31.06S×179.20W, h297^{km}±25^{km}, mb3.6/7, mb1 3.9/9, mb1mx3.8/16, Error ellipse: s-maj=27.4km s-min=19.1km az=165.0*

ISC 28 01:22:16.0±0.9, **30.94S**±0.05×**179.5W**±0.1, **h288**^{km}±10^{km}**, n105,** σ**1**^{s}**49**/92, **mb3.8**/8, **1C-2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.86	195	*e*P	P	01 23 55.6	-0.5
MXZ				S	S	01 25 18.1	+3.4
MXZ	Matakaoa Point	6.86	195	*e*P	P	01 23 56.2	+0.1
MXZ				S	S	01 25 18.1	+3.4
WCZ	Waipu Caves	7.19	224	P	P	01 24 07.4	+7.2
PUZ	Puketiti	7.36	194	P	P	01 24 02.2	-0.1
PUZ				S	S	01 25 28.0	+2.3
PUZ	Puketiti	7.36	194	P	P	01 24 02.3	0.0
PUZ				S	S	01 25 28.0	+2.3
MWZ	Matawai	7.78	198	P	P	01 24 07.5	0.0
MWZ				S	S	01 25 37.7	+2.6
MWZ	Matawai	7.78	198	*e*P	P	01 24 07.5	0.0
EDRZ	Edgecumbe	7.81	203	P	P	01 24 13.1	+5.3
URZ	Urewera	7.83	200	P	P	01 24 07.5	-0.6
	24nm,0.3s,baz=273,slow=3.1,SNR=21						
URZ				S	S	01 25 39.2	+3.1
	36nm,0.3s,baz=25,slow=18,SNR=13						
URZ	Urewera	7.83	200	P	P	01 24 07.7	-0.4
URZ	Urewera	7.83	200	*e*P	P	01 24 07.7	-0.4
LIRZ	Lichensteins R	7.84	205	P	P	01 24 15.9	+7.7
TAZ	Tarawera	8.00	203	P	P	01 24 15.1	+4.9
PATZ	Paeroa	8.22	204	P	P	01 24 17.4	+4.5
KNZ	Kokohu	8.40	195	*e*P	P	01 24 13.0	-2.1
KNZ				*e*S	S	01 25 49.8	+1.0
KNZ	Kokohu	8.40	195	*e*P	P	01 24 19.0	+3.9
BKZ	Black Stump Fm	8.85	201	*e*P	P	01 24 19.5	-1.3
BKZ				*e*S	S	01 26 01.3	+2.4
BKZ	Black Stump Fm	8.85	201	*e*P	P	01 24 19.9	-0.9
MGZ	Maungaku	9.03	206	P	P	01 24 26.2	+3.3
NGZ	Ngauruhoe	9.16	205	P	P	01 24 27.0	+2.4
CNZ	Chateau	9.20	205	P	P	01 24 29.2	+4.1
TUVZ	Tukino	9.22	204	P	P	01 24 27.7	+2.4
FWVZ	Far West T-bar	9.24	205	P	P	01 24 28.9	+3.2
RAEZ	Rainy Point	9.73	209	P	P	01 24 37.2	+5.6
TSZ	Takapari Road	9.83	201	P	P	01 24 30.8	-2.1
TSZ				*e*S	S	01 26 22.1	+1.2
TSZ	Takapari Road	9.83	201	*e*P	P	01 24 30.8	-2.1

NEZ	**North Egmont**	**9.84**	**211**	P	**P**	**01 24 38.4**	**+5.4**
DFE	**Dawson Falls**	**9.88**	**210**	P	**P**	**01 24 39.8**	**+6.2**
WAZ	**Wanganui**	**9.89**	**206**	P	**P**	**01 24 33.7**	**0.0**
WAZ	**Wanganui**	**9.89**	**206**	*e*P	**P**	**01 24 33.8**	**+0.1**
BFZ	**Birch Farm**	**10.32**	**199**	*e*P	**P**	**01 24 36.1**	**-2.9**
BFZ	**Birch Farm**	**10.32**	**199**	P	**P**	**01 24 39.2**	**+0.2**
MRZ	**Mangatainoka R**	**10.50**	**201**	*e*P	**P**	**01 24 38.3**	**-2.9**
MRZ				S	**S**	**01 26 34.4**	**-1.4**
MRZ	**Mangatainoka R**	**10.50**	**201**	*e*P	**P**	**01 24 38.8**	**-2.4**
KIW	**Kapiti Island**	**10.90**	**203**	*e*P	**P**	**01 24 44.6**	**-1.5**
KIW	**Kapiti Island**	**10.90**	**203**	P	**P**	**01 24 44.5**	**-1.6**
MTW	**Mount Morrison**	**10.98**	**200**	*e*P	**P**	**01 24 45.2**	**-1.9**
CAW	**Cannon Point**	**11.07**	**202**	*e*P	**P**	**01 24 45.5**	**-2.7**
CAW				*e*S	**S**	**01 26 48.0**	**-0.5**
CAW	**Cannon Point**	**11.07**	**202**	P	**P**	**01 24 45.7**	**-2.5**
MRW	**Makara Radio**	**11.30**	**203**	*e*P	**P**	**01 24 49.7**	**-1.4**
MRW	**Makara Radio**	**11.30**	**203**	P	**P**	**01 24 49.9**	**-1.2**
NNZ	**Nelson**	**11.77**	**207**	*e*P	**P**	**01 24 55.6**	**-1.4**
NNZ				*e*S	**S**	**01 27 05.1**	**+0.9**
NNZ	**Nelson**	**11.77**	**207**	*e*P	**P**	**01 24 55.7**	**-1.3**
QRZ	**Quartz Range**	**11.80**	**211**	P	**P**	**01 24 56.8**	**-0.6**
THZ	**Tophouse**	**12.42**	**208**	*e*P	**P**	**01 25 02.6**	**-2.4**
THZ				*e*S	**S**	**01 27 19.4**	**+0.8**
THZ	**Tophouse**	**12.42**	**208**	*e*P	**P**	**01 25 03.6**	**-1.4**
KHZ	**Kahutara**	**12.75**	**204**	*e*P	**P**	**01 25 08.4**	**-0.5**
KHZ				S	**S**	**01 27 25.2**	**-0.7**
LTZ	**Lake Taylor**	**13.54**	**207**	*e*P	**P**	**01 25 17.1**	**-1.4**
LTZ				S	**S**	**01 27 42.3**	**-0.8**
LTZ	**Lake Taylor**	**13.54**	**207**	*e*P	**P**	**01 25 17.5**	**-1.0**
MQZ	**McQueen's Vall**	**14.19**	**204**	*e*P	**P**	**01 25 26.0**	**-0.4**
MQZ				S	**S**	**01 27 55.5**	**-2.0**
MQZ	**McQueen's Vall**	**14.19**	**204**	*e*P	**P**	**01 25 26.3**	**-0.1**
WVZ	**Waitaha Valley**	**14.41**	**210**	*e*S	**S**	**01 27 59.3**	**-2.9**
RPZ	**Rata Peaks**	**14.80**	**208**	P	**P**	**01 25 33.0**	**-0.7**
	2.4nm,0.3s,baz=345,slow=6.8,SNR=12						
RPZ				S	**S**	**01 28 08.9**	**-1.8**
	4.3nm,0.3s,baz=0.4,slow=21,SNR=12						
DZM	**Mont Dzumac**	**15.39**	**302**⇑	*e*P	**P**	**01 25 40.9**	**+0.3**
DZM	**Mont Dzumac**	**15.39**	**302**⇑	*e*P	**P**	**01 25 40.9**	**+0.3**
NOUC	**Port Laguerre**	**15.47**	**301**	*e*P	**P**	**01 25 40.9**	**-0.7**
NOUC	**Port Laguerre**	**15.47**	**301**	*e*P	**P**	**01 25 40.9**	**-0.7**
ODZ	**Otahua Downs**	**16.08**	**206**	*e*P	**P**	**01 25 45.4**	**-2.6**
ODZ	**Otahua Downs**	**16.08**	**206**	*e*P	**P**	**01 25 50.6**	**+2.6**
JCZ	**Jackson Bay**	**16.08**	**212**	*e*P	**P**	**01 25 49.1**	**+1.1**
CTA	**Charters Tower**	**32.66**	**281**	*e*P	**P**	**01 28 24.9**	**+1.5**
	4.9nm,0.4s,mb4.4						
CTA	**Charters Tower**	**32.66**	**281**	P	**P**	**01 28 24.2**	**+0.8**
	8.1nm,0.6s,mb4.4,baz=109,slow=11,SNR=14						
CTAO	**Charters Tower**	**32.66**	**281**	*e*P	**P**	**01 28 24.2**	**+0.8**
STKA	**Stephens Creek**	**33.13**	**258**	P	**P**	**01 28 29.7**	**+2.3**
	1.9nm,0.6s,mb3.8,baz=78,slow=7.5,SNR=8.2						
STKA	**Stephens Creek**	**33.13**	**258**	P	**P**	**01 28 29.7**	**+2.3**
ASAR	**Alice Springs**	**41.83**	**268**	P	**P**	**01 29 40.5**	**+0.8**
	0.9nm,0.5s,mb3.3,baz=104,slow=7.0,SNR=11						
ASAR				ScP		01 34 51.1	
	1.6nm,0.9s,baz=117,slow=4.6,SNR=8.2						
WB2	**Warramunga Arr**	**42.86**	**274**	*e*P	**P**	**01 29 47.9**	**-0.1**
WRAB	**Tennant Creek**	**42.86**	**274**	*e*P	**P**	**01 29 47.8**	**-0.2**
WRA	**Warramunga Arr**	**42.87**	**274**	P	**P**	**01 29 47.8**	**-0.2**
	1.8nm,0.3s,mb3.8,baz=110,slow=8.1,SNR=7.8						
FITZ	**Fitzroy Crossi**	**51.10**	**271**	P	**P**	**01 30 52.8**	**+1.2**
	1.3nm,0.8s,mb3.3,baz=32,slow=6.5,SNR=6.2						
QSPA	**South Pole Qui**	**59.17**	**180**	*e*P	**P**	**01 31 52.3**	**+4.0**
	3.1nm,0.6s,mb3.9						
QSPA				*e*	pP	01 32 54.9	+2.6
SNAA	**Sanae**	**77.65**	**179**⇓	*i*	**P**	**01 33 42.7**	**+1.1**
VNA2	**Neumayer--Watz**	**78.27**	**177**⇓	*i*	**P**	**01 33 49.3**	**+4.3**
NVAR	**Mina Array Bea**	**89.49**	**43**	P	**P**	**01 34 41.9**	**+0.2**
	1.4nm,0.9s,mb3.8,baz=206,slow=7.1,SNR=10.0						
PDAR	**Pinedale Array**	**97.39**	**44**	P	**P**	**01 35 17.9**	**0.0**
	1.1nm,1.2s,mb4.0,baz=315,slow=1.3,SNR=3.3						
MKAR	**Makanchi Array**	**117.16**	**310**	PKP	PKPdf	01 40 26.4	-0.3
	0.5nm,0.5s,baz=234,slow=2.0,SNR=4.7						
KEV	**Kevo**	**138.36**	**346**	*e*pkp	PKPdf	01 40 57.3	-9.0
ARCES	**ARCESS Array B**	**138.84**	**347**	PKhKP		01 40 58.7	
	1.2nm,0.5s,baz=75,slow=2.5,SNR=14						
ARCES				PKP	PKPdf	01 41 09.6	+2.4
	1.7nm,0.5s,baz=27,slow=2.0,SNR=9.4						
ARCES	**ARCESS Array B**	**138.84**	**347**	PKP	PKPdf	01 40 58.7	-8.5
ARCES				PKP	PKPdf	01 41 09.6	+2.4
KAF	**Kangasniemi**	**144.62**	**339**	*e*pkp	PKPdf	01 41 15.8	-1.6
	baz=39,slow=2.9						
FINES	**FINESS Array B**	**145.21**	**339**	PKPbc	PKPbc	01 41 19.1	0.0
	26nm,0.5s,baz=100,slow=4.8,SNR=280						
NB2	**NORSAR Subarra**	**149.08**	**350**	PKP		01 41 29.9	
	11nm,0.8s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**149.08**	**350**	PKPbc	PKPdf	01 41 29.4	+4.7
	5.1nm,0.5s,baz=16,slow=4.2,SNR=24						
AKASG	**Malin Array Be**	**150.95**	**321**	PKPbc	PKPdf	01 41 35.0	+7.0
	3.6nm,0.5s,baz=46,slow=2.3,SNR=17						
BRTR	**Keskin Array B**	**151.74**	**297**	PKPbc	PKPdf	01 41 37.3	+7.8
	2.4nm,0.7s,baz=137,slow=4.4,SNR=13						
DBIC	**Dimbokro**	**155.33**	**167**	PKPbc	PKPdf	01 41 47.4	+12
	9.0nm,1.2s,baz=238,slow=4.2,SNR=4.7						
DBIC	**Dimbokro**	**155.33**	**167**	PKPbc	PKPdf	01 41 47.4	+12
CLL	**Collm**	**157.65**	**339**	*i* PKP2	PKPab	01 42 11.7	-1.6
KHC	**Kasperske Hory**	**159.32**	**335**	*e*PKP2	PKPab	01 42 16.5	-4.0
KHC						01 42 20.0	
GERES	**GERESS Array B**	**159.52**	**335**	PKPab	PKPab	01 42 19.5	-1.8
	1.2nm,0.8s,baz=18,slow=4.2,SNR=7.7						
CDF	**Champ du Feu**	**161.81**	**346**	*e*PKP2	PKPab	01 42 29.4	-1.9
	4.2nm,0.7s						
MEZF	**Maizieres J'vi**	**162.13**	**350**	*e*PKP2	PKPab	01 42 30.9	-1.8
HAU	**Haudompre**	**162.39**	**347**	*e*PKP2	PKPab	01 42 31.8	-2.1
	14nm,1.0s						
HINF	**Hinteralfeld**	**162.47**	**346**	*e*PKP2	PKPab	01 42 32.6	-1.6
LOR	**Lormes**	**163.50**	**352**	*e*PKP2	PKPab	01 42 36.6	-2.1
SSF	**Saint Saulge**	**163.74**	**353**	*e*PKP2	PKPab	01 42 37.8	-2.0
	8.0nm,0.7s						
CABF	**La Chapelle**	**163.77**	**346**	*e*PKP2	PKPab	01 42 38.2	-1.7
	6.0nm,0.7s						
AVF	**Avril sur Loir**	**164.02**	**353**	*e*PKP2	PKPab	01 42 38.9	-2.1
	12nm,1.1s						
SMF	**Signal de Mont**	**164.11**	**352**	*e*PKP2	PKPab	01 42 39.5	-1.9
	19nm,0.9s						
LPL	**La Plagne**	**164.66**	**343**	*e*PKP2	PKPab	01 42 43.0	-0.8
	3.9nm,0.7s						
LPG	**La Plagne**	**164.68**	**343**	*e*PKP2	PKPab	01 42 43.2	-0.7
	8.5nm,0.8s						
MBDF	**Montbardon**	**165.39**	**342**	*e*PKP2	PKPab	01 42 45.6	-1.4
	4.6nm,0.6s						
ORIF	**Oris-en-Rattie**	**165.43**	**345**	*e*PKP2	PKPab	01 42 46.1	-1.1
	5.4nm,0.7s						
FRF	**La Foret Royal**	**166.50**	**341**	*e*PKP2	PKPab	01 42 50.8	-1.1
LMR	**La Mourre**	**166.75**	**341**	*e*PKP2	PKPab	01 42 51.4	-1.6
	8.2nm,0.8s						

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*MOS **28** 01:29:50.5±1.5, 51.14N×98.26E, h10^{km}, mb4.4/1, Error ellipse: s-maj=17.8km s-min=10.7km az=151.7*

ISC 28 01:29:51.0±0.7**, 51.1N**±0.1×**98.22E**±0.05**, h10^{km}, n20, σ1^{s}42**/24**, MS3.6**/1**, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.76**	**33**	*e*PN	**Pn**	**01 30 22.0**	**+0.2**
ORL				*e*		01 30 44.9	
ORL				pmax	pmax		
	comp=Z,202nm,0.9s						
ORL				smax			
	comp=N,1µm,1.1s						
MOY	**Mondy**	**1.83**	**70**	*e*PN	**Pn**	**01 30 23.8**	**+1.0**
MOY				*e*S	**Sn**	**01 30 48.8**	**+2.5**
MOY				pmax	pmax		
	comp=Z,365nm,0.7s						
MOY				smax			
	comp=N,3µm,1.1s						
ARS	**Arshan**	**2.76**	**71**	*e*PN	**Pn**	**01 30 38.0**	**+1.9**
ARS				*e*		01 31 16.7	
ARS				pmax	pmax		
	comp=Z,150nm,0.8s						
ARS				smax			
	comp=E,2µm,0.9s						
ZAK	**Zakamensk**	**3.29**	**100**	*e*PN	**Pn**	**01 30 43.9**	**+0.3**
ZAK				*e*		01 30 49.3	
ZAK				*e*		01 31 33.0	
ZAK				pmax	pmax		
	comp=Z,188nm,1.0s						
ZAK				smax			
	comp=N,568nm,0.8s						
TLY	**Talaya**	**3.45**	**78**	*e*PN	**Pn**	**01 30 44.5**	**-1.4**
TLY				*e*		01 30 52.8	
TLY				*e*		01 31 37.6	
TLY				pmax	pmax		
	comp=Z,60nm,1.0s						
TLY				smax			
	comp=N,1µm,1.4s						
IRK	**Irkutsk**	**3.94**	**70**	*e*PN	**Pb**	**01 31 01.0**	**+0.8**
IRK				*e*		01 31 52.0	
IRK				pmax	pmax		
	comp=Z,109nm,0.2s						
IRK				smax			
	comp=N,3µm,1.5s						
LSTR	**Listvyanka**	**4.21**	**77**	*e*PN	**Pb**	**01 31 04.8**	**0.0**
LSTR				*e*		01 31 59.0	
LSTR				pmax	pmax		
	comp=Z,21nm,1.0s						
LSTR				smax			
	comp=N,680nm,1.0s						
CERR	**Cheremushki**	**4.57**	**295**	*i* PN	**Pb**	**01 31 12.8**	**+1.8**
CERR				*i* S	**Sn**	**01 32 11.5**	**+16**
TRG	**Tyrgan**	**5.30**	**68**	*e*PN	**Pn**	**01 31 09.1**	**-3.1**
TRG				*e*		01 31 24.2	
TRG				*e*S	**Sn**	**01 32 09.4**	**-4.7**
TRG				*e*		01 32 33.0	
TRG				pmax	pmax		
	comp=Z,68nm,0.8s						
TRG				smax			
	comp=N,861nm,1.3s						
KAB	**Kabansk**	**5.35**	**76**	*e*PN	**Pb**	**01 31 26.9**	**+2.6**
SHRR	**Shira**	**5.96**	**308**	*e*PN	**Pn**	**01 31 20.6**	**-0.9**
SHRR				*e*		01 32 52.9	
SHRR				pmax	pmax		
	comp=Z,18µm,0.7s						
OGRR	**Ongureny**	**6.29**	**62**	*e*PN	**Pn**	**01 31 24.7**	**-1.4**
ULN	**Ulaanbaatar**	**6.59**	**116**	*e*PG	Px	01 32 14.2	
TASR	**Tashtagol**	**6.62**	**289**	*e*PN	**Pb**	**01 31 47.3**	**+1.3**
AKAR	**Aktash**	**6.78**	**268**	*e*PN	**Pn**	**01 31 33.2**	**+0.2**
AKAR				*e*		01 31 51.4	
AKAR				*e*S	Sn	01 33 18.2	+27
ARTR	**Artybash**	**6.88**	**280**	*e*PN	**Pn**	**01 31 33.6**	**-0.8**
ARTR				*e*		01 32 51.8	
ARTR				*e*S	Sn	01 33 23.1	+30
UKR	**Ust'-Kan**	**8.49**	**274**	*e*P	**P**	**01 31 55.5**	**-1.4**
YLYR	**Ulyunkhan**	**8.68**	**59**	*e*P	**P**	**01 31 55.7**	**-3.9**
YLYR				*e*S	**Sn**	**01 33 32.0**	**-6.5**
YLYR				pmax	pmax		
	comp=Z,17nm,1.5s						
YLYR				smax			
	comp=N,347nm,1.6s						
BOD	**Bodaibo**	**11.38**	**48**	*e*P	**P**	**01 32 35.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SOC	**Sochi**	**39.42**	**283**	*e*P	**P**	**01 37 23.6**	**+1.1**
SOC				*e*		01 38 51.9	
SOC				*e*S	**S**	**01 43 22.1**	**-1.7**
SOC				*e*SS	SS	01 46 05.0	-5.1
SOC				*e*SSS	SSS	01 46 43.1	-1.8
SOC				MLR	MLR		
	comp=Z,81nm,20.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,46nm,17.0s,MS3.5						
SOC				MLR	MLR		
	comp=E,48nm,16.0s,MS3.5						

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*IDC **28** 01:46:21.2±2.1, 23.98S×179.67W, mb4.0/4, mb1 4.2/4, mb1mx4.0/12, MS3.6/2, Ms1 3.6/2, ms1mx3.2/14, Error ellipse: s-maj=149.0km s-min=33.4km az=161.0*

ISC 28 01:46:24.5±1.8**, 24.3S**±1.0×**179.6W**±0.4**, h33^{km}, n8, σ0^{s}22**/6**, mb3.9**/4**, MS3.5**/2**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**20.80**	**199**	LR	LR	01 58 50.5	
	comp=Z,150nm,18.6s,MS3.4,baz=259,slow=36						
STKA	**Stephens Creek**	**34.88**	**249**	P	**P**	**01 53 15.0**	**0.0**
	1.3nm,0.4s,mb4.2,baz=89,slow=8.8,SNR=6.8						
PMG	**Port Moresby**	**34.96**	**289**	LR	LR	02 03 57.7	
	comp=Z,82nm,18.5s,MS3.5,baz=53,slow=30						
ASAR	**Alice Springs**	**42.31**	**261**	P	**P**	**01 54 16.8**	**-0.3**
	0.9nm,0.4s,mb3.8,baz=94,slow=7.4,SNR=20						
ASPA	**Alice Springs**	**42.31**	**261**	*e*P	**P**	**01 54 17.3**	**+0.2**
WB2	**Warramunga Arr**	**42.71**	**266**	*e*P	**P**	**01 54 20.4**	**0.0**
WRA	**Warramunga Arr**	**42.72**	**266**	P	**P**	**01 54 20.6**	**+0.1**
	2.3nm,0.4s,mb4.2,baz=104,slow=8.0,SNR=13						
TXAR	**Lajitas Array**	**90.36**	**58**	P	**P**	**01 59 24.1**	**0.0**
	0.1nm,0.4s,mb3.5,baz=207,slow=5.6,SNR=3.9						

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*RSPR **28** 02:07:48.6, 19.02N×68.51W, h179^{km}±2^{km}, MD3.6/12, MD3.6/12*

*NEIC **28** 02:07:48.6, 19.02N×68.51W, h179^{km}, MD3.7(RSPR), After RSPR.*

ISC 28 02:07:48.3±1.5**, 18.9N**±0.5×**68.6W**±0.1**, h178^{km}**±24^{km}**, n14, σ0^{s}36**/25**, 8C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPR	**Mayaguez**	**1.54**	**116**⇓	*e*P	**P**	**02 08 21.0**	**+0.2**
MPR				*e*S	**S**	**02 08 46.0**	**+0.1**
LSP	**Las Mesas**	**1.60**	**116**⇑	*i*P	**P**	**02 08 21.3**	**-0.1**
LSP				*e*S	**S**	**02 08 46.4**	**-0.6**
LRS	**Lares**	**1.76**	**110**⇑	*e*P	**P**	**02 08 23.5**	**+0.5**
LRS				*e*S	**S**	**02 08 50.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.83**	**107**⇓	*i*P	**P**	**02 08 23.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.83**	**107**	*e*S	**S**	**02 08 51.2**	**+0.1**
PORP	**Portuguez**	**2.03**	**114**⇓	*e*P	**P**	**02 08 25.9**	**-0.1**
PORP				*e*S	**S**	**02 08 55.1**	**+0.1**
CELP	**Cerrillos**	**2.08**	**113**⇑	*e*P	**P**	**02 08 26.5**	**+0.1**
CELP				*e*S	**S**	**02 08 56.0**	**+0.1**
CSB	**Colonia Sabana**	**2.38**	**104**⇑	*i*P	**P**	**02 08 29.6**	**-0.5**
CSB				*e*S	**S**	**02 09 01.6**	**-0.6**
SJG	**San Juan**	**2.44**	**108**⇑	*e*P	**P**	**02 08 30.6**	**-0.1**
SJG	**San Juan**	**2.44**	**108**⇑	*e*P	**P**	**02 08 30.3**	**-0.5**
SJG				*e*S	**S**	**02 09 03.4**	**0.0**
CBYP	**Canovanas**	**2.67**	**103**⇑	*i*P	**P**	**02 08 33.1**	**-0.3**
CBYP				*e*S	**S**	**02 09 08.2**	**+0.1**
CPD	**Cerro la Pandu**	**2.68**	**108**⇑	*e*P	**P**	**02 08 33.5**	**0.0**
CPD				*e*S	**S**	**02 09 08.1**	**-0.2**
HUMP	**Col San Antoni**	**2.71**	**106**⇓	*i*P	**P**	**02 08 33.7**	**-0.1**
HUMP				*e*S	**S**	**02 09 08.5**	**-0.4**
MTP	**Monte Pirata**	**2.99**	**105**⇑	*e*P	**P**	**02 08 37.6**	**+0.4**
MTP				*e*S	**S**	**02 09 16.0**	**+1.1**

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*IDC **28** 02:10:05.6±1.6, 4.88S×142.99E, mb3.6/3, mb1 3.9/4, mb1mx3.6/11, ML3.6/1, Error ellipse: s-maj=95.8km s-min=28.3km az=123.0*

ISC 28 02:10:08.9±1.5**, 5.8S**±0.3×**144.5E**±0.3**, h33^{km}, n7, σ0^{s}60**/7**, mb3.8**/2**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**13.81**	**239**	*e*P	**P**	**02 13 24.6**	**-0.2**
	50nm,1.9s						
WB2	**Warramunga Arr**	**17.22**	**214**	*e*P	**P**	**02 14 09.4**	**+0.8**
WRA	**Warramunga Arr**	**17.23**	**214**	P	**P**	**02 14 08.9**	**+0.2**
	0.2nm,0.3s,baz=31,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**20.53**	**209**	P	**P**	**02 14 46.1**	**-1.0**
	0.3nm,0.4s,baz=35,slow=12,SNR=5.1						
ASAR				ScP		02 22 35.3	
	0.4nm,0.8s,baz=10.0,slow=4.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**22.15**	**235**	*e*P	**P**	**02 14 56.6**	**-6.9**
	3.5nm,2.0s,mb3.4						
FITZ	**Fitzroy Crossi**	**22.15**	**235**	P	**P**	**02 14 55.4**	**-8.1**
	1.0nm,0.3s,mb3.7,baz=31,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**86.24**	**24**	P	**P**	**02 22 48.1**	**+0.1**
	1.0nm,0.9s,mb4.0,baz=243,slow=5.3,SNR=6.3						

KRSC 28 02:10:47.7±0.8**, 49.20N**×**156.28E, h31^{km}**±8^{km}**, ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.49**	**356**	*e*S	Sn	02 11 31.4	+0.1
ALID	**Alaid**	**1.74**	**345**	*e*P	Pn	02 11 17.0	+0.7
ALID				*e*S	Sn	02 11 38.1	+0.5
PAU	**Pauzhetka**	**2.29**	**8**	*e*P	Pn	02 11 24.2	-0.1
PAU				*e*S	Sn	02 11 50.2	-1.6
PAU				Smax			
	240nm,0.5s						
MIPR	**Malaya Ipel'ka**	**3.10**	**5**	*e*P	Pn	02 11 36.6	+0.9
GRL	**Gorelyy**	**3.54**	**18**	*e*P	Pn	02 11 42.7	+0.7
GRL				*e*S	Sn	02 12 22.6	-0.8
PET	**Petropavlovsk**	**4.11**	**20**	*e*P	Pn	02 11 50.7	+0.6
PET				*e*S	Sn	02 12 37.3	-0.5
UGLR	**Uglovaya**	**4.32**	**21**	*e*P	Pn	02 11 53.1	0.0
AVH	**Avacha**	**4.35**	**20**	*e*P	Pn	02 11 54.8	+1.3
AVH				*e*S	Sn	02 12 43.3	-0.6
KOK	**Koryaka**	**4.36**	**19**	*e*P	Pn	02 11 54.5	+0.9
SDLR	**Sedlovina**	**4.40**	**21**	*e*P	Pn	02 11 54.0	-0.2
SPN	**Mys Shipunski**	**4.56**	**30**	*e*P	Pn	02 11 55.8	-0.7
SPN				*e*S	Sn	02 12 45.7	-3.4
GNL	**Ganaly**	**4.62**	**12**	*e*P	Pn	02 11 57.1	-0.2
MKZ	**Mys Kozlova**	**6.34**	**30**	*e*P	Pn	02 12 21.0	-0.5
MKZ				*e*S	Sn	02 13 30.0	-3.6
KMNR	**Kamenistaya**	**7.00**	**19**	*e*P	Pn	02 12 30.5	-0.3
KBTR	**Krutoberegovo**	**8.06**	**27**	*e*P	P	02 12 46.2	+0.5

TRN 28 02:13:45.4, 13.43N×**59.86W, h27^{km}, MD3.7, MD3.5**(FDF)**, 4C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVV	**Soufriere Volc**	**1.32**	**266**	*e*P	Pn	02 14 09.5	+1.1
SVV				*e*S	Sn	02 14 27.8	+2.6
SVB	**Belmont**	**1.36**	**264**	*e*P	Pn	02 14 09.8	+0.9
SVB				*e*S	Sn	02 14 26.4	+0.2
MVM	**Montagne Vaucl**	**1.51**	**318**⇑	*i*P	Pn	02 14 11.9	+0.9
MVM				*e*S	Sn	02 14 30.9	+1.1
BIM	**Bigot**	**1.60**	**313**⇑	*e*P	Pn	02 14 13.2	+0.9
BIM				*e*S	Sn	02 14 33.1	+0.8
CRM	**Caravelle**	**1.67**	**322**⇑	*e*P	Pn	02 14 14.2	+0.9
FDF	**Fort de France**	**1.80**	**316**⇑	*e*P	Pn	02 14 16.1	+0.9
FDF				*e*S	Sn	02 14 38.5	+1.1
GRW	**Mount Saint Ca**	**2.16**	**235**	*e*P	Pn	02 14 20.2	-0.2
GRW				*e*S	Sn	02 14 47.3	+0.9

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*TIR **28** 02:27:11.8, 42.42N×19.77E*

*PDG **28** 02:27:12.4±0.2, 42.42N×19.78E, h11^{km}±2^{km}*

*NEIC **28** 02:27:12.4, 42.42N×19.78E, h11^{km}, MD2.5(PDG), After PDG.*

ISC 28 02:27:11.7±0.5**, 42.42N**±0.02×**19.81E**±0.03**, h11^{km}**±7^{km}**, n16, σ0^{s}96**/32**, 6C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.20**	**104**	*i* Pg	**Pg**	**02 27 15.5**	**-0.7**
BCI				*i* Sg	**Sg**	**02 27 18.9**	**-0.2**
PVY	**Plav**	**0.22**	**34**⇑	*i*Pg	**Pg**	**02 27 16.3**	**-0.2**
PVY				*e*Sg	**Sg**	**02 27 20.6**	**+0.9**
PUK	**Puka**	**0.38**	**170**	*i* Pg	**Pg**	**02 27 19.1**	**-0.4**
PUK				*i* Sg	**Sg**	**02 27 24.1**	**-0.6**
TTG	**Podgorica**	**0.41**	**272**⇑	*i*Pg	**Pg**	**02 27 19.2**	**-0.9**
TTG				*e*Sg	**Sg**	**02 27 25.9**	**+0.2**
SDA	**Shkodra**	**0.43**	**212**	*i* Pg	**Pg**	**02 27 19.7**	**-0.8**
SDA				*i* Sg	**Sg**	**02 27 26.8**	**+0.4**
IVA	**Berane**	**0.46**	**8**⇑	*i*Pg	**Pg**	**02 27 21.2**	**+0.1**
IVA				*e*Sg	**Sg**	**02 27 28.4**	**+0.9**
ULC	**Ulcinj**	**0.61**	**223**⇑	*i*Pg	**Pg**	**02 27 23.9**	**-0.3**
ULC				*e*Sg	**Sg**	**02 27 33.5**	**+1.1**
BUM	**Brajici-Budva**	**0.68**	**261**⇑	*i*Pg	**Pg**	**02 27 24.7**	**-0.8**
BUM				*e*Sg	**Sg**	**02 27 35.5**	**+0.7**
NKY	**Niksic**	**0.72**	**304**⇑	*i*Pg	**Pg**	**02 27 25.3**	**-0.9**
NKY				*e*Sg	**Sg**	**02 27 36.2**	**+0.3**
QSH	**Qafa e Shtames**	**0.90**	**175**	*i* Pg	**Pg**	**02 27 32.0**	**+2.3**
QSH				*i* Sg	**Sg**	**02 27 45.2**	**+3.5**
PLE	**Pljevlja**	**0.96**	**342**	*e*Pg	**Pg**	**02 27 30.3**	**-0.8**
PLE				*e*Sg	**Sg**	**02 27 44.9**	**+1.0**
HCY	**Herceg Novi**	**0.97**	**272**⇓	*i*Pg	**Pg**	**02 27 30.2**	**-1.0**
HCY				*e*Sg	**Sg**	**02 27 44.5**	**+0.3**
UPM	**Unac-Piva**	**1.03**	**320**	*e*Pg	**Pg**	**02 27 31.4**	**-0.9**
UPM				*e*Sg	**Sg**	**02 27 47.4**	**+1.2**
BRY	**Bratogost**	**1.05**	**298**	*e*Pg	**Pg**	**02 27 31.2**	**-1.6**
BRY				*e*Sg	**Sg**	**02 27 47.0**	**+0.2**
TIR	**Tirane**	**1.07**	**178**	*i* Pg	**Pg**	**02 27 32.4**	**-0.7**
TIR				*i* Sg	**Sg**	**02 27 48.5**	**+1.1**
SKO	**Skopje**	**1.29**	**110**	*e*Pn	**Pn**	**02 27 34.5**	**-1.2**
SKO				*i*		02 27 36.0	
SKO				*i*		02 27 40.5	
SKO				*e*Sn	**Sn**	**02 27 56.0**	**+3.0**

IDC 28 02:32:10.7±1.5**, 21.24S**×**65.66W, h285^{km}**±15^{km}**, mb3.1**/3**, mb1 3.4**/6**, mb1mx3.3**/15**, Error ellipse: s-maj=39.1km s-min=14.1km az=71.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.46**	**334**	P	P	02 33 35.2	+1.6
	4.0nm,0.3s,baz=160,slow=9.7,SNR=188						
LPAZ				S	S	02 34 40.0	+1.4
	1.5nm,0.3s,baz=290,slow=19,SNR=6.9						
CPUP	**Villa Florida**	**9.15**	**125**	P	P	02 34 18.1	-1.2
	0.1nm,0.3s,baz=318,slow=14,SNR=2.8						
PLCA	**Paso Flores**	**19.87**	**191**	P	P	02 36 21.1	-0.7
	0.4nm,0.3s,baz=18,slow=6.4,SNR=6.6						
TXAR	**Lajitas Array**	**62.21**	**323**	P	P	02 42 02.7	-1.7
	0.1nm,0.4s,baz=156,slow=8.9,SNR=3.1						
PDAR	**Pinedale Array**	**75.44**	**328**	P	P	02 43 24.0	-1.2
	0.7nm,0.5s,baz=120,slow=7.3,SNR=7.9						
ULM	**Lac du Bonnet**	**76.03**	**341**	P	P	02 43 26.1	-2.2
	1.3nm,0.7s,baz=135,slow=10.0,SNR=4.7						
SONM	**Songino Array**	**152.71**	**12**	PKPbc	PKPdf	02 51 34.3	+8.4
	0.5nm,0.4s,baz=322,slow=1.4,SNR=6.7						

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*IDC **28** 02:41:37.5±7.0, 24.19S×180.00W, h607^{km}±85^{km}, mb3.4/4, mb1 3.6/5, mb1mx3.3/14, Error ellipse: s-maj=57.5km s-min=25.5km az=22.0*

ISC 28 02:41:35.0±4.4**, 24.1S**±0.2×**180.0E**±0.2**, h584^{km}**±62^{km}**, n14, σ0^{s}45**/11**, mb4.1**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.31**	**189**	P	**P**	**02 44 36.4**	**-0.1**
	0.8nm,0.3s,baz=19,slow=16,SNR=4.2						
URZ				S	**S**	**02 47 02.5**	**-0.2**
	0.3nm,0.3s,baz=319,slow=19,SNR=2.4						
RPZ	**Rata Peaks**	**20.87**	**198**	P	**P**	**02 45 38.8**	**+0.3**
	45nm,1.3s,baz=31,slow=8.6,SNR=4.6						
CTA	**Charters Tower**	**31.43**	**271**	*e*P	**P**	**02 47 11.7**	**+0.5**
	7.1nm,0.4s,mb4.7						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**02 48 37.7**	**+0.3**
	1.5nm,0.5s,mb3.8,baz=94,slow=7.1,SNR=24						
ASPA	**Alice Springs**	**41.95**	**261**	*e*P	**P**	**02 48 37.7**	**+0.3**
WB2	**Warramunga Arr**	**42.33**	**266**	*e*P	**P**	**02 48 40.0**	**-0.4**
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**02 48 40.2**	**-0.3**
	4.4nm,0.3s,mb4.4,baz=103,slow=8.2,SNR=38						
KAKA	**Kakadu**	**46.32**	**275**	*e*P	**P**	**02 49 10.2**	**-1.1**
	4.0nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.76**	**266**	*e*P	**P**	**02 49 44.8**	**+0.5**
	2.3nm,0.7s,mb3.7						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**02 53 37.1**	**0.0**
	0.5nm,0.8s,mb3.5,baz=208,slow=5.3,SNR=6.0						
HFS	**Hagfors**	**142.75**	**349**	PKP	PKPdf	02 59 59.8	-1.9
	1.1nm,0.4s,baz=62,slow=3.0,SNR=15						
AKASG	**Malin Array Be**	**145.12**	**327**	PKPbc	PKPbc	03 00 06.7	-0.3
	0.4nm,0.3s,baz=38,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	PKPdf	03 00 16.4	+5.7
	1.1nm,0.6s,baz=56,slow=4.5,SNR=4.4						
CLL	**Collm**	**151.04**	**343**	P	PKPdf	03 00 24.0	+8.5

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*IDC **28** 02:56:36.6±1.8, 17.57S×177.34W, mb4.1/4, mb1 4.4/4, mb1mx4.0/14, Error ellipse: s-maj=160.0km s-min=30.0km az=156.0*

ISC 28 02:56:48.1±1.5**, 17.3S**±0.7×**177.6W**±0.3**, h100^{km}, n9, σ0^{s}77**/9**, mb4.0**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.27**	**260**	*e*P	**P**	**03 03 31.0**	**+4.3**
	1.7nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**39.57**	**241**	P	**P**	**03 04 11.5**	**+0.5**
	1.5nm,0.4s,mb4.2,baz=88,slow=7.5,SNR=4.7						
WB2	**Warramunga Arr**	**45.45**	**259**	*e*P	**P**	**03 04 59.4**	**+0.3**
WRA	**Warramunga Arr**	**45.47**	**259**	P	**P**	**03 04 59.6**	**+0.4**
	2.0nm,0.4s,mb4.2,baz=97,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**45.66**	**254**	P	**P**	**03 05 00.4**	**-0.3**
	2.7nm,0.6s,mb4.2,baz=88,slow=8.1,SNR=34						
ASPA	**Alice Springs**	**45.67**	**254**	*e*P	**P**	**03 05 00.5**	**-0.2**
KAKA	**Kakadu**	**48.37**	**268**	*e*P	**P**	**03 05 22.8**	**+0.8**
	1.4nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**53.85**	**260**	*e*P	**P**	**03 06 01.5**	**-1.8**
	1.6nm,1.4s,mb3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	85.05	57	P	P	03 09 14.3	+0.1
	0.4nm,0.7s,mb3.5,baz=206,slow=5.3,SNR=5.8						

IDC 28 02:58:19.7±4.6, 12.84N×145.52E, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, Error ellipse: s-maj=206.0km s-min=47.3km az=124.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.38	199	P	P	03 05 08.3	-2.5
	0.9nm,0.6s,baz=24,slow=9.7,SNR=6.2						
ASAR	Alice Springs	38.01	197	P	P	03 05 39.9	-1.6
	0.3nm,0.7s,baz=19,slow=13,SNR=2.7						
STKA	Stephens Creek	44.62	185	P	P	03 06 34.0	-1.7
	4.1nm,1.2s,baz=360,slow=9.2,SNR=3.7						
LPAZ	La Paz	147.28	100	PKPbc	PKPdf	03 18 06.1	+0.5
	1.5nm,0.4s,baz=322,slow=0.1,SNR=5.3						

*LJU **28** 04:04:45.3, 46.44N×12.75E, h7^{km}, ML2.9*
*ROM **28** 04:04:47.9±0.1, 46.39N×12.91E, h5^{km}, MD3.4/4, ML2.7/12, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0*
*NEIC **28** 04:04:47.9, 46.39N×12.91E, h5^{km}, MD3.4(ROM), ML3.2(VIE), ML3.1(LDG), ML2.8(SZGRF), ML2.7(STR), After ROM.*
*LDG **28** 04:04:49.7±0.1, 46.36N×13.05E, h10^{km}, Ml3.1/24, Error ellipse: s-maj=2.7km s-min=1.6km az=46.0*
*BGR **28** 04:04:51.0±0.8, 46.49N×12.92E, h10^{km}, ML3.3/6, Error ellipse: s-maj=8.9km s-min=6.7km az=94.0*
*STR **28** 04:05:09.2±0.6, 46.97N×11.04E, h10^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 28 04:04:47.0±0.2, 46.41N±0.01×12.82E±0.01, h12^{km}±1^{km}, n137, σ1^{s}15/232, 22C-16D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSM	Casamicciola	0.16	313	⇓*i*Pg	Pg	04 04 52.3	+1.5
CSM				*i* Sg	Sg	04 04 55.1	+1.8
ZOU	Zoufplan	0.18	35	⇓*e*Pg	Pg	04 04 52.4	+1.1
ZOU				*e*Sg	Sg	04 04 55.2	+1.2
FVI	Forni Avoltri	0.19	352	⇓*i*PG	Pg	04 04 52.7	+1.3
MPRI	Monte Prat	0.20	144	⇑*e*Pg	Pg	04 04 51.9	+0.4
MPRI				*e*Sg	Sg	04 04 55.0	+0.4
BOO	Bordano	0.21	114	⇓*i*Pg	Pg	04 04 51.9	+0.2
BOO				*i* Sg	Sg	04 04 55.0	+0.2
PLRO	Paularo	0.27	57	⇑*e*Pg	Pg	04 04 53.4	+0.6
PLRO				*e*Sg	Sg	04 04 57.5	+0.9
BUA	Buia	0.28	132	⇓*e*Pg	Pg	04 04 53.1	+0.1
BUA				*e*Sg	Sg	04 04 58.0	+0.9
MLNI	Malnisio	0.29	210	⇑*e*Pg	Pg	04 04 53.6	+0.4
MLNI				*e*Sg	Sg	04 04 58.9	+1.5
GMNA	Gemona	0.32	114	*e*PG	Pg	04 04 52.8	-0.9
GMNA				SG	Sg	04 04 56.7	-1.4
GMNA	Gemona	0.32	114	*e*Pg	Pg	04 04 52.8	-0.9
GMNA				*e*Sg	Sg	04 04 56.7	-1.4
BAD	Bernadia	0.34	120	⇓*e*Pg	Pg	04 04 53.9	-0.2
BAD				*e*Sg	Sg	04 04 58.6	-0.2
CSO	Casso	0.37	249	⇑*e*Pg	Pg	04 04 55.1	+0.4
PTCC	Patocco-Chiusa	0.37	90	*e*PG	Pg	04 04 54.7	0.0
PTCC				SG	Sg	04 05 00.6	+0.8
	197nm,0.3s						
PTCC	Patocco-Chiusa	0.37	90	*e*Pg	Pg	04 04 54.7	0.0
PTCC				*e*Sg	Sg	04 05 00.6	+0.8
COLI	Coloredo	0.47	125	⇓*e*Pg	Pg	04 04 56.3	-0.4
COLI				*e*Sg	Sg	04 05 04.2	+1.0
CAE	Caneva	0.48	214	⇑*e*Pg	Pg	04 04 57.1	+0.3
CAE				*e*Sg	Sg	04 05 05.5	+2.1
LSR	Lussari	0.49	82	⇓*e*Pg	Pg	04 04 56.9	-0.2
LSR				*e*Sg	Sg	04 05 04.6	+0.7
ROBS	Robic	0.50	108	*e*Pg	Pg	04 04 56.4	-0.9
TLI	Talmassons	0.52	158	⇑*e*Pg	Pg	04 04 57.6	0.0
FAU	Forcella Aurin	0.61	254	⇑*e*Pg	Pg	04 04 59.5	+0.1
FAU				*e*Sg	Sg	04 05 09.1	+1.6
DRE	Drenchia	0.62	112	⇑*e*Pg	Pg	04 04 58.6	-0.9
DRE				*e*Sg	Sg	04 05 08.5	+0.7
CADS	Cadrg	0.66	105	*i* Pg	Pg	04 04 59.3	-1.1
CADS				*e*Sg	Sg	04 05 09.5	+0.3
KBA	Koelnbreinsper	0.76	28	⇓*i*PG	Pg	04 05 02.8	+0.4
KBA				*i* SG	Sg	04 05 12.1	-0.6
	269nm,0.2s						
VOY	Vojsko	0.83	116	*e*Pg	Pg	04 05 02.6	-1.2
VOY				*e*Sg	Sg	04 05 15.5	+0.5
CGRP	Cima Grappa	0.88	234	⇑*e*Pg	Pg	04 05 05.4	+0.7
CTI	Castel Tesino	0.89	247	*e*PG	Pg	04 05 05.6	+0.7
CTI				SG	Sg	04 05 21.0	+4.2
	379nm,0.3s						
CTI	Castel Tesino	0.89	247	*e*Pg	Pg	04 05 05.6	+0.7
CTI				*e*Sg	Sg	04 05 21.0	+4.2
IESO	Jesolo	0.91	192	⇑*e*Pg	Pg	04 05 05.9	+0.7
TRI	Trieste	0.96	136	*e*PG	Pg	04 05 05.3	-1.0
TRI				SG	Sg	04 05 20.7	+1.6
	282nm,0.2s						
TRI	Trieste	0.96	136	*e*Pg	Pg	04 05 05.3	-1.0
TRI				*e*Sg	Sg	04 05 20.7	+1.6
SCE	Schlegeis	0.99	310	⇓*i*Pg	Pg	04 05 07.4	+0.5
SCE				*i* Sg	Sg	04 05 20.7	+0.5
JAVS	Javornik	1.00	120	*e*Pg	Pg	04 05 05.5	-1.7
JAVS				*e*Sg	Sg	04 05 20.1	-0.6
WTTA	Wattenberg	1.18	317	⇑*i*PG	Pg	04 05 11.0	+0.3
WTTA				*i* SG	Sg	04 05 27.0	+0.5
	78nm,0.3s						
OBKA	Obir	1.20	84	⇑*i*PG	Pg	04 05 09.9	-1.2
OBKA				*i* SG	Sg	04 05 25.2	-1.9
	52nm,0.3s						
LJU	Ljubljana	1.24	106	*e*Pg	Pg	04 05 10.6	-1.3
LJU				*e*Sg	Sg	04 05 29.2	+0.8
	comp=Z,258nm,0.1s						
LJU	Ljubljana	1.24	106	*e*Pg	Pg	04 05 10.4	-1.5
LJU				*e*Pg	Pg	04 05 10.6	-1.3
LJU				*i* Sg	Sg	04 05 27.8	-0.6
LJU				*e*Sg	Sg	04 05 29.2	+0.8
BGLD	Berchtesgaden	1.25	6	⇓*i*Pg	Pg	04 05 11.9	-0.2
BGLD				*i* Sg	Sg	04 05 28.7	-0.2
WATA	Walderalm	1.26	318	⇑*i*PG	Pg	04 05 12.4	+0.1
WATA				*i* SG	Sg	04 05 29.8	+0.6
	comp=Z,51nm,0.2s						
CEY	Cerknica	1.30	120	*e*Pg	Pg	04 05 11.2	-1.9
CEY				*e*Sg	Sg	04 05 30.9	+0.4
TEOL	Teolo	1.32	218	⇑*e*Pg	Pg	04 05 12.3	-1.1
TEOL				*e*Sg	Sg	04 05 30.4	-0.6
OGA	Obergurgl	1.32	291	⇓*i*Pg	Pg	04 05 13.3	-0.2
RMOA	Moar Alm	1.36	1	*e*Pg	Pg	04 05 14.0	-0.2
SQTA	Sankt Quirin	1.38	307	⇑*i*PG	Pg	04 05 14.2	-0.3
SQTA				*i* SG	Sg	04 05 33.2	+0.3
	comp=Z,36nm,0.2s						
KNDS	Knezji Dol	1.40	128	*i* Pg	Pg	04 05 13.6	-1.4
	comp=Z,100nm,0.1s						
MOTA	Moosalm	1.51	309	⇑*i*PG	Pg	04 05 16.7	-0.5
MOTA				*i* SG	Sg	04 05 37.3	0.0
	comp=Z,30nm,0.2s						
VISS	Visnje	1.53	112	⇓*i*Pg	Pg	04 05 15.6	-2.0
VISS				*i* Sg	Sg	04 05 36.5	-1.5
	comp=Z,79nm,0.1s						
PDKS	Podkum	1.55	101	*i* Pg	Pg	04 05 15.7	-2.2
	comp=Z,76nm,0.2s						
PERS	Pernice	1.60	81	*i* Pg	Pg	04 05 17.0	-2.1
PERS	Pernice	1.60	81	*i* Pn	Pn	04 05 16.8	+1.3
PERS				*i* Pg	Pg	04 05 17.0	-2.1
MABI	Malga Bissina	1.64	258	*e*PN	Pn	04 05 18.3	+2.4
MABI				SN	Sn	04 05 40.9	+3.8
MABI	Malga Bissina	1.64	258	*e*Pg	Pg	04 05 18.3	-1.5
MABI				*e*Sg	Sg	04 05 40.9	-0.8
BRMO	Bormio	1.69	273	*e*PN	Pn	04 05 19.8	+3.1
BRMO				SN	Sn	04 05 42.5	+4.0
	comp=Z,40nm,0.3s						
BRMO	Bormio	1.69	273	*e*Pg	Pg	04 05 19.8	-1.1
BRMO				*e*Sg	Sg	04 05 42.5	-1.0
MOA	Molln	1.75	34	⇑*i*PG	Pg	04 05 20.2	-1.8
MOA				*i* SG	Sg	04 05 44.4	-1.0
	comp=Z,19nm,0.3s						
SAL	Salo	1.79	244	*e*PN	Pn	04 05 20.9	+2.8
	comp=Z,232nm,0.5s						
SAL	Salo	1.79	244	*e*Pg	Pg	04 05 20.9	-1.8
LEGS	Legarje	1.79	104	*i* Pn	Pn	04 05 19.0	+0.8
DOBS	Dobrina	1.85	97	*i* Pn	Pn	04 05 19.8	+0.7
BOJS	Bojanci	1.92	117	*e*Pn	Pn	04 05 21.1	+1.1
	comp=Z,70nm,0.2s						
CRES	Cresnjevec ost	1.92	107	*i* Pn	Pn	04 05 20.6	+0.6
	comp=Z,22nm,0.1s						
VBY	Vinica-Bojanci	1.92	117	*e*	Pn	04 05 22.3	+2.3
VBY				*e*Sn	Sn	04 05 46.5	+2.2
GOLS	Golise	1.99	100	*i* Pn	Pn	04 05 21.6	+0.7
OBER	Oberstdorf	2.00	301	*e*Pn	Pn	04 05 24.9	+3.8
GCIS	Gornji Cirnik	2.01	105	*i* Pn	Pn	04 05 22.9	+1.6
ARSA	Arzberg	2.04	65	⇑*i*PG	Pg	04 05 22.8	-5.0
ARSA				*i* SG	Sg	04 05 50.6	-4.4
	comp=Z,21nm,0.5s						
FUR	Furstenfeldbru	2.05	330	*e*Pn	Pn	04 05 24.5	+2.7
	SNR=9.0						
FUR				*e*Sg	Sg	04 05 55.0	-0.3
FUR	Furstenfeldbru	2.05	330	⇑*i*Pn	Pn	04 05 24.6	+2.8
GEC2	GERESS Array S	2.51	13	*e*Pn	Pn	04 05 29.6	+1.1
	SNR=16						
GEC2				*e*Sg	Sg	04 06 07.7	-3.1
GEC2	GERESS Array S	2.51	13	*e*Pn	Pn	04 05 29.6	+1.1
SEI	Scarperia	2.57	204	*e*PN	Pn	04 05 30.4	+1.1
	comp=Z,46nm,0.3s						
SFI	Santa Sofia	2.59	196	*e*PN	Pn	04 05 30.3	+0.7
	comp=Z,22nm,0.5s						
PGD	Poggio Sodo	2.65	197	*e*PN	Pn	04 05 30.8	+0.4
	comp=Z,10.0nm,0.4s						
FSSB	Fossombrone	2.71	181	*e*PN	Pn	04 05 31.4	+0.1
	comp=Z,24nm,0.3s						
WET	Wettzell	2.74	1	*e*Pn	Pn	04 05 32.7	+1.0
	SNR=41						
WET				*e*(Sn)	Sn	04 06 06.1	+1.0
WET				*e*Sg	Sg	04 06 15.4	-3.0
WET	Wettzell	2.74	1	⇑*i*Pn	Pn	04 05 32.8	+1.1
NORI	Noerdlinger Ri	2.75	328	⇑*i*Pn	Pn	04 05 33.1	+1.2
KHC	Kasperske Hory	2.77	10	*e*PN	Pn	04 05 33.3	+1.1
KHC				*e*PG	Pg	04 05 39.5	-3.0
KHC				*e*SN	Sn	04 06 07.6	+1.6
KHC				*e*SG	Sg	04 06 15.6	-3.9
CRE	Caprese Michel	2.85	193	*e*PN	Pn	04 05 34.9	+1.6
	comp=Z,14nm,0.5s						
ARV	Arcevia	2.91	178	*e*PN	Pn	04 05 33.9	-0.2
	comp=Z,9.0nm,0.4s						
PII	Pisa	3.14	212	*e*PN	Pn	04 05 37.1	-0.3
	comp=Z,17nm,0.2s						
MURB	Monte Urbino	3.15	184	*e*PN	Pn	04 05 38.4	+0.9
ASS	Assisi	3.34	182	*e*PN	Pn	04 05 41.1	+0.8
	comp=Z,5.0nm,0.4s						
ROTZ	Rotzenmuhle	3.39	353	⇓*i*Pn	Pn	04 05 41.0	+0.1
GRA1	Grafenberg Arr	3.46	343	*e*Pn	Pn	04 05 42.2	+0.3
GRA1				*e*Sn	Sn	04 06 23.9	+0.6
GRF	Grafenberg Arr	3.46	343	*e*Pn	Pn	04 05 43.0	+1.0
	SNR=2.7						
GRF				*e*Pg	Pg	04 05 53.9	-2.2
GRF				*e*(Sn)	Sn	04 06 24.0	+0.7
GRF				*e*Sg	Sg	04 06 39.1	-3.1
NRCA	Norcia	3.58	177	*e*PN	Pn	04 05 43.1	-0.5
MGBB	Grossbuechelbe	3.59	354	⇑*i*Pn	Pn	04 05 44.6	+0.8
MGBB				*i* Sn	Sn	04 06 26.5	-0.1
FELD	Feldberg	3.60	296	Pn	Pn	04 05 45.4	+1.5
BFO	Black Forest	3.61	304	*e*Pn	Pn	04 05 45.6	+1.6
	SNR=9.7						
BFO				*e*(Sn)	Sn	04 06 27.5	+0.5
MANZ	Manzenberg	3.62	353	⇓*i*Pn	Pn	04 05 44.7	+0.6
PRU	Pruhonice	3.77	17	*e*PN	Pn	04 05 46.6	+0.3
PRU				*e*SN	Sn	04 06 29.8	-1.2
PRU				*e*		04 06 46.7	
TERO	Teramo	3.82	171	*e*PN	Pn	04 05 45.9	-1.2
NKC	Novy Kostel	3.84	356	*e*PN	Pn	04 05 47.7	+0.4
NKC				*e*SN	Sn	04 06 33.0	+0.1
NKC				*e*		04 06 50.7	
MNS	Montasola	4.02	181	*e*PN	Pn	04 05 49.0	-0.9
	comp=Z,6.0nm,0.5s						
MOF	Molkenrain	4.14	292	Pn	Pn	04 05 53.0	+1.4
MOF				Sg	Sn	04 06 41.5	+0.9
LOMF	Lomont	4.22	285	Pn	Pn	04 05 53.0	+0.3
WLS	Welschbruch	4.22	300	Pn	Pn	04 05 53.9	+1.2
WLS				Sg	Sn	04 06 43.4	+0.8
ECH	Echery	4.26	297	Pn	Pn	04 05 53.9	+0.7
ECH				Sg	Sn	04 06 43.9	+0.4
CDF	Champ du Feu	4.27	300	*e*Pn	Pn	04 05 54.8	+1.4
CDF				*e*Pg	Pg	04 06 09.5	-2.7
CDF				*e*Sn	Sn	04 06 43.7	0.0
	comp=Z,8.7nm,0.3s						
PVCC	Panska Ves	4.29	15	*e*PN	Pn	04 05 53.6	-0.1
HINF	Hinteralfeld	4.31	291	*e*Pn	Pn	04 05 54.8	+0.8
HINF				*e*Sn	Sn	04 06 44.9	0.0
	comp=Z,15nm,0.3s						
MOX	Moxa	4.32	350	*e*Pn	Pn	04 05 54.1	0.0
	SNR=11						
MOX				*e*(Sn)	Sn	04 06 43.4	-1.6
MOX				*e*Sg	Sg	04 07 05.4	-5.4
MOX	Moxa	4.32	350	*i* P	Pn	04 05 54.1	0.0
MOX				S	Sn	04 06 43.0	-2.0
MOX				Sg	Sg	04 07 06.0	-4.8
LPG	La Plagne	4.33	260	*e*Pn	Pn	04 05 56.3	+2.0
LPG				*e*Sn	Sn	04 06 45.1	-0.2
	comp=Z,9.8nm,0.7s						
LPL	La Plagne	4.34	260	*e*Pn	Pn	04 05 56.2	+1.8
LPL				*e*Sn	Sn	04 06 45.6	+0.1
	comp=Z,6.3nm,0.5s						
HROE	Hohe Rhon--Fla	4.50	338	⇓*i*Pn	Pn	04 05 56.5	-0.2
BRG	Berggiesshubel	4.53	9	*e*Pn	Pn	04 05 56.7	-0.5
BRG				*i*		04 06 12.3	
BRG				*i* Sg	Sg	04 07 09.7	-8.3
MBDF	Montbardon	4.57	251	*e*Pn	Pn	04 05 57.7	0.0
MBDF				*e*Sn	Sn	04 06 49.8	-1.5
	comp=Z,3.0nm,0.4s						
SBF	Sospel	4.58	238	*e*Pn	Pn	04 05 58.2	+0.4
SBF				*e*Sn	Sn	04 06 50.3	-1.4
	comp=Z,13nm,0.3s						
DPC	Dobruska-Polom	4.58	29	*e*PN	Pn	04 05 56.7	-1.2
UPC	Upice	4.62	26	*e*PN	Pn	04 05 58.8	+0.4
UPC				*e*		04 07 13.0	
CABF	La Chapelle	4.65	275	*e*Pn	Pn	04 05 59.9	+1.0
CABF				*e*Sn	Sn	04 06 52.6	-0.9
	comp=Z,3.3nm,0.4s						
HAU	Haudompre	4.69	292	*e*Pn	Pn	04 06 00.0	+0.6
HAU				*e*Sn	Sn	04 06 53.7	-0.8
	comp=Z,20nm,0.4s						
PGF	Pioggiola	4.73	217	*e*Pn	Pn	04 05 58.9	-1.0
PGF				*e*Sn	Sn	04 06 52.3	-3.1
	comp=Z,2.1nm,0.2s						
CLL	Collm	4.91	1	*i* PN	Pn	04 06 02.2	-0.3
	comp=Z,logA/T=1.1						
CLL				*e*SG	Sg	04 07 26.0	-4.5
CLL	Collm	4.91	1	*i* Pn	Pn	04 06 02.2	-0.3
CLL				*e*Sg	Sg	04 07 22.0	-8.5
ORIF	Oris-en-Rattie	5.09	256	*e*Pn	Pn	04 06 06.7	+1.7
ORIF				*e*Sn	Sn	04 07 03.3	-1.1
	comp=Z,4.6nm,0.4s						
FRF	La Foret Royal	5.22	239	*e*Pn	Pn	04 06 05.8	-1.1
FRF				*e*Sn	Sn	04 07 04.4	-3.4
	comp=Z,2.2nm,0.2s						
LMR	La Mourre	5.43	238	*e*Pn	Pn	04 06 08.7	-1.2
LMR				*e*Sn	Sn	04 07 08.1	-5.1
	comp=Z,2.5nm,0.3s						
SMRF	Simiane la Rot	5.67	247	*e*Pn	Pn	04 06 14.6	+1.4
SMRF				*e*Sn	Sn	04 07 17.5	-1.5
	comp=Z,2.1nm,0.3s						
VIVF	Saint-Julien-l	5.92	258	*e*Pn	Pn	04 06 16.0	-0.8
SMF	Signal de Mont	6.20	275	*e*Pn	Pn	04 06 20.5	-0.2
SMF				*e*Sn	Sn	04 07 30.1	-2.2
	comp=Z,2.2nm,0.3s						
LOR	Lormes	6.21	281	*e*Pn	Pn	04 06 21.3	+0.5
LOR				*e*Sn	Sn	04 07 29.3	-3.2
	comp=Z,4.7nm,0.3s						
SSF	Saint Saulge	6.44	279	*e*Pn	Pn	04 06 23.5	-0.6
SSF				*e*Pg	Pg	04 06 51.4	-4.1
SSF				*e*Sn	Sn	04 07 35.6	-2.6
	comp=Z,1.2nm,0.3s						
GIVF	Givet	6.49	308	*e*Pn	Pn	04 06 25.5	+0.6
AVF	Avril sur Loir	6.54	277	*e*Pn	Pn	04 06 25.1	-0.4
LASF	Ste Croix	6.74	253	*e*Pn	Pn	04 06 27.5	-0.9
LASF				*e*Sn	Sn	04 07 43.6	-2.3
	comp=Z,2.1nm,0.4s						
BAIF	Baives	6.81	306	*e*Pn	Pn	04 06 30.9	+1.5
BAIF				*e*Sn	Sn	04 07 44.3	-3.4
	comp=Z,2.4nm,0.5s						
BGF	Bois d'Agland	6.89	275	*e*Pn	Pn	04 06 29.8	-0.6
BGF				*e*Sn	Sn	04 07 46.6	-2.9
	comp=Z,8.5nm,0.4s						
HYF	Humbligny	7.04	281	*e*Pn	Pn	04 06 32.8	+0.3
TCF	Toulx Ste Croi	7.34	273	*e*Pn	Pn	04 06 36.1	-0.7
TCF				*e*Sn	Sn	04 07 57.4	-3.6
	comp=Z,1.3nm,0.3s						
CAF	Calviac	7.68	263	*e*Pn	Pn	04 06 39.9	-1.6
MFF	Saint Martin d	8.95	276	*e*Pn	P	04 06 58.9	-0.2
FLN	La Foliniere	9.30	290	*e*Pn	P	04 07 03.6	-0.3
GRR	Gorron	9.49	287	*e*Pn	P	04 07 06.1	-0.5
SGMF	Saint Gilles	10.60	286	*e*Pn	P	04 07 21.7	-0.1
SGMF				*e*Sn	S	04 09 14.9	-6.7
	comp=Z,2.9nm,0.6s						
QUIF	Quistinic	10.99	284	*e*Pn	P	04 07 26.7	-0.5

KRSC 28 04:08:55.4±0.8, 49.43N×156.10E, h30^{km}±18^{km}, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.25	0	*e*P	Pn	04 09 15.5	-1.7
SKR				*e*S	Sn	04 09 30.1	-3.0
ALID	Alaid	1.48	346	*e*P	Pn	04 09 21.0	+0.6
ALID				*e*S	Sn	04 09 39.5	+0.5
PAU	Pauzhetka	2.09	12	*e*P	Pn	04 09 29.8	+0.7
PAU				*e*S	Sn	04 09 54.3	-0.1
PAU				Smax			
	200nm,0.4s						
GRL	Gorelyy	3.37	21	*e*P	Pn	04 09 48.0	+0.7
GRL				*e*S	Sn	04 10 26.2	-0.5
RUS	Russkaya	3.37	26	*e*P	Pn	04 09 47.4	0.0
RUS				*e*S	Sn	04 10 25.2	-1.7
UGLR	Uglovaya	4.15	23	*e*P	Pn	04 09 59.2	+0.7
AVH	Avacha	4.18	22	*e*P	Pn	04 10 00.4	+1.5
AVH				*e*S	Sn	04 10 47.9	+0.5
KOK	Koryaka	4.18	21	*e*P	Pn	04 10 01.0	+2.1
SDLR	Sedlovina	4.23	23	*e*P	Pn	04 09 59.7	+0.1
SPN	Mys Shipunski	4.42	32	*e*P	Pn	04 10 01.6	-0.7
SPN				*e*S	Sn	04 10 51.1	-2.4
GNL	Ganaly	4.42	14	*e*P	Pn	04 10 04.2	+1.9
KBTR	Krutoberegovo	7.91	28	*e*P	Pn	04 10 50.9	-0.5

*IDC **28** 04:13:24.9±2.0, 5.65S×153.82E, mb3.7/6, mb1 3.9/6, mb1mx3.8/13, MS3.4/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=59.3km s-min=27.5km az=108.0*
ISC 28 04:13:29.0±4.6, 5.6S±0.3×153.6E±0.8, h33^{km}, n6, σ0^{s}52/6, mb3.6/6, MS3.4/1, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.55	231	P	P	04 18 38.1	+0.6
	0.2nm,0.3s,mb3.0,baz=58,slow=9.0,SNR=4.7						
WRA				PcP	PcP	04 22 23.2	-0.8
	0.6nm,0.4s,baz=59,slow=2.5,SNR=9.2						
ASAR	Alice Springs	26.13	225	P	P	04 19 01.9	-0.2
	0.4nm,0.5s,mb3.2,baz=54,slow=9.0,SNR=5.5						
ASAR				PcP	PcP	04 22 28.9	-0.6
	0.5nm,0.5s,baz=65,slow=2.3,SNR=9.5						
FITZ	Fitzroy Crossi	30.02	243	P	P	04 19 36.6	-0.6
	1.6nm,0.6s,mb3.9,baz=72,slow=6.4,SNR=4.0						
CMAR	Chiang Mai Arr	58.99	295	P	P	04 23 28.4	+0.2
	3.4nm,1.1s,mb4.3,baz=106,slow=6.1,SNR=4.7						
CMAR				LR	LR	04 47 21.4	
	comp=Z,31nm,19.4s,MS3.4,baz=210,slow=34						
SONM	Songino Array	67.47	328	P	P	04 24 23.6	-0.1
	0.3nm,0.5s,mb3.6,baz=152,slow=6.7,SNR=3.0						
MKAR	Makanchi Array	81.50	319	P	P	04 25 44.7	0.0
	0.5nm,0.5s,mb3.7,baz=88,slow=7.1,SNR=5.9						

*IDC **28** 04:32:09.2±1.9, 31.13N×57.38E, mb3.8/8, mb1 4.1/9, mb1mx3.9/21, ML3.8/1, Error ellipse: s-maj=48.6km s-min=19.1km az=7.0*
*NEIC **28** 04:32:10.8±1.2, 31.14N×57.40E, h10^{km}, mb4.2/1, Error ellipse: s-maj=28.6km s-min=9.4km az=178.0*
*THR **28** 04:32:12.3±0.9, 30.99N×57.58E, h14^{km}±18^{km}, ML3.9*
ISC 28 04:32:07.7±0.7, 30.87N±0.07×57.40E±0.06, h10^{km}, n22, σ1^{s}22/24, mb3.7/9, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZHSF	Zahedan	3.17	112	*e*SG	Sg	04 33 48.6	-4.9
ZHSF				AMP		04 34 02.8	
	comp=E,178nm,0.7s						
NASN	Na'in	4.36	297	*e*PN	Pn	04 33 22.4	+6.8
NASN				AMP		04 34 34.2	
	comp=N,286nm,0.6s						
GHIR	Ghir-Karzin	4.63	237	*e*PN	Pn	04 33 26.8	+7.4
GHIR				*e*SG	Sg	04 34 41.4	-0.4
GHIR				AMP		04 35 08.6	
	comp=N,62nm,0.7s						
DAMV	Damavand	6.58	318	*e*PN	Pn	04 33 51.1	+4.2
ASAO	Ashtian	7.22	302	*e*PN	Pn	04 34 01.1	+5.1
THKV	Tehran--Karaj	7.42	314	*e*PN	Pn	04 34 02.3	+3.5
THKV				SN	Sn	04 35 23.6	-0.3
MALT	Malatya	17.28	301	*e*P	P	04 36 11.3	+0.6
ASF	Jabal al Asfar	17.54	280	P	P	04 36 15.7	+1.8
	comp=N,0.3nm,0.3s,baz=332,slow=8.4,SNR=6.0						
AAK	Ala-Archa	18.00	45	*e*P	P	04 36 18.7	-0.9
BRTR	Keskin Array B	21.27	301	P	P	04 36 54.9	-1.5
	comp=N,6.1nm,0.9s,mb3.9,baz=119,slow=13,SNR=19						
BVAR	Borovoye Array	24.08	19	P	P	04 37 24.0	0.0
	comp=N,2.9nm,0.9s,mb3.7,baz=202,slow=8.0,SNR=11						
MKAR	Makanchi Array	24.92	43	P	P	04 37 32.3	0.0
	comp=N,0.6nm,0.7s,mb3.2,baz=240,slow=9.8,SNR=4.5						
KURK	Kurchatov	25.36	32	*e*P	P	04 37 36.7	+0.4
	comp=N,7.0nm,1.1s,mb4.1						
MLR	Muntele Rosu	28.50	310	P	P	04 38 06.7	+1.5
	comp=N,3.4nm,1.0s,mb4.0,baz=71,slow=19,SNR=3.1						
AKASG	Malin Array Be	28.84	321	P	P	04 38 07.1	-1.0
	comp=N,0.5nm,0.5s,mb3.5,baz=113,slow=7.1,SNR=4.5						
GERES	GERESS Array B	37.45	311	P	P	04 39 21.5	-1.4
	comp=N,2.4nm,0.8s,mb4.1,baz=108,slow=8.4,SNR=21						
KHC	Kasperske Hory	37.59	312	*e*P	P	04 39 22.0	-2.0
CLL	Collm	38.46	315	P	P	04 39 31.0	-0.3
CLL	Collm	38.46	315	*e*P	P	04 39 31.0	-0.3
GRA1	Grafenberg Arr	39.21	312	P	P	04 39 37.9	+0.3
CMAR	Chiang Mai Arr	39.51	98	P	P	04 39 42.0	+1.6
	comp=N,0.8nm,0.3s,mb3.9,baz=293,slow=8.5,SNR=4.1						
SONM	Songino Array	40.77	51	P	P	04 39 50.9	+0.4
	comp=N,0.4nm,0.8s,mb3.1,baz=256,slow=10,SNR=3.9						

*IDC **28** 05:13:45.3±0.7, 21.88S×174.80W, mb4.2/11, mb1 4.5/13, mb1mx4.4/19, ML4.4/2, MS4.2/11, Ms1 4.2/11, ms1mx4.0/25, Error ellipse: s-maj=33.6km s-min=16.8km az=140.0*
*BJI **28** 05:13:52.8, 21.92S×174.84W, h54^{km}, mb4.7*
*NEIC **28** 05:13:52.6±0.4, 21.93S×174.87W, h50^{km}, mb4.6/10, MS4.4/1, Error ellipse: s-maj=13.4km s-min=9.4km az=132.0*
*SYO **28** 05:13:52.5, 21.93S×174.87W, h50^{km}, MB4.6, MS4.4*
ISC 28 05:13:49.2±0.5, 21.91S±0.09×174.9W±0.1, h33^{km}, n55, σ0^{s}96/31, mb4.5/20, MS4.3/11, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.11	90	Pn	P	05 16 54.9	-14
	5.2nm,0.3s,baz=256,slow=10,SNR=7.9						
RAR				Sn	S	05 19 14.3	-31
	5.8nm,0.3s,baz=69,slow=16,SNR=4.0						
RAR				LR	LR	05 20 18.1	
	comp=Z,343nm,19.7s,baz=261,slow=28						
URZ	Urewera	17.68	201	P	P	05 17 54.0	-0.5
	0.4nm,0.3s,baz=298,slow=5.0,SNR=2.3						
TBI	Tubuai	23.53	98	*e*L		05 23 15.0	
TBI				*e*R		05 24 05.1	
	510nm,31.0s,baz=265						
PPT	Papeete	24.23	84	*e*L		05 23 29.0	
PPT				*e*R		05 24 34.5	
	421nm,21.2s,baz=255						
RPZ	Rata Peaks	24.67	205	P	P	05 19 08.0	-0.2
	9.7nm,0.9s,mb4.3,baz=39,slow=8.1,SNR=2.7						
CTA	Charters Tower	36.23	266	*e*P	P	05 20 52.0	+0.8
	4.0nm,0.8s,mb4.4						
CTA	Charters Tower	36.23	266	P	P	05 20 51.4	+0.2
	3.0nm,0.7s,mb4.3,baz=106,slow=17,SNR=5.3						
CTAO	Charters Tower	36.23	266	*e*P	P	05 20 51.3	+0.1
	6.4nm,0.9s,mb4.5						
STKA	Stephens Creek	39.81	246	P	P	05 21 21.9	+0.9
	2.4nm,1.0s,mb3.9,baz=104,slow=11,SNR=3.2						
STKA				LR	LR	05 34 48.1	
	comp=Z,172nm,19.0s,MS3.9,baz=196,slow=32						
STKA	Stephens Creek	39.81	246	P	P	05 21 21.9	+0.9
STKA				LR	LR	05 34 48.1	
ASAR	Alice Springs	47.01	258	P	P	05 22 18.6	-0.9
	4.4nm,0.8s,mb4.4,baz=94,slow=8.2,SNR=35						
ASAR				PcP	PcP	05 23 51.9	+0.1
	1.2nm,0.7s,baz=104,slow=3.7,SNR=4.3						
ASAR				LR	LR	05 40 38.6	
	comp=Z,198nm,20.7s,MS4.1,baz=94,slow=34						

ASPA	Alice Springs	47.02	258	eP	P	05 22 19.4	0.0
WB2	Warramunga Arr	47.26	263	eP	P	05 22 20.8	-0.6
WRA	Warramunga Arr	47.27	263	P	P	05 22 19.6	-1.8
	0.6nm,0.3s,mb4.0,baz=96,slow=8.2,SNR=14						
WRA				PcP	PcP	05 23 53.5	+0.7
	1.8nm,0.8s,baz=92,slow=3.8,SNR=6.0						
WRA				LR	LR	05 42 11.3	
	comp=Z,303nm,18.7s,MS4.3,baz=110,slow=36						
KAKA	Kakadu	50.92	271	eP	P	05 22 48.4	-1.3
	6.0nm,0.9s,mb4.5						
FORT	Forrest	51.40	247	eP	P	05 22 53.1	0.0
	38nm,0.7s,mb5.4						
FITZ	Fitzroy Crossi	55.70	263	eP	P	05 23 24.7	-0.3
	3.6nm,0.9s,mb4.4						
SBA	Scott Base	56.68	185	eP	P	05 23 32.1	+0.8
	4.8nm,0.9s,mb4.5						
QSPA	South Pole Qui	68.17	180	eP	P	05 24 47.5	-0.1
	13nm,1.1s,mb4.9						
QSPA				LR	LR		
	comp=Z,210nm,19.7s,MS4.4						
MAJO	Matsushiro	73.06	322	P	P	05 25 17.1	-1.0
	comp=Z,7.0nm,0.8s,mb4.6						
ASAJ	Asahikawa	76.36	330	LR	LR	05 57 12.2	
	comp=Z,245nm,19.8s,MS4.5,baz=166,slow=34						
NVAR	Mina Array Bea	80.11	42	P	P	05 25 56.7	-0.9
	comp=Z,1.2nm,0.7s,mb4.0,baz=229,slow=9.4,SNR=7.3						
NVAR	Mina Array Bea	80.11	42	P	P	05 25 56.7	-0.9
MAW	Mawson	81.20	199	P	P	05 26 03.3	+0.6
	comp=Z,3.1nm,0.7s,mb4.3,baz=161,slow=7.3,SNR=5.7						
MAW				LR	LR	06 00 38.2	
	comp=Z,232nm,18.1s,MS4.6,baz=237,slow=35						
MDJ	Mudanjiang	83.33	324	P	P	05 26 15.9	+1.7
	comp=Z,3.8nm,0.5s,mb4.7						
MSU	Marysvale	84.05	45	eP	P	05 26 18.1	+0.1
CN2	Changchun	85.18	321	eP	P	05 26 24.8	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
TXAR	Lajitas Array	85.42	56	P	P	05 26 24.1	-0.8
	comp=Z,1.1nm,1.1s,mb3.9,baz=214,slow=4.5,SNR=2.9						
TXAR				LR	LR	05 58 27.4	
	comp=Z,149nm,18.5s,MS4.4,baz=310,slow=31						
SYO	Syowa Base	85.97	192	⇓PcP	PcP	05 26 32.8	+2.9
SYO	Syowa Base	85.97	192	⇓pP	pP	05 26 38.9	+1.6
PLCA	Paso Flores	86.21	132	LR	LR	05 58 49.1	
	comp=Z,203nm,18.5s,MS4.5,baz=197,slow=31						
SNAA	Sanae	86.51	177	eP	P	05 26 30.2	+0.9
PDAR	Pinedale Array	88.04	42	P	P	05 26 36.5	-0.9
	comp=Z,0.6nm,0.9s,mb3.8,slow=3.0,SNR=2.9						
DLBC	Dease Lake	88.25	22	LR	LR	06 03 09.7	
	comp=Z,86nm,18.1s,MS4.2,baz=19,slow=34						
ILAR	Eielson Array	89.07	12	P	P	05 26 41.5	-0.3
	comp=Z,1.0nm,0.8s,mb4.2,baz=224,slow=5.8,SNR=8.5						
ILAR				PKiKP		05 31 42.0	
	comp=Z,0.2nm,0.5s,baz=208,slow=5.1,SNR=4.4						
ENH	Enshi	89.21	303	eP	P	05 26 45.5	+2.2
	comp=Z,12nm,0.8s,mb5.3						
DAWY	Dawson	90.05	15	eP	P	05 26 46.1	-0.3
CMAR	Chiang Mai Arr	93.29	288	P	P	05 27 04.2	+1.8
	comp=Z,7.8nm,0.9s,mb5.1,baz=123,slow=3.2,SNR=23						
YKA	Yellowknife Ar	96.60	24	LR	LR	06 06 24.2	
	comp=Z,82nm,18.4s,MS4.2,baz=235,slow=33						
LPAZ	La Paz	98.87	111	LR	LR	06 07 06.8	
	comp=Z,155nm,18.1s,MS4.5,baz=69,slow=32						
WMQ	Urumqi	110.02	310	ePKP	PKPdf	05 32 19.5	+2.4
MKAR	Makanchi Array	114.26	313	PKiKP		05 32 26.5	
	comp=Z,0.4nm,0.6s,baz=63,slow=5.4,SNR=4.0						
BVAR	Borovoye Array	122.01	320	PKP	PKPdf	05 32 40.9	+0.6
	comp=Z,0.7nm,0.5s,baz=90,slow=1.5,SNR=4.8						
ZRNK	Zerenda	122.85	320	ePKPdf	PKPdf	05 32 42.4	+0.5
AKASG	Malin Array Be	145.61	333	PKPbc	PKPbc	05 33 25.4	+0.8
	comp=Z,2.7nm,0.6s,baz=41,slow=4.2,SNR=11						
MALT	Malatya	147.07	307	ePKPbc	PKPdf	05 33 31.8	+5.0
BRTR	Keskin Array B	149.91	313	PKPbc	PKPdf	05 33 38.0	+6.8
	comp=Z,3.4nm,0.8s,baz=117,slow=2.8,SNR=10.0						
CLL	Collm	150.01	350	ePKP1	PKPdf	05 33 38.0	+6.9
BRG	Berggiesshubel	150.27	349	eP	PKPdf	05 33 38.8	+7.3
PRU	Pruhonice	151.00	347	ePKP1	PKPdf	05 33 40.7	+8.1
GRA1	Grafenberg Arr	151.85	352	ePKP	PKPab	05 33 56.6	+4.8
KHC	Kasperske Hory	152.01	348	ePKP1	PKPdf	05 33 42.5	+8.4
GERES	GERESS Array B	152.26	348	PKPbc	PKPdf	05 33 43.4	+8.9
	comp=Z,1.3nm,0.8s,baz=45,slow=1.9,SNR=9.0						
SSF	Saint Saulge	154.87	3	ePKP1	PKPab	05 34 04.5	-0.1
AVF	Avril sur Loir	155.14	3	ePKP1	PKPab	05 34 02.8	-2.9

IGQ 28 05:34:39.4, 1.30S×80.32W, h12^{km}±7^{km}, mb4.1, 3C-2D, Error ellipse: s-maj=9.1km s-min=4.5km az=130.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOJA	Cerro de Hojas	0.33	318	⇓P	Pg	05 34 45.6	-0.8
QIL1	Quilotoa	1.46	72	P	Pn	05 35 06.1	+0.4
IGUA	Igualata	1.69	96	P	Pn	05 35 10.6	+1.6
ARRY	Arrayan	1.88	96	⇓P	Pn	05 35 13.3	+1.6
ARRY				S	Sn	05 35 39.4	+4.0
RETU	Refugio	1.88	95	P	Pn	05 35 14.3	+2.6
RETU				S	Sn	05 35 41.5	+6.0
PATA	Patacocha	1.90	96	⇑P	Pn	05 35 14.1	+2.1
PISA	Pisayambo	1.95	83	P	Pn	05 35 15.5	+2.8
NAS1	Nasa	1.96	70	P	Pn	05 35 16.4	+3.6
JUA2	San Juan 2	2.03	58	P	Pn	05 35 15.0	+1.3
VC1	Cotopaxi 1	2.03	71	P	Pn	05 35 17.4	+3.6
TAMB	Tambo	2.04	73	⇑P	Pn	05 35 17.4	+3.4
CGGP	Crater GGP	2.05	57	P	Pn	05 35 16.5	+2.4
PINO	Pino	2.05	57	P	Pn	05 35 15.7	+1.6
GGP	Refugio Guagua	2.06	57	P	Pn	05 35 16.0	+1.8
YANA	Yana	2.11	56	P	Pn	05 35 16.4	+1.5
JOR1	San Jorge 1	2.12	53	P	Pn	05 35 14.1	-1.0
ANTI	Antisana	2.32	69	P	Pn	05 35 21.5	+3.5
COTA	Cotacachi	2.56	51	P	Pn	05 35 24.2	+2.8
CAYR	Refugio Cayamb	2.66	61	⇑P	Pn	05 35 27.2	+4.4
CAYA	Cayambe	2.70	60	P	Pn	05 35 28.3	+4.9

JMA ***28*** *05:40:10.6±0.3, 24.76N×122.77E, h93^{km}±3^{km}, M2.2*

TAP ***28*** *05:40:11.6, 24.64N×122.72E, h88^{km}±1^{km}, ML3.2*

ISC 28 05:40:11.2±2.2**, 24.7N**±0.2×**122.8E**±0.1**, h93**^{km}±17^{km}**, n6, σ0^{s}32**/12**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.29	140	P	P	05 40 24.7	-0.2
YOJ				eS	S	05 40 35.6	+0.2
IRIF	Iriomote-Funau	0.91	112	P	P	05 40 30.1	-0.2
IRIF				eS	S	05 40 44.9	+0.3
HATJ	Hateruma jima	1.10	124	P	P	05 40 32.9	+0.3
HATJ				eS	S	05 40 48.4	-0.2
JKRS	Kuro-shima	1.18	112	P	P	05 40 33.7	+0.1
JKRS				eS	S	05 40 50.6	+0.3
JIJ	Ishigaki jima	1.25	104	P	P	05 40 34.2	-0.3
JIJ				eS	S	05 40 51.2	-0.7
JTJ	Tarama	1.72	91	P	P	05 40 40.6	+0.3
JTJ				eS	S	05 41 02.1	+0.2

ISC 28 05:40:31.9±0.8**, 37.33N**±0.04×**37.28E**±0.05**, h1**^{km}±8^{km}**, n7, σ0^{s}62**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	Gaziantep	0.17	199	i PG	Pg	05 40 34.9	-0.4
GAZ				SG	Sg	05 40 38.1	+0.5
GZT	Gaziantep	0.23	85	i P	Pg	05 40 35.8	-0.6
GZT				i S	Sg	05 40 39.8	+0.4
KAHT	Ahir Dag	0.44	312	i P	Pg	05 40 40.8	+0.1
KAHT				i S	Sg	05 40 46.5	0.0
COBT	Iskenderun	1.16	226	i P	Pb	05 40 53.7	-0.7
COBT				i S	Sb	05 41 10.3	+0.5
MALT	Malatya	1.33	43	i P	Pb	05 40 57.6	+0.1
MALT				i S	Sb	05 41 15.8	+0.9
MYA	Malataya	1.34	42	ePN	Pn	05 40 54.0	-3.9
ELZG	Elazig	1.78	49	i P	Pn	05 41 04.7	+0.6
ELZG				i S	Sn	05 41 26.8	-0.9

NEIC ***28*** *05:59:35.8±0.8, 20.79S×67.90W, h166^{km}±10^{km}, Error ellipse: s-maj=19.7km s-min=13.2km az=69.0*

IDC ***28*** *05:59:36.1±7.0, 20.73S×67.85W, h167^{km}±62^{km}, mb3.2/3, mb1 3.4/5, mb1mx3.2/15, Error ellipse: s-maj=139.0km s-min=22.6km az=58.0*

ISC 28 05:59:35.2±1.0**, 20.79S**±0.08×**67.9W**±0.2**, h175**^{km}±11^{km}**, n6, σ0^{s}53**/7**, mb3.3**/3**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.04	207	eP	P	06 00 12.8	0.0
LPAZ	La Paz	4.48	357	P	P	06 00 43.4	+0.3
	0.5nm,0.3s,baz=118,slow=0.1,SNR=5.5						
LPAZ				S	S	06 01 35.4	-0.2
	0.4nm,0.3s,baz=93,slow=3.3,SNR=3.7						
CPUP	Villa Florida	11.16	122	P	P	06 02 10.7	-0.1
	0.2nm,0.3s,baz=322,slow=7.4,SNR=5.2						
TXAR	Lajitas Array	60.59	324	P	P	06 09 28.9	-0.8
	0.4nm,1.0s,mb3.2,baz=144,slow=7.8,SNR=2.9						
PDAR	Pinedale Array	73.97	329	P	P	06 10 53.4	+0.2
	0.2nm,0.6s,mb3.0,baz=140,slow=7.0,SNR=3.5						
YKA	Yellowknife Ar	90.83	340	P	P	06 12 19.9	+0.5
	0.4nm,0.4s,mb3.8,baz=128,slow=4.4,SNR=5.2						

IDC ***28*** *07:12:24.1±33.0, 4.87N×126.21E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, MS4.2/1, Ms1 4.2/1, ms1mx2.8/21, Error ellipse: s-maj=564.0km s-min=112.5km az=145.0*

ISC 28 07:12:26.8±0.7**, 4.72N**±0.05×**125.5E**±0.1**, h33**^{km}**, n12, σ1^{s}26**/12**, mb3.4**/4**, MS4.0**/1**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	2.32	349	⇑eP	P	07 13 04.5	+1.2
KCP				i S	S	07 13 31.9	+1.0
MATI	Mati	2.32	18	eP	S	07 13 30.4	-0.7
BUKP	Musuan	3.17	351	eP	S	07 13 48.3	-4.4
IPIL	Ipil	4.24	316	eP	P	07 13 28.9	-1.9
KAKA	Kakadu	18.60	159	eP	P	07 16 47.6	+3.8
	5.6nm,0.6s						
JOW	Kunigami	22.14	6	LR	LR	07 24 59.8	
	comp=Z,594nm,20.0s,MS4.0,baz=309,slow=34						
FITZ	Fitzroy Crossi	22.68	180	eP	P	07 17 29.5	+2.7
	2.9nm,1.5s,mb3.5						
FITZ	Fitzroy Crossi	22.68	180	P	P	07 17 29.4	+2.7
	1.9nm,0.7s,mb3.7,baz=358,slow=8.6,SNR=19						
WRA	Warramunga Arr	25.99	161	P	P	07 17 57.6	-1.0
	0.4nm,0.5s,mb3.2,baz=339,slow=10,SNR=22						
WB2	Warramunga Arr	25.99	161	eP	P	07 17 58.2	-0.5
ASAR	Alice Springs	29.37	164	P	P	07 18 28.9	-0.3
	0.3nm,0.5s,mb3.3,baz=343,slow=7.0,SNR=5.1						
STKA	Stephens Creek	39.48	158	P	P	07 19 55.8	-0.1
	0.7nm,0.6s,mb3.6,baz=325,slow=12,SNR=3.7						

UCR ***28*** *07:45:00.3, 11.48N×88.83W, h34^{km}, MD5.1*

CASC ***28*** *07:45:03.6±2.2, 12.61N×87.83W, h59^{km}±25^{km}, MD4.7, ML4.7, mb4.9(NEIC)*

INET ***28*** *07:45:03.2, 12.49N×87.86W, h60^{km}, ML5.0*

BJI ***28*** *07:45:03.8, 12.60N×87.80W, h72^{km}, mB4.7, Ms5.1, Msz5.1*

IDC ***28*** *07:45:03.4±0.5, 12.77N×87.57W, h68^{km}±3^{km}, mb4.3/16, mb1 4.5/18, mb1mx4.4/22, MS3.8/21, Ms1 3.8/21, ms1mx3.8/25, Error ellipse: s-maj=17.9km s-min=7.6km az=57.0*

NEIC ***28*** *07:45:03.9±0.2, 12.60N×87.77W, mb4.9/53, MD4.7(SNET), Error ellipse: s-maj=5.3km s-min=3.1km az=222.0*

NEIC Felt at Chinandega. Felt [III] at El Carmen, El Salvador.

HRVD ***28*** *07:45:03.8±0.3, 12.49N×88.10W, h61^{km}±2^{km}, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s31,c37;Mantle waves: s46,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.15±.17; $M_{\theta\theta}$2.42±.12; $M_{\phi\phi}$0.73±.15; $M_{r\theta}$0.87±.09; $M_{\theta\phi}$-1.92±.10; $M_{\phi r}$-1.08±.11; Best double couple: $M_0$3.69×10^{16} NP1:ϕ_s114°, δ35°, λ-104°. NP2:ϕ_s311°, δ56°, λ-81°. Principal axes: T 3.92, Plg11°, Azm34°; N -.46, Plg8°, Azm126°; P -3.46, Plg77°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

GCG ***28*** *07:45:04.4, 12.41N×88.40W, ML4.9*

ISC 28 07:45:03.0±0.2**, 12.58N**±0.03×**87.83W**±0.02**, h78**^{km}±2^{km}**, h71**^{km}±1.6^{km}**:pP-P, n268, σ1^{s}10**/263**, mb4.7**/66**, 33C-24D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	Conchagua	0.69	360	⇑eP	P	07 45 18.4	-0.1
CNCH				eS	S	07 45 29.2	-0.9
CNCH	Conchagua	0.69	360	⇑eP	P	07 45 18.3	-0.2
CNCH				eS	S	07 45 29.2	-0.9
CRIN	San Cristobal	0.77	81	⇑iP	P	07 45 19.5	0.0
CHIN	Chinandega	0.79	86	⇑eP	P	07 45 22.2	+2.5
CHIN				eS	S	07 45 36.6	+4.5
BLLM	Bellamira	0.94	335	⇑eP	P	07 45 21.4	-0.1
BLLM	Bellamira	0.94	335	eP	P	07 45 21.3	-0.2
VSM	San Miguel	0.94	333	⇓eP	P	07 45 21.3	-0.2
VSM	San Miguel	0.94	333	eP	P	07 45 21.3	-0.2
TELN	Telica	0.98	89	⇓eP	P	07 45 21.2	-0.6
MIRN	Miramar	1.10	97	⇑eP	P	07 45 22.5	-1.0
CNGN	Cerro Negro	1.11	94	⇑iP	P	07 45 22.8	-0.7
CAHU	Cacacuatique	1.24	343	⇑eP	P	07 45 25.6	+0.4
CAHU	Cacacuatique	1.24	343	eP	P	07 45 25.6	+0.4
MOMJ	Momotombo	1.27	98	⇑iP	P	07 45 24.9	-0.8
COPN	Copaltepe	1.27	108	⇑iP	P	07 45 24.6	-1.1
SNVI	San Vicente	1.42	316	⇑eP	P	07 45 27.2	-0.5
SNVI				eS	S	07 45 44.9	-1.1
SNVI	San Vicente	1.42	316	eP	P	07 45 27.2	-0.5
SNVI				eS	S	07 45 44.9	-1.1
SOMN	Somoto	1.45	55	⇓iP	P	07 45 30.5	+2.4
QUIN	Quiabu	1.48	69	⇑iP	P	07 45 28.5	0.0
APYN	Apoyeque	1.49	103	⇓eP	P	07 45 28.7	+0.1
XAVN	Gruta Xavier	1.53	106	⇑eP	P	07 45 28.3	-0.9
LCBS	La Ceiba	1.54	314	⇓eP	P	07 45 28.8	-0.6
LFRS	El Faro	1.58	311	⇓eP	P	07 45 29.2	-0.7
MGAN	Managua	1.61	106	eP	P	07 45 28.4	-1.7
MGAN				⇑iP		07 45 29.4	
MGAN				eS	S	07 45 49.3	-0.8
MGAN				i		07 45 50.7	
	comp=N,17µm,0.7s						
CRUN	El Crucero	1.61	112	⇑eP	P	07 45 29.3	-0.9
LBRS	Las Brisas	1.65	314	⇓eP	P	07 45 30.7	0.0
LBRS				eS	S	07 45 49.4	-1.7
LBRS	Las Brisas	1.65	314	eP	P	07 45 30.4	-0.4
LBRS				eS	S	07 45 49.4	-1.7
TICN	Ticuantepe	1.66	109	⇑eP	P	07 45 30.0	-0.8
WILN	Americas 2	1.66	104	⇑eP	P	07 45 30.0	-0.9
WILN				eS	S	07 45 50.5	-0.9
PYTN	Playitas	1.73	91	⇑iP	P	07 45 31.2	-0.6
MASN	Masaya	1.75	110	⇓eP	P	07 45 31.2	-0.7
SNET	Serv Nac Est T	1.75	309	eP	P	07 45 31.2	-0.8
SNET				eS	S	07 45 52.6	-0.8
SNET				i		07 45 55.5	
	comp=Z,14µm,0.7s						
BOQS	Boqueron	1.82	309	⇓eP	P	07 45 32.7	-0.3
BOQS				eS	S	07 45 54.8	-0.2
BOQS	Boqueron	1.82	309	eP	P	07 45 32.6	-0.3
BOQS				eS	S	07 45 54.8	-0.2
APON	Apoyo	1.85	111	⇑eP	P	07 45 32.2	-1.1
SBLS	San Blas	2.15	306	⇓eP	P	07 45 37.1	-0.4
SBLS	San Blas	2.15	306	eP	P	07 45 36.9	-0.6
SNJE	San Jose	2.15	307	⇓eP	P	07 45 37.1	-0.4
SNJE	San Jose	2.15	307	eP	P	07 45 37.0	-0.5
RTR	El Retiro	2.20	307	⇓eP	P	07 45 38.1	-0.2
MTO2	Montecristo 2	2.34	321	⇓eP	P	07 45 40.3	+0.1
MTO2	Montecristo 2	2.34	321	eP	P	07 45 40.4	+0.2
RBDL	Robledal	2.36	310	eP	P	07 45 40.4	-0.1
CONN	Concepcion	2.38	115	⇓eP	P	07 45 39.5	-1.3
IXG	Ixpaco	3.00	302	⇑eP	P	07 45 48.5	-1.0
IXG				eS	S	07 46 25.0	+0.6
IXG				AML	AML	07 46 29.0	
	comp=N,28µm,0.6s						
MRL	Marmol	3.06	324	⇑eP	P	07 45 50.6	+0.3
MRL				eS	S	07 46 24.8	-1.0
MRL				AML	AML	07 46 50.0	
	comp=N,1µm,0.7s						
NBG	Las Nubes	3.15	309	⇑eP	P	07 45 51.9	+0.3
NBG				eS	S	07 46 30.2	+2.0
NBG				AML	AML	07 46 41.7	
	comp=E,7µm,0.5s						
VCR	Vista de Mar	3.26	138	⇑eP	P	07 45 52.7	-0.4
GCG	Guatemala City	3.30	307	eP	P	07 45 56.0	+2.5
GCG				AML	AML	07 47 19.8	
	comp=E,1µm,0.6s						
JTS	JuntasAbangare	3.63	129	P	P	07 45 56.5	-1.6
	comp=E,13nm,0.3s,baz=317,slow=16,SNR=77						
JTS				S	S	07 46 38.3	-1.7
	comp=E,76nm,0.3s,baz=289,slow=18,SNR=7.0						
JTS	JuntasAbangare	3.63	129	eP	P	07 45 56.4	-1.7
TP2	Tecpan 2	3.79	306	⇑eP	P	07 46 02.0	+1.5
TP2				eS	S	07 46 45.7	+1.6
TP2				AML	AML	07 46 49.9	
	comp=E,2µm,0.5s						
JCR	Jicaral	3.81	135	eP	P	07 46 00.5	-0.2
JCR				eS	S	07 46 46.4	+1.9
JAT	Jato	4.08	295	⇑eP	P	07 46 03.6	-0.9
JAT				eS	S	07 46 51.0	-0.5
JAT				AML	AML	07 46 52.0	
	comp=N,2µm,0.3s						
CGA2	Cerro Gallo 2	4.17	127	eP	P	07 46 06.6	+0.9
CGA2				eS	S	07 46 54.2	+0.7
PRS1	Puriscal	4.31	126	eP	P	07 46 09.2	+1.6
PRS1				eS	S	07 46 57.7	+0.6
TRTC	Tortuguero	4.50	116	⇓iP	P	07 46 07.7	-2.6
LAJ	Bijagual	4.53	126	eP	P	07 46 08.3	-2.4
SJS	Escuela Geolog	4.54	125	⇓eP	P	07 46 13.5	+2.6
SJS				eS	S	07 47 05.2	+2.3
ICR	Volcan Irazu	4.70	123	⇓eP	P	07 46 15.2	+2.1
LCR2	La Lucha 2	4.70	127	⇑eP	P	07 46 14.7	+1.7
URSC	Urasca	4.82	124	⇑eP	P	07 46 15.9	+1.1
BUS	Buena Vista	5.00	127	⇓eP	P	07 46 19.2	+2.0
CCIG	Comitan	5.56	312	eP	P	07 46 26.0	+1.1
CCIG				i S	S	07 47 43.0	+15
TEIG	Tepich	7.61	357	P	P	07 46 50.9	-2.4
	comp=N,0.0nm,0.3s,baz=299,slow=24,SNR=3.5						
TEIG	Tepich	7.61	357	eP	P	07 46 49.1	-4.2
CMIG	Matias Romero	8.16	304	i P	P	07 46 51.5	-9.2
CMIG				i S	S	07 48 27.0	-5.2
OXX	Oaxaca	9.69	299	eP	P	07 47 22.0	+0.3
VHO	Vista Hermosa	9.70	298	eP	P	07 47 22.7	+0.9
VHO				eS	S	07 49 08.9	-1.0
MCJ	Malvern	11.13	60	⇓eP	P	07 47 43.0	+1.9
SOR	Soroa	11.14	24	eP	P	07 47 42.5	+1.2
CVJ	Coleyville	11.40	59	⇓eP	P	07 47 47.2	+2.5
PCJ	Portland Cotta	11.51	62	⇑eP	P	07 47 44.4	-1.8
BBJ	Bamboo Saint A	11.70	59	⇑eP	P	07 47 51.4	+2.6
BNJ	Bonny Gate	11.94	60	⇑eP	P	07 47 54.0	+2.1
STH	Stony Hill	11.95	61	⇓eP	P	07 47 54.3	+2.2
HOJ	Hope	11.97	62	⇓eP	P	07 47 54.6	+2.2
GWJ	Greenwich	12.02	62	⇓iP	P	07 47 55.6	+2.6
MGV	Manicaragua	12.07	37	eP	P	07 47 54.4	+0.6
PPM	Popocatepetl	12.22	303	eP	P	07 47 57.0	+1.3
CMJ	Castle Mountai	12.35	62	⇑eP	P	07 48 00.6	+3.1
PLIG	Platanillo	12.64	299	eP	P	07 48 02.0	+0.6
CCCC	Cccc	12.88	47	eP	P	07 48 11.6	+7.1
PAYG	Puerto Ayora	13.39	191	P	P	07 48 13.2	+2.0
	comp=N,210nm,1.0s						
ROSC	El Rosal	15.39	119	P	P	07 48 39.5	+2.5
	comp=N,0.8nm,0.3s,baz=138,slow=8.6,SNR=12						
ROSC				LR	LR	07 55 09.5	
	comp=N,270nm,20.4s,baz=256,slow=40						
OTAV	Otavalo	15.39	142	eP	P	07 48 38.9	+1.7
DWPF	Disney	16.56	20	eP	P	07 48 54.2	+2.4
	comp=N,149nm,1.1s						
SDV	Santo Domingo	17.29	101	eP	P	07 48 59.6	-1.3
	comp=N,16nm,0.8s						
ZAIG	Zacatecas	17.30	308	i P	P	07 49 03.5	+2.5
HKT	Hockley	18.81	338	eP	P	07 49 19.3	+0.3
	comp=N,42nm,1.1s						
NATX	Nacogdoches	20.09	343	eP	P	07 49 33.2	+0.4
	comp=N,117nm,1.0s						
LRAL	Lakeview Retre	20.37	2	eP	P	07 49 36.6	+1.0
	comp=N,75nm,1.1s						
JCT	Junction City	20.97	330	eP	P	07 49 41.2	-0.6
	comp=N,47nm,0.7s						
NHSC	New Hope	21.59	18	eP	P	07 49 49.0	+1.0
	comp=N,172nm,1.0s,mb5.3						
SJG	San Juan	21.61	73	P	P	07 49 44.4	-3.8
	comp=N,2.1nm,0.3s,mb4.0,baz=220,slow=23,SNR=4.3						
SJG				LR	LR	07 58 25.8	
	comp=N,532nm,20.3s,baz=273,slow=38						
SJG	San Juan	21.61	73	eP	P	07 49 46.2	-2.0
	comp=N,11nm,0.6s,mb4.4						
OXF	Oxford	21.88	356	eP	P	07 49 50.9	+0.1
	comp=N,88nm,1.0s,mb5.0						
MTP	Monte Pirata	22.16	73	eP	P	07 49 53.2	-0.5
LTX	Lajitas	22.24	321	eP	P	07 49 55.2	+0.9
	comp=N,99nm,0.9s,mb5.1						
TXAR	Lajitas Array	22.24	321	P	P	07 49 55.2	+0.9
	comp=N,92nm,0.8s,mb5.1,baz=142,slow=9.2,SNR=560						
TXAR				pP		07 50 10.2	
	comp=N,19nm,0.9s,baz=138,slow=11,SNR=3.5						
TXAR				PcP	PcP	07 53 49.6	+0.2
	comp=N,4.9nm,0.9s,baz=152,slow=5.7,SNR=6.9						
TXAR				pPcP		07 54 08.0	
	comp=N,2.1nm,0.8s,baz=117,slow=2.8,SNR=4.2						
TXAR				ScP		07 57 21.4	
	comp=N,4.9nm,0.8s,baz=146,slow=3.3,SNR=36						
TXAR				LR	LR	08 00 11.9	
	comp=N,108nm,18.2s,baz=280,slow=41						
TXAR	Lajitas Array	22.24	321	P	P	07 49 55.2	+0.9
TXAR				pP		07 50 10.2	
TXAR				PcP	PcP	07 53 49.6	+0.2
TXAR				pPcP		07 54 08.0	
TXAR				ScP		07 57 21.4	
TXAR				LR	LR	08 00 11.9	
PLAL	Pickwick Lake	22.30	359	eP	P	07 49 55.6	+0.6
	comp=N,33nm,1.3s,mb4.5						
JSC	Jenkinsville	22.41	14	eP	P	07 49 57.5	+1.5
UALR	University of	22.47	350	eP	P	07 49 57.5	+0.9
	comp=N,49nm,1.0s,mb4.8						
UALR				epP		07 50 15.5	
MIAR	Mount Ida	22.48	348	eP	P	07 49 57.7	+1.0
	comp=N,67nm,0.8s,mb5.0						
CPCT	Cooper Cave	22.96	7	eP	P	07 50 02.7	+1.3
CPCT				epP		07 50 18.9	
HBAR	Harrisburg	23.01	354	eP	P	07 50 02.5	+0.6
HALT	Halls	23.27	357	eP	P	07 50 04.8	+0.4
HALT				epP		07 50 23.1	
GNAR	Gosnell	23.36	356	eP	P	07 50 06.1	+0.8
WVT	Waverly	23.44	0	eP	P	07 50 04.8	-1.2
	comp=N,7.3nm,0.8s,mb4.1						
GLAT	Glass	23.62	357	eP	P	07 50 08.1	+0.4
WMOK	Wichita Mounta	24.19	338	eP	P	07 50 13.2	-0.1
	comp=N,32nm,1.0s,mb4.6						
CLNB	Carlsbad	24.51	326	eP	P	07 50 17.0	+0.6
GDL2	Guadalupe Moun	24.73	325	eP	P	07 50 19.0	+0.4
GDL2				epP		07 50 36.3	
CPRX	Cap Rock	25.09	327	eP	P	07 50 22.2	+0.2
USIN	University of	25.28	0	eP	P	07 50 16.7	-7.0
ELN	Prospectdale	25.35	13	eP	P	07 50 25.1	+0.7
PWV	Princeton	25.39	13	eP	P	07 50 25.1	+0.3
FVM	French Village	25.40	355	eP	P	07 50 23.9	-1.0
	comp=N,5.1nm,0.6s,mb4.1						
BLA	Blacksburg	25.41	14	eP	P	07 50 24.5	-0.4
	comp=N,14nm,0.8s,mb4.4						
WCI	Wyandotte Cave	25.58	3	eP	P	07 50 25.5	-1.0
	comp=N,24nm,0.8s,mb4.7						
WCI				epP	pP	07 50 43.2	-1.1
FWV	Forest Hill	25.67	13	eP	P	07 50 27.1	-0.3
BLO	Bloomington	26.51	2	eP	P	07 50 34.1	-1.0
BLO				epP	pP	07 50 52.5	-0.5
CBN	Corbin	27.16	18	eP	P	07 50 41.1	-0.1
	comp=N,33nm,0.6s,mb5.0						
CBN				epP	pP	07 50 58.6	-0.5
BNM	Barren Site	27.45	325	eP	P	07 50 44.3	+0.6
KSU1	Kansas State U	27.54	345	eP	P	07 50 42.9	-1.6
LENM	Lemitar	27.66	324	eP	P	07 50 47.9	+2.2
ACSO	Alum Creek Sta	27.87	8	eP	P	07 50 46.5	-1.0
	comp=N,13nm,0.7s,mb4.6						
MCWV	Mont Chateau	27.88	13	eP	P	07 50 47.5	-0.1
	comp=N,13nm,0.7s,mb4.6						
LAZ	Ladron	27.92	324	eP	P	07 50 48.6	+0.5
ANMO	Albuquerque	27.94	326	eP	P	07 50 49.0	+0.7
	comp=N,15nm,1.0s,mb4.5						
ANMO				epP	pP	07 51 06.8	+0.5
CBKS	Cedar Bluff	28.18	340	eP	P	07 50 49.6	-0.8
CBKS				epP	pP	07 51 10.6	+2.2
SDMD	Soldier’s Deli	28.44	18	epP	P	07 50 52.0	-0.6
TUC	Tucson	28.79	317	eP	P	07 50 55.7	-0.2
	comp=N,22nm,1.1s,mb4.7						
SSPA	Standing Stone	29.28	16	eP	P	07 50 59.9	-0.2
	comp=N,9.1nm,0.8s,mb4.5						
SDCO	Great Sand Dun	29.61	331	eP	P	07 51 03.7	+0.6
	comp=N,28nm,1.0s,mb4.8						
ALLY	Alegheny Colle	29.72	12	eP	P	07 51 03.2	-0.8
WUAZ	Wupatki	31.20	321	eP	P	07 51 17.6	+0.5
	comp=N,10nm,0.9s,mb4.6						
WUAZ				ePcP	PcP	07 54 11.0	+0.7
BINY	Binghamton	31.25	17	eP	P	07 51 17.2	-0.3
	comp=N,12nm,0.8s,mb4.7						
PV01	Paradox Valley	31.45	328	eP	P	07 51 19.5	+0.3

PV01				*e*PcP	PcP	07 54 10.8	-0.1
PV10	**Paradox Valley**	**31.88**	**327**	*e*P	**P**	**07 51 22.5**	**-0.5**
PV10				*e*PcP	PcP	07 54 12.1	0.0
SAML	**Samuel**	**32.52**	**130**	*e*P	**P**	**07 51 26.4**	**-2.4**
	comp=N,10nm,0.7s,mb4.8						
SAML				*e*PcP	PcP	07 54 12.6	-1.4
SADO	**Sadowa**	**32.93**	**11**	P	**P**	**07 51 30.2**	**-1.8**
	comp=N,18nm,0.6s,mb5.1,baz=212,slow=9.8,SNR=29						
SADO				pP	pP	07 51 45.9	-4.7
	comp=N,4.8nm,0.6s,baz=204,slow=5.2,SNR=4.6						
SADO				ScP		07 57 50.3	
	comp=N,6.5nm,0.6s,baz=52,slow=0.9,SNR=11						
SADO	**Sadowa**	**32.93**	**11**	P	**P**	**07 51 30.2**	**-1.8**
SADO				pP	pP	07 51 45.9	-4.7
SADO				ScP		07 57 50.3	
SRU	**San Rafael**	**33.20**	**327**	*e*P	**P**	**07 51 34.3**	**-0.2**
SRU				*e*PP	PP	07 52 45.0	-2.8
SRU				*e*PcP	PcP	07 54 15.6	-0.1
LDFC	**Landfair**	**33.33**	**317**	*e*P	**P**	**07 51 37.2**	**+1.5**
LDFC				*e*PcP	PcP	07 54 17.1	+1.0
NEN	**Nelson**	**33.49**	**318**	*e*P	**P**	**07 51 37.3**	**+0.3**
NEN				*e*PP	PP	07 52 48.1	-3.1
NEN				*e*PcP	PcP	07 54 16.7	+0.2
NEN				*e*ScP		07 57 55.6	
MSU	**Marysvale**	**33.69**	**324**	*e*P	**P**	**07 51 39.2**	**+0.5**
MSU				*e*PcP	PcP	07 54 17.3	+0.2
MVU	**Marysvale**	**33.71**	**324**	*e*P	**P**	**07 51 39.3**	**+0.5**
	comp=N,4.6nm,0.8s,mb4.4						
MVU				*e*PcP	PcP	07 54 18.2	+1.1
LOZ	**Lake Ozonia**	**33.88**	**17**	*e*P	**P**	**07 51 38.9**	**-1.4**
LOZ				*e*pP	pP	07 51 58.2	-0.8
RSSD	**Black Hills**	**34.37**	**339**	*e*P	**P**	**07 51 44.6**	**+0.1**
	comp=N,15nm,0.7s,mb4.9						
MPU	**Maple Canyon**	**34.45**	**327**	*e*P	**P**	**07 51 45.5**	**+0.3**
DAU	**Daniels Canyon**	**34.53**	**328**	*e*P	**P**	**07 51 46.4**	**+0.4**
NLU	**North Lily Min**	**34.64**	**326**	*e*P	**P**	**07 51 47.1**	**+0.3**
LPAZ	**La Paz**	**34.67**	**145**	P	**P**	**07 51 47.6**	**+0.3**
	comp=N,4.1nm,0.6s,mb4.4,baz=268,slow=2.3,SNR=4.1						
JLU	**Jordanelle**	**34.77**	**328**	*e*P	**P**	**07 51 48.3**	**+0.3**
MWC	**Mount Wilson**	**34.90**	**313**	*e*P	**P**	**07 51 48.3**	**-0.8**
CTU	**Camp Tracy**	**35.00**	**327**	*e*P	**P**	**07 51 50.5**	**+0.6**
TCUT	**Toone Canyon**	**35.13**	**328**	*e*P	**P**	**07 51 50.9**	**-0.1**
TPNV	**Topopah Spring**	**35.17**	**319**	*e*P	**P**	**07 51 52.1**	**+0.7**
	comp=N,13nm,1.2s,mb4.7						
DUG	**Dugway**	**35.21**	**326**	*e*P	**P**	**07 51 52.3**	**+0.6**
	comp=N,33nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**35.48**	**332**	P	**P**	**07 51 53.3**	**-0.7**
	comp=N,10nm,0.6s,mb4.9,baz=126,slow=10.0,SNR=91						
PDAR				pP	pP	07 52 09.9	-2.8
	comp=N,2.8nm,0.7s,baz=143,slow=7.4,SNR=3.3						
PDAR				PcP	PcP	07 54 21.0	-1.2
	comp=N,2.1nm,0.8s,baz=136,slow=3.7,SNR=3.7						
PDAR				ScP		07 58 00.8	
	comp=N,0.6nm,0.5s,baz=137,slow=5.8,SNR=5.4						
PDAR				PKiKP		08 01 41.6	
	comp=N,0.4nm,0.8s,baz=117,slow=4.0,SNR=3.7						
PDAR				LR	LR	08 10 05.9	
	comp=N,126nm,20.4s,baz=262,slow=42						
HWUT	**Hardware Ranch**	**35.57**	**329**	*e*P	**P**	**07 51 54.7**	**0.0**
	comp=N,55nm,0.8s,mb5.5						
SPUT	**South Promonto**	**35.81**	**328**	*e*P	**P**	**07 51 57.0**	**+0.3**
BGU	**Big Grassy Mou**	**35.84**	**327**	*e*P	**P**	**07 51 57.3**	**+0.2**
AHID	**Auburn Hatcher**	**36.20**	**330**	*e*P	**P**	**07 52 00.2**	**+0.1**
	comp=N,42nm,0.7s,mb5.5						
HVU	**Hansel Valley**	**36.31**	**328**	*e*P	**P**	**07 52 01.3**	**+0.3**
TPH	**Tonopah**	**36.46**	**319**	*e*P	**P**	**07 52 03.2**	**+0.9**
	comp=N,6.1nm,1.0s,mb4.5						
TPH				*e*PcP	PcP	07 54 25.2	+0.1
REDW	**Red Top Meadow**	**36.54**	**331**	*e*P	**P**	**07 52 03.3**	**+0.4**
SNOW	**Snow King Moun**	**36.57**	**332**	*e*P	**P**	**07 52 03.7**	**+0.5**
WUWY	**Wally Ulrich**	**36.63**	**332**	*e*P	**P**	**07 52 03.9**	**+0.3**
TPAW	**Teton Pass**	**36.69**	**331**	*e*P	**P**	**07 52 04.4**	**+0.3**
MOOW	**Moose Ponds**	**36.79**	**332**	*e*P	**P**	**07 52 04.9**	**-0.1**
MTUM	**Tungsten Hills**	**36.92**	**317**	*e*P	**P**	**07 52 07.1**	**+1.0**
MTUM				*e*PcP	PcP	07 54 26.9	+0.3
ELK	**Elko**	**36.94**	**324**	*e*P	**P**	**07 52 06.8**	**+0.5**
	comp=N,19nm,1.1s,mb4.9						
MNV	**Mina**	**37.26**	**319**	*e*P	**P**	**07 52 10.0**	**+1.0**
	comp=N,26nm,1.4s,mb5.0						
MNV				*e*PcP	PcP	07 54 28.2	+0.6
MNV				*e*ScP		07 58 08.8	
NVAR	**Mina Array Bea**	**37.36**	**319**	P	**P**	**07 52 09.7**	**-0.1**
	comp=N,10nm,0.8s,mb4.8,baz=123,slow=8.0,SNR=58						
NVAR				pP	pP	07 52 26.7	-2.0
	comp=N,2.7nm,0.7s,baz=120,slow=7.3,SNR=3.4						
NVAR				PcP	PcP	07 54 28.4	+0.6
	comp=N,11nm,0.7s,baz=126,slow=4.8,SNR=22						
NVAR				pPcP		07 54 46.8	
	comp=N,5.6nm,0.7s,baz=127,slow=4.8,SNR=7.8						
NVAR				ScP		07 58 08.6	
	comp=N,4.5nm,0.6s,baz=121,slow=5.1,SNR=26						
NVAR				LR	LR	08 11 03.0	
	comp=N,157nm,19.5s,baz=260,slow=42						
NVAR	**Mina Array Bea**	**37.36**	**319**	P	**P**	**07 52 09.7**	**-0.1**
NVAR				pP	pP	07 52 26.7	-2.0
NVAR				PcP	PcP	07 54 28.4	+0.6
NVAR				pPcP		07 54 46.8	
NVAR				ScP		07 58 08.6	
NVAR				LR	LR	08 11 03.0	
LAO	**LASA Array**	**37.37**	**339**	*e*P	**P**	**07 52 09.5**	**-0.2**
	comp=N,31nm,1.2s,mb5.1						
YMR	**Madison River**	**37.60**	**333**	*e*P	**P**	**07 52 12.4**	**+0.7**
BMN	**Battle Mountai**	**37.89**	**322**	*e*P	**P**	**07 52 15.1**	**+0.8**
	comp=N,30nm,1.3s,mb5.0						
QLMT	**Earthquake Lak**	**37.94**	**332**	*e*P	**P**	**07 52 16.0**	**+1.5**
ULM	**Lac du Bonnet**	**38.13**	**352**	P	**P**	**07 52 14.1**	**-2.1**
	comp=N,12nm,0.6s,mb4.9,baz=167,slow=8.7,SNR=51						
ULM				pP	pP	07 52 31.4	-3.7
	comp=N,6.8nm,0.5s,baz=164,slow=10,SNR=4.6						
ULM				ScP		07 58 09.7	
	comp=N,4.2nm,0.5s,baz=176,slow=2.7,SNR=8.9						
ULM				LR	LR	08 10 13.0	
	comp=N,97nm,20.5s,baz=261,slow=40						
DGMT	**Dagmar**	**38.28**	**342**	*e*P	**P**	**07 52 17.0**	**-0.3**
	comp=N,74nm,0.7s,mb5.6						
HLID	**Hailey**	**38.43**	**328**	*e*P	**P**	**07 52 18.9**	**+0.2**
	comp=N,11nm,0.8s,mb4.8						
CMB	**Columbia Colle**	**38.50**	**317**	*e*P	**P**	**07 52 19.7**	**+0.4**
	comp=N,9.3nm,1.2s,mb4.5						
MCMT	**McKenzie Canyo**	**38.59**	**331**	*e*P	**P**	**07 52 21.4**	**+1.4**
MCMT				*e*pP	pP	07 52 39.0	+0.1
BOZ	**Bozeman (W)**	**38.66**	**333**	*e*P	**P**	**07 52 20.6**	**+0.1**
	comp=N,26nm,0.8s,mb5.1						
BEKR	**Beckwourth**	**39.49**	**319**	*e*P	**P**	**07 52 28.4**	**+0.9**
	comp=N,19nm,1.1s,mb4.8						
HRY	**Holter Researc**	**39.58**	**334**	*e*P	**P**	**07 52 28.4**	**+0.3**
OHCM	**Honcut**	**39.92**	**318**	*e*P	**P**	**07 52 31.4**	**+0.4**
OHCM				*e*PcP	PcP	07 54 36.0	0.0
OHCM				*e*pPcP		07 54 54.8	
WVOR	**Wild Horse Val**	**39.98**	**324**	*e*P	**P**	**07 52 31.8**	**+0.3**
	comp=N,18nm,1.0s,mb4.8						
MOD	**Modoc**	**40.63**	**322**	*e*P	**P**	**07 52 36.6**	**-0.3**
	comp=N,6.4nm,0.9s,mb4.5						
LNOR	**Lincton Mounta**	**42.02**	**328**	*e*P	**P**	**07 52 47.4**	**-0.8**
HAWA	**Hanford**	**43.02**	**328**	*e*P	**P**	**07 52 55.4**	**-1.1**
	comp=N,15nm,0.9s,mb4.7						
NEW	**Newport**	**43.11**	**331**	*e*P	**P**	**07 52 56.3**	**-0.8**
	comp=N,8.6nm,0.7s,mb4.6						
VGB	**Gordon Butte**	**43.12**	**326**	*e*P	**P**	**07 52 56.9**	**-0.4**
CRF	**Corfu**	**43.23**	**328**	P	**P**	**07 52 57.7**	**-0.5**
WAH2	**Wahluke Slope**	**43.27**	**328**	P	**P**	**07 52 58.1**	**-0.4**
DPW	**Davenport**	**43.35**	**330**	*e*P	**P**	**07 52 58.8**	**-0.3**
VFP	**Flag Point**	**43.37**	**325**	P	**P**	**07 52 60.0**	**+0.6**
FFC	**Flin Flon**	**43.49**	**348**	*e*P	**P**	**07 52 59.5**	**-0.7**
	comp=N,17nm,0.7s,mb4.9						
WTV	**Waterville**	**44.10**	**329**	P	**P**	**07 53 05.3**	**+0.1**
LON	**Longmire**	**44.45**	**327**	*e*P	**P**	**07 53 06.9**	**-1.1**
NLW	**Nelson Butte**	**44.55**	**329**	*e*P	**P**	**07 53 08.4**	**-0.3**
RMW	**Rattlesnake Mo**	**44.90**	**328**	*e*P	**P**	**07 53 10.8**	**-0.7**
PNT	**Penticton**	**45.03**	**331**	P	**P**	**07 53 12.5**	**-0.1**
BMW	**Boistfort Moun**	**45.05**	**326**	*e*P	**P**	**07 53 12.2**	**-0.6**
SCHQ	**Schefferville**	**45.26**	**17**	P	**P**	**07 53 12.6**	**-1.7**
	comp=N,17nm,0.6s,mb5.0,baz=214,slow=6.4,SNR=45						
SCHQ				LR	LR	08 12 56.6	
	comp=N,371nm,20.2s,baz=95,slow=37						
RPW	**Rockport**	**45.38**	**329**	P	**P**	**07 53 14.2**	**-1.2**
GNW	**Green Mountain**	**45.50**	**327**	*e*P	**P**	**07 53 14.9**	**-1.4**
CMW	**Cultus Mountai**	**45.67**	**328**	P	**P**	**07 53 16.6**	**-1.1**
BDFB	**Brasilia**	**48.36**	**124**	P	**P**	**07 53 38.0**	**-1.2**
	comp=N,6.3nm,1.0s,mb4.4,baz=348,slow=6.8,SNR=7.2						
BDFB				pP	pP	07 53 56.1	-2.4
	comp=N,4.0nm,0.9s,baz=284,slow=3.8,SNR=3.1						
BDFB				LR	LR	08 16 37.3	
	comp=N,126nm,19.6s,baz=302,slow=39						
CPUP	**Villa Florida**	**48.74**	**143**	P	**P**	**07 53 39.7**	**-2.3**
	comp=N,7.3nm,0.8s,mb4.7,baz=356,slow=8.3,SNR=19						
CPUP				PcP	PcP	07 55 05.6	-0.8
	comp=N,2.3nm,0.8s,baz=332,slow=12,SNR=3.2						
CPUP				LR	LR	08 15 39.7	
	comp=N,80nm,18.1s,baz=341,slow=38						
CPUP	**Villa Florida**	**48.74**	**143**	P	**P**	**07 53 39.7**	**-2.3**
CPUP				PcP	PcP	07 55 05.6	-0.8
CPUP				LR	LR	08 15 39.7	
YKA	**Yellowknife Ar**	**53.39**	**345**	P	**P**	**07 54 14.3**	**-2.4**
	comp=N,5.5nm,0.7s,mb4.7,baz=138,slow=7.8,SNR=27						
YKA				pP	pP	07 54 32.2	-4.1
	comp=N,5.6nm,0.7s,baz=139,slow=7.7,SNR=9.2						
YKA				PcP	PcP	07 55 21.4	-1.5
	comp=N,2.0nm,0.6s,baz=141,slow=4.3,SNR=6.5						
YKA				ScP		07 59 13.0	
	comp=N,1.7nm,0.5s,baz=146,slow=4.6,SNR=21						
YKA				LR	LR	08 18 39.7	
	comp=N,114nm,21.4s,baz=125,slow=38						
YKA	**Yellowknife Ar**	**53.39**	**345**	P	**P**	**07 54 14.3**	**-2.4**
YKA				pP	pP	07 54 32.2	-4.1
YKA				PcP	PcP	07 55 21.4	-1.5
YKA				ScP		07 59 13.0	
YKA				LR	LR	08 18 39.7	
YKW3	**Yellowknife Ar**	**53.45**	**345**	*e*P	**P**	**07 54 15.2**	**-2.0**
YKW3				*e*pP	pP	07 54 32.0	-4.8
PLCA	**Paso Flores**	**55.41**	**164**	P	**P**	**07 54 30.6**	**-1.1**
	comp=N,16nm,0.9s,mb5.0,baz=340,slow=8.0,SNR=25						
PLCA				pP	pP	07 54 49.7	-1.8
	comp=N,12nm,1.1s,baz=334,slow=7.2,SNR=3.4						
PLCA				LR	LR	08 12 50.0	
	comp=N,59nm,19.2s,baz=356,slow=30						
DLBC	**Dease Lake**	**55.63**	**335**	*e*P	**P**	**07 54 32.5**	**-0.5**
DLBC				*e*pP	pP	07 54 50.1	-2.7
TRQA	**Tornquist**	**55.90**	**155**	*e*P	**P**	**07 54 33.2**	**-2.1**
	comp=N,24nm,1.1s,mb5.1						
RES	**Resolute Bay**	**62.21**	**358**	P	**P**	**07 55 16.9**	**-1.5**
INK	**Inuvik**	**62.97**	**343**	*e*P	**P**	**07 55 21.6**	**-2.0**
	comp=N,16nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**65.75**	**336**	P	**P**	**07 55 39.2**	**-2.3**
	comp=N,3.5nm,0.8s,mb4.3,baz=120,slow=4.5,SNR=24						
ILAR				pP	pP	07 55 57.2	-4.7
	comp=N,1.6nm,0.6s,baz=143,slow=4.6,SNR=4.9						
ILAR				PP	PP	07 58 06.3	-3.0
	comp=N,1.3nm,0.8s,baz=108,slow=7.0,SNR=5.8						
ILAR				LR	LR	08 25 19.7	
	comp=N,93nm,21.6s,baz=126,slow=37						
SUMG	**Summit**	**66.55**	**14**	*e*P	**P**	**07 55 45.8**	**-0.8**
	comp=N,14nm,1.1s,mb4.7						
USHA	**Ushuaia**	**69.13**	**168**	LR	LR	08 20 05.8	
	comp=N,204nm,18.1s,baz=49,slow=30						
UNV	**Unalaska Valle**	**73.26**	**323**	*e*P	**P**	**07 56 26.2**	**-1.3**
	comp=N,35nm,0.8s,mb5.2						
EVO	**Evora**	**74.36**	**53**	*e*P	**P**	**07 56 50.2**	**+16**
	comp=N,16nm,0.9s,mb4.5						
EKA	**Eskdalemuir Ar**	**76.73**	**36**	P	**P**	**07 56 45.5**	**-1.9**
	comp=N,1.5nm,0.7s,mb3.9,baz=270,slow=5.0,SNR=4.5						
EKA				pP	pP	07 57 04.4	-3.9
	comp=N,3.0nm,0.8s,baz=249,slow=7.1,SNR=2.9						
ESDC	**Sonseca Array**	**77.40**	**52**	pP	pP	07 57 07.9	-4.5
	comp=N,4.5nm,0.7s,baz=284,slow=5.2,SNR=5.3						
ESDC				LR	LR	08 27 12.9	
	comp=N,71nm,20.8s,baz=210,slow=33						
RAR	**Rarotonga**	**78.20**	**245**	LR	LR	08 21 52.3	
	comp=N,302nm,19.9s,baz=246,slow=28						
GRR	**Gorron**	**78.71**	**43**	*e*P	**P**	**07 57 08.6**	**+10**
SJPF	**Ste Jean**	**79.06**	**48**	*e*P	**P**	**07 57 10.3**	**+10**
	comp=N,12nm,0.8s,mb4.5						
EPF	**Esparros**	**80.21**	**48**	*e*P	**P**	**07 57 18.7**	**+12**
	comp=N,15nm,1.1s,mb4.4						
TCF	**Toulx Ste Croi**	**81.06**	**45**	*e*P	**P**	**07 57 23.0**	**+12**
MTLF	**Montolieu**	**81.52**	**48**	*e*P	**P**	**07 57 22.1**	**+8.5**
DBIC	**Dimbokro**	**81.74**	**85**	LR	LR	08 29 51.1	
	comp=N,107nm,20.4s,baz=181,slow=33						
NOA	**NORSAR Array B**	**83.43**	**29**	P	**P**	**07 57 22.1**	**-0.9**
	comp=N,1.1nm,0.8s,mb3.7,baz=290,slow=5.0,SNR=2.9						
NOA				pP	pP	07 57 39.9	-4.2
	comp=N,2.0nm,0.7s,baz=287,slow=5.0,SNR=2.5						
NOA				LR	LR	08 33 02.0	
	comp=N,44nm,18.8s,baz=250,slow=35						
FX1	**Attu Island--F**	**85.44**	**323**	LR	LR	08 35 51.3	
	comp=N,2.4nm,18.0s,baz=257,slow=36						
DAVOX	**Davos**	**86.14**	**43**	P	**P**	**07 57 36.3**	**-0.5**
	comp=N,1.3nm,0.6s,mb4.0,baz=350,slow=23,SNR=4.0						
ARCES	**ARCESS Array B**	**86.18**	**19**	P	**P**	**07 57 35.1**	**-1.3**
	comp=N,1.4nm,0.8s,mb3.9,baz=304,slow=4.4,SNR=4.5						
ARCES				LR	LR	08 34 40.3	
	comp=N,66nm,20.2s,baz=87,slow=35						
KHC	**Kasperske Hory**	**87.92**	**40**	*e*P	pP	07 58 08.5	+1.8
GERES	**GERESS Array B**	**88.08**	**40**	pP	pP	07 58 04.7	-2.8
	comp=N,0.6nm,0.6s,baz=243,slow=2.2,SNR=2.6						
FINES	**FINESS Array B**	**90.02**	**26**	LR	LR	08 34 11.6	
	comp=N,48nm,21.2s,baz=312,slow=33						
AKASG	**Malin Array Be**	**96.62**	**35**	LR	LR	08 37 48.3	
	comp=N,72nm,20.4s,baz=280,slow=33						
VNA1	**Neumayer--Stat**	**98.35**	**161**	⇓*i*	**P**	**07 58 34.7**	**+1.9**
VNA2	**Neumayer--Watz**	**98.69**	**161**	⇑*i*	**P**	**07 58 35.2**	**+0.8**
SNAA	**Sanae**	**100.28**	**161**	⇑*i*	P	07 58 38.2	-3.3
SONM	**Songino Array**	**118.53**	**349**	PKP	PKPdf	08 03 43.0	+1.1
	comp=N,1.0nm,0.8s,baz=90,slow=1.2,SNR=5.8						
MAW	**Mawson**	**121.75**	**167**	PKP	PKPdf	08 03 48.4	+0.7
	comp=N,1.9nm,0.7s,baz=186,slow=7.6,SNR=11						
WMQ	**Urumqi**	**123.72**	**4**	PKP	PKPdf	08 03 51.5	-0.6
WMQ				XPKP		08 04 23.0	
WMQ				PP	PP	08 05 39.8	-0.5
WMQ				PKS	PKS	08 07 27.0	-0.9
WMQ				PP	PP		
	comp=Z,13nm,7.3s						
WMQ				LR	LR		
	comp=N,171nm,39.6s						
WMQ				LR	LR		
	comp=E,72nm,34.1s						
WMQ				LR	LR		
	comp=Z,118nm,34.2s						
TOO	**Toolangi**	**126.50**	**232**	*e*PKP	PKPdf	08 03 59.9	+2.3
	comp=Z,3.9nm,0.7s						
NJ2	**Nanjing**	**128.79**	**331**	*e*PKP	PKPdf	08 04 00.0	-2.2
LZH	**Lanzhou**	**130.35**	**348**	*e*PKP	PKPdf	08 04 05.0	-0.1
LZH				XPKP		08 04 34.8	
LZH				PP	PP	08 06 23.0	-1.0
LZH				*e*SKS	SKS	08 11 06.0	+1.0
LZH				*e*SKKS		08 13 09.0	
LZH				SS	SS	08 23 39.0	-2.5
LZH				PP	PP		
	comp=Z,187nm,5.4s						
LZH				LR	LR		
	comp=E,203nm,18.7s						
LZH				LR	LR		
	comp=Z,292nm,20.0s						
LZH	**Lanzhou**	**130.35**	**348**	*e*PKP	PKPdf	08 04 05.0	-0.1
LZH				sPKP		08 04 34.8	
LZH				PP	PP	08 06 23.0	-1.0
LZH				*e*SKS	SKS	08 11 06.0	+1.0
LZH				*e*SKKS		08 13 09.0	
LZH				SS	SS	08 23 39.1	-2.4
LZH				LR	LR		
	comp=Z,290nm,20.0s						
STKA	**Stephens Creek**	**130.84**	**239**	*e*PKKP	PKPdf	08 04 07.6	+1.5
	comp=Z,7.3nm,1.3s						
STKA	**Stephens Creek**	**130.84**	**239**	PKP	PKPdf	08 04 07.7	+1.6
	comp=Z,4.3nm,0.6s,baz=353,slow=1.8,SNR=15						
ENH	**Enshi**	**134.25**	**339**	PKPdf	PKPdf	08 04 13.7	+1.1
WB2	**Warramunga Arr**	**138.94**	**254**	*e*PKP	PKPdf	08 04 13.4	-8.0
WB2				*e*pPKP		08 04 23.1	
WB2				*e*		08 04 44.6	
WRAB	**Tennant Creek**	**138.94**	**254**	*e*PKPpre		08 04 13.2	
WRAB				*e*PKPdf	PKPdf	08 04 22.8	+1.4
WRA	**Warramunga Arr**	**138.95**	**254**	PKhKP		08 04 13.1	
	comp=Z,1.9nm,0.6s,baz=96,slow=3.0,SNR=28						
WRA				PKP	PKPdf	08 04 23.4	+2.0
	comp=Z,6.4nm,0.8s,baz=90,slow=2.4,SNR=30						
WRA				pPKP		08 04 43.3	
	comp=Z,7.1nm,0.7s,baz=89,slow=1.6,SNR=7.2						
WRA				SKPbc		08 07 54.8	
	comp=Z,1.3nm,0.8s,baz=87,slow=1.8,SNR=5.8						
ASAR	**Alice Springs**	**138.97**	**248**	PKhKP		08 04 12.8	
	comp=Z,2.5nm,0.7s,baz=113,slow=1.8,SNR=21						
ASAR				PKP	PKPdf	08 04 23.2	+1.9
	comp=Z,5.5nm,0.9s,baz=106,slow=1.8,SNR=22						
ASAR				pPKP		08 04 43.7	
	comp=Z,5.9nm,0.7s,baz=97,slow=1.8,SNR=7.3						
ASAR				SKPbc		08 07 54.7	
	comp=Z,3.4nm,0.7s,baz=100,slow=3.0,SNR=17						
ASPA	**Alice Springs**	**138.97**	**248**	*e*PKP	PKPdf	08 04 15.9	-5.5
KAKA	**Kakadu**	**140.77**	**265**	*e*PKP	PKPdf	08 04 26.4	+1.5
	comp=Z,5.7nm,0.7s						
KAKA				*e*		08 04 46.9	
FITZ	**Fitzroy Crossi**	**147.29**	**256**	*e*PKP	PKPdf	08 04 38.1	+2.1
	comp=Z,18nm,1.0s						
CMAR	**Chiang Mai Arr**	**148.44**	**348**	PKPbc	PKPdf	08 04 39.8	+1.9
	comp=Z,5.0nm,0.9s,baz=345,slow=2.9,SNR=13						
KLBR	**Kellerberrin**	**149.80**	**227**	*e*PKP	PKPdf	08 04 45.9	+6.2
	comp=Z,55nm,1.5s						
MUN	**Mundaring**	**150.67**	**225**	*e*PKP	PKPdf	08 04 48.4	+7.4
	comp=Z,30nm,0.8s						

IGQ 28 08:06:33.9, 1.79N×79.46W, h12^{km}±9^{km}, mb4.2, 1C-1D, Error ellipse: s-maj=12.2km s-min=9.3km az=164.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**1.82**	**142**	P	Pn	08 07 06.7	+1.3
COTA				S	Sn	08 07 28.3	-0.3
JOR1	**San Jorge 1**	**1.95**	**155**	P	Pn	08 07 12.4	+5.1
JOR1				S	Sn	08 07 39.0	+7.1
YANA	**Yana**	**2.09**	**155**	P	Pn	08 07 11.3	+2.1
PINO	**Pino**	**2.11**	**156**	P	Pn	08 07 11.4	+1.9
CGGP	**Crater GGP**	**2.13**	**156**	P	Pn	08 07 11.9	+2.2
GGP	**Refugio Guagua**	**2.13**	**156**	⇑P	Pn	08 07 12.6	+2.8
GGP				S	Sn	08 07 39.6	+3.2
JUA2	**San Juan 2**	**2.16**	**157**	P	Pn	08 07 13.0	+2.8
CAYA	**Cayambe**	**2.25**	**139**	⇓P	Pn	08 07 13.9	+2.5
CAYA				S	Sn	08 07 43.4	+4.0
CAYR	**Refugio Cayamb**	**2.28**	**140**	P	Pn	08 07 15.1	+3.2
ANTI	**Antisana**	**2.57**	**150**	P	Pn	08 07 19.8	+3.7
ANTI				S	Sn	08 07 52.1	+4.5
NAS1	**Nasa**	**2.59**	**158**	P	Pn	08 07 19.8	+3.4
VC1	**Cotopaxi 1**	**2.63**	**156**	P	Pn	08 07 21.2	+4.2
QIL1	**Quilotoa**	**2.67**	**169**	P	Pn	08 07 21.3	+3.8
TAMB	**Tambo**	**2.69**	**156**	P	Pn	08 07 22.4	+4.5
TAMB				S	Sn	08 07 58.3	+7.6

IDC 28 08:10:08.8±36.0, 24.17S×176.90W, mb4.2/3, mb1 4.4/3, mb1mx3.9/14, Error ellipse: s-maj=657.0km s-min=144.0km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.31**	**269**	*e*P	P	08 17 01.5	+2.3
	1.8nm,0.4s						
STKA	**Stephens Creek**	**37.26**	**249**	*e*P	P	08 17 21.4	-2.7
	3.6nm,1.8s						
STKA	**Stephens Creek**	**37.26**	**249**	P	P	08 17 21.0	-3.2
	1.0nm,0.4s,baz=98,slow=14,SNR=6.9						
ASAR	**Alice Springs**	**44.78**	**260**	P	P	08 18 24.6	-1.6
	1.8nm,0.4s,baz=95,slow=8.1,SNR=50						
ASPA	**Alice Springs**	**44.79**	**260**	*e*P	P	08 18 24.7	-1.6
WB2	**Warramunga Arr**	**45.20**	**265**	*e*P	P	08 18 28.8	-0.9
WRA	**Warramunga Arr**	**45.21**	**265**	P	P	08 18 28.9	-0.8
	3.1nm,0.5s,baz=102,slow=7.8,SNR=63						
KAKA	**Kakadu**	**49.20**	**274**	*e*P	P	08 19 01.9	+0.9
	3.2nm,0.4s						

WEL 28 08:46:43.4±0.7, 38.95S×175.27E, h207^{km}±5^{km}, ML3.5/4, Error ellipse: s-maj=5.6km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.22**	**105**	PN	P	08 47 10.7	-0.1
CNZ	**Chateau**	**0.33**	**139**	PN	P	08 47 11.1	0.0
NGZ	**Ngauruhoe**	**0.35**	**132**	PN	P	08 47 11.1	0.0
FWVZ	**Far West T-bar**	**0.38**	**145**	PN	P	08 47 10.7	-0.5
VRZ	**Vera Road**	**0.44**	**245**	PN	P	08 47 10.1	-1.3
MOVZ	**Moawhango**	**0.60**	**141**	PN	P	08 47 11.8	-0.1
WAZ	**Wanganui**	**0.84**	**195**	PN	P	08 47 12.1	-0.9
BKZ	**Black Stump Fm**	**0.98**	**103**	PN	P	08 47 14.1	+0.3
BKZ				SN	S	08 47 36.6	-0.8
TSZ	**Takapari Road**	**1.23**	**154**	PN	P	08 47 15.2	-0.6
TSZ				SN	S	08 47 39.8	-1.0
URZ	**Urewera**	**1.60**	**65**	PN	P	08 47 17.9	-1.0
URZ				SN	S	08 47 45.4	-0.8
MRZ	**Mangatainoka R**	**1.73**	**172**	PN	P	08 47 19.4	-0.7
MRZ				SN	S	08 47 46.2	-2.3
MWZ	**Matawai**	**1.87**	**72**	PN	P	08 47 20.9	-0.6
MWZ				SN	S	08 47 48.7	-2.0
BFZ	**Birch Farm**	**1.89**	**157**	PN	P	08 47 21.3	-0.3
BFZ				SN	S	08 47 50.5	-0.5
KIW	**Kapiti Island**	**1.93**	**188**	PN	P	08 47 20.8	-1.3
CAW	**Cannon Point**	**2.17**	**184**	PN	P	08 47 23.1	-1.3
MTW	**Mount Morrison**	**2.22**	**175**	PN	P	08 47 23.6	-1.4
MRW	**Makara Radio**	**2.32**	**191**	PN	P	08 47 24.4	-1.7
SNZO	**South Karori**	**2.40**	**190**	PN	P	08 47 25.0	-2.0
TUWZ	**Tuamarina**	**2.68**	**202**	PN	P	08 47 28.1	-2.0
NNZ	**Nelson**	**2.69**	**212**	PN	P	08 47 27.4	-2.9
MXZ	**Matakaoa Point**	**2.76**	**61**	PN	P	08 47 30.6	-0.4
QRZ	**Quartz Range**	**2.82**	**227**	PN	P	08 47 27.8	-3.9
THZ	**Tophouse**	**3.34**	**212**	PN	P	08 47 34.4	-3.5
THZ				SN	S	08 48 15.3	-4.9
KHZ	**Kahutara**	**3.71**	**200**	PN	P	08 47 39.6	-2.8
DSZ	**Denniston Nort**	**3.85**	**222**	SN	S	08 48 23.5	-7.7
LTZ	**Lake Taylor**	**4.46**	**210**	PN	P	08 47 47.8	-3.9
MQZ	**McQueen’s Vall**	**5.15**	**202**	SN	S	08 48 51.9	-8.4

MOS ***28*** *09:08:43.3±0.9, 4.98S×151.34E, h33^{km}, mb5.5/33, Error ellipse: s-maj=17.1km s-min=9.8km az=99.0*

CSEM ***28*** *09:08:45.3, 4.38S×151.00E, h33^{km}, mb5.6*

BJI ***28*** *09:08:56.4, 5.10S×151.72E, h167^{km}, mB5.2, mb5.3*

HRVD ***28*** *09:08:57.9±0.2, 5.28S×151.33E, h156^{km}±1^{km}, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s50,c72;Mantle waves: s72,c145; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.76±.03; M$_{\theta\theta}$-0.28±.03; M$_{\phi\phi}$-0.48±.03; M$_{r\theta}$0.95±.02; M$_{\theta\phi}$-0.49±.03; M$_{\phi r}$0.07±.02; Best double couple: M$_0$1.25×10^{17} NP1: ϕ_s197°, δ30°, λ41°. NP2: ϕ_s70°, δ71°, λ113°. Principal axes: T 1.35, Plg58°, Azm12°; N -.19, Plg22°, Azm242°; P -1.16, Plg23°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***28*** *09:08:57.8, 5.13S×151.25E, h149^{km}, MB5.3*

NEIC ***28*** *09:08:57.9±0.1, 5.13S×151.25E, mb5.3/65, Error ellipse: s-maj=4.8km s-min=3.9km az=122.0*

IDC ***28*** *09:08:58.0±0.5, 5.18S×151.31E, h149^{km}±4^{km}, mb4.9/24, mb1 4.9/25, mb1mx4.9/26, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=11.7km s-min=7.7km az=113.0, Putative timing error at ZAL*

ISC 28 09:08:58.2±0.2, 5.13S±0.03×151.22E±0.03, h163^{km}, h163^{km}±4.1^{km}:pP-P, n342, σ1^{s}00/228, mb5.1/102, 9C-8D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**223**	*e*P	**P**	**09 10 24.6**	**+0.7**
	656nm,0.4s						
HNR	**Honiara**	**9.65**	**117**	*e*P	**P**	**09 11 12.0**	**-2.4**
HNR				*e*S	**S**	**09 13 20.0**	**+19**
CTA	**Charters Tower**	**15.63**	**198**	*e*P	**P**	**09 12 31.9**	**+0.8**
	92nm,1.6s						
CTA				*e*S	**S**	**09 15 29.0**	**+10**
CTA				*e*SCP		09 20 43.1	
CTA	**Charters Tower**	**15.63**	**198**	P	**P**	**09 12 32.5**	**+1.4**
	7.0nm,0.3s,baz=21,slow=13,SNR=77						
CTA				LR	LR	09 17 49.8	
	comp=Z,575nm,20.3s,baz=15,slow=34						
CTA	**Charters Tower**	**15.63**	**198**	P	**P**	**09 12 32.5**	**+1.4**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,575nm,20.3s						
CTAO	**Charters Tower**	**15.63**	**198**	*e*P	**P**	**09 12 31.9**	**+0.8**
	comp=Z,46nm,0.6s						
GUMO	**Guam**	**19.64**	**341**	*e*P	**P**	**09 13 17.4**	**+1.0**
	comp=Z,2μm,1.4s						
KAKA	**Kakadu**	**20.04**	**247**	*e*P	**P**	**09 13 19.7**	**-0.9**
	comp=Z,126nm,0.4s						
KAKA				*e*S	**S**	**09 16 52.7**	**+1.1**
KAKA				*e*SCP		09 20 51.1	
WRAB	**Tennant Creek**	**22.05**	**227**	*e*P	**P**	**09 13 40.6**	**+0.3**
	comp=Z,68nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**22.05**	**227**	⇓*i*P	**P**	**09 13 40.9**	**+0.5**
WB2				*e*S	**S**	**09 17 33.0**	**+5.0**
WB2				*e*SCP		09 20 56.5	
WB2				*e*SCS	ScS	09 24 41.8	+3.8

WRA	**Warramunga Arr**	**22.06**	**227**	P	**P**	**09 13 41.0**	**+0.5**
	comp=Z,30nm,0.4s,mb5.1,baz=52,slow=10.0,SNR=275						
WRA				pP		09 14 06.8	
	comp=Z,19nm,0.5s,baz=51,slow=10,SNR=3.8						
WRA				S	**S**	**09 17 33.9**	**+5.8**
	comp=Z,50nm,1.4s,baz=54,slow=16,SNR=17						
WRA				ScP		09 20 56.7	
	comp=Z,23nm,0.9s,baz=51,slow=2.8,SNR=28						
WRA	**Warramunga Arr**	**22.06**	**227**	P	**P**	**09 13 41.0**	**+0.5**
WRA				*PP		09 14 06.8	
WRA				S	**S**	**09 17 33.9**	**+5.7**
WRA				pmax	pmax		
	comp=Z,30nm,0.4s						
WRA				pmax	pmax		
	comp=N,19nm,0.5s						
WRA				smax			
	comp=N,50nm,1.4s						
WRA				pmax	pmax		
	comp=N,23nm,0.9s						
NOUC	**Port Laguerre**	**22.31**	**141**	*e*P	**P**	**09 13 42.6**	**-0.3**
NOUC	**Port Laguerre**	**22.31**	**141**	*e*P	**P**	**09 13 42.6**	**-0.3**
DZM	**Mont Dzumac**	**22.38**	**140**	⇑*e*P	**P**	**09 13 42.9**	**-0.7**
ASAR	**Alice Springs**	**24.86**	**220**	P	**P**	**09 14 07.4**	**0.0**
	comp=N,32nm,0.4s,mb5.2,baz=53,slow=9.0,SNR=437						
ASAR				pP		09 14 37.7	
	comp=N,20nm,0.7s,baz=50,slow=9.1,SNR=4.4						
ASAR				S	**S**	**09 18 21.2**	**+5.4**
	comp=N,13nm,1.2s,baz=40,slow=15,SNR=2.7						
ASAR				ScP		09 21 04.8	
	comp=N,12nm,0.8s,baz=52,slow=3.0,SNR=25						
ASAR				LR	LR	09 24 21.2	
	comp=N,200nm,18.5s,baz=56,slow=37						
ASPA	**Alice Springs**	**24.86**	**220**	⇓*i*P	**P**	**09 14 07.3**	**-0.1**
ASPA				*e*		09 14 37.9	
ASPA				*e*S	**S**	**09 18 16.6**	**+0.8**
ASPA				*e*SCP		09 21 04.8	
ASPA				*e*PCS		09 23 00.5	
ASPA				*e*SCS	ScS	09 24 53.1	+4.1
ARMA	**Armidale**	**25.16**	**179**	*e*P	**P**	**09 14 10.2**	**+0.1**
STKA	**Stephens Creek**	**28.09**	**198**	*e*P	**P**	**09 14 35.3**	**-1.6**
	comp=N,12nm,0.8s,mb4.7						
STKA				*e*SCP		09 21 14.8	
STKA	**Stephens Creek**	**28.09**	**198**	P	**P**	**09 14 35.5**	**-1.5**
	comp=N,21nm,1.0s,mb4.8,baz=18,slow=9.5,SNR=30						
STKA				pP	pP	09 15 07.4	-3.1
	comp=N,29nm,1.1s,baz=19,slow=9.6,SNR=4.6						
STKA				LR	LR	09 26 29.9	
	comp=N,242nm,21.3s,baz=30,slow=38						
FITZ	**Fitzroy Crossi**	**28.12**	**241**	⇑*i*P	**P**	**09 14 36.6**	**-0.7**
	comp=N,26nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**28.12**	**241**	P	**P**	**09 14 36.6**	**-0.7**
	comp=N,26nm,0.4s,mb5.3,baz=45,slow=5.9,SNR=87						
FITZ				pP	pP	09 15 08.3	-2.7
	comp=N,12nm,0.4s,baz=45,slow=4.0,SNR=3.1						
FITZ				LR	LR	09 26 32.4	
	comp=N,169nm,20.4s,baz=80,slow=37						
CNB	**Canberra Magne**	**30.08**	**183**	*e*P	**P**	**09 14 53.6**	**-1.0**
	comp=N,17nm,0.7s,mb4.9						
TOO	**Toolangi**	**32.71**	**188**	*e*P	**P**	**09 15 16.6**	**-0.8**
	comp=N,9.9nm,1.0s,mb4.5						
TGY	**Tagaytay City**	**35.61**	**303**	P	**P**	**09 15 44.2**	**+1.9**
	comp=N,191nm,0.4s,mb6.1,baz=187,slow=4.4,SNR=4.1						
TGY	**Tagaytay City**	**35.61**	**303**	P	**P**	**09 15 44.2**	**+2.0**
TGY				pmax	pmax		
	comp=Z,191nm,0.4s						
JOW	**Kunigami**	**38.77**	**326**	P	**P**	**09 16 10.3**	**+1.7**
	comp=Z,270nm,1.3s,mb5.7,baz=146,slow=12,SNR=4.0						
URZ	**Urewera**	**40.52**	**148**	P	**P**	**09 16 22.6**	**-0.3**
	comp=Z,26nm,1.1s,mb4.8,baz=270,slow=3.1,SNR=6.5						
KLBR	**Kellerberrin**	**40.94**	**226**	*e*P	**P**	**09 16 25.1**	**-1.3**
	comp=Z,5.6nm,0.3s,mb4.7						
TATO	**Taipei**	**41.61**	**317**	*e*P	**P**	**09 16 28.9**	**-3.2**
NWAO	**Narrogin (SRO)**	**42.04**	**225**	P	**P**	**09 16 34.0**	**-1.4**
	comp=Z,4.7nm,0.6s,mb4.3,baz=31,slow=6.7,SNR=7.5						
NWAO				LR	LR	09 34 29.6	
	comp=Z,370nm,19.1s,baz=62,slow=36						
NWAO	**Narrogin (SRO)**	**42.04**	**225**	P	**P**	**09 16 34.1**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,371nm,19.1s						
NWAO	**Narrogin (SRO)**	**42.04**	**225**	*e*P	**P**	**09 16 33.6**	**-1.9**
RPZ	**Rata Peaks**	**42.22**	**159**	P	**P**	**09 16 36.2**	**-0.6**
	comp=Z,42nm,0.6s,mb5.2,baz=334,slow=8.2,SNR=22						
RPZ				LR	LR	09 31 44.8	
	comp=Z,319nm,18.2s,baz=343,slow=32						
MUN	**Mundaring**	**42.26**	**226**	*e*P	**P**	**09 16 36.2**	**-1.1**
	comp=Z,15nm,1.2s,mb4.5						
JNU	**Nakatsue**	**42.66**	**334**	P	**P**	**09 16 40.6**	**+0.2**
	comp=Z,37nm,0.8s,mb5.0,baz=99,slow=7.7,SNR=13						
MAJO	**Matsushiro**	**43.21**	**345**	*e*P	**P**	**09 16 42.8**	**-2.1**
	comp=Z,32nm,1.3s,mb4.8						
MAT	**Matsushiro**	**43.21**	**345**	P	**P**	**09 16 42.7**	**-2.2**
MAT	**Matsushiro**	**43.21**	**345**	*e*P	**P**	**09 16 43.0**	**-1.9**
	comp=Z,38nm,1.3s,mb4.9						
SSE	**Sheshan**	**46.05**	**323**	P	**P**	**09 17 09.5**	**+1.9**
SSE				AMB	AMB		
	comp=Z,59nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,418nm,3.9s						
SSE				LR	LR		
	comp=N,99nm,25.0s						
SSE				LR	LR		
	comp=E,167nm,25.5s						
SSE				LR	LR		
	comp=Z,134nm,22.1s						
SSE	**Sheshan**	**46.05**	**323**	P	**P**	**09 17 09.4**	**+1.8**
	comp=Z,59nm,0.7s,mb5.3						
SSE				pP	pP	09 17 18.4	-25
SSE				S	**S**	**09 23 57.0**	**+18**
SSE				sS		09 24 12.2	
SSE				ScS	ScS	09 27 01.8	+19
SSE				LR	LR		
	comp=Z,130nm,22.1s						
QIZ	**Qiongzhong**	**47.29**	**302**	P	**P**	**09 17 14.3**	**-3.1**
QIZ				XP	sP	09 18 11.5	-0.7
QIZ				*e*S	**S**	**09 23 54.0**	**-3.2**
QIZ				SS	SS	09 27 21.0	-1.1
QIZ				AMB	AMB		
	comp=Z,264nm,3.8s						
NJ2	**Nanjing**	**48.13**	**322**	*e*P	**P**	**09 17 20.0**	**-3.7**
NJ2				S	**S**	**09 24 12.0**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,130nm,5.2s						
NJ2				LR	LR		
	comp=N,7µm,13.2s						
NJ2				LR	LR		
	comp=E,6µm,18.8s						
NJ2				LR	LR		
	comp=Z,5µm,16.6s						
INCN	**Inchon**	**48.19**	**334**	*e*P	**P**	**09 17 24.6**	**+0.4**
	comp=Z,45nm,0.6s,mb5.3						
ASAJ	**Asahikawa**	**49.63**	**352**	P	**P**	**09 17 34.8**	**-0.3**
	comp=Z,25nm,0.8s,mb4.9,baz=211,slow=9.2,SNR=15						
ASAJ	**Asahikawa**	**49.63**	**352**	P	**P**	**09 17 34.8**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,25nm,0.8s						
WHN	**Wuhan**	**50.02**	**318**	⇓P	**P**	**09 17 40.0**	**+1.8**
WHN				AMB	AMB		
	comp=Z,122nm,1.5s,mb5.3						
RAR	**Rarotonga**	**50.09**	**113**	LR	LR	09 33 24.3	
	comp=Z,28nm,19.3s,baz=62,slow=29						
YSS	**Yuzh-Sakhalins**	**52.40**	**353**	⇑*e*P	**P**	**09 17 53.7**	**-2.2**
YSS				*e*		09 19 03.1	
YSS				*e*S	**S**	**09 25 19.0**	**+12**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**52.40**	**353**	*e*P	**P**	**09 17 54.6**	**-1.3**
	comp=Z,10nm,0.5s,mb4.7						
YSS				*e*PcP	PcP	09 19 03.5	-1.0
MDJ	**Mudanjiang**	**53.20**	**341**	P	**P**	**09 18 00.8**	**-1.0**
MDJ				AP	pP	09 18 39.0	-0.1
MDJ				PCP	PcP	09 19 05.8	-1.7
MDJ				PP	PP	09 20 03.5	-1.4
MDJ				S	**S**	**09 25 19.8**	**+1.6**
MDJ				SCS	ScS	09 27 32.8	+1.7
MDJ				SS	SS	09 29 02.5	+2.8
MDJ				LR	LR		
	comp=N,204nm,37.8s						
MDJ				LR	LR		
	comp=E,109nm,51.8s						
MDJ				LR	LR		
	comp=Z,256nm,51.8s						
ENH	**Enshi**	**53.24**	**314**	*e*P	**P**	**09 18 02.5**	**+0.2**
	comp=Z,118nm,1.2s,mb5.5						
GYA	**Guiyang**	**53.35**	**308**	⇑*i*P	**P**	**09 18 04.3**	**+1.1**
GYA				AP	pP	09 18 44.3	+3.8
GYA				XP	sP	09 19 03.5	+5.1
GYA				PP	PP	09 20 08.8	+2.3
GYA				S	**S**	**09 25 22.5**	**+1.9**
GYA				LR	LR		
	comp=N,480nm,16.4s						
GYA				LR	LR		
	comp=E,520nm,16.5s						
GYA				LR	LR		
	comp=Z,400nm,15.6s						
CN2	**Changchun**	**53.97**	**337**	*e*P	**P**	**09 18 05.8**	**-1.7**
CN2				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.8						
NST	**Nakhon Sawan**	**54.63**	**293**	P	**P**	**09 18 13.0**	**+0.4**
NANT	**Nan**	**55.15**	**297**	⇓P	**P**	**09 18 15.0**	**-1.4**
	comp=Z,50nm,1.0s,mb5.2						
BJI	**Beijing**	**55.31**	**328**	P	**P**	**09 18 16.5**	**-0.8**
BJI				S	**S**	**09 25 55.5**	**+8.9**
BJI				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8						
BJI	**Beijing**	**55.31**	**328**	P	**P**	**09 18 16.6**	**-0.7**
	comp=Z,24nm,1.3s,mb4.8						
BJI				pP	pP	09 18 38.4	-16
BJI				sP	sP	09 18 49.0	-24
BJI				S	**S**	**09 25 55.6**	**+9.0**
BJI				sS		09 26 32.1	
XAN	**Xi’an**	**55.79**	**317**	P	**P**	**09 18 20.5**	**-0.3**
XAN				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2						
KMI	**Kunming**	**55.88**	**305**	*e*P	**P**	**09 18 22.8**	**+1.3**
KMI				AP	pP	09 19 01.5	+2.4
KMI				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.9						
KMI				LR	LR		
	comp=Z,159nm,27.2s						
KMI	**Kunming**	**55.88**	**305**	*e*P	**P**	**09 18 22.8**	**+1.3**
	comp=Z,30nm,1.5s,mb4.9						
KMI				pP	pP	09 19 01.5	+2.4
KMI				PcS		09 23 09.2	
KMI				S	**S**	**09 26 14.1**	**+20**
KMI				sS		09 27 12.7	
KMI				SS	SS	09 30 13.1	+31
KMI				LR	LR		
	comp=Z,160nm,27.2s						
CHRT	**Chiangrai**	**56.33**	**298**	⇑P	**P**	**09 18 25.0**	**+0.2**
	comp=Z,218nm,1.3s,mb5.8						
CMAR	**Chiang Mai Arr**	**56.60**	**296**	P	**P**	**09 18 27.9**	**+1.2**
	comp=Z,52nm,1.2s,mb5.2,baz=114,slow=5.4,SNR=56						
CMAR				PKP2bc		09 48 32.4	
	comp=Z,1.4nm,0.4s,baz=290,slow=3.6,SNR=11						
CMAR	**Chiang Mai Arr**	**56.60**	**296**	P	**P**	**09 18 28.0**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,52nm,1.2s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**56.60**	**296**	P	**P**	**09 18 27.9**	**+1.2**
CMAR				⇑*e*		09 48 32.4	
CHG	**Chiang Mai**	**56.72**	**296**	⇓P	**P**	**09 18 28.6**	**+1.1**
	comp=Z,48nm,1.3s,mb5.2						
KLR	**Kul’dur**	**56.73**	**345**	*e*P	**P**	**09 18 26.0**	**-1.3**
KLR				pmax	pmax		
	comp=N,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
CD2	**Chengdu**	**57.77**	**312**	P	**P**	**09 18 35.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.3						
PET	**Petropavlovsk**	**58.28**	**5**	*e*P	**P**	**09 18 36.7**	**-1.3**
PET				*e*		09 19 25.9	
PET				*e*		09 20 41.6	
PET				*e*S	**S**	**09 26 39.6**	**+14**
PET				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.1						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
HHC	**Hu-ho-hao-te**	**58.41**	**325**	*i* P	**P**	**09 18 39.0**	**-0.1**
HHC				AP	pP	09 19 16.8	-0.3
HHC				XP	sP	09 19 31.3	-3.5
HHC				PP	PP	09 20 48.5	-3.3
HHC				S	**S**	**09 26 25.5**	**-1.7**
HHC				XS		09 27 36.8	
HHC				SCS	ScS	09 28 08.0	-0.6
HHC				AMB	AMB		
	comp=Z,56nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,241nm,5.9s						
HHC				LR	LR		
	comp=N,65nm,19.0s						
HHC				LR	LR		
	comp=E,79nm,10.7s						
HHC				LR	LR		
	comp=Z,84nm,17.8s						
BTO	**Baotou**	**59.14**	**324**	*e*P	**P**	**09 18 43.5**	**-0.7**
LZH	**Lanzhou**	**60.38**	**317**	⇑P	**P**	**09 18 53.5**	**+0.8**
LZH				AP	pP	09 19 30.5	-0.4
LZH				XP	sP	09 19 46.3	-2.3
LZH				PP	PP	09 21 10.0	+0.4
LZH				*e*S	**S**	**09 26 53.0**	**+0.4**
LZH				XS		09 27 59.0	
LZH				*e*SS	SS	09 30 56.0	+1.9
LZH				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,291nm,4.0s						
LZH				LR	LR		
	comp=E,850nm,16.0s						
LZH				LR	LR		
	comp=Z,970nm,18.5s						
LZH	**Lanzhou**	**60.38**	**317**	⇑P	**P**	**09 18 53.4**	**+0.7**
	comp=Z,95nm,1.4s,mb5.4						
LZH				pP	pP	09 19 30.6	-0.3
LZH				sP	sP	09 19 46.2	-2.4
LZH				PP	PP	09 21 10.0	+0.4
LZH				*e*S	**S**	**09 26 53.0**	**+0.4**
LZH				sS		09 27 59.0	
LZH				*e*SS	SS	09 30 56.1	+2.0
LZH				LR	LR		
	comp=Z,970nm,18.5s						
HIA	**Hailar**	**60.70**	**337**	*e*P	**P**	**09 18 54.2**	**-0.5**
	comp=Z,66nm,0.9s,mb5.5						
HIA				*e*PcP	PcP	09 19 35.6	-1.2
FX1	**Attu Island--F**	**60.71**	**15**	P	**P**	**09 18 53.2**	**-1.5**
	comp=Z,21nm,0.4s,mb5.3,baz=283,slow=5.0,SNR=6.9						
FX1	**Attu Island--F**	**60.71**	**15**	P	**P**	**09 18 53.2**	**-1.5**
FX1				pmax	pmax		
	comp=Z,21nm,0.4s						
MA2	**Magadan**	**64.50**	**360**	*e*P	**P**	**09 19 17.9**	**-1.7**
MA2				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.3						
GTA	**Gaotai**	**64.84**	**318**	P	**P**	**09 19 22.5**	**+0.4**
GTA				PP	PP	09 21 44.0	-4.3
CLNS	**Chul’man**	**65.39**	**344**	*e*P	**P**	**09 19 14.5**	**-11**
CLNS				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,19nm,1.6s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
SONM	**Songino Array**	**65.78**	**329**	P	**P**	**09 19 28.3**	**+0.3**
	comp=E,36nm,0.6s,mb5.3,baz=143,slow=5.5,SNR=134						
SONM				PKP2bc		09 48 06.2	
	comp=E,0.7nm,0.8s,baz=315,slow=2.0,SNR=3.3						
SONM	**Songino Array**	**65.78**	**329**	P	**P**	**09 19 28.3**	**+0.3**
SONM				⇑*e*		09 48 06.2	
LSA	**Lhasa**	**67.13**	**305**	*e*P	**P**	**09 19 37.9**	**+1.0**
	comp=E,12nm,0.5s,mb5.0						
SEY	**Seymchan**	**67.88**	**1**	*e*P	**P**	**09 19 40.5**	**-0.4**
SEY				*e*		09 29 19.5	
SEY				pmax	pmax		
	comp=N,50nm,1.3s						
SEY				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.5						
UNV	**Unalaska Valle**	**68.59**	**25**	*e*P	**P**	**09 19 44.1**	**-1.3**
	comp=Z,36nm,0.6s,mb5.3						
ZAK	**Zakamensk**	**68.97**	**329**	*e*P	**P**	**09 19 47.6**	**-0.2**
YAK	**Yakutsk**	**69.00**	**349**	*e*P	**P**	**09 19 46.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.2						
YAK				pmax	pmax		
	comp=N,20nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.6						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK	**Yakutsk**	**69.00**	**349**	*e*P	**P**	**09 19 46.6**	**-1.1**
	comp=N,35nm,0.5s,mb5.3						
BOD	**Bodaibo**	**69.55**	**340**	*e*P	**P**	**09 19 49.2**	**-2.0**
MOY	**Mondy**	**70.89**	**330**	*e*P	**P**	**09 20 00.0**	**+0.6**
GUN	**Gumba**	**70.95**	**302**	*e*P	**P**	**09 19 59.5**	**-0.7**
	comp=N,54nm,0.7s,mb5.4						
PKI	**Pulchoki**	**71.25**	**301**	*e*P	**P**	**09 20 01.0**	**-1.0**
	comp=N,185nm,1.5s,mb5.6						
KKN	**Kakani**	**71.42**	**301**	*e*P	**P**	**09 20 03.0**	**0.0**
	comp=N,51nm,1.0s,mb5.2						
DMN	**Daman**	**71.52**	**301**	*e*P	**P**	**09 20 03.9**	**+0.3**
	comp=N,167nm,1.2s,mb5.6						
GKN	**Gorkha**	**72.03**	**301**	*e*P	**P**	**09 20 06.2**	**-0.4**
	comp=N,89nm,1.0s,mb5.4						
KOLN	**Koldanda**	**72.85**	**301**	*e*P	**P**	**09 20 10.9**	**-0.6**
	comp=N,68nm,1.0s,mb5.3						
WMQ	**Urumqi**	**74.92**	**318**	⇑*i*P	**P**	**09 20 22.8**	**-0.3**
WMQ				PCP	PcP	09 20 36.0	-0.4
WMQ				AP	pP	09 21 04.8	+1.9
WMQ				XP	sP	09 21 23.3	+2.8
WMQ				PP	PP	09 23 14.3	-0.2
WMQ				S	S	09 29 43.5	-1.9
WMQ				AMB	AMB		
	comp=Z,51nm,1.2s,mb5.0						
WMQ				LR	LR		
	comp=N,14nm,18.3s						
WMQ				LR	LR		
	comp=E,27nm,18.2s						
WMQ				LR	LR		
	comp=Z,54nm,19.4s						
HYB	**Hyderabad**	**75.11**	**289**	*i* P	**P**	**09 20 24.0**	**-0.7**
	comp=Z,60nm,1.0s,mb5.2						
HYB	**Hyderabad**	**75.11**	**289**	*e*P	**P**	**09 20 24.0**	**-0.7**
	comp=Z,60nm,1.0s,mb5.2						
SVW	**Sparrevohn**	**77.74**	**23**	*e*P	**P**	**09 20 39.5**	**+1.1**
	comp=Z,20nm,0.8s,mb4.8						
TIXI	**Tiksi**	**78.02**	**353**	*e*P	**P**	**09 20 38.7**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.7						
RSO	**Redoubt South**	**78.54**	**25**	*e*P	**P**	**09 20 41.3**	**-1.5**
MKAR	**Makanchi Array**	**79.54**	**319**	P	**P**	**09 20 48.6**	**+0.1**
	comp=Z,14nm,0.6s,mb4.8,baz=99,slow=7.4,SNR=122						
MKAR				PP	PP	09 23 50.1	-2.4
	comp=Z,2.9nm,0.9s,baz=104,slow=10.0,SNR=5.4						
MKAR	**Makanchi Array**	**79.54**	**319**	P	**P**	**09 20 48.7**	**+0.2**
MKAR						09 23 50.1	
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SLKM	**Skilak Lake**	**79.64**	**25**	*e*P	**P**	**09 20 48.0**	**-0.7**
PMR	**Palmer**	**80.64**	**25**	*e*P	**P**	**09 20 52.4**	**-1.7**
	comp=Z,24nm,0.8s,mb4.9						
SML	**Sawmill**	**81.08**	**25**	*e*P	**P**	**09 20 55.8**	**-0.6**
IMA	**Indian Mountai**	**81.30**	**20**	*e*P	**P**	**09 20 57.6**	**+0.2**
	comp=Z,5.7nm,0.7s,mb4.3						
EYAK	**Cordova Ski Ar**	**81.61**	**26**	*e*P	**P**	**09 20 57.6**	**-1.5**
NVS	**Novosibirsk**	**81.75**	**327**	*i* P	**P**	**09 20 58.2**	**-1.8**
NVS				pmax	pmax		
	comp=Z,61nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=E,29nm,1.4s						
NVS				pmax	pmax		
	comp=N,30nm,1.6s						
MCK	**McKinley**	**81.77**	**23**	*e*P	**P**	**09 20 58.5**	**-1.4**
	comp=N,10nm,0.5s,mb4.7						
DIV	**Divide**	**81.85**	**26**	*e*P	**P**	**09 21 00.3**	**-0.1**
	comp=N,40nm,0.6s,mb5.2						
KSH	**Kashi**	**81.96**	**311**	*e*P	**P**	**09 21 03.0**	**+1.6**
KSH				AMB	AMB		
	comp=Z,140nm,1.7s,mb5.3						
ULHL	**Ulahol**	**82.41**	**314**	P	**P**	**09 21 04.7**	**+1.1**
	SNR=8.7						
COLA	**College**	**82.75**	**22**	*e*P	**P**	**09 21 03.6**	**-1.3**
COLA				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.0						
COLA	**College**	**82.75**	**22**	*e*P	**P**	**09 21 03.6**	**-1.3**
	comp=Z,27nm,0.8s,mb5.0						
TKM2	**Tokmak 2**	**83.03**	**314**	P	**P**	**09 21 07.8**	**+0.9**
	SNR=36						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**09 21 04.7**	**-1.9**
	comp=Z,19nm,0.8s,mb4.9,baz=249,slow=5.1,SNR=354						
ILAR				PKKPbc		09 39 26.9	
	comp=Z,0.3nm,0.7s,baz=352,slow=1.4,SNR=6.1						
KURK	**Kurchatov**	**83.06**	**322**	P	**P**	**09 21 06.0**	**-0.8**
	comp=Z,389nm,1.1s,mb6.0,SNR=35						
KURK	**Kurchatov**	**83.06**	**322**	*e*P	**P**	**09 21 06.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,81nm,1.5s,mb5.2						
KURK	**Kurchatov**	**83.06**	**322**	*e*P	**P**	**09 21 06.6**	**-0.2**
	comp=Z,132nm,1.3s,mb5.5						
KZA	**Kyzart**	**83.08**	**313**	P	**P**	**09 21 09.1**	**+2.0**
	SNR=29						
KBK	**Karagaybulak**	**83.43**	**314**	P	**P**	**09 21 09.9**	**+1.0**
	SNR=12						
UCH	**Uchtor**	**83.65**	**313**	P	**P**	**09 21 11.3**	**+1.3**
	SNR=55						
CHMS	**Chumysh**	**83.65**	**314**	P	**P**	**09 21 10.7**	**+0.8**
	SNR=15						
FRU	**Bishkek**	**83.71**	**314**	*e*P	**P**	**09 21 11.0**	**+0.7**
FRU				*e*		09 21 23.0	
FRU				pmax	pmax		
	comp=Z,120nm,1.8s,mb5.3						
AAK	**Ala-Archa**	**83.75**	**314**	P	**P**	**09 21 11.8**	**+1.3**
	SNR=11						
AAK	**Ala-Archa**	**83.75**	**314**	*e*P	**P**	**09 21 10.5**	**+0.1**
	comp=Z,87nm,1.7s,mb5.2						
USP	**Ospenovka**	**83.89**	**314**	P	**P**	**09 21 12.0**	**+0.8**
	SNR=64						
AML	**Almayashu**	**84.22**	**313**	P	**P**	**09 21 14.6**	**+1.8**
	SNR=91						
EKS2	**Erkin-Say**	**84.28**	**314**	P	**P**	**09 21 14.4**	**+1.3**
	SNR=42						
MAW	**Mawson**	**84.66**	**203**	*e*P	**P**	**09 21 14.8**	**+0.4**
	comp=Z,6.3nm,1.5s,mb4.1						
MAW				*e*pP	pP	09 21 50.7	-4.4
MAW	**Mawson**	**84.66**	**203**	P	**P**	**09 21 15.2**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.2,baz=100,slow=6.1,SNR=13						
MAW				pP	pP	09 21 51.1	-4.0
	comp=Z,5.0nm,0.6s,baz=99,slow=6.8,SNR=5.2						
MAW				LR	LR	09 54 22.2	
	comp=Z,111nm,21.3s,baz=227,slow=32						
DAWY	**Dawson**	**85.73**	**24**	*e*P	**P**	**09 21 19.3**	**-0.5**
KKAR	**Karatay Array**	**86.72**	**314**	*i* P	**P**	**09 21 25.1**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,98nm,1.4s,mb5.5						
VOSK	**Vostochnaya**	**88.16**	**323**	P	**P**	**09 21 30.3**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
VOSK	**Vostochnaya**	**88.16**	**323**	*i* P	**P**	**09 21 30.3**	**-1.4**
BBB	**Bella Bella**	**88.31**	**37**	P	**P**	**09 21 33.3**	**+0.9**
	comp=Z,36nm,1.2s,mb5.1,baz=211,slow=5.9,SNR=6.1						
DLBC	**Dease Lake**	**88.47**	**31**	*e*P	**P**	**09 21 33.9**	**+0.8**
BVA0	**Borovoye Array**	**88.56**	**323**	P	**P**	**09 21 32.6**	**-1.0**
BVAR	**Borovoye Array**	**88.56**	**323**	P	**P**	**09 21 32.6**	**-1.0**
	comp=Z,9.8nm,0.5s,mb5.0,baz=108,slow=4.7,SNR=69						
BRVK	**Borovoye**	**88.63**	**323**	*e*P	**P**	**09 21 32.7**	**-1.2**
	comp=Z,58nm,1.4s,mb5.3						
INK	**Inuvik**	**89.33**	**21**	P	**P**	**09 21 36.2**	**-0.6**
	comp=Z,8.5nm,0.7s,mb4.8,baz=259,slow=5.4,SNR=28						
INK	**Inuvik**	**89.33**	**21**	P	**P**	**09 21 36.2**	**-0.6**
INK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
INK	**Inuvik**	**89.33**	**21**	*e*P	**P**	**09 21 35.9**	**-1.0**
	comp=Z,43nm,1.3s,mb5.2						
ZRNK	**Zerenda**	**89.38**	**323**	P	**P**	**09 21 36.0**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**89.38**	**323**	*i* P	**P**	**09 21 36.0**	**-1.4**
HUMO	**Hull Mountain**	**90.36**	**47**	*e*P	**P**	**09 21 43.2**	**+0.9**
	comp=Z,65nm,1.1s,mb5.5						
WDC	**Whiskeytown Da**	**90.45**	**49**	*e*P	**P**	**09 21 43.0**	**+0.3**
	comp=Z,67nm,1.5s,mb5.3						
YBH	**Yreka Blue Hor**	**90.45**	**48**	P	**P**	**09 21 43.2**	**+0.5**
	comp=Z,39nm,1.1s,mb5.2,baz=217,slow=5.0,SNR=22						
YBH	**Yreka Blue Hor**	**90.45**	**48**	P	**P**	**09 21 43.2**	**+0.5**
YBH				pmax	pmax		
	comp=Z,39nm,1.1s						
YBH	**Yreka Blue Hor**	**90.45**	**48**	*e*P	**P**	**09 21 43.6**	**+0.8**
	comp=Z,59nm,1.2s,mb5.4						
PGC	**Sidney**	**90.73**	**41**	*e*P	**P**	**09 21 44.5**	**+0.6**
HDW	**Hoodsport**	**90.88**	**42**	P	**P**	**09 21 45.7**	**+1.1**
GNW	**Green Mountain**	**91.02**	**43**	*e*P	**P**	**09 21 45.2**	**-0.1**

OHCM	**Honcut**	**91.13**	**51**	*e*P	**P**	**09 21 46.4**	**+0.4**
LON	**Longmire**	**91.62**	**43**	*e*P	**P**	**09 21 48.7**	**+0.6**
RMW	**Rattlesnake Mo**	**91.70**	**43**	*e*P	**P**	**09 21 49.0**	**+0.6**
HTW	**Haystack Looko**	**91.75**	**42**	P	**P**	**09 21 49.0**	**+0.4**
CMB	**Columbia Colle**	**91.86**	**52**	*e*P	**P**	**09 21 49.6**	**+0.2**
	comp=Z,52nm,1.3s,mb5.4						
RPW	**Rockport**	**91.99**	**42**	*e*P	**P**	**09 21 49.5**	**-0.2**
BEKR	**Beckwourth**	**92.04**	**50**	*e*P	**P**	**09 21 50.6**	**+0.4**
	comp=Z,61nm,1.4s,mb5.4						
VGB	**Gordon Butte**	**92.22**	**45**	*e*P	**P**	**09 21 51.5**	**+0.7**
MOD	**Modoc**	**92.26**	**48**	*e*P	**P**	**09 21 51.4**	**+0.3**
	comp=Z,77nm,1.3s,mb5.6						
WCN	**Washoe City**	**92.46**	**51**	*e*P	**P**	**09 21 53.0**	**+0.9**
	comp=Z,50nm,1.3s,mb5.4						
NLW	**Nelson Butte**	**92.74**	**42**	*e*P	**P**	**09 21 53.4**	**+0.3**
SYO	**Syowa Base**	**92.83**	**200**	⇓P	**P**	**09 21 53.6**	**+0.5**
OMM	**Old Mammoth Mi**	**92.93**	**53**	*e*P	**P**	**09 21 55.2**	**+0.9**
HAWA	**Hanford**	**93.16**	**44**	*e*P	**P**	**09 21 55.2**	**+0.1**
	comp=Z,27nm,1.2s,mb5.3						
MTUM	**Tungsten Hills**	**93.25**	**53**	*e*P	**P**	**09 21 56.7**	**+0.9**
MWC	**Mount Wilson**	**93.45**	**56**	*e*P	**P**	**09 21 57.7**	**+1.0**
NVAR	**Mina Array Bea**	**93.53**	**52**	P	**P**	**09 21 57.9**	**+0.9**
	comp=Z,33nm,1.1s,mb5.4,baz=255,slow=4.1,SNR=94						
WVOR	**Wild Horse Val**	**93.53**	**48**	*e*P	**P**	**09 21 57.1**	**+0.2**
	comp=Z,40nm,1.3s,mb5.4						
MNV	**Mina**	**93.64**	**52**	*e*P	**P**	**09 21 57.9**	**+0.4**
	comp=Z,60nm,1.2s,mb5.6						
DAC	**Darwin (Calif)**	**93.96**	**54**	*e*P	**P**	**09 22 00.0**	**+1.0**
	comp=Z,97nm,1.4s,mb5.7						
LNOR	**Lincton Mounta**	**93.99**	**44**	*e*P	**P**	**09 21 59.3**	**+0.5**
DPW	**Davenport**	**94.16**	**42**	*e*P	**P**	**09 21 59.5**	**-0.1**
TPH	**Tonopah**	**94.36**	**52**	*e*P	**P**	**09 22 01.6**	**+0.8**
	comp=Z,40nm,1.2s,mb5.4						
BMN	**Battle Mountai**	**94.48**	**50**	*e*P	**P**	**09 22 02.2**	**+1.0**
	comp=Z,30nm,1.5s,mb5.2						
BAR	**Barrett**	**94.51**	**58**	*e*P	**P**	**09 22 03.0**	**+1.4**
AB31	**Akbulak array**	**94.68**	**319**	P	**P**	**09 22 01.0**	**-1.0**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
PFO	**Pinyon Flat Ob**	**94.74**	**57**	*e*P	**P**	**09 22 04.2**	**+1.5**
	comp=Z,42nm,1.3s,mb5.5						
NEW	**Newport**	**94.90**	**42**	P	**P**	**09 22 03.1**	**+0.1**
	comp=Z,5.2nm,0.6s,mb5.0,baz=270,slow=3.5,SNR=13						
NEW	**Newport**	**94.90**	**42**	P	**P**	**09 22 03.1**	**+0.1**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NEW	**Newport**	**94.90**	**42**	*e*P	**P**	**09 22 02.8**	**-0.2**
	comp=Z,18nm,1.1s,mb5.2						
TPNV	**Topopah Spring**	**95.07**	**53**	*e*P	**P**	**09 22 04.7**	**+0.6**
	comp=Z,49nm,1.2s,mb5.6						
ARU	**Arti**	**95.71**	**326**	⇓*i*P	**P**	**09 22 04.6**	**-1.9**
ARU				*e*		09 25 58.0	
ARU				*e*S	S	09 32 36.6	-30
ARU				*e*SS	SS	09 39 52.7	+10
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.3						
ARU	**Arti**	**95.71**	**326**	*e*P	**P**	**09 22 04.5**	**-1.9**
	comp=Z,14nm,0.8s,mb5.3						
LDFC	**Landfair**	**95.92**	**55**	*e*P	**P**	**09 22 08.9**	**+1.0**
ELK	**Elko**	**96.00**	**50**	*e*P	**P**	**09 22 08.4**	**+0.3**
	comp=Z,7.6nm,1.1s,mb4.9						
NEN	**Nelson**	**96.16**	**55**	*e*P	**P**	**09 22 09.8**	**+0.8**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**09 22 09.4**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.7,baz=271,slow=5.0,SNR=27						
YKA				LR	LR	10 03 29.4	
	comp=Z,85nm,19.1s,baz=265,slow=34						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**09 22 09.4**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,85nm,19.1s						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**09 22 09.4**	**-0.2**
YKA				LR	LR	10 03 29.4	
HLID	**Hailey**	**96.67**	**47**	*e*P	**P**	**09 22 10.8**	**-0.3**
	comp=Z,4.2nm,1.0s,mb4.7						
CHMT	**Chamberlain Mo**	**97.50**	**43**	*e*P	**P**	**09 22 14.4**	**-0.5**
MCMT	**McKenzie Canyo**	**97.80**	**46**	*e*P	**P**	**09 22 15.5**	**-0.7**
DUG	**Dugway**	**97.84**	**50**	*e*P	**P**	**09 22 16.6**	**+0.1**
	comp=Z,11nm,1.3s,mb5.1						
HVU	**Hansel Valley**	**97.87**	**49**	*e*P	**P**	**09 22 17.0**	**+0.3**
MSU	**Marysvale**	**98.33**	**52**	*e*P	**P**	**09 22 19.6**	**+0.8**
NLU	**North Lily Min**	**98.41**	**51**	*e*P	**P**	**09 22 19.6**	**+0.4**
BOZ	**Bozeman (W)**	**98.64**	**45**	*e*P	**P**	**09 22 20.0**	**0.0**
	comp=Z,5.2nm,1.1s,mb4.9						
HWUT	**Hardware Ranch**	**98.78**	**49**	*e*P	**P**	**09 22 20.4**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.7						
QLMT	**Earthquake Lak**	**98.81**	**46**	*e*P	**P**	**09 22 21.8**	**+1.0**
JLU	**Jordanelle**	**98.88**	**50**	*e*P	**P**	**09 22 21.5**	**+0.2**
WUAZ	**Wupatki**	**98.98**	**55**	*e*P	**P**	**09 22 23.8**	**+1.9**
	comp=Z,20nm,1.3s,mb5.4						
MOOW	**Moose Ponds**	**99.33**	**47**	*e*P	**P**	**09 22 23.4**	**+0.1**
SNOW	**Snow King Moun**	**99.33**	**47**	*e*P	**P**	**09 22 23.7**	**+0.4**
SRU	**San Rafael**	**99.62**	**51**	*e*P	**P**	**09 22 24.7**	**0.0**
PDAR	**Pinedale Array**	**100.23**	**48**	P	P	09 22 26.9	-0.5
	comp=Z,3.0nm,0.6s,baz=270,slow=3.0,SNR=29						
PDAR				PKKPbc		09 38 46.3	
	comp=Z,0.4nm,0.5s,baz=91,slow=6.3,SNR=4.5						
PV10	**Paradox Valley**	**100.80**	**52**	*e*Pdif	P	09 22 30.2	+0.2
PV01	**Paradox Valley**	**101.18**	**52**	*e*Pdif	P	09 22 31.8	+0.1
SNAA	**Sanae**	**101.48**	**188**	*e*Pdif	P	09 22 30.9	-1.4
LAZ	**Ladron**	**102.48**	**56**	*e*Pdif	Pdif	09 22 39.1	+1.5
ANMO	**Albuquerque**	**103.02**	**55**	*de*P	Pdif	09 22 34.5	-5.4
SDCO	**Great Sand Dun**	**103.62**	**53**	*e*Pdif	Pdif	09 22 43.4	+0.9
TXAR	**Lajitas Array**	**105.67**	**61**	Pdiff	Pdif	09 22 52.4	+0.8
	comp=Z,0.1nm,0.5s,baz=264,slow=3.6,SNR=2.5						
TXAR				PP	PP	09 27 14.9	-3.3
	comp=Z,2.7nm,1.1s,baz=259,slow=6.4,SNR=12						
TXAR				PKKPab		09 38 47.8	
	comp=Z,0.7nm,0.8s,baz=114,slow=6.5,SNR=8.7						
ARCES	**ARCESS Array B**	**106.72**	**343**	Pdiff	Pdif	09 22 55.2	-0.2
	comp=Z,4.6nm,1.1s,baz=68,slow=6.5,SNR=4.6						
ARCES				PKiKP		09 27 04.8	
	comp=Z,1.3nm,0.4s,baz=105,slow=1.1,SNR=20						
ARCES				PKKPbc		09 38 23.6	
	comp=Z,0.9nm,0.6s,baz=248,slow=2.3,SNR=5.4						
ARCES	**ARCESS Array B**	**106.72**	**343**	P	Pdif	09 22 55.2	-0.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**110.70**	**335**	Pdiff	Pdif	09 23 11.6	-1.4
	comp=Z,0.8nm,0.4s,baz=92,slow=5.6,SNR=14						
FINES				PKiKP		09 27 12.1	
	comp=Z,2.3nm,0.8s,baz=127,slow=9.5,SNR=7.0						
FINES	**FINESS Array B**	**110.70**	**335**	P	Pdif	09 23 11.6	-1.4
FINES				*i*		09 27 12.1	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**113.84**	**324**	PKiKP		09 27 18.0	
	comp=Z,1.5nm,0.5s,baz=62,slow=1.9,SNR=8.7						
AKASG				PKKPbc		09 38 01.1	
	comp=Z,0.3nm,0.3s,baz=260,slow=3.1,SNR=4.4						
AKASG	**Malin Array Be**	**113.84**	**324**	*i* PKIKP	PKPdf	09 27 18.0	+0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**114.34**	**311**	PKP	PKPdf	09 27 19.8	+0.9
	comp=Z,2.1nm,1.0s,baz=90,slow=5.8,SNR=5.4						
BRTR	**Keskin Array B**	**114.34**	**311**	PKIKP	PKPdf	09 27 19.8	+0.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	**Hagfors**	**116.40**	**338**	PKP	PKPdf	09 27 22.4	+0.1
	comp=Z,1.6nm,0.7s,baz=90,slow=4.3,SNR=7.4						
HFS	**Hagfors**	**116.40**	**338**	PKIKP	PKPdf	09 27 22.4	+0.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**116.68**	**340**	PKPdf	PKPdf	09 27 22.6	-0.2
	comp=Z,2.5nm,0.9s,baz=45,slow=1.9						
NOA	**NORSAR Array B**	**116.68**	**340**	PKP	PKPdf	09 27 23.3	+0.5
	comp=Z,1.1nm,0.6s,baz=46,slow=4.6,SNR=3.8						
NOA	**NORSAR Array B**	**116.68**	**340**	PKIKP	PKPdf	09 27 23.3	+0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**120.45**	**144**	PKP	PKPdf	09 27 31.8	+1.2
	comp=Z,2.3nm,0.4s,baz=236,slow=2.3,SNR=16						
PLCA				PKKPbc		09 37 39.3	
	comp=Z,0.9nm,0.5s,baz=20,slow=6.5,SNR=5.9						
PLCA	**Paso Flores**	**120.45**	**144**	PKIKP	PKPdf	09 27 31.8	+1.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VYHS	**Vyhne**	**120.86**	**325**	*e*PKP	PKPdf	09 27 32.4	+1.1
VYHS				*e*		09 28 22.9	
VYHS	**Vyhne**	**120.86**	**325**	*i* PKIKP	PKPdf	09 27 32.4	+1.1
DPC	**Dobruska-Polom**	**121.24**	**328**	*e*PKIKP	PKPdf	09 27 33.6	+1.7
DPC				*e*		09 28 19.4	
UPC	**Upice**	**121.31**	**328**	*e*PKIKP	PKPdf	09 27 33.7	+1.6
UPC				*e*		09 28 21.2	
VRAC	**Vranov**	**121.68**	**327**	PKP	PKPdf	09 27 34.3	+1.5
	comp=Z,1.6nm,0.4s,baz=162,slow=3.9,SNR=7.1						
SCHQ	**Schefferville**	**121.75**	**25**	PKP	PKPdf	09 27 33.7	+0.9
	comp=Z,2.4nm,0.7s,baz=56,slow=6.8,SNR=4.1						
SCHQ	**Schefferville**	**121.75**	**25**	PKP	PKPdf	09 27 33.7	+0.9
BSEG	**Bad Segeberg**	**121.92**	**334**	*e*PKIKP	PKPdf	09 27 34.9	+1.8
ZST	**Bratislava**	**122.00**	**325**	*e*PKP	PKPdf	09 27 35.1	+1.7
ZST				*e*		09 28 29.2	
PVCC	**Panska Ves**	**122.05**	**329**	*e*PKIKP	PKPdf	09 27 35.1	+1.6
PVCC				*e*		09 28 22.1	
BRG	**Berggiesshubel**	**122.17**	**329**	*e*PKIKP	PKPdf	09 27 34.8	+1.1
BRG				pmax	pmax		
	comp=Z,23nm,1.3s						
BRG	**Berggiesshubel**	**122.17**	**329**	*e*P	PKPdf	09 27 34.8	+1.1
BRG				*e*		09 28 21.5	
SKO	**Skopje**	**122.31**	**317**	*i* P	PKPdf	09 27 35.4	+1.2
CLL	**Collm**	**122.37**	**330**	*i* PKP1		09 28 20.9	
CLL	**Collm**	**122.37**	**330**	*i* PKP	PKPdf	09 27 34.9	+0.8
CLL				*i*		09 28 20.9	
PRU	**Pruhonice**	**122.39**	**328**	*e*PKIKP	PKPdf	09 27 35.1	+1.0
PRU				*e*		09 28 23.3	
GENY	**Geneseo**	**122.75**	**41**	*e*PKPdf	PKPdf	09 27 35.7	+0.7
CLZ	**Clausthal**	**123.29**	**332**	*e*PKPdf	PKPdf	09 27 37.4	+1.6
NKC	**Novy Kostel**	**123.31**	**330**	*e*PKIKP	PKPdf	09 27 37.5	+1.6
NKC				*e*		09 28 24.3	
KHC	**Kasperske Hory**	**123.40**	**328**	*e*PKIKP	PKPdf	09 27 37.0	+0.9
KHC				*e*		09 28 25.8	
MOX	**Moxa**	**123.47**	**330**	*i* P	PKPdf	09 27 37.6	+1.4
	comp=Z,logA/T=1.0						
MOX	**Moxa**	**123.47**	**330**	*e*P		09 28 23.0	
MOX	**Moxa**	**123.47**	**330**	*e*PKIKP	PKPdf	09 27 37.6	+1.4
MOX				pmax	pmax		
	comp=Z,15nm,1.4s						
GEC2	**GERESS Array S**	**123.50**	**328**	*e*PKIKP	PKPdf	09 27 37.3	+1.0
GERES	**GERESS Array B**	**123.50**	**328**	PKP	PKPdf	09 27 37.1	+0.7
	comp=Z,2.3nm,0.5s,SNR=18						
GERES				pPKP		09 28 18.9	
	comp=Z,1.6nm,0.6s,baz=90,slow=4.0,SNR=3.8						
GERES	**GERESS Array B**	**123.50**	**328**	PKIKP	PKPdf	09 27 37.1	+0.8
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES				pmax	pmax		
	comp=N,2.0nm,0.6s						
SSPA	**Standing Stone**	**123.63**	**44**	*e*PKPdf	PKPdf	09 27 37.6	+0.8
WET	**Wettzell**	**123.76**	**328**	*e*PKIKP	PKPdf	09 27 38.4	+1.6
GRA1	**Grafenberg Arr**	**124.27**	**330**	*e*PKPdf	PKPdf	09 27 38.8	+1.0
GRF	**Grafenberg Arr**	**124.27**	**330**	*e*PKIKP	PKPdf	09 27 38.8	+1.0
LJU	**Ljubljana**	**124.65**	**324**	*e*PKPdf	PKPdf	09 27 40.0	+1.3
LJU				*e*pPKPdf		09 28 32.0	
WTSB	**Winterswijk**	**124.82**	**334**	*e*P	PKPdf	09 27 40.1	+1.3
	comp=N,11nm,1.4s						
FUR	**Furstenfeldbru**	**125.20**	**328**	*e*PKIKP	PKPdf	09 27 41.5	+1.9
STU	**Stuttgart**	**125.88**	**330**	*e*PKPdf	PKPdf	09 27 41.4	+0.5
EKA	**Eskdalemuir Ar**	**125.88**	**342**	PKP	PKPdf	09 27 42.0	+1.2
	comp=N,3.0nm,0.5s,baz=9.2,slow=2.8,SNR=21						
EKA	**Eskdalemuir Ar**	**125.88**	**342**	PKIKP	PKPdf	09 27 42.0	+1.3
EKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HGN	**Heimansgroeve**	**126.06**	**333**	*e*P	PKPdf	09 27 42.6	+1.4
	comp=Z,12nm,1.2s						
BFO	**Black Forest**	**126.60**	**330**	*e*PKIKP	PKPdf	09 27 43.3	+1.0
DAVOX	**Davos**	**126.80**	**328**	PKP	PKPdf	09 27 44.7	+2.0
	comp=Z,3.8nm,0.4s,baz=317,slow=2.6,SNR=18						
GIVF	**Givet**	**127.03**	**333**	*e*PKIKP	PKPdf	09 27 44.2	+1.1
	comp=Z,48nm,1.2s						
CDF	**Champ du Feu**	**127.07**	**331**	*e*PKIKP	PKPdf	09 27 43.8	+0.6
	comp=Z,44nm,1.5s						
GRI	**Girifalco**	**127.14**	**316**	*e*PKP	PKPdf	09 27 45.4	+1.8
NRCA	**Norcia**	**127.27**	**322**	*e*PKP	PKPdf	09 27 44.8	+1.0
BAIF	**Baives**	**127.33**	**334**	*e*PKIKP	PKPdf	09 27 44.8	+1.1
AQU	**L'Aquila**	**127.36**	**321**	*e*PKPdf	PKPdf	09 27 46.0	+2.0
MURB	**Monte Urbino**	**127.39**	**323**	*e*PKP	PKPdf	09 27 45.1	+1.1
SFI	**Santa Sofia**	**127.43**	**324**	*e*PKP	PKPdf	09 27 46.1	+2.0
PGD	**Poggio Sodo**	**127.52**	**324**	*e*PKP	PKPdf	09 27 44.8	+0.6
ZCCA	**Zocca**	**127.68**	**325**	*e*PKP	PKPdf	09 27 47.3	+2.7
HINF	**Hinteralfeld**	**127.68**	**330**	*e*PKIKP	PKPdf	09 27 45.0	+0.6
	comp=Z,88nm,1.4s						
HAU	**Haudompre**	**127.80**	**331**	*e*PKIKP	PKPdf	09 27 45.5	+0.8
HAU				*e*R			
	comp=Z,74nm,17.5s						
MEZF	**Maizieres J'vi**	**128.07**	**332**	*e*PKIKP	PKPdf	09 27 46.4	+1.2
	comp=Z,92nm,1.3s						
BOB	**Bobbio (Coli)**	**128.30**	**326**	*e*PKP	PKPdf	09 27 47.1	+1.4
MCGN	**Macugnaga**	**128.34**	**328**	*e*PKP	PKPdf	09 27 47.5	+1.7
CABF	**La Chapelle**	**128.88**	**330**	*e*PKIKP	PKPdf	09 27 48.1	+1.3
	comp=Z,104nm,1.5s						
LPL	**La Plagne**	**129.29**	**328**	*e*PKIKP	PKPdf	09 27 48.8	+1.2
LPG	**La Plagne**	**129.29**	**328**	*e*PKIKP	PKPdf	09 27 49.0	+1.4
LOR	**Lormes**	**129.51**	**332**	*e*PKIKP	PKPdf	09 27 49.0	+1.0
	comp=Z,53nm,1.3s						
LOR				*e*R			
	comp=Z,83nm,20.8s						
BNI	**Bardonecchia**	**129.62**	**328**	*e*PKPdf	PKPdf	09 27 50.0	+1.8
MBDF	**Montbardon**	**129.79**	**327**	*e*PKIKP	PKPdf	09 27 49.6	+1.0
	comp=Z,37nm,1.5s						
SSF	**Saint Saulge**	**129.83**	**332**	*e*PKIKP	PKPdf	09 27 49.6	+1.0
	comp=Z,75nm,1.5s						
PGF	**Pioggiola**	**129.91**	**324**	*e*PKIKP	PKPdf	09 27 49.6	+0.7
	comp=Z,103nm,1.4s						
SMF	**Signal de Mont**	**129.97**	**331**	*e*PKIKP	PKPdf	09 27 49.6	+0.7
	comp=Z,142nm,1.7s						
SBF	**Sospel**	**129.99**	**326**	*e*PKIKP	PKPdf	09 27 49.6	+0.6
	comp=Z,88nm,1.3s						
AVF	**Avril sur Loir**	**130.10**	**331**	*e*PKIKP	PKPdf	09 27 49.7	+0.6
ORIF	**Oris-en-Rattie**	**130.14**	**328**	*e*PKIKP	PKPdf	09 27 50.2	+1.0
ORIF				*e*R			
	comp=Z,98nm,23.0s						
LDF	**La Druitiere**	**130.29**	**335**	*e*PKIKP	PKPdf	09 27 50.0	+0.6
	comp=Z,110nm,1.8s						
FLN	**La Foliniere**	**130.31**	**336**	*e*PKIKP	PKPdf	09 27 50.3	+0.9
FLN				*e*R			
	comp=Z,78nm,17.2s						
BGF	**Bois d'Agland**	**130.51**	**332**	*e*PKIKP	PKPdf	09 27 50.9	+1.0
FRF	**La Foret Royal**	**130.62**	**326**	*e*PKIKP	PKPdf	09 27 51.1	+0.9
	comp=Z,90nm,1.3s						
GRR	**Gorron**	**130.76**	**336**	*e*PKIKP	PKPdf	09 27 51.3	+1.0
VIVF	**Saint-Julien-l**	**130.81**	**329**	*e*PKIKP	PKPdf	09 27 51.6	+1.1
	comp=Z,46nm,1.3s						
LMR	**La Mourre**	**130.84**	**326**	*e*PKIKP	PKPdf	09 27 51.5	+0.9
	comp=Z,58nm,1.2s						
SMRF	**Simiane la Rot**	**130.93**	**327**	*e*PKIKP	PKPdf	09 27 52.2	+1.4
	comp=Z,71nm,1.4s						
TCF	**Toulx Ste Croi**	**131.01**	**332**	*e*PKIKP	PKPdf	09 27 51.9	+1.1
	comp=Z,117nm,1.8s						
SGMF	**Saint Gilles**	**131.55**	**337**	*e*PKIKP	PKPdf	09 27 51.4	-0.4
	comp=Z,34nm,1.0s						
ROSF	**Rostrenen**	**131.76**	**337**	*e*PKIKP	PKPdf	09 27 51.1	-1.1
	comp=Z,94nm,1.6s						
LASF	**Ste Croix**	**131.77**	**329**	*e*PKIKP	PKPdf	09 27 52.0	-0.4
	comp=Z,47nm,1.3s						
MFF	**Saint Martin d**	**131.85**	**334**	*e*PKIKP	PKPdf	09 27 53.5	+1.1
	comp=Z,63nm,1.4s						
LVC	**Limon Verde**	**132.05**	**127**	*e*PKPdf	PKPdf	09 27 56.5	+3.1
RJF	**Les Rejaudoux**	**132.06**	**331**	*e*PKIKP	PKPdf	09 27 54.5	+1.6
RJF				*e*R			
	comp=Z,48nm,20.5s						
QUIF	**Quistinic**	**132.06**	**337**	*e*PKIKP	PKPdf	09 27 52.2	-0.6
	comp=Z,102nm,1.6s						
CAF	**Calviac**	**132.07**	**331**	*e*PKIKP	PKPdf	09 27 54.7	+1.8
ROSC	**El Rosal**	**134.63**	**88**	PKP	PKPdf	09 28 00.3	+1.8
	comp=Z,9.0nm,0.5s,baz=55,slow=4.6,SNR=4.4						
ETSF	**Etsaut**	**134.84**	**331**	*e*PKIKP	PKPdf	09 28 00.6	+2.5
SJPF	**Ste Jean**	**135.00**	**331**	*e*PKIKP	PKPdf	09 27 58.6	+0.2
	comp=Z,27nm,1.3s						
LPAZ	**La Paz**	**135.64**	**119**	PKhKP		09 27 52.4	
	comp=Z,1.4nm,0.8s,baz=337,slow=2.2,SNR=4.6						
LPAZ				PKP	PKPdf	09 28 02.4	+2.1
	comp=Z,5.2nm,0.7s,baz=281,slow=1.6,SNR=18						
LPAZ	**La Paz**	**135.64**	**119**	*i* PKHKP		09 27 52.4	
LPAZ						09 28 02.4	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ	**La Paz**	**135.64**	**119**	PKP	PKPdf	09 27 52.4	-7.8
LPAZ				PKP	PKPdf	09 28 02.4	+2.1
CPUP	**Villa Florida**	**138.25**	**140**	PKP	PKPdf	09 28 05.9	+1.1
	comp=Z,5.2nm,0.9s,baz=252,slow=3.0,SNR=7.6						
CPUP				pPKP		09 28 46.0	
	comp=Z,2.6nm,0.8s,baz=218,slow=2.7,SNR=3.3						
CPUP	**Villa Florida**	**138.25**	**140**	PKIKP	PKPdf	09 28 05.9	+1.1
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CPUP				pmax	pmax		
	comp=N,3.0nm,0.8s						
SDV	**Santo Domingo**	**138.31**	**82**	*e*PKPdf	PKPdf	09 28 06.9	+1.6
ESDC	**Sonseca Array**	**138.96**	**330**	PKhKP		09 27 56.5	
	comp=N,0.2nm,0.3s,baz=22,slow=1.0,SNR=2.4						
ESDC				PKP	PKPdf	09 28 06.9	+1.2
	comp=N,0.6nm,0.6s,baz=18,slow=4.1,SNR=5.4						
ESDC				PP	PP	09 31 00.4	-2.8
	comp=N,2.7nm,0.8s,baz=23,slow=7.1,SNR=10						
MTE	**Manteigas**	**140.03**	**334**	*e*PKPdf	PKPdf	09 28 08.9	+1.3
SJG	**San Juan**	**141.29**	**67**	*e*PKPdf	PKPdf	09 28 11.9	+1.4
SAML	**Samuel**	**142.96**	**112**	*e*PKPpre		09 28 11.3	
SEG	**Port Louis**	**146.02**	**68**	*e*P	PKPdf	09 28 21.0	+2.2
BBL	**Barber's Block**	**146.28**	**70**	*e*P	PKPdf	09 28 23.0	+3.9
MGG	**Marie-Galante**	**146.32**	**69**	*e*P	PKPdf	09 28 21.8	+2.6
DEG	**La Desirade**	**146.45**	**68**	*e*P	PKPdf	09 28 24.2	+4.8
FDF	**Fort de France**	**146.76**	**71**	*e*P	PKPdf	09 28 22.8	+2.8
BIM	**Bigot**	**146.89**	**71**	*e*P	PKPdf	09 28 23.5	+3.3
MVM	**Montagne Vaucl**	**147.04**	**71**	*e*P	PKPdf	09 28 24.1	+3.7
BDFB	**Brasilia**	**151.92**	**138**	PKP	PKPdf	09 28 30.4	+2.4
	comp=N,3.2nm,0.8s,baz=225,slow=1.4,SNR=5.5						
BDFB				PKPbc	PKPdf	09 28 36.4	+8.4
	comp=N,18nm,0.8s,baz=240,slow=1.1,SNR=19						
BDFB				PKPab	PKPab	09 28 46.2	-0.7
	comp=N,13nm,0.9s,baz=194,slow=5.0,SNR=7.5						
BDFB				pPKPbc		09 29 15.2	
	comp=N,15nm,0.6s,baz=134,slow=0.6,SNR=5.6						
BDFB	**Brasilia**	**151.92**	**138**	PKIKP	PKPdf	09 28 30.4	+2.4
BDFB						09 28 36.4	
BDFB						09 28 46.2	
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,18nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,13nm,0.9s						
BDFB				pmax	pmax		
	comp=N,15nm,0.6s						
KIC	**Kosan Boka**	**156.05**	**274**	*e*PKP1	PKPdf	09 28 44.7	+11
	comp=N,101nm,1.1s						
DBIC	**Dimbokro**	**156.16**	**275**	PKPbc	PKPdf	09 28 45.5	+12
	comp=N,1.3nm,0.4s,baz=31,slow=1.7,SNR=5.9						
DBIC				PKPab	PKPab	09 29 04.6	-0.3
	comp=N,5.3nm,0.6s,baz=77,slow=1.7,SNR=6.3						
DBIC	**Dimbokro**	**156.16**	**275**	PKIKP	PKPdf	09 28 45.5	+12
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DBIC	**Dimbokro**	**156.16**	**275**	PKPbc	PKPdf	09 28 45.5	+12
DBIC				PKPab	PKPab	09 29 04.6	-0.3
TIC	**Toumodi**	**156.32**	**275**	*e*PKP1	PKPdf	09 28 45.2	+11
	comp=Z,15nm,0.3s						
LIC	**Lamto**	**156.34**	**274**	*e*PKP1	PKPdf	09 28 45.3	+11
	comp=Z,60nm,1.2s						

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*NEIC **28** 09:09:43.0±3.4, 17.97S×178.56W, h542^{km}±37^{km}, mb4.4/4,*
Error ellipse: s-maj=22.3km s-min=17.0km az=211.0
*IDC **28** 09:09:44.3±2.5, 18.09S×178.55W, h554^{km}±29^{km},*
mb3.7/10, mb1 3.9/10, mb1mx3.8/17, Error ellipse:
s-maj=20.4km s-min=12.9km az=156.0
ISC 28 09:09:42.1±3.1**, 17.9S**±0.1×**178.7W**±0.1**, h532**^{km}±36^{km}**,**
n54, σ0^{s}87/22**, mb4.2**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.63**	**189**	P	**P**	**09 13 44.6**	**-1.1**
	22nm,0.7s,baz=17,slow=4.2,SNR=16						
RPZ	**Rata Peaks**	**27.17**	**196**	P	**P**	**09 14 40.4**	**-3.9**
	2.6nm,0.3s,mb4.3,baz=97,slow=7.8,SNR=14						
CTA	**Charters Tower**	**33.20**	**261**	P	**P**	**09 15 36.5**	**+0.3**
	10.0nm,0.5s,mb4.7,baz=90,slow=11,SNR=5.7						
CTA	**Charters Tower**	**33.20**	**261**	*e*PCP	**P**	**09 15 36.1**	**-0.1**
CTAO	**Charters Tower**	**33.20**	**261**	*e*P	**P**	**09 15 35.3**	**-0.9**
	12nm,0.5s,mb4.7						
TOO	**Toolangi**	**36.98**	**231**	*e*PCP	**P**	**09 16 09.1**	**+1.7**
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**09 16 20.7**	**+1.6**
	18nm,0.6s,mb4.8,baz=90,slow=10,SNR=7.6						
STKA	**Stephens Creek**	**38.42**	**241**	*e*PCP	**P**	**09 16 20.6**	**+1.5**
WB2	**Warramunga Arr**	**44.38**	**260**	*e*PCP	**P**	**09 17 05.8**	**-1.0**
WRA	**Warramunga Arr**	**44.39**	**260**	P	**P**	**09 17 06.3**	**-0.6**
	7.4nm,0.5s,mb4.5,baz=97,slow=6.9,SNR=9.1						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**09 17 08.0**	**-0.1**
	72nm,0.5s,mb5.5,baz=90,slow=7.8,SNR=96						
ASAR				S	**S**	**09 23 03.8**	**-1.5**
	2.1nm,1.0s,baz=87,slow=15,SNR=5.0						
ASPA	**Alice Springs**	**44.55**	**254**	*e*PCP	**P**	**09 17 08.0**	**-0.2**
ASAJ	**Asahikawa**	**71.14**	**332**	P	**P**	**09 20 07.9**	**-0.4**
	4.6nm,0.4s,mb4.4,baz=196,slow=7.4,SNR=5.3						
QSPA	**South Pole Qui**	**72.16**	**180**	*e*P	**P**	**09 20 14.3**	**+0.6**
	4.6nm,0.9s,mb3.9						
MDJ	**Mudanjiang**	**78.03**	**325**	*e*P	**P**	**09 20 46.9**	**+0.2**
	5.4nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**79.59**	**44**	P	**P**	**09 20 54.4**	**-0.7**
	1.0nm,0.6s,mb3.3,baz=221,slow=7.4,SNR=9.7						
ENH	**Enshi**	**84.05**	**304**	*e*P	**P**	**09 21 18.2**	**+0.4**
	14nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**09 21 28.9**	**+0.6**
	1.3nm,0.8s,mb3.6,baz=214,slow=6.1,SNR=16						
PDAR	**Pinedale Array**	**87.51**	**44**	P	**P**	**09 21 33.5**	**-0.6**
	0.8nm,0.5s,mb3.7,baz=207,slow=3.0,SNR=12						
CMAR	**Chiang Mai Arr**	**88.64**	**290**	P	**P**	**09 21 41.0**	**+1.1**
	3.7nm,0.9s,mb4.2,baz=97,slow=3.0,SNR=4.5						
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**09 21 47.8**	**-0.1**
	0.5nm,0.7s,mb3.5						
MKAR	**Makanchi Array**	**108.94**	**314**	PKiKP		09 27 10.2	
	0.7nm,0.4s,baz=141,slow=0.8,SNR=7.2						
BVAR	**Borovoye Array**	**116.67**	**321**	PKP	PKPdf	09 27 24.9	-0.5
	1.8nm,0.4s,baz=128,slow=2.2,SNR=13						
ARCES	**ARCESS Array B**	**126.25**	**350**	PKP	PKPdf	09 27 42.8	-0.7
	2.9nm,0.9s,baz=45,slow=1.3,SNR=4.4						
HFS	**Hagfors**	**136.88**	**351**	PKhKP		09 27 57.3	
	0.7nm,0.3s,baz=45,slow=2.1,SNR=5.7						
BSEG	**Bad Segeberg**	**143.36**	**351**	*e*PKPbc	PKPbc	09 28 14.2	0.0
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	PKPdf	09 28 18.4	+0.6
	17nm,1.1s,baz=80,slow=2.1,SNR=19						
ASF	**Jabal al Asfar**	**144.95**	**301**	PKPbc	PKPbc	09 28 20.7	+1.3
	8.0nm,0.9s,baz=280,slow=1.5,SNR=7.0						
CLZ	**Clausthal**	**145.38**	**350**	*e*PKPbc	PKPbc	09 28 20.3	+0.4
MLR	**Muntele Rosu**	**145.69**	**329**	PKPbc	PKPbc	09 28 21.6	+0.7
	2.2nm,0.4s,baz=295,slow=1.5,SNR=4.8						
GRA1	**Grafenberg Arr**	**147.29**	**348**	*e*PKPbc	PKPdf	09 28 26.3	+4.3
GEC2	**GERESS Array S**	**147.53**	**345**	*e*PKPbc	PKPdf	09 28 26.9	+4.5
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	PKPdf	09 28 26.8	+4.4
	3.2nm,0.5s,baz=18,slow=2.8,SNR=12						
GIVF	**Givet**	**147.74**	**356**	*e*PKP1	PKPdf	09 28 26.7	+4.0
BAIF	**Baives**	**147.83**	**357**	*e*PKP1	PKPdf	09 28 27.1	+4.3
BFO	**Black Forest**	**149.11**	**351**	*e*PKPbc	PKPdf	09 28 30.3	+5.4
FLN	**La Foliniere**	**149.17**	**2**	*e*PKP1	PKPdf	09 28 29.9	+4.9
	17nm,0.7s						
CDF	**Champ du Feu**	**149.17**	**352**	*e*PKP1	PKPdf	09 28 30.4	+5.3
	7.6nm,0.5s						
MEZF	**Maizieres J'vi**	**149.32**	**355**	*e*PKP1	PKPdf	09 28 30.7	+5.4
	5.7nm,0.5s						
LDF	**La Druitiere**	**149.35**	**2**	*e*PKP1	PKPdf	09 28 30.2	+4.9
	7.5nm,0.4s						
GRR	**Gorron**	**149.53**	**3**	*e*PKP1	PKPdf	09 28 30.8	+5.2
	9.4nm,0.4s						
SGMF	**Saint Gilles**	**149.55**	**5**	*e*PKP1	PKPdf	09 28 30.6	+4.9
HAU	**Haudompre**	**149.69**	**353**	*e*PKP1	PKPdf	09 28 31.4	+5.5
	5.2nm,0.5s						
DAVOX	**Davos**	**150.34**	**348**	PKPbc	PKPdf	09 28 33.7	+6.7
	7.6nm,0.5s,baz=260,slow=2.8,SNR=8.8						
LOR	**Lormes**	**150.63**	**356**	*e*PKP1	PKPdf	09 28 33.7	+6.3
	9.8nm,0.4s						
HYF	**Humbligny**	**150.68**	**358**	*e*PKP1	PKPdf	09 28 33.8	+6.4
SSF	**Saint Saulge**	**150.85**	**357**	*e*PKP1	PKPdf	09 28 34.3	+6.6
	8.2nm,0.4s						
CABF	**La Chapelle**	**151.09**	**353**	*e*PKP1	PKPdf	09 28 35.3	+7.2
AVF	**Avril sur Loir**	**151.13**	**357**	*e*PKP1	PKPdf	09 28 34.4	+6.3
	2.1nm,0.4s						
SMF	**Signal de Mont**	**151.25**	**356**	*e*PKP1	PKPdf	09 28 34.5	+6.2
MFF	**Saint Martin d**	**151.34**	**2**	*e*PKP1	PKPdf	09 28 35.1	+6.7
	6.3nm,0.5s						
BGF	**Bois d'Agland**	**151.39**	**358**	*e*PKP1	PKPdf	09 28 35.3	+6.8
	5.3nm,0.4s						
TCF	**Toulx Ste Croi**	**151.67**	**359**	*e*PKP1	PKPdf	09 28 34.7	+5.8
MBDF	**Montbardon**	**152.86**	**351**	*e*PKP1	PKPdf	09 28 39.0	+8.4
	6.0nm,0.6s						

IDC ***28*** *09:40:35.3±2.0, 22.48S×66.85W, h194^{km}±18^{km}, mb3.2/6, mb1 3.6/10, mb1mx3.5/15, Error ellipse: s-maj=22.8km s-min=14.2km az=56.0*

NEIC ***28*** *09:40:35.4±0.9, 22.50S×66.88W, h198^{km}±9^{km}, mb3.9/3, Error ellipse: s-maj=12.5km s-min=7.7km az=62.0*

ISC 28 09:40:34.5±1.0, **22.53S**±0.07×**66.9W**±0.1, **h206**^{km}±12^{km}, **n19**, σ**0^{s}99**/20, **mb3.3**/6, **2C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	6.32	349	P	P	09 42 07.2	+0.6
	2.8nm,0.3s,baz=169,slow=6.6,SNR=30						
LPAZ				S	S	09 43 18.4	-0.2
	0.2nm,0.3s,baz=270,slow=20,SNR=3.7						
ARE	Arequipa	7.44	323	P	P	09 42 21.0	-0.2
ARE				eS	S	09 43 40.0	-4.7
CPUP	Villa Florida	9.48	115	P	P	09 42 49.9	+2.1
	0.5nm,0.3s,baz=312,slow=14,SNR=14						
SAML	Samuel	13.96	15	eP	P	09 43 43.4	-1.4
	1.6nm,0.6s						
NNA	Nana	14.15	316	eP	P	09 43 47.5	+0.3
	7.7nm,0.5s						
TRQA	Tornquist	16.04	166	eP	P	09 44 09.4	-0.8
	2.8nm,0.5s						
PLCA	Paso Flores	18.41	189	P	P	09 44 35.4	-1.1
	0.2nm,0.3s,baz=14,slow=14,SNR=7.6						
BDFB	Brasilia	19.08	72	P	P	09 44 43.1	-0.5
	2.4nm,0.3s,baz=253,slow=11,SNR=33						
PMSA	Palmer Station	42.27	178	P	P	09 48 16.5	+7.6
VNA1	Neumayer--Stat	58.69	161	⇓i	P	09 50 17.1	+4.9
VNA2	Neumayer--Watz	59.06	161	⇑i	P	09 50 14.9	+0.2
SNAA	Sanae	60.69	161	⇑i	P	09 50 24.9	-0.9
TXAR	Lajitas Array	62.56	324	P	P	09 50 38.0	-0.8
	0.1nm,0.5s,mb2.7,baz=147,slow=5.9,SNR=4.8						
DBIC	Dimbokro	67.23	72	P	P	09 51 07.7	-1.4
	3.0nm,0.8s,mb4.0,baz=290,slow=5.9,SNR=3.7						
PDAR	Pinedale Array	75.95	329	P	P	09 52 01.3	+1.0
	0.3nm,0.6s,mb3.1,baz=121,slow=5.3,SNR=2.8						
NVAR	Mina Array Bea	77.47	321	P	P	09 52 10.2	+1.4
	0.3nm,0.6s,mb3.1,baz=158,slow=4.9,SNR=3.2						
MAW	Mawson	82.80	163	P	P	09 52 37.6	+1.3
	0.9nm,0.8s,mb3.6,baz=180,slow=5.1,SNR=2.8						
ESDC	Sonseca Array	85.25	44	P	P	09 52 49.9	+0.7
	0.6nm,0.5s,mb3.5,baz=244,slow=4.3,SNR=4.8						
MKAR	Makanchi Array	145.31	38	PKPbc	PKPbc	09 59 49.9	+1.8
	1.6nm,0.6s,baz=324,slow=3.1,SNR=10						

ISC 28 09:42:35.8±2.0, **38.8N**±0.1×**45.0E**±0.1, **h10**^{km}, **n7**, σ**1^{s}14**/11, **1C, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVAN	Van	1.27	258	⇑iP	Pb	09 42 59.2	-0.1
TVAN				i S	Sb	09 43 15.3	-0.2
VANB	Van	1.27	261	PN	Pn	09 42 58.0	-1.6
VANB				SN	Sn	09 43 16.6	-0.2
VANT	Van	1.30	254	ePN	Pn	09 43 01.0	+0.9
HKR	Hakkari	1.57	219	PN	Pn	09 43 03.6	-0.4
HKR				SN	Sn	09 43 23.7	-0.8
AGRT	Agri	1.75	298	ePN	Pn	09 43 05.1	-1.3
BTMT	Batman	2.81	258	P	Pn	09 43 23.2	+1.5
BEST	Besiri	3.06	254	i P	Pn	09 43 27.1	+1.9
BEST				i S	Sn	09 44 06.0	+3.7

IDC ***28*** *09:54:12.4±2.2, 6.76N×123.84E, h608^{km}±24^{km}, mb3.1/5, mb1 3.2/5, mb1mx2.9/18, Error ellipse: s-maj=82.0km s-min=11.4km az=66.0*

ISC 28 09:53:42.1±1.5, **7.4N**±0.3×**124.4E**±0.8, **h252**^{km}±25^{km}, **n8**, σ**0^{s}31**/9, **mb3.8**/5, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	1.07	18	eP	P	09 54 18.0	0.0
CGP				eS	S	09 54 29.4	-17
FITZ	Fitzroy Crossi	25.40	177	P	P	09 58 48.3	-0.2
	1.0nm,0.3s,mb3.9,baz=13,slow=11,SNR=16						
WRA	Warramunga Arr	28.92	160	P	P	09 59 20.5	+0.2
	0.8nm,0.3s,mb3.8,baz=340,slow=9.1,SNR=42						
WRA				PcP	PcP	10 02 12.3	-10
	0.8nm,1.1s,baz=332,slow=2.7,SNR=5.6						
WRA				S	S	10 03 25.6	-25
	0.3nm,0.4s,baz=339,slow=12,SNR=7.0						
WRA				ScP		10 04 58.1	
	0.6nm,0.6s,baz=338,slow=3.1,SNR=8.3						
WB2	Warramunga Arr	28.92	160	⇓iP	P	09 59 20.5	+0.2
ASPA	Alice Springs	32.28	163	eP	P	09 59 49.7	+0.1
ASAR	Alice Springs	32.28	163	P	P	09 59 50.0	+0.4
	2.4nm,0.3s,mb4.2,baz=338,slow=7.7,SNR=30						
ASAR				PcP	PcP	10 02 21.2	-10
	0.4nm,0.4s,baz=348,slow=2.8,SNR=6.9						
ASAR				S	S	10 04 18.3	-25
	2.0nm,0.9s,baz=345,slow=21,SNR=6.7						
STKA	Stephens Creek	42.41	158	P	P	10 01 13.2	-0.7
	1.0nm,0.4s,mb3.6,baz=327,slow=7.4,SNR=4.9						
MKAR	Makanchi Array	53.19	325	P	P	10 02 36.4	0.0
	1.1nm,0.3s,mb3.7,baz=117,slow=7.1,SNR=17						

PRU ***28*** *09:55:05.6, 50.07N×18.44E*

ISC 28 09:55:04.2±1.4, **50.14N**±0.07×**18.29E**±0.09, **n7**, σ**1^{s}34**/13, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.32	197	ePG	Pg	09 55 11.4	+0.8
OKC				eSG	Sg	09 55 15.7	+0.9
LIKS	Likavka	1.22	154	ePG	Pg	09 55 28.8	+0.3
LIKS				eSG	Sg	09 55 45.0	+0.3
DPC	Dobruska-Polom	1.28	280	ePG	Pg	09 55 30.9	+1.1
DPC				eSG	Sg	09 55 49.8	+3.0
	14nm,0.3s						
UPC	Upice	1.50	285	ePG	Pg	09 55 34.8	+0.6
VYHS	Vyhne	1.69	168	ePG	Pg	09 55 34.7	-3.2
VYHS				eSG	Sg	09 55 56.1	-4.3
PRU	Pruhonice	2.42	268	ePG	Pg	09 55 51.1	-1.4
PRU				eSG	Sg	09 56 24.4	-0.4
	3.7nm,0.4s						
KHC	Kasperske Hory	3.23	254	ePG	Pg	09 56 06.1	-2.5
KHC				e		09 56 41.5	
KHC				eSG	Sg	09 56 50.9	-0.7

THE ***28*** *10:00:17.2, 40.17N×21.42E, h10^{km}, ML3.1*

NEIC ***28*** *10:00:17.2, 40.17N×21.42E, h10^{km}, MD3.2(ATH), ML3.1(THE), After THE.*

ATH ***28*** *10:00:17.1, 40.04N×21.55E, h3^{km}, MD3.2/4*

ISC 28 10:00:16.8±0.4, **40.14N**±0.02×**21.44E**±0.03, **h10**^{km}, **n20**, σ**1^{s}05**/32, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.30	57	ePG	Pg	10 00 23.4	+0.3
MEV	Metsovon	0.39	205	ePg	Pg	10 00 24.2	-0.7
MEV				eSg	Sg	10 00 30.6	+0.4
FNA	Florina	0.64	356	ePg	Pg	10 00 28.7	-1.1
FNA				eSg	Sg	10 00 37.9	-0.5
LSK	Leskovik	0.65	271	i Pg	Pg	10 00 24.4	-5.4
LSK				i Sg	Sg	10 00 38.9	+0.4
JAN	Janina	0.67	223	ePG	Pg	10 00 29.2	-1.0
KBN	Korca	0.69	314	i Pg	Pg	10 00 29.5	-1.3
KBN				i Sg	Sg	10 00 40.8	+0.7
LIT	Litokhoron	0.81	93	ePg	Pg	10 00 31.3	-1.7
	comp=Z,18nm,0.3s						
LIT				eSg	Sg	10 00 44.3	+0.6
BIA	Bitola	0.88	354	i Pg	Pg	10 00 33.3	-1.2
BIA				i Sg	Sg	10 00 47.5	+1.2
IGT	Igoumenitsa	1.05	235	ePg	Pg	10 00 37.1	-0.7
IGT				eSg	Sg	10 00 51.5	-0.4
GRG	Griva	1.09	42	ePg	Pg	10 00 37.6	-1.1
GRG				eSg	Sg	10 00 53.3	-0.1
EVR	Evrytania	1.26	167	ePB	Pb	10 00 38.7	-1.5
KEK	Kerkira	1.33	252	ePB	Pb	10 00 43.3	+1.8
KNT	Kendrikon	1.50	47	ePb	Pb	10 00 44.5	+0.1
KNT				eSb	Sb	10 01 05.3	+1.9
XOR	Xorichti	1.56	119	ePb	Pb	10 00 45.4	+0.1
XOR				eSb	Sb	10 01 08.4	+3.4
LKD	Levkas	1.56	203	ePb	Pb	10 00 45.8	+0.4
LKD				eSb	Sb	10 01 07.4	+2.4
SOH	Sokhos	1.61	64	ePb	Pb	10 00 46.2	+0.1
SOH				eSb	Sb	10 01 07.2	+0.7
PAIG	Paliouri	1.73	96	ePb	Pb	10 00 48.5	+0.2
SKO	Skopje	1.83	360	ePn	Pn	10 00 50.0	+1.4
SRS	Serrai	1.90	59	ePb	Pb	10 00 50.1	-1.1
OUR	Ouranopolis	1.95	84	ePb	Pb	10 00 51.5	-0.6

NEIC ***28*** *10:06:54.4±1.8, 27.15N×96.43E, h75^{km}±21^{km}, Error ellipse: s-maj=25.2km s-min=11.9km az=53.0*

IDC ***28*** *10:06:55.5±3.8, 27.31N×96.91E, h82^{km}±37^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.5/20, MS2.6/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=52.6km s-min=15.9km az=63.0*

ISC 28 10:06:53.5±2.0, **27.1N**±0.1×**96.4E**±0.1, **h87**^{km}±22^{km}, **n16**, σ**1^{s}21**/17, **mb3.8**/6, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	4.34	250	ePN	P	10 07 59.0	+0.5
SHL				eSN	S	10 08 49.5	+1.3
LSA	Lhasa	5.29	300	P	P	10 08 12.8	+1.3
	5.6nm,0.4s						
CMAR	Chiang Mai Arr	8.94	164	P	P	10 09 02.5	+0.9
	0.5nm,0.3s,baz=336,slow=12,SNR=7.1						
CMAR				LR	LR	10 13 12.4	
	comp=Z,42nm,20.1s,baz=270,slow=42						
PKI	Pulchoki	9.78	275	eP	P	10 09 12.0	-1.1
	8.7nm,0.2s						
KKN	Kakani	9.90	276	eP	P	10 09 13.8	-0.9
	17nm,0.3s						
DMN	Daman	10.05	275	eP	P	10 09 16.0	-0.8
	8.0nm,0.3s						
GKN	Gorkha	10.47	277	eP	P	10 09 21.7	-0.8
	14nm,0.3s						
KOLN	Koldanda	11.39	276	eP	P	10 09 32.9	-1.8
	4.8nm,0.2s						
SONM	Songino Array	22.11	18	P	P	10 11 40.6	-1.9
	0.8nm,0.7s,mb3.2,baz=192,slow=11,SNR=3.7						
MKAR	Makanchi Array	22.57	334	P	P	10 11 49.9	+2.8
	0.6nm,0.4s,mb3.2,baz=147,slow=9.0,SNR=6.8						
KURK	Kurchatov	27.18	335	eP	P	10 12 35.0	+4.3
WRA	Warramunga Arr	59.50	138	P	P	10 16 49.2	-1.0
	1.2nm,0.4s,mb4.2,baz=328,slow=7.3,SNR=36						
ASAR	Alice Springs	62.14	141	P	P	10 17 07.3	-0.7
	0.6nm,0.4s,mb4.0,baz=324,slow=6.4,SNR=17						
HFS	Hagfors	63.30	326	P	P	10 17 16.2	+0.9
	3.9nm,1.0s,mb4.3,baz=101,slow=7.3,SNR=5.3						
NOA	NORSAR Array B	64.37	327	P	P	10 17 22.7	+0.7
	1.1nm,0.7s,mb3.8,baz=85,slow=6.1,SNR=3.2						
SML	Sawmill	77.38	26	P	P	10 18 41.2	+1.1

MOS ***28*** *10:28:30.5±1.7, 37.10N×75.75E, h33^{km}, mb4.5/11, Error ellipse: s-maj=17.9km s-min=7.6km az=106.4*

BJI ***28*** *10:28:39.3, 37.56N×75.74E, h108^{km}, mb4.3*

NEIC ***28*** *10:28:39.7±0.7, 37.52N×75.89E, h90^{km}±7^{km}, mb4.0/8, Error ellipse: s-maj=10.3km s-min=4.7km az=60.0*

IDC ***28*** *10:28:42.4±4.6, 37.60N×75.87E, h113^{km}±39^{km}, mb3.7/14, mb1 4.0/17, mb1mx3.8/24, Error ellipse: s-maj=27.6km s-min=15.4km az=14.0, Putative timing error at ZAL.*

KNET ***28*** *10:29:35.5±1.2, 41.53N×75.00E, h41^{km}±1^{km}, ml2.3, Error ellipse: s-maj=12.3km s-min=3.4km az=1.0*

ISC 28 10:28:40.9±0.3, **37.55N**±0.02×**75.90E**±0.05, **h117**^{km}±4^{km}, **n92**, σ**1^{s}31**/110, **mb4.0**/20, **6C-9D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.96	2	⇑iP	P	10 29 15.3	+1.1
KSH				S	S	10 29 40.8	+1.5
KSH				Smax			
	comp=N,3µm,0.7s						
KSH				Smax			
	comp=E,3µm,0.6s						
CHCP	Chirah Chowk	4.44	210	⇓P	P	10 29 49.6	+2.2
NIL	Nilore	4.45	210	Pn	P	10 29 50.2	+2.6
	comp=E,2µm,0.7s,SNR=100						
KZA	Kyzart	4.55	354	⇓P	P	10 29 48.3	-0.6
	comp=E,15nm,0.2s,SNR=17						
UCH	Uchtor	4.79	348	⇓P	P	10 29 51.6	-0.5
	comp=E,19nm,0.2s,SNR=35						
JMU	Jammu	4.89	190	⇓eS	S	10 30 48.0	-1.4
CEP	Cherat	4.94	222	⇓P	P	10 29 55.3	+1.1
DLH	Dalhousie	5.00	179	eP	P	10 29 57.0	+2.1
DLH				eS	S	10 30 51.0	-1.0
KBK	Karagaybulak	5.15	352	⇓P	P	10 29 57.1	0.0
	comp=E,14nm,0.1s,SNR=9.5						
AAK	Ala-Archa	5.19	348	⇓P	P	10 29 57.5	0.0
	comp=E,16nm,0.3s,SNR=17						
AAK	Ala-Archa	5.19	348	eP	P	10 29 56.6	-0.9
	comp=E,20nm,0.6s						
FRU	Bishkek	5.37	350	ePN	P	10 30 00.0	+0.1
FRU				e		10 30 15.0	
CHMS	Chumysh	5.51	351	⇑P	P	10 30 02.0	+0.1
	comp=E,19nm,0.4s,SNR=15						
PONG	Pong	5.58	180	eP	P	10 30 05.0	+2.2
PONG				e		10 31 06.0	
THW	Thamme Wali	5.84	217	P	P	10 30 06.6	+0.3
SDNR	Sundarnagar	6.10	171	eP	P	10 30 10.0	+0.2
SDNR				eS	S	10 31 13.4	-5.4
BHK	Bhakra	6.13	176	eP	P	10 30 13.0	+2.7
BHK				eS	S	10 31 17.0	-2.7
SARP	Sargodha	6.21	206	⇓P	P	10 30 11.4	0.0
KLP	Kalpa	6.31	161	eP	P	10 30 13.8	+1.1
KLP				eS	S	10 31 20.4	-3.5
KLP				eS	S	10 31 20.8	-3.1
SMLA	Simla	6.49	170	eP	P	10 30 26.4	+11
SMLA				eS	S	10 31 34.4	+6.0
	comp=E,5µm,0.2s						
SBDP	Sheikh Budin	6.70	220	⇑P	P	10 30 17.9	-0.3
KKAR	Karatay Array	6.91	325	P	P	10 30 17.9	-3.1
KKAR				S	S	10 31 29.8	-8.7
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
DDI	Dehra Dun	7.43	165	eP	P	10 30 29.0	+1.0
DDI				e		10 31 49.0	
DRP	Derazinda	7.46	221	⇑P	P	10 30 29.2	+0.8
JOSI	Joshimath	7.61	155	eP	P	10 30 32.1	+1.7
JOSI				eS	S	10 31 51.2	-4.3
KKR	Kurukshetra	7.61	174	eP	P	10 30 31.9	+1.4
PTH	Pithoragarh	8.75	154	eP	P	10 30 46.9	+1.1
PTH				eS	S	10 32 14.1	-9.2
LGTI	Lohaghat	8.85	155	eP	P	10 30 48.0	+0.8
LGTI				e		10 32 20.0	
NDI	New Delhi	8.91	173	e	P	10 30 45.0	-2.9
NDI				eS	S	10 32 17.5	-10
NDI				e		10 32 23.7	
	comp=E,103nm,0.4s						
NDI				e		10 32 24.7	
	comp=N,63nm,0.2s						
AYAN	Aya Nagar	9.10	173	eP	P	10 30 50.3	-0.2
AYAN				eS	S	10 32 22.6	-9.1
AYAN				e		10 32 33.0	
	comp=Z,57nm,0.3s						
SONA	Sohna	9.33	174	eP	P	10 30 53.0	-0.5
SONA				eS	S	10 32 28.2	-8.9
SONA				e		10 32 34.0	
	comp=N,54nm,0.3s						
SONA				e		10 32 34.4	
	comp=E,137nm,0.2s						
KUDL	Kundal	9.39	177	eP	P	10 30 53.8	-0.6
KUDL				e		10 30 57.0	
	comp=Z,56nm,0.3s						
KUDL				eS	S	10 32 29.6	-9.1
KHET	Khetri	9.45	181	eP	P	10 30 54.0	-1.2
KHET				eS	S	10 32 31.2	-8.9
KHET				e		10 32 35.4	
	comp=N,96nm,0.4s						
KHET				e		10 32 35.5	
	comp=E,116nm,0.2s						
MKAR	Makanchi Array	10.38	25	P	P	10 31 06.5	-1.0
	comp=E,0.6nm,0.3s,baz=218,slow=14,SNR=17						
MKAR	Makanchi Array	10.38	25	P	P	10 31 06.5	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMQ	Urumqi	10.92	51	P	P	10 31 12.8	-1.9
AJM	Ajmer	11.09	186	eS	S	10 33 08.0	-11
	comp=Z,61nm,0.2s						
KOLN	Koldanda	11.71	144	eP	P	10 31 23.6	-1.5
	comp=Z,15nm,0.3s						
GKN	Gorkha	12.02	140	eP	P	10 31 27.7	-1.6
	comp=Z,25nm,0.3s						
KKN	Kakani	12.53	138	eP	P	10 31 34.3	-1.6
	comp=Z,8.2nm,0.2s						
DMN	Daman	12.58	139	eP	P	10 31 35.2	-1.4
	comp=Z,17nm,0.5s						
PKI	Pulchoki	12.77	138	eP	P	10 31 36.8	-2.3
	comp=Z,12nm,0.3s						
KURK	Kurchatov	13.30	8	Pn	P	10 31 43.5	-2.5
	comp=Z,150nm,0.9s,SNR=38						
KURK	Kurchatov	13.30	8	i P	P	10 31 43.5	-2.5
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
KURK	Kurchatov	13.30	8	eP	P	10 31 43.5	-2.5
	comp=Z,24nm,0.9s						
BHPL	Bhopal	14.32	174	eP	P	10 32 01.5	+2.3
BHPL				i		10 32 02.6	
BHPL				e		10 34 25.4	
VOSK	Vostochnaya	15.56	349	P	P	10 32 15.0	+0.4
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	15.95	348	P	P	10 32 19.2	-0.3
	comp=Z,0.5nm,0.3s,baz=140,slow=12,SNR=17						
BRVK	Borovoye	16.00	348	eP	P	10 32 19.6	-0.5
	comp=Z,9.8nm,0.9s						
ZRNK	Zerenda	16.14	345	P	P	10 32 20.3	-1.6
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZRNK	Zerenda	16.14	345	eP	P	10 32 20.5	-1.4
	comp=Z,2.8nm,0.8s						
AB31	Akbulak array	16.43	320	eP	P	10 32 22.8	-2.8
GTA	Gaotai	18.80	77	eP	P	10 32 55.8	+2.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s						
ARU	Arti	22.17	334	⇓iP	P	10 33 29.6	+1.9
ARU				e		10 34 03.4	
ARU				eS	S	10 37 30.1	+11
ARU				eSS	SS	10 38 09.4	+0.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
ARU	Arti	22.17	334	eP	P	10 33 28.5	+0.8
	comp=Z,4.7nm,0.6s,mb4.0						
ZAK	Zakamensk	23.36	48	⇑eP	P	10 33 42.0	+2.8
SONM	Songino Array	24.51	55	P	P	10 33 52.3	+2.0
	comp=Z,3.7nm,0.7s,mb4.0,baz=250,slow=9.3,SNR=18						
SOC	Sochi	27.99	294	eP	P	10 34 21.5	-1.0
SOC				e		10 35 20.3	
SOC				e		10 37 30.4	
SOC				eS	S	10 38 56.6	+0.1
SOC				eSS	SS	10 40 29.8	+2.1
SOC				pmax	pmax		
	comp=N,2.0nm,0.3s						
SOC				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.3						
SOC				pmax	pmax		
	comp=E,2.0nm,0.2s						
SOC				MLR	MLR		
	comp=N,172nm,22.0s						
SOC				MLR	MLR		
	comp=Z,123nm,22.0s						
SOC				MLR	MLR		
	comp=E,69nm,19.0s						
MALT	Malatya	29.44	283	P	P	10 34 35.9	+0.4
	comp=E,0.9nm,0.4s,mb3.8						
OBN	Obninsk	31.80	316	ceP	P	10 34 54.9	-1.2
OBN				e		10 36 24.1	
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
BRTR	Keskin Array B	32.87	287	P	P	10 35 05.5	+0.1
	comp=Z,1.1nm,0.6s,mb3.9,baz=90,slow=8.6,SNR=4.8						
BRTR	Keskin Array B	32.87	287	P	P	10 35 05.6	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	35.40	307	P	P	10 35 26.0	-1.0
	comp=Z,1.6nm,0.5s,mb4.1,baz=77,slow=7.6,SNR=4.7						
AKASG	Malin Array Be	35.40	307	P	P	10 35 26.0	-1.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NJ2	Nanjing	35.46	86	eP	P	10 35 28.3	+0.6
NJ2				S	S	10 40 55.0	+1.7
NJ2				LR	LR		
	comp=N,2µm,15.0s						
NJ2				LR	LR		
	comp=E,3µm,14.9s						
NJ2				LR	LR		
	comp=Z,3µm,15.2s						
SSE	Sheshan	37.66	86	P	P	10 35 46.8	+0.6
	comp=Z,44nm,0.7s						
MLR	Muntele Rosu	37.72	298	P	P	10 35 48.0	+1.5
	comp=Z,5.1nm,0.9s,mb4.3,baz=153,slow=18,SNR=3.7						
MLR	Muntele Rosu	37.72	298	P	P	10 35 48.0	+1.5
MLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	38.87	324	P	P	10 35 55.8	-0.1
	comp=Z,3.4nm,0.3s,mb4.6,baz=120,slow=11,SNR=49						
FINES	FINESS Array B	38.87	324	P	P	10 35 55.8	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KAF	Kangasniemi	38.94	325	ep	P	10 35 55.8	-0.7
	comp=Z,0.5nm,0.4s,mb3.7,baz=106,slow=8.6						
KAF	Kangasniemi	38.94	325	eP	P	10 35 55.8	-0.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	ARCESS Array B	41.73	336	P	P	10 36 19.7	+0.4
	comp=Z,1.9nm,0.6s,mb4.0,baz=113,slow=9.2,SNR=11						
ARCES	ARCESS Array B	41.73	336	P	P	10 36 19.7	+0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	41.73	336	P	P	10 36 19.7	+0.4
GERES	GERESS Array B	45.54	305	P	P	10 36 50.6	+0.4
	comp=Z,0.2nm,0.5s,mb3.1,baz=63,slow=6.0,SNR=5.8						
NB2	NORSAR Subarra	45.93	322	P	P	10 36 52.4	-0.7
	comp=Z,1.7nm,0.5s,mb4.0,baz=89,slow=7.9						
NOA	NORSAR Array B	45.93	322	P	P	10 36 52.7	-0.4
	comp=Z,2.7nm,0.7s,mb4.1,baz=91,slow=7.7,SNR=6.9						
NOA	NORSAR Array B	45.93	322	P	P	10 36 52.7	-0.4
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKA	Eskdalemuir Ar	54.25	316	P	P	10 37 54.9	-1.6
	comp=Z,1.5nm,0.8s,mb4.1,baz=71,slow=13,SNR=3.2						
EKA	Eskdalemuir Ar	54.25	316	P	P	10 37 54.9	-1.6
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	72.18	11	P	P	10 39 54.5	+0.4
	comp=Z,3.8nm,0.8s,mb4.3,baz=3.1,slow=7.3,SNR=8.8						
INK	Inuvik	72.18	11	P	P	10 39 54.6	+0.5
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	72.18	11	eP	P	10 39 54.4	+0.3
	comp=Z,6.5nm,1.0s,mb4.4						
COLA	College	72.32	18	eP	P	10 39 55.2	+0.3
	comp=Z,5.0nm,0.9s,mb4.3						
ILAR	Eielson Array	72.64	18	P	P	10 39 56.5	-0.2
	comp=Z,1.6nm,0.8s,mb3.9,baz=306,slow=4.0,SNR=14						
ILAR	Eielson Array	72.64	18	P	P	10 39 56.6	-0.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	79.30	125	P	P	10 40 35.8	+0.7
	comp=Z,0.4nm,0.8s,mb3.3,baz=330,slow=5.4,SNR=4.5						
YKA	Yellowknife Ar	79.94	5	P	P	10 40 38.2	+0.5
	comp=Z,2.7nm,0.7s,mb4.2,baz=346,slow=5.6,SNR=14						
YKA	Yellowknife Ar	79.94	5	P	P	10 40 38.2	+0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	79.94	5	P	P	10 40 38.2	+0.5
ASAR	Alice Springs	81.72	128	P	P	10 40 48.5	+0.6
	comp=Z,1.0nm,0.9s,mb3.7,baz=315,slow=6.0,SNR=5.1						

NIED ***28*** *10:39:00, 39.40N×144.10E, h11^{km}, Mw3.7 Best double couple: M$_0$3.44×10^{14} NP1:φ$_s$22°, δ53°, λ100°. NP2:φ$_s$186°, δ38°, λ78°.*

JMA 28 10:39:23.2±0.2, **39.41N**×**144.08E**, **h20**^{km}, **M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyako 2	1.75	276	P	Pn	10 39 53.3	+0.3
JTH	Tanohata	1.79	288	P	Pn	10 39 53.7	+0.2
OFUJ	Ofunato	1.90	261	P	Pn	10 39 55.4	+0.3
JOM	Ohasama	2.16	273	P	Pn	10 39 59.4	+0.6
JMK	Ichinoseki	2.27	259	P	Pn	10 40 00.8	+0.4
JYK	Kaneyama	2.93	262	P	Pn	10 40 10.6	+0.8
JMM	Marumori	3.00	240	P	Pn	10 40 10.8	0.0
MAT	Matsushiro	5.45	240	P	Pn	10 40 45.7	+0.2

THE ***28*** *10:47:50.2, 39.43N×20.55E, h10^{km}, ML3.0*

NEIC ***28*** *10:47:50.2, 39.43N×20.55E, h10^{km}, MD3.3(ATH), ML3.0(THE), After THE.*

ATH ***28*** *10:47:50.1, 39.49N×20.52E, h3^{km}, MD3.3/3*

ISC 28 10:47:50.0±0.6,39.41N±0.03×20.50E±0.05,h10^{km},n11, σ1^{s}07/17,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.17	313	ePg	Pg	10 47 53.7	-0.2
IGT				eSg	Sg	10 47 57.4	+0.9
JAN	Janina	0.37	48	ePG	Pg	10 47 55.3	-2.3
KEK	Kerkira	0.62	299	ePG	Pg	10 48 01.9	-0.6
MEV	Metsovon	0.68	56	ePg	Pg	10 48 01.4	-2.3
LKD	Levkas	0.71	170	ePg	Pg	10 48 03.0	-1.4
LKD				eSg	Sg	10 48 14.9	+0.9
EVR	Evrytania	1.13	115	ePN	Pn	10 48 13.2	+1.3
VLS	Valsamata	1.24	177	ePB	Pb	10 48 13.4	+0.4
VLS				eSB	Sb	10 48 33.1	+4.3
FNA	Florina	1.53	26	ePb	Pb	10 48 17.4	-0.5
FNA				eSb	Sb	10 48 38.6	+1.3
LIT	Litokhoron	1.68	65	ePb	Pb	10 48 20.2	-0.4
	comp=Z,3.2nm,0.5s						
LIT				eSb	Sb	10 48 42.4	+0.6
XOR	Xorichti	2.09	90	ePn	Pn	10 48 25.5	0.0
GRG	Griva	2.12	43	ePn	Pn	10 48 26.7	+0.6
GRG				eSn	Sn	10 48 53.5	+0.8

MOS 28 10:49:16.4±2.6,51.30N×98.50E,h15^{km},mb4.0/1,Error ellipse: s-maj=39.6km s-min=16.5km az=151.2, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	1.48	33	ePG	Pg	10 49 42.2	-3.9
ORL				e		10 50 05.0	
ORL				pmax	pmax		
	comp=Z,59nm,0.4s						
ORL				smax			
	comp=N,348nm,0.8s						
MOY	Mondy	1.60	76	ePN	Pn	10 49 43.9	-0.5
MOY				e		10 50 08.4	
MOY				pmax	pmax		
	comp=Z,92nm,0.7s						
MOY				smax			
	comp=N,897nm,1.3s						
ARS	Arshan	2.52	74	ePN	Pn	10 49 57.8	+0.2
ARS				e		10 50 37.0	
ARS				pmax	pmax		
	comp=Z,44nm,0.7s						
ARS				smax			
	comp=E,544nm,0.7s						
ZAK	Zakamensk	3.17	105	ePN	Pn	10 50 09.2	+2.4
ZAK				e		10 50 52.8	
ZAK				pmax	pmax		
	comp=Z,53nm,1.1s						
ZAK				smax			
	comp=N,194nm,0.8s						
TLY	Talaya	3.24	81	ePN	Pn	10 50 05.8	-2.0
TLY				e		10 50 57.8	
TLY				pmax	pmax		
	comp=Z,12nm,0.4s						
TLY				smax			
	comp=N,347nm,1.4s						
IRK	Irkutsk	3.71	73	ePN	Pn	10 50 21.2	+6.8
IRK				e		10 51 12.2	
IRK				pmax	pmax		
	comp=Z,126nm,0.1s						
IRK				smax			
	comp=N,761nm,1.4s						
LSTR	Listvyanka	3.99	79	ePN	Pn	10 50 27.8	+9.3
LSTR				e		10 51 19.3	
LSTR				pmax	pmax		
	comp=Z,13nm,1.0s						
LSTR				smax			
	comp=N,206nm,0.9s						
TRG	Tyrgan	5.06	70	ePN	Pn	10 50 43.7	+10
TRG				e		10 51 52.9	
TRG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TRG				smax			
	comp=N,243nm,1.5s						
KAB	Kabansk	5.13	78	ePN	Pn	10 50 46.5	+12
OGRR	Ongureny	6.03	64	ePN	Pn	10 50 41.9	-5.5
OGRR				e		10 52 23.0	
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OGRR				smax			
	comp=N,70nm,0.8s						

BJI ***28*** *11:10:54.9,12.87S×167.63E,h250^{km},mB4.9,mb4.4*

IDC ***28*** *11:10:57.6±2.9,12.53S×167.28E,h232^{km}±26^{km}, mb4.0/17,mb1 4.2/17,mb1mx4.2/19,Error ellipse: s-maj=14.6km s-min=12.7km az=134.0*

NEIC ***28*** *11:10:57.8±2.6,12.49S×167.23E,h234^{km}±24^{km}, mb4.4/22,Error ellipse: s-maj=9.0km s-min=8.6km az=126.0*

SYO ***28*** *11:10:57.7,12.49S×167.23E,h234^{km},MB4.4*

ISC 28 11:10:51.8±4.7,12.47S±0.08×167.22E±0.07, h190^{km}±42^{km},n178,σ0^{s}81/65,mb4.4/39,28C-2D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	21.49	247	eP	P	11 15 29.3	+3.1
	4.3nm,0.6s,mb4.0						
CTA	Charters Tower	21.49	247	P	P	11 15 28.7	+2.5
	6.1nm,0.8s,mb4.0,baz=77,slow=12,SNR=5.5						
CTAO	Charters Tower	21.49	247	eP	P	11 15 29.4	+3.2
	11nm,1.0s,mb4.1						
ARMA	Armidale	22.97	217	eP	P	11 15 43.3	+2.7
URZ	Urewera	27.16	163	P	P	11 16 18.1	-1.4
	8.0nm,0.8s,mb4.4,baz=4.1,slow=3.4,SNR=5.9						
BKZ	Black Stump Fm	27.84	164	eP	P	11 16 25.5	-0.1
MRZ	Mangatainoka R	29.03	167	P	P	11 16 35.8	-0.5
THZ	Tophouse	29.61	171	P	P	11 16 40.5	-0.8
THZ				P		11 16 40.7	
STKA	Stephens Creek	30.46	227	eP	P	11 16 49.6	+0.7
	4.5nm,0.4s,mb4.5						
STKA	Stephens Creek	30.46	227	P	P	11 16 49.8	+0.9
	4.9nm,0.4s,mb4.6,baz=66,slow=7.9,SNR=22						
STKA				PcP	PcP	11 19 41.9	-1.6
	4.1nm,0.5s,baz=90,slow=3.2,SNR=8.0						
RPZ	Rata Peaks	31.31	175	P	P	11 16 56.2	-0.1
	18nm,0.6s,mb5.0,baz=319,slow=8.4,SNR=13						
TOO	Toolangi	31.66	214	eP	P	11 17 00.0	+0.6
	3.6nm,0.9s,mb4.1						
WB2	Warramunga Arr	32.38	252	eP	P	11 17 04.8	-0.9
WRA	Warramunga Arr	32.39	252	P	P	11 17 05.2	-0.7
	1.8nm,0.5s,mb4.0,baz=83,slow=9.0,SNR=43						
ASAR	Alice Springs	33.49	246	P	P	11 17 14.7	-0.5
	2.9nm,0.5s,mb4.3,baz=71,slow=9.3,SNR=46						
ASAR				PcP	PcP	11 19 50.1	-1.6
	1.4nm,0.5s,baz=71,slow=3.2,SNR=9.4						
ASAR				ScP		11 23 12.2	
	1.7nm,1.0s,baz=100,slow=3.7,SNR=6.4						
ASPA	Alice Springs	33.49	246	eP	P	11 17 14.9	-0.3
FITZ	Fitzroy Crossi	40.43	257	eP	P	11 18 13.8	+0.5
	2.6nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	40.43	257	P	P	11 18 14.0	+0.7
	baz=42,slow=4.8						
FORT	Forrest	40.45	237	eP	P	11 18 14.1	+0.8
	145nm,0.7s						
KLBR	Kellerberrin	49.19	239	eP	P	11 19 22.0	-0.6
	100nm,2.0s,mb5.1						
NWAO	Narrogin (SRO)	49.89	237	P	P	11 19 27.6	-0.3
	10nm,0.8s,mb4.5,baz=94,slow=5.0,SNR=9.5						
NWAO	Narrogin (SRO)	49.89	237	eP	P	11 19 27.2	-0.7
	9.3nm,0.8s,mb4.5						
MUN	Mundaring	50.56	239	eP	P	11 19 31.6	-1.4
	15nm,1.3s,mb4.5						
ASAJ	Asahikawa	60.61	340	P	P	11 20 44.1	-0.5
	4.8nm,0.6s,mb4.5,baz=170,slow=11,SNR=5.4						
SBA	Scott Base	65.39	180	eP	P	11 21 16.1	+0.6
	10nm,0.8s,mb4.7						
ENH	Enshi	69.91	309	eP	P	11 21 44.0	-0.3
	16nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	74.00	293	P	P	11 22 09.8	+0.9
	6.0nm,0.7s,mb4.4,baz=122,slow=4.5,SNR=26						
HIA	Hailar	74.31	330	eP	P	11 22 10.0	0.0
	5.2nm,0.9s,mb4.3						
QSPA	South Pole Qui	77.55	180	eP	P	11 22 27.7	+0.1
	13nm,0.9s,mb4.6						
SONM	Songino Array	80.66	323	P	P	11 22 45.6	+0.7
	1.4nm,0.6s,mb3.8,baz=144,slow=5.1,SNR=10						
GTA	Gaotai	81.08	314	eP	P	11 22 48.0	+0.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.0						
PMR	Palmer	81.39	20	eP	P	11 22 47.8	-0.6
	comp=Z,7.6nm,0.6s,mb4.5						
MCK	McKinley	83.03	18	eP	P	11 22 56.2	-0.6
	comp=Z,5.3nm,0.8s,mb4.3						
YBH	Yreka Blue Hor	83.86	45	P	P	11 23 02.2	+0.7
	comp=Z,3.4nm,0.7s,mb4.2,baz=253,slow=2.5,SNR=6.1						
MAW	Mawson	83.95	202	⇑iP	P	11 23 01.6	+0.3
	comp=Z,10nm,1.1s,mb4.5						
MAW	Mawson	83.95	202	P	P	11 23 01.6	+0.3
	comp=Z,13nm,1.0s,mb4.6,baz=107,slow=6.4,SNR=17						
COLA	College	84.19	18	eP	P	11 23 01.8	-0.7
	comp=Z,20nm,0.9s,mb4.9						
LSA	Lhasa	84.33	302	eP	P	11 23 05.5	+1.4
	comp=Z,4.9nm,0.5s,mb4.5						
ILAR	Eielson Array	84.40	18	P	P	11 23 03.0	-0.5
	comp=Z,11nm,0.6s,mb4.8,baz=247,slow=5.0,SNR=170						
NVAR	Mina Array Bea	85.84	49	P	P	11 23 12.3	+0.9
	comp=Z,1.2nm,0.6s,mb3.8,baz=220,slow=6.9,SNR=12						
NVAR	Mina Array Bea	85.84	49	P	P	11 23 12.3	+0.9
MNV	Mina	85.95	49	eP	P	11 23 12.1	+0.2
	comp=Z,2.1nm,0.9s,mb3.9						
DAWY	Dawson	86.36	21	eP	P	11 23 12.5	-0.7
TPNV	Topopah Spring	86.91	51	eP	P	11 23 16.7	+0.1
	comp=Z,0.9nm,0.6s,mb3.8						
PKI	Pulchoki	88.58	298	eP	P	11 23 24.5	-0.2
	comp=Z,15nm,0.6s,mb5.1						
KKN	Kakani	88.75	299	eP	P	11 23 25.2	-0.2
	comp=Z,18nm,0.7s,mb5.1						
ELK	Elko	88.82	48	eP	P	11 23 26.2	+0.8
	comp=Z,2.0nm,0.7s,mb4.2						
DMN	Daman	88.85	298	eP	P	11 23 25.9	0.0
	comp=Z,39nm,0.7s,mb5.5						
GKN	Gorkha	89.35	299	eP	P	11 23 27.4	-0.9
TUC	Tucson	89.94	57	eP	P	11 23 32.0	+1.0
	comp=Z,4.4nm,0.9s,mb4.4						
KOLN	Koldanda	90.18	298	eP	P	11 23 31.6	-0.6
DUG	Dugway	90.43	49	eP	P	11 23 33.8	+0.8
	comp=Z,1.1nm,0.7s,mb3.9						
MSU	Marysvale	90.45	51	eP	P	11 23 34.6	+1.4
BGU	Big Grassy Mou	90.47	48	eP	P	11 23 33.4	+0.2
SYO	Syowa Base	90.85	197	⇓P	P	11 23 33.8	-0.5
SYO	Syowa Base	90.85	197	⇑PcP	PcP	11 23 35.4	0.0
WMQ	Urumqi	91.11	315	P	P	11 23 35.5	-0.6
PDAR	Pinedale Array	93.45	47	P	P	11 23 45.6	-1.3
	comp=Z,0.2nm,0.5s,mb3.5,baz=284,slow=3.7,SNR=3.7						
TXAR	Lajitas Array	95.24	61	P	P	11 23 55.4	0.0
	comp=Z,1.3nm,0.7s,mb4.3,baz=224,slow=5.4,SNR=23						
TXAR	Lajitas Array	95.24	61	P	P	11 23 55.4	0.0
MKAR	Makanchi Array	95.54	317	P	P	11 23 56.5	+0.2
	comp=Z,12nm,0.6s,mb5.4,baz=94,slow=6.6,SNR=114						
YKA	Yellowknife Ar	95.57	27	P	P	11 23 54.9	-1.2
	comp=Z,1.8nm,0.6s,mb4.6,baz=257,slow=4.6,SNR=12						
SNAA	Sanae	95.79	183	⇑i	P	11 23 55.9	-1.0
VNA3	Neumayer Olymp	96.46	181	⇑i	P	11 24 01.0	+1.1
VNA2	Neumayer--Watz	96.73	182	⇑i	P	11 24 01.8	+0.6
VNA1	Neumayer--Stat	97.03	182	⇓i	P	11 24 11.0	+8.4
KEV	Kevo	117.54	345	epkp	PKPdf	11 29 12.8	-1.7
ARCES	ARCESS Array B	118.06	346	PKP	PKPdf	11 29 15.8	+0.4
	comp=Z,4.6nm,0.4s,baz=72,slow=1.7,SNR=50						
LPAZ	La Paz	118.27	116	PKP	PKPdf	11 29 18.5	+1.4
	comp=Z,1.6nm,0.3s,baz=344,slow=0.6,SNR=6.9						
CPUP	Villa Florida	122.01	132	PKP	PKPdf	11 29 23.9	-0.3
	comp=Z,0.9nm,0.5s,baz=307,slow=4.2,SNR=4.6						
KAF	Kangasniemi	123.08	339	epkp	PKPdf	11 29 24.4	-1.0
	baz=38,slow=2.5						
FINES	FINESS Array B	123.61	339	PKP	PKPdf	11 29 26.1	-0.4
	comp=Z,2.4nm,0.6s,baz=88,slow=2.9,SNR=21						
SUR	Sutherland	125.04	215	P	PKPdf	11 29 30.1	+0.1
NB2	NORSAR Subarra	128.44	345	PKPdf	PKPdf	11 29 35.5	-0.2
	comp=Z,4.7nm,1.1s,baz=31,slow=1.9						
NOA	NORSAR Array B	128.44	345	PKP	PKPdf	11 29 36.7	+1.0
	comp=Z,1.7nm,0.6s,baz=32,slow=2.0,SNR=5.2						
NOA	NORSAR Array B	128.44	345	PKP	PKPdf	11 29 36.7	+0.9
BDFB	Brasilia	135.33	128	PKP	PKPdf	11 29 51.1	+1.2
	comp=Z,1.7nm,0.7s,baz=177,slow=2.4,SNR=3.3						
KHC	Kasperske Hory	137.44	334	ePKIKP	PKPdf	11 29 53.5	+0.7
GERES	GERESS Array B	137.61	334	PKP	PKPdf	11 29 54.4	+1.3
	comp=Z,2.1nm,0.8s,baz=45,slow=3.8,SNR=9.4						
CDF	Champ du Feu	140.47	339	ePKP1	PKPdf	11 29 52.5	-5.9
	comp=Z,3.5nm,0.5s						
HAU	Haudompre	141.13	339	ePKP1	PKPdf	11 29 55.0	-4.5
FLN	La Foliniere	142.40	347	ePKP1	PKPdf	11 29 58.9	-2.8
	comp=Z,9.2nm,0.7s						
CABF	La Chapelle	142.42	339	ePKP1	PKPdf	11 30 00.3	-1.5
	comp=Z,5.8nm,0.6s						
LDF	La Druitiere	142.47	346	ePKP1	PKPdf	11 29 59.1	-2.7
	comp=Z,6.5nm,0.7s						
GRAM		142.56	333	P	PKPdf	11 29 59.3	-2.7
LOR	Lormes	142.60	341	ePKP1	PKPdf	11 30 00.1	-1.9
	comp=Z,9.1nm,0.8s						
TRAV		142.72	336	P	PKPdf	11 29 59.6	-2.7
BACM		142.72	333	P	PKPdf	11 29 59.9	-2.5
CODM		142.74	333	P	PKPdf	11 29 59.3	-3.1
MAIM		142.82	332	P	PKPdf	11 29 59.1	-3.4
GRR	Gorron	142.84	347	ePKP1	PKPdf	11 30 00.6	-1.8
	comp=Z,5.2nm,0.4s						
SSF	Saint Saulge	142.89	341	ePKP1	PKPdf	11 30 00.9	-1.7
	comp=Z,12nm,0.7s						
LSD	Ceresole Reale	143.00	336	P	PKPdf	11 30 01.6	-1.2
LPL	La Plagne	143.11	337	ePKP1	PKPbc	11 30 01.9	+0.6
	comp=Z,9.8nm,0.6s						
LPG	La Plagne	143.12	337	ePKP1	PKPbc	11 30 02.0	+0.7
	comp=Z,14nm,0.6s						
SMF	Signal de Mont	143.16	341	ePKP1	PKPbc	11 30 01.5	+0.1
AVF	Avril sur Loir	143.18	341	⇑iPKP1	PKPbc	11 30 01.4	0.0
	comp=Z,5.6nm,0.6s						
PCP	Pian Castagno	143.18	334	P	PKPbc	11 30 01.7	+0.2
RSP	Reno Superiore	143.21	336	P	PKPbc	11 30 01.5	-0.1
SGMF	Saint Gilles	143.32	349	ePKP1	PKPbc	11 30 01.7	-0.1
	comp=Z,9.5nm,0.5s						
FENE	Fenestrelle	143.39	336	P	PKPbc	11 30 02.0	-0.2
BHB	Bricherasio	143.47	336	P	PKPbc	11 30 01.2	-1.1
BNI	Bardonecchia	143.52	337	eP	PKPbc	11 30 00.3	-2.2
BGF	Bois d’Agland	143.54	342	ePKP1	PKPbc	11 30 02.8	+0.3
	comp=Z,24nm,0.5s						
RRL	Cesana Torines	143.59	336	P	PKPbc	11 30 03.1	+0.4
FIN	Finale Ligure	143.59	334	P	PKPbc	11 30 02.0	-0.8
ROB	Roburent	143.67	335	P	PKPbc	11 30 02.3	-0.7
RORO		143.73	334	P	PKPbc	11 30 02.7	-0.5
QUIF	Quistinic	143.76	349	ePKP1	PKPbc	11 30 03.0	-0.1
MBDF	Montbardon	143.76	336	⇑iPKP1	PKPbc	11 30 03.4	+0.2
	comp=Z,20nm,0.7s						
PZZ	Prazzo	143.81	336	P	PKPbc	11 30 02.3	-1.1
PLDF	La Plantade	143.82	341	PKP	PKPdf	11 30 04.2	0.0
PLDF	La Plantade	143.82	341	⇑eP	PKPbc	11 30 04.2	+0.8
MONE	Monesi	143.89	335	P	PKPbc	11 30 04.0	+0.3
AGO	Saint Agoulin	143.91	341	PKP	PKPdf	11 30 04.2	-0.2
AGO	Saint Agoulin	143.91	341	⇑eP	PKPbc	11 30 04.2	+0.6
ENR	Entracque	143.91	335	P	PKPbc	11 30 02.4	-1.3
STV2	Anna di Valdie	143.93	335	P	PKPbc	11 30 02.1	-1.7
STV	Sta Anna Valdi	143.93	335	P	PKPbc	11 30 02.3	-1.5
ORIF	Oris-en-Rattie	143.94	337	ePKP1	PKPbc	11 30 04.5	+0.7
	comp=Z,65nm,0.7s						
IMI	Imperia	143.97	334	P	PKPbc	11 30 03.7	-0.2
TCF	Toulx Ste Croi	143.98	342	⇑iPKP1	PKPbc	11 30 04.2	+0.4
	comp=Z,35nm,0.7s						
SAOF	Saorge	144.05	335	PKP	PKPdf	11 30 04.1	-0.6
SAOF	Saorge	144.05	335	⇑eP	PKPbc	11 30 04.1	0.0
AUTN	L’Aution	144.10	335	PKP	PKPdf	11 30 04.6	-0.2
AUTN	L’Aution	144.10	335	⇑eP	PKPbc	11 30 04.6	+0.3
NEGI	Negi	144.10	334	P	PKPbc	11 30 03.7	-0.6
TOUF	Mont Tournerai	144.16	335	PKP	PKPdf	11 30 04.4	-0.5
TOUF	Mont Tournerai	144.16	335	⇑eP	PKPbc	11 30 04.4	0.0
SBF	Sospel	144.20	335	ePKP1	PKPbc	11 30 04.6	+0.1
	comp=Z,113nm,0.7s						
PYM	Petit Puy Mans	144.22	341	PKP	PKPdf	11 30 04.9	0.0
PYM	Petit Puy Mans	144.22	341	⇑eP	PKPbc	11 30 04.9	+0.4
AURF	Auriere	144.23	335	PKP	PKPdf	11 30 04.1	-0.9
AURF	Auriere	144.23	335	⇑eP	PKPbc	11 30 04.1	-0.5
MVIF	Mont Vial	144.29	335	PKP	PKPdf	11 30 04.9	-0.2
MVIF	Mont Vial	144.29	335	⇑eP	PKPbc	11 30 04.9	+0.1
MFF	Saint Martin d	144.34	345	⇑iPKP1	PKPbc	11 30 05.3	+0.5
	comp=Z,80nm,0.7s						
VIVF	Saint-Julien-l	144.44	338	ePKP1	PKPbc	11 30 06.1	+0.9
	comp=Z,30nm,0.8s						
PGF	Pioggiola	144.56	332	⇑iPKP1	PKPbc	11 30 06.0	+0.4
	comp=Z,92nm,0.9s						
LBL	Lubilhac	144.60	340	PKP	PKPdf	11 30 07.1	+1.5
LBL	Lubilhac	144.60	340	⇑eP	PKPbc	11 30 07.1	+1.5
FRF	La Foret Royal	144.78	335	⇑iPKP1	PKPbc	11 30 06.6	+0.4
	comp=Z,61nm,0.7s						
SMRF	Simiane la Rot	144.85	337	⇑iPKP1	PKPbc	11 30 07.4	+1.0
	comp=Z,26nm,0.7s						
LMR	La Mourre	145.02	335	⇑iPKP1	PKPbc	11 30 07.4	+0.5
	comp=Z,38nm,0.6s						
RJF	Les Rejaudoux	145.08	342	⇑iPKP1	PKPbc	11 30 07.9	+1.0
CAF	Calviac	145.25	341	⇑iPKP1	PKPbc	11 30 08.5	+1.1
	comp=Z,20nm,1.0s						
LASF	Ste Croix	145.41	339	⇑iPKP1	PKPbc	11 30 09.0	+1.2
	comp=Z,30nm,0.7s						
LFF	La Frestale	145.63	343	⇑iPKP1	PKPbc	11 30 09.5	+1.2
	comp=Z,31nm,0.5s						
MTLF	Montolieu	146.62	340	⇑iPKP1	PKPbc	11 30 12.6	+1.9
	comp=Z,28nm,0.7s						
EPF	Esparros	147.50	342	⇑iPKP1	PKPdf	11 30 14.5	+3.9
SJPF	Ste Jean	147.87	344	ePKP1	PKPdf	11 30 16.0	+4.8
	comp=Z,1.8nm,0.4s						
ETSF	Etsaut	147.88	343	ePKP1	PKPdf	11 30 16.5	+5.3
	comp=Z,12nm,0.8s						
EGRA	Graus	148.26	341	PKP	PKPdf	11 30 17.6	+5.8
ELAN	Lanestosa	148.30	347	PKP	PKPdf	11 30 17.2	+5.4
EPOB	Poblet	148.77	340	PKP	PKPdf	11 30 18.1	+5.5
EPON	Pontenova	148.87	352	PKP	PKPdf	11 30 18.2	+5.5
ESAC	San Caprasio	148.93	342	PKP	PKPdf	11 30 19.0	+6.0
STS	Santiago	149.47	354	PKP	PKPdf	11 30 20.1	+6.3
ERUA	La Rua	149.78	352	PKP	PKPdf	11 30 20.5	+6.3
ECAL	Calabor	150.17	351	PKP	PKPdf	11 30 21.3	+6.4
EMOS	Mosqueruela	150.17	341	PKP	PKPdf	11 30 22.6	+7.7
EZAM	Zamans	150.21	354	PKP	PKPdf	11 30 20.1	+5.2
ETOR	Torete	150.23	343	PKP	PKPdf	11 30 21.7	+6.7
ELOB	Lobios	150.42	353	PKP	PKPdf	11 30 21.9	+6.7
EIBI	Ibiza	150.73	337	PKP	PKPdf	11 30 26.1	+10
EBEN	Beniarda	151.58	339	PKP	PKPdf	11 30 25.9	+8.9
ESDC	Sonseca Array	151.80	346	PKPbc	PKPdf	11 30 25.4	+8.0
	comp=Z,3.1nm,0.6s,baz=18,slow=2.6,SNR=23						
ESDC				PKPab	PKPab	11 30 35.8	-0.3
	comp=Z,0.4nm,0.4s,baz=6.8,slow=5.0,SNR=4.6						
ESDC	Sonseca Array	151.80	346	PKP	PKPdf	11 30 25.3	+7.9
ETOB	Tobarra	152.08	341	PKP	PKPdf	11 30 26.4	+8.5
EVIA	Vianos	152.38	342	PKP	PKPdf	11 30 27.4	+9.2
EMUR	La Murta	152.71	340	PKP	PKPdf	11 30 27.0	+8.3
EQES	Quesada	153.32	343	PKP	PKPdf	11 30 29.1	+10
EBAD	Badajoz	153.32	350	PKP	PKPdf	11 30 28.2	+8.7
EADA	Adamuz	153.38	345	PKP	PKPdf	11 30 28.7	+9.1
ELUQ	Luque	153.88	345	PKP	PKPdf	11 30 30.5	+10
EMIN	Mina Concepcio	154.22	349	PKP	PKPdf	11 30 30.8	+10
EGRO	El Granado	154.59	350	PKP	PKPdf	11 30 31.8	+11
DBIC	Dimbokro	170.29	234	PKPab	PKPab	11 31 56.1	-0.6
	comp=Z,9.5nm,1.3s,baz=175,slow=5.6,SNR=4.4						

NAO ***28*** *11:29:02.1±1.5,67.90N×25.75E,ML2.2*

HEL ***28*** *11:29:04.5±0.1,67.94N×25.86E,ML1.5,ML1.3(BER), ML2.2(NAO),Explosion*

BER ***28*** *11:29:04.4±1.3,67.93N×26.02E,ML1.3,ML2.2(NAO), Suspected explosion*

ISC 28 11:29:03.0±0.6,67.95N±0.03×25.9E±0.1,n10,σ1^{s}21/16, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGF	Sodankyl	0.57	154	eP	Pg	11 29 14.5	+0.1
SGF				eS	Sg	11 29 21.8	-0.3
KTK1	Kautokeino	1.44	319	eP	Pn	11 29 30.2	-0.2
KTK1				eS	Sb	11 29 49.7	+0.4
KTK1				AML	AML	11 29 53.6	
	comp=Z,6.2nm,0.5s						
ARA0	ARCESS Array S	1.59	355	eP	Pn	11 29 33.2	+0.5
ARA0				eSG	Sg	11 29 54.1	-2.1
ARA0	ARCESS Array S	1.59	355	Pn	Pn	11 29 33.2	+0.5
	baz=177,slow=18						
ARA0				Lg		11 29 54.1	
	baz=176,slow=37						
KEV	Kevo	1.86	12	eP	Pn	11 29 37.5	+1.1
KEV				eS	Sn	11 30 02.6	+1.7
KEV				MSG		11 30 03.8	
	comp=Z,2.1nm,0.1s						
KIF	Kilpisjarvi	2.15	302	eSG	Sg	11 30 10.9	-3.7
MSF	Maaselka	2.40	147	eP	Pn	11 29 46.8	+2.6
MSF				eSB	Sb	11 30 17.1	-0.1
APA0	Apatity Array	2.73	94	eP	Pn	11 29 46.8	-2.1
APA0				eSB	Sb	11 30 26.4	-0.3
APA0	Apatity Array	2.73	94	Pn	Pn	11 29 46.8	-2.1
APA0				Lg		11 30 26.4	
	baz=283,slow=37						
OUL	Oulu	2.88	180	eSB	Sb	11 30 30.8	-0.3
OUL				MSG		11 30 33.7	
	comp=Z,1.3nm,0.3s						

IDC ***28*** *11:36:14.7±4.8,16.27S×73.35W,h105^{km}±37^{km},mb3.5/5, mb1 3.7/7,mb1mx3.6/16,Error ellipse: s-maj=84.6km s-min=26.8km az=30.0*

NEIC ***28*** *11:36:14.5±1.1,15.87S×72.96W,h89^{km}±12^{km},mb3.8/1, Error ellipse: s-maj=23.7km s-min=11.6km az=47.0*

ISC 28 11:36:12.8±1.2,16.2S±0.1×73.3W±0.1,h99^{km}±11^{km},n15, σ0^{s}95/16,mb3.7/5,1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.75	99	⇓iP	P	11 36 42.6	+0.1
ARE				eS	S	11 37 03.4	-1.2
LPAZ	La Paz	4.95	92	P	P	11 37 28.3	+2.0
	13nm,0.3s,baz=275,slow=12,SNR=104						
NNA	Nana	5.41	320	eP	P	11 37 32.4	0.0
	33nm,0.4s						
LVC	Limon Verde	7.62	148	eP	P	11 38 03.6	+0.9
	101nm,0.3s						
LVC				eS	S	11 39 23.6	-4.4
SAML	Samuel	12.20	55	eP	P	11 38 57.2	-7.1
	6.9nm,0.8s						
OTAV	Otavalo	17.09	342	P	P	11 40 07.5	+0.6
	6.6nm,1.1s						
CPUP	Villa Florida	17.96	127	P	P	11 40 16.7	-0.8
	0.1nm,0.3s,baz=318,slow=8.4,SNR=3.2						
CPUP	Villa Florida	17.96	127	P	P	11 40 16.7	-0.8
TXAR	Lajitas Array	53.92	327	P	P	11 45 27.9	-0.6
	0.1nm,0.4s,mb3.2,baz=152,slow=8.0,SNR=6.4						
TXAR				pP	pP	11 45 51.8	-0.9
	0.1nm,0.4s,baz=148,slow=10,SNR=3.5						
TXAR	Lajitas Array	53.92	327	P	P	11 45 27.9	-0.6
TXAR				pP	pP	11 45 51.8	-0.9
NVAR	Mina Array Bea	68.77	323	P	P	11 47 08.2	0.0
	0.2nm,0.5s,mb3.2,baz=122,slow=8.5,SNR=3.5						
ULM	Lac du Bonnet	69.07	345	P	P	11 47 08.7	-1.2
	0.8nm,0.4s,mb3.9,baz=128,slow=8.1,SNR=4.0						
DBIC	Dimbokro	71.40	77	P	P	11 47 24.1	-0.5
	3.3nm,1.1s,mb4.1,baz=259,slow=13,SNR=4.2						
ESDC	Sonseca Array	85.08	46	P	P	11 48 40.2	+1.2
	1.0nm,0.6s,mb4.0,baz=262,slow=5.1,SNR=7.9						
ASAR	Alice Springs	132.31	215	pP		11 55 44.5	
	0.2nm,0.6s,baz=135,slow=1.3,SNR=2.2						

NIED ***28*** *11:36:00,38.70N×142.00E,h62^{km},Mw3.8 Best double couple: $M_0 6.31\times10^{14}$ NP1:ϕ_s209°,δ64°,λ117°. NP2: ϕ_s339°,δ37°,λ47°.*

IDC ***28*** *11:36:16.6±3.7,38.67N×141.89E,h44^{km}±37^{km},mb3.5/7, mb1 3.7/8,mb1mx3.5/24,ML3.6/1,MS2.6/1,Ms1 2.6/1, ms1mx2.0/24,Error ellipse: s-maj=26.2km s-min=20.7km az=93.0*

JMA ***28*** *11:36:18.2±0.1,38.72N×141.99E,h57^{km}±1^{km},M4.1 Broadband fault plane solution: P waves. NP1:ϕ_s331°, δ53°,λ39°. NP2:ϕ_s216°,δ60°,λ136°. Principal axes: T Plg51°, Azm180°; N Plg39°, Azm8°; P Plg4°, Azm275°;*

JMA Felt II J1.

NEIC ***28*** *11:36:21.2±1.7,38.69N×141.88E,h88^{km}±15^{km},mb4.4/1 Error ellipse: s-maj=16.8km s-min=12.7km az=58.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi Prefectures.

ISC 28 11:36:17.0±0.9,38.74N±0.05×142.0E±0.1,h67^{km}±5^{km}, n23,σ0^{s}80/32,mb3.7/8,2C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.43	322	⇑P	P	11 36 29.4	+0.4
OFUJ				S	S	11 36 37.6	-0.2
JIO	Ouri	0.59	242	⇓P	P	11 36 30.7	0.0
JIO				S	S	11 36 39.5	-1.2
JMK	Ichinoseki	0.66	289	⇓P	P	11 36 31.7	+0.4
JMK				S	S	11 36 41.5	-0.4
JOM	Ohasama	0.92	323	⇑P	P	11 36 35.3	+0.7
JOM				S	S	11 36 48.1	+0.5
JOU	Okura	1.12	251	⇓P	P	11 36 37.5	+0.3
JOU				eS	S	11 36 51.9	-0.3

JMM	**Marumori**	**1.30**	**228**	⇓P	**P**	**11 36 39.4**	**-0.2**
JMM				S	**S**	**11 36 55.5**	**-0.9**
JYK	**Kaneyama**	**1.31**	**278**	⇓P	**P**	**11 36 40.2**	**+0.4**
MAJO	**Matsushiro**	**3.73**	**235**	*e*P	**P**	**11 37 15.0**	**+1.4**
MAT	**Matsushiro**	**3.73**	**235**	P	**P**	**11 37 14.6**	**+1.0**
MAT				S	**S**	**11 37 57.6**	**+1.0**
MAT	**Matsushiro**	**3.73**	**235**	*e*P	**P**	**11 37 15.0**	**+1.4**
MAT				*e*S	**S**	**11 37 58.0**	**+1.4**
ASAJ	**Asahikawa**	**5.39**	**4**	P	**P**	**11 37 35.1**	**-1.5**
	1.8nm,0.3s,baz=212,slow=8.7,SNR=11						
ASAJ				S	**S**	**11 38 37.8**	**-0.2**
	0.9nm,0.3s,baz=252,slow=20,SNR=3.0						
ASAJ				LR	LR	11 40 14.7	
	comp=Z,59nm,19.0s,baz=154,slow=44						
BJT	**Baijiatuau**	**20.00**	**282**	P	**P**	**11 40 45.8**	**-0.8**
SONM	**Songino Array**	**27.27**	**301**	P	**P**	**11 41 56.3**	**-0.6**
	0.3nm,0.4s,mb3.2,baz=99,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**11 44 15.8**	**-0.5**
	1.1nm,0.7s,mb3.7,baz=84,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**11 44 15.8**	**-0.5**
KURK	**Kurchatov**	**45.27**	**307**	P	**P**	**11 44 29.4**	**0.0**
	37nm,0.6s,SNR=9.4						
KURK	**Kurchatov**	**45.27**	**307**	*e*P	**P**	**11 44 28.5**	**-0.9**
	3.8nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**47.80**	**33**	P	**P**	**11 44 49.8**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=264,slow=6.6,SNR=7.6						
BVAR	**Borovoye Array**	**49.79**	**311**	P	**P**	**11 45 04.3**	**-0.3**
	0.6nm,0.5s,mb3.8,baz=64,slow=9.1,SNR=5.1						
BRVK	**Borovoye**	**49.85**	**311**	P	**P**	**11 45 05.7**	**+0.7**
WRA	**Warramunga Arr**	**58.81**	**188**	P	**P**	**11 46 09.4**	**-1.5**
	1.5nm,0.6s,mb4.2,baz=6.5,slow=7.0,SNR=41						
ASAR	**Alice Springs**	**62.54**	**188**	P	**P**	**11 46 35.6**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=8.0,slow=6.1,SNR=9.7						
PDAR	**Pinedale Array**	**76.14**	**46**	P	**P**	**11 48 00.8**	**+1.7**
	0.3nm,0.7s,mb3.1,baz=288,slow=2.9,SNR=4.0						

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*IDC **28** 12:08:13.6±0.8,22.32S×176.35W,h145^{km}±7^{km},mb4.0/11, mb1 4.3/13,mb1mx4.2/18,Error ellipse: s-maj=23.5km s-min=13.2km az=151.0*

*NEIC **28** 12:08:13.8±0.3,22.11S×176.42W,mb4.6/14,Error ellipse: s-maj=12.3km s-min=9.0km az=150.0*

ISC 28 12:08:12.3±0.4,**22.23S**±0.08×**176.44W**±0.08,**h144**^{km}, **h144**^{km}±1.5^{km}**:pP-P,n62,**σ1^{s}**15**/47,**mb4.4**/22,**3C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.52**	**89**	P	**P**	**12 11 42.7**	**-1.9**
	3.8nm,0.3s,baz=226,slow=6.7,SNR=5.1						
RAR	**Rarotonga**	**15.52**	**89**	*e*P	**P**	**12 11 39.8**	**-4.8**
NOUC	**Port Laguerre**	**15.99**	**267**	*e*P	**P**	**12 11 57.1**	**+6.8**
NOUC	**Port Laguerre**	**15.99**	**267**	*e*P	**P**	**12 11 57.1**	**+6.8**
MWZ	**Matawai**	**16.87**	**197**	S	**S**	**12 14 50.2**	**-12**
URZ	**Urewera**	**16.91**	**198**	P	**P**	**12 11 58.7**	**-2.9**
	2.6nm,0.3s,baz=328,slow=5.0,SNR=10						
URZ				S	**S**	**12 14 51.2**	**-12**
	3.0nm,0.3s,baz=337,slow=23,SNR=9.4						
BKZ	**Black Stump Fm**	**17.93**	**198**	S	**S**	**12 15 14.1**	**-12**
MRZ	**Mangatainoka R**	**19.58**	**198**	*e*S	**S**	**12 15 45.7**	**-14**
NNZ	**Nelson**	**20.79**	**202**	S	**S**	**12 16 14.3**	**-7.7**
THZ	**Tophouse**	**21.43**	**202**	*e*P	**P**	**12 12 50.0**	**+0.2**
THZ				*e*S	**S**	**12 16 27.9**	**-5.9**
DSZ	**Denniston Nort**	**21.82**	**204**	*e*P	**P**	**12 12 54.3**	**+0.7**
RPZ	**Rata Peaks**	**23.80**	**203**	P	**P**	**12 13 13.3**	**+0.5**
	11nm,0.5s,mb4.7,baz=88,slow=0.4,SNR=14						
MSZ	**Milford Sound**	**25.81**	**206**	*e*P	**P**	**12 13 30.5**	**-1.2**
CNB	**Canberra Magne**	**32.52**	**239**	*e*P	**P**	**12 14 33.0**	**+1.4**
	17nm,1.2s,mb4.7						
CTA	**Charters Tower**	**34.80**	**266**	*e*P	**P**	**12 14 52.3**	**+1.1**
	12nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**34.80**	**266**	*e*P	**P**	**12 14 52.1**	**+0.9**
	16nm,0.7s,mb4.8						
TOO	**Toolangi**	**36.10**	**236**	*e*P	**P**	**12 15 04.0**	**+2.0**
	2.3nm,0.5s,mb4.1						
PMG	**Port Moresby**	**37.16**	**284**	P	**P**	**12 15 11.1**	**0.0**
	19nm,0.6s,mb4.9,baz=78,slow=7.0,SNR=7.9						
STKA	**Stephens Creek**	**38.39**	**246**	*e*P	**P**	**12 15 21.6**	**+0.4**
	9.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.39**	**246**	P	**P**	**12 15 21.6**	**+0.4**
	13nm,0.7s,mb4.6,baz=93,slow=9.7,SNR=40						
ASAR	**Alice Springs**	**45.56**	**258**	P	**P**	**12 16 19.4**	**-0.3**
	13nm,0.9s,mb4.6,baz=90,slow=8.4,SNR=80						
ASAR				PcP	PcP	12 17 55.9	-0.4
	1.9nm,0.8s,baz=115,slow=3.6,SNR=4.7						
ASPA	**Alice Springs**	**45.56**	**258**	*e*P	**P**	**12 16 19.9**	**+0.2**
WB2	**Warramunga Arr**	**45.81**	**263**	*e*P	**P**	**12 16 20.5**	**-1.2**
WRAB	**Tennant Creek**	**45.81**	**263**	*e*P	**P**	**12 16 20.7**	**-0.9**
	7.9nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**45.82**	**263**	P	**P**	**12 16 20.9**	**-0.9**
	5.1nm,0.6s,mb4.3,baz=94,slow=8.4,SNR=82						
WRA				PcP	PcP	12 17 57.1	-0.1
	2.2nm,0.7s,baz=97,slow=3.5,SNR=6.9						
KAKA	**Kakadu**	**49.52**	**272**	*e*P	**P**	**12 16 49.6**	**-0.9**
	13nm,0.5s,mb4.8						
FORT	**Forrest**	**49.97**	**248**	*e*P	**P**	**12 16 52.7**	**-1.0**
	87nm,0.5s						
FITZ	**Fitzroy Crossi**	**54.25**	**263**	*e*P	**P**	**12 17 25.3**	**-0.5**
	4.9nm,0.6s,mb4.4						
SBA	**Scott Base**	**56.25**	**184**	*e*P	**P**	**12 17 39.9**	**+0.4**
	2.3nm,0.8s,mb4.1						
KLBR	**Kellerberrin**	**58.66**	**246**	*e*P	**P**	**12 17 55.7**	**-1.2**
	71nm,2.0s,mb5.2						
MUN	**Mundaring**	**59.90**	**245**	*e*P	**P**	**12 18 06.5**	**+1.0**
	6.0nm,0.6s,mb4.6						
QSPA	**South Pole Qui**	**67.85**	**180**	*e*P	**P**	**12 18 56.2**	**-0.3**
	9.2nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**72.46**	**323**	*e*P	**P**	**12 19 24.9**	**-0.1**
	4.2nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**81.30**	**42**	P	**P**	**12 20 14.9**	**+0.8**
	0.7nm,1.0s,mb3.3,baz=217,slow=6.2,SNR=4.5						
NVAR				pP	pP	12 20 50.9	+0.7
	1.3nm,0.7s,baz=225,slow=8.9,SNR=8.4						
SNAA	**Sanae**	**86.24**	**178**	⇑*i*	**P**	**12 20 32.8**	**-5.3**
VNA3	**Neumayer Olymp**	**86.32**	**176**	⇑*i*	**P**	**12 20 40.4**	**+1.9**
PMR	**Palmer**	**86.37**	**13**	P	**P**	**12 20 38.0**	**-0.9**
TXAR	**Lajitas Array**	**86.78**	**57**	P	**P**	**12 20 41.6**	**-0.1**
	1.2nm,0.8s,mb3.8,baz=215,slow=6.1,SNR=13						
TXAR				pP	pP	12 21 17.5	-0.8
	0.8nm,0.9s,baz=212,slow=8.5,SNR=3.9						
VNA2	**Neumayer--Watz**	**86.78**	**176**	⇑*i*	**P**	**12 20 43.5**	**+2.8**
VNA1	**Neumayer--Stat**	**87.00**	**176**	⇓*i*	**P**	**12 20 44.1**	**+2.3**
PLCA	**Paso Flores**	**87.03**	**133**	P	**P**	**12 20 42.1**	**-0.5**
	1.2nm,0.6s,mb3.9,baz=252,slow=6.6,SNR=3.7						
PDAR	**Pinedale Array**	**89.23**	**43**	P	**P**	**12 20 53.1**	**+0.1**
	0.2nm,0.8s,baz=256,slow=6.1,SNR=3.6						
PDAR				pP	pP	12 21 30.6	+0.8
	1.4nm,1.2s,baz=180,slow=1.8,SNR=3.9						
COLA	**College**	**89.59**	**12**	*e*P	**P**	**12 20 53.9**	**-0.2**
	2.2nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**89.68**	**12**	P	**P**	**12 20 54.4**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=221,slow=5.7,SNR=16						
CMAR	**Chiang Mai Arr**	**92.06**	**289**	P	**P**	**12 21 08.9**	**+2.2**
	8.3nm,1.2s,mb4.7,baz=127,slow=3.3,SNR=13						
MKAR	**Makanchi Array**	**113.44**	**313**	PKiKP		12 26 33.6	
	0.5nm,0.6s,baz=63,slow=1.9,SNR=5.4						
BVAR	**Borovoye Array**	**121.33**	**319**	PKP	PKPdf	12 26 48.8	+0.6
	0.9nm,0.6s,baz=180,slow=1.5,SNR=4.5						
ZRNK	**Zerenda**	**122.17**	**319**	*e*PKPdf	PKPdf	12 26 49.9	+0.1
ARCES	**ARCESS Array B**	**130.88**	**350**	PKP	PKPdf	12 27 07.5	+1.4
	1.4nm,0.7s,baz=342,slow=3.8,SNR=4.3						
HFS	**Hagfors**	**141.46**	**352**	PKhKP		12 27 20.2	
	1.5nm,0.6s,baz=80,slow=9.0,SNR=5.4						
AKASG	**Malin Array Be**	**145.22**	**331**	PKPbc	PKPbc	12 27 33.1	+0.2
	4.1nm,0.5s,baz=38,slow=4.3,SNR=8.1						
MALT	**Malatya**	**146.13**	**306**	*e*PKPbc	PKPbc	12 27 38.6	+2.9
EKA	**Eskdalemuir Ar**	**146.56**	**7**	PKPbc	PKPbc	12 27 37.2	+1.1
	1.4nm,0.6s,baz=326,slow=3.0,SNR=4.6						
BRTR	**Keskin Array B**	**149.07**	**311**	PKPbc	PKPdf	12 27 45.1	+6.0
	1.7nm,0.8s,baz=132,slow=4.0,SNR=4.5						
CLL	**Collm**	**150.06**	**348**	*e*PKIKP	PKPdf	12 27 42.0	+1.7
CLL				*i* PKP1	PKPdf	12 27 47.5	+7.2
CLL				*i* PKP2	PKPab	12 27 52.4	-1.7
CLL				*e**PPKP		12 28 26.0	
UPC	**Upice**	**150.14**	**344**	*e*PKP1	PKPdf	12 27 48.0	+7.6
DPC	**Dobruska-Polom**	**150.20**	**343**	*e*PKP1	PKPdf	12 27 47.9	+7.4
BRG	**Berggiesshubel**	**150.28**	**347**	*e*P	PKPdf	12 27 48.0	+7.4
PVCC	**Panska Ves**	**150.47**	**346**	*e*PKP1	PKPdf	12 27 48.8	+7.9
PRU	**Pruhonice**	**150.98**	**345**	*e*PKP1	PKPdf	12 27 49.5	+7.8
KHC	**Kasperske Hory**	**152.00**	**346**	*e*PKP1	PKPdf	12 27 52.1	+8.8
GERES	**GERESS Array B**	**152.24**	**346**	PKPbc	PKPdf	12 27 52.0	+8.4
	1.1nm,0.9s,baz=45,slow=1.9,SNR=7.4						

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*NEIC **28** 12:37:59.2±0.8,17.33S×66.45W,h55^{km}±8^{km},Error ellipse: s-maj=11.7km s-min=7.9km az=67.0*

*IDC **28** 12:38:00.2±2.2,17.38S×66.49W,h67^{km}±20^{km},mb3.8/7, mb1 4.0/8,mb1mx3.8/16,MS3.3/1,Ms1 3.3/1,ms1mx3.0/15, Error ellipse: s-maj=32.0km s-min=15.4km az=49.0*

ISC 28 12:37:57.5±1.2,**17.33S**±0.07×**66.36W**±0.09,**h59**^{km}±13^{km}, **n19,**σ1^{s}**14**/17,**mb4.1**/7,**1D,Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.98**	**301**	P	**P**	**12 38 29.3**	**-0.1**
	297nm,0.3s,baz=128,slow=16,SNR=1401						
LPAZ				S	**S**	**12 38 55.6**	**+2.5**
	384nm,0.3s,baz=38,slow=24,SNR=14						
LPAZ				LR	LR	12 39 23.7	
	comp=Z,588nm,20.4s,baz=92,slow=44						
ARE	**Arequipa**	**4.99**	**279**	⇓*i*P	**P**	**12 39 11.8**	**+0.1**
LVC	**Limon Verde**	**5.78**	**204**	*e*P	**P**	**12 39 21.1**	**-1.5**
	39nm,0.8s						
SAML	**Samuel**	**8.89**	**21**	*e*P	**P**	**12 40 05.5**	**-0.2**
	86nm,0.9s						
NNA	**Nana**	**11.44**	**296**	*e*P	**P**	**12 40 39.6**	**-1.0**
CPUP	**Villa Florida**	**12.27**	**138**	P	**P**	**12 40 51.1**	**-0.5**
	0.2nm,0.3s,baz=336,slow=10,SNR=5.1						
CPUP				LR	LR	12 46 30.1	
	comp=Z,131nm,18.1s,baz=233,slow=41						
TRQA	**Tornquist**	**21.00**	**170**	P	**P**	**12 42 39.9**	**+1.6**
PLCA	**Paso Flores**	**23.60**	**188**	P	**P**	**12 43 05.0**	**+1.3**
	2.5nm,0.8s,mb3.7,baz=28,slow=11,SNR=4.5						
SJG	**San Juan**	**35.22**	**0**	P	**P**	**12 44 49.3**	**+1.0**
	12nm,0.4s,mb5.2,baz=256,slow=4.2,SNR=6.7						
JCT	**Junction City**	**57.40**	**326**	P	**P**	**12 47 42.0**	**-0.6**
TXAR	**Lajitas Array**	**58.73**	**322**	P	**P**	**12 47 50.8**	**-1.0**
	0.8nm,0.9s,mb3.8,baz=150,slow=8.4,SNR=8.7						
DBIC	**Dimbokro**	**65.26**	**74**	P	**P**	**12 48 37.0**	**+1.2**
	2.4nm,0.7s,mb4.3,baz=214,slow=12,SNR=6.2						
DBIC	**Dimbokro**	**65.26**	**74**	P	**P**	**12 48 37.0**	**+1.2**
PDAR	**Pinedale Array**	**71.79**	**328**	P	**P**	**12 49 14.2**	**-1.4**
	0.3nm,0.6s,mb3.4,baz=127,slow=4.5,SNR=2.8						
ULM	**Lac du Bonnet**	**72.14**	**341**	P	**P**	**12 49 16.2**	**-1.4**
	1.7nm,0.4s,mb4.3,baz=128,slow=3.6,SNR=5.2						
YKA	**Yellowknife Ar**	**88.10**	**340**	P	**P**	**12 50 43.4**	**+0.9**
	0.9nm,0.6s,mb4.2,baz=128,slow=4.7,SNR=8.4						
ASAR	**Alice Springs**	**134.70**	**207**	PKP	PKPdf	12 57 12.1	+1.7
	0.3nm,0.6s,baz=116,slow=1.2,SNR=6.3						
WRA	**Warramunga Arr**	**137.75**	**210**	PKP	PKPdf	12 57 17.9	+1.9
	0.5nm,0.8s,baz=157,slow=1.8,SNR=11						
SONM	**Songino Array**	**149.00**	**9**	PKPbc	PKPdf	12 57 42.1	+7.4
	1.6nm,0.7s,baz=329,slow=1.6,SNR=8.4						

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*NEIC **28** 13:36:59.9,31.75S×69.10W,ML3.3(GUC),After GUC.*

GUC 28 13:36:59.9±0.9,**31.75S**×**69.10W,MD3.5,ML3.3,4C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.15**	**169**	*e*P	Pb	13 37 19.3	-3.0
CMCH	**Combarbala**	**1.72**	**289**	⇓*i*P	Pn	13 37 31.0	-0.4
CMCH				*i* S	Sb	13 37 54.6	+0.3
CMCH				AMP		13 37 56.1	
	comp=N,2µm,0.6s						
ILCH	**Illapel**	**1.77**	**273**	*i* S	Sn	13 37 55.3	-0.2
ILCH				AMP		13 38 02.0	
	comp=E,499nm,0.2s						
FCH	**Farellones**	**1.86**	**212**	AMP		13 37 55.7	
	comp=E,172nm,0.3s						
CLCH	**Cerro Calan**	**2.04**	**216**	*i* P	Pn	13 37 36.1	+0.2
CLCH				AMP		13 38 06.5	
	comp=N,426nm,0.5s						
TLL	**Tololo Astrono**	**2.15**	**317**	*e*P	Pn	13 37 39.4	+1.9
TLL				*i* S	Sn	13 38 08.3	+3.0
TLL				AMP		13 38 15.3	
	comp=N,474nm,0.7s						
PCH	**Pirque**	**2.21**	**212**	⇓*i*P	Pn	13 37 38.4	+0.1
PCH				*i* S	Sn	13 38 08.1	+1.3
LMEL	**Las Melosas**	**2.29**	**204**	⇑*i*P	Pn	13 37 38.3	-1.1
LMEL				*i* S	Sn	13 38 08.4	-0.3
LMEL				AMP		13 38 14.3	
	comp=N,135nm,0.1s						
TACH	**Talagante**	**2.45**	**219**	⇑*i*P	Pn	13 37 42.0	+0.3
CHCH	**Chadas Angostu**	**2.54**	**211**	⇓*i*P	Pn	13 37 43.1	+0.1
CHCH				*i* S	Sn	13 38 16.6	+1.5
CACH	**El Canelo**	**2.67**	**208**	⇑*i*P	Pn	13 37 46.2	+1.3
CACH				*i* S	Sn	13 38 21.5	+2.9
LCCH	**Las Cruces**	**2.70**	**230**	*i* S	Sn	13 38 20.9	+1.7
CICH	**Cipreses**	**2.79**	**203**	⇑*i*P	Pn	13 37 47.3	+0.7
SFDO	**San Fernando**	**3.27**	**209**	⇓*i*P	Pn	13 37 53.9	+0.4
SFDO				*i* S	Sn	13 38 34.3	+0.6

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*GUC **28** 13:41:25.6±0.8,35.17S×70.53W,h5^{km},ML6.2*

*NEIC **28** 13:41:25.6,35.17S×70.53W,h5^{km},mb6.1/103,ME5.9, MS6.3/95,MW6.5,MD6.2(SJA),ML6.2(GUC) Broadband fault plane solution: P waves. NP1:φ$_s$0°,δ45°,λ90°. NP2: φ$_s$180°,δ45°,λ90°. Principal axes: T Plg90°, Azm0°; N Plg0°, Azm0°; P Plg0°, Azm90°; Moment Tensor Solution. s53 Moment tensor: Scale 10^{18} Nm; M$_{rr}$0.01; M$_{θθ}$5.48; M$_{φφ}$-5.49; M$_{rθ}$0.34; M$_{θφ}$3.91; M$_{φr}$0.21; Best double couple: M$_0$6.7×10^{18} NP1:φ$_s$117°,δ87°,λ2°. NP2: φ$_s$27°,δ88°,λ177°. Principal axes: T 6.75, Plg3°, Azm342°; N -.01, Plg87°, Azm177°; P -6.75, Plg1°, Azm72°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After GUC.*

NEIC Power outages occurred at Cauquenes, Curico, San Javier and Talca. Felt [VI] at Curico, Romeral, Talca and Vichuquen; [V] at Cauquenes, Linares, Quillota, Rancagua, Santiago, Valparaiso and Vina del Mar; [IV] at Chillan, Concepcion, Los Andes, Quilpue and San Felipe; [III] at Cabildo; [II] at Los Angeles. Also felt [IV] at General Alvear and San Rafael; [III] at Mendoza, Neuquen and Santa Rosa; [II] at Buenos Aires and Cordoba, Argentina.

*SYO **28** 13:41:25.6,35.17S×70.53W,h5^{km},MB6.1,MS6.3*

*HRVD **28** 13:41:27.9±0.1,35.21S×70.36W,h16^{km},MW6.5/74, Centroid moment Tensor Solution. LP body waves: s74,c167;Mantle waves: s69,c148; Half duration: 4^{s}3 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.20±.04; M$_{θθ}$4.19±.04; M$_{φφ}$-3.99±.04; M$_{rθ}$3.18±.13; M$_{θφ}$4.78±.04; M$_{φr}$-1.36±.13; Best double couple: M$_0$7.18×10^{18} NP1: φ$_s$21°,δ61°,λ-178°. NP2:φ$_s$290°,δ88°,λ-29°. Principal axes: T 7.17, Plg19°, Azm339°; N .02, Plg61°, Azm107°; P -7.19, Plg21°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*BJI **28** 13:41:27.9,34.90S×70.40W,h1^{km},mB6.0,Ms6.6,Msz6.4*

*MOS **28** 13:41:33.3±1.4,34.71S×70.54W,h33^{km},mb6.2/49, MS6.7/18,Error ellipse: s-maj=16.0km s-min=7.2km az=103.4*

*IDC **28** 13:41:33.0±2.3,35.01S×70.55W,h32^{km}±16^{km},mb5.5/16, mb1 5.6/20,mb1mx5.6/20,ML5.1/4,MS6.5/18,Ms1 6.4/18, ms1mx6.4/23,Error ellipse: s-maj=17.8km s-min=9.0km az=83.0*

ISC 28 13:41:27.1±0.8,**34.98S**±0.02×**70.32W**±0.04,**h7**^{km}±4^{km}, **h9**^{km}±1.1^{km}**:pP-P,n659,**σ1^{s}**12**/424,**mb6.0**/117,**MS6.3**/117, **81C-30D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.66**	**352**	⇓*i*P	**Pg**	**13 41 41.1**	**+0.8**
SFDO	**San Fernando**	**0.68**	**302**	⇓*i*P	**Pg**	**13 41 39.0**	**-1.8**
NICH	**Los Niches**	**0.75**	**268**	⇓*i*P	**Pb**	**13 41 39.2**	**-3.0**
NICH				⇑*i*S	**Sb**	**13 41 47.8**	**-4.6**
CACH	**El Canelo**	**0.89**	**345**	⇑*i*P	**Pb**	**13 41 44.6**	**+0.1**
CHCH	**Chadas Angostu**	**1.08**	**345**	⇓*i*P	**Pb**	**13 41 48.1**	**+0.4**
LMEL	**Las Melosas**	**1.13**	**5**	⇑*i*P	**Pb**	**13 41 49.9**	**+1.3**
LMEL				*i* S	**Sb**	**13 42 08.9**	**+5.5**
TALC	**Talca**	**1.16**	**248**	⇓*i*P	**Pb**	**13 41 43.4**	**-5.7**
SJCH	**San Jose de Ma**	**1.33**	**359**	*e*P	**Pb**	**13 41 51.8**	**-0.3**
SJCH				*i* S	**Sb**	**13 42 13.3**	**+4.0**
PCH	**Pirque**	**1.36**	**353**	⇓*i*P	**Pb**	**13 41 53.4**	**+0.8**
LNV	**Longovilo**	**1.36**	**318**	⇑*i*P	**Pb**	**13 41 51.2**	**-1.4**
TACH	**Talagante**	**1.42**	**338**	⇓*i*P	**Pn**	**13 41 53.3**	**-0.1**
ANTU	**Antumapu**	**1.43**	**349**	*e*P	**Pn**	**13 41 54.4**	**+0.8**
ANTU				*i* S	**Sb**	**13 42 15.8**	**+3.8**
ANTU				AMP		13 42 21.6	
	comp=E,445µm,0.5s						
SAN	**Santiago**	**1.54**	**349**	*e*P	**Pn**	**13 41 56.2**	**+0.9**
STL	**Santa Lucia**	**1.56**	**350**	*e*P	**Pn**	**13 41 56.1**	**+0.6**
STL				*i* S	**Sb**	**13 42 19.4**	**+3.6**
PUEX	**Pudahuel**	**1.57**	**346**	*e*P	**Pn**	**13 41 56.5**	**+0.8**
PUEX				*i* S	**Sb**	**13 42 19.5**	**+3.2**
PUEX				AMP		13 42 36.2	
	comp=E,554µm,0.7s						
CLCH	**Cerro Calan**	**1.59**	**353**	*e*P	**Pn**	**13 41 57.1**	**+1.2**
CLCH				*i* S	**Sb**	**13 42 20.6**	**+4.0**
CLCH				AMP		13 42 29.9	
	comp=N,312µm,0.5s						
CLCH				AMP		13 42 30.7	
	comp=N,366µm,0.6s						
FCH	**Farellones**	**1.64**	**1**	⇑*i*P	**Pn**	**13 41 58.7**	**+2.0**
FCH				*i* S	**Sn**	**13 42 23.7**	**+5.4**
LCCH	**Las Cruces**	**1.82**	**325**	⇓*i*P	**Pn**	**13 41 59.1**	**-0.1**
CCHI	**Chillan**	**2.17**	**221**	⇓*i*P	**Pn**	**13 42 02.8**	**-1.3**
CCHI				*i* S	**Sn**	**13 42 31.8**	**+0.2**
CCHI				AMP		13 42 45.2	
	comp=E,258µm,0.5s						
IHA	**Instituto Hidr**	**2.23**	**330**	*e*P	**Pn**	**13 42 05.7**	**+0.5**
MDZ	**Mendoza**	**2.42**	**31**	*e*P	**Pn**	**13 42 15.3**	**+7.5**
MDZ				*e*		13 42 19.3	
MDZ				*i* S	**Sn**	**13 42 56.4**	**+18**
TMCH	**Temuco**	**4.19**	**205**	*e*P	**Pn**	**13 42 33.5**	**+0.5**
TLL	**Tololo Astrono**	**4.81**	**355**	*e*P	**Pn**	**13 42 42.6**	**+0.8**
PLCA	**Paso Flores**	**5.75**	**182**	Pn	**Pn**	**13 42 56.4**	**+1.3**
	comp=E,7.8nm,0.3s,baz=352,slow=14,SNR=92						
PLCA				Pg	**Pg**	**13 43 16.0**	**-5.9**
	comp=E,68nm,0.3s,baz=351,slow=14,SNR=15						
PLCA				Lg		13 44 31.4	
	comp=E,91nm,0.3s,baz=79,slow=20,SNR=2.4						
PLCA				LR	LR	13 45 15.4	
	comp=E,398µm,20.5s,baz=0.2,slow=39						
PLCA	**Paso Flores**	**5.75**	**182**	Pn	**Pn**	**13 42 56.0**	**+1.0**
PLCA	**Paso Flores**	**5.75**	**182**	Pn	**Pn**	**13 42 56.4**	**+1.3**
PLCA				Pg	**Pg**	**13 43 16.0**	**-5.9**
PLCA				Lg		13 44 31.4	
PLCA				LR	LR	13 45 15.4	
TRQA	**Tornquist**	**7.38**	**117**	⇓*e*Pn	**Pn**	**13 43 17.1**	**-0.9**
	comp=E,262nm,0.6s						
TRQA				*e*Sn	**Sn**	**13 44 39.8**	**-3.2**
TRQA				*e*Sg	Sg	13 45 23.4	-10
LPA	**La Plata**	**10.17**	**93**	*ce*P	**P**	**13 43 53.0**	**-3.7**
LPA				*e*pP		13 43 58.0	
LPA				*e*PP	PP	13 44 03.0	-1.7
LPA				*e*PP	PP	13 44 29.0	+24
LVC	**Limon Verde**	**12.38**	**6**	*e*Pn	**P**	**13 44 23.5**	**-3.3**
	comp=E,20nm,0.6s						
CPUP	**Villa Florida**	**14.10**	**56**	Pn	**P**	**13 44 50.8**	**+1.1**
	comp=E,3.8nm,0.3s,baz=256,slow=12,SNR=48						
CPUP				Sn	**S**	**13 47 25.6**	**-1.9**
	comp=E,3.9nm,0.3s,baz=213,slow=15,SNR=1.7						
CPUP				Lg		13 49 03.2	
	comp=E,8.2nm,0.3s,baz=181,slow=13,SNR=3.1						
CPUP				LR	LR	13 51 04.5	
	comp=E,273µm,19.9s,baz=257,slow=40						
CPUP	**Villa Florida**	**14.10**	**56**	Pn	**P**	**13 44 48.9**	**-0.7**
CPUP				Sn	**S**	**13 47 27.8**	**+0.4**
ARE	**Arequipa**	**18.47**	**356**	*e*P	**P**	**13 45 47.9**	**+2.5**
LPAZ	**La Paz**	**18.71**	**7**	P	**P**	**13 45 49.9**	**+1.4**
	comp=E,2.7nm,0.3s,baz=177,slow=9.6,SNR=83						
LPAZ				S	**S**	**13 49 26.9**	**+13**
	comp=E,0.4nm,0.3s,baz=357,slow=24,SNR=2.3						
LPAZ	**La Paz**	**18.71**	**7**	P	**P**	**13 45 50.0**	**+1.5**
LPAZ				Sn	**S**	**13 49 17.4**	**+3.1**
EFI	**East Falkland**	**18.88**	**156**	⇑*e*P	**P**	**13 45 49.1**	**-1.0**
	comp=E,2µm,1.3s						
EFI				*e*S	**S**	**13 49 20.0**	**+2.3**
USHA	**Ushuaia**	**19.90**	**177**	P	**P**	**13 46 00.8**	**-1.1**
	comp=E,4.2nm,0.3s,baz=349,slow=7.6,SNR=38						
USHA				S	**S**	**13 49 43.8**	**+3.4**
	comp=E,0.5nm,0.3s,baz=344,slow=12,SNR=1.3						
USHA				LR	LR	13 54 11.5	
	comp=E,261µm,19.0s,baz=341,slow=38						
NNA	**Nana**	**23.64**	**344**	*e*P	**P**	**13 46 40.8**	**+0.8**
	comp=E,605nm,1.4s,mb5.8						
NNA				*e*S	**S**	**13 50 59.0**	**+7.7**
NNA				LR	LR		
	comp=Z,30µm,21.0s,MS5.7						
SAML	**Samuel**	**26.72**	**16**	*e*P	**P**	**13 47 07.7**	**-1.4**
	comp=Z,12nm,1.4s						
SAML				LR	LR		
	comp=Z,371µm,20.0s						
BDFB	**Brasilia**	**27.76**	**52**	P	**P**	**13 47 17.6**	**-1.0**
	comp=Z,193nm,1.0s,mb5.7,baz=228,slow=7.7,SNR=76						
BDFB				S	**S**	**13 52 00.5**	**+0.5**
	comp=Z,37nm,1.0s,baz=179,slow=14,SNR=1.6						
BDFB				LR	LR	13 59 49.1	
	comp=Z,473µm,18.2s,MS7.1,baz=231,slow=39						
BDFB	**Brasilia**	**27.76**	**52**	P	**P**	**13 47 17.7**	**-1.0**
BDFB				S	**S**	**13 52 00.5**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,193nm,1.0s						
BDFB				smax			
	comp=N,37nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,473µm,18.2s						
CAM3	**Guarapari**	**29.79**	**69**	*e*P	**P**	**13 47 35.6**	**-1.2**
CAM3				*i*	pP	13 47 38.4	-0.4
CAM3				*i*		13 47 46.1	
CAM3				*i*		13 47 50.9	
CAM3				*i*		13 47 55.7	
CAM3				*i*		13 48 26.5	
CAM3				*i*		13 48 44.6	
CAM3	**Guarapari**	**29.79**	**69**	*e*P	**P**	**13 47 35.6**	**-1.2**
CAM3				*i*	pP	13 47 38.4	-0.4
CAM3				*i*		13 47 46.1	
CAM3				*i*		13 47 50.9	
CAM3				*i*		13 47 55.7	
CAM3				*i*		13 48 26.5	
CAM3				*i*		13 48 44.6	
PMSA	**Palmer Station**	**30.07**	**175**	⇑*e*P	**P**	**13 47 38.8**	**-0.2**
	comp=Z,202nm,1.1s,mb5.8						
PMSA				*e*PP	PP	13 48 39.2	+2.3
PMSA				*e*S	**S**	**13 52 36.4**	**-0.1**
PMSA				LR	LR		
	comp=Z,78µm,19.0s,MS6.4						
OTAV	**Otavalo**	**35.85**	**346**	*e*P	**P**	**13 48 30.6**	**+0.9**
	comp=Z,137nm,0.9s,mb5.9						
OTAV				LR	LR		
	comp=Z,101µm,20.0s,MS6.6						
PAYG	**Puerto Ayora**	**38.88**	**327**	*e*P	**P**	**13 48 54.9**	**-0.2**
	comp=Z,331nm,1.2s,mb5.9						
PAYG				LR	LR		
	comp=Z,33µm,19.0s,MS6.2						
ROSC	**El Rosal**	**39.80**	**354**	P	**P**	**13 49 04.5**	**+1.8**
	comp=Z,153nm,1.0s,mb5.7,baz=93,slow=23,SNR=20						
ROSC				S	**S**	**13 55 11.8**	**+4.7**
	comp=Z,6.0nm,0.4s,baz=148,slow=22,SNR=2.4						
ROSC				LR	LR	14 05 40.0	
	comp=Z,169µm,20.4s,MS6.9,baz=2.8,slow=36						
RCBR	**Riachuelo**	**42.98**	**56**	*e*P	**P**	**13 49 28.5**	**-0.4**
	comp=Z,170nm,1.3s,mb5.6						
RCBR				*e*PP	PP	13 51 09.5	-1.7
RCBR				LR	LR		
	comp=Z,360µm,20.0s,MS7.3						
SDV	**Santo Domingo**	**43.62**	**360**	*e*P	**P**	**13 49 32.8**	**-1.3**
	comp=Z,185nm,1.1s,mb5.7						
SDV				LR	LR		
	comp=Z,81µm,22.0s,MS6.6						
BUS	**Buena Vista**	**46.08**	**341**	⇓*e*P	**P**	**13 49 55.2**	**+1.4**
TRN	**Trinidad (W)**	**46.15**	**12**	*e*P	**P**	**13 49 55.8**	**+1.5**
LCR2	**La Lucha 2**	**46.32**	**341**	*e*P	**P**	**13 49 56.6**	**+0.9**
URSC	**Urasca**	**46.35**	**342**	*e*P	**P**	**13 49 56.7**	**+0.7**
LAJ	**Bijagual**	**46.47**	**341**	*e*P	**P**	**13 49 57.0**	**+0.1**
ICR	**Volcan Irazu**	**46.51**	**341**	⇓*e*P	**P**	**13 50 01.1**	**+3.9**
SJS	**Escuela Geolog**	**46.52**	**341**	*e*P	**P**	**13 49 58.3**	**+0.9**
CGA2	**Cerro Gallo 2**	**46.71**	**341**	*e*P	**P**	**13 49 59.9**	**+1.1**
JCR	**Jicaral**	**46.73**	**340**	*e*P	**P**	**13 49 59.2**	**+0.3**
JTS	**JuntasAbangare**	**47.10**	**340**	P	**P**	**13 50 01.5**	**-0.4**
	comp=Z,92nm,1.0s,mb5.7,baz=276,slow=3.8,SNR=26						
JTS				S	**S**	**13 56 55.5**	**+1.9**
	comp=Z,4.6nm,0.8s,baz=316,slow=21,SNR=1.7						
JTS	**JuntasAbangare**	**47.10**	**340**	*e*P	**P**	**13 50 01.9**	**0.0**
	comp=Z,263nm,1.3s,mb6.0						
JTS				LR	LR		
	comp=Z,8µm,19.0s,MS5.7						
VCR	**Vista de Mar**	**47.14**	**339**	*e*P	**P**	**13 50 02.7**	**+0.5**
CRZC	**La Cruz**	**47.92**	**340**	*e*P	**P**	**13 50 08.6**	**+0.3**
VNA3	**Neumayer Olymp**	**47.92**	**158**	⇑*i*	**P**	**13 50 14.8**	**+7.2**
VNA3	**Neumayer Olymp**	**47.92**	**158**	⇑*i*	**P**	**13 50 22.5**	**+15**
VNA3	**Neumayer Olymp**	**47.92**	**158**	⇑*i*P	**P**	**13 50 11.2**	**+3.6**
VNA3				⇑*i*P	pP	13 50 14.8	+5.2
VNA3				⇑*i*P		13 50 22.5	
VNA1	**Neumayer--Stat**	**48.22**	**157**	⇑*i*	**P**	**13 50 17.9**	**+8.0**
VNA1	**Neumayer--Stat**	**48.22**	**157**	⇓*i*	**P**	**13 50 19.0**	**+9.1**
VNA1	**Neumayer--Stat**	**48.22**	**157**	⇑*i*S	**S**	**13 57 13.9**	**+5.3**
VNA1	**Neumayer--Stat**	**48.22**	**157**	⇑*i*P	**P**	**13 50 14.4**	**+4.5**

VNA1				⇑*i*P	pP	13 50 17.9	+6.0
VNA1				⇓*i*P		13 50 19.0	
VNA2	**Neumayer--Watz**	**48.56**	**157**		**P**	**13 50 19.3**	**+6.7**
VNA2	**Neumayer--Watz**	**48.56**	**157**	⇑*i*	**P**	**13 50 20.6**	**+8.0**
VNA2	**Neumayer--Watz**	**48.56**	**157**	⇑*i*P	**P**	**13 50 16.1**	**+3.5**
VNA2				P	pP	13 50 19.3	+4.7
VNA2				⇑*i*P		13 50 20.6	
BIM	**Bigot**	**49.99**	**12**	⇓*e*P	**P**	**13 50 24.8**	**+0.5**
MVM	**Montagne Vaucl**	**50.06**	**12**	⇓*e*P	**P**	**13 50 25.4**	**+0.6**
SNAA	**Sanae**	**50.15**	**158**		**P**	**13 50 27.6**	**+2.9**
SNAA	**Sanae**	**50.15**	**158**	⇑*i*	**P**	**13 50 28.9**	**+4.2**
SNAA	**Sanae**	**50.15**	**158**	LR	LR	14 11 42.5	
	comp=Z,7µm,19.4s,MS5.7,baz=283,slow=36						
SNAA	**Sanae**	**50.15**	**158**	P	**P**	**13 50 23.5**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,99nm,2.5s						
SNAA	**Sanae**	**50.15**	**158**	⇑*i*P	**P**	**13 50 24.9**	**+0.2**
SNAA				P	pP	13 50 27.6	+0.9
SNAA				⇑*i*P		13 50 28.9	
FDF	**Fort de France**	**50.19**	**12**	⇓*e*P	**P**	**13 50 26.3**	**+0.5**
CRM	**Caravelle**	**50.25**	**12**	⇓*e*P	**P**	**13 50 26.7**	**+0.5**
BBL	**Barber's Block**	**50.92**	**11**	*e*P	**P**	**13 50 28.5**	**-2.8**
BBL	**Barber's Block**	**50.92**	**11**	*e*P	**P**	**13 50 30.0**	**-1.3**
BBL	**Barber's Block**	**50.92**	**11**	*e*P	**P**	**13 50 30.6**	**-0.7**
BBL	**Barber's Block**	**50.92**	**11**	*e*P	**P**	**13 50 30.6**	**-0.7**
DEG	**La Desirade**	**51.76**	**11**	*e*P	**P**	**13 50 35.0**	**-2.7**
SEG	**Port Louis**	**51.77**	**11**	*e*P	**P**	**13 50 36.8**	**-1.0**
SBLS	**San Blas**	**51.89**	**336**	*e*P	**P**	**13 50 41.6**	**+2.9**
SNJE	**San Jose**	**51.91**	**336**	*e*P	**P**	**13 50 42.0**	**+3.1**
PTCN	**Pitcairn Islan**	**52.03**	**264**	PFAKE		13 50 40.0	+0.4
PTCN				LR	LR		
	comp=Z,11µm,21.0s,MS5.9						
SABT	**Saba**	**52.73**	**8**	*e*P	**P**	**13 50 46.5**	**+1.4**
SJG	**San Juan**	**52.94**	**5**	P	**P**	**13 50 42.8**	**-3.8**
	comp=Z,123nm,0.9s,mb5.8,baz=236,slow=2.4,SNR=22						
SJG				S	**S**	**13 58 12.5**	**-2.0**
	comp=Z,3.7nm,0.3s,baz=319,slow=21,SNR=2.7						
SJG				LR	LR	14 16 48.2	
	comp=Z,80µm,18.9s,MS6.8,baz=192,slow=40						
SJG	**San Juan**	**52.94**	**5**	P	**P**	**13 50 42.8**	**-3.8**
SJG				S	**S**	**13 58 12.5**	**-2.0**
SJG				pmax	pmax		
	comp=Z,123nm,1.0s						
SJG				smax			
	comp=N,4.0nm,0.3s						
SJG				MLR	MLR		
	comp=Z,80µm,18.9s						
SJG	**San Juan**	**52.94**	**5**	⇓*e*P	**P**	**13 50 44.0**	**-2.6**
	comp=Z,189nm,1.0s,mb6.0						
SJG				LR	LR		
	comp=Z,73µm,19.0s,MS6.8						
MTP	**Monte Pirata**	**52.97**	**6**	*e*P	**P**	**13 50 43.7**	**-3.1**
MAIT	**Maitri**	**54.83**	**156**	*e*P	**P**	**13 51 00.0**	**+0.2**
MAIT				*e*PP	PP	13 53 00.8	-3.3
MAIT				*e*PScP		13 56 02.3	
MAIT				*e*PKiKP		13 58 36.1	
NVL	**N'lazarevskaya**	**54.86**	**156**	⇑*e*P	**P**	**13 50 59.0**	**-1.0**
NVL				*e*S	**S**	**13 58 39.0**	**-0.8**
NVL				pmax	pmax		
	comp=Z,2µm,2.6s,mb6.6						
RCC	**Rio Carpintero**	**54.90**	**354**	*e*P	**P**	**13 51 02.7**	**+1.7**
RCC				*e*S	tx	13 58 03.8	
	comp=E,1µm,1.4s						
	comp=N,4µm,4.8s						
MASC	**Masc**	**54.97**	**356**	*e*P	**P**	**13 51 02.8**	**+1.3**
MASC				*e*S	**S**	**13 58 43.2**	**+1.3**
	comp=E,24µm,16.4s						
	comp=N,28µm,16.4s						
CCIG	**Comitan**	**55.03**	**334**	*e*P	**P**	**13 51 01.5**	**-0.4**
LMGC	**Las Mercedes**	**55.10**	**352**	*e*P	**P**	**13 51 02.5**	**+0.1**
LMGC				*e*S	**S**	**13 58 47.9**	**+4.2**
	comp=N,5µm,10.9s						
QSPA	**South Pole Qui**	**55.27**	**180**	*e*P	**P**	**13 51 01.8**	**-1.1**
	comp=N,420nm,1.2s,mb6.3						
QSPA				*e*PKKP	PKKP	14 13 00.1	+19
QSPA				*e*		14 21 06.7	
QSPA				LR	LR		
	comp=Z,16µm,21.3s,MS6.1						
MOAC	**Moa**	**55.50**	**355**	*e*P	**P**	**13 51 04.4**	**-0.9**
MOAC				*e*S	**S**	**13 58 50.7**	**+1.6**
	comp=E,3µm,6.8s						
	comp=N,4µm,12.3s						
HLGC	**Holguin**	**55.82**	**354**	*e*P	**P**	**13 51 06.2**	**-1.4**
HUIG	**Huatulco**	**56.09**	**330**	*e*P	**P**	**13 51 09.6**	**0.0**
HUIG				*e*S	x	13 51 42.1	
CMIG	**Matias Romero**	**56.80**	**332**	*e*P	**P**	**13 51 13.4**	**-1.2**
RKT	**Rikitea**	**56.88**	**263**	*e*P	**P**	**13 51 16.1**	**+0.9**
	comp=N,270nm,1.5s,mb6.1						
TEIG	**Tepich**	**57.49**	**340**	P	**P**	**13 51 18.3**	**-1.2**
	comp=N,0.0nm,0.7s,baz=341,slow=24,SNR=13						
TEIG	**Tepich**	**57.49**	**340**	P	**P**	**13 51 17.7**	**-1.9**
TEIG				S	**S**	**13 59 12.2**	**-3.1**
MGV	**Manicaragua**	**57.51**	**349**	*e*P	**P**	**13 51 19.2**	**-0.4**
MGV				*e*S	**S**	**13 59 16.5**	**+0.9**
	comp=N,3µm,4.1s						
	comp=E,4µm,8.2s						
VHO	**Vista Hermosa**	**57.52**	**330**	*e*P	**P**	**13 51 19.3**	**-0.5**
OXX	**Oaxaca**	**57.53**	**330**	*e*P	**P**	**13 51 20.0**	**+0.2**
EVV	**El Vigia**	**58.22**	**332**	*i* P	**P**	**13 51 24.5**	**-0.1**
SOR	**Soroa**	**58.70**	**346**	*e*P	**P**	**13 51 25.5**	**-2.4**
SOR				*e*S	**S**	**13 59 29.0**	**-2.2**
	comp=E,3µm,5.4s						
	comp=N,3µm,5.4s						
PLIG	**Platanillo**	**59.88**	**328**	*e*P	**P**	**13 51 35.3**	**-0.9**
ZIIG	**Zihuatanejo**	**60.08**	**325**	*i* P	**P**	**13 51 36.9**	**-0.7**
PPM	**Popocatepetl**	**60.10**	**329**	*e*P	**P**	**13 51 37.0**	**-0.7**
PPM				*i* P	pP	13 51 38.4	-1.3
UNM	**Universidad Na**	**60.57**	**328**	*e*P	**P**	**13 51 43.5**	**+2.7**
MOIG	**Morelia**	**61.76**	**327**	⇑*i*P	**P**	**13 51 50.5**	**+1.5**
SBA	**Scott Base**	**62.41**	**192**	P	**P**	**13 51 53.2**	**+0.6**
SBA				pmax	pmax		
	comp=Z,760nm,1.9s,mb6.5						
SBA	**Scott Base**	**62.41**	**192**	*e*P	**P**	**13 51 53.1**	**+0.5**
	comp=Z,763nm,1.9s,mb6.5						
SBA				LR	LR		
	comp=Z,13µm,20.0s,MS6.1						
SFJM	**Santa Fe**	**63.31**	**325**	*i* P	**P**	**13 51 58.5**	**-0.7**
CJM	**Chamela**	**63.43**	**323**	*i* P	**P**	**13 52 01.7**	**+1.8**
DWPF	**Disney**	**63.62**	**349**	*e*P	**P**	**13 51 58.0**	**-3.2**
	comp=Z,460nm,1.3s,mb6.3						
DWPF				LR	LR		
	comp=Z,8µm,22.0s,MS5.9						
SYO	**Syowa Base**	**64.44**	**158**	⇓P	**P**	**13 52 04.4**	**-1.4**
SYO	**Syowa Base**	**64.44**	**158**	⇓pP	pP	13 52 08.2	+0.3
SYO	**Syowa Base**	**64.44**	**158**	⇓PcP	PcP	13 52 41.6	+1.5
ZAIG	**Zacatecas**	**65.07**	**327**	⇑*i*P	**P**	**13 52 12.4**	**+1.7**
BBSR	**BB Station**	**67.20**	**5**	*e*P	**P**	**13 52 23.5**	**-0.7**
	comp=Z,159nm,1.0s,mb6.0						
BBSR				LR	LR		
	comp=Z,25µm,22.0s,MS6.4						
RGRS	**Roger Stewart**	**68.16**	**351**	P	**P**	**13 52 30.5**	**+0.3**
HBF	**Harts Bluff**	**68.21**	**351**	*e*P	**P**	**13 52 31.9**	**+1.4**
HBF	**Harts Bluff**	**68.21**	**351**	*e*P	**P**	**13 52 31.2**	**+0.7**
CSU	**Charleston Sou**	**68.22**	**351**	*e*P	**P**	**13 52 31.1**	**+0.6**
NHSC	**New Hope**	**68.35**	**351**	*e*P	**P**	**13 52 30.2**	**-1.3**
	comp=Z,1µm,1.3s,mb6.8						
NHSC				LR	LR		
	comp=Z,53µm,21.0s,MS6.8						
TBI	**Tubuai**	**68.47**	**256**	*e*P	**P**	**13 52 33.2**	**+0.9**
	comp=Z,199nm,0.9s,mb6.2						
TBI				*e*SS	Sx	14 05 30.8	
TBI				*e*L		14 10 55.6	
TBI				*e*R		14 13 04.2	
	comp=Z,95µm,31.8s,baz=122						
HKT	**Hockley**	**68.91**	**336**	P	**P**	**13 52 34.0**	**-1.0**
HKT				S	S	14 01 40.3	+2.1
HKT	**Hockley**	**68.91**	**336**	P	**P**	**13 52 34.1**	**-0.8**
HKT				pmax	pmax		
	comp=Z,300nm,1.4s,mb6.0						
HKT	**Hockley**	**68.91**	**336**	⇑*e*P	**P**	**13 52 33.7**	**-1.3**
	comp=Z,302nm,1.4s,mb6.0						
HKT				*e*S	S	14 01 38.8	+0.6
HKT				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
LRAL	**Lakeview Retre**	**69.44**	**345**	*e*P	**P**	**13 52 36.1**	**-2.0**
	comp=Z,301nm,1.3s,mb6.1						
LRAL				LR	LR		
	comp=Z,24µm,21.0s,MS6.4						
JSC	**Jenkinsville**	**69.65**	**350**	P	**P**	**13 52 38.0**	**-1.4**
JSC	**Jenkinsville**	**69.65**	**350**	*e*P	**P**	**13 52 37.6**	**-1.8**
NATX	**Nacogdoches**	**70.22**	**338**	*e*P	**P**	**13 52 42.2**	**-0.7**
	comp=Z,515nm,1.3s,mb6.3						
NATX				LR	LR		
	comp=Z,10µm,22.0s,MS6.0						
JCT	**Junction City**	**70.78**	**333**	P	**P**	**13 52 45.3**	**-1.0**
JCT				pmax	pmax		
	comp=Z,370nm,1.0s,mb6.3						
JCT	**Junction City**	**70.78**	**333**	⇓*e*P	**P**	**13 52 44.9**	**-1.4**
	comp=Z,10µm,1.2s						
JCT				LR	LR		
	comp=Z,166µm,22.0s						
TVO	**Taravao**	**71.13**	**261**	*e*P	**P**	**13 52 50.1**	**+1.5**
	comp=Z,382nm,1.1s,mb6.2						
LTX	**Lajitas**	**71.28**	**330**	P	**P**	**13 52 49.1**	**-0.3**
LTX				pmax	pmax		
	comp=Z,230nm,1.3s,mb6.0						
LTX	**Lajitas**	**71.28**	**330**	⇑*e*P	**P**	**13 52 48.4**	**-1.0**
	comp=Z,232nm,1.4s,mb5.9						
LTX				LR	LR		
	comp=Z,22µm,19.0s,MS6.4						
TXAR	**Lajitas Array**	**71.28**	**330**	P	**P**	**13 52 49.0**	**-0.5**
	comp=Z,76nm,0.9s,mb5.6,baz=148,slow=8.8,SNR=136						
TXAR				S	S	14 02 03.0	-3.0
	comp=Z,0.4nm,0.8s,baz=224,slow=56,SNR=2.3						
TXAR				LR	LR	14 19 45.2	
	comp=Z,20µm,18.9s,MS6.4,baz=120,slow=32						
TXAR				PKPPKP		14 20 48.2	
	comp=Z,0.9nm,1.0s,baz=315,slow=1.8,SNR=3.5						
TXAR				P4KPbc		14 29 36.1	
	comp=Z,0.6nm,0.9s,baz=146,slow=4.5,SNR=3.7						
CPCT	**Cooper Cave**	**71.31**	**348**	*e*P	**P**	**13 52 47.6**	**-1.8**
OXF	**Oxford**	**71.40**	**343**	P	**P**	**13 52 48.5**	**-1.5**
OXF				pmax	pmax		
	comp=Z,520nm,1.0s,mb6.4						
OXF	**Oxford**	**71.40**	**343**	*e*P	**P**	**13 52 48.0**	**-1.9**
	comp=Z,520nm,0.9s,mb6.5						
OXF				LR	LR		
	comp=Z,12µm,20.0s,MS6.2						
PAE	**Paea**	**71.46**	**261**	*e*P	**P**	**13 52 51.8**	**+1.2**
	comp=Z,346nm,1.1s,mb6.2						
PPT	**Papeete**	**71.51**	**261**	P	**P**	**13 52 50.6**	**-0.3**
	comp=Z,152nm,1.0s,mb5.9,baz=102,slow=6.7,SNR=9.1						
PPT	**Papeete**	**71.51**	**261**	*e*P	**P**	**13 52 52.6**	**+1.7**
	comp=Z,346nm,1.2s,mb6.2						
PPT	**Papeete**	**71.51**	**261**	*e*SS	SS	14 06 46.3	+0.8
PPT				*e*L		14 11 40.8	
PPT				*e*R		14 14 20.6	
	comp=Z,80µm,30.0s,baz=120						
PPT	**Papeete**	**71.51**	**261**	P	**P**	**13 52 50.6**	**-0.3**
PPT				pmax	pmax		
	comp=Z,152nm,1.0s						
PLAL	**Pickwick Lake**	**71.55**	**345**	⇑*e*P	**P**	**13 52 49.0**	**-1.9**
	comp=Z,296nm,1.1s,mb6.1						
PLAL				LR	LR		
	comp=Z,6µm,22.0s,MS5.8						
MAW	**Mawson**	**71.84**	**163**	P	**P**	**13 52 51.1**	**-1.0**
	comp=Z,58nm,0.9s,mb5.5,baz=219,slow=8.1,SNR=46						
MAW				LR	LR	14 25 12.9	
	comp=Z,41µm,19.3s,MS6.7,baz=216,slow=36						
MAW	**Mawson**	**71.84**	**163**	P	**P**	**13 52 51.1**	**-1.0**
MAW				pmax	pmax		
	comp=Z,58nm,1.0s						
MAW				MLR	MLR		
	comp=Z,41µm,19.3s						
MET	**Memphis--Engin**	**72.10**	**343**	*e*P	**P**	**13 52 53.5**	**-0.7**
UALR	**University of**	**72.38**	**341**	*e*P	**P**	**13 52 54.1**	**-1.8**
	comp=Z,178nm,1.3s,mb5.8						
BLA	**Blacksburg**	**72.43**	**352**	*e*P	**P**	**13 52 55.6**	**-0.5**
BLA				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.8						
BLA	**Blacksburg**	**72.43**	**352**	P	**P**	**13 52 54.9**	**-1.2**
	comp=Z,153nm,1.2s,mb5.8						
BLA				LR	LR		
	comp=Z,32µm,21.0s,MS6.6						
ELN	**Prospectdale**	**72.49**	**351**	*e*P	**P**	**13 52 54.9**	**-1.6**
MIAR	**Mount Ida**	**72.50**	**340**	⇑*e*P	**P**	**13 52 54.8**	**-1.8**
	comp=Z,5µm,1.4s						
MIAR				LR	LR		
	comp=Z,147µm,20.0s						
WVT	**Waverly**	**72.60**	**345**	P	**P**	**13 52 55.2**	**-1.9**
WVT				pmax	pmax		
	comp=Z,900nm,1.1s,mb6.6						
WVT	**Waverly**	**72.60**	**345**	⇑*e*P	**P**	**13 52 55.1**	**-2.0**
	comp=Z,1µm,1.2s,mb6.7						
WVT				LR	LR		
	comp=Z,13µm,20.0s,MS6.2						
PWV	**Princeton**	**72.63**	**351**	*e*P	**P**	**13 52 55.4**	**-1.8**
HBAR	**Harrisburg**	**72.69**	**343**	*e*P	**P**	**13 52 56.8**	**-0.9**
FWV	**Forest Hill**	**72.84**	**351**	*e*P	**P**	**13 52 57.0**	**-1.6**
GNAR	**Gosnell**	**72.93**	**343**	*e*P	**P**	**13 52 58.2**	**-0.8**
UTMT	**University of**	**73.03**	**344**	*e*P	**P**	**13 52 58.6**	**-1.0**
	comp=Z,1µm,1.2s,mb6.7						
GLAT	**Glass**	**73.05**	**344**	*e*P	**P**	**13 52 58.9**	**-0.8**
CBN	**Corbin**	**73.11**	**354**	P	**P**	**13 52 58.4**	**-1.6**
	comp=Z,281nm,1.4s,mb6.0						
CBN				LR	LR		
	comp=Z,29µm,21.0s,MS6.5						
SUR	**Sutherland**	**73.11**	**118**	P	**P**	**13 53 02.1**	**+1.9**
	comp=Z,58nm,0.7s,mb5.6,baz=242,slow=5.6,SNR=45						
SUR				LR	LR	14 18 50.4	
	comp=Z,23µm,20.8s,MS6.4,baz=238,slow=30						
SUR	**Sutherland**	**73.11**	**118**	*e*P	**P**	**13 53 01.2**	**+1.0**
	comp=Z,152nm,0.9s,mb5.9						
SUR				LR	LR		
	comp=Z,6µm,21.0s,MS5.8						
PVMO	**Portageville**	**73.28**	**344**	P	**P**	**13 53 00.5**	**-0.6**
LIC	**Lamto**	**73.75**	**70**	*e*P	**P**	**13 53 03.4**	**-0.8**
	comp=Z,424nm,1.2s,mb6.2						
LIC	**Lamto**	**73.75**	**70**	*e*P	**P**	**13 53 03.6**	**-0.6**
	comp=Z,197nm,1.2s,mb5.9						
CLNB	**Carlsbad**	**73.94**	**331**	*e*P	**P**	**13 53 04.6**	**-0.4**
TIC	**Toumodi**	**74.02**	**70**	*e*P	**P**	**13 53 05.0**	**-0.8**
	comp=Z,606nm,1.3s,mb6.4						
KIC	**Kosan Boka**	**74.05**	**70**	*e*P	**P**	**13 53 05.2**	**-0.8**
	comp=Z,481nm,0.7s,mb6.6						
GDL2	**Guadalupe Moun**	**74.08**	**330**	*e*P	**P**	**13 53 05.2**	**-0.6**
DBIC	**Dimbokro**	**74.16**	**70**	P	**P**	**13 53 06.8**	**+0.2**
	comp=Z,61nm,0.8s,mb5.6,baz=203,slow=6.1,SNR=43						
DBIC				LR	LR	14 22 29.4	
	comp=Z,36µm,19.4s,MS6.7,baz=204,slow=33						
DBIC	**Dimbokro**	**74.16**	**70**	S	**P**	**13 53 07.5**	**+0.9**
DBIC				S	S	14 02 42.1	+3.2
WMOK	**Wichita Mounta**	**74.28**	**336**	P	**P**	**13 53 05.7**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,280nm,1.3s,mb6.0						
WMOK	**Wichita Mounta**	**74.28**	**336**	*e*P	**P**	**13 53 05.2**	**-1.8**
	comp=Z,278nm,1.4s,mb6.0						
WMOK				LR	LR		
	comp=Z,10µm,20.0s,MS6.1						
WCI	**Wyandotte Cave**	**74.33**	**347**	*e*P	**P**	**13 53 05.2**	**-1.9**
WCI				pmax	pmax		
	comp=Z,230nm,1.2s,mb6.0						
WCI	**Wyandotte Cave**	**74.33**	**347**	*e*P	**P**	**13 53 05.1**	**-2.0**
	comp=Z,231nm,1.3s,mb6.0						
WCI				LR	LR		
	comp=Z,6µm,21.0s,MS5.8						
USIN	**University of**	**74.34**	**346**	*e*P	**P**	**13 53 04.5**	**-2.7**
	comp=Z,471nm,1.2s,mb6.3						
CPRX	**Cap Rock**	**74.61**	**331**	*e*P	**P**	**13 53 08.6**	**-0.3**
MCWV	**Mont Chateau**	**74.78**	**352**	*e*P	**P**	**13 53 08.6**	**-1.1**
	comp=Z,287nm,1.2s,mb6.1						
MCWV				LR	LR		
	comp=Z,31µm,21.0s,MS6.6						
FVM	**French Village**	**74.95**	**344**	P	**P**	**13 53 09.6**	**-1.1**
FVM				pmax	pmax		
	comp=Z,550nm,1.2s,mb6.4						
FVM	**French Village**	**74.95**	**344**	⇑*e*P	**P**	**13 53 09.1**	**-1.6**
	comp=Z,550nm,1.2s,mb6.4						
BLO	**Bloomington**	**75.28**	**347**	*e*P	**P**	**13 53 12.3**	**-0.3**
BLO				pmax	pmax		
	comp=Z,300nm,1.2s,mb6.1						
BLO	**Bloomington**	**75.28**	**347**	*e*P	**P**	**13 53 10.8**	**-1.9**
	comp=Z,304nm,1.3s,mb6.1						
BRNJ	**Basking Ridge**	**75.39**	**357**	P	**P**	**13 53 14.9**	**+1.7**
CPNY	**Central Park**	**75.47**	**357**	P	**P**	**13 53 13.7**	**0.0**
SLM	**Saint Louis**	**75.53**	**344**	P	**P**	**13 53 12.9**	**-1.1**
SLM				pmax	pmax		
	comp=Z,360nm,1.1s,mb6.2						
SLM	**Saint Louis**	**75.53**	**344**	*e*P	**P**	**13 53 12.0**	**-2.0**
	comp=Z,363nm,1.1s,mb6.2						
SSPA	**Standing Stone**	**75.56**	**354**	*e*P	**P**	**13 53 12.8**	**-1.4**
	comp=Z,133nm,1.2s,mb5.7						
SSPA				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
PAL	**Palisades**	**75.68**	**357**	P	**P**	**13 53 17.3**	**+2.5**
PAL				pmax	pmax		
	comp=Z,81nm,1.2s,mb5.5						
PAL	**Palisades**	**75.68**	**357**	P	**P**	**13 53 15.6**	**+0.8**
	comp=Z,81nm,1.2s,mb5.5						
ACSO	**Alum Creek Sta**	**75.74**	**350**	*e*P	**P**	**13 53 13.6**	**-1.6**
	comp=Z,381nm,1.2s,mb6.2						
ACSO				LR	LR		
	comp=Z,21µm,20.0s,MS6.4						
BRYW	**Bryant College**	**76.53**	**359**	*e*P	**P**	**13 53 19.6**	**0.0**
	comp=Z,626nm,1.4s,mb6.3						
BNM	**Barren Site**	**76.71**	**330**	*e*P	**P**	**13 53 21.1**	**+0.3**
ALLY	**Alegheny Colle**	**76.78**	**352**	*e*P	**P**	**13 53 19.6**	**-1.4**
LENM	**Lemitar**	**76.86**	**329**	*e*P	**P**	**13 53 21.6**	**-0.1**
QUA2	**Belchertown**	**76.90**	**358**	P	**P**	**13 53 21.3**	**-0.4**
	comp=Z,193nm,1.1s,mb5.9						
TUC	**Tucson**	**76.97**	**326**	⇑*e*P	**P**	**13 53 22.0**	**-0.2**
	comp=Z,228nm,1.5s,mb5.9						
TUC				LR	LR		
	comp=Z,11µm,21.0s,MS6.2						
BINY	**Binghamton**	**76.98**	**356**	*e*P	**P**	**13 53 21.4**	**-0.7**
	comp=Z,204nm,1.4s,mb5.9						
BINY				LR	LR		
	comp=Z,18µm,20.0s,MS6.4						
WES	**Weston**	**76.99**	**359**	P	**P**	**13 53 22.3**	**+0.1**
WES				pmax	pmax		
	comp=Z,360nm,1.3s,mb6.1						
WES	**Weston**	**76.99**	**359**	*e*P	**P**	**13 53 21.7**	**-0.4**
	comp=Z,364nm,1.4s,mb6.1						
WES				LR	LR		
	comp=Z,22µm,19.0s,MS6.5						
HRV	**Harvard--Oak R**	**77.12**	**359**	P	**P**	**13 53 23.7**	**+0.8**
HRV				pmax	pmax		
	comp=Z,220nm,1.2s,mb6.0						
HRV	**Harvard--Oak R**	**77.12**	**359**	*e*P	**P**	**13 53 23.2**	**+0.4**
	comp=Z,220nm,1.2s,mb6.0						
HRV				LR	LR		
	comp=Z,15µm,19.0s,MS6.3						
LAZ	**Ladron**	**77.14**	**329**	*e*P	**P**	**13 53 23.0**	**-0.1**
ERPA	**Erie**	**77.23**	**353**	*e*P	**P**	**13 53 21.9**	**-1.6**
	comp=Z,300nm,1.3s,mb6.1						
ERPA				LR	LR		
	comp=Z,35µm,22.0s,MS6.6						
ANMO	**Albuquerque**	**77.33**	**330**	P	**P**	**13 53 24.2**	**0.0**
ANMO	**Albuquerque**	**77.33**	**330**	P	**P**	**13 53 24.3**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,190nm,1.3s						
ANMO	**Albuquerque**	**77.33**	**330**	⇑*e*P	**P**	**13 53 24.0**	**-0.2**
	comp=Z,192nm,1.3s,mb5.9						
ANMO				LR	LR		
	comp=Z,18µm,20.0s,MS6.4						
KSU1	**Kansas State U**	**77.62**	**339**	*e*P	**P**	**13 53 24.0**	**-1.7**
GENY	**Geneseo**	**77.67**	**354**	P	**P**	**13 53 24.3**	**-1.6**
RAR	**Rarotonga**	**77.73**	**253**	LR	LR	14 20 39.1	
	comp=Z,7µm,19.8s,MS6.0,baz=127,slow=30						
RAR	**Rarotonga**	**77.73**	**253**	PFAKE		13 53 30.0	+3.3
RAR				LR	LR		
	comp=Z,10µm,20.0s,MS6.1						
MIR	**Mirnyy**	**77.99**	**173**	α*e*P	**P**	**13 53 27.0**	**-0.2**
MIR				*e*		13 56 24.0	
MIR				*e*PPP	PPP	13 58 17.0	+2.6
MIR				*e*S	S	14 03 19.0	-0.8
MIR				pmax	pmax		
	comp=Z,1µm,9.0s						
MIR				pmax	pmax		
	comp=Z,220nm,1.6s,mb5.8						
MIR				smax			
	comp=N,1µm,11.0s						
MIR				smax			
	comp=E,2µm,11.0s						
MIR				MLR	MLR		
	comp=N,12µm,17.0s,MS6.5						
MIR				MLR	MLR		
	comp=E,18µm,17.0s,MS6.5						
MIR				MLR	MLR		
	comp=Z,37µm,17.0s,MS6.8						
ACCN	**Adirondack Com**	**78.05**	**358**	*e*P	**P**	**13 53 27.4**	**-0.5**
FFD	**Franklin Falls**	**78.08**	**359**	P	**P**	**13 53 28.4**	**+0.3**
	comp=Z,642nm,1.4s,mb6.4						
CBKS	**Cedar Bluff**	**78.31**	**337**	P	**P**	**13 53 30.0**	**+0.5**
CBKS				pmax	pmax		
	comp=Z,470nm,1.3s,mb6.3						
CBKS	**Cedar Bluff**	**78.31**	**337**	*e*P	**P**	**13 53 28.6**	**-0.9**
	comp=Z,469nm,1.3s,mb6.3						
CBKS				LR	LR		
	comp=Z,14µm,19.0s,MS6.3						
HNH	**Hanover**	**78.33**	**359**	*e*P	**P**	**13 53 29.4**	**-0.1**
	comp=Z,30nm,1.4s,mb5.0						
NCB	**Newcomb**	**78.65**	**357**	*e*P	**P**	**13 53 30.7**	**-0.5**
	comp=Z,104nm,1.2s,mb5.6						
NCB				LR	LR		
	comp=Z,26µm,22.0s,MS6.5						
MIV	**Mineville/With**	**78.73**	**358**	*e*P	**P**	**13 53 30.8**	**-0.9**
WVL	**Waterville**	**79.17**	**0**	*e*P	**P**	**13 53 34.0**	**0.0**
	comp=Z,566nm,1.3s,mb6.3						
WVL				LR	LR		
	comp=Z,123µm,21.0s,MS7.2						
PTN	**Potsdam (NY)**	**79.28**	**357**	P	**P**	**13 53 36.9**	**+2.2**
PTN	**Potsdam (NY)**	**79.28**	**357**	*e*P	**P**	**13 53 34.9**	**+0.2**
LOZ	**Lake Ozonia**	**79.31**	**357**	*e*P	**P**	**13 53 33.8**	**-1.1**
EMMW	**East Machias**	**79.35**	**2**	*e*P	**P**	**13 53 35.3**	**+0.2**
	comp=Z,646nm,1.2s,mb6.4						
EMMW				LR	LR		
	comp=Z,120µm,22.0s,MS7.2						
SDCO	**Great Sand Dun**	**79.39**	**332**	⇑*e*P	**P**	**13 53 35.2**	**-0.2**
	comp=Z,1µm,1.5s,mb6.7						
SDCO				LR	LR		
	comp=Z,17µm,20.0s,MS6.4						
JFWS	**Jewell Farm**	**79.63**	**345**	P	**P**	**13 53 35.4**	**-1.2**
JFWS				pmax	pmax		
	comp=Z,390nm,1.3s,mb6.2						
JFWS	**Jewell Farm**	**79.63**	**345**	*e*P	**P**	**13 53 34.9**	**-1.7**
	comp=Z,391nm,1.3s,mb6.2						
JFWS				LR	LR		
	comp=Z,29µm,21.0s,MS6.6						
MSNY	**Massena**	**79.71**	**357**	*e*P	**P**	**13 53 36.2**	**-0.7**
SADO	**Sadowa**	**79.77**	**354**	LR	LR	14 32 09.0	
	comp=Z,22µm,21.2s,MS6.5,baz=173,slow=38						
WUAZ	**Wupatki**	**79.91**	**327**	⇑*e*P	**P**	**13 53 38.7**	**+0.4**
	comp=Z,325nm,1.4s,mb6.1						
WUAZ				LR	LR		
	comp=Z,16µm,21.0s,MS6.3						
BAR	**Barrett**	**80.13**	**322**	*e*P	**P**	**13 53 39.5**	**0.0**
LBTB	**Lobatse**	**80.61**	**114**	P	**P**	**13 53 42.0**	**-0.2**
LBTB				S	S	14 03 50.0	+1.7
PFO	**Pinyon Flat Ob**	**80.77**	**322**	⇑*e*P	**P**	**13 53 43.1**	**+0.3**
	comp=Z,330nm,1.4s,mb6.1						
PFO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
PV01	**Paradox Valley**	**80.93**	**330**	*e*P	**P**	**13 53 43.6**	**0.0**
LDFC	**Landfair**	**81.28**	**324**	*e*P	**P**	**13 53 46.4**	**+0.8**
PQI	**Presque Isle**	**81.30**	**2**	PFAKE		13 53 50.0	+4.6
PQI				LR	LR		
	comp=Z,111µm,22.0s,MS7.2						
PV10	**Paradox Valley**	**81.33**	**330**	*e*P	**P**	**13 53 45.5**	**-0.2**
NEN	**Nelson**	**81.62**	**325**	*e*P	**P**	**13 53 47.1**	**-0.2**
MWC	**Mount Wilson**	**82.06**	**322**	P	**P**	**13 53 50.2**	**+0.6**
MWC	**Mount Wilson**	**82.06**	**322**	⇑*e*P	**P**	**13 53 50.1**	**+0.5**
SRU	**San Rafael**	**82.56**	**330**	P	**P**	**13 53 52.5**	**+0.4**
SRU	**San Rafael**	**82.56**	**330**	*e*P	**P**	**13 53 52.0**	**-0.1**
MSU	**Marysvale**	**82.76**	**328**	P	**P**	**13 53 53.5**	**+0.3**
MSU	**Marysvale**	**82.76**	**328**	*e*P	**P**	**13 53 53.3**	**+0.1**
MVU	**Marysvale**	**82.77**	**328**	⇑*e*P	**P**	**13 53 53.7**	**+0.4**
	comp=Z,196nm,1.4s,mb6.0						
MVU				LR	LR		
	comp=Z,17µm,19.0s,MS6.5						
TPNV	**Topopah Spring**	**83.34**	**325**	P	**P**	**13 53 56.8**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,270nm,1.5s,mb6.1						
TPNV	**Topopah Spring**	**83.34**	**325**	⇑*e*P	**P**	**13 53 56.7**	**+0.5**
	comp=Z,273nm,1.5s,mb6.1						
TPNV				LR	LR		
	comp=Z,10µm,20.0s,MS6.2						
PDA	**Ponta Delgada**	**83.38**	**34**	*e*P	**P**	**13 54 00.0**	**+3.6**
PDA				*e*S	S	14 04 34.4	+18
PDA				*e*SS	Sx	14 04 50.0	
PDA				*i* LR	LR	14 20 30.0	
DAC	**Darwin (Calif)**	**83.45**	**323**	P	**P**	**13 53 57.9**	**+1.1**
DAC				pmax	pmax		
	comp=Z,270nm,1.4s,mb6.1						
DAC	**Darwin (Calif)**	**83.45**	**323**	⇑*e*P	**P**	**13 53 57.3**	**+0.6**
	comp=Z,270nm,1.5s,mb6.1						
DAC				LR	LR		
	comp=Z,9µm,20.0s,MS6.1						
SNZO	**South Karori**	**83.45**	**223**	PFAKE		13 54 00.0	+3.3
SNZO				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
MWZ	**Matawai**	**83.75**	**227**	P	**P**	**13 54 05.0**	**+6.8**
MPU	**Maple Canyon**	**83.79**	**329**	*e*P	**P**	**13 53 58.5**	**+0.1**
LTZ	**Lake Taylor**	**83.81**	**221**	P	**P**	**13 53 59.2**	**+0.8**
LTZ	**Lake Taylor**	**83.81**	**221**	*e*P	**P**	**13 54 01.4**	**+3.0**
RPZ	**Rata Peaks**	**83.82**	**220**	P	**P**	**13 53 59.3**	**+0.9**
	comp=Z,145nm,1.1s,mb6.0,baz=143,slow=5.3,SNR=17						

RPZ				LR	LR	14 22 16.0	
	comp=Z,16µm,21.2s,MS6.4,baz=133,slow=29						
RPZ	**Rata Peaks**	**83.82**	**220**	*e*P	**P**	**13 53 58.8**	**+0.4**
RPZ	**Rata Peaks**	**83.82**	**220**	P	**P**	**13 54 01.1**	**+2.7**
NLU	**North Lily Min**	**83.92**	**329⇑**	*e*P	**P**	**13 53 59.1**	**+0.1**
DAU	**Daniels Canyon**	**83.96**	**330**	P	**P**	**13 53 59.9**	**+0.7**
DAU	**Daniels Canyon**	**83.96**	**330**	*e*P	**P**	**13 53 59.5**	**+0.3**
URZ	**Urewera**	**84.05**	**227**	LR	LR	14 23 21.4	
	comp=Z,14µm,21.0s,MS6.3,baz=133,slow=30						
URZ	**Urewera**	**84.05**	**227**	*e*P	**P**	**13 54 01.7**	**+2.0**
URZ	**Urewera**	**84.05**	**227**	P	**P**	**13 54 05.8**	**+6.1**
THZ	**Tophouse**	**84.16**	**222**	*e*P	**P**	**13 54 00.3**	**+0.1**
THZ	**Tophouse**	**84.16**	**222**	*e*P	**P**	**13 54 02.8**	**+2.6**
JLU	**Jordanelle**	**84.20**	**330**	*e*P	**P**	**13 54 00.7**	**+0.2**
NNZ	**Nelson**	**84.26**	**223**	*e*P	**P**	**13 54 03.8**	**+3.1**
CTU	**Camp Tracy**	**84.40**	**330**	*e*P	**P**	**13 54 01.2**	**-0.3**
WVZ	**Waitaha Valley**	**84.43**	**220**	*e*P	**P**	**13 54 01.3**	**-0.2**
WVZ	**Waitaha Valley**	**84.43**	**220**	*e*P	**P**	**13 54 03.3**	**+1.8**
DUG	**Dugway**	**84.44**	**329**	P	**P**	**13 54 01.7**	**+0.1**
DUG				pmax	pmax		
	comp=Z,360nm,1.3s,mb6.3						
DUG	**Dugway**	**84.44**	**329⇑**	*e*P	**P**	**13 54 01.9**	**+0.2**
	comp=Z,475nm,1.5s,mb6.4						
DUG				LR	LR		
	comp=Z,11µm,20.0s,MS6.2						
RSSD	**Black Hills**	**84.49**	**336**	P	**P**	**13 54 01.9**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.7						
RSSD	**Black Hills**	**84.49**	**336⇑**	*e*P	**P**	**13 54 01.4**	**-0.3**
	comp=Z,62nm,0.8s,mb5.8						
RSSD				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
TCUT	**Toone Canyon**	**84.62**	**330**	*e*P	**P**	**13 54 01.7**	**-0.8**
TPH	**Tonopah**	**84.70**	**325**	P	**P**	**13 54 03.5**	**+0.5**
TPH				pmax	pmax		
	comp=Z,310nm,1.4s,mb6.2						
TPH	**Tonopah**	**84.70**	**325⇑**	*e*P	**P**	**13 54 03.3**	**+0.3**
	comp=Z,307nm,1.4s,mb6.2						
TPH				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
JCZ	**Jackson Bay**	**84.76**	**218**	P	**P**	**13 54 05.8**	**+2.7**
JCZ	**Jackson Bay**	**84.76**	**218**	*e*P	**P**	**13 54 05.8**	**+2.7**
MTUM	**Tungsten Hills**	**84.78**	**323**	*e*P	**P**	**13 54 04.1**	**+0.7**
HWUT	**Hardware Ranch**	**85.09**	**330⇑**	*e*P	**P**	**13 54 04.6**	**-0.3**
	comp=Z,593nm,1.4s,mb6.5						
HWUT				LR	LR		
	comp=Z,29µm,21.0s,MS6.6						
BGU	**Big Grassy Mou**	**85.13**	**329**	*e*P	**P**	**13 54 05.0**	**-0.1**
OMM	**Old Mammoth Mi**	**85.20**	**323⇑**	*e*P	**P**	**13 54 06.0**	**+0.6**
SPUT	**South Promonto**	**85.21**	**330⇑**	*e*P	**P**	**13 54 05.3**	**-0.2**
HIZ	**Hauiti**	**85.22**	**226**	*e*P	**P**	**13 54 07.5**	**+1.9**
HIZ	**Hauiti**	**85.22**	**226**	*e*P	**P**	**13 54 07.7**	**+2.1**
BW06	**Boulder Array**	**85.28**	**332⇑**	*e*P	**P**	**13 54 05.1**	**-0.7**
	comp=Z,288nm,1.4s,mb6.2						
BW06				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
PDAR	**Pinedale Array**	**85.28**	**332**	P	**P**	**13 54 05.5**	**-0.2**
	comp=Z,44nm,1.0s,mb5.5,baz=162,slow=4.7,SNR=66						
PDAR				PKKPbc		14 12 12.8	
	comp=Z,1.0nm,0.6s,baz=55,slow=1.3,SNR=7.8						
PDAR				PKPPKP		14 20 23.5	
	comp=Z,0.3nm,0.7s,SNR=5.4						
PDAR				LR	LR	14 28 34.5	
	comp=Z,11µm,20.7s,MS6.2,baz=36,slow=33						
LRV	**Little Rabbit**	**85.29**	**321**	*e*P	**P**	**13 54 08.2**	**+2.2**
MNV	**Mina**	**85.43**	**324**	P	**P**	**13 54 06.7**	**+0.1**
MNV				pmax	pmax		
	comp=Z,240nm,1.6s,mb6.1						
MNV	**Mina**	**85.43**	**324⇑**	*e*P	**P**	**13 54 06.5**	**-0.2**
	comp=Z,236nm,1.7s,mb6.0						
NVAR	**Mina Array Bea**	**85.50**	**324**	P	**P**	**13 54 07.8**	**+0.8**
	comp=Z,90nm,1.1s,mb5.8,baz=146,slow=5.6,SNR=69						
NVAR				PKKPbc		14 12 14.0	
	comp=Z,0.9nm,0.6s,slow=0.9,SNR=5.5						
NVAR				PKPPKP		14 20 25.9	
	comp=Z,2.0nm,1.1s,baz=272,slow=6.1,SNR=4.5						
NVAR	**Mina Array Bea**	**85.50**	**324**	P	**P**	**13 54 07.8**	**+0.8**
NVAR				PKKPbc		14 12 14.0	
NVAR				P'P'		14 20 25.9	
HVU	**Hansel Valley**	**85.73**	**330**	P	**P**	**13 54 08.2**	**+0.1**
HVU	**Hansel Valley**	**85.73**	**330⇑**	*e*P	**P**	**13 54 07.6**	**-0.5**
SAO	**San Andreas Ge**	**85.77**	**321**	P	**P**	**13 54 10.0**	**+1.6**
SAO				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.9						
SAO	**San Andreas Ge**	**85.77**	**321**	*e*P	**P**	**13 54 09.5**	**+1.1**
	comp=Z,88nm,1.3s,mb5.8						
SAO				LR	LR		
	comp=Z,7µm,21.0s,MS6.1						
AHID	**Auburn Hatcher**	**85.88**	**331⇑**	*e*P	**P**	**13 54 08.3**	**-0.4**
	comp=Z,305nm,1.3s,mb6.4						
AHID				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
ELK	**Elko**	**85.94**	**327**	P	**P**	**13 54 09.1**	**0.0**
ELK				pmax	pmax		
	comp=Z,94nm,0.9s						
ELK	**Elko**	**85.94**	**327⇑**	*e*P	**P**	**13 54 09.0**	**-0.2**
	comp=Z,94nm,0.9s,mb6.0						
CMB	**Columbia Colle**	**86.21**	**323**	P	**P**	**13 54 10.7**	**+0.1**
CMB				pSKSac		14 04 49.7	
CMB	**Columbia Colle**	**86.21**	**323**	P	**P**	**13 54 11.1**	**+0.6**
CMB				pmax	pmax		
	comp=Z,120nm,1.2s,mb6.0						
CMB	**Columbia Colle**	**86.21**	**323**	*e*P	**P**	**13 54 10.8**	**+0.3**
	comp=Z,121nm,1.2s,mb6.0						
CMB				LR	LR		
	comp=Z,7µm,20.0s,MS6.0						
REDW	**Red Top Meadow**	**86.29**	**332⇑**	*e*P	**P**	**13 54 10.2**	**-0.5**
	comp=Z,154nm,1.0s,mb6.2						
SNOW	**Snow King Moun**	**86.33**	**332⇑**	*e*P	**P**	**13 54 10.6**	**-0.4**
	comp=Z,257nm,1.2s,mb6.3						
WUWY	**Wally Ulrich**	**86.39**	**332**	P	**P**	**13 54 11.2**	**-0.1**
TPAW	**Teton Pass**	**86.43**	**332⇑**	*e*P	**P**	**13 54 11.1**	**-0.4**
	comp=Z,299nm,1.3s,mb6.4						
MOOW	**Moose Ponds**	**86.57**	**332**	*e*P	**P**	**13 54 11.6**	**-0.5**
	comp=Z,36nm,0.9s,mb5.6						
BMN	**Battle Mountai**	**86.58**	**326**	P	**P**	**13 54 14.2**	**+1.9**
BMN				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.4						
BMN	**Battle Mountai**	**86.58**	**326**	*e*P	**P**	**13 54 11.7**	**-0.6**
	comp=Z,26nm,1.0s,mb5.4						
BMN				LR	LR		
	comp=Z,10µm,22.0s,MS6.2						
WCN	**Washoe City**	**86.89**	**324**	P	**P**	**13 54 15.1**	**+1.3**
WCN				pmax	pmax		
	comp=Z,220nm,1.7s,mb6.1						
WCN	**Washoe City**	**86.89**	**324⇑**	*e*P	**P**	**13 54 14.4**	**+0.6**
	comp=Z,225nm,1.7s,mb6.1						
SAC	**San Andreas**	**86.89**	**321**	P	**P**	**13 54 17.3**	**+3.4**
SAC	**San Andreas**	**86.89**	**321**	P	**P**	**13 54 15.6**	**+1.7**
PAHR	**Pah Rah Range**	**87.02**	**324**	P	**P**	**13 54 15.3**	**+0.8**
	comp=Z,255nm,1.7s,mb6.2						
YMR	**Madison River**	**87.43**	**332⇑**	*e*P	**P**	**13 54 16.4**	**+0.1**
LAO	**LASA Array**	**87.48**	**336⇑**	*e*P	**P**	**13 54 15.7**	**-0.8**
	comp=Z,278nm,1.0s,mb6.4						
LAO				LR	LR		
	comp=Z,13µm,21.0s,MS6.3						
BEKR	**Beckwourth**	**87.62**	**324⇑**	*e*P	**P**	**13 54 17.5**	**+0.1**
	comp=Z,1µm,1.2s,mb7.0						
NSHM	**Saint Helena R**	**87.70**	**322**	*e*P	**P**	**13 54 17.8**	**0.0**
QLMT	**Earthquake Lak**	**87.75**	**332**	*e*P	**P**	**13 54 18.2**	**+0.4**
OHCM	**Honcut**	**87.76**	**323**	*e*P	**P**	**13 54 18.5**	**+0.5**
ULM	**Lac du Bonnet**	**87.82**	**344**	P	**P**	**13 54 16.9**	**-1.1**
	comp=Z,142nm,1.2s,mb6.1,baz=162,slow=3.1,SNR=21						
ULM				PKKPbc		14 12 05.8	
	comp=Z,4.1nm,0.6s,baz=336,slow=4.6,SNR=6.4						
ULM	**Lac du Bonnet**	**87.82**	**344**	P	**P**	**13 54 16.9**	**-1.1**
ULM				PKKPbc		14 12 05.8	
HLID	**Hailey**	**87.89**	**330⇑**	*i*P	**P**	**13 54 18.7**	**+0.2**
	comp=Z,250nm,1.4s,mb6.2						
HLID				LR	LR		
	comp=Z,8µm,19.0s,MS6.2						
LSZ	**Lusaka**	**88.15**	**107**	P	**P**	**13 54 23.0**	**+2.6**
LSZ				SKKSac		14 05 04.5	
LSZ	**Lusaka**	**88.15**	**107⇑**	*e*P	**P**	**13 54 21.6**	**+1.2**
	comp=Z,46nm,1.0s,mb5.7						
LSZ				LR	LR		
	comp=Z,25µm,20.0s,MS6.6						
HOPS	**Hopland**	**88.30**	**322**	P	**P**	**13 54 22.1**	**+1.5**
	comp=Z,242nm,1.5s,mb6.2						
HOPS				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
MCMT	**McKenzie Canyo**	**88.30**	**331**	*e*P	**P**	**13 54 20.6**	**+0.2**
DGMT	**Dagmar**	**88.41**	**338⇑**	*e*P	**P**	**13 54 20.5**	**-0.4**
	comp=Z,760nm,1.3s,mb6.8						
DGMT				LR	LR		
	comp=Z,13µm,22.0s,MS6.3						
BOZ	**Bozeman (W)**	**88.51**	**332**	P	**P**	**13 54 21.2**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.7						
BOZ	**Bozeman (W)**	**88.51**	**332⇑**	*e*P	**P**	**13 54 20.6**	**-0.9**
	comp=Z,38nm,1.0s,mb5.7						
BOZ				LR	LR		
	comp=Z,13µm,21.0s,MS6.3						
WVOR	**Wild Horse Val**	**88.82**	**326**	P	**P**	**13 54 23.6**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,120nm,1.2s,mb6.1						
WVOR	**Wild Horse Val**	**88.82**	**326⇑**	*e*P	**P**	**13 54 22.8**	**-0.2**
	comp=Z,120nm,1.3s,mb6.1						
WVOR				LR	LR		
	comp=Z,18µm,20.0s,MS6.5						
MOD	**Modoc**	**89.17**	**325⇑**	*e*P	**P**	**13 54 24.7**	**0.0**
	comp=Z,178nm,1.3s,mb6.2						
MOD				LR	LR		
	comp=Z,11µm,21.0s,MS6.2						
WDC	**Whiskeytown Da**	**89.23**	**323**	P	**P**	**13 54 24.4**	**-0.6**
WDC				pmax	pmax		
	comp=Z,69nm,0.9s,mb6.0						
WDC	**Whiskeytown Da**	**89.23**	**323**	*e*P	**P**	**13 54 24.0**	**-1.0**
	comp=Z,105nm,1.0s,mb6.1						
WDC				LR	LR		
	comp=Z,6µm,22.0s,MS5.9						
HRY	**Holter Researc**	**89.48**	**333**	*e*P	**P**	**13 54 25.6**	**-0.4**
SCHQ	**Schefferville**	**89.49**	**2**	P	**P**	**13 54 25.5**	**-0.4**
	comp=Z,77nm,1.2s,mb5.9,baz=136,slow=2.7,SNR=10						
SCHQ				LR	LR	14 35 45.1	
	comp=Z,22µm,21.9s,MS6.5,baz=182,slow=36						
KHMM	**Horse Mountain**	**90.05**	**322**	P	**P**	**13 54 30.8**	**+2.0**
CHMT	**Chamberlain Mo**	**90.19**	**332**	*e*P	**P**	**13 54 28.9**	**-0.4**
YBH	**Yreka Blue Hor**	**90.19**	**324**	P	**P**	**13 54 29.1**	**-0.4**
	comp=Z,28nm,0.8s,mb5.7,baz=127,slow=4.1						
YBH	**Yreka Blue Hor**	**90.19**	**324**	P	**P**	**13 54 29.2**	**-0.3**
YBH				pmax	pmax		
	comp=Z,29nm,0.9s						
YBH	**Yreka Blue Hor**	**90.19**	**324**	*e*P	**P**	**13 54 28.7**	**-0.8**
	comp=Z,29nm,0.8s,mb5.7						
YBH				LR	LR		
	comp=Z,8µm,21.0s,MS6.2						
MSO	**Missoula**	**90.38**	**332**	*e*P	**P**	**13 54 30.1**	**-0.2**
	comp=Z,67nm,1.4s,mb5.8						
MSO				LR	LR		
	comp=Z,9µm,20.0s,MS6.2						
HUMO	**Hull Mountain**	**90.97**	**324**	P	**P**	**13 54 33.5**	**+0.5**
	comp=Z,27nm,1.1s,mb5.5						
VIPM	**Ingram Point**	**91.34**	**327**	P	**P**	**13 54 35.7**	**+1.0**
LNOR	**Lincton Mounta**	**91.38**	**329**	P	**P**	**13 54 35.7**	**+0.9**
LNOR	**Lincton Mounta**	**91.38**	**329**	P	**P**	**13 54 35.0**	**+0.1**
HSO	**Harness Mounta**	**91.73**	**325**	P	**P**	**13 54 37.8**	**+1.3**
HSO	**Harness Mounta**	**91.73**	**325**	*e*P	**P**	**13 54 37.4**	**+0.9**
VGB	**Gordon Butte**	**92.19**	**327**	P	**P**	**13 54 39.8**	**+1.2**
VGB	**Gordon Butte**	**92.19**	**327**	*e*P	**P**	**13 54 39.1**	**+0.5**
REDWA	**Red Mountain**	**92.21**	**328**	P	**P**	**13 54 39.7**	**+1.0**
HAWA	**Hanford**	**92.33**	**328⇓**	*e*P	**P**	**13 54 39.4**	**+0.2**
	comp=Z,23nm,1.5s						
HAWA				LR	LR		
	comp=Z,795nm,22.0s						
COR	**Corvallis**	**92.63**	**325**	P	**P**	**13 54 43.6**	**+3.0**
COR				pmax	pmax		
	comp=Z,280nm,1.5s,mb6.5						
COR	**Corvallis**	**92.63**	**325**	*e*P	**P**	**13 54 40.6**	**0.0**
	comp=Z,275nm,1.5s,mb6.5						
COR				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
PALC	**Alcoutim**	**92.71**	**45**	*e*P	**P**	**13 54 41.6**	**+0.4**
NEW	**Newport**	**92.81**	**331**	P	**P**	**13 54 40.5**	**-0.9**
	comp=Z,16nm,0.8s,mb5.5,baz=117,slow=2.8,SNR=10						
NEW	**Newport**	**92.81**	**331**	P	**P**	**13 54 40.5**	**-0.8**
NEW				pmax	pmax		
	comp=Z,16nm,0.8s						
NEW	**Newport**	**92.81**	**331**	*e*P	**P**	**13 54 39.9**	**-1.4**
	comp=Z,48nm,1.3s,mb5.8						
NEW				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
PBEJ	**Beja**	**92.87**	**45**	*e*P	**P**	**13 54 43.9**	**+2.0**
	comp=Z,29nm,2.4s,mb5.3						
DPW	**Davenport**	**92.93**	**330**	P	**P**	**13 54 41.7**	**-0.2**
DPW	**Davenport**	**92.93**	**330**	*e*P	**P**	**13 54 41.3**	**-0.7**
EVO	**Evora**	**93.13**	**44**	*e*P	**P**	**13 54 43.4**	**+0.3**
	comp=Z,36nm,1.1s,mb5.4						
EVO				*e*R			
	comp=Z,35µm,21.5s						
FFC	**Flin Flon**	**93.40**	**342**	*e*P	**P**	**13 54 43.4**	**-0.5**
	comp=Z,26nm,0.9s,mb5.7						
FFC				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
WTV	**Waterville**	**93.53**	**329**	P	**P**	**13 54 44.6**	**0.0**
LON	**Longmire**	**93.60**	**327**	P	**P**	**13 54 44.7**	**-0.3**
LON	**Longmire**	**93.60**	**327**	*e*P	**P**	**13 54 44.5**	**-0.5**
PTOM	**Tomar**	**93.65**	**43**	*e*P	**P**	**13 54 47.2**	**+1.8**
RVC	**Mount Rainier-**	**93.82**	**327**	P	**P**	**13 54 46.6**	**+0.6**
NLW	**Nelson Butte**	**93.98**	**329**	*e*P	**P**	**13 54 46.0**	**-0.8**
BMW	**Boistfort Moun**	**94.02**	**326**	*e*P	**P**	**13 54 47.4**	**+0.4**
BMW	**Boistfort Moun**	**94.02**	**326**	*e*P	**P**	**13 54 46.2**	**-0.8**
RMW	**Rattlesnake Mo**	**94.14**	**328**	P	**P**	**13 54 49.0**	**+1.5**
RMW	**Rattlesnake Mo**	**94.14**	**328**	P	**P**	**13 54 46.5**	**-1.0**
PCBR	**Castelo Branco**	**94.33**	**43**	*e*P	**P**	**13 54 49.4**	**+0.8**
	comp=Z,29nm,1.5s,mb5.5						
GNW	**Green Mountain**	**94.67**	**327**	*e*P	**P**	**13 54 49.7**	**-0.2**
MTE	**Manteigas**	**94.67**	**43**	*e*P	**P**	**13 54 51.7**	**+1.6**
MTE				*e*SKSac		14 05 27.9	
MTE				*e*LQ		14 20 01.6	
MTE				*e*LR	LR	14 26 06.5	
	comp=Z,35µm,21.1s						
MTE	**Manteigas**	**94.67**	**43**	*e*P	**P**	**13 54 51.1**	**+1.0**
	comp=Z,24nm,1.0s,mb5.6						
PVIS	**Viseu**	**94.69**	**43**	*e*P	**P**	**13 54 51.9**	**+1.7**
RPW	**Rockport**	**94.77**	**329**	P	**P**	**13 54 50.1**	**-0.3**
PVRL	**Vila Real**	**95.17**	**42**	*e*P	**P**	**13 54 54.4**	**+2.0**
TAU	**Tasmania Unive**	**95.20**	**207**	PFAKE		13 55 00.0	+7.5
TAU				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
OCWA	**Octopus Mounta**	**95.41**	**327**	P	**P**	**13 54 55.3**	**+2.0**
	comp=Z,60nm,1.2s,mb5.9						
OCWA				LR	LR		
	comp=Z,13µm,19.0s,MS6.4						
FCC	**Fort Churchill**	**95.47**	**348**	P	**P**	**13 54 55.9**	**+2.6**
FCC	**Fort Churchill**	**95.47**	**348**	P	**P**	**13 54 50.2**	**-3.1**
	comp=Z,49nm,1.1s,mb5.8						
PGC	**Sidney**	**95.76**	**328**	P	**P**	**13 54 55.5**	**+0.6**
	comp=Z,53nm,0.9s,mb6.0						
PBRG	**Braganca**	**96.07**	**42**	*e*P	**P**	**13 54 58.7**	**+2.2**
ESDC	**Sonseca Array**	**96.23**	**45**	P	**P**	**13 54 58.9**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=240,slow=4.6,SNR=12						
ESDC				LR	LR	14 37 58.5	
	comp=Z,22µm,20.7s,baz=255,slow=35						
MBAR	**Mbarara**	**98.71**	**97**	PFAKE		13 55 20.0	+11
MBAR				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
SJPF	**Ste Jean**	**100.02**	**44**	*e*P	P	13 55 15.8	+1.5
	comp=Z,53nm,1.4s						
ETSF	**Etsaut**	**100.27**	**44**	*e*P	P	13 55 16.8	+1.3
	comp=Z,65nm,1.4s						
EPF	**Esparros**	**100.87**	**45**	*e*P	P	13 55 19.1	+0.9
MTLF	**Montolieu**	**102.15**	**45**	*e*P	Pdif	13 55 24.5	+0.6
	comp=Z,32nm,1.3s						
ROSF	**Rostrenen**	**102.20**	**39**	*e*P	Pdif	13 55 24.1	+0.1
	comp=Z,163nm,1.8s						
MFF	**Saint Martin d**	**102.78**	**42**	*e*P	Pdif	13 55 27.4	+0.8
	comp=Z,59nm,1.4s						
RJF	**Les Rejaudoux**	**102.92**	**43**	*e*P	Pdif	13 55 27.8	+0.5
RJF				*e*R			
	comp=Z,37µm,19.5s						
CAF	**Calviac**	**103.00**	**44**	*e*P	Pdif	13 55 28.5	+0.8
	comp=Z,27nm,1.3s						
YKA	**Yellowknife Ar**	**103.44**	**341**	Pdiff	Pdif	13 55 29.5	+0.3
	comp=Z,5.4nm,1.0s,baz=140,slow=4.5,SNR=13						
YKA				PP	PP	13 59 46.3	-1.3
	comp=Z,13nm,1.2s,baz=136,slow=7.2,SNR=5.6						
YKA				PKKPbc		14 11 28.2	
	comp=Z,0.9nm,0.7s,baz=329,slow=3.1,SNR=5.5						
YKA	**Yellowknife Ar**	**103.44**	**341**	P	Pdif	13 55 29.5	+0.3
YKA						13 59 46.3	
YKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,13nm,1.2s						
YKA	**Yellowknife Ar**	**103.44**	**341**	Pdif	Pdif	13 55 29.5	+0.3
YKA				PP	PP	13 59 46.3	-1.3
YKA				PKKPbc		14 11 28.2	
YKW3	**Yellowknife Ar**	**103.50**	**341**	*e*Pdif	Pdif	13 55 30.0	+0.6
TCF	**Toulx Ste Croi**	**103.89**	**43**	*e*P	Pdif	13 55 32.3	+0.8
AVF	**Avril sur Loir**	**104.83**	**43**	*e*P	Pdif	13 55 36.5	+0.9
SMF	**Signal de Mont**	**105.02**	**43**	*e*P	Pdif	13 55 37.6	+1.1
	comp=Z,57nm,1.5s						
SSF	**Saint Saulge**	**105.07**	**43**	*e*P	Pdif	13 55 37.3	+0.6
LOR	**Lormes**	**105.39**	**43**	*e*P	Pdif	13 55 38.8	+0.7
LOR				*e*R			
	comp=Z,63µm,22.2s						
DLBC	**Dease Lake**	**105.51**	**332**	PKKPbc		14 11 21.6	
	comp=Z,5.1nm,1.1s,baz=24,slow=2.4,SNR=3.7						
DLBC	**Dease Lake**	**105.51**	**332**	Pdif	Pdif	13 55 39.4	+1.0
DLBC				*e*PP	PP	14 00 06.5	+3.4
LPL	**La Plagne**	**106.04**	**45**	*e*P	Pdif	13 55 43.0	+2.0
EKA	**Eskdalemuir Ar**	**106.63**	**33**	Pdiff	Pdif	13 55 49.2	+5.9
	comp=Z,5.7nm,1.2s,baz=297,slow=1.9,SNR=4.7						
EKA				PP	PP	14 00 19.7	+8.1
	comp=Z,2.7nm,0.9s,baz=230,slow=6.5,SNR=3.9						
EKA	**Eskdalemuir Ar**	**106.63**	**33**	P	Pdif	13 55 49.2	+5.9
EKA						14 00 19.7	
EKA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
EKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SIT	**Sitka**	**106.76**	**329**	PFAKE		14 00 00.0	
SIT				LR	LR		
	comp=Z,12µm,20.0s,MS6.5						
GIVF	**Givet**	**107.51**	**41**	*e*P	Pdif	13 55 48.2	+0.8
BFO	**Black Forest**	**108.49**	**44**	*e*P	Pdif	13 55 55.8	+4.1
BFO				*e*		14 00 20.9	
SUMG	**Summit**	**109.51**	**10**	*e*PP	PP	14 00 31.4	-1.5
FUR	**Furstenfeldbru**	**110.09**	**45**	*e*P	Pdif	13 56 00.6	+1.8
FUR				*e*		14 00 35.7	
GRA1	**Grafenberg Arr**	**110.82**	**43**	*e*Pdif	Pdif	13 56 04.7	+2.8
GRA1				*e*PP	PP	14 00 41.5	-1.0
GRA1				*e*SKSac		14 06 44.4	
GRA1				*e*Sdif		14 08 25.9	
GRA1				*e*PS	PS	14 10 17.5	+10
GRA1				*e*PKKPab		14 11 19.3	
GRA1				*e*SS	SS	14 16 16.1	+6.3
GRA1				*e*SSS	SSS	14 20 13.2	-6.3
GRA1				LR	LR		
	comp=Z,26µm,19.2s,MS6.8						
GRF	**Grafenberg Arr**	**110.82**	**43**	*e*P	Pdif	13 56 04.7	+2.8
GRF				*e*		14 00 41.5	
GRF				*e*		14 06 44.4	
GRF				*e*		14 11 19.3	
GRF				*e*SS	SS	14 16 16.1	+6.3
GRF				*e*SSS	SSS	14 20 13.2	-6.3
GRF				MLR	MLR		
	comp=Z,26µm,19.2s,MS6.8						
LJU	**Ljubljana**	**110.98**	**48**	*e*Pdiff	Pdif	13 57 04.0	+61
LJU				*e*PKiKP		14 00 14.0	
LJU				*e*PP	PP	14 00 48.0	+4.3
LJU				*e*Sdiff		14 08 18.0	
LJU				*e*SP	SP	14 10 12.0	+3.1
LJU				*e*SS	SS	14 16 16.0	+4.0
CLZ	**Clausthal**	**111.41**	**41**	*e*Pdif	Pdif	13 56 07.9	+3.4
CLZ				*e*PP	PP	14 00 44.5	-2.1
WET	**Wettzell**	**111.50**	**44**	*e*P	Pdif	13 56 06.4	+1.5
WET				*e*		14 00 45.3	
MOX	**Moxa**	**111.51**	**43**	*i* P	Pdif	13 56 08.5	+3.6
MOX				PKP	PKPdf	14 00 04.0	-0.3
MOX				PP	PP	14 00 46.0	-1.3
MOX				SKS	SKS	14 06 53.0	+5.6
MOX				PKKP	PKKP	14 11 08.0	-3.9
MOX				SS	SS	14 16 23.0	+4.2
MOX				L		14 48 50.0	
MOX	**Moxa**	**111.51**	**43**	*e*PKIKP	PKPdf	14 00 04.4	+0.1
MOX				pmax	pmax		
	comp=Z,25nm,1.7s						
MOX				MLR	MLR		
	comp=Z,16µm,19.0s,MS6.6						
NKC				*e*SP	SP	14 10 17.5	+1.6
NKC				*e*SS	SS	14 16 23.7	+1.5
NKC				LM		14 48 40.0	
	comp=Z,18nm,18.7s						
GEC2	**GERESS Array S**	**111.83**	**45**	*e*P	Pdif	13 56 17.2	+11
GEC2				*e*		14 00 47.2	
GERES	**GERESS Array B**	**111.83**	**45**	PKiKP		14 00 05.2	
	comp=Z,1.7nm,0.6s,baz=179,slow=1.8,SNR=12						
GERES				PKKPbc		14 11 00.8	
	comp=Z,1.0nm,0.8s,baz=180,slow=1.3,SNR=4.6						
GERES	**GERESS Array B**	**111.83**	**45**	*i* PKIKP	PKPdf	14 00 05.2	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**111.89**	**45**	*e*PKP	PKPdf	14 00 11.3	+6.2
KHC				*e*		14 08 36.4	
KHC				*e*SP	SP	14 10 15.4	-1.6
KHC				*e*SS	SS	14 16 23.5	-0.3
KHC				LM		14 49 10.0	
	comp=Z,16nm,17.8s						
KHC	**Kasperske Hory**	**111.89**	**45**	*e*PKIKP	PKPdf	14 00 11.3	+6.2
KHC				*e*		14 10 15.4	
KHC				*e*		14 16 23.5	
KHC				MLR	MLR		
	comp=Z,16µm,17.8s,MS6.7						
BSEG	**Bad Segeberg**	**112.41**	**39**	*e*P	Pdif	13 56 10.2	+1.4
BSEG				*e*		14 00 51.1	
CLL	**Collm**	**112.59**	**42**	*e*PKIKP	PKPdf	14 00 07.0	+0.5
	comp=Z,logA/T=1.2						
CLL				*e*PP	PP	14 00 53.0	-2.5
CLL				*e*		14 06 48.0	
CLL				*e*		14 08 39.0	
CLL				*e*PS	PS	14 10 27.0	+2.3
CLL				*e*PKKP	PKKP	14 11 10.0	+0.2
CLL				*e*PPS	PPS	14 11 43.0	+5.5
CLL				*e*SS	SS	14 16 37.0	+3.5
CLL				*e*SSS	SSS	14 20 30.0	-17
CLL	**Collm**	**112.59**	**42**	*e*PKIKP	PKPdf	14 00 07.0	+0.5
CLL				*e*		14 06 48.0	
CLL				pmax	pmax		
	comp=Z,20nm,1.4s						
CLL				MLR	MLR		
	comp=Z,38µm,20.7s,MS7.0						
CLL	**Collm**	**112.59**	**42**	*e*PKP	PKPdf	14 00 07.0	+0.5
CLL				*e*SKS	SKS	14 06 48.0	-3.7
CLL				*e*Sdif		14 08 39.0	
CLL				*e*PKKP	PKKP	14 11 10.0	+0.2
CLL				LR	LR		
	comp=Z,38µm,20.7s,MS7.0						
PRU	**Pruhonice**	**112.85**	**44**	*e*PKP	PKPdf	14 00 08.9	+1.9
PRU				*e*		14 08 41.7	
PRU				*e*SP	SP	14 10 22.6	-3.9
PRU				*e*SS	SS	14 16 41.0	+3.9
PRU				LM		14 49 20.0	
	comp=Z,15nm,18.0s						
PRU	**Pruhonice**	**112.85**	**44**	*e*PKIKP	PKPdf	14 00 08.9	+1.9
PRU				*e*		14 10 22.6	
PRU				*e*		14 16 41.0	
BRG	**Berggiesshubel**	**112.92**	**43**	*e*PKIKP	PKPdf	14 00 11.9	+4.7
BRG				*e*		14 00 54.0	
BRG				*i*		14 06 49.0	
BRG				*i*		14 10 26.0	
BRG				*i* SS	SS	14 16 44.0	+6.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,18µm,24.4s,MS6.7						
BRG				MLR	MLR		
	comp=E,16µm,24.4s,MS6.7						
BRG				MLR	MLR		
	comp=Z,19µm,23.0s,MS6.6						
BRG	**Berggiesshubel**	**112.92**	**43**	*e*Pdif	Pdif	13 56 17.0	+5.9
BRG				*e*PKP	PKPdf	14 00 11.9	+4.7
BRG				*e*PP	PP	14 00 54.0	-4.1
BRG				*i*		14 06 49.0	
BRG				*i* S		14 08 42.0	
BRG				*i*		14 10 26.0	
BRG				*i* SS	SS	14 16 44.0	+6.0
BRG				LR	LR		
	comp=Z,19µm,23.0s,MS6.6						
MUD	**Monsted U'grnd**	**113.04**	**36**	*i* P	PP	14 00 51.3	-7.6
	comp=Z,29nm,1.0s						
MUD				*i*		14 08 37.6	
MUD				*i*		14 10 15.3	
MUD				*i*		14 10 28.3	
	comp=Z,27µm,19.0s						
INK	**Inuvik**	**113.08**	**339**	Pdiff	Pdif	13 56 12.1	+0.6
	comp=Z,1.9nm,0.9s,baz=121,slow=0.7,SNR=2.8						
INK				PKiKP		14 00 08.6	
	comp=Z,2.5nm,0.8s,baz=288,slow=3.2,SNR=1.8						
INK				PKKPbc		14 11 05.2	
	comp=Z,5.1nm,0.9s,baz=306,slow=2.8,SNR=5.4						
INK	**Inuvik**	**113.08**	**339**	Pdif	Pdif	13 56 12.1	+0.6
INK				PKPdf	PKPdf	14 00 08.6	+1.4

INK				PKKPbc		14 11 05.2	
PVCC	**Panska Ves**	**113.11**	**44**	*e*PKP	PKPdf	14 00 09.3	+1.7
PVCC				LM		14 47 30.0	
	comp=Z,17nm,20.8s						
KLBR	**Kellerberrin**	**113.35**	**187**	*e*P	PKPdf	14 00 06.1	-2.4
	comp=Z,29nm,1.2s						
ZST	**Bratislava**	**113.54**	**47**	*e*PKP	PKPdf	14 00 07.4	-1.1
ZST				*e*SP	SP	14 10 43.8	+11
ZST				*e*		14 15 39.1	
VRAC	**Vranov**	**113.73**	**46**	PKKPbc		14 11 00.7	
	comp=Z,2.2nm,0.5s,baz=35,slow=5.1,SNR=6.0						
SMOL	**Smolenice**	**113.87**	**47**	*e*PKP	PKPdf	14 00 07.2	-1.9
UPC	**Upice**	**113.93**	**44**	*e*PKP	PKPdf	14 00 10.3	+1.1
DPC	**Dobruska-Polom**	**114.03**	**44**	*e*PKP	PKPdf	14 00 15.8	+6.4
DPC				*e*		14 08 56.0	
DPC				*e*SP	SP	14 10 38.3	+1.0
DPC				LM		14 50 20.0	
	comp=Z,19nm,18.6s						
DPC	**Dobruska-Polom**	**114.03**	**44**	*e*PKIKP	PKPdf	14 00 15.8	+6.4
DPC				*e*		14 10 38.3	
DPC				MLR	MLR		
	comp=Z,19µm,18.6s,MS6.7						
KSP	**Ksiaz**	**114.23**	**44**	*e*P	Pdif	13 56 19.1	+2.2
KSP				*e*SP	SP	14 10 40.2	+0.9
KSP				*e*SS	SS	14 16 58.8	+3.6
KSP	**Ksiaz**	**114.23**	**44**	*e*Pdif	Pdif	13 56 19.1	+2.2
KSP				*e*PP	PP	14 01 00.1	-7.3
KSP				*e*Sdif		14 08 52.2	
KSP				*e*SP	SP	14 10 40.2	+0.9
KSP				*e*SS	SS	14 16 58.8	+3.6
KSP				LR	LR		
	comp=Z,34µm,28.1s,MS6.8						
JMIC	**Jan Mayen**	**114.33**	**18**	*e*PP	PP	14 01 01.1	-6.4
JMIC				*e*SS	SS	14 16 55.3	-0.6
JMIC				AMS	AMS	14 53 19.1	
	comp=Z,8µm,18.5s,MS6.3						
MORC	**Moravsky Berou**	**114.49**	**45**	*e*PKPdf	PKPdf	14 00 09.2	-1.0
VYHS	**Vyhne**	**114.71**	**47**	*e*	PKPdf	14 00 12.1	+1.4
VYHS				*e*		14 00 20.5	
OKC	**Ostrava-Krasne**	**114.87**	**46**	*e*PKP	PKPdf	14 00 12.3	+1.4
OKC				*e*		14 09 06.4	
OKC				LM		14 50 20.0	
	comp=Z,14nm,19.2s						
OKC	**Ostrava-Krasne**	**114.87**	**46**	*e*PKIKP	PKPdf	14 00 12.3	+1.4
OKC				MLR	MLR		
	comp=Z,14µm,19.2s,MS6.6						
KDAK	**Kodiak Island**	**115.00**	**324**	PFAKE		14 00 20.0	+9.0
KDAK				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
PMR	**Palmer**	**115.15**	**329**	PFAKE		14 00 20.0	+8.8
PMR				LR	LR		
	comp=Z,13µm,20.0s,MS6.5						
BSD				*i*	PP	14 01 00.0	-15
BSD				*i*		14 10 59.0	
BSD				*i*		14 16 53.5	
	comp=Z,25µm,21.0s						
ILAR	**Eielson Array**	**115.71**	**332**	Pdiff	Pdif	13 56 25.1	+2.1
	comp=Z,0.6nm,0.9s,baz=154,slow=4.0,SNR=7.9						
ILAR				PKP	PKPdf	14 00 09.9	-2.4
	comp=Z,4.7nm,1.0s,baz=172,slow=1.2,SNR=19						
ILAR				PKKPbc		14 10 49.4	
	comp=Z,1.6nm,0.8s,baz=297,slow=4.5,SNR=6.8						
ILAR	**Eielson Array**	**115.71**	**332**	P	Pdif	13 56 25.2	+2.1
ILAR				*e*		14 00 09.9	
ILAR						14 10 49.4	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GKP	**Gorka Klasztor**	**115.80**	**42**	*i* PKIKP	PKPdf	14 00 09.7	-3.1
GKP	**Gorka Klasztor**	**115.80**	**42**	*e*PKPdf	PKPdf	14 00 09.7	-3.1
GKP				LR	LR		
	comp=Z,31µm,23.1s,MS6.9						
DAG	**Danmarks Havn**	**115.97**	**12**	⇓*i*P	PKPdf	14 00 20.1	+7.4
	comp=Z,4.5nm,0.8s						
OJC	**Ojcow**	**116.00**	**46**	*e*P	Pdif	13 56 30.4	+5.7
OJC				*e*		14 01 18.7	
OJC				*e*		14 06 58.8	
OJC				*e*PS	PS	14 11 05.5	+8.7
OJC				*e*SS	SS	14 17 20.9	+2.7
OJC				MLR	MLR		
	comp=Z,22µm,23.0s,MS6.7						
MCK	**McKinley**	**116.03**	**331**	PKIKP	PKPdf	14 00 13.8	+0.8
MCK	**McKinley**	**116.03**	**331**	PKPdf	PKPdf	14 00 11.0	-2.0
NB2	**NORSAR Subarra**	**116.08**	**32**	PKPdf	PKPdf	14 00 13.8	+0.7
	comp=Z,7.9nm,1.0s,baz=248,slow=1.9						
NB2	**NORSAR Subarra**	**116.08**	**32**	⇓PKP	PKPdf	14 00 13.8	+0.7
NOA	**NORSAR Array B**	**116.08**	**32**	PKP	PKPdf	14 00 12.9	-0.2
	comp=Z,2.3nm,0.7s,baz=248,slow=2.2,SNR=4.7						
NOA				PKKPbc		14 10 47.0	
	comp=Z,2.7nm,0.9s,baz=66,slow=4.5,SNR=4.2						
NOA	**NORSAR Array B**	**116.08**	**32**	PKIKP	PKPdf	14 00 12.9	-0.2
NOA						14 10 47.0	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
COLA	**College**	**116.12**	**332**	*i* PKIKP	PKPdf	14 00 12.3	-0.8
COLA	**College**	**116.12**	**332**	Pdif	Pdif	13 56 26.3	+1.4
COLA				*e*PKP	PKPdf	14 00 10.2	-2.9
COLA				*e*PKPdf	PKPdf	14 00 12.9	-0.3
COLA				*e*PP	PP	14 01 10.1	-10
HFS	**Hagfors**	**116.81**	**34**	PKP	PKPdf	14 00 13.4	-1.1
	comp=Z,4.7nm,0.8s,baz=180,slow=3.0,SNR=7.4						
HFS				PKKPbc		14 10 44.9	
	comp=Z,3.5nm,0.6s,baz=90,slow=4.4,SNR=10						
ASAR	**Alice Springs**	**117.32**	**205**	PKP	PKPdf	14 00 14.4	-1.9
	comp=Z,1.5nm,0.5s,baz=147,slow=2.1,SNR=8.7						
ASAR				PKKPbc		14 10 40.0	
	comp=Z,3.2nm,0.8s,baz=340,slow=2.8,SNR=21						
KWP	**Kalwaria**	**117.50**	**47**	*i* PKIKP	PKPdf	14 00 16.4	+0.3
KWP	**Kalwaria**	**117.50**	**47**	*e*PKP	PKPdf	14 00 11.9	-4.2
WAR	**Warsaw**	**117.50**	**44**	*e*PKP	PKPdf	14 00 14.3	-1.7
WAR				LR	LR		
	comp=Z,17µm,25.3s,MS6.6						
NSS	**Namsos**	**117.83**	**29**	*e*SS	SS	14 17 41.8	+0.2
NSS				AMS	AMS	14 47 03.0	
	comp=Z,18µm,22.4s,MS6.6						
IMA	**Indian Mountai**	**118.83**	**332**	*e*P	PKPdf	14 00 17.9	-0.5
CSS	**Prodhromos**	**118.99**	**66**	PKPdf	PKPdf	14 00 18.1	-1.4
SUW	**Suwalki**	**119.35**	**43**	PKIKP	PKPdf	14 00 18.9	-0.6
SUW	**Suwalki**	**119.35**	**43**	*e*PKPdf	PKPdf	14 00 18.7	-0.8
KIS	**Kishinev**	**120.35**	**52**	*e*PKIKP	PKPdf	14 00 18.0	-3.7
KIS				*e*		14 07 15.0	
KIS				*e*PS	PS	14 11 44.0	+8.0
ASF	**Jabal al Asfar**	**120.56**	**70**	PKP	PKPdf	14 00 22.1	-0.4
	comp=Z,4.9nm,0.8s,baz=66,slow=2.8,SNR=5.9						
WB2	**Warramunga Arr**	**120.57**	**207**	*e*PKP	PKPdf	14 00 19.9	-2.9
WRA	**Warramunga Arr**	**120.58**	**207**	PKP	PKPdf	14 00 19.8	-3.0
	comp=Z,3.7nm,0.4s,baz=162,slow=1.7,SNR=54						
WRA				PP	PP	14 01 52.8	+1.3
	comp=Z,2.9nm,0.9s,baz=174,slow=6.0,SNR=6.0						
WRA				PKKPbc		14 10 27.0	
	comp=Z,1.4nm,0.6s,baz=342,slow=4.1,SNR=16						
WRA	**Warramunga Arr**	**120.58**	**207**	PKIKP	PKPdf	14 00 19.8	-3.0
WRA						14 01 52.8	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRAB	**Tennant Creek**	**120.58**	**207**	*e*PKPdf	PKPdf	14 00 20.1	-2.7
BRTR	**Keskin Array B**	**121.06**	**61**	PKP	PKPdf	14 00 22.3	-1.1
	comp=Z,6.2nm,0.8s,baz=199,slow=2.7,SNR=11						
BRTR				PP	PP	14 02 00.8	+6.3
	comp=Z,15nm,1.2s,baz=259,slow=6.3,SNR=5.3						
BRTR				PKKPbc		14 10 29.1	
	comp=Z,2.4nm,1.1s,baz=104,slow=5.1,SNR=4.1						
BRTR				SKKP		14 14 34.9	
	comp=Z,0.9nm,1.0s,baz=72,slow=3.9,SNR=3.6						
KWAJ	**Kwajalein Atol**	**121.18**	**258**	PFAKE		14 00 30.0	+5.9
KWAJ				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
AKASG	**Malin Array Be**	**121.80**	**48**	PKP	PKPdf	14 00 22.1	-2.3
	comp=Z,5.7nm,0.5s,baz=261,slow=2.7,SNR=43						
AKASG				PP	PP	14 01 58.2	-1.1
	comp=Z,11nm,1.1s,baz=256,slow=6.4,SNR=6.6						
AKASG				PKKPbc		14 10 30.9	
	comp=Z,0.9nm,0.5s,baz=59,slow=3.8,SNR=4.6						
AKASG	**Malin Array Be**	**121.80**	**48**	PKIKP	PKPdf	14 00 22.2	-2.3
AKASG						14 01 58.2	
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,11nm,1.2s						
TRO	**Tromso**	**122.05**	**24**	*e*	PP	14 01 51.7	-9.0
TRO				*e*SS	SS	14 18 36.4	-0.1
TRO				AMS	AMS	14 51 00.4	
	comp=Z,8µm,20.3s,MS6.4						
VSU	**Vasula**	**122.58**	**38**	*i* PKP	PKPdf	14 00 24.6	-1.0
KBS	**Kingsbay**	**122.58**	**13**	*e*PP	PP	14 01 58.6	-5.6
KBS				*e*SS	SS	14 18 43.1	-0.1
KBS				*i*		14 32 19.0	
KBS				AMS	AMS	14 48 40.6	
	comp=Z,3µm,25.9s,MS5.8						
KBS	**Kingsbay**	**122.58**	**13**	PKIKP	PKPdf	14 00 30.1	+4.8
KBS	**Kingsbay**	**122.58**	**13**	PKPdf	PKPdf	14 00 24.9	-0.3
KBS				LR	LR		
	comp=Z,12µm,21.0s,MS6.5						
FINES	**FINESS Array B**	**122.98**	**35**	PKP	PKPdf	14 00 25.5	-0.8
	comp=Z,4.0nm,0.8s,baz=117,slow=4.3,SNR=11						
FINES				PKKPbc		14 10 16.8	
	comp=Z,1.5nm,0.7s,baz=108,slow=5.2,SNR=7.4						
SIM	**Simferopol'**	**123.17**	**55**	*i* PKIKP	PKPdf	14 00 37.5	+10
SIM				*e*		14 02 04.6	
SIM				*e*PS	PS	14 11 56.0	-5.2
SIM				pmax	pmax		
	comp=Z,300nm,11.6s						
BJO	**Bjornoya**	**123.21**	**19**	*e*SS	SS	14 18 52.5	+1.4
BJO				AMS	AMS	14 47 28.7	
	comp=Z,8µm,22.2s,MS6.3						
KAF	**Kangasniemi**	**123.24**	**34**	*e*pkp	PKPdf	14 00 24.4	-2.5
	baz=246,slow=2.1						
KTK1	**Kautokeino**	**123.41**	**26**	*e*P	PKPdf	14 00 26.3	-0.8
KTK1				AMb	AMB	14 00 40.7	
	comp=Z,30nm,1.9s						
KTK1				*e*PP	PP	14 02 08.2	-2.0
MALT	**Malatya**	**124.05**	**64**	*e*PKPdf	PKPdf	14 00 27.5	-1.6
MALT				*e*PP	PP	14 02 11.5	-3.8
ARCES	**ARCESS Array B**	**124.30**	**25**	PKP	PKPdf	14 00 28.1	-0.8
	comp=Z,3.7nm,0.8s,baz=261,slow=2.8,SNR=13						
ARCES				PKKPbc		14 10 13.0	
	comp=Z,2.4nm,1.0s,baz=90,slow=6.1,SNR=4.0						
TNA	**Tin City**	**124.34**	**330**	*e*PKPdf	PKPdf	14 00 28.2	-0.8
TNA				*e*PP	PP	14 02 16.9	+0.4
KEV	**Kevo**	**124.85**	**25**	*e*pkp	PKPdf	14 00 28.9	-0.9
FITZ	**Fitzroy Crossi**	**125.08**	**199**	*e*PKP	PKPdf	14 00 29.9	-1.7
	comp=Z,18nm,0.8s						
ANN	**Anapa**	**125.38**	**56**	*e*PKIKP	PKPdf	14 00 29.1	-2.4
ANN				*e*		14 00 38.5	
ANN				*e*		14 02 19.0	
ANN				*e*PS	PS	14 12 15.0	-5.3
ANN				pmax	pmax		
	comp=Z,34nm,1.1s						
ANN	**Anapa**	**125.38**	**56**	*e*P	PKPdf	14 00 28.6	-2.9
SOC	**Sochi**	**126.61**	**58**	*i* PKIKP	PKPdf	14 00 32.8	-1.0
SOC				*e*		14 02 28.5	
SOC				*e*PPP	PPP	14 05 14.6	-0.2
SOC				*e*		14 07 36.3	
SOC				*e*SS	SS	14 19 31.0	-3.3
SOC				pmax	pmax		
	comp=Z,75nm,1.0s						
SOC				pmax	pmax		
	comp=N,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,24nm,1.2s						
SOC				MLR	MLR		
	comp=N,5µm,20.0s,MS6.4						
SOC				MLR	MLR		
	comp=Z,6µm,20.0s,MS6.3						
SOC				MLR	MLR		
	comp=E,8µm,22.0s,MS6.4						
APA	**Apatity**	**126.99**	**28**	⇑*i*PKIKP	PKPdf	14 00 34.5	+0.7
APA				*i*		14 02 30.0	
APA				*e*		14 07 39.0	
APA				*e*PS	PS	14 12 39.0	+4.8
APA				*e*PPS	PPS	14 14 09.0	+1.8
APA				*e*SS	SS	14 19 39.0	+0.5
APA				pmax	pmax		
	comp=Z,21nm,1.0s						
OBN	**Obninsk**	**127.16**	**44**	α*i*PKIKP	PKPdf	14 00 32.8	-1.7
OBN				*i*		14 02 32.9	
OBN				*i* PPP	PPP	14 05 14.8	-4.1
OBN				*i* SS	SS	14 19 47.1	+6.2
OBN				pmax	pmax		
	comp=Z,73nm,1.5s						
OBN				MLR	MLR		
	comp=Z,16µm,18.0s,MS6.7						
OBN	**Obninsk**	**127.16**	**44**	*e*PKPdf	PKPdf	14 00 32.7	-1.8
RST	**Umm Al-Ruwaisa**	**127.45**	**77**	*e*P	PKPdf	14 00 35.1	-0.8
RST				AMb	AMB	14 00 48.0	
	comp=Z,139nm,0.8s						
RST	**Umm Al-Ruwaisa**	**127.45**	**77**	*e*P	PKPdf	14 00 33.6	-2.2
RST				AMb	AMB	14 00 48.0	
	comp=Z,142nm,0.9s						
MIB	**Mutribah**	**127.84**	**77**	*e*P	PKPdf	14 00 36.2	-0.4
MIB				AMb	AMB	14 00 47.8	
	comp=Z,74nm,0.9s						
MIB	**Mutribah**	**127.84**	**77**	*e*P	PKPdf	14 00 35.6	-1.0
MIB				AMb	AMB	14 00 47.8	
	comp=Z,75nm,0.9s						
MOS	**Moscow**	**127.85**	**43**	*e*PKIKP	PKPdf	14 00 36.8	+0.9
MOS				*e*		14 02 38.0	
MOS				*e*SSS	SSS	14 24 27.0	-7.8
MOS				pmax	pmax		
	comp=Z,362nm,1.7s						
MOS				pmax	pmax		
	comp=Z,156nm,1.1s						
MOS				MLR	MLR		
	comp=Z,40µm,21.0s,MS7.1						
MOS				MLR	MLR		
	comp=E,29µm,19.1s						
MOS	**Moscow**	**127.85**	**43**	*e*P	PKPdf	14 00 35.3	-0.6
KBD	**Kabd**	**127.88**	**78**	*e*P	PKPdf	14 00 37.2	+0.5
KAKA	**Kakadu**	**127.92**	**209**	*e*P	PKPdf	14 00 37.5	+0.3
	comp=E,49nm,1.3s						
UMR	**Umm Al-Rimmam**	**128.04**	**78**	*e*P	PKPdf	14 00 34.5	-2.5
UMR				AMb	AMB	14 00 47.9	
	comp=Z,109nm,0.8s						
VOR	**Voronezh**	**128.13**	**48**	PKIKP	PKPdf	14 00 35.0	-1.6
VOR				pmax	pmax		
	comp=Z,100nm,2.0s						
GOF	**Gofitskoye**	**129.29**	**57**	⇑*i*PKIKP	PKPdf	14 00 39.0	0.0
GOF				pmax	pmax		
	comp=Z,70nm,1.4s						
GOF				pmax	pmax		
	comp=Z,1µm,6.0s						
TI2	**Plekhanov**	**129.70**	**62**	*e*PKIKP	PKPdf	14 00 47.0	+7.1
SMY	**Shemya**	**131.96**	**312**	PFAKE		14 00 50.0	+6.2
SMY				LR	LR		
	comp=Z,11µm,21.0s,MS6.6						
MAK	**Makhachkala**	**131.98**	**61**	*e*PKIKP	PKPdf	14 00 38.0	-6.2
MAK				*e*		14 03 03.0	
MAK				pmax	pmax		
	comp=Z,500nm,3.0s						
MAK				pmax	pmax		
	comp=Z,1µm,10.0s						
FX1	**Attu Island--F**	**132.54**	**313**	PKP	PKPdf	14 00 44.1	-0.9
	comp=Z,16nm,0.6s,baz=266,slow=12,SNR=7.7						
FX1	**Attu Island--F**	**132.54**	**313**	PKIKP	PKPdf	14 00 44.1	-0.9
FX1				pmax	pmax		
	comp=Z,16nm,0.6s						
ARU	**Arti**	**139.54**	**42**	⇑*i*PKIKP	PKPdf	14 00 54.6	-3.1
ARU				*i* SS	SS	14 22 02.0	-8.2
ARU				pmax	pmax		
	comp=Z,42nm,1.2s						
ARU	**Arti**	**139.54**	**42**	*e*PKPpre		14 00 48.7	
ARU				*e*PKPdf	PKPdf	14 00 58.6	+0.9
ARU				*e*PP	PP	14 03 48.1	-5.6
ARU				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
TRD	**Trivandrum**	**140.10**	**124**	*i*	PKPdf	14 01 16.2	+16
AB31	**Akbulak array**	**141.15**	**53**	*i* PKHKP		14 00 53.1	
AB31				pmax	pmax		
	comp=Z,62nm,1.0s						
PET	**Petropavlovsk**	**141.30**	**313**	*e*PKIKP	PKPdf	14 01 01.4	+0.6
PET				*i*		14 01 11.9	
PET				pmax	pmax		
	comp=Z,46nm,1.0s						
PET	**Petropavlovsk**	**141.30**	**313**	PKPdf	PKPdf	14 00 59.3	-1.6
PALK	**Pallekele**	**141.67**	**129**	PFAKE		14 01 10.0	+7.3
PALK				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
KOD	**Kodaikanal**	**141.68**	**122**	*e*P	PKPdf	14 01 02.0	-0.7
SKR	**Severo-Kuril's**	**143.16**	**310**	*i* PKHKP		14 00 51.0	
SKR				pmax	pmax		
	comp=Z,40nm,0.8s						
SKR				pmax	pmax		
	comp=Z,800nm,6.0s						
BHJ	**Bhuj**	**143.35**	**98**	*e*P	PKPbc	14 01 03.5	+2.5
BHJ				*e*		14 01 09.2	
	comp=Z,143nm,1.1s						
MA2	**Magadan**	**143.73**	**326**	*i* PKIKP	PKPdf	14 01 06.7	+1.9
MA2	**Magadan**	**143.73**	**326**	*e*PKPpre		14 01 00.2	
KAD	**Karad**	**143.84**	**110**	*e*P	PKPbc	14 01 02.5	-0.1
POO	**Poona**	**144.28**	**108**	*e*P	PKPbc	14 01 03.3	-0.5
POO				*e*		14 01 09.7	
	comp=Z,116nm,1.9s						
CUD	**Cuddapah**	**145.50**	**118**	⇑*e*PKP	PKPdf	14 01 09.0	-0.2
CUD				*e*		14 02 42.0	
CUD				*e*		14 10 04.2	
CUD				*e*SS	SS	14 23 21.2	+0.7
CUD				*e*		14 40 57.3	
CUD				*e*LQ		14 43 07.5	
MDRS	**Chennai**	**145.60**	**122**	⇑*e*P	PKPbc	14 01 08.0	+0.6
MDRS				*e*P		14 01 10.1	
MDRS				*e*		14 04 56.0	
	comp=Z,410nm,1.8s						
ZRNK	**Zerenda**	**146.22**	**45**	PKIKP	PKPdf	14 01 08.4	-0.9
ZRNK				pmax	pmax		
	comp=Z,484nm,1.3s						
ZRNK	**Zerenda**	**146.22**	**45**	*e*PKPdf	PKPdf	14 01 08.6	-0.7
LATR	**Latur**	**146.32**	**111**	*e*P	PKPbc	14 01 10.7	+1.6
LATR				*e*		14 01 12.3	
	comp=Z,439nm,1.8s						
KGM	**Kluang**	**146.68**	**168**	⇓*e*P	PKPbc	14 01 12.0	+1.9
	comp=Z,104nm,0.8s						
BRVK	**Borovoye**	**146.93**	**45**	PKP2	PKPab	14 01 11.7	-1.6
BRVK	**Borovoye**	**146.93**	**45**	*e*PKPdf	PKPdf	14 01 10.8	+0.3
BVA0	**Borovoye Array**	**147.00**	**45**	*i* PKIKP	PKPdf	14 01 10.5	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**147.00**	**45**	PKP	PKPdf	14 01 09.7	-0.9
	comp=Z,24nm,0.9s,baz=243,slow=3.2,SNR=62						
BVAR				PKPbc	PKPdf	14 01 12.3	+1.6
	comp=Z,59nm,0.9s,baz=270,slow=2.9,SNR=58						
HYB	**Hyderabad**	**147.23**	**114**	*i* PKP	PKPdf	14 01 13.0	+0.9
	comp=Z,260nm,1.0s						
HYB				*e*pPKP		14 01 15.5	
HYB				*e*		14 01 23.5	
HYB				LR	LR	15 18 44.0	
	comp=Z,14nm,18.0s						
HYB	**Hyderabad**	**147.23**	**114**	*e*PKP	PKPdf	14 01 13.0	+0.9
HYB				*e*		14 01 15.5	
HYB				*e*		14 01 23.5	
AKL	**Akola**	**147.97**	**108**	*e*P	PKPdf	14 01 14.1	+0.9
AKL				*e*		14 01 29.1	
	comp=Z,295nm,2.1s						
IPM	**Ipoh**	**148.71**	**163**	⇑*e*P	PKPdf	14 01 15.0	+0.4
	comp=Z,68nm,0.8s						
KKAR	**Karatay Array**	**148.74**	**63**	*i* PKIKP	PKPdf	14 01 13.5	-0.3
KKAR				pmax	pmax		
	comp=Z,77nm,1.0s						
KCP	**Kidapawan**	**148.76**	**211**	⇓*e*P	PKPdf	14 01 20.0	+5.4
BUKP	**Musuan**	**149.56**	**211**	*e*P	PKPdf	14 01 21.4	+5.5
BHPL	**Bhopal**	**149.62**	**104**	*e*P	PKPdf	14 01 14.1	-1.7
BHPL				⇓*i*		14 01 19.6	
	comp=Z,89nm,0.7s						
NGP	**Nagpur**	**149.80**	**109**	*e*	PKPdf	14 01 22.4	+6.3
NGP				*e*		14 04 09.1	
	comp=Z,8µm,19.1s						
YAK	**Yakutsk**	**150.12**	**341**	PKHKP		14 01 16.0	
YAK	**Yakutsk**	**150.12**	**341**	*e*PKPdf	PKPdf	14 01 14.4	-0.9
YAK				*e*PKPbc	PKPdf	14 01 19.1	+3.7
KKM	**Kota Kinabalu**	**150.59**	**193**	⇑*e*P	PKPdf	14 01 22.9	+5.4
YUK	**Yuzh-Kuril'sk**	**150.85**	**299**	*e*PKIKP	PKPdf	14 01 22.0	+5.0
YUK				pmax	pmax		
	comp=Z,3µm,2.5s						
YUK				pmax	pmax		
	comp=N,1µm,1.0s						
YUK				pmax	pmax		
	comp=E,2µm,1.0s						
YUK				pmax	pmax		
	comp=Z,380nm,0.7s						
YUK				pmax	pmax		
	comp=N,150nm,0.5s						
YUK				pmax	pmax		
	comp=E,440nm,0.8s						
VIS	**Vishakhapatnam**	**150.93**	**119**	*e*P	PKPdf	14 01 17.0	-0.9
AML	**Almayashu**	**151.12**	**65**	P	PKPdf	14 01 19.6	+2.2
	SNR=10						
EKS2	**Erkin-Say**	**151.15**	**64**	P	PKPdf	14 01 19.6	+2.1
	SNR=11						
USP	**Ospenovka**	**151.64**	**62**	P	PKPdf	14 01 17.5	-0.7
	SNR=15						
AAK	**Ala-Archa**	**151.68**	**64**	P	PKPdf	14 01 24.8	+6.5
	SNR=30						
AAK	**Ala-Archa**	**151.68**	**64**	PKIKP	PKPdf	14 01 19.0	+0.7
AAK	**Ala-Archa**	**151.68**	**64**	⇑*e*PKPdf	PKPdf	14 01 18.0	-0.3
AAK				*e*PKPbc	PKPdf	14 01 24.3	+6.0
AAK				LR	LR		
	comp=Z,3µm,21.0s,MS6.1						
UCH	**Uchtor**	**151.72**	**65**	P	PKPdf	14 01 21.0	+2.6
	SNR=20						
FRU	**Bishkek**	**151.76**	**63**	*e*PKIKP	PKPdf	14 01 19.0	+0.6
FRU				*i*		14 01 25.0	
FRU				*e*		14 24 36.0	
PONG	**Pong**	**151.77**	**86**	*e*	PKPdf	14 01 26.0	+7.2
NDI	**New Delhi**	**151.79**	**94**	*e*P	PKPdf	14 01 19.0	+0.1
CHMS	**Chumysh**	**151.85**	**63**	P	PKPdf	14 01 26.6	+8.1
	SNR=13						
KBK	**Karagaybulak**	**152.02**	**64**	P	PKPdf	14 01 27.5	+8.7
	SNR=12						
KZA	**Kyzart**	**152.28**	**65**	P	PKPdf	14 01 19.4	+0.2
	SNR=7.1						
TKM2	**Tokmak 2**	**152.47**	**63**	P	PKPdf	14 01 20.2	+0.7
	SNR=12						
SDNR	**Sundarnagar**	**152.49**	**88**	*e*P	PKPdf	14 01 20.0	+0.2
YSS	**Yuzh-Sakhalins**	**152.51**	**306**	⇑*i*PKIKP	PKPdf	14 01 19.1	-0.3
YSS				*i*		14 01 25.9	
YSS				*e*		14 01 30.0	
YSS				*e*		14 05 12.0	
YSS				*e*		14 08 34.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**152.51**	**306**	*e*PKPdf	PKPdf	14 01 19.4	+0.1
YSS				*i* PKPbc	PKPdf	14 01 26.5	+7.1
KURK	**Kurchatov**	**152.58**	**45**	*i* PKIKP	PKPdf	14 01 19.2	-0.1
KURK				pmax	pmax		
	comp=Z,75nm,1.1s						
KURK	**Kurchatov**	**152.58**	**45**	⇑*e*PKPdf	PKPdf	14 01 19.0	-0.3
BLSP	**Bilaspur**	**152.72**	**111**	*e*	PKPdf	14 01 26.3	+5.9
KSH	**Kashi**	**152.88**	**70**	*e*PKP	PKPdf	14 01 21.0	+0.9
KSH				*e*PKS	PKS	14 04 54.3	+3.6
KSH				*e*PP	PP	14 05 16.3	+4.0
KSH				*e*SKS	SKS	14 08 27.0	+0.3
KSH				*e*PPP	PPP	14 08 46.0	+3.9
KSH				*e*SKKS		14 12 04.0	
KSH				*e*SS	SS	14 24 46.0	+4.1
KSH				LR	LR		
	comp=N,9µm,25.7s,MS6.5						
KSH				LR	LR		
	comp=E,3µm,20.9s,MS6.5						
NVS	**Novosibirsk**	**152.97**	**35**	*e*PKIKP	PKPdf	14 01 18.1	-1.6
NVS				pmax	pmax		
	comp=E,40nm,1.3s						
NVS				pmax	pmax		
	comp=Z,152nm,1.3s						
ULHL	**Ulahol**	**153.00**	**64**	P	PKPdf	14 01 22.3	+2.1
	SNR=5.6						
DDI	**Dehra Dun**	**153.03**	**91**	*e*P	PKPdf	14 01 20.8	+0.2
DDI				*e*		14 12 56.2	
ASAJ	**Asahikawa**	**153.18**	**300**	PKP	PKPdf	14 01 18.3	-2.1
	comp=Z,13nm,1.0s,baz=229,slow=7.4,SNR=5.0						
ASAJ				PKPbc	PKPdf	14 01 28.8	+8.4
	comp=Z,52nm,1.0s,baz=266,slow=3.4,SNR=13						
ASAJ	**Asahikawa**	**153.18**	**300**	PKIKP	PKPdf	14 01 18.3	-2.1
ASAJ						14 01 28.8	
ASAJ				pmax	pmax		
	comp=Z,13nm,1.0s						
AAA	**Alma-Ata**	**153.42**	**62**	*i* PKIKP	PKPdf	14 01 21.5	+0.8
AAA				*e*		14 01 41.0	
AAA				*e*		14 05 14.0	
AAA				pmax	pmax		
	comp=Z,700nm,7.0s						
LGTI	**Lohaghat**	**154.54**	**94**	*e*	PKPdf	14 01 31.5	+8.8
PTH	**Pithoragarh**	**154.55**	**94**	*e*	PKPdf	14 01 30.2	+7.5
CLNS	**Chul'man**	**155.82**	**339**	*e*PKIKP	PKPdf	14 01 23.3	-0.2
CLNS				pmax	pmax		
	comp=N,58nm,1.0s						
CLNS				pmax	pmax		
	comp=E,30nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,80nm,1.0s						
NNT	**Nongplab**	**155.96**	**156**	P	PKPdf	14 01 42.5	+18

MKAR	**Makanchi Array**	**156.29**	**52**	PKP	PKPdf	14 01 23.2	-1.3
	comp=Z,3.6nm,0.8s,baz=4.8,slow=0.7,SNR=22						
MKAR				PKPab	PKPab	14 01 54.4	+1.9
	comp=Z,37nm,1.0s,baz=287,slow=3.8,SNR=9.6						
KOLN	**Koldanda**	**156.64**	**101**	*e*P	PKPdf	14 01 24.3	-1.2
	comp=Z,60nm,0.9s						
MAJO	**Matsushiro**	**156.83**	**282**	PFAKE		14 01 30.0	+4.5
MAJO				LR	LR		
	comp=Z,7μm,21.0s,MS6.5						
MAT	**Matsushiro**	**156.83**	**282**	PKP	PKPdf	14 01 24.4	-1.1
MAT	**Matsushiro**	**156.83**	**282**	*e*PKP	PKPdf	14 01 24.0	-1.5
MAT				LR	LR		
	comp=Z,7μm,22.0s,MS6.5						
BOD	**Bodaibo**	**156.97**	**354**	*e*PKIKP	PKPdf	14 01 30.0	+5.0
GKN	**Gorkha**	**157.57**	**101**	*e*P	PKPdf	14 01 25.4	-1.4
	comp=Z,124nm,1.2s						
CAL	**Calcutta**	**157.60**	**118**	*e*P	PKPdf	14 01 18.2	-8.8
CAL				*e*		14 05 26.3	
CAL				*e*		14 06 55.3	
DMN	**Daman**	**157.78**	**103**	*e*P	PKPdf	14 01 25.3	-1.8
KKN	**Kakani**	**158.00**	**102**	*e*P	PKPdf	14 01 25.8	-1.5
	comp=Z,61nm,1.1s						
PKI	**Pulchoki**	**158.01**	**103**	*e*P	PKPdf	14 01 25.7	-1.6
	comp=Z,184nm,1.6s						
KLR	**Kul'dur**	**158.41**	**318**	*e*PKIKP	PKPdf	14 01 23.5	-3.6
KLR				*e*		14 05 47.0	
NST	**Nakhon Sawan**	**158.95**	**154**	P	PKPdf	14 01 28.0	-0.7
BDT	**Bhumibol Dam**	**159.93**	**149**	P	PKPdf	14 01 31.0	+1.2
	comp=Z,16nm,0.8s						
AGT	**Agartala**	**160.54**	**120**	*e*P	PKPdf	14 01 27.0	-3.3
WMQ	**Urumqi**	**160.89**	**56**	PKP	PKPdf	14 01 28.8	-1.2
WMQ				APKP		14 01 33.3	
WMQ				PKP2	PKPab	14 02 10.5	-1.8
WMQ				PP	PP	14 05 56.8	+0.6
WMQ				SKKS		14 12 40.8	
WMQ				PP	PP		
	comp=Z,639nm,7.3s						
VLA	**Vladivostok**	**160.97**	**302**	⇑*i*PKIKP	PKPdf	14 01 23.0	-7.1
VLA				pmax	pmax		
	comp=Z,500nm,6.0s						
CMAR	**Chiang Mai Arr**	**160.98**	**147**	PKP	PKPdf	14 01 30.5	-0.3
	comp=Z,5.4nm,1.1s,baz=252,slow=2.3,SNR=21						
CMAR				PKPab	PKPab	14 02 14.3	+0.9
	comp=Z,11nm,0.9s,baz=221,slow=5.0,SNR=9.6						
CMAR				SKKPbc		14 11 39.9	
	comp=Z,3.7nm,1.0s,baz=351,slow=4.9,SNR=4.5						
CHG	**Chiang Mai**	**161.29**	**147**	⇓P	PKPab	14 02 10.9	-3.9
	comp=Z,43nm,1.3s						
MDJ	**Mudanjiang**	**161.97**	**308**	PKP	PKPdf	14 01 30.0	-1.1
MDJ				LR	LR		
	comp=N,9μm,34.1s						
MDJ				LR	LR		
	comp=E,7μm,28.4s						
MDJ				LR	LR		
	comp=Z,13μm,22.8s						
MDJ	**Mudanjiang**	**161.97**	**308**	*e*PKPdf	PKPdf	14 01 29.6	-1.4
SHL	**Shillong**	**162.01**	**117**	*e*P	PKPdf	14 01 32.4	+0.7
SHL				*e*		14 05 57.0	
MOY	**Mondy**	**162.18**	**18**	*e*PKIKP	PKPdf	14 01 31.1	+0.1
IRK	**Irkutsk**	**162.31**	**11**	*e*PKIKP	PKPdf	14 01 28.8	-2.3
IRK				*e*		14 02 19.4	
IRK				*e*		14 06 05.5	
LSA	**Lhasa**	**163.48**	**103**	PKP	PKPdf	14 01 33.5	+0.4
LSA	**Lhasa**	**163.48**	**103**	*e*PKPdf	PKPdf	14 01 33.5	+0.4
LSA				*e*PKPab	PKPab	14 02 26.6	+2.5
LSA				*e*PP	PP	14 06 11.3	+1.0
ZAK	**Zakamensk**	**163.91**	**15**	*e*PKIKP	PKPdf	14 01 32.1	-0.7
ZAK				*e*		14 02 25.8	
ZAK				*e*		14 06 09.5	
QIZ	**Qiongzhong**	**164.12**	**181**	PKP	PKPdf	14 01 36.0	+2.0
QIZ				PP	PP	14 06 15.5	+1.3
QIZ				LR	LR		
	comp=N,5μm,21.1s						
QIZ				LR	LR		
	comp=E,5μm,21.6s						
QIZ				LR	LR		
	comp=Z,10μm,29.1s						
CN2	**Changchun**	**164.98**	**311**	*e*PKP	PKPdf	14 01 30.5	-3.6
CN2				PP	PP	14 06 17.0	-0.8
CN2				PP	PP		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,9μm,22.0s						
CN2				LR	LR		
	comp=E,5μm,22.0s						
CN2				LR	LR		
	comp=Z,10μm,23.0s						
SONM	**Songino Array**	**166.92**	**10**	PKP	PKPdf	14 01 35.9	+0.3
	comp=Z,2.3nm,0.8s,SNR=14						
SONM				PKPab	PKPab	14 02 40.0	+1.6
	comp=Z,9.4nm,0.7s,baz=324,slow=3.3,SNR=13						
SONM				PP	PP	14 06 29.8	+2.5
	comp=Z,20nm,1.2s,baz=326,slow=4.5,SNR=7.1						
SONM				SKKPbc		14 11 12.3	
	comp=Z,13nm,1.5s,baz=225,slow=1.7,SNR=3.7						
QZH	**Quanzhou**	**167.38**	**220**	*e*PKP	PKPdf	14 01 35.8	-0.7
QZH				PP	PP	14 06 31.5	+1.2
QZH				SS	SS	14 27 21.5	+7.1
KMI	**Kunming**	**168.49**	**147**	*e*PKP	PKPdf	14 01 35.0	-2.2
SSE	**Sheshan**	**169.60**	**251**	PKP	PKPdf	14 01 39.0	+1.3
DL2	**Dalian**	**169.67**	**296**	*e*PKP	PKPdf	14 01 32.8	-4.7
DL2				PP	PP		
	comp=Z,410nm,5.2s						
DL2				LR	LR		
	comp=N,4μm,20.6s						
DL2				LR	LR		
	comp=E,2μm,19.0s						
DL2				LR	LR		
	comp=Z,7μm,22.4s						
GTA	**Gaotai**	**170.97**	**58**	PKP	PKPdf	14 01 37.5	-0.7
GTA				APKP		14 01 39.8	
GTA				XPKP		14 01 41.8	
GTA				PKP2	PKPab	14 02 55.8	-0.8
GTA				PKS	PKS	14 05 10.5	+3.5
GTA				PP	PP	14 06 48.3	+0.4
GTA				SKS	SKS	14 08 36.0	-5.2
GTA				PPP	PPP	14 10 55.5	+0.7
GTA				SKKS		14 13 34.0	
GTA				SS	SS	14 27 48.0	-0.9
GTA				LR	LR		
	comp=N,2μm,28.5s						
GTA				LR	LR		
	comp=E,3μm,31.2s						
GTA				LR	LR		
	comp=Z,4μm,40.7s						
GYA	**Guiyang**	**171.12**	**162**	PKP	PKPdf	14 01 38.8	+0.1
GYA				PP	PP	14 06 50.0	+1.0
GYA				SS	SS	14 27 54.0	+3.1
GYA				PP	PP		
	comp=Z,380nm,6.0s						
GYA				LR	LR		
	comp=N,6μm,23.7s						
GYA				LR	LR		
	comp=E,7μm,21.9s						
GYA				LR	LR		
	comp=Z,15μm,22.5s						
NJ2	**Nanjing**	**171.81**	**252**	*e*PKP	PKPdf	14 01 39.3	+0.3
NJ2				PKS	PKS	14 05 10.0	+2.4
NJ2				PP	PP	14 06 55.0	+2.7
NJ2				SKS	SKS	14 08 42.0	+0.2
NJ2				SKKS		14 13 41.0	
NJ2				LR	LR		
	comp=N,3μm,26.0s						
NJ2				LR	LR		
	comp=E,2μm,16.4s						
NJ2				LR	LR		
	comp=Z,4μm,15.3s						
BJI	**Beijing**	**172.78**	**316**	PKP	PKPdf	14 01 37.0	-2.2
BJI				PP	PP		
	comp=Z,1μm,8.9s						
BJI				LR	LR		
	comp=N,11μm,24.8s						
BJI				LR	LR		
	comp=E,6μm,19.5s						
BJI				LR	LR		
	comp=Z,3μm,27.4s						
CD2	**Chengdu**	**173.58**	**127**	PKP	PKPdf	14 01 36.5	-3.3
CD2				PP	PP	14 07 04.5	+3.3
CD2				PPP	PPP	14 11 18.5	+5.2
CD2				LR	LR		
	comp=N,8μm,24.0s						
CD2				LR	LR		
	comp=Z,10μm,24.6s						
TIA	**Tai'an**	**173.81**	**284**	PKP	PKPdf	14 01 38.5	-1.2
HHC	**Hu-ho-hao-te**	**173.95**	**346**	*e*PKP	PKPdf	14 01 38.3	-1.3
HHC				SKKS		14 13 51.3	
HHC				PP	PP		
	comp=Z,546nm,5.9s						
HHC				LR	LR		
	comp=N,5μm,22.6s						
HHC				LR	LR		
	comp=E,4μm,25.0s						
HHC				LR	LR		
	comp=Z,8μm,23.8s						
WHN	**Wuhan**	**174.09**	**223**	*e*PKP	PKPdf	14 01 40.5	+0.5
WHN				PP	PP	14 07 04.0	+0.3
LZH	**Lanzhou**	**175.11**	**75**	PKP	PKPdf	14 01 40.5	+0.4
LZH				APKP		14 01 43.8	
LZH				PKS	PKS	14 05 12.0	+3.5
LZH				PP	PP	14 07 11.5	+2.8
LZH				SKKS		14 13 55.0	
LZH				PP	PP		
	comp=Z,1μm,7.0s						
LZH				LR	LR		
	comp=N,11μm,19.5s						
LZH				LR	LR		
	comp=Z,18μm,21.0s						
LZH	**Lanzhou**	**175.11**	**75**	PKP	PKPdf	14 01 40.5	+0.4
LZH				pPKP		14 01 43.7	
LZH				sPKP		14 01 45.0	
ENH	**Enshi**	**175.31**	**178**	*e*PKPdf	PKPdf	14 01 40.2	-0.1
ENH				*e*PKPab	PKPab	14 03 15.7	-0.4
ENH				*e*		14 04 00.8	
ENH				*e*PP	PP	14 07 05.9	-3.9
TIY	**Taiyuan**	**176.48**	**322**	*e*PKP	PKPdf	14 01 37.3	-3.1
TIY				PP	PP	14 07 17.0	+2.0
TIY				LR	LR		
	comp=N,16μm,20.0s						
TIY				LR	LR		
	comp=Z,15μm,20.0s						
XAN	**Xi'an**	**178.87**	**146**	PKP	PKPdf	14 01 43.0	+2.2
XAN				SKS	SKS	14 08 40.8	-2.2
XAN				PPP	tx	14 11 14.3	
XAN				SKKS		14 14 11.5	
XAN				LR	LR		
	comp=N,5μm,30.5s						
XAN				LR	LR		
	comp=E,5μm,35.2s						
XAN				LR	LR		
	comp=Z,13μm,30.5s						

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*GUC **28** 14:03:24.8±0.7, 35.02S×70.56W, h2^{km}±3^{km}, MD4.4, ML4.6*

*IDC **28** 14:03:24.2±0.6, 35.05S×70.43W, mb4.5/10, mb1 4.6/14, mb1mx4.5/18, ML4.1/4, Error ellipse: s-maj=26.3km s-min=14.2km az=85.0*

*NEIC **28** 14:03:24.8, 35.02S×70.56W, h2^{km}, mb4.6/11, ML4.6(GUC), After GUC.*

*SYO **28** 14:03:24.8, 35.02S×70.56W, h2^{km}, MB4.6*

ISC 28 14:03:23.1±0.3**, 35.07S**±0.02×**70.40W**±0.04**, h2^{km}, n75, σ0^{s}91**/74**, mb4.6**/24**, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.68**	**312**	*e*P	**Pg**	**14 03 36.1**	**-0.5**
NICH	**Los Niches**	**0.68**	**276**	*e*P	**Pg**	**14 03 36.9**	**+0.1**
NICH				*i* S	**Sg**	**14 03 45.5**	**-0.3**
CICH	**Cipreses**	**0.75**	**359**	*i* P	**Pg**	**14 03 38.2**	**+0.2**
CACH	**El Canelo**	**0.97**	**350**	⇑*i*P	**Pb**	**14 03 41.7**	**-0.5**
TALC	**Talca**	**1.06**	**252**	*e*P	**Pb**	**14 03 43.5**	**-0.3**
TALC				*i* S	**Sb**	**14 03 57.1**	**-0.9**
TALC				AMP		14 03 57.8	
	comp=E,29μm,0.3s						
CHCH	**Chadas Angostu**	**1.15**	**350**	*e*P	**Pb**	**14 03 45.2**	**-0.2**
LNV	**Longovilo**	**1.39**	**323**	*e*P	**Pb**	**14 03 48.1**	**-1.4**
PCH	**Pirque**	**1.45**	**356**	⇓*i*P	**Pn**	**14 03 50.5**	**0.0**
PCH				*i* S	**Sb**	**14 04 09.8**	**+0.5**
TACH	**Talagante**	**1.48**	**342**	*e*P	**Pn**	**14 03 50.7**	**-0.3**
ANTU	**Antumapu**	**1.51**	**353**	*e*P	**Pn**	**14 03 51.4**	**+0.1**
ANTU				*i* S	**Sb**	**14 04 11.1**	**0.0**
ANTU				AMP		14 04 13.9	
	comp=E,12μm,0.6s						
SAN	**Santiago**	**1.63**	**352**	*e*P	**Pn**	**14 03 53.6**	**+0.6**
SAN				*i* S	**Sb**	**14 04 14.7**	**+0.1**
CLCH	**Cerro Calan**	**1.67**	**356**	*e*P	**Pn**	**14 03 54.4**	**+0.7**
CLCH				AMP		14 04 25.1	
	comp=E,17μm,0.5s						
DSCH	**Colegio Aleman**	**1.67**	**355**	*e*P	**Pn**	**14 03 54.0**	**+0.3**
DSCH				*i* S	**Sb**	**14 04 16.4**	**+0.5**
LCCH	**Las Cruces**	**1.86**	**328**	*e*P	**Pn**	**14 03 56.1**	**-0.2**
LCCH				*i* S	**Sn**	**14 04 19.7**	**-1.1**
CCHI	**Chillan**	**2.05**	**221**	*i* P	**Pn**	**14 03 59.4**	**+0.4**
CCHI				*i* S	**Sn**	**14 04 26.8**	**+1.3**
CCHI				AMP		14 04 31.9	
	comp=E,10μm,0.9s						
MDZ	**Mendoza**	**2.54**	**31**	*e*P	**Pn**	**14 04 11.8**	**+5.8**
MDZ				S	Sn	14 05 00.6	+23
PLCA	**Paso Flores**	**5.65**	**181**	Pn	**Pn**	**14 04 47.4**	**-2.8**
	comp=E,0.5nm,0.3s,baz=7.4,slow=9.6,SNR=3.9						
PLCA				Pg	**Pg**	**14 05 08.2**	**-7.8**
	comp=E,1.9nm,0.3s,baz=350,slow=18,SNR=9.4						
PLCA				Lg		14 06 25.4	
	comp=E,2.9nm,0.3s,baz=304,slow=19,SNR=2.9						
TRQA	**Tornquist**	**7.40**	**116**	*e*P	**Pn**	**14 05 14.7**	**-0.2**
TRQA				*e*S	**Sn**	**14 06 34.0**	**-6.6**
LVC	**Limon Verde**	**12.48**	**6**	P	**P**	**14 06 20.5**	**-4.2**
CPUP	**Villa Florida**	**14.21**	**56**	Pn	**P**	**14 06 46.7**	**-1.0**
	comp=E,0.4nm,0.3s,baz=217,slow=12,SNR=6.6						
CPUP				Lg		14 11 08.3	
	comp=E,0.2nm,0.3s,baz=131,slow=12,SNR=3.8						
CPUP	**Villa Florida**	**14.21**	**56**	Pn	**P**	**14 06 46.7**	**-1.0**
CPUP				Lg		14 11 08.3	
LPAZ	**La Paz**	**18.82**	**7**	P	**P**	**14 07 44.6**	**-1.7**
	comp=E,0.8nm,0.3s,baz=169,slow=11,SNR=14						
USHA	**Ushuaia**	**19.81**	**177**	P	**P**	**14 07 56.6**	**-1.0**
	comp=E,0.3nm,0.3s,baz=322,slow=10,SNR=3.8						
NNA	**Nana**	**23.71**	**344**	*e*P	**P**	**14 08 37.6**	**+0.2**
BDFB	**Brasilia**	**27.88**	**52**	P	**P**	**14 09 16.4**	**-0.1**
	comp=E,7.5nm,0.9s,mb4.3,baz=236,slow=7.9,SNR=5.7						
VNA1	**Neumayer--Stat**	**48.16**	**157**	⇑*i*	**P**	**14 12 09.3**	**+3.1**
VNA1	**Neumayer--Stat**	**48.16**	**157**	⇑*i*	**P**	**14 12 11.3**	**+5.1**
VNA2	**Neumayer--Watz**	**48.50**	**157**	⇑*i*	**P**	**14 12 11.1**	**+2.2**
VNA2	**Neumayer--Watz**	**48.50**	**157**	⇑*i*	**P**	**14 12 13.7**	**+4.8**
SNAA	**Sanae**	**50.09**	**158**	⇓*i*	**P**	**14 12 21.7**	**+0.7**
SNAA	**Sanae**	**50.09**	**158**	P	**P**	**14 12 20.6**	**-0.5**
	comp=E,3.1nm,0.8s,mb4.4,baz=288,slow=7.4,SNR=26						
MAIT	**Maitri**	**54.77**	**156**	*e*P	**P**	**14 12 56.1**	**0.0**
QSPA	**South Pole Qui**	**55.17**	**180**	*e*P	**P**	**14 12 58.0**	**-0.9**
	comp=E,13nm,1.0s,mb4.9						
SYO	**Syowa Base**	**64.37**	**158**	⇑P	**P**	**14 14 02.3**	**+0.1**
SYO	**Syowa Base**	**64.37**	**158**	⇓pP	pP	14 14 06.8	+4.1
JCT	**Junction City**	**70.84**	**333**	*e*P	**P**	**14 14 42.7**	**-0.8**
	comp=E,2.5nm,0.5s,mb4.4						
TXAR	**Lajitas Array**	**71.33**	**330**	P	**P**	**14 14 46.0**	**-0.5**
	comp=E,1.7nm,0.7s,mb4.1,baz=151,slow=7.6,SNR=13						
MAW	**Mawson**	**71.77**	**163**	P	**P**	**14 14 48.0**	**-0.4**
	comp=E,3.5nm,0.9s,mb4.3,baz=242,slow=10.0,SNR=7.1						
WVT	**Waverly**	**72.67**	**345**	*e*P	**P**	**14 14 52.4**	**-2.0**
	comp=E,16nm,0.8s,mb5.0						
LIC	**Lamto**	**73.85**	**70**	*e*P	**P**	**14 15 01.2**	**-0.4**
	comp=E,44nm,1.7s,mb5.1						
TIC	**Toumodi**	**74.12**	**70**	*e*P	**P**	**14 14 58.9**	**-4.3**
	comp=E,9.0nm,0.2s,mb5.3						
KIC	**Kosan Boka**	**74.16**	**70**	*e*P	**P**	**14 15 02.1**	**-1.3**
	comp=E,42nm,0.8s,mb5.4						
DBIC	**Dimbokro**	**74.26**	**70**	P	**P**	**14 15 04.1**	**+0.1**
	comp=E,7.0nm,0.8s,mb4.7,baz=202,slow=5.1,SNR=9.9						
DBIC	**Dimbokro**	**74.26**	**70**	P	**P**	**14 15 04.1**	**+0.1**
TUC	**Tucson**	**77.01**	**326**	*e*P	**P**	**14 15 19.8**	**+0.6**
	comp=E,5.3nm,1.4s,mb4.3						
SDCO	**Great Sand Dun**	**79.44**	**332**	*e*P	**P**	**14 15 32.6**	**+0.1**
	comp=E,3.6nm,1.0s,mb4.3						
SADO	**Sadowa**	**79.86**	**354**	P	**P**	**14 15 33.5**	**-1.1**
	comp=E,9.8nm,1.1s,mb4.6,baz=218,slow=4.1,SNR=3.6						
PV01	**Paradox Valley**	**80.98**	**330**	*e*P	**P**	**14 15 41.8**	**+1.1**
PV10	**Paradox Valley**	**81.38**	**330**	*e*P	**P**	**14 15 43.1**	**+0.3**
TPNV	**Topopah Spring**	**83.37**	**325**	*e*P	**P**	**14 15 54.7**	**+1.5**
	comp=E,3.4nm,0.9s,mb4.4						
JLU	**Jordanelle**	**84.25**	**330**	P	**P**	**14 15 58.5**	**+1.0**
DUG	**Dugway**	**84.48**	**329**	*e*P	**P**	**14 15 59.0**	**+0.3**
	comp=E,11nm,1.4s,mb4.8						
PDAR	**Pinedale Array**	**85.33**	**332**	P	**P**	**14 16 03.4**	**+0.6**
	comp=E,1.7nm,0.8s,mb4.2,baz=179,slow=3.8,SNR=13						
MNV	**Mina**	**85.47**	**324**	*e*P	**P**	**14 16 06.5**	**+2.9**
	comp=E,2.2nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**85.53**	**324**	P	**P**	**14 16 04.8**	**+0.8**
	comp=E,2.7nm,0.8s,mb4.5,baz=144,slow=6.1,SNR=15						
HVU	**Hansel Valley**	**85.78**	**330**	*e*P	**P**	**14 16 05.6**	**+0.5**
ELK	**Elko**	**85.98**	**328**	*e*P	**P**	**14 16 06.6**	**+0.4**
	comp=E,5.5nm,0.9s,mb4.8						
LAO	**LASA Array**	**87.54**	**336**	P	**P**	**14 16 14.6**	**+1.0**
OHCM	**Honcut**	**87.79**	**323**	*e*P	**P**	**14 16 15.3**	**+0.4**
ULM	**Lac du Bonnet**	**87.89**	**344**	P	**P**	**14 16 13.7**	**-1.5**
	comp=E,2.3nm,0.9s,mb4.4,baz=276,slow=9.8,SNR=3.0						
HLID	**Hailey**	**87.93**	**330**	*e*P	**P**	**14 16 16.7**	**+1.1**
	comp=E,3.1nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**88.35**	**331**	*e*P	**P**	**14 16 17.1**	**-0.4**
YBH	**Yreka Blue Hor**	**90.22**	**324**	P	**P**	**14 16 26.9**	**+0.5**
	comp=E,3.0nm,0.9s,mb4.6,baz=348,slow=6.9,SNR=4.6						
HAWA	**Hanford**	**92.37**	**328**	P	**P**	**14 16 38.7**	**+2.5**
	comp=E,2.3nm,0.6s,mb4.7						
DPW	**Davenport**	**92.98**	**330**	*e*P	**P**	**14 16 39.2**	**+0.3**
ASAR	**Alice Springs**	**117.20**	**205**	PKP	PKPdf	14 22 11.6	-0.8
	comp=E,0.2nm,0.5s,baz=137,slow=1.6,SNR=5.6						
WRA	**Warramunga Arr**	**120.46**	**207**	PKP	PKPdf	14 22 16.8	-1.9
	comp=E,0.6nm,0.4s,baz=162,slow=1.7,SNR=31						
ZRNK	**Zerenda**	**146.34**	**45**	*e*PKPdf	PKPdf	14 23 05.1	-0.6
BRVK	**Borovoye**	**147.04**	**45**	*e*PKPdf	PKPdf	14 23 08.1	+1.2
BVAR	**Borovoye Array**	**147.12**	**45**	PKPbc	PKPdf	14 23 08.6	+1.6
	comp=E,2.6nm,0.5s,baz=270,slow=4.4,SNR=11						
YAK	**Yakutsk**	**150.19**	**341**	*e*PKPbc	PKPdf	14 23 15.5	+3.8
AAK	**Ala-Archa**	**151.79**	**64**	*e*PKPbc	PKPdf	14 23 20.5	+5.8
KURK	**Kurchatov**	**152.70**	**46**	*e*PKPbc	PKPdf	14 23 21.6	+5.9
MKAR	**Makanchi Array**	**156.40**	**52**	PKPab	PKPab	14 23 47.4	-2.4
	comp=E,1.5nm,1.0s,baz=288,slow=3.8,SNR=4.7						
SONM	**Songino Array**	**167.03**	**10**	PKPab	PKPab	14 24 36.2	+0.5
	comp=E,0.8nm,0.9s,baz=346,slow=5.1,SNR=4.5						

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*NEIC **28** 14:09:30.9, 34.99S×70.50W, h4^{km}, ML3.6(GUC), After GUC.*

GUC 28 14:09:30.9±0.8**, 34.99S×70.50W, h4^{km}±2^{km}, MD3.6, ML3.6, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**311**	*i* P	Pg	14 09 42.5	+0.4
SFDO				*i* S	Sg	14 09 51.2	+1.5
NICH	**Los Niches**	**0.60**	**268**	*e*P	Pg	14 09 43.5	+0.6
CICH	**Cipreses**	**0.67**	**6**	*i* P	Pg	14 09 44.3	0.0
CICH				*i* S	Sg	14 09 55.0	+1.7
CACH	**El Canelo**	**0.87**	**355**	⇓*i*P	Pb	14 09 47.8	-0.5
CACH				*i* S	Sg	14 10 00.9	+0.9
TALC	**Talca**	**1.01**	**246**	*e*P	Pb	14 09 50.4	-0.3
TALC				*i* S	Sb	14 10 04.0	-0.2
TALC				AMP		14 10 07.9	
	comp=N,4μm,0.1s						
CHCH	**Chadas Angostu**	**1.06**	**353**	*i* P	Pb	14 09 50.7	-0.8
CHCH				*i* S	Sb	14 10 06.0	+0.4
PCH	**Pirque**	**1.36**	**360**	*e*P	Pb	14 09 56.0	-0.7
PCH				*i* S	Sb	14 10 15.0	+0.6
TACH	**Talagante**	**1.38**	**345**	*i* P	Pb	14 09 55.7	-1.3
TACH				*i* S	Sb	14 10 15.1	+0.3
JACH	**Jahuel**	**2.30**	**358**	*e*P	Pn	14 10 11.1	+0.9

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*IDC **28** 14:09:32.1±1.1, 32.21N×70.98E, mb4.0/12, mb1 4.2/13, mb1mx4.0/23, ML3.9/1, Error ellipse: s-maj=37.5km s-min=16.6km az=46.0*

*NEIC **28** 14:09:38.5±0.6, 32.36N×71.17E, h45^{km}, mb3.8/2, Error ellipse: s-maj=14.4km s-min=7.6km az=50.0*

*NDI **28** 14:09:45.8±6.6, 31.90N×71.78E, h20^{km}±417^{km}, MD3.7, mb3.8(NEIC)*

ISC 28 14:09:33.9±0.7**, 32.30N**±0.05×**71.04E**±0.05**, h23^{km}±6^{km}, n48, σ1^{s}11**/51**, mb4.0**/12**, 4C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**0.20**	**271**	⇑P	**Pb**	**14 09 38.6**	**-0.7**
THW	**Thamme Wali**	**0.77**	**50**	⇑P	**Pb**	**14 09 49.4**	**+0.9**
DRP	**Derazinda**	**0.90**	**232**	⇑P	**Pb**	**14 09 52.0**	**+1.3**
SARP	**Sargodha**	**1.44**	**105**	⇑P	**Pn**	**14 10 00.4**	**+1.6**
CEP	**Cherat**	**1.69**	**25**	⇓P	**Pn**	**14 10 05.6**	**+3.2**
NIL	**Nilore**	**2.30**	**53**	Pn	**Pn**	**14 10 17.3**	**+6.2**
	676nm,0.4s,SNR=14						
CHCP	**Chirah Chowk**	**2.31**	**53**	P	**Pn**	**14 10 13.8**	**+2.5**
DLH	**Dalhousie**	**4.17**	**85**	*e*P	**Pn**	**14 10 39.0**	**+1.2**
DLH				*e*SG	**Sn**	**14 11 47.0**	**+21**
PONG	**Pong**	**4.18**	**93**	*e*PB	**Pb**	**14 10 46.0**	**-0.6**
PONG				*e*SG	**Sn**	**14 11 46.0**	**+19**
SDNR	**Sundarnagar**	**5.11**	**97**	*e*P	**Pn**	**14 10 51.0**	**0.0**
SDNR				*e*SG	**Sn**	**14 12 10.0**	**+20**
SMLA	**Simla**	**5.35**	**101**	*i*	**Pn**	**14 11 07.2**	**+13**
SMLA				*i*		14 12 05.1	
NDI	**New Delhi**	**6.43**	**122**	*e*P	**Pn**	**14 11 08.0**	**-1.7**
NDI				*e*SG	**Sn**	**14 12 56.0**	**+33**
PTH	**Pithoragarh**	**8.35**	**107**	*e*P	**P**	**14 11 37.1**	**+0.6**
PTH				*e*		14 14 05.3	
LGTI	**Lohaghat**	**8.41**	**107**	*e*P	**P**	**14 11 37.5**	**+0.2**
LGTI				*e*		14 14 04.0	
AML	**Almayashu**	**10.04**	**11**	P	**P**	**14 11 59.5**	**-0.3**
	SNR=33						
UCH	**Uchtor**	**10.29**	**15**	P	**P**	**14 12 03.7**	**+0.5**
	SNR=22						
KZA	**Kyzart**	**10.32**	**18**	P	**P**	**14 12 03.6**	**-0.1**
	SNR=7.8						
EKS2	**Erkin-Say**	**10.57**	**11**	P	**P**	**14 12 06.7**	**-0.5**
	SNR=7.3						
AAK	**Ala-Archa**	**10.67**	**14**	P	**P**	**14 12 08.4**	**-0.2**
	SNR=7.4						
AAK	**Ala-Archa**	**10.67**	**14**	*e*Pn	**P**	**14 12 07.0**	**-1.6**
	9.2nm,0.6s						
ULHL	**Ulahol**	**10.76**	**21**	P	**P**	**14 12 11.3**	**+1.6**
	SNR=6.8						
CHMS	**Chumysh**	**11.08**	**14**	P	**P**	**14 12 12.6**	**-1.5**
	SNR=6.8						
KOLN	**Koldanda**	**11.78**	**109**	*e*P	**P**	**14 12 21.6**	**-2.0**
	14nm,0.4s						
GKN	**Gorkha**	**12.52**	**106**	*e*P	**P**	**14 12 31.1**	**-2.5**
	15nm,0.3s						
DMN	**Daman**	**13.06**	**107**	*e*P	**P**	**14 12 37.0**	**-3.7**
	9.4nm,0.4s						
KKN	**Kakani**	**13.13**	**106**	*e*P	**P**	**14 12 37.8**	**-3.8**
	30nm,0.5s						
PKI	**Pulchoki**	**13.32**	**107**	*e*P	**P**	**14 12 39.9**	**-4.2**
	19nm,0.4s						
MKAR	**Makanchi Array**	**16.85**	**28**	Pn	**P**	**14 13 30.4**	**+0.5**
	0.4nm,0.3s,baz=204,slow=12,SNR=12						
KURK	**Kurchatov**	**19.24**	**15**	*e*P	**P**	**14 13 57.6**	**-1.5**
ZRNK	**Zerenda**	**20.69**	**357**	*e*P	**P**	**14 14 13.3**	**-1.5**
	3.6nm,0.6s						
BVAR	**Borovoye Array**	**20.72**	**359**	P	**P**	**14 14 14.4**	**-0.6**
	3.0nm,0.4s,baz=157,slow=9.6,SNR=10						
BRVK	**Borovoye**	**20.76**	**359**	*e*P	**P**	**14 14 14.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.63**	**112**	P	**P**	**14 15 31.1**	**+0.3**
	1.2nm,0.8s,mb3.7,baz=292,slow=9.3,SNR=5.3						
SONM	**Songino Array**	**30.87**	**49**	P	**P**	**14 15 51.7**	**+1.2**
	0.8nm,0.8s,mb3.6,baz=252,slow=9.7,SNR=3.8						
AKASG	**Malin Array Be**	**35.73**	**313**	P	**P**	**14 16 33.4**	**+0.7**
	0.7nm,0.4s,mb4.0,baz=101,slow=7.5,SNR=5.9						
FINES	**FINESS Array B**	**41.04**	**329**	P	**P**	**14 17 16.8**	**0.0**
	1.5nm,0.7s,mb3.7,baz=112,slow=10,SNR=4.5						
KEV	**Kevo**	**44.73**	**340**	*e*p	**P**	**14 17 45.7**	**-1.0**
	0.5nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	**45.05**	**339**	P	**P**	**14 17 49.5**	**+0.2**
	1.6nm,0.5s,mb4.1,baz=106,slow=8.8,SNR=13						
HFS	**Hagfors**	**46.44**	**324**	P	**P**	**14 18 01.0**	**+0.6**
	2.5nm,0.7s,mb4.3,baz=90,slow=12,SNR=4.8						
NB2	**NORSAR Subarra**	**47.80**	**325**	P	**P**	**14 18 10.6**	**-0.5**
	1.3nm,0.5s,mb4.2,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**47.80**	**325**	P	**P**	**14 18 11.0**	**-0.1**
	1.5nm,0.7s,mb4.1,baz=103,slow=7.8,SNR=4.3						
INK	**Inuvik**	**78.04**	**9**	P	**P**	**14 21 32.3**	**+0.8**
	2.2nm,0.6s,mb4.3,baz=355,slow=7.6,SNR=8.6						
WRA	**Warramunga Arr**	**79.76**	**121**	P	**P**	**14 21 42.3**	**+0.4**
	1.5nm,0.6s,mb4.1,baz=323,slow=5.2,SNR=40						
WB2	**Warramunga Arr**	**79.77**	**121**	*e*P	**P**	**14 21 42.3**	**+0.3**
ASAR	**Alice Springs**	**81.84**	**124**	P	**P**	**14 21 53.1**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=308,slow=5.4,SNR=10						
YKA	**Yellowknife Ar**	**85.43**	**3**	P	**P**	**14 22 10.9**	**+0.8**
	1.1nm,0.6s,mb4.2,baz=349,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**85.43**	**3**	P	**P**	**14 22 10.9**	**+0.7**
MDZ	**Mendoza**	**146.34**	**258**	*e*P	PKPbc	14 29 13.5	+0.6

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*NEIC **28** 14:11:36.9, 35.02S×70.50W, h2^{km}, ML3.8(GUC), After GUC.*

GUC 28 14:11:36.9±0.7**, 35.02S×70.50W, h2^{km}±3^{km}, MD3.8, ML3.8, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.58	314	⇑*i*P	Pg	14 11 48.8	+0.3
SFDO				*i*S	Sg	14 11 57.8	+1.5
CICH	**Cipreses**	0.70	6	⇓*i*P	Pg	14 11 50.5	-0.4
CICH				*i*S	Sg	14 12 01.1	+0.8
CACH	**El Canelo**	0.90	355	⇑*i*P	Pg	14 11 54.2	-0.8
CACH				*i*S	Sg	14 12 07.5	+0.5
TALC	**Talca**	1.00	247	*e*P	Pb	14 11 56.4	-0.2
TALC				*i*S	Sb	14 12 10.2	+0.1
TALC				AMP		14 12 10.8	
	comp=N,5µm,0.3s						
CHCH	**Chadas Angostu**	1.09	353	*e*P	Pb	14 11 57.6	-0.5
CHCH				*i*S	Sb	14 12 13.3	+0.6
LNV	**Longovilo**	1.30	324	*i*P	Pb	14 12 00.8	-0.9
LNV				*i*S	Sb	14 12 19.2	+0.4
PCH	**Pirque**	1.40	360	*e*P	Pb	14 12 02.5	-0.9
PCH				*i*S	Sb	14 12 22.3	+0.8
TACH	**Talagante**	1.41	345	*i*P	Pb	14 12 02.5	-1.1
TACH				*i*S	Sb	14 12 22.6	+0.6
LCCH	**Las Cruces**	1.78	330	*e*P	Pn	14 12 08.6	-0.3
JACH	**Jahuel**	2.33	358	*e*P	Pn	14 12 17.3	+0.5
JACH				*i*S	Sn	14 12 48.2	+1.7

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*NEIC **28** 14:14:35.3, 34.55S×70.77W, h5^{km}, ML3.8(GUC), After GUC.*

GUC 28 14:14:35.3±0.8**, 34.55S×70.77W, h5^{km}, ML3.8, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.21	251	*i*P	Pg	14 14 39.1	-0.4
CICH	**Cipreses**	0.37	52	⇓*i*P	Pg	14 14 40.9	-1.8
CACH	**El Canelo**	0.45	19	⇑*i*P	Pg	14 14 44.2	-0.2
NICH	**Los Niches**	0.59	219	*e*P	Pg	14 14 47.5	+0.3
CHCH	**Chadas Angostu**	0.62	9	*i*P	Pg	14 14 47.8	+0.2
LNV	**Longovilo**	0.79	318	*e*P	Pg	14 14 51.0	-0.1
TACH	**Talagante**	0.90	351	*i*P	Pb	14 14 52.5	-0.6
TACH				*i*S	Sb	14 15 05.9	+0.8
JACH	**Jahuel**	1.86	5	*i*P	Pn	14 15 08.4	+0.2
CCHI	**Chillan**	2.31	207	*e*P	Pn	14 15 14.6	0.0
CCHI				*i*S	Sn	14 15 45.3	+1.5
CCHI				AMP		14 15 57.5	
	comp=N,623nm,0.5s						
CCHI				AMP		14 15 57.8	
	comp=N,948nm,0.7s						

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*NEIC **28** 14:18:17.4, 34.99S×70.56W, h5^{km}, ML3.8(GUC), After GUC.*

GUC 28 14:18:17.4±1.6**, 34.99S×70.56W, h5^{km}**±7^{km}**, ML3.8, 1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.52	315	⇓*i*P	Pg	14 18 28.2	+0.3
SFDO				*i*S	Sg	14 18 35.9	+1.0
NICH	**Los Niches**	0.55	268	*e*P	Pg	14 18 26.7	-1.7
NICH				*i*S	Sg	14 18 37.3	+1.6
CICH	**Cipreses**	0.68	10	⇓*i*P	Pg	14 18 30.6	-0.3
CACH	**El Canelo**	0.87	358	⇑*i*P	Pb	14 18 34.0	-0.5
CACH				*i*S	Sb	14 18 46.9	+0.7
TALC	**Talca**	0.97	245	⇓*i*P	Pb	14 18 35.7	-0.5
TALC				*i*S	Sb	14 18 49.3	+0.2
TALC				AMP		14 18 49.8	
	comp=E,8µm,0.4s						
CHCH	**Chadas Angostu**	1.05	356	*e*P	Pb	14 18 37.1	-0.6
CHCH				*i*S	Sb	14 18 51.9	+0.4
LNV	**Longovilo**	1.24	326	*e*P	Pb	14 18 39.6	-1.4
PCH	**Pirque**	1.36	2	*e*P	Pb	14 18 42.6	-0.4
PCH				*i*S	Sb	14 19 01.1	+0.5
TACH	**Talagante**	1.36	347	*e*P	Pb	14 18 42.7	-0.4
FCH	**Farellones**	1.67	8	*e*P	Pn	14 18 47.6	+0.2
FCH				*i*S	Sn	14 19 10.1	+0.6
CCHI	**Chillan**	2.03	217	*i*P	Pn	14 18 53.4	+0.8
CCHI				*i*S	Sn	14 19 20.4	+1.8
CCHI				AMP		14 19 26.4	
	comp=E,936nm,0.6s						

WEL 28 14:19:45.9±0.5**, 37.38S×176.57E, h220^{km}**±4^{km}**, ML3.5**/2**, 1C, Error ellipse: s-maj=5.3km s-min=4.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	0.97	154	⇑PN	P	14 20 17.7	0.0
URZ				*e*SN	S	14 20 42.1	-0.3
MWZ	**Matawai**	1.22	142	PN	P	14 20 19.3	-0.1
MXZ	**Matakaoa Point**	1.39	98	PN	P	14 20 20.5	-0.3
BKZ	**Black Stump Fm**	1.78	182	PN	P	14 20 24.0	-0.2
BKZ				*e*SN	S	14 20 53.1	-0.7
KNZ	**Kokohu**	1.85	152	PN	P	14 20 24.7	-0.2
CNZ	**Chateau**	1.99	204	PN	P	14 20 26.1	0.0
TUVZ	**Tukino**	2.02	201	PN	P	14 20 26.8	+0.4
WNVZ	**Wahianoa**	2.09	201	PN	P	14 20 27.5	+0.3
TSZ	**Takapari Road**	2.72	190	PN	P	14 20 32.5	-1.3
TSZ				SN	S	14 21 09.6	-1.4
BFZ	**Birch Farm**	3.31	184	SN	S	14 21 21.2	-1.8
MRZ	**Mangatainoka R**	3.37	193	PN	P	14 20 39.1	-2.2
MRZ				SN	S	14 21 21.2	-3.1
KIW	**Kapiti Island**	3.71	200	PN	P	14 20 42.8	-2.7
CAW	**Cannon Point**	3.90	197	PN	P	14 20 45.0	-2.7
TUWZ	**Tuamarina**	4.53	206	*e*PN	P	14 20 52.0	-3.5
NNZ	**Nelson**	4.56	212	*e*PN	P	14 20 51.4	-4.5
QRZ	**Quartz Range**	4.66	221	PN	P	14 20 53.2	-4.0
THZ	**Tophouse**	5.21	212	*e*PN	P	14 20 59.8	-4.3
DSZ	**Denniston Nort**	5.71	219	*e*PN	P	14 21 05.3	-5.1
LTZ	**Lake Taylor**	6.32	210	PN	P	14 21 13.7	-4.6
MQZ	**McQueen's Vall**	6.99	204	*e*SN	S	14 22 36.4	-9.3

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*IDC **28** 14:20:14.7±4.8, 34.83S×70.01W, h33^{km}±41^{km}, mb3.7/3, mb1 4.1/6, mb1mx3.9/14, ML3.9/3, Error ellipse: s-maj=45.9km s-min=23.9km az=114.0*

*NEIC **28** 14:20:17.7±1.2, 34.83S×69.87W, h62^{km}±13^{km}, Error ellipse: s-maj=19.0km s-min=10.3km az=102.0*

ISC 28 14:20:16.7±1.8**, 34.9S**±0.1×**69.8W**±0.2**, h71^{km}**±19^{km}**, n10,** σ**0$\overset{s}{.}$85**/11**, mb3.6**/3**, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	2.14	22	⇓*i*P	**P**	**14 20 51.7**	**+0.8**
PLCA	**Paso Flores**	5.88	186	Pn	**P**	**14 21 42.4**	**-0.6**
	0.4nm,0.3s,baz=349,slow=17,SNR=3.4						
PLCA				Pg	**P**	**14 22 01.6**	**+19**
	3.6nm,0.3s,baz=12,slow=14,SNR=11						
PLCA				Lg		14 23 24.0	
	3.8nm,0.3s,baz=49,slow=7.7,SNR=3.7						
PLCA	**Paso Flores**	5.88	186	Pn	**P**	**14 21 42.4**	**-0.6**
PLCA				Pg	**P**	**14 22 01.6**	**+19**
PLCA				Lg		14 23 24.0	
TRQA	**Tornquist**	7.06	119	*e*P	**P**	**14 21 59.7**	**+0.2**
	7.9nm,0.4s						
CPUP	**Villa Florida**	13.70	55	Pn	**P**	**14 23 28.1**	**-0.9**
	0.2nm,0.3s,baz=266,slow=9.2,SNR=3.5						
CPUP				Lg		14 27 38.9	
	0.1nm,0.3s,baz=347,slow=20,SNR=2.6						
LPAZ	**La Paz**	18.57	5	P	**P**	**14 24 29.5**	**-0.9**
	0.4nm,0.3s,baz=214,slow=4.4,SNR=8.7						
BDFB	**Brasilia**	27.37	51	P	**P**	**14 25 58.0**	**+0.6**
	3.0nm,0.7s,mb4.0,baz=205,slow=6.0,SNR=5.4						
TXAR	**Lajitas Array**	71.41	329	P	**P**	**14 31 30.4**	**-0.8**
	0.6nm,0.8s,mb3.5,baz=147,slow=8.3,SNR=5.7						
PDAR	**Pinedale Array**	85.39	332	P	**P**	**14 32 48.6**	**+1.4**
	0.3nm,0.7s,mb3.4,baz=166,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	120.86	207	PKP	PKPdf	14 39 03.6	+2.4
	0.2nm,0.5s,baz=160,slow=1.7,SNR=7.0						

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*NEIC **28** 14:24:17.5, 34.95S×70.59W, h2^{km}, ML3.6(GUC), After GUC.*

GUC 28 14:24:17.5±0.6**, 34.95S×70.59W, h2^{km}**±4^{km}**, ML3.6, 8C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.49	314	⇑*i*P	Pg	14 24 27.4	+0.2
CICH	**Cipreses**	0.65	13	*i*P	Pg	14 24 29.2	-1.3
CICH				*i*S	Sg	14 24 39.0	-0.1
CACH	**El Canelo**	0.83	359	⇑*i*P	Pg	14 24 32.8	-1.3
CACH				*i*S	Sg	14 24 46.5	+1.2
CHCH	**Chadas Angostu**	1.02	357	⇑*i*P	Pb	14 24 36.6	-0.9
CHCH				*i*S	Sb	14 24 51.6	+0.5
LNV	**Longovilo**	1.21	326	⇑*i*P	Pb	14 24 39.6	-1.1
LNV				*i*S	Sb	14 24 56.5	0.0
TACH	**Talagante**	1.33	347	⇑*i*P	Pb	14 24 41.8	-1.0
TACH				*i*S	Sb	14 25 00.4	+0.3
PCH	**Pirque**	1.33	3	⇓*i*P	Pb	14 24 42.0	-0.8
CLCH	**Cerro Calan**	1.56	2	⇑*i*P	Pn	14 24 45.2	-1.0
CLCH				*e*S	Sb	14 25 07.3	+0.6
CLCH				AMP		14 25 12.3	
	comp=E,2µm,0.6s						
FCH	**Farellones**	1.64	9	⇑*i*P	Pn	14 24 47.5	0.0
FCH				*i*S	Sb	14 25 10.1	+1.0
FCH				AMP		14 25 11.7	
	comp=E,950nm,0.3s						
LCCH	**Las Cruces**	1.68	331	⇑*i*P	Pn	14 24 47.7	-0.4
JACH	**Jahuel**	2.27	360	*e*P	Pn	14 24 57.1	+0.7
MDZ	**Mendoza**	2.52	36	*e*P	Pn	14 25 03.6	+3.5

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*NEIC **28** 14:28:00.2±6.7, 36.62N×3.06E, h10^{km}, MG4.0(MDD), Error ellipse: s-maj=78.0km s-min=15.2km az=143.0*

MDD 28 14:28:00.2±3.0**, 36.62N×3.04E, mb3.8**/7**, Error ellipse: s-maj=28.0km s-min=21.0km az=153.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	**Ibiza**	2.75	331	Pn	Pn	14 28 44.3	-2.0
	4.1nm,0.2s,SNR=14						
EIBI				Sn	Sn	14 29 16.5	-4.3
	27nm,0.9s,SNR=9.1						
EBEN	**Beniarda**	3.32	310	Pn	Pn	14 28 52.5	-2.0
	0.3nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	14 29 29.2	-6.0
	18nm,5.3s,SNR=7.9						
EMUR	**La Murta**	3.63	291	Pn	Pn	14 28 55.1	-3.7
	1.3nm,1.5s,SNR=7.9						
EMUR				Sn	Sn	14 29 39.3	-3.6
	2.0nm,1.7s,SNR=7.9						
ETOB	**Tobarra**	4.16	300	Pn	Pn	14 29 04.1	-2.3
	1.3nm,0.2s,SNR=5.0						
ETOB				Sn	Sn	14 29 52.1	-4.5
	3.2nm,0.3s						
EMOS	**Mosqueruela**	4.64	325	Pn	Pn	14 29 10.7	-2.4
	2.2nm,0.2s,SNR=5.8						
EMOS				Sn	Sn	14 30 02.3	-6.4
	47nm,1.7s						
EQES	**Quesada**	5.02	285	Pn	Pn	14 29 15.9	-2.6
	1.6nm,0.4s,SNR=5.3						
EQES				Sn	Sn	14 30 13.5	-4.6
	1.0nm,5.2s,SNR=7.9						
EQES	**Quesada**	5.02	285	Pn	Pn	14 29 15.9	-2.6
EQES				Sn	Sn	14 30 10.9	-7.2
EMIR	**Miracle**	5.41	348	Pn	Pn	14 29 21.7	-2.4
	5.1nm,0.2s,SNR=5.3						
EJON	**La Jonquera**	5.82	359	Pn	Pn	14 29 26.4	-3.4
	0.9nm,0.1s,SNR=5.2						
EJON				Sn	Sn	14 30 33.2	-5.1
	20nm,5.3s,SNR=7.9						
EJON	**La Jonquera**	5.82	359	Pn	Pn	14 29 26.4	-3.4
EJON				Sn	Sn	14 30 29.6	-8.7

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*NEIC **28** 14:33:24.6, 35.02S×70.56W, h2^{km}, ML3.6(GUC), After GUC.*

GUC 28 14:33:24.6±0.9**, 35.02S×70.56W, h2^{km}**±3^{km}**, ML3.6, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.55	317	⇑*i*P	Pg	14 33 35.7	+0.1
NICH	**Los Niches**	0.55	271	⇓*i*P	Pg	14 33 35.8	+0.1
NICH				*i*S	Sg	14 33 44.2	+1.2
CICH	**Cipreses**	0.71	9	⇑*i*P	Pg	14 33 37.9	-0.8
CICH				*i*S	Sg	14 33 47.2	-0.9
CACH	**El Canelo**	0.90	358	⇑*i*P	Pb	14 33 41.4	-1.1
CACH				*i*S	Sg	14 33 54.2	-0.3
TALC	**Talca**	0.96	246	⇓*i*P	Pb	14 33 42.9	-0.7
TALC				*i*S	Sb	14 33 56.3	-0.2
CHCH	**Chadas Angostu**	1.08	356	*e*P	Pb	14 33 45.0	-0.7
CHCH				*i*S	Sb	14 34 00.6	+0.4
LMEL	**Las Melosas**	1.20	14	⇑*i*P	Pb	14 33 46.7	-1.1
LMEL				*i*S	Sb	14 34 03.8	+0.2
LMEL				AMP		14 34 04.2	
	comp=N,1µm,0.2s						
LNV	**Longovilo**	1.27	326	*e*P	Pb	14 33 47.9	-1.1
LNV				*i*S	Sb	14 34 05.9	+0.3
PCH	**Pirque**	1.39	1	⇓*i*P	Pb	14 33 50.2	-0.8
PCH				*i*S	Sb	14 34 09.6	+0.5
TACH	**Talagante**	1.40	347	⇓*i*P	Pb	14 33 50.1	-0.9
TACH				*i*S	Sb	14 34 09.3	+0.1
ANTU	**Antumapu**	1.45	357	⇓*i*P	Pn	14 33 51.2	-0.6
ANTU				*i*S	Sb	14 34 11.2	+0.6
ANTU				AMP		14 34 13.3	
	comp=E,2µm,0.3s						
SAN	**Santiago**	1.56	357	*i*P	Pn	14 33 52.8	-0.7
SAN				*i*S	Sb	14 34 14.5	+0.4
SAN				AMP		14 34 17.0	
	comp=E,2µm,0.8s						
CLCH	**Cerro Calan**	1.62	1	*i*P	Pn	14 33 53.6	-0.7
CLCH				*i*S	Sb	14 34 16.0	+0.4
CLCH				AMP		14 34 18.0	
	comp=E,1µm,0.4s						
FCH	**Farellones**	1.70	8	⇑*i*P	Pn	14 33 55.8	+0.3
FCH				*i*S	Sb	14 34 19.0	+1.0
FCH				AMP		14 34 20.0	
	comp=N,920nm,0.4s						
LCCH	**Las Cruces**	1.75	331	⇓*i*P	Pn	14 33 55.9	-0.3
LCCH				*i*S	Sn	14 34 19.4	0.0
CCHI	**Chillan**	2.01	218	⇑*i*P	Pn	14 33 59.8	0.0
CCHI				*i*S	Sn	14 34 26.7	+0.9
JACH	**Jahuel**	2.33	359	⇑*i*P	Pn	14 34 05.6	+1.1
JACH				*i*S	Sn	14 34 35.4	+1.4

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*NEIC **28** 14:42:48.1, 35.14S×70.26W, h15^{km}, ML3.7(GUC), After GUC.*

GUC 28 14:42:48.1±0.8**, 35.14S×70.26W, h15^{km}**±13^{km}**, MD3.6, ML3.7, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	0.83	351	*i*P	Pb	14 43 01.9	-1.7
CICH				*i*S	Sb	14 43 12.0	-2.2
CACH	**El Canelo**	1.06	344	⇑*i*P	Pb	14 43 05.2	-2.3
CACH				*i*S	Sb	14 43 18.7	-2.1
TALC	**Talca**	1.16	257	⇑*i*P	Pb	14 43 07.2	-2.0
TALC				*i*S	Sb	14 43 20.9	-2.9
TALC				AMP		14 43 21.4	
	comp=E,6µm,0.3s						
CHCH	**Chadas Angostu**	1.24	345	*i*P	Pb	14 43 08.5	-2.2
CHCH				*i*S	Sb	14 43 24.1	-2.3
PCH	**Pirque**	1.53	352	*e*P	Pn	14 43 12.7	-2.3
TACH	**Talagante**	1.58	339	*i*P	Pn	14 43 13.7	-2.1
TACH				*i*S	Sn	14 43 32.9	-3.2
ANTU	**Antumapu**	1.59	349	⇓*i*P	Pn	14 43 15.3	-0.7
ANTU				*i*S	Sn	14 43 35.1	-1.3
ANTU				AMP		14 43 36.7	
	comp=E,1µm,0.3s						
CLCH	**Cerro Calan**	1.75	352	AMP		14 43 42.7	
	comp=E,1µm,0.4s						
FCH	**Farellones**	1.81	359	AMP		14 43 54.3	
	comp=N,518nm,0.3s						
LCCH	**Las Cruces**	1.98	326	*i*P	Pn	14 43 20.0	-1.6
LCCH				*i*S	Sn	14 43 44.0	-2.1
PEL	**Peldehue**	2.02	350	AMP		14 43 55.0	
	comp=N,1µm,0.3s						
CCHI	**Chillan**	2.08	225	AMP		14 43 56.0	
	comp=E,663nm,0.5s						

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*BJI **28** 14:49:20.5, 17.90S×178.60W, h524^{km}, mb4.4*

*NEIC **28** 14:49:21.6±2.0, 17.85S×178.65W, h524^{km}±24^{km}, mb4.3/24, Error ellipse: s-maj=14.4km s-min=10.5km az=140.0*

*SYO **28** 14:49:21.5, 17.85S×178.65W, h524^{km}, MB4.3*

*IDC **28** 14:49:23.4±1.7, 18.03S×178.67W, h546^{km}±19^{km}, mb3.8/11, mb1 4.1/11, mb1mx3.9/16, Error ellipse: s-maj=21.1km s-min=9.9km az=149.0*

ISC 28 14:49:23.3±1.5**, 17.96S**±0.08×**178.76W**±0.07**, h559^{km}**±18^{km}**, n95,** σ**1$\overset{s}{.}$07**/64**, mb4.3**/34**, 1C-10D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	14.50	251	*e*P	**P**	**14 52 28.2**	**+1.0**
DZM	**Mont Dzumac**	14.50	251	*e*P	**P**	**14 52 28.2**	**+1.0**
URZ	**Urewera**	20.55	189	P	**P**	**14 53 22.9**	**-2.0**
	15nm,0.7s,baz=7.0,slow=2.2,SNR=11						
THZ	**Tophouse**	24.78	195	*e*P	**P**	**14 54 01.7**	**-1.4**
WVZ	**Waitaha Valley**	26.58	197	*e*P	**P**	**14 54 16.5**	**-2.4**
RPZ	**Rata Peaks**	27.08	196	P	**P**	**14 54 20.9**	**-2.4**
	6.3nm,0.6s,mb4.5,baz=282,slow=5.3,SNR=6.8						
JCZ	**Jackson Bay**	28.08	199	P	**P**	**14 54 31.2**	**-0.8**
MSZ	**Milford Sound**	28.88	200	*e*P	**P**	**14 54 38.6**	**-0.3**
AXZ	**Alexandra**	28.99	197	P	**P**	**14 54 38.8**	**-1.0**
CTA	**Charters Tower**	33.11	261	⇓*i*P	**P**	**14 55 16.0**	**+1.0**
	12nm,0.8s,mb4.5						
CTA	**Charters Tower**	33.11	261	P	**P**	**14 55 15.9**	**+0.9**
	20nm,0.8s,mb4.7,baz=101,slow=12,SNR=7.4						
CNB	**Canberra Magne**	33.13	232	⇓*i*P	**P**	**14 55 16.9**	**+1.8**
	41nm,0.6s,mb5.1						
TOO	**Toolangi**	36.88	231	⇓*i*P	**P**	**14 55 47.7**	**+1.6**
	18nm,0.5s,mb4.9						
STKA	**Stephens Creek**	38.31	241	⇓*i*P	**P**	**14 55 59.7**	**+1.9**
	25nm,1.0s,mb4.7						
STKA	**Stephens Creek**	38.31	241	P	**P**	**14 55 59.1**	**+1.3**
	19nm,0.5s,mb4.8,baz=85,slow=8.4,SNR=29						
WB2	**Warramunga Arr**	44.28	260	⇓*i*P	**P**	**14 56 45.3**	**-0.2**
WB2				*e*S	**S**	**15 02 37.9**	**-1.6**
WRAB	**Tennant Creek**	44.29	260	*e*P	**P**	**14 56 45.1**	**-0.4**
	13nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	44.30	260	P	**P**	**14 56 45.4**	**-0.2**
	8.7nm,0.5s,mb4.6,baz=96,slow=6.9,SNR=330						
WRA				ScP		15 01 19.4	
	0.4nm,0.9s,baz=94,slow=3.3,SNR=4.5						
WRA				S	**S**	**15 02 38.9**	**-0.7**
	0.6nm,0.8s,baz=96,slow=12,SNR=3.7						
ASAR	**Alice Springs**	44.46	254	P	**P**	**14 56 47.6**	**+0.8**
	123nm,0.5s,baz=89,slow=8.2,SNR=2253						
ASAR				ScP		15 01 20.6	
	2.0nm,0.9s,baz=108,slow=4.5,SNR=6.8						
ASAR				S	**S**	**15 02 42.3**	**+0.4**
	1.9nm,0.8s,baz=90,slow=15,SNR=8.9						
ASPA	**Alice Springs**	44.46	254	⇓*i*P	**P**	**14 56 47.5**	**+0.7**
ASPA				*e*S	**S**	**15 02 40.0**	**-1.9**
KAKA	**Kakadu**	47.29	269	⇓*i*P	**P**	**14 57 08.4**	**-0.2**
	6.9nm,0.4s,mb4.5						
FORT	**Forrest**	49.69	245	⇓*i*P	**P**	**14 57 26.2**	**-0.1**
	126nm,0.5s						
FITZ	**Fitzroy Crossi**	52.69	261	*e*P	**P**	**14 57 48.9**	**+0.7**
	2.9nm,0.6s,mb3.8						
KLBR	**Kellerberrin**	58.51	244	⇓*i*P	**P**	**14 58 28.0**	**-0.3**
	14nm,0.6s,mb4.4						
MUN	**Mundaring**	59.80	243	*e*P	**P**	**14 58 37.6**	**+0.7**
	7.1nm,0.7s,mb4.1						
SBA	**Scott Base**	60.35	183	*e*P	**P**	**14 58 41.6**	**+1.7**
	3.7nm,0.7s,mb3.8						
MAJO	**Matsushiro**	67.75	324	*e*P	**P**	**14 59 27.1**	**-0.1**
	6.0nm,0.7s,mb4.2						
SMY	**Shemya**	70.66	355	P	**P**	**14 59 41.4**	**-2.9**
	82nm,1.1s,mb5.2						
QSPA	**South Pole Qui**	72.10	180	*e*P	**P**	**14 59 53.1**	**+0.9**
	12nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	78.03	325	P	**P**	**15 00 25.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
MDJ	**Mudanjiang**	78.03	325	P	**P**	**15 00 27.5**	**+2.0**
MTUM	**Tungsten Hills**	78.94	45	*e*P	**P**	**15 00 31.0**	**+0.5**
NVAR	**Mina Array Bea**	79.69	44	P	**P**	**15 00 35.0**	**+0.5**
	comp=Z,4.6nm,0.8s,mb3.9,baz=216,slow=7.4,SNR=37						
NVAR	**Mina Array Bea**	79.69	44	P	**P**	**15 00 35.0**	**+0.5**
MNV	**Mina**	79.79	44	*e*P	**P**	**15 00 34.8**	**-0.1**
	comp=Z,14nm,1.4s,mb4.1						
TPNV	**Topopah Spring**	80.29	46	*e*P	**P**	**15 00 37.6**	**0.0**
	comp=Z,3.9nm,0.9s,mb3.7						
SLKM	**Skilak Lake**	81.52	14	*e*P	**P**	**15 00 42.0**	**-1.3**
TUC	**Tucson**	81.99	52	*e*P	**P**	**15 00 47.0**	**+0.7**
	comp=Z,5.0nm,1.0s,mb3.9						
RMW	**Rattlesnake Mo**	82.69	35	*e*P	**P**	**15 00 49.7**	**+0.1**
PMR	**Palmer**	82.73	14	*e*P	**P**	**15 00 48.2**	**-1.2**
	comp=Z,5.5nm,0.6s,mb4.3						
ELK	**Elko**	82.92	43	*e*P	**P**	**15 00 50.8**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.0						
MAW	**Mawson**	83.70	200	P	**P**	**15 00 55.0**	**+0.9**
	comp=Z,2.9nm,0.7s,mb3.9,baz=124,slow=3.1,SNR=6.5						
MSU	**Marysvale**	83.87	46	*e*P	**P**	**15 00 56.5**	**+0.9**
MCK	**McKinley**	84.66	13	*e*P	**P**	**15 00 58.2**	**-0.7**
	comp=Z,2.4nm,0.6s,mb3.9						
HLID	**Hailey**	84.88	41	*e*P	**P**	**15 01 01.2**	**+0.8**
	comp=Z,3.1nm,0.8s,mb3.9						
DPW	**Davenport**	84.92	36	*e*P	**P**	**15 01 00.6**	**+0.1**
COLA	**College**	85.89	13	*e*P	**P**	**15 01 03.4**	**-1.4**
	comp=Z,4.8nm,0.7s,mb4.2						
ILAR	**Eielson Array**	86.01	13	P	**P**	**15 01 04.2**	**-1.2**
	comp=Z,1.9nm,0.5s,mb4.0,baz=225,slow=5.0,SNR=26						
LTX	**Lajitas**	86.30	58	*e*P	**P**	**15 01 08.7**	**+1.1**
	comp=Z,5.1nm,0.7s,mb4.3						
TXAR	**Lajitas Array**	86.30	58	P	**P**	**15 01 08.7**	**+1.1**
	comp=Z,4.6nm,0.8s,mb4.2,baz=217,slow=5.9,SNR=55						
MCMT	**McKenzie Canyo**	86.49	41	*e*P	**P**	**15 01 08.6**	**+0.5**
DAWY	**Dawson**	87.22	16	*e*P	**P**	**15 01 10.6**	**-0.5**
QLMT	**Earthquake Lak**	87.38	41	*e*P	**P**	**15 01 13.3**	**+1.1**
PDAR	**Pinedale Array**	87.61	44	P	**P**	**15 01 13.6**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.2,baz=225,slow=2.7,SNR=32						
PDAR				PP	PP	15 04 46.0	-4.5
	comp=Z,0.4nm,0.7s,baz=284,slow=6.1,SNR=3.9						
SYO	**Syowa Base**	89.04	193	⇓P	**P**	**15 01 21.6**	**+2.1**
SNAA	**Sanae**	90.56	179	P	**P**	**15 01 26.4**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2						
LZH	**Lanzhou**	90.66	308	*e*P	**P**	**15 01 27.3**	**-0.4**
LZH				PP	PP	15 05 16.0	+1.5
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	90.66	308	*e*P	**P**	**15 01 27.3**	**-0.4**
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	15 03 36.0	+5.2
LZH				sP	sP	15 04 36.1	+10
LZH				PP	PP	15 05 16.0	+1.5
INK	**Inuvik**	92.02	15	*e*P	**P**	**15 01 30.9**	**-2.3**
	comp=Z,2.8nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	94.51	25	P	**P**	**15 01 44.1**	**-0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=250,slow=4.1,SNR=5.0						
BVAR	**Borovoye Array**	116.67	321	PKP	PKPdf	15 07 04.5	+0.6
	comp=Z,0.4nm,0.4s,baz=270,slow=1.5,SNR=3.5						
BRTR	**Keskin Array B**	144.58	315	PKP	PKPdf	15 07 58.6	+2.3
	comp=Z,1.2nm,0.6s,baz=153,slow=2.8,SNR=5.6						
CLL	**Collm**	145.44	347	⇑*i*PKP1	PKPbc	15 08 00.3	+1.7
UPC	**Upice**	145.44	343	*e*PKP	PKPdf	15 08 00.8	+3.4
DPC	**Dobruska-Polom**	145.50	343	*e*PKP	PKPdf	15 08 01.2	+3.7
PVCC	**Panska Ves**	145.80	345	*e*PKP	PKPdf	15 08 01.7	+3.7
PRU	**Pruhonice**	146.30	344	*e*PKP	PKPdf	15 08 02.8	+3.9
VYHS	**Vyhne**	146.34	339	*e*PKP	PKPdf	15 08 03.6	+4.6
MOX	**Moxa**	146.35	348	*e*P	PKPdf	15 08 04.0	+5.0
GRA1	**Grafenberg Arr**	147.34	348	*e*PKP	PKPdf	15 08 06.0	+5.4
KHC	**Kasperske Hory**	147.34	345	*e*PKP	PKPdf	15 08 06.1	+5.5
KHC				*e*		15 08 09.9	
GERES	**GERESS Array B**	147.57	345	PKPbc	PKPdf	15 08 06.4	+5.4
	comp=Z,2.7nm,0.6s,baz=25,slow=3.1,SNR=29						
GIVF	**Givet**	147.80	356	*e*PKP1	PKPdf	15 08 06.5	+5.2
	comp=Z,16nm,0.8s						
BAIF	**Baives**	147.88	356	*e*PKP1	PKPdf	15 08 06.9	+5.4
	comp=Z,16nm,1.0s						
CDF	**Champ du Feu**	149.23	352	*e*PKP1	PKPdf	15 08 10.1	+6.5
	comp=Z,6.8nm,0.8s						
FLN	**La Foliniere**	149.24	2	*e*PKP1	PKPdf	15 08 09.7	+6.1
	comp=Z,29nm,1.0s						
LDF	**La Druitiere**	149.42	2	*e*PKP1	PKPdf	15 08 10.0	+6.1
	comp=Z,4.9nm,0.6s						
GRR	**Gorron**	149.60	3	*e*PKP1	PKPdf	15 08 10.7	+6.5
	comp=Z,11nm,0.7s						
HAU	**Haudompre**	149.74	353	*e*PKP1	PKPdf	15 08 11.2	+6.7
HINF	**Hinteralfeld**	149.87	352	*e*PKP1	PKPdf	15 08 11.4	+6.7
	comp=Z,4.9nm,0.6s						
DAVOX	**Davos**	150.38	348	PKPbc	PKPdf	15 08 13.6	+8.1
	comp=Z,9.1nm,0.7s,baz=168,slow=0.6,SNR=13						
LOR	**Lormes**	150.69	356	*e*PKP1	PKPdf	15 08 13.6	+7.7
	comp=Z,8.5nm,0.6s						
SSF	**Saint Saulge**	150.91	357	*e*PKP1	PKPdf	15 08 14.1	+7.8
	comp=Z,8.1nm,0.6s						
CABF	**La Chapelle**	151.15	353	*e*PKP1	PKPdf	15 08 14.1	+7.5
	comp=Z,9.4nm,0.8s						
AVF	**Avril sur Loir**	151.19	357	*e*PKP1	PKPdf	15 08 14.3	+7.6
	comp=Z,4.8nm,0.7s						
MFF	**Saint Martin d**	151.41	2	*e*PKP1	PKPdf	15 08 14.9	+7.9
	comp=Z,9.6nm,0.8s						
BGF	**Bois d'Agland**	151.45	358	*e*PKP1	PKPdf	15 08 15.3	+8.2

	comp=Z,5.7nm,0.4s						
TCF	Toulx Ste Croi	151.74	359	*e*PKP1	PKPdf	15 08 15.7	+8.2
	comp=Z,10nm,0.9s						
LPL	La Plagne	152.14	352	*e*PKP1	PKPdf	15 08 17.7	+10
LPG	La Plagne	152.16	352	*e*PKP1	PKPdf	15 08 17.2	+9.1
RJF	Les Rejaudoux	152.73	360	*e*PKP1	PKPdf	15 08 17.9	+9.0
ORIF	Oris-en-Rattie	152.84	353	*e*PKP1	PKPdf	15 08 19.2	+10
MBDF	Montbardon	152.91	351	*e*PKP1	PKPdf	15 08 19.5	+10
	comp=Z,3.9nm,0.6s						
VIVF	Saint-Julien-l	153.03	355	*e*PKP1	PKPdf	15 08 19.0	+10
ESDC	Sonseca Array	157.89	11	PKPab	PKPab	15 08 53.5	-1.3
	comp=Z,0.9nm,0.8s,baz=319,slow=1.6,SNR=5.6						

NEIC 28 14:50:24.0,35.07S×70.57W,h2^{km},ML3.2(GUC),After GUC.

GUC 28 14:50:24.0±0.7,35.07S×70.57W,h2^{km},MD3.4,ML3.2, 8C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.55	277	*i* P	Pg	14 50 34.8	-0.1
SFDO	San Fernando	0.59	321	⇑*i*P	Pg	14 50 35.7	0.0
SFDO				*i* S	Sg	14 50 44.8	+1.2
CICH	Cipreses	0.76	9	⇑*i*P	Pg	14 50 37.4	-1.8
CICH				*i* S	Sg	14 50 48.1	-1.2
TALC	Talca	0.93	249	⇓*i*P	Pb	14 50 41.7	-0.8
TALC				*i* S	Sg	14 50 55.9	+0.9
TALC				AMP		14 50 56.5	
	comp=E,3μm,0.1s						
CHCH	Chadas Angostu	1.14	356	⇑*i*P	Pb	14 50 44.9	-1.1
CHCH				*i* S	Sb	14 50 60.0	-1.2
LNV	Longovilo	1.31	328	⇑*i*P	Pb	14 50 48.0	-1.1
LNV				*i* S	Sb	14 51 06.2	0.0
PCH	Pirque	1.45	2	⇑*i*P	Pn	14 50 50.3	-1.0
PCH				*i* S	Sb	14 51 10.3	+0.2
TACH	Talagante	1.45	348	⇑*i*P	Pn	14 50 50.3	-1.0
TACH				*i* S	Sb	14 51 10.2	+0.1
CLCH	Cerro Calan	1.67	1	⇑*i*P	Pn	14 50 54.1	-0.4
CLCH				*i* S	Sb	14 51 16.6	-0.1
CLCH				AMP		14 51 18.6	
	comp=N,457nm,0.6s						
FCH	Farellones	1.75	8	*e*P	Pn	14 50 55.8	+0.1
FCH				*i* S	Sn	14 51 19.7	+0.8
FCH				AMP		14 51 21.7	
	comp=E,252nm,0.2s						
LCCH	Las Cruces	1.80	332	⇓*i*P	Pn	14 50 56.0	-0.3
LCCH				*i* S	Sn	14 51 20.2	+0.2
PEL	Peldehue	1.93	357	*e*P	Pn	14 50 58.4	+0.3
PEL				*i* S	Sn	14 51 24.3	+1.0
JACH	Jahuel	2.38	359	⇑*i*P	Pn	14 51 05.5	+0.8
JACH				*i* S	Sn	14 51 37.3	+2.4

GUC 28 14:52:20.2±1.1,34.99S×70.53W,h3^{km}±3^{km},ML3.8

NEIC 28 14:52:20.2,34.99S×70.53W,h3^{km},ML3.8(GUC),After GUC.

IDC 28 14:52:21.4±1.2,34.95S×70.89W,mb3.7/2,mb1 4.1/5, mb1mx3.9/14,ML4.0/3,Error ellipse: s-maj=37.7km s-min=18.7km az=91.0

ISC 28 14:52:20.3±0.5,34.99S±0.02×70.53W±0.04,h3^{km},n28, σ0^{s}89/42,mb3.6/2,5C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.55	313	⇓*i*P	Pg	14 52 31.4	+0.1
NICH	Los Niches	0.58	269	⇓*i*P	Pg	14 52 31.9	+0.1
NICH				*i* S	Sg	14 52 40.9	+1.3
CICH	Cipreses	0.68	7	*e*P	Pg	14 52 32.9	-0.9
CICH				*i* S	Sg	14 52 42.8	0.0
CACH	El Canelo	0.88	356	⇑*i*P	Pb	14 52 36.5	-1.2
CACH				*i* S	Sg	14 52 50.4	+1.0
TALC	Talca	0.99	246	⇓*i*P	Pb	14 52 38.5	-1.3
TALC				*i* S	Sb	14 52 52.8	-0.3
TALC				AMP		14 52 52.9	
	comp=E,8μm,0.5s						
CHCH	Chadas Angostu	1.06	354	⇓*i*P	Pb	14 52 40.2	-0.7
LMEL	Las Melosas	1.17	13	⇑*i*P	Pb	14 52 41.7	-1.1
LMEL				*i* S	Sb	14 52 57.2	-1.0
LMEL				AMP		14 53 18.8	
	comp=N,1μm,0.4s						
LNV	Longovilo	1.27	324	⇑*i*P	Pb	14 52 43.6	-0.8
LNV				*i* S	Sb	14 53 00.6	-0.3
PCH	Pirque	1.37	0	*e*P	Pb	14 52 45.4	-0.8
TACH	Talagante	1.38	346	*e*P	Pb	14 52 45.2	-1.1
TACH				*i* S	Sb	14 53 03.9	-0.4
ANTU	Antumapu	1.42	356	*e*P	Pn	14 52 46.5	-0.6
ANTU				*i* S	Sb	14 53 05.7	+0.2
ANTU				AMP		14 53 08.1	
	comp=E,2μm,0.2s						
SAN	Santiago	1.54	356	⇑*i*P	Pn	14 52 47.9	-0.8
SAN				AMP		14 53 14.0	
	comp=E,2μm,0.6s						
DSCH	Colegio Aleman	1.59	359	*e*P	Pn	14 52 49.3	-0.2
DSCH				*i* S	Sb	14 53 10.6	+0.3
DSCH				AMP		14 53 22.4	
	comp=N,4μm,0.8s						
CLCH	Cerro Calan	1.59	360	⇑*i*P	Pn	14 52 49.5	0.0
CLCH				*i* S	Sb	14 53 11.7	+1.2
CLCH				AMP		14 53 22.7	
	comp=N,2μm,0.3s						
FCH	Farellones	1.67	7	*e*P	Pn	14 52 50.8	+0.2
FCH				*i* S	Sb	14 53 13.6	+0.9
FCH				AMP		14 53 27.7	
	comp=N,1μm,0.3s						
LCCH	Las Cruces	1.74	330	*i* S	Sn	14 53 14.4	-0.2
PEL	Peldehue	1.85	356	*e*P	Pn	14 52 53.5	+0.3
PEL				*i* S	Sn	14 53 18.6	+1.3
CCHI	Chillan	2.04	218	⇓*i*P	Pn	14 52 56.0	+0.1
CCHI				*i* S	Sn	14 53 23.2	+1.0
CCHI				AMP		14 53 33.4	
	comp=N,1μm,0.3s						
JACH	Jahuel	2.31	359	*e*P	Pn	14 53 00.1	+0.4
JACH				*e*S	Sn	14 53 30.8	+1.9
MDZ	Mendoza	2.52	34	*e*P	Pn	14 53 06.5	+3.7
PLCA	Paso Flores	5.73	180	Pn	Pn	14 53 49.4	+1.1
	comp=N,0.6nm,0.3s,baz=333,slow=16,SNR=6.2						
PLCA				Pg	Pg	14 54 05.3	-9.4
	comp=N,0.5nm,0.3s,baz=342,slow=15,SNR=4.4						
PLCA				Lg		14 55 26.0	
	comp=N,0.7nm,0.3s,baz=90,slow=20,SNR=2.2						
TRQA	Tornquist	7.53	116	*e*P	Pn	14 54 13.5	-0.1
	comp=N,18nm,1.0s						
CPUP	Villa Florida	14.25	56	Pn	P	14 55 47.9	+2.7
	comp=N,0.2nm,0.3s,baz=236,slow=12,SNR=3.7						
CPUP				Lg		15 00 03.0	
	comp=N,0.2nm,0.3s,baz=202,slow=5.3,SNR=5.8						
LPAZ	La Paz	18.75	7	P	P	14 56 42.5	0.0
	comp=N,0.3nm,0.3s,baz=186,slow=4.0,SNR=6.2						
TXAR	Lajitas Array	71.21	330	P	P	15 03 41.2	-1.5
	comp=N,0.5nm,0.6s,mb3.6,baz=154,slow=8.8,SNR=7.0						
TXAR	Lajitas Array	71.21	330	P	P	15 03 41.2	-1.5
NVAR	Mina Array Bea	85.41	324	P	P	15 05 00.3	+0.1
	comp=N,0.3nm,0.5s,mb3.7,baz=119,slow=9.3,SNR=3.1						
BVAR	Borovoye Array	147.13	45	PKPbc	PKPdf	15 12 04.8	+0.6
	comp=N,1.0nm,0.7s,baz=333,slow=3.3,SNR=4.2						

FUNV 28 14:53:17.6,11.00N×61.98W,h69^{km},MW2.5

TRN 28 14:53:17.1,11.26N×61.73W,h14^{km},MD2.9

ISC 28 14:53:14.6±0.8,11.10N±0.04×61.91W±0.04,h72^{km}±10^{km}, n14,σ0^{s}91/25,1C,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	Guiria	0.54	215	*e*P	P	14 53 29.1	+0.9
GUIV				*e*S	S	14 53 38.2	0.0
TRN	Trinidad (W)	0.67	132	*e*P	P	14 53 30.6	+1.1
TRN				*e*S	S	14 53 40.8	+0.2
TPP	Pointe-a-Pierr	0.90	150	*e*S	S	14 53 49.1	+3.9
TBH	Brigand Hill	1.03	126	*e*P	P	14 53 37.8	+4.0
GRW	Mount Saint Ca	1.08	13	⇑*e*P	P	14 53 34.3	-0.3
GRW				*e*S	S	14 53 48.1	-1.3
TPR	Prospect	1.11	85	*e*P	P	14 53 34.6	-0.4
TPR				*e*S	S	14 53 48.8	-1.3
BOT	Bacolet	1.17	86	*e*P	P	14 53 36.5	+0.9
ITEV	Isla Los Testi	1.23	282	*e*P	P	14 53 37.7	+1.2
ITEV				*e*S	S	14 53 53.4	+0.7
CRUV	Carupano	1.37	252	*e*P	P	14 53 39.0	+0.5
CRUV				*e*S	S	14 53 54.5	-1.6
GUNV	Guanoco	1.38	228	*e*P	P	14 53 39.3	+0.7
GUNV				*e*S	S	14 53 55.3	-1.0
SVB	Belmont	2.25	16	*e*P	P	14 53 50.8	+0.3
SVB				*e*S	S	14 54 17.6	+0.4
SVV	Soufriere Volc	2.31	17	*e*P	P	14 53 51.5	+0.2
SVV				*e*S	S	14 54 18.4	-0.2
RIOV	Rio Grande	3.01	178	*e*P	P	14 54 01.0	-0.2
RIOV				*e*S	S	14 54 32.7	-3.5
CUPV	Cœpira	3.95	255	*e*P	P	14 54 13.6	-0.7
CUPV				*e*S	S	14 54 54.6	-5.1

NEIC 28 14:56:52.8,35.03S×70.63W,h4^{km},ML3.5(GUC),After GUC.

GUC 28 14:56:52.8±0.8,35.03S×70.63W,h4^{km}±3^{km},ML3.5, 10C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.52	322	⇑*i*P	Pg	14 57 03.3	+0.1
SFDO				*i* S	Sg	14 57 11.4	+1.3
CICH	Cipreses	0.72	14	⇓*i*P	Pg	14 57 05.8	-1.5
CICH				*i* S	Sg	14 57 15.8	-1.2
TALC	Talca	0.90	245	⇑*i*P	Pb	14 57 10.0	-0.6
TALC				*i* S	Sb	14 57 23.2	+0.4
TALC				AMP		14 57 23.4	
	comp=N,4μm,0.1s						
CACH	El Canelo	0.91	2	⇑*i*P	Pb	14 57 09.2	-1.5
CACH				*i* S	Sb	14 57 22.1	-0.8
CHCH	Chadas Angostu	1.09	359	⇑*i*P	Pb	14 57 13.2	-0.6
CHCH				*i* S	Sb	14 57 28.3	+0.1
LNV	Longovilo	1.25	329	⇑*i*P	Pb	14 57 15.6	-0.9
LNV				*i* S	Sb	14 57 32.9	+0.1
TACH	Talagante	1.39	349	⇑*i*P	Pb	14 57 18.0	-1.0
TACH				*i* S	Sb	14 57 37.1	+0.1
PCH	Pirque	1.40	4	⇑*i*P	Pb	14 57 18.2	-1.0
PCH				*i* S	Sb	14 57 37.7	+0.3
FCH	Farellones	1.72	10	⇑*i*P	Pn	14 57 23.7	+0.1
FCH				*i* S	Sn	14 57 47.4	+1.0
LCCH	Las Cruces	1.73	333	⇑*i*P	Pn	14 57 24.0	+0.1
LCCH				*i* S	Sn	14 57 47.1	+0.4
JACH	Jahuel	2.34	1	⇑*i*P	Pn	14 57 33.8	+1.2
JACH				*i* S	Sn	14 58 05.7	+3.6

NEIC 28 15:11:24.0±0.8,35.08S×70.40W,h10^{km},Error ellipse: s-maj=10.7km s-min=8.2km az=103.0

GUC 28 15:11:24.7±1.0,35.04S×70.51W,MD3.7,ML3.8

ISC 28 15:11:23.9±0.9,35.14S±0.04×70.45W±0.06,h10^{km},n25, σ0^{s}96/47,10C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.66	281	⇑*i*P	Pb	15 11 36.7	-0.3
NICH				*i* S	Sb	15 11 45.8	-0.1
SFDO	San Fernando	0.70	318	⇓*i*P	Pb	15 11 36.6	-1.2
CICH	Cipreses	0.81	2	⇑*i*P	Pb	15 11 38.4	-1.3
CICH				*i* S	Sb	15 11 49.9	-0.6
TALC	Talca	1.01	255	*i* P	Pb	15 11 42.7	-0.3
TALC				*i* S	Sb	15 11 56.7	+0.6
TALC				AMP		15 11 57.2	
	comp=N,14μm,0.2s						
CACH	El Canelo	1.02	353	⇑*i*P	Pb	15 11 41.9	-1.4
CACH				*i* S	Sb	15 11 56.5	-0.1
CHCH	Chadas Angostu	1.21	352	⇑*i*P	Pb	15 11 45.5	-1.0
CHCH				*i* S	Sb	15 12 02.1	+0.1
LMEL	Las Melosas	1.30	9	⇑*i*P	Pb	15 11 47.2	-0.8
LMEL				*i* S	Sb	15 12 05.3	+0.7
LMEL				AMP		15 12 08.3	
	comp=N,1μm,0.1s						
LNV	Longovilo	1.42	326	⇑*i*P	Pn	15 11 48.8	-1.1
LNV				*i* S	Sb	15 12 07.1	-1.0
PCH	Pirque	1.51	358	*i* P	Pn	15 11 50.8	-0.5
PCH				*i* S	Sb	15 12 11.1	+0.3
TACH	Talagante	1.53	345	*i* P	Pn	15 11 50.6	-0.9
TACH				*i* S	Sb	15 12 10.8	-0.5
ANTU	Antumapu	1.57	354	*i* P	Pn	15 11 51.9	-0.2
ANTU				*i* S	Sb	15 12 12.3	-0.1
ANTU				AMP		15 12 14.4	
	comp=E,3μm,0.4s						
STL	Santa Lucia	1.70	355	⇑*i*P	Pn	15 11 53.9	-0.1
STL				*i* S	Sn	15 12 16.2	+0.2
STL				AMP		15 12 18.1	
	comp=E,959nm,0.4s						
DSCH	Colegio Aleman	1.73	357	*i* P	Pn	15 11 54.9	+0.5
DSCH				*i* S	Sn	15 12 17.5	+0.7
DSCH				AMP		15 12 19.1	
	comp=E,3μm,0.4s						
CLCH	Cerro Calan	1.74	358	⇑*i*P	Pn	15 11 54.6	+0.2
CLCH				*i* S	Sn	15 12 16.3	-0.5
CLCH				AMP		15 12 19.4	
	comp=E,4μm,0.4s						
CLCH				AMP		15 12 20.2	
	comp=E,5μm,0.4s						
FCH	Farellones	1.81	4	⇑*i*P	Pn	15 11 56.4	+0.9
FCH				*i* S	Sn	15 12 20.4	+1.8
FCH				AMP		15 12 23.2	
	comp=N,1μm,0.3s						
LCCH	Las Cruces	1.90	330	⇑*i*P	Pn	15 11 56.9	+0.1
LCCH				*i* S	Sn	15 12 21.1	+0.2
CCHI	Chillan	1.97	222	*i* P	Pn	15 12 00.0	+2.2
CCHI				*i* S	Sn	15 12 27.1	+4.2
CCHI				AMP		15 12 31.4	
	comp=E,942nm,0.7s						
CCHI	Chillan	1.97	222	P	Pn	15 12 00.2	+2.4
CCHI				S	Sn	15 12 29.5	+6.6
IHA	Instituto Hidr	2.33	334	*i* P	Pn	15 12 03.1	+0.3
IHA				*i* S	Sn	15 12 32.7	+1.0
IHA	Instituto Hidr	2.33	334	P	Pn	15 12 03.4	+0.6
IHA				S	Sn	15 12 34.3	+2.5
JACH	Jahuel	2.45	357	*i* P	Pn	15 12 06.1	+1.4
JACH				*i* S	Sn	15 12 37.3	+2.4
JACH	Jahuel	2.45	357	P	Pn	15 12 06.1	+1.4
JACH				S	Sn	15 12 38.0	+3.1
MDZ	Mendoza	2.61	31	*e*P	Pn	15 12 11.6	+4.7
MDZ				*e*		15 12 46.8	
TRQA	Tornquist	7.41	116	*e*Pn	Pn	15 13 11.1	-3.7
TRQA				*e*Sn	Sn	15 14 33.7	-6.1
LVC	Limon Verde	12.55	7	P	P	15 14 20.9	-4.6
	comp=E,6.3nm,1.0s						

IDC 28 15:12:08.0±43.0,13.86S×162.87E,mb4.0/3,mb1 4.2/3, mb1mx3.8/14,Error ellipse: s-maj=719.0km s-min=98.8km az=62.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	26.48	224	P	P	15 17 47.1	-1.7
	3.0nm,1.1s,baz=48,slow=14,SNR=3.5						
WRA	Warramunga Arr	27.94	254	P	P	15 18 00.1	-2.1
	0.7nm,0.6s,baz=85,slow=9.0,SNR=11						
ASAR	Alice Springs	29.06	246	P	P	15 18 10.4	-1.9
	1.8nm,0.5s,baz=70,slow=9.5,SNR=25						

NEIC 28 15:14:34.6,35.07S×70.47W,h10^{km},ML3.4(GUC),After GUC.

GUC 28 15:14:34.6±0.8,35.07S×70.47W,h10^{km}±7^{km},MD3.5, ML3.4,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.64	316	⇑*i*P	Pb	15 14 47.3	-0.1
SFDO				*i* S	Sg	15 14 56.4	+0.3
CICH	Cipreses	0.75	3	*i* P	Pb	15 14 49.0	-0.3
CICH				*i* S	Sb	15 15 00.1	+0.8
CACH	El Canelo	0.96	354	⇑*i*P	Pb	15 14 52.6	-0.2
CACH				*i* S	Sb	15 15 05.4	+0.1
TALC	Talca	1.00	251	⇓*i*P	Pb	15 14 53.1	-0.5
TALC				*i* S	Sb	15 15 06.7	0.0
TALC				AMP		15 15 07.2	
	comp=N,8μm,0.1s						
CHCH	Chadas Angostu	1.15	352	*i* P	Pb	15 14 56.2	+0.2
CHCH				*i* S	Sb	15 15 12.0	+1.2
PCH	Pirque	1.45	359	*i* P	Pn	15 15 01.8	+0.8
PCH				*i* S	Sb	15 15 21.4	+1.8
TACH	Talagante	1.47	345	⇑*i*P	Pn	15 15 01.6	+0.4
TACH				*i* S	Sb	15 15 21.0	+0.9
CLCH	Cerro Calan	1.67	358	*i* P	Pn	15 15 03.7	-0.5
CLCH				AMP		15 15 39.1	
	comp=N,551nm,0.6s						
FCH	Farellones	1.75	5	*i* P	Pn	15 15 05.3	0.0
FCH				AMP		15 15 32.4	
	comp=N,332nm,0.3s						
LCCH	Las Cruces	1.83	330	*i* P	Pn	15 15 05.8	-0.7
LCCH				*e*S	Sn	15 15 30.5	+0.6
CCHI	Chillan	2.01	220	AMP		15 15 41.0	
	comp=N,448nm,0.2s						

GUC 28 15:22:26.5±0.5,35.05S×70.63W,MD3.7,ML3.2,3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.54	324	*i* P	Pg	15 22 37.8	+0.6
SFDO				*i* S	Sg	15 22 45.6	+1.3
TALC	Talca	0.89	247	⇓*i*P	Pg	15 22 44.2	-0.2
TALC				*i* S	Sg	15 22 57.5	+1.3
TALC				AMP		15 22 57.8	
	comp=N,2μm,0.2s						
CHCH	Chadas Angostu	1.11	359	⇑*i*P	Pb	15 22 47.4	-0.8
CHCH				*i* S	Sb	15 23 04.0	+0.8
LNV	Longovilo	1.27	329	⇑*i*P	Pb	15 22 49.9	-1.0
LNV				*i* S	Sb	15 23 07.8	+0.2
CLCH	Cerro Calan	1.65	3	*i* P	Pn	15 22 56.3	-0.5
CLCH				*i* S	Sb	15 23 19.1	+0.3
CLCH				AMP		15 23 24.6	
	comp=E,325nm,0.4s						
FCH	Farellones	1.74	9	⇑*i*P	Pn	15 22 58.1	-0.1
FCH				*i* S	Sn	15 23 22.6	+1.2
LCCH	Las Cruces	1.75	333	*i* P	Pn	15 22 57.9	-0.4
LCCH				*i* S	Sn	15 23 21.6	-0.1

GUC 28 15:25:13.6±0.7,35.05S×70.49W,h0^{km}±6^{km},MD3.5, ML2.9,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.61	315	⇓*i*P	Pg	15 25 26.0	+0.3
CHCH	Chadas Angostu	1.12	353	*i* P	Pb	15 25 34.3	-1.2
CHCH				*i* S	Sb	15 25 51.1	+0.8
LNV	Longovilo	1.32	325	⇑*i*P	Pb	15 25 38.1	-0.9
LNV				*i* S	Sb	15 25 56.3	-0.1
PCH	Pirque	1.42	359	⇑*i*P	Pb	15 25 40.0	-0.7
TACH	Talagante	1.44	345	*i* P	Pn	15 25 39.8	-1.1
FCH	Farellones	1.72	6	*i* P	Pn	15 25 45.0	+0.1
FCH				*i* S	Sb	15 26 09.1	+1.1
FCH				AMP		15 26 18.3	
	comp=E,226nm,0.4s						
LCCH	Las Cruces	1.80	330	⇓*i*P	Pn	15 25 46.0	-0.1
LCCH				*i* S	Sn	15 26 10.1	+0.1

KRSC 28 15:52:42.2±0.3,48.72N×156.40E,h39^{km}±11^{km},ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.97	355	*e*P	P	15 53 13.8	0.0
SKR				*e*S	S	15 53 36.8	-0.7
ALID	Alaid	2.22	346	*e*P	P	15 53 17.7	+0.3
ALID				*e*S	S	15 53 43.8	0.0
PAU	Pauzhetka	2.76	5	*e*P	P	15 53 24.8	-0.3
PAU				*e*S	S	15 53 55.8	-1.8
PAU				Smax			
	100nm,0.2s						
MIPR	Malaya Ipel'ka	3.57	4	*e*P	P	15 53 36.9	+0.4
RUS	Russkaya	3.95	19	*e*P	P	15 53 42.4	+0.4
RUS				*e*S	S	15 54 26.3	-1.5
GRL	Gorelyy	3.98	15	*e*P	P	15 53 43.7	+1.3
GRL				*e*S	S	15 54 28.5	0.0
PET	Petropavlovsk	4.54	17	*e*P	P	15 53 50.1	-0.2
PET				*e*S	S	15 54 39.3	-3.2
UGLR	Uglovaya	4.75	18	*e*P	P	15 53 52.1	-1.2
AVH	Avacha	4.78	17	*e*P	P	15 53 53.7	-0.1
AVH				*e*S	S	15 54 46.4	-2.3
KOK	Koryaka	4.79	16	*e*P	P	15 53 55.3	+1.4
SDLR	Sedlovina	4.83	18	*e*P	P	15 53 52.5	-1.9
SPN	Mys Shipunski	4.95	26	*e*P	P	15 53 56.1	+0.1
SPN				*e*S	S	15 54 50.2	-2.6
GNL	Ganaly	5.08	10	*e*P	P	15 53 59.2	+1.3
MKZ	Mys Kozlova	6.72	28	*e*P	P	15 54 20.3	-0.6
MKZ				*e*S	S	15 55 31.8	-5.3
KMNR	Kamenistaya	7.43	17	*e*P	P	15 54 32.5	+1.7
KBTR	Krutoberegovo	8.46	25	*e*P	P	15 54 45.3	+0.2

IDC 28 15:56:27.9±4.2,5.55S×153.34E,mb3.7/6,mb1 3.9/6, mb1mx3.8/14,Error ellipse: s-maj=110.0km s-min=26.3km az=108.0

ISC 28 15:56:40.3±4.9,5.6S±0.3×153.0E±0.9,h100^{km},n6, σ1^{s}38/6,mb3.5/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.07	230	P	P	16 01 38.5	+0.7
	1.1nm,0.8s,mb3.2,baz=53,slow=9.7,SNR=8.1						
ASAR	Alice Springs	25.70	224	P	P	16 02 03.3	+0.4
	1.3nm,0.9s,mb3.4,baz=63,slow=8.3,SNR=7.0						
FITZ	Fitzroy Crossi	29.45	243	P	P	16 02 35.0	-1.9
	2.0nm,0.6s,mb4.0,baz=80,slow=4.1,SNR=8.0						
CMAR	Chiang Mai Arr	58.37	296	P	P	16 06 29.0	+1.2
	0.6nm,0.8s,mb3.7,baz=112,slow=4.8,SNR=5.1						
SONM	Songino Array	67.08	328	P	P	16 07 24.5	-0.6
	0.4nm,0.9s,mb3.2,baz=124,slow=5.2,SNR=2.9						
MKAR	Makanchi Array	81.03	319	P	P	16 08 45.6	0.0
	0.4nm,0.5s,mb3.5,baz=92,slow=7.1,SNR=7.5						

GUC 28 16:05:39.9±0.9,35.07S×70.53W,h6^{km}±3^{km},MD3.9, ML3.3,8C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.58	276	⇑*i*P	Pg	16 05 51.7	+0.2
NICH				*i* S	Sg	16 06 01.1	+1.7
SFDO	San Fernando	0.60	318	⇓*i*P	Pg	16 05 51.6	-0.4
CICH	Cipreses	0.75	7	⇓*i*P	Pg	16 05 53.1	-1.8
CICH				*i* S	Sg	16 06 03.9	-1.1
CACH	El Canelo	0.95	356	⇑*i*P	Pb	16 05 56.8	-1.6
CACH				*i* S	Sb	16 06 10.2	-0.8
TALC	Talca	0.97	250	⇑*i*P	Pb	16 05 57.8	-0.9
TALC				*i* S	Sb	16 06 11.5	+0.1
TALC				AMP		16 06 12.7	
	comp=E,4μm,0.1s						
CHCH	Chadas Angostu	1.14	355	⇓*i*P	Pb	16 06 00.4	-1.2
CHCH				*i* S	Sb	16 06 16.1	-0.3
LNV	Longovilo	1.33	326	⇑*i*P	Pb	16 06 03.7	-1.1
LNV				*i* S	Sb	16 06 22.2	+0.2
PCH	Pirque	1.44	0	⇑*i*P	Pn	16 06 05.6	-1.1
PCH				*e*S	Sb	16 06 25.7	+0.4
TACH	Talagante	1.45	346	⇓*i*P	Pn	16 06 05.7	-1.1
TACH				*i* S	Sb	16 06 25.5	0.0
CLCH	Cerro Calan	1.67	360	⇑*i*P	Pn	16 06 09.6	-0.2
CLCH				*i* S	Sn	16 06 31.4	-0.4
CLCH				AMP		16 06 43.0	
	comp=E,575nm,0.5s						
FCH	Farellones	1.75	6	⇑*i*P	Pn	16 06 11.3	+0.3
FCH				*i* S	Sn	16 06 35.0	+1.3
FCH				AMP		16 06 46.4	
	comp=N,367nm,0.2s						
LCCH	Las Cruces	1.81	331	⇓*i*P	Pn	16 06 11.6	-0.3
LCCH				*e*S	Sn	16 06 35.6	+0.2
JACH	Jahuel	2.38	359	⇑*i*P	Pn	16 06 21.0	+1.0

IDC 28 16:09:32.6±0.5,8.83S×157.46E,mb4.9/21,mb1 5.0/22, mb1mx5.0/23,ML3.6/1,MS5.0/14,Ms1 5.0/14, ms1mx4.9/21,Error ellipse: s-maj=16.2km s-min=11.6km az=122.0,Putative timing error on ZAL

BJI 28 16:09:33.8,8.47S×157.60E,h13^{km},mB5.6,mb5.3,Ms5.4, Msz5.1

MOS 28 16:09:33.7±1.1,8.65S×157.25E,h10^{km},mb5.3/34, MS5.1/19,Error ellipse: s-maj=11.1km s-min=8.8km az=80.7

HRVD 28 16:09:35.2±0.5,8.97S×157.18E,h23^{km}±1^{km},MW5.6/56, Centroid moment Tensor Solution. LP body waves: s16,c19;Mantle waves: s56,c86; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.75±.25; $M_{\theta\theta}$-2.05±.16; $M_{\phi\phi}$-0.70±.14; $M_{r\theta}$1.15±.23; $M_{\theta\phi}$0.60±.07; $M_{\phi r}$-1.35±.25; Best double couple: $M_0$3.06×10^{17} NP1: ϕ_s282°,δ30°,λ70°. NP2:ϕ_s125°,δ62°,λ101°. Principal *axes: T 3.37, Plg71°, Azm60°; N -.62, Plg10°, Azm300°; P -2.74, Plg17°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **28** 16:09:35.1, 8.82S×157.35E, $h14^{km}$, MB5.2, MS5.3*

*NEIC **28** 16:09:35.2±3.6, 8.82S×157.35E, $h14^{km}±22^{km}$, mb5.2/35, MS5.3/72, Error ellipse: s-maj=7.7km s-min=6.7km az=57.0*

ISC 28 16:09:34.3±0.2**, 8.80S**±0.03×**157.40E**±0.04**, $h18^{km}$, $h18^{km}$**±2.5^{km}**:pP-P, n266,** σ1^{s}**18**/161**, mb5.1**/67**, MS5.2**/95**, 6C-2D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.59**	**104**	*e*P	**Pn**	**16 10 14.0**	**-2.3**
HNR				*e*S	**Sn**	**16 10 55.0**	**+7.3**
PMG	**Port Moresby**	**10.13**	**266**	Pn	**P**	**16 12 02.1**	**-0.2**
PMG				LR	LR	16 15 42.7	
	comp=Z,21µm,19.1s,baz=57,slow=36						
PMG	**Port Moresby**	**10.13**	**266**	*e*P	**P**	**16 12 02.7**	**+0.5**
	133nm,1.3s						
CTA	**Charters Tower**	**15.56**	**223**	*e*P	**P**	**16 13 13.2**	**-1.5**
	31nm,1.0s						
CTA	**Charters Tower**	**15.56**	**223**	Pn	**P**	**16 13 13.9**	**-0.8**
	0.1nm,0.3s,baz=50,slow=15,SNR=11						
CTA				Sn	**S**	**16 16 06.3**	**-0.6**
	0.1nm,0.3s,baz=27,slow=18,SNR=2.2						
CTAO	**Charters Tower**	**15.56**	**223**	*e*P	**P**	**16 13 13.0**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,130nm,1.4s						
CTAO	**Charters Tower**	**15.56**	**223**	*e*P	**P**	**16 13 13.0**	**-1.7**
	comp=Z,132nm,1.4s						
NOUC	**Port Laguerre**	**15.75**	**148**	*e*P	**P**	**16 13 16.8**	**-0.4**
NOUC	**Port Laguerre**	**15.75**	**148**	*e*P	**P**	**16 13 16.8**	**-0.4**
DZM	**Mont Dzumac**	**15.80**	**148**	*e*P	**P**	**16 13 17.7**	**-0.2**
DZM	**Mont Dzumac**	**15.80**	**148**	*e*P	**P**	**16 13 17.7**	**-0.2**
KWAJ	**Kwajalein Atol**	**20.23**	**30**	PFAKE		16 14 20.0	+8.4
KWAJ				LR	LR		
	comp=Z,1µm,20.0s,MS4.3						
ARMA	**Armidale**	**22.18**	**193**	*e*P	**P**	**16 14 32.3**	**+1.1**
KAKA	**Kakadu**	**24.86**	**259**	*e*P	**P**	**16 14 56.8**	**-0.8**
	comp=Z,47nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**24.88**	**241**	*e*P	**P**	**16 14 57.7**	**-0.1**
	comp=Z,55nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**24.89**	**241**	*e*P	**P**	**16 14 57.6**	**-0.2**
WB2				*e*S	**S**	**16 19 17.8**	**+0.6**
WRA	**Warramunga Arr**	**24.90**	**241**	P	**P**	**16 14 57.8**	**-0.1**
	comp=Z,32nm,0.8s,mb4.9,baz=66,slow=9.3,SNR=102						
WRA				PcP	PcP	16 18 32.1	-2.5
	comp=Z,1.6nm,0.9s,baz=66,slow=5.6,SNR=11						
WRA				S	**S**	**16 19 22.8**	**+5.4**
	comp=Z,15nm,1.0s,baz=65,slow=9.2,SNR=2.5						
WRA				LR	LR	16 24 10.3	
	comp=Z,9µm,19.9s,MS5.3,baz=55,slow=35						
WRA	**Warramunga Arr**	**24.90**	**241**	P	**P**	**16 14 57.8**	**-0.1**
WRA						16 18 32.1	
WRA				S	**S**	**16 19 22.8**	**+5.4**
WRA				pmax	pmax		
	comp=Z,32nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA				smax			
	comp=N,15nm,1.0s						
WRA				MLR	MLR		
	comp=Z,9µm,20.0s						
GUMO	**Guam**	**25.49**	**331**	PFAKE		16 15 10.0	+6.5
GUMO				LR	LR		
	comp=Z,3µm,19.0s,MS4.9						
ASAR	**Alice Springs**	**26.90**	**234**	P	**P**	**16 15 15.2**	**-1.4**
	comp=Z,13nm,0.9s,mb4.5,baz=65,slow=9.1,SNR=53						
ASAR				PcP	PcP	16 18 37.1	-2.0
	comp=Z,4.1nm,1.1s,baz=63,slow=3.2,SNR=4.5						
ASAR				LR	LR	16 25 24.6	
	comp=Z,5µm,18.8s,MS5.1,baz=49,slow=35						
ASPA	**Alice Springs**	**26.91**	**234**	*e*P	**P**	**16 15 14.5**	**-2.1**
STKA	**Stephens Creek**	**27.25**	**210**	*e*P	**P**	**16 15 22.0**	**+2.3**
	comp=Z,32nm,0.9s,mb4.9						
STKA				*e*S	**S**	**16 20 04.0**	**+7.8**
STKA	**Stephens Creek**	**27.25**	**210**	P	**P**	**16 15 20.0**	**+0.3**
	comp=Z,26nm,0.7s,mb4.8,baz=14,slow=11,SNR=40						
STKA				LR	LR	16 25 40.0	
	comp=Z,4µm,20.2s,MS5.0,baz=32,slow=36						
CNB	**Canberra Magne**	**27.40**	**194**	*e*P	**P**	**16 15 21.9**	**+1.0**
	comp=Z,58nm,1.2s,mb5.0						
TOO	**Toolangi**	**30.60**	**199**	*e*P	**P**	**16 15 49.8**	**+0.1**
	comp=Z,8.6nm,1.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**32.20**	**250**	*e*P	**P**	**16 16 00.2**	**-3.6**
	comp=Z,8.5nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.20**	**250**	P	**P**	**16 16 01.7**	**-2.2**
	comp=Z,7.3nm,0.9s,mb4.5,baz=75,slow=5.1,SNR=11						
FITZ				LR	LR	16 28 13.1	
	comp=Z,2µm,21.6s,MS4.8,baz=88,slow=35						
URZ	**Urewera**	**34.29**	**152**	P	**P**	**16 16 19.4**	**-2.5**
	comp=Z,14nm,1.1s,mb4.8,baz=66,slow=18,SNR=2.6						
RPZ	**Rata Peaks**	**36.77**	**163**	P	**P**	**16 16 42.3**	**-0.5**
	comp=Z,20nm,1.2s,mb4.8,baz=157,slow=18,SNR=1.8						
RPZ				LR	LR	16 29 18.7	
	comp=Z,3µm,21.2s,MS5.1,baz=322,slow=32						
CBIJ	**Chichi jima**	**38.61**	**338**	LR	LR	16 30 58.8	
	comp=Z,2µm,19.1s,MS4.9,baz=301,slow=33						
PPR	**Puerto Princes**	**42.69**	**295**	*e*P	**P**	**16 17 32.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**44.15**	**231**	P	**P**	**16 17 42.5**	**-1.6**
	comp=Z,13nm,0.8s,mb4.7,baz=53,slow=5.1,SNR=3.4						
NWAO				LR	LR	16 37 55.7	
	comp=Z,5µm,18.7s,MS5.5,baz=57,slow=39						
NWAO	**Narrogin (SRO)**	**44.15**	**231**	P	**P**	**16 17 42.5**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,5µm,18.7s						
JOW	**Kunigami**	**45.31**	**322**	P	**P**	**16 17 52.5**	**-0.9**
	comp=Z,40nm,0.6s,mb5.4,baz=90,slow=20,SNR=2.5						
MAJO	**Matsushiro**	**48.58**	**339**	*e*P	**P**	**16 18 17.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
MAJO				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.8						
MAJO	**Matsushiro**	**48.58**	**339**	*e*P	**P**	**16 18 17.2**	**-1.6**
	comp=Z,24nm,1.1s,mb5.1						
MAJO				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
MAT	**Matsushiro**	**48.58**	**339**	P	**P**	**16 18 15.6**	**-3.3**
MAT				S	**S**	**16 25 19.6**	**+1.0**
MAT	**Matsushiro**	**48.58**	**339**	*e*P	**P**	**16 18 16.0**	**-2.9**
	comp=Z,18nm,1.0s,mb5.1						
JNU	**Nakatsue**	**48.74**	**330**	P	**P**	**16 18 20.1**	**0.0**
	comp=Z,64nm,1.0s,mb5.6,baz=100,slow=5.4,SNR=10						
SSE	**Sheshan**	**52.70**	**320**	P	**P**	**16 18 51.0**	**+0.6**
SSE				AP	pP	16 19 00.0	+4.2
SSE				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.6						
SSE				LR	LR		
	comp=N,471nm,18.9s,MS4.6						
SSE				LR	LR		
	comp=E,222nm,18.9s,MS4.6						
SSE	**Sheshan**	**52.70**	**320**	P	**P**	**16 18 50.9**	**+0.5**
	comp=E,55nm,0.7s,mb5.6						
SSE				pP	pP	16 19 00.0	+4.2
SSE				S	**S**	**16 26 24.9**	**+9.2**
SSE				sS		16 26 41.2	
SSE				LR	LR		
	comp=Z,730nm,19.7s,MS4.7						
INCN	**Inchon**	**54.30**	**330**	*e*P	**P**	**16 19 01.8**	**-0.3**
	comp=Z,183nm,1.2s,mb5.9						
ASAJ	**Asahikawa**	**54.35**	**347**	P	**P**	**16 19 02.2**	**-0.1**
	comp=Z,6.8nm,1.0s,mb4.5,baz=250,slow=12,SNR=2.6						
ASAJ	**Asahikawa**	**54.35**	**347**	P	**P**	**16 19 02.2**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NJ2	**Nanjing**	**54.82**	**320**	*e*P	**P**	**16 19 08.0**	**+2.0**
NJ2				XP	sP	16 19 18.0	+4.5
NJ2				LR	LR		
	comp=Z,7µm,16.8s,MS5.8						
WHN	**Wuhan**	**56.89**	**315**	*e*P	**P**	**16 19 20.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**57.02**	**348**	⇑*e*P	**P**	**16 19 20.0**	**-1.6**
YSS				*e*	pP	16 19 26.1	-1.0
YSS				*e*S	**S**	**16 27 13.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=E,1µm,15.0s						
YSS				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**57.02**	**348**	P	**P**	**16 19 20.6**	**-1.0**
	comp=Z,17nm,1.0s,mb5.0						
TIA	**Tai'an**	**58.64**	**322**	*e*P	**P**	**16 19 32.3**	**-0.8**
MDJ	**Mudanjiang**	**58.80**	**337**	P	**P**	**16 19 32.8**	**-1.3**
MDJ				AP	pP	16 19 35.8	-3.8
MDJ				XP	sP	16 19 37.5	-4.2
MDJ				PCP	PcP	16 20 21.8	-1.6
MDJ				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,352nm,5.8s						
MDJ				LR	LR		
	comp=N,657nm,16.0s,MS5.2						
MDJ				LR	LR		
	comp=E,1µm,16.6s,MS5.2						
MDJ				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
MDJ	**Mudanjiang**	**58.80**	**337**	*e*P	**P**	**16 19 31.6**	**-2.6**
	comp=Z,90nm,1.4s,mb5.6						
KKTK	**Khon Kaen**	**59.50**	**295**	P	**P**	**16 19 42.5**	**+3.2**
CN2	**Changchun**	**59.84**	**334**	*e*P	**P**	**16 19 43.5**	**+2.2**
CN2				*e*XP	sP	16 19 50.5	+1.6
CN2				AMB	AMB		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=N,2µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=E,1µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=Z,1µm,22.0s						
ENH	**Enshi**	**60.20**	**312**	*e*P	**P**	**16 19 42.6**	**-1.3**
	comp=Z,30nm,1.0s,mb5.3						
ENH				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
GYA	**Guiyang**	**60.43**	**307**	P	**P**	**16 19 45.0**	**-0.6**
GYA				AP	pP	16 19 50.3	-0.9
GYA				XP	sP	16 19 52.5	-0.6
GYA				PP	PP	16 21 59.8	-1.1
GYA				PPP	PPP	16 23 24.5	-3.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				LR	LR		
	comp=N,860nm,14.1s,MS5.1						
GYA				LR	LR		
	comp=E,640nm,17.1s,MS5.1						
GYA				LR	LR		
	comp=Z,990nm,16.2s,MS5.0						
PET	**Petropavlovsk**	**61.59**	**1**	*e*P	**P**	**16 19 51.3**	**-1.8**
PET				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.2						
PET				pmax	pmax		
	comp=Z,22nm,1.7s,mb5.0						
PET				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.0						
NST	**Nakhon Sawan**	**61.70**	**293**	P	**P**	**16 19 55.0**	**+0.7**
BJT	**Baijiatuau**	**61.74**	**325**	*e*P	**P**	**16 19 53.9**	**-0.4**
BJT				pmax	pmax		
	comp=Z,78nm,1.8s						
BJT				MLR	MLR		
	comp=Z,2µm,19.0s						
BJT	**Baijiatuau**	**61.74**	**325**	*e*P	**P**	**16 19 53.9**	**-0.4**
	comp=Z,78nm,1.8s,mb5.5						
BJT				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
BJI	**Beijing**	**61.75**	**325**	P	**P**	**16 19 54.5**	**+0.2**
BJI				LR	LR		
	comp=N,909nm,16.5s,MS5.2						
BJI				LR	LR		
	comp=E,1µm,15.7s,MS5.2						
BJI				LR	LR		
	comp=Z,1µm,20.1s,MS5.0						
BJI	**Beijing**	**61.75**	**325**	P	**P**	**16 19 54.6**	**+0.3**
	comp=Z,19nm,1.8s,mb4.9						
BJI				S	**S**	**16 28 14.7**	**+0.1**
BJI				LR	LR		
	comp=Z,1µm,20.1s,MS5.0						
KLR	**Kul'dur**	**62.01**	**341**	*e*P	**P**	**16 19 54.8**	**-1.2**
KLR				*e*		16 20 41.0	
KLR				*e*		16 22 14.0	
KLR				*e*S	**S**	**16 28 18.5**	**+0.7**
KLR				*e*		16 29 40.5	
KLR				*e*SSS	SSS	16 34 56.0	-7.8
XAN	**Xi'an**	**62.65**	**316**	P	**P**	**16 19 59.5**	**-0.9**
XAN				AP	pP	16 20 07.0	+1.0
XAN				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.2						
FX1	**Attu Island--F**	**62.90**	**11**	P	**P**	**16 19 59.6**	**-2.2**
	comp=Z,10nm,0.7s,baz=228,slow=12,SNR=3.5						
FX1				LR	LR	16 43 44.3	
	comp=Z,107nm,20.7s,baz=199,slow=33						
FX1	**Attu Island--F**	**62.90**	**11**	P	**P**	**16 19 59.6**	**-2.2**
FX1				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FX1				MLR	MLR		
	comp=Z,107nm,20.7s						
SMY	**Shemya**	**62.93**	**11**	PFAKE		16 20 10.0	+8.0
SMY				LR	LR		
	comp=Z,4µm,19.0s,MS5.6						
KMI	**Kunming**	**62.99**	**304**	*e*P	**P**	**16 20 04.0**	**+1.2**
KMI				XP	sP	16 20 08.5	-1.8
KMI				PP	PP	16 22 23.5	+0.5
KMI				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.2						
KMI				AMB	AMB		
	comp=Z,596nm,5.7s						
KMI				LR	LR		
	comp=N,562nm,15.5s,MS5.1						
KMI				LR	LR		
	comp=E,782nm,16.5s,MS5.1						
KMI				LR	LR		
	comp=Z,921nm,20.8s,MS4.9						
KMI	**Kunming**	**62.99**	**304**	*e*P	**P**	**16 20 04.0**	**+1.2**
	comp=Z,28nm,1.4s,mb5.2						
KMI				sP	sP	16 20 08.6	-1.7
KMI				PP	PP	16 22 23.6	+0.6
KMI				PPP	PPP	16 23 56.6	+2.6
KMI				S	**S**	**16 28 32.7**	**+2.2**
KMI				SKS	SKS	16 29 51.9	-5.5
KMI				SSS	SSS	16 35 24.4	+1.6
KMI				LR	LR		
	comp=Z,920nm,20.8s,MS4.9						
CMAR	**Chiang Mai Arr**	**63.71**	**296**	P	**P**	**16 20 08.8**	**+1.2**
	comp=Z,8.5nm,0.8s,mb4.8,baz=125,slow=5.2,SNR=37						
CMAR	**Chiang Mai Arr**	**63.71**	**296**	P	**P**	**16 20 08.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHG	**Chiang Mai**	**63.83**	**296**	⇓P	**P**	**16 20 08.9**	**+0.4**
	comp=Z,24nm,1.2s,mb5.1						
CD2	**Chengdu**	**64.79**	**310**	P	**P**	**16 20 14.0**	**-0.6**
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
HHC	**Hu-ho-hao-te**	**64.95**	**323**	*e*P	**P**	**16 20 14.8**	**-0.7**
HHC				AP	pP	16 20 23.0	+2.0
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,442nm,4.9s						
HHC				LR	LR		
	comp=N,672nm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,506nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=Z,620nm,15.5s,MS4.9						
BTO	**Baotou**	**65.73**	**322**	*e*P	**P**	**16 20 20.0**	**-0.4**
HIA	**Hailar**	**66.56**	**334**	*e*P	**P**	**16 20 24.9**	**-0.7**
HIA				pmax	pmax		
	comp=Z,14nm,1.0s						
HIA				MLR	MLR		
	comp=Z,2µm,21.0s						
HIA	**Hailar**	**66.56**	**334**	*e*P	**P**	**16 20 24.9**	**-0.7**
	comp=Z,14nm,1.0s,mb4.9						
HIA				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
LZH	**Lanzhou**	**67.27**	**315**	⇑P	**P**	**16 20 31.0**	**+0.7**
LZH				AP	pP	16 20 34.0	-1.9
LZH				XP	sP	16 20 35.5	-2.4
LZH				AMB	AMB		
	comp=Z,84nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,253nm,4.1s						
LZH				LR	LR		
	comp=E,2µm,16.6s						
LZH				LR	LR		
	comp=Z,3µm,18.3s,MS5.5						
LZH	**Lanzhou**	**67.27**	**315**	⇑P	**P**	**16 20 30.9**	**+0.6**
	comp=Z,84nm,1.4s,mb5.6						
LZH				pP	pP	16 20 34.1	-1.8
LZH				sP	sP	16 20 35.6	-2.3
MA2	**Magadan**	**68.36**	**356**	*e*P	**P**	**16 20 35.5**	**-1.2**
MA2				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
SBA	**Scott Base**	**69.20**	**178**	*e*P	**P**	**16 20 42.6**	**+0.9**
SBA				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
SBA	**Scott Base**	**69.20**	**178**	*e*P	**P**	**16 20 42.6**	**+0.9**
	comp=Z,31nm,1.6s,mb5.0						
SEY	**Seymchan**	**71.62**	**358**	*e*P	**P**	**16 20 55.8**	**-0.8**
SEY						16 21 14.2	
SEY				*e*		16 23 43.8	
SEY				*e*S	S	16 30 17.8	+4.0
SEY						16 30 57.5	
SEY				*e*SS	SS	16 34 45.2	-6.0
SEY				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.4						
SEY				pmax	pmax		
	comp=N,20nm,1.2s						
SEY				smax			
	comp=N,2µm,11.0s						
SEY				smax			
	comp=E,2µm,12.3s						
SEY				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.7						
SEY				MLR	MLR		
	comp=N,1µm,18.0s,MS5.3						
SEY				MLR	MLR		
	comp=E,900nm,14.0s,MS5.3						
GTA	**Gaotai**	**71.68**	**316**	*e*P	**P**	**16 20 58.0**	**+0.7**
GTA				AP	pP	16 21 03.3	+0.4
GTA				XP	sP	16 21 06.5	+1.6
GTA				PP	PP	16 23 41.0	+2.7
GTA				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,386nm,5.3s						
GTA				LR	LR		
	comp=N,424nm,16.3s,MS4.9						
GTA				LR	LR		
	comp=E,327nm,17.1s,MS4.9						
SONM	**Songino Array**	**72.14**	**327**	P	**P**	**16 21 00.1**	**+0.2**
	comp=E,18nm,1.1s,mb4.9,baz=135,slow=3.5,SNR=46						
SHL	**Shillong**	**72.26**	**300**	*e*P	**P**	**16 21 01.5**	**+0.5**
SHL				*e*		16 24 41.0	
	comp=E,54nm,1.2s						
SHL				*e*S	S	16 30 27.0	+5.3
YAK	**Yakutsk**	**73.83**	**347**	*e*P	**P**	**16 21 08.8**	**-0.7**
YAK				*e*		16 21 20.0	
YAK				*e*PPP	PPP	16 25 42.9	+2.1
YAK				*e*S	S	16 30 43.9	+5.1
YAK				*e*		16 31 18.9	
YAK				*e*SS	SS	16 35 29.6	+4.3
YAK				*e*SSS	SSS	16 38 38.1	+1.1
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				smax			
	comp=E,605nm,10.9s						
YAK				smax			
	comp=N,116nm,7.2s						
YAK				MLR	MLR		
	comp=Z,365nm,14.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,271nm,13.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,132nm,14.0s,MS4.8						
YAK	**Yakutsk**	**73.83**	**347**	*e*P	**P**	**16 21 09.0**	**-0.5**
	comp=E,66nm,0.9s,mb5.6						
LSA	**Lhasa**	**74.25**	**304**	P	**P**	**16 21 14.0**	**+1.3**
LSA	**Lhasa**	**74.25**	**304**	*e*P	**P**	**16 21 13.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
LSA				MLR	MLR		
	comp=Z,380nm,19.0s,MS4.7						
LSA	**Lhasa**	**74.25**	**304**	*e*P	**P**	**16 21 13.8**	**+1.1**
	comp=Z,23nm,1.0s,mb5.1						
LSA				LR	LR		
	comp=Z,385nm,19.0s,MS4.7						
ZAK	**Zakamensk**	**75.28**	**328**	⇑*i*P	**P**	**16 21 18.2**	**0.0**
IRK	**Irkutsk**	**75.83**	**330**	*e*P	**P**	**16 21 22.1**	**+0.9**
MOY	**Mondy**	**77.19**	**328**	*e*P	**P**	**16 21 29.6**	**+0.7**
KDAK	**Kodiak Island**	**77.77**	**25**	PFAKE		16 21 40.0	+8.1
KDAK				LR	LR		
	comp=Z,287nm,20.0s,MS4.6						
PALK	**Pallekele**	**78.08**	**279**	*e*P	**P**	**16 21 37.0**	**+2.5**
	comp=Z,71nm,1.5s,mb5.4						
PALK				LR	LR		
	comp=Z,648nm,20.0s,MS5.0						
PKI	**Pulchoki**	**78.39**	**300**	*e*P	**P**	**16 21 36.1**	**+0.1**
	comp=Z,98nm,1.4s,mb5.5						
KKN	**Kakani**	**78.56**	**301**	*e*P	**P**	**16 21 37.0**	**+0.1**
	comp=Z,30nm,0.9s,mb5.2						
DMN	**Daman**	**78.66**	**300**	*e*P	**P**	**16 21 37.7**	**+0.3**
	comp=Z,136nm,1.2s,mb5.7						
GKN	**Gorkha**	**79.16**	**301**	*e*P	**P**	**16 21 40.2**	**0.0**
	comp=Z,86nm,1.0s,mb5.6						
KOLN	**Koldanda**	**79.98**	**300**	*e*P	**P**	**16 21 44.6**	**0.0**
	comp=Z,55nm,0.9s,mb5.5						
FIB	**Fire Island**	**80.84**	**23**	PFAKE		16 22 00.0	+12
FIB				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
PMR	**Palmer**	**81.50**	**23**	*e*P	**P**	**16 21 51.7**	**-0.2**
PMR				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.4						
PMR				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.2						
PMR	**Palmer**	**81.50**	**23**	*e*P	**P**	**16 21 51.7**	**-0.1**
	comp=Z,74nm,1.6s,mb5.4						
PMR				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
WMQ	**Urumqi**	**81.76**	**317**	⇑*i*P	**P**	**16 21 54.5**	**+0.9**
WMQ				AP	pP	16 21 58.5	-0.8
WMQ				XP	sP	16 22 01.5	+0.3
WMQ				PP	PP	16 25 03.0	0.0
WMQ				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,161nm,9.5s						
WMQ				LR	LR		
	comp=E,281nm,24.0s						
SML	**Sawmill**	**81.93**	**23**	*e*P	**P**	**16 21 53.7**	**-0.4**
HYB	**Hyderabad**	**82.11**	**289**	*i* P	**P**	**16 21 58.0**	**+2.1**
HYB	**Hyderabad**	**82.11**	**289**	*e*P	**P**	**16 21 58.0**	**+2.1**
DIV	**Divide**	**82.56**	**24**	PFAKE		16 22 10.0	+13
DIV				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
IMA	**Indian Mountai**	**82.75**	**18**	*e*P	**P**	**16 21 58.6**	**+0.2**
	comp=Z,244nm,1.9s,mb5.9						
MCK	**McKinley**	**82.85**	**21**	*e*P	**P**	**16 21 58.2**	**-0.7**
MCK				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
MCK	**McKinley**	**82.85**	**21**	*e*P	**P**	**16 21 58.2**	**-0.7**
	comp=Z,22nm,1.1s,mb5.1						
MCK				*e*		16 22 10.0	
MAW	**Mawson**	**83.66**	**203**	*e*P	**P**	**16 22 04.5**	**+1.6**
	comp=Z,16nm,0.9s,mb5.1						
MAW	**Mawson**	**83.66**	**203**	P	**P**	**16 22 04.1**	**+1.2**
	comp=Z,18nm,0.9s,mb5.2,baz=94,slow=7.1,SNR=27						
MAW				LR	LR	16 56 03.1	
	comp=Z,1µm,20.9s,MS5.2,baz=117,slow=33						
MAW	**Mawson**	**83.66**	**203**	P	**P**	**16 22 04.1**	**+1.2**
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
MAW				MLR	MLR		
	comp=Z,1µm,20.9s						
THY	**Trims Highway**	**83.83**	**22**	P	**P**	**16 22 04.3**	**+0.4**
COLA	**College**	**83.91**	**21**	*e*P	**P**	**16 22 03.5**	**-0.7**
COLA				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.3						
COLA				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3						
COLA	**College**	**83.91**	**21**	*e*P	**P**	**16 22 03.5**	**-0.7**
	comp=Z,23nm,1.0s,mb5.3						
COLA				*e*		16 22 13.7	
COLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**16 22 04.5**	**-1.2**
	comp=Z,5.6nm,1.1s,mb4.6,baz=261,slow=4.9,SNR=35						
ILAR				LR	LR	16 58 46.4	
	comp=Z,1µm,18.3s,MS5.3,baz=257,slow=35						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**16 22 04.5**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ILAR				MLR	MLR		

	comp=Z,1µm,18.3s						
DDI	**Dehra Dun**	**85.31**	**302**	*e*P	**P**	**16 22 11.5**	**-0.6**
SIT	**Sitka**	**85.33**	**30**	PFAKE		16 22 20.0	+8.5
SIT				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
NDI	**New Delhi**	**85.67**	**300**	*e*P	**P**	**16 22 11.0**	**-2.9**
NDI				*e*		16 25 51.0	
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**16 22 16.9**	**+0.1**
	comp=Z,7.8nm,0.7s,mb5.0,baz=101,slow=6.2,SNR=41						
MKAR				LR	LR	17 00 52.6	
	comp=Z,502nm,18.6s,MS5.0,baz=245,slow=36						
MKAR	**Makanchi Array**	**86.33**	**318**	*i* P	**P**	**16 22 16.6**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,37nm,1.2s						
DAWY	**Dawson**	**86.59**	**23**	*e*P	**P**	**16 22 18.9**	**+1.2**
HOPS	**Hopland**	**87.44**	**50**	PFAKE		16 22 30.0	+7.7
HOPS				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
NVS	**Novosibirsk**	**88.16**	**326**	*i* P	**P**	**16 22 22.9**	**-2.5**
NVS				*i*		16 25 59.7	
NVS				pmax	pmax		
	comp=Z,98nm,3.1s						
NVS				pmax	pmax		
	comp=E,53nm,2.8s						
COR	**Corvallis**	**88.58**	**45**	PFAKE		16 22 40.0	+12
COR				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
OCWA	**Octopus Mounta**	**88.76**	**41**	PFAKE		16 22 40.0	+12
OCWA				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
KSH	**Kashi**	**88.99**	**310**	*e*P	**P**	**16 22 32.0**	**+2.3**
KSH				*e*AP	pP	16 22 37.0	+1.5
KSH				*e*XP	sP	16 22 40.5	+3.2
KSH				*e*PP	PP	16 26 05.0	+3.1
KSH				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.9						
CMB	**Columbia Colle**	**89.28**	**51**	PFAKE		16 22 40.0	+8.8
CMB				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
ULHL	**Ulahol**	**89.37**	**313**	P	**P**	**16 22 32.7**	**+1.2**
	SNR=7.4						
KURK	**Kurchatov**	**89.72**	**321**	*e*P	**P**	**16 22 32.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.2						
KURK	**Kurchatov**	**89.72**	**321**	*e*P	**P**	**16 22 32.4**	**-0.5**
	comp=Z,20nm,1.5s,mb5.2						
KZA	**Kyzart**	**90.06**	**312**	P	**P**	**16 22 36.5**	**+1.9**
	SNR=13						
MWC	**Mount Wilson**	**90.41**	**56**	*e*P	**P**	**16 22 38.0**	**+1.5**
MTUM	**Tungsten Hills**	**90.57**	**52**	*e*P	**P**	**16 22 39.1**	**+1.9**
UCH	**Uchtor**	**90.62**	**313**	P	**P**	**16 22 39.0**	**+1.7**
	SNR=11						
AAK	**Ala-Archa**	**90.71**	**313**	PFAKE		16 22 50.0	+12
AAK				LR	LR		
	comp=Z,136nm,20.0s,MS4.4						
USP	**Ospenovka**	**90.83**	**314**	P	**P**	**16 22 38.5**	**+0.3**
	SNR=6.6						
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**16 22 39.0**	**+0.1**
	comp=Z,11nm,1.2s,mb5.1,baz=232,slow=4.3,SNR=28						
NVAR				LR	LR	17 01 07.0	
	comp=Z,610nm,19.2s,MS5.0,baz=340,slow=34						
MNV	**Mina**	**91.09**	**51**	*e*P	**P**	**16 22 40.6**	**+1.1**
MNV				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.3						
MNV	**Mina**	**91.09**	**51**	*e*P	**P**	**16 22 40.6**	**+1.1**
	comp=Z,20nm,1.3s,mb5.3						
DAC	**Darwin (Calif)**	**91.15**	**54**	PFAKE		16 22 50.0	+10
DAC				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
AML	**Almayashu**	**91.20**	**312**	P	**P**	**16 22 41.6**	**+1.6**
	SNR=14						
SYO	**Syowa Base**	**91.40**	**199**	⇓P	**P**	**16 22 42.1**	**+1.9**
WVOR	**Wild Horse Val**	**91.45**	**47**	P	**P**	**16 22 42.3**	**+1.2**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
WVOR				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.2						
WVOR	**Wild Horse Val**	**91.45**	**47**	P	**P**	**16 22 42.3**	**+1.3**
	comp=Z,6.5nm,1.0s,mb4.9						
WVOR				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
HAWA	**Hanford**	**91.56**	**43**	PFAKE		16 22 50.0	+8.5
HAWA				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
TPH	**Tonopah**	**91.75**	**52**	PFAKE		16 22 50.0	+7.4
TPH				LR	LR		
	comp=Z,821nm,19.0s,MS5.2						
BMN	**Battle Mountai**	**92.14**	**50**	PFAKE		16 23 00.0	+16
BMN				LR	LR		
	comp=Z,817nm,19.0s,MS5.2						
TPNV	**Topopah Spring**	**92.33**	**53**	PFAKE		16 23 00.0	+15
TPNV				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
LDFC	**Landfair**	**92.95**	**55**	*e*P	**P**	**16 22 50.9**	**+2.7**
NEW	**Newport**	**93.50**	**42**	PFAKE		16 23 00.0	+10
NEW				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
KKAR	**Karatay Array**	**93.68**	**313**	*i* P	**P**	**16 22 51.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb5.0						
ELK	**Elko**	**93.68**	**50**	PFAKE		16 23 00.0	+8.6
ELK				LR	LR		
	comp=Z,900nm,22.0s,MS5.2						
HLID	**Hailey**	**94.68**	**47**	PFAKE		16 23 10.0	+14
HLID				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
VOSK	**Vostochnaya**	**94.77**	**322**	P	**P**	**16 22 54.2**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,45nm,2.8s,mb5.4						
BVA0	**Borovoye Array**	**95.16**	**323**	*i* P	**P**	**16 22 57.0**	**-0.9**
BVAR	**Borovoye Array**	**95.16**	**323**	P	**P**	**16 22 56.8**	**-1.1**
	comp=Z,6.1nm,0.9s,mb5.0,baz=108,slow=4.7,SNR=20						
BRVK	**Borovoye**	**95.23**	**323**	*e*P	**P**	**16 22 57.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
BRVK				MLR	MLR		
	comp=Z,140nm,19.0s,MS4.5						
BRVK	**Borovoye**	**95.23**	**323**	*e*P	**P**	**16 22 57.4**	**-0.8**
	comp=Z,8.0nm,1.2s,mb5.0						
BRVK				LR	LR		
	comp=Z,144nm,19.0s,MS4.5						
MSO	**Missoula**	**95.43**	**44**	PFAKE		16 23 10.0	+11
MSO				LR	LR		
	comp=Z,574nm,20.0s,MS5.0						
DUG	**Dugway**	**95.45**	**50**	PFAKE		16 23 10.0	+10
DUG				LR	LR		
	comp=Z,703nm,22.0s,MS5.1						
MVU	**Marysvale**	**95.71**	**52**	PFAKE		16 23 10.0	+9.2
MVU				LR	LR		
	comp=Z,994nm,21.0s,MS5.3						
MSU	**Marysvale**	**95.74**	**52**	*e*P	**P**	**16 23 03.3**	**+2.4**
ZRNK	**Zerenda**	**95.98**	**323**	P	**P**	**16 23 00.1**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,21nm,1.9s,mb5.2						
ZRNK	**Zerenda**	**95.98**	**323**	*e*P	**P**	**16 22 58.5**	**-3.2**
	comp=Z,4.9nm,0.9s,mb4.9						
ZRNK				*e*		16 23 24.4	
HWUT	**Hardware Ranch**	**96.54**	**49**	PFAKE		16 23 20.0	+16
HWUT				LR	LR		
	comp=Z,832nm,20.0s,MS5.2						
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**16 23 05.0**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.6,baz=265,slow=4.6,SNR=12						
YKA				LR	LR	16 58 49.2	
	comp=Z,732nm,22.0s,MS5.1,baz=275,slow=30						
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**16 23 05.0**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA				MLR	MLR		
	comp=Z,733nm,22.0s						
BOZ	**Bozeman (W)**	**96.90**	**45**	PFAKE		16 23 20.0	+14
BOZ				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
AHID	**Auburn Hatcher**	**97.00**	**48**	PFAKE		16 23 20.0	+13
AHID				LR	LR		
	comp=Z,742nm,21.0s,MS5.2						
BW06	**Boulder Array**	**98.13**	**48**	PFAKE		16 23 20.0	+8.4
BW06				LR	LR		
	comp=Z,786nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**98.13**	**48**	P	**P**	**16 23 11.8**	**+0.2**
	comp=Z,0.7nm,0.9s,mb4.2,baz=288,slow=4.7,SNR=5.5						
PDAR				PP	PP	16 27 10.2	-3.7
	comp=Z,1.0nm,0.9s,baz=297,slow=3.3,SNR=5.1						
SNAA	**Sanae**	**98.63**	**186**	⇑*i*	**P**	**16 23 15.9**	**+2.7**
SNAA	**Sanae**	**98.63**	**186**	P	**P**	**16 23 12.7**	**-0.5**
	comp=Z,7.3nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**99.99**	**56**	PFAKE		16 23 30.0	+10
ANMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
LAO	**LASA Array**	**100.71**	**44**	PFAKE		16 23 30.0	+6.8
LAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
SDCO	**Great Sand Dun**	**100.92**	**53**	PFAKE		16 23 40.0	+16
SDCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
AB31	**Akbulak array**	**101.47**	**318**	*i* P	P	16 23 24.7	-1.9
AB31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LTX	**Lajitas**	**102.01**	**62**	PFAKE		16 23 40.0	+10
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
TXAR	**Lajitas Array**	**102.01**	**62**	PKKPbc		16 39 34.5	
	comp=Z,0.5nm,0.8s,baz=90,slow=3.8,SNR=4.9						
DGMT	**Dagmar**	**102.10**	**42**	PFAKE		16 23 40.0	+11
DGMT				LR	LR		
	comp=Z,879nm,20.0s,MS5.3						
ARU	**Arti**	**102.17**	**326**	PFAKE		16 23 40.0	+10
ARU				LR	LR		
	comp=Z,140nm,19.0s,MS4.5						
FFC	**Flin Flon**	**103.27**	**36**	PFAKE		16 23 50.0	+16
FFC				LR	LR		
	comp=Z,280nm,20.0s,MS4.8						
JCT	**Junction City**	**105.41**	**61**	PFAKE		16 28 10.0	
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
CBKS	**Cedar Bluff**	**105.47**	**52**	PFAKE		16 28 10.0	
CBKS				LR	LR		
	comp=Z,853nm,19.0s,MS5.3						
WMOK	**Wichita Mounta**	**106.30**	**56**	PFAKE		16 28 10.0	
WMOK				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
KBS	**Kingsbay**	**107.85**	**353**	PFAKE		16 28 10.0	
KBS				LR	LR		
	comp=Z,582nm,22.0s,MS5.1						
HKT	**Hockley**	**108.84**	**61**	PFAKE		16 28 20.0	
HKT				LR	LR		
	comp=Z,829nm,19.0s,MS5.3						
NATX	**Nacogdoches**	**109.81**	**59**	PFAKE		16 28 20.0	
NATX				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MIAR	**Mount Ida**	**110.60**	**56**	PFAKE		16 28 20.0	+10
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
JFWS	**Jewell Farm**	**112.29**	**47**	PFAKE		16 28 20.0	+6.8
JFWS				LR	LR		
	comp=Z,733nm,19.0s,MS5.3						
EFI	**East Falkland**	**112.48**	**157**	PFAKE		16 28 20.0	+6.7
EFI				LR	LR		
	comp=Z,278nm,19.0s,MS4.9						
SOC	**Sochi**	**115.98**	**314**	*i* PKIKP	PKPdf	16 28 11.0	-9.5
SOC				*e*		16 29 24.0	
SOC				*e*PPP	PPP	16 31 46.8	-6.0
SOC				*e*		16 35 07.8	
SOC				*e*SS	SS	16 45 22.4	-0.6
SOC				*e*SSS	SSS	16 49 42.9	-0.1
SOC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=N,1.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,587nm,20.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,260nm,19.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,293nm,24.0s,MS5.0						
LRAL	**Lakeview Retre**	**116.18**	**58**	PFAKE		16 28 30.0	+8.9
LRAL				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
ACSO	**Alum Creek Sta**	**118.15**	**49**	PFAKE		16 28 30.0	+5.3
ACSO				LR	LR		
	comp=Z,532nm,20.0s,MS5.2						
ERPA	**Erie**	**119.86**	**46**	PFAKE		16 28 40.0	+12
ERPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
AKASG	**Malin Array Be**	**120.38**	**325**	PKP	PKPdf	16 28 25.8	-3.0
	comp=Z,1.5nm,0.8s,baz=50,slow=2.4,SNR=7.7						
AKASG	**Malin Array Be**	**120.38**	**325**	PKIKP	PKPdf	16 28 25.8	-3.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BLA	**Blacksburg**	**120.78**	**52**	PFAKE		16 28 40.0	+10
BLA				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
BRTR	**Keskin Array B**	**121.36**	**311**	PKP	PKPdf	16 28 28.1	-2.9
	comp=Z,3.4nm,1.2s,baz=270,slow=3.7,SNR=3.9						
BRTR	**Keskin Array B**	**121.36**	**311**	PKIKP	PKPdf	16 28 28.1	-2.9
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
DWPF	**Disney**	**121.54**	**62**	PFAKE		16 28 40.0	+8.4
DWPF				LR	LR		
	comp=Z,874nm,21.0s,MS5.4						
NHSC	**New Hope**	**121.83**	**57**	PFAKE		16 28 40.0	+7.9
NHSC				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
CBN	**Corbin**	**122.87**	**50**	PFAKE		16 28 40.0	+6.2
CBN				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
NCB	**Newcomb**	**123.24**	**43**	PFAKE		16 28 40.0	+5.5
NCB				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
LSZ	**Lusaka**	**124.28**	**245**	PKIKP	PKPdf	16 28 34.5	-2.6
HRV	**Harvard--Oak R**	**125.61**	**43**	PFAKE		16 28 50.0	+11
HRV				LR	LR		
	comp=Z,729nm,19.0s,MS5.4						
WVL	**Waterville**	**125.99**	**40**	PFAKE		16 28 50.0	+10
WVL				LR	LR		
	comp=Z,6µm,22.0s,MS6.2						
PQI	**Presque Isle**	**126.01**	**37**	PFAKE		16 28 50.0	+10
PQI				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
MBAR	**Mbarara**	**126.05**	**263**	PFAKE		16 28 50.0	+9.2
MBAR				LR	LR		
	comp=Z,213nm,20.0s,MS4.8						
OKC	**Ostrava-Krasne**	**126.92**	**328**	LM		17 26 40.0	
	comp=Z,0.6nm,18.3s						
KSP	**Ksiaz**	**127.25**	**330**	*e*P	Pdif	16 25 28.7	+8.6
KSP				*e*		16 30 47.2	
EMMW	**East Machias**	**127.31**	**39**	PFAKE		16 28 50.0	+7.7
EMMW				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
VYHS	**Vyhne**	**127.33**	**326**	*e*PKP	PKPdf	16 28 39.7	-2.5
DPC	**Dobruska-Polom**	**127.54**	**329**	*e*PKIKP	PKPdf	16 28 39.9	-2.7
DPC				LM		17 27 30.0	
	comp=Z,0.9nm,20.1s						
PVCC	**Panska Ves**	**128.29**	**331**	*e*PKIKP	PKPdf	16 28 42.0	-2.1
PVCC				LM		17 24 40.0	
	comp=Z,1.1nm,23.1s						
BRG	**Berggiesshubel**	**128.37**	**331**	*e*PKIKP	PKPdf	16 28 42.6	-1.6
BRG				pmax	pmax		
	comp=Z,12nm,1.4s						
BRG	**Berggiesshubel**	**128.37**	**331**	*e*PKP	PKPdf	16 28 42.6	-1.6
BRG				*e*		16 32 21.9	
LPAZ	**La Paz**	**128.51**	**119**	PKP	PKPdf	16 28 43.4	-2.0
	comp=Z,1.8nm,0.3s,baz=305,slow=0.5,SNR=7.6						
LPAZ	**La Paz**	**128.51**	**119**	PKIKP	PKPdf	16 28 43.4	-2.0
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLL	**Collm**	**128.52**	**332**	*e*PKIKP	PKPdf	16 28 42.0	-2.5
	comp=Z,logA/T=1.0						
CLL				*e*		16 28 53.0	
CLL	**Collm**	**128.52**	**332**	*e*PKIKP	PKPdf	16 28 42.0	-2.5
CLL				pmax	pmax		
	comp=Z,14nm,1.5s						
PRU	**Pruhonice**	**128.66**	**330**	*e*PKIKP	PKPdf	16 28 42.6	-2.2
PRU				LM		17 27 10.0	
SKO	**Skopje**	**129.13**	**318**	*e*PKP	PKPdf	16 29 02.0	+16
NKC	**Novy Kostel**	**129.50**	**331**	*e*PKIKP	PKPdf	16 28 44.3	-2.1
MOX	**Moxa**	**129.61**	**332**	*e*P	PKPdf	16 28 42.0	-4.6
KHC	**Kasperske Hory**	**129.69**	**330**	*e*PKIKP	PKPdf	16 28 44.8	-2.0
KHC				LM		17 26 00.0	
	comp=Z,1.0nm,23.0s						
GERES	**GERESS Array B**	**129.81**	**329**	PKP	PKPdf	16 28 43.5	-3.6
	comp=Z,2.8nm,1.1s,baz=45,slow=1.9,SNR=10.0						
GERES	**GERESS Array B**	**129.81**	**329**	PKIKP	PKPdf	16 28 43.5	-3.5
GERES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GRA1	**Grafenberg Arr**	**130.45**	**332**	*e*PKPdf	PKPdf	16 28 45.6	-2.6
GRF	**Grafenberg Arr**	**130.45**	**332**	*e*PKIKP	PKPdf	16 28 45.6	-2.6
ESK	**Eskdalemuir**	**131.12**	**345**	PFAKE		16 29 00.0	+11
ESK				LR	LR		
	comp=Z,131nm,19.0s,MS4.7						
CPUP	**Villa Florida**	**131.45**	**137**	PKP	PKPdf	16 28 48.6	-2.2
	comp=Z,1.6nm,0.9s,baz=233,slow=13,SNR=2.7						
CPUP	**Villa Florida**	**131.45**	**137**	PKIKP	PKPdf	16 28 48.6	-2.2
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HINF	**Hinteralfeld**	**133.81**	**333**	*e*PKIKP	PKPdf	16 28 51.8	-2.7
BBSR	**BB Station**	**134.56**	**53**	PFAKE		16 29 10.0	+14
BBSR				LR	LR		
	comp=Z,746nm,22.0s,MS5.4						
CABF	**La Chapelle**	**135.06**	**332**	*e*PKIKP	PKPdf	16 28 54.6	-2.4
	comp=Z,15nm,1.1s						
LOR	**Lormes**	**135.55**	**334**	*e*PKIKP	PKPdf	16 28 54.7	-3.1
LPL	**La Plagne**	**135.55**	**331**	*e*PKIKP	PKPdf	16 28 54.8	-3.1
	comp=Z,7.4nm,1.1s						
LPG	**La Plagne**	**135.56**	**331**	*e*PKIKP	PKPdf	16 28 55.0	-2.9
SSF	**Saint Saulge**	**135.87**	**334**	*e*PKIKP	PKPdf	16 28 55.9	-2.5
FLN	**La Foliniere**	**136.04**	**339**	*e*PKIKP	PKPdf	16 28 55.6	-3.1
	comp=Z,34nm,1.3s						
LDF	**La Druitiere**	**136.05**	**339**	*e*PKIKP	PKPdf	16 28 55.6	-3.1
	comp=Z,42nm,1.4s						
MBDF	**Montbardon**	**136.10**	**330**	*e*PKIKP	PKPdf	16 28 55.7	-3.2
ROSF	**Rostrenen**	**137.35**	**341**	*e*PKIKP	PKPdf	16 28 57.4	-3.7
	comp=Z,36nm,1.1s						
LASF	**Ste Croix**	**138.00**	**331**	*e*PKIKP	PKPdf	16 28 59.6	-2.8
	comp=Z,22nm,1.1s						
EPF	**Esparros**	**140.42**	**333**	*e*PKIKP	PKPdf	16 29 03.3	-3.5
	comp=Z,21nm,1.2s						
ETSF	**Etsaut**	**140.92**	**334**	*e*PKIKP	PKPdf	16 29 04.7	-3.1
	comp=Z,16nm,1.1s						
SJPF	**Ste Jean**	**141.03**	**335**	*e*PKIKP	PKPdf	16 29 04.6	-3.4
	comp=Z,40nm,1.5s						
BDFB	**Brasilia**	**145.02**	**134**	PKP	PKPdf	16 29 12.6	-3.0
	comp=Z,19nm,0.8s,baz=253,slow=2.4,SNR=20						
ESDC	**Sonseca Array**	**145.03**	**335**	PKP	PKPdf	16 29 11.8	-3.2
	comp=Z,6.6nm,0.9s,baz=26,slow=3.3,SNR=28						
PVRL	**Vila Real**	**145.07**	**340**	*e*PKPab	PKPab	16 29 12.7	+0.1
PVIS	**Viseu**	**145.63**	**340**	*e*PKPab	PKPab	16 29 14.4	-0.3
CAM3	**Guarapari**	**145.77**	**149**	*e*P	PKPbc	16 29 14.5	+0.8
CAM3				*i*		16 29 18.3	
CAM3				*i*		16 29 21.4	
CAM3				*i*		16 29 37.2	
CAM3	**Guarapari**	**145.77**	**149**	*e*P	PKPbc	16 29 14.5	+0.8
CAM3				*i*		16 29 18.3	
CAM3				*i*		16 29 21.4	
CAM3				*i*		16 29 37.2	
MTE	**Manteigas**	**145.79**	**339**	*e*PKPab	PKPab	16 29 14.9	-0.4
MTE	**Manteigas**	**145.79**	**339**	*e*PKPdf	PKPdf	16 29 14.8	-1.5
PCBR	**Castelo Branco**	**146.27**	**339**	*e*PKPab	PKPab	16 29 15.1	-2.1
PTOM	**Tomar**	**146.79**	**340**	*e*PKPab	PKPab	16 29 18.1	-1.1
EVO	**Evora**	**147.62**	**338**	*e*PKIKP	PKPdf	16 29 18.6	-0.7
	comp=Z,89nm,1.6s						
PBEJ	**Beja**	**148.01**	**338**	*e*PKPab	PKPab	16 29 22.0	-2.0
RCBR	**Riachuelo**	**160.33**	**137**	PFAKE		16 29 50.0	+12
RCBR				LR	LR		
	comp=Z,532nm,20.0s						
DBIC	**Dimbokro**	**162.29**	**264**	PKPab	PKPab	16 30 24.6	-0.7
	comp=Z,3.6nm,0.8s,baz=106,slow=5.9,SNR=4.5						

MOS ***28*** *16:13:12.9±1.0, 8.66S×157.27E, h10^{km}, mb5.3/29, MS5.0/5, Error ellipse: s-maj=12.4km s-min=9.2km az=63.5*

IDC ***28*** *16:13:12.2±0.5, 8.72S×157.46E, mb5.0/20, mb1 5.1/21, mb1mx5.1/22, ML3.6/1, MS5.0/4, Ms1 5.0/4, ms1mx4.6/19, Error ellipse: s-maj=18.7km s-min=10.4km az=135.0, Putative timing error on ZAL*

BJI ***28*** *16:13:13.8, 8.29S×157.34E, h5^{km}, mB5.6, mb5.2, Ms5.5, Msz5.2*

HRVD ***28*** *16:13:14.3±0.3, 8.99S×157.50E, h21^{km}, MW5.6/56, Centroid moment Tensor Solution. LP body waves: s35,c45;Mantle waves: s56,c89; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}3.07±.17; $M_{\theta\theta}$-1.42±.12; $M_{\phi\phi}$-1.65±.11; $M_{r\theta}$1.10±.20; $M_{\theta\phi}$0.84±.07; $M_{\phi r}$0.14±.19; Best double couple: $M_0$2.9×10^{17} NP1:ϕ_s329°, δ40°,λ109°. NP2:ϕ_s124°,δ53°,λ75°. Principal axes: T 3.35, Plg76°, Azm344°; N -.89, Plg12°, Azm134°; P -2.45, Plg7°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *16:13:14.3±0.2, 8.66S×157.24E, h10^{km}, mb5.3/39, MS5.4/3 Error ellipse: s-maj=9.0km s-min=6.8km az=118.0*

ISC 28 16:13:14.5±0.2,**8.66S**±0.04×**157.22E**±0.05,**h17^{km}, h17^{km}±2.9^{km}:pP-P,n193,σ1^{s}09**/148,**mb5.2**/69,**MS5.1**/17,
6C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.81**	**106**	*i* P	**Pn**	**16 14 02.5**	**+3.0**
HNR				*i* S	**Sn**	**16 14 38.0**	**+4.7**
PMG	**Port Moresby**	**9.96**	**265**	Pn	**P**	**16 15 41.3**	**+1.1**
CTA	**Charters Tower**	**15.54**	**222**	*e*P	**P**	**16 16 52.9**	**-1.8**
	32nm,0.9s						
CTA	**Charters Tower**	**15.54**	**222**	Pn	**P**	**16 16 53.7**	**-1.0**
	0.2nm,0.3s,baz=60,slow=12,SNR=5.5						
CTA				LR	LR	16 21 50.4	
	comp=Z,11µm,18.5s,baz=41,slow=33						
CTAO	**Charters Tower**	**15.54**	**222**	*e*P	**P**	**16 16 53.0**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,55nm,1.0s						
CTAO	**Charters Tower**	**15.54**	**222**	*e*P	**P**	**16 16 53.0**	**-1.7**
	comp=Z,68nm,1.0s						
NOUC	**Port Laguerre**	**15.97**	**148**	*e*P	**P**	**16 17 01.4**	**+1.1**
DZM	**Mont Dzumac**	**16.02**	**147**	*e*P	**P**	**16 17 00.9**	**+0.1**
DZM	**Mont Dzumac**	**16.02**	**147**	*e*P	**P**	**16 17 00.9**	**+0.1**
ARMA	**Armidale**	**22.27**	**193**	*e*P	**P**	**16 18 12.3**	**-0.1**
KAKA	**Kakadu**	**24.71**	**258**	*e*P	**P**	**16 18 34.9**	**-1.5**
	comp=Z,28nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**24.79**	**241**	*e*P	**P**	**16 18 36.3**	**-0.9**
	comp=Z,101nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**24.80**	**241**	*e*P	**P**	**16 18 37.1**	**-0.1**
WRA	**Warramunga Arr**	**24.81**	**241**	P	**P**	**16 18 37.1**	**-0.2**
	comp=Z,69nm,0.9s,mb5.2,baz=66,slow=9.5,SNR=34						
WRA				PcP	PcP	16 22 14.0	-0.7
	comp=Z,9.8nm,1.1s,baz=70,slow=2.8,SNR=5.1						
WRA				S	**S**	**16 23 02.8**	**+6.7**
	comp=Z,1.2nm,1.1s,baz=86,slow=27,SNR=3.7						
WRA	**Warramunga Arr**	**24.81**	**241**	P	**P**	**16 18 37.1**	**-0.2**
WRA						16 22 14.0	
WRA				S	**S**	**16 23 02.8**	**+6.7**
WRA				pmax	pmax		
	comp=Z,69nm,0.9s						
WRA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WRA				smax			
	comp=N,1.0nm,1.1s						
ASAR	**Alice Springs**	**26.84**	**233**	P	**P**	**16 18 55.1**	**-1.1**
	comp=N,23nm,1.0s,mb4.7,baz=64,slow=9.0,SNR=21						
ASAR				PcP	PcP	16 22 18.6	-0.6
	comp=N,3.2nm,1.0s,baz=67,slow=1.8,SNR=5.4						
ASAR				S	**S**	**16 23 37.6**	**+7.7**
	comp=N,0.5nm,0.9s,baz=54,slow=21,SNR=2.4						
ASPA	**Alice Springs**	**26.84**	**233**	*e*P	**P**	**16 18 54.9**	**-1.4**
STKA	**Stephens Creek**	**27.29**	**210**	*e*P	**P**	**16 19 00.8**	**+0.6**
	comp=N,36nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**27.29**	**210**	P	**P**	**16 19 00.5**	**+0.2**
	comp=N,37nm,0.8s,mb4.9,baz=10,slow=10,SNR=20						
STKA				PcP	PcP	16 22 18.2	-1.9
	comp=N,12nm,1.2s,baz=11,slow=5.2,SNR=2.7						
CNB	**Canberra Magne**	**27.49**	**194**	*e*P	**P**	**16 19 03.5**	**+1.5**
	comp=N,57nm,1.0s,mb5.0						
TOO	**Toolangi**	**30.68**	**198**	*e*P	**P**	**16 19 30.1**	**-0.5**
	comp=N,8.0nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.07**	**250**	*e*P	**P**	**16 19 41.7**	**-1.3**
	comp=N,7.9nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**32.07**	**250**	P	**P**	**16 19 42.0**	**-1.0**
	comp=N,11nm,0.9s,mb4.7,baz=152,slow=5.3,SNR=9.0						
FITZ				PcP	PcP	16 22 32.6	+0.1
	comp=N,11nm,1.1s,baz=351,slow=11,SNR=3.5						
URZ	**Urewera**	**34.50**	**152**	P	**P**	**16 20 00.5**	**-3.4**
	comp=N,14nm,1.2s,mb4.8,baz=315,slow=7.1,SNR=2.2						
FORT	**Forrest**	**34.99**	**227**	*e*P	**P**	**16 20 05.8**	**-2.3**
	comp=N,111nm,0.9s,mb5.8						
TAU	**Tasmania Unive**	**35.21**	**193**	P	**P**	**16 20 11.7**	**+1.8**
	comp=N,41nm,1.1s,mb5.3						
TGY	**Tagaytay City**	**42.51**	**302**	LR	LR	16 38 55.1	
	comp=N,2µm,19.4s,MS4.9,baz=110,slow=36						
KLBR	**Kellerberrin**	**43.16**	**232**	*e*P	**P**	**16 21 14.9**	**-1.3**
	comp=N,101nm,1.6s,mb5.3						
RAR	**Rarotonga**	**43.25**	**112**	LR	LR	16 34 40.1	
	comp=N,1µm,20.4s,MS4.8,baz=137,slow=30						
NWAO	**Narrogin (SRO)**	**44.10**	**231**	P	**P**	**16 21 23.4**	**-0.4**
	comp=N,40nm,1.1s,mb5.0,baz=66,slow=8.6,SNR=5.7						

NWAO	**Narrogin (SRO)**	**44.10**	**231**	P	**P**	**16 21 23.5**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,40nm,1.1s						
MUN	**Mundaring**	**44.53**	**233**	*e*P	**P**	**16 21 27.0**	**-0.3**
	comp=Z,19nm,1.1s,mb4.8						
MAJO	**Matsushiro**	**48.38**	**339**	*e*P	**P**	**16 21 55.9**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
MAJO	**Matsushiro**	**48.38**	**339**	*e*P	**P**	**16 21 55.9**	**-1.7**
	comp=Z,20nm,1.0s,mb5.1						
MAT	**Matsushiro**	**48.38**	**339**	P	**P**	**16 21 54.2**	**-3.4**
MAT	**Matsushiro**	**48.38**	**339**	*e*P	**P**	**16 21 54.0**	**-3.6**
	comp=Z,3.7nm,0.8s,mb4.5						
JNU	**Nakatsue**	**48.52**	**330**	P	**P**	**16 21 58.1**	**-0.6**
	comp=Z,54nm,0.9s,mb5.5,baz=80,slow=10,SNR=8.7						
SSE	**Sheshan**	**52.48**	**320**	P	**P**	**16 22 30.5**	**+1.6**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE	**Sheshan**	**52.48**	**320**	P	**P**	**16 22 30.6**	**+1.7**
	comp=Z,43nm,0.7s,mb5.5						
INCN	**Inchon**	**54.09**	**330**	*e*P	**P**	**16 22 40.7**	**0.0**
	comp=Z,194nm,1.2s,mb5.9						
NJ2	**Nanjing**	**54.59**	**320**	*e*P	**P**	**16 22 44.5**	**0.0**
NJ2				AP	pP	16 22 54.0	+4.1
NJ2				S	**S**	**16 30 23.8**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				LR	LR		
	comp=N,2µm,13.6s,MS5.5						
NJ2				LR	LR		
	comp=E,2µm,15.1s,MS5.5						
NJ2				LR	LR		
	comp=Z,4µm,14.6s,MS5.6						
WHN	**Wuhan**	**56.66**	**315**	*e*P	**P**	**16 23 00.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**56.84**	**348**⇑	*e*P	**P**	**16 23 01.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**56.84**	**348**	*e*P	**P**	**16 23 00.5**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
TIA	**Tai'an**	**58.41**	**322**	*e*P	**P**	**16 23 11.3**	**-0.5**
MDJ	**Mudanjiang**	**58.60**	**337**	P	**P**	**16 23 12.0**	**-0.9**
MDJ				AP	pP	16 23 15.0	-3.4
MDJ				PCP	PcP	16 24 01.8	-1.1
MDJ				PP	PP	16 25 21.3	-3.1
MDJ				SCP		16 28 02.0	
MDJ				S	**S**	**16 31 15.5**	**+1.0**
MDJ				XS		16 31 22.0	
MDJ				SCS	ScS	16 33 02.5	+4.1
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.1						
MDJ				LR	LR		
	comp=N,774nm,18.6s,MS4.9						
MDJ				LR	LR		
	comp=E,430nm,17.5s,MS4.9						
MDJ	**Mudanjiang**	**58.60**	**337**	*e*P	**P**	**16 23 12.7**	**-0.2**
	comp=E,38nm,1.2s,mb5.3						
CN2	**Changchun**	**59.63**	**334**	*e*P	**P**	**16 23 22.5**	**+2.4**
CN2				*e*XP	sP	16 23 29.5	+2.0
CN2				*e*S	**S**	**16 31 32.8**	**+4.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,17.0s,MS5.4						
CN2				LR	LR		
	comp=E,1µm,17.0s,MS5.4						
CN2				LR	LR		
	comp=Z,900nm,18.0s,MS5.0						
ENH	**Enshi**	**59.98**	**312**	*e*P	**P**	**16 23 22.5**	**-0.2**
	comp=Z,22nm,0.8s,mb5.2						
GYA	**Guiyang**	**60.20**	**307**	P	**P**	**16 23 25.5**	**+1.2**
GYA				AP	pP	16 23 30.8	+1.1
GYA				XP	sP	16 23 32.5	+0.8
GYA				S	**S**	**16 31 40.5**	**+5.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				LR	LR		
	comp=N,890nm,15.8s,MS5.1						
GYA				LR	LR		
	comp=E,680nm,17.6s,MS5.1						
GYA				LR	LR		
	comp=Z,960nm,16.7s,MS5.0						
PET	**Petropavlovsk**	**61.45**	**1**	*e*P	**P**	**16 23 31.1**	**-1.3**
PET				*e*		16 24 09.2	
PET				*e*S	**S**	**16 31 50.5**	**-0.4**
PET				*e*PPS	PPS	16 32 11.9	-6.3
PET				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.0						
PET				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.9						
BJT	**Baijiatuau**	**61.52**	**325**	P	**P**	**16 23 33.2**	**+0.2**
BJT				pmax	pmax		
	comp=Z,40nm,1.4s						
BJT	**Baijiatuau**	**61.52**	**325**	P	**P**	**16 23 33.2**	**+0.2**
	comp=Z,40nm,1.4s,mb5.3						
BJI	**Beijing**	**61.53**	**325**	P	**P**	**16 23 32.8**	**-0.3**
BJI				S	**S**	**16 31 56.3**	**+4.2**
BJI				AMB	AMB		
	comp=Z,21nm,1.7s,mb5.0						
BJI				AMB	AMB		
	comp=Z,646nm,5.5s						
BJI				LR	LR		
	comp=N,927nm,22.0s						
BJI				LR	LR		
	comp=E,1µm,15.7s						
BJI				LR	LR		
	comp=Z,1µm,20.1s,MS5.0						
BJI	**Beijing**	**61.53**	**325**	P	**P**	**16 23 32.7**	**-0.4**
	comp=Z,21nm,1.7s,mb5.0						
BJI				S	**S**	**16 31 56.3**	**+4.2**
BJI				LR	LR		
	comp=Z,1µm,20.1s,MS5.0						
KLR	**Kul'dur**	**61.82**	**341**	*e*P	**P**	**16 23 33.0**	**-1.9**
XAN	**Xi'an**	**62.42**	**316**	P	**P**	**16 23 37.5**	**-1.7**
XAN				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.2						
KMI	**Kunming**	**62.77**	**304**	*e*P	**P**	**16 23 42.8**	**+1.3**
KMI				XP	sP	16 23 50.5	+1.6
KMI				PCP	PcP	16 24 20.3	+0.4
KMI				S	**S**	**16 32 11.3**	**+3.4**
KMI				SCS	ScS	16 33 31.3	+1.7
KMI				SSS	SSS	16 39 00.5	+1.7
KMI				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.3						
KMI				AMB	AMB		
	comp=Z,635nm,5.6s						
KMI				LR	LR		
	comp=N,700nm,15.9s,MS5.1						
KMI				LR	LR		
	comp=E,723nm,17.4s,MS5.1						
KMI				LR	LR		
	comp=Z,779nm,17.4s,MS4.9						
KMI	**Kunming**	**62.77**	**304**	*e*P	**P**	**16 23 42.8**	**+1.3**
	comp=Z,33nm,1.2s,mb5.3						
KMI				sP	sP	16 23 50.6	+1.7
KMI				PcP	PcP	16 24 20.2	+0.3
KMI				S	**S**	**16 32 11.2**	**+3.3**
KMI				ScS	ScS	16 33 31.2	+1.6
KMI				SSS	SSS	16 39 00.6	+1.8
KMI				LR	LR		
	comp=Z,780nm,17.4s,MS4.9						
FX1	**Attu Island--F**	**62.79**	**11**	P	**P**	**16 23 40.2**	**-1.1**
	comp=Z,16nm,0.8s,mb5.2,baz=55,slow=9.0,SNR=3.0						
FX1	**Attu Island--F**	**62.79**	**11**	P	**P**	**16 23 40.2**	**-1.1**
FX1				pmax	pmax		
	comp=Z,16nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.48**	**296**	P	**P**	**16 23 47.0**	**+0.6**
	comp=Z,10nm,0.8s,mb5.0,baz=126,slow=5.0,SNR=35						
CMAR	**Chiang Mai Arr**	**63.48**	**296**	P	**P**	**16 23 47.0**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**64.56**	**310**	P	**P**	**16 23 54.0**	**+0.7**
CD2				AMB	AMB		
	comp=Z,60nm,1.7s,mb5.3						
HHC	**Hu-ho-hao-te**	**64.73**	**323**	*e*P	**P**	**16 23 54.5**	**+0.2**
HHC				AP	pP	16 24 03.3	+3.6
HHC				S	**S**	**16 32 39.5**	**+7.3**
HHC				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.4						
HHC				AMB	AMB		
	comp=Z,510nm,6.5s						
HHC				LR	LR		
	comp=N,403nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,645nm,16.7s,MS5.0						
BTO	**Baotou**	**65.51**	**322**	*e*P	**P**	**16 23 58.0**	**-1.3**
HIA	**Hailar**	**66.36**	**334**	*e*P	**P**	**16 24 04.7**	**+0.2**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HIA	**Hailar**	**66.36**	**334**	*e*P	**P**	**16 24 04.3**	**-0.3**
	comp=Z,25nm,0.9s,mb5.2						
LZH	**Lanzhou**	**67.04**	**315**	⇑P	**P**	**16 24 10.0**	**+0.9**
LZH				AP	pP	16 24 13.0	-1.6
LZH				XP	sP	16 24 14.5	-2.0
LZH				PP	PP	16 26 40.0	+1.4
LZH				S	S	16 33 03.0	+2.6
LZH				XS		16 33 09.0	
LZH				SS	SS	16 37 23.0	+1.8
LZH				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,431nm,4.3s						
LZH				LR	LR		
	comp=N,3µm,16.5s						
LZH				LR	LR		
	comp=Z,3µm,18.2s,MS5.6						
LZH	**Lanzhou**	**67.04**	**315**	⇑P	**P**	**16 24 10.0**	**+0.9**
	comp=Z,95nm,1.4s,mb5.6						
LZH				pP	pP	16 24 13.1	-1.5
LZH				sP	sP	16 24 14.6	-1.9
LZH				PP	PP	16 26 40.0	+1.4
LZH				S	S	16 33 03.1	+2.7
LZH				sS		16 33 09.0	
LZH				SS	SS	16 37 23.0	+1.8
LZH				LR	LR		
	comp=Z,3µm,18.2s,MS5.6						
MA2	**Magadan**	**68.20**	**356**	*e*P	**P**	**16 24 15.0**	**-1.0**
MA2				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
SBA	**Scott Base**	**69.35**	**178**	*e*P	**P**	**16 24 22.6**	**-0.3**
SBA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
SBA	**Scott Base**	**69.35**	**178**	*e*P	**P**	**16 24 22.6**	**-0.3**
	comp=Z,20nm,1.2s,mb4.9						
GTA	**Gaotai**	**71.45**	**316**	*e*P	**P**	**16 24 37.8**	**+1.6**
GTA				AP	pP	16 24 43.3	+1.6
GTA				XP	sP	16 24 47.5	+3.9
GTA				PPP	PPP	16 29 03.5	+5.3
GTA				S	S	16 33 59.5	+7.0
GTA				AMB	AMB		
	comp=Z,317nm,6.8s						
GTA				LR	LR		
	comp=N,351nm,17.5s,MS4.8						
GTA				LR	LR		
	comp=E,389nm,18.3s,MS4.8						
SONM	**Songino Array**	**71.92**	**327**	P	**P**	**16 24 39.4**	**+0.5**
	comp=E,10nm,0.9s,mb4.8,baz=135,slow=6.9,SNR=14						
SONM				PKPPKP		16 52 24.2	
	comp=E,0.3nm,0.7s,baz=180,slow=2.5,SNR=3.9						
YAK	**Yakutsk**	**73.65**	**347**	*e*P	**P**	**16 24 48.5**	**-0.3**
YAK				*e*		16 25 01.7	
YAK				*e*S	S	16 34 21.4	+4.3
YAK				*e*		16 34 58.9	
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				smax			
	comp=E,231nm,7.9s						
YAK				smax			
	comp=N,169nm,10.1s						
YAK				MLR	MLR		
	comp=Z,253nm,14.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,142nm,13.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,189nm,15.0s,MS4.6						
LSA	**Lhasa**	**74.02**	**304**	P	**P**	**16 24 55.0**	**+3.4**
LSA	**Lhasa**	**74.02**	**304**	*e*P	**P**	**16 24 53.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3						
LSA	**Lhasa**	**74.02**	**304**	*e*P	**P**	**16 24 52.8**	**+1.2**
	comp=Z,46nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**75.06**	**328**⇑	*i*P	**P**	**16 24 57.9**	**+0.7**
PALK	**Pallekele**	**77.88**	**279**	P	**P**	**16 25 15.1**	**+1.4**
	comp=Z,78nm,1.1s,mb5.5						
PKI	**Pulchoki**	**78.16**	**300**	*e*P	**P**	**16 25 15.8**	**+0.8**
	comp=Z,54nm,1.0s,mb5.4						
KKN	**Kakani**	**78.33**	**301**	*e*P	**P**	**16 25 16.6**	**+0.7**
	comp=Z,42nm,0.7s,mb5.5						
DMN	**Daman**	**78.43**	**300**	*e*P	**P**	**16 25 17.3**	**+0.9**
	comp=Z,80nm,0.9s,mb5.7						
GKN	**Gorkha**	**78.94**	**301**	*e*P	**P**	**16 25 20.0**	**+0.8**
	comp=Z,128nm,1.0s,mb5.8						
KOLN	**Koldanda**	**79.76**	**300**	*e*P	**P**	**16 25 24.1**	**+0.4**
	comp=Z,70nm,0.9s,mb5.6						
QSPA	**South Pole Qui**	**81.33**	**180**	*e*P	**P**	**16 25 31.1**	**+0.1**
	comp=Z,39nm,0.9s,mb5.3						
QSPA				*e*		16 32 10.6	
PMR	**Palmer**	**81.44**	**23**	*e*P	**P**	**16 25 30.7**	**-1.1**
PMR				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.1						
PMR	**Palmer**	**81.44**	**23**	*e*P	**P**	**16 25 30.7**	**-1.1**
	comp=Z,30nm,1.0s,mb5.2						
WMQ	**Urumqi**	**81.53**	**317**⇑	*i*P	**P**	**16 25 33.8**	**+1.1**
WMQ				AP	pP	16 25 37.8	-0.5
WMQ				XP	sP	16 25 40.8	+0.7
WMQ				PP	PP	16 28 42.3	+0.9
WMQ				S	S	16 35 44.3	+2.0
WMQ				SKS	SKS	16 35 48.5	-4.9
WMQ				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,188nm,9.5s						
WMQ				LR	LR		
	comp=N,673nm,18.4s,MS5.1						
WMQ				LR	LR		
	comp=E,248nm,17.6s,MS5.1						
WMQ				LR	LR		
	comp=Z,425nm,19.2s,MS4.8						
SML	**Sawmill**	**81.87**	**23**	*e*P	**P**	**16 25 33.5**	**-0.6**
SML				*e*		16 25 43.7	
HYB	**Hyderabad**	**81.89**	**289**	*i* P	**P**	**16 25 37.5**	**+2.4**
HYB	**Hyderabad**	**81.89**	**289**	*e*P	**P**	**16 25 37.5**	**+2.4**
IMA	**Indian Mountai**	**82.67**	**18**	*e*P	**P**	**16 25 37.8**	**-0.3**
	comp=Z,30nm,1.0s,mb5.3						
IMA				*e*		16 25 49.8	
MCK	**McKinley**	**82.78**	**21**	*e*P	**P**	**16 25 37.8**	**-1.0**
MCK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
MCK	**McKinley**	**82.78**	**21**	*e*P	**P**	**16 25 37.8**	**-0.9**
	comp=Z,30nm,0.9s,mb5.3						
MCK				*e*		16 25 49.0	
MAW	**Mawson**	**83.72**	**203**	*e*P	**P**	**16 25 43.9**	**+0.4**
	comp=Z,19nm,1.0s,mb5.2						
MAW	**Mawson**	**83.72**	**203**	P	**P**	**16 25 43.4**	**0.0**
	comp=Z,26nm,1.0s,mb5.3,baz=91,slow=6.9,SNR=22						
MAW	**Mawson**	**83.72**	**203**	P	**P**	**16 25 43.4**	**-0.1**
MAW				pmax	pmax		
	comp=Z,26nm,1.0s						
THY	**Trims Highway**	**83.77**	**22**	*e*P	**P**	**16 25 44.3**	**+0.5**
COLA	**College**	**83.84**	**21**	*e*P	**P**	**16 25 42.9**	**-1.2**
COLA				*e*		16 25 51.8	
COLA				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.3						
COLA	**College**	**83.84**	**21**	*e*P	**P**	**16 25 42.9**	**-1.2**
	comp=Z,32nm,1.2s,mb5.3						
COLA				*e*		16 25 51.8	
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**16 25 44.2**	**-1.3**
	comp=Z,9.5nm,1.0s,mb4.9,baz=257,slow=4.7,SNR=21						
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**16 25 44.2**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MKAR	**Makanchi Array**	**86.10**	**318**	P	**P**	**16 25 56.2**	**+0.3**
	comp=Z,10nm,0.7s,mb5.2,baz=104,slow=5.7,SNR=27						
MKAR	**Makanchi Array**	**86.10**	**318**	P	**P**	**16 25 56.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MKAR	**Makanchi Array**	**86.10**	**318**	P	**P**	**16 25 56.2**	**+0.3**
DAWY	**Dawson**	**86.54**	**23**	*e*P	**P**	**16 25 57.8**	**+0.3**
DAWY				*e*		16 26 09.5	
YBH	**Yreka Blue Hor**	**88.37**	**48**	P	**P**	**16 26 06.3**	**-0.6**
	comp=Z,3.8nm,1.1s,mb4.5,baz=153,slow=16,SNR=2.4						
YBH	**Yreka Blue Hor**	**88.37**	**48**	P	**P**	**16 26 06.3**	**-0.7**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KSH	**Kashi**	**88.76**	**310**	*e*P	**P**	**16 26 11.0**	**+2.1**
KSH				*e*AP	pP	16 26 17.5	+3.0
KSH				*e*XP	sP	16 26 19.5	+3.2
KSH				*e*PP	PP	16 29 44.5	+4.2
KSH				*e*PPP	PPP	16 32 03.5	+24
KSH				*e*SKS	SKS	16 36 38.0	-3.6
KSH				*e*S	S	16 36 57.0	+4.0
KSH				*e*XS		16 37 06.0	
KSH				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.9						
KSH				LR	LR		
	comp=N,370nm,8.0s						
KSH				LR	LR		
	comp=E,380nm,10.8s						
KURK	**Kurchatov**	**89.49**	**321**	*e*P	**P**	**16 26 11.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.3						
KURK	**Kurchatov**	**89.49**	**321**	*e*P	**P**	**16 26 11.3**	**-0.8**
	comp=Z,18nm,1.3s,mb5.2						
OMM	**Old Mammoth Mi**	**90.34**	**52**	*e*P	**P**	**16 26 16.8**	**+0.4**
MWC	**Mount Wilson**	**90.48**	**56**	*e*P	**P**	**16 26 17.5**	**+0.4**
MWC				*e*		16 26 30.1	
AAK	**Ala-Archa**	**90.49**	**313**	*e*P	**P**	**16 26 16.2**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.8						
INK	**Inuvik**	**90.50**	**20**	P	**P**	**16 26 15.3**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.4,baz=198,slow=2.7,SNR=3.7						
INK	**Inuvik**	**90.50**	**20**	P	**P**	**16 26 15.3**	**-1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**90.50**	**20**	P	**P**	**16 26 15.3**	**-1.1**
NVAR	**Mina Array Bea**	**91.02**	**51**	P	**P**	**16 26 18.1**	**-1.4**
	comp=Z,7.5nm,1.0s,mb5.0,baz=235,slow=4.3,SNR=21						
MNV	**Mina**	**91.14**	**51**	*e*P	**P**	**16 26 20.4**	**+0.4**
MNV				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.4						
MNV	**Mina**	**91.14**	**51**	*e*P	**P**	**16 26 20.4**	**+0.4**
	comp=Z,18nm,1.1s,mb5.3						
TPH	**Tonopah**	**91.80**	**52**	*e*P	**P**	**16 26 23.5**	**+0.4**
TPH				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
TPH	**Tonopah**	**91.80**	**52**	*e*P	**P**	**16 26 23.5**	**+0.4**
	comp=Z,13nm,1.1s,mb5.2						
LDFC	**Landfair**	**93.02**	**55**	*e*P	**P**	**16 26 29.6**	**+0.9**
LDFC				*e*		16 26 39.9	
HLID	**Hailey**	**94.72**	**47**	*e*P	**P**	**16 26 36.4**	**+0.1**
	comp=Z,5.7nm,1.3s,mb4.8						
HLID				*e*		16 26 49.1	
BVAR	**Borovoye Array**	**94.94**	**323**	P	**P**	**16 26 36.6**	**-0.5**
	comp=Z,6.7nm,0.8s,mb5.2,baz=90,slow=5.9,SNR=19						
BRVK	**Borovoye**	**95.01**	**323**	*e*P	**P**	**16 26 36.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.2						
BRVK	**Borovoye**	**95.01**	**323**	*e*P	**P**	**16 26 36.4**	**-1.0**
	comp=Z,8.0nm,0.9s,mb5.2						
MSU	**Marysvale**	**95.79**	**52**	P	**P**	**16 26 42.9**	**+1.5**
MSU				*e*		16 26 58.3	
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**16 26 44.4**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.8,baz=264,slow=4.6,SNR=14						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**16 26 44.4**	**-0.8**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**98.17**	**48**	P	**P**	**16 26 50.9**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.4,baz=270,slow=3.0,SNR=7.7						
PDAR				LR	LR	17 05 08.9	
	comp=Z,714nm,19.9s,MS5.2,baz=360,slow=32						
SNAA	**Sanae**	**98.75**	**186**	P	**P**	**16 26 54.7**	**+0.7**
SNAA	**Sanae**	**98.75**	**186**		**P**	**16 27 04.7**	**+11**
VNA2	**Neumayer--Watz**	**99.92**	**185**⇑	*i*P	**P**	**16 27 02.2**	**+2.9**
VNA1	**Neumayer--Stat**	**100.26**	**185**	P	P	16 27 03.6	+2.7
TXAR	**Lajitas Array**	**102.10**	**62**	P	Pdif	16 27 09.4	-0.8
	comp=Z,0.1nm,0.5s,baz=291,slow=32,SNR=3.0						
TXAR				PKKPbc		16 43 13.2	
	comp=Z,0.6nm,0.8s,baz=90,slow=2.5,SNR=5.0						
VOR	**Voronezh**	**113.95**	**323**	PKIKP	PKPdf	16 31 52.0	-4.5
VOR				pmax	pmax		
	comp=Z,60nm,1.5s						
OBN	**Obninsk**	**114.33**	**327**	*e*PKIKP	PKPdf	16 31 51.1	-6.0
OBN				*e*		16 32 51.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,500nm,16.0s,MS5.2						
SOC	**Sochi**	**115.75**	**314**	*i* PKIKP	PKPdf	16 31 47.3	-13
SOC				*e*		16 32 57.6	
SOC				*e*		16 39 11.6	
SOC				*e*SSS	SSS	16 53 16.2	-3.7
SOC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=N,10.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.5s						
FINES	**FINESS Array B**	**116.34**	**336**	PKP	PKPdf	16 31 57.0	-3.9
	comp=E,2.2nm,0.8s,baz=11,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**116.34**	**336**	PKIKP	PKPdf	16 31 57.1	-3.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**120.16**	**325**	PKP	PKPdf	16 32 05.4	-3.1
	comp=Z,2.0nm,0.6s,baz=59,slow=2.3,SNR=9.5						
AKASG	**Malin Array Be**	**120.16**	**325**	PKIKP	PKPdf	16 32 05.4	-3.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**121.13**	**311**	PKP	PKPdf	16 32 08.2	-2.6
	comp=Z,2.3nm,1.1s,SNR=3.9						
BRTR	**Keskin Array B**	**121.13**	**311**	PKIKP	PKPdf	16 32 08.2	-2.6
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**121.98**	**341**	PKP	PKPdf	16 32 07.1	-4.8
	comp=Z,2.0nm,0.8s,baz=33,slow=1.4,SNR=4.5						
NOA	**NORSAR Array B**	**121.98**	**341**	PKIKP	PKPdf	16 32 07.1	-4.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**121.98**	**341**	PKP	PKPdf	16 32 07.1	-4.8
LIKS	**Likavka**	**126.65**	**327**	*e*	Pdif	16 29 02.2	+4.5
VYHS	**Vyhne**	**127.11**	**326**	*e*PKP	PKPdf	16 32 19.2	-2.8
CLL	**Collm**	**128.31**	**332**	*i* PKIKP	PKPdf	16 32 22.0	-2.3
	comp=Z,logA/T=0.9						
CLL	**Collm**	**128.31**	**332**	*i* PKIKP	PKPdf	16 32 22.0	-2.3
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL				MLR	MLR		
	comp=Z,1µm,19.9s,MS5.5						
LPAZ	**La Paz**	**128.73**	**119**	PKP	PKPdf	16 32 22.2	-3.8
	comp=Z,4.9nm,0.9s,baz=165,slow=0.2,SNR=8.7						
LPAZ	**La Paz**	**128.73**	**119**	PKIKP	PKPdf	16 32 22.2	-3.8
LPAZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOX	**Moxa**	**129.40**	**332**	*e*P	PKPdf	16 32 24.0	-2.4
MOX				PP	PP	16 34 44.0	+7.6
KHC	**Kasperske Hory**	**129.48**	**330**	*e*PKIKP	PKPdf	16 32 24.0	-2.6
GERES	**GERESS Array B**	**129.60**	**329**	PKP	PKPdf	16 32 21.9	-5.0
	comp=Z,1.6nm,0.8s,baz=45,slow=1.9,SNR=9.7						
GERES	**GERESS Array B**	**129.60**	**329**	PKIKP	PKPdf	16 32 21.9	-4.9
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRA1	**Grafenberg Arr**	**130.24**	**332**	*e*PKP	PKPdf	16 32 25.8	-2.2
GRA1				*e*PP	PP	16 34 40.2	-1.5
GRF	**Grafenberg Arr**	**130.24**	**332**	*e*PKIKP	PKPdf	16 32 25.8	-2.2
GRF				*e*		16 34 40.2	
BOJS	**Bojanci**	**130.84**	**325**	*i* PKPdf	PKPdf	16 32 27.8	-1.5
CEY	**Cerknica**	**131.17**	**326**	*i* PKPdf	PKPdf	16 32 28.1	-1.8
CPUP	**Villa Florida**	**131.68**	**137**	PKP	PKPdf	16 32 25.8	-5.6
	comp=Z,5.3nm,1.1s,baz=257,slow=5.9,SNR=5.8						
CPUP	**Villa Florida**	**131.68**	**137**	PKIKP	PKPdf	16 32 25.8	-5.6
CPUP				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CPUP	**Villa Florida**	**131.68**	**137**	PKP	PKPdf	16 32 25.8	-5.7
HINF	**Hinteralfeld**	**133.61**	**333**	*e*PKIKP	PKPdf	16 32 30.0	-4.4
	comp=Z,21nm,1.2s						
CABF	**La Chapelle**	**134.85**	**332**	*e*PKIKP	PKPdf	16 32 32.4	-4.4
	comp=Z,13nm,0.9s						
LOR	**Lormes**	**135.35**	**334**	*e*PKIKP	PKPdf	16 32 33.2	-4.5
SSF	**Saint Saulge**	**135.66**	**334**	*e*PKIKP	PKPdf	16 32 34.6	-3.6
	comp=Z,18nm,1.2s						
MBDF	**Montbardon**	**135.89**	**330**	*e*PKIKP	PKPdf	16 32 33.7	-5.0
	comp=Z,37nm,1.6s						
LASF	**Ste Croix**	**137.79**	**331**	*e*PKIKP	PKPdf	16 32 37.8	-4.4
	comp=Z,21nm,1.0s						
EPF	**Esparros**	**140.22**	**333**	*e*PKIKP	PKPdf	16 32 41.5	-5.2
	comp=Z,38nm,1.4s						
ETSF	**Etsaut**	**140.72**	**334**	*e*PKIKP	PKPdf	16 32 42.7	-4.9
SJPF	**Ste Jean**	**140.83**	**335**	*e*PKIKP	PKPdf	16 32 42.6	-5.2
ESDC	**Sonseca Array**	**144.83**	**334**	PKP	PKPdf	16 32 51.1	-3.8
	comp=Z,8.6nm,0.9s,baz=22,slow=3.3,SNR=23						
PVRL	**Vila Real**	**144.88**	**340**	*e*PKPdf	PKPdf	16 32 52.0	-2.9
BDFB	**Brasilia**	**145.25**	**134**	PKP	PKPdf	16 32 51.9	-4.3
	comp=Z,35nm,0.9s,baz=243,slow=2.8,SNR=22						
BDFB	**Brasilia**	**145.25**	**134**	PKIKP	PKPdf	16 32 51.9	-4.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB				pmax	pmax		
	comp=Z,35nm,0.9s						
PVIS	**Viseu**	**145.44**	**340**	*e*PKPab	PKPab	16 32 53.8	-0.4
MTE	**Manteigas**	**145.60**	**339**	*e*PKPab	PKPab	16 32 53.8	-1.0
MTE	**Manteigas**	**145.60**	**339**	*e*PKPdf	PKPdf	16 32 54.8	-1.3
CAM3	**Guarapari**	**145.99**	**149**	*e*P	PKPbc	16 32 56.0	+1.5
CAM3				*i*		16 32 58.1	
CAM3				*i*		16 33 04.7	
CAM3	**Guarapari**	**145.99**	**149**	*e*P	PKPbc	16 32 56.0	+1.4
CAM3				*i*		16 32 58.1	
PCBR	**Castelo Branco**	**146.07**	**339**	*e*PKPab	PKPab	16 32 55.7	-1.0
PTOM	**Tomar**	**146.60**	**340**	*e*PKPab	PKPab	16 32 56.8	-1.9
EVO	**Evora**	**147.42**	**338**	*e*PKIKP	PKPdf	16 32 57.0	-2.2
	comp=Z,49nm,1.2s						
PLOU	**Loures**	**147.51**	**340**	*e*PKPdf	PKPdf	16 32 56.2	-3.2
PBEJ	**Beja**	**147.81**	**338**	*e*PKPab	PKPab	16 33 01.3	-2.2
PALC	**Alcoutim**	**148.15**	**337**	*e*PKPab	PKPab	16 33 01.6	-3.3
PTEO	**Sao Teotonio**	**148.55**	**338**	*e*PKPdf	PKPdf	16 32 58.3	-2.8
DBIC	**Dimbokro**	**162.12**	**265**	PKP	PKPdf	16 33 16.6	-3.0
	comp=Z,3.2nm,0.9s,baz=23,slow=5.6,SNR=3.1						
DBIC				PKPab	PKPab	16 34 05.0	+0.1
	comp=Z,4.2nm,0.7s,baz=81,slow=6.7,SNR=6.0						

GUC 28 16:16:20.6±0.7**, 35.01S**×**70.57W, h4**^{km}±7^{km}**, MD3.5, 2C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**317**	⇓*i*P	Pg	16 16 31.7	+0.2
SFDO				*i* S	Sg	16 16 40.2	+1.5
CICH	**Cipreses**	**0.70**	**10**	⇓*i*P	Pg	16 16 33.3	-1.3
CICH				*i* S	Sg	16 16 43.8	-0.2
CACH	**El Canelo**	**0.89**	**358**	⇓*i*P	Pb	16 16 36.9	-1.4
CACH				*i* S	Sb	16 16 50.2	-0.2
CHCH	**Chadas Angostu**	**1.08**	**356**	⇓*i*P	Pb	16 16 40.5	-0.9
CHCH				*i* S	Sb	16 16 56.1	+0.4
LNV	**Longovilo**	**1.27**	**326**	*e*P	Pb	16 16 43.7	-1.0
PCH	**Pirque**	**1.39**	**2**	⇑*i*P	Pb	16 16 45.8	-1.0
PCH				*i* S	Sb	16 17 05.5	+0.8
TACH	**Talagante**	**1.39**	**347**	⇓*i*P	Pb	16 16 45.8	-1.0
TACH				*i* S	Sb	16 17 05.2	+0.4
LCCH	**Las Cruces**	**1.75**	**331**	⇑*i*P	Pn	16 16 52.1	+0.2
LCCH				*i* S	Sn	16 17 15.0	+0.2

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*IDC **28** 16:19:51.5±1.1, 8.85S×157.55E, mb4.1/8, mb1 4.3/9, mb1mx4.2/14, ML3.2/1, Error ellipse: s-maj=41.5km s-min=21.8km az=124.0*

*NEIC **28** 16:19:53.5±0.7, 8.75S×157.45E, h10^{km}, mb4.5/5, Error ellipse: s-maj=27.9km s-min=12.6km az=126.0*

ISC 28 16:19:52.1±0.8**, 8.7S**±0.1×**157.4E**±0.2**, h10**^{km}**, n16, σ0**^{s}**79**/15**, mb4.2**/11**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.61**	**223**	Pn	**P**	**16 23 33.8**	**-0.1**
	0.1nm,0.3s,baz=75,slow=18,SNR=2.0						
CTAO	**Charters Tower**	**15.61**	**223**	P	**P**	**16 23 37.3**	**+3.4**
	9.3nm,0.9s						
WRAB	**Tennant Creek**	**24.92**	**241**	*e*P	**P**	**16 25 16.8**	**-0.2**
	17nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**24.92**	**241**	*e*P	**P**	**16 25 16.5**	**-0.5**
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**	**16 25 16.9**	**-0.2**
	8.2nm,0.9s,mb4.2,baz=66,slow=9.6,SNR=14						
WRA				PcP	PcP	16 28 53.2	-0.5
	0.3nm,0.7s,baz=73,slow=2.6,SNR=4.8						
ASAR	**Alice Springs**	**26.95**	**234**	P	**P**	**16 25 34.5**	**-1.3**
	1.5nm,0.9s,mb3.5,baz=68,slow=9.0,SNR=5.3						
STKA	**Stephens Creek**	**27.31**	**210**	*e*P	**P**	**16 25 41.0**	**+2.0**
	5.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.31**	**210**	P	**P**	**16 25 38.2**	**-0.8**
	4.8nm,0.7s,mb4.1,baz=41,slow=15,SNR=7.2						
CMAR	**Chiang Mai Arr**	**63.69**	**296**	P	**P**	**16 30 27.2**	**+0.8**
	0.5nm,0.8s,mb3.6,baz=134,slow=5.2,SNR=4.3						
SONM	**Songino Array**	**72.09**	**327**	P	**P**	**16 31 19.2**	**+0.6**
	11nm,1.5s,mb4.6,baz=153,slow=2.8,SNR=5.1						
QSPA	**South Pole Qui**	**81.24**	**180**	*e*P	**P**	**16 32 10.2**	**+0.9**
	12nm,1.3s,mb4.7						
MCK	**McKinley**	**82.79**	**21**	*e*P	**P**	**16 32 17.2**	**-0.3**
	4.0nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**16 32 23.6**	**-0.6**
	0.8nm,0.9s,mb3.9,baz=265,slow=5.2,SNR=4.3						
MKAR	**Makanchi Array**	**86.29**	**318**	P	**P**	**16 32 35.9**	**+0.4**
	1.2nm,0.7s,mb4.2,baz=108,slow=6.2,SNR=9.7						
NVAR	**Mina Array Bea**	**90.93**	**51**	P	**P**	**16 32 57.3**	**-0.4**
	0.4nm,0.7s,mb3.9,baz=252,slow=3.6,SNR=3.9						
BDFB	**Brasilia**	**145.06**	**134**	PKP	PKPdf	16 39 32.2	-1.5
	6.4nm,1.0s,baz=241,slow=3.7,SNR=5.0						

IDC 28 16:49:06.7±9.4**, 19.93N**×**94.27E, h58**^{km}±66^{km}**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.1**/18**, ML3.8**/1**, MS3.5**/1**, Ms1 3.7**/1**, ms1mx3.0**/11**, Error ellipse: s-maj=75.7km s-min=63.0km az=16.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.65**	**108**	P	P	16 50 14.4	-1.8
	1.0nm,0.3s,baz=286,slow=13,SNR=31						
CMAR				S	S	16 51 08.0	-1.6
	0.5nm,0.3s,baz=289,slow=16,SNR=5.5						
CMAR				Lg		16 51 26.4	
	0.6nm,0.3s,baz=277,slow=31,SNR=5.5						
CMAR				LR	LR	16 52 18.7	
	comp=Z,493nm,19.2s,baz=275,slow=41						
CHRT	**Chiangrai**	**5.19**	**90**	P	P	16 50 21.0	-2.7
	395nm,0.4s						
BDT	**Bhumibol Dam**	**5.22**	**120**	P	P	16 50 23.0	-1.2
WRA	**Warramunga Arr**	**55.77**	**133**	P	P	16 58 37.6	-2.8
	0.7nm,0.9s,baz=319,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**58.06**	**136**	P	P	16 58 54.5	-2.0
	0.2nm,0.6s,baz=320,slow=7.2,SNR=6.2						

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*GUC **28** 16:54:27.9±1.0, 35.05S×70.51W, h2^{km}±3^{km}, ML4.6*

*NEIC **28** 16:54:28.5±0.4, 34.99S×70.33W, h10^{km}, mb4.6/4, ML4.6(GUC), Error ellipse: s-maj=7.9km s-min=5.0km az=79.0*

NEIC Felt [III] at Molina and [II] at Curico, San Clemente and Talca.

*IDC **28** 16:54:32.2±3.7, 35.12S×70.32W, h39^{km}±32^{km}, mb3.9/7, mb1 4.1/11, mb1mx4.0/16, ML4.1/4, Error ellipse: s-maj=28.1km s-min=18.7km az=83.0*

ISC 28 16:54:26.4±0.4**, 35.15S**±0.02×**70.39W**±0.04**, h10**^{km}**, n50, σ1**^{s}**04**/67**, mb4.2**/11**, 8C-13D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.70**	**282**	⇓*i*P	**Pb**	**16 54 39.7**	**-0.5**
NICH				*i* S	**Sb**	**16 54 49.5**	**-0.2**
SFDO	**San Fernando**	**0.74**	**316**	⇓*i*P	**Pb**	**16 54 39.7**	**-1.2**
CICH	**Cipreses**	**0.83**	**359**	⇓*i*P	**Pb**	**16 54 41.5**	**-1.0**
TALC	**Talca**	**1.04**	**256**	⇓*i*P	**Pb**	**16 54 45.8**	**-0.3**
TALC				*i* S	**Sb**	**16 54 59.5**	**-0.1**
TALC				AMP		16 54 59.8	
	comp=E,46µm,0.1s						
CACH	**El Canelo**	**1.05**	**351**	⇑*i*P	**Pb**	**16 54 45.0**	**-1.1**
CHCH	**Chadas Angostu**	**1.24**	**350**	⇓*i*P	**Pb**	**16 54 48.4**	**-1.0**
LMEL	**Las Melosas**	**1.31**	**7**	⇑*i*P	**Pb**	**16 54 50.3**	**-0.4**
LMEL				*i* S	**Sb**	**16 55 07.8**	**+0.3**
LMEL				AMP		16 55 09.1	
	comp=N,8µm,0.2s						
LNV	**Longovilo**	**1.46**	**325**	⇑*i*P	**Pn**	**16 54 51.7**	**-1.2**
PCH	**Pirque**	**1.53**	**356**	⇓*i*P	**Pn**	**16 54 53.7**	**-0.3**
PCH				*i* S	**Sb**	**16 55 12.4**	**-1.4**
LLCH	**Llolleo**	**1.55**	**353**	⇑*i*P	**Pn**	**16 54 57.2**	**+3.0**
LLCH				*i* S	**Sb**	**16 55 20.4**	**+6.0**
TACH	**Talagante**	**1.56**	**343**	⇓*i*P	**Pn**	**16 54 53.8**	**-0.6**
ANTU	**Antumapu**	**1.59**	**353**	*i* P	**Pn**	**16 54 54.8**	**0.0**
ANTU				*i* S	**Sb**	**16 55 15.0**	**-0.6**
ANTU				AMP		16 55 16.9	
	comp=E,25µm,0.4s						
SAN	**Santiago**	**1.71**	**352**	⇑*i*P	**Pn**	**16 54 56.9**	**+0.3**
SAN				*i* S	**Sn**	**16 55 18.3**	**-0.3**
SAN				AMP		16 55 20.3	
	comp=E,14µm,0.4s						
STL	**Santa Lucia**	**1.73**	**353**	⇓*i*P	**Pn**	**16 54 56.8**	**0.0**
STL				*i* S	**Sn**	**16 55 18.5**	**-0.5**
STL				AMP		16 55 20.3	
	comp=E,9µm,0.6s						
PUEX	**Pudahuel**	**1.73**	**350**	*e*P	**Pn**	**16 54 57.0**	**+0.1**
PUEX				*i* S	**Sn**	**16 55 18.3**	**-0.9**
PUEX				AMP		16 55 28.0	
	comp=N,31µm,0.4s						
CLCH	**Cerro Calan**	**1.76**	**356**	⇑*i*P	**Pn**	**16 54 57.7**	**+0.5**
CLCH				*i* S	**Sn**	**16 55 19.9**	**+0.1**
CLCH				AMP		16 55 28.0	
	comp=E,15µm,0.6s						
CLCH				AMP		16 55 30.0	
	comp=N,14µm,0.5s						
DSCH	**Colegio Aleman**	**1.76**	**355**	⇓*i*P	**Pn**	**16 54 57.7**	**+0.5**
DSCH				*i* S	**Sn**	**16 55 19.9**	**+0.2**
DSCH				AMP		16 55 27.3	
	comp=N,17µm,0.6s						
FCH	**Farellones**	**1.82**	**3**	⇑*i*P	**Pn**	**16 54 59.1**	**+1.0**
FCH				*i* S	**Sn**	**16 55 22.7**	**+1.3**
FCH				AMP		16 55 24.0	
	comp=N,8µm,0.4s						
LCCH	**Las Cruces**	**1.94**	**330**	⇓*i*P	**Pn**	**16 54 59.6**	**-0.2**
CCHI	**Chillan**	**1.99**	**223**	⇑*i*P	**Pn**	**16 55 03.1**	**+2.6**
CCHI				*i* S	**Sn**	**16 55 29.4**	**+3.8**
CCHI				AMP		16 55 34.2	
	comp=N,8µm,0.6s						
PEL	**Peldehue**	**2.02**	**353**	⇓*i*P	**Pn**	**16 55 01.9**	**+0.9**
PEL				*i* S	**Sn**	**16 55 27.9**	**+1.4**
JACH	**Jahuel**	**2.47**	**356**	⇓*i*P	**Pn**	**16 55 09.0**	**+1.5**
JACH				*i* S	**Sn**	**16 55 40.2**	**+2.2**
ILCH	**Illapel**	**3.57**	**349**	*i* P	**Pn**	**16 55 23.9**	**+0.9**
ILCH				*i* S	**Sn**	**16 56 06.2**	**+0.5**
CMCH	**Combarbala**	**4.00**	**353**	*e*P	**Pn**	**16 55 30.1**	**+0.9**
PLCA	**Paso Flores**	**5.57**	**181**	Pn	**Pn**	**16 55 54.4**	**+3.0**
	comp=N,1.3nm,0.3s,baz=328,slow=11,SNR=31						
PLCA				Pg	**Pg**	**16 56 11.1**	**-6.5**
	comp=N,3.5nm,0.3s,baz=357,slow=16,SNR=12						
PLCA				Lg		16 57 28.9	
	comp=N,3.9nm,0.3s,baz=73,slow=7.9,SNR=4.8						
PLCA	**Paso Flores**	**5.57**	**181**	Pn	**Pn**	**16 55 54.4**	**+3.0**
PLCA				Pg	**Pg**	**16 56 11.1**	**-6.5**
PLCA				Lg		16 57 28.9	
TRQA	**Tornquist**	**7.36**	**116**	*e*Pn	**Pn**	**16 56 16.7**	**+0.1**
TRQA				*e*Pg	**Pg**	**16 56 46.7**	**-6.6**
TRQA				*e*Sn	**Sn**	**16 57 37.1**	**-3.9**
LVC	**Limon Verde**	**12.56**	**6**	P	**P**	**16 57 22.5**	**-5.6**
CPUP	**Villa Florida**	**14.26**	**55**	Pn	**P**	**16 57 49.2**	**-1.2**
	comp=N,0.3nm,0.3s,baz=221,slow=13,SNR=6.1						
LPAZ	**La Paz**	**18.90**	**7**	P	**P**	**16 58 49.4**	**0.0**
	comp=N,0.8nm,0.3s,baz=180,slow=8.7,SNR=5.6						
LPAZ	**La Paz**	**18.90**	**7**	P	**P**	**16 58 49.4**	**0.0**
USHA	**Ushuaia**	**19.73**	**177**	P	**P**	**16 58 56.8**	**-2.0**
	comp=N,0.2nm,0.3s,baz=336,slow=11,SNR=2.3						
SAML	**Samuel**	**26.91**	**16**	P	**P**	**17 00 07.1**	**-2.6**
	comp=N,2.1nm,0.8s,mb3.7						
BDFB	**Brasilia**	**27.92**	**52**	P	**P**	**17 00 18.4**	**-0.5**
	comp=N,1.7nm,0.5s,mb3.9,baz=223,slow=12,SNR=3.8						
VNA2	**Neumayer--Watz**	**48.42**	**157**		**P**	**17 03 13.5**	**+3.3**
SNAA	**Sanae**	**50.01**	**158**	⇓*i*	**P**	**17 03 22.4**	**0.0**
QSPA	**South Pole Qui**	**55.09**	**180**	*e*P	**P**	**17 04 00.2**	**-0.1**
	comp=N,4.2nm,0.9s,mb4.5						
JCT	**Junction City**	**70.91**	**333**	P	**P**	**17 05 47.1**	**+1.2**
	comp=N,5.8nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**71.41**	**330**	P	**P**	**17 05 48.9**	**+0.1**
	comp=N,0.7nm,0.5s,mb3.9,baz=154,slow=9.7,SNR=8.8						
MAW	**Mawson**	**71.69**	**163**	P	**P**	**17 05 50.1**	**+0.2**
	comp=N,1.8nm,0.8s,mb4.0,baz=191,slow=16,SNR=3.5						
WVT	**Waverly**	**72.76**	**345**	*e*P	**P**	**17 05 54.9**	**-1.9**
	comp=N,12nm,0.8s,mb4.9						
SUR	**Sutherland**	**73.09**	**118**	P	**P**	**17 05 58.8**	**+0.1**
	comp=N,2.0nm,0.7s,mb4.1,baz=203,slow=7.7,SNR=2.6						
SUR	**Sutherland**	**73.09**	**118**	P	**P**	**17 05 58.8**	**+0.1**
DBIC	**Dimbokro**	**74.28**	**70**	P	**P**	**17 06 06.0**	**-0.1**
	comp=N,3.8nm,0.9s,mb4.3,baz=202,slow=8.0,SNR=3.9						
PDAR	**Pinedale Array**	**85.41**	**332**	P	**P**	**17 07 04.4**	**-0.7**
	comp=N,0.7nm,0.6s,mb4.0,baz=140,slow=8.0,SNR=3.4						
NVAR	**Mina Array Bea**	**85.61**	**324**	P	**P**	**17 07 07.3**	**+1.1**
	comp=N,0.6nm,0.8s,mb3.9,baz=140,slow=4.7,SNR=4.1						
HOPS	**Hopland**	**88.40**	**322**	*e*P	**P**	**17 07 24.6**	**+4.8**
	comp=N,42nm,0.4s						
AKASG	**Malin Array Be**	**121.97**	**48**	PKP	PKPdf	17 13 20.1	-3.8
	comp=N,0.2nm,0.2s,baz=230,slow=52,SNR=2.5						
ZRNK	**Zerenda**	**146.39**	**45**	*e*PKPdf	PKPdf	17 14 08.8	+0.1
BRVK	**Borovoye**	**147.10**	**45**	*e*PKPbc	PKPdf	17 14 09.9	0.0

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*STR **28** 16:54:31.2±0.1, 43.08N×0.33W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **28** 16:54:31.6±0.1, 43.08N×0.35W, h2^{km}, Md1.7/2, Ml1.6/1, Error ellipse: s-maj=3.5km s-min=1.4km az=160.0*

*MDD **28** 16:54:32.1±0.3, 43.05N×0.33W, h1^{km}±8^{km}, mbLg1.0/5, Error ellipse: s-maj=3.5km s-min=1.8km az=175.0, PRXIMO*

ISC 28 16:54:31.0±0.7**, 43.07N**±0.05×**0.32W**±0.04**, h8**^{km}±5^{km}**, n14, σ0**^{s}**79**/19**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.06**	**268**	Pg	**Pg**	**16 54 32.9**	**0.0**
REYF				Sg	**Sg**	**16 54 34.0**	**-0.1**
REYF	**Montagne du Re**	**0.06**	**268**	Pg	**Pg**	**16 54 33.0**	**+0.1**
REYF				Lg		16 54 34.1	
ETSF	**Etsaut**	**0.25**	**226**	*e*Pg	**Pg**	**16 54 36.1**	**-0.1**
ETSF				*e*Sg	**Sg**	**16 54 39.3**	**-0.3**
	4.5nm,0.2s						
LABF	**Labassere**	**0.29**	**95**	Pg	**Pg**	**16 54 37.3**	**+0.4**
LABF				Lg		16 54 41.8	
VIEF	**Viey**	**0.31**	**127**	Pg	**Pg**	**16 54 37.8**	**+0.4**
VIEF				Sg	**Sg**	**16 54 42.4**	**+0.7**
VIEF	**Viey**	**0.31**	**127**	Lg		16 54 41.8	
FDAF	**Les Forges d’A**	**0.31**	**216**	Pg	**Pg**	**16 54 37.2**	**-0.2**
FDAF				Sg	**Sg**	**16 54 42.1**	**+0.4**
FDAF	**Les Forges d’A**	**0.31**	**216**	Pg	**Pg**	**16 54 37.4**	**0.0**
FDAF				Lg		16 54 42.1	
EPF	**Esparros**	**0.48**	**95**	*e*Pg	**Pg**	**16 54 41.1**	**+0.4**
EPF				*e*Sg	**Sg**	**16 54 48.2**	**+1.0**
	2.5nm,0.2s						
EALK	**Alkurruntz**	**0.88**	**280**	Pg	**Pg**	**16 54 48.7**	**0.0**
	2.2nm,0.3s,SNR=7.9						
EALK				Lg		16 54 59.7	
	36nm,1.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**185**	Pg	**Pg**	**16 54 56.0**	**-2.0**
	0.1nm,0.4s,SNR=7.9						
ESAC				Lg		16 55 16.0	
	4.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.87**	**81**	*e*Pn	**Pn**	**16 55 03.3**	**-0.3**
MTLF				*e*Sg	**Sg**	**16 55 31.3**	**-2.0**
	0.9nm,0.3s						
EPOB	**Poblet**	**2.01**	**148**	Pn	**Pn**	**16 55 05.5**	**0.0**
	0.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.29**	**275**	Pn	**Pn**	**16 55 10.6**	**+1.1**
	0.2nm,0.7s,SNR=7.9						

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*BJI **28** 17:00:56.1, 8.44S×157.75E, h12^{km}, mB5.6, mb5.5, Ms5.4, Msz5.2*

*IDC **28** 17:00:56.7±0.5, 8.69S×157.28E, mb4.9/16, mb1 5.0/17, mb1mx5.0/18, ML3.8/1, MS5.0/16, Ms1 5.0/16, ms1mx5.0/17, Error ellipse: s-maj=17.0km s-min=10.5km az=133.0, Putative timing error on ZAL*

*MOS **28** 17:00:57.4±1.2, 8.56S×157.19E, h10^{km}, mb5.6/36, MS5.1/25, Error ellipse: s-maj=10.0km s-min=8.2km az=75.9*

*HRVD **28** 17:00:58.2±0.2, 8.96S×157.41E, h12^{km}, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s33,c48;Mantle waves: s67,c112; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.95±.05; M$_{\theta\theta}$-1.15±.05; M$_{\phi\phi}$-0.81±.05; M$_{r\theta}$2.07±.19; M$_{\theta\phi}$1.01±.04; M$_{\phi r}$-0.88±.18; Best double couple: M$_{0}$2.99×10^{17} NP1: ϕ_s322°, δ22°, λ113°. NP2: ϕ_s118°, δ70°, λ81°. Principal axes: T 3.02, Plg64°, Azm13°; N -.05, Plg8°, Azm121°; P -2.97, Plg24°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **28** 17:00:58.2, 8.69S×157.25E, h10^{km}, MB5.5, MS5.3*

*NEIC **28** 17:00:58.2±0.1, 8.69S×157.25E, h10^{km}, mb5.5/49, MS5.3/73, MW5.7, Error ellipse: s-maj=5.5km s-min=3.8km az=118.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M$_{rr}$3.49; M$_{\theta\theta}$-1.46; M$_{\phi\phi}$-2.03; M$_{r\theta}$1.70; M$_{\theta\phi}$1.77; M$_{\phi r}$-2.19; Best double couple: M$_{0}$4.5×10^{17} NP1: ϕ_s318°, δ26°, λ87°. NP2: ϕ_s141°, δ64°, λ91°. Principal axes: T 4.45, Plg71°, Azm54°; N .05, Plg1°, Azm321°; P -4.49, Plg19°, Azm230°;*

ISC 28 17:00:56.7±0.2**, 8.71S**±0.03×**157.29E**±0.04**, h10**^{km}**, (h17**^{km}±2.7^{km}**:pP-P), n344, σ1**^{s}**17**/222**, mb5.5**/82**, MS5.2**/98**, 18C-6D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72**	**106**	*i* P	**Pn**	**17 01 39.0**	**-2.3**
HNR				*i* S	**Sn**	**17 02 12.0**	**-2.6**
PMG	**Port Moresby**	**10.03**	**265**	Pn	**P**	**17 03 26.4**	**+2.3**
PMG				LR	LR	17 07 13.7	
	comp=Z,30µm,18.1s,baz=67,slow=38						
CTA	**Charters Tower**	**15.56**	**222**	*e*P	**P**	**17 04 37.4**	**-0.6**
	58nm,1.6s						
CTA	**Charters Tower**	**15.56**	**222**	Pn	**P**	**17 04 37.4**	**-0.5**
	0.2nm,0.3s,baz=46,slow=14,SNR=21						
CTAO	**Charters Tower**	**15.56**	**222**	⇓*e*P	**P**	**17 04 37.2**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,290nm,1.5s						
CTAO	**Charters Tower**	**15.56**	**222**	⇓*e*P	**P**	**17 04 37.1**	**-0.8**
	comp=Z,294nm,1.5s						
DZM	**Mont Dzumac**	**15.94**	**148**	*e*P	**P**	**17 04 42.0**	**-0.9**
KWAJ	**Kwajalein Atol**	**20.20**	**31**	P	**P**	**17 05 37.8**	**+3.1**
KWAJ				LR	LR		
	comp=Z,2µm,21.0s,MS4.4						
ARMA	**Armidale**	**22.24**	**193**	*e*P	**P**	**17 05 55.8**	**+0.4**
KAKA	**Kakadu**	**24.77**	**259**	*e*P	**P**	**17 06 19.4**	**-0.8**
	comp=Z,224nm,1.9s,mb5.4						
WRAB	**Tennant Creek**	**24.84**	**241**	⇓*e*P	**P**	**17 06 20.8**	**-0.1**
	comp=Z,107nm,0.9s,mb5.4						
WB2	**Warramunga Arr**	**24.84**	**241**	*e*P	**P**	**17 06 20.8**	**0.0**
WB2				*e*S	**S**	**17 10 38.1**	**-2.6**
WRA	**Warramunga Arr**	**24.85**	**241**	P	**P**	**17 06 20.9**	**-0.1**
	comp=Z,61nm,0.8s,mb5.2,baz=65,slow=9.3,SNR=120						
WRA				PcP	PcP	17 09 57.5	-0.6
	comp=Z,9.1nm,1.2s,baz=71,slow=3.0,SNR=5.6						
WRA				S	**S**	**17 10 46.4**	**+5.6**
	comp=Z,1.3nm,0.9s,baz=52,slow=15,SNR=2.7						
WRA				LR	LR	17 15 33.7	
	comp=Z,12µm,20.4s,MS5.4,baz=55,slow=35						
WRA	**Warramunga Arr**	**24.85**	**241**	P	**P**	**17 06 20.9**	**0.0**
WRA						17 09 57.5	
WRA				S	**S**	**17 10 46.4**	**+5.6**
WRA				pmax	pmax		
	comp=Z,61nm,0.8s						
WRA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRA				smax			
	comp=N,1.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,12µm,20.4s						
RIV	**Riverview**	**25.64**	**192**	*e*P	**P**	**17 06 29.1**	**+0.9**
ASAR	**Alice Springs**	**26.87**	**234**	P	**P**	**17 06 38.5**	**-1.2**
	comp=Z,25nm,0.9s,mb4.7,baz=65,slow=9.4,SNR=61						
ASAR				PcP	PcP	17 10 01.2	-1.4
	comp=Z,2.3nm,1.1s,baz=73,slow=2.0,SNR=2.5						
ASAR				S	**S**	**17 11 19.1**	**+4.7**
	comp=Z,1.4nm,1.0s,baz=187,slow=37,SNR=2.9						
ASAR				LR	LR	17 16 38.6	
	comp=Z,7µm,19.9s,MS5.2,baz=40,slow=35						
ASPA	**Alice Springs**	**26.88**	**234**	*e*P	**P**	**17 06 38.4**	**-1.4**
STKA	**Stephens Creek**	**27.28**	**210**	*e*P	**P**	**17 06 42.7**	**-0.7**
	comp=Z,64nm,1.5s,mb4.9						
STKA				*e*S	**S**	**17 11 25.9**	**+4.9**
STKA	**Stephens Creek**	**27.28**	**210**	P	**P**	**17 06 43.6**	**+0.2**
	comp=Z,37nm,0.7s,mb5.0,baz=43,slow=13,SNR=49						
STKA				S	**S**	**17 11 24.3**	**+3.3**
	comp=Z,1.8nm,0.8s,baz=156,slow=15,SNR=1.8						
STKA				LR	LR	17 16 53.9	
	comp=Z,7µm,19.8s,MS5.2,baz=31,slow=35						
CNB	**Canberra Magne**	**27.46**	**194**	*e*P	**P**	**17 06 45.0**	**0.0**
	comp=Z,149nm,1.5s,mb5.3						
TOO	**Toolangi**	**30.66**	**199**	*e*P	**P**	**17 07 13.4**	**-0.3**
	comp=Z,10nm,1.1s,mb4.6						
TOO				*e*S	**S**	**17 12 21.7**	**+6.8**
FITZ	**Fitzroy Crossi**	**32.13**	**250**	*e*P	**P**	**17 07 25.2**	**-1.6**
	comp=Z,18nm,1.9s,mb4.6						
FITZ				*e*S	**S**	**17 12 36.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**32.13**	**250**	P	**P**	**17 07 25.9**	**-0.9**
	comp=Z,9.9nm,0.9s,mb4.7,baz=77,slow=4.9,SNR=32						
FITZ				S	**S**	**17 12 41.0**	**+2.9**
	comp=Z,3.9nm,0.9s,baz=151,slow=4.0,SNR=2.0						
URZ	**Urewera**	**34.42**	**152**	P	**P**	**17 07 46.8**	**+0.3**
	comp=Z,9.1nm,0.9s,mb4.7,baz=0.1,slow=17,SNR=3.7						
URZ				LR	LR	17 19 35.3	
	comp=Z,4µm,19.1s,MS5.2,baz=254,slow=32						
FORT	**Forrest**	**35.01**	**227**	*e*P	**P**	**17 07 50.8**	**-0.8**
	comp=Z,107nm,0.7s,mb5.9						
RPZ	**Rata Peaks**	**36.89**	**163**	P	**P**	**17 08 08.0**	**+0.6**
	comp=Z,11nm,1.0s,mb4.6,baz=304,slow=11,SNR=2.6						
RPZ				LR	LR	17 20 42.8	
	comp=Z,3µm,20.9s,MS5.1,baz=329,slow=32						
CBIJ	**Chichi jima**	**38.48**	**338**	LR	LR	17 22 20.8	
	comp=Z,2µm,18.6s,MS5.0,baz=159,slow=33						
PPR	**Puerto Princes**	**42.56**	**295**	*e*P	**P**	**17 08 54.0**	**-0.8**
TGY	**Tagaytay City**	**42.60**	**302**	P	**P**	**17 08 56.0**	**+0.9**
	comp=Z,132nm,0.4s,mb6.0,baz=315,slow=6.0,SNR=4.1						
TGY	**Tagaytay City**	**42.60**	**302**	P	**P**	**17 08 56.0**	**+0.9**
TGY				pmax	pmax		
	comp=Z,132nm,0.4s						
KLBR	**Kellerberrin**	**43.20**	**233**	*e*P	**P**	**17 08 57.4**	**-2.4**
	comp=Z,59nm,1.1s,mb5.2						
NWAO	**Narrogin (SRO)**	**44.13**	**231**	P	**P**	**17 09 06.1**	**-1.2**
	comp=Z,34nm,1.0s,mb5.0,baz=63,slow=7.8,SNR=7.7						
NWAO	**Narrogin (SRO)**	**44.13**	**231**	P	**P**	**17 09 06.1**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,34nm,1.0s						
MUN	**Mundaring**	**44.56**	**233**	*e*P	**P**	**17 09 10.6**	**-0.2**
	comp=Z,20nm,1.4s,mb4.8						
MUN				*i* S	**S**	**17 15 53.2**	**+7.3**
JHJ	**Hachijo jima 2**	**44.81**	**339**	P	**P**	**17 09 11.1**	**-1.8**
	comp=Z,265nm,0.5s,mb6.3,baz=196,slow=8.3,SNR=3.8						
JHJ				LR	LR	17 23 32.5	
	comp=Z,1µm,19.9s,MS4.9,baz=161,slow=30						
MAJO	**Matsushiro**	**48.45**	**339**	*e*P	**P**	**17 09 39.8**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
MAJO				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.0						
MAJO	**Matsushiro**	**48.45**	**339**	*e*P	**P**	**17 09 39.8**	**-1.6**
	comp=Z,22nm,1.1s,mb5.1						
MAJO				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
MAT	**Matsushiro**	**48.45**	**339**	P	**P**	**17 09 40.1**	**-1.4**
MAT				S	**S**	**17 16 40.0**	**-1.2**
MAT	**Matsushiro**	**48.45**	**339**	*e*P	**P**	**17 09 40.0**	**-1.5**
	comp=Z,3.5nm,0.5s,mb4.7						
MAT				*e*S	**S**	**17 16 40.0**	**-1.2**
QZH	**Quanzhou**	**50.40**	**313**	*e*P	**P**	**17 09 56.0**	**-0.6**
QZH				S	**S**	**17 17 09.0**	**+0.4**
QZH				LR	LR		
	comp=Z,2µm,14.8s,MS5.3						
PPT	**Papeete**	**52.34**	**105**	*e*S	**S**	**17 17 30.1**	**-5.2**
PPT				*e*L		17 23 21.2	
PPT				*e*R		17 25 20.6	
	comp=Z,4µm,29.0s,baz=275						
SSE	**Sheshan**	**52.56**	**320**	P	**P**	**17 10 17.0**	**+4.1**
SSE				S	**S**	**17 17 40.8**	**+2.7**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,757nm,6.0s						
SSE				LR	LR		
	comp=N,464nm,19.2s,MS4.7						
SSE				LR	LR		
	comp=E,405nm,19.3s,MS4.7						
SSE				LR	LR		
	comp=Z,937nm,17.9s,MS4.9						
SSE	**Sheshan**	**52.56**	**320**	P	**P**	**17 10 16.9**	**+4.0**
	comp=Z,43nm,0.7s,mb5.5						
SSE				pP	pP	17 10 46.9	+31
SSE				S	**S**	**17 17 40.8**	**+2.7**
SSE				sS		17 18 33.7	
SSE				LR	LR		
	comp=Z,940nm,17.9s,MS4.9						
TBI	**Tubuai**	**52.92**	**113**	*e*S	**S**	**17 17 41.6**	**-1.5**
TBI				*e*L		17 23 56.4	
TBI				*e*R		17 26 02.9	
	comp=Z,2µm,32.0s						
INCN	**Inchon**	**54.17**	**330**	*e*P	**P**	**17 10 24.5**	**-0.1**
	comp=Z,283nm,1.4s,mb6.0						
NJ2	**Nanjing**	**54.68**	**320**	*e*P	**P**	**17 10 28.5**	**0.0**
NJ2				AP	pP	17 10 38.3	+6.8
NJ2				XP	sP	17 10 42.3	+10
NJ2				S	**S**	**17 18 04.0**	**-2.8**
NJ2				XS		17 18 21.0	
NJ2				LR	LR		

	comp=Z,5µm,20.6s,MS5.5						
VLA	Vladivostok	56.53	338	⇑iP	P	17 10 44.0	+2.3
VLA				pmax	pmax		
	comp=Z,600nm,5.0s						
WHN	Wuhan	56.75	315	eP	P	17 10 46.0	+2.6
YSS	Yuzh-Sakhalins	56.90	348	⇑eP	P	17 10 42.3	-2.0
YSS				e		17 18 39.0	
YSS	Yuzh-Sakhalins	56.90	348	eP	P	17 10 42.9	-1.4
	comp=Z,19nm,1.1s,mb5.0						
TIA	Tai'an	58.50	322	P	P	17 10 54.0	-1.7
MDJ	Mudanjiang	58.67	337	P	P	17 10 56.0	-0.8
MDJ				AP	pP	17 10 59.3	-0.6
MDJ				XP	sP	17 11 00.5	-0.5
MDJ				PCP	PcP	17 11 45.3	-1.3
MDJ				PP	PP	17 13 07.5	-0.9
MDJ				S	S	17 19 01.0	+1.5
MDJ				SCS	ScS	17 20 46.3	+3.2
MDJ				SS	SS	17 22 46.0	-8.2
MDJ				AMB	AMB		
	comp=Z,34nm,1.5s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,600nm,6.2s						
MDJ				LR	LR		
	comp=N,1µm,19.7s,MS5.2						
MDJ				LR	LR		
	comp=E,818nm,16.3s,MS5.2						
MDJ				LR	LR		
	comp=Z,966nm,18.2s,MS5.0						
MDJ	Mudanjiang	58.67	337	eP	P	17 10 56.1	-0.6
	comp=Z,146nm,1.6s,mb5.8						
KKTK	Khon Kaen	59.36	295	P	P	17 11 02.0	+0.1
CN2	Changchun	59.71	334	eP	P	17 11 06.5	+2.5
CN2				eXP	sP	17 11 13.5	+5.3
CN2				eS	S	17 19 16.8	+3.8
CN2				SCS	ScS	17 20 52.8	+2.0
CN2				LR	LR		
	comp=N,2µm,19.0s,MS5.4						
CN2				LR	LR		
	comp=E,2µm,19.0s,MS5.4						
CN2				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
ENH	Enshi	60.06	312	eP	P	17 11 05.4	-1.2
	comp=Z,86nm,1.4s,mb5.6						
ENH				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
GYA	Guiyang	60.29	307	⇑iP	P	17 11 11.3	+3.1
GYA				AP	pP	17 11 16.8	+5.5
GYA				XP	sP	17 11 18.5	+6.1
GYA				PP	PP	17 13 23.8	+0.6
GYA				S	S	17 19 26.3	+5.6
GYA				AMB	AMB		
	comp=Z,40nm,1.6s,mb5.2						
GYA				AMB	AMB		
	comp=Z,590nm,5.7s						
GYA				LR	LR		
	comp=N,940nm,16.0s,MS5.1						
GYA				LR	LR		
	comp=E,750nm,17.2s,MS5.1						
GYA				LR	LR		
	comp=Z,950nm,16.8s,MS5.0						
PET	Petropavlovsk	61.50	1	eP	P	17 11 25.9	+10
PET				eS	S	17 19 40.3	+4.6
PET				smax			
	comp=E,1µm,21.3s						
PET				MLR	MLR		
	comp=Z,800nm,16.0s,MS5.0						
NST	Nakhon Sawan	61.57	293	P	P	17 11 18.0	+1.0
BJT	Baijiatuau	61.60	325	eP	P	17 11 15.6	-1.3
BJT				pmax	pmax		
	comp=Z,140nm,1.9s						
BJT				MLR	MLR		
	comp=Z,1µm,19.0s						
BJT	Baijiatuau	61.60	325	eP	P	17 11 15.6	-1.3
	comp=Z,140nm,1.9s,mb5.8						
BJT				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
BJI	Beijing	61.61	325	P	P	17 11 16.0	-1.0
BJI				AP	pP	17 11 25.5	+5.4
BJI				S	S	17 19 35.0	-2.3
BJI				LR	LR		
	comp=N,1µm,17.5s,MS5.2						
BJI				LR	LR		
	comp=E,1µm,19.4s,MS5.2						
BJI	Beijing	61.61	325	P	P	17 11 16.1	-0.9
	comp=E,21nm,1.8s,mb5.0						
BJI				pP	pP	17 11 25.4	+5.3
BJI				S	S	17 19 34.9	-2.4
BJI				LR	LR		
	comp=Z,1µm,24.4s,MS5.0						
KLR	Kul'dur	61.89	341	eP	P	17 11 17.0	-1.7
KLR				eS	S	17 19 39.0	-1.7
KLR				e		17 21 06.0	
KLR				pmax	pmax		
	comp=N,30nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.5						
KLR				MLR	MLR		
	comp=E,1µm,17.0s						
XAN	Xi'an	62.51	316	P	P	17 11 21.5	-1.6
XAN				AP	pP	17 11 30.8	+4.6
KMI	Kunming	62.85	304	eP	P	17 11 26.3	+0.8
KMI				AP	pP	17 11 29.3	+0.7
KMI				PCP	PcP	17 12 04.0	+0.4
KMI				PP	PP	17 13 46.0	+0.6
KMI				PPP	PPP	17 15 18.0	+1.9
KMI				PCS		17 16 01.0	
KMI				S	S	17 19 54.3	+1.1
KMI				SKS	SKS	17 21 16.5	-2.8
KMI				SS	SS	17 24 00.0	-0.3
KMI				SSS	SSS	17 26 43.5	-0.7
KMI				AMB	AMB		
	comp=Z,66nm,1.6s,mb5.5						
KMI				LR	LR		
	comp=N,630nm,15.1s,MS5.1						
KMI				LR	LR		
	comp=E,655nm,15.1s,MS5.1						
KMI	Kunming	62.85	304	eP	P	17 11 26.3	+0.8
	comp=E,66nm,1.6s,mb5.5						
KMI				pP	pP	17 11 29.2	+0.6
KMI				PcP	PcP	17 12 03.9	+0.3
KMI				PP	PP	17 13 45.9	+0.5
KMI				PPP	PPP	17 15 18.1	+2.0
KMI				PcS		17 16 00.9	
KMI				S	S	17 19 54.2	+1.0
KMI				SKS	SKS	17 21 16.4	-2.9
KMI				SS	SS	17 24 00.1	-0.2
KMI				SSS	SSS	17 26 43.6	-0.6
KMI				LR	LR		
	comp=Z,880nm,20.0s,MS4.9						
SMY	Shemya	62.86	11	PFAKE		17 11 40.0	+15
SMY				LR	LR		
	comp=Z,4µm,22.0s,MS5.6						
CHRT	Chiangrai	63.32	297	⇑P	P	17 11 28.0	-0.6
	comp=Z,208nm,1.3s,mb6.1						
CMAR	Chiang Mai Arr	63.57	296	P	P	17 11 30.7	+0.3
	comp=Z,6.3nm,0.6s,mb4.8,baz=128,slow=5.6,SNR=55						
CMAR				LR	LR	17 39 42.3	
	comp=Z,617nm,19.3s,MS4.8,baz=120,slow=37						
CMAR	Chiang Mai Arr	63.57	296	P	P	17 11 30.7	+0.3
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,617nm,19.3s						
CHG	Chiang Mai	63.69	296	⇑P	P	17 11 34.3	+3.2
	comp=Z,56nm,1.5s,mb5.4						
CD2	Chengdu	64.65	310	⇓iP	P	17 11 37.5	+0.3
CD2				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.6						
HHC	Hu-ho-hao-te	64.81	323	eP	P	17 11 34.0	-4.1
HHC				AP	pP	17 11 42.5	+1.2
HHC				XP	sP	17 11 47.0	+4.6
HHC				S	S	17 20 13.8	-3.6
HHC				XS		17 20 33.8	
HHC				SCS	ScS	17 21 33.3	+4.1
HHC				AMB	AMB		
	comp=Z,51nm,1.7s,mb5.3						
HHC				AMB	AMB		
	comp=Z,444nm,4.7s						
HHC				LR	LR		
	comp=N,568nm,14.3s,MS5.0						
HHC				LR	LR		
	comp=E,628nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=Z,662nm,14.3s,MS5.0						
BTO	Baotou	65.59	322	eP	P	17 11 42.8	-0.3
BTO				AMB	AMB		
	comp=Z,110nm,1.6s,mb5.6						
RKT	Rikitea	66.20	111	eS	S	17 20 33.3	-1.4
RKT				eSS	SS	17 24 45.9	-6.1
RKT				eL		17 28 15.2	
RKT				eR		17 32 00.1	
	comp=Z,5µm,37.5s,baz=275						
HIA	Hailar	66.43	334	P	P	17 11 48.4	+0.1
HIA				pmax	pmax		
	comp=Z,24nm,1.1s						
HIA				MLR	MLR		
	comp=Z,1µm,20.0s						
HIA	Hailar	66.43	334	eP	P	17 11 47.4	-1.0
	comp=Z,18nm,1.0s,mb5.1						
HIA				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
LZH	Lanzhou	67.12	315	⇑P	P	17 11 53.3	+0.3
LZH				AP	pP	17 11 56.3	+0.2
LZH				XP	sP	17 11 58.3	+1.1
LZH				PP	PP	17 14 23.5	+0.9
LZH				S	S	17 20 47.0	+1.4
LZH				SS	SS	17 25 08.0	+1.5
LZH				AMB	AMB		
	comp=Z,111nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,441nm,4.3s						
LZH				LR	LR		
	comp=N,3µm,16.3s						
LZH				LR	LR		
	comp=Z,4µm,18.1s,MS5.6						
LZH	Lanzhou	67.12	315	⇑P	P	17 11 53.3	+0.3
	comp=Z,111nm,1.5s,mb5.7						
LZH				pP	pP	17 11 56.3	+0.2
LZH				sP	sP	17 11 58.2	+1.0
LZH				PP	PP	17 14 23.4	+0.8
LZH				S	S	17 20 47.0	+1.4
LZH				sS		17 20 52.0	
LZH				SS	SS	17 25 08.0	+1.5
LZH				LR	LR		
	comp=Z,4µm,18.1s,MS5.6						
NIKO	Nikolski	67.86	21	eP	P	17 11 55.2	-2.2
NIKO				e		17 12 07.7	
MA2	Magadan	68.25	356	eP	P	17 11 57.7	-2.0
MA2				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
SBA	Scott Base	69.30	178	eP	P	17 12 07.3	+1.4
SBA				pmax	pmax		
	comp=Z,150nm,2.1s,mb5.5						
SBA	Scott Base	69.30	178	eP	P	17 12 07.3	+1.4
	comp=Z,149nm,2.1s,mb5.5						
SEY	Seymchan	71.52	358	eP	P	17 12 19.2	-0.4
SEY						17 12 35.4	
SEY						17 14 55.5	
SEY				ePPP	PPP	17 16 38.9	-2.9
SEY				eS	S	17 21 36.3	-0.8
SEY						17 22 25.0	
SEY				SS	SS	17 26 18.6	+4.6
SEY				eSSS	SSS	17 29 22.1	+0.5
SEY				pmax	pmax		
	comp=N,80nm,1.6s						
SEY				pmax	pmax		
	comp=Z,150nm,1.6s,mb5.7						
SEY				smax			
	comp=N,2µm,10.3s						
SEY				smax			
	comp=E,2µm,11.7s						
SEY				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.7						
SEY				MLR	MLR		
	comp=N,2µm,15.0s,MS5.5						
SEY				MLR	MLR		
	comp=E,710nm,13.0s,MS5.5						
GTA	Gaotai	71.54	316	eP	P	17 12 20.8	+0.7
GTA				AP	pP	17 12 25.5	+2.3
GTA				XP	sP	17 12 29.3	+5.0
GTA				S	S	17 21 42.3	+4.6
GTA				XS		17 21 53.8	
GTA				SCS	ScS	17 22 23.3	+1.7
GTA				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.9						
GTA				AMB	AMB		
	comp=Z,423nm,5.7s						
GTA				LR	LR		
	comp=N,373nm,18.6s,MS4.8						
GTA				LR	LR		
	comp=E,265nm,20.5s,MS4.8						
GTA				LR	LR		
	comp=Z,446nm,17.9s,MS4.8						
MIR	Mirnyy	71.97	202	⇑eP	P	17 12 22.6	+0.4
MIR				eS	S	17 22 19.0	+37
MIR				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.8						
MIR				MLR	MLR		
	comp=Z,4µm,17.0s,MS5.8						
MIR				MLR	MLR		
	comp=N,1µm,17.0s,MS5.2						
MIR				MLR	MLR		
	comp=E,600nm,17.0s,MS5.2						
SONM	Songino Array	72.00	327	P	P	17 12 23.1	+0.4
	comp=E,18nm,1.2s,mb4.9,baz=135,slow=5.2,SNR=49						
SHL	Shillong	72.12	300	⇓eP	P	17 12 24.0	+0.2
AGT	Agartala	72.12	298	eP	P	17 12 26.0	+2.2
YAK	Yakutsk	73.71	347	eP	P	17 12 31.7	-0.8
YAK				e		17 15 13.0	
YAK				eS	S	17 22 04.3	+2.4
YAK				e		17 22 43.6	
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,37nm,1.0s						
YAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YAK				smax			
	comp=E,358nm,8.0s						
YAK				smax			
	comp=N,70nm,9.0s						
YAK				MLR	MLR		
	comp=N,304nm,14.0s						
YAK				MLR	MLR		
	comp=E,299nm,14.0s						
YAK				MLR	MLR		
	comp=Z,305nm,14.0s						
YAK	Yakutsk	73.71	347	eP	P	17 12 32.1	-0.4
	comp=Z,118nm,1.3s,mb5.7						
LSA	Lhasa	74.11	304	P	P	17 12 37.0	+1.6
LSA	Lhasa	74.11	304	⇑iP	P	17 12 36.5	+1.1
LSA				pmax	pmax		
	comp=Z,170nm,1.6s,mb5.7						
LSA				MLR	MLR		
	comp=Z,480nm,21.0s,MS4.8						
LSA	Lhasa	74.11	304	⇑iP	P	17 12 36.5	+1.1
	comp=Z,174nm,1.6s,mb5.7						
LSA				LR	LR		
	comp=Z,481nm,21.0s,MS4.8						
BOD	Bodaibo	75.04	338	eP	P	17 12 38.6	-1.6
ZAK	Zakamensk	75.14	328	⇑iP	P	17 12 40.8	-0.2
IRK	Irkutsk	75.69	330	eP	P	17 12 43.9	-0.2
MOY	Mondy	77.06	328	eP	P	17 12 52.1	+0.4
KDAK	Kodiak Island	77.73	25	PFAKE		17 13 10.0	+15
KDAK				LR	LR		
	comp=Z,258nm,21.0s,MS4.5						
PKI	Pulchoki	78.25	300	eP	P	17 12 58.9	+0.1
	comp=Z,598nm,1.7s,mb6.2						
KKN	Kakani	78.42	301	eP	P	17 12 59.7	0.0
	comp=Z,434nm,1.7s,mb6.1						
DMN	Daman	78.52	300	eP	P	17 13 01.0	+0.7
	comp=Z,619nm,1.7s,mb6.3						
SVW	Sparrevohn	78.73	21	eP	P	17 13 01.7	+1.0
	comp=Z,215nm,2.0s,mb5.7						
GKN	Gorkha	79.02	301	eP	P	17 13 02.7	-0.4
	comp=Z,630nm,1.6s,mb6.3						
KOLN	Koldanda	79.84	300	eP	P	17 13 07.4	-0.1
	comp=Z,404nm,1.6s,mb6.1						
SLKM	Skilak Lake	80.37	23	eP	P	17 13 09.7	+0.1
FIB	Fire Island	80.79	23	PFAKE		17 13 20.0	+8.2
FIB				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
CUD	Cuddapah	81.19	286	eP	P	17 13 17.9	+3.1
CUD				e		17 23 26.7	
PMR	Palmer	81.45	23	eP	P	17 13 14.2	-1.1
PMR				pmax	pmax		
	comp=Z,130nm,2.0s,mb5.5						
PMR				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.2						
PMR	Palmer	81.45	23	eP	P	17 13 15.0	-0.3
	comp=Z,40nm,1.1s,mb5.3						
WMQ	Urumqi	81.62	317	⇑iP	P	17 13 17.0	+0.5
WMQ				AP	pP	17 13 21.0	+1.3
WMQ				XP	sP	17 13 23.5	+2.7
WMQ				PP	PP	17 16 25.3	-0.1
WMQ				S	S	17 23 26.8	-0.6
WMQ				SKS	SKS	17 23 34.8	-1.9
WMQ				AMB	AMB		
	comp=Z,138nm,1.5s,mb5.7						
WMQ				LR	LR		
	comp=N,619nm,19.4s,MS5.0						
WMQ				LR	LR		
	comp=E,383nm,19.0s,MS5.0						
SML	Sawmill	81.89	23	P	P	17 13 17.9	+0.4
SML	Sawmill	81.89	23	eP	P	17 13 16.7	-0.8
HYB	Hyderabad	81.98	289	i P	P	17 13 19.0	+0.1
HYB	Hyderabad	81.98	289	eP	P	17 13 20.0	+1.1
DIV	Divide	82.51	24	eP	P	17 13 20.5	-0.3
	comp=E,114nm,1.3s,mb5.7						
DIV				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
IMA	Indian Mountai	82.69	18	eP	P	17 13 22.4	+0.8
	comp=Z,44nm,1.8s,mb5.2						
MCK	McKinley	82.80	21	P	P	17 13 21.8	-0.4
MCK				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
MCK	McKinley	82.80	21	eP	P	17 13 20.9	-1.3
	comp=Z,78nm,1.2s,mb5.6						
MAW	Mawson	83.70	203	⇑iP	P	17 13 27.9	+1.1
	comp=Z,28nm,1.1s,mb5.3						
MAW	Mawson	83.70	203	P	P	17 13 27.3	+0.5
	comp=Z,30nm,1.0s,mb5.4,baz=90,slow=6.1,SNR=26						
MAW				LR	LR	17 48 59.7	
	comp=Z,910nm,18.2s,MS5.2,baz=79,slow=34						
MAW	Mawson	83.70	203	P	P	17 13 27.3	+0.5
MAW				pmax	pmax		
	comp=Z,30nm,1.0s						
MAW				MLR	MLR		
	comp=Z,910nm,18.2s						
DGAR	Diego Garcia	83.83	263	PFAKE		17 13 40.0	+11
DGAR				LR	LR		
	comp=Z,335nm,21.0s,MS4.7						
COLA	College	83.86	21	c iP	P	17 13 26.0	-1.6
COLA	College	83.86	21	eP	P	17 13 26.6	-1.0
	comp=Z,78nm,1.6s,mb5.6						
JOSI	Joshimath	83.97	302	eP	P	17 13 29.5	+0.5
ILAR	Eielson Array	84.14	21	P	P	17 13 28.1	-0.9
	comp=Z,10nm,1.1s,mb4.9,baz=259,slow=4.8,SNR=40						
ILAR				LR	LR	17 47 23.3	
	comp=Z,1µm,19.7s,MS5.2,baz=271,slow=33						
ILAR	Eielson Array	84.14	21	P	P	17 13 28.1	-0.9
ILAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ILAR				MLR	MLR		
	comp=Z,1µm,19.7s						
BHPL	Bhopal	84.20	294	eP	P	17 13 30.1	-0.2
BHPL				e		17 13 36.0	
	comp=Z,95nm,1.7s						
DDI	Dehra Dun	85.17	302	eP	P	17 13 36.0	+1.0
KLP	Kalpa	85.28	303	eP	P	17 13 36.5	+0.9
SIT	Sitka	85.31	30	PFAKE		17 13 50.0	+15
SIT				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
SONA	Sohna	85.55	299	eP	P	17 13 36.4	-0.6
SONA				e		17 13 42.5	
	comp=Z,77nm,1.3s						
AYAN	Aya Nagar	85.56	300	eP	P	17 13 36.6	-0.4
AYAN				e	pP	17 13 40.6	+0.4
	comp=Z,37nm,1.0s						
KUDL	Kundal	86.04	299	eP	P	17 13 39.1	-0.3
KUDL				e	pP	17 13 43.3	+0.6
	comp=Z,32nm,1.1s						
KKR	Kurukshetra	86.14	301	eP	P	17 13 39.5	-0.4
MKAR	Makanchi Array	86.19	318	P	P	17 13 40.2	+0.6
	comp=Z,20nm,1.0s,mb5.3,baz=101,slow=6.2,SNR=52						
MKAR				LR	LR	17 48 47.0	
	comp=Z,593nm,20.7s,MS5.0,baz=199,slow=33						
MKAR	Makanchi Array	86.19	318	i P	P	17 13 39.4	-0.2
MKAR				pmax	pmax		
	comp=Z,730nm,2.1s						
RTK	Rohtak	86.29	300	eP	P	17 13 40.0	-0.7
RTK				e		17 13 41.1	
	comp=Z,22nm,0.3s						
DAWY	Dawson	86.55	23	eP	P	17 13 41.7	+0.6
POO	Poona	86.58	289	eP	P	17 13 37.2	-5.0
POO				e		17 13 48.5	
	comp=Z,77nm,1.2s						
KHET	Khetri	86.62	299	eP	P	17 13 41.4	-0.9
KHET				e		17 13 47.7	
	comp=Z,63nm,1.6s						
AJM	Ajmer	87.32	297	eP	P	17 13 43.2	-2.5
AJM				e		17 13 50.9	
	comp=Z,82nm,1.5s						
HOPS	Hopland	87.46	50	PFAKE		17 14 00.0	+14
HOPS				LR	LR		
	comp=Z,926nm,20.0s,MS5.2						
NVS	Novosibirsk	88.03	326	i P	P	17 13 46.1	-2.3
NVS				eS	S	17 24 12.0	-18
NVS				pmax	pmax		
	comp=Z,56nm,2.0s,mb5.5						
NVS				pmax	pmax		
	comp=E,29nm,1.9s						
NVS				pmax	pmax		
	comp=N,26nm,1.8s						
NVS				smax			
	comp=N,70nm,2.7s						
YBH	Yreka Blue Hor	88.35	48	P	P	17 13 51.3	+1.0
	comp=N,0.9nm,0.5s,baz=214,slow=2.4,SNR=3.8						
YBH	Yreka Blue Hor	88.35	48	P	P	17 13 51.3	+1.1
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
COR	Corvallis	88.58	45	PFAKE		17 14 00.0	+8.7
COR				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
OCWA	Octopus Mounta	88.75	41	PFAKE		17 14 00.0	+8.0
OCWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
KSH	Kashi	88.85	310	eP	P	17 13 55.3	+2.6
KSH				eAP	pP	17 14 01.0	+5.1
KSH				eXP	sP	17 14 04.3	+7.4
KSH				ePP	PP	17 17 28.3	+4.0
KSH				ePPP	PPP	17 19 47.5	+24
KSH				eSKS	SKS	17 24 22.0	-2.9
KSH				eS	S	17 24 41.0	+2.9
KSH				eXS		17 24 49.0	
KSH				ePS	PS	17 25 51.3	+5.3
KSH				eSS	SS	17 30 38.0	+4.5
KSH				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.9						
KSH				LR	LR		
	comp=N,530nm,13.3s						
KSH				LR	LR		
	comp=E,1µm,21.4s						
ULHL	Ulahol	89.23	313	P	P	17 13 55.7	+1.3
	SNR=12						
CMB	Columbia Colle	89.31	52	P	P	17 13 54.1	-0.8
CMB				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb5.0						
CMB				MLR	MLR		
	comp=Z,910nm,20.0s,MS5.2						
CMB	Columbia Colle	89.31	52	eP	P	17 13 52.2	-2.7
	comp=Z,90nm,2.2s,mb5.7						
CMB				LR	LR		
	comp=Z,952nm,20.0s,MS5.2						
KURK	Kurchatov	89.58	321	P	P	17 13 55.4	-0.4
	comp=Z,105nm,1.4s,mb6.0,SNR=17						
KURK	Kurchatov	89.58	321	i P	P	17 13 54.8	-1.0
KURK				pmax	pmax		
	comp=Z,69nm,1.9s,mb5.7						
KURK	Kurchatov	89.58	321	eP	P	17 13 55.3	-0.6
	comp=Z,88nm,1.8s,mb5.8						
BEKR	Beckwourth	89.70	50	eP	P	17 13 56.8	+0.1
	comp=Z,73nm,1.9s,mb5.7						
TKM2	Tokmak 2	89.83	313	P	P	17 13 58.1	+0.9
	SNR=8.5						
KZA	Kyzart	89.91	312	P	P	17 13 59.7	+2.0
	SNR=19						
WCN	Washoe City	90.04	50	eP	P	17 13 59.1	+0.8
WCN				pmax	pmax		
	comp=Z,110nm,2.2s,mb5.8						
WCN	Washoe City	90.04	50	eP	P	17 13 59.0	+0.7
	comp=Z,105nm,2.2s,mb5.8						
PAHR	Pah Rah Range	90.40	50	eP	P	17 14 00.7	+0.8
	comp=Z,143nm,2.2s,mb5.9						

MWC	**Mount Wilson**	90.45	56	*e*P	P	17 14 01.4	+1.1
CHMS	**Chumysh**	90.46	313	P	P	17 14 00.6	+0.5
	SNR=12						
UCH	**Uchtor**	90.48	313	P	P	17 14 02.2	+1.9
	SNR=17						
INK	**Inuvik**	90.51	20	P	P	17 14 00.2	+0.4
INK				pmax	pmax		
	comp=Z,100nm,1.9s						
INK	**Inuvik**	90.51	20	*e*P	P	17 13 58.1	-1.7
	comp=Z,106nm,1.9s,mb5.8						
FRU	**Bishkek**	90.52	313	*e*P	P	17 14 00.0	-0.5
FRU				pmax	pmax		
	comp=Z,160nm,1.8s,mb6.0						
FRU				MLR	MLR		
	comp=Z,500nm,16.0s,MS5.0						
AAK	**Ala-Archa**	90.57	313	*e*P	P	17 14 00.0	-0.7
AAK				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.7						
AAK				MLR	MLR		
	comp=Z,170nm,19.0s,MS4.5						
AAK	**Ala-Archa**	90.57	313	*e*P	P	17 14 00.0	-0.7
	comp=Z,70nm,1.8s,mb5.7						
AAK				LR	LR		
	comp=Z,167nm,19.0s,MS4.5						
MTUM	**Tungsten Hills**	90.60	52	*e*P	P	17 14 02.1	+1.2
USP	**Ospenovka**	90.69	314	P	P	17 14 01.8	+0.6
	SNR=12						
NVAR	**Mina Array Bea**	90.99	51	P	P	17 14 04.1	+1.4
	comp=Z,48nm,1.4s,mb5.6,baz=240,slow=3.8,SNR=38						
NVAR				LR	LR	17 48 50.2	
	comp=Z,693nm,19.2s,MS5.1,baz=260,slow=32						
NVAR	**Mina Array Bea**	90.99	51	P	P	17 14 04.1	+1.4
NVAR				LR	LR	17 48 50.2	
AML	**Almayashu**	91.06	312	P	P	17 14 04.6	+1.7
	SNR=17						
MNV	**Mina**	91.11	51	*e*P	P	17 14 04.1	+0.8
MNV				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.6						
MNV	**Mina**	91.11	51	*e*P	P	17 14 04.1	+0.9
	comp=Z,50nm,1.6s,mb5.6						
MNV				*e*		17 14 14.4	
DAC	**Darwin (Calif)**	91.18	54	*e*P	P	17 14 04.9	+1.3
DAC				pmax	pmax		
	comp=Z,49nm,1.6s,mb5.6						
DAC				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.5						
DAC	**Darwin (Calif)**	91.18	54	*e*P	P	17 14 04.9	+1.3
	comp=Z,49nm,1.6s,mb5.6						
DAC				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
SYO	**Syowa Base**	91.45	199	⇑P	P	17 14 05.6	+1.5
SYO	**Syowa Base**	91.45	199	⇓PcP	PcP	17 14 08.0	+2.6
SYO	**Syowa Base**	91.45	199	⇑pP	pP	17 14 11.4	+4.1
WVOR	**Wild Horse Val**	91.46	47	P	P	17 14 06.1	+1.3
WVOR				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.8						
WVOR				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.3						
WVOR	**Wild Horse Val**	91.46	47	*e*P	P	17 14 05.5	+0.8
	comp=Z,34nm,1.4s,mb5.5						
WVOR				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
HAWA	**Hanford**	91.56	43	PFAKE		17 14 20.0	+15
HAWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
TPH	**Tonopah**	91.77	52	*e*P	P	17 14 07.1	+0.8
TPH				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.4						
TPH				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.2						
TPH	**Tonopah**	91.77	52	*e*P	P	17 14 07.1	+0.8
	comp=Z,27nm,1.4s,mb5.4						
TPH				LR	LR		
	comp=Z,899nm,19.0s,MS5.2						
BMN	**Battle Mountai**	92.16	50	PFAKE		17 14 20.0	+12
BMN				LR	LR		
	comp=Z,630nm,20.0s,MS5.1						
TPNV	**Topopah Spring**	92.35	53	P	P	17 14 10.6	+1.6
TPNV				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.7						
TPNV				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.3						
TPNV	**Topopah Spring**	92.35	53	*e*P	P	17 14 09.9	+0.9
	comp=Z,93nm,1.7s,mb5.8						
TPNV				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
NEN	**Nelson**	93.28	55	*e*P	P	17 14 14.7	+1.4
NEW	**Newport**	93.50	42	PFAKE		17 14 30.0	+16
NEW				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
KKAR	**Karatay Array**	93.54	313	*i* P	P	17 14 13.8	-0.5
KKAR				pmax	pmax		
	comp=Z,108nm,1.7s,mb6.0						
ELK	**Elko**	93.70	50	*e*P	P	17 14 16.0	+0.9
ELK				pmax	pmax		
	comp=Z,24nm,1.8s						
ELK				MLR	MLR		
	comp=Z,940nm,21.0s						
ELK	**Elko**	93.70	50	*e*P	P	17 14 16.0	+0.9
	comp=Z,24nm,1.8s,mb5.3						
ELK				LR	LR		
	comp=Z,937nm,21.0s,MS5.2						
VOSK	**Vostochnaya**	94.63	322	P	P	17 14 14.9	-4.2
VOSK				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.6						
HLID	**Hailey**	94.69	47	*e*P	P	17 14 18.6	-1.0
	comp=Z,10nm,1.4s,mb5.1						
HLID				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
BVA0	**Borovoye Array**	95.02	323	P	P	17 14 19.2	-1.7
BVAR	**Borovoye Array**	95.02	323	LR	LR	18 00 08.4	
	comp=Z,8.6nm,18.1s,baz=245,slow=37						
BRVK	**Borovoye**	95.09	323	*e*P	P	17 14 20.5	-0.7
BRVK				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.5						
BRVK				MLR	MLR		
	comp=Z,120nm,20.0s,MS4.4						
BRVK	**Borovoye**	95.09	323	*e*P	P	17 14 20.9	-0.3
	comp=Z,40nm,1.8s,mb5.5						
BRVK				LR	LR		
	comp=Z,125nm,20.0s,MS4.4						
MSO	**Missoula**	95.43	44	PFAKE		17 14 30.0	+7.1
MSO				LR	LR		
	comp=Z,540nm,19.0s,MS5.0						
DUG	**Dugway**	95.47	50	PFAKE		17 14 40.0	+17
DUG				LR	LR		
	comp=Z,560nm,20.0s,MS5.0						
MVU	**Marysvale**	95.73	52	PFAKE		17 14 40.0	+15
MVU				LR	LR		
	comp=Z,917nm,19.0s,MS5.3						
MSU	**Marysvale**	95.76	52	*e*P	P	17 14 25.1	+0.4
ZRNK	**Zerenda**	95.84	323	*e*P	P	17 14 25.8	+1.1
ZRNK				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.4						
ZRNK	**Zerenda**	95.84	323	*e*P	P	17 14 25.8	+1.2
	comp=Z,23nm,1.5s,mb5.4						
HWUT	**Hardware Ranch**	96.56	49	PFAKE		17 14 40.0	+12
HWUT				LR	LR		
	comp=Z,773nm,19.0s,MS5.2						
YKA	**Yellowknife Ar**	96.78	28	P	P	17 14 28.8	+0.2
	comp=Z,3.5nm,0.9s,mb4.8,baz=265,slow=4.7,SNR=18						
YKA				LR	LR	17 53 01.9	
	comp=Z,699nm,20.1s,MS5.1,baz=255,slow=32						
YKA	**Yellowknife Ar**	96.78	28	P	P	17 14 28.8	+0.2
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,699nm,20.1s						
YKW3	**Yellowknife Ar**	96.78	28	*e*P	P	17 14 28.2	-0.4
BOZ	**Bozeman (W)**	96.90	45	PFAKE		17 14 40.0	+10
BOZ				LR	LR		
	comp=Z,668nm,21.0s,MS5.1						
AHID	**Auburn Hatcher**	97.02	48	PFAKE		17 14 40.0	+10
AHID				LR	LR		
	comp=Z,782nm,22.0s,MS5.2						
BW06	**Boulder Array**	98.15	48	PFAKE		17 14 50.0	+15
BW06				LR	LR		
	comp=Z,867nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	98.15	48	P	P	17 14 35.4	+0.1
	comp=Z,1.0nm,0.9s,baz=270,slow=1.5,SNR=6.8						
PDAR				LR	LR	17 52 51.8	
	comp=Z,732nm,20.1s,baz=346,slow=32						
SNAA	**Sanae**	98.72	186	⇑*i*P	P	17 14 40.6	+3.4
SNAA	**Sanae**	98.72	186	P	P	17 14 39.8	+2.6
SNAA				pmax	pmax		
	comp=Z,19nm,1.4s						
ANMO	**Albuquerque**	100.03	56	PFAKE		17 15 00.0	+16
ANMO				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
LAO	**LASA Array**	100.72	44	PFAKE		17 15 00.0	+13
LAO				LR	LR		
	comp=Z,841nm,21.0s,MS5.2						
SDCO	**Great Sand Dun**	100.95	53	PFAKE		17 15 00.0	+12
SDCO				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
ARU	**Arti**	102.03	326	PFAKE		17 15 00.0	+7.4
ARU				LR	LR		
	comp=Z,237nm,19.0s,MS4.7						
LTX	**Lajitas**	102.06	62	PFAKE		17 15 10.0	+17
LTX				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
TXAR	**Lajitas Array**	102.06	62	PKKPbc		17 30 58.0	
	comp=Z,0.5nm,1.0s,baz=117,slow=2.8,SNR=4.0						
DGMT	**Dagmar**	102.10	42	PFAKE		17 15 00.0	+6.9
DGMT				LR	LR		
	comp=Z,702nm,20.0s,MS5.2						
FFC	**Flin Flon**	103.25	36	PFAKE		17 15 10.0	+12
FFC				LR	LR		
	comp=Z,241nm,21.0s,MS4.7						
JCT	**Junction City**	105.46	61	PFAKE		17 19 30.0	
JCT				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
CBKS	**Cedar Bluff**	105.50	52	PFAKE		17 19 30.0	
CBKS				LR	LR		
	comp=Z,786nm,20.0s,MS5.2						
WMOK	**Wichita Mounta**	106.33	56	PFAKE		17 19 40.0	
WMOK				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
KBS	**Kingsbay**	107.74	353	PFAKE		17 19 40.0	
KBS				LR	LR		
	comp=Z,520nm,20.0s,MS5.1						
HKT	**Hockley**	108.89	61	PFAKE		17 19 40.0	
HKT				LR	LR		
	comp=Z,907nm,19.0s,MS5.4						
NATX	**Nacogdoches**	109.86	59	PFAKE		17 19 40.0	
NATX				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
APA	**Apatity**	110.51	340	⇑*e*PKIKP	PKPdf	17 19 27.5	-4.5
APA				pmax	pmax		
	comp=Z,51nm,1.5s						
MIAR	**Mount Ida**	110.63	56	PFAKE		17 19 40.0	+7.0
MIAR				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
JFWS	**Jewell Farm**	112.30	47	PFAKE		17 19 50.0	+14
JFWS				LR	LR		
	comp=Z,867nm,21.0s,MS5.3						
EFI	**East Falkland**	112.61	157	PFAKE		17 19 50.0	+14
EFI				LR	LR		
	comp=Z,98nm,19.0s,MS4.4						
OXF	**Oxford**	114.06	56	PFAKE		17 19 50.0	+10
OXF				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
OBN	**Obninsk**	114.41	327	PKIKP	PKPdf	17 19 42.0	+2.2
OBN				*e*		17 20 31.7	
OBN				MLR	MLR		
	comp=Z,600nm,17.0s,MS5.3						
SOC	**Sochi**	115.84	314	*i* PKIKP	PKPdf	17 19 39.0	-4.0
SOC				*e*		17 20 44.0	
SOC				*e*SS	SS	17 36 36.3	-9.2
SOC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SOC				pmax	pmax		
	comp=N,7.0nm,1.0s						
LRAL	**Lakeview Retre**	116.22	58	PFAKE		17 19 50.0	+6.0
LRAL				LR	LR		
	comp=Z,970nm,20.0s,MS5.4						
ACSO	**Alum Creek Sta**	118.17	49	PFAKE		17 20 00.0	+12
ACSO				LR	LR		
	comp=Z,833nm,20.0s,MS5.4						
ERPA	**Erie**	119.87	46	PFAKE		17 20 00.0	+9.3
ERPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
AKASG	**Malin Array Be**	120.24	325	PKP	PKPdf	17 19 48.5	-2.7
	comp=Z,8.5nm,1.1s,baz=56,slow=2.1,SNR=11						
AKASG				PP	PP	17 21 11.6	-6.4
	comp=Z,0.2nm,0.3s,baz=52,slow=6.0,SNR=5.1						
AKASG	**Malin Array Be**	120.24	325	PKIKP	PKPdf	17 19 48.5	-2.7
AKASG						17 21 11.6	
AKASG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ASF	**Jabal al Asfar**	120.26	302	PKP	PKPdf	17 19 50.4	-1.3
	comp=Z,1.5nm,0.6s,baz=85,slow=6.2,SNR=2.6						
ASF				PP	PP	17 21 17.4	-1.1
	comp=Z,1.2nm,0.4s,baz=360,slow=2.5,SNR=8.6						
BLA	**Blacksburg**	120.81	52	PFAKE		17 20 00.0	+7.2
BLA				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
BRTR	**Keskin Array B**	121.21	311	PKP	PKPdf	17 19 51.9	-1.7
	comp=Z,2.4nm,1.1s,baz=63,slow=5.5,SNR=4.9						
BRTR	**Keskin Array B**	121.21	311	PKIKP	PKPdf	17 19 51.9	-1.6
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DWPF	**Disney**	121.59	62	PFAKE		17 20 00.0	+5.5
DWPF				LR	LR		
	comp=Z,674nm,19.0s,MS5.3						
NHSC	**New Hope**	121.87	56	PFAKE		17 20 00.0	+5.1
NHSC				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
NOA	**NORSAR Array B**	122.05	341	PKP	PKPdf	17 19 52.5	-2.0
	comp=Z,1.3nm,1.0s,baz=56,slow=3.3,SNR=3.0						
NOA	**NORSAR Array B**	122.05	341	PKIKP	PKPdf	17 19 52.5	-2.0
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
EIL	**Elat**	122.30	300	*e*PKPdf	PKPdf	17 19 53.2	-2.5
BINY	**Binghamton**	122.67	45	PFAKE		17 20 10.0	+14
BINY				LR	LR		
	comp=Z,965nm,20.0s,MS5.5						
CBN	**Corbin**	122.89	50	PFAKE		17 20 10.0	+13
CBN				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
NCB	**Newcomb**	123.25	43	PFAKE		17 20 10.0	+13
NCB				LR	LR		
	comp=Z,673nm,20.0s,MS5.3						
LSZ	**Lusaka**	124.22	245	PKIKP	PKPdf	17 19 58.7	-1.1
LSZ	**Lusaka**	124.22	245	*e*PKPdf	PKPdf	17 19 58.2	-1.6
LSZ				*e*PP	PP	17 21 37.2	-9.2
MLR	**Muntele Rosu**	124.49	320	PKP	PKPdf	17 19 57.4	-2.2
	comp=Z,2.4nm,0.9s,baz=45,slow=4.3,SNR=2.5						
MLR	**Muntele Rosu**	124.49	320	PKIKP	PKPdf	17 19 57.4	-2.3
MLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LVC	**Limon Verde**	125.08	125	*e*PKPdf	PKPdf	17 20 02.1	+0.6
HRV	**Harvard--Oak R**	125.61	43	PFAKE		17 20 10.0	+8.1
HRV				LR	LR		
	comp=Z,871nm,19.0s,MS5.5						
MBAR	**Mbarara**	125.96	263	PFAKE		17 20 10.0	+6.6
MBAR				LR	LR		
	comp=Z,175nm,20.0s,MS4.7						
WVL	**Waterville**	125.98	40	PFAKE		17 20 10.0	+7.4
WVL				LR	LR		
	comp=Z,6µm,20.0s						
PQI	**Presque Isle**	126.00	37	PFAKE		17 20 10.0	+7.5
PQI				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
OKC	**Ostrava-Krasne**	126.78	328	*e*PKIKP	PKPdf	17 20 03.1	-0.7
OKC				LM		18 18 00.0	
	comp=Z,0.6nm,17.8s						
PSZ	**Piszkesteto**	126.92	325	PKIKP	PKPdf	17 20 03.4	-0.8
PSZ	**Piszkesteto**	126.92	325	*e*PKPpre		17 19 54.4	
PSZ				*e*PKPdf	PKPdf	17 20 02.6	-1.5
PSZ				*e*PP	PP	17 21 58.5	-4.4
MORC	**Moravsky Berou**	127.13	328	*e*PKPdf	PKPdf	17 20 02.1	-2.5
VYHS	**Vyhne**	127.19	326	*e*PKP	PKPdf	17 20 02.0	-2.7
VYHS				*e*		17 20 22.4	
VYHS				*e*PP	PP	17 22 02.1	-2.6
VYHS	**Vyhne**	127.19	326	*e*PKIKP	PKPdf	17 20 02.0	-2.7
VYHS				*e*		17 22 02.1	
EMMW	**East Machias**	127.30	39	PFAKE		17 20 10.0	+4.9
EMMW				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
DPC	**Dobruska-Polom**	127.41	329	LM		18 15 00.0	
	comp=Z,1.0nm,20.6s						
UPC	**Upice**	127.46	330	*e*PKIKP	PKPdf	17 20 03.7	-1.5
BSEG	**Bad Segeberg**	127.69	336	*e*PKIKP	PKPdf	17 20 04.6	-1.0
PVCC	**Panska Ves**	128.16	331	*e*PKIKP	PKPdf	17 20 05.4	-1.2
PVCC				LM		18 16 10.0	
	comp=Z,0.9nm,17.9s						
BRG	**Berggiesshubel**	128.23	331	*e*PKIKP	PKPdf	17 20 05.9	-0.9
BRG				*e*		17 22 09.8	
BRG				pmax	pmax		
	comp=Z,21nm,1.7s						
ZST	**Bratislava**	128.31	327	*e*PKP	PKPdf	17 20 06.5	-0.5
CLL	**Collm**	128.38	332	*e*PKIKP	PKPdf	17 20 05.0	-2.0
	comp=Z,logA/T=1.2						
CLL				*e*		17 20 23.0	
CLL				*e*PP	PP	17 22 11.0	-2.0
CLL	**Collm**	128.38	332	*e*PKIKP	PKPdf	17 20 05.0	-2.0
CLL				pmax	pmax		
	comp=Z,23nm,1.5s						
CLL				MLR	MLR		
	comp=Z,900nm,17.6s,MS5.5						
CLL	**Collm**	128.38	332	*e*PKP	PKPdf	17 20 05.0	-2.0
CLL				*e*		17 20 23.0	
CLL				LR	LR		
	comp=Z,900nm,17.6s,MS5.5						
PRU	**Pruhonice**	128.52	330	*e*PKIKP	PKPdf	17 20 05.7	-1.6
PRU				LM		18 20 10.0	
PKSM	**Moragy**	128.58	324	*e*P	PKPdf	17 20 06.1	-1.4
ROSC	**El Rosal**	128.63	91	PKP	PKPdf	17 20 07.5	-1.0
	comp=Z,3.9nm,0.3s,baz=265,slow=17,SNR=2.9						
LPAZ	**La Paz**	128.64	119	PKP	PKPdf	17 20 08.2	-0.2
	comp=Z,5.9nm,0.9s,baz=320,slow=1.7,SNR=12						
LPAZ	**La Paz**	128.64	119	PKIKP	PKPdf	17 20 08.2	-0.2
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SKO	**Skopje**	128.99	318	*e*PKP	PKPdf	17 20 07.0	-1.5
CLZ	**Clausthal**	129.19	334	*e*PKPdf	PKPdf	17 20 07.1	-1.4
MOX	**Moxa**	129.48	332	*i* P	PKPdf	17 20 07.9	-1.2
	comp=Z,logA/T=1.2						
MOX	**Moxa**	129.48	332	*e*PKIKP	PKPdf	17 20 07.9	-1.2
MOX				pmax	pmax		
	comp=Z,27nm,1.8s						
KHC	**Kasperske Hory**	129.56	330	*e*PKIKP	PKPdf	17 20 08.1	-1.2
KHC				LM		18 20 40.0	
	comp=Z,0.7nm,18.4s						
GEC2	**GERESS Array S**	129.68	329	*e*PKIKP	PKPdf	17 20 07.8	-1.8
GERES	**GERESS Array B**	129.68	329	PKP	PKPdf	17 20 07.9	-1.7
	comp=Z,1.6nm,0.8s,baz=90,slow=2.7,SNR=15						
GERES	**GERESS Array B**	129.68	329	PKIKP	PKPdf	17 20 07.9	-1.7
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WET	**Wettzell**	129.89	330	*e*PKIKP	PKPdf	17 20 08.9	-1.1
SISC	**Sisak**	130.31	324	*i* PKP	PKPdf	17 20 08.2	-2.6
GRA1	**Grafenberg Arr**	130.32	332	*e*PKPdf	PKPdf	17 20 09.3	-1.4
GRF	**Grafenberg Arr**	130.32	332	*e*PKIKP	PKPdf	17 20 09.3	-1.4
GRFO	**Grafenberg**	130.32	332	*e*PKPdf	PKPdf	17 20 09.3	-1.5
BOJS	**Bojanci**	130.93	325	*e*PKPdf	PKPdf	17 20 10.8	-1.2
BOJS				*e*SKPbc		17 23 35.8	
ESK	**Eskdalemuir**	131.00	345	PFAKE		17 20 20.0	+8.1
ESK				LR	LR		
	comp=Z,179nm,21.0s,MS4.8						
LJU	**Ljubljana**	131.00	326	*e*PKPdf	PKPdf	17 20 10.6	-1.5
LJU				*e*SKPbc		17 23 37.2	
JAVS	**Javornik**	131.35	326	*e*PKPdf	PKPdf	17 20 11.1	-1.8
JAVS				*e*PKiKP		17 20 15.2	
JAVS				*e*SKPbc		17 23 37.5	
CPUP	**Villa Florida**	131.59	137	PKP	PKPdf	17 20 11.7	-2.2
	comp=Z,7.1nm,1.2s,baz=227,slow=3.1,SNR=4.9						
CPUP	**Villa Florida**	131.59	137	PKIKP	PKPdf	17 20 11.7	-2.1
CPUP				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SDV	**Santo Domingo**	132.66	86	*e*PKPdf	PKPdf	17 20 14.2	-2.0
SDV				*e*SKP		17 23 42.2	
GIVF	**Givet**	132.81	336	*e*PKIKP	PKPdf	17 20 14.0	-1.5
CDF	**Champ du Feu**	133.05	333	*e*PKIKP	PKPdf	17 20 14.0	-2.0
BAIF	**Baives**	133.09	336	*e*PKIKP	PKPdf	17 20 14.6	-1.4
	comp=Z,80nm,1.6s						
HINF	**Hinteralfeld**	133.68	333	*e*PKIKP	PKPdf	17 20 15.3	-1.7
HAU	**Haudompre**	133.77	333	*e*PKIKP	PKPdf	17 20 15.4	-1.8
HAU				*e*R			
	comp=Z,921nm,21.2s						
MEZF	**Maizieres J'vi**	133.96	335	*e*PKIKP	PKPdf	17 20 15.7	-1.8
BBSR	**BB Station**	134.58	53	PFAKE		17 20 30.0	+11
BBSR				LR	LR		
	comp=Z,875nm,22.0s,MS5.4						
CABF	**La Chapelle**	134.93	332	*e*PKIKP	PKPdf	17 20 18.3	-1.2
	comp=Z,26nm,1.1s						
LPL	**La Plagne**	135.42	331	*e*PKIKP	PKPdf	17 20 19.1	-1.3
LOR	**Lormes**	135.42	334	*e*PKIKP	PKPdf	17 20 17.9	-2.5
	comp=Z,16nm,1.1s						
LOR				*e*R			
	comp=Z,846nm,21.8s						
LPG	**La Plagne**	135.42	330	*e*PKIKP	PKPdf	17 20 18.5	-1.9
SSF	**Saint Saulge**	135.73	334	*e*PKIKP	PKPdf	17 20 19.2	-1.8
	comp=Z,30nm,1.3s						
BNI	**Bardonecchia**	135.78	330	PKIKP	PKPdf	17 20 20.6	-0.5
BNI	**Bardonecchia**	135.78	330	*e*PKPpre		17 20 12.9	
BNI				*e*PP	PP	17 22 59.2	-0.9
SMF	**Signal de Mont**	135.91	334	*e*PKIKP	PKPdf	17 20 19.5	-1.8
	comp=Z,45nm,1.5s						
FLN	**La Foliniere**	135.91	339	*e*PKIKP	PKPdf	17 20 20.2	-1.0
	comp=Z,53nm,1.5s						
FLN				*e*R			
	comp=Z,830nm,21.2s						
LDF	**La Druitiere**	135.93	338	*e*PKIKP	PKPdf	17 20 18.8	-2.4
AVF	**Avril sur Loir**	136.01	334	*e*PKIKP	PKPdf	17 20 19.2	-2.2
SAML	**Samuel**	136.04	113	*e*PKPdf	PKPdf	17 20 20.6	-1.8
SAML				*e*SKP		17 23 54.8	
LASF	**Ste Croix**	137.86	331	*e*PKIKP	PKPdf	17 20 23.4	-1.6
	comp=Z,28nm,1.4s						
ETSF	**Etsaut**	140.79	334	*e*PKIKP	PKPdf	17 20 28.5	-1.8
SJPF	**Ste Jean**	140.90	335	*e*PKIKP	PKPdf	17 20 28.4	-2.1
ESDC	**Sonseca Array**	144.90	334	PKP	PKPdf	17 20 34.5	-3.1
	comp=Z,7.7nm,1.0s,baz=26,slow=3.0,SNR=32						
PVRL	**Vila Real**	144.95	340	*e*PKPdf	PKPdf	17 20 35.5	-2.0
BDFB	**Brasilia**	145.16	134	PKP	PKPdf	17 20 36.9	-1.7
	comp=Z,34nm,0.8s,baz=209,slow=3.2,SNR=25						
BDFB	**Brasilia**	145.16	134	PKIKP	PKPdf	17 20 36.9	-1.7
BDFB				pmax	pmax		
	comp=Z,34nm,0.8s						
MTE	**Manteigas**	145.67	339	*e*PKPdf	PKPdf	17 20 37.6	-1.2
MTE	**Manteigas**	145.67	339	*e*PKPdf	PKPdf	17 20 37.6	-1.2
CAM3	**Guarapari**	145.91	149	*e*P	PKPbc	17 20 39.5	+1.8
CAM3				*i*		17 20 42.7	
CAM3				*i*		17 20 49.5	
CAM3				*i*		17 20 56.0	
CAM3	**Guarapari**	145.91	149	*e*P	PKPbc	17 20 39.5	+1.8
CAM3				*i*		17 20 42.7	
CAM3				*i*		17 20 49.5	
CAM3				*i*		17 20 56.0	
PCBR	**Castelo Branco**	146.14	339	*e*PKPdf	PKPdf	17 20 39.7	+0.1
EVO	**Evora**	147.49	338	*e*PKIKP	PKPdf	17 20 42.1	+0.2
	comp=Z,188nm,1.6s						
EVO				*e*R			
	comp=Z,441nm,20.8s						
PBEJ	**Beja**	147.88	338	*e*PKPdf	PKPdf	17 20 42.5	-0.1
PALC	**Alcoutim**	148.22	337	*e*PKPdf	PKPdf	17 20 42.1	-1.0
RCBR	**Riachuelo**	160.47	137	PFAKE		17 21 10.0	+9.5
RCBR				LR	LR		
	comp=Z,668nm,20.0s						
KIC	**Kosan Boka**	162.04	264	*e*P	PKPab	17 21 47.8	-0.1
	comp=Z,291nm,1.7s						
DBIC	**Dimbokro**	162.19	265	PKP	PKPdf	17 21 00.6	-1.6
	comp=Z,5.3nm,1.1s,baz=93,slow=4.0,SNR=3.1						
DBIC				PKPab	PKPab	17 21 48.3	-0.2
	comp=Z,5.9nm,0.9s,baz=98,slow=4.4,SNR=5.2						
TIC	**Toumodi**	162.35	265	*e*P	PKPab	17 21 49.0	-0.2
	comp=Z,291nm,1.6s						

GUC 28 17:37:40.6±0.8, 35.00S×70.64W, h2km±2km, MD4.0, ML3.9, 8C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.49	270	⇑*i*P	Pg	17 37 50.5	+0.2
NICH				*i* S	Sg	17 37 58.0	+1.1
SFDO	**San Fernando**	0.50	321	⇓*i*P	Pg	17 37 50.8	+0.3
CICH	**Cipreses**	0.70	15	⇓*i*P	Pg	17 37 53.9	-0.7
CICH				*i* S	Sg	17 38 02.5	-1.5
CACH	**El Canelo**	0.88	2	⇑*i*P	Pg	17 37 57.0	-1.2
CACH				*i* S	Sg	17 38 09.9	-0.1
TALC	**Talca**	0.91	244	⇓*i*P	Pg	17 37 57.2	-1.5
TALC				*i* S	Sg	17 38 09.9	-1.0
TALC				AMP		17 38 10.2	
	comp=E,12µm,0.3s						
CHCH	**Chadas Angostu**	1.07	359	⇓*i*P	Pb	17 38 00.5	-1.0
CHCH				*i* S	Sb	17 38 16.0	+0.3
LMEL	**Las Melosas**	1.21	17	⇑*i*P	Pb	17 38 02.7	-1.1
LMEL				*i* S	Sb	17 38 19.6	-0.1
LMEL				AMP		17 38 20.9	
	comp=E,4µm,0.3s						
LNV	**Longovilo**	1.23	328	⇑*i*P	Pb	17 38 03.1	-1.0
LNV				*i* S	Sb	17 38 20.3	0.0
TACH	**Talagante**	1.37	349	⇓*i*P	Pb	17 38 05.7	-1.0

TACH				*i* S	Sb	17 38 24.5	0.0
SJCH	**San Jose de Ma**	**1.38**	**10**	⇑*i*P	Pb	17 38 04.5	-2.3
SJCH				*i* S	Sb	17 38 23.9	-0.9
SJCH				AMP		17 38 27.9	
	comp=E,1μm,0.3s						
PCH	**Pirque**	**1.38**	**4**	⇓*i*P	Pb	17 38 05.9	-0.9
PCH				*i* S	Sb	17 38 25.4	+0.6
ANTU	**Antumapu**	**1.43**	**0**	⇑*i*P	Pn	17 38 06.7	-0.9
ANTU				*i* S	Sb	17 38 26.3	+0.1
ANTU				AMP		17 38 29.3	
	comp=E,4μm,0.5s						
FSR	**Penalolen**	**1.52**	**3**	*e*P	Pn	17 38 08.2	-0.8
FSR				*i* S	Sb	17 38 29.5	+0.6
FSR				AMP		17 38 31.7	
	comp=E,2μm,0.6s						
SAN	**Santiago**	**1.54**	**359**	*e*P	Pn	17 38 08.7	-0.6
SAN				*i* S	Sb	17 38 29.6	+0.1
SAN				AMP		17 38 31.7	
	comp=E,3μm,0.3s						
PUEX	**Pudahuel**	**1.56**	**356**	*e*P	Pn	17 38 09.4	-0.1
PUEX				*i* S	Sb	17 38 30.8	+0.8
PUEX				AMP		17 38 39.1	
	comp=N,4μm,0.6s						
STL	**Santa Lucia**	**1.56**	**360**	*e*P	Pn	17 38 08.5	-1.0
STL				*i* S	Sb	17 38 30.1	+0.1
STL				AMP		17 38 31.9	
	comp=E,939nm,0.5s						
DSCH	**Colegio Aleman**	**1.60**	**2**	*i* P	Pn	17 38 09.7	-0.4
DSCH				*i* S	Sb	17 38 31.9	+0.7
DSCH				AMP		17 38 35.7	
	comp=N,5μm,0.5s						
CLCH	**Cerro Calan**	**1.60**	**3**	⇑*i*P	Pn	17 38 09.6	-0.5
CLCH				*i* S	Sb	17 38 31.7	+0.4
CLCH				AMP		17 38 34.1	
	comp=E,4μm,0.3s						
CLCH				AMP		17 38 34.7	
	comp=E,4μm,0.2s						
FCH	**Farellones**	**1.69**	**10**	⇑*i*P	Pn	17 38 11.4	0.0
FCH				*i* S	Sb	17 38 34.7	+0.7
FCH				AMP		17 38 35.4	
	comp=N,2μm,0.2s						
LCCH	**Las Cruces**	**1.71**	**333**	⇓*i*P	Pn	17 38 11.0	-0.6
CCHI	**Chillan**	**1.98**	**216**	⇓*i*P	Pn	17 38 15.1	-0.4
CCHI				*i* S	Sn	17 38 41.9	+0.7
CCHI				AMP		17 38 44.4	
	comp=E,1μm,0.5s						
CCHI				AMP		17 38 44.7	
	comp=E,2μm,0.6s						
JACH	**Jahuel**	**2.31**	**1**	*e*P	Pn	17 38 21.0	+0.7

GUC 28 17:42:40.9±1.0, 35.05S×70.60W, h14^{km}±6^{km}, ML3.5, 5C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.52**	**275**	⇓*i*P	Pb	17 42 50.8	-0.5
NICH				*i* S	Sb	17 42 58.5	+0.2
SFDO	**San Fernando**	**0.55**	**322**	⇓*i*P	Pb	17 42 50.8	-1.0
CICH	**Cipreses**	**0.74**	**12**	⇓*i*P	Pb	17 42 53.8	-1.3
CICH				*i* S	Sb	17 43 03.9	-0.9
TALC	**Talca**	**0.92**	**247**	⇓*i*P	Pb	17 42 57.3	-0.7
TALC				*i* S	Sb	17 43 09.8	0.0
TALC				AMP		17 43 10.3	
	comp=E,5μm,0.2s						
CACH	**El Canelo**	**0.93**	**0**	⇑*i*P	Pb	17 42 57.0	-1.3
CACH				*i* S	Sb	17 43 10.1	-0.1
CHCH	**Chadas Angostu**	**1.11**	**358**	⇓*i*P	Pb	17 43 00.3	-1.1
CHCH				*i* S	Sb	17 43 15.3	-0.3
LMEL	**Las Melosas**	**1.24**	**15**	⇑*i*P	Pb	17 43 02.6	-1.0
LMEL				*i* S	Sb	17 43 19.4	+0.1
LMEL				AMP		17 43 19.9	
	comp=N,2μm,0.2s						
LNV	**Longovilo**	**1.28**	**328**	⇑*i*P	Pb	17 43 03.1	-1.2
SJCH	**San Jose de Ma**	**1.42**	**8**	*i* P	Pn	17 43 05.0	-1.4
SJCH				*i* S	Sb	17 43 23.9	-0.5
SJCH				AMP		17 43 25.2	
	comp=E,729nm,0.4s						
TACH	**Talagante**	**1.42**	**349**	⇓*i*P	Pn	17 43 05.5	-0.9
TACH				*i* S	Sb	17 43 24.4	-0.1
PCH	**Pirque**	**1.43**	**3**	*e*P	Pn	17 43 05.6	-0.9
PCH				*i* S	Sb	17 43 24.3	-0.4
ANTU	**Antumapu**	**1.48**	**359**	*e*P	Pn	17 43 06.7	-0.6
ANTU				*i* S	Sb	17 43 26.2	+0.1
ANTU				AMP		17 43 28.6	
	comp=E,844nm,0.7s						
DSCH	**Colegio Aleman**	**1.65**	**1**	⇓*i*P	Pn	17 43 09.5	-0.1
DSCH				AMP		17 43 39.0	
	comp=N,1μm,0.6s						
CLCH	**Cerro Calan**	**1.65**	**2**	⇑*i*P	Pn	17 43 09.7	-0.1
CLCH				AMP		17 43 39.8	
	comp=E,783nm,0.4s						
FCH	**Farellones**	**1.73**	**9**	⇑*i*P	Pn	17 43 11.3	+0.3
FCH				*i* S	Sn	17 43 34.0	+1.0
FCH				AMP		17 43 38.3	
	comp=E,632nm,0.3s						
LCCH	**Las Cruces**	**1.76**	**333**	*e*P	Pn	17 43 11.0	-0.3
CCHI	**Chillan**	**1.96**	**217**	*e*P	Pn	17 43 15.2	+1.0
CCHI				AMP		17 43 45.3	
	comp=E,669nm,0.7s						
JACH	**Jahuel**	**2.36**	**0**	*e*P	Pn	17 43 21.5	+1.6
JACH				*i* S	Sn	17 43 51.6	+2.8

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*IDC **28** 17:43:41.8±3.5, 8.63S×156.89E, mb3.7/6, mb1 4.0/7, mb1mx3.9/14, ML3.2/1, Error ellipse: s-maj=97.6km s-min=26.6km az=104.0*

*NEIC **28** 17:43:42.8±0.7, 8.70S×157.03E, h10^{km}, Error ellipse: s-maj=16.9km s-min=12.9km az=166.0*

ISC 28 17:43:41.6±0.8, 8.6S±0.1×156.91E±0.06, h10^{km}, n8, σ0^{s}88/9, mb3.6/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.10**	**105**	*e*P	**Pn**	**17 44 30.0**	**-1.6**
HNR				*e*S	**Sn**	**17 45 10.0**	**+0.9**
CTA	**Charters Tower**	**15.36**	**221**	Pn	**P**	**17 47 20.2**	**0.0**
	0.1nm,0.3s,baz=89,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**24.55**	**240**	P	**P**	**17 49 03.6**	**+0.7**
	2.3nm,0.8s,mb3.8,baz=65,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**26.61**	**233**	P	**P**	**17 49 21.0**	**-1.2**
	0.8nm,0.8s,mb3.3,baz=74,slow=9.2,SNR=5.9						
STKA	**Stephens Creek**	**27.15**	**210**	P	**P**	**17 49 27.5**	**+0.4**
	1.5nm,0.6s,mb3.7,baz=46,slow=13,SNR=6.7						
CMAR	**Chiang Mai Arr**	**63.20**	**296**	P	**P**	**17 54 13.2**	**+0.6**
	0.6nm,0.8s,mb3.8,baz=110,slow=6.8,SNR=4.3						
SONM	**Songino Array**	**71.74**	**327**	P	**P**	**17 55 05.2**	**-0.8**
	0.5nm,0.8s,mb3.5,baz=146,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**85.89**	**318**	P	**P**	**17 56 23.9**	**+0.8**
	0.3nm,0.7s,mb3.7,baz=94,slow=5.2,SNR=3.3						

GUC 28 17:46:15.1±0.8, 34.72S×70.28W, h1^{km}±2^{km}, MD3.8, ML3.2, 6C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.41**	**344**	⇓*i*P	Pg	17 46 23.8	+0.4
CICH				*i* S	Sg	17 46 30.3	+1.5
SFDO	**San Fernando**	**0.61**	**280**	⇑*i*P	Pg	17 46 27.8	+0.4
SFDO				*i* S	Sg	17 46 36.5	+1.0
CACH	**El Canelo**	**0.65**	**336**	⇑*i*P	Pg	17 46 28.0	-0.2
CACH				*i* S	Sg	17 46 37.8	+0.9
CHCH	**Chadas Angostu**	**0.84**	**339**	⇓*i*P	Pg	17 46 31.5	-0.4
CHCH				*i* S	Sg	17 46 44.0	+0.9
SJCH	**San Jose de Ma**	**1.08**	**357**	⇑*i*P	Pb	17 46 34.0	-2.2
SJCH				*i* S	Sb	17 46 50.1	-0.5
SJCH				AMP		17 46 52.1	
	comp=E,698nm,0.3s						
PCH	**Pirque**	**1.11**	**350**	⇓*i*P	Pb	17 46 36.0	-0.7
PCH				*i* S	Sb	17 46 51.9	+0.4
ANTU	**Antumapu**	**1.18**	**346**	⇓*i*P	Pb	17 46 37.4	-0.6
ANTU				*i* S	Sb	17 46 54.1	+0.5
ANTU				AMP		17 46 54.6	
	comp=E,972nm,0.2s						
TACH	**Talagante**	**1.19**	**333**	⇓*i*P	Pb	17 46 37.6	-0.6
TACH				*i* S	Sb	17 46 54.4	+0.4
LNV	**Longovilo**	**1.20**	**309**	⇑*i*P	Pb	17 46 37.8	-0.6
LNV				*i* S	Sb	17 46 54.9	+0.6
CLCH	**Cerro Calan**	**1.33**	**351**	⇑*i*P	Pb	17 46 40.1	-0.5
CLCH				*i* S	Sb	17 46 58.8	+0.7
CLCH				AMP		17 47 01.8	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.39**	**360**	⇑*i*P	Pb	17 46 40.9	-0.6
FCH				*i* S	Sb	17 47 00.8	+1.3
FCH				AMP		17 47 03.4	
	comp=N,520nm,0.3s						
LCCH	**Las Cruces**	**1.64**	**319**	⇓*i*P	Pn	17 46 45.0	-0.1
LCCH				*i* S	Sb	17 47 07.5	+0.7
JACH	**Jahuel**	**2.05**	**353**	*e*P	Pn	17 46 51.5	+0.4

GUC 28 17:51:11.0±0.8, 35.07S×70.54W, h3^{km}, MD3.7, ML3.3, 12C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**276**	⇑*i*P	Pg	17 51 22.8	+0.3
SFDO	**San Fernando**	**0.60**	**319**	⇑*i*P	Pg	17 51 22.8	-0.2
CICH	**Cipreses**	**0.75**	**7**	⇓*i*P	Pg	17 51 24.4	-1.6
CICH				*i* S	Sg	17 51 35.5	-0.5
CACH	**El Canelo**	**0.95**	**357**	⇑*i*P	Pb	17 51 28.0	-1.7
CACH				*i* S	Sb	17 51 41.9	-0.6
CHCH	**Chadas Angostu**	**1.14**	**355**	⇑*i*P	Pb	17 51 31.6	-1.3
CHCH				*i* S	Sb	17 51 48.1	+0.2
LMEL	**Las Melosas**	**1.25**	**13**	⇑*i*P	Pb	17 51 32.9	-2.0
LMEL				*i* S	Sb	17 51 50.6	-0.6
LMEL				AMP		17 51 52.6	
	comp=N,478nm,0.2s						
LNV	**Longovilo**	**1.32**	**327**	⇑*i*P	Pb	17 51 34.9	-1.2
LNV				*i* S	Sb	17 51 53.4	0.0
PCH	**Pirque**	**1.44**	**1**	⇑*i*P	Pn	17 51 37.4	-0.7
PCH				*i* S	Sb	17 51 57.6	+0.7
TACH	**Talagante**	**1.45**	**347**	⇑*i*P	Pn	17 51 37.0	-1.2
TACH				*i* S	Sb	17 51 56.9	-0.1
ANTU	**Antumapu**	**1.50**	**357**	⇑*i*P	Pn	17 51 38.2	-0.7
ANTU				*i* S	Sb	17 51 58.5	+0.1
ANTU				AMP		17 52 00.3	
	comp=E,1μm,0.6s						
CLCH	**Cerro Calan**	**1.67**	**360**	⇑*i*P	Pn	17 51 40.8	-0.5
CLCH				*i* S	Sb	17 52 04.4	+1.1
CLCH				AMP		17 52 05.6	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.75**	**7**	⇑*i*P	Pn	17 51 42.5	+0.1
FCH				*i* S	Sn	17 52 06.5	+1.0
FCH				AMP		17 52 09.1	
	comp=N,385nm,0.2s						
LCCH	**Las Cruces**	**1.80**	**331**	*i* S	Sn	17 52 07.3	+0.4
JACH	**Jahuel**	**2.38**	**359**	⇑*i*P	Pn	17 51 52.3	+0.8
JACH				*i* S	Sn	17 52 24.1	+2.5

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*NEIC **28** 17:59:49.8±0.5, 43.82N×105.30W, ML3.2, Error ellipse: s-maj=9.8km s-min=5.2km az=148.0, Suspected Mining explosion.*

NEIC 55 km [35 miles] SSE of Gillette.

*IDC **28** 17:59:50.4±0.9, 44.10N×105.81W, mb4.0/2, mb1 3.8/8, mb1mx3.6/25, ML3.4/6, Error ellipse: s-maj=16.0km s-min=7.7km az=145.0*

ISC 28 17:59:47.5±0.6, 43.78N±0.07×105.22W±0.09, n34, σ1^{s}17/36, mb4.0/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**68**	*e*Pg	**Pg**	**18 00 08.7**	**+2.8**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 00 43.3**	**+1.5**
	3.9nm,0.3s,baz=67,slow=15,SNR=61						
PDAR				Pg	**Pg**	**18 00 48.2**	**-5.7**
	9.0nm,0.3s,baz=72,slow=18,SNR=52						
PDAR				Lg		18 01 26.6	
	8.7nm,0.3s,baz=81,slow=34,SNR=5.9						
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 00 43.3**	**+1.5**
PDAR				Pg	**Pg**	**18 00 48.2**	**-5.7**
PDAR				Lg		18 01 26.6	
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pg	**Pn**	**18 00 53.2**	**+1.8**
WUWY	**Wally Ulrich**	**4.01**	**268**	*e*Pn	**Pn**	**18 00 56.1**	**+4.5**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pn	**Pn**	**18 00 57.3**	**+5.5**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**18 00 52.4**	**-0.6**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**18 00 55.6**	**+1.8**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**18 01 01.7**	**+4.5**
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**18 01 07.7**	**-0.1**
	8.4nm,0.5s						
TCUT	**Toone Canyon**	**5.29**	**242**	*e*Pn	**Pn**	**18 01 08.6**	**-1.1**
DAU	**Daniels Canyon**	**5.61**	**235**	Pn	**Pn**	**18 01 14.8**	**+0.6**
JLU	**Jordanelle**	**5.61**	**238**	*e*Pn	**Pn**	**18 01 14.7**	**+0.5**
HVU	**Hansel Valley**	**5.91**	**253**	*e*Pn	**Pn**	**18 01 18.1**	**-0.3**
SDCO	**Great Sand Dun**	**6.03**	**182**	*e*Pn	**Pn**	**18 01 20.5**	**+0.3**
	2.0nm,0.7s						
MPU	**Maple Canyon**	**6.08**	**234**	*e*Pn	**Pn**	**18 01 19.9**	**-1.1**
PV10	**Paradox Valley**	**6.12**	**209**	*e*Pn	**Pn**	**18 01 22.7**	**+1.3**
SRU	**San Rafael**	**6.13**	**222**	*e*Pn	**Pn**	**18 01 20.2**	**-1.4**
PV01	**Paradox Valley**	**6.18**	**205**	*e*Pn	**Pn**	**18 01 23.1**	**+0.8**
NLU	**North Lily Min**	**6.38**	**236**	*e*Pn	**Pn**	**18 01 22.2**	**-2.9**
BGU	**Big Grassy Mou**	**6.45**	**246**	*e*Pn	**Pn**	**18 01 26.1**	**0.0**
HLID	**Hailey**	**6.67**	**271**	*e*Pn	**Pn**	**18 01 30.5**	**+1.3**
	1.0nm,0.6s						
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**18 01 28.7**	**-0.9**
	4.4nm,0.4s						
MSU	**Marysvale**	**7.43**	**227**	*e*Pn	**Pn**	**18 01 39.7**	**-0.1**
MVU	**Marysvale**	**7.46**	**227**	*e*Pn	**Pn**	**18 01 40.5**	**+0.3**
	2.5nm,0.5s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**P**	**18 02 01.6**	**-1.3**
	1.0nm,0.3s,baz=227,slow=9.7,SNR=7.1						
ULM				Lg		18 04 34.8	
	0.6nm,0.3s,baz=304,slow=21,SNR=2.3						
NEW	**Newport**	**9.41**	**303**	Pn	**P**	**18 01 58.2**	**-9.2**
	0.1nm,0.3s,baz=116,slow=18,SNR=2.2						
NEW				Lg		18 04 28.5	
	0.1nm,0.3s,baz=324,slow=8.7,SNR=1.9						
NEW	**Newport**	**9.41**	**303**	Pn	**P**	**18 01 58.2**	**-9.2**
NEW				Lg		18 04 28.5	
WUAZ	**Wupatki**	**9.52**	**212**	*e*Pn	**P**	**18 02 08.2**	**-0.6**
	1.8nm,0.5s						
WUAZ				*e*		18 02 18.1	
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**P**	**18 02 31.2**	**-0.9**
	0.1nm,0.3s,baz=55,slow=12,SNR=6.8						
TXAR	**Lajitas Array**	**14.47**	**175**	Pn	**P**	**18 03 22.8**	**+7.2**
	0.2nm,0.3s,baz=351,slow=9.6,SNR=2.9						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**P**	**18 04 15.3**	**-3.8**
	0.1nm,0.3s,baz=162,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**18 10 05.8**	**-1.2**
	2.1nm,0.9s,mb4.2,baz=349,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**18 12 48.2**	**+0.6**
	0.5nm,0.7s,mb3.9,baz=14,slow=5.0,SNR=3.7						

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*MDD **28** 18:03:34.8±0.6, 42.27N×7.33W, h13^{km}±8^{km}, mbLg1.8/9, Error ellipse: s-maj=6.1km s-min=5.0km az=70.0, PRXIMO*

*INMG **28** 18:03:36.0±0.8, 42.25N×7.33W, ML1.5, Error ellipse: s-maj=2.0km s-min=1.6km az=111.0*

ISC 28 18:03:34.5±0.7, 42.27N±0.06×7.35W±0.07, h5^{km}±14^{km}, n12, σ0^{s}52/13, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.19**	**52**	Pg	**Pg**	**18 03 39.7**	**+1.3**
	41nm,0.1s,SNR=68						
ERUA				Lg		18 03 42.7	
	45nm,0.1s,SNR=5.0						
ECAL	**Calabor**	**0.56**	**126**	Pg	**Pg**	**18 03 45.7**	**0.0**
	7.0nm,0.1s,SNR=64						
ECAL				Lg		18 03 53.4	
	5.9nm,0.1s,SNR=14						
PBRG	**Braganca**	**0.65**	**136**	*e*Pg	**Pg**	**18 03 47.1**	**-0.4**
PBRG				*e*Sg	**Sg**	**18 03 55.7**	**-0.4**
	11nm,0.1s						
PBRG	**Braganca**	**0.65**	**136**	Pg	**Pg**	**18 03 47.1**	**-0.4**
PBRG				Lg		18 03 55.7	
	5.6nm,0.1s						
ELOB	**Lobios**	**0.67**	**233**	Pg	**Pg**	**18 03 48.2**	**+0.4**
	7.2nm,0.1s,SNR=24						
ELOB				Lg		18 03 57.2	
	14nm,0.1s,SNR=5.0						
EZAM	**Zamans**	**1.01**	**263**	Pg	**Pg**	**18 03 54.7**	**0.0**
	0.5nm,0.1s,SNR=4.0						
EZAM				Lg		18 04 07.7	
	2.1nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**1.03**	**196**	*e*P	**Pb**	**18 03 54.5**	**0.0**
PVRL				*e*S	**Sb**	**18 04 08.3**	**+0.1**
	21nm,0.1s						
PVRL	**Vila Real**	**1.03**	**196**	Pg	**Pb**	**18 03 54.5**	**0.0**
PVRL				Lg		18 04 08.3	
	10nm,0.1s						
EPON	**Pontenova**	**1.06**	**8**	Pg	**Pg**	**18 03 54.9**	**-0.8**
	0.9nm,0.1s,SNR=12						
EPON				Lg		18 04 09.1	
	6.1nm,0.1s,SNR=20						
STS	**Santiago**	**1.08**	**305**	Pg	**Pg**	**18 03 55.7**	**-0.4**
	3.9nm,0.1s,SNR=7.9						
STS				Lg		18 04 10.4	
	4.0nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.61**	**195**	*e*S	**Sb**	**18 04 25.1**	**+0.2**
ELAN	**Lanestosa**	**3.04**	**70**	Lg		18 05 11.7	
	5.9nm,4.8s,SNR=7.9						

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*NEIC **28** 18:09:46.7, 34.98S×70.50W, h2^{km}, ML2.8(GUC), After GUC.*

GUC 28 18:09:46.7±0.7, 34.98S×70.50W, h2^{km}, MD3.5, ML2.8, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**311**	⇓*i*P	Pg	18 09 57.8	0.0
SFDO				*i* S	Sg	18 10 06.7	+1.6
NICH	**Los Niches**	**0.60**	**267**	*e*P	Pg	18 09 58.4	-0.2
NICH				*i* S	Sg	18 10 08.0	+1.4
CICH	**Cipreses**	**0.66**	**6**	⇓*i*P	Pg	18 09 59.3	-0.6
CICH				*i* S	Sg	18 10 09.5	+0.8
CACH	**El Canelo**	**0.86**	**355**	⇑*i*P	Pg	18 10 03.0	-0.9
CACH				*i* S	Sg	18 10 15.9	+0.5
CHCH	**Chadas Angostu**	**1.05**	**353**	⇑*i*P	Pb	18 10 06.7	-0.6
LNV	**Longovilo**	**1.27**	**323**	*e*P	Pb	18 10 10.0	-0.9
LNV				*i* S	Sb	18 10 27.9	+0.4
PCH	**Pirque**	**1.35**	**360**	*e*P	Pb	18 10 11.7	-0.8
PCH				*i* S	Sb	18 10 30.9	+0.7
TACH	**Talagante**	**1.37**	**345**	⇑*i*P	Pb	18 10 12.0	-0.7
TACH				*i* S	Sb	18 10 31.0	+0.4
CLCH	**Cerro Calan**	**1.58**	**359**	*e*P	Pn	18 10 15.3	-0.5
CLCH				*e*S	Sb	18 10 36.9	+0.2
CLCH				AMP		18 10 53.5	
	comp=N,287nm,0.8s						
FCH	**Farellones**	**1.66**	**6**	*e*P	Pn	18 10 17.0	0.0
FCH				*i* S	Sb	18 10 39.9	+1.0
FCH				AMP		18 10 54.0	
	comp=N,148nm,0.4s						
LCCH	**Las Cruces**	**1.74**	**329**	*e*P	Pn	18 10 18.0	-0.2
JACH	**Jahuel**	**2.29**	**358**	*e*P	Pn	18 10 27.3	+1.2

IDC 28 18:14:42.6±1.9, 2.39S×128.29E, mb3.3/2, mb1 3.8/4, mb1mx3.6/15, ML3.5/2, Error ellipse: s-maj=107.0km s-min=24.2km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.82**	**189**	Pn	P	18 18 26.6	-2.1
	0.1nm,0.3s,baz=3.0,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**18.42**	**162**	P	P	18 18 59.5	-1.8
	0.3nm,0.3s,baz=341,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.84**	**166**	P	P	18 19 36.5	-2.3
	0.4nm,0.4s,baz=346,slow=11,SNR=20						
MKAR	**Makanchi Array**	**63.47**	**326**	P	P	18 25 14.8	-2.0
	0.4nm,0.8s,baz=127,slow=7.2,SNR=2.7						

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*GUC **28** 18:15:43.0±0.9, 34.94S×70.44W, h5^{km}±2^{km}, MD3.5, ML2.9*

*NEIC **28** 18:15:43.0, 34.94S×70.44W, h5^{km}, ML2.9(GUC), After GUC.*

ISC 28 18:15:42.6±1.2, 34.97S±0.04×70.40W±0.06, h8^{km}±6^{km}, n14, σ0^{s}77/25, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.62**	**305**	⇓*i*P	**Pg**	**18 15 54.8**	**-0.3**
SFDO				*i* S	**Sg**	**18 16 03.9**	**+0.5**
CICH	**Cipreses**	**0.65**	**358**	⇓*i*P	**Pg**	**18 15 55.2**	**-0.5**
CICH				*i* S	**Sg**	**18 16 05.0**	**+0.5**
NICH	**Los Niches**	**0.68**	**267**	*i* P	**Pg**	**18 15 56.0**	**-0.3**
NICH				*i* S	**Sg**	**18 16 06.6**	**+1.1**
CACH	**El Canelo**	**0.87**	**349**	⇑*i*P	**Pb**	**18 15 58.9**	**-0.7**
CACH				*i* S	**Sb**	**18 16 11.3**	**+0.1**
CHCH	**Chadas Angostu**	**1.06**	**349**	*e*P	**Pb**	**18 16 02.6**	**-0.2**
CHCH				*i* S	**Sb**	**18 16 17.5**	**+0.8**
TALC	**Talca**	**1.10**	**247**	⇓*i*P	**Pb**	**18 16 02.7**	**-0.8**
TALC				*i* S	**Sb**	**18 16 17.6**	**-0.2**
TALC				AMP		18 16 18.0	
	comp=N,3μm,0.3s						
LMEL	**Las Melosas**	**1.14**	**8**	⇑*i*P	**Pb**	**18 16 03.8**	**-0.3**
LMEL				*i* S	**Sb**	**18 16 19.3**	**+0.4**
LMEL				AMP		18 16 22.7	
	comp=N,193nm,0.2s						
LNV	**Longovilo**	**1.32**	**320**	*e*P	**Pb**	**18 16 06.1**	**-1.1**
LNV				*i* S	**Sb**	**18 16 23.7**	**-0.4**
TACH	**Talagante**	**1.39**	**341**	⇑*i*P	**Pn**	**18 16 07.6**	**-0.9**
TACH				*i* S	**Sb**	**18 16 26.0**	**-0.3**
CLCH	**Cerro Calan**	**1.58**	**356**	*e*P	**Pn**	**18 16 10.7**	**-0.5**
CLCH				*i* S	**Sb**	**18 16 31.1**	**-0.6**
CLCH				AMP		18 16 44.4	
	comp=E,226nm,0.5s						
FCH	**Farellones**	**1.65**	**3**	⇓*i*P	**Pn**	**18 16 12.5**	**+0.4**
FCH				*i* S	**Sn**	**18 16 34.6**	**+1.0**
FCH				AMP		18 16 52.2	
	comp=E,142nm,0.6s						
LCCH	**Las Cruces**	**1.78**	**327**	*e*P	**Pn**	**18 16 13.5**	**-0.5**
CCHI	**Chillan**	**2.12**	**220**	⇓*i*P	**Pn**	**18 16 20.3**	**+1.4**
JACH	**Jahuel**	**2.29**	**356**	*i* P	**Pn**	**18 16 23.8**	**+2.4**

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*NEIC **28** 18:19:02.9, 37.02S×177.01E, h209^{km}, After WEL.*

WEL 28 18:19:02.9±0.4, 37.04S×177.10E, h213^{km}±4^{km}, ML3.6/4, Error ellipse: s-maj=5.3km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.09**	**119**	PN	P	18 19 34.6	-0.3
MXZ				SN	S	18 19 58.6	-1.0
MXZ	**Matakaoa Point**	**1.09**	**119**	P	P	18 19 34.6	-0.3
MXZ				S	S	18 19 59.2	-0.4
URZ	**Urewera**	**1.22**	**180**	PN	P	18 19 35.3	-0.5
URZ				SN	S	18 20 00.2	-1.1
URZ	**Urewera**	**1.22**	**180**	P	P	18 19 35.4	-0.4
MWZ	**Matawai**	**1.34**	**165**	PN	P	18 19 36.6	-0.2
MWZ				SN	S	18 20 03.1	+0.2
MWZ	**Matawai**	**1.34**	**165**	P	P	18 19 36.6	-0.2
PUZ	**Puketiti**	**1.38**	**139**	PN	P	18 19 36.9	-0.2
PUZ				SN	S	18 20 02.8	-0.8
PUZ	**Puketiti**	**1.38**	**139**	*e*P	P	18 19 37.0	-0.1
KNZ	**Kokohu**	**2.03**	**167**	PN	P	18 19 42.8	-0.2
KNZ				*e*SN	S	18 20 13.6	-0.3
KNZ	**Kokohu**	**2.03**	**167**	*e*P	P	18 19 42.8	-0.2
BKZ	**Black Stump Fm**	**2.18**	**193**	PN	P	18 19 43.8	-0.8
BKZ				SN	S	18 20 16.3	-0.4
BKZ	**Black Stump Fm**	**2.18**	**193**	P	P	18 19 43.8	-0.8
MGZ	**Maungaku**	**2.31**	**212**	PN	P	18 19 46.2	+0.2
NGZ	**Ngauruhoe**	**2.44**	**209**	PN	P	18 19 47.9	+0.5
TUVZ	**Tukino**	**2.50**	**207**	*e*PN	P	18 19 47.3	-0.8
TUVZ				PN	P	18 19 47.7	-0.4
TUVZ	**Tukino**	**2.50**	**207**	P	P	18 19 47.7	-0.4
WNVZ	**Wahianoa**	**2.57**	**207**	PN	P	18 19 48.2	-0.6
VRZ	**Vera Road**	**2.78**	**221**	PN	P	18 19 51.7	+0.5
PWZ	**Pawanui**	**2.99**	**183**	PN	P	18 19 52.4	-1.2
PWZ	**Pawanui**	**2.99**	**183**	*e*P	P	18 19 52.4	-1.2
TSZ	**Takapari Road**	**3.14**	**196**	PN	P	18 19 53.5	-1.9
TSZ				*e*SN	S	18 20 35.2	-0.8
TSZ	**Takapari Road**	**3.14**	**196**	*e*P	P	18 19 53.8	-1.6
BFZ	**Birch Farm**	**3.69**	**190**	*e*PN	P	18 19 59.9	-2.1
BFZ	**Birch Farm**	**3.69**	**190**	*e*P	P	18 19 59.9	-2.1
MRZ	**Mangatainoka R**	**3.81**	**198**	PN	P	18 20 00.7	-2.6
MRZ				*e*SN	S	18 20 47.7	-2.4
MRZ	**Mangatainoka R**	**3.81**	**198**	*e*P	P	18 20 00.8	-2.6
KIW	**Kapiti Island**	**4.18**	**203**	PN	P	18 20 05.2	-2.8
KIW	**Kapiti Island**	**4.18**	**203**	P	P	18 20 05.5	-2.5
MTW	**Mount Morrison**	**4.30**	**196**	PN	P	18 20 06.5	-2.9
MTW	**Mount Morrison**	**4.30**	**196**	P	P	18 20 06.5	-2.9
CAW	**Cannon Point**	**4.36**	**201**	PN	P	18 20 07.1	-3.1
CAW	**Cannon Point**	**4.36**	**201**	P	P	18 20 07.3	-2.9
MRW	**Makara Radio**	**4.58**	**203**	PN	P	18 20 10.2	-2.8
MRW	**Makara Radio**	**4.58**	**203**	P	P	18 20 10.3	-2.7
MSWZ	**Moikau Station**	**4.60**	**198**	PN	P	18 20 10.3	-2.9
WEL	**Wellington**	**4.61**	**202**	*e*PN	P	18 20 10.3	-3.0
WEL	**Wellington**	**4.61**	**202**	P	P	18 20 10.4	-3.0
TUWZ	**Tuamarina**	**5.02**	**208**	PN	P	18 20 15.2	-3.3
NNZ	**Nelson**	**5.08**	**214**	*e*SN	S	18 21 15.9	-2.6
QRZ	**Quartz Range**	**5.19**	**222**	*e*PN	P	18 20 17.4	-3.4
THZ	**Tophouse**	**5.73**	**213**	*e*PN	P	18 20 24.1	-3.5
THZ	**Tophouse**	**5.73**	**213**	*e*P	P	18 20 24.5	-3.1
KHZ	**Kahutara**	**6.03**	**206**	*e*PN	P	18 20 28.2	-3.3

KHZ	Kahutara	6.03	206	eP	P	18 20 28.4	-3.0
LTZ	Lake Taylor	6.83	211	PN	P	18 20 37.8	-4.0
LTZ	Lake Taylor	6.83	211	eP	P	18 20 37.9	-3.9
MQZ	McQueen’s Vall	7.47	206	eSN	S	18 22 06.4	-7.4

BJI ***28*** *18:19:27.9, 8.80S×157.40E, h10^{km}, mB5.3, mb5.0, Ms5.2, Msz4.8*

IDC ***28*** *18:19:28.0±0.8, 8.86S×157.34E, mb4.6/12, mb1 4.8/13, mb1mx4.7/16, ML3.6/1, MS4.1/4, Ms1 4.1/4, ms1mx3.7/20, Error ellipse: s-maj=28.1km s-min=17.4km az=122.0*

NEIC ***28*** *18:19:28.9±0.5, 8.76S×157.40E, h10^{km}, mb5.0/19, Error ellipse: s-maj=13.6km s-min=9.6km az=117.0*

SYO ***28*** *18:19:28.9, 8.76S×157.40E, h10^{km}, MB5.0*

ISC 28 18:19:27.9±0.5**, 8.75S**±0.06×**157.29E**±0.10**, h10^{km}, n55, σ1^{s}14**/51**, mb4.8**/35**, MS4.4**/5**, 1C-1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.71	105	eP	Pn	18 20 09.0	-3.4
HNR				eS	Sn	18 20 54.0	+8.5
CTA	Charters Tower	15.52	222	eP	P	18 23 08.4	-0.3
	14nm,1.0s						
CTA	Charters Tower	15.52	222	Pn	P	18 23 08.2	-0.5
	0.1nm,0.3s,baz=51,slow=20,SNR=5.6						
CTA				LR	LR	18 28 15.2	
	comp=Z,701nm,20.0s,baz=143,slow=34						
CTAO	Charters Tower	15.52	222	eP	P	18 23 08.4	-0.3
	56nm,1.3s						
CTAO				e		18 23 15.4	
ARMA	Armidale	22.20	193	eP	P	18 24 26.0	-0.1
KAKA	Kakadu	24.76	259	eP	P	18 24 51.0	-0.3
	23nm,1.1s,mb4.6						
WRAB	Tennant Creek	24.81	241	eP	P	18 24 51.1	-0.6
	52nm,0.9s,mb5.1						
WB2	Warramunga Arr	24.81	241	eP	P	18 24 51.9	+0.1
WRA	Warramunga Arr	24.82	241	P	P	18 24 51.5	-0.4
	28nm,0.9s,mb4.8,baz=66,slow=9.4,SNR=71						
WRA				LR	LR	18 34 03.8	
	comp=Z,642nm,19.8s,MS4.1,baz=50,slow=35						
ASAR	Alice Springs	26.84	234	P	P	18 25 09.7	-1.1
	12nm,1.1s,mb4.3,baz=65,slow=9.3,SNR=29						
ASAR				PcP	PcP	18 28 33.2	-0.5
	5.8nm,1.4s,baz=63,slow=3.2,SNR=4.5						
ASAR				LR	LR	18 35 18.2	
	comp=Z,345nm,18.6s,MS3.9,baz=52,slow=35						
ASPA	Alice Springs	26.85	234	eP	P	18 25 09.6	-1.1
STKA	Stephens Creek	27.24	210	eP	P	18 25 16.0	+1.7
	21nm,1.0s,mb4.6						
STKA	Stephens Creek	27.24	210	P	P	18 25 13.8	-0.5
	18nm,0.8s,mb4.6,baz=16,slow=11,SNR=26						
STKA				LR	LR	18 35 09.9	
	comp=Z,324nm,18.1s,MS3.9,baz=20,slow=35						
FITZ	Fitzroy Crossi	32.11	250	eP	P	18 25 56.6	-1.2
	4.8nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	32.11	250	P	P	18 25 56.9	-0.9
	10nm,1.1s,mb4.6,baz=87,slow=5.8,SNR=5.6						
TAU	Tasmania Unive	35.13	193	P	P	18 26 25.1	+1.4
	48nm,1.3s,mb5.3						
MAJO	Matsushiro	48.49	339	P	P	18 28 11.9	-1.1
	19nm,1.1s,mb5.0						
JNU	Nakatsue	48.64	330	P	P	18 28 15.6	+1.4
	18nm,0.9s,mb5.1,baz=91,slow=8.4,SNR=3.7						
QIZ	Qiongzhong	54.31	301	P	P	18 29 01.0	+4.0
	17nm,0.9s,mb5.0						
MDJ	Mudanjiang	58.72	337	P	P	18 29 26.0	-2.3
MDJ				AMB	AMB		
	comp=Z,184nm,4.1s						
CN2	Changchun	59.75	334	eP	P	18 29 35.0	-0.4
CN2				eXP	sP	18 29 42.0	+2.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,600nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.7						
KMI	Kunming	62.88	304	eP	P	18 29 57.8	+1.0
KMI				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.1						
KMI	Kunming	62.88	304	eP	P	18 29 57.7	+0.9
	comp=Z,21nm,1.3s,mb5.1						
KMI				pP	pP	18 30 11.7	+12
CMAR	Chiang Mai Arr	63.59	296	P	P	18 30 01.8	+0.1
	comp=Z,5.3nm,0.9s,mb4.6,baz=125,slow=5.8,SNR=21						
CD2	Chengdu	64.68	310	eP	P	18 30 09.0	+0.4
CD2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.9						
HIA	Hailar	66.47	334	P	P	18 30 17.5	-2.3
	comp=Z,8.3nm,1.0s,mb4.7						
LZH	Lanzhou	67.15	315	eP	P	18 30 23.3	-1.1
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,181nm,5.2s						
LZH				LR	LR		
	comp=N,985nm,16.2s						
LZH				LR	LR		
	comp=Z,1µm,18.1s,MS5.2						
MA2	Magadan	68.30	356	eP	P	18 30 28.7	-2.5
	comp=Z,25nm,1.2s,mb5.1						
SBA	Scott Base	69.25	178	eP	P	18 30 37.3	+0.5
	comp=Z,9.2nm,1.3s,mb4.5						
SONM	Songino Array	72.04	327	P	P	18 30 55.7	+1.6
	comp=Z,3.3nm,0.9s,mb4.2,baz=128,slow=5.3,SNR=5.5						
YAK	Yakutsk	73.76	347	eP	P	18 31 00.5	-3.4
	comp=Z,20nm,1.0s,mb5.0						
LSA	Lhasa	74.13	304	eP	P	18 31 08.6	+1.8
	comp=Z,25nm,1.3s,mb5.0						
PKI	Pulchoki	78.27	300	eP	P	18 31 31.1	+1.0
	comp=Z,17nm,0.9s,mb5.0						
KKN	Kakani	78.44	301	eP	P	18 31 31.8	+0.8
	comp=Z,13nm,0.8s,mb4.9						
DMN	Daman	78.54	300	eP	P	18 31 32.6	+1.0
	comp=Z,37nm,1.1s,mb5.2						
GKN	Gorkha	79.05	301	eP	P	18 31 35.0	+0.6
	comp=Z,53nm,1.3s,mb5.3						
KOLN	Koldanda	79.87	300	eP	P	18 31 38.8	0.0
	comp=Z,24nm,1.0s,mb5.1						
MCK	McKinley	82.84	21	eP	P	18 31 52.3	-1.4
	comp=Z,9.2nm,1.1s,mb4.7						
MAW	Mawson	83.66	203	P	P	18 31 58.0	+0.3
	comp=Z,13nm,1.2s,mb4.9,baz=94,slow=7.1,SNR=10						
ILAR	Eielson Array	84.18	21	P	P	18 31 59.5	-0.9
	comp=Z,1.9nm,1.0s,mb4.2,baz=254,slow=4.8,SNR=8.5						
MKAR	Makanchi Array	86.22	318	P	P	18 32 11.1	+0.1
	comp=Z,6.9nm,1.1s,mb4.8,baz=124,slow=4.4,SNR=16						
MKAR	Makanchi Array	86.22	318	P	P	18 32 11.1	+0.1
KSH	Kashi	88.87	310	eP	P	18 32 27.0	+3.0
KSH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.5						
NVAR	Mina Array Bea	91.03	51	P	P	18 32 34.5	+0.5
	comp=Z,1.5nm,0.9s,mb4.3,baz=241,slow=4.0,SNR=7.7						
SYO	Syowa Base	91.41	199	⇑P	P	18 32 34.9	-0.2
SYO	Syowa Base	91.41	199	⇓P	P	18 32 45.4	+10
BRVK	Borovoye	95.13	323	eP	P	18 32 53.0	+0.5
	comp=Z,5.3nm,1.3s,mb4.8						
YKA	Yellowknife Ar	96.82	28	P	P	18 33 01.8	+1.8
	comp=Z,0.3nm,0.5s,mb3.9,baz=253,slow=3.8,SNR=3.9						
YKA	Yellowknife Ar	96.82	28	P	P	18 33 01.8	+1.8
SNAA	Sanae	98.67	186	eP	P	18 33 07.6	-0.6
	comp=Z,6.1nm,1.4s,mb4.9						
AKASG	Malin Array Be	120.28	325	PKP	PKPdf	18 38 21.5	-1.0
	comp=Z,0.2nm,0.2s,baz=63,slow=2.0,SNR=4.1						
CLL	Collm	128.42	332	ePKIKP	PKPdf	18 38 41.0	+2.7
CLL				e		18 38 54.0	
GERES	GERESS Array B	129.72	329	PKP	PKPdf	18 38 39.3	-1.5
	comp=Z,0.2nm,0.5s,baz=45,slow=1.9,SNR=4.3						
ESDC	Sonseca Array	144.94	334	PKPbc	PKPbc	18 39 07.0	+1.1
	comp=Z,1.1nm,0.7s,baz=23,slow=4.1,SNR=11						
BDFB	Brasilia	145.13	134	PKPbc	PKPbc	18 39 07.3	+0.3
	comp=Z,12nm,1.0s,baz=218,slow=4.0,SNR=10.0						

NIED ***28*** *18:24:00, 32.10N×142.00E, h5^{km}, Mw4.3 Best double couple: $M_0$2.78×10^{15} NP1:ϕ_s323°, δ74°, λ72°. NP2:ϕ_s193°, δ24°, λ137°.*

JMA ***28*** *18:24:00.2±0.4, 32.10N×141.95E, M4.4*

MOS ***28*** *18:24:04.0±1.0, 32.20N×141.94E, h33^{km}, mb4.7/13, Error ellipse: s-maj=24.7km s-min=9.2km az=109.9*

BJI ***28*** *18:24:05.2, 32.07N×141.73E, h46^{km}, mB4.9, mb4.3, Ms4.6, Msz4.1*

IDC ***28*** *18:24:06.3±5.5, 31.98N×141.73E, h35^{km}±43^{km}, mb4.1/15, mb1 4.3/17, mb1mx4.1/26, ML4.2/2, MS4.2/2, Ms1 4.2/2, ms1mx3.5/33, Error ellipse: s-maj=24.7km s-min=14.9km az=83.0*

NEIC ***28*** *18:24:07.2±1.4, 31.99N×141.57E, h38^{km}±12^{km}, mb4.5/16, MW4.3(NIED), Error ellipse: s-maj=11.9km s-min=7.7km az=95.0*

ISC 28 18:24:04.4±1.5**, 31.97N**±0.03×**141.62E**±0.06**, h31^{km}**±10^{km}**, h37^{km}**±1.9^{km}**:pP-P, n99, σ1^{s}11**/113**, mb4.4**/42**, MS4.2**/6**, 1C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.90	307	P	Pn	18 24 37.1	+1.8
JHJ	Hachijo jima 2	1.93	307	Pn	Pn	18 24 37.0	+1.2
	105nm,0.3s,baz=236,slow=18,SNR=5.2						
JHJ				Sn	Sn	18 25 01.8	+2.7
	120nm,0.3s,baz=78,slow=20,SNR=5.2						
BSO1	Boso 1	2.73	349	P	Pn	18 24 45.8	-1.4
BSO1				S	Sn	18 25 19.1	-0.4
BSO3	Boso 3	2.97	342	P	Pn	18 24 49.9	-0.8
BSO3				eS	Sn	18 25 26.3	+0.6
BSO4	Boso 4	3.20	341	P	Pn	18 24 53.3	-0.5
BSO4				S	Sn	18 25 33.3	+2.0
JOD2	Odawara 2	3.90	328	P	Pn	18 25 03.4	-0.5
JYN	Shimob	4.35	325	P	Pn	18 25 11.2	+1.0
JRY	Ryogami san	4.62	332	P	Pn	18 25 14.1	0.0
JRY				eS	Sn	18 26 08.1	+0.7
JAG	Ashikaga	4.79	339	P	Pn	18 25 16.1	-0.4
JAG				S	Sn	18 26 09.3	-2.4
CBIJ	Chichi jima	4.88	174	Sn	Sn	18 26 08.7	-5.3
	26nm,0.3s,baz=287,slow=20,SNR=2.7						
MAJO	Matsushiro	5.36	329	ePn	Pn	18 25 24.3	-0.3
MAT	Matsushiro	5.36	329	P	Pn	18 25 24.3	-0.2
MAT				S	Sn	18 26 24.7	-1.3
MAT	Matsushiro	5.36	329	P	Pn	18 25 24.6	+0.1
MAT	Matsushiro	5.36	329	eP	Pn	18 25 24.0	-0.5
	30nm,0.5s						
MAT				eS	Sn	18 26 25.0	-1.0
JMK	Ichinoseki	6.97	357	P	Pn	18 25 42.7	-4.5
JMK				eS	Sn	18 26 55.3	-11
ASAJ	Asahikawa	12.15	3	Pn	P	18 26 52.0	-6.5
	0.9nm,0.3s,baz=253,slow=5.5,SNR=7.1						
ASAJ				Sn	S	18 28 60.0	-14
	1.3nm,0.3s,baz=342,slow=19,SNR=4.7						
ASAJ				LR	LR	18 32 45.6	
	comp=Z,299nm,18.5s,baz=73,slow=43						
ASAJ	Asahikawa	12.15	3	P	P	18 26 52.0	-6.4
ASAJ						18 29 00.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,299nm,18.5s						
JOW	Kunigami	12.71	250	Pn	P	18 27 04.9	-0.9
	comp=Z,5.2nm,0.3s,baz=101,slow=14,SNR=2.3						
YSS	Yuzh-Sakhalins	14.99	3	eP	P	18 27 32.0	-3.8
YSS	Yuzh-Sakhalins	14.99	3	eP	P	18 27 29.6	-6.1
	comp=Z,13nm,0.9s						
MDJ	Mudanjiang	15.74	327	P	P	18 27 45.0	-0.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,246nm,4.3s						
MDJ	Mudanjiang	15.74	327	P	P	18 27 48.5	+3.0
	comp=Z,7.9nm,0.8s						
CN2	Changchun	17.35	317	eP	P	18 28 06.5	+0.6
SSE	Sheshan	17.44	273	P	P	18 28 07.3	+0.2
SSE				AMB	AMB		
	comp=Z,48nm,0.7s						
SSE				AMB	AMB		
	comp=Z,546nm,5.5s						
SSE	Sheshan	17.44	273	P	P	18 28 07.2	+0.1
	comp=Z,48nm,0.7s						
KLR	Kul’dur	18.77	340	eP	P	18 28 19.8	-3.5
NJ2	Nanjing	19.30	276	eP	P	18 28 30.5	+0.8
NJ2				AP		18 28 38.5	
NJ2				S	S	18 31 57.8	-2.5
NJ2				LR	LR		
	comp=N,2µm,19.4s						
NJ2				LR	LR		
	comp=E,3µm,14.7s						
NJ2				LR	LR		
	comp=Z,4µm,16.5s						
HIA	Hailar	23.82	323	eP	P	18 29 15.4	0.0
	comp=Z,8.0nm,0.7s,mb4.3						
XAN	Xi’an	27.44	283	P	P	18 29 47.5	-2.0
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
GYA	Guiyang	30.91	269	P	P	18 30 22.5	+1.9
GYA				AP	pP	18 30 34.8	+5.1
GYA				XP	sP	18 30 39.5	+5.8
GYA				PP	PP	18 31 25.3	+2.7
GYA				PPP	PPP	18 31 45.0	+7.5
GYA				S	S	18 35 22.5	+0.9
GYA				XS		18 35 42.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				LR	LR		
	comp=N,150nm,15.2s,MS4.0						
GYA				LR	LR		
	comp=E,240nm,14.8s,MS4.0						
GYA				LR	LR		
	comp=Z,260nm,15.0s,MS4.0						
SONM	Songino Array	31.00	311	P	P	18 30 22.5	+1.2
	comp=Z,1.8nm,0.5s,mb4.1,baz=120,slow=9.9,SNR=16						
YAK	Yakutsk	31.05	349	eP	P	18 30 19.8	-1.7
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
YAK	Yakutsk	31.05	349	eP	P	18 30 19.4	-2.1
	comp=Z,7.9nm,0.6s,mb4.7						
QIZ	Qiongzhong	31.32	253	P	P	18 30 32.3	+8.0
	comp=Z,48nm,1.2s,mb5.2						
LZH	Lanzhou	31.44	288	eP	P	18 30 25.5	+0.2
LZH				AP	pP	18 30 35.3	+1.0
LZH				PP	PP	18 31 29.8	+0.4
LZH				eS	S	18 35 26.5	-3.4
LZH				eSS	SS	18 37 15.0	-3.4
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,133nm,4.3s						
LZH				LR	LR		
	comp=E,920nm,10.3s						
LZH				LR	LR		
	comp=Z,2µm,14.2s,MS4.9						
ZAK	Zakamensk	33.74	314	eP	P	18 30 43.4	-1.7
GTA	Gaotai	34.51	294	eP	P	18 30 51.0	-0.9
GTA				AP	pP	18 31 01.5	+0.5
GTA				S	S	18 36 13.0	-4.5
GTA				SCS	ScS	18 41 06.8	-2.9
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
GTA				LR	LR		
	comp=N,114nm,12.6s						
GTA				LR	LR		
	comp=E,91nm,17.9s						
GTA				LR	LR		
	comp=Z,125nm,18.2s						
WMQ	Urumqi	43.46	302	eP	P	18 32 07.3	+1.0
WMQ				AP	pP	18 32 18.8	+3.3
WMQ				XP	sP	18 32 23.8	+4.5
WMQ				PP	PP	18 33 50.5	+1.2
WMQ				PCP	PcP	18 33 55.3	+0.7
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
WMQ				LR	LR		
	comp=E,49nm,18.6s						
ZAL	Zalesovo	45.58	316	LR	LR	18 50 20.5	
	comp=E,903nm,19.1s,MS4.7,baz=97,slow=34						
NVS	Novosibirsk	46.56	317	i P	P	18 32 29.8	-1.1
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
MKAR	Makanchi Array	47.10	306	P	P	18 32 35.8	+0.5
	comp=Z,9.3nm,0.5s,mb5.0,baz=94,slow=7.7,SNR=63						
MKAR	Makanchi Array	47.10	306	eP	P	18 32 35.9	+0.6
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KURK	Kurchatov	49.30	312	P	P	18 32 52.1	-0.2
	comp=Z,115nm,0.6s,SNR=7.7						
KURK	Kurchatov	49.30	312	i P	P	18 32 52.5	+0.2
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KURK	Kurchatov	49.30	312	eP	P	18 32 52.6	+0.2
	comp=Z,12nm,0.6s,mb5.1						
CTAO	Charters Tower	51.95	174	eP	P	18 33 14.3	+1.4
	comp=Z,8.7nm,1.0s,mb4.6						
WRAB	Tennant Creek	52.07	189	eP	P	18 33 12.9	-1.0
	comp=Z,12nm,0.6s,mb5.0						
WB2	Warramunga Arr	52.08	189	eP	P	18 33 12.9	-1.0
WRA	Warramunga Arr	52.08	189	P	P	18 33 12.9	-1.0
	comp=Z,5.7nm,0.6s,mb4.7,baz=5.2,slow=7.6,SNR=107						
WRA	Warramunga Arr	52.08	189	P	P	18 33 12.9	-1.0
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FITZ	Fitzroy Crossi	52.09	199	eP	P	18 33 16.2	+2.2
	comp=Z,3.0nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	52.09	199	P	P	18 33 13.2	-0.8
	comp=Z,2.2nm,0.6s,mb4.3,baz=21,slow=12,SNR=12						
ILAR	Eielson Array	53.73	30	P	P	18 33 23.0	-2.5
	comp=Z,2.1nm,0.7s,mb4.2,baz=270,slow=6.1,SNR=6.5						
ILAR	Eielson Array	53.73	30	P	P	18 33 23.0	-2.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VOSK	Vostochnaya	53.87	315	P	P	18 33 26.1	-0.6
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
BRVK	Borovoye	54.25	315	eP	P	18 33 29.7	+0.2
	comp=Z,8.2nm,1.2s,mb4.5						
ZRNK	Zerenda	55.03	315	P	P	18 33 34.8	-0.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	Zerenda	55.03	315	eP	P	18 33 34.1	-1.1
	comp=Z,5.9nm,0.9s,mb4.6						
ASAR	Alice Springs	55.81	189	P	P	18 33 40.1	-1.1
	comp=Z,1.4nm,0.5s,mb4.2,baz=7.5,slow=7.9,SNR=69						
ASPA	Alice Springs	55.81	189	eP	P	18 33 40.4	-0.8
KKAR	Karatay Array	55.92	303	i P	P	18 33 41.8	0.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ARU	Arti	60.32	321	⇑iP	P	18 34 11.6	-0.8
ARU				i		18 34 52.1	
ARU				i		18 36 21.3	
ARU				eS	S	18 42 21.6	-1.3
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	Arti	60.32	321	eP	P	18 34 11.5	-0.9
	comp=Z,5.3nm,0.6s,mb4.8						
AB31	Akbulak array	61.40	312	eP	P	18 34 19.4	-0.4
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
DLBC	Dease Lake	62.55	36	P	P	18 34 28.3	+0.9
OBN	Obninsk	72.27	324	eP	P	18 35 28.3	-0.2
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
KAF	Kangasniemi	72.89	334	ep	P	18 35 30.7	-1.2
	comp=Z,1.2nm,0.4s,mb4.2						
KAF	Kangasniemi	72.89	334	eP	P	18 35 30.7	-1.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	73.38	333	P	P	18 35 34.2	-0.6
	comp=Z,3.1nm,0.8s,mb4.3,baz=76,slow=7.9,SNR=18						
FINES	FINESS Array B	73.38	333	P	P	18 35 34.2	-0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	73.38	333	P	P	18 35 34.2	-0.6
NEW	Newport	73.68	43	P	P	18 35 38.0	+1.2
	comp=Z,2.1nm,0.7s,mb4.2						
SOC	Sochi	76.43	313	eP	P	18 35 52.7	0.0
SOC				e		18 38 47.1	
SOC				eS	S	18 45 30.7	-3.8
SOC				ePS	PS	18 45 50.2	-27
SOC				e		18 46 11.5	
SOC				eSSS	SSS	18 53 40.4	-7.3
SOC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
SOC				pmax	pmax		
	comp=N,4.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,9.0nm,1.0s						
SOC				MLR	MLR		
	comp=N,61nm,17.0s,MS4.1						
SOC				MLR	MLR		
	comp=Z,85nm,17.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,59nm,18.0s,MS4.1						
CMB	Columbia Colle	76.71	53	eP	P	18 35 56.4	+2.1
	comp=E,2.5nm,0.9s,mb4.1						
HLID	Hailey	77.72	46	eP	P	18 36 02.5	+2.7
	comp=E,1.9nm,1.1s,mb3.9						
NVAR	Mina Array Bea	77.92	52	P	P	18 36 01.4	+0.4
	comp=E,0.7nm,0.6s,mb3.7,baz=299,slow=3.6,SNR=7.0						
UMR	Umm Al-Rimmam	77.98	297	eP	P	18 36 04.6	+3.0
MIB	Mutribah	78.14	298	eP	P	18 36 03.0	+0.6
MIB				AMb	AMB	18 36 07.2	
	comp=Z,10nm,0.6s,mb5.0						
MIB	Mutribah	78.14	298	eP	P	18 36 03.0	+0.6
MIB				AMb	AMB	18 36 07.1	
	comp=Z,10nm,0.6s,mb4.9						
KBD	Kabd	78.19	297	eP	P	18 36 03.8	+1.1
QRN	Al-Qurain	78.23	296	eP	P	18 36 03.3	+0.4
AKASG	Malin Array Be	78.42	323	P	P	18 36 03.1	-0.3
	comp=Z,0.4nm,0.3s,mb3.8,baz=43,slow=5.4,SNR=5.1						
RDF	Al-Radifah	78.42	297	eP	P	18 36 04.6	+0.6
RDF				AMb	AMB	18 36 09.0	
	comp=Z,12nm,0.8s,mb4.8						
RST	Umm Al-Ruwaisa	78.55	298	eP	P	18 36 05.1	+0.5
RST				AMb	AMB	18 36 06.5	
	comp=Z,12nm,0.9s,mb4.8						
RST	Umm Al-Ruwaisa	78.55	298	eP	P	18 36 05.0	+0.4
RST				AMb	AMB	18 36 09.3	
	comp=Z,12nm,0.9s,mb4.8						
HFS	Hagfors	78.77	336	P	P	18 36 04.4	-0.8
	comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=3.0,SNR=8.5						
HFS	Hagfors	78.77	336	P	P	18 36 04.4	-0.8
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	78.92	338	P	P	18 36 05.8	-0.2
	comp=Z,1.4nm,0.6s,mb4.1,baz=41,slow=5.3						
NOA	NORSAR Array B	78.92	338	P	P	18 36 05.9	-0.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=41,slow=5.5,SNR=5.9						
NOA	NORSAR Array B	78.92	338	P	P	18 36 05.9	-0.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	Pinedale Array	81.11	45	P	P	18 36 18.4	+0.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=304,slow=5.3,SNR=4.4						
BRTR	Keskin Array B	82.35	312	P	P	18 36 25.4	+0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=124,slow=4.5,SNR=3.8						
BRTR	Keskin Array B	82.35	312	P	P	18 36 25.4	+0.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRU	San Rafael	82.63	48	eP	P	18 36 26.2	+0.1
MLR	Muntele Rosu	83.37	320	P	P	18 36 29.9	+0.2
	comp=Z,1.6nm,0.4s,mb4.4,baz=157,slow=17,SNR=4.5						
MLR	Muntele Rosu	83.37	320	P	P	18 36 29.9	+0.2
MLR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PV01	Paradox Valley	84.44	48	eP	P	18 36 36.2	+0.9
CLL	Collm	85.57	331	P	P	18 36 41.0	+0.4
TXAR	Lajitas Array	93.07	53	P	P	18 37 17.2	+0.7
	comp=Z,1.3nm,0.7s,mb4.5,baz=306,slow=4.9,SNR=14						

GUC 28 18:25:24.3±1.0**, 35.00S**×**70.55W, h4^{km}**±3^{km}**, MD3.9, ML3.4, 9C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	315	⇓iP	Pg	18 25 35.0	-0.1
NICH	Los Niches	0.56	269	⇓iP	Pg	18 25 35.1	-0.3
NICH				i S	Sg	18 25 44.6	+1.7
CICH	Cipreses	0.69	9	⇓iP	Pg	18 25 37.1	-0.9
CACH	El Canelo	0.88	357	⇑iP	Pb	18 25 40.5	-1.3
CACH				i S	Sg	18 25 53.2	-0.4
TALC	Talca	0.97	245	⇓iP	Pb	18 25 41.5	-1.9
TALC				i S	Sb	18 25 55.2	-1.2
TALC				AMP		18 25 55.7	
	comp=E,3µm,0.1s						
CHCH	Chadas Angostu	1.07	356	⇓iP	Pb	18 25 44.2	-0.8
LMEL	Las Melosas	1.18	14	⇑iP	Pb	18 25 45.9	-1.1
LMEL				i S	Sb	18 26 03.0	+0.5

LMEL				AMP		18 26 09.4	
	comp=N,453nm,0.1s						
LNV	**Longovilo**	**1.26**	**325**	⇑*i*P	Pb	18 25 47.2	-1.1
LNV				*i* S	Sb	18 26 04.7	0.0
PCH	**Pirque**	**1.38**	**1**	⇓*i*P	Pb	18 25 49.5	-0.8
PCH				*i* S	Sb	18 26 08.5	+0.4
TACH	**Talagante**	**1.38**	**347**	⇑*i*P	Pb	18 25 49.5	-0.9
TACH				*i* S	Sb	18 26 08.0	-0.2
ANTU	**Antumapu**	**1.43**	**357**	⇑*i*P	Pn	18 25 50.5	-0.6
ANTU				*i* S	Sb	18 26 10.5	+0.9
ANTU				AMP		18 26 12.6	
	comp=E,897nm,0.3s						
DSCH	**Colegio Aleman**	**1.60**	**359**	⇑*i*P	Pn	18 25 53.1	-0.4
DSCH				AMP		18 26 20.0	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**1.60**	**0**	⇑*i*P	Pn	18 25 53.3	-0.3
CLCH				*i* S	Sb	18 26 14.4	-0.2
CLCH				AMP		18 26 36.0	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**1.68**	**7**	⇑*i*P	Pn	18 25 54.8	0.0
FCH				*i* S	Sb	18 26 18.3	+1.3
FCH				AMP		18 26 30.6	
	comp=N,590nm,0.4s						
LCCH	**Las Cruces**	**1.74**	**331**	⇓*i*P	Pn	18 25 55.1	-0.4
CCHI	**Chillan**	**2.02**	**217**	*e*P	Pn	18 25 59.4	-0.2
CCHI				*i* S	Sn	18 26 26.1	+0.4
CCHI				AMP		18 26 32.1	
	comp=N,705nm,0.7s						
JACH	**Jahuel**	**2.31**	**359**	⇑*i*P	Pn	18 26 04.8	+1.0

*MDD **28** 18:25:52.7±0.4, 41.09N×2.04W, h11^{km}, mbLg1.9/9, Error ellipse: s-maj=4.6km s-min=2.9km az=107.0, PRXIMO*

*LDG **28** 18:25:55.8±0.4, 41.82N×2.45W, h2^{km}, Ml2.2/3, Error ellipse: s-maj=8.5km s-min=6.5km az=143.0*

ISC 28 18:25:48.1±0.6, **41.09N**±0.03×**2.08W**±0.04, **h0**^{km}±4^{km}, **n15, σ1^{s}.29**/31, **1C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETOR	**Torete**	**0.27**	**176**	⇓Pg	**Pg**	**18 25 58.0**	**+4.5**
	3.1nm,0.1s,SNR=18						
ETOR				Lg		18 26 02.0	
	25nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**62**	⇑Pg	**Pg**	**18 26 16.9**	**+1.5**
	4.7nm,0.2s,SNR=18						
ESAC				Lg		18 26 34.4	
	32nm,0.1s,SNR=5.0						
EMOS	**Mosqueruela**	**1.42**	**120**	Pg	**Pg**	**18 26 18.4**	**+1.8**
	0.7nm,0.1s,SNR=6.0						
EMOS				Lg		18 26 37.2	
	2.5nm,0.1s,SNR=5.0						
ESDC	**Sonseca Array**	**2.02**	**226**	Pn	**Pn**	**18 26 25.5**	**+1.8**
	1.9nm,0.1s,baz=46,slow=14,SNR=14						
ESDC				Pg	**Pg**	**18 26 29.4**	**+1.0**
	1.4nm,0.1s,baz=47,slow=18,SNR=14						
ESDC				Sn	**Sn**	**18 26 49.7**	**-0.2**
	0.6nm,0.1s,baz=46,slow=25,SNR=5.3						
ESDC				Lg		18 26 56.2	
	4.3nm,0.4s,baz=47,slow=30,SNR=13						
SJPF	**Ste Jean**	**2.12**	**17**	*e*Sn	**Sn**	**18 26 42.8**	**-10**
	3.9nm,0.4s						
ETSF	**Etsaut**	**2.13**	**32**	*e*Pn	**Pn**	**18 26 26.6**	**+1.2**
ETSF				*e*Sn	**Sn**	**18 26 47.4**	**-5.6**
	2.4nm,0.2s						
EALK	**Alkurruntz**	**2.17**	**11**	Pn	**Pn**	**18 26 27.8**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
EALK				Pg	**Pg**	**18 26 30.6**	**-0.8**
	1.3nm,0.3s,SNR=7.9						
EALK				Sn	**Sn**	**18 26 54.1**	**+0.1**
	3.3nm,0.3s,SNR=7.9						
EALK				Lg		18 26 59.9	
	4.4nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**2.37**	**335**	Pn	**Pn**	**18 26 32.0**	**+3.3**
	0.1nm,0.1s,SNR=4.0						
ELAN				Pg	**Pg**	**18 26 35.3**	**0.0**
	1.0nm,0.3s,SNR=4.0						
ELAN				Sn	**Sn**	**18 26 58.4**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
ELAN				Lg		18 27 06.1	
	1.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**83**	Pn	**Pn**	**18 26 30.3**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**18 26 35.9**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**18 26 58.5**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		18 27 06.2	
	1.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.48**	**170**	Pg	**Pg**	**18 26 35.6**	**-1.9**
	0.4nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**18 27 00.9**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
ETOB				Lg		18 27 11.6	
	1.4nm,0.2s,SNR=7.9						
EPF	**Esparros**	**2.65**	**42**	*e*Pn	**Pn**	**18 26 33.2**	**+0.4**
EPF				*e*Pg	**Pg**	**18 26 40.1**	**-0.9**
EPF				*e*Sn	**Sn**	**18 27 02.6**	**-3.4**
EPF				*e*Sg	**Sg**	**18 27 10.8**	**-5.5**
	3.8nm,0.3s						
EMIR	**Miracle**	**2.83**	**72**	Pg	**Pg**	**18 26 43.2**	**-1.4**
	3.0nm,0.4s,SNR=7.9						
EMIR				Lg		18 27 20.7	
	SNR=7.9						
EQES	**Quesada**	**3.37**	**193**	Pg	**Pg**	**18 26 54.0**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
EQES				Lg		18 27 38.8	
	0.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.50**	**214**	Pn	**Pn**	**18 26 46.1**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**18 26 57.6**	**-0.3**
	0.3nm,0.1s,SNR=7.9						
EADA				Lg		18 27 42.7	
	1.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.60**	**285**	Pn	**Pn**	**18 26 47.3**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
ECAL				Pg	**Pg**	**18 26 58.0**	**-1.9**
	1.0nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**18 27 28.7**	**-1.4**
	0.3nm,0.2s,SNR=4.0						
ECAL				Lg		18 27 45.6	
	1.0nm,0.2s,SNR=7.9						

*NEIC **28** 18:28:17.5, 34.95S×70.48W, h4^{km}, ML2.6(GUC), After GUC.*

GUC 28 18:28:17.5±0.8, **34.95S×70.48W, h4**^{km}**, MD3.5, ML2.6, 1C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.55**	**307**	⇓*i*P	Pg	18 28 28.5	-0.1
SFDO				*i* S	Sg	18 28 37.2	+1.2
NICH	**Los Niches**	**0.62**	**265**	*e*P	Pg	18 28 29.4	-0.5
NICH				*i* S	Sg	18 28 39.7	+1.6
CICH	**Cipreses**	**0.63**	**4**	⇓*i*P	Pg	18 28 29.2	-1.0
CICH				*i* S	Sg	18 28 38.7	+0.1
CACH	**El Canelo**	**0.84**	**353**	*i* P	Pb	18 28 32.4	-1.8
CACH				*i* S	Sg	18 28 45.2	-0.3
CHCH	**Chadas Angostu**	**1.03**	**352**	*e*P	Pb	18 28 36.6	-0.9
CHCH				*i* S	Sb	18 28 51.5	+0.4
LNV	**Longovilo**	**1.26**	**322**	⇑*i*P	Pb	18 28 40.3	-1.1
LNV				*i* S	Sb	18 28 58.4	+0.6
PCH	**Pirque**	**1.33**	**359**	*e*P	Pb	18 28 41.8	-0.8
TACH	**Talagante**	**1.35**	**344**	⇓*i*P	Pb	18 28 42.3	-0.7
TACH				*i* S	Sb	18 29 00.9	+0.4
CLCH	**Cerro Calan**	**1.55**	**358**	*e*P	Pn	18 28 46.6	+0.6
CLCH				AMP		18 29 16.1	
	comp=E,187nm,0.6s						
FCH	**Farellones**	**1.63**	**6**	*i* P	Pn	18 28 47.1	0.0
FCH				*i* S	Sb	18 29 09.2	+0.7
FCH				AMP		18 29 13.3	
	comp=E,115nm,0.1s						
LCCH	**Las Cruces**	**1.73**	**328**	⇓*i*P	Pn	18 28 48.4	-0.2

*NEIC **28** 18:32:28.4, 35.02S×70.51W, h6^{km}, ML3.5(GUC), After GUC.*

GUC 28 18:32:28.4±1.0, **35.02S×70.51W, h6**^{km}±3^{km}**, MD3.9, ML3.5, 5C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**314**	⇑*i*P	Pg	18 32 39.7	-0.2
NICH	**Los Niches**	**0.59**	**271**	⇓*i*P	Pg	18 32 40.4	+0.2
NICH				*i* S	Sg	18 32 49.7	+1.6
CICH	**Cipreses**	**0.70**	**6**	⇓*i*P	Pg	18 32 41.4	-1.1
CICH				*i* S	Sg	18 32 52.0	+0.1
CACH	**El Canelo**	**0.90**	**355**	⇑*i*P	Pb	18 32 45.0	-1.1
CACH				*i* S	Sb	18 32 57.8	-0.3
TALC	**Talca**	**0.99**	**247**	⇓*i*P	Pb	18 32 46.9	-0.7
TALC				*i* S	Sb	18 33 00.9	+0.1
CHCH	**Chadas Angostu**	**1.09**	**354**	⇓*i*P	Pb	18 32 48.6	-0.7
LMEL	**Las Melosas**	**1.20**	**12**	⇑*i*P	Pb	18 32 50.1	-1.0
LMEL				*i* S	Sb	18 33 06.9	+0.2
LMEL				AMP		18 33 15.2	
	comp=N,530nm,0.3s						
LNV	**Longovilo**	**1.29**	**325**	⇓*i*P	Pb	18 32 51.7	-1.1
LNV				*i* S	Sb	18 33 09.4	-0.2
PCH	**Pirque**	**1.40**	**360**	*e*P	Pn	18 32 53.8	-0.7
TACH	**Talagante**	**1.41**	**345**	⇓*i*P	Pn	18 32 53.8	-0.8
TACH				*i* S	Sb	18 33 12.7	-0.1
ANTU	**Antumapu**	**1.45**	**356**	*e*P	Pn	18 32 54.9	-0.4
ANTU				*i* S	Sb	18 33 14.3	+0.3
ANTU				AMP		18 33 16.6	
	comp=E,1μm,0.4s						
SAN	**Santiago**	**1.57**	**355**	*e*P	Pn	18 32 56.5	-0.5
SAN				*i* S	Sb	18 33 17.6	+0.1
SAN				AMP		18 33 19.9	
	comp=E,1μm,0.4s						
DSCH	**Colegio Aleman**	**1.62**	**358**	⇑*i*P	Pn	18 32 58.0	+0.3
DSCH				AMP		18 33 30.1	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.62**	**359**	*e*P	Pn	18 32 57.5	-0.2
CLCH				*i* S	Sb	18 33 19.1	+0.1
CLCH				AMP		18 33 32.8	
	comp=E,1μm,0.8s						
FCH	**Farellones**	**1.70**	**6**	⇑*i*P	Pn	18 32 59.0	+0.2
FCH				*i* S	Sn	18 33 22.4	+1.3
FCH				AMP		18 33 24.5	
	comp=N,510nm,0.3s						
LCCH	**Las Cruces**	**1.77**	**330**	*e*P	Pn	18 32 59.8	-0.1
CCHI	**Chillan**	**2.03**	**218**	*i* P	Pn	18 33 04.4	+0.8
CCHI				AMP		18 33 35.9	
	comp=E,562nm,0.5s						
IHA	**Instituto Hidr**	**2.20**	**334**	*e*P	Pn	18 33 06.8	+0.7

MEX 28 18:34:09.6±0.5, **17.01N×98.37W, h30**^{km}**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**159**	*e*P	Pb	18 34 20.7	-1.8
PNIG				*e*S	Sb	18 34 28.7	-2.6
VHO	**Vista Hermosa**	**1.57**	**87**	*e*P	Pn	18 34 33.3	-2.6
VHO				*e*S	Sn	18 34 52.4	-3.0
CMIG	**Matias Romero**	**3.34**	**88**	*e*P	Pn	18 34 59.2	-1.9
CMIG				*e*S	Sn	18 35 37.9	-2.3

*IDC **28** 18:35:19.1±3.3, 17.57S×175.26W, h277^{km}±32^{km}, mb3.9/8, mb1 4.0/8, mb1mx3.7/17, Error ellipse: s-maj=28.4km s-min=18.4km az=133.0*

ISC 28 18:35:16.4±3.8, **17.5S**±0.2×**175.2W**±0.2, **h267**^{km}±40^{km}, **n16, σ0^{s}.82**/15, **mb4.0**/9, **1C-2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.75**	**196**	P	**P**	**18 39 47.7**	**+0.5**
	8.7nm,0.5s,mb4.3,baz=296,slow=9.0,SNR=13						
RPZ	**Rata Peaks**	**28.60**	**201**	P	**P**	**18 40 49.2**	**-1.0**
	9.1nm,0.9s,mb4.2,baz=26,slow=6.3,SNR=3.4						
ARMA	**Armidale**	**32.77**	**241**	*e*P	**P**	**18 41 27.6**	**+0.9**
CTA	**Charters Tower**	**36.50**	**260**	⇑*i*P	**P**	**18 41 58.4**	**+0.2**
	5.0nm,0.9s,mb4.0						
CTA	**Charters Tower**	**36.50**	**260**	P	**P**	**18 41 57.7**	**-0.6**
	5.9nm,0.8s,mb4.2,baz=89,slow=7.1,SNR=6.4						
STKA	**Stephens Creek**	**41.48**	**241**	*e*P	**P**	**18 42 40.5**	**+1.3**
	5.3nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**41.48**	**241**	P	**P**	**18 42 39.3**	**+0.1**
	5.8nm,0.6s,mb4.0,baz=73,slow=7.9,SNR=11						
WB2	**Warramunga Arr**	**47.67**	**259**	⇓*i*P	**P**	**18 43 27.5**	**-0.8**
WRA	**Warramunga Arr**	**47.68**	**259**	P	**P**	**18 43 27.6**	**-0.7**
	5.5nm,0.8s,mb4.0,baz=96,slow=7.3,SNR=162						
ASAR	**Alice Springs**	**47.81**	**254**	P	**P**	**18 43 29.5**	**+0.2**
	24nm,0.7s,mb4.7,baz=88,slow=8.5,SNR=270						
ASAR				S	**S**	**18 50 04.3**	**-0.3**
	0.2nm,0.8s,baz=84,slow=16,SNR=4.7						
ASPA	**Alice Springs**	**47.82**	**254**	⇓*i*P	**P**	**18 43 29.4**	**0.0**
KAKA	**Kakadu**	**50.66**	**268**	*e*P	**P**	**18 43 50.3**	**-0.6**
	4.4nm,0.4s,mb4.1						
ILAR	**Eielson Array**	**84.83**	**12**	P	**P**	**18 47 21.2**	**-0.5**
	0.4nm,0.4s,mb3.6,baz=227,slow=5.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**91.61**	**289**	P	**P**	**18 47 56.9**	**+2.0**
	0.6nm,0.8s,mb3.6,SNR=4.9						
BRTR	**Keskin Array B**	**146.58**	**317**	PKPbc	PKPbc	18 54 28.3	+2.1
	1.0nm,0.5s,baz=90,slow=2.9,SNR=6.2						
GERES	**GERESS Array B**	**147.90**	**349**	PKPbc	PKPdf	18 54 31.4	+5.0
	0.6nm,0.6s,baz=27,slow=3.0,SNR=7.7						

*NEIC **28** 18:36:13.7, 35.02S×70.51W, h4^{km}, ML2.8(GUC), After GUC.*

GUC 28 18:36:13.7±0.7, **35.02S×70.51W, h4**^{km}**, MD3.4, ML2.8, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**314**	⇑*i*P	Pg	18 36 23.9	-1.3
SFDO				*i* S	Sg	18 36 33.3	+0.3
NICH	**Los Niches**	**0.59**	**271**	⇓*i*P	Pg	18 36 25.6	0.0
NICH				*i* S	Sg	18 36 34.5	+1.0
CICH	**Cipreses**	**0.70**	**6**	⇓*i*P	Pg	18 36 27.1	-0.6
CICH				*i* S	Sg	18 36 36.9	-0.1
CACH	**El Canelo**	**0.90**	**355**	⇑*i*P	Pb	18 36 30.6	-0.9
CACH				*i* S	Sb	18 36 43.7	0.0
CHCH	**Chadas Angostu**	**1.09**	**354**	*e*P	Pb	18 36 34.0	-0.8
CHCH				*i* S	Sb	18 36 49.5	+0.4
LMEL	**Las Melosas**	**1.20**	**12**	⇑*i*P	Pb	18 36 35.9	-0.6
LMEL				*i* S	Sb	18 36 52.6	+0.4
LMEL				AMP		18 36 54.3	
	comp=N,272nm,0.1s						
LNV	**Longovilo**	**1.30**	**325**	⇑*i*P	Pb	18 36 37.3	-0.9
LNV				*i* S	Sb	18 36 54.8	-0.3
PCH	**Pirque**	**1.40**	**360**	*e*P	Pb	18 36 39.4	-0.6
TACH	**Talagante**	**1.41**	**345**	*e*P	Pn	18 36 38.8	-1.4
TACH				*i* S	Sb	18 36 58.5	+0.2
CLCH	**Cerro Calan**	**1.62**	**359**	⇑*i*P	Pn	18 36 43.5	+0.3
CLCH				*i* S	Sb	18 37 05.4	+0.9
CLCH				AMP		18 37 10.4	
	comp=E,298nm,0.4s						
FCH	**Farellones**	**1.70**	**6**	⇑*i*P	Pn	18 36 44.8	+0.4
FCH				*i* S	Sn	18 37 07.9	+1.2
FCH				AMP		18 37 18.4	
	comp=N,177nm,0.3s						
LCCH	**Las Cruces**	**1.77**	**330**	⇑*i*P	Pn	18 36 45.4	0.0
LCCH				*i* S	Sn	18 37 09.0	+0.3

*MDD **28** 18:40:49.5±0.6, 42.26N×7.33W, h14^{km}±7^{km}, mbLg2.1/10, Error ellipse: s-maj=6.4km s-min=4.8km az=77.0, PRXIMO*

*INMG **28** 18:40:50.7±1.0, 42.23N×7.35W, ML1.8, Error ellipse: s-maj=2.6km s-min=1.9km az=109.0*

ISC 28 18:40:49.0±0.7, **42.25N**±0.03×**7.34W**±0.06, **h14**^{km}**, n15, σ1^{s}.09**/15, **1C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.20**	**47**	Pg	**Pg**	**18 40 54.6**	**+0.8**
	SNR=53						
ERUA				Lg		18 40 57.9	
	93nm,0.2s,SNR=13						
ECAL	**Calabor**	**0.55**	**125**	Pg	**Pg**	**18 41 00.7**	**+0.5**
	2.5nm,0.1s,SNR=41						
ECAL				Lg		18 41 07.9	
	79nm,0.2s,SNR=5.0						
PBRG	**Braganca**	**0.63**	**135**	*e*Pg	**Pg**	**18 41 02.0**	**+0.1**
PBRG				*e*Sg	**Sg**	**18 41 10.3**	**-0.2**
	35nm,0.3s						
PBRG	**Braganca**	**0.63**	**135**	Pg	**Pg**	**18 41 02.0**	**+0.1**
PBRG				Lg		18 41 10.3	
	18nm,0.3s						
ELOB	**Lobios**	**0.66**	**234**	⇑Pg	**Pg**	**18 41 03.2**	**+0.8**
	9.5nm,0.1s,SNR=18						
ELOB				Lg		18 41 12.0	
	24nm,0.1s,SNR=5.0						
EZAM	**Zamans**	**1.01**	**265**	Pg	**Pg**	**18 41 09.4**	**+0.1**
	4.0nm,0.1s,SNR=7.6						
EZAM				Lg		18 41 22.6	
	2.3nm,0.1s,SNR=5.0						
PVRL	**Vila Real**	**1.02**	**196**	*e*P	**Pg**	**18 41 09.0**	**-0.4**
PVRL				*e*S	**Sb**	**18 41 21.9**	**+1.1**
	41nm,0.1s						
PVRL	**Vila Real**	**1.02**	**196**	Pg	**Pg**	**18 41 09.0**	**-0.4**
PVRL				Lg		18 41 21.9	
	20nm,0.1s						
EPON	**Pontenova**	**1.08**	**7**	Pg	**Pg**	**18 41 09.8**	**-0.9**
	2.8nm,0.1s,SNR=21						
EPON				Lg		18 41 23.6	
	9.1nm,0.1s,SNR=17						
STS	**Santiago**	**1.09**	**306**	Pg	**Pg**	**18 41 10.1**	**-0.9**
	3.5nm,0.1s,SNR=4.0						
STS				Lg		18 41 24.9	
	16nm,0.1s,SNR=11						
PVIS	**Viseu**	**1.59**	**195**	*e*S	**Sn**	**18 41 39.3**	**+1.9**
	10.0nm,0.1s						
PVIS	**Viseu**	**1.59**	**195**	Lg		18 41 39.3	
	5.0nm,0.1s						
MTE	**Manteigas**	**1.86**	**185**	*e*Sg	**Sg**	**18 41 49.1**	**-1.9**
	4.1nm,0.2s						
MTE	**Manteigas**	**1.86**	**185**	Lg		18 41 49.1	
	2.0nm,0.2s						
PCBR	**Castelo Branco**	**2.41**	**182**	*e*Sg	**Sg**	**18 42 06.4**	**-3.0**

*NEIC **28** 18:58:53.1, 34.97S×70.41W, h15^{km}, ML3.5(GUC), After GUC.*

GUC 28 18:58:53.1±0.8, **34.97S×70.41W, h15**^{km}±10^{km}**, MD3.3, ML3.5, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.61**	**306**	⇓*i*P	Pb	18 59 04.7	-0.3
SFDO				*i* S	Sb	18 59 13.4	+0.3
CICH	**Cipreses**	**0.65**	**359**	⇓*i*P	Pb	18 59 05.3	-0.3
CICH				*i* S	Sb	18 59 14.6	+0.4
CACH	**El Canelo**	**0.87**	**349**	⇑*i*P	Pb	18 59 09.1	-0.3
CACH				*i* S	Sb	18 59 23.9	+3.4
TALC	**Talca**	**1.09**	**247**	⇑*i*P	Pb	18 59 12.2	-0.9
TALC				*i* S	Sb	18 59 26.6	-0.4
TALC				AMP		18 59 27.1	
	comp=E,2μm,0.1s						
LNV	**Longovilo**	**1.31**	**321**	⇑*i*P	Pb	18 59 16.7	-0.2
LNV				*i* S	Sb	18 59 34.4	+1.0

WEL 28 19:01:38.1±0.2, **40.42S×173.39E, h170**^{km}±2^{km}**, ML3.7**/5**, 6C-4D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.77**	**238**	⇑PN	P	19 02 03.2	-0.3
QRZ				SN	S	19 02 21.8	-1.3
NNZ	**Nelson**	**0.80**	**181**	⇑PN	P	19 02 03.5	-0.2
NNZ				SN	S	19 02 22.3	-1.1
TUWZ	**Tuamarina**	**1.09**	**158**	PN	P	19 02 05.9	+0.1
TUWZ				SN	S	19 02 26.2	-1.0
NRZ	**Ngariki Road**	**1.16**	**21**	PN	P	19 02 06.1	-0.3
NWEZ	**Newall Road**	**1.20**	**18**	PN	P	19 02 06.4	-0.3
DFE	**Dawson Falls**	**1.22**	**27**	PN	P	19 02 06.7	-0.3
KIW	**Kapiti Island**	**1.23**	**111**	PN	P	19 02 07.0	-0.1
KIW				SN	S	19 02 27.3	-2.2
NEZ	**North Egmont**	**1.27**	**25**	PN	P	19 02 06.8	-0.6
MRW	**Makara Radio**	**1.28**	**130**	PN	P	19 02 07.3	-0.2
MRW				SN	S	19 02 28.6	-1.6
PKE	**Pukeiti**	**1.31**	**21**	⇓PN	P	19 02 07.2	-0.6
SNZO	**South Karori**	**1.33**	**132**	PN	P	19 02 07.8	-0.2
SNZO				SN	S	19 02 29.4	-1.7
BSWZ	**Blackbirch Sta**	**1.34**	**164**	PN	P	19 02 07.9	-0.2
BSWZ				SN	S	19 02 30.1	-1.2
WEL	**Wellington**	**1.35**	**130**	PN	P	19 02 08.0	-0.2
WEL				SN	S	19 02 29.7	-1.7
RAEZ	**Rainy Point**	**1.37**	**35**	PN	P	19 02 07.9	-0.4
WAZ	**Wanganui**	**1.39**	**62**	PN	P	19 02 08.6	0.0
WAZ				SN	S	19 02 32.5	+0.5
THZ	**Tophouse**	**1.39**	**195**	⇑PN	P	19 02 08.0	-0.6
THZ				SN	S	19 02 30.0	-2.1
CAW	**Cannon Point**	**1.45**	**119**	PN	P	19 02 08.8	-0.3
CAW				SN	S	19 02 31.3	-1.7
VRZ	**Vera Road**	**1.67**	**40**	⇓PN	P	19 02 10.1	-1.2
VRZ				SN	S	19 02 34.9	-2.0
MRZ	**Mangatainoka R**	**1.68**	**99**	PN	P	19 02 10.9	-0.5
MRZ				SN	S	19 02 35.7	-1.6
MSWZ	**Moikau Station**	**1.72**	**126**	PN	P	19 02 11.2	-0.6
MSWZ				SN	S	19 02 35.8	-2.2
MTW	**Mount Morrison**	**1.76**	**115**	⇓PN	P	19 02 11.8	-0.5
MTW				SN	S	19 02 36.7	-1.9
DSZ	**Denniston Nort**	**1.79**	**222**	⇑PN	P	19 02 11.5	-1.1
DSZ				SN	S	19 02 36.0	-3.2
PAWZ	**Paruwai Farm**	**1.82**	**123**	PN	P	19 02 12.2	-0.6
PAWZ				SN	S	19 02 37.6	-2.1
KHZ	**Kahutara**	**2.00**	**177**	⇑PN	P	19 02 13.8	-1.0
KHZ				SN	S	19 02 40.2	-3.0
TSZ	**Takapari Road**	**2.00**	**80**	PN	P	19 02 14.2	-0.6
TSZ				SN	S	19 02 41.5	-1.7
WNVZ	**Wahianoa**	**2.02**	**58**	⇓PN	P	19 02 13.9	-1.1
WNVZ				SN	S	19 02 41.5	-2.0
FWVZ	**Far West T-bar**	**2.03**	**56**	PN	P	19 02 14.0	-1.2
FWVZ				SN	S	19 02 41.1	-2.6
WPVZ	**Whakapapa**	**2.06**	**54**	PN	P	19 02 14.3	-1.2
CNZ	**Chateau**	**2.06**	**54**	PN	P	19 02 14.3	-1.2
MOVZ	**Moawhango**	**2.08**	**62**	PN	P	19 02 14.2	-1.6
TUVZ	**Tukino**	**2.09**	**57**	PN	P	19 02 14.8	-1.0
NGZ	**Ngauruhoe**	**2.11**	**55**	PN	P	19 02 14.8	-1.2
WTVZ	**West Tongariro**	**2.14**	**53**	PN	P	19 02 15.1	-1.3
MGZ	**Maungaku**	**2.18**	**50**	PN	P	19 02 15.4	-1.5
KAVZ	**Karewarewa**	**2.18**	**53**	PN	P	19 02 15.6	-1.4
BFZ	**Birch Farm**	**2.19**	**98**	PN	P	19 02 16.3	-0.7
BFZ				SN	S	19 02 44.4	-2.7
HIZ	**Hauiti**	**2.21**	**31**	PN	P	19 02 15.7	-1.7
HIZ				SN	S	19 02 45.7	-1.9
KATZ	**Kakaramea**	**2.29**	**52**	PN	P	19 02 16.9	-1.4
LTZ	**Lake Taylor**	**2.51**	**199**	⇑PN	P	19 02 19.1	-1.7
BKZ	**Black Stump Fm**	**2.70**	**63**	PN	P	19 02 20.9	-2.3
BKZ				SN	S	19 02 53.9	-3.9
CRLZ	**Canterbury Las**	**3.21**	**190**	PN	P	19 02 26.2	-3.3
WVZ	**Waitaha Valley**	**3.31**	**216**	PN	P	19 02 27.9	-3.0
MQZ	**McQueen's Vall**	**3.33**	**189**	PN	P	19 02 27.5	-3.6
MQZ				SN	S	19 03 05.3	-6.6
LBZ	**Lake Benmore**	**4.62**	**210**	PN	P	19 02 43.7	-4.0
JCZ	**Jackson Bay**	**5.02**	**222**	*e*PN	P	19 02 48.3	-4.6
JCZ				SN	S	19 03 42.5	-8.2
ODZ	**Otahua Downs**	**5.04**	**203**	PN	P	19 02 49.8	-3.5
TUZ	**Tuapeka**	**6.18**	**205**	*e*PN	P	19 03 04.0	-4.1

*ATH **28** 19:08:10.1, 36.92N×27.83E, h33^{km}±7^{km}, MD3.1/3*

*ISK **28** 19:08:13.9, 37.39N×28.03E, h11^{km}, MD3.1*

ISC 28 19:08:10.5±0.7, **36.92N**±0.04×**27.72E**±0.05, **h17**^{km}±7^{km}**, n14, σ1^{s}.13**/22, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**303**	*i* P	**Pb**	**19 08 16.1**	**-0.4**
BDRM				*i* S	**Sb**	**19 08 20.7**	**+0.3**
MLSB	**Milas**	**0.37**	**7**	PG	**Pb**	**19 08 18.3**	**0.0**
MLSB				SG	**Sb**	**19 08 23.4**	**-0.2**
YER	**Yerkesik**	**0.50**	**65**	*i* PG	**Pb**	**19 08 19.9**	**-0.5**
YER				*i* SG	**Sb**	**19 08 26.8**	**-0.3**
AYDN	**Tasoluk**	**0.75**	**10**	⇑*i*P	**Pb**	**19 08 24.5**	**-0.1**
AYDN				*i* S	**Sb**	**19 08 34.8**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.75**	**102**	*e*PG	**Pb**	**19 08 28.6**	**+3.9**
ARG	**Arkhangelos**	**0.78**	**155**	*e*PN	**Pn**	**19 08 25.0**	**-1.5**
SMG	**Samos**	**1.05**	**318**	*e*PN	**Pn**	**19 08 31.2**	**+0.7**
SMG				*e*SN	**Sn**	**19 08 46.0**	**+1.2**
DNZL	**Cakiroluk**	**1.30**	**54**	*i* P	**Pn**	**19 08 34.8**	**+0.7**
DNZL				*i* S	**Sb**	**19 08 53.2**	**+2.7**
DENT	**Denizli**	**1.33**	**51**	*e*PG	**Pn**	**19 08 32.0**	**-2.5**
KARP	**Karpathos**	**1.45**	**198**	*e*PN	**Pn**	**19 08 36.4**	**+0.3**
KARP				*e*SN	**Sn**	**19 08 55.3**	**+0.6**
IZM	**Izmir**	**1.52**	**346**	*e*PN	**Pn**	**19 08 37.3**	**+0.2**
KDAG	**Bornova**	**1.52**	**346**	*i* P	**Pn**	**19 08 34.6**	**-2.5**
KDAG				*i* S	**Sn**	**19 08 56.5**	**-0.1**
ELL	**Elmali**	**1.76**	**95**	*e*PN	**Pn**	**19 08 42.6**	**+2.0**
AKS	**Akhisar**	**1.95**	**2**	*e*PN	**Pn**	**19 08 41.9**	**-1.5**

*NEIC **28** 19:09:43.0, 35.04S×70.58W, h4^{km}, ML3.2(GUC), After*

GUC.

GUC 28 19:09:43.0±0.9**,35.04S×70.58W,h4^{km}**±3^{km}**,MD3.7, ML3.2,8C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.53	274	⇓iP	Pg	19 09 54.2	+0.5
NICH				iS	Sg	19 10 03.6	+2.9
SFDO	San Fernando	0.55	320	⇓iP	Pg	19 09 54.1	+0.1
SFDO				iS	Sg	19 10 02.6	+1.2
CICH	Cipreses	0.73	11	⇓iP	Pg	19 09 56.0	-1.6
CICH				iS	Sg	19 10 06.9	-0.4
CACH	El Canelo	0.92	359	⇑iP	Pb	19 09 59.6	-1.6
CACH				iS	Sb	19 10 12.8	-0.8
TALC	Talca	0.93	247	⇑iP	Pb	19 10 00.4	-1.0
TALC				iS	Sb	19 10 14.4	+0.4
TALC				AMP		19 10 14.5	
	comp=E,5µm,0.1s						
CHCH	Chadas Angostu	1.10	357	⇑iP	Pb	19 10 03.2	-1.1
CHCH				iS	Sb	19 10 19.2	+0.3
LMEL	Las Melosas	1.23	15	⇑iP	Pb	19 10 04.9	-1.5
LMEL				iS	Sb	19 10 22.0	-0.5
LMEL				AMP		19 10 43.9	
	comp=N,306nm,0.2s						
LNV	Longovilo	1.28	327	⇑iP	Pb	19 10 06.3	-1.0
LNV				iS	Sb	19 10 24.1	+0.1
TACH	Talagante	1.41	348	⇑iP	Pn	19 10 08.6	-1.0
TACH				iS	Sb	19 10 28.3	+0.4
PCH	Pirque	1.41	2	⇓iP	Pn	19 10 08.5	-1.1
CLCH	Cerro Calan	1.64	1	⇑iP	Pn	19 10 12.4	-0.4
CLCH				iS	Sb	19 10 34.9	+0.5
CLCH				AMP		19 10 37.0	
	comp=E,370nm,0.3s						
FCH	Farellones	1.72	8	eP	Pn	19 10 14.0	0.0
FCH				iS	Sn	19 10 37.6	+0.8
FCH				AMP		19 10 47.7	
	comp=E,309nm,0.2s						
LCCH	Las Cruces	1.76	332	⇓iP	Pn	19 10 14.3	-0.3
LCCH				iS	Sn	19 10 37.7	0.0
PEL	Peldehue	1.89	357	iP	Pn	19 10 16.7	+0.2
PEL				iS	Sn	19 10 42.6	+1.6
PEL				AMP		19 10 47.9	
	comp=N,889nm,0.5s						
JACH	Jahuel	2.35	360	⇑iP	Pn	19 10 23.8	+0.8

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*IDC **28** 19:12:18.3±1.8,5.47N×126.27E,mb3.6/5,mb1 3.7/5, mb1mx3.6/16,Error ellipse: s-maj=189.0km s-min=19.9km az=65.0*

ISC 28 19:12:29.7±0.9**,4.71N**±0.07×**124.8E**±0.3**,h100^{km},n6, σ0^{s}30**/7**,mb3.5**/5**,1D,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	2.31	8	⇓iP	P	19 13 06.7	-0.3
KCP				iS	S	19 13 35.1	+0.2
WRA	Warramunga Arr	26.24	159	P	P	19 17 57.4	-0.1
	0.3nm,0.3s,mb3.2,baz=342,slow=10,SNR=15						
ASAR	Alice Springs	29.57	163	P	P	19 18 28.1	+0.6
	0.3nm,0.7s,mb3.0,baz=343,slow=7.8,SNR=5.8						
STKA	Stephens Creek	39.75	157	P	P	19 19 53.9	-0.4
	1.0nm,0.7s,mb3.8,baz=339,slow=17,SNR=2.6						
MKAR	Makanchi Array	55.65	326	P	P	19 21 57.8	0.0
	0.3nm,0.5s,mb3.6,baz=119,slow=7.4,SNR=7.1						
BVAR	Borovoye Array	65.44	327	P	P	19 23 04.1	0.0
	0.9nm,0.8s,mb3.6,baz=124,slow=5.2,SNR=4.7						

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*GUC **28** 19:14:02.0±0.7,35.08S×70.50W,h5^{km}±3^{km},ML4.1*
*IDC **28** 19:14:02.0±0.7,34.98S×70.52W,mb4.1/6,mb1 4.3/10, mb1mx4.2/15,ML3.9/4,MS3.9/4,Ms1 3.8/4,ms1mx3.5/14, Error ellipse: s-maj=26.7km s-min=15.1km az=94.0*
*NEIC **28** 19:14:03.7±0.4,34.91S×70.40W,h10^{km},mb4.7/6, ML4.1(GUC),Error ellipse: s-maj=10.8km s-min=5.1km az=80.0*

ISC 28 19:14:02.2±0.4**,35.07S**±0.02×**70.43W**±0.05**,h10^{km},n48, σ1^{s}16**/55**,mb4.3**/11**,MS4.0**/3**,15C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.66	276	⇑iP	Pb	19 14 14.3	-1.0
CACH	El Canelo	0.96	352	⇑iP	Pb	19 14 19.2	-1.4
TALC	Talca	1.03	251	⇓iP	Pb	19 14 20.6	-1.1
TALC				iS	Sb	19 14 34.5	-0.7
TALC				AMP		19 14 35.6	
	comp=E,14µm,0.6s						
CHCH	Chadas Angostu	1.15	351	⇑iP	Pb	19 14 22.9	-0.9
LMEL	Las Melosas	1.24	9	⇑iP	Pb	19 14 24.2	-1.0
LMEL				iS	Sb	19 14 41.8	+0.8
LMEL				AMP		19 14 46.8	
	comp=E,1µm,0.6s						
LNV	Longovilo	1.38	324	⇑iP	Pn	19 14 26.0	-1.6
PCH	Pirque	1.45	357	⇑iP	Pn	19 14 27.9	-0.8
PCH				iS	Sb	19 14 48.1	+0.8
TACH	Talagante	1.48	343	⇑iP	Pn	19 14 28.3	-0.7
ANTU	Antumapu	1.51	354	⇑iP	Pn	19 14 29.1	-0.3
ANTU				iS	Sb	19 14 49.6	+0.6
ANTU				AMP		19 14 51.2	
	comp=E,5µm,0.6s						
SAN	Santiago	1.63	353	iP	Pn	19 14 31.2	0.0
SAN				iS	Sn	19 14 52.6	+0.3
SAN				AMP		19 14 54.5	
	comp=E,5µm,0.8s						
DSCH	Colegio Aleman	1.67	356	⇑iP	Pn	19 14 31.8	0.0
DSCH				iS	Sn	19 14 54.3	+0.8
DSCH				AMP		19 14 58.1	
	comp=N,10µm,0.7s						
CLCH	Cerro Calan	1.68	357	⇑iP	Pn	19 14 32.1	+0.2
CLCH				iS	Sn	19 14 54.5	+1.0
CLCH				AMP		19 14 59.3	
	comp=E,6µm,0.7s						
CLCH				AMP		19 14 59.9	
	comp=E,6µm,0.7s						
FCH	Farellones	1.75	4	eP	Pn	19 14 33.5	+0.7
FCH				iS	Sn	19 14 57.2	+1.9
FCH				AMP		19 15 00.6	
	comp=E,2µm,0.6s						
LCCH	Las Cruces	1.85	329	⇓iP	Pn	19 14 34.1	-0.2
LCCH				iS	Sn	19 14 58.5	+0.5
CCHI	Chillan	2.03	221	⇓iP	Pn	19 14 38.3	+1.4
CCHI				eS	Sn	19 15 04.0	+1.5
CCHI				AMP		19 15 09.5	
	comp=E,5µm,0.6s						
JACH	Jahuel	2.39	357	⇑iP	Pn	19 14 44.3	+2.2
JACH				iS	Sn	19 15 15.3	+3.6
MDZ	Mendoza	2.55	32	eP	Pn	19 14 49.6	+5.2
MDZ				i		19 15 19.6	
MDZ				iS	Sn	19 15 28.7	+13
PLCA	Paso Flores	5.65	181	Pn	Pn	19 15 30.4	+2.1
	comp=E,1.0nm,0.3s,baz=338,slow=14,SNR=16						
PLCA				Pg	Pg	19 15 47.2	-7.8
	comp=E,0.6nm,0.3s,baz=359,slow=18,SNR=8.3						
PLCA				Lg		19 17 01.7	
	comp=E,0.4nm,0.3s,baz=3.2,slow=18,SNR=2.3						
TRQA	Tornquist	7.43	116	ePn	Pn	19 15 52.3	-1.1
	comp=E,26nm,1.0s						
LVC	Limon Verde	12.49	7	P	P	19 17 02.6	-0.3
CPUP	Villa Florida	14.24	56	Pn	P	19 17 25.2	-0.9
	comp=E,0.1nm,0.3s,baz=238,slow=15,SNR=2.3						
CPUP				Lg		19 21 35.5	
	comp=E,0.1nm,0.3s,baz=158,slow=19,SNR=2.6						
CPUP				LR	LR	19 23 36.2	
	comp=E,188nm,19.1s,baz=83,slow=40						
LPAZ	La Paz	18.82	7	P	P	19 18 23.9	-0.5
	comp=E,0.2nm,0.3s,baz=192,slow=8.0,SNR=9.0						
EFI	East Falkland	18.83	156	eP	P	19 18 21.1	-3.1
	comp=E,32nm,1.0s						
USHA	Ushuaia	19.81	177	P	P	19 18 36.4	+0.8
	comp=E,0.2nm,0.3s,baz=325,slow=12,SNR=1.6						
BDFB	Brasilia	27.90	52	P	P	19 19 53.9	-0.5
	comp=E,3.6nm,0.8s,mb4.1,baz=246,slow=8.1,SNR=5.4						
BDFB				LR	LR	19 30 42.1	
	comp=E,214nm,21.7s,MS3.7,baz=76,slow=36						
OTAV	Otavalo	35.92	346	P	P	19 21 09.6	+4.8
	comp=E,4.3nm,1.0s,mb4.3						
VNA1	Neumayer--Stat	48.17	157	⇑i	P	19 22 56.0	+12
VNA1	Neumayer--Stat	48.17	157	⇑i	P	19 23 00.6	+17
VNA2	Neumayer--Watz	48.51	157	⇓i	P	19 22 48.5	+1.8
VNA2	Neumayer--Watz	48.51	157	⇑i	P	19 22 52.1	+5.4
SNAA	Sanae	50.09	158	⇑i	P	19 22 56.5	-2.4
SNAA	Sanae	50.09	158	⇓i	P	19 23 00.0	+1.1
QSPA	South Pole Qui	55.17	180	eP	P	19 23 38.3	+1.6
	comp=E,7.3nm,0.9s,mb4.7						
SBA	Scott Base	62.30	192	eP	P	19 24 28.4	+2.0
	comp=E,3.3nm,1.1s,mb4.4						
DWPF	Disney	63.70	349	P	P	19 24 34.8	-1.4
	comp=E,132nm,1.5s						
TXAR	Lajitas Array	71.32	330	P	P	19 25 23.0	-1.1
	comp=E,1.0nm,0.7s,mb3.9,baz=152,slow=8.9,SNR=12						
TXAR				LR	LR	19 52 02.7	
	comp=E,86nm,20.2s,MS4.0,baz=265,slow=32						
MAW	Mawson	71.77	163	P	P	19 25 27.0	+0.8
	comp=E,2.0nm,0.8s,mb4.1,baz=267,slow=3.1,SNR=4.3						
MAW				LR	LR	19 55 31.8	
	comp=E,166nm,18.0s,MS4.3,baz=81,slow=35						
WVT	Waverly	72.67	345	eP	P	19 25 29.8	-2.2
	comp=E,16nm,0.9s,mb4.9						
DBIC	Dimbokro	74.28	70	P	P	19 25 40.6	-1.3
	comp=E,2.1nm,0.7s,mb4.2,baz=183,slow=13,SNR=7.6						
PDAR	Pinedale Array	85.32	332	P	P	19 26 40.2	-0.3
	comp=E,1.1nm,1.0s,mb4.0,baz=153,slow=3.3,SNR=6.0						
NVAR	Mina Array Bea	85.52	324	P	P	19 26 41.4	-0.2
	comp=E,1.1nm,1.0s,mb4.0,baz=119,slow=12,SNR=5.5						
MBAR	Mbarara	98.80	97	eP	P	19 27 37.1	-6.9
	comp=E,6.4nm,1.4s,mb5.0						
WRA	Warramunga Arr	120.44	207	PKP	PKPdf	19 32 54.0	-3.4
	comp=E,0.6nm,1.0s,baz=160,slow=1.6,SNR=3.9						
ZRNK	Zerenda	146.35	45	eP	PKPbc	19 33 43.7	+1.0
BRVK	Borovoye	147.06	45	P	PKPdf	19 33 46.3	+0.7
BVAR	Borovoye Array	147.13	45	PKPbc	PKPdf	19 33 46.4	+0.6
	comp=E,1.8nm,0.7s,baz=297,slow=3.3,SNR=9.1						
AAK	Ala-Archa	151.81	64	eP	PKPdf	19 33 57.7	+4.3
SONM	Songino Array	167.03	10	PKPab	PKPab	19 35 13.4	0.0
	comp=E,0.3nm,0.8s,baz=326,slow=5.2,SNR=4.1						

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*NEIC **28** 19:18:05.0,35.01S×70.58W,h5^{km},ML3.1(GUC),After GUC.*

GUC 28 19:18:05.0±0.8**,35.01S×70.58W,h5^{km}**±3^{km}**,MD3.5, ML3.1,8C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.53	317	⇓iP	Pg	19 18 15.6	0.0
SFDO				iS	Sg	19 18 24.2	+1.4
NICH	Los Niches	0.54	270	⇑iP	Pg	19 18 16.1	+0.4
NICH				iS	Sg	19 18 24.2	+1.3
CICH	Cipreses	0.70	11	⇑iP	Pg	19 18 17.3	-1.7
CICH				iS	Sg	19 18 27.4	-0.8
CACH	El Canelo	0.89	359	eP	Pb	19 18 21.1	-1.4
CACH				iS	Sb	19 18 34.4	-0.1
TALC	Talca	0.95	245	⇑iP	Pb	19 18 22.7	-0.9
TALC				iS	Sb	19 18 36.6	+0.3
TALC				AMP		19 18 36.8	
	comp=N,2µm,0.1s						
CHCH	Chadas Angostu	1.07	357	⇑iP	Pb	19 18 24.9	-0.7
CHCH				iS	Sb	19 18 40.7	+0.9
LNV	Longovilo	1.26	326	⇑iP	Pb	19 18 27.8	-1.0
LNV				iS	Sb	19 18 44.9	-0.2
TACH	Talagante	1.38	347	⇓iP	Pb	19 18 30.1	-0.8
TACH				iS	Sb	19 18 49.1	+0.3
PCH	Pirque	1.38	2	⇑iP	Pb	19 18 29.9	-1.0
PCH				iS	Sb	19 18 50.2	+1.3
FCH	Farellones	1.69	8	⇑iP	Pn	19 18 35.8	+0.3
FCH				iS	Sn	19 18 58.3	+0.6
FCH				AMP		19 19 06.1	
	comp=E,143nm,0.4s						
LCCH	Las Cruces	1.74	331	⇑iP	Pn	19 18 36.0	-0.1
LCCH				iS	Sn	19 18 59.8	+1.0

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*IDC **28** 19:28:51.6±13.0,7.44S×129.59E,h174^{km}±149^{km}, mb3.1/1,mb1 2.9/4,mb1mx2.8/12,ML3.1/3,Error ellipse: s-maj=102.0km s-min=54.0km az=27.0*

ISC 28 19:28:53.2±4.6**,7.6S**±0.2×**129.7E**±0.2**,h213^{km}**±52^{km}**,n4, σ1^{s}54**/6**,mb3.0**/1**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.18	200	P	P	19 31 28.6	+0.3
	0.1nm,0.3s,baz=18,slow=20,SNR=20						
FITZ				S	S	19 33 29.7	-0.3
	0.1nm,0.3s,baz=168,slow=14,SNR=2.2						
WRA	Warramunga Arr	13.10	160	P	P	19 31 51.4	-1.1
	0.1nm,0.3s,baz=338,slow=14,SNR=16						
WRA				S	S	19 34 13.6	-0.3
	0.3nm,0.3s,baz=335,slow=22,SNR=13						
ASAR	Alice Springs	16.51	166	P	P	19 32 36.2	+1.9
	0.1nm,0.3s,baz=342,slow=9.0,SNR=5.1						
MKAR	Makanchi Array	68.53	327	P	P	19 39 34.2	-0.4
	0.2nm,0.5s,mb3.0,baz=135,slow=6.1,SNR=3.3						

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*NEIC **28** 19:29:30.3,34.91S×70.55W,h5^{km},ML2.8(GUC),After GUC.*

GUC 28 19:29:30.3±0.9**,34.91S×70.55W,h5^{km}**±4^{km}**,MD3.5, ML2.8,6C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.49	308	⇓iP	Pg	19 29 40.2	+0.1
SFDO				iS	Sg	19 29 48.1	+1.5
CICH	Cipreses	0.60	10	⇓iP	Pg	19 29 41.8	-0.6
CICH				iS	Sg	19 29 51.4	+1.0
CACH	El Canelo	0.80	357	⇑iP	Pg	19 29 45.3	-0.9
CACH				iS	Sg	19 29 57.3	+0.5
CHCH	Chadas Angostu	0.98	355	⇑iP	Pb	19 29 48.9	-0.5
CHCH				iS	Sb	19 30 03.1	+0.6
TALC	Talca	1.01	241	⇑iP	Pb	19 29 46.9	-3.0
TALC				iS	Sb	19 30 01.1	-2.3
TALC				AMP		19 30 01.3	
	comp=N,3µm,0.1s						
LMEL	Las Melosas	1.10	15	⇑iP	Pb	19 29 50.5	-1.0
LMEL				iS	Sb	19 30 06.8	+0.8
LMEL				AMP		19 30 09.2	
	comp=N,198nm,0.2s						
LNV	Longovilo	1.19	323	⇑iP	Pb	19 29 52.1	-0.9
PCH	Pirque	1.29	1	⇑iP	Pb	19 29 54.2	-0.4
PCH				iS	Sb	19 30 11.9	+0.5
TACH	Talagante	1.30	345	⇓iP	Pb	19 29 54.1	-0.7
CLCH	Cerro Calan	1.51	0	iP	Pn	19 29 57.8	-0.4
CLCH				iS	Sb	19 30 20.0	+2.1
CLCH				AMP		19 30 21.8	
	comp=N,200nm,0.7s						
FCH	Farellones	1.60	8	⇓iP	Pn	19 29 59.8	+0.4
FCH				iS	Sb	19 30 21.1	+0.8
FCH				AMP		19 30 23.9	
	comp=N,135nm,0.2s						

IDC 28 19:49:04.8±1.2**,19.68N×144.97E,mb3.9**/4**,mb1 4.2**/4**, mb1mx3.7**/20**,Error ellipse: s-maj=75.3km s-min=27.4km az=104.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.73	195	P	P	19 56 47.3	-1.9
	1.3nm,0.5s,baz=13,slow=8.4,SNR=30						
ASAR	Alice Springs	44.42	195	P	P	19 57 17.6	-1.8
	0.3nm,0.4s,baz=21,slow=7.7,SNR=9.3						
NVAR	Mina Array Bea	83.08	52	P	P	20 01 32.5	-1.3
	0.5nm,0.7s,baz=270,slow=8.9,SNR=4.3						
FINES	FINESS Array B	85.71	335	P	P	20 01 45.9	-0.6
	2.1nm,1.0s,baz=45,slow=5.9,SNR=6.4						

DJA 28 20:10:22.0±1.0**,9.49S×114.28E,h10^{km}**±5^{km}**,MD5.2**/3**, ML4.2**/3**,2C-5D,Error ellipse: s-maj=25.0km s-min=13.8km az=23.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	1.09	52	⇓iPn	Pn	20 10 40.4	-2.7
	332nm,0.2s						
INGI	Ingas	1.09	52	⇑iPg	Pg	20 10 40.9	-2.9
INGI				⇓iSn	Sn	20 10 53.8	-4.4
KELI	Kelakatan	1.28	9	⇓iPn	Pn	20 10 43.1	-2.9
	240nm,0.2s						
KELI				⇓iSn	Sn	20 10 59.3	-4.0
RATI	Rata	1.45	58	⇑iPn	Pn	20 10 45.8	-2.6
	202nm,0.2s						
RATI				⇓iSn	Sn	20 11 02.6	-5.0

MDD 28 20:21:26.7±2.8**,38.56N×13.98W,mb3.8**/8**,Error ellipse: s-maj=24.8km s-min=19.1km az=67.0,PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	4.27	102	eP	Pn	20 22 31.1	-3.3
PTEO				eS	Sn	20 23 19.0	-6.7
PTOM	Tomar	4.46	75	eS	Sn	20 23 24.8	-5.7
	3.6nm,0.1s						
PTOM	Tomar	4.46	75	S	Sn	20 23 24.8	-5.7
	1.8nm,0.1s						
PBEJ	Beja	4.84	94	eS	Sn	20 23 32.7	-7.4
	1.3nm,0.1s						
PBEJ	Beja	4.84	94	S	Sn	20 23 32.7	-7.4
	0.6nm,0.1s						
PCBR	Castelo Branco	5.21	74	eS	Sn	20 23 42.3	-7.1
EGRO	El Granado	5.23	99	P	Pn	20 22 44.8	-3.2
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	20 23 41.1	-8.8
	1.0nm,0.1s,SNR=7.9						
PALC	Alcoutim	5.25	100	eP	Pn	20 22 45.3	-3.0
PALC				eS	Sn	20 23 42.1	-8.4
	1.9nm,0.1s						
PALC	Alcoutim	5.25	100	P	Pn	20 22 45.3	-3.0
PALC				S	Sn	20 23 42.1	-8.4
	0.9nm,0.1s						
EBAD	Badajoz	5.46	86	P	Pn	20 22 49.0	-2.2
	0.2nm,0.0s,SNR=7.9						
EBAD				S	Sn	20 23 48.1	-7.5
	2.8nm,0.2s,SNR=7.9						
ELOB	Lobios	5.61	52	P	Pn	20 22 50.0	-3.3
	0.5nm,0.1s,SNR=4.0						
ELOB				S	Sn	20 23 51.1	-8.3
	0.9nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.81	96	P	Pn	20 22 52.9	-3.3
	0.1nm,0.0s,SNR=7.9						
EMIN				S	Sn	20 23 56.2	-8.4
	0.3nm,0.1s,SNR=7.9						
ECAL	Calabor	6.49	56	P	Pn	20 23 02.3	-3.5
	0.4nm,0.1s,SNR=7.9						
ECAL				S	Sn	20 24 12.4	-9.0
	0.7nm,0.2s,SNR=7.9						
ESPR	Espera	6.66	102	P	Pn	20 23 05.1	-3.1
	0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	20 24 16.4	-9.2
	1.9nm,0.3s,SNR=7.9						
EPON	Pontenova	7.03	45	P	Pn	20 23 08.6	-4.7
	0.2nm,0.1s,SNR=4.0						
EPON				S	Sn	20 24 25.1	-10
	0.4nm,0.2s,SNR=7.9						
EADA	Adamuz	7.40	90	P	Pn	20 23 15.0	-3.5
	0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	20 24 35.4	-8.8
	0.3nm,0.2s,SNR=7.9						

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*KISR **28** 20:27:42.1±1.2,32.35N×45.89E,h36^{km}±999^{km},ML4.3*
*BJI **28** 20:27:50.6,31.70N×46.10E,h30^{km},mb4.4*
*NEIC **28** 20:27:50.6±5.5,31.74N×46.10E,h30^{km}±40^{km},mb4.4/15, Error ellipse: s-maj=15.0km s-min=9.1km az=175.0*
*SNSN **28** 20:27:51.1,31.64N×46.02E,h192^{km}*
*IDC **28** 20:27:51.2±5.6,31.69N×46.14E,h26^{km}±41^{km},mb3.7/10, mb1 3.9/12,mb1mx3.8/22,ML3.1/2,MS3.5/5,Ms1 3.6/5, ms1mx3.1/24,Error ellipse: s-maj=40.2km s-min=18.3km az=9.0*
*MOS **28** 20:27:52.4±1.5,32.07N×46.37E,h33^{km},mb4.4/6,Error ellipse: s-maj=24.5km s-min=12.8km az=106.5*

ISC 28 20:27:49.9±0.3**,31.68N**±0.03×**45.96E**±0.04**,h33^{km},n72, σ1^{s}29**/76**,mb4.3**/27**,MS3.6**/5**,1D,Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIB	Mutribah	2.22	147	eP	P	20 28 26.7	+1.7
MIB				eS	S	20 28 59.5	+8.0
MIB				AML	AML	20 29 08.5	
	comp=Z,2µm,0.5s						
RST	Umm Al-Ruwaisa	2.35	157	eP	P	20 28 29.1	+2.2
RST				eS	S	20 29 03.6	+8.8
RST				AML	AML	20 29 04.7	
	comp=Z,604nm,0.4s						
UMR	Umm Al-Rimmam	2.61	144	eP	P	20 28 31.7	+1.1
UMR				eS	S	20 29 08.3	+6.9
UMR				AML	AML	20 29 12.2	
	comp=Z,957nm,0.3s						
KBD	Kabd	2.91	149	eP	P	20 28 36.7	+1.8
KBD				eS	S	20 29 17.6	+8.5
RDF	Al-Radifah	3.07	153	eP	P	20 28 38.8	+1.6
RDF				AML	AML	20 29 28.6	
	comp=Z,310nm,0.4s						
QRN	Al-Qurain	3.38	149	eP	P	20 28 43.1	+1.5
QRN				AML	AML	20 29 36.2	
	comp=Z,357nm,0.4s						
HILS	Ha’il	5.61	221	P	P	20 29 13.5	+0.4
ARSS	Ar Rass	6.25	203	P	P	20 29 21.6	-0.5
MZLS	Mizel	7.65	185	P	P	20 29 40.0	-1.7
MZLS				S	S	20 31 06.7	-1.5
ASF	Jabal al Asfar	7.72	276	Pn	Pn	20 29 42.8	0.0
	comp=Z,0.4nm,0.3s,baz=326,slow=5.9,SNR=3.8						
ASF				Pg	P	20 30 13.7	+31
	comp=Z,1.2nm,0.3s,baz=308,slow=2.3,SNR=4.4						
ASF				Sn	Sn	20 31 11.0	+1.0
	comp=Z,1.3nm,0.3s,baz=172,slow=19,SNR=3.8						
ASF				Lg		20 32 03.1	
	comp=Z,3.3nm,0.3s,baz=121,slow=23,SNR=8.3						
ASF				LR	LR	20 33 25.3	
	comp=Z,147nm,18.8s,baz=56,slow=42						
RAYN	Ar Rayn	8.13	183	Pn	P	20 29 46.0	-2.4
	comp=Z,92nm,0.6s,SNR=16						
AFFS	‘Afif	8.15	199	P	P	20 29 46.6	-2.1
KBRS	Khaybar	8.30	227	P	P	20 29 49.4	-1.4
MALT	Malatya	9.05	319	ePn	P	20 30 02.5	+1.3
MALT				ePg	rx	20 30 59.2	
MALT				eSn	Sn	20 31 53.7	+11
EIL	Elat	9.69	261	ePn	P	20 30 12.9	+2.9
HAQS	Haql	9.88	257	P	P	20 30 09.3	-3.4
BRTR	Keskin Array B	12.82	312	Pn	P	20 30 54.5	+1.9
	comp=Z,0.1nm,0.3s,baz=119,slow=13,SNR=6.8						
SOC	Sochi	12.87	339	eP	P	20 31 04.7	+12
SOC				MLR	MLR		
	comp=Z,143nm,11.0s						
SOC				MLR	MLR		
	comp=N,124nm,12.0s						
SOC				MLR	MLR		
	comp=E,140nm,11.0s						
GOF	Gofitskoye	13.55	351	eP	P	20 31 14.0	+12
MLR	Muntele Rosu	20.78	317	P	P	20 32 32.5	+2.1
	comp=E,1.2nm,0.4s,baz=151,slow=16,SNR=1.8						
MLR	Muntele Rosu	20.78	317	P	P	20 32 32.5	+2.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	22.70	332	P	P	20 32 50.2	+0.6
	comp=Z,0.4nm,0.3s,mb3.3,baz=137,slow=10,SNR=6.2						
OBN	Obninsk	24.35	347	eP	P	20 33 07.7	+2.0
OBN				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.6						
TIP	Timpagrande	24.87	296	eP	P	20 33 10.7	-0.1
KSH	Kashi	25.55	64	eP	P	20 33 18.0	+0.8
KSH				eAP	pP	20 33 25.0	-1.6
KSH				eXP	sP	20 33 31.5	+1.1
KSH				AMB	AMB		
	comp=Z,130nm,1.9s,mb5.1						
ARU	Arti	26.27	16	eP	P	20 33 21.6	-2.1
ARU	Arti	26.27	16	eP	P	20 33 20.0	-3.7
	comp=Z,9.5nm,1.2s,mb4.2						
BRVK	Borovoye	27.68	32	eP	P	20 33 33.7	-3.0
	comp=Z,4.0nm,0.9s,mb4.0						
BVAR	Borovoye Array	27.70	33	P	P	20 33 35.9	-1.0
	comp=Z,1.4nm,0.7s,mb3.7,baz=214,slow=5.3,SNR=7.1						
KURK	Kurchatov	30.72	42	eP	P	20 33 59.7	-4.2
	comp=Z,4.4nm,1.2s,mb4.2						
PGF	Pioggiola	31.18	301	eP	P	20 34 07.7	-0.3
	comp=Z,20nm,1.2s,mb4.5						
MKAR	Makanchi Array	31.61	51	P	P	20 34 10.3	-1.5
	comp=Z,5.3nm,1.0s,mb4.3,baz=248,slow=8.0,SNR=13						
MKAR				LR	LR	20 48 56.8	
	comp=Z,90nm,19.3s,MS3.5,baz=301,slow=40						
MKAR	Makanchi Array	31.61	51	P	P	20 34 10.3	-1.5
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,90nm,19.3s						
MKAR	Makanchi Array	31.61	51	P	P	20 34 10.3	-1.5
MKAR				LR	LR	20 48 56.8	
STU	Stuttgart	32.46	312	P	P	20 34 18.8	-0.3

	comp=Z,7.6nm,1.0s,mb4.5						
FINES	FINESS Array B	32.48	342	P	P	20 34 20.3	+1.1
	comp=Z,2.2nm,0.8s,mb4.1,baz=150,slow=11,SNR=3.6						
FINES	FINESS Array B	32.48	342	P	P	20 34 20.3	+1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	32.48	342	P	P	20 34 20.3	+1.1
MBDF	Montbardon	33.11	304	*e*P	P	20 34 25.3	+0.4
	comp=Z,4.2nm,0.7s,mb4.2						
LPG	La Plagne	33.26	306	*e*P	P	20 34 26.5	+0.3
LPL	La Plagne	33.28	306	*e*P	P	20 34 26.6	+0.3
	comp=Z,2.0nm,0.6s,mb3.9						
CDF	Champ du Feu	33.58	311	*e*P	P	20 34 26.5	-2.3
HINF	Hinteralfeld	33.70	310	*e*P	P	20 34 28.5	-1.4
CABF	La Chapelle	33.93	308	*e*P	P	20 34 31.7	-0.2
	comp=Z,15nm,0.9s,mb4.6						
HAU	Haudompre	34.07	310	*e*P	P	20 34 32.6	-0.5
WMQ	Urumqi	34.81	58	*e*P	P	20 34 37.0	-2.5
NVS	Novosibirsk	35.04	38	*e*P	P	20 34 36.5	-4.9
MBAR	Mbarara	35.20	207	P	P	20 34 43.5	+0.4
	comp=Z,4.7nm,1.1s,mb4.3						
SMF	Signal de Mont	35.46	307	*e*P	P	20 34 44.1	-0.9
	comp=Z,2.2nm,0.6s,mb4.0						
LOR	Lormes	35.56	308	*e*P	P	20 34 44.8	-1.0
HFS	Hagfors	35.58	333	P	P	20 34 46.6	+0.7
	comp=Z,3.9nm,0.8s,mb4.4,baz=113,slow=11,SNR=6.0						
HFS	Hagfors	35.58	333	P	P	20 34 46.6	+0.7
HFS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SSF	Saint Saulge	35.76	308	*e*P	P	20 34 46.8	-0.7
AVF	Avril sur Loir	35.82	307	*e*P	P	20 34 47.6	-0.4
BAIF	Baives	35.95	313	*e*P	P	20 34 47.5	-1.6
	comp=Z,24nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	36.52	306	*e*P	P	20 34 53.6	-0.4
	comp=Z,34nm,1.6s,mb4.6						
LFF	La Frestale	37.40	304	*e*P	P	20 35 01.1	-0.2
	comp=Z,4.0nm,0.4s,mb4.3						
LSA	Lhasa	38.71	81	P	P	20 35 13.0	+0.6
LSA	Lhasa	38.71	81	*e*P	P	20 35 10.2	-2.2
	comp=Z,9.2nm,1.2s,mb4.4						
ARCES	ARCESS Array B	39.63	349	LR	LR	20 54 09.9	
	comp=Z,58nm,20.5s,MS3.4,baz=270,slow=40						
ESDC	Sonseca Array	40.89	296	P	P	20 35 32.0	+1.5
	comp=Z,0.3nm,0.6s,baz=94,slow=7.1,SNR=4.3						
GTA	Gaotai	43.95	64	*e*P	P	20 35 55.8	+0.4
GTA				AP	pP	20 36 05.0	-0.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s,mb3.7						
SONM	Songino Array	47.97	52	P	P	20 36 26.8	-0.4
	comp=Z,0.6nm,0.7s,mb3.8,baz=284,slow=7.9,SNR=5.7						
CMAR	Chiang Mai Arr	49.34	92	P	P	20 36 37.5	-0.6
	comp=Z,1.7nm,0.9s,mb4.1,baz=294,slow=8.6,SNR=8.7						
CMAR				LR	LR	20 59 20.4	
	comp=Z,57nm,18.0s,MS3.6,baz=14,slow=38						
CMAR	Chiang Mai Arr	49.34	92	P	P	20 36 37.5	-0.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,57nm,18.0s						
GYA	Guiyang	52.73	79	⇓P	P	20 37 02.8	-0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
DBIC	Dimbokro	53.46	253	LR	LR	21 01 39.3	
	comp=Z,77nm,18.2s,MS3.8,baz=36,slow=38						
LIC	Lamto	53.85	253	*e*P	P	20 37 12.6	+0.4
	comp=Z,39nm,1.3s,mb4.9						
ILAR	Eielson Array	83.34	6	P	P	20 40 15.7	+1.4
	comp=Z,0.7nm,0.7s,mb3.8,baz=338,slow=3.9,SNR=5.8						
ILAR	Eielson Array	83.34	6	P	P	20 40 15.7	+1.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKW3	Yellowknife Ar	84.80	351	P	P	20 40 22.3	+0.7
SNAA	Sanae	108.54	195	P		20 46 13.6	

*IDC **28** 20:49:54.8±0.9, 34.94S×70.48W, mb3.8/4, mb1 4.1/7, mb1mx4.0/14, ML3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx3.3/13, Error ellipse: s-maj=38.8km s-min=18.5km az=90.0*

*GUC **28** 20:49:55.4±0.9, 35.01S×70.57W, h7^{km}±3^{km}, MD4.1, ML3.9*

*NEIC **28** 20:49:56.9±0.3, 34.87S×70.48W, h10^{km}, mb4.5/5, ML3.9(GUC), Error ellipse: s-maj=7.5km s-min=4.4km az=87.0*

ISC 28 20:49:54.8±0.4**, 35.04S**±0.02×**70.51W**±0.04**, h10^{km}, n45, σ0^{s}88**/60**, mb4.1**/8**, 7C-12D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.59	273	⇓*i*P	Pg	20 50 06.3	-0.4
NICH				*i* S	Sg	20 50 15.3	+0.6
SFDO	San Fernando	0.59	316	⇓*i*P	Pg	20 50 05.7	-1.0
CICH	Cipreses	0.72	6	⇓*i*P	Pb	20 50 07.7	-1.3
CACH	El Canelo	0.92	355	⇑*i*P	Pb	20 50 11.2	-1.2
TALC	Talca	0.99	248	⇓*i*P	Pb	20 50 12.9	-0.6
TALC				*i* S	Sb	20 50 26.4	0.0
CHCH	Chadas Angostu	1.11	354	⇓*i*P	Pb	20 50 14.7	-0.9
CHCH				*i* S	Sb	20 50 30.0	+0.1
LMEL	Las Melosas	1.22	12	⇑*i*P	Pb	20 50 16.5	-1.0
LMEL				*i* S	Sb	20 50 33.0	-0.1
LMEL				AMP		20 50 35.1	
	comp=N,2μm,0.2s						
LNV	Longovilo	1.31	325	⇑*i*P	Pb	20 50 18.0	-1.1
LNV				*i* S	Sb	20 50 34.6	-1.2
PCH	Pirque	1.42	360	⇓*i*P	Pn	20 50 20.0	-0.7
PCH				*i* S	Sb	20 50 39.2	+0.4
TACH	Talagante	1.43	346	⇓*i*P	Pn	20 50 20.0	-0.9
TACH				*i* S	Sb	20 50 38.9	-0.3
ANTU	Antumapu	1.47	356	*e*P	Pn	20 50 21.1	-0.4
ANTU				*i* S	Sb	20 50 40.7	+0.3
ANTU				AMP		20 50 56.6	
	comp=E,2μm,0.7s						
FSR	Penalolen	1.56	359	⇓*i*P	Pn	20 50 22.7	-0.1
FSR				*i* S	Sb	20 50 43.1	+0.2
FSR				AMP		20 50 55.2	
	comp=N,2μm,0.6s						
SAN	Santiago	1.59	355	⇑*i*P	Pn	20 50 23.1	0.0
SAN				AMP		20 50 45.8	
	comp=E,2μm,0.6s						
STL	Santa Lucia	1.60	356	⇓*i*P	Pn	20 50 23.3	-0.1
STL				*i* S	Sb	20 50 44.2	0.0
STL				AMP		20 50 46.2	
	comp=E,857nm,0.6s						
DSCH	Colegio Aleman	1.64	358	⇓*i*P	Pn	20 50 24.0	+0.1
DSCH				*i* S	Sn	20 50 46.2	+1.1
DSCH				AMP		20 50 56.5	
	comp=N,6μm,0.8s						
CLCH	Cerro Calan	1.64	359	⇑*i*P	Pn	20 50 24.0	+0.1
CLCH				*i* S	Sn	20 50 45.5	+0.3
CLCH				AMP		20 50 57.8	
	comp=N,3μm,0.8s						
CLCH				AMP		20 50 58.3	
	comp=N,4μm,0.7s						
FCH	Farellones	1.72	6	⇑*i*P	Pn	20 50 25.4	+0.4
FCH				*i* S	Sn	20 50 48.7	+1.5
FCH				AMP		20 50 59.3	
	comp=N,2μm,0.6s						
LCCH	Las Cruces	1.79	330	⇓*i*P	Pn	20 50 26.0	-0.1
LCCH				*i* S	Sn	20 50 49.1	+0.1
PEL	Peldehue	1.90	356	⇓*i*P	Pn	20 50 28.0	+0.4
PEL				*i* S	Sn	20 50 52.1	+0.4
PEL				AMP		20 51 02.6	
	comp=N,5μm,0.5s						
CCHI	Chillan	2.01	219	*e*P	Pn	20 50 29.8	+0.5
CCHI				*i* S	Sn	20 50 57.9	+3.2
CCHI				AMP		20 51 01.5	
	comp=E,2μm,0.6s						
CCHI				AMP		20 51 01.7	
	comp=E,4μm,0.7s						
IHA	Instituto Hidr	2.22	335	*e*P	Pn	20 50 32.6	+0.5
IHA				*i* S	Sn	20 51 01.1	+1.2
JACH	Jahuel	2.35	358	⇑*i*P	Pn	20 50 35.5	+1.4
JACH				*i* S	Sn	20 51 06.3	+3.0
CMCH	Combarbala	3.88	354	*e*P	Pn	20 50 56.5	+0.6
PLCA	Paso Flores	5.68	180	Pn	Pn	20 51 24.1	+2.7
	comp=E,0.9nm,0.3s,baz=342,slow=14,SNR=16						
PLCA				Pg	Pg	20 51 40.0	-8.3
	comp=E,1.4nm,0.3s,baz=326,slow=18,SNR=11						
PLCA				Lg		20 52 59.5	
	comp=E,2.3nm,0.3s,baz=90,slow=24,SNR=5.0						
PLCA				LR	LR	20 53 51.3	
	comp=E,199nm,18.9s,baz=177,slow=41						
PLCA	Paso Flores	5.68	180	Pn	Pn	20 51 24.1	+2.7
PLCA				Pg	Pg	20 51 40.0	-8.3
PLCA				Lg		20 52 59.5	
LVC	Limon Verde	12.46	7	*e*P	P	20 52 55.1	0.0
	comp=E,4.0nm,0.9s						
CPUP	Villa Florida	14.27	56	Pn	P	20 53 19.1	+0.1
	comp=E,0.1nm,0.3s,baz=232,slow=19,SNR=3.0						
CPUP				LR	LR	20 59 16.4	
	comp=E,157nm,21.5s,baz=77,slow=40						
LPAZ	La Paz	18.80	7	P	P	20 54 16.4	-0.3
	comp=E,0.1nm,0.3s,baz=177,slow=11,SNR=11						
LPAZ				LR	LR	21 01 33.4	
	comp=E,68nm,18.4s,baz=140,slow=37						
EFI	East Falkland	18.89	156	*e*P	P	20 54 17.2	-0.2
	comp=E,29nm,1.1s						
USHA	Ushuaia	19.84	176	LR	LR	21 02 33.7	
	comp=E,327nm,18.1s,baz=315,slow=38						
NNA	Nana	23.66	344	P	P	20 55 08.6	+1.3
SNAA	Sanae	50.15	158	*e*P	P	20 58 51.3	-0.5
	comp=E,6.4nm,1.1s,mb4.6						
QSPA	South Pole Qui	55.20	180	*e*P	P	20 59 29.6	+0.1
	comp=E,1.4nm,0.8s,mb4.0						
TXAR	Lajitas Array	71.26	330	P	P	21 01 15.9	-0.4
	comp=E,0.3nm,0.5s,mb3.5,baz=150,slow=8.1,SNR=5.0						
WVT	Waverly	72.62	345	*e*P	P	21 01 22.6	-1.7
	comp=E,8.4nm,0.9s,mb4.7						
DBIC	Dimbokro	74.33	70	P	P	21 01 33.0	-1.7
	comp=E,3.0nm,0.8s,mb4.2,baz=221,slow=9.3,SNR=3.9						
DBIC	Dimbokro	74.33	70	P	P	21 01 33.0	-1.7
CPRX	Cap Rock	74.59	331	*e*P	P	21 01 35.3	-0.5
PDAR	Pinedale Array	85.26	332	P	P	21 02 32.7	-0.1
	comp=E,0.5nm,0.9s,mb3.6,baz=180,slow=1.5,SNR=3.8						
NVAR	Mina Array Bea	85.46	324	P	P	21 02 34.4	+0.5
	comp=E,0.6nm,0.8s,mb3.8,baz=211,slow=6.1,SNR=4.0						
LSZ	Lusaka	88.29	107	*e*P	P	21 02 51.3	+3.2
	comp=E,3.8nm,1.1s,mb4.5						
WRA	Warramunga Arr	120.44	207	PKP	PKPdf	21 08 47.1	-2.9
	comp=E,0.3nm,0.6s,baz=165,slow=1.6,SNR=6.0						
ZRNK	Zerenda	146.38	45	*e*PKPdf	PKPdf	21 09 35.7	-1.4
BVAR	Borovoye Array	147.16	45	PKPbc	PKPdf	21 09 39.5	+1.1
	comp=E,0.9nm,0.5s,baz=252,slow=4.7,SNR=4.2						
AAK	Ala-Archa	151.86	64	PKPdf	PKPdf	21 09 45.2	-0.8
AAK				*e*PKPbc	PKPdf	21 09 52.1	+6.0

*NEIC **28** 21:17:16.5, 34.97S×70.52W, h3^{km}, ML2.7(GUC), After GUC.*

GUC 28 21:17:16.5±0.8**, 34.97S×70.52W, h3^{km}, MD3.6, ML2.7, 8C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	311	⇑*i*P	Pg	21 17 27.5	+0.1
SFDO				*i* S	Sg	21 17 36.0	+1.4
NICH	Los Niches	0.58	267	⇓*i*P	Pg	21 17 28.0	-0.2
NICH				*i* S	Sg	21 17 37.2	+1.2
CICH	Cipreses	0.66	7	⇑*i*P	Pg	21 17 29.0	-0.6
CICH				*i* S	Sg	21 17 38.9	+0.5
CACH	El Canelo	0.86	356	⇑*i*P	Pg	21 17 32.7	-0.9
CACH				*i* S	Sg	21 17 43.6	-1.4
CHCH	Chadas Angostu	1.04	354	⇑*i*P	Pb	21 17 36.4	-0.4
CHCH				*i* S	Sb	21 17 51.1	+0.3
LMEL	Las Melosas	1.15	13	⇑*i*P	Pb	21 17 38.1	-0.7
LMEL				*i* S	Sb	21 17 54.7	+0.7
LMEL				AMP		21 17 57.0	
	comp=N,161nm,0.1s						
LNV	Longovilo	1.25	324	⇑*i*P	Pb	21 17 40.2	-0.3
LNV				*i* S	Sb	21 17 57.2	+0.3
PCH	Pirque	1.35	0	⇑*i*P	Pb	21 17 41.7	-0.4
PCH				*i* S	Sb	21 18 00.2	+0.6
TACH	Talagante	1.36	345	*i* P	Pb	21 17 41.8	-0.5
TACH				*i* S	Sb	21 18 00.4	+0.4
CLCH	Cerro Calan	1.57	359	*e*P	Pn	21 17 45.7	+0.3
CLCH				*i* S	Sb	21 18 07.5	+1.3
CLCH				AMP		21 18 12.9	
	comp=E,298nm,0.7s						
FCH	Farellones	1.65	7	*i* P	Pn	21 17 46.5	-0.1
FCH				*i* S	Sb	21 18 09.5	+1.1
FCH				AMP		21 18 13.0	
	comp=E,164nm,0.6s						
LCCH	Las Cruces	1.73	329	⇑*i*P	Pn	21 17 47.6	-0.1

IDC 28 21:26:52.3±2.8**, 24.31N×89.41E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.4**/18**, Error ellipse: s-maj=105.0km s-min=25.1km az=72.0, Bangladesh**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGT	Agartala	1.73	104	*e*P	Pn	21 27 32.0	+8.2
SHL	Shillong	2.57	60	*e*P	Pn	21 27 13.0	-23
MKAR	Makanchi Array	23.16	347	P	P	21 31 59.8	-1.4
	0.2nm,0.4s,baz=172,slow=9.4,SNR=6.8						
SONM	Songino Array	27.08	26	P	P	21 32 37.4	-1.0
	0.9nm,1.2s,baz=211,slow=8.8,SNR=4.1						
WRA	Warramunga Arr	62.03	131	P	P	21 37 14.2	-3.0
	0.4nm,0.5s,baz=324,slow=7.1,SNR=7.2						
ASAR	Alice Springs	64.31	135	P	P	21 37 30.4	-1.8
	0.3nm,0.6s,baz=322,slow=7.0,SNR=6.3						

IGQ 28 21:31:27.6, 2.06S×78.51W, h115^{km}±3^{km}, mb4.1, 5C-5D, Error ellipse: s-maj=6.2km s-min=3.2km az=59.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARRY	Arrayan	0.55	6	⇓P	P	21 31 45.6	+0.2
ARRY				S	S	21 31 58.2	-0.8
PATA	Patacocha	0.56	8	⇓P	P	21 31 46.1	+0.6
IGUA	Igualata	0.58	347	⇑P	P	21 31 46.8	+1.2
RETU	Refugio	0.61	6	⇓P	P	21 31 46.7	+0.8
CUSU	Cusua	0.61	3	⇑P	P	21 31 46.7	+0.8
ULBA	Ulba	0.62	10	P	P	21 31 46.4	+0.5
JUIV	Juive	0.63	4	⇑P	P	21 31 46.8	+0.8
RUN2	Runtun	0.64	9	⇑P	P	21 31 46.5	+0.5
RUN2				S	S	21 32 00.4	+0.3
PISA	Pisayambo	1.00	7	P	P	21 31 50.4	+0.9
TAMB	Tambo	1.36	6	⇓P	P	21 31 54.5	+1.0
VC1	Cotopaxi 1	1.41	4	P	P	21 31 55.3	+1.2
NAS1	Nasa	1.42	1	P	P	21 31 55.5	+1.3
ANTI	Antisana	1.64	12	⇓P	P	21 31 57.0	+0.2
HOJA	Cerro de Hojas	2.27	296	⇑P	P	21 32 04.2	-0.6

*NEIC **28** 21:50:46.3, 34.99S×70.62W, h5^{km}, ML3.1(GUC), After GUC.*

GUC 28 21:50:46.3±0.9**, 34.99S×70.62W, h5^{km}±3^{km}, MD3.5, ML3.1, 7C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.49	319	⇑*i*P	Pg	21 50 56.5	+0.3
SFDO				*i* S	Sg	21 51 03.9	+1.0
NICH	Los Niches	0.50	268	⇓*i*P	Pg	21 50 56.6	+0.2
NICH				*i* S	Sg	21 51 04.2	+1.1
CICH	Cipreses	0.69	14	⇓*i*P	Pg	21 50 59.3	-0.7
CICH				*i* S	Sg	21 51 09.3	+0.1
CACH	El Canelo	0.87	1	⇑*i*P	Pb	21 51 02.6	-0.9
CACH				*i* S	Sb	21 51 15.2	0.0
TALC	Talca	0.93	243	⇑*i*P	Pb	21 51 02.9	-1.6
TALC				*i* S	Sb	21 51 16.0	-0.9
CHCH	Chadas Angostu	1.05	358	⇑*i*P	Pb	21 51 06.1	-0.5
CHCH				*i* S	Sb	21 51 21.0	+0.5
LMEL	Las Melosas	1.19	17	⇓*i*P	Pb	21 51 08.2	-0.7
LMEL				*i* S	Sb	21 51 24.8	+0.4
LMEL				AMP		21 51 25.6	
	comp=E,461nm,0.3s						
LNV	Longovilo	1.22	327	⇑*i*P	Pb	21 51 08.8	-0.7
TACH	Talagante	1.36	349	*e*P	Pb	21 51 11.2	-0.7
TACH				*i* S	Sb	21 51 29.9	+0.5
PCH	Pirque	1.36	4	⇓*i*P	Pb	21 51 11.4	-0.6
PCH				*i* S	Sb	21 51 31.0	+1.4
CLCH	Cerro Calan	1.59	2	⇑*i*P	Pn	21 51 15.4	+0.2
CLCH				*i* S	Sb	21 51 37.1	+1.0
CLCH				AMP		21 51 41.3	
	comp=E,468nm,0.7s						
FCH	Farellones	1.68	9	⇑*i*P	Pn	21 51 16.8	+0.3
FCH				*i* S	Sn	21 51 39.7	+1.1
FCH				AMP		21 51 41.5	
	comp=E,365nm,0.3s						
LCCH	Las Cruces	1.70	332	*e*P	Pn	21 51 16.9	+0.1
CCHI	Chillan	2.00	216	⇓*i*P	Pn	21 51 20.9	-0.3
CCHI				*i* S	Sn	21 51 47.1	+0.2
CCHI				AMP		21 51 51.0	
	comp=N,310nm,0.4s						

*IDC **28** 21:53:38.3±3.2, 33.44S×179.21W, mb3.4/2, mb1 3.7/3, mb1mx3.6/13, ML3.6/1, Error ellipse: s-maj=71.2km s-min=36.7km az=110.0*

ISC 28 21:53:41.1±3.3**, 33.5S**±0.1×**179.2W**±0.4**, h33^{km}, n6, σ1^{s}11**/6**, mb3.3**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.59	211	Pn	Pn	21 55 04.4	+0.1
	1.6nm,0.3s,baz=35,slow=13,SNR=12						
URZ				Sn	Sn	21 56 08.6	+0.4
	1.1nm,0.3s,baz=40,slow=17,SNR=4.1						
URZ	Urewera	5.59	211	*e*P	P	21 55 03.4	-0.7
OUZ	Omahuta	6.18	252	P	P	21 55 11.9	-0.5
ASAR	Alice Springs	42.02	271	P	P	22 01 32.6	+1.5
	0.5nm,0.6s,mb3.3,baz=108,slow=7.5,SNR=8.4						
WRA	Warramunga Arr	43.29	276	P	P	22 01 40.9	-0.7
	0.2nm,0.3s,mb3.3,baz=118,slow=8.2,SNR=9.0						
FINES	FINESS Array B	147.67	337	PKPbc	PKPdf	22 13 22.8	+4.2
	3.9nm,1.1s,baz=72,slow=4.4,SNR=3.5						

*THE **28** 21:57:44.2, 38.25N×21.73E, h2^{km}*

*NEIC **28** 21:57:44.2, 38.25N×21.73E, h2^{km}, MD3.3(ATH), After THE.*

*ATH **28** 21:57:44.6, 38.26N×21.63E, h34^{km}±3^{km}, MD3.3/11*

ISC 28 21:57:43.9±0.9**, 38.27N**±0.03×**21.72E**±0.03**, h10^{km}**±8^{km}**, n24, σ0^{s}94**/33**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.30	223	*e*PB	Pb	21 57 51.6	+0.8
RLS				*e*SB	Sb	21 57 57.8	+2.4
EVR	Evrytania	0.65	6	*e*PN	Pn	21 57 58.1	-0.7
VLS	Valsamata	0.90	264	*e*PB	Pb	21 58 00.0	-1.1
VLS				*e*SN	Sn	21 58 13.5	-2.0
LKD	Levkas	0.95	298	*e*Pg	Pg	21 58 01.3	-1.6
LKD				*e*Sg	Sg	21 58 16.2	+0.6
ITM	Ithomi	1.10	172	*e*PN	Pn	21 58 05.6	+0.2
NSAL	Nisos Salamina	1.42	104	*e*PB	Pb	21 58 10.0	-0.1
NAIG	Nisos Aigina	1.49	110	*e*PB	Pb	21 58 11.4	+0.2
JAN	Janina	1.54	334	*e*PN	Pn	21 58 12.2	+0.6
MEV	Metsovon	1.56	346	*e*Pb	Pb	21 58 13.4	+1.0
MEV				*e*Sb	Sb	21 58 33.6	+1.5
NEO	Neokhori	1.56	48	*e*PB	Pb	21 58 13.4	+0.9
XOR	Xorichti	1.58	46	*e*Pb	Pb	21 58 12.9	0.0
XOR				*e*Sb	Sb	21 58 33.5	+0.7
MPAR	Parnis Oros	1.59	94	*e*PB	Pb	21 58 13.8	+0.9
IGT	Igoumenitsa	1.66	320	*e*Pb	Pb	21 58 13.9	-0.3
IGT				*e*Sb	Sb	21 58 35.9	+0.8
PTL	Penteli	1.70	97	*e*PN	Pn	21 58 14.4	+0.5
VLI	Veliai	1.83	148	*e*PB	Pb	21 58 16.7	-0.3
AOS	Alonnisos	1.91	61	*e*Pb	Pb	21 58 17.2	-1.2
AOS				*e*Pb	Pb	21 58 17.2	-1.2
AOS				*e*Sn	Sn	21 58 39.2	-2.0
LIT	Litokhoron	1.92	18	*e*Pb	Pb	21 58 17.6	-1.0
LIT				*e*Sb	Sb	21 58 42.9	+0.3
KEK	Kerkira	2.08	314	*e*PN	Pn	21 58 17.9	-1.4
FNA	Florina	2.52	354	*e*Pn	Pn	21 58 25.4	-0.3
FNA				*e*Sn	Sn	21 58 56.7	-0.1
THE	Thessaloniki	2.54	22	*e*Pn	Pn	21 58 26.3	+0.3
GRG	Griva	2.73	11	*e*Pn	Pn	21 58 28.6	0.0
SOH	Sokhos	2.84	26	*e*Pn	Pn	21 58 30.3	+0.1
KNT	Kendrikon	3.02	17	*e*Pn	Pn	21 58 32.9	+0.1

*IDC **28** 21:59:12.4±2.2, 4.55S×102.22E, mb3.8/7, mb1 3.9/7, mb1mx3.8/14, Error ellipse: s-maj=99.1km s-min=18.4km az=57.0*

ISC 28 21:59:15.8±1.9**, 4.5S**±0.3×**102.4E**±0.5**, h33^{km}, n7, σ0^{s}53**/7**, mb3.8**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.04	352	P	P	22 04 19.4	-0.1
	0.9nm,0.6s,mb3.4,baz=181,slow=8.8,SNR=8.1						
WRA	Warramunga Arr	34.73	119	P	P	22 06 04.2	-1.0
	0.4nm,0.9s,mb3.4,baz=298,slow=11,SNR=6.2						
ASAR	Alice Springs	35.91	125	P	P	22 06 15.3	+0.2
	0.3nm,0.4s,mb3.6,baz=295,slow=7.8,SNR=5.8						
STKA	Stephens Creek	45.76	131	P	P	22 07 37.0	+0.8
	2.5nm,0.9s,mb4.2,baz=287,slow=14,SNR=2.6						
SONM	Songino Array	52.22	3	P	P	22 08 26.3	+0.5
	1.0nm,0.7s,mb3.9,baz=183,slow=10,SNR=9.2						
MKAR	Makanchi Array	54.05	343	P	P	22 08 39.2	-0.2
	0.7nm,0.5s,mb3.9,baz=151,slow=8.5,SNR=15						
NOA	NORSAR Array B	94.44	331	P	P	22 12 33.2	-0.2
	1.1nm,0.8s,mb4.4,baz=112,slow=4.3,SNR=3.8						

IDC 28 22:11:29.5±4.5**, 32.11S×178.24W, mb4.1**/3**, mb1 4.3**/3**, mb1mx4.0**/14**, Error ellipse: s-maj=171.0km s-min=54.6km az=162.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.91	282	P	P	22 18 16.1	-0.3
	1.9nm,0.5s,baz=102,slow=9.3,SNR=3.1						
ASAR	Alice Springs	42.84	269	P	P	22 19 28.7	-2.4
	1.1nm,0.5s,baz=109,slow=7.4,SNR=16						
WB2	Warramunga Arr	43.97	274	*e*P	P	22 19 37.9	-2.4
WRA	Warramunga Arr	43.98	274	P	P	22 19 38.0	-2.4
	1.6nm,0.5s,baz=113,slow=7.9,SNR=51						
KAF	Kangasniemi	146.08	340	*e*p	PKPbc	22 31 09.4	-1.3
	0.2nm,0.4s						
FINES	FINESS Array B	146.67	339	PKPbc	PKPbc	22 31 11.7	-0.4
	2.6nm,0.8s,baz=135,slow=2.7,SNR=6.0						

*BJI **28** 22:16:47.9, 41.00N×18.90E, h79^{km}, mB4.8, mb4.5, Ms4.5, Msz4.2*

*ATH **28** 22:16:47.2, 41.34N×19.46E, h37^{km}, MD4.1/17, ML4.4*

*PRU **28** 22:16:48.3, 40.99N×19.04E*

*PDG **28** 22:16:48.3±0.7, 41.25N×19.55E, h16^{km}±2^{km}*

*TIR **28** 22:16:48.4, 41.31N×19.69E, h24^{km}, Ml3.9*

*MOS **28** 22:16:48.3±1.1, 41.23N×19.50E, h33^{km}, mb4.3/10, Error ellipse: s-maj=7.7km s-min=5.3km az=82.5*

*THE **28** 22:16:49.3, 41.34N×19.50E, h21^{km}, ML4.2*

*IDC **28** 22:16:50.1±2.3, 41.25N×19.62E, h34^{km}±17^{km}, mb3.8/14, mb1 3.9/22, mb1mx3.9/29, ML3.7/9, MS3.1/2, Ms1 3.2/2, ms1mx2.7/21, Error ellipse: s-maj=13.3km s-min=10.8km az=15.0*

*ZUR_RM **28** 22:16:50, 41.25N×19.57E, h18^{km}, Mw4.0/23, Moment Tensor Solution. s23 Moment tensor: Scale 10^{15}Nm; M_{rr}0.55; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.57; $M_{r\theta}$0.62; $M_{\theta\phi}$0.63; $M_{\phi r}$-0.60; Best double couple: $M_0$1.16×10^{15} NP1:ϕ_s132°, δ71°, λ74°. NP2:ϕ_s353°, δ25°, λ129°. Principal axes: T .9834, Plg61°, Azm18°; N .3618, Plg15°, Azm138°; P -1.3452, Plg24°, Azm234°;*

*NEIC **28** 22:16:50.9±0.1, 41.25N×19.57E, h50^{km}±4^{km}, mb4.5/13, MD4.1(PDG), MD4.1(ATH) Error ellipse: s-maj=2.7km s-min=1.8km az=214.0*

NEIC Felt at Tirana.

*LDG **28** 22:16:51.0±0.1, 41.24N×19.53E, h10^{km}, Ml4.1/24, Error ellipse: s-maj=3.1km s-min=2.2km az=44.0*

ISC 28 22:16:47.9±0.1**, 41.30N**±0.01×**19.56E**±0.01**, h24^{km}, n305, σ1^{s}40**/411**, mb4.3**/25**, MS3.2**/4**, 14C-23D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.23	77	*i* Pg	Pb	22 16 53.2	-0.7
TIR				*i* Sg	Sb	22 16 54.5	-3.4
QSH	Qafa e Shtames	0.34	49	*i* Pg	Pb	22 16 55.5	+0.1
QSH				*i* Sg	Sb	22 16 59.5	-1.1
LACI	Lac	0.36	18	*i* Pg	Pb	22 16 56.2	+0.5
LACI				*i* Sg	Sb	22 17 02.2	+1.2
ULC	Ulcinj	0.71	341	⇓*i*Pg	Pb	22 17 03.1	+1.7
ULC				*e*Sg	Sb	22 17 14.7	+4.0
SDA	Shkodra	0.76	356	*i* Pg	Pb	22 17 04.2	+2.0
SDA				*i* Sg	Sb	22 17 19.4	+7.3
PHP	Peshkopia	0.77	59	*i* pg?	Pb	22 17 00.0	-2.4
PHP				*i* Sg	Sb	22 17 11.5	-0.9
PUK	Puka	0.79	18	*i* Pg	Pb	22 17 04.0	+1.2
PUK				*i* Sg	Sb	22 17 17.9	+4.9
VLO	Vlora	0.83	183	*i* Pg	Pb	22 17 05.8	+2.3
VLO				*i* Sg	Sb	22 17 18.2	+4.0
OHR	Ohrid	0.95	101	⇓*i*Pg	Pb	22 17 03.9	-1.7

OHR				*i*		22 17 06.1	
OHR				*i* Sg	Sb	22 17 17.8	+0.1
OHR				*i*		22 17 20.6	
BUM	Brajici-Budva	1.12	334⇑	*i*Pg	Pn	22 17 10.6	+2.4
BUM				*e*Sg	Sb	22 17 27.1	+4.5
BCI	Bajram Curri	1.13	19	*i* Pn	Pn	22 17 09.9	+1.5
BCI				*i* Sn	Sn	22 17 30.1	+6.8
KBN	Korca	1.15	126	*i* pn?	Pn	22 17 08.0	-0.6
KBN				*i* Sn	Sn	22 17 26.0	+2.4
TTG	Podgorica	1.15	349⇑	*i*Pg	Pn	22 17 10.9	+2.2
TTG				*e*Sg	Sb	22 17 28.9	+5.4
PVY	Plav	1.33	13⇓	*i*Pg	Pn	22 17 13.0	+1.7
PVY				*e*Sg	Sn	22 17 34.7	+6.3
BIA	Bitola	1.36	101	*i* Pn	Pn	22 17 12.0	+0.4
BIA				*i*		22 17 14.0	
BIA				*i* Sn	Sn	22 17 32.1	+3.1
LSK	Leskovik	1.39	145	*i* Pn	Pn	22 17 13.7	+1.6
LSK				*i* Sn	Sn	22 17 31.4	+1.6
HCY	Herceg Novi	1.40	326⇓	*i*Pg	Pn	22 17 15.2	+3.0
HCY				*e*Sg	Sn	22 17 35.5	+5.5
LCI	Lecce	1.46	229	*e*Pn	Pn	22 17 14.3	+1.2
FNA	Florina	1.47	110	*e*Pb	Pb	22 17 13.5	-0.8
FNA				*e*Sb	Sb	22 17 32.6	0.0
SKO	Skopje	1.56	64	*i* Pn	Pn	22 17 15.4	+0.9
SKO				*i*		22 17 18.0	
SKO				*i* Sg	Sn	22 17 37.1	+2.9
SKO				Lg		22 17 42.0	
	comp=Z,0.7nm,0.6s						
NKY	Niksic	1.57	345	*e*Pn	Pn	22 17 17.4	+2.7
NKY				*e*Sn	Sn	22 17 40.2	+5.7
IVA	Berane	1.59	9⇑	*i*Pn	Pn	22 17 18.0	+3.0
IVA				*e*Sn	Sn	22 17 41.0	+6.0
KEK	Kerkira	1.59	173	*e*PB	Pb	22 17 15.9	-0.6
BRY	Bratogost	1.77	335⇓	*i*Pn	Pn	22 17 20.3	+2.8
BRY				*e*Sn	Sn	22 17 45.6	+6.0
BRT	Bari-Castellan	1.83	258	*e*Pn	Pn	22 17 20.5	+2.1
IGT	Igoumenitsa	1.86	161	*e*Pb	Pb	22 17 20.0	-1.0
IGT				*e*Sb	Sb	22 17 42.8	-1.2
JAN	Janina	1.91	149	*e*PB	Pb	22 17 21.5	-0.4
KZN	Kozani	1.95	120	*e*PN	Pn	22 17 21.4	+1.4
UPM	Unac-Piva	1.96	346⇓	*i*Pn	Pn	22 17 23.5	+3.2
UPM				*e*Sn	Sn	22 17 50.2	+5.8
MEV	Metsovon	1.97	139	*e*Pn	Pn	22 17 22.7	+2.3
PLE	Pljevlja	2.04	357⇑	*i*Pn	Pn	22 17 24.1	+2.8
PLE				*e*Sn	Sn	22 17 52.0	+5.8
STON	Ston	2.10	319	*i* Pn	Pn	22 17 24.3	+2.1
STON				*i* Sn	Sn	22 17 50.5	+2.7
GRG	Griva	2.17	98	*e*Pn	Pn	22 17 24.2	+1.0
GRG				*e*Sn	Sn	22 17 49.8	+0.1
NVSS	Nova Varos 2	2.21	3⇓	*i*Pn	Pn	22 17 26.6	+2.8
NVSS				Sn	Sn	22 17 54.4	+3.7
VAY	Valandovo	2.27	88	*i* Pn	Pn	22 17 25.4	+0.8
VAY				*i* Pg	Pn	22 17 30.1	+5.5
VAY				*i* Sn	Sn	22 17 53.2	+1.1
BARS	Barje	2.27	47⇓	*i*Pn	Pn	22 17 26.5	+1.8
BARS				Sn	Sn	22 17 56.5	+4.3
KNT	Kendrikon	2.52	92	*e*Pn	Pn	22 17 28.6	+0.4
KNT				*e*Sn	Sn	22 17 59.1	+0.6
LIT	Litokhoron	2.53	117	*e*Pn	Pn	22 17 28.6	+0.3
	comp=Z,16nm,0.5s						
LIT				*e*Sn	Sn	22 17 58.4	-0.3
THE	Thessaloniki	2.66	103	*e*Pn	Pn	22 17 30.2	-0.1
THE				*e*Sn	Sn	22 18 02.4	+0.3
ORI	Oriolo Calabro	2.67	244	*e*Pn	Pn	22 17 31.3	+0.9
KKB	Krupnik	2.70	77	P	Pn	22 17 32.0	+1.1
LKD	Levkas	2.72	162	*e*Pn	Pn	22 17 31.2	+0.1
LKD				*e*Sn	Sn	22 18 02.7	-0.9
GRUS	Gruza	2.73	18⇓	*i*Pn	Pn	22 17 33.3	+2.1
GRUS				Sn	Sn	22 18 07.1	+3.4
FGMS	Monte Sant'Ang	2.74	280	*e*Pn	Pn	22 17 32.9	+1.5
DIVS	Divcibare	2.82	6⇓	*i*Pn	Pn	22 17 34.5	+2.0
DIVS				Sn	Sn	22 18 09.5	+3.4
SOH	Sokhos	2.91	98	*e*Pn	Pn	22 17 34.2	+0.4
SOH				*e*Sn	Sn	22 18 08.9	+0.6
EVR	Evrytania	2.94	143	*e*PN	Pn	22 17 35.9	+1.7
RGNG	Rignano Grg	3.01	279	*e*Pn	Pn	22 17 36.4	+1.2
VTS	Vitosha	3.01	63	P	Pn	22 17 36.5	+1.3
TIP	Timpagrande	3.01	226	*e*Pn	Pn	22 17 35.6	+0.4
SRS	Serrai	3.05	92	*e*Pn	Pn	22 17 35.8	+0.1
SRS				*e*Sn	Sn	22 18 12.2	+0.4
FG4	Candela	3.06	268	*e*Pn	Pn	22 17 37.7	+1.9
PLG	Polygyros	3.09	106	*e*PN	Pn	22 17 37.2	+0.9
BOLS	Boljevac	3.09	34⇑	*i*Pn	Pn	22 17 37.8	+1.4
BOLS				Sn	Sn	22 18 14.5	+1.5
SLCN	Sala Consilina	3.12	254	*e*Pn	Pn	22 17 38.1	+1.4
MRLC	Muro Lucano	3.13	261	*e*Pn	Pn	22 17 38.3	+1.4
MMB	Musomiste	3.15	83	P	Pn	22 17 38.0	+0.9
VLS	Valsamata	3.21	165	*e*PN	Pn	22 17 37.1	-1.0
FG5	Orsara di Pugl	3.23	271	*e*Pn	Pn	22 17 40.5	+2.1
MGR	Morigerati	3.26	250	*e*Pn	Pn	22 17 40.1	+1.4
SGO	Sicignano	3.31	259	*e*Pn	Pn	22 17 40.4	+1.0
FG2	Serracapriola	3.34	280	*e*Pn	Pn	22 17 41.2	+1.3
XOR	Xorichti	3.38	124	*e*Pn	Pn	22 17 39.9	-0.5
XOR				*e*Sn	Sn	22 18 18.7	-1.6
PAIG	Paliouri	3.42	112	*e*Pn	Pn	22 17 40.9	-0.2
PAIG				*e*Sn	Sn	22 18 19.4	-1.9
NEO	Neokhori	3.43	124	*e*PN	Pn	22 17 40.7	-0.5
GRI	Girifalco	3.45	225	*e*Pn	Pn	22 17 41.5	0.0
CSSN	Cassano Irpino	3.46	264	*e*Pn	Pn	22 17 42.9	+1.3
CSSN				*e*Sn	Sn	22 18 23.8	+1.6
MRB1	Monte Rocchett	3.47	269	*e*Pn	Pn	22 17 43.7	+2.0
OUR	Ouranopolis	3.49	105	*e*Pn	Pn	22 17 41.9	-0.2
OUR				*e*Sn	Sn	22 18 20.9	-2.2
RLS	Riolos of Patr	3.55	155	*e*PN	Pn	22 17 43.4	+0.5
PGB	Panagyurishte	3.66	68	P	Pn	22 17 46.0	+1.6
LKR	Lokris	3.74	134	*e*PN	Pn	22 17 45.8	+0.3
HOPOS	Hopovo Monaste	3.84	3⇑	*i*Pn	Pn	22 17 48.1	+1.1
RZN	Rozhen	3.89	83	P	Pn	22 17 49.0	+1.3
SGG	Gregorio Mates	3.90	273	*e*Pn	Pn	22 17 50.0	+2.1
AOS	Alonnisos	3.93	121	*e*Pn	Pn	22 17 49.0	+0.8
OVO	Vesuviano	3.93	265	*e*Pn	Pn	22 17 50.3	+2.0
PLD	Plovdiv	3.93	76	*i* P	Pn	22 17 49.8	+1.5
CPI2	Carpinone	3.95	276	*e*Pn	Pn	22 17 50.1	+1.6
CII	Carovilli	3.97	278	*e*Pn	Pn	22 17 50.7	+1.9
SOI	Samo	4.21	221	*e*Pn	Pn	22 17 51.5	-0.8
MSC	Monte Massico	4.22	270	*e*Pn	Pn	22 17 54.0	+1.6
SCLL	Scilla	4.24	226	*e*Pn	Pn	22 17 51.7	-1.1
INTR	Introdacqua	4.30	281	*e*Pn	Pn	22 17 54.7	+1.1
KDZ	Kurdzhali	4.41	83	P	Pn	22 17 54.2	-1.0
MTTG	Motta San Giov	4.44	223	*e*Pn	Pn	22 17 54.9	-0.7
MPAR	Parnis Oros	4.50	133	*e*PN	Pn	22 17 56.4	+0.1
ITM	Ithomi	4.50	155	*e*PN	Pn	22 17 56.1	-0.3
RDO	Rodhopi	4.51	90	*e*PN	Pn	22 17 56.2	-0.3
NSAL	Nisos Salamina	4.53	137	*e*PN	Pn	22 17 57.1	+0.3
DIM	Dimitrovgrad	4.54	78	*e*P	Pn	22 17 58.0	+1.1
ATH	Athens Observa	4.62	135	*e*PN	Pn	22 17 58.0	0.0
TERO	Teramo	4.64	289	*e*Pn	Pn	22 17 59.3	+1.0
PTL	Penteli	4.64	133	*e*PN	Pn	22 17 58.0	-0.4
NAIG	Nisos Aigina	4.66	138	*e*PN	Pn	22 17 59.0	+0.4
PTQR	Pietraquaria	4.67	281	*e*Pn	Pn	22 18 00.6	+1.7
RHK3	Tenkes	4.69	349⇓	*e*P	Pn	22 18 00.0	+1.0
AQU	L'Aquila	4.72	285	*e*Pn	Pn	22 18 01.1	+1.5
NVLJ	Novalja	4.75	315	*i* Pn	Pn	22 18 00.8	+0.9
NVLJ				*i* Sn	Sn	22 18 53.7	-1.1
SISC	Sisak	4.78	332	*i* Pn	Pn	22 18 01.9	+1.6
SISC				*i* Sn	Sn	22 18 54.2	-1.4
ALN	Alexandroupoli	4.92	93	*e*Pn	Pn	22 18 01.6	-0.7
ALN				*e*Sn	Sn	22 18 56.3	-2.8
RHK1	Bakonya	4.92	348⇑	*i*P	Pn	22 18 03.6	+1.3
RHK1				*e*S	Sn	22 18 58.8	-0.3
PKSM	Moragy	4.96	353⇓	*i*P	Pn	22 18 03.6	+0.7
PKSM				*e*S	Sn	22 18 59.4	-0.8
CERT	Cerreto	4.97	280	*e*Pn	Pn	22 18 04.2	+1.1
NRCA	Norcia	5.04	290	*e*Pn	Pn	22 18 05.1	+1.1
NRCA				*e*Sn	Sn	22 19 03.3	+1.1
MNO	Monte Soro	5.04	230	*e*Pn	Pn	22 18 03.9	-0.2
SZH	Strazhica	5.12	65	P	Pn	22 18 07.0	+1.9
CING	Cingoli	5.16	296	*e*Pn	Pn	22 18 05.9	+0.3
LAV9	Lanuvio	5.17	276	*e*Pn	Pn	22 18 07.2	+1.3
BOJS	Bojanci	5.25	325	*i* Pn	Pn	22 18 08.1	+1.1
	comp=Z,58nm,0.3s						
MNS	Montasola	5.25	284	*e*Pn	Pn	22 18 08.5	+1.4
VLI	Veliai	5.27	149	*e*PN	Pn	22 18 05.8	-1.5
PKS6	Bocsa	5.30	0⇓	*i*P	Pn	22 18 08.6	+0.9
PKS9	Tamasi	5.37	351⇑	*e*P	Pn	22 18 09.5	+0.9
ARV	Arcevia	5.37	296	*e*Pn	Pn	22 18 09.0	+0.3
ARV				*e*Sn	Sn	22 19 10.4	-0.2
GCIS	Gornji Cirnik	5.39	329	*i* Pn	Pn	22 18 09.6	+0.6
GIB	Gibilmanna	5.40	234	*e*Pn	Pn	22 18 08.0	-1.0
SSY	Sortino	5.41	222	*e*Pn	Pn	22 18 05.9	-3.4
CRES	Cresnjevec ost	5.42	328	*i* Pn	Pn	22 18 10.2	+0.8
	comp=Z,53nm,0.3s						
CRES	Cresnjevec ost	5.42	328	*i* Pn	Pn	22 18 10.2	+0.8
	comp=Z,53nm,0.3s						
ASS	Assisi	5.43	291	*e*Pn	Pn	22 18 10.5	+1.0
ASS				*e*Sn	Sn	22 19 12.9	+1.0
VAE	Valguarnera	5.52	228	Pn	Pn	22 18 10.6	-0.1
	comp=Z,0.5nm,0.3s,baz=328,slow=19,SNR=3.2						
FSSB	Fossombrone	5.56	298	*e*Pn	Pn	22 18 11.6	+0.3
MURB	Monte Urbino	5.58	293	*e*Pn	Pn	22 18 12.4	+0.9
MURB				*e*Sn	Sn	22 19 16.1	+0.4
PKSN	Nyarlorinc	5.60	2⇓	*e*P	Pn	22 18 13.0	+1.0
PKS8	Sarbogard	5.62	354⇓	*e*P	Pn	22 18 12.7	+0.6
VISS	Visnje	5.66	324	*i* Pn	Pn	22 18 13.8	+1.0
KNDS	Knezji Dol	5.67	320	*i* Pn	Pn	22 18 13.3	+0.5
	comp=Z,26nm,0.3s						
KYTH	Kithira	5.70	150	*e*PN	Pn	22 18 12.9	-0.4
TOLF	Tolfa	5.71	280	*e*Pn	Pn	22 18 14.2	+0.7
CEY	Cerknica	5.80	322	*i* Pn	Pn	22 18 15.6	+0.9
PDKS	Podkum	5.81	327	*i* Pn	Pn	22 18 15.3	+0.4
RSM	Repubblica di	5.87	299	*e*Pn	Pn	22 18 16.2	+0.5
LJU	Ljubljana	5.99	324	*e*Pn	Pn	22 18 18.5	+1.2
LJU				*e*Sn	Sn	22 19 25.1	-0.8
CRE	Caprese Michel	6.09	295	*e*Pn	Pn	22 18 19.3	+0.4
FAVR	Favara	6.09	231	*e*Pn	Pn	22 18 19.4	+0.5
TRI	Trieste	6.10	318	*e*Pn	Pn	22 18 18.8	-0.2
PKSG		6.15	353⇓	*e*P	Pn	22 18 20.5	+0.8
PERS	Pernice	6.23	330	*i* Pn	Pn	22 18 21.0	+0.3
MLR	Muntele Rosu	6.26	46	Pn	Pn	22 18 22.0	+0.8
	comp=Z,1.8nm,0.3s,baz=182,slow=7.0,SNR=38						
MLR				Sn	Sn	22 19 31.6	-1.2
	comp=Z,0.5nm,0.3s,baz=131,slow=20,SNR=1.9						
MLR	Muntele Rosu	6.26	46	P	Pn	22 18 22.0	+0.8
MLR						22 19 31.6	
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
SFI	Santa Sofia	6.26	297	*e*Pn	Pn	22 18 22.2	+1.0
SFI				*e*Sn	Sn	22 19 33.4	+0.6
VOY	Vojsko	6.27	321	*e*Pn	Pn	22 18 21.7	+0.4
VOY				*e*Sn	Sn	22 19 31.4	-1.6
APE	Apeiranthos	6.27	130	*e*PN	Pn	22 18 20.5	-0.9
PGD	Poggio Sodo	6.33	297	*e*Pn	Pn	22 18 23.0	+0.7
PGD				*e*Sn	Sn	22 19 34.4	-0.2
OBKA	Obir	6.34	327⇓	*i*PN	Pn	22 18 22.8	+0.4
OBKA				*i* SN	Sn	22 19 32.0	-2.9
MAON	Monte Argentar	6.39	283	*e*Pn	Pn	22 18 23.2	+0.1
CADS	Cadrg	6.49	321	*i* Pn	Pn	22 18 24.5	+0.1
	comp=Z,40nm,0.2s						
VMG	Vicchio	6.49	297	*e*Pn	Pn	22 18 25.4	+1.0
VMG				*e*Sn	Sn	22 19 38.6	+0.2
PENC	Penc	6.50	358⇑	*i*P	Pn	22 18 25.3	+0.8
CSNT	Castellina Chi	6.50	292	*e*Pn	Pn	22 18 24.2	-0.4
SRO	Srobarova	6.58	353	*e*PN	Pn	22 18 29.0	+3.3
SRO				*e*SN	Sn	22 19 34.9	-5.8
ARSA	Arzberg	6.62	335⇑	*i*PN	Pn	22 18 26.9	+0.6
ARSA				*i* SN	Sn	22 19 39.2	-2.6
PSZ	Piszkesteto	6.62	2	*e*Pn	Pn	22 18 26.4	0.0
	comp=Z,6.6nm,0.4s						
PSZ				*e*Sn	Sn	22 19 44.0	+2.0
SEI	Scarperia	6.64	297	*e*Pn	Pn	22 18 27.8	+1.1
GMNA	Gemona	6.76	320	*e*Pn	Pn	22 18 28.3	+0.1
GMNA				*e*Sn	Sn	22 19 43.6	-1.7
PTCC	Patocco-Chiusa	6.80	321	*e*Pn	Pn	22 18 28.6	-0.2
PTCC				*e*Sn	Sn	22 19 43.7	-2.5
PSN	Preselentsi	6.80	67	*e*P	Pn	22 18 29.0	+0.1
VAM	Vamos	6.92	147	*e*PN	Pn	22 18 28.0	-2.5
ZCCA	Zocca	7.01	299	*e*Pn	Pn	22 18 33.1	+1.3
PII	Pisa	7.10	293	*e*Pn	Pn	22 18 32.6	-0.5
ZST	Bratislava	7.12	347	*e*PN	Pn	22 18 35.1	+1.8
ZST				*e*SN	Sn	22 19 51.2	-3.0
BDI	Bagni Di Lucca	7.16	296	*e*Pn	Pn	22 18 33.0	-0.9
FVI	Forni Avoltri	7.21	320	*e*Pn	Pn	22 18 34.1	-0.4
VYHS	Vyhne	7.21	356	*e*PN	Pn	22 18 35.0	+0.4
VYHS				*e*SN	Sn	22 19 57.5	+0.8
KECS	Kecovo	7.22	5	*e*PN	Pn	22 18 35.7	+1.0
KECS				*e*SN	Sn	22 19 56.2	-0.5
GSCL	Gusciola	7.27	298	*e*Pn	Pn	22 18 35.7	+0.3
KBA	Koelnbreinsper	7.30	324⇑	*i*PN	Pn	22 18 36.0	+0.1
KBA				*i* SN	Sn	22 19 56.5	-2.4
IDI	Anoyia	7.32	143	Pn	Pn	22 18 31.5	-4.5
	comp=Z,1.0nm,0.3s,baz=233,slow=20,SNR=12						
IDI				Sn	Sn	22 19 50.9	-8.3
	comp=Z,2.9nm,0.3s,baz=114,slow=18,SNR=4.8						
SMOL	Smolenice	7.37	349	*e*SN	Sn	22 20 02.6	+2.0
CTI	Castel Tesino	7.44	312	*e*Pn	Pn	22 18 37.0	-0.9
MOA	Molln	7.56	332⇑	*i*PN	Pn	22 18 40.6	+1.1
MOA				*i* SN	Sn	22 20 02.3	-3.0
LIKS	Likavka	7.76	358	*e*	Pn	22 18 53.0	+11
SAL	Salo	7.86	306	*e*Pn	Pn	22 18 42.7	-1.0
PGF	Pioggiola	7.97	283	*e*Pn	Pn	22 18 46.2	+0.9
SCE	Schlegeis	8.05	318	*e*Pn	P	22 18 46.4	+0.1
MABI	Malga Bissina	8.10	309	*e*Pn	P	22 18 46.2	-0.8
MABI				*e*Sn	Sn	22 20 14.7	-4.1
BOB	Bobbio (Coli)	8.18	298	*e*Pn	P	22 18 48.1	0.0
WTTA	Wattenberg	8.24	319⇑	*i*Pn	P	22 18 49.2	+0.3
	comp=Z,12nm,0.2s						
WTTA				*i* Sn	Sn	22 20 19.4	-2.8
WATA	Walderalm	8.32	319⇓	*i*Pn	P	22 18 50.4	+0.4
	comp=Z,15nm,0.1s						
WATA				*i* Sn	Sn	22 20 21.5	-2.7
GENL	Genova Univers	8.38	295	P	P	22 18 47.4	-3.5
BRMO	Bormio	8.41	311	*e*Pn	P	22 18 51.8	+0.4
BRMO				*e*Sn	Sn	22 20 23.8	-2.8
SQTA	Sankt Quirin	8.42	317⇓	*i*Pn	P	22 18 52.1	+0.6
	comp=Z,22nm,0.2s						
SQTA				*i* Sn	Sn	22 20 24.2	-2.6
MOTA	Moosalm	8.56	318⇓	*i*Pn	P	22 18 53.5	+0.1
	comp=Z,1.8nm,0.1s						
MOTA				*i* Sn	Sn	22 20 27.8	-2.4
MORC	Moravsky Berou	8.60	351	*e*Pn	P	22 18 52.8	-1.1
MORC				*e*S	Sn	22 20 18.8	-12
GEC2	GERESS Array S	8.61	333	*e*Pn	P	22 18 53.6	-0.5
GEC2				*e*Sn	Sn	22 20 29.5	-1.9
GERES	GERESS Array B	8.61	333	Pn	P	22 18 53.6	-0.5
	comp=Z,0.9nm,0.3s,baz=158,slow=14,SNR=29						
GERES				Sn	Sn	22 20 28.9	-2.6
	comp=Z,2.3nm,0.3s,baz=152,slow=23,SNR=12						
GERES	GERESS Array B	8.61	333	P	P	22 18 53.6	-0.5
GERES						22 20 28.9	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,2.0nm,0.3s						
PCP	Pian Castagno	8.71	296	P	P	22 18 52.0	-3.4
FIN	Finale Ligure	8.85	293	P	P	22 18 54.2	-3.2
DAVOX	Davos	8.87	311	Pn	P	22 18 57.5	-0.1
	comp=N,1.6nm,0.3s,baz=130,slow=14,SNR=19						
DAVOX				Sn	Sn	22 20 37.6	-0.2
	comp=N,3.5nm,0.3s,baz=325,slow=22,SNR=6.6						
KHC	Kasperske Hory	8.90	334	*e*PN	P	22 18 57.5	-0.5
KHC				*e*		22 19 08.0	
KHC				*e*SN	Sn	22 20 35.3	-3.3
KHC	Kasperske Hory	8.90	334	*e*P	P	22 18 57.5	-0.5
KHC				*e*		22 20 35.3	
RORO		8.92	292	P	P	22 18 57.0	-1.4
OJC	Ojcow	8.93	1	*e*P	P	22 18 59.7	+1.2
IMI	Imperia	9.00	291	P	P	22 18 57.6	-1.8
ROB	Roburent	9.10	293	P	P	22 18 57.9	-3.0
NEGI	Negi	9.11	290	P	P	22 18 59.6	-1.4
WET	Wettzell	9.15	331	*e*P	P	22 19 00.8	-0.8
DAVA	Damuels	9.16	314⇑	*i*PN	P	22 19 02.1	+0.4
DAVA				*i* SN	Sn	22 20 41.8	-3.4
SBF	Sospel	9.31	290	*e*Pn	P	22 19 03.4	-0.3
SBF				*e*Sn	Sn	22 20 40.9	-7.8
	comp=N,13nm,0.5s						
DPC	Dobruska-Polom	9.33	347	*e*PN	P	22 19 07.0	+2.9
PRU	Pruhonice	9.37	340	*e*PN	P	22 19 04.9	+0.3
ENR	Entracque	9.40	292	P	P	22 19 02.6	-2.4
STV2	Anna di Valdie	9.47	292	P	P	22 19 03.2	-2.7
STV	Sta Anna Valdi	9.47	292	P	P	22 19 03.4	-2.6
BHB	Bricherasio	9.67	296	P	P	22 19 04.4	-4.2
PZZ	Prazzo	9.69	293	P	P	22 19 06.3	-2.6
RSP	Reno Superiore	9.77	297	P	P	22 19 05.4	-4.7
FRF	La Foret Royal	9.81	288	*e*Pn	P	22 19 10.6	-0.1
FRF				*e*Sn	Sn	22 20 52.0	-9.2
	comp=N,4.8nm,0.4s						
FENE	Fenestrelle	9.86	296	P	P	22 19 06.8	-4.5
LMR	La Mourre	9.88	286	*e*Pn	P	22 19 10.5	-1.1
LMR				*e*Sn	Sn	22 20 55.9	-6.9
	comp=N,2.9nm,0.4s						
LSD	Ceresole Reale	9.94	299	P	P	22 19 07.4	-5.0
MBDF	Montbardon	9.97	294	*e*Pn	P	22 19 10.4	-2.5
MBDF				*e*Sn	Sn	22 20 56.1	-9.0
	comp=N,7.8nm,0.4s						
RRL	Cesana Torines	10.02	295	P	P	22 19 10.2	-3.3
BNI	Bardonecchia	10.13	296	*e*Pn	P	22 19 12.3	-2.7
	comp=N,2.5nm,0.4s						
BNI				*e*Sn	S	22 20 48.2	-21
LPG	La Plagne	10.22	299	*e*Pn	P	22 19 13.7	-2.6
LPG				*e*Sn	S	22 21 02.8	-8.4
	comp=N,28nm,0.6s						
LPL	La Plagne	10.24	299	*e*Pn	P	22 19 13.6	-2.9
LPL				*e*Sn	S	22 21 02.9	-8.7
	comp=N,21nm,0.5s						
STU	Stuttgart	10.46	319	*e*P	P	22 19 16.4	-3.1
ORIF	Oris-en-Rattie	10.64	294	*e*Pn	P	22 19 19.3	-2.6
ORIF				*e*Sn	S	22 21 12.8	-8.5
	comp=N,14nm,0.5s						
SMRF	Simiane la Rot	10.65	289	*e*Pn	P	22 19 21.3	-0.8
SMRF				*e*Sn	S	22 21 14.2	-7.4
	comp=N,3.4nm,0.7s						
BRTR	Keskin Array B	10.84	94	Pn	P	22 19 24.4	-0.3
	comp=N,0.2nm,0.3s,baz=92,slow=25,SNR=5.4						
MOX	Moxa	10.85	332	*i* P	P	22 19 24.7	-0.2
MOX				S	S	22 21 23.0	-3.6
MOX				L		22 24 07.0	
MOX	Moxa	10.85	332	*e*P	P	22 19 24.7	-0.2
MOX				*e*		22 21 23.4	
MOX				MLR	MLR		
	comp=Z,100nm,20.0s						
CABF	La Chapelle	11.07	303	*e*Pn	P	22 19 25.4	-2.4
CABF				*e*Sn	S	22 21 23.1	-8.7
	comp=Z,7.9nm,0.4s						
HINF	Hinteralfeld	11.16	310	*e*Pn	P	22 19 27.6	-1.4
HINF				*e*Sn	S	22 21 26.3	-7.8
	comp=Z,13nm,0.4s						
CDF	Champ du Feu	11.24	313	*e*Pn	P	22 19 28.8	-1.4
CDF				*e*Sn	S	22 21 28.5	-7.7
	comp=Z,4.3nm,0.5s						
VIVF	Saint-Julien-l	11.46	293	*e*Pn	P	22 19 32.6	-0.5
VIVF				*e*Sn	S	22 21 34.0	-7.3
	comp=Z,2.2nm,0.4s						
AKASG	Malin Array Be	11.55	32	Pn	P	22 19 32.8	-1.6
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=7.2						
HAU	Haudompre	11.55	310	*e*Pn	P	22 19 32.5	-1.8
HAU				*e*Sn	S	22 21 34.0	-10
	comp=Z,13nm,0.4s						
LASF	Ste Croix	11.89	289	*e*Pn	P	22 19 37.6	-1.3
RFYF	Reffroy	12.37	311	*e*Pn	P	22 19 44.2	-1.2
SFTF	Sexfontaines	12.41	309	*e*Pn	P	22 19 44.2	-1.7
SFTF				*e*Sn	S	22 21 56.2	-8.3
	comp=Z,6.0nm,0.6s						
SMF	Signal de Mont	12.52	301	*e*Pn	P	22 19 44.3	-3.1
SMF				*e*Sn	S	22 21 55.3	-12
	comp=Z,8.0nm,0.5s						
MEZF	Maizieres J'vi	12.55	310	*e*Pn	P	22 19 47.1	-0.6
MEZF				*e*Sn	S	22 21 58.3	-9.4
	comp=Z,3.2nm,0.4s						
LOR	Lormes	12.73	303	*e*Pn	P	22 19 48.1	-2.1
LOR				*e*Sn	S	22 22 00.0	-12
	comp=Z,10nm,0.4s						
SSF	Saint Saulge	12.88	302	*e*Pn	P	22 19 48.9	-3.2
SSF				*e*Sn	S	22 22 03.6	-12
	comp=Z,7.2nm,0.5s						
AVF	Avril sur Loir	12.88	301	*e*Pn	P	22 19 49.8	-2.4
AVF				*e*Sn	S	22 22 01.9	-14
	comp=Z,4.0nm,0.5s						
SUW	Suwalki	12.95	10	*e*P	P	22 19 52.1	-1.0
	comp=Z,24nm,1.0s						
BGF	Bois d'Agland	13.14	299	*e*Pn	P	22 19 52.3	-3.3
BGF				*e*Sn	S	22 22 12.9	-9.1
	comp=Z,11nm,0.4s						
CAF	Calviac	13.29	292	*e*Pn	P	22 19 57.0	-0.6
TCF	Toulx Ste Croi	13.48	298	*e*Pn	P	22 19 57.2	-3.0
TCF				*e*Sn	S	22 22 21.9	-8.3
	comp=Z,2.0nm,0.3s						
HYF	Humbligny	13.50	302	*e*Pn	P	22 20 00.0	-0.3
HYF				*e*Sn	S	22 22 21.9	-8.7
	comp=Z,53nm,0.5s						
MALT	Malatya	14.80	95	P	P	22 20 15.1	-2.3
	comp=Z,6.7nm,1.0s						
SOC	Sochi	15.06	75	*e*P	P	22 20 25.7	+5.0
SOC				*e*S	S	22 23 12.4	+5.0
SOC				pmax	pmax		
	comp=Z,38nm,0.8s						
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,28nm,0.6s						
SOC				MLR	MLR		
	comp=Z,110nm,27.0s						
SOC				MLR	MLR		
	comp=N,53nm,15.0s						
SOC				MLR	MLR		
	comp=E,86nm,23.0s						
LDF	La Druitiere	15.70	304	*e*Pn	P	22 20 30.0	+0.9
FLN	La Foliniere	15.99	305	*e*Pn	P	22 20 33.9	+1.2
GRR	Gorron	16.10	303	*e*Pn	P	22 20 35.6	+1.5
EIL	Elat	17.05	128	P	P	22 20 37.6	-8.7
	comp=E,3.3nm,0.8s						
SGMF	Saint Gilles	17.14	301	*e*Pn	P	22 20 46.1	-1.2
QUIF	Quistinic	17.45	300	*e*Pn	P	22 20 53.7	+2.5
OBN	Obninsk	17.81	33κ	*i*P	P	22 20 54.8	-0.8
OBN				*e*S	S	22 24 17.4	+6.6
OBN				pmax	pmax		
	comp=Z,25nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
OBN	Obninsk	17.81	33	*e*P	P	22 20 54.1	-1.5
	comp=Z,39nm,1.1s						
ESDC	Sonseca Array	17.96	273	P	P	22 21 00.1	+2.5
	comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=3.0						
HFS	Hagfors	19.21	351	P	P	22 21 10.7	-1.9
	comp=Z,0.1nm,0.3s,baz=157,slow=11,SNR=15						
NB2	NORSAR Subarra	20.42	348	P	P	22 21 24.2	-1.6
	comp=Z,0.9nm,0.5s,baz=153,slow=10						
NOA	NORSAR Array B	20.42	348	P	P	22 21 24.5	-1.2
	comp=Z,0.6nm,0.6s,baz=162,slow=10,SNR=3.3						
NOA				LR	LR	22 30 35.3	
	comp=Z,32nm,20.4s,MS2.7,baz=175,slow=40						
NOA	NORSAR Array B	20.42	348	P	P	22 21 24.5	-1.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,33nm,20.5s						
NOA	NORSAR Array B	20.42	348	P	P	22 21 24.5	-1.2
EKA	Eskdalemuir Ar	20.50	321	P	P	22 21 26.1	-0.5
	comp=Z,1.2nm,0.4s,baz=114,slow=8.7,SNR=12						
EKA	Eskdalemuir Ar	20.50	321	P	P	22 21 26.1	-0.5
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ESK	Eskdalemuir	20.51	321	*e*P	P	22 21 24.6	-2.2
	comp=Z,20nm,1.2s						
FINES	FINESS Array B	20.56	9	P	P	22 21 25.2	-2.1
	comp=Z,13nm,0.8s,baz=182,slow=12,SNR=31						
FINES				LR	LR	22 30 28.9	
	comp=Z,104nm,18.7s,MS3.2,baz=210,slow=40						
FINES	FINESS Array B	20.56	9	*e*P	P	22 21 25.5	-1.7
FINES	FINESS Array B	20.56	9	P	P	22 21 25.2	-2.1
KAF	Kangasniemi	21.24	9	*e*p	P	22 21 31.3	-2.9
	comp=Z,2.0nm,0.4s,mb3.8,baz=193,slow=12						
KAF	Kangasniemi	21.24	9	*e*P	P	22 21 31.3	-2.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ARCES	ARCESS Array B	28.47	4	P	P	22 22 40.4	-2.4
	comp=Z,1.6nm,0.8s,mb3.7,baz=187,slow=9.8,SNR=3.8						
ARCES	ARCESS Array B	28.47	4	P	P	22 22 40.4	-2.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	Arti	29.31	46⇓	*i*P	P	22 22 49.0	-1.4
ARU				*e*PPP	PPP	22 23 51.4	-7.6
ARU				*i*		22 25 54.8	
ARU				*e*S	S	22 27 42.0	+1.1
ARU				*e*SS	SS	22 29 14.0	+1.3
ARU				*i*		22 33 22.4	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
ARU				MLR	MLR		
	comp=N,50nm,18.0s,MS3.3						
ARU				MLR	MLR		
	comp=E,40nm,18.5s,MS3.3						
ARU	Arti	29.31	46	*e*P	P	22 22 48.7	-1.8

	comp=E,5.1nm,0.7s,mb4.4						
ZRNK	**Zerenda**	34.93	53	*e*P	P	22 23 38.1	-1.5
	comp=E,1.2nm,0.4s,mb4.2						
BRVK	**Borovoye**	35.70	53	*e*P	P	22 23 44.7	-1.4
	comp=E,4.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	35.76	53	P	P	22 23 46.1	-0.6
	comp=E,3.0nm,0.9s,mb4.2,baz=259,slow=7.6,SNR=13						
DBIC	**Dimbokro**	40.77	219	P	P	22 24 29.1	+0.3
	comp=E,1.5nm,0.6s,mb3.8,baz=24,slow=14,SNR=6.8						
DBIC	**Dimbokro**	40.77	219	P	P	22 24 29.1	+0.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	41.08	56	*e*P	P	22 24 29.5	-1.5
	comp=Z,4.3nm,0.9s,mb4.1						
NVS	**Novosibirsk**	43.15	49	*i* P	P	22 24 46.6	-1.2
NVS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
MKAR	**Makanchi Array**	44.36	61	P	P	22 24 56.8	-1.1
	comp=E,4.7nm,0.7s,mb4.3,baz=279,slow=7.0,SNR=23						
MKAR	**Makanchi Array**	44.36	61	P	P	22 24 56.8	-1.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ	**Urumqi**	48.95	63	*e*P	P	22 25 33.5	-0.4
WMQ				AP	pP	22 25 50.5	+9.2
WMQ				PCP	PcP	22 26 57.8	-0.5
WMQ				PP	PP	22 27 27.0	-0.5
WMQ				LR	LR		
	comp=E,37nm,16.5s						
WMQ				LR	LR		
	comp=Z,41nm,17.3s,MS3.5						
KOLN	**Koldanda**	53.34	83	*e*P	P	22 26 04.5	-3.0
	comp=Z,3.9nm,0.3s,mb4.8						
GKN	**Gorkha**	54.00	82	*e*P	P	22 26 09.3	-2.9
	comp=Z,16nm,0.6s,mb5.1						
DMN	**Daman**	54.56	83	*e*P	P	22 26 13.7	-2.7
	comp=Z,20nm,0.9s,mb5.1						
KKN	**Kakani**	54.59	82	*e*P	P	22 26 13.4	-3.2
	comp=Z,11nm,0.6s,mb5.1						
PKI	**Pulchoki**	54.80	82	*e*P	P	22 26 15.3	-2.9
	comp=Z,13nm,1.0s,mb4.9						
SCHQ	**Schefferville**	55.69	316	P	P	22 26 24.0	-0.3
	comp=Z,5.6nm,0.9s,mb4.6,baz=20,slow=1.3,SNR=3.5						
LSA	**Lhasa**	57.92	77	*e*P	P	22 26 38.1	-2.3
	comp=Z,3.2nm,0.7s,mb4.5						
SONM	**Songino Array**	59.08	52	P	P	22 26 47.2	-1.1
	comp=Z,3.8nm,0.8s,mb4.5,baz=290,slow=9.2,SNR=34						
LZH	**Lanzhou**	63.49	64	*e*P	P	22 27 16.5	-1.7
LZH				AP	pP	22 27 32.3	+6.6
LZH				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,69nm,4.9s						
LZH	**Lanzhou**	63.49	64	*e*P	P	22 27 16.4	-1.8
	comp=Z,12nm,1.4s,mb4.8						
LZH				pP	pP	22 27 28.0	+2.3
LZH				sP	sP	22 27 32.2	+3.8
CMAR	**Chiang Mai Arr**	70.20	83	P	P	22 27 57.7	-3.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=303,slow=8.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	70.20	83	P	P	22 27 57.7	-3.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	70.21	339	P	P	22 27 60.0	-0.2
	comp=Z,1.1nm,0.6s,mb4.0,baz=36,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	70.21	339	P	P	22 28 00.0	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CN2	**Changchun**	72.30	47	*e*P	P	22 28 11.0	-2.1
ILAR	**Eielson Array**	73.74	354	P	P	22 28 20.9	-0.1
	comp=Z,0.6nm,0.6s,mb3.7,baz=359,slow=5.6,SNR=5.6						
ILAR	**Eielson Array**	73.74	354	P	P	22 28 20.9	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MDJ	**Mudanjiang**	73.99	44	P	P	22 28 19.5	-3.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,149nm,4.5s						
NJ2	**Nanjing**	75.88	60	*e*P	P	22 28 31.3	-2.8
NJ2				S	S	22 38 10.0	-3.7
PDAR	**Pinedale Array**	84.57	325	P	P	22 29 20.3	+0.3
	comp=Z,0.4nm,0.9s,mb3.6,slow=3.6,SNR=3.1						
TXAR	**Lajitas Array**	92.30	313	P	P	22 29 58.9	+1.6
	comp=Z,0.3nm,0.8s,mb3.6,baz=72,slow=4.0,SNR=3.4						
WRA	**Warramunga Arr**	121.33	90	PKP	PKPdf	22 35 38.1	-5.8
	comp=Z,0.5nm,1.0s,baz=324,slow=1.7,SNR=4.5						
WRA	**Warramunga Arr**	121.33	90	PKIKP	PKPdf	22 35 38.1	-5.8
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	123.17	94	PKP	PKPdf	22 35 42.5	-4.8
	comp=Z,0.3nm,0.6s,baz=326,slow=2.4,SNR=6.4						

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*GUC **28** 22:38:28.2±0.9, 35.09S×70.54W, h3^{km}±3^{km}, MD4.0, ML3.9*

*IDC **28** 22:38:30.7±1.8, 34.77S×70.49W, mb3.7/2, mb1 4.0/5, mb1mx3.8/14, ML3.6/3, MS3.7/4, Ms1 3.6/4, ms1mx3.3/17, Error ellipse: s-maj=43.7km s-min=30.6km az=116.0*

ISC 28 22:38:27.5±0.6**, 35.10S**±0.03×**70.47W**±0.05**, h3^{km}, n31, σ0^{s}92**/48**, mb3.7**/2**, MS3.8**/2**, 9C-12D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.63	279⇓	*i*P	Pg	22 38 40.2	0.0
NICH				*i* S	Sg	22 38 48.8	+0.3
SFDO	**San Fernando**	0.66	317⇓	*i*P	Pg	22 38 40.3	-0.4
CICH	**Cipreses**	0.78	3⇓	*i*P	Pg	22 38 42.2	-1.0
CACH	**El Canelo**	0.99	354⇑	*i*P	Pb	22 38 45.8	-1.1
CACH				*i* S	Sb	22 38 59.9	-0.4
TALC	**Talca**	1.00	253⇓	*i*P	Pb	22 38 46.3	-0.8
TALC				*i* S	Sb	22 38 59.9	-0.5
TALC				AMP		22 39 00.6	
	comp=E,12µm,0.1s						
CHCH	**Chadas Angostu**	1.18	353⇓	*i*P	Pb	22 38 49.4	-0.8
LMEL	**Las Melosas**	1.27	10⇑	*i*P	Pb	22 38 50.9	-0.9
LMEL				*i* S	Sb	22 39 09.2	+0.7
LMEL				AMP		22 39 10.5	
	comp=N,1µm,0.2s						
LNV	**Longovilo**	1.38	326⇑	*i*P	Pb	22 38 52.5	-1.2
LNV				*i* S	Sb	22 39 11.0	-0.7
SJCH	**San Jose de Ma**	1.46	4	*e*P	Pn	22 38 53.1	-1.8
SJCH				*i* S	Sb	22 39 13.6	-0.4
SJCH				AMP		22 39 18.0	
	comp=E,928nm,0.5s						
PCH	**Pirque**	1.48	359⇑	*i*P	Pn	22 38 54.6	-0.6
PCH				*i* S	Sb	22 39 14.8	+0.3
LLCH	**Llolleo**	1.50	355	*e*P	Pn	22 38 58.3	+2.9
LLCH				*i* S	Sb	22 39 21.8	+6.9
LLCH				AMP		22 39 27.4	
	comp=E,7µm,0.5s						
TACH	**Talagante**	1.50	345⇓	*i*P	Pn	22 38 54.6	-0.8
TACH				*i* S	Sb	22 39 14.7	-0.3
ANTU	**Antumapu**	1.54	355⇓	*i*P	Pn	22 38 55.8	-0.2
ANTU				*i* S	Sb	22 39 16.4	+0.3
ANTU				AMP		22 39 17.6	
	comp=E,3µm,0.2s						
FSR	**Penalolen**	1.62	358⇑	*i*P	Pn	22 38 57.4	+0.2
FSR				*i* S	Sb	22 39 19.0	+0.4
FSR				AMP		22 39 20.5	
	comp=E,2µm,0.2s						
SAN	**Santiago**	1.66	354⇑	*i*P	Pn	22 38 57.7	+0.1
SAN				*i* S	Sb	22 39 19.6	+0.1
SAN				AMP		22 39 21.3	
	comp=E,2µm,0.3s						
STL	**Santa Lucia**	1.67	355⇓	*i*P	Pn	22 38 57.8	-0.1
STL				*i* S	Sb	22 39 20.2	+0.2
STL				AMP		22 39 21.6	
	comp=E,747nm,0.3s						
PUEX	**Pudahuel**	1.68	352⇑	*i*P	Pn	22 38 58.0	+0.1
PUEX				*i* S	Sb	22 39 20.5	+0.3
PUEX				AMP		22 39 26.6	
	comp=N,4µm,0.6s						
DSCH	**Colegio Aleman**	1.70	357⇓	*i*P	Pn	22 38 58.4	+0.1
DSCH				*i* S	Sn	22 39 21.5	+0.5
DSCH				AMP		22 39 33.0	
	comp=N,3µm,0.8s						
CLCH	**Cerro Calan**	1.71	358⇑	*i*P	Pn	22 38 58.6	+0.2
CLCH				*i* S	Sn	22 39 21.9	+0.9
CLCH				AMP		22 39 30.7	
	comp=E,3µm,0.8s						
CLCH				AMP		22 39 31.3	
	comp=E,3µm,0.8s						
FCH	**Farellones**	1.78	5⇑	*i*P	Pn	22 38 59.8	+0.4
FCH				*i* S	Sn	22 39 24.1	+1.2
FCH				AMP		22 39 25.5	
	comp=E,2µm,0.2s						
LCCH	**Las Cruces**	1.86	330⇓	*i*P	Pn	22 39 00.5	-0.1
LCCH				*i* S	Sn	22 39 24.7	-0.2
CCHI	**Chillan**	1.98	221⇓	*i*P	Pn	22 39 03.5	+1.1
CCHI				*e*S	Sn	22 39 29.5	+1.5
CCHI				AMP		22 39 40.1	
	comp=E,1µm,0.6s						
CCHI				AMP		22 39 40.3	
	comp=E,2µm,0.5s						
JACH	**Jahuel**	2.42	358⇓	*i*P	Pn	22 39 10.0	+1.4
JACH				*i* S	Sn	22 39 41.9	+2.8
PLCA	**Paso Flores**	5.62	181	Pn	Pn	22 40 00.8	+6.8
	comp=E,0.2nm,0.3s,baz=338,slow=23,SNR=3.2						
PLCA				Lg		22 41 29.4	
	comp=E,0.3nm,0.3s,baz=292,slow=19,SNR=2.7						
CPUP	**Villa Florida**	14.28	56	Pn	P	22 41 50.2	-2.6
	comp=E,0.1nm,0.3s,baz=226,slow=11,SNR=3.6						
CPUP				Lg		22 45 59.0	
	comp=E,0.1nm,0.3s,baz=251,slow=20,SNR=2.0						
CPUP				LR	LR	22 48 01.2	
	comp=E,124nm,20.4s,baz=76,slow=40						
LPAZ	**La Paz**	18.86	7	P	P	22 42 51.1	+0.1
	comp=E,0.1nm,0.3s,baz=186,slow=11,SNR=7.1						
USHA	**Ushuaia**	19.78	177	LR	LR	22 51 13.3	
	comp=E,281nm,18.5s,baz=120,slow=38						
BDFB	**Brasilia**	27.94	52	LR	LR	22 56 36.3	
	comp=E,114nm,18.2s,MS3.5,baz=221,slow=39						
TXAR	**Lajitas Array**	71.33	330	P	P	22 49 49.4	-1.3
	comp=E,0.3nm,0.5s,mb3.4,baz=152,slow=8.0,SNR=4.0						
MAW	**Mawson**	71.75	163	LR	LR	23 20 46.7	
	comp=E,78nm,18.8s,MS4.0,baz=241,slow=35						
NVAR	**Mina Array Bea**	85.53	324	P	P	22 51 10.1	+2.0
	comp=E,1.1nm,1.1s,mb4.0,baz=180,slow=5.4,SNR=3.6						

GUC 28 22:46:26.3±0.9**, 35.08S**×**70.45W, h11^{km}**±8^{km}**, MD3.7, ML3.1, 8C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.64	277⇑	*i*P	Pb	22 46 38.5	-0.5
NICH				*i* S	Sb	22 46 48.0	+0.2
SFDO	**San Fernando**	0.66	315⇓	*i*P	Pb	22 46 38.5	-0.8
CICH	**Cipreses**	0.76	2⇓	*i*P	Pb	22 46 40.2	-0.9
CICH				*i* S	Sb	22 46 50.6	-0.6
CACH	**El Canelo**	0.97	353⇑	*i*P	Pb	22 46 43.8	-0.9
CACH				*i* S	Sb	22 46 56.8	-0.5
TALC	**Talca**	1.02	252⇓	*i*P	Pb	22 46 44.8	-0.7
TALC				*i* S	Sb	22 46 58.4	-0.1
TALC				AMP		22 46 59.0	
	comp=N,2µm,0.1s						
CHCH	**Chadas Angostu**	1.16	352⇓	*i*P	Pb	22 46 47.3	-0.6
CHCH				*i* S	Sb	22 47 02.9	+0.2
LMEL	**Las Melosas**	1.25	10⇑	*i*P	Pb	22 46 48.9	-0.6
LMEL				*i* S	Sb	22 47 05.4	+0.1
LMEL				AMP		22 47 10.2	
	comp=N,307nm,0.2s						
LNV	**Longovilo**	1.38	325⇑	*i*P	Pn	22 46 50.5	-1.0
LNV				*i* S	Sb	22 47 08.7	-0.3
ANTU	**Antumapu**	1.52	354⇑	*i*P	Pn	22 46 53.7	+0.2
ANTU				*i* S	Sb	22 47 13.9	+0.8
ANTU				AMP		22 47 14.4	
	comp=N,533nm,0.2s						
CLCH	**Cerro Calan**	1.68	358⇑	*i*P	Pn	22 46 56.5	+0.6
CLCH				*i* S	Sn	22 47 19.3	+1.7
CLCH				AMP		22 47 26.7	
	comp=E,402nm,0.4s						
FCH	**Farellones**	1.76	4⇓	*i*P	Pn	22 46 58.1	+1.2
FCH				*i* S	Sn	22 47 21.4	+2.0
FCH				AMP		22 47 22.7	
	comp=E,294nm,0.2s						
LCCH	**Las Cruces**	1.85	330⇑	*i*P	Pn	22 46 58.7	+0.4
LCCH				*i* S	Sn	22 47 22.9	+1.1
JACH	**Jahuel**	2.40	357⇑	*i*P	Pn	22 47 08.6	+2.5
JACH				*i* S	Sn	22 47 39.5	+3.7

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*IDC **28** 22:48:48.0±1.1, 15.19S×173.70W, mb4.0/6, mb1 4.3/6, mb1mx4.0/14, MS3.6/7, Ms1 3.6/7, ms1mx3.4/23, Error ellipse: s-maj=59.8km s-min=23.0km az=140.0*

*NEIC **28** 22:48:49.7±0.5, 15.09S×173.77W, h10^{km}, mb4.4/2, Error ellipse: s-maj=24.2km s-min=13.1km az=138.0*

ISC 28 22:48:51.7±0.9**, 15.0S**±0.2×**173.9W**±0.2**, h33^{km}, n16, σ0^{s}22**/8**, mb4.1**/8**, MS3.7**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	31.36	201	LR	LR	23 04 58.2	
	comp=Z,165nm,18.9s,MS3.7,baz=302,slow=31						
STKA	**Stephens Creek**	43.83	239	P	P	22 56 57.0	+0.3
	1.1nm,0.6s,mb3.8,baz=90,slow=11,SNR=3.4						
WRAB	**Tennant Creek**	49.48	256	*e*P	P	22 57 41.3	+0.1
	2.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	49.48	256	P	P	22 57 41.2	-0.1
	0.9nm,0.7s,mb3.9,baz=96,slow=7.8,SNR=22						
ASAR	**Alice Springs**	49.79	252	P	P	22 57 43.2	-0.4
	4.8nm,0.6s,mb4.7,baz=87,slow=7.9,SNR=64						
NWAO	**Narrogin (SRO)**	64.41	240	LR	LR	23 24 04.9	
	comp=Z,57nm,18.9s,MS3.8,baz=292,slow=33						
ASAJ	**Asahikawa**	70.97	328	LR	LR	23 30 49.5	
	comp=Z,53nm,18.6s,MS3.8,baz=133,slow=35						
NVAR	**Mina Array Bea**	74.35	42	P	P	23 00 27.8	-0.2
	0.9nm,0.8s,mb3.8,baz=232,slow=13,SNR=7.5						
QSPA	**South Pole Qui**	75.02	180	*e*P	P	23 00 31.2	+0.1
	5.5nm,0.8s,mb4.5						
NEW	**Newport**	80.65	34	LR	LR	23 29 35.6	
	comp=Z,39nm,20.3s,MS3.7,baz=348,slow=30						
TXAR	**Lajitas Array**	80.78	56	LR	LR	23 27 03.6	
	comp=Z,26nm,21.5s,MS3.6,baz=265,slow=28						
ILAR	**Eielson Array**	82.16	11	P	P	23 01 10.7	+0.3
	0.2nm,0.5s,mb3.3,baz=230,slow=5.4,SNR=4.4						
ILAR				LR	LR	23 33 38.3	
	comp=Z,22nm,18.1s,MS3.6,baz=116,slow=33						
MAW	**Mawson**	88.01	199	P	P	23 01 39.2	-0.1
	1.7nm,0.5s,mb4.5,baz=146,slow=7.3,SNR=13						
YKA	**Yellowknife Ar**	89.93	24	LR	LR	23 36 02.7	
	comp=Z,28nm,18.7s,MS3.7,baz=215,slow=32						
BRTR	**Keskin Array B**	145.57	321	PKPbc	PKPbc	23 08 29.8	+2.3
	1.2nm,0.7s,baz=63,slow=3.2,SNR=7.3						
GERES	**GERESS Array B**	145.70	351	PKPbc	PKPbc	23 08 29.1	+1.6
	0.3nm,0.6s,baz=27,slow=3.0,SNR=3.9						

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*IDC **28** 23:15:11.4±4.4, 20.23S×177.73W, h535^{km}±48^{km}, mb3.5/12, mb1 3.7/12, mb1mx3.6/17, Error ellipse: s-maj=36.8km s-min=18.1km az=149.0*

*NEIC **28** 23:15:18.0±5.9, 19.97S×178.03W, h620^{km}±74^{km}, mb4.0/11, Error ellipse: s-maj=25.5km s-min=16.6km az=92.0*

ISC 28 23:15:15.5±0.5**, 20.0S**±0.2×**178.0W**±0.1**, h600^{km}, n34, σ0^{s}53**/25**, mb3.9**/19**, 3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	33.51	264	*e*P	P	23 21 08.7	+0.4
	3.4nm,0.5s,mb4.2						
CTA	**Charters Tower**	33.51	264	P	P	23 21 09.0	+0.7
	5.7nm,0.6s,mb4.4,baz=85,slow=7.8,SNR=10						
CTAO	**Charters Tower**	33.51	264	*e*P	P	23 21 08.6	+0.3
	11nm,0.9s,mb4.5						
STKA	**Stephens Creek**	37.96	244	*e*P	P	23 21 44.8	-0.1
	6.3nm,1.0s,mb4.1						
STKA	**Stephens Creek**	37.96	244	P	P	23 21 45.5	+0.6
	6.0nm,0.6s,mb4.3,baz=89,slow=9.4,SNR=14						
ASAR	**Alice Springs**	44.59	256	P	P	23 22 37.9	+0.3
	27nm,1.1s,mb4.7,baz=87,slow=8.5,SNR=87						
ASAR				PcP	PcP	23 24 08.3	+0.9
	2.5nm,0.8s,baz=100,slow=4.2,SNR=7.1						
ASPA	**Alice Springs**	44.60	256⇓	*i*P	P	23 22 37.7	+0.1
WB2	**Warramunga Arr**	44.62	262⇓	*i*P	P	23 22 37.5	-0.3
WRAB	**Tennant Creek**	44.63	262	*e*P	P	23 22 37.8	-0.1
	9.1nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	44.63	262	P	P	23 22 37.6	-0.3
	4.6nm,0.7s,mb4.1,baz=97,slow=8.6,SNR=12						
KAKA	**Kakadu**	47.98	271	*e*P	P	23 23 03.0	-0.3
	6.9nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	53.06	262	*e*P	P	23 23 39.1	-1.1
	3.1nm,0.8s,mb3.7						
FITZ	**Fitzroy Crossi**	53.06	262	P	P	23 23 40.7	+0.6
	3.0nm,0.7s,mb3.8,baz=140,slow=3.9,SNR=6.3						
SBA	**Scott Base**	58.32	184	*e*P	P	23 24 15.5	-0.2
	3.0nm,0.8s,mb3.5						
NWAO	**Narrogin (SRO)**	58.55	243	P	P	23 24 17.6	-0.2
	10nm,0.8s,mb4.0,baz=276,slow=22,SNR=5.7						
QSPA	**South Pole Qui**	70.02	180	*e*P	P	23 25 28.8	-0.2
	6.8nm,0.8s,mb4.1						
CMB	**Columbia Colle**	79.15	43	*e*P	P	23 26 19.7	-0.7
	2.6nm,0.9s,mb3.6						
YBH	**Yreka Blue Hor**	79.95	39	P	P	23 26 25.3	+0.7
	2.8nm,0.6s,mb3.8,baz=332,slow=2.0,SNR=6.9						
NVAR	**Mina Array Bea**	80.72	43	P	P	23 26 28.8	+0.3
	1.2nm,0.8s,mb3.4,baz=214,slow=7.1,SNR=8.1						
MAW	**Mawson**	81.98	200	P	P	23 26 34.7	+0.3
	0.8nm,0.5s,mb3.5,baz=174,slow=5.2,SNR=7.1						
TXAR	**Lajitas Array**	86.84	57	P	P	23 26 59.3	+0.5
	0.7nm,0.7s,mb3.5,baz=194,slow=5.2,SNR=10.0						
NEW	**Newport**	87.02	36	P	P	23 26 58.1	-1.1
	2.5nm,1.1s,mb3.9						
ANMO	**Albuquerque**	87.14	51	P	P	23 27 00.2	+0.1
	1.2nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	88.65	43	P	P	23 27 07.0	0.0
	0.6nm,0.6s,mb3.6,baz=222,slow=2.3,SNR=6.5						
CMAR	**Chiang Mai Arr**	89.93	290	P	P	23 27 17.2	+3.7
	2.3nm,0.6s,mb4.2,baz=118,slow=3.2,SNR=15						
BVAR	**Borovoye Array**	118.71	320	PKP	PKPdf	23 32 58.0	+2.0
	0.7nm,0.5s,baz=135,slow=2.1,SNR=7.3						
FINES	**FINESS Array B**	135.33	344	PKP	PKPdf	23 33 30.0	+2.5
	2.1nm,0.9s,baz=117,slow=6.2,SNR=3.4						
AKASG	**Malin Array Be**	142.60	331	PKhKP		23 33 40.2	
	5.2nm,0.7s,baz=40,slow=4.5,SNR=18						
BRTR	**Keskin Array B**	146.51	313	PKPbc	PKPbc	23 33 53.6	+3.8
	2.1nm,0.7s,baz=131,slow=3.2,SNR=10						
CLL	**Collm**	147.62	347⇓	*i*PKP1	PKPdf	23 33 55.8	+6.6
PRU	**Pruhonice**	148.49	344	*e*PKP1	PKPdf	23 33 58.3	+7.7
KHC	**Kasperske Hory**	149.52	345	*e*PKP1	PKPdf	23 34 00.0	+7.7
GERES	**GERESS Array B**	149.76	345	PKPbc	PKPdf	23 34 01.2	+8.5
	2.2nm,0.9s,baz=45,slow=1.9,SNR=19						
DAVOX	**Davos**	152.56	348	PKPbc	PKPdf	23 34 07.6	+11
	1.2nm,0.5s,baz=156,slow=18,SNR=5.3						

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*BJI **28** 23:19:37.2, 8.80S×157.40E, h10^{km}, mb4.4*

*NEIC **28** 23:19:39.2±0.5, 8.81S×157.37E, h10^{km}, mb4.6/9, Error ellipse: s-maj=13.5km s-min=12.5km az=212.0*

*IDC **28** 23:19:59.2±12.0, 8.95S×156.77E, h161^{km}±102^{km}, mb3.9/9, mb1 4.0/10, mb1mx3.9/16, MS3.5/5, Ms1 3.5/5, ms1mx3.3/16, Error ellipse: s-maj=55.4km s-min=25.5km az=71.0*

ISC 28 23:19:42.1±3.5**, 8.8S**±0.1×**157.19E**±0.10**, h36^{km}**±34^{km}**, n34, σ0^{s}70**/32**, mb4.4**/19**, MS3.4**/4**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	2.79	103	*e*P	P	23 20 20.0	-5.4
HNR				*e*S	S	23 20 58.0	-0.2
CTA	**Charters Tower**	15.40	222	*e*P	P	23 23 24.5	+6.0
	9.4nm,1.5s						
CTA	**Charters Tower**	15.40	222	P	P	23 23 23.8	+5.3
	0.3nm,0.3s,baz=44,slow=12,SNR=7.1						
CTA				LR	LR	23 28 24.0	
	comp=Z,147nm,20.3s,baz=44,slow=34						
CTAO	**Charters Tower**	15.40	222	*e*P	P	23 23 23.7	+5.2
	6.4nm,0.7s						
ARMA	**Armidale**	22.10	193	*e*P	P	23 24 37.4	+1.5
WRAB	**Tennant Creek**	24.69	241	*e*P	P	23 25 00.8	-0.6
	15nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	24.69	241	*e*P	P	23 25 01.1	-0.3
WRA	**Warramunga Arr**	24.70	241	P	P	23 25 01.2	-0.3
	9.1nm,0.7s,mb4.4,baz=66,slow=9.5,SNR=32						
WRA				LR	LR	23 34 11.9	
	comp=Z,72nm,20.5s,MS3.2,baz=50,slow=35						
ASAR	**Alice Springs**	26.72	234	P	P	23 25 18.7	-1.6
	2.8nm,0.9s,mb3.8,baz=63,slow=9.3,SNR=7.6						
ASAR				LR	LR	23 36 01.5	
	comp=Z,79nm,20.6s,MS3.2,baz=66,slow=37						
STKA	**Stephens Creek**	27.13	210	*e*P	P	23 25 25.3	+1.3
	8.8nm,0.7s,mb4.4						
STKA	**Stephens Creek**	27.13	210	P	P	23 25 25.3	+1.3
	9.5nm,0.7s,mb4.5,baz=23,slow=9.2,SNR=3.8						
STKA				LR	LR	23 35 51.2	
	comp=Z,150nm,18.8s,MS3.6,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	31.99	250	P	P	23 26 08.1	+0.7
	3.2nm,0.9s,mb4.1,baz=90,slow=9.1,SNR=4.3						
KMI	**Kunming**	62.84	304	*e*P	P	23 30 06.5	-0.4
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.7						
KMI	**Kunming**	62.84	304	*e*P	P	23 30 06.6	-0.3
	comp=Z,8.0nm,1.2s,mb4.7						
CMAR	**Chiang Mai Arr**	63.53	296	P	P	23 30 11.6	-0.1
	comp=Z,3.0nm,1.1s,mb4.2,baz=147,slow=4.9,SNR=7.5						
LZH	**Lanzhou**	67.14	315	*e*P	P	23 30 35.0	+0.5
LZH				AP	pP	23 30 46.0	+0.4
LZH				AMB	AMB		
	comp=Z,39nm,1.7s,mb5.2						
LZH	**Lanzhou**	67.14	315	*e*P	P	23 30 35.0	+0.5
	comp=Z,39nm,1.7s,mb5.2						
LZH				pP	pP	23 30 46.0	+0.4
SBA	**Scott Base**	69.18	178	*e*P	P	23 30 45.4	-1.2
	comp=Z,2.9nm,0.9s,mb4.2						
GTA	**Gaotai**	71.56	317	*e*P	P	23 31 02.0	+0.4
GTA				AP	pP	23 31 11.8	-0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
SONM	**Songino Array**	72.05	327	P	P	23 31 05.0	+0.7
	comp=Z,1.3nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=5.5						
LSA	**Lhasa**	74.09	304	*e*P	P	23 31 17.6	+0.8
	comp=Z,6.7nm,1.3s,mb4.4						
PKI	**Pulchoki**	78.22	301	*e*P	P	23 31 40.7	+0.5
KKN	**Kakani**	78.39	301	*e*P	P	23 31 41.0	-0.1
DMN	**Daman**	78.49	300	*e*P	P	23 31 41.4	-0.3
	comp=Z,20nm,0.9s,mb5.0						
GKN	**Gorkha**	79.00	301	*e*P	P	23 31 43.6	-0.9
	comp=Z,18nm,1.0s,mb5.0						
KOLN	**Koldanda**	79.82	300	*e*P	P	23 31 48.3	-0.6
	comp=Z,12nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	81.16	180	*e*P	P	23 31 54.9	-0.1
	comp=Z,8.1nm,1.0s,mb4.6						
MAW	**Mawson**	83.55	203	P	P	23 32 07.5	+0.1
	comp=Z,3.6nm,1.1s,mb4.4,baz=76,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	84.28	21	LR	LR	00 08 57.3	
	comp=Z,32nm,18.8s,MS3.7,baz=33,slow=35						
MKAR	**Makanchi Array**	86.21	318	P	P	23 32 20.9	-0.2
	comp=Z,1.5nm,0.6s,mb4.4,baz=109,slow=6.4,SNR=11						
BVAR	**Borovoye Array**	95.06	323	P	P	23 33 02.6	+0.2
	comp=Z,0.5nm,0.7s,mb4.1,baz=108,slow=4.6,SNR=3.9						
BVAR	**Borovoye Array**	95.06	323	P	P	23 33 02.6	+0.2
ESDC	**Sonseca Array**	144.97	334	PKP	PKPdf	23 39 16.7	+0.8
	comp=Z,0.4nm,0.7s,baz=32,slow=5.4,SNR=4.2						
BDFB	**Brasilia**	145.15	134	PKPbc	PKPbc	23 39 18.9	+1.7
	comp=Z,4.1nm,0.9s,baz=193,slow=1.8,SNR=5.6						

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*KISR **28** 23:38:13.5±1.4, 32.81N×47.14E, h38^{km}±999^{km}, ML3.6*

*THR **28** 23:38:15.0±0.8, 32.35N×46.98E, h14^{km}±9^{km}, ML3.3*

ISC 28 23:38:16.0±1.8**, 32.51N**±0.07×**47.0E**±0.2**, h10^{km}, n9, σ0^{s}76**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIB	**Mutribah**	2.71	173	*e*P	Pn	23 39 00.2	-0.3
MIB				*e*S	Sn	23 39 35.3	+1.6
MIB				AML	AML	23 39 46.4	
	comp=Z,151nm,0.4s						
RST	**Umm Al-Ruwaisa**	3.00	180	*e*P	Pn	23 39 04.0	-0.6
RST				AML	AML	23 39 51.6	
	comp=Z,112nm,0.4s						
UMR	**Umm Al-Rimmam**	3.01	168	*e*P	Pn	23 39 04.5	-0.3
UMR				AML	AML	23 39 51.4	
	comp=Z,161nm,0.4s						
ASAO	**Ashtian**	3.26	51	*e*PN	Pn	23 39 09.4	+1.1
ASAO				*e*SG	Sg	23 39 59.9	-4.9
ASAO				AMP		23 40 09.8	
	comp=N,97nm,0.6s						
KBD	**Kabd**	3.38	169	*e*P	Pn	23 39 09.3	-0.7
KBD				*e*S	Sn	23 39 49.8	-0.8
RDF	**Al-Radifah**	3.60	172	*e*P	Pn	23 39 13.2	0.0
RDF				*e*S	Sn	23 39 57.0	+0.7
RDF				AML	AML	23 40 00.4	
	comp=Z,108nm,0.5s						
THKV	**Tehran--Karaj**	4.70	43	*e*PN	Pn	23 39 29.6	+0.9
THKV				SN	Sn	23 40 23.7	-0.2
THKV				AMP		23 40 35.6	
	comp=N,18nm,0.6s						
NASN	**Na'in**	4.93	85	*e*PN	Pn	23 39 31.4	-0.6
DAMV	**Damavand**	5.19	52	*e*PN	Pn	23 39 35.2	-0.5

NEIC ***28*** *23:38:45.1, 37.19S×179.65E, h12km, ML3.8(WEL), After WEL.*

WEL 28 23:38:45.1±0.4**, 37.32S×179.68E, h12km, ML3.8**/2**, Error ellipse: s-maj=3.9km s-min=3.7km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.12	257	P*	Pb	23 39 05.3	-0.6
MXZ				eS*	Sb	23 39 20.4	0.0
MXZ	Matakaoa Point	1.12	257	P	Pb	23 39 05.3	-0.7
MXZ				S	Sb	23 39 21.0	+0.6
PUZ	Puketiti	1.36	236	PN	Pn	23 39 09.5	-0.5
PUZ				SN	Sn	23 39 27.0	-1.1
PUZ	Puketiti	1.36	236	P	Pn	23 39 09.5	-0.5
PUZ				S	Sb	23 39 28.1	+0.9
MWZ	Matawai	1.99	239	ePN	Pn	23 39 17.9	-1.1
MWZ				SN	Sn	23 39 42.1	-1.8
MWZ	Matawai	1.99	239	eP	Pn	23 39 18.3	-0.7
URZ	Urewera	2.25	244	ePN	Pn	23 39 21.9	-0.8
URZ				SN	Sn	23 39 49.0	-1.5
URZ	Urewera	2.25	244	P	Pn	23 39 22.1	-0.6
BKZ	Black Stump Fm	3.12	233	PN	Pn	23 39 33.0	-2.2
BKZ	Black Stump Fm	3.12	233	eP	Pn	23 39 33.0	-2.1
WNVZ	Wahianoa	3.79	237	ePN	Pn	23 39 43.3	-1.4
BFZ	Birch Farm	4.30	217	ePN	Pn	23 39 46.4	-5.5
MRZ	Mangatainoka R	4.62	222	PN	Pn	23 39 51.5	-5.0
MRZ	Mangatainoka R	4.62	222	eP	Pn	23 39 51.6	-4.9

ROM ***29*** *00:04:42.9±0.2, 46.40N×12.88E, h10km±4km, MD3.8/3, ML3.5/26, Error ellipse: s-maj=2.2km s-min=2.1km az=0.0*

ZUR_RM ***29*** *00:04:42, 46.40N×12.88E, h12km, Mw3.8/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{14}Nm; M_{rr}4.27; $M_{\theta\theta}$-5.15; $M_{\phi\phi}$0.88; $M_{r\theta}$-2.44; $M_{\theta\phi}$0.07; $M_{\phi r}$-0.85; Best double couple: $M_0$5.39×10^{14} NP1:ϕ_s260°, δ60°, λ77°. NP2:ϕ_s104°, δ33°, λ111°. Principal axes: T 5.039, Plg72°, Azm139°; N .707, Plg11°, Azm266°; P -5.745, Plg14°, Azm359°;*

NEIC ***29*** *00:04:42.9, 46.40N×12.88E, h10km, MD3.8(ROM), ML4.3(SZGRF), ML4.1(VIE), ML4.1(LEDBW), ML4.1(FUR), ML4.0(CLL), ML4.0(LDG), ML3.9(STR), After ROM.*

IDC ***29*** *00:04:43.6±2.0, 46.34N×12.71E, h6km±11km, mb3.4/1, mb1 3.8/8, mb1mx3.6/24, ML3.9/7, MS2.9/1, Ms1 2.9/1, ms1mx2.1/20, Error ellipse: s-maj=16.2km s-min=10.4km az=168.0*

LDG ***29*** *00:04:45.9±0.1, 46.29N×12.76E, h10km, Ml4.0/44, Error ellipse: s-maj=2.2km s-min=1.8km az=33.0*

BGR ***29*** *00:04:46.9±0.4, 46.45N×12.79E, h10km, ML3.7/8, Error ellipse: s-maj=3.3km s-min=2.2km az=174.0*

STR ***29*** *00:04:49.2±0.5, 46.27N×12.15E, h10km±1km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 29 00:04:41.8±0.2**, 46.362N**±0.009×**12.71E**±0.01**, h7km**±1km**, n291, σ1§31**/473**, mb3.3**/1**, 18C-28D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLNI	Malnisio	0.22	198	ePg	Pg	00 04 46.8	+0.4
MLNI				eSg	Sg	00 04 50.2	+0.7
MPRI	Monte Prat	0.23	121	ePg	Pg	00 04 46.9	+0.4
MPRI				eSg	Sg	00 04 50.8	+1.1
FVI	Forni Avoltri	0.24	12	⇓iPG	Pg	00 04 47.7	+1.0
FVI	Forni Avoltri	0.24	12	⇓iPg	Pg	00 04 47.6	+0.9
ZOU	Zoufplan	0.27	43	ePg	Pg	00 04 48.1	+0.8
ZOU				eSg	Sg	00 04 52.2	+1.2
BOO	Bordano	0.28	99	ePg	Pg	00 04 47.6	+0.2
CSO	Casso	0.28	252	ePg	Pg	00 04 47.7	+0.2
CSO				eSg	Sg	00 04 51.9	+0.6
BUA	Buia	0.32	116	ePg	Pg	00 04 48.6	+0.2
PLRO	Paularo	0.36	58	ePg	Pg	00 04 49.5	+0.5
PLRO				eSg	Sg	00 04 55.8	+1.9
GMNA	Gemona	0.38	103	⇓iPG	Pg	00 04 48.5	-0.9
GMNA				SG	Sg	00 04 51.4	-3.1
GMNA	Gemona	0.38	103	⇓iPg	Pg	00 04 48.5	-0.9
GMNA				eSg	Sg	00 04 51.4	-3.2
BAD	Bernadia	0.39	108	ePg	Pg	00 04 49.8	+0.1
BAD				eSg	Sg	00 04 55.9	+0.8
AFL	Alpe Faloria	0.40	295	ePg	Pg	00 04 50.7	+0.9
PTCC	Patocco-Chiusa	0.45	84	⇓iPG	Pg	00 04 50.8	0.0
PTCC				SG	Sg	00 04 54.5	-2.4
	180nm,0.3s						
PTCC	Patocco-Chiusa	0.45	84	⇓iPg	Pg	00 04 50.8	0.0
PTCC				eSg	Sg	00 04 54.5	-2.4
COLI	Coloredo	0.52	116	ePg	Pg	00 04 52.2	0.0
COLI				eSg	Sg	00 05 00.7	+1.6
TLI	Talmassons	0.52	148	ePg	Pg	00 04 52.2	0.0
ROBS	Robic	0.57	102	i Pg	Pg	00 04 52.6	-0.6
LSR	Lussari	0.58	78	ePg	Pg	00 04 53.3	-0.1
LSR				eSg	Sg	00 05 02.5	+1.3
DRE	Drenchia	0.68	106	ePg	Pg	00 04 54.5	-0.8
DRE				eSg	Sg	00 05 05.9	+1.5
CADS	Cadrg	0.73	100	i Pg	Pg	00 04 55.3	-1.0
CGRP	Cima Grappa	0.79	233	ePg	Pg	00 04 56.4	-1.3
CGRP				eSg	Sg	00 05 10.0	+1.7
KBA	Koelnbreinsper	0.84	31	⇑iPG	Pg	00 04 58.7	+0.1
KBA				i SG	Sg	00 05 10.6	+0.8
	827nm,0.3s						
VOY	Vojsko	0.89	111	⇑iPg	Pg	00 04 58.2	-1.3
VOY				eSg	Sg	00 05 12.3	+0.9
TRI	Trieste	0.98	131	ePG	Pg	00 05 00.3	-1.2
TRI				SG	Sg	00 05 14.0	-0.6
	730nm,0.3s						
TRI	Trieste	0.98	131	ePg	Pg	00 05 00.3	-1.2
TRI				eSg	Sg	00 05 14.0	-0.6
WTTA	Wattenberg	1.16	321	⇑iPG	Pg	00 05 05.1	+0.1
WTTA				i SG	Sg	00 05 20.8	+0.2
	381nm,0.2s						
WATA	Walderalm	1.25	322	⇑iPG	Pg	00 05 06.6	-0.1
WATA				i SG	Sg	00 05 24.2	+0.9
	393nm,0.2s						
OGA	Obergurgl	1.27	294	⇓iPg	Pg	00 05 07.2	+0.2
OBKA	Obir	1.28	83	⇑iPG	Pg	00 05 06.4	-1.0
OBKA				i SG	Sg	00 05 24.3	-0.2
	308nm,0.3s						
OBKA	Obir	1.28	83	eSg	Sg	00 05 26.4	+1.8
	SNR=3.4						
LJU	Ljubljana	1.30	103	ePn	Pn	00 05 06.3	-0.1
LJU				eSg	Sg	00 05 25.6	+0.4
SQTA	Sankt Quirin	1.34	310	⇓iPG	Pg	00 05 08.2	-0.4
SQTA				i SG	Sg	00 05 26.7	+0.2
	462nm,0.3s						
CEY	Cerknica	1.35	117	i Pg	Pg	00 05 06.2	-2.5
RJOB	Jochberg	1.38	3	ePg	Pg	00 05 08.3	-1.0
RMOA	Moar Alm	1.41	4	ePg	Pg	00 05 09.1	-0.7
KNDS	Knezji Dol	1.43	125	i Pn	Pn	00 05 08.2	-0.1
MOTA	Moosalm	1.48	312	⇑iPG	Pg	00 05 10.5	-0.8
MOTA				i SG	Sg	00 05 31.6	+0.7
	592nm,0.4s						
MABI	Malga Bissina	1.55	259	ePN	Pn	00 05 12.2	+2.2
MABI				SN	Sn	00 05 33.3	+2.8
MABI	Malga Bissina	1.55	259	ePg	Pg	00 05 12.2	-0.6
MABI				eSg	Sg	00 05 33.2	-0.3
VISS	Visnje	1.59	110	i Pn	Pn	00 05 11.1	+0.7
PDKS	Podkum	1.62	99	i Pn	Pn	00 05 11.6	+0.8
BRMO	Bormio	1.62	275	ePN	Pn	00 05 12.9	+2.0
BRMO				SN	Sn	00 05 35.6	+3.4
	316nm,0.3s						
BRMO	Bormio	1.62	275	ePg	Pg	00 05 12.9	-1.2
BRMO				eSg	Sg	00 05 35.6	-0.1
PERS	Pernice	1.69	80	i Pn	Pn	00 05 13.1	+1.2
SAL	Salo	1.70	244	ePN	Pn	00 05 14.0	+2.0
SAL				SN	Sn	00 05 36.8	+2.6
	1µm,0.5s						
SAL	Salo	1.70	244	ePg	Pg	00 05 14.0	-1.7
SAL				eSg	Sg	00 05 36.8	-1.5
MOA	Molln	1.83	35	⇑iPG	Pg	00 05 17.1	-1.2
MOA				i SG	Sg	00 05 43.2	+0.5
	226nm,0.4s						
MOA	Molln	1.83	35	eSg	Sg	00 05 41.7	-1.0
	SNR=2.6						
LEGS	Legarje	1.86	102	i Pn	Pn	00 05 15.6	+1.2
DOBS	Dobrina	1.93	95	i Pn	Pn	00 05 16.3	+0.9
GROS	Grobnik	1.94	86	i Pn	Pn	00 05 16.7	+1.2
OBER	Oberstdorf	1.96	303	⇓iPn	Pn	00 05 19.6	+3.8
BOJS	Bojanci	1.97	115	i Pn	Pn	00 05 17.2	+1.2
VBY	Vinica-Bojanci	1.98	115	eSn	Sn	00 05 44.1	+2.8
CRES	Cresnjevec ost	1.99	105	i Pn	Pn	00 05 17.2	+1.0
DAVOX	Davos	2.00	283	Pn	Pn	00 05 19.5	+3.2
	66nm,0.3s,baz=114,slow=16,SNR=305						
DAVOX				Lg		00 05 46.4	
	56nm,0.3s,baz=189,slow=23,SNR=18						
FUR	Furstenfeldbru	2.05	332	ePn	Pn	00 05 20.0	+2.9
	SNR=99						
FUR				eSg	Sg	00 05 50.2	+0.1
	SNR=5.8						
FUR	Furstenfeldbru	2.05	332	⇓iPn	Pn	00 05 20.0	+2.9
GOLS	Golise	2.06	99	i Pn	Pn	00 05 18.1	+1.0
GCIS	Gornji Cirnik	2.08	103	i Pn	Pn	00 05 18.5	+1.0
ARSA	Arzberg	2.13	64	⇑iPG	Pn	00 05 19.9	+1.7
ARSA				i SG	Sn	00 05 49.5	+4.3
	208nm,0.7s						
ARSA	Arzberg	2.13	64	ePn	Pn	00 05 19.9	+1.7
	SNR=82						
ARSA				eSg	Sg	00 05 50.9	-1.8
	SNR=1.4						
DAVA	Damuels	2.15	297	⇑iPG	Pg	00 05 22.2	-2.5
DAVA				i SG	Sg	00 05 52.9	-0.5
	486nm,0.3s						
DAVA	Damuels	2.15	297	ePn	Pn	00 05 22.2	+3.7
	SNR=279						
DAVA				eSg	Sg	00 05 54.6	+1.2
	SNR=6.3						
UBR	Uberruh	2.21	308	⇓ePn	Pn	00 05 22.7	+3.2
UBR				Sn	Sn	00 05 53.0	+5.7
ZCCA	Zocca	2.35	212	ePN	Pn	00 05 22.7	+1.3
	195nm,0.5s						
ZCCA	Zocca	2.35	212	ePg	Pn	00 05 22.7	+1.3
NVLJ	Novalja	2.36	139	i Pn	Pn	00 05 21.9	+0.4
NVLJ				i Sn	Sn	00 05 51.9	+0.9
RSM	Repubblica di	2.44	184	ePN	Pn	00 05 23.1	+0.5
	272nm,0.8s						
RSM	Repubblica di	2.44	184	ePg	Pn	00 05 23.1	+0.5
SEI	Scarperia	2.50	203	ePN	Pn	00 05 23.9	+0.4
	455nm,0.4s						
SEI	Scarperia	2.50	203	ePg	Pn	00 05 23.9	+0.5
GSCL	Gusciola	2.50	217	ePN	Pn	00 05 25.5	+1.9
	99nm,0.5s						
ERBM	Eremo	2.53	221	ePN	Pn	00 05 25.0	+1.1
ERBM	Eremo	2.53	221	ePg	Pn	00 05 25.0	+1.1
SFI	Santa Sofia	2.53	194	ePN	Pn	00 05 23.8	-0.2
	116nm,0.5s						
SFI	Santa Sofia	2.53	194	ePg	Pn	00 05 23.8	-0.2
VMG	Vicchio	2.54	199	ePN	Pn	00 05 24.5	+0.4
	541nm,0.7s						
VMG	Vicchio	2.54	199	ePg	Pn	00 05 24.5	+0.5
GEC2	GERESS Array S	2.58	15	ePn	Pn	00 05 26.1	+1.6
	SNR=130						
GEC2				eSg	Sg	00 06 05.7	-1.8
	SNR=1.8						
GEC2	GERESS Array S	2.58	15	ePn	Pn	00 05 26.2	+1.6
GERES	GERESS Array B	2.58	15	Pn	Pn	00 05 26.2	+1.6
	15nm,0.3s,baz=191,slow=13,SNR=579						
GERES				Pg	Pg	00 05 31.6	-1.6
	28nm,0.3s,baz=190,slow=17,SNR=103						
GERES				Sn	Sn	00 05 59.9	+3.4
	34nm,0.3s,baz=198,slow=26,SNR=11						
GERES				Lg		00 06 05.5	
	84nm,0.3s,baz=194,slow=29,SNR=12						
PGD	Poggio Sodo	2.58	196	ePN	Pn	00 05 24.7	0.0
	111nm,0.4s						
PGD	Poggio Sodo	2.58	196	ePg	Pn	00 05 24.7	0.0
GRAM		2.64	226	P	Pn	00 05 27.3	+1.8
GRAM				S	Sn	00 05 52.4	-5.7
VALM		2.66	222	P	Pn	00 05 26.6	+0.8
VALM				S	Sn	00 05 51.2	-7.4
FSSB	Fossombrone	2.67	179	ePN	Pn	00 05 25.8	-0.2
	174nm,0.5s						
FSSB	Fossombrone	2.67	179	ePg	Pn	00 05 25.8	-0.1
SISC	Sisak	2.71	108	i Pn	Pn	00 05 25.4	-1.1
SISC				i Sn	Sn	00 05 55.8	-4.1
BDI	Bagni Di Lucca	2.74	214	ePN	Pn	00 05 27.5	+0.5
	85nm,0.5s						
BDI	Bagni Di Lucca	2.74	214	ePg	Pn	00 05 27.5	+0.5
NORI	Noerdlinger Ri	2.75	330	⇑iPn	Pn	00 05 28.6	+1.5
NORI				eSn	Sn	00 06 04.2	+3.3
WET	Wettzell	2.79	2	ePn	Pn	00 05 28.9	+1.2
	SNR=194						
WET				eSg	Sg	00 06 12.3	-2.3
	SNR=1.1						
WET	Wettzell	2.79	2	ePn	Pn	00 05 28.8	+1.2
BOB	Bobbio (Coli)	2.79	236	ePN	Pn	00 05 29.3	+1.6
	156nm,0.6s						
BOB	Bobbio (Coli)	2.79	236	ePg	Pn	00 05 29.3	+1.7
BACM		2.79	223	P	Pn	00 05 29.3	+1.6
BACM				S	Sn	00 05 55.7	-6.3
CRE	Caprese Michel	2.79	191	ePN	Pn	00 05 28.9	+1.2
	79nm,0.3s						
HDH	Heidenheim	2.80	324	Pn	Pn	00 05 29.1	+1.4
HDH				Sn	Sn	00 06 04.7	+2.6
CODM		2.82	227	P	Pn	00 05 29.9	+1.8
CODM				S	Sn	00 05 56.7	-6.0
KHC	Kasperske Hory	2.83	12	ePN	Pn	00 05 29.7	+1.4
KHC				ePG	Pg	00 05 36.3	-2.0
KHC				eSN	Sn	00 06 05.2	+2.2
VINC	Vinca	2.86	220	P	Pn	00 05 30.3	+1.6
ARV	Arcevia	2.87	177	ePN	Pn	00 05 28.7	-0.1
	150nm,0.8s						
ARV	Arcevia	2.87	177	ePg	Pn	00 05 28.7	-0.1
SISB	Singen-Sch Ber	2.88	299	ePn	Pn	00 05 31.3	+2.4
SISB				Sg	Sg	00 06 15.9	-1.8
GUT	Gutenstein	2.99	306	Pn	Pn	00 05 32.3	+1.9
GUT				Sn	Sn	00 06 08.3	+1.4
CING	Cingoli	3.01	173	ePN	Pn	00 05 30.6	-0.1
CING	Cingoli	3.01	173	ePg	Pn	00 05 30.6	-0.2
CSNT	Castellina Chi	3.06	200	ePN	Pn	00 05 31.7	+0.2
	125nm,0.5s						
CSNT	Castellina Chi	3.06	200	ePg	Pn	00 05 31.7	+0.2
PII	Pisa	3.06	211	ePN	Pn	00 05 31.6	+0.1
	137nm,0.3s						
PII	Pisa	3.06	211	ePg	Pn	00 05 31.6	+0.1
BUCH	Bad Urach	3.09	314	Pn	Pn	00 05 33.9	+2.0
BUCH				Sg	Sg	00 06 21.7	-2.9
BUCH	Bad Urach	3.09	314	P	Pn	00 05 33.9	+2.0
BUCH				Sg	Sg	00 06 21.7	-3.0
MURB	Monte Urbino	3.10	182	ePN	Pn	00 05 32.6	+0.5
MURB	Monte Urbino	3.10	182	ePg	Pn	00 05 32.6	+0.5
VKA	Vienna	3.11	51	⇑iPN	Pn	00 05 33.4	+1.2
VKA				i PG	Pg	00 05 46.2	+2.4
VKA				i SG	Sg	00 06 25.5	+0.2
SPAK	Spaichingen	3.19	305	⇓ePn	Pn	00 05 35.5	+2.2
TUBL	Tuebingen Lnz	3.27	313	⇓ePn	Pn	00 05 36.9	+2.3
TUBL				Sn	Sn	00 06 14.1	-0.1
ASS	Assisi	3.30	181	ePN	Pn	00 05 34.9	0.0
	98nm,0.6s						
ORO	Oropa	3.37	259	ePN	Pn	00 05 36.2	+0.2
	115nm,0.5s						
ORO	Oropa	3.37	259	ePg	Pn	00 05 36.2	+0.2
STU	Stuttgart	3.39	317	ePn	Pn	00 05 38.0	+1.9
	SNR=11						
STU				ePg	Pg	00 05 50.0	+0.6
	SNR=2.0						
STU	Stuttgart	3.39	317	ePn	Pn	00 05 37.9	+1.8
STU				eSn	Sn	00 06 17.9	+0.9
ROTZ	Rotzenmuhle	3.42	355	ePn	Pn	00 05 36.9	+0.2
ROTZ				eSn	Sn	00 06 17.9	-0.1
GRFL	Gerfalco	3.44	202	ePN	Pn	00 05 36.3	-0.6
	18nm,0.6s						
GRFL	Gerfalco	3.44	202	ePg	Pn	00 05 36.3	-0.6
PCP	Pian Castagno	3.45	240	P	Pn	00 05 37.9	+0.9
GRA1	Grafenberg Arr	3.48	344	ePn	Pn	00 05 38.0	+0.6
GRA1				eSn	Sn	00 06 19.2	-0.2
GRF	Grafenberg Arr	3.48	344	ePn	Pn	00 05 38.0	+0.6
	SNR=17						
ZST	Bratislava	3.51	57	ePn	Pn	00 05 38.6	+0.7
ZST				e		00 05 48.8	
ZST				eSn	Sn	00 06 19.5	-0.7
LBG	Lerchenberg	3.51	312	⇓ePn	Pn	00 05 39.7	+1.8
LBG				Sn	Sn	00 06 20.8	+0.5
NRCA	Norcia	3.54	175	ePN	Pn	00 05 38.0	-0.3
	91nm,0.8s						
NRCA	Norcia	3.54	175	ePg	Pn	00 05 38.0	-0.3
FELD	Feldberg	3.55	297	⇑ePn	Pn	00 05 40.2	+1.7
FELD				Sn	Sn	00 06 20.5	-0.7
TRAV		3.56	258	P	Pn	00 05 38.5	-0.2
BFO	Black Forest	3.57	305	ePn	Pn	00 05 40.4	+1.6
	SNR=106						
BFO	Black Forest	3.57	305	ePn	Pn	00 05 40.4	+1.7
BFO				eSn	Sn	00 06 23.9	+2.2
KIZ	Kirchzarten	3.64	298	⇓ePn	Pn	00 05 41.1	+1.5
KIZ				Sn	Sn	00 06 22.9	-0.5
SIND	Sindeldorf	3.65	326	Pn	Pn	00 05 40.8	+1.0
SIND				Sg	Sg	00 06 40.3	-2.8
SIND	Sindeldorf	3.65	326	P	Pn	00 05 40.8	+1.0
SIND				Sg	Sg	00 06 40.3	-2.9
MANZ	Manzenberg	3.65	354	⇓iPn	Pn	00 05 40.0	+0.1
BBS	Basel-Blauen	3.73	289	⇓ePn	Pn	00 05 42.8	+1.7
RHK1	Bakonya	3.73	92	⇓iP	Pn	00 05 40.3	-0.8
RHK1				eS	Sn	00 06 24.3	-1.5
TERO	Teramo	3.79	170	ePN	Pn	00 05 41.1	-0.8
TERO	Teramo	3.79	170	ePg	Pn	00 05 41.1	-0.8
PRU	Pruhonice	3.83	18	ePN	Pn	00 05 43.1	+0.6
PRU				ePG	Pg	00 05 54.1	-4.2
PRU				eSN	Sn	00 06 28.6	+0.3
PRU				SG	Sg	00 06 42.5	-6.8
	155nm,0.4s						
FIN	Finale Ligure	3.83	237	ePN	Pn	00 05 42.6	+0.1
	92nm,0.5s						
FIN	Finale Ligure	3.83	237	ePg	Pn	00 05 42.6	+0.1
VIEL	Selb-Vielitz	3.85	354	ePn	Pn	00 05 43.2	+0.5
PKS9	Tamasi	3.86	85	eP	Pn	00 05 41.3	-1.5
SMOL	Smolenice	3.86	54	ePN	Pn	00 05 43.7	+0.8
SMOL				eSN	Sn	00 06 29.0	-0.1
NKC	Novy Kostel	3.88	358	ePN	Pn	00 05 44.1	+1.0
NKC				ePG	Pg	00 05 57.4	-1.8
NKC				eSN	Sn	00 06 31.5	+2.0
NKC				eSG	Sg	00 06 47.3	-3.6
RHK3	Tenkes	3.88	95	⇑eP	Pn	00 05 42.2	-1.0
RHK3				eS	Sn	00 06 27.6	-2.1
LIBD	Limburg	3.91	299	Pn	Pn	00 05 47.1	+3.5
VRAC	Vranov	3.94	40	Pn	Pn	00 05 44.2	+0.2
	3.6nm,0.3s,baz=238,slow=13,SNR=9.4						
VRAC				Pg	Pg	00 05 56.2	-4.3
	4.2nm,0.3s,baz=234,slow=13,SNR=32						
VRAC				Lg		00 06 47.7	
	12nm,0.3s,baz=140,slow=22,SNR=13						
RORO		3.98	237	P	Pn	00 05 44.0	-0.6
MNS	Montasola	3.98	180	ePN	Pn	00 05 43.8	-0.7
	45nm,0.4s						
MNS	Montasola	3.98	180	ePg	Pn	00 05 43.9	-0.7
ROB	Roburent	3.99	241	P	Pn	00 05 44.9	+0.2
RSP	Reno Superiore	4.00	254	P	Pn	00 05 44.0	-0.9
GUNZ	Gunzen	4.01	357	ePn	Pn	00 05 45.6	+0.6
	SNR=36						
GUNZ				eSg	Sg	00 06 52.1	-3.2
	SNR=2.7						
STR	Strasbourg	4.02	305	Pn	Pn	00 05 48.0	+2.8
PKSG		4.03	73	⇑eP	Pn	00 05 45.0	-0.3
TANN	Tannenbergstha	4.06	358	ePn	Pn	00 05 46.6	+0.9
	SNR=28						
MOF	Molkenrain	4.09	293	⇓ePn	Pn	00 05 47.5	+1.4
MOF				Sn	Sn	00 06 32.9	-2.0
MOF	Molkenrain	4.09	293	Pn	Pn	00 05 47.3	+1.2
MOF				Sg	Sn	00 06 36.1	+1.3
SRO	Srobarova	4.10	67	ePN	Pn	00 05 46.1	-0.1
SRO				eSN	Sn	00 06 33.0	-2.0
WERD	Werda	4.10	356	ePn	Pn	00 05 46.8	+0.6
	SNR=27						
PKSM	Moragy	4.12	90	⇑iP	Pn	00 05 45.0	-1.5
PKSM				eS	Sn	00 06 33.4	-2.2
SWS	Schriesheim	4.12	321	⇓ePn	Pn	00 05 47.7	+1.1
SWS				Sn	Sn	00 06 33.1	-2.7
PKS8	Sarbogard	4.15	81	⇓iP	Pn	00 05 45.4	-1.5
LOMF	Lomont	4.15	286	⇓ePn	Pn	00 05 48.6	+1.6
LOMF				Sn	Sn	00 06 37.3	+0.9
LOMF	Lomont	4.15	286	Pn	Pn	00 05 48.5	+1.5
LOMF				Sg	Sn	00 06 38.2	+1.7
TOD	Tromm	4.17	323	⇓ePn	Pn	00 05 48.4	+1.1
WLS	Welschbruch	4.17	301	⇓ePn	Pn	00 05 48.6	+1.3
WLS	Welschbruch	4.17	301	Pn	Pn	00 05 48.3	+0.9
MONE	Monesi	4.18	239	P	Pn	00 05 47.0	-0.4
IMI	Imperia	4.20	236	ePN	Pn	00 05 47.2	-0.5
	79nm,0.4s						
IMI	Imperia	4.20	236	ePg	Pg	00 05 47.2	-18
ECH	Echery	4.21	298	⇓ePn	Pn	00 05 49.0	+1.1
ECH				Sn	Sn	00 06 36.7	-1.1
ECH	Echery	4.21	298	Pn	Pn	00 05 49.0	+1.2
ECH				Sg	Sn	00 06 38.2	+0.4
CDF	Champ du Feu	4.22	301	ePn	Pn	00 05 48.9	+0.9
CDF				ePg	Pg	00 06 05.3	-0.7
CDF				eSn	Sn	00 06 35.0	-3.2
CDF				eSg	Sg	00 06 56.4	-5.9
	317nm,1.0s						
LANF	Langenberg	4.22	310	⇓ePn	Pn	00 05 49.5	+1.5
LANF	Langenberg	4.22	310	Pn	Pn	00 05 49.2	+1.2
LPG	La Plagne	4.24	260	ePn	Pn	00 05 49.1	+0.8
LPG				eSn	Sn	00 06 35.5	-3.3
	72nm,0.6s						
LPL	La Plagne	4.25	261	ePn	Pn	00 05 49.2	+0.7
LPL				eSn	Sn	00 06 36.6	-2.4
	58nm,0.7s						
HINF	Hinteralfeld	4.25	292	ePn	Pn	00 05 49.4	+0.9
HINF				ePg	Pg	00 06 05.8	-0.9
HINF				eSn	Sn	00 06 35.7	-3.4
	148nm,0.3s						
KTD	Kalmit	4.29	315	Pn	Pn	00 05 50.3	+1.2
ENR	Entracque	4.30	242	P	Pn	00 05 48.6	-0.5
STV2	Anna di Valdie	4.35	243	P	Pn	00 05 49.0	-0.8
MOX	Moxa	4.35	351	ePn	Pn	00 05 49.7	-0.1
	SNR=45						
MOX				ePg	Pg	00 06 06.9	-1.7
MOX				eSn	Sn	00 06 39.8	-1.6
MOX				eSg	Sg	00 07 01.4	-5.1
MOX	Moxa	4.35	351	i P	Pn	00 05 50.0	+0.2
MOX				Pg	Pg	00 06 07.0	-1.6
MOX				S	Sn	00 06 39.0	-2.4
MOX				Sg	Sg	00 07 01.0	-5.5
MOX				L		00 07 46.0	
MOX	Moxa	4.35	351	ePn	Pn	00 05 50.0	+0.2
MOX				ePg	Pg	00 06 06.9	-1.7
MOX				eSn	Sn	00 06 39.8	-1.6
MOX				eSg	Sg	00 07 01.4	-5.1
SAOF	Saorge	4.35	239	Pn	Pn	00 05 49.9	+0.1
PVCC	Panska Ves	4.35	16	ePN	Pn	00 05 50.2	+0.4
PVCC				ePG	Pg	00 06 04.8	-3.8
PVCC				eSN	Sn	00 06 40.3	-1.2
PVCC				eSG	Sg	00 07 00.1	-6.5
PTQR	Pietraquaria	4.37	173	ePN	Pn	00 05 49.7	-0.4
	38nm,0.9s						
PTQR	Pietraquaria	4.37	173	ePg	Pn	00 05 49.7	-0.4
CERT	Cerreto	4.42	177	ePg	Pn	00 05 50.4	-0.4
AUTN	L'Aution	4.42	240	Pn	Pn	00 05 52.0	+1.2
AUTN				Sg	Sn	00 06 41.1	-2.1
INTR	Introdacqua	4.43	168	ePg	Pn	00 05 49.9	-1.1
MBDF	Montbardon	4.48	251	ePn	Pn	00 05 50.6	-1.1
MBDF				eSn	Sn	00 06 41.0	-3.7
	59nm,0.5s						
SBF	Sospel	4.49	238	ePn	Pn	00 05 51.1	-0.7
SBF				eSn	Sn	00 06 41.4	-3.6
	100nm,0.4s						
HROE	Hohe Rhon--Fla	4.51	339	⇑iPn	Pn	00 05 52.1	0.0
TOUF	Mont Tournerai	4.52	241	Pn	Pn	00 05 52.7	+0.5
TOUF				Sg	Sn	00 06 44.7	-1.0
AURF	Auriere	4.54	239	Pn	Pn	00 05 52.2	-0.3
CABF	La Chapelle	4.58	276	ePn	Pn	00 05 54.4	+1.3
CABF				eSn	Sn	00 06 44.3	-2.9
	91nm,0.7s						
CABF				eSg	Sg	00 07 10.5	-3.7
BRG	Berggiesshubel	4.59	10	ePn	Pn	00 05 53.5	+0.3
	SNR=23						
BRG				ePg	Pg	00 06 09.6	-3.8
BRG				i Sn	Sn	00 06 46.2	-1.3
BRG				eSg	Sg	00 07 09.7	-4.9
	SNR=4.1						
BRG	Berggiesshubel	4.59	10	ePn	Pn	00 05 53.6	+0.4
BRG				ePg	Pg	00 06 09.6	-3.8
BRG				i Sn	Sn	00 06 46.2	-1.3
BRG				i Sg	Sg	00 07 09.4	-5.2
REVF	Revere	4.60	237	Pn	Pn	00 05 54.9	+1.5
REVF				Sg	Sn	00 06 46.3	-1.5
HAU	Haudompre	4.64	293	ePn	Pn	00 05 54.8	+0.9
HAU				eSn	Sn	00 06 45.0	-3.7
	262nm,0.5s						
HAU				eSg	Sg	00 07 10.3	-5.9
	172nm,0.7s						
MVIF	Mont Vial	4.64	240	Pn	Pn	00 05 54.4	+0.5
MVIF				Sg	Sn	00 06 47.1	-1.7
PGF	Pioggiola	4.64	216	ePn	Pn	00 05 53.1	-0.9
PGF				eSn	Sn	00 06 43.5	-5.4
	25nm,0.3s						
DPC	Dobruska-Polom	4.66	30	ePN	Pn	00 05 53.9	-0.4
DPC				eSN	Sn	00 06 47.3	-2.0
VYHS	Vyhne	4.67	61	ePN	Pn	00 05 53.6	-0.8
VYHS				eSN	Sn	00 06 44.6	-5.1
UPC	Upice	4.70	27	ePN	Pn	00 05 54.4	-0.3

UPC				ePG	Pg	00 06 10.6	-4.9
UPC				eSN	Sn	00 06 49.1	-1.1
UPC				eSG	Sg	00 07 10.7	-7.4
CALN	Calern	4.88	240	Pn	Pn	00 05 57.3	0.0
ABH	Alteburg	4.93	317	⇓ePn	Pn	00 05 59.1	+1.0
THEF	They Montfort	4.94	295	Pn	Pn	00 05 59.1	+0.9
THEF	They Montfort	4.94	295	Pn	Pn	00 06 00.1	+1.9
CLL	Collm	4.95	2	ePn	Pn	00 05 58.4	0.0
	SNR=21						
CLL				ePg	Pg	00 06 18.0	-2.7
CLL				eSn	Sn	00 06 59.0	+2.3
CLL				eSg	Sg	00 07 27.0	+0.3
CLL	Collm	4.95	2	i PN	Pn	00 05 58.3	-0.1
	logA/T=1.6						
CLL				ePG	Pg	00 06 18.0	-2.7
CLL				eSN	Sn	00 06 59.0	+2.3
CLL				eSG	Sg	00 07 20.0	-6.7
CLL				eSG	Sg	00 07 27.0	+0.3
CLL				eL		00 07 51.0	
CLL	Collm	4.95	2	i Pn	Pn	00 05 58.3	-0.1
CLL				ePg	Pg	00 06 18.0	-2.7
CLL				eSn	Sn	00 06 59.0	+2.3
CLL				eSg	Sg	00 07 27.0	+0.3
STON	Ston	4.99	133	i Pn	Pn	00 05 57.8	-1.1
STON				i Sn	Sn	00 06 55.1	-2.5
ORIF	Oris-en-Rattie	5.00	256	ePn	Pn	00 06 00.3	+1.2
ORIF				eSn	Sn	00 06 53.3	-4.6
	50nm,0.6s						
OKC	Ostrava-Krasne	5.04	44	ePN	Pn	00 05 59.2	-0.4
OG05	Jujurieux	5.04	269	Sg	Sn	00 06 56.7	-2.2
RUP	Ruppelstein	5.05	313	⇑ePn	Pn	00 06 01.7	+2.0
RUP				Sn	Sn	00 06 59.5	+0.3
KSP	Ksiaz	5.08	27	ePn	Pn	00 06 00.4	+0.3
KSP				ePg	Pg	00 06 16.1	-7.0
KSP				eSn	Sn	00 06 58.6	-1.2
KSP				e		00 07 16.4	
KSP				eSg	Sg	00 07 24.8	-6.0
OG25	Le Caire	5.08	249	Pn	Pn	00 06 00.7	+0.5
SGG	Gregorio Mates	5.12	166	ePg	Pn	00 06 00.0	-0.7
RGNG	Rignano Grg	5.12	155	ePg	Pn	00 05 59.2	-1.6
FRF	La Foret Royal	5.13	239	ePn	Pn	00 05 59.9	-1.0
FRF				eSn	Sn	00 06 56.2	-5.0
	35nm,0.4s						
PSZ	Piszkesteto	5.15	70	i Pnd		00 06 01.0	
PSZ				e		00 06 45.1	
PSZ	Piszkesteto	5.15	70	⇓iP	Pn	00 06 01.0	-0.1
PSZ				eS	Sn	00 06 45.1	-16
LMR	La Mourre	5.34	238	ePn	Pn	00 06 02.3	-1.6
LMR				eSn	Sn	00 07 00.8	-5.7
	77nm,0.7s						
RFYF	Reffroy	5.40	297	ePn	Pn	00 06 06.5	+1.8
RFYF				eSn	Sn	00 07 07.1	-0.8
	136nm,0.8s						
WLF	Walferdange	5.50	309	ePn	Pn	00 06 08.3	+2.2
	SNR=16						
SFTF	Sexfontaines	5.53	292	ePn	Pn	00 06 07.6	+1.0
SFTF				eSn	Sn	00 07 03.4	-7.9
	49nm,0.5s						
SMRF	Simiane la Rot	5.58	247	ePn	Pn	00 06 07.5	+0.3
SMRF				eSn	Sn	00 07 07.2	-5.2
	16nm,0.4s						
MEZF	Maizieres J'vi	5.62	295	ePn	Pn	00 06 08.6	+0.8
MEZF				eSn	Sn	00 07 07.8	-5.6
	103nm,0.8s						
KECS	Kecovo	5.69	65	ePN	Pn	00 06 08.4	-0.4
KECS				eSN	Sn	00 07 11.9	-3.3
CLZ	Clausthal	5.70	345	ePn	Pn	00 06 08.8	-0.1
	SNR=8.6						
CLZ				ePg	Pg	00 06 32.7	-2.8
	SNR=3.8						
CLZ	Clausthal	5.70	345	ePn	Pn	00 06 08.8	0.0
CLZ				eSn	Sn	00 07 13.1	-2.2
VIVF	Saint-Julien-l	5.83	258	ePn	Pn	00 06 09.9	-0.9
VIVF				eSn	Sn	00 07 13.3	-5.5
	31nm,0.8s						
MRLC	Muro Lucano	5.96	159	ePg	Pn	00 06 10.0	-2.5
SGO	Sicignano	6.10	161	ePg	Pn	00 06 12.5	-2.0
OJC	Ojcow	6.11	48	eP	Pn	00 06 20.8	+6.2
OJC				eS	Sn	00 07 39.8	+14
OJC				e		00 08 03.6	
SMF	Signal de Mont	6.13	276	ePn	Pn	00 06 14.7	-0.2
SMF				eSn	Sn	00 07 19.2	-6.9
	35nm,0.5s						
LOR	Lormes	6.14	282	ePn	Pn	00 06 14.7	-0.4
LOR				eSn	Sn	00 07 20.6	-5.9
	49nm,0.5s						
BUG	Bochum--Univer	6.22	327	ePn	Pn	00 06 16.8	+0.6
	SNR=7.8						
BUG	Bochum--Univer	6.22	327	ePn	Pn	00 06 17.7	+1.5
BUG				eSn	Sn	00 07 26.3	-2.1
HGN	Heimansgroeve	6.29	317	⇑iPn	Pn	00 06 19.0	+1.7
	15nm,0.2s,baz=140						
HGN				eSn	Sn	00 07 27.6	-2.7
PLDF	La Plantade	6.32	270	Pn	Pn	00 06 16.6	-1.1
PLDF				Sg	Sn	00 07 30.6	-0.4
SSF	Saint Saulge	6.37	280	ePn	Pn	00 06 17.5	-0.8
SSF				eSn	Sn	00 07 25.4	-6.7
	23nm,0.6s						
NRDL	Niedersach Rie	6.37	346	ePg	Pg	00 06 45.6	-3.3
	SNR=5.1						
GIVF	Givet	6.46	308	ePn	Pn	00 06 21.4	+1.8
GIVF				eSn	Sn	00 07 28.8	-5.6
	45nm,0.5s						
AVF	Avril sur Loir	6.46	277	ePn	Pn	00 06 18.6	-1.1
AVF				eSn	Sn	00 07 28.2	-6.3
	20nm,0.6s						
AGO	Saint Agoulin	6.65	271	Pn	Pn	00 06 21.0	-1.4
LASF	Ste Croix	6.66	253	ePn	Pn	00 06 20.2	-2.2
LASF				eSn	Sn	00 07 32.5	-6.8
	20nm,0.5s						
LBL	Lubilhac	6.71	264	Pn	Pn	00 06 21.3	-1.9
BAIF	Baives	6.78	306	ePn	Pn	00 06 25.6	+1.5
BAIF				eSn	Sn	00 07 35.6	-6.8
	71nm,0.7s						
PYM	Petit Puy Mans	6.78	268	Pn	Pn	00 06 24.1	0.0
BGF	Bois d'Agland	6.81	275	ePn	Pn	00 06 24.4	-0.2
BGF				eSn	Sn	00 07 36.7	-6.6
	52nm,0.3s						
WTSB	Winterswijk	6.81	328	ePn	Pn	00 06 26.3	+1.6
	6.8nm,0.5s						
WTSB				eSn	Sn	00 07 51.2	+7.9
HYF	Humbligny	6.97	281	ePn	Pn	00 06 27.1	+0.3
HYF				eSn	Sn	00 07 41.3	-5.9
	159nm,0.4s						
TCF	Toulx Ste Croi	7.27	273	ePn	Pn	00 06 29.8	-1.2
TCF				eSn	Sn	00 07 47.7	-7.0
	17nm,0.5s						
CAF	Calviac	7.60	263	ePn	Pn	00 06 33.9	-1.7
CAF				eSn	Sn	00 07 55.7	-7.2
	7.7nm,0.5s						
BSEG	Bad Segeberg	7.74	349	ePn	Pn	00 06 35.8	-1.7
	SNR=5.2						
RJF	Les Rejaudoux	7.89	266	ePn	Pn	00 06 38.6	-1.1
RJF				eSn	Sn	00 08 02.6	-7.6
	10nm,0.7s						
MTLF	Montolieu	8.04	252	ePn	P	00 06 39.3	-2.5
MTLF				eSn	Sn	00 08 05.9	-8.1
	7.6nm,0.8s						
LFF	La Frestale	8.51	265	ePn	P	00 06 46.5	-1.8
LFF				eSn	Sn	00 08 16.5	-9.0
	9.8nm,0.7s						
MFF	Saint Martin d	8.88	276	ePn	P	00 06 52.8	-0.6
MFF				eSn	Sn	00 08 25.0	-10
	9.0nm,0.4s						
VAE	Valguarnera	8.97	171	LR	LR	00 10 34.8	
	comp=Z,76nm,20.4s,baz=124,slow=39						
LDF	La Druitiere	8.97	289	ePn	P	00 06 53.3	-1.4
LDF				eSn	Sn	00 08 28.4	-8.8
	21nm,0.7s						
FLN	La Foliniere	9.24	290	ePn	P	00 06 57.2	-1.2
FLN				eSn	Sn	00 08 34.9	-8.8
	19nm,0.5s						
MLR	Muntele Rosu	9.27	91	Pn	P	00 06 59.5	+0.7
	0.4nm,0.3s,baz=172,slow=12,SNR=2.9						
EPF	Esparros	9.41	254	ePn	P	00 06 58.0	-2.9
GRR	Gorron	9.43	287	ePn	P	00 06 59.9	-1.1
GRR				eSn	Sn	00 08 39.3	-9.1
	10nm,0.5s						
ETSF	Etsaut	10.07	255	ePn	P	00 07 11.1	+1.3
ETSF				eSn	S	00 08 54.2	-10
	16nm,1.1s						
SJPF	Ste Jean	10.43	257	ePn	P	00 07 12.8	-2.0
SGMF	Saint Gilles	10.54	286	ePn	P	00 07 15.6	-0.6
SGMF				eSn	S	00 09 05.8	-10
	14nm,0.6s						
QUIF	Quistinic	10.93	284	ePn	P	00 07 19.7	-1.8
QUIF				eSn	S	00 09 15.2	-10
	14nm,0.7s						
ROSF	Rostrenen	11.02	286	ePn	P	00 07 19.2	-3.7
ROSF				eSn	S	00 09 17.2	-10
	8.2nm,0.6s						
EKA	Eskdalemuir Ar	13.43	318	Pn	P	00 07 53.4	-1.8
	0.5nm,0.3s,baz=128,slow=14,SNR=7.2						
ESDC	Sonseca Array	13.89	247	Pn	P	00 08 02.3	+1.0
	0.1nm,0.3s,baz=57,slow=14,SNR=3.5						
FINES	FINESS Array B	16.98	22	Pn	P	00 08 40.7	-0.3
	0.2nm,0.3s,baz=190,slow=12,SNR=6.2						
FINES	FINESS Array B	16.98	22	Pn	P	00 08 40.7	-0.3
ARCES	ARCESS Array B	24.10	11	P	P	00 09 59.9	+1.6
	0.7nm,0.6s,mb3.3,baz=191,slow=9.2,SNR=4.5						
ARCES	ARCESS Array B	24.10	11	P	P	00 09 59.9	+1.6

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*NIED **29** 00:10:00, 44.00N×147.90E, h47km, Mw4.0 Best double couple: M₀9.54×10¹⁴ NP1:φs1°, δ72°, λ74°. NP2:φs224°, δ24°, λ131°.*
*JMA **29** 00:10:23.4±0.2, 44.02N×147.94E, M4.9*
*MOS **29** 00:10:23.5±0.9, 44.53N×148.11E, h67km, mb4.2/8, Error ellipse: s-maj=19.5km s-min=16.7km az=126.6*
*SKHL **29** 00:10:24.6±0.2, 44.44N×148.07E, h48km±8km, mb5.0/2*
*NEIC **29** 00:10:26.2±1.5, 44.54N×148.03E, h71km±12km, mb4.5/1, Error ellipse: s-maj=14.8km s-min=7.7km az=155.0*
*IDC **29** 00:10:27.4±3.6, 44.55N×148.02E, h82km±32km, mb3.6/16, mb1 3.8/17, mb1mx3.7/26, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=23.7km s-min=17.7km az=157.0*

ISC 29 00:10:23.6±0.8**, 44.41N**±0.05×**148.09E**±0.08**, h66**km±6km**, n57, σ1§04**/72**, mb4.0**/21**, 6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.84	349	⇓iP	P	00 10 39.4	-0.7
KUR				⇓iP		00 10 39.4	
KUR				AMB	AMB	00 10 40.0	
	2µm,1.0s						
KUR				i S	S	00 10 50.7	-1.6
KUR				A		00 10 52.3	
	3µm,0.6s						
KUR				A		00 10 52.3	
	6µm,0.6s						
KUR				A		00 10 53.0	
	11µm,1.2s						
KUR				A		00 10 53.0	
	13µm,1.2s						
YUK	Yuzh-Kuril'sk	1.64	258	⇓iP	P	00 10 50.5	-0.4
YUK				AMB	AMB	00 10 52.0	
	2µm,0.5s						
YUK				AMB	AMB	00 10 52.0	
	2µm,0.3s						
YUK				AMB	AMB	00 10 52.0	
	260nm,0.4s						
YUK				AMB	AMB	00 10 52.0	
	350nm,0.4s						
YUK				i pP		00 11 05.0	
YUK				sP		00 11 08.0	
YUK				i S	S	00 11 09.8	-1.2
YUK				A		00 11 15.0	
	4µm,0.5s						
YUK				A		00 11 15.0	
	4µm,0.5s						
YUK	Yuzh-Kuril'sk	1.64	258	⇓iPN	P	00 10 50.5	-0.4
YUK				i S	S	00 11 09.8	-1.2
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=N,260nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2µm,0.5s						
YUK				smax			
	comp=N,4µm,0.5s						
YUK				smax			
	comp=E,4µm,0.5s						
YUK				smax			
	comp=N,6µm,0.8s						
YUK				smax			
	comp=E,6µm,0.8s						
NEM2	Nemuro 2	1.99	239	P	P	00 10 55.0	-0.6
NEM2				eS	S	00 11 17.6	-1.7
JRA	Rausu	2.18	259	P	P	00 10 59.7	+1.3
JRA				eS	S	00 11 26.3	+2.1
JNK	Nakash	2.56	253	P	P	00 11 04.4	+0.6
JNK				eS	S	00 11 34.2	+0.3
JAK	Akkeshi	2.83	241	P	P	00 11 07.1	-0.5
JAK				eS	S	00 11 38.6	-2.0
JTKR	Abashiri--Toko	3.04	263	P	P	00 11 11.3	+0.8
JAR	Ashorobuto	3.31	252	P	P	00 11 15.3	+1.0
JAR				eS	S	00 11 53.3	+0.6
JOB	Onbets	3.43	246	P	P	00 11 16.2	+0.2
JOB				eS	S	00 11 55.2	-0.4
JCH	Churui	3.88	244	P	P	00 11 21.8	-0.4
JCH				eS	S	00 12 05.1	-1.7
JKK2	Kamakawa 2	3.88	264	P	P	00 11 24.2	+2.0
ASAJ	Asahikawa	3.95	268	P	P	00 11 25.1	+1.9
	comp=E,4.9nm,0.3s,baz=81,slow=20,SNR=18						
ASAJ				S	S	00 12 23.1	+14
	comp=E,5.2nm,0.3s,baz=14,slow=29,SNR=6.7						
ASAJ				LR	LR	00 13 03.5	
	comp=E,177nm,21.8s,baz=18,slow=40						
JSE	Soyaes	3.96	280	P	P	00 11 24.2	+0.8
JFR	Furan	4.17	255	P	P	00 11 28.2	+2.0
JNBK	Urakawa-nobuka	4.43	243	P	P	00 11 29.6	-0.4
JNBK				eS	S	00 12 19.9	-0.8
JWK2	Keihoku	4.49	284	P	P	00 11 33.1	+2.3
YSS	Yuzh-Sakhalins	4.52	306	⇓iP	P	00 11 30.5	-0.7
YSS				AMB	AMB	00 11 31.5	
	comp=E,40nm,0.6s						
YSS				eS	S	00 12 23.5	+0.5
YSS				A		00 12 28.0	
	comp=E,30nm,0.9s						
YSS				AMS	AMS	00 13 06.0	
	comp=E,400nm,16.0s						
YSS	Yuzh-Sakhalins	4.52	306	⇓iPN	P	00 11 30.5	-0.7
YSS				eS	S	00 12 23.5	+0.5
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	Yuzh-Sakhalins	4.52	306	eP	P	00 11 31.6	+0.3
JEW	Eniwo	5.07	254	P	P	00 11 41.5	+2.7
JKB	Kayabe	5.74	246	P	P	00 11 48.2	+0.1
JKB				eS	S	00 12 51.6	-1.8
MDJ	Mudanjiang	13.21	277	eP	P	00 13 28.2	-1.5
IMA	Indian Mountai	37.76	34	eP	P	00 17 34.4	+0.1
	comp=Z,10nm,0.6s,mb4.8						
ILAR	Eielson Array	40.56	37	P	P	00 17 56.7	-0.9
	comp=Z,0.3nm,0.6s,mb3.3,baz=257,slow=8.3,SNR=4.8						
MKAR	Makanchi Array	44.88	297	P	P	00 18 33.2	+0.3
	comp=Z,1.0nm,0.5s,mb3.8,baz=78,slow=8.2,SNR=14						
MKAR				PcP	PcP	00 20 13.7	-0.3
	comp=Z,1.0nm,0.7s,baz=76,slow=5.0,SNR=6.8						
MKAR	Makanchi Array	44.88	297	P	P	00 18 33.2	+0.3
MKAR						00 20 13.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	44.88	297	P	P	00 18 33.2	+0.3
MKAR				PcP	PcP	00 20 13.7	-0.3
CMAR	Chiang Mai Arr	48.36	254	P	P	00 19 00.9	+0.4
	comp=Z,0.8nm,0.4s,mb3.9,baz=45,slow=7.7,SNR=4.3						
CMAR	Chiang Mai Arr	48.36	254	P	P	00 19 01.0	+0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKN	Kakani	52.15	274	eP	P	00 19 30.0	+0.6
	comp=Z,6.0nm,0.4s,mb5.0						
DMN	Daman	52.38	274	eP	P	00 19 31.6	+0.5
	comp=Z,11nm,0.5s,mb5.1						
GKN	Gorkha	52.48	274	eP	P	00 19 31.7	-0.2
	comp=Z,9.7nm,0.5s,mb5.1						
KOLN	Koldanda	53.36	275	eP	P	00 19 38.7	+0.2
	comp=Z,2.9nm,0.3s,mb4.8						
YKA	Yellowknife Ar	54.88	34	P	P	00 19 48.4	-0.7
	comp=Z,0.9nm,0.5s,mb4.0,baz=302,slow=7.6,SNR=6.1						
YKA	Yellowknife Ar	54.88	34	P	P	00 19 48.4	-0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	58.87	340	P	P	00 20 16.0	-1.2
	comp=Z,4.9nm,1.1s,mb4.4,baz=54,slow=7.2,SNR=6.4						
ARCES	ARCESS Array B	58.87	340	P	P	00 20 16.0	-1.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	FINESS Array B	64.60	333	P	P	00 20 54.5	-1.1
	comp=Z,0.7nm,0.7s,mb3.6,baz=80,slow=8.5,SNR=6.1						
FINES	FINESS Array B	64.60	333	P	P	00 20 54.5	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	Mina Array Bea	66.66	59	P	P	00 21 09.8	+0.6
	comp=Z,1.2nm,1.1s,mb3.6,baz=314,slow=6.3,SNR=4.3						
NVAR	Mina Array Bea	66.66	59	P	P	00 21 09.8	+0.6
ASAR	Alice Springs	68.97	194	P	P	00 21 24.1	+0.3
	comp=Z,0.4nm,0.6s,mb3.4,baz=15,slow=5.8,SNR=6.2						
ASAR				LR	LR	00 49 31.7	
	comp=Z,52nm,20.1s,baz=190,slow=34						
PDAR	Pinedale Array	68.97	50	P	P	00 21 24.1	+0.5
	comp=Z,0.2nm,0.5s,mb3.2,baz=315,slow=2.1,SNR=3.4						
NOA	NORSAR Array B	69.23	339	P	P	00 21 24.0	-0.8
	comp=Z,0.9nm,0.7s,mb3.7,baz=32,slow=3.8,SNR=3.3						
NOA	NORSAR Array B	69.23	339	P	P	00 21 24.0	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	69.23	339	P	P	00 21 24.0	-0.8
HFS	Hagfors	69.35	338	P	P	00 21 24.2	-1.3
	comp=Z,1.5nm,0.8s,mb3.9,baz=27,slow=3.3,SNR=7.6						
HFS	Hagfors	69.35	338	P	P	00 21 24.2	-1.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PV10	Paradox Valley	72.21	54	eP	P	00 21 43.6	+0.5
BRTR	Keskin Array B	77.58	314	P	P	00 22 14.2	+0.4
	comp=Z,0.4nm,0.4s,mb3.5,baz=48,slow=3.8,SNR=5.2						
EKA	Eskdalemuir Ar	77.69	344	P	P	00 22 13.9	-0.1
	comp=Z,0.7nm,0.4s,mb3.7,baz=14,slow=4.7,SNR=4.5						
EKA	Eskdalemuir Ar	77.69	344	P	P	00 22 14.0	-0.1
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	78.91	331	P	P	00 22 20.8	-0.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=49,slow=6.7,SNR=5.5						
TXAR	Lajitas Array	81.73	57	P	P	00 22 37.2	+0.9
	comp=Z,0.3nm,0.5s,mb3.4,baz=306,slow=4.3,SNR=6.5						
TXAR	Lajitas Array	81.73	57	P	P	00 22 37.2	+0.9
IDI	Anoyia	85.41	317	P	P	00 22 54.5	-0.3
	comp=Z,3.3nm,0.4s,mb4.6,baz=6.3,slow=9.2,SNR=12						

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*NEIC **29** 00:19:39.2, 35.05S×70.55W, h2km, ML2.9(GUC), After GUC.*

GUC 29 00:19:39.2±0.7**, 35.05S**×**70.55W, h2**km±3km**, MD3.7, ML2.9, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.58	318	⇓iP	Pg	00 19 50.9	+0.1
SFDO				i S	Sg	00 20 00.1	+1.5
CACH	El Canelo	0.93	357	⇑iP	Pb	00 19 56.2	-1.5
CACH				i S	Sg	00 20 09.6	-0.6
TALC	Talca	0.96	248	i S	Sg	00 20 11.7	+0.6
TALC				AMP		00 20 12.0	
	comp=N,5µm,0.1s						
CHCH	Chadas Angostu	1.12	355	⇑iP	Pb	00 19 59.9	-1.0
LMEL	Las Melosas	1.23	13	eP	Pb	00 20 01.9	-1.0
LMEL				i S	Sb	00 20 18.6	-0.4
LMEL				AMP		00 20 21.7	
	comp=N,161nm,0.1s						
LNV	Longovilo	1.30	326	eP	Pb	00 20 03.2	-1.0
LNV				i S	Sb	00 20 21.1	-0.1
PCH	Pirque	1.42	1	i P	Pn	00 20 05.4	-0.8
PCH				i S	Sb	00 20 24.7	0.0
TACH	Talagante	1.43	347	eP	Pn	00 20 05.2	-1.0
TACH				i S	Sb	00 20 25.1	+0.3
CLCH	Cerro Calan	1.65	0	⇓iP	Pn	00 20 09.3	-0.1
CLCH				eS	Sb	00 20 31.4	+0.2
CLCH				AMP		00 20 36.3	
	comp=E,235nm,0.6s						
FCH	Farellones	1.73	7	eP	Pn	00 20 10.5	0.0
FCH				i S	Sn	00 20 34.8	+1.3
FCH				AMP		00 20 37.1	
	comp=E,126nm,0.1s						

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*NEIC **29** 00:33:27.0, 35.02S×70.60W, h4km, ML3.4(GUC), After GUC.*

GUC 29 00:33:27.0±0.9**, 35.02S**×**70.60W, h4**km±4km**, MD3.8, ML3.4, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.53	320	⇓iP	Pg	00 33 37.7	+0.1
CICH	Cipreses	0.72	12	⇓iP	Pg	00 33 39.7	-1.6
CICH				i S	Sg	00 33 49.6	-1.2
CACH	El Canelo	0.90	0	⇑iP	Pb	00 33 43.2	-1.6
CACH				i S	Sb	00 33 56.3	-0.8
TALC	Talca	0.92	246	⇓iP	Pb	00 33 44.5	-0.7
TALC				i S	Sb	00 33 57.8	+0.1
CHCH	Chadas Angostu	1.09	358	eP	Pb	00 33 46.9	-1.1
CHCH				i S	Sb	00 34 01.9	-0.5
LNV	Longovilo	1.26	328	⇑iP	Pb	00 33 49.9	-1.0
LNV				i S	Sb	00 34 07.3	0.0
TACH	Talagante	1.39	348	⇑iP	Pb	00 33 52.2	-1.1
TACH				i S	Sb	00 34 11.7	+0.4
PCH	Pirque	1.40	3	⇑iP	Pb	00 33 52.2	-1.1
PCH				i S	Sb	00 34 11.6	+0.1
ANTU	Antumapu	1.45	359	⇑iP	Pn	00 33 53.3	-0.8
ANTU				i S	Sb	00 34 13.0	+0.1
ANTU				AMP		00 34 15.0	
	comp=E,811nm,0.2s						
DSCH	Colegio Aleman	1.62	1	⇑iP	Pn	00 33 56.2	-0.4
DSCH				i S	Sb	00 34 17.9	+0.1
DSCH				AMP		00 34 22.2	
	comp=N,1µm,0.9s						
CLCH	Cerro Calan	1.62	2	⇑iP	Pn	00 33 56.0	-0.5
CLCH				i S	Sb	00 34 18.2	+0.3
CLCH				AMP		00 34 30.4	
	comp=N,590nm,0.6s						
CLCH				AMP		00 34 31.1	
	comp=N,744nm,0.6s						
FCH	Farellones	1.71	9	eP	Pn	00 33 57.3	-0.5
FCH				i S	Sn	00 34 21.0	+0.6
FCH				AMP		00 34 32.3	
	comp=N,302nm,0.5s						
LCCH	Las Cruces	1.74	332	⇓iP	Pn	00 33 57.9	-0.3
LCCH				i S	Sn	00 34 22.0	+0.9
CCHI	Chillan	1.98	217	⇓iP	Pn	00 34 01.8	+0.1
CCHI				AMP		00 34 35.4	
	comp=N,514nm,0.6s						
CCHI				AMP		00 34 35.6	
	comp=N,840nm,0.7s						
JACH	Jahuel	2.33	0	⇓iP	Pn	00 34 07.6	+0.9

GUC 29 00:39:08.8±0.9**, 35.03S**×**70.53W, h5**km±3km**, MD3.5, ML2.9, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.57	316	⇓iP	Pg	00 39 20.1	-0.1
SFDO				eS	Sg	00 39 28.9	+1.1
NICH	Los Niches	0.57	272	⇑iP	Pg	00 39 20.6	+0.4
NICH				i S	Sg	00 39 29.4	+1.5
CICH	Cipreses	0.71	7	eP	Pg	00 39 21.9	-1.0
CICH				eS	Sg	00 39 32.2	-0.3
CACH	El Canelo	0.91	356	⇑iP	Pb	00 39 25.5	-1.2
CACH				eS	Sb	00 39 38.2	-0.7
TALC	Talca	0.98	247	eP	Pb	00 39 27.1	-0.8
TALC				i S	Sb	00 39 41.0	+0.2
TALC				AMP		00 39 41.2	
	comp=N,3µm,0.1s						
CHCH	Chadas Angostu	1.09	355	⇓iP	Pb	00 39 29.0	-0.8
LMEL	Las Melosas	1.21	13	eP	Pb	00 39 30.8	-1.0
LMEL				AMP		00 39 49.3	
	comp=N,138nm,0.2s						
LNV	Longovilo	1.29	326	⇑iP	Pb	00 39 32.3	-0.9
LNV				eS	Sb	00 39 49.8	-0.2
PCH	Pirque	1.40	1	eP	Pn	00 39 33.9	-1.2
TACH	Talagante	1.41	346	i P	Pn	00 39 34.5	-0.7
TACH				i S	Sb	00 39 53.7	+0.3
CLCH	Cerro Calan	1.62	360	eP	Pn	00 39 37.9	-0.5
CLCH				i S	Sb	00 40 00.8	+1.2
CLCH				AMP		00 40 04.8	

	comp=E,345nm,0.5s						
FCH	Farellones	1.71	7	eP	Pn	00 39 40.0	+0.5
FCH				iS	Sn	00 40 03.4	+1.4
FCH				AMP		00 40 04.1	
	comp=N,163nm,0.3s						

JMA 29 00:48:00.3±0.4, 20.75N×122.51E, M3.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.50	20	P	Pn	00 48 57.6	+0.5
HATJ				eS	Sn	00 49 40.4	+0.5
YOJ	Yonaguni jima	3.72	7	P	Pn	00 49 01.1	+0.8
YOJ				eS	Sn	00 49 45.4	-0.1
JKRS	Kuro-shima	3.74	21	P	Pn	00 49 01.0	+0.5
JKRS				eS	Sn	00 49 47.1	+1.2
IRIF	Iriomote-Funau	3.74	17	P	Pn	00 49 00.8	+0.3
IRIF				eS	Sn	00 49 46.0	0.0
JIJ	Ishigaki jima	3.90	22	P	Pn	00 49 03.2	+0.4
JIJ				eS	Sn	00 49 49.7	-0.3
JTJ	Tarama	4.37	27	P	Pn	00 49 10.6	+1.1
JTJ				eS	Sn	00 50 01.4	-0.5
JOGS	Gusukube	4.80	33	P	Pn	00 49 16.1	+0.5

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*IDC **29** 00:55:03.4±0.5, 55.41N×166.31E, mb4.3/21, mb1 4.5/23, mb1mx4.5/26, ML3.8/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/26, Error ellipse: s-maj=14.4km s-min=9.6km az=18.0*

*BJI **29** 00:55:04.9, 55.61N×166.57E, h34^{km}, mb4.7, mB4.8, Ms4.6, Msz4.2*

*MOS **29** 00:55:05.7±1.4, 55.28N×166.40E, h33^{km}, mb4.7/4, Error ellipse: s-maj=15.2km s-min=10.3km az=147.4*

*KRSC **29** 00:55:05.0±0.8, 55.46N×166.37E, h24^{km}±2^{km}, ML5.0*

*NEIC **29** 00:55:07.0±1.8, 55.42N×166.25E, h23^{km}±13^{km}, mb4.7/35, Error ellipse: s-maj=7.1km s-min=3.4km az=164.0*

ISC 29 00:55:05.3±0.2, **55.40N**±0.03×**166.27E**±0.03, **h24^{km}, (h18^{km}**±1.5^{km}**:pP-P), n153,** σ1^{s}11/196, **mb4.6**/56, **MS3.8**/14, **2C-2D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.26	221	iP	Pb	00 55 12.3	+0.6
BKI				iS	Sb	00 55 17.4	+1.3
BKI				Smax			
	65µm,0.5s						
KBTR	Krutoberegovo	2.11	294	P	Pn	00 55 39.0	-0.9
KBTR				S	Sn	00 56 03.2	-2.4
KBTR	Krutoberegovo	2.11	294	iP	Pn	00 55 39.0	-0.9
KBTR				eS	Sn	00 56 06.3	+0.7
KBG	Krutoberegovo	2.19	294	iP	Pn	00 55 39.3	-1.7
KBG				eS	Sn	00 56 05.3	-2.2
KBG				Smax			
	2µm,1.0s						
MKZ	Mys Kozlova	2.75	254	P	Pn	00 55 49.4	+0.4
MKZ				S	Sn	00 56 22.2	+0.3
MKZ	Mys Kozlova	2.75	254	iP	Pn	00 55 49.3	+0.3
MKZ				iS	Sn	00 56 22.2	+0.3
SVLR	Shiveluch	3.07	295	eP	Pn	00 55 54.9	+1.3
SVLR				iS	Sn	00 56 31.3	+1.3
ZLN	Zelenaya	3.15	284	iP	Pn	00 55 55.9	+1.2
ZLN				iS	Sn	00 56 33.0	+1.0
CIRR	Tsirk	3.20	285	iP	Pn	00 55 56.1	+0.7
LGNR	Loginova	3.23	284	eP	Pn	00 55 57.1	+1.3
KLY	Klyuchi	3.30	288	P	Pn	00 55 55.8	-1.0
KLY				S	Sn	00 56 33.2	-2.4
KLY	Klyuchi	3.30	288	eP	Pn	00 55 55.7	-1.1
KLY				iS	Sn	00 56 33.2	-2.4
KRSR	Krestovskiy	3.32	287	eP	Pn	00 55 57.9	+0.8
KRSR				iS	Sn	00 56 37.1	+0.8
KMNR	Kamenistaya	3.44	278	iP	Pn	00 56 00.2	+1.3
KMNR				iS	Sn	00 56 40.4	+1.0
TUMR	Tumrok	3.50	271	iP	Pn	00 56 01.1	+1.4
TUMR				iS	Sn	00 56 41.9	+1.1
KOZR	Kozyr	3.67	283	PN	Pn	00 56 04.3	+2.3
KOZR				S	Sn	00 56 47.4	+2.4
KOZ	Kozyrevsk	3.68	283	P	Pn	00 56 04.3	+2.1
KOZ				S	Sn	00 56 47.4	+2.1
KOZ	Kozyrevsk	3.68	283	eP	Pn	00 56 03.9	+1.7
KOZ				iS	Sn	00 56 47.4	+2.1
SRDR	Sredinnyy	3.81	287	eP	Pn	00 56 04.9	+0.9
KII	Karymskiy	4.19	254	P	Pn	00 56 10.4	+1.0
KII				S	Sn	00 56 56.8	-1.4
KII	Karymskiy	4.19	254	eP	Pn	00 56 10.3	+0.9
KII				eS	Sn	00 56 57.5	-0.7
OSSR	Ossora	4.23	337	eP	Pn	00 56 07.2	-2.9
OSSR				eS	Sn	00 56 54.2	-5.2
OSSR				Smax			
	150nm,0.5s						
ESO	Esso	4.32	280	eP	Pn	00 56 11.0	-0.3
ESO				eS	Sn	00 56 58.3	-3.3
ESO				Smax			
	160nm,1.4s						
SPN	Mys Shipunski	4.33	240	P	Pn	00 56 11.3	-0.2
SPN				S	Sn	00 56 58.8	-3.1
SPN	Mys Shipunski	4.33	240	eP	Pn	00 56 11.5	0.0
SPN				eS	Sn	00 57 00.0	-1.9
NLC	Nalytchevo	4.63	244	P	Pn	00 56 16.6	+0.9
NLC				S	Sn	00 57 06.5	-3.0
NLC	Nalytchevo	4.63	244	eP	Pn	00 56 16.3	+0.6
NLC				eS	Sn	00 57 08.0	-1.5
FX1	Attu Island--F	4.78	119	Pn	Pn	00 56 14.0	-3.8
	8.9nm,0.3s,baz=338,slow=5.0,SNR=68						
FX1				Sn	Sn	00 57 07.0	-6.1
	31nm,0.3s,baz=81,slow=22,SNR=11						
SDLR	Sedlovina	4.82	247	eP	Pn	00 56 18.8	+0.4
SDLR				eS	Sn	00 57 12.1	-2.0
SMAR	Somma	4.87	247	eP	Pn	00 56 20.0	+0.9
UGLR	Uglovaya	4.88	246	eP	Pn	00 56 19.8	+0.5
AVH	Avacha	4.90	247	iP	Pn	00 56 20.5	+1.0
AVH				iS	Sn	00 57 15.1	-1.1
KOK	Koryaka	4.94	248	iP	Pn	00 56 20.9	+0.8
KOK				iS	Sn	00 57 15.9	-1.4
PET	Petropavlovsk	5.07	245	P	Pn	00 56 22.4	+0.5
PET				S	Sn	00 57 18.3	-2.1
PET	Petropavlovsk	5.07	245	eP	Pn	00 56 22.3	+0.4
PET				iS	Sn	00 57 18.3	-2.1
PET	Petropavlovsk	5.07	245	ePn	Pn	00 56 21.6	-0.3
	214nm,0.6s						
PET				eSn	Sn	00 57 16.7	-3.7
GNL	Ganaly	5.14	254	iP	Pn	00 56 24.0	+1.1
SMY	Shemya	5.33	117	ePn	Pn	00 56 23.3	-2.3
RUS	Russkaya	5.46	240	P	Pn	00 56 27.2	-0.3
RUS				S	Sn	00 57 25.7	-4.7
RUS	Russkaya	5.46	240	eP	Pn	00 56 27.5	0.0
RUS				eS	Sn	00 57 27.1	-3.3
GRL	Gorelyy	5.62	243	eP	Pn	00 56 30.4	+0.8
GRL				eS	Sn	00 57 32.2	-2.0
APC	Apacha	5.90	249	iP	Pn	00 56 34.5	+0.9
APC				iS	Sn	00 57 39.2	-2.1
APC				Smax			
	120nm,0.7s						
MIPR	Malaya Ipel’ka	6.44	245	eP	Pn	00 56 42.7	+1.4
PAU	Pauzhetka	6.89	239	eP	Pn	00 56 47.4	-0.2
PAU				eS	Sn	00 58 02.4	-3.6
PAU				Smax			
	200nm,0.9s						
KAMR	Kamenskoye	7.08	360	iP	Pn	00 56 47.7	-2.5
SKR	Severo-Kuril’s	7.73	236	eP	Pn	00 56 57.2	-2.1
SKR				eS	Sn	00 58 20.1	-6.9
SKR	Severo-Kuril’s	7.73	236	ePN	Pn	00 56 55.5	-3.8
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
ALID	Alaid	7.88	239	eP	Pn	00 57 01.4	-0.1
MA2	Magadan	9.33	303	Pn	P	00 57 19.4	-2.1
NIKO	Nikolski	14.74	89	eP	P	00 58 29.1	-4.8
UNV	Unalaska Valle	15.81	84	eP	P	00 58 46.8	-1.0
	comp=Z,249nm,1.2s						
YSS	Yuzh-Sakhalins	16.93	250	eP	P	00 59 02.8	+0.7
YSS				pmax	pmax		
	comp=Z,38nm,0.9s						
YSS	Yuzh-Sakhalins	16.93	250	P	P	00 59 03.1	+1.0
	comp=Z,43nm,1.0s						
ASAJ	Asahikawa	18.91	243	P	P	00 59 26.8	+0.3
	comp=Z,1.0nm,0.3s,baz=61,slow=5.8,SNR=29						
ASAJ				LR	LR	01 05 50.2	
	comp=Z,123nm,19.4s,baz=38,slow=34						
ASAJ	Asahikawa	18.91	243	P	P	00 59 26.8	+0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,123nm,19.4s						
YAK	Yakutsk	19.90	304	eP	P	00 59 35.8	-2.0
YAK				eS	S	01 03 14.1	-0.9
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				smax			
	comp=N,84nm,10.8s						
YAK				smax			
	comp=Z,481nm,38.1s						
YAK				smax			
	comp=E,226nm,38.3s						
KLR	Kul’dur	21.82	268	eP	P	00 59 57.2	-0.3
IMA	Indian Mountai	21.87	45	eP	P	00 59 58.4	+0.5
	comp=E,0.4nm,0.9s						
RSO	Redoubt South	22.05	60	P	P	01 00 01.3	+1.6
SPU	Mount Spurr	22.34	58	eP	P	01 00 04.2	+1.6
MCK	McKinley	23.70	51	eP	P	01 00 15.5	-0.1
	comp=E,39nm,1.7s,mb4.6						
MCK				LR	LR		
	comp=Z,121nm,19.0s,MS3.4						
SML	Sawmill	24.07	56	eP	P	01 00 19.6	+0.3
COLA	College	24.18	48	d iP	P	01 00 20.7	+0.4
COLA	College	24.18	48	eP	P	01 00 21.0	+0.7
	comp=Z,48nm,1.5s,mb4.7						
ILAR	Eielson Array	24.59	49	P	P	01 00 24.3	0.0
	comp=Z,26nm,0.8s,mb4.8,baz=262,slow=8.4,SNR=127						
ILAR				LR	LR	01 10 36.6	
	comp=Z,148nm,19.4s,MS3.5,baz=280,slow=38						
ILAR	Eielson Array	24.59	49	P	P	01 00 24.3	0.0
ILAR				pmax	pmax		
	comp=Z,26nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,148nm,19.4s						
THY	Trims Highway	25.13	52	eP	P	01 00 29.9	+0.4
DIV	Divide	25.37	57	eP	P	01 00 31.4	-0.3
	comp=Z,49nm,1.0s,mb5.0						
MDJ	Mudanjiang	25.63	261	P	P	01 00 33.0	-1.4
	comp=Z,14nm,0.8s,mb4.5						
MAJO	Matsushiro	26.84	237	eP	P	01 00 46.1	+0.5
	comp=Z,30nm,0.8s,mb4.9						
MAT	Matsushiro	26.84	237	P	P	01 00 47.0	+1.4
MAT	Matsushiro	26.84	237	eP	P	01 00 47.0	+1.4
	comp=Z,25nm,0.9s,mb4.8						
DAWY	Dawson	27.88	50	eP	P	01 00 53.7	-1.1
CN2	Changchun	28.47	263	eP	P	01 01 01.0	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HIA	Hailar	28.64	277	eP	P	01 01 01.5	-0.3
HIA				LR	LR		
	comp=Z,171nm,20.0s,MS3.6						
INK	Inuvik	29.79	40	P	P	01 01 11.7	-0.3
	comp=Z,4.8nm,0.5s,mb4.5,baz=298,slow=6.8,SNR=13						
INK	Inuvik	29.79	40	P	P	01 01 11.7	-0.3
INK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
INK	Inuvik	29.79	40	eP	P	01 01 11.5	-0.4
	comp=Z,50nm,1.8s,mb5.0						
DLBC	Dease Lake	33.75	58	eP	P	01 01 47.7	+1.0
BJI	Beijing	36.17	266	P	P	01 02 10.0	+2.4
BJI				S	S	01 07 47.3	+1.9
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,519nm,9.1s						
BJI				LR	LR		
	comp=E,429nm,8.3s						
BJI				LR	LR		
	comp=Z,138nm,16.6s,MS3.8						
BJI	Beijing	36.17	266	P	P	01 02 09.9	+2.3
	comp=Z,8.0nm,0.8s,mb4.7						
BJI				S	S	01 07 47.3	+1.9
BJI				LR	LR		
	comp=Z,140nm,16.6s,MS3.8						
SONM	Songino Array	36.89	284	P	P	01 02 14.3	+0.8
	comp=Z,4.3nm,0.7s,mb4.4,baz=57,slow=8.3,SNR=15						
ZAK	Zakamensk	37.17	289	eP	P	01 02 16.1	+0.2
YKW3	Yellowknife Ar	38.94	46	eP	P	01 02 30.6	0.0
YKA	Yellowknife Ar	38.97	46	P	P	01 02 30.9	+0.1
	comp=Z,4.2nm,0.8s,mb4.2,baz=300,slow=8.1,SNR=18						
YKA				LR	LR	01 19 01.9	
	comp=Z,72nm,19.6s,MS3.5,baz=280,slow=37						
YKA	Yellowknife Ar	38.97	46	P	P	01 02 30.9	0.0
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,72nm,19.6s						
YKA	Yellowknife Ar	38.97	46	P	P	01 02 30.9	+0.1
YKA				LR	LR	01 19 01.9	
SSE	Sheshan	39.86	251	eP	P	01 02 36.5	-2.1
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,573nm,6.6s						
SSE	Sheshan	39.86	251	eP	P	01 02 36.5	-2.1
	comp=Z,36nm,0.7s,mb5.2						
NJ2	Nanjing	40.40	255	eP	P	01 02 41.0	-2.0
NJ2				AP	pP	01 02 56.3	+6.1
NJ2				PP	PP	01 04 18.5	-1.0
NJ2				PPP	PPP	01 04 46.5	-0.4
NJ2				S	S	01 08 45.0	-4.6
NJ2				XS		01 09 10.0	
NJ2				LR	LR		
	comp=N,2µm,15.6s						
NJ2				LR	LR		
	comp=E,2µm,12.6s						
WHN	Wuhan	44.04	258	eP	P	01 03 12.3	-0.4
NLW	Nelson Butte	44.06	68	eP	P	01 03 13.5	+0.9
DPW	Davenport	45.31	66	P	P	01 03 21.8	-0.9
GTA	Gaotai	45.90	279	eP	P	01 03 28.5	+1.1
GTA				AP	pP	01 03 35.5	+0.8
GTA				XP	sP	01 03 38.5	+0.9
GTA				S	S	01 10 06.0	-3.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				LR	LR		
	comp=N,164nm,19.8s,MS4.1						
GTA				LR	LR		
	comp=E,127nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=Z,99nm,6.8s						
LZH	Lanzhou	45.93	272	eP	P	01 03 27.8	+0.1
LZH				AP	pP	01 03 33.0	-1.9
LZH				PP	PP	01 05 16.0	+0.3
LZH				S	S	01 10 10.0	-0.1
LZH				eSS	SS	01 13 25.3	-1.7
LZH				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,164nm,4.1s						
LZH				LR	LR		
	comp=N,1µm,12.1s						
LZH				LR	LR		
	comp=Z,2µm,14.9s,MS5.1						
LZH	Lanzhou	45.93	272	eP	P	01 03 27.7	0.0
	comp=Z,39nm,1.1s,mb5.2						
LZH				pP	pP	01 03 33.0	-1.9
LZH				sP	sP	01 03 36.5	-1.4
LZH				PP	PP	01 05 16.1	+0.4
LZH				S	S	01 10 10.0	-0.1
LZH				sS		01 10 20.0	
LZH				eSS	SS	01 13 25.2	-1.8
LZH				LR	LR		
	comp=Z,2µm,14.9s,MS5.1						
YBH	Yreka Blue Hor	46.88	76	P	P	01 03 34.7	-0.5
	comp=Z,2.8nm,0.9s,mb4.2,baz=342,slow=3.2,SNR=3.1						
ENH	Enshi	46.98	262	eP	P	01 03 36.3	+0.2
	comp=Z,18nm,0.6s,mb5.2						
MOD	Modoc	48.09	74	eP	P	01 03 44.8	+0.2
	comp=Z,7.6nm,1.2s,mb4.6						
FCC	Fort Churchill	49.37	43	eP	P	01 03 54.3	+0.1
KURK	Kurchatov	49.54	303	P	P	01 03 54.0	-1.7
	comp=Z,59nm,0.7s,SNR=17						
KURK	Kurchatov	49.54	303	eP	P	01 03 54.8	-0.9
	comp=Z,9.9nm,0.9s,mb4.8						
WMQ	Urumqi	49.57	291	⇑P	P	01 03 56.8	+0.8
WMQ				AP	pP	01 04 01.8	-1.6
WMQ				PCP	PcP	01 05 19.3	+1.5
WMQ				PP	PP	01 05 51.8	+0.8
WMQ				S	S	01 11 02.8	+1.4
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,19nm,7.5s						
WMQ				LR	LR		
	comp=N,380nm,20.4s,MS4.5						
WMQ				LR	LR		
	comp=E,256nm,19.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,92nm,19.6s,MS3.8						
CD2	Chengdu	49.75	267	eP	P	01 03 58.0	+0.4
HLID	Hailey	50.14	69	P	P	01 04 01.5	+1.1
	comp=Z,3.2nm,1.3s,mb4.2						
BOZ	Bozeman (W)	50.18	65	eP	P	01 04 00.7	0.0
MKAR	Makanchi Array	50.37	297	P	P	01 04 00.7	-1.4
	comp=Z,3.1nm,0.8s,mb4.4,baz=54,slow=6.9,SNR=18						
SUMG	Summit	51.16	9	eP	P	01 04 07.6	-0.2
GYA	Guiyang	51.49	261	⇓P	P	01 04 11.8	+0.9
GYA				AP	pP	01 04 17.0	-1.2
GYA				S	S	01 11 30.8	+2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NVAR	Mina Array Bea	51.60	76	P	P	01 04 11.3	-0.2
	comp=Z,5.3nm,1.1s,mb4.4,baz=303,slow=6.5,SNR=13						
NVAR	Mina Array Bea	51.60	76	P	P	01 04 11.3	-0.2
BRVK	Borovoye	51.76	310	eP	P	01 04 11.4	-1.2
	comp=Z,6.7nm,0.8s,mb4.6						
MOOW	Moose Ponds	51.94	66	eP	P	01 04 14.7	+0.6
DGMT	Dagmar	51.97	58	P	P	01 04 13.4	-0.8
	comp=Z,26nm,0.8s,mb5.2						
ZRNK	Zerenda	52.39	311	eP	P	01 04 16.1	-1.2
	comp=Z,4.9nm,0.7s,mb4.5						
TPH	Tonopah	52.45	75	eP	P	01 04 18.2	+0.2
	comp=Z,6.5nm,1.1s,mb4.5						
HWUT	Hardware Ranch	53.01	68	eP	P	01 04 22.5	+0.4
	comp=Z,2.9nm,0.9s,mb4.2						
BW06	Boulder Array	53.25	66	eP	P	01 04 23.7	-0.2
	comp=Z,9.2nm,1.3s,mb4.5						
PDAR	Pinedale Array	53.25	66	P	P	01 04 24.0	+0.2
	comp=Z,2.6nm,0.9s,mb4.2,baz=328,slow=4.5,SNR=15						
TPNV	Topopah Spring	53.80	76	P	P	01 04 28.3	+0.4
	comp=Z,11nm,1.3s,mb4.6						
ULM	Lac du Bonnet	54.57	51	P	P	01 04 33.0	-0.4
	comp=Z,2.4nm,0.7s,mb4.3,baz=301,slow=11,SNR=4.4						
MSU	Marysvale	54.90	72	eP	P	01 04 37.1	+1.1
RSSD	Black Hills	55.11	61	eP	P	01 04 37.2	-0.2
	comp=Z,5.5nm,1.0s,mb4.5						
PV10	Paradox Valley	56.68	69	eP	P	01 04 49.8	+0.9
AAK	Ala-Archa	57.23	299	eP	P	01 04 51.0	-1.7
	comp=Z,5.0nm,0.8s,mb4.6						
FINES	FINESS Array B	59.35	339	P	P	01 05 06.5	-0.8
	comp=Z,1.5nm,0.7s,mb4.1,baz=56,slow=6.9,SNR=5.8						
FINES				LR	LR	01 38 17.8	
	comp=Z,29nm,19.1s,MS3.4,baz=28,slow=44						
SCHQ	Schefferville	61.85	32	P	P	01 05 23.3	-1.1
	comp=Z,3.2nm,0.8s,mb4.5,baz=258,slow=9.3,SNR=3.7						
SCHQ				LR	LR	01 33 58.1	
	comp=Z,61nm,18.6s,MS3.8,baz=77,slow=38						
CMAR	Chiang Mai Arr	62.15	262	P	P	01 05 26.9	0.0
	comp=Z,3.3nm,0.7s,mb4.5,baz=23,slow=7.2,SNR=14						
NB2	NORSAR Subarra	62.24	347	P	P	01 05 24.9	-2.0
	comp=Z,1.3nm,0.8s,mb4.1,baz=16,slow=6.5						
NOA	NORSAR Array B	62.24	347	P	P	01 05 25.7	-1.2
	comp=Z,1.0nm,0.6s,mb4.1,baz=5.1,slow=5.2,SNR=4.7						
NOA				LR	LR	01 33 43.5	
	comp=Z,22nm,18.1s,MS3.4,slow=37						
KKN	Kakani	62.61	280	eP	P	01 05 29.1	-0.7
	comp=Z,15nm,0.7s,mb5.2						
PKI	Pulchoki	62.70	280	eP	P	01 05 29.8	-0.6
	comp=Z,40nm,1.0s,mb5.5						
DMN	Daman	62.85	280	eP	P	01 05 31.1	-0.2
	comp=Z,15nm,0.8s,mb5.2						
KOLN	Koldanda	63.57	281	eP	P	01 05 35.2	-0.8
	comp=Z,14nm,0.8s,mb5.0						
WMOK	Wichita Mounta	64.83	65	eP	P	01 05 43.7	-0.4
	comp=Z,14nm,1.4s,mb4.8						
LTX	Lajitas	66.44	72	eP	P	01 05 54.5	0.0
	comp=Z,6.0nm,0.7s,mb4.7						
TXAR	Lajitas Array	66.44	72	P	P	01 05 55.0	+0.4
	comp=Z,5.0nm,0.6s,mb4.7,baz=301,slow=4.5,SNR=35						
JCT	Junction City	67.62	69	eP	P	01 06 01.4	-0.6
	comp=Z,3.0nm,0.7s,mb4.4						
AKASG	Malin Array Be	68.38	332	P	P	01 06 05.6	-0.8
	comp=Z,1.3nm,0.6s,mb4.2,baz=29,slow=6.3,SNR=4.7						
OJC	Ojcow	71.09	338	eP	P	01 06 23.3	+0.3
KAKA	Kakadu	73.58	215	eP	P	01 06 38.2	-0.1
	comp=Z,7.0nm,0.8s,mb4.6						
GERES	GERESS Array B	73.61	342	P	P	01 06 38.1	+0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=5.1,SNR=6.9						
BRTR	Keskin Array B	77.00	324	P	P	01 06 57.5	+0.1
	comp=Z,0.5nm,0.7s,mb3.5,baz=90,slow=2.9,SNR=3.1						
BRTR				LR	LR	01 46 29.7	
	comp=Z,27nm,19.8s,MS3.6,baz=135,slow=40						
WRAB	Tennant Creek	79.80	210	eP	P	01 07 12.7	-0.3
	comp=Z,5.9nm,0.9s,mb4.5						
WB2	Warramunga Arr	79.81	210	eP	P	01 07 12.7	-0.4
WRA	Warramunga Arr	79.81	210	P	P	01 07 13.0	-0.1
	comp=Z,2.8nm,0.9s,mb4.2,baz=22,slow=5.7,SNR=11						
ASAR	Alice Springs	83.46	210	P	P	01 07 33.1	+1.1
	comp=Z,3.2nm,0.8s,mb4.4,baz=15,slow=4.3,SNR=19						
ASAR				LR	LR	01 44 51.1	
	comp=Z,59nm,20.1s,MS4.0,baz=4.0,slow=36						
ESDC	Sonseca Array	84.93	352	P	P	01 07 39.5	+0.4
	comp=Z,0.9nm,0.8s,mb4.0,baz=8.9,slow=5.0,SNR=5.7						
STKA	Stephens Creek	89.47	201	P	P	01 08 01.5	+0.2
	comp=Z,1.0nm,0.6s,mb4.3,baz=345,slow=21,SNR=2.8						
STKA				LR	LR	01 43 34.3	
	comp=Z,123nm,20.1s,MS4.3,baz=24,slow=32						
STKA	Stephens Creek	89.47	201	P	P	01 08 01.5	+0.2
STKA				LR	LR	01 43 34.3	
MAW	Mawson	144.03	219	PKP	PKPdf	01 14 37.5	-4.2
	comp=Z,2.8nm,0.8s,baz=32,slow=6.3,SNR=6.4						
QSPA	South Pole Qui	145.15	180	ePKP	PKPdf	01 14 39.5	-3.9
SNAA	Sanae	163.02	192	⇑iP	PKPab	01 15 51.9	-3.6

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*CASC **29** 00:58:35.3±1.7, 10.50N×87.05W, h35^{km}±999^{km}, MD4.0, ML3.8, mb4.0(NEIC)*

*IDC **29** 00:58:40.7±4.6, 11.04N×86.56W, h58^{km}±57^{km}, mb3.5/4, mb1 4.0/4, mb1mx3.5/19, MS3.7/1, Ms1 3.7/1, ms1mx2.7/22, Error ellipse: s-maj=84.4km s-min=33.9km az=32.0*

*NEIC **29** 00:58:42.3±2.3, 11.07N×86.18W, h90^{km}±29^{km}, mb4.0/2, Error ellipse: s-maj=69.8km s-min=21.8km az=63.0*

ISC 29 00:58:34.7±0.8, **10.50N**±0.04×**87.08W**±0.03, **h35^{km}**±9^{km}**, n34,** σ0^{s}88/52, **mb3.8**/6, **MS3.7**/1, **5C-11D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APON	Apoyo	1.73	35	⇓eP	P	00 59 02.8	0.0
COPN	Copaltepe	1.74	16	⇓eP	P	00 59 03.4	+0.4
COPN				eS	S	00 59 24.9	+0.7
TICN	Ticuantepe	1.74	29	⇑eP	P	00 59 03.1	+0.2
TICN				eS	S	00 59 24.7	+0.5
CONN	Concepcion	1.78	53	⇑eP	P	00 59 03.4	-0.1
CONN				eS	S	00 59 25.6	+0.4
XAVN	Gruta Xavier	1.80	24	⇓eP	P	00 59 04.3	+0.5
XAVN				eS	S	00 59 26.5	+0.8
MGAN	Managua	1.84	26	⇑eP	P	00 59 04.3	0.0
MGAN				eS	S	00 59 26.3	-0.2
	comp=N,906nm,0.5s						
MGAN				eS	S	00 59 26.4	-0.1
	comp=E,1µm,0.6s						
WILN	Americas 2	1.88	28	eS	S	00 59 27.1	-0.4
WILN				eS	S	00 59 27.4	-0.1
MIRN	Miramar	1.97	11	⇓eP	P	00 59 06.5	+0.3
MIRN				eS	S	00 59 30.1	+0.2
MOMJ	Momotombo	1.98	16	⇑eP	P	00 59 06.3	0.0
MOMJ				eS	S	00 59 29.6	-0.5
JTS	JuntasAbangare	2.11	95	P	P	00 59 07.3	-0.8
	comp=E,6.5nm,0.3s,baz=306,slow=14,SNR=33						
JTS				S	S	00 59 30.4	-3.0
	comp=E,49nm,0.3s,baz=297,slow=18,SNR=15						
JTS	JuntasAbangare	2.11	95	ePn	P	00 59 07.3	-0.9
JTS				S	S	00 59 30.4	-3.0
TELN	Telica	2.11	7	⇓eP	P	00 59 08.7	+0.4
TELN				eS	S	00 59 32.4	-1.1
CRIN	San Cristobal	2.19	1	⇓eP	P	00 59 10.1	+0.7
PYTN	Playitas	2.27	26	⇑eP	P	00 59 10.3	-0.2
PYTN				⇓eP		00 59 10.4	
PYTN				eS	S	00 59 36.4	-1.0
CNCH	Conchagua	2.86	345	⇓eP	P	00 59 18.5	-0.4

CNCH				eS	S	00 59 53.5	+1.0
SJS	**Escuela Geolog**	**3.03**	**100**	⇓eS	S	00 59 58.8	+1.9
BLLM	**Bellamira**	**3.14**	**339**	⇓eP	P	00 59 23.2	+0.3
BLLM				eS	S	00 59 58.9	-0.7
SNVI	**San Vicente**	**3.54**	**331**	eP	P	00 59 29.0	+0.3
SNVI				eS	S	01 00 10.5	+0.6
LCBS	**La Ceiba**	**3.65**	**330**	⇓eP	P	00 59 29.8	-0.3
LFRS	**El Faro**	**3.66**	**328**	eP	P	00 59 29.8	-0.5
LFRS				eS	S	01 00 10.8	-2.2
LFU	**La Fuente**	**3.79**	**329**	eP	P	00 59 32.0	-0.2
SBLS	**San Blas**	**4.15**	**324**	eP	P	00 59 36.5	-0.8
SBLS				eS	S	01 00 26.1	+0.9
SNJE	**San Jose**	**4.16**	**324**	eP	P	00 59 37.6	+0.2
SNJE				eS	S	01 00 25.9	+0.3
RTR	**El Retiro**	**4.21**	**324**	eP	P	00 59 37.8	-0.3
RTR				eS	S	01 00 26.8	0.0
TXAR	**Lajitas Array**	**24.32**	**323**	P	P	01 03 52.1	+1.8
	comp=E,2.0nm,0.9s,mb3.5,baz=134,slow=9.8,SNR=9.5						
MIAR	**Mount Ida**	**24.66**	**347**	eP	P	01 03 50.8	-2.8
WMOK	**Wichita Mounta**	**26.39**	**338**	eP	P	01 04 09.3	-0.5
	comp=E,9.3nm,1.2s,mb4.2						
SDCO	**Great Sand Dun**	**31.79**	**332**	eP	P	01 04 57.4	-0.7
	comp=E,1.4nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**37.66**	**333**	P	P	01 05 48.0	-0.3
	comp=E,0.6nm,0.7s,mb3.5,baz=131,slow=8.3,SNR=3.6						
NVAR	**Mina Array Bea**	**39.41**	**320**	P	P	01 06 05.7	+2.8
	comp=E,2.0nm,1.0s,mb3.8,baz=122,slow=8.2,SNR=6.8						
MCMT	**McKenzie Canyo**	**40.76**	**332**	eP	P	01 06 15.2	+1.2
CPUP	**Villa Florida**	**46.65**	**142**	LR	LR	01 28 01.8	
	comp=E,89nm,21.2s,MS3.7,baz=149,slow=38						
ILAR	**Eielson Array**	**67.94**	**336**	P	P	01 09 31.1	-0.6
	comp=E,1.5nm,1.1s,mb4.0,baz=127,slow=4.3,SNR=9.6						
WRA	**Warramunga Arr**	**139.04**	**252**	PKP	PKPdf	01 18 00.8	+2.2
	comp=E,0.5nm,0.4s,baz=106,slow=2.6,SNR=5.9						

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*ROM **29** 01:02:00.7±0.1, 46.40N×12.80E, h5^{km}, MD3.0/2, ML1.7/3, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0*
*NEIC **29** 01:02:00.8, 46.40N×12.80E, h5^{km}, MD2.4(LJU), MD3.0(ROM), ML2.2(VIE), After ROM.*
*PRU **29** 01:02:03.6, 46.43N×13.02E, h4^{km}*
ISC 29 01:01:59.9±0.3, **46.38N**±0.02×**12.69E**±0.02, **h5^{km}, n37, σ0^{s}98**/72, **13C-9D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSM	**Casamicciola**	**0.14**	**348**	⇓ePg	Pg	01 02 03.6	+0.8
CSM				eSg	Sg	01 02 06.4	+1.6
FVI	**Forni Avoltri**	**0.23**	**15**	ePG	Pg	01 02 05.1	+0.5
FVI				SG	Sg	01 02 09.1	+1.5
FVI	**Forni Avoltri**	**0.23**	**15**	ePg	Pg	01 02 05.1	+0.5
FVI				eSg	Sg	01 02 09.1	+1.5
MLNI	**Malnisio**	**0.23**	**194**	⇓ePg	Pg	01 02 04.2	-0.5
MLNI				eSg	Sg	01 02 08.2	+0.3
MPRI	**Monte Prat**	**0.25**	**123**	⇑ePg	Pg	01 02 04.6	-0.3
MPRI				eSg	Sg	01 02 08.5	+0.2
ZOU	**Zoufplan**	**0.26**	**47**	⇓ePg	Pg	01 02 05.6	+0.3
ZOU				eSg	Sg	01 02 09.9	+1.1
BOO	**Bordano**	**0.29**	**101**	⇑iPg	Pg	01 02 05.2	-0.5
BOO				i Sg	Sg	01 02 09.8	+0.2
BUA	**Buia**	**0.34**	**118**	⇑iPg	Pg	01 02 06.3	-0.5
PLRO	**Paularo**	**0.36**	**61**	⇓ePg	Pg	01 02 07.5	+0.3
PLRO				eSg	Sg	01 02 13.0	+1.0
GMNA	**Gemona**	**0.39**	**105**	ePG	Pg	01 02 06.3	-1.5
GMNA				SG	Sg	01 02 11.6	-1.4
	204nm,0.2s						
GMNA	**Gemona**	**0.39**	**105**	ePg	Pg	01 02 06.3	-1.5
GMNA				eSg	Sg	01 02 11.7	-1.4
BAD	**Bernadia**	**0.41**	**110**	⇓ePg	Pg	01 02 07.5	-0.6
BAD				eSg	Sg	01 02 13.9	+0.4
CAE	**Caneva**	**0.41**	**206**	⇑ePg	Pg	01 02 07.8	-0.4
CAE				eSg	Sg	01 02 14.3	+0.6
PTCC	**Patocco-Chiusa**	**0.46**	**86**	ePG	Pg	01 02 08.6	-0.5
PTCC				SG	Sg	01 02 16.3	+1.1
	35nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.46**	**86**	ePg	Pg	01 02 08.6	-0.5
PTCC				eSg	Sg	01 02 16.3	+1.1
COLI	**Coloredo**	**0.54**	**117**	⇓ePg	Pg	01 02 09.9	-0.7
COLI				eSg	Sg	01 02 18.4	+0.6
TLI	**Talmassons**	**0.54**	**148**	⇑iPg	Pg	01 02 09.8	-0.9
TLI				i Sg	Sg	01 02 18.3	+0.4
LSR	**Lussari**	**0.59**	**80**	⇓ePg	Pg	01 02 11.2	-0.5
LSR				eSg	Sg	01 02 20.2	+0.7
DRE	**Drenchia**	**0.69**	**107**	⇓ePg	Pg	01 02 12.8	-0.9
DRE				eSg	Sg	01 02 23.5	+0.5
KBA	**Koelnbreinsper**	**0.83**	**32**	⇓iPG	Pg	01 02 16.6	0.0
KBA				i SG	Sg	01 02 27.1	-0.6
	21nm,0.3s						
VOY	**Vojsko**	**0.90**	**112**	ePg	Pg	01 02 16.2	-1.8
VOY				eSg	Sg	01 02 30.3	+0.3
TRI	**Trieste**	**1.00**	**131**	ePG	Pg	01 02 20.4	+0.5
TRI				SG	Sg	01 02 35.1	+1.8
	21nm,0.3s						
TRI	**Trieste**	**1.00**	**131**	ePg	Pg	01 02 20.4	+0.5
TRI				eSg	Sg	01 02 35.1	+1.8
WTTA	**Wattenberg**	**1.15**	**321**	⇑iPG	Pg	01 02 22.6	-0.2
WTTA				i SG	Sg	01 02 38.1	0.0
	6.8nm,0.3s						
WATA	**Walderalm**	**1.23**	**322**	⇑iPG	Pg	01 02 23.7	-0.7
WATA				i SG	Sg	01 02 41.2	+0.4
	6.4nm,0.2s						
TEOL	**Teolo**	**1.24**	**215**	⇑ePg	Pg	01 02 23.6	-1.2
OBKA	**Obir**	**1.29**	**83**	⇑iPG	Pg	01 02 25.0	-0.7
OBKA				i SG	Sg	01 02 42.1	-0.8
	6.2nm,0.3s						
SQTA	**Sankt Quirin**	**1.32**	**310**	⇑iPG	Pg	01 02 25.6	-0.8
SQTA				i SG	Sg	01 02 44.6	+0.6
	4.1nm,0.2s						
MOTA	**Moosalm**	**1.46**	**312**	⇑iPG	Pg	01 02 28.6	-0.4
MOTA				i SG	Sg	01 02 48.7	+0.2
	3.5nm,0.3s						
MABI	**Malga Bissina**	**1.55**	**259**	ePN	Pn	01 02 29.9	+1.6
MABI				SN	Sn	01 02 50.9	+2.0
MABI	**Malga Bissina**	**1.55**	**259**	ePg	Pg	01 02 29.9	-0.9
MABI				eSg	Sg	01 02 50.9	-0.5
MOA	**Molln**	**1.82**	**36**	⇑iPG	Pg	01 02 34.6	-1.7
MOA				i SG	Sg	01 02 59.5	-1.1
	4.7nm,0.4s						
VBY	**Vinica-Bojanci**	**1.99**	**115**	e(Pn)	Pn	01 02 36.3	+1.7
VBY				e		01 02 58.2	
VBY				e(Sn)	Sn	01 03 01.9	+1.7
ARSA	**Arzberg**	**2.13**	**65**	⇑iPG	Pg	01 02 37.2	-5.3
ARSA				i SG	Sg	01 03 05.4	-5.5
	1.1nm,0.2s						
KHC	**Kasperske Hory**	**2.82**	**12**	ePN	Pn	01 02 47.0	+0.5
KHC				ePG	Pg	01 02 53.4	-2.8
KHC				eSN	Sn	01 03 22.2	+0.9
KHC				eSG	Sg	01 03 31.0	-2.8
PRU	**Pruhonice**	**3.82**	**18**	eSG	Sg	01 04 01.2	-5.9
	2.3nm,0.5s						
DPC	**Dobruska-Polom**	**4.65**	**30**	eSG	Sg	01 04 26.2	-8.7

TAP 29 01:14:00.7, 24.69N×121.83E, h68^{km}, ML3.6, Taiwan

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*NEIC **29** 01:14:29.5±0.7, 50.13N×18.35E, h5^{km}, ML3.0(VIE), Error ellipse: s-maj=9.5km s-min=5.9km az=208.0*
*PRU **29** 01:14:30.0, 50.11N×18.38E*
WAR 29 01:14:29.2, 50.08N×18.43E, ML2.6, 1C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**271**	⇓iPG	Pg	01 14 33.6	+1.3
RAC				⇓eSG	Sg	01 14 36.6	+2.3
OKC	**Ostrava-Krasne**	**0.31**	**217**	ePG	Pg	01 14 36.0	+0.7
OKC				eSG	Sg	01 14 40.8	+1.4
MORC	**Moravsky Berou**	**0.65**	**242**	ePg	Pg	01 14 42.0	-0.2
MORC				eSg	Sg	01 14 51.2	+0.3
OJC	**Ojcow**	**0.89**	**81**	ePG	Pg	01 14 46.0	-1.0
OJC				eSG	Sg	01 14 59.0	+0.2
OJC	**Ojcow**	**0.89**	**81**	ePg	Pg	01 14 46.4	-0.6
OJC				eSg	Sg	01 14 59.5	+0.7
LIKS	**Likavka**	**1.12**	**157**	ePG	Pg	01 14 52.2	+0.6
LIKS				eSG	Sg	01 15 11.4	+4.9
DPC	**Dobruska-Polom**	**1.38**	**282**	ePG	Pg	01 14 55.3	-1.5
DPC				eSG	Sg	01 15 13.3	-1.9
NIE	**Niedzica**	**1.39**	**118**	ePG	Pg	01 14 55.0	-1.9
NIE				eSG	Sg	01 15 15.0	-0.4
KOLL	**Kolacno**	**1.50**	**181**	ePN	Pn	01 14 57.0	-0.5
KOLL				ePG	Pg	01 14 58.8	-0.4
KOLL				eSG	Sg	01 15 18.3	-1.0
KSP	**Ksiaz**	**1.57**	**300**	ePN	Pn	01 14 58.0	-0.4
KSP				eSG	Sg	01 15 20.0	-1.3
KSP	**Ksiaz**	**1.57**	**300**	ePg	Pg	01 14 57.6	-2.9
KSP				e		01 15 00.4	
KSP				eSg	Sg	01 15 19.6	-1.7
UPC	**Upice**	**1.61**	**286**	ePG	Pg	01 14 59.1	-2.2
UPC				eSG	Sg	01 15 20.6	-2.2
VYHS	**Vyhne**	**1.61**	**170**	ePN	Pn	01 14 58.5	-0.5
VYHS				eSN	Sn	01 15 22.9	+2.1
SMOL	**Smolenice**	**1.70**	**203**	ePN	Pn	01 14 59.8	-0.5
SMOL				eSN	Sn	01 15 23.3	+0.2
SMOL				eSG	Sg	01 15 27.2	+1.4
ZST	**Bratislava**	**2.08**	**205**	ePN	Pn	01 15 04.2	-1.5
ZST				eSN	Sn	01 15 30.9	-1.8
KECS	**Kecovo**	**2.09**	**139**	ePG	Pg	01 15 09.0	-1.9
SRO	**Srobarova**	**2.27**	**182**	ePB	Pb	01 15 12.9	+2.1
PSZ	**Piszkesteto**	**2.37**	**155**	ePn	Pn	01 15 10.1	+0.2
PSZ				eSB	Sb	01 15 46.4	+4.0
PRU	**Pruhonice**	**2.51**	**269**	ePN	Pn	01 15 09.0	-2.9
PRU				PG	Pg	01 15 14.6	-4.7
PRU				SG	Sg	01 15 46.7	-6.1
	16nm,0.5s						
PRU	**Pruhonice**	**2.51**	**269**	ePn	Pn	01 15 09.1	-2.8
PRU				ePg	Pg	01 15 14.5	-4.8
PRU				eSg	Sg	01 15 48.1	-4.7
PVCC	**Panska Ves**	**2.52**	**282**	ePG	Pg	01 15 15.0	-4.5
PVCC				eSG	Sg	01 15 48.8	-4.2
BRG	**Berggiesshubel**	**2.98**	**287**	i Pg	Pg	01 15 24.1	-4.5
BRG				i Sg	Sg	01 16 03.0	-5.3
KHC	**Kasperske Hory**	**3.30**	**255**	ePN	Pn	01 15 21.4	-1.7
KHC				ePG	Pg	01 15 29.7	-5.3
KHC				eSG	Sg	01 16 12.8	-6.2
MOA	**Molln**	**3.54**	**232**	⇑iPN	Pn	01 15 24.9	-1.7
MOA				i SG	Sg	01 16 22.1	-4.9
	6.8nm,0.4s						
CLL	**Collm**	**3.67**	**292**	e	Pn	01 15 42.0	+14
CLL				eSG	Sg	01 16 26.0	-5.2
CLL	**Collm**	**3.67**	**292**	ePg	Pg	01 15 42.0	-0.4
CLL				eSg	Sg	01 16 25.0	-6.2
NKC	**Novy Kostel**	**3.85**	**275**	eSG	Sg	01 16 30.5	-6.9

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*NEIC **29** 01:18:31.8, 35.08S×70.47W, h3^{km}, ML3.4(GUC), After GUC.*
GUC 29 01:18:31.8±1.1, **35.08S×70.47W, h3^{km}±4^{km}, MD3.8, ML3.4, 6C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.63**	**277**	⇓iP	Pg	01 18 44.8	+0.4
NICH				i S	Sg	01 18 54.2	+1.5
SFDO	**San Fernando**	**0.64**	**316**	⇓iP	Pg	01 18 44.3	-0.3
SFDO				i S	Sg	01 18 52.8	-0.3
CACH	**El Canelo**	**0.96**	**354**	⇑iP	Pb	01 18 49.6	-1.2
CACH				i S	Sb	01 19 02.5	-1.2
TALC	**Talca**	**1.00**	**251**	⇓iP	Pb	01 18 51.0	-0.5
TALC				i S	Sb	01 19 05.0	+0.1
CHCH	**Chadas Angostu**	**1.15**	**353**	⇓iP	Pb	01 18 53.2	-0.8
CHCH				i S	Sb	01 19 09.3	+0.1
LMEL	**Las Melosas**	**1.25**	**10**	⇑iP	Pb	01 18 54.7	-0.9
LMEL				i S	Sb	01 19 12.3	+0.3
LMEL				AMP		01 19 13.8	
	comp=N,435nm,0.2s						
LNV	**Longovilo**	**1.36**	**325**	⇑iP	Pb	01 18 56.5	-1.1
LNV				i S	Sb	01 19 14.6	-0.7
PCH	**Pirque**	**1.45**	**359**	⇑iP	Pn	01 18 58.7	-0.4
PCH				i S	Sb	01 19 18.5	+0.6
TACH	**Talagante**	**1.47**	**345**	⇑iP	Pn	01 18 58.7	-0.6
ANTU	**Antumapu**	**1.51**	**355**	i P	Pn	01 18 59.4	-0.4
ANTU				i S	Sb	01 19 19.6	0.0
ANTU				AMP		01 19 22.2	
	comp=E,689nm,0.4s						
DSCH	**Colegio Aleman**	**1.68**	**357**	i P	Pn	01 19 02.6	+0.3
DSCH				i S	Sb	01 19 24.9	+0.5
DSCH				AMP		01 19 41.3	
	comp=N,946nm,0.8s						
CLCH	**Cerro Calan**	**1.68**	**358**	⇑iP	Pn	01 19 02.4	+0.2
CLCH				i S	Sb	01 19 25.4	+0.9
CLCH				AMP		01 19 36.2	
	comp=E,996nm,0.7s						
CLCH				AMP		01 19 36.8	
	comp=E,1µm,0.6s						
FCH	**Farellones**	**1.75**	**5**	eP	Pn	01 19 03.6	+0.3
FCH				i S	Sn	01 19 27.8	+1.4
FCH				AMP		01 19 39.0	
	comp=E,339nm,0.4s						
LCCH	**Las Cruces**	**1.84**	**330**	i P	Pn	01 19 04.4	-0.1
LCCH				i S	Sn	01 19 28.5	-0.1
PEL	**Peldehue**	**1.94**	**355**	i S	Sn	01 19 32.3	+1.2
PEL				AMP		01 19 43.5	
	comp=N,1µm,0.6s						
CCHI	**Chillan**	**2.00**	**220**	AMP		01 19 47.9	
	comp=E,523nm,0.4s						
CCHI				AMP		01 19 48.2	
	comp=E,877nm,0.6s						
JACH	**Jahuel**	**2.39**	**358**	i P	Pn	01 19 13.9	+1.4
JACH				i S	Sn	01 19 45.6	+2.9
TRQA	**Tornquist**	**7.45**	**116**	ePn	Pn	01 20 22.7	-1.4
	comp=E,2.2nm,0.3s						
TRQA				ePg	Pg	01 20 51.6	-8.9
TRQA				eSg	Sg	01 22 24.5	-15

IDC 29 01:34:37.4±34.0, **7.71S×157.36E, mb3.9**/3, **mb1 4.0**/3, **mb1mx3.7**/13, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.8**/21, **Error ellipse: s-maj=571.0km s-min=94.4km az=46.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.34**	**220**	LR	LR	01 42 39.3	
	comp=Z,105nm,18.8s,baz=229,slow=30						
WRA	**Warramunga Arr**	**25.40**	**239**	P	P	01 40 06.7	-1.7
	1.2nm,0.7s,baz=65,slow=9.5,SNR=6.5						
ASAR	**Alice Springs**	**27.52**	**232**	P	P	01 40 26.6	-1.3
	0.5nm,0.8s,baz=66,slow=8.9,SNR=2.9						
STKA	**Stephens Creek**	**28.17**	**209**	P	P	01 40 31.5	-2.3
	4.0nm,0.9s,baz=29,slow=8.6,SNR=6.4						

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*NEIC **29** 01:35:25.9, 35.04S×70.61W, h6^{km}, ML3.1(GUC), After GUC.*
GUC 29 01:35:25.9±0.9, **35.04S×70.61W, h6^{km}±3^{km}, MD3.7, ML3.1, 5C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**322**	⇓iP	Pg	01 35 36.7	+0.1
SFDO				i S	Sg	01 35 45.3	+1.5
CICH	**Cipreses**	**0.73**	**13**	eP	Pg	01 35 38.8	-1.8
CICH				i S	Sg	01 35 49.2	-1.1
TALC	**Talca**	**0.91**	**246**	⇓iP	Pb	01 35 42.9	-0.9
TALC				i S	Sb	01 35 56.2	+0.3
TALC				AMP		01 35 56.8	
	comp=E,2µm,0.2s						
CACH	**El Canelo**	**0.92**	**1**	⇑iP	Pb	01 35 42.4	-1.5
CACH				i S	Sb	01 35 55.2	-0.9
CHCH	**Chadas Angostu**	**1.10**	**358**	⇓iP	Pb	01 35 46.1	-0.9
CHCH				i S	Sb	01 36 01.3	-0.1
LNV	**Longovilo**	**1.26**	**328**	eP	Pb	01 35 48.9	-0.9
TACH	**Talagante**	**1.41**	**349**	⇑iP	Pn	01 35 51.4	-0.8
TACH				i S	Sb	01 36 10.4	+0.2
PCH	**Pirque**	**1.41**	**3**	⇑iP	Pn	01 35 51.3	-0.9
PCH				i S	Sb	01 36 11.1	+0.6
CLCH	**Cerro Calan**	**1.64**	**2**	⇑iP	Pn	01 35 55.1	-0.3
CLCH				i S	Sb	01 36 16.8	-0.2
CLCH				AMP		01 36 33.6	
	comp=N,376nm,0.6s						
FCH	**Farellones**	**1.73**	**9**	eP	Pn	01 35 56.6	-0.1
FCH				i S	Sn	01 36 20.0	+0.7
FCH				AMP		01 36 33.2	
	comp=E,182nm,0.5s						
LCCH	**Las Cruces**	**1.75**	**333**	i P	Pn	01 35 56.8	-0.2
LCCH				i S	Sn	01 36 20.7	+0.8
CCHI	**Chillan**	**1.96**	**217**	⇑iP	Pn	01 36 01.3	+1.1
CCHI				i S	Sn	01 36 27.4	+2.0
CCHI				AMP		01 36 31.8	
	comp=E,378nm,0.7s						
JACH	**Jahuel**	**2.35**	**0**	i P	Pn	01 36 07.0	+1.4
JACH				i S	Sn	01 36 38.1	+3.0

IDC 29 01:36:19.9±2.9, **14.85S×177.60W, mb3.6**/4, **mb1 4.0**/4, **mb1mx3.8**/14, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.8**/23, **Error ellipse: s-maj=286.0km s-min=26.0km az=154.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.82**	**256**	LR	LR	01 53 37.7	
	comp=Z,46nm,18.1s,baz=48,slow=30						
WRA	**Warramunga Arr**	**46.02**	**257**	P	P	01 44 44.8	-2.5
	0.1nm,0.3s,baz=90,slow=6.9,SNR=2.4						
ASAR	**Alice Springs**	**46.43**	**251**	P	P	01 44 49.4	-1.2
	0.9nm,0.6s,baz=86,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**76.69**	**44**	P	P	01 48 13.6	-1.2
	0.4nm,0.6s,baz=221,slow=6.1,SNR=4.4						
TXAR	**Lajitas Array**	**83.71**	**58**	P	P	01 48 51.0	-1.5
	0.3nm,0.7s,baz=236,slow=4.5,SNR=3.9						

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*FUNV **29** 01:38:57.4, 10.69N×61.59W, h1^{km}, MW3.4*
*TRN **29** 01:38:59.9, 10.64N×61.59W, h6^{km}, MD3.8*
ISC 29 01:38:58.8±0.3, **10.64N**±0.02×**61.67W**±0.02, **h6^{km}, n25, σ1^{s}28**/41, **2D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.27**	**88**	⇓iP	Pg	01 39 03.2	-1.0
TRN				eS	Sg	01 39 05.5	-2.3
TPP	**Pointe-a-Pierr**	**0.39**	**146**	⇓iP	Pg	01 39 05.8	-0.8
TPP				eS	Sg	01 39 11.9	+0.1
ALNG	**Atlantic LNG**	**0.46**	**182**	eP	Pg	01 39 08.6	+0.7
ALNG				eS	Sg	01 39 15.3	+1.3
SIPA	**Siparia**	**0.52**	**162**	eP	Pg	01 39 11.2	+2.0
SIPA				eS	Sg	01 39 17.1	+0.9
BUAY	**Buenos Aires**	**0.53**	**181**	eP	Pg	01 39 11.4	+2.0
BUAY				eS	Sg	01 39 19.0	+2.5
GUIV	**Guiria**	**0.54**	**271**	eP	Pg	01 39 09.2	-0.5
GUIV				eS	Sg	01 39 17.6	+0.7
TBH	**Brigand Hill**	**0.61**	**104**	eP	Pg	01 39 10.5	-0.6
TBH				eS	Sg	01 39 17.6	-1.8
TPR	**Prospect**	**1.03**	**58**	eP	Pb	01 39 18.1	-0.6
TPR				eS	Sb	01 39 33.2	+0.9
BOT	**Bacolet**	**1.07**	**61**	eP	Pb	01 39 19.3	-0.1
BOT				eS	Sb	01 39 35.4	+1.9
GUNV	**Guanoco**	**1.34**	**249**	eP	Pb	01 39 24.4	+0.5
GUNV				eS	Sb	01 39 44.5	+3.4
GRW	**Mount Saint Ca**	**1.51**	**0**	eP	Pn	01 39 27.1	+0.6
GRW				eS	Sb	01 39 48.8	+2.6
CRUV	**Carupano**	**1.54**	**271**	eP	Pn	01 39 26.4	-0.5
CRUV				eS	Sb	01 39 47.2	+0.3
GRHS	**Sauteurs**	**1.57**	**1**	eP	Pn	01 39 28.2	+0.7
ITEV	**Isla Los Testi**	**1.60**	**297**	eP	Pn	01 39 27.4	-0.3
ITEV				eS	Sb	01 39 48.9	+0.2
GRSS	**Sisters**	**1.65**	**2**	eP	Pn	01 39 28.8	+0.3
ORIV	**Oritupano**	**2.31**	**228**	eP	Pn	01 39 38.1	+0.1
ORIV				eS	Sn	01 40 06.3	-0.8
RIOV	**Rio Grande**	**2.56**	**183**	eP	Pn	01 39 39.7	-1.8
RIOV				eS	Sn	01 40 11.5	-1.8
SVV	**Soufriere Volc**	**2.70**	**9**	eP	Pn	01 39 44.9	+1.4
PCRV	**Puerto La Cruz**	**2.95**	**261**	eP	Pn	01 39 46.0	-1.1
IBAV	**Isla La Blanqu**	**3.08**	**293**	eP	Pn	01 39 46.2	-2.8
IBAV				eS	Sn	01 40 24.2	-2.4
FDF	**Fort de France**	**4.10**	**7**	eP	Pn	01 40 03.5	+0.1
DSTT	**Stowe**	**4.59**	**4**	eP	Pn	01 40 10.9	+0.4
MERV	**Las Mercedes**	**4.76**	**254**	eP	Pn	01 40 10.4	-2.3
MGG	**Marie-Galante**	**5.26**	**4**	eP	Pn	01 40 19.6	-0.2
CAOV	**Caicara del Or**	**5.65**	**235**	eP	Pn	01 40 21.6	-3.7

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*NEIC **29** 01:39:15.5, 34.98S×70.56W, h5^{km}, ML3.1(GUC), After GUC.*
GUC 29 01:39:15.5±0.6, **34.98S×70.56W, h5^{km}±2^{km}, MD3.5, ML3.1, 8C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.52**	**314**	⇓iP	Pg	01 39 25.8	0.0
SFDO				i S	Sg	01 39 34.2	+1.4
CICH	**Cipreses**	**0.66**	**10**	⇑iP	Pg	01 39 27.5	-1.3
CICH				i S	Sg	01 39 36.8	-0.8
CACH	**El Canelo**	**0.86**	**358**	⇑iP	Pb	01 39 31.2	-1.3
CACH				i S	Sg	01 39 43.1	-0.9
TALC	**Talca**	**0.97**	**244**	⇑iP	Pb	01 39 33.9	-0.6
TALC				i S	Sb	01 39 47.7	+0.2
TALC				AMP		01 39 48.1	
	comp=N,4µm,0.1s						
CHCH	**Chadas Angostu**	**1.04**	**356**	⇑iP	Pb	01 39 35.0	-0.7
LNV	**Longovilo**	**1.23**	**325**	⇑iP	Pb	01 39 37.8	-1.1
LNV				i S	Sb	01 39 55.1	+0.1
PCH	**Pirque**	**1.35**	**2**	⇑iP	Pb	01 39 40.2	-0.8
PCH				i S	Sb	01 39 58.7	+0.2
TACH	**Talagante**	**1.35**	**347**	⇑iP	Pb	01 39 40.2	-0.8
TACH				i S	Sb	01 39 58.7	+0.1
CLCH	**Cerro Calan**	**1.57**	**1**	⇓iP	Pn	01 39 44.7	+0.4
CLCH				i S	Sb	01 40 05.7	+0.7
CLCH				AMP		01 40 07.1	
	comp=E,335nm,0.4s						
FCH	**Farellones**	**1.66**	**8**	i P	Pn	01 39 45.4	0.0
FCH				i S	Sb	01 40 08.2	+0.9
FCH				AMP		01 40 09.9	
	comp=N,179nm,0.4s						
LCCH	**Las Cruces**	**1.71**	**331**	i P	Pn	01 39 46.0	-0.3
JACH	**Jahuel**	**2.29**	**359**	⇑iP	Pn	01 39 55.8	+1.3
JACH				i S	Sn	01 40 25.8	+2.4

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*NEIC **29** 01:50:25.5, 35.01S×70.58W, h3^{km}, ML3.9(GUC), After GUC.*
GUC 29 01:50:25.5±0.8, **35.01S×70.58W, h3^{km}±3^{km}, MD4.2, ML3.9, 5C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.53**	**318**	⇓iP	Pg	01 50 36.4	+0.2
CICH	**Cipreses**	**0.70**	**11**	⇓iP	Pg	01 50 38.3	-1.3
CACH	**El Canelo**	**0.90**	**359**	⇑iP	Pb	01 50 41.9	-1.4
CACH				i S	Sg	01 50 55.0	-0.3
TALC	**Talca**	**0.94**	**246**	⇓iP	Pb	01 50 43.6	-0.6
TALC				i S	Sb	01 50 57.1	+0.2
TALC				AMP		01 50 57.6	
	comp=E,9µm,0.1s						
CHCH	**Chadas Angostu**	**1.08**	**357**	⇓iP	Pb	01 50 45.4	-1.1
CHCH				i S	Sb	01 51 00.9	+0.1
LNV	**Longovilo**	**1.26**	**327**	⇑iP	Pb	01 50 48.6	-0.9
LNV				i S	Sb	01 51 06.4	+0.4
TACH	**Talagante**	**1.39**	**348**	⇓iP	Pb	01 50 50.6	-1.1
PCH	**Pirque**	**1.39**	**2**	⇓iP	Pb	01 50 50.8	-1.1
PCH				i S	Sb	01 51 10.2	+0.3
ANTU	**Antumapu**	**1.44**	**358**	i P	Pn	01 50 51.8	-0.8
ANTU				i S	Sb	01 51 11.6	+0.2
ANTU				AMP		01 51 14.1	
	comp=E,2µm,0.8s						
SAN	**Santiago**	**1.56**	**358**	i P	Pn	01 50 53.9	-0.4
SAN				i S	Sb	01 51 15.3	+0.5
SAN				AMP		01 51 17.2	
	comp=E,2µm,0.5s						
DSCH	**Colegio Aleman**	**1.61**	**0**	⇓iP	Pn	01 50 54.7	-0.4
DSCH				i S	Sb	01 51 16.6	+0.3
DSCH				AMP		01 51 28.1	
	comp=N,4µm,0.6s						
CLCH	**Cerro Calan**	**1.61**	**1**	⇑iP	Pn	01 50 54.6	-0.5
CLCH				i S	Sb	01 51 16.4	0.0
CLCH				AMP		01 51 26.0	
	comp=N,3µm,0.6s						
CLCH				AMP		01 51 26.6	
	comp=N,3µm,0.6s						
FCH	**Farellones**	**1.70**	**8**	⇑iP	Pn	01 50 56.1	-0.2
FCH				i S	Sb	01 51 19.6	+0.8
FCH				AMP		01 51 34.4	
	comp=N,1µm,0.3s						
LCCH	**Las Cruces**	**1.74**	**332**	eP	Pn	01 50 56.3	-0.6
LCCH				i S	Sn	01 51 20.8	+1.0
PEL	**Peldehue**	**1.87**	**357**	eP	Pn	01 50 58.6	-0.1
PEL				i S	Sn	01 51 23.7	+0.6
PEL				AMP		01 51 30.2	
	comp=N,6µm,0.5s						
CCHI	**Chillan**	**2.00**	**217**	⇓iP	Pn	01 51 00.3	-0.2
CCHI				i S	Sn	01 51 27.1	+0.7
CCHI				AMP		01 51 32.1	
	comp=E,1µm,1.1s						
CCHI				AMP		01 51 37.7	
	comp=E,2µm,0.9s						

IHA	**Instituto Hidr**	**2.17**	**336**	⇑*i*P	Pn	01 51 03.5	+0.4
JACH	**Jahuel**	**2.33**	**360**	⇓*i*P	Pn	01 51 06.1	+0.8
JACH				*i* S	Sn	01 51 38.0	+3.2
TRQA	**Tornquist**	**7.56**	**116**	*e*Pn	Pn	01 52 14.7	-4.6
	comp=E,5.7nm,0.6s						
TRQA				*e*Sg	Sg	01 54 17.9	-19

GUC 29 01:55:02.2±0.8,35.02S×70.54W,h3^{km},MD3.5,ML2.2, 2C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**315**	⇓*i*P	Pg	01 55 13.7	+0.3
SFDO				*i* S	Sg	01 55 22.0	+1.1
CICH	**Cipreses**	**0.70**	**8**	*i* P	Pg	01 55 15.3	-0.8
CICH				*i* S	Sg	01 55 25.7	+0.2
CACH	**El Canelo**	**0.90**	**357**	*i* P	Pb	01 55 18.9	-1.1
CACH				*i* S	Sg	01 55 32.0	-0.1
CHCH	**Chadas Angostu**	**1.08**	**355**	⇑*i*P	Pb	01 55 22.5	-0.7
CHCH				*i* S	Sb	01 55 38.4	+0.8
LMEL	**Las Melosas**	**1.20**	**13**	⇑*i*P	Pb	01 55 24.2	-0.9
LMEL				*i* S	Sb	01 55 41.3	+0.4
LMEL				AMP		01 55 42.4	
	comp=E,82nm,0.1s						
LNV	**Longovilo**	**1.28**	**325**	*i* S	Sb	01 55 43.5	+0.2
PCH	**Pirque**	**1.39**	**1**	*i* P	Pb	01 55 27.8	-0.7
PCH				*i* S	Sb	01 55 47.8	+1.3
TACH	**Talagante**	**1.40**	**346**	*i* P	Pb	01 55 27.9	-0.8
TACH				*i* S	Sb	01 55 47.3	+0.5
FCH	**Farellones**	**1.70**	**7**	⇓*i*P	Pn	01 55 33.1	+0.2
FCH				*i* S	Sb	01 55 56.5	+1.1
FCH				AMP		01 55 57.4	
	comp=E,62nm,0.3s						
LCCH	**Las Cruces**	**1.76**	**331**	⇓*i*P	Pn	01 55 33.9	+0.1
LCCH				*i* S	Sn	01 55 57.6	+0.6

GUC 29 01:56:42.7±0.7,35.04S×70.55W,h3^{km},MD3.5,ML2.2, 1C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.57**	**318**	⇓*i*P	Pg	01 56 54.1	0.0
SFDO				*i* S	Sg	01 57 02.9	+1.2
CICH	**Cipreses**	**0.72**	**8**	⇓*i*P	Pg	01 56 56.3	-0.8
CICH				*e*S	Sg	01 57 07.0	+0.3
CACH	**El Canelo**	**0.92**	**357**	*e*P	Pb	01 56 59.9	-1.0
CACH				*i* S	Sg	01 57 13.2	-0.1
CHCH	**Chadas Angostu**	**1.10**	**355**	*i* P	Pb	01 57 03.5	-0.5
CHCH				*i* S	Sb	01 57 19.0	+0.3
LMEL	**Las Melosas**	**1.22**	**14**	⇑*i*P	Pb	01 57 05.1	-0.9
LMEL				*i* S	Sb	01 57 22.5	+0.4
LMEL				AMP		01 57 22.7	
	comp=N,76nm,0.1s						
LNV	**Longovilo**	**1.29**	**326**	⇓*i*P	Pb	01 57 06.5	-0.8
LNV				*i* S	Sb	01 57 24.3	+0.2
PCH	**Pirque**	**1.41**	**1**	*i* P	Pb	01 57 08.2	-1.1
PCH				*i* P		01 57 08.2	
TACH	**Talagante**	**1.42**	**347**	*e*P	Pn	01 57 08.3	-1.1
TACH				*i* S	Sb	01 57 28.0	+0.2
FCH	**Farellones**	**1.72**	**7**	*e*P	Pn	01 57 13.8	+0.1
FCH				*i* S	Sn	01 57 38.0	+1.5
FCH				AMP		01 57 53.4	
	comp=N,52nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**331**	*e*P	Pn	01 57 13.9	-0.6
LCCH				*i* S	Sn	01 57 38.4	+0.6

IDC 29 02:08:12.5±9.7,7.28S×126.49E,h471^{km}±143^{km},mb2.9/1, mb1 2.8/4,mb1mx2.7/12,Error ellipse: s-maj=135.0km s-min=46.8km az=42.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.79**	**184**	P	P	02 10 38.5	-1.2
	0.2nm,0.3s,baz=1.9,slow=13,SNR=9.1						
WRA	**Warramunga Arr**	**14.71**	**150**	P	P	02 11 18.6	-2.4
	0.4nm,0.3s,baz=324,slow=12,SNR=6.2						
WRA				S	S	02 13 55.0	+1.8
	0.1nm,0.3s,baz=326,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**17.78**	**157**	P	P	02 11 52.5	+0.6
	0.5nm,0.3s,baz=331,slow=8.5,SNR=18						
MKAR	**Makanchi Array**	**66.60**	**329**	P	P	02 18 15.1	-1.5
	0.3nm,0.4s,baz=118,slow=7.8,SNR=5.7						

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*GUC **29** 02:11:11.2±1.0,35.00S×70.60W,h2^{km}±3^{km},ML3.9*

*NEIC **29** 02:11:11.2,35.00S×70.60W,h2^{km},mb4.5/3,ML3.9(GUC), After GUC.*

*IDC **29** 02:11:19.8±3.8,35.02S×70.31W,h70^{km}±41^{km},mb3.6/3, mb1 3.8/6,mb1mx3.7/14,ML3.9/3,MS3.6/5,Ms1 3.5/5, ms1mx3.2/14,Error ellipse: s-maj=41.6km s-min=34.8km az=112.0*

ISC 29 02:11:09.9±0.4,35.05S±0.02×70.50W±0.05,h2^{km},n38, σ0^{s}97/49,mb4.1/6,MS3.7/2,11C-9D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.60**	**315**	⇓*i*P	**Pg**	**02 11 21.9**	**0.0**
CICH	**Cipreses**	**0.73**	**5**	⇓*i*P	**Pg**	**02 11 23.8**	**-0.6**
CACH	**El Canelo**	**0.93**	**355**	⇑*i*P	**Pb**	**02 11 27.4**	**-1.0**
CACH				*i* S	**Sg**	**02 11 40.7**	**-0.2**
TALC	**Talca**	**0.99**	**249**	⇓*i*P	**Pb**	**02 11 28.9**	**-0.5**
TALC				*i* S	**Sb**	**02 11 42.6**	**-0.2**
TALC				AMP		02 11 43.1	
	comp=E,19µm,0.1s						
CHCH	**Chadas Angostu**	**1.12**	**354**	⇓*i*P	**Pb**	**02 11 30.7**	**-0.9**
CHCH				*i* S	**Sb**	**02 11 46.3**	**-0.1**
LNV	**Longovilo**	**1.32**	**325**	⇑*i*P	**Pb**	**02 11 34.1**	**-1.0**
LNV				*i* S	**Sb**	**02 11 51.6**	**-0.7**
PCH	**Pirque**	**1.42**	**360**	⇓*i*P	**Pn**	**02 11 36.2**	**-0.6**
TACH	**Talagante**	**1.44**	**345**	⇓*i*P	**Pn**	**02 11 36.1**	**-0.8**
TACH				*i* S	**Sb**	**02 11 55.6**	**-0.1**
ANTU	**Antumapu**	**1.48**	**356**	*e*P	**Pn**	**02 11 37.3**	**-0.3**
ANTU				*i* S	**Sb**	**02 11 57.0**	**+0.1**
ANTU				AMP		02 12 00.7	
	comp=E,2µm,0.7s						
SAN	**Santiago**	**1.59**	**355**	⇑*i*P	**Pn**	**02 11 39.4**	**+0.2**
SAN				*i* S	**Sb**	**02 12 00.6**	**+0.3**
SAN				AMP		02 12 03.8	
	comp=E,2µm,0.6s						
DSCH	**Colegio Aleman**	**1.64**	**358**	⇑*i*P	**Pn**	**02 11 40.3**	**+0.3**
DSCH				*i* S	**Sb**	**02 12 02.2**	**+0.4**
DSCH				AMP		02 12 06.5	
	comp=N,3µm,0.5s						
CLCH	**Cerro Calan**	**1.65**	**359**	⇑*i*P	**Pn**	**02 11 40.1**	**+0.2**
CLCH				*i* S	**Sb**	**02 12 02.3**	**+0.5**
CLCH				AMP		02 12 13.4	
	comp=N,3µm,0.5s						
CLCH				AMP		02 12 14.0	
	comp=N,3µm,0.6s						
FCH	**Farellones**	**1.72**	**6**	⇑*i*P	**Pn**	**02 11 41.5**	**+0.4**
FCH				*i* S	**Sn**	**02 12 04.8**	**+0.9**
FCH				AMP		02 12 08.6	
	comp=E,960nm,0.6s						
LCCH	**Las Cruces**	**1.80**	**330**	⇓*i*P	**Pn**	**02 11 42.0**	**-0.2**
LCCH				*i* S	**Sn**	**02 12 05.7**	**-0.2**
CCHI	**Chillan**	**2.01**	**219**	⇓*i*P	**Pn**	**02 11 46.6**	**+1.3**
CCHI				*i* S	**Sn**	**02 12 13.1**	**+1.8**
CCHI				AMP		02 12 20.4	
	comp=E,2µm,1.0s						
IHA	**Instituto Hidr**	**2.23**	**335**	⇑*i*P	**Pn**	**02 11 48.9**	**+0.6**
IHA				*i* S	**Sn**	**02 12 16.8**	**0.0**
JACH	**Jahuel**	**2.36**	**358**	⇑*i*P	**Pn**	**02 11 51.7**	**+1.5**
JACH				*i* S	**Sn**	**02 12 23.3**	**+3.1**
CMCH	**Combarbala**	**3.88**	**354**	⇑*i*P	**Pn**	**02 12 12.7**	**+0.8**
PLCA	**Paso Flores**	**5.68**	**180**	P	**Pn**	**02 12 42.1**	**+4.8**
	comp=E,0.5nm,0.3s,baz=338,slow=16,SNR=9.5						
PLCA				Lg		02 14 10.8	
	comp=E,0.7nm,0.3s,baz=239,slow=14,SNR=2.3						
PLCA	**Paso Flores**	**5.68**	**180**	P	**Pn**	**02 12 42.1**	**+4.8**
PLCA				Lg		02 14 10.8	
TRQA	**Tornquist**	**7.49**	**116**	*e*Pn	**Pn**	**02 13 01.5**	**-1.3**
	comp=E,9.4nm,0.8s						
TRQA				*e*Sg	**Sg**	**02 15 00.9**	**-18**
CPUP	**Villa Florida**	**14.27**	**56**	P	**P**	**02 14 36.3**	**+1.2**
	comp=E,0.1nm,0.3s,baz=241,slow=13,SNR=3.2						
CPUP				LR	LR	02 20 51.1	
	comp=E,170nm,21.3s,baz=260,slow=40						
LPAZ	**La Paz**	**18.80**	**7**	P	**P**	**02 15 34.0**	**+1.1**
	comp=E,0.3nm,0.3s,baz=145,slow=7.0,SNR=5.7						
LPAZ				LR	LR	02 22 48.4	
	comp=E,58nm,18.1s,baz=111,slow=37						
LPAZ	**La Paz**	**18.80**	**7**	P	**P**	**02 15 34.0**	**+1.1**
LPAZ				LR	LR	02 22 48.4	
USHA	**Ushuaia**	**19.84**	**176**	LR	LR	02 24 06.2	
	comp=E,260nm,18.7s,baz=201,slow=39						
BDFB	**Brasilia**	**27.93**	**52**	LR	LR	02 29 27.7	
	comp=E,161nm,21.5s,MS3.6,baz=60,slow=39						
PMSA	**Palmer Station**	**30.02**	**174**	*e*P	**P**	**02 17 21.5**	**-0.4**
	comp=E,6.2nm,0.8s,mb4.4						
VNA1	**Neumayer--Stat**	**48.22**	**157**	⇓*i*	**P**	**02 19 54.4**	**+1.0**
VNA2	**Neumayer--Watz**	**48.56**	**157**	⇑*i*	**P**	**02 19 58.4**	**+2.4**
SNAA	**Sanae**	**50.14**	**158**	⇑*i*	**P**	**02 20 05.5**	**-2.7**
QSPA	**South Pole Qui**	**55.20**	**180**	*e*P	**P**	**02 20 45.5**	**-0.3**
	comp=E,3.3nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**71.27**	**330**	P	**P**	**02 22 31.9**	**-0.8**
	comp=E,0.5nm,0.9s,mb3.5,baz=158,slow=7.4,SNR=5.4						
MAW	**Mawson**	**71.82**	**163**	LR	LR	02 53 44.4	
	comp=E,56nm,20.7s,MS3.8,baz=59,slow=35						
WVT	**Waverly**	**72.63**	**345**	*e*P	**P**	**02 22 38.4**	**-2.4**
	comp=E,3.3nm,0.7s,mb4.4						
DBIC	**Dimbokro**	**74.33**	**70**	P	**P**	**02 22 49.2**	**-1.9**
	comp=E,3.0nm,1.0s,mb4.2,baz=196,slow=3.0,SNR=4.0						
DBIC	**Dimbokro**	**74.33**	**70**	P	**P**	**02 22 49.2**	**-1.9**
PDAR	**Pinedale Array**	**85.27**	**332**	P	**P**	**02 23 49.3**	**+0.1**
	comp=E,0.8nm,1.1s,mb3.8,baz=153,slow=4.0,SNR=3.1						
ZRNK	**Zerenda**	**146.37**	**45**	*e*P	PKPbc	02 30 51.2	-0.4

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*NEIC **29** 02:25:35.0,35.00S×70.60W,h3^{km},ML2.7(GUC),After GUC.*

GUC 29 02:25:35.0±0.7,35.00S×70.60W,h3^{km},MD3.6,ML2.7,2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.51**	**318**	⇓*i*P	Pg	02 25 45.2	0.0
SFDO				*i* S	Sg	02 25 53.4	+1.3
CICH	**Cipreses**	**0.69**	**12**	⇓*i*P	Pg	02 25 47.7	-1.2
CICH				*i* S	Sg	02 25 57.9	-0.2
CACH	**El Canelo**	**0.88**	**360**	*i* P	Pb	02 25 51.0	-1.6
CACH				*i* S	Sg	02 26 03.8	-0.5
CHCH	**Chadas Angostu**	**1.06**	**358**	*e*P	Pb	02 25 54.7	-1.0
CHCH				*i* S	Sb	02 26 10.6	+0.7
LNV	**Longovilo**	**1.24**	**327**	*i* S	Sb	02 26 15.2	+0.3
TACH	**Talagante**	**1.37**	**348**	*e*P	Pb	02 25 59.8	-1.2
TACH				*i* S	Sb	02 26 19.2	+0.5
PCH	**Pirque**	**1.38**	**3**	*i* S	Sb	02 26 19.8	+0.9
CLCH	**Cerro Calan**	**1.60**	**2**	AMP		02 26 28.9	
	comp=E,190nm,0.3s						
FCH	**Farellones**	**1.69**	**9**	*i* S	Sb	02 26 28.8	+0.9
FCH				AMP		02 26 32.1	
	comp=N,115nm,0.1s						
LCCH	**Las Cruces**	**1.72**	**332**	*i* P	Pn	02 26 05.6	-0.4
LCCH				*i* S	Sn	02 26 29.0	+0.2

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*NEIC **29** 02:34:07.2,35.02S×70.41W,h12^{km},ML2.7(GUC),After GUC.*

GUC 29 02:34:07.2±0.7,35.02S×70.41W,h12^{km}±9^{km},MD3.5, ML2.7,1C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.67**	**271**	⇓*i*P	Pb	02 34 19.8	-0.6
CACH	**El Canelo**	**0.91**	**350**	⇓*i*P	Pb	02 34 23.3	-1.2
CACH				*i* S	Sb	02 34 35.9	-0.5
TALC	**Talca**	**1.07**	**249**	⇑*i*P	Pb	02 34 26.5	-0.7
TALC				*i* S	Sb	02 34 40.8	-0.2
TALC				AMP		02 34 41.0	
	comp=N,1µm,0.2s						
CHCH	**Chadas Angostu**	**1.10**	**350**	*e*P	Pb	02 34 26.9	-0.9
LNV	**Longovilo**	**1.34**	**322**	⇓*i*P	Pb	02 34 30.8	-1.0
LNV				*i* S	Sb	02 34 48.8	-0.1
FCH	**Farellones**	**1.69**	**4**	*e*P	Pn	02 34 37.3	+0.5
FCH				*i* S	Sn	02 34 59.8	+1.2
FCH				AMP		02 35 00.9	
	comp=E,50nm,0.5s						
TRQA	**Tornquist**	**7.43**	**117**	*e*Pn	Pn	02 35 56.7	-1.5

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*LDG **29** 03:34:37.9±0.3,51.81N×16.24E,h1^{km},Ml4.0/19,Error ellipse: s-maj=7.5km s-min=3.2km az=2.0,Suspected Mining induced.*

*MOS **29** 03:34:37.5±1.2,51.59N×16.21E,h10^{km},mb4.1/1,Error ellipse: s-maj=9.7km s-min=4.9km az=81.5*

*STR **29** 03:34:38.8±0.7,51.41N×16.29E,h10^{km}±1^{km},Ml4.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **29** 03:34:39.0±0.2,51.57N×16.09E,h5^{km},mb4.1/2, ML3.9(FUR),ML3.8(SZGRF),ML3.8(VIE),ML3.5(BRG), Error ellipse: s-maj=3.3km s-min=2.8km az=113.0*

*PRU **29** 03:34:39.7,51.49N×16.13E,Felt In Harrachov, Neic M4.1*

*BGR **29** 03:34:39.0±0.7,51.51N×16.14E,h1^{km},ML3.8/9,Error ellipse: s-maj=7.8km s-min=4.4km az=164.0*

*WAR **29** 03:34:40.5,51.48N×16.10E,ML3.6,Mining Induced*

*IDC **29** 03:34:41.1±1.5,51.46N×16.01E,h9^{km}±11^{km},mb3.6/2, mb1 3.8/11,mb1mx3.7/23,ML3.7/9,MS3.1/1,Ms1 3.1/1, ms1mx2.2/26,Error ellipse: s-maj=9.7km s-min=6.8km az=102.0*

ISC 29 03:34:36.4±0.2,51.53N±0.01×16.06E±0.02,n165, σ1^{s}41/297,mb3.9/3,MS3.1/1,14C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**168**	*i* PG	**Pg**	**03 34 52.4**	**+1.9**
KSP				*i* SG	**Sg**	**03 35 01.1**	**+1.3**
KSP	**Ksiaz**	**0.70**	**168**	*i* Pg	**Pg**	**03 34 52.4**	**+1.9**
KSP				*e*Sg	**Sg**	**03 35 01.1**	**+1.3**
KSP				*e*		03 35 06.5	
UPC	**Upice**	**1.03**	**182**	*e*PG	**Pg**	**03 34 58.5**	**+1.6**
UPC				*e*SG	**Sg**	**03 35 11.3**	**+0.8**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**	**03 35 01.3**	**+1.1**
DPC				*e*SG	**Sg**	**03 35 15.7**	**-0.4**
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG	**Pg**	**03 35 05.3**	**+1.4**
PVCC				*e*SG	**Sg**	**03 35 23.9**	**+1.7**
BRG	**Berggiesshubel**	**1.49**	**244**	*e*Pg	**Pg**	**03 35 06.5**	**+0.4**
BRG				*e*Sg	**Sg**	**03 35 28.2**	**+2.3**
BRG	**Berggiesshubel**	**1.49**	**244**	*i* P	**Pn**	**03 35 06.4**	**+2.0**
BRG				*i*		03 35 28.1	
BRG	**Berggiesshubel**	**1.49**	**244**	*i* Pn	**Pn**	**03 35 06.4**	**+2.0**
BRG				*i* Pg	**Pg**	**03 35 08.1**	**+2.1**
BRG				*i* Sg	**Sg**	**03 35 28.1**	**+2.3**
RUE	**Ruedersdorf**	**1.70**	**305**	⇓*i*Pn	**Pn**	**03 35 09.9**	**+2.5**
RUE				*e*S	**Sb**	**03 35 36.4**	**+6.3**
PRU	**Pruhonice**	**1.82**	**213**	*i* PN	**Pn**	**03 35 11.0**	**+1.8**
PRU				PG	**Pg**	**03 35 12.8**	**+0.1**
PRU				*i*		03 35 17.1	
PRU				*i*		03 35 30.0	
PRU				SG	**Sg**	**03 35 36.4**	**-0.6**
	216nm,0.5s						
PRU				LM		03 36 20.0	
PRU	**Pruhonice**	**1.82**	**213**	*e*P	**Pn**	**03 35 10.9**	**+1.7**
PRU				*e*		03 35 36.5	
PRU	**Pruhonice**	**1.82**	**213**	*e*Pn	**Pn**	**03 35 10.9**	**+1.7**
PRU				*e*Pg	**Pg**	**03 35 12.8**	**+0.1**
PRU				*e*		03 35 30.1	
PRU				*e*Sg	**Sg**	**03 35 36.5**	**-0.5**
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*PN	**Pn**	**03 35 14.0**	**+3.9**
GKP				*e*PN	**Sn**	**03 35 43.0**	**+8.1**
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pn	**Pn**	**03 35 13.9**	**+3.8**
GKP				*e*Pg	**Pg**	**03 35 21.6**	**+7.6**
GKP				*e*Sn	**Sn**	**03 35 43.3**	**+8.4**
GKP				*e*Sg	**Sg**	**03 35 47.3**	**+8.2**
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**03 35 12.9**	**+2.2**
CLL				*e*Sg	**Sg**	**03 35 42.5**	**+2.0**
CLL	**Collm**	**1.93**	**265**	*i* PN	**Pn**	**03 35 12.8**	**+2.1**
CLL				*i* PG	**Pg**	**03 35 15.3**	**+0.4**
CLL				*i*		03 35 19.8	
CLL				*i* SG	**Sg**	**03 35 41.5**	**+1.0**
CLL	**Collm**	**1.93**	**265**	*i* P	**Pn**	**03 35 12.8**	**+2.1**
CLL				*i*		03 35 41.5	
CLL	**Collm**	**1.93**	**265**	*i* Pn	**Pn**	**03 35 12.8**	**+2.1**
CLL				*i* Pg	**Pg**	**03 35 15.3**	**+0.4**
CLL				*i* Sg	**Sg**	**03 35 41.5**	**+1.0**
RAC	**Raciborz**	**1.98**	**136**	*e*PN	**Pn**	**03 35 12.0**	**+0.5**
RAC				*e*PN	**Pn**	**03 35 15.0**	**+3.5**
RAC				*e*SN	**Sn**	**03 35 36.0**	**-1.5**
RAC				*e*SN	**Sn**	**03 35 41.0**	**+3.5**
RAC	**Raciborz**	**1.98**	**136**	*e*P	**Pn**	**03 35 12.4**	**+0.9**
RAC				*e*		03 35 36.1	
MORC	**Moravsky Berou**	**1.99**	**151**	⇓*i*Pn	**Pn**	**03 35 12.9**	**+1.2**
MORC				*e*Sn	**Sn**	**03 35 37.2**	**-0.5**
MORC				*e*Sg	**Sg**	**03 35 41.0**	**-1.7**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PN	**Pn**	**03 35 14.9**	**+0.9**
OKC				*e*PG	**Pg**	**03 35 18.8**	**-0.6**
OKC				*e*SG	**Sg**	**03 35 46.1**	**-2.0**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*P	**Pn**	**03 35 14.9**	**+0.9**
OKC				*e*		03 35 46.1	
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	**03 35 17.5**	**+2.1**
	6.9nm,0.3s,baz=328,slow=15,SNR=20						
VRAC				Lg		03 35 49.5	
	9.6nm,0.3s,baz=68,slow=22,SNR=5.5						
TANN	**Tannenbergstha**	**2.53**	**245**	*e*Pn	**Pn**	**03 35 22.1**	**+2.7**
TANN				*e*Sg	**Sg**	**03 36 00.1**	**-0.7**
WERD	**Werda**	**2.61**	**247**	*e*Pn	**Pn**	**03 35 22.7**	**+2.2**
WERD				*e*Sg	**Sg**	**03 36 02.2**	**-1.0**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**03 35 23.1**	**+2.3**
NKC				*e*PG	**Pg**	**03 35 30.2**	**+1.3**
NKC				*e*SG	**Sg**	**03 36 04.5**	**+0.5**
NKC	**Novy Kostel**	**2.63**	**242**	*e*P	**Pn**	**03 35 23.1**	**+2.3**
NKC				*e*		03 36 04.5	
GUNZ	**Gunzen**	**2.63**	**245**	*e*Pn	**Pn**	**03 35 23.2**	**+2.4**
GUNZ				*e*Sg	**Sg**	**03 36 03.7**	**-0.3**
OJC	**Ojcow**	**2.71**	**118**	*e*PN	**Pn**	**03 35 21.0**	**-0.9**
OJC				*e*PG	**Pg**	**03 35 30.0**	**-0.4**
OJC				*e*SG	**Sg**	**03 36 05.0**	**-1.5**
OJC	**Ojcow**	**2.71**	**118**	*e*Pn	**Pn**	**03 35 21.3**	**-0.6**
OJC				*e*Pg	**Pg**	**03 35 30.3**	**-0.1**
OJC				*e*Sg	**Sg**	**03 36 05.2**	**-1.3**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**03 35 25.8**	**+1.4**
KHC				*e*PG	**Pg**	**03 35 32.2**	**-1.7**
KHC				*e*SN	**Sn**	**03 36 01.2**	**+0.9**
KHC				*e*SG	**Sg**	**03 36 10.7**	**-1.6**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*P	**Pn**	**03 35 25.8**	**+1.4**
KHC				*e*		03 36 01.2	
MOX	**Moxa**	**2.94**	**254**	*e*Pn	**Pn**	**03 35 27.3**	**+2.1**
MOX				*e*Sg	**Sg**	**03 36 13.3**	**-0.9**
MOX	**Moxa**	**2.94**	**254**	*i* P	**Pn**	**03 35 27.1**	**+1.9**
MOX				Pg	**Pg**	**03 35 35.0**	**-0.1**
MOX				Sg	**Sg**	**03 36 14.0**	**-0.2**
MOX	**Moxa**	**2.94**	**254**	*e*P	**Pn**	**03 35 27.1**	**+1.9**
MOX				*e*		03 36 13.6	
MOX	**Moxa**	**2.94**	**254**	*e*Pn	**Pn**	**03 35 27.1**	**+1.9**
MOX				*e*Pg	**Pg**	**03 35 35.0**	**-0.1**
MOX				*e*Sg	**Sg**	**03 36 13.6**	**-0.6**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn	**Pn**	**03 35 28.3**	**+1.9**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	**03 35 29.1**	**+1.7**
GEC2				*e*Sg	**Sg**	**03 36 17.4**	**-1.7**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	**03 35 29.1**	**+1.8**
GEC2				*e*Sg	**Sg**	**03 36 17.4**	**-1.7**
GERES	**GERESS Array B**	**3.09**	**210**	Pn	**Pn**	**03 35 28.8**	**+1.5**
	7.4nm,0.3s,baz=29,slow=12,SNR=251						
GERES				Pg	**Pg**	**03 35 35.8**	**-2.2**
	12nm,0.3s,baz=30,slow=19,SNR=45						
GERES				Sn	**Sn**	**03 36 05.0**	**-0.5**
	11nm,0.3s,baz=28,slow=26,SNR=6.1						
GERES				Lg		03 36 15.3	
	25nm,0.3s,baz=29,slow=27,SNR=14						
GERES	**GERESS Array B**	**3.09**	**210**	P	**Pn**	**03 35 28.8**	**+1.5**
GERES						03 36 05.0	
GERES				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,12nm,0.3s						
GERES				smax			
	comp=N,11nm,0.3s						
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**03 35 29.6**	**+1.5**
WET				*e*Sg	**Sg**	**03 36 20.1**	**-0.9**
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**03 35 29.6**	**+1.5**
WET				*e*Sg	**Sg**	**03 36 20.1**	**-0.9**
SMOL	**Smolenice**	**3.15**	**163**	*e*PN	**Pn**	**03 35 31.4**	**+3.2**
SMOL				*e*PB	**Pb**	**03 35 38.3**	**+5.3**
SMOL				*e*SB	**Sb**	**03 36 18.9**	**+6.8**
VKA	**Vienna**	**3.27**	**177**	⇑*i*PN	**Pn**	**03 35 32.3**	**+2.3**
VKA				*i* PG	**Pg**	**03 35 40.3**	**-1.4**
VKA				*i* SG	**Sg**	**03 36 23.8**	**-1.6**
KOLL	**Kolacno**	**3.32**	**152**	*e*PN	**Pn**	**03 35 31.8**	**+1.2**
KOLL				*e*PG	**Pg**	**03 35 41.4**	**-1.2**
KOLL				*e*SB	**Sb**	**03 36 23.1**	**+6.0**
ZST	**Bratislava**	**3.41**	**168**	*e*PN	**Pn**	**03 35 33.4**	**+1.6**
ZST				*e*PG	**Pg**	**03 35 42.0**	**-2.4**
ZST				*e*SB	**Sb**	**03 36 25.3**	**+5.6**
NIE	**Niedzica**	**3.44**	**126**	*e*PN	**Pn**	**03 35 32.0**	**-0.4**
NIE				*e*PN	**Pn**	**03 35 42.0**	**+10**
NIE				*e*S	**Sn**	**03 36 28.0**	**+14**
VYHS	**Vyhne**	**3.53**	**148**	*e*PN	**Pn**	**03 35 34.1**	**+0.5**
VYHS				*e*PG	**Pg**	**03 35 45.1**	**-1.7**
VYHS				*e*SB	**Sb**	**03 36 26.8**	**+3.6**
GRA1	**Grafenberg Arr**	**3.59**	**241**	*e*Pn	**Pn**	**03 35 36.5**	**+2.0**
GRA1				*e*Sg	**Sg**	**03 36 34.8**	**-1.1**
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Pn	**Pn**	**03 35 36.5**	**+2.1**
GRF				*e*Sg	**Sg**	**03 36 34.8**	**-1.1**
BSD	**Bornholm Skovb**	**3.65**	**350**	*i* P	**Pn**	**03 35 36.1**	**+0.7**
BSD				*i* S	**Sn**	**03 36 16.6**	**-3.2**
BSD				*i* LG		03 36 19.1	
HROE	**Hohe Rhon--Fla**	**3.86**	**257**	⇓*i*Pn	**Pn**	**03 35 39.8**	**+1.6**
MOA	**Molln**	**3.87**	**198**	⇑*i*PN	**Pn**	**03 35 39.8**	**+1.4**
MOA				*i* SG	**Sg**	**03 36 43.5**	**-1.6**
	comp=N,91nm,0.6s						
KECS	**Kecovo**	**4.18**	**135**	*e*PG	**Pg**	**03 35 57.5**	**-2.3**
KECS				*e*SG	**Sg**	**03 36 51.7**	**-3.8**
ARSA	**Arzberg**	**4.30**	**185**	⇑*i*PN	**Pn**	**03 35 46.2**	**+1.7**
ARSA				*i* SG	**Sg**	**03 36 55.2**	**-4.3**
	comp=N,114nm,0.8s						
PSZ	**Piszkesteto**	**4.39**	**144**	⇑*e*Pn	**Pn**	**03 35 46.9**	**+1.1**
PSZ				*e*sB		03 36 55.5	
KWP	**Kalwaria**	**4.64**	**112**	*e*PN	**Pn**	**03 35 50.0**	**+0.6**
KWP				*e*PG	**Pg**	**03 36 04.0**	**-5.1**
KWP				*e*SN	**Sn**	**03 36 38.0**	**-6.9**
KWP				*e*SG	**Sg**	**03 37 14.0**	**+3.0**
KWP	**Kalwaria**	**4.64**	**112**	*e*P	**Pn**	**03 35 49.6**	**+0.2**
KWP				*e*		03 36 37.8	
KWP	**Kalwaria**	**4.64**	**112**	*e*Pn	**Pn**	**03 35 49.6**	**+0.2**
KWP				*e*Pg	**Pg**	**03 36 04.5**	**-4.6**
KWP				*e*Sn	**Sn**	**03 36 37.8**	**-7.1**
KWP				*e*Sg	**Sg**	**03 37 14.5**	**+3.5**
COP	**Copenhagen**	**4.69**	**334**	*i* P	**Pn**	**03 35 49.4**	**-0.7**
COP				*i* S	**Sn**	**03 36 44.2**	**-1.8**
COP	**Copenhagen**	**4.69**	**334**	*e*P	**Pn**	**03 35 49.4**	**-0.7**
COP				*i* S	**Sn**	**03 36 44.2**	**-1.8**
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*PN	**Pn**	**03 35 53.2**	**+1.6**
KBA				*i* SG	**Sg**	**03 37 14.1**	**-2.0**
	comp=N,48nm,0.6s						
SUW	**Suwalki**	**4.99**	**57**	*e*PN	**Pn**	**03 35 56.0**	**+1.7**
SUW				*e*PG	**Pg**	**03 36 20.0**	**+4.1**
SUW				*e*SN	**Sn**	**03 36 52.0**	**-1.5**
SUW				*e*SG	**Sg**	**03 37 23.0**	**+0.6**
SUW	**Suwalki**	**4.99**	**57**	*e*P	**Pn**	**03 35 55.9**	**+1.6**
SUW				*e*		03 36 52.1	
SUW	**Suwalki**	**4.99**	**57**	*e*Pn	**Pn**	**03 35 53.8**	**-0.5**
SUW				*e*Pn	**Pn**	**03 35 55.9**	**+1.6**
SUW				*e*Pg	**Pg**	**03 36 19.6**	**+3.7**
SUW				*e*Sn	**Sn**	**03 36 52.1**	**-1.4**
SUW				*e*Sg	**Sg**	**03 37 23.2**	**+0.8**
TOD	**Tromm**	**5.01**	**250**	P	**Pn**	**03 35 54.7**	**+0.1**
TOD				S	**Sn**	**03 36 59.1**	**+5.0**
WATA	**Walderalm**	**5.12**	**217**	⇑*i*PN	**Pn**	**03 35 57.0**	**+0.9**
WATA				*i* SG	**Sg**	**03 37 22.2**	**-4.5**
	comp=N,25nm,0.6s						
WATA	**Walderalm**	**5.12**	**217**	⇑*i*Pn	**Pn**	**03 35 57.0**	**+0.9**
	comp=N,25nm,0.6s						
WATA				*i* Sg	**Sg**	**03 37 22.2**	**-4.5**
WTTA	**Wattenberg**	**5.16**	**216**	⇓*i*PN	**Pn**	**03 35 58.1**	**+1.4**
WTTA				*i* SG	**Sg**	**03 37 25.4**	**-2.6**
	comp=N,31nm,0.8s						
WTTA	**Wattenberg**	**5.16**	**216**	⇓*i*Pn	**Pn**	**03 35 58.1**	**+1.4**
	comp=N,31nm,0.8s						
WTTA				*i* Sg	**Sg**	**03 37 25.4**	**-2.6**
STU	**Stuttgart**	**5.21**	**241**	*e*Pn	**Pn**	**03 35 57.4**	**0.0**
	comp=N,10nm,0.5s						
STU				*e*Pg	**Pg**	**03 36 19.1**	**-1.2**
STU				Sn	**Sn**	**03 36 57.0**	**-2.0**
MOTA	**Moosalm**	**5.29**	**220**	⇑*i*PN	**Pn**	**03 35 59.6**	**+1.0**
MOTA				*i* SG	**Sg**	**03 37 26.8**	**-5.8**
	comp=N,29nm,0.7s						
MOTA	**Moosalm**	**5.29**	**220**	⇑*i*Pn	**Pn**	**03 35 59.6**	**+1.0**
	comp=N,29nm,0.7s						
MOTA				*i* Sg	**Sg**	**03 37 26.8**	**-5.8**
LVV	**L'vov**	**5.35**	**106**	*e*P	**Pn**	**03 35 55.8**	**-3.6**
SQTA	**Sankt Quirin**	**5.35**	**218**	⇑*i*PN	**Pn**	**03 36 01.1**	**+1.7**

SQTA				*i* SG	**Sg**	**03 37 30.0**	**-4.6**
	comp=N,31nm,0.8s						
SQTA	**Sankt Quirin**	**5.35**	**218**	⇑*i*Pn	**Pn**	**03 36 01.1**	**+1.7**
	comp=N,31nm,0.8s						
SQTA				*i* Sg	**Sg**	**03 37 30.0**	**-4.6**
FVI	**Forni Avoltri**	**5.39**	**205**	*e*Pn	**Pn**	**03 36 01.4**	**+1.4**
PTCC	**Patocco-Chiusa**	**5.43**	**200**	*e*Pn	**Pn**	**03 36 01.9**	**+1.3**
VOY	**Vojsko**	**5.69**	**195**	*e*Pn	**Pn**	**03 36 11.5**	**+7.3**
VOY				*e*Sn	**Sg**	**03 37 43.8**	**-1.9**
DAVA	**Damuels**	**5.86**	**226**	⇑*i*PN	**Pn**	**03 36 06.9**	**+0.3**
DAVA				*i* SG	**Sg**	**03 37 46.1**	**-5.3**
	comp=N,21nm,0.6s						
DAVA	**Damuels**	**5.86**	**226**	⇑*i*Pn	**Pn**	**03 36 06.9**	**+0.3**
	comp=N,21nm,0.6s						
DAVA				*i* Sg	**Sg**	**03 37 46.1**	**-5.3**
LANF	**Langenberg**	**5.88**	**247**	P	**Pn**	**03 36 06.7**	**-0.1**
LANF				S	**Sn**	**03 37 21.0**	**+5.1**
CTI	**Castel Tesino**	**6.21**	**210**	*e*Pn	**Pn**	**03 36 13.7**	**+2.2**
DAVOX	**Davos**	**6.25**	**223**	Pn	**Pn**	**03 36 12.6**	**+0.5**
	comp=N,1.3nm,0.3s,baz=46,slow=10,SNR=16						
DAVOX				Sn	**Sn**	**03 37 19.3**	**-5.8**
	comp=N,1.2nm,0.3s,baz=328,slow=22,SNR=2.3						
DAVOX				Lg		03 37 58.7	
	comp=N,2.0nm,0.3s,baz=350,slow=22,SNR=4.1						
DAVOX	**Davos**	**6.25**	**223**	Pn	**Pn**	**03 36 12.6**	**+0.5**
DAVOX				Sn	**Sn**	**03 37 19.3**	**-5.9**
DAVOX				Lg		03 37 58.7	
BRMO	**Bormio**	**6.29**	**219**	*e*Pn	**Pn**	**03 36 15.8**	**+3.2**
FELD	**Feldberg**	**6.38**	**238**	P	**Pn**	**03 36 13.8**	**-0.1**
MUD	**Monsted U'grnd**	**6.39**	**323**	*i* P	**Pn**	**03 36 15.2**	**+1.2**
MUD				*e*S	**Sn**	**03 37 25.4**	**-3.3**
MUD				*i* S	**Sn**	**03 37 36.3**	**+7.6**
MUD	**Monsted U'grnd**	**6.39**	**323**	*e*P	**Pn**	**03 36 15.2**	**+1.2**
MUD				*e*S	**Sn**	**03 37 25.4**	**-3.3**
MUD				*i* S	**Sn**	**03 37 36.3**	**+7.6**
WLS	**Welschbruch**	**6.42**	**244**	P	**Pn**	**03 36 14.9**	**+0.3**
WLS				S	**Sn**	**03 37 33.2**	**+3.6**
LIBD	**Limburg**	**6.43**	**242**	P	**Pn**	**03 36 15.1**	**+0.4**
LIBD				S	**Sn**	**03 37 32.6**	**+2.8**
CDF	**Champ du Feu**	**6.47**	**245**	*e*Pn	**Pn**	**03 36 14.4**	**-0.8**
CDF				*e*Pg	**Pg**	**03 36 43.7**	**-1.8**
CDF				*e*Sg	**Sg**	**03 38 07.8**	**-3.9**
	comp=N,56nm,0.7s						
HINF	**Hinteralfeld**	**7.04**	**242**	*e*Pn	**Pn**	**03 36 22.5**	**-0.7**
HINF				*e*Pg	**Pg**	**03 36 55.3**	**-1.5**
HINF				*e*Sg	**Sg**	**03 38 25.9**	**-4.7**
	comp=N,52nm,1.0s						
HAU	**Haudompre**	**7.21**	**244**	*e*Pn	**Pn**	**03 36 24.1**	**-1.5**
HAU				*e*Pg	**Pg**	**03 36 55.4**	**-4.9**
HAU				*e*Sg	**Sg**	**03 38 30.9**	**-5.5**
	comp=N,42nm,0.7s						
GIVF	**Givet**	**7.26**	**263**	*e*Pn	**Pn**	**03 36 25.8**	**-0.6**
THEF	**They Montfort**	**7.30**	**247**	P	**Pn**	**03 36 25.8**	**-1.1**
RFYF	**Reffroy**	**7.40**	**251**	*e*Pn	**Pn**	**03 36 28.1**	**-0.3**
RFYF				*e*Sg	**Sg**	**03 38 36.0**	**-6.9**
	comp=N,17nm,0.7s						
BAIF	**Baives**	**7.66**	**264**	*e*Pn	**Pn**	**03 36 32.3**	**+0.4**
BAIF				*e*Sg	**Sg**	**03 38 41.5**	**-10**
	comp=N,50nm,1.1s						
MEZF	**Maizieres J'vi**	**7.71**	**251**	*e*Pn	**Pn**	**03 36 31.3**	**-1.4**
MEZF				*e*Sg	**Sg**	**03 38 45.5**	**-7.6**
	comp=N,53nm,1.1s						
SFTF	**Sexfontaines**	**7.86**	**249**	*e*Pn	**Pn**	**03 36 34.1**	**-0.6**
SFTF				*e*Sg	**Sg**	**03 38 49.7**	**-8.4**
	comp=N,25nm,0.7s						
BOB	**Bobbio (Coli)**	**8.08**	**216**	*e*P	**P**	**03 36 38.9**	**+1.1**
GRAM		**8.11**	**212**	P	**P**	**03 36 38.2**	**+0.1**
TRAV		**8.16**	**226**	P	**P**	**03 36 39.8**	**+0.9**
CABF	**La Chapelle**	**8.19**	**237**	*e*Pn	**P**	**03 36 40.0**	**+0.7**
CABF				*e*Pg	P	03 37 14.2	+35
CABF				*e*Sg	**Sg**	**03 39 01.6**	**-7.4**
	comp=N,73nm,1.1s						
CODM		**8.27**	**213**	P	**P**	**03 36 41.2**	**+0.8**
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	**P**	**03 36 38.8**	**-2.4**
	comp=N,4.1nm,0.3s,baz=279,slow=12,SNR=22						
AKASG				Sn	**Sn**	**03 38 07.5**	**-10**
	comp=N,2.4nm,0.3s,baz=275,slow=23,SNR=4.7						
AKASG				Lg		03 39 07.5	
	comp=N,0.2nm,0.3s,baz=345,slow=26,SNR=3.4						
AKASG	**Malin Array Be**	**8.33**	**91**	P	**P**	**03 36 38.8**	**-2.4**
AKASG						03 38 07.5	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKASG				smax			
	comp=N,2.0nm,0.3s						
VINC	**Vinca**	**8.39**	**211**	P	**P**	**03 36 42.0**	**-0.2**
LSD	**Ceresole Reale**	**8.47**	**228**	P	**P**	**03 36 44.3**	**+1.0**
MAIM		**8.49**	**208**	P	**P**	**03 36 43.5**	**-0.1**
PCP	**Pian Castagno**	**8.61**	**219**	P	**P**	**03 36 46.0**	**+0.8**
LPL	**La Plagne**	**8.63**	**229**	*e*Pn	**P**	**03 36 45.2**	**-0.2**
LPL				*e*Sg	**Sg**	**03 39 17.4**	**-6.3**
	comp=N,15nm,1.0s						
LPG	**La Plagne**	**8.63**	**229**	*e*Pn	**P**	**03 36 45.8**	**+0.3**
LPG				*e*Sg	**Sg**	**03 39 17.4**	**-6.4**
	comp=N,25nm,1.1s						
RSP	**Reno Superiore**	**8.66**	**226**	P	**P**	**03 36 45.1**	**-0.8**
HFS	**Hagfors**	**8.72**	**352**	Pn	**P**	**03 36 45.7**	**-1.1**
	comp=N,0.1nm,0.3s,baz=164,slow=15,SNR=15						
HFS				Sn	**Sn**	**03 38 20.1**	**-6.9**
	comp=N,0.1nm,0.3s,baz=174,slow=26,SNR=4.4						
FIN	**Finale Ligure**	**9.02**	**219**	*e*P	**P**	**03 36 52.0**	**+1.1**
LOR	**Lormes**	**9.03**	**247**	*e*Pn	**P**	**03 36 49.0**	**-1.9**
LOR				*e*Sg	**Sg**	**03 39 26.6**	**-10**
	comp=N,12nm,0.7s						
RRL	**Cesana Torines**	**9.05**	**227**	P	**P**	**03 36 51.7**	**+0.3**
ROB	**Roburent**	**9.09**	**220**	P	**P**	**03 36 51.6**	**-0.2**
RORO		**9.16**	**219**	P	**P**	**03 36 52.5**	**-0.3**
MBDF	**Montbardon**	**9.21**	**226**	*e*Pn	**P**	**03 36 52.3**	**-1.2**
PZZ	**Prazzo**	**9.24**	**224**	P	**P**	**03 36 53.4**	**-0.5**
MONE	**Monesi**	**9.31**	**220**	P	**P**	**03 36 54.9**	**0.0**
ENR	**Entracque**	**9.33**	**222**	P	**P**	**03 36 54.1**	**-1.0**
SSF	**Saint Saulge**	**9.34**	**246**	*e*Pn	**P**	**03 36 53.2**	**-2.1**
SSF				*e*Pg	P	03 37 35.3	+40
SSF				*e*Sg	**Sg**	**03 39 37.5**	**-10**
	comp=N,14nm,0.9s						
STV	**Sta Anna Valdi**	**9.35**	**222**	P	**P**	**03 36 54.3**	**-1.1**
SMF	**Signal de Mont**	**9.39**	**243**	*e*Pn	**P**	**03 36 54.6**	**-1.3**
SMF				*e*Pg	P	03 37 36.6	+41
SMF				*e*Sg	**Sg**	**03 39 38.0**	**-11**
	comp=N,8.2nm,0.6s						
IMI	**Imperia**	**9.40**	**219**	P	**P**	**03 36 55.7**	**-0.4**
ORIF	**Oris-en-Rattie**	**9.48**	**230**	*e*Pn	**P**	**03 36 56.2**	**-1.0**
AVF	**Avril sur Loir**	**9.58**	**245**	*e*Pn	**P**	**03 36 56.0**	**-2.5**
AVF				*e*Pg	P	03 37 41.0	+43
AVF				*e*Sg	**Sg**	**03 39 44.7**	**-10**
	comp=N,32nm,1.3s						
SBF	**Sospel**	**9.62**	**220**	*e*Pn	**P**	**03 36 58.9**	**-0.2**
HYF	**Humbligny**	**9.73**	**249**	*e*Sg	**Sg**	**03 39 48.6**	**-12**
NB2	**NORSAR Subarra**	**9.90**	**346**	P	**P**	**03 37 00.0**	**-2.9**
	comp=N,1.2nm,0.6s,baz=158,slow=11						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**P**	**03 37 00.2**	**-2.6**
	comp=N,0.4nm,0.3s,baz=165,slow=11,SNR=4.5						
NOA				Sn	**Sn**	**03 38 51.0**	**-5.0**
	comp=N,0.4nm,0.3s,baz=132,slow=15,SNR=2.7						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**P**	**03 37 00.2**	**-2.6**
NOA				Sn	**Sn**	**03 38 51.0**	**-5.0**
BGF	**Bois d'Agland**	**10.00**	**245**	*e*Sg	**Sg**	**03 39 55.3**	**-14**
	comp=N,16nm,0.7s						
PGF	**Pioggiola**	**10.19**	**211**	*e*Pn	**P**	**03 37 07.7**	**+0.8**
FRF	**La Foret Royal**	**10.19**	**222**	*e*Pn	**P**	**03 37 05.3**	**-1.7**
SMRF	**Simiane la Rot**	**10.33**	**227**	*e*Pn	**P**	**03 37 08.3**	**-0.6**
LMR	**La Mourre**	**10.44**	**222**	*e*Pn	**P**	**03 37 09.7**	**-0.6**
LDF	**La Druitiere**	**10.81**	**261**	*e*Pn	**P**	**03 37 13.6**	**-1.8**
LASF	**Ste Croix**	**11.08**	**232**	*e*Pn	**P**	**03 37 18.4**	**-0.7**
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**P**	**03 37 20.5**	**-2.3**
	comp=N,0.6nm,0.3s,baz=216,slow=11,SNR=18						
FINES				Sn	**S**	**03 39 22.4**	**-9.3**
	comp=N,0.8nm,0.3s,baz=200,slow=22,SNR=7.6						
FINES	**FINESS Array B**	**11.36**	**25**	P	**P**	**03 37 20.5**	**-2.3**
FINES						03 39 22.4	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				smax			
	comp=N,1.0nm,0.3s						
MFF	**Saint Martin d**	**11.71**	**251**	*e*Pn	**P**	**03 37 26.1**	**-1.6**
KAF	**Kangasniemi**	**11.98**	**24**	*e*p	**P**	**03 37 29.0**	**-2.3**
	comp=N,1.5nm,0.4s,baz=209,slow=13						
KAF	**Kangasniemi**	**11.98**	**24**	*e*P	**P**	**03 37 29.0**	**-2.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**P**	**03 37 29.8**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=99,slow=14,SNR=6.1						
OBN	**Obninsk**	**12.76**	**66**	*ce*P	**P**	**03 37 36.4**	**-5.4**
OBN				*e*S	**S**	**03 39 54.7**	**-11**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SOC	**Sochi**	**17.78**	**107**	*i* P	**P**	**03 38 43.6**	**-3.1**
SOC				*e*S	**S**	**03 41 56.8**	**-6.7**
SOC				pmax	pmax		
	comp=Z,25nm,1.2s						
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,51nm,21.0s						
SOC				MLR	MLR		
	comp=N,76nm,25.0s						
SOC				MLR	MLR		
	comp=E,69nm,27.0s						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**03 38 54.2**	**-2.6**
	comp=E,0.9nm,0.3s,baz=193,slow=13,SNR=22						
ARCES	**ARCESS Array B**	**18.61**	**10**	P	**P**	**03 38 54.2**	**-2.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**03 38 54.2**	**-2.6**
LVZ	**Lovozero**	**18.76**	**22**	*e*P	**P**	**03 38 54.8**	**-3.8**
LVZ				pmax	pmax		
	comp=Z,19nm,1.1s						
LVZ	**Lovozero**	**18.76**	**22**	*e*Pn	**P**	**03 38 54.9**	**-3.7**
KEV	**Kevo**	**19.00**	**12**	*e*p	**P**	**03 39 00.9**	**-0.6**
	comp=Z,4.4nm,0.4s						
KEV	**Kevo**	**19.00**	**12**	*e*P	**P**	**03 39 00.9**	**-0.6**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARU	**Arti**	**25.16**	**62**	*e*P	**P**	**03 40 05.7**	**+1.4**
ARU	**Arti**	**25.16**	**62**	P	**P**	**03 40 05.0**	**+0.7**
	comp=Z,3.7nm,0.7s,mb4.2						
SCHQ	**Schefferville**	**47.03**	**308**	LR	LR	03 58 50.5	
	comp=Z,24nm,21.2s,MS3.1,baz=69,slow=31						
SONM	**Songino Array**	**54.93**	**55**	P	**P**	**03 44 12.2**	**+1.4**
	comp=Z,0.7nm,1.0s,mb3.6,baz=280,slow=8.8,SNR=3.8						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**03 44 46.6**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=30,slow=6.6,SNR=10.0						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**03 44 46.6**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*IDC **29** 03:59:37.4±9.3,22.75S×177.20W,h191^{km}±83^{km}, mb3.9/10,mb1 4.2/10,mb1mx4.1/14,Error ellipse: s-maj=36.6km s-min=23.3km az=145.0*

*BJI **29** 03:59:41.9,22.80S×177.30W,h244^{km},mb4.5*

*NEIC **29** 03:59:42.9±5.2,22.78S×177.27W,h244^{km}±48^{km}, mb4.3/15,Error ellipse: s-maj=14.4km s-min=13.3km az=138.0*

*SYO **29** 03:59:42.9,22.78S×177.27W,h244^{km},MB4.3*

ISC 29 03:59:36.9±5.6**,22.9S**±0.1×**177.2W**±0.1**,h202**^{km}±51^{km}**, n44,**σ0.^{s}**83**/37**,mb4.1**/24**,3C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**19.94**	**201**	*e*P	**P**	**04 03 53.9**	**-0.9**
THZ	**Tophouse**	**20.59**	**201**	*e*P	**P**	**04 04 00.4**	**-0.9**
DSZ	**Denniston Nort**	**20.96**	**203**	*e*P	**P**	**04 04 06.5**	**+1.5**
LTZ	**Lake Taylor**	**21.71**	**201**	*e*P	**P**	**04 04 11.7**	**-0.6**
CTA	**Charters Tower**	**34.03**	**268**	*e*P	**P**	**04 06 05.2**	**+1.5**
	9.6nm,0.3s,mb4.8						
CTA	**Charters Tower**	**34.03**	**268**	P	**P**	**04 06 04.8**	**+1.1**
	14nm,0.4s,mb4.8,baz=95,slow=10,SNR=40						
CTAO	**Charters Tower**	**34.03**	**268**	*e*P	**P**	**04 06 04.9**	**+1.2**
	14nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**37.47**	**247**	P	**P**	**04 06 33.4**	**+0.8**
	3.1nm,0.7s,mb4.0,baz=85,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**44.72**	**259**	P	**P**	**04 07 31.8**	**0.0**
	16nm,0.9s,mb4.3,baz=94,slow=8.0,SNR=101						
ASPA	**Alice Springs**	**44.72**	**259**	*e*P	**P**	**04 07 31.8**	**0.0**
WB2	**Warramunga Arr**	**45.01**	**264**	⇑*i*P	**P**	**04 07 33.8**	**-0.3**
WRAB	**Tennant Creek**	**45.02**	**264**	*e*P	**P**	**04 07 34.1**	**0.0**
	15nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**45.02**	**264**	P	**P**	**04 07 33.8**	**-0.4**
	7.5nm,0.6s,mb4.2,baz=101,slow=8.3,SNR=76						
KAKA	**Kakadu**	**48.81**	**273**	*e*P	**P**	**04 08 03.2**	**-0.5**
	8.0nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.45**	**264**	*e*P	**P**	**04 08 39.2**	**+0.8**
	7.5nm,0.6s,mb4.3						
SBA	**Scott Base**	**55.59**	**184**	*e*P	**P**	**04 08 54.3**	**+1.2**
	4.2nm,1.0s,mb3.9						
QSPA	**South Pole Qui**	**67.23**	**180**	*e*P	**P**	**04 10 10.4**	**-0.4**
	3.6nm,0.7s,mb4.1						
MAW	**Mawson**	**79.60**	**200**	P	**P**	**04 11 23.6**	**+1.1**
	1.8nm,0.8s,mb3.8,baz=109,slow=5.5,SNR=7.2						
NJ2	**Nanjing**	**81.92**	**310**	*e*P	**P**	**04 11 37.0**	**+1.7**
NVAR	**Mina Array Bea**	**82.25**	**43**	P	**P**	**04 11 37.2**	**+0.3**
	1.0nm,0.8s,mb3.5,baz=209,slow=6.5,SNR=11						
MNV	**Mina**	**82.34**	**43**	*e*P	**P**	**04 11 37.1**	**-0.2**
	1.7nm,1.0s,mb3.6						
TPH	**Tonopah**	**82.72**	**44**	*e*P	**P**	**04 11 39.8**	**+0.5**
	5.2nm,1.3s,mb4.1						
MDJ	**Mudanjiang**	**82.84**	**325**	P	**P**	**04 11 39.0**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.2						
WVOR	**Wild Horse Val**	**84.48**	**39**	*e*P	**P**	**04 11 47.6**	**-0.5**
	comp=Z,2.7nm,1.0s,mb3.9						
CN2	**Changchun**	**84.58**	**322**	*e*P	**P**	**04 11 47.3**	**-1.3**
SYO	**Syowa Base**	**84.60**	**193**	⇑P	**P**	**04 11 46.5**	**-1.6**
SYO	**Syowa Base**	**84.60**	**193**	⇑PcP	PcP	04 11 48.9	-2.7
SNAA	**Sanae**	**85.65**	**178**	P	**P**	**04 11 52.6**	**-0.6**
	comp=Z,4.5nm,1.1s,mb4.1						
TXAR	**Lajitas Array**	**87.73**	**57**	P	**P**	**04 12 04.8**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.6,baz=217,slow=6.3,SNR=7.2						
BJI	**Beijing**	**88.05**	**315**	P	**P**	**04 12 04.8**	**-0.6**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6						
BJI	**Beijing**	**88.05**	**315**	P	**P**	**04 12 04.8**	**-0.6**
	comp=Z,5.0nm,0.5s,mb4.6						
BW06	**Boulder Array**	**90.19**	**43**	*e*P	**P**	**04 12 15.9**	**+0.5**
	comp=Z,3.2nm,1.3s,mb4.0						
PDAR	**Pinedale Array**	**90.19**	**43**	P	**P**	**04 12 15.7**	**+0.3**
	comp=Z,1.2nm,1.0s,mb3.7,baz=243,slow=3.3,SNR=8.0						
ILAR	**Eielson Array**	**90.44**	**13**	P	**P**	**04 12 15.8**	**-0.2**
	comp=Z,1.2nm,1.0s,mb3.7,baz=223,slow=5.8,SNR=7.4						
BOZ	**Bozeman (W)**	**90.45**	**40**	*e*P	**P**	**04 12 16.7**	**+0.1**
	comp=Z,3.1nm,1.1s,mb4.0						
CMAR	**Chiang Mai Arr**	**91.56**	**289**	P	**P**	**04 12 23.0**	**+0.7**
	comp=Z,1.0nm,0.3s,mb4.2,baz=142,slow=2.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**91.56**	**289**	P	**P**	**04 12 23.0**	**+0.7**
LZH	**Lanzhou**	**94.75**	**307**	*e*P	**P**	**04 12 35.0**	**-1.5**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.2						
ARCES	**ARCESS Array B**	**131.35**	**350**	PKP	PKPdf	04 18 26.1	+1.5
	comp=Z,3.3nm,1.0s,baz=81,slow=3.2,SNR=6.8						
AKASG	**Malin Array Be**	**145.40**	**330**	PKPbc	PKPbc	04 18 51.7	+0.7
	comp=Z,0.9nm,0.3s,baz=41,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**148.91**	**310**	PKPbc	PKPdf	04 19 02.6	+6.2
	comp=Z,1.9nm,0.9s,baz=151,slow=5.8,SNR=5.2						
CLL	**Collm**	**150.50**	**347**	*i* PKP1	PKPdf	04 19 06.3	+7.8
CLL				*e*PKP2	PKPab	04 19 12.0	-1.7
BRG	**Berggiesshubel**	**150.70**	**345**	*e*P	PKPdf	04 19 07.4	+8.6
GERES	**GERESS Array B**	**152.65**	**344**	PKPbc	PKPdf	04 19 10.9	+9.2
	comp=Z,0.8nm,0.8s,baz=45,slow=1.9,SNR=6.6						

DJA 29 04:06:43.1±0.9**,9.51S**×**114.47E,h30**^{km}±52^{km}**,MD4.8**/4**, ML4.0**/4**,1C-7D,Error ellipse: s-maj=30.9km s-min=11.5km az=21.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.95**	**44**	⇓*i*Pn	Pn	04 06 58.9	-1.7
	198nm,0.2s						
INGI				⇓*i*Sn	Sn	04 07 10.3	-2.9
KELI	**Kelakatan**	**1.28**	**1**	⇓*i*Pn	Pn	04 07 03.4	-1.8
	140nm,0.2s						
KELI				⇓*i*Sn	Sn	04 07 19.0	-2.5
RATI	**Rata**	**1.31**	**54**	⇑*i*Pn	Pn	04 07 03.9	-1.7
	786nm,0.2s						
RATI				⇓*i*Sn	Sn	04 07 19.1	-3.0
KEDI	**Kedomdong**	**1.91**	**58**	⇓*i*Pn	Pn	04 07 12.4	-1.9
	41nm,0.2s						
KEDI				⇓*i*Sn	Sn	04 07 33.2	-4.4

GUC 29 04:07:19.2±1.0**,35.11S**×**70.47W,h13**^{km}±9^{km}**,MD3.8, ML3.0,2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.67**	**317**	*i* P	Pb	04 07 29.0	-3.2
SFDO				*i* S	Sb	04 07 39.4	-1.7
CICH	**Cipreses**	**0.79**	**3**	*e*P	Pb	04 07 32.3	-1.9
CICH				*i* S	Sb	04 07 43.0	-1.5
CACH	**El Canelo**	**0.99**	**354**	*e*P	Pb	04 07 36.4	-1.4
TALC	**Talca**	**1.00**	**253**	*e*P	Pb	04 07 37.0	-0.8
TALC				*i* S	Sb	04 07 50.4	-0.2
CHCH	**Chadas Angostu**	**1.18**	**352**	⇑*i*P	Pb	04 07 40.0	-1.0
CHCH				*i* S	Sb	04 07 55.4	-0.6
LMEL	**Las Melosas**	**1.28**	**10**	*e*P	Pb	04 07 41.5	-1.1
LMEL				*i* S	Sb	04 07 58.5	-0.2
LMEL				AMP		04 08 02.4	
	comp=N,243nm,0.2s						
LNV	**Longovilo**	**1.39**	**326**	⇓*i*P	Pn	04 07 43.1	-1.2
LNV				*i* S	Sb	04 08 00.8	-1.1
PCH	**Pirque**	**1.48**	**358**	⇑*i*P	Pn	04 07 45.3	-0.5
PCH				*i* S	Sb	04 08 04.8	+0.1
TACH	**Talagante**	**1.50**	**345**	*e*P	Pn	04 07 44.9	-1.1
TACH				*i* S	Sb	04 08 05.0	-0.3
CLCH	**Cerro Calan**	**1.71**	**358**	⇓*i*P	Pn	04 07 49.2	+0.3
CLCH				*i* S	Sn	04 08 11.8	+1.1
CLCH				AMP		04 08 16.9	
	comp=E,191nm,0.6s						
FCH	**Farellones**	**1.78**	**5**	*e*P	Pn	04 07 50.4	+0.4
FCH				*i* S	Sn	04 08 14.1	+1.6
FCH				AMP		04 08 15.4	
	comp=E,198nm,0.2s						
LCCH	**Las Cruces**	**1.87**	**330**	*e*P	Pn	04 07 51.0	-0.2
LCCH				*i* S	Sn	04 08 15.1	+0.4
PEL	**Peldehue**	**1.97**	**355**	*i* S	Sn	04 08 18.4	+1.1
PEL				AMP		04 08 24.3	
	comp=N,324nm,0.3s						
CCHI	**Chillan**	**1.98**	**221**	AMP		04 08 25.3	
	comp=N,151nm,0.3s						
CCHI				AMP		04 08 26.1	
	comp=N,279nm,0.3s						

IDC 29 04:37:39.8±46.0**,16.39S**×**171.46W,mb4.0**/3**,mb1 4.2**/3**, mb1mx3.7**/16**,Error ellipse: s-maj=898.0km s-min=181.0km az=80.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.18**	**241**	P	P	04 45 59.0	-1.3
	2.1nm,0.8s,baz=79,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**51.45**	**257**	P	P	04 46 46.9	-2.2
	0.5nm,0.5s,baz=97,slow=6.8,SNR=6.4						
ASAR	**Alice Springs**	**51.59**	**253**	P	P	04 46 47.9	-2.3
	2.6nm,0.9s,baz=88,slow=8.4,SNR=16						

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*SKHL **29** 04:42:49.3±0.7,46.54N×153.10E,h72^{km}±11^{km},mb4.8/3*

*MOS **29** 04:42:51.4±2.0,47.14N×152.39E,h33^{km},mb4.3/7,Error ellipse: s-maj=20.0km s-min=14.8km az=67.8*

*NEIC **29** 04:42:53.0±2.8,46.76N×152.26E,h43^{km}±20^{km},mb3.8/2, Error ellipse: s-maj=29.5km s-min=14.9km az=144.0*

*IDC **29** 04:43:02.4±4.1,46.68N×151.95E,h132^{km}±37^{km}, mb3.5/11,mb1 3.6/12,mb1mx3.5/24,Error ellipse: s-maj=24.8km s-min=21.9km az=98.0*

ISC 29 04:42:49.8±2.6**,47.4N**±0.2×**152.1E**±0.2**,h15**^{km}±20^{km}**,n40,** σ**0.**^{s}**95**/44**,mb4.1**/16**,1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.61**	**235**	⇑*i*P	**Pn**	**04 43 46.8**	**+0.2**
KUR				AMB	AMB	04 43 49.0	
	23nm,0.6s						
KUR				AMB	AMB	04 43 49.0	
	91nm,0.6s						
KUR				*e*S	**Sn**	**04 44 30.4**	**+1.0**
KUR				A		04 44 33.5	
	418nm,0.6s						
KUR				A		04 44 33.5	
	258nm,0.6s						
SKR	**Severo-Kuril's**	**4.25**	**37**	*e*P	**Pn**	**04 43 56.1**	**+0.5**
SKR				AMB	AMB	04 43 56.9	
	40nm,0.5s						
SKR				AMB	AMB	04 43 56.9	
	50nm,0.5s						
SKR				AMB	AMB	04 43 56.9	
	50nm,0.7s						
SKR				*e*S	**Sn**	**04 44 45.7**	**+0.3**
SKR				A		04 45 03.5	
	100nm,0.5s						
SKR				A		04 45 03.5	
	60nm,0.5s						
SKR				A		04 45 03.5	
	20nm,0.5s						
SKR	**Severo-Kuril's**	**4.25**	**37**	*e*PN	**Pn**	**04 43 56.1**	**+0.5**
SKR				*e*S	**Sn**	**04 44 45.7**	**+0.3**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**235**	*e*P	**Pn**	**04 44 11.1**	**-1.9**
YUK				AMB	AMB	04 44 12.4	
	comp=Z,120nm,0.3s						
YUK				*e*S	**Sn**	**04 45 12.5**	**-4.0**
YUK				A		04 45 33.2	
	comp=Z,2µm,0.8s						
YUK				A		04 45 33.2	
	comp=Z,2µm,0.8s						
YUK				A		04 45 34.0	
	comp=Z,780nm,0.6s						
YUK				A		04 45 34.0	
	comp=Z,620nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.36**	**270**	*e*PN	**Pn**	**04 44 31.8**	**+6.3**
YSS				*e*		04 45 48.0	
YSS	**Yuzh-Sakhalins**	**6.36**	**270**	*e*Pn	**Pn**	**04 44 24.6**	**-0.9**
	comp=Z,18nm,0.9s						
TYV	**Tymovskoe**	**7.09**	**303**	*e*P	**Pn**	**04 44 46.8**	**+11**
ASAJ	**Asahikawa**	**7.38**	**247**	P	**Pn**	**04 44 42.7**	**+2.9**
	comp=Z,1.6nm,0.3s,baz=70,slow=12,SNR=11						
ASAJ	**Asahikawa**	**7.38**	**247**	PN	**Pn**	**04 44 42.7**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	**Magadan**	**12.25**	**357**	*e*Pn	**P**	**04 45 54.6**	**+8.0**
SONM	**Songino Array**	**30.45**	**288**	P	**P**	**04 49 03.9**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=90,slow=5.8,SNR=3.0						
INK	**Inuvik**	**41.51**	**33**	*e*P	**P**	**04 50 37.6**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.3						
MKAR	**Makanchi Array**	**46.02**	**296**	P	**P**	**04 51 15.2**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=64,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**46.02**	**296**	P	**P**	**04 51 15.2**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.85**	**37**	P	**P**	**04 51 54.4**	**+3.0**
	comp=Z,0.2nm,0.7s,mb3.2,baz=298,slow=6.6,SNR=3.3						
KKN	**Kakani**	**54.72**	**274**	*e*P	**P**	**04 52 21.6**	**+0.9**
	comp=Z,11nm,0.6s,mb5.1						
PKI	**Pulchoki**	**54.78**	**274**	*e*P	**P**	**04 52 21.4**	**+0.3**
DMN	**Daman**	**54.96**	**274**	*e*P	**P**	**04 52 22.5**	**0.0**
	comp=Z,15nm,0.8s,mb5.1						
GKN	**Gorkha**	**55.02**	**275**	*e*P	**P**	**04 52 22.0**	**-0.9**
	comp=Z,18nm,0.7s,mb5.2						
KOLN	**Koldanda**	**55.87**	**275**	*e*P	**P**	**04 52 29.3**	**+0.2**
	comp=Z,11nm,0.7s,mb5.0						
KAF	**Kangasniemi**	**62.57**	**335**	*e*p	**P**	**04 53 13.8**	**-1.2**
FINES	**FINESS Array B**	**63.17**	**334**	P	**P**	**04 53 18.8**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=45,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**63.17**	**334**	P	**P**	**04 53 18.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.40**	**341**	P	**P**	**04 53 46.2**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.40**	**341**	P	**P**	**04 53 46.5**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.4,baz=28,slow=6.2,SNR=8.6						
NOA	**NORSAR Array B**	**67.40**	**341**	P	**P**	**04 53 46.5**	**+0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**67.40**	**341**	P	**P**	**04 53 46.5**	**+0.4**
HFS	**Hagfors**	**67.62**	**339**	P	**P**	**04 53 47.7**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.5,baz=56,slow=5.3,SNR=15						
HFS	**Hagfors**	**67.62**	**339**	P	**P**	**04 53 47.7**	**+0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**70.63**	**326**	P	**P**	**04 54 05.9**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=6.3,SNR=4.3						
AKASG	**Malin Array Be**	**70.63**	**326**	P	**P**	**04 54 05.9**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.58**	**197**	P	**P**	**04 54 10.7**	**-7.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=8.6,slow=5.8,SNR=9.7						
CLL	**Collm**	**75.60**	**335**	P	**P**	**04 54 35.7**	**+0.5**
KHC	**Kasperske Hory**	**77.36**	**334**	*e*P	**P**	**04 54 46.5**	**+1.4**
BRTR	**Keskin Array B**	**77.44**	**316**	P	**P**	**04 54 47.1**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=4.9,SNR=3.9						

BRTR	**Keskin Array B**	**77.44**	**316**	P	**P**	**04 54 47.2**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**77.58**	**333**	P	**P**	**04 54 46.9**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=5.5,SNR=11						
GERES	**GERESS Array B**	**77.58**	**333**	P	**P**	**04 54 46.9**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**04 54 47.5**	**-0.5**
	comp=Z,0.5nm,1.1s,mb3.4,baz=315,slow=6.4,SNR=3.6						
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**04 54 47.5**	**-0.5**

*NAO **29** 04:48:20.1±4.7, 71.98N×7.98E, h42^{km}±92^{km}, ML2.3*
BER 29 04:48:18.5±4.4**, 71.94N×7.64E, h24**^{km}±71^{km}**, MD3.3, ML1.9, ML2.3**(NAO)**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOF	**Lofoten**	**4.33**	**149**	*e*P	Pn	04 49 22.0	-2.5
LOF				*e*S	Sn	04 50 06.4	-8.6
LOF				AML	AML	04 50 07.3	
	comp=Z,3.6nm,0.6s						
TRO	**Tromso**	**4.39**	**116**	*e*P	Pn	04 49 20.6	-4.8
TRO				*e*S	Sn	04 50 07.4	-9.0
TRO				AML	AML	04 50 08.4	
	comp=Z,2.7nm,0.2s						
KTK1	**Kautokeino**	**5.99**	**112**	*e*P	Pn	04 49 45.7	-2.3
KTK1				AML	AML	04 50 51.7	
	comp=Z,2.2nm,0.6s						
MOR8	**Moi Rana**	**6.29**	**154**	*e*P	Pn	04 49 46.9	-5.3
MOR8				AML	AML	04 50 54.9	
	comp=Z,3.0nm,0.3s						
ARA0	**ARCESS Array S**	**6.37**	**104**	Pn	Pn	04 49 49.1	-4.4
	baz=302,slow=12						
ARA0				Sn	Sn	04 50 58.2	-8.0
	baz=297,slow=22						
SPA0	**Spitsbergen Ar**	**6.65**	**16**	Pn	Pn	04 49 52.8	-4.6
	baz=182,slow=14						
NSS	**Namsos**	**7.62**	**166**	*e*P	Pn	04 50 04.3	-6.6
NSS				*e*S	Sn	04 51 24.2	-13
NSS				AML	AML	04 51 28.0	
	comp=Z,2.8nm,0.8s						
HFS	**Hagfors**	**12.10**	**165**	Pn	P	04 51 06.9	-5.3
	baz=356,slow=14						
FIA0	**FINESS Array S**	**12.73**	**136**	P	P	04 51 17.8	-2.9

*NEIC **29** 04:50:47.6, 16.16N×97.99W, h3^{km}, MD3.9(MEX), After MEX.*
MEX 29 04:50:47.6±0.9**, 16.16N×97.99W, h3**^{km}±20^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**330**	*e*P	Pg	04 50 52.6	-0.4
PNIG				*e*S	Sg	04 50 55.9	-0.6
VHO	**Vista Hermosa**	**1.50**	**53**	*e*P	Pn	04 51 12.1	-3.5
VHO				*e*S	Sb	04 51 31.4	-3.9
OXX	**Oaxaca**	**1.52**	**53**	*i* P	Pn	04 51 12.0	-3.8
HUIG	**Huatulco**	**1.85**	**102**	*e*P	Pn	04 51 17.7	-2.9
HUIG				*e*S	Sn	04 51 39.0	-5.7
IISM	**Ciudad Serdan**	**2.87**	**12**	*e*P	Pn	04 51 37.0	+1.8
PPM	**Popocatepetl**	**2.95**	**348**	*i* P	Pn	04 51 34.1	-2.3
PPM				*e*P		04 51 35.0	
PPM				*i* S	Sn	04 52 07.8	-5.1
PPM	**Popocatepetl**	**2.95**	**348**	*e*P	Pn	04 51 35.0	-1.3
PPM				*i* S	Sn	04 52 07.8	-5.1
CMIG	**Matias Romero**	**3.12**	**72**	*e*P	Pn	04 51 34.6	-4.1
CMIG				*e*S	Sn	04 52 11.1	-5.8

GUC 29 05:15:09.0±0.8**, 35.06S×70.65W, h7**^{km}±4^{km}**, MD3.6, ML2.5, 4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.47**	**276**	*e*P	Pg	05 15 19.7	+1.2
NICH				*e*S	Sg	05 15 25.9	+0.9
SFDO	**San Fernando**	**0.53**	**326**	⇓*i*P	Pg	05 15 20.0	+0.3
SFDO				*i* S	Sg	05 15 27.9	+1.1
CICH	**Cipreses**	**0.76**	**15**	⇓*i*P	Pb	05 15 22.9	-1.2
CICH				*i* S	Sg	05 15 33.0	-1.4
TALC	**Talca**	**0.87**	**247**	⇓*i*P	Pb	05 15 25.4	-0.6
TALC				*i* S	Sb	05 15 38.0	+0.3
CACH	**El Canelo**	**0.94**	**3**	*e*P	Pb	05 15 26.5	-0.7
CHCH	**Chadas Angostu**	**1.12**	**0**	*e*P	Pb	05 15 29.4	-0.9
LNV	**Longovilo**	**1.26**	**330**	⇓*i*P	Pb	05 15 32.4	-0.3
LNV				*i* S	Sb	05 15 49.3	+0.3
TACH	**Talagante**	**1.42**	**350**	*e*P	Pn	05 15 34.7	-0.6
TACH				*i* S	Sb	05 15 53.3	-0.3
CLCH	**Cerro Calan**	**1.66**	**3**	AMP		05 16 04.5	
	comp=E,91nm,0.5s						
FCH	**Farellones**	**1.75**	**10**	*e*P	Pn	05 15 40.3	+0.3
FCH				*e*S	Sn	05 16 03.5	+0.7
FCH				AMP		05 16 05.1	
	comp=N,98nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**334**	*e*P	Pn	05 15 40.4	+0.4
LCCH				*e*S	Sn	05 16 03.5	+0.8

*NEIC **29** 05:15:36.1±3.9, 6.80S×154.71E, h135^{km}±36^{km}, mb4.2/6, Error ellipse: s-maj=23.7km s-min=17.4km az=140.0*
*IDC **29** 05:15:40.5±13.0, 7.03S×154.79E, h181^{km}±131^{km}, mb3.7/10, mb1 3.9/11, mb1mx3.8/16, MS3.7/9, Ms1 3.7/9, ms1mx3.5/22, Error ellipse: s-maj=47.5km s-min=32.5km az=178.0*
ISC 29 05:15:40.5±6.5**, 7.0S**±0.3×**154.7E**±0.2**, h194**^{km}±63^{km}**, n21,** σ**0°.51**/19**, mb4.0**/13**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.36**	**212**	*e*P	**P**	**05 19 08.6**	**-0.1**
	5.3nm,0.9s						
CTA	**Charters Tower**	**15.36**	**212**	P	**P**	**05 19 08.8**	**+0.1**
	0.2nm,0.3s,baz=28,slow=13,SNR=5.4						
CTAO	**Charters Tower**	**15.36**	**212**	*e*P	**P**	**05 19 08.5**	**-0.2**
	18nm,1.3s						
KAKA	**Kakadu**	**22.71**	**254**	*e*P	**P**	**05 20 32.3**	**+5.6**
	13nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**23.57**	**235**	*e*P	**P**	**05 20 35.3**	**+0.4**
	24nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**23.57**	**235**	*e*P	**P**	**05 20 35.3**	**+0.4**
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**05 20 35.7**	**+0.7**
	10nm,0.9s,mb4.5,baz=56,slow=9.6,SNR=26						
ASAR	**Alice Springs**	**25.95**	**228**	P	**P**	**05 20 56.5**	**-0.6**
	3.0nm,0.9s,mb3.9,baz=62,slow=8.5,SNR=14						
ASAR				LR	LR	05 30 27.9	
	comp=Z,106nm,19.3s,baz=339,slow=34						
STKA	**Stephens Creek**	**27.59**	**205**	P	**P**	**05 21 11.8**	**-0.1**
	4.4nm,1.1s,mb4.0,baz=42,slow=15,SNR=2.5						
STKA				LR	LR	05 32 39.1	
	comp=Z,151nm,19.7s,baz=28,slow=37						
STKA	**Stephens Creek**	**27.59**	**205**	P	**P**	**05 21 11.8**	**-0.1**
STKA				LR	LR	05 32 39.1	
FITZ	**Fitzroy Crossi**	**30.40**	**246**	*e*P	**P**	**05 21 36.3**	**-0.7**
	2.6nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**30.40**	**246**	P	**P**	**05 21 36.0**	**-1.0**
	2.1nm,0.6s,mb3.9,baz=103,slow=4.0,SNR=6.5						
FITZ				LR	LR	05 33 37.5	
	comp=Z,82nm,21.9s,baz=75,slow=35						
CMAR	**Chiang Mai Arr**	**60.57**	**296**	P	**P**	**05 25 32.9**	**-0.2**
	1.3nm,0.9s,mb3.6,baz=125,slow=5.6,SNR=5.3						
QSPA	**South Pole Qui**	**82.94**	**180**	*e*P	**P**	**05 27 48.8**	**+4.3**
	3.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**83.27**	**319**	P	**P**	**05 27 47.4**	**+0.6**
	0.8nm,0.8s,mb3.5,baz=110,slow=6.0,SNR=5.6						
ILAR	**Eielson Array**	**83.51**	**22**	P	**P**	**05 27 47.7**	**+0.1**
	1.1nm,1.1s,mb3.5,baz=251,slow=4.8,SNR=5.9						
ILAR				LR	LR	06 01 33.4	
	comp=Z,44nm,19.4s,baz=273,slow=33						
BBB	**Bella Bella**	**87.71**	**37**	LR	LR	06 06 55.2	
	comp=Z,59nm,18.2s,baz=228,slow=35						
INK	**Inuvik**	**89.85**	**21**	P	**P**	**05 28 17.8**	**-0.3**
	1.5nm,1.1s,mb3.7,baz=270,slow=7.1,SNR=3.7						
INK				LR	LR	06 05 53.7	
	comp=Z,41nm,18.2s,baz=61,slow=34						
NVAR	**Mina Array Bea**	**91.95**	**52**	P	**P**	**05 28 28.9**	**+0.4**
	0.8nm,1.1s,mb3.6,baz=261,slow=8.9,SNR=4.9						
NVAR				LR	LR	06 05 41.7	
	comp=Z,27nm,19.7s,baz=195,slow=33						
YKA	**Yellowknife Ar**	**96.49**	**28**	P	**P**	**05 28 48.1**	**-0.5**
	1.8nm,1.1s,mb4.2,baz=270,slow=5.0,SNR=5.5						
YKA				LR	LR	06 08 25.3	
	comp=Z,30nm,19.4s,slow=33						
PDAR	**Pinedale Array**	**98.92**	**48**	LR	LR	06 11 52.4	
	comp=Z,34nm,19.4s,baz=80,slow=34						

*NEIC **29** 05:21:34.6±3.3, 2.95N×125.34E, h182^{km}±32^{km}, mb4.4/13, Error ellipse: s-maj=22.5km s-min=7.1km az=60.0*
*IDC **29** 05:21:36.0±2.1, 2.88N×125.14E, h198^{km}±16^{km}, mb4.0/8, mb1 4.1/8, mb1mx3.7/17, Error ellipse: s-maj=51.5km s-min=11.4km az=70.0*
ISC 29 05:21:35.5±0.9**, 2.90N**±0.08×**125.3E**±0.1**, h207**^{km}±12^{km}**, n36,** σ**0°.94**/44**, mb4.3**/17**, 2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.09**	**357**	⇓*e*P	**P**	**05 22 41.6**	**+2.4**
KCP				*e*S	**S**	**05 23 30.7**	**+2.1**
MATI	**Mati**	**4.12**	**13**	*e*P	**P**	**05 22 38.7**	**-1.0**
PAGZ	**Pagadian**	**5.29**	**338**	*e*P	**P**	**05 22 52.9**	**-1.5**
BIPH	**Bislig**	**5.35**	**11**	⇓*i*P	**P**	**05 22 54.9**	**-0.3**
BIPH				*i* S	**S**	**05 23 53.3**	**-3.8**
BUTP	**Butuan**	**6.04**	**3**	*e*P	**P**	**05 23 04.5**	**+0.5**
KAKA	**Kakadu**	**17.01**	**156**	*e*P	**P**	**05 25 21.8**	**-1.0**
	11nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.87**	**179**	*e*P	**P**	**05 26 02.4**	**-0.1**
	4.4nm,0.5s						
FITZ				*i*		05 26 05.2	
FITZ				*e*S	**S**	**05 29 42.6**	**+4.6**
FITZ	**Fitzroy Crossi**	**20.87**	**179**	P	**P**	**05 26 02.3**	**-0.2**
	41nm,0.8s,baz=9.8,slow=8.5,SNR=45						
FITZ	**Fitzroy Crossi**	**20.87**	**179**	*e*P	**P**	**05 26 02.4**	**-0.1**
	4.4nm,0.5s						
FITZ				*e*S	**S**	**05 29 42.6**	**+4.6**
WRAB	**Tennant Creek**	**24.35**	**159**	*e*P	**P**	**05 26 35.8**	**-0.3**
	14nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**24.36**	**159**	P	**P**	**05 26 35.9**	**-0.3**
	9.4nm,0.7s,mb4.5,baz=338,slow=10.0,SNR=40						
WRA				S	**S**	**05 30 37.8**	**0.0**
	1.5nm,0.7s,baz=338,slow=16,SNR=5.8						
WRA				ScP		05 33 30.9	
	4.8nm,0.7s,baz=341,slow=3.2,SNR=14						
WB2	**Warramunga Arr**	**24.36**	**159**	*e*P	**P**	**05 26 36.4**	**+0.2**
WB2				*e*S	**S**	**05 30 37.9**	**0.0**
ASAR	**Alice Springs**	**27.69**	**163**	P	**P**	**05 27 06.5**	**-0.1**
	1.8nm,0.6s,mb3.9,baz=338,slow=7.4,SNR=22						
ASAR				PcP	PcP	05 30 18.6	+0.4
	1.3nm,0.6s,baz=341,slow=2.1,SNR=8.6						
ASAR				S	**S**	**05 31 33.5**	**+1.5**
	1.3nm,0.7s,baz=350,slow=20,SNR=6.5						
ASAR				ScP		05 33 40.8	
	0.7nm,0.6s,baz=343,slow=2.5,SNR=5.2						
ASPA	**Alice Springs**	**27.69**	**163**	*e*P	**P**	**05 27 06.7**	**0.0**
ASPA				*e*S	**S**	**05 31 31.4**	**-0.5**
FORT	**Forrest**	**33.59**	**176**	*e*P	**P**	**05 27 58.1**	**0.0**
	51nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**35.05**	**191**	*e*P	**P**	**05 28 10.3**	**-0.3**
	19nm,1.1s,mb4.5						
MUN	**Mundaring**	**35.75**	**193**	*e*P	**P**	**05 28 16.6**	**+0.1**
	13nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**36.45**	**192**	P	**P**	**05 28 21.9**	**-0.4**
	13nm,0.7s,mb4.6,baz=20,slow=6.3,SNR=15						
STKA	**Stephens Creek**	**37.88**	**157**	*e*P	**P**	**05 28 35.5**	**+1.3**
	3.6nm,1.5s,mb3.7						
STKA	**Stephens Creek**	**37.88**	**157**	P	**P**	**05 28 35.3**	**+1.1**
	2.6nm,0.6s,mb3.9,baz=321,slow=10.0,SNR=7.7						
GUN	**Gumba**	**45.11**	**307**	*e*P	**P**	**05 29 33.0**	**-0.1**
	23nm,0.7s,mb4.6						
GUN	**Gumba**	**45.11**	**307**	*e*P	**P**	**05 29 33.2**	**+0.1**
	23nm,0.7s,mb4.6						
KKN	**Kakani**	**45.53**	**307**	*e*P	**P**	**05 29 36.5**	**0.0**
DMN	**Daman**	**45.59**	**307**	*e*P	**P**	**05 29 37.4**	**+0.5**
	16nm,1.0s,mb4.3						
DMN	**Daman**	**45.59**	**307**	*e*P	**P**	**05 29 37.2**	**+0.3**
	16nm,1.0s,mb4.3						
DMN	**Daman**	**45.59**	**307**	*e*P	**P**	**05 29 37.2**	**+0.3**
	8.3nm,1.0s,mb4.0						
GKN	**Gorkha**	**46.13**	**307**	*e*P	**P**	**05 29 41.3**	**+0.1**
	10nm,0.7s,mb4.3						
GKN	**Gorkha**	**46.13**	**307**	*e*P	**P**	**05 29 41.3**	**+0.1**
	5.1nm,0.7s,mb4.0						
KOLN	**Koldanda**	**46.87**	**306**	*e*P	**P**	**05 29 47.4**	**+0.6**
	22nm,0.7s,mb4.6						
KOLN	**Koldanda**	**46.87**	**306**	*e*P	**P**	**05 29 47.3**	**+0.5**
	22nm,0.7s,mb4.6						
KOLN	**Koldanda**	**46.87**	**306**	*e*P	**P**	**05 29 47.3**	**+0.5**
	11nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**57.45**	**326**	P	**P**	**05 31 03.6**	**-1.3**
	0.9nm,0.5s,mb3.7,baz=122,slow=8.3,SNR=7.9						
MKAR				PcP	PcP	05 31 53.9	-2.2
	6.7nm,0.9s,baz=115,slow=5.4,SNR=9.6						
MKAR				ScP		05 35 35.7	
	0.3nm,0.7s,baz=148,slow=5.6,SNR=3.5						
KURK	**Kurchatov**	**61.70**	**328**	*e*P	**P**	**05 31 32.8**	**-1.0**
	2.7nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**90.74**	**340**	P	**P**	**05 34 16.3**	**+0.7**
	2.0nm,0.8s,mb4.1,baz=59,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**05 34 20.4**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=135,slow=5.4,SNR=7.2						
QSPA	**South Pole Qui**	**92.81**	**180**	*e*P	**P**	**05 34 27.2**	**+2.2**
	1.8nm,0.8s,mb4.2						

*NEIC **29** 05:40:27.3±4.4, 9.15S×156.90E, h210^{km}±40^{km}, mb4.2/3, Error ellipse: s-maj=27.1km s-min=24.8km az=94.0*
*IDC **29** 05:40:29.3±9.9, 9.17S×156.84E, h227^{km}±91^{km}, mb3.4/7, mb1 3.6/8, mb1mx3.5/13, MS3.4/1, Ms1 3.4/1, ms1mx2.7/15, Error ellipse: s-maj=38.2km s-min=29.3km az=66.0*
ISC 29 05:40:26.4±5.7**, 9.1S**±0.2×**156.8E**±0.2**, h210**^{km}±52^{km}**, n13,** σ**0°.87**/11**, mb3.8**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.92**	**222**	P	**P**	**05 43 48.8**	**+0.3**
	0.2nm,0.3s,baz=39,slow=14,SNR=4.1						
CTAO	**Charters Tower**	**14.92**	**222**	*e*P	**P**	**05 43 48.5**	**+0.1**
	4.2nm,0.7s						
WRAB	**Tennant Creek**	**24.20**	**241**	*e*P	**P**	**05 45 25.3**	**0.0**
	12nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**24.21**	**241**	P	**P**	**05 45 25.2**	**-0.3**
	4.0nm,0.7s,mb4.1,baz=67,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**26.23**	**234**	P	**P**	**05 45 42.8**	**-1.3**
	1.6nm,0.9s,mb3.6,baz=62,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**26.68**	**210**	P	**P**	**05 45 48.9**	**+0.7**
	3.9nm,0.7s,mb4.2,baz=49,slow=14,SNR=6.9						
CMAR	**Chiang Mai Arr**	**63.28**	**296**	P	**P**	**05 50 36.1**	**+0.9**
	0.8nm,0.4s,mb3.7,baz=118,slow=5.0,SNR=4.1						
QSPA	**South Pole Qui**	**80.89**	**180**	*e*P	**P**	**05 52 18.4**	**+0.5**
	5.1nm,1.1s,mb4.1						
ILAR	**Eielson Array**	**84.69**	**21**	P	**P**	**05 52 38.8**	**+1.3**
	0.3nm,0.7s,mb3.2,baz=256,slow=3.7,SNR=3.1						
MKAR	**Makanchi Array**	**86.14**	**318**	P	**P**	**05 52 44.5**	**-0.6**
	0.6nm,0.6s,mb3.5,baz=97,slow=6.1,SNR=7.1						
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**05 53 09.6**	**-1.5**
	0.3nm,0.8s,mb3.3,baz=239,slow=5.3,SNR=2.9						
LPAZ	**La Paz**	**128.90**	**119**	PKP	PKPdf	05 59 10.6	+0.5
	1.9nm,0.2s,baz=267,slow=0.3,SNR=5.5						
BDFB	**Brasilia**	**145.25**	**135**	PKPbc	PKPbc	05 59 40.4	-0.2
	2.7nm,0.7s,baz=193,slow=12,SNR=6.9						

IDC 29 05:50:22.2±1.9**, 30.78S×60.01E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/18**, Error ellipse: s-maj=55.2km s-min=40.7km az=111.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**36.90**	**178**	P	P	05 57 32.1	-1.9
	0.7nm,0.4s,baz=337,slow=13,SNR=9.0						
ASAR	**Alice Springs**	**65.03**	**104**	P	P	06 01 04.5	-2.1
	0.7nm,0.7s,baz=241,slow=6.2,SNR=7.5						
WRA	**Warramunga Arr**	**66.97**	**100**	P	P	06 01 17.1	-1.9
	0.5nm,0.6s,baz=242,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**148.08**	**355**	PKPbc	PKPdf	06 10 08.3	+0.7
	0.7nm,0.8s,baz=356,slow=3.2,SNR=5.5						

*IDC **29** 05:54:13.4±0.9, 12.13N×142.88E, mb4.0/8, mb1 4.3/8, mb1mx4.0/20, Error ellipse: s-maj=65.9km s-min=21.6km az=106.0*
*NEIC **29** 05:54:19.1±2.0, 12.03N×142.98E, h39^{km}±19^{km}, mb4.2/6, Error ellipse: s-maj=26.5km s-min=8.9km az=103.0*
ISC 29 05:54:16.8±2.9**, 12.01N**±0.10×**142.9E**±0.2**, h34**^{km}±27^{km}**, n16,** σ**0°.86**/16**, mb4.1**/13**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.50**	**51**	*e*Pn	**P**	**05 54 56.2**	**+0.4**
PMG	**Port Moresby**	**21.70**	**169**	P	**P**	**05 59 02.2**	**-4.6**
	24nm,1.1s,mb4.5						
ERM	**Erimo**	**29.89**	**0**	P	**P**	**06 00 22.3**	**-1.3**
	1.0nm,0.6s,mb3.7						
CTAO	**Charters Tower**	**32.07**	**174**	*e*P	**P**	**06 00 41.6**	**-1.4**
	7.4nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**32.83**	**195**	*e*P	**P**	**06 00 50.0**	**+0.3**
	4.3nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**32.84**	**195**	P	**P**	**06 00 49.6**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=17,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**36.53**	**194**	P	**P**	**06 01 22.1**	**+0.8**
	0.3nm,0.5s,mb3.4,baz=24,slow=12,SNR=5.1						
KURK	**Kurchatov**	**64.55**	**321**	*e*P	**P**	**06 04 53.1**	**+0.4**
	0.9nm,0.4s,mb4.2						
ILAR	**Eielson Array**	**70.82**	**25**	P	**P**	**06 05 30.2**	**-1.4**
	1.9nm,0.5s,mb4.3,baz=248,slow=6.0,SNR=28						
INK	**Inuvik**	**76.56**	**22**	P	**P**	**06 06 04.8**	**-0.3**
	1.8nm,1.1s,mb3.9,baz=294,slow=4.8,SNR=3.0						
INK	**Inuvik**	**76.56**	**22**	P	**P**	**06 06 04.7**	**-0.4**
	0.3nm,0.6s,mb3.4						
YKA	**Yellowknife Ar**	**85.14**	**27**	P	**P**	**06 06 51.2**	**+0.8**
	0.5nm,0.5s,mb3.9,baz=285,slow=4.8,SNR=6.6						
YKA	**Yellowknife Ar**	**85.14**	**27**	P	**P**	**06 06 51.2**	**+0.8**
ARCES	**ARCESS Array B**	**87.98**	**342**	P	**P**	**06 07 05.0**	**+0.8**
	1.4nm,0.8s,mb4.3,baz=85,slow=7.6,SNR=9.6						
NVAR	**Mina Array Bea**	**89.42**	**51**	P	**P**	**06 07 12.9**	**+1.2**
	0.9nm,1.0s,mb4.1,baz=275,slow=3.5,SNR=4.8						
FINES	**FINESS Array B**	**91.76**	**335**	P	**P**	**06 07 22.0**	**-0.1**
	0.8nm,0.5s,mb4.3,baz=90,slow=5.7,SNR=7.7						

GUC 29 06:06:54.9±1.0**, 35.11S×70.49W, h12**^{km}±9^{km}**, MD4.0, ML3.3, 7C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.62**	**280**	⇓*i*P	Pb	06 07 06.5	-0.6
SFDO	**San Fernando**	**0.66**	**319**	⇓*i*P	Pb	06 07 06.5	-1.4
SFDO				*i* S	Sb	06 07 15.6	-1.1
CICH	**Cipreses**	**0.79**	**4**	⇓*i*P	Pb	06 07 08.5	-1.6
CICH				*i* S	Sb	06 07 19.1	-1.5
TALC	**Talca**	**0.98**	**253**	⇓*i*P	Pb	06 07 12.5	-0.8
TALC				*i* S	Sb	06 07 26.1	+0.1
TALC				AMP		06 07 26.5	
	comp=E,2µm,0.1s						
CACH	**El Canelo**	**1.00**	**355**	⇑*i*P	Pb	06 07 11.9	-1.7
CACH				*i* S	Sb	06 07 25.8	-0.7
CHCH	**Chadas Angostu**	**1.18**	**353**	*e*P	Pb	06 07 15.6	-1.2
LMEL	**Las Melosas**	**1.28**	**11**	⇑*i*P	Pb	06 07 17.2	-1.3
LMEL				*i* S	Sb	06 07 34.6	-0.3
LMEL				AMP		06 07 40.7	
	comp=N,382nm,0.2s						
LNV	**Longovilo**	**1.38**	**326**	⇑*i*P	Pn	06 07 18.6	-1.5
LNV				*i* S	Sb	06 07 36.8	-0.9
PCH	**Pirque**	**1.49**	**359**	⇑*i*P	Pn	06 07 21.0	-0.6
PCH				*i* S	Sb	06 07 40.5	-0.2
TACH	**Talagante**	**1.50**	**346**	⇑*i*P	Pn	06 07 21.0	-0.8
TACH				*e*S	Sb	06 07 40.8	-0.4
ANTU	**Antumapu**	**1.54**	**356**	*e*P	Pn	06 07 21.8	-0.7
ANTU				*i* S	Sb	06 07 42.3	-0.1
ANTU				AMP		06 07 44.2	
	comp=E,812nm,0.3s						
DSCH	**Colegio Aleman**	**1.71**	**358**	AMP		06 07 51.1	
	comp=N,959nm,0.7s						
CLCH	**Cerro Calan**	**1.71**	**359**	⇑*i*P	Pn	06 07 24.8	-0.1
CLCH				*i* S	Sn	06 07 47.4	+0.6
CLCH				AMP		06 07 58.1	
	comp=N,574nm,0.5s						
FCH	**Farellones**	**1.79**	**5**	⇑*i*P	Pn	06 07 26.2	+0.3
FCH				*i* P		06 07 26.4	
FCH				*i* S	Sn	06 07 50.1	+1.4
FCH				AMP		06 07 51.1	
	comp=N,368nm,0.3s						
LCCH	**Las Cruces**	**1.86**	**331**	⇓*i*P	Pn	06 07 26.7	-0.3
LCCH				*i* S	Sn	06 07 50.8	+0.2
CCHI	**Chillan**	**1.97**	**220**	AMP		06 08 01.5	
	comp=N,295nm,0.5s						
PEL	**Peldehue**	**1.97**	**355**	AMP		06 07 58.5	
	comp=N,784nm,0.5s						

*NIED **29** 06:08:00, 27.50N×127.20E, h122^{km}, Mw4.6 Best double couple: M$_0$8.55×10^{15} NP1:φ$_s$114°, δ58°, λ-140°. NP2: φ$_s$359°, δ57°, λ-40°.*
*BJI **29** 06:08:36.2, 26.90N×127.70E, h132^{km}, mB4.8, mb4.7*
*IDC **29** 06:08:41.9±0.8, 27.51N×127.10E, h116^{km}±8^{km}, mb4.2/23, mb1 4.3/24, mb1mx4.3/27, Error ellipse: s-maj=15.2km s-min=10.8km az=75.0*
*NEIC **29** 06:08:43.9±0.6, 27.47N×127.16E, h133^{km}±5^{km}, mb4.7/38, MW4.6(NIED), Error ellipse: s-maj=5.8km s-min=4.9km az=156.0*
*JMA **29** 06:08:44.3±0.3, 27.46N×127.22E, h119^{km}±4^{km}, M4.6*
ISC 29 06:08:42.4±0.2**, 27.39N**±0.02×**127.20E**±0.03**, h133**^{km}**, n128,** σ**1°.21**/146**, mb4.5**/54**, 3C, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.77**	**117**	P	**P**	**06 09 04.8**	**+1.1**
JIH				S	**S**	**06 09 19.7**	**-0.2**
JAGN	**Aguni-jima**	**0.80**	**177**	P	**P**	**06 09 05.1**	**+1.2**
JAGN				S	**S**	**06 09 20.7**	**+0.3**
JOW	**Kunigami**	**1.10**	**120**	P	**P**	**06 09 07.5**	**+0.7**
	979nm,0.3s,baz=277,slow=4.2,SNR=205						
JOW				S	**S**	**06 09 24.4**	**-0.9**
	2µm,0.3s,baz=157,slow=26,SNR=33						
JOW	**Kunigami**	**1.10**	**120**	P	**P**	**06 09 07.7**	**+0.9**
JOW				*e*S	**S**	**06 09 24.4**	**-0.9**
JKE	**Kume jima 2**	**1.12**	**199**	P	**P**	**06 09 08.2**	**+1.2**
JKE				S	**S**	**06 09 25.9**	**+0.3**
NAH1	**Naha**	**1.26**	**160**	P	**P**	**06 09 09.8**	**+1.4**
NAH1				S	**S**	**06 09 28.3**	**+0.1**
JJT2	**Tamagusuku 2**	**1.34**	**158**	P	**P**	**06 09 11.1**	**+1.8**
JJT2				S	**S**	**06 09 30.7**	**+0.8**
JTK	**Tokunoshima**	**1.60**	**75**	P	**P**	**06 09 12.4**	**+0.2**
JTK				S	**S**	**06 09 33.4**	**-1.6**
JAM	**Amami Oshima**	**2.36**	**64**	P	**P**	**06 09 21.3**	**-0.2**
JAM				*e*S	**S**	**06 09 49.0**	**-2.3**
JZK	**Kikaishima**	**2.62**	**69**	P	**P**	**06 09 25.6**	**+0.6**
JZK				*e*S	**S**	**06 09 56.7**	**-0.6**
JOGS	**Gusukube**	**3.08**	**212**	P	**P**	**06 09 31.4**	**+0.4**
JOGS				*e*S	**S**	**06 10 08.2**	**+0.3**
JMJ	**Miyako jima 2**	**3.09**	**214**	P	**P**	**06 09 31.2**	**+0.1**
JMJ				S	**S**	**06 10 07.4**	**-0.7**
JTJ	**Tarama**	**3.54**	**220**	P	**P**	**06 09 36.5**	**-0.6**
JTJ				S	**S**	**06 10 16.6**	**-2.4**
JMZ	**Minamidaito 2**	**3.92**	**113**	P	**P**	**06 09 42.1**	**-0.1**
JMZ				*e*S	**S**	**06 10 22.8**	**-5.2**
JIJ	**Ishigaki jima**	**4.08**	**223**	P	**P**	**06 09 43.0**	**-1.3**
JIJ				*e*S	**S**	**06 10 27.8**	**-4.0**
JKRS	**Kuro-shima**	**4.26**	**223**	P	**P**	**06 09 45.5**	**-1.2**
IRIF	**Iriomote-Funau**	**4.36**	**227**	P	**P**	**06 09 46.8**	**-1.3**
HATJ	**Hateruma jima**	**4.52**	**223**	P	**P**	**06 09 48.3**	**-1.8**
YOJ	**Yonaguni jima**	**4.77**	**233**	P	**P**	**06 09 53.4**	**-0.1**
TATO	**Taipei**	**5.67**	**246**	*e*Pn	**P**	**06 10 07.0**	**+1.5**
	195nm,0.7s						
SSE	**Sheshan**	**6.42**	**307**	*e*P	**P**	**06 10 18.3**	**+2.5**
SSE				AMB	AMB		
	comp=Z,46nm,0.8s						
SSE				AMB	AMB		
	comp=Z,125nm,3.9s						
SSE	**Sheshan**	**6.42**	**307**	*e*P	**P**	**06 10 18.2**	**+2.5**
	comp=Z,46nm,0.8s						
JNU	**Nakatsue**	**6.54**	**28**	P	**P**	**06 10 18.5**	**+1.2**
	baz=210,slow=10						
JNU				S	**S**	**06 11 29.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=12,slow=36,SNR=1.2						
NJ2	**Nanjing**	**8.62**	**305**	*e*P	**P**	**06 10 47.0**	**+1.7**
NJ2				S	**S**	**06 12 24.0**	**+2.9**
NJ2				LR	LR		
	comp=N,1µm,8.9s						
NJ2				LR	LR		
	comp=E,230nm,10.2s						
NJ2				LR	LR		
	comp=Z,2µm,10.9s						
JHJ	**Hachijo jima 2**	**12.28**	**59**	P	**P**	**06 11 36.1**	**+2.5**
	comp=Z,59nm,0.3s,baz=81,slow=13,SNR=5.2						
MAT	**Matsushiro**	**13.05**	**43**	P	**P**	**06 11 51.5**	**+7.8**
MAT	**Matsushiro**	**13.05**	**43**	*e*P	**P**	**06 11 52.0**	**+8.3**
	comp=Z,9.2nm,0.9s						
TGY	**Tagaytay City**	**14.46**	**205**	P	**P**	**06 12 03.3**	**+1.4**

	comp=Z,50nm,0.3s,baz=259,slow=3.2,SNR=4.9						
SNY	**Shenyang**	**14.71**	**349**	⇑P	**P**	**06 12 07.5**	**+2.6**
SNY				AMB	AMB		
	comp=Z,30nm,1.4s						
BJT	**Baijiatuau**	**15.57**	**327**	*e*P	**P**	**06 12 18.2**	**+2.5**
	comp=Z,23nm,0.6s						
BJI	**Beijing**	**15.58**	**327**	P	**P**	**06 12 18.0**	**+2.1**
BJI				SCS	ScS	06 24 06.5	-1.5
BJI				AMB	AMB		
	comp=Z,41nm,0.7s						
BJI	**Beijing**	**15.58**	**327**	P	**P**	**06 12 17.9**	**+2.0**
	comp=Z,41nm,0.7s						
BJI				S	**S**	**06 15 04.7**	**+0.2**
BJI				ScS	ScS	06 24 06.6	-1.4
ENH	**Enshi**	**15.79**	**285**	*e*P	**P**	**06 12 21.6**	**+3.1**
	comp=Z,5.8nm,0.5s						
CN2	**Changchun**	**16.44**	**356**	*e*P	**P**	**06 12 27.8**	**+1.3**
CN2				AMB	AMB		
	comp=Z,70nm,0.7s						
XAN	**Xi'an**	**17.05**	**297**	P	**P**	**06 12 34.5**	**+0.4**
XAN				AP		06 12 39.5	
XAN				AMB	AMB		
	comp=Z,16nm,0.9s						
HHC	**Hu-ho-hao-te**	**18.61**	**320**	*e*P	**P**	**06 12 52.5**	**+0.5**
HHC				S	**S**	**06 16 12.5**	**+0.7**
HHC				AMB	AMB		
	comp=Z,42nm,1.2s						
HHC				AMB	AMB		
	comp=Z,122nm,6.9s						
HHC				LR	LR		
	comp=N,102nm,13.1s						
HHC				LR	LR		
	comp=E,213nm,16.7s						
BTO	**Baotou**	**19.36**	**317**	*e*P	**P**	**06 12 58.0**	**-1.9**
CD2	**Chengdu**	**20.77**	**285**	*e*P	**P**	**06 13 11.5**	**-2.8**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s						
ASAJ	**Asahikawa**	**20.79**	**33**	P	**P**	**06 13 14.8**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=153,slow=8.1,SNR=3.0						
LZH	**Lanzhou**	**21.64**	**299**	*e*P	**P**	**06 13 23.5**	**+0.6**
LZH				AP		06 13 52.0	
LZH				PP	PP	06 13 56.0	+4.0
LZH				XP		06 14 10.0	
LZH				S	**S**	**06 17 07.3**	**-1.9**
LZH				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,262nm,5.5s						
LZH				LR	LR		
	comp=E,781nm,12.5s						
LZH				LR	LR		
	comp=Z,982nm,14.6s						
LZH	**Lanzhou**	**21.64**	**299**	*e*P	**P**	**06 13 23.5**	**+0.6**
	comp=Z,39nm,1.0s,mb4.8						
LZH				pP		06 13 52.0	
LZH				PP	PP	06 13 56.0	+4.0
LZH				sP		06 14 10.1	
LZH				S	**S**	**06 17 07.2**	**-2.0**
LZH				sS		06 17 56.1	
LZH				SS	SS	06 17 58.5	+1.3
LZH				LR	LR		
	comp=Z,980nm,14.6s						
KMI	**Kunming**	**22.05**	**270**	*e*P	**P**	**06 13 27.3**	**+0.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.3						
KMI	**Kunming**	**22.05**	**270**	*e*P	**P**	**06 13 27.3**	**+0.3**
	comp=Z,7.0nm,0.5s,mb4.3						
HIA	**Hailar**	**22.59**	**347**	*e*P	**P**	**06 13 31.8**	**-0.3**
	comp=Z,13nm,1.1s,mb4.3						
GTA	**Gaotai**	**25.71**	**305**	P	**P**	**06 14 01.0**	**-1.0**
GTA				AP	pP	06 14 29.3	-0.4
GTA				XP	sP	06 14 45.5	+0.3
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
GTA				LR	LR		
	comp=N,109nm,9.1s						
GTA				LR	LR		
	comp=E,77nm,7.2s						
GTA				LR	LR		
	comp=Z,77nm,11.8s						
SONM	**Songino Array**	**26.08**	**327**	P	**P**	**06 14 04.2**	**-1.1**
	comp=Z,16nm,0.9s,mb4.7,baz=148,slow=10,SNR=39						
SONM				PcP	PcP	06 17 30.1	+0.1
	comp=Z,0.8nm,0.6s,baz=162,slow=3.9,SNR=3.8						
SONM				ScP		06 20 57.7	
	comp=Z,1.4nm,0.9s,baz=146,slow=4.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**27.45**	**257**	PcP	PcP	06 17 34.1	+0.7
	comp=Z,1.4nm,0.6s,baz=357,slow=1.8,SNR=6.4						
WMQ	**Urumqi**	**35.68**	**308**	⇑*i*P	**P**	**06 15 29.0**	**-0.5**
WMQ				AP	pP	06 16 01.5	+2.5
WMQ				PP	PP	06 16 55.5	+1.1
WMQ				PCP	PcP	06 17 54.5	-0.8
WMQ				S	**S**	**06 20 53.0**	**-2.5**
WMQ				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,25nm,7.4s						
WMQ				LR	LR		
	comp=Z,52nm,19.3s						
PKI	**Pulchoki**	**36.95**	**280**	*e*P	**P**	**06 15 40.8**	**+0.4**
	comp=Z,9.6nm,0.7s,mb4.5						
KKN	**Kakani**	**37.03**	**281**	*e*P	**P**	**06 15 41.6**	**+0.6**
	comp=Z,13nm,0.7s,mb4.7						
DMN	**Daman**	**37.21**	**280**	*e*P	**P**	**06 15 43.8**	**+1.2**
GKN	**Gorkha**	**37.55**	**281**	*e*P	**P**	**06 15 45.7**	**+0.3**
	comp=Z,9.6nm,0.5s,mb4.7						
KOLN	**Koldanda**	**38.50**	**281**	*e*P	**P**	**06 15 54.3**	**+1.0**
	comp=Z,9.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**40.08**	**311**	P	**P**	**06 16 05.0**	**-1.1**
	comp=Z,13nm,0.7s,mb4.7,baz=102,slow=10,SNR=122						
MKAR				PcP	PcP	06 18 08.2	-0.8
	comp=Z,20nm,1.0s,baz=82,slow=3.2,SNR=20						
MKAR				ScP		06 21 44.6	
	comp=Z,0.6nm,0.6s,baz=90,slow=6.1,SNR=4.5						
KURK	**Kurchatov**	**43.35**	**316**	P	**P**	**06 16 31.3**	**-1.5**
	comp=Z,59nm,0.9s,mb5.2,SNR=9.7						
KURK	**Kurchatov**	**43.35**	**316**	*e*P	**P**	**06 16 31.2**	**-1.6**
	comp=Z,15nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**45.25**	**182**	⇑*i*P	**P**	**06 16 48.4**	**0.0**
	comp=Z,7.6nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**45.25**	**182**	P	**P**	**06 16 48.3**	**-0.1**
	comp=Z,9.1nm,0.6s,mb4.6,baz=358,slow=7.4,SNR=33						
WRAB	**Tennant Creek**	**47.55**	**171**	*e*P	**P**	**06 17 05.8**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**47.56**	**171**	P	**P**	**06 17 06.1**	**-0.4**
	comp=Z,1.8nm,0.6s,mb3.9,baz=353,slow=8.5,SNR=16						
WB2	**Warramunga Arr**	**47.56**	**171**	*e*P	**P**	**06 17 06.1**	**-0.4**
BVAR	**Borovoye Array**	**48.80**	**318**	P	**P**	**06 17 14.0**	**-1.7**
	comp=Z,7.4nm,0.8s,mb4.3,baz=80,slow=9.0,SNR=18						
BVAR				PcP	PcP	06 18 37.3	-1.5
	comp=Z,11nm,0.7s,baz=117,slow=3.3,SNR=22						
BRVK	**Borovoye**	**48.87**	**318**	*e*P	**P**	**06 17 14.8**	**-1.5**
	comp=Z,7.1nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**49.62**	**318**	*e*P	**P**	**06 17 20.1**	**-1.9**
	comp=Z,11nm,0.8s,mb4.5						
ZRNK				*e*PcP	PcP	06 18 40.2	-1.6
ASAR	**Alice Springs**	**51.17**	**172**	P	**P**	**06 17 34.1**	**0.0**
	comp=Z,1.6nm,0.5s,mb3.9,baz=359,slow=11,SNR=27						
SVW	**Sparrevohn**	**60.27**	**33**	*e*P	**P**	**06 18 38.8**	**0.0**
	comp=Z,6.0nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**60.51**	**166**	P	**P**	**06 18 40.4**	**-0.5**
	comp=Z,3.7nm,1.1s,mb4.1,baz=353,slow=11,SNR=2.4						
IMA	**Indian Mountai**	**60.91**	**27**	*e*P	**P**	**06 18 42.8**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.1						
SPU	**Mount Spurr**	**61.99**	**33**	*e*P	**P**	**06 18 48.7**	**-1.7**
KDAK	**Kodiak Island**	**62.14**	**37**	*e*P	**P**	**06 18 49.8**	**-1.6**
	comp=Z,27nm,0.6s,mb5.3						
PWA	**Palmer West**	**62.97**	**32**	*e*P	**P**	**06 18 55.1**	**-1.8**
	comp=Z,18nm,0.5s,mb5.2						
MCK	**McKinley**	**63.12**	**30**	*e*P	**P**	**06 18 56.3**	**-1.6**
	comp=Z,8.8nm,1.0s,mb4.5						
PMS	**Palmer South**	**63.18**	**33**	*e*P	**P**	**06 18 56.3**	**-2.0**
	comp=Z,8.2nm,0.3s,mb5.0						
PMR	**Palmer**	**63.33**	**32**	*e*P	**P**	**06 18 57.9**	**-1.4**
	comp=Z,7.9nm,0.5s,mb4.8						
COLA	**College**	**63.43**	**28**	*e*P	**P**	**06 18 58.6**	**-1.3**
	comp=Z,9.3nm,0.6s,mb4.8						
SML	**Sawmill**	**63.68**	**32**	*e*P	**P**	**06 18 59.8**	**-1.6**
ILAR	**Eielson Array**	**63.86**	**28**	P	**P**	**06 19 00.1**	**-2.4**
	comp=Z,2.3nm,0.5s,mb4.2,baz=259,slow=4.3,SNR=32						
DIV	**Divide**	**65.01**	**32**	*e*P	**P**	**06 19 09.3**	**-0.8**
	comp=Z,79nm,1.0s,mb5.5						
DAWY	**Dawson**	**67.19**	**28**	*e*P	**P**	**06 19 22.4**	**-1.5**
INK	**Inuvik**	**68.19**	**23**	P	**P**	**06 19 28.9**	**-1.1**
	comp=Z,11nm,0.7s,mb4.7,baz=296,slow=5.9,SNR=46						
INK	**Inuvik**	**68.19**	**23**	*e*P	**P**	**06 19 28.7**	**-1.3**
	comp=Z,22nm,1.1s,mb4.8						
ARCES	**ARCESS Array B**	**68.59**	**338**	P	**P**	**06 19 29.9**	**-2.5**
	comp=Z,3.3nm,0.9s,mb4.1,baz=61,slow=9.3,SNR=5.0						
FINES	**FINESS Array B**	**71.41**	**330**	P	**P**	**06 19 47.3**	**-2.3**
	comp=Z,2.2nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=13						
MALT	**Malatya**	**72.69**	**305**	*e*P	**P**	**06 19 57.6**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.1						
DLBC	**Dease Lake**	**73.39**	**32**	P	**P**	**06 20 02.1**	**+0.8**
	comp=Z,5.5nm,1.0s,mb4.2,baz=306,slow=4.0,SNR=11						
DLBC	**Dease Lake**	**73.39**	**32**	*e*P	**P**	**06 20 01.9**	**+0.6**
AKASG	**Malin Array Be**	**74.06**	**319**	P	**P**	**06 20 03.1**	**-2.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=55,slow=6.6,SNR=8.7						
BRTR	**Keskin Array B**	**75.60**	**307**	P	**P**	**06 20 13.2**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.0,baz=89,slow=5.1,SNR=9.3						
ASF	**Jabal al Asfar**	**76.20**	**299**	P	**P**	**06 20 18.2**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.0,baz=108,slow=5.5,SNR=4.6						
HFS	**Hagfors**	**77.37**	**332**	P	**P**	**06 20 22.9**	**-0.9**
	comp=Z,1.5nm,0.7s,mb3.7,baz=73,slow=5.4,SNR=12						
YKW3	**Yellowknife Ar**	**77.82**	**25**	*e*P	**P**	**06 20 25.5**	**-0.7**
YKA	**Yellowknife Ar**	**77.86**	**25**	P	**P**	**06 20 26.0**	**-0.4**
	comp=Z,14nm,0.8s,mb4.7,baz=300,slow=5.6,SNR=78						
NB2	**NORSAR Subarra**	**77.87**	**333**	P	**P**	**06 20 24.0**	**-2.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**77.87**	**333**	P	**P**	**06 20 24.4**	**-2.1**
	comp=Z,2.3nm,0.6s,mb4.0,baz=54,slow=5.8,SNR=6.8						
SUMG	**Summit**	**79.82**	**356**	*e*P	**P**	**06 20 37.2**	**+0.4**
CMW	**Cultus Mountai**	**82.41**	**39**	P	**P**	**06 20 52.1**	**+1.2**
JCW	**Jim Creek**	**82.64**	**39**	P	**P**	**06 20 52.8**	**+0.7**
CLL	**Collm**	**82.68**	**325**	P	**P**	**06 20 52.0**	**-0.2**
RPW	**Rockport**	**82.73**	**39**	P	**P**	**06 20 53.0**	**+0.4**
BMW	**Boistfort Moun**	**82.83**	**41**	P	**P**	**06 20 53.8**	**+0.8**
RMW	**Rattlesnake Mo**	**83.11**	**40**	*e*P	**P**	**06 20 55.5**	**+1.1**
GERES	**GERESS Array B**	**83.72**	**322**	P	**P**	**06 20 57.0**	**-0.5**
	comp=Z,2.2nm,1.0s,mb3.8,baz=45,slow=5.7,SNR=11						
EBG	**Ellensburg**	**84.12**	**40**	P	**P**	**06 21 00.5**	**+1.0**
SSOR	**Sweet Springs**	**84.15**	**42**	*e*P	**P**	**06 21 00.7**	**+1.0**
VFP	**Flag Point**	**84.49**	**41**	P	**P**	**06 21 02.8**	**+1.4**
GRA1	**Grafenberg Arr**	**84.55**	**324**	*e*P	**P**	**06 21 01.8**	**+0.2**
	comp=Z,5.0nm,0.9s,mb4.2						
DPW	**Davenport**	**84.88**	**38**	*e*P	**P**	**06 21 04.3**	**+1.0**
NEW	**Newport**	**85.24**	**37**	*e*P	**P**	**06 21 05.5**	**+0.5**
	comp=Z,12nm,1.0s,mb4.6						
YBH	**Yreka Blue Hor**	**85.71**	**45**	P	**P**	**06 21 08.9**	**+1.4**
	comp=Z,3.7nm,0.9s,mb4.1,baz=280,slow=5.9,SNR=3.9						
MOD	**Modoc**	**87.10**	**44**	*e*P	**P**	**06 21 15.3**	**+1.0**
	comp=Z,8.3nm,1.1s,mb4.5						
FFC	**Flin Flon**	**87.96**	**26**	*e*P	**P**	**06 21 18.0**	**0.0**
	comp=Z,16nm,0.9s,mb4.9						
CHMT	**Chamberlain Mo**	**88.13**	**37**	*e*P	**P**	**06 21 19.2**	**+0.1**
HRY	**Holter Researc**	**89.01**	**36**	*e*P	**P**	**06 21 24.2**	**+1.0**
HLID	**Hailey**	**89.60**	**40**	*e*P	**P**	**06 21 27.3**	**+1.2**
	comp=Z,4.6nm,1.0s,mb4.4						
BOZ	**Bozeman (W)**	**89.81**	**37**	*e*P	**P**	**06 21 28.1**	**+1.1**
NVAR	**Mina Array Bea**	**90.36**	**46**	P	**P**	**06 21 31.1**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=282,slow=6.7,SNR=3.7						
TPH	**Tonopah**	**91.26**	**45**	*e*P	**P**	**06 21 35.2**	**+1.2**
	comp=Z,8.2nm,1.3s,mb4.6						
TPAW	**Teton Pass**	**91.58**	**38**	*e*P	**P**	**06 21 37.1**	**+1.8**
LAO	**LASA Array**	**91.88**	**34**	*e*P	**P**	**06 21 37.7**	**+1.1**
HWUT	**Hardware Ranch**	**92.47**	**40**	*e*P	**P**	**06 21 40.5**	**+1.0**
	comp=Z,10nm,1.1s,mb4.8						
DUG	**Dugway**	**92.65**	**42**	*e*P	**P**	**06 21 41.1**	**+0.8**
	comp=Z,7.8nm,1.3s,mb4.7						
PDAR	**Pinedale Array**	**92.83**	**38**	P	**P**	**06 21 41.5**	**+0.4**
	comp=Z,1.8nm,0.5s,mb4.4,baz=24,slow=1.2,SNR=22						
ULM	**Lac du Bonnet**	**93.79**	**26**	P	**P**	**06 21 45.0**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.7,baz=316,slow=5.2,SNR=6.0						
SRU	**San Rafael**	**94.70**	**41**	*e*P	**P**	**06 21 50.4**	**+0.7**
PV10	**Paradox Valley**	**96.05**	**41**	*e*P	**P**	**06 21 57.3**	**+1.5**
SDV	**Santo Domingo**	**140.01**	**28**	*e*PKPdf	PKPdf	06 27 57.2	+1.4
LPAZ	**La Paz**	**162.00**	**55**	PKP	PKPdf	06 28 32.3	+4.3
	comp=Z,1.8nm,0.3s,baz=4.1,slow=4.3,SNR=5.0						
BDFB	**Brasilia**	**167.49**	**338**	PKPab	PKPab	06 29 40.3	-0.9
	comp=Z,1.6nm,0.7s,baz=50,slow=5.5,SNR=6.1						

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*IDC **29** 06:11:49.8±1.7,28.47S×62.68E,mb4.0/3,mb1 4.1/3, mb1mx3.7/17,MS3.5/2,Ms1 3.4/2,ms1mx3.0/18,Error ellipse: s-maj=60.8km s-min=31.7km az=103.0*

*NEIC **29** 06:11:50.7±0.7,28.40S×62.48E,h10^{km},mb4.2/4,Error ellipse: s-maj=19.7km s-min=18.9km az=198.0*

ISC 29 06:11:48.7±0.9,**28.4S**±0.2×**62.5E**±0.2,**h10**^{km}**,n10, σ0^{s}71**/7,**mb4.1**/7,**MS3.5**/2,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**34.31**	**285**	*e*P	**P**	**06 18 38.5**	**+0.9**
	1.6nm,0.7s,mb4.1						
MAW	**Mawson**	**39.23**	**180**	P	**P**	**06 19 18.9**	**+0.3**
	1.6nm,0.7s,mb3.9,baz=358,slow=9.6,SNR=6.7						
MAW				LR	LR	06 32 31.1	
	comp=Z,57nm,19.3s,MS3.4,baz=247,slow=32						
TSUM	**Tsumeb**	**41.92**	**272**	P	**P**	**06 19 40.0**	**-1.3**
	1.1nm,0.8s,mb3.5						
SNAA	**Sanae**	**55.60**	**200**	P	**P**	**06 21 27.1**	**+0.7**
	5.9nm,1.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**58.39**	**41**	P	**P**	**06 21 47.1**	**+0.2**
	1.1nm,0.4s,mb4.2,baz=227,slow=7.3,SNR=6.7						
QSPA	**South Pole Qui**	**61.76**	**180**	*e*P	**P**	**06 22 08.7**	**-0.6**
	3.8nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**63.47**	**104**	P	**P**	**06 22 21.0**	**-0.3**
	0.6nm,0.5s,mb4.0,baz=247,slow=6.5,SNR=6.6						
DBIC	**Dimbokro**	**73.62**	**287**	LR	LR	06 53 53.7	
	comp=Z,36nm,21.1s,MS3.6,baz=2.8,slow=34						
YKA	**Yellowknife Ar**	**145.85**	**358**	PKPbc	PKPbc	06 31 29.6	+1.8
	0.7nm,0.6s,baz=347,slow=3.4,SNR=8.3						
YKA	**Yellowknife Ar**	**145.85**	**358**	PKPbc	PKPbc	06 31 29.6	+1.8

GUC 29 06:24:29.3±1.0**,35.06S**×**70.48W,h9**^{km}±8^{km}**,MD3.9, ML3.0,4C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.62**	**275**	*e*P	Pg	06 24 41.2	-0.6
SFDO	**San Fernando**	**0.63**	**315**	⇓*i*P	Pg	06 24 40.6	-1.3
SFDO				*i* S	Sg	06 24 49.5	-0.8
CICH	**Cipreses**	**0.74**	**4**	⇓*i*P	Pb	06 24 42.3	-1.6
CICH				*i* S	Sb	06 24 52.8	-1.1
CACH	**El Canelo**	**0.94**	**354**	⇑*i*P	Pb	06 24 46.0	-1.5
CACH				*i* S	Sb	06 24 58.7	-1.1
TALC	**Talca**	**1.01**	**250**	⇓*i*P	Pb	06 24 47.7	-0.7
TALC				*i* S	Sb	06 25 01.6	0.0
TALC				AMP		06 25 01.9	
	comp=N,1μm,0.4s						
CHCH	**Chadas Angostu**	**1.13**	**353**	⇓*i*P	Pb	06 24 49.5	-1.1
LMEL	**Las Melosas**	**1.23**	**11**	*e*P	Pb	06 24 51.0	-1.3
LMEL				*i* S	Sb	06 25 08.0	-0.1
LMEL				AMP		06 25 08.3	
	comp=N,205nm,0.2s						
LNV	**Longovilo**	**1.34**	**325**	⇑*i*P	Pb	06 24 52.7	-1.5
LNV				*i* S	Sb	06 25 10.8	-0.6
PCH	**Pirque**	**1.44**	**359**	*i* S	Sb	06 25 14.0	0.0
TACH	**Talagante**	**1.45**	**345**	⇑*i*P	Pn	06 24 54.9	-1.0
TACH				*i* S	Sb	06 25 14.5	-0.1
ANTU	**Antumapu**	**1.49**	**355**	*e*P	Pn	06 24 56.0	-0.4
ANTU				*e*S	Sb	06 25 15.8	+0.1
ANTU				AMP		06 25 17.1	
	comp=E,378nm,0.2s						
DSCH	**Colegio Aleman**	**1.66**	**357**	AMP		06 25 22.7	
	comp=E,443nm,0.5s						
CLCH	**Cerro Calan**	**1.66**	**358**	⇑*i*P	Pn	06 24 58.8	-0.1
CLCH				*i* S	Sn	06 25 21.3	+0.9
CLCH				AMP		06 25 23.3	
	comp=E,334nm,0.4s						
FCH	**Farellones**	**1.73**	**5**	*e*P	Pn	06 25 00.1	+0.2
FCH				*i* S	Sn	06 25 23.9	+1.6
FCH				AMP		06 25 24.7	
	comp=E,188nm,0.3s						
LCCH	**Las Cruces**	**1.82**	**330**	⇓*i*P	Pn	06 25 00.8	-0.3
LCCH				*i* S	Sn	06 25 24.8	+0.3
CCHI	**Chillan**	**2.02**	**220**	AMP		06 25 47.4	
	comp=N,126nm,0.5s						
JACH	**Jahuel**	**2.37**	**358**	*e*P	Pn	06 25 09.6	+0.6

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*TIF **29** 06:35:51.9,39.94N×44.21E,h8^{km},Mpv4.5*

ISK 29 06:36:48.0,39.84N×44.18E,h5^{km},MD3.9,3C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**1.13**	**313**	*e*PN	Pn	06 37 11.7	+1.2
BAW	**Bavra**	**1.31**	**347**	*e*P	Pb	06 36 16.0	-57
VANB	**Van**	**1.39**	**207**	*e*PN	Pn	06 37 15.5	+1.4
VANB				*e*SN	Sn	06 37 36.3	+3.3
TVAN	**Van**	**1.44**	**205**	⇑*i*P	Pn	06 37 11.8	-3.1
TVAN				*i* S	Sb	06 37 33.0	-0.5
AKH	**Akhalkalaki**	**1.65**	**342**	⇑*i*P	Pn	06 36 22.3	-56
AKH				*i* S	Sb	06 36 45.2	-54
MTA	**Mtatsminda**	**1.91**	**14**	⇑*i*P	Pn	06 36 26.8	-55
MTA				*i* S	Sn	06 36 53.2	-53
ERZM	**Erzurum**	**2.17**	**273**	*i* P	Pn	06 37 27.2	+2.0
ERZM				*i* S	Sn	06 37 52.0	-0.8
EZM	**Erzurum**	**2.17**	**273**	*e*PN	Pn	06 37 26.8	+1.5
VRT	**Varto**	**2.17**	**252**	PN	Pn	06 37 25.7	+0.4
VRT				SN	Sn	06 37 55.0	+2.1
BEST	**Besiri**	**2.99**	**230**	*i* P	Pn	06 37 41.3	+4.3
BEST				*i* S	Sn	06 38 20.6	+6.9

GUC 29 06:42:18.4±0.9**,35.05S**×**70.51W,h15**^{km}±9^{km}**,MD3.6, ML2.8,4C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.60**	**316**	⇑*i*P	Pb	06 42 28.8	-1.2
SFDO				*i* S	Sb	06 42 37.2	-0.7
CICH	**Cipreses**	**0.73**	**6**	⇓*i*P	Pb	06 42 30.8	-1.4
CICH				*i* S	Sb	06 42 40.7	-0.9
CACH	**El Canelo**	**0.93**	**355**	⇑*i*P	Pb	06 42 34.3	-1.4
CACH				*i* S	Sb	06 42 46.8	-0.8
TALC	**Talca**	**0.99**	**249**	⇓*i*P	Pb	06 42 35.5	-1.1
TALC				*i* S	Sb	06 42 49.0	-0.1
TALC				AMP		06 42 49.2	
	comp=N,1μm,0.1s						
TALC				AMP		06 42 49.6	
	comp=E,1μm,0.2s						
CHCH	**Chadas Angostu**	**1.11**	**354**	*i* P	Pb	06 42 37.8	-1.0
CHCH				*i* S	Sb	06 42 52.5	-0.4
LMEL	**Las Melosas**	**1.22**	**12**	⇑*i*P	Pb	06 42 39.5	-1.1
LMEL				*i* S	Sb	06 42 56.4	+0.4
LMEL				AMP		06 42 56.9	
	comp=N,141nm,0.2s						
LMEL				AMP		06 42 57.1	
	comp=E,97nm,0.2s						
LNV	**Longovilo**	**1.32**	**325**	⇓*i*P	Pb	06 42 41.0	-1.3
LNV				*i* S	Sb	06 42 58.7	0.0
PCH	**Pirque**	**1.42**	**360**	⇑*i*P	Pn	06 42 43.2	-0.6
TACH	**Talagante**	**1.43**	**346**	*i* P	Pn	06 42 43.1	-0.9
TACH				*i* S	Sb	06 43 01.1	-1.0
ANTU	**Antumapu**	**1.48**	**356**	*i* P	Pn	06 42 44.1	-0.5
ANTU				AMP		06 43 04.3	
	comp=N,146nm,0.3s						
ANTU				AMP		06 43 05.4	
	comp=E,266nm,0.2s						
CLCH	**Cerro Calan**	**1.65**	**359**	*i* P	Pn	06 42 47.1	+0.1
CLCH				*i* S	Sn	06 43 09.0	+1.0
CLCH				AMP		06 43 10.8	
	comp=N,183nm,0.7s						
CLCH				AMP		06 43 11.0	
	comp=E,213nm,0.4s						
FCH	**Farellones**	**1.72**	**6**	*e*P	Pn	06 42 48.5	+0.4
FCH				*i* S	Sn	06 43 11.9	+2.0
FCH				AMP		06 43 12.6	
	comp=N,107nm,0.3s						
FCH				AMP		06 43 12.8	
	comp=E,163nm,0.3s						
LCCH	**Las Cruces**	**1.79**	**330**	*i* S	Sn	06 43 11.6	-0.2
PEL	**Peldehue**	**1.90**	**356**	AMP		06 43 18.1	
	comp=N,204nm,0.4s						

GUC 29 06:50:18.1±0.9**,35.07S**×**70.51W,h4**^{km}±4^{km}**,MD3.7, ML2.7,1C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**276**	⇓*i*P	Pg	06 50 30.3	+0.3
NICH				*e*S	Sg	06 50 39.1	+1.1
SFDO	**San Fernando**	**0.62**	**317**	⇓*i*P	Pg	06 50 30.2	-0.2
SFDO				*i* S	Sg	06 50 39.2	+0.5
CICH	**Cipreses**	**0.75**	**5**	⇓*i*P	Pg	06 50 31.9	-1.3
CICH				*i* S	Sg	06 50 43.3	+0.2
CACH	**El Canelo**	**0.95**	**355**	⇑*i*P	Pb	06 50 35.5	-1.3
CACH				*i* S	Sb	06 50 49.0	-0.6
TALC	**Talca**	**0.98**	**250**	*i* P	Pb	06 50 36.5	-0.8
TALC				*i* S	Sb	06 50 50.5	+0.2
TALC				AMP		06 50 51.0	
	comp=N,1μm,0.1s						
CHCH	**Chadas Angostu**	**1.14**	**354**	*e*P	Pb	06 50 39.1	-0.9
CHCH				*i* S	Sb	06 50 54.4	-0.6
LMEL	**Las Melosas**	**1.25**	**12**	*e*P	Pb	06 50 40.7	-1.1
LMEL				*i* S	Sb	06 50 58.4	+0.4
LMEL				AMP		06 51 00.6	
	comp=N,92nm,0.1s						
LNV	**Longovilo**	**1.34**	**326**	⇓*i*P	Pb	06 50 42.5	-0.8
LNV				*i* S	Sb	06 51 01.0	+0.2
TACH	**Talagante**	**1.46**	**346**	*i* P	Pn	06 50 44.5	-0.8
ANTU	**Antumapu**	**1.50**	**356**	⇓*i*P	Pn	06 50 45.5	-0.4
ANTU				*e*S	Sb	06 51 05.8	+0.3
ANTU				AMP		06 51 07.5	
	comp=E,152nm,0.4s						
CLCH	**Cerro Calan**	**1.67**	**359**	*e*P	Pn	06 50 48.4	+0.1
CLCH				*e*S	Sb	06 51 11.4	+1.1
CLCH				AMP		06 51 22.7	
	comp=E,129nm,0.4s						
FCH	**Farellones**	**1.75**	**6**	*e*P	Pn	06 50 49.5	+0.1
FCH				*i* S	Sn	06 51 13.8	+1.4
FCH				AMP		06 51 15.7	
	comp=N,112nm,0.1s						

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*IDC **29** 06:50:20.2±36.0,29.10N×57.49E,mb3.2/3,mb1 3.5/3, mb1mx3.3/18,Error ellipse: s-maj=829.0km s-min=34.4km az=176.0*

*THR **29** 06:50:24.9±1.1,28.27N×56.51E,h40^{km}±8^{km},ML3.3*

ISC 29 06:50:23.2±1.8,**28.5N**±0.2×**56.54E**±0.08,**h10**^{km}**,n6, σ1^{s}36**/8,**mb3.1**/3,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**1.48**	**8**	*e*PG	**Pg**	**06 50 56.3**	**+3.4**
KRBR				AMP		06 51 28.0	
	comp=N,270nm,0.6s						
ZHSF	**Zahedan**	**3.87**	**72**	*e*PN	**Pn**	**06 51 24.7**	**+0.5**
ZHSF				SN	**Sn**	**06 52 09.5**	**-0.8**
ZHSF				AMP		06 52 19.5	
	comp=N,39nm,0.5s						
NASN	**Na'in**	**5.35**	**324**	*e*PN	**Pn**	**06 51 47.6**	**+2.5**
NASN				SN	**Sn**	**06 52 46.4**	**-1.1**
NASN				AMP		06 53 08.2	
	comp=N,21nm,0.7s						
BRTR	**Keskin Array B**	**21.95**	**307**	P	**P**	**06 55 19.1**	**+0.3**
	comp=N,1.0nm,0.8s,mb3.3,baz=117,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**27.18**	**41**	P	**P**	**06 55 56.4**	**-12**
	comp=N,0.1nm,0.5s,mb2.6,baz=239,slow=8.4,SNR=2.5						
GERES	**GERESS Array B**	**38.48**	**314**	P	**P**	**06 57 45.7**	**-1.4**
	comp=N,0.4nm,0.6s,mb3.3,baz=108,slow=8.4,SNR=5.6						

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*IDC **29** 07:25:16.1±1.3,48.96S×121.53E,mb4.0/5,mb1 4.1/5, mb1mx4.1/8,MS3.7/6,Ms1 3.7/6,ms1mx3.6/11,Error ellipse: s-maj=60.2km s-min=24.9km az=124.0*

*NEIC **29** 07:25:17.6±0.6,48.91S×121.50E,h10^{km},mb4.2/2,Error ellipse: s-maj=34.7km s-min=12.5km az=115.0*

ISC 29 07:25:16.3±0.8,**48.8S**±0.1×**121.2E**±0.4,**h10**^{km}**,n14, σ0^{s}73**/8,**mb3.9**/7,**MS3.7**/6,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**16.18**	**348**	LR	LR	07 33 36.2	
	comp=Z,302nm,18.6s,baz=96,slow=31						
STKA	**Stephens Creek**	**22.85**	**50**	P	**P**	**07 30 21.6**	**+1.0**
	3.3nm,0.9s,mb3.8,baz=225,slow=18,SNR=2.8						
STKA				LR	LR	07 37 24.7	
	comp=Z,209nm,19.0s,MS3.6,baz=207,slow=32						
ASAR	**Alice Springs**	**27.04**	**26**	P	**P**	**07 31 00.3**	**-0.3**
	2.3nm,0.9s,mb3.7,baz=190,slow=11,SNR=10						
ASAR				LR	LR	07 40 14.1	
	comp=Z,191nm,18.6s,MS3.7,baz=185,slow=33						
WRA	**Warramunga Arr**	**30.70**	**25**	P	**P**	**07 31 32.1**	**-1.3**
	1.4nm,0.9s,mb3.8,baz=191,slow=9.2,SNR=5.0						
WRA				LR	LR	07 42 17.0	
	comp=Z,162nm,21.4s,MS3.6,baz=185,slow=33						
MAW	**Mawson**	**34.30**	**215**	P	**P**	**07 32 04.1**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=69,slow=8.6,SNR=4.1						
MAW				LR	LR	07 42 24.1	

	comp=Z,92nm,20.9s,MS3.5,baz=68,slow=30						
MAW	**Mawson**	34.30	215	P	P	07 32 04.1	-0.3
MAW				LR	LR	07 42 24.1	
QSPA	**South Pole Qui**	41.28	180	*e*P	P	07 33 02.5	-0.3
	5.0nm,0.9s,mb4.1						
QSPA				LR	LR		
	comp=Z,100nm,21.7s,MS3.6						
SNAA	**Sanae**	53.49	199	*e*P	P	07 34 38.7	+0.4
	comp=Z,2.3nm,0.9s,mb4.1						
CMAR	**Chiang Mai Arr**	69.88	337	P	P	07 36 30.1	+0.8
	comp=Z,1.0nm,0.4s,mb4.1,baz=188,slow=5.3,SNR=5.4						
PLCA	**Paso Flores**	90.20	171	LR	LR	08 20 19.5	
	comp=Z,50nm,20.6s,MS3.9,baz=359,slow=37						
PDAR	**Pinedale Array**	144.62	80	PKP	PKPdf	07 44 52.9	-2.6
	comp=Z,2.7nm,1.3s,baz=225,slow=2.1,SNR=6.9						
HRY	**Holter Researc**	144.87	73	*e*PKPdf	PKPdf	07 44 53.3	-2.5
YKA	**Yellowknife Ar**	146.83	45	PKPbc	PKPbc	07 44 57.1	0.0
	comp=Z,0.9nm,0.8s,baz=256,slow=5.1,SNR=2.7						
RSSD	**Black Hills**	148.83	81	*e*PKPbc	PKPdf	07 45 04.1	+1.7

*NEIC **29** 07:26:50.4,38.14S×175.85E,h256^{km},After WEL.*

WEL 29 07:26:50.2±0.3,38.20S×175.87E,h260^{km}±2^{km},ML4.0/6,2D,Error ellipse: s-maj=5.7km s-min=4.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	0.85	198	PN	P	07 27 25.8	0.0
MGZ	**Maungaku**	0.85	198	P	P	07 27 25.9	+0.2
WTVZ	**West Tongariro**	0.95	193	PN	P	07 27 26.1	-0.1
WTVZ				SN	S	07 27 54.6	+0.3
WTVZ				SN	S	07 27 54.7	+0.4
URZ	**Urewera**	0.98	94	⇓PN	P	07 27 25.5	-0.8
URZ				SN	S	07 27 53.7	-0.8
NGZ	**Ngauruhoe**	1.00	192	PN	P	07 27 26.3	-0.2
NGZ	**Ngauruhoe**	1.00	192	P	P	07 27 26.5	0.0
CNZ	**Chateau**	1.04	194	PN	P	07 27 26.9	+0.2
CNZ	**Chateau**	1.04	194	P	P	07 27 27.0	+0.3
BKZ	**Black Stump Fm**	1.09	154	⇓PN	P	07 27 27.0	0.0
BKZ				SN	S	07 27 55.2	-0.5
BKZ	**Black Stump Fm**	1.09	154	P	P	07 27 27.0	0.0
BKZ				S	S	07 27 55.1	-0.6
TUVZ	**Tukino**	1.09	189	PN	P	07 27 27.0	0.0
TUVZ				SN	S	07 27 55.6	0.0
TUVZ	**Tukino**	1.09	189	P	P	07 27 27.0	0.0
FWVZ	**Far West T-bar**	1.09	193	PN	P	07 27 26.4	-0.6
FWVZ				SN	S	07 27 55.9	+0.2
FWVZ	**Far West T-bar**	1.09	193	*e*P	P	07 27 26.5	-0.5
WNVZ	**Wahianoa**	1.15	191	PN	P	07 27 27.3	-0.1
WNVZ				SN	S	07 27 56.0	-0.4
MOVZ	**Moawhango**	1.22	184	PN	P	07 27 27.3	-0.5
MOVZ				SN	S	07 27 55.5	-1.6
VRZ	**Vera Road**	1.27	223	PN	P	07 27 27.7	-0.5
VRZ				SN	S	07 27 58.2	+0.4
VRZ	**Vera Road**	1.27	223	P	P	07 27 27.7	-0.5
MWZ	**Matawai**	1.31	97	PN	P	07 27 28.2	-0.3
MWZ				SN	S	07 27 57.9	-0.3
MWZ	**Matawai**	1.31	97	P	P	07 27 28.2	-0.2
KNZ	**Kokohu**	1.64	121	PN	P	07 27 31.2	+0.4
KNZ				SN	S	07 28 02.9	+0.6
KNZ	**Kokohu**	1.64	121	*e*P	P	07 27 31.5	+0.7
WAZ	**Wanganui**	1.71	204	PN	P	07 27 30.6	-0.7
WAZ				SN	S	07 28 02.2	-1.1
WAZ	**Wanganui**	1.71	204	P	P	07 27 30.7	-0.6
TSZ	**Takapari Road**	1.86	178	PN	P	07 27 32.2	-0.4
TSZ	**Takapari Road**	1.86	178	P	P	07 27 32.2	-0.4
PUZ	**Puketiti**	1.88	87	PN	P	07 27 32.3	-0.4
PUZ				SN	S	07 28 05.8	-0.1
PUZ	**Puketiti**	1.88	87	P	P	07 27 32.4	-0.4
MXZ	**Matakaoa Point**	2.03	73	PN	P	07 27 33.1	-0.9
MXZ	**Matakaoa Point**	2.03	73	*e*P	P	07 27 33.1	-0.9
MRZ	**Mangatainoka R**	2.48	185	PN	P	07 27 36.8	-1.5
MRZ				SN	S	07 28 14.2	-1.5
MRZ	**Mangatainoka R**	2.48	185	P	P	07 27 36.8	-1.5
BFZ	**Birch Farm**	2.50	173	PN	P	07 27 37.7	-0.9
BFZ				SN	S	07 28 15.7	-0.5
BFZ	**Birch Farm**	2.50	173	*e*P	P	07 27 37.7	-0.9
KIW	**Kapiti Island**	2.77	195	PN	P	07 27 39.2	-2.1
KIW	**Kapiti Island**	2.77	195	P	P	07 27 39.2	-2.1
MTW	**Mount Morrison**	2.98	185	PN	P	07 27 41.2	-2.3
MTW	**Mount Morrison**	2.98	185	P	P	07 27 41.3	-2.1
CAW	**Cannon Point**	2.98	192	PN	P	07 27 41.2	-2.2
CAW				SN	S	07 28 22.7	-2.2
CAW	**Cannon Point**	2.98	192	P	P	07 27 41.3	-2.2
MRW	**Makara Radio**	3.16	196	PN	P	07 27 42.8	-2.7
MRW				SN	S	07 28 25.8	-2.7
MRW	**Makara Radio**	3.16	196	P	P	07 27 42.9	-2.6
PAWZ	**Paruwai Farm**	3.20	186	PN	P	07 27 43.6	-2.4
PAWZ				SN	S	07 28 27.0	-2.3
SNZO	**South Karori**	3.24	196	PN	P	07 27 43.9	-2.4
SNZO	**South Karori**	3.24	196	P	P	07 27 44.1	-2.2
MSWZ	**Moikau Station**	3.25	188	PN	P	07 27 43.8	-2.7
MSWZ				SN	S	07 28 27.6	-2.6
TUWZ	**Tuamarina**	3.56	204	PN	P	07 27 46.8	-3.1
TUWZ				SN	S	07 28 32.3	-4.1
NNZ	**Nelson**	3.58	212	PN	P	07 27 46.5	-3.7
NNZ				SN	S	07 28 32.1	-4.7
NNZ	**Nelson**	3.58	212	P	P	07 27 46.5	-3.7
NNZ				S	S	07 28 32.8	-4.0
QRZ	**Quartz Range**	3.69	223	PN	P	07 27 46.8	-4.6
QRZ	**Quartz Range**	3.69	223	P	P	07 27 46.9	-4.5
BSWZ	**Blackbirch Sta**	3.84	203	PN	P	07 27 50.2	-2.9
THZ	**Tophouse**	4.23	212	PN	P	07 27 53.4	-4.3
THZ	**Tophouse**	4.23	212	P	P	07 27 53.5	-4.2
KHZ	**Kahutara**	4.58	202	PN	P	07 27 58.3	-3.5
KHZ	**Kahutara**	4.58	202	P	P	07 27 58.6	-3.2
DSZ	**Denniston Nort**	4.73	220	PN	P	07 27 58.5	-5.0
DSZ	**Denniston Nort**	4.73	220	P	P	07 27 58.5	-5.1
LTZ	**Lake Taylor**	5.34	210	PN	P	07 28 06.3	-4.7
LTZ	**Lake Taylor**	5.34	210	*e*P	P	07 28 06.4	-4.6
MQZ	**McQueen's Vall**	6.02	203	PN	P	07 28 14.2	-5.3
MQZ	**McQueen's Vall**	6.02	203	*e*P	P	07 28 14.2	-5.2
WVZ	**Waitaha Valley**	6.25	217	PN	P	07 28 16.2	-6.0
WVZ	**Waitaha Valley**	6.25	217	*e*P	P	07 28 16.7	-5.5
LBZ	**Lake Benmore**	7.52	213	*e*PN	P	07 28 32.4	-5.9
ODZ	**Otahua Downs**	7.88	208	PN	P	07 28 37.9	-4.9
ODZ	**Otahua Downs**	7.88	208	P	P	07 28 37.9	-4.9
JCZ	**Jackson Bay**	7.96	220	PN	P	07 28 36.0	-7.7

*IDC **29** 07:30:16.5±8.9,53.64N×169.76W,mb3.5/4,mb1 3.8/5,mb1mx3.5/25,ML3.3/1,Error ellipse: s-maj=161.0km s-min=47.8km az=86.0*

*NEIC **29** 07:30:46.0,54.08N×166.23W,h107^{km},After AEIC.*

ISC 29 07:30:43.7±0.7,54.3N±0.2×166.5W±0.2,h116^{km}±7^{km},n30,σ0$\overset{s}{.}$62/34,mb3.1/2,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVA	**Lava Point**	0.28	116	P	P	07 31 00.4	+0.2
LVA				S	S	07 31 12.1	-0.4
AKGG	**Akutan Green G**	0.29	107	P	P	07 31 00.4	+0.2
AKGG				S	S	07 31 12.0	-0.7
AKLV	**Akutan Long Va**	0.32	112	P	P	07 31 00.2	-0.1
MTBL	**Makushin Table**	0.34	202	P	P	07 31 00.9	+0.6
MSW	**Makushin Switc**	0.41	207	P	P	07 31 01.1	+0.4
MCIR	**Makushin Cirqu**	0.42	217	P	P	07 31 01.5	+0.7
MNAT	**Makushin Natee**	0.42	198	P	P	07 31 01.0	+0.1
AKA	**Akutan**	0.43	110	P	P	07 31 00.7	-0.2
UNV	**Unalaska Valle**	0.44	183	P	P	07 31 00.6	-0.3
UNV				S	S	07 31 12.9	-1.0
WESS	**West Dahl Sout**	1.04	78	P	P	07 31 06.0	-0.1
WESS				S	S	07 31 22.1	-0.7
WESE	**West Dahl East**	1.12	79	P	P	07 31 06.6	-0.3
WESN	**West Dahl Nort**	1.14	75	P	P	07 31 07.2	0.0
OKFG	**Magazine Ridge**	1.23	225	P	P	07 31 08.6	+0.4
WTUG	**Tugumak**	1.34	64	P	P	07 31 09.5	+0.1
SSLW	**Shishaldin Wes**	1.45	69	P	P	07 31 10.6	-0.1
SSLN	**Shishaldin Nor**	1.53	69	P	P	07 31 11.8	+0.1
FALS	**False Pass**	1.87	71	P	P	07 31 16.0	+0.3
DRIA	**Deer Island**	2.54	73	P	P	07 31 24.5	0.0
DTNA	**Dutton South F**	2.59	69	P	P	07 31 26.0	+0.7
DOL	**Dolgoi Island**	2.81	70	P	P	07 31 28.3	+0.1
HAG	**Hague Volcano**	2.84	67	P	P	07 31 29.7	+1.1
PVV	**Pavlof Volcano**	2.92	66	P	P	07 31 31.2	+1.6
ANCK	**Angle Creek**	7.26	53	P	P	07 32 29.1	+0.6
ILAR	**Eielson Array**	14.38	35	Pn	P	07 34 01.6	-0.8
	0.1nm,0.3s,baz=235,slow=11,SNR=4.9						
DLBC	**Dease Lake**	20.44	63	P	P	07 35 17.6	+4.2
	1.2nm,0.8s,baz=292,slow=11,SNR=3.1						
INK	**Inuvik**	20.78	35	P	P	07 35 15.5	-1.3
	3.8nm,0.5s,baz=237,slow=9.7,SNR=16						
INK	**Inuvik**	20.78	35	*e*P	P	07 35 15.6	-1.2
YKA	**Yellowknife Ar**	27.68	52	P	P	07 36 21.1	-1.2
	0.2nm,0.3s,mb3.1,baz=274,slow=9.1,SNR=6.8						
YKA	**Yellowknife Ar**	27.68	52	P	P	07 36 21.1	-1.2
TXAR	**Lajitas Array**	51.03	93	P	P	07 39 35.5	-0.2
	0.1nm,0.6s,mb3.1,baz=277,slow=4.5,SNR=4.9						

*IDC **29** 07:33:04.8±15.0,17.67S×178.78W,h618^{km}±209^{km},mb3.1/6,mb1 3.4/6,mb1mx3.2/15,Error ellipse: s-maj=90.6km s-min=59.4km az=144.0*

ISC 29 07:33:02.3±1.2,17.6S±0.6×178.8W±0.3,h600^{km},n10,σ0$\overset{s}{.}$41/10,mb3.7/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	29.77	239	*e*P	P	07 38 23.8	+0.2
CTA	**Charters Tower**	33.13	260	P	P	07 38 52.2	+0.2
	2.1nm,0.5s,mb4.1,baz=119,slow=13,SNR=3.6						
STKA	**Stephens Creek**	38.45	241	*e*P	P	07 39 35.8	+0.2
	6.7nm,1.8s,mb3.9						
STKA	**Stephens Creek**	38.45	241	P	P	07 39 35.9	+0.2
	2.9nm,0.6s,mb4.0,baz=98,slow=12,SNR=12						
WB2	**Warramunga Arr**	44.31	259	*e*P	P	07 40 22.0	-0.2
WRA	**Warramunga Arr**	44.32	259	P	P	07 40 22.1	-0.2
	1.3nm,0.5s,mb3.7,baz=94,slow=7.1,SNR=16						
ASAR	**Alice Springs**	44.51	254	P	P	07 40 23.7	-0.1
	13nm,0.5s,mb4.8,baz=89,slow=8.1,SNR=272						
ASPA	**Alice Springs**	44.52	254	*e*P	P	07 40 23.6	-0.2
NVAR	**Mina Array Bea**	79.47	44	P	P	07 44 09.7	+0.8
	0.1nm,0.3s,mb2.6,baz=201,slow=7.7,SNR=3.9						
TXAR	**Lajitas Array**	86.15	58	P	P	07 44 41.7	-0.8
	0.4nm,0.7s,mb3.1,baz=215,slow=7.0,SNR=5.1						

*ISK **29** 07:34:04.5,39.95N×43.84E,h8^{km},MD3.6*

TIF 29 07:34:00.1,39.63N×44.19E,h12^{km},Mpv4.4,1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERE	**Yerevan**	0.60	23	*e*P	Pb	07 34 12.0	0.0
ERE				*i* S	Sb	07 34 21.0	+0.9
AGRT	**Agri**	0.93	269	PG	Pg	07 34 19.4	+0.6
AGRT				SG	Sg	07 34 29.8	-1.4
VANB	**Van**	1.21	211	*e*PN	Pn	07 34 30.3	+7.5
KARS	**Kars**	1.29	320	*e*PG	Pg	07 34 21.8	-4.2
VAD	**Vardenisi**	1.31	64	*e*S	Sb	07 34 49.0	+8.2
STE	**Stepanavan**	1.38	7	*e*P	Pn	07 34 27.3	+2.0
STE				*i* S	Sb	07 34 47.5	+4.7
BAW	**Bavra**	1.52	349	*i* P	Pn	07 34 31.0	+3.8
AKH	**Akhalkalaki**	1.86	344	*e*P	Pn	07 34 36.4	+4.3
AKH				*i* S	Sn	07 35 02.9	+7.2
MTA	**Mtatsminda**	2.11	12	⇓*i*P	Pn	07 34 39.3	+3.5
MTA				*i* S	Sn	07 35 10.0	+7.8
VRT	**Varto**	2.12	257	PN	Pn	07 34 39.4	+3.5
BTMT	**Batman**	2.55	237	*e*PN	Pn	07 34 50.1	+8.0
BINT	**Bingol**	2.97	256	*e*PN	Pn	07 34 50.1	+2.0

GUC 29 07:36:11.1±0.8,35.11S×70.47W,h9^{km}±8^{km},MD3.6, ML2.7,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.67	318	⇑*i*P	Pb	07 36 23.5	-1.0
SFDO				*i* S	Sg	07 36 32.9	-0.6
CICH	**Cipreses**	0.79	3	*e*P	Pb	07 36 25.1	-1.5
CICH				*i* S	Sb	07 36 36.6	-0.6
TALC	**Talca**	0.99	253	⇓*i*P	Pb	07 36 29.4	-0.6
TALC				*i* S	Sb	07 36 43.0	0.0
CACH	**El Canelo**	1.00	354	⇓*i*P	Pb	07 36 28.9	-1.2
CACH				*i* S	Sb	07 36 43.1	0.0
CHCH	**Chadas Angostu**	1.19	353	*e*P	Pb	07 36 32.3	-1.0
CHCH				*i* S	Sb	07 36 48.4	-0.3
LMEL	**Las Melosas**	1.28	10	*e*P	Pb	07 36 34.5	-0.5
LMEL				*e*S	Sb	07 36 51.7	+0.3
LMEL				AMP		07 36 53.8	
	comp=N,162nm,0.2s						
LNV	**Longovilo**	1.39	326	⇑*i*P	Pn	07 36 35.8	-1.0
LNV				*i* S	Sb	07 36 54.3	-0.2
TACH	**Talagante**	1.51	345	*e*P	Pn	07 36 37.4	-1.0
TACH				*i* S	Sb	07 36 58.0	+0.1
ANTU	**Antumapu**	1.55	355	*i* S	Sb	07 36 59.3	+0.3
ANTU				AMP		07 37 00.6	
	comp=E,239nm,0.2s						
CLCH	**Cerro Calan**	1.71	358	*e*P	Pn	07 36 40.8	-0.6
CLCH				*e*S	Sn	07 37 04.2	+0.6
CLCH				AMP		07 37 06.2	
	comp=E,139nm,0.2s						
LCCH	**Las Cruces**	1.87	331	*e*P	Pn	07 36 43.4	-0.2
LCCH				*e*S	Sn	07 37 07.5	-0.1

GUC 29 07:51:10.9±0.9,35.04S×70.51W,h10^{km}±8^{km},MD3.6, ML2.5,5C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.59	273	⇓*i*P	Pb	07 51 22.3	-0.5
NICH				*i* S	Sg	07 51 31.0	+0.3
SFDO	**San Fernando**	0.59	316	⇓*i*P	Pb	07 51 21.6	-1.2
SFDO				*i* S	Sg	07 51 30.0	-0.8
CACH	**El Canelo**	0.92	356	⇑*i*P	Pb	07 51 27.1	-1.3
CACH				*i* S	Sb	07 51 40.3	-0.2
TALC	**Talca**	0.98	248	⇓*i*P	Pb	07 51 28.9	-0.7
TALC				*i* S	Sb	07 51 42.5	+0.2
TALC				AMP		07 51 43.0	
	comp=E,833nm,0.3s						
CHCH	**Chadas Angostu**	1.11	354	*e*P	Pb	07 51 30.8	-0.9
LMEL	**Las Melosas**	1.22	12	⇑*i*P	Pb	07 51 32.4	-1.1
LMEL				*i* S	Sb	07 51 49.0	0.0
LMEL				AMP		07 51 53.5	
	comp=N,78nm,0.2s						
LNV	**Longovilo**	1.31	325	⇑*i*P	Pb	07 51 33.9	-1.2
LNV				*i* S	Sb	07 51 51.5	-0.3
PCH	**Pirque**	1.41	0	⇑*i*P	Pn	07 51 36.1	-0.7
TACH	**Talagante**	1.43	346	*e*P	Pn	07 51 35.7	-1.2
ANTU	**Antumapu**	1.47	356	⇑*i*P	Pn	07 51 37.1	-0.4
ANTU				*e*S	Sb	07 51 56.9	+0.5
ANTU				AMP		07 52 09.0	
	comp=N,84nm,0.4s						
CLCH	**Cerro Calan**	1.64	359	*e*P	Pn	07 51 39.5	-0.4
CLCH				*e*S	Sn	07 52 01.1	-0.1
CLCH				AMP		07 52 04.4	
	comp=E,114nm,0.5s						
FCH	**Farellones**	1.72	6	*e*P	Pn	07 51 41.4	+0.3
FCH				*i* S	Sn	07 52 04.7	+1.5
FCH				AMP		07 52 07.3	
	comp=E,61nm,0.4s						
LCCH	**Las Cruces**	1.79	330	*e*P	Pn	07 51 41.8	-0.2
LCCH				*e*S	Sn	07 52 04.6	-0.4

*NIED **29** 08:27:00,24.00N×123.60E,h23^{km},Mw3.6 Best double couple: $M_0$3.3×10^{14} NP1:ϕ_s115°,δ89°,λ39°. NP2:ϕ_s24°,δ51°,λ178°.*

*JMA **29** 08:27:59.2±0.2,23.99N×123.64E,h38^{km}±2^{km},M3.5 JMA Felt I J1.*

ISC 29 08:27:59.7±1.4,24.0N±0.1×123.64E±0.05,h38^{km},n8,σ0$\overset{s}{.}$66/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	0.16	69	P	P	08 28 05.8	-0.6
HATJ				S	S	08 28 10.7	-0.4
IRIF	**Iriomote-Funau**	0.34	14	P	P	08 28 07.6	-0.8
IRIF				S	S	08 28 13.9	-0.5
JKRS	**Kuro-shima**	0.41	55	P	P	08 28 08.8	-0.4
JKRS				S	S	08 28 16.2	+0.4
JIJ	**Ishigaki jima**	0.58	52	P	P	08 28 10.6	-0.9
JIJ				S	S	08 28 19.5	-0.6
YOJ	**Yonaguni jima**	0.74	309	P	P	08 28 13.7	0.0
YOJ				S	S	08 28 24.6	+0.7
JTJ	**Tarama**	1.16	56	P	P	08 28 19.5	-0.2
JTJ				S	S	08 28 35.0	+0.4
JMJ	**Miyako jima 2**	1.71	61	P	P	08 28 28.8	+1.2
JOGS	**Gusukube**	1.78	64	P	P	08 28 29.7	+1.1
JOGS				*e*S	S	08 28 50.7	+0.5

*IDC **29** 08:52:45.2±7.1,36.65N×70.60E,mb3.9/3,mb1 3.9/5,mb1mx3.6/19,ML3.4/2,Error ellipse: s-maj=119.0km s-min=37.6km az=157.0*

*NEIC **29** 08:52:54.6±2.7,37.58N×70.15E,h10^{km},mb3.4/1,Error ellipse: s-maj=41.5km s-min=16.0km az=161.0*

*NNC **29** 08:52:59.7±9.8,37.77N×70.09E,h31^{km}±54^{km},mpv3.4,Error ellipse: s-maj=91.3km s-min=56.6km az=83.0*

*KNET **29** 08:53:52.8±0.9,41.00N×73.15E,h38^{km}±4^{km},ml2.2,Error ellipse: s-maj=14.2km s-min=7.0km az=109.0*

ISC 29 08:52:52.3±1.5,37.5N±0.1×70.1E±0.1,h10^{km},n18,σ1$\overset{s}{.}$11/22,mb3.8/3,5C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	5.39	30	⇑P	Pn	08 54 15.8	+1.0
	14nm,0.1s,SNR=16						
AML				⇑S	x	08 54 33.4	
	77nm,0.8s						
KK31	**Karatay Array**	5.61	3	⇓Pn	Pn	08 54 19.6	+1.8
	1.4nm,0.3s,baz=345,slow=1.1,SNR=24						
KK31				⇓Pg	Pg	08 54 38.3	-6.0
	2.1nm,0.3s,baz=177,slow=14,SNR=8.1						
KK31				⇓Sn	Sn	08 55 22.7	-0.4
	9.5nm,0.6s						
KK31				⇓Lg		08 55 52.4	
	34nm,0.8s						
UCH	**Uchtor**	5.82	34	⇓P	Pn	08 54 21.3	+0.5
	3.7nm,0.3s,SNR=16						
EKS2	**Erkin-Say**	5.88	28	P	Pn	08 54 23.0	+1.4
	3.7nm,0.2s,SNR=7.2						
AAK	**Ala-Archa**	6.14	32	⇓P	Pn	08 54 26.2	+1.0
	6.6nm,0.2s,SNR=6.5						
AAK	**Ala-Archa**	6.14	32	*e*Pn	Pn	08 54 24.6	-0.7
	6.5nm,0.4s						
AAK				*e*Pg	Pg	08 54 44.8	-10
CHMS	**Chumysh**	6.55	31	⇑P	Pn	08 54 31.3	+0.3
	4.2nm,0.2s,SNR=6.1						
USP	**Ospenovka**	6.67	29	P	Pn	08 54 32.7	-0.1
	SNR=12						
MK31	**Makanchi Array**	12.95	40	⇑P	P	08 55 56.8	-2.3
	1.1nm,0.6s						
MKAR	**Makanchi Array**	12.95	40	Pn	P	08 55 57.1	-1.9
	0.1nm,0.3s,baz=227,slow=13,SNR=19						
AB31	**Akbulak array**	13.86	331	⇓Pn	P	08 56 09.2	-1.8
	0.6nm,0.5s,baz=148,slow=17,SNR=21						
AB31				⇑Sn	S	08 58 36.4	-10
	1.2nm,0.7s,baz=148,slow=23,SNR=3.7						
ZRNK	**Zerenda**	15.47	358	⇓P	P	08 56 32.7	+0.6
	2.7nm,1.4s						
ZRNK	**Zerenda**	15.47	358	*e*P	P	08 56 32.4	+0.3
	1.2nm,0.5s						
BVAR	**Borovoye Array**	15.53	1	Pn	P	08 56 31.8	-1.0
	0.2nm,0.3s,baz=174,slow=13,SNR=4.1						
FINES	**FINESS Array B**	36.25	326	P	P	08 59 57.4	+0.2
	0.7nm,0.4s,mb3.9,baz=120,slow=11,SNR=9.2						
ARCES	**ARCESS Array B**	39.95	337	P	P	09 00 28.6	+0.5
	1.1nm,0.5s,mb3.8,baz=114,slow=7.3,SNR=14						
NB2	**NORSAR Subarra**	43.15	322	P	P	09 00 54.5	+0.3
	0.8nm,0.5s,mb3.7,baz=95,slow=7.9						
NOA	**NORSAR Array B**	43.15	322	P	P	09 00 54.5	+0.3
	1.0nm,0.5s,mb3.8,baz=97,slow=8.0,SNR=4.5						

GUC 29 09:08:16.3±0.9,35.03S×70.38W,h12^{km}±8^{km},MD3.7, ML2.6,3C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.67	308	⇓*i*P	Pb	09 08 27.7	-1.6
SFDO				*i* S	Sb	09 08 36.9	-1.4
CICH	**Cipreses**	0.71	357	⇓*i*P	Pb	09 08 28.8	-1.3
CICH				*i* S	Sb	09 08 38.6	-0.8
CACH	**El Canelo**	0.93	348	*e*P	Pb	09 08 32.3	-1.5
CACH				*e*S	Sb	09 08 45.1	-0.7
TALC	**Talca**	1.09	250	⇓*i*P	Pb	09 08 36.0	-0.7
TALC				*i* S	Sb	09 08 50.4	-0.3
CHCH	**Chadas Angostu**	1.11	348	*i* P	Pb	09 08 36.0	-1.0
CHCH				*i* S	Sb	09 08 50.8	-0.5
LMEL	**Las Melosas**	1.19	7	⇑*i*P	Pb	09 08 37.4	-0.8
LMEL				*i* S	Sb	09 08 54.1	+0.8
LMEL				AMP		09 08 56.1	
	comp=N,168nm,0.2s						
LNV	**Longovilo**	1.37	321	⇑*i*P	Pn	09 08 39.7	-1.6
LNV				*i* S	Sb	09 08 57.9	-0.8
TACH	**Talagante**	1.45	341	⇑*i*P	Pn	09 08 41.6	-0.8
TACH				*i* S	Sb	09 09 00.9	0.0
ANTU	**Antumapu**	1.47	352	*e*P	Pn	09 08 41.5	-1.2
ANTU				AMP		09 09 03.2	
	comp=E,198nm,0.2s						
CLCH	**Cerro Calan**	1.63	355	AMP		09 09 11.9	
	comp=E,126nm,0.7s						
FCH	**Farellones**	1.70	2	*e*P	Pn	09 08 46.2	+0.3
FCH				*e*S	Sn	09 09 08.2	+0.5
FCH				AMP		09 09 12.7	
	comp=N,83nm,0.5s						
LCCH	**Las Cruces**	1.84	327	⇓*i*P	Pn	09 08 47.7	-0.3
LCCH				*i* S	Sn	09 09 11.8	+0.6
CCHI	**Chillan**	2.09	221	AMP		09 09 29.1	
	comp=N,119nm,0.4s						

*INMG **29** 09:24:54.7,38.50N×15.40E,h212^{km},Mb4.2*

*PDG **29** 09:24:54.6±0.5,38.54N×15.52E,h210^{km}±3^{km}*

*ROM **29** 09:24:55.3±0.3,38.56N×15.46E,h209^{km}±3^{km},MD3.2/5,ML3.6,Error ellipse: s-maj=2.0km s-min=1.7km az=90.0*

*IDC **29** 09:24:56.0±1.1,38.82N×15.18E,h210^{km}±14^{km},mb3.4/11,mb1 3.6/19,mb1mx3.5/30,MS2.9/1,Ms1 2.9/1,ms1mx2.1/19,Error ellipse: s-maj=20.9km s-min=13.5km az=25.0*

*NEIC **29** 09:24:55.3,38.56N×15.46E,h209^{km},mb4.2/57,MD3.6(PDG),After ROM.*

*LDG **29** 09:25:08.6±1.0,39.55N×15.07E,h340^{km},Mb4.2/41,Error ellipse: s-maj=39.2km s-min=18.6km az=8.0*

ISC 29 09:24:53.7±0.3,38.47N±0.03×15.52E±0.03,h220^{km}±2^{km},n237,σ1$\overset{s}{.}$31/279,mb3.9/14,5C-34D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSRU	**Castanea**	0.21	182	⇓*i*P	P	09 25 22.6	0.0
MSRU				S	S	09 25 43.0	-2.0
SCLL	**Scilla**	0.27	144	⇓*i*P	P	09 25 23.0	+0.3
SCLL				S	S	09 25 43.9	-1.3
SCLL	**Scilla**	0.27	144	⇓*i*Pg	P	09 25 23.0	+0.3
SCLL				*e*Sg	S	09 25 43.9	-1.3
MSI	**Messina ING**	0.27	174	⇓*i*P	P	09 25 22.8	+0.1
MSI				S	S	09 25 43.8	-1.4
MSI	**Messina ING**	0.27	174	⇓*i*Pg	P	09 25 22.8	0.0
MSI				*e*Sg	S	09 25 43.8	-1.4
ATN	**Antennamare**	0.32	188	⇓*i*P	P	09 25 23.0	+0.2
ATN				S	S	09 25 42.7	-2.7
	359nm,0.2s						
ATN	**Antennamare**	0.32	188	⇓*i*Pg	P	09 25 23.0	+0.1
ATN				*e*Sg	S	09 25 42.7	-2.7
GMB	**Gambarie**	0.39	141	*e*P	P	09 25 23.8	+0.8
GMB				S	S	09 25 45.3	-0.5
GMB	**Gambarie**	0.39	141	*e*Pg	P	09 25 23.8	+0.8
GMB				*e*Sg	S	09 25 45.3	-0.4
MTTG	**Motta San Giov**	0.49	164	*e*P	P	09 25 23.1	-0.2
MTTG	**Motta San Giov**	0.49	164	*e*Pg	P	09 25 23.1	-0.2
SLNA	**Salina**	0.54	280	*e*P	P	09 25 23.9	+0.4
	785nm,0.5s						
SLNA	**Salina**	0.54	280	*e*Pg	P	09 25 23.9	+0.4
MMME	**Mongiuffi-Meli**	0.58	201	⇓*i*P	P	09 25 24.7	+1.1
MMME				S	S	09 25 45.5	-1.3
SOI	**Samo**	0.58	133	⇓*i*P	P	09 25 24.9	+1.3
SOI				S	S	09 25 46.2	-0.7
SOI	**Samo**	0.58	133	⇓*i*Pg	P	09 25 24.9	+1.3
SOI				*e*Sg	S	09 25 46.2	-0.7
ECTS	**Castiglione**	0.67	208	*e*P	P	09 25 25.3	+1.3
ECTS	**Castiglione**	0.67	208	*e*Pg	P	09 25 25.2	+1.3
GRI	**Girifalco**	0.79	64	⇓*i*P	P	09 25 25.9	+1.4
GRI				S	S	09 25 46.1	-2.3
GRI	**Girifalco**	0.79	64	⇓*i*Pg	P	09 25 25.9	+1.4
GRI				*e*Sg	S	09 25 46.1	-2.3
MNO	**Monte Soro**	0.84	230	*e*P	P	09 25 26.3	+1.5
	921nm,0.4s						
MNO	**Monte Soro**	0.84	230	*e*Pg	P	09 25 26.3	+1.5
ESPC	**Serra Pizzuta**	0.87	206	⇓*i*P	P	09 25 25.9	+1.0
PLLN	**Pollina**	1.18	246	⇓*i*P	P	09 25 27.0	0.0
TIP	**Timpagrande**	1.20	54	⇓*i*Pn	P	09 25 28.5	+1.4
TIP				*e*S	S	09 25 46.0	-7.0

CSLB	Castelbuono	1.27	245	eP	P	09 25 27.7	+0.1
CSLB				S	S	09 25 53.5	-0.4
CSLB	Castelbuono	1.27	245	ePg	P	09 25 27.7	+0.1
CSLB				eSg	S	09 25 53.5	-0.4
GIB	Gibilmanna	1.27	248	⇓iP	P	09 25 27.8	+0.2
GIB				S	S	09 25 52.4	-1.5
	310nm,0.4s						
GIB	Gibilmanna	1.27	248	⇓iPg	P	09 25 27.8	+0.2
GIB				eSg	S	09 25 52.4	-1.5
VAE	Valguarnera	1.32	222	P	P	09 25 30.4	+2.4
	47nm,0.3s,baz=109,slow=10.0,SNR=55						
VAE				S	S	09 26 04.4	+10
	12nm,0.3s,baz=247,slow=23,SNR=5.9						
SSY	Sortino	1.36	195	⇓iP	P	09 25 29.8	+1.4
SSY	Sortino	1.36	195	⇓iPg	P	09 25 29.8	+1.4
MGR	Morigerati	1.66	1	eP	P	09 25 31.0	+0.1
	183nm,0.6s						
MGR	Morigerati	1.66	1	ePg	P	09 25 31.0	+0.1
ORI	Oriolo Calabro	1.74	24	eP	P	09 25 32.5	+0.9
ORI				S	S	09 25 57.6	-3.3
	183nm,0.3s						
ORI	Oriolo Calabro	1.74	24	ePg	P	09 25 32.5	+0.9
ORI				eSg	S	09 25 57.6	-3.3
USI	Ustica	1.85	278	eP	P	09 25 32.4	-0.2
	348nm,0.7s						
USI	Ustica	1.85	278	ePg	P	09 25 32.4	-0.1
FAVR	Favara	1.90	231	eP	P	09 25 35.0	+2.0
	84nm,0.4s						
FAVR	Favara	1.90	231	ePg	P	09 25 35.0	+2.0
SLCN	Sala Consilina	1.92	3	eP	P	09 25 34.1	+0.9
	92nm,0.4s						
SLCN	Sala Consilina	1.92	3	ePn	P	09 25 34.1	+0.9
CLTB	Caltabellotta	2.03	245	eP	P	09 25 35.1	+0.8
	264nm,0.5s						
SGO	Sicignano	2.09	356	eP	P	09 25 35.3	+0.4
	105nm,0.7s						
MFNL	Monte Finestre	2.16	252	eP	P	09 25 37.1	+1.5
MFNL				S	S	09 26 07.7	-0.3
MFNL	Monte Finestre	2.16	252	ePn	P	09 25 37.1	+1.4
MFNL				eSn	S	09 26 07.7	-0.4
MMGO	Monte Magaggia	2.16	249	eP	P	09 25 35.9	+0.2
MMGO				S	S	09 26 05.9	-2.2
MMGO	Monte Magaggia	2.16	249	ePn	P	09 25 35.9	+0.2
MMGO				eSn	S	09 26 05.9	-2.2
MTGR	Montagna Grand	2.25	256	eP	P	09 25 36.7	+0.1
MTGR				S	S	09 26 08.3	-1.4
MTGR	Montagna Grand	2.25	256	ePn	P	09 25 36.7	+0.1
MTGR				eSn	S	09 26 08.2	-1.5
MRLC	Muro Lucano	2.28	359	eP	P	09 25 37.7	+0.8
	55nm,0.4s						
MRLC	Muro Lucano	2.28	359	ePn	P	09 25 37.7	+0.8
ISOR	Termini	2.29	337	eP	P	09 25 36.6	-0.5
CAVT	Castelvetrano	2.32	251	eP	P	09 25 37.8	+0.5
CAVT				S	S	09 26 09.4	-1.7
CAVT	Castelvetrano	2.32	251	ePn	P	09 25 37.8	+0.4
CAVT				eSn	S	09 26 09.4	-1.6
CSSN	Cassano Irpino	2.41	351	eP	P	09 25 39.0	+0.7
	331nm,0.7s						
MRB1	Monte Rocchett	2.68	351	ePn	P	09 25 41.8	+0.6
BRT	Bari-Castellan	2.73	28	eP	P	09 25 40.8	-1.0
BRT				S	S	09 26 15.9	-3.1
BRT	Bari-Castellan	2.73	28	ePn	P	09 25 40.8	-1.0
BRT				eSn	S	09 26 15.9	-3.2
LCI	Lecce	2.74	46	ePn	P	09 25 42.3	+0.5
LCI				eSn	S	09 26 16.4	-2.8
FG5	Orsara di Pugl	2.81	356	ePn	P	09 25 43.7	+1.0
SGG	Gregorio Mates	3.04	344	ePn	P	09 25 45.7	+0.5
RGNG	Rignano Grg	3.20	1	ePn	P	09 25 46.9	-0.2
FGMS	Monte Sant'Ang	3.25	6	ePn	P	09 25 47.7	0.0
CII	Carovilli	3.38	344	ePn	P	09 25 50.4	+1.2
INTR	Introdacqua	3.74	341	ePn	P	09 25 54.2	+0.5
PTQR	Pietraquaria	3.90	336	ePn	P	09 25 56.8	+1.4
CERT	Cerreto	3.98	332	ePn	P	09 25 56.4	0.0
AQU	L'Aquila	4.20	338	ePn	P	09 26 00.7	+1.5
TERO	Teramo	4.39	341	ePn	P	09 26 02.7	+1.1
MNS	Montasola	4.47	332	ePn	P	09 26 03.1	+0.6
ULC	Ulcinj	4.51	38	⇓iPn	P	09 26 03.4	+0.4
ULC				eSn	S	09 26 55.6	-1.3
HCY	Herceg Novi	4.57	29	⇓iPn	P	09 26 04.0	+0.1
HCY				eSn	S	09 26 57.3	-1.0
BUM	Brajici-Budva	4.61	33	⇓iPn	P	09 26 05.0	+0.6
BUM				eSn	S	09 26 57.7	-1.5
NRCA	Norcia	4.72	338	ePn	P	09 26 07.0	+1.3
TTG	Podgorica	4.88	35	⇓iPn	P	09 26 08.1	+0.5
TTG				eSn	S	09 27 03.5	-1.6
BRY	Bratogost	4.98	27	⇓iPn	P	09 26 09.8	+0.8
BRY				eSn	S	09 27 05.9	-1.7
NKY	Niksic	5.08	30	⇓iPn	P	09 26 11.0	+0.8
NKY				eSn	S	09 27 08.2	-1.5
PVY	Plav	5.33	38	⇓iPn	P	09 26 14.6	+1.2
PVY				eSn	S	09 27 14.5	-1.0
UPM	Unac-Piva	5.38	27	⇓iPn	P	09 26 15.1	+1.1
UPM				eSn	S	09 27 14.9	-1.5
IVA	Berane	5.51	36	⇓iPn	P	09 26 17.0	+1.3
IVA				eSn	S	09 27 18.2	-1.3
PLE	Pljevlja	5.67	30	⇓iPn	P	09 26 18.9	+1.2
PLE				eSn	S	09 27 21.7	-1.4
PGF	Pioggiola	6.42	311	eP	P	09 26 42.4	+15
	14nm,0.5s						
MAIM		6.62	327	P	P	09 26 39.8	+10
VINC	Vinca	6.95	326	P	P	09 26 42.3	+8.2
BOJS	Bojanci	7.03	358	ePn	P	09 26 35.6	+0.5
VALM		7.08	328	P	P	09 26 43.2	+7.5
BACM		7.10	327	P	P	09 26 43.7	+7.7
KNDS	Knezji Dol	7.10	354	i Pn	P	09 26 37.7	+1.7
GRAM		7.27	328	P	P	09 26 44.5	+6.2
CODM		7.28	326	P	P	09 26 45.4	+7.0
VISS	Visnje	7.34	356	i Pn	P	09 26 40.0	+0.8
LJU	Ljubljana	7.60	355	ePn	P	09 26 43.6	+1.1
VOY	Vojsko	7.65	351	ePn	P	09 26 42.8	-0.3
VOY				e		09 26 43.9	
CADS	Cadrg	7.86	351	i Pn	P	09 26 45.6	-0.2
IMI	Imperia	7.91	316	P	P	09 26 56.6	+10
FIN	Finale Ligure	7.94	319	P	P	09 26 54.8	+7.9
RORO		7.95	317	P	P	09 26 56.2	+9.2
NEGI	Negi	7.97	315	P	P	09 26 57.4	+10
PCP	Pian Castagno	8.01	321	P	P	09 26 54.5	+6.8
MONE	Monesi	8.09	316	P	P	09 26 58.5	+10
SBF	Sospel	8.13	314	eP	P	09 26 58.6	+9.2
	50nm,0.6s						
IDI	Anoyia	8.15	110	P	P	09 26 55.4	+5.7
	0.6nm,0.3s,baz=272,slow=9.1,SNR=6.4						
IDI				S	S	09 28 33.3	+13
	0.4nm,0.3s,baz=335,slow=23,SNR=2.1						
ROB	Roburent	8.17	318	P	P	09 26 58.6	+8.7
ENR	Entracque	8.37	316	P	P	09 27 00.7	+8.2
LMR	La Mourre	8.37	308	eP	P	09 27 03.0	+11
	12nm,0.6s						
FRF	La Foret Royal	8.41	310	eP	P	09 27 03.4	+10
	21nm,0.6s						
STV	Sta Anna Valdi	8.43	316	P	P	09 27 02.4	+9.1
PZZ	Prazzo	8.72	316	P	P	09 27 03.5	+6.5
KBA	Koelnbreinsper	8.75	350	⇑iP	P	09 26 58.8	+1.5
	6.2nm,0.7s						
ARSA	Arzberg	8.77	0	⇑iP	P	09 26 59.0	+1.3
	2.9nm,0.5s						
BHB	Bricherasio	8.86	318	P	P	09 27 04.0	+5.1
SURF	Saint Ours	8.87	315	P	P	09 27 07.1	+8.2
MBDF	Montbardon	9.05	316	eP	P	09 27 07.9	+6.7
	59nm,0.7s						
RSP	Reno Superiore	9.08	320	P	P	09 27 05.6	+4.0
FENE	Fenestrelle	9.10	319	P	P	09 27 06.6	+4.7
TRAV		9.10	323	P	P	09 27 04.0	+2.0
RRL	Cesana Torines	9.17	317	P	P	09 27 08.6	+5.8
OG25	Le Caire	9.22	313	P	P	09 27 10.3	+6.9
WTTA	Wattenberg	9.23	343	⇑iP	P	09 27 06.1	+2.5
	8.9nm,0.5s						
DAVOX	Davos	9.28	335	P	P	09 27 04.5	+0.3
	0.5nm,0.3s,baz=156,slow=20,SNR=6.6						
SMRF	Simiane la Rot	9.29	309	eP	P	09 27 14.1	+10
	15nm,0.5s						
SQTA	Sankt Quirin	9.29	342	⇓iP	P	09 27 07.3	+2.9
	43nm,0.5s						
BNI	Bardonecchia	9.31	318	eP	P	09 27 10.8	+6.2
	28nm,0.8s						
WATA	Walderalm	9.31	343	⇑iP	P	09 27 07.5	+2.9
	26nm,0.5s						
LSD	Ceresole Reale	9.35	321	P	P	09 27 07.6	+2.5
MOA	Molln	9.41	355	⇑iP	P	09 27 06.9	+1.0
	14nm,0.7s						
MOTA	Moosalm	9.44	341	⇓iP	P	09 27 09.5	+3.3
	8.8nm,0.5s						
LPG	La Plagne	9.58	320	eP	P	09 27 11.1	+3.1
	47nm,0.7s						
LPL	La Plagne	9.60	320	eP	P	09 27 11.0	+2.7
	31nm,0.6s						
ORIF	Oris-en-Rattie	9.66	315	eP	P	09 27 10.1	+1.1
	41nm,0.7s						
GDM	Grand'Maison	9.71	317	P	P	09 27 15.9	+6.2
DAVA	Damuels	9.73	337	⇓iP	P	09 27 11.0	+1.1
	16nm,0.5s						
GRN	Grenoble	9.94	316	P	P	09 27 18.4	+5.8
FUR	Furstenfeldbru	10.17	344	eP	P	09 27 16.0	+0.5
VIVF	Saint-Julien-l	10.31	312	eP	P	09 27 23.2	+5.8
	24nm,0.6s						
LASF	Ste Croix	10.40	306	eP	P	09 27 26.4	+7.8
	7.6nm,0.5s						
GEC2	GERESS Array S	10.45	353	eP	P	09 27 19.1	0.0
GERES	GERESS Array B	10.45	353	P	P	09 27 19.2	+0.1
	1.2nm,0.3s,baz=169,slow=14,SNR=93						
MLR	Muntele Rosu	10.45	45	P	P	09 27 24.2	+5.0
	0.2nm,0.3s,baz=169,slow=8.1,SNR=4.4						
OG05	Jujurieux	10.61	319	P	P	09 27 24.0	+2.8
CABF	La Chapelle	10.69	323	eP	P	09 27 21.5	-0.8
	59nm,0.5s						
KHC	Kasperske Hory	10.74	353	eP	P	09 27 22.8	-0.1
KHC				e		09 27 32.7	
WET	Wettzell	10.84	351	eP	P	09 27 24.1	0.0
VRAC	Vranov	10.86	4	P	P	09 27 24.6	+0.2
	0.7nm,0.3s,baz=200,slow=11,SNR=4.6						
FELD	Feldberg	10.88	332	P	P	09 27 24.0	-0.6
BFO	Black Forest	11.15	334	eP	P	09 27 27.5	-0.5
MTLF	Montolieu	11.17	300	eP	P	09 27 32.8	+4.4
	11nm,1.0s						
MOF	Molkenrain	11.19	330	P	P	09 27 27.2	-1.3
HINF	Hinteralfeld	11.27	329	eP	P	09 27 28.2	-1.4
	4.9nm,0.3s						
MORC	Moravsky Berou	11.39	7	Pn	P	09 27 27.8	-3.3
ECH	Echery	11.47	331	P	P	09 27 31.1	-1.1
PRU	Pruhonice	11.53	357	eP	P	09 27 33.4	+0.5
WLS	Welschbruch	11.56	332	P	P	09 27 32.5	-0.8
CDF	Champ du Feu	11.59	332	eP	P	09 27 31.8	-1.8
	15nm,0.4s						
GRA1	Grafenberg Arr	11.63	346	eP	P	09 27 33.7	-0.4
HAU	Haudompre	11.63	328	eP	P	09 27 32.7	-1.4
	14nm,0.4s						
SMF	Signal de Mont	11.86	317	eP	P	09 27 35.7	-1.3
	13nm,0.6s						
FRNF	Fournols	11.86	310	P	P	09 27 42.2	+5.2
DPC	Dobruska-Polom	11.89	3	eP	P	09 27 41.5	+4.1
CAF	Calviac	11.94	307	eP	P	09 27 41.9	+3.9
	19nm,0.9s						
THEF	They Montfort	11.95	328	P	P	09 27 37.4	-0.8
UPC	Upice	12.04	2	eP	P	09 27 44.0	+4.8
EGRA	Graus	12.18	293	P	P	09 27 42.7	+1.7
	250nm,0.3s						
AVF	Avril sur Loir	12.21	317	eP	P	09 27 39.9	-1.5
	6.4nm,0.5s						
LOR	Lormes	12.25	320	eP	P	09 27 39.3	-2.6
	15nm,0.8s						
SSF	Saint Saulge	12.30	318	eP	P	09 27 40.8	-1.7
	15nm,0.7s						
BGF	Bois d'Agland	12.34	315	eP	P	09 27 43.2	+0.1
	36nm,0.7s						
RJF	Les Rejaudoux	12.46	308	eP	P	09 27 47.9	+3.4
	49nm,1.1s						
MOX	Moxa	12.48	348	eP	P	09 27 45.0	+0.2
TCF	Toulx Ste Croi	12.55	313	eP	P	09 27 46.9	+1.2
	11nm,0.8s						
MEZF	Maizieres J'vi	12.56	326	eP	P	09 27 39.3	-6.6
LFF	La Frestale	12.78	305	eP	P	09 27 52.3	+3.7
	18nm,0.5s						
CLL	Collm	12.96	353	⇓P	P	09 27 51.8	+1.1
	logA/T=1.2						
CLL	Collm	12.96	353	⇓iP	P	09 27 51.8	+1.1
	10.0nm,0.7s						
ETSF	Etsaut	12.97	295	eP	P	09 27 54.5	+3.5
	6.9nm,0.4s						
WLF	Walferdange	13.04	332	eP	P	09 27 51.6	-0.3
	12nm,0.8s						
SJPF	Ste Jean	13.50	295	eP	P	09 28 00.2	+2.7
	27nm,0.8s						
EALK	Alkurruntz	13.73	296	P	P	09 28 03.6	+3.3
	4.9nm,0.4s						
ETOR	Torete	13.74	285	P	P	09 28 03.1	+2.5
	2.3nm,0.5s						
CLZ	Clausthal	13.85	347	eP	P	09 28 02.8	+1.1
GIVF	Givet	13.90	330	eP	P	09 28 01.6	-0.9
	33nm,1.0s						
MFF	Saint Martin d	14.10	310	eP	P	09 28 06.5	+1.6
	16nm,0.5s						
BAIF	Baives	14.11	329	eP	P	09 28 03.5	-1.6
	13nm,0.7s						
BRTR	Keskin Array B	14.13	79	P	P	09 28 10.1	+4.7
	0.1nm,0.3s,baz=264,slow=12,SNR=4.5						
EQES	Quesada	14.65	273	P	P	09 28 11.2	-0.6
	1.2nm,0.3s						
ELAN	Lanestosa	15.10	294	P	P	09 28 18.0	+0.7
	5.4nm,0.6s						
LDF	La Druitiere	15.17	317	eP	P	09 28 18.1	0.0
	40nm,0.6s						
ESDC	Sonseca Array	15.18	281	P	P	09 28 17.8	-0.5
	0.3nm,0.3s,baz=77,slow=12,SNR=10						
ESDC	Sonseca Array	15.18	281	P	P	09 28 17.9	-0.4
	1.0nm,0.4s						
GRR	Gorron	15.45	315	eP	P	09 28 20.2	-1.3
	12nm,0.6s						
FLN	La Foliniere	15.46	317	eP	P	09 28 19.9	-1.7
	14nm,0.5s						
AKASG	Malin Array Be	15.61	34	P	P	09 28 24.2	+0.7
	2.2nm,0.3s,baz=222,slow=10,SNR=6.3						
ELUQ	Luque	15.62	273	P	P	09 28 24.5	+0.8
	3.9nm,0.3s						
EADA	Adamuz	15.78	275	P	P	09 28 26.0	+0.5
	0.6nm,0.3s						
EMIJ	Mijas	16.21	270	P	P	09 28 30.9	+0.1
	1.9nm,0.3s						
SGMF	Saint Gilles	16.34	313	eP	P	09 28 29.8	-2.4
	19nm,0.7s						
QUIF	Quistinic	16.54	311	eP	P	09 28 32.4	-2.1
	6.8nm,0.5s						
ROSF	Rostrenen	16.80	312	eP	P	09 28 35.1	-2.4
	19nm,0.6s						
ESPR	Espera	17.00	271	P	P	09 28 38.1	-1.7
	2.3nm,0.3s						
PBRG	Braganca	17.33	288	eP	P	09 28 42.0	-1.4
	9.1nm,1.2s						
ECAL	Calabor	17.34	289	P	P	09 28 42.6	-0.8
	2.9nm,0.3s						
EMIN	Mina Concepcio	17.47	275	P	P	09 28 44.1	-0.8
	3.3nm,0.3s						
EBAD	Badajoz	17.61	278	P	P	09 28 44.8	-1.4
	2.2nm,0.2s						
ERUA	La Rua	17.68	290	P	P	09 28 46.2	-0.7
	1.2nm,0.3s						
EPON	Pontenova	17.79	293	P	P	09 28 46.7	-1.5
	2.1nm,0.4s						
PCBR	Castelo Branco	17.88	282	eP	P	09 28 48.0	-1.1
	11nm,1.2s						
MTE	Manteigas	17.91	283	eP	P	09 28 48.5	-0.9
	9.4nm,1.1s						
PVRL	Vila Real	18.04	286	eP	P	09 28 49.7	-1.1
	5.0nm,0.5s						
EGRO	El Granado	18.15	274	P	P	09 28 50.4	-1.5
	4.8nm,0.5s						
PALC	Alcoutim	18.15	274	eP	P	09 28 50.3	-1.6
PVIS	Viseu	18.17	284	eP	P	09 28 51.4	-0.7
	9.9nm,1.2s						
ELOB	Lobios	18.32	288	P	P	09 28 52.9	-0.7
	0.5nm,0.2s						
PBEJ	Beja	18.37	276	eP	P	09 28 52.8	-1.3
	14nm,0.6s						
EVO	Evora	18.41	278	eP	P	09 28 53.8	-0.8
	13nm,0.5s						
PTOM	Tomar	18.61	281	eP	P	09 28 56.6	0.0
	22nm,0.8s						
STS	Santiago	18.76	291	P	P	09 28 57.4	-0.7
	0.7nm,0.2s						
EZAM	Zamans	18.81	289	P	P	09 28 58.9	+0.3
	2.3nm,0.3s						
EKA	Eskdalemuir Ar	21.03	329	P	P	09 29 18.8	-2.1
	2.7nm,0.3s,mb4.2,baz=143,slow=11,SNR=21						
HFS	Hagfors	21.71	358	P	P	09 29 26.2	-1.2
	2.5nm,0.4s,mb4.1,baz=181,slow=9.5,SNR=16						
NB2	NORSAR Subarra	22.75	355	P	P	09 29 36.3	-1.1
	0.9nm,0.5s,mb3.6,baz=174,slow=10						
NOA	NORSAR Array B	22.75	355	P	P	09 29 36.6	-0.9
	1.1nm,0.5s,mb3.6,baz=173,slow=10,SNR=4.7						
FINES	FINESS Array B	23.91	13	P	P	09 29 48.0	-0.4
	8.1nm,0.5s,mb4.6,baz=186,slow=9.4,SNR=104						
KAF	Kangasniemi	24.58	12	ep	P	09 29 53.8	-0.9
ARCES	ARCESS Array B	31.58	7	P	P	09 30 55.3	-2.0
	1.4nm,0.6s,mb3.7,baz=196,slow=9.0,SNR=18						
JMIC	Jan Mayen	34.88	347	LR	LR	09 45 20.9	
	comp=Z,18nm,18.8s,baz=89,slow=36						
ZRNK	Zerenda	39.11	50	eP	P	09 32 03.5	+2.5
	3.9nm,0.4s,mb4.3						
BRVK	Borovoye	39.89	50	eP	P	09 32 08.3	+1.0
	5.9nm,0.6s,mb4.2						
MKAR	Makanchi Array	48.48	57	P	P	09 33 17.6	+2.0
	3.8nm,0.6s,mb3.9,baz=280,slow=7.0,SNR=29						
SCHQ	Schefferville	55.54	316	P	P	09 34 05.8	-1.9
	2.2nm,0.6s,mb3.8,baz=61,slow=10,SNR=3.6						
SCHQ	Schefferville	55.54	316	P	P	09 34 05.8	-1.9
SONM	Songino Array	63.27	49	P	P	09 35 02.4	+1.7
	1.1nm,0.5s,mb3.8,baz=286,slow=7.9,SNR=4.7						
INK	Inuvik	71.04	348	P	P	09 35 47.4	-1.4
	0.4nm,0.5s,mb3.3,baz=45,slow=4.3,SNR=3.3						
ILAR	Eielson Array	76.17	352	P	P	09 36 19.4	+1.0
	0.2nm,0.8s,mb2.8,baz=350,slow=5.5,SNR=5.0						
SSE	Sheshan	82.15	56	eP	P	09 36 48.7	-2.4
	23nm,0.7s,mb4.9						
PDAR	Pinedale Array	85.01	323	P	P	09 37 06.0	+0.8
	0.4nm,1.0s,mb3.1,baz=18,slow=5.7,SNR=3.1						
WRA	Warramunga Arr	124.48	89	PKP	PKPdf	09 43 30.1	+3.2
	0.8nm,1.1s,baz=315,slow=1.6,SNR=7.6						

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*NIC **29** 09:25:02.8±0.2, 35.10N×32.91E, h41^{km}, ML3.2, MW2.9*
*NEIC **29** 09:25:02.8, 35.10N×32.91E, h41^{km}, After NIC.*
*ISK **29** 09:25:04.1, 35.37N×32.92E, h5^{km}, MD3.1*
ISC 29 09:25:03.6±1.0**, 35.08N**±0.05×**32.90E**±0.06**, h39**^{km}±9^{km}**,**
n14, σ0^{s}70/23**, 6C-4D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEF	Lefka	0.04	343	i PG	P	09 25 09.7	-0.1
LEF				i SG	S	09 25 14.8	+0.5
ALFC	Alevga	0.26	287	⇓P	P	09 25 10.7	-0.7
	38nm,0.2s						
ALFC				S	S	09 25 16.8	0.0
ALFC	Alevga	0.26	287	⇓iP	P	09 25 10.7	-0.7
ALFC				S	S	09 25 16.8	0.0
MAMC	Mammari	0.27	71	⇑P	P	09 25 11.2	-0.3
MAMC	Mammari	0.27	71	⇑iP	P	09 25 11.2	-0.3
SZAC	Souni-Zanaja	0.33	183	⇑P	P	09 25 11.5	-0.6
	26nm,0.2s						
SZAC				S	S	09 25 18.9	+0.9
SZAC	Souni-Zanaja	0.33	183	⇑iP	P	09 25 11.5	-0.6
SZAC				S	S	09 25 18.9	+0.9
CSS	Prodhromos	0.37	109	⇓P	P	09 25 11.7	-0.9
	9.8nm,0.3s						
CSS				S	S	09 25 19.0	+0.1
CSS	Prodhromos	0.37	109	⇓iP	P	09 25 11.7	-0.9
CSS				S	S	09 25 19.0	+0.1
PPCY	Paphos	0.50	247	⇑P	P	09 25 13.7	-0.6
PPCY	Paphos	0.50	247	⇑eP	P	09 25 13.7	-0.6
PHNC	Paralimni	0.93	94	P	P	09 25 21.3	+1.0
IKL	Isikli	1.32	29	i PG	P	09 25 25.3	-0.6
IKL				i SG	S	09 25 41.9	-0.6
HDMB	Hadim	1.91	350	PN	P	09 25 35.8	+1.5
HDMB				SN	S	09 25 57.6	+0.3

GUC 29 09:33:58.7±0.6**, 34.88S×70.41W, h1**^{km}±2^{km}**, MD3.6,**
ML2.5, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.56	359	eP	Pg	09 34 10.2	+0.3
CICH				eS	Sg	09 34 19.2	+1.9
SFDO	San Fernando	0.56	298	⇓iP	Pg	09 34 10.4	+0.5
SFDO				eS	Sg	09 34 18.9	+1.5
NICH	Los Niches	0.68	259	⇓iP	Pg	09 34 12.3	0.0
NICH				i S	Sg	09 34 22.8	+1.4
CACH	El Canelo	0.78	348	eP	Pg	09 34 13.9	-0.3
CACH				i S	Sg	09 34 25.7	+1.1
CHCH	Chadas Angostu	0.96	348	i P	Pb	09 34 17.7	-0.2
LMEL	Las Melosas	1.04	10	eP	Pb	09 34 18.7	-0.5
LMEL				i S	Sb	09 34 33.9	+0.6
LMEL				AMP		09 34 35.7	
	comp=N,174nm,0.2s						
TALC	Talca	1.13	242	⇑iP	Pb	09 34 20.1	-0.5
TALC				i S	Sb	09 34 36.0	+0.3
TALC				AMP		09 34 36.5	
	comp=N,1µm,0.1s						
LNV	Longovilo	1.24	318	⇓iP	Pb	09 34 22.2	-0.4
LNV				i S	Sb	09 34 39.7	+0.8
TACH	Talagante	1.30	340	eP	Pb	09 34 23.2	-0.4
CLCH	Cerro Calan	1.48	356	AMP		09 35 00.8	
	comp=E,78nm,0.8s						
FCH	Farellones	1.55	4	eP	Pn	09 34 27.9	+0.3
FCH				AMP		09 35 03.7	
	comp=N,61nm,0.3s						
LCCH	Las Cruces	1.70	325	i P	Pn	09 34 29.7	+0.1
LCCH				i S	Sb	09 34 53.0	+0.7

CASC 29 09:39:36.4±1.9**, 13.31N×90.01W, h41**^{km}±39^{km}**, MD3.6,**
ML3.7, 6C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.60	6	⇓eP	P	09 39 48.7	+0.3
CUSS				eS	S	09 39 58.2	+1.0
SBLS	San Blas	0.64	35	⇓eP	P	09 39 49.5	+0.4
SBLS				eS	S	09 39 58.9	+0.6
SNJE	San Jose	0.68	35	⇓eP	P	09 39 50.0	+0.4
SNJE				eS	S	09 39 59.9	+0.7
RTR	El Retiro	0.68	31	⇓eP	P	09 39 50.3	+0.7
RTR				eS	S	09 40 01.0	+1.8
BOQS	Boqueron	0.82	59	⇓eP	P	09 39 51.7	+0.1
BOQS				eS	S	09 40 04.1	+1.3
SNET	Serv Nac Est T	0.84	64	eP	P	09 39 51.7	-0.1
SNET				eS	S	09 40 03.7	+0.4
SNET				i		09 40 09.5	
	comp=Z,1µm,0.4s						
RBDL	Robledal	0.85	21	⇓eP	P	09 39 53.0	+1.0
IXG	Ixpaco	0.96	333	⇓eP	P	09 39 53.3	-0.3
IXG				eS	S	09 40 06.9	+0.6
IXG				AML	AML	09 40 07.5	
	comp=N,6µm,0.4s						
LFRS	El Faro	0.97	71	⇑eP	P	09 39 53.2	-0.5
LFRS				eS	S	09 40 06.6	+0.1
LFU	La Fuente	0.97	63	⇓eP	P	09 39 53.8	+0.1
LBRS	Las Brisas	1.03	66	⇑eP	P	09 39 54.6	0.0
LBRS				eS	S	09 40 08.5	+0.5
LCBS	La Ceiba	1.06	71	⇑eP	P	09 39 54.6	-0.3
LCBS				eS	S	09 40 08.2	-0.5
MTO2	Montecristo 2	1.25	30	⇑eP	P	09 39 58.5	+0.8
FUG	Fuego 3	1.39	324	⇑eP	P	09 39 59.3	-0.4
FUG				eS	S	09 40 16.8	-0.3
VSM	San Miguel	1.69	86	eP	P	09 40 04.3	+0.3
VSM				eS	S	09 40 25.1	+0.5
BLLM	Bellamira	1.73	85	eP	P	09 40 02.5	-2.0
BLLM				eS	S	09 40 28.1	+2.6
MRL	Marmol	1.77	10	⇓eP	P	09 40 06.2	+1.0
MRL				eS	S	09 40 26.8	+0.2
JAT	Jato	1.87	302	⇑eP	P	09 40 06.4	-0.2
JAT				eS	S	09 40 29.7	+0.6
JAT				AML	AML	09 40 34.0	
	comp=E,447nm,0.3s						
CNCH	Conchagua	2.12	91	eP	P	09 40 08.8	-1.2
CNCH				eS	S	09 40 35.4	+0.1

IDC 29 09:45:56.3±3.0**, 5.69S×147.00E, mb3.6**/2**, mb1 3.7**/3**,**
mb1mx3.5/12**, ML3.4**/1**, Error ellipse: s-maj=90.3km**
s-min=50.5km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.77	220	P	P	09 50 17.0	-2.4
	0.1nm,0.3s,baz=46,slow=11,SNR=13						
WRA				PcP	PcP	09 54 44.9	-2.5
	0.0nm,0.3s,baz=34,slow=2.1,SNR=5.2						
ASAR	Alice Springs	21.88	214	P	P	09 50 50.5	-2.4
	0.4nm,0.6s,baz=48,slow=8.2,SNR=8.1						
STKA	Stephens Creek	26.54	190	P	P	09 51 36.5	-1.3
	3.9nm,1.1s,baz=12,slow=9.3,SNR=3.9						

WEL 29 09:53:03.8±0.3**, 37.84S×176.15E, h277**^{km}±3^{km}**, ML3.5**/2**,**

1C,Error ellipse: s-maj=6.6km s-min=6.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	0.87	120	⇑PN	P	09 53 40.9	-0.4
URZ				SN	S	09 54 10.0	-0.7
MWZ	**Matawai**	1.19	115	PN	P	09 53 42.9	-0.1
MWZ				SN	S	09 54 14.1	+0.4
MGZ	**Maungaku**	1.26	202	PN	P	09 53 43.4	0.0
BKZ	**Black Stump Fm**	1.36	169	PN	P	09 53 43.8	-0.3
BKZ				SN	S	09 54 14.7	-0.8
NGZ	**Ngauruhoe**	1.41	198	PN	P	09 53 44.3	-0.1
CNZ	**Chateau**	1.44	199	PN	P	09 53 44.4	-0.2
TUVZ	**Tukino**	1.48	195	PN	P	09 53 44.7	-0.3
FWVZ	**Far West T-bar**	1.50	198	PN	P	09 53 44.6	-0.4
WNVZ	**Wahianoa**	1.55	196	PN	P	09 53 45.2	-0.2
MXZ	**Matakaoa Point**	1.73	82	PN	P	09 53 46.5	-0.2
WAZ	**Wanganui**	2.12	205	PN	P	09 53 49.1	-0.8
TSZ	**Takapari Road**	2.23	184	PN	P	09 53 49.6	-1.3
MRZ	**Mangatainoka R**	2.86	189	PN	P	09 53 54.9	-2.1
MRZ				SN	S	09 54 36.3	-2.0
KIW	**Kapiti Island**	3.17	197	PN	P	09 53 58.2	-2.1
MTW	**Mount Morrison**	3.36	188	*e*PN	P	09 53 59.4	-2.9
CAW	**Cannon Point**	3.38	194	*e*PN	P	09 53 59.9	-2.5
MRW	**Makara Radio**	3.57	198	*e*PN	P	09 54 02.2	-2.4
TUWZ	**Tuamarina**	3.98	205	PN	P	09 54 06.4	-2.7
NNZ	**Nelson**	4.00	212	PN	P	09 54 05.9	-3.5
QRZ	**Quartz Range**	4.10	222	PN	P	09 54 06.2	-4.3
KHZ	**Kahutara**	5.00	203	PN	P	09 54 18.3	-2.6
DSZ	**Denniston Nort**	5.15	219	*e*PN	P	09 54 19.0	-3.7
LTZ	**Lake Taylor**	5.76	210	*e*PN	P	09 54 25.5	-4.7
MQZ	**McQueen's Vall**	6.44	203	SN	S	09 55 45.9	-6.9

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*IDC **29** 10:30:18.2±1.7,4.06S×133.43E,mb3.7/2,mb1 4.0/5,mb1mx3.8/12,ML3.7/3,Error ellipse: s-maj=66.0km s-min=25.1km az=70.0*

*NEIC **29** 10:30:22.9±1.2,4.04S×133.46E,h30^{km},mb3.7/3,Error ellipse: s-maj=23.8km s-min=17.5km az=75.0*

ISC 29 10:30:21.0±2.4,4.15S±0.09×133.4E±0.2,h33^{km}±23^{km},n12,σ1^{s}21/18,mb3.6/1,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	8.55	187	*e*P	P	10 32 26.6	+1.3
	4.9nm,0.3s						
KAKA				*e*S	S	10 34 02.0	+0.3
WRAB	**Tennant Creek**	15.71	177	*e*P	P	10 34 00.8	-0.8
	4.2nm,0.7s						
WRA	**Warramunga Arr**	15.72	177	Pn	P	10 34 00.3	-1.4
	0.3nm,0.3s,baz=358,slow=13,SNR=20						
WRA				Sn	S	10 36 49.4	-5.5
	0.3nm,0.3s,baz=353,slow=24,SNR=7.9						
WB2	**Warramunga Arr**	15.72	177	*e*P	P	10 34 00.9	-0.9
WB2				*e*S	S	10 36 50.0	-5.0
FITZ	**Fitzroy Crossi**	15.80	208	*e*P	P	10 34 04.1	+1.3
	4.1nm,1.2s						
FITZ				*e*S	S	10 36 53.1	-3.8
FITZ	**Fitzroy Crossi**	15.80	208	Pn	P	10 34 03.2	+0.4
	0.5nm,0.3s,baz=21,slow=12,SNR=12						
FITZ				Sn	S	10 36 52.8	-4.1
	0.7nm,0.3s,baz=180,slow=20,SNR=7.1						
ASAR	**Alice Springs**	19.41	179	P	P	10 34 48.1	+0.9
	0.3nm,0.3s,baz=6.0,slow=12,SNR=20						
ASAR				S	S	10 38 19.6	+0.6
	0.1nm,0.3s,baz=356,slow=26,SNR=4.9						
ASPA	**Alice Springs**	19.41	179	*e*P	P	10 34 49.8	+2.5
CTA	**Charters Tower**	20.20	143	P	P	10 34 55.5	-0.3
	3.6nm,0.5s,baz=334,slow=11,SNR=8.1						
CTA	**Charters Tower**	20.20	143	P	P	10 34 55.5	-0.3
CTAO	**Charters Tower**	20.20	143	*e*P	P	10 34 55.5	-0.3
	4.3nm,0.5s						
MKAR	**Makanchi Array**	67.78	325	P	P	10 41 17.6	0.0
	0.3nm,0.5s,mb3.6,baz=112,slow=7.8,SNR=3.0						

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*TIR **29** 10:30:42.1,41.21N×19.52E,h14^{km},Ml2.3*

*THE **29** 10:30:44.6,41.36N×19.57E,h20^{km},ML3.1*

*PDG **29** 10:30:44.8±0.2,41.29N×19.53E,h11^{km}*

*NEIC **29** 10:30:44.8,41.29N×19.53E,h11^{km},MD2.9(PDG),ML3.1(THE),After PDG.*

ISC 29 10:30:43.2±0.3,41.21N±0.02×19.58E±0.02,h11^{km},n33,σ1^{s}23/59,2C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	0.26	56	*i* Pg	Pg	10 30 48.0	-0.7
TIR				*i* Sg	Sg	10 30 52.5	+0.2
QSH	**Qafa e Shtames**	0.40	37	*i* Pg	Pg	10 30 52.0	+0.6
QSH				*i* Sg	Sg	10 30 57.0	+0.1
ULC	**Ulcinj**	0.80	342	⇓*i*Pg	Pg	10 30 58.2	-1.1
ULC				*e*Sg	Sg	10 31 09.7	-0.3
PUK	**Puka**	0.87	15	*i* Pg	Pg	10 30 59.3	-1.4
PUK				*i* Sg	Sg	10 31 13.2	+0.9
BUM	**Brajici-Budva**	1.21	335	*e*Pg	Pg	10 31 05.9	-1.5
BUM				*e*Sg	Sg	10 31 23.3	-0.3
TTG	**Podgorica**	1.25	349	⇑*i*Pg	Pg	10 31 06.3	-1.9
TTG				*e*Sg	Sg	10 31 24.3	-0.6
BIA	**Bitola**	1.33	97	*i* Pn	Pn	10 31 07.5	-0.3
BIA				*i*		10 31 08.9	
BIA				*i* Sg	Sg	10 31 25.9	-1.7
LCI	**Lecce**	1.42	233	*e*Pn	Pn	10 31 09.4	+0.3
LCI				*e*Sn	Sn	10 31 35.1	+7.3
PVY	**Plav**	1.42	12	*e*Pg	Pg	10 31 09.8	-1.8
PVY				*e*Sg	Sg	10 31 30.9	+0.3
FNA	**Florina**	1.42	107	*e*Pb	Pb	10 31 08.6	-0.7
	comp=Z,4.2nm,0.5s						
FNA				*e*Sb	Sb	10 31 27.8	+0.5
HCY	**Herceg Novi**	1.48	327	⇓*i*Pg	Pg	10 31 09.9	-3.0
HCY				*e*Sg	Sg	10 31 31.8	-0.9
SKO	**Skopje**	1.59	61	*i* Pn	Pn	10 31 12.6	+1.1
NKY	**Niksic**	1.66	345	⇑*i*Pn	Pn	10 31 13.7	+1.1
NKY				*e*Sn	Sn	10 31 36.6	+2.5
IVA	**Berane**	1.68	8	⇓*i*Pn	Pn	10 31 14.2	+1.3
IVA				*e*Sn	Sn	10 31 37.0	+2.5
IGT	**Igoumenitsa**	1.77	161	*e*Pb	Pb	10 31 15.3	+0.1
IGT				*e*Sb	Sb	10 31 38.6	+1.3
BRY	**Bratogost**	1.86	336	*e*Pn	Pn	10 31 16.3	+0.9
BRY				*e*Sn	Sn	10 31 42.0	+2.9
MEV	**Metsovon**	1.89	138	*e*Pn	Pn	10 31 17.5	+1.6
	comp=Z,3.6nm,0.5s						
MEV				*e*Sn	Sn	10 31 42.6	+2.7
UPM	**Unac-Piva**	2.06	346	*e*Pn	Pn	10 31 19.5	+1.3
UPM				*e*Sn	Sn	10 31 46.4	+2.3
PLE	**Pljevlja**	2.13	356	*e*Pn	Pn	10 31 20.2	+1.0
PLE				*e*Sn	Sn	10 31 48.2	+2.4
GRG	**Griva**	2.14	96	*e*Pn	Pn	10 31 19.1	-0.4
GRG				*e*Sn	Sn	10 31 46.1	-0.2
STON	**Ston**	2.18	320	*i* Pn	Pn	10 31 19.1	-0.8
STON				*i* Sn	Sn	10 31 46.2	-0.9
LIT	**Litokhoron**	2.47	116	*e*Pn	Pn	10 31 24.3	+0.1
LIT				*e*Sn	Sn	10 31 54.3	-0.3
KNT	**Kendrikon**	2.50	90	*e*Pn	Pn	10 31 23.7	-0.9
KNT				*e*Sn	Sn	10 31 54.0	-1.3
SOH	**Sokhos**	2.88	96	*e*Pn	Pn	10 31 28.6	-1.4
SOH				*e*Sn	Sn	10 32 05.0	+0.1
TIP	**Timpagrande**	2.96	228	*e*Pn	Pn	10 31 30.1	-1.0
SLCN	**Sala Consilina**	3.11	256	*e*Pn	Pn	10 31 33.3	+0.1
MRLC	**Muro Lucano**	3.13	263	*e*Pn	Pn	10 31 33.8	+0.2
MRLC				*e*Sn	Sn	10 32 15.3	+3.9
MGR	**Morigerati**	3.25	252	*e*Pn	Pn	10 31 35.3	+0.1
SGO	**Sicignano**	3.31	260	*e*Pn	Pn	10 31 35.7	-0.3
CSSN	**Cassano Irpino**	3.47	266	*e*Pn	Pn	10 31 38.9	+0.6
CSSN				*e*Sn	Sn	10 32 21.9	+2.1
SGG	**Gregorio Mates**	3.93	274	*e*Pn	Pn	10 31 45.0	+0.2
NRCA	**Norcia**	5.09	291	*e*Pn	Pn	10 31 60.0	-1.3
NRCA				*e*Sn	Sn	10 32 58.3	-2.4
FSSB	**Fossombrone**	5.62	299	*e*Pn	Pn	10 32 06.5	-2.3

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*IDC **29** 10:36:24.4±5.7,34.26S×179.30E,h154^{km}±39^{km},mb3.6/3,mb1 3.8/5,mb1mx3.7/13,Error ellipse: s-maj=54.5km s-min=27.6km az=58.0*

*NEIC **29** 10:36:35.2±1.6,35.24S×178.65E,h230^{km}±9^{km},mb4.1/3,Error ellipse: s-maj=21.3km s-min=17.5km az=57.0*

ISC 29 10:36:28.5±1.1,34.7S±0.1×178.8E±0.2,h231^{km}±10^{km},n77,σ1^{s}56/85,mb3.8/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.86	188	P	P	10 37 17.9	-0.8
MXZ				S	S	10 37 57.2	-0.4
MXZ	**Matakaoa Point**	2.86	188	*e*P	P	10 37 18.1	-0.6
PUZ	**Puketiti**	3.37	188	P	P	10 37 23.9	-0.6
PUZ				S	S	10 38 09.1	+1.1
PUZ	**Puketiti**	3.37	188	P	P	10 37 24.0	-0.5
PUZ				S	S	10 38 09.2	+1.2
MWZ	**Matawai**	3.75	196	P	P	10 37 29.3	+0.3
MWZ				S	S	10 38 18.5	+2.6
MWZ	**Matawai**	3.75	196	P	P	10 37 29.4	+0.4
MWZ				S	S	10 38 18.6	+2.7
EDRZ	**Edgecumbe**	3.77	206	P	P	10 37 32.5	+3.3
EDRZ	**Edgecumbe**	3.77	206	P	P	10 37 32.6	+3.4
URZ	**Urewera**	3.78	201	P	P	10 37 30.6	+1.2
	18nm,0.3s,baz=273,slow=4.6,SNR=162						
URZ				S	S	10 38 19.8	+3.2
	15nm,0.3s,baz=258,slow=23,SNR=14						
TAZ	**Tarawera**	3.96	207	*e*P	P	10 37 35.8	+4.2
TAZ	**Tarawera**	3.96	207	P	P	10 37 36.0	+4.4
KNZ	**Kokohu**	4.38	192	P	P	10 37 36.0	-0.7
KNZ				S	S	10 38 31.9	+2.3
BKZ	**Black Stump Fm**	4.81	202	P	P	10 37 41.9	0.0
BKZ				S	S	10 38 41.7	+2.7
BKZ	**Black Stump Fm**	4.81	202	*e*P	P	10 37 42.1	+0.2
KATZ	**Kakaramea**	4.92	210	*e*P	P	10 37 45.9	+2.6
KAVZ	**Karewarewa**	5.05	209	P	P	10 37 47.1	+2.2
NGZ	**Ngauruhoe**	5.13	209	P	P	10 37 47.5	+1.5
NGZ	**Ngauruhoe**	5.13	209	P	P	10 37 47.6	+1.6
FWVZ	**Far West T-bar**	5.22	209	*e*P	P	10 37 48.2	+1.1
FWVZ	**Far West T-bar**	5.22	209	*e*P	P	10 37 48.5	+1.4
VRZ	**Vera Road**	5.46	215	*e*P	P	10 37 53.1	+3.0
VRZ	**Vera Road**	5.46	215	P	P	10 37 53.5	+3.4
PWZ	**Pawanui**	5.52	196	*e*P	P	10 37 49.1	-1.7
TSZ	**Takapari Road**	5.79	202	P	P	10 37 53.4	-0.8
TSZ	**Takapari Road**	5.79	202	*e*P	P	10 37 53.4	-0.8
WAZ	**Wanganui**	5.88	210	*e*P	P	10 37 56.3	+1.0
WAZ	**Wanganui**	5.88	210	*e*P	P	10 37 56.4	+1.1
NRZ	**Ngariki Road**	6.03	219	P	P	10 38 03.1	+5.8
MRZ	**Mangatainoka R**	6.46	202	*e*P	P	10 38 00.4	-2.3
MRZ				S	S	10 39 15.3	-1.0
MRZ	**Mangatainoka R**	6.46	202	*e*P	P	10 38 01.2	-1.5
KIW	**Kapiti Island**	6.86	206	*e*P	P	10 38 06.8	-1.1
KIW	**Kapiti Island**	6.86	206	P	P	10 38 07.1	-0.8
MTW	**Mount Morrison**	6.93	201	*e*P	P	10 38 06.8	-2.0
MTW	**Mount Morrison**	6.93	201	P	P	10 38 07.1	-1.7
CAW	**Cannon Point**	7.02	204	*e*P	P	10 38 08.2	-1.8
CAW	**Cannon Point**	7.02	204	P	P	10 38 08.3	-1.7
MRW	**Makara Radio**	7.26	205	*e*P	P	10 38 11.4	-1.6
MRW	**Makara Radio**	7.26	205	P	P	10 38 11.6	-1.4
WEL	**Wellington**	7.28	205	*e*P	P	10 38 12.3	-1.0
WEL	**Wellington**	7.28	205	P	P	10 38 11.9	-1.4
SNZO	**South Karori**	7.33	205	*e*P	P	10 38 12.0	-1.9
SNZO	**South Karori**	7.33	205	*e*P	P	10 38 12.3	-1.6
SNZO				*e*Sn	S	10 39 39.0	+2.7
NNZ	**Nelson**	7.77	212	*e*P	P	10 38 18.1	-1.5
NNZ				S	S	10 39 48.3	+1.8
NNZ	**Nelson**	7.77	212	*e*P	P	10 38 18.6	-1.0
QRZ	**Quartz Range**	7.86	217	*e*P	P	10 38 20.6	-0.1
QRZ	**Quartz Range**	7.86	217	*e*P	P	10 38 20.7	0.0
THZ	**Tophouse**	8.42	212	*e*P	P	10 38 27.1	-0.8
THZ	**Tophouse**	8.42	212	*e*P	P	10 38 27.4	-0.5
KHZ	**Kahutara**	8.72	207	*e*P	P	10 38 29.9	-1.8
KHZ	**Kahutara**	8.72	207	*e*P	P	10 38 30.3	-1.4
DSZ	**Denniston Nort**	8.91	216	*e*P	P	10 38 34.3	0.0
LTZ	**Lake Taylor**	9.53	210	*e*P	P	10 38 40.7	-1.3
MQZ	**McQueen's Vall**	10.16	206	*e*P	P	10 38 47.5	-2.6
MQZ				S	S	10 40 38.9	-2.3
MQZ	**McQueen's Vall**	10.16	206	*e*P	P	10 38 47.6	-2.5
WVZ	**Waitaha Valley**	10.44	215	*e*P	P	10 38 53.6	-0.1
WVZ	**Waitaha Valley**	10.44	215	*e*P	P	10 38 54.2	+0.5
RPZ	**Rata Peaks**	10.80	212	P	P	10 38 58.4	+0.1
	1.6nm,0.3s,baz=18,slow=20,SNR=17						
RPZ				S	S	10 40 55.5	-0.6
	0.8nm,0.3s,baz=138,slow=17,SNR=6.3						
RPZ	**Rata Peaks**	10.80	212	*e*P	P	10 38 57.6	-0.7
RPZ	**Rata Peaks**	10.80	212	*e*P	P	10 38 57.8	-0.5
LBZ	**Lake Benmore**	11.71	212	*e*P	P	10 39 09.3	-0.5
ODZ	**Otahua Downs**	12.06	209	*e*P	P	10 39 13.5	-0.6
ODZ	**Otahua Downs**	12.06	209	*e*P	P	10 39 13.6	-0.5
JCZ	**Jackson Bay**	12.14	217	*e*P	P	10 39 13.9	-1.3
WKZ	**Wanaka**	12.58	214	*e*P	P	10 39 19.7	-0.9
MSZ	**Milford Sound**	12.98	217	*e*P	P	10 39 27.2	+1.5
ASAR	**Alice Springs**	40.43	273	P	P	10 43 51.2	+5.2
	1.0nm,0.6s,mb3.4,baz=115,slow=7.6,SNR=11						
WRAB	**Tennant Creek**	41.82	279	*e*P	P	10 44 01.7	+4.3
WRA	**Warramunga Arr**	41.83	279	P	P	10 44 01.5	+4.1
	1.4nm,0.8s,mb3.4,baz=120,slow=7.4,SNR=25						
SBA	**Scott Base**	43.55	184	P	P	10 44 12.5	+2.0
	0.9nm,0.4s,mb3.5						
QSPA	**South Pole Qui**	55.39	180	*e*P	P	10 45 47.5	+7.4
	4.3nm,0.7s,mb4.1						
MAW	**Mawson**	67.31	202	P	P	10 47 06.0	+6.3
	2.5nm,0.6s,mb4.0,baz=128,slow=5.3,SNR=14						
SNAA	**Sanae**	73.89	179	*e*P	P	10 47 42.6	+3.5
	11nm,1.1s,mb4.4						
FINES	**FINESS Array B**	148.12	335	PKPbc	PKPdf	10 55 49.0	+6.7
	3.9nm,1.0s,baz=56,slow=5.0,SNR=5.1						
FINES	**FINESS Array B**	148.12	335	PKPbc	PKPdf	10 55 49.0	+6.7
LIC	**Lamto**	151.41	172	*e*P	PKPdf	10 56 01.0	+12
	43nm,1.5s						
KIC	**Kosan Boka**	151.58	173	*e*P	PKPdf	10 55 58.1	+9.0
	41nm,1.1s						
TIC	**Toumodi**	151.83	172	*e*P	PKPdf	10 55 58.4	+8.9
	6.1nm,0.2s						

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*IDC **29** 11:28:25.9±1.3,4.37S×101.36E,h29^{km}±5^{km},mb4.0/11,mb1 4.1/11,mb1mx4.0/15,Error ellipse: s-maj=49.5km s-min=13.2km az=53.0*

*NEIC **29** 11:28:26.0±0.8,4.31S×101.42E,mb4.4/2,Error ellipse: s-maj=38.2km s-min=10.5km az=51.0*

ISC 29 11:28:24.2±0.9,4.3S±0.2×101.5E±0.3,h29^{km},h29^{km}±.4^{km}:pP-P,n16,σ0^{s}95/15,mb4.2/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	22.70	354	P	P	11 33 25.9	+0.8
	2.6nm,0.9s,mb3.6,baz=185,slow=7.9,SNR=12						
CMAR				pP		11 33 35.4	
	2.7nm,0.6s,baz=185,slow=8.6,SNR=5.8						
WRA	**Warramunga Arr**	35.58	119	P	P	11 35 20.6	-0.8
	1.1nm,0.6s,mb4.0,baz=302,slow=8.9,SNR=11						
WRA				pP	pP	11 35 29.5	-0.5
	0.6nm,0.5s,baz=301,slow=9.1,SNR=5.5						
WRAB	**Tennant Creek**	35.59	119	*e*P	P	11 35 20.8	-0.6
	3.1nm,0.5s,mb4.5						
ASAR	**Alice Springs**	36.73	125	P	P	11 35 31.4	+0.4
	2.6nm,0.8s,mb4.1,baz=294,slow=8.1,SNR=30						
STKA	**Stephens Creek**	46.54	131	P	P	11 36 52.2	+0.9
	4.9nm,0.7s,mb4.5,baz=295,slow=7.6,SNR=14						
SONM	**Songino Array**	52.04	4	P	P	11 37 34.1	+0.6
	2.5nm,0.6s,mb4.3,baz=184,slow=9.1,SNR=28						
SONM				pP	pP	11 37 42.7	+0.4
	2.2nm,0.6s,baz=188,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	53.59	344	P	P	11 37 45.1	+0.1
	3.1nm,0.7s,mb4.4,baz=146,slow=8.4,SNR=32						
MKAR				pP	pP	11 37 53.9	+0.1
	1.9nm,0.6s,baz=151,slow=8.7,SNR=9.1						
MKAR	**Makanchi Array**	53.59	344	P	P	11 37 45.1	+0.1
MKAR				pP	pP	11 37 53.9	+0.1
KURK	**Kurchatov**	58.18	343	*e*P	P	11 38 15.2	-2.8
	3.1nm,0.9s,mb4.3						
KURK				*e*		11 38 28.1	
BVAR	**Borovoye Array**	62.80	339	P	P	11 38 48.1	-1.3
	1.6nm,0.5s,mb4.4,baz=146,slow=5.3,SNR=8.6						
BRTR	**Keskin Array B**	75.94	313	P	P	11 40 09.8	-0.7
	1.1nm,0.7s,mb3.9,baz=136,slow=6.8,SNR=5.9						
FINES	**FINESS Array B**	86.79	332	P	P	11 41 07.2	+0.4
	2.4nm,0.9s,mb4.4,baz=112,slow=10,SNR=5.0						
FINES	**FINESS Array B**	86.79	332	P	P	11 41 07.2	+0.4
ARCES	**ARCESS Array B**	89.09	340	P	P	11 41 18.1	+0.4
	1.3nm,0.7s,mb4.4,baz=82,slow=8.6,SNR=4.0						
GERES	**GERESS Array B**	91.72	319	P	P	11 41 31.7	+1.3
	0.1nm,0.3s,mb3.6,baz=104,slow=5.5,SNR=5.7						
TXAR	**Lajitas Array**	145.48	41	PKPbc	PKPbc	11 48 02.8	+1.9
	1.7nm,0.6s,baz=297,slow=1.0,SNR=30						

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*MAN **29** 11:38:45.7,14.96N×119.90E,h15^{km},mb4.2,ML3.0,MS2.7*

*IDC **29** 11:38:52.0±1.3,14.85N×120.27E,h89^{km}±12^{km},mb3.3/4,mb1 3.6/4,mb1mx3.3/17,MS3.9/1,Ms1 3.9/1,ms1mx2.6/13,Error ellipse: s-maj=68.4km s-min=18.2km az=52.0*

*NEIC **29** 11:38:51.0±1.2,14.91N×120.36E,h83^{km}±12^{km},mb4.1/1,Error ellipse: s-maj=39.8km s-min=11.9km az=52.0*

ISC 29 11:38:45.3±0.6,14.97N±0.04×119.92E±0.06,h15^{km},n27,σ1^{s}14/31,mb3.7/4,3C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	**Mount Natib**	0.54	115	⇓*i*P	Pb	11 38 57.0	+1.1
SCZP	**Santa Cruz**	0.80	360	*e*P	Pb	11 39 00.8	+0.4
SCZP				*e*S	Sb	11 39 06.0	-4.8
LUBP	**Lubang**	1.27	165	*e*P	Pb	11 39 07.5	-1.0
LUBP				*e*S	Sb	11 39 19.7	-4.7
ARP	**Angono**	1.27	110	*e*P	Pb	11 39 07.2	-1.3
TGY	**Tagaytay City**	1.31	131	⇑*i*P	Pb	11 39 10.2	+1.0
TGY				*i* S	Sb	11 39 23.3	-2.4
TGY	**Tagaytay City**	1.31	131	P	Pb	11 39 10.1	+0.9
	328nm,0.3s,baz=133,slow=3.9,SNR=12						
TGY				S	Sb	11 39 26.8	+1.2
	304nm,0.3s,baz=270,slow=22,SNR=9.8						
BOLP	**Bolinao**	1.40	360	*e*P	Pn	11 39 10.3	-0.2
BOLP				*e*S	Sb	11 40 00.4	+32
LBPH	**Los Banos**	1.47	123	⇑*i*P	Pn	11 39 11.2	-0.3
BCPH	**Baguio City Da**	1.54	24	⇑*i*P	Pn	11 39 12.1	-0.4
BCPH				*i* S	Sn	11 39 30.7	-1.6
BALP	**Baler**	1.78	64	*e*P	Pn	11 39 14.7	-1.1
POLP	**Polilio Island**	1.97	97	*e*P	Pn	11 39 19.7	+1.1
BOAC	**Boac**	2.40	129	*e*P	Pn	11 39 31.2	+6.4
CAUP	**Cauayan**	2.69	43	*e*P	Pn	11 39 29.7	+0.8
SJMP	**San Jose**	2.75	155	*e*P	Pn	11 39 30.5	+0.7
ABRA	**Dolores**	2.77	16	*e*P	Pn	11 39 31.1	+1.1
BUSP	**Coron**	2.96	175	*e*P	Pn	11 39 32.6	-0.2
AUQP	**San Andres**	3.14	121	*e*P	Pn	11 39 26.7	-8.6
APYP	**Conner**	3.15	24	*e*P	Pn	11 39 37.5	+2.1
ENPP	**El Nido**	3.77	187	*e*P	Pn	11 39 44.0	-0.3
JOW	**Kunigami**	14.14	32	LR	LR	11 47 17.6	
	comp=Z,459nm,18.2s,baz=324,slow=36						
CMAR	**Chiang Mai Arr**	20.38	283	P	P	11 43 25.9	+1.5
	0.8nm,0.5s,baz=90,slow=9.9,SNR=5.6						
WRAB	**Tennant Creek**	37.48	157	*e*P	P	11 45 54.8	-5.5
	1.4nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	37.48	157	P	P	11 45 54.9	-5.5
	1.0nm,0.4s,mb4.0,baz=336,slow=9.5,SNR=19						
ASAR	**Alice Springs**	40.76	160	P	P	11 46 22.6	-5.0
	0.7nm,0.5s,mb3.5,baz=340,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	44.56	323	P	P	11 46 57.6	-0.9
	0.5nm,0.9s,mb3.4,baz=127,slow=8.9,SNR=3.4						
KURK	**Kurchatov**	48.72	326	*e*P	P	11 47 28.6	-2.5
MOX	**Moxa**	89.73	323	*e*P	P	11 51 50.0	+5.7

GUC 29 11:54:14.1±0.8,35.00S×70.50W,h5^{km}±3^{km},MD3.6,ML2.5,2C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.57	312	⇓*i*P	Pg	11 54 25.8	+0.2
SFDO				*i* S	Sg	11 54 34.2	+1.1
NICH	**Los Niches**	0.60	270	⇓*i*P	Pg	11 54 26.5	+0.4
NICH				*e*S	Sg	11 54 35.6	+1.6
CICH	**Cipreses**	0.68	6	⇓*i*P	Pg	11 54 27.0	-0.7
CICH				*i* S	Sg	11 54 37.1	+0.3
CACH	**El Canelo**	0.89	355	⇑*i*P	Pb	11 54 30.7	-0.8
CACH				*i* S	Sb	11 54 43.8	+0.4
TALC	**Talca**	1.01	247	⇓*i*P	Pb	11 54 33.0	-0.7
TALC				*i* S	Sb	11 54 47.0	-0.1
CHCH	**Chadas Angostu**	1.07	353	⇓*i*P	Pb	11 54 34.3	-0.5
LMEL	**Las Melosas**	1.18	12	⇑*i*P	Pb	11 54 35.7	-0.8
LMEL				*i* S	Sb	11 54 52.4	+0.5
LMEL				AMP		11 54 54.5	
	comp=N,145nm,0.1s						
LNV	**Longovilo**	1.28	324	*e*P	Pb	11 54 37.9	-0.5
LNV				*i* S	Sb	11 54 55.5	+0.4
PCH	**Pirque**	1.38	360	*e*P	Pb	11 54 39.1	-0.8
TACH	**Talagante**	1.39	345	*e*P	Pb	11 54 39.6	-0.7
TACH				*e*S	Sb	11 54 58.7	+0.6
CLCH	**Cerro Calan**	1.60	359	AMP		11 55 17.1	
	comp=N,128nm,0.6s						
FCH	**Farellones**	1.68	6	*e*P	Pn	11 54 44.9	+0.5
FCH				AMP		11 55 20.5	
	comp=N,96nm,0.2s						
LCCH	**Las Cruces**	1.76	329	*i* P	Pn	11 54 46.0	+0.5
LCCH				*i* S	Sn	11 55 09.6	+1.0

IDC 29 11:54:55.9±1.0,52.64S×136.82W,mb4.0/4,mb1 4.3/4,mb1mx4.0/13,MS3.8/11,Ms1 3.8/11,ms1mx3.7/14,2C-1D,Error ellipse: s-maj=73.3km s-min=27.3km az=169.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	34.74	276	LR	LR	12 12 24.5	
	comp=Z,148nm,21.4s,baz=116,slow=30						
PPT	**Papeete**	36.40	339	*e*S	S	12 08 10.0	+24
PPT				*e*R		12 12 31.6	
	492nm,26.2s,baz=171						
PLCA	**Paso Flores**	45.43	102	LR	LR	12 16 42.5	
	comp=Z,110nm,20.1s,baz=211,slow=29						
VNA3	**Neumayer Olymp**	50.87	161	⇑*i*	P	12 03 48.8	-11
VNA2	**Neumayer--Watz**	51.57	161		P	12 03 52.9	-12
VNA1	**Neumayer--Stat**	51.62	161	⇑*i*	P	12 03 53.6	-12
SNAA	**Sanae**	51.81	163	⇓*i*	P	12 03 50.5	-16
STKA	**Stephens Creek**	60.50	255	LR	LR	12 26 50.2	
	comp=Z,73nm,18.2s,baz=206,slow=32						
CPUP	**Villa Florida**	63.28	99	P	P	12 05 26.8	-1.8
	1.7nm,0.7s,baz=224,slow=11,SNR=4.3						
CPUP				LR	LR	12 28 10.2	
	comp=Z,120nm,21.7s,baz=56,slow=32						
LPAZ	**La Paz**	64.30	83	LR	LR	12 24 49.7	
	comp=Z,20nm,20.7s,baz=102,slow=28						
ASAR	**Alice Springs**	71.13	256	P	P	12 06 16.0	-2.1
	1.0nm,0.7s,baz=138,slow=7.1,SNR=6.0						
ASAR				LR	LR	12 32 34.4	
	comp=Z,55nm,21.5s,baz=172,slow=32						
WRA	**Warramunga Arr**	73.72	258	P	P	12 06 32.1	-1.3
	1.2nm,0.7s,baz=144,slow=5.4,SNR=16						
WRA				LR	LR	12 36 11.5	
	comp=Z,109nm,18.2s,baz=170,slow=34						
BDFB	**Brasilia**	77.01	99	LR	LR	12 35 50.1	
	comp=Z,116nm,20.3s,baz=204,slow=32						
ROSC	**El Rosal**	77.65	65	LR	LR	12 35 21.7	
	comp=Z,58nm,18.9s,baz=237,slow=31						
TXAR	**Lajitas Array**	86.61	29	P	P	12 07 40.9	-1.2
	0.1nm,0.7s,baz=194,slow=3.7,SNR=3.1						
NVAR	**Mina Array Bea**	92.11	14	LR	LR	12 40 19.0	
	comp=Z,49nm,19.1s,baz=165,slow=30						
PDAR	**Pinedale Array**	97.90	20	LR	LR	12 45 06.4	
	comp=Z,45nm,21.6s,baz=62,slow=31						
ESDC	**Sonseca Array**	145.49	93	PKPbc	PKPbc	12 14 33.9	-1.8
	0.1nm,0.3s,baz=180,slow=2.6,SNR=2.8						

GUC 29 12:12:03.6±1.1,35.08S×70.50W,h5^{km}±4^{km},MD3.8,ML3.3,4C-7D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.60	277	⇓*i*P	Pg	12 12 15.9	+0.2
NICH				*e*S	Sg	12 12 24.8	+1.1
SFDO	**San Fernando**	0.63	318	⇓*i*P	Pg	12 12 15.8	-0.3
CICH	**Cipreses**	0.76	5	⇓*i*P	Pg	12 12 17.6	-1.3
CICH				*i* S	Sg	12 12 28.1	-0.8
CACH	**El Canelo**	0.96	355	⇑*i*P	Pb	12 12 21.2	-1.2
CACH				*i* S	Sb	12 12 34.9	-0.3
TALC	**Talca**	0.98	251	⇓*i*P	Pb	12 12 22.0	-0.6
TALC				*i* S	Sb	12 12 35.7	0.0
TALC				AMP		12 12 36.0	
	comp=E,6μm,0.1s						
CHCH	**Chadas Angostu**	1.15	354	⇓*i*P	Pb	12 12 24.8	-0.8
CHCH				*i* S	Sb	12 12 40.5	-0.2
LMEL	**Las Melosas**	1.25	11	⇑*i*P	Pb	12 12 26.3	-1.1
LMEL				*i* S	Sb	12 12 43.7	+0.1
LMEL				AMP		12 12 48.2	
	comp=N,363nm,0.3s						
LNV	**Longovilo**	1.35	326	⇑*i*P	Pb	12 12 28.0	-0.9
LNV				*i* S	Sb	12 12 46.4	0.0
PCH	**Pirque**	1.46	360	*e*P	Pn	12 12 30.1	-0.5
TACH	**Talagante**	1.47	346	⇓*i*P	Pn	12 12 30.1	-0.8
TACH				*i* S	Sb	12 12 49.8	-0.1
ANTU	**Antumapu**	1.51	356	⇓*i*P	Pn	12 12 31.2	-0.2
ANTU				*i* S	Sb	12 12 51.4	+0.3
ANTU				AMP		12 12 53.0	

	comp=E,614nm,0.2s						
DSCH	**Colegio Aleman**	1.68	358	AMP		12 12 57.9	
	comp=N,509nm,0.3s						
CLCH	**Cerro Calan**	1.68	359	*e*P	Pn	12 12 32.5	-1.4
CLCH				*e*S	Sn	12 12 55.2	-0.7
CLCH				AMP		12 12 58.5	
	comp=E,402nm,0.6s						
FCH	**Farellones**	1.76	6	⇑*i*P	Pn	12 12 35.2	+0.3
FCH				*e*P		12 12 35.4	
FCH				*i* S	Sn	12 12 59.1	+1.2
FCH				AMP		12 13 00.3	
	comp=E,335nm,0.2s						
LCCH	**Las Cruces**	1.83	331	*e*P	Pn	12 12 36.0	0.0
LCCH				*i* S	Sn	12 13 00.2	+0.5
PEL	**Peldehue**	1.94	355	AMP		12 13 10.6	
	comp=N,505nm,0.3s						
CCHI	**Chillan**	1.99	220	AMP		12 13 13.0	
	comp=N,309nm,0.7s						
CCHI				AMP		12 13 13.3	
	comp=N,593nm,0.7s						

CASC 29 12:41:58.2±1.7, 12.66N×88.63W, h36^{km}±999^{km}, MD3.6, ML3.3, 12C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	0.84	25	⇓*e*P	P	12 42 14.6	+1.1
VSM				*e*S	S	12 42 26.1	+1.2
BLLM	**Bellamira**	0.87	26	⇑*e*P	P	12 42 14.6	+0.6
BLLM				*e*S	S	12 42 26.6	+1.0
SNVI	**San Vicente**	0.97	348	⇓*e*P	P	12 42 15.5	+0.1
SNVI				*e*S	S	12 42 28.3	+0.1
CNCH	**Conchagua**	0.99	52	*e*P	P	12 42 16.1	+0.3
LCBS	**La Ceiba**	1.04	341	⇓*i*P	P	12 42 16.4	-0.1
LCBS				*e*S	S	12 42 29.1	-0.9
LFRS	**El Faro**	1.04	337	⇓*i*P	P	12 42 16.3	-0.2
LBRS	**Las Brisas**	1.14	340	⇓*e*P	P	12 42 18.0	+0.1
SNET	**Serv Nac Est T**	1.17	330	*e*P	P	12 42 17.8	-0.5
SNET				*e*S	S	12 42 33.2	-0.2
SNET				*i*		12 42 33.9	
	comp=Z,728nm,0.2s						
CAHU	**Cacacuatique**	1.18	20	⇑*e*P	P	12 42 19.7	+1.3
CAHU				*e*S	S	12 42 34.9	+1.3
LFU	**La Fuente**	1.18	337	⇑*e*P	P	12 42 18.6	+0.2
BOQS	**Boqueron**	1.24	330	⇑*e*P	P	12 42 19.4	+0.2
BOQS				*e*S	S	12 42 35.2	+0.1
SBLS	**San Blas**	1.52	321	⇑*e*P	P	12 42 23.5	+0.2
SBLS				*e*S	S	12 42 42.2	+0.2
SNJE	**San Jose**	1.53	322	⇑*e*P	P	12 42 23.5	+0.1
SNJE				*e*S	S	12 42 42.7	+0.4
CRIN	**San Cristobal**	1.55	88	⇑*e*P	P	12 42 24.0	+0.3
CRIN				*e*S	S	12 42 44.0	+1.1
RTR	**El Retiro**	1.57	321	⇑*e*P	P	12 42 24.5	+0.4
RTR				*e*S	S	12 42 44.1	+0.6
TELN	**Telica**	1.76	92	⇓*e*P	P	12 42 26.4	-0.4
TELN				*e*S	S	12 42 47.7	-0.5
RBDL	**Robledal**	1.77	325	*e*P	P	12 42 27.2	+0.3
CUSS	**Cusmapa**	1.78	314	*e*P	P	12 42 27.1	0.0
CUSS				*e*S	S	12 42 48.1	-0.6
MTO2	**Montecristo 2**	1.87	338	⇑*e*P	P	12 42 29.4	+1.1
MIRN	**Miramar**	1.89	96	⇑*e*P	P	12 42 28.0	-0.6
MIRN				*e*S	S	12 42 50.4	-1.0
COPN	**Copaltepe**	2.05	103	⇑*e*P	P	12 42 30.0	-1.0
COPN				*e*S	S	12 42 54.5	-1.1
MOMJ	**Momotombo**	2.06	97	⇓*e*P	P	12 42 30.2	-0.9
MOMJ				*e*S	S	12 42 54.8	-0.9
XAVN	**Gruta Xavier**	2.31	102	⇓*e*P	P	12 42 34.4	-0.2
XAVN				*e*S	S	12 43 01.2	-0.9
MGAN	**Managua**	2.39	102	*e*S	S	12 43 02.6	-1.5
	comp=N,188nm,0.3s						
MGAN				*e*		12 43 04.3	
	comp=E,254nm,0.3s						
TICN	**Ticuantepe**	2.43	105	⇑*e*P	P	12 42 36.0	-0.4
TICN				*e*S	S	12 43 04.6	-0.5
PYTN	**Playitas**	2.52	93	⇓*e*P	P	12 42 36.7	-0.9
PYTN				*e*S	S	12 43 08.0	+0.6

GUC 29 12:45:54.1±0.9, 34.98S×70.62W, h6^{km}±5^{km}, MD3.6, ML2.5, 1C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.49	319	⇓*i*P	Pg	12 46 04.2	+0.3
SFDO				*i* S	Sg	12 46 11.8	+1.4
NICH	**Los Niches**	0.50	267	*i* P	Pg	12 46 04.2	0.0
NICH				*i* S	Sg	12 46 11.5	+0.7
CICH	**Cipreses**	0.68	14	⇓*i*P	Pg	12 46 06.9	-0.8
CICH				*i* S	Sg	12 46 17.0	+0.2
CACH	**El Canelo**	0.86	1	⇓*i*P	Pb	12 46 10.2	-0.9
CACH				*i* S	Sb	12 46 23.2	+0.6
CHCH	**Chadas Angostu**	1.05	359	*i* P	Pb	12 46 13.7	-0.5
CHCH				*i* S	Sb	12 46 29.0	+1.0
LMEL	**Las Melosas**	1.18	17	*e*P	Pb	12 46 15.6	-1.0
LMEL				*i* S	Sb	12 46 32.5	+0.5
LMEL				AMP		12 46 33.5	
	comp=N,191nm,0.2s						
LNV	**Longovilo**	1.21	327	⇓*i*P	Pb	12 46 16.6	-0.5
LNV				*i* S	Sb	12 46 33.1	+0.3
TACH	**Talagante**	1.35	349	⇓*i*P	Pb	12 46 18.8	-0.7
TACH				*i* S	Sb	12 46 36.4	-0.5
PCH	**Pirque**	1.36	4	*e*P	Pb	12 46 18.5	-1.1
CLCH	**Cerro Calan**	1.58	3	AMP		12 46 48.4	
	comp=E,112nm,0.7s						
FCH	**Farellones**	1.67	10	⇑*i*P	Pn	12 46 24.4	+0.3
FCH				*e*S	Sn	12 46 47.8	+1.6
FCH				AMP		12 46 49.8	
	comp=N,124nm,0.1s						

MAN 29 13:03:22.1, 16.85N×120.24E, h1^{km}, mb4.1, ML2.9, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	0.56	214	*e*P	Pg	13 03 33.0	-0.4
BCPH	**Baguio City Da**	0.57	145	⇓*i*P	Pg	13 03 32.7	-0.8
BCPH				*i* S	Sg	13 03 40.4	-0.8
ABRA	**Dolores**	0.91	30	*e*P	Pg	13 03 39.5	-0.9
ABRA				*e*S	Sg	13 03 39.8	-13
APYP	**Conner**	1.39	44	*e*P	Pb	13 03 49.1	+0.5
CAUP	**Cauayan**	1.52	86	*e*P	Pn	13 03 50.5	0.0

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*IDC **29** 13:04:17.7±2.8, 15.71S×168.02E, mb3.9/5, mb1 4.0/5, mb1mx3.9/14, Error ellipse: s-maj=116.0km s-min=29.9km az=143.0*

*NEIC **29** 13:04:18.4±1.1, 15.98S×168.18E, h10^{km}, Error ellipse: s-maj=60.9km s-min=19.8km az=149.0*

*LDG **29** 13:04:22.0±0.9, 15.55S×166.89E, h10^{km}, Mb4.1/2, Error ellipse: s-maj=114.7km s-min=68.0km az=37.0*

ISC 29 13:04:31.5±1.0, 15.42S±0.09×167.4E±0.2, h100^{km}, n36, σ1^{s}00/10, mb3.7/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	2.37	161	⇑*i*P	**P**	**13 05 09.3**	**-0.4**
BKM				S	**S**	**13 05 38.5**	**+0.3**
DZM	**Mont Dzumac**	6.68	188	*e*P	**P**	**13 06 08.5**	**-0.1**
NOUC	**Port Laguerre**	6.73	189	*e*P	**P**	**13 06 09.6**	**+0.3**
NOUC				*e*S	**S**	**13 07 08.4**	**-17**
WRA	**Warramunga Arr**	31.80	257	P	**P**	**13 10 48.2**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=84,slow=8.1,SNR=11						
ASAR	**Alice Springs**	32.56	250	P	**P**	**13 10 55.0**	**-0.5**
	0.8nm,0.5s,mb3.8,baz=79,slow=8.7,SNR=21						
SONM	**Songino Array**	83.13	324	P	**P**	**13 16 48.3**	**+0.7**
	1.5nm,0.9s,mb3.8,baz=142,slow=3.9,SNR=8.3						
ILAR	**Eielson Array**	87.14	18	P	**P**	**13 17 05.2**	**-1.8**
	0.2nm,0.5s,mb3.3,baz=234,slow=4.3,SNR=8.0						
MKAR	**Makanchi Array**	97.80	316	P	**P**	**13 17 59.0**	**+2.4**
	0.3nm,0.5s,mb4.1,baz=108,slow=4.5,SNR=3.9						
ARCES	**ARCESS Array B**	120.95	345	PKP	PKPdf	13 23 12.3	+0.4
	0.9nm,0.5s,baz=63,slow=2.7,SNR=13						
ARCES	**ARCESS Array B**	120.95	345	PKP	PKPdf	13 23 12.3	+0.4
GERES	**GERESS Array B**	140.32	333	PKP	PKPdf	13 23 49.8	+1.0
	0.2nm,0.3s,baz=180,slow=1.3,SNR=4.0						
CDF	**Champ du Feu**	143.26	338	*e*PKP1	PKPbc	13 23 53.2	+0.9
HINF	**Hinteralfeld**	143.92	338	*e*PKP1	PKPbc	13 23 54.9	+0.7
HAU	**Haudompre**	143.94	338	*e*PKP1	PKPbc	13 23 54.7	+0.4
CABF	**La Chapelle**	145.21	337	*e*PKP1	PKPbc	13 23 59.0	+1.1
	12nm,0.7s						
FLN	**La Foliniere**	145.29	346	*e*PKP1	PKPbc	13 23 58.8	+0.8
LDF	**La Druitiere**	145.37	345	*e*PKP1	PKPbc	13 23 59.7	+1.5
LOR	**Lormes**	145.43	340	*e*PKP1	PKPbc	13 23 59.9	+1.5
	7.9nm,0.8s						
SSF	**Saint Saulge**	145.73	340	*e*PKP1	PKPbc	13 24 00.9	+1.8
	9.0nm,0.6s						
GRR	**Gorron**	145.73	346	*e*PKP1	PKPbc	13 24 00.4	+1.3
	9.0nm,0.7s						
LPL	**La Plagne**	145.88	336	*e*PKP1	PKPbc	13 24 02.4	+2.8
	5.1nm,0.7s						
LPG	**La Plagne**	145.88	335	*e*PKP1	PKPbc	13 24 01.8	+2.2
	3.1nm,0.5s						
SMF	**Signal de Mont**	145.98	340	*e*PKP1	PKPbc	13 24 01.1	+1.3
AVF	**Avril sur Loir**	146.01	340	*e*PKP1	PKPbc	13 24 01.2	+1.3
	5.1nm,0.7s						
SGMF	**Saint Gilles**	146.23	348	*e*PKP1	PKPbc	13 24 01.7	+1.4
	12nm,0.7s						
BNI	**Bardonecchia**	146.28	335	PKPbc	PKPbc	13 24 02.5	+2.0
BGF	**Bois d'Agland**	146.38	341	*e*PKP1	PKPbc	13 24 02.5	+1.8
	16nm,0.8s						
MBDF	**Montbardon**	146.50	335	*e*PKP1	PKPbc	13 24 04.2	+3.1
	3.0nm,0.7s						
ORIF	**Oris-en-Rattie**	146.71	336	*e*PKP1	PKPbc	13 24 03.8	+2.3
	2.4nm,0.5s						
TCF	**Toulx Ste Croi**	146.82	341	*e*PKP1	PKPbc	13 24 03.8	+2.1
	3.0nm,0.5s						
MFF	**Saint Martin d**	147.22	344	*e*PKP1	PKPdf	13 24 04.8	+4.0
	12nm,0.8s						
FRF	**La Foret Royal**	147.50	334	*e*PKP1	PKPdf	13 24 05.9	+4.6
	4.4nm,0.6s						
RJF	**Les Rejaudoux**	147.92	341	*e*PKP1	PKPdf	13 24 07.9	+6.0
LASF	**Ste Croix**	148.20	337	*e*PKP1	PKPdf	13 24 07.8	+5.4
	7.3nm,0.9s						
LFF	**La Frestale**	148.49	342	*e*PKP1	PKPdf	13 24 10.5	+7.6
ETSF	**Etsaut**	150.74	342	*e*PKP1	PKPdf	13 24 14.4	+8.0
	2.6nm,0.6s						

DJA 29 13:07:55.3±0.9, 8.82S×116.16E, h30^{km}±7^{km}, MD5.2/4, ML3.9/2, 4C-4D, Error ellipse: s-maj=27.4km s-min=13.5km az=164.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	0.33	351	⇓*e*Pg	Pb	13 08 06.5	+3.3
	327nm,0.1s						
KEDI				⇓*e*Sg	Sb	13 08 14.7	+6.1
RATI	**Rata**	0.63	279	⇑*e*Pg	Pb	13 08 09.3	+1.5
RATI				⇓*e*Sg	Sb	13 08 19.8	+3.4
INGI	**Ingas**	1.01	270	⇓*e*Pn	Pn	13 08 13.1	-0.4
	223nm,0.1s						
INGI				⇑*e*Sn	Sn	13 08 27.0	+0.3
KELI	**Kelakatan**	1.76	290	⇑*e*Pn	Pn	13 08 23.9	-0.4
	60nm,0.2s						
KELI				⇑*e*Sn	Sn	13 08 43.2	-2.7

GUC 29 13:36:14.8±1.0, 35.03S×70.58W, h6^{km}±3^{km}, MD3.8, ML2.6, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	0.54	273	⇓*i*P	Pg	13 36 26.0	+0.5
SFDO	**San Fernando**	0.55	319	⇓*i*P	Pg	13 36 25.9	+0.1
SFDO				*i* S	Sg	13 36 34.3	+1.1
CICH	**Cipreses**	0.72	10	*i* P	Pg	13 36 28.2	-1.0
CICH				*i* S	Sg	13 36 38.4	-0.5
CACH	**El Canelo**	0.91	359	⇑*i*P	Pb	13 36 31.7	-1.0
CACH				*i* S	Sb	13 36 44.8	0.0
TALC	**Talca**	0.94	247	⇓*i*P	Pb	13 36 32.5	-0.6
TALC				*i* S	Sb	13 36 45.6	0.0
CHCH	**Chadas Angostu**	1.10	357	⇑*i*P	Pb	13 36 35.4	-0.4
LMEL	**Las Melosas**	1.22	15	⇑*i*P	Pb	13 36 37.0	-0.9
LMEL				*e*S	Sb	13 36 54.0	+0.2
LMEL				AMP		13 36 58.6	
	comp=N,113nm,0.1s						
LNV	**Longovilo**	1.27	327	⇑*i*P	Pb	13 36 38.1	-0.7
LNV				*e*S	Sb	13 36 55.7	+0.3
TACH	**Talagante**	1.41	348	⇓*i*P	Pn	13 36 40.5	-0.6
TACH				*i* S	Sb	13 36 59.7	+0.5
PCH	**Pirque**	1.41	2	*e*P	Pn	13 36 40.4	-0.7
CLCH	**Cerro Calan**	1.63	1	AMP		13 37 08.5	
	comp=E,162nm,0.4s						
FCH	**Farellones**	1.72	8	*e*P	Pn	13 36 46.0	+0.5
FCH				*i* S	Sn	13 37 08.9	+1.0
FCH				AMP		13 37 10.6	
	comp=E,95nm,0.2s						
LCCH	**Las Cruces**	1.76	332	⇓*i*P	Pn	13 36 46.1	0.0
LCCH				*i* S	Sn	13 37 09.6	+0.6
PEL	**Peldehue**	1.89	357	AMP		13 37 16.1	
	comp=N,201nm,0.5s						

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*IDC **29** 14:19:57.6±0.9, 25.59N×142.94E, mb3.7/9, mb1 3.9/9, mb1mx3.8/22, MS3.5/2, Ms1 3.6/2, ms1mx2.9/25, Error ellipse: s-maj=33.2km s-min=17.1km az=78.0*

*NEIC **29** 14:19:59.3±0.5, 25.63N×142.90E, h10^{km}, Error ellipse: s-maj=20.4km s-min=11.0km az=86.0*

ISC 29 14:20:03.9±2.2, 25.6N±0.1×142.8E±0.2, h61^{km}±18^{km}, n13, σ0^{s}73/12, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	1.63	339	Pn	**P**	**14 20 29.6**	**-1.3**
	208nm,0.3s,baz=260,slow=22,SNR=23						
CBIJ				Sn	**S**	**14 20 52.4**	**+1.4**
	64nm,0.3s,baz=283,slow=22,SNR=8.9						
SONM	**Songino Array**	36.23	317	P	**P**	**14 27 02.0**	**-0.8**
	0.4nm,0.4s,mb3.7,baz=127,slow=8.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	41.17	269	LR	LR	14 44 32.0	
	comp=Z,24nm,18.4s,baz=190,slow=36						
WB2	**Warramunga Arr**	45.98	191	*e*P	**P**	**14 28 23.5**	**+0.4**
WRA	**Warramunga Arr**	45.98	191	P	**P**	**14 28 23.3**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=7.0,slow=8.8,SNR=24						
ASAR	**Alice Springs**	49.70	191	P	**P**	**14 28 52.3**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=0.4,slow=5.3,SNR=5.8						
MKAR	**Makanchi Array**	51.91	311	P	**P**	**14 29 08.5**	**0.0**
	0.4nm,0.5s,mb3.6,baz=93,slow=9.1,SNR=3.1						
STKA	**Stephens Creek**	57.13	181	LR	LR	14 53 56.1	
	comp=Z,97nm,18.6s,baz=25,slow=36						
ILAR	**Eielson Array**	58.77	28	P	**P**	**14 29 57.0**	**-0.8**
	0.3nm,0.8s,mb3.4,baz=270,slow=5.4,SNR=5.9						
BVAR	**Borovoye Array**	59.57	318	P	**P**	**14 30 02.8**	**-0.7**
	1.2nm,0.5s,mb4.2,baz=83,slow=6.5,SNR=9.0						
FINES	**FINESS Array B**	79.58	334	P	**P**	**14 32 06.4**	**+0.7**
	0.8nm,0.4s,mb4.0,baz=108,slow=6.0,SNR=11						
NVAR	**Mina Array Bea**	81.00	52	P	**P**	**14 32 14.4**	**+0.7**
	0.3nm,0.7s,mb3.3,baz=280,slow=5.5,SNR=3.7						
NOA	**NORSAR Array B**	85.25	339	P	**P**	**14 32 34.8**	**+0.1**
	0.9nm,0.8s,mb4.0,baz=58,slow=4.0,SNR=2.2						

ISC 29 15:01:39.3±1.5, 36.46N±0.08×36.93E±0.09, h4^{km}±12^{km}, n5, σ0^{s}43/10, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COBT	**Iskenderun**	0.55	277	*i* P	**Pg**	**15 01 49.8**	**-0.5**
COBT				*i* S	**Sg**	**15 01 58.0**	**+0.4**
HTY	**Hatay**	0.72	243	PG	**Pg**	**15 01 54.5**	**+0.7**
HTY				SG	**Sg**	**15 02 03.0**	**-0.4**
GAZ	**Gaziantep**	0.75	17	PG	**Pg**	**15 01 54.2**	**-0.1**
GAZ				SG	**Sg**	**15 02 04.4**	**+0.1**
GZT	**Gaziantep**	1.03	29	*i* P	**Pb**	**15 01 58.9**	**-0.5**
GZT				*i* S	**Sb**	**15 02 13.7**	**+0.6**
KAHT	**Ahir Dag**	1.17	358	*i* P	**Pb**	**15 02 01.7**	**-0.1**
KAHT				*i* S	**Sb**	**15 02 16.9**	**-0.3**

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*HEL **29** 15:04:17.6±0.1, 67.85N×20.15E, ML2.2, ML2.2(UPP), ML2.1(BER), Explosion*

*NAO **29** 15:04:18.2±2.5, 67.82N×20.64E, ML2.4*

*IDC **29** 15:04:18.6±0.9, 67.78N×20.60E, mb1 3.1/4, mb1mx3.0/20, ML2.7/4, Error ellipse: s-maj=16.8km s-min=5.8km az=123.0*

*BER **29** 15:04:18.9±4.4, 67.90N×20.16E, ML2.1, ML2.4(NAO), Suspected explosion*

ISC 29 15:04:15.6±0.4, 67.81N±0.02×20.07E±0.06, n26, σ1^{s}12/47, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.17	36	*i* P	**Pg**	**15 04 19.9**	**+0.9**
KUA				*i* S	**Sg**	**15 04 21.9**	**+0.4**
NIKU	**Nikkaluokta**	0.40	278	*i* P	**Pg**	**15 04 24.6**	**+1.0**
NIKU				*i* S	**Sg**	**15 04 30.8**	**+2.0**
DUNU	**Dundret**	0.72	164	*i* P	**Pg**	**15 04 30.8**	**+0.7**
DUNU				*i* S	**Sg**	**15 04 40.4**	**+0.7**
SALU	**Saltoluokta**	0.74	235	*i* P	**Pg**	**15 04 32.0**	**+1.5**
MASU	**Masugnsbyn**	0.82	115	*i* P	**Pg**	**15 04 31.9**	**-0.1**
MASU				*i* S	**Sg**	**15 04 42.9**	**-0.1**
KIF	**Kilpisjarvi**	1.23	12	*e*P	**Pb**	**15 04 39.6**	**+0.2**
KIF				*e*S	**Sb**	**15 04 55.4**	**-0.2**
ERTU	**Ertsjaerv**	1.51	146	*e*P	**Pn**	**15 04 44.5**	**+0.4**
KTK1	**Kautokeino**	1.68	43	*e*P	**Pn**	**15 04 47.7**	**+1.2**
KTK1				*e*SN	**Sn**	**15 05 09.4**	**+0.4**
KTK1				AML	AML	15 05 11.8	
	comp=Z,19nm,0.3s						
TRO	**Tromso**	1.87	348	*e*P	**Pn**	**15 04 49.2**	**0.0**
TRO				*e*SG	**Sg**	**15 05 15.1**	**-2.9**
TRO				AML	AML	15 05 17.5	
	comp=Z,29nm,0.5s						
SGF	**Sodankyl**	2.50	96	*e*P	**Pn**	**15 04 58.9**	**+0.7**
SGF				*e*S	**Sn**	**15 05 29.0**	**-0.8**
ARA0	**ARCESS Array S**	2.63	46	*e*P	**Pn**	**15 05 00.3**	**+0.2**
ARA0				*e*SB	**Sb**	**15 05 35.3**	**-1.2**
ARA0	**ARCESS Array S**	2.63	46	Pn	**Pn**	**15 05 00.3**	**+0.2**
	baz=226,slow=14						
ARA0				Lg		15 05 35.3	
	baz=220,slow=28						
ARCES	**ARCESS Array B**	2.63	46	Pn	**Pn**	**15 05 00.6**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=227,slow=14,SNR=73						
ARCES				Sn	**Sn**	**15 05 33.7**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=225,slow=27,SNR=17						
ARCES				Lg		15 05 38.0	
	comp=Z,3.9nm,0.3s,baz=221,slow=26,SNR=15						
MOR8	**Moi Rana**	2.76	236	*e*SG	**Sg**	**15 05 39.7**	**-7.8**
MOR8				AML	AML	15 05 42.4	
	comp=Z,28nm,0.4s						
STOK	**Stokkvaagen**	3.14	245	*e*SG	**Sg**	**15 05 58.5**	**-1.6**
KEV	**Kevo**	3.19	49	*e*P	**Pn**	**15 05 07.7**	**-0.3**
KEV				*e*S	**Sn**	**15 05 45.9**	**-1.4**
KEV				MSG		15 05 53.2	
	comp=Z,10.0nm,0.3s						
OUL	**Oulu**	3.60	137	*e*P	**Pn**	**15 05 16.4**	**+2.5**
OUL				*e*S	**Sn**	**15 05 58.6**	**+0.9**
OUL				MSG		15 06 07.6	
	comp=Z,4.5nm,0.3s						
MSF	**Maaselka**	4.02	114	*e*P	**Pn**	**15 05 20.1**	**+0.3**
MSF				*e*S	**Sn**	**15 06 06.8**	**-1.6**
MSF				MSG		15 06 26.1	
	comp=Z,4.4nm,0.3s						
NSS	**Namsos**	4.65	229	*e*SG	**Sg**	**15 06 44.5**	**-6.1**
NSS				AML	AML	15 06 45.6	
	comp=Z,11nm,0.5s						
FIA0	**FINESS Array S**	6.89	155	Pn	**Pn**	**15 05 59.8**	**-0.6**
	baz=340,slow=12						
FIA0				Sn	**Sn**	**15 07 16.1**	**-4.5**
	baz=350,slow=22						
FIA0				Lg		15 07 51.0	
	baz=337,slow=37						
FIA0	**FINESS Array S**	6.89	155	*e*P	**Pn**	**15 05 59.8**	**-0.6**
FIA0				*e*S	**Sn**	**15 07 16.1**	**-4.5**
FIA0				*e*SG	**Sg**	**15 07 51.0**	**-14**
FINES	**FINESS Array B**	6.89	155	Pn	**Pn**	**15 05 60.0**	**-0.5**
	comp=Z,0.1nm,0.3s,slow=9.5,SNR=4.4						
FINES				Sn	**Sn**	**15 07 16.1**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=354,slow=19,SNR=4.2						
FINES				Lg		15 07 50.7	
	comp=Z,0.5nm,0.3s,baz=340,slow=22,SNR=7.2						
NOA	**NORSAR Array B**	7.80	214	Pn	**Pn**	**15 06 12.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=18,slow=17,SNR=2.4						
NOA				Sn	**Sn**	**15 07 40.3**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=193,slow=19,SNR=3.2						
NOA				Lg		15 08 25.6	
	comp=Z,0.5nm,0.3s,baz=346,slow=8.0,SNR=4.3						
HFS	**Hagfors**	8.20	203	Pn	**P**	**15 06 17.0**	**-1.7**
	baz=31,slow=11						
HFS				Sn	**Sn**	**15 07 48.6**	**-4.6**
	baz=13,slow=28						
HFS				Lg		15 08 37.7	
	baz=360,slow=37						
HFS	**Hagfors**	8.20	203	*e*P	**P**	**15 06 17.0**	**-1.7**
HFS				*e*S	**Sn**	**15 07 48.6**	**-4.6**
HFS				*e*		15 08 37.7	
HFS	**Hagfors**	8.20	203	Pn	**P**	**15 06 17.1**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=61,slow=18,SNR=3.6						
HFS				Sn	**Sn**	**15 07 48.4**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=18,slow=23,SNR=3.4						
HFS				Lg		15 08 37.3	
	comp=Z,0.1nm,0.3s,baz=28,slow=28,SNR=4.0						

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*IDC **29** 15:18:29.8±1.7, 8.82S×124.39E, mb3.3/1, mb1 3.7/4, mb1mx3.5/12, ML3.4/3, Error ellipse: s-maj=105.0km s-min=26.2km az=65.0*

ISC 29 15:18:41.5±2.3, 9.6S±0.1×124.2E±0.1, h137^{km}±26^{km}, n6, σ1^{s}35/11, mb3.2/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	8.59	170	*e*P	**P**	**15 20 44.8**	**+0.9**
	2.8nm,1.1s						
FITZ				*e*S	**S**	**15 22 17.7**	**-1.7**
FITZ	**Fitzroy Crossi**	8.59	170	Pn	**P**	**15 20 44.9**	**+1.0**
	0.4nm,0.3s,baz=11,slow=12,SNR=24						
FITZ				Sn	**S**	**15 22 17.8**	**-1.6**
	2.0nm,0.3s,baz=170,slow=12,SNR=16						
KAKA	**Kakadu**	8.67	112	*e*P	**P**	**15 20 45.4**	**+0.4**
	6.5nm,1.0s						
KAKA				*e*S	**S**	**15 22 20.9**	**-0.4**
WRA	**Warramunga Arr**	14.24	137	Pn	**P**	**15 21 58.1**	**+0.1**
	0.2nm,0.3s,baz=315,slow=14,SNR=29						
WRA				Sn	**S**	**15 24 31.5**	**-1.3**
	0.4nm,0.3s,baz=316,slow=25,SNR=10.0						
ASAR	**Alice Springs**	16.82	148	P	**P**	**15 22 34.2**	**+4.0**
	0.1nm,0.3s,baz=319,slow=12,SNR=20						
ASAR				S	**S**	**15 25 34.8**	**+3.4**
	0.1nm,0.3s,baz=310,slow=22,SNR=5.0						
MKAR	**Makanchi Array**	67.39	330	P	**P**	**15 29 23.6**	**-0.6**
	0.2nm,0.5s,mb3.2,baz=128,slow=8.0,SNR=3.1						

GUC 29 15:20:43.0±0.8, 34.99S×70.56W, h7^{km}±3^{km}, MD3.8, ML3.1, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.53	315	⇓*i*P	Pg	15 20 53.7	+0.1
SFDO				*i* S	Sg	15 21 01.9	+1.3
NICH	**Los Niches**	0.55	268	⇑*i*P	Pg	15 20 54.4	+0.3
NICH				*i* S	Sg	15 21 02.3	+0.9
CICH	**Cipreses**	0.67	10	⇓*i*P	Pg	15 20 55.8	-0.7
CICH				*i* S	Sg	15 21 05.7	+0.2
CACH	**El Canelo**	0.87	358	⇑*i*P	Pb	15 20 59.1	-0.8
CACH				*i* S	Sb	15 21 11.6	0.0
TALC	**Talca**	0.97	245	⇓*i*P	Pb	15 21 01.0	-0.7
TALC				*i* S	Sb	15 21 14.7	+0.1
TALC				AMP		15 21 15.3	
	comp=E,2μm,0.4s						
CHCH	**Chadas Angostu**	1.05	356	*e*P	Pb	15 21 02.6	-0.5
LMEL	**Las Melosas**	1.17	15	⇑*i*P	Pb	15 21 04.5	-0.7
LMEL				*i* S	Sb	15 21 21.2	+0.7
LMEL				AMP		15 21 21.8	
	comp=N,338nm,0.2s						
LNV	**Longovilo**	1.24	325	⇑*i*P	Pb	15 21 05.9	-0.6
LNV				*e*S	Sb	15 21 23.1	+0.6
PCH	**Pirque**	1.36	2	⇓*i*P	Pb	15 21 08.0	-0.4
PCH				*e*S	Sb	15 21 26.3	+0.3
TACH	**Talagante**	1.36	347	*e*P	Pb	15 21 07.9	-0.6
TACH				*e*S	Sb	15 21 26.2	+0.1
ANTU	**Antumapu**	1.41	358	AMP		15 21 31.0	
	comp=E,497nm,0.7s						
CLCH	**Cerro Calan**	1.58	1	AMP		15 21 39.0	
	comp=E,506nm,0.6s						
FCH	**Farellones**	1.67	8	*e*P	Pn	15 21 13.2	+0.3
FCH				*i* S	Sn	15 21 35.2	+0.5
FCH				AMP		15 21 39.4	
	comp=E,328nm,0.4s						
CCHI	**Chillan**	2.03	217	AMP		15 21 51.3	
	comp=E,279nm,0.4s						

JMA 29 15:22:23.7±0.1, 28.20N×130.40E, h38^{km}±1^{km}, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	0.39	287	P	P	15 22 32.9	-0.1
JZK				S	S	15 22 39.5	+0.1

JAM	**Amami Oshima**	0.73	287	P	P	15 22 37.8	+0.2
JAM				S	S	15 22 47.3	-0.4
JTK	**Tokunoshima**	1.35	252	P	P	15 22 46.9	+0.5
JTK				eS	S	15 23 03.3	0.0
JOW	**Kunigami**	2.33	235	P	P	15 23 01.3	+0.9
JOW				eS	S	15 23 27.7	-0.3
JIH	**Iheya**	2.45	242	P	P	15 23 02.2	0.0
JIH				S	S	15 23 29.4	-1.8

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*GUC **29** 15:28:49.0±1.0, 35.02S×70.64W, h2^{km}±3^{km}, MD4.3, ML4.0*

*IDC **29** 15:28:49.9±1.9, 34.80S×70.71W, mb3.7/2, mb1 4.2/4, mb1mx4.0/13, ML4.2/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/18, Error ellipse: s-maj=107.0km s-min=25.0km az=86.0*

*NEIC **29** 15:28:49.0, 35.03S×70.64W, h1^{km}, ML4.2(GUC), After GUC.*

ISC 29 15:28:47.1±0.5**, 35.09S**±0.02×**70.52W**±0.05**, h1^{km}, n29, σ0^{s}85**/47**, mb3.8**/2**, MS3.6**/2**, 5C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.62	319	⇓iP	Pg	15 28 59.6	0.0
SFDO				iS	Sg	15 29 07.6	-0.4
CICH	**Cipreses**	0.77	6	iP	Pg	15 29 02.1	-0.3
TALC	**Talca**	0.97	251	⇓iP	Pb	15 29 06.4	+0.1
TALC				iS	Sg	15 29 19.6	+0.3
TALC				AMP		15 29 19.9	
	comp=N,41µm,0.2s						
CACH	**El Canelo**	0.97	356	iP	Pb	15 29 05.4	-1.0
CACH				iS	Sg	15 29 19.3	-0.1
CHCH	**Chadas Angostu**	1.16	354	iP	Pb	15 29 08.8	-0.8
CHCH				eS	Sb	15 29 24.1	-0.8
LMEL	**Las Melosas**	1.26	12	iP	Pb	15 29 10.9	-0.5
LMEL				iS	Sb	15 29 27.9	-0.1
LMEL				AMP		15 29 28.1	
	comp=N,1µm,0.2s						
LNV	**Longovilo**	1.35	327	⇑iP	Pb	15 29 11.8	-1.1
PCH	**Pirque**	1.46	0	⇓iP	Pn	15 29 14.3	-0.4
PCH				iS	Sb	15 29 34.6	+0.8
TACH	**Talagante**	1.47	346	⇓iP	Pn	15 29 14.1	-0.8
TACH				iS	Sb	15 29 33.2	-0.9
ANTU	**Antumapu**	1.52	356	⇓iP	Pn	15 29 15.6	+0.1
ANTU				iS	Sb	15 29 35.3	-0.1
ANTU				AMP		15 29 36.3	
	comp=N,3µm,0.5s						
SAN	**Santiago**	1.64	356	eP	Pn	15 29 17.4	+0.2
SAN				iS	Sb	15 29 38.3	-0.5
STL	**Santa Lucia**	1.65	356	⇑iP	Pn	15 29 17.5	+0.1
STL				iS	Sb	15 29 39.1	-0.1
STL				AMP		15 29 40.4	
	comp=E,741nm,0.4s						
DSCH	**Colegio Aleman**	1.69	358	eP	Pn	15 29 17.9	0.0
DSCH				iS	Sb	15 29 40.6	+0.4
DSCH				AMP		15 30 00.4	
	comp=N,3µm,0.9s						
CLCH	**Cerro Calan**	1.69	359	⇑iP	Pn	15 29 18.1	+0.2
CLCH				iS	Sb	15 29 41.1	+0.8
CLCH				AMP		15 29 47.9	
	comp=E,3µm,0.7s						
CLCH				AMP		15 29 48.8	
	comp=E,4µm,0.3s						
FCH	**Farellones**	1.77	6	⇑iP	Pn	15 29 19.7	+0.7
FCH				iS	Sn	15 29 43.4	+0.9
FCH				AMP		15 29 53.7	
	comp=N,2µm,0.4s						
LCCH	**Las Cruces**	1.83	331	⇓iP	Pn	15 29 19.8	-0.1
LCCH				iS	Sn	15 29 42.9	-1.2
PEL	**Peldehue**	1.94	356	eP	Pn	15 29 22.3	+0.8
PEL				iS	Sn	15 29 48.1	+1.2
PEL				AMP		15 29 53.9	
	comp=N,4µm,0.7s						
CCHI	**Chillan**	1.97	220	⇓iP	Pn	15 29 24.1	+2.1
CCHI				iS	Sn	15 29 51.1	+3.4
CCHI				AMP		15 29 54.3	
	comp=N,4µm,0.7s						
CCHI				AMP		15 29 54.5	
	comp=N,7µm,0.7s						
IHA	**Instituto Hidr**	2.26	335	⇓iP	Pn	15 29 26.8	+0.7
IHA				eS	Sn	15 29 54.8	-0.2
JACH	**Jahuel**	2.40	358	⇑iP	Pn	15 29 29.6	+1.5
JACH				iS	Sn	15 30 00.8	+2.3
PLCA	**Paso Flores**	5.64	180	Pn	Pn	15 30 19.7	+5.7
	comp=N,0.9nm,0.3s,baz=343,slow=11,SNR=18						
PLCA				Pg	Pg	15 30 37.5	-2.1
	comp=N,1.0nm,0.3s,baz=2.0,slow=12,SNR=12						
PLCA				Lg		15 31 52.3	
	comp=N,2.9nm,0.3s,baz=289,slow=20,SNR=5.3						
PLCA	**Paso Flores**	5.64	180	Pn	Pn	15 30 19.7	+5.6
PLCA				Pg	Pg	15 30 37.5	-2.1
PLCA				Lg		15 31 52.3	
TRQA	**Tornquist**	7.48	116	ePn	Pn	15 30 39.8	-0.2
	comp=N,15nm,1.0s						
TRQA				eSg	Sg	15 32 41.4	-15
CPUP	**Villa Florida**	14.30	56	LR	LR	15 38 21.6	
	comp=N,83nm,21.8s,baz=90,slow=40						
LPAZ	**La Paz**	18.84	7	P	P	15 33 09.9	-0.7
	comp=N,0.6nm,0.3s,baz=191,slow=15,SNR=4.6						
BDFB	**Brasilia**	27.96	52	LR	LR	15 47 06.2	
	comp=N,121nm,21.7s,MS3.5,baz=110,slow=39						
TXAR	**Lajitas Array**	71.30	330	P	P	15 40 09.4	-0.9
	comp=N,0.5nm,0.6s,mb3.8,baz=152,slow=8.5,SNR=8.6						
MAW	**Mawson**	71.78	163	LR	LR	16 09 51.7	
	comp=N,46nm,21.2s,MS3.7,baz=70,slow=34						
PDAR	**Pinedale Array**	85.30	332	P	P	15 41 26.4	-0.3
	comp=N,0.4nm,0.8s,mb3.7,baz=146,slow=5.1,SNR=4.2						

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*NEIC **29** 15:44:26.8, 34.96S×70.55W, h0^{km}, ML2.6(GUC), After GUC.*

GUC 29 15:44:26.8±0.9**, 34.96S**×**70.55W, h0^{km}**±5^{km}**, MD3.7, ML2.6, 3C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.52	312	⇓iP	Pg	15 44 37.1	-0.1
SFDO				iS	Sg	15 44 45.7	+1.7
CICH	**Cipreses**	0.65	9	⇓iP	Pg	15 44 39.0	-0.7
CICH				iS	Sg	15 44 48.7	+0.3
CACH	**El Canelo**	0.84	357	⇑iP	Pg	15 44 42.5	-1.1
CACH				iS	Sg	15 44 55.4	+0.6
CHCH	**Chadas Angostu**	1.03	355	⇑iP	Pb	15 44 46.3	-0.9
CHCH				iS	Sb	15 45 00.9	-0.1
LNV	**Longovilo**	1.23	324	⇓iP	Pb	15 44 49.4	-1.2
LNV				iS	Sb	15 45 07.0	+0.1
PCH	**Pirque**	1.34	1	⇓iP	Pb	15 44 51.4	-1.0
PCH				iS	Sb	15 45 11.0	+1.1
TACH	**Talagante**	1.34	346	⇓iP	Pb	15 44 51.7	-0.8
TACH				iS	Sb	15 45 10.0	-0.2
CLCH	**Cerro Calan**	1.56	0	⇓iP	Pn	15 44 55.5	-0.4
CLCH				iS	Sb	15 45 17.2	+0.7
CLCH				AMP		15 45 22.3	
	comp=E,188nm,0.5s						
FCH	**Farellones**	1.64	8	⇑iP	Pn	15 44 57.3	+0.3
FCH				iS	Sb	15 45 19.7	+0.9
FCH				AMP		15 45 22.7	
	comp=N,109nm,0.3s						
LCCH	**Las Cruces**	1.71	330	eP	Pn	15 44 57.4	-0.6
LCCH				iS	Sb	15 45 21.1	+0.4
JACH	**Jahuel**	2.27	359	iP	Pn	15 45 06.8	+0.7

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*PRU **29** 15:50:07.6, 45.21N×14.63E*

*LJU **29** 15:50:07.6, 45.26N×14.54E, h14^{km}, ML2.2*

*NEIC **29** 15:50:08.1±0.7, 45.25N×14.55E, h5^{km}, ML2.8(VIE), Error ellipse: s-maj=9.2km s-min=7.1km az=60.0*

ISC 29 15:50:07.2±0.5**, 45.27N**±0.03×**14.60E**±0.03**, h6^{km}**±4^{km}**, n29, σ1^{s}13**/48**, 11C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	0.30	329	⇑iPg	Pg	15 50 13.7	+0.3
KNDS				iSg	Sg	15 50 18.5	+1.0
	comp=Z,148nm,0.2s						
BOJS	**Bojanci**	0.52	63	iPg	Pg	15 50 18.7	+1.1
BOJS				iSg	Sg	15 50 27.1	+2.5
	comp=Z,180nm,0.2s						
NVLJ	**Novalja**	0.73	165	iPg	Pg	15 50 21.7	-0.2
NVLJ				iSg	Sg	15 50 33.3	+1.6
TRI	**Trieste**	0.73	307	ePg	Pg	15 50 21.0	-0.9
TRI				eSg	Sg	15 50 32.4	+0.7
VOY	**Vojsko**	0.91	327	ePg	Pg	15 50 24.1	-1.3
VOY				eSg	Sg	15 50 38.0	+0.5
GOLS	**Golise**	1.03	44	iPg	Pg	15 50 28.4	+0.5
COLI	**Coloredo**	1.22	316	⇑ePg	Pg	15 50 31.4	-0.1
COLI				eSg	Sg	15 50 48.7	+1.0
ROBS	**Robic**	1.24	322	iPg	Pg	15 50 32.1	+0.1
OBKA	**Obir**	1.24	358	⇑iPG	Pg	15 50 31.9	-0.1
OBKA				iSG	Sg	15 50 50.3	+1.7
	comp=Z,44nm,0.4s						
SISC	**Sisak**	1.27	80	iPg	Pg	15 50 31.4	-1.1
SISC				iSg	Sg	15 50 49.8	+0.3
BAD	**Bernadia**	1.35	316	⇑ePg	Pg	15 50 33.9	-0.4
BAD				eSg	Sg	15 50 53.9	+1.5
GMNA	**Gemona**	1.39	317	ePg	Pg	15 50 35.0	+0.1
GMNA				eSg	Sg	15 50 56.2	+2.8
BUA	**Buia**	1.40	313	⇓iPg	Pg	15 50 34.6	-0.6
LSR	**Lussari**	1.42	329	⇑ePg	Pg	15 50 35.6	0.0
PTCC	**Patocco-Chiusa**	1.43	323	ePg	Pg	15 50 35.0	-0.8
MPRI	**Monte Prat**	1.49	311	⇑ePg	Pg	15 50 35.9	-1.1
MPRI				eSg	Sg	15 50 57.2	+0.4
PLRO	**Paularo**	1.63	322	⇑ePg	Pg	15 50 38.6	-1.2
MLNI	**Malnisio**	1.65	303	⇓ePg	Pg	15 50 37.8	-2.4
MLNI				eSg	Sg	15 51 00.9	-1.2
FVI	**Forni Avoltri**	1.84	317	ePn	Pn	15 50 41.5	+1.9
KBA	**Koelnbreinsper**	2.01	335	⇑iPG	Pg	15 50 45.0	-2.3
KBA				iSG	Sg	15 51 14.4	+0.3
	comp=Z,12nm,0.3s						
FSSB	**Fossombrone**	2.04	220	ePn	Pn	15 50 43.5	+0.9
ARSA	**Arzberg**	2.08	18	⇑iPG	Pg	15 50 47.3	-1.5
ARSA				iSG	Sg	15 51 15.4	-1.2
	comp=Z,7.8nm,0.5s						
CTI	**Castel Tesino**	2.21	292	ePn	Pn	15 50 43.4	-1.6
CTI				eSn	Sn	15 51 13.5	+0.5
MOA	**Molln**	2.59	355	⇑iPN	Pn	15 50 49.6	-0.8
MOA				iSN	Sn	15 51 23.1	+0.5
PKSM	**Moragy**	2.98	70	⇑eP	Pn	15 50 56.3	+0.2
PKSM				eS	Sn	15 51 31.4	-1.2
KHC	**Kasperske Hory**	3.93	350	ePN	Pn	15 51 11.0	+1.6
KHC				e		15 51 46.0	
KHC				eSN	Sn	15 51 56.2	-0.2
KHC				eSG	Sg	15 52 12.7	-5.2
PRU	**Pruhonice**	4.72	360	eSG	Sg	15 52 38.6	-5.9
DPC	**Dobruska-Polom**	5.21	12	eSG	Sg	15 52 56.9	-4.0
CLL	**Collm**	6.14	351	eSG	Sg	15 53 24.0	-7.5

TIF 29 15:52:49.2, 39.58N×44.47E, h10^{km}, Mpv4.4, 2C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERE	**Yerevan**	0.60	2	eP	Pg	15 53 01.0	-0.3
ERE				iS	Sg	15 53 10.0	+0.6
TVAN	**Van**	1.34	219	⇑iP	Pb	15 53 17.6	+3.6
TVAN				iS	Sb	15 53 38.9	+7.8
STE	**Stepanavan**	1.42	358	iP	Pn	15 53 18.0	+2.8
AKH	**Akhalkalaki**	1.97	338	eP	Pn	15 53 27.9	+4.7
AKH				iS	Sn	15 53 54.7	+6.5
MTA	**Mtatsminda**	2.13	7	⇑iP	Pn	15 53 31.2	+5.9
MTA				iS	Sn	15 53 58.8	+6.7
ERZM	**Erzurum**	2.42	279	iP	Pn	15 53 32.9	+3.4
ERZM				iS	Sn	15 54 13.8	+14
BEST	**Besiri**	3.02	237	iP	Pn	15 53 45.2	+7.2
BEST				iS	Sn	15 54 25.8	+11

OTT 29 15:59:45.4±0.1**, 52.78N**×**67.24W, MN2.5**/6**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	2.08	6	PN	Pn	16 00 21.1	-0.7
SCHQ				SG	Sg	16 00 50.2	-4.2
SCHQ				Trac		16 00 51.4	
	comp=Z,15nm,0.2s						
MNQ	**Manicouagan**	2.44	204	PN	Pn	16 00 25.9	-1.2
MNQ				SN	Sn	16 00 56.5	-1.6
MNQ				Trac		16 00 59.4	
	comp=Z,5.0nm,0.2s						
SMQ	**Clarke City**	2.58	172	PN	Pn	16 00 27.7	-1.4
SMQ				SN	Sn	16 01 02.2	+0.6
SMQ				Trac		16 01 06.6	
	comp=Z,5.4nm,0.2s						
ICQ	**Pointe Anglais**	3.26	180	PN	Pn	16 00 36.9	-1.9
ICQ				SN	Sn	16 01 14.9	-3.9
ICQ				Trac		16 01 28.4	
	comp=Z,16nm,0.6s						
CNQ	**Baie Comeau**	3.52	189	PN	Pn	16 00 41.2	-1.3
CNQ				SN	Sn	16 01 25.2	-0.2
CNQ				Trac		16 01 42.1	
	comp=Z,3.2nm,0.2s						
GSQ	**Grosses Roches**	3.87	179	PN	Pn	16 00 45.6	-1.9
LG4Q	**La Grande 4**	4.21	284	PN	Pn	16 00 50.0	-2.3
LG4Q				PG	Pg	16 00 57.7	-12
LG4Q				SN	Sn	16 01 37.3	-5.7
LG4Q				Trac		16 01 55.5	
	comp=Z,0.8nm,0.1s						
LMQ	**La Malbaie**	5.60	202	PN	Pn	16 01 08.8	-3.1
LMQ				SN	Sn	16 02 12.5	-5.4
DRLN	**Deer Lake**	7.08	116	SN	Sn	16 02 48.6	-6.4
LMN	**Caledonia Moun**	7.11	166	PN	Pn	16 01 29.2	-4.0
VLDQ	**Val d'Or**	8.02	238	PN	P	16 01 41.6	-4.3
VLDQ				SN	Sn	16 02 58.9	-20
VIMO	**Victor Mine**	10.00	277	PN	P	16 02 05.6	-7.7

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*IDC **29** 16:19:12.3±1.5, 3.48S×135.92E, mb3.9/4, mb1 4.1/6, mb1mx3.9/12, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=73.4km s-min=32.1km az=85.0*

*NEIC **29** 16:19:18.5±1.1, 3.65S×135.41E, h40^{km}, mb3.8/2, Error ellipse: s-maj=43.4km s-min=13.7km az=94.0*

ISC 29 16:19:21.3±2.3**, 3.89S**±0.08×**135.0E**±0.2**, h70^{km}**±21^{km}**, n12, σ1^{s}07**/17**, mb3.6**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	9.12	196	eP	P	16 21 32.8	+0.5
	14nm,0.5s						
KAKA				eS	S	16 23 12.3	-2.0
WRAB	**Tennant Creek**	15.96	182	P	P	16 23 03.2	+0.3
	8.6nm,0.5s						
WRA	**Warramunga Arr**	15.97	182	Pn	P	16 22 59.1	-3.9
	0.2nm,0.3s,baz=353,slow=13,SNR=25						
WRA				Sn	S	16 25 50.8	-6.8
	0.3nm,0.3s,baz=357,slow=24,SNR=5.2						
WRA	**Warramunga Arr**	15.97	182	Pn	P	16 22 59.1	-3.9
WRA				Sn	S	16 25 50.8	-6.9
FITZ	**Fitzroy Crossi**	16.83	212	eP	P	16 23 14.8	+1.0
	1.9nm,0.6s						
FITZ				eS	S	16 26 18.4	+1.0
FITZ	**Fitzroy Crossi**	16.83	212	P	P	16 23 14.5	+0.7
	0.3nm,0.3s,baz=22,slow=10,SNR=12						
FITZ				S	S	16 26 17.1	-0.3
	0.6nm,0.3s,baz=188,slow=13,SNR=6.8						
ASAR	**Alice Springs**	19.69	183	P	P	16 23 48.4	+0.9
	13nm,0.7s,baz=12,slow=11,SNR=153						
ASAR				S	S	16 27 20.7	+0.2
	0.5nm,0.6s,baz=1.5,slow=28,SNR=3.5						
ASAR				LR	LR	16 32 04.4	
	comp=Z,72nm,21.9s,baz=100,slow=38						
ASPA	**Alice Springs**	19.69	183	eP	P	16 23 48.0	+0.5
MKAR	**Makanchi Array**	68.50	324	P	P	16 30 18.3	0.0
	0.6nm,0.5s,mb3.7,baz=108,slow=8.3,SNR=8.9						
BVAR	**Borovoye Array**	78.18	326	P	P	16 31 14.2	-0.5
	0.7nm,0.5s,mb3.6,baz=104,slow=6.1,SNR=6.2						
ILAR	**Eielson Array**	88.45	25	P	P	16 32 02.7	-4.0
	0.2nm,0.6s,mb3.4,baz=259,slow=4.3,SNR=6.4						
ARCES	**ARCESS Array B**	100.37	340	P	P	16 33 00.1	-1.3
	0.3nm,0.4s,baz=79,slow=6.2,SNR=5.8						

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*NEIC **29** 16:44:05.1, 35.07S×70.60W, h1^{km}, ML3.4(GUC), After GUC.*

GUC 29 16:44:05.1±0.9**, 35.07S**×**70.60W, h1^{km}**±4^{km}**, MD3.9, ML3.4, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.57	323	⇓iP	Pg	16 44 16.6	+0.2
CICH	**Cipreses**	0.76	11	iP	Pg	16 44 18.7	-1.7
TALC	**Talca**	0.91	249	⇓iP	Pg	16 44 22.8	-0.4
TALC				iS	Sg	16 44 36.2	+0.9
TALC				AMP		16 44 36.5	
	comp=E,5µm,0.2s						
CACH	**El Canelo**	0.95	0	⇑iP	Pb	16 44 22.2	-1.9
CACH				iS	Sg	16 44 35.5	-1.3
CHCH	**Chadas Angostu**	1.14	358	⇑iP	Pb	16 44 25.9	-1.3
CHCH				iS	Sb	16 44 41.8	-0.6
LNV	**Longovilo**	1.30	329	⇓iP	Pb	16 44 29.0	-1.0
LNV				iS	Sb	16 44 46.9	-0.1
TACH	**Talagante**	1.44	349	⇑iP	Pn	16 44 31.2	-1.2
TACH				iS	Sb	16 44 51.0	-0.2
PCH	**Pirque**	1.45	3	⇓iP	Pn	16 44 31.2	-1.3
PCH				iS	Sb	16 44 51.4	0.0
ANTU	**Antumapu**	1.50	359	⇓iP	Pn	16 44 32.3	-0.9
ANTU				iS	Sb	16 44 52.5	-0.3
ANTU				AMP		16 44 53.3	
	comp=E,577nm,0.3s						
DSCH	**Colegio Aleman**	1.67	1	⇑iP	Pn	16 44 35.1	-0.5
DSCH				iS	Sb	16 44 58.2	+0.4
DSCH				AMP		16 45 01.9	
	comp=N,873nm,0.4s						
CLCH	**Cerro Calan**	1.67	2	⇑iP	Pn	16 44 35.1	-0.6
CLCH				iS	Sb	16 44 58.5	+0.6
CLCH				AMP		16 44 59.7	
	comp=E,642nm,0.2s						
CLCH				AMP		16 45 23.2	
	comp=N,914nm,0.7s						
FCH	**Farellones**	1.76	8	⇑iP	Pn	16 44 36.6	-0.3
FCH				iS	Sn	16 45 00.5	+0.2
FCH				AMP		16 45 14.1	
	comp=N,471nm,0.3s						
LCCH	**Las Cruces**	1.78	333	⇑iP	Pn	16 44 37.0	-0.3
LCCH				iS	Sn	16 45 00.7	-0.2
PEL	**Peldehue**	1.92	358	iS	Sn	16 45 05.4	+0.9
CCHI	**Chillan**	1.94	218	AMP		16 45 11.7	
	comp=E,394nm,0.6s						
CCHI				AMP		16 45 11.9	
	comp=E,729nm,0.7s						
IHA	**Instituto Hidr**	2.22	337	eP	Pn	16 44 43.9	+0.4
IHA				iS	Sn	16 45 13.2	+1.3
JACH	**Jahuel**	2.38	0	⇓iP	Pn	16 44 46.6	+0.7
JACH				iS	Sn	16 45 18.4	+2.3

IDC 29 16:45:58.1±2.4**, 0.50S**×**133.04E, mb3.3**/2**, mb1 3.5**/4**, mb1mx3.4**/15**, ML3.4**/2**, Error ellipse: s-maj=100.0km s-min=24.7km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	18.95	202	P	P	16 50 20.9	-2.3
	0.1nm,0.3s,baz=15,slow=12,SNR=2.6						
FITZ				S	S	16 53 43.5	-8.5
	0.1nm,0.3s,baz=183,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	19.37	176	P	P	16 50 25.3	-2.9
	0.1nm,0.3s,baz=356,slow=12,SNR=10						
WRA				S	S	16 53 56.2	-5.5
	0.1nm,0.3s,baz=352,slow=24,SNR=4.2						
ASAR	**Alice Springs**	23.05	178	P	P	16 51 05.5	-0.7
	0.8nm,0.7s,baz=354,slow=11,SNR=24						
MKAR	**Makanchi Array**	64.63	324	P	P	16 56 37.5	-2.3
	0.2nm,0.6s,baz=126,slow=5.6,SNR=2.7						

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*NEIC **29** 16:48:31.6, 35.06S×70.56W, h3^{km}, MD3.5(GUC), After GUC.*

GUC 29 16:48:31.6±0.5**, 35.06S**×**70.56W, h3^{km}, MD3.5, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.58	320	⇓iP	Pg	16 48 43.2	-0.1
SFDO				iS	Sg	16 48 52.7	+1.6
CICH	**Cipreses**	0.75	9	iP	Pg	16 48 44.7	-1.9
CICH				iS	Sg	16 48 56.0	-0.6
CACH	**El Canelo**	0.94	358	eP	Pb	16 48 48.5	-1.8
CACH				iS	Sb	16 49 02.5	-0.5
LNV	**Longovilo**	1.31	327	⇑iP	Pb	16 48 55.4	-1.1
LNV				iS	Sb	16 49 14.0	+0.4
TACH	**Talagante**	1.44	347	⇑iP	Pn	16 48 57.7	-1.0
TACH				iS	Sb	16 49 17.3	-0.1
LCCH	**Las Cruces**	1.79	332	eP	Pn	16 49 03.5	-0.2

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*ISK **29** 16:53:44.1, 36.98N×27.70E, h12^{km}, MD3.3*

*NEIC **29** 16:53:44.4, 36.89N×27.66E, h24^{km}, MD3.4(ATH), After ATH.*

*ATH **29** 16:53:44.4, 36.89N×27.66E, h24^{km}±1^{km}, MD3.4/6*

ISC 29 16:53:44.9±0.6**, 36.94N**±0.04×**27.69E**±0.04**, h19^{km}**±6^{km}**, n26, σ0^{s}78**/32**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.23	302	iP	Pb	16 53 50.5	+0.1
BDRM				iS	Sb	16 53 54.9	+0.8
MLSB	**Milas**	0.36	12	iPG	Pb	16 53 51.7	-0.8
YER	**Yerkesik**	0.51	68	iPG	Pb	16 53 54.0	-1.1
AYDN	**Tasoluk**	0.73	12	⇑iP	Pb	16 53 58.5	-0.3
AYDN				iS	Sb	16 54 07.5	-0.9
DALT	**Dalyan (Mudla)**	0.78	103	PG	Pb	16 53 58.9	-0.7
DALT				SG	Sb	16 54 11.0	+1.2
ARG	**Arkhangelos**	0.81	154	ePN	Pn	16 53 59.5	-1.7
SMG	**Samos**	1.02	319	ePN	Pn	16 54 04.8	+0.6
DNZL	**Cakiroluk**	1.31	55	⇑iP	Sb	16 54 26.9	+1.7
DNZL				iS	Sb	16 54 26.9	+1.7
DENT	**Denizli**	1.34	53	PN	Pn	16 54 08.9	0.0
KARP	**Karpathos**	1.46	197	ePN	Pn	16 54 10.6	+0.1
IZM	**Izmir**	1.49	347	PN	Pn	16 54 10.7	-0.2
KDAG	**Bornova**	1.49	347	iP	Pn	16 54 10.7	-0.3
KDAG				iS	Sn	16 54 31.5	+1.4
MANT	**Manisa**	1.69	24	iP	Pn	16 54 13.5	-0.3
MANT				iS	Sn	16 54 39.6	+4.5
KSL	**Kastellorizon**	1.72	117	ePN	Pn	16 54 15.0	+0.8
APE	**Apeiranthos**	1.73	275	ePN	Pn	16 54 15.0	+0.6
ELL	**Elmali**	1.79	96	PN	Pn	16 54 15.9	+0.6
AKS	**Akhisar**	1.94	3	ePN	Pn	16 54 16.6	-0.7
KHL	**Karahalli**	2.01	46	ePN	Pn	16 54 18.4	+0.1
BCK	**Bucak**	2.37	77	ePN	Pn	16 54 24.3	+0.7
ISP	**Isparta**	2.42	67	ePN	Pn	16 54 24.3	0.0
PRK	**Paraskevi**	2.56	335	ePN	Pn	16 54 27.0	+0.8
BALB	**Balikesir**	2.70	3	ePN	Pn	16 54 27.6	-0.6
BNT	**Bandirma**	3.41	3	ePN	Pn	16 54 37.6	-0.8
LIA	**Limnos Island**	3.54	327	ePN	Pn	16 54 40.4	+0.1
KIZT	**Kizilcal**	3.84	58	ePN	Pn	16 54 43.7	-0.7
NVR	**Nevrokopi**	5.31	327	ePN	Pn	16 55 04.8	-0.5

MOS 29 16:57:08.1±1.0**, 42.74N**×**45.99E, h20^{km}, mb3.6**/1**, Error ellipse: s-maj=56.1km s-min=24.9km az=1.6, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTLR	**Botlikh**	0.18	114	iPG	Pb	16 57 14.0	+0.9
BTLR				eS	Sb	16 57 16.5	+0.1
BTLR				pmax	pmax		
	comp=Z,238nm,0.3s						
XNZR	**Khunzakh**	0.56	110	ePG	Pb	16 57 20.8	+1.7
XNZR				iS	Sb	16 57 29.0	+2.3
XNZR				pmax	pmax		
	comp=Z,82nm,0.3s						
DBC	**Dubki**	0.68	65	ePG	Pb	16 57 22.0	+0.9
DBC				eS	Sb	16 57 31.0	+1.0
KRNR	**Karanay**	0.68	82	ePG	Pb	16 57 21.2	+0.1
KRNR				eS	Sb	16 57 30.2	+0.1
KRNR				pmax	pmax		
	comp=Z,37nm,0.2s						
BUJR	**Buynaksk**	0.83	84	iPG	Pb	16 57 25.0	+1.4
BUJR				iS	Sb	16 57 36.5	+2.2

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*NEIC **29** 16:57:44.2, 35.01S×70.56W, h4^{km}, ML3.2(GUC), After GUC.*

GUC 29 16:57:44.2±0.9**, 35.01S**×**70.56W, h4^{km}**±3^{km}**, MD3.8, ML3.2, 3C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.55	316	⇓iP	Pg	16 57 55.0	-0.2
SFDO				iS	Sg	16 58 03.4	+1.0
NICH	**Los Niches**	0.55	271	⇓iP	Pg	16 57 55.8	+0.5
NICH				iS	Sg	16 58 04.2	+1.6
CACH	**El Canelo**	0.90	358	iP	Pb	16 58 00.5	-1.5
CACH				iS	Sg	16 58 13.8	-0.2
TALC	**Talca**	0.96	246	⇓iP	Pb	16 58 02.2	-0.8

TALC				*i*S	Sb	16 58 16.1	+0.2
CHCH	**Chadas Angostu**	1.08	356	*e*P	Pb	16 58 04.2	-0.9
CHCH				*i*S	Sb	16 58 19.4	0.0
LMEL	**Las Melosas**	1.20	14	⇑*i*P	Pb	16 58 05.8	-1.3
LMEL				*i*S	Sb	16 58 22.6	-0.3
LMEL				AMP		16 58 23.2	
	comp=N,448nm,0.3s						
LNV	**Longovilo**	1.27	326	⇑*i*P	Pb	16 58 07.2	-1.1
LNV				*i*S	Sb	16 58 24.9	0.0
PCH	**Pirque**	1.39	1	⇓*i*P	Pb	16 58 09.4	-1.0
TACH	**Talagante**	1.39	347	*e*P	Pb	16 58 09.2	-1.2
TACH				*i*S	Sb	16 58 29.1	+0.6
ANTU	**Antumapu**	1.44	357	⇓*i*P	Pn	16 58 10.7	-0.5
ANTU				*i*S	Sb	16 58 30.5	+0.6
ANTU				AMP		16 58 31.5	
	comp=E,399nm,0.5s						
DSCH	**Colegio Aleman**	1.61	360	*e*P	Pn	16 58 13.3	-0.3
DSCH				AMP		16 58 39.1	
	comp=N,654nm,0.6s						
CLCH	**Cerro Calan**	1.61	1	*i*P	Pn	16 58 13.3	-0.4
CLCH				AMP		16 58 40.4	
	comp=E,521nm,0.7s						
FCH	**Farellones**	1.70	8	⇑*i*P	Pn	16 58 14.7	-0.1
FCH				*i*S	Sn	16 58 38.1	+0.8
FCH				AMP		16 58 40.2	
	comp=N,301nm,0.3s						
LCCH	**Las Cruces**	1.75	331	*e*P	Pn	16 58 15.3	-0.3
LCCH				*i*S	Sn	16 58 39.2	+0.7
PEL	**Peldehue**	1.87	357	*i*S	Sn	16 58 43.2	+1.6
PEL				AMP		16 58 49.6	
	comp=N,520nm,0.3s						
CCHI	**Chillan**	2.01	217	AMP		16 58 52.2	
	comp=E,366nm,0.6s						
CCHI				AMP		16 58 52.5	
	comp=E,614nm,0.7s						
JACH	**Jahuel**	2.33	359	*e*P	Pn	16 58 24.6	+0.8

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*IDC **29** 17:17:35.2±2.3, 4.53N×126.00E, h159^{km}±18^{km}, mb3.8/11, mb1 3.9/11, mb1mx3.8/16, MS3.1/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=39.2km s-min=11.2km az=69.0*

*NEIC **29** 17:17:37.5±4.0, 4.49N×126.00E, h180^{km}±38^{km}, mb4.2/5, Error ellipse: s-maj=24.3km s-min=8.2km az=66.0*

ISC 29 17:17:35.6±0.8, **4.50N**±0.08×**126.0E**±0.2, **h178**^{km}±7^{km}, **n26**, σ**0$\overset{s}{.}$90**/28, **mb4.0**/16, **1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	1.89	327	⇑*i*P	S	17 18 37.0	-2.6
MATI	**Mati**	2.45	6	*e*P	P	17 18 18.9	+0.8
MATI				*e*S	S	17 19 00.0	+9.2
KCP	**Kidapawan**	2.65	340	⇓*e*P	P	17 18 21.2	+0.7
KCP				*i*S	S	17 18 55.1	0.0
BUKP	**Musuan**	3.48	345	*e*P	P	17 18 32.0	+1.2
BUTP	**Butuan**	4.46	355	*e*P	P	17 18 40.1	-3.2
IPIL	**Ipil**	4.72	314	*e*P	P	17 18 46.8	+0.1
FITZ	**Fitzroy Crossi**	22.46	181	*e*P	P	17 22 21.9	+1.4
	7.2nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	22.46	181	P	P	17 22 21.3	+0.8
	18nm,1.1s,mb4.4,baz=8.8,slow=5.4,SNR=23						
WRAB	**Tennant Creek**	25.63	162	*e*P	P	17 22 50.3	-0.3
	12nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	25.64	162	P	P	17 22 50.5	-0.1
	3.4nm,1.0s,mb3.9,baz=330,slow=11,SNR=33						
WRA				PcP	PcP	17 26 16.4	-0.7
	0.6nm,1.1s,baz=319,slow=2.5,SNR=6.0						
WRA				S	S	17 27 02.6	-0.9
	0.5nm,0.8s,baz=339,slow=14,SNR=3.3						
WRA				ScP		17 29 41.0	
	0.4nm,0.6s,baz=337,slow=2.7,SNR=6.3						
ASAR	**Alice Springs**	29.04	165	P	P	17 23 21.3	-0.1
	2.7nm,0.7s,mb4.1,baz=342,slow=7.2,SNR=59						
ASAR				PcP	PcP	17 26 25.5	+0.3
	1.0nm,0.8s,baz=347,slow=2.1,SNR=10						
ASAR				ScP		17 29 51.5	
	0.4nm,0.6s,baz=353,slow=3.2,SNR=7.6						
CMAR	**Chiang Mai Arr**	29.85	300	P	P	17 23 28.6	-0.1
	1.3nm,0.9s,mb3.6,baz=123,slow=8.1,SNR=5.8						
CMAR				LR	LR	17 38 08.8	
	comp=Z,34nm,18.1s,baz=223,slow=41						
NWAO	**Narrogin (SRO)**	38.14	192	P	P	17 24 39.2	0.0
	4.3nm,0.5s,mb4.3,baz=357,slow=14,SNR=8.6						
NWAO	**Narrogin (SRO)**	38.14	192	P	P	17 24 39.2	0.0
STKA	**Stephens Creek**	39.10	159	P	P	17 24 46.5	-0.8
	7.4nm,0.8s,mb4.3,baz=338,slow=7.5,SNR=9.7						
LSA	**Lhasa**	41.38	311	*e*P	P	17 25 07.8	+1.9
	2.5nm,0.6s,mb4.0						
SONM	**Songino Array**	46.34	342	P	P	17 25 44.2	-1.3
	0.3nm,0.7s,mb3.1,baz=53,slow=6.2,SNR=2.7						
SONM				PcP	PcP	17 27 17.8	-0.2
	0.5nm,0.5s,baz=153,slow=2.8,SNR=4.5						
MKAR	**Makanchi Array**	56.51	325	P	P	17 27 00.4	-1.0
	0.8nm,0.5s,mb3.8,baz=117,slow=7.3,SNR=15						
MKAR				PcP	PcP	17 27 56.1	+0.2
	1.9nm,0.6s,baz=119,slow=3.9,SNR=14						
MKAR				ScP		17 31 39.2	
	0.6nm,0.7s,baz=102,slow=6.1,SNR=6.1						
MKAR	**Makanchi Array**	56.51	325	P	P	17 27 00.4	-1.0
MKAR				PcP	PcP	17 27 56.1	+0.2
MKAR				ScP		17 31 39.2	
YAK	**Yakutsk**	57.47	2	*e*P	P	17 27 08.0	+0.1
	3.7nm,0.6s,mb4.4						
KURK	**Kurchatov**	60.70	328	*e*P	P	17 27 29.7	-0.6
	1.7nm,0.6s,mb4.0						
MAW	**Mawson**	84.22	200	P	P	17 29 48.1	+0.3
	1.5nm,0.8s,mb3.8,baz=30,slow=9.2,SNR=4.3						
BRTR	**Keskin Array B**	88.97	310	P	P	17 30 11.6	+0.2
	0.5nm,0.7s,mb3.5,baz=90,slow=6.2,SNR=4.0						
ARCES	**ARCESS Array B**	89.48	340	P	P	17 30 13.8	+0.6
	2.0nm,0.7s,mb4.1,baz=76,slow=5.0,SNR=8.2						
FINES	**FINESS Array B**	90.81	332	P	P	17 30 19.9	+0.3
	2.4nm,1.1s,mb4.2,baz=143,slow=6.9,SNR=3.2						
TXAR	**Lajitas Array**	121.70	51	PKP	PKPdf	17 36 11.8	+3.0
	0.2nm,0.6s,SNR=4.5						

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*NIED **29** 17:22:00, 24.50N×121.80E, h41^{km}, Mw4.1 Best double couple: $M_0$1.87×10^{15} NP1:ϕ_s73°, δ55°, λ70°. NP2:ϕ_s285°, δ40°, λ116°.*

*JMA **29** 17:22:22.8±0.3, 24.52N×121.83E, h52^{km}, M3.6*

*NEIC **29** 17:22:23.9±3.4, 24.53N×122.17E, h38^{km}±28^{km}, mb3.9/1, ML4.6(TAP), Error ellipse: s-maj=59.0km s-min=17.7km az=63.0*

NEIC Recorded [3 TAP] in I-lan and [2 TAP] in Hua-lien Counties.

*TAP **29** 17:22:24.7, 24.40N×121.91E, h25^{km}, ML4.3*

TAP Felt III J at Nanau, II J at Suao, I J at Neicheng, I J at Ilan, II J at Nioudou, I J at Nanshan, I J, I J at Taipai, I J at Jungli (National Central University), I J at Hsinchu.

*IDC **29** 17:22:30.5±16.0, 24.46N×121.91E, h100^{km}±164^{km}, mb3.3/5, mb1 3.4/5, mb1mx3.2/19, Error ellipse: s-maj=125.0km s-min=17.9km az=65.0*

*BJI **29** 17:22:31.7, 24.82N×121.34E, h38^{km}, mb4.3, ML4.1, Ms4.5, Msz4.0*

ISC 29 17:22:24.5±0.3, **24.41N**±0.02×**121.98E**±0.02, **h28**^{km}±3^{km}, **n64**, σ**1$\overset{s}{.}$08**/99, **mb3.6**/6, **9C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	0.22	276	⇑*i*P	Pb	17 22 30.4	-0.3
ENA				S	Sb	17 22 34.3	-0.5
TWC	**Suao**	0.23	330	⇑*i*P	Pb	17 22 31.0	+0.1
TWC				S	Sb	17 22 35.5	+0.3
ILA	**Ilan**	0.42	330	⇑*i*P	Pb	17 22 33.5	0.0
ILA				S	Sb	17 22 40.6	+1.0
TWE	**Neicheng**	0.42	318	⇑*i*P	Pb	17 22 33.3	-0.2
TWE				S	Sb	17 22 39.6	-0.2
ENTT	**Nioudou**	0.44	302	⇑*i*P	Pb	17 22 33.4	-0.5
TWD	**Chiawan**	0.48	227	⇑*i*P	Pb	17 22 33.6	-0.8
TWD				S	Sb	17 22 41.8	+0.6
HWA	**Hwalien**	0.55	219	*e*P	Pb	17 22 35.1	-0.4
NNS	**Nan Shan**	0.55	274	⇑*i*P	Pb	17 22 34.9	-0.7
NNS				S	Sb	17 22 42.4	-0.9
TWA	**Mucha**	0.68	328	⇑*i*P	Pb	17 22 37.8	+0.1
TWA				S	Sb	17 22 47.1	+0.4
NWF	**Wu-fen Shan**	0.69	345	⇑*i*P	Pb	17 22 38.2	+0.4
NWF				S	Sb	17 22 47.4	+0.4
TATO	**Taipei**	0.72	322	*e*Pn	Pn	17 22 38.1	-0.8
TATO				*e*Sn	Sn	17 22 48.0	-1.0
TAP1	**Taipei**	0.76	327	P	Pb	17 22 38.9	-0.1
TAP1				S	Sb	17 22 49.4	+0.5
TAP	**Taipei**	0.76	326	⇓*i*P	Pb	17 22 39.0	-0.1
TAP				S	Sb	17 22 49.6	+0.5
ESL	**Shilin**	0.77	220	*e*P	Pb	17 22 37.7	-1.6
TWS1	**Kuangyinshan**	0.86	324	⇓*i*P	Pb	17 22 40.6	-0.2
TWS1				S	Sb	17 22 53.3	+1.4
NCU	**National Centr**	0.91	308	*e*P	Pn	17 22 41.1	-0.5
NCU				S	Sb	17 22 54.6	+1.1
NSTT	**Nanjuang**	0.92	284	P	Pn	17 22 41.3	-0.4
NSTT				S	Sb	17 22 52.8	-0.8
TWY	**Chenhua**	0.93	338	P	Pn	17 22 41.8	-0.1
TWY				S	Sb	17 22 54.7	+0.7
YOJ	**Yonaguni jima**	0.94	86	P	Pn	17 22 41.9	-0.1
YOJ				*e*S	Sb	17 22 55.8	+1.5
HSN	**Hsinchu**	1.00	293	*e*P	Pn	17 22 42.2	-0.6
HSN				S	Sb	17 22 56.3	+0.4
EHY	**Hungye**	1.08	214	*e*P	Pn	17 22 41.8	-2.1
NSY	**Sanyi**	1.11	271	⇓*i*P	Pn	17 22 44.8	+0.4
NSY				S	Sn	17 22 59.7	+0.8
TYC	**Yuchr**	1.14	244	*e*P	Pn	17 22 44.2	-0.6
TYC				S	Sn	17 22 59.4	-0.2
TCU	**Taichung**	1.22	258	⇓*i*P	Pn	17 22 46.0	+0.1
TCU				S	Sn	17 23 02.1	+0.6
TWF1	**Yuli**	1.22	211	*e*P	Pn	17 22 44.0	-2.0
PCYT	**Pengchaiyu**	1.22	4	*e*P	Pn	17 22 45.1	-0.9
WNT	**Mingjian**	1.29	246	*e*P	Pn	17 22 47.5	+0.4
WNT				S	Sn	17 23 05.2	+1.7
YUS	**Yu-Shan**	1.31	226	*e*P	Pn	17 22 46.8	-0.5
YUS				S	Sn	17 23 04.2	+0.3
ALS	**Alishan**	1.40	231	*e*P	Pn	17 22 48.7	+0.3
CHKT	**Chengkung**	1.42	203	*e*P	Pn	17 22 47.1	-1.7
CHN5	**Tsauling**	1.44	236	*e*P	Pn	17 22 49.4	+0.4
CHN5				S	Sn	17 23 08.7	+1.6
WGK	**Gukeng**	1.48	241	*e*P	Pn	17 22 50.4	+0.7
WGK				S	Sn	17 23 09.8	+1.5
ELDTW	**Lidau**	1.50	216	*e*P	Pn	17 22 48.8	-1.1
IRIF	**Iriomote-Funau**	1.60	92	P	Pn	17 22 51.0	-0.4
IRIF				*e*S	Sn	17 23 12.8	+1.5
WTCT	**Ta-ch'eng**	1.64	251	*e*P	Pn	17 22 50.5	-1.5
CHN4	**Tsaushan**	1.65	231	*e*P	Pn	17 22 53.1	+1.0
CHN4				S	Sn	17 23 14.5	+2.0
WTP	**Ta-pu**	1.70	228	*e*P	Pn	17 22 53.3	+0.4
HATJ	**Hateruma jima**	1.70	101	P	Pn	17 22 53.2	+0.3
WSF	**Szhu**	1.78	245	*e*P	Pn	17 22 53.7	-0.2
WSF				S	Sn	17 23 16.2	+0.4
TWG	**Pinlang**	1.78	208	*e*P	Pn	17 22 52.0	-2.0
CHN1	**Nanshi**	1.80	228	*e*P	Pn	17 22 54.1	-0.1
CHN1				S	Sn	17 23 18.4	+2.0
SGST	**Jiashian**	1.84	224	*e*P	Pn	17 22 55.2	+0.4
SGST				S	Sn	17 23 19.5	+2.2
JKRS	**Kuro-shima**	1.86	95	P	Pn	17 22 55.0	-0.1
JKRS				S	Sn	17 23 19.2	+1.3
CHN8	**Yiju**	1.93	237	*e*P	Pn	17 22 55.7	-0.4
CHN8				S	Sn	17 23 21.2	+1.5
JIJ	**Ishigaki jima**	1.97	91	P	Pn	17 22 56.0	-0.7
JIJ				*e*S	Sn	17 23 20.7	-0.1
CHN3	**Shinhua**	1.98	228	*e*P	Pn	17 22 57.3	+0.4
SSD	**Sandimen**	2.06	217	*e*P	Pn	17 22 58.4	+0.4
TWM1	**Shoushan**	2.12	222	*e*P	Pn	17 23 00.3	+1.4
SGLT	**Jiouru**	2.16	220	*e*P	Pn	17 23 02.0	+2.6
EAST	**Anshuo**	2.27	208	*e*P	Pn	17 23 01.9	+1.0
PNG	**Penghu**	2.37	250	*e*P	Pn	17 22 59.9	-2.6
PNG				S	Sn	17 23 27.1	-3.8
SCZT	**Fangliau**	2.38	212	*e*P	Pn	17 23 04.2	+1.7
WDGT	**Dungji**	2.41	242	*e*P	Pn	17 23 00.8	-2.2
WDGT				S	Sn	17 23 30.0	-1.9
JTJ	**Tarama**	2.49	84	P	Pn	17 23 03.8	-0.4
JMJ	**Miyako jima 2**	3.04	82	P	Pn	17 23 12.4	+0.4
QZH	**Quanzhou**	3.13	281	P	Pn	17 23 10.3	-2.9
QZH				S	Sn	17 23 44.5	-5.5
QZH				Smax			
	comp=N,540nm,0.4s						
QZH				Smax			
	comp=E,320nm,0.5s						
KNM	**Kinmen**	3.23	271	*e*P	Pn	17 23 13.0	-1.6
NJ2	**Nanjing**	8.10	341	*e*P	P	17 24 25.0	+1.7
NJ2				LR	LR		
	comp=N,2µm,8.9s						
NJ2				LR	LR		
	comp=E,2µm,10.2s						
NJ2				LR	LR		
	comp=Z,1µm,9.6s						
SONM	**Songino Array**	26.45	336	P	P	17 27 57.5	-3.4
	comp=Z,1.7nm,0.9s,mb3.6,baz=155,slow=11,SNR=7.2						
LSA	**Lhasa**	27.91	288	P	P	17 28 12.5	-1.9
	comp=Z,2.1nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	38.69	315	P	P	17 29 43.8	-3.9
	comp=Z,1.0nm,0.6s,mb3.7,baz=101,slow=10,SNR=9.1						
WRA	**Warramunga Arr**	45.69	164	P	P	17 30 40.5	-4.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=345,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	49.17	165	P	P	17 31 10.4	-1.9
	comp=Z,0.2nm,0.8s,mb3.2,baz=332,slow=8.9,SNR=2.8						
FINES	**FINESS Array B**	71.62	330	P	P	17 33 40.2	-5.0
	comp=Z,0.5nm,0.5s,mb3.8,baz=90,slow=7.6,SNR=4.0						

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*IDC **29** 17:27:56.0±2.0, 11.45S×165.03E, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, MS3.4/2, Ms1 3.4/2, ms1mx3.0/20, Error ellipse: s-maj=99.7km s-min=23.6km az=145.0*

ISC 29 17:27:58.9±1.8, **11.8S**±0.6×**165.1E**±0.4, **h33**^{km}, **n8**, σ**0$\overset{s}{.}$55**/6, **mb3.9**/6, **MS3.6**/1, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	19.91	243	LR	LR	17 39 27.2	
	comp=Z,68nm,18.7s,baz=229,slow=35						
WRA	**Warramunga Arr**	30.66	251	P	P	17 34 12.7	-0.1
	0.8nm,0.7s,mb3.7,baz=78,slow=8.7,SNR=9.0						
ASAR	**Alice Springs**	31.91	244	P	P	17 34 23.5	-0.4
	0.6nm,0.7s,mb3.5,baz=74,slow=8.9,SNR=7.5						
RAR	**Rarotonga**	34.84	110	LR	LR	17 45 41.1	
	comp=Z,110nm,20.9s,MS3.6,baz=122,slow=30						
FITZ	**Fitzroy Crossi**	38.61	256	P	P	17 35 21.4	+0.5
	1.0nm,0.5s,mb3.8,baz=119,slow=6.7,SNR=6.8						
ILAR	**Eielson Array**	84.44	19	P	P	17 40 28.6	-0.6
	0.9nm,0.6s,mb4.1,baz=244,slow=5.5,SNR=17						
NVAR	**Mina Array Bea**	86.98	50	P	P	17 40 42.6	+0.4
	1.2nm,1.0s,mb4.1,baz=224,slow=5.7,SNR=5.0						
MKAR	**Makanchi Array**	93.68	317	P	P	17 41 13.6	+0.2
	0.3nm,0.6s,mb3.9,baz=101,slow=6.2,SNR=4.3						

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*NEIC **29** 17:29:32.8, 36.21N×27.46E, h20^{km}, MD3.2(ATH), After ATH.*

*ATH **29** 17:29:33.0, 36.17N×27.54E, h32^{km}, MD3.2/4*

*ISK **29** 17:29:38.8, 36.41N×27.72E, h13^{km}, MD3.2*

ISC 29 17:29:32.3±1.3, **36.10N**±0.05×**27.54E**±0.06, **h4**^{km}±10^{km}, **n18**, σ**1$\overset{s}{.}$23**/23, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	0.48	76	*e*PB	Pb	17 29 43.7	+0.7
KARP	**Karpathos**	0.64	209	*e*PN	Pn	17 29 46.3	-1.4
BDRM	**Kayabasi**	0.96	355	*i* P	Pb	17 29 51.5	+0.3
BDRM				*i* S	Sb	17 30 05.3	+1.2
DALT	**Dalyan (Mudla)**	1.10	53	PG	Pn	17 29 54.5	+0.1
DALT				SG	Sn	17 30 07.4	-2.9
YER	**Yerkesik**	1.19	30	*i* PG	Pn	17 29 55.8	+0.1
YER				SG	Sn	17 30 07.9	-4.5
MLSB	**Milas**	1.20	9	*e*PG	Pg	17 29 56.9	+0.6
AYDN	**Tasoluk**	1.58	10	*i* P	Pg	17 30 03.2	-0.6
AYDN				*i* S	Sg	17 30 23.8	-1.0
THR1	**Thera Island**	1.71	280	*e*P	Pn	17 30 03.6	+0.6
THR6	**Thira Island,**	1.75	279	*e*P	Pn	17 30 03.2	-0.5
THR4	**Thira Island,**	1.77	282	*e*P	Pn	17 30 02.7	-1.3
NPS	**Neapolis**	1.78	242	*e*PB	Pb	17 30 04.1	-1.1
THR5	**Thira Island,**	1.80	281	*e*P	Pn	17 30 05.9	+1.5
APE	**Apeiranthos**	1.88	301	*e*PN	Pn	17 30 04.5	-1.1
XRY	**Khrisi**	1.94	231	*e*PB	Pb	17 30 08.3	+0.3
XRY	**Khrisi**	1.94	231	*e*Pn	Pn	17 30 08.5	+2.1
DNZL	**Cakiroluk**	1.99	37	⇑*i*P	Pg	17 30 08.3	-3.7
DNZL				*i* S	Sg	17 30 34.0	-4.5
ELL	**Elmali**	2.01	71	*e*PN	Pn	17 30 10.4	+3.0
DENT	**Denizli**	2.04	36	*e*PN	Pn	17 30 09.0	+1.3

IDC 29 17:36:05.6±2.2, **7.46S**×**130.04E**, **mb3.7**/1, **mb1 3.6**/4, **mb1mx3.4**/12, **ML2.8**/3, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.3**/17, **Error ellipse: s-maj=86.1km s-min=28.8km az=77.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	11.42	202	Pn	P	17 38 49.2	-3.9
	0.1nm,0.3s,baz=54,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	13.09	162	Pn	P	17 39 12.6	-3.0
	0.1nm,0.3s,baz=346,slow=13,SNR=4.9						
WRA				Sn	S	17 41 46.2	+3.0
	0.1nm,0.3s,baz=348,slow=40,SNR=3.9						
ASAR	**Alice Springs**	16.54	167	Pn	P	17 40 00.3	-0.4
	0.1nm,0.3s,baz=348,slow=9.6,SNR=5.2						
ASAR				LR	LR	17 45 56.3	
	comp=Z,52nm,18.1s,baz=9.0,slow=36						
MKAR	**Makanchi Array**	68.63	327	P	P	17 47 10.7	-2.0
	0.4nm,0.5s,baz=135,slow=6.1,SNR=7.4						

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*THE **29** 17:48:00.2, 40.81N×20.74E, h3^{km}, ML3.4*

*NEIC **29** 17:48:01.6, 40.68N×20.90E, h19^{km}, MD3.5(ATH), MD3.0(PDG), ML3.4(THE), After ATH.*

*ATH **29** 17:48:01.9, 40.66N×20.90E, h21^{km}±9^{km}, MD3.5/6*

*PDG **29** 17:48:02.2±0.2, 40.61N×20.21E, h11^{km}*

ISC 29 17:47:59.7±0.5, **40.72N**±0.02×**20.73E**±0.02, **h3**^{km}±3^{km}, **n51**, σ**1$\overset{s}{.}$34**/83, **1C-8D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	0.39	8	⇑*i*Pg	Pg	17 48 07.2	-0.3
OHR				*i*		17 48 09.8	
OHR				*i* Sg	Sg	17 48 13.5	+0.7
FNA	**Florina**	0.50	83	*e*Pg	Pg	17 48 09.6	0.0
FNA				*e*Sg	Sg	17 48 17.6	+1.3
BIA	**Bitola**	0.54	57	⇓*i*Pg	Pg	17 48 10.9	+0.4
BIA				*i* Sg	Sg	17 48 18.5	+0.8
LSK	**Leskovik**	0.58	190	*i* Pg	Pg	17 48 11.8	+0.5
LSK				*i* Sg	Sg	17 48 21.6	+2.6
KZN	**Kozani**	0.90	117	*e*PN	Pn	17 48 16.8	-2.2
TIR	**Tirane**	0.90	314	⇓*i*Pg	Pg	17 48 17.5	-0.2
TIR				*i* Sg	Sg	17 48 34.5	+4.8
QSH	**Qafa e Shtames**	1.01	322	*i* Pg	Pg	17 48 19.2	-0.7
MEV	**Metsovon**	1.01	157	*e*Pg	Pg	17 48 19.9	0.0
	comp=Z,20nm,0.3s						
MEV				*e*Sg	Sg	17 48 35.8	+2.3
JAN	**Janina**	1.07	175	*e*PB	Pb	17 48 20.0	-0.5
IGT	**Igoumenitsa**	1.23	194	*e*Pb	Pb	17 48 24.4	+1.2
IGT				*e*Sb	Sb	17 48 43.4	+4.1
KEK	**Kerkira**	1.23	215	*e*PN	Pn	17 48 25.5	+1.7
KEK				*e*SN	Sn	17 48 44.5	+3.3
GRG	**Griva**	1.29	79	*e*Pb	Pb	17 48 23.9	-0.4
GRG				*e*Sb	Sb	17 48 42.8	+1.6
SKO	**Skopje**	1.36	23	*e*Pn	Pn	17 48 25.0	-0.6
SKO				*i*		17 48 26.7	
SKO				*i* Sg	Sg	17 48 44.5	-0.4
SKO				Lg		17 48 47.0	
	comp=Z,0.2nm,0.7s						
LIT	**Litokhoron**	1.48	114	*e*Pb	Pb	17 48 27.4	-0.2
	comp=Z,22nm,0.4s						
LIT				*e*Sb	Sb	17 48 49.0	+2.3
ULC	**Ulcinj**	1.67	319	⇓*i*Pg	Pg	17 48 30.7	-2.3
ULC				*e*Sg	Sg	17 48 53.5	-1.6
KNT	**Kendrikon**	1.70	74	*e*Pb	Pb	17 48 30.0	-1.4
KNT				*e*Sb	Sb	17 48 51.9	-1.2
THE	**Thessaloniki**	1.71	92	*e*Pb	Pb	17 48 30.2	-1.2
PVY	**Plav**	1.95	343	⇓*i*Pn	Pn	17 48 36.8	+2.7
PVY				*e*Sn	Sn	17 49 04.1	+4.6
EVR	**Evrytania**	1.99	155	*e*PN	Pn	17 48 36.5	+1.9
EVR	**Evrytania**	1.99	155	*e*Pn	Pn	17 48 37.3	+2.7
SOH	**Sokhos**	2.00	86	*e*Pn	Pn	17 48 34.5	-0.3
SOH				*e*Sn	Sn	17 48 60.0	-0.6
LKD	**Levkas**	2.01	182	*e*Pn	Pn	17 48 36.4	+1.5
	comp=Z,7.0nm,0.6s						
LKD				*e*Sn	Sn	17 49 04.7	+3.7
LCI	**Lecce**	2.03	260	*e*Pn	Pn	17 48 37.0	+1.8
LCI				*e*Sn	Sn	17 49 02.7	+1.3
TTG	**Podgorica**	2.03	328	⇓*i*Pn	Pn	17 48 36.0	+0.8
TTG				*e*Sn	Sn	17 49 03.2	+1.8
BUM	**Brajici-Budva**	2.09	320	⇓*i*Pn	Pn	17 48 36.4	+0.3
BUM				*e*Sn	Sn	17 49 03.6	+0.7
PLG	**Polygyros**	2.10	99	*e*PN	Pn	17 48 36.0	-0.2
SRS	**Serrai**	2.21	79	*e*Pn	Pn	17 48 36.6	-1.1
IVA	**Berane**	2.23	344	*e*Pn	Pn	17 48 41.0	+2.9
IVA				*e*Sn	Sn	17 49 10.7	+4.0
XOR	**Xorichti**	2.33	125	*e*Pn	Pn	17 48 38.8	-0.7
XOR				*e*Sn	Sn	17 49 07.1	-1.9
PAIG	**Paliouri**	2.39	108	*e*Pn	Pn	17 48 39.8	-0.6
HCY	**Herceg Novi**	2.40	317	*e*Pn	Pn	17 48 40.3	-0.2
HCY				*e*Sn	Sn	17 49 10.1	-0.8
NKY	**Niksic**	2.46	329	⇓*i*Pn	Pn	17 48 42.2	+0.9
NKY				*e*Sn	Sn	17 49 13.9	+1.7
OUR	**Ouranopolis**	2.51	98	*e*Pn	Pn	17 48 41.3	-0.8
	comp=Z,2.7nm,0.9s						
OUR				*e*Sn	Sn	17 49 13.3	-0.4
VLS	**Valsamata**	2.54	182	*e*PN	Pn	17 48 40.0	-2.6
LKR	**Lokris**	2.71	139	*e*PN	Pn	17 48 44.8	-0.2
BRY	**Bratogost**	2.72	324	*e*Pn	Pn	17 48 46.2	+1.1
BRY				*e*Sn	Sn	17 49 19.4	+0.4
PLE	**Pljevlja**	2.79	340	*e*Pn	Pn	17 48 47.9	+1.8
PLE				*e*Sn	Sn	17 49 22.8	+2.1
UPM	**Unac-Piva**	2.82	332	⇓*i*Pn	Pn	17 48 48.2	+1.6
UPM				*e*Sn	Sn	17 49 22.6	+1.0
AOS	**Alonnisos**	2.88	122	*e*Pn	Pn	17 48 47.1	-0.2
AOS				*e*Sn	Sn	17 49 23.6	+0.6
TIP	**Timpagrande**	3.42	244	*e*Pn	Pn	17 48 55.1	+0.1
LOS	**Limnos**	3.42	102	*e*Pn	Pn	17 48 53.6	-1.4
SLCN	**Sala Consilina**	3.89	267	*e*Pn	Pn	17 49 00.7	-1.1
SLCN				*e*Sn	Sn	17 49 46.0	-2.7
MRLC	**Muro Lucano**	3.98	272	*e*Pn	Pn	17 49 02.9	0.0
MGR	**Morigerati**	3.99	263	*e*Pn	Pn	17 49 02.5	-0.7
MGR				*e*Sn	Sn	17 49 50.0	-1.2
RGNG	**Rignano Grg**	3.99	285	*e*Pn	Pn	17 49 00.9	-2.3
RGNG				*e*Sn	Sn	17 49 46.7	-4.5
ALN	**Alexandroupoli**	4.04	86	*e*Pn	Pn	17 49 01.9	-1.9
SGO	**Sicignano**	4.13	270	*e*Pn	Pn	17 49 03.7	-1.3
SGO				*e*Sn	Sn	17 49 52.6	-2.0
SGG	**Gregorio Mates**	4.84	280	*e*Pn	Pn	17 49 14.3	-1.0
CII	**Carovilli**	4.94	284	*e*Pn	Pn	17 49 13.3	-3.4
	comp=Z,7.5nm,0.4s						
INTR	**Introdacqua**	5.29	286	*e*Pn	Pn	17 49 20.5	-1.1
ASS	**Assisi**	6.46	294	*e*Pn	Pn	17 49 35.4	-2.7

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*MDD **29** 17:57:45.0±0.5, 43.07N×0.63W, h15^{km}±10^{km}, mbLg1.1/1, Error ellipse: s-maj=10.1km s-min=2.4km az=24.0, PRXIMO*

*STR **29** 17:57:44.9±0.2, 42.75N×0.94W, h2^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **29** 17:57:45.3±0.1, 43.07N×0.64W, h2^{km}, Md1.4/3, Error ellipse: s-maj=3.7km s-min=2.0km az=17.0*

ISC 29 17:57:44.8±0.8, **43.05N**±0.06×**0.65W**±0.05, **h15**^{km}, **n8**, σ**0$\overset{s}{.}$31**/13, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	0.17	156	*e*Pg	Pb	17 57 48.9	-0.3
ETSF				*e*Sg	Sb	17 57 51.6	-0.4
	16nm,0.2s						
FDAF	**Les Forges d'A**	0.24	165	Pg	Pb	17 57 50.3	-0.1
FDAF				Sg	Sb	17 57 54.4	+0.4
FDAF	**Les Forges d'A**	0.24	165	Pg	Pb	17 57 50.5	+0.1
FDAF				Lg		17 57 54.5	
LARF	**Larrau**	0.25	267	Pg	Pb	17 57 50.6	+0.1
LARF				Sg	Sb	17 57 54.7	+0.5
LARF	**Larrau**	0.25	267	Pg	Pb	17 57 50.7	+0.3
LARF				Lg		17 57 54.7	
SJPF	**Ste Jean**	0.42	278	*e*Pg	Pb	17 57 53.2	-0.3
SJPF				*e*Sg	Sb	17 57 59.3	-0.1
	1.3nm,0.2s						
EALK	**Alkurruntz**	0.65	285	Pg	Pb	17 57 56.9	-0.4
	1.0nm,0.3s,SNR=7.9						
EALK				Lg		17 58 05.3	
	6.5nm,0.5s,SNR=7.9						
EPF	**Esparros**	0.73	91	*e*Pg	Pb	17 57 59.0	+0.4
EPF				*e*Sg	Sb	17 58 08.1	0.0
	0.7nm,0.3s						

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*THE **29** 17:59:28.3, 40.32N×26.24E, h1^{km}, ML3.5*

*SOF **29** 17:59:28.5, 40.42N×26.03E, h2^{km}, MD2.7*

*ISK **29** 17:59:29.2, 40.45N×25.94E, h10^{km}, MD3.2, ML3.3*

*NEIC **29** 17:59:30.5, 40.43N×26.00E, h24^{km}, MD3.5(ATH), ML3.5(THE), After ATH.*

*ATH **29** 17:59:30.5,40.43N×26.00E,h24^{km},MD3.5/3*
ISC 29 17:59:29.9±0.6,**40.42N**±0.02×**26.00E**±0.02,**h5**^{km}±5^{km},**n52,**σ**0^{s}.93**/68,**1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	0.47	4	ePg	Pg	17 59 40.1	+0.7
ALN				eSg	Sg	17 59 47.3	+1.5
LPK	**Lapseki**	0.58	95	i PG	Pg	17 59 42.0	+0.4
LPK				SG	Sg	17 59 51.3	+1.9
EZN	**Ezine**	0.65	157	PG	Pg	17 59 43.1	+0.3
RDO	**Rodhopi**	0.80	334	ePN	Pn	17 59 45.9	-1.7
LIA	**Limnos Island**	0.82	230	ePN	Pn	17 59 46.5	-1.3
LOS	**Limnos**	0.86	235	ePg	Pg	17 59 47.5	+0.5
LOS				eSg	Sg	18 00 00.1	+1.6
KGT	**Karabiga**	1.00	88	ePG	Pg	17 59 48.9	-0.9
PRK	**Paraskevi**	1.20	170	ePN	Pn	17 59 53.4	+0.2
KDZ	**Kurdzhali**	1.30	340	i P	Pb	17 59 55.0	+0.6
EDC	**Edincik**	1.43	92	PN	Pn	17 59 56.4	-0.1
BNT	**Bandirma**	1.47	92	PN	Pn	17 59 56.7	-0.4
EDRB	**Edirne**	1.53	21	PN	Pn	17 59 57.4	-0.6
OUR	**Ouranopolis**	1.54	267	ePb	Pb	17 59 57.7	-0.9
	comp=Z,13nm,0.3s						
OUR				eSb	Sb	18 00 21.3	+3.0
RZN	**Rozhen**	1.59	323	i P	Pn	17 59 59.0	+0.1
BALB	**Balikesir**	1.64	118	PN	Pn	18 00 00.0	+0.4
DIM	**Dimitrovgrad**	1.66	348	i P	Pn	18 00 01.0	+1.1
DIM				i Pg	Pg	18 00 02.0	-1.1
KCT	**Karacabey**	1.81	94	PN	Pn	18 00 02.3	+0.3
PAIG	**Paliouri**	1.84	255	ePn	Pn	18 00 02.1	-0.4
NVR	**Nevrokopi**	1.86	300	ePN	Pn	18 00 03.0	+0.2
PLD	**Plovdiv**	1.94	330	i P	Pn	18 00 07.5	+3.6
PLG	**Polygyros**	1.95	269	ePB	Pb	18 00 04.0	-1.5
SRS	**Serrai**	1.95	292	ePn	Pn	18 00 03.6	-0.4
SRS				eSn	Sn	18 00 32.7	+3.5
CTT	**Catalca**	1.98	68	ePN	Pn	18 00 03.8	-0.7
SOH	**Sokhos**	2.05	282	ePn	Pn	18 00 06.6	+1.2
SOH				eSn	Sn	18 00 36.0	+4.3
AOS	**Alonnisos**	2.06	233	ePn	Pn	18 00 04.6	-0.9
	comp=Z,2.3nm,0.3s						
AOS				eSn	Sn	18 00 32.0	+0.2
MMB	**Musomiste**	2.08	305	i P	Pn	18 00 06.0	+0.2
AKS	**Akhisar**	2.08	137	ePN	Pn	18 00 05.0	-0.9
JMB	**Yambol**	2.09	12	i P	Pn	18 00 06.2	+0.2
DST	**Dursunbey**	2.18	111	ePN	Pn	18 00 06.7	-0.6
KDAG	**Bornova**	2.25	154	i P	Pn	18 00 08.1	-0.2
KDAG				i S	Sn	18 00 43.9	+7.3
IZM	**Izmir**	2.25	154	ePN	Pn	18 00 07.9	-0.4
THE	**Thessaloniki**	2.32	276	ePn	Pn	18 00 09.5	+0.2
XOR	**Xorichti**	2.40	245	ePn	Pn	18 00 08.8	-1.7
ISK	**Istanbul-Kandi**	2.41	74	ePN	Pn	18 00 10.2	-0.4
ULDT	**Uludag**	2.42	96	i P	Pn	18 00 11.0	+0.3
ULDT				i S	Sn	18 00 45.2	+4.2
KNT	**Kendrikon**	2.47	288	ePn	Pn	18 00 11.3	-0.1
PGB	**Panagyurishte**	2.53	328	i P	Pn	18 00 12.0	-0.3
YLV	**Yalova**	2.58	86	ePN	Pn	18 00 12.8	-0.2
KKB	**Krupnik**	2.63	304	i P	Pn	18 00 14.0	+0.3
KKB				i Pg	Pg	18 00 20.5	-1.9
LIT	**Litokhoron**	2.70	264	ePn	Pn	18 00 15.0	+0.2
MANT	**Manisa**	2.77	133	⇑iP	Pn	18 00 15.7	0.0
MANT				i S	Sn	18 00 51.0	+1.1
GRG	**Griva**	2.79	282	ePn	Pn	18 00 16.7	+0.8
GRG				eSn	Sn	18 00 53.9	+3.6
SZH	**Strazhica**	2.84	359	i P	Pn	18 00 17.0	+0.3
PRD	**Provadia**	2.96	20	i P	Pn	18 00 17.5	-1.0
KHL	**Karahalli**	3.44	126	ePN	Pn	18 00 25.8	+0.5
ALT	**Altintas**	3.45	112	ePN	Pn	18 00 25.6	+0.2
FNA	**Florina**	3.54	277	ePn	Pn	18 00 25.6	-1.0
DNZL	**Cakiroluk**	3.62	138	i P	Pn	18 00 27.3	-0.5
DNZL				i S	Sn	18 01 12.1	+0.7
ESKT	**Eskisehir**	3.84	102	ePN	Pn	18 00 31.0	+0.1
ESKT	**Eskisehir**	3.84	102	i P	Pn	18 00 31.0	+0.1
ESKT				i S	Sn	18 01 33.5	+17
SGKT	**Sivrigoynuk**	4.62	86	i P	Pn	18 00 41.4	-0.6
SGKT				i S	Sn	18 01 41.3	+4.5
KIZT	**Kizilcal**	4.79	107	ePN	Pn	18 00 44.3	-0.2

*NEIC **29** 18:08:07.1,35.01S×70.55W,h3^{km},ML2.6(GUC),After GUC.*
GUC 29 18:08:07.1±0.6,**35.01S×70.55W,h3**^{km}**,MD3.6,ML2.6,4C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.55	316	⇓iP	Pg	18 08 18.2	+0.1
SFDO				i S	Sg	18 08 26.8	+1.4
NICH	**Los Niches**	0.56	271	⇓iP	Pg	18 08 18.3	+0.1
NICH				i S	Sg	18 08 26.6	+1.0
CICH	**Cipreses**	0.70	9	⇓iP	Pg	18 08 20.6	-0.5
CICH				i S	Sg	18 08 31.0	+0.6
CACH	**El Canelo**	0.90	358	⇑iP	Pb	18 08 24.0	-0.9
CACH				i S	Sg	18 08 37.6	+0.7
CHCH	**Chadas Angostu**	1.08	356	⇑iP	Pb	18 08 27.7	-0.4
CHCH				i S	Sb	18 08 43.2	+0.7
LMEL	**Las Melosas**	1.20	14	⇑iP	Pb	18 08 29.4	-0.7
LMEL				i S	Sb	18 08 46.5	+0.7
LMEL				AMP		18 08 52.0	
	comp=N,234nm,0.2s						
LNV	**Longovilo**	1.27	326	⇑iP	Pb	18 08 30.4	-0.9
LNV				i S	Sb	18 08 48.5	+0.5
PCH	**Pirque**	1.39	1	⇓iP	Pb	18 08 33.0	-0.4
TACH	**Talagante**	1.39	347	eP	Pb	18 08 32.8	-0.7
TACH				i S	Sb	18 08 52.0	+0.4

GUC 29 18:14:13.9±0.6,**34.95S×70.45W,h2**^{km}**,MD3.5,ML1.6,1C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	0.63	2	⇓iP	Pg	18 14 26.7	+0.1
CACH	**El Canelo**	0.84	351	⇑iP	Pg	18 14 30.4	-0.4
CHCH	**Chadas Angostu**	1.03	350	eP	Pb	18 14 33.7	-0.4
LMEL	**Las Melosas**	1.12	10	eP	Pb	18 14 35.4	-0.3
LMEL				AMP		18 15 01.9	
	comp=N,39nm,0.1s						
LMEL				AMP		18 15 02.9	
	comp=E,24nm,0.2s						
LNV	**Longovilo**	1.27	321	⇓iP	Pb	18 14 37.2	-1.1
LNV				i S	Sb	18 14 55.4	+0.4
FCH	**Farellones**	1.63	5	eP	Pn	18 14 44.3	+0.6

GUC 29 18:38:43.2±0.7,**35.08S×70.54W,h3**^{km}**,MD3.5,ML2.4,2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.60	320	⇓iP	Pg	18 38 55.3	+0.1
SFDO				i S	Sg	18 39 04.8	+1.5
CICH	**Cipreses**	0.76	7	⇓iP	Pg	18 38 57.1	-1.3
CICH				i S	Sg	18 39 08.3	-0.2
CHCH	**Chadas Angostu**	1.14	355	i P	Pb	18 39 04.2	-1.0
LMEL	**Las Melosas**	1.25	13	⇑iP	Pb	18 39 06.4	-0.8
LMEL				i S	Sb	18 39 23.3	-0.3
LMEL				AMP		18 39 25.9	
	comp=N,70nm,0.1s						
LNV	**Longovilo**	1.33	327	i S	Sb	18 39 26.1	+0.4
TACH	**Talagante**	1.46	347	⇑iP	Pn	18 39 09.8	-0.7
TACH				i S	Sb	18 39 29.8	+0.4
CLCH	**Cerro Calan**	1.68	0	eS	Sb	18 39 36.2	+0.4
CLCH				AMP		18 39 45.1	
	comp=E,146nm,0.6s						
FCH	**Farellones**	1.75	7	eP	Pn	18 39 15.2	+0.5
FCH				eP		18 39 15.3	
FCH				i S	Sn	18 39 39.0	+1.1
FCH				AMP		18 39 50.6	
	comp=E,67nm,0.4s						

*ROM **29** 18:39:26.2±0.1,43.87N×11.96E,h7^{km}±1^{km},MD3.0/9,ML2.1/10,Error ellipse: s-maj=1.0km s-min=0.9km az=0.0*
*NEIC **29** 18:39:26.3,43.87N×11.96E,h8^{km},MD3.0(ROM),ML2.8(LDG),After ROM.*
*LDG **29** 18:39:28.1±0.1,43.83N×11.99E,h10^{km},Ml2.8/15,Error ellipse: s-maj=2.3km s-min=1.6km az=111.0*
ISC 29 18:39:25.9±0.3,**43.82N**±0.02×**11.85E**±0.02,**h10**^{km}**,n64,**σ**1^{s}.47**/101,**9C-3D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	0.09	0	⇑iPG	Pg	18 39 28.9	+0.6
SFI				SG	Sg	18 39 30.3	+0.3
SFI	**Santa Sofia**	0.09	0	⇑iPg	Pg	18 39 28.9	+0.5
SFI				eSg	Sg	18 39 30.3	+0.3
PGD	**Poggio Sodo**	0.11	301	⇑iPG	Pg	18 39 30.7	+2.0
PGD				SG	Sg	18 39 33.8	+3.3
PGD	**Poggio Sodo**	0.11	301	⇑iPg	Pg	18 39 30.7	+2.0
PGD				eSg	Sg	18 39 33.8	+3.3
CRE	**Caprese Michel**	0.21	159	⇑iPG	Pg	18 39 32.3	+1.8
CRE				SG	Sg	18 39 35.7	+2.1
	500nm,0.4s						
CRE	**Caprese Michel**	0.21	159	⇑iPg	Pg	18 39 32.3	+1.8
CRE				eSg	Sg	18 39 35.7	+2.1
VMG	**Vicchio**	0.26	303	ePG	Pg	18 39 33.1	+1.7
VMG				SG	Sg	18 39 39.0	+3.9
	1μm,0.3s						
VMG	**Vicchio**	0.26	303	ePg	Pg	18 39 33.1	+1.7
VMG				eSg	Sg	18 39 39.0	+3.9
SEI	**Scarperia**	0.42	304	ePG	Pg	18 39 35.5	+1.0
SEI				SG	Sg	18 39 43.7	+3.4
SEI	**Scarperia**	0.42	304	ePg	Pg	18 39 35.5	+1.0
SEI				eSg	Sg	18 39 43.7	+3.3
RSM	**Repubblica di**	0.45	76	ePG	Pg	18 39 34.3	-0.7
	265nm,0.3s						
RSM	**Repubblica di**	0.45	76	ePg	Pg	18 39 34.3	-0.7
BRSN	**Barisano**	0.49	20	ePG	Pg	18 39 36.0	+0.1
	428nm,0.3s						
CSNT	**Castellina Chi**	0.53	229	ePG	Pg	18 39 39.9	+3.2
	211nm,0.5s						
CSNT	**Castellina Chi**	0.53	229	ePg	Pg	18 39 39.9	+3.3
FSSB	**Fossombrone**	0.69	100	ePG	Pg	18 39 38.1	-1.6
FSSB				SG	Sg	18 39 48.9	0.0
	80nm,0.2s						
FSSB	**Fossombrone**	0.69	100	ePg	Pg	18 39 38.1	-1.6
FSSB				eSg	Sg	18 39 48.9	-0.1
MURB	**Monte Urbino**	0.74	138	ePG	Pg	18 39 40.9	+0.1
MURB	**Monte Urbino**	0.74	138	ePg	Pg	18 39 40.9	0.0
ARV	**Arcevia**	0.86	112	ePG	Pg	18 39 41.6	-1.5
ARV				SG	Sg	18 39 55.0	+0.4
	32nm,0.2s						
ARV	**Arcevia**	0.86	112	ePg	Pg	18 39 41.6	-1.5
ARV				eSg	Sg	18 39 55.0	+0.4
GRFL	**Gerfalco**	0.92	224	ePG	Pg	18 39 46.7	+2.3
	12nm,0.3s						
GRFL	**Gerfalco**	0.92	224	ePg	Pg	18 39 46.7	+2.3
BDI	**Bagni Di Lucca**	0.94	285	ePG	Pg	18 39 46.0	+1.4
BDI				SG	Sg	18 40 00.0	+2.9
BDI	**Bagni Di Lucca**	0.94	285	ePg	Pg	18 39 46.0	+1.4
BDI				eSg	Sg	18 40 00.0	+2.9
ASS	**Assisi**	0.96	142	ePG	Pg	18 39 44.9	-0.2
	25nm,0.5s						
ASS	**Assisi**	0.96	142	ePg	Pg	18 39 44.9	-0.2
PII	**Pisa**	0.96	265	ePG	Pg	18 39 46.7	+1.5
	61nm,0.2s						
PII	**Pisa**	0.96	265	ePg	Pg	18 39 46.7	+1.5
GSCL	**Gusciola**	1.05	301	ePN	Pn	18 39 48.7	+2.1
	21nm,0.5s						
GSCL	**Gusciola**	1.05	301	ePg	Pg	18 39 48.7	+1.8
NRCA	**Norcia**	1.35	136	ePN	Pn	18 39 51.8	+0.9
NRCA	**Norcia**	1.35	136	ePg	Pg	18 39 51.8	-1.2
MNS	**Montasola**	1.56	157	ePN	Pn	18 39 54.5	+0.6
	17nm,0.6s						
MNS	**Montasola**	1.56	157	ePg	Pg	18 39 54.5	-2.6
PGF	**Pioggiola**	2.44	240	ePn	Pn	18 40 07.5	+1.1
PGF				eSn	Sn	18 40 36.9	+0.3
	4.8nm,0.3s						
VOY	**Vojsko**	2.65	33	ePn	Pn	18 40 06.9	-2.5
VOY				eSn	Sn	18 40 39.0	-2.9
SBF	**Sospel**	3.19	272	ePn	Pn	18 40 17.9	+0.7
SBF				eSn	Sn	18 40 54.5	-1.2
	14nm,0.5s						
OBKA	**Obir**	3.30	34	⇓iPN	Pn	18 40 15.8	-2.9
OBKA				i SN	Sn	18 40 53.6	-4.8
SQTA	**Sankt Quirin**	3.43	353	⇑iPN	Pn	18 40 21.4	+0.9
SQTA				i SN	Sn	18 41 04.0	+2.3
WTTA	**Wattenberg**	3.45	358	⇑iPN	Pn	18 40 21.2	+0.4
WTTA				i SN	Sn	18 41 03.3	+1.2
WATA	**Walderalm**	3.52	357	⇓iPN	Pn	18 40 22.3	+0.5
WATA				i SN	Sn	18 41 05.5	+1.5
MOTA	**Moosalm**	3.56	352	⇓iPN	Pn	18 40 23.4	+1.0
MOTA				i SN	Sn	18 41 07.0	+1.9
DAVA	**Damuels**	3.73	339	⇑iPN	Pn	18 40 27.0	+2.2
DAVA				i SN	Sn	18 41 12.5	+3.2
MBDF	**Montbardon**	3.76	286	ePn	Pn	18 40 25.8	+0.6
MBDF				eSn	Sn	18 41 08.4	-1.6
	7.2nm,0.7s						
FRF	**La Foret Royal**	3.78	268	ePn	Pn	18 40 26.0	+0.5
FRF				eSn	Sn	18 41 09.0	-1.6
	9.6nm,0.7s						
LMR	**La Mourre**	3.91	265	ePn	Pn	18 40 27.1	-0.2
LMR				eSn	Sn	18 41 12.2	-1.6
	1.7nm,0.3s						
LPG	**La Plagne**	4.00	297	ePn	Pn	18 40 28.9	+0.2
LPG				eSn	Sn	18 41 13.8	-2.4
	3.0nm,0.5s						
LPL	**La Plagne**	4.02	297	ePn	Pn	18 40 29.5	+0.5
LPL				eSn	Sn	18 41 14.7	-2.0
	6.6nm,0.6s						
ORIF	**Oris-en-Rattie**	4.42	286	ePn	Pn	18 40 34.4	-0.2
ORIF				eSn	Sn	18 41 24.1	-2.6
	6.8nm,0.8s						
SMRF	**Simiane la Rot**	4.54	274	ePn	Pn	18 40 36.9	+0.6
SMRF				eSn	Sn	18 41 26.6	-3.1
	0.6nm,0.3s						
CABF	**La Chapelle**	4.93	306	ePn	Pn	18 40 41.3	-0.6
VIVF	**Saint-Julien-l**	5.25	284	ePn	Pn	18 40 46.0	-0.3
HINF	**Hinteralfeld**	5.30	321	ePn	Pn	18 40 45.6	-1.5
HINF				eSn	Sn	18 41 44.1	-5.0
	4.9nm,0.6s						
CDF	**Champ du Feu**	5.58	327	ePn	Pn	18 40 49.5	-1.6
CDF				eSn	Sn	18 41 51.2	-4.9
	6.4nm,0.7s						
HAU	**Haudompre**	5.68	319	ePn	Pn	18 40 51.3	-1.1
HAU				eSn	Sn	18 41 53.6	-4.8
	4.5nm,0.3s						
LASF	**Ste Croix**	5.77	275	ePn	Pn	18 40 52.9	-0.8
LOR	**Lormes**	6.58	304	ePn	Pn	18 41 03.9	-1.3
LOR				eSn	Sn	18 42 15.0	-6.1
	3.8nm,0.6s						
AVF	**Avril sur Loir**	6.69	299	ePn	Pn	18 41 05.0	-1.6
SSF	**Saint Saulge**	6.70	302	ePn	Pn	18 41 05.4	-1.4
SSF				eSn	Sn	18 42 17.7	-6.4
	8.8nm,1.1s						
BGF	**Bois d'Agland**	6.92	296	ePn	Pn	18 41 08.2	-1.7
MTLF	**Montolieu**	7.01	269	ePn	Pn	18 41 10.0	-1.2
CAF	**Calviac**	7.10	282	eSg	Sg	18 43 13.3	-8.9
	0.6nm,0.2s						
HYF	**Humbligny**	7.33	301	ePn	Pn	18 41 14.0	-1.6

OTT 29 18:41:37.6±0.4,**59.64N×71.07W,h18**^{km}**,MN2.6**/8,**72km southwest from Kangirsuk, Qc Boothia Ungava Seismic Zone.,Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUQ	**Kuujjuuaa**	2.07	137	PN	Pn	18 42 12.7	+0.7
KUQ				SN	Sn	18 42 30.6	-6.9
KUQ				Trac		18 42 32.5	
	comp=Z,21nm,0.1s						
FRB	**Frobisher Bay**	4.29	15	PN	Pn	18 42 41.1	-2.5
FRB				SN	Sn	18 43 25.4	-8.4
FRB				Trac		18 44 12.5	
	comp=Z,2.4nm,0.3s						
SCHQ	**Schefferville**	5.34	153	PN	Pn	18 42 57.5	-1.1
SCHQ				SN	Sn	18 43 53.4	-7.0
SCHQ				Trac		18 44 13.5	
	comp=Z,7.6nm,0.3s						
LG4Q	**La Grande 4**	6.26	197	PN	Pn	18 43 08.2	-3.2
LG4Q				SN	Sn	18 44 15.2	-8.0
LG4Q				Trac		18 44 49.2	
	comp=Z,2.1nm,0.2s						
SILO	**Sutton Inlier**	9.14	242	PN	P	18 43 47.0	-4.6
SILO				SN	Sn	18 45 23.7	-11
SMQ	**Clarke City**	9.77	163	PN	P	18 43 55.9	-4.3
SMQ				Trac		18 46 38.1	
	comp=Z,1.2nm,0.3s						
VIMO	**Victor Mine**	9.81	231	PN	P	18 43 56.1	-4.7
VIMO				Trac		18 46 43.5	
	comp=Z,1.9nm,0.5s						
ICQ	**Pointe Anglais**	10.38	166	PN	P	18 44 04.5	-4.1
ICQ				Trac		18 45 55.4	
	comp=Z,0.3nm,0.1s						
MALO	**McAlpine Lake**	10.85	211	PN	P	18 44 10.3	-4.8
MALO				SN	S	18 46 04.3	-13
MALO				Trac		18 46 10.2	
	comp=Z,0.8nm,0.2s						
VLDQ	**Val d'Or**	12.14	201	PN	P	18 44 25.9	-6.7

*IDC **29** 18:49:43.9±1.1,43.09N×105.67W,mb4.0/1,mb1 4.0/4,mb1mx3.6/23,ML3.3/3,Error ellipse: s-maj=18.2km s-min=8.6km az=162.0*
*NEIC **29** 18:49:44.3±0.7,42.89N×105.49W,h5^{km},ML3.8,Error ellipse: s-maj=9.3km s-min=6.2km az=112.0*
NEIC Felt [IV] at Douglas.
ISC 29 18:49:43.3±0.6,**42.87N**±0.04×**105.58W**±0.06,**h5**^{km}**,n39,**σ**1^{s}.23**/50,**mb4.2**/1,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	1.68	41	ePn	Pn	18 50 13.1	-0.5
RSSD				eSn	Sn	18 50 35.7	0.0
BW06	**Boulder Array**	2.93	269	ePn	Pn	18 50 33.4	+2.0
BW06				ePg	Pg	18 50 41.3	-0.5
BW06				eSn	Sn	18 51 11.2	+3.8
PDAR	**Pinedale Array**	2.93	269	Pn	Pn	18 50 33.5	+2.0
	2.1nm,0.3s,baz=93,slow=15,SNR=46						
PDAR				Pg	Pg	18 50 40.8	-1.0
	8.8nm,0.3s,baz=80,slow=19,SNR=43						
PDAR				Lg		18 51 12.9	
	8.5nm,0.3s,baz=94,slow=21,SNR=58						
SNOW	**Snow King Moun**	3.83	281	Pn	Pn	18 50 45.8	+1.6
WUWY	**Wally Ulrich**	3.83	282	Pn	Pn	18 50 45.7	+1.4
WUWY				ePg	Pg	18 50 56.5	-3.3
LAO	**LASA Array**	3.85	353	ePn	Pn	18 50 44.3	-0.1
LAO				ePg	Pg	18 50 54.2	-5.9
MOOW	**Moose Ponds**	3.87	285	ePn	Pn	18 50 45.0	+0.2
MOOW				ePg	Pg	18 51 00.3	-0.3
REDW	**Red Top Meadow**	3.89	279	Pn	Pn	18 50 44.1	-1.0
TPAW	**Teton Pass**	3.98	281	ePn	Pn	18 50 47.7	+1.4
YMR	**Madison River**	4.30	297	Pn	Pn	18 50 52.1	+1.3
HWUT	**Hardware Ranch**	4.62	256	ePn	Pn	18 50 55.6	+0.1
HWUT				ePg	Pg	18 51 14.7	-0.9
HWUT				eSg	Sg	18 52 11.1	-6.1
QLMT	**Earthquake Lak**	4.66	297	ePg	Pg	18 51 08.8	-7.5
TCUT	**Toone Canyon**	4.68	250	ePn	Pn	18 50 54.5	-1.8
DAU	**Daniels Canyon**	4.91	242	ePn	Pn	18 51 00.9	+1.4
JLU	**Jordanelle**	4.94	245	Pn	Pn	18 51 01.3	+1.3
SDCO	**Great Sand Dun**	5.12	179	ePn	Pn	18 51 01.0	-1.5
BOZ	**Bozeman (W)**	5.16	305	ePg	Pg	18 51 16.4	-10
PV10	**Paradox Valley**	5.20	212	ePn	Pn	18 51 05.0	+1.4
PV01	**Paradox Valley**	5.25	207	ePn	Pn	18 51 05.5	+1.2
PV01				eSg	Sg	18 52 23.6	-14
SRU	**San Rafael**	5.30	227	ePn	Pn	18 51 04.2	-0.9
SPUT	**South Promonto**	5.34	255	Pn	Pn	18 51 05.6	-0.1
SPUT				ePg	Pg	18 51 26.2	-3.8
MPU	**Maple Canyon**	5.37	240	ePn	Pn	18 51 05.8	-0.2
MPU				ePg	Pg	18 51 26.6	-3.9
HVU	**Hansel Valley**	5.45	261	ePn	Pn	18 51 06.8	-0.3
MCMT	**McKenzie Canyo**	5.61	293	Pn	Pn	18 51 06.6	-2.8
DGMT	**Dagmar**	5.68	9	ePn	Pn	18 51 09.5	-1.0
NLU	**North Lily Min**	5.69	241	Pn	Pn	18 51 09.6	-0.9
HRY	**Holter Researc**	5.88	313	ePn	Pn	18 51 13.1	-0.1
BGU	**Big Grassy Mou**	5.89	253	Pn	Pn	18 51 14.4	+1.1
DUG	**Dugway**	6.05	246	Pn	Pn	18 51 15.1	-0.5
HLID	**Hailey**	6.49	279	ePn	Pn	18 51 19.7	-2.2
MSU	**Marysvale**	6.64	231	ePn	Pn	18 51 24.1	+0.2
MVU	**Marysvale**	6.67	231	ePn	Pn	18 51 24.7	+0.5
CHMT	**Chamberlain Mo**	6.79	309	Pn	Pn	18 51 32.3	+6.3
WUAZ	**Wupatki**	8.61	213	ePn	P	18 51 50.1	-1.3
WMOK	**Wichita Mounta**	9.69	145	ePn	P	18 51 60.0	-6.5
ULM	**Lac du Bonnet**	9.95	39	Pn	P	18 52 03.3	-6.6
	0.7nm,0.3s,baz=228,slow=11,SNR=7.6						
ULM				Lg		18 54 49.4	
	1.1nm,0.3s,baz=148,slow=18,SNR=2.7						
GDL2	**Guadalupe Moun**	10.69	174	ePg	Px	18 53 02.5	
TXAR	**Lajitas Array**	13.60	173	Pn	P	18 53 03.2	+4.0
	0.1nm,0.3s,baz=331,slow=9.3,SNR=4.8						
TXAR				Pg	P	18 53 59.0	+60
	0.2nm,0.3s,baz=4.6,slow=15,SNR=6.4						
TXAR				Lg		18 56 49.7	
	baz=8.6,slow=30,SNR=3.4						
ARCES	**ARCESS Array B**	62.31	17	P	P	19 00 09.9	+1.7
	1.6nm,0.9s,mb4.2,baz=319,slow=8.3,SNR=4.3						

GUC 29 19:01:58.2±0.8,**35.02S×70.52W,h8**^{km}±13^{km}**,MD3.5,ML3.1,2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	0.59	272	⇓iP	Pg	19 02 09.9	-0.1
NICH				i S	Sg	19 02 18.9	+1.1
CICH	**Cipreses**	0.71	6	⇓iP	Pb	19 02 11.3	-1.0
CICH				i S	Sg	19 02 21.3	-0.6
CACH	**El Canelo**	0.91	356	eP	Pb	19 02 14.8	-1.0
CACH				eS	Sb	19 02 27.8	0.0
TALC	**Talca**	0.99	248	AMP		19 02 30.0	
	comp=E,1μm,0.0s						
TALC				i S	Sb	19 02 30.2	0.0
CHCH	**Chadas Angostu**	1.09	354	eP	Pb	19 02 18.7	-0.3
LNV	**Longovilo**	1.30	325	i S	Sb	19 02 39.2	+0.1
FCH	**Farellones**	1.70	6	eP	Pn	19 02 28.9	+0.4

*IDC **29** 19:21:26.2±0.8,49.97N×157.11E,mb3.6/9,mb1 3.9/10,mb1mx3.7/24,ML3.6/1,Error ellipse: s-maj=24.0km s-min=16.5km az=158.0*
*MOS **29** 19:21:27.7±2.5,49.93N×157.15E,h33^{km},mb4.1/3,Error ellipse: s-maj=27.7km s-min=14.6km az=96.3*
*KRSC **29** 19:21:28.1±1.2,49.74N×157.58E,h32^{km}±16^{km},ML4.2*
*NEIC **29** 19:21:31.9±2.2,50.00N×157.04E,h37^{km}±19^{km},Error ellipse: s-maj=19.2km s-min=16.0km az=130.0*
ISC 29 19:21:30.7±1.2,**49.87N**±0.07×**157.54E**±0.08,**h47**^{km}±10^{km}**,n35,**σ**1^{s}.11**/45,**mb3.6**/9,**MS4.8**/1,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	1.22	312	eP	P	19 21 48.4	-3.2
SKR				i S	S	19 22 05.9	-1.3
SKR	**Severo-Kuril's**	1.22	312	ePN	P	19 21 47.0	-4.6
SKR				i		19 21 55.3	
SKR				pmax	pmax		
	comp=N,330nm,0.4s						
SKR				pmax	pmax		
	comp=Z,870nm,0.4s						
SKR				pmax	pmax		
	comp=E,390nm,0.2s						
SKR				pmax	pmax		
	comp=E,600nm,1.0s						
SKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SKR				smax			
	comp=N,3μm,0.2s						
SKR				smax			
	comp=E,3μm,0.2s						
SKR				smax			
	comp=E,2μm,2.0s						
ALID	**Alaid**	1.62	309	eP	P	19 21 57.5	+0.2
ALID				i S	S	19 22 17.7	+0.7
PAU	**Pauzhetka**	1.66	344	i P	P	19 21 58.3	+0.4
PAU				eS	S	19 22 19.3	+1.2
PAU				Smax			
	comp=E,1μm,0.5s						
MIPR	**Malaya Ipel'ka**	2.46	349	eP	P	19 22 09.9	+0.7
RUS	**Russkaya**	2.63	13	eP	P	19 22 11.4	-0.4
RUS				eS	S	19 22 41.8	-0.9
GRL	**Gorelyy**	2.70	7	eP	P	19 22 13.0	+0.3
GRL				eS	S	19 22 44.6	+0.2
APC	**Apacha**	3.06	356	i P	P	19 22 18.4	+0.5
APC				eS	S	19 22 54.1	+0.5
APC				Smax			
	comp=E,40nm,1.1s						
PET	**Petropavlovsk**	3.23	12	ePN	P	19 22 19.7	-0.5
PET				eS	S	19 22 59.0	+1.2
PET				pmax	pmax		
	comp=Z,27nm,0.5s						
PET				smax			
	comp=E,120nm,0.6s						
PET				smax			
	comp=N,95nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET				MLR	MLR		

```
              comp=Z,300nm,9.0s
PET    Petropavlovsk        3.23  12  ePn     P        19 22 19.4  -0.8
PET                                   eSn     S        19 22 58.0  +0.2
UGLR   Uglovaya             3.44  13  eP      P        19 22 23.1   0.0
AVH    Avacha               3.48  12  eP      P        19 22 24.4  +0.7
SMAR   Somma                3.48  13  eP      P        19 22 25.0  +1.2
KOK    Koryaka              3.49  11  eP      P        19 22 24.7  +0.8
SDLR   Sedlovina            3.51  13  eP      P        19 22 23.5  -0.7
SPN    Mys Shipunski        3.58  25  eP      P        19 22 24.8  -0.4
SPN                                   eS      S        19 23 05.4  -1.3
GNL    Ganaly               3.83   4  eP      P        19 22 29.1  +0.4
MKZ    Mys Kozlova          5.35  27  eP      P        19 22 48.4  -1.6
FX1    Attu Island--F      10.22  67   Pn     P        19 23 54.8  -2.7
              comp=Z,1.5nm,0.3s,baz=106,slow=14,SNR=4.1
FX1                                    Sn     S        19 25 40.9   -11
              comp=Z,7.8nm,0.3s,baz=50,slow=22,SNR=11
YAK    Yakutsk             19.59 319  eP      P        19 25 48.6  -8.6
YAK                                    pmax   pmax
              comp=Z,4.0nm,0.4s
SSE    Sheshan             32.98 249  eP      P        19 27 46.9   -16
INK    Inuvik              37.41  35   P      P        19 28 42.2  +1.8
              comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=5.9,SNR=3.3
INK    Inuvik              37.41  35   P      P        19 28 42.2  +1.8
INK                                    pmax   pmax
              comp=Z,1.0nm,0.5s
INK    Inuvik              37.41  35   P      P        19 28 42.2  +1.8
MKAR   Makanchi Array      48.15 297   P      P        19 30 05.5  -2.1
              comp=Z,0.4nm,0.4s,mb3.9,baz=53,slow=6.3,SNR=15
ARCES  ARCESS Array B      55.85 342   P      P        19 31 03.5  -1.4
              comp=Z,2.1nm,0.9s,mb4.1,baz=36,slow=7.8,SNR=2.7
ARCES  ARCESS Array B      55.85 342   P      P        19 31 03.5  -1.5
ARCES                                  pmax   pmax
              comp=Z,2.0nm,1.0s
PDAR   Pinedale Array      60.55  58   P      P        19 31 40.2  +2.0
              comp=Z,0.3nm,0.9s,mb3.4,baz=278,slow=6.4,SNR=2.9
NOA    NORSAR Array B      66.17 343   P      P        19 32 13.3  -1.5
              comp=Z,0.3nm,0.6s,mb3.5,baz=38,slow=6.3,SNR=2.8
SOC    Sochi               72.28 318  eP      P        19 32 48.3  -4.2
SOC                                   e       pP       19 32 59.1  -7.1
SOC                                   ePPP    PPP      19 37 16.9  -0.8
SOC                                   eS      S        19 42 01.3  -9.5
SOC                                   e                19 42 48.3
SOC                                    MLR    MLR
              comp=Z,733nm,31.0s,MS4.8
SOC                                    MLR    MLR
              comp=N,923nm,29.0s,MS4.9
SOC                                    MLR    MLR
              comp=E,337nm,33.0s,MS4.9
WRA    Warramunga Arr      72.48 203   P      P        19 32 54.2   0.0
              comp=E,0.5nm,0.7s,mb3.6,baz=11,slow=5.4,SNR=7.5
WRA    Warramunga Arr      72.48 203   P      P        19 32 54.2  +0.1
WRA                                    pmax   pmax
              comp=Z,1.0nm,0.7s
TXAR   Lajitas Array       73.43  64   P      P        19 33 01.0  +1.5
              comp=Z,0.4nm,0.5s,mb3.6,baz=287,slow=3.4,SNR=6.6
ASAR   Alice Springs       76.16 202   P      P        19 33 16.5  +1.1
              comp=Z,0.2nm,0.6s,mb3.2,baz=26,slow=5.9,SNR=5.4
GERES  GERESS Array B      76.86 336   P      P        19 33 18.6  -0.1
              comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=4.8,SNR=7.3
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*NEIC **29** 19:30:45.1, 35.13S×70.46W, h23^{km}, ML2.9(GUC), After GUC.*

GUC 29 19:30:45.1±1.0**, 35.13S×70.46W, h23^{km}±9^{km}, MD3.5, ML2.9, 1C-4D, Chile-Argentina border region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
NICH   Los Niches           0.65 281  i S     Sb       19 31 06.0  -0.2
SFDO   San Fernando         0.69 318⇓iP      Pb       19 30 56.2  -2.1
SFDO                                  i S     Sb       19 31 05.5  -1.9
TALC   Talca                1.00 254⇓iP      Pb       19 31 02.8  -0.9
TALC                                  i S     Sb       19 31 16.7  +0.2
TALC                                   AMP             19 31 16.9
              comp=N,1μm,0.2s
CACH   El Canelo            1.01 353  i P     Pb       19 31 01.7  -2.2
CACH                                  i S     Sb       19 31 16.0  -0.8
CHCH   Chadas Angostu       1.20 352⇓iP      Pn       19 31 05.2  -1.6
LNV    Longovilo            1.41 326⇓iP      Pn       19 31 08.6  -1.1
LNV                                   i S     Sn       19 31 26.9  -0.7
PCH    Pirque               1.50 358⇑iP      Pn       19 31 10.8  -0.2
TACH   Talagante            1.52 345  i P     Pn       19 31 10.7  -0.6
CLCH   Cerro Calan          1.73 358  eP      Pn       19 31 14.5  +0.3
CLCH                                  eS      Sn       19 31 37.9  +2.1
CLCH                                   AMP             19 31 49.4
              comp=N,151nm,0.7s
FCH    Farellones           1.80   4  eP      Pn       19 31 16.2  +0.9
FCH                                   i S     Sn       19 31 40.1  +2.5
FCH                                    AMP             19 31 54.4
              comp=N,97nm,0.3s
LCCH   Las Cruces           1.89 330  eP      Pn       19 31 16.5  -0.1
LCCH                                  i S     Sn       19 31 41.0  +1.2
PEL    Peldehue             1.99 354  i S     Sn       19 31 44.6  +2.3
PEL                                    AMP             19 31 50.3
              comp=N,278nm,0.3s
JACH   Jahuel               2.44 357  eP      Pn       19 31 25.5  +1.1
JACH                                  eS      Sn       19 31 55.0  +1.2
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*NEIC **29** 19:35:32.4, 35.13S×70.32W, h2^{km}, ML3.4(GUC), After GUC.*

GUC 29 19:35:32.4±0.9**, 35.13S×70.32W, h2^{km}±5^{km}, MD3.9, ML3.4, 2C-4D, Chile-Argentina border region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
NICH   Los Niches           0.76 279⇓iP      Pg       19 35 47.2  -0.3
NICH                                  i S     Sg       19 35 59.2  +1.7
SFDO   San Fernando         0.77 312⇓iP      Pg       19 35 46.8  -0.9
SFDO                                  i S     Sg       19 35 58.0  +0.1
CACH   El Canelo            1.03 347⇓iP      Pb       19 35 51.4  -1.3
CACH                                  i S     Sb       19 36 05.7  -0.9
TALC   Talca                1.11 256  eP      Pb       19 35 53.2  -0.7
TALC                                  i S     Sb       19 36 08.9  +0.3
CHCH   Chadas Angostu       1.22 347  eP      Pb       19 35 54.7  -1.2
CHCH                                  i S     Sb       19 36 12.3  +0.2
LMEL   Las Melosas          1.28   4⇑iP      Pb       19 35 55.6  -1.4
LMEL                                  i S     Sb       19 36 13.3  -0.4
LMEL                                   AMP             19 36 15.2
              comp=E,583nm,0.5s
LNV    Longovilo            1.48 322  eP      Pn       19 35 58.8  -1.3
PCH    Pirque               1.51 354  eP      Pn       19 35 59.9  -0.8
PCH                                   i S     Sb       19 36 20.7  +0.3
TACH   Talagante            1.56 341  eP      Pn       19 36 00.3  -1.0
ANTU   Antumapu             1.58 351   AMP             19 36 34.0
              comp=N,520nm,0.4s
CLCH   Cerro Calan          1.74 354  eP      Pn       19 36 03.5  -0.3
CLCH                                  i S     Sn       19 36 27.6  +0.7
CLCH                                   AMP             19 36 28.7
              comp=E,750nm,0.5s
DSCH   Colegio Aleman       1.74 353  eP      Pn       19 36 03.2  -0.6
DSCH                                   AMP             19 36 31.3
              comp=N,1μm,0.5s
FCH    Farellones           1.80   1⇑iP      Pn       19 36 04.9  +0.2
FCH                                   i S     Sn       19 36 29.6  +1.2
FCH                                    AMP             19 36 32.8
              comp=E,432nm,0.3s
LCCH   Las Cruces           1.95 328⇓iP      Pn       19 36 06.8   0.0
LCCH                                  i S     Sn       19 36 32.6  +0.4
PEL    Peldehue             2.00 351  i S     Sn       19 36 35.2  +1.6
PEL                                    AMP             19 36 44.7
              comp=N,820nm,0.5s
CCHI   Chillan              2.05 224   AMP             19 36 47.5
              comp=N,354nm,0.8s
CCHI                                   AMP             19 36 47.9
              comp=N,572nm,0.8s
```

IDC 29 19:47:15.1±2.9**, 8.51S×156.34E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/12**, MS3.3**/4**, Ms1 3.3**/4**, ms1mx3.0**/20**, Error ellipse: s-maj=78.1km s-min=37.3km az=107.0, Bougainville - Solomon Islands region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
CTA    Charters Tower      15.09 219   LR     LR       19 55 32.6
              comp=Z,123nm,21.2s,baz=262,slow=33
WRA    Warramunga Arr      24.13 240   P      P        19 52 34.5  +0.7
              1.9nm,0.7s,baz=65,slow=9.6,SNR=7.6
ASAR   Alice Springs       26.24 232   P      P        19 52 51.1  -2.7
              0.6nm,0.9s,baz=67,slow=10.0,SNR=3.0
ASAR                                   LR     LR       20 02 31.8
              comp=Z,56nm,19.9s,baz=191,slow=35
STKA   Stephens Creek      26.99 208   P      P        19 52 58.7  -2.0
              2.9nm,0.6s,baz=46,slow=15,SNR=11
STKA                                   LR     LR       20 03 04.6
              comp=Z,82nm,20.4s,baz=22,slow=35
FITZ   Fitzroy Crossi      31.31 249   LR     LR       20 06 22.1
              comp=Z,43nm,18.8s,baz=144,slow=37
MKAR   Makanchi Array      85.41 318   P      P        19 59 54.4  -1.4
              0.4nm,0.6s,baz=102,slow=6.5,SNR=4.3
```

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*IDC **29** 19:56:20.7±1.4, 12.39N×143.32E, mb3.7/4, mb1 4.0/4, mb1mx3.6/18, Error ellipse: s-maj=86.9km s-min=29.6km az=105.0*

*NEIC **29** 19:56:21.8±0.7, 12.39N×143.46E, h10^{km}, mb4.6/1, Error ellipse: s-maj=30.3km s-min=14.0km az=121.0*

ISC 29 19:56:22.2±6.9**, 12.3N**±0.2×**143.5E**±0.2**, h23^{km}**±50^{km}**, n6, σ1^{s}37**/7**, mb3.9**/5**, South of Mariana Islands**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
GUMO   Guam                 1.79  46  ePn     Pn       19 56 52.8  +0.5
GUMO                                  eSn     Sn       19 57 13.8  -0.8
WRA    Warramunga Arr      33.33 196   P      P        20 02 59.6  -1.3
              0.2nm,0.5s,mb3.3,baz=17,slow=10.0,SNR=4.7
ASAR   Alice Springs       37.00 195   P      P        20 03 32.6  +0.5
              0.5nm,0.8s,mb3.4,baz=13,slow=12,SNR=3.0
ARU    Arti                77.05 325  eP      P        20 08 13.9  -1.2
              3.7nm,0.6s,mb4.5
NVAR   Mina Array Bea      88.71  51   P      P        20 09 16.9  +1.4
              0.4nm,0.6s,mb3.9,baz=274,slow=5.9,SNR=4.3
FINES  FINESS Array B      91.74 335   P      P        20 09 29.8  +0.8
              0.8nm,0.5s,mb4.3,baz=101,slow=7.1,SNR=5.2
```

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*IDC **29** 20:12:12.2±0.8, 6.20S×151.46E, mb4.1/10, mb1 4.3/10, mb1mx4.3/13, MS3.3/3, Ms1 3.3/3, ms1mx3.0/19, Error ellipse: s-maj=30.4km s-min=18.9km az=119.0*

*NEIC **29** 20:12:13.8±0.4, 6.23S×151.52E, h10^{km}, mb4.4/5, Error ellipse: s-maj=15.2km s-min=8.3km az=129.0*

ISC 29 20:12:21.4±3.2**, 6.2S**±0.1×**151.3E**±0.2**, h79^{km}**±27^{km}**, n24, σ0^{s}69**/19**, mb3.9**/13**, New Britain region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
PMG    Port Moresby         5.16 232   Pn     P        20 13 37.2  -0.4
PMG                                    Sn     S        20 14 37.3  +0.8
CTA    Charters Tower      14.62 199   LR     LR       20 20 12.4
              comp=Z,102nm,18.2s,baz=222,slow=33
KAKA   Kakadu              19.68 250  eP      P        20 16 45.8  -1.0
              9.5nm,0.5s
WRAB   Tennant Creek       21.36 229  eP      P        20 17 04.9  +0.9
              5.5nm,0.6s,mb4.1
WRA    Warramunga Arr      21.37 229   P      P        20 17 03.3  -0.8
              5.7nm,0.9s,mb3.9,baz=52,slow=10,SNR=26
WRA                                    ScP             20 24 46.0
              0.6nm,0.7s,baz=48,slow=2.6,SNR=6.2
ASAR   Alice Springs       24.08 222   P      P        20 17 30.8  +0.2
              2.7nm,0.5s,mb3.8,baz=56,slow=9.0,SNR=25
ASAR                                   LR     LR       20 25 36.7
              comp=Z,46nm,20.5s,baz=298,slow=33
ASPA   Alice Springs       24.08 222  eP      P        20 17 31.1  +0.5
STKA   Stephens Creek      27.08 198   P      P        20 17 58.1  -0.6
              5.6nm,1.1s,mb4.0,baz=4.1,slow=14,SNR=3.1
FITZ   Fitzroy Crossi      27.65 242  eP      P        20 18 03.6  -0.4
              3.7nm,0.4s,mb4.3
FITZ   Fitzroy Crossi      27.65 242   P      P        20 18 03.1  -0.9
              2.6nm,0.4s,mb4.1,baz=34,slow=5.9,SNR=22
NWAO   Narrogin (SRO)      41.31 225   LR     LR       20 36 58.5
              comp=Z,67nm,18.4s,baz=349,slow=36
CMAR   Chiang Mai Arr      57.12 297   P      P        20 22 02.6  +0.2
              0.5nm,0.6s,mb3.7,baz=118,slow=5.3,SNR=4.8
SONM   Songino Array       66.72 329   P      P        20 23 06.2   0.0
              0.5nm,0.7s,mb3.5,baz=140,slow=3.6,SNR=4.4
MKAR   Makanchi Array      80.39 319   P      P        20 24 26.2  +0.5
              0.3nm,0.6s,mb3.3,baz=101,slow=6.2,SNR=6.4
MCK    McKinley            82.75  23   P      P        20 24 36.9  -0.8
              10nm,1.4s,mb4.5
MAW    Mawson              83.69 203   P      P        20 24 42.0  -0.3
              1.4nm,0.8s,mb3.9,baz=41,slow=6.5,SNR=3.9
QSPA   South Pole Qui      83.75 180  eP      P        20 24 42.5  +0.1
              2.2nm,0.9s,mb4.0
ILAR   Eielson Array       84.04  22   P      P        20 24 43.2  -0.9
              2.1nm,0.7s,mb4.1,baz=250,slow=5.4,SNR=24
DAWY   Dawson              86.70  24  eP      P        20 24 58.2  +1.0
NVAR   Mina Array Bea      94.15  52   P      P        20 25 33.9  +1.2
              0.9nm,0.7s,mb4.2,baz=251,slow=5.1,SNR=7.0
GERES  GERESS Array B     124.43 327   PKP    PKPdf    20 31 13.0  +1.4
              0.3nm,0.6s,baz=90,slow=1.3,SNR=5.5
LPAZ   La Paz             135.06 120   PKP    PKPdf    20 31 35.1  +2.5
              0.9nm,0.8s,baz=270,slow=3.6,SNR=4.9
CPUP   Villa Florida      137.39 141   PKP    PKPdf    20 31 38.1  +1.5
              1.8nm,1.0s,baz=96,slow=3.7,SNR=3.2
BDFB   Brasilia           151.08 139   PKPbc  PKPdf    20 32 07.5  +7.3
              6.8nm,0.6s,baz=266,slow=1.0,SNR=12
```

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*KRSC **29** 20:19:31.7±1.9, 52.67N×154.10E, h587^{km}±8^{km}, ML4.5*

*MOS **29** 20:19:35.3±0.7, 53.33N×153.47E, h494^{km}, mb3.6/3, Error ellipse: s-maj=32.2km s-min=29.8km az=135.8*

*NEIC **29** 20:19:37.5±0.8, 53.32N×153.75E, h507^{km}±15^{km}, mb4.4/2, Error ellipse: s-maj=34.7km s-min=15.2km az=59.0*

*IDC **29** 20:19:39.6±3.7, 53.32N×153.85E, h535^{km}±53^{km}, mb3.0/6, mb1 3.2/7, mb1mx2.8/23, Error ellipse: s-maj=37.5km s-min=18.5km az=63.0*

ISC 29 20:19:36.9±0.5**, 53.3N**±0.1×**153.9E**±0.2**, h517^{km}**±9^{km}**, n34, σ1^{s}11**/43**, mb3.4**/7**, Sea of Okhotsk**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
APC    Apacha               2.02  99  i P     P        20 20 44.0   0.0
APC                                   eS      S        20 21 37.6  +0.3
APC                                    Smax
              20nm,1.4s
GNL    Ganaly               2.47  79  eP      P        20 20 47.2  +0.7
PAU    Pauzhetka            2.56 134  eP      P        20 20 46.2  -0.9
ALID   Alaid                2.63 156  eP      P        20 20 46.8  -0.7
KOK    Koryaka              2.86  88  eP      P        20 20 49.5  +0.6
PET    Petropavlovsk        2.89  93  eP      P        20 20 48.9  -0.2
AVH    Avacha               2.92  88  eP      P        20 20 49.8  +0.5
RUS    Russkaya             2.94 105   P      P        20 20 48.1  -1.3
RUS                                    S      S        20 21 42.4  -4.4
RUS    Russkaya             2.94 105  eP      P        20 20 48.2  -1.2
RUS                                   eS      S        20 21 42.8  -4.0
SMAR   Somma                2.96  88  i P     P        20 20 50.2  +0.6
UGLR   Uglovaya             2.98  90  eP      P        20 20 50.2  +0.5
SDLR   Sedlovina            3.01  88  eP      P        20 20 50.3  +0.4
SPN    Mys Shipunski        3.71  90   P      P        20 20 53.6  -1.1
SPN                                    S      S        20 21 51.4  -5.1
SPN    Mys Shipunski        3.71  90  i P     P        20 20 53.6  -1.1
SPN                                   eS      S        20 21 51.8  -4.7
ESO    Esso                 3.86  45  i P     P        20 20 58.0  +2.1
KMNR   Kamenistaya          4.46  54  eP      P        20 21 03.4  +2.6
SRDR   Sredinnyy            4.55  46  i P     P        20 21 04.0  +2.5
MKZ    Mys Kozlova          4.82  72   P      P        20 21 03.2  -0.7
MKZ                                    S      S        20 22 09.7  -3.1
MKZ    Mys Kozlova          4.82  72  eP      P        20 21 02.5  -1.4
MKZ                                   eS      S        20 22 09.3  -3.5
KBTR   Krutoberegovo        5.95  57   P      P        20 21 12.4  -1.9
KBTR                                   S      S        20 22 25.5  -6.1
KBTR   Krutoberegovo        5.95  57  eP      P        20 21 13.9  -0.4
KBTR                                  eS      S        20 22 30.1  -1.5
FX1    Attu Island--F      11.61  84   P      P        20 22 14.0  +2.1
              3.6nm,0.3s,baz=72,slow=22,SNR=7.8
FX1    Attu Island--F      11.61  84   PN     P        20 22 14.0  +2.1
FX1                                    pmax   pmax
              comp=Z,4.0nm,0.3s
YAK    Yakutsk             15.54 314  eP      P        20 22 51.3  -0.4
              comp=Z,10nm,0.6s
KURK   Kurchatov           44.40 299  eP      P        20 27 02.0  +0.1
              comp=Z,2.4nm,0.3s,mb4.2
MKAR   Makanchi Array      44.65 292   P      P        20 27 03.9  -0.1
              comp=Z,0.7nm,0.4s,mb3.5,baz=61,slow=7.0,SNR=21
MKAR   Makanchi Array      44.65 292   P      P        20 27 03.9   0.0
MKAR                                   pmax   pmax
              comp=Z,1.0nm,0.4s
BVAR   Borovoye Array      47.27 305   P      P        20 27 24.0   0.0
              comp=Z,1.5nm,0.5s,mb3.8,baz=59,slow=8.6,SNR=11
ARCES  ARCESS Array B      51.86 339   P      P        20 27 57.5  -0.4
              comp=Z,1.3nm,0.8s,mb3.3,baz=45,slow=8.9,SNR=3.8
ARCES  ARCESS Array B      51.86 339   P      P        20 27 57.5  -0.4
ARCES                                  pmax   pmax
              comp=Z,1.0nm,0.8s
FINES  FINESS Array B      58.36 334   P      P        20 28 42.1  -1.2
              comp=Z,3.6nm,1.1s,mb3.5,baz=45,slow=3.9,SNR=4.5
FINES  FINESS Array B      58.36 334   P      P        20 28 42.1  -1.2
FINES                                  pmax   pmax
              comp=Z,4.0nm,1.1s
WRA    Warramunga Arr      74.86 199   P      P        20 30 25.0  -0.3
              comp=Z,0.3nm,0.8s,mb2.8,baz=12,slow=5.9,SNR=4.7
ASAR   Alice Springs       78.57 199   P      P        20 30 46.4  +1.0
              comp=Z,0.3nm,0.5s,mb2.9,baz=14,slow=5.2,SNR=6.4
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*JMA **29** 20:23:14.9±0.1, 24.83N×122.56E, h96^{km}±2^{km}, M2.1*

*TAP **29** 20:23:16.1, 24.64N×122.60E, h85^{km}±1^{km}, ML3.4*

ISC 29 20:23:15.3±2.2**, 24.9N**±0.2×**122.6E**±0.1**, h85^{km}, n6, σ0^{s}47**/11**, Taiwan region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
YOJ    Yonaguni jima        0.58 136   P      P        20 23 30.7  +0.2
YOJ                                   eS      S        20 23 42.5  +0.8
IRIF   Iriomote-Funau       1.20 117   P      P        20 23 37.1  -0.2
IRIF                                   S      S        20 23 53.8   0.0
HATJ   Hateruma jima        1.40 126  eS      S        20 23 58.0  -0.3
JKRS   Kuro-shima           1.47 116   P      P        20 23 40.6  -0.2
JKRS                                  eS      S        20 23 59.7   0.0
JIJ    Ishigaki jima        1.53 109   P      P        20 23 41.4  -0.3
JIJ                                   eS      S        20 24 00.4  -0.7
JTJ    Tarama               1.96  97   P      P        20 23 47.1  -0.2
JTJ                                   eS      S        20 24 11.9  +1.0
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*NEIC **29** 20:23:28.0, 35.05S×70.63W, h8^{km}, ML2.8(GUC), After GUC.*

GUC 29 20:23:28.0±1.0**, 35.05S×70.63W, h8^{km}±3^{km}, MD3.5, ML2.8, 4C-2D, Chile-Argentina border region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
NICH   Los Niches           0.50 275⇑iP      Pg       20 23 38.4  +0.4
NICH                                  i S     Sg       20 23 46.0  +1.2
SFDO   San Fernando         0.54 323⇓iP      Pg       20 23 38.6  -0.2
SFDO                                  i S     Sg       20 23 47.2  +1.1
CICH   Cipreses             0.75  13  i P     Pb       20 23 41.7  -1.2
CICH                                  i S     Sg       20 23 52.0  -0.9
TALC   Talca                0.90 247  eP      Pb       20 23 44.6  -0.8
TALC                                  i S     Sb       20 23 57.2  -0.1
CACH   El Canelo            0.93   1⇑iP      Pb       20 23 45.2  -0.8
CACH                                  i S     Sb       20 23 58.4  +0.1
CHCH   Chadas Angostu       1.11 359  eP      Pb       20 23 48.4  -0.7
CHCH                                  i S     Sb       20 24 03.6   0.0
LMEL   Las Melosas          1.25  16⇓iP      Pb       20 23 50.8  -0.7
LMEL                                  i S     Sb       20 24 07.7  +0.1
LMEL                                   AMP             20 24 09.7
              comp=N,310nm,0.1s
LNV    Longovilo            1.27 329⇑iP      Pb       20 23 50.9  -0.9
LNV                                   i S     Sb       20 24 08.0  -0.1
TACH   Talagante            1.42 349⇑iP      Pn       20 23 53.5  -0.7
TACH                                  i S     Sb       20 24 12.8  +0.4
PCH    Pirque               1.43   4  i S     Sb       20 24 13.3  +0.6
CLCH   Cerro Calan          1.65   3   AMP             20 24 27.7
              comp=E,190nm,0.5s
FCH    Farellones           1.74   9  eP      Pn       20 23 58.8   0.0
FCH                                   i S     Sn       20 24 23.0  +1.5
FCH                                    AMP             20 24 31.2
              comp=N,158nm,0.2s
PEL    Peldehue             1.90 358  i S     Sn       20 24 27.3  +1.7
PEL                                    AMP             20 24 32.8
              comp=N,254nm,0.2s
TRQA   Tornquist            7.58 116  ePn     Pn       20 25 20.2  -1.3
```

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*IDC **29** 20:32:34.9±1.3, 13.12N×119.91E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, Error ellipse: s-maj=31.2km s-min=20.2km az=101.0*

ISC 29 20:32:34.7±1.3**, 13.1N**±0.1×**119.9E**±0.2**, h10^{km}, n4, σ0^{s}97**/5**, mb3.5**/3**, Philippine Islands region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
TGY    Tagaytay City        1.47  46   Pn     Pn       20 33 02.0  +0.6
              184nm,0.3s,baz=250,slow=2.7,SNR=13
TGY                                    Sn     Sn       20 33 20.5  -0.3
              130nm,0.3s,baz=350,slow=22,SNR=4.9
WRA    Warramunga Arr      35.77 156   P      P        20 39 35.1  -1.0
              0.3nm,0.3s,mb3.6,baz=332,slow=10,SNR=7.3
ASAR   Alice Springs       39.01 159   P      P        20 40 04.3  +0.9
              0.4nm,0.5s,mb3.4,baz=342,slow=7.3,SNR=9.6
MKAR   Makanchi Array      46.05 324   P      P        20 41 00.3  -0.1
              0.4nm,0.8s,mb3.4,baz=143,slow=7.2,SNR=3.3
```

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*ATH **29** 21:14:57.5, 36.93N×27.92E, h34^{km}*

*ISK **29** 21:14:58.0, 36.93N×27.86E, h10^{km}, MD3.2*

ISC 29 21:14:57.4±0.7**, 36.87N**±0.04×**27.84E**±0.04**, h8^{km}**±5^{km}**, n16, σ0^{s}64**/23**, 1C, Dodecanese Islands**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
BDRM   Kayabasi             0.37 302  i P     Pg       21 15 05.1  +0.1
BDRM                                  i S     Sg       21 15 10.7  +0.7
MLSB   Milas                0.43 353   PG     Pg       21 15 05.7  -0.4
MLSB                                   SG     Sg       21 15 11.7  -0.2
YER    Yerkesik             0.44  53  i PG    Pg       21 15 06.4   0.0
YER                                   i SG    Sg       21 15 12.2  -0.2
DALT   Dalyan (Mudla)       0.65  99   PG     Pg       21 15 10.9  +0.5
ARG    Arkhangelos          0.69 160  ePN     Pn       21 15 12.1  -1.0
AYDN   Tasoluk              0.79   2⇑iP      Pb       21 15 12.5  -0.4
AYDN                                  i S     Sb       21 15 22.4  -1.1
SMG    Samos                1.16 317  ePN     Pn       21 15 19.4  -0.4
DNZL   Cakiroluk            1.26  49  i P     Pb       21 15 21.6  +0.5
DNZL                                  i S     Sb       21 15 37.0  -0.2
DENT   Denizli              1.30  47   PN     Pn       21 15 22.0  +0.2
KARP   Karpathos            1.43 203  ePN     Pn       21 15 24.4  +0.7
IZM    Izmir                1.59 343  ePN     Pn       21 15 25.6  -0.4
KDAG   Bornova              1.60 344  i P     Pn       21 15 25.5  -0.6
KDAG                                  i S     Sb       21 15 48.6  +1.6
ELL    Elmali               1.67  94  ePN     Pn       21 15 27.8  +0.7
MANT   Manisa               1.72  19  i P     Pn       21 15 28.0  +0.2
MANT                                  i S     Sn       21 15 51.0  +0.9
APE    Apeiranthos          1.86 277  ePN     Pn       21 15 29.5  -0.4
AKS    Akhisar              2.01 359  ePN     Pn       21 15 31.2  -0.8
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*NEIC **29** 21:19:22.3, 33.17S×70.23W, h6^{km}, ML2.9(GUC), After GUC.*

GUC 29 21:19:22.3±0.9**, 33.17S×70.23W, h6^{km}±2^{km}, MD3.6, ML2.9, 4C-8D, Chile-Argentina border region**

```
Code   Station Name          Δ°   AZ°    Phase ID             Time      Res
                                       Op     ISC          h  m  s    ISC
FCH    Farellones           0.17 199⇑iP      Pg       21 19 26.7  +0.9
FCH                                 ⇑iP               21 19 26.8
FCH                                   i S     Sg       21 19 29.5  +1.4
FCH                                    AMP             21 19 29.8
              comp=E,2μm,0.2s
FCH    Farellones           0.17 199   P      Pg       21 19 26.8  +0.9
CLCH   Cerro Calan          0.34 229⇑iP      Pg       21 19 29.8  +0.6
CLCH                                  i S     Sg       21 19 35.1  +1.2
CLCH                                   AMP             21 19 38.3
              comp=E,2μm,0.5s
CLCH                                   AMP             21 19 38.9
              comp=E,3μm,0.5s
DSCH   Colegio Aleman       0.37 231⇓iP      Pg       21 19 30.3  +0.6
DSCH                                  i S     Sg       21 19 36.2  +1.6
DSCH                                   AMP             21 19 37.4
              comp=N,2μm,0.3s
PEL    Peldehue             0.39 274⇓iP      Pg       21 19 29.7  -0.4
PEL                                    AMP             21 19 41.4
              comp=N,788nm,0.9s
PCH    Pirque               0.51 208⇓iP      Pg       21 19 33.0  +0.4
PCH                                   i S     Sg       21 19 41.0  +1.6
LMEL   Las Melosas          0.68 178⇑iP      Pg       21 19 36.0  +0.2
LMEL                                  i S     Sg       21 19 46.2  +1.2
LMEL                                   AMP             21 19 49.3
              comp=N,199nm,0.5s
TACH   Talagante            0.77 231  i P     Pb       21 19 37.1  -0.5
CHCH   Chadas Angostu       0.84 205⇓iP      Pb       21 19 38.5  -0.4
CHCH                                  i S     Sb       21 19 50.9  +0.8
CACH   El Canelo            0.99 198⇓iP      Pb       21 19 42.1  +0.6
CACH                                  i S     Sb       21 19 56.5  +1.8
CICH   Cipreses             1.16 188⇓iP      Pb       21 19 44.7  +0.4
CICH                                  i S     Sb       21 20 01.0  +1.6
LCCH   Las Cruces           1.17 254⇓iP      Pb       21 19 43.7  -0.7
LCCH                                  i S     Sb       21 19 59.3  -0.3
LNV    Longovilo            1.26 231⇓iP      Pb       21 19 45.3  -0.8
LNV                                   i S     Sb       21 20 01.8  -0.6
```

SFDO	**San Fernando**	1.58	204	*e*P	Pn	21 19 51.3	+0.3
SFDO				*i* S	Sb	21 20 12.9	+1.2
CMCH	**Combarbala**	2.10	342	*i* P	Pn	21 19 59.0	+0.6
CMCH				*i* S	Sn	21 20 26.1	+1.1
CMCH				AMP		21 20 38.3	
	comp=E,688nm,0.6s						
TLL	**Tololo Astrono**	3.03	351	AMP		21 21 01.9	
	comp=N,153nm,0.6s						

CASC 29 21:33:26.8±1.7,**13.41N**×**90.03W**,**h42**^{km}±25^{km},**MD3.7, ML4.1,9C-9D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSS	**Cusmapa**	0.50	10	*e*P	P	21 33 37.9	+0.3
CUSS				*e*S	S	21 33 46.0	+0.7
SBLS	**San Blas**	0.58	43	⇓*i*P	P	21 33 39.4	+0.6
RTR	**El Retiro**	0.61	38	⇓*e*P	P	21 33 39.8	+0.7
SNJE	**San Jose**	0.62	43	⇓*i*P	P	21 33 39.7	+0.6
SNJE				*e*S	S	21 33 49.4	+1.3
BOQS	**Boqueron**	0.80	66	⇓*e*P	P	21 33 41.9	+0.2
BOQS				*e*S	S	21 33 53.6	+1.0
SNET	**Serv Nac Est T**	0.83	71	⇑*e*P	P	21 33 42.0	-0.1
SNET				*e*S	S	21 33 54.1	+0.8
SNET				*i*		21 33 55.9	
	comp=Z,2µm,0.3s						
IXG	**Ixpaco**	0.86	332	⇑*e*P	P	21 33 42.2	-0.4
IXG				*e*S	S	21 33 54.5	+0.4
IXG				AML	AML	21 33 57.6	
	comp=N,19µm,0.2s						
LFU	**La Fuente**	0.95	69	*e*P	P	21 33 44.2	+0.3
LFRS	**El Faro**	0.97	77	⇑*e*P	P	21 33 43.8	-0.3
LFRS				*e*S	S	21 33 56.5	-0.4
LBRS	**Las Brisas**	1.02	71	⇑*e*P	P	21 33 45.2	+0.4
LBRS				*e*S	S	21 33 58.0	-0.1
LCBS	**La Ceiba**	1.05	77	⇓*e*P	P	21 33 45.4	0.0
LCBS				*e*S	S	21 33 58.8	-0.2
PCG	**Pacaya**	1.12	330	⇓*e*P	P	21 33 46.7	+0.4
PCG				*e*S	S	21 34 01.5	+0.7
MTO2	**Montecristo 2**	1.18	34	⇓*e*P	P	21 33 47.1	0.0
SNVI	**San Vicente**	1.18	80	*e*P	P	21 33 47.3	+0.2
SNVI				*e*S	S	21 34 03.7	+1.5
NBG	**Las Nubes**	1.21	345	⇑*e*P	P	21 33 48.3	+0.8
NBG				*e*S	S	21 34 05.5	+2.6
NBG				AML	AML	21 34 06.8	
	comp=E,3µm,0.5s						
GCG	**Guatemala City**	1.26	338	*e*P	P	21 33 47.7	-0.6
GCG				*e*S	S	21 34 06.2	+1.8
FUG	**Fuego 3**	1.29	323	⇑*e*P	P	21 33 48.6	-0.1
FUG				*i* S	S	21 34 04.6	-0.6
MRL	**Marmol**	1.68	11	⇓*e*P	P	21 33 54.3	0.0
VSM	**San Miguel**	1.71	89	*e*P	P	21 33 55.2	+0.4
VSM				*e*S	S	21 34 16.4	+0.8
BLLM	**Bellamira**	1.75	89	⇑*e*P	P	21 33 55.4	+0.1
BLLM				*e*S	S	21 34 16.2	-0.2
JAT	**Jato**	1.80	300	⇓*e*P	P	21 33 55.2	-0.7
JAT				*e*S	S	21 34 19.0	+1.3
JAT				AML	AML	21 34 20.2	
	comp=E,2µm,0.3s						
CAHU	**Cacacuatique**	1.81	78	⇑*e*P	P	21 33 55.6	-0.5
CNCH	**Conchagua**	2.15	93	⇑*e*P	P	21 34 00.2	-0.7
CNCH				*e*S	S	21 34 26.7	+0.2

IDC ***29*** *22:08:31.0±0.8,62.81S×165.46E,mb4.3/8,mb1 4.4/9, mb1mx4.3/13,ML4.7/1,MS4.9/13,Ms1 4.9/13, ms1mx4.7/21,Error ellipse: s-maj=31.5km s-min=19.8km az=69.0*

HRVD ***29*** *22:08:33.7±0.2,62.46S×165.58E,h12^{km},MW5.5/65, Centroid moment Tensor Solution. LP body waves: s63,c115;Mantle waves: s65,c117; Half duration: 1^{s}.3 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.29±.03; M$_{\theta\theta}$1.87±.03; M$_{\phi\phi}$-1.59±.03; M$_{r\theta}$-0.32±.07; M$_{\theta\phi}$-0.48±.03; M$_{\phi r}$-0.21±.08; Best double couple: M$_0$1.84×10^{17} NP1: φ$_s$323°,δ78°,λ-2°. NP2:φ$_s$53°,δ88°,λ-167°. Principal axes: T 1.97, Plg7°, Azm187°; N -.28, Plg77°, Azm62°; P -1.7, Plg10°, Azm279°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *22:08:33.7±0.6,62.62S×165.25E,h10^{km},mb4.8/4, MS4.8/1 Error ellipse: s-maj=24.6km s-min=11.0km az=85.0*

ISC 29 22:08:32.2±0.6,**62.59S**±0.07×**165.1E**±0.3,**h10**^{km}**,n28,** σ**1^{s}.03**/16,**mb4.3**/11,**MS4.8**/13,**2C,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	15.35	179	*e*P	P	22 12 10.5	+0.5
	184nm,1.7s						
RPZ	**Rata Peaks**	19.22	13	P	P	22 12 60.0	+1.2
	2.2nm,0.3s,baz=187,slow=9.1,SNR=15						
RPZ				LR	LR	22 19 12.7	
	comp=Z,9µm,19.8s,baz=230,slow=33						
URZ	**Urewera**	25.44	22	P	P	22 14 00.8	-0.5
	24nm,1.1s,mb4.7,baz=229,slow=1.3,SNR=5.0						
URZ				LR	LR	22 22 48.4	
	comp=Z,5µm,19.3s,MS5.1,baz=346,slow=34						
QSPA	**South Pole Qui**	27.50	180	*e*P	P	22 14 21.2	+1.3
	9.0nm,1.0s,mb4.3						
QSPA				LR	LR		
	comp=Z,2µm,20.1s,MS4.8						
STKA	**Stephens Creek**	34.22	323	P	P	22 15 19.9	+0.1
	comp=Z,4.9nm,0.9s,mb4.5,baz=151,slow=9.8,SNR=4.7						
STKA	**Stephens Creek**	34.22	323	P	P	22 15 19.9	+0.1
MAW	**Mawson**	38.63	217	P	P	22 15 55.1	-1.7
	comp=Z,1.2nm,0.9s,mb3.6,baz=33,slow=12,SNR=2.3						
MAW				LR	LR	22 32 05.7	
	comp=Z,4µm,18.4s,MS5.3,baz=127,slow=37						
ASAR	**Alice Springs**	44.22	317	P	P	22 16 43.5	+0.5
	comp=Z,3.5nm,0.7s,mb4.2,baz=161,slow=8.0,SNR=26						
ASAR				PcP	PcP	22 18 27.2	-0.9
	comp=Z,0.7nm,0.7s,baz=158,slow=4.4,SNR=3.5						
ASAR				LR	LR	22 33 51.3	
	comp=Z,404nm,19.4s,MS4.3,baz=161,slow=34						
CTA	**Charters Tower**	44.42	334	LR	LR	22 32 31.5	
	comp=Z,2µm,18.9s,MS5.0,baz=170,slow=32						
CTAO	**Charters Tower**	44.42	334	P	P	22 16 44.7	+0.1
	comp=Z,34nm,1.5s,mb4.8						
SNAA	**Sanae**	45.76	185	⇑*i*	P	22 16 57.3	+2.7
SNAA	**Sanae**	45.76	185	*e*P	P	22 16 55.6	+1.0
	comp=Z,6.3nm,1.0s,mb4.5						
VNA2	**Neumayer--Watz**	46.66	183	⇑*i*	P	22 17 06.7	+4.9
WRA	**Warramunga Arr**	47.58	319	P	P	22 17 09.2	-0.5
	comp=Z,1.6nm,0.8s,mb4.1,baz=155,slow=5.7,SNR=5.8						
WRA				PcP	PcP	22 18 39.0	-1.0
	comp=Z,1.4nm,0.9s,baz=158,slow=3.2,SNR=3.4						
RAR	**Rarotonga**	47.77	46	LR	LR	22 33 23.7	
	comp=Z,1µm,18.2s,MS4.9,baz=198,slow=31						
FITZ	**Fitzroy Crossi**	52.16	310	LR	LR	22 37 10.6	
	comp=Z,368nm,18.6s,MS4.5,baz=13,slow=33						
PMG	**Port Moresby**	54.67	338	LR	LR	22 37 22.9	
	comp=Z,2µm,18.7s,MS5.1,baz=178,slow=32						
USHA	**Ushuaia**	55.67	146	P	P	22 18 04.6	-5.6
	comp=Z,18nm,1.0s,mb5.0,baz=304,slow=0.9,SNR=3.6						
CPUP	**Villa Florida**	85.15	143	P	P	22 21 07.9	-1.4
	comp=Z,0.9nm,0.8s,mb4.0,baz=270,slow=20,SNR=2.4						
LPAZ	**La Paz**	91.08	130	P	P	22 21 37.0	-0.9
	comp=Z,0.7nm,0.7s,mb4.1,baz=191,slow=3.4,SNR=3.0						
LPAZ				LR	LR	22 54 08.1	
	comp=Z,237nm,18.7s,MS4.7,baz=90,slow=30						
CMAR	**Chiang Mai Arr**	95.83	299	LR	LR	23 01 59.3	
	comp=Z,319nm,18.9s,MS4.8,baz=170,slow=33						
JHJ	**Hachijo jima 2**	97.53	339	LR	LR	23 03 40.5	
	comp=Z,442nm,21.2s,MS4.9,baz=48,slow=34						
BDFB	**Brasilia**	97.81	148	LR	LR	23 01 10.7	
	comp=Z,300nm,20.7s,MS4.8,baz=18,slow=32						
JNU	**Nakatsue**	99.27	331	LR	LR	23 04 02.7	
	comp=Z,402nm,18.1s,MS5.0,baz=152,slow=34						
VIB	**Van Inlet**	125.41	41	T		00 45 22.3	
	SNR=14						
MKAR	**Makanchi Array**	127.19	301	PKP	PKPdf	22 27 37.2	-1.7
	comp=Z,0.3nm,0.8s,baz=63,slow=3.2,SNR=2.4						
MKAR	**Makanchi Array**	127.19	301	PKP	PKPdf	22 27 37.2	-1.7
ILAR	**Eielson Array**	131.93	25	PKP	PKPdf	22 27 45.2	-2.4
	comp=Z,0.5nm,0.9s,baz=216,slow=6.5,SNR=4.5						

NEIC ***29*** *22:27:38.9,35.03S×70.60W,h6^{km},ML2.5(GUC),After GUC.*

GUC 29 22:27:38.9±0.9,**35.03S**×**70.60W,h6**^{km}±4^{km}**,MD3.5, ML2.5,5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	0.52	272	⇓*i*P	Pg	22 27 49.7	+0.4
SFDO	**San Fernando**	0.54	320	⇓*i*P	Pg	22 27 49.6	0.0
SFDO				*i* S	Sg	22 27 58.0	+1.2
CICH	**Cipreses**	0.72	12	⇓*i*P	Pg	22 27 52.1	-1.2
CICH				*i* S	Sg	22 28 02.4	-0.6
TALC	**Talca**	0.93	246	⇓*i*P	Pb	22 27 56.2	-0.7
TALC				*i* S	Sb	22 28 09.4	0.0
TALC				AMP		22 28 09.7	
	comp=E,1µm,0.2s						
CHCH	**Chadas Angostu**	1.09	358	*e*P	Pb	22 27 58.6	-1.2
LMEL	**Las Melosas**	1.22	16	*e*P	Pb	22 28 01.2	-0.8
LMEL				*i* S	Sb	22 28 18.1	+0.2
LMEL				AMP		22 28 31.3	
	comp=N,63nm,0.5s						
LNV	**Longovilo**	1.26	328	⇓*i*P	Pb	22 28 02.1	-0.6
LNV				*i* S	Sb	22 28 19.3	+0.3
TACH	**Talagante**	1.40	348	*e*P	Pn	22 28 04.2	-0.8
FCH	**Farellones**	1.71	9	*e*P	Pn	22 28 10.0	+0.5
FCH				*i* S	Sn	22 28 33.4	+1.4
FCH				AMP		22 28 48.5	
	comp=N,66nm,0.4s						

NEIC ***29*** *22:34:14.8±0.8,10.05S×161.12E,mb4.2/3,Error ellipse: s-maj=18.4km s-min=12.7km az=121.0*

IDC ***29*** *22:34:19.3±18.0,10.23S×161.14E,h104^{km}±170^{km}, mb3.6/5,mb1 3.9/6,mb1mx3.7/15,ML3.7/1,MS4.3/1, Ms1 4.3/1,ms1mx3.2/26,Error ellipse: s-maj=88.6km s-min=55.4km az=142.0*

ISC 29 22:34:14.7±3.8,**10.1S**±0.2×**161.0E**±0.3,**h70**^{km}±26^{km}**,n12,** σ**0^{s}.52**/12,**mb3.9**/7,**1D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	1.25	301	⇓*i*P	P	22 34 36.5	-0.2
HNR				*i* S	S	22 34 46.0	-7.1
CTA	**Charters Tower**	17.38	233	P	P	22 38 15.2	+1.1
	0.2nm,0.3s,baz=64,slow=13,SNR=4.0						
CTAO	**Charters Tower**	17.38	233	*e*P	P	22 38 14.9	+0.8
	3.7nm,0.6s						
WRAB	**Tennant Creek**	27.53	246	*e*P	P	22 39 56.6	-0.4
	15nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	27.54	246	P	P	22 39 57.4	+0.2
	2.0nm,0.6s,mb3.9,baz=75,slow=9.1,SNR=9.7						
WRA	**Warramunga Arr**	27.54	246	P	P	22 39 57.4	+0.2
ASAR	**Alice Springs**	29.19	239	P	P	22 40 10.9	-1.0
	1.2nm,0.4s,mb3.9,baz=63,slow=10.0,SNR=10.0						
ASAJ	**Asahikawa**	56.48	344	LR	LR	23 06 06.7	
	comp=Z,301nm,21.1s,baz=6.0,slow=34						
SONM	**Songino Array**	75.19	325	P	P	22 45 51.9	+0.5
	0.7nm,0.5s,mb3.6,baz=140,slow=6.6,SNR=8.1						
SONM				pP	pP	22 46 08.9	-1.5
	1.5nm,0.8s,baz=143,slow=5.1,SNR=5.8						
QSPA	**South Pole Qui**	79.92	180	*e*P	P	22 46 16.9	-0.1
	3.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	84.13	20	P	P	22 46 38.9	-0.1
	0.2nm,0.6s,mb3.1,baz=246,slow=3.8,SNR=4.8						
ILAR				pP	pP	22 46 55.2	-3.1
	0.4nm,0.5s,baz=245,slow=4.7,SNR=4.4						
MKAR	**Makanchi Array**	89.67	318	P	P	22 47 06.3	+0.1
	0.4nm,0.5s,mb3.8,baz=117,slow=3.2,SNR=4.2						

NEIC ***29*** *22:38:24.3±0.8,4.00N×126.99E,h70^{km},mb4.3/2,Error ellipse: s-maj=48.7km s-min=11.7km az=69.0*

IDC ***29*** *22:38:27.6±17.0,3.98N×126.85E,h97^{km}±171^{km},mb3.6/8, mb1 3.8/8,mb1mx3.6/17,Error ellipse: s-maj=101.0km s-min=21.3km az=57.0*

ISC 29 22:38:22.7±0.8,**4.0N**±0.2×**126.9E**±0.3,**h70**^{km}**,n10,** σ**1^{s}.02**/10,**mb3.9**/10,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	22.03	183	P	P	22 43 13.6	+0.9
	3.4nm,0.9s,mb3.6,baz=33,slow=6.6,SNR=2.8						
WRAB	**Tennant Creek**	24.91	163	*e*P	P	22 43 38.4	-2.4
	7.4nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	24.91	163	P	P	22 43 40.4	-0.4
	3.2nm,0.8s,mb3.8,baz=342,slow=10,SNR=6.5						
CMAR	**Chiang Mai Arr**	30.90	300	P	P	22 44 35.2	+0.2
	0.7nm,0.8s,mb3.4,baz=106,slow=6.6,SNR=4.0						
STKA	**Stephens Creek**	38.34	160	P	P	22 45 40.0	+1.5
	4.3nm,1.0s,mb4.2,baz=351,slow=14,SNR=4.4						
SONM	**Songino Array**	47.08	341	P	P	22 46 50.2	+0.8
	0.6nm,0.7s,mb3.4,baz=155,slow=8.1,SNR=2.5						
MKAR	**Makanchi Array**	57.42	325	P	P	22 48 05.8	-0.7
	1.2nm,0.5s,mb4.2,baz=122,slow=8.8,SNR=9.5						
KURK	**Kurchatov**	61.60	327	*e*P	P	22 48 34.2	-0.9
	2.2nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	67.18	327	P	P	22 49 10.9	-0.4
	0.6nm,0.6s,mb3.6,baz=127,slow=7.2,SNR=5.3						
BVAR				pP	pP	22 49 29.2	-0.8
	1.4nm,0.9s,baz=135,slow=6.3,SNR=5.2						
ARCES	**ARCESS Array B**	90.24	340	P	P	22 51 17.2	+0.8
	1.9nm,0.8s,mb4.3,baz=79,slow=4.6,SNR=3.9						

GUC ***29*** *22:54:54.9±0.7,28.13S×68.81W,h145^{km},ML4.4*

NEIC ***29*** *22:54:54.5±0.6,28.12S×68.44W,h98^{km}±8^{km},Error ellipse: s-maj=12.6km s-min=8.1km az=131.0*

IDC ***29*** *22:54:55.6±6.6,28.04S×68.35W,h106^{km}±56^{km},mb3.5/5, mb1 3.8/6,mb1mx3.6/13,Error ellipse: s-maj=48.4km s-min=29.7km az=52.0*

ISC 29 22:54:53.4±0.9,**28.12S**±0.07×**68.51W**±0.09, **h101**^{km}±11^{km}**,n18,**σ**0^{s}.87**/21,**mb3.6**/5,**2C-3D,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	2.03	257	⇑*i*P	P	22 55 20.9	-6.0
VACH				*i* S	S	22 55 45.1	-6.7
VACH				AMP		22 55 47.8	
	comp=N,7µm,0.1s						
TLL	**Tololo Astrono**	2.86	224	⇑*i*P	P	22 55 39.5	+1.2
TLL				*e*S	S	22 56 12.7	+0.7
TLL				AMP		22 56 17.6	
	comp=E,896nm,0.4s						
LSCH	**La Serena**	2.98	233	⇓*i*P	P	22 55 39.8	-0.1
LSCH				*i* S	S	22 56 13.8	-1.3
LSCH				AMP		22 56 17.4	
	comp=E,653nm,0.3s						
CMCH	**Combarbala**	3.73	215	⇓*i*P	P	22 55 50.1	-0.1
CMCH				*i* S	S	22 56 32.6	-0.8
ILCH	**Illapel**	4.20	213	*i* S	S	22 56 43.0	-1.7
JACH	**Jahuel**	4.89	201	⇓*i*P	P	22 56 06.7	+0.7
FCH	**Farellones**	5.41	196	*e*P	P	22 56 14.3	+1.2
FCH				*e*S	S	22 57 15.7	+1.1
LVC	**Limon Verde**	5.50	356	*e*Pn	P	22 56 14.7	+0.5
	comp=E,11nm,0.3s						
CLCH	**Cerro Calan**	5.54	198	*e*P	P	22 56 15.0	+0.2
CPUP	**Villa Florida**	10.11	82	P	P	22 57 16.4	-0.7
	comp=E,0.8nm,0.3s,baz=289,slow=12,SNR=14						
TRQA	**Tornquist**	11.32	153	Pn	P	22 57 29.5	-3.6
	comp=E,1.0nm,0.4s						
BDFB	**Brasilia**	22.67	61	P	P	22 59 46.0	-1.0
	comp=E,3.3nm,0.8s,mb3.7,baz=235,slow=8.4,SNR=5.0						
TXAR	**Lajitas Array**	66.29	327	P	P	23 05 33.0	-0.4
	comp=E,0.7nm,0.8s,mb3.6,baz=146,slow=9.0,SNR=5.2						
MAW	**Mawson**	77.92	163	P	P	23 06 41.4	+0.2
	comp=E,0.8nm,0.5s,mb3.7,baz=250,slow=4.5,SNR=3.9						
PDAR	**Pinedale Array**	80.02	331	P	P	23 06 53.3	+0.1
	comp=E,0.6nm,0.5s,mb3.7,baz=130,slow=4.6,SNR=6.0						
NVAR	**Mina Array Bea**	80.93	323	P	P	23 06 58.7	+0.6
	comp=E,0.3nm,0.7s,mb3.3,baz=123,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	150.51	43	PKPbc	PKPdf	23 14 34.7	+7.2
	comp=E,4.8nm,0.5s,baz=300,slow=2.1,SNR=44						
MKAR	**Makanchi Array**	150.51	43	PKPbc	PKPdf	23 14 34.7	+7.2

DJA 29 22:55:10.4±2.2,**8.18S**×**119.39E,h254**^{km}±26^{km}**,MD4.6**/4, **2C-4D,Error ellipse: s-maj=126.7km s-min=7.8km az=130.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	3.26	264	⇓*e*P	P	22 56 07.2	+0.8
	66nm,0.2s						
NINI	**Niniconang**	3.75	6	⇓*e*P	P	22 56 12.2	+0.2
	321nm,0.2s						
NINI				⇓*e*S	S	22 57 00.0	+0.2
RATI	**Rata**	3.86	262	⇑*e*P	P	22 56 13.6	+0.4
	128nm,0.2s						
INGI	**Ingas**	4.25	261	⇑*e*P	P	22 56 17.5	-0.3
TANI	**Tanete Lipujan**	4.71	360	⇓*e*P	P	22 56 23.6	+0.3
	94nm,0.2s						

LDG ***29*** *23:01:47.7±0.6,50.39N×17.09E,h1^{km},Ml3.0/3,Error ellipse: s-maj=19.9km s-min=11.8km az=156.0,Suspected Mining induced.*

NEIC ***29*** *23:01:49.6±0.5,51.54N×16.06E,h5^{km},ML3.1(VIE), ML2.6(CLL),ML2.5(BRG),Error ellipse: s-maj=6.3km s-min=5.1km az=85.0*

PRU ***29*** *23:01:51.3,51.45N×16.04E*

WAR ***29*** *23:01:51.4,51.47N×16.03E,ML2.9,Mining Induced*

IDC ***29*** *23:01:51.4±0.7,51.46N×15.97E,mb1 3.2/7, mb1mx3.1/22,ML2.7/7,Error ellipse: s-maj=15.7km s-min=6.0km az=101.0*

ISC 29 23:01:46.9±0.4,**51.56N**±0.02×**16.07E**±0.04,**n31,**σ**1^{s}.49**/65, **1C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.73	169	*e*PG	Pg	23 02 03.0	+1.5
KSP				*e*SG	Sg	23 02 12.0	+0.8
KSP	**Ksiaz**	0.73	169	*e*Pg	Pg	23 02 03.3	+1.8
KSP				*e*		23 02 05.5	
KSP				*e*Sg	Sg	23 02 12.2	+1.0
KSP				*e*		23 02 16.3	
UPC	**Upice**	1.05	182	*e*PG	Pg	23 02 09.1	+1.2
UPC				*e*SG	Sg	23 02 21.8	-0.1
DPC	**Dobruska-Polom**	1.22	172	*e*PG	Pg	23 02 12.0	+0.7
DPC				*e*SG	Sg	23 02 26.8	-0.7
	29nm,0.2s						
PVCC	**Panska Ves**	1.40	223	*e*PG	Pg	23 02 15.8	+1.0
BRG	**Berggiesshubel**	1.50	244	*i* Pn	Pn	23 02 17.3	+2.1
BRG				*i* Pg	Pg	23 02 18.2	+1.3
BRG				*i* Sg	Sg	23 02 37.9	+1.0
PRU	**Pruhonice**	1.85	212	*e*PN	Pn	23 02 21.2	+1.1
PRU				PG	Pg	23 02 22.7	-1.0
PRU				*i*		23 02 25.5	
PRU				*i*		23 02 40.0	
PRU				SG	Sg	23 02 46.5	-1.8
	33nm,0.4s						
PRU	**Pruhonice**	1.85	212	*e*Pn	Pn	23 02 21.1	+1.0
PRU				*e*Pg	Pg	23 02 22.9	-0.8
PRU				*e*		23 02 40.0	
PRU				*e*Sg	Sg	23 02 46.4	-1.9
CLL	**Collm**	1.93	264	*i* PN	Pn	23 02 23.2	+1.9
CLL				*i* PG	Pg	23 02 25.9	+0.4
CLL				*e*SG	Sg	23 02 53.0	+1.7
MORC	**Moravsky Berou**	2.02	152	*e*Pn	Pn	23 02 22.4	-0.1
MORC				*e*Sn	Sn	23 02 46.5	-2.3
OKC	**Ostrava-Krasne**	2.17	142	*e*PG	Pg	23 02 29.2	-1.1
OKC				*e*SG	Sg	23 02 56.7	-2.5
VRAC	**Vranov**	2.28	171	Pn	Pn	23 02 28.5	+2.2
	1.4nm,0.3s,baz=330,slow=15,SNR=13						
VRAC				Lg		23 02 59.6	
	2.2nm,0.3s,baz=69,slow=22,SNR=4.8						
NKC	**Novy Kostel**	2.65	241	*e*PN	Pn	23 02 33.4	+1.8
NKC				*e*PG	Pg	23 02 39.6	-0.1
NKC				*e*SG	Sg	23 03 14.9	-0.1
OJC	**Ojcow**	2.72	118	*e*PG	Pg	23 02 44.0	+2.9
OJC				*e*SG	Sg	23 03 19.0	+1.6
OJC	**Ojcow**	2.72	118	*e*Pg	Pg	23 02 44.2	+3.1
OJC				*e*Sg	Sg	23 03 18.6	+1.2
KHC	**Kasperske Hory**	2.91	214	*e*PN	Pn	23 02 36.5	+1.2
KHC				*e*PG	Pg	23 02 42.5	-2.4
KHC				*e*SN	Sn	23 03 11.0	-0.4
KHC				*e*SG	Sg	23 03 20.4	-3.2
MOX	**Moxa**	2.95	254	*i* P	Pn	23 02 37.5	+1.6
MOX				Pg	Pg	23 02 45.0	-0.8
MOX				Sg	Sg	23 03 24.0	-1.1
MOX	**Moxa**	2.95	254	*e*Pn	Pn	23 02 37.5	+1.6
MOX				*e*Pg	Pg	23 02 45.3	-0.5
MOX				*e*Sg	Sg	23 03 24.3	-0.8
GERES	**GERESS Array B**	3.11	210	Pn	Pn	23 02 40.2	+2.0
	0.6nm,0.3s,baz=27,slow=12,SNR=22						
GERES				Pg	Pg	23 02 46.4	-2.6
	3.3nm,0.3s,baz=27,slow=15,SNR=43						
GERES				Sn	Sn	23 03 16.3	-0.3
	1.3nm,0.3s,baz=34,slow=21,SNR=6.6						
GERES				Lg		23 03 26.8	
	2.2nm,0.3s,baz=24,slow=27,SNR=7.6						
BSD	**Bornholm Skovb**	3.63	349	*i* P	Pn	23 02 47.3	+1.8
BSD				*e*S	Sn	23 03 27.7	-2.0
BSD				*i* LG		23 03 29.5	
MOA	**Molln**	3.89	198	⇑*i*PN	Pn	23 02 50.6	+1.3
MOA				*i* SG	Sg	23 03 54.4	-2.1
	7.0nm,0.4s						
DAVOX	**Davos**	6.27	223	Pn	Pn	23 03 24.1	+1.3
	0.2nm,0.3s,baz=45,slow=13,SNR=2.1						
DAVOX				Lg		23 05 08.1	
	0.3nm,0.3s,baz=207,slow=18,SNR=2.6						
CDF	**Champ du Feu**	6.48	244	*e*Pn	Pn	23 03 25.2	-0.7
CDF				*e*Sg	Sg	23 05 18.6	-4.1
	2.9nm,0.5s						
HINF	**Hinteralfeld**	7.05	242	*e*Pn	Pn	23 03 32.1	-1.8
HAU	**Haudompre**	7.23	244	*e*Pn	Pn	23 03 34.7	-1.7
HAU				*e*Sg	Sg	23 05 38.7	-8.7
	1.2nm,0.2s						
HFS	**Hagfors**	8.70	352	Pn	P	23 03 57.2	+0.3
	0.0nm,0.3s,baz=174,slow=14,SNR=3.7						
HFS				Sn	Sn	23 05 33.9	-3.0
	0.0nm,0.3s,baz=164,slow=27,SNR=2.3						
LOR	**Lormes**	9.04	246	*e*Pn	P	23 03 59.6	-2.0
SBF	**Sospel**	9.64	220	*e*Pn	P	23 03 59.6	-10
SBF				*e*Sg	Sg	23 06 37.9	-30
	0.9nm,0.2s						
NOA	**NORSAR Array B**	9.88	346	Pn	P	23 04 12.7	-0.3
	0.1nm,0.3s,baz=322,slow=14,SNR=2.6						
NOA				Sn	Sn	23 06 00.2	-5.7
	0.1nm,0.3s,baz=33,slow=17,SNR=2.8						
FINES	**FINESS Array B**	11.33	25	Pn	P	23 04 31.7	-1.3
	0.1nm,0.3s,baz=211,slow=11,SNR=7.1						
FINES				Sn	S	23 06 34.2	-7.4
	0.1nm,0.3s,baz=210,slow=22,SNR=3.1						
ARCES	**ARCESS Array B**	18.58	10	Pn	P	23 06 05.6	-1.4
	0.1nm,0.3s,baz=188,slow=14,SNR=4.2						

NEIC ***29*** *23:07:55.6,35.00S×70.42W,h3^{km},ML2.6(GUC),After GUC.*

GUC 29 23:07:55.6±0.8,**35.00S**×**70.42W,h3**^{km}±3^{km}**,MD3.6, ML2.6,2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.62	308	⇑*i*P	Pg	23 08 08.3	+0.3
SFDO				*i* S	Sg	23 08 17.7	+1.4
CACH	**El Canelo**	0.89	350	⇑*i*P	Pb	23 08 12.7	-0.6
CACH				*i* S	Sg	23 08 25.4	+0.1
TALC	**Talca**	1.07	248	⇓*i*P	Pb	23 08 16.0	-0.4
TALC				*i* S	Sb	23 08 30.7	+0.1
TALC				AMP		23 08 31.9	
	comp=E,1µm,0.1s						
CHCH	**Chadas Angostu**	1.08	350	*e*P	Pb	23 08 16.1	-0.4
CHCH				*i* S	Sb	23 08 31.4	+0.6
LMEL	**Las Melosas**	1.16	9	*e*P	Pb	23 08 17.4	-0.5
LMEL				*i* S	Sb	23 08 33.8	+0.6
LMEL				AMP		23 08 35.2	
	comp=N,154nm,0.3s						
LNV	**Longovilo**	1.32	321	⇓*i*P	Pb	23 08 20.2	-0.4
LNV				*i* S	Sb	23 08 38.5	+0.6
TACH	**Talagante**	1.41	342	*e*P	Pb	23 08 21.6	-0.6
FCH	**Farellones**	1.67	4	*e*P	Pn	23 08 26.7	+0.9
FCH				*i* S	Sb	23 08 50.0	+2.1
FCH				AMP		23 08 51.7	
	comp=E,64nm,0.2s						

IDC ***29*** *23:17:26.8±1.1,3.08N×126.78E,mb4.0/9,mb1 4.1/9, mb1mx4.0/15,Error ellipse: s-maj=106.0km s-min=15.9km az=70.0*

NEIC ***29*** *23:17:28.0±0.8,3.26N×127.54E,h10^{km},mb4.6/3,Error ellipse: s-maj=48.8km s-min=11.2km az=67.0*

ISC 29 23:17:26.3±0.8,**3.2N**±0.1×**127.2E**±0.3,**h10**^{km}**,n18,** σ**1^{s}.28**/18,**mb4.3**/12,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	21.23	184	P	P	23 22 13.5	-1.3
	1.7nm,0.5s,mb3.6,baz=8.9,slow=17,SNR=7.8						

WRAB	Tennant Creek	24.05	163	eP	P	23 22 42.8	+0.1
	3.3nm,0.4s,mb4.1						
WRA	Warramunga Arr	24.05	163	P	P	23 22 43.3	+0.5
	1.7nm,0.4s,mb3.9,baz=339,slow=10,SNR=19						
ASAR	Alice Springs	27.50	167	P	P	23 23 15.2	+0.1
	0.5nm,0.5s,baz=345,slow=6.7,SNR=8.2						
STKA	Stephens Creek	37.48	160	P	P	23 24 42.7	+0.7
	2.3nm,1.0s,mb4.0,baz=3.0,slow=5.6,SNR=3.5						
STKA	Stephens Creek	37.48	160	P	P	23 24 42.7	+0.7
GUN	Gumba	46.41	306	eP	P	23 25 59.9	+4.7
	287nm,0.5s						
DMN	Daman	46.91	305	eP	P	23 26 01.5	+2.4
GKN	Gorkha	47.45	306	eP	P	23 26 05.5	+2.1
	3.1nm,0.3s,mb4.7						
SONM	Songino Array	47.94	341	P	P	23 26 08.0	+1.0
	0.8nm,0.8s,mb3.8,baz=152,slow=8.7,SNR=4.3						
KOLN	Koldanda	48.21	305	eP	P	23 26 06.9	-2.4
	9.9nm,0.6s,mb5.0						
MKAR	Makanchi Array	58.25	325	P	P	23 27 22.1	-1.3
	3.5nm,0.5s,mb4.7,baz=120,slow=7.9,SNR=54						
MKAR				PcP	PcP	23 28 14.1	-0.4
	1.0nm,0.8s,baz=135,slow=3.4,SNR=4.0						
MKAR	Makanchi Array	58.25	325	P	P	23 27 22.1	-1.3
MKAR				PcP	PcP	23 28 14.1	-0.4
KURK	Kurchatov	62.43	327	P	P	23 27 50.2	-1.7
	59nm,0.5s,SNR=9.6						
KURK	Kurchatov	62.43	327	eP	P	23 27 50.7	-1.2
	5.7nm,0.6s,mb4.9						
BVAR	Borovoye Array	68.01	327	P	P	23 28 27.4	-0.5
	4.1nm,1.1s,mb4.4,baz=117,slow=6.6,SNR=5.5						
ARCES	ARCESS Array B	91.10	340	P	P	23 30 32.6	+0.5
	1.0nm,0.7s,mb4.2,baz=90,slow=6.3,SNR=4.3						
AKASG	Malin Array Be	92.59	321	P	P	23 30 38.1	-1.2
	0.8nm,0.7s,mb4.3,baz=65,slow=5.1,SNR=7.0						

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*NEIC **29** 23:24:22.8±7.6, 5.04S×151.63E, h123^{km}±67^{km}, mb4.3/5, Error ellipse: s-maj=32.7km s-min=19.0km az=78.0*

*IDC **29** 23:24:23.6±3.7, 5.08S×151.66E, h128^{km}±33^{km}, mb3.7/8, mb1 4.0/8, mb1mx3.9/13, Error ellipse: s-maj=34.6km s-min=14.3km az=121.0*

ISC 29 23:24:14.2±4.1**, 4.9S**±0.1×**151.7E**±0.2**, h58**^{km}±36^{km}**, n14,** σ**0**^{s}**79**/14**, mb4.1**/11**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	20.57	247	eP	P	23 28 50.7	0.0
	11nm,0.6s						
WRAB	Tennant Creek	22.54	227	eP	P	23 29 11.2	+0.6
	12nm,0.6s,mb4.5						
WRA	Warramunga Arr	22.55	227	P	P	23 29 11.7	+1.1
	5.0nm,0.3s,mb4.3,baz=52,slow=9.8,SNR=36						
WRA				PcP	PcP	23 33 02.5	-1.5
	1.2nm,0.6s,baz=44,slow=2.3,SNR=5.7						
WRA				S	S	23 33 09.5	+0.2
	0.2nm,0.3s,baz=44,slow=16,SNR=3.1						
ASAR	Alice Springs	25.33	221	P	P	23 29 37.5	0.0
	1.4nm,0.4s,mb3.9,baz=54,slow=8.7,SNR=21						
ASAR				PcP	PcP	23 33 08.6	-1.2
	0.5nm,0.6s,baz=59,slow=1.8,SNR=4.5						
STKA	Stephens Creek	28.44	198	P	P	23 30 04.9	-1.0
	4.2nm,1.1s,mb4.0,baz=37,slow=15,SNR=2.2						
FITZ	Fitzroy Crossi	28.64	241	eP	P	23 30 07.0	-0.8
	2.1nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	28.64	241	P	P	23 30 06.9	-0.9
	2.3nm,0.3s,mb4.3,baz=50,slow=5.3,SNR=20						
SONM	Songino Array	65.84	328	P	P	23 34 56.8	+1.0
	1.2nm,0.4s,mb4.3,baz=145,slow=5.1,SNR=10						
MKAR	Makanchi Array	79.69	319	P	P	23 36 17.4	0.0
	0.3nm,0.5s,mb3.5,baz=101,slow=8.1,SNR=4.6						
ILAR	Eielson Array	82.68	22	P	P	23 36 32.0	-0.7
	0.4nm,0.6s,mb3.6,baz=252,slow=4.9,SNR=7.0						
KURK	Kurchatov	83.19	322	P	P	23 36 34.2	-1.3
	1.3nm,0.6s,mb4.1						
QSPA	South Pole Qui	85.04	180	eP	P	23 36 44.2	-0.1
	1.8nm,0.7s,mb4.3						
NVAR	Mina Array Bea	93.02	52	P	P	23 37 24.2	+1.2
	0.6nm,0.6s,mb4.2,baz=257,slow=3.8,SNR=5.8						
GERES	GERESS Array B	123.58	328	PKP	PKPdf	23 43 05.9	+0.4
	0.5nm,0.5s,baz=90,slow=1.3,SNR=7.7						

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*NEIC **29** 23:25:59.3, 44.15S×167.90E, ML4.0(WEL), After WEL.*

WEL 29 23:26:02.2±0.2**, 44.31S×168.16E, h5**^{km}**, ML3.8**/8**, 2C-3D, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.40	204	⇑PG	Pg	23 26 10.4	+0.2
MSZ				SG	Sg	23 26 15.6	-0.1
MSZ				SG	Sg	23 26 15.7	+0.1
JCZ	Jackson Bay	0.49	62	⇓PG	Pg	23 26 12.4	+0.3
JCZ				SG	Sg	23 26 18.8	+0.2
WKZ	Wanaka	0.81	131	⇓P*	Pb	23 26 18.0	-0.3
WKZ				S*	Sb	23 26 28.1	-1.2
MLZ	Mavora Lakes	1.04	179	⇓P*	Pb	23 26 21.9	-0.4
MLZ	Mavora Lakes	1.04	179	P	Pb	23 26 21.9	-0.4
AXZ	Alexandra	1.28	139	P*	Pb	23 26 26.1	-0.2
DCZ	Deep Cove	1.37	211	PN	Pn	23 26 26.8	-1.2
LBZ	Lake Benmore	1.46	94	PN	Pn	23 26 29.4	+0.1
WHZ	Wether Hill Ro	1.60	185	PN	Pn	23 26 30.7	-0.6
WHZ	Wether Hill Ro	1.60	185	P	Pn	23 26 30.8	-0.4
ODZ	Otahua Downs	1.92	113	PN	Pn	23 26 35.6	-0.3
ODZ	Otahua Downs	1.92	113	P	Pn	23 26 35.9	0.0
TUZ	Tuapeka	1.95	148	PN	Pn	23 26 35.9	-0.4
TUZ	Tuapeka	1.95	148	eP	Pn	23 26 36.1	-0.2
RPZ	Rata Peaks	2.17	75	PN	Pn	23 26 38.6	-0.9
RPZ	Rata Peaks	2.17	75	eP	Pn	23 26 38.9	-0.6
WVZ	Waitaha Valley	2.24	58	⇑PN	Pn	23 26 37.9	-2.5
WVZ	Waitaha Valley	2.24	58	P	Pn	23 26 37.9	-2.5
MQZ	McQueen's Vall	3.30	81	ePN	Pn	23 26 53.1	-2.4
MQZ	McQueen's Vall	3.30	81	eP	Pn	23 26 53.2	-2.3
LTZ	Lake Taylor	3.36	64	PN	Pn	23 26 53.7	-2.6
LTZ	Lake Taylor	3.36	64	P	Pn	23 26 53.7	-2.6
DSZ	Denniston Nort	3.70	48	ePN	Pn	23 26 57.8	-3.5
DSZ	Denniston Nort	3.70	48	P	Pn	23 26 58.0	-3.2
THZ	Tophouse	4.31	56	ePN	Pn	23 27 07.0	-2.9
THZ	Tophouse	4.31	56	P	Pn	23 27 07.3	-2.6
KHZ	Kahutara	4.36	66	ePN	Pn	23 27 07.3	-3.3
KHZ	Kahutara	4.36	66	eP	Pn	23 27 07.8	-2.8
QRZ	Quartz Range	4.74	44	ePN	Pn	23 27 12.4	-3.7
QRZ	Quartz Range	4.74	44	P	Pn	23 27 12.6	-3.5
NNZ	Nelson	4.93	53	PN	Pn	23 27 15.8	-2.9
NNZ	Nelson	4.93	53	P	Pn	23 27 16.3	-2.4
TUWZ	Tuamarina	5.13	58	ePN	Pn	23 27 18.8	-2.7
WAZ	Wanganui	6.82	51	P	Pn	23 27 42.9	-2.4

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*IDC **29** 23:30:02.8±0.8, 7.06N×33.80W, mb3.9/14, mb1 4.1/14, mb1mx4.0/21, MS4.1/8, Ms1 4.1/8, ms1mx3.9/21, Error ellipse: s-maj=30.1km s-min=15.6km az=136.0*

*NEIC **29** 23:30:04.4±7.8, 6.99N×33.74W, h11^{km}±50^{km}, mb4.5/8, Error ellipse: s-maj=15.1km s-min=6.9km az=150.0*

ISC 29 23:30:02.4±0.4**, 6.96N**±0.08×**33.68W**±0.09**, h10**^{km}**, n34,** σ**0**^{s}**71**/32**, mb4.1**/21**, MS4.1**/8**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	12.90	190	P	P	23 33 07.7	-1.0
BDFB	Brasilia	26.57	212	P	P	23 35 43.3	+0.5
	5.7nm,0.9s,mb4.1,baz=41,slow=6.4,SNR=7.9						
BDFB				LR	LR	23 45 18.5	
	comp=Z,627nm,19.7s,MS4.2,baz=36,slow=34						
BDFB	Brasilia	26.57	212	P	P	23 35 43.3	+0.5
BDFB				LR	LR	23 45 18.5	
DBIC	Dimbokro	28.61	89	P	P	23 36 01.9	+0.5
	2.8nm,0.9s,mb4.0,baz=282,slow=8.0,SNR=4.3						
DBIC				LR	LR	23 44 39.3	
	comp=Z,261nm,20.6s,MS3.8,baz=177,slow=30						
SAML	Samuel	33.39	242	eP	P	23 36 43.2	-0.2
	13nm,1.7s,mb4.6						
CPUP	Villa Florida	40.28	214	P	P	23 37 41.5	-0.1
	2.1nm,0.9s,mb3.9,baz=146,slow=14,SNR=4.3						
CPUP				LR	LR	23 54 01.4	
	comp=Z,352nm,18.4s,MS4.2,baz=22,slow=36						
ROSC	El Rosal	40.48	269	LR	LR	23 52 50.5	
	comp=Z,259nm,21.2s,MS4.1,baz=126,slow=34						
LPAZ	La Paz	41.19	236	P	P	23 37 50.5	+1.5
	2.4nm,1.1s,mb3.8,baz=99,slow=21,SNR=6.1						
LPAZ				LR	LR	23 53 43.1	
	comp=Z,189nm,21.9s,MS3.9,baz=80,slow=34						
ESDC	Sonseca Array	42.09	35	P	P	23 37 57.5	+1.1
	0.1nm,0.4s,baz=259,slow=13,SNR=3.6						
SMRF	Simiane la Rot	50.33	36	eP	P	23 38 53.1	-8.4
SSF	Saint Saulge	51.05	32	eP	P	23 38 58.0	-8.9
	18nm,1.3s,mb4.5						
MBDF	Montbardon	51.47	36	eP	P	23 39 01.7	-8.4
	16nm,1.2s,mb4.5						
BNI	Bardonecchia	51.60	36	eP	P	23 39 10.5	-0.6
	5.6nm,1.0s,mb4.5						
DAVOX	Davos	54.41	36	P	P	23 39 32.4	+0.4
	3.1nm,0.9s,mb4.2,baz=359,slow=18,SNR=4.8						
GRA1	Grafenberg Arr	56.75	33	eP	P	23 39 49.5	+0.6
	7.0nm,1.4s,mb4.5						
GERES	GERESS Array B	57.69	35	P	P	23 39 55.5	0.0
	0.6nm,0.8s,mb3.7,baz=270,slow=8.0,SNR=6.9						
PLCA	Paso Flores	58.32	212	LR	LR	00 05 12.8	
	comp=Z,450nm,18.1s,MS4.6,baz=32,slow=36						
PSZ	Piszkesteto	60.94	38	P	P	23 40 17.1	-0.9
NOA	NORSAR Array B	63.42	23	P	P	23 40 34.4	+0.1
	1.7nm,0.8s,mb4.2,baz=232,slow=6.4,SNR=3.8						
NOA				LR	LR	00 03 53.9	
	comp=Z,125nm,18.7s,MS4.1,baz=250,slow=32						
NOA	NORSAR Array B	63.42	23	P	P	23 40 34.4	+0.1
NOA				LR	LR	00 03 53.9	
LSZ	Lusaka	65.15	110	eP	P	23 40 46.5	+0.2
	14nm,1.7s,mb4.7						
AKASG	Malin Array Be	67.63	38	P	P	23 41 00.6	-1.0
	1.7nm,0.7s,mb4.2,baz=254,slow=6.9,SNR=12						
TXAR	Lajitas Array	69.19	299	P	P	23 41 09.9	-1.8
	0.3nm,0.7s,mb3.3,baz=97,slow=7.5,SNR=3.7						
FINES	FINESS Array B	69.76	26	P	P	23 41 14.0	-0.6
	1.5nm,0.8s,mb4.0,baz=270,slow=3.8,SNR=4.4						
FINES				LR	LR	00 06 44.3	
	comp=Z,76nm,21.5s,MS3.9,baz=68,slow=32						
SDCO	Great Sand Dun	71.41	307	eP	P	23 41 24.5	-0.5
	1.8nm,0.8s,mb4.0						
LAZ	Ladron	72.46	304	eP	P	23 41 32.1	+0.7
PV01	Paradox Valley	73.86	308	P	P	23 41 39.9	+0.4
PV10	Paradox Valley	74.24	308	eP	P	23 41 42.2	+0.5
PDAR	Pinedale Array	74.94	312	P	P	23 41 45.3	-0.4
	0.9nm,0.8s,mb3.8,baz=79,slow=7.6,SNR=8.7						
WUAZ	Wupatki	75.98	305	eP	P	23 41 51.3	-0.4
HWUT	Hardware Ranch	76.36	311	eP	P	23 41 53.7	0.0
	3.5nm,1.0s,mb4.2						
NVAR	Mina Array Bea	81.52	308	P	P	23 42 22.5	+0.7
	0.3nm,0.7s,mb3.4,baz=103,slow=5.0,SNR=4.1						
NVAR	Mina Array Bea	81.52	308	P	P	23 42 22.5	+0.7
ILAR	Eielson Array	93.38	337	P	P	23 43 18.8	+0.1
	0.2nm,0.8s,mb3.6,baz=58,slow=3.8,SNR=4.1						

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*NEIC **29** 23:33:26.7, 35.00S×70.64W, h6^{km}, ML2.7(GUC), After GUC.*

GUC 29 23:33:26.7±0.8**, 35.00S×70.64W, h6**^{km}±5^{km}**, MD3.6, ML2.7, 6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.49	269	⇓iP	Pg	23 33 36.7	+0.2
NICH				iS	Sg	23 33 43.7	+0.7
SFDO	San Fernando	0.49	321	⇓iP	Pg	23 33 36.8	+0.2
SFDO				iS	Sg	23 33 44.6	+1.5
CICH	Cipreses	0.70	15	⇓iP	Pg	23 33 39.9	-0.8
CICH				iS	Sg	23 33 50.0	0.0
CACH	El Canelo	0.88	2	⇓iP	Pb	23 33 43.1	-0.8
CACH				iS	Sb	23 33 56.3	+0.6
CHCH	Chadas Angostu	1.06	359	eP	Pb	23 33 46.5	-0.6
CHCH				eS	Sb	23 34 01.3	+0.2
LMEL	Las Melosas	1.20	17	⇓iP	Pb	23 33 48.8	-0.7
LMEL				iS	Sb	23 34 05.7	+0.5
LMEL				AMP		23 34 07.2	
	comp=N,351nm,0.2s						
LNV	Longovilo	1.22	328	eP	Pb	23 33 49.0	-0.9
LNV				iS	Sb	23 34 06.1	+0.5
TACH	Talagante	1.36	349	⇓iP	Pb	23 33 51.6	-0.7
CLCH	Cerro Calan	1.60	3	AMP		23 34 20.1	
	comp=E,135nm,0.3s						
FCH	Farellones	1.69	10	eP	Pn	23 33 57.7	+0.7
FCH				iS	Sn	23 34 20.7	+1.5
FCH				AMP		23 34 21.7	
	comp=N,156nm,0.1s						

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*NEIC **29** 23:38:27.2, 35.10S×70.51W, h12^{km}, ML3.6(GUC), After GUC.*

GUC 29 23:38:27.2±1.1**, 35.10S×70.51W, h12**^{km}±8^{km}**, MD3.9, ML3.6, 6C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.60	279	⇓iP	Pb	23 38 38.4	-0.6
CICH	Cipreses	0.78	6	⇓iP	Pb	23 38 40.6	-1.5
CICH				iS	Sb	23 38 50.4	-1.9
TALC	Talca	0.97	251	⇓iP	Pb	23 38 44.8	-0.6
TALC				iS	Sb	23 38 57.9	0.0
TALC				AMP		23 38 58.2	
	comp=N,15μm,0.1s						
CACH	El Canelo	0.98	356	⇑iP	Pb	23 38 43.9	-1.7
CACH				iS	Sb	23 38 57.1	-1.0
CHCH	Chadas Angostu	1.17	354	⇓iP	Pb	23 38 47.3	-1.4
CHCH				iS	Sb	23 39 01.6	-2.0
LMEL	Las Melosas	1.27	12	⇑iP	Pb	23 38 49.4	-1.2
LMEL				iS	Sb	23 39 06.3	-0.3
LMEL				AMP		23 39 06.5	
	comp=N,2μm,0.3s						
LNV	Longovilo	1.36	327	⇓iP	Pn	23 38 50.5	-1.5
LNV				iS	Sb	23 39 07.6	-1.6
PCH	Pirque	1.47	360	⇓iP	Pn	23 38 52.8	-0.8
PCH				iS	Sb	23 39 12.2	-0.3
TACH	Talagante	1.48	346	⇓iP	Pn	23 38 52.6	-1.2
TACH				iS	Sb	23 39 11.6	-1.1
ANTU	Antumapu	1.52	356	eP	Pn	23 38 53.9	-0.5
ANTU				iS	Sb	23 39 13.4	-0.7
ANTU				AMP		23 39 15.8	
	comp=E,2μm,0.2s						
DSCH	Colegio Aleman	1.69	358	⇑iP	Pn	23 38 56.9	+0.1
DSCH				eS	Sn	23 39 18.4	-0.1
DSCH				AMP		23 39 24.1	
	comp=N,1μm,0.4s						
CLCH	Cerro Calan	1.69	359	⇑iP	Pn	23 38 56.7	-0.1
CLCH				eS	Sn	23 39 19.2	+0.7
CLCH				AMP		23 39 21.0	
	comp=E,1μm,0.3s						
CLCH				AMP		23 39 22.6	
	comp=N,986nm,0.3s						
FCH	Farellones	1.77	6	⇑iP	Pn	23 38 58.2	+0.2
FCH				iS	Sn	23 39 21.5	+1.0
FCH				AMP		23 39 24.7	
	comp=N,836nm,0.2s						
LCCH	Las Cruces	1.84	331	⇑iP	Pn	23 38 58.4	-0.4
LCCH				iS	Sn	23 39 21.8	-0.3
PEL	Peldehue	1.95	356	eP	Pn	23 39 00.7	+0.2
PEL				iS	Sn	23 39 26.2	+1.2
PEL				AMP		23 39 32.8	
	comp=N,1μm,0.2s						
CCHI	Chillan	1.97	220	AMP		23 39 32.8	
	comp=E,524nm,0.6s						
CCHI				AMP		23 39 33.1	
	comp=E,838nm,0.5s						
IHA	Instituto Hidr	2.27	335	eP	Pn	23 39 05.3	+0.3
IHA				iS	Sn	23 39 34.4	+1.3
JACH	Jahuel	2.41	358	eP	Pn	23 39 07.8	+0.8

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*ATH **29** 23:58:19.8, 37.14N×28.58E, h92^{km}*

*ISK **29** 23:58:25.4, 36.95N×27.78E, h16^{km}, MD3.2*

ISC 29 23:58:25.4±0.7**, 36.89N**±0.04×**27.77E**±0.04**, h7**^{km}±5^{km}**, n16,** σ**0**^{s}**96**/24**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	304	iP	Pg	23 58 32.2	+0.4
BDRM				iS	Sg	23 58 37.1	+1.1
MLSB	Milas	0.40	1	iPG	Pg	23 58 33.0	-0.6
MLSB				iSG	Sg	23 58 38.7	-0.3
YER	Yerkesik	0.48	60	iPG	Pg	23 58 34.9	-0.2
YER				iSG	Sg	23 58 41.8	+0.2
DALT	Dalyan (Mudla)	0.71	100	PG	Pg	23 58 40.0	+0.3
ARG	Arkhangelos	0.73	157	eP	Pb	23 58 40.6	+0.5
ARG				eS	Sb	23 58 55.3	+5.2
AYDN	Tasoluk	0.77	7	iP	Pb	23 58 40.0	-0.8
AYDN				iS	Sb	23 58 49.7	-1.4
SMG	Samos	1.10	318	eP	Pb	23 58 46.7	+0.3
DNZL	Cakiroluk	1.29	52	iP	Pb	23 58 49.6	-0.1
DNZL				iS	Sb	23 59 08.1	+1.8
DENT	Denizli	1.33	49	ePN	Pn	23 58 49.5	-0.9
KARP	Karpathos	1.43	200	eP	Pn	23 58 52.4	+0.6
IZM	Izmir	1.56	345	ePN	Pn	23 58 52.5	-1.1
KDAG	Bornova	1.56	345	iP	Pn	23 58 52.7	-1.0
KDAG				iS	Sb	23 59 15.5	+1.5
MANT	Manisa	1.71	21	iP	Pn	23 58 56.9	+1.0
MANT				iS	Sn	23 59 20.4	+2.1
ELL	Elmali	1.73	94	ePN	Pn	23 58 55.2	-0.9
APE	Apeiranthos	1.80	276	ePN	Pn	23 58 56.7	-0.4
AKS	Akhisar	1.98	1	ePN	Pn	23 58 58.3	-1.5

NEIC 30 00:27:54.1, 62.70N×151.58W, h4^{km}**, ML3.6**(PMR)**, ML3.3**(AEIC)**, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.68	115	P	Pg	00 28 07.1	-0.6
KTH	Kantishna Hill	0.91	19	P	Pb	00 28 11.1	-1.0
KTH				S	Sb	00 28 23.4	-1.0
TRF	Thorofare Moun	0.96	37	P	Pb	00 28 12.3	-0.7
TRF				S	Sb	00 28 25.1	-0.7
STLK	Strandline Lak	1.21	186	P	Pb	00 28 16.2	-1.0
SUA	Susitna One	1.30	162	P	Pb	00 28 18.3	-0.5
PWA	Palmer West	1.32	142	P	Pb	00 28 17.8	-1.3
NCG	North Capps Gl	1.32	192	P	Pb	00 28 17.7	-1.5
RND	Reindeer	1.43	59	P	Pn	00 28 20.4	-0.5
SPU	Mount Spurr	1.54	189	P	Pn	00 28 21.5	-1.0
CKL	Chakachamna La	1.55	194	P	Pn	00 28 22.3	-0.3
GHO	Glory Hole Cre	1.55	125	P	Pn	00 28 21.7	-1.0
MCK	McKinley	1.59	48	P	Pn	00 28 23.2	0.0
MCK				S	Sb	00 28 44.0	-0.1
PMR	Palmer	1.60	133	P	Pn	00 28 22.6	-0.7
PMR				S	Sb	00 28 42.9	-1.5
BKG	Blockade Glaci	1.66	191	P	Pn	00 28 23.5	-0.8
FIB	Fire Island	1.67	156	P	Pn	00 28 24.9	+0.4
PMS	Palmer South	1.74	146	P	Pn	00 28 25.1	-0.3
SML	Sawmill	1.76	119	P	Pn	00 28 25.2	-0.5
SML				S	Sn	00 28 47.5	-1.3
RC01	Rabbit Creek A	1.83	151	P	Pn	00 28 25.8	-0.9
RC01				S	Sn	00 28 49.3	-1.4
DHY	Denali Highway	1.97	77	P	Pn	00 28 27.7	-0.9
TT01	Tatalina	2.05	278	P	Pn	00 28 29.1	-0.7
SCM	Sheep Creek Mo	2.17	112	P	Pn	00 28 31.3	-0.2
NEA	Nenana	2.19	30	P	Pn	00 28 30.8	-1.1
REF	Redoubt East F	2.28	194	P	Pn	00 28 33.4	+0.3
SLKM	Skilak Lake	2.29	163	P	Pn	00 28 33.7	+0.5
RSO	Redoubt South	2.31	195	P	Pn	00 28 33.6	+0.1
CFI	College Fiord	2.36	128	P	Pn	00 28 35.1	+0.9
MLY	Manley	2.37	9	P	Pn	00 28 33.7	-0.7
MPA	Moose Pass	2.46	153	P	Pn	00 28 35.9	+0.3
SVW	Sparrevohn	2.49	232	P	Pn	00 28 35.7	-0.4
CCB	Clear Creek Bu	2.58	39	P	Pn	00 28 36.2	-1.2
HDA	Harding Lake	2.69	48	P	Pn	00 28 38.7	-0.3
ILIM	Iliamna	2.71	195	P	Pn	00 28 39.3	+0.1
COLA	College	2.74	36	P	Pn	00 28 38.9	-0.8
THY	Trims Highway	2.75	72	P	Pn	00 28 39.6	-0.3
SEW	Seward	2.80	158	P	Pn	00 28 42.0	+1.5
SDG	Sourdough	2.80	91	P	Pn	00 28 39.6	-0.9
PAX	Paxson	2.82	82	P	Pn	00 28 39.6	-1.2
KLU	Klutina	2.92	112	P	Pn	00 28 42.7	+0.4
VLZ	Valdez	2.94	120	P	Pn	00 28 42.4	-0.1
IL1	Eielson Array	2.95	43	P	Pn	00 28 42.1	-0.6
BRLK	Bradley Lake	2.96	173	P	Pn	00 28 43.1	+0.2
GCSA	Galena City Sc	3.13	313	P	Pn	00 28 45.5	+0.3
DIV	Divide	3.17	117	P	Pn	00 28 45.3	-0.5
CNPM	China Poot	3.19	177	P	Pn	00 28 46.0	0.0
LTI	Latouche	3.21	144	P	Pn	00 28 44.9	-1.5
IM3	Indian Mountai	3.43	345	P	Pn	00 28 49.1	-0.4
IMA	Indian Mountai	3.51	346	eP	Pn	00 28 50.7	+0.1
EYAK	Cordova Ski Ar	3.52	125	P	Pn	00 28 50.9	+0.2
DOT	Dot Lake	3.54	71	P	Pn	00 28 50.1	-1.0
BMRM	Bremner River	3.74	115	P	Pn	00 28 53.6	-0.3
GLB	Gilahina Butte	3.87	106	P	Pn	00 28 55.6	-0.1
BCA3	Beaver Creek A	4.50	81	P	Pn	00 29 03.8	-1.0
COLD	Coldfoot	4.59	7	P	Pn	00 29 05.0	-0.9
BALM	Baldy	4.68	107	P	Pn	00 29 06.5	-0.7
BM3	Burnt Mountain	5.58	29	P	Pn	00 29 17.9	-2.1
DAWY	Dawson	5.65	71	eP	Pn	00 29 19.5	-1.5

GUC 30 00:36:17.7±0.9**, 35.02S×70.52W, h3**^{km}**, MD3.5, ML2.2, 5C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.57	314	⇓iP	Pg	00 36 29.1	0.0
SFDO				iS	Sg	00 36 38.2	+1.4
CICH	Cipreses	0.70	7	⇑iP	Pg	00 36 30.9	-0.8
CICH				iS	Sg	00 36 41.3	+0.2
CACH	El Canelo	0.90	356	⇑iP	Pb	00 36 34.6	-1.1
CACH				iS	Sg	00 36 48.0	+0.3
CHCH	Chadas Angostu	1.09	354	⇑iP	Pb	00 36 38.1	-0.7
CHCH				iS	Sb	00 36 54.2	+1.0
LMEL	Las Melosas	1.20	13	⇓iP	Pb	00 36 39.7	-1.0
LMEL				iS	Sb	00 36 57.1	+0.7
LMEL				AMP		00 36 58.4	
	comp=E,76nm,0.1s						
LNV	Longovilo	1.29	325	⇑iP	Pb	00 36 41.2	-1.1
LNV				iS	Sb	00 36 59.7	+0.6
PCH	Pirque	1.39	0	⇓iP	Pb	00 36 43.5	-0.5
TACH	Talagante	1.41	346	⇑iP	Pb	00 36 43.4	-0.8
TACH				eS	Sb	00 37 02.8	+0.4
FCH	Farellones	1.70	6	eP	Pn	00 36 48.8	+0.4
FCH				iS	Sn	00 37 12.4	+1.5
FCH				AMP		00 37 22.8	
	comp=N,60nm,0.1s						
LCCH	Las Cruces	1.77	330	eP	Pn	00 36 49.1	-0.3
LCCH				eS	Sn	00 37 13.8	+1.1

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*PRU **30** 00:41:56.4, 50.09N×18.39E*

WAR 30 00:41:55.6, 50.06N×18.45E, ML2.4, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.17	278	⇓iPG	Pg	00 42 00.1	+1.2
RAC				⇓eSG	Sg	00 42 03.1	+2.0
OKC	Ostrava-Krasne	0.30	221	ePG	Pg	00 42 02.1	+0.6
OKC				eSG	Sg	00 42 07.3	+1.8
OJC	Ojcow	0.88	79	ePG	Pg	00 42 13.0	-0.2
OJC				eSG	Sg	00 42 26.0	+1.0
LIKS	Likavka	1.10	157	ePG	Pg	00 42 18.5	+1.0
LIKS				eSG	Sg	00 42 35.9	+3.7
NIE	Niedzica	1.37	117	ePG	Pg	00 42 21.0	-1.9
NIE				eSG	Sg	00 42 42.0	+0.8
DPC	Dobruska-Polom	1.40	283	ePG	Pg	00 42 21.7	-1.8
DPC				eSG	Sg	00 42 40.2	-1.9
	27nm,0.4s						
KSP	Ksiaz	1.58	300	ePG	Pg	00 42 25.0	-2.2
KSP				eSG	Sg	00 42 46.0	-2.4
VYHS	Vyhne	1.59	171	ePN	Pn	00 42 25.1	0.0
VYHS				eSG	Sg	00 42 46.6	-1.9
UPC	Upice	1.63	287	ePG	Pg	00 42 25.0	-3.1
SMOL	Smolenice	1.69	204	eSN	Sn	00 42 50.5	+1.4
ZST	Bratislava	2.07	206	ePN	Pn	00 42 33.4	+1.5
ZST				eSN	Sn	00 42 57.7	-1.1
SRO	Srobarova	2.25	182	ePG	Pg	00 42 41.3	+0.8
SRO				eSG	Sg	00 43 08.7	-1.9
PRU	Pruhonice	2.52	270	ePG	Pg	00 42 41.3	-4.6
PRU				eSG	Sg	00 43 13.4	-6.1
	5.7nm,0.6s						
PVCC	Panska Ves	2.53	282	ePG	Pg	00 42 42.8	-3.3
PVCC				eSG	Sg	00 43 16.2	-3.7
KHC	Kasperske Hory	3.30	255	ePG	Pg	00 42 57.0	-4.5
KHC				eSG	Sg	00 43 39.1	-6.5
CLL	Collm	3.68	292	eSG	Sg	00 43 53.0	-5.2

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*NEIC **30** 00:45:00.3±0.6, 22.10S×169.39E, h10^{km}, mb4.7/1, Error ellipse: s-maj=27.0km s-min=11.9km az=168.0*

*IDC **30** 00:45:15.3±10.0, 22.20S×169.35E, h131^{km}±92^{km}, mb3.7/9, mb1 3.9/9, mb1mx3.9/14, Error ellipse: s-maj=64.2km s-min=37.3km az=156.0*

ISC 30 00:44:59.9±0.8**, 22.0S**±0.2×**169.22E**±0.07**, h10**^{km}**, n22,** σ**1**^{s}**26**/19**, mb4.1**/10**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.58	268	eP	Pn	00 45 43.2	+0.8
DZM				eS	Sn	00 46 12.6	-1.5

DZM	Mont Dzumac	2.58	268	eP	Pn	00 45 43.2	+0.8
DZM				eS	Sn	00 46 12.6	-1.5
NOUC	Port Laguerre	2.71	268	eP	Pn	00 45 45.6	+1.3
NOUC				eS	Sn	00 46 16.1	-1.3
NOUC	Port Laguerre	2.71	268	eP	Pn	00 45 45.6	+1.3
NOUC				eS	Sn	00 46 16.1	-1.3
CTA	Charters Tower	21.52	271	P	P	00 49 57.0	+5.7
	4.8nm,0.8s,mb4.0,baz=117,slow=7.4,SNR=3.6						
STKA	Stephens Creek	26.45	242	P	P	00 50 41.4	+2.6
	1.9nm,0.9s,mb3.6,baz=162,slow=23,SNR=2.0						
STKA	Stephens Creek	26.45	242	P	P	00 50 41.4	+2.6
ASAR	Alice Springs	32.54	260	P	P	00 51 33.4	0.0
	0.7nm,0.9s,mb3.6,baz=91,slow=9.4,SNR=4.2						
WRA	Warramunga Arr	32.59	267	P	P	00 51 35.0	+1.1
	0.6nm,0.7s,mb3.6,baz=99,slow=8.3,SNR=3.3						
FITZ	Fitzroy Crossi	41.02	267	P	P	00 52 45.7	+0.6
	8.4nm,1.0s,mb4.3,baz=168,slow=12,SNR=6.3						
QSPA	South Pole Qui	68.05	180	eP	P	00 55 59.2	-1.9
	5.7nm,1.1s,mb4.5						
CMAR	Chiang Mai Arr	79.64	295	P	P	00 57 09.8	+0.3
	1.3nm,0.4s,mb4.2,baz=121,slow=5.3,SNR=3.3						
SONM	Songino Array	89.42	323	P	P	00 57 59.2	+1.0
	2.7nm,1.1s,mb4.5,baz=126,slow=5.1,SNR=10						
NVAR	Mina Array Bea	90.65	49	P	P	00 58 03.4	-0.7
	1.9nm,0.8s,mb4.5,baz=220,slow=7.4,SNR=16						
ILAR	Eielson Array	92.88	17	P	P	00 58 12.1	-1.7
	0.5nm,0.6s,mb4.1,baz=229,slow=5.2,SNR=7.5						
ARCES	ARCESS Array B	127.74	345	PKP	PKPdf	01 04 04.0	-4.3
	3.0nm,1.1s,baz=117,slow=2.0,SNR=3.9						
ARCES	ARCESS Array B	127.74	345	PKP	PKPdf	01 04 04.0	-4.3
BRG	Berggiesshubel	145.33	332	eP	PKPbc	01 04 39.4	+1.2
CLL	Collm	145.41	334	i PKP1	PKPbc	01 04 39.6	+1.2
EKA	Eskdalemuir Ar	146.25	352	PKPbc	PKPbc	01 04 40.7	+0.4
	3.6nm,0.7s,baz=326,slow=3.0,SNR=4.8						
GERES	GERESS Array B	146.90	330	PKPbc	PKPbc	01 04 43.6	+1.5
	1.2nm,0.7s,baz=45,slow=3.8,SNR=6.2						
VAE	Valguarnera	153.36	311	PKPbc	PKPdf	01 04 58.6	+4.8
	1.6nm,0.4s,baz=286,slow=22,SNR=2.5						

GUC 30 00:50:57.7±0.8**, 35.03S**×**70.58W, h1**^{km}±3^{km}**, MD3.8, ML3.0, 10C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	273	⇓iP	Pg	00 51 08.8	+0.4
NICH				i S	Sg	00 51 17.1	+1.6
SFDO	San Fernando	0.55	319	⇓iP	Pg	00 51 08.8	+0.1
SFDO				i S	Sg	00 51 17.3	+1.4
CICH	Cipreses	0.72	10	⇑iP	Pg	00 51 10.6	-1.4
CICH				i S	Sg	00 51 21.1	-0.5
CACH	El Canelo	0.91	359	⇑iP	Pg	00 51 14.3	-1.5
CACH				i S	Sg	00 51 27.6	-0.4
TALC	Talca	0.94	247	i P	Pb	00 51 14.7	-1.8
TALC				i S	Sg	00 51 29.1	+0.1
CHCH	Chadas Angostu	1.09	357	⇑iP	Pb	00 51 18.0	-1.1
LMEL	Las Melosas	1.22	15	⇑iP	Pb	00 51 19.4	-1.8
LMEL				i S	Sb	00 51 36.9	-0.4
LMEL				AMP		00 51 58.5	
	comp=N,363nm,0.2s						
LNV	Longovilo	1.27	327	⇑iP	Pb	00 51 21.0	-1.1
LNV				i S	Sb	00 51 38.9	+0.1
TACH	Talagante	1.40	348	⇑iP	Pb	00 51 23.2	-1.2
TACH				i S	Sb	00 51 42.9	+0.2
PCH	Pirque	1.41	2	⇑iP	Pb	00 51 23.1	-1.3
PCH				i S	Sb	00 51 43.3	+0.5
ANTU	Antumapu	1.46	358	⇓iP	Pn	00 51 24.4	-0.8
ANTU				i S	Sb	00 51 44.7	+0.4
ANTU				AMP		00 51 49.8	
	comp=E,441nm,0.2s						
FSR	Penalolen	1.55	2	⇓iP	Pn	00 51 25.8	-0.7
FSR				i S	Sb	00 51 47.3	+0.5
FSR				AMP		00 51 57.1	
	comp=N,271nm,0.2s						
DSCH	Colegio Aleman	1.63	0	i P	Pn	00 51 26.9	-0.7
DSCH				i S	Sb	00 51 49.7	+0.6
DSCH				AMP		00 51 58.3	
	comp=N,640nm,0.8s						
CLCH	Cerro Calan	1.63	1	⇑iP	Pn	00 51 27.2	-0.5
CLCH				i S	Sb	00 51 49.6	+0.4
CLCH				AMP		00 52 03.4	
	comp=E,339nm,0.6s						
FCH	Farellones	1.71	8	⇑iP	Pn	00 51 28.9	0.0
FCH				i S	Sb	00 51 52.7	+1.0
FCH				AMP		00 52 03.7	
	comp=E,326nm,0.3s						
LCCH	Las Cruces	1.75	332	⇓iP	Pn	00 51 28.9	-0.5
PEL	Peldehue	1.88	357	eP	Pn	00 51 31.4	+0.1
CCHI	Chillan	1.99	217	⇑iP	Pn	00 51 32.7	-0.1
CCHI				i S	Sn	00 51 59.1	+0.5
CCHI				AMP		00 52 03.7	
	comp=E,271nm,0.4s						

IDC ***30*** *00:59:06.0±0.9, 14.55S×166.85E, mb4.1/10, mb1 4.3/10, mb1mx4.2/16, MS3.9/7, Ms1 3.9/7, ms1mx3.6/26, Error ellipse: s-maj=30.6km s-min=21.0km az=118.0*

NEIC ***30*** *00:59:07.9±0.4, 14.46S×166.83E, h10*^{km}*, mb4.5/6, Error ellipse: s-maj=18.0km s-min=11.3km az=130.0*

ISC 30 00:59:09.8±0.7**, 14.5S**±0.1×**166.7E**±0.1**, h33**^{km}**, n43, σ1**$\overset{s}{.}$**09**/20**, mb4.2**/13**, MS3.9**/7**, 1C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.30	251	eP	P	01 03 46.9	+1.3
	5.0nm,0.9s						
CTA	Charters Tower	20.30	251	P	P	01 03 46.7	+1.1
	5.4nm,0.8s,baz=84,slow=15,SNR=5.4						
CTA				LR	LR	01 10 25.5	
	comp=Z,198nm,21.6s,MS3.4,baz=52,slow=33						
CTAO	Charters Tower	20.30	251	eP	P	01 03 46.6	+1.0
	11nm,1.0s						
STKA	Stephens Creek	28.72	229	P	P	01 05 04.6	-1.7
	2.8nm,0.8s,mb4.1,baz=300,slow=21,SNR=2.6						
STKA				LR	LR	01 16 29.6	
	comp=Z,302nm,18.4s,MS3.9,baz=33,slow=36						
STKA	Stephens Creek	28.72	229	P	P	01 05 04.6	-1.7
STKA				LR	LR	01 16 29.6	
RPZ	Rata Peaks	29.32	174	P	P	01 05 10.5	-1.0
	5.8nm,1.2s,mb4.2,baz=342,slow=6.4,SNR=2.9						
WRA	Warramunga Arr	31.36	256	P	P	01 05 28.8	-1.1
	1.9nm,0.9s,mb3.9,baz=84,slow=8.5,SNR=7.3						
WRA				LR	LR	01 17 14.8	
	comp=Z,207nm,20.5s,MS3.8,baz=85,slow=35						
ASAR	Alice Springs	32.24	249	P	P	01 05 37.4	-0.2
	1.3nm,0.7s,mb3.9,baz=74,slow=9.1,SNR=9.9						
ASAR				LR	LR	01 18 55.1	
	comp=Z,173nm,18.3s,MS3.8,baz=90,slow=37						
SBA	Scott Base	63.33	180	P	P	01 09 39.9	+2.4
	4.4nm,0.8s,mb4.6						
CMAR	Chiang Mai Arr	74.38	294	P	P	01 10 48.1	+1.4
	0.9nm,0.5s,mb4.0,baz=130,slow=4.5,SNR=4.6						
QSPA	South Pole Qui	75.49	180	eP	P	01 10 57.2	+5.3
	5.5nm,1.0s,mb4.4						
MAW	Mawson	81.86	202	P	P	01 11 26.9	0.0
	0.6nm,0.6s,mb3.7,baz=71,slow=22,SNR=2.7						
SONM	Songino Array	82.03	324	P	P	01 11 27.6	-0.5
	0.8nm,0.9s,mb3.7,baz=135,slow=5.2,SNR=5.5						
MCK	McKinley	85.14	18	eP	P	01 11 43.3	-0.2
	5.0nm,1.3s,mb4.5						
COLA	College	86.29	18	eP	P	01 11 49.1	0.0
	6.5nm,1.3s,mb4.7						
ILAR	Eielson Array	86.51	18	P	P	01 11 49.3	-0.8
	1.7nm,0.6s,mb4.5,baz=235,slow=5.5,SNR=15						
ILAR				LR	LR	01 46 25.7	
	comp=Z,55nm,18.4s,MS4.0,baz=57,slow=33						
NVAR	Mina Array Bea	87.55	49	LR	LR	01 46 23.7	
	comp=Z,85nm,18.1s,MS4.2,baz=245,slow=32						
VNA2	Neumayer--Watz	94.66	182	⇑i	P	01 12 33.9	+5.8
VNA1	Neumayer--Stat	94.96	182	⇓i	P	01 12 40.1	+11
PDAR	Pinedale Array	95.21	47	LR	LR	01 52 13.4	
	comp=Z,36nm,18.4s,MS3.9,baz=74,slow=34						
MKAR	Makanchi Array	96.70	316	P	P	01 12 38.4	+0.4
	0.9nm,0.7s,mb4.3,baz=98,slow=4.6,SNR=7.8						
MKAR	Makanchi Array	96.70	316	P	P	01 12 38.4	+0.4
ARCES	ARCESS Array B	119.93	345	PKP	PKPdf	01 17 57.9	+1.2
	1.3nm,0.7s,baz=27,slow=2.7,SNR=8.3						
FINES	FINESS Array B	125.35	338	PKP	PKPdf	01 18 08.7	+1.5
	2.8nm,1.1s,baz=117,slow=4.3,SNR=3.5						
NOA	NORSAR Array B	130.30	345	PKP	PKPdf	01 18 19.1	+2.4
	0.9nm,0.7s,baz=0.4,slow=3.0,SNR=3.3						
LPL	La Plagne	144.80	335	ePKP1	PKPbc	01 18 44.8	+1.4
	3.1nm,0.6s						
LPG	La Plagne	144.81	335	ePKP1	PKPbc	01 18 44.9	+1.5
	2.9nm,0.5s						
SMF	Signal de Mont	144.92	339	ePKP1	PKPbc	01 18 44.4	+0.7
AVF	Avril sur Loir	144.96	340	ePKP1	PKPbc	01 18 44.5	+0.7
	9.2nm,1.1s						
BGF	Bois d'Agland	145.33	340	ePKP1	PKPbc	01 18 46.0	+1.2
	9.6nm,0.7s						
MBDF	Montbardon	145.43	334	ePKP1	PKPbc	01 18 46.3	+1.2
	3.7nm,0.7s						
ORIF	Oris-en-Rattie	145.63	336	ePKP1	PKPbc	01 18 47.4	+1.8
	16nm,0.8s						
TCF	Toulx Ste Croi	145.78	341	ePKP1	PKPbc	01 18 47.5	+1.6
	15nm,0.9s						
SBF	Sospel	145.83	333	ePKP1	PKPbc	01 18 47.4	+1.3
	33nm,0.9s						
PGF	Pioggiola	146.12	330	ePKP1	PKPbc	01 18 48.6	+1.8
	9.2nm,0.8s						
MFF	Saint Martin d	146.19	344	ePKP1	PKPbc	01 18 48.7	+1.8
	13nm,0.8s						
FRF	La Foret Royal	146.42	333	ePKP1	PKPbc	01 18 49.3	+1.8
	10nm,0.7s						
SMRF	Simiane la Rot	146.53	335	ePKP1	PKPbc	01 18 50.2	+2.5
	7.7nm,0.8s						
LMR	La Mourre	146.66	333	ePKP1	PKPbc	01 18 50.1	+2.0
	10.0nm,0.8s						
LASF	Ste Croix	147.13	337	ePKP1	PKPdf	01 18 51.9	+4.5
	7.4nm,0.7s						
LFF	La Frestale	147.44	341	ePKP1	PKPdf	01 18 52.6	+4.7
MTLF	Montolieu	148.37	338	ePKP1	PKPdf	01 18 55.3	+5.9
ESDC	Sonseca Array	153.66	344	PKPab	PKPab	01 19 20.2	-0.2
	0.4nm,0.6s,baz=13,slow=4.8,SNR=4.1						

LDG ***30*** *01:02:53.6±0.1, 45.96N×2.74E, h2*^{km}*, Md1.6/3, Ml1.6/7, Error ellipse: s-maj=1.9km s-min=1.0km az=129.0*

STR ***30*** *01:02:55.7±1.4, 45.94N×2.96E, h5*^{km}*±1*^{km}*, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 30 01:02:52.3±0.4**, 45.99N**±0.02×**2.70E**±0.04**, h2**^{km}**, n12, σ1**$\overset{s}{.}$**01**/24**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.31	77	Pg	Pg	01 02 59.3	+0.8
PYM	Petit Puy Mans	0.32	137	Pg	Pg	01 02 59.2	+0.5
PYM				Sg	Sg	01 03 03.1	+0.2
TCF	Toulx Ste Croi	0.45	312	ePg	Pg	01 03 03.5	+2.2
TCF				eSg	Sg	01 03 09.6	+2.2
	1.3nm,0.2s						
BGF	Bois d'Agland	0.58	10	ePg	Pg	01 03 05.0	+1.1
BGF				eSg	Sg	01 03 13.0	+1.3
	3.4nm,0.4s						
LBL	Lubilhac	0.85	153	Pg	Pg	01 03 10.5	+1.3
LBL				Sg	Sg	01 03 19.9	-0.5
AVF	Avril sur Loir	0.93	29	ePg	Pg	01 03 10.4	-0.4
AVF				eSg	Sg	01 03 22.9	-0.2
	1.8nm,0.2s						
SMF	Signal de Mont	1.03	50	ePg	Pg	01 03 12.9	0.0
SMF				eSg	Sg	01 03 26.4	-0.3
	1.3nm,0.3s						
RJF	Les Rejaudoux	1.07	231	ePg	Pg	01 03 13.8	+0.2
RJF				eSg	Sg	01 03 27.8	-0.1
	0.9nm,0.2s						
CAF	Calviac	1.15	203	ePg	Pg	01 03 15.0	-0.2
CAF				eSg	Sg	01 03 30.1	-0.4
	1.2nm,0.2s						
SSF	Saint Saulge	1.21	27	ePg	Pg	01 03 16.4	-0.1
SSF				eSg	Sg	01 03 32.0	-0.7
	1.7nm,0.3s						
LOR	Lormes	1.51	32	ePg	Pg	01 03 21.8	-0.7
LOR				eSg	Sg	01 03 40.7	-2.0
	1.7nm,0.3s						
MFF	Saint Martin d	2.06	288	ePn	Pn	01 03 27.4	-1.0
MFF				ePg	Pg	01 03 32.7	-0.8
MFF				eSg	Sg	01 03 58.8	-2.2
	0.9nm,0.3s						

IDC ***30*** *01:09:07.8±2.6, 9.24S×157.55E, mb3.8/6, mb1 4.0/6, mb1mx3.9/13, Error ellipse: s-maj=81.8km s-min=28.8km az=125.0*

NEIC ***30*** *01:09:12.4±0.9, 8.89S×157.05E, h10*^{km}*, Error ellipse: s-maj=31.8km s-min=22.5km az=105.0*

ISC 30 01:09:10.9±1.1**, 8.8S**±0.2×**157.0E**±0.2**, h10**^{km}**, n10, σ1**$\overset{s}{.}$**06**/9**, mb3.7**/6**, 1C-2D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.55	241	P	P	01 14 32.6	+0.3
	0.9nm,0.8s,mb3.4,baz=65,slow=9.9,SNR=5.3						
ASAR	Alice Springs	26.58	234	P	P	01 14 49.2	-2.1
	0.5nm,0.9s,mb3.0,baz=57,slow=8.1,SNR=2.9						
ASAR	Alice Springs	26.58	234	P	P	01 14 49.1	-2.1
CMAR	Chiang Mai Arr	63.38	296	P	P	01 19 44.0	+0.8
	0.7nm,0.3s,mb4.3,baz=120,slow=5.3,SNR=4.3						
SONM	Songino Array	71.97	327	P	P	01 20 37.1	+0.4
	1.2nm,0.8s,mb3.9,baz=136,slow=5.6,SNR=8.9						
ILAR	Eielson Array	84.36	21	P	P	01 21 42.7	-1.6
	0.5nm,0.8s,mb3.7,baz=257,slow=5.0,SNR=4.4						
MKAR	Makanchi Array	86.11	318	P	P	01 21 53.8	+0.4
	1.0nm,0.7s,mb4.2,baz=102,slow=5.8,SNR=10						
SNAA	Sanae	98.55	186	⇓i	P	01 22 50.8	+0.1
VNA2	Neumayer--Watz	99.72	185	⇓i	P	01 22 57.3	+1.3
VNA1	Neumayer--Stat	100.06	185	⇑i	P	01 22 58.8	+1.2

IDC ***30*** *01:10:07.9±0.8, 21.98S×170.26E, mb4.2/10, mb1 4.4/11, mb1mx4.4/15, ML3.8/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/22, Error ellipse: s-maj=25.8km s-min=24.4km az=93.0*

LDG ***30*** *01:10:10.5±0.2, 21.32S×170.20E, h10*^{km}*, Mb4.8/2, Error ellipse: s-maj=23.8km s-min=4.2km az=157.0*

NEIC ***30*** *01:10:11.2±4.2, 21.99S×170.17E, h20*^{km}*±27*^{km}*, mb4.6/6, Error ellipse: s-maj=17.8km s-min=9.1km az=222.0*

ISC 30 01:10:10.7±5.2**, 22.0S**±0.1×**170.1E**±0.1**, h28**^{km}±35^{km}**, n67, σ1**$\overset{s}{.}$**00**/20**, mb4.3**/14**, MS3.5**/8**, 4D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.43	268	eP	Pn	01 11 03.9	+0.3
NOUC	Port Laguerre	3.56	268	eP	Pn	01 11 05.2	-0.2
URZ	Urewera	17.28	161	P	P	01 14 12.2	+0.6
	0.3nm,0.3s,baz=9.4,slow=5.8,SNR=5.5						
URZ				LR	LR	01 19 43.0	
	comp=Z,333nm,18.5s,baz=37,slow=33						
RPZ	Rata Peaks	21.67	178	P	P	01 15 00.5	-0.5
	7.1nm,0.9s,mb4.1,baz=354,slow=9.2,SNR=3.1						
RPZ				LR	LR	01 22 29.4	
	comp=Z,256nm,19.2s,MS3.6,baz=20,slow=34						
CTA	Charters Tower	22.37	270	P	P	01 15 17.5	+9.4
	4.5nm,0.8s,mb4.0,baz=84,slow=10,SNR=5.4						
CTA				LR	LR	01 23 13.7	
	comp=Z,120nm,18.3s,MS3.4,baz=235,slow=35						
CTA	Charters Tower	22.37	270	P	P	01 15 17.5	+9.4
CTA				LR	LR	01 23 13.7	
CTAO	Charters Tower	22.37	270	eP	P	01 15 15.0	+6.9
	12nm,1.1s,mb4.2						
STKA	Stephens Creek	27.21	243	eP	P	01 15 55.1	+1.0
	5.8nm,0.7s,mb4.2						
STKA	Stephens Creek	27.21	243	P	P	01 15 55.1	+1.0
	6.1nm,0.7s,mb4.2,baz=86,slow=11,SNR=16						
ASAR	Alice Springs	33.38	260	P	P	01 16 48.1	-0.8
	1.9nm,0.8s,mb4.0,baz=87,slow=8.8,SNR=11						
ASAR				PcP	PcP	01 19 30.1	-0.2
	1.4nm,1.0s,baz=82,slow=2.8,SNR=4.3						
ASAR				LR	LR	01 30 07.2	
	comp=Z,103nm,18.1s,MS3.6,baz=117,slow=36						
WRAB	Tennant Creek	33.44	267	eP	P	01 16 48.0	-1.4
	8.5nm,1.0s,mb4.6						
WRA	Warramunga Arr	33.45	267	P	P	01 16 48.5	-1.0
	1.7nm,0.5s,mb4.2,baz=96,slow=8.5,SNR=8.7						
WRA				LR	LR	01 29 13.4	
	comp=Z,83nm,19.6s,MS3.5,baz=85,slow=34						
KAKA	Kakadu	37.10	278	eP	P	01 17 20.6	-0.1
	6.0nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	41.88	267	eP	P	01 18 01.4	+1.0
	13nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	41.88	267	LR	LR	01 36 14.2	
	comp=Z,46nm,19.2s,MS3.4,baz=96,slow=37						
NWAO	Narrogin (SRO)	47.76	245	LR	LR	01 39 37.7	
	comp=Z,53nm,20.4s,MS3.5,baz=255,slow=37						
QSPA	South Pole Qui	68.07	180	eP	P	01 21 08.7	-0.6
	9.9nm,0.9s,mb4.8						
MAW	Mawson	76.21	202	P	P	01 21 58.1	+0.4
	2.9nm,0.8s,mb4.2,baz=117,slow=7.7,SNR=8.5						
CMAR	Chiang Mai Arr	80.40	294	P	P	01 22 24.2	+2.7
	3.7nm,0.8s,mb4.4,baz=130,slow=4.1,SNR=16						
CMAR				LR	LR	02 01 25.1	
	comp=Z,31nm,18.2s,MS3.7,baz=171,slow=38						
SONM	Songino Array	89.92	323	P	P	01 23 09.2	+0.7
	1.9nm,0.6s,mb4.6,baz=135,slow=5.2,SNR=13						
NVAR	Mina Array Bea	90.00	48	P	P	01 23 08.9	-0.1
	0.6nm,0.7s,mb4.0,baz=211,slow=10,SNR=5.8						
ILAR	Eielson Array	92.60	17	P	P	01 23 17.1	-3.2
	0.3nm,0.6s,mb3.9,baz=248,slow=4.7,SNR=4.4						
PLCA	Paso Flores	95.92	138	LR	LR	01 57 33.5	
	comp=Z,30nm,19.6s,MS3.8,baz=0.1,slow=30						
MKAR	Makanchi Array	104.28	315	Pdiff	Pdif	01 24 14.9	+1.4
	0.4nm,0.8s,baz=93,slow=6.4,SNR=3.5						
BDFB	Brasilia	127.11	132	PKP	PKPdf	01 29 13.7	-4.4
	0.9nm,0.5s,baz=229,slow=2.3,SNR=4.3						
ARCES	ARCESS Array B	127.94	345	PKP	PKPdf	01 29 14.1	-4.3
	1.7nm,0.8s,baz=63,slow=2.0,SNR=3.9						
ARCES	ARCESS Array B	127.94	345	PKP	PKPdf	01 29 14.1	-4.3
BSEG	Bad Segeberg	144.63	339	ePKPbc	PKPbc	01 29 44.8	+0.7
PSZ	Piszkesteto	144.84	325	ePKPdf	PKPdf	01 29 45.6	-4.2
DPC	Dobruska-Polom	145.03	330	ePKP	PKPdf	01 29 46.3	-3.8
VYHS	Vyhne	145.04	326	ePKP	PKPdf	01 29 47.0	-3.2
UPC	Upice	145.06	331	⇓ePKP	PKPdf	01 29 46.7	-3.4
KOLL	Kolacno	145.21	327	ePKP	PKPdf	01 29 47.4	-3.0
PVCC	Panska Ves	145.69	332	⇓ePKP	PKPdf	01 29 48.4	-2.8
BRG	Berggiesshubel	145.70	333	i PKP	PKPdf	01 29 48.3	-2.9
BRG				i		01 29 55.2	
SRO	Srobarova	145.74	326	ePKP	PKPdf	01 29 49.3	-2.1
SMOL	Smolenice	145.75	327	ePKP	PKPdf	01 29 49.5	-1.9
CLL	Collm	145.76	334	⇓iPKIKP	PKPdf	01 29 48.1	-3.2
	logA/T=1.4						
CLL				e		01 29 55.0	
PRU	Pruhonice	146.09	331	⇓PKP	PKPdf	01 29 49.0	-2.9
	11nm,0.9s						
ZST	Bratislava	146.12	327	ePKP	PKPdf	01 29 50.3	-1.7
CLZ	Clausthal	146.34	337	ePKPbc	PKPbc	01 29 50.3	+1.8
NKC	Novy Kostel	146.81	334	ePKP	PKPdf	01 29 51.5	-1.6
MOX	Moxa	146.83	335	i P	PKPbc	01 29 51.3	+1.6
	logA/T=0.9						
MOX	Moxa	146.83	335	ePKP	PKPdf	01 29 51.3	-1.8
SKO	Skopje	147.08	315	i P	PKPdf	01 29 53.0	-0.8
KHC	Kasperske Hory	147.15	331	ePKP	PKPdf	01 29 52.6	-1.1
GEC2	GERESS Array S	147.30	331	ePKPbc	PKPdf	01 29 52.5	-1.5
GERES	GERESS Array B	147.30	331	PKPbc	PKPdf	01 29 52.9	-1.0
	4.8nm,0.8s,baz=27,slow=3.0,SNR=42						
WET	Wettzell	147.45	332	ePKPbc	PKPdf	01 29 53.8	-0.4
GRA1	Grafenberg Arr	147.73	334	ePKPbc	PKPdf	01 29 54.4	-0.2
GIVF	Givet	149.66	341	ePKP1	PKPdf	01 29 58.7	+1.0
	43nm,1.0s						
BAIF	Baives	149.88	342	ePKP1	PKPdf	01 29 59.3	+1.3
	18nm,1.1s						
CDF	Champ du Feu	150.29	337	ePKP1	PKPdf	01 30 00.3	+1.6
	16nm,1.2s						
HINF	Hinteralfeld	150.95	336	ePKP1	PKPdf	01 30 01.5	+1.8
	70nm,1.8s						
HAU	Haudompre	150.97	337	ePKP1	PKPdf	01 30 01.8	+2.0
	18nm,1.0s						
MEZF	Maizieres J'vi	150.99	339	ePKP1	PKPdf	01 30 02.3	+2.5
	31nm,1.0s						
CABF	La Chapelle	152.24	336	ePKP1	PKPdf	01 30 05.3	+3.6
LOR	Lormes	152.46	340	ePKP1	PKPdf	01 30 05.8	+3.8
	16nm,1.2s						
SSF	Saint Saulge	152.76	340	ePKP1	PKPdf	01 30 06.9	+4.5
LPL	La Plagne	152.89	334	ePKP1	PKPdf	01 30 06.7	+4.1
	3.9nm,0.9s						
LPG	La Plagne	152.90	334	ePKP1	PKPdf	01 30 06.9	+4.3
AVF	Avril sur Loir	153.05	340	ePKP1	PKPdf	01 30 06.9	+4.1
BGF	Bois d'Agland	153.41	340	ePKP1	PKPdf	01 30 08.1	+4.8
MBDF	Montbardon	153.51	333	ePKP1	PKPdf	01 30 08.3	+4.8
ORIF	Oris-en-Rattie	153.73	334	ePKP1	PKPdf	01 30 08.8	+5.0
	4.5nm,0.8s						
FRF	La Foret Royal	154.50	331	ePKP1	PKPdf	01 30 10.6	+5.7
DBIC	Dimbokro	164.01	198	PKPab	PKPab	01 31 06.4	-0.9
	2.7nm,0.7s,baz=152,slow=8.0,SNR=7.4						

NEIC ***30*** *01:15:30.0±0.6, 54.24N×162.96W, h50*^{km}*±6*^{km}*, ML3.7(AEIC), Error ellipse: s-maj=11.3km s-min=3.7km az=153.0*

IDC ***30*** *01:15:32.6±4.8, 54.37N×162.98W, h71*^{km}*±43*^{km}*, mb3.5/7, mb1 3.7/11, mb1mx3.5/25, ML3.6/4, MS3.0/1, Ms1 3.1/1, ms1mx2.3/30, Error ellipse: s-maj=37.8km s-min=20.5km az=29.0*

ISC 30 01:15:29.0±0.7**, 54.22N**±0.08×**162.95W**±0.08**, h59**^{km}±7^{km}**, n39, σ0**$\overset{s}{.}$**84**/43**, mb3.9**/7**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FALS	False Pass	0.69	337	P	P	01 15 42.8	-0.3
FALS				S	S	01 15 53.4	-0.3
DRIA	Deer Island	0.85	28	P	P	01 15 43.8	-1.3
SSLW	Shishaldin Wes	0.88	309	P	P	01 15 45.9	+0.3
BALA	Baldy Mountain	0.98	5	P	P	01 15 47.9	+1.0
WESE	West Dahl East	0.99	285	P	P	01 15 47.1	0.0
DTNA	Dutton South F	1.01	23	P	P	01 15 46.8	-0.7
WESN	West Dahl Nort	1.02	291	P	P	01 15 47.8	+0.3
WTUG	Tugumak	1.05	307	P	P	01 15 48.5	+0.6
WESS	West Dahl Sout	1.07	285	P	P	01 15 48.2	0.0
WESS				S	S	01 16 02.5	+0.1
HAG	Hague Volcano	1.25	28	P	P	01 15 50.8	+0.1
PN7A	Pavlof North-7	1.33	24	P	P	01 15 52.6	+0.6
PVV	Pavlof Volcano	1.34	30	P	P	01 15 51.8	-0.2
PN6	Pavlof North-6	1.37	25	P	P	01 15 53.3	+0.8
BLHA	Black Hill	1.57	19	P	P	01 15 55.4	+0.3
AKLV	Akutan Long Va	1.77	269	P	P	01 15 57.5	-0.4
AKLV				S	S	01 16 20.2	+1.0
AKGG	Akutan Green G	1.79	271	P	P	01 15 58.1	0.0
SDPT	Sand Point	1.82	51	P	P	01 15 58.1	-0.5
SDPT				S	S	01 16 21.1	+0.5
UNV	Unalaska Valle	2.13	261	P	P	01 16 01.5	-1.5
MTBL	Makushin Table	2.21	265	P	P	01 16 03.9	-0.3
MCIR	Makushin Cirqu	2.34	265	P	P	01 16 05.7	-0.2
OKFG	Magazine Ridge	3.05	257	P	P	01 16 16.0	0.0
NIKO	Nikolski	3.73	253	P	P	01 16 24.9	-0.8
ANPK	Aniakchak Peak	3.79	44	P	P	01 16 26.4	-0.1
SPIA	Saint Paul Isl	5.08	309	P	P	01 16 45.8	+1.4
ANCK	Angle Creek	5.76	43	P	P	01 16 53.6	-0.3
KABR	Katmai Barrier	5.93	45	P	P	01 16 55.2	-1.0
KDAK	Kodiak Island	6.82	54	P	P	01 17 04.9	-3.8
ATKA	Atka Island	7.05	258	P	P	01 17 11.9	-0.1
ILAR	Eielson Array	13.30	31	P	P	01 18 37.0	+0.4
	0.1nm,0.3s,baz=225,slow=12,SNR=7.5						
ILAR				LR	LR	01 24 07.7	
	comp=Z,64nm,18.0s,baz=324,slow=39						
FX1	Attu Island--F	14.25	274	P	P	01 18 49.9	+1.1
	0.6nm,0.3s,baz=260,slow=20,SNR=4.4						
DLBC	Dease Lake	18.62	64	P	P	01 19 46.2	+2.5
	0.1nm,0.3s,baz=244,slow=8.7,SNR=2.4						
INK	Inuvik	19.69	33	P	P	01 19 54.1	-1.5
	0.2nm,0.3s,baz=248,slow=9.0,SNR=4.9						
YKA	Yellowknife Ar	26.09	52	P	P	01 21 01.7	+3.3
	0.6nm,0.6s,mb3.3,baz=273,slow=9.9,SNR=3.7						
NVAR	Mina Array Bea	33.99	99	P	P	01 22 09.9	+1.1
	2.1nm,1.0s,mb4.0,baz=291,slow=11,SNR=11						
TXAR	Lajitas Array	48.97	96	P	P	01 24 11.8	+0.6
	0.5nm,0.6s,mb3.8,baz=302,slow=5.5,SNR=8.7						
ARCES	ARCESS Array B	56.40	356	P	P	01 25 04.7	-1.2
	3.3nm,1.1s,mb4.3,baz=27,slow=6.0,SNR=4.5						
FINES	FINESS Array B	64.46	355	P	P	01 25 59.5	-1.2
	2.1nm,1.0s,mb4.1,baz=18,slow=8.8,SNR=4.3						
NOA	NORSAR Array B	64.99	3	P	P	01 26 03.7	-0.5
	0.5nm,0.7s,mb3.6,baz=354,slow=5.6,SNR=2.4						
MKAR	Makanchi Array	65.22	317	P	P	01 26 05.6	-0.3
	0.9nm,0.8s,mb3.9,baz=21,slow=6.1,SNR=5.5						

INMG ***30*** *01:26:10.1±0.6, 36.59N×7.26W, h20*^{km}*±2*^{km}*, ML1.5, Error ellipse: s-maj=3.4km s-min=1.6km az=36.0*

MDD 30 01:26:09.2±1.3**, 36.58N**×**7.14W, h21**^{km}±4^{km}**, mbLg1.9**/7**, 1C, Error ellipse: s-maj=12.4km s-min=5.4km az=32.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.80	354	Pg	Pb	01 26 24.2	-0.1
	SNR=7.9						
ERIP				Lg		01 26 35.1	
	15nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.92	343	ePg	Pb	01 26 25.9	-0.5
PALC				eSg	Sb	01 26 38.2	0.0
	12nm,0.2s						
PALC	Alcoutim	0.92	343	Pg	Pb	01 26 25.9	-0.5
PALC				Lg		01 26 38.2	

	6.1nm,0.2s						
EGRO	**El Granado**	**0.99**	**344**	⇑Pg	Pb	01 26 26.9	-0.7
	4.1nm,0.9s,SNR=18						
EGRO				Lg		01 26 39.9	
	6.7nm,0.1s,SNR=24						
ESPR	**Espera**	**1.07**	**74**	Pg	Pb	01 26 27.9	-1.0
	0.1nm,0.1s,SNR=7.9						
ESPR				Lg		01 26 41.9	
	3.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.24**	**17**	Pg	Pn	01 26 30.9	-0.6
	0.8nm,0.4s,SNR=6.9						
EMIN				Sn	Sn	01 26 45.8	-2.0
	0.3nm,0.5s,SNR=7.9						
EMIN				Lg		01 26 47.9	
	4.3nm,0.1s,SNR=16						
PBEJ	**Beja**	**1.56**	**338**	*e*Pg	Pn	01 26 37.2	+1.2
PBEJ				*e*Sn	Sn	01 26 52.9	-2.8
	1.5nm,0.1s						
PBEJ	**Beja**	**1.56**	**338**	Pg	Pn	01 26 37.2	+1.2
PBEJ				Sn	Sn	01 26 52.9	-2.8
	0.8nm,0.1s						
PTEO	**Sao Teotonio**	**1.59**	**308**	*e*Sn	Sn	01 26 53.0	-3.6
	4.0nm,0.4s						
PTEO	**Sao Teotonio**	**1.59**	**308**	Sn	Sn	01 26 53.0	-3.6
	2.0nm,0.4s						
MOE	**Montemor**	**2.17**	**334**	*e*Sn	Sn	01 27 07.3	-3.9
EBAD	**Badajoz**	**2.17**	**3**	Pn	Pn	01 26 44.5	-0.4
	0.2nm,0.0s,SNR=7.9						
EBAD				Sn	Sn	01 27 07.9	-3.6
	1.6nm,0.7s,SNR=7.9						
EBAD				Lg		01 27 15.8	
	1.0nm,0.1s,SNR=7.4						
ELUQ	**Luque**	**2.50**	**66**	Pn	Pn	01 26 47.1	-2.5
	5.0nm,2.6s,SNR=7.9						
ELUQ				Sn	Sn	01 27 16.0	-3.7
	46nm,3.1s,SNR=7.9						
EADA	**Adamuz**	**2.59**	**51**	Pn	Pn	01 26 49.4	-1.4
	0.2nm,0.5s,SNR=7.9						
EADA				Sn	Sn	01 27 17.9	-4.0
	2.0nm,1.0s,SNR=7.9						
EADA				Lg		01 27 29.8	
	0.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.27**	**355**	*e*Sn	Sn	01 27 34.0	-5.1
	1.1nm,0.2s						
PCBR	**Castelo Branco**	**3.27**	**355**	Sn	Sn	01 27 34.0	-5.1
	0.6nm,0.2s						
EQES	**Quesada**	**3.47**	**68**	Pn	Pn	01 27 02.1	-1.3
	0.4nm,0.5s,SNR=4.0						
EQES				Sn	Sn	01 27 41.1	-3.3
	0.1nm,0.4s,SNR=7.9						

*LDG **30** 01:41:03.6±0.1, 45.72N×4.96E, h3^{km}, Md2.0/3, Ml1.8/18, Error ellipse: s-maj=1.0km s-min=0.8km az=27.0*

*STR **30** 01:41:05.3±0.9, 45.69N×4.84E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 30 01:41:01.3±0.3, 45.73N±0.02×4.95E±0.02, h3^{km}, n19, σ1^{s}.12/35, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIVF	**Saint-Julien-l**	**0.90**	**193**	*e*Pg	**Pg**	**01 41 20.6**	**+1.3**
VIVF				*e*Sg	**Sg**	**01 41 32.1**	**+0.8**
	4.6nm,0.2s						
PLDF	**La Plantade**	**0.96**	**285**	Pg	**Pg**	**01 41 22.9**	**+2.5**
PLDF				Sg	**Sg**	**01 41 35.0**	**+1.8**
ORIF	**Oris-en-Rattie**	**1.05**	**141**	*e*Pg	**Pg**	**01 41 23.3**	**+1.0**
ORIF				*e*Sg	**Sg**	**01 41 36.5**	**+0.2**
	1.1nm,0.2s						
CABF	**La Chapelle**	**1.18**	**42**	*e*Pg	**Pg**	**01 41 26.1**	**+1.2**
CABF				*e*Sg	**Sg**	**01 41 41.4**	**+0.7**
	1.7nm,0.2s						
SMF	**Signal de Mont**	**1.19**	**320**	*e*Pg	**Pg**	**01 41 26.3**	**+1.2**
SMF				*e*Sg	**Sg**	**01 41 41.9**	**+0.9**
	2.5nm,0.2s						
LPL	**La Plagne**	**1.27**	**99**	*e*Pg	**Pg**	**01 41 27.6**	**+0.9**
LPL				*e*Sg	**Sg**	**01 41 43.8**	**+0.1**
	0.8nm,0.2s						
LPG	**La Plagne**	**1.29**	**100**	*e*Pg	**Pg**	**01 41 27.9**	**+0.8**
LPG				*e*Sg	**Sg**	**01 41 44.3**	**+0.1**
	1.4nm,0.2s						
LBL	**Lubilhac**	**1.30**	**248**	Pg	**Pg**	**01 41 28.3**	**+1.1**
LBL				Sg	**Sg**	**01 41 45.3**	**+0.8**
AVF	**Avril sur Loir**	**1.53**	**314**	*e*Sg	**Sg**	**01 41 51.8**	**-0.5**
	1.1nm,0.3s						
MBDF	**Montbardon**	**1.64**	**127**	*e*Pg	**Pg**	**01 41 33.8**	**-0.2**
MBDF				*e*Sg	**Sg**	**01 41 54.4**	**-1.4**
	0.6nm,0.4s						
SSF	**Saint Saulge**	**1.66**	**324**	*e*Pg	**Pg**	**01 41 34.7**	**+0.2**
SSF				*e*Sg	**Sg**	**01 41 56.1**	**-0.5**
	0.4nm,0.2s						
BGF	**Bois d'Agland**	**1.68**	**300**	*e*Pg	**Pg**	**01 41 35.3**	**+0.5**
BGF				*e*Sg	**Sg**	**01 41 56.8**	**-0.4**
	1.7nm,0.3s						
LOR	**Lormes**	**1.71**	**334**	*e*Pg	**Pg**	**01 41 35.1**	**-0.4**
LOR				*e*Sg	**Sg**	**01 41 57.7**	**-0.5**
	1.3nm,0.2s						
LASF	**Ste Croix**	**1.83**	**205**	*e*Pg	**Pg**	**01 41 37.2**	**-0.7**
LASF				*e*Sn	**Sn**	**01 41 55.3**	**-2.6**
LASF				*e*Sg	**Sg**	**01 42 00.3**	**-2.0**
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**1.99**	**287**	*e*Pg	**Pg**	**01 41 40.8**	**-0.2**
TCF				*e*Sg	**Sg**	**01 42 06.6**	**-0.9**
	0.4nm,0.2s						
CAF	**Calviac**	**2.19**	**249**	*e*Pg	**Pg**	**01 41 44.4**	**-0.6**
CAF				*e*Sg	**Sg**	**01 42 12.3**	**-1.9**
	1.6nm,0.4s						
RJF	**Les Rejaudoux**	**2.45**	**261**	*e*Sg	**Sg**	**01 42 18.3**	**-4.6**
	1.5nm,0.2s						
HINF	**Hinteralfeld**	**2.46**	**31**	*e*Sg	**Sg**	**01 42 21.1**	**-2.2**
	1.3nm,0.3s						
HAU	**Haudompre**	**2.47**	**22**	*e*Sg	**Sg**	**01 42 21.4**	**-2.1**
	1.3nm,0.2s						

GUC 30 02:19:39.2±0.9, 35.09S×70.53W, h16^{km}±3^{km}, MD3.6, ML3.0, 11C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.58**	**279**	⇓*i*P	Pb	02 19 49.7	-0.8
NICH				*i* S	Sb	02 19 58.2	0.0
SFDO	**San Fernando**	**0.62**	**320**	⇑*i*P	Pb	02 19 49.9	-1.2
SFDO				*i* S	Sb	02 19 58.8	-0.6
CICH	**Cipreses**	**0.78**	**7**	⇑*i*P	Pb	02 19 52.3	-1.6
CICH				*i* S	Sb	02 20 02.7	-1.3
TALC	**Talca**	**0.95**	**251**	⇑*i*P	Pb	02 19 55.9	-0.9
TALC				*i* S	Sb	02 20 08.9	0.0
CACH	**El Canelo**	**0.97**	**357**	⇑*i*P	Pb	02 19 55.7	-1.5
CACH				*i* S	Sb	02 20 08.9	-0.8
CHCH	**Chadas Angostu**	**1.16**	**355**	⇑*i*P	Pb	02 19 59.2	-1.2
CHCH				*i* S	Sb	02 20 14.5	-0.5
LMEL	**Las Melosas**	**1.27**	**12**	⇑*i*P	Pb	02 20 01.1	-1.3
LMEL				*i* S	Sb	02 20 18.1	-0.1
LMEL				AMP		02 20 20.1	
	comp=N,308nm,0.1s						
LNV	**Longovilo**	**1.35**	**327**	⇑*i*P	Pn	02 20 02.2	-1.3
LNV				*i* S	Sb	02 20 19.8	-0.6
PCH	**Pirque**	**1.47**	**1**	⇑*i*P	Pn	02 20 04.6	-0.6
TACH	**Talagante**	**1.48**	**347**	⇑*i*P	Pn	02 20 04.4	-1.0
TACH				*i* S	Sb	02 20 24.1	0.0
CLCH	**Cerro Calan**	**1.69**	**360**	⇑*i*P	Pn	02 20 08.6	+0.1
CLCH				*i* S	Sn	02 20 31.1	+1.2
CLCH				AMP		02 20 33.0	
	comp=E,191nm,0.3s						
FCH	**Farellones**	**1.77**	**7**	⇓*i*P	Pn	02 20 10.2	+0.5
FCH				*i* S	Sn	02 20 33.3	+1.3
FCH				AMP		02 20 34.5	
	comp=N,241nm,0.2s						
LCCH	**Las Cruces**	**1.83**	**332**	*e*P	Pn	02 20 10.4	0.0
CCHI	**Chillan**	**1.96**	**219**	⇑*i*P	Pn	02 20 11.9	-0.4
CCHI				AMP		02 20 43.1	
	comp=E,334nm,0.5s						

*STR **30** 02:23:03.5±0.1, 44.42N×6.82E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 02:23:03.3±0.1, 44.42N×6.80E, h2^{km}, Md2.4/3, Ml2.3/10, Error ellipse: s-maj=1.6km s-min=0.9km az=63.0*

*NEIC **30** 02:23:03.3, 44.40N×6.79E, h5^{km}, ML2.1(STR), ML2.6(GEN), ML2.3(LDG), After GEN.*

ISC 30 02:23:02.3±0.3, 44.40N±0.01×6.75E±0.02, h13^{km}±2^{km}, n40, σ0^{s}.69/69, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.09**	**29**	Pg	**Pg**	**02 23 05.3**	**+0.1**
SURF				Sg	**Sg**	**02 23 06.8**	**-0.3**
PZZ	**Prazzo**	**0.27**	**68**	P	**Pg**	**02 23 08.8**	**+0.7**
PZZ				S	**Sg**	**02 23 12.3**	**+0.3**
MBDF	**Montbardon**	**0.32**	**2**	*e*Pg	**Pg**	**02 23 09.6**	**+0.5**
MBDF				*e*Sg	**Sg**	**02 23 13.6**	**-0.1**
	134nm,0.5s						
STV	**Sta Anna Valdi**	**0.44**	**111**	P	**Pg**	**02 23 11.3**	**-0.1**
STV				S	**Sg**	**02 23 16.8**	**-0.6**
STV2	**Anna di Valdie**	**0.44**	**111**	P	**Pg**	**02 23 11.3**	**-0.1**
STV2				S	**Sg**	**02 23 16.8**	**-0.7**
ENR	**Entracque**	**0.51**	**110**	P	**Pb**	**02 23 12.7**	**+0.1**
ENR				S	**Sb**	**02 23 18.6**	**-0.9**
RRL	**Cesana Torines**	**0.52**	**2**	P	**Pb**	**02 23 13.5**	**+0.9**
RRL				S	**Sb**	**02 23 20.1**	**+0.3**
TOUF	**Mont Tournerai**	**0.53**	**137**	Pg	**Pg**	**02 23 13.1**	**0.0**
BHB	**Bricherasio**	**0.57**	**40**	P	**Pb**	**02 23 13.7**	**+0.2**
BHB				S	**Sb**	**02 23 20.8**	**-0.5**
MVIF	**Mont Vial**	**0.58**	**150**	Pg	**Pg**	**02 23 14.6**	**+0.5**
AUTN	**L'Aution**	**0.63**	**130**	Pg	**Pg**	**02 23 15.1**	**0.0**
AUTN				Sg	**Sg**	**02 23 23.9**	**+0.2**
BNI	**Bardonecchia**	**0.65**	**355**	*e*Pg	**Pg**	**02 23 15.8**	**+0.4**
BNI				*e*Sg	**Sg**	**02 23 24.3**	**0.0**
CALN	**Calern**	**0.66**	**171**	Pg	**Pg**	**02 23 16.3**	**+0.7**
CALN				Sg	**Sg**	**02 23 25.2**	**+0.7**
AURF	**Auriere**	**0.66**	**141**	Pg	**Pg**	**02 23 15.6**	**-0.1**
FENE	**Fenestrelle**	**0.66**	**19**	P	**Pb**	**02 23 15.6**	**+0.4**
FENE				S	**Sb**	**02 23 24.2**	**+0.2**
SAOF	**Saorge**	**0.71**	**126**	Pg	**Pg**	**02 23 16.5**	**-0.2**
SAOF				Sg	**Sg**	**02 23 25.3**	**-1.0**
SBF	**Sospel**	**0.73**	**138**	*e*Pg	**Pg**	**02 23 16.8**	**-0.2**
SBF				*e*Sg	**Sg**	**02 23 26.4**	**-0.5**
	35nm,0.4s						
MONE	**Monesi**	**0.79**	**114**	P	**Pb**	**02 23 17.7**	**+0.4**
MONE				S	**Sb**	**02 23 27.4**	**-0.3**
REVF	**Revere**	**0.80**	**146**	Pg	**Pg**	**02 23 18.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.81**	**310**	*e*Pg	**Pg**	**02 23 18.5**	**-0.1**
ORIF				*e*Sg	**Sg**	**02 23 29.4**	**0.0**
	13nm,0.4s						
ROB	**Roburent**	**0.81**	**97**	P	**Pb**	**02 23 18.3**	**+0.6**
ROB				S	**Sb**	**02 23 28.1**	**-0.1**
RSP	**Reno Superiore**	**0.83**	**25**	P	**Pb**	**02 23 18.9**	**+0.8**
RSP				S	**Sb**	**02 23 28.8**	**0.0**
FRF	**La Foret Royal**	**0.85**	**185**	*e*Pg	**Pg**	**02 23 19.4**	**+0.1**
FRF				*e*Sg	**Sg**	**02 23 30.4**	**-0.3**
	20nm,0.2s						
NEGI	**Negi**	**0.88**	**129**	P	**Pb**	**02 23 19.7**	**+0.8**
SMRF	**Simiane la Rot**	**0.95**	**244**	*e*Pg	**Pg**	**02 23 23.3**	**+1.9**
SMRF				*e*Sg	**Sg**	**02 23 35.3**	**+1.2**
	16nm,0.3s						
IMI	**Imperia**	**0.95**	**121**	P	**Pb**	**02 23 21.0**	**+0.9**
RORO		**0.99**	**107**	P	**Pb**	**02 23 21.2**	**+0.4**
FIN	**Finale Ligure**	**1.06**	**100**	P	**Pb**	**02 23 22.6**	**+0.6**
LMR	**La Mourre**	**1.08**	**189**	*e*Pg	**Pg**	**02 23 23.5**	**-0.5**
LMR				*e*Sg	**Sg**	**02 23 37.6**	**-1.0**
	38nm,0.4s						
LSD	**Ceresole Reale**	**1.09**	**15**	P	**Pb**	**02 23 23.6**	**+1.1**
LPG	**La Plagne**	**1.09**	**360**	*e*Pg	**Pg**	**02 23 23.9**	**-0.3**
LPG				*e*Sg	**Sg**	**02 23 37.6**	**-1.3**
	8.2nm,0.4s						
LPL	**La Plagne**	**1.11**	**359**	*e*Pg	**Pg**	**02 23 24.1**	**-0.5**
LPL				*e*Sg	**Sg**	**02 23 38.2**	**-1.3**
	15nm,0.5s						
PCP	**Pian Castagno**	**1.29**	**83**	P	**Pb**	**02 23 27.0**	**+1.1**
VIVF	**Saint-Julien-l**	**1.55**	**288**	*e*Pg	**Pg**	**02 23 31.7**	**-1.7**
VIVF				*e*Sn	**Sn**	**02 23 50.4**	**+0.5**
VIVF				*e*Sg	**Sg**	**02 23 54.2**	**+0.1**
	2.1nm,0.2s						
LASF	**Ste Croix**	**2.11**	**262**	*e*Pn	**Pn**	**02 23 38.0**	**+0.3**
LASF				*e*Sn	**Sn**	**02 24 03.6**	**-0.4**
	1.2nm,0.3s						
CABF	**La Chapelle**	**2.26**	**348**	*e*Pn	**Pn**	**02 23 39.5**	**-0.4**
PGF	**Pioggiola**	**2.47**	**138**	*e*Pn	**Pn**	**02 23 43.2**	**+0.2**
PGF				*e*Sn	**Sn**	**02 24 11.8**	**-1.5**
	1.7nm,0.2s						
SMF	**Signal de Mont**	**3.04**	**319**	*e*Pn	**Pn**	**02 23 50.5**	**-0.5**
AVF	**Avril sur Loir**	**3.38**	**316**	*e*Pn	**Pn**	**02 23 55.1**	**-0.7**
AVF				*e*Sg	**Sg**	**02 24 48.2**	**-6.5**
	0.5nm,0.3s						
MTLF	**Montolieu**	**3.45**	**254**	*e*Pn	**Pn**	**02 23 57.0**	**+0.2**
MTLF				*e*Sn	**Sn**	**02 24 35.6**	**-2.4**
	1.1nm,0.3s						

IDC 30 02:25:53.5±4.4, 30.27S×178.36W, mb3.9/2, mb1 4.2/2, mb1mx3.8/12, Error ellipse: s-maj=267.0km s-min=50.0km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.80**	**267**	P	P	02 33 52.9	-1.9
	1.5nm,1.1s,baz=104,slow=6.8,SNR=8.3						
WRA	**Warramunga Arr**	**43.78**	**272**	P	P	02 34 01.2	-1.6
	0.9nm,0.4s,baz=111,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	02 45 31.0	-2.7
	0.7nm,0.5s,baz=72,slow=4.4,SNR=8.1						
AKASG	**Malin Array Be**	**151.00**	**323**	PKPbc	PKPdf	02 45 47.9	+4.1
	0.8nm,0.6s,baz=47,slow=3.1,SNR=5.5						

GUC 30 03:01:04.0±1.0, 34.99S×70.57W, h6^{km}±3^{km}, MD3.6, ML2.7, 8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.53**	**316**	⇓*i*P	Pg	03 01 14.6	0.0
SFDO				*i* S	Sg	03 01 22.7	+1.1
NICH	**Los Niches**	**0.54**	**269**	⇓*i*P	Pg	03 01 15.3	+0.4
NICH				*i* S	Sg	03 01 23.4	+1.2
CICH	**Cipreses**	**0.68**	**10**	⇓*i*P	Pg	03 01 16.8	-0.9
CICH				*i* S	Sg	03 01 26.3	-0.5
CACH	**El Canelo**	**0.87**	**358**	⇑*i*P	Pb	03 01 20.2	-0.9
CACH				*i* S	Sb	03 01 32.9	+0.1
TALC	**Talca**	**0.96**	**245**	⇓*i*P	Pb	03 01 21.9	-0.7
TALC				*i* S	Sb	03 01 35.4	0.0
CHCH	**Chadas Angostu**	**1.06**	**356**	⇑*i*P	Pb	03 01 24.0	-0.3
CHCH				*i* S	Sb	03 01 38.9	+0.7
LMEL	**Las Melosas**	**1.18**	**15**	⇑*i*P	Pb	03 01 25.6	-0.8
LMEL				*i* S	Sb	03 01 41.9	+0.2
LMEL				AMP		03 01 43.7	
	comp=N,298nm,0.2s						
LNV	**Longovilo**	**1.25**	**326**	⇑*i*P	Pb	03 01 26.9	-0.6
LNV				*i* S	Sb	03 01 44.0	+0.3
PCH	**Pirque**	**1.37**	**2**	⇓*i*P	Pb	03 01 29.1	-0.5
PCH				*i* S	Sb	03 01 48.1	+0.9
TACH	**Talagante**	**1.37**	**347**	⇑*i*P	Pb	03 01 29.1	-0.5
CLCH	**Cerro Calan**	**1.59**	**1**	⇑*i*P	Pn	03 01 33.0	+0.2
CLCH				*i* S	Sb	03 01 54.7	+1.0
CLCH				AMP		03 02 03.7	
	comp=E,162nm,0.6s						
FCH	**Farellones**	**1.68**	**8**	⇑*i*P	Pn	03 01 34.4	+0.4
FCH				*i* S	Sn	03 01 56.9	+0.9
FCH				AMP		03 01 58.9	
	comp=N,200nm,0.2s						
LCCH	**Las Cruces**	**1.73**	**331**	⇑*i*P	Pn	03 01 34.9	+0.2
LCCH				*i* S	Sn	03 01 58.1	+0.8

*IDC **30** 03:23:25.3±5.7, 8.58S×119.58E, h164^{km}±56^{km}, mb3.6/2, mb1 3.7/4, mb1mx3.4/14, Error ellipse: s-maj=132.0km s-min=36.0km az=43.0*

*DJA **30** 03:23:25.9±0.9, 8.93S×119.22E, h144^{km}±29^{km}, MD4.7/3, ML4.8/2, Error ellipse: s-maj=86.7km s-min=29.5km az=4.0*

ISC 30 03:23:26.5±1.9, 9.0S±0.2×119.0E±0.2, h201^{km}±24^{km}, n10, σ1^{s}.15/16, mb3.8/1, 7C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**2.87**	**280**	⇑*e*Pn	**P**	**03 24 15.5**	**+0.3**
	347nm,0.2s						
KEDI				⇑*e*Sn	**S**	**03 24 51.5**	**-1.3**
RATI	**Rata**	**3.41**	**275**	⇓*e*Pn	**P**	**03 24 21.8**	**+0.2**
	240nm,0.2s						
RATI				⇑*i*Sn	**S**	**03 25 03.1**	**-1.1**
INGI	**Ingas**	**3.78**	**273**	⇑*e*Pn	**P**	**03 24 27.8**	**+1.6**
INGI				⇑*e*Sn	**S**	**03 25 11.8**	**-0.6**
KELI	**Kelakatan**	**4.50**	**280**	⇑*e*Pn	**P**	**03 24 36.5**	**+1.3**
KELI				⇑*e*Sn	**S**	**03 25 29.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.11**	**145**	P	**P**	**03 26 01.0**	**0.0**
	0.2nm,0.3s,baz=334,slow=11,SNR=11						
FITZ				S	**S**	**03 28 02.6**	**+0.3**
	0.7nm,0.3s,baz=189,slow=22,SNR=12						
WRA	**Warramunga Arr**	**18.41**	**128**	P	**P**	**03 27 25.4**	**-3.6**
	0.8nm,0.3s,baz=302,slow=12,SNR=48						
WRA				S	**S**	**03 30 46.6**	**+2.6**
	0.1nm,0.3s,baz=310,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	**18.42**	**128**	*e*P	**P**	**03 27 25.5**	**-3.6**
ASPA	**Alice Springs**	**20.40**	**137**	*e*P	**P**	**03 27 49.0**	**-0.4**
ASAR	**Alice Springs**	**20.41**	**137**	P	**P**	**03 27 48.9**	**-0.6**
	3.2nm,0.4s,baz=311,slow=9.2,SNR=49						
STKA	**Stephens Creek**	**30.96**	**140**	P	**P**	**03 29 26.4**	**-0.6**
	1.4nm,0.6s,mb3.8,baz=324,slow=7.9,SNR=4.7						

GUC 30 03:32:42.1±0.7, 35.00S×70.58W, h3^{km}, MD3.5, ML2.3, 4C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.52**	**317**	⇓*i*P	Pg	03 32 52.5	-0.1
SFDO				*i* S	Sg	03 33 00.7	+1.1
CICH	**Cipreses**	**0.69**	**11**	⇓*i*P	Pg	03 32 54.7	-1.3
CICH				*i* S	Sg	03 33 05.0	-0.2
CACH	**El Canelo**	**0.88**	**359**	*e*P	Pb	03 32 58.4	-1.2
CACH				*i* S	Sg	03 33 11.8	+0.4
CHCH	**Chadas Angostu**	**1.07**	**357**	⇑*i*P	Pb	03 33 02.1	-0.8
CHCH				*i* S	Sb	03 33 17.4	+0.4
LNV	**Longovilo**	**1.25**	**326**	⇑*i*P	Pb	03 33 04.8	-1.2
LNV				*i* S	Sb	03 33 22.8	+0.6
TACH	**Talagante**	**1.38**	**348**	⇑*i*P	Pb	03 33 07.1	-1.0
TACH				*i* S	Sb	03 33 26.6	+0.6
CLCH	**Cerro Calan**	**1.60**	**1**	*e*P	Pn	03 33 10.5	-0.9
CLCH				AMP		03 33 41.8	
	comp=N,87nm,0.3s						
FCH	**Farellones**	**1.69**	**8**	⇓*i*P	Pn	03 33 12.7	0.0
FCH				*i* S	Sb	03 33 35.9	+0.9
FCH				AMP		03 33 47.6	
	comp=N,53nm,0.3s						
LCCH	**Las Cruces**	**1.73**	**331**	⇑*i*P	Pn	03 33 13.1	-0.2
LCCH				*i* S	Sn	03 33 36.7	+0.6

KRSC 30 03:37:50.0±0.5, 55.52N×160.31E, h190^{km}±2^{km}, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMNR	**Kamenistaya**	**0.24**	**350**	*i* P	P	03 38 16.1	+0.6
KMNR				*i* S	S	03 38 35.4	+0.3
TUMR	**Tumrok**	**0.26**	**202**	*i* P	P	03 38 16.9	+1.4
TUMR				*i* S	S	03 38 36.7	+1.5
ZLN	**Zelenaya**	**0.57**	**29**	*i* P	P	03 38 17.5	+0.9
KOZ	**Kozyrevsk**	**0.59**	**336**	*i* P	P	03 38 16.8	+0.1
KOZ				*i* S	S	03 38 36.6	-0.7
LGNR	**Loginova**	**0.60**	**21**	*i* P	P	03 38 17.8	+1.1
LGNR				*i* S	S	03 38 38.3	+0.9
CIRR	**Tsirk**	**0.65**	**22**	*e*P	P	03 38 17.4	+0.5
KLY	**Klyuchi**	**0.82**	**13**	*i* P	P	03 38 18.3	+0.5
KLY				*e*S	S	03 38 39.3	0.0
SRDR	**Sredinnyy**	**0.87**	**338**	*e*P	P	03 38 18.0	0.0
SRDR				*i* S	S	03 38 38.8	-0.9
ESO	**Esso**	**1.00**	**295**	*i* P	P	03 38 19.3	+0.5
ESO				*i* S	S	03 38 40.3	-0.9
ESO				Smax			
	230nm,0.7s						
SVLR	**Shiveluch**	**1.18**	**25**	*i* P	P	03 38 20.7	+0.4
SVLR				*e*S	S	03 38 43.4	-0.4
MKZ	**Mys Kozlova**	**1.27**	**139**	*i* P	P	03 38 21.1	0.0
MKZ				*i* S	S	03 38 44.0	-1.1
KBG	**Krutoberegovo**	**1.54**	**60**	*i* P	P	03 38 23.4	-0.2
KBG				*i* S	S	03 38 47.4	-2.0
KBG				Smax			
	440nm,0.6s						
KII	**Karymskiy**	**1.57**	**199**	*e*P	P	03 38 25.2	+1.4
KBTR	**Krutoberegovo**	**1.57**	**63**	*i* P	P	03 38 23.7	-0.2
KBTR				*e*S	S	03 38 48.5	-1.5
GNL	**Ganaly**	**2.29**	**218**	*e*P	P	03 38 32.2	+0.8
SDLR	**Sedlovina**	**2.40**	**201**	*e*P	P	03 38 34.2	+1.6
SDLR				*e*S	S	03 39 06.3	+0.9
NLC	**Nalytchevo**	**2.42**	**194**	*e*P	P	03 38 33.6	+0.7
NLC				*e*S	S	03 39 05.8	-0.1
SPN	**Mys Shipunski**	**2.43**	**184**	*e*P	P	03 38 32.6	-0.4
SPN				*e*S	S	03 39 04.3	-1.9
KOK	**Koryaka**	**2.44**	**204**	*e*P	P	03 38 35.5	+2.4
UGLR	**Uglovaya**	**2.47**	**201**	*e*P	P	03 38 35.1	+1.6
BKI	**Bering**	**3.25**	**93**	*i* P	P	03 38 43.3	+0.6
BKI				*i* S	S	03 39 21.8	-1.6
BKI				Smax			
	460nm,0.4s						
RUS	**Russkaya**	**3.27**	**200**	*e*P	P	03 38 43.2	+0.2
RUS				*i* S	S	03 39 22.1	-1.8

*NNC **30** 04:04:28.0±7.9, 36.99N×70.16E, h196^{km}±86^{km}, mpv3.4, Error ellipse: s-maj=80.5km s-min=45.3km az=37.0*

ISC 30 04:04:17.5±2.0, 36.19N±0.10×70.5E±0.2, h143^{km}±27^{km}, n16, σ0^{s}.80/19, 3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.74**	**129**	*e*P	**P**	**04 05 42.6**	**+1.1**
	52nm,0.3s						
THN				*e*S	**S**	**04 06 46.7**	**0.0**
AML	**Almayashu**	**6.44**	**22**	P	**P**	**04 05 51.2**	**+0.2**
	SNR=24						
UCH	**Uchtor**	**6.79**	**26**	P	**P**	**04 05 56.0**	**+0.2**
	SNR=11						
KK31	**Karatay Array**	**6.90**	**0**	P	**P**	**04 05 56.9**	**-0.3**
	1.0nm,0.3s,baz=174,slow=11,SNR=59						
KK31				⇓S	**S**	**04 07 08.6**	**-6.2**
	5.7nm,0.5s,baz=190,slow=22,SNR=10						
EKS2	**Erkin-Say**	**6.95**	**21**	P	**P**	**04 05 57.9**	**0.0**
	SNR=9.0						
CHMS	**Chumysh**	**7.56**	**25**	P	**P**	**04 06 06.0**	**-0.1**
	SNR=6.4						
USP	**Ospenovka**	**7.72**	**22**	P	**P**	**04 06 07.1**	**-1.1**
	SNR=17						
TKM2	**Tokmak 2**	**7.80**	**29**	P	**P**	**04 06 08.8**	**-0.5**
	SNR=9.7						
MK31	**Makanchi Array**	**13.79**	**36**	P	**P**	**04 07 30.1**	**+2.3**
	3.5nm,0.7s,baz=216,slow=10,SNR=20						
KOLN	**Koldanda**	**13.94**	**123**	*e*P	**P**	**04 07 28.2**	**-1.6**
	5.8nm,0.3s						
GKN	**Gorkha**	**14.51**	**120**	*e*P	**P**	**04 07 36.2**	**-0.8**
	16nm,0.3s						
DMN	**Daman**	**15.08**	**120**	*e*P	**P**	**04 07 43.8**	**-0.4**
	12nm,0.4s						
KKN	**Kakani**	**15.09**	**120**	*e*P	**P**	**04 07 44.3**	**0.0**
AB31	**Akbulak array**	**15.15**	**333**	⇓P	**P**	**04 07 45.3**	**+0.3**
	0.9nm,0.3s,baz=155,slow=11,SNR=61						
AB31				⇓S	**S**	**04 10 20.7**	**-8.3**
	1.1nm,0.6s,baz=152,slow=22,SNR=5.5						
PKI	**Pulchoki**	**15.31**	**120**	*e*P	**P**	**04 07 47.6**	**+0.5**
	9.8nm,0.4s						
GUN	**Gumba**	**15.44**	**118**	*e*P	**P**	**04 07 49.4**	**+0.7**
	18nm,0.4s						

*ATH **30** 04:25:30.7, 35.94N×21.51E, h5^{km}, MD3.9/12, ML3.9*

*NEIC **30** 04:25:31.0, 35.96N×21.51E, h6^{km}, ML3.9(ATH), ML3.9(THE), ML3.6(ROM), After ATH.*

*THE **30** 04:25:35.6, 36.17N×21.70E, h14^{km}, ML3.9*

*IDC **30** 04:25:37.0±1.8, 35.87N×21.46E, h72^{km}±19^{km}, mb3.5/6, mb1 3.5/11, mb1mx3.4/26, Error ellipse: s-maj=41.4km s-min=10.5km az=17.0*

ISC 30 04:25:35.9±0.6, 36.12N±0.05×21.61E±0.04, h58^{km}±8^{km}, n57, σ1^{s}.05/64, mb3.7/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**1.22**	**60**	*e*PB	**P**	**04 25 57.0**	**-0.2**
VLS	**Valsamata**	**2.21**	**339**	*e*PN	**P**	**04 26 12.0**	**+1.0**
NAIG	**Nisos Aigina**	**2.22**	**42**	*e*PG	**P**	**04 26 15.1**	**+4.0**
VAM	**Vamos**	**2.22**	**108**	*e*PN	**P**	**04 26 11.0**	**-0.2**
NSAL	**Nisos Salamina**	**2.32**	**39**	*e*PN	**P**	**04 26 14.5**	**+2.0**
NSAL	**Nisos Salamina**	**2.32**	**39**	*e*Pn	**P**	**04 26 15.5**	**+3.0**
GVD	**Gavdhos**	**2.39**	**122**	Pn	**P**	**04 26 08.3**	**-5.2**
MKIT	**Kithairon Oros**	**2.44**	**32**	*e*PN	**P**	**04 26 17.2**	**+2.9**
MKIT	**Kithairon Oros**	**2.44**	**32**	*e*Pn	**P**	**04 26 17.5**	**+3.2**
ATH	**Athens Observa**	**2.50**	**42**	*e*PB	**P**	**04 26 16.4**	**+1.3**
PTL	**Penteli**	**2.64**	**42**	*e*PN	**P**	**04 26 16.1**	**-0.9**
LKD	**Levkas**	**2.69**	**344**	*e*Pn	**P**	**04 26 19.3**	**+1.4**
	comp=Z,7.0nm,0.2s						

LKD				eSn	S	04 26 49.2	-0.2
EVR	**Evrytania**	**2.79**	**3**	ePN	**P**	**04 26 21.8**	**+2.5**
IDI	**Anoyia**	**2.79**	**106**	P	**P**	**04 26 19.8**	**+0.5**
	3.4nm,0.3s,baz=295,slow=16,SNR=24						
IDI				S	**S**	**04 26 54.3**	**+2.4**
	14nm,0.3s,baz=289,slow=18,SNR=6.3						
THR5	**Thira Island,**	**3.03**	**83**	ePn	**P**	**04 26 21.7**	**-1.0**
THR6	**Thira Island,**	**3.07**	**84**	ePn	**P**	**04 26 22.6**	**-0.6**
THR3	**Thira Island,**	**3.08**	**84**	ePn	**P**	**04 26 22.4**	**-0.8**
THR4	**Thira Island,**	**3.08**	**83**	ePn	**P**	**04 26 22.7**	**-0.6**
SANT	**Santorini**	**3.12**	**84**	ePn	**P**	**04 26 22.6**	**-1.3**
THR1	**Thera Island**	**3.12**	**84**	ePn	**P**	**04 26 22.8**	**-1.1**
NEO	**Neokhori**	**3.43**	**21**	ePN	**P**	**04 26 30.0**	**+1.8**
XOR	**Xorichti**	**3.47**	**21**	ePn	**P**	**04 26 28.0**	**-0.8**
AOS	**Alonnisos**	**3.54**	**30**	ePn	**P**	**04 26 28.4**	**-1.4**
IGT	**Igoumenitsa**	**3.55**	**344**	ePn	**P**	**04 26 29.7**	**-0.2**
JAN	**Janina**	**3.58**	**351**	ePN	**P**	**04 26 31.0**	**+0.7**
JAN	**Janina**	**3.58**	**351**	ePn	**P**	**04 26 30.0**	**-0.3**
MEV	**Metsovon**	**3.67**	**355**	ePn	**P**	**04 26 32.8**	**+1.2**
	comp=Z,5.0nm,0.3s						
MEV				eSn	**S**	**04 27 12.9**	**-1.1**
KEK	**Kerkira**	**3.86**	**339**	ePN	**P**	**04 26 35.0**	**+0.7**
LIT	**Litokhoron**	**4.03**	**10**	ePn	**P**	**04 26 36.4**	**-0.3**
	comp=Z,3.0nm,0.4s						
PAIG	**Paliouri**	**4.14**	**23**	ePn	**P**	**04 26 37.5**	**-0.6**
KZN	**Kozani**	**4.18**	**2**	ePN	**P**	**04 26 40.0**	**+1.2**
THE	**Thessaloniki**	**4.63**	**13**	ePn	**P**	**04 26 44.6**	**-0.4**
FNA	**Florina**	**4.66**	**358**	ePn	**P**	**04 26 44.8**	**-0.7**
FNA				eSn	**S**	**04 27 37.0**	**-1.8**
SOI	**Samo**	**4.85**	**295**	ePn	**P**	**04 26 48.2**	**0.0**
GRG	**Griva**	**4.87**	**7**	ePn	**P**	**04 26 47.5**	**-0.9**
SOH	**Sokhos**	**4.89**	**16**	ePn	**P**	**04 26 48.0**	**-0.7**
TIP	**Timpagrande**	**4.91**	**310**	ePn	**P**	**04 26 48.6**	**-0.4**
TIP				eSn	**S**	**04 27 36.8**	**-8.4**
LCI	**Lecce**	**5.03**	**328**	ePn	**P**	**04 26 50.1**	**-0.5**
MTTG	**Motta San Giov**	**5.09**	**293**	ePn	**P**	**04 26 51.8**	**+0.3**
KNT	**Kendrikon**	**5.13**	**11**	ePn	**P**	**04 26 52.0**	**-0.1**
SRS	**Serrai**	**5.22**	**17**	ePn	**P**	**04 26 52.3**	**-1.0**
VAE	**Valguarnera**	**5.93**	**285**	P	**P**	**04 27 01.5**	**-1.6**
	0.5nm,0.3s,baz=197,slow=17,SNR=2.0						
VAE				S	**S**	**04 28 10.0**	**-0.7**
	3.1nm,0.3s,baz=168,slow=5.6,SNR=2.3						
MGR	**Morigerati**	**6.24**	**312**	ePn	**P**	**04 27 07.2**	**-0.2**
SLCN	**Sala Consilina**	**6.35**	**314**	ePn	**P**	**04 27 10.4**	**+1.4**
SGO	**Sicignano**	**6.65**	**314**	ePn	**P**	**04 27 13.7**	**+0.5**
MRLC	**Muro Lucano**	**6.67**	**316**	ePn	**P**	**04 27 13.4**	**-0.1**
STON	**Ston**	**7.39**	**337**	i Pn	**P**	**04 27 19.7**	**-3.8**
STON				i Sn	**S**	**04 28 35.3**	**-11**
MLR	**Muntele Rosu**	**9.92**	**18**	P	**P**	**04 28 01.9**	**+3.7**
	0.2nm,0.3s,baz=321,slow=20,SNR=4.0						
GERES	**GERESS Array B**	**13.98**	**338**	P	**P**	**04 28 52.6**	**+0.2**
	0.1nm,0.3s,baz=158,slow=16,SNR=2.5						
AKASG	**Malin Array Be**	**15.57**	**18**	P	**P**	**04 29 15.2**	**+2.2**
	1.4nm,0.3s,baz=211,slow=9.6,SNR=6.7						
HFS	**Hagfors**	**24.57**	**350**	P	**P**	**04 30 51.9**	**+0.7**
	2.0nm,0.6s,mb3.8,baz=153,slow=9.9,SNR=10						
FINES	**FINESS Array B**	**25.50**	**5**	P	**P**	**04 31 00.1**	**0.0**
	0.9nm,0.5s,mb3.6,baz=170,slow=12,SNR=5.7						
NOA	**NORSAR Array B**	**25.80**	**348**	P	**P**	**04 31 03.5**	**+0.6**
	0.4nm,0.6s,mb3.1,baz=161,slow=10.0,SNR=2.6						
ARCES	**ARCESS Array B**	**33.54**	**2**	P	**P**	**04 32 11.1**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=190,slow=10.0,SNR=14						
ARCES	**ARCESS Array B**	**33.54**	**2**	P	**P**	**04 32 11.1**	**-0.7**
MKAR	**Makanchi Array**	**45.66**	**57**	P	**P**	**04 33 52.1**	**-0.2**
	0.9nm,0.3s,mb4.2,baz=271,slow=7.8,SNR=28						
SONM	**Songino Array**	**61.10**	**50**	P	**P**	**04 35 45.8**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=280,slow=8.8,SNR=2.8						

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*BJI **30** 04:30:54.2, 36.36N×121.64W, h7^{km}, mB4.2, mb4.5, Ms4.4, Msz4.1*

*IDC **30** 04:30:57.9±1.4, 36.51N×121.10W, mb3.3/3, mb1 3.7/8, mb1mx3.6/25, ML3.7/5, MS3.1/5, Ms1 3.1/5, ms1mx2.9/19, Error ellipse: s-maj=15.2km s-min=13.8km az=28.0*

*NEIC **30** 04:30:57.0, 36.58N×121.18W, h9^{km}, MW4.0(BRK), After NCEDC.*

NEIC Felt [IV] at Soledad; [III] at Carmel Valley, Greenfield, King City and Seaside; [II] at Monterey, Paso Robles, Salinas and Templeton.

ISC 30 04:30:55.5±1.0**, 36.49N**±0.05×**121.26W**±0.05**, h13**^{km}±6^{km}**, n67,** σ1^{s}**35**/67**, mb3.9**/5**, MS3.4**/3**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRV	**Little Rabbit**	**0.21**	**110**	eP	**Pg**	**04 31 01.6**	**+1.4**
SAO	**San Andreas Ge**	**0.31**	**331**	eP	**Pg**	**04 31 02.2**	**+0.1**
LKC	**Lake Chabot**	**1.40**	**333**	ePn	**Pn**	**04 31 20.6**	**-0.2**
SAC	**San Andreas**	**1.43**	**320**	ePn	**Pn**	**04 31 21.0**	**-0.2**
CMB	**Columbia Colle**	**1.69**	**24**	ePn	**Pn**	**04 31 24.4**	**-0.5**
OMM	**Old Mammoth Mi**	**2.13**	**58**	ePn	**Pn**	**04 31 32.3**	**+1.0**
NSHM	**Saint Helena R**	**2.29**	**332**	ePn	**Pn**	**04 31 32.6**	**-1.0**
MTUM	**Tungsten Hills**	**2.32**	**68**	i P	**Pn**	**04 31 35.5**	**+1.5**
OHCM	**Honcut**	**2.84**	**356**	ePn	**Pn**	**04 31 40.5**	**-1.0**
HOPS	**Hopland**	**2.88**	**331**	ePn	**Pn**	**04 31 40.6**	**-1.4**
DAC	**Darwin (Calif)**	**2.96**	**93**	ePn	**Pn**	**04 31 43.6**	**+0.4**
NVAR	**Mina Array Bea**	**3.04**	**50**	Pn	**Pn**	**04 31 46.0**	**+1.7**
	12nm,0.3s,baz=229,slow=21,SNR=96						
NVAR				Pg	**Pg**	**04 31 50.6**	**-5.7**
	29nm,0.3s,baz=229,slow=18,SNR=85						
NVAR				Lg		04 32 29.9	
	48nm,0.3s,baz=221,slow=26,SNR=8.1						
NVAR				LR	LR	04 33 06.4	
	comp=Z,244nm,20.0s,baz=220,slow=44						
WCN	**Washoe City**	**3.04**	**23**	ePn	**Pn**	**04 31 45.2**	**+0.8**
MNV	**Mina**	**3.14**	**51**	ePn	**Pn**	**04 31 46.7**	**+1.0**
BEKR	**Beckwourth**	**3.44**	**12**	ePn	**Pn**	**04 31 50.8**	**+0.8**
MWC	**Mount Wilson**	**3.46**	**130**	ePn	**Pn**	**04 31 49.8**	**-0.4**
PAHR	**Pah Rah Range**	**3.53**	**24**	ePn	**Pn**	**04 31 54.5**	**+3.2**
TPH	**Tonopah**	**3.58**	**63**	ePn	**Pn**	**04 31 53.0**	**+1.0**
TPNV	**Topopah Spring**	**4.05**	**82**	ePn	**Pn**	**04 31 59.1**	**+0.5**
WDC	**Whiskeytown Da**	**4.20**	**347**	ePn	**Pn**	**04 31 58.7**	**-2.1**
PFO	**Pinyon Flat Ob**	**4.88**	**125**	ePn	**Pn**	**04 32 10.1**	**-0.2**
BMN	**Battle Mountai**	**5.05**	**38**	ePn	**Pn**	**04 32 14.7**	**+2.0**
LDFC	**Landfair**	**5.19**	**104**	ePn	**Pn**	**04 32 13.4**	**-1.4**
NEN	**Nelson**	**5.26**	**97**	ePn	**Pn**	**04 32 15.6**	**-0.2**
YBH	**Yreka Blue Hor**	**5.35**	**348**	Pn	**Pn**	**04 32 19.9**	**+2.9**
	0.2nm,0.3s,baz=203,slow=7.7,SNR=4.6						
YBH				Lg		04 33 51.0	
	0.2nm,0.3s,baz=149,slow=12,SNR=2.5						
BAR	**Barrett**	**5.36**	**134**	ePn	**Pn**	**04 32 16.6**	**-0.6**
MOD	**Modoc**	**5.45**	**8**	Pn	**Pn**	**04 32 17.1**	**-1.4**
KBO	**Bosley Butte**	**6.16**	**339**	Pn	**Pn**	**04 32 24.6**	**-3.8**
WVOR	**Wild Horse Val**	**6.27**	**18**	Pn	**Pn**	**04 32 27.4**	**-2.6**
ELK	**Elko**	**6.34**	**46**	ePn	**Pn**	**04 32 32.0**	**+1.0**
MVU	**Marysvale**	**7.46**	**72**	ePn	**Pn**	**04 32 44.8**	**-2.0**
	5.0nm,1.3s						
MSU	**Marysvale**	**7.49**	**72**	ePn	**Pn**	**04 32 47.1**	**-0.1**
DUG	**Dugway**	**7.59**	**58**	Pn	**Pn**	**04 32 46.8**	**-1.8**
BGU	**Big Grassy Mou**	**7.81**	**53**	ePn	**Pn**	**04 32 50.9**	**-0.6**
NLU	**North Lily Min**	**8.01**	**62**	ePn	**P**	**04 32 52.8**	**-1.6**
WUAZ	**Wupatki**	**8.07**	**94**	ePn	**P**	**04 32 54.2**	**-1.0**
JLU	**Jordanelle**	**8.71**	**59**	Pn	**P**	**04 33 05.1**	**+1.0**
DAU	**Daniels Canyon**	**8.77**	**60**	Pn	**P**	**04 33 06.2**	**+1.3**
SRU	**San Rafael**	**8.89**	**70**	Pn	**P**	**04 33 04.5**	**-2.1**
TCUT	**Toone Canyon**	**8.97**	**56**	ePn	**P**	**04 33 06.7**	**-1.0**
HWUT	**Hardware Ranch**	**9.10**	**53**	ePn	**P**	**04 33 07.0**	**-2.6**
TUC	**Tucson**	**9.61**	**113**	Pn	**P**	**04 33 13.6**	**-2.9**
PV10	**Paradox Valley**	**9.90**	**75**	ePn	**P**	**04 33 18.4**	**-2.1**
HAWA	**Hanford**	**9.97**	**7**	Pn	**P**	**04 33 19.9**	**-1.6**
PV01	**Paradox Valley**	**10.24**	**77**	ePn	**P**	**04 33 26.7**	**+1.5**
MCMT	**McKenzie Canyo**	**10.49**	**35**	Pn	**P**	**04 33 30.0**	**+1.5**
PDAR	**Pinedale Array**	**10.98**	**52**	Pn	**P**	**04 33 39.9**	**+4.6**
	0.1nm,0.3s,baz=247,slow=11,SNR=3.7						
PDAR				Lg		04 36 40.1	
	0.0nm,0.3s,baz=225,slow=25,SNR=2.6						
ANMO	**Albuquerque**	**12.13**	**93**	Pn	**P**	**04 33 50.8**	**-0.1**
NEW	**Newport**	**12.15**	**13**	Pn	**P**	**04 33 55.2**	**+4.0**
	0.2nm,0.3s,baz=199,slow=14,SNR=3.2						
NEW				LR	LR	04 38 27.3	
	comp=Z,79nm,18.1s,baz=179,slow=37						
NEW	**Newport**	**12.15**	**13**	Pn	**P**	**04 33 51.8**	**+0.6**
BNM	**Barren Site**	**12.18**	**97**	Pn	**P**	**04 33 47.5**	**-4.1**
TXAR	**Lajitas Array**	**16.39**	**111**	Pn	**P**	**04 34 50.7**	**+3.8**
	0.1nm,0.3s,baz=293,slow=11,SNR=13						
TXAR				LR	LR	04 41 56.6	
	comp=Z,40nm,18.1s,baz=300,slow=40						
TXAR	**Lajitas Array**	**16.39**	**111**	Pn	**P**	**04 34 50.7**	**+3.8**
TXAR				LR	LR	04 41 56.6	
DLBC	**Dease Lake**	**22.70**	**348**	P	**P**	**04 36 02.4**	**+4.6**
	0.7nm,0.8s,mb3.2,baz=206,slow=18,SNR=3.5						
DLBC				LR	LR	04 45 56.0	
	comp=Z,51nm,21.1s,MS2.9,baz=59,slow=40						
ULM	**Lac du Bonnet**	**22.87**	**45**	P	**P**	**04 36 04.1**	**+4.6**
	1.7nm,0.9s,mb3.5,baz=262,slow=7.0,SNR=2.5						
YKA	**Yellowknife Ar**	**26.35**	**7**	LR	LR	04 48 44.3	
	comp=Z,58nm,19.7s,MS3.1,baz=180,slow=40						
ILAR	**Eielson Array**	**32.18**	**340**	P	**P**	**04 37 27.1**	**+2.3**
	0.3nm,0.7s,mb3.2,baz=160,slow=9.2,SNR=5.0						
JTS	**JuntasAbangare**	**41.91**	**119**	P	**P**	**04 38 49.6**	**+2.2**
	baz=295,slow=14						
MDJ	**Mudanjiang**	**76.96**	**316**	P	**P**	**04 42 50.0**	**+0.8**
CN2	**Changchun**	**79.77**	**317**	eP	**P**	**04 43 04.8**	**+0.2**
BJI	**Beijing**	**87.34**	**320**	P	**P**	**04 43 43.5**	**+0.3**
BJI				S	S	04 54 23.0	+1.6
BJI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=Z,56nm,15.9s,MS4.1						
BJI	**Beijing**	**87.34**	**320**	P	**P**	**04 43 43.4**	**+0.2**
	comp=Z,5.0nm,0.9s,mb4.7						
BJI				S	S	04 54 22.9	+1.5
BJI				LR	LR		
	comp=Z,60nm,15.9s,MS4.1						
SSE	**Sheshan**	**90.89**	**310**	eP	**P**	**04 44 00.0**	**-0.2**
SSE	**Sheshan**	**90.89**	**310**	eP	**P**	**04 44 00.1**	**-0.1**
	comp=Z,23nm,0.7s						
WMQ	**Urumqi**	**95.84**	**339**	eP	**P**	**04 44 24.5**	**+1.9**
LZH	**Lanzhou**	**96.52**	**325**	eP	**P**	**04 44 26.0**	**+0.1**
LZH				AP	pP	04 44 29.0	-1.1
LZH				XP	sP	04 44 30.8	-0.7
LZH	**Lanzhou**	**96.52**	**325**	eP	**P**	**04 44 26.0**	**+0.1**
	comp=Z,12nm,1.6s,mb5.1						
LZH				pP	pP	04 44 29.1	-1.0
LZH				sP	sP	04 44 30.7	-0.8

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*SOF **30** 04:32:48.8, 39.65N×24.49E, h10^{km}, MD2.9*

*ATH **30** 04:32:50.9, 39.68N×24.33E, h28^{km}±3^{km}, MD3.4/11*

*NEIC **30** 04:32:51.0, 39.68N×24.34E, h28^{km}, MD3.4(ATH), ML3.0(THE), After ATH.*

*THE **30** 04:32:52.0, 39.65N×24.38E, h20^{km}, ML3.0*

ISC 30 04:32:51.3±0.5**, 39.67N**±0.03×**24.36E**±0.04**, h23**^{km}±6^{km}**, n28,** σ0^{s}**98**/42**, 2D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.58**	**297**	ePg	**Pb**	**04 33 03.2**	**+0.5**
PAIG				eSg	**Sb**	**04 33 12.5**	**+1.9**
AOS	**Alonnisos**	**0.62**	**217**	ePg	**Pb**	**04 33 03.5**	**+0.2**
AOS				eSg	**Sb**	**04 33 12.8**	**+1.2**
LOS	**Limnos**	**0.62**	**64**	ePg	**Pb**	**04 33 03.9**	**+0.6**
LOS				eSg	**Sb**	**04 33 12.4**	**+0.8**
LIA	**Limnos Island**	**0.68**	**70**	ePN	**Pn**	**04 33 04.6**	**-0.8**
OUR	**Ouranopolis**	**0.73**	**337**	ePg	**Pb**	**04 33 05.8**	**+0.7**
OUR				eSg	**Sb**	**04 33 17.2**	**+2.5**
NEO	**Neokhori**	**0.95**	**248**	ePN	**Pn**	**04 33 09.3**	**0.0**
NEO				eSN	**Sn**	**04 33 21.9**	**-0.2**
PLG	**Polygyros**	**0.99**	**316**	ePN	**Pn**	**04 33 10.4**	**+0.5**
SOH	**Sokhos**	**1.39**	**327**	ePb	**Pb**	**04 33 16.5**	**+0.2**
SOH				eSb	**Sb**	**04 33 34.1**	**+0.4**
THE	**Thessaloniki**	**1.44**	**313**	ePb	**Pb**	**04 33 17.1**	**-0.1**
THE				eSb	**Sb**	**04 33 34.9**	**-0.2**
LKR	**Lokris**	**1.46**	**227**	ePN	**Pn**	**04 33 17.1**	**+0.5**
LIT	**Litokhoron**	**1.50**	**287**	ePb	**Pb**	**04 33 17.4**	**-0.9**
	comp=Z,4.5nm,0.4s						
LIT				eSb	**Sb**	**04 33 37.4**	**+0.4**
PRK	**Paraskevi**	**1.54**	**105**	ePN	**Pn**	**04 33 19.9**	**+2.1**
SRS	**Serrai**	**1.56**	**338**	ePb	**Pb**	**04 33 18.6**	**-0.7**
SRS				eSb	**Sb**	**04 33 38.0**	**-0.8**
MPAR	**Parnis Oros**	**1.59**	**198**	ePB	**Pb**	**04 33 18.9**	**-0.9**
PTL	**Penteli**	**1.66**	**194**	ePB	**Pb**	**04 33 19.6**	**-1.4**
NVR	**Nevrokopi**	**1.72**	**348**	ePN	**Pn**	**04 33 20.9**	**+0.5**
RDO	**Rodhopi**	**1.73**	**31**	ePB	**Pb**	**04 33 20.3**	**-1.9**
KNT	**Kendrikon**	**1.86**	**324**	ePb	**Pb**	**04 33 23.3**	**-1.2**
KNT				eSb	**Sb**	**04 33 46.0**	**-1.5**
NSAL	**Nisos Salamina**	**1.89**	**202**	⇓iPN	**Pn**	**04 33 23.0**	**+0.2**
NSAL	**Nisos Salamina**	**1.89**	**202**	⇓ePn	**Pn**	**04 33 23.0**	**+0.2**
MMB	**Musomiste**	**1.98**	**346**	i P	**Pn**	**04 33 24.0**	**0.0**
RZN	**Rozhen**	**2.04**	**8**	i P	**Pn**	**04 33 24.5**	**-0.4**
RZN				i Pg	**Pn**	**04 33 30.0**	**+5.1**
EVR	**Evrytania**	**2.11**	**250**	ePB	**Pb**	**04 33 27.5**	**-1.3**
KDZ	**Kurdzhali**	**2.14**	**22**	i P	**Pn**	**04 33 25.5**	**-0.8**
KKB	**Krupnik**	**2.40**	**337**	i P	**Pn**	**04 33 30.7**	**+0.6**
KKB				i Pg	**Pn**	**04 33 37.3**	**+7.2**
DIM	**Dimitrovgrad**	**2.54**	**20**	eP	**Pn**	**04 33 36.0**	**+3.9**
DIM				ePg	**Pn**	**04 33 42.0**	**+10**
PGB	**Panagyurishte**	**2.88**	**357**	i P	**Pn**	**04 33 46.0**	**+9.0**
VTS	**Vitosha**	**3.05**	**344**	i P	**Pn**	**04 33 40.0**	**+0.7**
VTS				i Pg	**Pn**	**04 33 50.5**	**+11**

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*IDC **30** 04:37:10.1±0.8, 27.48S×70.91W, mb4.2/9, mb1 4.3/12, mb1mx4.2/17, ML4.0/3, MS3.4/5, Ms1 3.4/5, ms1mx3.3/16, Error ellipse: s-maj=26.4km s-min=20.3km az=55.0*

*GUC **30** 04:37:13.4±0.9, 27.46S×71.09W, h47^{km}±9^{km}, ML4.8*

*BJI **30** 04:37:15.1, 28.45S×70.03W, h32^{km}, mB4.2, Ms4.8, Msz4.5*

*NEIC **30** 04:37:15.1±1.5, 27.50S×70.93W, h32^{km}±10^{km}, mb4.2/6, ML4.8(GUC), Error ellipse: s-maj=13.2km s-min=6.3km az=93.0*

NEIC Felt [IV] at Copiapo; [III] at Caldera and Tierra Amarilla; [II] at Vallenar.

ISC 30 04:37:14.4±0.3**, 27.49S**±0.03×**70.96W**±0.07**, h47**^{km}**, n54,** σ**1**^{s}**26**/49**, mb4.4**/17**, MS4.0**/3**, 3C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.56**	**77**	⇓iP	**P**	**04 37 27.3**	**+1.1**
CPCH				i S	**S**	**04 37 37.0**	**+2.3**
CPCH				AMP		04 37 39.8	
	comp=N,89µm,0.1s						
VACH	**Vallenar**	**1.10**	**171**	i P	**P**	**04 37 26.5**	**-7.1**
VACH				i S	**S**	**04 37 41.1**	**-6.8**
VACH				AMP		04 37 45.4	
	comp=E,40µm,0.3s						
LSCH	**La Serena**	**2.42**	**186**	⇑iP	**P**	**04 37 51.2**	**-1.2**
LSCH				i S	**S**	**04 38 18.9**	**-2.2**
LSCH				AMP		04 38 39.0	
	comp=E,3µm,0.5s						
TLL	**Tololo Astrono**	**2.67**	**177**	eP	**P**	**04 37 55.9**	**-0.1**
TLL				i S	**S**	**04 38 27.4**	**+0.1**
TLL				AMP		04 38 40.5	
	comp=E,4µm,0.4s						
CPN1	**Cerro Paranal**	**2.89**	**10**	eP	**P**	**04 37 58.2**	**-1.0**
CPN1				i S	**S**	**04 38 32.2**	**-0.7**
CPN1				AMP		04 38 48.0	
	comp=E,4µm,0.6s						
ANCH	**Antofagasta**	**3.82**	**8**	i P	**P**	**04 38 08.7**	**-3.6**
ANCH				i S	**S**	**04 38 52.0**	**-4.5**
LVC	**Limon Verde**	**5.20**	**21**	eP	**P**	**04 38 30.9**	**-0.7**
LVC				i S	**S**	**04 39 29.5**	**-1.6**
LVC	**Limon Verde**	**5.20**	**21**	⇑ePn	**P**	**04 38 30.8**	**-0.8**
	comp=E,33nm,0.3s						
LVC				eSn	**S**	**04 39 29.2**	**-1.8**
FCH	**Farellones**	**5.85**	**174**	eP	**P**	**04 38 39.7**	**-1.0**
ARE	**Arequipa**	**10.98**	**357**	eP	**P**	**04 39 47.7**	**-4.0**
ARE				e		04 41 47.8	
ARE				e		04 42 58.5	
LPAZ	**La Paz**	**11.45**	**14**	Pn	**P**	**04 39 55.8**	**-2.3**
	comp=E,2.4nm,0.3s,baz=212,slow=4.7,SNR=21						
LPAZ				LR	LR	04 43 32.2	
	comp=E,32nm,20.1s,baz=215,slow=33						
CPUP	**Villa Florida**	**12.22**	**88**	Pn	**P**	**04 40 07.0**	**-1.4**
	comp=E,0.1nm,0.3s,baz=282,slow=16,SNR=3.1						
CPUP				LR	LR	04 45 20.9	
	comp=E,193nm,20.5s,baz=272,slow=40						
TRQA	**Tornquist**	**12.96**	**147**	eP	**P**	**04 40 20.6**	**+2.3**
	comp=E,8.1nm,0.6s						
PLCA	**Paso Flores**	**13.22**	**179**	Pn	**P**	**04 40 20.0**	**-1.6**
	comp=E,0.1nm,0.3s,baz=29,slow=19,SNR=2.0						
PLCA				LR	LR	04 45 50.4	
	comp=E,211nm,18.6s,baz=356,slow=39						
SAML	**Samuel**	**19.85**	**23**	eP	**P**	**04 41 43.6**	**-0.7**
	comp=E,5.5nm,0.6s						
BDFB	**Brasilia**	**24.33**	**66**	P	**P**	**04 42 28.9**	**-0.2**
	comp=E,3.2nm,0.7s,mb3.9,baz=250,slow=8.8,SNR=9.1						
BDFB				LR	LR	04 53 27.2	
	comp=E,308nm,20.7s,MS3.8,baz=257,slow=40						
USHA	**Ushuaia**	**27.38**	**177**	LR	LR	04 54 08.2	
	comp=E,162nm,20.1s,MS3.6,baz=324,slow=37						
SJG	**San Juan**	**45.57**	**6**	P	**P**	**04 45 30.0**	**-1.7**
	comp=E,9.7nm,0.6s,mb4.9,baz=283,slow=6.1,SNR=6.5						
TEIG	**Tepich**	**50.30**	**339**	P	**P**	**04 46 09.4**	**+0.8**
	comp=E,0.0nm,0.5s,baz=136,slow=24,SNR=2.5						
VNA2	**Neumayer--Watz**	**55.70**	**159**	e	PcP	04 47 50.3	+3.6
VNA2	**Neumayer--Watz**	**55.70**	**159**	⇓iP	**P**	**04 46 48.8**	**+0.9**
VNA2				e	pP	04 47 02.5	+1.4
VNA2				e		04 47 08.5	
VNA2				e	PcP	04 47 50.3	+3.6
VNA2				e	PP	04 49 01.9	+8.0
SNAA	**Sanae**	**57.30**	**160**	e	PcP	04 47 55.3	+2.4
SNAA	**Sanae**	**57.30**	**160**	⇑iP	**P**	**04 46 57.0**	**-2.4**
SNAA				e	pP	04 47 10.8	-1.8
SNAA				e		04 47 16.5	
SNAA				e	PcP	04 47 55.3	+2.4
SNAA				e	PP	04 49 09.8	+1.4
QSPA	**South Pole Qui**	**62.73**	**180**	eP	**P**	**04 47 36.7**	**+0.3**
	comp=E,1.2nm,0.7s,mb4.1						
JCT	**Junction City**	**63.89**	**332**	eP	**P**	**04 47 45.0**	**+0.3**
	comp=E,3.7nm,0.6s,mb4.6						
TXAR	**Lajitas Array**	**64.60**	**329**	P	**P**	**04 47 49.8**	**+0.5**
	comp=E,0.5nm,0.6s,mb3.7,baz=154,slow=9.0,SNR=9.2						
WVT	**Waverly**	**65.24**	**345**	eP	**P**	**04 47 52.2**	**-1.1**
CCM	**Cathedral Cave**	**67.91**	**343**	eP	**P**	**04 48 10.0**	**-0.2**
	comp=E,4.9nm,0.6s,mb4.7						
LIC	**Lamto**	**71.90**	**73**	eP	**P**	**04 48 35.1**	**+0.2**
	comp=E,47nm,1.8s,mb5.1						
TIC	**Toumodi**	**72.12**	**72**	eP	**P**	**04 48 36.3**	**+0.1**
	comp=E,20nm,0.7s,mb5.2						
KIC	**Kosan Boka**	**72.21**	**73**	eP	**P**	**04 48 37.3**	**+0.6**
	comp=E,31nm,0.6s,mb5.4						
DBIC	**Dimbokro**	**72.28**	**72**	P	**P**	**04 48 37.9**	**+0.8**
	comp=E,9.3nm,0.7s,mb4.8,baz=218,slow=6.6,SNR=25						
DBIC	**Dimbokro**	**72.28**	**72**	P	**P**	**04 48 37.9**	**+0.8**
SADO	**Sadowa**	**72.29**	**354**	P	**P**	**04 48 37.0**	**+0.3**
	comp=E,6.8nm,1.0s,mb4.5,baz=203,slow=5.2,SNR=4.2						
SADO	**Sadowa**	**72.29**	**354**	P	**P**	**04 48 37.0**	**+0.3**
SDCO	**Great Sand Dun**	**72.53**	**332**	eP	**P**	**04 48 39.2**	**+0.9**
	comp=E,1.9nm,0.8s,mb4.1						
MSU	**Marysvale**	**76.14**	**328**	eP	**P**	**04 49 01.6**	**+2.5**
HWUT	**Hardware Ranch**	**78.34**	**330**	eP	**P**	**04 49 12.8**	**+1.5**
	comp=E,1.7nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**78.42**	**332**	P	**P**	**04 49 13.7**	**+1.9**
	comp=E,0.7nm,0.8s,mb3.6,baz=124,slow=5.3,SNR=6.3						
NVAR	**Mina Array Bea**	**79.12**	**324**	P	**P**	**04 49 16.9**	**+1.2**
	comp=E,0.4nm,0.6s,mb3.5,baz=153,slow=6.0,SNR=4.2						
MAW	**Mawson**	**79.15**	**164**	P	**P**	**04 49 16.0**	**+0.8**
	comp=E,1.2nm,0.6s,mb4.0,baz=267,slow=6.5,SNR=3.8						
ELK	**Elko**	**79.35**	**327**	eP	**P**	**04 49 18.6**	**+1.7**
ULM	**Lac du Bonnet**	**80.49**	**344**	P	**P**	**04 49 23.3**	**+0.5**
	comp=E,2.2nm,0.7s,mb4.2,baz=167,slow=7.2,SNR=4.6						
ULM	**Lac du Bonnet**	**80.49**	**344**	P	**P**	**04 49 23.3**	**+0.5**
WRA	**Warramunga Arr**	**126.86**	**210**	PKP	PKPdf	04 56 15.4	+1.7
	comp=E,0.3nm,0.9s,baz=163,slow=1.8,SNR=7.4						
KURK	**Kurchatov**	**147.29**	**37**	ePKPbc	PKPdf	04 56 55.0	+5.0
AAK	**Ala-Archa**	**148.19**	**53**	ePKPdf	PKPdf	04 56 54.8	+3.1
AAK				ePKPbc	PKPdf	04 56 57.6	+5.9
AAK				ePKPab	PKPab	04 57 00.8	+0.6
MKAR	**Makanchi Array**	**151.48**	**40**	PKPbc	PKPdf	04 57 05.5	+8.8
	comp=E,5.4nm,0.6s,baz=316,slow=2.0,SNR=62						
WMQ	**Urumqi**	**156.31**	**41**	ePKP	PKPdf	04 57 08.8	+5.4
WMQ				APKP		04 57 22.3	
WMQ				PKP2	PKPab	04 57 38.8	+4.6
WMQ				PP	PP	05 01 17.8	+4.7
WMQ				PP	PP		
	comp=Z,12nm,7.6s						
WMQ				LR	LR		
	comp=N,120nm,21.0s,MS4.7						
WMQ				LR	LR		
	comp=E,55nm,21.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,135nm,21.8s,MS4.7						
SONM	**Songino Array**	**159.58**	**5**	PKP	PKPdf	04 57 10.8	+3.5
	comp=Z,0.6nm,0.9s,baz=45,slow=2.0,SNR=3.5						
SONM				PKPab	PKPab	04 57 49.6	+1.4
	comp=Z,0.7nm,0.9s,slow=2.5,SNR=3.9						
BJI	**Beijing**	**166.15**	**337**	PKP	PKPdf	04 57 20.5	+6.4
SSE	**Sheshan**	**168.80**	**292**	ePKP	PKPdf	04 57 21.3	+5.3
NJ2	**Nanjing**	**170.33**	**300**	ePKP	PKPdf	04 57 21.5	+4.6
LZH	**Lanzhou**	**170.36**	**26**	ePKP	PKPdf	04 57 22.0	+5.2
LZH				pPKP		04 57 36.8	
LZH				sPKP		04 57 43.0	

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*NEIC **30** 04:44:38.6±0.6, 15.26N×94.32W, h38^{km}±4^{km}, mb4.7/58, MS4.6/6, MD4.8(MEX), Error ellipse: s-maj=7.1km s-min=4.1km az=210.0*

*MEX **30** 04:44:39.5±1.1, 15.27N×94.51W, h10^{km}±14^{km}, MD4.8*

*BJI **30** 04:44:39.6, 15.30N×94.30W, h37^{km}, mB4.7, Ms4.8, Msz4.5*

*IDC **30** 04:44:42.4±3.0, 15.36N×94.21W, h68^{km}±25^{km}, mb4.0/18, mb1 4.2/20, mb1mx4.2/22, MS4.3/16, Ms1 4.3/16, ms1mx4.3/19, Error ellipse: s-maj=23.1km s-min=11.4km az=58.0*

*CASC **30** 04:45:38.2±1.7, 13.64N×90.16W, h20^{km}±136^{km}, MD4.8, mb4.7(NEIC)*

ISC 30 04:44:37.8±0.4**, 15.33N**±0.03×**94.33W**±0.03**, h41**^{km}±3^{km}**, n193,** σ1^{s}**04**/199**, mb4.7**/74**, MS4.4**/22**, 3D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.77**	**284**	eP	**P**	**04 45 03.4**	**-3.1**
HUIG				eS	**S**	**04 45 23.4**	**-4.6**
CMIG	**Matias Romero**	**1.83**	**343**	i P	**P**	**04 45 06.9**	**-0.5**
CMIG				i S	**S**	**04 45 29.5**	**+0.1**
SCX	**San Cristobal**	**2.14**	**49**	eP	**P**	**04 45 15.5**	**+3.6**
CCIG	**Comitan**	**2.31**	**66**	eP	**P**	**04 45 17.0**	**+2.8**
CCIG				⇓eS	**S**	**04 45 46.9**	**+5.4**
OXX	**Oaxaca**	**2.89**	**307**	i P	**P**	**04 45 22.9**	**+0.4**
VHO	**Vista Hermosa**	**2.89**	**307**	eP	**P**	**04 45 22.6**	**+0.1**
VHO				eS	**S**	**04 45 55.1**	**-1.2**
EVV	**El Vigia**	**3.26**	**343**	eP	**P**	**04 45 27.4**	**-0.4**
IISM	**Ciudad Serdan**	**4.66**	**322**	i P	**P**	**04 45 47.4**	**-0.2**
SCIG		**4.70**	**39**	i P	**P**	**04 45 49.1**	**+0.9**
SCIG				i S	**S**	**04 46 44.4**	**+2.3**
RTR	**El Retiro**	**4.75**	**107**	eP	**P**	**04 45 49.1**	**+0.3**
SBLS	**San Blas**	**4.79**	**107**	eP	**P**	**04 45 49.5**	**+0.1**
SNJE	**San Jose**	**4.79**	**107**	eP	**P**	**04 45 50.0**	**+0.5**
LVIG	**Laguna Verde**	**4.80**	**336**	eP	**P**	**04 45 49.8**	**+0.2**
LVIG				⇓eS	**S**	**04 46 44.2**	**-0.4**
IIB	**San Bernardino**	**5.27**	**314**	eP	**P**	**04 45 57.0**	**+0.8**
LFRS	**El Faro**	**5.37**	**108**	eP	**P**	**04 45 57.6**	**+0.1**
LCBS	**La Ceiba**	**5.44**	**107**	eP	**P**	**04 45 58.4**	**-0.1**
PPM	**Popocatepetl**	**5.54**	**313**	i P	**P**	**04 45 59.2**	**-0.7**
PPM				eP		04 46 00.3	
PPM				i S	**S**	**04 47 04.1**	**+0.9**
PPM	**Popocatepetl**	**5.54**	**313**	eP	**P**	**04 46 00.3**	**+0.5**
PPM				i S	**S**	**04 47 04.1**	**+0.9**
ACX	**Acapulco**	**5.59**	**287**	i P	**P**	**04 45 57.5**	**-3.0**
YAIG	**Yautepec**	**5.74**	**308**	eP	**P**	**04 46 01.3**	**-1.3**
YAIG				eS	**S**	**04 47 02.8**	**-5.3**
PLIG	**Platanillo**	**5.82**	**302**	eP	**P**	**04 46 01.5**	**-2.3**
PLIG				i S	**S**	**04 47 09.5**	**-0.7**
IIZ	**Mezontepec**	**6.06**	**310**	eP	**P**	**04 46 09.5**	**+2.3**
UNM	**Universidad Na**	**6.11**	**311**	eP	**P**	**04 46 05.0**	**-2.8**
UNM				eP		04 46 07.1	
UNM				i S	**S**	**04 47 18.4**	**+1.1**
UNM	**Universidad Na**	**6.11**	**311**	eP	**P**	**04 46 07.1**	**-0.7**
UNM				i S	**S**	**04 47 18.4**	**+1.1**
CRX	**Cerrillo**	**6.52**	**309**	eP	**P**	**04 46 15.0**	**+1.3**
ZIIG	**Zihuatanejo**	**7.21**	**289**	⇓eP	**P**	**04 46 21.1**	**-2.2**
ZIIG				eS	**S**	**04 47 36.7**	**-8.1**
TEIG	**Tepich**	**7.54**	**49**	P	**P**	**04 46 27.2**	**-0.7**
	0.0nm,0.3s,baz=233,slow=24,SNR=26						
TEIG				S	**S**	**04 47 52.5**	**-0.5**
	0.0nm,0.3s,baz=40,slow=24,SNR=11						
MOIG	**Morelia**	**7.85**	**304**	eP	**P**	**04 46 29.6**	**-2.6**
MOIG				i S	**S**	**04 47 55.9**	**-4.7**
SFJM	**Santa Fe**	**9.75**	**303**	i P	**P**	**04 46 59.5**	**+1.0**
CGX	**Ciudad Guzman**	**9.77**	**298**	eP	**P**	**04 46 57.0**	**-1.9**
CGX				eP		04 46 57.0	
VCR	**Vista de Mar**	**9.93**	**120**	eP	**P**	**04 47 00.5**	**-0.5**
JTS	**JuntasAbangare**	**10.42**	**118**	P	**P**	**04 47 08.3**	**+0.5**
	2.1nm,0.3s,baz=315,slow=7.7,SNR=13						
JTS				S	**S**	**04 49 16.5**	**+12**
	0.2nm,0.3s,baz=161,slow=20,SNR=2.3						
JTS	**JuntasAbangare**	**10.42**	**118**	ePn	**P**	**04 47 07.7**	**0.0**
JTS				eS	**S**	**04 49 22.0**	**+18**
ZAIG	**Zacatecas**	**10.74**	**315**	eP	**P**	**04 47 13.5**	**+1.4**
CGA2	**Cerro Gallo 2**	**10.97**	**118**	eP	**P**	**04 47 16.1**	**+0.8**
LCR2	**La Lucha 2**	**11.50**	**118**	eP	**P**	**04 47 22.6**	**+0.1**
ICR	**Volcan Irazu**	**11.54**	**116**	eP	**P**	**04 47 24.9**	**+2.0**
URSC	**Urasca**	**11.65**	**117**	eP	**P**	**04 47 25.1**	**+0.7**

BUS	Buena Vista	11.81	118	eP	P	04 47 26.2	-0.3
SOR	Soroa	13.02	54	eP	P	04 47 41.4	-1.3
SOR				eS	S	04 50 02.2	-4.8
	comp=N,998nm,2.0s						
	comp=E,854nm,0.7s						
HKT	Hockley	14.62	355	eP	P	04 48 03.0	-0.7
	comp=E,25nm,1.4s						
MGV	Manicaragua	15.16	61	eP	P	04 48 09.5	-1.3
MGV				eS	S	04 50 50.0	-8.0
	comp=N,623nm,0.9s						
	comp=E,2µm,0.4s						
JCT	Junction City	15.89	342	eP	P	04 48 21.4	+1.2
	comp=E,47nm,0.8s						
JCT				eS	S	04 51 14.2	-0.8
NATX	Nacogdoches	16.36	359	eP	P	04 48 25.8	-0.3
	comp=E,38nm,0.9s						
LTX	Lajitas	16.39	330	eP	P	04 48 27.6	+1.2
	comp=E,24nm,1.1s						
TXAR	Lajitas Array	16.39	330	P	P	04 48 28.3	+1.9
	comp=E,0.3nm,0.3s,baz=157,slow=14,SNR=37						
TXAR				LR	LR	04 55 19.8	
	comp=E,409nm,19.4s,baz=220,slow=39						
LRAL	Lakeview Retre	18.84	19	ePn	P	04 48 54.9	-2.0
	comp=E,23nm,1.4s						
CLNB	Carlsbad	18.97	334	eP	P	04 48 58.4	0.0
GDL2	Guadalupe Moun	19.12	333	eP	P	04 48 60.0	-0.1
UALR	University of	19.44	5	eP	P	04 49 02.4	-1.3
	comp=E,24nm,1.0s						
OXF	Oxford	19.61	12	eP	P	04 49 03.4	-2.0
	comp=E,18nm,0.6s						
CPRX	Cap Rock	19.63	336	eP	P	04 49 05.5	-0.2
WMOK	Wichita Mounta	19.74	349	eP	P	04 49 05.5	-1.3
	comp=E,24nm,1.1s						
WMOK				eS	S	04 52 39.5	-2.3
WVT	Waverly	21.51	14	eP	P	04 49 23.0	-2.1
	comp=E,6.3nm,0.8s,mb4.1						
WVT				epP		04 49 36.9	
OTAV	Otavalo	21.70	132	eP	P	04 49 26.0	-1.1
	comp=E,20nm,1.4s,mb4.3						
BNM	Barren Site	21.78	332	eP	P	04 49 28.8	+0.9
LENM	Lemitar	21.95	331	eP	P	04 49 31.7	+2.1
LAZ	Ladron	22.23	331	eP	P	04 49 34.3	+2.0
ROSC	El Rosal	22.24	116	P	P	04 49 35.0	+2.4
	comp=E,14nm,0.8s,mb4.5,baz=352,slow=6.2,SNR=26						
JSC	Jenkinsville	22.25	30	P	P	04 49 32.6	+0.1
ANMO	Albuquerque	22.37	333	eP	P	04 49 34.9	+1.2
	comp=E,6.7nm,0.8s,mb4.1						
TUC	Tucson	22.58	321	eP	P	04 49 37.5	+1.6
	comp=E,22nm,1.3s,mb4.4						
CCM	Cathedral Cave	22.80	6	eP	P	04 49 35.4	-2.6
FVM	French Village	22.83	8	eP	P	04 49 37.9	-0.3
	comp=E,6.9nm,1.1s,mb4.0						
SLM	Saint Louis	23.49	8	P	P	04 49 43.4	-1.3
	comp=E,38nm,1.2s,mb4.7						
KSU1	Kansas State U	23.77	356	eP	P	04 49 47.0	-0.3
CBKS	Cedar Bluff	23.87	350	eP	P	04 49 49.0	+0.6
	comp=E,144nm,1.2s,mb5.3						
WCI	Wyandotte Cave	23.89	16	eP	P	04 49 47.1	-1.4
	comp=E,40nm,1.4s,mb4.7						
SDV	Santo Domingo	24.02	103	eP	P	04 49 49.7	-0.4
	comp=E,16nm,1.1s,mb4.4						
SDCO	Great Sand Dun	24.42	338	eP	P	04 49 55.4	+1.6
	comp=E,34nm,1.1s,mb4.7						
BLO	Bloomington	24.72	15	eP	P	04 49 55.4	-1.3
	comp=E,18nm,1.0s,mb4.6						
WUAZ	Wupatki	25.25	326	eP	P	04 50 03.0	+1.3
	comp=E,50nm,1.4s,mb4.8						
PV01	Paradox Valley	25.97	334	eP	P	04 50 09.7	+1.3
PV10	Paradox Valley	26.37	333	eP	P	04 50 12.4	+0.3
LDFC	Landfair	27.10	320	eP	P	04 50 20.5	+1.6
SJG	San Juan	27.11	80	LR	LR	05 01 23.9	
	comp=E,375nm,21.1s,MS3.9,baz=272,slow=37						
NEN	Nelson	27.32	322	eP	P	04 50 21.2	+0.3
SRU	San Rafael	27.63	332	eP	P	04 50 23.9	+0.2
MSU	Marysvale	27.94	329	eP	P	04 50 27.7	+1.2
MVU	Marysvale	27.95	329	eP	P	04 50 26.9	+0.4
DAU	Daniels Canyon	29.02	333	eP	P	04 50 36.9	+0.8
NLU	North Lily Min	29.02	331	eP	P	04 50 36.9	+0.8
TPNV	Topopah Spring	29.04	322	P	P	04 50 33.2	-3.0
	comp=E,38nm,2.3s,mb4.7						
CTU	Camp Tracy	29.47	332	eP	P	04 50 40.1	+0.1
DUG	Dugway	29.56	331	eP	P	04 50 41.6	+0.7
	comp=E,5.9nm,1.3s,mb4.2						
TCUT	Toone Canyon	29.66	333	eP	P	04 50 41.9	+0.2
HWUT	Hardware Ranch	30.13	334	eP	P	04 50 45.9	0.0
	comp=E,9.8nm,1.2s,mb4.4						
BW06	Boulder Array	30.31	337	eP	P	04 50 46.8	-0.7
	comp=E,4.2nm,1.1s,mb4.1						
PDAR	Pinedale Array	30.31	337	P	P	04 50 47.8	+0.2
	comp=E,1.5nm,0.7s,mb3.8,baz=143,slow=7.4,SNR=10						
TPH	Tonopah	30.36	323	P	P	04 50 47.8	-0.2
	comp=E,4.1nm,1.1s,mb4.1						
HVU	Hansel Valley	30.80	332	eP	P	04 50 51.9	+0.1
MNV	Mina	31.15	322	eP	P	04 50 55.6	+0.6
	comp=E,20nm,1.4s,mb4.8						
ELK	Elko	31.17	328	eP	P	04 50 55.9	+0.7
	comp=E,7.4nm,1.0s,mb4.5						
NVAR	Mina Array Bea	31.24	322	P	P	04 50 57.3	+1.5
	comp=E,2.5nm,0.8s,mb4.1,baz=128,slow=11,SNR=23						
NVAR				LR	LR	05 05 02.3	
	comp=E,2µm,18.5s,MS4.7,baz=220,slow=39						
REDW	Red Top Meadow	31.31	336	eP	P	04 50 56.7	+0.4
SNOW	Snow King Moun	31.36	337	eP	P	04 50 57.0	+0.2
WUWY	Wally Ulrich	31.42	337	eP	P	04 50 57.8	+0.5
TPAW	Teton Pass	31.45	336	eP	P	04 50 58.0	+0.3
MOOW	Moose Ponds	31.60	337	eP	P	04 50 59.1	+0.3
SADO	Sadowa	32.04	21	P	P	04 51 02.5	-0.2
	comp=E,2.0nm,0.5s,mb4.2,baz=277,slow=6.8,SNR=2.5						
YMR	Madison River	32.47	338	P	P	04 51 07.2	+0.8
QLMT	Earthquake Lak	32.77	337	eP	P	04 51 10.6	+1.4
HLID	Hailey	32.95	333	eP	P	04 51 10.9	+0.2
	comp=E,7.1nm,1.0s,mb4.5						
MCMT	McKenzie Canyo	33.32	336	eP	P	04 51 15.2	+1.4
BOZ	Bozeman (W)	33.55	338	eP	P	04 51 16.2	+0.4
	comp=E,9.7nm,1.3s,mb4.6						
DGMT	Dagmar	34.03	348	eP	P	04 51 19.2	-0.7
	comp=E,14nm,1.0s,mb4.8						
WVOR	Wild Horse Val	34.15	327	eP	P	04 51 19.6	-1.4
	comp=E,25nm,1.4s,mb5.0						
HRY	Holter Researc	34.53	339	eP	P	04 51 24.4	+0.1
MOD	Modoc	34.68	325	eP	P	04 51 25.5	-0.1
	comp=E,5.4nm,1.0s,mb4.4						
ULM	Lac du Bonnet	34.85	358	P	P	04 51 25.1	-1.9
	comp=E,19nm,1.1s,mb4.9,baz=161,slow=7.2,SNR=11						
CHMT	Chamberlain Mo	35.22	337	eP	P	04 51 30.0	-0.1
LNOR	Lincton Mounta	36.48	331	eP	P	04 51 41.9	+1.0
SSOR	Sweet Springs	37.83	327	eP	P	04 51 52.0	-0.1
DPW	Davenport	37.97	334	eP	P	04 51 53.4	+0.1
LON	Longmire	38.80	330	eP	P	04 51 59.9	-0.2
SAML	Samuel	39.17	126	eP	P	04 52 00.5	-3.1
	comp=E,3.9nm,1.0s,mb4.1						
RMW	Rattlesnake Mo	39.30	330	P	P	04 52 04.5	+0.2
FFC	Flin Flon	39.76	353	eP	P	04 52 08.1	+0.1
	comp=E,35nm,1.2s,mb5.0						
LPAZ	La Paz	40.69	139	P	P	04 52 15.9	-0.3
	comp=E,1.6nm,0.2s,mb4.3,slow=9.1,SNR=4.2						
LPAZ				LR	LR	05 07 41.0	
	comp=E,257nm,20.4s,MS4.1,baz=154,slow=34						
SCHQ	Schefferville	44.81	22	P	P	04 52 47.9	-1.4
	comp=E,2.7nm,0.9s,mb4.1,baz=48,slow=15,SNR=2.6						
SCHQ				LR	LR	05 14 00.7	
	comp=E,929nm,19.3s,MS4.7,baz=218,slow=39						
YKA	Yellowknife Ar	49.24	348	P	P	04 53 23.1	-0.8
	comp=E,2.0nm,0.5s,mb4.4,baz=154,slow=7.5,SNR=8.8						
DLBC	Dease Lake	50.54	337	P	P	04 53 35.1	+1.2
	comp=E,3.8nm,1.0s,mb4.3,baz=122,slow=8.7,SNR=10						
CPUP	Villa Florida	54.85	139	P	P	04 54 07.0	+0.5
	comp=E,1.5nm,0.8s,mb4.1,baz=22,slow=10.0,SNR=3.3						
CPUP				LR	LR	05 19 20.5	
	comp=E,113nm,18.9s,MS4.0,baz=358,slow=38						
BDFB	Brasilia	55.13	122	P	P	04 54 06.9	-1.8
	comp=E,3.5nm,0.6s,mb4.6,baz=298,slow=9.5,SNR=17						
BDFB				LR	LR	05 18 58.4	
	comp=E,278nm,19.2s,MS4.3,baz=138,slow=37						
RKT	Rikitea	55.15	227	eS	S	05 01 36.5	-11
RKT				eR		05 09 53.5	
	comp=E,418nm,26.2s						
PLCA	Paso Flores	59.98	159	P	P	04 54 40.8	-1.8
	comp=E,3.4nm,1.2s,mb4.3,baz=54,slow=20,SNR=3.1						
PLCA				LR	LR	05 15 35.6	
	comp=E,179nm,18.5s,MS4.2,baz=346,slow=31						
PMS	Palmer South	60.26	333	eP	P	04 54 43.9	-0.3
	comp=E,3.8nm,0.5s,mb4.7						
ILAR	Eielson Array	60.74	337	P	P	04 54 46.2	-1.2
	comp=E,2.2nm,0.6s,mb4.5,baz=138,slow=5.4,SNR=32						
ILAR				LR	LR	05 23 59.7	
	comp=E,377nm,18.2s,MS4.6,baz=142,slow=39						
MCK	McKinley	61.06	336	P	P	04 54 48.7	-0.9
	comp=E,6.2nm,1.2s,mb4.6						
SPU	Mount Spurr	61.35	332	P	P	04 54 50.3	-1.2
SVW	Sparrevohn	62.95	331	eP	P	04 55 01.8	-0.5
	comp=E,16nm,1.6s,mb4.9						
PPT	Papeete	63.52	241	eS	S	05 03 28.3	-7.1
PPT				eSS	SS	05 07 53.5	+8.8
PPT				eR		05 13 38.0	
	comp=E,427nm,26.0s,baz=66						
TBI	Tubuai	66.21	236	eS	S	05 03 54.9	-13
TBI				eSS	SS	05 08 03.6	-23
TBI				eR		05 15 03.1	
	comp=E,324nm,28.0s,baz=57						
JMIC	Jan Mayen	74.26	20	AMS	AMS	05 30 21.7	
	comp=Z,283nm,20.7s,MS4.5						
KBS	Kingsbay	78.14	11	AMS	AMS	05 39 42.3	
	comp=Z,120nm,18.0s,MS4.3						
ESDC	Sonseca Array	80.66	51	P	P	04 56 47.4	-0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=296,slow=5.3,SNR=7.8						
ESDC				pP	pP	04 57 05.5	+4.9
	comp=Z,2.2nm,0.8s,baz=292,slow=5.2,SNR=7.0						
ESDC				LR	LR	05 27 09.2	
	comp=Z,202nm,20.4s,MS4.5,baz=285,slow=32						
GRR	Gorron	80.97	42	eP	P	04 56 49.2	-0.4
	comp=Z,19nm,0.8s,mb4.8						
FLN	La Foliniere	81.13	42	eP	P	04 56 50.1	-0.3
	comp=Z,36nm,1.0s,mb5.0						
FLN				eR			
	comp=Z,238nm,18.8s						
LDF	La Druitiere	81.40	42	eP	P	04 56 51.5	-0.3
	comp=Z,12nm,0.8s,mb4.6						
MFF	Saint Martin d	81.85	44	eP	P	04 56 53.6	-0.6
ETSF	Etsaut	82.44	48	eP	P	04 56 57.3	0.0
LFF	La Frestale	82.85	45	eP	P	04 56 59.0	-0.4
EPF	Esparros	83.05	47	eP	P	04 57 00.3	-0.1
	comp=Z,36nm,1.4s,mb4.9						
RJF	Les Rejaudoux	83.29	45	eP	P	04 57 01.2	-0.4
	comp=Z,16nm,1.0s,mb4.7						
RJF				eR			
	comp=Z,244nm,19.5s						
TCF	Toulx Ste Croi	83.50	44	eP	P	04 57 02.1	-0.6
TRO	Tromso	83.53	19	AMS	AMS	05 35 44.5	
	comp=Z,173nm,19.2s,MS4.4						
BAIF	Baives	83.77	40	eP	P	04 57 04.0	+0.1
BGF	Bois d'Agland	83.86	44	eP	P	04 57 03.9	-0.5
	comp=Z,15nm,0.8s,mb4.9						
NB2	NORSAR Subarra	84.05	28	P	P	04 57 05.9	+0.8
	comp=Z,126nm,2.5s,mb5.6,baz=290,slow=5.0						
NB2	NORSAR Subarra	84.05	28	P	P	04 57 05.9	+0.8
	baz=290,slow=5.3						
NOA	NORSAR Array B	84.05	28	P	P	04 57 05.8	+0.8
	comp=Z,3.7nm,0.9s,mb4.5,baz=292,slow=5.1,SNR=9.9						
NOA				LR	LR	05 32 20.7	
	comp=Z,167nm,21.1s,MS4.4,baz=300,slow=34						
NOA	NORSAR Array B	84.05	28	P	P	04 57 05.8	+0.8
NOA				LR	LR	05 32 20.7	
AVF	Avril sur Loir	84.13	43	eP	P	04 57 05.7	-0.1
	comp=Z,4.3nm,0.6s,mb4.4						
SSF	Saint Saulge	84.15	43	eP	P	04 57 05.3	-0.6
	comp=Z,18nm,1.0s,mb4.9						
MTLF	Montolieu	84.29	47	eP	P	04 57 06.5	-0.2
LOR	Lormes	84.33	43	eP	P	04 57 06.5	-0.3
LOR				eR			
	comp=Z,206nm,23.0s						
HGN	Heimansgroeve	84.62	39	eP	P	04 57 08.1	0.0
	comp=Z,12nm,1.1s,mb5.0						
MEZF	Maizieres J'vi	84.74	41	eP	P	04 57 09.0	+0.2
WTSB	Winterswijk	84.77	38	eP	P	04 57 09.0	+0.1
	comp=Z,16nm,1.2s,mb5.0						
LASF	Ste Croix	85.23	46	eP	P	04 57 11.9	+0.5
	comp=Z,91nm,1.7s,mb5.3						
VIVF	Saint-Julien-l	85.56	45	eP	P	04 57 13.5	+0.5
	comp=Z,100nm,1.8s,mb5.5						
ARCES	ARCESS Array B	85.58	18	P	P	04 57 12.7	+0.2
	comp=Z,2.0nm,0.6s,mb4.5,baz=302,slow=4.3,SNR=24						
ARCES				LR	LR	05 36 30.3	
	comp=Z,199nm,20.6s,MS4.5,baz=179,slow=36						
HAU	Haudompre	85.72	41	eP	P	04 57 13.7	0.0
	comp=Z,12nm,0.7s,mb5.0						
HAU				eR			
	comp=Z,154nm,21.2s						
CABF	La Chapelle	85.98	43	eP	P	04 57 15.1	+0.1
	comp=Z,56nm,1.4s,mb5.3						
HINF	Hinteralfeld	86.10	42	eP	P	04 57 15.4	-0.1
	comp=Z,89nm,1.7s,mb5.4						
CDF	Champ du Feu	86.18	41	eP	P	04 57 16.1	+0.2
	comp=Z,15nm,1.0s,mb4.9						
ORIF	Oris-en-Rattie	86.36	44	eP	P	04 57 17.5	+0.6
	comp=Z,14nm,1.0s,mb4.8						
ORIF				eR			
	comp=Z,280nm,22.5s						
SMRF	Simiane la Rot	86.44	45	eP	P	04 57 18.1	+0.8
	comp=Z,27nm,1.1s,mb5.1						
LPL	La Plagne	86.75	44	eP	P	04 57 19.7	+0.9
LPG	La Plagne	86.77	44	eP	P	04 57 19.9	+1.0
	comp=Z,59nm,1.6s,mb5.3						
MBDF	Montbardon	87.03	44	eP	P	04 57 20.7	+0.5
	comp=Z,10.0nm,0.9s,mb4.7						
LMR	La Mourre	87.29	46	eP	P	04 57 21.5	0.0
	comp=Z,17nm,0.9s,mb5.0						
FRF	La Foret Royal	87.31	46	eP	P	04 57 21.7	+0.1
	comp=Z,16nm,0.9s,mb5.0						
TIC	Toumodi	87.60	84	eP	P	04 57 22.6	-1.1
	comp=Z,55nm,1.3s,mb5.6						
LIC	Lamto	87.70	84	eP	P	04 57 22.2	-1.9
	comp=Z,28nm,1.2s,mb5.1						
LIC	Lamto	87.70	84	eP	P	04 57 23.1	-1.0
	comp=Z,32nm,1.2s,mb5.4						
DBIC	Dimbokro	87.75	84	P	P	04 57 24.0	-0.4
	comp=Z,3.0nm,0.8s,mb4.5,baz=232,slow=3.7,SNR=4.6						
DBIC				LR	LR	05 33 23.8	
	comp=Z,114nm,20.8s,MS4.3,baz=231,slow=33						
KIC	Kosan Boka	87.94	84	eP	P	04 57 24.5	-0.8
	comp=Z,182nm,1.8s						
MOX	Moxa	88.06	38	i P	P	04 57 26.5	+1.5
	comp=Z,logA/T=1.3,mb5.3						
MOX				L		05 42 12.0	
MOX	Moxa	88.06	38	eP	P	04 57 26.5	+1.5
	comp=Z,38nm,2.0s,mb5.3						
MOX				LR	LR		
	comp=Z,200nm,19.0s,MS4.5						
GRA1	Grafenberg Arr	88.18	39	eP	P	04 57 27.3	+1.8
	comp=Z,28nm,1.7s,mb5.2						
GRA1				e		04 57 36.9	
GRA1				LR	LR		
	comp=Z,200nm,19.3s,MS4.5						
GERES	GERESS Array B	90.00	39	P	P	04 57 34.9	+0.7
	comp=Z,0.9nm,0.8s,mb4.2,slow=2.7,SNR=5.0						
FINES	FINESS Array B	90.24	24	P	P	04 57 36.1	+1.1
	comp=Z,1.2nm,0.6s,mb4.4,slow=1.9,SNR=5.3						
FINES				LR	LR	05 40 15.9	
	comp=Z,128nm,18.4s,MS4.4,baz=182,slow=37						
AKASG	Malin Array Be	97.84	32	LR	LR	05 41 06.3	
	comp=Z,94nm,20.7s,MS4.3,baz=300,slow=35						
URZ	Urewera	98.22	233	LR	LR	05 33 03.5	
	comp=Z,121nm,21.1s,MS4.4,baz=208,slow=30						
BJI	Beijing	118.03	334	P	PKPdf	05 03 16.3	-4.1
WMQ	Urumqi	121.11	358	ePKP	PKPdf	05 03 31.5	+5.1
WMQ				PP	PP	05 05 05.3	+4.5
WMQ				PP	PP		
	comp=Z,28nm,7.0s						
WMQ				LR	LR		
	comp=N,185nm,22.1s						
WMQ				LR	LR		
	comp=E,113nm,28.1s						
WMQ				LR	LR		
	comp=Z,124nm,22.1s,MS4.5						
SSE	Sheshan	122.60	324	eP	PKPdf	05 03 26.5	-3.1
NJ2	Nanjing	123.16	326	ePKP	PKPdf	05 03 36.0	+5.3
LZH	Lanzhou	126.05	342	ePKP	PKPdf	05 03 39.5	+3.4
LZH				SKKS		05 12 25.0	
LZH				SS	SS	05 22 32.8	+2.6
LZH				PP	PP		
	comp=Z,42nm,5.1s						
LZH				LR	LR		
	comp=N,115nm,18.0s						
LZH				LR	LR		
	comp=Z,191nm,20.0s,MS4.8						
LZH	Lanzhou	126.05	342	ePKP	PKPdf	05 03 39.5	+3.4
LZH				pPKP		05 03 56.5	
LZH				sPKP		05 04 03.0	
LZH				PP	PP	05 06 36.7	+62
LZH				SKKS		05 12 24.9	
LZH				SS	SS	05 22 32.8	+2.6
LZH				LR	LR		
	comp=Z,190nm,20.0s,MS4.8						
WRA	Warramunga Arr	133.52	257	PKP	PKPdf	05 03 51.3	+0.4
	comp=Z,0.6nm,0.8s,baz=87,slow=2.6,SNR=4.0						
CMAR	Chiang Mai Arr	143.97	338	PKhKP		05 04 08.1	
	comp=Z,2.1nm,1.1s,baz=350,slow=3.9,SNR=6.3						

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*NEIC **30** 05:13:12.7, 15.16N×94.68W, h20^{km}, MD4.1(MEX), After MEX.*

MEX 30 05:13:12.7±1.1**, 15.16N×94.68W, h20^{km}**±50^{km}**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.93	354	eP	Pn	05 13 41.9	-3.1
CMIG				i S	Sn	05 14 03.9	-5.1
SCX	San Cristobal	2.52	51	i P	Pn	05 13 51.0	-2.4
SCX				i S	Sn	05 14 21.0	-2.7
CCIG	Comitan	2.69	65	eP	Pn	05 13 51.6	-4.2
CCIG				eS	Sn	05 14 22.8	-5.4
OXX	Oaxaca	2.75	314	eP	Pn	05 13 54.0	-2.6

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*NEIC **30** 05:19:18.7, 15.17N×94.61W, h31^{km}, MD4.1(MEX), After MEX.*

MEX 30 05:19:18.7±0.6**, 15.17N×94.61W, h31^{km}**±462^{km}**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.93	352	eP	Pn	05 19 47.5	-2.5
CMIG				eS	Sn	05 20 10.0	-3.3
SCX	San Cristobal	2.46	50	i P	Pn	05 19 57.0	-0.6
SCX				i S	Sn	05 20 24.0	-2.9
CCIG	Comitan	2.63	65	i P	Pn	05 19 56.9	-3.1
CCIG				eS	Sn	05 20 26.6	-4.5
OXX	Oaxaca	2.78	313	eP	Pn	05 19 55.0	-7.2

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*NEIC **30** 05:26:51.8, 15.17N×94.63W, h38^{km}, MD4.1(MEX), After MEX.*

MEX 30 05:26:51.8±0.7**, 15.17N×94.63W, h38^{km}**±999^{km}**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.92	353	i P	P	05 27 20.4	-2.3
CMIG				i S	S	05 27 43.0	-2.9
SCX	San Cristobal	2.47	51	i P	P	05 27 29.0	-1.5
SCX				i S	S	05 27 57.0	-2.7
CCIG	Comitan	2.64	65	i P	P	05 27 30.0	-3.0
CCIG				i S	S	05 27 59.5	-4.6
OXX	Oaxaca	2.77	314	eP	P	05 27 32.5	-2.2
VHO	Vista Hermosa	2.77	313	eP	P	05 27 32.9	-1.9
VHO				i S	S	05 28 03.4	-3.9
EVV	El Vigia	3.34	348	eP	P	05 27 49.5	+6.6
PPM	Popocatepetl	5.44	316	eP	P	05 28 13.0	+0.4

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*BJI **30** 05:35:14.4, 29.35N×116.70W, h21^{km}, mB5.4, mb4.9, Ms5.2, Msz4.8*

*IDC **30** 05:35:15.4±0.6, 29.58N×116.42W, mb4.7/21, mb1 4.9/26, mb1mx4.8/29, ML4.5/5, MS4.6/21, Ms1 4.6/21, ms1mx4.5/27, Error ellipse: s-maj=16.4km s-min=9.4km az=57.0*

*HRVD **30** 05:35:16.1±0.2, 29.61N×116.59W, h12^{km}, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s31,c44;Mantle waves: s64,c120; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.36±.15; $M_{\theta\theta}$-5.40±.13; $M_{\phi\phi}$6.76±.14; $M_{r\theta}$0.82±.39; $M_{\theta\phi}$1.25±.13; $M_{\phi r}$2.12±.39; Best double couple: $M_0$6.53×10^{16} NP1: ϕ_s320°,δ74°,λ176°. NP2:ϕ_s51°,δ86°,λ16°. Principal axes: T 7.44, Plg14°, Azm276°; N -1.81, Plg73°, Azm63°; P -5.62, Plg9°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 05:35:16.1±0.2, 29.52N×116.55W, h10^{km}, mb5.1/71, MS5.1/6 Error ellipse: s-maj=5.0km s-min=3.0km az=45.0*

*MOS **30** 05:35:18.9±0.9, 29.61N×116.41W, h33^{km}, mb5.0/25, MS4.6/13, Error ellipse: s-maj=17.7km s-min=9.0km az=96.7*

*ECX **30** 05:35:23.9±0.6, 30.33N×116.51W, h12^{km}, MD4.6, ML5.0*

ISC 30 05:35:16.4±1.1**, 29.58N**±0.03×**116.50W**±0.03**, h18^{km}**±7^{km}**, n295, σ1^{s}16**/287**, mb5.0**/91**, MS4.7**/28**, 9C-21D, Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.72	31	⇓eP	Pn	05 35 44.0	-1.9
SPX				eS	Sn	05 36 00.1	-7.4
ECNX	Esteban Cantu	2.08	358	⇓ePN	Pn	05 35 48.1	-2.9
ECNX				⇓ePN	Pn	05 35 51.2	+0.3
ECNX				eSN	Sn	05 36 06.8	-10
PBX	Punta Banda	2.17	355	⇓ePN	Pn	05 35 49.2	-3.0
PBX				eSN	Sn	05 36 08.9	-10
ECBX	El Chinero	2.27	33	ePN	Pn	05 35 52.6	-1.1
ECBX				eSN	Sn	05 36 20.5	-0.9
ENX	Ensenada	2.30	357	⇓ePN	Pn	05 35 51.4	-2.8
ENX				eSN	Sn	05 36 12.4	-10
ENX				⇑e		05 36 20.5	
	comp=N,17µm,1.0s						
ENX				⇑e		05 36 21.7	
	comp=E,12µm,0.8s						
PGX	Piedras Gordas	2.38	1	⇑ePN	Pn	05 35 52.7	-2.6
PGX				eSN	Sn	05 36 20.9	-3.4
RDX	Rancho Dowling	2.40	11	⇓ePN	Pn	05 35 54.4	-1.1
RDX				eSN	Sn	05 36 23.9	-0.8
RDX				⇑e		05 36 28.7	
	comp=E,23µm,1.1s						
RDX				⇓e		05 36 30.7	
	comp=N,13µm,0.7s						
EMX	El Mayor	2.64	24	⇓ePN	Pn	05 35 57.1	-1.9
EMX				eSN	Sn	05 36 31.6	+0.8
CBX	Cerro Bola	2.73	357	⇓ePN	Pn	05 35 57.7	-2.6
CPBX	Cerro Prieto	3.01	20	ePN	Pn	05 36 01.3	-3.1
CPBX				eSN	Sn	05 36 42.6	+2.3
RMX	La Rumorosa	3.04	7	ePN	Pn	05 36 01.6	-3.1
RMX				eSN	Sn	05 36 40.9	-0.1
BAR	Barrett	3.10	357	⇓iP	Pn	05 36 02.8	-2.7
PFO	Pinyon Flat Ob	4.02	1	⇓iP	Pn	05 36 16.7	-1.9
MWC	Mount Wilson	4.82	344	ePn	Pn	05 36 26.6	-3.4
LDFC	Landfair	5.61	12	eP	Pn	05 36 40.6	-0.6
TUC	Tucson	5.62	60	ePn	Pn	05 36 39.1	-2.1
NEN	Nelson	6.21	13	eP	Pn	05 36 48.0	-1.6
DAC	Darwin (Calif)	6.74	352	ePn	Pn	05 36 54.9	-2.2
WUAZ	Wupatki	7.34	35	ePn	Pn	05 37 04.5	-0.9
TPNV	Topopah Spring	7.36	2	⇓ePn	Pn	05 37 04.5	-1.2
LPIG	La Paz	7.77	133	i P	Pn	05 37 09.6	-1.9
LPIG				i S	Sn	05 39 02.5	+23
LRV	Little Rabbit	7.81	332	eP	Pn	05 37 08.1	-3.9
MTUM	Tungsten Hills	7.94	348	eP	Pn	05 37 12.8	-1.2
SAO	San Andreas Ge	8.28	331	eP	P	05 37 14.9	-3.6
OMM	Old Mammoth Mi	8.28	346	eP	P	05 37 17.9	-0.8
TPH	Tonopah	8.50	356	eP	P	05 37 20.3	-1.3
MNV	Mina	8.94	352	eP	P	05 37 26.1	-1.6
NVAR	Mina Array Bea	8.96	351	Pn	P	05 37 27.3	-0.7
	comp=N,4.6nm,0.3s,baz=169,slow=14,SNR=119						
NVAR				Lg		05 40 00.6	
	baz=14,slow=17,SNR=1.9						
NVAR				LR	LR	05 40 47.3	
	comp=N,3µm,20.1s,baz=250,slow=37						
NVAR	Mina Array Bea	8.96	351	Pn	P	05 37 27.3	-0.7
NVAR				Lg		05 40 00.6	
NVAR				LR	LR	05 40 47.3	
CMB	Columbia Colle	9.03	340	eP	P	05 37 27.1	-1.9
LAZ	Ladron	9.29	56	eP	P	05 37 31.6	-1.0
LENM	Lemitar	9.30	58	eP	P	05 37 31.3	-1.5
LKC	Lake Chabot	9.36	332	eP	P	05 37 34.1	+0.5
BNM	Barren Site	9.55	59	eP	P	05 37 35.1	-1.1
MSU	Marysvale	9.61	21	eP	P	05 37 37.1	+0.1
ANMO	Albuquerque	10.05	55	d iP	P	05 37 42.5	-0.5
ANMO	Albuquerque	10.05	55	eP	P	05 37 42.5	-0.5
WCN	Washoe City	10.06	345	eP	P	05 37 42.3	-1.0
NSHM	Saint Helena R	10.25	332	eP	P	05 37 43.0	-2.9
PAHR	Pah Rah Range	10.38	348	eP	P	05 37 49.6	+2.1
SRU	San Rafael	10.71	26	eP	P	05 37 52.3	+0.1
PV10	Paradox Valley	10.74	33	eP	P	05 37 52.7	+0.2
BEKR	Beckwourth	10.74	344	eP	P	05 37 51.1	-1.4
GDL2	Guadalupe Moun	10.75	73	eP	P	05 37 53.5	+0.8
PV01	Paradox Valley	10.78	36	eP	P	05 37 53.1	+0.1
BMN	Battle Mountai	10.85	357	eP	P	05 37 53.1	-0.8

NLU	North Lily Min	10.97	18	*e*P	P	05 37 57.4	+1.7
DUG	Dugway	11.02	15	*e*P	P	05 37 57.1	+0.8
MPU	Maple Canyon	11.15	20	*e*P	P	05 37 59.5	+1.3
CLNB	Carlsbad	11.17	73	*e*P	P	05 37 58.6	+0.2
ELK	Elko	11.19	5	*e*P	P	05 37 58.3	-0.4
LTX	Lajitas	11.19	88	⇑*i*P	P	05 37 57.5	-1.2
TXAR	Lajitas Array	11.19	88	Pn	P	05 37 57.5	-1.2
	comp=N,2.5nm,0.3s,baz=270,slow=12,SNR=467						
TXAR				Lg		05 41 07.3	
	baz=61,slow=46,SNR=2.7						
TXAR				LR	LR	05 42 22.7	
	comp=N,2µm,20.9s,baz=330,slow=38						
CPRX	Cap Rock	11.34	69	*e*P	P	05 38 01.2	+0.5
DAU	Daniels Canyon	11.63	20	*e*P	P	05 38 07.0	+2.3
BGU	Big Grassy Mou	11.67	13	*e*P	P	05 38 05.5	+0.3
JLU	Jordanelle	11.75	19	*e*P	P	05 38 08.5	+2.3
CTU	Camp Tracy	11.75	18	*e*P	P	05 38 07.7	+1.5
WDC	Whiskeytown Da	12.04	337	*e*P	P	05 38 08.7	-1.4
SPUT	South Promonto	12.16	15	*e*P	P	05 38 12.6	+0.8
TCUT	Toone Canyon	12.24	18	*e*P	P	05 38 13.6	+0.8
SDCO	Great Sand Dun	12.26	45	*e*P	P	05 38 12.7	-0.3
HVU	Hansel Valley	12.55	13	*e*P	P	05 38 17.5	+0.6
HWUT	Hardware Ranch	12.65	17	*e*P	P	05 38 19.9	+1.5
MOD	Modoc	12.68	347	*e*P	P	05 38 20.3	+1.6
WVOR	Wild Horse Val	12.95	353	*e*P	P	05 38 23.6	+1.3
YBH	Yreka Blue Hor	13.13	339	Pn	P	05 38 26.7	+2.0
	comp=N,0.2nm,0.3s,baz=131,slow=8.2,SNR=13						
YBH	Yreka Blue Hor	13.13	339	*e*P	P	05 38 25.7	+1.0
AHID	Auburn Hatcher	13.86	17	*e*P	P	05 38 35.6	+1.3
HUMO	Hull Mountain	14.00	340	*e*P	P	05 38 36.2	0.0
HLID	Hailey	14.06	6	*e*P	P	05 38 38.9	+2.0
ZAIG	Zacatecas	14.22	115	*i* P	P	05 38 44.4	+5.1
ZAIG				*i* S	S	05 41 27.0	+10
BW06	Boulder Array	14.30	21	*e*P	P	05 38 41.1	+1.0
PDAR	Pinedale Array	14.30	21	Pn	P	05 38 42.0	+2.0
	comp=N,0.2nm,0.3s,baz=207,slow=9.9,SNR=118						
PDAR				Lg		05 42 47.0	
	comp=N,0.0nm,0.3s,baz=189,slow=23,SNR=2.6						
PDAR				LR	LR	05 44 25.7	
	comp=N,3µm,18.9s,baz=215,slow=39						
REDW	Red Top Meadow	14.48	17	*e*P	P	05 38 43.8	+1.3
JCT	Junction City	14.50	82	⇓*i*P	P	05 38 43.8	+1.0
TPAW	Teton Pass	14.58	16	*e*P	P	05 38 45.2	+1.4
SNOW	Snow King Moun	14.60	17	*e*P	P	05 38 45.4	+1.3
WUWY	Wally Ulrich	14.68	17	*e*P	P	05 38 46.3	+1.3
KEBM	Edson Butte	14.69	337	*e*P	P	05 38 44.8	-0.3
MOOW	Moose Ponds	14.87	16	*e*P	P	05 38 48.6	+1.0
HSO	Harness Mounta	14.88	341	*e*P	P	05 38 49.1	+1.3
SFJM	Santa Fe	15.18	124	*i* P	P	05 38 53.0	+1.2
VIPM	Ingram Point	15.26	349	P	P	05 38 55.9	+3.3
CGX	Ciudad Guzman	15.37	127	*e*P	P	05 38 57.0	+2.8
MCMT	McKenzie Canyo	15.50	10	*e*P	P	05 38 58.8	+3.1
YMR	Madison River	15.69	15	*e*P	P	05 39 00.0	+1.8
QLMT	Earthquake Lak	15.75	13	*e*P	P	05 39 01.4	+2.4
WMOK	Wichita Mounta	15.86	67	*e*P	P	05 38 60.0	-0.5
	comp=N,76nm,1.0s						
COR	Corvallis	15.92	342	P	P	05 39 01.1	-0.1
	comp=N,251nm,0.9s						
COR				*e*		05 39 06.3	
SSOR	Sweet Springs	15.96	344	*e*P	P	05 39 01.2	-0.5
VGB	Gordon Butte	16.26	349	*e*P	P	05 39 07.4	+1.9
LNOR	Lincton Mounta	16.33	356	*e*P	P	05 39 09.0	+2.6
BOZ	Bozeman (W)	16.50	12	*e*P	P	05 39 10.0	+1.5
	comp=N,147nm,1.4s						
CBKS	Cedar Bluff	16.63	52	*e*P	P	05 39 10.3	+0.1
	comp=N,36nm,0.9s						
REDWA	Red Mountain	16.85	353	P	P	05 39 15.6	+2.6
HAWA	Hanford	16.95	353	*e*P	P	05 39 15.8	+1.6
	comp=N,167nm,1.3s						
MOIG	Morelia	17.04	122	*i* P	P	05 39 19.0	+3.5
WAH2	Wahluke Slope	17.32	353	P	P	05 39 21.1	+2.3
MSO	Missoula	17.34	6	*e*P	P	05 39 20.2	+1.1
	comp=N,64nm,1.2s						
HRY	Holter Researc	17.49	11	*e*P	P	05 39 22.3	+1.4
CHMT	Chamberlain Mo	17.50	7	*e*P	P	05 39 22.2	+1.2
RSSD	Black Hills	17.58	31	⇓*i*P	P	05 39 22.7	+0.5
	comp=N,28nm,1.3s						
LON	Longmire	17.64	348	*e*P	P	05 39 23.3	+0.5
BMW	Boistfort Moun	17.67	345	*e*P	P	05 39 24.1	+0.9
HKT	Hockley	17.95	84	*e*P	P	05 39 25.9	-0.9
	comp=N,117nm,1.4s						
DPW	Davenport	18.31	356	*e*P	P	05 39 30.7	-0.5
RMW	Rattlesnake Mo	18.32	348	*e*P	P	05 39 32.4	+1.0
CRX	Cerrillo	18.34	120	*e*P	P	05 39 34.0	+2.3
GNW	Green Mountain	18.62	346	*e*P	P	05 39 35.6	+0.7
NEW	Newport	18.67	359	P	P	05 39 35.5	0.0
	comp=N,0.5nm,0.3s,baz=173,slow=12,SNR=47						
NEW				LR	LR	05 46 59.1	
	comp=N,2µm,18.8s,baz=180,slow=38						
NEW	Newport	18.67	359	P	P	05 39 35.6	+0.1
NEW				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NEW				MLR	MLR		
	comp=Z,2µm,18.8s						
NEW	Newport	18.67	359	⇓*i*P	P	05 39 35.5	-0.1
	comp=Z,84nm,1.2s						
NLW	Nelson Butte	18.71	352	*e*P	P	05 39 37.1	+1.0
LAO	LASA Array	18.87	22	⇓*i*P	P	05 39 38.5	+0.5
	comp=Z,549nm,1.4s						
NATX	Nacogdoches	18.91	78	⇓*i*P	P	05 39 38.4	-0.3
	comp=Z,321nm,1.1s						
KSU1	Kansas State U	18.95	55	*e*P	P	05 39 38.4	-0.5
OCWA	Octopus Mounta	19.09	344	*e*P	P	05 39 41.1	+0.5
	comp=Z,230nm,1.4s						
RPW	Rockport	19.23	350	*e*P	P	05 39 41.8	-0.5
PPM	Popocatepetl	19.34	119	*i* P	P	05 39 44.5	+0.8
PPM				*e*P		05 39 45.0	
PGC	Sidney	19.78	346	*e*P	P	05 39 48.1	-0.4
	comp=Z,634nm,1.3s						
UALR	University of	21.08	70	*e*P	P	05 40 01.2	-0.9
	comp=Z,60nm,1.0s,mb4.9						
DGMT	Dagmar	21.10	23	*e*P	P	05 40 02.1	-0.1
	comp=Z,387nm,1.4s,mb5.5						
OXX	Oaxaca	21.97	120	*e*P	P	05 40 14.0	+2.8
HBAR	Harrisburg	22.55	68	*e*P	P	05 40 17.0	+0.1
CCM	Cathedral Cave	22.58	61	⇑*e*P	P	05 40 16.9	-0.2
	comp=Z,40nm,0.8s,mb4.9						
MET	Memphis--Engin	23.08	69	P	P	05 40 22.0	-0.1
GNAR	Gosnell	23.12	67	*e*P	P	05 40 23.8	+1.3
FVM	French Village	23.19	62	*e*P	P	05 40 23.2	+0.1
	comp=Z,55nm,1.4s,mb4.8						
CMIG	Matias Romero	23.37	117	⇑*i*P	P	05 40 25.4	+0.3
CMIG				*i* S	x	05 41 48.7	
PVMO	Portageville	23.45	66	P	P	05 40 25.6	0.0
OXF	Oxford	23.46	71	*e*P	P	05 40 27.4	+1.6
	comp=Z,306nm,1.4s,mb5.5						
SLM	Saint Louis	23.49	60	*e*P	P	05 40 26.3	+0.3
	comp=Z,81nm,1.3s,mb5.0						
HALT	Halls	23.66	67	*e*P	P	05 40 29.1	+1.4
GLAT	Glass	23.75	67	*e*P	P	05 40 30.1	+1.5
UTMT	University of	24.10	67	*e*P	P	05 40 33.1	+1.1
	comp=Z,172nm,1.0s,mb5.4						
BBB	Bella Bella	24.17	342	P	P	05 40 33.5	+1.0
	comp=Z,23nm,0.9s,mb4.6,baz=148,slow=11,SNR=7.7						
BBB				LR	LR	05 49 37.0	
	comp=Z,912nm,18.1s,MS4.3,baz=345,slow=36						
BBB	Bella Bella	24.17	342	P	P	05 40 33.5	+1.0
BBB				LR	LR	05 49 37.0	
JFWS	Jewell Farm	24.89	51	*e*P	P	05 40 39.3	-0.3
	comp=Z,74nm,1.2s,mb5.1						
WVT	Waverly	24.90	67	*e*P	P	05 40 39.8	0.0
	comp=Z,90nm,1.2s,mb5.2						
LRAL	Lakeview Retre	25.41	75	*e*P	P	05 40 44.1	-0.4
	comp=Z,52nm,1.1s,mb5.0						
ULM	Lac du Bonnet	25.86	31	P	P	05 40 47.9	-0.7
	comp=Z,30nm,0.9s,mb4.8,baz=224,slow=9.7,SNR=27						
ULM				LR	LR	05 50 29.5	
	comp=Z,942nm,21.1s,MS4.3,baz=40,slow=35						
CCIG	Comitan	25.98	115	⇑*i*P	P	05 40 50.8	+0.7
WCI	Wyandotte Cave	26.43	63	*e*P	P	05 40 52.9	-1.0
	comp=Z,54nm,1.3s,mb4.9						
BLO	Bloomington	26.43	61	*e*P	P	05 40 53.1	-0.9
	comp=Z,65nm,1.1s,mb5.1						
FFC	Flin Flon	27.23	19	⇓*e*P	P	05 41 00.5	-0.6
	comp=Z,24nm,1.1s,mb4.7						
CPCT	Cooper Cave	27.52	69	*e*P	P	05 41 02.9	-1.1
ACSO	Alum Creek Sta	29.32	60	*e*P	P	05 41 19.2	-1.0
	comp=Z,27nm,0.7s,mb5.1						
JSC	Jenkinsville	30.18	72	*e*P	P	05 41 26.6	-1.3
DLBC	Dease Lake	30.33	346	P	P	05 41 29.9	+0.9
	comp=Z,8.3nm,0.8s,mb4.5,baz=177,slow=10.0,SNR=29						
DLBC				LR	LR	05 54 22.3	
	comp=Z,840nm,18.2s,MS4.4,baz=151,slow=38						
PWV	Princeton	30.44	66	*e*P	P	05 41 29.6	-0.6
FWV	Forest Hill	30.65	65	*e*P	P	05 41 30.9	-1.1
ELN	Prospectdale	30.67	66	*e*P	P	05 41 30.9	-1.3
BLA	Blacksburg	30.93	66	*e*P	P	05 41 33.6	-0.9
	comp=Z,24nm,1.1s,mb4.9						
YKA	Yellowknife Ar	32.95	2	P	P	05 41 51.1	-0.7
	comp=Z,7.6nm,0.8s,mb4.7,baz=181,slow=8.8,SNR=15						
YKA				PcP	PcP	05 44 34.2	-1.8
	comp=Z,2.2nm,0.9s,baz=182,slow=2.9,SNR=4.3						
YKA				LR	LR	05 56 14.4	
	comp=Z,2µm,18.6s,MS4.8,baz=190,slow=38						
YKA	Yellowknife Ar	32.95	2	P	P	05 41 51.1	-0.8
YKA						05 44 34.2	
YKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,2µm,18.6s						
YKA	Yellowknife Ar	32.95	2	P	P	05 41 51.1	-0.7
YKA				PcP	PcP	05 44 34.2	-1.8
YKA				LR	LR	05 56 14.4	
SSPA	Standing Stone	33.22	60	*e*P	P	05 41 52.6	-1.9
	comp=Z,47nm,1.4s,mb5.2						
CBN	Corbin	33.40	65	*e*P	P	05 41 54.8	-1.3
	comp=Z,70nm,1.2s,mb5.5						
BINY	Binghamton	34.84	58	*e*P	P	05 42 07.9	-0.6
	comp=Z,58nm,1.2s,mb5.4						
JTS	JuntasAbangare	35.14	117	P	P	05 42 10.5	-0.8
	comp=Z,18nm,1.0s,mb5.0,baz=317,slow=7.2,SNR=7.6						
JTS	JuntasAbangare	35.14	117	*e*P	P	05 42 10.0	-1.3
	comp=Z,44nm,1.0s,mb5.3						
LOZ	Lake Ozonia	36.23	54	*e*P	P	05 42 19.1	-1.1
NCB	Newcomb	36.38	55	*e*P	P	05 42 21.0	-0.5
	comp=Z,37nm,1.3s,mb5.2						
NCB				*e*		05 42 29.1	
EYAK	Cordova Ski Ar	36.63	336	*e*P	P	05 42 24.0	+0.6
ACCN	Adirondack Com	36.70	56	*e*P	P	05 42 23.5	-0.6
MIV	Mineville/With	36.89	55	*e*P	P	05 42 25.2	-0.5
QUA2	Belchertown	37.53	58	*e*P	P	05 42 32.4	+1.3
HRV	Harvard--Oak R	38.14	58	*e*P	P	05 42 36.0	-0.3
	comp=Z,66nm,1.4s,mb5.2						
SML	Sawmill	38.40	336	*e*P	P	05 42 38.2	-0.1
PMR	Palmer	38.54	336	*e*P	P	05 42 40.2	+0.7
	comp=Z,22nm,0.7s,mb5.0						
SPU	Mount Spurr	39.38	334	*e*P	P	05 42 46.5	+0.1
MCK	McKinley	39.92	338	*e*P	P	05 42 50.7	-0.2
	comp=Z,8.7nm,1.2s,mb4.4						
ILAR	Eielson Array	40.02	340	P	P	05 42 52.2	+0.4
	comp=Z,9.3nm,0.8s,mb4.6,baz=166,slow=5.9,SNR=84						
ILAR				LR	LR	05 59 53.7	
	comp=Z,424nm,19.4s,MS4.3,baz=333,slow=37						
ILAR	Eielson Array	40.02	340	P	P	05 42 52.2	+0.4
ILAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,425nm,19.4s						
INK	Inuvik	40.04	350	P	P	05 42 52.5	+0.6
	comp=Z,16nm,0.8s,mb4.8,baz=156,slow=9.8,SNR=5.6						
INK				LR	LR	05 59 43.8	
	comp=Z,759nm,18.3s,MS4.6,baz=158,slow=37						
INK	Inuvik	40.04	350	P	P	05 42 52.5	+0.6
INK				pmax	pmax		
	comp=Z,16nm,0.8s						
INK				MLR	MLR		
	comp=Z,759nm,18.3s						
COLA	College	40.38	340	*e*P	P	05 42 54.8	+0.1
COLA	College	40.38	340	*e*P	P	05 42 55.0	+0.3
	comp=Z,18nm,1.2s,mb4.7						
SVW	Sparrevohn	40.76	332	*e*P	P	05 42 58.3	+0.5
	comp=Z,8.0nm,0.7s,mb4.5						
TTA	Tatalina	41.91	334	*e*P	P	05 43 07.6	+0.4
	comp=Z,8.7nm,0.6s,mb4.6						
IMA	Indian Mountai	42.99	339	*e*P	P	05 43 16.3	+0.4
	comp=Z,15nm,0.7s,mb4.8						
UNV	Unalaska Valle	43.33	319	*e*P	P	05 43 18.6	-0.3
	comp=Z,71nm,1.1s,mb5.3						
SCHQ	Schefferville	43.39	40	P	P	05 43 19.1	-0.2
	comp=Z,12nm,1.1s,mb4.5,baz=267,slow=4.7,SNR=4.1						
SCHQ				LR	LR	06 00 42.0	
	comp=Z,557nm,20.7s,MS4.5,baz=74,slow=35						
NIKO	Nikolski	44.53	317	*e*P	P	05 43 28.5	-0.1
OTAV	Otavalo	46.53	122	*e*P	P	05 43 46.3	+1.3
	comp=Z,21nm,1.0s,mb5.0						
ROSC	El Rosal	46.80	113	P	P	05 43 48.9	+1.8
	comp=Z,11nm,0.8s,mb4.8,baz=96,slow=1.2,SNR=9.4						
ROSC				LR	LR	06 05 26.4	
	comp=Z,369nm,21.4s,MS4.3,baz=351,slow=39						
SJG	San Juan	47.13	92	P	P	05 43 49.1	-0.6
	comp=Z,32nm,1.0s,mb5.2,baz=295,slow=5.1,SNR=10						
SJG	San Juan	47.13	92	P	P	05 43 49.1	-0.6
SJG				pmax	pmax		
	comp=Z,32nm,1.0s						
SJG	San Juan	47.13	92	*e*P	P	05 43 48.9	-0.8
	comp=Z,61nm,1.3s,mb5.4						
SDV	Santo Domingo	47.57	106	*e*P	P	05 43 52.4	-0.9
	comp=Z,36nm,1.5s,mb5.2						
MTP	Monte Pirata	47.65	92	*e*P	P	05 43 53.2	-0.7
SUMG	Summit	58.49	20	*e*P	P	05 45 12.6	-0.9
	comp=Z,17nm,0.8s,mb5.1						
ARE	Arequipa	63.09	130	*e*P	P	05 45 45.0	-0.4
SAML	Samuel	64.01	118	*e*P	P	05 45 47.9	-3.7
	comp=Z,7.6nm,1.1s,mb4.6						
SEY	Seymchan	64.60	330	*e*P	P	05 45 55.1	+0.5
SEY				*e*		05 54 36.9	
SEY				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
SEY				pmax	pmax		
	comp=E,20nm,0.8s						
LPAZ	La Paz	65.24	128	P	P	05 45 58.6	-0.8
	comp=E,2.0nm,0.3s,mb4.6,baz=344,slow=2.2,SNR=4.4						
LPAZ	La Paz	65.24	128	P	P	05 45 58.7	-0.8
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	Magadan	66.32	326	*de*P	P	05 46 05.3	-0.4
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MA2				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
MA2	Magadan	66.32	326	*e*P	P	05 46 04.8	-0.9
	comp=Z,25nm,1.4s,mb5.1						
KBS	Kingsbay	67.85	9	*e*PP	PP	05 48 43.8	-2.9
KBS				*e*S	S	05 55 15.2	+4.2
KBS				*e*SS	SS	05 59 36.1	+1.9
KBS				AMS	AMS	06 16 55.4	
	comp=Z,934nm,19.4s,MS5.0						
JMIC	Jan Mayen	67.93	20	LR	LR	06 16 33.5	
	comp=Z,772nm,18.5s,MS5.0,baz=294,slow=36						
JMIC	Jan Mayen	67.93	20	*e*SS	SS	05 59 36.9	+1.4
JMIC				AMS	AMS	06 16 56.7	
	comp=Z,725nm,17.7s,MS5.0						
LVC	Limon Verde	69.20	133	*e*P	P	05 46 24.7	+0.3
	comp=Z,16nm,0.8s,mb5.0						
TIXI	Tiksi	69.46	342	*e*P	P	05 46 24.3	-0.9
TIXI				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
YAK	Yakutsk	74.50	333	*e*P	P	05 46 55.4	+0.2
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
YSS	Yuzh-Sakhalins	75.73	316	P	P	05 47 04.2	+1.6
YSS				*e*S	S	05 56 48.0	+6.0
YSS				*e*SS	SS	06 01 38.0	+1.4
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
TRO	Tromso	75.95	15	AMS	AMS	06 22 47.3	
	comp=Z,229nm,17.6s,MS4.5						
ARCES	ARCESS Array B	77.39	13	P	P	05 47 11.2	-0.2
	comp=Z,5.0nm,0.7s,mb4.5,baz=315,slow=6.9,SNR=13						
ARCES				LR	LR	06 22 06.5	
	comp=Z,541nm,21.4s,MS4.8,baz=182,slow=36						
ARCES	ARCESS Array B	77.39	13	P	P	05 47 11.2	-0.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,541nm,21.4s						
KEV	Kevo	77.49	12	*e*p	P	05 47 09.3	-2.7
CPUP	Villa Florida	79.40	128	P	P	05 47 22.6	-0.7
	comp=Z,6.4nm,1.0s,mb4.5,baz=323,slow=8.7,SNR=7.2						
CPUP				LR	LR	06 20 06.7	
	comp=Z,189nm,21.7s,MS4.4,baz=342,slow=34						
BDFB	Brasilia	79.85	114	P	P	05 47 26.5	+0.6
	comp=Z,5.1nm,1.0s,mb4.4,baz=291,slow=8.0,SNR=5.9						
BDFB				LR	LR	06 26 06.9	
	comp=Z,276nm,18.2s,MS4.6,baz=188,slow=38						
BDFB	Brasilia	79.85	114	P	P	05 47 26.5	+0.6
BDFB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,276nm,18.2s						
NB2	NORSAR Subarra	80.24	23	P	P	05 47 27.4	+0.3
	comp=Z,2.1nm,0.7s,mb4.2,baz=315,slow=5.6						
NOA	NORSAR Array B	80.24	23	P	P	05 47 27.8	+0.7
	comp=Z,3.4nm,0.8s,mb4.3,baz=315,slow=5.4,SNR=12						
NOA				LR	LR	06 22 02.1	
	comp=Z,229nm,21.8s,MS4.5,baz=320,slow=35						
NOA	NORSAR Array B	80.24	23	P	P	05 47 27.8	+0.8
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,229nm,21.8s						
NOA	NORSAR Array B	80.24	23	P	P	05 47 27.8	+0.7
NOA				LR	LR	06 22 02.1	
LVZ	Lovozero	80.46	11	*e*P	P	05 47 28.6	+0.5
LVZ				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
LVZ				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
APA	Apatity	80.55	11	⇑*e*P	P	05 47 37.3	+8.7
APA				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.0						
APA				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.9						
KLR	Kul'dur	80.84	322	*e*P	P	05 47 29.2	-1.3
HFS	Hagfors	81.74	23	P	P	05 47 34.8	-0.2
	comp=Z,13nm,0.8s,mb5.0,baz=270,slow=1.5,SNR=21						
HFS	Hagfors	81.74	23	P	P	05 47 34.8	-0.1
HFS				pmax	pmax		
	comp=Z,13nm,0.8s						
PLCA	Paso Flores	81.89	147	P	P	05 47 37.3	+1.1
	comp=Z,8.9nm,1.2s,mb4.6,baz=351,slow=11,SNR=7.4						
PLCA				LR	LR	06 18 02.2	
	comp=Z,224nm,18.2s,MS4.6,baz=88,slow=31						
SGMF	Saint Gilles	82.59	38	*e*P	P	05 47 41.5	+1.9
	comp=Z,32nm,1.0s,mb5.0						
BOD	Bodaibo	83.20	335	*e*P	P	05 47 41.3	-1.3
FLN	La Foliniere	83.38	37	*e*P	P	05 47 44.2	+0.5
FLN				*e*R			
	comp=Z,735nm,18.5s						
GRR	Gorron	83.41	37	*e*P	P	05 47 44.5	+0.6
	comp=Z,86nm,1.3s,mb5.3						
PVRL	Vila Real	83.61	46	*e*P	P	05 47 45.9	+0.9
	comp=Z,47nm,1.4s,mb5.4						
LDF	La Druitiere	83.67	37	*e*P	P	05 47 45.6	+0.5
	comp=Z,121nm,1.5s,mb5.5						
PVIS	Viseu	83.81	46	*e*P	P	05 47 46.6	+0.5
	comp=Z,33nm,1.1s,mb5.4						
KAF	Kangasniemi	83.85	17	*e*p	P	05 47 43.9	-1.8
	comp=Z,4.1nm,0.6s,mb4.7						
KAF	Kangasniemi	83.85	17	*e*P	P	05 47 43.9	-1.8
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
MAJO	Matsushiro	83.91	309	*e*P	P	05 47 46.0	-0.7
	comp=Z,36nm,1.1s,mb5.4						
MAT	Matsushiro	83.91	309	P	P	05 47 45.7	-1.0
MAT	Matsushiro	83.91	309	*e*P	P	05 47 44.0	-2.7
	comp=Z,10nm,0.8s,mb5.0						
PBRG	Braganca	83.92	45	*e*P	P	05 47 47.5	+0.9
	comp=Z,16nm,1.5s,mb4.9						
PLOU	Loures	84.02	49	*e*P	P	05 47 48.3	+1.2
	comp=Z,81nm,1.4s,mb5.7						
PTOM	Tomar	84.09	48	*e*P	P	05 47 48.1	+0.6
	comp=Z,58nm,1.0s,mb5.7						
MTE	Manteigas	84.21	47	*e*P	P	05 47 48.5	+0.4
	comp=Z,34nm,1.3s,mb5.3						
MTE	Manteigas	84.21	47	*e*P	P	05 47 48.4	+0.3
	comp=Z,34nm,1.0s,mb5.4						
FINES	FINESS Array B	84.36	17	P	P	05 47 49.1	+0.8
	comp=Z,7.4nm,0.7s,mb4.9,baz=90,slow=1.9,SNR=29						
FINES				LR	LR	06 28 21.1	
	comp=Z,336nm,18.4s,MS4.8,baz=162,slow=38						
FINES	FINESS Array B	84.36	17	P	P	05 47 49.1	+0.8
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,337nm,18.4s						
PCBR	Castelo Branco	84.57	47	*e*P	P	05 47 50.1	+0.2
	comp=Z,34nm,1.2s,mb5.4						
MFF	Saint Martin d	84.89	38	*e*P	P	05 47 51.3	0.0
	comp=Z,34nm,1.0s,mb5.1						
EVO	Evora	84.95	48	*e*P	P	05 47 51.2	-0.6
	comp=Z,46nm,1.0s,mb5.3						
EVO				*e*R			
	comp=Z,655nm,19.8s						
GIVF	Givet	85.18	34	*e*P	P	05 47 53.4	+0.7
TCF	Toulx Ste Croi	86.35	38	*e*P	P	05 47 58.9	+0.3
	comp=Z,24nm,1.2s,mb5.0						
LFF	La Frestale	86.42	39	*e*P	P	05 47 59.6	+0.6
SJPF	Ste Jean	86.44	42	*e*P	P	05 48 00.0	+0.9
	comp=Z,6.7nm,0.8s,mb4.6						
BGF	Bois d'Agland	86.52	37	*e*P	P	05 47 58.5	-0.9
SSF	Saint Saulge	86.53	36	*e*P	P	05 47 58.7	-0.8
	comp=Z,25nm,1.0s,mb5.1						
LOR	Lormes	86.58	36	*e*P	P	05 47 59.0	-0.7
	comp=Z,22nm,0.9s,mb5.1						
LOR				*e*R			
	comp=Z,555nm,18.0s						
RJF	Les Rejaudoux	86.61	39	*e*P	P	05 48 00.3	+0.4
	comp=Z,42nm,1.3s,mb5.2						
RJF				*e*R			
	comp=Z,607nm,19.8s						
AVF	Avril sur Loir	86.63	37	*e*P	P	05 47 58.8	-1.1
	comp=Z,4.4nm,0.6s,mb4.6						
ESDC	Sonseca Array	86.87	46	P	P	05 48 00.9	-0.4
	comp=Z,1.6nm,0.8s,mb4.3,baz=312,slow=6.3,SNR=5.5						
ETSF	Etsaut	86.96	41	*e*P	P	05 48 01.2	-0.5
SMF	Signal de Mont	86.98	37	*e*P	P	05 48 00.4	-1.2
	comp=Z,15nm,1.0s,mb4.9						
HAU	Haudompre	87.33	34	*e*P	P	05 48 02.5	-0.8
HAU				*e*R			
	comp=Z,947nm,19.8s						
EPF	Esparros	87.39	41	*e*P	P	05 48 04.3	+0.5
CDF	Champ du Feu	87.51	34	*e*P	P	05 48 03.3	-0.9
	comp=Z,6.7nm,0.7s,mb4.7						
CN2	Changchun	87.59	320	*e*P	P	05 48 04.0	-0.7
CN2				*e*XP	sP	05 48 11.0	-1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.7						
CABF	La Chapelle	88.15	36	*e*P	P	05 48 06.5	-0.8
	comp=Z,7.6nm,0.8s,mb4.7						
GRA1	Grafenberg Arr	88.44	31	*e*P	P	05 48 08.6	0.0
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	Grafenberg Arr	88.44	31	*e*P	P	05 48 08.6	0.0
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
BRG	Berggiesshubel	88.75	29	*e*P	P	05 48 10.9	+0.9
BRG				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb5.1						
BRG	Berggiesshubel	88.75	29	*e*P	P	05 48 10.9	+0.9
	comp=Z,3.0nm,0.3s,mb5.1						
ORIF	Oris-en-Rattie	89.19	37	*e*P	P	05 48 11.3	-1.0
	comp=Z,4.3nm,0.7s,mb4.6						
ORIF				*e*R			
	comp=Z,612nm,22.2s						
LPG	La Plagne	89.25	36	*e*P	P	05 48 12.3	-0.3
GERES	GERESS Array B	90.16	30	P	P	05 48 17.1	+0.4
	comp=Z,0.8nm,0.6s,mb4.2,baz=342,slow=4.2,SNR=5.7						
GERES	GERESS Array B	90.16	30	P	P	05 48 17.1	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	Obninsk	92.54	15	*e*P	P	05 48 27.7	+0.2
OBN				*e*		05 52 06.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.9						
OBN				MLR	MLR		
	comp=Z,500nm,15.0s,MS5.1						
ZAK	Zakamensk	92.94	336	*e*P	P	05 48 28.0	-1.5
SONM	Songino Array	93.85	333	P	P	05 48 35.2	+1.5
	comp=Z,5.0nm,1.1s,mb4.9,baz=45,slow=3.5,SNR=20						
NVS	Novosibirsk	94.23	349	*e*P	P	05 48 33.8	-1.5
ARU	Arti	94.23	3	⇓*i*P	P	05 48 35.5	+0.2
ARU				*e*	PP	05 52 23.3	-1.6
ARU				*e*S	SKS	05 59 07.2	-7.1
ARU				*e*SS	SS	06 06 02.1	-5.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
AKASG	Malin Array Be	94.52	21	LR	LR	06 32 00.5	

	comp=Z,373nm,19.1s,MS4.9,baz=305,slow=36						
BJI	**Beijing**	**95.21**	**322**	P	**P**	**05 48 36.5**	**-3.7**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb5.1						
BJI	**Beijing**	**95.21**	**322**	P	**P**	**05 48 36.4**	**-3.8**
	comp=Z,6.0nm,0.7s,mb5.1						
JOW	**Kunigami**	**96.39**	**306**	LR	LR	06 30 53.8	
	comp=Z,286nm,18.1s,MS4.8,baz=339,slow=35						
BVAR	**Borovoye Array**	**97.53**	**356**	LR	LR	06 40 36.5	
	comp=Z,3.5nm,18.4s,baz=55,slow=40						
NJ2	**Nanjing**	**99.27**	**315**	*e*P	**P**	**05 48 56.5**	**-2.3**
NJ2				PP	PP	05 53 01.0	-3.1
NJ2				SKS	SKS	05 59 33.0	-8.5
NJ2				S	S	06 00 23.0	-2.9
MKAR	**Makanchi Array**	**102.11**	**347**	P	Pdif	05 49 12.6	+1.3
	comp=Z,0.2nm,0.7s,baz=18,slow=4.6,SNR=2.7						
ANN	**Anapa**	**102.26**	**19**	*e*P	Pdif	05 49 11.8	-0.2
ANN				pmax	pmax		
	comp=Z,49nm,0.9s						
ANN				MLR	MLR		
	comp=Z,427nm,17.0s,MS5.0						
ANN				MLR	MLR		
	comp=N,459nm,21.0s,MS5.0						
ANN				MLR	MLR		
	comp=E,206nm,24.0s,MS5.0						
LZH	**Lanzhou**	**104.47**	**327**	*e*P	Pdif	05 49 20.9	-1.0
	comp=E,13nm,1.0s						
LZH				pP		05 49 24.0	
LZH				sP		05 49 26.0	
LZH				PP	PP	05 53 42.0	-1.6
LZH				*e*S	S	06 01 07.6	-1.6
LZH				sS		06 02 12.8	
LZH				SS	SS	06 08 28.0	-2.8
LZH				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
KMI	**Kunming**	**113.84**	**321**	*e*PKP	PKPdf	05 53 53.0	-5.5
WRA	**Warramunga Arr**	**115.81**	**261**	PKP	PKPdf	05 53 59.4	-3.0
	comp=Z,0.9nm,0.8s,baz=61,slow=2.4,SNR=7.1						
WRA	**Warramunga Arr**	**115.81**	**261**	PKIKP	PKPdf	05 53 59.4	-3.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**117.64**	**257**	PKP	PKPdf	05 54 03.1	-2.7
	comp=Z,0.9nm,0.8s,baz=90,slow=1.8,SNR=6.3						
QSPA	**South Pole Qui**	**119.42**	**180**	*e*PKP	PKPdf	05 54 03.4	-4.6
QSPA				LR	LR		
	comp=Z,550nm,21.1s,MS5.2						
CMAR	**Chiang Mai Arr**	**121.27**	**320**	PKP	PKPdf	05 54 10.4	-2.6
	comp=Z,1.0nm,0.3s,baz=342,slow=2.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**121.27**	**320**	PKIKP	PKPdf	05 54 10.4	-2.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**122.60**	**267**	PKP	PKPdf	05 54 13.9	-1.6
	comp=Z,3.1nm,1.1s,baz=356,slow=22,SNR=2.2						
MAW	**Mawson**	**141.94**	**180**	PKhKP		05 54 43.0	
	comp=Z,2.4nm,0.8s,baz=287,slow=6.0,SNR=4.8						
LSZ	**Lusaka**	**144.55**	**74**	*e*PKPdf	PKPdf	05 54 52.7	-3.7

*IDC **30** 05:53:44.5±1.0, 12.64N×57.84E, mb4.0/12, mb1 4.1/12, mb1mx4.1/18, Error ellipse: s-maj=28.4km s-min=19.9km az=25.0*

*NEIC **30** 05:53:46.4±0.8, 12.61N×57.91E, h10^{km}, mb3.8/1, Error ellipse: s-maj=22.8km s-min=16.5km az=199.0*

ISC 30 05:53:44.5±0.9**, 12.7N**±0.2×**57.8E**±0.1**, h10**^{km}**, n13, σ0^{s}.80**/13**, mb3.9**/13**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**37.29**	**313**	P	**P**	**06 01 02.2**	**+3.6**
	10nm,0.8s,mb4.7,baz=125,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**39.79**	**26**	P	**P**	**06 01 18.9**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=201,slow=17,SNR=4.9						
CMAR	**Chiang Mai Arr**	**40.00**	**76**	P	**P**	**06 01 22.1**	**+0.8**
	0.6nm,0.4s,mb3.7,baz=270,slow=6.3,SNR=3.6						
ZRNK	**Zerenda**	**41.18**	**10**	*e*P	**P**	**06 01 32.2**	**+1.5**
	1.3nm,0.7s,mb3.7						
BVAR	**Borovoye Array**	**41.51**	**11**	P	**P**	**06 01 33.4**	**0.0**
	0.3nm,0.6s,mb3.1,baz=207,slow=3.2,SNR=2.8						
AKASG	**Malin Array Be**	**44.51**	**334**	P	**P**	**06 01 58.0**	**+0.1**
	1.9nm,0.8s,mb4.0,baz=132,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**53.44**	**39**	P	**P**	**06 03 06.5**	**-0.4**
	0.5nm,0.8s,mb3.5,baz=233,slow=6.2,SNR=4.1						
FINES	**FINESS Array B**	**53.85**	**342**	P	**P**	**06 03 08.8**	**-0.9**
	3.7nm,1.1s,mb4.2,baz=141,slow=8.9,SNR=3.3						
ESDC	**Sonseca Array**	**60.34**	**309**	P	**P**	**06 03 56.6**	**+0.6**
	0.3nm,0.3s,mb3.7,baz=92,slow=6.9,SNR=3.5						
ARCES	**ARCESS Array B**	**60.40**	**348**	P	**P**	**06 03 54.8**	**-1.3**
	1.2nm,0.6s,mb4.1,baz=127,slow=6.1,SNR=6.2						
DBIC	**Dimbokro**	**61.93**	**271**	P	**P**	**06 04 07.2**	**0.0**
	4.6nm,1.1s,mb4.5,baz=66,slow=10.0,SNR=2.6						
WRA	**Warramunga Arr**	**81.97**	**112**	P	**P**	**06 06 06.2**	**-0.2**
	1.6nm,0.6s,mb4.1,baz=299,slow=4.3,SNR=7.0						
ASAR	**Alice Springs**	**82.65**	**116**	P	**P**	**06 06 09.8**	**-0.1**
	2.0nm,0.6s,mb4.3,baz=294,slow=5.1,SNR=14						

*IDC **30** 05:55:18.1±1.1, 4.68S×101.33E, h52^{km}±5^{km}, mb3.9/10, mb1 4.0/10, mb1mx3.9/14, Error ellipse: s-maj=43.4km s-min=13.3km az=52.0*

*NEIC **30** 05:55:20.8±1.3, 4.34S×101.83E, mb4.7/4, Error ellipse: s-maj=65.8km s-min=10.8km az=52.0*

ISC 30 05:55:18.1±0.9**, 4.6S**±0.2×**101.5E**±0.2**, h57**^{km}**, n21, σ1^{s}.15**/19**, mb4.3**/15**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.02**	**354**	P	**P**	**06 00 18.1**	**-1.0**
	2.1nm,1.0s,mb3.5,baz=190,slow=8.1,SNR=5.8						
CMAR				pP		06 00 32.7	
	3.2nm,0.8s,baz=181,slow=9.6,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.14**	**122**	P	**P**	**06 00 58.0**	**-0.2**
	3.5nm,0.9s,mb3.9,baz=328,slow=9.5,SNR=4.4						
WRA	**Warramunga Arr**	**35.40**	**118**	P	**P**	**06 02 09.7**	**-1.1**
	0.8nm,0.5s,mb3.9,baz=299,slow=8.6,SNR=14						
WB2	**Warramunga Arr**	**35.41**	**118**	*e*P	**P**	**06 02 03.7**	**-7.1**
LSA	**Lhasa**	**35.50**	**344**	*e*P	**P**	**06 02 12.2**	**+0.8**
	4.4nm,0.5s,mb4.6						
GUN	**Gumba**	**35.65**	**336**	*e*P	**P**	**06 02 14.3**	**+1.6**
	11nm,0.3s,mb5.3						
KKN	**Kakani**	**35.79**	**335**	*e*P	**P**	**06 02 15.5**	**+1.6**
	8.6nm,0.5s,mb5.0						
GKN	**Gorkha**	**36.25**	**334**	*e*P	**P**	**06 02 18.7**	**+0.9**
KOLN	**Koldanda**	**36.51**	**333**	*e*P	**P**	**06 02 21.7**	**+1.7**
	16nm,0.8s,mb4.9						
ASPA	**Alice Springs**	**36.53**	**124**	*e*P	**P**	**06 02 22.2**	**+2.0**
ASAR	**Alice Springs**	**36.53**	**124**	P	**P**	**06 02 20.9**	**+0.7**
	3.8nm,0.8s,mb4.3,baz=297,slow=7.5,SNR=17						
STKA	**Stephens Creek**	**46.31**	**131**	P	**P**	**06 03 39.8**	**-0.5**
	3.4nm,0.8s,mb4.3,baz=118,slow=21,SNR=2.5						
CBIJ	**Chichi jima**	**50.33**	**49**	P	**P**	**06 04 12.1**	**+0.5**
	162nm,0.6s,baz=284,slow=20,SNR=5.0						
SONM	**Songino Array**	**52.35**	**4**	P	**P**	**06 04 25.9**	**-0.6**
	5.0nm,0.8s,mb4.5,baz=182,slow=9.0,SNR=29						
MKAR	**Makanchi Array**	**53.90**	**344**	P	**P**	**06 04 37.1**	**-0.9**
	3.9nm,0.6s,mb4.5,baz=148,slow=8.4,SNR=45						
MKAR				pP	pP	06 04 51.8	-1.5
	4.4nm,0.6s,baz=152,slow=7.5,SNR=16						
KURK	**Kurchatov**	**58.49**	**343**	*e*P	**P**	**06 05 09.5**	**-1.2**
	3.7nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**63.11**	**339**	P	**P**	**06 05 40.3**	**-1.8**
	1.2nm,0.5s,mb4.3,baz=135,slow=8.4,SNR=9.6						
BVAR				pP	pP	06 05 55.5	-2.3
	1.0nm,0.4s,baz=145,slow=9.8,SNR=5.1						
AKASG	**Malin Array Be**	**82.44**	**322**	P	**P**	**06 07 34.5**	**-1.3**
	0.2nm,0.3s,mb3.5,baz=92,slow=4.9,SNR=3.4						
FINES	**FINESS Array B**	**87.08**	**332**	P	**P**	**06 07 57.8**	**-0.8**
	1.5nm,0.8s,mb4.3,baz=160,slow=22,SNR=3.8						
ARCES	**ARCESS Array B**	**89.39**	**340**	pP	pP	06 08 25.6	-0.3
	4.4nm,1.2s,baz=90,slow=2.4,SNR=1.7						
TXAR	**Lajitas Array**	**145.71**	**41**	PKPbc	PKPbc	06 14 50.4	-1.3
	1.3nm,0.8s,baz=291,slow=1.2,SNR=19						
TXAR				pPKPbc		06 15 06.3	
	2.8nm,0.8s,baz=293,slow=2.0,SNR=16						

*IDC **30** 05:58:38.4±2.8, 49.49S×110.34E, mb4.1/3, mb1 4.3/3, mb1mx4.0/10, Error ellipse: s-maj=123.0km s-min=39.8km az=109.0*

*NEIC **30** 05:58:38.0±1.6, 49.34S×109.49E, h10^{km}, mb4.2/2, Error ellipse: s-maj=85.1km s-min=12.6km az=112.0*

ISC 30 05:58:36.0±3.2**, 49.3S**±0.4×**10 9E**± **, h10**^{km}**, n10, σ0^{s}.10**/6**, mb4.1**/5**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.99**	**46**	P	**P**	**06 05 04.5**	**0.0**
	0.9nm,0.6s,mb3.8,baz=206,slow=8.1,SNR=5.6						
FITZ	**Fitzroy Crossi**	**33.76**	**29**	P	**P**	**06 05 19.9**	**0.0**
	2.5nm,0.9s,mb4.1,baz=191,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**35.42**	**43**	P	**P**	**06 05 34.2**	**+0.1**
	2.8nm,0.6s,mb4.4,baz=207,slow=8.8,SNR=18						
WB2	**Warramunga Arr**	**35.42**	**43**	*e*P	**P**	**06 05 34.3**	**+0.1**
WRAB	**Tennant Creek**	**35.43**	**43**	*e*P	**P**	**06 05 34.1**	**-0.1**
	4.7nm,0.6s,mb4.6						
QSPA	**South Pole Qui**	**40.84**	**180**	*e*P	**P**	**06 06 18.9**	**0.0**
	1.5nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**144.46**	**89**	PKP	PKPdf	06 18 13.9	-1.2
	0.3nm,0.8s,baz=239,slow=9.5,SNR=3.5						
TXAR	**Lajitas Array**	**147.92**	**116**	PKPbc	PKPdf	06 18 23.5	+2.4
	0.6nm,1.0s,baz=207,slow=5.6,SNR=4.1						
TXAR	**Lajitas Array**	**147.92**	**116**	PKPbc	PKPdf	06 18 23.5	+2.4
PDAR	**Pinedale Array**	**152.39**	**89**	PKPbc	PKPdf	06 18 34.3	+6.7
	0.4nm,0.8s,baz=225,slow=2.1,SNR=4.5						

*IDC **30** 06:05:31.3±1.3, 11.43S×117.35E, mb3.8/3, mb1 3.9/6, mb1mx3.8/12, ML3.5/3, Error ellipse: s-maj=53.1km s-min=20.9km az=59.0*

*NEIC **30** 06:05:33.1±0.9, 11.44S×117.45E, h10^{km}, Error ellipse: s-maj=26.2km s-min=12.1km az=51.0*

*DJA **30** 06:05:41.3±1.0, 11.50S×116.41E, h31^{km}±5^{km}, MD4.8/3, ML4.5/3, Error ellipse: s-maj=30.8km s-min=21.7km az=71.0*

ISC 30 06:05:34.0±0.7**, 11.5S**±0.1×**117.5E**±0.1**, h33**^{km}**, n14, σ1^{s}.19**/21**, mb3.9**/3**, 2C-4D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.23**	**335**	*e*Pn	**Pn**	**06 06 25.9**	**+2.2**
	194nm,0.2s						
KEDI				⇑*e*Sn	**Sn**	**06 07 00.3**	**-1.2**
RATI	**Rata**	**3.31**	**325**	⇓*e*Pn	**Pn**	**06 06 25.5**	**+0.7**
	184nm,0.2s						
RATI	**Rata**	**3.31**	**325**	⇓*e*P	**P**	**06 06 26.3**	**+1.6**
RATI				⇓*e*Sn	**Sn**	**06 06 57.0**	**-6.5**
KELI	**Kelakatan**	**4.35**	**317**	⇑*e*Pn	**Pn**	**06 06 37.3**	**-2.3**
	98nm,0.2s						
KELI				⇓*e*Sn	**Sn**	**06 07 17.2**	**-13**
FITZ	**Fitzroy Crossi**	**10.30**	**131**	*e*P	**P**	**06 08 00.4**	**-2.2**
	1.5nm,0.4s						
FITZ				*e*S	**S**	**06 09 47.0**	**-11**
FITZ	**Fitzroy Crossi**	**10.30**	**131**	Pn	**P**	**06 08 00.7**	**-1.9**
	0.5nm,0.3s,baz=313,slow=5.3,SNR=17						
FITZ				Sn	**S**	**06 09 47.5**	**-10**
	0.4nm,0.3s,baz=188,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**18.29**	**120**	P	**P**	**06 09 47.5**	**+0.4**
	0.2nm,0.3s,baz=283,slow=15,SNR=6.7						
WRA				S	**S**	**06 12 59.1**	**-7.6**
	0.1nm,0.3s,baz=292,slow=26,SNR=3.6						
WB2	**Warramunga Arr**	**18.30**	**120**	*e*P	**P**	**06 09 47.5**	**+0.3**
ASAR	**Alice Springs**	**19.80**	**130**	P	**P**	**06 10 05.4**	**+0.9**
	0.1nm,0.3s,baz=316,slow=12,SNR=8.8						
ASAR				S	**S**	**06 13 40.4**	**-0.2**
	0.1nm,0.3s,baz=296,slow=23,SNR=4.1						
NWAO	**Narrogin (SRO)**	**21.38**	**181**	P	**P**	**06 10 21.0**	**+0.2**
	7.8nm,0.9s,mb4.0,baz=15,slow=16,SNR=2.9						
NWAO	**Narrogin (SRO)**	**21.38**	**181**	P	**P**	**06 10 21.0**	**+0.2**
SONM	**Songino Array**	**59.84**	**351**	P	**P**	**06 15 38.7**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=180,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**65.97**	**334**	P	**P**	**06 16 18.7**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=159,slow=6.9,SNR=7.5						
MKAR	**Makanchi Array**	**65.97**	**334**	P	**P**	**06 16 18.7**	**-0.5**

MEX 30 06:19:25.0±1.0**, 16.78N**×**99.72W, h7**^{km}±165^{km}**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**295**	*i* P	Pg	06 19 28.5	-0.8
ACX				*i* S	Sg	06 19 32.0	-0.2
PLIG	**Platanillo**	**1.62**	**7**	*e*P	Pn	06 19 50.7	-3.4
PLIG				*e*S	Sb	06 20 10.3	-5.0
PPM	**Popocatepetl**	**2.50**	**24**	*i* P	Pn	06 20 04.6	-2.2
PPM				*i* P		06 20 05.0	
PPM				*i* S	Sn	06 20 31.0	-6.9

*IDC **30** 06:19:40.8±0.9, 49.49S×111.25E, mb4.5/9, mb1 4.5/10, mb1mx4.4/13, ML1.6/1, MS4.1/5, Ms1 4.1/5, ms1mx3.9/14, Error ellipse: s-maj=38.3km s-min=20.2km az=126.0*

*HRVD **30** 06:19:42.9±0.6, 49.68S×110.78E, h12^{km}, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s9,c12;Mantle waves: s38,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.73±.16; M$_{\theta\theta}$2.06±.11; M$_{\phi\phi}$-1.34±.16; M$_{r\theta}$0.35±.42; M$_{\theta\phi}$0.92±.14; M$_{\phi r}$-0.76±.51; Best double couple: M$_0$2.19×10^{16} NP1:ϕ_s35°,δ66°,λ-159°. NP2:ϕ_s296°,δ71°,λ-26°. Principal axes: T 2.3, Plg3°, Azm346°; N -.23, Plg58°, Azm81°; P -2.08, Plg31°, Azm255°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 06:19:42.9±0.4, 49.90S×111.94E, h10^{km}, mb5.0/7, MS4.8/2 Error ellipse: s-maj=22.5km s-min=11.1km az=123.0*

*SYO **30** 06:19:42.9, 49.90S×111.94E, h10^{km}, MB5.0, MS4.8*

*BJI **30** 06:19:43.9, 50.63S×112.43E, h41^{km}, mB5.2, mb5.3, Ms5.1, Msz4.7*

ISC 30 06:19:42.1±0.5**, 50.05S**±0.10×**112.2E**±0.2**, h10**^{km}**, n69, σ1^{s}.43**/34**, mb4.7**/18**, MS4.4**/9**, 4C-4D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.51**	**14**	P	**P**	**06 23 41.0**	**-6.8**
	0.1nm,0.3s,baz=66,slow=17,SNR=2.0						
STKA	**Stephens Creek**	**28.40**	**61**	P	**P**	**06 25 39.3**	**+0.7**
	4.4nm,1.0s,mb4.0,baz=329,slow=17,SNR=3.8						
STKA				LR	LR	06 34 44.9	
	comp=Z,250nm,18.5s,MS3.8,baz=205,slow=32						
MAW	**Mawson**	**29.88**	**216**	P	**P**	**06 25 52.1**	**+0.5**
	5.1nm,1.0s,mb4.2,baz=64,slow=11,SNR=6.7						
MAW				LR	LR	06 35 13.9	
	comp=Z,257nm,18.1s,MS3.9,baz=69,slow=31						
ASAR	**Alice Springs**	**31.31**	**41**	P	**P**	**06 26 02.9**	**-1.7**
	5.1nm,0.7s,mb4.4,baz=208,slow=7.6,SNR=28						
ASAR				PcP	PcP	06 28 55.4	-3.5
	0.4nm,0.6s,baz=182,slow=2.5,SNR=3.4						
FITZ	**Fitzroy Crossi**	**33.64**	**24**	P	**P**	**06 26 20.8**	**-4.2**
	2.6nm,0.9s,mb4.1,baz=41,slow=11,SNR=2.5						
SBA	**Scott Base**	**34.28**	**162**	*e*P	**P**	**06 26 31.4**	**+1.4**
	26nm,1.8s,mb4.9						
WRA	**Warramunga Arr**	**34.81**	**38**	P	**P**	**06 26 33.4**	**-1.6**
	10nm,0.6s,mb5.0,baz=206,slow=8.8,SNR=117						
WRAB	**Tennant Creek**	**34.83**	**38**	*e*P	**P**	**06 26 33.5**	**-1.7**
	21nm,0.8s,mb5.1						
WRAB				*e*		06 26 39.5	
WRAB				*e*		06 26 44.3	
SYO	**Syowa Base**	**38.51**	**214**	⇓P	**P**	**06 27 04.6**	**-1.2**
SYO	**Syowa Base**	**38.51**	**214**	⇓pP	pP	06 27 06.7	-2.1
SYO	**Syowa Base**	**38.51**	**214**	⇑sP	sP	06 27 11.5	+1.5
SYO	**Syowa Base**	**38.51**	**214**	⇓PcP	PcP	06 29 16.5	-2.7
CTA	**Charters Tower**	**40.26**	**55**	P	**P**	**06 27 21.2**	**+0.4**
	4.8nm,0.8s,mb4.3,baz=188,slow=10,SNR=5.0						
CTAO	**Charters Tower**	**40.26**	**55**	*e*P	**P**	**06 27 20.7**	**-0.1**
	6.0nm,0.9s,mb4.3						
PMG	**Port Moresby**	**49.80**	**48**	P	**P**	**06 28 37.5**	**+0.5**
	9.3nm,0.8s,mb4.9,baz=156,slow=22,SNR=2.6						
SNAA	**Sanae**	**50.30**	**202**	*e*	**P**	**06 28 41.2**	**+1.1**
SNAA	**Sanae**	**50.30**	**202**	*e*S	**S**	**06 35 48.1**	**-3.3**
SNAA	**Sanae**	**50.30**	**202**	⇑*i*P	**P**	**06 28 35.1**	**-5.0**
SNAA				*e*		06 28 41.2	
SNAA				*e*		06 30 32.3	
SNAA				*e*S	**S**	**06 35 48.1**	**-3.3**
VNA2	**Neumayer--Watz**	**51.89**	**201**	*e*	**P**	**06 28 55.8**	**+3.6**
VNA2	**Neumayer--Watz**	**51.89**	**201**	⇑*i*P	**P**	**06 28 49.8**	**-2.4**
VNA2				*e*		06 28 55.8	
VNA2				*e*		06 30 46.0	
VNA1	**Neumayer--Stat**	**52.28**	**201**	*e*	**P**	**06 28 59.5**	**+4.3**
VNA1	**Neumayer--Stat**	**52.28**	**201**	⇓*i*P	**P**	**06 28 53.5**	**-1.7**
VNA1				*e*		06 28 59.5	
VNA1				*e*		06 30 49.4	
CMAR	**Chiang Mai Arr**	**69.20**	**347**	P	**P**	**06 30 44.4**	**-6.7**
	4.1nm,1.1s,mb4.3,baz=228,slow=3.1,SNR=7.6						
CMAR				LR	LR	06 58 39.3	
	comp=Z,141nm,18.5s,MS4.2,baz=175,slow=34						
LSZ	**Lusaka**	**74.63**	**265**	*e*P	**P**	**06 31 21.8**	**-1.6**
	7.2nm,1.0s,mb4.6						
KMI	**Kunming**	**75.30**	**351**	*e*P	**P**	**06 31 29.5**	**+2.4**
KMI				PP	PP	06 34 20.5	+2.6
KMI				S	S	06 41 09.8	+4.7
KMI				SCS	ScS	06 41 40.0	+3.3
KMI				SS	SS	06 45 58.0	+0.6
KMI				LR	LR		
	comp=Z,396nm,9.3s						
KMI	**Kunming**	**75.30**	**351**	*e*P	**P**	**06 31 29.6**	**+2.5**
KMI				pP	pP	06 31 33.0	+2.7
KMI				sP	sP	06 31 34.5	+3.2
KMI				PP	PP	06 34 20.4	+2.5
KMI				S	S	06 41 09.7	+4.6
KMI				sS		06 41 14.7	
KMI				ScS	ScS	06 41 40.0	+3.3
KMI				SS	SS	06 45 58.1	+0.7
SSE	**Sheshan**	**81.17**	**8**	*e*P	**P**	**06 32 00.3**	**+1.1**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,317nm,6.3s						
SSE				LR	LR		
	comp=Z,98nm,19.1s,MS4.2						
SSE	**Sheshan**	**81.17**	**8**	*e*P	**P**	**06 32 00.2**	**+1.0**
	comp=Z,26nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=Z,100nm,19.1s,MS4.2						
LSA	**Lhasa**	**81.57**	**342**	P	**P**	**06 32 01.9**	**+0.7**
	comp=Z,16nm,1.2s,mb4.8						
NJ2	**Nanjing**	**81.95**	**6**	*e*P	**P**	**06 32 04.0**	**+0.9**
NJ2				S	S	06 42 17.0	+1.3
NJ2				SKS	SKS	06 42 20.0	-4.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,880nm,26.7s,MS5.1						
NJ2				LR	LR		
	comp=E,820nm,25.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,570nm,24.3s,MS4.8						
LZH	**Lanzhou**	**86.08**	**353**	*e*P	**P**	**06 32 26.5**	**+2.5**
LZH				PP	PP	06 35 49.3	+3.4
LZH				SKS	SKS	06 42 49.5	-2.3
LZH				*e*S	S	06 43 00.5	+3.9
LZH				*e*SS	SS	06 48 44.0	+5.6
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.4						
LZH				LR	LR		
	comp=E,871nm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
LZH	**Lanzhou**	**86.08**	**353**	*e*P	**P**	**06 32 26.5**	**+2.5**
	comp=Z,31nm,1.2s,mb5.4						
LZH				pP	pP	06 32 29.6	+2.4
LZH				sP	sP	06 32 31.1	+2.9
LZH				PP	PP	06 35 49.2	+3.3
LZH				SKS	SKS	06 42 49.5	-2.3
LZH				*e*S	S	06 43 00.6	+4.0
LZH				*e*SS	SS	06 48 43.9	+5.5
LZH				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
PLCA	**Paso Flores**	**89.57**	**178**	LR	LR	07 10 25.9	
	comp=Z,198nm,19.0s,MS4.6,baz=166,slow=34						
CN2	**Changchun**	**94.18**	**10**	*e*P	**P**	**06 33 03.0**	**+1.2**
MDJ	**Mudanjiang**	**95.49**	**12**	P	**P**	**06 33 08.3**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.3s,mb4.8						
WMQ	**Urumqi**	**95.90**	**342**	⇑P	**P**	**06 33 09.8**	**+0.1**
WMQ				PP	PP	06 37 04.0	-0.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb5.2						
WMQ				LR	LR		
	comp=N,126nm,25.8s,MS4.4						
WMQ				LR	LR		
	comp=E,104nm,26.5s,MS4.4						
WMQ				LR	LR		
	comp=Z,69nm,23.1s,MS4.1						
SONM	**Songino Array**	**97.63**	**356**	P	**P**	**06 33 14.4**	**-2.9**
	comp=Z,0.9nm,1.0s,mb4.3,baz=162,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**99.87**	**340**	LR	LR	07 15 10.0	
	comp=Z,88nm,19.5s,MS4.3,baz=340,slow=34						
ILAR	**Eielson Array**	**137.98**	**39**	PKhKP		06 39 01.1	
	comp=Z,0.2nm,0.6s,baz=243,slow=4.0,SNR=3.4						
NVAR	**Mina Array Bea**	**142.67**	**88**	PKhKP		06 39 13.2	
	comp=Z,0.8nm,0.8s,baz=207,slow=4.1,SNR=6.9						
NEN	**Nelson**	**143.26**	**95**	PKPdf	PKPdf	06 39 16.3	-2.8
INK	**Inuvik**	**143.92**	**35**	PKhKP		06 39 13.2	
	comp=Z,1.7nm,0.8s,baz=267,slow=6.1,SNR=2.4						
GNW	**Green Mountain**	**144.36**	**72**	*e*PKPpre		06 39 16.9	
GNW				*e*PKPdf	PKPdf	06 39 23.3	+2.7
BMN	**Battle Mountai**	**144.48**	**86**	PKPdf	PKPdf	06 39 17.9	-3.1
WVOR	**Wild Horse Val**	**144.61**	**82**	*e*PKPpre		06 39 17.9	
WVOR				*e*PKPdf	PKPdf	06 39 24.4	+3.2
RMW	**Rattlesnake Mo**	**144.94**	**73**	*e*PKPdf	PKPdf	06 39 18.6	-3.1
RMW				*e*		06 39 24.8	
WUAZ	**Wupatki**	**145.40**	**98**	PKPdf	PKPdf	06 39 21.2	-1.7
HAWA	**Hanford**	**145.90**	**76**	*e*PKPdf	PKPdf	06 39 23.2	-0.1
ELK	**Elko**	**145.92**	**87**	*e*PKPdf	PKPdf	06 39 22.6	-0.9
TXAR	**Lajitas Array**	**145.97**	**114**	PKPbc	PKPbc	06 39 22.8	+0.8
	comp=Z,0.7nm,0.6s,baz=191,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**145.97**	**114**	PKPbc	PKPbc	06 39 22.8	+0.8
LNOR	**Lincton Mounta**	**146.46**	**77**	*e*PKPbc	PKPbc	06 39 24.6	+2.1
MSU	**Marysvale**	**146.67**	**93**	*e*PKPbc	PKPbc	06 39 26.0	+2.8
DUG	**Dugway**	**147.19**	**90**	*e*PKPbc	PKPdf	06 39 26.1	+0.4
DPW	**Davenport**	**147.33**	**74**	*e*PKPbc	PKPdf	06 39 27.9	+2.3
HLID	**Hailey**	**147.87**	**83**	PKPbc	PKPdf	06 39 27.9	+1.2
NEW	**Newport**	**148.16**	**74**	PKPbc	PKPdf	06 39 28.2	+1.3
	comp=Z,1.8nm,0.9s,baz=271,slow=8.2,SNR=3.7						
DAU	**Daniels Canyon**	**148.31**	**91**	*e*PKPbc	PKPdf	06 39 28.8	+1.3
CPRX	**Cap Rock**	**148.48**	**109**	*e*PKPbc	PKPdf	06 39 29.3	+1.3
PV10	**Paradox Valley**	**148.61**	**96**	*e*PKPab	PKPab	06 39 35.9	+1.5
REDW	**Red Top Meadow**	**150.06**	**86**	*e*PKPab	PKPab	06 39 39.5	-0.7
SNOW	**Snow King Moun**	**150.17**	**86**	*e*PKPab	PKPab	06 39 39.5	-1.2
MOOW	**Moose Ponds**	**150.31**	**86**	*e*PKPdf	PKPdf	06 39 29.9	-0.6
MOOW				*e*PKPbc	PKPdf	06 39 33.7	+3.2
MOOW				*e*PKPab	PKPab	06 39 39.8	-1.5
BOZ	**Bozeman (W)**	**150.58**	**81**	*e*PKPbc	PKPdf	06 39 34.3	+3.4
BOZ				*e*PKPab	PKPab	06 39 40.4	-1.9
YMR	**Madison River**	**150.58**	**84**	*e*PKPab	PKPab	06 39 42.0	-0.4
PDAR	**Pinedale Array**	**150.61**	**88**	PKPbc	PKPdf	06 39 33.9	+2.8
	comp=Z,1.2nm,0.9s,baz=198,slow=2.9,SNR=6.8						
YKA	**Yellowknife Ar**	**151.87**	**46**	PKPbc	PKPdf	06 39 36.0	+3.7
	comp=Z,1.2nm,0.7s,baz=223,slow=48,SNR=3.2						
YKA				PKPab	PKPab	06 39 45.3	-1.9
	comp=Z,2.0nm,0.6s,baz=277,slow=3.8,SNR=6.2						
YKA	**Yellowknife Ar**	**151.87**	**46**	PKPbc	PKPdf	06 39 36.0	+3.7
YKA				PKPab	PKPab	06 39 45.4	-1.9
WMOK	**Wichita Mounta**	**152.72**	**112**	*e*PKPbc	PKPdf	06 39 40.2	+5.8

*IDC **30** 06:49:00.3±0.8, 13.52N×145.12E, mb3.9/9, mb1 4.2/9, mb1mx4.1/18, MS3.6/6, Ms1 3.6/6, ms1mx3.3/27, Error ellipse: s-maj=31.7km s-min=19.0km az=100.0*

*NEIC **30** 06:49:07.5±0.8, 13.44N×145.05E, h52^{km}±8^{km}, mb4.7/3, Error ellipse: s-maj=19.4km s-min=8.5km az=105.0*

NEIC Felt at Andersen AFB, Dededo, Hagatna, Tamuning and Yigo.

ISC 30 06:49:06.3±0.8**, 13.45N**±0.07×**145.0E**±0.1**, h56**^{km}±7^{km}**, n20, σ0^{s}.98**/19**, mb4.1**/12**, MS3.5**/6**, 1C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.21**	**310**	⇓*i*P	**P**	**06 49 15.8**	**+0.4**
GUMO				*e*Sg	**S**	**06 49 21.8**	**-0.2**
ANA2	**Anatahan**	**2.95**	**13**	*e*P	**P**	**06 49 52.2**	**+0.3**
ANA2				*e*S	**S**	**06 50 25.1**	**-1.1**
ANAT	**Anatahan**	**2.95**	**12**	*e*P	**P**	**06 49 52.2**	**+0.4**
SARN	**Sarigan**	**3.31**	**12**	⇑*e*P	**P**	**06 49 57.3**	**+0.4**
ASAJ	**Asahikawa**	**30.63**	**357**	LR	LR	07 06 04.5	
	comp=Z,118nm,20.2s,MS3.5,baz=173,slow=34						
CTAO	**Charters Tower**	**33.35**	**178**	P	**P**	**06 55 39.9**	**-1.5**
	21nm,1.6s,mb4.8						
WRAB	**Tennant Creek**	**34.80**	**198**	*e*P	**P**	**06 55 52.9**	**-1.0**
	11nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**34.81**	**198**	P	**P**	**06 55 53.7**	**-0.3**
	4.5nm,0.8s,mb4.5,baz=19,slow=9.6,SNR=22						
WRA				LR	LR	07 09 12.0	
	comp=Z,80nm,19.3s,MS3.5,baz=220,slow=35						
FITZ	**Fitzroy Crossi**	**36.73**	**212**	*e*P	**P**	**06 56 10.7**	**+0.5**
	4.1nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.73**	**212**	LR	LR	07 11 17.2	
	comp=Z,32nm,19.0s,MS3.1,baz=276,slow=36						
ASAR	**Alice Springs**	**38.46**	**197**	P	**P**	**06 56 24.8**	**+0.2**
	2.0nm,0.6s,mb4.0,baz=21,slow=11,SNR=18						

ASAR				LR	LR	07 11 53.8	
	comp=Z,111nm,21.9s,MS3.6,baz=13,slow=36						
ASPA	**Alice Springs**	**38.46**	**197**	*e*P	**P**	**06 56 25.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**44.51**	**283**	P	**P**	**06 57 14.9**	**+0.6**
	1.4nm,0.7s,mb3.9,baz=82,slow=6.1,SNR=4.4						
CMAR				LR	LR	07 12 56.8	
	comp=Z,67nm,21.2s,MS3.5,baz=90,slow=32						
STKA	**Stephens Creek**	**45.19**	**184**	P	**P**	**06 57 19.2**	**-0.4**
	8.3nm,1.2s,mb4.4,baz=348,slow=15,SNR=3.1						
SONM	**Songino Array**	**46.94**	**325**	P	**P**	**06 57 33.6**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=145,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**06 59 20.0**	**-1.0**
	0.3nm,0.5s,mb3.7,baz=90,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**68.62**	**25**	P	**P**	**07 00 03.1**	**-2.2**
	0.2nm,0.4s,mb3.4,baz=252,slow=5.9,SNR=8.5						
NVAR	**Mina Array Bea**	**86.88**	**51**	P	**P**	**07 01 48.4**	**+1.9**
	0.5nm,0.6s,mb4.0,baz=271,slow=6.2,SNR=7.7						
PDAR	**Pinedale Array**	**91.95**	**45**	P	**P**	**07 02 12.0**	**+1.7**
	0.1nm,0.4s,mb3.5,baz=207,slow=2.0,SNR=2.8						
PDAR				LR	LR	07 35 54.2	
	comp=Z,51nm,21.3s,MS3.9,baz=141,slow=31						
DBIC	**Dimbokro**	**144.03**	**302**	PKP	PKPdf	07 08 36.4	-0.2
	3.7nm,0.9s,baz=15,slow=6.9,SNR=6.4						

IDC 30 06:57:05.2±3.4**, 49.91S**×**114.47E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/9**, Error ellipse: s-maj=175.0km s-min=46.6km az=116.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**30.28**	**37**	P	P	07 03 18.5	-1.6
	0.6nm,0.7s,baz=206,slow=8.4,SNR=7.7						
WRA	**Warramunga Arr**	**33.83**	**35**	P	P	07 03 48.9	-2.3
	1.4nm,0.5s,baz=203,slow=10,SNR=32						
WB2	**Warramunga Arr**	**33.83**	**35**	*e*P	P	07 03 48.8	-2.4
CTA	**Charters Tower**	**39.01**	**52**	P	P	07 04 32.7	-2.3
	1.1nm,0.3s,baz=206,slow=14,SNR=2.4						
NVAR	**Mina Array Bea**	**141.21**	**87**	PKP	PKPdf	07 16 35.4	-3.7
	0.3nm,0.8s,baz=225,slow=5.1,SNR=2.9						
TXAR	**Lajitas Array**	**144.67**	**111**	PKP	PKPdf	07 16 40.8	-4.5
	0.5nm,0.8s,baz=194,slow=5.2,SNR=3.6						
PDAR	**Pinedale Array**	**149.14**	**86**	PKPbc	PKPdf	07 16 56.1	+3.9
	0.6nm,0.9s,baz=225,slow=1.3,SNR=4.9						

IDC 30 07:07:46.8±1.7**, 23.61S**×**174.65W, mb4.0**/4**, mb1 4.2**/5**, mb1mx3.9**/16**, ML4.4**/1**, Error ellipse: s-maj=46.3km s-min=33.8km az=162.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.97**	**83**	Pn	P	07 11 05.9	-2.5
	1.6nm,0.3s,baz=155,slow=21,SNR=5.5						
RAR				Sn	S	07 13 29.5	-16
	1.0nm,0.3s,baz=258,slow=16,SNR=3.1						
RPZ	**Rata Peaks**	**23.25**	**207**	P	P	07 12 55.9	-0.8
	5.8nm,0.8s,baz=60,slow=14,SNR=2.7						
CTA	**Charters Tower**	**36.38**	**268**	P	P	07 14 54.0	-0.8
	1.4nm,0.4s,baz=98,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**46.91**	**259**	P	P	07 16 19.2	-1.9
	1.9nm,0.8s,baz=98,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**47.31**	**264**	P	P	07 16 21.4	-2.9
	0.7nm,0.7s,baz=103,slow=7.8,SNR=6.7						
AKASG	**Malin Array Be**	**147.22**	**332**	PKPbc	PKPdf	07 27 31.3	-0.1
	0.8nm,0.6s,baz=38,slow=4.1,SNR=4.5						

GUC 30 07:12:57.4±0.7**, 35.09S**×**70.51W, h8**^{km}±6^{km}**, MD3.5, ML2.7, 13C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**278**	⇓*i*P	Pg	07 13 09.1	-0.3
NICH				*i* S	Sg	07 13 18.8	+1.4
SFDO	**San Fernando**	**0.63**	**318**	⇓*i*P	Pg	07 13 08.9	-1.1
SFDO				*i* S	Sg	07 13 18.0	-0.3
CICH	**Cipreses**	**0.77**	**6**	⇓*i*P	Pb	07 13 10.8	-1.8
CICH				*i* S	Sb	07 13 22.2	-0.7
CACH	**El Canelo**	**0.97**	**356**	⇑*i*P	Pb	07 13 14.4	-1.6
CACH				*i* S	Sb	07 13 27.8	-0.9
TALC	**Talca**	**0.97**	**251**	⇑*i*P	Pb	07 13 15.1	-0.9
TALC				*i* S	Sb	07 13 29.1	+0.3
TALC				AMP		07 13 29.3	
	comp=N,2μm,0.1s						
CHCH	**Chadas Angostu**	**1.16**	**354**	⇑*i*P	Pb	07 13 17.9	-1.3
CHCH				*i* S	Sb	07 13 34.5	+0.3
LMEL	**Las Melosas**	**1.26**	**12**	⇑*i*P	Pb	07 13 20.0	-1.0
LNV	**Longovilo**	**1.35**	**326**	⇑*i*P	Pb	07 13 21.2	-1.3
LNV				*i* S	Sb	07 13 39.5	-0.4
PCH	**Pirque**	**1.46**	**360**	⇑*i*P	Pn	07 13 23.0	-1.2
PCH				*e*S	Sb	07 13 42.6	-0.4
TACH	**Talagante**	**1.47**	**346**	⇑*i*P	Pn	07 13 23.3	-1.0
TACH				*i* S	Sb	07 13 43.1	-0.3
ANTU	**Antumapu**	**1.52**	**356**	⇑*i*P	Pn	07 13 24.3	-0.7
ANTU				*i* S	Sb	07 13 44.6	-0.1
ANTU				AMP		07 13 46.1	
	comp=E,167nm,0.2s						
FSR	**Penalolen**	**1.60**	**359**	⇑*i*P	Pn	07 13 25.9	-0.3
FSR				*i* S	Sb	07 13 47.3	+0.2
FSR				AMP		07 13 48.7	
	comp=E,121nm,0.2s						
STL	**Santa Lucia**	**1.65**	**356**	⇑*i*P	Pn	07 13 26.5	-0.4
STL				*i* S	Sn	07 13 48.1	-0.3
STL				AMP		07 13 49.8	
	comp=E,78nm,0.5s						
CLCH	**Cerro Calan**	**1.69**	**359**	⇑*i*P	Pn	07 13 27.2	-0.2
CLCH				*i* S	Sn	07 13 49.3	0.0
CLCH				AMP		07 13 54.5	
	comp=E,138nm,0.5s						
FCH	**Farellones**	**1.76**	**6**	⇑*i*P	Pn	07 13 28.9	+0.4
FCH				*i* S	Sn	07 13 52.4	+1.1
FCH				AMP		07 13 54.5	
	comp=N,134nm,0.2s						
LCCH	**Las Cruces**	**1.83**	**331**	⇑*i*P	Pn	07 13 29.2	-0.2
LCCH				*i* S	Sn	07 13 53.2	+0.2
JACH	**Jahuel**	**2.40**	**358**	*e*P	Pn	07 13 38.6	+1.0

GUC 30 07:27:33.0±0.9**, 34.98S**×**70.58W, h5**^{km}±2^{km}**, MD3.6, ML2.8, 13C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.51**	**315**	⇓*i*P	Pg	07 27 43.3	0.0
SFDO				*i* S	Sg	07 27 51.2	+1.1
NICH	**Los Niches**	**0.54**	**267**	⇓*i*P	Pg	07 27 44.2	+0.4
NICH				*i* S	Sg	07 27 52.1	+1.2
CICH	**Cipreses**	**0.67**	**11**	⇓*i*P	Pg	07 27 45.0	-1.4
CICH				*i* S	Sg	07 27 54.3	-1.0
CACH	**El Canelo**	**0.86**	**359**	⇑*i*P	Pb	07 27 48.6	-1.4
CACH				*i* S	Sb	07 28 00.4	-1.2
TALC	**Talca**	**0.96**	**244**	⇓*i*P	Pb	07 27 51.0	-0.8
TALC				*i* S	Sb	07 28 04.7	+0.2
TALC				AMP		07 28 05.2	
	comp=N,2μm,0.1s						
CHCH	**Chadas Angostu**	**1.04**	**357**	⇑*i*P	Pb	07 27 52.1	-1.1
CHCH				*i* S	Sb	07 28 07.8	+0.7
LMEL	**Las Melosas**	**1.17**	**15**	⇑*i*P	Pb	07 27 53.8	-1.6
LMEL				*i* S	Sb	07 28 09.8	-0.8
LMEL				AMP		07 28 10.6	
	comp=N,246nm,0.2s						
LNV	**Longovilo**	**1.23**	**326**	⇑*i*P	Pb	07 27 55.4	-1.0
LNV				*i* S	Sb	07 28 12.5	+0.1
PCH	**Pirque**	**1.36**	**2**	⇑*i*P	Pb	07 27 57.5	-1.0
PCH				*i* S	Sb	07 28 16.1	+0.1
TACH	**Talagante**	**1.36**	**347**	⇑*i*P	Pb	07 27 57.4	-1.1
TACH				*i* S	Sb	07 28 16.1	+0.1
ANTU	**Antumapu**	**1.41**	**358**	⇑*i*P	Pn	07 27 58.4	-1.0
ANTU				*i* S	Sb	07 28 17.7	+0.2
ANTU				AMP		07 28 18.9	
	comp=E,270nm,0.3s						
FSR	**Penalolen**	**1.50**	**2**	⇑*i*P	Pn	07 27 59.9	-0.8
FSR				*i* S	Sb	07 28 20.4	+0.3
FSR				AMP		07 28 21.1	
	comp=E,211nm,0.2s						
STL	**Santa Lucia**	**1.54**	**358**	*i* P	Pn	07 28 00.4	-0.9
STL				*i* S	Sb	07 28 21.4	0.0
STL				AMP		07 28 22.6	
	comp=E,84nm,0.2s						
PUEX	**Pudahuel**	**1.54**	**354**	⇑*i*P	Pn	07 28 02.0	+0.7
PUEX				*i* S	Sb	07 28 23.0	+1.6
PUEX				AMP		07 28 28.3	
	comp=N,291nm,0.4s						
DSCH	**Colegio Aleman**	**1.58**	**0**	*i* P	Pn	07 28 01.4	-0.4
DSCH				*i* S	Sb	07 28 23.3	+0.8
DSCH				AMP		07 28 24.2	
	comp=E,320nm,0.3s						
CLCH	**Cerro Calan**	**1.58**	**1**	⇑*i*P	Pn	07 28 01.4	-0.5
CLCH				*i* S	Sb	07 28 22.8	+0.3
CLCH				AMP		07 28 24.6	
	comp=N,243nm,0.4s						
FCH	**Farellones**	**1.66**	**8**	⇑*i*P	Pn	07 28 02.9	-0.2
FCH				*i* S	Sb	07 28 25.5	+0.5
FCH				AMP		07 28 26.1	
	comp=N,298nm,0.3s						
LCCH	**Las Cruces**	**1.71**	**331**	⇑*i*P	Pn	07 28 03.5	-0.2
LCCH				*i* S	Sn	07 28 26.5	+0.3
JACH	**Jahuel**	**2.29**	**360**	⇑*i*P	Pn	07 28 13.0	+1.0

IDC ***30*** *07:33:22.1±8.7, 30.54S×177.59W, h53*^{km}*±82*^{km}*, mb3.9/5, mb1 4.1/7, mb1mx3.9/16, ML3.4/2, Error ellipse: s-maj=62.0km s-min=30.5km az=178.0*
NEIC ***30*** *07:33:24.8±4.7, 30.78S×177.60W, h82*^{km}*±40*^{km}*, mb4.6/4, Error ellipse: s-maj=38.0km s-min=22.9km az=201.0*
ISC 30 07:33:25.3±1.1**, 30.97S**±0.10×**177.7W**±0.2**, h100**^{km}**, n15,** σ**0^{s}96**/14**, mb4.2**/7**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.44**	**209**	P	**P**	**07 35 26.3**	**-0.1**
	0.2nm,0.3s,baz=80,slow=22,SNR=3.5						
URZ				S	**S**	**07 37 06.5**	**+5.7**
	1.5nm,0.3s,baz=208,slow=22,SNR=11						
RPZ	**Rata Peaks**	**15.54**	**212**	P	**P**	**07 37 03.3**	**+3.5**
	0.3nm,0.3s,baz=105,slow=20,SNR=2.6						
RPZ				S	**S**	**07 39 48.6**	**-0.4**
	0.3nm,0.3s,baz=278,slow=22,SNR=2.5						
CTA	**Charters Tower**	**34.17**	**280**	*e*P	**P**	**07 40 03.2**	**+0.2**
	3.3nm,0.4s,mb4.5						
CTA	**Charters Tower**	**34.17**	**280**	P	**P**	**07 40 03.3**	**+0.4**
	4.7nm,0.5s,mb4.6,baz=100,slow=9.9,SNR=11						
CTAO	**Charters Tower**	**34.17**	**280**	*e*P	**P**	**07 40 03.0**	**0.0**
	4.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.63**	**258**	P	**P**	**07 40 09.0**	**+2.2**
	7.4nm,1.1s,mb4.4,baz=154,slow=20,SNR=5.6						
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**07 41 19.5**	**+0.1**
	1.3nm,0.7s,mb3.8,baz=101,slow=7.6,SNR=9.9						
WB2	**Warramunga Arr**	**44.39**	**273**	*e*P	**P**	**07 41 26.6**	**-1.1**
WRAB	**Tennant Creek**	**44.40**	**273**	*e*P	**P**	**07 41 27.4**	**-0.3**
	3.4nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.40**	**273**	P	**P**	**07 41 27.1**	**-0.7**
	1.6nm,0.3s,mb4.2,baz=110,slow=8.1,SNR=51						
QSPA	**South Pole Qui**	**59.14**	**180**	P	**P**	**07 43 16.7**	**-0.4**
	5.2nm,0.8s,mb4.6						
QSPA				*e*		07 43 30.4	
NVAR	**Mina Array Bea**	**88.47**	**43**	P	**P**	**07 46 07.6**	**+0.1**
	0.1nm,0.3s,mb3.3,baz=236,slow=6.5,SNR=2.5						
ARCES	**ARCESS Array B**	**139.21**	**348**	PKP	PKPdf	07 52 43.1	+3.4
	1.6nm,0.9s,baz=277,slow=22,SNR=3.8						
FINES	**FINESS Array B**	**145.78**	**340**	PKPbc	PKPbc	07 52 52.0	-0.2
	3.0nm,0.7s,baz=117,slow=4.3,SNR=15						
AKASG	**Malin Array Be**	**151.93**	**322**	PKPbc	PKPdf	07 53 09.3	+8.0
	0.5nm,0.3s,baz=45,slow=2.9,SNR=5.5						

IDC ***30*** *08:25:00.2±2.3, 17.52S×66.92W, h48*^{km}*±21*^{km}*, mb3.6/5, mb1 3.7/6, mb1mx3.7/14, ML3.8/1, Error ellipse: s-maj=32.4km s-min=17.2km az=47.0*
NEIC ***30*** *08:25:00.7±1.0, 17.40S×66.88W, h49*^{km}*±10*^{km}*, mb3.9/2, Error ellipse: s-maj=13.0km s-min=10.5km az=88.0*
ISC 30 08:24:59.9±1.1**, 17.38S**±0.08×**66.76W**±0.09**, h61**^{km}±12^{km}**, n18,** σ**0^{s}93**/19**, mb3.8**/7**, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.71**	**309**	P	**P**	**08 25 27.1**	**-0.9**
	461nm,0.3s,baz=134,slow=15,SNR=7029						
LPAZ				S	**S**	**08 25 48.9**	**+0.2**
	307nm,0.3s,baz=3.1,slow=20,SNR=14						
LPAZ	**La Paz**	**1.71**	**309**	P	**P**	**08 25 27.1**	**-0.9**
LPAZ				S	**S**	**08 25 48.9**	**+0.2**
ARE	**Arequipa**	**4.62**	**281**	*e*P	**P**	**08 26 11.1**	**+2.1**
ARE				*e*		08 26 26.8	
LVC	**Limon Verde**	**5.58**	**201**	*e*Pn	**P**	**08 26 21.7**	**-0.5**
	34nm,1.1s						
SAML	**Samuel**	**9.08**	**23**	*e*Pn	**P**	**08 27 09.9**	**-0.7**
	4.0nm,0.4s						
SAML				*e*Sn	**S**	**08 28 43.5**	**-8.8**
BDFB	**Brasilia**	**18.06**	**87**	P	**P**	**08 29 09.1**	**+0.8**
	0.2nm,0.3s,baz=83,slow=9.5,SNR=2.3						
PLCA	**Paso Flores**	**23.50**	**187**	P	**P**	**08 30 04.3**	**-0.6**
	1.8nm,0.7s,mb3.6,baz=7.3,slow=12,SNR=6.6						
TXAR	**Lajitas Array**	**58.53**	**322**	P	**P**	**08 34 51.2**	**-1.5**
	0.2nm,0.6s,mb3.3,baz=141,slow=5.8,SNR=5.0						
TXAR				PcP	PcP	08 35 42.9	+0.6
	0.5nm,1.0s,baz=135,slow=5.1,SNR=3.6						
TXAR	**Lajitas Array**	**58.53**	**322**	P	**P**	**08 34 51.2**	**-1.5**
TXAR				PcP	PcP	08 35 42.9	+0.6
DBIC	**Dimbokro**	**65.64**	**74**	P	**P**	**08 35 41.4**	**+0.9**
	3.2nm,0.9s,mb4.3,baz=214,slow=9.3,SNR=3.1						
DBIC	**Dimbokro**	**65.64**	**74**	P	**P**	**08 35 41.4**	**+0.9**
SDCO	**Great Sand Dun**	**65.83**	**327**	*e*P	**P**	**08 35 41.4**	**+0.1**
	1.6nm,0.6s,mb4.2						
MSU	**Marysvale**	**70.02**	**324**	*e*P	**P**	**08 36 07.4**	**0.0**
PDAR	**Pinedale Array**	**71.64**	**328**	P	**P**	**08 36 16.9**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=131,slow=10,SNR=5.5						
ULM	**Lac du Bonnet**	**72.07**	**341**	P	**P**	**08 36 18.6**	**-0.8**
	2.3nm,0.8s,mb4.2,baz=131,slow=9.3,SNR=3.5						
NVAR	**Mina Array Bea**	**73.58**	**320**	pP	pP	08 36 45.2	-0.2
	0.7nm,0.6s,baz=127,slow=5.9,SNR=8.3						
HLID	**Hailey**	**74.71**	**326**	*e*P	**P**	**08 36 36.4**	**+1.4**
	0.5nm,0.6s,mb3.6						
SONM	**Songino Array**	**149.12**	**9**	PKPbc	PKPdf	08 44 44.6	+7.5
	1.6nm,0.7s,baz=321,slow=1.1,SNR=9.1						

TIR ***30*** *08:41:18.8, 41.42N×19.47E, h1*^{km}
PDG ***30*** *08:41:22.4±0.3, 41.52N×19.38E, h7*^{km}*±1*^{km}
ISC 30 08:41:17.3±1.1**, 41.36N**±0.05×**19.47E**±0.05**, h10**^{km}**, n13,** σ**0^{s}96**/26**, 1C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**93**	*i* Pg	**Pg**	**08 41 24.4**	**+0.9**
TIR				*i* Sg	**Sg**	**08 41 28.8**	**+1.2**
LACI	**Lac**	**0.33**	**33**	*i* Pg	**Pg**	**08 41 23.9**	**-0.1**
LACI				*i* Sg	**Sg**	**08 41 28.0**	**-0.6**
QSH	**Qafa e Shtames**	**0.36**	**64**	*i* pg?	**Pg**	**08 41 24.2**	**-0.5**
QSH				*i* Sg	**Sg**	**08 41 27.4**	**-2.3**
ULC	**Ulcinj**	**0.62**	**345**	⇓*i*Pg	**Pg**	**08 41 30.0**	**+0.1**
ULC				*e*Sg	**Sg**	**08 41 38.5**	**+0.3**
BUM	**Brajici-Budva**	**1.03**	**336**	*e*Pg	**Pg**	**08 41 38.5**	**+0.6**
BUM				*e*Sg	**Sg**	**08 41 51.9**	**+0.2**
TTG	**Podgorica**	**1.08**	**352**	*e*Pg	**Pg**	**08 41 38.5**	**-0.3**
TTG				*e*Sg	**Sg**	**08 41 54.1**	**+0.8**
PVY	**Plav**	**1.29**	**17**	*e*Pg	**Pg**	**08 41 43.9**	**+0.8**
PVY				*e*Sg	**Sg**	**08 42 02.5**	**+2.3**
HCY	**Herceg Novi**	**1.30**	**327**	⇑*i*Pg	**Pg**	**08 41 43.1**	**-0.3**
HCY				*e*Sg	**Sg**	**08 42 01.5**	**+0.7**
NKY	**Niksic**	**1.49**	**347**	*e*Pg	**Pg**	**08 41 47.0**	**0.0**
NKY				*e*Sg	**Sg**	**08 42 07.4**	**+0.4**
IVA	**Berane**	**1.54**	**12**	*e*Pg	**Pg**	**08 41 47.6**	**-0.4**
IVA				*e*Sg	**Sg**	**08 42 10.2**	**+1.5**
BRY	**Bratogost**	**1.68**	**336**	*e*Pg	**Pg**	**08 41 50.6**	**-0.3**
BRY				*e*Sg	**Sg**	**08 42 13.5**	**+0.1**
UPM	**Unac-Piva**	**1.89**	**347**	*e*Pn	**Pg**	**08 41 53.9**	**-1.1**
UPM				*e*Sn	**Sg**	**08 42 18.6**	**-1.5**
PLE	**Pljevlja**	**1.97**	**358**	*e*Pn	**Pg**	**08 41 55.7**	**-0.8**
PLE				*e*Sn	**Sg**	**08 42 20.9**	**-1.9**

NEIC ***30*** *08:42:13.0, 35.06S×70.29W, h14*^{km}*, ML3.4(GUC), After GUC.*
NEIC Felt [III] at Curico, Los Quenes and Talca; [II] at Licanten, Chile.
GUC 30 08:42:13.0±0.8**, 35.06S**×**70.29W, h14**^{km}±8^{km}**, MD4.0, ML3.4, 5C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.74**	**306**	⇓*i*P	Pb	08 42 23.5	-3.7
CICH	**Cipreses**	**0.75**	**351**	⇓*i*P	Pb	08 42 25.5	-1.7
CACH	**El Canelo**	**0.97**	**344**	⇑*i*P	Pb	08 42 29.0	-2.1
CHCH	**Chadas Angostu**	**1.16**	**345**	*e*P	Pb	08 42 32.6	-1.8
LMEL	**Las Melosas**	**1.21**	**3**	⇑*i*P	Pb	08 42 34.2	-0.9
LMEL				*i* S	Sb	08 42 50.7	+0.2
ANTU	**Antumapu**	**1.51**	**349**	⇑*i*P	Pn	08 42 39.0	-0.8
ANTU				*i* S	Sb	08 42 58.6	-0.6
ANTU				AMP		08 43 08.2	
	comp=N,558nm,0.3s						
CLCH	**Cerro Calan**	**1.67**	**353**	⇑*i*P	Pn	08 42 41.7	-0.4
CLCH				*i* S	Sn	08 43 02.7	-0.7
CLCH				AMP		08 43 24.5	
	comp=N,646nm,0.7s						
DSCH	**Colegio Aleman**	**1.67**	**352**	*e*P	Pn	08 42 41.7	-0.5
DSCH				*i* S	Sn	08 43 03.6	+0.2
DSCH				AMP		08 43 14.1	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.73**	**360**	⇑*i*P	Pn	08 42 43.2	+0.3
FCH				*i* S	Sn	08 43 06.1	+1.3
FCH				AMP		08 43 19.9	
	comp=E,326nm,0.2s						
PEL	**Peldehue**	**1.94**	**350**	*i* P	Pn	08 42 45.9	0.0
PEL				*i* S	Sn	08 43 10.9	+0.7
CCHI	**Chillan**	**2.12**	**223**	⇓*i*P	Pn	08 42 48.2	-0.3
CCHI				*i* S	Sn	08 43 15.6	+0.8
CCHI				AMP		08 43 25.7	
	comp=E,662nm,0.6s						

GUC 30 08:49:53.5±0.8**, 35.00S**×**70.63W, h4**^{km}±2^{km}**, MD4.0, ML3.7, 8C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.49**	**269**	⇓*i*P	Pg	08 50 03.5	+0.1
NICH				*i* S	Sg	08 50 11.2	+1.2
SFDO	**San Fernando**	**0.50**	**320**	⇓*i*P	Pg	08 50 03.4	0.0
CICH	**Cipreses**	**0.70**	**14**	⇓*i*P	Pg	08 50 06.3	-1.1
CICH				*i* S	Sg	08 50 16.6	-0.1
CACH	**El Canelo**	**0.88**	**1**	⇑*i*P	Pb	08 50 09.4	-1.5
CACH				*i* S	Sg	08 50 22.6	-0.1
TALC	**Talca**	**0.92**	**244**	⇓*i*P	Pb	08 50 09.9	-1.7
TALC				*i* S	Sb	08 50 22.7	-1.2
TALC				AMP		08 50 23.0	
	comp=N,12μm,0.1s						
CHCH	**Chadas Angostu**	**1.06**	**359**	⇓*i*P	Pb	08 50 12.9	-1.1
CHCH				*i* S	Sb	08 50 28.9	+0.8
LMEL	**Las Melosas**	**1.20**	**17**	⇑*i*P	Pb	08 50 15.0	-1.4
LMEL				*i* S	Sb	08 50 31.6	-0.5
LMEL				AMP		08 50 32.4	
	comp=E,2μm,0.3s						
LNV	**Longovilo**	**1.22**	**328**	⇑*i*P	Pb	08 50 15.7	-1.2
LNV				*i* S	Sb	08 50 32.8	0.0
TACH	**Talagante**	**1.36**	**349**	⇓*i*P	Pb	08 50 18.1	-1.1
TACH				*i* S	Sb	08 50 37.2	+0.3
PCH	**Pirque**	**1.38**	**4**	⇓*i*P	Pb	08 50 18.3	-1.1
PCH				*i* S	Sb	08 50 37.6	+0.4
ANTU	**Antumapu**	**1.42**	**360**	*e*P	Pn	08 50 19.3	-0.9
ANTU				*i* S	Sb	08 50 38.7	+0.1
ANTU				AMP		08 50 40.5	
	comp=E,1μm,0.3s						
FSR	**Penalolen**	**1.52**	**3**	*e*P	Pn	08 50 20.6	-0.9
FSR				*i* S	Sb	08 50 41.4	+0.1
FSR				AMP		08 50 43.3	
	comp=E,965nm,0.3s						
SAN	**Santiago**	**1.54**	**359**	⇓*i*P	Pn	08 50 21.3	-0.6
SAN				AMP		08 50 44.1	
	comp=E,2μm,0.4s						
STL	**Santa Lucia**	**1.56**	**360**	*e*P	Pn	08 50 21.5	-0.6
STL				*e*S	Sb	08 50 42.9	+0.4
STL				AMP		08 50 44.4	
	comp=E,610nm,0.3s						
DSCH	**Colegio Aleman**	**1.59**	**2**	*e*P	Pn	08 50 21.9	-0.7
DSCH				*i* S	Sb	08 50 43.7	+0.1
DSCH				AMP		08 50 51.4	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.60**	**3**	⇑*i*P	Pn	08 50 22.1	-0.6
CLCH				*i* S	Sb	08 50 44.0	+0.3
CLCH				AMP		08 50 59.8	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.69**	**10**	⇑*i*P	Pn	08 50 23.8	-0.2
FCH				*i* S	Sn	08 50 47.0	+0.8
FCH				AMP		08 50 48.4	
	comp=N,1μm,0.2s						
LCCH	**Las Cruces**	**1.71**	**332**	⇓*i*P	Pn	08 50 23.6	-0.6
CCHI	**Chillan**	**1.99**	**216**	⇑*i*P	Pn	08 50 27.9	-0.4
CCHI				*i* S	Sn	08 50 54.6	+0.6
CCHI				AMP		08 50 58.5	
	comp=E,2μm,0.3s						
COCH	**Cobquecura**	**2.10**	**237**	⇑*i*P	Pn	08 50 29.6	-0.2
COCH				*i* S	Sn	08 50 56.8	+0.2
COCH				AMP		08 51 00.2	
	comp=E,759nm,0.3s						
IHA	**Instituto Hidr**	**2.14**	**337**	⇑*i*P	Pn	08 50 30.6	+0.1
JACH	**Jahuel**	**2.31**	**1**	*e*P	Pn	08 50 33.4	+0.5

ISK ***30*** *08:50:54.5, 36.06N×29.06E, h12*^{km}*, MD3.3*
ATH ***30*** *08:50:54.5, 36.08N×29.20E, h38*^{km}*, MD3.0/3*
ISC 30 08:50:53.7±1.4**, 36.02N**±0.06×**29.09E**±0.06**, h4**^{km}±9^{km}**, n12,** σ**0^{s}64**/18**, 2C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.42**	**72**	⇑*i*PB	**Pb**	**08 51 03.2**	**-0.1**
ARG	**Arkhangelos**	**0.81**	**284**	*e*PN	**Pn**	**08 51 11.3**	**-0.3**
ARG				*e*SN	**Sn**	**08 51 24.5**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.83**	**334**	*i* PG	**Pg**	**08 51 10.4**	**+0.1**
DALT				*i* SG	**Sg**	**08 51 21.3**	**0.0**
ELL	**Elmali**	**0.98**	**42**	PG	**Pg**	**08 51 13.1**	**-0.1**
ELL				SG	**Sg**	**08 51 27.2**	**+0.9**
YER	**Yerkesik**	**1.29**	**330**	PN	**Pn**	**08 51 18.1**	**-0.4**
KARP	**Karpathos**	**1.64**	**254**	*e*PN	**Pn**	**08 51 24.1**	**+0.6**
MLSB	**Milas**	**1.65**	**321**	*e*PN	**Pn**	**08 51 23.1**	**-0.6**
DNZL	**Cakiroluk**	**1.66**	**359**	⇑*i*P	**Pn**	**08 51 23.9**	**0.0**
DNZL				*i* S	**Sb**	**08 51 44.8**	**-1.0**
BDRM	**Kayabasi**	**1.69**	**309**	*i* P	**Pn**	**08 51 23.2**	**-1.0**
BDRM				*i* S	**Sn**	**08 51 50.0**	**+3.5**
DENT	**Denizli**	**1.73**	**358**	PN	**Pn**	**08 51 24.7**	**-0.1**
AYDN	**Tasoluk**	**1.90**	**330**	*i* P	**Pn**	**08 51 27.5**	**+0.2**
AYDN				*i* S	**Sn**	**08 51 52.9**	**+0.9**
MANT	**Manisa**	**2.50**	**350**	*i* P	**Pn**	**08 51 35.6**	**-0.2**

ISC 30 08:52:50.3±1.9**, 36.87N**±0.09×**38.91E**±0.10**, h10**^{km}**, n7,** σ**1^{s}21**/13**, 1C, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**1.18**	**295**	*i* P	**Pb**	**08 53 11.5**	**-0.8**
GZT				*i* S	**Sb**	**08 53 28.3**	**+0.8**
GAZ	**Gaziantep**	**1.40**	**283**	PN	**Pn**	**08 53 11.9**	**-4.0**
GAZ				SN	**Sn**	**08 53 32.5**	**-2.0**
MALT	**Malatya**	**1.50**	**345**	*i* P	**Pn**	**08 53 16.6**	**-0.7**
MALT				*i* S	**Sb**	**08 53 36.3**	**-0.4**
MYA	**Malataya**	**1.51**	**345**	*e*PN	**Pn**	**08 53 16.1**	**-1.4**
ELZG	**Elazig**	**1.63**	**2**	⇑*i*P	**Pn**	**08 53 19.8**	**+0.5**
ELZG				*i* S	**Sn**	**08 53 41.6**	**+1.2**
KAHT	**Ahir Dag**	**1.80**	**296**	*i* P	**Pn**	**08 53 21.4**	**-0.2**
KAHT				*i* S	**Sn**	**08 53 45.9**	**+1.2**
COBT	**Iskenderun**	**2.16**	**262**	*i* P	**Pn**	**08 53 29.6**	**+2.7**
COBT				*i* S	**Sn**	**08 53 59.0**	**+5.0**

IDC ***30*** *09:12:56.5±1.7, 0.57S×98.84E, mb4.1/8, mb1 4.2/9, mb1mx4.1/14, ML4.5/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/13, Error ellipse: s-maj=80.8km s-min=15.9km az=57.0*
NEIC ***30*** *09:12:57.4±0.7, 0.67S×98.72E, h10*^{km}*, mb4.5/2, Error ellipse: s-maj=19.2km s-min=10.3km az=61.0*
ISC 30 09:12:59.3±0.8**, 0.59S**±0.10×**98.8E**±0.1**, h33**^{km}**, n16,** σ**1^{s}00**/14**, mb4.2**/10**, 1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGM	**Kluang**	**5.21**	**60**	*e*P	**P**	**09 14 16.2**	**-0.7**
IPM	**Ipoh**	**5.60**	**23**	⇓*e*P	**P**	**09 14 24.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**18.93**	**0**	P	**P**	**09 17 17.6**	**-2.6**
	0.6nm,0.3s,baz=194,slow=11,SNR=7.6						
CMAR				LR	LR	09 25 07.8	
	comp=Z,41nm,18.9s,baz=210,slow=39						
FITZ	**Fitzroy Crossi**	**31.59**	**125**	P	**P**	**09 19 20.8**	**-0.7**
	3.4nm,1.1s,mb4.1,baz=357,slow=7.8,SNR=2.2						
WRA	**Warramunga Arr**	**39.74**	**121**	P	**P**	**09 20 30.3**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=304,slow=9.0,SNR=8.8						
WRAB	**Tennant Creek**	**39.75**	**121**	*e*P	**P**	**09 20 30.4**	**-0.3**
ASAR	**Alice Springs**	**41.05**	**127**	P	**P**	**09 20 42.0**	**+0.6**
	1.1nm,0.6s,mb3.6,baz=301,slow=7.9,SNR=22						

SONM	**Songino Array**	**48.68**	**7**	P	**P**	**09 21 43.2**	**+0.9**
	3.0nm,0.5s,mb4.6,baz=189,slow=9.9,SNR=28						
MKAR	**Makanchi Array**	**49.36**	**345**	P	**P**	**09 21 48.0**	**+0.4**
	5.6nm,0.7s,mb4.7,baz=154,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**50.98**	**132**	P	**P**	**09 22 00.9**	**+0.8**
	1.1nm,0.5s,mb4.0,baz=293,slow=7.7,SNR=3.1						
KURK	**Kurchatov**	**53.93**	**344**	*e*P	**P**	**09 22 21.2**	**-0.7**
	4.7nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**58.46**	**340**	P	**P**	**09 22 53.4**	**-0.9**
	1.7nm,0.6s,mb4.2,baz=146,slow=11,SNR=8.4						
BRVK	**Borovoye**	**58.52**	**340**	P	**P**	**09 22 54.4**	**-0.3**
	2.2nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**09 25 32.5**	**+1.5**
	0.8nm,0.4s,mb4.2,baz=106,slow=5.6,SNR=18						
TXAR	**Lajitas Array**	**144.28**	**35**	PKP	PKPdf	09 32 33.5	+0.9
	0.4nm,0.6s,baz=262,slow=0.5,SNR=12						
TXAR	**Lajitas Array**	**144.28**	**35**	PKP	PKPdf	09 32 33.5	+0.9

NEIC ***30*** *10:16:40.6,40.88S×175.10E,h33^{km},ML4.0(WEL),After WEL.*

NEIC Felt at Wellington and along the Kapiti Coast.

WEL 30 10:16:41.3±0.1**,40.90S×175.11E,h29^{km},ML4.0**/17**, 15C-5D,Error ellipse: s-maj=0.9km s-min=0.5km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.16**	**284**	⇓P*	Pb	10 16 46.8	-0.1
KIW				S*	Sb	10 16 51.5	+0.7
KIW	**Kapiti Island**	**0.16**	**284**	P	Pb	10 16 46.8	-0.1
KIW				S	Sb	10 16 51.5	+0.7
CAW	**Cannon Point**	**0.21**	**189**	⇑P*	Pb	10 16 47.6	+0.1
CAW				S*	Sb	10 16 52.7	+1.0
CAW	**Cannon Point**	**0.21**	**189**	P	Pb	10 16 47.6	+0.1
CAW				S	Sb	10 16 52.7	+1.0
MTW	**Mount Morrison**	**0.39**	**131**	⇑P*	Pb	10 16 50.0	0.0
MTW				S*	Sb	10 16 57.2	+1.2
MTW	**Mount Morrison**	**0.39**	**131**	P	Pb	10 16 50.0	0.0
MTW				S	Sb	10 16 57.3	+1.4
MRZ	**Mangatainoka R**	**0.43**	**56**	⇓P*	Pb	10 16 49.7	-0.8
MRZ				S*	Sb	10 16 56.4	-0.5
MRZ	**Mangatainoka R**	**0.43**	**56**	P	Pb	10 16 49.7	-0.8
MRZ				S	Sb	10 16 56.4	-0.5
MRW	**Makara Radio**	**0.45**	**223**	⇑P*	Pb	10 16 50.5	-0.4
MRW	**Makara Radio**	**0.45**	**223**	P	Pb	10 16 50.5	-0.4
WEL	**Wellington**	**0.46**	**214**	⇑P*	Pb	10 16 50.7	-0.3
WEL	**Wellington**	**0.46**	**214**	P	Pb	10 16 50.7	-0.3
SNZO	**South Karori**	**0.51**	**217**	⇓P*	Pb	10 16 51.4	-0.4
SNZO	**South Karori**	**0.51**	**217**	P	Pb	10 16 51.4	-0.4
MSWZ	**Moikau Station**	**0.52**	**168**	⇑P*	Pb	10 16 52.1	+0.1
MSWZ				S*	Sb	10 17 01.0	+1.6
PAWZ	**Paruwai Farm**	**0.54**	**154**	⇑P*	Pb	10 16 52.1	-0.1
PAWZ				S*	Sb	10 17 01.2	+1.5
BHW	**Baring Head**	**0.54**	**199**	⇑P*	Pb	10 16 51.9	-0.4
BHW	**Baring Head**	**0.54**	**199**	P	Pb	10 16 51.9	-0.3
BFZ	**Birch Farm**	**0.89**	**76**	⇓P*	Pb	10 16 56.4	-1.7
TUWZ	**Tuamarina**	**1.03**	**239**	P*	Pb	10 16 59.0	-1.3
TUWZ				S*	Sb	10 17 12.4	-1.1
TSZ	**Takapari Road**	**1.06**	**38**	⇓P*	Pb	10 16 59.2	-1.8
TSZ	**Takapari Road**	**1.06**	**38**	P	Pn	10 16 59.2	-1.2
CMWZ	**Cape Campbell**	**1.08**	**218**	P*	Pb	10 17 00.3	-1.0
WAZ	**Wanganui**	**1.15**	**355**	⇑PN	Pn	10 17 01.5	-0.1
BSWZ	**Blackbirch Sta**	**1.23**	**228**	P*	Pb	10 17 01.8	-2.0
NNZ	**Nelson**	**1.35**	**256**	PN	Pn	10 17 03.7	-0.7
MOVZ	**Moawhango**	**1.57**	**18**	⇑PN	Pn	10 17 06.4	-1.3
PWZ	**Pawanui**	**1.60**	**57**	PN	Pn	10 17 05.3	-2.7
WNVZ	**Wahianoa**	**1.61**	**14**	⇑PN	Pn	10 17 07.5	-0.7
FWVZ	**Far West T-bar**	**1.68**	**12**	PN	Pn	10 17 08.3	-0.9
FWVZ	**Far West T-bar**	**1.68**	**12**	P	Pn	10 17 08.5	-0.7
TUVZ	**Tukino**	**1.68**	**15**	⇑PN	Pn	10 17 08.6	-0.7
RAEZ	**Rainy Point**	**1.70**	**341**	PN	Pn	10 17 09.6	+0.1
WPVZ	**Whakapapa**	**1.73**	**11**	PN	Pn	10 17 09.3	-0.6
CNZ	**Chateau**	**1.73**	**11**	PN	Pn	10 17 09.5	-0.5
DFE	**Dawson Falls**	**1.75**	**334**	PN	Pn	10 17 10.0	-0.3
NGZ	**Ngauruhoe**	**1.76**	**13**	⇑PN	Pn	10 17 09.7	-0.7
VRZ	**Vera Road**	**1.79**	**351**	PN	Pn	10 17 10.0	-0.8
NEZ	**North Egmont**	**1.80**	**334**	PN	Pn	10 17 11.2	+0.2
WTVZ	**West Tongariro**	**1.82**	**12**	PN	Pn	10 17 10.5	-0.7
TWVZ	**Taurewa**	**1.84**	**8**	PN	Pn	10 17 10.6	-1.0
KAVZ	**Karewarewa**	**1.85**	**13**	PN	Pn	10 17 11.2	-0.4
THZ	**Tophouse**	**1.87**	**242**	PN	Pn	10 17 10.1	-1.8
NWEZ	**Newall Road**	**1.88**	**329**	PN	Pn	10 17 11.6	-0.6
PKE	**Pukeiti**	**1.91**	**333**	PN	Pn	10 17 12.2	-0.3
KHZ	**Kahutara**	**1.92**	**217**	⇑PN	Pn	10 17 10.5	-2.2
MGZ	**Maungaku**	**1.93**	**10**	⇑PN	Pn	10 17 11.7	-1.0
QRZ	**Quartz Range**	**1.96**	**271**	PN	Pn	10 17 11.7	-1.5
KATZ	**Kakaramea**	**1.98**	**13**	PN	Pn	10 17 12.5	-0.9
BKZ	**Black Stump Fm**	**2.03**	**32**	PN	Pn	10 17 11.6	-2.7
RATZ	**Rangitukua**	**2.09**	**14**	PN	Pn	10 17 15.0	-0.1
WATZ	**Wairara**	**2.24**	**13**	*e*PN	Pn	10 17 17.0	-0.3
HIZ	**Hauiti**	**2.39**	**355**	PN	Pn	10 17 18.4	-1.0
DSZ	**Denniston Nort**	**2.63**	**250**	⇑PN	Pn	10 17 20.7	-2.1
LTZ	**Lake Taylor**	**2.83**	**228**	PN	Pn	10 17 22.8	-2.9
URZ	**Urewera**	**3.06**	**31**	PN	Pn	10 17 24.3	-4.6
MWZ	**Matawai**	**3.17**	**37**	PN	Pn	10 17 25.4	-5.1
CRLZ	**Canterbury Las**	**3.25**	**214**	*e*PN	Pn	10 17 26.9	-4.7
MQZ	**McQueen’s Vall**	**3.34**	**212**	*e*PN	Pn	10 17 27.9	-5.1
WVZ	**Waitaha Valley**	**3.92**	**235**	*e*PN	Pn	10 17 36.9	-4.2
RPZ	**Rata Peaks**	**4.12**	**226**	*e*PN	Pn	10 17 39.3	-4.7
MXZ	**Matakaoa Point**	**4.16**	**38**	*e*PN	Pn	10 17 38.9	-5.6
KUZ	**Kuaotunu**	**4.18**	**7**	*e*PN	Pn	10 17 41.9	-2.9
WCZ	**Waipu Caves**	**4.99**	**353**	*e*PN	Pn	10 17 53.4	-2.9
LBZ	**Lake Benmore**	**5.03**	**225**	*e*PN	Pn	10 17 51.7	-5.2
ODZ	**Otahua Downs**	**5.28**	**217**	*e*PN	Pn	10 17 54.4	-6.0
JCZ	**Jackson Bay**	**5.67**	**234**	*e*PN	Pn	10 18 00.7	-5.1
TUZ	**Tuapeka**	**6.43**	**216**	*e*PN	Pn	10 18 11.2	-5.5

GUC 30 10:17:01.4±0.8**,34.98S×70.57W,h4^{km}**±3^{km}**,MD3.5, ML2.8,8C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.52**	**315**	⇑*i*P	Pg	10 17 11.8	0.0
SFDO				*i* S	Sg	10 17 19.9	+1.3
NICH	**Los Niches**	**0.54**	**268**	⇓*i*P	Pg	10 17 12.4	+0.1
NICH				*i* S	Sg	10 17 20.9	+1.5
CICH	**Cipreses**	**0.67**	**11**	⇓*i*P	Pg	10 17 13.6	-1.3
CICH				*i* S	Sg	10 17 23.4	-0.4
CACH	**El Canelo**	**0.86**	**358**	⇑*i*P	Pb	10 17 17.2	-1.4
CACH				*i* S	Sg	10 17 29.6	-0.6
TALC	**Talca**	**0.96**	**244**	⇓*i*P	Pb	10 17 19.7	-0.6
TALC				*i* S	Sb	10 17 33.2	0.0
TALC				AMP		10 17 33.6	
	comp=N,2µm,0.1s						
CHCH	**Chadas Angostu**	**1.05**	**356**	⇑*i*P	Pb	10 17 20.8	-1.0
CHCH				*i* S	Sb	10 17 35.8	+0.1
LMEL	**Las Melosas**	**1.17**	**15**	⇑*i*P	Pb	10 17 22.3	-1.5
LMEL				*i* S	Sb	10 17 38.9	-0.3
LMEL				AMP		10 17 39.9	
	comp=N,203nm,0.2s						
LNV	**Longovilo**	**1.24**	**326**	⇑*i*P	Pb	10 17 24.1	-0.9
LNV				*i* S	Sb	10 17 41.1	-0.1
PCH	**Pirque**	**1.36**	**2**	⇑*i*P	Pb	10 17 26.1	-1.0
PCH				*i* S	Sb	10 17 45.3	+0.6
TACH	**Talagante**	**1.36**	**347**	⇑*i*P	Pb	10 17 26.3	-0.8
TACH				*i* S	Sb	10 17 44.9	+0.2
CLCH	**Cerro Calan**	**1.58**	**1**	⇑*i*P	Pn	10 17 30.0	-0.4
CLCH				*i* S	Sb	10 17 51.9	+0.7
CLCH				AMP		10 17 53.5	
	comp=N,259nm,0.8s						
FCH	**Farellones**	**1.67**	**8**	⇓*i*P	Pn	10 17 31.3	-0.3
FCH				*i* S	Sb	10 17 54.5	+0.8
FCH				AMP		10 17 55.5	
	comp=N,129nm,0.2s						
LCCH	**Las Cruces**	**1.72**	**331**	*e*P	Pn	10 17 31.9	-0.4
LCCH				*i* S	Sn	10 17 55.3	+0.3
JACH	**Jahuel**	**2.29**	**360**	*e*P	Pn	10 17 41.6	+1.0

IDC ***30*** *10:23:44.2±1.5,28.26N×51.42E,mb3.9/9,mb1 4.0/9, mb1mx3.8/18,Error ellipse: s-maj=38.7km s-min=26.6km az=29.0*

KISR ***30*** *10:23:46.5±0.8,28.44N×51.57E,h9^{km}±999^{km},ML3.4*

THR ***30*** *10:23:49.6±0.3,28.67N×51.66E,h17^{km}±13^{km},ML3.3*

NEIC ***30*** *10:23:50.7±0.8,28.32N×51.42E,h45^{km},Error ellipse: s-maj=23.4km s-min=15.8km az=214.0*

ISC 30 10:23:45.3±0.6**,28.35N**±0.07×**51.65E**±0.05**,h10^{km},n27,** σ**1^{s}14**/34**,mb3.8**/9**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.18**	**93**	*e*PG	**Pg**	**10 24 12.5**	**+3.5**
GHIR				AMP		10 24 35.8	
	comp=N,932nm,0.6s						
QRN	**Al-Qurain**	**3.30**	**278**	*e*P	**Pn**	**10 24 40.0**	**+1.8**
QRN				*e*S	**Sn**	**10 25 18.5**	**+0.5**
QRN				AML	AML	10 25 22.2	
	comp=Z,96nm,0.3s						
QRN	**Al-Qurain**	**3.30**	**278**	*e*P	**Pn**	**10 24 40.0**	**+1.8**
QRN				*e*S	**Sn**	**10 25 18.5**	**+0.5**
QRN				AML	AML	10 25 22.2	
	comp=Z,96nm,0.3s						
KBD	**Kabd**	**3.57**	**284**	*e*P	**Pn**	**10 24 42.9**	**+1.0**
KBD	**Kabd**	**3.57**	**284**	*e*P	**Pn**	**10 24 42.9**	**+1.0**
HASS	**Wahat al Ahsa’**	**3.60**	**209**	P	**Pn**	**10 24 46.4**	**+4.0**
RDF	**Al-Radifah**	**3.65**	**280**	*e*P	**Pn**	**10 24 43.9**	**+0.8**
RDF				*e*S	**Sn**	**10 25 27.3**	**+0.7**
RDF				AML	AML	10 25 34.6	
	comp=Z,80nm,0.4s						
RDF	**Al-Radifah**	**3.65**	**280**	*e*P	**Pn**	**10 24 43.9**	**+0.8**
RDF				*e*S	**Sn**	**10 25 27.3**	**+0.7**
RDF				AML	AML	10 25 34.6	
	comp=Z,80nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.65**	**290**	*e*P	**Pn**	**10 24 44.1**	**+1.1**
UMR				*e*S	**Sn**	**10 25 26.7**	**+0.1**
UMR				AML	AML	10 25 28.2	
	comp=Z,60nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.65**	**290**	*e*P	**Pn**	**10 24 44.1**	**+1.1**
UMR				*e*S	**Sn**	**10 25 26.7**	**+0.1**
UMR				AML	AML	10 25 28.2	
	comp=Z,60nm,0.3s						
NASN	**Na’in**	**4.54**	**12**	*e*PN	**Pn**	**10 24 55.9**	**+0.1**
KRBR	**Kerman**	**4.76**	**69**	*e*PN	**Pn**	**10 25 01.5**	**+2.7**
KRBR				AMP		10 26 14.9	
	comp=N,20nm,0.5s						
ASAO	**Ashtian**	**6.33**	**348**	*e*PN	**Pn**	**10 25 20.5**	**-0.5**
ASAO				AMP		10 26 42.5	
	comp=N,9.9nm,0.5s						
MZLS	**Mizel**	**7.21**	**235**	P	**Pn**	**10 25 33.8**	**+0.3**
MZLS				S	**Sn**	**10 26 51.8**	**-4.5**
ARSS	**Ar Rass**	**7.89**	**254**	P	**Pn**	**10 25 40.8**	**-2.1**
HILS	**Ha’il**	**8.78**	**266**	P	**P**	**10 25 54.5**	**-0.7**
AFFS	**‘Afif**	**8.93**	**242**	P	**P**	**10 25 56.2**	**-1.2**
BVAR	**Borovoye Array**	**28.28**	**24**	P	**P**	**10 29 40.3**	**-0.3**
	comp=N,1.4nm,0.6s,mb3.8,baz=233,slow=7.4,SNR=7.3						
MKAR	**Makanchi Array**	**30.20**	**44**	P	**P**	**10 29 58.2**	**+0.2**
	comp=N,0.5nm,0.7s,mb3.4,baz=252,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**37.22**	**340**	P	**P**	**10 30 57.2**	**-1.2**
	comp=N,1.0nm,0.5s,mb4.0,baz=149,slow=11,SNR=6.3						
NOA	**NORSAR Array B**	**42.34**	**332**	P	**P**	**10 31 39.9**	**-0.9**
	comp=N,0.5nm,0.5s,mb3.4,baz=127,slow=8.4,SNR=2.4						
ARCES	**ARCESS Array B**	**43.90**	**347**	P	**P**	**10 31 52.1**	**-1.3**
	comp=N,1.0nm,0.8s,mb3.6,baz=169,slow=9.2,SNR=4.1						
ESDC	**Sonseca Array**	**46.80**	**299**	P	**P**	**10 32 14.0**	**-2.9**
	comp=N,2.4nm,0.8s,mb4.2,baz=82,slow=10,SNR=7.1						
SCHQ	**Schefferville**	**81.83**	**329**	P	**P**	**10 36 05.7**	**+0.1**
	comp=N,1.8nm,0.9s,mb4.0,baz=14,slow=17,SNR=2.9						
SCHQ	**Schefferville**	**81.83**	**329**	P	**P**	**10 36 05.7**	**0.0**
WRA	**Warramunga Arr**	**93.14**	**111**	P	**P**	**10 37 01.4**	**+0.1**
	comp=N,0.3nm,0.5s,mb3.9,baz=313,slow=4.2,SNR=2.7						
ASAR	**Alice Springs**	**94.57**	**114**	P	**P**	**10 37 07.5**	**-0.3**
	comp=N,0.9nm,1.0s,mb4.2,baz=307,slow=4.8,SNR=5.0						

KRSC 30 10:25:50.3±0.4**,49.79N×157.59E,h32^{km}**±10^{km}**,ML3.8, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.70**	**310**	*e*P	Pn	10 26 18.3	+0.1
ALID				*i* S	Sn	10 26 38.8	-0.2
PAU	**Pauzhetka**	**1.75**	**344**	*i* P	Pn	10 26 19.6	+0.6
PAU				*e*S	Sn	10 26 40.1	-0.3
PAU				Smax			
	500nm,0.9s						
MIPR	**Malaya Ipel’ka**	**2.54**	**348**	*e*P	Pn	10 26 31.4	+1.0
RUS	**Russkaya**	**2.71**	**12**	*i* P	Pn	10 26 32.4	-0.3
RUS				*e*S	Sn	10 27 03.3	-1.5
GRL	**Gorelyy**	**2.78**	**6**	*e*P	Pn	10 26 34.2	+0.4
GRL				*i* S	Sn	10 27 06.1	-0.5
APC	**Apacha**	**3.15**	**355**	*e*P	Pn	10 26 38.9	-0.1
APC				*e*S	Sn	10 27 14.6	-1.3
APC				Smax			
	20nm,0.9s						
UGLR	**Uglovaya**	**3.51**	**12**	*e*P	Pn	10 26 45.2	+1.1
AVH	**Avacha**	**3.55**	**11**	*e*P	Pn	10 26 46.0	+1.3
SMAR	**Somma**	**3.56**	**12**	*e*P	Pn	10 26 45.8	+1.0
KOK	**Koryaka**	**3.57**	**10**	*e*P	Pn	10 26 46.1	+1.2
KOK				*e*S	Sn	10 27 26.6	+0.2
SDLR	**Sedlovina**	**3.58**	**13**	*e*P	Pn	10 26 45.1	0.0
SPN	**Mys Shipunski**	**3.65**	**24**	*e*P	Pn	10 26 46.1	+0.1
SPN				*e*S	Sn	10 27 27.4	-1.0
GNL	**Ganaly**	**3.92**	**3**	*e*P	Pn	10 26 50.6	+0.8
KII	**Karymskiy**	**4.41**	**14**	*e*P	Pn	10 26 57.5	+0.7
MKZ	**Mys Kozlova**	**5.41**	**26**	*e*P	Pn	10 27 09.7	-1.3
MKZ				*i* S	Sn	10 28 07.9	-5.0
KBTR	**Krutoberegovo**	**7.16**	**24**	*e*P	Pn	10 27 34.0	-1.6

IDC ***30*** *10:41:53.6±0.8,12.44N×144.03E,mb4.1/10,mb1 4.3/10, mb1mx4.2/19,MS4.0/6,Ms1 4.0/6,ms1mx3.4/32,Error ellipse: s-maj=27.4km s-min=17.3km az=84.0*

NEIC ***30*** *10:41:55.1±0.3,12.47N×144.06E,h10^{km},mb4.6/10,Error ellipse: s-maj=11.8km s-min=7.5km az=107.0*

ISC 30 10:41:53.6±0.4**,12.45N**±0.07×**143.9E**±0.1**,h10^{km},n31,** σ**0^{s}80**/24**,mb4.3**/19**,MS4.0**/5**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.46**	**39**	*e*Pn	**Pn**	**10 42 19.0**	**-1.1**
CBIJ	**Chichi jima**	**14.66**	**354**	LR	LR	10 50 12.4	
	comp=Z,498nm,20.0s,baz=66,slow=34						
JOW	**Kunigami**	**20.52**	**317**	P	**P**	**10 46 33.8**	**-1.1**
	39nm,0.5s,baz=139,slow=18,SNR=8.4						
TGY	**Tagaytay City**	**22.44**	**277**	LR	LR	10 55 46.3	
	comp=Z,222nm,19.9s,MS3.6,baz=143,slow=37						
JNU	**Nakatsue**	**23.80**	**332**	LR	LR	10 54 49.6	
	comp=Z,1µm,20.3s,MS4.3,baz=321,slow=32						
WRAB	**Tennant Creek**	**33.53**	**196**	*e*P	**P**	**10 48 34.9**	**-1.0**
	18nm,0.7s,mb5.1						
WRAB				*e*		10 48 44.2	
WB2	**Warramunga Arr**	**33.54**	**196**	*e*P	**P**	**10 48 35.4**	**-0.5**
WRA	**Warramunga Arr**	**33.54**	**196**	P	**P**	**10 48 35.1**	**-0.9**
	4.2nm,0.6s,mb4.6,baz=20,slow=9.9,SNR=91						
ASAR	**Alice Springs**	**37.21**	**195**	P	**P**	**10 49 07.3**	**+0.2**
	1.4nm,0.7s,mb3.9,baz=17,slow=12,SNR=12						
ASAR				PcP	PcP	10 51 26.4	-1.1
	0.6nm,0.8s,baz=30,slow=3.3,SNR=3.5						
ASPA	**Alice Springs**	**37.21**	**195**	*e*P	**P**	**10 49 08.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**43.69**	**284**	P	**P**	**10 50 00.8**	**0.0**
	1.0nm,0.4s,mb3.9,baz=90,slow=8.0,SNR=6.7						
CMAR				LR	LR	11 07 33.8	
	comp=Z,126nm,19.3s,MS3.8,baz=90,slow=35						
STKA	**Stephens Creek**	**44.13**	**183**	P	**P**	**10 50 03.8**	**-0.4**
	4.0nm,0.9s,mb4.2,baz=5.7,slow=8.9,SNR=3.3						
SONM	**Songino Array**	**47.15**	**326**	P	**P**	**10 50 28.6**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=143,slow=8.1,SNR=7.8						
MKAR	**Makanchi Array**	**61.68**	**317**	P	**P**	**10 52 15.0**	**+0.7**
	0.5nm,0.5s,mb3.9,baz=93,slow=7.4,SNR=6.1						
KURK	**Kurchatov**	**64.87**	**320**	*e*P	**P**	**10 52 41.9**	**+6.7**
	4.5nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**69.98**	**25**	P	**P**	**10 53 06.2**	**-1.0**
	0.3nm,0.6s,mb3.4,baz=251,slow=5.7,SNR=8.2						
BVAR	**Borovoye Array**	**70.26**	**322**	P	**P**	**10 53 08.5**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=108,slow=9.4,SNR=5.1						
ZRNK	**Zerenda**	**71.08**	**322**	P	**P**	**10 53 14.5**	**+0.5**
	3.2nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**84.29**	**27**	LR	LR	11 34 31.8	
	comp=Z,56nm,19.0s,MS4.0,baz=290,slow=38						
DPW	**Davenport**	**86.08**	**42**	*e*P	**P**	**10 54 36.5**	**+0.6**
NEW	**Newport**	**86.69**	**41**	LR	LR	11 26 29.4	
	comp=Z,67nm,20.6s,MS4.0,baz=306,slow=31						
NEW	**Newport**	**86.69**	**41**	*e*P	**P**	**10 54 40.0**	**+1.1**
	5.1nm,0.8s,mb4.8						
WVOR	**Wild Horse Val**	**87.11**	**47**	*e*P	**P**	**10 54 42.3**	**+1.2**
	2.7nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**88.34**	**51**	P	**P**	**10 54 47.7**	**+0.5**
	3.2nm,0.8s,mb4.6,baz=270,slow=3.5,SNR=24						
HLID	**Hailey**	**89.79**	**45**	*e*P	**P**	**10 54 54.2**	**+0.3**
	2.2nm,0.9s,mb4.5						
ELK	**Elko**	**90.01**	**48**	*e*P	**P**	**10 54 55.6**	**+0.6**
	4.2nm,1.0s,mb4.7						
DUG	**Dugway**	**91.94**	**48**	*e*P	**P**	**10 55 03.6**	**-0.3**
	1.5nm,0.8s,mb4.4						
HWUT	**Hardware Ranch**	**92.39**	**47**	*e*P	**P**	**10 55 04.8**	**-1.1**
	3.6nm,1.1s,mb4.6						
LAO	**LASA Array**	**94.18**	**40**	*e*P	**P**	**10 55 14.0**	**-0.1**
	8.7nm,0.9s,mb5.2						
DBIC	**Dimbokro**	**143.62**	**300**	PKP	PKPdf	11 01 31.2	-1.7
	2.1nm,0.8s,baz=58,slow=15,SNR=2.4						
LPAZ	**La Paz**	**148.72**	**101**	PKPbc	PKPdf	11 01 44.2	+2.8
	1.4nm,0.8s,baz=23,slow=9.1,SNR=4.9						

BJI ***30*** *10:55:44.7,6.85S×147.89E,h91^{km},mB5.2,mb4.9*

IDC ***30*** *10:55:46.8±0.8,6.88S×147.33E,h68^{km}±6^{km},mb4.7/12, mb1 4.8/14,mb1mx4.8/16,MS4.0/13,Ms1 4.0/13, ms1mx3.9/18,Error ellipse: s-maj=16.8km s-min=12.0km az=105.0*

HRVD ***30*** *10:55:47.3±0.3,7.05S×147.52E,h74^{km}±3^{km},MW5.0/57, Centroid moment Tensor Solution. LP body waves: s28,c34;Mantle waves: s57,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41±.17; $M_{\theta\theta}$3.46±.12; $M_{\phi\phi}$-1.05±.16; $M_{r\theta}$-0.80±.10; $M_{\theta\phi}$-0.99±.13; $M_{\phi r}$1.30±.11; Best double couple: $M_0$3.53×10^{16} NP1:ϕ_s254°,δ43°, λ-134°. NP2:ϕ_s127°,δ61°,λ-57°. Principal axes: T 3.85, Plg10°, Azm194°; N -.65, Plg29°, Azm289°; P -3.2, Plg59°, Azm87°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *10:55:47.3±0.2,6.78S×147.40E,mb5.0/35 Error ellipse: s-maj=6.4km s-min=4.7km az=120.0*

SYO ***30*** *10:55:47.2,6.78S×147.40E,h74^{km},MB5.0*

MOS ***30*** *10:55:47.1±0.8,6.77S×147.41E,h90^{km},mb4.8/10,Error ellipse: s-maj=21.2km s-min=12.7km az=101.5*

ISC 30 10:55:45.4±1.4**,6.80S**±0.04×**147.36E**±0.05**,h71^{km}**±13^{km}**, h76^{km}**±2.0^{km}**:pP-P,n122,** σ**0^{s}94**/106**,mb4.9**/52**,3C-3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**12.74**	**103**	*e*P	**P**	**10 58 45.0**	**-0.3**
HNR				*e*S	x	11 02 15.0	
CTA	**Charters Tower**	**13.26**	**185**	*e*P	**P**	**10 58 53.7**	**+1.7**
	38nm,0.9s						
CTA				*e*S	**S**	**11 01 16.9**	**-1.2**
CTA	**Charters Tower**	**13.26**	**185**	P	**P**	**10 58 53.6**	**+1.6**
	4.9nm,0.3s,baz=0.3,slow=14,SNR=56						
CTA				S	**S**	**11 01 17.2**	**-0.9**
	1.3nm,0.3s,baz=296,slow=18,SNR=2.4						
CTA				LR	LR	11 03 41.3	
	comp=Z,610nm,19.9s,baz=28,slow=36						
CTA	**Charters Tower**	**13.26**	**185**	P	**P**	**10 58 53.6**	**+1.6**
CTA				S	**S**	**11 01 17.2**	**-0.9**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA				smax			
	comp=Z,1.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,610nm,19.9s						
CTAO	**Charters Tower**	**13.26**	**185**	*e*Pn	**P**	**10 58 53.5**	**+1.5**
	comp=Z,40nm,0.7s						
KAKA	**Kakadu**	**15.86**	**247**	*e*P	**P**	**10 59 25.9**	**+0.1**
	comp=Z,96nm,0.5s						
KAKA				*e*S	**S**	**11 02 13.0**	**-6.2**
WRAB	**Tennant Creek**	**18.16**	**223**	*e*P	**P**	**10 59 54.2**	**-0.2**
	comp=Z,98nm,0.8s						
WB2	**Warramunga Arr**	**18.17**	**223**	*e*P	**P**	**10 59 54.6**	**+0.1**
WB2				*e*S	**S**	**11 03 10.9**	**-0.5**
WRA	**Warramunga Arr**	**18.18**	**223**	P	**P**	**10 59 54.5**	**0.0**
	comp=Z,3.2nm,0.3s,baz=51,slow=11,SNR=112						
WRA				S	**S**	**11 03 10.9**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=43,slow=23,SNR=4.9						
WRA				LR	LR	11 07 26.5	
	comp=Z,523nm,21.1s,baz=45,slow=39						
WRA	**Warramunga Arr**	**18.18**	**223**	P	**P**	**10 59 54.5**	**-0.1**
WRA				S	**S**	**11 03 10.9**	**-0.7**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=Z,1.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,523nm,21.1s						
WRA	**Warramunga Arr**	**18.18**	**223**	P	**P**	**10 59 54.5**	**0.0**
WRA				S	**S**	**11 03 10.9**	**-0.7**
WRA				LR	LR	11 07 26.5	
ASAR	**Alice Springs**	**21.18**	**216**	P	**P**	**11 00 27.1**	**+0.2**
	comp=Z,37nm,0.8s,mb4.8,baz=53,slow=7.9,SNR=247						
ASAR				S	**S**	**11 04 16.5**	**+3.3**
	comp=Z,26nm,1.0s,baz=32,slow=21,SNR=8.7						
ASAR				LR	LR	11 09 09.2	
	comp=Z,456nm,18.6s,baz=30,slow=38						
ASPA	**Alice Springs**	**21.18**	**216**	*e*P	**P**	**11 00 26.6**	**-0.3**
ASPA				*e*S	**S**	**11 04 17.7**	**+4.5**
FITZ	**Fitzroy Crossi**	**23.96**	**240**	*e*P	**P**	**11 00 55.6**	**+1.3**
	comp=Z,37nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.96**	**240**	P	**P**	**11 00 55.6**	**+1.4**
	comp=Z,28nm,0.5s,mb4.9,baz=53,slow=5.0,SNR=173						
FITZ				LR	LR	11 10 48.8	
	comp=Z,261nm,18.7s,baz=80,slow=38						
STKA	**Stephens Creek**	**25.52**	**191**	*e*P	**P**	**11 01 08.5**	**-0.6**
	comp=Z,25nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**25.52**	**191**	P	**P**	**11 01 08.6**	**-0.5**
	comp=Z,30nm,0.5s,mb5.0,baz=354,slow=8.9,SNR=68						
STKA				LR	LR	11 11 41.9	
	comp=Z,523nm,20.1s,baz=23,slow=38						
CNB	**Canberra Magne**	**28.44**	**177**	*e*P	**P**	**11 01 39.5**	**+3.8**
	comp=Z,33nm,1.2s,mb4.7						
FORT	**Forrest**	**29.94**	**215**	*e*P	**P**	**11 01 48.4**	**-0.8**
	comp=Z,113nm,0.7s,mb5.6						
KLBR	**Kellerberrin**	**37.05**	**224**	*e*P	**P**	**11 02 50.0**	**-0.4**
	comp=Z,73nm,1.0s,mb5.6						
KLBR				*e*S	**S**	**11 08 29.2**	**-1.2**
MUN	**Mundaring**	**38.35**	**225**	*e*P	**P**	**11 03 01.5**	**+0.3**
	comp=Z,31nm,0.9s,mb5.1						
URZ	**Urewera**	**41.30**	**144**	LR	LR	11 17 10.4	
	comp=Z,182nm,19.5s,baz=124,slow=31						
RPZ	**Rata Peaks**	**42.24**	**154**	P	**P**	**11 03 33.5**	**+0.2**
	comp=Z,7.4nm,0.6s,mb4.6,baz=315,slow=4.3,SNR=7.9						
RPZ				LR	LR	11 17 52.7	
	comp=Z,253nm,21.6s,baz=105,slow=31						
RPZ	**Rata Peaks**	**42.24**	**154**	P	**P**	**11 03 33.5**	**+0.2**
RPZ				LR	LR	11 17 52.7	
JNU	**Nakatsue**	**42.68**	**339**	P	**P**	**11 03 36.9**	**-0.1**
	comp=Z,38nm,0.9s,mb5.1,baz=71,slow=10,SNR=5.1						
MAJO	**Matsushiro**	**43.96**	**349**	*e*P	**P**	**11 03 46.6**	**-0.7**
	comp=Z,30nm,1.1s,mb4.9						
MAT	**Matsushiro**	**43.96**	**349**	P	**P**	**11 03 45.8**	**-1.5**
MAT	**Matsushiro**	**43.96**	**349**	*e*P	**P**	**11 03 46.0**	**-1.3**
	comp=Z,28nm,1.2s,mb4.9						
NANT	**Nan**	**52.55**	**300**	P	**P**	**11 04 56.0**	**+1.8**
RAR	**Rarotonga**	**53.02**	**111**	P	**P**	**11 04 57.1**	**-0.6**
	comp=Z,46nm,1.2s,mb5.4,baz=342,slow=21,SNR=2.1						
RAR	**Rarotonga**	**53.02**	**111**	P	**P**	**11 04 57.1**	**-0.6**
RAR				pmax	pmax		
	comp=Z,46nm,1.2s						
MDJ	**Mudanjiang**	**53.62**	**344**	P	**P**	**11 05 02.0**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,191nm,6.7s						
MDJ				LR	LR		
	comp=N,113nm,33.6s						
MDJ				LR	LR		
	comp=E,86nm,34.2s						
MDJ				LR	LR		
	comp=Z,171nm,28.1s						
YSS	**Yuzh-Sakhalins**	**53.67**	**356**	P	**P**	**11 05 01.2**	**-0.9**
YSS				*e*	pP	11 05 21.9	+1.7
YSS	**Yuzh-Sakhalins**	**53.67**	**356**	*e*P	**P**	**11 05 01.3**	**-0.8**
	comp=Z,22nm,1.1s,mb5.1						
KMI	**Kunming**	**53.76**	**308**	*e*P	**P**	**11 05 03.5**	**+0.4**
KMI				AP	pP	11 05 22.8	+1.6
KMI				XP	sP	11 05 32.5	+3.3
KMI				S	**S**	**11 12 32.5**	**+2.1**
KMI				SS	SS	11 16 12.0	+0.6
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,210nm,5.2s						
KMI	**Kunming**	**53.76**	**308**	*e*P	**P**	**11 05 03.5**	**+0.4**
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				pP	pP	11 05 22.7	+1.5
KMI				sP	sP	11 05 32.4	+3.2
KMI				S	**S**	**11 12 32.6**	**+2.2**
KMI				sS		11 13 04.1	
KMI				SS	SS	11 16 12.0	+0.6
KMI				LR	LR		

	comp=Z,90nm,26.6s						
CMAR	**Chiang Mai Arr**	**53.94**	**299**	P	**P**	**11 05 06.0**	**+1.6**
	comp=Z,15nm,0.8s,mb5.0,baz=121,slow=5.8,SNR=72						
CMAR				LR	LR	11 28 54.7	
	comp=Z,44nm,19.3s,baz=155,slow=37						
CMAR	**Chiang Mai Arr**	**53.94**	**299**	P	**P**	**11 05 06.1**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,44nm,19.3s						
CHG	**Chiang Mai**	**54.08**	**299**	⇑P	**P**	**11 05 06.7**	**+1.2**
	comp=Z,19nm,0.9s,mb5.1						
CD2	**Chengdu**	**56.08**	**314**	*e*P	**P**	**11 05 19.5**	**-0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
KLR	**Kul'dur**	**57.44**	**348**	*e*P	**P**	**11 05 28.7**	**-0.5**
HIA	**Hailar**	**60.82**	**340**	*e*P	**P**	**11 05 51.7**	**-0.8**
	comp=Z,9.4nm,0.9s,mb4.8						
SHL	**Shillong**	**62.75**	**303**	*e*P	**P**	**11 06 06.5**	**+0.7**
GTA	**Gaotai**	**63.58**	**320**	*e*P	**P**	**11 06 11.0**	**-0.1**
LSA	**Lhasa**	**65.00**	**307**	P	**P**	**11 06 22.0**	**+1.5**
LSA	**Lhasa**	**65.00**	**307**	*e*P	**P**	**11 06 22.1**	**+1.5**
	comp=Z,9.9nm,0.8s,mb4.7						
SONM	**Songino Array**	**65.27**	**331**	P	**P**	**11 06 21.7**	**-0.3**
	comp=Z,7.5nm,1.2s,mb4.4,baz=143,slow=6.2,SNR=28						
SONM				pP	pP	11 06 39.0	-1.7
	comp=Z,4.5nm,1.1s,baz=141,slow=7.9,SNR=4.2						
ZAK	**Zakamensk**	**68.50**	**331**	⇑*i*P	**P**	**11 06 41.6**	**-0.6**
ZAK				*e*	pP	11 07 02.9	+1.8
PKI	**Pulchoki**	**68.87**	**303**	*e*P	**P**	**11 06 45.8**	**+0.9**
	comp=Z,46nm,1.1s,mb5.2						
KKN	**Kakani**	**69.06**	**303**	*e*P	**P**	**11 06 47.1**	**+1.1**
	comp=Z,42nm,0.8s,mb5.3						
DMN	**Daman**	**69.14**	**303**	*e*P	**P**	**11 06 47.9**	**+1.3**
	comp=Z,100nm,1.0s,mb5.6						
SEY	**Seymchan**	**69.64**	**2**	*e*P	**P**	**11 06 49.1**	**+0.1**
SEY				*e*	pP	11 07 11.7	+3.8
SEY				*e*		11 15 54.9	
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
GKN	**Gorkha**	**69.66**	**303**	*e*P	**P**	**11 06 50.5**	**+0.7**
	comp=Z,82nm,1.0s,mb5.5						
BOD	**Bodaibo**	**69.84**	**342**	*e*P	**P**	**11 06 48.8**	**-1.5**
KOLN	**Koldanda**	**70.45**	**302**	*e*P	**P**	**11 06 55.4**	**+0.9**
	comp=Z,45nm,0.8s,mb5.4						
SBA	**Scott Base**	**71.74**	**176**	*e*P	**P**	**11 07 02.8**	**+1.3**
	comp=Z,4.4nm,1.1s,mb4.2						
WMQ	**Urumqi**	**73.62**	**319**	⇓P	**P**	**11 07 11.0**	**-2.1**
WMQ				PCP	PcP	11 07 27.0	-1.9
WMQ				AP	pP	11 07 31.5	-0.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
DDI	**Dehra Dun**	**75.85**	**303**	*e*P	**P**	**11 07 26.3**	**+0.1**
NDI	**New Delhi**	**76.10**	**302**	⇓*e*P	**P**	**11 07 26.8**	**-0.8**
	comp=Z,35nm,0.7s,mb5.2						
POO	**Poona**	**76.68**	**291**	*e*P	**P**	**11 07 30.0**	**-1.1**
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**11 07 39.4**	**-0.2**
	comp=Z,7.7nm,0.7s,mb4.5,baz=108,slow=6.4,SNR=56						
MKAR				pP	pP	11 07 57.9	-1.0
	comp=Z,3.7nm,0.9s,baz=101,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**11 07 39.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**11 07 39.4**	**-0.2**
MKAR				pP	pP	11 07 57.9	-1.0
NVS	**Novosibirsk**	**81.09**	**328**	*i* P	**P**	**11 07 52.7**	**-1.6**
NVS				*i*		11 08 28.1	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
MAW	**Mawson**	**81.65**	**203**	P	**P**	**11 07 56.3**	**-0.7**
	comp=N,6.0nm,1.1s,mb4.3,baz=57,slow=6.4,SNR=8.2						
MAW				LR	LR	11 42 09.2	
	comp=N,145nm,20.2s,baz=65,slow=34						
KURK	**Kurchatov**	**82.06**	**323**	P	**P**	**11 07 59.5**	**+0.1**
	comp=N,61nm,1.0s,mb5.4,SNR=11						
KURK	**Kurchatov**	**82.06**	**323**	P	**P**	**11 07 59.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**82.06**	**323**	*e*P	**P**	**11 07 58.8**	**-0.7**
	comp=Z,14nm,1.2s,mb4.7						
AAK	**Ala-Archa**	**82.15**	**315**	*e*P	**P**	**11 07 59.8**	**-0.3**
	comp=Z,3.8nm,0.7s,mb4.3						
PMR	**Palmer**	**83.77**	**26**	*e*P	**P**	**11 08 06.5**	**-1.4**
	comp=Z,11nm,1.2s,mb4.5						
SML	**Sawmill**	**84.20**	**25**	*e*P	**P**	**11 08 09.7**	**-0.4**
MCK	**McKinley**	**84.81**	**24**	*e*P	**P**	**11 08 11.8**	**-1.2**
	comp=Z,8.1nm,1.1s,mb4.6						
DIV	**Divide**	**85.04**	**27**	*e*P	**P**	**11 08 14.2**	**0.0**
	comp=Z,18nm,0.8s,mb5.0						
KKAR	**Karatay Array**	**85.10**	**314**	*i* P	**P**	**11 08 15.7**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
COLA	**College**	**85.74**	**23**	*e*P	**P**	**11 08 16.1**	**-1.4**
	comp=Z,6.4nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**86.07**	**23**	P	**P**	**11 08 17.8**	**-1.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=256,slow=4.8,SNR=55						
ILAR				LR	LR	11 41 04.9	
	comp=Z,74nm,20.8s,baz=254,slow=32						
VOSK	**Vostochnaya**	**87.19**	**324**	P	**P**	**11 08 24.2**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BVA0	**Borovoye Array**	**87.62**	**324**	P	**P**	**11 08 26.7**	**-0.3**
BRVK	**Borovoye**	**87.69**	**324**	*e*P	**P**	**11 08 27.1**	**-0.2**
	comp=Z,5.8nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**88.41**	**324**	P	**P**	**11 08 29.8**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
ZRNK	**Zerenda**	**88.41**	**324**	*e*P	**P**	**11 08 29.7**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.3						
SYO	**Syowa Base**	**89.97**	**200**	⇓P	**P**	**11 08 37.4**	**-0.4**
SYO	**Syowa Base**	**89.97**	**200**	⇑PcP	PcP	11 08 40.3	+1.1
DLBC	**Dease Lake**	**91.88**	**31**	LR	LR	11 43 47.8	
	comp=Z,54nm,19.7s,baz=308,slow=31						
BBB	**Bella Bella**	**91.97**	**38**	LR	LR	11 43 39.4	
	comp=Z,70nm,19.6s,baz=243,slow=31						
AB31	**Akbulak array**	**93.41**	**319**	*i* P	**P**	**11 08 53.4**	**-0.7**
AB31				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
YBH	**Yreka Blue Hor**	**94.42**	**49**	*e*P	**P**	**11 09 00.5**	**+1.6**
	comp=Z,21nm,1.2s,mb5.3						
YBH				*e*pP	pP	11 09 21.8	+3.1
OHCM	**Honcut**	**95.15**	**51**	*e*P	**P**	**11 09 02.6**	**+0.3**
RMW	**Rattlesnake Mo**	**95.52**	**43**	*e*P	**P**	**11 09 04.6**	**+0.8**
ASMM	**Slate Mountain**	**95.74**	**52**	*e*P	**P**	**11 09 04.3**	**-0.7**
BEKR	**Beckwourth**	**96.06**	**51**	*e*P	**P**	**11 09 07.6**	**+1.2**
	comp=Z,13nm,1.2s,mb5.2						
MOD	**Modoc**	**96.23**	**49**	*e*P	**P**	**11 09 07.8**	**+0.7**
	comp=Z,14nm,1.5s,mb5.2						
MTUM	**Tungsten Hills**	**97.32**	**53**	*e*P	**P**	**11 09 13.5**	**+1.3**
MTUM				*e*	pP	11 09 35.5	+3.5
WVOR	**Wild Horse Val**	**97.49**	**48**	*e*P	**P**	**11 09 13.7**	**+0.8**
	comp=Z,4.6nm,1.0s,mb4.9						
WVOR				*e*	pP	11 09 35.5	+2.8
NVAR	**Mina Array Bea**	**97.57**	**52**	P	**P**	**11 09 14.5**	**+1.2**
	comp=Z,3.0nm,0.9s,mb4.8,baz=260,slow=3.8,SNR=24						
NVAR				pP	pP	11 09 33.9	+0.7
	comp=Z,2.5nm,0.8s,baz=261,slow=4.4,SNR=8.3						
NVAR				LR	LR	11 43 20.8	
	comp=Z,52nm,20.9s,baz=325,slow=29						
NEW	**Newport**	**98.70**	**42**	*e*P	**P**	**11 09 18.9**	**+0.7**
	comp=Z,4.4nm,0.9s,mb5.0						
NEW				*e*pP	pP	11 09 40.9	+2.9
TPNV	**Topopah Spring**	**99.15**	**54**	*e*P	**P**	**11 09 22.1**	**+1.6**
	comp=Z,5.9nm,1.1s,mb5.0						
TPNV				*e*pP	pP	11 09 41.5	+1.2
ELK	**Elko**	**100.00**	**50**	*e*Pdif	P	11 09 25.4	+1.1
HLID	**Hailey**	**100.61**	**47**	*e*Pdif	P	11 09 27.8	+0.9
	comp=Z,3.8nm,1.3s						
HLID				*e*		11 09 48.9	
DUG	**Dugway**	**101.86**	**50**	*e*Pdif	P	11 09 33.2	+0.6
HWUT	**Hardware Ranch**	**102.76**	**49**	*e*Pdif	Pdif	11 09 37.0	+0.4
TPAW	**Teton Pass**	**103.13**	**47**	*e*Pdif	Pdif	11 09 39.1	+1.0
BW06	**Boulder Array**	**104.19**	**48**	*e*Pdif	Pdif	11 09 43.1	+0.3
PDAR	**Pinedale Array**	**104.19**	**48**	Pdiff	Pdif	11 09 42.7	-0.1
	comp=Z,4.9nm,1.2s,baz=270,slow=3.0,SNR=15						
PDAR				pPdiff		11 10 02.4	
	comp=Z,1.7nm,0.8s,baz=266,slow=2.2,SNR=10						
ARCES	**ARCESS Array B**	**107.12**	**342**	Pdiff	Pdif	11 09 54.9	-0.2
	comp=Z,3.6nm,0.9s,baz=40,slow=7.0,SNR=7.0						
ARCES				PKiKP		11 14 06.0	
	comp=Z,1.3nm,0.9s,baz=135,slow=3.4,SNR=3.6						
ARCES	**ARCESS Array B**	**107.12**	**342**	P	Pdif	11 09 54.9	-0.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**122.76**	**325**	PKP	PKPdf	11 14 34.2	+0.8
	comp=Z,0.6nm,0.5s,baz=63,slow=6.6,SNR=3.4						
GERES				pPKP		11 14 55.3	
	comp=Z,0.4nm,0.2s,baz=14,slow=5.5,SNR=1.8						
GERES	**GERESS Array B**	**122.76**	**325**	PKIKP	PKPdf	11 14 34.2	+0.8
GERES						11 14 55.3	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NNA	**Nana**	**132.25**	**113**	*e*PKPdf	PKPdf	11 14 54.1	+1.5
ROSC	**El Rosal**	**138.49**	**90**	PKP	PKPdf	11 15 06.4	+2.3
	comp=Z,8.1nm,0.5s,baz=29,slow=22,SNR=3.5						
CPUP	**Villa Florida**	**139.28**	**145**	PKP	PKPdf	11 15 04.8	-0.3
	comp=Z,2.6nm,1.0s,baz=150,slow=4.9,SNR=3.2						
CPUP	**Villa Florida**	**139.28**	**145**	PKIKP	PKPdf	11 15 04.9	-0.3
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SJG	**San Juan**	**145.47**	**68**	*e*PKPbc	PKPbc	11 15 16.8	-0.2
SAML	**Samuel**	**145.78**	**117**	*e*PKPbc	PKPbc	11 15 18.0	+0.1
MTP	**Monte Pirata**	**146.02**	**68**	*e*PKPbc	PKPbc	11 15 19.3	+1.0
KIC	**Kosan Boka**	**152.28**	**271**	*e*PKP1	PKPdf	11 15 35.6	+8.4
	comp=Z,79nm,1.1s						
DBIC	**Dimbokro**	**152.41**	**271**	PKPbc	PKPdf	11 15 36.4	+8.9
	comp=Z,5.1nm,0.6s,baz=70,slow=2.3,SNR=17						
DBIC	**Dimbokro**	**152.41**	**271**	PKIKP	PKPdf	11 15 36.4	+9.0
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LIC	**Lamto**	**152.56**	**270**	*e*PKP1	PKPdf	11 15 36.5	+8.9
	comp=Z,83nm,1.2s						
TIC	**Toumodi**	**152.57**	**271**	*e*PKP1	PKPdf	11 15 36.3	+8.6
	comp=Z,11nm,0.2s						
BDFB	**Brasilia**	**153.00**	**146**	PKP	PKPdf	11 15 30.4	+2.3
	comp=Z,3.5nm,0.5s,baz=300,slow=4.5,SNR=3.3						
BDFB				PKPbc	PKPdf	11 15 37.0	+8.8
	comp=Z,7.7nm,0.5s,baz=212,slow=1.8,SNR=11						
BDFB	**Brasilia**	**153.00**	**146**	PKIKP	PKPdf	11 15 30.4	+2.3
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.5s						

*GUC **30** 11:35:43.0±0.9, 34.70S×70.23W, h0^{km}±3^{km}, MD4.2, ML4.3*

*NEIC **30** 11:35:43.0, 34.70S×70.23W, h0^{km}, mb4.7/5, ML4.3(GUC), After GUC.*

*IDC **30** 11:35:50.4±3.2, 34.80S×69.86W, h54^{km}±29^{km}, mb4.0/8, mb1 4.2/11, mb1mx4.1/16, ML4.0/3, MS4.1/6, Ms1 4.1/6, ms1mx3.9/19, Error ellipse: s-maj=28.1km s-min=17.9km az=98.0*

ISC 30 11:35:42.7±0.4**, 34.75S**±0.03×**70.13W**±0.05**, h10^{km}, n48, σ1^{s}01**/50**, mb4.3**/10**, MS4.1**/5**, 10C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.49**	**331**	⇓*i*P	**Pg**	**11 35 51.8**	**-0.9**
SFDO	**San Fernando**	**0.74**	**280**	⇑*i*P	**Pb**	**11 35 56.0**	**-1.2**
CACH	**El Canelo**	**0.74**	**328**	⇑*i*P	**Pb**	**11 35 55.9**	**-1.3**
LMEL	**Las Melosas**	**0.90**	**356**	⇑*i*P	**Pb**	**11 35 59.5**	**-0.4**
LMEL				*i* S	**Sb**	**11 36 12.7**	**+0.9**
LMEL				AMP		11 36 13.1	
	comp=E,20μm,0.2s						
CHCH	**Chadas Angostu**	**0.92**	**332**	*i* P	**Pb**	**11 35 59.5**	**-0.8**
PCH	**Pirque**	**1.17**	**344**	⇓*i*P	**Pb**	**11 36 04.0**	**-0.6**
PCH				*i* S	**Sb**	**11 36 20.0**	**+0.5**
ANTU	**Antumapu**	**1.25**	**340**	*i* P	**Pb**	**11 36 05.3**	**-0.5**
ANTU				*i* S	**Sb**	**11 36 22.3**	**+0.4**
ANTU				AMP		11 36 23.5	
	comp=E,8μm,0.3s						
TACH	**Talagante**	**1.28**	**328**	⇓*i*P	**Pb**	**11 36 05.6**	**-0.9**
TACH				*i* S	**Sb**	**11 36 22.8**	**0.0**
LNV	**Longovilo**	**1.32**	**306**	⇑*i*P	**Pb**	**11 36 05.8**	**-1.3**
SAN	**Santiago**	**1.36**	**341**	⇓*i*P	**Pn**	**11 36 07.5**	**-0.4**
SAN				*i* S	**Sb**	**11 36 25.2**	**-0.1**
SAN				AMP		11 36 27.7	
	comp=E,8μm,0.3s						
CLCH	**Cerro Calan**	**1.39**	**346**	⇑*i*P	**Pn**	**11 36 08.0**	**-0.2**
CLCH				*i* S	**Sb**	**11 36 26.7**	**+0.7**
CLCH				AMP		11 36 29.0	
	comp=E,12μm,0.3s						
CLCH				AMP		11 36 29.5	
	comp=E,14μm,0.4s						
TALC	**Talca**	**1.39**	**242**	⇓*i*P	**Pn**	**11 36 07.8**	**-0.5**
TALC				*i* S	**Sb**	**11 36 26.8**	**+0.8**
TALC				AMP		11 36 30.2	
	comp=E,10μm,0.4s						
DSCH	**Colegio Aleman**	**1.40**	**345**	AMP		11 36 30.3	
	comp=N,13μm,0.9s						
FCH	**Farellones**	**1.42**	**355**	⇑*i*P	**Pn**	**11 36 08.8**	**0.0**
FCH				*i* S	**Sb**	**11 36 28.3**	**+1.4**
FCH				AMP		11 36 30.0	
	comp=E,7μm,0.3s						
LCCH	**Las Cruces**	**1.74**	**316**	*i* P	**Pn**	**11 36 13.3**	**0.0**
CCHI	**Chillan**	**2.43**	**220**	AMP		11 37 09.5	
	comp=E,2μm,0.8s						
PLCA	**Paso Flores**	**5.98**	**183**	P	**Pn**	**11 37 16.2**	**+2.7**
	comp=E,0.5nm,0.3s,baz=356,slow=14,SNR=15						
PLCA				Lg		11 38 52.1	
	comp=E,3.8nm,0.3s,baz=288,slow=20,SNR=3.5						
TRQA	**Tornquist**	**7.36**	**119**	*e*Pn	**Pn**	**11 37 31.8**	**-1.0**
	comp=E,31nm,1.0s						
TRQA				*e*Sg	**Sg**	**11 39 33.8**	**-14**
LVC	**Limon Verde**	**12.14**	**5**	Pn	**P**	**11 38 38.7**	**0.0**
CPUP	**Villa Florida**	**13.85**	**56**	P	**P**	**11 39 00.0**	**-1.4**
	comp=E,0.2nm,0.3s,baz=254,slow=10,SNR=9.7						
CPUP				Lg		11 43 05.8	
	comp=E,0.3nm,0.3s,baz=163,slow=20,SNR=3.7						
CPUP				LR	LR	11 45 15.5	
	comp=E,1μm,21.1s,baz=258,slow=41						
ARE	**Arequipa**	**18.25**	**356**	*e*P	**P**	**11 40 04.6**	**+6.7**
LPAZ	**La Paz**	**18.47**	**6**	P	**P**	**11 40 02.3**	**+1.7**
	comp=E,0.6nm,0.3s,baz=169,slow=10,SNR=30						
LPAZ				LR	LR	11 47 46.8	
	comp=E,435nm,20.1s,baz=151,slow=39						
USHA	**Ushuaia**	**20.12**	**177**	P	**P**	**11 40 19.8**	**+0.4**
	comp=E,14nm,1.0s,baz=350,slow=8.8,SNR=2.8						
USHA				LR	LR	11 48 36.0	
	comp=E,813nm,19.2s,MS4.1,baz=330,slow=38						
NNA	**Nana**	**23.47**	**343**	*e*P	**P**	**11 40 54.4**	**+1.0**
	comp=E,18nm,0.9s,mb4.5						
SAML	**Samuel**	**26.46**	**16**	*e*P	**P**	**11 41 20.8**	**-1.0**
	comp=E,32nm,2.2s,mb4.5						
BDFB	**Brasilia**	**27.50**	**52**	P	**P**	**11 41 30.0**	**-1.3**
	comp=E,5.1nm,0.8s,mb4.2,baz=228,slow=6.2,SNR=6.1						
BDFB				LR	LR	11 53 48.1	
	comp=E,1μm,18.2s,MS4.4,baz=231,slow=39						
VNA3	**Neumayer Olymp**	**48.07**	**158**	*e*	**P**	**11 44 32.3**	**+8.5**
VNA3	**Neumayer Olymp**	**48.07**	**158**	⇑*i*P	**P**	**11 44 24.6**	**+0.8**
VNA3				*e*		11 44 32.3	
VNA1	**Neumayer--Stat**	**48.37**	**157**	*e*	**P**	**11 44 35.0**	**+8.9**
VNA1	**Neumayer--Stat**	**48.37**	**157**	⇑*i*P	**P**	**11 44 27.4**	**+1.3**
VNA1				*e*		11 44 35.0	
VNA2	**Neumayer--Watz**	**48.71**	**157**	*e*	**P**	**11 44 33.1**	**+4.4**
VNA2	**Neumayer--Watz**	**48.71**	**157**	⇑*i*P	**P**	**11 44 25.5**	**-3.2**
VNA2				*e*		11 44 33.1	
SNAA	**Sanae**	**50.30**	**158**	*e*	**P**	**11 44 48.0**	**+7.1**
SNAA	**Sanae**	**50.30**	**158**	⇑*i*P	**P**	**11 44 40.2**	**-0.7**
SNAA				*e*		11 44 48.0	
SJG	**San Juan**	**52.70**	**5**	P	**P**	**11 45 01.6**	**+1.8**
	comp=E,6.1nm,0.3s,mb5.0,baz=328,slow=20,SNR=2.4						
QSPA	**South Pole Qui**	**55.49**	**180**	*e*P	**P**	**11 45 19.6**	**+0.1**
	comp=E,9.4nm,1.0s,mb4.8						
QSPA				LR	LR		
	comp=Z,150nm,21.3s,MS4.0						
TXAR	**Lajitas Array**	**71.17**	**329**	P	**P**	**11 47 03.5**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=155,slow=8.0,SNR=9.9						
TXAR				LR	LR	12 17 20.3	
	comp=Z,55nm,18.1s,MS3.9,baz=235,slow=35						
MAW	**Mawson**	**72.01**	**163**	P	**P**	**11 47 07.8**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=276,slow=6.4,SNR=3.2						
MAW	**Mawson**	**72.01**	**163**	*e*P	**P**	**11 47 07.3**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**73.94**	**70**	P	**P**	**11 47 20.2**	**-0.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=194,slow=6.6,SNR=2.8						
SADO	**Sadowa**	**79.57**	**353**	LR	LR	12 28 00.7	
	comp=Z,69nm,19.0s,MS4.0,baz=335,slow=39						
PDAR	**Pinedale Array**	**85.15**	**332**	P	**P**	**11 48 22.1**	**+2.0**
	comp=Z,0.9nm,0.9s,mb3.9,baz=169,slow=4.6,SNR=5.6						
NVAR	**Mina Array Bea**	**85.40**	**324**	P	**P**	**11 48 23.5**	**+2.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=144,slow=5.2,SNR=10.0						
NVAR	**Mina Array Bea**	**85.40**	**324**	P	**P**	**11 48 23.5**	**+2.0**
ASAR	**Alice Springs**	**117.59**	**205**	PKP	PKPdf	11 54 30.4	-1.9
	comp=Z,0.4nm,0.9s,baz=157,slow=2.4,SNR=3.4						
WRA	**Warramunga Arr**	**120.84**	**207**	PKP	PKPdf	11 54 35.9	-2.8
	comp=Z,0.6nm,0.7s,baz=159,slow=1.7,SNR=14						
MKAR	**Makanchi Array**	**156.03**	**52**	PKPbc	PKPdf	11 55 44.0	+4.5
	comp=Z,0.4nm,0.8s,baz=288,slow=4.6,SNR=2.9						
MKAR				PKPab	PKPab	11 56 03.2	-3.1
	comp=Z,0.5nm,0.8s,baz=270,slow=1.4,SNR=3.2						
SONM	**Songino Array**	**166.67**	**10**	PKPab	PKPab	11 56 55.4	+3.0
	comp=Z,0.7nm,1.0s,slow=5.8,SNR=3.3						

GUC 30 12:02:28.7±0.9**, 34.69S**×**70.29W, h1^{km}**±3^{km}**, MD3.6, ML3.1, 5C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.38**	**343**	⇓*i*P	Pg	12 02 36.9	+0.6
CICH				*i* S	Sg	12 02 42.8	+1.4
SFDO	**San Fernando**	**0.60**	**277**	*e*P	Pg	12 02 40.8	0.0
SFDO				*i* S	Sg	12 02 50.3	+1.5
CACH	**El Canelo**	**0.62**	**335**	⇑*i*P	Pg	12 02 41.1	-0.1
CACH				*i* S	Sg	12 02 50.1	+0.7
CHCH	**Chadas Angostu**	**0.81**	**338**	⇓*i*P	Pg	12 02 44.6	-0.3
CHCH				*i* S	Sg	12 02 57.0	+1.3
LMEL	**Las Melosas**	**0.84**	**5**	⇑*i*P	Pg	12 02 44.7	-0.8
LMEL				*i* S	Sg	12 02 56.9	+0.3
LMEL				AMP		12 02 57.8	
	comp=E,936nm,0.2s						
PCH	**Pirque**	**1.08**	**350**	⇓*i*P	Pb	12 02 49.1	-0.7
PCH				*i* S	Sb	12 03 04.9	+0.6
ANTU	**Antumapu**	**1.15**	**345**	⇓*i*P	Pb	12 02 50.5	-0.6
ANTU				*i* S	Sb	12 03 07.2	+0.9
ANTU				AMP		12 03 07.7	
	comp=E,1μm,0.3s						
TACH	**Talagante**	**1.16**	**332**	⇓*i*P	Pb	12 02 50.7	-0.6
TACH				*i* S	Sb	12 03 07.5	+0.8
LNV	**Longovilo**	**1.18**	**308**	⇑*i*P	Pb	12 02 50.9	-0.7
LNV				*i* S	Sb	12 03 07.8	+0.5
FSR	**Penalolen**	**1.22**	**351**	*e*P	Pb	12 02 51.7	-0.5
FSR				*i* S	Sb	12 03 09.2	+0.8
FSR				AMP		12 03 10.6	
	comp=E,830nm,0.4s						
CLCH	**Cerro Calan**	**1.30**	**351**	⇑*i*P	Pb	12 02 53.1	-0.5
CLCH				*i* S	Sb	12 03 11.8	+1.0
CLCH				AMP		12 03 13.8	
	comp=N,972nm,0.6s						
CLCH				AMP		12 03 15.0	
	comp=N,915nm,0.5s						
FCH	**Farellones**	**1.35**	**360**	⇑*i*P	Pb	12 02 53.9	-0.6
FCH				*i* S	Sb	12 03 13.2	+1.0
FCH				AMP		12 03 15.3	
	comp=N,528nm,0.2s						
LCCH	**Las Cruces**	**1.61**	**318**	*e*P	Pn	12 02 58.1	-0.3
JACH	**Jahuel**	**2.02**	**353**	*e*P	Pn	12 03 04.9	+0.7

*CASC **30** 12:03:39.8±1.8, 13.38N×90.22W, h28^{km}±6^{km}, MD3.1, ML3.5*

ISC 30 12:03:38.1±1.9**, 13.27N**±0.09×**90.27W**±0.06**, h24^{km}**±8^{km}**, n13, σ0^{s}60**/20**, 7C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**0.71**	**26**	⇑*e*P	**Pb**	**12 03 51.7**	**0.0**
CUSS				*e*S	**Sb**	**12 04 00.9**	**0.0**
SBLS	**San Blas**	**0.84**	**48**	⇑*e*P	**Pb**	**12 03 54.5**	**+0.5**
SBLS				*e*S	**Sb**	**12 04 05.0**	**+0.1**
RTR	**El Retiro**	**0.87**	**44**	⇑*e*P	**Pb**	**12 03 54.8**	**+0.4**
RTR				*e*S	**Sb**	**12 04 05.5**	**-0.1**
SNJE	**San Jose**	**0.87**	**47**	⇑*e*P	**Pb**	**12 03 54.9**	**+0.4**
SNJE				*e*S	**Sb**	**12 04 05.6**	**-0.2**
IXG	**Ixpaco**	**0.92**	**349**	⇑*e*P	**Pb**	**12 03 54.0**	**-1.2**
IXG				*e*S	**Sb**	**12 04 06.9**	**-0.1**
IXG				AML	AML	12 04 08.3	
	comp=E,2μm,0.4s						
RBDL	**Robledal**	**1.01**	**34**	⇓*e*P	**Pn**	**12 03 56.8**	**0.0**
BOQS	**Boqueron**	**1.06**	**64**	⇓*e*P	**Pn**	**12 03 58.2**	**+0.6**
LFU	**La Fuente**	**1.22**	**67**	*e*P	**Pn**	**12 04 00.7**	**+0.8**
LFRS	**El Faro**	**1.22**	**73**	*e*P	**Pn**	**12 03 59.9**	**0.0**
LFRS				*e*S	**Sn**	**12 04 14.4**	**-1.4**
LCBS	**La Ceiba**	**1.31**	**73**	*e*P	**Pn**	**12 04 01.4**	**+0.3**
NBG	**Las Nubes**	**1.31**	**357**	⇓*e*P	**Pn**	**12 04 00.6**	**-0.5**
NBG				*e*S	**Sn**	**12 04 19.1**	**+1.2**
NBG				AML	AML	12 04 20.1	
	comp=E,620nm,0.4s						
MTO2	**Montecristo 2**	**1.43**	**38**	⇑*e*P	**Pn**	**12 04 02.4**	**-0.4**
MRL	**Marmol**	**1.87**	**17**	⇑*e*P	**Pn**	**12 04 08.7**	**-0.5**

*HRVD **30** 12:16:16.6±0.5, 49.61S×110.63E, h12^{km}, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s59,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.38±.25; M$_{\theta\theta}$4.47±.20; M$_{\phi\phi}$-3.09±.23; M$_{r\theta}$0.90±.68; M$_{\theta\phi}$1.26±.18; M$_{\phi r}$-4.26±.70; Best double couple: M$_0$5.74×10^{16} NP1:φ$_s$44°,δ61°,λ-153°. NP2:φ$_s$300°,δ66°,λ-32°. Principal axes: T 4.69, Plg3°, Azm353°; N 2.11, Plg51°, Azm87°; P -6.79, Plg39°, Azm260°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 12:16:16.6±0.4, 49.80S×111.00E, h10^{km}, mb5.0/18, MS4.6/5 Error ellipse: s-maj=12.4km s-min=8.1km az=124.0*

*IDC **30** 12:16:18.6±0.6, 49.42S×111.48E, mb4.6/13, mb1 4.7/14, mb1mx4.6/17, ML2.2/1, MS4.4/5, Ms1 4.3/5, ms1mx4.1/15, Error ellipse: s-maj=24.3km s-min=14.8km az=146.0*

*BJI **30** 12:16:19.5, 49.80S×111.00E, h10^{km}, mb5.1*

ISC 30 12:16:17.9±0.5**, 49.71S**±0.08×**111.8E**±0.1**, h10^{km}, n51, σ1^{s}60**/45**, mb4.9**/28**, MS4.7**/9**, 2C, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.26**	**16**	Pn	**P**	**12 20 22.5**	**+2.0**
	0.4nm,0.3s,baz=190,slow=10,SNR=6.3						
NWAO				LR	LR	12 25 20.4	
	comp=Z,2μm,20.4s,baz=349,slow=32						
MUN	**Mundaring**	**18.03**	**12**	*e*P	**P**	**12 20 31.6**	**+1.5**
	13nm,0.9s						
KLBR	**Kellerberrin**	**18.65**	**16**	*e*P	**P**	**12 20 36.6**	**-1.3**
	70nm,1.2s						
FORT	**Forrest**	**22.55**	**39**	*e*P	**P**	**12 21 27.8**	**+8.5**
	256nm,0.9s,mb5.7						
ADE	**Adelaide**	**24.61**	**63**	P	**P**	**12 21 41.4**	**+2.1**
STKA	**Stephens Creek**	**28.50**	**63**	P	**P**	**12 22 14.9**	**-0.4**
	3.2nm,0.8s,mb4.1,baz=161,slow=7.2,SNR=5.5						
STKA				LR	LR	12 31 46.6	
	comp=Z,532nm,20.4s,MS4.1,baz=211,slow=32						
MAW	**Mawson**	**29.98**	**215**	*e*P	**P**	**12 22 28.2**	**-0.1**
	7.4nm,1.4s,mb4.2						
MAW	**Mawson**	**29.98**	**215**	P	**P**	**12 22 28.2**	**-0.1**
	10nm,1.1s,mb4.5,baz=77,slow=9.0,SNR=10						
MAW				LR	LR	12 31 58.9	
	comp=Z,408nm,19.0s,MS4.1,baz=73,slow=31						
MAW	**Mawson**	**29.98**	**215**	P	**P**	**12 22 22.4**	**-5.9**
	28nm,1.4s,mb4.8						
MAW				LR	LR		
	comp=Z,410nm,19.0s,MS4.1						
ASPA	**Alice Springs**	**31.25**	**42**	*e*P	**P**	**12 22 39.8**	**-0.1**
ASPA				*e*		12 22 45.9	
ASAR	**Alice Springs**	**31.25**	**42**	P	**P**	**12 22 39.1**	**-0.8**
	comp=Z,4.3nm,0.7s,mb4.4,baz=208,slow=7.5,SNR=33						
ASAR				PcP	PcP	12 25 36.1	+1.7
	comp=Z,4.4nm,1.1s,baz=209,slow=2.9,SNR=6.2						
FITZ	**Fitzroy Crossi**	**33.46**	**24**	*e*P	**P**	**12 22 58.5**	**-0.7**
	comp=Z,9.7nm,1.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.46**	**24**	P	**P**	**12 22 58.8**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.5,baz=197,slow=7.2,SNR=3.8						
FITZ				LR	LR	12 36 29.8	
	comp=Z,337nm,18.6s,MS4.1,baz=240,slow=36						
SBA	**Scott Base**	**34.69**	**162**	*e*P	**P**	**12 23 07.3**	**-2.0**
	comp=Z,9.6nm,1.1s,mb4.6						
SBA				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
WRA	**Warramunga Arr**	**34.74**	**39**	P	**P**	**12 23 09.6**	**-0.7**
	comp=Z,11nm,0.6s,mb5.0,baz=206,slow=8.4,SNR=54						
WB2	**Warramunga Arr**	**34.74**	**39**	*e*P	**P**	**12 23 09.5**	**-0.8**
WB2				*e*		12 23 16.2	
WRAB	**Tennant Creek**	**34.75**	**39**	*e*P	**P**	**12 23 09.7**	**-0.6**
	comp=Z,113nm,0.8s,mb5.8						
WRAB				*e*		12 23 16.1	

RPZ	**Rata Peaks**	**40.17**	**105**	P	**P**	**12 23 57.9**	**+2.2**
	comp=Z,6.4nm,0.8s,mb4.4,baz=202,slow=22,SNR=3.1						
CTA	**Charters Tower**	**40.31**	**55**	*e*P	**P**	**12 23 57.9**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.2						
CTA				*e*		12 24 04.2	
CTA	**Charters Tower**	**40.31**	**55**	P	**P**	**12 23 57.7**	**+0.7**
	comp=Z,5.9nm,0.8s,mb4.3,baz=237,slow=12,SNR=5.8						
CTAO	**Charters Tower**	**40.31**	**55**	*e*P	**P**	**12 23 56.4**	**-0.6**
	comp=Z,22nm,0.9s,mb4.9						
CTAO				*e*		12 24 03.8	
CTAO				LR	LR		
	comp=Z,705nm,21.0s,MS4.5						
KAKA	**Kakadu**	**40.63**	**32**	*e*P	**P**	**12 23 59.0**	**-0.7**
	comp=Z,13nm,0.9s,mb4.6						
URZ	**Urewera**	**46.99**	**102**	P	**P**	**12 24 51.9**	**+1.2**
	comp=Z,11nm,0.7s,mb4.9,baz=264,slow=4.0,SNR=6.8						
PMG	**Port Moresby**	**49.79**	**48**	*e*P	**P**	**12 25 12.1**	**-0.8**
	comp=Z,28nm,0.8s,mb5.3						
PMG				*e*		12 25 20.2	
SNAA	**Sanae**	**50.50**	**202**	*e*P	**P**	**12 25 12.0**	**-5.5**
	comp=Z,41nm,1.2s,mb5.3						
SNAA				*e*		12 25 18.4	
TGY	**Tagaytay City**	**64.05**	**10**	LR	LR	12 52 21.0	
	comp=Z,948nm,19.9s,MS5.0,baz=84,slow=34						
SUR	**Sutherland**	**66.65**	**247**	P	**P**	**12 27 10.9**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.5,baz=124,slow=3.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**68.81**	**347**	P	**P**	**12 27 20.9**	**-3.6**
	comp=Z,4.4nm,1.0s,mb4.4,baz=190,slow=5.2,SNR=12						
NANT	**Nan**	**68.91**	**349**	P	**P**	**12 27 21.0**	**-4.0**
CHG	**Chiang Mai**	**69.16**	**347**	⇑P	**P**	**12 27 29.6**	**+3.0**
LSZ	**Lusaka**	**74.37**	**265**	*e*P	**P**	**12 27 51.8**	**-5.9**
	comp=Z,20nm,1.1s,mb5.0						
LSZ				*e*		12 27 58.1	
LSZ				LR	LR		
	comp=Z,384nm,20.0s,MS4.7						
KMI	**Kunming**	**74.93**	**352**	*e*P	**P**	**12 28 06.3**	**+5.5**
KMI				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.9						
KMI	**Kunming**	**74.93**	**352**	*e*P	**P**	**12 28 06.2**	**+5.4**
	comp=Z,23nm,1.4s,mb4.9						
TSUM	**Tsumeb**	**78.22**	**254**	P	**P**	**12 28 20.2**	**+0.9**
	comp=Z,9.0nm,1.1s,mb4.6,baz=168,slow=4.0,SNR=6.7						
KMBO	**Kilima Mbogo**	**79.15**	**281**	P	**P**	**12 28 24.7**	**+0.2**
	comp=Z,2.9nm,0.9s,mb4.2,baz=59,slow=22,SNR=4.9						
KMBO	**Kilima Mbogo**	**79.15**	**281**	*e*P	**P**	**12 28 18.1**	**-6.4**
	comp=Z,4.6nm,1.1s,mb4.3						
KMBO				*e*		12 28 25.6	
KMBO				LR	LR		
	comp=Z,572nm,21.0s,MS4.9						
ENH	**Enshi**	**79.65**	**358**	*e*P	**P**	**12 28 24.4**	**-2.5**
	comp=Z,65nm,1.6s,mb5.3						
ENH				*e*		12 28 31.4	
PKI	**Pulchoki**	**80.43**	**336**	*e*P	**P**	**12 28 33.5**	**+2.4**
DMN	**Daman**	**80.55**	**336**	*e*P	**P**	**12 28 34.4**	**+2.7**
	comp=Z,58nm,1.1s,mb5.4						
KKN	**Kakani**	**80.67**	**336**	*e*P	**P**	**12 28 35.0**	**+2.6**
GKN	**Gorkha**	**81.05**	**336**	*e*P	**P**	**12 28 36.8**	**+2.4**
	comp=Z,95nm,1.1s,mb5.6						
KOLN	**Koldanda**	**81.10**	**335**	*e*P	**P**	**12 28 37.0**	**+2.3**
	comp=Z,86nm,1.4s,mb5.5						
LSA	**Lhasa**	**81.16**	**342**	*e*P	**P**	**12 28 32.8**	**-2.1**
	comp=Z,54nm,1.4s,mb5.3						
LSA				LR	LR		
	comp=Z,6µm,20.0s,MS6.0						
XAN	**Xi'an**	**83.42**	**358**	P	**P**	**12 28 51.0**	**+4.5**
XAN				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH	**Lanzhou**	**85.71**	**354**	*e*P	**P**	**12 28 55.5**	**-2.5**
	comp=Z,28nm,1.5s,mb5.3						
LZH				pP	pP	12 29 03.0	+1.8
LZH				sP	sP	12 29 07.0	+4.8
PLCA	**Paso Flores**	**89.91**	**178**	P	**P**	**12 29 22.4**	**+4.4**
	comp=Z,4.8nm,0.9s,mb4.8,baz=192,slow=5.9,SNR=8.2						
BERN	**Bernov**	**130.54**	**303**	⇑P	PKPdf	12 35 33.3	+1.9
NVAR	**Mina Array Bea**	**142.96**	**88**	PKP	PKPdf	12 35 56.6	+2.3
	comp=Z,3.2nm,0.8s,baz=239,slow=5.3,SNR=4.0						
INK	**Inuvik**	**143.81**	**35**	PKP	PKPdf	12 35 51.8	-3.1
	comp=Z,11nm,1.1s,baz=250,slow=3.0,SNR=2.2						
NEW	**Newport**	**148.34**	**74**	PKPbc	PKPdf	12 36 09.0	+5.9
	comp=Z,5.6nm,0.9s,baz=166,slow=1.5,SNR=2.8						
YKA	**Yellowknife Ar**	**151.85**	**45**	PKPbc	PKPdf	12 36 13.8	+5.7
	comp=Z,3.7nm,0.7s,baz=278,slow=3.1,SNR=5.6						
YKA				PKPab	PKPab	12 36 22.2	-0.7
	comp=Z,3.8nm,0.6s,baz=278,slow=3.7,SNR=10						

*SKHL **30** 12:23:19.6±2.9, 49.57N×157.85E, h52^{km}±5^{km}, mb6.3/5, mbh6.0/5, Ms5.5/5, msh5.9/6*

SKHL Felt (V-VI) at Severo-Kurilsk.

*BJI **30** 12:23:19.7, 49.77N×156.95E, h5^{km}, mB5.7, mb5.7, Ms5.6, Msz5.3*

*HRVD **30** 12:23:21.6±0.1, 49.52N×157.56E, h31^{km}, MW5.7/77, Centroid moment Tensor Solution. LP body waves: s67,c135;Mantle waves: s77,c172; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.54±.04; M$_{\theta\theta}$-0.16±.04; M$_{\phi\phi}$-1.38±.04; M$_{r\theta}$2.37±.07; M$_{\theta\phi}$2.18±.03; M$_{\phi r}$2.60±.06; Best double couple: M$_0$4.11×10^{17} NP1: ϕ_s113°, δ46°, λ26°. NP2: ϕ_s5°, δ72°, λ133°. Principal axes: T 5, Plg45°, Azm318°; N -1.78, Plg40°, Azm169°; P -3.22, Plg16°, Azm65°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **30** 12:23:21.6, 49.54N×157.28E, h12^{km}, MB5.7, MS5.3*

*NEIC **30** 12:23:21.6±1.7, 49.54N×157.28E, h12^{km}±10^{km}, mb5.7/227, ME6.1, MS5.3/84, MW5.7, Error ellipse: s-maj=3.4km s-min=2.1km az=177.0 Broadband fault plane solution: P waves. NP1: ϕ_s0°, δ75°, λ165°. NP2: ϕ_s94°, δ76°, λ16°. Principal axes: T Plg21°, Azm317°; N Plg0°, Azm0°; P Plg0°, Azm227°; Moment Tensor Solution. s25 Moment tensor: Scale 10^{17} Nm; M$_{rr}$1.26; M$_{\theta\theta}$1.00; M$_{\phi\phi}$-2.26; M$_{r\theta}$1.24; M$_{\theta\phi}$3.03; M$_{\phi r}$1.80; Best double couple: M$_0$4.2×10^{17} NP1: ϕ_s109°, δ58°, λ19°. NP2: ϕ_s9°, δ74°, λ146°. Principal axes: T 4.2, Plg35°, Azm325°; N .04, Plg53°, Azm166°; P -4.24, Plg10°, Azm62°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Severo-Kuril'sk, Paramushir. Felt [III] at Petropavlovsk-Kamchatskiy, Kamchatka.

*KRSC **30** 12:23:21.6±1.2, 49.38N×157.42E, h40^{km}±13^{km}, ML6.0*

*MOS **30** 12:23:23.2±1.1, 49.57N×157.19E, h35^{km}, mb5.9/64, MS5.8/32, Error ellipse: s-maj=6.5km s-min=3.9km az=85.7*

MOS Felt (IV-V) at Severo-Kuril'sk; (II-III) at Petropavlovsk-Kamchatskii.

*BGS **30** 12:23:27.4±1.4, 49.61N×157.22E, h47^{km}, mb5.5*

*IDC **30** 12:23:27.8±0.3, 49.58N×157.25E, h61^{km}±3^{km}, mb5.3/39, mb1 5.4/40, mb1mx5.4/40, MS5.3/26, Ms1 5.3/26, ms1mx5.2/33, Error ellipse: s-maj=10.8km s-min=7.2km az=127.0*

ISC 30 12:23:20.6±0.7**, 49.47N**±0.02×**157.33E**±0.02**, h15**^{km}±4^{km}**, h20**^{km}±2.1^{km}**:pP-P, n1261,** σ**0^{s}94**/1252**, mb5.7**/339**, MS5.4**/128**, 249C-77D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.45**	**328**	⇑*i*P	**Pn**	**12 23 44.7**	**-1.7**
SKR				⇑*i*P		12 23 44.7	
SKR				⇑*i*P		12 23 44.7	
SKR				⇑*i*P		12 23 44.7	
SKR				⇑*i*P		12 23 44.7	
SKR				AMB	AMB	12 23 46.0	
	90µm,1.0s						
SKR				AMB	AMB	12 23 46.0	
	62µm,2.0s						
SKR				AMB	AMB	12 23 46.0	
	86µm,1.0s						
SKR				AMB	AMB	12 23 46.0	
	60µm,2.0s						
SKR				AMB	AMB	12 23 46.0	
	72µm,3.0s						
SKR				AMB	AMB	12 23 46.0	
	86µm,3.0s						
SKR				*e*S	**Sb**	**12 24 03.5**	**-1.3**
SKR				A		12 24 05.3	
	440µm,1.2s						
SKR				A		12 24 05.3	
	126µm,1.5s						
SKR	**Severo-Kuril's**	**1.45**	**328**	*i* P	**Pn**	**12 23 44.7**	**-1.7**
SKR				*i* S	**Sb**	**12 24 03.5**	**-1.3**
SKR	**Severo-Kuril's**	**1.45**	**328**	⇑*i*PN	**Pn**	**12 23 44.7**	**-1.7**
SKR				*e*S	**Sb**	**12 24 03.5**	**-1.3**
SKR				pmax	pmax		
	comp=Z,90µm,1.0s						
SKR				pmax	pmax		
	comp=N,86µm,3.0s						
SKR				pmax	pmax		
	comp=E,62µm,2.0s						
SKR				smax			
	comp=N,6µm,1.0s						
SKR				smax			
	comp=E,5µm,1.0s						
SKR	**Severo-Kuril's**	**1.45**	**328**	*e*P	**Pn**	**12 23 45.0**	**-1.4**
PAU	**Pauzhetka**	**2.03**	**351**	*i* P	**Pn**	**12 23 56.6**	**+1.9**
PAU				*e*S	**Sn**	**12 24 20.8**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.83**	**353**	*i* P	**Pn**	**12 24 08.3**	**+2.0**
RUS	**Russkaya**	**3.06**	**14**	P	**Pn**	**12 24 09.7**	**+0.2**
RUS	**Russkaya**	**3.06**	**14**	*i* P	**Pn**	**12 24 09.4**	**-0.1**
GRL	**Gorelyy**	**3.12**	**8**	*i* P	**Pn**	**12 24 11.7**	**+1.4**
GRL				*i* S	**Sn**	**12 24 48.2**	**+0.5**
APC	**Apacha**	**3.46**	**358**	*i* P	**Pn**	**12 24 17.1**	**+1.9**
APC				*i* S	**Sn**	**12 24 56.6**	**+0.3**
APC				Smax			
	comp=E,5µm,1.4s						
PET	**Petropavlovsk**	**3.66**	**13**	P	**Pn**	**12 24 18.4**	**+0.5**
PET				S	**Sn**	**12 25 00.3**	**-0.9**
PET	**Petropavlovsk**	**3.66**	**13**	*i* P	**Pn**	**12 24 18.4**	**+0.5**
PET				*i* S	**Sn**	**12 24 59.2**	**-2.0**
PET	**Petropavlovsk**	**3.66**	**13**	⇓*i*PN	**Pn**	**12 24 18.5**	**+0.6**
PET				*i* S	**Sn**	**12 24 58.2**	**-3.0**
PET				pmax	pmax		
	comp=N,1µm,0.4s						
PET				pmax	pmax		
	comp=Z,2µm,0.4s						
PET				smax			
	comp=E,84µm,2.1s						
PET				smax			
	comp=E,18µm,1.9s						
PET				smax			
	comp=N,13µm,0.5s						
PET				MLR	MLR		
	comp=Z,40µm,19.0s						
PET				MLR	MLR		
	comp=E,83µm,22.0s						
PET				MLR	MLR		
	comp=N,46µm,21.0s						
PET	**Petropavlovsk**	**3.66**	**13**	*e*P	**Pn**	**12 24 18.0**	**+0.1**
UGLR	**Uglovaya**	**3.86**	**13**	*i* P	**Pn**	**12 24 21.7**	**+0.9**
AVH	**Avacha**	**3.90**	**13**	*i* P	**Pn**	**12 24 22.8**	**+1.4**
SMAR	**Somma**	**3.91**	**13**	*i* P	**Pn**	**12 24 22.2**	**+0.7**
KOK	**Koryaka**	**3.92**	**12**	*i* P	**Pn**	**12 24 23.3**	**+1.7**
NLC	**Nalytchevo**	**3.92**	**18**	P	**Pn**	**12 24 20.8**	**-0.8**
NLC	**Nalytchevo**	**3.92**	**18**	*i* P	**Pn**	**12 24 21.0**	**-0.6**
SDLR	**Sedlovina**	**3.94**	**14**	*i* P	**Pn**	**12 24 22.2**	**+0.3**
SPN	**Mys Shipunski**	**4.01**	**24**	P	**Pn**	**12 24 23.0**	**+0.1**
SPN	**Mys Shipunski**	**4.01**	**24**	*i* P	**Pn**	**12 24 22.7**	**-0.2**
GNL	**Ganaly**	**4.25**	**5**	*i* P	**Pn**	**12 24 27.8**	**+1.4**
GNL				*i* S	**Sn**	**12 25 16.7**	**+0.5**
KII	**Karymskiy**	**4.76**	**15**	P	**Pn**	**12 24 34.7**	**+1.1**
KII	**Karymskiy**	**4.76**	**15**	*i* P	**Pn**	**12 24 34.4**	**+0.8**
MKZ	**Mys Kozlova**	**5.77**	**26**	P	**Pn**	**12 24 46.3**	**-1.6**
MKZ				S	**Sn**	**12 25 47.7**	**-6.9**
MKZ	**Mys Kozlova**	**5.77**	**26**	*i* P	**Pn**	**12 24 46.0**	**-1.9**
MKZ				*e*S	**Sn**	**12 25 48.6**	**-6.0**
TUMR	**Tumrok**	**6.07**	**15**	*i* P	**Pn**	**12 24 53.0**	**+0.9**
ESO	**Esso**	**6.52**	**7**	*i* P	**Pn**	**12 24 59.4**	**+1.0**
ESO				*e*S	**Sn**	**12 26 10.4**	**-2.9**
ESO				Smax			
	comp=N,990nm,1.5s						
KMNR	**Kamenistaya**	**6.54**	**15**	*i* P	**Pn**	**12 24 59.3**	**+0.6**
KMNR				*i* S	**Sn**	**12 26 11.2**	**-2.6**
KOZ	**Kozyrevsk**	**6.78**	**12**	P	**Pn**	**12 25 02.3**	**+0.2**
KOZ	**Kozyrevsk**	**6.78**	**12**	*i* P	**Pn**	**12 25 02.2**	**+0.1**
KOZR	**Kozyr**	**6.79**	**12**	PN	**Pn**	**12 25 02.3**	**+0.1**
ZLN	**Zelenaya**	**6.89**	**16**	*i* P	**Pn**	**12 25 04.1**	**+0.5**
LGNR	**Loginova**	**6.93**	**16**	*i* P	**Pn**	**12 25 05.1**	**+0.9**
LGNR				*i* S	**Sn**	**12 26 20.4**	**-3.1**
CIRR	**Tsirk**	**6.97**	**16**	*i* P	**Pn**	**12 25 05.5**	**+0.7**
SRDR	**Sredinnyy**	**7.01**	**11**	*i* P	**Pn**	**12 25 05.0**	**-0.3**
KRSR	**Krestovskiy**	**7.04**	**15**	*e*P	**Pn**	**12 25 05.6**	**-0.1**
KLY	**Klyuchi**	**7.14**	**15**	P	**Pn**	**12 25 07.8**	**+0.6**
KLY	**Klyuchi**	**7.14**	**15**	*i* P	**Pn**	**12 25 07.5**	**+0.3**
KLY				*i* S	**Sn**	**12 26 24.6**	**-4.3**
KBTR	**Krutoberegovo**	**7.52**	**24**	P	**Pn**	**12 25 11.3**	**-1.2**
KBTR				S	**Sn**	**12 26 30.8**	**-7.5**
KBTR	**Krutoberegovo**	**7.52**	**24**	*i* P	**Pn**	**12 25 11.0**	**-1.5**
KBTR				*e*S	**Sn**	**12 26 32.0**	**-6.3**
KBG	**Krutoberegovo**	**7.54**	**24**	*e*P	**Pn**	**12 25 11.0**	**-1.7**
KBG				*e*S	**Sn**	**12 26 31.0**	**-7.6**
KBG				Smax			
	comp=N,8µm,1.0s						
KUR	**Kuril'sk**	**7.70**	**240**	⇑*i*P	**Pn**	**12 25 14.8**	**-0.1**
KUR				⇓*i*P		12 25 14.8	
KUR				AMB	AMB	12 25 34.0	
	comp=N,13µm,4.0s						
KUR				*i* S	**Sn**	**12 26 39.0**	**-3.6**
KUR				A		12 26 39.2	
	comp=N,14µm,4.0s						
KUR				A		12 26 39.2	
	comp=N,13µm,4.0s						
KUR				AMS	AMS	12 28 23.6	
	comp=N,53µm,17.0s						
KUR				AMS	AMS	12 28 23.6	
	comp=N,29µm,17.0s						
KUR				AMS	AMS	12 28 23.6	
	comp=N,36µm,17.0s						
BKI	**Bering**	**7.81**	**39**	*i* P	**Pn**	**12 25 13.5**	**-3.0**
BKI				*i* S	**Sn**	**12 26 32.4**	**-13**
BKI				Smax			
	comp=N,3µm,1.2s						
TYV	**Tymovskoe**	**9.52**	**284**	*e*P	**P**	**12 25 39.7**	**-0.5**
TYV				AMB	AMB	12 25 43.8	
	comp=N,193nm,1.0s						
TYV				AMS	AMS	12 29 36.0	
	comp=N,30µm,18.0s						
YUK	**Yuzh-Kuril'sk**	**9.56**	**240**	*e*P	**P**	**12 25 38.4**	**-2.3**
YUK				AMB	AMB	12 25 40.5	
	comp=N,740nm,0.4s						
YUK				AMB	AMB	12 25 40.5	
	comp=N,1µm,0.4s						
YUK				AMB	AMB	12 25 40.5	
	comp=N,4µm,0.5s						
YUK				AMB	AMB	12 25 42.9	
	comp=N,5µm,1.0s						
YUK				AMB	AMB	12 25 42.9	
	comp=N,2µm,1.0s						
YUK				AMB	AMB	12 25 42.9	
	comp=N,4µm,1.0s						
YUK				*i* S	**Sn**	**12 27 22.0**	**-6.9**
YUK				A		12 27 29.0	
	comp=N,2µm,0.5s						
YUK				A		12 27 29.0	
	comp=N,190nm,0.5s						
YUK				A		12 27 31.4	
	comp=N,5µm,1.0s						
YUK				A		12 27 31.4	
	comp=N,4µm,1.0s						
YUK				AMS	AMS	12 29 12.9	
	comp=N,19µm,20.0s						
YUK				AMS	AMS	12 29 21.9	
	comp=N,47µm,18.0s						
YUK	**Yuzh-Kuril'sk**	**9.56**	**240**	*e*PN	**P**	**12 25 38.4**	**-2.3**
YUK				pmax	pmax		
	comp=Z,4µm,0.5s						
YUK				pmax	pmax		
	comp=N,740nm,0.4s						
YUK				pmax	pmax		
	comp=E,1µm,0.4s						
YUK				pmax	pmax		
	comp=N,2µm,1.0s						
YUK				pmax	pmax		
	comp=E,4µm,1.0s						
YUK				pmax	pmax		
	comp=Z,5µm,1.0s						
YUK				MLR	MLR		
	comp=N,19µm,20.0s						
YUK				MLR	MLR		
	comp=E,47µm,18.0s						
OKH	**Okha**	**9.86**	**300**	⇑*i*P	**P**	**12 25 45.6**	**+0.8**
OKH				*e*P		12 25 45.9	
OKH				AMB	AMB	12 25 47.8	
	comp=E,3µm,5.0s						
OKH				AMB	AMB	12 25 47.8	
	comp=E,7µm,5.0s						
OKH				AMB	AMB	12 25 47.8	
	comp=E,7µm,6.0s						
OKH				AMB	AMB	12 25 48.9	
	comp=E,500nm,0.9s						
OKH				*e*S	**Sn**	**12 27 32.2**	**-4.0**
OKH				A		12 27 44.0	
	comp=E,6µm,8.0s						
OKH				A		12 27 44.0	
	comp=E,9µm,8.0s						
OKH				*e*LQ		12 28 46.0	
OKH				AMS	AMS	12 30 06.0	
	comp=E,23µm,17.0s						
OKH				AMS	AMS	12 30 06.0	
	comp=E,35µm,17.0s						
OKH				AMS	AMS	12 30 06.0	
	comp=E,30µm,17.0s						
OKH	**Okha**	**9.86**	**300**	*i* PN	**P**	**12 25 45.6**	**+0.8**
OKH				pmax	pmax		
	comp=Z,7µm,6.0s						
UGL	**Uglegorsk**	**9.99**	**274**	⇑*i*P	**P**	**12 25 48.5**	**+1.9**
UGL				*e*P		12 25 48.5	
UGL				AMB	AMB	12 25 50.5	
	comp=Z,360nm,0.8s						
UGL				AMB	AMB	12 25 50.5	
	comp=Z,84nm,0.7s						
UGL				AMB	AMB	12 25 50.5	
	comp=Z,65nm,0.7s						
UGL				AMB	AMB	12 25 52.0	
	comp=Z,2µm,6.0s						
UGL				AMB	AMB	12 25 52.0	
	comp=Z,3µm,6.0s						
UGL				AMB	AMB	12 25 52.0	
	comp=Z,500nm,3.0s						
UGL				sP		12 26 10.0	
UGL				*e*S	**Sn**	**12 27 38.0**	**-1.4**
UGL				A		12 27 46.0	
	comp=Z,4µm,7.0s						
UGL				A		12 27 46.0	
	comp=Z,2µm,7.0s						
UGL				AMS	AMS	12 29 52.0	
	comp=Z,41µm,20.0s						
UGL				AMS	AMS	12 29 52.0	
	comp=Z,29µm,20.0s						
UGL				AMS	AMS	12 29 52.0	
	comp=Z,44µm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.05**	**261**	*e*P	**P**	**12 25 49.0**	**+1.6**
YSS				AMB	AMB	12 25 51.0	
	comp=Z,610nm,1.0s						
YSS				AMB	AMB	12 25 51.0	
	comp=Z,1µm,1.0s						
YSS				AMB	AMB	12 25 51.0	
	comp=Z,760nm,1.0s						
YSS				AMB	AMB	12 26 00.0	
	comp=Z,3µm,6.0s						
YSS				AMB	AMB	12 26 00.0	
	comp=Z,2µm,5.0s						
YSS				sP		12 26 08.9	
YSS				*i* S	**S**	**12 27 37.0**	**-3.9**
YSS				A		12 27 43.1	
	comp=Z,500nm,1.0s						
YSS				A		12 27 43.1	
	comp=Z,190nm,0.8s						
YSS				A		12 27 44.0	
	comp=Z,4µm,8.0s						
YSS				A		12 27 44.0	
	comp=Z,1µm,8.0s						
YSS				*e*LQ		12 28 28.0	
YSS				AMS	AMS	12 29 54.0	
	comp=Z,10µm,16.0s						
YSS				AMS	AMS	12 29 54.0	
	comp=Z,14µm,17.0s						
YSS				AMS	AMS	12 29 54.0	
	comp=Z,16µm,17.0s						
YSS				AMS	AMS	12 29 54.0	
	comp=Z,7µm,17.0s						
YSS				AMS	AMS	12 29 54.0	
	comp=Z,4µm,15.0s						
YSS				AMS	AMS	12 29 54.0	
	comp=Z,4µm,15.0s						
YSS	**Yuzh-Sakhalins**	**10.05**	**261**	⇑*e*PN	**P**	**12 25 49.0**	**+1.6**
YSS				pmax	pmax		
	comp=N,610nm,1.0s						
YSS				pmax	pmax		
	comp=E,1µm,1.0s						
YSS				pmax	pmax		
	comp=Z,760nm,1.0s						
YSS				pmax	pmax		
	comp=E,3µm,6.0s						
YSS				pmax	pmax		
	comp=Z,2µm,6.0s						
YSS				pmax	pmax		
	comp=N,2µm,5.0s						
YSS				MLR	MLR		
	comp=Z,14µm,17.0s						
YSS				MLR	MLR		
	comp=N,4µm,15.0s						
YSS				MLR	MLR		
	comp=E,10µm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.05**	**261**	*e*P	**P**	**12 25 49.7**	**+2.3**
	comp=E,840nm,0.9s						
FX1	**Attu Island--F**	**10.51**	**65**	P	**P**	**12 25 50.6**	**-3.1**
	comp=E,186nm,0.3s,baz=263,slow=7.9,SNR=30						
FX1				S	**S**	**12 27 37.3**	**-15**
	comp=E,405nm,0.3s,baz=15,slow=21,SNR=14						
FX1				LR	LR	12 29 44.0	
	comp=E,580nm,19.4s,baz=268,slow=36						
FX1	**Attu Island--F**	**10.51**	**65**	*e*P	**P**	**12 25 50.4**	**-3.3**
MA2	**Magadan**	**10.81**	**342**	*e*PN	**P**	**12 25 56.6**	**-1.2**
MA2				pmax	pmax		
	comp=Z,230nm,0.9s						
MA2	**Magadan**	**10.81**	**342**	*e*P	**P**	**12 25 56.6**	**-1.2**
	comp=Z,235nm,0.9s						
SMY	**Shemya**	**11.04**	**66**	*e*PN	**P**	**12 25 58.2**	**-2.7**
SMY				pmax	pmax		
	comp=Z,4µm,0.5s						
SMY	**Shemya**	**11.04**	**66**	*e*P	**P**	**12 25 57.9**	**-3.0**
	comp=Z,4µm,0.5s						
NKL	**Nikolayevsk**	**11.05**	**296**	*i* P	**P**	**12 26 00.0**	**-1.1**
NKL				AMB	AMB	12 26 02.2	
	comp=Z,280nm,1.0s						
NKL				AMB	AMB	12 26 02.2	
	comp=Z,340nm,1.2s						
NKL				AMB	AMB	12 26 02.2	
	comp=Z,70nm,1.3s						
NKL				AMB	AMB	12 26 03.5	
	comp=Z,4µm,6.5s						
NKL				AMB	AMB	12 26 03.5	
	comp=Z,5µm,7.0s						
NKL				AMB	AMB	12 26 03.5	
	comp=Z,1µm,7.5s						
NKL				A		12 28 22.0	
	comp=Z,2µm,13.0s						
NKL				*e*L		12 28 52.0	
NKL				AMS	AMS	12 30 18.0	
	comp=Z,15µm,19.0s						
NKL				AMS	AMS	12 30 18.0	
	comp=Z,20µm,19.0s						
NKL				AMS	AMS	12 30 18.0	
	comp=Z,11µm,17.0s						
ASAJ	**Asahikawa**	**11.42**	**248**	P	**P**	**12 26 06.9**	**+0.7**
	comp=Z,66nm,0.3s,baz=79,slow=16,SNR=271						
ASAJ				S	**S**	**12 28 14.5**	**0.0**
	comp=Z,1.8nm,0.3s,baz=268,slow=22,SNR=1.8						
ASAJ				LR	LR	12 30 16.2	
	comp=Z,15µm,19.8s,baz=65,slow=36						
SEY	**Seymchan**	**13.77**	**350**	*e*P	**P**	**12 26 39.0**	**+1.7**
SEY				*e*S	**S**	**12 29 13.2**	**+2.3**
SEY				pmax	pmax		
	comp=N,70nm,0.7s						
SEY				pmax	pmax		
	comp=Z,120nm,0.7s						
SEY				MLR	MLR		
	comp=N,25µm,12.0s						
SEY				MLR	MLR		
	comp=Z,42µm,12.0s						
KAMR	**Kamenskoye**	**13.91**	**17**	*i* P	**P**	**12 26 38.4**	**-0.8**
TEY	**Ternei**	**14.74**	**260**	*e*P	**P**	**12 26 52.0**	**+1.8**
TEY				AMB	AMB	12 26 53.5	
	comp=Z,70nm,1.0s						
TEY				AMB	AMB	12 26 53.5	
	comp=Z,230nm,1.0s						
TEY				AMB	AMB	12 26 53.5	
	comp=Z,180nm,1.0s						
TEY				*e*rx	rx	12 26 55.5	
TEY				*e*S	**S**	**12 29 29.0**	**-5.1**
TEY				A		12 29 44.0	
	comp=Z,3µm,17.0s						
TEY				*e*LR	LR	12 30 50.0	
KLR	**Kul'dur**	**16.65**	**279**	⇓*i*P	**P**	**12 27 15.5**	**+0.7**

KLR				pmax	pmax		
	comp=E,2µm,9.0s						
KLR				pmax	pmax		
	comp=Z,4µm,9.0s						
VLA	**Vladivostok**	**18.64**	**260**	*e*P	**P**	**12 27 35.0**	**-4.6**
VLA				pmax	pmax		
	comp=Z,500nm,10.0s						
VLA				pmax	pmax		
	comp=N,500nm,7.0s						
VLA				pmax	pmax		
	comp=E,500nm,11.0s						
VLA				MLR	MLR		
	comp=Z,5µm,15.0s						
VLA				MLR	MLR		
	comp=N,6µm,13.0s						
VLA				MLR	MLR		
	comp=E,4µm,17.0s						
MAJO	**Matsushiro**	**18.97**	**234**	P	**P**	**12 27 41.4**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,370nm,0.8s						
MAJO	**Matsushiro**	**18.97**	**234**	*e*P	**P**	**12 27 42.1**	**-1.5**
	comp=Z,366nm,0.8s						
MAT	**Matsushiro**	**18.97**	**234**	P	**P**	**12 27 40.8**	**-2.8**
MAT				S	**S**	**12 31 08.0**	**-3.4**
MAT	**Matsushiro**	**18.97**	**234**	*e*P	**P**	**12 27 41.0**	**-2.6**
	comp=Z,414nm,0.9s						
MAT				*e*S	**S**	**12 31 08.0**	**-3.4**
ZEA	**Zeya**	**19.09**	**294**	⇑*i*P	**P**	**12 27 42.7**	**-2.2**
ZEA				AMB	AMB	12 27 44.5	
	comp=Z,80nm,0.7s						
ZEA				AMB	AMB	12 27 44.5	
	comp=Z,120nm,1.2s						
ZEA				AMB	AMB	12 27 44.5	
	comp=Z,280nm,1.2s						
ZEA				AMB	AMB	12 27 50.0	
	comp=Z,2µm,9.0s						
ZEA				AMB	AMB	12 27 50.0	
	comp=Z,3µm,10.0s						
ZEA				pP		12 27 53.1	
ZEA				sP		12 28 04.0	
ZEA				*e*S	**S**	**12 31 13.0**	**-1.0**
ZEA				A		12 31 20.3	
	comp=Z,130nm,2.0s						
ZEA				A		12 31 29.0	
	comp=Z,1µm,11.0s						
ZEA				A		12 31 29.0	
	comp=Z,2µm,12.0s						
MDJ	**Mudanjiang**	**19.46**	**266**	P	**P**	**12 27 46.5**	**-2.8**
MDJ				AP		12 27 51.5	
MDJ				PP	PP	12 28 08.3	+1.2
MDJ				S	**S**	**12 31 25.5**	**+3.1**
MDJ				LR	LR		
	comp=N,13µm,17.2s						
MDJ				LR	LR		
	comp=E,9µm,18.0s						
MDJ				LR	LR		
	comp=Z,11µm,20.3s						
MDJ	**Mudanjiang**	**19.46**	**266**	*e*P	**P**	**12 27 46.2**	**-3.1**
	comp=Z,212nm,0.8s						
YAK	**Yakutsk**	**19.81**	**320**	*c* *i*P	**P**	**12 27 50.2**	**-2.9**
YAK				*i* S	**S**	**12 31 25.8**	**-4.1**
YAK				pmax	pmax		
	comp=Z,918nm,1.0s						
YAK				pmax	pmax		
	comp=N,122nm,1.1s						
YAK				pmax	pmax		
	comp=E,416nm,1.1s						
YAK				smax			
	comp=N,58nm,0.8s						
YAK				smax			
	comp=Z,11nm,1.0s						
YAK				smax			
	comp=E,54nm,0.9s						
YAK				MLR	MLR		
	comp=Z,10µm,18.0s						
YAK				MLR	MLR		
	comp=N,6µm,17.0s						
YAK				MLR	MLR		
	comp=E,6µm,17.0s						
YAK	**Yakutsk**	**19.81**	**320**	⇑*i*P	**P**	**12 27 49.4**	**-3.8**
	comp=E,1µm,0.8s						
CLNS	**Chul’man**	**20.65**	**303**	*e*P	**P**	**12 28 00.8**	**-1.1**
CLNS				*e*		12 28 14.7	
CLNS				*e*PPP	PPP	12 28 22.9	-10
CLNS				*e*S	**S**	**12 31 49.1**	**+1.9**
CLNS				*e*		12 32 06.1	
CLNS				*e*SS	SS	12 32 14.9	-3.2
CLNS				pmax	pmax		
	comp=N,306nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,568nm,0.9s						
CLNS				pmax	pmax		
	comp=E,338nm,1.0s						
CLNS				smax			
	comp=N,150nm,1.1s						
CLNS				smax			
	comp=E,72nm,1.1s						
CLNS				smax			
	comp=Z,11nm,0.8s						
CLNS				MLR	MLR		
	comp=N,12µm,20.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,2µm,18.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,24µm,18.0s,MS5.6						
JHJ	**Hachijo jima 2**	**20.91**	**225**	P	**P**	**12 28 05.5**	**+0.8**
	comp=Z,2µm,1.4s,baz=333,slow=3.2,SNR=6.1						
NIKO	**Nikolski**	**21.35**	**68**	*e*P	**P**	**12 28 07.6**	**-1.5**
CN2	**Changchun**	**22.50**	**268**	*e*P	**P**	**12 28 18.0**	**-2.7**
CN2				*e*XP		12 28 31.5	
CN2				*e*S	**S**	**12 32 16.3**	**-5.8**
CN2				AMB	AMB		
	comp=Z,140nm,0.9s,mb5.4						
CN2				AMB	AMB		
	comp=Z,800nm,4.0s						
CN2				LR	LR		
	comp=N,18µm,17.0s,MS5.6						
CN2				LR	LR		
	comp=E,9µm,17.0s,MS5.6						
CN2				LR	LR		
	comp=Z,10µm,20.0s,MS5.2						
UNV	**Unalaska Valle**	**22.70**	**65**	⇓*i*P	**P**	**12 28 20.0**	**-2.5**
	comp=Z,205nm,1.1s,mb5.5						
UNV				LR	LR		
	comp=Z,22µm,20.0s,MS5.6						
TNA	**Tin City**	**24.19**	**35**	*e*P	**P**	**12 28 37.9**	**+1.0**
	comp=Z,205nm,0.8s,mb5.6						
TNA				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
HIA	**Hailar**	**24.32**	**284**	*e*P	**P**	**12 28 36.0**	**-2.3**
	comp=Z,112nm,0.6s,mb5.5						
KS15	**Wonju Array Si**	**24.36**	**252**	*e*P	**P**	**12 28 40.0**	**+1.2**
SNY	**Shenyang**	**24.64**	**265**	⇑P	**P**	**12 28 40.5**	**-1.0**
SNY				S	**S**	**12 32 49.3**	**-10**
SNY				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.2						
SNY				LR	LR		
	comp=N,13µm,17.6s,MS5.5						
SNY				LR	LR		
	comp=E,5µm,16.7s,MS5.5						
SNY				LR	LR		
	comp=Z,3µm,19.3s,MS4.9						
ANM	**Nome**	**24.81**	**39**	*e*P	**P**	**12 28 45.1**	**+2.2**
INCN	**Inchon**	**25.11**	**253**	*e*P	**P**	**12 28 47.3**	**+1.3**
	comp=Z,309nm,1.1s,mb5.8						
INCN				LR	LR		
	comp=Z,7µm,20.0s,MS5.1						
CBIJ	**Chichi jima**	**25.21**	**213**	P	**P**	**12 28 49.2**	**+2.2**
	comp=Z,36nm,0.3s,mb5.4,baz=332,slow=18,SNR=2.3						
JNU	**Nakatsue**	**25.53**	**240**	P	**P**	**12 28 50.4**	**+0.3**
	comp=Z,90nm,0.6s,mb5.5,baz=67,slow=13,SNR=19						
JNU				LR	LR	12 39 14.6	
	comp=Z,4µm,21.0s,MS4.9,baz=37,slow=37						
TIXI	**Tiksi**	**25.77**	**340**	⇓*i*P	**P**	**12 28 50.0**	**-1.9**
TIXI				*e*S	**S**	**12 33 13.0**	**-5.0**
TIXI				*e*SS	SS	12 34 16.1	-6.8
TIXI				pmax	pmax		
	comp=N,79nm,0.8s						
TIXI				pmax	pmax		
	comp=Z,266nm,0.8s,mb5.8						
TIXI				pmax	pmax		
	comp=E,132nm,0.9s						
TIXI				pmax	pmax		
	comp=N,233nm,1.2s						
TIXI				pmax	pmax		
	comp=Z,503nm,1.2s,mb5.9						
TIXI				pmax	pmax		
	comp=E,243nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,8µm,18.0s,MS5.3						
TIXI				MLR	MLR		
	comp=N,7µm,17.0s,MS5.4						
TIXI				MLR	MLR		
	comp=E,8µm,17.0s,MS5.4						
TIXI	**Tiksi**	**25.77**	**340**	⇑*i*P	**P**	**12 28 49.4**	**-2.5**
TIXI				LR	LR		
	comp=Z,8µm,19.0s,MS5.2						
BOD	**Bodaibo**	**26.59**	**305**	*e*P	**P**	**12 28 56.8**	**-2.8**
DL2	**Dalian**	**27.45**	**261**	P	**P**	**12 29 07.3**	**-0.4**
DL2				S	**S**	**12 33 52.5**	**+6.7**
DL2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,600nm,6.2s						
DL2				LR	LR		
	comp=N,3µm,16.7s,MS5.1						
DL2				LR	LR		
	comp=E,4µm,18.4s,MS5.1						
DL2				LR	LR		
	comp=Z,2µm,20.2s,MS4.8						
TTA	**Tatalina**	**28.51**	**44**	*e*P	**P**	**12 29 16.9**	**0.0**
	comp=Z,51nm,0.6s,mb5.4						
SVW	**Sparrevohn**	**28.55**	**48**	*e*P	**P**	**12 29 18.4**	**+1.0**
	comp=Z,91nm,0.8s,mb5.6						
MIDW	**Midway**	**28.72**	**128**	PFAKE		12 29 30.0	+11
MIDW				LR	LR		
	comp=Z,5µm,20.0s,MS5.2						
IMA	**Indian Mountai**	**29.94**	**38**	*e*P	**P**	**12 29 27.3**	**-2.5**
IMA				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.4						
IMA	**Indian Mountai**	**29.94**	**38**	*e*P	**P**	**12 29 26.8**	**-3.0**
	comp=Z,21nm,0.8s,mb4.9						
RSO	**Redoubt South**	**29.95**	**49**	*e*P	**P**	**12 29 30.1**	**+0.1**
RSO				*e*ScP		12 36 21.1	
KDAK	**Kodiak Island**	**30.21**	**55**	⇓*i*P	**P**	**12 29 30.5**	**-1.8**
	comp=Z,71nm,0.8s,mb5.5						
KDAK				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
SPU	**Mount Spurr**	**30.28**	**48**	*e*P	**P**	**12 29 32.8**	**-0.1**
BJI	**Beijing**	**30.37**	**268**	P	**P**	**12 29 33.0**	**-0.9**
BJI				S	**S**	**12 34 34.5**	**+1.9**
BJI				LR	LR		
	comp=N,11µm,16.8s,MS5.6						
BJI				LR	LR		
	comp=E,6µm,19.2s,MS5.6						
BJI				LR	LR		
	comp=Z,6µm,19.7s,MS5.2						
BJI	**Beijing**	**30.37**	**268**	P	**P**	**12 29 32.9**	**-1.0**
	comp=Z,46nm,1.7s,mb4.9						
BJI				S	**S**	**12 34 34.5**	**+1.9**
BJI				LR	LR		
	comp=Z,6µm,19.7s,MS5.2						
BJT	**Baijiatuau**	**30.39**	**268**	*e*P	**P**	**12 29 32.3**	**-1.7**
	comp=Z,62nm,1.0s,mb5.3						
SLKM	**Skilak Lake**	**31.20**	**49**	P	**P**	**12 29 40.4**	**-0.6**
SLKM	**Skilak Lake**	**31.20**	**49**	*e*P	**P**	**12 29 40.2**	**-0.8**
PMR	**Palmer**	**31.68**	**47**	P	**P**	**12 29 43.1**	**-2.1**
PMR				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.4						
PMR	**Palmer**	**31.68**	**47**	*e*P	**P**	**12 29 43.2**	**-2.0**
	comp=Z,53nm,0.8s,mb5.4						
MCK	**McKinley**	**31.74**	**43**	*e*P	**P**	**12 29 43.6**	**-2.1**
MCK				pmax	pmax		
	comp=Z,16nm,0.3s,mb5.3						
MCK	**McKinley**	**31.74**	**43**	⇓*i*P	**P**	**12 29 44.9**	**-0.8**
	comp=Z,16nm,0.3s,mb5.3						
MCK				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
TIA	**Tai’an**	**31.93**	**261**	*e*P	**P**	**12 29 45.3**	**-2.3**
SML	**Sawmill**	**32.05**	**47**	P	**P**	**12 29 47.8**	**-0.6**
SML	**Sawmill**	**32.05**	**47**	⇓*i*P	**P**	**12 29 47.6**	**-0.8**
SML				*e*		12 30 03.0	
COLA	**College**	**32.24**	**41**	*i* P	**P**	**12 29 49.8**	**-0.2**
COLA	**College**	**32.24**	**41**	*e*P	**P**	**12 29 49.4**	**-0.6**
	comp=Z,117nm,0.8s,mb5.8						
ILAR	**Eielson Array**	**32.65**	**41**	P	**P**	**12 29 52.6**	**-1.0**
	comp=Z,22nm,0.3s,mb5.5,baz=153,slow=22,SNR=108						
ILAR				LR	LR	12 43 41.9	
	comp=Z,3µm,19.0s,MS4.9,baz=276,slow=37						
ILAR	**Eielson Array**	**32.65**	**41**	P	**P**	**12 29 52.6**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,22nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,3µm,19.0s						
SSE	**Sheshan**	**32.71**	**249**	⇓P	**P**	**12 29 55.8**	**+1.3**
SSE				S	**S**	**12 35 08.8**	**-0.4**
SSE				AMB	AMB		
	comp=Z,58nm,1.4s,mb5.3						
SSE				AMB	AMB		
	comp=Z,769nm,5.3s						
SSE				LR	LR		
	comp=N,3µm,20.0s,MS5.1						
SSE				LR	LR		
	comp=E,2µm,20.0s,MS5.1						
SSE				LR	LR		
	comp=Z,5µm,19.1s,MS5.2						
SSE	**Sheshan**	**32.71**	**249**	⇓P	**P**	**12 29 55.7**	**+1.2**
	comp=Z,58nm,1.4s,mb5.3						
SSE				pP	pP	12 30 10.9	+12
SSE				S	**S**	**12 35 08.8**	**-0.4**
SSE				sS		12 35 29.0	
SSE				SS	SS	12 37 40.9	+34
SSE				LR	LR		
	comp=Z,5µm,19.1s,MS5.2						
ULN	**Ulaanbaatar**	**32.75**	**287**	PFAKE		12 30 10.0	+15
ULN				LR	LR		
	comp=Z,8µm,19.0s,MS5.5						
HHC	**Hu-ho-hao-te**	**32.96**	**273**	*e*P	**P**	**12 29 54.8**	**-1.8**
HHC				AP	pP	12 29 58.5	-2.5
HHC				XP	sP	12 30 05.0	+2.1
HHC				S	**S**	**12 35 04.5**	**-8.5**
HHC				XS		12 35 25.5	
HHC				AMB	AMB		
	comp=Z,550nm,1.9s,mb6.2						
HHC				LR	LR		
	comp=N,6µm,19.0s,MS5.4						
HHC				LR	LR		
	comp=E,4µm,17.8s,MS5.4						
HHC				LR	LR		
	comp=Z,4µm,19.0s,MS5.1						
IRK	**Irkutsk**	**32.99**	**296**	*e*P	**P**	**12 29 54.7**	**-2.0**
IRK				*e*		12 30 13.2	
SONM	**Songino Array**	**33.17**	**287**	P	**P**	**12 29 56.2**	**-2.1**
	comp=Z,15nm,0.5s,mb5.2,baz=56,slow=7.9,SNR=92						
SONM				PcP	PcP	12 32 39.8	-1.4
	comp=Z,12nm,0.6s,baz=81,slow=2.3,SNR=6.2						
THY	**Trims Highway**	**33.17**	**44**	*e*P	**P**	**12 29 58.1**	**-0.1**
DIV	**Divide**	**33.33**	**48**	⇓*i*P	**P**	**12 29 58.9**	**-0.6**
	comp=Z,488nm,0.6s,mb6.6						
DIV				*e*		12 30 14.8	
EYAK	**Cordova Ski Ar**	**33.40**	**49**	⇓*i*P	**P**	**12 29 59.5**	**-0.8**
NJ2	**Nanjing**	**33.49**	**253**	*e*P	**P**	**12 30 01.3**	**0.0**
NJ2				AP	pP	12 30 11.0	+5.3
NJ2				PP	PP	12 31 13.5	-0.1
NJ2				S	**S**	**12 35 26.0**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,290nm,5.0s						
TIY	**Taiyuan**	**34.09**	**267**	⇑P	**P**	**12 30 02.0**	**-4.4**
TIY				S	**S**	**12 35 30.0**	**-0.5**
TIY				LR	LR		
	comp=N,4µm,15.0s						
TIY				LR	LR		
	comp=Z,2µm,16.0s,MS5.0						
BTO	**Baotou**	**34.09**	**273**	*e*P	**P**	**12 30 04.0**	**-2.4**
ZAK	**Zakamensk**	**34.17**	**293**	*e*P	**P**	**12 30 05.5**	**-1.4**
ZAK				*e*		12 32 43.3	
MOY	**Mondy**	**35.10**	**296**	*e*P	**P**	**12 30 13.2**	**-1.7**
TATO	**Taipei**	**37.04**	**242**	PFAKE		12 30 40.0	+8.4
TATO				LR	LR		
	comp=Z,5µm,19.0s,MS5.3						
GUMO	**Guam**	**37.22**	**200**	PFAKE		12 30 40.0	+6.9
GUMO				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
WHN	**Wuhan**	**37.34**	**256**	P	**P**	**12 30 33.5**	**-0.6**
WHN				S	**S**	**12 36 22.0**	**+1.2**
WHN				LR	LR		
	comp=Z,7µm,18.0s,MS5.5						
INK	**Inuvik**	**37.83**	**35**	P	**P**	**12 30 38.0**	**+0.2**
	comp=Z,76nm,1.0s,mb5.4,baz=280,slow=7.5,SNR=98						
INK	**Inuvik**	**37.83**	**35**	P	**P**	**12 30 38.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,76nm,1.0s						
XAN	**Xi’an**	**38.57**	**265**	P	**P**	**12 30 43.3**	**-1.0**
XAN				PP	PP	12 32 15.3	-1.0
XAN				S	**S**	**12 36 38.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,112nm,1.3s,mb5.4						
XAN				AMB	AMB		
	comp=Z,718nm,10.3s						
XAN				LR	LR		
	comp=N,1µm,14.9s,MS5.4						
XAN				LR	LR		
	comp=E,5µm,19.7s,MS5.4						
XAN				LR	LR		
	comp=Z,7µm,18.8s,MS5.5						
SIT	**Sitka**	**39.46**	**53**	P	**P**	**12 30 53.1**	**+1.6**
SIT				pmax	pmax		
	comp=Z,500nm,2.0s,mb5.9						
SIT	**Sitka**	**39.46**	**53**	*e*P	**P**	**12 30 53.1**	**+1.6**
	comp=Z,649nm,2.4s,mb5.9						
ENH	**Enshi**	**40.63**	**260**	*e*P	**P**	**12 31 00.9**	**-0.5**
	comp=Z,443nm,1.3s,mb5.9						
LZH	**Lanzhou**	**40.63**	**272**	⇑P	**P**	**12 31 01.5**	**+0.1**
LZH				PP	PP	12 32 39.5	+1.0
LZH				PCP	PcP	12 33 04.5	+0.5
LZH				AMB	AMB		
	comp=Z,261nm,1.2s,mb5.7						
LZH				LR	LR		
	comp=N,6µm,14.2s						
LZH				LR	LR		
	comp=Z,10µm,17.3s,MS5.7						
LZH	**Lanzhou**	**40.63**	**272**	⇑P	**P**	**12 31 01.4**	**0.0**
	comp=Z,261nm,1.2s,mb5.7						
LZH				pP	pP	12 31 15.2	+9.3
LZH				sP	sP	12 31 21.2	+13
LZH				PP	PP	12 32 39.6	+1.1
LZH				PcP	PcP	12 33 04.4	+0.4
LZH				ScP		12 36 48.9	
LZH				PcS		12 36 54.0	
LZH				S	**S**	**12 37 03.0**	**-7.4**
LZH				sS		12 37 31.0	
LZH				SS	SS	12 40 01.0	-4.6
LZH				ScS	ScS	12 41 05.0	+0.4
LZH				LR	LR		
	comp=Z,10µm,17.3s,MS5.7						
GTA	**Gaotai**	**41.35**	**278**	⇑*i*P	**P**	**12 31 07.0**	**-0.3**
GTA				AP	pP	12 31 16.5	+4.7
GTA				XP	sP	12 31 19.8	+6.2
GTA				PP	PP	12 32 43.0	-3.0
GTA				PCP	PcP	12 33 06.0	-0.3
GTA				PPP	PPP	12 33 17.3	+1.1
GTA				AMB	AMB		
	comp=Z,92nm,0.8s,mb5.5						
GTA				AMB	AMB		
	comp=Z,439nm,7.6s						
GTA				LR	LR		
	comp=N,3µm,18.2s,MS5.4						
GTA				LR	LR		
	comp=E,3µm,19.4s,MS5.4						
GTA				LR	LR		
	comp=Z,5µm,19.4s,MS5.4						
KWAJ	**Kwajalein Atol**	**41.44**	**165**	PFAKE		12 31 20.0	+12
KWAJ				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
CVP	**Callao Caves**	**42.67**	**235**	⇓*i*P	**P**	**12 31 18.1**	**-0.2**
APYP	**Conner**	**42.85**	**236**	*e*P	**P**	**12 31 18.5**	**-1.2**
CAUP	**Cauayan**	**43.30**	**234**	*e*P	**P**	**12 31 29.1**	**+5.7**
GZH	**Guangzhou**	**43.30**	**249**	P	**P**	**12 31 19.5**	**-3.9**
GZH				LR	LR		
	comp=N,3µm,21.4s,MS5.4						
GZH				LR	LR		
	comp=E,3µm,17.3s,MS5.4						
GZH				LR	LR		
	comp=Z,6µm,17.4s,MS5.5						
ABRA	**Dolores**	**43.31**	**236**	*e*P	**P**	**12 31 33.9**	**+10**
NVS	**Novosibirsk**	**43.81**	**307**	*i* P	**P**	**12 31 24.7**	**-2.4**
NVS				*i*		12 33 09.8	
NVS				*i* S	**S**	**12 37 49.8**	**-6.9**
NVS				*e*SS	SS	12 41 22.9	+18
NVS				pmax	pmax		
	comp=Z,246nm,0.7s,mb6.0						
NVS				pmax	pmax		
	comp=E,187nm,0.8s						
NVS				pmax	pmax		
	comp=N,211nm,0.9s						
NVS				pmax	pmax		
	comp=Z,82nm,1.9s,mb5.1						
NVS				pmax	pmax		
	comp=E,67nm,1.8s						
NVS				pmax	pmax		
	comp=N,77nm,1.6s						
NVS				smax			
	comp=E,77nm,1.6s						
NVS				smax			
	comp=N,72nm,2.1s						
CD2	**Chengdu**	**43.92**	**266**	⇑*i*P	**P**	**12 31 28.0**	**-0.2**
CD2				S	**S**	**12 37 52.0**	**-6.6**
CD2				SCS	ScS	12 41 25.8	+1.2
CD2				AMB	AMB		
	comp=Z,390nm,1.1s,mb6.0						
CD2				AMB	AMB		
	comp=Z,2µm,4.7s						
CD2				LR	LR		
	comp=N,4µm,16.8s						
CD2				LR	LR		
	comp=Z,5µm,21.6s,MS5.4						
KIP	**Kipapa**	**44.96**	**112**	*e*P	**P**	**12 31 38.0**	**+1.2**
	comp=Z,205nm,1.3s,mb5.8						
KIP				*e*		12 31 53.7	
KIP				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
GYA	**Guiyang**	**45.05**	**258**	⇑*i*P	**P**	**12 31 37.5**	**+0.1**
GYA				AP	pP	12 31 47.3	+5.4
GYA				PP	PP	12 33 21.5	-2.2
GYA				AMB	AMB		
	comp=Z,160nm,0.7s,mb6.0						
GYA				AMB	AMB		
	comp=Z,610nm,5.7s						
GYA				LR	LR		
	comp=N,3µm,16.5s,MS5.5						
GYA				LR	LR		
	comp=E,3µm,16.2s,MS5.5						
GYA				LR	LR		
	comp=Z,3µm,18.0s,MS5.3						
TGY	**Tagaytay City**	**46.13**	**233**	P	**P**	**12 31 47.0**	**+0.8**
	comp=Z,93nm,0.5s,mb6.0						
TGY				pP	pP	12 32 02.0	+11
TGY	**Tagaytay City**	**46.13**	**233**	P	**P**	**12 31 47.0**	**+0.9**
TGY				*PP	pP	12 32 02.0	+11
TGY				pmax	pmax		
	comp=Z,93nm,0.5s						
WMQ	**Urumqi**	**46.59**	**291**	⇑P	**P**	**12 31 48.5**	**-0.9**
WMQ				AP	pP	12 31 58.5	+4.6
WMQ				PCP	PcP	12 33 23.5	-0.4
WMQ				PP	PP	12 33 37.5	-1.4
WMQ				S	**S**	**12 38 33.5**	**-3.3**
WMQ				AMB	AMB		
	comp=Z,122nm,1.0s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,381nm,8.4s						
WMQ				LR	LR		
	comp=N,5µm,25.4s,MS5.4						
WMQ				LR	LR		
	comp=E,2µm,24.6s,MS5.4						
WMQ				LR	LR		
	comp=Z,5µm,24.6s,MS5.3						
YKA	**Yellowknife Ar**	**47.04**	**39**	P	**P**	**12 31 52.6**	**-0.1**
	comp=Z,9.3nm,0.7s,mb4.8,baz=294,slow=7.2,SNR=20						
YKA				PP	PP	12 33 45.3	+2.2
	comp=Z,11nm,0.8s,baz=306,slow=3.7,SNR=4.4						
YKA				LR	LR	12 54 52.8	
	comp=Z,2µm,19.9s,MS5.1,baz=275,slow=40						
YKA	**Yellowknife Ar**	**47.04**	**39**	P	**P**	**12 31 52.6**	**-0.1**
YKA						12 33 45.3	
YKA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,11nm,0.8s						
YKA				MLR	MLR		
	comp=Z,2µm,19.9s						
MKAR	**Makanchi Array**	**48.21**	**297**	P	**P**	**12 32 00.5**	**-1.7**
	comp=Z,100nm,0.6s,mb6.0,baz=57,slow=7.3,SNR=721						
MKAR				sP	sP	12 32 23.9	+15
	comp=Z,34nm,0.5s,baz=58,slow=9.1,SNR=4.0						
MKAR				ScS	ScS	12 41 54.6	+2.6
	comp=Z,7.7nm,1.3s,baz=51,slow=7.8,SNR=4.4						
MKAR				LR	LR	12 53 44.0	
	comp=Z,16µm,19.1s,MS6.0,baz=48,slow=38						

MKAR	**Makanchi Array**	**48.21**	**297**	P	**P**	**12 32 00.5**	**-1.6**
MKAR						12 41 54.6	
MKAR				pmax	pmax		
	comp=Z,100nm,0.6s						
MKAR				pmax	pmax		
	comp=N,34nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,16µm,19.2s						
MKAR	**Makanchi Array**	**48.21**	**297**	P	**P**	**12 32 00.5**	**-1.7**
MKAR				sP	sP	12 32 23.9	+15
MKAR				ScS	ScS	12 41 54.6	+2.6
MKAR				LR	LR	12 53 44.0	
KURK	**Kurchatov**	**48.22**	**303**	P	**P**	**12 32 00.7**	**-1.4**
	comp=Z,3µm,0.9s						
KURK	**Kurchatov**	**48.22**	**303**	*i* P	**P**	**12 32 00.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,190nm,0.9s,mb6.1						
KURK	**Kurchatov**	**48.22**	**303**	⇑*e*P	**P**	**12 32 00.4**	**-1.8**
	comp=Z,354nm,0.8s,mb6.5						
KURK				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
QIZ	**Qiongzhong**	**48.49**	**249**	P	**P**	**12 32 05.5**	**+0.9**
QIZ				PP	PP	12 33 53.0	-4.3
QIZ				S	**S**	**12 39 04.8**	**+0.7**
QIZ				LR	LR		
	comp=E,3µm,17.9s						
QIZ				LR	LR		
	comp=Z,4µm,17.4s,MS5.4						
QIZ	**Qiongzhong**	**48.49**	**249**	*e*P	**P**	**12 32 05.9**	**+1.2**
	comp=Z,80nm,1.1s,mb5.7						
KMI	**Kunming**	**48.50**	**261**	⇑*e*P	**P**	**12 32 05.5**	**+0.9**
KMI				AP	pP	12 32 13.3	+4.1
KMI				PCP	PcP	12 33 32.0	+1.0
KMI				PP	PP	12 33 56.0	-1.2
KMI				S	**S**	**12 39 01.0**	**-3.1**
KMI				XS		12 39 18.0	
KMI				SS	SS	12 42 22.8	-6.5
KMI				AMB	AMB		
	comp=Z,129nm,1.6s,mb5.7						
KMI				AMB	AMB		
	comp=Z,2µm,4.4s						
KMI				LR	LR		
	comp=N,5µm,18.4s,MS5.6						
KMI				LR	LR		
	comp=E,3µm,18.4s,MS5.6						
KMI				LR	LR		
	comp=Z,3µm,20.2s,MS5.2						
KMI	**Kunming**	**48.50**	**261**	⇑*e*P	**P**	**12 32 05.5**	**+0.9**
	comp=Z,129nm,1.6s,mb5.7						
KMI				pP	pP	12 32 13.3	+4.1
KMI				sP	sP	12 32 17.7	+6.7
KMI				PcP	PcP	12 33 31.9	+0.9
KMI				PP	PP	12 33 55.9	-1.3
KMI				S	**S**	**12 39 01.1**	**-3.0**
KMI				sS		12 39 18.0	
KMI				SS	SS	12 42 22.7	-6.6
KMI				LR	LR		
	comp=Z,3µm,20.2s,MS5.2						
PGC	**Sidney**	**49.60**	**59**	*e*P	**P**	**12 32 12.4**	**-0.4**
	comp=Z,40nm,0.8s,mb5.5						
OCWA	**Octopus Mounta**	**49.68**	**60**	⇓*i*P	**P**	**12 32 14.1**	**+0.7**
	comp=Z,42nm,1.0s,mb5.4						
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
VDB	**Vedder Mountai**	**50.14**	**58**	P	**P**	**12 32 16.6**	**-0.4**
KBS	**Kingsbay**	**50.23**	**352**	P	**P**	**12 32 16.5**	**-0.7**
MBW	**Mount Baker**	**50.38**	**58**	P	**P**	**12 32 18.7**	**-0.1**
GNW	**Green Mountain**	**50.54**	**60**	*e*P	**P**	**12 32 20.2**	**+0.2**
JCW	**Jim Creek**	**50.69**	**59**	P	**P**	**12 32 21.2**	**0.0**
RPW	**Rockport**	**50.78**	**58**	*e*P	**P**	**12 32 21.8**	**-0.1**
BMW	**Boistfort Moun**	**50.92**	**61**	P	**P**	**12 32 23.2**	**+0.3**
BMW	**Boistfort Moun**	**50.92**	**61**	*e*P	**P**	**12 32 23.0**	**+0.1**
RMW	**Rattlesnake Mo**	**51.17**	**59**	P	**P**	**12 32 25.0**	**+0.2**
RMW	**Rattlesnake Mo**	**51.17**	**59**	*e*P	**P**	**12 32 24.7**	**-0.1**
VOSK	**Vostochnaya**	**51.18**	**309**	P	**P**	**12 32 22.5**	**-2.3**
VOSK				pmax	pmax		
	comp=Z,249nm,1.0s,mb6.1						
VOSK	**Vostochnaya**	**51.18**	**309**	*i* P	**P**	**12 32 22.6**	**-2.2**
BVA0	**Borovoye Array**	**51.32**	**309**	P	**P**	**12 32 23.8**	**-2.0**
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**12 32 23.7**	**-2.0**
	comp=Z,335nm,0.8s,mb6.3,baz=59,slow=8.6,SNR=585						
BVAR				PcP	PcP	12 33 39.5	-1.4
	comp=Z,74nm,1.0s,baz=135,slow=4.2,SNR=4.3						
BRVK	**Borovoye**	**51.35**	**309**	*e*P	**P**	**12 32 24.2**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,420nm,0.8s,mb6.4						
BRVK	**Borovoye**	**51.35**	**309**	⇑*e*P	**P**	**12 32 24.1**	**-2.0**
	comp=Z,416nm,0.8s,mb6.4						
BRVK				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
HSP	**Hornsund**	**51.52**	**350**	*e*P	**P**	**12 32 26.0**	**-1.1**
LON	**Longmire**	**51.57**	**60**	P	**P**	**12 32 27.5**	**-0.3**
LON	**Longmire**	**51.57**	**60**	*e*P	**P**	**12 32 27.4**	**-0.5**
NLW	**Nelson Butte**	**51.64**	**58**	*e*P	**P**	**12 32 27.9**	**-0.4**
NLW				*e*PP	PP	12 34 28.1	+1.4
COR	**Corvallis**	**51.96**	**63**	P	**P**	**12 32 32.0**	**+1.2**
COR				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
COR	**Corvallis**	**51.96**	**63**	*e*P	**P**	**12 32 31.3**	**+0.5**
	comp=Z,24nm,0.8s,mb5.2						
COR				LR	LR		
	comp=Z,563nm,22.0s,MS4.6						
ZRNK	**Zerenda**	**52.05**	**310**	P	**P**	**12 32 29.3**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,255nm,0.9s,mb6.2						
ZRNK	**Zerenda**	**52.05**	**310**	*i* P	**P**	**12 32 29.3**	**-2.1**
WTV	**Waterville**	**52.07**	**58**	P	**P**	**12 32 31.0**	**-0.6**
VFP	**Flag Point**	**52.59**	**61**	P	**P**	**12 32 35.7**	**+0.1**
HSO	**Harness Mounta**	**52.71**	**64**	P	**P**	**12 32 37.9**	**+1.5**
HSO	**Harness Mounta**	**52.71**	**64**	*e*P	**P**	**12 32 37.8**	**+1.4**
VGB	**Gordon Butte**	**52.87**	**61**	P	**P**	**12 32 38.2**	**+0.6**
VGB				*e*		12 32 53.6	
VGB	**Gordon Butte**	**52.87**	**61**	*e*P	**P**	**12 32 37.9**	**+0.3**
VGB				*e*		12 32 53.1	
LSA	**Lhasa**	**52.93**	**274**	P	**P**	**12 32 40.0**	**+1.7**
LSA				XP	sP	12 32 50.0	+5.4
LSA				S	**S**	**12 40 10.0**	**+4.8**
LSA	**Lhasa**	**52.93**	**274**	*e*P	**P**	**12 32 38.9**	**+0.6**
	comp=Z,5.7nm,0.8s						
DPW	**Davenport**	**52.94**	**57**	P	**P**	**12 32 37.4**	**-0.7**
DPW	**Davenport**	**52.94**	**57**	*e*P	**P**	**12 32 37.1**	**-0.9**
WRD	**Warden**	**53.04**	**59**	P	**P**	**12 32 37.9**	**-1.0**
HAWA	**Hanford**	**53.06**	**59**	⇓*i*P	**P**	**12 32 38.4**	**-0.6**
	comp=Z,43nm,1.1s,mb5.3						
HAWA				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
NEW	**Newport**	**53.30**	**56**	P	**P**	**12 32 39.9**	**-0.9**
	comp=Z,15nm,0.9s,mb4.9,baz=308,slow=6.1,SNR=20						
NEW				pP	pP	12 32 55.8	+10
	comp=Z,22nm,0.9s,baz=320,slow=3.2,SNR=8.7						
NEW	**Newport**	**53.30**	**56**	P	**P**	**12 32 39.9**	**-0.8**
NEW				*PP	pP	12 32 55.8	+10
NEW				pmax	pmax		
	comp=Z,15nm,0.9s						
NEW	**Newport**	**53.30**	**56**	⇓*i*P	**P**	**12 32 40.1**	**-0.7**
	comp=Z,36nm,1.2s,mb5.2						
NEW				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
AAA	**Alma-Ata**	**53.33**	**296**	*i* P	**P**	**12 32 40.5**	**-0.5**
AAA				*e*S	**S**	**12 40 05.0**	**-5.4**
AAA				pmax	pmax		
	comp=Z,1µm,5.0s						
AAA				MLR	MLR		
	comp=Z,10µm,18.0s,MS5.9						
HUMO	**Hull Mountain**	**53.33**	**65**	⇓*i*P	**P**	**12 32 41.6**	**+0.6**
	comp=Z,66nm,1.6s,mb5.3						
PINOR	**Pine Mountain**	**53.83**	**63**	P	**P**	**12 32 45.4**	**+0.7**
KHMM	**Horse Mountain**	**53.92**	**67**	*e*P	**P**	**12 32 45.9**	**+0.5**
YBH	**Yreka Blue Hor**	**54.01**	**66**	P	**P**	**12 32 46.9**	**+0.9**
YBH				pmax	pmax		
	comp=Z,47nm,0.9s						
YBH	**Yreka Blue Hor**	**54.01**	**66**	⇓*i*P	**P**	**12 32 46.9**	**+0.9**
	comp=Z,47nm,0.9s,mb5.4						
DAG	**Danmarks Havn**	**54.01**	**359**	⇓*i*P	**P**	**12 32 44.1**	**-1.5**
	comp=Z,171nm,0.8s,mb6.0						
LNOR	**Lincton Mounta**	**54.07**	**59**	P	**P**	**12 32 46.7**	**+0.3**
LNOR	**Lincton Mounta**	**54.07**	**59**	*e*P	**P**	**12 32 46.5**	**+0.1**
CHRT	**Chiangrai**	**54.16**	**258**	⇑P	**P**	**12 32 48.5**	**+1.1**
	comp=Z,1µm,0.8s,mb6.8						
TKM2	**Tokmak 2**	**54.33**	**297**	P	**P**	**12 32 47.4**	**-1.0**
	SNR=103						
ULHL	**Ulahol**	**54.36**	**295**	P	**P**	**12 32 47.8**	**-0.8**
	SNR=27						
USP	**Ospenovka**	**54.76**	**297**	P	**P**	**12 32 50.4**	**-1.1**
	SNR=292						
CHMS	**Chumysh**	**54.77**	**297**	P	**P**	**12 32 50.4**	**-1.2**
	SNR=83						
WDC	**Whiskeytown Da**	**54.81**	**67**	P	**P**	**12 32 52.2**	**+0.2**
WDC				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5						
WDC	**Whiskeytown Da**	**54.81**	**67**	⇓*i*P	**P**	**12 32 52.0**	**+0.1**
	comp=Z,41nm,0.9s,mb5.5						
KKTK	**Khon Kaen**	**54.86**	**253**	⇓P	**P**	**12 32 52.8**	**+0.2**
	comp=Z,2µm,0.8s						
KBK	**Karagaybulak**	**54.87**	**297**	P	**P**	**12 32 51.1**	**-1.2**
	SNR=38						
ARU	**Arti**	**54.91**	**318**	P	**P**	**12 32 49.1**	**-3.3**
	comp=Z,2µm,0.6s,SNR=69						
ARU	**Arti**	**54.91**	**318**	⇑*i*P	**P**	**12 32 49.6**	**-2.8**
ARU				*i*		12 33 00.0	
ARU				*i*		12 33 51.8	
ARU				*i*		12 34 50.0	
ARU				*e*S	**S**	**12 40 29.1**	**-2.4**
ARU				*e*SS	Sx	12 40 45.6	
ARU				*i*		12 42 35.5	
ARU				pmax	pmax		
	comp=Z,303nm,1.2s,mb6.2						
ARU				MLR	MLR		
	comp=N,4µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=E,3µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=Z,6µm,18.0s,MS5.8						
ARU	**Arti**	**54.91**	**318**	⇑*i*P	**P**	**12 32 49.6**	**-2.8**
	comp=Z,171nm,0.6s,mb6.2						
ARU				*e*PcP	PcP	12 33 52.7	-1.6
ARU				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
FRU	**Bishkek**	**54.95**	**297**	⇑*i*P	**P**	**12 32 52.0**	**-1.0**
FRU				*e*		12 40 32.0	
FRU				pmax	pmax		
	comp=Z,710nm,2.2s,mb6.3						
FRU				MLR	MLR		
	comp=N,9µm,18.0s,MS6.0						
FRU				MLR	MLR		
	comp=Z,15µm,18.0s,MS6.1						
FRU				MLR	MLR		
	comp=E,8µm,18.0s,MS6.0						
KZA	**Kyzart**	**55.05**	**296**	P	**P**	**12 32 53.0**	**-0.6**
	SNR=42						
AAK	**Ala-Archa**	**55.15**	**297**	P	**P**	**12 32 53.3**	**-1.1**
	SNR=112						
AAK	**Ala-Archa**	**55.15**	**297**	P	**P**	**12 32 52.3**	**-2.1**
AAK				pmax	pmax		
	comp=Z,130nm,0.7s,mb6.1						
AAK	**Ala-Archa**	**55.15**	**297**	⇑*e*P	**P**	**12 32 52.0**	**-2.4**
	comp=Z,135nm,0.6s,mb6.2						
SHL	**Shillong**	**55.24**	**270**	*i* P	**P**	**12 32 55.0**	**-0.3**
	comp=Z,350nm,0.9s,mb6.4						
SHL				*e*S	**S**	**12 40 34.5**	**-1.9**
MOD	**Modoc**	**55.32**	**64**	⇓*i*P	**P**	**12 32 56.0**	**+0.3**
	comp=Z,88nm,0.8s,mb5.8						
LVZ	**Lovozero**	**55.38**	**337**	P	**P**	**12 32 52.8**	**-2.9**
	comp=Z,406nm,0.8s,mb6.5,SNR=12						
LVZ	**Lovozero**	**55.38**	**337**	*e*P	**P**	**12 32 53.1**	**-2.6**
LVZ				pmax	pmax		
	comp=N,15nm,0.6s						
LVZ				pmax	pmax		
	comp=E,7.0nm,0.6s						
LVZ				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.6						
LVZ				pmax	pmax		
	comp=E,30nm,1.0s						
LVZ				pmax	pmax		
	comp=Z,111nm,1.0s,mb5.8						
LVZ				pmax	pmax		
	comp=N,31nm,0.8s						
LVZ				MLR	MLR		
	comp=N,912nm,15.0s						
LVZ				MLR	MLR		
	comp=E,2µm,21.0s						
LVZ	**Lovozero**	**55.38**	**337**	⇑*i*P	**P**	**12 32 52.6**	**-3.1**
UCH	**Uchtor**	**55.38**	**296**	P	**P**	**12 32 55.2**	**-0.9**
	SNR=31						
CHG	**Chiang Mai**	**55.47**	**258**	⇑P	**P**	**12 32 57.1**	**+0.1**
	comp=E,150nm,0.9s,mb6.0						
CHG				S	**S**	**12 40 40.6**	**+1.1**
CHTO	**Chiang Mai**	**55.47**	**258**	P	**P**	**12 32 57.2**	**+0.2**
CHTO				S	**S**	**12 40 39.8**	**+0.3**
HOPS	**Hopland**	**55.48**	**68**	⇓*i*P	**P**	**12 32 56.8**	**0.0**
	comp=E,192nm,1.9s,mb5.8						
EKS2	**Erkin-Say**	**55.55**	**297**	P	**P**	**12 32 56.3**	**-1.0**
	SNR=107						
KEV	**Kevo**	**55.70**	**341**	*e*p	**P**	**12 32 54.4**	**-3.6**
	comp=E,43nm,0.6s,mb5.7						
KEV	**Kevo**	**55.70**	**341**	*e*P	**P**	**12 32 54.4**	**-3.6**
KEV				pmax	pmax		
	comp=Z,43nm,0.6s,mb5.7						
CM31	**Chiang Mai Arr**	**55.73**	**258**	*e*P	**P**	**12 32 58.2**	**-0.7**
	comp=Z,104nm,0.7s,mb6.0						
CM31				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
CMAR	**Chiang Mai Arr**	**55.73**	**258**	P	**P**	**12 32 59.2**	**+0.3**
	comp=Z,96nm,0.7s,mb5.9,baz=31,slow=7.5,SNR=202						
CMAR				LR	LR	12 57 36.8	
	comp=Z,3µm,20.8s,MS5.3,baz=30,slow=37						
CMAR	**Chiang Mai Arr**	**55.73**	**258**	P	**P**	**12 32 59.2**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,96nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,3µm,20.8s						
MSO	**Missoula**	**55.88**	**56**	*e*P	**P**	**12 32 58.4**	**-1.2**
	comp=Z,37nm,1.1s,mb5.3						
MSO				LR	LR		
	comp=Z,640nm,20.0s,MS4.7						
AML	**Almayashu**	**55.92**	**297**	P	**P**	**12 32 59.6**	**-0.4**
	SNR=44						
APA	**Apatity**	**55.94**	**337**	*b* *i*P	**P**	**12 32 56.6**	**-3.1**
APA				*i*		12 33 13.2	
APA				*e*		12 42 41.0	
APA				pmax	pmax		
	comp=Z,250nm,2.0s,mb5.9						
APA				pmax	pmax		
	comp=Z,1µm,9.0s						
WVOR	**Wild Horse Val**	**55.97**	**63**	P	**P**	**12 33 00.2**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.7						
WVOR	**Wild Horse Val**	**55.97**	**63**	⇓*i*P	**P**	**12 33 00.5**	**+0.2**
	comp=Z,77nm,1.0s,mb5.7						
WVOR				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
NSHM	**Saint Helena R**	**56.06**	**69**	*e*P	**P**	**12 33 01.2**	**+0.2**
ARCES	**ARCESS Array B**	**56.19**	**342**	P	**P**	**12 32 58.9**	**-2.6**
	comp=Z,93nm,0.6s,mb6.0,baz=40,slow=6.6,SNR=261						
ARCES				PcP	PcP	12 33 58.0	-1.2
	comp=Z,39nm,0.9s,baz=14,slow=5.0,SNR=5.1						
ARCES				LR	LR	13 02 38.7	
	comp=Z,7µm,20.0s,MS5.7,baz=0.3,slow=42						
ARE0	**ARCESS Array S**	**56.19**	**342**	⇑*e*P	**P**	**12 32 59.3**	**-2.3**
CHMT	**Chamberlain Mo**	**56.20**	**56**	*e*P	**P**	**12 33 01.0**	**-0.9**
KSH	**Kashi**	**56.21**	**293**	⇑*i*P	**P**	**12 33 02.0**	**-0.1**
KSH				*e*XP	sP	12 33 13.0	+4.6
KSH				*e*PCP	PcP	12 34 00.0	+0.4
KSH				*e*PP	PP	12 35 08.3	-0.7
KSH				*e*SCP		12 37 55.0	
KSH				*e*S	**S**	**12 40 46.0**	**-3.2**
BEKR	**Beckwourth**	**56.56**	**66**	⇓*i*P	**P**	**12 33 04.4**	**-0.2**
	comp=Z,37nm,0.9s,mb5.4						
BDT	**Bhumibol Dam**	**56.59**	**257**	P	**P**	**12 33 05.0**	**-0.1**
	comp=Z,20nm,0.7s,mb5.3						
AGT	**Agartala**	**56.82**	**269**	⇑*i*P	**P**	**12 33 06.0**	**-0.7**
AGT				*i*		12 33 47.0	
FFC	**Flin Flon**	**56.83**	**43**	*e*P	**P**	**12 33 05.6**	**-0.7**
	comp=Z,39nm,1.0s,mb5.4						
FFC				LR	LR		
	comp=Z,655nm,19.0s,MS4.8						
ASMM	**Slate Mountain**	**57.03**	**67**	*e*P	**P**	**12 33 05.6**	**-2.4**
NST	**Nakhon Sawan**	**57.05**	**255**	P	**P**	**12 33 09.2**	**+0.8**
KTK1	**Kautokeino**	**57.08**	**342**	*e*P	**P**	**12 33 05.4**	**-2.5**
HRY	**Holter Researc**	**57.09**	**55**	*e*P	**P**	**12 33 07.8**	**-0.5**
KKAR	**Karatay Array**	**57.14**	**299**	*i* P	**P**	**12 33 06.7**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,118nm,0.7s,mb6.0						
PAHR	**Pah Rah Range**	**57.24**	**66**	*e*P	**P**	**12 33 09.5**	**+0.1**
	comp=Z,9.8nm,0.6s,mb5.0						
WCN	**Washoe City**	**57.28**	**66**	P	**P**	**12 33 09.9**	**+0.2**
WCN				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.4						
WCN	**Washoe City**	**57.28**	**66**	⇓*i*P	**P**	**12 33 09.8**	**0.0**
	comp=Z,41nm,1.0s,mb5.4						
TRO	**Tromso**	**57.38**	**344**	⇑*i*P	**P**	**12 33 05.6**	**-4.4**
TRO				AMb	AMB	12 33 09.2	
	comp=Z,144nm,1.3s,mb5.8						
TRO	**Tromso**	**57.38**	**344**	⇑*i*P	**P**	**12 33 05.6**	**-4.4**
	comp=Z,144nm,1.3s,mb5.8						
HLID	**Hailey**	**57.67**	**59**	*e*P	**P**	**12 33 12.1**	**-0.3**
	comp=Z,42nm,1.1s,mb5.4						
HLID				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
CMB	**Columbia Colle**	**57.71**	**68**	P	**P**	**12 33 12.6**	**-0.2**
CMB				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
CMB	**Columbia Colle**	**57.71**	**68**	⇓*i*P	**P**	**12 33 12.5**	**-0.3**
	comp=Z,28nm,1.0s,mb5.2						
MCMT	**McKenzie Canyo**	**57.73**	**57**	*e*P	**P**	**12 33 12.1**	**-0.7**
SUMG	**Summit**	**57.76**	**6**	*e*P	**P**	**12 33 12.2**	**-0.4**
	comp=Z,179nm,0.8s,mb6.2						
BOZ	**Bozeman (W)**	**57.87**	**56**	P	**P**	**12 33 13.6**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.4						
BOZ	**Bozeman (W)**	**57.87**	**56**	*e*P	**P**	**12 33 13.5**	**-0.3**
	comp=Z,34nm,0.8s,mb5.4						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
SAO	**San Andreas Ge**	**57.89**	**70**	P	**P**	**12 33 13.5**	**-0.5**
SAO				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
SAO	**San Andreas Ge**	**57.89**	**70**	*e*P	**P**	**12 33 13.5**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0						
KKN	**Kakani**	**58.02**	**276**	*e*P	**P**	**12 33 15.0**	**0.0**
	comp=Z,659nm,0.9s,mb6.7						
BMN	**Battle Mountai**	**58.05**	**64**	P	**P**	**12 33 15.5**	**+0.4**
BMN				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
BMN	**Battle Mountai**	**58.05**	**64**	⇓*i*P	**P**	**12 33 15.3**	**+0.2**
	comp=Z,39nm,0.7s,mb5.5						
BMN				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
PKI	**Pulchoki**	**58.09**	**276**	*e*P	**P**	**12 33 15.3**	**-0.2**
	comp=Z,962nm,1.3s,mb6.7						
DMN	**Daman**	**58.26**	**276**	*e*P	**P**	**12 33 16.9**	**+0.2**
	comp=Z,1µm,1.2s,mb6.8						
GKN	**Gorkha**	**58.29**	**277**	*e*P	**P**	**12 33 16.9**	**0.0**
LRV	**Little Rabbit**	**58.37**	**70**	*e*P	**P**	**12 33 16.9**	**-0.5**
QLMT	**Earthquake Lak**	**58.50**	**57**	*e*P	**P**	**12 33 18.2**	**+0.1**
NVAR	**Mina Array Bea**	**58.71**	**66**	P	**P**	**12 33 19.6**	**-0.2**
	comp=Z,36nm,0.7s,mb5.5,baz=307,slow=5.8,SNR=315						
NVAR				LR	LR	12 54 43.3	
	comp=Z,2µm,21.8s,MS5.2,baz=305,slow=32						
NVAR				PKPPKP		13 02 50.0	
	comp=Z,0.9nm,0.9s,baz=132,slow=5.4,SNR=4.9						
NVAR				PKP2bc		13 03 00.7	
	comp=Z,0.7nm,1.0s,baz=128,slow=3.4,SNR=3.7						
NVAR	**Mina Array Bea**	**58.71**	**66**	P	**P**	**12 33 19.6**	**-0.2**
NVAR				LR	LR	12 54 43.3	
NVAR				P'P'		13 02 50.0	
NVAR				⇑*e*		13 03 00.7	
MNV	**Mina**	**58.80**	**66**	P	**P**	**12 33 20.2**	**-0.1**
MNV				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
MNV	**Mina**	**58.80**	**66**	*e*P	**P**	**12 33 19.9**	**-0.4**
	comp=Z,26nm,0.8s,mb5.3						
OMM	**Old Mammoth Mi**	**58.82**	**67**	⇓*i*P	**P**	**12 33 20.7**	**+0.1**
AB31	**Akbulak array**	**58.83**	**311**	P	**P**	**12 33 18.1**	**-2.3**
AB31				pmax	pmax		
	comp=Z,124nm,0.7s,mb6.0						
YMR	**Madison River**	**58.86**	**56**	⇓*i*P	**P**	**12 33 21.4**	**+0.7**
ELK	**Elko**	**59.01**	**62**	P	**P**	**12 33 22.0**	**+0.2**
ELK				pmax	pmax		
	comp=Z,25nm,0.9s						
ELK	**Elko**	**59.01**	**62**	*e*P	**P**	**12 33 21.9**	**+0.2**
	comp=Z,25nm,0.9s,mb5.2						
KOLN	**Koldanda**	**59.12**	**278**	*e*P	**P**	**12 33 22.6**	**-0.1**
MTUM	**Tungsten Hills**	**59.25**	**67**	*e*P	**P**	**12 33 23.2**	**-0.3**
PMG	**Port Moresby**	**59.30**	**192**	*e*P	**P**	**12 33 23.7**	**-0.4**
	comp=Z,24nm,0.8s,mb5.3						
JMIC	**Jan Mayen**	**59.42**	**355**	P	**P**	**12 33 23.0**	**-1.3**
	comp=Z,117nm,0.8s,mb6.0,baz=74,slow=3.9,SNR=6.4						
JMIC				LR	LR	13 01 40.5	
	comp=Z,281nm,18.7s,MS4.4,baz=14,slow=39						
MOOW	**Moose Ponds**	**59.58**	**57**	⇓*i*P	**P**	**12 33 26.2**	**+0.5**
TPH	**Tonopah**	**59.58**	**66**	⇓*i*P	**P**	**12 33 25.7**	**-0.1**
	comp=Z,55nm,0.9s,mb5.6						
TPH				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
TPAW	**Teton Pass**	**59.64**	**57**	⇓*i*P	**P**	**12 33 27.0**	**+0.9**
LOF	**Lofoten**	**59.64**	**345**	*e*P	**P**	**12 33 25.4**	**-0.4**
LOF				AMb	AMB	12 33 28.0	
	comp=Z,540nm,1.0s,mb6.5						
LOF	**Lofoten**	**59.64**	**345**	*e*P	**P**	**12 33 25.4**	**-0.4**
	comp=Z,540nm,1.0s,mb6.5						
NNT	**Nongplab**	**59.64**	**253**	P	**P**	**12 33 27.5**	**+1.0**
WUWY	**Wally Ulrich**	**59.72**	**57**	*e*P	**P**	**12 33 27.3**	**+0.6**
HVU	**Hansel Valley**	**59.74**	**60**	P	**P**	**12 33 27.1**	**+0.3**
HVU	**Hansel Valley**	**59.74**	**60**	*e*P	**P**	**12 33 26.3**	**-0.5**
SNOW	**Snow King Moun**	**59.76**	**57**	*e*P	**P**	**12 33 27.4**	**+0.5**
REDW	**Red Top Meadow**	**59.77**	**58**	⇓*i*P	**P**	**12 33 27.8**	**+0.7**
DGMT	**Dagmar**	**59.89**	**50**	*e*P	**P**	**12 33 27.6**	**-0.1**
	comp=Z,43nm,0.9s,mb5.5						
DGMT				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
AHID	**Auburn Hatcher**	**60.03**	**58**	*e*P	**P**	**12 33 28.3**	**-0.5**
	comp=Z,23nm,0.8s,mb5.3						
AHID				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
LAO	**LASA Array**	**60.05**	**52**	*e*P	**P**	**12 33 28.5**	**-0.4**
	comp=Z,70nm,1.0s,mb5.6						
LAO				LR	LR		
	comp=Z,3µm,20.0s,MS5.4						
LGTI	**Lohaghat**	**60.14**	**281**	⇓*e*P	**P**	**12 33 30.5**	**+0.8**
BGU	**Big Grassy Mou**	**60.16**	**61**	*e*P	**P**	**12 33 29.5**	**-0.2**
SPUT	**South Promonto**	**60.23**	**60**	*e*P	**P**	**12 33 30.0**	**-0.2**
SCO	**Scoresbysund**	**60.36**	**360**	*i* P	**P**	**12 33 30.6**	**-0.1**
	comp=Z,62nm,0.8s,mb5.7						
HWUT	**Hardware Ranch**	**60.53**	**59**	⇓*i*P	**P**	**12 33 32.4**	**+0.1**
	comp=Z,25nm,0.7s,mb5.5						
HWUT				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
DAC	**Darwin (Calif)**	**60.55**	**68**	P	**P**	**12 33 32.7**	**+0.3**
DAC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
DAC	**Darwin (Calif)**	**60.55**	**68**	⇓*e*P	**P**	**12 33 31.9**	**-0.5**
	comp=Z,9.6nm,0.6s,mb5.1						
DAC				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
DLH	**Dalhousie**	**60.76**	**287**	⇑*e*P	**P**	**12 33 32.0**	**-1.9**
DLH				*e*		12 34 26.0	
DUG	**Dugway**	**60.76**	**61**	P	**P**	**12 33 34.0**	**+0.2**
DUG				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.6						
DUG	**Dugway**	**60.76**	**61**	⇓*i*P	**P**	**12 33 33.9**	**+0.1**
	comp=Z,43nm,0.9s,mb5.6						
DUG				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
SDNR	**Sundarnagar**	**60.83**	**285**	*e*P	**P**	**12 33 32.6**	**-1.8**
SDNR				*e*		12 43 25.0	
SDNR				*e*		12 44 03.0	
BW06	**Boulder Array**	**60.88**	**57**	*e*P	**P**	**12 33 34.0**	**-0.5**
	comp=Z,45nm,1.3s,mb5.4						
BW06				LR	LR		
	comp=Z,867nm,20.0s,MS4.9						
PDAR	**Pinedale Array**	**60.88**	**57**	P	**P**	**12 33 34.1**	**-0.4**
	comp=Z,22nm,0.7s,mb5.4,baz=278,slow=2.1,SNR=175						
PDAR				LR	LR	13 00 44.6	
	comp=Z,673nm,21.3s,MS4.8,baz=336,slow=37						
PDAR				PKPPKP		13 02 42.5	
	comp=Z,1.4nm,1.1s,baz=124,slow=5.3,SNR=5.4						
PDAR				PKP2bc		13 02 57.9	
	comp=Z,1.2nm,1.1s,baz=90,slow=1.5,SNR=4.2						
PDAR	**Pinedale Array**	**60.88**	**57**	P	**P**	**12 33 34.1**	**-0.4**
PDAR				LR	LR	13 00 44.6	
PDAR				P'P'		13 02 42.5	
PDAR				⇑*e*		13 02 57.9	
TPNV	**Topopah Spring**	**60.91**	**66**	*e*P	**P**	**12 33 34.2**	**-0.6**
	comp=Z,37nm,0.8s,mb5.6						
TPNV				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
DDI	**Dehra Dun**	**60.94**	**284**	*e*P	**P**	**12 33 32.8**	**-2.4**
DDI				*e*		12 43 29.1	
TCUT	**Toone Canyon**	**60.95**	**60**	*e*P	**P**	**12 33 34.5**	**-0.6**
SMLA	**Simla**	**60.96**	**285**	⇓*i*	**P**	**12 33 44.5**	**+9.2**
	comp=Z,177nm,0.5s,mb6.5						
SMLA				*i*		12 41 03.2	
THN	**Thein Dam**	**60.99**	**287**	*e*P	**P**	**12 33 33.8**	**-1.7**
	comp=Z,40nm,0.9s,mb5.5						
CTU	**Camp Tracy**	**61.04**	**60**	*e*P	**P**	**12 33 35.5**	**-0.2**

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PONG  Pong              61.17 286  eP      P       12 33 37.0 +0.3
BHK   Bhakra            61.24 286  eP      P       12 33 40.0 +2.8
MOR8  Moi Rana          61.24 344⇑iP      P       12 33 33.3 -3.4
MOR8                               AMb     AMB     12 33 35.5
      comp=Z,255nm,0.8s,mb6.4
MOR8  Moi Rana          61.24 344⇑iP      P       12 33 33.3 -3.4
      comp=Z,255nm,0.8s,mb6.4
JLU   Jordanelle        61.27  60⇓iP      P       12 33 37.4 +0.2
NLU   North Lily Min    61.34  61  eP      P       12 33 37.4 -0.3
DAU   Daniels Canyon    61.50  60   P      P       12 33 39.4 +0.6
DAU   Daniels Canyon    61.50  60  eP      P       12 33 39.1 +0.2
FRB   Frobisher Bay     61.52  21   P      P       12 33 36.5 -2.2
      comp=Z,56nm,0.6s,mb5.9,baz=136,slow=1.9,SNR=3.1
FRB   Frobisher Bay     61.52  21   P      P       12 33 36.5 -2.2
FRB                                 pmax   pmax
      comp=Z,56nm,0.6s
MPU   Maple Canyon      61.56  61⇓iP      P       12 33 39.4 +0.2
MWC   Mount Wilson      61.64  70   P      P       12 33 39.1 -0.8
MWC   Mount Wilson      61.64  70⇓iP      P       12 33 39.3 -0.6
NIL   Nilore            61.70 290   P      P       12 33 40.8 +0.5
      comp=Z,553nm,1.2s,mb6.6,SNR=24
KAF   Kangasniemi       62.13 336  ep      P       12 33 39.2 -3.5
      comp=Z,3.3nm,0.4s,mb4.8,baz=33,slow=6.2
MVU   Marysvale         62.24  62  eP      P       12 33 44.1 +0.2
      comp=Z,13nm,0.8s,mb5.1
MVU                                 LR     LR
      comp=Z,2µm,21.0s,MS5.2
MSU   Marysvale         62.25  62   P      P       12 33 44.3 +0.4
MSU   Marysvale         62.25  62  eP      P       12 33 44.0 +0.1
NDI   New Delhi         62.59 283  i P     P       12 33 45.0 -1.3
      comp=Z,243nm,0.5s,mb6.6
NDI                                eP              12 33 45.3
NDI                                eS      S       12 42 12.5 +0.6
ULM   Lac du Bonnet     62.61  44   P      P       12 33 44.2 -1.9
      comp=Z,10nm,0.6s,mb5.1,baz=314,slow=6.7,SNR=20
ULM                                 pP     pP      12 34 01.2  +10
      comp=Z,13nm,0.6s,baz=313,slow=7.9,SNR=5.4
ULM                                 LR     LR      13 01 41.6
      comp=Z,3µm,21.3s,MS5.4,baz=320,slow=37
ULM   Lac du Bonnet     62.61  44  eP      P       12 33 44.3 -1.8
      comp=Z,15nm,0.7s,mb5.2
ULM                                 LR     LR
      comp=Z,5µm,21.0s,MS5.6
NEN   Nelson            62.62  66  eP      P       12 33 45.7 -0.7
FINES FINESS Array B    62.75 336   P      P       12 33 44.7 -2.2
      comp=Z,22nm,0.6s,mb5.5,baz=56,slow=6.9,SNR=73
FINES                               LR     LR      13 04 22.0
      comp=Z,5µm,19.0s,MS5.7,baz=28,slow=39
FINES FINESS Array B    62.75 336   P      P       12 33 44.7 -2.1
FINES                               pmax   pmax
      comp=Z,22nm,0.6s
FINES                               MLR    MLR
      comp=Z,5µm,19.0s
FINES FINESS Array B    62.75 336   P      P       12 33 44.7 -2.2
FINES                               LR     LR      13 04 22.0
SRU   San Rafael        62.80  61   P      P       12 33 47.3 -0.2
SRU   San Rafael        62.80  61  eP      P       12 33 46.8 -0.7
SRU                                ePP     PP      12 36 04.6 -2.9
LDFC  Landfair          62.85  67⇓iP      P       12 33 47.3 -0.6
RSSD  Black Hills       62.92  53   P      P       12 33 47.6 -0.7
RSSD                                S      S       12 42 18.3 +2.5
RSSD                                PnS            12 42 36.7
RSSD  Black Hills       62.92  53   P      P       12 33 47.4 -0.8
RSSD                                pmax   pmax
      comp=Z,35nm,0.7s,mb5.6
RSSD  Black Hills       62.92  53  eP      P       12 33 47.6 -0.6
      comp=Z,35nm,0.6s,mb5.7
PUL   Pulkovo           62.94 333  eP      P       12 33 35.1  -13
PUL                                 pmax   pmax
      comp=Z,81nm,0.4s,mb6.2
PUL                                 MLR    MLR
      comp=N,6µm,19.0s,MS5.9
PUL                                 MLR    MLR
      comp=Z,10µm,19.0s,MS6.0
PUL                                 MLR    MLR
      comp=E,6µm,20.0s,MS5.9
PFO   Pinyon Flat Ob    63.03  69   P      P       12 33 48.3 -0.8
PFO                                 pmax   pmax
      comp=Z,33nm,1.4s,mb5.3
PFO   Pinyon Flat Ob    63.03  69  eP      P       12 33 48.2 -0.9
      comp=Z,32nm,1.4s,mb5.3
NSS   Namsos            63.18 344⇑iP      P       12 33 46.4 -3.3
NSS                                 AMb    AMB     12 33 51.2
      comp=Z,188nm,2.1s,mb5.9
NSS   Namsos            63.18 344⇑iP      P       12 33 46.4 -3.3
      comp=Z,188nm,2.1s,mb5.8
SNG   Songkhla          63.30 248   P      P       12 33 51.0 -0.1
      comp=Z,246nm,0.9s,mb6.3
BAR   Barrett           63.53  70  eP      P       12 33 51.0 -1.4
MOS   Moscow            63.76 327⇑iP      P       12 33 51.8 -1.7
MOS                                e               12 34 05.9
MOS                                e               12 34 27.7
MOS                                e               12 36 10.1
MOS                                ePPP    PPP     12 37 42.4 -4.9
MOS                                eS      S       12 42 23.3 -2.7
MOS                                ePPS    PPS     12 42 50.5 -5.5
MOS                                 pmax   pmax
      comp=Z,2µm,1.8s
MOS                                 pmax   pmax
      comp=Z,590nm,0.7s
MOS                                 pmax   pmax
      comp=N,175nm,0.6s
MOS                                 MLR    MLR
      comp=Z,8µm,20.2s
MOS                                 MLR    MLR
      comp=N,4µm,10.7s
BLSP  Bilaspur          64.00 274  eP      P       12 33 54.9 -0.7
PV10  Paradox Valley    64.15  61  eP      P       12 33 56.5 +0.2
TRON  Trondheim         64.44 344  eP      P       12 33 57.6 -0.2
PV01  Paradox Valley    64.58  61  eP      P       12 33 59.0 -0.2
OBN   Obninsk           64.62 327c iP      P       12 33 56.7 -2.4
OBN                                e               12 36 17.2
OBN                                i SS    SS      12 46 42.7 -6.6
OBN                                 pmax   pmax
      comp=Z,472nm,1.8s,mb6.2
OBN                                 MLR    MLR
      comp=Z,4µm,17.0s,MS5.6
OBN   Obninsk           64.62 327⇑iP      P       12 33 56.6 -2.5
      comp=Z,225nm,1.0s,mb6.2
WUAZ  Wupatki           64.77  64⇓iP      P       12 34 00.6 +0.2
      comp=Z,101nm,1.6s,mb5.6
VSU   Vasula            65.06 334⇑iP      P       12 34 00.4 -1.5
IPM   Ipoh              65.11 246⇑eP      P       12 34 04.0 +1.0
KAKA  Kakadu            65.68 207⇓iP      P       12 34 05.6 -1.0
      comp=Z,56nm,0.6s,mb5.8
MOL   Molde             65.76 345⇑iP      P       12 34 06.7 +0.4
MOL                                 AMb    AMB     12 34 09.0
      comp=Z,331nm,1.0s,mb6.3
MOL   Molde             65.76 345⇑iP      P       12 34 06.7 +0.4
      comp=Z,331nm,1.0s,mb6.3
AJM   Ajmer             65.76 283⇑iP      P       12 34 06.0 -1.0
KGM   Kluang            65.82 242⇓eP      P       12 34 08.2 +0.7
DOMB  Dombas            65.99 344  eP      P       12 34 06.6 -1.2
DOMB                                AMb    AMB     12 34 08.5
      comp=Z,389nm,0.8s,mb6.5
DOMB                               epP     pP      12 34 10.9 -1.5
DOMB  Dombas            65.99 344  eP      P       12 34 06.6 -1.2
      comp=Z,389nm,0.8s,mb6.5
BORG  Borgarnes         66.12 359   P      P       12 34 09.0 +0.4
      comp=Z,148nm,0.9s,mb6.0,baz=21,slow=3.4,SNR=17
BORG  Borgarnes         66.12 359  eP      P       12 34 09.6 +1.0
      comp=Z,182nm,0.9s,mb6.1
BHPL  Bhopal            66.26 278⇑iP      P       12 34 09.7 -0.5
VOR   Voronezh          66.29 323  eP      P       12 34 07.5 -2.3
VOR                                e*SP    sP      12 34 18.0 +1.8
VOR                                 pmax   pmax
      comp=N,330nm,1.6s
VOR                                 pmax   pmax
      comp=E,150nm,1.6s
VOR                                 pmax   pmax
      comp=Z,400nm,1.6s,mb6.2
NB2   NORSAR Subarra    66.52 343   P      P       12 34 10.2 -1.0
      comp=Z,364nm,0.8s,mb6.5,baz=24,slow=6.5
NB2   NORSAR Subarra    66.52 343   P      P       12 34 10.2 -1.0
      baz=24,slow=6.5
NOA   NORSAR Array B    66.52 343   P      P       12 34 10.2 -1.0
      comp=Z,261nm,0.8s,mb6.3,baz=24,slow=6.5,SNR=804
NOA                                 pP     pP      12 34 27.2  +11
      comp=Z,27nm,0.7s,baz=23,slow=6.5,SNR=2.6
NOA                                 LR     LR      13 09 29.2
      comp=Z,3µm,18.1s,MS5.5,baz=25,slow=42
SDCO  Great Sand Dun    66.58  59  eP      P       12 34 11.7 -0.4
      comp=Z,135nm,2.0s,mb5.6
SDCO                                LR     LR
      comp=Z,2µm,21.0s,MS5.2
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NGP   Nagpur            66.70 276  eP      P       12 34 11.5 -1.5
NAO01 NORSAR Array S    66.76 343  eP      P       12 34 11.1 -1.6
      comp=Z,215nm,0.9s,mb6.2
NAO01                               LR     LR
      comp=Z,4µm,19.0s,MS5.7
NAO   NORSAR Subarra    66.79 343   P      P       12 34 11.9 -1.0
HFS   Hagfors           66.85 341   P      P       12 34 11.8 -1.5
      comp=Z,113nm,0.8s,mb6.0,baz=45,slow=6.3,SNR=166
HFS   Hagfors           66.85 341   P      P       12 34 11.8 -1.5
HFS                                 pmax   pmax
      comp=Z,113nm,0.8s
FOO   Floro             67.08 346  eP      P       12 34 13.4 -1.3
FOO                                 AMb    AMB     12 34 16.2
      comp=Z,201nm,1.8s,mb5.8
FOO                                epP     pP      12 34 18.1 -1.3
FOO   Floro             67.08 346  eP      P       12 34 13.4 -1.3
      comp=Z,201nm,1.8s,mb5.8
HYA   Hoyanger          67.30 345  eP      P       12 34 16.2  0.0
HYA                                 AMb    AMB     12 34 18.2
      comp=Z,362nm,0.8s,mb6.5
HYA                                epP     pP      12 34 19.6 -1.3
HYA   Hoyanger          67.30 345  eP      P       12 34 16.2  0.0
      comp=Z,362nm,0.8s,mb6.5
TUC   Tucson            67.36  66   P      P       12 34 16.9 -0.2
TUC                                 pmax   pmax
      comp=Z,13nm,1.0s,mb4.9
TUC   Tucson            67.36  66  eP      P       12 34 16.7 -0.4
      comp=Z,13nm,1.0s,mb4.9
IZAR  Zarasai           67.50 333  eP      P       12 34 15.9 -1.6
IZAR                                AMPb   AMB     12 34 17.6
      comp=Z,58nm,0.7s,mb5.7
SUE   Sulen             67.64 346  eP      P       12 34 17.1 -1.1
SUE                                 AMb    AMB     12 34 19.6
      comp=Z,327nm,1.0s,mb6.3
SUE   Sulen             67.64 346  eP      P       12 34 17.1 -1.1
      comp=Z,327nm,1.0s,mb6.3
ISAL  Salakas           67.69 332  eP      P       12 34 17.1 -1.5
ISAL                                AMPb   AMB     12 34 19.4
      comp=Z,58nm,0.7s,mb5.7
IDID  Didziasalis       67.72 332  eP      P       12 34 17.2 -1.7
IDID                                AMPb   AMB     12 34 19.6
      comp=Z,78nm,0.9s,mb5.8
IIGN  Ignalina          67.84 332  eP      P       12 34 18.1 -1.6
IIGN                                AMPb   AMB     12 34 19.9
      comp=Z,119nm,0.6s,mb6.1
LAZ   Ladron            68.02  63  eP      P       12 34 21.3 +0.1
ANMO  Albuquerque       68.02  62   P      P       12 34 21.1 -0.1
ANMO                                pmax   pmax
      comp=Z,10.0nm,0.8s
ANMO  Albuquerque       68.02  62  eP      P       12 34 20.9 -0.3
      comp=Z,9.9nm,0.8s,mb4.9
ASK   Askoy             68.11 346  eP      P       12 34 20.6 -0.7
ASK                                 AMb    AMB     12 34 21.8
      comp=Z,603nm,1.0s,mb6.6
RUND  Rundenannen       68.15 345  eP      P       12 34 20.8 -0.7
BER   Bergen            68.18 345  eP      P       12 34 20.7 -1.0
BER                                 AMb    AMB     12 34 22.6
      comp=Z,538nm,1.0s,mb6.5
BER                                epP     pP      12 34 25.1 -1.2
LENM  Lemitar           68.29  63  eP      P       12 34 23.2 +0.3
EGD   Espegrend         68.31 345  eP      P       12 34 22.1 -0.4
EGD                                 AMb    AMB     12 34 23.5
      comp=Z,389nm,1.1s,mb6.4
AKL   Akola             68.34 277⇓iP      P       12 34 27.6 +4.2
AKL                                i       pP      12 34 33.5 +5.5
ODD1  Odda              68.41 345  eP      P       12 34 21.2 -1.9
ODD1                                AMb    AMB     12 34 23.9
      comp=Z,423nm,1.1s,mb6.4
ODD1  Odda              68.41 345  eP      P       12 34 21.2 -1.9
      comp=Z,423nm,1.1s,mb6.4
BNM   Barren Site       68.50  62  eP      P       12 34 24.2 +0.1
BLS5  Blasjo            68.90 345  eP      P       12 34 25.0 -1.2
BLS5                                AMb    AMB     12 34 26.4
      comp=Z,181nm,0.7s,mb6.1
BLS5                               epP     pP      12 34 29.7 -1.2
BLS5  Blasjo            68.90 345  eP      P       12 34 25.0 -1.2
      comp=Z,181nm,0.7s,mb6.1
CBKS  Cedar Bluff       68.96  55   P      P       12 34 25.8 -1.1
CBKS                                pmax   pmax
      comp=Z,18nm,0.6s,mb5.2
CBKS  Cedar Bluff       68.96  55  eP      P       12 34 25.1 -1.8
      comp=Z,18nm,0.6s,mb5.2
CBKS                                LR     LR
      comp=Z,1µm,19.0s,MS5.2
KMY   Karmoy            69.31 345⇑iP      P       12 34 28.0 -0.7
KMY                                 AMb    AMB     12 34 30.5
      comp=Z,354nm,1.2s,mb6.2
KMY   Karmoy            69.31 345⇑iP      P       12 34 28.0 -0.7
      comp=Z,354nm,1.2s,mb6.2
MAK   Makhachkala       69.38 312d iP      P       12 34 29.0 -0.4
MAK                                ePPP    PPP     12 38 45.0 +1.3
MAK                                eS      S       12 43 36.0 +1.7
MAK                                ePS     PS      12 43 52.0  -10
MAK                                e               12 44 10.0
MAK                                 pmax   pmax
      comp=Z,2µm,4.0s
STAV  Stavanger         69.49 345  eP      P       12 34 29.4 -0.4
STAV                                AMb    AMB     12 34 31.5
      comp=Z,408nm,1.0s,mb6.3
STAV  Stavanger         69.49 345  eP      P       12 34 29.4 -0.4
      comp=Z,408nm,1.0s,mb6.3
SCHQ  Schefferville     69.67  25   P      P       12 34 30.0 -1.0
      comp=Z,15nm,0.4s,mb5.3,baz=353,slow=6.3,SNR=101
SCHQ                                pP     pP      12 34 46.3  +11
      comp=Z,40nm,0.7s,baz=353,slow=7.1,SNR=8.8
SCHQ                                LR     LR      13 09 00.4
      comp=Z,2µm,19.4s,MS5.5,baz=337,slow=39
SCHQ  Schefferville     69.67  25  eP      P       12 34 30.1 -0.8
      comp=Z,40nm,0.8s,mb5.4
SCHQ                                LR     LR
      comp=Z,4µm,19.0s,MS5.6
HYB   Hyderabad         69.72 273⇑iP      P       12 34 31.5 -0.3
      comp=Z,460nm,1.0s,mb6.4
HYB                                ePcP    PcP     12 34 56.0 +1.2
HYB                                eS      S       12 43 40.0 +1.4
HYB                                 LR     LR      13 07 30.0
      comp=Z,3.5nm,20.0s
HYB   Hyderabad         69.72 273⇑eP      P       12 34 31.5 -0.3
      comp=Z,460nm,1.0s,mb6.4
HYB                                eS      S       12 43 36.0 -2.6
GOF   Gofitskoye        69.86 317⇓iP      P       12 34 31.0 -1.3
GOF                                i               12 34 52.0
GOF                                 pmax   pmax
      comp=Z,450nm,1.4s,mb6.2
GOF                                 pmax   pmax
      comp=Z,4µm,4.0s
SUW   Suwalki           69.90 333  eP      P       12 34 30.5 -1.9
SUW                                eS      S       12 43 34.4 -5.9
SUW                                 MLR    MLR
      comp=Z,11µm,19.5s,MS6.1
CTA   Charters Tower    69.94 191  eP      P       12 34 32.7 -0.5
      comp=Z,17nm,0.6s,mb5.1
CTA   Charters Tower    69.94 191   P      P       12 34 32.9 -0.3
      comp=Z,18nm,0.6s,mb5.2,baz=11,slow=8.0,SNR=40
CTA                                 pP     pP      12 34 49.8  +12
      comp=Z,34nm,1.2s,baz=21,slow=5.4,SNR=4.2
CTA                                 LR     LR      13 00 24.5
      comp=Z,1µm,21.2s,MS5.1,baz=6.5,slow=32
CTAO  Charters Tower    69.94 191   P      P       12 34 31.9 -1.3
CTAO                                pmax   pmax
      comp=Z,14nm,0.6s,mb5.1
CTAO  Charters Tower    69.94 191⇑eP      P       12 34 32.5 -0.7
      comp=Z,14nm,0.6s,mb5.1
LATR  Latur             70.29 275  eP      P       12 34 50.9  +16
LATR                               e               12 34 51.7
      comp=Z,271nm,1.0s
KSU1  Kansas State U    70.39  53  eP      P       12 34 33.2 -2.4
OST   Stronsay          70.56 349  eP      P       12 34 35.4 -0.9
JFWS  Jewell Farm       70.65  46   PFAKE          12 34 50.0  +13
JFWS                                LR     LR
      comp=Z,4µm,20.0s,MS5.6
AKASG Malin Array Be    70.80 328   P      P       12 34 36.1 -1.8
      comp=Z,478nm,0.9s,mb6.4,baz=31,slow=6.0,SNR=509
AKASG                               LR     LR      13 08 30.3
      comp=Z,3µm,19.8s,MS5.6,baz=25,slow=38
AKASG Malin Array Be    70.80 328   P      P       12 34 36.1 -1.8
AKASG                               pmax   pmax
      comp=Z,478nm,0.9s
AKASG                               MLR    MLR
      comp=Z,3µm,19.8s
KIEV  Kiev              70.81 328   P      P       12 34 36.0 -2.0
OHO   Hoy               70.89 349⇑eP      P       12 34 37.4 -0.9
CPRX  Cap Rock          70.90  61  eP      P       12 34 38.7 -0.1
OBR   Brabster          71.10 349⇑eP      P       12 34 39.0 -0.5
BSD   Bornholm Skovb    71.14 338⇑iP      P       12 34 38.6 -1.3
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      comp=Z,317nm,0.9s,mb6.2
BSD                                i S     S       12 43 55.7 +1.0
      comp=Z,5µm,18.0s
MUD   Monsted U'grnd    71.18 342⇑iP      P       12 34 39.5 -0.6
      comp=Z,261nm,1.1s,mb6.1
MUD                                i S     S       12 44 00.6 +5.5
      comp=Z,5µm,19.0s
COP   Copenhagen        71.19 340⇑iP      P       12 34 40.1 -0.1
      comp=Z,175nm,0.7s,mb6.1
      comp=Z,2µm,19.0s
GDL2  Guadalupe Moun    71.22  62  eP      P       12 34 40.1 -0.6
BHJ   Bhuj              71.22 284  eP      P       12 34 40.8 -0.1
BHJ                                e               12 34 42.8
      comp=Z,236nm,1.3s
ORE   Reay              71.23 350⇑eP      P       12 34 40.0 -0.4
MLA1  Latheron          71.42 349⇑eP      P       12 34 41.0 -0.5
CLNB  Carlsbad          71.45  62  eP      P       12 34 41.5 -0.6
NOUC  Port Laguerre     71.69 171  eP      P       12 34 45.3 +1.5
NOUC  Port Laguerre     71.69 171  eP      P       12 34 45.2 +1.5
CUD   Cuddapah          71.73 271⇑eP      P       12 34 44.6 +0.5
CUD                                eS      S       12 44 05.7 +3.6
CUD                                e               13 01 55.7
MDRS  Chennai           71.80 269⇑eP      P       12 34 43.0 -1.5
MDRS                               e               12 44 17.0
MVH1  Achvaich          71.89 350⇑eP      P       12 34 43.8 -0.6
POO   Poona             71.96 278  eP      P       12 34 45.5  0.0
POO                                e               12 34 47.2
      comp=Z,222nm,1.0s
RGN   Rugen             72.04 339  eP      P       12 34 45.1 -0.2
      comp=Z,1µm,1.0s,mb6.7
WRAB  Tennant Creek     72.05 203  eP      P       12 34 44.9 -1.0
      comp=Z,143nm,0.8s,mb6.0
WB2   Warramunga Arr    72.06 203  eP      P       12 34 45.3 -0.7
WB2                                ePCP    PcP     12 35 05.3 +0.6
WRA   Warramunga Arr    72.06 203   P      P       12 34 45.1 -0.9
      comp=Z,84nm,0.7s,mb5.8,baz=18,slow=6.1,SNR=398
WRA                                 pP     pP      12 35 01.6  +11
      comp=Z,65nm,0.7s,baz=19,slow=6.3,SNR=8.5
WRA                                 LR     LR      13 02 35.2
      comp=Z,1µm,21.7s,MS5.1,baz=45,slow=32
WAR   Warsaw            72.09 333  eP      P       12 34 45.5 -0.1
WAR                                 MLR    MLR
      comp=Z,8µm,20.7s,MS6.0
MCD   Coleburn Disti    72.12 349⇑eP      P       12 34 45.4 -0.3
GKP   Gorka Klasztor    72.22 336  eP      P       12 34 45.4 -1.0
GKP                                eS      S       12 44 04.1 -3.0
GKP                                 MLR    MLR
      comp=Z,6µm,19.9s,MS5.8
MDO   Dochfour          72.39 350⇑eP      P       12 34 46.7 -0.6
WMOK  Wichita Mounta    72.49  57   P      P       12 34 47.4 -0.9
WMOK                                pmax   pmax
      comp=Z,12nm,0.8s,mb4.9
WMOK  Wichita Mounta    72.49  57  eP      P       12 34 47.3 -1.0
      comp=Z,12nm,0.8s,mb4.9
WMOK                                LR     LR
      comp=Z,1µm,22.0s,MS5.1
SOC   Sochi             72.49 318  i P     P       12 34 47.2 -0.9
SOC                                e               12 34 58.0
SOC                                e               12 37 28.1
SOC                                eS      S       12 44 04.4 -5.9
SOC                                ePS     PS      12 44 42.1 -1.6
SOC                                e               12 44 52.5
SOC                                 pmax   pmax
      comp=Z,218nm,0.6s,mb6.3
SOC                                 pmax   pmax
      comp=N,72nm,1.0s
SOC                                 pmax   pmax
      comp=E,35nm,1.0s
SOC                                 smax
      comp=N,127nm,1.9s
SOC                                 smax
      comp=E,96nm,2.5s
SOC                                 MLR    MLR
      comp=Z,4µm,19.0s,MS5.7
SOC                                 MLR    MLR
      comp=N,2µm,20.0s,MS5.6
SOC                                 MLR    MLR
      comp=E,1µm,18.0s,MS5.6
ANN   Anapa             72.50 320c iP      P       12 34 46.3 -1.8
ANN                                e               12 35 05.4
ANN                                e               12 37 26.8
ANN                                eS      S       12 44 11.0 +0.6
ANN                                ePS     PS      12 44 53.1 +9.3
ANN                                 pmax   pmax
      comp=Z,464nm,2.0s,mb6.1
ANN   Anapa             72.50 320⇑iP      P       12 34 46.5 -1.6
KAD   Karad             72.64 276  eP      P       12 34 48.0 -1.4
FITZ  Fitzroy Crossi    72.91 212⇑iP      P       12 34 51.3 +0.3
      comp=Z,87nm,0.6s,mb5.9
FITZ  Fitzroy Crossi    72.91 212   P      P       12 34 51.3 +0.3
      comp=Z,102nm,0.6s,mb6.0,baz=9.7,slow=5.7,SNR=275
FITZ                                pP     pP      12 35 07.2  +12
      comp=Z,51nm,0.7s,baz=24,slow=5.5,SNR=7.2
BSEG  Bad Segeberg      73.28 340  eP      P       12 34 52.4 -0.1
BSEG                                pmax   pmax
      comp=Z,260nm,1.0s,mb6.1
LVV   L'vov             73.29 331c iP      P       12 34 51.5 -1.1
LVV                                eS      S       12 44 08.0  -11
LVV   L'vov             73.29 331⇑iP      P       12 34 51.0 -1.6
KMPD  K-Podol'skiy      73.57 328   P      P       12 34 53.0 -1.2
LTX   Lajitas           73.73  64   P      P       12 34 55.7 +0.1
LTX                                 pmax   pmax
      comp=Z,60nm,1.1s,mb5.4
LTX   Lajitas           73.73  64  eP      P       12 34 55.4 -0.2
      comp=Z,60nm,1.2s,mb5.4
LTX                                 LR     LR
      comp=Z,1µm,20.0s,MS5.2
TXAR  Lajitas Array     73.73  64   P      P       12 34 55.4 -0.2
      comp=Z,12nm,0.5s,mb5.1,baz=297,slow=2.8,SNR=23
TXAR                                pP     pP      12 35 11.3  +11
      comp=Z,43nm,0.6s,baz=294,slow=4.8,SNR=14
TXAR                                LR     LR      13 04 32.6
      comp=Z,1µm,20.4s,MS5.2,baz=315,slow=33
TXAR  Lajitas Array     73.73  64   P      P       12 34 55.4 -0.2
TXAR                                pP     pP      12 35 11.3  +11
TXAR                                LR     LR      13 04 32.6
SIM   Simferopol'       73.75 322c iP      P       12 34 55.0 -0.4
SIM                                e               12 35 07.0
SIM                                eS      S       12 44 25.0 +0.6
SIM                                ePS     PS      12 44 57.0 -3.0
SIM                                 pmax   pmax
      comp=Z,300nm,0.8s,mb6.3
SIM                                 MLR    MLR
      comp=Z,3µm,18.0s,MS5.6
SIM   Simferopol'       73.75 322⇑eP      P       12 34 54.4 -1.0
RUE   Ruedersdorf       73.82 338  eP      P       12 34 55.2 -0.4
      comp=Z,392nm,0.8s,mb6.4
KWP   Kalwaria          73.87 331  eP      P       12 34 55.7 -0.3
KWP                                e*PP    pP      12 35 02.1 +1.4
KWP                                eS      S       12 44 23.3 -2.4
KWP                                 MLR    MLR
      comp=Z,4µm,22.4s,MS5.6
CCM   Cathedral Cave    73.91  50   P      P       12 34 55.1 -1.4
CCM                                 pmax   pmax
      comp=Z,21nm,0.8s,mb5.1
CCM   Cathedral Cave    73.91  50  eP      P       12 34 54.6 -1.8
      comp=Z,21nm,0.8s,mb5.1
SLM   Saint Louis       73.96  49   P      P       12 34 49.6 -7.2
SADO  Sadowa            74.03  38   P      P       12 34 55.0 -1.9
      comp=Z,4.2nm,0.5s,mb4.7,baz=357,slow=7.9,SNR=6.5
KIS   Kishinev          74.07 326α iP      P       12 34 54.0 -3.2
KIS                                e               12 35 10.0
KIS                                e               12 37 40.0
KIS                                e               12 39 25.0
KIS                                eS      S       12 44 24.0 -4.0
KIS                                e               12 44 52.0
KIS                                e               12 45 16.0
KIS                                 pmax   pmax
      comp=Z,3µm,1.0s
KIS                                 pmax   pmax
      comp=E,900nm,2.0s
KIS                                 pmax   pmax
      comp=N,2µm,2.0s
KIS                                 pmax   pmax
      comp=E,600nm,2.0s
KIS                                 pmax   pmax
      comp=Z,3µm,4.0s
KIS                                 MLR    MLR
      comp=Z,3µm,17.0s
KIS                                 MLR    MLR
      comp=N,2µm,16.0s
KIS                                 MLR    MLR
      comp=Z,4µm,16.0s
GOA   Goa               74.20 275  eP      P       12 34 59.2 +0.7
OJC   Ojcow             74.24 333⇑iP      P       12 34 57.8 -0.3
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OJC				*e*		12 37 46.3	
OJC				*e*S	S	12 44 32.9	+3.1
OJC				MLR	MLR		
	comp=Z,8µm,19.2s,MS6.0						
OJC	**Ojcow**	74.24	333	⇑*i*P	P	12 34 57.8	-0.3
OJC				*e*pP	pP	12 35 03.0	+0.2
OJC				*e*PP	PP	12 37 46.3	+0.5
OJC				*e*S	S	12 44 32.9	+3.1
OJC				LR	LR		
	comp=Z,8µm,19.2s,MS6.0						
EKA	**Eskdalemuir Ar**	74.30	349	P	P	12 34 57.5	-0.8
	comp=Z,47nm,0.7s,mb5.5,baz=16,slow=4.9,SNR=54						
EKA				pP	pP	12 35 14.7	+12
	comp=Z,21nm,0.7s,baz=18,slow=5.3,SNR=4.4						
EKA	**Eskdalemuir Ar**	74.30	349	P	P	12 34 57.5	-0.8
EKA				*PP	pP	12 35 14.7	+12
EKA				pmax	pmax		
	comp=Z,47nm,0.7s						
ESK	**Eskdalemuir**	74.32	349	P	P	12 34 58.6	+0.1
ESK				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.6						
ESK	**Eskdalemuir**	74.32	349	*e*P	P	12 34 58.5	0.0
	comp=Z,67nm,0.8s,mb5.6						
FVM	**French Village**	74.38	49	P	P	12 34 57.9	-1.3
FVM				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
FVM	**French Village**	74.38	49	*e*P	P	12 34 57.6	-1.6
	comp=Z,16nm,0.6s,mb5.1						
BBH	**Bruntsheil**	74.47	348	⇑*e*P	P	12 34 59.3	0.0
BWH	**Wardlaw**	74.52	349	⇑*e*P	P	12 34 59.5	-0.1
BHH	**Howats Hill**	74.54	349	⇑*e*P	P	12 34 59.8	0.0
GMK	**Mull of Kintyr**	74.58	350	*e*P	P	12 34 59.7	-0.2
BTA	**Talkin**	74.66	348	⇑*e*P	P	12 35 00.4	0.0
ERZM	**Erzurum**	74.66	314	*i* P	P	12 35 01.9	+1.1
EZM	**Erzurum**	74.66	314	P	P	12 35 02.1	+1.3
KSP	**Ksiaz**	74.67	336	*e*P	P	12 35 00.1	-0.5
KSP				*e*S	S	12 44 20.7	-14
KSP				MLR	MLR		
	comp=Z,14µm,20.3s,MS6.3						
KSP	**Ksiaz**	74.67	336	*e*P	P	12 35 00.1	-0.5
KSP				*e*S	S	12 44 20.7	-14
KSP				*e*		12 49 38.3	
KSP				LR	LR		
	comp=Z,14µm,20.3s,MS6.3						
VANB	**Van**	74.73	312	*e*P	P	12 35 01.8	+0.6
TVAN	**Van**	74.77	312	*i* P	P	12 35 02.9	+1.4
BDL	**Dobcross Hall**	74.79	348	⇑*e*P	P	12 35 01.3	+0.1
RAC	**Raciborz**	74.82	334	*e*P	P	12 35 01.9	+0.4
RAC				*e*S	S	12 44 34.5	-1.8
RAC				MLR	MLR		
	comp=N,6µm,20.3s,MS6.1						
RAC				MLR	MLR		
	comp=Z,11µm,20.2s,MS6.2						
RAC				MLR	MLR		
	comp=E,8µm,19.7s,MS6.1						
VANT	**Van**	74.85	312	P	P	12 35 01.7	-0.2
UZH	**Uzhgorod**	74.88	331	*i* P	P	12 35 03.0	+1.1
UZH				*e*S	S	12 44 34.0	-3.0
BBO1	**Bothel**	74.89	348	⇑*e*P	P	12 35 01.7	-0.1
GCL	**Cushendall**	74.91	350	⇑*e*P	P	12 35 01.7	-0.2
GAL1	**Galloway**	74.95	349	⇑*e*P	P	12 35 01.7	-0.4
UPC	**Upice**	75.05	336	⇑*e*P	P	12 35 02.3	-0.5
OKC	**Ostrava-Krasne**	75.06	334	⇑*e*P	P	12 35 02.7	-0.1
OKC				LM		13 11 20.0	
	comp=E,7.7nm,19.8s						
GUMT	**Gumushane**	75.09	316	*i* P	P	12 35 03.7	+0.5
CLL	**Collm**	75.09	338	⇑P	P	12 35 02.3	-0.7
	comp=E,logA/T=2.7,mb6.4						
CLL				*e*	pP	12 35 07.0	-0.7
CLL				*e*S	S	12 44 36.0	-3.3
CLL				*e*SS	x	12 50 14.0	
CLL	**Collm**	75.09	338	⇑*i*P	P	12 35 02.3	-0.7
CLL				*e*S	S	12 44 36.0	-3.3
CLL				pmax	pmax		
	comp=Z,517nm,1.1s,mb6.4						
CLL				MLR	MLR		
	comp=Z,7µm,17.6s,MS6.0						
CLL	**Collm**	75.09	338	⇑*i*P	P	12 35 02.3	-0.7
	comp=Z,517nm,1.1s,mb6.4						
CLL				*e*S	S	12 44 36.0	-3.3
CLL				LR	LR		
	comp=Z,7µm,17.6s,MS6.0						
DPC	**Dobruska-Polom**	75.10	335	⇑*i*P	P	12 35 03.0	-0.1
DPC				*e*S	S	12 44 37.2	-2.3
DPC				LM		13 11 30.0	
	comp=Z,8.2nm,19.6s						
WIT	**Witteveen**	75.10	342	*e*P	P	12 35 04.6	+1.6
JCT	**Junction City**	75.11	61	P	P	12 35 03.1	-0.4
JCT				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.3						
JCT	**Junction City**	75.11	61	*e*P	P	12 35 02.5	-1.0
	comp=Z,53nm,1.3s,mb5.3						
JCT				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
VRT	**Varto**	75.20	314	P	P	12 35 05.9	+2.0
CLZ	**Clausthal**	75.22	340	*e*P	P	12 35 03.8	+0.1
	comp=Z,531nm,1.2s,mb6.3						
BRG	**Berggiesshubel**	75.25	337	*i* P	P	12 35 03.9	-0.1
BRG				*i*		12 35 19.0	
BRG				*e*		12 37 51.0	
BRG				*i* S	S	12 44 40.0	-1.1
BRG				*i* SS	SS	12 49 24.0	-9.4
BRG				pmax	pmax		
	comp=Z,237nm,1.3s,mb6.0						
BRG				MLR	MLR		
	comp=N,3µm,18.4s,MS5.7						
BRG				MLR	MLR		
	comp=E,2µm,18.4s,MS5.7						
BRG				MLR	MLR		
	comp=Z,5µm,17.2s,MS5.9						
BRG	**Berggiesshubel**	75.25	337	*i* P	P	12 35 03.9	-0.1
	comp=Z,237nm,1.3s,mb6.0						
BRG				*i*		12 35 19.0	
BRG				*e*PP	PP	12 37 51.0	-3.7
BRG				*i* S	S	12 44 40.0	-1.1
BRG				*i* SS	SS	12 49 24.0	-9.4
BRG				LR	LR		
	comp=Z,5µm,17.2s,MS5.9						
MORC	**Moravsky Berou**	75.28	334	*e*P	P	12 35 03.9	-0.3
	comp=Z,458nm,0.9s,mb6.4						
BLO	**Bloomington**	75.33	46	P	P	12 35 03.8	-0.9
HKR	**Hakkari**	75.36	311	P	P	12 35 05.6	+0.8
PVCC	**Panska Ves**	75.41	336	⇑*i*P	P	12 35 04.5	-0.3
PVCC				LM		13 12 20.0	
	comp=Z,6.3nm,18.7s						
MIAR	**Mount Ida**	75.43	54	*e*P	P	12 35 03.8	-1.5
	comp=Z,24nm,1.0s,mb5.1						
MIAR				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
KELT	**Kelkit**	75.44	316	*i* P	P	12 35 06.5	+1.2
LIKS	**Likavka**	75.48	333	*e*P	P	12 35 06.0	+0.7
LIKS				*e*sP	sP	12 35 11.2	-0.5
MSNY	**Massena**	75.50	35	*e*P	P	12 35 03.9	-1.6
EZC	**Erzincan**	75.50	315	P	P	12 35 07.7	+2.1
EZC	**Erzincan**	75.50	315	P	P	12 35 07.6	+2.0
KECS	**Kecovo**	75.57	332	*e*P	P	12 35 05.4	-0.4
KECS				*e*pP	pP	12 35 09.9	-0.7
KECS				*e*		12 35 22.1	
KECS	**Kecovo**	75.57	332	*e*P	P	12 35 05.4	-0.4
KECS				*e*		12 35 22.1	
GMM	**Mts of Mourne**	75.71	350	⇑*e*P	P	12 35 06.2	-0.3
KOD	**Kodaikanal**	75.71	269	*e*P	P	12 35 07.1	-0.2
KOD				AMb	AMB	12 35 09.4	
	comp=Z,112nm,0.7s,mb5.9						
ASAR	**Alice Springs**	75.74	202	P	P	12 35 07.3	+0.1
	comp=Z,37nm,0.6s,mb5.5,baz=15,slow=5.3,SNR=508						
ASAR				LR	LR	13 10 13.7	
	comp=Z,842nm,18.8s,MS5.1,baz=11,slow=37						
ASPA	**Alice Springs**	75.74	202	*e*P	P	12 35 07.5	+0.2
VRI	**Vrincioaia**	75.79	327	⇓*i*P	P	12 35 06.9	-0.2
VRI	**Vrincioaia**	75.79	327	⇓*i*P	P	12 35 06.9	-0.2
PTN	**Potsdam (NY)**	75.82	36	P	P	12 35 06.1	-1.2
PTN	**Potsdam (NY)**	75.82	36	*e*P	P	12 35 05.6	-1.7
ERPA	**Erie**	75.86	40	*e*P	P	12 35 06.4	-1.2
	comp=Z,52nm,0.6s,mb5.6						
ERPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
WTSB	**Winterswijk**	75.88	342	*e*P	P	12 35 07.0	-0.4
	comp=Z,90nm,0.7s,mb5.8						
WTSB	**Winterswijk**	75.88	342	P	P	12 35 07.7	+0.2
BINT	**Bingol**	75.89	314	P	P	12 35 08.9	+1.1
BINT	**Bingol**	75.89	314	P	P	12 35 08.8	+1.0
PRU	**Pruhonice**	75.91	336	⇑*i*P	P	12 35 07.4	-0.3
	comp=Z,306nm,1.0s,mb6.2						
PRU				LM		13 12 30.0	
	comp=Z,5.2nm,19.0s						
PRU	**Pruhonice**	75.91	336	⇑*i*P	P	12 35 07.4	-0.3
PRU				pmax	pmax		
	comp=Z,306nm,1.0s,mb6.2						
PRU				MLR	MLR		
	comp=Z,5µm,19.0s,MS5.9						
LOZ	**Lake Ozonia**	75.93	35	*e*P	P	12 35 05.6	-2.4
BRD	**Bordesti**	75.95	326	⇑*i*P	P	12 35 09.3	+1.3
BRD	**Bordesti**	75.95	326	⇑*i*P	P	12 35 09.3	+1.3
BTMT	**Batman**	75.96	313	*i* P	P	12 35 09.3	+1.0
VRAC	**Vranov**	75.97	335	LR	LR	13 12 44.6	
	comp=Z,7µm,18.4s,MS6.0,baz=302,slow=39						
VRAC	**Vranov**	75.97	335	P	P	12 35 08.2	+0.1
MOX	**Moxa**	76.04	338	*i* P	P	12 35 07.9	-0.5
	comp=Z,logA/T=2.3,mb6.0						
MOX				S	S	12 44 53.0	+3.2
MOX				L		13 12 06.0	
MOX	**Moxa**	76.04	338	*e*P	P	12 35 07.9	-0.5
MOX				pmax	pmax		
	comp=Z,320nm,1.5s,mb6.0						
MOX				MLR	MLR		
	comp=Z,3µm,21.0s,MS5.5						
MOX	**Moxa**	76.04	338	*e*P	P	12 35 07.9	-0.5
	comp=Z,320nm,1.5s,mb6.0						
MOX				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
VYHS	**Vyhne**	76.06	333	*e*P	P	12 35 08.6	0.0
VYHS				*e*pP	pP	12 35 11.6	-1.7
VYHS				*e*		12 35 26.5	
VYHS				*e*S	S	12 44 46.0	-4.0
VYHS	**Vyhne**	76.06	333	P	P	12 35 08.1	-0.5
JAVC	**Velka Javorina**	76.07	334	P	P	12 35 09.6	+0.9
ACSO	**Alum Creek Sta**	76.10	43	PFAKE		12 35 20.0	+11
ACSO				LR	LR		
	comp=Z,809nm,20.0s,MS5.0						
KOLL	**Kolacno**	76.11	333	*e*P	P	12 35 09.1	+0.2
KOLL				*e*sP	sP	12 35 14.8	-0.4
KVT	**Kavak**	76.11	318	*e*P	P	12 35 09.6	+0.5
KVT	**Kavak**	76.11	318	P	P	12 35 09.5	+0.4
DMUB	**Kingscourt**	76.15	350	*e*P	P	12 35 08.2	-0.8
WCI	**Wyandotte Cave**	76.19	47	P	P	12 35 08.8	-0.7
WCI				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.4						
WCI	**Wyandotte Cave**	76.19	47	*e*P	P	12 35 08.5	-1.1
	comp=Z,37nm,0.8s,mb5.4						
NKC	**Novy Kostel**	76.22	338	⇑*i*P	P	12 35 09.1	-0.3
NKC				LM		13 13 00.0	
	comp=Z,6.7nm,17.8s						
GENY	**Geneseo**	76.22	38	*e*P	P	12 35 07.7	-1.9
KRUC	**Moravsky**	76.25	335	P	P	12 35 09.6	0.0
PSZ	**Piszkesteto**	76.26	332	⇑*i*P	P	12 35 10.0	+0.3
PSZ	**Piszkesteto**	76.26	332	P	P	12 35 09.6	-0.1
PSZ				pmax	pmax		
	comp=Z,290nm,1.1s,mb6.1						
BZK	**Bozkurt**	76.26	320	*i* P	P	12 35 10.4	+0.5
BZK	**Bozkurt**	76.26	320	P	P	12 35 10.3	+0.4
BEST	**Besiri**	76.31	313	*i* P	P	12 35 10.9	+0.7
BOYT	**Boyabat**	76.33	319	*i* P	P	12 35 10.9	+0.7
HARR	**Harsova**	76.36	325	⇓*i*P	P	12 35 10.0	-0.4
HARR	**Harsova**	76.36	325	⇓*i*P	P	12 35 10.1	-0.3
MLR	**Muntele Rosu**	76.39	327	P	P	12 35 10.1	-0.5
	comp=Z,219nm,0.8s,mb6.2,baz=111,slow=1.4,SNR=260						
MLR				LR	LR	13 11 44.0	
	comp=Z,4µm,20.6s,MS5.7,baz=30,slow=38						
MLR	**Muntele Rosu**	76.39	327	⇓*i*P	P	12 35 11.0	+0.5
MLR	**Muntele Rosu**	76.39	327	P	P	12 35 10.1	-0.4
MLR				pmax	pmax		
	comp=Z,219nm,0.8s						
MLR				MLR	MLR		
	comp=Z,4µm,20.6s						
MLR	**Muntele Rosu**	76.39	327	⇓*i*P	P	12 35 11.0	+0.5
SMOL	**Smolenice**	76.45	334	*e*P	P	12 35 11.5	+0.7
SMOL				*e*		12 35 12.5	
SMOL				*e*sP	sP	12 35 16.1	-1.1
SMOL				*e*		12 35 30.9	
SMOL	**Smolenice**	76.45	334	*e*P	P	12 35 11.5	+0.7
SMOL				*e*	pP	12 35 16.1	+0.6
SMOL				*e*		12 35 30.9	
PQI	**Presque Isle**	76.48	30	PFAKE		12 35 20.0	+9.0
PQI				LR	LR		
	comp=Z,9µm,20.0s,MS6.1						
ISR	**Istrita**	76.50	327	⇓*e*P	P	12 35 11.4	+0.3
TOKT	**Tokat**	76.52	318	P	P	12 35 12.0	+0.7
TOKT	**Tokat**	76.52	318	P	P	12 35 11.9	+0.6
NCB	**Newcomb**	76.62	36	*e*P	P	12 35 10.0	-1.8
	comp=Z,12nm,0.7s,mb5.0						
SVSK	**Karacayir**	76.64	317	*e*P	P	12 35 13.6	+1.5
DCN	**Croghan**	76.74	351	⇑*i*P	P	12 35 11.5	-0.8
SVST	**Sivas**	76.78	317	*i* P	P	12 35 13.9	+1.0
MIV	**Mineville/With**	76.79	35	*e*P	P	12 35 10.6	-2.2
DIY	**Diyarbakir**	76.80	314	P	P	12 35 14.0	+1.1
SRO	**Srobarova**	76.83	333	*e*P	P	12 35 14.0	+1.1
SRO				*e*sP	sP	12 35 19.8	+0.5
SRO				*e*		12 35 33.0	
ZST	**Bratislava**	76.83	334	*e*P	P	12 35 13.8	+0.9
ZST				*e*pP	pP	12 35 15.2	-2.5
ZST				*e*sP	sP	12 35 18.6	-0.7
ZST				*e*		12 35 28.6	
ZST				*e*PP	PP	12 38 01.0	-6.4
ZST				*e*S	S	12 44 58.4	-0.1
ZST				*e*		12 45 49.0	
ZST	**Bratislava**	76.83	334	*e*P	P	12 35 13.8	+0.9
ZST				*e*		12 35 28.6	
ZST				*e*		12 38 01.0	
ZST				*e*S	S	12 44 58.4	-0.1
ZST				*e*		12 45 49.0	
ZST	**Bratislava**	76.83	334	*e*P	P	12 35 13.8	+0.9
ZST				*e*	pP	12 35 18.6	+0.9
ZST				*e*		12 35 28.6	
ZST				*e*PP	PP	12 38 01.0	-6.4
ZST				*e*S	S	12 44 58.4	-0.1
ZST				*e*		12 45 49.0	
ELZG	**Elazig**	76.89	315	*i* P	P	12 35 14.6	+1.1
BUD	**Budapest**	76.91	332	*e*P	P	12 35 14.3	+0.9
MTUR	**Matau**	76.93	328	⇓*i*P	P	12 35 14.2	+0.7
MTUR	**Matau**	76.93	328	⇓*i*P	P	12 35 14.2	+0.7
KHC	**Kasperske Hory**	76.95	337	⇑*e*P	P	12 35 13.7	+0.2
KHC				*e*PCP	PcP	12 35 29.0	+4.0
KHC				LM		13 14 20.0	
	comp=Z,4.6nm,17.0s						
KHC	**Kasperske Hory**	76.95	337	*e*P	P	12 35 13.7	+0.2
KHC				*e*		12 35 29.0	
KHC				*e*		12 51 34.0	
KHC				LR	LR		
	comp=Z,5µm,17.0s,MS5.9						
NATX	**Nacogdoches**	76.99	56	PFAKE		12 35 30.0	+16
NATX				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
VKA	**Vienna**	77.00	334	⇑*i*P	P	12 35 14.6	+0.8
	comp=Z,1µm,3.0s						
VKA				MLRZ		13 13 00.0	
	comp=Z,2.0nm,18.0s						
HLM1	**Long Mynd**	77.01	348	⇑*e*P	P	12 35 13.8	0.0
HLM1				AMb	AMB	12 35 31.0	
	comp=Z,103nm,1.5s,mb5.5						
TOS	**Tosya**	77.02	320	P	P	12 35 15.2	+1.1
GRA1	**Grafenberg Arr**	77.02	338	*e*P	P	12 35 14.0	+0.1
	comp=Z,545nm,1.3s,mb6.3						
GRA1				LR	LR		
	comp=Z,6µm,18.7s,MS5.9						
GRF	**Grafenberg Arr**	77.02	338	*e*P	P	12 35 14.0	+0.1
GRF				pmax	pmax		
	comp=Z,545nm,1.3s,mb6.3						
GRF				MLR	MLR		
	comp=Z,6µm,18.7s,MS5.9						
CTKT	**Corum**	77.03	319	*i* P	P	12 35 14.8	+0.6
WVT	**Waverly**	77.11	49	P	P	12 35 14.1	-0.7
WVT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WVT	**Waverly**	77.11	49	*e*P	P	12 35 13.7	-1.0
	comp=Z,8.8nm,0.8s,mb4.7						
WET	**Wettzell**	77.11	337	*e*P	P	12 35 14.7	+0.2
WET				pmax	pmax		
	comp=Z,391nm,1.2s,mb6.2						
WET	**Wettzell**	77.11	337	*e*P	P	12 35 14.7	+0.2
	comp=Z,391nm,1.2s,mb6.2						
PSN	**Preselentsi**	77.13	325	*i* P	P	12 35 14.5	-0.2
SSP1	**Stoney Pound**	77.14	348	⇑*e*P	P	12 35 14.6	0.0
GEC2	**GERESS Array S**	77.18	336	*e*P	P	12 35 14.5	-0.3
GEC2				pmax	pmax		
	comp=Z,211nm,1.4s,mb5.9						
GEC2	**GERESS Array S**	77.18	336	*e*P	P	12 35 14.5	-0.3
	comp=Z,211nm,1.4s,mb5.9						
GERES	**GERESS Array B**	77.18	336	P	P	12 35 14.5	-0.3
	comp=Z,27nm,0.7s,mb5.3,baz=34,slow=4.8,SNR=194						
GERES	**GERESS Array B**	77.18	336	P	P	12 35 14.5	-0.3
GERES				pmax	pmax		
	comp=Z,27nm,0.7s						
PKSG		77.18	333	⇑*e*P	P	12 35 15.7	+0.8
HGN	**Heimansgroeve**	77.19	342	⇑*e*P	P	12 35 15.2	+0.3
	comp=Z,101nm,1.2s,mb5.6						
HGN				*e*S	S	12 45 00.8	-1.5
HGN	**Heimansgroeve**	77.19	342	P	P	12 35 15.0	+0.1
MYA	**Malataya**	77.29	315	P	P	12 35 16.9	+1.2
MALT	**Malatya**	77.30	315	P	P	12 35 16.5	+0.8
MALT	**Malatya**	77.30	315	⇑*i*P	P	12 35 16.3	+0.6
	comp=Z,3µm,1.9s						
ACCN	**Adirondack Com**	77.33	36	*e*P	P	12 35 14.0	-1.7
BUC1	**Bucharest**	77.35	326	⇑*i*P	P	12 35 15.6	-0.3
BUC1	**Bucharest**	77.35	326	⇑*i*P	P	12 35 15.6	-0.3
SAFT	**Safranbolu**	77.41	321	P	P	12 35 16.8	+0.5
BINY	**Binghamton**	77.43	38	*e*P	P	12 35 15.3	-1.1
	comp=Z,26nm,1.2s,mb5.0						
BINY				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
HAE	**Alders End**	77.43	347	⇑*e*P	P	12 35 15.7	-0.5
HAE				AMb	AMB	12 35 24.4	
	comp=Z,128nm,1.1s,mb5.8						
SOP	**Sopron**	77.45	334	P	P	12 35 17.5	+1.1
HTR	**Trewern Hill**	77.49	348	⇑*e*P	P	12 35 16.5	0.0
HTR				AMb	AMB	12 35 33.6	
	comp=Z,111nm,2.1s,mb5.4						
MCH1	**Michaelchurch**	77.53	348	⇑*e*P	P	12 35 16.6	-0.1
CANT	**Cankiri**	77.55	320	P	P	12 35 18.6	+1.6
CANT	**Cankiri**	77.55	320	P	P	12 35 18.5	+1.5
PKS8	**Sarbogard**	77.56	332	⇑*e*P	P	12 35 17.0	0.0
HNH	**Hanover**	77.57	34	*e*P	P	12 35 16.6	-0.5
	comp=Z,1.4nm,0.5s						
OXF	**Oxford**	77.60	51	P	P	12 35 17.5	0.0
OXF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
OXF	**Oxford**	77.60	51	*e*P	P	12 35 16.8	-0.7
	comp=Z,30nm,1.0s,mb5.2						
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
TOD	**Tromm**	77.67	340	⇑*e*P	P	12 35 18.0	+0.5
TOD	**Tromm**	77.67	340	⇑*e*P	P	12 35 17.9	+0.4
ABH	**Alteburg**	77.69	341	⇑*e*P	P	12 35 18.0	+0.4
ABH	**Alteburg**	77.69	341	P	P	12 35 18.2	+0.6
ELDT	**Eldivan**	77.72	320	*i* P	P	12 35 18.4	+0.4
SIND	**Sindeldorf**	77.72	339	⇑*e*P	P	12 35 18.1	+0.3
SIND	**Sindeldorf**	77.72	339	P	P	12 35 18.0	+0.2
HKT	**Hockley**	77.73	58	P	P	12 35 20.0	+1.7
HKT				*e*		12 35 28.5	
HKT	**Hockley**	77.73	58	*e*P	P	12 35 18.7	+0.4
PKS2	**Kecel**	77.74	332	*e*P	P	12 35 19.0	+1.0
WVL	**Waterville**	77.77	32	*e*P	P	12 35 17.1	-1.1
	comp=Z,140nm,1.1s,mb5.8						
WVL				LR	LR		
	comp=Z,6µm,20.0s,MS5.9						
SWS	**Schriesheim**	77.81	340	⇑*e*P	P	12 35 18.4	+0.1
SWS	**Schriesheim**	77.81	340	P	P	12 35 18.9	+0.6
PRD	**Provadia**	77.83	325	*i* P	P	12 35 18.5	-0.1
HGH	**Gray Hill**	77.86	347	⇑*e*P	P	12 35 18.6	+0.1
HGH				AMb	AMB	12 35 25.4	
	comp=Z,150nm,1.6s,mb5.7						
PKS9	**Tamasi**	77.94	332	⇑*e*P	P	12 35 19.1	0.0
MOA	**Molln**	77.94	336	⇑*i*P	P	12 35 19.1	+0.1
	comp=Z,922nm,2.8s,mb6.2						
MCWV	**Mont Chateau**	77.95	42	*e*P	P	12 35 18.6	-0.7
	comp=Z,22nm,0.6s,mb5.3						
MCWV				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
RUP	**Ruppelstein**	77.96	341	⇑*e*P	P	12 35 19.5	+0.4
RUP	**Ruppelstein**	77.96	341	⇑*e*P	P	12 35 19.4	+0.3
SSPA	**Standing Stone**	77.97	40	*e*P	P	12 35 18.1	-1.3
	comp=Z,7.4nm,0.6s,mb4.8						
GIVF	**Givet**	78.05	342	⇑*i*P	P	12 35 19.4	-0.2
	comp=Z,145nm,0.9s,mb5.6						
KTD	**Kalmit**	78.10	340	*e*P	P	12 35 20.3	+0.4
ARSA	**Arzberg**	78.14	335	⇑*i*P	P	12 35 20.6	+0.5
	comp=Z,833nm,2.0s,mb6.3						
WLF	**Walferdange**	78.19	341	P	P	12 35 21.4	+1.0
WLF				pmax	pmax		
	comp=Z,250nm,1.7s,mb5.9						
WLF	**Walferdange**	78.19	341	*e*P	P	12 35 20.0	-0.3
	comp=Z,254nm,1.7s,mb5.9						
BAIF	**Baives**	78.21	343	*e*P	P	12 35 20.4	0.0
	comp=Z,172nm,1.0s,mb5.6						
SGKT	**Sivrigoynuk**	78.23	321	*i* P	P	12 35 21.2	+0.5
HDH	**Heidenheim**	78.30	338	*e*P	P	12 35 21.3	+0.3
HDH	**Heidenheim**	78.30	338	P	P	12 35 21.7	+0.7
SZH	**Strazhica**	78.32	326	*i* P	P	12 35 20.0	-1.2
STU	**Stuttgart**	78.36	339	*e*P	P	12 35 21.5	+0.2
STU				pmax	pmax		
	comp=Z,260nm,1.6s,mb5.9						
STU	**Stuttgart**	78.36	339	*e*P	P	12 35 21.5	+0.2
	comp=Z,255nm,1.6s,mb5.9						
EMMW	**East Machias**	78.39	31	PFAKE		12 35 30.0	+8.4
EMMW				LR	LR		
	comp=Z,10µm,21.0s,MS6.1						
VAL	**Valentia**	78.42	352	⇓*e*P	P	12 35 21.8	+0.2
FUR	**Furstenfeldbru**	78.42	338	*e*P	P	12 35 21.9	+0.2
FUR				pmax	pmax		
	comp=Z,458nm,1.5s,mb6.2						
FUR	**Furstenfeldbru**	78.42	338	*e*P	P	12 35 21.9	+0.2
	comp=Z,458nm,1.5s,mb6.2						
RHK1	**Bakonya**	78.45	332	⇑*e*P	P	12 35 21.8	0.0
GZT	**Gaziantep**	78.47	315	*i* P	P	12 35 22.4	+0.2
LANF	**Langenberg**	78.48	340	⇑*e*P	P	12 35 22.6	+0.6
HENT	**Hendek**	78.49	321	*i* P	P	12 35 22.0	-0.3
LOD	**Lodumlu**	78.50	320	P	P	12 35 23.3	+1.0
LOD	**Lodumlu**	78.50	320	P	P	12 35 23.2	+0.9
ANTO	**Ankara**	78.51	320	*i* P	P	12 35 22.0	-0.3
AVNT	**Avonos**	78.53	318	*i* P	P	12 35 22.4	-0.1
KAMT	**Kaman**	78.53	319	P	P	12 35 22.4	-0.1
LBG	**Lerchenberg**	78.55	339	*e*P	P	12 35 22.7	+0.3
KAHT	**Ahir Dag**	78.57	316	*i* P	P	12 35 23.2	+0.5
BUCH	**Bad Urach**	78.62	339	⇑*e*P	P	12 35 23.5	+0.7
BUCH	**Bad Urach**	78.62	339	P	P	12 35 23.9	+1.1
MDU	**Mudurnu**	78.67	321	P	P	12 35 23.1	-0.1
HOPOS	**Hopovo Monaste**	78.76	331	*e*P	P	12 35 24.0	+0.4
GAZ	**Gaziantep**	78.79	315	P	P	12 35 25.0	+1.1
PERS	**Pernice**	78.82	335	P	P	12 35 24.0	+0.1
BEO	**Belgrade**	78.84	330	⇓*i*P	P	12 35 23.9	-0.2
GROS	**Grobnik**	78.87	334	⇑*e*P	P	12 35 23.9	-0.2
HRV	**Harvard--Oak R**	78.87	35	*e*P	P	12 35 22.3	-2.0
KBA	**Koelnbreinsper**	78.90	336	⇑*i*P	P	12 35 25.0	+0.7
	comp=Z,1µm,2.0s,mb6.5						
BFO	**Black Forest**	78.97	340	*e*P	P	12 35 24.4	-0.3
BFO				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.5						
BFO	**Black Forest**	78.97	340	*e*P	P	12 35 24.4	-0.3
	comp=Z,76nm,1.1s,mb5.5						
HRT	**Hereke**	78.99	322	P	P	12 35 25.0	0.0
HRT	**Hereke**	78.99	322	P	P	12 35 24.9	-0.1
ISK	**Istanbul-Kandi**	79.02	323	*e*P	P	12 35 24.7	-0.4
GUT	**Gutenstein**	79.04	339	⇑*e*P	P	12 35 25.4	+0.4
GUT	**Gutenstein**	79.04	339	P	P	12 35 26.0	+1.0
WES	**Weston**	79.07	35	P	P	12 35 24.9	-0.4
WES				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
WES	**Weston**	79.07	35	*e*P	P	12 35 24.7	-0.7
	comp=Z,21nm,0.8s,mb5.1						
SPAK	**Spaichingen**	79.08	339	*e*P	P	12 35 25.9	+0.6
SPAK	**Spaichingen**	79.08	339	P	P	12 35 26.5	+1.2
OBKA	**Obir**	79.09	335	⇑*i*P	P	12 35 25.5	+0.1
	comp=Z,1µm,2.4s,mb6.4						
WLS	**Welschbruch**	79.12	340	⇑*e*P	P	12 35 25.9	+0.4
WATA	**Walderalm**	79.12	337	⇑*i*P	P	12 35 25.9	+0.4
	comp=Z,760nm,1.9s,mb6.3						
CDF	**Champ du Feu**	79.13	340	⇑*i*P	P	12 35 25.6	0.0
	comp=Z,173nm,0.9s,mb5.7						
DOBS	**Dobrina**	79.16	334	P	P	12 35 26.0	+0.2
UBR	**Uberruh**	79.16	338	⇑*e*P	P	12 35 26.1	+0.4
UBR	**Uberruh**	79.16	338	P	P	12 35 26.6	+0.9
WTTA	**Wattenberg**	79.17	337	*i* P	P	12 35 26.5	+0.7
	comp=Z,2µm,2.2s,mb6.6						
NIG	**Nigde**	79.19	317	P	P	12 35 26.9	+0.8
CTT	**Catalca**	79.20	323	P	P	12 35 26.0	-0.1
CTT	**Catalca**	79.20	323	P	P	12 35 25.9	-0.2
BOLS	**Boljevac**	79.22	329	⇑*i*P	P	12 35 25.5	-0.7
MOTA	**Moosalm**	79.23	337	⇓*i*P	P	12 35 26.5	+0.4
	comp=Z,130nm,1.2s,mb5.7						
FWV	**Forest Hill**	79.24	43	*e*P	P	12 35 25.9	-0.5
EDRB	**Edirne**	79.25	325	*e*P	P	12 35 26.2	-0.1

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EDRB  Edirne           79.25 325   P      P      12 35 26.1 -0.2
CPCT  Cooper Cave      79.26  47  eP      P      12 35 25.7 -0.9
PAL   Palisades        79.27  37   P      P      12 35 25.6 -0.9
PAL                               e              12 35 43.4
PAL                                pmax   pmax
      comp=Z,18nm,0.7s,mb5.1
PAL   Palisades        79.27  37  eP      P      12 35 25.1 -1.4
      comp=Z,9.1nm,0.5s,mb5.0
LIBD  Limburg          79.31 340  eP      P      12 35 27.0 +0.5
LIBD  Limburg          79.31 340  eP      P      12 35 26.9 +0.4
SQTA  Sankt Quirin     79.32 337⇓iP      P      12 35 27.1 +0.5
      comp=Z,1µm,2.1s,mb6.4
YLV   Yalova           79.32 322   P      P      12 35 24.8 -2.0
YLV   Yalova           79.32 322   P      P      12 35 24.7 -2.1
ECH   Echery           79.34 340⇑eP      P      12 35 27.0 +0.3
PDKS  Podkum           79.36 334   P      P      12 35 27.1 +0.3
LEGS  Legarje          79.39 334   P      P      12 35 26.9 -0.1
BRYW  Bryant College   79.39  35  eP      P      12 35 26.1 -1.0
      comp=Z,24nm,0.7s,mb5.2
LSR   Lussari          79.40 335⇑iP      P      12 35 27.0 -0.1
KIZ   Kirchzarten      79.42 340  eP      P      12 35 27.3 +0.2
SISB  Singen-Sch Ber   79.43 339   P      P      12 35 28.6 +1.4
CRES  Cresnjevec ost   79.46 334   P      P      12 35 27.5 +0.1
SLE   Schleitheim      79.47 339 ⇑P      P      12 35 26.9 -0.5
FELD  Feldberg         79.48 340⇑eP      P      12 35 28.1 +0.7
FVI   Forni Avoltri    79.49 336  eP      P      12 35 27.5 -0.1
SEST  Monte Rota       79.50 336   P      P      12 35 28.1 +0.5
PTCC  Patocco-Chiusa   79.51 336  eP      P      12 35 26.9 -0.8
DIM   Dimitrovgrad     79.52 326   P      P      12 35 28.0 +0.2
MEZF  Maizieres J'vi   79.52 342  eP      P      12 35 27.9 +0.2
      comp=Z,170nm,0.9s,mb5.7
LJU   Ljubljana        79.52 335⇑eP      P      12 35 26.9 -0.9
LJU                               ePP     PP     12 38 26.0 -4.0
LJU                               eS      S      12 45 28.0 +0.7
ELN   Prospectdale     79.56  44  eP      P      12 35 27.1 -1.0
UMR   Umm Al-Rimmam    79.57 303  eP      P      12 35 27.4 -0.9
UMR                                AMb    AMB    12 35 29.5
      comp=Z,256nm,0.8s,mb6.2
WEIN  Weingarten       79.58 339⇑iP      P      12 35 28.5 +0.5
      comp=Z,337nm,1.1s,mb6.2
MIB   Mutribah         79.58 304  eP      P      12 35 27.9 -0.4
MIB                                AMb    AMB    12 35 30.0
      comp=Z,558nm,0.7s,mb6.6
PGB   Panagyurishte    79.58 327  i P     P      12 35 27.5 -0.6
GRUS  Gruza            79.59 330⇓iP      P      12 35 27.4 -0.7
CEYT  Ceyhan           79.59 316   P      P      12 35 29.4 +1.1
CEYT  Ceyhan           79.59 316   P      P      12 35 29.3 +1.0
DAVA  Damuels          79.59 338⇓iP      P      12 35 28.3 +0.3
      comp=Z,834nm,2.5s,mb6.2
THEF  They Montfort    79.59 341⇑eP      P      12 35 28.6 +0.6
ESKT  Eskisehir        79.61 321   P      P      12 35 28.0 -0.4
ESKT  Eskisehir        79.61 321  i P     P      12 35 27.9 -0.4
ROBS  Robic            79.62 335   P      P      12 35 28.2  0.0
DIVS  Divcibare        79.64 330⇓iP      P      12 35 27.5 -0.9
BOO   Bordano          79.66 336⇑eP      P      12 35 27.0 -1.5
GMNA  Gemona           79.67 336  eP      P      12 35 28.3 -0.2
KAMOR Kamor            79.68 338⇑iP      P      12 35 28.3 -0.2
      comp=Z,233nm,1.6s,mb5.9
MOF   Molkenrain       79.69 340⇑eP      P      12 35 28.8 +0.2
WILA  Wila             79.70 339⇑iP      P      12 35 28.7  0.0
      comp=Z,462nm,1.8s,mb6.1
WILA  Wila             79.70 339 ⇑P      P      12 35 28.8 +0.1
VOY   Vojsko           79.71 335  eP      P      12 35 28.2 -0.5
HAU   Haudompre        79.72 341  eP      P      12 35 28.7 -0.1
      comp=Z,138nm,0.9s,mb5.6
HAU                               eR
      comp=Z,4µm,19.2s
BLA   Blacksburg       79.72  43   P      P      12 35 29.2 +0.2
BLA                                pmax   pmax
      comp=Z,35nm,0.9s,mb5.3
BLA   Blacksburg       79.72  43  eP      P      12 35 28.5 -0.5
      comp=Z,35nm,0.9s,mb5.3
BLA                                LR     LR
      comp=Z,2µm,21.0s,MS5.3
KIZT  Kizilcal         79.72 320   P      P      12 35 29.4 +0.4
KIZT  Kizilcal         79.72 320   P      P      12 35 29.3 +0.3
COBT  Iskenderun       79.76 315  i P     P      12 35 29.4 +0.2
MPRI  Monte Prat       79.76 336⇑iP      P      12 35 28.0 -1.0
PLD   Plovdiv          79.78 326   P      P      12 35 29.0 -0.2
SULZ  Sulz-Cheisache   79.78 339⇑iP      P      12 35 28.7 -0.4
      comp=Z,463nm,1.7s,mb6.1
SULZ  Sulz-Cheisache   79.78 339 ⇑P      P      12 35 29.4 +0.3
ULDT  Uludag           79.78 322  i P     P      12 35 29.1 -0.2
HINF  Hinteralfeld     79.79 340⇑iP      P      12 35 28.8 -0.3
      comp=Z,128nm,1.2s,mb5.4
JAVS  Javornik         79.79 335⇑eP      P      12 35 28.0 -1.1
ZUR   Zurich           79.82 339⇑iP      P      12 35 29.3  0.0
      comp=Z,494nm,1.7s,mb6.2
ZUR   Zurich           79.82 339 ⇑P      P      12 35 29.9 +0.6
CEY   Cerknica         79.83 335   P      P      12 35 29.7 +0.3
KBD   Kabd             79.87 303  eP      P      12 35 29.8 -0.1
VTS   Vitosha          79.89 327  i P     P      12 35 29.5 -0.3
VTS   Vitosha          79.89 327   P      P      12 35 29.8  0.0
PLONS Plons            79.93 338⇑iP      P      12 35 29.7 -0.2
      comp=Z,414nm,2.1s,mb6.0
MLNI  Malnisio         79.95 336⇑iP      P      12 35 29.0 -1.0
BBS   Basel-Blauen     79.98 340⇑eP      P      12 35 30.6 +0.5
BBS   Basel-Blauen     79.98 340   P      P      12 35 31.2 +1.1
LRAL  Lakeview Retre   79.99  50  eP      P      12 35 28.8 -1.7
      comp=Z,13nm,0.7s,mb5.0
LRAL                               LR     LR
      comp=Z,2µm,21.0s,MS5.5
RST   Umm Al-Ruwaisa   80.00 304  eP      P      12 35 30.3 -0.3
RST                                AMb    AMB    12 35 32.2
      comp=Z,519nm,0.9s,mb6.5
APPI  Appiano          80.00 337   P      P      12 35 29.7 -0.6
RAR   Rarotonga        80.02 140   LR     LR     13 03 31.1
      comp=Z,2µm,20.0s,MS5.4,baz=289,slow=30
TLI   Talmassons       80.03 336⇑eP      P      12 35 31.0 +0.6
KNDS  Knezji Dol       80.04 335⇑eP      P      12 35 30.0 -0.5
FAU   Forcella Aurin   80.04 336⇑iP      P      12 35 30.0 -0.5
TRI   Trieste          80.04 335  eP      P      12 35 29.9 -0.6
BALST Balsthal         80.06 340⇑iP      P      12 35 30.6  0.0
      comp=Z,440nm,1.8s,mb6.1
DAVOX Davos            80.06 338   P      P      12 35 30.8 +0.2
      comp=Z,56nm,0.6s,mb5.7,baz=18,slow=4.5,SNR=52
DAVOX Davos            80.06 338⇑eP      P      12 35 30.8 +0.2
      comp=Z,280nm,1.5s,mb6.0
BNT   Bandirma         80.08 323  i P     P      12 35 31.0 +0.2
QRN   Al-Qurain        80.09 303  eP      P      12 35 30.6 -0.6
QRN                                AMb    AMB    12 35 32.8
      comp=Z,371nm,0.9s,mb6.3
BOURR Bourrignon       80.11 340⇑iP      P      12 35 30.6 -0.2
      comp=Z,408nm,2.4s,mb5.9
FUORN Ofenpass         80.12 338⇑iP      P      12 35 31.5 +0.6
      comp=Z,677nm,2.6s,mb6.1
CAE   Caneva           80.13 336⇑iP      P      12 35 30.0 -1.0
RZN   Rozhen           80.14 326  i P     P      12 35 31.0 -0.1
HTY   Hatay            80.14 315  eP      P      12 35 32.1 +0.8
RDF   Al-Radifah       80.15 303  eP      P      12 35 31.5 +0.1
RDF                                AMb    AMB    12 35 33.5
      comp=Z,698nm,0.9s,mb6.6
BARS  Barje            80.16 328⇑iP      P      12 35 29.4 -1.8
MUO   Muotathal        80.18 339⇑iP      P      12 35 31.0 -0.2
      comp=Z,210nm,0.9s,mb6.1
MUO   Muotathal        80.18 339 ⇑P      P      12 35 31.5 +0.3
LLS   Linth-Limmern    80.21 339⇑iP      P      12 35 31.4  0.0
      comp=Z,287nm,2.3s,mb5.8
LLS   Linth-Limmern    80.21 339 ⇑P      P      12 35 31.6 +0.2
BRMO  Bormio           80.22 338  eP      P      12 35 32.7 +1.3
CBN   Corbin           80.22  41  eP      P      12 35 31.0 -0.7
CBN                                LR     LR
      comp=Z,2µm,19.0s,MS5.5
LOMF  Lomont           80.24 340⇑eP      P      12 35 31.6 +0.1
NVSS  Nova Varos 2     80.26 330⇓iP      P      12 35 30.3 -1.4
CTI   Castel Tesino    80.30 337  eP      P      12 35 31.3 -0.6
FLN   La Foliniere     80.30 345  eP      P      12 35 31.5 -0.3
      comp=Z,158nm,0.9s,mb5.6
FLN                               eR
      comp=Z,2µm,22.5s
KONT  Konya--Tatoy     80.30 319   P      P      12 35 31.8 -0.3
RDO   Rodhopi          80.31 325  eP      P      12 35 31.5 -0.5
ALT   Altintas         80.31 321   P      P      12 35 32.1  0.0
ALT   Altintas         80.31 321   P      P      12 35 32.0 -0.1
BNALP Bannalp          80.33 339⇑iP      P      12 35 32.1 +0.1
      comp=Z,162nm,1.6s,mb5.7
ALN   Alexandroupoli   80.33 325  eP      P      12 35 31.3 -0.9
LDF   La Druitiere     80.40 345  eP      P      12 35 32.0 -0.4
      comp=Z,175nm,1.2s,mb5.6
VDL   Val di Lei       80.44 338⇑iP      P      12 35 33.0 +0.4
      comp=Z,176nm,0.9s,mb6.0
VDL   Val di Lei       80.44 338 ⇑P      P      12 35 33.2 +0.6
HASLI Hasliberg        80.50 339⇑eP      P      12 35 32.8 -0.1
      comp=Z,337nm,1.8s,mb6.0
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LPK   Lapseki          80.51 324   P      P      12 35 33.2 +0.1
PLE   Pljevlja         80.52 330⇑iP      P      12 35 33.2 +0.1
KKB   Krupnik          80.57 327  i P     P      12 35 34.0 +0.6
MABI  Malga Bissina    80.58 337  eP      P      12 35 33.1 -0.3
MMB   Musomiste        80.58 327  i P     P      12 35 33.0 -0.5
WIMIS Wimmis           80.70 339⇑eP      P      12 35 33.5 -0.5
      comp=Z,217nm,3.1s
BRANT Les Verrieres    80.70 340⇑iP      P      12 35 34.2 +0.2
      comp=Z,285nm,1.9s,mb5.9
BALB  Balikesir        80.71 323  eP      P      12 35 26.2 -8.0
GRR   Gorron           80.72 345  eP      P      12 35 34.3 +0.2
      comp=Z,310nm,1.1s,mb5.8
IVA   Berane           80.76 330⇑iP      P      12 35 34.0 -0.4
NVLJ  Novalja          80.78 334⇑iP      P      12 35 33.9 -0.6
UPM   Unac-Piva        80.79 331⇑iP      P      12 35 33.5 -1.0
LOR   Lormes           80.94 342⇑iP      P      12 35 35.2 -0.1
      comp=Z,187nm,1.1s,mb5.6
LOR                               eR
      comp=Z,6µm,20.0s
LKBD  Leukerbad        80.97 339 ⇓P      P      12 35 36.5 +1.1
PVY   Plav             80.98 330⇑iP      P      12 35 34.8 -0.8
SAL   Salo             80.99 337  eP      P      12 35 35.5 -0.1
SRS   Serrai           81.04 326  eP      P      12 35 35.8 -0.1
SKO   Skopje           81.05 328⇑iP      P      12 35 35.9  0.0
      comp=Z,0.1nm,0.7s
SENIN Lac Senin        81.06 340⇑eP      P      12 35 35.9  0.0
      comp=Z,224nm,2.2s,mb5.7
MUGIO Muggio           81.07 338⇑iP      P      12 35 35.5 -0.4
      comp=Z,508nm,2.8s,mb6.0
HDMB  Hadim            81.07 318   P      P      12 35 36.6 +0.4
HDMB  Hadim            81.07 318   P      P      12 35 36.5 +0.3
CABF  La Chapelle      81.10 340⇑iP      P      12 35 36.4 +0.3
      comp=Z,187nm,1.2s,mb5.6
NKY   Niksic           81.11 330⇑iP      P      12 35 35.0 -1.2
SGMF  Saint Gilles     81.12 347⇑iP      P      12 35 35.9 -0.3
      comp=Z,161nm,0.9s,mb5.6
ROSF  Rostrenen        81.15 347  eP      P      12 35 36.5 +0.2
      comp=Z,182nm,1.0s,mb5.7
IKL   Isikli           81.15 317  i P     P      12 35 36.9 +0.3
IKL   Isikli           81.15 317   P      P      12 35 36.8 +0.2
AIGLE Aigle            81.16 340⇑iP      P      12 35 36.3 -0.1
      comp=Z,307nm,2.4s,mb5.8
ISP   Isparta          81.17 320  eP      P      12 35 36.3 -0.4
BRY   Bratogost        81.17 331  eP      P      12 35 34.9 -1.6
MMK   Mattmark         81.20 339⇑eP      P      12 35 37.2 +0.6
      comp=Z,237nm,0.9s,mb6.1
MMK   Mattmark         81.20 339 ⇑P      P      12 35 37.6 +1.0
SSF   Saint Saulge     81.21 342⇑iP      P      12 35 36.6 -0.1
      comp=Z,65nm,0.8s,mb5.3
GRYON Gryon            81.21 340⇑iP      P      12 35 36.9 +0.2
      comp=Z,155nm,1.3s,mb5.8
VAY   Valandovo        81.23 327⇑iP      P      12 35 36.6 -0.3
KNT   Kendrikon        81.25 327  eP      P      12 35 36.3 -0.7
MCGN  Macugnaga        81.29 339  eP      P      12 35 38.1 +1.0
DIX   Grande Dixence   81.31 339⇑eP      P      12 35 37.8 +0.6
      comp=Z,267nm,1.0s,mb6.1
DIX   Grande Dixence   81.31 339 ⇑P      P      12 35 37.9 +0.7
SALAN Lac Salanfe      81.34 340⇑eP      P      12 35 37.6 +0.2
      comp=Z,221nm,1.6s,mb5.8
TTG   Podgorica        81.37 330⇑iP      P      12 35 36.5 -1.0
AKS   Akhisar          81.39 322  i P     P      12 35 38.1 +0.3
SOH   Sokhos           81.39 326  eP      P      12 35 36.9 -0.8
MANT  Manisa           81.42 322  i P     P      12 35 37.7 -0.2
EMV   Vieux Emosson    81.44 340⇑iP      P      12 35 38.4 +0.5
      comp=Z,304nm,1.7s,mb6.0
EMV   Vieux Emosson    81.44 340 ⇑P      P      12 35 38.5 +0.6
STON  Ston             81.47 331  i P     P      12 35 36.7 -1.4
AVF   Avril sur Loir   81.50 342⇑iP      P      12 35 38.4 +0.2
      comp=Z,138nm,0.8s,mb5.6
LOS   Limnos           81.53 325  eP      P      12 35 37.9 -0.6
SMF   Signal de Mont   81.54 342⇑iP      P      12 35 38.6 +0.2
      comp=Z,132nm,0.8s,mb5.6
QUIF  Quistinic        81.54 347  eP      P      12 35 38.5 +0.1
      comp=Z,71nm,0.8s,mb5.3
PPT   Papeete          81.58 130   P      P      12 35 42.9 +3.7
      comp=Z,357nm,1.5s,mb6.1,baz=5.2,slow=11,SNR=3.8
PPT   Papeete          81.58 130   P      P      12 35 42.9 +3.7
PPT                                pmax   pmax
      comp=Z,357nm,1.5s
OUR   Ouranopolis      81.59 326  eP      P      12 35 38.2 -0.5
HCY   Herceg Novi      81.60 330⇑iP      P      12 35 37.6 -1.2
ORO   Oropa            81.60 339  eP      P      12 35 39.8 +1.0
BUM   Brajici-Budva    81.60 330⇑iP      P      12 35 38.3 -0.5
GRG   Griva            81.61 327  eP      P      12 35 38.2 -0.7
PRK   Paraskevi        81.67 324  eP      P      12 35 39.6 +0.3
PLG   Polygyros        81.75 326  eP      P      12 35 38.6 -1.0
TRAV                   81.76 339   P      P      12 35 39.3 -0.3
ULC   Ulcinj           81.79 330⇑iP      P      12 35 39.1 -0.7
BGF   Bois d'Agland    81.82 343⇑iP      P      12 35 40.2 +0.3
      comp=Z,53nm,0.7s,mb5.3
HASS  Wahat al Ahsa'   81.85 299   P      P      12 35 41.2 +0.7
DENT  Denizli          81.86 321  eP      P      12 35 40.0 -0.2
DNZL  Cakiroluk        81.91 321  i P     P      12 35 41.0 +0.5
PESA  Pesaro           81.93 335   P      P      12 35 40.9 +0.4
LSD   Ceresole Reale   81.95 339   P      P      12 35 41.8 +1.3
LPL   La Plagne        81.99 340  eP      P      12 35 41.9 +1.1
      comp=Z,164nm,0.9s,mb5.7
LPG   La Plagne        82.01 340  eP      P      12 35 42.0 +1.2
      comp=Z,155nm,0.8s,mb5.7
KDAG  Bornova          82.02 323  i P     P      12 35 40.4 -0.7
PHNC  Paralimni        82.02 316   P      P      12 35 41.6 +0.4
OHR   Ohrid            82.03 328⇑iP      P      12 35 40.1 -1.0
RSM   Repubblica di    82.05 335   P      P      12 35 42.2 +1.1
ZCCA  Zocca            82.05 336  eP      P      12 35 43.1 +2.0
BOB   Bobbio (Coli)    82.05 338  eP      P      12 35 42.1 +1.0
PAIG  Paliouri         82.06 326  eP      P      12 35 39.9 -1.3
AOI   Ancona           82.08 334   P      P      12 35 41.8 +0.6
FNA   Florina          82.12 328  eP      P      12 35 40.3 -1.2
ERBM  Eremo            82.13 337  eP      P      12 35 43.2 +1.7
GSCL  Gusciola         82.15 337  eP      P      12 35 43.2 +1.6
GRAM                   82.15 337   P      P      12 35 42.1 +0.5
FSSB  Fossombrone      82.17 335  eP      P      12 35 42.1 +0.4
STKA  Stephens Creek   82.19 193  eP      P      12 35 42.1  0.0
      comp=Z,11nm,0.6s,mb5.0
STKA  Stephens Creek   82.19 193   P      P      12 35 42.0  0.0
      comp=Z,12nm,0.7s,mb4.9,baz=346,slow=7.4,SNR=19
STKA                               pP     pP     12 35 59.2  +12
      comp=Z,41nm,1.3s,baz=336,slow=12,SNR=4.3
STKA                               LR     LR     13 11 01.7
      comp=Z,1µm,20.0s,MS5.3,baz=7.7,slow=35
TCF   Toulx Ste Croi   82.21 343⇑iP      P      12 35 42.2 +0.4
      comp=Z,128nm,0.8s,mb5.6
RSP   Reno Superiore   82.22 339   P      P      12 35 42.1 +0.2
DUSS  Damascus Unive   82.22 314  i P     P      12 35 45.8 +3.6
DUSS                              i P            12 35 46.3
DUSS                              i P            12 35 47.1
DUSS                              e              12 35 47.4
      baz=35,slow=2.0
DUSS                               AMb    AMB    12 35 51.2
      comp=Z,4µm,1.8s
DUSS                              eS      S      12 46 03.1 +7.6
SEI   Scarperia        82.22 336  eP      P      12 35 44.2 +2.2
PLDF  La Plantade      82.23 342⇑eP      P      12 35 43.1 +1.1
SFI   Santa Sofia      82.23 336  eP      P      12 35 43.0 +1.0
VALM                   82.24 337   P      P      12 35 42.7 +0.6
AGO   Saint Agoulin    82.25 342⇑eP      P      12 35 43.3 +1.2
VMG   Vicchio          82.26 336  eP      P      12 35 43.5 +1.4
PGD   Poggio Sodo      82.29 336  eP      P      12 35 43.6 +1.2
CODM                   82.30 337   P      P      12 35 43.1 +0.7
ARV   Arcevia          82.31 335  eP      P      12 35 43.3 +0.9
MFF   Saint Martin d   82.33 345  eP      P      12 35 43.1 +0.6
      comp=Z,200nm,1.0s,mb5.7
LIT   Litokhoron       82.33 327  eP      P      12 35 41.1 -1.5
CING  Cingoli          82.35 334  eP      P      12 35 42.9 +0.2
BACM                   82.35 337   P      P      12 35 43.3 +0.6
ELL   Elmali           82.35 320   P      P      12 35 43.4 +0.6
CSS   Prodhromos       82.38 317 ⇑P      P      12 35 43.0  0.0
      comp=Z,1.6nm,0.9s
CSS   Prodhromos       82.38 317⇑eP      P      12 35 43.0  0.0
FENE  Fenestrelle      82.38 339   P      P      12 35 43.2 +0.5
VLC   Villacollemand   82.38 337  eP      P      12 35 43.3 +0.5
      comp=Z,116nm,0.8s,mb5.9
KZN   Kozani           82.41 327  eP      P      12 35 42.5 -0.5
AYDN  Tasoluk          82.41 322  i P     P      12 35 43.4 +0.3
BDI   Bagni Di Lucca   82.42 336  eP      P      12 35 43.4 +0.4
LEF   Lefka            82.44 317   P      P      12 35 42.9 -0.4
LEF   Lefka            82.44 317   P      P      12 35 42.8 -0.5
BNI   Bardonecchia     82.44 339   P      P      12 35 44.5 +1.4
BNI                                pmax   pmax
      comp=Z,57nm,1.0s,mb5.5
BNI   Bardonecchia     82.44 339⇑iP      P      12 35 43.9 +0.8
      comp=Z,57nm,0.9s,mb5.5
VINC  Vinca            82.46 337   P      P      12 35 43.3 +0.1
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CRE   Caprese Michel   82.47 335  eP      P      12 35 44.3 +1.0
PCP   Pian Castagno    82.48 338   P      P      12 35 43.4 +0.1
BHB   Bricherasio      82.51 339   P      P      12 35 43.1 -0.3
ALFC  Alevga           82.54 317 ⇑P      P      12 35 43.0 -0.8
      comp=Z,5.5nm,0.8s
ALFC  Alevga           82.54 317⇑eP      P      12 35 43.0 -0.8
RRL   Cesana Torines   82.55 339   P      P      12 35 44.8 +1.2
PYM   Petit Puy Mans   82.57 342⇑eP      P      12 35 44.6 +0.9
MAIM                   82.58 337   P      P      12 35 43.6 -0.3
LRYF  La Roche-sur-Y   82.59 345⇑eP      P      12 35 44.8 +0.9
MURB  Monte Urbino     82.64 335   P      P      12 35 45.2 +1.0
AOS   Alonnisos        82.65 325  eP      P      12 35 42.6 -1.7
COLF  Collangettes     82.65 342⇑eP      P      12 35 45.1 +0.9
SALA  Sala             82.67 313 ⇓P      P      12 35 38.6 -5.9
VERF  Verneugheol      82.67 343⇑eP      P      12 35 44.8 +0.5
HRI   Mount Hermon     82.68 314   P      P      12 35 44.6  0.0
YER   Yerkesik         82.70 321   P      P      12 35 45.2 +0.6
YER   Yerkesik         82.70 321   P      P      12 35 45.1 +0.5
XOR   Xorichti         82.73 326  eP      P      12 35 43.2 -1.5
MBDF  Montbardon       82.73 339  eP      P      12 35 45.3 +0.7
      comp=Z,94nm,0.9s,mb5.5
ORIF  Oris-en-Rattie   82.75 340  eP      P      12 35 45.7 +1.0
      comp=Z,183nm,0.8s,mb5.9
ORIF                              eR
      comp=Z,3µm,20.5s
PII   Pisa             82.75 336  eP      P      12 35 44.4 -0.3
NEO   Neokhori         82.77 326  eP      P      12 35 44.5 -0.4
CSNT  Castellina Chi   82.78 336  eP      P      12 35 44.8 -0.1
ASS   Assisi           82.79 335  eP      P      12 35 45.6 +0.6
DALT  Dalyan (Mudla)   82.86 321  eP      P      12 35 44.0 -1.5
PZZ   Prazzo           82.86 339   P      P      12 35 45.0 -0.3
NRCA  Norcia           82.87 334  eP      P      12 35 45.8 +0.4
FIN   Finale Ligure    82.88 338   P      P      12 35 44.7 -0.7
KSHT  Keshet           82.88 314   P      P      12 35 45.5 -0.1
ROB   Roburent         82.88 338   P      P      12 35 45.2 -0.2
TERO  Teramo           82.93 334  eP      P      12 35 45.7  0.0
SURF  Saint Ours       82.95 339  eP      P      12 35 47.0 +1.2
FRNF  Fournols         83.00 342⇑eP      P      12 35 47.1 +1.1
RORO                   83.01 338   P      P      12 35 45.4 -0.7
LBL   Lubilhac         83.01 342  eP      P      12 35 47.2 +1.1
ASF   Jabal al Asfar   83.03 313   P      P      12 35 46.3 -0.1
      comp=Z,102nm,0.9s,mb5.9,baz=278,slow=6.0,SNR=81
ENR   Entracque        83.05 339   P      P      12 35 45.4 -0.9
STV2  Anna di Valdie   83.06 339   P      P      12 35 44.8 -1.6
STV   Sta Anna Valdi   83.06 339   P      P      12 35 45.2 -1.1
MEV   Metsovon         83.06 327  eP      P      12 35 47.0 +0.5
FGMS  Monte Sant'Ang   83.07 332  eP      P      12 35 46.2 -0.2
VIVF  Saint-Julien-l   83.08 341  eP      P      12 35 47.1 +0.7
      comp=Z,138nm,0.9s,mb5.7
BDRM  Kayabasi         83.10 322  i P     P      12 35 45.9 -0.8
MONE  Monesi           83.11 338   P      P      12 35 45.5 -1.1
GRFL  Gerfalco         83.17 336  eP      P      12 35 47.0 +0.1
GLH   Golan-Tel Qazi   83.18 314   P      P      12 35 47.4 +0.2
RGNG  Rignano Grg      83.21 332  eP      P      12 35 47.2 +0.1
AQU   L'Aquila         83.23 334   P      P      12 35 48.7 +1.4
AQU                                pmax   pmax
      comp=Z,96nm,0.9s,mb5.8
AQU   L'Aquila         83.23 334  eP      P      12 35 48.6 +1.3
NHSC  New Hope         83.23  45   PFAKE         12 36 00.0  +13
NHSC                               LR     LR
      comp=Z,3µm,21.0s,MS5.6
IMI   Imperia          83.24 338   P      P      12 35 47.3  0.0
AUTN  L'Aution         83.27 339⇑eP      P      12 35 48.3 +0.9
RJF   Les Rejaudoux    83.28 343  eP      P      12 35 47.8 +0.3
      comp=Z,159nm,1.1s,mb5.6
RJF                               eR
      comp=Z,4µm,20.0s
TOUF  Mont Tournerai   83.29 339⇑eP      P      12 35 47.8 +0.3
JAN   Janina           83.31 328  eP      P      12 35 47.8 +0.1
NEGI  Negi             83.34 338   P      P      12 35 47.1 -0.7
SBF   Sospel           83.39 339  eP      P      12 35 47.8 -0.2
      comp=Z,198nm,1.0s,mb5.8
AURF  Auriere          83.39 339⇑eP      P      12 35 47.9 -0.2
INTR  Introdacqua      83.40 333  eP      P      12 35 47.8 -0.3
MNS   Montasola        83.41 334  eP      P      12 35 48.2 +0.1
HAF   Haifa            83.42 314   P      P      12 35 47.9 -0.5
MVIF  Mont Vial        83.43 339  eP      P      12 35 48.9 +0.7
BRT   Bari-Castellan   83.43 331  eP      P      12 35 48.2 -0.1
CIGN  Sant'Elia a Pi   83.44 333   P      P      12 35 49.7 +1.4
QURS  Qurayyt al Mil   83.47 312   P      P      12 35 51.1 +2.4
MMLI  Mount Malkishu   83.51 314   P      P      12 35 48.3 -0.6
REVF  Revere           83.52 339  eP      P      12 35 49.1 +0.5
PTQR  Pietraquaria     83.54 334  eP      P      12 35 49.5 +0.8
CAF   Calviac          83.54 343  eP      P      12 35 49.5 +0.8
      comp=Z,53nm,0.7s,mb5.5
ARG   Arkhangelos      83.55 321  eP      P      12 35 49.0  0.0
ARG   Arkhangelos      83.55 321   P      P      12 35 49.8 +0.8
CII   Carovilli        83.55 333  eP      P      12 35 49.2 +0.4
OFRI  'Ofer            83.57 314   P      P      12 35 49.1  0.0
RNI2  Rionero Sannit   83.61 333   P      P      12 35 50.1 +1.0
VVLD  Villa Vallelon   83.61 334   P      P      12 35 49.2 +0.1
HMDT  Nahal Hemdat     83.62 314   P      P      12 35 49.6 +0.2
CALF  Calern           83.62 339   P      P      12 35 50.3 +1.2
KEK   Kerkira          83.62 328  eP      P      12 35 48.5 -0.7
CALN  Calern           83.63 339⇑eP      P      12 35 49.9 +0.7
EVR   Evrytania        83.63 327  eP      P      12 35 48.5 -0.8
LCI   Lecce            83.63 330  eP      P      12 35 49.3  0.0
FG5   Orsara di Pugl   83.67 332  eP      P      12 35 50.2 +0.8
SDI   San Donato       83.71 333   P      P      12 35 48.9 -0.7
SMRF  Simiane la Rot   83.72 340  eP      P      12 35 50.5 +0.9
      comp=Z,162nm,1.3s,mb5.7
CERT  Cerreto          83.73 334  eP      P      12 35 49.4 -0.4
FG4   Candela          83.73 332  eP      P      12 35 50.4 +0.7
MTCE  Montecelio       83.73 334   P      P      12 35 50.7 +1.0
MKIT  Kithairon Oros   83.74 325  eP      P      12 35 48.4 -1.5
LFF   La Frestale      83.78 344  eP      P      12 35 50.6 +0.7
      comp=Z,229nm,1.1s,mb5.9
MAON  Monte Argentar   83.80 336  eP      P      12 35 49.9 -0.2
LTRZ  Laterza          83.80 331   P      P      12 35 49.7 -0.4
SGG   Gregorio Mates   83.84 333  eP      P      12 35 50.5 +0.3
SLTI  Sal'it           83.86 314   P      P      12 35 50.6  0.0
PSB1  Pescosannita     83.86 333   P      P      12 35 50.6 +0.2
FRF   La Foret Royal   83.86 339  eP      P      12 35 50.3 -0.1
      comp=Z,231nm,1.5s,mb5.8
TOLF  Tolfa            83.90 335   P      P      12 35 50.6  0.0
MRB1  Monte Rocchett   83.90 332  eP      P      12 35 51.0 +0.4
NSAL  Nisos Salamina   83.91 325  eP      P      12 35 49.0 -1.8
VTB1  Vitulano         83.95 333   P      P      12 35 51.1 +0.2
LASF  Ste Croix        83.99 341  eP      P      12 35 51.7 +0.7
      comp=Z,112nm,1.2s,mb5.5
NAIG  Nisos Aigina     84.03 325  eP      P      12 35 50.0 -1.4
FORT  Forrest          84.04 205  eP      P      12 35 52.3 +0.7
      comp=Z,463nm,0.7s,mb6.7
MRLC  Muro Lucano      84.08 332  eP      P      12 35 51.5 -0.1
LMR   La Mourre        84.11 339  eP      P      12 35 51.5 -0.1
      comp=Z,136nm,1.0s,mb5.7
PTRP  Pietrapertosa    84.11 331   P      P      12 35 52.2 +0.5
CSSN  Cassano Irpino   84.12 332  eP      P      12 35 51.5 -0.3
MKRJ  Makawir          84.14 313   P      P      12 35 52.3 +0.2
DRGI  Dragot           84.23 313   P      P      12 35 52.4 -0.1
PGF   Pioggiola        84.24 337  eP      P      12 35 52.4 +0.1
      comp=Z,148nm,0.9s,mb5.8
SGO   Sicignano        84.31 332  eP      P      12 35 52.8 +0.1
SLCN  Sala Consilina   84.37 332  eP      P      12 35 53.2 +0.2
ORI   Oriolo Calabro   84.41 331  eP      P      12 35 54.2 +1.0
HILS  Ha'il            84.45 306   P      P      12 35 54.0 +0.3
MZDA  Masada           84.48 313   P      P      12 35 53.7  0.0
KARP  Karpathos        84.52 321  eP      P      12 35 53.0 -0.9
SMPL  Sampolo          84.60 337   P      P      12 35 55.1 +1.0
MGR   Morigerati       84.62 332  eP      P      12 35 54.0 -0.3
VLS   Valsamata        84.72 327  eP      P      12 35 54.0 -0.8
ARSS  Ar Rass          84.89 304   P      P      12 35 56.0 +0.1
MASH  Mash'abbe Sade   85.01 313   P      P      12 35 56.3 -0.1
MTLF  Montolieu        85.04 342  eP      P      12 35 56.9 +0.7
      comp=Z,139nm,1.0s,mb5.7
TIP   Timpagrande      85.11 330⇑iP      P      12 35 56.5 -0.2
ITM   Ithomi           85.12 326  eP      P      12 35 55.5 -1.3
SVTA  Shivta           85.14 313   P      P      12 35 57.0 -0.1
VLI   Veliai           85.16 325  eP      P      12 35 55.2 -1.8
ZFRI  Zfri             85.19 313   P      P      12 35 57.4 +0.1
KZIT  Kziot            85.27 314   P      P      12 35 57.6 -0.1
MZLS  Mizel            85.28 302   P      P      12 35 57.9 -0.1
PRNI  Paran            85.44 313   P      P      12 35 58.8 +0.2
LPEF  Le Peyrat        85.48 342  eP      P      12 35 59.0 +0.6
KYTH  Kithira          85.50 325  eP      P      12 35 57.0 -1.8
RAYN  Ar Rayn          85.52 301   P      P      12 35 58.3 -0.8
      comp=Z,633nm,1.1s,mb6.8,SNR=46
GRI   Girifalco        85.55 330  eP      P      12 35 59.3 +0.4
IDI   Anoyia           85.66 323   P      P      12 35 57.1 -2.4
      comp=Z,42nm,0.6s,mb5.9,baz=30,slow=10,SNR=55
EPF   Esparros         85.70 343  eP      P      12 35 59.5 -0.1
      comp=Z,59nm,0.8s,mb5.5
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FILF	Fillols	85.72	342	eP	P	12 36 00.0	+0.3
SJAF	Saint Jean de	85.72	341	eP	P	12 36 00.0	+0.3
EJON	La Jonquera	85.76	341	P	P	12 36 01.7	+1.9
	comp=Z,48nm,1.0s,mb5.7						
KMTI	Karmit	85.78	313	P	P	12 36 00.1	-0.2
VAM	Vamos	85.83	323	eP	P	12 35 59.5	-0.9
EALK	Alkurruntz	85.85	345	P	P	12 36 01.0	+0.7
	comp=Z,21nm,0.6s,mb5.5						
VIEF	Viey	85.90	343	eP	P	12 36 01.3	+0.7
SJPF	Ste Jean	85.90	344	eP	P	12 36 01.5	+0.9
	comp=Z,24nm,0.6s,mb5.3						
RESF	Ens	85.92	343	eP	P	12 36 01.7	+1.0
LARF	Larrau	85.94	344	eP	P	12 36 01.2	+0.5
MBH	Mount Berech	85.95	313	P	P	12 36 01.3	+0.2
VALF	Valcebollere	85.98	342	eP	P	12 36 01.5	+0.5
ETSF	Etsaut	85.99	344	eP	P	12 36 01.6	+0.6
	comp=Z,70nm,0.7s,mb5.7						
EIL	Elat	86.03	313	P	P	12 36 01.6	0.0
FDAF	Les Forges d'A	86.07	344	eP	P	12 36 02.2	+0.8
ELAN	Lanestosa	86.16	346	P	P	12 36 02.2	+0.4
	comp=Z,39nm,0.8s,mb5.7						
DGI	Dorgali Grotta	86.18	336	P	P	12 36 03.0	+1.0
SCLL	Scilla	86.29	331	P	P	12 36 01.6	-1.0
SOI	Samo	86.35	330	eP	P	12 36 02.2	-0.7
GVD	Gavdhos	86.37	323	eP	P	12 36 01.6	-1.5
	comp=Z,116nm,0.9s,mb6.1						
JMOS	Jabal al Moall	86.37	312	P	P	12 36 04.1	+0.8
EGRA	Graus	86.51	343	P	P	12 36 05.4	+1.8
	comp=Z,43nm,0.9s,mb5.7						
MTTG	Motta San Giov	86.53	331	eP	P	12 36 03.1	-0.7
EMIR	Miracle	86.55	342	P	P	12 36 05.9	+2.1
	comp=Z,33nm,1.0s,mb5.5						
HAQS	Haql	86.55	312	P	P	12 36 04.8	+0.7
EPON	Pontenova	86.59	349	P	P	12 36 03.2	-0.8
	comp=Z,37nm,0.8s,mb5.7						
USI	Ustica	86.66	333	P	P	12 36 05.1	+0.7
MNO	Monte Soro	86.91	331	P	P	12 36 06.1	+0.5
BDAS	Al Bad‘	86.99	312	P	P	12 36 06.6	+0.4
KBRS	Khaybar	87.07	307	P	P	12 36 07.3	+0.6
CSLB	Castelbuono	87.10	332	P	P	12 36 06.0	-0.6
AYUS	‘Aynunah	87.11	311	P	P	12 36 07.3	+0.5
ESAC	San Caprasio	87.12	344	P	P	12 36 08.1	+1.5
	comp=Z,54nm,0.9s,mb5.8						
EPOB	Poblet	87.18	342	P	P	12 36 08.7	+1.9
	comp=Z,30nm,1.0s,mb5.5						
STS	Santiago	87.20	350	P	P	12 36 06.7	-0.2
	comp=Z,50nm,0.9s,mb5.7						
TOO	Toolangi	87.29	189	eP	P	12 36 09.4	+1.9
	comp=Z,13nm,1.7s,mb4.9						
AGST	Augusta-Monte	87.36	331	eP	P	12 36 07.5	-0.4
VAE	Valguarnera	87.41	331	P	P	12 36 10.0	+1.9
	comp=Z,12nm,0.6s,mb5.3,baz=65,slow=11,SNR=2.5						
ERC	Erice	87.46	333	eP	P	12 36 08.9	+0.6
SSY	Sortino	87.50	331	eP	P	12 36 08.2	-0.3
ERUA	La Rua	87.51	349	P	P	12 36 08.2	-0.2
	comp=Z,38nm,0.8s,mb5.7						
MTGR	Montagna Grand	87.54	333	P	P	12 36 09.3	+0.6
LVI	Isola Levanzo	87.58	333	eP	P	12 36 09.7	+0.9
MMGO	Monte Magaggia	87.69	332	P	P	12 36 09.4	0.0
ECAL	Calabor	87.90	348	P	P	12 36 10.2	-0.2
	comp=Z,18nm,1.0s,mb5.3						
EZAM	Zamans	87.94	350	P	P	12 36 09.7	-0.8
	comp=Z,192nm,2.0s,mb6.0						
PBRG	Braganca	88.04	348	eP	P	12 36 10.4	-0.6
	comp=Z,34nm,1.8s,mb5.3						
KLBR	Kellerberrin	88.05	213	eP	P	12 36 11.3	0.0
	comp=Z,34nm,0.7s,mb5.7						
ELOB	Lobios	88.14	349	P	P	12 36 10.9	-0.6
	comp=Z,8.7nm,0.6s,mb5.2						
ETOR	Torete	88.28	344	P	P	12 36 12.5	+0.4
	comp=Z,22nm,0.7s,mb5.5						
EMOS	Mosqueruela	88.43	343	P	P	12 36 13.4	+0.5
	comp=Z,17nm,0.9s,mb5.3						
UMJS	Umm Lajj	88.53	308	P	P	12 36 14.7	+1.0
KAMS	Al Khamasin	88.58	300	P	P	12 36 13.6	-0.5
PVRL	Vila Real	88.68	349	eP	P	12 36 13.8	-0.3
	comp=Z,53nm,1.2s,mb5.8						
PTS	Pantelleria	88.77	333	eP	P	12 36 15.3	+0.7
YNBS	Yanbu‘ al Bahr	88.91	307	P	P	12 36 15.9	+0.3
MUN	Mundaring	88.95	214	eP	P	12 36 16.1	+0.5
	comp=Z,24nm,0.9s,mb5.5						
URZ	Urewera	89.09	165	P	P	12 36 14.4	-1.7
	comp=Z,7.5nm,0.6s,mb5.2,baz=347,slow=23,SNR=9.3						
URZ				LR	LR	13 08 59.4	
	comp=Z,2µm,21.0s,MS5.4,baz=16,slow=31						
URZ	Urewera	89.09	165	P	P	12 36 14.4	-1.7
URZ				LR	LR	13 08 59.4	
PVIS	Viseu	89.26	349	eP	P	12 36 16.7	-0.1
	comp=Z,38nm,1.6s,mb5.5						
NWAO	Narrogin (SRO)	89.44	213	P	P	12 36 17.6	-0.3
	comp=Z,50nm,0.8s,mb5.9,baz=32,slow=4.4,SNR=24						
NWAO	Narrogin (SRO)	89.44	213	P	P	12 36 17.6	-0.3
NWAO				pmax	pmax		
	comp=Z,50nm,0.8s						
MTE	Manteigas	89.53	349	eP	P	12 36 17.8	-0.3
	comp=Z,71nm,0.9s,mb6.0						
MTE	Manteigas	89.53	349	eP	P	12 36 17.9	-0.2
	comp=Z,44nm,0.8s,mb5.8						
ESDC	Sonseca Array	89.71	346	P	P	12 36 18.1	-0.9
	comp=Z,31nm,0.9s,mb5.7,baz=5.3,slow=4.3,SNR=51						
ESDC				LR	LR	13 23 40.5	
	comp=Z,3µm,19.1s,MS5.8,baz=40,slow=40						
ESDC	Sonseca Array	89.71	346	P	P	12 36 18.5	-0.5
	comp=Z,25nm,0.8s,mb5.6						
ESLA	Sonseca Array	89.71	346	eP	P	12 36 18.1	-1.0
	comp=Z,13nm,1.0s						
ESLA				LR	LR		
	comp=Z,22µm,20.0s						
TATS	Tathlith	89.82	300	P	P	12 36 19.9	0.0
EBEN	Beniarda	89.99	343	P	P	12 36 21.6	+1.3
	comp=Z,23nm,2.4s,mb5.1						
PCBR	Castelo Branco	90.07	348	eP	P	12 36 20.2	-0.4
	comp=Z,31nm,1.6s,mb5.4						
ETOB	Tobarra	90.30	344	P	P	12 36 22.1	+0.4
	comp=Z,27nm,0.8s,mb5.6						
EVIA	Vianos	90.48	344	P	P	12 36 23.0	+0.5
	comp=Z,21nm,0.7s,mb5.6						
BLJS	Baljurashi	90.59	302	P	P	12 36 23.7	+0.2
LTHS	Al Lith	90.93	303	P	P	12 36 25.1	+0.1
EMUR	La Murta	91.02	343	P	P	12 36 24.4	-0.6
	comp=Z,4.7nm,0.7s,mb4.9						
EBAD	Badajoz	91.07	348	P	P	12 36 24.2	-1.1
	comp=Z,12nm,0.9s,mb5.2						
DJNS	Zahran al Janu	91.24	299	P	P	12 36 27.1	+0.6
EADA	Adamuz	91.28	346	P	P	12 36 25.0	-1.2
	comp=Z,16nm,1.0s,mb5.3						
EQES	Quesada	91.39	345	P	P	12 36 25.9	-0.9
	comp=Z,16nm,0.8s,mb5.4						
EVO	Evora	91.42	349	eP	P	12 36 26.9	0.0
	comp=Z,30nm,0.9s,mb5.3						
EVO				eR			
	comp=Z,4µm,18.8s						
ELUQ	Luque	91.83	345	P	P	12 36 29.1	+0.3
	comp=Z,4.0nm,0.4s,mb5.1						
PBEJ	Beja	91.90	348	eP	P	12 36 29.1	0.0
EMIN	Mina Concepcio	91.99	347	P	P	12 36 28.7	-0.8
	comp=Z,14nm,2.5s,mb4.8						
ELOJ	Sierra Loja	92.21	345	P	P	12 36 30.7	+0.1
	comp=Z,17nm,0.8s,mb5.4						
ERON	Agron	92.28	345	P	P	12 36 30.8	-0.1
	comp=Z,16nm,1.2s,mb5.2						
EGRO	El Granado	92.34	348	P	P	12 36 29.3	-1.9
	comp=Z,18nm,0.8s,mb5.5						
ESPR	Espera	92.76	347	P	P	12 36 31.6	-1.5
	comp=Z,7.5nm,0.6s,mb5.3						
EMIJ	Mijas	92.88	346	P	P	12 36 32.1	-1.6
	comp=Z,12nm,0.8s,mb5.4						
RPZ	Rata Peaks	93.58	170	LR	LR	13 13 13.5	
	comp=Z,4µm,21.1s,MS5.8,baz=17,slow=32						
MBAR	Mbarara	113.38	299	PFAKE		12 42 10.0	+8.3
MBAR				LR	LR		
	comp=Z,352nm,19.0s,MS5.0						
DBIC	Dimbokro	121.97	339	PKP	PKPdf	12 42 15.0	-3.4
	comp=Z,28nm,1.1s,baz=344,slow=2.8,SNR=23						
DBIC	Dimbokro	121.97	339	ePKPdf	PKPdf	12 42 15.2	-3.1
DBIC				LR	LR		
	comp=Z,636nm,19.0s,MS5.3						
TIC	Toumodi	122.04	339	ePKP1	PKPdf	12 42 15.1	-3.3
	comp=Z,55nm,0.7s						
KIC	Kosan Boka	122.25	339	ePKP1	PKPdf	12 42 15.0	-3.8
	comp=Z,68nm,0.9s						
LIC	Lamto	122.44	339	ePKIKP	PKPdf	12 42 16.0	-3.2
	comp=Z,56nm,1.1s						
LIC	Lamto	122.44	339	ePKP1	PKPdf	12 42 15.8	-3.4
	comp=Z,68nm,1.1s						
MIR	Mirnyy	125.55	206	⇑ePKIKP	PKPdf	12 42 30.6	+6.8
MIR				pmax	pmax		
	comp=Z,45nm,1.0s						
LSZ	Lusaka	126.58	291	PKIKP	PKPdf	12 42 24.6	-2.4
LSZ	Lusaka	126.58	291	ePKPdf	PKPdf	12 42 24.9	-2.2
SBA	Scott Base	127.18	178	ePKIKP	PKPdf	12 42 24.4	-2.3
SAML	Samuel	127.38	54	ePKPdf	PKPdf	12 42 24.8	-4.0
SAML				LR	LR		
	comp=Z,854nm,20.0s,MS5.4						
LPAZ	La Paz	130.59	64	PKP	PKPdf	12 42 32.9	-1.9
	comp=Z,2.3nm,0.3s,baz=320,slow=3.9,SNR=8.5						
LPAZ	La Paz	130.59	64	PKIKP	PKPdf	12 42 32.9	-1.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	130.59	64	ePKPdf	PKPdf	12 42 33.6	-1.2
LPAZ				LR	LR		
	comp=Z,737nm,20.0s,MS5.4						
RCBR	Riachuelo	135.10	19	PKPdf	PKPdf	12 42 40.9	-2.4
RCBR				LR	LR		
	comp=Z,688nm,20.0s,MS5.4						
TSUM	Tsumeb	135.91	299	PFAKE		12 42 50.0	+5.3
TSUM				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
MAW	Mawson	136.01	213	eP	PKPdf	12 42 40.9	-2.7
	comp=Z,10nm,0.6s						
MAW	Mawson	136.01	213	PKhKP		12 42 36.1	
	comp=Z,4.3nm,0.6s,baz=118,slow=3.1,SNR=5.8						
MAW				PKP	PKPdf	12 42 40.9	-2.6
	comp=Z,12nm,0.7s,baz=65,slow=2.0,SNR=9.6						
MAW	Mawson	136.01	213	PKIKP	PKPdf	12 42 36.1	-7.5
MAW						12 42 40.9	
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAW	Mawson	136.01	213	PKP	PKPdf	12 42 36.1	-7.5
MAW				eP		12 42 40.9	
BDFB	Brasilia	140.45	40	PKhKP		12 42 44.0	
	comp=Z,7.2nm,1.0s,baz=205,slow=4.0,SNR=6.5						
BDFB				PKP	PKPdf	12 42 50.9	-2.1
	comp=Z,64nm,1.6s,baz=307,slow=5.1,SNR=4.7						
BDFB	Brasilia	140.45	40	PKHKP		12 42 44.0	
BDFB						12 42 50.9	
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,64nm,1.6s						
SUR	Sutherland	143.56	281	ePKP	PKPdf	12 42 53.4	-4.6
CPUP	Villa Florida	144.68	62	PKP	PKPdf	12 42 55.9	-4.2
	comp=Z,12nm,0.6s,baz=330,slow=3.1,SNR=41						
CPUP				pPKP		12 43 14.2	
	comp=Z,17nm,0.9s,baz=328,slow=3.4,SNR=6.1						
CPUP	Villa Florida	144.68	62	PKPdf	PKPdf	12 42 56.0	-4.1
CPUP				sPKPdf		12 43 13.7	
CPUP	Villa Florida	144.68	62	PKIKP	PKPdf	12 42 55.9	-4.2
CPUP				pmax	pmax		
	comp=Z,12nm,0.6s						
CPUP				pmax	pmax		
	comp=N,17nm,0.9s						
CPUP	Villa Florida	144.68	62	ePKPdf	PKPdf	12 42 55.7	-4.4
CPUP				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
SYO	Syowa Base	144.72	214	⇓PKPbc	PKPbc	12 42 55.1	-0.1
SYO	Syowa Base	144.72	214	⇓PKPab	PKPab	12 42 56.3	+0.2
SYO	Syowa Base	144.72	214	⇓PKPdf	PKPdf	12 42 57.8	-1.1
SYO	Syowa Base	144.72	214	⇑PKiKP		12 43 05.1	
SYO	Syowa Base	144.72	214	⇓sPKPbc		12 43 12.5	
PLCA	Paso Flores	145.60	94	PKPbc	PKPbc	12 42 59.0	+0.6
	comp=Z,26nm,0.7s,baz=289,slow=3.3,SNR=78						
PLCA				pPKPbc		12 43 16.9	
	comp=Z,43nm,0.8s,baz=290,slow=4.6,SNR=12						
PLCA	Paso Flores	145.60	94	PKP2	PKPab	12 42 58.6	-1.6
PLCA	Paso Flores	145.60	94	ePKPbc	PKPbc	12 42 58.3	-0.1
PLCA				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
CAM3	Guarapari	147.99	33	eP	PKPdf	12 43 03.6	-2.2
CAM3				i		12 43 06.7	
CAM3				i		12 43 08.4	
CAM3				i		12 43 13.1	
CAM3				i		12 43 27.0	
CAM3				i		12 43 34.0	
CAM3				i		12 43 42.4	
TRQA	Tornquist	149.74	83	ePKPbc	PKPdf	12 43 09.3	+1.2
TRQA				ePKPab	PKPab	12 43 16.2	-0.5
MAIT	Maitri	153.30	205	ePKPdf	PKPdf	12 43 15.8	+3.5
MAIT				eSKPdf		12 46 49.3	
MAIT				ePP	PP	12 47 09.8	+4.2
PMSA	Palmer Station	153.45	141	ePKPbc	PKPdf	12 43 18.0	+5.3
SNAA	Sanae	155.94	195	⇑iP	PKPdf	12 43 14.7	-1.1
SNAA	Sanae	155.94	195	⇑iP	PKPdf	12 43 14.7	-1.1
SNAA	Sanae	155.94	195	⇑i	PKPdf	12 43 22.7	+6.9
SNAA	Sanae	155.94	195	⇑i	PKPab	12 43 42.1	+0.2
VNA2	Neumayer--Watz	157.32	193	⇑iP	PKPdf	12 43 15.7	-2.0
VNA2	Neumayer--Watz	157.32	193	⇑iP	PKPdf	12 43 15.7	-2.0
VNA2	Neumayer--Watz	157.32	193	⇑i	PKPdf	12 43 29.4	+12
VNA2	Neumayer--Watz	157.32	193	⇑i	PKPdf	12 43 35.8	+18
VNA2	Neumayer--Watz	157.32	193	⇑i	PKPab	12 43 48.4	+0.6
VNA3	Neumayer Olymp	157.33	191	⇓iP	PKPdf	12 43 14.6	-3.1
VNA3	Neumayer Olymp	157.33	191	⇓iP	PKPdf	12 43 14.6	-3.1
VNA3	Neumayer Olymp	157.33	191	⇓i	PKPdf	12 43 28.7	+11
VNA3	Neumayer Olymp	157.33	191	⇑i	PKPdf	12 43 34.4	+17
VNA3	Neumayer Olymp	157.33	191	⇓i	PKPab	12 43 50.1	+2.2
EFI	East Falkland	157.54	109	ePKPab	PKPab	12 43 48.7	-0.7
EFI				LR	LR		
	comp=Z,802nm,22.0s,MS5.5						
VNA1	Neumayer--Stat	157.69	193	⇑iP	PKPdf	12 43 18.2	0.0
VNA1	Neumayer--Stat	157.69	193	⇑iP	PKPdf	12 43 18.2	0.0
VNA1	Neumayer--Stat	157.69	193	⇑i	PKPdf	12 43 30.2	+12
VNA1	Neumayer--Stat	157.69	193	⇑i	PKPdf	12 43 35.4	+17
VNA1	Neumayer--Stat	157.69	193	⇑i	PKPab	12 43 51.9	+2.5

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*NEIC **30** 12:38:06.3,36.46N×23.03E,h4^{km},ML3.3(THE),
ML3.2(ATH),After ATH.*
*ATH **30** 12:38:06.3,36.46N×23.03E,h4^{km}±2^{km},MD3.5/10,ML3.2*
*THE **30** 12:38:08.3,36.52N×23.20E,h1^{km},ML3.3*
ISC 30 12:38:06.4±1.4,**36.48N**±0.05×**23.17E**±0.08,**h0**^{km}±14^{km},
n26,σ**0**^{s}**71**/28,**2D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	Kithira	0.22	208	ePG	Pg	12 38 10.0	-0.9
VLI	Veliai	0.30	322	⇓iPG	Pg	12 38 12.2	-0.3
VLI	Veliai	0.30	322	⇓ePg	Pg	12 38 12.2	-0.3
NSAL	Nisos Salamina	1.45	9	ePB	Pb	12 38 34.5	+0.6
ATH	Athens Observa	1.56	16	ePB	Pb	12 38 36.5	+0.7
PTL	Penteli	1.66	19	ePN	Pn	12 38 37.5	+0.5
MKIT	Kithairon Oros	1.71	2	ePN	Pn	12 38 37.8	+0.2
MPAR	Parnis Oros	1.73	15	ePG	Pn	12 38 39.2	+1.2
THR5	Thira Island,	1.76	91	ePb	Pn	12 38 38.6	+0.2
THR5				eSb	Sn	12 39 01.1	-0.7
THR4	Thira Island,	1.80	90	ePb	Pn	12 38 39.2	+0.3
THR4				eSb	Sn	12 39 02.1	-0.6
GVD	Gavdhos	1.80	155	ePn	Pn	12 38 39.1	+0.1
THR3	Thira Island,	1.80	92	ePb	Pn	12 38 38.9	-0.1
RLS	Riolos of Patr	2.08	320	ePN	Pn	12 38 42.7	-0.3
NPS	Neapolis	2.33	121	ePN	Pn	12 38 48.5	+2.0
EVR	Evrytania	2.66	337	ePN	Pn	12 38 52.5	+1.2
VLS	Valsamata	2.66	310	ePN	Pn	12 38 52.0	+0.7
AOS	Alonnisos	2.75	12	ePn	Pn	12 38 52.2	-0.3
XOR	Xorichti	2.88	0	ePn	Pn	12 38 54.1	-0.4
LKD	Levkas	2.99	319	ePn	Pn	12 38 55.7	-0.3
	comp=Z,2.5nm,0.6s						
PAIG	Paliouri	3.47	7	ePn	Pn	12 39 02.0	-0.8
MEV	Metsovon	3.64	336	ePn	Pn	12 39 05.7	+0.5
LIT	Litokhoron	3.66	352	ePn	Pn	12 39 04.9	-0.5
OUR	Ouranopolis	3.90	9	ePn	Pn	12 39 08.2	-0.8
GRG	Griva	4.51	353	ePn	Pn	12 39 16.6	-1.0
KNT	Kendrikon	4.68	358	ePn	Pn	12 39 19.7	-0.3
ALN	Alexandroupoli	4.95	26	ePn	Pn	12 39 23.2	-0.6

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*IDC **30** 12:41:18.4±1.2,21.90S×170.30E,mb4.1/10,mb1 4.3/10,
mb1mx4.2/15,MS4.4/3,Ms1 4.4/3,ms1mx4.0/17,Error
ellipse: s-maj=49.6km s-min=20.8km az=151.0*
*NEIC **30** 12:41:20.9±0.4,21.95S×170.26E,h15^{km},mb4.6/4,Error
ellipse: s-maj=17.1km s-min=9.4km az=162.0*
ISC 30 12:41:21.6±0.8,**22.0S**±0.2×**170.2E**±0.1,**h33**^{km},**n35**,
σ**0**^{s}**93**/24,**mb4.2**/13,**MS4.4**/2,**Southeast of Loyalty
Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	3.51	268	eP	P	12 42 15.0	-0.2
DZM				eS	S	12 42 47.6	-8.6
DZM	Mont Dzumac	3.51	268	eP	P	12 42 15.0	-0.2
DZM				eS	S	12 42 47.5	-8.6
NOUC	Port Laguerre	3.65	267	eP	P	12 42 16.6	-0.4
NOUC				eS	S	12 42 48.4	-11
NOUC	Port Laguerre	3.65	267	eP	P	12 42 16.6	-0.4
NOUC				eS	S	12 42 48.4	-11
URZ	Urewera	17.27	161	LR	LR	12 50 36.6	
	comp=Z,729nm,19.5s,baz=22,slow=32						
RPZ	Rata Peaks	21.68	178	LR	LR	12 53 41.8	
	comp=Z,515nm,19.4s,MS3.9,baz=20,slow=34						
CTA	Charters Tower	22.45	270	P	P	12 46 21.6	+2.4
	2.7nm,0.8s,mb3.8,baz=130,slow=18,SNR=2.4						
STKA	Stephens Creek	27.29	243	P	P	12 47 06.1	+0.9
	3.2nm,0.6s,mb4.0,baz=85,slow=11,SNR=6.2						
ASAR	Alice Springs	33.47	260	P	P	12 47 59.5	-0.5
	1.8nm,0.8s,mb4.0,baz=86,slow=9.0,SNR=12						
WB2	Warramunga Arr	33.52	267	eP	P	12 47 59.6	-0.8
WRAB	Tennant Creek	33.52	267	eP	P	12 47 59.6	-0.8
	14nm,1.3s,mb4.7						
WRA	Warramunga Arr	33.53	267	P	P	12 47 59.5	-1.0
	4.1nm,1.1s,mb4.3,baz=100,slow=8.3,SNR=20						
FITZ	Fitzroy Crossi	41.96	267	eP	P	12 49 12.4	+1.1
	10nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	41.96	267	P	P	12 49 11.4	+0.1
	12nm,1.0s,mb4.5,baz=149,slow=6.5,SNR=6.7						
NWAO	Narrogin (SRO)	47.84	245	P	P	12 49 58.2	-0.1
	7.1nm,0.9s,mb4.7,baz=228,slow=4.5,SNR=3.9						
NWAO	Narrogin (SRO)	47.84	245	P	P	12 49 58.2	-0.1
SBA	Scott Base	55.94	181	eP	P	12 50 58.2	-0.2
	3.5nm,0.8s,mb4.4						
QSPA	South Pole Qui	68.08	180	eP	P	12 52 19.4	-0.1
	11nm,1.3s,mb4.7						
CMAR	Chiang Mai Arr	80.47	294	P	P	12 53 33.9	+1.6
	1.3nm,0.9s,mb3.9,baz=138,slow=4.2,SNR=7.0						
NVAR	Mina Array Bea	89.92	48	P	P	12 54 19.7	+0.8
	0.3nm,0.6s,mb3.8,baz=229,slow=8.3,SNR=3.3						
SONM	Songino Array	89.96	323	P	P	12 54 18.7	-0.1
	1.2nm,0.9s,mb4.2,baz=135,slow=4.1,SNR=3.6						
ILAR	Eielson Array	92.57	17	P	P	12 54 28.9	-1.5
	0.3nm,0.7s,mb3.8,baz=230,slow=6.1,SNR=4.9						
PDAR	Pinedale Array	97.80	47	LR	LR	13 32 07.0	
	comp=Z,351nm,18.6s,MS4.9,baz=358,slow=31						
DPC	Dobruska-Polom	145.07	331	ePKP	PKPdf	13 00 57.1	+1.7
DPC				eAPKP		13 01 04.2	
VYHS	Vyhne	145.08	326	ePKP	PKPdf	13 00 57.7	+2.3
VYHS				e		13 01 43.2	
UPC	Upice	145.10	331	ePKP	PKPdf	13 00 56.9	+1.5
UPC				eAPKP		13 01 03.7	
VRAC	Vranov	145.66	329	PKPbc	PKPbc	13 00 59.1	+2.0
	3.0nm,0.5s,baz=36,slow=1.8,SNR=5.0						
PVCC	Panska Ves	145.72	332	ePKP	PKPdf	13 00 59.6	+3.1
PVCC				eAPKP		13 01 05.2	
CLL	Collm	145.78	334	i PKIKP	PKPdf	13 00 58.8	+2.3
	logA/T=1.0						
CLL				e		13 01 10.0	
PRU	Pruhonice	146.13	332	ePKP	PKPdf	13 01 00.1	+2.9
EKA	Eskdalemuir Ar	146.33	353	PKPbc	PKPbc	13 00 59.5	+1.0
	2.5nm,0.7s,baz=347,slow=2.6,SNR=6.3						
KHC	Kasperske Hory	147.18	331	ePKP	PKPdf	13 01 02.9	+3.9
GERES	GERESS Array B	147.34	331	PKPbc	PKPdf	13 01 03.8	+4.6
	1.8nm,0.7s,baz=45,slow=1.9,SNR=13						
DAVOX	Davos	150.59	332	PKPbc	PKPdf	13 01 12.1	+7.6
	2.4nm,0.5s,baz=288,slow=3.2,SNR=4.2						
DBIC	Dimbokro	164.05	198	PKPab	PKPab	13 02 17.9	+0.3
	11nm,1.2s,baz=121,slow=5.9,SNR=3.6						

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*PRU **30** 12:50:54.7,51.41N×16.06E*
*WAR **30** 12:50:54.5,51.48N×16.03E,ML2.7,Mining Induced*
ISC 30 12:50:54.1±1.4,**51.39N**±0.06×**15.91E**±0.07,**n9**,σ**0**^{s}**87**/16,
Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.59	156	ePG	Pg	12 51 06.0	0.0
KSP				eSG	Sg	12 51 14.0	+0.1
UPC	Upice	0.88	176	ePG	Pg	12 51 12.1	+0.4
DPC	Dobruska-Polom	1.07	166	ePG	Pg	12 51 15.2	-0.2
DPC				eSG	Sg	12 51 30.4	+0.7
	11nm,0.4s						
PVCC	Panska Ves	1.21	225	ePG	Pg	12 51 19.2	+1.0
PRU	Pruhonice	1.65	212	ePG	Pg	12 51 26.0	-1.0
PRU				eSG	Sg	12 51 49.6	+0.7
	4.8nm,0.5s						
CLL	Collm	1.82	269	ePG	Pg	12 51 30.0	-0.5
CLL				eSG	Sg	12 51 55.0	+0.2
OKC	Ostrava-Krasne	2.11	136	eSG	Sg	12 51 58.4	-5.8
NKC	Novy Kostel	2.48	244	ePN	Pn	12 51 37.0	+0.6
NKC				ePG	Pg	12 51 43.9	+0.3
NKC				eSG	Sg	12 52 17.5	+0.9
KHC				ePG	Pg	12 51 45.7	-2.4
KHC				eSG	Sg	12 52 22.7	-1.5

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*ISK **30** 12:59:09.9,37.03N×27.78E,h5^{km},MD3.5,ML3.6*
*NEIC **30** 12:59:09.7,37.04N×27.84E,h10^{km},mb3.8/4,
MD3.7(ATH),After ATH.*
*ATH **30** 12:59:09.7,37.04N×27.84E,h10^{km}±3^{km},MD3.7/9*
*SOF **30** 12:59:11.8,37.39N×28.45E,h10^{km},MD3.2*
*IDC **30** 12:59:12.1±5.9,36.83N×27.93E,h28^{km}±44^{km},mb3.7/8,
mb1 3.8/15,mb1mx3.7/25,ML4.0/7,Error ellipse:
s-maj=21.5km s-min=17.2km az=38.0*
ISC 30 12:59:11.2±0.5,**36.97N**±0.03×**27.80E**±0.03,**h17**^{km}±4^{km},
n93,σ**0**^{s}**85**/104,**mb3.8**/10,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.30	289	i P	Pb	12 59 17.3	-0.4
BDRM				i S	Sb	12 59 22.9	+0.8
YER	Yerkesik	0.42	67	i PG	Pb	12 59 18.6	-1.2
NISR	Nisiros	0.64	236	ePB	Pb	12 59 23.5	-0.1
AYDN	Tasoluk	0.69	6	i P	Pb	12 59 24.5	+0.1
AYDN				i S	Sb	12 59 34.2	+0.7
DALT	Dalyan (Mudla)	0.70	106	i PG	Pb	12 59 24.2	-0.4
DALT				i SG	Sb	12 59 35.0	+1.2
ARG	Arkhangelos	0.80	160	ePB	Pb	12 59 25.1	-1.1
DNZL	Cakiroluk	1.23	54	i P	Pb	12 59 33.1	-0.5
DNZL				i S	Sb	12 59 51.9	+2.9
DENT	Denizli	1.26	51	i PN	Pn	12 59 33.9	-0.2
IZM	Izmir	1.49	344	PN	Pn	12 59 37.6	+0.2
KDAG	Bornova	1.49	344	i P	Pn	12 59 37.2	-0.2
KDAG				i S	Sn	13 00 00.2	+3.6
MANT	Manisa	1.63	21	i P	Pn	12 59 39.4	-0.1
KSL	Kastellorizon	1.66	119	ePB	Pb	12 59 41.0	+0.1
ELL	Elmali	1.71	97	i PN	Pn	12 59 42.0	+1.4
APE	Apeiranthos	1.81	274	ePN	Pn	12 59 42.0	-0.1
AKS	Akhisar	1.91	0	i PN	Pn	12 59 43.0	-0.4
KHL	Karahalli	1.93	45	PN	Pn	12 59 43.8	+0.2
SANT	Santorini	1.97	253	ePn	Pn	12 59 46.3	+2.0
SANT				eSn	Sn	13 00 04.8	-4.0
THR1	Thera Island	1.97	253	eP	Pn	12 59 51.1	+6.8
THR4	Thira Island,	1.99	256	eP	Pn	12 59 50.8	+6.2
THR3	Thira Island,	2.00	254	eP	Pn	12 59 50.9	+6.1
THR6	Thira Island,	2.02	253	eP	Pn	12 59 51.0	+6.0
THR5	Thira Island,	2.04	255	eP	Pn	12 59 51.6	+6.3
BCK	Bucak	2.28	77	PN	Pn	12 59 50.0	+1.2
ISP	Isparta	2.33	67	PN	Pn	12 59 50.0	+0.5
NPS	Neapolis	2.46	227	ePN	Pn	12 59 53.0	+1.8
PRK	Paraskevi	2.57	333	ePN	Pn	12 59 52.8	-0.1
BALB	Balikesir	2.67	1	ePN	Pn	12 59 53.5	-0.8
XRY	Khrisi	2.70	220	ePB	Pb	12 59 56.5	-2.1
ALT	Altintas	2.77	41	PN	Pn	12 59 56.0	+0.3
IDI	Anoyia	2.89	235	Pn	Pn	12 59 57.3	-0.2
	4.1nm,0.3s,baz=65,slow=18,SNR=16						
IDI				Sn	Sn	13 00 35.5	+3.4
	9.6nm,0.3s,baz=45,slow=20,SNR=9.3						
PTL	Penteli	3.31	290	ePN	Pn	13 00 03.8	+0.5
KCT	Karacabey	3.32	7	PN	Pn	13 00 02.7	-0.8
ULDT	Uludag	3.34	18	i P	Pn	13 00 00.7	-3.1
EDC	Edincik	3.37	1	PN	Pn	13 00 03.6	-0.7
BNT	Bandirma	3.38	2	PN	Pn	13 00 03.4	-1.0
LPK	Lapseki	3.49	347	ePN	Pn	13 00 05.0	-1.0
ESKT	Eskisehir	3.50	42	ePN	Pn	13 00 06.1	0.0
ESKT	Eskisehir	3.50	42	i P	Pn	13 00 06.4	+0.3
LOS	Limnos	3.65	325	eP	Pn	13 00 08.6	+0.4
KIZT	Kizilcal	3.75	58	ePN	Pn	13 00 10.3	+0.6
HDMB	Hadim	3.76	89	ePN	Pn	13 00 11.1	+1.4
AOS	Alonnisos	3.79	307	eP	Pn	13 00 10.5	+0.2
YLV	Yalova	3.80	18	ePN	Pn	13 00 11.1	+0.8
MKIT	Kithairon Oros	3.80	290	ePN	Pn	13 00 11.0	+0.6
ALN	Alexandroupoli	4.15	341	eP	Pn	13 00 14.8	-0.6
XOR	Xorichti	4.34	305	eP	Pn	13 00 18.0	-0.1

PAIG	Paliouri	4.38	314	eP	Pn	13 00 18.5	-0.1
OUR	Ouranopolis	4.49	320	eP	Pn	13 00 20.4	+0.1
RDO	Rodhopi	4.53	338	ePN	Pn	13 00 20.5	-0.2
HENT	Hendek	4.55	31	i P	Pn	13 00 36.8	+16
SGKT	Sivrigoynuk	4.90	41	i P	Pn	13 00 26.9	+0.9
SGKT				i S	Sn	13 01 46.4	+23
CSS	Prodhromos	4.92	112	ePn	Pn	13 00 25.1	-1.2
CSS				eSn	Sn	13 01 18.7	-4.7
KDZ	Kurdzhali	5.02	339	i P	Pn	13 00 26.6	-1.1
RZN	Rozhen	5.28	334	i P	Pn	13 00 31.0	-0.3
MMB	Musomiste	5.59	327	i P	Pn	13 00 35.5	-0.2
ELDT	Eldivan	5.63	50	i P	Pn	13 00 36.8	+0.5
KNT	Kendrikon	5.66	319	eP	Pn	13 00 37.1	+0.5
KKB	Krupnik	6.10	325	i P	Pn	13 00 43.0	+0.1
VTS	Vitosha	6.63	329	eP	Pn	13 00 46.0	-4.4
COBT	Iskenderun	6.81	91	i P	Pn	13 00 53.1	+0.3
BOYT	Boyabat	7.08	49	i P	Pn	13 00 56.4	-0.4
MLR	Muntele Rosu	8.63	351	Pn	P	13 01 17.4	-0.9
	0.2nm,0.3s,baz=284,slow=16,SNR=2.7						
MLR				Sn	Sn	13 02 55.9	-0.2
	0.1nm,0.3s,baz=232,slow=19,SNR=2.1						
ASF	Jabal al Asfar	8.90	120	Pn	P	13 01 16.1	-6.0
	0.5nm,0.3s,baz=27,slow=11,SNR=1.8						
ASF				Sn	Sn	13 02 56.6	-6.3
	0.4nm,0.3s,baz=241,slow=19,SNR=2.1						
EIL	Elat	9.42	139	Pn	P	13 01 27.2	-2.1
	0.9nm,0.3s,baz=320,slow=16,SNR=4.5						
EIL				Sn	Sn	13 03 06.2	-10
	0.8nm,0.3s,baz=319,slow=18,SNR=3.7						
AKASG	Malin Array Be	13.77	4	Pn	P	13 02 27.6	-0.2
	0.5nm,0.3s,baz=220,slow=4.1,SNR=3.2						
VRAC	Vranov	14.77	330	Pn	P	13 02 41.1	+0.1
	1.6nm,0.3s,baz=152,slow=3.5,SNR=3.6						
GERES	GERESS Array B	15.70	324	Pn	P	13 03 02.6	+10
	0.2nm,0.3s,baz=135,slow=11,SNR=4.2						
FRF	La Foret Royal	17.41	299	eP	P	13 03 15.0	+0.2
CLL	Collm	17.79	328	e	P	13 03 25.0	+5.6
CABF	La Chapelle	18.78	308	eP	P	13 03 32.3	+0.5
CDF	Champ du Feu	18.86	314	eP	P	13 03 34.1	+1.4
VIVF	Saint-Julien-l	19.12	302	eP	P	13 03 36.4	+0.5
HAU	Haudompre	19.21	312	eP	P	13 03 37.1	+0.2
LASF	Ste Croix	19.49	299	eP	P	13 03 40.4	+0.3
SMF	Signal de Mont	20.24	306	eP	P	13 03 47.9	-0.3
	4.6nm,0.5s						
MTLF	Montolieu	20.52	296	eP	P	13 03 50.8	-0.3
	3.1nm,0.5s						
SSF	Saint Saulge	20.60	307	eP	P	13 03 51.8	-0.1
	7.5nm,0.7s						
AVF	Avril sur Loir	20.60	306	eP	P	13 03 51.7	-0.3
BGF	Bois d'Agland	20.86	305	eP	P	13 03 54.1	-0.5
	7.7nm,0.5s						
BAIF	Baives	21.42	315	eP	P	13 04 00.3	0.0
ETSF	Etsaut	22.47	294	eP	P	13 04 10.2	-0.7
	12nm,1.2s,mb3.9						
SJPF	Ste Jean	22.98	295	eP	P	13 04 16.1	+0.3
GRR	Gorron	23.82	308	eP	P	13 04 24.8	+0.9
	9.6nm,0.5s,mb4.2						
FINES	FINESS Array B	24.52	358	P	P	13 04 30.5	-0.1
	2.2nm,0.9s,mb3.7,baz=172,slow=9.6,SNR=3.3						
SGMF	Saint Gilles	24.86	307	eP	P	13 04 34.7	+0.7
HFS	Hagfors	24.88	343	P	P	13 04 33.6	-0.5
	1.3nm,0.6s,mb3.6,baz=180,slow=14,SNR=2.6						
ESDC	Sonseca Array	25.00	286	P	P	13 04 35.5	+0.2
	0.6nm,0.5s,mb3.4,baz=75,slow=9.6,SNR=4.9						
QUIF	Quistinic	25.17	306	eP	P	13 04 37.1	+0.2
NOA	NORSAR Array B	26.27	342	P	P	13 04 46.9	-0.2
	0.2nm,0.5s,mb2.9,baz=260,slow=6.2,SNR=2.8						
MKAR	Makanchi Array	41.00	58	P	P	13 06 54.2	-0.6
	2.1nm,0.7s,mb3.9,baz=278,slow=6.7,SNR=18						
SONM	Songino Array	56.69	52	P	P	13 08 51.6	-4.3
	0.8nm,0.4s,mb4.1,baz=286,slow=7.2,SNR=8.2						
SCHQ	Schefferville	63.19	320	P	P	13 09 37.5	-2.8
	3.7nm,1.0s,mb4.5,baz=108,slow=9.6,SNR=3.0						
CMAR	Chiang Mai Arr	64.27	86	P	P	13 09 43.6	-4.4
	1.1nm,1.2s,mb3.8,baz=314,slow=8.7,SNR=4.1						

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*MAN **30** 13:14:50.9,16.71N×119.96E,h56^{km},mb4.0,ML2.8,MS2.5*

ISC 30 13:14:51.0±1.0,**16.69N**±0.06×**120.01E**±0.10,**h71**^{km}±8^{km},**n13,**σ**0^{s}73**/18,**2C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	Bolinao	0.32	197	eP	P	13 15 03.1	+0.6
BOLP				eS	S	13 15 10.8	-0.2
BCPH	Baguio City Da	0.63	119	⇑iP	P	13 15 05.2	-0.1
BCPH				i S	S	13 15 15.3	-0.6
SCZP	Santa Cruz	0.92	186	eP	P	13 15 09.8	+1.1
ABRA	Dolores	1.17	35	eP	P	13 15 12.1	+0.2
ABRA				eS	S	13 15 27.8	+0.2
APYP	Conner	1.66	45	eP	P	13 15 18.1	-0.5
APYP				eS	S	13 15 37.9	-1.0
CAUP	Cauayan	1.75	82	eP	P	13 15 20.6	+0.7
CVP	Callao Caves	2.00	60	⇑iP	P	13 15 23.0	-0.3
CVP				i S	S	13 15 47.4	+0.3
PALP	Palanan	2.34	81	eP	P	13 15 29.1	+1.0
POLP	Polilio Island	2.69	136	eP	P	13 15 39.1	+6.0
LUBP	Lubang	2.95	176	eP	P	13 15 36.6	0.0
SJMP	San Jose	4.34	166	eP	P	13 15 57.2	+1.1
BUSP	Coron	4.66	178	eP	P	13 15 59.5	-1.1
ENPP	El Nido	5.48	186	eP	P	13 16 10.5	-1.3

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*NEIC **30** 13:17:17.1,35.16S×70.33W,h14^{km},ML3.6(GUC),After GUC.*

NEIC Felt [III] at Los Quenes and [II] at Curico and Talca, Chile.

GUC 30 13:17:17.1±0.8,**35.16S**×**70.33W,h14**^{km}±8^{km},**ML3.6, 7C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	1.09	257	i P	Pb	13 17 32.8	-4.4
TALC				i S	Sb	13 17 46.6	-4.4
TALC				AMP		13 17 47.0	
	comp=N,8μm,0.1s						
LMEL	Las Melosas	1.31	5	⇑iP	Pb	13 17 40.0	-1.0
LMEL				i S	Sb	13 17 57.5	0.0
LMEL				AMP		13 18 01.4	
	comp=N,848nm,0.2s						
PCH	Pirque	1.54	354	⇓iP	Pn	13 17 43.3	-1.0
PCH				i S	Sb	13 18 03.9	-0.2
ANTU	Antumapu	1.60	351	i P	Pn	13 17 44.3	-0.9
ANTU				i S	Sn	13 18 05.0	-0.8
ANTU				AMP		13 18 06.5	
	comp=E,1μm,0.3s						
SAN	Santiago	1.72	351	⇑iP	Pn	13 17 46.4	-0.5
SAN				i S	Sn	13 18 08.2	-0.6
SAN				AMP		13 18 09.8	
	comp=E,2μm,0.4s						
CLCH	Cerro Calan	1.77	354	⇑iP	Pn	13 17 47.4	-0.2
CLCH				i S	Sn	13 18 10.2	+0.3
CLCH				AMP		13 18 13.8	
	comp=E,837nm,0.4s						
DSCH	Colegio Aleman	1.77	354	i P	Pn	13 17 47.1	-0.5
DSCH				i S	Sn	13 18 09.9	0.0
DSCH				AMP		13 18 14.0	
	comp=N,1μm,0.4s						
FCH	Farellones	1.83	1	⇑iP	Pn	13 17 48.7	+0.3
FCH				i S	Sn	13 18 12.8	+1.3
FCH				AMP		13 18 20.6	
	comp=E,728nm,0.2s						
CCHI	Chillan	2.02	224	⇑iP	Pn	13 17 51.3	+0.2
CCHI				i S	Sn	13 18 16.4	+0.1
CCHI				AMP		13 18 20.0	
	comp=N,689nm,0.4s						
PEL	Peldehue	2.03	352	⇑iP	Pn	13 17 51.1	-0.2
PEL				i S	Sn	13 18 17.7	+1.1
PEL				i S	Sn	13 18 17.8	+1.1
PEL	Peldehue	2.03	352	⇑iP	Pn	13 17 51.1	-0.2
PEL				i S	Sn	13 18 17.8	+1.1

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*GUC **30** 13:19:33.0±0.8,35.04S×70.53W,h3^{km},ML4.5*

*NEIC **30** 13:19:33.0,35.04S×70.53W,h3^{km},mb4.5/12,ML4.5(GUC),After GUC.*

NEIC Felt [III] at Los Quenes and [II] at Curico and Talca.

*IDC **30** 13:19:40.7±3.1,35.01S×70.28W,h59^{km}±28^{km},mb4.1/8,mb1 4.3/12,mb1mx4.2/16,ML4.4/4,MS3.7/2,Ms1 3.7/2,ms1mx3.5/18,Error ellipse: s-maj=26.0km s-min=16.8km az=90.0*

ISC 30 13:19:31.5±0.3,**35.10S**±0.02×**70.44W**±0.05,**h3**^{km},**n74,**σ**0^{s}94**/73,**mb4.4**/19,**9C-10D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACH	El Canelo	0.99	352	⇑iP	Pb	13 19 49.8	-1.1
CACH				i S	Sb	13 20 03.7	-0.4
TALC	Talca	1.02	253	⇓iP	Pb	13 19 51.4	-0.1
TALC				i S	Sb	13 20 04.3	-0.8
LMEL	Las Melosas	1.26	9	⇑iP	Pb	13 19 55.3	-0.3
LMEL				i S	Sb	13 20 13.0	+0.9
LMEL				AMP		13 20 14.7	
	comp=N,4μm,0.1s						
PCH	Pirque	1.48	358	⇓iP	Pn	13 19 58.5	-0.5
TACH	Talagante	1.50	344	⇓iP	Pn	13 19 58.4	-1.0
ANTU	Antumapu	1.53	354	⇓iP	Pn	13 19 59.9	0.0
ANTU				i S	Sb	13 20 20.0	0.0
ANTU				AMP		13 20 33.0	
	comp=N,8μm,0.7s						
SAN	Santiago	1.65	354	eP	Pn	13 20 01.3	-0.2
SAN				i S	Sb	13 20 23.5	+0.1
DSCH	Colegio Aleman	1.70	356	eP	Pn	13 20 02.2	0.0
DSCH				AMP		13 20 37.4	
	comp=N,21μm,0.9s						
CLCH	Cerro Calan	1.70	357	⇑iP	Pn	13 20 02.5	+0.2
CLCH				i S	Sn	13 20 25.8	+1.0
CLCH				AMP		13 20 34.6	
	comp=E,13μm,0.6s						
CLCH				AMP		13 20 35.1	
	comp=E,15μm,0.7s						
FCH	Farellones	1.77	4	⇑iP	Pn	13 20 04.2	+0.9
FCH				i S	Sn	13 20 27.9	+1.4
FCH				AMP		13 20 38.4	
	comp=N,5μm,0.5s						
LCCH	Las Cruces	1.87	330	⇓iP	Pn	13 20 04.1	-0.6
LCCH				i S	Sn	13 20 27.8	-1.2
PEL	Peldehue	1.96	354	⇓iP	Pn	13 20 06.5	+0.5
PEL				i S	Sn	13 20 33.5	+2.1
PEL				AMP		13 20 37.8	
	comp=N,13μm,0.5s						
CCHI	Chillan	2.00	221	⇓iP	Pn	13 20 08.0	+1.4
CCHI				i S	Sn	13 20 34.9	+2.4
CCHI				AMP		13 20 38.5	
	comp=N,12μm,0.5s						
IHA	Instituto Hidr	2.30	334	eP	Pn	13 20 10.8	0.0
IHA				i S	Sn	13 20 40.0	+0.1
JACH	Jahuel	2.41	357	⇓iP	Pn	13 20 13.6	+1.2
JACH				i S	Sn	13 20 45.4	+2.4
PLCA	Paso Flores	5.62	181	P	Pn	13 21 03.5	+5.4
	comp=N,3.3nm,0.3s,baz=334,slow=12,SNR=14						
PLCA				LR	LR	13 23 06.9	
	comp=N,430nm,20.1s,baz=146,slow=36						
PLCA	Paso Flores	5.62	181	Pn	Pn	13 20 58.7	+0.7
	comp=N,13nm,0.6s						
TRQA	Tornquist	7.42	116	P	Pn	13 21 23.7	+0.4
	comp=N,5.2nm,0.5s						
TRQA				eS	Sn	13 23 26.0	+37
LVC	Limon Verde	12.51	7	ePn	P	13 22 32.3	-1.0
	comp=N,4.9nm,0.7s						
CPUP	Villa Florida	14.26	56	P	P	13 22 55.8	-0.7
	comp=N,0.4nm,0.3s,baz=241,slow=11,SNR=7.1						
CPUP				LR	LR	13 29 15.1	
	comp=N,469nm,18.7s,baz=305,slow=41						
CPUP	Villa Florida	14.26	56	ePn	P	13 22 55.9	-0.5
	comp=N,13nm,1.4s						
ARE	Arequipa	18.58	357	eP	P	13 23 53.1	+1.4
LPAZ	La Paz	18.85	7	P	P	13 23 55.8	+0.9
	comp=N,0.9nm,0.3s,baz=177,slow=7.7,SNR=24						
LPAZ	La Paz	18.85	7	eP	P	13 23 55.1	+0.3
	comp=N,22nm,0.8s						
USHA	Ushuaia	19.78	177	P	P	13 24 07.1	+1.6
	comp=N,0.4nm,0.3s,baz=268,slow=13,SNR=2.9						
SAML	Samuel	26.86	16	eP	P	13 25 13.4	-2.0
	comp=N,3.6nm,1.0s,mb3.9						
BDFB	Brasilia	27.92	52	P	P	13 25 23.9	-1.1
	comp=N,7.6nm,0.7s,mb4.4,baz=231,slow=5.7,SNR=7.9						
VNA3	Neumayer Olymp	47.84	158	⇑i	P	13 28 15.9	+4.0
VNA3	Neumayer Olymp	47.84	158	⇑i	P	13 28 25.7	+14
VNA1	Neumayer--Stat	48.15	157	⇑i	P	13 28 19.0	+4.7
VNA1	Neumayer--Stat	48.15	157		P	13 28 25.0	+11
VNA2	Neumayer--Watz	48.49	157	⇑i	P	13 28 20.3	+3.4
VNA2	Neumayer--Watz	48.49	157	⇓i	P	13 28 29.7	+13
SNAA	Sanae	50.07	158	⇓i	P	13 28 29.1	0.0
SNAA	Sanae	50.07	158	⇑i	P	13 28 38.8	+10
QSPA	South Pole Qui	55.14	180	eP	P	13 29 07.2	+0.3
	comp=N,9.8nm,1.2s,mb4.7						
JCT	Junction City	70.85	333	eP	P	13 30 50.5	-1.1
	comp=N,5.3nm,0.9s,mb4.5						
TXAR	Lajitas Array	71.34	330	P	P	13 30 53.9	-0.7
	comp=N,1.5nm,0.5s,mb4.2,baz=151,slow=8.6,SNR=17						
MAW	Mawson	71.75	163	P	P	13 30 56.8	+0.4
	comp=N,1.8nm,0.8s,mb4.0,baz=219,slow=0.8,SNR=6.3						
WVT	Waverly	72.69	345	eP	P	13 31 00.4	-2.2
	comp=N,22nm,0.8s,mb5.1						
SUR	Sutherland	73.15	118	P	P	13 31 05.1	-0.2
	comp=N,7.3nm,1.0s,mb4.5,baz=245,slow=10,SNR=3.6						
GDL2	Guadalupe Moun	74.14	331	eP	P	13 31 10.5	-0.5
DBIC	Dimbokro	74.30	70	P	P	13 31 10.6	-1.8
	comp=N,5.0nm,1.0s,mb4.4,baz=238,slow=9.5,SNR=3.1						
DBIC	Dimbokro	74.30	70	P	P	13 31 10.6	-1.8
WMOK	Wichita Mounta	74.36	336	eP	P	13 31 10.8	-1.5
CPRX	Cap Rock	74.67	331	eP	P	13 31 13.8	-0.3
ANMO	Albuquerque	77.39	330	eP	P	13 31 29.6	+0.2
	comp=N,1.5nm,0.7s,mb4.0						
SDCO	Great Sand Dun	79.45	332	eP	P	13 31 40.4	-0.3
	comp=N,1.5nm,0.8s,mb4.0						
PV10	Paradox Valley	81.38	330	eP	P	13 31 50.4	-0.5
DUG	Dugway	84.49	329	eP	P	13 32 06.4	-0.4
	comp=N,7.0nm,1.3s,mb4.6						
HWUT	Hardware Ranch	85.15	330	eP	P	13 32 09.9	-0.1
	comp=N,3.9nm,0.8s,mb4.6						
BW06	Boulder Array	85.34	332	eP	P	13 32 10.5	-0.5
	comp=N,2.0nm,0.8s,mb4.3						
PDAR	Pinedale Array	85.34	332	P	P	13 32 10.6	-0.4
	comp=N,1.6nm,0.7s,mb4.3,baz=129,slow=5.8,SNR=18						
PDAR	Pinedale Array	85.34	332	P	P	13 32 10.6	-0.4
NVAR	Mina Array Bea	85.54	324	P	P	13 32 13.1	+0.9
	comp=N,1.6nm,0.8s,mb4.3,baz=142,slow=6.3,SNR=13						
ELK	Elko	85.99	328	eP	P	13 32 14.4	+0.1
	comp=N,2.5nm,1.0s,mb4.4						
TPAW	Teton Pass	86.49	332	eP	P	13 32 16.4	-0.3
YMR	Madison River	87.49	332	eP	P	13 32 21.4	-0.2
HLID	Hailey	87.94	330	eP	P	13 32 24.0	+0.3
	comp=N,4.5nm,1.4s,mb4.5						
MCMT	McKenzie Canyo	88.36	331	eP	P	13 32 26.2	+0.5
SCHQ	Schefferville	89.62	2	P	P	13 32 32.0	+0.6
	comp=N,2.0nm,0.7s,mb4.6,baz=304,slow=17,SNR=2.5						
ASAR	Alice Springs	117.16	205	PKP	PKPdf	13 38 18.5	-2.1
	comp=N,0.4nm,0.7s,baz=132,slow=1.6,SNR=6.1						
WRA	Warramunga Arr	120.42	207	PKP	PKPdf	13 38 25.2	-1.8
	comp=N,0.5nm,0.5s,baz=165,slow=1.5,SNR=13						
WRAB	Tennant Creek	120.42	207	PKPdf	PKPdf	13 38 24.9	-2.0
MALT	Malatya	124.19	64	ePKPdf	PKPdf	13 38 33.5	-0.5
FITZ	Fitzroy Crossi	124.93	199	PKP	PKPdf	13 38 34.6	-1.2
	comp=N,3.0nm,1.1s,baz=178,slow=15,SNR=2.7						
ZRNK	Zerenda	146.38	45	ePKPbc	PKPbc	13 39 14.9	+1.8
BRVK	Borovoye	147.09	45	ePKPbc	PKPdf	13 39 16.9	+1.7
HYB	Hyderabad	147.28	115	i PKP	PKPdf	13 39 20.0	+3.4
HYB	Hyderabad	147.28	115	eP	PKPdf	13 39 20.0	+3.4
AAK	Ala-Archa	151.83	64	ePKPbc	PKPdf	13 39 28.6	+5.6
KURK	Kurchatov	152.74	46	ePKPbc	PKPdf	13 39 30.3	+6.2
MKAR	Makanchi Array	156.44	52	PKP	PKPdf	13 39 28.4	-0.8
	comp=N,0.4nm,0.7s,baz=270,slow=2.9,SNR=3.1						
MKAR				PKPab	PKPab	13 39 57.2	-0.8
	comp=N,0.9nm,0.8s,baz=284,slow=2.6,SNR=4.5						
SONM	Songino Array	167.06	10	PKPab	PKPab	13 40 43.4	-0.5
	comp=N,0.3nm,0.6s,baz=326,slow=4.5,SNR=3.9						

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*IDC **30** 13:40:47.6±0.9,21.32S×169.22E,mb4.3/10,mb1 4.4/11,mb1mx4.4/16,ML3.6/1,MS4.4/9,Ms1 4.4/9,ms1mx4.3/16,Error ellipse: s-maj=28.7km s-min=22.2km az=150.0*

*NEIC **30** 13:40:49.4±0.5,21.23S×169.17E,h10^{km},mb4.4/9,Error ellipse: s-maj=15.1km s-min=10.6km az=179.0*

ISC 30 13:40:48.0±3.7,**21.17S**±0.09×**169.07E**±0.07,**h10**^{km}±23^{km},**n41,**σ**1^{s}08**/36,**mb4.3**/15,**MS4.4**/8,**5C-1D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	2.60	249	⇑eP	Pn	13 41 30.7	-0.3
DZM				eS	Sn	13 42 02.3	-0.7
DZM	Mont Dzumac	2.60	249	⇑eP	Pn	13 41 30.7	-0.3
DZM				eS	Sn	13 42 02.3	-0.7
NOUC	Port Laguerre	2.74	250	eP	Pn	13 41 33.9	+1.0
BKM	Butte a Klehm	3.56	347	⇑iP	Pn	13 41 44.3	-0.3
URZ	Urewera	18.40	160	P	P	13 45 01.1	-3.8
	0.2nm,0.3s,baz=258,slow=9.8,SNR=2.4						
URZ				LR	LR	13 51 15.0	
	comp=Z,1μm,18.3s,baz=346,slow=34						
URZ	Urewera	18.40	160	P	P	13 45 01.1	-3.8
URZ				LR	LR	13 51 14.9	
CTA	Charters Tower	21.38	269	eP	P	13 45 40.2	+2.2
	4.9nm,0.8s,mb3.9						
CTA	Charters Tower	21.38	269	P	P	13 45 39.7	+1.7
	6.2nm,0.8s,mb4.0,baz=93,slow=11,SNR=6.8						
CTAO	Charters Tower	21.38	269	eP	P	13 45 39.6	+1.6
	7.8nm,0.8s,mb4.1						
STKA	Stephens Creek	26.73	241	eP	P	13 46 30.9	+1.3
	7.0nm,2.0s,mb3.8						
STKA	Stephens Creek	26.73	241	P	P	13 46 29.4	-0.2
	4.4nm,0.8s,mb4.0,baz=66,slow=8.7,SNR=6.9						
STKA				LR	LR	13 57 34.1	
	comp=Z,938nm,18.5s,MS4.4,baz=41,slow=38						
RAR	Rarotonga	29.03	96	LR	LR	13 55 18.9	
	comp=Z,470nm,21.6s,MS4.1,baz=251,slow=30						
WB2	Warramunga Arr	32.49	266	eP	P	13 47 20.5	-0.7
WRAB	Tennant Creek	32.50	266	eP	P	13 47 19.9	-1.3
WRA	Warramunga Arr	32.51	266	P	P	13 47 20.1	-1.2
	1.5nm,1.0s,mb3.9,baz=94,slow=8.3,SNR=15						
WRA				LR	LR	14 00 53.0	
	comp=Z,1μm,18.4s,MS4.6,baz=95,slow=37						
ASAR	Alice Springs	32.56	259	P	P	13 47 21.1	-0.6
	2.7nm,0.6s,mb4.3,baz=87,slow=9.1,SNR=50						
ASAR				LR	LR	13 59 22.1	
	comp=Z,412nm,20.7s,MS4.1,baz=19,slow=34						
ASPA	Alice Springs	32.56	259	eP	P	13 47 21.2	-0.5
KAKA	Kakadu	36.01	278	eP	P	13 47 50.7	-0.7
	2.4nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	40.93	266	eP	P	13 48 33.1	+0.6
	9.6nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	40.93	266	P	P	13 48 33.2	+0.7
	10nm,0.7s,mb4.6,baz=109,slow=7.9,SNR=7.4						
FITZ				LR	LR	14 06 12.5	
	comp=Z,705nm,18.0s,MS4.6,baz=98,slow=37						
NWAO	Narrogin (SRO)	47.22	244	LR	LR	14 08 34.7	
	comp=Z,930nm,20.7s,MS4.7,baz=99,slow=35						
SBA	Scott Base	56.75	181	eP	P	13 50 33.7	-0.4
	2.3nm,0.9s,mb4.2						
QSPA	South Pole Qui	68.90	180	eP	P	13 51 53.7	-0.8
	5.3nm,0.9s,mb4.5						
ASAJ	Asahikawa	69.34	340	P	P	13 51 58.6	+0.8
	8.7nm,0.9s,mb4.7,baz=135,slow=7.1,SNR=4.1						
MAW	Mawson	76.60	202	P	P	13 52 40.1	+0.1
	0.4nm,0.3s,mb3.8,baz=350,slow=10,SNR=2.6						
CMAR	Chiang Mai Arr	79.15	295	P	P	13 52 56.5	+1.4
	1.4nm,0.7s,mb4.0,baz=135,slow=4.3,SNR=6.8						
SNAA	Sanae	87.24	183	⇑i	P	13 53 34.1	-1.3
VNA3	Neumayer Olymp	87.83	180	⇓i	P	13 53 40.2	+2.0
VNA2	Neumayer--Watz	88.12	181	⇑i	P	13 53 42.0	+2.4
VNA1	Neumayer--Stat	88.42	181	⇑i	P	13 53 42.4	+1.4
SONM	Songino Array	88.66	323	P	P	13 53 43.9	+1.2
	1.0nm,1.0s,mb4.1,baz=135,slow=4.1,SNR=3.9						
USHA	Ushuaia	89.85	151	LR	LR	14 25 36.4	
	comp=Z,417nm,20.6s,MS4.8,baz=59,slow=30						
NVAR	Mina Array Bea	90.19	49	P	P	13 53 49.5	-0.7
	1.3nm,0.7s,mb4.4,baz=224,slow=7.4,SNR=12						
NVAR	Mina Array Bea	90.19	49	P	P	13 53 49.5	-0.7
MNV	Mina	90.29	49	eP	P	13 53 49.4	-1.2
	4.5nm,1.1s,mb4.7						
TPNV	Topopah Spring	90.99	51	eP	P	13 53 53.2	-0.6
	4.7nm,1.0s,mb4.8						
NEN	Nelson	91.46	52	eP	P	13 53 56.0	-0.1
ILAR	Eielson Array	92.11	17	LR	LR	14 33 20.0	
	comp=Z,72nm,18.0s,MS4.2,baz=2.5,slow=34						
ARCES	ARCESS Array B	126.88	345	PKP	PKPdf	13 59 53.3	-1.4
	1.7nm,0.8s,baz=90,slow=1.8,SNR=3.0						
KHC	Kasperske Hory	145.94	331	ePKP	PKPdf	14 00 30.0	-0.1
GERES	GERESS Array B	146.09	330	PKPbc	PKPbc	14 00 29.0	+0.6
	1.0nm,0.7s,baz=45,slow=1.4,SNR=7.8						

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*JMA **30** 13:44:24.6±0.5,32.59N×137.80E,h389^{km}±5^{km},M3.9*

*BJI **30** 13:44:25.2,32.71N×137.62E,h361^{km},mb4.3*

*MOS **30** 13:44:25.1±0.8,32.58N×137.53E,h359^{km},mb3.9/16,Error ellipse: s-maj=19.0km s-min=11.5km az=102.3*

*IDC **30** 13:44:27.1±0.6,32.60N×137.57E,h361^{km}±6^{km},mb3.6/19,mb1 3.8/22,mb1mx3.7/27,Error ellipse: s-maj=11.4km s-min=8.4km az=99.0*

*NEIC **30** 13:44:27.1±0.5,32.60N×137.54E,h362^{km}±4^{km},mb4.1/25,Error ellipse: s-maj=5.8km s-min=4.1km az=136.0*

ISC 30 13:44:26.2±0.3,**32.63N**±0.04×**137.61E**±0.04,**h366**^{km}±2^{km},**n125,**σ**1^{s}05**/138,**mb4.0**/48,**3C,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	1.14	359	P	P	13 45 15.5	+1.1
TK02	Tokai 2	1.32	5	P	P	13 45 16.6	+1.3
JWZ	Kozaga	1.83	300	⇑P	P	13 45 19.0	+0.8
JHJ	Hachijo jima 2	1.89	74	P	P	13 45 19.4	+0.8
	48nm,0.3s,baz=185,slow=11,SNR=7.4						
JHJ				S	S	13 46 01.1	+1.4
	24nm,0.3s,baz=314,slow=19,SNR=3.6						
JHJ2	Mitsune	1.92	75	P	P	13 45 19.3	+0.5
JIE	Ise	1.92	337	⇑P	P	13 45 19.8	+1.0
JHMK	Hamakita	2.19	3	P	P	13 45 21.5	+0.9
HMMJ	Hamamatsu 2	2.23	2	P	P	13 45 21.7	+0.8
JEG	Eigenji	2.70	338	P	P	13 45 26.3	+1.7
JOD2	Odawara 2	2.90	25	P	P	13 45 26.7	+0.4
JYN	Shimob	2.97	15	P	P	13 45 28.6	+1.8
JWT	Wachi	3.22	326	P	P	13 45 30.4	+1.3
JWT				S	S	13 46 20.0	+1.4
BSO3	Boso 3	3.25	47	P	P	13 45 27.6	-1.7
BSO3				S	S	13 46 16.0	-2.9
BSO4	Boso 4	3.27	43	P	P	13 45 28.5	-1.1
BSO4				S	S	13 46 18.8	-0.5
BSO1	Boso 1	3.46	53	P	P	13 45 28.7	-2.6
BSO1				S	S	13 46 20.2	-2.3
JHU	Hanno	3.50	23	P	P	13 45 31.1	-0.6
JHU				S	S	13 46 21.1	-2.1
JRY	Ryogami san	3.54	17	P	P	13 45 32.7	+0.6
JRY				S	S	13 46 24.1	+0.2
MAJO	Matsushiro	3.94	7	ePn	P	13 45 36.1	+0.2
MAT	Matsushiro	3.94	7	P	P	13 45 35.8	-0.1
MAT				S	S	13 46 29.7	-1.0
MAT	Matsushiro	3.94	7	P	P	13 45 36.3	+0.3
MAT				S	S	13 46 30.6	-0.1
MAT	Matsushiro	3.94	7	eP	P	13 45 36.0	+0.1
MAT				eS	S	13 46 30.0	-0.7
JTO	Tosashimizu	4.06	275	P	P	13 45 38.8	+1.6
JAG	Ashikaga	4.08	21	P	P	13 45 33.3	-4.1
JAG				S	S	13 46 30.0	-3.3
JYT	Yasato	4.18	30	P	P	13 45 36.2	-2.2
JYT				S	S	13 46 30.3	-4.8
JHS	Saijyo	4.43	304	P	P	13 45 42.6	+1.6
JHO	Hitachi	4.66	31	P	P	13 45 41.5	-2.0
JHO				S	S	13 46 38.6	-5.5
JFK	Kawauchi	5.43	29	P	P	13 45 50.5	-1.3
JFK				S	S	13 46 54.5	-4.5
JNU	Nakatsue	5.69	277	P	P	13 45 56.0	+1.4
	baz=124,slow=6.7						
CBIJ	Chichi jima	6.79	143	P	P	13 46 07.8	+0.5
	54nm,0.3s,baz=277,slow=22,SNR=6.3						
CBIJ				S	S	13 47 21.9	-4.9
	45nm,0.3s,baz=285,slow=20,SNR=4.1						
JOW	Kunigami	9.96	237	P	P	13 46 42.9	-1.7
	0.6nm,0.3s,baz=295,slow=20,SNR=2.6						
ASAJ	Asahikawa	12.12	17	P	P	13 47 09.2	-0.9
	1.6nm,0.3s,baz=235,slow=11,SNR=9.7						
ASAJ				S	S	13 49 24.1	+3.8
	baz=224,slow=34,SNR=2.3						
ASAJ	Asahikawa	12.12	17	P	P	13 47 09.2	-0.9
ASAJ				S	S	13 49 24.1	+3.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SNY	Shenyang	14.45	313	⇑P	P	13 47 36.3	-0.3
CN2	Changchun	14.68	323	eP	P	13 47 37.3	-1.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
YSS	Yuzh-Sakhalins	14.84	14	eP	P	13 47 42.0	+1.4
YSS	Yuzh-Sakhalins	14.84	14	eP	P	13 47 39.8	-0.8
	comp=Z,43nm,0.8s						
BJT	Baijiatuau	18.76	299	eP	P	13 48 20.3	-0.6
	comp=Z,7.5nm,0.4s						
WHN	Wuhan	19.92	270	P	P	13 48 32.5	+0.2
HIA	Hailar	21.32	326	eP	P	13 48 46.0	+0.3
	comp=Z,4.9nm,0.5s,mb4.0						
HHC	Hu-ho-hao-te	22.37	299	eP	P	13 48 55.8	+0.1
HHC				AMB	AMB		

	comp=Z,17nm,0.5s,mb4.5						
HHC				LR	LR		
	comp=N,102nm,9.5s						
HHC				LR	LR		
	comp=E,130nm,9.5s						
HHC				LR	LR		
	comp=Z,95nm,13.1s						
BTO	Baotou	23.47	298	eP	P	13 49 05.3	-0.5
XAN	Xi’an	23.98	281	P	P	13 49 09.8	-0.8
XAN				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.1						
ENH	Enshi	24.08	272	eP	P	13 49 10.1	-1.3
	comp=Z,7.7nm,0.7s,mb4.0						
SONM	Songino Array	28.03	312	P	P	13 49 47.3	+0.7
	comp=Z,5.9nm,0.8s,mb3.9,baz=108,slow=7.8,SNR=25						
MA2	Magadan	28.35	14	eP	P	13 49 48.8	-0.5
	comp=Z,3.9nm,0.6s,mb3.8						
ZAK	Zakamensk	30.87	315	eP	P	13 50 11.7	+0.3
ZAK				e		13 57 10.8	
GTA	Gaotai	31.15	293	eP	P	13 50 12.8	-1.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.3						
CMAR	Chiang Mai Arr	37.42	257	P	P	13 51 06.3	-0.7
	comp=Z,1.1nm,0.7s,mb3.2,baz=54,slow=7.5,SNR=7.3						
CMAR	Chiang Mai Arr	37.42	257	P	P	13 51 06.3	-0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	Lhasa	39.63	279	eP	P	13 51 25.7	+0.6
WMQ	Urumqi	40.23	301	P	P	13 51 30.0	+0.2
MKAR	Makanchi Array	43.97	306	P	P	13 51 59.8	0.0
	comp=Z,7.4nm,0.7s,mb3.9,baz=90,slow=9.6,SNR=48						
MKAR				ScP		13 56 54.0	
	comp=Z,0.8nm,0.7s,baz=76,slow=5.0,SNR=6.4						
MKAR	Makanchi Array	43.97	306	P	P	13 51 59.8	0.0
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
PKI	Pulchoki	45.08	278	eP	P	13 52 08.5	-0.4
	comp=N,31nm,1.0s,mb4.4						
KKN	Kakani	45.12	278	eP	P	13 52 09.3	+0.2
	comp=N,46nm,0.8s,mb4.7						
DMN	Daman	45.32	278	eP	P	13 52 10.6	-0.1
	comp=N,17nm,0.7s,mb4.3						
KAKA	Kakadu	45.34	187	eP	P	13 52 09.9	-1.2
	comp=N,4.9nm,0.6s,mb3.8						
GKN	Gorkha	45.58	279	eP	P	13 52 12.5	-0.3
	comp=N,48nm,0.8s,mb4.7						
KURK	Kurchatov	46.33	311	P	P	13 52 17.1	-1.1
	comp=N,94nm,0.8s,mb5.0,SNR=14						
KURK	Kurchatov	46.33	311	i P	P	13 52 17.5	-0.7
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.7						
KURK	Kurchatov	46.33	311	eP	P	13 52 17.4	-0.9
	comp=Z,12nm,0.8s,mb4.1						
KOLN	Koldanda	46.52	279	eP	P	13 52 19.0	-1.1
	comp=Z,29nm,0.8s,mb4.6						
VOSK	Vostochnaya	50.99	314	P	P	13 52 52.5	-1.0
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.8						
BVA0	Borovoye Array	51.32	314	P	P	13 52 55.4	-0.5
BRVK	Borovoye	51.38	315	eP	P	13 52 55.6	-0.8
	comp=Z,8.5nm,1.1s,mb3.9						
FITZ	Fitzroy Crossi	51.73	195	eP	P	13 52 59.0	-0.4
	comp=Z,2.4nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	51.73	195	P	P	13 52 58.5	-0.9
	comp=Z,2.6nm,0.6s,mb3.8,baz=6.3,slow=9.2,SNR=7.3						
ZRNK	Zerenda	52.16	314	P	P	13 53 01.5	-0.6
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
ZRNK	Zerenda	52.16	314	eP	P	13 53 01.1	-1.0
	comp=Z,2.1nm,0.5s,mb3.7						
WB2	Warramunga Arr	52.36	184	eP	P	13 53 02.8	-1.3
WRA	Warramunga Arr	52.37	184	P	P	13 53 02.8	-1.2
	comp=Z,2.6nm,0.3s,mb4.0,baz=0.2,slow=7.7,SNR=88						
WRA				PcP	PcP	13 54 09.7	+0.1
	comp=Z,1.7nm,0.7s,baz=356,slow=4.1,SNR=8.2						
WRA				ScP		13 57 30.4	
	comp=Z,0.5nm,0.6s,baz=358,slow=4.9,SNR=5.5						
WRA	Warramunga Arr	52.37	184	P	P	13 53 02.8	-1.3
WRA						13 54 09.7	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
KKAR	Karatay Array	52.71	302	i P	P	13 53 05.8	-0.5
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
MCK	McKinley	54.02	32	eP	P	13 53 15.2	-0.3
	comp=Z,5.6nm,1.0s,mb3.9						
SML	Sawmill	54.39	34	eP	P	13 53 17.6	-0.6
COLA	College	54.46	30	eP	P	13 53 19.1	+0.5
	comp=Z,7.9nm,0.8s,mb4.1						
ILAR	Eielson Array	54.88	30	P	P	13 53 20.6	-0.9
	comp=Z,3.1nm,0.6s,mb3.8,baz=275,slow=5.5,SNR=68						
ILAR	Eielson Array	54.88	30	P	P	13 53 20.6	-0.9
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HYB	Hyderabad	54.98	269	i P	P	13 53 22.5	-0.4
HYB	Hyderabad	54.98	269	eP	P	13 53 22.5	-0.4
ASAR	Alice Springs	56.09	184	P	P	13 53 29.6	-1.1
	comp=Z,2.0nm,0.6s,mb3.6,baz=11,slow=9.3,SNR=30						
ASAR				PcP	PcP	13 54 23.7	-0.2
	comp=Z,0.6nm,0.6s,baz=7.3,slow=4.0,SNR=3.8						
ASAR				ScP		13 57 46.8	
	comp=Z,0.3nm,0.6s,baz=0.3,slow=5.3,SNR=6.5						
ASPA	Alice Springs	56.09	184	eP	P	13 53 30.9	+0.2
AB31	Akbulak array	58.44	311	P	P	13 53 45.7	-0.8
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
INK	Inuvik	59.71	25	P	P	13 53 54.6	-0.2
	comp=Z,1.9nm,0.5s,mb3.8,baz=320,slow=6.9,SNR=14						
INK	Inuvik	59.71	25	P	P	13 53 54.6	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
STKA	Stephens Creek	64.27	176	P	P	13 54 24.7	-0.4
	comp=Z,2.7nm,0.8s,mb3.9,baz=6.3,slow=9.2,SNR=4.3						
ARCES	ARCESS Array B	67.01	339	P	P	13 54 41.8	+0.1
	comp=Z,1.6nm,0.7s,mb3.8,baz=63,slow=8.1,SNR=13						
ARCES	ARCESS Array B	67.01	339	P	P	13 54 41.8	0.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NWAO	Narrogin (SRO)	67.98	198	P	P	13 54 47.6	-0.7
	comp=Z,3.7nm,0.8s,mb4.2,baz=354,slow=9.2						
NWAO	Narrogin (SRO)	67.98	198	P	P	13 54 47.7	-0.6
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	Yellowknife Ar	69.17	28	P	P	13 54 54.7	-0.3
	comp=Z,1.2nm,0.6s,mb3.8,baz=297,slow=6.4,SNR=4.7						
YKA	Yellowknife Ar	69.17	28	P	P	13 54 54.7	-0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	69.17	28	P	P	13 54 54.7	-0.3
FINES	FINESS Array B	71.23	332	P	P	13 55 07.2	-0.2
	comp=Z,0.8nm,0.4s,mb3.8,baz=68,slow=7.5,SNR=11						
FINES	FINESS Array B	71.23	332	P	P	13 55 07.3	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DPW	Davenport	75.08	42	eP	P	13 55 30.5	+0.6
NEW	Newport	75.48	42	eP	P	13 55 32.3	+0.1
YBH	Yreka Blue Hor	75.54	50	P	P	13 55 34.3	+1.6
	comp=Z,2.6nm,0.9s,mb4.0,baz=270,slow=2.0,SNR=4.4						
YBH	Yreka Blue Hor	75.54	50	P	P	13 55 34.3	+1.6
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	75.83	322	P	P	13 55 34.0	-0.1
	comp=Z,1.9nm,0.6s,mb4.0,baz=47,slow=5.6,SNR=6.8						
AKASG	Malin Array Be	75.83	322	P	P	13 55 34.0	-0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	77.00	336	P	P	13 55 40.0	-0.3
	comp=Z,1.1nm,0.5s,mb3.8,baz=44,slow=5.3						
NOA	NORSAR Array B	77.00	336	P	P	13 55 40.1	-0.2
	comp=Z,1.4nm,0.5s,mb4.0,baz=44,slow=5.5,SNR=8.3						
NOA	NORSAR Array B	77.00	336	P	P	13 55 40.1	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WVOR	Wild Horse Val	77.75	47	eP	P	13 55 45.2	+0.4
	comp=Z,3.8nm,0.8s,mb4.2						
HRY	Holter Researc	79.31	41	eP	P	13 55 53.8	+0.8
HLID	Hailey	79.68	45	eP	P	13 55 55.3	+0.3
	comp=Z,0.8nm,0.4s,mb3.8						
BOZ	Bozeman (W)	80.06	42	eP	P	13 55 58.0	+1.1
	comp=Z,2.0nm,0.6s,mb4.0						
NVAR	Mina Array Bea	80.16	51	P	P	13 55 59.0	+1.4
	comp=Z,1.4nm,0.6s,mb3.9,baz=304,slow=4.8,SNR=12						
ELK	Elko	80.80	47	eP	P	13 56 02.3	+1.4
	comp=Z,1.9nm,0.9s,mb3.8						
TPNV	Topopah Spring	82.34	51	eP	P	13 56 10.0	+1.0
	comp=Z,4.3nm,0.9s,mb4.3						
HWUT	Hardware Ranch	82.53	45	eP	P	13 56 11.3	+1.6
	comp=Z,4.7nm,1.0s,mb4.3						
DUG	Dugway	82.62	47	eP	P	13 56 11.2	+0.9
	comp=Z,3.4nm,0.7s,mb4.3						
BW06	Boulder Array	83.00	43	eP	P	13 56 12.9	+0.8
	comp=Z,2.2nm,0.8s,mb4.0						
PDAR	Pinedale Array	83.00	43	P	P	13 56 13.2	+1.1
	comp=Z,1.8nm,0.7s,mb4.0,baz=316,slow=2.6,SNR=19						
MSU	Marysvale	84.03	48	eP	P	13 56 19.6	+2.2
SRU	San Rafael	84.68	46	eP	P	13 56 21.9	+1.2
GERES	GERESS Array B	84.73	327	P	P	13 56 20.7	+0.1
	comp=Z,0.3nm,0.3s,mb3.6,baz=45,slow=5.6,SNR=3.2						
PV10	Paradox Valley	86.05	46	eP	P	13 56 29.3	+2.0
PV01	Paradox Valley	86.49	46	eP	P	13 56 29.5	+0.2
TBI	Tubuai	89.07	119	eL		13 56 54.3	
TBI				eR		13 58 40.7	
	comp=Z,384nm,27.0s,baz=255						
TXAR	Lajitas Array	95.31	50	P	P	13 57 12.0	+1.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=288,slow=4.0,SNR=6.7						
QSPA	South Pole Qui	122.38	180	ePKPdf	PKPdf	14 02 38.0	+0.7
LPAZ	La Paz	151.59	61	PKPbc	PKPdf	14 03 41.6	+11
	comp=Z,1.8nm,0.4s,baz=220,slow=0.3,SNR=4.6						
LPAZ	La Paz	151.59	61	PKIKP	PKPdf	14 03 41.6	+11
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						

GUC 30 13:59:09.6±0.9, 35.07S×70.55W, h13^{km}±7^{km}, MD3.6, ML3.3, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.56	277	⇓iP	Pb	13 59 20.1	-0.6
NICH				i S	Sb	13 59 28.6	+0.3
SFDO	San Fernando	0.59	320	⇓iP	Pb	13 59 20.1	-1.2
SFDO				i S	Sb	13 59 28.2	-1.1
CICH	Cipreses	0.75	8	⇓iP	Pb	13 59 22.9	-1.2
CICH				i S	Sb	13 59 32.9	-1.2
TALC	Talca	0.94	249	⇓iP	Pb	13 59 26.6	-0.7
TALC				i S	Sb	13 59 39.4	-0.1
TALC				AMP		13 59 40.1	
	comp=E,6μm,0.1s						
CACH	El Canelo	0.95	358	eP	Pb	13 59 26.2	-1.3
CACH				i S	Sb	13 59 39.6	-0.1
CHCH	Chadas Angostu	1.14	356	⇑iP	Pb	13 59 29.7	-0.9
CHCH				i S	Sb	13 59 45.6	+0.5
LMEL	Las Melosas	1.25	13	⇑iP	Pb	13 59 31.6	-1.0
LMEL				i S	Sb	13 59 48.6	+0.1
LMEL				AMP		13 59 50.6	
	comp=N,390nm,0.3s						
LNV	Longovilo	1.32	327	⇑iP	Pb	13 59 32.4	-1.3
LNV				i S	Sb	13 59 49.8	-0.5
PCH	Pirque	1.44	1	⇓iP	Pn	13 59 35.0	-0.6
PCH				eS	Sb	13 59 54.0	-0.1
TACH	Talagante	1.45	347	⇓iP	Pn	13 59 34.7	-0.9
TACH				i S	Sb	13 59 53.9	-0.3
CLCH	Cerro Calan	1.67	0	eP	Pn	13 59 38.9	+0.1
CLCH				i S	Sn	14 00 00.8	+0.7
CLCH				AMP		14 00 02.9	
	comp=E,490nm,0.5s						
FCH	Farellones	1.75	7	⇑iP	Pn	13 59 40.4	+0.4
FCH				i S	Sn	14 00 03.4	+1.1
FCH				AMP		14 00 05.2	
	comp=E,381nm,0.4s						
LCCH	Las Cruces	1.80	332	⇑iP	Pn	13 59 40.5	-0.1
CCHI	Chillan	1.97	219	AMP		14 00 14.4	
	comp=E,326nm,0.6s						

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*NEIC **30** 14:06:06.8, 39.35N×20.78E, h18^{km}, MD3.4(ATH), ML3.3(THE), After ATH.*

*ATH **30** 14:06:06.8, 39.35N×20.78E, h18^{km}±5^{km}, MD3.4/5*

*THE **30** 14:06:07.7, 39.32N×20.86E, h3^{km}, ML3.3*

ISC 30 14:06:06.8±0.6, 39.33N±0.02×20.77E±0.05, h11^{km}±5^{km}, n25, σ1^{s}01/38, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.33	12	ePB	Pb	14 06 13.8	-0.4
MEV	Metsovon	0.58	38	ePg	Pg	14 06 17.7	-0.8
MEV				eSg	Sg	14 06 25.9	-0.4
LKD	Levkas	0.63	188	ePg	Pg	14 06 19.9	+0.5
LKD				eSg	Sg	14 06 28.7	+0.7
LSK	Leskovik	0.83	351	ePg	Pg	14 06 22.8	-0.6
LSK				i Sg	Sg	14 06 36.9	+2.3
KEK	Kerkira	0.84	297	ePN	Pn	14 06 23.1	-1.3
EVR	Evrytania	0.91	117	ePN	Pn	14 06 24.1	-1.3
VLS	Valsamata	1.16	187	ePB	Pb	14 06 28.7	+0.3
KZN	Kozani	1.25	38	ePN	Pn	14 06 29.3	-0.9
RLS	Riolos of Patr	1.38	156	ePN	Pn	14 06 34.1	+2.0
FNA	Florina	1.53	18	ePb	Pb	14 06 34.5	-0.1
	comp=Z,3.2nm,0.5s						
FNA				eSb	Sb	14 06 55.6	+1.7
LIT	Litokhoron	1.54	59	ePb	Pb	14 06 34.4	-0.5
	comp=Z,16nm,0.4s						
LIT				eSb	Sb	14 06 55.4	+1.2
BIA	Bitola	1.74	14	i Sg	Sg	14 07 05.3	+0.5
OHR	Ohrid	1.78	1	i Sg	Sg	14 07 05.6	-0.5
LKR	Lokris	1.87	111	ePN	Pn	14 06 40.5	+1.4
XOR	Xorichti	1.88	88	ePb	Pb	14 06 38.3	-2.4
XOR				eSb	Sb	14 07 03.7	-0.5
NEO	Neokhori	1.91	90	ePN	Pn	14 06 40.3	+0.7
TIR	Tirane	2.13	341	ePn	Pn	14 06 50.0	+7.2
QSH	Qafa e Shtames	2.29	344	ePn	Pn	14 06 50.2	+5.2
QSH				i Sg	Sg	14 07 19.0	-3.9
PAIG	Paliouri	2.33	74	ePn	Pn	14 06 45.8	+0.1
PAIG				eSn	Sn	14 07 14.0	-0.5
AOS	Alonnisos	2.42	93	ePn	Pn	14 06 46.6	-0.4
AOS				eSn	Sn	14 07 16.3	-0.6
KNT	Kendrikon	2.45	41	ePn	Pn	14 06 47.6	+0.2
KNT				eSn	Sn	14 07 18.9	+1.2
SOH	Sokhos	2.48	52	ePn	Pn	14 06 47.6	-0.2
SOH				eSn	Sn	14 07 18.9	+0.4
SKO	Skopje	2.69	11	i Pn	Pn	14 06 51.6	+0.8
SRS	Serrai	2.81	50	ePn	Pn	14 06 52.3	-0.2
SRS				eSn	Sn	14 07 26.5	-0.1
STON	Ston	4.23	328	i Pn	Pn	14 07 10.1	-2.6
STON				i Sn	Sn	14 07 55.7	-6.9

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*NNC **30** 14:20:27.3±26.0, 38.35N×71.32E, mpv4.0, Error ellipse: s-maj=204.5km s-min=179.5km az=156.0*

ISC 30 14:20:17.7±1.6, 38.0N±0.1×72.8E±0.3, h84^{km}±46^{km}, n9, σ0^{s}88/12, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.40	342	⇓P	P	14 21 41.2	+4.0
	8.0nm,0.3s,baz=153,slow=12,SNR=165						
KK31				⇑S	S	14 22 38.3	-0.4
	8.0nm,0.3s,baz=176,slow=25,SNR=19						
DLH	Dalhousie	6.02	154	e	S	14 22 53.0	-1.0
THN	Thein Dam	6.03	156	eP	P	14 21 49.3	+3.3
	106nm,0.2s						
THN				eS	S	14 22 54.4	0.0
SDNR	Sundarnagar	7.33	151	e	S	14 23 20.0	-6.2
KOLN	Koldanda	13.63	135	eP	P	14 23 28.8	+0.3
	4.8nm,0.4s						
GKN	Gorkha	14.05	132	eP	P	14 23 34.1	+0.2
	9.6nm,0.4s						
KKN	Kakani	14.59	131	eP	P	14 23 40.3	-0.6
	4.1nm,0.2s						
AB31	Akbulak array	14.59	325	⇓P	P	14 23 40.7	-0.1
	0.7nm,0.3s,baz=136,slow=13,SNR=46						
AB31				⇑S	S	14 26 13.6	-7.1
	0.6nm,0.4s						
PKI	Pulchoki	14.83	131	eP	P	14 23 44.5	+0.5
	3.0nm,0.3s						

GUC 30 15:33:04.6±0.9, 34.78S×70.65W, h3^{km}, ML3.9, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	1.02	232	⇓iP	Pb	15 33 23.4	-1.2
TALC				i S	Sb	15 33 38.6	+0.4
TALC				AMP		15 33 39.5	
	comp=N,8μm,0.1s						
CLCH	Cerro Calan	1.38	4	eP	Pb	15 33 31.2	+0.5
CLCH				i S	Sb	15 33 50.9	+2.3
FCH	Farellones	1.47	12	⇓iP	Pn	15 33 31.9	-0.2
FCH				i S	Sb	15 33 52.5	+1.2
CCHI	Chillan	2.16	212	⇑iP	Pn	15 33 41.8	-0.2
CCHI				i S	Sn	15 34 11.0	+1.3
CCHI				AMP		15 34 14.6	
	comp=E,704nm,0.4s						
CCHI				AMP		15 34 14.8	
	comp=E,1μm,0.4s						

MEX 30 15:33:53.5±0.4, 20.42N×106.14W, h20^{km}±56^{km}, MD3.9, 1D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	Chamela	1.38	131	⇓iP	Pn	15 34 14.5	-3.5
CJM				i S	Sn	15 34 31.1	-4.6
CGX	Ciudad Guzman	2.58	106	eP	Pn	15 34 33.0	-2.1
CGX				i S	Sn	15 35 01.0	-5.2
SFJM	Santa Fe	2.91	88	i P	Pn	15 34 36.5	-3.3
SFJM				i S	Sn	15 35 10.0	-4.5
ZAIG	Zacatecas	4.06	54	eP	Pn	15 34 53.4	-2.8
ZAIG				i S	Sn	15 35 39.8	-4.0

ISC 30 15:33:53.4±1.1, 40.83N±0.08×31.48E±0.06, h10^{km}, n5, σ0^{s}70/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDU	Mudurnu	0.41	209	PG	Pg	15 34 01.8	0.0
MDU				SG	Sg	15 34 07.3	-0.2
HENT	Hendek	0.44	270	i P	Pg	15 34 02.5	+0.1
SGKT	Sivrigoynuk	0.51	120	i P	Pg	15 34 03.9	+0.2
SGKT				i S	Sg	15 34 10.1	-0.4
SAFT	Safranbolu	1.00	65	PN	Pn	15 34 12.4	-1.0
ELDT	Eldivan	1.52	102	i P	Pn	15 34 22.1	+1.3
ELDT				i S	Sb	15 34 44.7	+4.2

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*IDC **30** 15:40:32.5±7.2, 12.26S×122.36E, h75^{km}±80^{km}, mb3.6/2, mb1 3.4/5, mb1mx3.3/12, ML3.1/3, Error ellipse: s-maj=50.1km s-min=38.7km az=99.0*

ISC 30 15:40:29.9±3.0, 12.2S±0.2×122.4E±0.1, h67^{km}±30^{km}, n6, σ1^{s}04/10, mb3.8/2, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	6.68	153	eP	P	15 42 07.7	+0.2
	1.9nm,0.3s						
FITZ				eS	S	15 43 22.6	-0.3
FITZ	Fitzroy Crossi	6.68	153	P	P	15 42 06.9	-0.6
	0.6nm,0.3s,baz=353,slow=15,SNR=17						
FITZ				S	S	15 43 22.3	-0.6
	2.8nm,0.3s,baz=11,slow=23,SNR=13						
WRA	Warramunga Arr	13.82	126	P	P	15 43 44.3	+0.1
	0.1nm,0.3s,baz=297,slow=13,SNR=7.1						
WRA				S	S	15 46 14.7	-1.8
	0.1nm,0.3s,baz=298,slow=24,SNR=5.1						
ASAR	Alice Springs	15.81	138	P	P	15 44 11.7	+1.8
	0.1nm,0.3s,baz=310,slow=11,SNR=16						
ASAR				S	S	15 47 04.5	+1.4
	0.1nm,0.3s,baz=305,slow=22,SNR=5.2						
NWAO	Narrogin (SRO)	21.21	192	P	P	15 45 11.6	-0.5
	13nm,1.3s,mb4.1,baz=16,slow=18,SNR=2.0						
MKAR	Makanchi Array	68.80	332	P	P	15 51 28.9	-0.2
	0.6nm,0.9s,mb3.4,baz=160,slow=6.6,SNR=3.1						

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*MOS **30** 15:58:31.7±1.6, 49.29N×156.07E, h35^{km}, mb3.9/3, Error ellipse: s-maj=43.0km s-min=18.0km az=66.6*

*NEIC **30** 15:58:31.2±7.0, 49.27N×156.00E, h16^{km}±43^{km}, mb4.0/1, Error ellipse: s-maj=25.6km s-min=14.2km az=139.0*

*KRSC **30** 15:58:33.2±1.0, 49.27N×156.20E, h32^{km}±12^{km}, ML4.3*

*IDC **30** 15:58:34.9±3.6, 49.21N×156.07E, h41^{km}±34^{km}, mb3.4/6, mb1 3.9/8, mb1mx3.6/23, ML3.6/2, Error ellipse: s-maj=51.9km s-min=17.0km az=141.0*

ISC 30 15:58:33.5±1.1, 49.27N±0.07×156.2E±0.1, h51^{km}±12^{km}, n35, σ1^{s}08/46, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril’s	1.42	358	ePN	P	15 58 53.0	-4.5
SKR				eS	S	15 59 09.5	-5.7
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
ALID	Alaid	1.66	346	i P	P	15 59 01.1	+0.3
ALID				i S	S	15 59 21.5	+0.5
PAU	Pauzhetka	2.24	10	eP	P	15 59 09.5	+0.5
PAU				eS	S	15 59 36.0	+0.6
PAU				Smax			
	comp=Z,940nm,0.2s						
MIPR	Malaya Ipel’ka	3.04	6	eP	P	15 59 19.7	-0.6
RUS	Russkaya	3.49	24	eP	P	15 59 26.8	0.0
RUS				eS	S	16 00 06.5	-0.8
GRL	Gorelyy	3.50	19	eP	P	15 59 28.0	+1.2
GRL				i S	S	16 00 07.5	+0.1
APC	Apacha	3.71	9	eP	P	15 59 28.9	-1.0
APC				eS	S	16 00 12.0	-0.8
PET	Petropavlovsk	4.07	21	eP	P	15 59 35.2	+0.3
PET				eS	S	16 00 20.2	-1.5
PET	Petropavlovsk	4.07	21	ePN	P	15 59 35.6	+0.7
PET				eS	S	16 00 21.7	0.0
PET				smax			
	comp=E,73nm,0.5s						
PET				smax			
	comp=N,84nm,0.7s						
PET	Petropavlovsk	4.07	21	ePn	P	15 59 33.6	-1.2
PET				eSn	S	16 00 20.3	-1.4
UGLR	Uglovaya	4.28	22	eP	P	15 59 39.2	+1.4
AVH	Avacha	4.31	21	eP	P	15 59 39.7	+1.4
KOK	Koryaka	4.31	20	eP	P	15 59 40.0	+1.7
SMAR	Somma	4.32	21	eP	P	15 59 40.2	+1.7
SDLR	Sedlovina	4.36	22	eP	P	15 59 39.7	+0.8
NLC	Nalytchevo	4.38	26	eP	P	15 59 38.7	-0.6
SPN	Mys Shipunski	4.53	31	eP	P	15 59 41.1	-0.2
SPN				i S	S	16 00 30.6	-2.7
GNL	Ganaly	4.57	13	eP	P	15 59 42.6	+0.7
MKZ	Mys Kozlova	6.31	31	eP	P	16 00 04.2	-2.0
KBTR	Krutoberegovo	8.03	27	eP	P	16 00 28.6	-1.5
ASAJ	Asahikawa	10.66	246	P	P	16 01 04.7	-1.5
	comp=N,0.7nm,0.3s,baz=72,slow=12,SNR=4.9						
ASAJ	Asahikawa	10.66	246	PN	P	16 01 04.7	-1.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	11.27	65	P	P	16 01 13.5	-0.8
	comp=Z,1.4nm,0.3s,baz=202,slow=8.5,SNR=14						
FX1				S	S	16 03 09.0	-11
	comp=Z,4.3nm,0.3s,baz=73,slow=22,SNR=9.9						
FX1	Attu Island--F	11.27	65	Pn	P	16 01 12.9	-1.4
SML	Sawmill	32.73	46	eP	P	16 05 02.7	-0.3
ILAR	Eielson Array	33.29	41	P	P	16 05 08.0	+0.2
	comp=Z,0.8nm,0.9s,mb3.6,baz=264,slow=6.7,SNR=7.9						
ILAR	Eielson Array	33.29	41	P	P	16 05 08.0	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	Inuvik	38.41	34	P	P	16 05 51.2	0.0
	comp=Z,2.3nm,0.8s,mb4.0						
CMAR	Chiang Mai Arr	54.97	257	P	P	16 08 00.8	-0.9
	comp=Z,0.7nm,0.7s,mb3.8,baz=35,slow=7.1,SNR=5.2						
CMAR	Chiang Mai Arr	54.97	257	P	P	16 08 00.8	-0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	Mina Array Bea	59.46	65	P	P	16 08 35.1	+1.8
	comp=Z,0.3nm,0.7s,mb3.4,baz=297,slow=8.1,SNR=3.4						
PDAR	Pinedale Array	61.61	57	P	P	16 08 49.5	+1.6
	comp=Z,0.7nm,0.8s,mb3.8,baz=315,slow=4.2,SNR=6.1						
WRA	Warramunga Arr	71.59	202	P	P	16 09 50.7	-0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=17,slow=6.3,SNR=13						
WRA	Warramunga Arr	71.59	202	P	P	16 09 50.7	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	75.28	201	P	P	16 10 13.1	+0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=17,slow=4.6,SNR=12						

OTT 30 15:59:40.0±0.3, 52.76N×67.08W, MN2.9/8, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

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

SCHQ	Schefferville	2.08	4	PN	Pn	16 00 16.1	-0.5
SCHQ				SG	Sg	16 00 43.2	-6.0
SCHQ				Trac		16 00 45.6	
	comp=Z,28nm,0.1s						
MNQ	Manicouagan	2.47	206	PN	Pn	16 00 21.1	-0.9
MNQ				Trac		16 00 57.5	
	comp=Z,20nm,0.1s						
SMQ	Clarke City	2.55	175	Trac		16 01 02.3	
	comp=Z,11nm,0.1s						
ICQ	Pointe Anglais	3.25	182	PN	Pn	16 00 31.7	-1.5
ICQ				SN	Sn	16 01 09.7	-3.4
ICQ				Trac		16 01 25.1	
	comp=Z,7.1nm,0.1s						
CNQ	Baie Comeau	3.52	191	PN	Pn	16 00 35.4	-1.7
CNQ				SN	Sn	16 01 18.8	-1.2
CNQ				Trac		16 01 20.2	
	comp=Z,5.1nm,0.1s						
GSQ	Grosses Roches	3.86	180	PN	Pn	16 00 40.6	-1.2
GSQ				SN	Sn	16 01 27.6	-0.9
GSQ				Trac		16 01 42.5	
	comp=Z,3.9nm,0.1s						
LG4Q	La Grande 4	4.31	284	PN	Pn	16 00 45.5	-2.7
LG4Q				PG	Pg	16 00 53.4	-13
LG4Q				SN	Sn	16 01 32.5	-7.4
LG4Q				LG		16 01 53.1	
LG4Q				Trac		16 01 56.4	
	comp=Z,4.8nm,0.2s						
DAQ	Lac Daran	5.49	211	PN	Pn	16 00 60.0	-5.0
DAQ				SN	Sn	16 02 03.2	-6.6
DAQ				Trac		16 02 38.8	
	comp=Z,3.9nm,0.3s						
LMQ	La Malbaie	5.62	203	PN	Pn	16 01 02.7	-4.1
LMQ				SN	Sn	16 02 06.2	-6.8
DRLN	Deer Lake	6.99	116	PN	Pn	16 01 21.6	-4.4
DRLN				SN	Sn	16 02 37.7	-10
DRLN				LG		16 03 22.3	
LMN	Caledonia Moun	7.07	167	PN	Pn	16 01 23.6	-3.7
LMN				SN	Sn	16 02 41.2	-8.2
VLDQ	Val d'Or	8.09	239	PN	P	16 01 36.6	-4.9
VLDQ				SN	Sn	16 03 01.0	-14
VLDQ				LG		16 03 46.0	
VIMO	Victor Mine	10.10	277	PN	P	16 02 01.3	-7.9
VIMO				SN	S	16 03 46.3	-18
SILO	Sutton Inlier	10.73	286	PN	P	16 02 08.9	-9.0
SILO				SN	S	16 04 00.5	-19
FRB	Frobisher Bay	11.04	357	PN	P	16 02 15.0	-7.1

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*IDC **30** 16:08:14.4±0.6, 50.66S×71.95W, mb4.8/8, mb1 4.8/10, mb1mx4.7/13, ML4.3/2, MS4.4/13, Ms1 4.4/13, ms1mx4.3/16, Error ellipse: s-maj=31.9km s-min=14.7km az=90.0*

*MOS **30** 16:08:15.7±0.9, 50.60S×71.56W, h10^{km}, mb4.9/11, Error ellipse: s-maj=44.8km s-min=13.9km az=85.1*

*HRVD **30** 16:08:17.9±0.4, 50.65S×72.10W, h12^{km}, MW5.1/49, Centroid moment Tensor Solution. LP body waves: s27,c33;Mantle waves: s49,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.56±.15; $M_{\theta\theta}$0.32±.13; $M_{\phi\phi}$-4.88±.14; $M_{r\theta}$-1.04±.51; $M_{\theta\phi}$-0.53±.14; $M_{\phi r}$-1.78±.41; Best double couple: $M_0$5.18×10^{16} NP1:ϕ_s355°,δ35°,λ73°. NP2:ϕ_s196°,δ57°,λ102°. Principal axes: T 5.07, Plg75°, Azm140°; N .23, Plg10°, Azm9°; P -5.29, Plg11°, Azm277°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 16:08:17.9±2.6, 50.70S×72.14W, h25^{km}±17^{km}, mb5.0/15, MS4.5/8 Error ellipse: s-maj=15.8km s-min=6.1km az=84.0*

ISC 30 16:08:14.2±0.4**, 50.66S**±0.05×**72.1W**±0.2**, h10^{km}, n106, σ1^{s}05**/51**, mb5.0**/26**, MS4.5**/19**, 7C-2D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	Ushuaia	4.74	153	Pn	Pn	16 09 25.5	-2.0
	38nm,0.3s,baz=316,slow=12,SNR=264						
USHA				Sn	Sn	16 10 22.9	-0.4
	36nm,0.3s,baz=211,slow=16,SNR=6.7						
USHA				LR	LR	16 10 49.2	
	comp=Z,1µm,21.9s,baz=313,slow=33						
USHA				Lg		16 10 54.4	
	54nm,0.3s,baz=54,slow=13,SNR=2.6						
PLCA	Paso Flores	9.98	7	Pn	P	16 10 41.1	+0.4
	0.4nm,0.3s,baz=198,slow=15,SNR=8.2						
PLCA				Lg		16 13 30.1	
	0.4nm,0.3s,baz=278,slow=20,SNR=3.4						
PLCA				LR	LR	16 14 34.3	
	comp=Z,994nm,21.0s,baz=195,slow=38						
TRQA	Tornquist	14.51	34	*e*P	P	16 11 44.2	+2.7
	7.0nm,0.5s						
CPUP	Villa Florida	26.80	31	P	P	16 13 54.9	-1.4
	11nm,1.0s,mb4.4,baz=228,slow=7.7,SNR=12						
CPUP				PcP	PcP	16 17 18.7	-0.9
	2.5nm,0.8s,baz=211,slow=5.0,SNR=4.2						
CPUP				LR	LR	16 24 29.8	
	comp=Z,687nm,18.2s,MS4.2,baz=221,slow=36						
CPUP	Villa Florida	26.80	31	P	P	16 13 54.9	-1.4
CPUP						16 17 18.7	
CPUP				pmax	pmax		
	comp=Z,11nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,687nm,18.2s						
CPUP	Villa Florida	26.80	31	P	P	16 13 54.9	-1.4
CPUP				PcP	PcP	16 17 18.7	-0.9
CPUP				LR	LR	16 24 29.8	
LVC	Limon Verde	28.10	6	*e*P	P	16 14 07.4	-0.7
	comp=Z,11nm,1.1s,mb4.4						
ARE	Arequipa	34.11	1	*e*P	P	16 15 02.2	+1.0
VNA3	Neumayer Olymp	34.41	149	⇑*i*	P	16 15 06.5	+3.3
LPAZ	La Paz	34.43	7	P	P	16 15 04.0	0.0
	comp=Z,4.4nm,0.3s,mb4.8,baz=188,slow=1.0,SNR=22						
LPAZ				PcP	PcP	16 17 39.9	+0.3
	comp=Z,2.0nm,0.2s,baz=166,slow=2.2,SNR=4.0						
LPAZ				LR	LR	16 29 27.9	
	comp=Z,457nm,19.6s,MS4.2,baz=143,slow=37						
LPAZ	La Paz	34.43	7	P	P	16 15 04.0	+0.1
LPAZ						16 17 39.9	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.2s						
LPAZ				MLR	MLR		
	comp=Z,457nm,19.6s						
LPAZ	La Paz	34.43	7	P	P	16 15 04.0	0.0
LPAZ				PcP	PcP	16 17 39.9	+0.3
LPAZ				LR	LR	16 29 27.9	
VNA1	Neumayer--Stat	34.85	148	⇑*i*	P	16 15 10.7	+3.7
VNA2	Neumayer--Watz	35.14	149	⇑*i*	P	16 15 12.7	+3.2
SNAA	Sanae	36.59	150	⇑*i*	P	16 15 21.3	-0.5
QSPA	South Pole Qui	39.59	180	*e*P	P	16 15 46.4	-0.4
	comp=Z,24nm,1.0s,mb4.9						
QSPA				LR	LR		
	comp=Z,170nm,19.5s,MS3.9						
BDFB	Brasilia	39.97	38	P	P	16 15 50.2	-0.3
	comp=Z,26nm,0.7s,mb5.1,baz=219,slow=6.6,SNR=34						
BDFB				LR	LR	16 34 50.5	
	comp=Z,1µm,18.8s,MS4.8,baz=196,slow=40						
BDFB	Brasilia	39.97	38	P	P	16 15 50.2	-0.3
BDFB				pmax	pmax		
	comp=Z,26nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,1µm,18.8s						
NVL	N'lazarevskaya	41.42	150	⇑*e*P	P	16 16 01.0	-0.9
NVL				pmax	pmax		
	comp=Z,132nm,1.2s,mb5.4						
SAML	Samuel	42.23	13	*e*P	P	16 16 07.5	-1.6
	comp=Z,18nm,0.9s,mb4.7						
SAML				LR	LR		
	comp=Z,368nm,19.0s,MS4.3						
SBA	Scott Base	46.84	194	*e*P	P	16 16 46.1	+0.8
	comp=Z,16nm,1.3s,mb4.8						
OTAV	Otavalo	50.99	352	*e*P	P	16 17 17.8	-0.5
	comp=Z,107nm,1.1s,mb5.7						
ROSC	El Rosal	55.32	357	P	P	16 17 50.9	+0.4
	comp=Z,8.0nm,0.3s,mb5.2,baz=304,slow=23,SNR=11						
RKT	Rikitea	55.36	275	*e*S	S	16 25 43.6	+11
RKT				*e*R		16 33 31.4	
	comp=Z,859nm,27.8s						
MAW	Mawson	57.32	161	P	P	16 18 04.3	+0.2
	comp=Z,7.5nm,0.9s,mb4.7,baz=224,slow=6.0,SNR=13						
MAW				LR	LR	16 42 04.9	
	comp=Z,1µm,19.8s,MS4.9,baz=225,slow=35						
MAW	Mawson	57.32	161	P	P	16 18 04.3	+0.2
MAW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAW				MLR	MLR		
	comp=Z,1µm,19.8s						
MAW	Mawson	57.32	161	*e*P	P	16 18 03.1	-0.9
	comp=Z,9.6nm,0.9s,mb4.8						
MAW				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
SDV	Santo Domingo	59.31	2	*e*P	P	16 18 16.9	-1.8
	comp=Z,5.7nm,0.2s,mb5.2						
SDV				LR	LR		
	comp=Z,280nm,20.0s,MS4.4						
JTS	JuntasAbangare	61.71	346	*e*P	P	16 18 33.6	-1.5
	comp=Z,24nm,1.0s,mb5.3						
TBI	Tubuai	64.40	264	*e*S	S	16 27 40.4	+11
TBI				*e*R		16 37 43.3	
	comp=Z,1µm,28.5s,baz=140						
PPT	Papeete	68.70	268	*e*S	S	16 28 31.0	+9.3
PPT				*e*R		16 39 41.1	
	comp=Z,2µm,26.0s,baz=137						
RPZ	Rata Peaks	71.17	223	LR	LR	16 44 01.8	
	comp=Z,213nm,19.4s,MS4.4,baz=63,slow=30						
URZ	Urewera	72.67	230	LR	LR	16 46 00.3	
	comp=Z,376nm,19.4s,MS4.7,baz=167,slow=31						
LIC	Lamto	80.60	68	*e*P	P	16 20 28.8	+0.2
	comp=Z,64nm,1.4s,mb5.4						
KIC	Kosan Boka	80.88	68	*e*P	P	16 20 31.0	+1.0
	comp=Z,21nm,0.8s,mb5.2						
TIC	Toumodi	80.94	68	*e*P	P	16 20 31.4	+1.0
	comp=Z,10nm,0.2s,mb5.4						
DBIC	Dimbokro	81.06	68	P	P	16 20 31.0	0.0
	comp=Z,5.1nm,0.7s,mb4.5,baz=201,slow=5.1,SNR=9.2						
DBIC				LR	LR	16 49 33.0	
	comp=Z,488nm,21.2s,MS4.8,baz=195,slow=31						
DBIC	Dimbokro	81.06	68	P	P	16 20 31.0	0.0
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,488nm,21.2s						
LRAL	Lakeview Retre	84.36	347	*e*P	P	16 20 47.4	-0.2
	comp=Z,15nm,1.0s,mb5.1						
TXAR	Lajitas Array	84.39	333	P	P	16 20 48.2	+0.4
	comp=Z,3.8nm,1.1s,mb4.5,baz=153,slow=8.4,SNR=16						
TXAR				LR	LR	16 52 01.4	
	comp=Z,162nm,19.1s,MS4.4,baz=150,slow=31						
TXAR	Lajitas Array	84.39	333	P	P	16 20 48.2	+0.4
TXAR				LR	LR	16 52 01.4	
JCT	Junction City	84.41	336	*e*P	P	16 20 47.3	-0.6
	comp=Z,12nm,0.8s,mb5.1						
LSZ	Lusaka	84.72	108	*e*P	P	16 20 51.3	+1.6
	comp=Z,41nm,1.7s,mb5.3						
LSZ				LR	LR		
	comp=Z,519nm,22.0s,MS4.9						
ELN	Prospectdale	87.84	353	*e*P	P	16 21 04.2	-0.4
WMOK	Wichita Mounta	88.22	338	*e*P	P	16 21 05.7	-0.8
	comp=Z,10nm,1.1s,mb5.0						
TUC	Tucson	89.39	328	*e*P	P	16 21 12.6	+0.4
TUC				LR	LR		
	comp=Z,183nm,20.0s,MS4.5						
BNM	Barren Site	89.77	332	*e*P	P	16 21 15.2	+1.4
CCM	Cathedral Cave	89.92	345	*e*P	P	16 21 13.3	-1.2
	comp=Z,37nm,0.8s,mb5.8						
LAZ	Ladron	90.16	332	*e*P	P	16 21 16.3	+0.7
ANMO	Albuquerque	90.46	332	*e*P	P	16 21 18.2	+1.2
ANMO	Albuquerque	90.46	332	*e*P	P	16 21 16.8	-0.2
	comp=Z,4.8nm,1.1s,mb4.7						
ANMO				LR	LR		
	comp=Z,183nm,19.0s,MS4.5						
STKA	Stephens Creek	92.59	208	P	P	16 21 27.7	+0.8
	comp=Z,6.5nm,0.9s,mb5.1,baz=150,slow=7.2,SNR=5.8						
SDCO	Great Sand Dun	92.80	334	*e*P	P	16 21 28.2	+0.5
	comp=Z,4.6nm,1.1s,mb4.8						
SDCO				LR	LR		
	comp=Z,184nm,19.0s,MS4.5						
NWAO	Narrogin (SRO)	96.37	188	LR	LR	17 04 28.9	
	comp=Z,143nm,21.3s,MS4.4,baz=243,slow=35						
NVAR	Mina Array Bea	97.54	325	LR	LR	16 56 51.0	
	comp=Z,90nm,20.8s,MS4.2,baz=170,slow=30						
PDAR	Pinedale Array	98.60	333	LR	LR	17 00 39.2	
	comp=Z,97nm,19.5s,MS4.3,baz=337,slow=32						
ASAR	Alice Springs	102.51	204	P	Pdif	16 22 12.1	-0.1
	comp=Z,0.6nm,0.8s,baz=153,slow=3.5,SNR=5.1						
ASAR				PKKPbc		16 38 10.6	
	comp=Z,0.3nm,0.6s,baz=347,slow=1.5,SNR=5.1						
WRA	Warramunga Arr	105.94	206	PKiKP		16 26 39.3	
	comp=Z,0.5nm,0.7s,baz=166,slow=1.3,SNR=8.7						
GERES	GERESS Array B	123.25	52	PKP	PKPdf	16 27 11.7	-2.1
	comp=Z,2.3nm,0.7s,baz=193,slow=1.8,SNR=18						
GERES	GERESS Array B	123.25	52	PKIKP	PKPdf	16 27 11.7	-2.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	128.63	72	PKP	PKPdf	16 27 23.0	-1.4
	comp=Z,3.1nm,0.8s,baz=192,slow=3.0,SNR=17						
BRTR	Keskin Array B	128.63	72	PKIKP	PKPdf	16 27 23.0	-1.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	Eielson Array	128.69	328	PKP	PKPdf	16 27 21.6	-2.1
	comp=Z,4.3nm,0.8s,baz=171,slow=1.9,SNR=42						
ILAR	Eielson Array	128.69	328	PKIKP	PKPdf	16 27 21.7	-2.1
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	NORSAR Array B	129.62	39	PKP	PKPdf	16 27 22.8	-2.9
	comp=Z,0.6nm,0.8s,baz=221,slow=2.2,SNR=2.9						
NOA	NORSAR Array B	129.62	39	PKIKP	PKPdf	16 27 22.8	-2.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	132.44	58	PKP	PKPdf	16 27 29.0	-2.3
	comp=Z,3.9nm,0.9s,baz=259,slow=2.4,SNR=12						
AKASG	Malin Array Be	132.44	58	PKIKP	PKPdf	16 27 29.0	-2.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	FINESS Array B	136.05	43	PKP	PKPdf	16 27 36.2	-1.4
	comp=Z,1.6nm,0.9s,baz=180,slow=1.9,SNR=5.4						
FINES	FINESS Array B	136.05	43	PKIKP	PKPdf	16 27 36.2	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	Obninsk	138.45	55	d *i*PKIKP	PKPdf	16 27 40.2	-2.0
OBN				*e*		16 33 42.1	
OBN				pmax	pmax		
	comp=Z,33nm,1.5s						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS5.0						
ARCES	ARCESS Array B	138.74	32	PKP	PKPdf	16 27 42.4	0.0
	comp=Z,1.9nm,0.9s,baz=326,slow=4.4,SNR=4.6						
ARCES	ARCESS Array B	138.74	32	PKIKP	PKPdf	16 27 42.4	0.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MOS	Moscow	139.26	55	*e*PKIKP	PKPdf	16 27 41.8	-1.9
BDT	Bhumibol Dam	145.92	165	⇑P	PKPbc	16 27 54.5	+0.3
	comp=Z,8.9nm,0.9s						
CM31	Chiang Mai Arr	147.09	164	*e*PKPbc	PKPdf	16 27 58.0	-0.3
CMAR	Chiang Mai Arr	147.09	164	PKPbc	PKPdf	16 27 57.7	-0.6
	comp=Z,4.2nm,0.8s,baz=228,slow=2.6,SNR=22						
CMAR	Chiang Mai Arr	147.09	164	PKIKP	PKPdf	16 27 57.7	-0.6
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHG	Chiang Mai	147.44	164	⇑P	PKPdf	16 28 00.5	+1.7
	comp=Z,16nm,0.8s						
AB31	Akbulak array	149.55	74	PKIKP	PKPdf	16 27 59.8	-1.5
AB31				pmax	pmax		
	comp=Z,25nm,0.8s						
THN	Thein Dam	150.15	115	*e*P	PKPdf	16 28 05.8	+3.0
	comp=Z,39nm,1.3s						
KOLN	Koldanda	150.64	132	*e*P	PKPdf	16 28 06.4	+2.7
	comp=Z,57nm,0.7s						
ARU	Arti	150.67	59	⇓*i*PKIKP	PKPdf	16 28 06.6	+3.8
ARU				*e*		16 28 13.9	
ARU				pmax	pmax		
	comp=Z,32nm,0.9s						
ARU	Arti	150.67	59	*e*PKPbc	PKPdf	16 28 06.6	+3.8
DMN	Daman	151.21	134	*e*P	PKPdf	16 28 07.8	+3.3
	comp=Z,43nm,0.7s						
PKI	Pulchoki	151.31	135	*e*P	PKPdf	16 28 08.0	+3.3
	comp=Z,41nm,0.7s						
GKN	Gorkha	151.33	133	*e*P	PKPdf	16 28 07.7	+3.0
	comp=Z,54nm,0.7s						
KKN	Kakani	151.44	135	*e*P	PKPdf	16 28 07.8	+3.0
	comp=Z,32nm,0.6s						
SHL	Shillong	152.09	148	*e*P	PKPdf	16 28 02.5	-3.4
KKAR	Karatay Array	153.59	92	PKIKP	PKPdf	16 28 06.0	-1.4
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	Lhasa	155.58	143	*e*PKPdf	PKPdf	16 28 09.5	-1.0
LSA				*e*PKPab	PKPab	16 28 35.8	-0.2
ZRNK	Zerenda	156.05	69	PKIKP	PKPdf	16 28 08.0	-2.3
ZRNK				pmax	pmax		
	comp=Z,21nm,1.8s						
ZRNK	Zerenda	156.05	69	*e*PKPdf	PKPdf	16 28 08.7	-1.7
ZRNK				*e*		16 28 19.4	
FRU	Bishkek	156.06	96	*e*PKIKP	PKPdf	16 28 10.0	-0.7
BRVK	Borovoye	156.83	69	*e*PKPdf	PKPdf	16 28 09.8	-1.6
BVA0	Borovoye Array	156.88	69	PKIKP	PKPdf	16 28 10.6	-0.9
VOSK	Vostochnaya	157.19	70	PKIKP	PKPdf	16 28 09.2	-2.7
VOSK				pmax	pmax		
	comp=Z,22nm,2.1s						
KURK	Kurchatov	161.51	78	*i* PKIKP	PKPdf	16 28 12.1	-4.7
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KURK	Kurchatov	161.51	78	*e*PKPdf	PKPdf	16 28 15.4	-1.4
MKAR	Makanchi Array	162.71	93	PKP	PKPdf	16 28 16.9	-1.3
	comp=Z,0.9nm,0.7s,baz=131,slow=1.5,SNR=5.3						
MKAR				tx	tx	16 28 59.5	
	comp=Z,1.2nm,0.6s,baz=249,slow=5.2,SNR=7.0						
MKAR				PKPab	PKPab	16 29 04.3	-1.9
	comp=Z,1.8nm,0.6s,baz=247,slow=4.4,SNR=8.3						
MKAR	Makanchi Array	162.71	93	PKIKP	PKPdf	16 28 16.9	-1.3
MKAR						16 29 04.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	162.71	93	PKP	PKPdf	16 28 16.9	-1.3
MKAR				PKPab	PKPab	16 29 04.3	-1.9
NVS	Novosibirsk	164.53	65	*e*PKIKP	PKPdf	16 28 16.0	-3.7
NVS				*i*		16 29 12.5	
NVS				pmax	pmax		
	comp=Z,13nm,1.7s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.3s						
LZH	Lanzhou	165.15	167	*e*P	PKPdf	16 28 19.9	-1.0
LZH				pP		16 28 33.5	
LZH				sP		16 28 41.0	
SONM	Songino Array	177.01	160	PKP	PKPdf	16 28 25.4	-1.2
	comp=E,1.7nm,1.2s,baz=198,slow=3.9,SNR=6.9						
SONM				PKPab	PKPab	16 30 09.5	+0.4
	comp=E,2.5nm,1.0s,baz=198,slow=3.9,SNR=9.0						
SONM				PP	PP	16 34 02.3	-0.5
	comp=E,0.2nm,0.7s,baz=124,slow=4.5,SNR=3.7						
ZAK	Zakamensk	177.05	94	*e*PKIKP	PKPdf	16 28 19.1	-7.4
ZAK				*e*		16 30 08.7	
ZAK				*e*		16 34 04.3	

CASC 30 16:09:22.0±1.9**, 13.36N×90.19W, h38^{km}**±138^{km}**, MD3.2, ML3.6, 3C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	San Blas	0.73	49	⇑*e*P	P	16 09 36.4	+0.5
SBLS				*e*S	S	16 09 46.9	+0.8
RTR	El Retiro	0.76	45	⇓*e*P	P	16 09 36.9	+0.6
RTR				*e*S	S	16 09 47.7	+1.0
SNJE	San Jose	0.77	48	⇑*e*P	P	16 09 36.9	+0.5
SNJE				*e*S	S	16 09 48.1	+1.2
IXG	Ixpaco	0.85	343	⇓*e*P	P	16 09 37.4	-0.2
IXG				*e*S	S	16 09 50.2	+1.2
IXG				AML	AML	16 09 55.0	
	comp=N,3µm,0.4s						
BOQS	Boqueron	0.96	67	*e*P	P	16 09 39.4	+0.1
LFU	La Fuente	1.12	69	*e*P	P	16 09 41.8	+0.4
LFRS	El Faro	1.13	76	*e*P	P	16 09 41.5	-0.1
LFRS				*e*S	S	16 09 56.0	-0.2
LCBS	La Ceiba	1.22	76	*e*P	P	16 09 42.8	0.0
LCBS				*e*S	S	16 09 58.2	-0.2
NBG	Las Nubes	1.23	353	⇑*e*P	P	16 09 44.1	+1.1
NBG				*e*S	S	16 10 01.5	+2.8
NBG				AML	AML	16 10 07.0	
	comp=E,718nm,0.4s						
FUG	Fuego 3	1.25	330	*e*P	P	16 09 43.0	-0.3
FUG				*e*S	S	16 09 58.7	-0.6
SNVI	San Vicente	1.34	79	*e*P	P	16 09 45.4	+0.7
SNVI				*e*S	S	16 10 01.9	+0.4
SNVI				*e*S	S	16 10 02.4	+0.9
MRL	Marmol	1.77	16	*e*S	S	16 10 13.3	+1.1

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*IDC **30** 16:28:27.1±2.0, 52.37N×174.77W, mb3.5/4, mb1 3.9/5, mb1mx3.6/22, ML3.0/1, Error ellipse: s-maj=70.8km s-min=26.8km az=8.0*

*NEIC **30** 16:28:50.2, 52.35N×170.06W, h10^{km}, ML3.0(AEIC), After AEIC.*

ISC 30 16:28:49.0±0.7**, 52.5N**±0.1×**170.2W**±0.1**, h10^{km}, n14, σ0^{s}86**/19**, mb3.5**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	0.92	60	P	Pb	16 29 05.4	-1.1
NIKO				S	Sb	16 29 17.4	-1.1
OKCE	Okmok Cone E	1.51	52	P	Pn	16 29 15.7	-0.6
OKCE				S	Sb	16 29 37.4	+1.6
OKFG	Magazine Ridge	1.63	56	P	Pn	16 29 17.5	-0.4
OKFG				S	Sn	16 29 39.3	+0.2
MCIR	Makushin Cirqu	2.43	53	P	Pn	16 29 30.2	+0.7
ATKA	Atka Island	2.49	264	P	Pn	16 29 30.9	+0.6
ATKA				S	Sn	16 29 59.1	-1.9
MTBL	Makushin Table	2.55	54	P	Pn	16 29 31.3	+0.3
UNV	Unalaska Valle	2.57	58	P	Pn	16 29 31.1	-0.3
UNV				S	Sn	16 30 02.5	-0.6
LVA	Lava Point	2.97	55	P	Pn	16 29 37.5	+0.4
GSTR	Great Sitkin T	3.64	266	P	Pn	16 29 47.6	+0.9
KIMD	Kanaga Island	4.42	263	P	Pn	16 29 58.4	+0.6
ILAR	Eielson Array	17.10	35	P	P	16 32 49.6	+0.3
	0.0nm,0.3s,baz=226,slow=9.7,SNR=7.2						
NVAR	Mina Array Bea	38.15	91	P	P	16 36 11.2	+1.3
	0.5nm,0.7s,mb3.4,baz=305,slow=6.5,SNR=6.0						
PDAR	Pinedale Array	40.85	79	P	P	16 36 31.8	-0.5
	0.3nm,0.5s,mb3.2,baz=297,slow=6.6,SNR=3.5						
TXAR	Lajitas Array	53.23	88	P	P	16 38 09.2	-0.5
	0.4nm,0.3s,mb3.9,baz=297,slow=6.0,SNR=3.0						

IDC 30 16:42:46.5±17.0**, 20.72S×174.20W, mb4.2**/5**, mb1 4.4**/5**, mb1mx4.0**/17**, Error ellipse: s-maj=317.0km s-min=145.1km az=82.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.01	264	P	P	16 49 58.8	-1.1
	2.0nm,0.3s,baz=80,slow=13,SNR=4.8						
STKA	Stephens Creek	40.91	245	P	P	16 50 30.8	-1.5
	2.1nm,0.6s,baz=80,slow=8.2,SNR=6.5						
ASAR	Alice Springs	47.93	256	P	P	16 51 26.4	-2.5
	2.3nm,0.6s,baz=99,slow=7.6,SNR=32						
WB2	Warramunga Arr	48.09	261	*e*P	P	16 51 27.1	-3.0
WRA	Warramunga Arr	48.10	261	P	P	16 51 27.5	-2.7
	1.0nm,0.3s,baz=97,slow=8.0,SNR=75						
FITZ	Fitzroy Crossi	56.53	262	P	P	16 52 31.6	-1.6
	2.4nm,0.7s,baz=117,slow=4.5,SNR=9.3						

IDC 30 16:44:30.9±10.0**, 1.60N×120.10E, h65^{km}**±98^{km}**, mb3.5**/6**, mb1 3.6**/6**, mb1mx3.4**/17**, Error ellipse: s-maj=125.0km s-min=26.2km az=57.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.32	165	P	P	16 49 01.3	-3.0
	2.1nm,0.7s,baz=343,slow=5.9,SNR=3.4						
WRA	Warramunga Arr	25.56	148	P	P	16 49 53.5	-2.2
	1.2nm,0.6s,baz=326,slow=10,SNR=21						
ASAR	Alice Springs	28.48	153	P	P	16 50 19.6	-2.7
	0.5nm,0.7s,baz=331,slow=8.3,SNR=7.7						
ASAR				PcP	PcP	16 53 30.1	-3.0
	0.3nm,0.6s,baz=342,slow=2.2,SNR=5.5						
STKA	Stephens Creek	39.04	150	P	P	16 51 53.1	0.0
	2.1nm,0.8s,baz=328,slow=14,SNR=2.4						
MKAR	Makanchi Array	55.75	329	P	P	16 54 01.4	-2.1
	0.3nm,0.5s,baz=127,slow=7.2,SNR=4.2						
BRTR	Keskin Array B	86.26	310	P	P	16 57 05.7	-1.3
	0.5nm,0.6s,baz=135,slow=5.2,SNR=4.0						

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*IDC **30** 16:45:58.2±1.3, 24.66N×99.61E, mb3.7/3, mb1 3.8/4, mb1mx3.5/18, ML3.7/1, MS2.7/1, Ms1 2.9/1, ms1mx2.7/26, Error ellipse: s-maj=34.5km s-min=17.4km az=85.0*

*BJI **30** 16:45:59.3, 24.68N×99.70E, h12^{km}, mb3.7, ML3.8*
*NEIC **30** 16:45:59.2±3.9, 24.59N×99.65E, h7^{km}±28^{km}, Error ellipse: s-maj=10.3km s-min=8.3km az=93.0*
ISC 30 16:45:57.2±0.6**, 24.48N**±0.04×**99.67E**±0.07**, h12^{km}, n12, σ1^{s}42**/23**, mb3.8**/4**, 1C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.87	76	eP	Pn	16 46 45.0	+1.4
KMI				PG	Pg	16 46 51.3	-3.1
KMI				S	Sn	16 47 18.0	-0.3
KMI				SG	Sg	16 47 26.8	-5.9
KMI				Smax			
	comp=N,458nm,0.8s						
KMI				Smax			
	comp=E,259nm,0.8s						
KMI				LR	LR		
	comp=N,1µm,5.1s						
KMI				LR	LR		
	comp=E,448nm,3.8s						
KMI	Kunming	2.87	76	ePn	Pn	16 46 45.0	+1.4
KMI				Pg	Pg	16 46 51.3	-3.1
KMI				Sn	Sn	16 47 18.1	-0.2
KMI				Sg	Sg	16 47 26.7	-6.0
CHRT	Chiangrai	4.58	179	⇑PN	Pg	16 47 24.5	-4.2
CHRT				PG	Pg	16 47 27.5	-1.2
CHRT				SG	Sg	16 48 29.0	-0.8
CHG	Chiang Mai	5.67	187	PG	Pg	16 47 48.2	-2.3
CHG				SG	Sg	16 49 06.2	+0.1
CM31	Chiang Mai Arr	6.03	187	ePn	Pn	16 47 30.3	+1.9
	comp=E,22nm,0.5s						
CM31				ePg	Pg	16 47 53.0	-4.5
CM31				e		16 49 11.4	
CMAR	Chiang Mai Arr	6.03	187	Pn	Pn	16 47 30.4	+2.0
	comp=E,0.4nm,0.3s,baz=0.5,slow=13,SNR=22						
CMAR				Pg	Pg	16 47 52.0	-5.5
	comp=E,1.1nm,0.3s,baz=355,slow=18,SNR=38						
CMAR				Lg		16 49 15.7	
	comp=E,2.1nm,0.3s,baz=5.6,slow=28,SNR=15						
CMAR				LR	LR	16 50 26.0	
	comp=E,63nm,19.3s,baz=184,slow=43						
LSA	Lhasa	9.20	306	Pn	P	16 48 11.8	-0.9
ENH	Enshi	10.46	54	ePn	P	16 48 29.4	-0.8
SONM	Songino Array	23.92	11	P	P	16 51 12.7	+1.0
	comp=E,1.7nm,1.0s,mb3.5,baz=192,slow=7.4,SNR=11						
MKAR	Makanchi Array	26.25	332	P	P	16 51 33.0	-0.9
	comp=E,1.0nm,0.6s,mb3.5,baz=142,slow=10,SNR=8.5						
WRAB	Tennant Creek	55.58	140	P	P	16 55 36.1	+0.9
	comp=E,4.9nm,1.0s,mb4.5						
WRA	Warramunga Arr	55.58	140	P	P	16 55 36.9	+1.7
	comp=E,0.7nm,0.7s,mb3.8,baz=328,slow=7.8,SNR=6.6						

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*MDD **30** 17:03:03.8±0.4, 42.99N×0.18E, h12^{km}±3^{km}, mbLg1.1/2, Error ellipse: s-maj=4.3km s-min=2.6km az=164.0, PRXIMO*
*STR **30** 17:03:03.5±0.0, 43.01N×0.09W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 17:03:03.5±0.1, 42.96N×0.18E, h10^{km}, Md1.6/2, Ml1.4/2, Error ellipse: s-maj=2.3km s-min=0.9km az=166.0*
ISC 30 17:03:03.1±0.7**, 42.98N**±0.07×**0.20E**±0.05**, h15^{km}**±6^{km}**, n10, σ0^{s}63**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	Labassere	0.11	307	Pg	Pb	17 03 06.6	+0.2
LABF				Sg	Sb	17 03 08.8	+0.2
LABF	Labassere	0.11	307	Pg	Pb	17 03 06.7	+0.2
LABF				Lg		17 03 08.9	
EPF	Esparros	0.12	64	ePg	Pb	17 03 06.9	+0.4
EPF				eSg	Sb	17 03 09.0	+0.2
	16nm,0.2s						
VIEF	Viey	0.16	233	Pg	Pb	17 03 07.0	-0.2
VIEF				Sg	Sb	17 03 09.6	-0.3
VIEF	Viey	0.16	233	Pg	Pb	17 03 07.1	-0.2
VIEF				Lg		17 03 09.5	
ETSF	Etsaut	0.56	262	ePg	Pb	17 03 13.9	-0.2
ETSF				eSg	Sb	17 03 21.2	-0.4
	3.0nm,0.3s						
EGRA	Graus	0.79	173	Pg	Pb	17 03 18.7	+0.7
	1.1nm,0.6s,SNR=7.9						
EGRA				Lg		17 03 29.7	
	0.7nm,0.2s,SNR=7.9						
SJPF	Ste Jean	1.05	278	eSg	Sb	17 03 36.4	+0.6
	0.5nm,0.3s						
EALK	Alkurruntz	1.27	281	Pg	Pb	17 03 26.3	0.0
	8.8nm,1.6s,SNR=7.9						
EALK				Lg		17 03 43.4	
	26nm,1.4s,SNR=7.9						
MTLF	Montolieu	1.52	76	ePn	Pn	17 03 29.5	-0.5
MTLF				eSn	Sn	17 03 48.1	-1.5
MTLF				eSg	Sn	17 03 51.8	+2.2
	1.4nm,0.3s						

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*SNSN **30** 17:23:18.6, 24.53N×36.32E, h10^{km}, Ml3.8*
*IDC **30** 17:23:20.8±0.9, 24.68N×36.39E, mb3.9/15, mb1 4.0/19, mb1mx4.0/25, ML3.3/4, MS3.5/4, Ms1 3.5/4, ms1mx3.2/18, Error ellipse: s-maj=19.7km s-min=17.8km az=47.0*
*NEIC **30** 17:23:22.0±0.7, 24.69N×36.39E, h10^{km}, mb4.3/5, Error ellipse: s-maj=13.8km s-min=12.6km az=66.0*
ISC 30 17:23:20.4±0.6**, 24.73N**±0.06×**36.40E**±0.06**, h10^{km}, n39, σ1^{s}20**/39**, mb3.9**/19**, MS3.5**/2**, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UMJS	Umm Lajj	0.96	59	P	Pb	17 23 40.5	+1.7
YNBS	Yanbu‘ al Bahr	1.50	105	P	Pn	17 23 46.1	-1.4
DBAS	Duba	2.50	351	P	Pn	17 24 01.0	-0.8
TBKS	Tabuk	3.48	2	P	Pn	17 24 16.5	+0.7
AYUS	‘Aynunah	3.59	344	P	Pn	17 24 16.3	-1.0
BDAS	Al Bad‘	3.87	343	P	Pn	17 24 20.3	-1.0
JMQS	Jabal Moqyreh	4.16	354	P	Pn	17 24 25.6	+0.1
HAQS	Haql	4.50	343	P	Pn	17 24 29.5	-0.8
JMOS	Jabal al Moall	4.57	346	P	Pn	17 24 31.1	-0.1
EIL	Elat	5.09	346	Pn	Pn	17 24 38.6	0.0
	1.0nm,0.3s,baz=137,slow=4.9,SNR=6.0						
EIL				LR	LR	17 26 50.7	
	comp=Z,362nm,18.3s,baz=128,slow=41						
EIL	Elat	5.09	346	ePn	Pn	17 24 33.9	-4.6
EIL				LR	LR	17 26 50.7	
HILS	Ha’il	5.52	60	P	Pn	17 24 43.0	-1.7
LTHS	Al Lith	5.78	139	P	Pn	17 24 43.1	-5.2
ASF	Jabal al Asfar	7.42	3	Pn	Pn	17 25 10.9	-0.6
	0.7nm,0.3s,baz=172,slow=1.5,SNR=7.2						
ASF				Lg		17 27 12.4	
	0.3nm,0.3s,baz=291,slow=24,SNR=3.0						
ASF				LR	LR	17 28 14.2	
	comp=Z,403nm,19.8s,baz=50,slow=39						
RAYN	Ar Rayn	8.40	96	Pn	P	17 25 25.9	+0.8
	203nm,0.4s,SNR=28						
MALT	Malatya	13.65	7	Pn	P	17 26 35.9	-0.6
IDI	Anoyia	14.48	319	Pn	P	17 26 46.5	-1.0
	0.4nm,0.3s,baz=187,slow=15,SNR=3.6						
BRTR	Keskin Array B	15.13	352	Pn	P	17 26 57.5	+1.7
	0.1nm,0.3s,baz=166,slow=12,SNR=5.5						
MLR	Muntele Rosu	22.37	340	P	P	17 28 22.7	+2.6
	3.0nm,0.9s,mb3.7,baz=100,slow=12,SNR=5.3						
VAE	Valguarnera	22.65	309	P	P	17 28 25.6	+2.7
	7.8nm,0.7s,mb4.2,baz=258,slow=18,SNR=2.6						
KMBO	Kilima Mbogo	25.72	178	P	P	17 28 52.1	-0.7
	2.5nm,1.0s,mb3.7,baz=40,slow=14,SNR=4.6						
KMBO				LR	LR	17 38 16.8	
	comp=Z,107nm,18.1s,MS3.4,baz=94,slow=35						
AKASG	Malin Array Be	26.51	350	P	P	17 28 59.7	0.0
	3.1nm,0.7s,mb3.9,baz=170,slow=8.6,SNR=16						
PSZ	Piszkesteto	26.58	335	eP	P	17 28 58.2	-2.2
	10nm,1.0s,mb4.3						
VRAC	Vranov	29.01	333	P	P	17 29 23.6	+1.1
	2.4nm,0.8s,mb4.0,baz=232,slow=6.5,SNR=3.0						
GERES	GERESS Array B	29.94	329	P	P	17 29 30.0	-0.9
	1.4nm,0.8s,mb3.7,baz=141,slow=8.5,SNR=9.3						
BRG	Berggiesshubel	31.31	332	eP	P	17 29 45.9	+3.0
	5.6nm,1.1s,mb4.3						
MOX	Moxa	32.17	330	eP	P	17 29 54.0	+3.6
ARU	Arti	35.53	21	eP	P	17 30 19.3	0.0
	3.5nm,0.7s,mb4.4						
ESDC	Sonseca Array	36.94	304	P	P	17 30 32.4	+1.1
	0.3nm,0.3s,mb3.5,baz=61,slow=7.3,SNR=3.7						
FINES	FINESS Array B	37.37	352	P	P	17 30 34.6	-0.2
	0.7nm,0.6s,mb3.6,baz=172,slow=9.8,SNR=2.8						
BVAR	Borovoye Array	38.09	33	P	P	17 30 43.0	+2.1
	0.5nm,0.8s,mb3.3,baz=225,slow=8.4,SNR=2.8						
BVAR				PP	PP	17 32 07.2	-3.9
	0.4nm,0.5s,baz=225,slow=8.4,SNR=4.6						
NOA	NORSAR Array B	40.19	341	P	P	17 30 57.1	-1.2
	0.7nm,0.6s,mb3.5,baz=140,slow=8.7,SNR=4.5						
KURK	Kurchatov	41.47	40	P	P	17 31 08.4	-0.5
	4.3nm,1.0s,mb4.0						
MKAR	Makanchi Array	42.51	47	P	P	17 31 19.1	+1.7
	4.8nm,0.8s,mb4.3,baz=252,slow=7.7,SNR=16						
DBIC	Dimbokro	43.36	253	P	P	17 31 25.6	+0.7
	4.0nm,0.8s,mb4.2,baz=34,slow=9.4,SNR=4.7						
DBIC				LR	LR	17 48 11.7	
	comp=Z,77nm,18.8s,MS3.6,baz=47,slow=34						
DBIC	Dimbokro	43.36	253	eP	P	17 31 24.7	-0.2
	2.9nm,0.5s,mb4.3						
ARCES	ARCESS Array B	45.29	355	P	P	17 31 38.8	-0.9
	1.0nm,0.8s,mb3.7,baz=180,slow=7.3,SNR=4.0						
CMAR	Chiang Mai Arr	58.06	83	P	P	17 33 15.7	-0.7
	0.4nm,0.5s,mb3.7,baz=306,slow=9.1,SNR=3.9						
SONM	Songino Array	58.86	48	P	P	17 33 21.6	0.0
	1.1nm,1.0s,mb3.8,baz=270,slow=7.4,SNR=7.5						

IDC 30 17:34:45.1±0.9**, 27.81N**×**139.98E, h483^{km}**±27^{km}**, mb2.8**/4**, mb1 2.9**/5**, mb1mx2.7**/21**, Error ellipse: s-maj=81.0km s-min=17.4km az=77.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.08	110	P	P	17 35 50.9	+1.3
	27nm,0.3s,baz=247,slow=20,SNR=4.7						
CBIJ				S	S	17 36 41.0	+0.4
	24nm,0.3s,baz=282,slow=22,SNR=3.5						
WRA	Warramunga Arr	47.79	187	P	P	17 42 37.6	-1.8
	0.5nm,0.5s,baz=4.5,slow=7.6,SNR=22						
MKAR	Makanchi Array	48.51	309	P	P	17 42 43.0	-1.5
	0.4nm,0.5s,baz=85,slow=10,SNR=6.4						
ASAR	Alice Springs	51.51	187	P	P	17 43 05.4	-1.7
	0.2nm,0.4s,baz=2.7,slow=5.3,SNR=10						
FINES	FINESS Array B	76.43	333	P	P	17 45 43.9	-1.1
	0.4nm,0.3s,baz=70,slow=5.4,SNR=7.2						

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*IDC **30** 17:41:39.7±4.5, 8.61S×119.99E, h194^{km}±50^{km}, mb3.3/3, mb1 3.3/5, mb1mx3.1/16, Error ellipse: s-maj=86.5km s-min=34.4km az=53.0*
ISC 30 17:41:32.8±2.9**, 8.4S**±0.2×**119.7E**±0.3**, h176^{km}**±25^{km}**, n8, σ1^{s}20**/11**, mb4.0**/2**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.26	150	eP	P	17 44 11.6	+1.9
	2.2nm,0.8s						
FITZ				eS	S	17 46 10.1	-2.6
FITZ	Fitzroy Crossi	11.26	150	P	P	17 44 11.4	+1.7
	0.1nm,0.3s,baz=360,slow=23,SNR=3.1						
FITZ				S	S	17 46 12.0	-0.7
	0.4nm,0.3s,baz=185,slow=21,SNR=4.5						
KAKA	Kakadu	13.18	110	eP	P	17 44 34.5	+0.2
	1.6nm,0.2s						
WRA	Warramunga Arr	18.24	131	P	P	17 45 34.1	-1.3
	0.3nm,0.3s,baz=307,slow=13,SNR=28						
WRA				S	S	17 48 51.0	+1.2
	0.1nm,0.3s,baz=297,slow=18,SNR=4.4						
WB2	Warramunga Arr	18.25	131	eP	P	17 45 34.1	-1.4
ASAR	Alice Springs	20.40	140	P	P	17 45 58.8	+1.1
	0.3nm,0.3s,baz=313,slow=9.0,SNR=14						
CTA	Charters Tower	28.18	117	P	P	17 47 10.8	-0.5
	2.7nm,0.8s,mb4.0,baz=74,slow=23,SNR=2.9						
STKA	Stephens Creek	31.00	142	P	P	17 47 36.2	+0.2
	2.3nm,0.9s,mb3.9,baz=310,slow=16,SNR=3.2						

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*TIR **30** 18:22:07.7, 42.45N×19.98E*
*PDG **30** 18:22:08.6±0.2, 42.48N×20.05E, h10^{km}±1^{km}*
ISC 30 18:22:06.4±1.0**, 42.47N**±0.03×**20.16E**±0.07**, h10^{km}, n12, σ0^{s}86**/24**, 2C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.12	214	ePg	Pg	18 22 09.4	-0.1
BCI				i Sg	Sg	18 22 12.0	+0.5
PVY	Plav	0.19	313	⇑iPg	Pg	18 22 10.7	+0.1
PVY				eSg	Sg	18 22 13.4	+0.1
IVA	Berane	0.45	334	⇑iPg	Pg	18 22 16.2	+0.6
IVA				eSg	Sg	18 22 22.3	+0.7
PUK	Puka	0.47	205	ePg	Pg	18 22 16.6	+0.6
PUK				i Sg	Sg	18 22 24.4	+2.1
TTG	Podgorica	0.67	267	⇓iPg	Pg	18 22 18.5	-1.4
TTG				eSg	Sg	18 22 28.1	-0.7
ULC	Ulcinj	0.84	234	ePg	Pg	18 22 22.4	-1.0
ULC				eSg	Sg	18 22 35.3	+0.6
NKY	Niksic	0.93	292	⇓iPg	Pg	18 22 24.0	-0.9
NKY				eSg	Sg	18 22 37.5	+0.2
BUM	Brajici-Budva	0.95	260	ePg	Pg	18 22 24.8	-0.7
BUM				eSg	Sg	18 22 38.6	+0.4
PLE	Pljevlja	1.03	327	ePg	Pg	18 22 26.9	-0.1
PLE				eSg	Sg	18 22 42.2	+1.4
UPM	Unac-Piva	1.18	309	ePg	Pg	18 22 29.3	-0.7
UPM				eSg	Sg	18 22 46.8	+1.1
HCY	Herceg Novi	1.23	270	ePg	Pg	18 22 29.9	-1.1
HCY				eSg	Sg	18 22 47.6	+0.1
BRY	Bratogost	1.27	290	ePg	Pg	18 22 30.3	-1.5
BRY				eSg	Sg	18 22 48.8	+0.1

DJA 30 18:29:12.7±1.2**, 9.83S**×**114.03E, h2^{km}, MD5.3**/4**, ML4.8**/3**, 3C-3D, Error ellipse: s-maj=27.6km s-min=18.0km az=45.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	1.49	48	⇓ePn	Pn	18 29 37.0	-3.6
	738nm,0.2s						
KELI	Kelakatan	1.66	16	⇑ePn	Pn	18 29 40.2	-2.9
	637nm,0.2s						
KELI				⇓eSn	Sn	18 30 00.1	-5.2
RATI	Rata	1.85	54	⇑ePn	Pn	18 29 42.9	-2.8
	1µm,0.2s						
RATI				⇑eSn	Sn	18 30 04.6	-5.3
KEDI	Kedomdong	2.45	57	⇓ePn	Pn	18 29 51.2	-3.2

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*CASC **30** 18:35:32.7±1.4, 13.99N×93.12W, h84^{km}±29^{km}, MD4.5, ML4.5, mb4.0(NEIC)*
*MEX **30** 18:35:33.0±0.8, 14.01N×93.32W, h14^{km}±54^{km}, MD4.6*
*NEIC **30** 18:35:33.5±2.8, 14.15N×93.16W, h29^{km}±19^{km}, mb4.0/13, MD4.6(MEX), Error ellipse: s-maj=17.0km s-min=8.9km az=209.0*
*IDC **30** 18:35:44.6±3.2, 14.69N×92.78W, h104^{km}±25^{km}, mb3.9/10, mb1 4.1/12, mb1mx3.9/21, MS3.7/10, Ms1 3.7/10, ms1mx3.5/24, Error ellipse: s-maj=28.9km s-min=15.7km az=41.0*
ISC 30 18:35:29.9±1.4**, 14.03N**±0.05×**93.23W**±0.03**, h23^{km}**±11^{km}**, n69, σ1^{s}22**/76**, mb4.1**/19**, MS3.8**/9**, 4C-2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	1.57	79	⇑eP	Pn	18 35 57.3	+0.5
JAT				eS	Sn	18 36 18.1	+1.5
JAT				AML	AML	18 36 19.2	
	comp=N,17µm,0.3s						
JAT				AML	AML	18 36 23.4	
	comp=E,12µm,0.6s						
CCIG	Comitan	2.48	25	i P	Pn	18 36 10.4	+0.6
CCIG				i S	Sn	18 36 40.5	+0.9
IXG	Ixpaco	2.69	87	⇓eP	Pn	18 36 12.6	-0.3
IXG				eS	Sn	18 36 43.8	-1.3
IXG				AML	AML	18 36 56.7	
	comp=N,8µm,0.4s						
IXG				AML	AML	18 37 00.5	
	comp=E,9µm,0.4s						
SCX	San Cristobal	2.75	12	i P	Pn	18 36 16.0	+2.3
SCX				i S	Sn	18 36 48.0	+1.4
NBG	Las Nubes	2.85	78	⇓eP	Pn	18 36 15.8	+0.8
NBG				eS	Sn	18 36 49.7	+0.7
NBG				AML	AML	18 37 06.0	
	comp=E,2µm,0.4s						
CUSS	Cusmapa	3.19	92	eP	Pn	18 36 19.7	-0.1
CUSS				eS	Sn	18 36 56.2	-1.3
HUIG	Huatulco	3.28	302	i S	Sn	18 36 57.6	-2.3
CMIG	Matias Romero	3.44	333	i P	Pn	18 36 22.7	-0.7
CMIG				i S	Sn	18 37 01.9	-2.1
RTR	El Retiro	3.48	92	⇑eP	Pn	18 36 24.7	+0.7
SBLS	San Blas	3.50	93	⇑eP	Pn	18 36 24.8	+0.4
SNJE	San Jose	3.52	92	eP	Pn	18 36 24.8	+0.2
MRL	Marmol	3.58	73	⇑eP	Pn	18 36 25.0	-0.4
MRL				eS	Sn	18 37 06.7	-0.7
MRL				AML	AML	18 37 27.5	
	comp=E,224nm,0.6s						
LFRS	El Faro	4.07	95	eP	Pn	18 36 32.2	-0.2
LCBS	La Ceiba	4.14	95	eP	Pn	18 36 33.0	-0.4
LCBS				eS	Sn	18 37 19.8	-2.0
OXX	Oaxaca	4.54	312	eP	Pn	18 36 38.0	-1.0
VHO	Vista Hermosa	4.54	312	eP	Pn	18 36 39.4	+0.4
VHO				i S	Sn	18 37 29.6	-2.2
EVV	El Vigia	4.85	335	eP	Pn	18 36 42.0	-1.5
SCIG		5.29	21	i P	Pn	18 36 48.9	-0.7
SCIG				i S	Sn	18 37 50.5	-0.1
CNCH	Conchagua	5.29	97	eP	Pn	18 36 48.6	-1.1
IISM	Ciudad Serdan	6.34	322	eP	Pn	18 37 12.0	+7.5
PPM	Popocatepetl	7.21	315	eP	Pn	18 37 15.0	-1.6
PPM				eP		18 37 17.5	
PPM				i S	Sn	18 38 35.8	-2.9
PPM	Popocatepetl	7.21	315	eP	Pn	18 37 15.0	-1.6
PPM				i S	Sn	18 38 35.8	-2.9
TEIG	Tepich	7.77	37	P	Pn	18 37 22.7	-1.8
	comp=E,0.0nm,0.3s,baz=50,slow=24,SNR=15						
TEIG				S	Sn	18 38 43.9	-8.8
	comp=E,0.0nm,0.3s,baz=298,slow=24,SNR=2.5						
JTS	JuntasAbangare	8.90	114	P	P	18 37 49.5	+9.3
	comp=E,2.6nm,0.3s,baz=315,slow=19,SNR=8.0						
JTS	JuntasAbangare	8.90	114	ePn	P	18 37 41.8	+1.5
	comp=E,28nm,0.9s						
HKT	Hockley	16.03	352	eP	P	18 39 16.8	+1.1
	comp=E,5.4nm,0.9s						
JCT	Junction City	17.46	341	eP	P	18 39 35.5	+1.8
	comp=E,5.0nm,0.6s						
LTX	Lajitas	18.04	329	eP	P	18 39 42.6	+1.6
	comp=E,12nm,1.0s						
TXAR	Lajitas Array	18.04	329	P	P	18 39 43.9	+2.9
	baz=148,slow=12,SNR=20						
TXAR				LR	LR	18 47 49.2	
	comp=E,111nm,18.4s,baz=185,slow=41						
LRAL	Lakeview Retre	19.75	16	eP	P	18 40 00.6	-0.7
	comp=E,4.8nm,0.8s						
CLNB	Carlsbad	20.60	334	eP	P	18 40 11.1	+0.9
ROSC	El Rosal	20.73	114	P	P	18 40 16.5	+4.8
	comp=E,8.8nm,0.4s,baz=165,slow=20,SNR=3.1						
GDL2	Guadalupe Moun	20.76	332	eP	P	18 40 13.3	+1.5
WMOK	Wichita Mounta	21.22	347	eP	P	18 40 16.7	+0.1
	comp=E,3.1nm,0.7s,mb3.8						
WVT	Waverly	22.54	11	eP	P	18 40 28.0	-1.7
	comp=E,5.0nm,0.8s,mb4.0						
WVT				e		18 40 36.0	
CCM	Cathedral Cave	24.00	4	eP	P	18 40 42.1	-1.8
	comp=E,5.7nm,0.8s,mb4.0						
ANMO	Albuquerque	24.01	332	P	P	18 40 44.3	+0.2
TUC	Tucson	24.26	322	eP	P	18 40 47.5	+1.0
	comp=E,6.0nm,1.0s,mb4.0						
KSU1	Kansas State U	25.15	354	eP	P	18 40 54.2	-0.9
SDCO	Great Sand Dun	26.02	337	eP	P	18 41 04.4	+1.2
	comp=E,9.5nm,1.2s,mb4.2						
SJG	San Juan	26.32	78	P	P	18 41 06.5	+0.4
	comp=E,4.8nm,0.3s,mb4.5,baz=294,slow=17,SNR=3.3						
PV01	Paradox Valley	27.60	333	eP	P	18 41 17.2	-0.4
RSSD	Black Hills	31.38	345	P	P	18 41 50.9	-0.5
	comp=E,2.2nm,0.7s,mb4.1						
PDAR	Pinedale Array	31.91	337	P	P	18 41 57.2	+1.2
	comp=E,0.9nm,0.8s,mb3.6,baz=135,slow=8.4,SNR=8.1						
ELK	Elko	32.83	328	eP	P	18 42 05.6	+1.5
	comp=E,1.3nm,0.8s,mb3.9						
NVAR	Mina Array Bea	32.91	322	P	P	18 42 07.2	+2.4
	comp=E,3.1nm,0.7s,mb4.3,baz=136,slow=8.9,SNR=22						
REDW	Red Top Meadow	32.92	336	eP	P	18 42 05.8	+1.0
MOOW	Moose Ponds	33.21	337	eP	P	18 42 06.9	-0.3
HLID	Hailey	34.59	332	eP	P	18 42 20.8	+1.6
	comp=E,2.0nm,0.9s,mb4.0						
WVOR	Wild Horse Val	35.81	327	eP	P	18 42 31.5	+1.8
	comp=E,7.2nm,1.3s,mb4.4						
ULM	Lac du Bonnet	36.19	357	P	P	18 42 30.2	-2.5
	comp=E,3.8nm,0.8s,mb4.4						
ULM				LR	LR	19 01 03.9	
	comp=E,92nm,19.3s,MS3.6,baz=12,slow=43						
ULM	Lac du Bonnet	36.19	357	P	P	18 42 30.2	-2.6
ULM				LR	LR	19 01 03.9	
SAML	Samuel	37.55	126	eP	P	18 42 44.2	-0.3
YKA	Yellowknife Ar	50.73	347	P	P	18 44 29.1	-0.8
	comp=E,8.9nm,0.8s,mb4.8,baz=151,slow=7.4,SNR=18						
YKA				LR	LR	19 05 35.5	
	comp=E,40nm,20.4s,MS3.4,baz=170,slow=36						
YKA	Yellowknife Ar	50.73	347	P	P	18 44 29.1	-0.8
YKA				LR	LR	19 05 35.5	
INK	Inuvik	60.08	344	LR	LR	19 16 08.0	
	comp=E,95nm,18.3s,MS4.0,baz=213,slow=41						
ILAR	Eielson Array	62.35	337	P	P	18 45 53.7	+0.9
	comp=E,1.9nm,0.8s,mb4.3,baz=136,slow=4.1,SNR=15						
ILAR				LR	LR	19 19 09.7	
	comp=E,37nm,18.9s,MS3.6,baz=299,slow=42						
ILAR	Eielson Array	62.35	337	P	P	18 45 53.7	+0.9
ILAR				LR	LR	19 19 09.7	
ESDC	Sonseca Array	80.63	51	P	P	18 47 41.5	-1.1
	comp=E,0.6nm,0.6s,mb3.7,baz=317,slow=6.8,SNR=4.4						
ESDC				LR	LR	19 19 48.2	
	comp=E,44nm,18.5s,MS3.8,baz=100,slow=33						
ESDC	Sonseca Array	80.63	51	P	P	18 47 41.5	-1.1
ESDC				LR	LR	19 19 48.2	
NOA	NORSAR Array B	84.69	28	P	P	18 48 03.3	+0.4
	comp=E,0.7nm,0.8s,mb3.9,baz=292,slow=4.9,SNR=4.6						
NOA				LR	LR	19 23 28.0	
	comp=E,70nm,20.1s,MS4.0,baz=300,slow=34						
ARCES	ARCESS Array B	86.48	18	P	P	18 48 11.7	0.0
	comp=E,0.9nm,0.8s,mb4.1,baz=281,slow=6.2,SNR=5.4						
ARCES				LR	LR	19 27 18.9	
	comp=E,74nm,19.0s,MS4.1,baz=84,slow=36						
FINES	FINESS Array B	90.98	25	P	P	18 48 33.0	-0.2
	comp=E,1.3nm,0.8s,mb4.3,baz=270,slow=3.8,SNR=3.9						
FINES				LR	LR	19 28 00.9	
	comp=E,52nm,19.1s,MS4.0,baz=133,slow=35						
AKASG	Malin Array Be	98.36	33	LR	LR	19 36 31.4	
	comp=E,37nm,18.2s,MS3.9,baz=295,slow=37						
WRA	Warramunga Arr	134.25	256	PKP	PKPdf	18 54 49.9	-1.4
	comp=E,0.3nm,0.7s,baz=74,slow=1.9,SNR=4.8						
CM31	Chiang Mai Arr	145.56	339	ePKPdf	PKPdf	18 55 09.4	-2.2
CMAR	Chiang Mai Arr	145.56	339	PKPbc	PKPbc	18 55 09.3	+1.4
	comp=E,3.3nm,0.7s,baz=340,slow=3.7,SNR=22						
HYB	Hyderabad	147.72	15	i P	PKPdf	18 55 16.0	+0.7
HYB	Hyderabad	147.72	15	eP	PKPdf	18 55 16.0	+0.7

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*IDC **30** 18:54:01.3±2.2, 4.24S×127.83E, h269^{km}±22^{km}, mb3.7/5, mb1 3.9/7, mb1mx3.7/15, Error ellipse: s-maj=44.4km s-min=9.5km az=64.0*
*NEIC **30** 18:54:01.3±2.3, 4.30S×127.71E, h272^{km}±26^{km}, mb4.3/8, Error ellipse: s-maj=29.0km s-min=10.4km az=51.0*
ISC 30 18:53:54.8±1.9**, 4.1S**±0.1×**127.9E**±0.2**, h221^{km}**±19^{km}**, n23, σ0^{s}87**/29**, mb4.4**/12**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.64	153	eP	P	18 56 14.0	+3.9
	34nm,0.6s						
KAKA				eS	S	18 57 56.3	+0.3
FITZ	Fitzroy Crossi	14.13	189	⇓iP	P	18 57 06.6	-0.1
	6.7nm,0.5s						
FITZ	Fitzroy Crossi	14.13	189	P	P	18 57 06.8	+0.2
	1.2nm,0.3s,baz=9.6,slow=6.0,SNR=27						
WRAB	Tennant Creek	16.96	159	eP	P	18 57 38.8	-2.0
	13nm,0.5s						
WRAB				eS	S	19 00 39.3	-1.6
WRA	Warramunga Arr	16.97	159	P	P	18 57 41.2	+0.4
	1.9nm,0.3s,baz=339,slow=11,SNR=196						
WRA				S	S	19 00 48.3	+7.3
	1.0nm,0.3s,baz=342,slow=17,SNR=12						
WB2	Warramunga Arr	16.97	159	eP	P	18 57 40.8	0.0
WB2				eS	S	19 00 48.9	+7.8
ASAR	Alice Springs	20.32	164	P	P	18 58 15.8	+0.6
	11nm,0.8s,baz=347,slow=12,SNR=80						
ASAR				S	S	19 01 47.2	+1.9
	7.1nm,0.8s,baz=347,slow=22,SNR=8.7						
ASAR				ScP		19 05 28.8	
	0.6nm,0.6s,baz=340,slow=1.4,SNR=5.1						
ASPA	Alice Springs	20.32	164	eP	P	18 58 16.2	+1.0
ASPA				eS	S	19 01 45.8	+0.5
CTA	Charters Tower	23.92	133	P	P	18 58 49.6	-0.5
	2.5nm,1.0s,mb3.8,baz=280,slow=11,SNR=2.4						
STKA	Stephens Creek	30.49	157	eP	P	18 59 49.4	0.0
	4.2nm,0.4s,mb4.4						
STKA	Stephens Creek	30.49	157	P	P	18 59 49.5	+0.2
	5.3nm,0.5s,mb4.5,baz=340,slow=8.0,SNR=22						

CMAR	Chiang Mai Arr	36.29	309	P	P	19 00 40.0	+1.0
	2.9nm,0.6s,mb4.0,baz=144,slow=6.1,SNR=36						
LSA	Lhasa	48.67	316	eP	P	19 02 19.9	+1.2
	2.1nm,0.7s,mb3.6						
PKI	Pulchoki	51.67	310	eP	P	19 02 40.5	-0.8
	10nm,0.6s,mb4.4						
KKN	Kakani	51.88	310	eP	P	19 02 42.3	-0.5
	21nm,0.6s,mb4.8						
DMN	Daman	51.92	310	eP	P	19 02 42.8	-0.3
	22nm,0.7s,mb4.7						
GKN	Gorkha	52.48	310	eP	P	19 02 46.6	-0.6
	33nm,0.4s,mb5.1						
KOLN	Koldanda	53.16	309	eP	P	19 02 51.5	-0.7
	18nm,0.6s,mb4.7						
SONM	Songino Array	55.04	342	P	P	19 03 06.9	+1.3
	0.2nm,0.6s,baz=162,slow=4.6,SNR=2.7						
MKAR	Makanchi Array	64.66	327	P	P	19 04 10.8	-0.2
	1.3nm,0.4s,mb3.9,baz=117,slow=7.9,SNR=27						
MKAR				PcP	PcP	19 04 42.4	-0.5
	0.6nm,0.5s,baz=130,slow=3.6,SNR=4.5						
MKAR	Makanchi Array	64.66	327	P	P	19 04 10.8	-0.2
MKAR				PcP	PcP	19 04 42.4	-0.5
ZRNK	Zerenda	75.20	328	eP	P	19 05 14.2	-0.5
	101nm,1.2s,mb5.3						
ARU	Arti	82.15	328	eP	P	19 05 51.8	-0.1
	1.6nm,0.6s,mb3.8						

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*IDC **30** 18:55:52.1±0.7, 35.22S×70.13W, mb4.3/8, mb1 4.4/11, mb1mx4.4/16, ML3.5/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/12, Error ellipse: s-maj=23.9km s-min=19.5km az=75.0*
*NEIC **30** 18:55:52.7±3.0, 35.10S×70.06W, h2^{km}±19^{km}, mb4.5/11, Error ellipse: s-maj=10.9km s-min=6.1km az=86.0*
*GUC **30** 18:55:53.9±1.0, 35.11S×70.45W, h9^{km}±11^{km}, MD4.0, ML3.9*
ISC 30 18:55:52.1±0.4**, 35.17S**±0.03×**70.28W**±0.05**, h10^{km}, n51, σ1^{s}18**/55**, mb4.3**/18**, MS3.5**/1**, 9C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.80	282	⇓iP	Pb	18 56 07.0	-0.6
SFDO	San Fernando	0.82	312	⇑iP	Pb	18 56 06.6	-1.4
CICH	Cipreses	0.86	352	⇓iP	Pb	18 56 07.5	-1.1
CICH				iS	Sb	18 56 19.0	-1.0
CACH	El Canelo	1.09	346	⇑iP	Pb	18 56 11.6	-0.9
TALC	Talca	1.13	258	⇑iP	Pb	18 56 12.7	-0.6
TALC				iS	Sb	18 56 26.2	-1.7
TALC				AMP		18 56 31.8	
	comp=N,5µm,0.4s						
CHCH	Chadas Angostu	1.27	346	eP	Pb	18 56 15.2	-0.5
LMEL	Las Melosas	1.32	3	⇑iP	Pb	18 56 15.8	-0.8
LMEL				iS	Sb	18 56 33.5	+0.1
LMEL				AMP		18 56 36.8	
	comp=E,1µm,0.6s						
LNV	Longovilo	1.53	322	⇑iP	Pn	18 56 18.9	-0.8
PCH	Pirque	1.56	353	eP	Pn	18 56 20.0	0.0
RCDM	Rinconada Maip	1.73	345	eP	Pn	18 56 23.0	+0.4
RCDM				AMP		18 56 54.7	
	comp=E,1µm,0.7s						
CLCH	Cerro Calan	1.79	353	eP	Pn	18 56 23.6	+0.3
CLCH				eS	Sn	18 56 46.3	+0.1
CLCH				AMP		18 56 56.4	
	comp=E,5µm,0.6s						
CLCH				AMP		18 56 57.0	
	comp=E,6µm,0.7s						
DSCH	Colegio Aleman	1.79	352	eP	Pn	18 56 23.9	+0.6
DSCH				AMP		18 56 52.1	
	comp=N,5µm,0.6s						
FCH	Farellones	1.84	360	⇑iP	Pn	18 56 25.1	+1.0
FCH				iS	Sn	18 56 49.6	+2.0
FCH				AMP		18 56 52.0	
	comp=E,911nm,0.6s						
CCHI	Chillan	2.04	225	AMP		18 57 09.3	
	comp=E,1µm,0.9s						
PEL	Peldehue	2.05	350	eP	Pn	18 56 27.8	+0.7
PLCA	Paso Flores	5.55	182	Pn	Pn	18 57 18.4	+1.5
	comp=E,0.2nm,0.3s,baz=1.6,slow=18,SNR=5.0						
PLCA				Pg	Pg	18 57 28.3	-15
	comp=E,1.5nm,0.3s,baz=354,slow=16,SNR=14						
PLCA				Lg		18 58 46.2	
	comp=E,1.6nm,0.3s,baz=23,slow=6.8,SNR=3.4						
PLCA				LR	LR	18 59 45.3	
	comp=E,400nm,19.2s,baz=348,slow=42						
PLCA	Paso Flores	5.55	182	Pn	Pn	18 57 18.4	+1.5
PLCA				Pg	Pg	18 57 28.3	-15
PLCA				Lg		18 58 46.2	
PLCA				eSg	Sg	18 58 52.2	-4.8
PLCA				LR	LR	18 59 45.3	
TRQA	Tornquist	7.27	116	ePn	Pn	18 57 38.0	-3.0
	comp=E,31nm,1.1s						
TRQA				eSg	Sg	18 59 38.1	-16
LVC	Limon Verde	12.57	6	ePn	P	18 58 50.7	-3.2
	comp=E,3.5nm,0.6s						
LVC				e		18 59 06.2	
CPUP	Villa Florida	14.19	55	Pn	P	18 59 13.2	-2.1
	comp=E,0.2nm,0.3s,baz=222,slow=13,SNR=5.8						
CPUP				Lg		19 03 21.4	
	comp=E,0.1nm,0.3s,baz=174,slow=19,SNR=2.2						
CPUP				LR	LR	19 05 10.4	
	comp=E,241nm,19.8s,baz=253,slow=40						
CPUP	Villa Florida	14.19	55	Pn	P	18 59 13.2	-2.1
CPUP				Lg		19 03 21.4	
CPUP				LR	LR	19 05 10.4	
LPAZ	La Paz	18.91	6	P	P	19 00 16.8	+1.6
	baz=198,slow=2.0,SNR=11						
LPAZ	La Paz	18.91	6	eP	P	19 00 12.8	-2.5
	comp=E,7.2nm,0.7s						
USHA	Ushuaia	19.70	177	P	P	19 00 22.6	-1.6
	comp=E,0.1nm,0.3s,baz=15,slow=8.2,SNR=2.6						
USHA				LR	LR	19 08 31.6	
	comp=E,273nm,21.1s,baz=195,slow=39						
SAML	Samuel	26.90	16	eP	P	19 01 33.3	-1.9
	comp=E,2.0nm,0.9s,mb3.6						
BDFB	Brasilia	27.86	51	P	P	19 01 43.2	-0.8
	comp=E,1.7nm,0.4s,mb4.0,baz=219,slow=3.2,SNR=3.8						
BDFB				LR	LR	19 13 10.5	
	comp=E,124nm,19.2s,MS3.5,baz=29,slow=37						
VNA1	Neumayer--Stat	48.03	157	⇑i	P	19 04 36.3	+3.5
VNA2	Neumayer--Watz	48.37	157	⇑i	P	19 04 39.8	+4.3
SNAA	Sanae	49.95	158	⇑i	P	19 04 47.5	-0.2
QSPA	South Pole Qui	55.07	180	eP	P	19 05 26.3	+0.5
	comp=E,6.0nm,1.0s,mb4.6						
JCT	Junction City	70.97	333	eP	P	19 07 11.8	-0.1
	comp=E,5.9nm,0.8s,mb4.6						
TXAR	Lajitas Array	71.47	330	P	P	19 07 15.2	+0.3
	comp=E,2.2nm,0.6s,mb4.3,baz=152,slow=8.9,SNR=15						
MAW	Mawson	71.64	163	P	P	19 07 15.3	+0.1
	comp=E,1.3nm,0.6s,mb4.0,baz=185,slow=6.9,SNR=2.5						
WVT	Waverly	72.80	345	eP	P	19 07 21.7	-1.0
	comp=E,10nm,0.8s,mb4.8						
SUR	Sutherland	73.00	118	P	P	19 07 22.7	-1.2
	comp=E,3.3nm,0.9s,mb4.3,baz=236,slow=3.1,SNR=2.1						
DBIC	Dimbokro	74.20	70	P	P	19 07 31.0	-0.2
	comp=E,3.3nm,0.9s,mb4.3,baz=197,slow=8.8,SNR=6.9						
SDCO	Great Sand Dun	79.57	332	eP	P	19 08 01.5	+0.7
	comp=E,1.6nm,0.8s,mb4.0						
NEN	Nelson	81.80	325	eP	P	19 08 13.7	+1.1
MSU	Marysvale	82.95	328	eP	P	19 08 19.8	+1.3
TPNV	Topopah Spring	83.52	325	eP	P	19 08 23.2	+1.7
	comp=E,2.5nm,0.7s,mb4.5						
TPH	Tonopah	84.88	325	eP	P	19 08 30.1	+1.8
	comp=E,6.4nm,1.3s,mb4.6						
HWUT	Hardware Ranch	85.28	330	eP	P	19 08 31.1	+1.0
	comp=E,2.6nm,0.8s,mb4.4						
PDAR	Pinedale Array	85.47	332	P	P	19 08 31.9	+0.8
	comp=E,1.7nm,0.7s,mb4.3,baz=149,slow=3.5,SNR=19						
NVAR	Mina Array Bea	85.68	324	P	P	19 08 33.6	+1.4
	comp=E,1.8nm,0.6s,mb4.5,baz=146,slow=6.0,SNR=18						
ELK	Elko	86.12	327	eP	P	19 08 35.7	+1.3
	comp=E,4.7nm,1.0s,mb4.7						
HLID	Hailey	88.07	330	eP	P	19 08 45.3	+1.5
	comp=E,1.8nm,0.7s,mb4.4						
YBH	Yreka Blue Hor	90.37	324	P	P	19 08 55.5	+0.8
	comp=E,0.9nm,0.6s,mb4.3,baz=135,slow=10.0,SNR=6.6						
WRA	Warramunga Arr	120.41	207	PKP	PKPdf	19 14 45.4	-1.8
	comp=E,0.3nm,0.5s,baz=156,slow=1.6,SNR=10						
ZRNK	Zerenda	146.33	45	ePKPbc	PKPbc	19 15 34.0	+1.5
AAK	Ala-Archa	151.74	64	ePKPbc	PKPdf	19 15 48.3	+5.1
MKAR	Makanchi Array	156.38	52	PKPab	PKPab	19 16 14.8	-2.5
	comp=E,1.0nm,0.8s,baz=276,slow=4.9,SNR=3.3						

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*ATH **30** 19:06:41.7, 38.87N×21.17E, h6^{km}±5^{km}, MD3.7/15, ML3.7*
*THE **30** 19:06:42.3, 38.83N×21.16E, h10^{km}, ML3.8*
*NEIC **30** 19:06:42.3, 38.83N×21.16E, h10^{km}, mb3.7/2, MD3.8(PDG), ML3.8(THE), ML3.7(ATH), After THE.*
*PDG **30** 19:06:44.9±0.5, 39.03N×21.15E, h22^{km}±1^{km}*
*IDC **30** 19:06:46.9±1.4, 38.93N×21.03E, h51^{km}±15^{km}, mb3.5/7, mb1 3.6/14, mb1mx3.5/27, ML3.8/8, MS3.4/1, Ms1 3.4/1, ms1mx2.5/18, Error ellipse: s-maj=13.9km s-min=10.8km az=41.0*
ISC 30 19:06:41.9±0.2**, 38.93N**±0.02×**21.05E**±0.02**, h10^{km}, n109, σ1^{s}41**/144**, mb3.8**/9**, MS3.4**/1**, 5C-11D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.38	235	ePg	Pg	19 06 49.5	-0.2
EVR	Evrytania	0.59	91	ePB	Pb	19 06 51.3	-2.5
JAN	Janina	0.75	348	ePB	Pb	19 06 57.9	+1.4
VLS	Valsamata	0.83	206	⇑iPB	Pb	19 06 56.4	-1.5
VLS				eSB	Sb	19 07 10.0	+1.1
VLS	Valsamata	0.83	206	⇑ePb	Pb	19 06 56.4	-1.5
VLS				eSb	Sb	19 07 10.0	+1.1
MEV	Metsovon	0.87	9	ePg	Pg	19 06 59.5	+0.2
MEV				eSg	Sg	19 07 13.9	+2.9
RLS	Riolos of Patr	0.93	159	ePB	Pb	19 06 58.4	-1.1
KEK	Kerkira	1.25	309	ePG	Pg	19 07 07.0	+0.1
KZN	Kozani	1.49	22	ePG	Pg	19 07 09.8	-1.8
LKR	Lokris	1.55	100	ePB	Pb	19 07 09.7	-0.5
LIT	Litokhoron	1.62	43	ePb	Pb	19 07 11.2	-0.2
LIT				eSb	Sb	19 07 34.0	+2.2
KBN	Korca	1.71	353	iPn	Pn	19 07 26.7	+15
KBN				iSn	Sn	19 07 43.4	+9.4
XOR	Xorichti	1.72	75	ePb	Pb	19 07 12.3	-0.9
XOR				eSb	Sb	19 07 34.8	0.0
NEO	Neokhori	1.73	77	ePG	Pg	19 07 12.2	-4.3
FNA	Florina	1.87	8	ePb	Pb	19 07 17.2	+1.4
	comp=Z,14nm,0.5s						
FNA				eSb	Sb	19 07 42.2	+3.0
ITM	Ithomi	1.88	158	ePN	Pn	19 07 15.4	+1.1
MKIT	Kithairon Oros	1.88	112	ePN	Pn	19 07 15.5	+1.0
BIA	Bitola	2.10	6	⇓iPn	Pn	19 07 22.0	+4.4
BIA				i		19 07 27.4	
BIA				iSn	Sn	19 07 52.9	+8.9
BIA				i		19 07 55.8	
NSAL	Nisos Salamina	2.15	117	ePN	Pn	19 07 18.5	+0.2
OHR	Ohrid	2.19	355	⇓iPn	Pn	19 07 22.4	+3.5
OHR				i		19 07 26.6	
OHR				iSn	Sn	19 07 51.7	+5.4
OHR				i		19 07 56.3	
AOS	Alonnisos	2.22	83	ePn	Pn	19 07 18.9	-0.4
MPAR	Parnis Oros	2.24	109	ePG	Pg	19 07 21.0	-5.7
NAIG	Nisos Aigina	2.24	121	ePN	Pn	19 07 20.6	+1.0
THE	Thessaloniki	2.25	40	ePn	Pn	19 07 21.3	+1.5
PAIG	Paliouri	2.27	63	ePn	Pn	19 07 19.1	-0.9
PAIG				eSn	Sn	19 07 48.5	+0.2
ATH	Athens Observa	2.30	114	ePN	Pn	19 07 21.1	+0.7
PLG	Polygyros	2.35	51	ePB	Pb	19 07 20.8	-3.1
PTL	Penteli	2.38	111	ePG	Pg	19 07 23.5	-5.8
TIR	Tirane	2.58	340	ePn	Pn	19 07 26.8	+2.3
SOH	Sokhos	2.59	42	ePn	Pn	19 07 25.8	+1.2
SOH				eSn	Sn	19 07 58.0	+1.5
KNT	Kendrikon	2.65	32	ePn	Pn	19 07 26.2	+0.8
	comp=Z,9.5nm,0.4s						
KNT				eSn	Sn	19 08 00.9	+3.0
VAY	Valandovo	2.66	25	iPn	Pn	19 07 27.1	+1.5
VAY				i		19 07 32.0	
VAY				iSn	Sn	19 08 05.7	+7.5
VAY				i		19 08 08.5	
LCI	Lecce	2.67	303	ePn	Pn	19 07 28.8	+3.1
QSH	Qafa e Shtames	2.74	342	ePn	Pn	19 07 30.0	+3.3
QSH				iSn	Sn	19 08 03.0	+2.8
SRS	Serrai	2.93	41	ePn	Pn	19 07 30.0	+0.6
SKO	Skopje	3.06	5	⇓iPn	Pn	19 07 33.6	+2.4
SKO				iSn	Sn	19 08 08.9	+0.6
SKO				i		19 08 13.1	
KYTH	Kithira	3.08	149	ePG	Pg	19 07 37.5	-5.8
PUK	Puka	3.24	345	ePn	Pn	19 07 35.7	+1.9
PUK				iSn	Sn	19 08 18.0	+5.2
NVR	Nevrokopi	3.24	41	ePN	Pn	19 07 34.6	+0.7
LOS	Limnos	3.28	71	ePn	Pn	19 07 34.0	-0.4
ULC	Ulcinj	3.33	336	⇓iPn	Pn	19 07 35.9	+0.7
ULC				eSn	Sn	19 08 14.8	-0.4
TIP	Timpagrande	3.35	276	ePn	Pn	19 07 35.8	+0.4
BRT	Bari-Castellan	3.54	305	ePn	Pn	19 07 41.7	+3.5
GRI	Girifalco	3.62	270	ePn	Pn	19 07 40.6	+1.5
ORI	Oriolo Calabro	3.74	289	ePn	Pn	19 07 42.9	+2.0
BUM	Brajici-Budva	3.75	335	⇓iPn	Pn	19 07 41.5	+0.4
BUM				eSn	Sn	19 08 24.9	-0.8
PVY	Plav	3.76	348	ePn	Pn	19 07 42.6	+1.4
PVY				eSn	Sn	19 08 25.1	-0.9
TTG	Podgorica	3.76	339	⇓iPn	Pn	19 07 41.9	+0.7
TTG				eSn	Sn	19 08 25.4	-0.5
BARS	Barje	3.94	8	⇓iP	Pn	19 07 44.9	+1.2
SOI	Samo	4.01	259	ePn	Pn	19 07 45.2	+0.4
HCY	Herceg Novi	4.02	332	⇓iPn	Pn	19 07 44.8	0.0
HCY				eSn	Sn	19 08 31.8	-0.8
IVA	Berane	4.04	348	ePn	Pn	19 07 46.1	+0.9
IVA				eSn	Sn	19 08 31.9	-1.2
NKY	Niksic	4.18	339	⇓iPn	Pn	19 07 47.6	+0.4
NKY				eSn	Sn	19 08 35.5	-1.3
SCLL	Scilla	4.23	263	ePn	Pn	19 07 48.3	+0.4
MTTG	Motta San Giov	4.30	259	ePn	Pn	19 07 48.2	-0.7
ALN	Alexandroupoli	4.32	61	ePn	Pn	19 07 48.1	-1.0
BRY	Bratogost	4.40	335	ePn	Pn	19 07 50.1	-0.2
BRY				eSn	Sn	19 08 40.5	-1.7
MGR	Morigerati	4.42	288	ePn	Pn	19 07 51.5	+0.9
SLCN	Sala Consilina	4.43	291	ePn	Pn	19 07 53.0	+2.2
UPM	Unac-Piva	4.57	340	⇓iPn	Pn	19 07 53.5	+0.8
UPM				eSn	Sn	19 08 44.8	-1.7
PLE	Pljevlja	4.58	345	ePn	Pn	19 07 53.8	+1.0
PLE				eSn	Sn	19 08 44.7	-2.0
MRLC	Muro Lucano	4.66	295	ePn	Pn	19 07 55.0	+1.1
STON	Ston	4.69	328	iPn	Pn	19 07 53.1	-1.3
STON				iSn	Sn	19 08 45.9	-3.6
SGO	Sicignano	4.72	292	ePn	Pn	19 07 56.3	+1.5
IDI	Anoyia	4.75	139	P	Pn	19 07 54.8	-0.5
	0.8nm,0.3s,baz=345,slow=21,SNR=9.3						
IDI				S	Sn	19 08 51.1	0.0
	1.1nm,0.3s,baz=308,slow=18,SNR=2.7						
RGNG	Rignano Grg	5.00	305	ePn	Pn	19 08 00.4	+1.7
FG5	Orsara di Pugl	5.02	300	ePn	Pn	19 08 01.4	+2.3
CSSN	Cassano Irpino	5.02	295	ePn	Pn	19 08 02.0	+2.9
VAE	Valguarnera	5.42	257	P	Pn	19 08 06.2	+1.4
	1.3nm,0.3s,baz=306,slow=19,SNR=3.9						
VAE				S	Sn	19 09 08.0	0.0
	1.6nm,0.3s,baz=256,slow=17,SNR=2.1						
SGG	Gregorio Mates	5.67	298	ePn	Pn	19 08 10.7	+2.4
CII	Carovilli	5.86	301	ePn	Pn	19 08 12.5	+1.5
USI	Ustica	6.15	270	ePn	Pn	19 08 13.9	-1.1
AQU	L’Aquila	6.75	303	Pn	Pn	19 08 22.6	-0.8
TERO	Teramo	6.75	306	ePn	Pn	19 08 23.4	-0.1
NRCA	Norcia	7.17	306	ePn	Pn	19 08 29.5	+0.1
MLR	Muntele Rosu	7.50	27	P	Pn	19 08 35.4	+1.4
	2.3nm,0.3s,baz=246,slow=8.2,SNR=17						
MLR				S	Sn	19 09 59.5	-0.5
	0.2nm,0.3s,baz=228,slow=16,SNR=1.4						
ASS	Assisi	7.58	306	ePn	Pn	19 08 35.7	+0.7
ARV	Arcevia	7.63	309	ePn	Pn	19 08 34.1	-1.7
FSSB	Fossombrone	7.84	310	ePn	Pn	19 08 37.7	-1.0
BOJS	Bojanci	7.86	329	ePn	Pn	19 08 37.3	-1.6
BOJS				eSn	Sn	19 10 03.9	-5.0
CRES	Cresnjevec ost	8.04	331	iPn	P	19 08 39.3	-2.3
LEGS	Legarje	8.20	331	iPn	P	19 08 41.6	-2.1
VISS	Visnje	8.27	328	iPn	P	19 08 43.1	-1.6
VOY	Vojsko	8.85	326	ePn	P	19 08 51.0	-1.8
VOY				eSn	Sn	19 10 27.2	-6.4
OBKA	Obir	8.96	330	⇑iPN	P	19 08 53.2	-1.1
OBKA				iSN	Sn	19 10 29.8	-6.6
PSZ	Piszkesteto	9.03	355	Pn	P	19 08 54.2	-1.1
	4.7nm,0.7s						
ARSA	Arzberg	9.25	336	⇑iPN	P	19 08 55.8	-2.5
ARSA				iSN	Sn	19 10 36.1	-7.4
BRTR	Keskin Array B	9.79	81	P	P	19 09 06.8	+1.1
	0.3nm,0.3s,baz=256,slow=12,SNR=5.0						
KBA	Koelnbreinsper	9.91	328	⇓iPN	P	19 09 05.2	-2.1
KBA				iSN	Sn	19 10 53.7	-6.0
MOA	Molln	10.19	333	⇑iPN	P	19 09 09.1	-2.1
MOA				iSN	S	19 10 59.2	-7.4
GERES	GERESS Array B	11.24	334	P	P	19 09 23.3	-2.2
	0.2nm,0.3s,baz=163,slow=14,SNR=6.8						
GERES				S	S	19 11 28.3	-4.0
	0.4nm,0.3s,baz=150,slow=23,SNR=5.5						
DAVOX	Davos	11.34	317	P	P	19 09 26.7	-0.2
	0.3nm,0.3s,baz=17,slow=19,SNR=3.2						
DAVOX				S	S	19 11 31.3	-3.5
	0.3nm,0.3s,baz=344,slow=20,SNR=3.5						
AKASG	Malin Array Be	13.12	23	P	P	19 09 50.5	-0.3
	0.2nm,0.3s,baz=214,slow=12,SNR=4.4						
EIL	Elat	14.72	125	P	P	19 10 10.4	-1.6
	0.4nm,0.3s,baz=7.1,slow=19,SNR=2.8						
HFS	Hagfors	21.73	350	P	P	19 11 32.7	-2.3
	2.4nm,0.5s,mb3.9,baz=157,slow=11,SNR=12						
FINES	FINESS Array B	22.76	6	P	P	19 11 44.1	-1.0
	2.2nm,0.7s,mb3.7,baz=166,slow=12,SNR=10.0						
NB2	NORSAR Subarra	22.97	348	P	P	19 11 46.1	-1.1
	0.9nm,0.5s,mb3.5,baz=154,slow=9.3						
NOA	NORSAR Array B	22.97	348	P	P	19 11 46.5	-0.8
	2.3nm,0.9s,mb3.6,baz=156,slow=9.6,SNR=6.9						
EKA	Eskdalemuir Ar	23.07	323	P	P	19 11 48.2	+0.1
	1.5nm,0.7s,mb3.5,baz=117,slow=11,SNR=3.9						
ARCES	ARCESS Array B	30.77	3	P	P	19 12 56.8	-2.4
	1.1nm,0.4s,mb4.0,baz=191,slow=9.9,SNR=24						
ARCES	ARCESS Array B	30.77	3	P	P	19 12 56.8	-2.4
ZRNK	Zerenda	35.48	51	eP	P	19 13 38.1	-2.2
	1.8nm,0.9s,mb4.0						
KMBO	Kilima Mbogo	42.55	156	LR	LR	19 33 04.4	
	comp=Z,49nm,19.7s,MS3.4,baz=93,slow=37						
MKAR	Makanchi Array	44.56	59	P	P	19 14 53.1	-2.3
	0.8nm,0.4s,mb3.9,baz=281,slow=7.7,SNR=24						
SCHQ	Schefferville	58.19	317	P	P	19 16 36.2	-1.9
	1.9nm,0.7s,mb4.2,baz=67,slow=12						
SCHQ	Schefferville	58.19	317	P	P	19 16 36.2	-1.9
SONM	Songino Array	59.67	51	P	P	19 16 46.1	-2.3
	0.5nm,1.0s,mb3.5,baz=270,slow=5.8,SNR=3.2						
WRA	Warramunga Arr	120.15	92	PKP	PKPdf	19 25 32.2	-4.2
	0.3nm,0.9s,baz=315,slow=1.2,SNR=3.9						
ASAR	Alice Springs	121.84	96	PKP	PKPdf	19 25 35.5	-4.1
	0.1nm,0.4s,baz=296,slow=1.5,SNR=3.9						

GUC 30 19:44:41.4±0.7**, 34.98S**×**70.50W, h0^{km}**±4^{km}**, MD3.5, ML2.6, 9C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.56	311	⇓iP	Pg	19 44 52.7	+0.2
SFDO				iS	Sg	19 45 01.6	+1.6
NICH	Los Niches	0.60	268	⇑iP	Pg	19 44 53.3	0.0
NICH				iS	Sg	19 45 02.5	+1.3
CICH	Cipreses	0.66	6	⇓iP	Pg	19 44 53.9	-0.7
CICH				iS	Sg	19 45 04.0	+0.5
CACH	El Canelo	0.87	355	⇑iP	Pg	19 44 57.6	-1.1
CACH				iS	Sg	19 45 10.7	+0.5
CHCH	Chadas Angostu	1.05	353	⇓iP	Pb	19 45 01.2	-1.0
CHCH				iS	Sb	19 45 17.2	+0.8
LMEL	Las Melosas	1.16	12	⇑iP	Pb	19 45 02.7	-1.3
LMEL				iS	Sb	19 45 19.3	-0.1
LMEL				AMP		19 45 23.4	
	comp=N,134nm,0.2s						
LNV	Longovilo	1.27	324	⇑iP	Pb	19 45 04.8	-1.1
LNV				iS	Sb	19 45 22.8	+0.2
PCH	Pirque	1.36	360	⇑iP	Pb	19 45 06.5	-0.8
PCH				iS	Sb	19 45 25.5	+0.3
TACH	Talagante	1.37	345	⇑iP	Pb	19 45 06.8	-0.9
TACH				iS	Sb	19 45 26.1	+0.4
RCDM	Rinconada Maip	1.51	350	⇑iP	Pn	19 45 09.0	-0.8
RCDM				iS	Sb	19 45 30.0	+0.4
RCDM				AMP		19 45 39.0	
	comp=E,246nm,0.1s						
FCH	Farellones	1.66	6	⇑iP	Pn	19 45 12.1	+0.2
FCH				iS	Sb	19 45 35.1	+1.1
FCH				AMP		19 45 45.6	
	comp=E,113nm,0.2s						
LCCH	Las Cruces	1.74	329	⇑iP	Pn	19 45 12.9	-0.2
LCCH				iS	Sn	19 45 36.9	+0.6
JACH	Jahuel	2.29	358	eP	Pn	19 45 21.9	+0.9

IDC 30 20:13:51.6±18.0**, 0.08S**×**127.32E, h288^{km}**±194^{km}**, mb3.0**/3**, mb1 3.2**/4**, mb1mx2.8**/15**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.7**/18**, Error ellipse: s-maj=128.0km s-min=92.6km az=60.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	15.44	336	LR	LR	20 24 09.1	
	comp=Z,111nm,18.7s,baz=151,slow=40						
FITZ	Fitzroy Crossi	17.99	185	P	P	20 17 41.9	-2.0
	0.2nm,0.3s,baz=5.7,slow=11,SNR=5.8						
WRA	Warramunga Arr	20.91	161	P	P	20 18 12.6	-0.3
	2.3nm,0.6s,baz=340,slow=10,SNR=28						
ASAR	Alice Springs	24.31	165	P	P	20 18 44.4	-0.8
	0.3nm,0.6s,baz=343,slow=7.4,SNR=4.5						
STKA	Stephens Creek	34.39	158	P	P	20 20 11.8	-2.0
	1.6nm,0.7s,baz=326,slow=15,SNR=2.7						

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*WEL **30** 20:31:50.1±0.3, 45.07S×167.61E, h110^{km}±2^{km}, ML3.7/5, Error ellipse: s-maj=3.4km s-min=1.4km az=90.0, DCZ faulty.*
ISC 30 20:31:49.3±1.3**, 45.04S**±0.06×**167.8E**±0.1**, h116^{km}**±8^{km}**, n13, σ0^{s}81**/23**, 1C-3D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.39	18	⇑PN	P	20 32 06.6	+0.3
MSZ				SN	S	20 32 18.6	-0.4
MLZ	Mavora Lakes	0.42	137	PN	P	20 32 06.5	0.0
MLZ				SN	S	20 32 19.3	-0.1
WHZ	Wether Hill Ro	0.86	172	PN	P	20 32 09.5	-0.5
WHZ				SN	S	20 32 24.3	-1.1
WHZ				SN	S	20 32 24.3	-1.1
WKZ	Wanaka	0.91	77	PN	P	20 32 11.9	+1.4
AXZ	Alexandra	1.13	102	⇓PN	P	20 32 13.9	+1.2
AXZ				SN	S	20 32 30.9	+0.7
JCZ	Jackson Bay	1.20	37	PN	P	20 32 14.1	+0.6
JCZ				SN	S	20 32 32.2	+0.7
TUZ	Tuapeka	1.60	126	⇓PN	P	20 32 19.0	+0.9
TUZ				SN	S	20 32 39.2	-0.7
LBZ	Lake Benmore	1.84	70	PN	P	20 32 21.3	+0.3
LBZ				SN	S	20 32 44.7	-0.3
ODZ	Otahua Downs	2.04	91	⇓PN	P	20 32 24.3	+0.7
ODZ				SN	S	20 32 49.3	0.0
RPZ	Rata Peaks	2.70	62	PN	P	20 32 31.5	-0.8
RPZ				SN	S	20 33 03.6	-1.4
WVZ	Waitaha Valley	2.91	49	ePN	P	20 32 33.8	-1.2
LTZ	Lake Taylor	3.96	57	PN	P	20 32 49.9	+0.6
THZ	Tophouse	4.97	51	ePN	P	20 33 01.8	-1.2

DJA 30 20:45:58.6±0.3**, 8.47S**×**115.28E, h2^{km}, MD5.6**/4**, 1C-7D, Error ellipse: s-maj=5.5km s-min=4.5km az=21.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.35	136	⇓ePn	Pn	20 46 07.3	-2.9
	1µm,0.2s						
RATI				⇓eSn	Sn	20 46 14.2	-3.7
INGI	Ingas	0.37	201	⇓ePn	Pn	20 46 07.9	-2.6
	1µm,0.1s						
INGI				⇓eSn	Sn	20 46 16.0	-2.4
KEDI	Kedomdong	0.82	91	⇓ePn	Pn	20 46 13.7	-3.2
	272nm,0.2s						
KEDI				⇓eSn	Sn	20 46 25.4	-4.4
KELI	Kelakatan	0.82	288	⇑ePn	Pn	20 46 13.8	-3.1
	173nm,0.2s						
KELI				⇓eSn	Sn	20 46 25.9	-3.9

DHMR 30 21:00:37.2±0.8**, 12.35N**×**44.82E, h5^{km}**±4^{km}**, MD4.0, 3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.09	321	iP	Pb	21 00 57.8	-0.3
TRBA				iS	Sb	21 01 14.4	+1.9
TRBA				AML	AML	21 01 14.8	
	comp=E,2µm,0.3s						
LBOS		1.57	15	iP	Pn	21 01 06.7	+0.9
LBOS				iS	Sb	21 01 29.0	+2.7
BDHA	Al Bayda’	1.77	24	iP	Pn	21 01 09.1	+0.5
BDHA				iS	Sn	21 01 34.0	+2.2
BDHA				AML	AML	21 01 51.4	
	comp=E,731nm,0.5s						
UDYN	Al ‘Udayn	1.80	333	⇓iP	Pn	21 01 09.8	+0.7
UDYN				iS	Sn	21 01 34.9	+2.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHBB	**Dhamar BB**	**2.24**	**349**	⇓*i*P	Pn	21 01 17.3	+1.9
DHBB				*i* S	Sn	21 01 47.7	+4.0
HAJJ	**Hajjah**	**3.53**	**340**	⇓*i*P	Pn	21 01 34.9	+1.1
HAJJ				*i* S	Sn	21 02 21.1	+4.6
HAJJ				AML	AML	21 02 42.5	
	comp=E,290nm,0.5s						

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*IDC **30** 21:05:55.9±1.1, 21.35S×69.51W, h74^{km}±8^{km}, mb1 4.3/1, mb1mx3.5/13, Error ellipse: s-maj=163.0km s-min=35.4km az=110.0*

*NEIC **30** 21:05:55.8±1.3, 21.12S×70.07W, h74^{km}±13^{km}, mb4.1/1, Error ellipse: s-maj=37.6km s-min=10.6km az=76.0*

ISC 30 21:05:53.5±1.9, 21.2S±0.1×70.3W±0.3, h61^{km}±28^{km}, n10, σ0^{s}70/9, mb4.1/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.91**	**139**	*e*P	**P**	**21 06 25.0**	**+0.6**
LVC				*e*S	**S**	**21 06 46.7**	**-0.5**
ARE	**Arequipa**	**4.82**	**346**	*e*P	**P**	**21 07 06.0**	**+0.7**
ARE				*e*S	**S**	**21 07 59.5**	**-1.0**
LPAZ	**La Paz**	**5.25**	**23**	P	**P**	**21 07 11.7**	**+0.4**
	1.9nm,0.3s,baz=192,slow=8.5,SNR=56						
LPAZ	**La Paz**	**5.25**	**23**	P	**P**	**21 07 11.7**	**+0.4**
SAML	**Samuel**	**13.92**	**30**	P	**P**	**21 09 03.9**	**-5.5**
TRQA	**Tornquist**	**18.29**	**159**	P	**P**	**21 10 03.7**	**-0.9**
QSPA	**South Pole Qui**	**69.03**	**180**	*e*P	**P**	**21 16 54.8**	**+0.6**
	1.4nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**129.61**	**209**	PKP	PKPdf	21 24 57.2	+0.7
	0.4nm,0.5s,baz=132,slow=1.6,SNR=5.4						
ASAR				pPKP		21 25 18.0	
	0.3nm,0.6s,baz=90,slow=1.8,SNR=2.8						
WRA	**Warramunga Arr**	**132.59**	**212**	PKP	PKPdf	21 25 02.7	+0.4
	0.4nm,0.5s,baz=154,slow=1.8,SNR=12						
WRA				pPKP		21 25 24.3	
	0.3nm,0.5s,baz=159,slow=1.7,SNR=7.0						
MKAR	**Makanchi Array**	**146.08**	**35**	PKPbc	PKPbc	21 25 25.9	-0.8
	0.9nm,0.5s,baz=319,slow=3.2,SNR=7.2						
MKAR				pPKPbc		21 25 46.8	
	2.3nm,0.6s,baz=326,slow=3.9,SNR=14						

GUC 30 21:06:39.9±1.0, 35.06S×70.54W, h4^{km}±3^{km}, MD3.7, ML2.9, 8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**275**	⇓*i*P	Pg	21 06 51.9	+0.6
NICH				*i* S	Sg	21 07 00.6	+1.7
SFDO	**San Fernando**	**0.59**	**318**	⇓*i*P	Pg	21 06 51.7	-0.1
SFDO				*i* S	Sg	21 07 00.8	+1.1
CICH	**Cipreses**	**0.74**	**7**	⇓*i*P	Pg	21 06 53.3	-1.5
CICH				*i* S	Sg	21 07 03.8	-0.9
CACH	**El Canelo**	**0.94**	**357**	⇑*i*P	Pb	21 06 57.0	-1.5
CACH				*i* S	Sb	21 07 10.2	-0.9
TALC	**Talca**	**0.96**	**249**	⇑*i*P	Pb	21 06 57.8	-1.0
TALC				*i* S	Sb	21 07 11.8	+0.2
TALC				AMP		21 07 12.9	
	comp=E,2μm,0.1s						
CHCH	**Chadas Angostu**	**1.13**	**355**	⇓*i*P	Pb	21 07 00.5	-1.2
CHCH				*i* S	Sb	21 07 16.5	0.0
LMEL	**Las Melosas**	**1.24**	**13**	⇑*i*P	Pb	21 07 02.1	-1.4
LMEL				*i* S	Sb	21 07 19.2	-0.5
LMEL				AMP		21 07 25.3	
	comp=N,197nm,0.2s						
LNV	**Longovilo**	**1.32**	**326**	⇑*i*P	Pb	21 07 03.8	-1.1
LNV				*i* S	Sb	21 07 22.1	+0.1
PCH	**Pirque**	**1.44**	**1**	⇑*i*P	Pn	21 07 05.9	-0.9
TACH	**Talagante**	**1.44**	**347**	*i* P	Pn	21 07 05.7	-1.2
TACH				*i* S	Sb	21 07 26.1	+0.5
ANTU	**Antumapu**	**1.49**	**357**	⇓*i*P	Pn	21 07 07.0	-0.5
ANTU				*i* S	Sb	21 07 27.1	+0.2
ANTU				AMP		21 07 29.1	
	comp=E,287nm,0.5s						
RCDM	**Rinconada Maip**	**1.58**	**352**	⇑*i*P	Pn	21 07 08.4	-0.5
RCDM				*e*S	Sb	21 07 29.9	+0.2
RCDM				AMP		21 07 32.3	
	comp=N,418nm,0.5s						
CLCH	**Cerro Calan**	**1.66**	**0**	⇑*i*P	Pn	21 07 09.7	-0.3
CLCH				*i* S	Sb	21 07 32.5	+0.6
CLCH				AMP		21 07 39.7	
	comp=N,292nm,0.6s						
FCH	**Farellones**	**1.74**	**7**	⇑*i*P	Pn	21 07 11.4	+0.2
FCH				*i* S	Sn	21 07 35.1	+1.0
FCH				AMP		21 07 35.9	
	comp=N,162nm,0.2s						
LCCH	**Las Cruces**	**1.80**	**331**	*e*P	Pn	21 07 11.6	-0.4

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*JMA **30** 21:17:50.2, 32.68N×134.17E, h30^{km}±1^{km}, M3.4*

*IDC **30** 21:17:52.7±1.2, 32.68N×134.17E, h30^{km}±7^{km}, mb3.6/3, mb1 3.9/6, mb1mx3.6/24, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=29.5km s-min=18.1km az=49.0*

*NEIC **30** 21:17:52.5±0.7, 32.66N×134.15E, mb3.8/1, Error ellipse: s-maj=14.1km s-min=10.9km az=112.0*

ISC 30 21:17:49.1±1.2, 32.70N±0.06×134.20E±0.04, h24^{km}±9^{km}, h29^{km}±1.1^{km}:pP-P, n17, σ0^{s}92/23, mb3.7/4, 3C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRT2	**Murotomisaki 2**	**0.69**	**356**	⇓P	**Pb**	**21 18 03.7**	**+1.4**
MRT2				*e*S	**Sb**	**21 18 11.7**	**+0.3**
JKU	**Kubokawa**	**1.13**	**303**	⇓P	**Pn**	**21 18 10.1**	**+0.5**
JKU				*e*S	**Sb**	**21 18 23.4**	**-0.7**
JTO	**Tosashimizu**	**1.19**	**278**	⇑P	**Pn**	**21 18 10.5**	**+0.1**
JTO				*e*S	**Sb**	**21 18 24.2**	**-1.6**
UWA2	**Uwa jima 2**	**1.42**	**292**	⇓P	**Pn**	**21 18 14.3**	**+0.6**
UWA2				*e*S	**Sn**	**21 18 30.7**	**-1.1**
JET	**Tanbara**	**1.44**	**318**	⇓P	**Pn**	**21 18 14.7**	**+0.6**
JWM	**Minabe**	**1.50**	**40**	⇑P	**Pn**	**21 18 14.7**	**-0.2**
JWM				*e*S	**Sn**	**21 18 31.9**	**-2.0**
JWZ	**Kozaga**	**1.52**	**57**	⇑P	**Pn**	**21 18 14.4**	**-0.8**
JWZ				*e*S	**Sn**	**21 18 33.4**	**-0.9**
JNU	**Nakatsue**	**2.82**	**279**	Pn	**Pn**	**21 18 34.9**	**+1.0**
	4.5nm,0.3s,baz=124,slow=4.4,SNR=25						
JNU				Sn	**Sn**	**21 19 07.7**	**+0.2**
	29nm,0.3s,baz=185,slow=18,SNR=19						
JHJ	**Hachijo jima 2**	**4.72**	**83**	Pn	**Pn**	**21 19 01.0**	**+0.3**
	68nm,0.3s,baz=59,slow=21,SNR=6.3						
JHJ				LR	LR	21 20 04.8	
	comp=Z,175nm,20.6s,baz=293,slow=28						
MAJO	**Matsushiro**	**5.06**	**40**	P	**Pn**	**21 19 06.7**	**+1.2**
JOW	**Kunigami**	**7.79**	**223**	Pn	**Pn**	**21 19 42.8**	**-1.2**
	3.4nm,0.3s,baz=97,slow=23,SNR=6.0						
HIA	**Hailar**	**19.77**	**331**	*e*P	**P**	**21 22 20.4**	**+0.1**
SONM	**Songino Array**	**25.87**	**314**	P	**P**	**21 23 22.2**	**+1.7**
	2.4nm,0.6s,mb3.9,baz=130,slow=9.7,SNR=28						
SONM				pP	pP	21 23 30.0	+2.5
	0.6nm,0.6s,baz=131,slow=8.7,SNR=3.6						
KURK	**Kurchatov**	**44.11**	**311**	P	**P**	**21 25 57.2**	**+0.1**
	0.9nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**52.34**	**180**	P	**P**	**21 27 01.0**	**-0.6**
	0.6nm,0.6s,mb3.7,baz=354,slow=7.9,SNR=6.9						
WRA				pP	pP	21 27 10.2	+1.4
	0.6nm,0.7s,baz=357,slow=7.9,SNR=3.3						
ASAR	**Alice Springs**	**56.05**	**180**	P	**P**	**21 27 29.4**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=11,slow=12,SNR=6.1						
ASAR				pP	pP	21 27 38.9	+2.9
	0.3nm,0.5s,baz=13,slow=12,SNR=2.6						
ILAR	**Eielson Array**	**56.27**	**30**	pP	pP	21 27 39.4	+2.3
	0.4nm,0.6s,baz=253,slow=7.8,SNR=3.8						

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*HLW **30** 21:40:37.0, 24.44N×36.19E, h3^{km}, Mb3.8*

*SNSN **30** 21:40:40.5, 24.52N×36.35E, h18^{km}, Ml3.0*

ISC 30 21:40:38.0±1.1, 24.44N±0.05×36.21E±0.04, h21^{km}±11^{km}, n21, σ0^{s}58/25, 6C-4D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAGS	**Hagol**	**1.11**	**267**	⇑P	**Pb**	**21 40 58.0**	**-0.3**
HAGS				S	**Sb**	**21 41 13.1**	**+0.7**
UMJS	**Umm Lajj**	**1.28**	**52**	P	**Pn**	**21 41 01.3**	**+0.4**
UMJS				S	**Sb**	**21 41 16.6**	**-0.6**
EMRS	**Mersa Alam**	**1.37**	**295**	⇑P	**Pn**	**21 41 01.4**	**-0.7**
HSHL	**Bi’r Shalatayn**	**1.52**	**209**	⇓P	**Pn**	**21 41 04.1**	**-0.2**
YNBS	**Yanbu‘ al Bahr**	**1.63**	**93**	P	**Pn**	**21 41 06.8**	**+0.9**
YNBS				S	**Sn**	**21 41 26.0**	**-0.4**
HADB		**1.70**	**303**	⇓P	**Pn**	**21 41 06.5**	**-0.4**
HQSR		**2.11**	**309**	⇑P	**Pn**	**21 41 11.9**	**-0.8**
DBAS	**Duba**	**2.77**	**356**	P	**Pn**	**21 41 21.9**	**-0.3**
HSFG		**2.95**	**316**	⇑P	**Pn**	**21 41 23.7**	**-1.1**
KBRS	**Khaybar**	**3.08**	**63**	S	**Sn**	**21 42 02.9**	**-0.3**
AAHD	**Abu Hadid**	**3.23**	**258**	⇓P	**Pn**	**21 41 28.9**	**+0.2**
AKRL	**Khor El Raml**	**3.28**	**257**	P	**Pn**	**21 41 29.4**	**0.0**
QEN		**3.52**	**301**	⇑P	**Pn**	**21 41 33.2**	**+0.4**
TBKS	**Tabuk**	**3.78**	**5**	P	**Pn**	**21 41 37.3**	**+0.7**
TBKS				S	**Sn**	**21 42 21.0**	**0.0**
AYUS	**‘Aynunah**	**3.83**	**348**	P	**Pn**	**21 41 37.9**	**+0.7**
TR1		**4.09**	**331**	⇑P	**Pn**	**21 41 40.3**	**-0.6**
BDAS	**Al Bad‘**	**4.10**	**346**	P	**Pn**	**21 41 41.9**	**+0.9**
JMQS	**Jabal Moqyreh**	**4.44**	**356**	P	**Pn**	**21 41 46.7**	**+0.8**
TR2		**4.52**	**331**	⇓P	**Pn**	**21 41 46.3**	**-0.7**
HAQS	**Haql**	**4.74**	**346**	P	**Pn**	**21 41 50.4**	**+0.3**
JMOS	**Jabal al Moall**	**4.81**	**349**	P	**Pn**	**21 41 51.6**	**+0.4**

ISC 30 22:02:10.7±2.8, 36.3N±0.1×27.4E±0.2, h75^{km}±32^{km}, n7, σ0^{s}54/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.79**	**0**	*i* P	**P**	**22 02 27.9**	**+0.6**
BDRM				*i* S	**S**	**22 02 39.5**	**0.0**
MLSB	**Milas**	**1.06**	**15**	PN	**P**	**22 02 30.4**	**0.0**
DALT	**Dalyan (Mudla)**	**1.09**	**62**	PN	**P**	**22 02 30.4**	**-0.4**
YER	**Yerkesik**	**1.10**	**38**	PN	**P**	**22 02 30.5**	**-0.4**
AYDN	**Tasoluk**	**1.43**	**14**	*i* P	**P**	**22 02 36.0**	**+0.5**
AYDN				*i* S	**S**	**22 02 52.7**	**-1.1**
DNZL	**Cakiroluk**	**1.91**	**42**	*i* P	**P**	**22 02 41.8**	**0.0**
DNZL				*i* S	**S**	**22 03 05.8**	**+0.9**
ELL	**Elmali**	**2.05**	**76**	*e*P	**P**	**22 02 43.5**	**-0.2**

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*HRVD **30** 22:09:19.1±0.2, 56.60S×26.18W, h91^{km}±1^{km}, MW5.4/62, Centroid moment Tensor Solution. LP body waves: s60,c101;Mantle waves: s62,c111; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.31±.03; M$_{\theta\theta}$0.93±.04; M$_{\phi\phi}$-0.61±.03; M$_{r\theta}$-0.93±.03; M$_{\theta\phi}$0.51±.04; M$_{\phi r}$0.61±.02; Best double couple: M$_0$1.47×10^{17} NP1: φ$_s$214°,δ40°,λ-167°. NP2:φ$_s$114°,δ82°,λ-51°. Principal axes: T 1.44, Plg26°, Azm174°; N .06, Plg39°, Azm288°; P -1.5, Plg40°, Azm60°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **30** 22:09:19.0, 56.50S×26.50W, h84^{km}, mB5.3, Ms5.0, Msz4.9*

*NEIC **30** 22:09:19.1±1.8, 56.51S×26.51W, h84^{km}±15^{km}, mb5.1/14, MW5.4, Error ellipse: s-maj=11.1km s-min=7.0km az=217.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.00; M$_{\theta\theta}$0.00; M$_{\phi\phi}$0.00; M$_{r\theta}$0.00; M$_{\theta\phi}$0.00; M$_{\phi r}$0.00; Best double couple: M$_0$1.3×10^{17} NP1: φ$_s$219°,δ37°,λ-155°. NP2:φ$_s$108°,δ75°,λ-55°. Principal axes: T 1.35, Plg22°, Azm173°; N -.07, Plg33°, Azm278°; P -1.28, Plg48°, Azm55°;*

*SYO **30** 22:09:19.0, 56.51S×26.51W, h84^{km}, MB5.1*

*IDC **30** 22:09:21.0±1.4, 56.56S×26.54W, h99^{km}±10^{km}, mb4.6/12, mb1 4.6/12, mb1mx4.6/14, MS4.2/14, Ms1 4.2/14, ms1mx4.2/14, Error ellipse: s-maj=19.9km s-min=11.9km az=38.0*

ISC 30 22:09:17.7±2.5, 56.50S±0.07×26.4W±0.1, h87^{km}±23^{km}, n103, σ1^{s}04/53, mb5.0/24, 18C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.22**	**158**	⇓*i*	**P**	**22 13 06.4**	**+5.3**
VNA1	**Neumayer--Stat**	**16.22**	**158**	⇑*i*	**P**	**22 13 10.3**	**+9.2**
VNA1	**Neumayer--Stat**	**16.22**	**158**	P	**P**	**22 13 02.4**	**+1.3**
VNA1				⇓*i*P		22 13 06.4	
VNA1				⇑*i*P		22 13 10.3	
VNA1				⇑*i*P		22 13 21.7	
VNA2	**Neumayer--Watz**	**16.61**	**158**	⇑*i*	**P**	**22 13 08.4**	**+2.4**
VNA2	**Neumayer--Watz**	**16.61**	**158**	⇑*i*	**P**	**22 13 12.6**	**+6.6**
VNA2	**Neumayer--Watz**	**16.61**	**158**	⇑*i*	**P**	**22 13 19.4**	**+13**
VNA2	**Neumayer--Watz**	**16.61**	**158**	P	**P**	**22 13 06.5**	**+0.5**
VNA2				⇑*i*P		22 13 08.4	
VNA2				⇑*i*P		22 13 12.6	
VNA2				⇑*i*P		22 13 19.4	
SNAA	**Sanae**	**18.16**	**156**	⇑*i*	**P**	**22 13 30.0**	**+5.0**
SNAA	**Sanae**	**18.16**	**156**	⇑*i*	**P**	**22 13 34.5**	**+10**
SNAA	**Sanae**	**18.16**	**156**	⇑*i*	**P**	**22 13 41.8**	**+17**
SNAA	**Sanae**	**18.16**	**156**	⇑*i*P	**P**	**22 13 23.9**	**-1.1**
SNAA				⇑*i*P		22 13 30.0	
SNAA				⇑*i*P		22 13 34.5	
SNAA				⇑*i*P		22 13 41.8	
EFI	**East Falkland**	**19.08**	**271**	P	**P**	**22 13 32.4**	**-3.2**
PMSA	**Palmer Station**	**19.94**	**230**	*e*P	**P**	**22 13 44.3**	**-0.4**
	63nm,0.7s						
MAIT	**Maitri**	**21.62**	**146**	*e*P	**P**	**22 14 01.6**	**-0.1**
USHA	**Ushuaia**	**23.50**	**256**	P	**P**	**22 14 22.2**	**+2.3**
	6.6nm,0.8s,mb4.0,baz=106,slow=16,SNR=3.6						
USHA				LR	LR	22 20 12.2	
	comp=Z,586nm,18.9s,baz=83,slow=28						
USHA				ScP		22 21 31.6	
	4.0nm,0.7s,baz=110,slow=2.5,SNR=4.2						
TRQA	**Tornquist**	**29.90**	**293**	*e*P	**P**	**22 15 16.2**	**-2.8**
	7.9nm,0.5s,mb4.6						
SYO	**Syowa Base**	**30.96**	**140**	⇓P	**P**	**22 15 26.7**	**-1.4**
SYO	**Syowa Base**	**30.96**	**140**	⇓pP	pP	22 15 37.7	-11
SYO	**Syowa Base**	**30.96**	**140**	⇓sP	sP	22 15 49.0	-10
SYO	**Syowa Base**	**30.96**	**140**	⇑PcP	PcP	22 18 21.2	-1.3
PLCA	**Paso Flores**	**32.51**	**280**	ScP		22 21 58.2	
	4.8nm,0.9s,baz=142,slow=3.2,SNR=6.3						
PLCA				LR	LR	22 27 42.6	
	comp=Z,302nm,21.5s,baz=125,slow=34						
QSPA	**South Pole Qui**	**33.75**	**180**	⇑*i*P	**P**	**22 15 52.0**	**-0.3**
	100nm,0.8s,mb5.7						
QSPA				*e*		22 22 04.1	
QSPA				LR	LR		
	comp=Z,520nm,21.1s						
CPUP	**Villa Florida**	**37.43**	**311**	P	**P**	**22 16 23.6**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.7,baz=163,slow=7.4,SNR=24						
CPUP				PcP	PcP	22 18 39.8	-1.6
	comp=Z,2.6nm,0.7s,baz=188,slow=5.8,SNR=4.4						
CPUP				ScP		22 22 16.3	
	comp=Z,3.2nm,0.9s,baz=141,slow=7.4,SNR=3.9						
CPUP				LR	LR	22 28 29.9	
	comp=Z,287nm,22.0s,baz=178,slow=31						
CPUP	**Villa Florida**	**37.43**	**311**	*e*P	**P**	**22 16 22.9**	**-1.0**
	comp=Z,16nm,1.1s,mb4.8						
MAW	**Mawson**	**39.53**	**143**	P	**P**	**22 16 41.3**	**+0.4**
	comp=Z,15nm,0.5s,mb5.1,baz=233,slow=8.5,SNR=43						
MAW				LR	LR	22 30 27.3	
	comp=Z,408nm,19.1s,baz=257,slow=32						
MAW	**Mawson**	**39.53**	**143**	*e*P	**P**	**22 16 40.9**	**0.0**
	comp=Z,26nm,0.8s,mb5.1						
SUR	**Sutherland**	**40.34**	**74**	P	**P**	**22 16 49.6**	**+1.6**
	comp=Z,14nm,0.7s,mb5.0,baz=201,slow=6.0						
SUR				LR	LR	22 30 30.6	
	comp=Z,476nm,18.4s,baz=285,slow=31						
SUR	**Sutherland**	**40.34**	**74**	P	**P**	**22 16 49.6**	**+1.6**
SUR				LR	LR	22 30 30.6	
BDFB	**Brasilia**	**43.97**	**329**	P	**P**	**22 17 19.4**	**+1.6**
	comp=Z,6.2nm,0.5s,mb4.6,baz=153,slow=2.7,SNR=13						
BDFB				LR	LR	22 32 30.0	
	comp=Z,366nm,19.8s,baz=164,slow=32						
SBA	**Scott Base**	**45.66**	**184**	*e*P	**P**	**22 17 30.5**	**0.0**
	comp=Z,23nm,1.1s,mb4.8						
LVC	**Limon Verde**	**45.90**	**300**	*e*P	**P**	**22 17 32.4**	**-0.7**
	comp=Z,22nm,0.6s,mb5.1						
LBTB	**Lobatse**	**48.73**	**72**	P	**P**	**22 17 54.9**	**-0.2**
TSUM	**Tsumeb**	**49.52**	**60**	LR	LR	22 36 15.0	
	comp=Z,205nm,19.5s,baz=148,slow=32						
TSUM	**Tsumeb**	**49.52**	**60**	P	**P**	**22 18 01.7**	**+0.3**
TSUM	**Tsumeb**	**49.52**	**60**	*e*P	**P**	**22 18 00.9**	**-0.4**
	comp=Z,107nm,1.3s,mb5.6						
TSUM				LR	LR		
	comp=Z,256nm,21.0s						
LPAZ	**La Paz**	**50.99**	**305**	P	**P**	**22 18 13.3**	**+0.7**
	comp=Z,17nm,0.3s,mb5.5,baz=146,slow=6.1,SNR=68						
LPAZ				ScP		22 23 13.0	
	comp=Z,0.9nm,0.6s,baz=142,slow=7.2,SNR=4.2						
LPAZ				S	**S**	**22 25 21.4**	**0.0**
	comp=Z,0.9nm,0.9s,baz=52,slow=19,SNR=3.7						
LPAZ				LR	LR	22 37 56.4	
	comp=Z,117nm,21.0s,baz=164,slow=34						
LPAZ	**La Paz**	**50.99**	**305**	*e*P	**P**	**22 18 12.8**	**+0.2**
	comp=Z,18nm,0.4s,mb5.4						
LPAZ				LR	LR		
	comp=Z,194nm,21.0s						
ARE	**Arequipa**	**52.41**	**301**	*e*P	**P**	**22 18 23.6**	**+0.4**
SAML	**Samuel**	**55.43**	**314**	*e*P	**P**	**22 18 43.9**	**-1.4**
	comp=Z,11nm,0.8s,mb4.9						
SAML				*e*	pP	22 19 04.6	-2.5
SAML				LR	LR		
	comp=Z,349nm,19.0s						
LSZ	**Lusaka**	**58.13**	**68**	*e*P	**P**	**22 19 03.3**	**-1.2**
	comp=Z,78nm,1.3s,mb5.6						
LIC	**Lamto**	**64.93**	**24**	*e*P	**P**	**22 19 50.1**	**-0.1**
	comp=Z,318nm,1.4s,mb6.0						
KIC	**Kosan Boka**	**65.12**	**24**	*e*P	**P**	**22 19 51.0**	**-0.4**
	comp=Z,486nm,1.4s						
TIC	**Toumodi**	**65.33**	**23**	*e*P	**P**	**22 19 52.6**	**-0.2**
	comp=Z,261nm,0.9s,mb6.1						
DBIC	**Dimbokro**	**65.39**	**24**	P	**P**	**22 19 52.6**	**-0.6**
	comp=Z,18nm,0.5s,mb5.2,baz=167,slow=5.7,SNR=86						
DBIC				LR	LR	22 41 15.4	
	comp=Z,417nm,21.7s,baz=172,slow=29						
DBIC	**Dimbokro**	**65.39**	**24**	P	**P**	**22 19 52.7**	**-0.5**
DBIC				pP	pP	22 20 22.2	+6.7
DBIC	**Dimbokro**	**65.39**	**24**	*e*P	**P**	**22 19 52.2**	**-1.0**
	comp=Z,58nm,1.1s,mb5.3						
DBIC				LR	LR		
	comp=Z,438nm,21.0s						
OTAV	**Otavalo**	**70.27**	**303**	*e*P	**P**	**22 20 24.5**	**+1.0**
	comp=Z,13nm,0.8s,mb4.8						
ROSC	**El Rosal**	**72.52**	**309**	P	**P**	**22 20 38.8**	**+1.9**
	comp=Z,7.8nm,0.4s,mb4.9,baz=284,slow=23,SNR=2.8						
ROSC				LR	LR	22 54 35.8	
	comp=Z,127nm,18.7s,baz=227,slow=37						
SDV	**Santo Domingo**	**74.63**	**314**	*e*P	**P**	**22 20 48.6**	**-0.6**
	comp=Z,7.2nm,0.4s,mb4.8						
KMBO	**Kilima Mbogo**	**74.80**	**68**	P	**P**	**22 20 54.1**	**+4.0**
	comp=Z,9.8nm,1.2s,mb4.4,baz=211,slow=5.1,SNR=10						
KMBO				LR	LR	22 52 33.5	
	comp=Z,212nm,20.0s,baz=96,slow=35						
KMBO	**Kilima Mbogo**	**74.80**	**68**	*e*P	**P**	**22 20 52.9**	**+2.8**
RPZ	**Rata Peaks**	**79.08**	**193**	P	**P**	**22 21 12.6**	**-0.8**
	comp=Z,14nm,1.1s,mb4.7,baz=204,slow=12,SNR=2.7						
NWAO	**Narrogin (SRO)**	**85.72**	**150**	P	**P**	**22 21 47.9**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.4,baz=240,slow=4.5,SNR=5.6						
TBI	**Tubuai**	**87.14**	**230**	*e*L		22 45 52.1	
TBI				*e*R		22 49 44.4	
	comp=Z,790nm,30.5s,baz=156						
STKA	**Stephens Creek**	**91.39**	**170**	P	**P**	**22 22 15.2**	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.7,baz=151,slow=3.0,SNR=8.4						
STKA				LR	LR	23 02 17.8	
	comp=Z,236nm,18.9s,baz=206,slow=35						
PPT	**Papeete**	**92.28**	**233**	*e*PS	PS	22 34 51.2	+12
PPT				*e*R		22 52 10.7	
	comp=Z,2μm,30.5s						
TEIG	**Tepich**	**92.32**	**304**	P	**P**	**22 22 19.6**	**+0.4**
	comp=Z,0.0nm,0.4s,baz=318,slow=24,SNR=2.3						
ESDC	**Sonseca Array**	**97.67**	**17**	LR	LR	23 05 11.0	
	comp=Z,95nm,18.2s,baz=135,slow=34						
ASAR	**Alice Springs**	**98.43**	**162**	P	**P**	**22 22 47.0**	**0.0**
	comp=Z,3.8nm,0.6s,mb5.1,baz=184,slow=3.8,SNR=14						
ASAR				PP	PP	22 26 46.4	-4.1
	comp=Z,1.4nm,0.9s,baz=184,slow=5.8,SNR=4.7						
ASAR				LR	LR	23 02 31.8	
	comp=Z,133nm,21.0s,baz=194,slow=32						
ASAR	**Alice Springs**	**98.43**	**162**	P	**P**	**22 22 47.0**	**0.0**
ASAR				PP	PP	22 26 46.4	-4.1
ASAR				LR	LR	23 02 31.8	
WRA	**Warramunga Arr**	**102.15**	**161**	P	Pdif	22 23 04.1	+0.3
	comp=Z,0.5nm,0.5s,baz=194,slow=4.3,SNR=8.1						
WRA				PP	PP	22 27 15.9	-2.8
	comp=Z,0.9nm,0.6s,baz=187,slow=6.4,SNR=7.8						
WRA				PKKPbc		22 39 06.4	
	comp=Z,0.2nm,0.4s,baz=356,slow=2.8,SNR=9.5						
BRTR	**Keskin Array B**	**108.43**	**45**	PP	PP	22 27 57.6	-8.0
	comp=Z,2.0nm,1.1s,baz=180,slow=7.4,SNR=7.2						
GERES	**GERESS Array B**	**110.15**	**27**	PP	PP	22 28 10.7	-7.3
	comp=Z,1.0nm,1.0s,baz=239,slow=7.8,SNR=5.0						
AKASG	**Malin Array Be**	**116.30**	**36**	PP	PP	22 28 57.3	-4.7
	comp=Z,0.1nm,0.2s,baz=221,slow=7.2,SNR=5.9						
ULM	**Lac du Bonnet**	**120.87**	**316**	PKP	PKPdf	22 27 58.8	-0.2
	comp=Z,1.6nm,0.4s,baz=124,slow=1.9,SNR=5.3						
NVAR	**Mina Array Bea**	**121.97**	**292**	PKP	PKPdf	22 28 03.9	+2.4
	comp=Z,0.4nm,0.6s,baz=153,slow=4.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**124.50**	**110**	PKP	PKPdf	22 28 08.1	+1.4
	comp=Z,1.2nm,0.4s,baz=242,slow=3.8,SNR=9.8						
FINES	**FINESS Array B**	**124.58**	**28**	PKP	PKPdf	22 28 06.4	+0.6
	comp=Z,0.9nm,0.5s,baz=160,slow=4.1,SNR=12						
KAF	**Kangasniemi**	**125.20**	**27**	*e*p	PKPdf	22 28 06.9	0.0
	comp=Z,0.3nm,0.3s						
LSA	**Lhasa**	**129.30**	**95**	*e*PKP	PKPdf	22 28 18.0	+2.2
ARCES	**ARCESS Array B**	**131.20**	**22**	PKP	PKPdf	22 28 18.9	+0.6
	comp=Z,1.8nm,0.8s,baz=189,slow=1.0,SNR=13						
ARCES				SKPbc		22 31 36.4	
	comp=Z,1.4nm,0.7s,baz=243,slow=4.0,SNR=3.8						
KMI	**Kunming**	**131.97**	**109**	*e*PKP	PKPdf	22 28 24.0	+3.1
KMI				SS	SS	22 48 14.3	+0.4
KMI				LR	LR		
	comp=Z,76nm,29.7s						
KMI	**Kunming**	**131.97**	**109**	*e*PKP	PKPdf	22 28 24.2	+3.3
KMI				SS	SS	22 48 14.3	+0.4
KMI				LR	LR		
	comp=Z,80nm,29.7s						
BVAR	**Borovoye Array**	**134.65**	**57**	PKP	PKPdf	22 28 27.5	+2.4
	comp=Z,2.0nm,0.5s,baz=189,slow=2.0,SNR=17						
BVAR				SKPbc		22 31 47.1	
	comp=Z,1.2nm,0.9s,baz=243,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**136.62**	**71**	PKhKP		22 28 15.8	
	comp=Z,0.9nm,1.0s,baz=251,slow=4.3,SNR=5.2						
MKAR				PKP	PKPdf	22 28 31.5	+2.6
	comp=Z,0.8nm,0.5s,baz=208,slow=1.7,SNR=10						
MKAR				SKPbc		22 31 53.0	
	comp=Z,2.4nm,1.0s,baz=225,slow=1.7,SNR=6.2						
MKAR	**Makanchi Array**	**136.62**	**71**	PKP	PKPdf	22 28 15.8	-13
MKAR				PKP	PKPdf	22 28 31.5	+2.6
MKAR				SKPbc		22 31 53.0	
YKA	**Yellowknife Ar**	**136.79**	**317**	PKP	PKPdf	22 28 29.8	+1.1
	comp=Z,1.6nm,0.5s,baz=130,slow=2.2,SNR=13						
YKA				SKPbc		22 31 53.1	
	comp=Z,1.7nm,0.6s,baz=130,slow=3.5,SNR=8.0						
YKA	**Yellowknife Ar**	**136.79**	**317**	PKP	PKPdf	22 28 29.8	+1.1
YKA				SKPbc		22 31 53.1	
WMQ	**Urumqi**	**137.57**	**78**	PKP	PKPdf	22 28 32.0	+1.3
WMQ				PP	PP	22 31 22.5	+1.3
WMQ				LR	LR		
	comp=N,56nm,35.8s						
WMQ				LR	LR		
	comp=E,99nm,27.6s						
WMQ				LR	LR		
	comp=Z,100nm,32.3s						
LZH	**Lanzhou**	**141.10**	**100**	*e*PKP	PKPdf	22 28 42.8	+5.5
LZH				PP	PP	22 31 49.0	+6.2
LZH				LR	LR		
	comp=N,599nm,18.2s						
LZH				LR	LR		
	comp=Z,825nm,20.0s						
LZH	**Lanzhou**	**141.10**	**100**	*e*PKP	PKPdf	22 28 42.7	+5.4
LZH				sPKP		22 29 07.0	
LZH				PP	PP	22 31 49.1	+6.3
LZH				*e*SKS	SKS	22 35 47.4	+11
LZH				SKKS		22 38 35.0	
LZH				SS	SS	22 50 12.0	+10
LZH				LR	LR		
	comp=Z,830nm,20.0s						
ZAL	**Zalesovo**	**142.16**	**64**	PKhKP		22 28 34.8	
	comp=Z,1.3nm,0.4s,baz=108,slow=6.1,SNR=3.2						
ZAL				SKPbc		22 32 08.5	
	comp=Z,1.2nm,0.4s,baz=81,slow=7.4,SNR=3.2						
NJ2	**Nanjing**	**145.74**	**121**	*e*PKP	PKPdf	22 28 49.5	+4.1
NJ2				PKP2	PKPab	22 28 53.0	+4.4
NJ2				PP	PP	22 32 16.0	+5.2
NJ2				PKS	PKS	22 32 24.0	+4.2
NJ2				PP	PP		
	comp=Z,190nm,8.7s						
NJ2				LR	LR		
	comp=N,830nm,28.3s						
NJ2				LR	LR		
	comp=E,1μm,31.8s						
NJ2				LR	LR		
	comp=Z,710nm,27.7s						
SSE	**Sheshan**	**146.03**	**125**	PKP	PKPdf	22 28 50.0	+4.1
SSE				PP	PP	22 32 17.5	+5.0
SSE				LR	LR		
	comp=N,67nm,25.7s						
SSE				LR	LR		
	comp=E,90nm,25.8s						
SSE				LR	LR		
	comp=Z,42nm,17.2s						
SSE	**Sheshan**	**146.03**	**125**	PKP	PKPdf	22 28 50.5	+4.6
SSE				PP	PP	22 32 17.4	+4.9
SSE				SS	SS	22 51 07.4	+9.1

SSE				LR	LR		
	comp=Z,40nm,17.2s						
INK	**Inuvik**	146.42	320	*e*PKP	PKPdf	22 28 47.7	+2.3
DAWY	**Dawson**	147.41	311	*e*PKPbc	PKPdf	22 28 51.3	+4.2
BTO	**Baotou**	147.72	101	*e*PKP	PKPdf	22 28 51.5	+3.1
TIA	**Tai'an**	148.22	114	*e*PKP	PKPdf	22 28 55.0	+5.6
HHC	**Hu-ho-hao-te**	148.72	102	*e*PKP	PKPdf	22 28 56.0	+6.0
HHC				APKP		22 29 13.0	
HHC				XPKP		22 29 23.0	
HHC				PP	PP	22 32 28.0	+0.3
HHC				SS	SS	22 51 33.8	+5.2
HHC				PP	PP		
	comp=Z,88nm,5.1s						
HHC				LR	LR		
	comp=N,100nm,16.7s						
HHC				LR	LR		
	comp=E,73nm,14.3s						
HHC				LR	LR		
	comp=Z,77nm,11.9s						
EYAK	**Cordova Ski Ar**	149.06	303	*e*PKPbc	PKPdf	22 28 56.1	+6.2
SONM	**Songino Array**	150.32	87	PKP	PKPdf	22 28 53.5	+1.2
	comp=Z,0.9nm,1.0s,baz=180,slow=2.5,SNR=3.9						
SONM				PKPbc	PKPdf	22 28 59.0	+6.7
	comp=Z,12nm,0.5s,baz=222,slow=3.4,SNR=140						
SONM				PKPab	PKPab	22 29 06.6	+0.2
	comp=Z,5.7nm,0.6s,baz=242,slow=3.1,SNR=11						
BJT	**Baijiatuau**	150.60	108	*e*PKPbc	PKPdf	22 29 00.7	+7.7
BJI	**Beijing**	150.62	108	PKP	PKPdf	22 29 00.0	+7.0
BJI				SS	SS	22 51 57.3	+7.9
BJI				LR	LR		
	comp=N,50nm,33.7s						
BJI				LR	LR		
	comp=E,58nm,41.8s						
BJI				LR	LR		
	comp=Z,109nm,27.5s						
BJI	**Beijing**	150.62	108	PKP	PKPdf	22 29 00.8	+7.8
BJI				SS	SS	22 51 57.3	+7.9
BJI				LR	LR		
	comp=Z,110nm,27.5s						
SML	**Sawmill**	150.64	305	*e*PKPbc	PKPdf	22 28 59.4	+7.0
ILAR	**Eielson Array**	150.74	311	PKPbc	PKPdf	22 28 59.5	+7.1
	comp=Z,6.0nm,0.8s,baz=113,slow=0.8,SNR=42						
SLKM	**Skilak Lake**	151.14	302	PKP	PKPdf	22 28 56.0	+2.9
MCK	**McKinley**	151.39	308	*e*PKPbc	PKPdf	22 29 01.4	+8.0
KDAK	**Kodiak Island**	151.41	295	*e*PKPbc	PKPdf	22 29 01.4	+7.8
JNU	**Nakatsue**	151.87	137	PKPbc	PKPdf	22 29 05.5	+10
	comp=Z,5.6nm,0.5s,baz=334,slow=2.6,SNR=3.0						
SPU	**Mount Spurr**	152.19	302	*e*PKPbc	PKPdf	22 29 02.8	+8.1
CN2	**Changchun**	158.13	114	*e*PKP	PKPdf	22 29 09.5	+6.4

GUC 30 22:18:52.0±0.5**,35.00S**×**70.58W,h2**^{km}±3^{km}**,MD3.6, ML2.8,7C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.53	317	⇓*i*P	Pg	22 19 02.5	0.0
SFDO				*i* S	Sg	22 19 11.0	+1.5
CICH	**Cipreses**	0.69	11	⇑*i*P	Pg	22 19 04.8	-0.9
CICH				*i* S	Sg	22 19 15.3	+0.4
CACH	**El Canelo**	0.88	359	⇓*i*P	Pg	22 19 08.3	-1.2
CACH				*i* S	Sg	22 19 21.8	+0.6
CHCH	**Chadas Angostu**	1.06	357	*e*P	Pb	22 19 12.1	-0.7
CHCH				*i* S	Sb	22 19 27.7	+0.7
LMEL	**Las Melosas**	1.19	15	⇑*i*P	Pb	22 19 13.7	-1.3
LMEL				*i* S	Sb	22 19 30.5	-0.1
LMEL				AMP		22 19 33.6	
	comp=N,224nm,0.2s						
LNV	**Longovilo**	1.25	326	*e*P	Pb	22 19 14.8	-1.2
LNV				*i* S	Sb	22 19 32.5	+0.1
TACH	**Talagante**	1.37	347	⇑*i*P	Pb	22 19 17.2	-0.9
TACH				*i* S	Sb	22 19 36.3	+0.3
PCH	**Pirque**	1.37	2	⇑*i*P	Pb	22 19 17.2	-0.9
PCH				*i* S	Sb	22 19 36.7	+0.7
CLCH	**Cerro Calan**	1.60	1	⇑*i*P	Pn	22 19 20.9	-0.6
CLCH				*i* S	Sb	22 19 44.0	+1.5
CLCH				AMP		22 19 48.9	
	comp=E,230nm,0.3s						
FCH	**Farellones**	1.68	8	⇑*i*P	Pn	22 19 22.8	+0.2
FCH				*i* S	Sb	22 19 46.1	+1.1
FCH				AMP		22 19 47.4	
	comp=E,214nm,0.2s						
LCCH	**Las Cruces**	1.73	331	⇑*i*P	Pn	22 19 22.8	-0.5
LCCH				*i* S	Sn	22 19 46.9	+0.6

PRU ***30*** *22:41:03.7,51.57N×16.12E*
WAR ***30*** *22:41:05.1,51.54N×16.06E,ML2.7,Mining Induced*
ISC 30 22:41:01.8±1.2**,51.57N**±0.05×**16.06E**±0.06**,n9,**σ**1$\overset{s}{.}$21**/22**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.74	168	*e*PG	Pg	22 41 18.0	+1.4
KSP				*e*SG	Sg	22 41 28.0	+1.5
UPC	**Upice**	1.07	182	*e*PG	Pg	22 41 24.4	+1.4
UPC				*e*SG	Sg	22 41 38.3	+1.1
DPC	**Dobruska-Polom**	1.23	172	*e*PG	Pg	22 41 26.8	+0.4
DPC				*e*SG	Sg	22 41 42.4	-0.4
	3.8nm,0.2s						
PVCC	**Panska Ves**	1.41	223	*e*PG	Pg	22 41 30.9	+1.1
PVCC				*e*SG	Sg	22 41 49.4	+0.9
PRU	**Pruhonice**	1.85	212	*e*PN	Pn	22 41 36.1	+1.0
PRU				*e*PG	Pg	22 41 37.9	-0.9
PRU				*i*		22 41 39.8	
PRU				*i*		22 41 54.8	
PRU				*e*SG	Sg	22 42 02.4	-1.1
	9.2nm,0.3s						
CLL	**Collm**	1.93	263	*e*PG	Pg	22 41 40.0	-0.3
CLL				*e*SG	Sg	22 42 06.0	0.0
OKC	**Ostrava-Krasne**	2.19	142	*e*PG	Pg	22 41 44.0	-1.4
OKC				*e*SG	Sg	22 42 12.2	-2.3
NKC	**Novy Kostel**	2.65	241	*e*PN	Pn	22 41 47.9	+1.5
NKC				*e*PG	Pg	22 41 52.4	-2.2
NKC				*e*SG	Sg	22 42 29.8	-0.1
KHC	**Kasperske Hory**	2.91	214	*e*PN	Pn	22 41 50.8	+0.6
KHC				*e*PG	Pg	22 41 57.1	-2.8
KHC				*e*SN	Sn	22 42 26.5	0.0
KHC				*e*SG	Sg	22 42 37.4	-1.4

MOS ***30*** *22:49:17.3±1.6,55.19N×164.89E,h45*^{km}*,mb4.2/1,Error ellipse: s-maj=17.5km s-min=14.9km az=45.3*
KRSC ***30*** *22:49:17.5±1.2,55.31N×164.95E,h52*^{km}*±7*^{km}*,ML4.3*
IDC ***30*** *22:49:19.1±5.9,55.02N×164.68E,h30*^{km}*±47*^{km}*,mb3.5/5, mb1 3.8/6,mb1mx3.4/23,ML3.3/1,Error ellipse: s-maj=44.5km s-min=14.8km az=11.0*
NEIC ***30*** *22:49:19.9±1.6,55.10N×164.76E,h38*^{km}*±18*^{km}*,mb4.5/2, Error ellipse: s-maj=22.5km s-min=11.8km az=176.0*
ISC 30 22:49:17.8±0.5**,55.25N**±0.03×**164.92E**±0.05**,h42**^{km}±7^{km}**, n50,**σ**1$\overset{s}{.}$21**/78**,mb3.9**/7**,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	0.61	94	*i* P	P	22 49 29.8	-0.3
BKI				*i* S	S	22 49 38.6	-0.3
BKI				Smax			
	2µm,0.6s						
KBTR	**Krutoberegovo**	1.53	310	P	P	22 49 40.7	-2.4
KBTR				S	S	22 49 58.4	-3.6
KBTR	**Krutoberegovo**	1.53	310	*i* P	P	22 49 41.3	-1.8
KBTR				*i* S	S	22 50 00.2	-1.8
KBG	**Krutoberegovo**	1.61	310	*e*P	P	22 49 42.0	-2.3
KBG				*e*S	S	22 50 02.0	-1.9
KBG				Smax			
	2µm,0.9s						
MKZ	**Mys Kozlova**	1.97	251	P	P	22 49 49.4	+0.1
MKZ				S	S	22 50 12.2	-0.7
MKZ	**Mys Kozlova**	1.97	251	*e*P	P	22 49 49.5	+0.2
MKZ				*e*S	S	22 50 12.5	-0.4
ZLN	**Zelenaya**	2.46	290	*e*P	P	22 49 56.6	+0.3
ZLN				*e*S	S	22 50 26.0	+0.7
SVLR	**Shiveluch**	2.47	304	*e*P	P	22 49 56.3	-0.3
SVLR				*e*S	S	22 50 24.9	-0.8
CIRR	**Tsirk**	2.52	292	*i* P	P	22 49 57.3	+0.1
CIRR				*i* S	S	22 50 27.0	+0.1
LGNR	**Loginova**	2.54	291	*e*P	P	22 49 58.7	+1.2
LGNR				*e*S	S	22 50 28.8	+1.4
KLY	**Klyuchi**	2.63	296	P	P	22 49 57.5	-1.4
KLY				S	S	22 50 28.1	-1.8
KLY	**Klyuchi**	2.63	296	*e*P	P	22 49 57.4	-1.5
KLY				*e*S	S	22 50 27.2	-2.7
KMNR	**Kamenistaya**	2.71	283	*i* P	P	22 50 01.0	+1.0
TUMR	**Tumrok**	2.73	273	*e*P	P	22 50 01.1	+0.8
TUMR				*i* S	S	22 50 32.8	+0.5
KOZR	**Kozyr**	2.96	288	PN	P	22 50 04.9	+1.4
KOZR				S	S	22 50 40.9	+2.8
KOZ	**Kozyrevsk**	2.97	288	P	P	22 50 04.9	+1.2
KOZ				S	S	22 50 40.9	+2.5
KOZ	**Kozyrevsk**	2.97	288	*e*P	P	22 50 04.7	+1.0
KOZ				*e*S	S	22 50 39.8	+1.4
SRDR	**Sredinnyy**	3.13	292	*i* P	P	22 50 06.5	+0.6
KII	**Karymskiy**	3.40	251	*e*P	P	22 50 10.3	+0.5
KII				*e*S	S	22 50 48.8	-0.6
ESO	**Esso**	3.59	283	*e*P	P	22 50 12.0	-0.5
ESO				*e*S	S	22 50 50.5	-3.7
ESO				Smax			
	40nm,0.7s						
SPN	**Mys Shipunski**	3.59	235	P	P	22 50 12.5	0.0
SPN				S	S	22 50 50.3	-3.9
SPN	**Mys Shipunski**	3.59	235	*e*P	P	22 50 12.8	+0.3
SPN				*e*S	S	22 50 52.6	-1.6
SDLR	**Sedlovina**	4.05	243	*e*P	P	22 50 20.2	+1.2
SDLR				*e*S	S	22 51 05.6	-0.2
SMAR	**Somma**	4.10	243	*e*P	P	22 50 20.7	+1.0
UGLR	**Uglovaya**	4.12	243	*e*P	P	22 50 21.2	+1.3
AVH	**Avacha**	4.13	244	*e*P	P	22 50 21.4	+1.3
AVH				*i* S	S	22 51 06.9	-0.9
KOK	**Koryaka**	4.17	245	*e*P	P	22 50 22.1	+1.4
PET	**Petropavlovsk**	4.31	241	*e*PN	P	22 50 21.9	-0.7
PET				*e*S	S	22 51 09.9	-2.3
PET				smax			
	comp=N,136nm,0.5s						
PET				smax			
	comp=E,45nm,0.5s						
PET	**Petropavlovsk**	4.31	241	P	P	22 50 21.1	-1.5
GNL	**Ganaly**	4.36	252	*e*P	P	22 50 24.5	+1.2
RUS	**Russkaya**	4.73	236	P	P	22 50 28.4	-0.1
RUS				S	S	22 51 19.0	-3.8
RUS	**Russkaya**	4.73	236	*e*P	P	22 50 28.5	0.0
RUS				*e*S	S	22 51 19.8	-3.0
GRL	**Gorelyy**	4.87	239	*e*P	P	22 50 29.9	-0.6
APC	**Apacha**	5.13	246	*e*P	P	22 50 35.8	+1.7
APC				*e*S	S	22 51 31.5	-1.3
APC				Smax			
	comp=E,20nm,1.2s						
FX1	**Attu Island--F**	5.41	113	Pn	P	22 50 36.8	-1.2
	comp=E,3.5nm,0.3s,baz=356,slow=5.7,SNR=18						
FX1				Sn	S	22 51 34.1	-5.7
	baz=162,slow=19,SNR=2.2						
FX1	**Attu Island--F**	5.41	113	PN	P	22 50 36.8	-1.2
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	**Attu Island--F**	5.41	113	*e*P	P	22 50 37.7	-0.3
MIPR	**Malaya Ipel'ka**	5.68	242	*e*P	P	22 50 42.9	+1.0
SKR	**Severo-Kuril's**	7.01	233	*e*PN	P	22 50 57.0	-3.5
KAMR	**Kamenskoye**	7.26	5	*e*P	P	22 51 02.8	-1.2
KAMR				*e*S	S	22 52 18.8	-7.2
KAMR				Smax			
	comp=Z,10.0nm,1.4s						
YAK	**Yakutsk**	19.35	305	P	P	22 53 43.1	+0.9
ILAR	**Eielson Array**	25.27	48	P	P	22 54 42.7	+1.6
	comp=Z,0.4nm,0.8s,mb3.0,baz=276,slow=8.2,SNR=3.5						
MAJO	**Matsushiro**	26.11	235	P	P	22 54 49.0	-0.4
SONM	**Songino Array**	36.17	283	P	P	22 56 18.5	+0.7
	comp=Z,1.0nm,0.8s,mb3.8,baz=64,slow=8.3,SNR=10.0						
KURK	**Kurchatov**	48.98	303	*e*P	P	22 58 00.9	-0.7
	comp=Z,2.3nm,0.4s,mb4.6						
MKAR	**Makanchi Array**	49.75	297	P	P	22 58 07.5	0.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=57,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	49.75	297	P	P	22 58 07.5	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	61.36	261	P	P	22 59 29.8	-1.9
	comp=Z,0.3nm,0.5s,mb3.7,baz=31,slow=5.3,SNR=2.5						
TXAR	**Lajitas Array**	67.22	71	P	P	23 00 13.2	+3.7
	comp=Z,0.3nm,0.2s,mb3.9,baz=309,slow=5.8,SNR=2.8						
WRAB	**Tennant Creek**	79.28	209	P	P	23 01 20.2	-0.1
	comp=Z,2.8nm,0.6s,mb4.4						

KISR ***30*** *22:53:39.4±1.7,31.25N×50.00E,h40*^{km}*±697*^{km}*,ML3.0*
THR ***30*** *22:53:48.4±0.7,31.60N×50.13E,h14*^{km}*±73*^{km}*,ML2.6*
ISC 30 22:53:41.5±0.6**,31.03N**±0.07×**49.83E**±0.10**,h10**^{km}**,n9,** σ**0$\overset{s}{.}$77**/15**,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UMR	**Umm Al-Rimmam**	2.35	232	*e*P	Pn	22 54 20.9	+0.1
UMR				*e*S	Sn	22 54 49.9	0.0
UMR				AML	AML	22 54 52.8	
	comp=Z,59nm,0.4s						
MIB	**Mutribah**	2.48	241	*e*P	Pn	22 54 21.7	-0.8
MIB				AML	AML	22 55 00.2	
	comp=Z,43nm,0.5s						
KBD	**Kabd**	2.62	226	*e*P	Pn	22 54 24.4	-0.2
KBD				*e*S	Sn	22 54 58.6	+1.9
QRN	**Al-Qurain**	2.82	217	*e*P	Pn	22 54 26.6	-0.8
QRN				*e*S	Sn	22 55 01.7	-0.1
QRN				AML	AML	22 55 08.6	
	comp=Z,45nm,0.2s						
RDF	**Al-Radifah**	2.88	224	*e*P	Pn	22 54 28.3	-0.1
RDF				*e*S	Sn	22 55 04.2	+0.8
RDF				AML	AML	22 55 07.7	
	comp=Z,44nm,0.3s						
RST	**Umm Al-Ruwaisa**	2.89	239	*e*P	Pn	22 54 27.5	-0.9
NASN	**Na'in**	3.09	54	*e*PN	Pn	22 54 31.6	+0.3
NASN				*e*SG	Sn	22 55 09.2	+0.6
NASN				AMP		22 55 15.3	
	comp=E,23nm,0.5s						
ASAO	**Ashtian**	3.51	3	*e*PN	Pn	22 54 37.1	-0.2
ASAO				*e*SG	Sn	22 55 20.3	+0.9
ASAO				AMP		22 55 35.9	
	comp=N,27nm,0.5s						
DAMV	**Damavand**	4.92	21	*e*PN	Pn	22 54 56.1	-1.2

IDC ***30*** *23:08:18.8±1.7,8.03S×147.40E,h106*^{km}*±16*^{km}*,mb3.8/4, mb1 3.8/6,mb1mx3.6/13,Error ellipse: s-maj=41.6km s-min=16.2km az=115.0*
NEIC ***30*** *23:08:18.4±1.9,7.93S×147.38E,h102*^{km}*±18*^{km}*,mb4.0/2, Error ellipse: s-maj=33.4km s-min=19.7km az=107.0*
ISC 30 23:08:15.6±1.7**,7.8S**±0.1×**147.4E**±0.2**,h92**^{km}±16^{km}**,n12,** σ**1$\overset{s}{.}$04**/15**,mb3.9**/4**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	1.60	190	P	P	23 08 44.1	+1.1
	86nm,0.3s,baz=21,slow=5.7,SNR=213						
PMG				S	S	23 09 03.1	-0.3
	197nm,0.3s,baz=156,slow=20,SNR=27						
CTA	**Charters Tower**	12.25	185	P	P	23 11 09.3	+1.3
	0.3nm,0.3s,baz=1.2,slow=15,SNR=2.4						
CTA	**Charters Tower**	12.25	185	P	P	23 11 09.3	+1.3
WRAB	**Tennant Creek**	17.48	225	*e*P	P	23 12 13.4	-1.7
	8.9nm,0.6s						
WB2	**Warramunga Arr**	17.49	225	*e*P	P	23 12 14.2	-0.9
WRA	**Warramunga Arr**	17.50	225	P	P	23 12 14.6	-0.6
	0.4nm,0.3s,baz=51,slow=11,SNR=18						
WRA				S	S	23 15 25.3	+0.8
	0.0nm,0.3s,baz=49,slow=22,SNR=4.9						
ASAR	**Alice Springs**	20.41	218	P	P	23 12 46.6	-0.9
	1.9nm,0.3s,baz=53,slow=9.3,SNR=16						
ASAR				S	S	23 16 27.3	+1.4
	0.9nm,0.9s,baz=31,slow=25,SNR=5.1						
FITZ	**Fitzroy Crossi**	23.54	242	P	P	23 13 19.8	+1.3
	1.4nm,0.3s,mb3.8,baz=32,slow=8.1,SNR=18						
STKA	**Stephens Creek**	24.54	192	P	P	23 13 26.5	-1.5
	4.2nm,0.7s,mb4.0,baz=19,slow=12,SNR=8.7						
STKA	**Stephens Creek**	24.54	192	P	P	23 13 26.5	-1.5
MKAR	**Makanchi Array**	79.17	321	P	P	23 20 12.5	+0.5
	1.1nm,0.5s,mb4.0,baz=104,slow=7.0,SNR=16						
KURK	**Kurchatov**	82.92	323	*e*P	P	23 20 31.8	+0.3
	0.9nm,0.7s,mb3.7						

GUC 30 23:13:54.5±0.7**,35.37S**×**72.52W,h8**^{km}±4^{km}**,MD3.8, ML3.5,1C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	**Talca**	0.73	92	⇓*i*P	Pb	23 14 08.6	-0.3
TALC				*i* S	Sb	23 14 18.8	0.0
COCH	**Cobquecura**	0.79	196	*e*P	Pb	23 14 09.5	-0.5
COCH				*i* S	Sb	23 14 20.5	0.0
COCH				AMP		23 14 23.3	
	comp=N,644nm,0.5s						
NICH	**Los Niches**	1.12	71	⇓*i*P	Pb	23 14 15.1	-0.6
NICH				*i* S	Sb	23 14 30.1	-0.1
CCHI	**Chillan**	1.28	164	*e*P	Pb	23 14 17.9	-0.5
CCHI				*i* S	Sb	23 14 34.8	0.0
CCHI				AMP		23 14 38.3	
	comp=E,1µm,0.5s						
SFDO	**San Fernando**	1.45	59	⇑*i*P	Pn	23 14 19.9	-1.2
SFDO				*i* S	Sb	23 14 40.3	+0.5
CACH	**El Canelo**	2.02	52	*e*P	Pn	23 14 29.3	+0.1
CACH				*i* S	Sn	23 14 56.2	+1.4
CICH	**Cipreses**	2.02	59	*e*P	Pn	23 14 29.3	+0.1
CICH				*i* S	Sn	23 14 56.0	+1.1
CHCH	**Chadas Angostu**	2.11	48	*e*P	Pn	23 14 30.6	+0.1
CHCH				*i* S	Sn	23 14 57.7	+0.6
RCDM	**Rinconada Maip**	2.35	38	*e*P	Pn	23 14 34.0	0.0
RCDM				*i* S	Sn	23 15 04.5	+1.2
RCDM				AMP		23 15 11.3	
	comp=E,411nm,0.2s						
PCH	**Pirque**	2.41	44	*e*P	Pn	23 14 35.7	+0.9
LMEL	**Las Melosas**	2.44	52	*e*P	Pn	23 14 35.8	+0.5
LMEL				*i* S	Sn	23 15 08.1	+2.5
LMEL				AMP		23 15 13.3	
	comp=N,565nm,0.4s						
CLCH	**Cerro Calan**	2.56	40	*e*P	Pn	23 14 37.5	+0.4
CLCH				*i* S	Sn	23 15 10.1	+1.4
CLCH				AMP		23 15 18.7	
	comp=N,928nm,0.7s						
FCH	**Farellones**	2.75	43	*e*P	Pn	23 14 38.1	-1.6
FCH				*i* S	Sn	23 15 15.5	+2.1
FCH				AMP		23 15 23.2	
	comp=E,331nm,0.3s						

NIED ***30*** *23:22:00,24.60N×121.80E,h80*^{km}*,Mw4.3 Best double couple: M*$_0$*2.97×10*^{15} *NP1:φ*$_s$*156°,δ81°,λ40°. NP2:φ*$_s$*59°, δ50°,λ169°.*
BJI ***30*** *23:22:15.5,24.65N×121.69E,h54*^{km}*,mB4.6,mb4.4, ML4.3,Ms4.3,Msz3.9*
JMA ***30*** *23:22:15.9±0.3,24.59N×121.84E,h68*^{km}*,M4.5*
TAP ***30*** *23:22:16.0,24.60N×121.86E,h78*^{km}*,ML4.7*
TAP Felt II J at Suao, II J at Ilan, III J at Nanau, II J at Neicheng, II J at Nioudou, I J at Santiao Chiao, II J, II J at Nanshan, I J at Taipai, II J at Kuangyinshan, II J at Jungli (National Central University).
NEIC ***30*** *23:22:16.4±0.3,24.47N×121.68E,mb4.5/8,Error ellipse: s-maj=12.4km s-min=7.5km az=62.0*
NEIC Felt at Taipei. Recorded [3 TAP] in I-lan and [2 TAP] in Hua-lien, T'ai-pei and Tao-yuan Counties.
IDC ***30*** *23:22:16.6±0.6,24.65N×121.95E,h79*^{km}*±5*^{km}*,mb3.8/18, mb1 4.1/19,mb1mx4.0/24,MS3.1/2,Ms1 3.2/2, ms1mx2.9/21,Error ellipse: s-maj=14.3km s-min=10.2km az=58.0*
ISC 30 23:22:15.7±0.2**,24.65N**±0.02×**121.87E**±0.02**,h82**^{km}±1^{km}**, h77**^{km}±1.6^{km}**:pP-P,n117,** σ**1$\overset{s}{.}$08**/169**,mb4.1**/23**,6C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	0.04	208	⇓*i*P	P	23 22 27.4	+0.1
ILA	**Ilan**	0.16	317	⇓*i*P	P	23 22 28.2	+0.6
ILA				S	S	23 22 37.1	+0.7
TWE	**Neicheng**	0.20	292	⇓*i*P	P	23 22 28.0	+0.4
TWE				S	S	23 22 36.5	-0.1
ENA	**Nanau**	0.25	209	⇓*i*P	P	23 22 27.8	-0.2
ENA				S	S	23 22 36.3	-0.8
ENTT	**Nioudou**	0.28	269	⇓*i*P	P	23 22 28.2	+0.1
TWB1	**Santiao Chiao**	0.38	17	⇓*i*P	P	23 22 29.0	+0.3
TWB1				S	S	23 22 37.8	-0.8
TWA	**Mucha**	0.42	322	⇓*i*P	P	23 22 29.5	+0.4
TWA				S	S	23 22 39.0	-0.1
NWF	**Wu-fen Shan**	0.43	349	⇓*i*P	P	23 22 29.7	+0.5
NWF				S	S	23 22 39.1	-0.2
TATO	**Taipei**	0.48	314	*e*P	P	23 22 29.0	-0.5
TATO				*e*S	S	23 22 38.6	-1.3
NNS	**Nan Shan**	0.50	246	⇓*i*P	P	23 22 29.9	+0.2
NNS				S	S	23 22 39.2	-1.0
TAP1	**Taipei**	0.50	321	⇓*i*P	P	23 22 30.1	+0.3
TAP1				S	S	23 22 39.7	-0.6
TAP	**Taipei**	0.51	320	⇓*i*P	P	23 22 30.1	+0.3
TAP				S	S	23 22 40.0	-0.4
TWS1	**Kuangyinshan**	0.61	318	⇑*i*P	P	23 22 31.4	+0.6
TWS1				S	S	23 22 42.4	+0.4
TWD	**Chiawan**	0.61	204	⇓*i*P	P	23 22 30.0	-0.9
TWD				S	S	23 22 39.9	-2.1
TWY	**Chenhua**	0.68	339	⇓P	P	23 22 32.2	+0.7
TWY				S	S	23 22 44.0	+0.9
NCU	**National Centr**	0.70	298	⇑P	P	23 22 32.0	+0.3
NCU				S	S	23 22 43.4	-0.2
HWA	**Hwalien**	0.71	200	*e*P	P	23 22 31.3	-0.5
NSTT	**Nanjuang**	0.79	269	⇑*i*P	P	23 22 32.6	-0.1
NSTT				S	S	23 22 44.2	-1.1
HSN	**Hsinchu**	0.83	281	*e*P	P	23 22 33.0	-0.2
HSN				S	S	23 22 45.0	-1.2
ESL	**Shilin**	0.92	206	*e*P	P	23 22 32.8	-1.3
PCYT	**Pengchaiyu**	1.00	11	⇓P	P	23 22 36.0	+0.9
PCYT				S	S	23 22 50.9	+1.2
NSY	**Sanyi**	1.03	258	⇑P	P	23 22 36.1	+0.6
NSY				S	S	23 22 50.3	-0.1
YOJ	**Yonaguni jima**	1.05	100	P	P	23 22 35.4	-0.3
YOJ				S	S	23 22 49.9	-0.9
SMLT	**Sun Moon Lake**	1.17	230	⇑P	P	23 22 38.1	+0.9
SMLT				S	S	23 22 53.9	+0.7
TYC	**Yuchr**	1.18	232	⇑P	P	23 22 38.0	+0.7
TYC				S	S	23 22 53.8	+0.1
TCU	**Taichung**	1.20	246	*e*P	P	23 22 37.9	+0.3
EHY	**Hungye**	1.24	204	*e*P	P	23 22 36.4	-1.7
WNT	**Mingjian**	1.32	235	*e*P	P	23 22 39.8	+0.5
WNT				S	S	23 22 57.0	+0.2
TWF1	**Yuli**	1.39	202	*e*P	P	23 22 38.4	-1.8
ALS	**Alishan**	1.49	221	*e*P	P	23 22 42.5	+1.1
ALS				S	S	23 23 02.6	+2.1
CHN5	**Tsauling**	1.51	226	*e*P	P	23 22 42.2	+0.5
CHN5				S	S	23 23 01.4	+0.6
WGK	**Gukeng**	1.53	232	*e*P	P	23 22 42.6	+0.6
WGK				S	S	23 23 02.2	+0.8
CHKT	**Chengkung**	1.61	197	*e*P	P	23 22 42.2	-0.8
WTCT	**Ta-ch'eng**	1.65	242	*e*P	P	23 22 43.2	-0.3
WTCT				S	S	23 23 03.3	-0.7
ELDTW	**Lidau**	1.65	208	*e*P	P	23 22 42.7	-0.8
IRIF	**Iriomote-Funau**	1.72	100	P	P	23 22 44.4	-0.1
IRIF				S	S	23 23 05.5	-0.2
CHN4	**Tsaushan**	1.74	222	*e*P	P	23 22 45.7	+1.0
CHN4				S	S	23 23 09.0	+2.9
STYT	**Tauyuan**	1.79	215	*e*P	P	23 22 46.8	+1.3
STYT				S	S	23 23 10.2	+2.9
WTP	**Ta-pu**	1.81	220	*e*P	P	23 22 46.3	+0.7
WSF	**Szhu**	1.81	237	*e*P	P	23 22 45.7	+0.1
WSF				S	S	23 23 07.7	0.0
HATJ	**Hateruma jima**	1.86	108	P	P	23 22 46.2	-0.1
HATJ				*e*S	S	23 23 09.8	+0.9
CHN1	**Nanshi**	1.90	220	*e*P	P	23 22 47.2	+0.3
CHN1				S	S	23 23 11.7	+1.8
SGST	**Jiashian**	1.95	217	*e*P	P	23 22 48.4	+0.9
TWG	**Pinlang**	1.96	202	*e*P	P	23 22 46.3	-1.3
JKRS	**Kuro-shima**	1.99	101	P	P	23 22 48.4	+0.3
JKRS				S	S	23 23 12.4	+0.4
CHN8	**Yiju**	1.99	230	*e*P	P	23 22 48.4	+0.3
CHN8				S	S	23 23 12.7	+0.7
JIJ	**Ishigaki jima**	2.09	97	P	P	23 22 49.2	-0.3
JIJ				S	S	23 23 13.4	-1.0
SCLT	**Jiali**	2.12	227	*e*P	P	23 22 50.1	+0.2
SCLT				S	S	23 23 15.8	+0.6
SSD	**Sandimen**	2.20	211	*e*P	P	23 22 52.3	+1.2
ECL	**Taimali**	2.21	203	*e*P	P	23 22 50.2	-0.9
TWM1	**Shoushan**	2.25	216	*e*P	P	23 22 53.5	+1.8
PNG	**Penghu**	2.37	244	*e*P	P	23 22 52.0	-1.4
PNG				S	S	23 23 18.3	-3.1
EAST	**Anshuo**	2.44	203	*e*P	P	23 22 53.7	-0.7
WDGT	**Dungji**	2.45	236	*e*P	P	23 22 53.5	-1.0
WDGT				S	S	23 23 21.0	-2.4
SCZT	**Fangliau**	2.54	207	*e*P	P	23 22 56.7	+1.0
JTJ	**Tarama**	2.58	89	P	P	23 22 56.7	+0.4
JTJ				S	S	23 23 26.9	+0.3
QZH	**Quanzhou**	2.99	276	⇓*i*P	P	23 23 00.8	-1.3
QZH				S	S	23 23 32.8	-4.2
QZH				Smax			
	comp=N,1µm,0.9s						

QZH				Smax			
	comp=E,950nm,0.8s						
JMJ	Miyako jima 2	3.12	86	P	P	23 23 06.2	+2.4
JMJ				S	S	23 23 40.9	+0.8
KNM	Kinmen	3.14	267	eP	P	23 23 04.5	+0.4
JOGS	Gusukube	3.22	87	P	P	23 23 06.8	+1.6
JOGS				S	S	23 23 44.1	+1.5
JKE	Kume jima 2	4.75	68	P	P	23 23 27.4	+1.0
JKE				eS	S	23 24 22.6	+2.0
JIH	Iheya	5.99	65	P	P	23 23 43.4	0.0
JIH				eS	S	23 24 49.8	-1.5
JOW	Kunigami	6.17	68	P	P	23 23 45.1	-0.9
	comp=E,16nm,0.3s,baz=203,slow=8.7,SNR=29						
JOW				S	S	23 24 53.5	-2.3
	baz=107,slow=19						
JOW				LR	LR	23 26 11.9	
	comp=E,180nm,19.1s,baz=149,slow=38						
JOW	Kunigami	6.17	68	P	P	23 23 45.0	-1.0
JOW				eS	S	23 24 52.8	-3.1
SSE	Sheshan	6.46	355	P	P	23 23 53.0	+3.0
SSE				S	S	23 25 09.5	+6.7
SSE				Smax			
	comp=N,105nm,1.1s						
SSE				Smax			
	comp=E,88nm,0.9s						
SSE	Sheshan	6.46	355	Pn	P	23 23 53.1	+3.1
	comp=E,105nm,1.1s						
SSE				Sn	S	23 25 09.6	+6.8
JTK	Tokunoshima	7.09	62	P	P	23 23 57.1	-1.6
JTK				eS	S	23 25 14.5	-3.9
JAM	Amami Oshima	7.88	60	P	P	23 24 07.6	-1.9
JAM				eS	S	23 25 35.5	-2.3
WHN	Wuhan	8.89	313	eP	P	23 24 22.0	-1.3
WHN				S	S	23 25 59.3	-3.3
WHN				Smax			
	comp=N,37nm,0.6s						
WHN				Smax			
	comp=E,90nm,1.0s						
ENH	Enshi	12.34	300	P	P	23 25 07.3	-2.5
KS15	Wonju Array Si	13.75	21	P	P	23 25 33.0	+4.7
GYA	Guiyang	13.85	281	P	P	23 25 30.5	+1.0
GYA				AP		23 25 40.3	
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				LR	LR		
	comp=N,140nm,9.4s						
GYA				LR	LR		
	comp=E,180nm,10.2s						
GYA				LR	LR		
	comp=Z,240nm,12.8s						
CD2	Chengdu	17.19	295	eP	P	23 26 12.0	0.0
CD2				AMB	AMB		
	comp=Z,30nm,0.7s						
KMI	Kunming	17.37	276	eP	P	23 26 11.8	-2.4
KMI				AMB	AMB		
	comp=Z,3.0nm,0.5s						
KMI	Kunming	17.37	276	eP	P	23 26 11.8	-2.4
	comp=Z,3.0nm,0.5s						
HHC	Hu-ho-hao-te	18.31	334	eP	P	23 26 25.0	-0.6
HHC				AP		23 26 36.0	
HHC				XP		23 26 47.5	
HHC				S	S	23 29 45.8	+2.1
HHC				XS		23 30 04.8	
HHC				AMB	AMB		
	comp=Z,5.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,61nm,5.5s						
LZH	Lanzhou	19.25	311	eP	P	23 26 35.8	-0.4
LZH				AP		23 26 49.5	
LZH				XP		23 26 58.8	
LZH				eS	S	23 30 03.3	-0.9
LZH				XS		23 30 25.0	
LZH				SS	SS	23 30 34.0	0.0
LZH				AMB	AMB		
	comp=Z,25nm,1.0s						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH				LR	LR		
	comp=N,331nm,8.8s						
LZH				LR	LR		
	comp=Z,558nm,11.8s						
LZH	Lanzhou	19.25	311	eP	P	23 26 35.8	-0.4
	comp=Z,25nm,1.0s						
LZH				pP		23 26 49.5	
LZH				sP		23 26 58.8	
LZH				eS	S	23 30 03.2	-1.0
LZH				sS		23 30 25.1	
LZH				SS	SS	23 30 34.1	+0.1
CN2	Changchun	19.33	8	eP	P	23 26 41.5	+4.5
MDJ	Mudanjiang	20.89	16	P	P	23 26 55.3	+2.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,135nm,4.5s						
CMAR	Chiang Mai Arr	22.18	258	P	P	23 27 08.3	+2.2
	comp=Z,1.2nm,0.6s,mb3.4,baz=64,slow=8.1,SNR=9.1						
CMAR				LR	LR	23 36 43.3	
	comp=Z,45nm,18.4s,baz=170,slow=39						
GTA	Gaotai	23.71	314	eP	P	23 27 22.8	+2.0
GTA				AP		23 27 33.0	
GTA				S	S	23 31 26.3	-0.5
GTA				AMB	AMB		
	comp=Z,68nm,4.2s						
GTA				LR	LR		
	comp=N,43nm,9.5s						
GTA				LR	LR		
	comp=E,49nm,9.9s						
GTA				LR	LR		
	comp=Z,50nm,8.4s						
SONM	Songino Array	26.20	336	P	P	23 27 45.1	+0.7
	comp=Z,4.1nm,0.8s,mb3.9,baz=151,slow=9.4,SNR=20						
SONM				pP	pP	23 28 03.0	+0.1
	comp=Z,3.4nm,0.7s,baz=152,slow=10,SNR=7.6						
MKAR	Makanchi Array	38.45	315	P	P	23 29 31.3	+0.4
	comp=Z,1.7nm,0.5s,mb4.1,baz=99,slow=11,SNR=22						
MKAR				pP	pP	23 29 50.4	-0.3
	comp=Z,1.5nm,0.6s,baz=108,slow=12,SNR=4.0						
MKAR				PcP	PcP	23 31 42.2	-1.1
	comp=Z,1.5nm,1.1s,baz=124,slow=5.2,SNR=4.2						
ZAL	Zalesovo	40.21	326	P	P	23 29 45.3	-0.2
	comp=Z,2.2nm,0.7s,mb4.1,baz=280,slow=8.3,SNR=10						
ZAL				pP	pP	23 30 03.7	-1.5
	comp=Z,1.0nm,0.3s,baz=274,slow=8.4,SNR=1.8						
PMG	Port Moresby	41.88	141	P	P	23 29 59.9	+0.2
	comp=Z,4.9nm,0.6s,mb4.5,baz=224,slow=13,SNR=2.8						
KURK	Kurchatov	42.15	320	eP	P	23 30 00.9	-0.5
FITZ	Fitzroy Crossi	42.65	175	P	P	23 30 04.7	-1.3
	comp=Z,1.1nm,0.5s,mb3.9,slow=12,SNR=5.2						
WRAB	Tennant Creek	45.94	164	eP	P	23 30 30.4	-2.0
	comp=Z,5.4nm,0.4s,mb4.6						
WRAB				epP	pP	23 30 48.6	-3.8
WRA	Warramunga Arr	45.95	164	P	P	23 30 30.8	-1.7
	comp=Z,4.0nm,0.4s,mb4.5,baz=346,slow=8.8,SNR=25						
WRA				pP	pP	23 30 51.2	-1.2
	comp=Z,0.3nm,0.3s,baz=129,slow=12,SNR=2.3						
WRA	Warramunga Arr	45.95	164	P	P	23 30 30.8	-1.7
WRA				pP	pP	23 30 51.2	-1.2
WB2	Warramunga Arr	45.95	164	eP	P	23 30 30.7	-1.8
ZRNK	Zerenda	48.51	320	eP	P	23 30 51.5	-0.5
	comp=Z,4.2nm,0.9s,mb4.4						
ZRNK				epP	pP	23 31 10.6	-1.5
ASAR	Alice Springs	49.42	165	P	P	23 30 59.1	-0.4
	comp=Z,0.9nm,0.4s,mb4.1,baz=348,slow=7.0,SNR=9.4						
ASAR				PcP	PcP	23 32 19.6	-1.4
	comp=Z,1.5nm,1.0s,baz=332,slow=3.1,SNR=4.7						
CTA	Charters Tower	50.40	150	eP	P	23 31 06.9	-0.1
	comp=Z,6.8nm,0.6s,mb4.8						
STKA	Stephens Creek	59.28	160	eP	P	23 32 09.5	-1.7
	comp=Z,2.4nm,0.4s,mb4.6						
STKA	Stephens Creek	59.28	160	P	P	23 32 09.6	-1.6
	comp=Z,3.8nm,0.6s,mb4.6,baz=337,slow=9.4,SNR=12						
ILAR	Eielson Array	68.52	27	P	P	23 33 09.8	-1.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=285,slow=6.0,SNR=6.3						
MALT	Malatya	70.26	304	eP	P	23 33 23.0	+0.8
	comp=Z,3.6nm,0.8s,mb4.2						
FINES	FINESS Array B	71.37	330	P	P	23 33 27.7	-0.7
	comp=Z,1.3nm,0.5s,mb4.1,baz=83,slow=6.0,SNR=25						
FINES				pP	pP	23 33 48.4	-1.5
	comp=Z,1.0nm,0.6s,baz=100,slow=12,SNR=2.4						
FINES	FINESS Array B	71.37	330	P	P	23 33 27.7	-0.7
FINES				pP	pP	23 33 48.4	-1.5
AKASG	Malin Array Be	72.94	318	P	P	23 33 36.9	-0.9
	comp=Z,0.2nm,0.3s,mb3.5,baz=59,slow=6.1,SNR=4.4						
BRTR	Keskin Array B	73.40	306	P	P	23 33 40.2	-0.5
	comp=Z,1.6nm,0.8s,mb3.9,baz=101,slow=6.3,SNR=14						
NB2	NORSAR Subarra	78.11	332	P	pP	23 34 27.8	-1.0
	comp=Z,0.9nm,0.7s,baz=59,slow=5.6						
NOA	NORSAR Array B	78.11	332	P	P	23 34 07.7	+0.8
	comp=Z,0.9nm,1.0s,mb3.5,baz=58,slow=5.5,SNR=2.8						
NOA				pP	pP	23 34 27.4	-1.4
	comp=Z,1.9nm,0.8s,baz=59,slow=5.7,SNR=4.9						
YKA	Yellowknife Ar	82.30	23	P	P	23 34 28.9	-0.4
	comp=Z,1.5nm,0.5s,mb4.1,baz=311,slow=5.1,SNR=14						
YKA	Yellowknife Ar	82.30	23	P	P	23 34 28.9	-0.4
GERES	GERESS Array B	82.89	321	P	P	23 34 32.5	-0.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=45,slow=3.8,SNR=5.4						
CHMT	Chamberlain Mo	93.14	34	P	P	23 35 22.9	+1.1
HLID	Hailey	94.73	37	eP	P	23 35 30.5	+1.4
	comp=Z,1.7nm,0.7s,mb4.6						
NVAR	Mina Array Bea	95.67	43	P	P	23 35 34.2	+0.8
	comp=Z,1.0nm,0.7s,mb4.3,baz=298,slow=3.0,SNR=8.6						
NVAR	Mina Array Bea	95.67	43	P	P	23 35 34.2	+0.8
MNV	Mina	95.76	43	P	P	23 35 34.7	+0.8
DUG	Dugway	97.84	39	P	P	23 35 46.1	+2.9
PDAR	Pinedale Array	97.89	36	P	P	23 35 43.4	0.0
	comp=Z,0.3nm,0.3s,mb4.2,baz=315,slow=2.6,SNR=5.3						
TXAR	Lajitas Array	110.76	42	PKiKP		23 40 40.8	
	comp=Z,0.1nm,0.5s,baz=270,slow=0.9,SNR=4.8						
SDV	Santo Domingo	144.51	22	ePKP	PKPdf	23 41 43.1	-0.3

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*NEIC **31** 00:04:38.6, 38.57N×23.51E, h21^{km}, ML2.9(ATH), ML2.6(THE), After ATH.*

*ATH **31** 00:04:38.6, 38.57N×23.51E, h21^{km}±1^{km}, MD3.0/11, ML2.9*

*THE **31** 00:04:41.9, 38.72N×23.59E, h12^{km}, ML2.6*

ISC 31 00:04:38.0±0.7**, 38.56N**±0.02×**23.62E**±0.04**, h12**^{km}±5^{km}**, n25, σ1^{s}03**/40**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.42	167	ePB	Pb	00 04 47.8	+1.0
MPAR				eSB	Sb	00 04 54.5	+1.7
MKIT	Kithairon Oros	0.47	217	ePB	Pb	00 04 47.2	-0.5
MKIT				eSB	Sb	00 04 54.4	+0.1
LKR	Lokris	0.49	281	ePB	Pb	00 04 46.7	-1.4
LKR				eSB	Sb	00 04 53.2	-1.8
PTL	Penteli	0.55	159	ePN	Pn	00 04 50.0	-1.3
ATH	Athens Observa	0.59	172	ePN	Pn	00 04 50.8	-1.1
ATH				eSN	Sn	00 05 00.0	-1.4
AOS	Alonnisos	0.64	18	ePg	Pg	00 04 51.5	+0.5
	comp=Z,30nm,0.2s						
AOS				eSg	Sg	00 04 59.7	-0.1
NSAL	Nisos Salamina	0.66	191	ePN	Pn	00 04 51.5	-1.4
NAIG	Nisos Aigina	0.81	187	ePN	Pn	00 04 54.5	-0.5
NEO	Neokhori	0.81	338	ePN	Pn	00 04 53.9	-1.1
XOR	Xorichti	0.87	338	ePg	Pg	00 04 55.0	-0.5
XOR				eSg	Sg	00 05 06.2	-1.0
PAIG	Paliouri	1.37	2	ePb	Pb	00 05 03.5	+0.5
PAIG				eSb	Sb	00 05 20.8	+0.5
EVR	Evrytania	1.46	285	ePN	Pn	00 05 05.5	+1.2
LIT	Litokhoron	1.77	331	ePb	Pb	00 05 09.0	-1.0
	comp=Z,1.7nm,0.2s						
LIT				eSb	Sb	00 05 31.0	-1.1
LOS	Limnos	1.78	39	ePb	Pb	00 05 10.0	-0.1
LOS				eSb	Sb	00 05 32.5	+0.1
PLG	Polygyros	1.82	356	ePN	Pn	00 05 10.1	+0.7
VLI	Veliai	1.92	197	ePB	Pb	00 05 11.5	-0.9
ITM	Ithomi	1.92	225	ePN	Pn	00 05 12.0	+1.1
MEV	Metsovon	2.22	304	ePn	Pn	00 05 16.9	+1.7
MEV				eSn	Sn	00 05 43.7	+0.8
SOH	Sokhos	2.27	355	ePn	Pn	00 05 16.6	+0.7
SOH				eSn	Sn	00 05 43.8	-0.2
LKD	Levkas	2.33	275	ePn	Pn	00 05 19.1	+2.4
SRS	Serrai	2.56	360	ePn	Pn	00 05 20.8	+0.8
SRS				eSn	Sn	00 05 50.2	-1.0
GRG	Griva	2.57	339	ePn	Pn	00 05 20.5	+0.2
GRG				eSn	Sn	00 05 51.4	-0.3
KNT	Kendrikon	2.66	348	ePn	Pn	00 05 22.6	+1.1
KNT				eSn	Sn	00 05 52.8	-1.1
IGT	Igoumenitsa	2.74	292	ePn	Pn	00 05 24.7	+2.1
IGT				eSn	Sn	00 05 56.6	+0.7
FNA	Florina	2.82	323	ePn	Pn	00 05 24.5	+0.7

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*NEIC **31** 00:06:19.9, 8.59S×115.64E, h33^{km}, ML4.1(DJA), After DJA.*

DJA 31 00:06:19.9±0.2**, 8.59S**×**115.64E, h33**^{km}**, MD5.1**/4**, ML4.1**/1**, 4C-3D, Error ellipse: s-maj=14.8km s-min=6.2km az=170.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.17	218	⇓ePn	Pn	00 06 25.7	-0.2
KEDI	Kedomdong	0.48	78	⇓ePn	Pn	00 06 29.0	-1.3
	991nm,0.2s						
KEDI				⇑eSn	Sn	00 06 36.4	-1.2
INGI	Ingas	0.54	245	⇓ePn	Pn	00 06 30.1	-1.1
	1μm,0.2s						
INGI				⇑eSn	Sn	00 06 38.5	-0.6
KELI	Kelakatan	1.20	288	⇑ePn	Pn	00 06 39.2	-1.4
	221nm,0.2s						
KELI				⇑eSn	Sn	00 06 53.6	-2.1

GUC 31 00:12:20.4±1.0**, 35.06S**×**70.56W, h6**^{km}±3^{km}**, MD3.9, ML3.1, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.55	276	⇓iP	Pg	00 12 31.8	+0.3
NICH				eS	Sg	00 12 40.3	+1.4
SFDO	San Fernando	0.58	320	⇓iP	Pg	00 12 31.8	-0.3
CICH	Cipreses	0.75	9	⇓iP	Pg	00 12 34.3	-1.1
CICH				i S	Sg	00 12 44.6	-0.8
TALC	Talca	0.94	249	⇑iP	Pb	00 12 38.2	-0.5
TALC				i S	Sb	00 12 51.3	0.0
TALC				AMP		00 12 52.2	
	comp=E,3μm,0.1s						
CACH	El Canelo	0.94	358	⇑iP	Pb	00 12 37.5	-1.2
CACH				eS	Sb	00 12 50.5	-0.8
CHCH	Chadas Angostu	1.13	356	⇑iP	Pb	00 12 41.3	-0.7
CHCH				i S	Sb	00 12 56.5	-0.2
LMEL	Las Melosas	1.25	14	⇑iP	Pb	00 12 43.0	-1.0
LMEL				i S	Sb	00 13 00.4	+0.3
LMEL				AMP		00 13 00.9	
	comp=E,262nm,0.1s						
LNV	Longovilo	1.31	327	⇑iP	Pb	00 12 44.0	-1.1
LNV				i S	Sb	00 13 01.9	0.0
PCH	Pirque	1.44	2	⇓iP	Pn	00 12 46.4	-0.7
PCH				i S	Sb	00 13 06.4	+0.7
TACH	Talagante	1.44	347	⇓iP	Pn	00 12 46.3	-0.8
TACH				eS	Sb	00 13 05.6	-0.1
ANTU	Antumapu	1.49	358	eP	Pn	00 12 47.5	-0.3
ANTU				i S	Sb	00 13 06.7	-0.6
ANTU				AMP		00 13 09.7	
	comp=E,404nm,0.2s						
RCDM	Rinconada Maip	1.58	353	eP	Pn	00 12 48.8	-0.4
RCDM				i S	Sb	00 13 10.0	+0.1
RCDM				AMP		00 13 14.9	
	comp=E,448nm,0.1s						
CLCH	Cerro Calan	1.66	1	⇑iP	Pn	00 12 50.4	+0.1
CLCH				i S	Sn	00 13 13.4	+1.2
CLCH				AMP		00 13 20.9	
	comp=N,326nm,0.7s						
FCH	Farellones	1.75	7	⇑iP	Pn	00 12 51.8	+0.3
FCH				i S	Sn	00 13 15.4	+1.2
FCH				AMP		00 13 17.2	
	comp=N,224nm,0.2s						
LCCH	Las Cruces	1.79	332	⇓iP	Pn	00 12 52.0	-0.1
LCCH				eS	Sn	00 13 16.0	+0.6
PEL	Peldehue	1.92	357	AMP		00 13 28.0	
	comp=N,369nm,0.6s						
CCHI	Chillan	1.97	218	AMP		00 13 29.0	
	comp=N,276nm,0.3s						

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*NEIC **31** 00:23:33.0±2.6, 2.13N×95.86E, h20^{km}, mb4.4/5, Error ellipse: s-maj=47.3km s-min=30.3km az=159.0*

*IDC **31** 00:23:35.5±6.2, 2.47N×95.69E, h22^{km}±5^{km}, mb3.8/5, mb1 3.8/6, mb1mx3.5/18, ML4.2/1, Error ellipse: s-maj=128.0km s-min=71.7km az=148.0*

ISC 31 00:23:30.9±3.1**, 2.1N**±0.4×**95.9E**±0.3**, h20**^{km}**, (h22**^{km}±.2^{km}**:pP-P), n14, σ1^{s}03**/14**, mb4.2**/10**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.52	10	Pn	P	00 27 23.4	+0.1
	0.3nm,0.3s,baz=198,slow=13,SNR=5.3						
PKI	Pulchoki	27.21	339	eP	P	00 29 16.1	+0.4
DMN	Daman	27.36	339	eP	P	00 29 17.8	+0.8
KKN	Kakani	27.46	339	eP	P	00 29 17.9	0.0
	17nm,0.8s,mb4.6						
GKN	Gorkha	27.89	338	eP	P	00 29 21.6	-0.2
	12nm,0.7s,mb4.6						
KOLN	Koldanda	28.07	336	eP	P	00 29 24.7	+1.2
	9.7nm,0.8s,mb4.5						
BJI	Beijing	42.01	23	eP	P	00 31 23.4	+0.6
	12nm,0.6s,mb4.7						
MKAR	Makanchi Array	46.04	347	P	P	00 31 55.1	0.0
	1.7nm,0.6s,mb4.1,baz=164,slow=8.0,SNR=13						
MKAR				pP	pP	00 32 01.7	+0.5
	1.6nm,0.7s,baz=164,slow=8.1,SNR=8.4						
SONM	Songino Array	46.44	10	P	P	00 31 58.1	-0.2
	1.8nm,1.0s,mb4.0,baz=188,slow=8.9,SNR=11						
SONM				pP	pP	00 32 04.7	+0.3
	1.4nm,0.7s,baz=192,slow=9.0,SNR=8.9						
ZAL	Zalesovo	52.45	352	P	P	00 32 43.1	-1.4
	1.1nm,0.7s,mb3.9,baz=189,slow=5.1,SNR=3.8						
ZAL				pP	pP	00 32 50.0	-0.6
	1.1nm,0.2s,baz=256,slow=4.2,SNR=2.0						
ZAL	Zalesovo	52.45	352	P	P	00 32 43.1	-1.4
ZAL				pP	pP	00 32 50.0	-0.6
BVAR	Borovoye Array	54.95	342	P	P	00 33 00.4	-2.5
	0.7nm,0.8s,mb3.8,baz=146,slow=10,SNR=4.5						
ZRNK	Zerenda	55.34	341	P	P	00 33 04.5	-1.3
	0.8nm,0.6s,mb3.9						
ARCES	ARCESS Array B	81.23	340	P	P	00 35 48.4	+1.7
	1.0nm,0.8s,mb3.8,baz=90,slow=3.6,SNR=5.3						

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*BJI **31** 00:40:16.2, 35.82N×121.26W, h4^{km}, mb3.8, Ms4.3, Msz4.0*

*NEIC **31** 00:40:18.6, 35.68N×121.10W, h5^{km}, ML4.0(NCEDC), MW3.8(BRK), After NCEDC.*

NEIC Felt [IV] at Cambria. Also felt at Bradley, Los Osos, Morro Bay, Paso Robles, San Luis Obispo and San Simeon.

*IDC **31** 00:40:20.4±1.4, 35.78N×121.22W, mb4.0/3, mb1 4.1/8, mb1mx3.9/24, ML3.4/5, MS3.0/5, Ms1 3.0/5, ms1mx2.8/27, Error ellipse: s-maj=18.0km s-min=17.8km az=93.0*

ISC 31 00:40:15.4±1.8**, 35.60N**±0.06×**121.20W**±0.07**, h1**^{km}±11^{km}**, n49, σ1^{s}36**/47**, mb4.0**/3**, MS2.9**/3**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.83	10	eP	Pg	00 40 32.9	+0.8
SAO	San Andreas Ge	1.18	350	eP	Pb	00 40 39.0	+0.8
SAC	San Andreas	2.21	334	ePn	Pn	00 40 52.9	-0.9
LKC	Lake Chabot	2.24	342	ePn	Pn	00 40 54.3	+0.1
CMB	Columbia Colle	2.52	15	ePn	Pn	00 40 58.4	+0.3
CMB				eS	Sn	00 41 27.5	-2.3
OMM	Old Mammoth Mi	2.68	41	ePn	Pn	00 41 01.5	+0.9
MTUM	Tungsten Hills	2.75	50	ePn	Pn	00 41 02.7	+1.2
MWC	Mount Wilson	2.92	117	ePn	Pn	00 41 04.0	0.0
DAC	Darwin (Calif)	3.00	76	ePn	Pn	00 41 04.9	-0.2
NSHM	Saint Helena R	3.12	339	ePn	Pn	00 41 05.7	-1.1
ASMM	Slate Mountain	3.24	7	ePn	Pn	00 41 08.7	+0.2
NVAR	Mina Array Bea	3.65	39	Pn	Pn	00 41 16.4	+2.1
	1.4nm,0.3s,baz=225,slow=18,SNR=28						
NVAR				Lg		00 42 12.4	
	6.1nm,0.3s,baz=214,slow=29,SNR=6.1						
NVAR				LR	LR	00 42 46.5	
	comp=Z,310nm,18.4s,baz=250,slow=41						
HOPS	Hopland	3.70	337	ePn	Pn	00 41 13.2	-1.8
MNV	Mina	3.73	40	ePn	Pn	00 41 16.3	+0.8
WCN	Washoe City	3.87	17	ePn	Pn	00 41 18.3	+1.0
TPH	Tonopah	4.03	51	ePn	Pn	00 41 20.8	+1.1
TPNV	Topopah Spring	4.22	70	ePn	Pn	00 41 22.8	+0.4
PAHR	Pah Rah Range	4.34	19	ePn	Pn	00 41 24.7	+0.5
PFO	Pinyon Flat Ob	4.39	116	ePn	Pn	00 41 23.9	-0.8
BAR	Barrett	4.75	127	ePn	Pn	00 41 28.7	-1.2
LDFC	Landfair	5.00	94	ePn	Pn	00 41 30.7	-2.8
WDC	Whiskeytown Da	5.08	348	ePn	Pn	00 41 33.1	-1.5
NEN	Nelson	5.18	88	ePn	Pn	00 41 34.6	-1.4
BMN	Battle Mountai	5.75	32	Pn	Pn	00 41 41.9	-2.1
YBH	Yreka Blue Hor	6.24	350	Pn	Pn	00 41 52.6	+1.8
	0.3nm,0.3s,baz=160,slow=6.9,SNR=7.9						
ELK	Elko	6.96	41	Pn	Pn	00 42 00.4	-0.6
WVOR	Wild Horse Val	7.11	16	Pn	Pn	00 42 01.7	-1.5
MSU	Marysvale	7.78	65	Pn	Pn	00 42 15.0	+2.5
WUAZ	Wupatki	8.01	88	Pn	P	00 42 19.6	+3.9
DUG	Dugway	8.06	53	Pn	P	00 42 17.0	+0.5
BGU	Big Grassy Mou	8.34	48	Pn	P	00 42 16.4	-3.9
HWUT	Hardware Ranch	9.63	49	Pn	P	00 42 36.8	-1.4
PV10	Paradox Valley	10.11	71	Pn	P	00 42 41.6	-3.3
LNOR	Lincton Mounta	10.49	11	Pn	P	00 42 48.5	-1.6
LON	Longmire	11.15	358	Pn	P	00 42 57.7	-1.4
PDAR	Pinedale Array	11.52	48	Pn	P	00 43 09.1	+5.0
	0.0nm,0.3s,baz=247,slow=11,SNR=5.9						
NEW	Newport	13.01	12	Pn	P	00 43 29.1	+5.0
	0.2nm,0.3s,baz=205,slow=14,SNR=4.0						
NEW				LR	LR	00 48 35.7	
	comp=Z,59nm,21.9s,baz=340,slow=39						
TXAR	Lajitas Array	16.05	108	Pn	P	00 44 11.1	+7.0
	0.1nm,0.3s,baz=286,slow=9.1,SNR=30						
ULM	Lac du Bonnet	23.47	44	P	P	00 45 28.6	+1.4
	3.9nm,0.9s,mb4.0,baz=222,slow=8.4,SNR=4.9						
ULM				LR	LR	00 54 05.0	
	comp=Z,38nm,18.4s,MS2.9,baz=37,slow=35						
DLBC	Dease Lake	23.58	348	LR	LR	00 54 40.8	
	comp=Z,29nm,20.3s,MS2.7,baz=133,slow=37						
YKA	Yellowknife Ar	27.23	7	LR	LR	00 57 41.3	
	comp=Z,38nm,18.1s,MS3.0,baz=220,slow=38						
ILAR	Eielson Array	33.03	340	P	P	00 46 56.0	+2.0
	2.2nm,0.7s,mb4.2,baz=158,slow=8.2,SNR=28						
FINES	FINESS Array B	79.70	15	P	P	00 52 28.4	+2.5
	0.7nm,0.7s,mb3.7,baz=147,slow=33,SNR=4.0						
SSE	Sheshan	91.50	311	P	P	00 53 26.8	+1.8
	31nm,0.7s						
NJ2	Nanjing	92.26	313	eP	P	00 53 27.5	-1.0
WMQ	Urumqi	96.69	339	eP	P	00 53 50.0	+1.5
LZH	Lanzhou	97.27	325	eP	P	00 53 50.5	-0.8
LZH				AP	pP	00 53 52.5	+0.9
LZH	Lanzhou	97.27	325	eP	P	00 53 50.5	-0.8
	23nm,1.2s						
LZH				pP	pP	00 53 52.4	+0.8
LZH				sP	sP	00 53 53.2	+1.5
MAW	Mawson	147.87	183	PKPbc	PKPdf	01 00 07.0	+6.8
	1.8nm,1.0s,baz=210,slow=4.4,SNR=3.5						

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*IDC **31** 00:48:05.9±0.6, 58.08S×25.56W, mb4.5/6, mb1 4.5/6, mb1mx4.3/12, MS3.8/1, Ms1 3.8/1, ms1mx3.2/15, Error ellipse: s-maj=28.4km s-min=23.5km az=28.0*

*NEIC **31** 00:48:18.6±1.8, 58.17S×25.74W, h99^{km}±15^{km}, mb4.6/6, Error ellipse: s-maj=11.6km s-min=9.1km az=191.0*

*SYO **31** 00:48:18.5, 58.17S×25.74W, h99^{km}, MB4.6*

ISC 31 00:48:15.3±3.1**, 58.03S**±0.09×**25.7W**±0.2**, h80**^{km}±29^{km}**, n35, σ0^{s}68**/23**, mb4.7**/13**, 2C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.65	157	⇓iP	P	00 51 38.8	-0.3
VNA1				eS	S	00 54 25.3	+5.4
VNA2	Neumayer--Watz	15.05	157	⇑iP	P	00 51 44.1	-0.1
VNA2				eS	S	00 54 30.5	+1.4
SNAA	Sanae	16.60	155	⇑iP	P	00 52 03.2	-0.5
SNAA				eS	S	00 54 50.1	-15
USHA	Ushuaia	23.55	259	P	P	00 53 19.4	+1.0
	8.0nm,1.0s,mb4.0,baz=124,slow=11,SNR=2.6						
USHA				LR	LR	01 00 17.9	
	comp=Z,216nm,19.4s,baz=285,slow=31						
SYO	Syowa Base	29.55	138	⇓pP	pP	00 54 39.8	+7.3
QSPA	South Pole Qui	32.22	180	eP	P	00 54 36.4	-0.8
	4.3nm,0.6s,mb4.4						
PLCA	Paso Flores	33.17	282	P	P	00 54 45.7	-0.1
	2.7nm,0.7s,mb4.2,baz=135,slow=9.3,SNR=5.2						
PLCA	Paso Flores	33.17	282	P	P	00 54 45.7	-0.1
MAW	Mawson	38.08	142	P	P	00 55 26.3	-0.8
	2.2nm,0.6s,mb4.2,baz=239,slow=7.3,SNR=8.0						
MAW				PcP	PcP	00 57 40.8	-0.5
	0.4nm,0.3s,baz=283,slow=6.0,SNR=4.1						
MAW	Mawson	38.08	142	eP	P	00 55 25.9	-1.1
	5.7nm,0.9s,mb4.4						
SUR	Sutherland	40.44	71	P	P	00 55 48.3	+1.4
	12nm,0.9s,mb4.7						
SAML	Samuel	56.77	314	P	P	00 57 47.4	-5.8

	2.5nm,0.7s,mb4.3						
LSZ	Lusaka	58.38	66	eP	P	00 58 03.7	-0.7
	11nm,0.9s,mb4.9						
LIC	Lamto	66.19	23	eP	P	00 58 56.6	+0.2
	56nm,0.7s,mb5.5						
KIC	Kosan Boka	66.38	23	eP	P	00 58 57.8	+0.1
	57nm,0.8s,mb5.5						
TIC	Toumodi	66.60	22	eP	P	00 58 59.1	+0.1
	45nm,0.6s,mb5.5						
DBIC	Dimbokro	66.66	23	P	P	00 58 59.5	+0.2
	7.7nm,0.6s,mb4.7,baz=168,slow=6.6,SNR=24						
DBIC	Dimbokro	66.66	23	eP	P	00 58 59.4	0.0
	11nm,0.6s,mb4.9						
STKA	Stephens Creek	89.81	169	P	P	01 01 05.6	0.0
	2.7nm,0.8s,mb4.4,baz=165,slow=14,SNR=2.9						
STKA	Stephens Creek	89.81	169	P	P	01 01 05.6	0.0
ASAR	Alice Springs	96.86	161	P	P	01 01 37.5	-0.6
	1.5nm,0.6s,mb4.6,baz=186,slow=3.8,SNR=19						
PDAR	Pinedale Array	122.06	300	PKP	PKPdf	01 06 59.9	+0.1
	0.4nm,0.5s,baz=121,slow=4.6,SNR=4.7						
ULM	Lac du Bonnet	122.23	314	PKP	PKPdf	01 07 00.3	+0.3
	2.8nm,0.8s,baz=178,slow=4.0,SNR=3.4						
MOOW	Moose Ponds	123.37	300	ePKPdf	PKPdf	01 07 02.5	+0.2
CMAR	Chiang Mai Arr	123.61	110	PKP	PKPdf	01 07 04.3	+0.9
	1.4nm,0.6s,baz=237,slow=3.4,SNR=8.3						
FINES	FINESS Array B	125.76	28	PKP	PKPdf	01 07 07.2	+0.9
	2.0nm,0.6s,baz=146,slow=6.9,SNR=23						
ARCES	ARCESS Array B	132.48	22	PKP	PKPdf	01 07 19.6	+0.6
	0.7nm,0.4s,baz=216,slow=3.1,SNR=15						
BVAR	Borovoye Array	135.14	58	PKP	PKPdf	01 07 25.3	+1.0
	1.0nm,0.6s,baz=243,slow=3.3,SNR=6.6						
MKAR	Makanchi Array	136.73	72	PKhKP		01 07 20.4	
	0.4nm,0.8s,baz=250,slow=1.3,SNR=4.0						
MKAR				PKP	PKPdf	01 07 29.0	+1.6
	0.4nm,0.6s,baz=237,slow=3.8,SNR=3.8						
MKAR	Makanchi Array	136.73	72	PKP	PKPdf	01 07 29.0	+1.6
YKA	Yellowknife Ar	138.17	316	PKP	PKPdf	01 07 30.7	+1.1
	8.5nm,1.1s,baz=129,slow=2.2,SNR=12						
INK	Inuvik	147.84	318	ePKPbc	PKPdf	01 07 50.5	+4.5
DAWY	Dawson	148.70	309	ePKPbc	PKPdf	01 07 52.5	+5.0
SONM	Songino Array	150.00	89	PKPbc	PKPdf	01 07 56.6	+6.5
	6.0nm,0.7s,baz=228,slow=2.9,SNR=42						
ILAR	Eielson Array	152.01	309	PKPbc	PKPdf	01 08 00.8	+8.1
	9.8nm,1.0s,baz=139,slow=1.8,SNR=44						

IDC ***31*** *01:22:11.8±6.0, 0.87N×118.76E,* $h42^{km}\pm57^{km}$*, mb3.9/11, mb1 4.1/11, mb1mx4.0/19, MS3.4/2, Ms1 3.5/2, ms1mx2.9/17, Error ellipse: s-maj=70.6km s-min=14.6km az=58.0*

NEIC ***31*** *01:22:19.8±4.9, 0.70N×118.69E,* $h130^{km}\pm50^{km}$*, mb4.4/8, Error ellipse: s-maj=37.2km s-min=9.6km az=57.0*

ISC 31 01:22:05.6±6.3, **0.9N**±0.2×**118.8E**±0.3, **h13**$^{km}\pm41^{km}$, **n26**, σ**0ˢ95**/25, **mb4.3**/16, **MS3.3**/2, **1D, Borneo**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	5.72	333	⇓eP	Pn	01 23 32.0	-0.5
KAKA	Kakadu	19.11	135	eP	P	01 26 30.9	-0.1
	17nm,0.6s						
FITZ	Fitzroy Crossi	20.05	161	eP	P	01 26 41.5	-0.1
	9.1nm,0.8s						
FITZ	Fitzroy Crossi	20.05	161	P	P	01 26 41.5	-0.1
	6.7nm,0.6s,baz=2.0,slow=10,SNR=11						
WRAB	Tennant Creek	25.72	144	eP	P	01 27 37.2	-0.4
	13nm,0.7s,mb4.6						
WRA	Warramunga Arr	25.72	144	P	P	01 27 37.7	0.0
	8.1nm,0.8s,mb4.3,baz=330,slow=9.5,SNR=33						
WB2	Warramunga Arr	25.73	144	eP	P	01 27 37.5	-0.3
CMAR	Chiang Mai Arr	26.15	313	P	P	01 27 43.5	+1.8
	1.1nm,0.8s,mb3.5,baz=135,slow=7.4,SNR=5.3						
CMAR				PcP	PcP	01 31 09.2	-0.3
	1.4nm,0.8s,baz=228,slow=2.2,SNR=4.7						
CMAR				LR	LR	01 39 57.6	
	comp=Z,80nm,18.5s,MS3.3,baz=138,slow=41						
ASPA	Alice Springs	28.50	150	eP	P	01 28 03.8	+0.8
ASAR	Alice Springs	28.50	150	P	P	01 28 02.9	-0.2
	2.4nm,0.7s,mb3.9,baz=336,slow=9.8,SNR=24						
ASAR				PcP	PcP	01 31 13.9	-1.2
	1.1nm,0.5s,baz=338,slow=2.2,SNR=12						
ASAR				LR	LR	01 39 51.3	
	comp=Z,63nm,19.0s,MS3.2,baz=300,slow=37						
ENH	Enshi	30.52	344	P	P	01 28 22.8	+1.8
	11nm,0.7s,mb4.8						
STKA	Stephens Creek	39.11	148	eP	P	01 29 35.4	+0.8
	6.4nm,0.9s,mb4.3						
STKA	Stephens Creek	39.11	148	P	P	01 29 35.6	+1.0
	6.4nm,0.8s,mb4.4,baz=296,slow=5.6,SNR=7.5						
STKA	Stephens Creek	39.11	148	P	P	01 29 31.3	-3.4
PKI	Pulchoki	41.55	313	eP	P	01 30 00.1	+5.2
	9.0nm,0.6s,mb4.6						
DMN	Daman	41.79	312	eP	P	01 30 01.2	+4.3
GKN	Gorkha	42.36	313	eP	P	01 30 01.1	-0.4
	13nm,0.5s,mb4.8						
KOLN	Koldanda	43.00	312	eP	P	01 30 06.5	-0.3
	5.3nm,0.6s,mb4.5						
SONM	Songino Array	47.98	349	P	P	01 30 46.7	+0.5
	0.6nm,0.8s,mb3.7,baz=171,slow=8.0,SNR=4.8						
MKAR	Makanchi Array	55.70	330	P	P	01 31 43.4	-0.8
	1.1nm,0.4s,mb4.2,baz=124,slow=9.2,SNR=14						
ZAL	Zalesovo	59.82	338	P	P	01 32 12.5	-0.6
	2.1nm,0.3s,mb4.7,baz=118,slow=3.4,SNR=4.0						
BVAR	Borovoye Array	65.58	330	P	P	01 32 50.2	-1.2
	0.6nm,0.4s,mb4.0,baz=153,slow=9.9,SNR=3.9						
ZRNK	Zerenda	66.23	330	eP	P	01 32 54.2	-1.3
	1.3nm,0.6s,mb4.1						
BRTR	Keskin Array B	85.69	310	P	P	01 34 45.2	-0.7
	2.5nm,0.8s,mb4.5,baz=117,slow=5.5,SNR=14						
AKASG	Malin Array Be	89.03	321	P	P	01 35 03.9	+2.1
	0.3nm,0.3s,mb4.1,baz=81,slow=3.5,SNR=4.5						
TXAR	Lajitas Array	129.55	50	PKP	PKPdf	01 41 17.7	-1.0
	0.2nm,0.7s,baz=180,slow=1.3,SNR=3.8						

MDD ***31*** *01:24:00.6±0.4, 42.98N×0.28E,* $h17^{km}\pm3^{km}$*, mbLg1.6/3, Error ellipse: s-maj=3.6km s-min=2.1km az=9.0, PRXIMO*

STR ***31*** *01:24:00.6±0.2, 43.00N×0.31E,* $h5^{km}\pm1^{km}$*, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***31*** *01:24:00.3±0.1, 42.99N×0.28E,* $h15^{km}$*, Md1.8/2, Ml1.6/2, Error ellipse: s-maj=2.3km s-min=1.4km az=176.0*

ISC 31 01:24:00.3±0.5, **43.00N**±0.04×**0.28E**±0.03, **h18**$^{km}\pm4^{km}$, **n18**, σ**0ˢ90**/26, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPF	Esparros	0.05	59	ePg	Pb	01 24 03.4	-0.2
EPF				eSg	Sb	01 24 05.7	-0.1
	5.0nm,0.2s						
LABF	Labassere	0.16	286	Pg	Pb	01 24 04.6	-0.1
LABF				Sg	Sb	01 24 07.9	+0.3
LABF	Labassere	0.16	286	Pg	Pb	01 24 04.8	+0.1
LABF				Lg		01 24 08.0	
RESF	Ens	0.20	167	Pg	Pb	01 24 05.0	-0.3
RESF				Sg	Sb	01 24 08.3	-0.4
RESF	Ens	0.20	167	Pg	Pb	01 24 05.0	-0.3
RESF				Lg		01 24 08.4	
VIEF	Viey	0.22	237	Pg	Pb	01 24 05.4	-0.2
VIEF				Sg	Sb	01 24 08.8	-0.4
VIEF	Viey	0.22	237	Pg	Pb	01 24 05.4	-0.2
VIEF				Lg		01 24 08.9	
MELF	Melles	0.38	110	Pg	Pb	01 24 07.8	-0.3
MELF				Lg		01 24 13.1	
ETSF	Etsaut	0.62	261	ePg	Pb	01 24 12.4	0.0
ETSF				eSg	Sb	01 24 20.4	-0.2
	3.8nm,0.2s						
SALF	Salau	0.71	110	Pg	Pb	01 24 13.9	0.0
SALF				Sg	Sb	01 24 23.0	-0.2
SALF	Salau	0.71	110	Pg	Pb	01 24 14.0	+0.2
SALF				Lg		01 24 22.9	
SJPF	Ste Jean	1.11	276	ePg	Pb	01 24 20.8	+0.2
SJPF				eSg	Sb	01 24 36.3	+1.7
	1.7nm,0.3s						
EALK	Alkurruntz	1.32	280	Pg	Pn	01 24 24.2	+0.1
	2.2nm,0.6s,SNR=7.9						
EALK				Lg		01 24 42.7	
	62nm,1.6s,SNR=7.9						
ESAC	San Caprasio	1.40	204	Pg	Pn	01 24 24.3	-0.9
	4.6nm,0.8s,SNR=7.9						
ESAC				Lg		01 24 42.9	
	16nm,0.9s,SNR=7.9						
MTLF	Montolieu	1.46	76	ePg	Pn	01 24 28.0	+2.0
MTLF				eSg	Sb	01 24 46.1	+1.3
	1.1nm,0.2s						
EPOB	Poblet	1.75	160	Pg	Pn	01 24 31.3	+1.1
	1.0nm,0.8s,SNR=7.9						
EPOB				Lg		01 24 54.3	
	2.2nm,0.4s,SNR=7.9						
LFF	La Frestale	1.96	10	ePn	Pn	01 24 31.0	-2.3
CAF	Calviac	2.31	33	ePn	Pn	01 24 36.5	-1.8

IDC ***31*** *01:40:03.0±0.8, 50.71S×72.32W, mb4.5/6, mb1 4.6/7, mb1mx4.4/11, ML4.7/1, MS4.1/11, Ms1 4.1/11, ms1mx4.0/14, Error ellipse: s-maj=40.6km s-min=19.9km az=81.0*

BJI ***31*** *01:40:05.9, 50.60S×72.30W,* $h19^{km}$*, mB4.6, Msz4.4*

NEIC ***31*** *01:40:06.0±6.5, 50.63S×72.33W,* $h19^{km}\pm38^{km}$*, mb4.7/13, Error ellipse: s-maj=25.4km s-min=9.0km az=83.0*

SYO ***31*** *01:40:05.9, 50.63S×72.33W,* $h19^{km}$*, MB4.7*

ISC 31 01:40:05.9±3.5, **50.59S**±0.07×**72.3W**±0.3, **h33**$^{km}\pm29^{km}$, **n59**, σ**0ˢ96**/33, **mb4.8**/19, **MS4.2**/10, **6C-2D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USHA	Ushuaia	4.84	153	Pn	P	01 41 15.0	-3.4
	32nm,0.3s,baz=317,slow=12,SNR=519						
USHA				Pg	P	01 41 36.1	+18
	11nm,0.3s,baz=297,slow=11,SNR=7.0						
USHA				LR	LR	01 42 38.4	
	comp=Z,709nm,20.8s,baz=309,slow=33						
USHA				Lg		01 42 43.9	
	26nm,0.3s,baz=0.3,slow=3.2,SNR=2.3						
USHA	Ushuaia	4.84	153	Pn	P	01 41 15.0	-3.4
USHA				Pg	P	01 41 36.1	+18
USHA				Lg		01 42 43.9	
EFI	East Falkland	8.99	102	ePn	P	01 42 14.6	-1.8
PLCA	Paso Flores	9.93	8	LR	LR	01 47 11.1	
	comp=Z,379nm,20.9s,baz=198,slow=43						
TRQA	Tornquist	14.51	34	eP	P	01 43 32.6	+2.0
	5.1nm,0.5s						
CPUP	Villa Florida	26.79	31	eP	P	01 45 43.4	-1.3
	18nm,1.1s,mb4.5						
LVC	Limon Verde	28.05	7	eP	P	01 45 55.9	-0.3
	7.8nm,0.9s,mb4.3						
LPAZ	La Paz	34.38	7	P	P	01 46 53.7	+1.9
	3.6nm,0.3s,mb4.7,baz=184,slow=5.6,SNR=16						
LPAZ				LR	LR	02 01 17.7	
	comp=Z,217nm,19.2s,MS3.9,baz=120,slow=37						
LPAZ	La Paz	34.38	7	eP	P	01 46 53.1	+1.2
	8.2nm,0.7s,mb4.8						
VNA1	Neumayer--Stat	34.95	148	⇑i	P	01 46 58.4	+2.1
VNA2	Neumayer--Watz	35.24	149	⇑i	P	01 47 01.3	+2.5
SNAA	Sanae	36.70	150	⇑i	P	01 47 11.4	+0.4
QSPA	South Pole Qui	39.66	180	eP	P	01 47 36.1	+0.4
	10.0nm,0.7s,mb4.7						
BDFB	Brasilia	39.97	38	P	P	01 47 40.1	+1.2
	14nm,0.7s,mb4.8,baz=214,slow=6.3,SNR=29						
BDFB				LR	LR	02 06 22.5	
	comp=Z,785nm,19.1s,MS4.6,baz=28,slow=39						
SAML	Samuel	42.19	13	eP	P	01 47 57.0	-0.2
	12nm,0.9s,mb4.5						
SYO	Syowa Base	50.71	154	⇑P	P	01 49 03.7	0.0
SYO	Syowa Base	50.71	154	⇓pP	pP	01 49 05.4	-8.2
SYO	Syowa Base	50.71	154	⇓sP	sP	01 49 06.6	-11
SYO	Syowa Base	50.71	154	⇑PcP	PcP	01 50 20.4	-0.5
OTAV	Otavalo	50.91	352	eP	P	01 49 07.8	+1.8
	6.7nm,0.8s,mb4.6						
ROSC	El Rosal	55.25	357	P	P	01 49 38.7	+0.5
	3.4nm,0.5s,mb4.7,baz=304,slow=23,SNR=7.7						
RKT	Rikitea	55.26	275	eS	S	01 57 10.3	-7.6
RKT				eR		02 05 33.8	
	319nm,28.2s						
MAW	Mawson	57.41	161	P	P	01 49 52.9	-0.1
	3.6nm,1.0s,mb4.3,baz=219,slow=8.5,SNR=6.7						
MAW				LR	LR	02 13 34.2	
	comp=Z,418nm,20.8s,MS4.5,baz=231,slow=35						
MAW	Mawson	57.41	161	P	P	01 49 52.9	-0.1
	5.8nm,1.0s,mb4.6						
SDV	Santo Domingo	59.24	2	P	P	01 50 06.6	+0.2
	7.4nm,0.9s,mb4.7						
JTS	JuntasAbangare	61.63	346	eP	P	01 50 22.9	+0.3
	17nm,1.0s,mb5.1						
PPT	Papeete	68.62	268	eS	S	01 59 58.8	-7.7
PPT				eR		02 11 27.4	
	636nm,26.2s,baz=146						
RAR	Rarotonga	72.37	258	LR	LR	02 15 04.7	
	comp=Z,234nm,18.9s,MS4.5,baz=169,slow=29						
URZ	Urewera	72.64	231	LR	LR	02 16 33.9	
	comp=Z,176nm,19.0s,MS4.4,baz=140,slow=30						
LIC	Lamto	80.66	68	eP	P	01 52 17.8	+0.7
	34nm,1.1s,mb5.2						
KIC	Kosan Boka	80.94	68	eP	P	01 52 19.4	+0.8
	108nm,1.6s,mb5.5						
TIC	Toumodi	81.00	68	eP	P	01 52 20.0	+1.1
	28nm,0.7s,mb5.3						
DBIC	Dimbokro	81.12	68	P	P	01 52 21.2	+1.7
	2.9nm,0.7s,mb4.3,baz=209,slow=8.5,SNR=5.9						
DBIC				LR	LR	02 22 25.9	
	comp=Z,207nm,20.0s,MS4.5,baz=207,slow=31						
DBIC	Dimbokro	81.12	68	P	P	01 52 21.2	+1.7
	4.9nm,0.8s,mb4.5						
LRAL	Lakeview Retre	84.27	348	eP	P	01 52 36.0	+0.7
	8.3nm,0.8s,mb4.9						
TXAR	Lajitas Array	84.29	333	P	P	01 52 37.0	+1.6
	1.7nm,0.9s,mb4.2,baz=149,slow=7.1,SNR=16						
TXAR				LR	LR	02 24 11.5	
	comp=Z,63nm,18.6s,MS4.0,baz=205,slow=31						
LSZ	Lusaka	84.82	108	P	P	01 52 38.6	+0.3
	9.8nm,1.4s,mb4.8						
CCM	Cathedral Cave	89.84	345	eP	P	01 53 02.4	+0.3
	18nm,0.7s,mb5.5						
NVAR	Mina Array Bea	97.44	325	LR	LR	02 28 29.2	
	comp=Z,34nm,18.5s,MS3.9,baz=220,slow=30						
PDAR	Pinedale Array	98.50	333	LR	LR	02 32 18.9	
	comp=Z,35nm,21.1s,MS3.8,baz=332,slow=32						
GERES	GERESS Array B	123.28	52	PKP	PKPdf	01 59 00.9	+2.0
	0.8nm,0.7s,baz=135,slow=1.9,SNR=7.8						
INK	Inuvik	126.97	336	PKPdf	PKPdf	01 59 06.3	+0.9
ILAR	Eielson Array	128.59	328	PKP	PKPdf	01 59 09.9	+1.3
	2.3nm,0.8s,baz=162,slow=1.6,SNR=21						
BRTR	Keskin Array B	128.69	72	PKP	PKPdf	01 59 11.7	+2.2
	2.4nm,0.9s,baz=180,slow=2.5,SNR=11						
AKASG	Malin Array Be	132.48	58	PKP	PKPdf	01 59 17.4	+1.1
	0.2nm,0.3s,baz=257,slow=2.3,SNR=6.2						
KKTK	Khon Kaen	145.60	172	P	PKPdf	01 59 43.0	+2.3
CMAR	Chiang Mai Arr	147.18	164	PKPbc	PKPdf	01 59 46.4	+3.0
	2.5nm,0.6s,baz=214,slow=3.8,SNR=14						
CHG	Chiang Mai	147.53	164	⇑P	PKPdf	01 59 48.6	+4.7
	13nm,1.0s						
ARU	Arti	150.71	59	ePKPbc	PKPdf	01 59 55.5	+7.7
KOLN	Koldanda	150.75	132	eP	PKPdf	01 59 55.6	+6.8
	64nm,0.9s						
DMN	Daman	151.31	135	eP	PKPdf	01 59 57.7	+8.1
	56nm,0.9s						
PKI	Pulchoki	151.42	135	eP	PKPdf	01 59 57.6	+7.8
	48nm,1.0s						
GKN	Gorkha	151.44	133	eP	PKPdf	01 59 57.8	+8.0
	51nm,0.9s						
KKN	Kakani	151.55	135	eP	PKPdf	01 59 58.0	+8.0
	39nm,0.9s						
KMI	Kunming	154.28	170	ePKP	PKPdf	01 59 54.0	+0.1
KMI				SS	SS	02 23 32.8	+4.0
KMI				LR	LR		
	comp=Z,40nm,35.1s,MS4.0						
NJ2	Nanjing	159.73	208	ePKP	PKPdf	02 00 04.5	+3.9
KURK	Kurchatov	161.58	78	PKPdf	PKPdf	02 00 02.1	+0.2
KURK				ePKPab	PKPab	02 00 49.3	+0.1
MKAR	Makanchi Array	162.80	93	PKP	PKPdf	02 00 06.1	+2.9
	comp=Z,0.6nm,0.8s,slow=1.2,SNR=4.1						
MKAR				PKPab	PKPab	02 00 54.1	-0.4
	comp=Z,2.0nm,0.8s,baz=257,slow=4.9,SNR=11						
CN2	Changchun	166.20	247	ePKP	PKPdf	02 00 10.8	+4.2

IDC ***31*** *02:13:24.8±2.2, 40.67S×174.84E, mb3.8/3, mb1 3.9/5, mb1mx3.8/12, ML3.0/2, Error ellipse: s-maj=53.6km s-min=13.8km az=134.0*

WEL ***31*** *02:13:31.6±0.1, 40.74S×175.02E,* $h37^{km}\pm1^{km}$*, ML3.9/8, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0*

WEL Felt in the Wellington region, maximum reported intensity MM 4.

NEIC ***31*** *02:13:31.5, 40.73S×175.01E,* $h35^{km}$*, ML3.9(WEL), After WEL.*

NEIC Felt along the Kapiti Coast.

ISC 31 02:13:30.8±0.2, **40.72S**±0.02×**174.94E**±0.03, **h33**^{km}, **n63**, σ**0ˢ92**/73, **mb3.6**/3, **6C-4D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.15	189	⇓P*	Pb	02 13 37.6	+0.7
KIW				S*	Sb	02 13 42.3	+1.3
KIW	Kapiti Island	0.15	189	P	P	02 13 37.6	+0.7
KIW				S	S	02 13 42.3	+1.1
CAW	Cannon Point	0.40	166	P*	Pb	02 13 40.4	+0.4
CAW				S*	Sb	02 13 47.2	+0.9
CAW	Cannon Point	0.40	166	P	P	02 13 40.4	+0.4
CAW				S	S	02 13 48.6	+2.2
MRZ	Mangatainoka R	0.49	84	⇑P*	Pb	02 13 41.1	-0.1
MRZ				S*	Sb	02 13 48.7	+0.3
MRZ	Mangatainoka R	0.49	84	P	P	02 13 41.1	-0.1
MRZ				S	S	02 13 48.7	+0.2
MRW	Makara Radio	0.54	199	⇓P*	Pb	02 13 42.4	+0.3
MRW				S*	Sb	02 13 50.4	+0.6
WEL	Wellington	0.58	193	P*	Pb	02 13 43.1	+0.4
WEL	Wellington	0.58	193	P	P	02 13 43.1	+0.6
MTW	Mount Morrison	0.61	136	P*	Pb	02 13 43.1	-0.1
MTW				S*	Sb	02 13 51.7	0.0
MTW	Mount Morrison	0.61	136	P	P	02 13 43.1	+0.2
SNZO	South Karori	0.62	197	P*	Pb	02 13 43.5	+0.2
SNZO	South Karori	0.62	197	P	P	02 13 43.5	+0.5
BHW	Baring Head	0.69	184	⇑P*	Pb	02 13 44.7	+0.2
BHW	Baring Head	0.69	184	P	P	02 13 44.7	+0.6
MSWZ	Moikau Station	0.74	162	P*	Pb	02 13 44.9	-0.2
MSWZ				S*	Sb	02 13 54.6	-0.5
PAWZ	Paruwai Farm	0.76	151	P*	Pb	02 13 45.1	-0.5
WAZ	Wanganui	0.96	2	PN	Pn	02 13 48.5	+0.4
WAZ	Wanganui	0.96	2	P	P	02 13 48.6	+0.7
BFZ	Birch Farm	0.99	88	⇑P*	Pb	02 13 47.6	-1.8
TSZ	Takapari Road	1.02	50	P*	Pb	02 13 48.7	-1.1
TSZ	Takapari Road	1.02	50	P	P	02 13 48.7	-0.1
TUWZ	Tuamarina	1.04	226	P*	Pb	02 13 49.8	-0.4
CMWZ	Cape Campbell	1.17	208	S*	Sb	02 14 04.8	-2.4
BSWZ	Blackbirch Sta	1.28	218	ePN	Pn	02 13 52.6	-0.1
NNZ	Nelson	1.28	246	PN	Pn	02 13 53.1	+0.4
MOVZ	Moawhango	1.45	26	⇓PN	Pn	02 13 54.7	-0.4
WNVZ	Wahianoa	1.48	20	⇑PN	Pn	02 13 55.8	+0.3
RAEZ	Rainy Point	1.49	343	PN	Pn	02 13 56.5	+0.8
DFE	Dawson Falls	1.53	335	PN	Pn	02 13 57.0	+0.8
FWVZ	Far West T-bar	1.53	18	PN	Pn	02 13 56.8	+0.5
TUVZ	Tukino	1.55	21	PN	Pn	02 13 56.6	+0.1
NRZ	Ngariki Road	1.58	330	⇑PN	Pn	02 13 58.1	+1.1
NEZ	North Egmont	1.58	336	PN	Pn	02 13 57.9	+0.9
CNZ	Chateau	1.58	17	PN	Pn	02 13 57.3	+0.3
VRZ	Vera Road	1.59	355	⇑PN	Pn	02 13 57.6	+0.4
VRZ	Vera Road	1.59	355	P	P	02 13 57.6	+0.6
NGZ	Ngauruhoe	1.62	19	PN	Pn	02 13 57.7	+0.2
PWZ	Pawanui	1.62	66	PN	Pn	02 13 56.3	-1.3
NWEZ	Newall Road	1.66	330	PN	Pn	02 13 58.7	+0.6
WTVZ	West Tongariro	1.67	18	PN	Pn	02 13 58.5	+0.1
PKE	Pukeiti	1.69	334	PN	Pn	02 13 59.1	+0.6
TWVZ	Taurewa	1.69	13	PN	Pn	02 13 58.5	0.0
MGZ	Maungaku	1.77	15	PN	Pn	02 13 59.6	-0.1
KATZ	Kakaramea	1.83	19	PN	Pn	02 14 00.8	+0.2
QRZ	Quartz Range	1.83	266	⇓PN	Pn	02 14 00.2	-0.4
THZ	Tophouse	1.86	235	PN	Pn	02 14 00.4	-0.5
BKZ	Black Stump Fm	1.95	38	ePN	Pn	02 14 00.5	-1.9
KHZ	Kahutara	2.00	211	PN	Pn	02 14 02.1	-0.9
HIZ	Hauiti	2.20	358	PN	Pn	02 14 05.6	-0.3
LTZ	Lake Taylor	2.87	223	PN	Pn	02 14 13.7	-1.7
URZ	Urewera	2.97	35	Pn	Pn	02 14 13.3	-3.6
	1.6nm,0.3s,baz=237,slow=7.4,SNR=9.7						
URZ				Sn	Sn	02 14 50.9	-0.9
	5.1nm,0.3s,baz=117,slow=17,SNR=5.6						
URZ				Lg		02 14 59.3	
	8.1nm,0.3s,baz=6.6,slow=18,SNR=6.4						
URZ	Urewera	2.97	35	PN	Pn	02 14 13.3	-3.6
TOZ	Tahuroa Road	3.01	9	ePN	Pn	02 14 17.5	0.0
MQZ	McQueen’s Vall	3.44	209	PN	Pn	02 14 19.5	-4.0
RPZ	Rata Peaks	4.16	223	Pn	Pn	02 14 29.7	-4.1
	0.9nm,0.3s,baz=48,slow=13,SNR=3.2						
RPZ				Sn	Sn	02 15 19.1	-2.8
	3.0nm,0.3s,baz=330,slow=20,SNR=8.6						
RPZ				Lg		02 15 36.0	
	4.8nm,0.3s,baz=23,slow=21,SNR=3.0						
ODZ	Otahua Downs	5.35	215	ePN	Pn	02 14 45.7	-4.9
STKA	Stephens Creek	28.15	278	P	P	02 19 19.2	-2.8
	2.5nm,1.0s,mb3.8,baz=268,slow=6.5,SNR=2.9						
STKA	Stephens Creek	28.15	278	P	P	02 19 19.2	-2.8
ASAR	Alice Springs	38.27	284	P	P	02 20 45.0	-4.7
	0.4nm,0.6s,mb3.3,baz=136,slow=8.1,SNR=5.9						
WB2	Warramunga Arr	40.24	289	eP	P	02 21 02.9	-3.2
WRA	Warramunga Arr	40.25	289	P	P	02 21 02.8	-3.4
	0.8nm,0.5s,mb3.8,baz=126,slow=8.1,SNR=12						
ARCES	ARCESS Array B	146.98	341	PKPbc	PKPbc	02 33 07.2	-1.1
	0.9nm,0.8s,baz=18,slow=3.8,SNR=4.0						

IDC 31 02:22:24.9±2.8, **23.08S**×**176.10W**, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.7**/14, **MS3.8**/3, **Ms1 3.8**/3, **ms1mx3.3**/13, **Error ellipse: s-maj=190.0km s-min=33.4km az=160.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.35	247	LR	LR	02 44 00.2	
	comp=Z,150nm,19.8s,baz=176,slow=34						
ASAR	Alice Springs	45.71	259	P	P	02 30 48.9	-0.8
	0.3nm,0.4s,baz=89,slow=6.7,SNR=5.1						
WRA	Warramunga Arr	46.05	264	P	P	02 30 49.7	-2.7
	0.5nm,0.6s,baz=104,slow=8.1,SNR=6.8						
WRA				LR	LR	02 50 01.5	
	comp=Z,68nm,19.5s,baz=120,slow=36						
PLCA	Paso Flores	86.23	133	LR	LR	03 04 35.2	
	comp=Z,68nm,18.9s,baz=285,slow=29						
TXAR	Lajitas Array	86.97	56	P	P	02 35 12.4	-1.2
	0.3nm,0.9s,baz=202,slow=6.7,SNR=4.9						
AKASG	Malin Array Be	146.11	331	PKPbc	PKPbc	02 42 06.4	-0.5
	1.4nm,0.6s,baz=45,slow=5.4,SNR=6.6						
BRTR	Keskin Array B	149.86	310	PKPbc	PKPdf	02 42 16.7	+2.6
	0.3nm,0.6s,baz=135,slow=2.0,SNR=2.8						

ISC 31 02:32:50.2±0.4, **46.39N**±0.02×**15.10E**±0.03, **n18**, σ**0ˢ89**/34, **4C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS	Pernice	0.25	3	i Pg	Pg	02 32 55.2	+0.1
PERS				i Sg	Sg	02 32 59.1	+0.6
	comp=Z,45nm,0.3s						
GROS	Grobnik	0.29	75	i Pg	Pg	02 32 55.9	0.0
GROS				i Sg	Sg	02 33 01.2	+1.4
	comp=Z,140nm,0.8s						
PDKS	Podkum	0.32	193	i Pg	Pg	02 32 56.7	+0.2
PDKS				i Sg	Sg	02 33 00.9	+0.2
	comp=Z,64nm,0.5s						
DOBS	Dobrina	0.35	132	i Pg	Pg	02 32 57.1	-0.1
OBKA	Obir	0.40	288	⇑iPG	Pg	02 32 57.7	-0.4
OBKA				i SG	Sg	02 33 04.0	+0.6
	comp=Z,75nm,0.5s						
LEGS	Legarje	0.47	161	i Pg	Pg	02 32 59.3	-0.2
LEGS				i Sg	Sg	02 33 05.7	+0.1
	comp=Z,27nm,0.2s						
LJU	Ljubljana	0.52	229	i Pg	Pg	02 33 00.2	-0.4
GOLS	Golise	0.53	136	i Pg	Pg	02 33 00.7	0.0
GOLS				i Sg	Sg	02 33 06.7	-1.0
	comp=Z,275nm,1.8s						
VISS	Visnje	0.61	197	i Pg	Pg	02 33 01.6	-0.7
VISS				i Sg	Sg	02 33 10.0	-0.5
	comp=Z,19nm,0.3s						
CRES	Cresnjevec ost	0.61	156	ePg	Pg	02 33 02.0	-0.4
CRES				i Sg	Sg	02 33 10.4	-0.2
	comp=Z,13nm,0.3s						
GCIS	Gornji Cirnik	0.63	146	i Pg	Pg	02 33 03.9	+1.1
GCIS				i Sg	Sg	02 33 14.2	+2.9
	comp=Z,9.0nm,0.3s						
CEY	Cerknica	0.80	216	i Pg	Pg	02 33 05.1	-1.0
CEY				i Sg	Sg	02 33 16.2	-0.5
	comp=Z,14nm,0.3s						
JAVS	Javornik	0.87	236	i Pg	Pg	02 33 06.8	-0.7
JAVS				i Sg	Sg	02 33 19.1	-0.1
	comp=Z,15nm,0.3s						
BOJS	Bojanci	0.89	173	i Pg	Pg	02 33 09.1	+1.2
BOJS				i Sg	Sg	02 33 19.5	-0.3
	comp=Z,32nm,0.5s						
VOY	Vojsko	0.91	247	ePg	Pg	02 33 06.8	-1.5
VOY				eSg	Sg	02 33 21.5	+1.1
VOY				e		02 33 25.2	
ARSA	Arzberg	0.91	19	⇑iPG	Pg	02 33 07.1	-1.3
ARSA				i SG	Sg	02 33 20.5	0.0

	comp=Z,13nm,0.3s						
DRE	Drenchia	1.03	259	⇑*e*Pg	Pg	02 33 12.2	+1.5
DRE				*e*Sg	Sg	02 33 26.8	+2.3
MOA	Molln	1.57	339	⇑*i* PG	Pg	02 33 20.1	-1.4
MOA				*i* SG	Sg	02 33 42.2	-0.2
	comp=Z,4.3nm,0.5s						

*IDC **31** 03:39:58.2±1.2, 1.64N×124.76E, mb4.2/5, mb1 4.4/6, mb1mx4.1/16, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=82.2km s-min=17.3km az=64.0*

*NEIC **31** 03:40:04.6±0.7, 1.39N×124.41E, h45^{km}, mb4.8/5, Error ellipse: s-maj=41.9km s-min=10.5km az=66.0*

ISC 31 03:40:01.5±0.8, **1.3N**±0.1×**124.0E**±0.3, **h33**^{km}**, n14, σ0.^{s}77**/14**, mb4.3**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.34	175	*e*P	P	03 44 26.6	-0.4
	7.5nm,0.9s						
FITZ	Fitzroy Crossi	19.34	175	P	P	03 44 26.5	-0.5
	0.5nm,0.3s,baz=3.1,slow=8.6,SNR=11						
WRAB	Tennant Creek	23.43	155	*e*P	P	03 45 08.6	-0.2
	31nm,0.7s,mb4.8						
WRAB				*e*		03 45 19.8	
WRA	Warramunga Arr	23.43	155	P	P	03 45 08.9	+0.1
	11nm,0.5s,mb4.5,baz=335,slow=10,SNR=85						
WB2	Warramunga Arr	23.44	155	*e*P	P	03 45 08.9	0.0
WB2				*e*pP		03 45 20.0	
ASPA	Alice Springs	26.62	159	*e*P	P	03 45 39.8	+0.6
ASAR	Alice Springs	26.63	159	P	P	03 45 39.6	+0.5
	3.0nm,0.5s,mb4.0,baz=339,slow=7.9,SNR=24						
CMAR	Chiang Mai Arr	29.88	306	P	P	03 46 12.7	+4.1
	0.3nm,0.3s,mb3.5,baz=115,slow=7.7,SNR=3.7						
FORT	Forrest	32.13	173	*e*P	P	03 46 28.1	-0.2
	50nm,0.6s						
KLBR	Kellerberrin	33.22	190	*e*P	P	03 46 37.2	-0.6
	26nm,1.3s,mb5.0						
STKA	Stephens Creek	36.98	155	P	P	03 47 09.9	+0.1
	5.0nm,0.6s,mb4.5,baz=326,slow=10,SNR=6.1						
SONM	Songino Array	48.80	344	P	P	03 48 43.2	-2.2
	0.1nm,0.4s,baz=140,slow=11,SNR=1.9						
MKAR	Makanchi Array	58.03	327	P	P	03 49 54.2	+0.5
	0.8nm,0.7s,mb3.8,baz=129,slow=8.6,SNR=5.0						
MKAR				LR	LR	04 16 10.8	
	comp=Z,26nm,19.5s,baz=313,slow=37						
KURK	Kurchatov	62.35	329	*e*P	P	03 50 23.9	+0.8
	2.7nm,0.7s,mb4.5						

IDC 31 04:18:45.6±1.5**, 0.77N×122.41E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/16**, Error ellipse: s-maj=205.0km s-min=24.4km az=61.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.68	151	P	P	04 23 58.8	-1.1
	1.9nm,0.5s,baz=326,slow=10,SNR=50						
WB2	Warramunga Arr	23.69	151	*e*P	P	04 23 59.0	-1.0
ASAR	Alice Springs	26.74	156	P	P	04 24 27.4	-1.5
	1.0nm,1.1s,baz=346,slow=15,SNR=3.5						
MKAR	Makanchi Array	57.65	328	P	P	04 28 37.7	-2.4
	0.5nm,0.3s,baz=128,slow=8.3,SNR=7.8						

*ISK **31** 04:23:04.7, 36.91N×27.79E, h8^{km}, MD3.4*

*NEIC **31** 04:23:07.0, 36.92N×27.72E, h25^{km}, MD3.4(ATH), After ATH.*

*ATH **31** 04:23:07.0, 36.92N×27.72E, h25^{km}±3^{km}, MD3.4/7*

ISC 31 04:23:05.6±0.6**, 36.93N**±0.03×**27.82E**±0.04**, h9**^{km}±5^{km}**, n26, σ0.^{s}71**/36**, 9C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.33	295	*i* P	Pg	04 23 12.5	+0.1
BDRM				*i* S	Sg	04 23 17.9	+1.0
MLSB	Milas	0.37	355	*i* PG	Pg	04 23 12.7	-0.5
MLSB				*i* SG	Sg	04 23 18.8	+0.5
YER	Yerkesik	0.43	61	*i* PG	Pg	04 23 13.6	-0.7
NISR	Nisiros	0.64	241	*e*PN	Pn	04 23 19.2	-1.2
DALT	Dalyan (Mudla)	0.68	103	*e*PG	Pg	04 23 19.0	-0.2
AYDN	Tasoluk	0.74	4	*i* P	Pb	04 23 19.6	-0.5
AYDN				*i* S	Sb	04 23 29.6	-0.3
ARG	Arkhangelos	0.75	161	*e*PB	Pb	04 23 20.6	+0.2
ARG				*e*SN	Sn	04 23 33.3	-0.2
SMG	Samos	1.10	315	⇑*i*PN	Pn	04 23 26.8	-0.3
SMG				*e*SN	Sn	04 23 42.2	-0.3
SMG	Samos	1.10	315	⇑*e*Pn	Pn	04 23 26.8	-0.3
SMG				*e*Sn	Sn	04 23 42.2	-0.3
DNZL	Cakiroluk	1.24	52	⇑*i*P	Pb	04 23 28.4	-0.3
DNZL				*i* S	Sb	04 23 45.6	+1.0
DENT	Denizli	1.27	49	PN	Pn	04 23 29.3	-0.3
KARP	Karpathos	1.47	201	⇑*i*PB	Pb	04 23 32.5	-0.2
KARP				*e*SN	Sn	04 23 52.5	+0.6
KARP	Karpathos	1.47	201	⇑*e*Pb	Pb	04 23 32.5	-0.2
KARP				*e*Sn	Sn	04 23 52.5	+0.6
IZM	Izmir	1.53	344	*e*PN	Pn	04 23 32.8	-0.5
KDAG	Bornova	1.54	344	*i* P	Pn	04 23 32.7	-0.7
KDAG				*i* S	Sb	04 23 54.7	+1.4
KSL	Kastellorizon	1.62	118	*e*PN	Pn	04 23 37.5	+3.0
ELL	Elmali	1.69	95	PN	Pn	04 23 36.0	+0.5
APE	Apeiranthos	1.84	275	⇑*i*PN	Pn	04 23 38.4	+0.8
APE	Apeiranthos	1.84	275	⇑*e*Pn	Pn	04 23 38.4	+0.8
KHL	Karahalli	1.94	44	*e*PN	Pn	04 23 38.5	-0.7
AKS	Akhisar	1.95	360	*e*PN	Pn	04 23 38.6	-0.6
ISP	Isparta	2.33	66	*e*PN	Pn	04 23 45.1	+0.4
DST	Dursunbey	2.75	13	PN	Pn	04 23 51.0	+0.3
ALT	Altintas	2.79	40	*e*PN	Pn	04 23 51.6	+0.3
LIA	Limnos Island	3.62	326	⇑*i*PN	Pn	04 24 02.3	-0.7
LIA	Limnos Island	3.62	326	⇑*e*Pn	Pn	04 24 02.3	-0.7

*THR **31** 04:34:02.6±0.6, 28.05N×53.21E, h15^{km}, ML4.0*

*BJI **31** 04:34:09.2, 28.83N×52.63E, h63^{km}, mB5.0, mb4.9*

*IDC **31** 04:34:14.1±4.6, 28.61N×53.62E, h42^{km}±42^{km}, mb4.0/20, mb1 4.2/23, mb1mx4.1/27, ML4.2/3, MS2.9/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=18.8km s-min=13.8km az=174.0*

*NEIC **31** 04:34:16.0±1.5, 28.68N×53.57E, h64^{km}±13^{km}, mb4.5/34, Error ellipse: s-maj=11.4km s-min=5.3km az=170.0*

ISC 31 04:34:11.8±0.8**, 28.62N**±0.05×**53.56E**±0.04**, h41**^{km}±7^{km}**, n100, σ0.^{s}91**/104**, mb4.4**/57**, MS2.9**/1**, 5C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	3.11	63	*e*PN	P	04 35 01.3	+1.6
KRBR				AMP		04 35 58.1	
	comp=N,488nm,0.6s						
NASN	Na'in	4.22	351	*e*PN	P	04 35 15.9	+0.5
NASN				AMP		04 36 34.8	
	comp=N,66nm,0.7s						
HASS	Wahat al Ahsa'	4.85	226	P	P	04 35 27.5	+3.1
HASS				S	S	04 36 23.2	+3.3
ZHSF	Zahedan	6.39	79	*e*PN	P	04 35 44.1	-1.9
ASAO	Ashtian	6.63	334	*e*PN	P	04 35 48.0	-1.3
DAMV	Damavand	7.12	350	*e*PN	P	04 35 55.5	-0.6
MZLS	Mizel	8.77	241	P	P	04 36 19.3	+0.3
MZLS				S	S	04 37 55.7	-2.1
RAYN	Ar Rayn	8.84	237	Pn	P	04 36 19.2	-0.7
	comp=N,159nm,0.7s,SNR=20						
HILS	Ha'il	10.47	266	P	P	04 36 41.5	-0.9
HILS				S	S	04 38 31.9	-7.6
KBRS	Khaybar	13.03	261	P	P	04 37 16.5	-0.4
YNBS	Yanbu' al Bahr	14.57	257	P	P	04 37 36.6	-0.5
ASF	Jabal al Asfar	14.81	288	P	P	04 37 40.3	+0.2
	comp=N,1.0nm,0.3s,baz=324,slow=7.6,SNR=3.1						
ASF				S	S	04 40 14.8	-8.8
	comp=N,0.8nm,0.3s,baz=168,slow=22,SNR=5.2						
UMJS	Umm Lajj	14.88	261	P	P	04 37 40.2	-0.9
ERZM	Erzurum	15.09	321	*i* P	P	04 37 51.0	+7.1
MALT	Malatya	15.88	311	*e*P	P	04 37 54.0	0.0
	comp=N,7.2nm,0.7s						
GZT	Gaziantep	15.98	307	*i* P	P	04 38 00.4	+5.2
EIL	Elat	16.29	278	P	P	04 38 02.5	+3.3
	comp=N,0.7nm,0.3s,baz=73,slow=10.0,SNR=6.4						
EIL	Elat	16.29	278	P	P	04 38 02.5	+3.3
COBT	Iskenderun	16.56	303	*i* P	P	04 38 06.7	+4.2
KAHT	Ahir Dag	16.60	307	*i* P	P	04 38 08.1	+5.1
CSS	Prodhromos	18.31	295	P	P	04 38 26.8	+2.4
	comp=N,6.0nm,0.5s						
AVNT	Avonos	18.54	308	*i* P	P	04 38 28.5	+1.3
CTKT	Corum	19.50	313	*i* P	P	04 38 39.0	+0.8
BRTR	Keskin Array B	19.81	309	P	P	04 38 42.2	+0.6
	comp=N,0.5nm,0.3s,baz=128,slow=13,SNR=26						
BOYT	Boyabat	19.86	315	*i* P	P	04 38 42.5	+0.3
SGKT	Sivrigoynuk	21.28	310	*i* P	P	04 38 58.4	+1.5
ESKT	Eskisehir	21.67	306	*i* P	P	04 39 01.9	+1.1
AAK	Ala-Archa	21.95	45	P	P	04 39 03.7	+0.2
	comp=N,6.6nm,0.7s,mb4.2						
ULDT	Uludag	23.12	306	*i* P	P	04 39 18.2	+3.1
IDI	Anoyia	25.16	293	P	P	04 39 37.1	+2.3
	comp=N,11nm,1.0s,mb4.4,baz=95,slow=11,SNR=4.4						
ZRNK	Zerenda	26.86	21	*e*P	P	04 39 49.2	-1.3
	comp=N,8.8nm,0.8s,mb4.3						
BRVK	Borovoye	27.36	22	*e*P	P	04 39 53.5	-1.6
	comp=N,7.9nm,0.8s,mb4.3						
BVAR	Borovoye Array	27.37	22	P	P	04 39 55.2	0.0
	comp=N,7.9nm,0.6s,mb4.4,baz=217,slow=7.4,SNR=53						
BVAR				PcP	PcP	04 43 14.0	+0.2
	comp=N,3.8nm,1.1s,baz=225,slow=2.1,SNR=5.2						
MLR	Muntele Rosu	27.54	315	P	P	04 39 58.7	+1.9
	comp=N,2.1nm,0.8s,mb3.8,baz=41,slow=8.3,SNR=5.7						
AKASG	Malin Array Be	28.70	327	P	P	04 40 06.3	-0.8
	comp=N,0.5nm,0.4s,mb3.6,baz=134,slow=8.3,SNR=6.4						
MKAR	Makanchi Array	28.85	43	P	P	04 40 08.0	-0.5
	comp=N,8.6nm,1.1s,mb4.4,baz=225,slow=7.7,SNR=23						
MKAR				PcP	PcP	04 43 16.7	-0.8
	comp=N,0.6nm,0.5s,baz=233,slow=3.3,SNR=6.3						
MKAR	Makanchi Array	28.85	43	P	P	04 40 08.0	-0.5
MKAR				PcP	PcP	04 43 16.7	-0.8
KURK	Kurchatov	29.06	34	*e*P	P	04 40 10.1	-0.3
	comp=N,3.9nm,0.7s,mb4.2						
ZAL	Zalesovo	34.03	33	P	P	04 40 53.3	-0.6
	comp=N,3.4nm,0.6s,mb4.5,baz=140,slow=8.9,SNR=11						
MOA	Molln	35.85	313	⇑*i*P	P	04 41 10.2	+0.7
	comp=N,5.0nm,0.8s,mb4.5						
GERES	GERESS Array B	36.53	315	P	P	04 41 15.4	+0.2
	comp=N,0.5nm,0.4s,mb3.7,baz=117,slow=9.0,SNR=4.7						
GERES				PcP	PcP	04 43 38.6	0.0
	comp=N,0.9nm,0.8s,baz=90,slow=5.3,SNR=4.8						
KHC	Kasperske Hory	36.70	315	*e*P	P	04 41 17.0	+0.4
WTTA	Wattenberg	37.40	311	⇑*i*P	P	04 41 22.9	+0.4
	comp=N,9.9nm,0.6s,mb4.8						
FINES	FINESS Array B	37.56	339	P	P	04 41 24.1	+0.3
	comp=N,2.7nm,0.4s,mb4.3,baz=146,slow=13,SNR=23						
SQTA	Sankt Quirin	37.67	311	⇑*i*P	P	04 41 25.1	+0.3
	comp=N,4.5nm,0.7s,mb4.3						
MOTA	Moosalm	37.77	311	⇑*i*P	P	04 41 25.5	-0.1
	comp=N,5.2nm,0.9s,mb4.3						
KAF	Kangasniemi	38.00	340	*e*p	P	04 41 25.3	-2.1
	comp=N,0.8nm,0.3s,mb3.9						
GRA1	Grafenberg Arr	38.33	315	*e*P	P	04 41 31.1	+0.8
	comp=N,5.0nm,1.0s,mb4.2						
DAVA	Damuels	38.56	311	⇑*i*P	P	04 41 32.6	+0.4
	comp=N,11nm,0.8s,mb4.6						
GTA	Gaotai	39.45	62	*e*P	P	04 41 40.8	+1.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
SBF	Sospel	39.66	305	*e*P	P	04 41 41.1	-0.3
	comp=Z,25nm,0.8s,mb4.7						
MBDF	Montbardon	40.24	306	*e*P	P	04 41 46.9	+0.7
	comp=Z,13nm,0.7s,mb4.5						
BNI	Bardonecchia	40.35	307	*e*P	P	04 41 47.2	+0.1
	comp=Z,9.7nm,0.8s,mb4.6						
LPG	La Plagne	40.36	308	*e*P	P	04 41 47.3	+0.1
	comp=Z,19nm,0.6s,mb4.7						
LPL	La Plagne	40.38	308	*e*P	P	04 41 47.2	-0.1
	comp=Z,19nm,0.6s,mb4.7						
CABF	La Chapelle	40.98	309	*e*P	P	04 41 52.5	+0.2
	comp=Z,17nm,0.6s,mb4.5						
HAU	Haudompre	41.05	311	*e*P	P	04 41 52.0	-0.8
VIVF	Saint-Julien-l	41.74	306	*e*P	P	04 41 58.0	-0.6
	comp=Z,4.2nm,0.5s,mb4.0						
MEZF	Maizieres J'vi	41.99	312	*e*P	P	04 42 00.5	0.0
LASF	Ste Croix	42.26	305	*e*P	P	04 42 02.3	-0.5
	comp=Z,30nm,1.2s,mb4.5						
SMF	Signal de Mont	42.52	309	*e*P	P	04 42 04.6	-0.3
	comp=Z,23nm,0.6s,mb4.8						
LOR	Lormes	42.59	310	*e*P	P	04 42 04.9	-0.6
	comp=Z,6.7nm,0.6s,mb4.3						
CMAR	Chiang Mai Arr	42.61	93	P	P	04 42 06.0	0.0
	comp=Z,1.0nm,0.6s,mb3.7,baz=282,slow=8.4,SNR=6.9						
SSF	Saint Saulge	42.80	310	*e*P	P	04 42 06.9	-0.3
	comp=Z,11nm,0.7s,mb4.4						
AVF	Avril sur Loir	42.87	309	*e*P	P	04 42 07.0	-0.8
	comp=Z,5.4nm,0.5s,mb4.2						
NB2	NORSAR Subarra	42.90	331	P	P	04 42 07.3	-0.5
	comp=Z,0.9nm,0.5s,mb3.8,baz=122,slow=7.9						
NOA	NORSAR Array B	42.90	331	P	P	04 42 07.6	-0.2
	comp=Z,1.3nm,0.6s,mb3.9,baz=121,slow=8.1,SNR=7.3						
NOA				LR	LR	05 03 15.7	
	comp=Z,16nm,20.5s,MS2.9,baz=20,slow=41						
BGF	Bois d'Agland	43.19	309	*e*P	P	04 42 10.0	-0.4
	comp=Z,6.6nm,0.6s,mb4.2						
MTLF	Montolieu	43.40	304	*e*P	P	04 42 11.6	-0.5
CAF	Calviac	43.59	306	*e*P	P	04 42 13.2	-0.5
	comp=Z,6.4nm,0.7s,mb4.2						
TCF	Toulx Ste Croi	43.60	308	*e*P	P	04 42 13.7	-0.1
	comp=Z,11nm,0.6s,mb4.5						
KEV	Kevo	43.91	347	*e*p	P	04 42 14.8	-1.1
	comp=Z,2.2nm,0.5s,mb4.1						
RJF	Les Rejaudoux	44.01	307	*e*P	P	04 42 16.8	-0.2
	comp=Z,10nm,0.7s,mb4.4						
ARCES	ARCESS Array B	44.03	346	P	P	04 42 17.2	+0.3
	comp=Z,1.1nm,0.5s,mb3.8,baz=144,slow=7.5,SNR=15						
LFF	La Frestale	44.53	306	*e*P	P	04 42 21.7	+0.4
	comp=Z,18nm,0.6s,mb4.8						
EPF	Esparros	44.76	303	*e*P	P	04 42 23.0	-0.1
SONM	Songino Array	44.77	50	P	P	04 42 23.5	+0.4
	comp=Z,1.1nm,1.0s,mb3.7,baz=262,slow=8.7,SNR=7.3						
MFF	Saint Martin d	45.25	309	*e*P	P	04 42 25.9	-1.1
LDF	La Druitiere	45.41	311	*e*P	P	04 42 27.4	-0.8
ETSF	Etsaut	45.42	303	*e*P	P	04 42 28.4	0.0
	comp=Z,7.2nm,0.6s,mb4.4						
FLN	La Foliniere	45.66	312	*e*P	P	04 42 29.7	-0.5
GRR	Gorron	45.88	311	*e*P	P	04 42 30.7	-1.2
SJPF	Ste Jean	45.91	304	*e*P	P	04 42 32.0	-0.3
	comp=Z,13nm,0.7s,mb4.7						
SGMF	Saint Gilles	47.00	311	*e*P	P	04 42 40.3	-0.4
QUIF	Quistinic	47.38	310	*e*P	P	04 42 43.4	-0.4
	comp=Z,44nm,1.0s,mb5.0						
ESDC	Sonseca Array	48.13	299	P	P	04 42 49.9	+0.1
	comp=Z,2.6nm,0.9s,mb4.3,baz=71,slow=6.9,SNR=6.3						
EVO	Evora	51.40	298	*e*P	P	04 43 15.7	+0.9
	comp=Z,8.3nm,0.9s,mb4.4						
TSUM	Tsumeb	58.89	220	P	P	04 44 08.5	-0.8
	comp=Z,3.0nm,0.9s,mb4.3,baz=329,slow=5.9,SNR=6.7						
DBIC	Dimbokro	59.17	260	P	P	04 44 11.3	0.0
	comp=Z,5.5nm,0.8s,mb4.7,baz=23,slow=4.2,SNR=7.9						
DBIC	Dimbokro	59.17	260	*e*P	P	04 44 11.0	-0.3
	comp=Z,8.4nm,0.8s,mb4.8						
KIC	Kosan Boka	59.23	260	*e*P	P	04 44 11.8	+0.1
	comp=Z,40nm,1.2s,mb5.3						
TIC	Toumodi	59.33	260	*e*P	P	04 44 11.4	-1.0
	comp=Z,210nm,2.0s						
LIC	Lamto	59.54	260	*e*P	P	04 44 13.8	-0.1
	comp=Z,30nm,1.1s,mb5.2						
SCHQ	Schefferville	82.45	330	P	P	04 46 32.0	+0.9
	comp=Z,1.3nm,0.5s,mb4.1,baz=31,slow=5.9,SNR=5.1						
FITZ	Fitzroy Crossi	83.68	114	*e*P	P	04 46 38.9	+0.8
	comp=Z,4.6nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	83.68	114	P	P	04 46 39.0	+0.9
	comp=Z,3.1nm,0.7s,mb4.6,baz=288,slow=6.4,SNR=6.6						
KAKA	Kakadu	86.45	106	*e*P	P	04 46 53.1	+1.2
	comp=Z,4.3nm,0.6s,mb4.9						
YKA	Yellowknife Ar	88.71	355	P	P	04 47 03.3	+1.6
	comp=Z,2.7nm,0.7s,mb4.7,baz=7.8,slow=5.1,SNR=22						
WRA	Warramunga Arr	91.67	112	P	P	04 47 16.4	-0.2
	comp=Z,0.9nm,0.8s,mb4.2,baz=312,slow=4.1,SNR=5.1						
ASAR	Alice Springs	93.16	115	P	P	04 47 23.8	+0.4
	comp=Z,1.2nm,0.6s,mb4.5,baz=294,slow=4.6,SNR=9.3						

*MDD **31** 04:34:38.3±1.0, 37.34N×8.54W, h10^{km}±2^{km}, mbLg1.5/6, Error ellipse: s-maj=10.8km s-min=4.3km az=32.0, PRXIMO*

*INMG **31** 04:34:38.6±0.8, 37.34N×8.54W, h6^{km}±3^{km}, ML1.0, Error ellipse: s-maj=4.9km s-min=2.4km az=34.0*

ISC 31 04:34:36.4±1.4**, 37.27N**±0.07×**8.52W**±0.07**, h13**^{km}±5^{km}**, n12, σ0.^{s}72**/15**, 1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.32	330	*i* Pg	Pg	04 34 43.4	+0.2
PTEO				*e*Sg	Sg	04 34 46.9	-0.9
	4.0nm,0.1s						
PTEO	Sao Teotonio	0.32	330	⇓Pg	Pg	04 34 43.4	+0.2
PTEO				Lg		04 34 46.9	
	2.0nm,0.1s						
PALC	Alcoutim	0.85	76	*e*Pg	Pg	04 34 54.3	+0.7
PALC				*e*Sg	Sg	04 35 05.5	+0.4
	7.5nm,0.1s						
PALC	Alcoutim	0.85	76	Pg	Pg	04 34 54.3	+0.7
PALC				Lg		04 35 05.5	
	3.8nm,0.1s						
EGRO	El Granado	0.87	72	Pg	Pg	04 34 54.4	+0.6
	0.4nm,0.1s,SNR=7.9						
EGRO				Lg		04 35 05.1	
	6.5nm,0.1s,SNR=16						
PBEJ	Beja	0.92	34	*e*Sg	Sg	04 35 06.5	-0.7
	2.5nm,0.1s						
PBEJ	Beja	0.92	34	Lg		04 35 06.5	
	1.2nm,0.1s						
MOE	Montemor	1.26	6	*e*S	Sb	04 35 16.7	+1.2
EMIN	Mina Concepcio	1.55	71	Pn	Pn	04 35 04.7	+0.8
	0.1nm,0.3s,SNR=7.9						
EMIN				Pg	Pg	04 35 07.0	-0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	04 35 23.8	-0.2
	2.2nm,1.3s,SNR=7.9						
EMIN				Lg		04 35 26.9	
	0.8nm,0.1s,SNR=8.7						
EBAD	Badajoz	1.90	38	Pn	Pn	04 35 09.1	+0.2
	0.2nm,0.5s,SNR=4.0						
EBAD				Lg		04 35 36.4	
	1.2nm,0.1s,SNR=7.9						
ESPR	Espera	2.17	100	Pn	Pn	04 35 11.9	-0.8
	0.7nm,0.4s,SNR=7.9						
ESPR				Lg		04 35 48.3	
	0.3nm,0.1s,SNR=7.9						
EADA	Adamuz	3.25	73	Sn	Sn	04 36 06.0	-1.2
	0.2nm,0.1s,SNR=7.9						

*IDC **31** 04:35:18.3±4.7, 5.82S×146.47E, mb4.2/3, mb1 4.3/6, mb1mx4.0/15, ML3.9/2, Error ellipse: s-maj=73.4km s-min=28.1km az=55.0*

*NEIC **31** 04:35:33.0±2.9, 6.58S×146.23E, h61^{km}±20^{km}, mb4.0/2, Error ellipse: s-maj=30.1km s-min=14.8km az=189.0*

ISC 31 04:35:28.5±4.8**, 6.3S**±0.3×**146.4E**±0.2**, h64**^{km}±28^{km}**, n12, σ0.^{s}46**/12**, mb4.0**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.19	165	Pn	P	04 36 17.2	-0.2
	26nm,0.3s,baz=354,slow=3.9,SNR=39						
PMG				Sn	S	04 36 54.8	+0.4
	14nm,0.3s,baz=355,slow=10,SNR=4.7						
PMG				Lg		04 37 12.3	
	18nm,0.3s,baz=345,slow=13,SNR=5.1						
CTA	Charters Tower	13.70	180	Pn	P	04 38 41.3	-0.1
	baz=329,slow=12,SNR=1.8						
KAKA	Kakadu	15.15	244	*e*P	P	04 39 01.1	+0.9
	10.0nm,0.5s						
WRAB	Tennant Creek	17.87	220	*e*P	P	04 39 34.0	-0.4
	4.9nm,0.4s						
WB2	Warramunga Arr	17.88	220	*e*P	P	04 39 33.8	-0.7
WRA	Warramunga Arr	17.89	220	P	P	04 39 34.3	-0.3
	0.7nm,0.3s,baz=40,slow=12,SNR=37						
ASAR	Alice Springs	21.00	213	P	P	04 40 08.7	-0.2
	3.2nm,0.4s,mb4.0,baz=50,slow=8.3,SNR=45						
ASPA	Alice Springs	21.01	213	*e*P	P	04 40 09.1	+0.2
FITZ	Fitzroy Crossi	23.36	238	*e*P	P	04 40 33.0	+0.8
	3.8nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	23.36	238	P	P	04 40 31.7	-0.4
	5.6nm,0.7s,mb4.1,baz=65,slow=5.8,SNR=8.8						
STKA	Stephens Creek	25.83	189	P	P	04 40 56.0	+0.3
	3.0nm,0.5s,mb4.1,baz=358,slow=10,SNR=12						
SAML	Samuel	146.89	117	PKPdf	PKPdf	04 55 02.0	-0.8

*IDC **31** 04:45:12.0±1.1, 28.45N×53.61E, mb4.0/9, mb1 4.0/10, mb1mx3.8/21, ML3.8/1, Error ellipse: s-maj=28.0km s-min=24.8km az=19.0*

*THR **31** 04:45:17.7±0.7, 28.84N×53.42E, h14^{km}±10^{km}, ML3.3*

*KISR **31** 04:45:17.4±1.1, 28.71N×53.60E, h28^{km}±999^{km}, ML3.5*

*NEIC **31** 04:45:21.6±6.8, 28.55N×53.39E, h79^{km}±59^{km}, mb4.3/10, Error ellipse: s-maj=25.2km s-min=11.6km az=174.0*

ISC 31 04:45:18.6±0.7**, 28.61N**±0.08×**53.50E**±0.05**, h65**^{km}±6^{km}**, n35, σ0.^{s}96**/40**, mb4.0**/18**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.55	235	*e*PG	P	04 45 30.3	-1.4
GHIR				*e*SG	S	04 45 40.4	-0.8
GHIR				AMP		04 45 53.3	
	comp=N,1μm,0.4s						
KRBR	Kerman	3.16	64	*e*PN	P	04 46 08.9	+1.7
KRBR				*e*SG	S	04 46 55.4	+12
KRBR				AMP		04 47 04.3	
	comp=N,210nm,0.7s						
NASN	Na'in	4.22	352	*e*PN	P	04 46 20.7	-1.3
NASN				AMP		04 47 11.7	
	comp=N,20nm,0.6s						
QRN	Al-Qurain	4.91	273	*e*P	P	04 46 32.2	+0.6
QRN				*e*S	S	04 47 28.7	+1.0
KBD	Kabd	5.12	278	*e*P	P	04 46 35.8	+1.2
KBD				*e*S	S	04 47 33.2	+0.1
UMR	Umm Al-Rimmam	5.15	282	*e*P	P	04 46 35.8	+0.8
UMR				AML	AML	04 47 35.5	
	comp=Z,33nm,0.5s						
RDF	Al-Radifah	5.23	275	*e*P	P	04 46 38.2	+2.1
RDF				AML	AML	04 47 36.8	
	comp=Z,18nm,0.4s						
RST	Umm Al-Ruwaisa	5.76	280	*e*P	P	04 46 44.3	+0.9
RST				AML	AML	04 47 23.2	
	comp=Z,18nm,0.5s						
RST				*e*S	S	04 47 49.3	+0.3
ASAO	Ashtian	6.62	334	*e*PN	P	04 46 53.8	-1.6
RAYN	Ar Rayn	8.79	237	Pn	P	04 47 24.6	-0.8
	comp=Z,99nm,0.5s,SNR=9.4						
BRTR	Keskin Array B	19.78	309	P	P	04 49 47.2	+1.2
	comp=Z,0.3nm,0.3s,baz=129,slow=12,SNR=5.4						
ZRNK	Zerenda	26.89	21	P	P	04 50 55.2	0.0
	comp=Z,1.8nm,0.7s,mb3.7						
BVAR	Borovoye Array	27.40	22	P	P	04 51 00.2	+0.3
	comp=Z,2.0nm,0.6s,mb3.8,baz=225,slow=8.4,SNR=14						
MKAR	Makanchi Array	28.89	43	P	P	04 51 12.9	-0.4
	comp=Z,2.6nm,1.1s,mb3.8,baz=228,slow=9.9,SNR=8.3						
FINES	FINESS Array B	37.56	339	P	P	04 52 29.0	+1.0
	comp=Z,1.0nm,0.4s,mb4.0,baz=143,slow=12,SNR=12						
SBF	Sospel	39.63	305	*e*P	P	04 52 44.4	-1.0
MBDF	Montbardon	40.21	306	*e*P	P	04 52 49.5	-0.7
	comp=Z,4.6nm,0.6s,mb4.2						
LPG	La Plagne	40.33	308	*e*P	P	04 52 51.0	-0.2
	comp=Z,5.5nm,0.6s,mb4.3						
LPL	La Plagne	40.34	308	*e*P	P	04 52 51.1	-0.2
	comp=Z,4.1nm,0.5s,mb4.2						
ORIF	Oris-en-Rattie	40.86	307	*e*P	P	04 52 54.8	-0.8
CABF	La Chapelle	40.95	309	*e*P	P	04 52 55.8	-0.5
	comp=Z,12nm,0.8s,mb4.5						
SMF	Signal de Mont	42.49	309	*e*P	P	04 53 08.1	-0.8
	comp=Z,7.7nm,0.6s,mb4.3						
LOR	Lormes	42.56	310	*e*P	P	04 53 08.6	-0.9
SSF	Saint Saulge	42.77	310	*e*P	P	04 53 10.1	-1.1
	comp=Z,4.0nm,0.7s,mb4.0						
NOA	NORSAR Array B	42.89	331	P	P	04 53 12.4	+0.4
	comp=Z,0.5nm,0.7s,mb3.4,baz=117,slow=8.7,SNR=2.8						
TCF	Toulx Ste Croi	43.57	308	*e*P	P	04 53 16.9	-0.9
	comp=Z,2.8nm,0.5s,mb4.0						
RJF	Les Rejaudoux	43.97	307	*e*P	P	04 53 20.5	-0.5
ARCES	ARCESS Array B	44.03	346	P	P	04 53 22.3	+1.1
	comp=Z,0.3nm,0.5s,mb3.3,baz=150,slow=9.8,SNR=6.5						
LFF	La Frestale	44.50	306	*e*P	P	04 53 24.7	-0.6
	comp=Z,6.5nm,0.5s,mb4.3						
DBIC	Dimbokro	59.12	260	P	P	04 55 15.0	-0.1
	comp=Z,1.8nm,0.5s,mb4.4,baz=51,slow=3.7,SNR=6.6						
DBIC	Dimbokro	59.12	260	P	P	04 55 15.0	-0.1
DBIC	Dimbokro	59.12	260	*e*P	P	04 55 14.5	-0.6
	comp=Z,2.2nm,0.5s,mb4.4						
YKA	Yellowknife Ar	88.72	355	P	P	04 58 08.3	+2.6
	comp=Z,1.0nm,0.8s,mb3.9,baz=7.6,slow=5.4,SNR=5.9						
WRA	Warramunga Arr	91.71	112	P	P	04 58 21.0	+0.3
	comp=Z,0.4nm,0.8s,mb3.7,baz=315,slow=4.2,SNR=4.6						
ASAR	Alice Springs	93.19	115	P	P	04 58 27.9	+0.5
	comp=Z,0.5nm,0.7s,mb3.9,baz=292,slow=4.7,SNR=5.1						

*IDC **31** 04:54:40.2±20.0, 28.61N×53.61E, mb3.7/2, mb1 3.6/3, mb1mx3.4/20, ML3.6/1, Error ellipse: s-maj=421.0km s-min=40.2km az=4.0*

*THR **31** 04:54:42.3±0.5, 28.78N×53.58E, h6^{km}±17^{km}, ML3.0*

ISC 31 04:54:44.6±1.0**, 28.7N**±0.2×**53.5E**±0.1**, h50**^{km}±16^{km}**, n6,**

σ0^{s}67/7**,mb3.5**/2**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.59**	**233**	*e*PG	**P**	**04 54 56.1**	**-0.9**
GHIR				*e*SG	**S**	**04 55 06.7**	**+0.6**
GHIR				AMP		04 55 15.9	
	comp=N,535nm,0.5s						
KRBR	**Kerman**	**3.13**	**64**	*e*PN	**P**	**04 55 33.0**	**+0.3**
KRBR				AMP		04 56 27.3	
	comp=N,59nm,0.6s						
NASN	**Na'in**	**4.18**	**352**	*e*PN	**P**	**04 55 47.4**	**-0.2**
BRTR	**Keskin Array B**	**19.77**	**309**	P	**P**	**04 59 13.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=129,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**28.85**	**43**	P	**P**	**05 00 40.1**	**-0.3**
	comp=N,0.6nm,0.9s,mb3.3,baz=232,slow=9.5,SNR=4.0						
FINES	**FINESS Array B**	**37.52**	**339**	P	**P**	**05 01 55.7**	**+0.4**
	comp=N,0.9nm,0.6s,mb3.7,baz=141,slow=8.9,SNR=4.0						

TIF 31 05:12:18.1,40.71N×44.45E,h1^{km},Mpv4.0,2C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STE	**Stepanavan**	**0.29**	**352**	*i* P	Pg	05 12 25.0	+1.1
STE				*i* S	Sg	05 12 29.6	+1.8
AKH	**Akhalkalaki**	**1.01**	**314**	⇑*i*P	Pb	05 12 37.5	-0.5
AKH				*i* S	Sb	05 12 47.5	-4.1
MTA	**Mtatsminda**	**1.02**	**15**	⇑*i*P	Pb	05 12 39.4	+1.2
MTA				*i* S	Sb	05 12 52.0	+0.2

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*NEIC **31** 05:14:32.2,37.71S×176.25E,h187^{km},After WEL.*

WEL 31 05:14:32.2±0.3**,37.72S×176.29E,h188^{km}**±4^{km}**,ML3.8**/6**, 4C-1D,Error ellipse: s-maj=4.6km s-min=4.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**1.16**	**123**	PN	P	05 15 02.0	-0.2
MWZ				SN	S	05 15 25.0	-0.3
MWZ	**Matawai**	**1.16**	**123**	P	P	05 15 02.3	+0.1
MGZ	**Maungaku**	**1.41**	**204**	PN	P	05 15 04.8	+0.4
MGZ	**Maungaku**	**1.41**	**204**	P	P	05 15 04.9	+0.5
BKZ	**Black Stump Fm**	**1.46**	**174**	⇑PN	P	05 15 04.5	-0.3
BKZ				SN	S	05 15 29.1	-0.9
BKZ	**Black Stump Fm**	**1.46**	**174**	P	P	05 15 04.5	-0.3
BKZ				S	S	05 15 29.1	-0.9
WTVZ	**West Tongariro**	**1.50**	**201**	PN	P	05 15 05.2	0.0
NGZ	**Ngauruhoe**	**1.55**	**200**	PN	P	05 15 06.0	+0.3
NGZ	**Ngauruhoe**	**1.55**	**200**	P	P	05 15 06.2	+0.5
CNZ	**Chateau**	**1.59**	**201**	PN	P	05 15 05.9	-0.1
CNZ	**Chateau**	**1.59**	**201**	P	P	05 15 06.2	+0.1
PUZ	**Puketiti**	**1.60**	**103**	PN	P	05 15 05.8	-0.4
PUZ	**Puketiti**	**1.60**	**103**	*e*P	P	05 15 06.3	+0.1
MXZ	**Matakaoa Point**	**1.61**	**85**	PN	P	05 15 05.8	-0.5
MXZ	**Matakaoa Point**	**1.61**	**85**	*e*P	P	05 15 06.0	-0.3
TUVZ	**Tukino**	**1.63**	**198**	PN	P	05 15 06.3	-0.1
TUVZ	**Tukino**	**1.63**	**198**	P	P	05 15 06.5	+0.1
FWVZ	**Far West T-bar**	**1.64**	**200**	*e*PN	P	05 15 06.5	-0.1
FWVZ	**Far West T-bar**	**1.64**	**200**	P	P	05 15 06.7	+0.1
WNVZ	**Wahianoa**	**1.70**	**198**	PN	P	05 15 07.0	-0.1
KNZ	**Kokohu**	**1.70**	**140**	PN	P	05 15 07.1	0.0
KNZ	**Kokohu**	**1.70**	**140**	P	P	05 15 07.2	+0.1
MOVZ	**Moawhango**	**1.74**	**194**	PN	P	05 15 06.8	-0.8
WAZ	**Wanganui**	**2.27**	**206**	PN	P	05 15 12.5	-0.8
WAZ	**Wanganui**	**2.27**	**206**	P	P	05 15 12.6	-0.7
PKE	**Pukeiti**	**2.33**	**230**	PN	P	05 15 14.5	+0.6
PKE	**Pukeiti**	**2.33**	**230**	P	P	05 15 14.6	+0.7
PWZ	**Pawanui**	**2.35**	**169**	⇓PN	P	05 15 13.1	-1.1
PWZ				SN	S	05 15 44.6	-1.8
PWZ	**Pawanui**	**2.35**	**169**	P	P	05 15 13.1	-1.1
TSZ	**Takapari Road**	**2.35**	**186**	⇑PN	P	05 15 12.8	-1.4
BFZ	**Birch Farm**	**2.96**	**181**	⇑PN	P	05 15 18.9	-2.4
BFZ	**Birch Farm**	**2.96**	**181**	P	P	05 15 19.0	-2.3
MRZ	**Mangatainoka R**	**2.99**	**190**	⇑PN	P	05 15 19.0	-2.6
MRZ				SN	S	05 15 55.0	-4.9
MRZ	**Mangatainoka R**	**2.99**	**190**	P	P	05 15 19.1	-2.6
KIW	**Kapiti Island**	**3.32**	**198**	PN	P	05 15 22.4	-3.3
KIW	**Kapiti Island**	**3.32**	**198**	P	P	05 15 22.5	-3.2
MTW	**Mount Morrison**	**3.49**	**190**	PN	P	05 15 24.2	-3.6
MTW	**Mount Morrison**	**3.49**	**190**	P	P	05 15 24.3	-3.5
CAW	**Cannon Point**	**3.52**	**195**	PN	P	05 15 24.7	-3.5
CAW	**Cannon Point**	**3.52**	**195**	P	P	05 15 24.8	-3.3
MRW	**Makara Radio**	**3.71**	**199**	PN	P	05 15 26.9	-3.8
PAWZ	**Paruwai Farm**	**3.72**	**190**	PN	P	05 15 26.8	-3.9
MSWZ	**Moikau Station**	**3.78**	**192**	PN	P	05 15 27.4	-4.0
SNZO	**South Karori**	**3.79**	**198**	PN	P	05 15 27.6	-4.0
SNZO	**South Karori**	**3.79**	**198**	P	P	05 15 27.8	-3.8
BHW	**Baring Head**	**3.84**	**196**	PN	P	05 15 28.0	-4.3
BHW	**Baring Head**	**3.84**	**196**	P	P	05 15 28.3	-4.0
TUWZ	**Tuamarina**	**4.13**	**205**	PN	P	05 15 31.9	-4.0
NNZ	**Nelson**	**4.16**	**212**	*e*PN	P	05 15 31.1	-5.1
NNZ	**Nelson**	**4.16**	**212**	*e*P	P	05 15 32.0	-4.2
QRZ	**Quartz Range**	**4.26**	**222**	*e*PN	P	05 15 33.0	-4.5
QRZ	**Quartz Range**	**4.26**	**222**	*e*P	P	05 15 33.4	-4.1
BSWZ	**Blackbirch Sta**	**4.40**	**204**	*e*PN	P	05 15 35.5	-3.9
THZ	**Tophouse**	**4.81**	**212**	*e*PN	P	05 15 40.0	-4.6
THZ	**Tophouse**	**4.81**	**212**	*e*P	P	05 15 40.5	-4.1
KHZ	**Kahutara**	**5.14**	**203**	PN	P	05 15 44.6	-4.3
KHZ				SN	S	05 16 41.8	-6.6
KHZ	**Kahutara**	**5.14**	**203**	*e*P	P	05 15 44.7	-4.2
KHZ				S	S	05 16 42.0	-6.4
DSZ	**Denniston Nort**	**5.30**	**219**	*e*PN	P	05 15 45.9	-5.0
DSZ				SN	S	05 16 44.9	-7.2
DSZ	**Denniston Nort**	**5.30**	**219**	P	P	05 15 46.0	-5.0
DSZ				S	S	05 16 46.1	-6.0
LTZ	**Lake Taylor**	**5.92**	**210**	*e*PN	P	05 15 53.7	-5.3
LTZ	**Lake Taylor**	**5.92**	**210**	*e*P	P	05 15 53.8	-5.2
MQZ	**McQueen's Vall**	**6.59**	**204**	SN	S	05 17 12.1	-10

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*IDC **31** 05:47:16.2±1.5,35.86N×140.34E,mb3.2/3,mb1 3.5/3, mb1mx3.3/22,Error ellipse: s-maj=46.0km s-min=33.2km az=92.0*

*JMA **31** 05:47:24.3±0.1,36.02N×140.38E,h54^{km}±1^{km},M2.6*

*NEIC **31** 05:47:24.4±2.5,35.85N×140.42E,h64^{km}±20^{km},mb4.0/1, Error ellipse: s-maj=29.3km s-min=23.0km az=85.0*

ISC 31 05:47:23.4±0.6**,35.99N**±0.04×**140.45E**±0.07**,h65^{km}**±6^{km}**, n16,σ0^{s}76**/21**,mb3.3**/4**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.32**	**319**	P	**P**	**05 47 33.7**	**-0.6**
JYT				S	**S**	**05 47 40.6**	**-1.6**
JAG	**Ashikaga**	**0.92**	**299**	P	**P**	**05 47 40.7**	**-0.1**
BSO3	**Boso 3**	**1.18**	**178**	P	**P**	**05 47 45.5**	**+1.2**
JKT	**Katashina**	**1.24**	**309**	P	**P**	**05 47 45.4**	**+0.2**
JRY	**Ryogami san**	**1.25**	**272**	P	**P**	**05 47 45.3**	**-0.1**
JOD2	**Odawara 2**	**1.32**	**237**	P	**P**	**05 47 46.5**	**+0.1**
JOD2				S	**S**	**05 48 04.0**	**+0.6**
BSO1	**Boso 1**	**1.40**	**162**	P	**P**	**05 47 48.0**	**+0.6**
JFK	**Kawauchi**	**1.42**	**14**	P	**P**	**05 47 48.2**	**+0.5**
JFK				S	**S**	**05 48 06.0**	**+0.4**
MAJO	**Matsushiro**	**1.90**	**288**	*e*Pn	**P**	**05 47 54.6**	**+0.5**
MAT	**Matsushiro**	**1.90**	**288**	P	**P**	**05 47 54.7**	**+0.6**
MAT				S	**S**	**05 48 16.8**	**0.0**
MAT	**Matsushiro**	**1.90**	**288**	*e*P	**P**	**05 47 55.0**	**+0.9**
MAT				*e*S	**S**	**05 48 17.0**	**+0.2**
JHJ	**Hachijo jima 2**	**2.91**	**191**	Sn	**S**	**05 48 41.9**	**-0.6**
	8.5nm,0.3s,baz=251,slow=23,SNR=2.5						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**05 55 25.5**	**-0.6**
	0.2nm,0.4s,mb3.2,baz=90,slow=10,SNR=3.5						
KURK	**Kurchatov**	**45.97**	**309**	P	**P**	**05 55 41.9**	**+0.3**
	1.3nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**50.79**	**32**	P	**P**	**05 56 18.8**	**0.0**
	0.1nm,0.6s,mb3.1,baz=274,slow=6.7,SNR=4.3						
WRA	**Warramunga Arr**	**55.92**	**187**	P	**P**	**05 56 54.9**	**-2.2**
	0.1nm,0.3s,mb3.3,baz=2.7,slow=7.6,SNR=6.1						

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*NEIC **31** 05:54:54.1±0.8,21.81S×68.35W,h118^{km}±7^{km},mb4.1/3, Error ellipse: s-maj=17.8km s-min=10.8km az=94.0*

*IDC **31** 05:54:55.1±6.8,21.75S×68.33W,h126^{km}±51^{km},mb3.4/4, mb1 3.5/5,mb1mx3.4/13,Error ellipse: s-maj=68.6km s-min=27.1km az=21.0*

ISC 31 05:54:52.9±0.8**,21.83S**±0.09×**68.4W**±0.2**,h124^{km}**±9^{km}**, n14,σ0^{s}96**/12**,mb3.9**/5**,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.93**	**213**	*e*Pn	**P**	**05 55 15.3**	**+0.4**
LVC				*e*S	**S**	**05 55 30.5**	**-0.9**
LPAZ	**La Paz**	**5.51**	**2**	P	**P**	**05 56 15.6**	**+1.7**
	0.8nm,0.3s,baz=192,slow=3.0,SNR=5.0						
LPAZ	**La Paz**	**5.51**	**2**	P	**P**	**05 56 15.6**	**+1.7**
TRQA	**Tornquist**	**17.08**	**163**	P	**P**	**05 58 46.5**	**+1.1**
	1.9nm,0.6s						
BDFB	**Brasilia**	**20.22**	**76**	P	**P**	**05 59 18.7**	**-1.4**
	1.5nm,0.5s,baz=234,slow=9.0,SNR=4.2						
TXAR	**Lajitas Array**	**61.19**	**325**	P	**P**	**06 04 55.8**	**-1.2**
	0.2nm,0.7s,mb3.3,baz=156,slow=11,SNR=3.0						
SNAA	**Sanae**	**61.80**	**161**	*e*P	**P**	**06 05 00.5**	**0.0**
	1.5nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**68.34**	**73**	P	**P**	**06 05 43.0**	**-0.4**
	1.5nm,0.7s,mb3.9,baz=234,slow=9.5,SNR=4.0						
QSPA	**South Pole Qui**	**68.36**	**180**	*e*P	**P**	**06 05 43.4**	**+1.0**
	2.2nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**91.67**	**340**	P	**P**	**06 07 46.7**	**-0.1**
	0.6nm,0.6s,mb4.0,baz=130,slow=4.6,SNR=8.9						
YKA	**Yellowknife Ar**	**91.67**	**340**	P	**P**	**06 07 46.7**	**-0.1**
ASAR	**Alice Springs**	**129.86**	**207**	PKP	PKPdf	06 13 50.1	+1.7
	0.3nm,0.5s,baz=126,slow=1.5,SNR=3.9						
WRA	**Warramunga Arr**	**132.93**	**210**	PKP	PKPdf	06 13 56.3	+2.0
	0.3nm,0.5s,baz=162,slow=1.6,SNR=7.1						
MKAR	**Makanchi Array**	**145.59**	**37**	PKPbc	PKPbc	06 14 19.6	+2.5
	0.5nm,0.6s,baz=323,slow=6.1,SNR=6.8						

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*IDC **31** 06:06:11.3±4.3,18.75S×169.40E,mb3.6/3,mb1 3.9/3, mb1mx3.6/12,Error ellipse: s-maj=224.0km s-min=33.6km az=150.0*

ISC 31 06:06:10.5±2.9**,20.0S**±0.6×**170.0E**±0.6**,h33^{km},n6, σ0^{s}97**/7**,mb3.7**/3**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.90**	**238**	*e*P	**P**	**06 07 10.1**	**+0.6**
DZM				*e*S	**S**	**06 07 52.6**	**-2.2**
NOUC	**Port Laguerre**	**4.03**	**239**	*e*P	**P**	**06 07 12.2**	**+0.8**
NOUC				*e*S	**S**	**06 07 58.6**	**+0.5**
WRA	**Warramunga Arr**	**33.49**	**264**	P	**P**	**06 12 49.6**	**+0.6**
	0.8nm,1.2s,mb3.5,baz=95,slow=8.2,SNR=2.8						
ASAR	**Alice Springs**	**33.66**	**257**	P	**P**	**06 12 50.7**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=80,slow=9.0,SNR=5.6						
ILAR	**Eielson Array**	**90.78**	**17**	P	**P**	**06 19 10.1**	**-1.0**
	0.4nm,0.9s,mb3.8,baz=239,slow=5.3,SNR=4.4						
ARCES	**ARCESS Array B**	**126.02**	**345**	PKP	PKPdf	06 25 13.1	+4.2
	0.5nm,0.5s,baz=34,slow=4.4,SNR=7.2						

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*IDC **31** 06:17:52.1±3.7,42.49N×84.53E,h16^{km}±23^{km},mb3.9/6, mb1 4.0/10,mb1mx3.8/23,ML3.4/4,MS2.9/1,Ms1 2.9/1, ms1mx1.8/28,Error ellipse: s-maj=28.6km s-min=14.3km az=62.0*

*BJI **31** 06:17:53.5,42.36N×84.43E,h24^{km},ML4.4*

*NEIC **31** 06:17:54.4±3.3,42.50N×84.49E,h33^{km}±25^{km},mb4.3/2, Error ellipse: s-maj=13.5km s-min=9.4km az=202.0*

*NNC **31** 06:18:02.6±2.4,43.09N×84.78E,h25^{km}±11^{km},mpv3.9, Error ellipse: s-maj=17.4km s-min=12.0km az=130.0*

ISC 31 06:17:54.6±0.5**,42.70N**±0.05×**84.6E**±0.1**,h33^{km},n30, σ1^{s}85**/36**,mb4.0**/7**,8C-3D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.54**	**63**	⇑*i*P	**P**	**06 18 40.3**	**+6.1**
WMQ				S	**S**	**06 19 16.0**	**+12**
WMQ				SG	**S**	**06 19 20.0**	**+16**
WMQ				Smax			
	comp=N,284nm,0.8s						
WMQ				Smax			
	comp=E,347nm,0.5s						
MK31	**Makanchi Array**	**4.41**	**339**	⇓Pn	**Pn**	**06 19 03.0**	**+2.0**
	comp=E,2.7nm,0.2s,baz=149,slow=14,SNR=582						
MK31				⇑Pg	**P**	**06 19 17.4**	**+16**
	comp=E,21nm,0.2s,baz=154,slow=17,SNR=33						
MK31				⇑Lg		06 20 14.2	
	comp=E,238nm,0.6s,baz=154,slow=28,SNR=8.8						
MKAR	**Makanchi Array**	**4.41**	**339**	Pn	**Pn**	**06 19 02.8**	**+1.8**
	comp=E,1.4nm,0.3s,baz=161,slow=13,SNR=32						
MKAR				Pg	**P**	**06 19 15.4**	**+15**
	comp=E,18nm,0.3s,baz=155,slow=17,SNR=64						
MKAR				Lg		06 20 16.7	
	comp=E,43nm,0.3s,baz=153,slow=27,SNR=7.9						
MKAR				LR	LR	06 21 05.2	
	comp=E,122nm,20.0s,baz=121,slow=42						
KSH	**Kashi**	**7.24**	**247**	*e*P	**P**	**06 19 39.5**	**-1.1**
KSH				Smax			
	comp=N,40nm,0.5s						
KSH				Smax			
	comp=E,70nm,0.5s						
AAK	**Ala-Archa**	**7.44**	**273**	P	**P**	**06 19 39.6**	**-3.9**
	comp=E,6.8nm,0.6s						
KURK	**Kurchatov**	**9.00**	**335**	⇑Pn	**P**	**06 20 07.3**	**+2.1**
	comp=E,1.0nm,0.4s,baz=186,slow=9.8,SNR=6.2						
KURK				⇓Sn	**Sn**	**06 21 44.8**	**-1.9**
	comp=E,2.8nm,0.6s,baz=289,slow=15,SNR=3.9						
KURK				⇑Lg		06 22 39.0	
	comp=E,20nm,0.8s,baz=281,slow=13,SNR=4.4						
KURK	**Kurchatov**	**9.00**	**335**	Pn	**P**	**06 20 03.8**	**-1.4**
	comp=E,3.3nm,0.6s						
KK31	**Karatay Array**	**10.34**	**277**	⇑Pn	**P**	**06 20 30.4**	**+6.8**
	comp=E,0.2nm,0.3s,baz=86,slow=14,SNR=4.0						
ZAL	**Zalesovo**	**11.25**	**1**	Pn	**P**	**06 20 34.4**	**-1.5**
	comp=E,1.0nm,0.3s,baz=208,slow=9.3,SNR=5.1						
ZAL				Sn	**S**	**06 22 40.0**	**-1.5**
	comp=E,1.9nm,0.3s,baz=153,slow=22,SNR=4.7						
ZAL				Lg		06 23 53.0	
	comp=E,0.7nm,0.3s,baz=285,slow=18,SNR=3.1						
VOSK	**Vostochnaya**	**13.56**	**322**	⇑P	**P**	**06 21 11.5**	**+4.8**
	comp=E,4.5nm,0.8s						
BVA0	**Borovoye Array**	**14.03**	**322**	⇓P	**P**	**06 21 16.8**	**+4.0**
	comp=E,0.3nm,0.5s,baz=114,slow=15,SNR=5.2						
BVAR	**Borovoye Array**	**14.03**	**322**	Pn	**P**	**06 21 11.2**	**-1.6**
	comp=E,0.3nm,0.3s,baz=108,slow=14,SNR=4.6						
BRVK	**Borovoye**	**14.10**	**322**	*e*P	**P**	**06 21 19.9**	**+6.2**
	comp=E,5.0nm,0.6s						
ZRNK	**Zerenda**	**14.62**	**320**	⇑P	**P**	**06 21 26.4**	**+5.8**
	comp=E,3.0nm,0.5s						
ZRNK	**Zerenda**	**14.62**	**320**	*e*P	**P**	**06 21 21.3**	**+0.7**
	comp=E,7.4nm,0.5s						
GKN	**Gorkha**	**14.66**	**180**	*e*P	**P**	**06 21 23.4**	**+2.0**
	comp=E,11nm,0.3s						
KKN	**Kakani**	**14.89**	**178**	*e*P	**P**	**06 21 24.9**	**+0.6**
	comp=E,12nm,0.5s						
KOLN	**Koldanda**	**14.92**	**183**	*e*P	**P**	**06 21 26.3**	**+1.6**
	comp=E,7.5nm,0.4s						
DMN	**Daman**	**15.06**	**178**	*e*P	**P**	**06 21 26.3**	**-0.3**
PKI	**Pulchoki**	**15.11**	**177**	*e*P	**P**	**06 21 26.8**	**-0.4**
	comp=E,7.1nm,0.5s						
SONM	**Songino Array**	**16.17**	**64**	Pn	**P**	**06 21 40.7**	**0.0**
	comp=E,0.0nm,0.3s,baz=259,slow=15,SNR=3.5						
CMAR	**Chiang Mai Arr**	**27.06**	**149**	P	**P**	**06 23 32.9**	**-3.1**
	comp=E,2.0nm,0.7s,mb3.7,baz=325,slow=9.2,SNR=10						
BRTR	**Keskin Array B**	**37.97**	**283**	P	**P**	**06 25 08.6**	**-2.2**
	comp=E,0.5nm,0.4s,mb3.6,baz=87,slow=9.6,SNR=5.3						
ARCES	**ARCESS Array B**	**40.03**	**332**	P	**P**	**06 25 27.5**	**-0.1**
	comp=E,0.7nm,0.3s,mb3.8,baz=96,slow=7.7,SNR=18						
NB2	**NORSAR Subarra**	**46.14**	**320**	P	**P**	**06 26 15.6**	**-1.5**
	comp=E,0.8nm,0.5s,mb3.9,baz=78,slow=7.9						
NOA	**NORSAR Array B**	**46.14**	**320**	P	**P**	**06 26 16.0**	**-1.2**
	comp=E,0.7nm,0.4s,mb3.9,baz=80,slow=7.8,SNR=4.0						
WRAB	**Tennant Creek**	**77.35**	**133**	*e*P	**P**	**06 29 45.2**	**-2.6**
	comp=E,4.4nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**77.35**	**133**	P	**P**	**06 29 45.4**	**-2.4**
	comp=E,1.6nm,0.6s,mb4.2,baz=330,slow=5.3,SNR=27						
WB2	**Warramunga Arr**	**77.36**	**133**	*e*P	**P**	**06 29 45.8**	**-2.1**
ASAR	**Alice Springs**	**80.16**	**135**	P	**P**	**06 30 00.9**	**-2.1**
	comp=E,1.2nm,0.8s,mb3.9,baz=323,slow=5.1,SNR=7.8						

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*MOS **31** 06:19:08.5±0.7,53.60N×161.84E,h17^{km},mb4.0/1,Error ellipse: s-maj=19.0km s-min=11.6km az=77.4*

KRSC 31 06:19:08.0±0.5**,53.57N×161.89E,h15^{km}**±3^{km}**,ML4.3,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.99**	**355**	P	Pb	06 19 25.9	-0.5
MKZ				S	Sb	06 19 37.4	-1.6
MKZ	**Mys Kozlova**	**0.99**	**355**	*e*P	Pb	06 19 26.7	+0.3
MKZ				*e*S	Sb	06 19 40.5	+1.5
SPN	**Mys Shipunski**	**1.22**	**248**	*e*P	Pb	06 19 30.3	+0.1
SPN				*e*S	Sb	06 19 47.4	+1.9
KII	**Karymskiy**	**1.52**	**289**	P	Pn	06 19 33.7	-1.2
KII	**Karymskiy**	**1.52**	**289**	*e*P	Pn	06 19 34.2	-0.7
NLC	**Nalytchevo**	**1.58**	**256**	P	Pn	06 19 36.3	+0.6
NLC				S	Sn	06 19 56.2	+0.4
NLC	**Nalytchevo**	**1.58**	**256**	*e*P	Pn	06 19 36.4	+0.7
NLC				*e*S	Sn	06 19 57.1	+1.3
SDLR	**Sedlovina**	**1.82**	**262**	*i* P	Pn	06 19 38.6	-0.6
SDLR				*i* S	Sn	06 20 01.2	-0.9
UGLR	**Uglovaya**	**1.87**	**260**	*e*P	Pn	06 19 39.7	-0.2
SMAR	**Somma**	**1.87**	**262**	*e*P	Pn	06 19 39.5	-0.4
SMAR				*e*S	Sn	06 20 02.6	-0.8
AVH	**Avacha**	**1.91**	**262**	*i* P	Pn	06 19 40.3	-0.1
AVH				*e*S	Sn	06 20 03.8	-0.5
KOK	**Koryaka**	**1.97**	**263**	*i* P	Pn	06 19 40.8	-0.4
TUMR	**Tumrok**	**2.00**	**330**	*e*P	Pn	06 19 42.1	+0.4
TUMR				*e*S	Sn	06 20 07.3	+0.8
PET	**Petropavlovsk**	**2.02**	**256**	P	Pn	06 19 42.6	+0.6
PET				S	Sn	06 20 08.1	+1.0
PET	**Petropavlovsk**	**2.02**	**256**	*e*P	Pn	06 19 42.6	+0.6
PET				*e*S	Sn	06 20 07.8	+0.7
PET	**Petropavlovsk**	**2.02**	**256**	*e*PN	Pn	06 19 42.8	+0.8
PET				*e*S	Sn	06 20 07.2	+0.1
PET				smax			
	comp=N,392nm,0.6s						
PET				smax			
	comp=E,235nm,0.8s						
RUS	**Russkaya**	**2.34**	**242**	P	Pn	06 19 47.4	+0.9
RUS				S	Sn	06 20 15.0	-0.2
RUS	**Russkaya**	**2.34**	**242**	*e*P	Pn	06 19 47.6	+1.1
RUS				*e*S	Sn	06 20 16.3	+1.1
GNL	**Ganaly**	**2.35**	**275**	*e*P	Pn	06 19 46.8	0.0
GNL				*e*S	Sn	06 20 15.1	-0.5
KMNR	**Kamenistaya**	**2.39**	**337**	*e*P	Pn	06 19 48.4	+1.1
KMNR				*e*S	Sn	06 20 18.0	+1.4
GRL	**Gorelyy**	**2.52**	**248**	*e*P	Pn	06 19 50.5	+1.4
GRL				*e*S	Sn	06 20 21.5	+1.7
ZLN	**Zelenaya**	**2.53**	**346**	*e*P	Pn	06 19 50.9	+1.6
ZLN				*e*S	Sn	06 20 22.0	+1.9
LGNR	**Loginova**	**2.61**	**345**	*e*P	Pn	06 19 52.2	+1.7
CIRR	**Tsirk**	**2.63**	**346**	*e*P	Pn	06 19 52.1	+1.3
CIRR				*e*S	Sn	06 20 24.2	+1.5
KBTR	**Krutoberegovo**	**2.70**	**11**	P	Pn	06 19 51.8	+0.1
KBTR				S	Sn	06 20 24.2	-0.1
KBTR	**Krutoberegovo**	**2.70**	**11**	*e*P	Pn	06 19 51.7	0.0
KBTR				*e*S	Sn	06 20 23.8	-0.5
KBG	**Krutoberegovo**	**2.73**	**10**	P	Pn	06 19 52.4	+0.2
KBG				*e*S	Sn	06 20 24.4	-0.8
KBG				Smax			
	comp=E,620nm,1.0s						
KOZ	**Kozyrevsk**	**2.75**	**336**	P	Pn	06 19 53.3	+0.8
KOZ				S	Sn	06 20 25.8	+0.1
KOZ	**Kozyrevsk**	**2.75**	**336**	*e*P	Pn	06 19 52.8	+0.3
KOZ				*e*S	Sn	06 20 25.4	-0.3
KOZR	**Kozyr**	**2.75**	**336**	PN	Pn	06 19 53.3	+0.8
KOZR				S	Sn	06 20 25.8	0.0
KRSR	**Krestovskiy**	**2.76**	**344**	*e*S	Sn	06 20 27.2	+1.3
KLY	**Klyuchi**	**2.84**	**346**	P	Pn	06 19 54.6	+0.9
KLY				S	Sn	06 20 29.3	+1.4
KLY	**Klyuchi**	**2.84**	**346**	*e*P	Pn	06 19 54.5	+0.8
KLY				*e*S	Sn	06 20 28.3	+0.4
BKI	**Bering**	**2.89**	**54**	*e*P	Pn	06 19 51.9	-2.6
BKI				*e*S	Sn	06 20 24.5	-4.8
BKI				Smax			
	comp=E,40nm,1.3s						
APC	**Apacha**	**2.92**	**259**	*e*P	Pn	06 19 56.8	+2.0
APC				*e*S	Sn	06 20 31.0	+1.2
APC				Smax			
	comp=E,120nm,1.0s						
ESO	**Esso**	**3.00**	**323**	*e*P	Pn	06 19 55.5	-0.5
ESO				*e*S	Sn	06 20 30.0	-1.9
ESO				Smax			
	comp=E,10.0nm,0.9s						
SRDR	**Sredinnyy**	**3.02**	**336**	*e*P	Pn	06 19 55.9	-0.4
SRDR				*e*S	Sn	06 20 30.8	-1.8
SVLR	**Shiveluch**	**3.04**	**353**	*e*P	Pn	06 19 56.7	+0.2
MIPR	**Malaya Ipel'ka**	**3.37**	**249**	*e*P	Pn	06 20 02.6	+1.4
PAU	**Pauzhetka**	**3.75**	**238**	*e*P	Pn	06 20 08.5	+1.9
SKR	**Severo-Kuril's**	**4.58**	**233**	*e*PN	Pn	06 20 19.0	+0.5
SKR				*e*		06 21 14.5	

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*IDC **31** 06:27:31.2±0.8,53.59N×161.83E,mb3.6/8,mb1 4.0/9, mb1mx3.8/23,ML3.6/1,Error ellipse: s-maj=26.5km s-min=12.5km az=180.0*

*NEIC **31** 06:27:32.8±0.5,53.63N×161.84E,h10^{km},mb4.6/1,Error ellipse: s-maj=20.4km s-min=9.8km az=166.0*

*MOS **31** 06:27:33.5±1.2,53.55N×162.01E,h36^{km},mb3.9/2,Error ellipse: s-maj=15.5km s-min=10.4km az=80.9*

*KRSC **31** 06:27:34.1±0.6,53.59N×161.91E,h36^{km}±7^{km},ML4.3*

ISC 31 06:27:33.5±1.0**,53.58N**±0.02×**161.93E**±0.05**,h28^{km}**±8^{km}**, n54,σ1^{s}10**/86**,mb3.7**/9**,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.99**	**353**	P	**Pn**	**06 27 50.3**	**-1.3**
MKZ				S	**Sb**	**06 28 02.8**	**-1.7**
MKZ	**Mys Kozlova**	**0.99**	**353**	*i* P	**Pn**	**06 27 51.0**	**-0.6**
MKZ				*i* S	**Sb**	**06 28 03.9**	**-0.6**
SPN	**Mys Shipunski**	**1.24**	**248**	P	**Pn**	**06 27 56.0**	**+0.8**
SPN				S	**Sn**	**06 28 11.5**	**+0.4**
SPN	**Mys Shipunski**	**1.24**	**248**	*i* P	**Pn**	**06 27 55.8**	**+0.6**
SPN				*e*S	**Sn**	**06 28 12.5**	**+1.4**
KII	**Karymskiy**	**1.54**	**288**	P	**Pn**	**06 27 57.9**	**-1.6**
KII				S	**Sn**	**06 28 13.9**	**-4.9**
KII	**Karymskiy**	**1.54**	**288**	*e*P	**Pn**	**06 27 58.7**	**-0.8**
KII				*e*S	**Sn**	**06 28 17.3**	**-1.5**
NLC	**Nalytchevo**	**1.60**	**256**	P	**Pn**	**06 28 01.0**	**+0.6**
NLC				S	**Sn**	**06 28 19.2**	**-1.1**
NLC	**Nalytchevo**	**1.60**	**256**	*e*P	**Pn**	**06 28 00.4**	**0.0**
NLC				*e*S	**Sn**	**06 28 19.5**	**-0.8**
SDLR	**Sedlovina**	**1.85**	**262**	*e*P	**Pn**	**06 28 03.4**	**-0.5**
UGLR	**Uglovaya**	**1.90**	**260**	*i* P	**Pn**	**06 28 04.2**	**-0.4**
SMAR	**Somma**	**1.90**	**262**	*e*P	**Pn**	**06 28 04.0**	**-0.6**
AVH	**Avacha**	**1.94**	**262**	*e*P	**Pn**	**06 28 04.9**	**-0.3**
AVH				*e*S	**Sn**	**06 28 27.2**	**-1.6**
KOK	**Koryaka**	**1.99**	**263**	*e*P	**Pn**	**06 28 05.4**	**-0.6**
TUMR	**Tumrok**	**2.00**	**329**	*e*P	**Pn**	**06 28 06.7**	**+0.6**
TUMR				*e*S	**Sn**	**06 28 30.4**	**-0.1**
PET	**Petropavlovsk**	**2.04**	**256**	P	**Pn**	**06 28 07.0**	**+0.3**
PET				S	**Sn**	**06 28 30.5**	**-1.0**
PET	**Petropavlovsk**	**2.04**	**256**	*e*P	**Pn**	**06 28 07.0**	**+0.3**
PET				*e*S	**Sn**	**06 28 30.9**	**-0.6**
PET	**Petropavlovsk**	**2.04**	**256**	*e*Pn	**Pn**	**06 28 07.3**	**+0.5**
RUS	**Russkaya**	**2.36**	**242**	*e*P	**Pn**	**06 28 11.9**	**+0.6**
GNL	**Ganaly**	**2.38**	**274**	*e*P	**Pn**	**06 28 11.6**	**+0.1**
GNL				*e*S	**Sn**	**06 28 38.9**	**-1.1**
KMNR	**Kamenistaya**	**2.39**	**336**	*e*P	**Pn**	**06 28 12.5**	**+0.8**
KMNR				*e*S	**Sn**	**06 28 40.5**	**+0.1**
ZLN	**Zelenaya**	**2.53**	**346**	*e*P	**Pn**	**06 28 15.4**	**+1.7**
ZLN				*e*S	**Sn**	**06 28 45.2**	**+1.3**
GRL	**Gorelyy**	**2.54**	**248**	*e*P	**Pn**	**06 28 15.3**	**+1.4**
GRL				*e*S	**Sn**	**06 28 45.6**	**+1.4**
LGNR	**Loginova**	**2.61**	**345**	*i* P	**Pn**	**06 28 16.0**	**+1.2**
LGNR				*e*S	**Sn**	**06 28 46.6**	**+0.7**
CIRR	**Tsirk**	**2.63**	**345**	*e*P	**Pn**	**06 28 15.7**	**+0.6**
CIRR				*e*S	**Sn**	**06 28 46.6**	**+0.1**
KBTR	**Krutoberegovo**	**2.69**	**11**	P	**Pn**	**06 28 15.5**	**-0.4**
KBTR				S	**Sn**	**06 28 44.9**	**-2.9**
KBTR	**Krutoberegovo**	**2.69**	**11**	*e*P	**Pn**	**06 28 15.5**	**-0.4**
KBTR				*e*S	**Sn**	**06 28 45.7**	**-2.1**
KBG	**Krutoberegovo**	**2.72**	**9**	P	**Pn**	**06 28 14.5**	**-1.9**
KBG				*e*S	**Sn**	**06 28 43.5**	**-5.2**
KBG				Smax			
	800nm,1.0s						
KOZ	**Kozyrevsk**	**2.75**	**335**	P	**Pn**	**06 28 18.6**	**+1.7**
KOZ				S	**Sn**	**06 28 50.9**	**+1.3**
KOZ	**Kozyrevsk**	**2.75**	**335**	*e*P	**Pn**	**06 28 18.3**	**+1.4**
KOZ				*e*S	**Sn**	**06 28 50.6**	**+1.0**
KOZR	**Kozyr**	**2.76**	**336**	PN	**Pn**	**06 28 18.6**	**+1.7**
KOZR				S	**Sn**	**06 28 50.9**	**+1.3**
KRSR	**Krestovskiy**	**2.76**	**344**	*e*S	**Sn**	**06 28 50.2**	**+0.5**
KLY	**Klyuchi**	**2.84**	**345**	P	**Pn**	**06 28 19.2**	**+1.1**
KLY				S	**Sn**	**06 28 50.9**	**-0.8**
KLY	**Klyuchi**	**2.84**	**345**	*e*P	**Pn**	**06 28 18.0**	**-0.1**
KLY				*e*S	**Sn**	**06 28 49.8**	**-1.9**
BKI	**Bering**	**2.87**	**54**	*e*P	**Pn**	**06 28 16.8**	**-1.7**
BKI				*e*S	**Sn**	**06 28 47.9**	**-4.6**
BKI				Smax			
	50nm,0.6s						

APC	Apacha	2.94	259	eP	Pn	06 28 21.1	+1.6
APC				eS	Sn	06 28 54.9	+0.6
APC				Smax			
	120nm,0.8s						
ESO	Esso	3.00	323	eP	Pn	06 28 20.6	+0.2
ESO				eS	Sn	06 28 53.9	-2.0
ESO				Smax			
	150nm,0.9s						
SRDR	Sredinnyy	3.03	336	eP	Pn	06 28 21.3	+0.6
SRDR				eS	Sn	06 28 55.6	-0.9
MIPR	Malaya Ipel'ka	3.39	249	eP	Pn	06 28 27.5	+1.6
PAU	Pauzhetka	3.77	238	eP	Pn	06 28 31.7	+0.4
PAU				eS	Sn	06 29 13.2	-2.2
SKR	Severo-Kuril's	4.61	233	ePN	Pn	06 28 42.1	-1.1
FX1	Attu Island--F	6.78	91	Pn	Pn	06 29 11.9	-1.9
	3.8nm,0.3s,baz=332,slow=3.5,SNR=49						
FX1				Sn	Sn	06 30 24.5	-6.5
	3.7nm,0.3s,baz=149,slow=22,SNR=11						
FX1	Attu Island--F	6.78	91	ePn	Pn	06 29 12.1	-1.8
MAJO	Matsushiro	23.72	234	P	P	06 32 49.1	+5.4
	11nm,0.6s,mb4.5						
ILAR	Eielson Array	27.69	46	P	P	06 33 20.2	-0.5
	0.6nm,0.8s,mb3.3,baz=266,slow=7.7,SNR=7.3						
ILAR	Eielson Array	27.69	46	P	P	06 33 20.3	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	48.93	296	P	P	06 36 17.4	-1.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=55,slow=10,SNR=3.0						
NVAR	Mina Array Bea	54.54	72	P	P	06 37 02.7	+1.7
	comp=Z,0.6nm,0.7s,mb3.8,baz=294,slow=8.8,SNR=6.8						
PDAR	Pinedale Array	56.33	62	P	P	06 37 14.8	+1.0
	comp=Z,0.3nm,0.8s,mb3.4,slow=4.4,SNR=3.5						
FINES	FINESS Array B	60.10	337	P	P	06 37 39.0	-1.1
	comp=Z,8.3nm,1.3s,mb4.6,baz=50,slow=11,SNR=3.3						
TXAR	Lajitas Array	69.44	68	P	P	06 38 41.5	+0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=299,slow=5.4,SNR=5.4						
TXAR	Lajitas Array	69.44	68	P	P	06 38 41.5	+0.6
WRA	Warramunga Arr	77.00	207	P	P	06 39 25.3	0.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=18,slow=6.1,SNR=9.6						
WRA	Warramunga Arr	77.00	207	P	P	06 39 25.3	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	80.66	206	P	P	06 39 45.6	+0.5
	comp=Z,0.5nm,0.8s,mb3.5,baz=14,slow=5.9,SNR=4.6						

ISC 31 06:30:26.0±0.9,37.02N±0.06×27.80E±0.04,h10^{km},n7, σ0^{s}64/13,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.29	280	iP	Pg	06 30 31.6	-0.5
BDRM				iS	Sg	06 30 36.7	+0.7
BDRM	Kayabasi	0.29	280	iP	Pg	06 30 31.6	-0.5
BDRM				iS	Sg	06 30 36.7	+0.7
YER	Yerkesik	0.41	73	iPG	Pg	06 30 33.7	-0.6
YER				SG	Sg	06 30 40.0	+0.1
AYDN	Tasoluk	0.65	6	iP	Pb	06 30 39.0	+0.1
AYDN				iS	Sb	06 30 47.8	0.0
AYDN	Tasoluk	0.65	6	iP	Pb	06 30 39.0	+0.1
AYDN				iS	Sb	06 30 47.8	0.0
DALT	Dalyan (Mudla)	0.72	110	PG	Pg	06 30 39.3	-1.2
DALT				SG	Sg	06 30 51.2	+1.1
DNZL	Cakiroluk	1.20	56	iP	Pb	06 30 48.7	+0.3

NEIC 31 06:37:58.3±0.3,52.55N×174.54W,h156^{km}±3^{km},mb3.8/2, Error ellipse: s-maj=13.0km s-min=4.4km az=160.0

IDC 31 06:37:59.3±2.5,52.62N×174.64W,h164^{km}±24^{km}, mb3.4/12,mb1 3.6/14,mb1mx3.5/25,MS3.0/1,Ms1 3.0/1, ms1mx2.1/23,Error ellipse: s-maj=21.6km s-min=12.4km az=1.0

ISC 31 06:37:57.2±0.3,52.6N±0.1×174.53W±0.07,h156^{km}±5^{km}, n35,σ0^{s}87/40,mb3.6/12,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.47	154	P	P	06 38 19.0	-0.6
ATKA				S	S	06 38 34.9	-1.8
GSIG	Igitkin Island	1.07	234	P	P	06 38 23.5	+0.2
GSIG				S	S	06 38 43.1	-0.5
GSTR	Great Sitkin T	1.08	241	P	P	06 38 24.2	+0.8
GSMY	Great Sitkin M	1.11	239	P	P	06 38 24.1	+0.4
GSTD	Great Sitkin T	1.15	241	P	P	06 38 24.5	+0.5
GSTD				S	S	06 38 44.1	-0.6
ADAG	Mount Adagdak	1.43	244	P	P	06 38 27.6	+0.7
KINC	Kanaga Island	1.74	247	P	P	06 38 30.7	+0.5
KIKV	Kanaga Island	1.79	246	P	P	06 38 31.3	+0.6
KIWB	Kanaga Island	1.79	245	P	P	06 38 31.3	+0.6
KIMD	Kanaga Island	1.88	244	P	P	06 38 32.3	+0.7
NIKO	Nikolski	3.46	82	P	P	06 38 51.5	0.0
NIKO				S	S	06 39 30.3	-2.7
OKFG	Magazine Ridge	4.07	76	P	P	06 39 00.8	+1.5
UNV	Unalaska Valle	4.97	73	P	P	06 39 11.9	+0.7
UNV				S	S	06 40 08.4	0.0
FX1	Attu Island--F	7.48	277	P	P	06 39 45.4	+0.8
	0.9nm,0.3s,baz=268,slow=23,SNR=7.5						
FX1				S	S	06 41 07.1	-1.1
	1.4nm,0.3s,baz=96,slow=16,SNR=6.4						
DRIA	Deer Island	7.63	67	P	P	06 39 46.0	-0.6
DTNA	Dutton South F	7.68	66	P	P	06 39 47.4	+0.1
SLKM	Skilak Lake	15.47	50	eP	P	06 41 28.0	+0.2
MCK	McKinley	17.34	40	eP	P	06 41 50.6	0.0
	3.0nm,0.6s						
COLA	College	18.30	38	P	P	06 42 02.4	+0.9
	4.4nm,0.8s						
THY	Trims Highway	18.49	43	eP	P	06 42 04.4	+0.9
ILAR	Eielson Array	18.62	39	P	P	06 42 03.3	-1.5
	0.8nm,0.3s,baz=232,slow=9.4,SNR=38						
DAWY	Dawson	21.38	44	eP	P	06 42 33.4	+0.6
INK	Inuvik	24.92	35	P	P	06 43 06.8	+0.2
	1.1nm,0.7s,mb3.5,baz=242,slow=7.2,SNR=5.9						
DLBC	Dease Lake	25.46	59	LR	LR	06 53 40.9	
	comp=Z,32nm,18.6s,baz=144,slow=37						
NVAR	Mina Array Bea	40.81	87	P	P	06 45 26.1	+1.6
	2.2nm,1.0s,mb3.7,baz=303,slow=7.5,SNR=10						
PDAR	Pinedale Array	43.43	76	P	P	06 45 46.0	+0.4
	0.9nm,0.5s,mb3.7,baz=302,slow=4.1,SNR=13						
SONM	Songino Array	48.43	298	P	P	06 46 25.3	+0.4
	0.4nm,0.8s,mb3.1,baz=40,slow=11,SNR=3.3						
TXAR	Lajitas Array	55.88	85	P	P	06 47 20.1	-0.5
	0.6nm,0.6s,mb3.6,baz=300,slow=4.4,SNR=10						
ARCES	ARCESS Array B	57.27	352	P	P	06 47 29.1	-0.7
	0.7nm,0.6s,mb3.6,baz=21,slow=7.6,SNR=6.3						
MKAR	Makanchi Array	61.29	310	P	P	06 47 56.2	-1.5
	0.5nm,0.8s,mb3.4,baz=63,slow=5.4,SNR=4.3						
FINES	FINESS Array B	65.10	349	P	P	06 48 21.6	-0.9
	1.5nm,0.9s,mb3.8,baz=108,slow=6.0,SNR=4.5						
AKASG	Malin Array Be	75.11	345	P	P	06 49 22.0	-0.9
	2.0nm,0.3s,mb4.2,baz=17,slow=6.2,SNR=12						
GERES	GERESS Array B	78.66	354	P	P	06 49 43.4	+0.8
	0.2nm,0.3s,mb3.2,baz=9.5,slow=6.0,SNR=3.0						
WRA	Warramunga Arr	84.78	227	P	P	06 50 13.5	-1.4
	0.2nm,0.5s,mb3.1,baz=32,slow=5.6,SNR=5.1						
ASAR	Alice Springs	88.22	226	P	P	06 50 31.2	-0.2
	1.8nm,1.3s,mb3.7,baz=45,slow=4.0,SNR=4.4						

IDC 31 07:08:55.0±2.7,63.49N×152.66W,mb3.3/2,mb1 3.8/5, mb1mx3.5/21,ML3.0/3,Error ellipse: s-maj=50.5km s-min=17.9km az=130.0

NEIC 31 07:09:00.1,63.41N×151.42W,h10^{km},ML3.6(PMR), ML3.3(AEIC),After AEIC.

ISC 31 07:08:59.6±0.8,63.44N±0.03×151.43W±0.07,h13^{km}±6^{km}, n55,σ0^{s}74/61,mb3.3/2,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.26	64	P	Pg	07 09 05.6	+0.4
KTH				S	Sg	07 09 09.7	+0.7
TRF	Thorofare Moun	0.52	89	P	Pb	07 09 09.6	-0.4
TRF				S	Sb	07 09 16.9	-0.1
MCK	McKinley	1.15	74	P	Pb	07 09 21.5	+0.7
MCK				S	Sb	07 09 37.2	+1.7
CUT	Chulitna	1.17	152	P	Pb	07 09 20.9	-0.3
SKT	Skwentna	1.47	182	P	Pn	07 09 25.8	+0.1
NEA	Nenana	1.54	41	P	Pn	07 09 26.6	-0.3
MLY	Manley	1.62	10	P	Pn	07 09 29.0	+0.9
DHY	Denali Highway	1.87	100	P	Pn	07 09 31.9	+0.2
PWA	Palmer West	1.94	157	P	Pn	07 09 32.6	0.0
STLK	Strandline Lak	1.96	186	P	Pn	07 09 32.7	-0.2
SUA	Susitna One	2.01	171	P	Pn	07 09 33.8	+0.3
GHO	Glory Hole Cre	2.04	144	P	Pn	07 09 33.8	-0.3
COLA	College	2.13	46	P	Pn	07 09 34.9	-0.4
TTA	Tatalina	2.14	258	eP	Pn	07 09 34.8	-0.7
PMR	Palmer	2.14	149	P	Pn	07 09 35.4	-0.1
PMR				S	Sn	07 10 02.4	+0.3
TT01	Tatalina	2.15	258	P	Pn	07 09 35.4	-0.2
CGLM	Capps Glacier	2.16	187	P	Pn	07 09 35.8	0.0
SML	Sawmill	2.18	137	P	Pn	07 09 35.6	-0.5
HDA	Harding Lake	2.20	62	P	Pn	07 09 36.1	-0.3
FIB	Fire Island	2.36	165	P	Pn	07 09 40.0	+1.4
PMS	Palmer South	2.37	158	P	Pn	07 09 37.6	-1.2
IL1	Eielson Array	2.40	54	P	Pn	07 09 38.4	-0.8
ILAR	Eielson Array	2.40	54	Pn	Pn	07 09 38.4	-0.9
	0.6nm,0.3s,baz=236,slow=14,SNR=38						
ILAR				Pg	Pg	07 09 45.9	-1.7
	2.8nm,0.3s,baz=247,slow=19,SNR=59						
ILAR				Sn	Sn	07 10 13.4	+4.8
	9.3nm,0.3s,baz=236,slow=29,SNR=10.0						
BKG	Blockade Glaci	2.41	190	P	Pn	07 09 39.8	+0.4
SCM	Sheep Creek Mo	2.49	129	P	Pn	07 09 40.0	-0.5
RC01	Rabbit Creek A	2.49	161	P	Pn	07 09 40.5	0.0
GCSA	Galena City Sc	2.73	301	P	Pn	07 09 44.3	+0.4
IM3	Indian Mountai	2.74	340	P	Pn	07 09 44.8	+0.7
PAX	Paxson	2.74	97	P	Pn	07 09 44.9	+0.7
IMA	Indian Mountai	2.81	341	eP	Pn	07 09 45.7	+0.7
CFI	College Fiord	2.84	141	P	Pn	07 09 47.0	+1.5
SVW	Sparrevohn	3.05	222	P	Pn	07 09 48.8	+0.3
KLU	Klutina	3.22	125	P	Pn	07 09 51.1	+0.2
GLI	Glacier Island	3.28	140	P	Pn	07 09 52.1	+0.3
DOT	Dot Lake	3.31	83	P	Pn	07 09 52.8	+0.7
SEW	Seward	3.48	163	P	Pn	07 09 55.1	+0.5
DIV	Divide	3.52	129	P	Pn	07 09 55.0	-0.1
FID	Port Fidalgo	3.57	137	P	Pn	07 09 56.6	+0.8
LTI	Latouche	3.81	152	P	Pn	07 09 58.2	-1.1
COLD	Coldfoot	3.84	7	P	Pn	07 10 00.2	+0.6
CNPM	China Poot	3.93	179	P	Pn	07 10 01.3	+0.3
EYAK	Cordova Ski Ar	3.95	135	P	Pn	07 10 01.4	+0.1
BMRM	Bremner River	4.05	125	P	Pn	07 10 02.4	-0.2
GLB	Gilahina Butte	4.07	116	P	Pn	07 10 03.5	+0.5
BCA3	Beaver Creek A	4.38	91	P	Pn	07 10 06.7	-0.6
BALM	Baldy	4.89	116	P	Pn	07 10 14.0	-0.5
BM3	Burnt Mountain	4.90	32	P	Pn	07 10 14.2	-0.5
DAWY	Dawson	5.38	78	P	Pn	07 10 19.9	-1.7
PCA	Pinnacle	6.27	117	P	Pn	07 10 33.9	-0.2
PNL	Peninsula	6.88	118	P	Pn	07 10 41.7	-0.9
INK	Inuvik	8.79	48	Pn	P	07 11 07.5	-1.8
	0.1nm,0.3s,baz=244,slow=16,SNR=5.9						
YKA	Yellowknife Ar	16.62	77	P	P	07 12 55.2	+1.8
	0.1nm,0.3s,baz=294,slow=11,SNR=6.0						
YKA	Yellowknife Ar	16.62	77	P	P	07 12 55.2	+1.8
PDAR	Pinedale Array	31.70	111	P	P	07 15 24.0	-0.6
	0.2nm,0.9s,mb3.0,baz=342,slow=4.7,SNR=4.1						
TXAR	Lajitas Array	45.64	115	P	P	07 17 21.0	-0.1
	0.8nm,1.0s,mb3.6,baz=326,slow=6.7,SNR=6.1						
TXAR				PcP	PcP	07 18 58.3	-1.6
	0.3nm,0.7s,baz=292,slow=4.9,SNR=4.0						

GUC 31 07:33:30.6±1.3,35.03S×70.58W,h5^{km}±5^{km},MD3.6, ML2.7,7C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	273	⇓iP	Pg	07 33 41.7	+0.4
NICH				iS	Sg	07 33 50.0	+1.5
SFDO	San Fernando	0.55	319	⇓iP	Pg	07 33 41.5	-0.1
SFDO				iS	Sg	07 33 49.7	+0.7
CICH	Cipreses	0.72	10	⇓iP	Pg	07 33 43.8	-1.2
CICH				iS	Sg	07 33 53.4	-1.3
CACH	El Canelo	0.91	359	⇑iP	Pb	07 33 47.2	-1.4
CACH				iS	Sb	07 33 59.7	-1.2
TALC	Talca	0.94	247	⇓iP	Pb	07 33 48.2	-0.8
TALC				iS	Sb	07 34 01.5	-0.1
TALC					AMP	07 34 02.2	
	comp=E,2μm,0.1s						
CHCH	Chadas Angostu	1.10	357	⇑iP	Pb	07 33 50.9	-0.8
LMEL	Las Melosas	1.22	15	⇑iP	Pb	07 33 52.5	-1.3
LMEL					AMP	07 34 18.9	
	comp=N,149nm,0.2s						
LNV	Longovilo	1.27	327	⇑iP	Pb	07 33 53.8	-1.0
LNV				iS	Sb	07 34 11.4	+0.1
SJCH	San Jose de Ma	1.40	8		AMP	07 34 30.2	
	comp=E,73nm,0.6s						
TACH	Talagante	1.41	348	eP	Pn	07 33 55.7	-1.3
PCH	Pirque	1.41	2	eP	Pn	07 33 55.8	-1.3
ANTU	Antumapu	1.46	358	⇑iP	Pn	07 33 57.4	-0.4
ANTU				iS	Sb	07 34 17.4	+0.6
ANTU					AMP	07 34 18.4	
	comp=E,227nm,0.4s						
FSR	Penalolen	1.55	2	eP	Pn	07 33 58.7	-0.4
FSR					AMP	07 34 20.7	
	comp=N,141nm,0.5s						
RCDM	Rinconada Maip	1.55	353	⇓iP	Pn	07 33 58.5	-0.6
RCDM				iS	Sb	07 34 19.5	+0.1
RCDM					AMP	07 34 23.9	
	comp=E,413nm,0.1s						
STL	Santa Lucia	1.59	358	eP	Pn	07 33 59.0	-0.6
STL					AMP	07 34 33.1	
	comp=E,60nm,0.4s						
DSCH	Colegio Aleman	1.63	0	⇑iP	Pn	07 34 00.1	-0.1
DSCH				iS	Sb	07 34 21.9	+0.3
DSCH					AMP	07 34 31.6	
	comp=N,242nm,0.6s						
CLCH	Cerro Calan	1.63	1	⇑iP	Pn	07 33 60.0	-0.3
CLCH					AMP	07 34 32.5	
	comp=N,168nm,0.8s						
FCH	Farellones	1.72	8	eP	Pn	07 34 01.4	0.0
FCH				iS	Sn	07 34 25.5	+1.4
FCH					AMP	07 34 35.8	
	comp=N,168nm,0.1s						
LCCH	Las Cruces	1.76	332	eP	Pn	07 34 01.8	-0.2
LCCH				iS	Sn	07 34 25.1	+0.1
PEL	Peldehue	1.89	357	iS	Sn	07 34 29.1	+0.8
PEL					AMP	07 34 38.5	
	comp=N,258nm,0.6s						

IDC 31 07:38:47.8±2.0,29.97N×57.77E,mb3.7/4,mb1 3.8/4, mb1mx3.5/21,MS3.0/1,Ms1 3.0/1,ms1mx2.3/23,Error ellipse: s-maj=46.4km s-min=33.7km az=14.0

THR 31 07:38:49.4±0.8,30.07N×57.50E,h16^{km}±10^{km},ML3.6

ISC 31 07:38:49.5±0.8,30.1N±0.1×57.53E±0.07,h16^{km},n9, σ0^{s}99/10,mb3.6/4,MS2.9/1,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.68	260	iPG	Pb	07 39 02.2	-0.3
KRBR				eSG	Sb	07 39 11.2	-0.2
ZHSF	Zahedan	2.86	99	ePN	Pn	07 39 36.7	+1.3
ZHSF					AMP	07 40 29.3	
	comp=N,235nm,0.5s						
GHIR	Ghir-Karzin	4.37	247	ePN	Pn	07 39 57.1	+0.3
GHIR					AMP	07 41 17.1	
	comp=N,47nm,0.4s						
NASN	Na'in	4.85	305	ePN	Pn	07 40 03.7	0.0
NASN				eSG	Sn	07 41 20.0	+20
NASN					AMP	07 41 26.7	
	comp=N,53nm,0.7s						
BRTR	Keskin Array B	21.76	303	P	P	07 43 44.2	+1.9
	comp=N,4.0nm,1.0s,mb3.8,baz=123,slow=11,SNR=12						
BVAR	Borovoye Array	24.76	19	P	P	07 44 10.6	-0.9
	comp=N,0.9nm,0.6s,mb3.5,baz=225,slow=6.3,SNR=6.2						
MKAR	Makanchi Array	25.41	42	P	P	07 44 17.5	-0.2
	comp=N,1.1nm,0.6s,mb3.5,baz=227,slow=10,SNR=9.0						
ZAL	Zalesovo	30.92	32	LR	LR	07 59 14.8	
	comp=N,29nm,21.0s,MS2.9,baz=263,slow=40						
WRA	Warramunga Arr	89.03	114	P	P	07 51 43.8	-1.7
	comp=N,0.3nm,0.9s,mb3.6,baz=322,slow=3.9,SNR=5.1						

GUC 31 07:39:46.7±1.2,32.23S×71.95W,h34^{km}±7^{km},MD3.9, ML3.0,3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.89	48	⇑iP	P	07 40 03.0	+0.2
ILCH				iS	S	07 40 15.1	+0.4
ILCH					AMP	07 40 17.4	
	comp=E,816nm,0.2s						
CMCH	Combarbala	1.33	38	⇑iP	P	07 40 10.2	+1.1
CMCH				iS	S	07 40 27.8	+1.9
CMCH					AMP	07 40 28.8	
	comp=E,2μm,0.3s						
CMCH					AMP	07 40 36.3	
	comp=N,1μm,0.7s						
PUEX	Pudahuel	1.57	141	eP	P	07 40 14.2	+1.7
PUEX				iS	S	07 40 34.4	+2.6
PUEX					AMP	07 40 44.4	
	comp=E,478nm,0.3s						
PUEX					AMP	07 40 45.4	
	comp=N,575nm,0.7s						
STL	Santa Lucia	1.63	138	eP	P	07 40 14.0	+0.6
STL				iS	S	07 40 35.8	+2.5
STL					AMP	07 40 39.9	
	comp=E,76nm,0.4s						
STL					AMP	07 40 44.9	
	comp=N,77nm,0.2s						
DSCH	Colegio Aleman	1.64	135	⇓iP	P	07 40 14.2	+0.6
DSCH					AMP	07 40 47.9	
	comp=E,420nm,0.9s						
DSCH					AMP	07 40 52.5	
	comp=N,320nm,0.5s						
FSR	Penalolen	1.73	136	⇓iP	P	07 40 15.9	+1.1
FSR					AMP	07 40 42.9	
	comp=N,196nm,0.2s						
FSR					AMP	07 40 47.4	
	comp=E,161nm,0.5s						
ANTU	Antumapu	1.73	141	⇑iP	P	07 40 15.5	+0.6
ANTU					AMP	07 40 46.9	
	comp=N,274nm,0.3s						
ANTU					AMP	07 40 51.3	
	comp=E,242nm,0.6s						
SJCH	San Jose de Ma	1.94	137		AMP	07 40 52.6	
	comp=N,52nm,0.4s						
SJCH					AMP	07 40 56.1	
	comp=E,92nm,0.5s						
LMEL	Las Melosas	2.18	138	eP	P	07 40 22.5	+1.2
LMEL					AMP	07 40 58.6	
	comp=N,264nm,0.1s						
TLL	Tololo Astrono	2.28	26	eP	P	07 40 23.8	+1.0
TLL				eS	S	07 40 52.6	+2.7
TLL					AMP	07 41 01.2	
	comp=E,234nm,0.5s						
TLL					AMP	07 41 06.2	
	comp=N,149nm,0.8s						

IDC 31 07:43:38.5±1.9,2.65S×141.27E,mb3.4/2,mb1 3.8/3, mb1mx3.6/12,ML3.4/1,Error ellipse: s-maj=268.0km s-min=30.2km az=111.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.29	221	eP	P	07 46 51.3	+0.1
	4.1nm,0.5s						
WRA	Warramunga Arr	18.47	201	P	P	07 47 55.2	-2.6
	0.1nm,0.3s,baz=20,slow=13,SNR=9.6						
ASAR	Alice Springs	22.07	198	P	P	07 48 35.8	-1.1
	0.3nm,0.5s,baz=28,slow=11,SNR=3.4						
ILAR	Eielson Array	84.73	24	P	P	07 56 14.1	-1.3
	0.6nm,0.7s,baz=256,slow=4.9,SNR=5.4						

IDC 31 07:43:38.1±11.0,20.03S×178.48W,h564^{km}±136^{km}, mb3.0/6,mb1 3.4/6,mb1mx3.2/13,Error ellipse: s-maj=129.0km s-min=40.1km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.19	256	P	P	07 50 57.8	-1.4
	1.6nm,0.5s,baz=97,slow=7.5,SNR=26						
WRA	Warramunga Arr	44.22	262	P	P	07 50 58.0	-1.5
	0.7nm,0.3s,baz=96,slow=7.5,SNR=42						
NVAR	Mina Array Bea	80.99	44	P	P	07 54 55.0	-0.5
	0.7nm,1.1s,baz=215,slow=8.3,SNR=4.8						
TXAR	Lajitas Array	87.18	58	P	P	07 55 24.9	-1.1
	0.3nm,0.7s,baz=214,slow=4.5,SNR=4.5						
ILAR	Eielson Array	87.96	13	P	P	07 55 27.7	-1.1
	0.2nm,0.4s,baz=216,slow=5.3,SNR=4.8						
PDAR	Pinedale Array	88.93	43	P	P	07 55 33.2	-0.7
	0.4nm,0.6s,baz=220,slow=3.9,SNR=4.7						
ARCES	ARCESS Array B	128.38	349	PKP	PKPdf	08 01 40.1	-0.3
	0.6nm,0.8s,baz=207,slow=2.7,SNR=4.3						

NEIC 31 07:45:22.0±2.6,23.91S×179.98E,h547^{km}±29^{km},mb4.9/6, Error ellipse: s-maj=27.8km s-min=14.0km az=204.0

IDC 31 07:45:23.4±2.2,23.94S×179.86E,h553^{km}±23^{km},mb3.6/7, mb1 3.8/8,mb1mx3.5/16,Error ellipse: s-maj=34.8km s-min=18.7km az=171.0

ISC 31 07:45:22.6±2.1,23.9S±0.1×179.8E±0.1,h561^{km}±28^{km}, n27,σ0^{s}76/26,mb4.4/10,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.55	189	P	P	07 48 25.8	-1.1
	3.2nm,0.3s,baz=12,slow=4.6,SNR=17						
URZ				S	S	07 50 56.5	+1.1
	0.6nm,0.3s,baz=187,slow=22,SNR=7.0						
MGZ	Maungaku	15.54	193	P	P	07 48 37.6	+1.0
NGZ	Ngauruhoe	15.69	192	eP	P	07 48 37.6	-0.5
TUVZ	Tukino	15.77	192	eP	P	07 48 39.1	+0.2
QRZ	Quartz Range	18.00	198	P	P	07 49 00.6	+0.3
NNZ	Nelson	18.14	196	P	P	07 49 00.2	-1.4
THZ	Tophouse	18.77	196	eP	P	07 49 06.5	-1.0
CTA	Charters Tower	31.31	270	eP	P	07 51 00.0	+1.0
	14nm,0.3s,mb5.0						
CTA	Charters Tower	31.31	270	P	P	07 51 00.0	+1.0
	18nm,0.4s,mb5.0,baz=93,slow=11,SNR=60						
CTAO	Charters Tower	31.31	270	eP	P	07 50 59.8	+0.8
	27nm,0.4s,mb5.1						
PMG	Port Moresby	34.32	289	P	P	07 51 24.7	+0.4
	14nm,0.7s,mb4.6,baz=124,slow=8.7,SNR=5.7						
STKA	Stephens Creek	34.59	248	P	P	07 51 27.5	+1.1
	1.6nm,0.8s,mb3.6,baz=77,slow=12,SNR=2.9						
STKA	Stephens Creek	34.59	248	P	P	07 51 27.5	+1.1
ASAR	Alice Springs	41.88	261	P	P	07 52 26.2	+0.5
	4.2nm,0.5s,mb4.2,baz=97,slow=7.4,SNR=36						
ASAR				ScP		07 57 09.0	
	0.9nm,0.6s,baz=113,slow=4.5,SNR=8.9						
ASPA	Alice Springs	41.88	261	eP	P	07 52 26.2	+0.4
WB2	Warramunga Arr	42.23	266	eP	P	07 52 28.3	-0.3
WRAB	Tennant Creek	42.24	266	eP	P	07 52 28.0	-0.6
	15nm,0.4s,mb4.9						
WRA	Warramunga Arr	42.24	266	P	P	07 52 28.5	-0.2
	6.1nm,0.3s,mb4.5,baz=95,slow=8.4,SNR=138						
WRA				S	S	07 58 08.3	-1.5
	0.6nm,0.8s,baz=112,slow=14,SNR=4.5						
FORT	Forrest	46.17	250	eP	P	07 52 58.9	-0.1
	42nm,0.6s,mb5.1						
KAKA	Kakadu	46.18	275	⇓iP	P	07 52 58.2	-1.1
	5.4nm,0.3s,mb4.6						
FITZ	Fitzroy Crossi	50.67	266	eP	P	07 53 33.5	+0.7
	3.9nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	50.67	266	P	P	07 53 33.0	+0.3
	5.9nm,0.8s,mb4.0,baz=154,slow=8.6,SNR=12						
SNAA	Sanae	84.72	179	eP	P	07 56 58.0	0.0
	0.4nm,0.5s						
TXAR	Lajitas Array	90.55	58	P	P	07 57 26.7	+0.3
	0.4nm,0.8s,mb3.4,baz=194,slow=5.2,SNR=7.4						
ARCES	ARCESS Array B	131.81	348	PKP	PKPdf	08 03 31.9	+0.3
	1.1nm,0.8s,baz=27,slow=2.7,SNR=5.6						
AKASG	Malin Array Be	144.84	327	PKP	PKPdf	08 03 56.6	+1.2
	0.9nm,0.4s,baz=39,slow=4.7,SNR=6.4						
BRTR	Keskin Array B	147.42	307	PKPbc	PKPdf	08 04 04.9	+4.9
	0.9nm,0.5s,baz=141,slow=4.8,SNR=2.7						

MEX 31 07:54:04.9±1.0,19.35N×97.57W,h7^{km}±12^{km},MD3.7, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IISM	Ciudad Serdan	0.40	152	iP	Pg	07 54 12.0	-1.0
IISM				iS	Sg	07 54 18.5	+0.1
PPM	Popocatepetl	1.03	255	iP	Pb	07 54 23.0	-1.7
PPM				iP		07 54 23.2	
PPM				iS	Sb	07 54 35.3	-3.0
PPM				iS	Sb	07 54 37.0	-1.3

KRSC 31 07:55:19.9±0.7,53.58N×161.87E,h40^{km}±7^{km},ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.98	355	eP	P	07 55 36.9	-0.5
MKZ				eS	S	07 55 49.6	-0.7
SPN	Mys Shipunski	1.21	247	eP	P	07 55 40.4	-0.2

SPN				*e*S	S	07 55 56.5	+0.5
NLC	**Nalytchevo**	**1.57**	**256**	*e*P	P	07 55 46.2	+0.4
NLC				*e*S	S	07 56 05.2	+0.2
SDLR	**Sedlovina**	**1.81**	**262**	*e*P	P	07 55 48.6	-0.6
UGLR	**Uglovaya**	**1.86**	**260**	*e*P	P	07 55 49.5	-0.4
SMAR	**Somma**	**1.86**	**261**	*e*P	P	07 55 49.3	-0.7
AVH	**Avacha**	**1.90**	**262**	*e*P	P	07 55 50.2	-0.3
AVH				*e*S	S	07 56 12.6	-0.8
KOK	**Koryaka**	**1.96**	**263**	*i* P	P	07 55 50.7	-0.6
TUMR	**Tumrok**	**1.98**	**330**	*e*P	P	07 55 51.8	+0.2
TUMR				*e*S	S	07 56 15.0	-0.4
PET	**Petropavlovsk**	**2.01**	**255**	*e*P	P	07 55 52.2	+0.2
PET				*e*S	S	07 56 15.8	-0.3
RUS	**Russkaya**	**2.33**	**242**	*e*P	P	07 55 57.1	+0.5
RUS				*e*S	S	07 56 24.1	-0.2
GNL	**Ganaly**	**2.34**	**274**	*e*P	P	07 55 57.1	+0.3
GNL				*e*S	S	07 56 24.1	-0.4
KMNR	**Kamenistaya**	**2.38**	**337**	*e*P	P	07 55 58.2	+0.9
KMNR				*e*S	S	07 56 26.1	+0.6
GRL	**Gorelyy**	**2.51**	**247**	*e*P	P	07 56 00.5	+1.3
GRL				*e*S	S	07 56 30.0	+1.1
ZLN	**Zelenaya**	**2.52**	**346**	*e*P	P	07 56 00.3	+1.0
ZLN				*e*S	S	07 56 29.6	+0.5
LGNR	**Loginova**	**2.60**	**345**	*e*P	P	07 56 01.4	+0.9
CIRR	**Tsirk**	**2.62**	**346**	*e*P	P	07 56 01.7	+0.9
CIRR				*e*S	S	07 56 32.1	+0.4
KBTR	**Krutoberegovo**	**2.69**	**11**	*e*P	P	07 56 02.0	+0.2
KBTR				*e*S	S	07 56 32.7	-0.7
KBG	**Krutoberegovo**	**2.72**	**10**	*e*P	P	07 56 03.2	+0.9
KBG				Smax			
	200nm,0.8s						
KOZ	**Kozyrevsk**	**2.74**	**336**	*e*P	P	07 56 02.7	+0.2
KOZ				*e*S	S	07 56 33.9	-0.7
KRSR	**Krestovskiy**	**2.75**	**345**	*e*S	S	07 56 35.3	+0.4
KLY	**Klyuchi**	**2.83**	**346**	*e*P	P	07 56 03.3	-0.4
KLY				*e*S	S	07 56 36.1	-0.8
BKI	**Bering**	**2.90**	**54**	*e*P	P	07 56 02.9	-1.8
BKI				*e*S	S	07 56 34.1	-4.6
APC	**Apacha**	**2.91**	**259**	*e*P	P	07 56 06.5	+1.7
APC				*e*S	S	07 56 40.3	+1.4
APC				Smax			
	30nm,1.1s						
ESO	**Esso**	**2.98**	**323**	P	P	07 56 07.0	+1.1
ESO				*e*S	S	07 56 42.0	+1.2
ESO				Smax			
	60nm,0.5s						
SRDR	**Sredinnyy**	**3.01**	**337**	*e*P	P	07 56 06.7	+0.4
SRDR				*e*S	S	07 56 40.4	-1.1
SVLR	**Shiveluch**	**3.03**	**353**	*e*P	P	07 56 06.8	+0.2
SVLR				*e*S	S	07 56 40.7	-1.3
MIPR	**Malaya Ipel'ka**	**3.36**	**249**	*e*P	P	07 56 12.9	+1.6
PAU	**Pauzhetka**	**3.75**	**238**	P	P	07 56 18.5	+1.8

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*IDC **31** 08:01:50.8±0.7, 34.97S×70.36W, mb4.3/7, mb1 4.4/9, mb1mx4.3/14, ML4.1/2, MS3.3/2, Ms1 3.2/2, ms1mx3.0/13, Error ellipse: s-maj=30.5km s-min=20.7km az=75.0*
*BJI **31** 08:01:52.5, 35.00S×70.60W, h6^{km}, mB4.7, Msz4.4*
*GUC **31** 08:01:52.5±1.0, 35.01S×70.60W, h7^{km}±2^{km}, MD4.0, ML4.1*
*SYO **31** 08:01:52.5, 35.01S×70.60W, h7^{km}, MB4.4*
*NEIC **31** 08:01:52.5, 35.01S×70.60W, h7^{km}, mb4.4/6, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Curico, Los Quenes and Talca.
ISC 31 08:01:50.2±0.9**, 35.07S**±0.02×**70.46W**±0.04**, h3**^{km}±5^{km}**, n61, σ0^{s}.92**/69**, mb4.3**/12**, MS3.3**/1**, 10C-11D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.64**	**276**	⇓*i*P	**Pg**	**08 02 02.9**	**0.0**
NICH				*i* S	**Sg**	**08 02 11.3**	**0.0**
SFDO	**San Fernando**	**0.64**	**315**	⇓*i*P	**Pg**	**08 02 02.6**	**-0.4**
SFDO				*i* S	**Sg**	**08 02 11.7**	**+0.1**
CACH	**El Canelo**	**0.95**	**353**	⇑*i*P	**Pb**	**08 02 08.4**	**-0.6**
CACH				*i* S	**Sb**	**08 02 21.3**	**-0.5**
TALC	**Talca**	**1.02**	**251**	⇓*i*P	**Pb**	**08 02 09.6**	**-0.5**
TALC				*i* S	**Sb**	**08 02 22.7**	**-1.0**
TALC				AMP		08 02 23.4	
	comp=E,30μm,0.4s						
CHCH	**Chadas Angostu**	**1.14**	**352**	⇑*i*P	**Pb**	**08 02 12.0**	**-0.2**
CHCH				*i* S	**Sb**	**08 02 27.2**	**-0.1**
LMEL	**Las Melosas**	**1.23**	**10**	*i* P	**Pb**	**08 02 13.8**	**0.0**
LMEL				*i* S	**Sb**	**08 02 30.7**	**+0.8**
LMEL				AMP		08 02 32.5	
	comp=N,4μm,0.2s						
LNV	**Longovilo**	**1.36**	**324**	⇑*i*P	**Pb**	**08 02 14.7**	**-1.2**
LNV				*i* S	**Sb**	**08 02 31.8**	**-1.7**
PCH	**Pirque**	**1.44**	**358**	*e*P	**Pn**	**08 02 17.1**	**-0.2**
PCH				*i* S	**Sb**	**08 02 36.5**	**+0.5**
TACH	**Talagante**	**1.46**	**344**	⇓*i*P	**Pn**	**08 02 17.0**	**-0.6**
TACH				*i* S	**Sb**	**08 02 35.8**	**-0.9**
ANTU	**Antumapu**	**1.50**	**354**	⇑*i*P	**Pn**	**08 02 18.2**	**+0.1**
ANTU				*i* S	**Sb**	**08 02 38.0**	**+0.3**
ANTU				AMP		08 02 39.7	
	comp=E,5μm,0.3s						
RCDM	**Rinconada Maip**	**1.60**	**350**	⇓*i*P	**Pn**	**08 02 19.6**	**0.0**
RCDM				*i* S	**Sb**	**08 02 40.5**	**0.0**
RCDM				AMP		08 02 41.4	
	comp=E,3μm,0.2s						
SAN	**Santiago**	**1.62**	**354**	*i* S	**Sb**	**08 02 41.2**	**+0.1**
PUEX	**Pudahuel**	**1.64**	**351**	⇑*i*P	**Pn**	**08 02 21.8**	**+1.7**
PUEX				*i* S	**Sb**	**08 02 43.0**	**+1.3**
PUEX				AMP		08 02 47.6	
	comp=E,5μm,0.3s						
DSCH	**Colegio Aleman**	**1.67**	**357**	⇓*i*P	**Pn**	**08 02 21.1**	**+0.6**
DSCH				*i* S	**Sb**	**08 02 42.6**	**+0.1**
DSCH				AMP		08 02 50.3	
	comp=N,3μm,0.9s						
CLCH	**Cerro Calan**	**1.67**	**358**	⇑*i*P	**Pn**	**08 02 21.0**	**+0.5**
CLCH				*i* S	**Sb**	**08 02 42.5**	**-0.1**
CLCH				AMP		08 02 46.1	
	comp=E,4μm,0.3s						
CLCH				AMP		08 02 46.2	
	comp=E,3μm,0.4s						
FCH	**Farellones**	**1.74**	**5**	⇓*i*P	**Pn**	**08 02 22.7**	**+1.2**
FCH				*i* S	**Sn**	**08 02 45.8**	**+1.3**
FCH				AMP		08 02 47.1	
	comp=N,4μm,0.2s						
LCCH	**Las Cruces**	**1.83**	**330**	⇓*i*P	**Pn**	**08 02 22.7**	**-0.2**
LCCH				*i* S	**Sn**	**08 02 46.4**	**-0.5**
PEL	**Peldehue**	**1.93**	**354**	AMP		08 03 00.6	
	comp=N,3μm,0.6s						
CCHI	**Chillan**	**2.02**	**220**	⇓*i*P	**Pn**	**08 02 27.4**	**+1.8**
CCHI				*i* S	**Sn**	**08 02 52.7**	**+1.1**
CCHI				AMP		08 02 58.9	
	comp=E,3μm,0.5s						
COCH	**Cobquecura**	**2.17**	**240**	*i* P	**Pn**	**08 02 29.0**	**+1.2**
COCH				*i* S	**Sn**	**08 02 56.4**	**+0.9**
COCH				AMP		08 03 01.5	
	comp=E,1μm,0.7s						
JACH	**Jahuel**	**2.38**	**357**	⇑*i*P	**Pn**	**08 02 32.5**	**+1.8**
JACH				*i* S	**Sn**	**08 03 02.4**	**+1.6**
PLCA	**Paso Flores**	**5.66**	**181**	Pn	**Pn**	**08 03 19.5**	**+2.3**
	comp=E,0.7nm,0.3s,baz=340,slow=14,SNR=24						
PLCA				Lg		08 04 50.3	
	comp=E,1.5nm,0.3s,baz=90,slow=20,SNR=3.2						
PLCA	**Paso Flores**	**5.66**	**181**	*e*Pn	**Pn**	**08 03 21.5**	**+4.3**
TRQA	**Tornquist**	**7.45**	**116**	*e*Pn	**Pn**	**08 03 42.4**	**0.0**
CPUP	**Villa Florida**	**14.25**	**56**	LR	LR	08 11 10.8	
	comp=E,102nm,20.8s,baz=298,slow=40						
LPAZ	**La Paz**	**18.82**	**7**	P	**P**	**08 06 11.7**	**-1.5**
	comp=E,0.7nm,0.3s,baz=169,slow=0.8,SNR=6.8						
LPAZ	**La Paz**	**18.82**	**7**	*e*P	**P**	**08 06 13.7**	**+0.5**
	comp=E,13nm,1.0s						
SAML	**Samuel**	**26.84**	**16**	P	**P**	**08 07 31.9**	**-2.0**
	comp=E,5.8nm,1.3s,mb4.0						
BDFB	**Brasilia**	**27.91**	**52**	P	**P**	**08 07 42.0**	**-1.6**
	comp=E,2.2nm,0.6s,mb4.0,baz=144,slow=1.2,SNR=4.9						
BDFB				LR	LR	08 19 48.5	
	comp=E,79nm,21.5s,MS3.3,baz=295,slow=39						
VNA1	**Neumayer--Stat**	**48.18**	**157**	*e*	**P**	**08 10 38.8**	**+5.5**
VNA1	**Neumayer--Stat**	**48.18**	**157**	⇑*i*P	**P**	**08 10 34.1**	**+0.8**
VNA1				*e*		08 10 38.8	
VNA1				*e*		08 11 54.2	
VNA2	**Neumayer--Watz**	**48.52**	**157**	*e*	**P**	**08 10 41.3**	**+5.4**
VNA2	**Neumayer--Watz**	**48.52**	**157**	⇑*i*P	**P**	**08 10 37.2**	**+1.3**
VNA2				*e*		08 10 41.3	
VNA2				*e*		08 11 57.8	
SNAA	**Sanae**	**50.11**	**158**	*e*	**P**	**08 10 51.2**	**+3.1**
SNAA	**Sanae**	**50.11**	**158**	⇓*i*P	**P**	**08 10 46.5**	**-1.6**
SNAA				*e*		08 10 51.2	
SNAA				*e*		08 12 07.1	
QSPA	**South Pole Qui**	**55.17**	**180**	*e*P	**P**	**08 11 25.7**	**-0.1**
	comp=E,6.6nm,1.0s,mb4.6						
SYO	**Syowa Base**	**64.39**	**158**	⇑P	**P**	**08 12 27.7**	**-1.5**
SYO	**Syowa Base**	**64.39**	**158**	⇓PcP	PcP	08 13 01.3	-2.3
TXAR	**Lajitas Array**	**71.30**	**330**	P	**P**	**08 13 12.2**	**-0.9**
	comp=E,1.3nm,0.8s,mb3.9,baz=150,slow=8.5,SNR=17						
MAW	**Mawson**	**71.79**	**163**	P	**P**	**08 13 14.7**	**-0.7**
	comp=E,4.2nm,0.8s,mb4.4,baz=230,slow=7.6,SNR=8.3						
SUR	**Sutherland**	**73.18**	**118**	P	**P**	**08 13 24.0**	**-0.2**
	comp=E,5.1nm,0.8s,mb4.5,baz=180,slow=8.1,SNR=3.5						
DBIC	**Dimbokro**	**74.30**	**70**	P	**P**	**08 13 29.4**	**-1.7**
	comp=E,5.1nm,1.0s,mb4.4,baz=113,slow=8.4,SNR=3.3						
CPRX	**Cap Rock**	**74.64**	**331**	*e*P	**P**	**08 13 32.3**	**-0.3**
ANMO	**Albuquerque**	**77.35**	**330**	*e*P	**P**	**08 13 47.8**	**-0.2**
	comp=E,2.9nm,1.1s,mb4.1						
PV01	**Paradox Valley**	**80.95**	**330**	*e*P	**P**	**08 14 06.6**	**-0.8**
PV10	**Paradox Valley**	**81.35**	**330**	P	**P**	**08 14 08.6**	**-0.8**
MSU	**Marysvale**	**82.78**	**328**	*e*P	**P**	**08 14 17.7**	**+0.8**
TPH	**Tonopah**	**84.71**	**325**	P	**P**	**08 14 27.3**	**+0.6**
PDAR	**Pinedale Array**	**85.30**	**332**	P	**P**	**08 14 29.4**	**-0.2**
	comp=E,1.5nm,1.0s,mb4.1,baz=146,slow=3.3,SNR=11						
NVAR	**Mina Array Bea**	**85.50**	**324**	P	**P**	**08 14 31.0**	**+0.4**
	comp=E,2.1nm,1.1s,mb4.3,baz=186,slow=5.9,SNR=9.4						
ELK	**Elko**	**85.95**	**328**	*e*P	**P**	**08 14 32.1**	**-0.7**
	comp=E,3.6nm,1.0s,mb4.6						
TPAW	**Teton Pass**	**86.45**	**332**	P	**P**	**08 14 31.0**	**-4.2**
TPAW				*e*		08 14 35.9	
HLID	**Hailey**	**87.91**	**330**	*e*P	**P**	**08 14 42.6**	**+0.4**
	comp=E,5.1nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**120.44**	**207**	PKP	PKPdf	08 20 43.8	-2.0
	comp=E,0.7nm,0.6s,baz=165,slow=1.5,SNR=13						
ZRNK	**Zerenda**	**146.36**	**45**	*e*PKP	PKPdf	08 21 32.5	-0.3
BVAR	**Borovoye Array**	**147.15**	**45**	PKPbc	PKPdf	08 21 32.7	-1.4
	comp=E,1.3nm,0.7s,baz=256,slow=6.1,SNR=6.1						
AAK	**Ala-Archa**	**151.83**	**64**	PKPdf	PKPdf	08 21 40.7	-1.1
AAK				*e*PKPbc	PKPdf	08 21 46.3	+4.5
KURK	**Kurchatov**	**152.73**	**45**	PKPbc	PKPdf	08 21 48.7	+6.0
MKAR	**Makanchi Array**	**156.44**	**52**	PKP	PKPdf	08 21 47.7	-0.1
	comp=E,0.2nm,0.6s,baz=284,slow=5.9,SNR=1.8						
MKAR				PKPab	PKPab	08 22 15.9	-0.8
	comp=E,0.6nm,0.9s,baz=277,slow=4.9,SNR=2.8						
WMQ	**Urumqi**	**161.04**	**56**	*e*PKP	PKPdf	08 21 51.0	-2.4
LZH	**Lanzhou**	**175.25**	**76**	*e*PKP	PKPdf	08 21 59.0	-4.4
LZH				XPKP		08 22 03.5	

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*GUC **31** 08:25:05.9±0.9, 35.00S×70.51W, h3^{km}, MD3.8, ML2.8*
ISC 31 08:25:04.7±1.2**, 35.05S**±0.04×**70.44W**±0.06**, h0**^{km}±6^{km}**, n18, σ0^{s}.65**/30**, 3C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.64**	**312**	⇓*i*P	**Pg**	**08 25 17.3**	**-0.1**
SFDO				*i* S	**Sg**	**08 25 26.1**	**+0.1**
NICH	**Los Niches**	**0.65**	**274**	⇓*i*P	**Pg**	**08 25 17.9**	**+0.3**
NICH				*i* S	**Sg**	**08 25 27.2**	**+0.9**
CICH	**Cipreses**	**0.72**	**1**	⇓*i*P	**Pg**	**08 25 19.0**	**-0.2**
CICH				*i* S	**Sg**	**08 25 29.3**	**+0.5**
CACH	**El Canelo**	**0.94**	**352**	⇑*i*P	**Pg**	**08 25 22.7**	**-0.7**
TALC	**Talca**	**1.04**	**250**	⇓*i*P	**Pb**	**08 25 25.4**	**+0.2**
TALC				*i* S	**Sb**	**08 25 39.5**	**+0.3**
CHCH	**Chadas Angostu**	**1.12**	**351**	⇓*i*P	**Pb**	**08 25 26.1**	**-0.6**
CHCH				*i* S	**Sb**	**08 25 41.3**	**-0.4**
LMEL	**Las Melosas**	**1.21**	**9**	*e*P	**Pb**	**08 25 27.7**	**-0.5**
LMEL				*i* S	**Sb**	**08 25 44.7**	**+0.5**
LMEL				AMP		08 25 50.6	
	comp=N,181nm,0.2s						
LNV	**Longovilo**	**1.35**	**323**	⇑*i*P	**Pb**	**08 25 29.5**	**-1.0**
LNV				*i* S	**Sb**	**08 25 47.2**	**-1.0**
SJCH	**San Jose de Ma**	**1.40**	**3**	AMP		08 25 53.9	
	comp=E,97nm,0.6s						
PCH	**Pirque**	**1.42**	**358**	⇓*i*P	**Pb**	**08 25 31.3**	**-0.5**
TACH	**Talagante**	**1.45**	**343**	*e*P	**Pn**	**08 25 31.2**	**-1.0**
TACH				*i* S	**Sb**	**08 25 50.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.58**	**349**	*e*P	**Pn**	**08 25 33.7**	**-0.4**
RCDM				*e*S	**Sb**	**08 25 54.1**	**-0.9**
RCDM				*i* S	**Sb**	**08 25 54.5**	**-0.4**
RCDM				AMP		08 25 56.6	
	comp=E,211nm,0.3s						
DSCH	**Colegio Aleman**	**1.65**	**356**	*i* P	**Pn**	**08 25 35.4**	**+0.4**
DSCH				*i* S	**Sb**	**08 25 58.0**	**+1.1**
DSCH				AMP		08 26 10.2	
	comp=N,390nm,0.5s						
CLCH	**Cerro Calan**	**1.65**	**357**	*e*P	**Pn**	**08 25 35.3**	**+0.3**
CLCH				*i* S	**Sb**	**08 25 58.0**	**+1.1**
CLCH				AMP		08 26 06.5	
	comp=E,232nm,0.2s						
FCH	**Farellones**	**1.72**	**4**	⇑*i*P	**Pn**	**08 25 36.9**	**+0.8**
FCH				*i* S	**Sb**	**08 26 00.3**	**+1.3**
FCH				AMP		08 26 01.4	
	comp=N,162nm,0.3s						
LCCH	**Las Cruces**	**1.82**	**329**	⇓*i*P	**Pn**	**08 25 37.5**	**0.0**
LCCH				*i* S	**Sn**	**08 26 01.5**	**-0.2**
PEL	**Peldehue**	**1.91**	**354**	*e*S	**Sn**	**08 26 03.7**	**-0.1**
PEL				AMP		08 26 10.7	
	comp=N,332nm,0.5s						
CCHI	**Chillan**	**2.04**	**220**	AMP		08 26 14.3	
	comp=E,124nm,0.3s						

MAN 31 08:37:00.8, 11.83N×121.64E, h20^{km}, mb4.1, ML2.9, MS2.6, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.70**	**103**	⇓*e*P	Pb	08 37 15.2	+1.1
KALP				*e*S	Sb	08 37 26.7	+3.5
SJMP	**San Jose**	**0.81**	**321**	*e*P	Pb	08 37 15.9	-0.1
SJMP				*e*S	Sb	08 37 27.0	+0.6
RCP	**Roxas**	**1.11**	**104**	⇓*e*P	Pb	08 37 21.4	+0.2
RCP				*e*S	Sb	08 37 37.4	+2.1
BUSP	**Coron**	**1.42**	**277**	*e*P	Pn	08 37 25.2	-0.6
BUSP				*e*S	Sn	08 37 48.1	+4.0
GUIM	**Jordan**	**1.52**	**142**	*e*P	Pn	08 37 27.6	+0.4
GUIM				*e*S	Sn	08 37 49.3	+2.8
ENPP	**El Nido**	**2.26**	**254**	*e*P	Pn	08 37 37.1	-0.8

IDC 31 09:12:18.3±10.0**, 2.27N×127.97E, h225**^{km}±100^{km}**, mb3.3**/5**, mb1 3.4**/5**, mb1mx3.2**/16**, Error ellipse: s-maj=91.0km s-min=20.0km az=61.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.37**	**186**	P	P	09 16 38.1	-0.9
	1.6nm,0.7s,baz=7.1,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**22.94**	**164**	P	P	09 17 03.1	-1.0
	3.4nm,0.4s,baz=344,slow=11,SNR=36						
WB2	**Warramunga Arr**	**22.94**	**164**	*e*P	P	09 17 03.1	-1.0
ASAR	**Alice Springs**	**26.42**	**168**	P	P	09 17 34.5	-1.8
	0.4nm,0.4s,baz=351,slow=7.6,SNR=10						
ASAR				PcP	PcP	09 20 53.7	-2.2
	0.2nm,0.6s,baz=357,slow=1.3,SNR=4.3						
STKA	**Stephens Creek**	**36.34**	**160**	P	P	09 19 00.4	-2.1
	1.8nm,1.0s,baz=335,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**59.45**	**325**	P	P	09 21 57.5	-2.1
	0.7nm,0.4s,baz=117,slow=8.0,SNR=14						

NEIC 31 09:12:27.7, 36.59N×121.18W, h7^{km}, ML3.7(NCEDC)**, MW3.8**(BRK)**, 1D, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.21**	**141**	⇓*i*P	Pg	09 12 32.6	+0.4
SAO	**San Andreas Ge**	**0.28**	**310**	*e*P	Pg	09 12 33.1	-0.3
LKC	**Lake Chabot**	**1.35**	**329**	*e*P	Pb	09 12 51.4	-1.5
SAC	**San Andreas**	**1.40**	**316**	*e*P	Pn	09 12 51.6	-2.2
CMB	**Columbia Colle**	**1.58**	**24**	*e*P	Pn	09 12 55.2	-1.0
OMM	**Old Mammoth Mi**	**2.03**	**59**	*e*Pn	Pn	09 13 03.0	+0.2
MTUM	**Tungsten Hills**	**2.23**	**69**	*e*Pn	Pn	09 13 06.3	+0.7
NSHM	**Saint Helena R**	**2.24**	**330**	*e*Pn	Pn	09 13 05.3	-0.4
ASMM	**Slate Mountain**	**2.27**	**10**	*e*Pn	Pn	09 13 04.8	-1.3
OHCM	**Honcut**	**2.75**	**355**	*e*Pn	Pn	09 13 11.7	-1.4
HOPS	**Hopland**	**2.83**	**329**	*e*Pn	Pn	09 13 10.9	-3.3
DAC	**Darwin (Calif)**	**2.91**	**95**	*e*Pn	Pn	09 13 14.5	-0.9
WCN	**Washoe City**	**2.93**	**22**	Pn	Pn	09 13 15.2	-0.4
MNV	**Mina**	**3.03**	**52**	Pn	Pn	09 13 17.2	+0.2
MWC	**Mount Wilson**	**3.48**	**132**	*e*Pn	Pn	09 13 20.8	-2.6
TPH	**Tonopah**	**3.49**	**64**	Pn	Pn	09 13 21.9	-1.6
TPNV	**Topopah Spring**	**3.98**	**83**	*e*Pn	Pn	09 13 29.9	-0.6
WDC	**Whiskeytown Da**	**4.12**	**345**	*e*Pn	Pn	09 13 30.8	-1.8
PFO	**Pinyon Flat Ob**	**4.88**	**126**	*e*Pn	Pn	09 13 41.1	-2.3
BMN	**Battle Mountai**	**4.94**	**38**	Pn	Pn	09 13 50.8	+6.7
LDFC	**Landfair**	**5.16**	**105**	*e*Pn	Pn	09 13 43.8	-3.5
NEN	**Nelson**	**5.22**	**98**	*e*Pn	Pn	09 13 45.7	-2.4
MOD	**Modoc**	**5.35**	**7**	Pn	Pn	09 13 47.8	-2.2
BAR	**Barrett**	**5.39**	**135**	Pn	Pn	09 13 46.4	-4.1
WVOR	**Wild Horse Val**	**6.16**	**18**	Pn	Pn	09 13 57.4	-3.9
ELK	**Elko**	**6.23**	**46**	Pn	Pn	09 13 59.2	-3.2
MSU	**Marysvale**	**7.41**	**72**	Pn	Pn	09 14 19.9	+1.0
DUG	**Dugway**	**7.49**	**59**	Pn	Pn	09 14 16.8	-3.3
NLU	**North Lily Min**	**7.91**	**62**	Pn	Pn	09 14 24.4	-1.6
DAU	**Daniels Canyon**	**8.67**	**61**	Pn	P	09 14 33.4	-3.0
HWUT	**Hardware Ranch**	**9.00**	**53**	*e*Pn	P	09 14 36.5	-4.5
PV10	**Paradox Valley**	**9.82**	**76**	Pn	P	09 14 47.5	-4.8
PV01	**Paradox Valley**	**10.16**	**77**	Pn	P	09 14 52.2	-4.9

IDC 31 09:15:51.5±2.1**, 2.51N×127.46E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/15**, Error ellipse: s-maj=146.0km s-min=26.3km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**163**	P	P	09 21 01.9	-0.5
	0.4nm,0.3s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.76**	**167**	P	P	09 21 32.2	-2.8
	0.2nm,0.5s,baz=353,slow=8.0,SNR=4.7						
MKAR	**Makanchi Array**	**58.97**	**325**	P	P	09 25 53.4	-1.9
	0.7nm,0.8s,baz=112,slow=7.8,SNR=4.8						

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*NAO **31** 09:50:28.0±3.5, 59.83N×4.47E, ML2.5*
*BER **31** 09:50:30.8±3.2, 59.92N×4.47E, MD1.8, ML1.9, ML2.5(NAO), Explosion*
ISC 31 09:50:28.7±1.3**, 59.92N**±0.05×**4.4E**±0.2**, n12, σ1^{s}.10**/20**, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.53**	**48**	*e*P	**Pg**	**09 50 39.7**	**+0.5**
EGD				AML	AML	09 50 52.0	
	comp=Z,43nm,0.6s						
ASK	**Askoy**	**0.68**	**34**	*e*P	**Pg**	**09 50 42.5**	**+0.2**
ASK				AML	AML	09 50 57.3	
	comp=Z,33nm,0.6s						
RUND	**Rundenannen**	**0.68**	**43**	*e*P	**Pg**	**09 50 42.8**	**+0.6**
KMY	**Karmoy**	**0.82**	**149**	*e*P	**Pg**	**09 50 46.2**	**+1.1**
ODD1	**Odda**	**1.11**	**90**	*e*P	**Pb**	**09 50 49.7**	**-0.7**
ODD1				*e*S	**Sb**	**09 51 04.7**	**-0.5**
ODD1				AML	AML	09 51 06.8	
	comp=Z,69nm,0.4s						
BLS5	**Blasjo**	**1.14**	**115**	*e*P	**Pb**	**09 50 52.1**	**+1.1**
BLS5				*e*S	**Sb**	**09 51 08.2**	**+2.0**
BLS5				AML	AML	09 51 10.2	
	comp=Z,29nm,0.6s						
SUE	**Sulen**	**1.15**	**8**	*e*P	**Pb**	**09 50 51.4**	**+0.3**
SUE				*e*S	**Sb**	**09 51 07.4**	**+0.9**
SUE				AML	AML	09 51 08.4	
	comp=Z,50nm,0.3s						
HYA	**Hoyanger**	**1.52**	**34**	*e*P	**Pn**	**09 50 57.1**	**-0.1**
HYA				*e*S	**Sb**	**09 51 18.1**	**+0.8**
HYA				AML	AML	09 51 25.6	
	comp=Z,33nm,0.6s						
FOO	**Floro**	**1.71**	**10**	*e*P	**Pn**	**09 50 59.3**	**-0.6**
FOO				*e*S	**Sb**	**09 51 22.9**	**+0.2**
FOO				AML	AML	09 51 25.4	
	comp=Z,24nm,0.7s						
NB2	**NORSAR Subarra**	**3.54**	**69**	Pn	**Pn**	**09 51 24.1**	**-1.9**
NB2				Pg	**Pg**	**09 51 31.6**	**-7.8**
NB2				Lg		09 52 18.9	
NC6	**NORSAR Subarra**	**3.59**	**74**	Pn	**Pn**	**09 51 24.9**	**-1.9**
NC6				Pg	**Pg**	**09 51 32.7**	**-7.6**
NC6				Lg		09 52 21.6	
HFS	**Hagfors**	**4.65**	**83**	Pn	**Pn**	**09 51 39.6**	**-2.2**
	baz=268,slow=14						
HFS				Pg	**Pg**	**09 51 53.1**	**-8.4**
	baz=284,slow=22						
HFS				Lg		09 52 54.1	
	baz=262,slow=28						

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*NEIC **31** 09:51:48.8, 38.91N×22.14E, h18^{km}, ML3.4(THE), ML3.3(ATH), After ATH.*
*THE **31** 09:51:49.0, 38.92N×22.16E, h6^{km}, ML3.4*
ATH 31 09:51:48.7, 38.90N×22.13E, h22^{km}±2^{km}**, MD3.5**/14**, ML3.3, 2C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.25**	**274**	⇑*i*PB	Pb	09 51 54.3	-0.5
EVR				*e*SB	Sb	09 51 58.9	0.0
EVR	**Evrytania**	**0.25**	**274**	⇑*e*Pb	Pb	09 51 54.3	-0.5
EVR				*e*Sb	Sb	09 51 58.9	0.0
LKR	**Lokris**	**0.72**	**110**	*e*PN	Pn	09 52 02.4	-1.2
NEO	**Neokhori**	**0.94**	**64**	*e*PB	Pb	09 52 06.3	+0.1
NEO				*e*SN	Sn	09 52 20.4	+0.9
XOR	**Xorichti**	**0.95**	**60**	*e*Pg	Pb	09 52 06.4	+0.1
XOR				*e*Sg	Sb	09 52 19.4	+0.9
RLS	**Riolos of Patr**	**0.99**	**212**	*e*PN	Pn	09 52 08.0	+0.6
MEV	**Metsovon**	**1.13**	**322**	*e*Pg	Pn	09 52 09.8	+0.5
MEV				*e*Sg	Sb	09 52 26.6	+3.0
MKIT	**Kithairon Oros**	**1.14**	**129**	*e*PN	Pn	09 52 10.9	+1.4
LKD	**Levkas**	**1.17**	**261**	*e*Pb	Pb	09 52 11.2	+1.1
LKD				*e*Sb	Sb	09 52 29.2	+4.3
LIT	**Litokhoron**	**1.23**	**13**	*e*Pb	Pb	09 52 11.9	+0.7
	comp=Z,26nm,0.1s						
LIT				*e*Sb	Sb	09 52 29.6	+3.0
JAN	**Janina**	**1.25**	**308**	*e*PN	Pn	09 52 13.5	+2.4
AOS	**Alonnisos**	**1.39**	**78**	*e*Pb	Pb	09 52 13.8	-0.1
VLS	**Valsamata**	**1.41**	**240**	*e*PN	Pn	09 52 14.8	+1.5
KZN	**Kozani**	**1.43**	**349**	*e*PN	Pn	09 52 15.8	+2.1
NSAL	**Nisos Salamina**	**1.44**	**133**	*e*PN	Pn	09 52 17.5	+3.7
IGT	**Igoumenitsa**	**1.53**	**295**	*e*Pb	Pb	09 52 16.2	-0.1
IGT				*e*Sb	Sb	09 52 37.2	+1.9
ATH	**Athens Observa**	**1.55**	**126**	*e*PN	Pn	09 52 16.5	+1.1
PAIG	**Paliouri**	**1.58**	**49**	*e*Pb	Pb	09 52 15.9	-1.2
ITM	**Ithomi**	**1.73**	**185**	*e*PN	Pn	09 52 21.0	+3.1
ITM	**Ithomi**	**1.73**	**185**	⇓*e*Pn	Pn	09 52 21.5	+3.6
PLG	**Polygyros**	**1.79**	**34**	*e*PB	Pb	09 52 19.2	-1.4
THE	**Thessaloniki**	**1.85**	**20**	*e*Pb	Pb	09 52 19.6	-2.0
FNA	**Florina**	**1.97**	**343**	*e*Pb	Pb	09 52 22.6	-1.1
	comp=Z,2.0nm,0.5s						
FNA				*e*Sb	Sb	09 52 47.6	-0.4
KEK	**Kerkira**	**1.98**	**295**	*e*PN	Pn	09 52 23.0	+1.4
KEK	**Kerkira**	**1.98**	**295**	*e*Pn	Pn	09 52 25.6	+4.0
OUR	**Ouranopolis**	**2.02**	**44**	*e*Pn	Pn	09 52 22.6	+0.4
	comp=Z,3.0nm,0.3s						
GRG	**Griva**	**2.06**	**6**	*e*Pn	Pn	09 52 23.2	+0.4
SOH	**Sokhos**	**2.14**	**26**	*e*Pn	Pn	09 52 24.6	+0.8
VLI	**Veliai**	**2.27**	**163**	*e*PN	Pn	09 52 26.8	+1.1
KNT	**Kendrikon**	**2.33**	**14**	*e*Pn	Pn	09 52 27.3	+0.7
KNT				*e*Sn	Sn	09 52 56.4	+1.4
SRS	**Serrai**	**2.48**	**26**	*e*Pn	Pn	09 52 28.9	+0.1

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*MOS **31** 10:16:38.8±1.1, 51.87N×176.43E, h33^{km}, mb4.8/17, Error ellipse: s-maj=16.2km s-min=10.7km az=105.7*
*BJI **31** 10:16:40.6, 52.18N×176.31E, h46^{km}, mB4.8, mb4.8, Ms4.2, Msz3.9*
*IDC **31** 10:16:41.1±3.0, 51.83N×176.46E, h40^{km}±26^{km}, mb4.2/25, mb1 4.3/25, mb1mx4.3/29, ML4.5/1, MS3.6/14, Ms1 3.6/14, ms1mx3.4/40, Error ellipse: s-maj=17.4km s-min=10.3km az=166.0*
*NEIC **31** 10:16:42.7±0.5, 51.79N×176.43E, h57^{km}±4^{km}, mb4.4/29, ML4.7(AEIC), ML4.7(PMR), Error ellipse: s-maj=7.6km s-min=3.4km az=180.0*
ISC 31 10:16:41.7±0.6**, 51.78N**±0.06×**176.49E**±0.04**, h62**^{km}±5^{km}**, h54**^{km}±4.7^{km}**:pP-P, n172, σ0^{s}.95**/170**, mb4.6**/59**, 8C-1D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.75**	**304**	P	**P**	**10 17 09.4**	**-1.0**
SMY				S	**S**	**10 17 31.6**	**+0.1**
FX1	**Attu Island--F**	**2.32**	**300**	P	**P**	**10 17 16.2**	**-2.2**
	401nm,0.3s,baz=196,slow=5.7,SNR=369						
FX1				S	**S**	**10 17 47.8**	**+2.1**
	487nm,0.3s,baz=331,slow=21,SNR=13						
FX1	**Attu Island--F**	**2.32**	**300**	P	**P**	**10 17 16.2**	**-2.2**
FX1				S	**S**	**10 17 47.8**	**+2.1**

FX1				pmax	pmax		
	comp=Z,401nm,0.3s						
FX1				smax			
	comp=N,487nm,0.3s						
FX1	Attu Island--F	2.32	300	P	P	10 17 16.6	-1.8
KIMD	Kanaga Island	3.90	88	P	P	10 17 40.3	-0.3
KIKV	Kanaga Island	3.93	86	P	P	10 17 40.9	-0.2
KIKV				S	S	10 18 27.2	+0.8
KIWB	Kanaga Island	3.95	86	P	P	10 17 41.2	-0.1
KINC	Kanaga Island	3.96	85	P	P	10 17 41.4	-0.1
GSTD	Great Sitkin T	4.57	84	P	P	10 17 49.6	-0.4
GSTD				S	S	10 18 42.8	+0.5
GSMY	Great Sitkin M	4.62	84	P	P	10 17 51.0	+0.2
GSIG	Igitkin Island	4.70	85	P	P	10 17 52.1	+0.2
ATKA	Atka Island	5.77	82	P	P	10 18 05.7	-0.9
NIKO	Nikolski	9.05	77	P	P	10 18 52.5	+0.5
UNV	Unalaska Valle	10.50	72	P	P	10 19 12.3	+0.6
PET	Petropavlovsk	10.97	284	eP	P	10 19 16.0	-2.1
PET				eS	S	10 21 12.1	-7.9
PET				pmax	pmax		
	comp=Z,13nm,0.6s						
PET				smax			
	comp=E,27nm,0.6s						
PET				smax			
	comp=N,27nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET				MLR	MLR		
	comp=N,100nm,18.0s						
PET	Petropavlovsk	10.97	284	eP	P	10 19 15.7	-2.4
SKR	Severo-Kuril's	12.81	273	eP	P	10 19 37.5	-5.3
SKR				pmax	pmax		
	comp=Z,70nm,1.0s						
MA2	Magadan	16.38	308	⇑eP	P	10 20 31.4	+2.8
MA2	Magadan	16.38	308	P	P	10 20 27.8	-0.9
	comp=Z,12nm,1.1s						
SEY	Seymchan	17.01	320	eP	P	10 20 39.2	+2.7
SVW	Sparrevohn	17.89	48	eP	P	10 20 50.1	+2.7
	comp=Z,8.1nm,0.8s						
TTA	Tatalina	18.39	42	eP	P	10 20 54.9	+1.4
	comp=Z,2.4nm,0.6s						
KDAK	Kodiak Island	18.70	59	eP	P	10 20 54.5	-2.8
	comp=Z,14nm,0.7s						
RSO	Redoubt South	19.06	51	P	P	10 21 01.2	-0.1
SPU	Mount Spurr	19.56	49	eP	P	10 21 07.2	+0.5
SLKM	Skilak Lake	20.29	52	eP	P	10 21 13.5	-1.0
IMA	Indian Mountai	20.72	35	eP	P	10 21 20.0	+1.1
	comp=Z,8.3nm,0.8s						
PMS	Palmer South	20.75	50	eP	P	10 21 19.4	+0.2
	comp=Z,23nm,0.5s						
PMR	Palmer	21.03	49	eP	P	10 21 22.7	+0.7
	comp=Z,3.4nm,0.5s,mb3.9						
SML	Sawmill	21.45	48	eP	P	10 21 25.1	-1.1
MCK	McKinley	21.66	43	eP	P	10 21 28.2	-0.2
	comp=Z,2.5nm,0.7s,mb3.8						
COLA	College	22.46	41	d iP	P	10 21 37.8	+1.6
COLA	College	22.46	41	eP	P	10 21 37.4	+1.2
	comp=Z,16nm,0.9s,mb4.5						
EYAK	Cordova Ski Ar	22.49	52	eP	P	10 21 36.3	-0.2
DIV	Divide	22.54	51	eP	P	10 21 37.3	+0.4
	comp=Z,54nm,0.6s,mb5.2						
ILAR	Eielson Array	22.82	41	P	P	10 21 38.6	-0.9
	comp=Z,5.6nm,0.8s,mb4.0,baz=242,slow=9.4,SNR=54						
ILAR				LR	LR	10 31 21.5	
	comp=Z,92nm,18.3s,baz=89,slow=39						
ILAR	Eielson Array	22.82	41	P	P	10 21 38.7	-0.9
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,92nm,18.3s						
THY	Trims Highway	22.95	45	eP	P	10 21 41.4	+0.6
ASAJ	Asahikawa	23.79	265	P	P	10 21 50.4	+1.3
	comp=Z,53nm,0.8s,mb5.0,baz=46,slow=3.4,SNR=12						
ASAJ	Asahikawa	23.79	265	P	P	10 21 50.4	+1.3
ASAJ				pmax	pmax		
	comp=Z,53nm,0.8s						
DAWY	Dawson	25.85	45	eP	P	10 22 09.0	+0.3
YAK	Yakutsk	26.93	311	c iP	P	10 22 17.1	-1.5
YAK				pmax	pmax		
	comp=Z,34nm,0.8s,mb4.9						
YAK				MLR	MLR		
	comp=Z,200nm,22.0s						
YAK	Yakutsk	26.93	311	eP	P	10 22 17.1	-1.5
INK	Inuvik	28.84	36	P	P	10 22 36.2	+0.4
	comp=Z,1.7nm,0.7s,mb3.9,baz=170,slow=11,SNR=9.7						
INK	Inuvik	28.84	36	P	P	10 22 36.2	+0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	28.84	36	eP	P	10 22 35.7	-0.1
	comp=Z,1.6nm,0.7s,mb3.9						
DLBC	Dease Lake	30.58	56	P	P	10 22 52.0	+0.7
	comp=Z,1.3nm,0.6s,mb3.9,baz=242,slow=10,SNR=6.4						
DLBC	Dease Lake	30.58	56	P	P	10 22 52.0	+0.6
MDJ	Mudanjiang	31.61	276	P	P	10 23 02.0	+1.5
MDJ				AMB	AMB		
	comp=Z,16nm,2.0s,mb4.5						
BBB	Bella Bella	33.42	67	LR	LR	10 34 25.7	
	comp=Z,87nm,21.2s,baz=249,slow=32						
CN2	Changchun	34.58	277	eP	P	10 23 26.5	+0.3
BOD	Bodaibo	35.36	305	eP	P	10 23 31.0	-1.7
KS15	Wonju Array Si	36.74	267	eP	P	10 23 44.6	0.0
YKA	Yellowknife Ar	37.07	46	P	P	10 23 45.8	-1.3
	comp=Z,2.0nm,0.5s,mb4.2,baz=279,slow=9.9,SNR=34						
YKA				PcP	PcP	10 26 07.0	0.0
	comp=Z,0.6nm,0.7s,baz=283,slow=2.8,SNR=4.6						
YKA	Yellowknife Ar	37.07	46	P	P	10 23 45.8	-1.3
YKA						10 26 07.0	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HAWA	Hanford	41.04	71	P	P	10 24 20.2	0.0
NEW	Newport	41.47	68	P	P	10 24 23.1	-0.6
	comp=Z,1.0nm,0.8s,baz=309,slow=6.5,SNR=2.8						
NEW				LR	LR	10 41 54.2	
	comp=Z,74nm,18.3s,baz=320,slow=36						
NEW	Newport	41.47	68	P	P	10 24 23.1	-0.6
NEW				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NEW				MLR	MLR		
	comp=Z,74nm,18.3s						
YBH	Yreka Blue Hor	41.71	79	P	P	10 24 26.5	+0.9
	comp=Z,1.2nm,0.8s,mb3.6,baz=347,slow=4.2,SNR=5.2						
YBH	Yreka Blue Hor	41.71	79	P	P	10 24 26.5	+0.8
YBH				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BJI	Beijing	42.41	279	eP	P	10 24 31.8	+0.4
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI	Beijing	42.41	279	eP	P	10 24 31.8	+0.4
	comp=Z,9.0nm,0.8s,mb4.5						
HOPS	Hopland	43.12	83	P	P	10 24 38.6	+1.4
SONM	Songino Array	43.82	294	P	P	10 24 43.3	+0.5
	comp=Z,8.7nm,0.6s,mb4.7,baz=58,slow=7.8,SNR=79						
ZAK	Zakamensk	44.20	298	eP	P	10 24 46.2	+0.4
SSE	Sheshan	45.08	265	P	P	10 24 53.5	+0.3
SSE				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.0						
SSE				LR	LR		
	comp=N,36nm,21.9s						
SSE				LR	LR		
	comp=E,31nm,22.0s						
SSE	Sheshan	45.08	265	P	P	10 24 53.4	+0.2
	comp=E,25nm,0.9s,mb5.0						
SSE				LR	LR		
	comp=Z,40nm,26.6s						
CMB	Columbia Colle	45.37	82	P	P	10 24 55.4	+0.1
	comp=Z,3.0nm,0.8s,mb4.2						
HLID	Hailey	45.63	72	P	P	10 24 58.7	+1.4
	comp=Z,2.9nm,1.0s,mb4.2						
MCMT	McKenzie Canyo	45.82	69	eP	P	10 24 57.0	-1.8
NJ2	Nanjing	45.88	268	eP	P	10 25 00.5	+1.1
BOZ	Bozeman (W)	46.05	68	eP	P	10 24 59.2	-1.5
	comp=Z,1.3nm,0.6s,mb4.0						
NVAR	Mina Array Bea	46.40	80	P	P	10 25 03.9	+0.4
	comp=Z,3.5nm,1.1s,mb4.2,baz=302,slow=5.5,SNR=13						
NVAR				LR	LR	10 41 36.9	
	comp=Z,55nm,19.3s,baz=355,slow=32						
ELK	Elko	46.83	75	eP	P	10 25 05.8	-0.9
	comp=Z,0.9nm,0.6s,mb3.9						
MTUM	Tungsten Hills	46.92	81	P	P	10 25 09.2	+1.6
TPH	Tonopah	47.28	80	eP	P	10 25 10.1	-0.3
	comp=Z,1.8nm,1.0s,mb4.0						
BGU	Big Grassy Mou	48.04	74	P	P	10 25 16.4	+0.1
HWUT	Hardware Ranch	48.49	72	P	P	10 25 20.0	+0.2
TPNV	Topopah Spring	48.59	80	eP	P	10 25 20.6	0.0
	comp=Z,3.8nm,0.9s,mb4.4						
DUG	Dugway	48.62	74	eP	P	10 25 20.0	-0.8
	comp=Z,1.9nm,0.7s,mb4.2						
BW06	Boulder Array	48.96	70	eP	P	10 25 22.4	-0.9
PDAR	Pinedale Array	48.96	70	P	P	10 25 22.6	-0.8
	comp=Z,1.1nm,0.6s,mb4.1,baz=324,slow=2.9,SNR=13						
WHN	Wuhan	49.71	270	P	P	10 25 29.0	-0.3
NEN	Nelson	50.30	80	eP	P	10 25 33.8	0.0
LDFC	Landfair	50.52	81	P	P	10 25 35.4	0.0
SRU	San Rafael	50.67	74	eP	P	10 25 37.7	+1.1
ZAL	Zalesovo	51.60	311	P	P	10 25 41.2	-2.1
	comp=Z,1.6nm,0.4s,mb4.3,baz=347,slow=2.9,SNR=6.1						
ZAL				LR	LR	10 50 58.8	
	comp=Z,81nm,19.7s,baz=237,slow=40						
ZAL	Zalesovo	51.60	311	P	P	10 25 41.3	-2.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,81nm,19.7s						
ZAL	Zalesovo	51.60	311	P	P	10 25 41.2	-2.1
ZAL				LR	LR	10 50 58.8	
NVS	Novosibirsk	51.77	313	i P	P	10 25 42.7	-1.9
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ULM	Lac du Bonnet	51.88	55	P	P	10 25 44.4	-1.1
	comp=Z,1.4nm,0.4s,mb4.2,baz=321,slow=9.5,SNR=5.5						
ULM				LR	LR	10 49 46.2	
	comp=Z,58nm,18.5s,baz=346,slow=38						
ULM	Lac du Bonnet	51.88	55	P	P	10 25 44.4	-1.1
ULM				LR	LR	10 49 46.2	
PV10	Paradox Valley	52.03	74	eP	P	10 25 46.5	-0.3
LZH	Lanzhou	52.44	283	⇑P	P	10 25 50.0	+0.1
LZH				AP	pP	10 26 05.5	-0.5
LZH				XP	sP	10 26 12.5	-0.5
LZH				PP	PP	10 27 49.5	-0.6
LZH				S	S	10 33 08.8	-1.0
LZH				XS		10 33 35.0	
LZH				SS	SS	10 36 44.0	-2.9
LZH				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,65nm,5.1s						
LZH				LR	LR		
	comp=E,150nm,12.6s						
LZH				LR	LR		
	comp=Z,251nm,15.3s						
LZH	Lanzhou	52.44	283	⇑P	P	10 25 50.0	+0.1
	comp=Z,15nm,1.1s,mb4.8						
LZH				pP	pP	10 26 05.5	-0.5
LZH				sP	sP	10 26 12.5	-0.5
LZH				PP	PP	10 27 49.6	-0.5
LZH				S	S	10 33 08.8	-1.0
LZH				sS		10 33 35.0	
LZH				SS	SS	10 36 44.1	-2.8
LZH				LR	LR		
	comp=Z,250nm,15.3s						
GTA	Gaotai	52.67	289	eP	P	10 25 51.8	+0.2
GTA				AP	pP	10 26 08.5	+0.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,33nm,5.3s						
GTA				LR	LR		
	comp=N,57nm,9.9s						
GTA				LR	LR		
	comp=E,48nm,11.4s						
GTA				LR	LR		
	comp=Z,30nm,9.9s						
FRB	Frobisher Bay	54.18	30	LR	LR	10 50 47.3	
	comp=Z,121nm,18.9s,baz=151,slow=38						
SDCO	Great Sand Dun	54.55	72	eP	P	10 26 06.5	+1.1
SDCO				e	pP	10 26 18.9	-2.8
ANMO	Albuquerque	55.86	75	P	P	10 26 15.3	+0.3
KURK	Kurchatov	56.58	311	P	P	10 26 19.8	-0.1
	comp=Z,271nm,0.9s,SNR=40						
KURK	Kurchatov	56.58	311	eP	P	10 26 18.6	-1.3
	comp=Z,43nm,0.9s,mb5.5						
WMQ	Urumqi	56.62	300	⇑iP	P	10 26 20.5	+0.2
WMQ				AP	pP	10 26 36.5	-0.2
WMQ				PCP	PcP	10 27 15.0	-0.8
WMQ				PP	PP	10 28 28.5	+0.3
WMQ				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
WMQ				LR	LR		
	comp=N,118nm,21.1s						
WMQ				LR	LR		
	comp=E,84nm,21.1s						
WMQ				LR	LR		
	comp=Z,116nm,21.1s						
ARCES	ARCESS Array B	57.15	348	P	P	10 26 22.2	-1.5
	comp=Z,3.6nm,0.5s,mb4.6,baz=28,slow=8.5,SNR=33						
ARCES				PcP	PcP	10 27 17.0	-0.5
	comp=Z,4.0nm,0.9s,baz=14,slow=5.0,SNR=5.0						
ARCES				LR	LR	10 51 59.6	
	comp=Z,77nm,21.6s,baz=89,slow=37						
ARCES	ARCESS Array B	57.15	348	P	P	10 26 22.2	-1.5
ARCES						10 27 17.0	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,77nm,21.7s						
ARCES	ARCESS Array B	57.15	348	P	P	10 26 22.2	-1.5
ARCES				PcP	PcP	10 27 17.0	-0.5
ARCES				LR	LR	10 51 59.6	
CBKS	Cedar Bluff	57.19	68	P	P	10 26 23.1	-1.4
MKAR	Makanchi Array	57.44	306	P	P	10 26 24.8	-1.3
	comp=Z,8.9nm,0.8s,mb4.9,baz=50,slow=6.9,SNR=64						
MKAR				LR	LR	10 52 09.2	
	comp=Z,106nm,18.8s,baz=54,slow=37						
MKAR	Makanchi Array	57.44	306	P	P	10 26 24.8	-1.3
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,107nm,18.8s						
APA	Apatity	57.79	344	⇑iP	P	10 26 27.7	-0.5
BRVK	Borovoye	58.66	317	eP	P	10 26 34.0	-0.4
	comp=Z,24nm,0.6s,mb5.4						
ZRNK	Zerenda	59.27	318	eP	P	10 26 38.2	-0.5
	comp=Z,24nm,0.7s,mb5.3						
WMOK	Wichita Mounta	60.56	70	eP	P	10 26 47.1	-0.7
ARU	Arti	60.66	326	⇑iP	P	10 26 48.2	0.0
ARU				e		10 27 36.4	
ARU				e		10 28 59.3	
ARU				eSS	SS	10 38 52.6	-6.2
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
ARU	Arti	60.66	326	eP	P	10 26 47.9	-0.3
	comp=Z,6.2nm,0.4s,mb5.1						
SCHQ	Schefferville	61.46	36	P	P	10 26 52.6	-0.9
	comp=Z,6.8nm,0.9s,mb4.8,baz=327,slow=8.7,SNR=7.0						
LTX	Lajitas	61.47	78	eP	P	10 26 53.5	-0.5
TXAR	Lajitas Array	61.47	78	P	P	10 26 53.3	-0.7
	comp=Z,1.1nm,0.5s,mb4.2,baz=302,slow=5.2,SNR=31						
TXAR				LR	LR	10 51 46.6	
	comp=Z,36nm,18.2s,baz=135,slow=34						
TKM2	Tokmak 2	63.55	306	P	P	10 27 07.9	+0.3
	SNR=5.3						
USP	Ospenovka	63.84	307	P	P	10 27 09.8	+0.4
	SNR=16						
KAF	Kangasniemi	64.01	345	ep	P	10 27 06.3	-3.9
	comp=Z,0.8nm,0.3s,mb4.2,baz=16,slow=5.9						
KAF	Kangasniemi	64.01	345	eP	P	10 27 06.3	-3.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AAK	Ala-Archa	64.31	307	P	P	10 27 12.5	0.0
	SNR=5.5						
AAK	Ala-Archa	64.31	307	eP	P	10 27 11.3	-1.2
	comp=Z,9.0nm,1.0s,mb4.8						
LSA	Lhasa	64.52	286	P	P	10 27 14.8	+0.7
LSA	Lhasa	64.52	286	eP	P	10 27 15.3	+1.3
	comp=Z,13nm,0.6s,mb5.1						
EKS2	Erkin-Say	64.64	307	P	P	10 27 15.3	+0.6
	SNR=14						
FINES	FINESS Array B	64.68	345	P	P	10 27 13.2	-1.3
	comp=Z,8.4nm,1.0s,mb4.7,baz=76,slow=7.9,SNR=13						
FINES				LR	LR	10 59 34.6	
	comp=Z,41nm,18.3s,baz=359,slow=40						
FINES	FINESS Array B	64.68	345	P	P	10 27 13.3	-1.3
FINES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,41nm,18.3s						
AML	Almayashu	65.08	307	P	P	10 27 18.7	+1.2
	SNR=7.4						
NB2	NORSAR Subarra	66.91	352	P	P	10 27 28.2	-0.6
	comp=Z,9.4nm,0.8s,mb4.9,baz=9.0,slow=6.2						
NOA	NORSAR Array B	66.91	352	P	P	10 27 28.3	-0.5
	comp=Z,6.7nm,0.7s,mb4.8,baz=10,slow=6.4,SNR=17						
NOA				LR	LR	10 58 26.9	
	comp=Z,32nm,18.1s,slow=38						
NOA	NORSAR Array B	66.91	352	P	P	10 27 28.3	-0.5
NOA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,32nm,18.1s						
NOA	NORSAR Array B	66.91	352	P	P	10 27 28.3	-0.5
NOA				LR	LR	10 58 26.9	
SSPA	Standing Stone	67.60	52	eP	P	10 27 32.6	-0.9
	comp=Z,12nm,1.0s,mb4.9						
CMAR	Chiang Mai Arr	68.05	272	P	P	10 27 36.4	-0.3
	comp=Z,3.0nm,0.8s,mb4.4,baz=24,slow=7.0,SNR=13						
CMAR	Chiang Mai Arr	68.05	272	P	P	10 27 36.4	-0.2
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	Obninsk	68.39	337	⇑eP	P	10 27 37.7	-0.4
OBN				e	pP	10 27 49.7	-5.3
OBN				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
KKN	Kakani	69.40	289	eP	P	10 27 45.5	+0.6
	comp=Z,31nm,0.5s,mb5.5						
PKI	Pulchoki	69.49	289	eP	P	10 27 45.8	+0.4
	comp=Z,39nm,0.7s,mb5.5						
GKN	Gorkha	69.62	289	eP	P	10 27 46.5	+0.3
	comp=Z,54nm,0.8s,mb5.5						
DMN	Daman	69.64	289	eP	P	10 27 47.0	+0.7
	comp=Z,16nm,0.4s,mb5.3						
KOLN	Koldanda	70.40	290	eP	P	10 27 51.3	+0.4
	comp=Z,20nm,0.7s,mb5.1						
AKASG	Malin Array Be	74.19	339	P	P	10 28 12.9	+0.1
	comp=Z,5.8nm,0.4s,mb4.9,baz=22,slow=6.1,SNR=25						
AKASG	Malin Array Be	74.19	339	P	P	10 28 12.9	+0.1
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KAKA	Kakadu	74.68	225	eP	P	10 28 15.9	-0.4
	comp=Z,9.6nm,0.6s,mb4.9						
OJC	Ojcow	76.46	345	eP	P	10 28 26.8	+1.0
SOC	Sochi	77.91	329	eP	P	10 28 38.0	+4.0
SOC				e		10 28 48.5	
SOC				e		10 31 27.5	
SOC				e		10 38 23.8	
SOC				ePS	PS	10 38 52.7	-18
SOC				e*SS		10 39 25.2	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.6s						
VYHS	Vyhne	78.29	345	eP	P	10 28 37.2	+1.2
VYHS	Vyhne	78.29	345	eP	P	10 28 37.0	+1.0
VYHS				eSn	x	10 30 50.9	
GERES	GERESS Array B	78.68	349	P	P	10 28 38.6	+0.5
	comp=E,1.2nm,0.7s,mb3.9,baz=18,slow=4.2,SNR=6.2						
GERES	GERESS Array B	78.68	349	P	P	10 28 38.6	+0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	Muntele Rosu	79.83	339	LR	LR	11 06 42.6	
	comp=Z,56nm,19.1s,baz=171,slow=38						
WB2	Warramunga Arr	80.35	220	eP	P	10 28 47.3	-0.4
WRA	Warramunga Arr	80.35	220	P	P	10 28 47.1	-0.6
	comp=Z,2.3nm,0.6s,mb4.3,baz=30,slow=5.8,SNR=29						
WRA	Warramunga Arr	80.35	220	P	P	10 28 47.1	-0.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PERS	Pernice	80.66	347	i P	P	10 28 50.6	+1.8
GROS	Grobnik	80.78	347	eP	P	10 28 50.8	+1.3
HYB	Hyderabad	81.30	287	i P	P	10 28 53.0	+0.2
HYB	Hyderabad	81.30	287	eP	P	10 28 53.0	+0.2
FITZ	Fitzroy Crossi	82.47	228	eP	P	10 28 59.4	+0.6
	comp=Z,6.5nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	82.47	228	P	P	10 28 59.0	+0.2
	comp=Z,8.8nm,0.7s,mb4.8,baz=5.1,slow=3.0,SNR=18						
BNI	Bardonecchia	83.15	353	eP	P	10 29 01.4	-0.3
BRTR	Keskin Array B	83.28	332	P	P	10 29 04.0	+1.4
	comp=Z,2.0nm,0.6s,mb4.3,baz=41,slow=2.9,SNR=12						
BRTR				LR	LR	11 09 42.6	
	comp=Z,22nm,18.6s,baz=250,slow=38						
BRTR	Keskin Array B	83.28	332	P	P	10 29 04.0	+1.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,22nm,18.6s						
ASAR	Alice Springs	83.88	219	P	P	10 29 06.2	+0.4
	comp=Z,2.5nm,0.6s,mb4.5,baz=19,slow=5.3,SNR=27						
DBIC	Dimbokro	121.77	2	PKP	PKPdf	10 35 30.1	+1.2
	comp=Z,2.0nm,0.7s,baz=216,slow=11,SNR=5.7						
DBIC	Dimbokro	121.77	2	PKIKP	PKPdf	10 35 30.1	+1.2
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	133.91	104	PKP	PKPdf	10 35 53.1	+1.8
	comp=Z,1.3nm,0.6s,baz=193,slow=3.6,SNR=6.6						
PLCA	Paso Flores	133.91	104	PKIKP	PKPdf	10 35 53.2	+1.8
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW	Mawson	145.00	218	PKPbc	PKPbc	10 36 11.6	+1.0
	comp=Z,13nm,0.6s,baz=77,slow=4.0,SNR=46						
MAW	Mawson	145.00	218	PKIKP	PKPdf	10 36 11.6	+1.3
MAW				pmax	pmax		
	comp=Z,13nm,0.6s						
MAW	Mawson	145.00	218	ePKP	PKPdf	10 36 11.3	+1.0

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*NEIC **31** 10:24:41.8, 59.69N×153.28W, h108^{km}, After AEIC.*

*IDC **31** 10:24:43.5±5.0, 60.07N×153.17W, h123^{km}±40^{km}, mb3.7/4, mb1 3.7/8, mb1mx3.4/24, Error ellipse: s-maj=42.2km s-min=20.5km az=22.0*

ISC 31 10:24:39.3±0.3**, 59.69N**±0.03×**153.21W**±0.05**, h121**^{km}±3^{km}**, n101,** σ0^{s}**84**/117**, mb4.1**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	Oil Point	0.04	200	P	P	10 24 56.3	+0.3
ILS	Iliamna Low So	0.28	14	P	P	10 24 56.9	+0.5
AUL	Augustine Lava	0.33	201	P	P	10 24 57.1	+0.5
AUL				S	S	10 25 09.4	-0.4
IVS	Iliamna South	0.33	11	P	P	10 24 57.2	+0.5
AUE	Augustine Isla	0.34	195	P	P	10 24 57.0	+0.3
IVE	Iliamna Volcan	0.34	16	P	P	10 24 57.1	+0.4
IVE				S	S	10 25 09.7	-0.2
AGU	Augustine-Summ	0.35	199	P	P	10 24 57.2	+0.5
AUI	Augustine Isla	0.37	198	P	P	10 24 57.2	+0.3
AUI				S	S	10 25 09.3	-0.8
ILIM	Iliamna	0.41	17	P	P	10 24 57.5	+0.4
MCNL	McNeil River	0.77	229	P	P	10 24 59.5	0.0
MCNL				S	S	10 25 13.0	-1.8
HOM	Homer	0.79	91	P	P	10 25 00.8	+1.0
RSO	Redoubt South	0.81	16	P	P	10 25 00.6	+0.7
REF	Redoubt East F	0.84	17	P	P	10 25 01.1	+0.8
REF				S	S	10 25 16.1	+0.2
RDT	Redoubt	0.97	24	P	P	10 25 02.2	+0.6
RDT				S	S	10 25 17.7	-0.4
CNPM	China Poot	1.01	98	P	P	10 25 02.6	+0.6
SYI	Shuyak Island	1.16	158	P	P	10 25 03.9	+0.4
BRLK	Bradley Lake	1.18	85	P	P	10 25 04.1	+0.4
KAPH	Katmai Pasha	1.24	209	P	P	10 25 04.6	+0.2
KAPH				S	S	10 25 22.0	-1.1
KAHG	Katmai Hook Gl	1.38	211	P	P	10 25 06.1	+0.2
BKG	Blockade Glaci	1.46	18	P	P	10 25 07.7	+0.8
KAWH	Katmai	1.55	213	P	P	10 25 07.8	-0.1
CKL	Chakachamna La	1.57	15	P	P	10 25 09.1	+0.9
SPU	Mount Spurr	1.60	20	P	P	10 25 09.2	+0.7
CRP	Crater Peak	1.67	18	P	P	10 25 10.3	+1.0
SLKM	Skilak Lake	1.71	60	P	P	10 25 10.9	+1.2
KABR	Katmai Barrier	1.81	211	P	P	10 25 10.9	0.0
ACHA	Angle Creek He	1.84	217	P	P	10 25 11.6	+0.3
SVW	Sparrevohn	1.86	321	P	P	10 25 11.7	+0.1
ANCK	Angle Creek	1.91	219	P	P	10 25 12.5	+0.3
KDAK	Kodiak Island	1.94	170	P	P	10 25 11.8	-0.8
KDAK				S	S	10 25 36.2	-1.4
SEW	Seward	1.94	76	P	P	10 25 13.0	+0.4
SEW				S	S	10 25 36.4	-1.3
STLK	Strandline Lak	1.94	20	P	P	10 25 13.4	+0.9
CAHL	Cahill	1.97	214	P	P	10 25 13.3	+0.4
KJL	Kejulik	2.05	218	P	P	10 25 14.4	+0.5

MPA	Moose Pass	2.09	66	P	P	10 25 15.2	+0.8
FIB	Fire Island	2.11	44	P	P	10 25 16.5	+1.8
SUA	Susitna One	2.16	33	P	P	10 25 16.4	+1.1
RC01	Rabbit Creek A	2.22	49	P	P	10 25 16.9	+0.6
RC01				S	S	10 25 43.3	-0.8
PMS	Palmer South	2.39	48	P	P	10 25 19.2	+0.8
SKT	Skwentna	2.44	19	P	P	10 25 19.8	+0.6
PWA	Palmer West	2.56	38	P	P	10 25 22.4	+1.7
PWL	Port Wells	2.70	62	P	P	10 25 22.3	-0.2
LTI	Latouche	2.72	80	P	P	10 25 23.1	+0.2
PMR	Palmer	2.77	45	P	P	10 25 22.9	-0.6
PMR				S	S	10 25 54.3	-2.6
KNK	Knik Glacier	2.92	52	P	P	10 25 25.1	-0.3
GHO	Glory Hole Cre	2.97	43	P	P	10 25 25.8	-0.3
CUT	Chulitna	3.08	26	P	P	10 25 28.0	+0.4
CFI	College Fiord	3.08	59	P	P	10 25 28.7	+1.0
SML	Sawmill	3.20	46	P	P	10 25 28.8	-0.5
SML				S	S	10 26 04.7	-2.5
GLI	Glacier Island	3.27	66	P	P	10 25 29.1	-1.1
HIN	Hinchinbrook I	3.44	75	P	P	10 25 32.0	-0.4
MID	Middleton Isla	3.50	91	P	P	10 25 33.7	+0.3
TT01	Tatalina	3.50	338	P	P	10 25 32.8	-0.5
FID	Port Fidalgo	3.52	69	P	P	10 25 32.3	-1.2
TTA	Tatalina	3.52	339	*e*P	P	10 25 32.6	-1.0
SCM	Sheep Creek Mo	3.60	51	P	P	10 25 34.3	-0.3
VLZ	Valdez	3.70	64	P	P	10 25 35.5	-0.5
VLZ				S	S	10 26 15.9	-3.3
EYAK	Cordova Ski Ar	3.83	74	P	P	10 25 37.0	-0.7
DIV	Divide	3.96	65	P	P	10 25 39.4	0.0
DIV				S	S	10 26 22.1	-3.3
KLU	Klutina	4.02	60	P	P	10 25 40.0	-0.3
TRF	Thorofare Moun	4.03	19	P	P	10 25 40.1	-0.2
KTH	Kantishna Hill	4.03	15	P	P	10 25 40.0	-0.3
RAGM	Ragged Mountai	4.34	77	P	P	10 25 44.2	-0.3
DHY	Denali Highway	4.41	37	P	P	10 25 45.3	-0.1
BMRM	Bremner River	4.46	70	P	P	10 25 45.5	-0.7
TZL	Tazlina	4.48	55	P	P	10 25 45.7	-0.7
HMT	Hamilton	4.54	78	P	P	10 25 47.7	+0.5
MCK	McKinley	4.54	25	P	P	10 25 47.3	+0.1
SDG	Sourdough	4.68	49	P	P	10 25 49.0	-0.1
GLB	Gilahina Butte	4.96	65	P	P	10 25 52.7	-0.2
PAX	Paxson	4.97	45	P	P	10 25 52.9	-0.2
WANC	Wrangell North	5.04	59	P	P	10 25 56.0	+2.1
THY	Trims Highway	5.17	40	P	P	10 25 56.3	+0.7
WAX	Waxell Ridge	5.24	77	P	P	10 25 56.5	-0.2
GCSA	Galena City Sc	5.36	343	P	P	10 25 57.6	-0.7
BALM	Baldy	5.56	71	P	P	10 26 01.5	+0.5
HDA	Harding Lake	5.57	29	P	P	10 26 00.4	-0.7
CCB	Clear Creek Bu	5.58	25	P	P	10 26 00.3	-0.9
COLA	College	5.77	23	P	P	10 26 03.0	-0.8
SDPT	Sand Point	5.85	225	P	P	10 26 03.5	-1.4
DOT	Dot Lake	5.89	44	P	P	10 26 04.7	-0.7
IL1	Eielson Array	5.89	27	P	P	10 26 04.5	-0.9
ILAR	Eielson Array	5.89	27	P	P	10 26 04.3	-1.1
	4.2nm,0.3s,baz=216,slow=13,SNR=221						
ILAR				S	S	10 27 05.7	-6.6
	1.1nm,0.3s,baz=210,slow=25,SNR=3.7						
CTGM	Chitina Glacie	6.04	73	P	P	10 26 09.0	+1.6
CHX	Chaix Hills	6.10	81	P	P	10 26 09.6	+1.3
IM3	Indian Mountai	6.33	358	P	P	10 26 11.6	+0.2
IMA	Indian Mountai	6.41	358	*e*P	P	10 26 12.6	+0.1
BCA3	Beaver Creek A	6.45	53	P	P	10 26 14.0	+0.9
PCA	Pinnacle	6.53	81	P	P	10 26 14.9	+0.7
PNL	Peninsula	6.99	84	P	P	10 26 20.5	-0.1
COLD	Coldfoot	7.69	9	P	P	10 26 29.1	-0.8
DAWY	Dawson	7.86	50	P	P	10 26 32.1	-0.1
BM3	Burnt Mountain	8.65	23	P	P	10 26 41.1	-1.6
DLBC	Dease Lake	11.98	86	P	P	10 27 30.1	+3.3
	0.5nm,0.3s,baz=260,slow=12,SNR=20						
DLBC				S	S	10 29 37.6	-0.7
	0.2nm,0.3s,baz=328,slow=19,SNR=4.8						
INK	Inuvik	12.15	37	P	P	10 27 29.6	+0.5
	0.2nm,0.3s,baz=244,slow=14,SNR=9.2						
YKA	Yellowknife Ar	18.68	65	P	P	10 28 50.5	+0.4
	0.2nm,0.3s,baz=276,slow=10.0,SNR=14						
YKA	Yellowknife Ar	18.68	65	P	P	10 28 50.5	+0.4
SCHQ	Schefferville	43.82	56	P	P	10 32 35.1	+1.0
	1.7nm,0.7s,mb3.9,baz=299,slow=10,SNR=4.0						
SONM	Songino Array	54.89	306	P	P	10 33 59.4	+0.4
	1.1nm,0.4s,mb4.2,baz=42,slow=7.1,SNR=14						
ZAL	Zalesovo	57.58	324	P	P	10 34 17.4	-0.6
	1.5nm,0.4s,mb4.3,baz=290,slow=7.6,SNR=3.6						
BVAR	Borovoye Array	62.30	332	P	P	10 34 49.3	-0.9
	1.0nm,0.5s,mb4.1,baz=18,slow=9.1,SNR=7.2						

WEL 31 10:32:53.2±1.3, 35.30S×179.12E, h227^{km}±18^{km}, ML3.5/1, Error ellipse: s-maj=25.8km s-min=21.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.36	196	PN	P	10 33 37.2	-0.5
MXZ				SN	S	10 34 11.1	-1.1
PUZ	Puketiti	2.86	194	PN	P	10 33 43.1	0.0
PUZ				SN	S	10 34 20.8	-1.1
MWZ	Matawai	3.29	202	PN	P	10 33 48.4	+0.4
MWZ				SN	S	10 34 30.7	0.0
MWZ				SN	S	10 34 31.4	+0.7
URZ	Urewera	3.37	208	PN	P	10 33 48.4	-0.6
BKZ	Black Stump Fm	4.40	208	PN	P	10 34 00.6	-0.7
MRZ	Mangatainoka R	6.04	207	*e*PN	P	10 34 19.6	-2.4

IDC 31 10:48:07.0±3.1, 3.51S×135.83E, mb3.8/3, mb1 3.8/4, mb1mx3.6/11, ML2.9/1, Error ellipse: s-maj=189.0km s-min=26.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	Warramunga Arr	16.40	185	*e*P	P	10 52 00.8	+0.5
WRA	Warramunga Arr	16.40	185	Pn	P	10 51 53.4	-7.0
	0.0nm,0.3s,baz=3.3,slow=13,SNR=2.5						
ASAR	Alice Springs	20.13	185	P	P	10 52 42.6	-2.9
	4.3nm,0.6s,baz=8.6,slow=11,SNR=52						
STKA	Stephens Creek	28.74	170	P	P	10 54 06.3	-2.0
	0.8nm,0.5s,baz=355,slow=11,SNR=3.1						
MKAR	Makanchi Array	68.69	324	P	P	10 59 12.5	-2.0
	0.2nm,0.5s,baz=108,slow=7.2,SNR=3.3						

GUC 31 11:03:53.8±0.7, 34.96S×70.54W, h3^{km}, MD3.5, ML2.5, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.52	311	*e*P	Pg	11 04 04.5	+0.3
SFDO				*i* S	Sg	11 04 12.1	+0.9
CICH	Cipreses	0.64	9	⇑*i*P	Pg	11 04 06.8	+0.1
CICH				*i* S	Sg	11 04 16.7	+1.5
CACH	El Canelo	0.84	357	*i* S	Sg	11 04 23.0	+1.2
CHCH	Chadas Angostu	1.03	355	*e*P	Pb	11 04 13.6	-0.3
CHCH				*i* S	Sb	11 04 28.7	+1.1
LMEL	Las Melosas	1.14	14	*e*P	Pb	11 04 15.0	-0.9
LMEL				*i* S	Sb	11 04 32.1	+1.2
LMEL				AMP		11 04 34.2	
	comp=N,148nm,0.1s						
LNV	Longovilo	1.23	324	*i* P	Pb	11 04 16.8	-0.6
LNV				*i* S	Sb	11 04 33.8	+0.2
TACH	Talagante	1.34	346	*e*P	Pb	11 04 18.6	-0.7
FCH	Farellones	1.64	7	*e*P	Pn	11 04 23.3	-0.4
FCH				*i* S	Sb	11 04 47.3	+2.0
FCH				AMP		11 04 48.5	
	comp=N,145nm,0.3s						

IDC 31 11:18:25.8±37.0, 4.13S×127.99E, h258^{km}±216^{km}, mb3.6/2, mb1 3.7/4, mb1mx3.3/16, Error ellipse: s-maj=343.0km s-min=103.8km az=170.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	9.57	153	*e*P	P	11 20 48.4	+8.7
	4.8nm,0.6s						
FITZ	Fitzroy Crossi	14.08	189	P	P	11 21 34.6	-1.4
	0.3nm,0.3s,baz=10.0,slow=11,SNR=10						
WRA	Warramunga Arr	16.90	159	P	P	11 22 07.1	-1.5
	1.4nm,0.3s,baz=338,slow=11,SNR=208						
WB2	Warramunga Arr	16.90	159	*e*P	P	11 22 07.3	-1.3
ASAR	Alice Springs	20.25	164	P	P	11 22 41.8	-0.9
	3.9nm,0.3s,baz=344,slow=11,SNR=48						
ASPA	Alice Springs	20.25	164	*e*P	P	11 22 41.7	-1.0
ASPA				*e*S	x	11 24 59.5	
STKA	Stephens Creek	30.42	157	P	P	11 24 14.5	-2.0
	2.6nm,0.9s,baz=342,slow=13,SNR=3.1						

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*IDC **31** 11:19:18.9±9.0, 1.17N×121.32E, h77^{km}±88^{km}, mb3.9/7, mb1 4.1/8, mb1mx3.8/18, ML4.5/1, Error ellipse: s-maj=80.9km s-min=16.0km az=60.0*

*NEIC **31** 11:19:25.9±0.4, 1.03N×121.23E, h150^{km}, mb4.6/8, Error ellipse: s-maj=31.0km s-min=6.3km az=59.0*

ISC 31 11:19:19.1±0.6, 1.2N±0.2×121.4E±0.3, h100^{km}, n17, σ0^{s}55/17, mb4.5/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.62	168	*e*P	P	11 23 41.6	-0.5
	3.7nm,0.4s						
FITZ	Fitzroy Crossi	19.62	168	P	P	11 23 41.2	-0.9
	1.1nm,0.3s,baz=3.2,slow=7.3,SNR=28						
WRAB	Tennant Creek	24.54	149	*e*P	P	11 24 30.9	-0.1
	8.5nm,0.5s,mb4.4						
WRA	Warramunga Arr	24.54	149	P	P	11 24 31.3	+0.4
	5.6nm,0.4s,mb4.3,baz=326,slow=11,SNR=74						
WB2	Warramunga Arr	24.55	149	*e*P	P	11 24 31.2	+0.2
ASAR	Alice Springs	27.54	155	P	P	11 24 59.1	+0.4
	1.9nm,0.6s,mb3.8,baz=345,slow=15,SNR=24						
ASAR				PcP	PcP	11 28 15.0	+0.5
	0.4nm,0.6s,baz=354,slow=2.8,SNR=4.7						
CMAR	Chiang Mai Arr	27.91	309	P	P	11 25 01.6	-0.5
	0.8nm,0.6s,mb3.4,baz=143,slow=8.3,SNR=6.6						
PKI	Pulchoki	43.30	311	*e*P	P	11 27 13.1	+0.2
	16nm,0.5s,mb5.0						
KKN	Kakani	43.51	311	*e*P	P	11 27 14.8	+0.2
	12nm,0.6s,mb4.8						
DMN	Daman	43.55	310	*e*P	P	11 27 15.3	+0.4
	30nm,1.0s,mb5.0						
GKN	Gorkha	44.11	311	*e*P	P	11 27 19.6	+0.2
	30nm,0.7s,mb5.1						
KOLN	Koldanda	44.78	310	*e*P	P	11 27 25.3	+0.5
	26nm,0.7s,mb5.1						
SONM	Songino Array	48.25	347	P	P	11 27 52.5	+0.7
	1.5nm,0.8s,mb3.9,baz=164,slow=8.3,SNR=7.7						
MKAR	Makanchi Array	56.76	329	P	P	11 28 55.5	+0.4
	3.5nm,0.5s,mb4.6,baz=135,slow=8.2,SNR=16						
ZAL	Zalesovo	60.58	336	P	P	11 29 20.1	-1.3
	1.4nm,0.6s,mb4.2,baz=172,slow=3.1,SNR=6.6						
KURK	Kurchatov	61.15	330	P	P	11 29 24.4	-0.9
	12nm,0.8s,mb5.0						
BVAR	Borovoye Array	66.64	329	P	P	11 30 00.8	-0.2
	2.4nm,0.8s,mb4.1,baz=140,slow=12,SNR=7.8						

KRSC 31 11:24:42.0±1.4, 54.82N×164.19E, h40^{km}±21^{km}, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	1.10	69	*i* P	P	11 24 59.3	-1.8
BKI				*i* S	S	11 25 11.6	-3.7
BKI				Smax			
	330nm,0.2s						
MKZ	Mys Kozlova	1.45	261	*i* P	P	11 25 05.7	-0.5
MKZ				*i* S	S	11 25 23.0	-1.3
KBTR	Krutoberegovo	1.59	331	*i* P	P	11 25 06.4	-1.9
KBTR				*i* S	S	11 25 26.5	-1.3
KBG	Krutoberegovo	1.67	330	P	P	11 25 06.5	-2.8
KBG				*e*S	S	11 25 27.5	-2.1
KBG				Smax			
	380nm,0.6s						
ZLN	Zelenaya	2.27	303	*e*P	P	11 25 17.8	-0.1
ZLN				*e*S	S	11 25 43.7	-1.2
CIRR	Tsirk	2.35	305	*i* P	P	11 25 18.8	-0.2
CIRR				*e*S	S	11 25 45.1	-1.8
LGNR	Loginova	2.36	304	*e*P	P	11 25 19.3	+0.1
TUMR	Tumrok	2.37	283	*e*P	P	11 25 19.5	+0.2
TUMR				*e*S	S	11 25 46.8	-0.6
KMNR	Kamenistaya	2.45	294	*i* P	P	11 25 20.3	-0.1
KMNR				*e*S	S	11 25 47.8	-1.5
KRSR	Krestovskiy	2.49	306	*e*S	S	11 25 50.2	-0.3
KLY	Klyuchi	2.50	308	*i* P	P	11 25 19.5	-1.7
KLY				*e*S	S	11 25 46.7	-4.1
KOZ	Kozyrevsk	2.75	299	*e*P	P	11 25 25.3	+0.5
KOZ				*e*S	S	11 25 56.0	-1.1
KII	Karymskiy	2.88	256	*e*P	P	11 25 26.1	-0.5
KII				*e*S	S	11 25 57.8	-2.5
SRDR	Sredinnyy	2.95	302	*e*P	P	11 25 27.9	+0.3
SRDR				*e*S	S	11 26 01.1	-1.0
SPN	Mys Shipunski	3.01	237	*e*S	S	11 26 00.8	-2.7
NLC	Nalytchevo	3.30	242	*e*P	P	11 25 31.8	-0.8
NLC				*e*S	S	11 26 08.2	-2.9
ESO	Esso	3.32	292	*i* P	P	11 25 31.7	-1.2
ESO				*e*S	S	11 26 07.2	-4.4
ESO				Smax			
	30nm,0.4s						
SDLR	Sedlovina	3.49	246	*e*P	P	11 25 34.6	-0.6
SDLR				*e*S	S	11 26 13.0	-2.8
SMAR	Somma	3.54	246	*e*P	P	11 25 35.7	-0.2
UGLR	Uglovaya	3.55	245	*e*P	P	11 25 36.2	+0.1
AVH	Avacha	3.57	246	*e*P	P	11 25 36.0	-0.4
AVH				*e*S	S	11 26 15.0	-2.9
KOK	Koryaka	3.61	247	*e*P	P	11 25 36.7	-0.3
PET	Petropavlovsk	3.73	243	*e*S	S	11 26 18.7	-3.3
GNL	Ganaly	3.83	255	*e*P	P	11 25 39.8	-0.3
GNL				*e*S	S	11 26 21.8	-2.7
RUS	Russkaya	4.14	237	*e*P	P	11 25 44.1	-0.3
RUS				*e*S	S	11 26 29.1	-3.1
GRL	Gorelyy	4.29	240	*e*P	P	11 25 46.9	+0.4
GRL				*e*S	S	11 26 33.8	-2.2
APC	Apacha	4.57	248	*e*P	P	11 25 51.4	+0.8
APC				*e*S	S	11 26 41.7	-1.5
APC				Smax			
	10.0nm,0.9s						

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*HEL **31** 11:35:57.6±0.5, 60.95N×29.36E, ML1.6, ML2.3(NAO), Explosion*

*NAO **31** 11:35:57.0±2.6, 60.69N×29.03E, ML2.3*

*BER **31** 11:35:59.2±3.1, 60.96N×29.16E, ML2.3(NAO), Suspected explosion*

ISC 31 11:35:57.2±1.6, 60.95N±0.07×29.3E±0.2, n11, σ1^{s}02/12, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	Virojoki	0.93	244	*e*P	Pg	11 36 15.2	-0.6
VJF				*e*S	Sg	11 36 28.2	+0.1
FIA0	FINESS Array S	1.62	289	*e*P	Pn	11 36 26.7	-0.4
FIA0				*e*S	Sb	11 36 48.2	-0.3
FIA0	FINESS Array S	1.62	289	Pn	Pn	11 36 26.8	-0.3
	baz=116,slow=16						
FIA0				Lg		11 36 48.6	
	baz=114,slow=28						
FIA0				Rg		11 36 56.2	
	baz=119,slow=56						
PVF	Pernaja	1.72	258	*e*P	Pn	11 36 28.3	-0.2
PVF				*e*S	Sb	11 36 51.9	+0.6
PVF				MSG		11 36 54.3	
	comp=Z,5.5nm,0.1s						
KAF	Kangasniemi	1.83	311	*e*P	Pn	11 36 31.3	+1.2
KAF				*e*S	Sn	11 36 54.2	-0.2
KAF				MSG		11 36 59.5	
	comp=Z,2.3nm,0.2s						
HFS	Hagfors	7.72	271	Lg		11 39 56.5	
	baz=83,slow=37						
HFS	Hagfors	7.72	271	*e*SG		11 39 56.5	
HFS	Hagfors	7.72	271	Lg		11 39 56.5	
	baz=83,slow=37						
ARA0	ARCESS Array S	8.76	351	*e*P	P	11 38 05.4	-2.7
ARA0				*e*SG		11 40 27.3	
ARA0	ARCESS Array S	8.76	351	Pn	P	11 38 05.4	-2.7
	baz=174,slow=12						
ARA0				Lg		11 40 27.3	
	baz=161,slow=37						
SPA0	Spitsbergen Ar	17.80	351	*e*P	P	11 40 09.2	+1.8

GUC 31 11:46:32.0±1.1, 35.01S×70.64W, h7^{km}±4^{km}, MD3.9, ML3.3, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.48	271	*e*P	Pg	11 46 42.2	+0.5
NICH				*i* S	Sg	11 46 49.2	+1.0
SFDO	San Fernando	0.50	322	⇓*i*P	Pg	11 46 42.3	+0.3
SFDO				*i* S	Sg	11 46 49.7	+1.0
CICH	Cipreses	0.71	15	⇓*i*P	Pg	11 46 45.1	-1.2
CICH				*i* S	Sg	11 46 55.4	-0.4
CACH	El Canelo	0.89	2	⇑*i*P	Pb	11 46 48.4	-1.0
CACH				*i* S	Sb	11 47 01.6	+0.3
TALC	Talca	0.90	244	⇑*i*P	Pb	11 46 48.9	-0.6
TALC				*i* S	Sb	11 47 01.7	+0.2
TALC				AMP		11 47 02.0	
	comp=E,6µm,0.1s						
CHCH	Chadas Angostu	1.07	360	⇓*i*P	Pb	11 46 51.9	-0.7
CHCH				*e*S	Sb	11 47 07.0	+0.4
LMEL	Las Melosas	1.21	18	*e*P	Pb	11 46 53.9	-1.1
LMEL				*i* S	Sb	11 47 10.9	+0.3
LMEL				AMP		11 47 12.6	
	comp=N,889nm,0.1s						
LNV	Longovilo	1.23	329	⇑*i*P	Pb	11 46 54.6	-0.6
LNV				*i* S	Sb	11 47 12.0	+0.9
TACH	Talagante	1.37	350	⇓*i*P	Pb	11 46 57.0	-0.7
TACH				*e*S	Sb	11 47 15.2	-0.1
SJCH	San Jose de Ma	1.39	10	AMP		11 47 18.5	
	comp=E,443nm,0.2s						
PCH	Pirque	1.39	4	⇓*i*P	Pn	11 46 57.3	-0.6
ANTU	Antumapu	1.44	0	*e*P	Pn	11 46 58.0	-0.6
ANTU				*i* S	Sb	11 47 18.2	+1.1
ANTU				AMP		11 47 19.7	
	comp=E,1µm,0.1s						
CLCH	Cerro Calan	1.61	3	*i* P	Pn	11 47 01.4	+0.3
CLCH				*i* S	Sb	11 47 23.8	+1.6
CLCH				AMP		11 47 27.0	
	comp=E,489nm,0.6s						
CLCH				AMP		11 47 38.0	
	comp=N,875nm,0.7s						
FCH	Farellones	1.70	10	⇑*i*P	Pn	11 47 02.8	+0.4
FCH				*e*S	Sn	11 47 26.4	+1.7
FCH				AMP		11 47 29.3	
	comp=E,455nm,0.1s						
LCCH	Las Cruces	1.71	333	⇑*i*P	Pn	11 47 02.7	+0.2
LCCH				*i* S	Sn	11 47 25.5	+0.7
PEL	Peldehue	1.86	359	AMP		11 47 32.6	
	comp=N,755nm,0.8s						

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*LDG **31** 11:49:16.8±0.3, 17.22S×168.16E, h10^{km}, Mb5.4/3, Error ellipse: s-maj=41.3km s-min=20.9km az=18.0*

*BJI **31** 11:49:41.0, 16.59S×168.82E, h208^{km}, mB5.2, mb5.1*

*HRVD **31** 11:49:42.4±0.3, 17.00S×168.52E, h241^{km}±1^{km}, MW5.3/54, Centroid moment Tensor Solution. LP body waves: s48,c70;Mantle waves: s54,c96; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.03; $M_{\theta\theta}$-0.40±.03; $M_{\phi\phi}$0.57±.02; $M_{r\theta}$-0.68±.03; $M_{\theta\phi}$0.05±.02; $M_{\phi r}$-0.41±.03; Best double couple: M_0.94×10^{17} NP1: ϕ_s147°,δ33°,λ-169°. NP2:ϕ_s48°,δ84°,λ-58°. Principal axes: T .86, Plg32°, Azm112°; N .16, Plg32°, Azm224°; P -1.01, Plg42°, Azm348°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 11:49:42.4±1.0, 16.93S×168.66E, h214^{km}±9^{km}, mb5.0/44 Error ellipse: s-maj=8.4km s-min=6.6km az=150.0*

*SYO **31** 11:49:42.4, 16.93S×168.66E, h214^{km}, MB5.0*

*MOS **31** 11:49:43.8±1.7, 17.06S×168.69E, h249^{km}, mb4.9/10, Error ellipse: s-maj=17.6km s-min=14.0km az=99.9*

*IDC **31** 11:49:45.0±0.7, 17.00S×168.56E, h238^{km}±5^{km}, mb4.5/22, mb1 4.6/22, mb1mx4.6/23, Error ellipse: s-maj=10.7km s-min=8.8km az=140.0*

ISC 31 11:49:43.3±0.5, 16.98S±0.03×168.58E±0.04, h235^{km}±4^{km}, h230^{km}±2.3^{km}:pP-P, n403, σ0^{s}99/190, mb4.9/80, 19C-79D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	0.76	205	⇓*i*P	P	11 50 15.7	0.0
BKM				S	S	11 50 41.0	+0.1
DZM	Mont Dzumac	5.45	201	⇓*i*P	P	11 51 04.3	-0.6
DZM				*e*S	S	11 52 06.7	-1.8
DZM	Mont Dzumac	5.45	201	⇓*i*P	P	11 51 04.3	-0.6
DZM				*e*S	S	11 52 06.7	-1.8
NOUC	Port Laguerre	5.53	203	⇓*i*P	P	11 51 05.9	+0.1
NOUC				*e*S	S	11 52 11.0	+0.8
NOUC	Port Laguerre	5.53	203	⇓*i*P	P	11 51 05.9	+0.1
NOUC				*e*S	S	11 52 11.0	+0.8
HNR	Honiara	11.27	311	*e*P	P	11 52 19.0	-0.1
HNR				*e*S	S	11 54 35.0	+13
OUZ	Omahuta	18.71	167	⇑P	P	11 53 46.7	+0.4
WCZ	Waipu Caves	19.57	166	⇑P	P	11 53 56.3	+1.2
CTA	Charters Tower	21.39	258	⇑*i*P	P	11 54 14.4	+1.2
	44nm,0.9s,mb5.0						
CTA				*i* PP	PP	11 54 53.5	+7.2
CTA				*e*SCP		12 01 24.1	
CTA	Charters Tower	21.39	258	P	P	11 54 14.5	+1.3
	55nm,0.8s,mb5.1,baz=85,slow=12,SNR=45						
CTA				pP		11 54 53.5	
	40nm,0.8s,baz=80,slow=13,SNR=4.0						
CTA				ScP		12 01 24.1	
	4.2nm,0.7s,baz=287,slow=3.4,SNR=3.8						
CTA	Charters Tower	21.39	258	P	P	11 54 14.5	+1.3
CTA				pmax	pmax		
	comp=Z,55nm,0.9s						
CTA				pmax	pmax		
	comp=N,40nm,0.9s						
CTA				pmax	pmax		
	comp=N,4.0nm,0.7s						
CTAO	Charters Tower	21.39	258	⇑*e*P	P	11 54 14.4	+1.1
	comp=N,61nm,0.7s,mb5.2						
CTAO				*e*pP		11 54 53.3	
MXZ	Matakaoa Point	22.22	159	P	P	11 54 21.4	+0.2
URZ	Urewera	22.48	162	P	P	11 54 24.2	+0.5
	comp=N,80nm,0.5s,mb5.5,baz=340,slow=4.2,SNR=79						
URZ				S	S	11 58 14.8	+5.1
	comp=N,29nm,0.9s,baz=157,slow=21,SNR=6.0						
URZ	Urewera	22.48	162	P	P	11 54 23.9	+0.2
PUZ	Puketiti	22.67	160	P	P	11 54 25.1	-0.4
MWZ	Matawai	22.68	162	P	P	11 54 25.8	+0.2
MGZ	Maungaku	22.77	166	P	P	11 54 27.7	+1.2
KATZ	Kakaramea	22.78	166	⇑P	P	11 54 28.1	+1.5
KAVZ	Karewarewa	22.88	166	P	P	11 54 29.3	+1.7
NGZ	Ngauruhoe	22.95	166	P	P	11 54 29.6	+1.4
CNZ	Chateau	22.96	166	P	P	11 54 29.9	+1.6
FWVZ	Far West T-bar	23.01	166	P	P	11 54 30.4	+1.6
TUVZ	Tukino	23.05	166	P	P	11 54 31.2	+2.1
BKZ	Black Stump Fm	23.16	164	P	P	11 54 30.0	-0.2
TSZ	Takapari Road	23.87	166	P	P	11 54 36.4	-0.5
QRZ	Quartz Range	24.01	173	P	P	11 54 39.5	+1.4
MRZ	Mangatainoka R	24.36	167	P	P	11 54 39.9	-1.5
BFZ	Birch Farm	24.53	166	⇓P	P	11 54 41.7	-1.3
CAW	Cannon Point	24.69	168	P	P	11 54 43.1	-1.3
MRW	Makara Radio	24.73	169	P	P	11 54 43.7	-1.2
SNZO	South Karori	24.81	169	P	P	11 54 44.4	-1.2
SNZO	South Karori	24.81	169	*e*P	P	11 54 44.7	-0.9
	comp=N,60nm,0.5s,mb5.5						
MTW	Mount Morrison	24.82	167	P	P	11 54 43.9	-1.8
THZ	Tophouse	24.98	172	P	P	11 54 46.1	-1.0
CNB	Canberra Magne	25.04	220	*e*P	P	11 54 49.4	+1.7
	comp=N,16nm,0.8s,mb4.7						
CNB				*e*pP	Px	11 54 57.1	
CNB				*e*PP	PP	11 55 36.5	+1.2
KHZ	Kahutara	25.71	172	P	P	11 54 51.7	-2.1
RPZ	Rata Peaks	26.73	176	P	P	11 55 01.0	-2.1
	comp=N,13nm,0.6s,mb4.8,baz=286,slow=6.0,SNR=8.5						
STKA	Stephens Creek	28.60	234	*e*P	P	11 55 20.0	0.0
	comp=N,37nm,0.8s,mb5.1						
STKA				*e*PP	pP	11 56 04.6	-2.0
STKA				*e*SCP		12 01 44.0	
STKA				*i* SCS	ScS	12 05 37.1	+2.4
STKA	Stephens Creek	28.60	234	P	P	11 55 20.0	0.0
	comp=N,36nm,0.6s,mb5.2,baz=58,slow=7.8,SNR=71						
STKA				ScP		12 01 43.8	
	comp=N,6.8nm,0.8s,baz=98,slow=2.1,SNR=7.2						
TOO	Toolangi	28.88	220	*e*P	P	11 55 22.9	+0.5
	comp=N,6.5nm,1.0s,mb4.2						
WB2	Warramunga Arr	32.57	259	⇓*i*P	P	11 55 53.5	-1.3
WB2				*e*SCP		12 01 57.3	
WB2				*e*SCS	ScS	12 05 54.9	+0.6
WRAB	Tennant Creek	32.57	259	*e*P	P	11 55 53.3	-1.5
	comp=N,50nm,0.9s,mb5.0						
WRA	Warramunga Arr	32.58	259	P	P	11 55 53.4	-1.5
	comp=N,18nm,0.9s,mb4.6,baz=82,slow=6.7,SNR=134						
WRA				S	S	12 00 51.8	-0.3
	comp=N,1.6nm,0.9s,baz=97,slow=15,SNR=4.1						
WRA				ScP		12 01 57.1	
	comp=N,10nm,0.9s,baz=86,slow=3.8,SNR=21						
WRA	Warramunga Arr	32.58	259	P	P	11 55 53.4	-1.5
WRA				S	S	12 00 51.8	-0.3

WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
WRA				smax			
	comp=N,2.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ASAR	**Alice Springs**	**33.13**	**253**	P	**P**	**11 55 58.7**	**-0.9**
	comp=N,345nm,1.1s,mb5.8,baz=78,slow=9.2,SNR=1208						
ASAR				S	**S**	**12 00 58.8**	**-1.7**
	comp=N,2.0nm,0.9s,baz=87,slow=15,SNR=4.6						
ASAR				ScP		12 01 59.0	
	comp=N,12nm,0.6s,baz=98,slow=3.7,SNR=33						
ASPA	**Alice Springs**	**33.14**	**253**	⇑*i*P	**P**	**11 55 58.7**	**-0.9**
ASPA				*e*S	**S**	**12 00 59.3**	**-1.3**
ASPA				*e*SCP		12 01 59.2	
ASPA				*e*SCS	ScS	12 05 57.1	-0.1
KAKA	**Kakadu**	**35.20**	**272**	⇑*i*P	**P**	**11 56 16.3**	**-0.9**
	comp=N,57nm,0.5s,mb5.4						
KAKA				*e*S		12 02 06.6	
FORT	**Forrest**	**39.30**	**242**	*e*P	**P**	**11 56 51.2**	**0.0**
	comp=N,172nm,0.5s,mb5.8						
TBI	**Tubuai**	**39.79**	**106**	*e*S	**S**	**12 02 39.2**	**-2.3**
TBI				*e*R		12 08 39.3	
	comp=N,154nm,28.5s						
PPT	**Papeete**	**39.90**	**97**	*e*S	**S**	**12 02 36.0**	**-7.2**
PPT				*e*R		12 08 51.3	
	comp=N,185nm,25.2s						
FITZ	**Fitzroy Crossi**	**40.90**	**262**	*e*P	**P**	**11 57 04.7**	**+0.3**
	comp=N,123nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**48.16**	**243**	*e*P	**P**	**11 58 00.5**	**-1.3**
	comp=N,30nm,0.7s,mb4.7						
CBIJ	**Chichi jima**	**50.75**	**329**	P	**P**	**11 58 20.7**	**-0.8**
	comp=N,167nm,1.0s,mb5.4,baz=294,slow=21,SNR=4.8						
TGY	**Tagaytay City**	**56.27**	**300**	P	**P**	**11 59 02.7**	**+0.9**
	comp=N,96nm,0.4s,mb5.7,baz=200,slow=18,SNR=4.1						
TGY	**Tagaytay City**	**56.27**	**300**	P	**P**	**11 59 02.7**	**+0.9**
TGY				pmax	pmax		
	comp=Z,96nm,0.4s						
MAT	**Matsushiro**	**60.48**	**332**	P	**P**	**11 59 29.2**	**-1.4**
MAT	**Matsushiro**	**60.48**	**332**	*e*P	**P**	**11 59 29.0**	**-1.6**
	comp=Z,44nm,1.2s,mb5.0						
SBA	**Scott Base**	**60.91**	**180**	*e*P	**P**	**11 59 32.6**	**-0.4**
	comp=Z,25nm,0.8s,mb4.9						
SBA				*e*	pP	12 00 25.8	-0.8
SBA				*e*PP	PP	12 01 35.4	-17
SSE	**Sheshan**	**66.01**	**316**	P	**P**	**12 00 09.8**	**+3.0**
SSE				S	S	12 08 39.3	+5.0
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,299nm,4.3s						
SSE				LR	LR		
	comp=N,97nm,21.6s						
SSE				LR	LR		
	comp=E,125nm,21.5s						
SSE				LR	LR		
	comp=Z,59nm,25.5s						
SSE	**Sheshan**	**66.01**	**316**	P	**P**	**12 00 09.8**	**+3.0**
	comp=Z,21nm,0.7s,mb4.9						
SSE				pP	pP	12 01 04.5	+3.1
SSE				sP	sP	12 01 31.6	+5.3
SSE				S	S	12 08 39.3	+5.0
SSE				sS		12 10 16.1	
YSS	**Yuzh-Sakhalins**	**67.75**	**341**	*e*P	**P**	**12 00 17.8**	**+0.4**
YSS				pmax	pmax		
	comp=Z,136nm,1.2s,mb5.5						
NJ2	**Nanjing**	**68.16**	**316**	*e*P	**P**	**12 00 20.0**	**-0.2**
NJ2				PP	PP	12 02 57.0	+1.7
NJ2				S	S	12 09 00.0	0.0
NJ2				LR	LR		
	comp=N,51µm,22.4s						
NJ2				LR	LR		
	comp=E,51µm,20.0s						
NJ2				LR	LR		
	comp=Z,69µm,24.3s						
SMY	**Shemya**	**69.58**	**4**	*e*P	**P**	**12 00 27.9**	**-0.6**
FX1	**Attu Island--F**	**69.68**	**3**	P	**P**	**12 00 28.2**	**-0.9**
	comp=Z,17nm,0.4s,mb5.0,baz=162,slow=5.9,SNR=27						
FX1	**Attu Island--F**	**69.68**	**3**	P	**P**	**12 00 28.2**	**-0.9**
FX1				pmax	pmax		
	comp=Z,17nm,0.4s						
FX1	**Attu Island--F**	**69.68**	**3**	⇓*e*P	**P**	**12 00 28.0**	**-1.1**
PET	**Petropavlovsk**	**70.24**	**354**	⇓*i*P	**P**	**12 00 31.6**	**-0.9**
PET				*e**SP	sP	12 01 52.6	+0.3
PET				*e*S	S	12 09 20.7	-3.1
PET				*e*SS	SS	12 13 55.4	-5.6
PET				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
WHN	**Wuhan**	**70.38**	**312**	P	**P**	**12 00 33.8**	**0.0**
MDJ	**Mudanjiang**	**70.85**	**332**	P	**P**	**12 00 36.8**	**+0.5**
MDJ				AP	pP	12 01 30.0	-1.5
MDJ				PP	PP	12 03 15.5	-2.6
MDJ				SS	SS	12 14 06.0	-4.9
MDJ				AMB	AMB		
	comp=Z,72nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,125nm,3.6s						
MDJ				LR	LR		
	comp=N,126nm,4.4s						
MDJ				LR	LR		
	comp=E,176nm,4.4s						
MDJ				LR	LR		
	comp=Z,218nm,4.1s						
MDJ	**Mudanjiang**	**70.85**	**332**	*e*P	**P**	**12 00 36.8**	**+0.5**
	comp=Z,87nm,1.0s,mb5.3						
SNY	**Shenyang**	**71.77**	**326**	⇓P	**P**	**12 00 42.0**	**+0.1**
SNY				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.5						
CN2	**Changchun**	**72.22**	**329**	*e*P	**P**	**12 00 44.5**	**0.0**
CN2				*e*AP	pP	12 01 37.5	-2.4
CN2				*e*S	S	12 09 49.0	+2.4
CN2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.3						
KKTK	**Khon Kaen**	**72.78**	**294**	P	**P**	**12 00 49.0**	**+0.6**
	comp=Z,494nm,1.0s						
ENH	**Enshi**	**73.76**	**309**	⇓*e*P	**P**	**12 00 53.4**	**-0.5**
	comp=Z,24nm,0.7s,mb4.9						
GYA	**Guiyang**	**74.03**	**305**	⇑*i*P	**P**	**12 00 55.5**	**0.0**
GYA				AP	pP	12 01 48.5	-2.5
GYA				XP	sP	12 02 11.5	-4.2
GYA				S	S	12 10 07.0	-0.1
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
GYA				LR	LR		
	comp=N,350nm,16.8s						
GYA				LR	LR		
	comp=E,320nm,16.0s						
GYA				LR	LR		
	comp=Z,260nm,16.6s						
BJI	**Beijing**	**74.80**	**321**	*e*P	**P**	**12 01 00.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,69nm,1.1s,mb5.2						
NST	**Nakhon Sawan**	**74.89**	**292**	⇓P	**P**	**12 01 02.0**	**+1.4**
	comp=Z,75nm,1.0s,mb5.3						
NANT	**Nan**	**75.62**	**295**	⇓P	**P**	**12 01 05.5**	**+0.9**
	comp=Z,62nm,0.9s,mb5.2						
XAN	**Xi’an**	**76.13**	**312**	P	**P**	**12 01 07.8**	**+0.6**
XAN				AMB	AMB		
	comp=Z,43nm,1.2s,mb5.0						
KMI	**Kunming**	**76.56**	**302**	⇓*i*P	**P**	**12 01 11.5**	**+1.8**
KMI				AP	pP	12 02 04.8	-0.8
KMI				S	S	12 10 39.5	+4.7
KMI				AMB	AMB		
	comp=Z,78nm,1.4s,mb5.2						
KMI				LR	LR		
	comp=Z,69nm,26.7s						
KMI	**Kunming**	**76.56**	**302**	⇓*i*P	**P**	**12 01 11.4**	**+1.7**
	comp=Z,78nm,1.4s,mb5.2						
KMI				pP	pP	12 02 04.7	-0.9
KMI				sP	sP	12 02 32.9	+2.7
KMI				S	S	12 10 39.6	+4.8
CHRT	**Chiangrai**	**76.84**	**296**	P	**P**	**12 01 12.5**	**+1.1**
	comp=Z,221nm,1.2s,mb5.7						
CM31	**Chiang Mai Arr**	**77.02**	**294**	*e*P	**P**	**12 01 13.8**	**+1.5**
	comp=Z,110nm,1.1s,mb5.4						
CMAR	**Chiang Mai Arr**	**77.02**	**294**	P	**P**	**12 01 13.2**	**+0.8**
	comp=Z,27nm,0.8s,mb4.9,baz=125,slow=4.2,SNR=120						
CMAR	**Chiang Mai Arr**	**77.02**	**294**	P	**P**	**12 01 13.2**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,27nm,0.9s						
CHG	**Chiang Mai**	**77.15**	**294**	⇓P	**P**	**12 01 14.1**	**+1.0**
	comp=Z,56nm,1.0s,mb5.2						
MA2	**Magadan**	**77.65**	**351**	*d* *i*P	**P**	**12 01 13.9**	**-1.1**
MA2				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.0						
MA2	**Magadan**	**77.65**	**351**	⇓*e*P	**P**	**12 01 13.7**	**-1.3**
	comp=Z,44nm,0.9s,mb5.1						
HHC	**Hu-ho-hao-te**	**78.11**	**319**	*e*P	**P**	**12 01 18.5**	**+0.6**
HHC				AP	pP	12 02 07.0	-7.0
HHC				PP	PP	12 04 15.3	-4.0
HHC				S	S	12 10 45.8	-5.1
HHC				XS		12 12 23.8	
HHC				AMB	AMB		
	comp=Z,52nm,1.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,119nm,5.9s						
HHC				LR	LR		
	comp=N,61nm,10.7s						
HHC				LR	LR		
	comp=E,128nm,15.5s						
CD2	**Chengdu**	**78.38**	**307**	⇑*i*P	**P**	**12 01 21.0**	**+1.4**
CD2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.1						
BTO	**Baotou**	**78.94**	**319**	*e*P	**P**	**12 01 23.3**	**+0.9**
BTO				AMB	AMB		
	comp=Z,58nm,1.7s,mb4.9						
MAW	**Mawson**	**80.28**	**202**	P	**P**	**12 01 29.6**	**+0.6**
	comp=Z,2.5nm,0.8s,mb3.9,baz=138,slow=4.7,SNR=5.6						
MAW				pP	pP	12 02 25.7	+0.3
	comp=Z,4.9nm,0.9s,baz=97,slow=8.8,SNR=4.0						
MAW	**Mawson**	**80.28**	**202**	P	**P**	**12 01 29.6**	**+0.6**
MAW				*PP	pP	12 02 25.7	+0.3
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW				pmax	pmax		
	comp=N,5.0nm,1.0s						
SEY	**Seymchan**	**80.66**	**353**	*e*P	**P**	**12 01 32.5**	**+1.5**
SEY				pmax	pmax		
	comp=N,50nm,0.9s						
SEY				pmax	pmax		
	comp=E,20nm,0.9s						
SEY				pmax	pmax		
	comp=Z,160nm,0.9s,mb5.7						
LZH	**Lanzhou**	**80.76**	**312**	⇓P	**P**	**12 01 33.8**	**+1.7**
LZH				AP	pP	12 02 29.0	+0.4
LZH				PP	PP	12 04 43.8	+2.5
LZH				*e*S	S	12 11 23.0	+4.3
LZH				SS	SS	12 16 47.0	+6.1
LZH				AMB	AMB		
	comp=Z,66nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,320nm,4.0s						
LZH	**Lanzhou**	**80.76**	**312**	⇓P	**P**	**12 01 33.8**	**+1.7**
	comp=Z,66nm,1.0s,mb5.2						
LZH				pP	pP	12 02 29.0	+0.4
LZH				sP	sP	12 02 52.7	-0.2
LZH				PP	PP	12 04 43.8	+2.5
LZH				*e*S	S	12 11 23.0	+4.3
LZH				sS		12 13 00.0	
LZH				SS	SS	12 16 47.1	+6.2
KDAK	**Kodiak Island**	**81.13**	**20**	*e*P	**P**	**12 01 33.5**	**-0.1**
	comp=Z,37nm,1.0s,mb5.0						
SVW	**Sparrevohn**	**82.92**	**17**	*e*P	**P**	**12 01 43.0**	**+0.3**
SPU	**Mount Spurr**	**84.00**	**18**	*e*P	**P**	**12 01 47.2**	**-0.9**
SLKM	**Skilak Lake**	**84.03**	**19**	*e*P	**P**	**12 01 47.6**	**-0.6**
TTA	**Tatalina**	**84.33**	**15**	*e*P	**P**	**12 01 50.2**	**+0.5**
YAK	**Yakutsk**	**84.54**	**343**	⇓*i*P	**P**	**12 01 50.8**	**0.0**
YAK				*e*S	S	12 11 49.4	-6.5
YAK				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,21nm,1.2s						
YAK				pmax	pmax		
	comp=E,17nm,1.3s						
YAK				smax			
	comp=N,8.0nm,1.3s						
YAK	**Yakutsk**	**84.54**	**343**	⇓*i*P	**P**	**12 01 50.6**	**-0.2**
	comp=N,175nm,0.9s,mb5.8						
SAO	**San Andreas Ge**	**84.82**	**49**	*e*P	**P**	**12 01 52.7**	**-0.2**
	comp=N,17nm,1.0s,mb4.7						
SONM	**Songino Array**	**85.05**	**323**	P	**P**	**12 01 54.3**	**+0.6**
	comp=N,21nm,1.0s,mb4.8,baz=135,slow=5.2,SNR=90						
GTA	**Gaotai**	**85.13**	**314**	⇓P	**P**	**12 01 55.3**	**+1.0**
GTA				S	S	12 11 56.8	-5.3
GTA				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,81nm,6.1s						
GTA				LR	LR		
	comp=N,43nm,9.9s						
GTA				LR	LR		
	comp=E,25nm,9.9s						
GTA				LR	LR		
	comp=Z,31nm,10.3s						
PMR	**Palmer**	**85.20**	**19**	*e*P	**P**	**12 01 54.0**	**-0.1**
WDC	**Whiskeytown Da**	**85.72**	**45**	*e*P	**P**	**12 01 57.5**	**+0.3**
	comp=Z,26nm,1.3s,mb4.8						
OHCM	**Honcut**	**85.90**	**47**	*e*P	**P**	**12 01 57.0**	**-1.1**
DIV	**Divide**	**85.93**	**20**	P	**P**	**12 01 56.0**	**-1.7**
	comp=Z,92nm,1.0s,mb5.5						
YBH	**Yreka Blue Hor**	**86.12**	**44**	P	**P**	**12 01 59.8**	**+0.7**
	comp=Z,9.4nm,1.0s,mb4.5,baz=230,slow=2.9,SNR=24						
YBH	**Yreka Blue Hor**	**86.12**	**44**	P	**P**	**12 01 59.8**	**+0.7**
YBH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YBH	**Yreka Blue Hor**	**86.12**	**44**	*e*P	**P**	**12 01 59.6**	**+0.5**
	comp=Z,16nm,1.1s,mb4.7						
CMB	**Columbia Colle**	**86.12**	**48**	*e*P	**P**	**12 01 58.6**	**-0.6**
	comp=Z,24nm,0.9s,mb4.9						
ASMM	**Slate Mountain**	**86.25**	**48**	*e*P	**P**	**12 01 58.5**	**-1.3**
MCK	**McKinley**	**86.90**	**18**	P	**P**	**12 01 58.8**	**-3.5**
	comp=Z,8.8nm,1.1s,mb4.4						
SYO	**Syowa Base**	**86.92**	**196**	⇓P	**P**	**12 02 02.2**	**-0.1**
SYO	**Syowa Base**	**86.92**	**196**	⇑PcP	PcP	12 02 04.4	-0.1
SYO	**Syowa Base**	**86.92**	**196**	⇓pP	pP	12 02 58.5	-0.9
SYO	**Syowa Base**	**86.92**	**196**	⇑sP	sP	12 03 23.4	-0.3
OMM	**Old Mammoth Mi**	**86.96**	**49**	⇓*e*P	**P**	**12 02 03.2**	**0.0**
BOD	**Bodaibo**	**87.04**	**334**	*e*P	**P**	**12 02 01.6**	**-1.5**
WCN	**Washoe City**	**87.10**	**48**	*e*P	**P**	**12 02 04.3**	**+0.4**
	comp=Z,17nm,1.1s,mb4.7						
MTUM	**Tungsten Hills**	**87.16**	**50**	*e*P	**P**	**12 02 04.8**	**+0.6**
IMA	**Indian Mountai**	**87.49**	**14**	*e*P	**P**	**12 02 06.5**	**+1.4**
NVAR	**Mina Array Bea**	**87.78**	**49**	P	**P**	**12 02 07.4**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.6,baz=225,slow=7.1,SNR=63						
MOD	**Modoc**	**87.81**	**45**	*e*P	**P**	**12 02 07.3**	**+0.2**
	comp=Z,12nm,0.8s,mb4.8						
COLA	**College**	**88.07**	**17**	*e*P	**P**	**12 02 06.1**	**-1.7**
COLA	**College**	**88.07**	**17**	*e*P	**P**	**12 02 06.5**	**-1.3**
ZAK	**Zakamensk**	**88.11**	**324**	⇑*i*P	**P**	**12 02 08.6**	**+0.3**
ZAK				*e*		12 12 12.6	
ILAR	**Eielson Array**	**88.27**	**17**	P	**P**	**12 02 07.3**	**-1.4**
	comp=Z,6.6nm,0.8s,mb4.5,baz=237,slow=5.0,SNR=94						
ILAR				sP	sP	12 03 29.0	-1.3
	comp=Z,1.5nm,0.7s,baz=236,slow=5.2,SNR=2.7						
ILAR	**Eielson Array**	**88.27**	**17**	P	**P**	**12 02 07.3**	**-1.4**
ILAR				*SP	sP	12 03 29.0	-1.3
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ILAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
TPH	**Tonopah**	**88.42**	**49**	*e*P	**P**	**12 02 10.5**	**+0.4**
	comp=N,8.4nm,0.8s,mb4.6						
CROR	**Criterion Ridg**	**88.68**	**42**	P	**P**	**12 02 11.8**	**+0.6**
GNW	**Green Mountain**	**88.68**	**39**	*e*P	**P**	**12 02 11.6**	**+0.5**
TPNV	**Topopah Spring**	**88.71**	**51**	⇓*e*P	**P**	**12 02 11.1**	**-0.3**
	comp=N,16nm,1.0s,mb4.8						
LDFC	**Landfair**	**88.87**	**53**	*e*P	**P**	**12 02 12.3**	**+0.1**
WVOR	**Wild Horse Val**	**89.16**	**45**	⇓*e*P	**P**	**12 02 13.9**	**+0.5**
	comp=N,30nm,1.1s,mb5.0						
RMW	**Rattlesnake Mo**	**89.25**	**40**	P	**P**	**12 02 14.6**	**+0.8**
NEN	**Nelson**	**89.28**	**52**	*e*P	**P**	**12 02 12.9**	**-1.3**
BMN	**Battle Mountai**	**89.34**	**47**	⇓*e*P	**P**	**12 02 14.8**	**+0.5**
	comp=N,17nm,0.8s,mb4.9						
MBW	**Mount Baker**	**89.78**	**38**	P	**P**	**12 02 17.0**	**+0.8**
RPW	**Rockport**	**89.86**	**39**	*e*P	**P**	**12 02 16.5**	**-0.1**
DAWY	**Dawson**	**90.10**	**20**	*e*P	**P**	**12 02 15.9**	**-1.5**
HAWA	**Hanford**	**90.20**	**41**	⇓*e*P	**P**	**12 02 18.4**	**+0.2**
	comp=N,25nm,0.9s,mb5.0						
HAWA				*e*	pP	12 03 16.6	+0.9
DLBC	**Dease Lake**	**90.33**	**28**	P	**P**	**12 02 18.6**	**0.0**
	comp=N,4.7nm,1.1s,mb4.2,baz=228,slow=7.5,SNR=6.6						
GBL	**Gable Mountain**	**90.33**	**41**	P	**P**	**12 02 19.6**	**+0.8**
WTV	**Waterville**	**90.49**	**40**	P	**P**	**12 02 19.7**	**+0.2**
ELK	**Elko**	**90.86**	**48**	⇓*e*P	**P**	**12 02 21.4**	**0.0**
	comp=N,7.5nm,1.0s,mb4.6						
TUC	**Tucson**	**91.29**	**57**	⇓*e*P	**P**	**12 02 24.2**	**+0.6**
	comp=N,11nm,0.9s,mb4.8						
TUC				pP	pP	12 03 22.0	+0.9
SNAA	**Sanae**	**91.38**	**183**	⇑*i*P	**P**	**12 02 22.7**	**-0.4**
DPW	**Davenport**	**91.63**	**40**	*e*P	**P**	**12 02 24.6**	**-0.2**
PKI	**Pulchoki**	**91.87**	**298**	*e*P	**P**	**12 02 26.1**	**-0.4**
	comp=N,22nm,0.9s,mb5.1						
WUAZ	**Wupatki**	**91.88**	**54**	*e*P	**P**	**12 02 26.9**	**+0.6**
	comp=N,11nm,0.8s,mb4.8						
VNA3	**Neumayer Olymp**	**92.00**	**181**	⇑*i*P	**P**	**12 02 28.3**	**+2.3**
VNA3	**Neumayer Olymp**	**92.00**	**181**	⇑*i*		12 07 15.5	
KKN	**Kakani**	**92.05**	**298**	*e*P	**P**	**12 02 26.4**	**-0.9**
DMN	**Daman**	**92.14**	**298**	*e*P	**P**	**12 02 27.4**	**-0.3**
	comp=N,40nm,1.2s,mb5.2						
VNA2	**Neumayer--Watz**	**92.28**	**181**	⇑*i*P	**P**	**12 02 29.9**	**+2.6**
MSU	**Marysvale**	**92.28**	**50**	*e*P	**P**	**12 02 28.8**	**+0.6**
DUG	**Dugway**	**92.39**	**49**	*e*P	**P**	**12 02 28.2**	**-0.3**
	comp=N,2.0nm,0.7s,mb4.2						
HLID	**Hailey**	**92.46**	**45**	*e*P	**P**	**12 02 29.3**	**+0.5**
	comp=N,3.1nm,0.8s,mb4.3						
NEW	**Newport**	**92.46**	**40**	P	**P**	**12 02 28.5**	**-0.2**
	comp=N,4.0nm,1.2s,mb4.2,baz=304,slow=4.0,SNR=3.5						
NEW	**Newport**	**92.46**	**40**	P	**P**	**12 02 28.5**	**-0.2**
NEW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BGU	**Big Grassy Mou**	**92.49**	**48**	*e*P	**P**	**12 02 28.4**	**-0.6**
VNA1	**Neumayer--Stat**	**92.57**	**181**	⇓*i*P	**P**	**12 02 32.0**	**+3.3**
GKN	**Gorkha**	**92.66**	**298**	*e*P	**P**	**12 02 29.2**	**-0.9**
	comp=Z,26nm,0.9s,mb5.2						
KOLN	**Koldanda**	**93.46**	**298**	*e*P	**P**	**12 02 32.1**	**-1.6**
	comp=Z,6.2nm,0.4s,mb5.0						
SRU	**San Rafael**	**93.70**	**50**	*e*P	**P**	**12 02 34.0**	**-0.6**
PV10	**Paradox Valley**	**94.57**	**51**	*e*P	**P**	**12 02 37.9**	**-0.7**
INK	**Inuvik**	**94.61**	**18**	P	**P**	**12 02 39.6**	**+1.7**
	comp=Z,1.9nm,0.9s,mb4.2,baz=243,slow=2.3,SNR=4.0						
INK				S	SKS	12 12 50.0	+1.1
	comp=Z,1.8nm,1.0s,baz=33,slow=27,SNR=7.2						
PV01	**Paradox Valley**	**94.85**	**52**	*e*P	**P**	**12 02 38.9**	**-0.9**
WMQ	**Urumqi**	**95.20**	**314**	⇓*i*P	**P**	**12 02 41.8**	**+0.5**
WMQ				AP	pP	12 03 36.8	-2.0
WMQ				XP	sP	12 04 00.0	-3.0
WMQ				PP	PP	12 06 36.8	+1.0
WMQ				*e*S	S	12 13 34.0	+1.6
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.4						
WMQ				LR	LR		
	comp=N,80nm,22.8s						
WMQ				LR	LR		
	comp=E,51nm,21.8s						
WMQ				LR	LR		
	comp=Z,35nm,17.4s						
ANMO	**Albuquerque**	**95.53**	**55**	*e*P	**P**	**12 02 41.2**	**-1.8**
PDAR	**Pinedale Array**	**95.54**	**47**	P	**P**	**12 02 42.4**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.9,baz=223,slow=3.2,SNR=6.4						
TXAR	**Lajitas Array**	**96.24**	**61**	P	**P**	**12 02 46.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb4.1,baz=226,slow=6.1,SNR=11						
TXAR				pP	pP	12 03 45.9	+2.0
	comp=Z,0.5nm,0.8s,baz=236,slow=4.5,SNR=3.3						
TXAR	**Lajitas Array**	**96.24**	**61**	P	**P**	**12 02 46.4**	**+0.1**
TXAR				pP	pP	12 03 45.9	+2.0
YKA	**Yellowknife Ar**	**98.96**	**27**	P	**P**	**12 02 57.4**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.3,baz=245,slow=4.8,SNR=9.2						
YKA				PP	PP	12 07 00.0	-4.4
	comp=Z,0.5nm,0.8s,baz=246,slow=6.9,SNR=4.0						
YKA	**Yellowknife Ar**	**98.96**	**27**	P	**P**	**12 02 57.4**	**-0.5**
YKA						12 07 00.0	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**98.96**	**27**	P	**P**	**12 02 57.4**	**-0.5**
YKA				PP	PP	12 07 00.1	-4.4
MKAR	**Makanchi Array**	**99.69**	**316**	P	**P**	**12 03 01.5**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.7,baz=90,slow=5.8,SNR=24						
MKAR				PP	PP	12 07 00.3	-10
	comp=Z,1.4nm,1.0s,baz=108,slow=7.7,SNR=4.2						
MKAR				S	SKS	12 13 17.2	+1.3
	comp=Z,2.4nm,0.9s,baz=104,slow=5.9,SNR=11						
MKAR				PKKPbc		12 19 20.2	
	comp=Z,0.6nm,0.7s,baz=263,slow=2.7,SNR=4.3						
ZAL	**Zalesovo**	**99.95**	**323**	P	**P**	**12 03 02.2**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.7,baz=268,slow=6.2,SNR=12						
ZAL				S	SKS	12 13 17.3	+0.3
	comp=Z,2.0nm,0.4s,baz=138,slow=23,SNR=36						
ARU	**Arti**	**115.05**	**325**	*i* PKIKP	PKPdf	12 07 54.5	-1.6
ARU				*e*		12 14 13.2	
ARU				*e*PS	PS	12 18 40.5	-2.5
KEV	**Kevo**	**122.21**	**345**	*e*p	PKPdf	12 08 06.7	-3.0
ARCES	**ARCESS Array B**	**122.74**	**345**	PKP	PKPdf	12 08 10.7	0.0
	comp=Z,11nm,0.8s,baz=84,slow=2.3,SNR=46						
ARCES	**ARCESS Array B**	**122.74**	**345**	PKIKP	PKPdf	12 08 10.7	0.0
ARCES				pmax	pmax		
	comp=Z,11nm,0.9s						
MOS	**Moscow**	**126.45**	**328**	*e*PKIKP	PKPdf	12 08 14.3	-3.8
MOS				pmax	pmax		
	comp=Z,81nm,0.8s						
OBN	**Obninsk**	**127.27**	**328**	*e*PKIKP	PKPdf	12 08 20.6	+0.9
OBN				SSS	SSS	12 32 00.0	-0.5
OBN				pmax	pmax		
	comp=Z,16nm,1.1s						
KAF	**Kangasniemi**	**127.74**	**339**	*e*p	PKPdf	12 08 20.2	-0.3
	comp=Z,2.3nm,0.5s						
KAF	**Kangasniemi**	**127.74**	**339**	*e*PKIKP	PKPdf	12 08 20.2	-0.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**128.27**	**338**	PKP	PKPdf	12 08 21.6	+0.1
	comp=Z,7.2nm,1.1s,baz=101,slow=9.7,SNR=9.2						
FINES				SKPab		12 11 20.1	
	comp=Z,5.8nm,0.8s,baz=98,slow=4.6,SNR=18						
FINES	**FINESS Array B**	**128.27**	**338**	PKIKP	PKPdf	12 08 21.6	+0.1
FINES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FINES				pmax	pmax		
	comp=N,6.0nm,0.8s						
KMBO	**Kilima Mbogo**	**128.77**	**254**	PKP	PKPdf	12 08 26.7	+2.9
	comp=N,2.1nm,0.9s,baz=223,slow=23,SNR=4.2						
SOC	**Sochi**	**129.48**	**313**	*i* PKIKP	PKPdf	12 08 17.1	-7.2
SOC				*e*SS	SS	12 27 37.5	-3.7
SOC				pmax	pmax		
	comp=N,26nm,0.8s						
SOC				pmax	pmax		
	comp=E,15nm,0.8s						
SOC				pmax	pmax		
	comp=Z,16nm,0.8s						
BDFB	**Brasilia**	**131.49**	**130**	SKPab		12 11 33.0	
	comp=Z,13nm,1.1s,baz=234,slow=3.1,SNR=6.9						
MALT	**Malatya**	**131.66**	**306**	*e*PKPdf	PKPdf	12 08 31.1	+2.5
NB2	**NORSAR Subarra**	**133.11**	**345**	PKPdf	PKPdf	12 08 30.7	0.0
	comp=Z,3.3nm,1.0s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**133.11**	**345**	PKP	PKPdf	12 08 31.4	+0.7
	comp=Z,2.0nm,0.7s,baz=34,slow=2.0,SNR=6.2						
NOA				SKPab		12 11 38.2	
	comp=Z,16nm,0.9s,baz=32,slow=2.7,SNR=13						
NOA	**NORSAR Array B**	**133.11**	**345**	PKIKP	PKPdf	12 08 31.4	+0.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,16nm,0.9s						
HFS	**Hagfors**	**133.23**	**343**	PKP	PKPdf	12 08 31.5	+0.5
	comp=N,4.6nm,0.9s,baz=162,slow=9.4,SNR=5.0						
HFS				SKPab		12 11 38.4	
	comp=N,16nm,0.8s,baz=45,slow=2.1,SNR=16						
HFS	**Hagfors**	**133.23**	**343**	PKIKP	PKPdf	12 08 31.5	+0.6
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS				pmax	pmax		
	comp=N,16nm,0.8s						
AKASG	**Malin Array Be**	**133.30**	**325**	PKP	PKPdf	12 08 31.5	+0.2
	comp=N,4.3nm,0.8s,baz=58,slow=2.1,SNR=12						
AKASG				PP	PP	12 10 59.9	-4.9
	comp=N,0.2nm,0.3s,baz=45,slow=6.5,SNR=4.9						
AKASG				SKPab		12 11 39.0	
	comp=N,9.3nm,0.7s,baz=44,slow=4.3,SNR=30						
AKASG	**Malin Array Be**	**133.30**	**325**	PKIKP	PKPdf	12 08 31.5	+0.2
AKASG						12 10 59.9	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG				pmax	pmax		
	comp=N,9.0nm,0.7s						
ASF	**Jabal al Asfar**	**133.91**	**298**	PKP	PKPdf	12 08 34.6	+1.6
	comp=N,2.9nm,0.7s,baz=128,slow=0.9,SNR=4.8						
ASF				SKPab		12 11 43.4	
	comp=N,16nm,0.9s,baz=5.4,slow=1.3,SNR=19						
SUW	**Suwalki**	**134.37**	**332**	*e*PKP	PKPdf	12 08 35.2	+2.0
SUW				*e*		12 11 42.5	
BRTR	**Keskin Array B**	**134.92**	**310**	PKP	PKPdf	12 08 35.0	+0.5
	comp=N,2.5nm,0.9s,baz=135,slow=3.5,SNR=10						
BRTR				PP	PP	12 11 14.1	-1.4
	comp=N,2.6nm,0.8s,baz=90,slow=6.2,SNR=5.7						
BRTR				SKP		12 11 45.4	
	comp=N,4.6nm,0.9s,baz=135,slow=3.5,SNR=13						

BRTR	**Keskin Array B**	**134.92**	**310**	PKIKP	PKPdf	12 08 35.1	+0.5
BRTR						12 11 14.1	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR				pmax	pmax		
	comp=N,5.0nm,0.9s						
EIL	**Elat**	**135.86**	**295**	P		12 11 49.3	
EIL	**Elat**	**135.86**	**295**	SKP		12 11 49.4	
	comp=N,16nm,1.1s,baz=116,slow=7.2,SNR=9.0						
GKP	**Gorka Klasztor**	**137.43**	**335**	*e*PKP	PKPdf	12 08 42.3	+3.5
GKP				*e*		12 11 52.9	
OJC	**Ojcow**	**138.43**	**330**	*e*PKIKP	PKPdf	12 08 43.9	+3.2
OKC	**Ostrava-Krasne**	**139.48**	**331**	*e*SKP		12 11 58.4	
PSZ	**Piszkesteto**	**139.88**	**327**	*e*PKPpre		12 08 34.6	
PSZ				PKPdf	PKPdf	12 08 44.5	+1.0
PSZ				*e*SKPdf		12 11 59.2	
PSZ				*e*SKPab		12 12 11.2	
DPC	**Dobruska-Polom**	**139.95**	**332**	*e*PKHKP		12 08 38.5	
DPC				*e*SKP		12 11 59.7	
UPC	**Upice**	**139.97**	**333**	*e*PKIKP	PKPdf	12 08 45.2	+1.7
UPC				*e*SKP		12 11 59.5	
VYHS	**Vyhne**	**140.05**	**329**	*e*PKP	PKPdf	12 08 39.5	-4.2
PVCC	**Panska Ves**	**140.58**	**334**	*e*SKP		12 11 58.9	
CLL	**Collm**	**140.61**	**336**	*e*	PKPdf	12 08 42.0	-2.6
CLL				*e*PKIKP	PKPdf	12 08 49.0	+4.4
CLL				*i*		12 12 00.5	
CLL				*i*		12 12 14.1	
CLL	**Collm**	**140.61**	**336**	*e*PKP	PKPdf	12 08 42.0	-2.6
CLL				*i* SKP		12 12 00.5	
CLL				*i*		12 12 14.1	
PRU	**Pruhonice**	**140.99**	**333**	*e*PKHKP		12 08 40.1	
PRU				*e*SKP		12 12 02.2	
EKA	**Eskdalemuir Ar**	**141.20**	**352**	SKPbc		12 12 01.9	
	comp=N,12nm,1.1s,baz=18,slow=2.6,SNR=8.3						
NKC	**Novy Kostel**	**141.68**	**335**	*e*PKHKP		12 08 43.1	
NKC				*e*PP	PP	12 12 04.1	+7.9
KHC	**Kasperske Hory**	**142.05**	**333**	*e*PKHKP		12 08 44.2	
KHC				*e*		12 09 52.7	
KHC				*e*PP	PP	12 12 04.8	+6.3
KHC	**Kasperske Hory**	**142.05**	**333**	*e*PKIKP	PKPdf	12 08 44.2	-2.9
KHC				*e*		12 12 04.8	
GERES	**GERESS Array B**	**142.21**	**333**	PKhKP		12 08 43.6	
	comp=N,2.4nm,0.7s,baz=27,slow=3.0,SNR=12						
GERES				SKPbc		12 12 05.1	
	comp=N,5.8nm,0.9s,baz=90,slow=1.3,SNR=12						
GERES	**GERESS Array B**	**142.21**	**333**	*i* PKHKP		12 08 43.6	
GERES						12 12 05.1	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				pmax	pmax		
	comp=N,6.0nm,0.9s						
SKO	**Skopje**	**142.45**	**318**	*e*PKP	PKPdf	12 08 45.5	-2.6
SKO				*i* PKS	PKS	12 12 06.5	-16
ARSA	**Arzberg**	**142.53**	**330**	⇓*i*P	PKPdf	12 08 46.3	-1.7
GRA1	**Grafenberg Arr**	**142.59**	**336**	*e*PKP	PKPdf	12 08 45.6	-2.4
GRF	**Grafenberg Arr**	**142.59**	**336**	*e*PKIKP	PKPdf	12 08 45.6	-2.4
MOA	**Molln**	**142.69**	**331**	⇑*i*P	PKPdf	12 08 46.9	-1.4
IDI	**Anoyia**	**142.92**	**307**	PKP	PKPdf	12 08 51.0	+1.9
	comp=N,11nm,0.7s,baz=355,slow=9.5,SNR=4.8						
IDI				SKPbc		12 12 07.2	
	comp=N,22nm,1.0s,baz=80,slow=6.3,SNR=8.1						
SISC	**Sisak**	**143.32**	**327**	*i* PKP	PKPdf	12 08 49.5	0.0
SIND	**Sindeldorf**	**143.49**	**337**	*e*P	PKPdf	12 08 49.2	-0.4
OBKA	**Obir**	**143.53**	**329**	⇓*i*P	PKPbc	12 08 48.9	+0.3
DCN	**Croghan**	**143.57**	**356**	*e*P	PKPbc	12 08 49.0	+0.5
TOD	**Tromm**	**143.57**	**338**	*e*P	PKPbc	12 08 49.2	+0.5
TOD	**Tromm**	**143.57**	**338**	PKP	PKPdf	12 08 49.4	-0.4
KBA	**Koelnbreinsper**	**143.69**	**331**	⇑*i*P	PKPbc	12 08 49.4	+0.3
SWS	**Schriesheim**	**143.71**	**338**	*e*P	PKPdf	12 08 49.3	-0.7
ABH	**Alteburg**	**143.78**	**339**	*e*P	PKPdf	12 08 50.0	-0.1
LJU	**Ljubljana**	**143.87**	**329**	*e*PKPdf	PKPdf	12 08 50.4	0.0
LJU				*e*PP	PP	12 12 08.9	-0.6
HDH	**Heidenheim**	**143.88**	**335**	*e*P	PKPdf	12 08 50.2	-0.1
VISS	**Visnje**	**143.88**	**328**	*e*PKPdf	PKPdf	12 08 50.3	-0.1
VISS				*e*PP	PP	12 12 08.9	-0.7
KTD	**Kalmit**	**144.07**	**338**	*e*P	PKPbc	12 08 50.8	+0.6
RUP	**Ruppelstein**	**144.10**	**339**	*e*P	PKPbc	12 08 51.2	+1.0
RUP	**Ruppelstein**	**144.10**	**339**	PKP	PKPdf	12 08 50.8	+0.1
STU	**Stuttgart**	**144.12**	**337**	*e*PKPdf	PKPdf	12 08 50.9	+0.1
CEY	**Cerknica**	**144.13**	**329**	*e*PKPdf	PKPdf	12 08 51.1	+0.2
PTCC	**Patocco-Chiusa**	**144.18**	**330**	*e*PKP	PKPdf	12 08 50.8	-0.1
VOY	**Vojsko**	**144.19**	**329**	*e*PKPdf	PKPdf	12 08 50.7	-0.3
VOY				*e*		12 08 59.0	
JAVS	**Javornik**	**144.20**	**329**	*e*PKPdf	PKPdf	12 08 51.1	+0.1
WATA	**Walderalm**	**144.29**	**333**	⇓*i*P	PKPbc	12 08 51.8	+1.0
FVI	**Forni Avoltri**	**144.30**	**331**	*e*PKP	PKPdf	12 08 51.1	0.0
WTTA	**Wattenberg**	**144.31**	**333**	⇓*i*P	PKPbc	12 08 51.8	+0.9
BUCH	**Bad Urach**	**144.32**	**336**	⇓*e*P	PKPdf	12 08 52.0	+0.9
GMNA	**Gemona**	**144.32**	**330**	*e*PKP	PKPdf	12 08 51.6	+0.4
LBG	**Lerchenberg**	**144.35**	**337**	*e*P	PKPdf	12 08 51.9	+0.7
WLF	**Walferdange**	**144.43**	**340**	*e*PKPdf	PKPdf	12 08 52.2	+1.0
LANF	**Langenberg**	**144.46**	**338**	PKP	PKPdf	12 08 52.0	+0.7
GIVF	**Givet**	**144.46**	**342**	*e*PKP1	PKPbc	12 08 51.8	+0.6
SQTA	**Sankt Quirin**	**144.53**	**333**	⇑*i*P	PKPdf	12 08 52.5	+1.0
UBR	**Uberruh**	**144.64**	**335**	*e*P	PKPdf	12 08 52.7	+1.0
BAIF	**Baives**	**144.68**	**343**	⇓*i*PKP1	PKPbc	12 08 52.7	+0.9
	comp=N,70nm,0.9s						
GUT	**Gutenstein**	**144.72**	**336**	⇓*e*P	PKPdf	12 08 52.9	+1.1
STR	**Strasbourg**	**144.80**	**338**	PKP	PKPdf	12 08 54.3	+2.4
SPAK	**Spaichingen**	**144.82**	**336**	⇓*e*P	PKPdf	12 08 53.4	+1.4
WLS	**Welschbruch**	**145.10**	**338**	PKP	PKPdf	12 08 53.7	+1.3
CDF	**Champ du Feu**	**145.12**	**338**	⇓*i*PKP1	PKPbc	12 08 54.4	+1.3
	comp=N,245nm,0.9s						
LIBD	**Limburg**	**145.23**	**338**	*e*P	PKPdf	12 08 54.9	+2.2
LIBD	**Limburg**	**145.23**	**338**	PKP	PKPdf	12 08 53.9	+1.2
CTI	**Castel Tesino**	**145.23**	**331**	*e*PKP	PKPdf	12 08 54.4	+1.7
KIZ	**Kirchzarten**	**145.27**	**337**	⇓*e*P	PKPdf	12 08 54.5	+1.8
FELD	**Feldberg**	**145.31**	**337**	⇓*e*P	PKPdf	12 08 54.7	+1.9
ECH	**Echery**	**145.33**	**338**	PKP	PKPdf	12 08 54.4	+1.6
DAVOX	**Davos**	**145.45**	**334**	PKPbc	PKPbc	12 08 54.9	+0.9
	comp=N,30nm,0.7s,baz=85,slow=1.8,SNR=38						
DAVOX				SKPbc		12 12 12.7	
	comp=N,13nm,0.9s,baz=8.8,slow=2.4,SNR=7.1						
BRMO	**Bormio**	**145.47**	**333**	*e*PKP	PKPdf	12 08 55.5	+2.4
MOF	**Molkenrain**	**145.65**	**338**	PKP	PKPdf	12 08 55.3	+1.9
THEF	**They Montfort**	**145.73**	**339**	PKP	PKPdf	12 08 55.6	+2.1
HINF	**Hinteralfeld**	**145.78**	**338**	⇓*i*PKP1	PKPbc	12 08 56.0	+1.2
	comp=N,40nm,0.8s						
HAU	**Haudompre**	**145.80**	**339**	⇓*i*PKP1	PKPbc	12 08 56.2	+1.4
	comp=N,76nm,0.8s						
MEZF	**Maizieres J'vi**	**145.80**	**340**	⇓*i*PKP1	PKPbc	12 08 56.7	+1.9
	comp=N,141nm,0.8s						
BBS	**Basel-Blauen**	**145.84**	**337**	*e*P	PKPdf	12 08 56.4	+2.7
FGMS	**Monte Sant'Ang**	**145.97**	**322**	*e*PKP	PKPdf	12 08 56.8	+2.6
LOMF	**Lomont**	**146.18**	**338**	PKP	PKPdf	12 08 57.5	+3.1
RGNG	**Rignano Grg**	**146.20**	**322**	*e*PKP	PKPdf	12 08 57.5	+2.9
RSM	**Repubblica di**	**146.40**	**328**	*e*PKP	PKPdf	12 08 59.1	+4.2
FSSB	**Fossombrone**	**146.41**	**328**	*e*PKP	PKPdf	12 08 58.8	+3.9
CING	**Cingoli**	**146.41**	**327**	*e*PKP	PKPdf	12 08 58.8	+3.9
ARV	**Arcevia**	**146.46**	**327**	*e*PKP	PKPdf	12 08 58.9	+3.9
VAI	**Varese**	**146.64**	**334**	*e*PKP	PKPdf	12 08 58.3	+3.1
ORI	**Oriolo Calabro**	**146.65**	**319**	*e*PKP	PKPdf	12 08 59.5	+4.1
SFI	**Santa Sofia**	**146.72**	**329**	*e*PKP	PKPdf	12 08 60.0	+4.5
PGD	**Poggio Sodo**	**146.81**	**329**	*e*PKP	PKPdf	12 09 00.3	+4.7
ZCCA	**Zocca**	**146.82**	**330**	*e*PKP	PKPdf	12 08 59.5	+4.0
MRLC	**Muro Lucano**	**146.83**	**321**	*e*PKP	PKPdf	12 08 59.3	+3.6
NRCA	**Norcia**	**146.83**	**326**	*e*PKP	PKPdf	12 08 59.5	+3.9
VMG	**Vicchio**	**146.83**	**329**	*e*PKP	PKPdf	12 09 00.2	+4.5
MURB	**Monte Urbino**	**146.84**	**327**	*e*PKP	PKPdf	12 08 59.4	+3.8
CRE	**Caprese Michel**	**146.88**	**328**	*e*PKP	PKPdf	12 08 59.3	+3.6
MCGN	**Macugnaga**	**146.89**	**335**	*e*PKP	PKPdf	12 08 59.8	+4.2
CII	**Carovilli**	**146.91**	**323**	*e*PKP	PKPdf	12 08 60.0	+4.1
ASS	**Assisi**	**146.91**	**327**	*e*PKP	PKPdf	12 08 59.2	+3.4
INTR	**Introdacqua**	**146.95**	**324**	*e*PKP	PKPdf	12 08 59.2	+3.3
TIP	**Timpagrande**	**146.96**	**318**	PKPdf	PKPdf	12 08 57.8	+1.8
TIP				*e*PKPbc	PKPbc	12 09 00.0	+2.2
SLCN	**Sala Consilina**	**146.96**	**320**	*e*PKP	PKPdf	12 08 59.6	+3.7
AQU	**L'Aquila**	**147.00**	**325**	*e*PKP	PKPdf	12 09 01.1	+5.1
GSCL	**Gusciola**	**147.01**	**330**	*e*PKP	PKPdf	12 09 00.5	+4.6
ERBM	**Eremo**	**147.04**	**331**	*e*PKP	PKPdf	12 09 01.0	+5.1
CSSN	**Cassano Irpino**	**147.04**	**322**	*e*PKP	PKPdf	12 08 59.4	+3.3
SGO	**Sicignano**	**147.06**	**321**	*e*PKP	PKPdf	12 08 59.8	+3.7
FLN	**La Foliniere**	**147.07**	**347**	⇓*i*PKP1	PKPdf	12 08 59.5	+3.7
	comp=N,81nm,0.9s						
CABF	**La Chapelle**	**147.08**	**338**	⇓*i*PKP1	PKPdf	12 09 00.5	+4.6
	comp=N,90nm,0.9s						
GRAM		**147.14**	**331**	P	PKPdf	12 08 59.3	+3.2
LDF	**La Druitiere**	**147.15**	**346**	⇓*i*PKP1	PKPdf	12 08 59.7	+3.7
	comp=N,70nm,1.0s						
ORO	**Oropa**	**147.16**	**335**	*e*PKP	PKPdf	12 08 59.7	+3.6
MGR	**Morigerati**	**147.16**	**320**	*e*PKP	PKPdf	12 08 59.4	+3.1
VALM		**147.17**	**331**	P	PKPdf	12 08 59.5	+3.4
BOB	**Bobbio (Coli)**	**147.21**	**332**	*e*PKP	PKPdf	12 09 00.8	+4.6
BDI	**Bagni Di Lucca**	**147.22**	**330**	*e*PKP	PKPdf	12 08 59.4	+3.2
PTQR	**Pietraquaria**	**147.22**	**325**	*e*PKP	PKPdf	12 09 00.6	+4.3
LOR	**Lormes**	**147.27**	**341**	⇓*i*PKP1	PKPdf	12 09 00.4	+4.2
	comp=N,80nm,0.8s						
BACM		**147.30**	**331**	P	PKPdf	12 08 59.8	+3.5
CODM		**147.32**	**331**	P	PKPdf	12 08 59.6	+3.2
TRAV		**147.35**	**335**	P	PKPdf	12 09 00.2	+3.8
MNS	**Montasola**	**147.37**	**326**	*e*PKP	PKPdf	12 09 00.3	+3.8
VINC	**Vinca**	**147.37**	**331**	P	PKPdf	12 08 59.6	+3.2
GRI	**Girifalco**	**147.38**	**317**	*e*PKP	PKPdf	12 09 01.6	+4.9
MAIM		**147.38**	**330**	P	PKPdf	12 08 59.5	+3.0
MSC	**Monte Massico**	**147.45**	**323**	*e*PKP	PKPdf	12 09 00.4	+3.7
CERT	**Cerreto**	**147.50**	**325**	*e*PKP	PKPdf	12 09 00.7	+4.0
GRR	**Gorron**	**147.50**	**347**	⇓*i*PKP1	PKPdf	12 09 00.9	+4.4
	comp=N,85nm,0.9s						
SSF	**Saint Saulge**	**147.56**	**341**	⇓*i*PKP1	PKPdf	12 09 01.3	+4.6
	comp=N,99nm,0.8s						
LSD	**Ceresole Reale**	**147.63**	**335**	P	PKPdf	12 09 02.1	+5.3
HYF	**Humbligny**	**147.64**	**342**	*e*PKP1	PKPdf	12 09 01.9	+5.1
GRFL	**Gerfalco**	**147.71**	**329**	*e*PKP	PKPdf	12 09 01.3	+4.3
LPL	**La Plagne**	**147.75**	**336**	⇓*i*PKP1	PKPdf	12 09 02.3	+5.3
	comp=N,55nm,1.0s						
LPG	**La Plagne**	**147.76**	**336**	⇓*i*PKP1	PKPdf	12 09 02.5	+5.5
	comp=N,63nm,0.9s						
PCP	**Pian Castagno**	**147.79**	**333**	P	PKPdf	12 09 00.9	+3.8
SMF	**Signal de Mont**	**147.83**	**340**	⇓*i*PKP1	PKPdf	12 09 01.8	+4.7
	comp=N,87nm,1.2s						
RSP	**Reno Superiore**	**147.84**	**335**	P	PKPdf	12 09 01.5	+4.3
AVF	**Avril sur Loir**	**147.85**	**341**	⇓*i*PKP1	PKPdf	12 09 01.7	+4.6
	comp=N,66nm,1.1s						
SGMF	**Saint Gilles**	**147.98**	**349**	⇓*i*PKP1	PKPdf	12 09 02.0	+4.7
	comp=N,153nm,1.3s						
FENE	**Fenestrelle**	**148.02**	**335**	P	PKPdf	12 09 01.9	+4.4
ROSF	**Rostrenen**	**148.03**	**350**	⇓*i*PKP1	PKPdf	12 09 02.0	+4.7
	comp=N,85nm,1.2s						
SOI	**Samo**	**148.03**	**317**	*e*PKP	PKPdf	12 09 02.9	+5.2
BHB	**Bricherasio**	**148.09**	**334**	P	PKPdf	12 09 01.3	+3.8
BNI	**Bardonecchia**	**148.16**	**335**	*e*PKPbc	PKPdf	12 09 03.2	+5.5
FIN	**Finale Ligure**	**148.20**	**333**	P	PKPdf	12 09 02.3	+4.5
BGF	**Bois d'Agland**	**148.22**	**341**	⇓*i*PKP1	PKPdf	12 09 02.9	+5.2
	comp=N,64nm,0.7s						
RRL	**Cesana Torines**	**148.22**	**335**	P	PKPdf	12 09 03.2	+5.4
GDM	**Grand'Maison**	**148.25**	**336**	PKP	PKPdf	12 09 03.8	+6.0
ROB	**Roburent**	**148.28**	**333**	P	PKPdf	12 09 01.7	+3.9
RORO		**148.34**	**333**	P	PKPdf	12 09 02.2	+4.2
GRN	**Grenoble**	**148.36**	**337**	PKP	PKPdf	12 09 04.3	+6.3
MBDF	**Montbardon**	**148.39**	**335**	⇓*i*PKP1	PKPdf	12 09 03.3	+5.3
	comp=N,37nm,1.1s						
QUIF	**Quistinic**	**148.41**	**349**	⇓*i*PKP1	PKPdf	12 09 02.9	+4.9
	comp=N,31nm,0.9s						
PZZ	**Prazzo**	**148.44**	**334**	P	PKPdf	12 09 02.4	+4.3
PLDF	**La Plantade**	**148.49**	**340**	PKP	PKPdf	12 09 04.3	+6.1
MONE	**Monesi**	**148.50**	**333**	P	PKPdf	12 09 02.7	+4.5
ENR	**Entracque**	**148.53**	**334**	P	PKPdf	12 09 02.3	+4.0
STV	**Sta Anna Valdi**	**148.55**	**334**	P	PKPdf	12 09 02.5	+4.2
SURF	**Saint Ours**	**148.57**	**335**	PKP	PKPdf	12 09 04.9	+6.6
IMI	**Imperia**	**148.58**	**333**	P	PKPdf	12 09 03.5	+5.1
AGO	**Saint Agoulin**	**148.58**	**340**	PKP	PKPdf	12 09 04.3	+6.0
ORIF	**Oris-en-Rattie**	**148.58**	**336**	⇓*i*PKP1	PKPdf	12 09 04.1	+5.8
	comp=N,40nm,0.8s						
TCF	**Toulx Ste Croi**	**148.66**	**342**	⇓*i*PKP1	PKPdf	12 09 04.0	+5.6
	comp=N,56nm,1.0s						
NEGI	**Negi**	**148.71**	**333**	P	PKPdf	12 09 02.8	+4.2
AUTN	**L'Aution**	**148.71**	**333**	PKP	PKPdf	12 09 03.7	+5.1
SBF	**Sospel**	**148.81**	**333**	⇓*i*PKP1	PKPdf	12 09 04.2	+5.5
	comp=N,167nm,1.1s						
AURF	**Auriere**	**148.84**	**333**	PKP	PKPdf	12 09 04.6	+5.8
PYM	**Petit Puy Mans**	**148.89**	**340**	PKP	PKPdf	12 09 05.5	+6.7
MVIF	**Mont Vial**	**148.91**	**334**	PKP	PKPdf	12 09 03.9	+5.0
REVF	**Revere**	**148.94**	**333**	PKP	PKPdf	12 09 05.0	+6.1
MFF	**Saint Martin d**	**149.02**	**345**	⇓*i*PKP1	PKPdf	12 09 04.8	+5.8
	comp=N,86nm,0.9s						
VERF	**Verneugheol**	**149.06**	**341**	PKP	PKPdf	12 09 04.6	+5.5
VIVF	**Saint-Julien-l**	**149.09**	**337**	⇓*i*PKP1	PKPdf	12 09 05.3	+6.1
	comp=N,60nm,1.1s						
PGF	**Pioggiola**	**149.12**	**330**	⇓*i*PKP1	PKPdf	12 09 05.3	+6.0
	comp=N,238nm,1.0s						
CALN	**Calern**	**149.13**	**334**	PKP	PKPdf	12 09 05.7	+6.4
LBL	**Lubilhac**	**149.27**	**340**	PKP	PKPdf	12 09 06.8	+7.4
FRF	**La Foret Royal**	**149.39**	**334**	⇓*i*PKP1	PKPdf	12 09 05.7	+6.0
	comp=N,138nm,1.1s						
USI	**Ustica**	**149.49**	**320**	*e*PKP	PKPdf	12 09 05.8	+5.8
SMRF	**Simiane la Rot**	**149.49**	**335**	⇓*i*PKP1	PKPdf	12 09 06.7	+6.9
	comp=N,200nm,1.3s						
LMR	**La Mourre**	**149.64**	**334**	⇓*i*PKP1	PKPdf	12 09 06.4	+6.3
	comp=N,143nm,1.1s						
RJF	**Les Rejaudoux**	**149.75**	**342**	⇓*i*PKP1	PKPdf	12 09 06.9	+6.7
	comp=N,71nm,1.1s						
CAF	**Calviac**	**149.92**	**341**	⇓*i*PKP1	PKPdf	12 09 07.4	+6.9
	comp=N,30nm,0.9s						
LASF	**Ste Croix**	**150.06**	**338**	⇓*i*PKP1	PKPdf	12 09 07.8	+7.1
	comp=N,132nm,1.0s						
LFF	**La Frestale**	**150.31**	**342**	⇓*i*PKP1	PKPdf	12 09 08.2	+7.2
	comp=N,70nm,1.0s						
MTLF	**Montolieu**	**151.28**	**339**	⇓*i*PKP1	PKPdf	12 09 10.4	+7.9
	comp=N,41nm,0.9s						
LPEF	**Le Peyrat**	**151.74**	**339**	PKP	PKPdf	12 09 11.0	+7.8
MLS	**Moulis**	**152.00**	**340**	PKP	PKPdf	12 09 11.5	+7.9
EPF	**Esparros**	**152.17**	**341**	*e*PKP1	PKPdf	12 09 12.7	+8.8
SJPF	**Ste Jean**	**152.54**	**344**	⇓*i*PKP1	PKPdf	12 09 13.5	+9.1
	comp=N,15nm,0.8s						
ETSF	**Etsaut**	**152.56**	**343**	⇓*i*PKP1	PKPdf	12 09 13.8	+9.4
	comp=N,24nm,0.8s						
PBRG	**Braganca**	**154.94**	**352**	*e*PKPab	PKPab	12 09 34.8	-0.7
PVRL	**Vila Real**	**155.58**	**353**	*e*PKPab	PKPab	12 09 37.8	-0.5
PVIS	**Viseu**	**156.15**	**353**	*e*PKPab	PKPab	12 09 40.3	-0.5
MTE	**Manteigas**	**156.42**	**353**	*e*PKPab	PKPab	12 09 41.8	-0.1
ESDC	**Sonseca Array**	**156.47**	**345**	PKPab	PKPab	12 09 41.6	-0.6
	comp=N,1.3nm,0.4s,baz=14,slow=3.6,SNR=15						
PCBR	**Castelo Branco**	**156.97**	**352**	*e*PKPab	PKPab	12 09 43.5	-0.8
EVO	**Evora**	**158.32**	**353**	*e*PKIKP	PKPdf	12 09 13.2	+1.0
PBEJ	**Beja**	**158.80**	**352**	*e*PKPab	PKPab	12 09 51.9	-0.3

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*IDC **31** 11:50:33.8±1.7,60.14N×25.46E,mb1 3.0/3, mb1mx2.9/20,ML2.9/2,Error ellipse: s-maj=18.4km s-min=7.3km az=142.0*

*HEL **31** 11:50:34.6±0.1,60.16N×25.24E,ML2.0,ML2.2(UPP), ML2.4(NAO),Explosion*

*NAO **31** 11:50:34.0±4.3,60.21N×25.21E,ML2.4*

*BER **31** 11:50:34.2±3.1,60.13N×25.40E,ML2.4(NAO), Suspected explosion*

ISC 31 11:50:33.1±0.7,60.17N±0.05×25.24E±0.08,n20,σ1^{s}24/33, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.49**	**39**	*e*P	**Pg**	**11 50 43.4**	**+0.5**
PVF				*e*S	**Sg**	**11 50 49.6**	**+0.2**
VJF	**Virojoki**	**1.21**	**71**	*e*P	**Pb**	**11 50 56.2**	**-0.3**
VJF				*e*SB	**Sb**	**11 51 12.6**	**0.0**
FIA0	**FINESS Array S**	**1.34**	**17**	*e*P	**Pb**	**11 50 59.0**	**+0.1**
FIA0				*e*S	**Sb**	**11 51 15.9**	**-0.6**
FIA0	**FINESS Array S**	**1.34**	**17**	Pn	**Pn**	**11 50 58.9**	**-0.2**
	baz=197,slow=14						
FIA0				Lg		11 51 16.2	
	baz=182,slow=28						
FINES	**FINESS Array B**	**1.34**	**17**	Pg	**Pg**	**11 50 58.7**	**-1.3**
	5.8nm,0.3s,baz=189,slow=18,SNR=134						
FINES				Pn	**Pn**	**11 51 00.8**	**+1.6**
	5.8nm,0.3s,baz=195,slow=12,SNR=132						
FINES				Lg		11 51 15.9	
	2.2nm,0.3s,baz=190,slow=31,SNR=10						
FINES				Sn	**Sn**	**11 51 20.7**	**+2.7**
	13nm,0.3s,baz=191,slow=23,SNR=20						
FINES				Rg		11 51 23.2	
	35nm,0.8s,baz=192,slow=27,SNR=28						
KEF	**Keuruu**	**2.02**	**355**	*e*PG	**Pg**	**11 51 10.6**	**-2.7**
KEF				*e*SB	**Sb**	**11 51 36.1**	**+0.1**
KEF				MSG		11 51 39.0	
	comp=Z,12nm,0.1s						
KAF	**Kangasniemi**	**2.02**	**14**	*e*P	**Pn**	**11 51 10.3**	**+1.5**
KAF				*e*S	**Sn**	**11 51 36.2**	**+1.1**
KAF				MSG		11 51 40.9	
	comp=Z,6.1nm,0.1s						
AAL	**Aland**	**2.62**	**273**	*e*P	**Pn**	**11 51 18.1**	**+0.8**
AAL				*e*S	**Sn**	**11 51 52.0**	**+1.6**
GRAU	**Graesoe**	**3.34**	**276**	*e*P	**Pn**	**11 51 27.4**	**-0.3**
NRTU	**Norrtaelje**	**3.36**	**264**	*e*P	**Pn**	**11 51 28.6**	**+0.7**
FLYU	**Flymyra**	**3.68**	**273**	*e*P	**Pn**	**11 51 32.5**	**+0.1**
OSTU	**Oestervaala**	**4.05**	**274**	*e*P	**Pn**	**11 51 37.6**	**0.0**
BACU	**Backbrunna**	**4.09**	**269**	*e*P	**Pn**	**11 51 38.9**	**+0.6**
HFS	**Hagfors**	**5.77**	**275**	Pn	**Pn**	**11 52 01.1**	**-0.9**
	baz=99,slow=11						
HFS				Sn	**Sn**	**11 53 05.3**	**-4.5**
	baz=77,slow=28						
HFS				Lg		11 53 33.2	
	baz=83,slow=28						
HFS	**Hagfors**	**5.77**	**275**	*e*P	**Pn**	**11 52 01.1**	**-0.9**
HFS				*e*S	**Sn**	**11 53 05.3**	**-4.5**
HFS				*e*SG	**Sg**	**11 53 33.2**	**-12**
HFS	**Hagfors**	**5.77**	**275**	Pn	**Pn**	**11 52 00.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=121,slow=12,SNR=8.4						
HFS				Sn	**Sn**	**11 53 05.2**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=87,slow=27,SNR=8.4						
NOA	**NORSAR Array B**	**6.96**	**283**	Pn	**Pn**	**11 52 15.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=2.5						
NOA				Sn	**Sn**	**11 53 32.7**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=17,SNR=2.4						
ARA0	**ARCESS Array S**	**9.41**	**1**	Pn	**P**	**11 52 49.6**	**-3.4**
	baz=183,slow=12						
ARA0	**ARCESS Array S**	**9.41**	**1**	*e*P	**P**	**11 52 49.6**	**-3.4**
ARCES	**ARCESS Array B**	**9.41**	**1**	Pn	**P**	**11 52 49.0**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=13						

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*BER **31** 11:53:31.9±2.0,59.03N×15.05E,h15^{km},ML2.5(NAO)*

NAO 31 11:53:27.8±5.4,58.88N×15.02E,ML2.5,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HFS	**Hagfors**	**1.43**	**332**	Pg	Pg	11 53 55.1	-1.2
	baz=156,slow=18						
HFS				Lg		11 54 12.3	
	baz=151,slow=37						
HFS				Rg		11 54 19.7	
	baz=141,slow=37						
FIA0	**FINESS Array S**	**6.09**	**60**	Lg		11 56 36.7	
FIA0	**FINESS Array S**	**6.09**	**60**	Lg		11 56 36.7	

IDC 31 12:15:42.5±5.6,56.11S×143.43W,mb3.4/2,mb1 3.6/2, mb1mx3.5/12,Error ellipse: s-maj=827.0km s-min=117.6km az=168.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**66.66**	**262**	P	P	12 26 34.6	-2.3
	0.3nm,0.8s,baz=138,slow=7.0,SNR=5.8						
WRA	**Warramunga Arr**	**69.39**	**265**	P	P	12 26 52.4	-1.6
	0.5nm,1.1s,baz=141,slow=5.5,SNR=4.7						
MKAR	**Makanchi Array**	**150.53**	**271**	PKPbc	PKPdf	12 35 34.8	+3.4
	0.3nm,0.6s,baz=153,slow=3.2,SNR=2.6						

KRSC 31 12:59:57.8±0.5,55.57N×162.06E,h80^{km}±4^{km},ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.77**	**33**	*i* P	P	13 00 15.1	+0.6
KBTR				*e*S	S	13 00 27.6	+0.8
KBG	**Krutoberegovo**	**0.78**	**28**	*i* P	P	13 00 15.0	+0.4
KBG				*i* S	S	13 00 27.5	+0.6
KBG				Smax			
	1μm,0.5s						
ZLN	**Zelenaya**	**0.84**	**303**	*i* P	P	13 00 15.6	+0.4
ZLN				*e*S	S	13 00 28.8	+0.6
CIRR	**Tsirk**	**0.92**	**307**	*i* P	P	13 00 16.5	+0.4
CIRR				*i* S	S	13 00 30.2	+0.3
LGNR	**Loginova**	**0.93**	**304**	*i* P	P	13 00 17.0	+0.8
MKZ	**Mys Kozlova**	**1.03**	**191**	*i* P	P	13 00 17.3	-0.2
MKZ				*i* S	S	13 00 31.6	-0.7
KMNR	**Kamenistaya**	**1.05**	**281**	*i* P	P	13 00 18.3	+0.6
KMNR				*i* S	S	13 00 33.1	+0.5
KLY	**Klyuchi**	**1.09**	**314**	*i* P	P	13 00 17.3	-0.8
KLY				*i* S	S	13 00 31.6	-1.8
SVLR	**Shiveluch**	**1.11**	**335**	*i* P	P	13 00 19.5	+1.0
SVLR				*i* S	S	13 00 35.7	+1.7
TUMR	**Tumrok**	**1.13**	**256**	*i* P	P	13 00 19.5	+0.8
TUMR				*i* S	S	13 00 35.6	+1.3
KOZ	**Kozyrevsk**	**1.33**	**293**	*e*P	P	13 00 22.3	+0.9
KOZ				*e*S	S	13 00 40.2	+1.3
SRDR	**Sredinnyy**	**1.52**	**301**	*e*P	P	13 00 24.1	+0.3
SRDR				*e*S	S	13 00 43.7	+0.7
ESO	**Esso**	**1.93**	**282**	*e*P	P	13 00 29.8	+0.5
ESO				*e*S	S	13 00 53.3	+0.7
ESO				Smax			
	40nm,0.7s						
KII	**Karymskiy**	**2.16**	**226**	*e*P	P	13 00 32.1	-0.4
BKI	**Bering**	**2.26**	**98**	*i* P	P	13 00 34.1	+0.2
BKI				*i* S	S	13 01 00.4	-0.4
BKI				Smax			
	140nm,0.3s						
SPN	**Mys Shipunski**	**2.75**	**207**	*e*P	P	13 00 40.8	0.0
SPN				*e*S	S	13 01 12.2	-0.7
NLC	**Nalytchevo**	**2.88**	**215**	*e*P	P	13 00 43.0	+0.4
NLC				*e*S	S	13 01 16.1	-0.1
SDLR	**Sedlovina**	**2.95**	**220**	*e*P	P	13 00 44.7	+1.1
SMAR	**Somma**	**3.00**	**221**	*e*P	P	13 00 45.6	+1.4
AVH	**Avacha**	**3.02**	**221**	*e*P	P	13 00 45.9	+1.4
AVH				*e*S	S	13 01 20.8	+1.2
UGLR	**Uglovaya**	**3.03**	**220**	*e*P	P	13 00 46.1	+1.4
KOK	**Koryaka**	**3.04**	**223**	*e*P	P	13 00 46.2	+1.4
GNL	**Ganaly**	**3.04**	**234**	*i* P	P	13 00 46.0	+1.1
PET	**Petropavlovsk**	**3.24**	**219**	*e*P	P	13 00 47.9	+0.3
PET				*e*S	S	13 01 24.8	-0.4
RUS	**Russkaya**	**3.78**	**215**	*e*P	P	13 00 56.0	+1.0
RUS				*e*S	S	13 01 38.5	0.0

IDC 31 13:00:26.2±2.0,4.41S×130.38E,mb3.4/1,mb1 3.9/4, mb1mx3.6/14,ML3.4/3,Error ellipse: s-maj=80.8km s-min=28.1km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.38**	**198**	Pn	P	13 03 51.4	-1.9
	0.1nm,0.3s,baz=34,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**15.91**	**166**	Pn	P	13 04 13.5	+0.1
	0.2nm,0.3s,baz=346,slow=11,SNR=23						
ASAR	**Alice Springs**	**19.45**	**170**	P	P	13 04 53.7	-3.5
	0.3nm,0.3s,baz=351,slow=10.0,SNR=23						
SONM	**Songino Array**	**56.13**	**341**	P	P	13 10 07.6	-2.2
	0.2nm,0.3s,baz=158,slow=7.8,SNR=3.7						

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*IDC **31** 13:11:24.8±3.8,58.51S×143.07W,mb3.9/2,mb1 4.1/2, mb1mx3.9/11,MS3.8/7,Ms1 3.8/7,ms1mx3.6/19,Error ellipse: s-maj=343.0km s-min=55.8km az=160.0*

*NEIC **31** 13:11:29.1±1.3,56.24S×144.27W,h10^{km},mb4.3/2,Error ellipse: s-maj=44.0km s-min=22.4km az=55.0*

ISC 31 13:11:25.9±2.5,56.0S±0.4×144.0W±0.6,h10^{km},n17, σ0^{s}80/8,mb4.0/4,MS3.8/7,4C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**27.58**	**200**	P	**P**	**13 17 14.6**	**+0.1**
	10nm,1.4s,mb4.3						
RPZ	**Rata Peaks**	**30.90**	**274**	LR	LR	13 27 06.7	
	comp=Z,249nm,19.4s,MS3.9,baz=115,slow=30						
URZ	**Urewera**	**31.30**	**288**	LR	LR	13 27 41.0	
	comp=Z,199nm,18.6s,MS3.8,baz=242,slow=30						
QSPA	**South Pole Qui**	**34.14**	**180**	*e*P	**P**	**13 18 12.5**	**0.0**
	2.8nm,0.7s,mb4.3						
VNA3	**Neumayer Olymp**	**49.01**	**162**	⇑*i*	**P**	**13 20 14.3**	**+0.4**
VNA2	**Neumayer--Watz**	**49.66**	**163**	⇑*i*	**P**	**13 20 19.5**	**+0.5**
SNAA	**Sanae**	**49.72**	**165**	⇑*i*	**P**	**13 20 16.7**	**-2.7**
VNA1	**Neumayer--Stat**	**49.76**	**162**	⇑*i*	**P**	**13 20 20.3**	**+0.6**
MAW	**Mawson**	**55.08**	**192**	LR	LR	13 40 57.8	
	comp=Z,96nm,18.8s,MS3.9,baz=66,slow=34						
STKA	**Stephens Creek**	**55.71**	**263**	LR	LR	13 38 31.6	
	comp=Z,76nm,21.9s,MS3.7,baz=328,slow=29						
ASAR	**Alice Springs**	**66.34**	**263**	P	**P**	**13 22 16.7**	**0.0**
	1.5nm,0.8s,mb4.1,baz=140,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**69.06**	**265**	P	**P**	**13 22 33.9**	**0.0**
	0.5nm,0.7s,mb3.6,baz=145,slow=5.5,SNR=6.3						
FITZ	**Fitzroy Crossi**	**75.38**	**259**	LR	LR	13 51 52.2	
	comp=Z,61nm,20.0s,MS3.9,baz=86,slow=32						
TXAR	**Lajitas Array**	**91.70**	**34**	LR	LR	14 00 10.0	
	comp=Z,30nm,18.1s,MS3.8,baz=275,slow=31						
NVAR	**Mina Array Bea**	**96.59**	**20**	LR	LR	13 58 22.0	
	comp=Z,37nm,19.7s,MS3.9,baz=5.0,slow=28						
ILAR	**Eielson Array**	**120.48**	**359**	PKP	PKPdf	13 30 21.3	+1.7

	0.9nm,1.0s,baz=213,slow=1.2,SNR=6.3						
MKAR	Makanchi Array	150.19	272	PKPbc	PKPdf	13 31 17.1	+3.2
	1.3nm,0.8s,baz=135,slow=4.1,SNR=9.9						

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*IDC **31** 13:19:16.8±1.2,22.52S×179.26E,h560^{km}±10^{km}, mb4.0/13,mb1 4.2/14,mb1mx4.1/16,Error ellipse: s-maj=16.3km s-min=9.7km az=166.0*

*HRVD **31** 13:19:17.6±1.4,22.25S×179.31E,h590^{km}±9^{km}, MW5.2/17,Centroid moment Tensor Solution. LP body waves: s17,c21; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.26±.78; M$_{\theta\theta}$4.10±1.22; M$_{\phi\phi}$-5.36±.82; M$_{r\theta}$-3.92±.92; M$_{\theta\phi}$-1.54±1.03; M$_{\phi r}$1.66±1.00; Best double couple: M$_0$6.52×10^{16} NP1:φ$_s$227°,δ57°,λ161°. NP2: φ$_s$328°,δ74°,λ34°. Principal axes: T 7.24, Plg35°, Azm192°; N -1.44, Plg53°, Azm350°; P -5.8, Plg11°, Azm95°; nsta1 refers to body waves, cutoff=40s.*

*NEIC **31** 13:19:17.6±1.8,22.48S×179.25E,h571^{km}±19^{km}, mb5.1/14 Error ellipse: s-maj=16.0km s-min=13.0km az=66.0*

ISC 31 13:19:17.4±0.8**,22.74S**±0.05×**179.19E**±0.07**, h577**^{km}±10^{km}**,n90,**σ**1**^{s}**25**/80**,mb4.8**/21**,17C-4D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.81	271	⇑eP	P	13 21 54.7	+0.4
DZM	Mont Dzumac	11.81	271	⇑eP	P	13 21 54.6	+0.3
NOUC	Port Laguerre	11.94	271	eP	P	13 21 57.0	+1.4
NOUC	Port Laguerre	11.94	271	eP	P	13 21 57.0	+1.4
KUZ	Kuaotunu	14.28	191	P	P	13 22 20.9	+2.1
MXZ	Matakaoa Point	14.79	183	P	P	13 22 23.7	-0.1
PUZ	Puketiti	15.30	183	eP	P	13 22 25.5	-3.3
PUZ				S	S	13 25 03.0	0.0
URZ	Urewera	15.57	186	P	P	13 22 29.8	-1.6
	17nm,0.3s,baz=360,slow=4.7,SNR=54						
URZ				S	S	13 25 08.2	+0.5
	4.0nm,0.3s,baz=211,slow=22,SNR=12						
URZ	Urewera	15.57	186	eP	P	13 22 29.2	-2.2
MWZ	Matawai	15.61	185	P	P	13 22 30.8	-1.0
MWZ				eS	S	13 25 07.1	-1.2
KNZ	Kokohu	16.28	184	eP	P	13 22 37.6	-0.6
KNZ				S	S	13 25 21.2	+1.1
MGZ	Maungaku	16.51	190	P	P	13 22 41.1	+0.8
BKZ	Black Stump Fm	16.54	187	P	P	13 22 38.8	-1.8
BKZ				S	S	13 25 22.9	-1.6
NGZ	Ngauruhoe	16.67	190	P	P	13 22 42.0	+0.1
CNZ	Chateau	16.70	190	P	P	13 22 42.5	+0.3
TUVZ	Tukino	16.75	190	P	P	13 22 42.6	-0.1
VRZ	Vera Road	16.77	192	P	P	13 22 44.9	+2.1
RAEZ	Rainy Point	16.99	193	P	P	13 22 48.0	+3.0
NEZ	North Egmont	17.04	194	P	P	13 22 49.4	+4.0
BFZ	Birch Farm	18.06	187	P	P	13 22 53.8	-1.3
MRZ	Mangatainoka R	18.13	189	P	P	13 22 54.1	-1.6
QRZ	Quartz Range	18.89	196	P	P	13 23 04.3	+1.4
QRZ				eS	S	13 26 07.2	+2.8
SNZO	South Karori	18.89	190	eP	P	13 23 02.6	-0.4
	196nm,0.8s						
THZ	Tophouse	19.69	194	P	P	13 23 09.8	-0.5
THZ				S	S	13 26 16.3	-1.4
KHZ	Kahutara	20.18	192	P	P	13 23 13.7	-1.2
LTZ	Lake Taylor	20.80	194	P	P	13 23 19.4	-1.1
WVZ	Waitaha Valley	21.46	197	P	P	13 23 26.1	-0.5
RPZ	Rata Peaks	21.98	196	P	P	13 23 30.9	-0.3
	42nm,0.5s,mb5.4,baz=316,slow=1.1,SNR=32						
LBZ	Lake Benmore	22.83	197	P	P	13 23 37.0	-1.9
CNB	Canberra Magne	28.82	238	⇑iP	P	13 24 33.5	+1.9
	45nm,1.1s,mb5.0						
CTA	Charters Tower	30.75	269	⇓iP	P	13 24 49.2	+1.0
	76nm,0.4s,mb5.7						
CTA				e		13 27 18.7	
CTA				eS	S	13 29 12.8	+0.2
CTA				eSCP		13 30 19.6	
CTA	Charters Tower	30.75	269	P	P	13 24 49.1	+1.0
	122nm,0.6s,mb5.7,baz=95,slow=10,SNR=234						
CTAO	Charters Tower	30.75	269	⇓eP	P	13 24 49.0	+0.8
	121nm,0.6s,mb5.7						
TOO	Toolangi	32.48	235	⇑iP	P	13 25 04.3	+1.7
	13nm,0.7s,mb4.7						
STKA	Stephens Creek	34.48	246	⇑iP	P	13 25 21.0	+1.6
	9.2nm,0.4s,mb4.8						
STKA				eS	S	13 30 09.0	-0.4
STKA	Stephens Creek	34.48	246	P	P	13 25 20.9	+1.5
	12nm,0.5s,mb4.8,baz=91,slow=10,SNR=65						
STKA				S	S	13 30 09.6	+0.2
	6.5nm,0.9s,baz=244,slow=15,SNR=6.9						
STKA	Stephens Creek	34.48	246	eP	P	13 25 20.8	+1.3
ASAR	Alice Springs	41.50	260	P	P	13 26 16.9	+0.3
	18nm,0.6s,mb4.8,baz=99,slow=8.3,SNR=272						
ASAR				PcP	PcP	13 28 00.3	-0.5
	4.9nm,0.7s,baz=104,slow=4.0,SNR=9.3						
ASAR				ScP		13 30 59.3	
	5.6nm,0.7s,baz=111,slow=4.1,SNR=14						
ASAR				S	S	13 31 51.5	-0.7
	2.5nm,0.8s,baz=98,slow=16,SNR=9.6						
ASPA	Alice Springs	41.51	260	⇑iP	P	13 26 16.9	+0.3
ASPA				eSCP		13 30 59.5	
ASPA				eS	S	13 31 51.3	-0.9
ASPA				e		13 32 11.7	
ASPA				eSS	SS	13 35 17.4	+2.6
WB2	Warramunga Arr	41.74	265	⇑iP	P	13 26 18.1	-0.5
WB2				eSCP		13 31 00.5	
WB2				eS	S	13 31 53.4	-2.2
WB2				e		13 32 28.1	
WB2				eSS	SS	13 35 18.8	+0.1
WRAB	Tennant Creek	41.75	265	eP	P	13 26 17.9	-0.7
	13nm,0.4s,mb4.8						
WRA	Warramunga Arr	41.76	265	P	P	13 26 18.2	-0.5
	11nm,0.4s,mb4.7,baz=95,slow=8.0,SNR=376						
WRA				pP	pP	13 28 01.9	+1.2
	2.5nm,0.5s,baz=104,slow=7.0,SNR=3.6						
WRA				ScP		13 31 00.4	
	5.9nm,0.7s,baz=94,slow=3.8,SNR=18						
WRA				S	S	13 31 55.7	0.0
	2.1nm,0.7s,baz=100,slow=14,SNR=6.7						
KAKA	Kakadu	45.52	274	⇑iP	P	13 26 46.7	-1.3
	20nm,0.3s,mb5.1						
KAKA				e		13 32 47.0	
FORT	Forrest	46.03	249	⇑iP	P	13 26 51.4	-0.3
	136nm,0.6s,mb5.7						
FORT				eS	S	13 32 54.7	-0.9
FITZ	Fitzroy Crossi	50.19	265	eP	P	13 27 22.7	-0.3
	12nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	50.19	265	P	P	13 27 22.9	-0.1
	14nm,0.5s,mb4.7,baz=130,slow=4.3,SNR=106						
KLBR	Kellerberrin	54.76	247	eP	P	13 27 54.8	-0.6
	30nm,1.0s,mb4.6						
SBA	Scott Base	55.49	183	⇑eP	P	13 28 01.9	+2.0
	94nm,0.8s,mb5.2						
CASY	Casey	60.83	206	⇑eP	P	13 28 35.5	-0.4
	57nm,0.8s,mb4.8						
QSPA	South Pole Qui	67.33	180	⇑iP	P	13 29 17.9	+1.2
	156nm,0.6s,mb5.6						
MAW	Mawson	78.57	201	eP	P	13 30 21.8	+1.3
	14nm,0.6s,mb4.5						
MAW				eS	S	13 40 21.4	+51
MAW	Mawson	78.57	201	P	P	13 30 21.8	+1.3
	20nm,0.7s,mb4.5,baz=126,slow=6.6,SNR=49						
MAW	Mawson	78.57	201	⇑eP	P	13 30 21.5	+1.0
	26nm,0.7s,mb4.7						
YBH	Yreka Blue Hor	83.67	40	P	P	13 30 47.1	+0.1
	2.0nm,0.8s,mb3.7,baz=171,slow=4.3,SNR=7.9						
USHA	Ushuaia	83.67	147	P	P	13 30 48.0	+1.3
	48nm,1.3s,mb4.9,baz=267,slow=3.7,SNR=5.9						
SYO	Syowa Base	83.96	194	⇓P	P	13 30 47.8	0.0
SYO	Syowa Base	83.96	194	⇑P	P	13 31 05.6	+18
NVAR	Mina Array Bea	84.44	44	P	P	13 30 50.0	-0.9
	1.1nm,0.8s,baz=211,slow=7.2,SNR=7.2						
SNAA	Sanae	85.83	179	⇑i	P	13 30 56.6	-0.3
VNA3	Neumayer Olymp	86.07	177	⇑i	P	13 31 00.6	+2.6
VNA2	Neumayer--Watz	86.47	178	⇑i	P	13 31 03.1	+3.2
VNA1	Neumayer--Stat	86.72	178	⇑i	P	13 31 04.5	+3.4
CMAR	Chiang Mai Arr	88.43	291	PKKPbc		13 48 49.1	
	0.8nm,0.7s,baz=291,slow=4.2,SNR=4.6						
PLCA	Paso Flores	89.60	135	P	P	13 31 16.4	+1.2
	5.7nm,0.8s,mb4.4,baz=217,slow=5.5,SNR=11						
ILAR	Eielson Array	91.09	14	P	P	13 31 19.4	-2.1
	0.4nm,0.4s,mb3.7,baz=215,slow=5.2,SNR=14						
ILAR				pP	pP	13 33 28.6	+0.9
	0.5nm,1.1s,baz=216,slow=5.1,SNR=4.2						
ILAR				PKKP	PKKP	13 48 41.1	+63
	0.3nm,0.7s,baz=333,slow=2.8,SNR=4.3						
PDAR	Pinedale Array	92.38	44	P	P	13 31 26.6	-1.3
	0.6nm,0.9s,mb3.6,baz=270,slow=1.5,SNR=4.6						
PDAR				PKKPbc		13 48 38.0	
	0.5nm,0.8s,baz=56,slow=5.3,SNR=4.5						
SONM	Songino Array	95.75	320	PKKPbc		13 48 29.9	
	0.6nm,0.6s,baz=261,slow=2.4,SNR=5.1						
YKA	Yellowknife Ar	99.64	26	PKKP	PKKP	13 48 17.7	+54
	0.4nm,0.5s,baz=51,slow=2.4,SNR=4.1						
MKAR	Makanchi Array	110.83	313	PKiKP		13 36 44.9	
	0.9nm,0.8s,baz=80,slow=1.1,SNR=6.1						
MKAR				PKKPbc		13 47 45.8	
	1.3nm,0.7s,baz=288,slow=3.8,SNR=5.7						
MKAR				PKKPab		13 47 58.0	
	1.1nm,0.6s,baz=270,slow=2.4,SNR=6.1						
MKAR	Makanchi Array	110.83	313	PKPdf	PKPdf	13 36 44.9	0.0
MKAR				PKKPbc		13 47 45.8	
MKAR				PKKPab		13 47 58.0	
BDFB	Brasilia	120.08	125	PKP	PKPdf	13 37 04.2	+0.5
	2.0nm,0.6s,baz=148,slow=10,SNR=4.5						
ARCES	ARCESS Array B	130.61	348	PKP	PKPdf	13 37 22.7	+0.1
	2.1nm,0.7s,baz=46,slow=1.8,SNR=16						
ARCES				SKPbc		13 39 54.7	
	22nm,0.8s,baz=34,slow=4.4,SNR=54						
ARCES	ARCESS Array B	130.61	348	PKP	PKPdf	13 37 22.7	+0.1
ARCES				SKPbc		13 39 54.7	
KMBO	Kilima Mbogo	135.99	243	PKP	PKPdf	13 37 37.1	+3.0
	2.1nm,0.7s,baz=232,slow=22,SNR=5.7						
KMBO				SKP		13 40 17.7	
	2.6nm,0.9s,baz=64,slow=4.4,SNR=6.0						
FINES	FINESS Array B	137.12	341	PKP	PKPdf	13 37 36.9	+2.1
	0.6nm,0.4s,baz=90,slow=1.9,SNR=5.3						
FINES				SKPbc		13 40 15.7	
	14nm,0.9s,baz=104,slow=7.9,SNR=24						
FINES	FINESS Array B	137.12	341	PKP	PKPdf	13 37 36.9	+2.1
FINES				SKPbc		13 40 15.7	
NOA	NORSAR Array B	140.83	351	SKPbc		13 40 25.5	
	3.9nm,0.8s,baz=16,slow=4.2,SNR=7.0						
AKASG	Malin Array Be	143.60	328	PKP	PKPdf	13 37 45.5	-1.0
	2.1nm,0.3s,baz=41,slow=4.3,SNR=11						
AKASG				SKPbc		13 40 32.7	
	3.0nm,0.8s,baz=40,slow=2.2,SNR=18						
BRTR	Keskin Array B	146.29	308	PKPbc	PKPbc	13 37 52.4	-1.0
	1.1nm,0.6s,baz=135,slow=1.7,SNR=7.5						
CLL	Collm	149.54	343	⇓iPKP1	PKPdf	13 38 02.7	+6.4
BRG	Berggiesshubel	149.66	341	i P	PKPdf	13 38 03.4	+6.9
CLZ	Clausthal	149.69	346	ePKP	PKPdf	13 38 03.2	+6.7
VYHS	Vyhne	149.92	334	ePKP	PKPdf	13 38 03.0	+6.0
PRU	Pruhonice	150.25	340	eP	PKPdf	13 38 04.1	+6.7
KHC	Kasperske Hory	151.31	340	eP	PKPdf	13 38 06.5	+7.5
GERES	GERESS Array B	151.52	340	PKPbc	PKPdf	13 38 06.9	+7.6
	2.5nm,0.9s,baz=63,slow=3.0,SNR=11						
LIC	Lamto	163.08	165	ePKIKP	PKPdf	13 38 15.1	+0.8
	71nm,1.9s						
LIC				ePKP1	PKPab	13 39 10.1	-0.3
KIC	Kosan Boka	163.28	166	ePKIKP	PKPdf	13 38 15.1	+0.6
	93nm,1.2s						
KIC				ePKP1	PKPab	13 39 10.9	-0.4
TIC	Toumodi	163.49	165	ePKIKP	PKPdf	13 38 15.5	+0.8
	17nm,0.6s						
TIC				ePKP1	PKPab	13 39 11.8	-0.4
DBIC	Dimbokro	163.55	166	PKP	PKPdf	13 38 15.7	+0.9
	5.0nm,0.7s,baz=176,slow=1.7,SNR=6.8						
DBIC				PKPab	PKPab	13 39 12.4	0.0
	9.5nm,0.8s,baz=156,slow=6.3,SNR=9.5						

IDC 31 14:22:07.2±3.6**,4.69S**×**104.70E,mb3.5**/4**,mb1 3.6**/4**, mb1mx3.4**/14**,Error ellipse: s-maj=206.0km s-min=27.8km az=53.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.60	120	P	P	14 28 42.4	-0.5
	0.3nm,0.9s,baz=304,slow=9.1,SNR=4.8						
ASAR	Alice Springs	33.90	127	P	P	14 28 52.5	-1.6
	0.4nm,0.8s,baz=303,slow=8.3,SNR=5.5						
STKA	Stephens Creek	43.88	133	P	P	14 30 13.8	-3.5
	0.9nm,0.5s,baz=331,slow=10,SNR=3.2						
MKAR	Makanchi Array	54.96	341	P	P	14 31 40.1	-2.2
	0.4nm,0.7s,baz=135,slow=8.6,SNR=4.3						

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*IDC **31** 14:32:56.8±0.8,21.12N×120.39E,mb3.8/10,mb1 4.1/10, mb1mx3.9/19,MS3.2/2,Ms1 3.3/2,ms1mx2.8/31,Error ellipse: s-maj=37.3km s-min=16.3km az=66.0*

*TAP **31** 14:32:59.2,21.21N×120.00E,h48^{km}±2^{km},ML4.0*

*NEIC **31** 14:33:04.5±1.2,21.04N×120.29E,h58^{km}±12^{km},mb4.2/4, Error ellipse: s-maj=12.2km s-min=5.7km az=70.0*

ISC 31 14:33:02.1±1.2**,21.06N**±0.06×**120.3E**±0.1**,h53**^{km}±12^{km}**, n24,**σ**0**^{s}**89**/24**,mb3.9**/11**,MS3.0**/1**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	1.69	111	eP	P	14 33 28.7	-1.1
PIP	Pasuquin	2.74	173	eP	S	14 34 13.5	-3.3
ABRA	Dolores	3.42	173	eP	P	14 34 01.0	+6.7
ABRA				eS	x	14 35 20.0	
CVP	Callao Caves	3.64	156	eP	P	14 33 56.0	-1.4
CVP				i S	S	14 34 43.0	+3.5
TATO	Taipei	4.05	16	Pn	P	14 34 04.2	+1.1
CAUP	Cauayan	4.35	160	eP	P	14 34 09.1	+1.7
CAUP				eS	x	14 34 20.1	
JOW	Kunigami	9.29	50	LR	LR	14 38 42.6	
	comp=Z,142nm,21.1s,baz=182,slow=38						
BJT	Baijiatuau	19.22	350	P	P	14 37 24.1	-0.4
	12nm,0.7s						
BJI	Beijing	19.24	350	eP	P	14 37 24.1	-0.6
	15nm,1.1s						
CMAR	Chiang Mai Arr	20.25	266	P	P	14 37 35.3	-0.4
	0.4nm,0.3s,baz=75,slow=10,SNR=3.4						
CMAR				LR	LR	14 46 45.2	
	comp=Z,62nm,20.1s,MS3.0,baz=85,slow=41						
SONM	Songino Array	28.97	340	P	P	14 38 58.0	-0.6
	0.9nm,0.8s,mb3.5,baz=157,slow=9.4,SNR=7.1						
MKAR	Makanchi Array	40.06	319	P	P	14 40 34.0	+0.2
	0.9nm,0.6s,mb3.7,baz=119,slow=10,SNR=11						
MKAR	Makanchi Array	40.06	319	P	P	14 40 34.0	+0.2
WRAB	Tennant Creek	43.00	160	eP	P	14 40 57.9	-0.3
	8.2nm,0.9s,mb4.5						
WRA	Warramunga Arr	43.01	160	P	P	14 40 58.2	-0.1
	2.6nm,0.8s,mb4.0,baz=342,slow=9.0,SNR=20						
WB2	Warramunga Arr	43.01	160	eP	P	14 40 58.2	-0.1
KURK	Kurchatov	44.00	323	P	P	14 41 05.6	-0.3
	3.4nm,1.1s,mb4.0						
ASPA	Alice Springs	46.39	163	eP	P	14 41 25.2	-0.1
ASAR	Alice Springs	46.39	163	P	P	14 41 25.6	+0.2
	1.3nm,0.6s,mb4.0,baz=346,slow=7.4,SNR=37						
STKA	Stephens Creek	56.46	158	P	P	14 42 40.4	-0.6
	0.7nm,0.5s,mb4.0,baz=339,slow=8.6,SNR=3.9						
ARCES	ARCESS Array B	72.12	338	P	P	14 44 22.8	+0.5
	0.9nm,0.7s,mb3.8,baz=63,slow=5.4,SNR=4.6						
ILAR	Eielson Array	72.36	27	P	P	14 44 24.0	+0.1
	0.7nm,0.9s,mb3.6,baz=296,slow=9.1,SNR=5.1						
FINES	FINESS Array B	73.72	330	P	P	14 44 32.1	+0.3
	1.9nm,1.0s,mb4.0,baz=56,slow=5.0,SNR=4.5						
GERES	GERESS Array B	84.72	321	P	P	14 45 32.9	+1.3
	1.0nm,0.8s,mb4.0,baz=90,slow=6.7,SNR=5.0						

IDC 31 14:53:42.7±4.6**,6.54N**×**75.80W,h139**^{km}±56^{km}**,mb1 3.6**/1**, mb1mx3.1**/18**,Error ellipse: s-maj=112.0km s-min=30.5km az=81.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.22	139	P	P	14 54 20.6	+0.3
	35nm,0.3s,baz=317,slow=18,SNR=45						
ROSC				S	S	14 54 49.8	+0.8
	31nm,0.3s,baz=158,slow=21,SNR=8.5						
ULM	Lac du Bonnet	46.69	342	P	P	15 01 57.2	-1.9
	1.6nm,0.5s,baz=154,slow=12						
ASAR	Alice Springs	146.77	236	PKPbc	PKPbc	15 13 08.6	-0.2
	0.4nm,0.8s,baz=119,slow=2.9,SNR=4.8						
WRA	Warramunga Arr	147.86	243	PKPbc	PKPdf	15 13 11.7	+2.6
	0.2nm,0.3s,baz=107,slow=2.8,SNR=15						

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*MDD **31** 15:34:46.2±1.3,36.67N×7.49W,h3^{km}±9^{km},mbLg2.3/8, Error ellipse: s-maj=9.1km s-min=7.7km az=176.0, PRXIMO*

*INMG **31** 15:34:46.6±1.0,36.68N×7.46W,h5^{km}±3^{km},ML2.3,Error ellipse: s-maj=4.6km s-min=4.5km az=5.0*

ISC 31 15:34:44.2±1.7**,36.64N**±0.08×**7.43W**±0.07**,h7**^{km}±6^{km}**,n12,** σ**0**^{s}**99**/19**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.74	11	Pg	Pg	15 34 59.7	+0.7
	10.0nm,0.1s,SNR=7.9						
ERIP				Lg		15 35 09.5	
	44nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.82	357	ePg	Pg	15 35 00.8	+0.2
PALC				eSg	Sg	15 35 11.8	+0.2
	68nm,0.2s						
PALC	Alcoutim	0.82	357	Pg	Pg	15 35 00.8	+0.2
PALC				Lg		15 35 11.8	
	34nm,0.2s						
EGRO	El Granado	0.89	357	Pg	Pg	15 35 02.7	+0.7
	1.0nm,0.1s,SNR=20						
EGRO				Lg		15 35 13.8	
	34nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.27	28	Pg	Pg	15 35 09.1	-0.5
	3.4nm,0.2s,SNR=41						
EMIN				Lg		15 35 26.2	
	14nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	1.38	311	eP	Pb	15 35 10.0	+0.1
PTEO				eS	Sb	15 35 27.5	0.0
	32nm,0.5s						
PTEO	Sao Teotonio	1.38	311	Pg	Pb	15 35 10.0	+0.1
PTEO				Lg		15 35 27.5	
	16nm,0.5s						
PBEJ	Beja	1.43	346	eP	Pn	15 35 11.1	+0.5
PBEJ				eS	Sb	15 35 28.9	-0.1
	27nm,0.5s						
PBEJ	Beja	1.43	346	Pg	Pn	15 35 11.1	+0.5
PBEJ				Lg		15 35 28.9	
	14nm,0.5s						
MOE	Montemor	2.02	339	ePg	Pg	15 35 23.1	-1.3
MOE				eSn	Sn	15 35 43.3	-1.5
EBAD	Badajoz	2.13	9	Pn	Pn	15 35 24.0	+3.2
	1.9nm,0.1s,SNR=7.5						
EBAD				Sn	Sn	15 35 49.0	+1.1
	6.1nm,0.3s,SNR=7.9						
EBAD				Lg		15 35 53.2	
	18nm,0.2s,SNR=7.9						
EADA	Adamuz	2.73	55	Pn	Pn	15 35 30.1	+0.8
	0.4nm,0.3s,SNR=6.5						
EADA				Pg	Pg	15 35 35.5	-3.2
	0.0nm,0.3s,SNR=7.9						
EADA				Sn	Sn	15 36 02.1	-0.9
	1.6nm,0.7s,SNR=7.9						
EADA				Lg		15 36 10.6	
	2.2nm,0.1s,SNR=7.9						

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*NEIC **31** 15:35:53.0,37.00S×177.50E,h12^{km},ML3.8(WEL),After WEL.*

WEL 31 15:35:51.9±0.3**,36.94S**×**177.50E,h12**^{km}**,ML3.8**/16**,1C, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.64	203	P*	Pb	15 36 03.0	-1.5
WIZ				S*	Sb	15 36 12.5	-0.5
MXZ	Matakaoa Point	0.90	134	⇑P*	Pb	15 36 07.7	-1.2
MXZ				S*	Sb	15 36 18.8	-1.8
MXZ	Matakaoa Point	0.90	134	P	Pb	15 36 07.7	-1.2
MXZ				S	Sb	15 36 19.0	-1.5
MYRZ	Mayor Island	1.06	251	P*	Pb	15 36 10.7	-1.0
MARZ	Manawahe	1.23	212	P*	Pb	15 36 12.7	-1.9
TGRZ	Tauranga	1.26	231	eP*	Pb	15 36 13.3	-1.9
TGRZ	Tauranga	1.26	231	P	Pb	15 36 13.6	-1.6
PUZ	Puketiti	1.28	152	PN	Pn	15 36 15.1	-0.5
PUZ				S*	Sb	15 36 32.6	+0.9
PUZ	Puketiti	1.28	152	eP	Pb	15 36 15.4	-0.1
EDRZ	Edgecumbe	1.31	207	P*	Pb	15 36 13.8	-2.2
URZ	Urewera	1.35	193	P*	Pb	15 36 14.0	-2.7
URZ				S*	Sb	15 36 31.4	-2.5
URZ	Urewera	1.35	193	P	Pn	15 36 14.3	-2.4
LIRZ	Lichensteins R	1.39	219	eP*	Pb	15 36 15.6	-1.7
MWZ	Matawai	1.39	179	P*	Pb	15 36 14.5	-2.9
MWZ	Matawai	1.39	179	P	Pn	15 36 14.7	-2.6
KUZ	Kuaotunu	1.44	277	PN	Pn	15 36 17.1	-0.8
KUZ				SN	Sn	15 36 34.1	-2.7
KUZ	Kuaotunu	1.44	277	eP	Pn	15 36 17.3	-0.6
TAZ	Tarawera	1.51	211	eP*	Pb	15 36 20.5	+1.1
OTAZ	Otara	2.06	269	PN	Pn	15 36 27.2	+0.4
OTAZ	Otara	2.06	269	P	Pn	15 36 27.2	+0.4
KAAZ	Kauri Point	2.24	272	ePN	Pn	15 36 29.5	0.0
WTAZ	Waiatarua	2.34	269	PN	Pn	15 36 31.1	+0.2
WTAZ	Waiatarua	2.34	269	P	Pn	15 36 31.5	+0.7
BKZ	Black Stump Fm	2.36	199	eP*	Pb	15 36 28.6	-5.4
BKZ	Black Stump Fm	2.36	199	eP	Pn	15 36 28.9	-2.2
NGZ	Ngauruhoe	2.69	213	eP*	Pb	15 36 36.2	-3.3
CNZ	Chateau	2.73	214	eP*	Pb	15 36 38.2	-2.0
WCZ	Waipu Caves	2.73	290	PN	Pn	15 36 36.9	+0.5
WCZ	Waipu Caves	2.73	290	eP	Pn	15 36 37.1	+0.7
FWVZ	Far West T-bar	2.78	213	eP*	Pb	15 36 37.0	-4.1
OUZ	Omahuta	3.60	297	PN	Pn	15 36 49.5	+0.9

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*HEL **31** 15:56:50.1±0.1,59.82N×22.28E,ML2.0,ML2.6(UPP), ML2.3(NAO),Explosion*

*NAO **31** 15:56:51.8±2.5,60.08N×22.11E,ML2.3*

*BER **31** 15:56:51.2±3.9,59.88N×22.30E,ML2.3(NAO), Suspected explosion*

ISC 31 15:56:49.0±0.5**,59.84N**±0.04×**22.27E**±0.05**,n22,**σ**1**^{s}**11**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.19	288	eP	Pb	15 57 11.6	-0.6
AAL				eS	Sb	15 57 27.9	-0.1
NRTU	Norrtaelje	1.85	267	eP	Pn	15 57 22.6	+0.4
PVF	Pernaja	1.93	67	eP	Pn	15 57 24.0	+0.6
PVF				eS	Sn	15 57 48.6	-0.1
GRAU	Graesoe	1.94	287	eP	Pn	15 57 23.7	+0.2
FLYU	Flymyra	2.22	279	eP	Pn	15 57 28.0	+0.4
NYNU	Nynaeshamn	2.33	251	eP	Pn	15 57 29.7	+0.5
FIA0	FINESS Array S	2.47	48	eP	Pn	15 57 32.4	+1.2
FIA0				eSB	Sb	15 58 05.0	-0.1
FIA0				MSG		15 58 06.3	
	comp=Z,8.7nm,0.2s						
FIA0	FINESS Array S	2.47	48	Pn	Pn	15 57 32.5	+1.4
	baz=224,slow=16						
FIA0				Lg		15 58 04.9	
	baz=234,slow=22						
BACU	Backbrunna	2.61	273	eP	Pn	15 57 33.5	+0.4
KEF	Keuruu	2.66	27	eP	Pn	15 57 36.0	+2.2
KEF				eSB	Sb	15 58 10.1	-0.5
KEF				MSG		15 58 12.7	
	comp=Z,4.2nm,0.2s						
VSU	Vasula	2.68	119	eP	Pn	15 57 34.7	+0.5
VSU				eSB	Sb	15 58 08.9	-2.3
VJF	Virojoki	2.73	73	eP	Pn	15 57 34.5	-0.4
VJF				eS	Sn	15 58 08.6	-0.5
KAF	Kangasniemi	3.01	39	eP	Pn	15 57 41.0	+2.1
KAF				eSB	Sb	15 58 19.4	-1.5
VAF	Ylistaro	3.22	3	eP	Pn	15 57 43.9	+2.1
VAF				eSB	Sb	15 58 26.1	-0.9
SUF	Sumiainen	3.44	31	eP	Pn	15 57 45.8	+0.8
SUF				eSB	Sb	15 58 29.5	-3.9
SUF				MSG		15 58 41.0	
	comp=Z,2.3nm,0.2s						
NRAU	Nora	3.67	269	eP	Pn	15 57 48.7	+0.4
BYXU	Byxelkrok	3.76	229	eP	Pn	15 57 49.4	-0.1
OSKU	Oskarshamn	4.18	233	eP	Pn	15 57 55.1	-0.4
HFS	Hagfors	4.32	278	Pn	Pn	15 57 56.4	-1.1
	baz=101,slow=9.3						
HFS				Sn	Sn	15 58 46.5	-2.8
	baz=106,slow=28						
HFS				Lg		15 59 02.8	
	baz=99,slow=37						
HFS	Hagfors	4.32	278	eP	Pn	15 57 56.4	-1.1
HFS				eS	Sn	15 58 46.5	-2.8
HFS				eSG	Sg	15 59 02.8	-10
ARA0	ARCESS Array S	9.83	7	Pn	P	15 59 10.2	-4.3
	baz=185,slow=14						
ARA0				Sn	Sn	16 00 55.6	-11
	baz=194,slow=28						
ARA0	ARCESS Array S	9.83	7	eP	P	15 59 10.2	-4.3
ARA0				eS	Sn	16 00 55.6	-11

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*BJI **31** 16:25:08.2,7.17N×126.98E,h16^{km},mB5.6,mb5.3,Ms5.5, Msz5.4*

HRVD ***31*** *16:25:10.3±0.2, 7.27N×127.32E, h13km, MW5.6/72, Centroid moment Tensor Solution. LP body waves: s66,c133; Mantle waves: s72,c165; Half duration: 1.6s Moment tensor: Scale 10^{17}Nm; M_{rr}2.28±.04; $M_{\theta\theta}$0.28±.03; $M_{\phi\phi}$-2.56±.04; $M_{r\theta}$0.99±.09; $M_{\theta\phi}$-0.39±.03; $M_{\phi r}$2.08±.09; Best double couple: $M_0$3.37×10^{17} NP1:ϕ_s173°,δ25°,λ65°. NP2:ϕ_s20°,δ67°,λ101°. Principal axes: T 3.27, Plg66°, Azm310°; N .2, Plg10°, Azm196°; P -3.47, Plg21°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *16:25:10.3±0.2, 7.29N×126.96E, h10km, mb5.5/58, ME5.5, MS5.4/9, MW5.6 Error ellipse: s-maj=7.1km s-min=4.4km az=68.0 Broadband fault plane solution: P waves. NP1: ϕ_s20°,δ70°,λ90°. NP2:ϕ_s200°,δ20°,λ90°. Principal axes: T Plg65°, Azm290°; N Plg0°, Azm0°; P Plg25°, Azm110°; Moment Tensor Solution. s18 Moment tensor: Scale 10^{17} Nm; M_{rr}2.23; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-1.92; $M_{r\theta}$0.91; $M_{\theta\phi}$1.23; $M_{\phi r}$1.17; Best double couple: $M_0$2.8×10^{17} NP1:ϕ_s128°, δ44°,λ50°. NP2:ϕ_s357°,δ58°,λ122°. Principal axes: T 3, Plg62°, Azm320°; N -.32, Plg26°, Azm159°; P -2.67, Plg8°, Azm65°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III PIVS] at Baganga and [II PIVS] at Davao.

SYO ***31*** *16:25:10.3, 7.29N×126.96E, h10km, MB5.5, MS5.4*

CSEM ***31*** *16:25:12.8, 7.66N×127.17E, h33km, mb5.6*

MOS ***31*** *16:25:12.1±1.2, 7.31N×127.02E, h33km, mb5.7/33, MS5.3/42, Error ellipse: s-maj=14.7km s-min=6.6km az=110.6*

IDC ***31*** *16:25:12.4±1.7, 7.29N×127.08E, h24km±10km, mb5.0/29, mb1 5.1/30, mb1mx5.1/31, ML5.6/1, MS5.2/17, Ms1 5.2/17, ms1mx5.1/27, Error ellipse: s-maj=18.3km s-min=10.1km az=73.0*

MAN ***31*** *16:25:16.1, 7.50N×127.07E, h43km, MS5.6*

MAN F Baganga Davao Oriental - Intensity III Davao City - Intensity II.

ISC 31 16:25:13.1±0.2**, 7.26N**±0.02×**127.10E**±0.03**, h41**km**, h41**km±1.5km**:pP-P, n418,** σ1.**22**/425**, mb5.4**/98**, MS5.3**/64**, 70C-27D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.89**	**250**	*e*P	**P**	**16 25 30.6**	**+1.4**
MATI				*e*S	**S**	**16 25 40.8**	**-0.3**
BIPH	**Bislig**	**1.17**	**322**	⇓*i*P	**P**	**16 25 33.7**	**+0.4**
BIPH				*i* S	**S**	**16 25 49.5**	**+1.2**
DAV	**Davao City (W)**	**1.52**	**263**	⇑*i*P	**P**	**16 25 42.0**	**+3.8**
BUKP	**Musuan**	**2.11**	**287**	*e*P	**P**	**16 25 49.6**	**+3.0**
GSPH	**General Santos**	**2.43**	**242**	⇑*i*P	**P**	**16 26 10.0**	**+19**
CGP	**Cagayan de Oro**	**2.66**	**297**	*e*P	**P**	**16 25 57.0**	**+2.6**
CGP				*e*S	**S**	**16 26 36.0**	**+10**
SCPH	**Surigao**	**2.97**	**328**	*e*P	**P**	**16 25 59.1**	**+0.2**
SCPH				*i* S		16 26 11.0	
MSLP	**Maasin**	**3.61**	**322**	*e*P	**P**	**16 26 09.1**	**+1.1**
PAGZ	**Pagadian**	**3.73**	**279**	*e*P	**P**	**16 26 11.8**	**+2.2**
DCPH	**Dipolog City**	**3.94**	**290**	*e*P	**P**	**16 26 17.0**	**+4.4**
TBP	**Tagbilaran**	**4.01**	**307**	*e*P	**P**	**16 26 15.0**	**+1.4**
TBP				*e*S	**S**	**16 26 58.7**	**-1.3**
LLP	**Lapu-Lapu**	**4.34**	**315**	*e*P	**P**	**16 26 17.5**	**-0.8**
LLP				*e*S	**S**	**16 27 08.0**	**-0.2**
SNPH	**Sibulan**	**4.34**	**299**	⇓*i*P	P	16 26 43.0	+25
SNPH				*i* S	**S**	**16 27 17.0**	**+8.5**
PLP	**Palo**	**4.41**	**332**	*e*P	**P**	**16 26 18.5**	**-0.8**
OCLP	**Ormoc**	**4.50**	**327**	*e*P	**P**	**16 26 20.9**	**+0.4**
IPIL	**Ipil**	**4.52**	**277**	*e*P	**P**	**16 26 24.0**	**+3.1**
BESP	**Borongan**	**4.61**	**339**	*e*P	**P**	**16 26 22.4**	**+0.2**
BESP				*e*S	S	16 27 38.9	+24
GUIM	**Jordan**	**5.57**	**307**	*e*P	**P**	**16 26 36.8**	**+1.3**
CNP	**Catarman**	**5.74**	**336**	*e*P	**P**	**16 26 37.4**	**-0.6**
AAP	**Anini-y**	**5.98**	**302**	*e*P	**P**	**16 26 41.5**	**+0.2**
RCP	**Roxas**	**6.06**	**315**	⇓*e*P	**P**	**16 26 43.8**	**+1.4**
PVCP	**Virac**	**6.93**	**336**	*e*P	**P**	**16 26 53.1**	**-1.6**
CUYO	**Cuyo Island**	**6.98**	**301**	*e*P	**P**	**16 26 57.1**	**+1.7**
OTRP	**Odiongan**	**7.12**	**316**	*e*P	**P**	**16 26 58.0**	**+0.7**
AUQP	**San Andres**	**7.43**	**325**	*e*P	**P**	**16 27 12.0**	**+10**
SJMP	**San Jose**	**7.83**	**312**	*e*P	**P**	**16 27 09.1**	**+1.8**
GQP	**Guinayangan**	**8.03**	**326**	*e*P	**P**	**16 27 15.1**	**+5.2**
BOAC	**Boac**	**8.04**	**320**	*e*P	**P**	**16 27 19.2**	**+9.1**
BUSP	**Coron**	**8.27**	**305**	*e*P	**P**	**16 27 14.4**	**+1.1**
ENPP	**El Nido**	**8.53**	**298**	*e*P	**P**	**16 27 17.3**	**+0.4**
PPR	**Puerto Princes**	**8.64**	**287**	⇓*i*P	**P**	**16 27 20.3**	**+1.9**
LQP	**Lukban**	**8.73**	**322**	⇓*e*P	**P**	**16 27 27.7**	**+8.0**
TGY	**Tagaytay City**	**9.10**	**319**	Pn	**P**	**16 27 26.9**	**+2.1**
TGY				LR	LR	16 32 01.1	
	comp=Z,11µm,19.2s,baz=331,slow=45						
LUBP	**Lubang**	**9.31**	**314**	*e*P	**P**	**16 27 30.5**	**+2.8**
KKM	**Kota Kinabalu**	**10.88**	**264**	⇓*e*P	**P**	**16 27 54.9**	**+5.6**
	726nm,2.0s						
BCPH	**Baguio City Da**	**11.08**	**325**	⇑*e*P	**P**	**16 27 57.6**	**+5.6**
BOLP	**Bolinao**	**11.47**	**323**	*e*P	**P**	**16 28 01.6**	**+4.3**
CVP	**Callao Caves**	**11.59**	**334**	*e*P	**P**	**16 28 05.0**	**+6.2**
APYP	**Conner**	**11.98**	**332**	*e*P	**P**	**16 28 09.2**	**+5.0**
APYP				*e*S	x	16 28 20.0	
QZH	**Quanzhou**	**19.38**	**336**	⇑*i*P	**P**	**16 29 35.0**	**-3.3**
QZH				S	**S**	**16 33 14.0**	**+4.6**
QZH				AMB	AMB		
	comp=Z,5µm,6.6s						
QZH				LR	LR		
	comp=N,20µm,20.0s						
QZH				LR	LR		
	comp=E,9µm,11.8s						
QZH				LR	LR		
	comp=Z,15µm,19.2s						
HKC	**Hong Kong**	**19.47**	**322**	P	**P**	**16 29 44.0**	**+4.7**
HKC				S	**S**	**16 33 00.0**	**-11**
JOW	**Kunigami**	**19.50**	**3**	P	**P**	**16 29 41.0**	**+1.4**
	comp=Z,28nm,0.3s,baz=200,slow=7.8,SNR=121						
JOW				LR	LR	16 37 15.8	
	comp=Z,8µm,18.8s,baz=178,slow=37						
QIZ	**Qiongzhong**	**20.45**	**307**	P	**P**	**16 29 48.5**	**-1.3**
QIZ				AP		16 29 56.0	
QIZ				S	**S**	**16 33 30.0**	**-1.5**
QIZ				AMB	AMB		
	comp=Z,73nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,5µm,11.7s						
QIZ				LR	LR		
	comp=N,7µm,14.6s,MS5.4						
QIZ				LR	LR		
	comp=E,10µm,15.5s,MS5.4						
QIZ				LR	LR		
	comp=Z,15µm,16.3s,MS5.4						
KAKA	**Kakadu**	**20.52**	**165**	*e*P	**P**	**16 29 48.8**	**-1.7**
	comp=Z,229nm,1.1s						
KAKA				*e*S	**S**	**16 33 40.1**	**+7.3**
KAKA				*e*SCP		16 37 35.1	
GZH	**Guangzhou**	**20.56**	**321**	P	**P**	**16 29 51.8**	**+0.9**
GZH				AMB	AMB		
	comp=Z,3µm,11.3s						
GZH				LR	LR		
	comp=N,6µm,16.7s,MS5.2						
GZH				LR	LR		
	comp=E,6µm,16.2s,MS5.2						
GZH				LR	LR		
	comp=Z,12µm,14.7s,MS5.4						
KGM	**Kluang**	**24.26**	**259**	⇑*e*P	**P**	**16 30 29.0**	**+1.3**
	comp=Z,319nm,1.0s,mb5.7						
SSE	**Sheshan**	**24.35**	**348**	P	**P**	**16 30 28.8**	**+0.3**
SSE				S	**S**	**16 34 43.0**	**+0.8**
SSE	**Sheshan**	**24.35**	**348**	P	**P**	**16 30 28.8**	**+0.3**
	comp=Z,31nm,0.8s,mb4.8						
SSE				pP		16 30 41.4	
SSE				sP		16 30 47.3	
SSE				S	**S**	**16 34 42.9**	**+0.7**
SSE				sS		16 35 05.7	
SSE				LR	LR		
	comp=Z,3µm,20.6s,MS4.7						
CBIJ	**Chichi jima**	**24.38**	**34**	P	**P**	**16 30 29.9**	**+1.1**
	comp=Z,52nm,0.4s,mb5.3,baz=288,slow=24,SNR=3.0						
CBIJ				LR	LR	16 39 16.0	
	comp=Z,6µm,18.9s,MS5.1,baz=75,slow=35						
FITZ	**Fitzroy Crossi**	**25.24**	**183**	*e*P	**P**	**16 30 37.3**	**+0.2**
	comp=Z,95nm,1.0s,mb5.3						
FITZ				*e*S	**S**	**16 34 57.0**	**-0.3**
FITZ				*e*SCS	ScS	16 41 30.0	-2.4
FITZ	**Fitzroy Crossi**	**25.24**	**183**	P	**P**	**16 30 38.0**	**+0.9**
	comp=Z,32nm,1.1s,mb4.8,baz=2.8,slow=4.5,SNR=54						
KKTK	**Khon Kaen**	**25.39**	**293**	PG	**P**	**16 30 38.5**	**0.0**
KKTK				SG	pP	16 30 45.0	-4.4
KLM	**Kuala Lumpur**	**25.68**	**262**	*e*P	**P**	**16 30 43.0**	**+1.7**
NJ2	**Nanjing**	**25.84**	**344**	*e*P	**P**	**16 30 42.5**	**-0.1**
NJ2				XP	sP	16 30 54.3	-4.1
NJ2				PP	PP	16 31 24.3	+0.5
NJ2				S	**S**	**16 35 09.0**	**+2.0**
NJ2				SS	SS	16 36 13.0	-0.9
JNU	**Nakatsue**	**25.97**	**7**	LR	LR	16 41 28.7	
	comp=Z,3µm,18.1s,MS4.9,baz=76,slow=38						
IPM	**Ipoh**	**26.07**	**266**	⇑*e*P	**P**	**16 30 45.8**	**+0.9**
	comp=Z,52nm,0.8s,mb5.1						
SNG	**Songkhla**	**26.27**	**272**	P	**P**	**16 30 49.0**	**+2.2**
	comp=Z,142nm,1.0s,mb5.5						
GYA	**Guiyang**	**27.25**	**317**	⇑*i*P	**P**	**16 30 55.0**	**-0.7**
GYA				XP	sP	16 31 07.8	-3.9
GYA				PP	PP	16 31 37.0	-6.2
GYA				S	**S**	**16 35 22.5**	**-7.7**
GYA				AMB	AMB		
	comp=Z,1µm,8.7s						
GYA				LR	LR		
	comp=N,8µm,15.9s,MS5.6						
GYA				LR	LR		
	comp=E,11µm,14.7s,MS5.6						
GYA				LR	LR		
	comp=Z,16µm,14.7s,MS5.7						
NNT	**Nongplab**	**27.46**	**283**	P	**P**	**16 31 00.0**	**+2.4**
NST	**Nakhon Sawan**	**27.69**	**290**	P	**P**	**16 31 00.0**	**+0.3**
	comp=Z,100nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**27.95**	**165**	*e*P	**P**	**16 31 00.8**	**-1.3**
	comp=Z,110nm,0.9s,mb5.5						
WRA	**Warramunga Arr**	**27.95**	**165**	P	**P**	**16 31 01.1**	**-1.0**
	comp=Z,43nm,1.3s,mb4.9,baz=340,slow=11,SNR=46						
WRA				S	**S**	**16 35 38.4**	**-3.1**
	comp=Z,18nm,1.1s,baz=345,slow=16,SNR=5.0						
WRA				ScP		16 37 55.4	
	comp=Z,20nm,1.1s,baz=341,slow=3.6,SNR=10.0						
WRA	**Warramunga Arr**	**27.95**	**165**	P	**P**	**16 31 01.1**	**-1.0**
WRA				S	**S**	**16 35 38.4**	**-3.2**
WRA				pmax	pmax		
	comp=Z,43nm,1.3s						
WRA				smax			
	comp=N,18nm,1.1s						
WRA				pmax	pmax		
	comp=N,20nm,1.1s						
WB2	**Warramunga Arr**	**27.96**	**165**	⇓*i*P	**P**	**16 31 01.1**	**-1.0**
WB2				*e*S	**S**	**16 35 35.6**	**-6.0**
WB2				*e*SCP		16 37 55.3	
WB2				*e*SCS	ScS	16 41 45.8	+1.8
NANT	**Nan**	**28.11**	**297**	P	**P**	**16 31 03.0**	**-0.5**
	comp=N,138nm,1.0s,mb5.5						
JHJ	**Hachijo jima 2**	**28.30**	**23**	LR	LR	16 41 54.0	
	comp=N,8µm,18.1s,MS5.4,baz=207,slow=35						
BDT	**Bhumibol Dam**	**29.15**	**293**	P	**P**	**16 31 12.0**	**-0.8**
KMI	**Kunming**	**29.28**	**310**	⇑*i*P	**P**	**16 31 13.3**	**-0.5**
KMI				XP	sP	16 31 25.5	-4.7
KMI				PP	PP	16 32 08.3	-1.3
KMI				S	**S**	**16 36 03.3**	**+0.7**
KMI				SS	SS	16 37 35.5	+0.1
KMI				SCS	ScS	16 41 51.5	+1.4
KMI	**Kunming**	**29.28**	**310**	⇑*i*P	**P**	**16 31 13.2**	**-0.6**
KMI				pP	pP	16 31 25.5	+0.5
KMI				sP	sP	16 31 29.6	-0.6
KMI				PP	PP	16 32 08.3	-1.3
KMI				PPP	PPP	16 32 23.9	+1.0
KMI				S	**S**	**16 36 03.2**	**+0.6**
KMI				sS		16 36 22.6	
KMI				SS	SS	16 37 35.6	+0.2
KMI				ScS	ScS	16 41 51.5	+1.4
KMI				LR	LR		
	comp=Z,10µm,15.8s,MS5.5						
CHRT	**Chiangrai**	**29.30**	**298**	P	**P**	**16 31 14.5**	**+0.4**
	comp=Z,421nm,0.9s,mb6.2						
CM31	**Chiang Mai Arr**	**29.57**	**295**	*e*P	**P**	**16 31 14.9**	**-1.5**
	comp=Z,16nm,0.9s,mb4.7						
CM31				*e*		16 31 22.8	
CM31				*e*ScP		16 38 00.7	
CMAR	**Chiang Mai Arr**	**29.57**	**295**	P	**P**	**16 31 16.4**	**0.0**
	comp=Z,13nm,1.1s,mb4.6,baz=121,slow=7.5,SNR=56						
CMAR				PcP	PcP	16 34 21.8	+0.8
	comp=Z,16nm,1.0s,baz=146,slow=1.8,SNR=12						
CMAR				ScP		16 38 00.8	
	comp=Z,3.0nm,0.9s,baz=93,slow=1.5,SNR=6.6						
CMAR				LR	LR	16 44 21.7	
	comp=Z,7µm,18.1s,MS5.3,baz=95,slow=39						
CMAR	**Chiang Mai Arr**	**29.57**	**295**	P	**P**	**16 31 16.5**	**0.0**
CMAR						16 34 21.8	
CMAR						16 38 00.9	
CMAR				pmax	pmax		
	comp=Z,13nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,16nm,1.0s						
CMAR				pmax	pmax		
	comp=N,3.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,7µm,18.1s						
CMAR	**Chiang Mai Arr**	**29.57**	**295**	P	**P**	**16 31 16.4**	**0.0**
CMAR				PcP	PcP	16 34 21.8	+0.8
CMAR				ScP		16 38 00.8	
CMAR				LR	LR	16 44 21.7	
CHG	**Chiang Mai**	**29.68**	**296**	⇓P	**P**	**16 31 17.6**	**+0.1**
	comp=Z,17nm,0.9s,mb4.8						
KS15	**Wonju Array Si**	**30.05**	**1**	*e*P	**P**	**16 31 20.3**	**-0.3**
INCN	**Inchon**	**30.09**	**359**	P	**P**	**16 31 18.8**	**-2.2**
	comp=Z,19nm,0.5s,mb5.1						
TIA	**Tai'an**	**30.23**	**344**	*e*P	**P**	**16 31 20.0**	**-2.2**
TIA				S	**S**	**16 36 21.5**	**+3.9**
TIA				LR	LR		
	comp=E,4µm,14.0s						
MAJO	**Matsushiro**	**30.86**	**18**	*e*P	**P**	**16 31 26.5**	**-1.3**
	comp=E,125nm,1.8s,mb5.4						
MAJO				*e*	pP	16 31 39.2	+0.1
MAT	**Matsushiro**	**30.86**	**18**	P	**P**	**16 31 26.4**	**-1.4**
MAT				*e*S	**S**	**16 36 26.0**	**-1.6**
MAT	**Matsushiro**	**30.86**	**18**	*e*P	**P**	**16 31 26.0**	**-1.8**
	comp=E,9.6nm,0.7s,mb4.7						
MAT				*e*S	S	16 35 49.0	-39
MAT				LR	LR		
	comp=Z,9µm,20.0s,MS5.4						
ASAR	**Alice Springs**	**31.45**	**168**	P	**P**	**16 31 31.8**	**-1.4**
	comp=Z,7.9nm,0.9s,mb4.6,baz=331,slow=5.2,SNR=41						
ASAR				PcP	PcP	16 34 23.1	-2.6
	comp=Z,6.0nm,0.6s,baz=344,slow=2.6,SNR=8.0						
ASAR				ScP		16 38 06.8	
	comp=Z,8.9nm,1.0s,baz=336,slow=2.9,SNR=9.2						
ASPA	**Alice Springs**	**31.45**	**168**	*e*P	**P**	**16 31 31.2**	**-1.9**
ASPA				*e*		16 33 05.5	
ASPA				*e*S	**S**	**16 36 37.0**	**+0.1**
ASPA				*e*SCS	ScS	16 42 01.6	+1.1
XAN	**Xi'an**	**31.50**	**330**	P	**P**	**16 31 30.5**	**-3.0**
XAN				S	**S**	**16 36 36.8**	**-0.8**
XAN				LR	LR		
	comp=N,917nm,19.6s,MS5.0						
XAN				LR	LR		
	comp=E,3µm,20.3s,MS5.0						
XAN				LR	LR		
	comp=Z,5µm,20.0s,MS5.1						
DL2	**Dalian**	**31.89**	**352**	⇑*i*P	**P**	**16 31 36.3**	**-0.6**
DL2				S	**S**	**16 36 40.8**	**-2.9**
DL2				LR	LR		
	comp=N,2µm,16.2s,MS5.0						
DL2				LR	LR		
	comp=E,2µm,16.5s,MS5.0						
DL2				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
CD2	**Chengdu**	**32.10**	**320**	⇓*i*P	**P**	**16 31 37.3**	**-1.5**
CD2				PP	PP	16 32 46.5	+0.3
CD2				S	**S**	**16 36 49.5**	**+2.4**
CD2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
CD2				AMB	AMB		
	comp=Z,970nm,6.7s						
CD2				LR	LR		
	comp=N,10µm,15.0s						
CD2				LR	LR		
	comp=Z,13µm,15.6s,MS5.7						
CTA	**Charters Tower**	**33.07**	**146**	*e*P	**P**	**16 31 47.9**	**+0.6**
	comp=Z,41nm,1.0s,mb5.3						
CTA				*e*S	S	16 36 41.1	-21
CTA				*e*SCP		16 38 14.0	
CTA				*e*SCS	ScS	16 42 15.6	+6.8
CTA	**Charters Tower**	**33.07**	**146**	P	**P**	**16 31 47.1**	**-0.2**
	comp=Z,47nm,1.0s,mb5.4,baz=329,slow=9.9,SNR=21						
CTA				ScP		16 38 14.0	
	comp=Z,19nm,1.0s,baz=42,slow=5.4,SNR=6.9						
CTA				LR	LR	16 46 53.0	
	comp=Z,7µm,18.3s,MS5.4,baz=329,slow=39						
CTA	**Charters Tower**	**33.07**	**146**	P	**P**	**16 31 47.1**	**-0.2**
CTA				pmax	pmax		
	comp=Z,47nm,1.0s						
CTA				pmax	pmax		
	comp=N,19nm,1.0s						
CTA				MLR	MLR		
	comp=Z,7µm,18.3s						
CTAO	**Charters Tower**	**33.07**	**146**	⇓*e*P	**P**	**16 31 48.2**	**+0.9**
	comp=Z,191nm,1.2s,mb5.9						
CTAO				*e*pP	pP	16 32 04.1	+5.5
TIY	**Taiyuan**	**33.11**	**338**	PR		16 31 42.0	
TIY				S	**S**	**16 37 04.0**	**+1.3**
TIY				LR	LR		
	comp=N,5µm,14.0s						
TIY				LR	LR		
	comp=Z,3µm,15.0s,MS5.1						
BJI	**Beijing**	**34.08**	**345**	*e*P	**P**	**16 31 54.3**	**-1.5**
BJI				S	**S**	**16 37 19.5**	**+1.8**
BJI				AMB	AMB		
	comp=Z,1µm,8.3s						
BJI				LR	LR		
	comp=N,3µm,15.3s,MS5.4						
BJI				LR	LR		
	comp=E,4µm,14.8s,MS5.4						
BJI				LR	LR		
	comp=Z,2µm,20.8s						
BJI	**Beijing**	**34.08**	**345**	*e*P	**P**	**16 31 54.3**	**-1.5**
	comp=Z,18nm,1.1s,mb4.9						
BJI				S	**S**	**16 37 19.5**	**+1.8**
BJI				sS		16 37 40.2	
BJI				SS	SS	16 39 54.5	+27
BJI				LR	LR		
	comp=Z,2µm,20.8s,MS4.8						
SNY	**Shenyang**	**34.57**	**355**	⇑P	**P**	**16 31 59.8**	**-0.2**
SNY				AP	pP	16 32 05.5	-5.8
SNY				XP	sP	16 32 08.8	-7.7
SNY				S	**S**	**16 37 28.5**	**+3.3**
SNY				AMB	AMB		
	comp=Z,180nm,1.1s,mb5.9						
SNY				LR	LR		
	comp=N,4µm,19.1s,MS5.3						
SNY				LR	LR		
	comp=E,4µm,21.6s,MS5.3						
SNY				LR	LR		
	comp=Z,5µm,13.2s						
LZH	**Lanzhou**	**35.71**	**327**	*e*P	**P**	**16 32 08.3**	**-1.5**
LZH				AP	pP	16 32 19.5	-1.7
LZH				XP	sP	16 32 23.3	-3.1
LZH				PP	PP	16 33 30.0	-1.3
LZH				S	**S**	**16 37 40.0**	**-3.0**
LZH				XS		16 37 59.0	
LZH				SS	SS	16 40 02.5	-2.3
LZH				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,330nm,5.8s						
LZH				LR	LR		
	comp=E,6µm,12.5s						
LZH				LR	LR		
	comp=Z,8µm,14.6s,MS5.6						
LZH	**Lanzhou**	**35.71**	**327**	*e*P	**P**	**16 32 08.2**	**-1.6**
	comp=Z,76nm,1.2s,mb5.5						
LZH				pP	pP	16 32 19.4	-1.8
LZH				sP	sP	16 32 23.3	-3.1
LZH				PP	PP	16 33 30.1	-1.2
LZH				S	**S**	**16 37 40.0**	**-3.0**
LZH				sS		16 37 59.1	
LZH				SS	SS	16 40 02.6	-2.2
LZH				LR	LR		
	comp=Z,8µm,14.6s,MS5.6						
VLA	**Vladivostok**	**35.97**	**6**	⇑*i*P	**P**	**16 32 09.0**	**-2.9**
VLA				*i*		16 33 39.0	
VLA				*i* S	**S**	**16 37 48.0**	**+1.2**
VLA				pmax	pmax		
	comp=N,2µm,5.0s						
VLA				pmax	pmax		
	comp=E,900nm,5.0s						
VLA				pmax	pmax		
	comp=Z,2µm,5.0s						
VLA				pmax	pmax		
	comp=Z,1µm,7.0s						
VLA				pmax	pmax		
	comp=N,1µm,5.0s						
VLA				pmax	pmax		
	comp=E,900nm,3.6s						
VLA				smax			
	comp=E,2µm,12.0s						
VLA				smax			
	comp=N,1µm,11.0s						
VLA				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.2						
VLA				MLR	MLR		
	comp=N,3µm,18.0s,MS5.2						
VLA				MLR	MLR		
	comp=E,2µm,15.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**36.21**	**340**	*e*P	**P**	**16 32 10.0**	**-3.9**
HHC				AP	pP	16 32 22.0	-3.3
HHC				XP	sP	16 32 27.3	-3.2
HHC				PP	PP	16 33 35.0	-2.3
HHC				S	**S**	**16 37 47.0**	**-3.5**
HHC				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,546nm,5.5s						
HHC				LR	LR		
	comp=N,2µm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,1µm,15.5s,MS5.0						
HHC				LR	LR		
	comp=Z,3µm,14.3s,MS5.2						
CN2	**Changchun**	**36.43**	**358**	*e*P	**P**	**16 32 15.8**	**+0.1**
CN2				*e*XP	sP	16 32 28.0	-4.3
CN2				PP	PP	16 33 41.0	+0.8
CN2				*e*S	**S**	**16 37 54.5**	**+0.6**
CN2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
CN2				AMB	AMB		
	comp=Z,1µm,7.0s						
CN2				LR	LR		
	comp=N,3µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=E,3µm,16.0s,MS5.4						
CN2				LR	LR		
	comp=Z,3µm,18.0s,MS5.1						
MDJ	**Mudanjiang**	**37.28**	**3**	P	**P**	**16 32 23.8**	**+0.9**
MDJ				XP	sP	16 32 35.5	-3.9
MDJ				PP	PP	16 33 52.0	+1.2
MDJ				PCP	PcP	16 34 42.5	+0.3
MDJ				S	**S**	**16 38 09.5**	**+2.6**
MDJ				SCS	ScS	16 42 33.5	+2.3
MDJ				AMB	AMB		
	comp=Z,2µm,6.7s						
MDJ				LR	LR		
	comp=N,2µm,16.5s,MS5.1						
MDJ				LR	LR		
	comp=E,2µm,17.1s,MS5.1						
MDJ				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
FORT	**Forrest**	**37.83**	**179**	*e*P	**P**	**16 32 27.8**	**+0.1**
	comp=Z,201nm,0.5s,mb6.1						
FORT				*e*S	**S**	**16 38 14.6**	**-0.9**
FORT				*e*SCP		16 38 29.1	
AGT	**Agartala**	**38.12**	**300**	⇑*i*	**P**	**16 32 44.0**	**+14**
AGT				*i*		16 33 32.0	
SHL	**Shillong**	**38.19**	**303**	⇑*e*P	**P**	**16 32 30.0**	**-0.7**
SHL				*e*S	**S**	**16 38 23.0**	**+2.0**
ASAJ	**Asahikawa**	**39.14**	**18**	P	**P**	**16 32 40.6**	**+2.2**
	comp=Z,60nm,1.0s,mb5.3,baz=242,slow=15,SNR=13						
ASAJ				LR	LR	16 47 50.5	
	comp=Z,8µm,20.5s,MS5.5,baz=172,slow=35						
ASAJ	**Asahikawa**	**39.14**	**18**	P	**P**	**16 32 40.6**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,60nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,8µm,20.5s						
KLBR	**Kellerberrin**	**39.65**	**193**	*e*P	**P**	**16 32 41.5**	**-1.2**
	comp=Z,378nm,1.2s,mb6.0						
KLBR				*e*SCP		16 38 34.7	
KLBR				*e*S	**S**	**16 38 42.0**	**-1.0**
CAL	**Calcutta**	**40.27**	**296**	*e*P	**P**	**16 32 40.6**	**-7.4**
GTA	**Gaotai**	**40.32**	**327**	⇑P	**P**	**16 32 47.0**	**-1.2**
GTA				XP	sP	16 32 59.8	-5.0
GTA				PP	PP	16 34 24.3	-0.5
GTA				PPP	PPP	16 34 49.3	-2.9
GTA				PCP	PcP	16 34 52.0	+0.2

GTA				SCP		16 38 39.0	
GTA				PCS		16 38 41.8	
GTA				S	**S**	**16 38 47.8**	**-5.1**
GTA				SS	SS	16 41 43.8	-3.3
GTA				SCS	ScS	16 42 51.5	+2.7
GTA				AMB	AMB		
	comp=Z,518nm,6.8s						
GTA				LR	LR		
	comp=N,829nm,14.1s,MS5.1						
GTA				LR	LR		
	comp=E,2µm,16.4s,MS5.1						
GTA				LR	LR		
	comp=Z,2µm,18.2s,MS5.0						
LSA	**Lhasa**	**40.48**	**308**	P	**P**	**16 32 49.5**	**-0.1**
LSA				AP	pP	16 32 59.8	-1.3
LSA				PP	PP	16 34 21.5	-5.0
LSA				XS		16 39 07.0	
NWAO	**Narrogin (SRO)**	**41.05**	**193**	P	**P**	**16 32 55.5**	**+1.1**
	comp=Z,58nm,0.6s,mb5.4,baz=23,slow=9.5,SNR=37						
NWAO				ScP		16 38 41.5	
	comp=Z,28nm,1.1s,baz=2.8,slow=6.0,SNR=4.4						
NWAO	**Narrogin (SRO)**	**41.05**	**193**	P	**P**	**16 32 55.5**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,58nm,0.6s						
NWAO				pmax	pmax		
	comp=N,28nm,1.1s						
STKA	**Stephens Creek**	**41.30**	**161**	*e*P	**P**	**16 32 56.1**	**-0.3**
	comp=N,32nm,0.8s,mb5.0						
STKA				*e*S	**S**	**16 39 03.0**	**-4.6**
STKA	**Stephens Creek**	**41.30**	**161**	P	**P**	**16 32 56.9**	**+0.5**
	comp=N,40nm,0.9s,mb5.1,baz=344,slow=8.3,SNR=31						
STKA				LR	LR	16 53 29.1	
	comp=N,3µm,18.1s,MS5.3,baz=331,slow=41						
YSS	**Yuzh-Sakhalins**	**41.77**	**16**	*e*P	**P**	**16 33 03.0**	**+2.9**
YSS				*e*		16 34 46.0	
YSS				*e*S	**S**	**16 39 14.0**	**-0.4**
YSS				smax			
	comp=E,2µm,12.0s						
YSS				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.3						
YSS				MLR	MLR		
	comp=N,2µm,19.0s						
KLR	**Kul'dur**	**42.01**	**5**κ	*i*P	**P**	**16 33 02.7**	**+0.6**
KLR				*e*		16 34 42.0	
KLR				*e*S	**S**	**16 39 19.0**	**+1.1**
KLR				*e*		16 42 58.0	
KLR				pmax	pmax		
	comp=N,90nm,1.8s						
KLR				pmax	pmax		
	comp=E,110nm,1.8s						
KLR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.5						
KLR				pmax	pmax		
	comp=Z,2µm,9.0s						
KLR				MLR	MLR		
	comp=E,2µm,16.0s						
SONM	**Songino Array**	**44.11**	**340**	P	**P**	**16 33 18.9**	**-0.2**
	comp=E,18nm,1.1s,mb4.7,baz=155,slow=7.7,SNR=51						
SONM				PcP	PcP	16 35 04.2	-0.1
	comp=E,9.8nm,0.9s,baz=149,slow=3.4,SNR=4.6						
SONM				ScP		16 38 55.1	
	comp=E,4.7nm,1.0s,baz=132,slow=3.8,SNR=7.7						
ARMA	**Armidale**	**44.24**	**149**	*e*P	**P**	**16 33 21.3**	**+0.8**
PKI	**Pulchoki**	**44.32**	**302**	*e*P	**P**	**16 33 19.5**	**-1.6**
	comp=E,44nm,0.9s,mb5.2						
KKN	**Kakani**	**44.50**	**303**	*e*P	**P**	**16 33 21.0**	**-1.6**
	comp=E,148nm,1.2s,mb5.6						
DMN	**Daman**	**44.58**	**302**	*e*P	**P**	**16 33 21.8**	**-1.5**
	comp=E,182nm,1.2s,mb5.8						
GKN	**Gorkha**	**45.10**	**303**	*e*P	**P**	**16 33 25.5**	**-1.9**
	comp=E,140nm,1.3s,mb5.6						
KOLN	**Koldanda**	**45.90**	**302**	*e*P	**P**	**16 33 32.2**	**-1.6**
	comp=E,85nm,0.9s,mb5.7						
MDRS	**Chennai**	**46.42**	**281**⇑	*e*P	**P**	**16 33 35.0**	**-3.0**
MDRS				*e*		16 40 49.0	
CNB	**Canberra Magne**	**47.26**	**155**	*e*P	**P**	**16 33 46.0**	**+1.6**
	comp=E,34nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**47.35**	**339**⇑	*i*P	**P**	**16 33 43.4**	**-1.5**
ZAK				*e*		16 35 16.1	
CUD	**Cuddapah**	**47.93**	**283**⇑	*e*P	**P**	**16 33 49.7**	**-0.1**
CUD				*e*PcP	PcP	16 35 18.4	+0.2
CUD				*e*S	**S**	**16 40 36.6**	**-6.8**
CUD				*e*ScS	ScS	16 43 40.4	+3.7
CUD				*e*		16 50 22.9	
NOUC	**Port Laguerre**	**48.24**	**128**	*e*P	**P**	**16 33 53.4**	**+1.2**
DZM	**Mont Dzumac**	**48.34**	**128**	*e*P	**P**	**16 33 54.2**	**+1.3**
DZM	**Mont Dzumac**	**48.34**	**128**	*e*P	**P**	**16 33 54.2**	**+1.3**
HYB	**Hyderabad**	**48.36**	**287**	*i* P	**P**	**16 33 52.0**	**-1.2**
	comp=E,60nm,1.0s,mb5.6						
HYB				*e*		16 33 58.0	
HYB				*e*PcP	PcP	16 35 19.0	-0.7
HYB				*e*PP	PP	16 35 42.0	-3.4
HYB				*e*S	**S**	**16 40 50.5**	**+1.0**
HYB	**Hyderabad**	**48.36**	**287**	*e*P	**P**	**16 33 52.0**	**-1.2**
	comp=E,60nm,1.0s,mb5.6						
HYB				*e*		16 33 58.0	
HYB				*e*S	**S**	**16 40 52.0**	**+2.5**
IRK	**Irkutsk**	**48.60**	**341**	*e*P	**P**	**16 33 52.7**	**-1.9**
IRK				*e*		16 40 57.8	
MOY	**Mondy**	**49.23**	**339**	*e*P	**P**	**16 33 59.7**	**+0.3**
CLNS	**Chul'man**	**49.48**	**358**⇑	*i*P	**P**	**16 34 01.6**	**+0.3**
CLNS				*e*		16 35 23.4	
CLNS				*e*		16 35 56.0	
CLNS				*e*S	**S**	**16 41 07.4**	**+2.8**
CLNS				*e*SS	SS	16 44 34.0	+1.2
CLNS				pmax	pmax		
	comp=Z,144nm,1.0s,mb6.0						
CLNS				pmax	pmax		
	comp=N,106nm,1.1s						
CLNS				pmax	pmax		
	comp=E,45nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.3						
CLNS				pmax	pmax		
	comp=N,51nm,1.1s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
CLNS				smax			
	comp=N,23nm,1.4s						
CLNS				smax			
	comp=Z,5.0nm,1.0s						
CLNS				smax			
	comp=E,14nm,1.3s						
CLNS				MLR	MLR		
	comp=N,2µm,18.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,300nm,14.0s,MS5.3						
SKR	**Severo-Kuril's**	**49.55**	**24**	*e*P	**P**	**16 33 58.0**	**-3.9**
SKR				*e*		16 34 16.0	
SKR				*e*		16 35 51.0	
SKR				*e*S	**S**	**16 41 07.0**	**+1.3**
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				pmax	pmax		
	comp=N,1µm,5.0s						
SKR				pmax	pmax		
	comp=E,1µm,5.0s						
SKR				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.2						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,3µm,12.0s						
SKR				MLR	MLR		
	comp=N,1µm,18.0s,MS5.1						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.3						
SKR				MLR	MLR		
	comp=E,1µm,20.0s,MS5.1						
TRD	**Trivandrum**	**49.65**	**275**⇓	*i*	**P**	**16 34 16.2**	**+13**
WMQ	**Urumqi**	**50.10**	**323**⇑	*i*P	**P**	**16 34 05.5**	**-0.7**
WMQ				XP	sP	16 34 18.0	-4.7
WMQ				PCP	PcP	16 35 24.8	-0.8
WMQ				PP	PP	16 36 01.5	-0.8
WMQ				S	**S**	**16 41 11.5**	**-1.8**
WMQ				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,290nm,6.7s						
WMQ				LR	LR		
	comp=N,3µm,18.6s,MS5.5						
WMQ				LR	LR		
	comp=E,2µm,17.7s,MS5.5						
WMQ				LR	LR		
	comp=Z,3µm,17.7s,MS5.4						
JOSI	**Joshimath**	**50.12**	**304**	*e*P	**P**	**16 34 06.1**	**-0.4**
LATR	**Latur**	**50.35**	**288**	*e*P	**P**	**16 34 07.3**	**-1.1**
	comp=Z,99nm,1.1s,mb5.8						
DDI	**Dehra Dun**	**51.29**	**303**	*e*P	**P**	**16 34 13.8**	**-1.6**
BOD	**Bodaibo**	**51.45**	**351**⇓	*i*P	**P**	**16 34 15.4**	**-0.9**
KLP	**Kalpa**	**51.48**	**305**	*e*P	**P**	**16 34 15.8**	**-1.0**
KLP				*e*		16 34 19.3	
	comp=Z,83nm,1.5s						
NDI	**New Delhi**	**51.56**	**301**	*e*P	**P**	**16 34 13.5**	**-4.0**
NDI				*e*S	**S**	**16 41 32.0**	**-1.8**
AYAN	**Aya Nagar**	**51.59**	**301**	*e*P	**P**	**16 34 15.4**	**-2.4**
AYAN				*e*		16 34 18.4	
	comp=Z,43nm,1.2s						
KUDL	**Kundal**	**52.05**	**300**	*e*P	**P**	**16 34 19.4**	**-1.8**
KUDL				*e*		16 34 21.9	
	comp=Z,39nm,1.2s						
KUDL				*e*		16 41 33.4	
KKR	**Kurukshetra**	**52.22**	**302**	*e*P	**P**	**16 34 21.7**	**-0.7**
RTK	**Rohtak**	**52.33**	**301**	*e*P	**P**	**16 34 21.9**	**-1.4**
PET	**Petropavlovsk**	**52.36**	**24**α	*i*P	**P**	**16 34 23.9**	**+0.8**
PET				*e**PP	pP	16 34 36.5	+1.7
PET				*e*		16 35 32.8	
PET				*e*		16 36 25.8	
PET				*i* S	**S**	**16 41 47.7**	**+3.4**
PET				*e*		16 44 08.7	
PET				*e*SS	SS	16 45 27.5	+6.7
PET				pmax	pmax		
	comp=Z,1µm,4.4s						
PET				pmax	pmax		
	comp=E,500nm,4.7s						
PET				pmax	pmax		
	comp=N,600nm,4.4s						
PET				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
PET				pmax	pmax		
	comp=N,200nm,14.5s						
PET				pmax	pmax		
	comp=Z,400nm,12.0s						
PET				pmax	pmax		
	comp=E,100nm,10.2s						
PET				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
PET				pmax	pmax		
	comp=Z,500nm,7.5s						
PET				pmax	pmax		
	comp=Z,900nm,5.2s						
PET				smax			
	comp=N,1µm,11.3s						
PET				smax			
	comp=E,1µm,11.2s						
PET				smax			
	comp=E,1µm,14.7s						
PET				smax			
	comp=N,700nm,13.8s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
PET				MLR	MLR		
	comp=Z,2µm,17.0s						
PET				MLR	MLR		
	comp=N,1µm,19.0s						
PET				MLR	MLR		
	comp=N,1µm,16.0s						
PET				MLR	MLR		
	comp=E,300nm,23.0s						
KAD	**Karad**	**52.51**	**286**⇓	*i*P	**P**	**16 34 23.4**	**-1.3**
SDNR	**Sundarnagar**	**52.52**	**304**	*e*P	**P**	**16 34 24.2**	**-0.4**
KHET	**Khetri**	**52.63**	**300**	*e*P	**P**	**16 34 22.8**	**-2.7**
KHET				*e*		16 34 26.1	
	comp=Z,48nm,1.4s						
POO	**Poona**	**52.92**	**288**	*e*P	**P**	**16 34 24.1**	**-3.7**
POO				*e*		16 34 28.3	
	comp=Z,58nm,1.1s						
AJM	**Ajmer**	**53.30**	**298**	*e*P	**P**	**16 34 28.1**	**-2.4**
AJM				*e*		16 34 30.8	
	comp=Z,47nm,0.8s						
THN	**Thein Dam**	**53.80**	**305**	*e*P	**P**	**16 34 30.4**	**-3.7**
YAK	**Yakutsk**	**54.69**	**1***c*	*i*P	**P**	**16 34 39.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,293nm,0.9s,mb6.3						
YAK				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
YAK	**Yakutsk**	**54.69**	**1**⇑	*e*P	**P**	**16 34 39.6**	**-0.7**
	comp=Z,460nm,1.0s,mb6.5						
YAK				pP	pP	16 34 52.1	0.0
MKAR	**Makanchi Array**	**54.91**	**324**	P	**P**	**16 34 40.5**	**-1.5**
	comp=Z,146nm,1.2s,mb5.9,baz=116,slow=7.6,SNR=198						
MKAR				PcP	PcP	16 35 43.4	-0.1
	comp=Z,19nm,0.7s,baz=128,slow=3.9,SNR=4.5						
MKAR				ScP		16 39 39.8	
	comp=Z,7.9nm,0.9s,baz=117,slow=5.4,SNR=6.5						
MKAR				LR	LR	17 01 15.9	
	comp=Z,4µm,18.3s,MS5.5,baz=122,slow=39						
MKAR				PKPPKP		17 04 56.5	
	comp=Z,1.3nm,0.9s,baz=315,slow=1.7,SNR=4.8						
MKAR	**Makanchi Array**	**54.91**	**324**	P	**P**	**16 34 40.6**	**-1.5**
MKAR						16 35 43.4	
MKAR				pmax	pmax		
	comp=Z,146nm,1.2s						
MKAR				pmax	pmax		
	comp=Z,19nm,0.7s						
MKAR				pmax	pmax		
	comp=N,8.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,4µm,18.3s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**54.91**	**324**	P	**P**	**16 34 40.5**	**-1.5**
MKAR				PcP	PcP	16 35 43.4	-0.1
MKAR				ScP		16 39 39.8	
MKAR				LR	LR	17 01 15.9	
MKAR				P'P'		17 04 56.5	
MA2	**Magadan**	**55.22**	**14***c*	*i*P	**P**	**16 34 44.6**	**+0.5**
MA2				pmax	pmax		
	comp=Z,268nm,2.2s,mb5.9						
MA2				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.7						
MA2	**Magadan**	**55.22**	**14**⇑	*e*P	**P**	**16 34 44.6**	**+0.5**
	comp=Z,62nm,0.8s,mb5.7						
MA2				*e*pP	pP	16 34 57.0	+1.1
KSH	**Kashi**	**55.86**	**313**⇑	*i*P	**P**	**16 34 47.3**	**-1.7**
KSH				*e*AP	pP	16 35 00.0	-0.9
KSH				*e*PCP	PcP	16 35 46.0	-1.3
KSH				*e*PP	PP	16 36 53.3	-2.0
KSH				*e*PPP	PPP	16 38 12.3	+1.3
KSH				*e*SCP		16 39 42.5	
KSH				*e*PCS		16 39 47.8	
KSH				*e*S	**S**	**16 42 26.5**	**-5.2**
KSH				*e*PS	PS	16 42 36.8	-12
KSH				*e*XS		16 42 50.5	
KSH				*e*SCS	ScS	16 44 28.3	-2.8
KSH				*e*SS	SS	16 46 15.5	-2.1
KSH				LR	LR		
	comp=N,3µm,16.4s,MS5.7						
KSH				LR	LR		
	comp=E,4µm,16.8s,MS5.7						
AAA	**Alma-Ata**	**56.63**	**318**	*i* P	**P**	**16 34 54.0**	**-0.5**
AAA				*e*S	**S**	**16 42 50.0**	**+8.1**
AAA				smax			
	comp=N,750nm,8.0s						
AAA				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.2						
JASL	**Jaisalmer**	**56.68**	**297**	*e*P	**P**	**16 34 54.0**	**-1.1**
ULHL	**Ulahol**	**56.69**	**316**	P	**P**	**16 34 55.6**	**+0.6**
	SNR=6.7						
KZA	**Kyzart**	**57.31**	**316**	P	**P**	**16 34 59.3**	**0.0**
	SNR=12						
TKM2	**Tokmak 2**	**57.40**	**317**	P	**P**	**16 34 58.8**	**-1.1**
	SNR=26						
ZAL	**Zalesovo**	**57.65**	**332**	P	**P**	**16 34 59.5**	**-2.0**
	comp=Z,5.5nm,0.6s,mb4.7,baz=269,slow=6.4,SNR=38						
ZAL				PKPPKP		17 04 53.0	
	comp=Z,0.7nm,0.3s,baz=79,slow=17,SNR=3.3						
ZAL	**Zalesovo**	**57.65**	**332**	P	**P**	**16 34 59.5**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBK	**Karagaybulak**	**57.74**	**316**	P	**P**	**16 35 01.6**	**-0.7**
	SNR=35						
CHMS	**Chumysh**	**58.00**	**317**	P	**P**	**16 35 02.7**	**-1.4**
	SNR=21						
AAK	**Ala-Archa**	**58.04**	**316**	P	**P**	**16 35 04.4**	**0.0**
	SNR=10						
AAK	**Ala-Archa**	**58.04**	**316**⇑	*e*P	**P**	**16 35 02.1**	**-2.3**
	comp=Z,20nm,0.9s,mb5.2						
USP	**Ospenovka**	**58.27**	**317**	P	**P**	**16 35 04.7**	**-1.4**
	SNR=33						
AML	**Almayashu**	**58.41**	**315**	P	**P**	**16 35 06.4**	**-0.6**
	SNR=52						
SEY	**Seymchan**	**58.53**	**13**	*i* P	**P**	**16 35 11.1**	**+3.5**
SEY						16 44 56.8	
SEY				*e*SSS	SSS	16 49 30.1	+5.6
SEY				pmax	pmax		
	comp=Z,460nm,1.8s,mb6.2						
SEY				pmax	pmax		
	comp=N,70nm,1.4s						
SEY				pmax	pmax		
	comp=E,150nm,1.6s						
SEY				MLR	MLR		
	comp=Z,3µm,17.0s,MS5.4						
SEY				MLR	MLR		
	comp=N,1µm,13.0s,MS5.4						
SEY				MLR	MLR		
	comp=E,920nm,12.0s,MS5.4						
EKS2	**Erkin-Say**	**58.54**	**316**	P	**P**	**16 35 06.8**	**-1.1**
	SNR=70						
FX1	**Attu Island--F**	**58.87**	**31**	P	**P**	**16 35 09.5**	**-0.6**
	comp=E,44nm,0.8s,mb5.6,baz=48,slow=4.1,SNR=13						
FX1	**Attu Island--F**	**58.87**	**31**	P	**P**	**16 35 09.5**	**-0.6**
FX1				pmax	pmax		
	comp=Z,44nm,0.8s						
FX1	**Attu Island--F**	**58.87**	**31**	*e*P	**P**	**16 35 11.9**	**+1.8**
NVS	**Novosibirsk**	**58.92**	**332**	*i* P	**P**	**16 35 07.1**	**-3.3**
NVS				*e*S	**S**	**16 43 11.7**	**-0.1**
NVS				pmax	pmax		
	comp=Z,90nm,2.1s,mb5.4						
NVS				pmax	pmax		
	comp=E,84nm,2.4s						
NVS				pmax	pmax		
	comp=N,73nm,2.1s						
NVS				smax			
	comp=N,74nm,2.5s						
NVS				smax			
	comp=E,64nm,2.5s						
KURK	**Kurchatov**	**59.00**	**326**	P	**P**	**16 35 09.0**	**-2.0**
	comp=E,273nm,1.1s,mb6.2,SNR=28						
KURK	**Kurchatov**	**59.00**	**326**⇑	*e*P	**P**	**16 35 09.0**	**-2.0**
	comp=E,41nm,1.0s,mb5.4						
TIXI	**Tiksi**	**64.33**	**1**⇑	*i*P	**P**	**16 35 45.1**	**-1.4**
TIXI				*i*		16 38 03.0	
TIXI				*e*S	**S**	**16 44 17.0**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,156nm,1.1s,mb6.0						
TIXI				pmax	pmax		
	comp=N,51nm,1.2s						
TIXI				pmax	pmax		
	comp=E,23nm,1.2s						
TIXI				pmax	pmax		
	comp=Z,481nm,2.2s,mb6.1						
TIXI				pmax	pmax		
	comp=N,126nm,1.5s						
TIXI				pmax	pmax		
	comp=E,42nm,1.6s						
TIXI				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.2						
TIXI				MLR	MLR		
	comp=N,1µm,16.0s						
BVAR	**Borovoye Array**	**64.60**	**326**	PKPPKP		17 04 48.9	
	comp=N,0.4nm,0.6s,baz=315,slow=6.3,SNR=4.2						
BVAR				LR	LR	17 07 52.2	
	comp=N,18nm,19.3s,baz=290,slow=40						
BRVK	**Borovoye**	**64.67**	**326**⇑	*e*P	**P**	**16 35 47.1**	**-1.8**
	comp=N,33nm,0.9s,mb5.4						
URZ	**Urewera**	**64.88**	**138**	P	**P**	**16 35 48.3**	**-2.3**
	comp=N,5.9nm,0.8s,mb4.7,baz=287,slow=14,SNR=2.2						
ZRNK	**Zerenda**	**65.34**	**326**⇑	*e*P	**P**	**16 35 51.3**	**-2.0**
	comp=N,21nm,0.8s,mb5.2						
UNV	**Unalaska Valle**	**70.34**	**35**⇑	*e*P	**P**	**16 36 24.9**	**+0.5**
	comp=N,255nm,0.8s,mb6.2						
ARU	**Arti**	**72.18**	**327**	P	**P**	**16 36 33.0**	**-2.4**
	comp=N,201nm,0.7s,mb6.2,SNR=14						
ARU	**Arti**	**72.18**	**327**⇑	*i*P	**P**	**16 36 33.6**	**-1.8**
ARU				*i*	pP	16 36 45.7	-1.9
ARU				*i*		16 36 51.5	
ARU				*e*PPP	PPP	16 40 53.5	-6.5
ARU				*i* S	S	16 45 54.8	+1.2
ARU				*i*		16 46 37.1	
ARU				*e*SS	SS	16 50 28.6	-4.8
ARU				*e*SSS	SSS	16 53 48.6	+5.8
ARU				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
ARU				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.4						
ARU	**Arti**	**72.18**	**327**⇑	*e*P	**P**	**16 36 33.5**	**-1.8**
	comp=Z,19nm,0.6s,mb5.2						
ANM	**Nome**	**73.92**	**25**	*e*P	**P**	**16 36 46.6**	**+1.1**
CASY	**Casey**	**74.34**	**187**	*e*P	**P**	**16 36 50.0**	**+2.1**
RAR	**Rarotonga**	**77.09**	**114**	P	**P**	**16 37 02.5**	**-1.9**
	comp=Z,31nm,1.1s,mb5.2,baz=114,slow=23,SNR=2.7						
RAR	**Rarotonga**	**77.09**	**114**	P	**P**	**16 37 02.5**	**-2.0**
RAR				pmax	pmax		
	comp=Z,31nm,1.1s						
MAK	**Makhachkala**	**77.48**	**312**	*e*P	**P**	**16 37 07.0**	**+0.8**
MAK				*e*PPP	PPP	16 41 48.0	-3.3
MAK				*e*S	S	16 46 48.0	-4.7
MAK				*e*PS	PS	16 47 29.0	-9.0
MAK				pmax	pmax		
	comp=Z,2µm,6.0s						
MAK				smax			
	comp=E,2µm,7.0s						
MAK				MLR	MLR		
	comp=Z,2µm,13.0s,MS5.6						
SVW	**Sparrevohn**	**77.54**	**29**	*e*P	**P**	**16 37 07.8**	**+1.6**
TTA	**Tatalina**	**77.61**	**27**	*e*P	**P**	**16 37 09.1**	**+2.6**
MIR	**Mirnyy**	**77.65**	**193**⇑	*e*P	**P**	**16 37 07.4**	**+0.7**
MIR				*e*S	S	16 46 57.0	+2.9
MIR				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.6						
MIR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
KDAK	**Kodiak Island**	**78.74**	**33**⇑	*e*P	**P**	**16 37 14.1**	**+1.3**
	comp=Z,47nm,0.8s,mb5.5						
RSO	**Redoubt South**	**78.87**	**30**	*e*P	**P**	**16 37 14.0**	**+0.6**
IMA	**Indian Mountai**	**79.03**	**24**	*e*P	**P**	**16 37 16.2**	**+2.0**
	comp=Z,5.9nm,0.4s,mb4.9						
SPU	**Mount Spurr**	**79.27**	**29**	*e*P	**P**	**16 37 15.9**	**+0.3**
RAYN	**Ar Rayn**	**79.46**	**293**	P	**P**	**16 37 16.3**	**-1.1**
	comp=Z,651nm,0.9s						
TI2	**Plekhanov**	**79.51**	**311**⇑	*i*P	**P**	**16 37 16.8**	**-0.5**
TI2				*e*S	S	16 47 11.4	-2.9
TI2				MLR	MLR		
	comp=N,1µm,16.0s,MS5.3						
TI2				MLR	MLR		
	comp=E,500nm,16.0s,MS5.3						
TI2				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.5						
MZLS	**Mizel**	**79.70**	**293**	P	**P**	**16 37 18.3**	**-0.4**
SLKM	**Skilak Lake**	**80.12**	**30**	*e*P	**P**	**16 37 20.6**	**+0.4**
KAMS	**Al Khamasin**	**80.53**	**289**	P	**P**	**16 37 22.2**	**-1.0**
TVAN	**Van**	**80.60**	**308**	*i* P	**P**	**16 37 24.0**	**+0.8**
VANB	**Van**	**80.61**	**308**	*e*P	**P**	**16 37 23.3**	**0.0**
PMR	**Palmer**	**80.69**	**29**	*e*P	**P**	**16 37 24.9**	**+1.6**
GOF	**Gofitskoye**	**80.72**	**314**	*e*P	**P**	**16 37 23.0**	**-0.7**
GOF				*e*		16 47 18.0	
GOF				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.5						
GOF				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.6						
MCK	**McKinley**	**80.86**	**27**⇑	*e*P	**P**	**16 37 24.6**	**+0.5**
	comp=Z,60nm,1.0s,mb5.5						
SML	**Sawmill**	**81.08**	**29**⇑	*e*P	**P**	**16 37 26.2**	**+1.0**
ARSS	**Ar Rass**	**81.37**	**295**	P	**P**	**16 37 27.3**	**-0.3**
COLA	**College**	**81.37**	**25**⇑	*i*P	**P**	**16 37 27.3**	**+0.6**
COLA	**College**	**81.37**	**25**⇑	*e*P	**P**	**16 37 27.1**	**+0.3**
	comp=Z,32nm,0.9s,mb5.2						
TATS	**Tathlith**	**81.62**	**289**	P	**P**	**16 37 29.0**	**+0.1**
DJNS	**Zahran al Janu**	**81.71**	**287**	P	**P**	**16 37 30.2**	**+0.7**
AFFS	**'Afif**	**81.72**	**293**	P	**P**	**16 37 29.6**	**+0.2**
ILAR	**Eielson Array**	**81.78**	**26**	P	**P**	**16 37 28.8**	**-0.1**
	comp=Z,8.5nm,0.9s,mb4.7,baz=264,slow=3.9,SNR=41						
ILAR				PKKPbc		16 56 02.4	
	comp=Z,0.7nm,1.0s,baz=46,slow=1.0,SNR=4.1						
ILAR				PKPPKP		17 04 08.6	
	comp=Z,0.3nm,0.8s,baz=332,slow=1.1,SNR=4.3						
ILAR				LR	LR	17 13 31.3	
	comp=Z,892nm,20.1s,MS5.1,baz=295,slow=36						
VRT	**Varto**	**82.04**	**308**	*i* P	**P**	**16 37 31.4**	**+0.7**
ERZM	**Erzurum**	**82.12**	**309**	*i* P	**P**	**16 37 32.9**	**+1.7**
EZM	**Erzurum**	**82.13**	**309**	*i* P	**P**	**16 37 33.9**	**+2.7**

THY	**Trims Highway**	**82.28**	**27⇑**	*e*P	**P**	**16 37 33.4**	**+1.9**
BEST	**Besiri**	**82.31**	**307**	*i* P	**P**	**16 37 33.2**	**+1.0**
DIV	**Divide**	**82.31**	**29⇑**	*e*P	**P**	**16 37 33.4**	**+1.7**
	comp=Z,859nm,1.8s,mb6.4						
EYAK	**Cordova Ski Ar**	**82.33**	**30⇑**	*e*P	**P**	**16 37 33.7**	**+1.9**
HILS	**Ha’il**	**82.55**	**297**	P	**P**	**16 37 34.1**	**+0.5**
NAMS	**An Nimas**	**82.85**	**288**	P	**P**	**16 37 36.2**	**+1.0**
SOC	**Sochi**	**83.16**	**313**	*i* P	**P**	**16 37 33.9**	**-2.4**
SOC				*e*		16 37 40.1	
SOC				*e*		16 40 45.4	
SOC				*e*S	S	16 47 50.4	-1.4
SOC				*e*		16 49 03.1	
SOC				*e*SS	SS	16 53 16.6	-3.3
SOC				*e*SSS	SSS	16 56 38.6	-6.8
SOC				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.7						
SOC				pmax	pmax		
	comp=N,11nm,0.6s						
SOC				pmax	pmax		
	comp=E,27nm,1.3s						
FRSS	**Farasan al Kab**	**83.16**	**286**	P	**P**	**16 37 38.5**	**+1.7**
EZC	**Erzincan**	**83.33**	**309**	*e*P	**P**	**16 37 30.5**	**-6.8**
BLJS	**Baljurashi**	**83.35**	**289**	P	**P**	**16 37 38.6**	**+0.8**
KELT	**Kelkit**	**83.73**	**310**	*i* P	**P**	**16 37 40.9**	**+1.5**
MOS	**Moscow**	**83.76**	**325α**	*i*P	**P**	**16 37 38.7**	**-0.4**
MOS				*e*		16 37 47.7	
MOS				*e*		16 40 46.6	
MOS				*e*S	S	16 47 53.3	-4.2
MOS				pmax	pmax		
	comp=Z,162nm,0.9s						
MOS				pmax	pmax		
	comp=N,106nm,0.6s						
MOS				pmax	pmax		
	comp=E,188nm,0.7s						
MOS				pmax	pmax		
	comp=Z,2µm,2.8s						
MOS				smax			
	comp=N,144nm,0.9s						
MOS				MLR	MLR		
	comp=Z,2µm,16.1s						
MOS				MLR	MLR		
	comp=E,2µm,17.6s						
ELZG	**Elazig**	**84.06**	**308**	*i* P	**P**	**16 37 42.1**	**+1.0**
LVZ	**Lovozero**	**84.25**	**338**	P	**P**	**16 37 42.1**	**+0.7**
	comp=E,218nm,1.3s,mb6.1,SNR=11						
LVZ	**Lovozero**	**84.25**	**338**	*e*P	**P**	**16 37 38.8**	**-2.6**
LVZ				*e*S	S	16 47 53.8	-8.4
LVZ				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.5						
LVZ				pmax	pmax		
	comp=N,7.0nm,1.3s						
LVZ				pmax	pmax		
	comp=E,9.0nm,1.0s						
LVZ				pmax	pmax		
	comp=Z,294nm,1.9s,mb6.1						
LVZ				pmax	pmax		
	comp=N,37nm,2.1s						
LVZ				pmax	pmax		
	comp=E,177nm,2.7s						
LVZ				smax			
	comp=N,1µm,8.2s						
LVZ				smax			
	comp=Z,259nm,5.2s						
LVZ				smax			
	comp=E,2µm,8.3s						
OBN	**Obninsk**	**84.41**	**325α**	*i*P	**P**	**16 37 41.7**	**-0.7**
OBN				*i*	pP	16 37 54.3	-0.5
OBN				*e*		16 40 55.3	
OBN				*i*		16 48 01.5	
OBN				*i*		16 48 09.1	
OBN				*e*		16 57 09.2	
OBN				pmax	pmax		
	comp=Z,151nm,1.2s,mb6.0						
OBN				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.3						
OBN				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.6						
OBN	**Obninsk**	**84.41**	**325⇑**	*e*P	**P**	**16 37 41.7**	**-0.8**
	comp=Z,48nm,0.6s,mb5.8						
OBN				pP	pP	16 37 53.9	-0.9
LTHS	**Al Lith**	**84.43**	**290**	P	**P**	**16 37 44.9**	**+1.6**
MALT	**Malatya**	**84.51**	**308**	P	**P**	**16 37 44.4**	**+1.0**
MALT	**Malatya**	**84.51**	**308**	*e*P	**P**	**16 37 44.2**	**+0.9**
	comp=Z,73nm,1.1s,mb5.7						
MALT				*e*pP	pP	16 37 56.0	+0.2
ANN	**Anapa**	**84.70**	**314c**	*i*P	**P**	**16 37 43.4**	**-0.8**
ANN				*e**PP	pP	16 37 55.5	-1.1
ANN				*e*		16 41 04.7	
ANN				*e*S	S	16 48 04.5	-2.7
ANN				*e*PS	PS	16 49 38.0	+30
ANN				pmax	pmax		
	comp=Z,386nm,9.8s						
APA	**Apatity**	**84.76**	**337⇑**	*i*P	**P**	**16 37 43.0**	**-0.9**
APA				*i*	pP	16 37 56.0	-0.3
APA				*i*		16 41 05.0	
APA				*i* S	S	16 48 06.0	-1.2
APA				*e*PS	PS	16 49 00.0	-8.3
APA				*e*SS	SS	16 53 48.0	+5.4
APA				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.5						
APA				pmax	pmax		
	comp=Z,1µm,9.0s						
APA				smax			
	comp=N,3µm,11.0s						
APA				smax			
	comp=E,3µm,11.0s						
APA				MLR	MLR		
	comp=Z,1µm,14.0s,MS5.5						
KBRS	**Khaybar**	**84.94**	**295**	P	**P**	**16 37 47.1**	**+1.3**
GZT	**Gaziantep**	**85.28**	**307**	*i* P	**P**	**16 37 47.6**	**+0.4**
SVSK	**Karacayir**	**85.47**	**310**	*e*P	**P**	**16 37 47.5**	**-0.6**
GAZ	**Gaziantep**	**85.58**	**307**	*e*P	**P**	**16 37 47.5**	**-1.2**
KAHT	**Ahir Dag**	**85.80**	**307**	*i* P	**P**	**16 37 50.4**	**+0.7**
PPT	**Papeete**	**85.85**	**108**	*e*SS	SS	16 54 05.1	+4.9
PPT				*e*R		17 04 59.5	
	comp=Z,2µm,23.5s,baz=296						
YNBS	**Yanbu‘ al Bahr**	**86.24**	**294**	P	**P**	**16 37 54.1**	**+1.9**
ASF	**Jabal al Asfar**	**86.35**	**302**	P	**P**	**16 37 53.4**	**+0.8**
	comp=Z,40nm,1.1s,mb5.6,baz=338,slow=0.9,SNR=33						
ASF				LR	LR	17 23 30.9	
	comp=Z,855nm,18.8s,MS5.2,baz=311,slow=40						
COBT	**Iskenderun**	**86.41**	**306**	*i* P	**P**	**16 37 47.0**	**-5.7**
DUSS	**Damascus Unive**	**86.72**	**303**	*i* P	**P**	**16 37 55.5**	**+1.1**
DUSS				*i* P		16 37 56.1	
DUSS				*i* P		16 37 56.1	
KEV	**Kevo**	**86.72**	**340**	*e*p	**P**	**16 37 51.7**	**-1.8**
UMJS	**Umm Lajj**	**86.75**	**295**	P	**P**	**16 37 56.2**	**+1.5**
INK	**Inuvik**	**86.77**	**22**	P	**P**	**16 37 55.0**	**+1.2**
	comp=Z,2.0nm,0.4s,mb4.7,baz=214,slow=4.2,SNR=11						
INK				PKKPbc		16 55 48.2	
	comp=Z,1.1nm,0.3s,baz=116,slow=7.2,SNR=5.5						
INK	**Inuvik**	**86.77**	**22**	P	**P**	**16 37 55.0**	**+1.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**86.77**	**22**	P	**P**	**16 37 55.0**	**+1.2**
INK				PKKPbc		16 55 48.2	
TBI	**Tubuai**	**86.87**	**114**	*e*SS	SS	16 54 14.4	0.0
TBI				*e*R		17 05 34.1	
	comp=Z,2µm,28.8s,baz=287						
BOYT	**Boyabat**	**86.89**	**311**	*i* P	**P**	**16 37 55.3**	**+0.3**
SIM	**Simferopol’**	**87.03**	**315c**	*e*P	**P**	**16 37 55.5**	**-0.1**
SIM				*e*		16 48 19.9	
SIM				S	S	16 48 31.9	+2.2
SIM				PS	PS	16 49 34.1	-3.0
SIM				pmax	pmax		
	comp=Z,180nm,9.3s						
SIM	**Simferopol’**	**87.03**	**315⇑**	*i*P	**P**	**16 37 56.1**	**+0.5**
CTKT	**Corum**	**87.08**	**310**	*i* P	**P**	**16 37 55.6**	**-0.3**
TBKS	**Tabuk**	**87.09**	**298**	P	**P**	**16 37 57.3**	**+1.0**
MAW	**Mawson**	**87.17**	**200**	*e*S	S	16 48 30.1	-0.3
MAW	**Mawson**	**87.17**	**200**	P	**P**	**16 37 57.2**	**+1.5**
	comp=Z,3.0nm,0.7s,mb4.7,baz=78,slow=7.5,SNR=6.9						
MAW				LR	LR	17 12 54.8	
	comp=Z,479nm,20.2s,MS4.9,baz=58,slow=33						
MAW	**Mawson**	**87.17**	**200**	P	**P**	**16 37 57.2**	**+1.5**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,479nm,20.2s						
MAW	**Mawson**	**87.17**	**200**	*e*P	**P**	**16 37 57.4**	**+1.7**
	comp=Z,8.4nm,1.0s,mb4.9						
MAW				*e*S	S	16 48 30.1	-0.3
KSHT	**Keshet**	**87.17**	**303**	P	**P**	**16 37 57.3**	**+0.7**
PUL	**Pulkovo**	**87.19**	**330**	*e*P	**P**	**16 37 47.4**	**-8.6**
PUL				*e*S	S	16 48 19.2	-12
PUL				pmax	pmax		
	comp=Z,26nm,0.3s,mb5.9						
PUL				smax			
	comp=E,14nm,0.4s						
PUL				smax			
	comp=Z,59nm,0.4s						
PUL				smax			
	comp=N,117nm,0.5s						
HRI	**Mount Hermon**	**87.20**	**303**	P	**P**	**16 37 57.4**	**+0.7**
AVNT	**Avonos**	**87.25**	**309**	*i* P	**P**	**16 37 56.2**	**-0.6**
ARCES	**ARCESS Array B**	**87.28**	**340**	P	**P**	**16 37 56.3**	**+0.1**
	comp=N,38nm,1.0s,mb5.6,baz=76,slow=5.0,SNR=59						
ARCES	**ARCESS Array B**	**87.28**	**340**	P	**P**	**16 37 56.3**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,38nm,1.0s						
ARE0	**ARCESS Array S**	**87.28**	**340**	*e*P	**P**	**16 37 56.2**	**-0.1**
MKRJ	**Makawir**	**87.49**	**301**	P	**P**	**16 37 58.7**	**+0.6**
HMDT	**Nahal Hemdat**	**87.50**	**302**	P	**P**	**16 37 58.8**	**+0.6**
NIG	**Nigde**	**87.52**	**308**	*e*P	**P**	**16 37 58.2**	**+0.1**
MMLI	**Mount Malkishu**	**87.56**	**302**	P	**P**	**16 37 59.4**	**+0.9**
JMQS	**Jabal Moqyreh**	**87.60**	**299**	P	**P**	**16 37 59.4**	**+0.7**
HNTI	**Hanita**	**87.69**	**303**	P	**P**	**16 37 59.5**	**+0.4**
SBA	**Scott Base**	**87.76**	**172**	*e*P	**P**	**16 38 00.5**	**+2.1**
	comp=Z,56nm,1.3s,mb5.6						
SBA				*e*pP	pP	16 38 12.6	+1.7
OFRI	**‘Ofer**	**87.91**	**302**	P	**P**	**16 38 00.5**	**+0.4**
SLTI	**Sal’it**	**87.91**	**302**	P	**P**	**16 38 00.6**	**+0.5**
KAMT	**Kaman**	**88.06**	**309**	*i* P	**P**	**16 38 01.3**	**+0.6**
BRTR	**Keskin Array B**	**88.06**	**310**	P	**P**	**16 38 00.1**	**-0.6**
	comp=Z,11nm,0.8s,mb5.1,baz=108,slow=4.5,SNR=48						
BRTR	**Keskin Array B**	**88.06**	**310**	P	**P**	**16 38 00.1**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,11nm,0.9s						
PRNI	**Paran**	**88.18**	**300**	P	**P**	**16 38 02.0**	**+0.5**
AYUS	**‘Aynunah**	**88.22**	**298**	P	**P**	**16 38 02.4**	**+0.7**
JMOS	**Jabal al Moall**	**88.24**	**299**	P	**P**	**16 38 02.3**	**+0.6**
MBH	**Mount Berech**	**88.33**	**300**	P	**P**	**16 38 02.7**	**+0.5**
BDAS	**Al Bad‘**	**88.34**	**298**	P	**P**	**16 38 03.5**	**+1.3**
HAQS	**Haql**	**88.41**	**299**	P	**P**	**16 38 03.1**	**+0.5**
KAF	**Kangasniemi**	**88.66**	**332**	*e*p	**P**	**16 38 01.2**	**-1.8**
	comp=Z,11nm,0.8s,mb5.2,baz=71,slow=4.4						
KAF	**Kangasniemi**	**88.66**	**332**	*e*P	**P**	**16 38 01.2**	**-1.8**
KAF				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**16 38 03.7**	**-0.5**
	comp=Z,24nm,1.0s,mb5.5,baz=117,slow=8.5,SNR=35						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**16 38 03.7**	**-0.5**
FINES				pmax	pmax		
	comp=Z,24nm,1.0s						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**16 38 03.7**	**-0.5**
CSS	**Prodhromos**	**88.96**	**305⇑**	*e*P	**P**	**16 38 04.2**	**-0.9**
	comp=Z,20nm,0.8s,mb5.5						
SGKT	**Sivrigoynuk**	**89.14**	**311**	*i* P	**P**	**16 38 04.6**	**-1.2**
VSU	**Vasula**	**89.26**	**329⇑**	*i*P	**P**	**16 38 05.4**	**-0.5**
AKASG	**Malin Array Be**	**89.40**	**321**	P	**P**	**16 38 05.8**	**-1.0**
	comp=Z,12nm,0.6s,mb5.5,baz=66,slow=4.1,SNR=52						
AKASG				LR	LR	17 23 36.4	
	comp=Z,752nm,18.6s,MS5.2,baz=70,slow=39						
AKASG	**Malin Array Be**	**89.40**	**321**	P	**P**	**16 38 05.8**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,12nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,752nm,18.6s						
KIZT	**Kizilcal**	**89.54**	**309**	*i* P	**P**	**16 38 08.3**	**+0.6**
HENT	**Hendek**	**89.97**	**311**	*i* P	**P**	**16 38 06.9**	**-2.8**
KMBO	**Kilima Mbogo**	**89.98**	**269**	P	**P**	**16 38 09.7**	**-0.7**
	comp=Z,8.7nm,1.1s,mb5.0,baz=49,slow=5.2,SNR=15						
KMBO				LR	LR	17 19 16.2	
	comp=Z,774nm,18.7s,MS5.2,baz=279,slow=36						
KMBO	**Kilima Mbogo**	**89.98**	**269⇑**	*e*P	**P**	**16 38 10.7**	**+0.3**
	comp=Z,20nm,1.1s,mb5.3						
KMBO				*e*pP	pP	16 38 23.1	+0.1
ESKT	**Eskisehir**	**90.23**	**310**	*i* P	**P**	**16 38 07.4**	**-3.5**
KIS	**Kishinev**	**90.36**	**317**	*e*P	**P**	**16 38 10.0**	**-1.4**
KIS				*e*		16 48 36.0	
KIS				*e*S	S	16 49 00.0	-0.4
KIS				*e*PS	PS	16 50 12.0	-3.9
KIS				MLR	MLR		
	comp=Z,700nm,20.0s,MS5.1						
KIS				MLR	MLR		
	comp=Z,700nm,20.0s						
DLBC	**Dease Lake**	**90.55**	**31**	P	**P**	**16 38 12.3**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.7,baz=316,slow=6.0,SNR=6.4						
ISP	**Isparta**	**90.77**	**308**	*e*P	**P**	**16 38 11.7**	**-1.8**
ISP	**Isparta**	**90.77**	**308⇑**	*i*P	**P**	**16 38 11.8**	**-1.7**
ULDT	**Uludag**	**91.42**	**311**	*i* P	**P**	**16 38 13.8**	**-2.6**
HARR	**Harsova**	**91.42**	**315⇓**	*i*P	**P**	**16 38 16.9**	**+0.5**
HARR	**Harsova**	**91.42**	**315⇓**	*i*P	**P**	**16 38 16.9**	**+0.5**
VRI	**Vrincioaia**	**92.00**	**317⇓**	*i*P	**P**	**16 38 20.0**	**+1.0**
VRI	**Vrincioaia**	**92.00**	**317⇓**	*i*P	**P**	**16 38 20.0**	**+1.0**
SUW	**Suwalki**	**92.26**	**325**	*e*P	**P**	**16 38 19.9**	**-0.1**
SUW				*e**PP	pP	16 38 32.0	-0.6
SUW				*e*		16 48 49.1	
SUW				*e*S	S	16 49 20.5	+3.4
SUW				MLR	MLR		
	comp=Z,2µm,19.4s,MS5.6						
SUW	**Suwalki**	**92.26**	**325**	*e*P	**P**	**16 38 19.9**	**-0.1**
SUW				*e*PcP	PcP	16 38 20.9	0.0
SUW				*e*pP	pP	16 38 32.0	-0.6
SUW				*e*SKS	SKS	16 48 49.1	+1.0
SUW				*e*S	S	16 49 20.5	+3.4
ISR	**Istrita**	**92.29**	**316⇓**	*i*P	**P**	**16 38 21.8**	**+1.4**
ISR	**Istrita**	**92.29**	**316⇓**	*i*P	**P**	**16 38 21.8**	**+1.4**
LVV	**L’vov**	**92.85**	**321**	*i* P	**P**	**16 38 21.1**	**-1.7**
KWP	**Kalwaria**	**93.72**	**321**	*e*P	**P**	**16 38 25.5**	**-1.3**
KWP				*e**PP	pP	16 38 39.5	+0.1
KWP				*e*		16 48 59.1	
KWP				*e*S	S	16 49 37.9	+8.0
KWP	**Kalwaria**	**93.72**	**321**	*e*P	**P**	**16 38 25.5**	**-1.3**
KWP				*e*PcP	PcP	16 38 28.1	+0.5
KWP				*e*pP	pP	16 38 39.5	+0.1
KWP				*e*SKS	SKS	16 48 59.1	+2.7
KWP				*e*S	S	16 49 37.9	+8.0
DAG	**Danmarks Havn**	**93.83**	**353⇑**	*i*P	**P**	**16 38 26.6**	**-0.1**
	comp=Z,47nm,1.0s,mb5.9						
WAR	**Warsaw**	**94.01**	**324**	*e*P	**P**	**16 38 28.9**	**+0.9**
WAR				*e*		16 49 00.6	
WAR				MLR	MLR		
	comp=Z,1µm,24.0s,MS5.3						
WAR	**Warsaw**	**94.01**	**324**	*e*P	**P**	**16 38 28.9**	**+0.9**
WAR				*e*SKS	SKS	16 49 00.6	+2.7
WAR				*e*S	S	16 49 43.6	+11
WAR				LR	LR		
	comp=Z,1µm,24.0s,MS5.3						
OJC	**Ojcow**	**95.35**	**322**	*e*P	**P**	**16 38 34.2**	**0.0**
OJC				*e*		16 42 25.4	
OJC				*e*		16 49 05.9	
OJC				*i* S	S	16 49 46.5	+2.8
OJC				MLR	MLR		
	comp=Z,1µm,19.3s,MS5.4						
BOLS	**Boljevac**	**95.79**	**315⇓**	*i*P	**P**	**16 38 36.8**	**+0.4**
NB2	**NORSAR Subarra**	**95.80**	**334**	P	**P**	**16 38 34.6**	**-1.3**
	comp=Z,16nm,1.1s,mb5.3,baz=65,slow=4.5						
NB2	**NORSAR Subarra**	**95.80**	**334**	P	**P**	**16 38 34.6**	**-1.3**
	baz=65,slow=4.6						
NOA	**NORSAR Array B**	**95.80**	**334**	P	**P**	**16 38 35.0**	**-0.9**
	comp=Z,6.1nm,0.9s,mb5.0,baz=64,slow=4.6,SNR=11						
NOA				LR	LR	17 25 16.8	
	comp=Z,1µm,21.1s,MS5.4,baz=60,slow=38						
NOA	**NORSAR Array B**	**95.80**	**334**	P	**P**	**16 38 35.0**	**-0.9**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,1µm,21.1s						
SYO	**Syowa Base**	**95.83**	**201**	⇑P	**P**	**16 38 36.6**	**+0.7**
SYO	**Syowa Base**	**95.83**	**201**	⇓PcP	PcP	16 38 39.8	+3.4
SYO	**Syowa Base**	**95.83**	**201**	⇓pP	pP	16 38 50.1	+1.6
SYO	**Syowa Base**	**95.83**	**201**	⇓sP	sP	16 38 57.4	+4.7
GKP	**Gorka Klasztor**	**95.86**	**325**	*e*P	**P**	**16 38 35.9**	**-0.5**
GKP				*e*		16 49 15.7	
GKP				MLR	MLR		
	comp=Z,2µm,23.4s,MS5.4						
PSZ	**Piszkesteto**	**96.00**	**320⇑**	*e*P	**P**	**16 38 36.7**	**-0.5**
	comp=Z,11nm,0.9s,mb5.3						
VAY	**Valandovo**	**96.02**	**313⇑**	*i*P	**P**	**16 38 36.8**	**-0.6**
YKA	**Yellowknife Ar**	**96.16**	**24**	P	**P**	**16 38 38.1**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.6,baz=300,slow=4.7,SNR=14						
YKA				PKKPbc		16 55 24.3	
	comp=Z,1.0nm,0.8s,baz=113,slow=2.2,SNR=4.5						
YKA				LR	LR	17 20 06.3	
	comp=Z,516nm,21.6s,MS5.0,baz=255,slow=34						
YKA	**Yellowknife Ar**	**96.16**	**24**	P	**P**	**16 38 38.1**	**+0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,517nm,21.6s						
RAC	**Raciborz**	**96.38**	**322**	*e*P	**P**	**16 38 39.3**	**+0.5**
RAC				MLR	MLR		
	comp=Z,1µm,18.6s,MS5.5						
BSD	**Bornholm Skovb**	**96.46**	**328**	*i* P	**P**	**16 38 38.8**	**-0.3**
	comp=Z,46nm,1.0s,mb5.9						
BSD				*i*		16 42 26.9	
BSD				*i* S	SKS	16 49 11.3	+0.2
BSD				*i*		16 51 06.1	
	comp=Z,2µm,17.0s						
BSD	**Bornholm Skovb**	**96.46**	**328**	*e*P	**P**	**16 38 38.8**	**-0.3**
	comp=Z,46nm,1.0s,mb5.9						
BSD				*i*		16 42 26.9	
BSD				*i* S	SKS	16 49 11.3	+0.2
BSD				*i*		16 51 06.1	
OKC	**Ostrava-Krasne**	**96.48**	**322**	*e*P	**P**	**16 38 39.3**	**0.0**
OKC				*e*SKS	SKS	16 49 12.2	+0.8
OKC				*e*S	S	16 50 02.5	+9.2
OKC				LM		17 25 30.0	
	comp=Z,1.0nm,16.6s						
VYHS	**Vyhne**	**96.49**	**321**	*e*P	**P**	**16 38 40.0**	**+0.6**
VYHS				*e*	pP	16 38 51.6	-0.4
VYHS				*e*S	S	16 49 59.6	+6.2
VYHS				*e*SP	SP	16 51 12.8	-6.2
GRUS	**Gruza**	**96.64**	**316⇑**	*i*P	**P**	**16 38 40.8**	**+0.6**
SKO	**Skopje**	**96.66**	**314**	*i* P	**P**	**16 38 40.2**	**-0.1**
MORC	**Moravsky Berou**	**96.88**	**322⇑**	*e*P	**P**	**16 38 41.1**	**0.0**
	comp=Z,9.2nm,1.0s,mb5.2						
DIVS	**Divcibare**	**97.08**	**316⇑**	*i*P	**P**	**16 38 42.5**	**+0.3**
QSPA	**South Pole Qui**	**97.14**	**180**	*e*P	**P**	**16 38 44.3**	**+2.6**
	comp=Z,17nm,1.0s,mb5.4						
KSP	**Ksiaz**	**97.26**	**323**	*e*P	**P**	**16 38 41.8**	**-1.0**
KSP				*e**PP	pP	16 38 51.2	-4.2
KSP				*e**SP	sP	16 38 55.0	-4.6
KSP				*e*		16 42 39.0	
KSP				*e*		16 49 15.0	
KSP				*e*S	S	16 50 02.0	+2.1
KSP				*e*SP	SP	16 51 22.5	-4.6
KSP				MLR	MLR		
	comp=Z,3µm,18.1s,MS5.9						
DPC	**Dobruska-Polom**	**97.42**	**323**	*e*P	**P**	**16 38 43.2**	**-0.4**
DPC				*e*SKS	SKS	16 49 18.6	+2.4
DPC				*e*S	S	16 50 04.9	+3.7
DPC				LM		17 26 00.0	
	comp=Z,1.4nm,17.6s						
UPC	**Upice**	**97.54**	**323⇑**	*e*P	**P**	**16 38 43.9**	**-0.2**
PVCC	**Panska Ves**	**98.39**	**323⇑**	*e*P	**P**	**16 38 48.4**	**+0.4**
PVCC				LM		17 26 20.0	
	comp=Z,1.4nm,17.2s						
PRU	**Pruhonice**	**98.61**	**323⇑**	*i*P	**P**	**16 38 49.7**	**+0.7**
PRU						16 49 22.7	
PRU				*e*S	S	16 50 15.0	+3.7
PRU				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.6						
PRU				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.6						
PRU	**Pruhonice**	**98.61**	**323⇑**	*i*P	**P**	**16 38 49.7**	**+0.7**
	comp=Z,25nm,1.3s,mb5.6						
PRU				*e*		16 39 23.4	
PRU				SKS	SKS	16 49 22.7	+0.3
PRU				*e*S	S	16 50 15.0	+3.7
PRU				LR	LR		
	comp=Z,1µm,15.0s,MS5.6						
BRG	**Berggiesshubel**	**98.63**	**324**	*i* P	**P**	**16 38 50.7**	**+1.7**
BRG				*e*		16 38 57.2	
BRG				*e*		16 42 53.0	
BRG				*i*		16 49 30.0	
BRG				*i* S	S	16 50 17.0	+5.6
BRG				*i* PS	PS	16 51 40.0	-6.7
BRG				*i* SS	SS	16 56 55.0	-6.4
BRG				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.6						
BRG				MLR	MLR		
	comp=N,1µm,19.8s,MS5.5						
BRG				MLR	MLR		
	comp=E,1µm,19.8s,MS5.5						
BRG				MLR	MLR		
	comp=Z,2µm,16.5s,MS5.6						
BRG	**Berggiesshubel**	**98.63**	**324**	*i* P	**P**	**16 38 50.7**	**+1.7**
	comp=Z,29nm,1.4s,mb5.6						
BRG				*e*		16 38 57.2	
BRG				*e*PP	PP	16 42 53.0	+0.3
BRG				*i* SKS	SKS	16 49 30.0	+7.5
BRG				*i* S	S	16 50 17.0	+5.6
BRG				*i* PS	PS	16 51 40.0	-6.7
BRG				*i* SS	SS	16 56 55.0	-6.4
BRG				LR	LR		
	comp=Z,2µm,16.5s,MS5.6						
RMW	**Rattlesnake Mo**	**98.64**	**40**	P	**P**	**16 38 48.3**	**-0.8**
CLL	**Collm**	**99.00**	**325**	P	**P**	**16 38 51.1**	**+0.4**
	comp=Z,logA/T=1.1,mb5.4						
CLL				*e*PP	PP	16 42 50.0	-5.3
CLL				*e*PPP	PPP	16 45 06.0	+1.6
CLL				*e*		16 49 27.0	
CLL				*e*S	S	16 50 20.0	+5.5
CLL				*e*PS	PS	16 51 42.0	-8.7
CLL	**Collm**	**99.00**	**325**	*i* P	**P**	**16 38 51.1**	**+0.4**
CLL				*e*		16 49 27.0	
CLL				*e*S	S	16 50 20.0	+5.5
CLL				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.4						
CLL				MLR	MLR		
	comp=Z,2µm,17.9s,MS5.6						
CLL	**Collm**	**99.00**	**325**	*i* P	**P**	**16 38 51.1**	**+0.4**
	comp=Z,16nm,1.4s,mb5.4						
CLL				*e*SKS	SKS	16 49 27.0	+2.6
CLL				*e*S	S	16 50 20.0	+5.5
CLL				LR	LR		
	comp=Z,2µm,17.9s,MS5.6						
ARSA	**Arzberg**	**99.01**	**320⇑**	*i*P	**P**	**16 38 50.6**	**-0.2**
	comp=Z,187nm,3.8s						
SISC	**Sisak**	**99.08**	**318**	*i* PKP	**P**	**16 38 51.4**	**+0.1**
NLW	**Nelson Butte**	**99.33**	**39**	P	**P**	**16 38 51.9**	**-0.3**
KHC	**Kasperske Hory**	**99.52**	**322**	*e*P	**P**	**16 38 52.4**	**-0.7**
KHC				AP	pP	16 39 05.5	-0.2
KHC				*e*SKS	SKS	16 49 29.0	+2.0
KHC				*e*S	S	16 50 22.3	+3.4
KHC				LM		17 26 00.0	
	comp=Z,1.5nm,19.5s						
KHC	**Kasperske Hory**	**99.52**	**322**	*e*P	**P**	**16 38 52.4**	**-0.7**
KHC				*e*	pP	16 39 05.5	-0.2
KHC				*e*		16 49 29.0	
KHC				*e*S	S	16 50 22.3	+3.4
KHC				MLR	MLR		
	comp=Z,2µm,19.5s,MS5.5						
GERES	**GERESS Array B**	**99.56**	**322**	P	**P**	**16 38 53.1**	**-0.2**
	comp=Z,11nm,1.1s,mb5.2,baz=72,slow=4.2,SNR=41						
GERES	**GERESS Array B**	**99.56**	**322**	P	**P**	**16 38 53.1**	**-0.2**
GERES				pmax	pmax		
	comp=Z,11nm,1.1s						
MOA	**Molln**	**99.58**	**321⇑**	*i*P	**P**	**16 38 53.7**	**+0.3**
	comp=Z,275nm,3.6s						
NKC	**Novy Kostel**	**99.76**	**324**	*e*SKS	SKS	16 49 28.7	+0.6
NKC				*e*S	S	16 50 29.4	+8.5
NKC				LM		17 27 10.0	
	comp=Z,1.6nm,17.2s						
BOJS	**Bojanci**	**99.81**	**319**	*e*Pdiff	**P**	**16 38 54.5**	**0.0**
BOJS				*e*PP	PP	16 43 01.6	-0.3
YBH	**Yreka Blue Hor**	**99.97**	**46**	P	**P**	**16 38 57.0**	**+1.7**
	comp=Z,2.2nm,1.0s,mb4.5,baz=154,slow=1.4,SNR=5.4						
YBH	**Yreka Blue Hor**	**99.97**	**46**	P	**P**	**16 38 57.0**	**+1.6**
YBH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YBH	**Yreka Blue Hor**	**99.97**	**46**	*e*P	**P**	**16 38 57.4**	**+2.0**
	comp=Z,7.4nm,1.1s,mb5.0						
VISS	**Visnje**	**99.97**	**319**	*e*Pdiff	**P**	**16 38 55.5**	**+0.2**
MOX	**Moxa**	**100.08**	**324**	*i* P	P	16 38 56.0	+0.4
	comp=Z,logA/T=1.2						
MOX				PP	PP	16 43 03.0	-0.9
MOX				SKS	SKS	16 49 39.0	+9.4
MOX				L		17 30 30.0	
MOX	**Moxa**	**100.08**	**324**	*e*P	P	16 38 56.0	+0.4
MOX				pmax	pmax		
	comp=Z,28nm,1.7s						
MOX				MLR	MLR		
	comp=Z,900nm,21.0s,MS5.2						
MOX	**Moxa**	**100.08**	**324**	*e*P	P	16 38 56.0	+0.4
	comp=Z,28nm,1.7s						

MOX				LR	LR		
	comp=Z,900nm,21.0s,MS5.2						
RKT	**Rikitea**	**100.08**	**112**	*e*SKSac		16 49 24.6	
RKT				*e*SP	SP	16 51 50.9	-6.1
RKT				*e*SS	SS	16 57 20.8	-1.6
RKT				*e*R		17 11 40.0	
	comp=Z,1µm,25.2s						
LJU	**Ljubljana**	**100.09**	**319**	*e*PP	PP	16 43 04.4	+0.3
LSZ	**Lusaka**	**100.44**	**256**	P	P	16 38 55.6	-2.5
	comp=Z,4.4nm,0.8s						
JAVS	**Javornik**	**100.44**	**319**	*e*PP	PP	16 43 07.2	+0.2
JAVS				*e*SKSac		16 49 32.6	
JAVS				*e*SKKSac		16 50 34.4	
KBA	**Koelnbreinsper**	**100.46**	**320**	⇑*i*P	P	16 38 58.5	+1.1
	comp=Z,54nm,2.9s						
GRA1	**Grafenberg Arr**	**100.70**	**324**	*e*Pdif	P	16 38 59.8	+1.3
	comp=Z,17nm,1.1s						
GRA1				*e*SKSac		16 49 36.9	
GRA1				LR	LR		
	comp=Z,2µm,19.5s,MS5.6						
GRF	**Grafenberg Arr**	**100.70**	**324**	*e*P	P	16 38 59.8	+1.3
GRF				*e*		16 49 36.9	
GRF				pmax	pmax		
	comp=Z,17nm,1.1s						
GRF				MLR	MLR		
	comp=Z,2µm,19.5s,MS5.6						
DPW	**Davenport**	**100.74**	**39**	*e*Pdif	P	16 39 00.7	+2.0
WTTA	**Wattenberg**	**101.45**	**321**	⇑*i*P	P	16 39 02.1	+0.2
	comp=Z,49nm,1.7s						
MOTA	**Moosalm**	**101.75**	**321**	⇓*i*P	P	16 39 03.9	+0.7
	comp=Z,8.1nm,1.1s						
NVAR	**Mina Array Bea**	**104.28**	**47**	Pdiff	Pdif	16 39 16.6	+2.0
	comp=Z,0.8nm,0.7s,baz=269,slow=4.5,SNR=6.3						
NVAR				PKKPbc		16 55 03.9	
	comp=Z,2.2nm,0.8s,baz=131,slow=5.4,SNR=5.7						
PDAR	**Pinedale Array**	**108.46**	**40**	Pdiff	Pdif	16 39 30.5	-2.4
	comp=Z,0.2nm,0.4s,baz=252,slow=2.9,SNR=2.5						
PDAR				PKKPbc		16 54 49.8	
	comp=Z,1.0nm,1.1s,baz=135,slow=2.1,SNR=4.2						
PDAR				PKKP	PKKP	16 54 58.1	+2.8
	comp=Z,2.2nm,1.1s,baz=117,slow=3.3,SNR=5.3						
PDAR				PKKPab		16 55 06.0	
	comp=Z,3.0nm,1.0s,baz=102,slow=3.6,SNR=8.9						
SDCO	**Great Sand Dun**	**113.65**	**43**	⇓*e*Pdif	Pdif	16 39 57.8	+1.9
PBRG	**Braganca**	**115.49**	**323**	*e*PKPdf	PKPdf	16 43 51.9	+0.9
MTE	**Manteigas**	**116.83**	**322**	*e*PP	PP	16 45 03.1	-4.2
PCBR	**Castelo Branco**	**117.13**	**322**	*e*PKPdf	PKPdf	16 43 55.2	+1.1
PALC	**Alcoutim**	**118.55**	**320**	*e*PKPdf	PKPdf	16 43 57.8	+0.8
TXAR	**Lajitas Array**	**119.13**	**51**	PKP	PKPdf	16 44 02.3	+4.0
	comp=Z,1.0nm,0.6s,baz=148,slow=47,SNR=2.1						
TXAR				PKKPab		16 54 15.6	
	comp=Z,0.5nm,0.3s,baz=143,slow=6.3,SNR=4.4						
JCT	**Junction City**	**121.46**	**48**	*e*PKPdf	PKPdf	16 44 05.4	+2.6
KIC	**Kosan Boka**	**130.08**	**285**	*e*PKP2	PKPdf	16 44 21.6	+1.7
	comp=Z,178nm,1.3s						
DBIC	**Dimbokro**	**130.11**	**285**	PKP	PKPdf	16 44 21.3	+1.3
	comp=Z,24nm,1.2s,baz=19,slow=2.6,SNR=9.4						
DBIC				SKPbc		16 47 41.3	
	comp=Z,16nm,0.8s,baz=59,slow=3.2,SNR=12						
DBIC	**Dimbokro**	**130.11**	**285**	PKIKP	PKPdf	16 44 21.3	+1.3
DBIC				pmax	pmax		
	comp=Z,24nm,1.2s						
DBIC				pmax	pmax		
	comp=N,16nm,0.8s						
DBIC	**Dimbokro**	**130.11**	**285**	*e*PKPdf	PKPdf	16 44 22.5	+2.5
TIC	**Toumodi**	**130.28**	**285**	*e*PKP2	PKPdf	16 44 22.6	+2.3
	comp=N,119nm,1.1s						
LIC	**Lamto**	**130.39**	**284**	*e*PKP2	PKPdf	16 44 22.7	+2.2
	comp=N,90nm,1.2s						
USHA	**Ushuaia**	**130.95**	**168**	PKP	PKPdf	16 44 21.5	+1.1
	comp=N,2.7nm,0.7s,baz=174,slow=1.1,SNR=1.7						
PLCA	**Paso Flores**	**143.13**	**157**	PKP	PKPdf	16 44 42.7	-0.3
	comp=N,5.2nm,0.8s,baz=196,slow=6.4,SNR=6.9						
PLCA	**Paso Flores**	**143.13**	**157**	PKIKP	PKPdf	16 44 42.7	-0.3
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA	**Paso Flores**	**143.13**	**157**	*e*PKPpre		16 44 40.1	
PLCA				PKPdf	PKPdf	16 44 45.4	+2.4
JTS	**JuntasAbangare**	**143.64**	**62**	PKP	PKPdf	16 44 45.8	+1.2
	comp=Z,7.6nm,0.8s,baz=279,slow=22,SNR=3.8						
TRQA	**Tornquist**	**148.26**	**166**	*e*PKPdf	PKPdf	16 44 54.4	+2.6
TRQA				*e*PKPbc	PKPdf	16 44 57.8	+6.0
TRQA				*e*pPKP		16 45 10.8	
SDV	**Santo Domingo**	**156.14**	**48**	*e*PKPdf	PKPdf	16 45 06.2	+2.3
SAML	**Samuel**	**169.69**	**100**	*e*PKPdf	PKPdf	16 45 19.7	+2.9
SAML				*e*pPKPdf		16 45 32.2	

*GUC **31** 16:38:56.8±1.1,27.42S×71.02W,h55^{km}±169^{km},ML4.7*
*NEIC **31** 16:38:56.8,27.42S×71.02W,h55^{km},mb4.7/2,After GUC.*
NEIC Felt [III] at Caldera, Copiapo and Tierra Amarilla.
ISC 31 16:38:55.6±0.7,**27.40S**±0.03×**71.0W**±0.1,**h66**^{km}±10^{km},**n14,**σ**1**^{s}**25**/20,**4C-3D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.60**	**87**	⇓*i*P	**P**	**16 39 10.1**	**+0.7**
CPCH				*i* S	**S**	**16 39 19.4**	**0.0**
CPCH				AMP		16 39 21.2	
	comp=E,93µm,0.1s						
VACH	**Vallenar**	**1.20**	**169**	⇑*i*P	**P**	**16 39 09.4**	**-7.4**
VACH				*i* S	**S**	**16 39 24.8**	**-7.9**
LSCH	**La Serena**	**2.51**	**184**	⇑*i*P	**P**	**16 39 34.0**	**-1.1**
LSCH				*i* S	**S**	**16 40 03.2**	**-1.3**
LSCH				AMP		16 40 14.5	
	comp=E,2µm,0.4s						
TLL	**Tololo Astrono**	**2.77**	**176**	⇑*i*P	**P**	**16 39 39.2**	**+0.5**
TLL				*i* S	**S**	**16 40 12.6**	**+1.6**
TLL				AMP		16 40 24.4	
	comp=N,4µm,0.8s						
CPN1	**Cerro Paranal**	**2.81**	**12**	⇓*i*P	**P**	**16 39 41.0**	**+1.6**
CPN1				*i* S	**S**	**16 40 14.1**	**+1.9**
CPN1				AMP		16 40 33.1	
	comp=N,2µm,0.6s						
ANCH	**Antofagasta**	**3.74**	**9**	*i* P	**P**	**16 39 51.0**	**-1.3**
ANCH				*i* S	**S**	**16 40 34.0**	**-1.4**
ANCH				AMP		16 41 02.7	
	comp=N,639nm,0.8s						
ARE	**Arequipa**	**10.89**	**358**	*e*P	**P**	**16 41 30.0**	**-0.9**
LPAZ	**La Paz**	**11.38**	**14**	P	**P**	**16 41 37.8**	**+0.3**
	comp=N,5.5nm,0.3s						
CPUP	**Villa Florida**	**12.28**	**88**	P	**P**	**16 41 47.9**	**-1.7**
TRQA	**Tornquist**	**13.07**	**147**	P	**P**	**16 41 59.2**	**-0.7**
	comp=N,5.4nm,0.8s						
SAML	**Samuel**	**19.79**	**23**	*e*P	**P**	**16 43 23.1**	**-0.1**
	comp=N,2.6nm,0.5s						
PMSA	**Palmer Station**	**37.65**	**175**	*e*P	**P**	**16 46 14.4**	**+8.8**
	comp=N,34nm,0.6s						
VNA2	**Neumayer--Watz**	**55.80**	**159**	⇑*i*	**P**	**16 48 43.5**	**+16**
SNAA	**Sanae**	**57.41**	**160**	⇓*i*	**P**	**16 48 41.7**	**+2.5**

*IDC **31** 16:39:22.3±2.0,7.20N×126.59E,mb3.7/5,mb1 3.8/5, mb1mx3.6/18,Error ellipse: s-maj=117.0km s-min=25.5km az=67.0*
ISC 31 16:39:27.2±4.6,**7.4N**±0.2×**127.0E**±0.4,**h61**^{km}±38^{km}**,n7,** σ**0**^{s}**38**/8,**mb3.5**/5,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.89**	**241**	*e*P	**P**	**16 39 44.0**	**0.0**
MATI				*e*S	**S**	**16 39 56.5**	**0.0**
PAGZ	**Pagadian**	**3.66**	**278**	*e*P	**P**	**16 40 28.2**	**+5.5**
FITZ	**Fitzroy Crossi**	**25.36**	**183**	P	**P**	**16 44 50.6**	**+0.2**
	1.4nm,0.7s,mb3.6,baz=22,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**28.08**	**165**	P	**P**	**16 45 15.2**	**-0.2**
	0.8nm,0.8s,mb3.4,baz=341,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**31.57**	**168**	P	**P**	**16 45 45.9**	**-0.4**
	0.3nm,0.7s,mb3.2,baz=347,slow=7.1,SNR=5.7						
STKA	**Stephens Creek**	**41.44**	**161**	P	**P**	**16 47 10.0**	**+0.5**
	1.4nm,0.9s,mb3.6,baz=353,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**54.78**	**324**	P	**P**	**16 48 53.0**	**0.0**
	1.3nm,1.1s,mb3.9,baz=120,slow=6.7,SNR=4.9						

*SNSN **31** 16:53:53.5,28.77N×34.79E,h13^{km},Ml2.7*
*GII **31** 16:53:54.7±0.6,28.89N×34.68E,h5^{km}±30^{km},ML2.6/3, Mw2.5/3*
ISC 31 16:53:52.0±1.5,**28.79N**±0.06×**34.7E**±0.1,**h0**^{km}±7^{km}**,n15,** σ**0**^{s}**65**/17,**Egypt**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	**0.34**	**38**	P	**Pg**	**16 53 60.0**	**+1.3**
BDAS	**Al Bad‘**	**0.51**	**134**	P	**Pg**	**16 54 02.5**	**+0.4**
JMOS	**Jabal al Moall**	**0.53**	**44**	P	**Pg**	**16 54 03.2**	**+0.7**
AYUS	**‘Aynunah**	**0.78**	**139**	P	**Pg**	**16 54 07.3**	**-0.3**
EIL	**Elat**	**0.91**	**14**	Pg	**Pg**	**16 54 10.4**	**+0.3**
AQBJ	**Aqaba**	**0.99**	**18**	Pg	**Pg**	**16 54 11.5**	**-0.2**
MBH	**Mount Berech**	**1.02**	**11**	Pg	**Pg**	**16 54 12.4**	**0.0**
JMQS	**Jabal Moqyreh**	**1.04**	**84**	P	**Pb**	**16 54 12.0**	**-0.6**
KMTI	**Karmit**	**1.31**	**1**	Pg	**Pg**	**16 54 17.2**	**-0.9**
KMTI				Sg	**Sg**	**16 54 34.5**	**-1.2**
PRNI	**Paran**	**1.58**	**10**	Pn	**Pn**	**16 54 21.7**	**+0.3**
PRNI				Sn	**Sn**	**16 54 42.8**	**0.0**
TBKS	**Tabuk**	**1.73**	**108**	P	**Pn**	**16 54 22.3**	**-1.2**
ZFRI	**Zfri**	**1.81**	**13**	Pn	**Pn**	**16 54 25.2**	**+0.6**
SVTA	**Shivta**	**2.14**	**358**	Pn	**Pn**	**16 54 29.6**	**+0.3**
MASH	**Mash‘abbe Sade**	**2.20**	**2**	Pn	**Pn**	**16 54 30.3**	**+0.1**
RTMM	**Retamin**	**2.26**	**360**	Pn	**Pn**	**16 54 31.4**	**+0.4**

*IDC **31** 16:54:08.1±1.4,23.44N×70.46E,mb3.7/6,mb1 3.9/6, mb1mx3.6/19,Error ellipse: s-maj=43.2km s-min=25.2km az=55.0*
*NEIC **31** 16:54:09.7±0.9,23.46N×70.51E,h10^{km},mb3.8/2,Error ellipse: s-maj=21.3km s-min=11.3km az=55.0*
*NDI **31** 16:54:10.0±3.5,23.76N×70.41E,h10^{km},ML3.6*
ISC 31 16:54:08.5±1.7,**23.66N**±0.03×**70.68E**±0.04,**h13**^{km}±12^{km}, **n37,**σ**1**^{s}**59**/41,**mb3.6**/6,**1C-1D,Southern India**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHJ	**Bhuj**	**1.03**	**247**	*e*P	**Pb**	**16 54 27.1**	**-0.5**
BHJ				*e*S	**Sb**	**16 54 39.3**	**-1.5**
BHV	**Bhavnagar**	**2.33**	**144**	*e*	**Pn**	**16 54 49.0**	**+1.8**
BHV				*e*P		16 54 51.0	
BHV				*e*S	**Sn**	**16 55 23.0**	**+7.2**
JASL	**Jaisalmer**	**3.26**	**3**	*e*P	**Pn**	**16 55 01.8**	**+1.5**
JASL				*i*		16 55 10.2	
JASL				*e*		16 55 51.3	
AJM	**Ajmer**	**4.56**	**51**	⇑*i*P	**Pn**	**16 55 21.0**	**+2.1**
AJM				*i*		16 56 31.0	
	175nm,0.6s						
BOM	**Bombay**	**5.14**	**157**	*e*P	**Pn**	**16 55 27.4**	**+0.4**
BOM				*e*S	**Sn**	**16 56 28.1**	**+1.2**
	74nm,1.0s						
POO	**Poona**	**5.90**	**149**	*e*P	**Pn**	**16 55 39.0**	**+1.2**
POO				*e*S	**Sn**	**16 56 46.0**	**+0.1**
BHPL	**Bhopal**	**6.20**	**93**	*e*P	**Pn**	**16 55 44.7**	**+2.6**
BHPL				*e*S	**Sn**	**16 56 55.1**	**+1.5**
BHPL				AML	AML	16 57 29.7	
	comp=E,61nm,0.4s						
KHET	**Khetri**	**6.37**	**45**	*e*P	**Pn**	**16 55 45.7**	**+1.3**
KHET				*e*S	**Sn**	**16 56 56.2**	**-1.6**
KHET				*e*		16 57 28.2	
KHET				*e*		16 57 32.6	
	comp=N,58nm,0.3s						
KHET				*e*		16 57 32.8	
	comp=E,109nm,0.5s						
AKL	**Akola**	**6.56**	**115**	⇓*i*	x	16 56 57.6	
AKL				*i*		16 57 08.7	
	comp=E,48nm,0.7s						
KUDL	**Kundal**	**6.88**	**48**	*e*	**Pn**	**16 55 58.6**	**+7.1**
KUDL				*e*		16 57 28.5	
KUDL				*e*		16 57 41.1	
	comp=Z,32nm,0.4s						
KAD	**Karad**	**7.12**	**152**	*e*	**Pn**	**16 55 58.8**	**+3.8**
KAD				*e*SN	**Sn**	**16 57 15.3**	**-1.2**
AYAN	**Aya Nagar**	**7.52**	**49**	*e*	x	16 57 34.7	
AYAN				*e*		16 57 38.0	
LATR	**Latur**	**7.57**	**132**	*e*P	**Pn**	**16 56 00.7**	**-0.6**
	comp=Z,3.0nm,0.2s						
LATR				*e*S	**Sn**	**16 57 24.8**	**-3.0**
NDI	**New Delhi**	**7.71**	**48**	*e*	**Pn**	**16 56 10.5**	**+7.2**
NDI				*e*		16 57 35.0	
NDI				*e*		16 58 08.5	
BHK	**Bhakra**	**9.25**	**32**	*e*	x	16 58 46.4	
DDI	**Dehra Dun**	**9.34**	**43**	*e*	x	16 58 33.0	
SDNR	**Sundarnagar**	**9.60**	**34**	*e*	**P**	**16 56 46.4**	**+17**
SDNR				*e*		16 59 17.0	
HYB	**Hyderabad**	**9.64**	**129**	*i* P	**P**	**16 56 28.0**	**-2.1**
HYB	**Hyderabad**	**9.64**	**129**	*e*P	**P**	**16 56 28.0**	**-2.1**
THN	**Thein Dam**	**9.80**	**26**	*e*	x	16 58 28.6	
	comp=Z,17nm,0.7s						
DLH	**Dalhousie**	**10.00**	**27**	*e*	x	16 58 41.0	
KLP	**Kalpa**	**10.32**	**39**	*e*P	**P**	**16 56 37.5**	**-1.9**
KLP				*e*S	**S**	**16 58 27.7**	**-8.3**
KLP				*e*		16 59 40.2	
LGTI	**Lohaghat**	**10.32**	**54**	*e*P	**P**	**16 56 36.5**	**-2.9**
LGTI				*e*		16 59 41.5	
PTH	**Pithoragarh**	**10.35**	**53**	*e*P	**P**	**16 56 39.8**	**0.0**
PTH				*e*S	**S**	**16 58 30.2**	**-6.5**
KOLN	**Koldanda**	**12.34**	**68**	*e*P	**P**	**16 57 05.0**	**-1.9**
	comp=Z,10nm,0.4s						
GKN	**Gorkha**	**13.29**	**68**	*e*P	**P**	**16 57 17.2**	**-2.3**
	comp=Z,11nm,0.5s						
DMN	**Daman**	**13.59**	**70**	*e*P	**P**	**16 57 20.7**	**-2.8**
KKN	**Kakani**	**13.78**	**70**	*e*P	**P**	**16 57 23.5**	**-2.6**
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**13.84**	**71**	*e*P	**P**	**16 57 24.9**	**-2.0**
	comp=Z,6.5nm,0.3s						
AAK	**Ala-Archa**	**19.19**	**9**	*e*P	**P**	**16 58 35.5**	**+1.0**
	comp=Z,4.8nm,0.7s						
LSA	**Lhasa**	**19.24**	**67**	*e*P	**P**	**16 58 37.0**	**+1.8**
	comp=Z,3.3nm,0.6s						
MKAR	**Makanchi Array**	**24.90**	**19**	P	**P**	**16 59 34.4**	**+2.0**
	comp=Z,1.0nm,0.7s,mb3.5,baz=207,slow=9.7,SNR=4.7						
SONM	**Songino Array**	**37.20**	**41**	P	**P**	**17 01 24.5**	**+3.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=240,slow=7.7,SNR=8.3						
GERES	**GERESS Array B**	**50.98**	**315**	P	**P**	**17 03 12.0**	**+0.2**
	comp=Z,0.9nm,1.1s,mb3.6,baz=76,slow=8.1,SNR=5.9						
ARCES	**ARCESS Array B**	**53.07**	**342**	P	**P**	**17 03 27.5**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=135,slow=7.7,SNR=5.4						
WRA	**Warramunga Arr**	**75.67**	**120**	P	**P**	**17 05 55.6**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.5,baz=314,slow=5.1,SNR=5.8						
ASAR	**Alice Springs**	**77.32**	**123**	P	**P**	**17 06 05.7**	**+0.8**
	comp=Z,0.6nm,1.0s,mb3.5,baz=296,slow=6.0,SNR=6.8						

*IDC **31** 17:01:20.0±13.0,7.12N×126.89E,h113^{km}±141^{km}, mb3.4/5,mb1 3.6/6,mb1mx3.4/19,ML4.4/1,Error ellipse: s-maj=81.8km s-min=15.6km az=75.0*
ISC 31 17:01:10.6±0.8,**7.19N**±0.07×**127.29E**±0.07,**h33**^{km}**,n12,** σ**1**^{s}**32**/17,**mb3.6**/5,**1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.06**	**257**	*e*P	**P**	**17 01 28.3**	**-0.7**
MATI				*e*S	**S**	**17 01 41.3**	**-1.4**
BIPH	**Bislig**	**1.35**	**317**	⇑*i*P	**P**	**17 01 31.9**	**-1.3**
BIPH				*i* S	**S**	**17 01 49.7**	**-0.5**
KCP	**Kidapawan**	**2.19**	**265**	⇓*e*P	**P**	**17 01 46.1**	**+0.8**
KCP				*i* S	**S**	**17 02 17.8**	**+6.2**
BUKP	**Musuan**	**2.31**	**287**	*e*P	**P**	**17 01 47.8**	**+0.7**
BUKP				*e*S	**S**	**17 02 26.9**	**+12**
BUTP	**Butuan**	**2.42**	**317**	*e*P	**P**	**17 01 49.4**	**+0.9**
BUTP				*e*S	**S**	**17 02 35.8**	**+18**
GSPH	**General Santos**	**2.58**	**245**	*i* P	**P**	**17 01 54.0**	**+3.2**
JOW	**Kunigami**	**19.55**	**3**	P	**P**	**17 05 39.8**	**+1.4**
	1.7nm,0.3s,baz=183,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**25.19**	**184**	P	**P**	**17 06 35.1**	**+0.2**
	1.8nm,0.8s,mb3.6,baz=11,slow=13,SNR=6.4						
WRA	**Warramunga Arr**	**27.84**	**166**	P	**P**	**17 06 58.3**	**-1.1**
	0.5nm,0.4s,mb3.5,baz=343,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**31.34**	**168**	P	**P**	**17 07 30.4**	**-0.1**
	0.3nm,0.5s,mb3.4,baz=349,slow=7.3,SNR=8.2						
STKA	**Stephens Creek**	**41.18**	**161**	P	**P**	**17 08 53.7**	**-0.1**
	1.6nm,0.8s,mb3.7,baz=336,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**55.08**	**324**	P	**P**	**17 10 38.9**	**-2.7**
	0.4nm,0.4s,mb3.8,baz=116,slow=7.2,SNR=18						

GUC 31 17:13:12.0±0.7,**35.06S**×**70.50W,h3**^{km}**,MD3.5,ML2.5, 3C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.61**	**316**	⇑*i*P	Pg	17 13 24.4	+0.1
SFDO				*i* S	Sg	17 13 33.8	+1.3
CICH	**Cipreses**	**0.74**	**5**	⇓*i*P	Pg	17 13 26.2	-0.6
CICH				*i* S	Sg	17 13 37.4	+0.6
CACH	**El Canelo**	**0.95**	**355**	⇑*i*P	Pb	17 13 29.9	-0.8
CACH				*i* S	Sb	17 13 43.8	+0.4
CHCH	**Chadas Angostu**	**1.13**	**354**	⇓*i*P	Pb	17 13 33.4	-0.5
LMEL	**Las Melosas**	**1.24**	**12**	*e*P	Pb	17 13 34.8	-0.8
LMEL				*i* S	Sb	17 13 52.7	+0.9
LMEL				AMP		17 13 56.9	
	comp=N,129nm,0.2s						
LNV	**Longovilo**	**1.33**	**325**	⇓*i*P	Pb	17 13 36.9	-0.5
LNV				*i* S	Sb	17 13 55.2	+0.5
PCH	**Pirque**	**1.44**	**360**	*e*P	Pn	17 13 38.8	-0.3
TACH	**Talagante**	**1.45**	**345**	⇑*i*P	Pn	17 13 39.0	-0.3
TACH				*i* S	Sb	17 13 59.3	+1.2
FCH	**Farellones**	**1.74**	**6**	*i* P	Pn	17 13 44.4	+1.1
FCH				*i* S	Sn	17 14 08.5	+2.2
FCH				AMP		17 14 10.3	
	comp=N,133nm,0.1s						
LCCH	**Las Cruces**	**1.81**	**330**	*e*P	Pn	17 13 44.5	+0.1
LCCH				*i* S	Sn	17 14 08.8	+0.6

*IDC **31** 17:20:32.7±0.9,37.69N×66.49E,mb4.1/13,mb1 4.3/15, mb1mx4.2/23,ML4.3/2,MS3.8/1,Ms1 3.8/1,ms1mx3.4/23, Error ellipse: s-maj=21.6km s-min=16.6km az=52.0*
*NEIC **31** 17:20:34.2±0.7,37.83N×66.60E,h10^{km},mb4.3/9,Error ellipse: s-maj=15.0km s-min=8.9km az=51.0*
*BJI **31** 17:20:35.6,37.59N×66.82E,h10^{km},mb4.2,ML4.1*
*MOS **31** 17:20:36.7±1.8,38.06N×66.58E,h33^{km},mb4.3/9,Error ellipse: s-maj=19.9km s-min=9.5km az=83.8*
*NNC **31** 17:20:38.7±1.7,38.06N×66.31E,h89^{km}±20^{km},mpv3.9, Error ellipse: s-maj=16.0km s-min=10.3km az=160.0*
ISC 31 17:20:34.8±2.2,**38.11N**±0.07×**66.46E**±0.06,**h14**^{km}±14^{km}, **n69,**σ**1**^{s}**17**/74,**mb4.0**/14,**MS3.6**/1,**4C-1D,Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.86**	**30**	⇑P	**Pn**	**17 22 04.5**	**+1.0**
	2.8nm,0.2s,baz=214,slow=14,SNR=63						
KK31				⇑S	**Sn**	**17 23 12.0**	**+0.7**
	7.5nm,0.3s,baz=208,slow=25,SNR=4.8						
KKAR	**Karatay Array**	**5.86**	**30**	PN	**Pn**	**17 22 04.5**	**+1.0**
KKAR						17 23 12.6	
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR				smax			
	comp=Z,3.0nm,0.3s						
KKAR				smax			
	comp=Z,4.0nm,0.3s						
AML	**Almayashu**	**6.84**	**52**	P	**Pn**	**17 22 18.5**	**+1.2**
	SNR=40						
EKS2	**Erkin-Say**	**7.20**	**49**	P	**Pn**	**17 22 23.7**	**+1.4**
	SNR=34						
KSH	**Kashi**	**7.56**	**76**	*e*P	**Pn**	**17 22 26.8**	**-0.6**
KSH				S	**Sn**	**17 23 52.3**	**-1.5**
KSH				Smax			
	comp=N,60nm,0.8s						
KSH				Smax			
	comp=E,80nm,0.6s						
AAK	**Ala-Archa**	**7.62**	**51**	P	**Pn**	**17 22 29.6**	**+1.4**
	SNR=17						
AAK	**Ala-Archa**	**7.62**	**51**	*e*P	**Pn**	**17 22 28.3**	**+0.1**
	comp=E,26nm,0.4s						
KBK	**Karagaybulak**	**7.91**	**52**	P	**Pn**	**17 22 33.4**	**+1.1**
	SNR=20						
CHMS	**Chumysh**	**7.98**	**50**	P	**Pn**	**17 22 33.8**	**+0.5**
	SNR=6.3						
USP	**Ospenovka**	**7.99**	**47**	P	**Pn**	**17 22 33.6**	**+0.3**
	SNR=16						
TKM2	**Tokmak 2**	**8.46**	**53**	P	**P**	**17 22 40.0**	**+0.2**
	SNR=15						
ULHL	**Ulahol**	**8.55**	**58**	P	**P**	**17 22 42.3**	**+1.1**
	SNR=6.7						
SDNR	**Sundarnagar**	**10.87**	**124**	*e*P	**P**	**17 23 06.2**	**-6.9**
AB31	**Akbulak array**	**12.09**	**339**	P	**P**	**17 23 27.6**	**-2.0**
	comp=E,1.9nm,0.4s,baz=159,slow=14,SNR=136						
AB31	**Akbulak array**	**12.09**	**339**	P	**P**	**17 23 27.6**	**-2.0**
AB31				*e*		17 25 38.5	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AB31				smax			
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**14.54**	**48**	P	**P**	**17 24 00.6**	**-1.3**
	comp=Z,4.6nm,0.5s,baz=248,slow=13,SNR=61						
MKAR	**Makanchi Array**	**14.54**	**48**	Pn	**P**	**17 24 00.2**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=234,slow=11,SNR=10						
ZRNK	**Zerenda**	**14.95**	**6**	⇑P	**P**	**17 24 05.8**	**-1.5**
	comp=Z,3.5nm,0.4s						
ZRNK	**Zerenda**	**14.95**	**6**	P	**P**	**17 24 05.1**	**-2.1**
ZRNK				S	**S**	**17 26 46.5**	**-6.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK				smax			
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**14.95**	**6**	*e*P	**P**	**17 24 04.9**	**-2.4**
	comp=Z,9.6nm,0.4s						
VOSK	**Vostochnaya**	**14.95**	**11**	⇓P	**P**	**17 24 06.0**	**-1.3**
	comp=Z,1.7nm,0.3s						
BVA0	**Borovoye Array**	**15.16**	**9**	P	**P**	**17 24 08.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=192,slow=11,SNR=92						
BVAR	**Borovoye Array**	**15.16**	**9**	Pn	**P**	**17 24 09.1**	**-1.0**
	comp=Z,4.2nm,0.3s,baz=180,slow=11,SNR=88						
BVAR				Sn	**S**	**17 26 52.2**	**-6.3**
	comp=Z,1.1nm,0.3s,baz=198,slow=19,SNR=6.2						
BRVK	**Borovoye**	**15.18**	**9**	P	**P**	**17 24 09.0**	**-1.4**
BRVK				S	**S**	**17 26 49.7**	**-9.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK				smax			
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**15.18**	**9**	*e*P	**P**	**17 24 08.8**	**-1.5**
	comp=Z,22nm,0.4s						
KURK	**Kurchatov**	**15.28**	**31**	⇑P	**P**	**17 24 11.3**	**-0.3**
	comp=Z,9.2nm,0.9s,baz=213,slow=8.5,SNR=27						
KURK	**Kurchatov**	**15.28**	**31**	P	**P**	**17 24 17.4**	**+5.8**
	comp=Z,140nm,0.8s,SNR=17						
KURK	**Kurchatov**	**15.28**	**31**	P	**P**	**17 24 12.2**	**+0.5**
	comp=Z,22nm,0.8s						
WMQ	**Urumqi**	**17.01**	**64**	P	**P**	**17 24 35.0**	**+1.2**
KOLN	**Koldanda**	**17.68**	**121**	*e*P	**P**	**17 24 36.4**	**-5.9**
	comp=Z,9.0nm,0.5s						
GKN	**Gorkha**	**18.24**	**118**	*e*P	**P**	**17 24 43.8**	**-5.6**
	comp=Z,37nm,0.4s						
DMN	**Daman**	**18.81**	**118**	*e*P	**P**	**17 24 50.8**	**-5.5**
	comp=Z,12nm,0.5s						
KKN	**Kakani**	**18.82**	**118**	*e*P	**P**	**17 24 50.8**	**-5.6**
	comp=Z,19nm,0.5s						
PKI	**Pulchoki**	**19.05**	**118**	*e*P	**P**	**17 24 54.0**	**-5.1**
	comp=Z,9.7nm,0.4s						
ARU	**Arti**	**19.07**	**346**	*e*P	**P**	**17 24 58.9**	**-0.2**
	comp=Z,3.5nm,0.4s						
ZAL	**Zalesovo**	**20.22**	**33**	P	**P**	**17 25 10.9**	**-1.1**
	comp=Z,7.3nm,0.7s,baz=160,slow=11,SNR=38						
ZAL				LR	LR	17 33 41.4	
	comp=Z,234nm,18.3s,MS3.6,baz=246,slow=38						
ZAL	**Zalesovo**	**20.22**	**33**	P	**P**	**17 25 10.9**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,234nm,18.3s						
NVS	**Novosibirsk**	**20.24**	**29**	*e*P	**P**	**17 25 10.9**	**-1.4**
LSA	**Lhasa**	**22.10**	**105**	P	**P**	**17 25 30.5**	**-0.8**
GTA	**Gaotai**	**25.96**	**77**	*e*P	**P**	**17 26 10.0**	**+1.4**
GTA				AP	pP	17 26 16.3	+3.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.8						
ZAK	**Zakamensk**	**28.79**	**53**	*e*P	**P**	**17 26 35.2**	**+1.0**
AKASG	**Malin Array Be**	**29.10**	**308**	P	**P**	**17 26 38.0**	**+1.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=107,slow=8.3,SNR=4.9						
AKASG	**Malin Array Be**	**29.10**	**308**	P	**P**	**17 26 38.1**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**30.50**	**58**	P	**P**	**17 26 49.2**	**-0.3**
	comp=Z,1.1nm,1.0s,mb3.5,baz=262,slow=8.7,SNR=5.1						
FINES	**FINESS Array B**	**34.13**	**326**	P	**P**	**17 27 21.4**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=129,slow=12,SNR=10						
FINES	**FINESS Array B**	**34.13**	**326**	P	**P**	**17 27 21.4**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**34.13**	**326**	P	**P**	**17 27 21.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**34.41**	**116**	P	**P**	**17 27 18.6**	**-5.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=293,slow=6.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**34.41**	**116**	P	**P**	**17 27 18.7**	**-5.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**38.29**	**338**	P	**P**	**17 27 57.6**	**+1.5**
	comp=Z,1.5nm,0.7s,mb3.8,baz=127,slow=8.2,SNR=17						
ARCES	**ARCESS Array B**	**38.29**	**338**	P	**P**	**17 27 57.6**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**40.90**	**322**	P	**P**	**17 28 18.4**	**+0.5**
	comp=Z,2.2nm,0.5s,mb4.0,baz=99,slow=7.9						

NOA	NORSAR Array B	40.90	322	P	P	17 28 18.8	+0.9
	comp=Z,1.8nm,0.5s,mb4.0,baz=100,slow=8.2,SNR=11						
NOA	NORSAR Array B	40.90	322	P	P	17 28 18.8	+0.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	40.90	322	P	P	17 28 18.8	+0.9
YAK	Yakutsk	44.80	37	P	P	17 28 49.7	+0.1
	comp=Z,14nm,0.7s,mb4.9						
INK	Inuvik	72.85	8	P	P	17 32 05.2	+0.9
	comp=Z,3.4nm,0.7s,mb4.4,baz=8.7,slow=5.4,SNR=6.6						
INK	Inuvik	72.85	8	P	P	17 32 05.2	+0.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	72.85	8	P	P	17 32 05.2	+0.9
ILAR	Eielson Array	74.16	14	P	P	17 32 12.6	+0.5
	comp=Z,1.2nm,0.7s,mb3.9,baz=338,slow=4.5,SNR=11						
ILAR	Eielson Array	74.16	14	P	P	17 32 12.6	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	79.74	0	P	P	17 32 43.9	+0.7
	comp=Z,1.1nm,0.7s,mb3.9,baz=354,slow=6.1,SNR=3.8						
YKA	Yellowknife Ar	79.74	0	P	P	17 32 43.9	+0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	79.74	0	P	P	17 32 43.9	+0.7
DLBC	Dease Lake	82.83	9	P	P	17 33 01.9	+2.4
	comp=Z,2.5nm,1.1s,mb4.2,baz=316,slow=12,SNR=4.7						
DLBC	Dease Lake	82.83	9	P	P	17 33 01.9	+2.4
WRA	Warramunga Arr	85.93	119	P	P	17 33 13.7	-2.3
	comp=Z,1.2nm,0.7s,mb4.3,baz=324,slow=5.0,SNR=8.3						
WRA	Warramunga Arr	85.93	119	P	P	17 33 13.7	-2.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	88.16	122	P	P	17 33 25.2	-1.5
	comp=Z,1.2nm,0.7s,mb4.2,baz=316,slow=4.5,SNR=8.2						

IDC 31 17:21:26.2±3.6**,48.40S**×**115.39E,mb3.8**/2**,mb1 4.1**/2**, mb1mx3.6**/10**,Error ellipse: s-maj=385.0km s-min=66.7km az=123.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.72	37	P	P	17 27 25.5	-1.7
	0.4nm,0.5s,baz=208,slow=8.1,SNR=9.4						
WRA	Warramunga Arr	32.25	35	P	P	17 27 56.2	-2.3
	1.3nm,0.6s,baz=206,slow=10.0,SNR=26						
YKA	Yellowknife Ar	149.23	44	PKPbc	PKPdf	17 41 14.8	+1.9
	1.0nm,0.7s,baz=277,slow=3.9,SNR=7.2						

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*NEIC **31** 17:23:49.4±5.6,22.10S×170.19E,h22^{km}±37^{km},mb4.8/5, Error ellipse: s-maj=25.9km s-min=12.7km az=219.0*

*IDC **31** 17:23:52.4±9.2,22.28S×170.24E,h46^{km}±87^{km},mb3.9/8, mb1 4.1/9,mb1mx4.0/15,ML4.1/1,MS3.8/4,Ms1 3.8/4, ms1mx3.6/15,Error ellipse: s-maj=60.6km s-min=31.0km az=9.0*

ISC 31 17:23:50.4±1.6**,22.18S**±0.10×**170.08E**±0.08**,h40**^{km}±13^{km}**, n36,**σ1^{s}**11**/23**,mb4.3**/11**,MS3.7**/3**,3C-2D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.37	271	*e*P	P	17 24 42.0	0.0
DZM				*e*S	S	17 25 22.4	+1.1
NOUC	Port Laguerre	3.50	270	⇓*e*P	P	17 24 44.5	+0.8
NOUC				*e*S	S	17 25 22.6	-1.9
BKM	Butte a Klehm	4.80	339	⇑*i*P	P	17 25 02.2	-0.1
URZ	Urewera	17.13	161	P	P	17 27 48.3	-0.2
	0.6nm,0.3s,baz=344,slow=7.4,SNR=4.0						
URZ				LR	LR	17 32 45.0	
	comp=Z,379nm,18.3s,baz=258,slow=31						
CTA	Charters Tower	22.32	271	P	P	17 28 48.4	+2.4
	6.4nm,0.8s,mb4.1,baz=95,slow=12,SNR=4.9						
CTA				LR	LR	17 36 23.8	
	comp=Z,313nm,18.7s,MS3.8,baz=272,slow=33						
CTAO	Charters Tower	22.32	271	*e*P	P	17 28 45.1	-0.9
	45nm,1.4s,mb4.7						
STKA	Stephens Creek	27.08	243	*e*P	P	17 29 32.6	+1.1
	3.1nm,0.8s,mb3.9						
STKA	Stephens Creek	27.08	243	P	P	17 29 30.9	-0.5
	1.1nm,0.4s,mb3.7,baz=80,slow=12,SNR=8.5						
ASAR	Alice Springs	33.30	260	P	P	17 30 26.6	0.0
	1.4nm,0.8s,mb3.9,baz=87,slow=8.4,SNR=14						
ASAR				LR	LR	17 42 54.5	
	comp=Z,97nm,19.6s,MS3.5,baz=98,slow=34						
WB2	Warramunga Arr	33.37	267	*e*P	P	17 30 26.6	-0.7
WRAB	Tennant Creek	33.37	267	*e*P	P	17 30 26.4	-0.9
	13nm,1.0s,mb4.8						
WRA	Warramunga Arr	33.38	267	P	P	17 30 26.8	-0.6
	1.5nm,0.6s,mb4.1,baz=98,slow=8.3,SNR=33						
WRA				LR	LR	17 43 12.1	
	comp=Z,229nm,20.2s,MS3.9,baz=120,slow=35						
KAKA	Kakadu	37.07	278	*e*P	P	17 30 58.5	-0.3
	13nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	41.81	267	*e*P	P	17 31 43.7	+5.5
	8.2nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	41.81	267	P	P	17 31 38.8	+0.6
	3.3nm,1.0s,mb3.9,baz=100,slow=6.1,SNR=2.6						
QSPA	South Pole Qui	67.89	180	*e*P	P	17 34 45.9	-0.4
	7.8nm,0.9s,mb4.7						
CMAR	Chiang Mai Arr	80.42	294	P	P	17 36 02.4	+2.4
	2.2nm,0.9s,mb4.1,baz=138,slow=4.4,SNR=13						
SNAA	Sanae	86.28	182	⇑*i*	P	17 36 27.7	-0.9
VNA2	Neumayer--Watz	87.14	181	⇓*i*	P	17 36 35.4	+2.6
SONM	Songino Array	90.03	323	P	P	17 36 47.9	+0.9
	1.7nm,0.6s,mb4.5,baz=125,slow=4.5,SNR=15						
ILAR	Eielson Array	92.79	17	P	P	17 36 57.9	-1.6
	0.4nm,0.6s,mb4.1,baz=241,slow=6.6,SNR=4.5						
ARCES	ARCESS Array B	128.09	345	PKP	PKPdf	17 42 52.1	+0.2
	0.7nm,0.5s,baz=88,slow=2.0,SNR=13						
VYHS	Vyhne	145.16	326	*e*PKP	PKPdf	17 43 25.3	+1.8
VYHS				*e*		17 43 29.4	
VYHS				*e*		17 43 37.2	
VYHS				*e*		17 43 44.4	
DPC	Dobruska-Polom	145.16	330	*e*PKP	PKPdf	17 43 25.1	+1.6
UPC	Upice	145.19	331	*e*PKP	PKPdf	17 43 24.9	+1.4
PVCC	Panska Ves	145.82	332	*e*PKP	PKPdf	17 43 26.7	+2.1
CLL	Collm	145.89	334	⇑*i*PKP1	PKPbc	17 43 27.0	+1.4
CLL				*e*		17 43 35.0	
PRU	Pruhonice	146.22	331	*e*PKP	PKPdf	17 43 28.8	+3.5
KHC	Kasperske Hory	147.28	331	*e*PKP	PKPdf	17 43 31.6	+4.5
GERES	GERESS Array B	147.43	331	PKPbc	PKPdf	17 43 31.3	+4.0
	1.7nm,0.4s,baz=38,slow=3.3,SNR=19						
GRA1	Grafenberg Arr	147.87	334	*e*PKP	PKPdf	17 43 35.9	+7.9
HINF	Hinteralfeld	151.09	336	*e*PKIKP	PKPdf	17 43 40.5	+7.4
	3.1nm,0.4s						
HAU	Haudompre	151.12	337	*e*PKIKP	PKPdf	17 43 40.3	+7.1
	2.3nm,0.3s						
CABF	La Chapelle	152.38	336	*e*PKIKP	PKPdf	17 43 43.5	+8.4
	4.0nm,0.6s						
LOR	Lormes	152.61	339	*e*PKIKP	PKPdf	17 43 45.3	+10
	3.2nm,0.5s						
SMF	Signal de Mont	153.16	339	*e*PKIKP	PKPdf	17 43 43.7	+7.5

DJA 31 17:43:18.2±0.8**,8.47S**×**116.18E,h108**^{km}±5^{km}**,MD4.9**/4**, ML4.3**/1**,3C-7D,Error ellipse: s-maj=25.1km s-min=12.9km az=173.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.07	256	⇓*e*Pn	P	17 43 32.8	-0.4
	120nm,0.2s						
KEDI	Kedomdong	0.07	256	⇑*i*P	P	17 43 33.0	-0.2
KEDI				⇓*i*Sn	S	17 43 44.1	-0.2
RATI	Rata	0.69	248	⇓*i*Pn	P	17 43 36.1	-0.3
RATI				⇓*i*Sn	S	17 43 50.0	-0.1
INGI	Ingas	1.08	251	⇓*i*Pn	P	17 43 40.1	-0.3
	384nm,0.2s						
INGI	Ingas	1.08	251	⇓*i*P	P	17 43 40.2	-0.2
INGI				⇑*i*Sn	S	17 43 56.7	-0.3
KELI	Kelakatan	1.69	278	⇑*i*Pn	P	17 43 47.8	+0.2
KELI				⇓*i*Sn	S	17 44 08.3	-1.4

GUC 31 18:10:23.4±0.6**,34.14S**×**72.28W,h39**^{km}±2^{km}**,MD3.7, ML3.0,2C-7D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.74	76	⇓*i*P	P	18 10 37.6	+0.1
LNV				*i* S	S	18 10 48.4	+0.7
LCCH	Las Cruces	0.88	42	⇓*i*P	P	18 10 40.0	+0.6
LCCH				*i* S	S	18 10 51.9	+0.7
SFDO	San Fernando	1.15	115	⇑*i*P	P	18 10 43.7	+0.5
SFDO				*i* S	S	18 10 59.9	+1.9
TACH	Talagante	1.21	67	⇓*i*P	P	18 10 44.6	+0.5
TACH				*i* S	S	18 11 00.8	+1.2
CHCH	Chadas Angostu	1.36	82	⇓*i*P	P	18 10 47.0	+0.7
CHCH				*i* S	S	18 11 05.3	+1.8
CACH	El Canelo	1.39	90	⇑*i*P	P	18 10 48.0	+1.2
CICH	Cipreses	1.55	97	*e*P	P	18 10 49.9	+0.9
PCH	Pirque	1.55	71	⇓*i*P	P	18 10 49.6	+0.5
PCH				*i* S	S	18 11 09.8	+1.6
CLCH	Cerro Calan	1.63	63	AMP		18 11 21.0	
	comp=E,222nm,0.4s						
PEL	Peldehue	1.66	54	AMP		18 11 22.7	
	comp=N,298nm,0.2s						
LMEL	Las Melosas	1.75	81	⇓*i*P	P	18 10 53.0	+1.3
LMEL				AMP		18 11 22.6	
	comp=N,252nm,0.2s						
FCH	Farellones	1.84	65	⇓*i*P	P	18 10 54.4	+1.3
FCH				*i* S	S	18 11 18.2	+2.9
FCH				AMP		18 11 25.5	
	comp=E,194nm,0.2s						

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*BER **31** 18:14:37.6±1.2,59.36N×11.00E,h0^{km}±39^{km}, ML2.0(NAO)*

NAO 31 18:14:34.8±2.6**,59.30N**×**10.92E,ML2.0,Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NC6	NORSAR Subarra	1.48	10	Pn	Pn	18 15 02.3	-0.5
NC6				Lg		18 15 21.2	
HFS	Hagfors	1.64	58	Pn	Pn	18 15 05.1	0.0
	baz=236,slow=16						
HFS				Lg		18 15 26.0	
	baz=241,slow=37						
NB2	NORSAR Subarra	1.75	5	Pn	Pn	18 15 06.3	-0.4
NB2				Lg		18 15 29.2	

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*IDC **31** 18:17:16.7±0.7,21.05S×169.21E,mb4.7/13,mb1 4.9/14, mb1mx4.9/17,ML3.9/1,MS4.8/14,Ms1 4.8/14, ms1mx4.7/20,Error ellipse: s-maj=26.0km s-min=17.4km az=154.0*

*HRVD **31** 18:17:18.0±0.2,21.16S×169.13E,h18^{km},MW5.4/65, Centroid moment Tensor Solution. LP body waves: s53,c100;Mantle waves: s65,c117; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.82±.03; M$_{\theta\theta}$0.10±.02; M$_{\phi\phi}$-0.92±.02; M$_{r\theta}$0.04±.04; M$_{\theta\phi}$0.29±.01; M$_{\phi r}$-1.02±.06; Best double couple: M$_0$1.37×10^{17} NP1:ϕ_s332°,δ22°,λ68°. NP2:ϕ_s175°,δ69°,λ99°. Principal axes: T 1.3, Plg65°, Azm100°; N .14, Plg8°, Azm352°; P -1.44, Plg24°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 18:17:18.0±0.2,21.11S×169.24E,h10^{km},mb5.2/40, MS5.1/9 Error ellipse: s-maj=10.0km s-min=6.0km az=155.0*

*BJI **31** 18:17:18.3,20.80S×169.85E,h18^{km},mB5.1,mb5.0, Ms5.0,Msz4.9*

*LDG **31** 18:17:19.9±0.3,20.91S×168.64E,h10^{km},Mb4.9/4, Ms4.9/8,Error ellipse: s-maj=28.7km s-min=5.8km az=145.0*

*MOS **31** 18:17:21.7±1.5,21.16S×169.02E,h33^{km},mb4.8/11, MS5.0/10,Error ellipse: s-maj=22.1km s-min=21.3km az=179.1*

ISC 31 18:17:16.4±2.8**,21.20S**±0.06×**169.23E**±0.05**,h8**^{km}±17^{km}**, h13**^{km}±3.7^{km}**:pP-P,n189,**σ1^{s}**13**/108**,mb5.1**/52**,MS4.9**/21**, 14C-10D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.73	251	⇓*e*P	Pn	18 18 00.1	-1.2
DZM				*e*S	Sn	18 18 34.4	-0.6
DZM	Mont Dzumac	2.73	251	⇓*e*P	Pn	18 18 00.1	-1.2
DZM				*e*S	Sn	18 18 34.4	-0.6
NOUC	Port Laguerre	2.86	251	⇓*e*P	Pn	18 18 02.3	-1.0
NOUC				*e*S	Sn	18 18 37.7	-0.7
NOUC	Port Laguerre	2.86	251	⇓*e*P	Pn	18 18 02.3	-1.0
NOUC				*e*S	Sn	18 18 37.7	-0.7
BKM	Butte a Klehm	3.63	345	*i* P	Pn	18 18 15.0	+0.9
HNR	Honiara	14.72	321	*e*P	P	18 20 54.0	+7.0
URZ	Urewera	18.32	160	P	P	18 21 34.4	+1.8
	0.4nm,0.3s,baz=356,slow=7.9,SNR=13						
URZ				LR	LR	18 27 43.9	
	comp=Z,4µm,19.1s,baz=214,slow=34						
RIV	Riverview	20.34	228	*e*P	P	18 21 58.7	+2.8
CTA	Charters Tower	21.52	269	⇑*i*P	P	18 22 08.9	+0.7
	38nm,1.1s,mb4.7						
CTA				*e*S	S	18 26 10.3	+8.3
CTA	Charters Tower	21.52	269	P	P	18 22 08.4	+0.2
	34nm,0.9s,mb4.8,baz=96,slow=11,SNR=17						
CTA	Charters Tower	21.52	269	P	P	18 22 08.4	+0.2
CTA				pmax	pmax		
	comp=Z,35nm,0.9s						
CTAO	Charters Tower	21.52	269	*e*P	P	18 22 08.7	+0.5
	comp=Z,203nm,1.4s,mb5.4						
CNB	Canberra Magne	22.39	227	*e*P	P	18 22 21.0	+4.3
	comp=Z,131nm,1.2s,mb5.2						
TOO	Toolangi	26.23	226	*e*P	P	18 22 56.2	+2.5
	comp=Z,22nm,1.1s,mb4.6						
TOO				*e*S	S	18 27 43.7	+20
STKA	Stephens Creek	26.84	241	⇑*i*P	P	18 22 59.5	+0.2
	comp=Z,25nm,1.5s,mb4.5						
STKA				*e*S	S	18 28 01.4	+27
STKA	Stephens Creek	26.84	241	P	P	18 22 59.8	+0.5
	comp=Z,44nm,1.2s,mb4.8,baz=71,slow=10,SNR=18						
STKA				LR	LR	18 32 44.1	
	comp=Z,4µm,20.6s,MS5.0,baz=75,slow=34						
RAR	Rarotonga	28.88	96	LR	LR	18 32 22.2	
	comp=Z,1µm,20.4s,MS4.4,baz=261,slow=31						
WB2	Warramunga Arr	32.64	266	*e*P	P	18 23 50.3	-0.8
WRAB	Tennant Creek	32.64	266	*e*P	P	18 23 49.9	-1.2
	comp=Z,63nm,1.4s,mb5.3						
WRA	Warramunga Arr	32.65	266	P	P	18 23 49.8	-1.4
	comp=Z,6.4nm,0.9s,mb4.5,baz=94,slow=8.1,SNR=40						
WRA				LR	LR	18 37 31.9	
	comp=Z,5µm,18.4s,MS5.2,baz=95,slow=37						
WRA	Warramunga Arr	32.65	266	P	P	18 23 49.8	-1.4
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,5µm,18.4s						
WRA	Warramunga Arr	32.65	266	P	P	18 23 49.8	-1.4
WRA				LR	LR	18 37 31.9	
ASAR	Alice Springs	32.69	259	P	P	18 23 50.1	-1.5
	comp=Z,11nm,0.9s,mb4.8,baz=84,slow=8.6,SNR=60						
ASAR				PcP	PcP	18 26 37.2	-0.2
	comp=Z,2.8nm,0.9s,baz=108,slow=4.3,SNR=4.1						
ASAR				LR	LR	18 37 38.5	
	comp=Z,1µm,18.4s,MS4.6,baz=89,slow=37						
ASPA	Alice Springs	32.70	259	*e*P	P	18 23 50.3	-1.3
KAKA	Kakadu	36.15	277	*e*P	P	18 24 20.9	-0.5
	comp=Z,11nm,1.0s,mb4.8						
FORT	Forrest	38.03	247	*e*P	P	18 24 37.6	+0.5
	comp=Z,40nm,0.7s,mb5.3						
TBI	Tubuai	38.20	101	*e*S	S	18 30 16.0	-16
TBI				*e*L		18 33 09.5	
TBI				*e*R		18 35 11.6	
	comp=Z,1µm,26.0s,baz=257						
PPT	Papeete	38.96	92	*e*S	S	18 30 27.7	-16
PPT				*e*L		18 33 25.1	
PPT				*e*R		18 35 20.1	
	comp=Z,3µm,26.5s,baz=257						
FITZ	Fitzroy Crossi	41.07	266	*e*P	P	18 25 01.9	-0.5
	comp=Z,21nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	41.07	266	P	P	18 25 01.7	-0.7
	comp=Z,55nm,1.2s,mb5.1,baz=139,slow=6.5,SNR=30						
KLBR	Kellerberrin	46.89	246	⇑*i*P	P	18 25 48.9	-0.3
	comp=Z,20nm,0.7s,mb5.2						
NWAO	Narrogin (SRO)	47.33	244	LR	LR	18 45 14.3	
	comp=Z,4µm,20.3s,MS5.4,baz=158,slow=35						
RKT	Rikitea	51.45	103	*e*S	S	18 33 27.2	-16
RKT				*e*L		18 38 56.5	
RKT				*e*R		18 41 11.2	
	comp=Z,912nm,23.5s						
SBA	Scott Base	56.72	181	*e*P	P	18 27 02.3	-0.2
	comp=Z,52nm,1.2s,mb5.4						
CASY	Casey	58.34	204	*e*P	P	18 27 13.4	-0.6
	comp=Z,35nm,1.3s,mb5.2						
JOW	Kunigami	62.07	318	LR	LR	18 51 02.0	
	comp=Z,324nm,21.0s,MS4.5,baz=302,slow=33						
MAT	Matsushiro	64.47	333	P	P	18 27 54.5	-1.4
MAT	Matsushiro	64.47	333	*e*P	P	18 27 55.0	-0.9
	comp=Z,7.0nm,1.0s,mb4.7						
JNU	Nakatsue	65.25	325	P	P	18 27 59.4	-1.7
	comp=Z,10nm,0.9s,mb4.8,baz=52,slow=6.6,SNR=4.1						
JNU				LR	LR	18 55 52.1	
	comp=Z,379nm,18.1s,MS4.6,baz=285,slow=36						
MIR	Mirnyy	65.27	205	P	P	18 28 00.0	-0.5
MIR				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
QSPA	South Pole Qui	68.87	180	*e*P	P	18 28 22.2	-0.9
	comp=Z,50nm,1.0s,mb5.4						
ASAJ	Asahikawa	69.42	340	LR	LR	18 55 56.5	
	comp=Z,942nm,19.7s,MS5.0,baz=143,slow=34						
KKTK	Khon Kaen	75.04	294	P	P	18 29 00.0	-0.9
CN2	Changchun	76.12	329	*e*P	P	18 29 07.8	+1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MAW	Mawson	76.63	202	*e*P	P	18 29 10.3	+1.4
	comp=Z,7.6nm,0.9s,mb4.6						
MAW	Mawson	76.63	202	P	P	18 29 09.7	+0.8
	comp=Z,7.2nm,0.9s,mb4.6,baz=112,slow=9.0,SNR=8.8						
MAW				LR	LR	18 59 28.8	
	comp=Z,759nm,18.1s,MS5.0,baz=96,slow=33						
MAW	Mawson	76.63	202	P	P	18 29 09.7	+0.8
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAW				MLR	MLR		
	comp=Z,759nm,18.1s						
MAW	Mawson	76.63	202	*e*P	P	18 29 10.0	+1.1
	comp=Z,26nm,1.0s,mb5.1						
ENH	Enshi	76.91	310	*e*P	P	18 29 11.3	+0.1
	comp=Z,45nm,1.1s,mb5.3						
NANT	Nan	77.97	296	P	P	18 29 18.5	+1.2
BJI	Beijing	78.44	321	*e*P	P	18 29 28.7	+9.2
	comp=Z,11nm,1.4s,mb4.6						
BJI				S	S	18 39 18.3	+3.9
BJI				LR	LR		
	comp=Z,260nm,21.7s,MS4.5						
CHRT	Chiangrai	79.22	296	P	P	18 29 26.0	+1.8
	comp=Z,145nm,0.9s,mb5.9						
CMAR	Chiang Mai Arr	79.30	295	P	P	18 29 25.1	+0.6
	comp=Z,3.6nm,0.6s,mb4.5,baz=131,slow=4.5,SNR=33						
CMAR	Chiang Mai Arr	79.30	295	P	P	18 29 25.2	+0.6
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMI	Kunming	79.30	302	⇑*e*P	P	18 29 27.0	+2.5
KMI				S	S	18 39 27.0	+3.2
KMI				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
CHG	Chiang Mai	79.45	295	⇓P	P	18 29 27.1	+1.7
HHC	Hu-ho-hao-te	81.69	320	P	P	18 29 39.3	+2.4
HHC				AP	pP	18 29 47.5	+8.2
HHC				S	S	18 39 52.8	+4.4
HHC				SS	SS	18 45 08.0	-1.0
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,94nm,3.9s						
HHC				LR	LR		
	comp=N,145nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=E,148nm,17.8s,MS4.6						
SYO	Syowa Base	83.06	196	⇓P	P	18 29 43.5	+0.1
SYO	Syowa Base	83.06	196	⇓P	P	18 29 49.8	+6.4
LZH	Lanzhou	84.02	312	⇑P	P	18 29 52.0	+3.0
LZH				AP	pP	18 29 56.5	+5.0
LZH				XP	sP	18 30 02.0	+10
LZH				PP	PP	18 33 06.0	+1.3
LZH				S	S	18 40 11.0	-1.1
LZH				AMB	AMB		
	comp=Z,74nm,1.7s,mb5.5						
LZH				AMB	AMB		
	comp=Z,152nm,4.0s						
LZH				LR	LR		
	comp=E,892nm,18.0s						
LZH				LR	LR		
	comp=Z,985nm,19.4s,MS5.2						
LZH	Lanzhou	84.02	312	⇑P	P	18 29 52.0	+3.0
	comp=Z,74nm,1.7s,mb5.5						
LZH				pP	pP	18 29 56.5	+5.0
LZH				sP	sP	18 30 01.9	+10
LZH				PP	PP	18 33 06.0	+1.3
LZH				S	S	18 40 11.0	-1.1
LZH				sS		18 40 21.0	
LZH				SS	SS	18 45 33.4	-10
LZH				LR	LR		
	comp=Z,990nm,19.4s,MS5.2						
SEY	Seymchan	84.90	352	*e*P	P	18 29 53.0	+0.3
SEY				*e*		18 40 16.9	
SEY				*e*		18 41 41.1	
HOPS	Hopland	87.10	46	*e*P	P	18 30 03.4	-0.8
	comp=Z,17nm,1.1s,mb5.2						
SAO	San Andreas Ge	87.11	49	*e*P	P	18 30 03.4	-0.9
	comp=Z,15nm,1.0s,mb5.2						
SNAA	Sanae	87.22	183	⇓*i*	P	18 30 03.4	-0.6
SNAA	Sanae	87.22	183	⇑*i*	P	18 30 04.7	+0.7
SNAA	Sanae	87.22	183	*e*P	P	18 30 03.1	-1.0
	comp=Z,34nm,1.1s,mb5.5						
KHMM	Horse Mountain	87.61	44	P	P	18 30 07.2	+0.6
VNA2	Neumayer--Watz	88.10	181	⇑*i*	P	18 30 12.3	+4.0
VNA2	Neumayer--Watz	88.10	181	⇑*i*P	P	18 30 11.0	+2.7
VNA2				⇑*i*P	pP	18 30 12.3	+1.6
WDC	Whiskeytown Da	88.24	45	*e*P	P	18 30 10.4	+0.8
	comp=Z,12nm,1.0s,mb5.1						
VNA1	Neumayer--Stat	88.39	181	⇑*i*	P	18 30 13.7	+4.0
VNA1	Neumayer--Stat	88.39	181	⇑*i*P	P	18 30 11.8	+2.1
VNA1				⇑*i*P	pP	18 30 13.7	+1.6
GTA	Gaotai	88.45	313	*e*P	P	18 30 12.5	+1.8
GTA				AP	pP	18 30 18.3	+5.1
GTA				AMB	AMB		
	comp=Z,43nm,4.9s						
CMB	Columbia Colle	88.47	48	*e*P	P	18 30 09.5	-1.2
	comp=Z,12nm,1.0s,mb5.1						
YBH	Yreka Blue Hor	88.71	44	P	P	18 30 11.7	-0.2
	comp=Z,2.5nm,0.9s,mb4.6,baz=135,slow=2.7,SNR=6.5						
YBH	Yreka Blue Hor	88.71	44	P	P	18 30 11.7	-0.2
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	Yakutsk	88.72	343	*d* *i*P	P	18 30 11.5	+0.1
YAK	Yakutsk	88.72	343	*e*P	P	18 30 11.4	0.0
	comp=Z,17nm,0.8s,mb5.4						
SONM	Songino Array	88.77	323	P	P	18 30 11.5	-0.5
	comp=Z,4.3nm,1.1s,mb4.7,baz=125,slow=4.4,SNR=17						
HUMO	Hull Mountain	88.99	43	*e*P	P	18 30 11.1	-2.1
	comp=Z,8.6nm,1.0s,mb5.0						
MTUM	Tungsten Hills	89.42	49	*e*P	P	18 30 15.3	-0.1
PAHR	Pah Rah Range	89.94	47	*e*P	P	18 30 16.3	-1.5
	comp=Z,8.7nm,0.9s,mb5.1						
NVAR	Mina Array Bea	90.10	48	P	P	18 30 18.0	-0.5
	comp=Z,5.4nm,0.8s,mb5.0,baz=216,slow=4.9,SNR=30						
MNV	Mina	90.21	49	*e*P	P	18 30 18.0	-1.0
	comp=Z,14nm,1.0s,mb5.3						
LSA	Lhasa	90.54	302	P	P	18 30 23.0	+2.3
LSA	Lhasa	90.54	302	*e*P	P	18 30 22.5	+1.8
	comp=Z,11nm,1.0s,mb5.1						
TPH	Tonopah	90.70	49	*e*P	P	18 30 21.2	-0.1
	comp=Z,12nm,0.9s,mb5.2						
TPNV	Topopah Spring	90.90	51	*e*P	P	18 30 21.4	-0.8
	comp=Z,14nm,0.9s,mb5.3						
LDFC	Landfair	90.92	53	*e*P	P	18 30 22.7	+0.3
BOD	Bodaibo	91.08	334	*e*P	P	18 30 18.1	-4.4
NEN	Nelson	91.36	52	*e*P	P	18 30 23.0	-1.3
WVOR	Wild Horse Val	91.70	45	*e*P	P	18 30 25.2	-0.6
	comp=Z,3.8nm,0.7s,mb4.8						
ZAK	Zakamensk	91.87	324	*e*P	P	18 30 26.6	+0.3
ILAR	Eielson Array	92.09	17	P	P	18 30 26.5	-0.5
	comp=Z,0.9nm,0.7s,mb4.2,baz=239,slow=6.0,SNR=6.0						
ILAR				LR	LR	19 09 39.9	
	comp=Z,343nm,18.2s,MS4.8,baz=245,slow=34						
ILAR	Eielson Array	92.09	17	P	P	18 30 26.5	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,343nm,18.2s						
TUC	Tucson	93.09	57	*e*P	P	18 30 32.4	0.0
	comp=Z,4.1nm,0.8s,mb4.9						
ELK	Elko	93.25	47	*e*P	P	18 30 32.8	-0.1
	comp=Z,3.1nm,0.8s,mb4.8						
WUAZ	Wupatki	93.89	53	*e*P	P	18 30 34.5	-1.5
	comp=Z,7.3nm,0.8s,mb5.2						
PKI	Pulchoki	94.37	298	*e*P	P	18 30 39.5	+1.1
	comp=Z,31nm,1.1s,mb5.6						
KKN	Kakani	94.56	298	*e*P	P	18 30 39.7	+0.4
	comp=Z,30nm,1.3s,mb5.6						

DMN	Daman	94.64	298	eP	P	18 30 40.9	+1.3
	comp=Z,40nm,1.1s,mb5.8						
GKN	Gorkha	95.17	298	eP	P	18 30 42.4	+0.3
	comp=Z,17nm,1.0s,mb5.5						
SRU	San Rafael	95.91	50	eP	P	18 30 46.4	+1.2
KOLN	Koldanda	95.94	297	eP	P	18 30 46.0	+0.4
	comp=Z,9.9nm,0.9s,mb5.2						
PLCA	Paso Flores	97.08	139	LR	LR	19 05 24.9	
	comp=Z,240nm,18.3s,MS4.7,baz=105,slow=30						
TXAR	Lajitas Array	97.70	62	P	P	18 30 53.0	-0.6
	comp=Z,0.3nm,0.3s,mb4.3,baz=217,slow=6.3,SNR=4.6						
TXAR				LR	LR	19 07 45.7	
	comp=Z,464nm,19.5s,MS5.0,baz=235,slow=31						
TXAR	Lajitas Array	97.70	62	P	P	18 30 53.0	-0.6
TXAR				LR	LR	19 07 45.8	
PDAR	Pinedale Array	97.95	47	LR	LR	19 12 10.2	
	comp=Z,299nm,18.2s,MS4.8,baz=256,slow=34						
MKAR	Makanchi Array	103.11	315	PP	PP	18 35 33.8	-1.2
	comp=Z,1.1nm,0.9s,baz=104,slow=10.0,SNR=4.7						
ARCES	ARCESS Array B	126.94	345	PKP	PKPdf	18 36 20.9	-2.3
	comp=Z,2.8nm,0.8s,baz=49,slow=1.8,SNR=12						
ARCES	ARCESS Array B	126.94	345	PKIKP	PKPdf	18 36 21.0	-2.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	Obninsk	131.11	326	PKIKP	PKPdf	18 36 31.0	-0.7
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.8						
NOA	NORSAR Array B	137.32	344	PKP	PKPdf	18 36 39.8	-3.2
	comp=Z,1.2nm,1.0s,baz=45,slow=2.4,SNR=2.3						
NOA	NORSAR Array B	137.32	344	PKIKP	PKPdf	18 36 39.8	-3.2
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MLR	Muntele Rosu	141.41	318	PKP	PKPdf	18 36 49.6	-1.2
	comp=Z,1.1nm,0.6s,baz=116,slow=9.1,SNR=3.3						
MLR	Muntele Rosu	141.41	318	PKIKP	PKPdf	18 36 49.6	-1.3
MLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OKC	Ostrava-Krasne	143.40	328	LM		19 41 50.0	
	comp=Z,0.3nm,19.9s						
VYHS	Vyhne	143.91	326	ePKP	PKPdf	18 36 52.9	-2.1
VYHS				e		18 36 59.9	
VYHS				e		18 37 21.4	
DPC	Dobruska-Polom	143.92	330	ePKP	PKPdf	18 36 52.2	-2.8
DPC				eAPKP		18 36 57.1	
DPC				LM		19 41 00.0	
	comp=Z,0.4nm,22.0s						
UPC	Upice	143.95	331	ePKP	PKPdf	18 36 52.7	-2.3
UPC				eAPKP		18 37 01.1	
VRAC	Vranov	144.50	329	PKP	PKPdf	18 36 53.1	-3.0
	comp=Z,8.1nm,1.2s,baz=41,slow=3.3,SNR=4.4						
PVCC	Panska Ves	144.59	332	ePKP	PKPdf	18 36 54.1	-2.1
PVCC				LM		19 42 00.0	
	comp=Z,0.3nm,20.3s						
BRG	Berggiesshubel	144.60	333	i PKIKP	PKPdf	18 36 54.5	-1.7
BRG				i		18 37 03.7	
BRG				pmax	pmax		
	comp=Z,44nm,1.5s						
CLL	Collm	144.67	334	i PKIKP	PKPdf	18 36 53.7	-2.6
	comp=Z,logA/T=1.1						
CLL				i *PPKP		18 36 59.0	
CLL				i		18 37 03.3	
CLL	Collm	144.67	334	i PKIKP	PKPdf	18 36 53.7	-2.6
CLL				i		18 37 03.3	
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL				MLR	MLR		
	comp=Z,400nm,20.8s,MS5.2						
PRU	Pruhonice	144.99	331	ePKP	PKPdf	18 36 55.2	-1.7
PRU				e		18 37 04.5	
PRU				LM		19 41 30.0	
ZST	Bratislava	144.99	327	ePKP	PKPdf	18 36 55.3	-1.7
ZST				e		18 37 02.5	
ZST				e		18 37 19.8	
SANT	Santorini	145.06	304	ePKPdf	PKPdf	18 36 55.5	-2.0
CLZ	Clausthal	145.27	337	ePKP	PKPdf	18 36 57.0	-0.3
VAY	Valandovo	145.45	313	⇑iP	PKPbc	18 37 02.1	+6.3
ESK	Eskdalemuir	145.46	352	ePKPdf	PKPdf	18 36 54.7	-2.9
NKC	Novy Kostel	145.72	333	ePKP	PKPdf	18 36 58.6	+0.5
NKC				e		18 37 06.8	
NKC				LM		19 44 00.0	
	comp=Z,0.3nm,21.9s						
NKC	Novy Kostel	145.72	333	ePKP2	PKPab	18 36 58.6	+0.4
NKC				MLR	MLR		
	comp=Z,300nm,21.9s,MS5.0						
MOX	Moxa	145.74	334	i P	PKPbc	18 36 58.0	+1.8
	comp=Z,logA/T=1.7						
MOX				L		18 45 18.0	
MOX	Moxa	145.74	334	ePKP2	PKPab	18 36 58.0	-0.3
MOX				pmax	pmax		
	comp=Z,115nm,2.5s						
MOX				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.9						
IDI	Anoyia	145.78	302	PKPbc	PKPbc	18 36 58.6	+1.8
	comp=Z,19nm,1.1s,baz=158,slow=9.5,SNR=4.6						
SKO	Skopje	145.92	315	i P	PKPbc	18 36 59.2	+2.3
KHC	Kasperske Hory	146.04	331	ePKP	PKPdf	18 36 59.2	+0.5
KHC				e		18 37 07.2	
KHC				LM		19 48 30.0	
	comp=Z,0.4nm,17.7s						
KHC	Kasperske Hory	146.04	331	ePKP2	PKPab	18 36 59.2	-0.2
KHC				MLR	MLR		
	comp=Z,400nm,17.7s,MS5.2						
GEC2	GERESS Array S	146.19	331	ePKP2	PKPab	18 36 59.7	-0.3
GERES	GERESS Array B	146.19	331	PKPbc	PKPbc	18 36 58.1	+0.8
	comp=Z,3.8nm,0.8s,baz=45,slow=1.9,SNR=29						
GERES	GERESS Array B	146.19	331	PKP2	PKPab	18 36 58.1	-1.9
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WET	Wettzell	146.34	332	ePKP2	PKPab	18 37 00.4	-0.2
GRA1	Grafenberg Arr	146.64	334	ePKP	PKPdf	18 37 01.3	+1.6
GRF	Grafenberg Arr	146.64	334	ePKP2	PKPab	18 37 01.3	-0.5
MOTA	Moosalm	148.48	331	⇓iP	PKPdf	18 37 04.9	+2.1
WLF	Walferdange	148.57	339	ePKPbc	PKPdf	18 37 06.6	+3.7
GIVF	Givet	148.62	341	ePKP1	PKPdf	18 37 06.0	+3.1
BAIF	Baives	148.85	341	ePKP1	PKPdf	18 37 06.6	+3.3
BFO	Black Forest	148.88	335	ePKP2	PKPab	18 37 10.8	+0.1
CDF	Champ du Feu	149.22	336	ePKP1	PKPdf	18 37 07.6	+3.7
	comp=Z,14nm,1.1s						
DAVOX	Davos	149.45	332	PKPbc	PKPdf	18 37 08.4	+4.0
	comp=Z,5.4nm,0.6s,baz=187,slow=2.5,SNR=6.6						
BRMO	Bormio	149.46	331	eP	PKPdf	18 37 07.8	+3.4
HINF	Hinteralfeld	149.88	336	ePKP1	PKPdf	18 37 09.2	+4.2
HAU	Haudompre	149.91	337	ePKP1	PKPdf	18 37 09.3	+4.2
	comp=Z,13nm,0.9s						
HAU				eR			
	comp=Z,249nm,20.5s						
MEZF	Maizieres J’vi	149.94	339	ePKP1	PKPdf	18 37 09.6	+4.5
CING	Cingoli	150.20	323	eP	PKPdf	18 37 10.3	+4.7
ARV	Arcevia	150.26	324	eP	PKPdf	18 37 10.8	+5.1
TIP	Timpagrande	150.38	313	ePKPbc	PKPdf	18 37 10.0	+4.0
NRCA	Norcia	150.59	323	eP	PKPdf	18 37 11.1	+4.8
SGO	Sicignano	150.62	317	eP	PKPdf	18 37 10.9	+4.5
CSSN	Cassano Irpino	150.63	318	eP	PKPdf	18 37 11.2	+4.8
VAI	Varese	150.65	332	eP	PKPdf	18 37 10.6	+4.3
GRI	Girifalco	150.78	313	eP	PKPdf	18 37 11.8	+5.1
MCGN	Macugnaga	150.92	333	eP	PKPdf	18 37 12.0	+5.3
CABF	La Chapelle	151.17	336	ePKP1	PKPdf	18 37 12.7	+5.7
	comp=Z,23nm,1.0s						
FLN	La Foliniere	151.29	346	ePKP1	PKPdf	18 37 12.1	+5.0
	comp=Z,25nm,0.9s						
FLN				eR			
	comp=Z,418nm,21.2s						
LDF	La Druitiere	151.36	345	ePKP1	PKPdf	18 37 12.1	+4.9
	comp=Z,17nm,0.9s						
LOR	Lormes	151.41	339	ePKP1	PKPdf	18 37 12.8	+5.5
	comp=Z,15nm,0.8s						
LOR				eR			
	comp=Z,349nm,19.8s						
SSF	Saint Saulge	151.71	339	ePKP1	PKPdf	18 37 13.2	+5.4
	comp=Z,18nm,1.1s						
GRR	Gorron	151.72	346	ePKP1	PKPdf	18 37 13.2	+5.4
	comp=Z,12nm,0.8s						
LPL	La Plagne	151.80	333	ePKP1	PKPdf	18 37 14.1	+6.1
	comp=Z,7.4nm,0.7s						
LPG	La Plagne	151.81	333	ePKP1	PKPdf	18 37 14.3	+6.3
	comp=Z,7.4nm,0.6s						
SMF	Signal de Mont	151.96	338	ePKP1	PKPdf	18 37 14.0	+5.8
SGMF	Saint Gilles	152.21	348	ePKP1	PKPdf	18 37 14.1	+5.6
ROSF	Rostrenen	152.26	349	ePKP1	PKPdf	18 37 14.0	+5.4
BGF	Bois d’Agland	152.37	339	ePKP1	PKPdf	18 37 14.7	+5.9
MBDF	Montbardon	152.42	332	ePKP1	PKPdf	18 37 15.0	+6.1
ORIF	Oris-en-Rattie	152.64	334	ePKP1	PKPdf	18 37 15.1	+5.9
	comp=Z,9.6nm,0.8s						
ORIF				eR			
	comp=Z,351nm,20.8s						
TCF	Toulx Ste Croi	152.82	340	ePKP1	PKPdf	18 37 15.7	+6.3
	comp=Z,7.5nm,0.9s						
VIVF	Saint-Julien-l	153.18	335	ePKP1	PKPdf	18 37 16.9	+7.0
MFF	Saint Martin d	153.22	344	ePKP1	PKPdf	18 37 16.5	+6.6
LASF	Ste Croix	154.15	335	ePKP1	PKPdf	18 37 19.6	+8.3
MTLF	Montolieu	155.40	337	ePKP1	PKPdf	18 37 20.7	+7.7
EVO	Evora	162.56	353	ePKP2	PKPab	18 38 08.8	-0.4
	comp=Z,10nm,0.9s						
EVO				eR			
	comp=Z,522nm,21.2s						
LIC	Lamto	164.11	201	ePKP2	PKPab	18 38 17.0	+0.3
	comp=Z,43nm,1.3s						
KIC	Kosan Boka	164.14	202	ePKP2	PKPab	18 38 18.0	+1.1
	comp=Z,160nm,1.6s						
TIC	Toumodi	164.50	202	ePKP2	PKPab	18 38 18.7	+0.3
	comp=Z,10nm,0.2s						

*IDC **31** 18:19:05.4±1.1,27.54N×103.97E,mb3.6/6,mb1 3.8/7, mb1mx3.7/18,ML3.4/1,MS2.8/1,Ms1 3.0/1,ms1mx2.7/26, Error ellipse: s-maj=47.3km s-min=22.1km az=70.0*
*BJI **31** 18:19:08.6,27.18N×103.71E,h26^{km},mb4.3,ML4.1, Ms3.9,Msz3.8*
*NEIC **31** 18:19:11.0±1.4,27.28N×103.58E,h39^{km}±17^{km},mb4.2/1, Error ellipse: s-maj=20.1km s-min=12.6km az=121.0*
ISC 31 18:19:04.5±0.6,**27.19N**±0.04×**103.41E**±0.07,**h10^{km},n15, σ1^{s}44**/24,**mb3.9**/7,**1C-1D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.14	196	⇑ePG	Pg	18 19 46.3	-1.0
KMI				SG	Sg	18 20 15.8	-0.1
GYA	Guiyang	3.00	103	⇓iP	Pn	18 19 54.5	+1.4
GYA				PG	Pg	18 19 56.3	-8.1
GYA				S	Sn	18 20 30.3	+0.8
GYA				SG	Sg	18 20 33.0	-11
GYA				Smax			
	comp=N,840nm,0.7s						
GYA				Smax			
	comp=E,610nm,1.0s						
CD2	Chengdu	3.72	5	P	Pn	18 20 06.0	+2.7
CD2				PG	Pg	18 20 16.0	-2.8
CD2				S	Sn	18 20 52.0	+4.4
CD2				SG	Sg	18 21 03.3	-5.0
CD2				Smax			
	comp=N,1µm,0.9s						
CD2				Smax			
	comp=E,2µm,1.0s						
ENH	Enshi	6.16	59	eP	Pn	18 20 37.1	-0.7
	comp=E,104nm,0.7s						
XAN	Xi’an	8.32	33	P	P	18 21 06.0	-2.0
XAN				S	Sn	18 22 37.5	-5.5
XAN				LR	LR		
	comp=N,97nm,9.0s						
XAN				LR	LR		
	comp=E,229nm,9.3s						
XAN				LR	LR		
	comp=Z,260nm,8.5s						
LZH	Lanzhou	8.88	2	eP	P	18 21 25.0	+9.2
	comp=Z,15nm,1.0s						
LZH				pP		18 21 29.9	
LZH				sP		18 21 34.0	
LZH				eS	Sn	18 23 13.5	+17
LZH				sS		18 23 21.0	
CMAR	Chiang Mai Arr	9.62	206	Pn	P	18 21 32.2	+6.1
	comp=Z,0.1nm,0.3s,baz=19,slow=11,SNR=7.7						
CMAR				LR	LR	18 25 27.1	
	comp=Z,47nm,18.2s,baz=40,slow=38						
SONM	Songino Array	20.74	6	P	P	18 23 43.0	-4.8
	comp=Z,0.5nm,0.8s,baz=192,slow=8.5,SNR=2.2						
CN2	Changchun	24.31	41	eP	P	18 24 28.5	+5.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
HIA	Hailar	25.40	25	eP	P	18 24 33.2	-0.3
	comp=Z,4.3nm,0.6s,mb4.2						
MKAR	Makanchi Array	25.69	325	P	P	18 24 37.6	+1.3
	comp=Z,1.1nm,0.6s,mb3.6,baz=129,slow=12,SNR=7.6						
WRA	Warramunga Arr	55.62	144	P	P	18 28 43.2	+0.1
	comp=Z,0.8nm,0.7s,mb3.9,baz=334,slow=7.6,SNR=3.8						
FINES	FINESS Array B	60.49	327	P	P	18 29 17.9	+1.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=100,slow=8.5,SNR=3.0						
ARCES	ARCESS Array B	60.58	337	P	P	18 29 15.9	-1.3
	comp=Z,0.9nm,0.8s,mb4.0,baz=86,slow=6.8,SNR=6.0						
GERES	GERESS Array B	69.86	315	P	P	18 30 17.8	+0.5
	comp=Z,0.2nm,0.3s,mb3.6,baz=53,slow=4.9,SNR=2.4						

*IDC **31** 18:22:07.4±0.9,18.24S×34.97E,h32^{km}±4^{km},mb3.9/12, mb1 4.0/15,mb1mx3.9/23,ML3.4/3,MS4.2/3,Ms1 4.3/3, ms1mx3.5/24,Error ellipse: s-maj=24.6km s-min=21.9km az=107.0*
*NEIC **31** 18:22:08.0±0.5,18.23S×34.93E,mb4.7/3,Error ellipse: s-maj=14.1km s-min=11.2km az=141.0*
ISC 31 18:22:05.9±0.5,**18.18S**±0.09×**34.72E**±0.07,**h32^{km}, h32^{km}±.9^{km}:pP-P,n26,σ1^{s}07**/22,**mb4.2**/15,**MS4.7**/2, **Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	6.89	294	ePn	Pn	18 23 48.6	+1.2
	164nm,0.3s						
LSZ				eS	Sn	18 25 03.3	-2.1
TSUM	Tsumeb	16.27	264	Pn	P	18 25 57.2	+3.4
	1.3nm,0.3s,baz=94,slow=12,SNR=7.9						
TSUM				Sn	S	18 28 47.8	-4.9
	0.5nm,0.3s,baz=342,slow=19,SNR=2.4						
TSUM				Lg		18 30 38.8	
	0.7nm,0.3s,baz=151,slow=23,SNR=3.3						
KMBO	Kilima Mbogo	17.13	9	P	P	18 26 05.2	+0.5
	0.1nm,0.3s,baz=217,slow=18,SNR=4.4						
KMBO				Lg		18 30 58.2	
	0.2nm,0.3s,baz=258,slow=23,SNR=4.7						
SUR	Sutherland	18.89	219	P	P	18 26 26.4	+0.1
	0.8nm,0.3s,baz=73,slow=7.3,SNR=8.9						
SUR				Lg		18 31 50.9	
	1.2nm,0.3s,baz=153,slow=17,SNR=4.3						
SUR				LR	LR	18 33 49.0	
	comp=Z,210nm,21.7s,baz=180,slow=37						
SUR	Sutherland	18.89	219	P	P	18 26 26.4	+0.1
SUR				Lg		18 31 50.9	
SUR				LR	LR	18 33 49.0	
DBIC	Dimbokro	46.20	299	P	P	18 30 35.1	+5.1
	4.0nm,1.0s,mb4.3,baz=90,slow=7.1,SNR=2.4						
ESDC	Sonseca Array	67.94	329	P	P	18 33 02.8	-1.0
	0.3nm,0.3s,mb3.7,baz=144,slow=5.7,SNR=5.5						
ESDC				pP	pP	18 33 14.4	+0.4
	1.7nm,0.8s,baz=141,slow=6.6,SNR=2.6						
AKASG	Malin Array Be	68.75	356	P	P	18 33 07.5	-1.2
	1.0nm,0.6s,mb3.9,baz=186,slow=4.9,SNR=4.7						
AKASG				pP	pP	18 33 17.4	-1.4
	0.3nm,0.3s,baz=174,slow=5.8,SNR=3.2						
GERES	GERESS Array B	69.30	345	P	P	18 33 12.9	+0.7
	0.7nm,0.7s,mb3.7,baz=153,slow=6.0,SNR=7.3						
QSPA	South Pole Qui	71.96	180	eP	P	18 33 27.2	-0.6
	5.1nm,0.6s,mb4.6						
QSPA				e	pP	18 33 37.4	-0.5
LSA	Lhasa	72.27	50	eP	P	18 33 30.5	+0.1
	4.8nm,0.9s,mb4.4						
ARU	Arti	76.98	13	eP	P	18 33 57.5	+0.5
	7.1nm,0.9s,mb4.6						
ARU				e	pP	18 34 07.5	+0.3
BVAR	Borovoye Array	77.33	21	P	P	18 33 58.6	-0.4
	1.7nm,0.5s,mb4.3,baz=214,slow=5.3,SNR=14						
MKAR	Makanchi Array	77.56	31	P	P	18 33 59.8	-0.5
	3.1nm,1.0s,mb4.2,baz=214,slow=6.6,SNR=8.6						
BDFB	Brasilia	78.52	257	P	P	18 34 08.9	+2.7
	4.7nm,1.1s,mb4.3,baz=113,slow=13,SNR=3.2						
FINES	FINESS Array B	79.65	356	P	P	18 34 12.4	+0.9
	0.8nm,0.8s,mb3.7,baz=158,slow=7.5,SNR=3.1						
FINES				pP	pP	18 34 22.2	+0.4
	2.7nm,1.1s,baz=176,slow=27,SNR=2.2						
ZAL	Zalesovo	83.65	27	P	P	18 34 32.8	+0.3
	0.7nm,0.7s,mb3.9,baz=141,slow=1.8,SNR=4.5						
ZAL				LR	LR	19 19 16.2	
	comp=Z,371nm,18.8s,MS4.8,baz=276,slow=41						
FITZ	Fitzroy Crossi	85.34	107	P	P	18 34 41.0	-0.8
	3.4nm,0.8s,mb4.5,baz=342,slow=6.7,SNR=5.0						
FITZ				pP	pP	18 34 50.5	-1.7
	1.8nm,0.7s,baz=292,slow=5.4,SNR=1.9						
ARCES	ARCESS Array B	87.72	357	P	P	18 34 53.1	+0.9
	0.7nm,0.6s,mb4.1,baz=180,slow=4.9,SNR=8.1						
ARCES				pP	pP	18 35 03.9	+1.2
	0.8nm,0.6s,baz=166,slow=5.0,SNR=2.6						
ASAR	Alice Springs	90.88	115	P	P	18 35 06.9	-1.3
	0.4nm,0.7s,mb3.9,baz=264,slow=5.0,SNR=4.3						
LPAZ	La Paz	96.69	251	LR	LR	19 15 49.3	
	comp=Z,166nm,18.4s,MS4.5,baz=54,slow=33						
MSU	Marysvale	144.79	312	ePKPdf	PKPdf	18 41 43.0	-2.1
LON	Longmire	145.56	331	ePKPdf	PKPdf	18 41 44.1	-2.1
TUC	Tucson	145.94	301	ePKPdf	PKPdf	18 41 46.4	-0.9
NVAR	Mina Array Bea	149.02	316	PKPbc	PKPdf	18 41 51.6	-0.6
	1.6nm,0.7s,baz=72,slow=5.4,SNR=14						
MTUM	Tungsten Hills	149.77	315	PKPbc	PKPdf	18 41 57.5	+4.1

*IDC **31** 18:31:24.1±3.2,32.97S×178.13W,mb3.9/3,mb1 4.2/5, mb1mx4.1/13,ML3.9/2,MS4.3/2,Ms1 4.2/2,ms1mx3.8/19, Error ellipse: s-maj=69.4km s-min=33.4km az=112.0*
ISC 31 18:31:16.3±1.6,**33.6S**±0.1×**177.0W**±0.3,**h10^{km},n22, σ1^{s}58**/30,**mb3.9**/3,**MS4.3**/2,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	5.92	219	eP	Pn	18 32 48.0	+1.7
PUZ				S	Sn	18 33 59.3	+4.3
MWZ	Matawai	6.51	221	eP	Pn	18 32 56.9	+2.4
MWZ				S	Sn	18 34 15.6	+6.0
URZ	Urewera	6.69	224	Pn	Pn	18 33 00.5	+3.4
	2.5nm,0.3s,baz=247,slow=24,SNR=22						
URZ				Sn	Sn	18 34 19.9	+5.7
	21nm,0.3s,baz=157,slow=22,SNR=26						
URZ	Urewera	6.69	224	eP	Pn	18 32 59.7	+2.6
KNZ	Kokohu	6.94	217	eP	Pn	18 33 01.5	+0.9
BKZ	Black Stump Fm	7.67	221	eP	Pn	18 33 11.8	+1.0
BKZ				S	Sn	18 34 41.8	+3.2
PWZ	Pawanui	8.12	215	S	Sn	18 34 51.4	+1.6
TSZ	Takapari Road	8.59	219	eP	P	18 33 21.6	-2.1
TSZ				S	Sn	18 35 02.6	+0.9
BFZ	Birch Farm	8.92	215	eP	P	18 33 25.9	-2.3
BFZ				S	Sn	18 35 08.4	-1.4
MRZ	Mangatainoka R	9.23	218	eP	P	18 33 30.6	-2.0
MRW	Makara Radio	10.10	218	S	S	18 35 37.8	-1.2
NNZ	Nelson	10.81	222	eP	P	18 33 56.8	+2.6
NNZ				S	S	18 35 55.9	-0.3
QRZ	Quartz Range	11.05	226	S	S	18 36 01.5	-0.7
THZ	Tophouse	11.44	221	eP	P	18 34 01.6	-1.2
THZ				S	S	18 36 09.3	-2.4
KHZ	Kahutara	11.56	217	S	S	18 36 09.1	-5.6
MQZ	McQueen’s Vall	12.95	215	S	S	18 36 41.2	-7.1
RPZ	Rata Peaks	13.77	219	Pn	P	18 34 40.0	+6.2
	0.7nm,0.3s,baz=52,slow=19,SNR=3.3						
RPZ				Sn	S	18 37 02.3	-5.5
	1.9nm,0.3s,baz=333,slow=22,SNR=10						
STKA	Stephens Creek	34.70	261	P	P	18 38 09.4	+1.1
	1.1nm,0.8s,mb3.9,baz=100,slow=12,SNR=3.5						
STKA				LR	LR	18 51 04.1	
	comp=Z,446nm,20.7s,MS4.2,baz=295,slow=35						
ASAR	Alice Springs	43.85	270	P	P	18 39 24.8	+0.2
	2.6nm,0.9s,mb4.0,baz=119,slow=7.1,SNR=13						
ASAR				LR	LR	18 54 35.9	
	comp=Z,400nm,19.0s,MS4.3,baz=142,slow=32						
WB2	Warramunga Arr	45.11	275	eP	P	18 39 33.9	-0.8
WRA	Warramunga Arr	45.12	275	P	P	18 39 33.9	-0.9
	1.6nm,0.9s,mb3.9,baz=116,slow=7.7,SNR=30						
FINES	FINESS Array B	148.38	339	PKPbc	PKPdf	18 51 08.9	+7.2
	1.8nm,1.1s,baz=90,slow=2.8,SNR=3.7						

CASC 31 18:41:02.5±2.4,**10.47N**×**86.16W,MD4.0,ML2.9,9C-6D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.62	123	⇑eP	Pg	18 41 15.8	+1.0
VCR				eS	Sg	18 41 25.8	+2.6
CRZC	La Cruz	0.73	49	⇓eP	Pg	18 41 18.8	+1.7
CRZC				eS	Sg	18 41 30.9	+4.1
JCR	Jicaral	1.20	121	⇑eP	Pb	18 41 24.3	-1.5
CONN	Concepcion	1.21	26	⇑eP	Pb	18 41 25.1	-0.8
FORC	Fortuna	1.46	90	⇑eP	Pn	18 41 30.4	+0.2
CRUN	El Crucero	1.51	355	eP	Pn	18 41 31.4	+0.5
TICN	Ticuantepe	1.56	357	⇑eP	Pn	18 41 30.4	-1.1
MGAN	Managua	1.67	357	⇓eP	Pn	18 41 31.7	-1.4
CGA2	Cerro Gallo 2	1.73	105	⇓eP	Pn	18 41 33.0	-1.0
COPN	Copaltepe	1.75	346	⇑eP	Pn	18 41 32.5	-1.9
PRS1	Puriscal	1.88	105	⇑eP	Pn	18 41 36.6	+0.5
MOMJ	Momotombo	1.96	349	⇓eP	Pn	18 41 35.5	-1.9
MIRN	Miramar	2.03	345	⇑eP	Pn	18 41 38.3	-0.1
PYTN	Playitas	2.06	3	eS	Sn	18 42 07.7	+2.2
PYTN				i		18 42 09.0	
	comp=N,95nm,0.6s						
LAJ	Bijagual	2.09	107	eP	Pn	18 41 33.5	-5.7
LAJ				eS	Sn	18 41 59.3	-7.0
SJS	Escuela Geolog	2.14	104	eS	Sn	18 42 08.3	+0.8
LCR2	La Lucha 2	2.24	109	⇓eP	Pn	18 41 42.7	+1.3
ICR	Volcan Irazu	2.34	102	eP	Pn	18 41 44.2	+1.4
TRTC	Tortuguero	2.41	87	eP	Pn	18 41 43.4	-0.3
TRTC				eS	Sn	18 42 14.2	-0.1
URSC	Urasca	2.43	105	⇓eP	Pn	18 41 44.0	0.0
BUS	Buena Vista	2.53	111	⇑eP	Pn	18 41 47.4	+1.9

WEL 31 18:55:50.1±0.4,**36.93S**×**177.50E,h12^{km},ML3.6**/2,**Error ellipse: s-maj=3.3km s-min=2.7km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90	135	P*	Pb	18 56 05.6	-1.7
MXZ				S*	Sb	18 56 17.6	-1.4
MXZ				S*	Sb	18 56 18.0	-1.0
PUZ	Puketiti	1.29	153	PN	Pn	18 56 13.5	-0.5
URZ	Urewera	1.37	193	P*	Pb	18 56 12.9	-2.3
URZ				S*	Sb	18 56 30.2	-2.2
MWZ	Matawai	1.41	179	P*	Pb	18 56 13.2	-2.7
MWZ				S*	Sb	18 56 28.9	-4.7
KUZ	Kuaotunu	1.44	277	PN	Pn	18 56 15.9	-0.3
KUZ				SN	Sn	18 56 33.3	-1.7
KUZ				SN	Sn	18 56 33.4	-1.7
TOZ	Tahuroa Road	1.78	243	PN	Pn	18 56 20.6	-0.5
WCZ	Waipu Caves	2.73	290	PN	Pn	18 56 35.2	+0.6
WCZ				SN	Sn	18 57 06.2	-1.6

GUC 31 18:56:56.8±0.8,**35.00S**×**70.51W,h4^{km},MD3.8,ML3.0, 3C-7D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.56	313	⇓iP	Pg	18 57 08.2	+0.1
SFDO				i S	Sg	18 57 16.8	+1.3
NICH	Los Niches	0.59	270	⇓iP	Pg	18 57 08.7	+0.2
CICH	Cipreses	0.68	7	⇓iP	Pg	18 57 09.8	-0.7
CICH				i S	Sg	18 57 20.2	+0.7
CACH	El Canelo	0.88	355	⇑iP	Pb	18 57 13.5	-0.9
CACH				i S	Sg	18 57 26.3	0.0
CHCH	Chadas Angostu	1.07	354	⇓iP	Pb	18 57 16.9	-0.6
CHCH				i S	Sb	18 57 32.1	+0.5
LMEL	Las Melosas	1.18	13	⇑iP	Pb	18 57 18.5	-0.9
LMEL				i S	Sb	18 57 35.6	+0.8
LMEL				AMP		18 57 38.2	
	comp=N,262nm,0.2s						
LNV	Longovilo	1.28	324	⇑iP	Pb	18 57 20.3	-0.7
LNV				i S	Sb	18 57 38.1	+0.4
PCH	Pirque	1.38	0	i P	Pb	18 57 22.3	-0.4
TACH	Talagante	1.39	345	eP	Pb	18 57 22.4	-0.6
TACH				i S	Sb	18 57 40.9	-0.1
RCDM	Rinconada Maip	1.53	351	⇓iP	Pn	18 57 24.1	-0.9
RCDM				i S	Sb	18 57 46.1	+1.1
RCDM				AMP		18 57 47.4	
	comp=N,317nm,0.1s						
CLCH	Cerro Calan	1.60	359	eP	Pn	18 57 25.6	-0.4
CLCH				AMP		18 57 50.4	
	comp=E,330nm,0.5s						
FCH	Farellones	1.68	6	eP	Pn	18 57 27.4	+0.3
FCH				i S	Sb	18 57 51.1	+1.8
FCH				AMP		18 58 01.1	
	comp=E,257nm,0.3s						
LCCH	Las Cruces	1.75	330	⇓iP	Pn	18 57 28.3	+0.1
LCCH				i S	Sn	18 57 52.5	+1.2
PEL	Peldehue	1.86	356	AMP		18 58 03.2	
	comp=N,559nm,0.4s						
JACH	Jahuel	2.31	358	⇓iP	Pn	18 57 37.4	+1.2

*BJI **31** 19:04:53.1,31.44N×104.01E,h29^{km},mb4.2,ML3.8*
*IDC **31** 19:04:55.3±6.0,31.39N×103.99E,h39^{km}±56^{km},mb3.6/7,*

mb1 3.7/9,mb1mx3.6/19,Error ellipse: s-maj=63.1km s-min=16.3km az=63.0

*NEIC **31** 19:04:55.3±0.7,31.39N×104.04E,h40^{km}±9^{km},mb3.8/7, Error ellipse: s-maj=7.1km s-min=5.9km az=48.0*

ISC 31 19:04:52.0±1.0**,31.36N**±0.05×**104.05E**±0.06**,h29**^{km}±8^{km}**, n25,**σ**0**^{s}**.85**/28**,mb4.0**/11**,1D,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.51**	**210**	⇓*i*PG	**Pb**	**19 05 01.8**	**-0.7**
CD2				SG	**Sb**	**19 05 09.5**	**-0.3**
CD2				Smax			
	comp=N,6μm,0.5s						
CD2				Smax			
	comp=E,4μm,0.7s						
ENH	**Enshi**	**4.80**	**102**	*e*Pn	**Pn**	**19 06 05.4**	**+1.1**
XAN	**Xi’an**	**4.90**	**56**	P	**Pn**	**19 06 06.0**	**+0.2**
XAN				PG	**Pn**	**19 06 20.0**	**+14**
XAN				S	**Sn**	**19 07 01.5**	**-0.7**
XAN				SG	Sn	19 07 26.3	+24
XAN				Smax			
	comp=N,76nm,0.9s						
XAN				Smax			
	comp=E,115nm,1.0s						
GYA	**Guiyang**	**5.39**	**154**	PG	Px	19 06 34.5	
GYA				Smax			
	comp=N,130nm,0.7s						
GYA				Smax			
	comp=E,130nm,0.8s						
KMI	**Kunming**	**6.32**	**191**	*e*Pg	**Pn**	**19 06 26.1**	**+0.4**
	comp=E,14nm,1.1s						
KMI				Sg	**Sn**	**19 07 36.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**13.65**	**201**	Pn	**P**	**19 08 06.5**	**+0.3**
	baz=13,slow=11,SNR=4.8						
SONM	**Songino Array**	**16.56**	**6**	Pn	**P**	**19 08 43.9**	**+0.3**
	baz=186,slow=13,SNR=3.7						
PKI	**Pulchoki**	**16.67**	**262**	*e*P	**P**	**19 08 46.6**	**+1.4**
	comp=E,5.5nm,0.6s						
KKN	**Kakani**	**16.71**	**262**	*e*P	**P**	**19 08 47.5**	**+1.7**
	comp=E,16nm,0.6s						
DMN	**Daman**	**16.91**	**262**	*e*P	**P**	**19 08 49.4**	**+1.1**
	comp=E,5.0nm,0.6s						
GKN	**Gorkha**	**17.20**	**264**	*e*P	**P**	**19 08 51.6**	**-0.3**
	comp=E,6.2nm,0.4s						
KOLN	**Koldanda**	**18.14**	**264**	*e*P	**P**	**19 09 00.1**	**-3.6**
	comp=E,5.6nm,0.7s						
CN2	**Changchun**	**20.95**	**48**	*e*P	**P**	**19 09 36.3**	**+1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**22.76**	**319**	P	**P**	**19 09 53.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.5,baz=122,slow=11,SNR=4.8						
ZAL	**Zalesovo**	**26.48**	**334**	P	**P**	**19 10 28.4**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.6,baz=256,slow=7.8,SNR=6.8						
KURK	**Kurchatov**	**27.02**	**323**	P	**P**	**19 10 33.5**	**+0.1**
	comp=Z,2.5nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**32.57**	**322**	P	**P**	**19 11 22.5**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=117,slow=9.9,SNR=3.6						
BRVK	**Borovoye**	**32.64**	**322**	P	**P**	**19 11 22.2**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**33.28**	**321**	P	**P**	**19 11 27.9**	**-1.0**
	comp=Z,1.1nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**57.01**	**336**	P	**P**	**19 14 36.2**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=80,slow=7.4,SNR=6.4						
ARCES	**ARCESS Array B**	**57.01**	**336**	P	**P**	**19 14 36.2**	**-0.9**
FINES	**FINESS Array B**	**57.33**	**326**	P	**P**	**19 14 38.2**	**-1.2**
	comp=Z,1.4nm,0.9s,mb4.0,baz=104,slow=12,SNR=2.9						
WRAB	**Tennant Creek**	**58.70**	**146**	*e*P	**P**	**19 14 49.8**	**+0.2**
	comp=Z,9.4nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**58.71**	**146**	P	**P**	**19 14 49.5**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.5,baz=338,slow=7.8,SNR=26						
ASAR	**Alice Springs**	**61.73**	**149**	P	**P**	**19 15 10.1**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.9,baz=337,slow=7.1,SNR=5.9						

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*MOS **31** 19:07:12.3±0.9,53.61N×161.70E,h11^{km},mb4.0/1,Error ellipse: s-maj=20.0km s-min=11.8km az=76.0*

KRSC 31 19:07:12.4±1.1**,53.59N**×**161.85E,h20**^{km}±3^{km}**,ML4.1,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.97**	**356**	P	Pb	19 07 29.0	-1.4
MKZ				S	Sb	19 07 41.3	-1.4
MKZ	**Mys Kozlova**	**0.97**	**356**	*i* P	Pb	19 07 29.0	-1.4
MKZ				*i* S	Sb	19 07 42.8	+0.1
SPN	**Mys Shipunski**	**1.20**	**247**	P	Pn	19 07 33.2	-1.1
SPN				S	Sb	19 07 48.9	-0.5
SPN	**Mys Shipunski**	**1.20**	**247**	*e*P	Pn	19 07 34.2	-0.1
SPN				*e*S	Sb	19 07 50.5	+1.1
KII	**Karymskiy**	**1.49**	**288**	P	Pn	19 07 37.6	-0.8
KII				S	Sn	19 07 55.7	-1.8
KII	**Karymskiy**	**1.49**	**288**	*e*P	Pn	19 07 37.6	-0.8
KII				*e*S	Sn	19 07 56.6	-0.9
NLC	**Nalytchevo**	**1.56**	**255**	P	Pn	19 07 39.2	-0.2
NLC				S	Sn	19 07 58.1	-1.0
NLC	**Nalytchevo**	**1.56**	**255**	*e*P	Pn	19 07 39.6	+0.2
NLC				*e*S	Sn	19 07 59.9	+0.8
SDLR	**Sedlovina**	**1.80**	**261**	*e*P	Pn	19 07 42.8	-0.1
UGLR	**Uglovaya**	**1.85**	**259**	*e*P	Pn	19 07 43.1	-0.5
SMAR	**Somma**	**1.85**	**261**	*e*P	Pn	19 07 43.3	-0.3
AVH	**Avacha**	**1.89**	**261**	*e*P	Pn	19 07 43.5	-0.6
AVH				*e*S	Sn	19 08 06.4	-1.2
KOK	**Koryaka**	**1.95**	**262**	*i* P	Pn	19 07 44.2	-0.7
TUMR	**Tumrok**	**1.97**	**330**	*e*P	Pn	19 07 45.9	+0.7
TUMR				*e*S	Sn	19 08 10.3	+0.8
PET	**Petropavlovsk**	**2.00**	**255**	P	Pn	19 07 45.9	+0.2
PET				S	Sn	19 08 10.2	-0.2
PET	**Petropavlovsk**	**2.00**	**255**	*e*P	Pn	19 07 45.8	+0.1
PET				*e*S	Sn	19 08 10.2	-0.2
RUS	**Russkaya**	**2.33**	**241**	P	Pn	19 07 50.6	+0.2
RUS				S	Sn	19 08 18.8	+0.2
RUS	**Russkaya**	**2.33**	**241**	*e*P	Pn	19 07 50.6	+0.2
RUS				*e*S	Sn	19 08 18.6	0.0
GNL	**Ganaly**	**2.33**	**274**	*e*P	Pn	19 07 50.5	+0.1
GNL				*e*S	Sn	19 08 18.3	-0.4
KMNR	**Kamenistaya**	**2.36**	**337**	*e*P	Pn	19 07 51.2	+0.3
KMNR				*e*S	Sn	19 08 19.4	-0.2
GRL	**Gorelyy**	**2.50**	**247**	*e*P	Pn	19 07 53.8	+0.9
GRL				*e*S	Sn	19 08 24.0	+0.8
ZLN	**Zelenaya**	**2.51**	**346**	*e*P	Pn	19 07 54.4	+1.5
ZLN				*e*S	Sn	19 08 25.0	+1.8
LGNR	**Loginova**	**2.59**	**345**	*e*P	Pn	19 07 55.7	+1.6
CIRR	**Tsirk**	**2.61**	**346**	*e*P	Pn	19 07 56.2	+1.8
CIRR				*e*S	Sn	19 08 27.3	+1.4
KBTR	**Krutoberegovo**	**2.68**	**12**	P	Pn	19 07 55.0	-0.5
KBTR				S	Sn	19 08 26.2	-1.5
KBTR	**Krutoberegovo**	**2.68**	**12**	*e*P	Pn	19 07 55.4	-0.1
KBTR				*e*S	Sn	19 08 26.8	-0.9
KBG	**Krutoberegovo**	**2.72**	**10**	P	Pn	19 07 58.8	+2.9
KBG				*e*S	Sn	19 08 27.8	-0.8
KBG				Smax			
	380nm,1.3s						
KOZ	**Kozyrevsk**	**2.73**	**336**	P	Pn	19 07 57.5	+1.4
KOZ				S	Sn	19 08 30.0	+1.2
KOZ	**Kozyrevsk**	**2.73**	**336**	*e*P	Pn	19 07 57.2	+1.1
KOZ				*e*S	Sn	19 08 30.0	+1.2
KOZR	**Kozyr**	**2.73**	**336**	PN	Pn	19 07 57.5	+1.4
KOZR				S	Sn	19 08 30.0	+1.2
KRSR	**Krestovskiy**	**2.73**	**345**	*e*S	Sn	19 08 30.2	+1.2
KLY	**Klyuchi**	**2.81**	**346**	P	Pn	19 07 57.7	+0.4
KLY				S	Sn	19 08 30.4	-0.7
KLY	**Klyuchi**	**2.81**	**346**	*e*P	Pn	19 07 57.4	+0.1
KLY				*e*S	Sn	19 08 30.4	-0.7
APC	**Apacha**	**2.90**	**259**	*i* P	Pn	19 08 00.3	+1.8
APC				*e*S	Sn	19 08 33.6	+0.5
BKI	**Bering**	**2.90**	**54**	*e*P	Pn	19 07 56.2	-2.4
BKI				*e*S	Sn	19 08 28.1	-5.2
BKI				Smax			
	30nm,0.3s						
ESO	**Esso**	**2.97**	**323**	*e*P	Pn	19 07 59.2	-0.3
ESO				*e*S	Sn	19 08 33.7	-1.2
ESO				Smax			
	60nm,0.5s						
SRDR	**Sredinnyy**	**3.00**	**337**	*e*P	Pn	19 07 59.8	-0.1
SRDR				*e*S	Sn	19 08 34.7	-1.0
SKR	**Severo-Kuril’s**	**4.58**	**233**	*e*PN	Pn	19 08 32.1	+10

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*IDC **31** 19:17:06.8±3.6,3.42S×145.23E,mb3.7/3,mb1 4.0/5, mb1mx3.8/14,ML4.2/1,Error ellipse: s-maj=70.1km s-min=30.5km az=68.0*

ISC 31 19:17:08.7±2.6**,3.5S**±0.2×**145.4E**±0.3**,h33**^{km}**,n7,**σ**0**^{s}**.62**/7**, mb3.6**/3**,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**164**	Pn	**Pn**	**19 18 39.5**	**-0.1**
	0.5nm,0.3s,baz=348,slow=18,SNR=3.1						
WB2	**Warramunga Arr**	**19.63**	**213**	*e*P	**P**	**19 21 36.6**	**-0.8**
WRA	**Warramunga Arr**	**19.64**	**213**	P	**P**	**19 21 36.6**	**-0.9**
	0.7nm,0.3s,baz=32,slow=11,SNR=72						
ASAR	**Alice Springs**	**22.97**	**208**	P	**P**	**19 22 12.3**	**+0.8**
	0.8nm,0.5s,mb3.4,baz=41,slow=6.7,SNR=21						
ASPA	**Alice Springs**	**22.97**	**208**	*e*P	**P**	**19 22 12.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.25**	**232**	P	**P**	**19 22 24.5**	**+0.6**
	2.9nm,0.8s,mb3.7,baz=40,slow=13,SNR=4.5						
CMAR	**Chiang Mai Arr**	**50.71**	**297**	P	**P**	**19 26 07.4**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=101,slow=7.3,SNR=5.3						

IDC 31 19:17:24.8±15.0**,0.24N**×**121.94E,h204**^{km}±171^{km}**, mb3.3**/4**,mb1 3.5**/5**,mb1mx3.2**/16**,ML4.1**/1**,Error ellipse: s-maj=105.0km s-min=27.3km az=60.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.59**	**169**	*e*P	P	19 21 27.1	-1.8
	4.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.59**	**169**	P	P	19 21 26.8	-2.1
	0.5nm,0.3s,baz=1.3,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**23.45**	**149**	P	P	19 22 15.8	-1.4
	1.2nm,0.4s,baz=326,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**26.45**	**155**	P	P	19 22 43.6	-1.5
	1.1nm,0.6s,baz=343,slow=14,SNR=4.3						
SONM	**Songino Array**	**49.29**	**346**	P	P	19 25 53.1	-1.8
	0.8nm,0.8s,baz=165,slow=9.5,SNR=6.9						
MKAR	**Makanchi Array**	**57.85**	**329**	P	P	19 26 55.2	-2.1
	0.6nm,0.4s,baz=130,slow=8.9,SNR=4.1						

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*IDC **31** 19:16:53.4±16.0,16.04S×174.40W,mb4.6/5,mb1 4.7/5, mb1mx4.2/16,Error ellipse: s-maj=313.0km s-min=135.4km az=79.0*

*NEIC **31** 19:18:22.7±2.9,17.55S×178.98W,h600^{km},mb4.2/8, Error ellipse: s-maj=75.1km s-min=22.1km az=212.0*

ISC 31 19:18:21.1±4.4**,17.4S**±0.7×**179.0W**±0.5**,h600**^{km}**,n17,** σ**0**^{s}**.43**/17**,mb4.2**/10**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.98**	**260**	*e*P	**P**	**19 24 10.0**	**+0.5**
	7.3nm,1.3s,mb4.2						
CTA	**Charters Tower**	**32.98**	**260**	P	**P**	**19 24 09.7**	**+0.2**
	4.9nm,1.0s,mb4.1,baz=91,slow=12,SNR=5.6						
CTAO	**Charters Tower**	**32.98**	**260**	P	**P**	**19 24 09.6**	**+0.1**
	2.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.37**	**240**	*e*P	**P**	**19 24 54.5**	**+0.7**
	4.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.37**	**240**	P	**P**	**19 24 54.5**	**+0.7**
	5.9nm,0.6s,mb4.3,baz=91,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**38.37**	**240**	*e*P	**P**	**19 24 54.3**	**+0.5**
WB2	**Warramunga Arr**	**44.16**	**259**	*e*P	**P**	**19 25 39.5**	**-0.3**
WRAB	**Tennant Creek**	**44.17**	**259**	*e*P	**P**	**19 25 39.4**	**-0.5**
	5.4nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**19 25 39.7**	**-0.2**
	2.2nm,0.5s,mb4.0,baz=97,slow=7.0,SNR=52						
ASAR	**Alice Springs**	**44.39**	**254**	P	**P**	**19 25 41.8**	**+0.3**
	29nm,0.7s,mb4.9,baz=88,slow=7.8,SNR=412						
ASPA	**Alice Springs**	**44.39**	**254**	*e*P	**P**	**19 25 41.8**	**+0.2**
KAKA	**Kakadu**	**47.08**	**269**	*e*P	**P**	**19 26 02.4**	**+0.2**
	4.1nm,0.4s,mb4.3						
FORT	**Forrest**	**49.71**	**244**	*e*P	**P**	**19 26 20.9**	**-0.6**
	24nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	*e*P	**P**	**19 26 42.9**	**+0.7**
	3.5nm,1.1s,mb3.6						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	P	**P**	**19 26 42.6**	**+0.4**
	1.9nm,0.6s,mb3.6,baz=88,slow=2.2,SNR=9.6						
KLBR	**Kellerberrin**	**58.54**	**243**	*e*P	**P**	**19 27 22.7**	**-0.6**
	73nm,1.9s,mb4.5						
QSPA	**South Pole Qui**	**72.61**	**180**	*e*P	**P**	**19 28 49.6**	**+0.1**
	2.0nm,0.6s,mb3.8						

IDC 31 19:49:58.2±16.0**,28.56N**×**58.01E,mb3.7**/5**,mb1 3.7**/6**, mb1mx3.4**/24**,ML4.1**/1**,Error ellipse: s-maj=305.0km s-min=38.7km az=162.0,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HASS	**Wahat al Ahsa’**	**8.15**	**248**	P	Sn	19 53 13.7	-21
MZLS	**Mizel**	**12.34**	**252**	P	P	19 52 44.7	-13
MZLS				S	S	19 54 53.3	-24
ASF	**Jabal al Asfar**	**18.57**	**286**	P	P	19 54 16.5	-2.1
	0.6nm,0.3s,baz=90,slow=2.0,SNR=3.5						
BRTR	**Keskin Array B**	**22.98**	**305**	P	P	19 55 05.3	0.0
	1.1nm,0.7s,baz=121,slow=12,SNR=8.5						
BVAR	**Borovoye Array**	**26.10**	**17**	P	P	19 55 34.0	-1.2
	0.4nm,0.3s,baz=208,slow=9.2,SNR=6.2						
FINES	**FINESS Array B**	**39.13**	**336**	P	P	19 57 27.0	-1.8
	1.1nm,0.8s,baz=135,slow=9.8,SNR=5.8						
HFS	**Hagfors**	**43.39**	**329**	P	P	19 58 01.7	-2.1
	1.0nm,0.4s,baz=128,slow=9.4,SNR=14						
ARCES	**ARCESS Array B**	**45.08**	**345**	P	P	19 58 15.0	-2.3
	0.4nm,0.7s,baz=140,slow=9.5,SNR=6.6						

IDC 31 19:55:58.7±36.0**,21.77S**×**179.83E,h688**^{km}±345^{km}**, mb2.7**/3**,mb1 2.9**/3**,mb1mx2.7**/14**,Error ellipse: s-maj=353.0km s-min=147.3km az=118.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.37**	**267**	P	P	20 01 28.0	-1.4
	1.5nm,0.3s,baz=94,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**42.27**	**258**	P	P	20 02 55.1	-2.5
	0.3nm,0.3s,baz=94,slow=7.3,SNR=9.9						
WRA	**Warramunga Arr**	**42.43**	**264**	P	P	20 02 58.2	-0.8
	1.3nm,0.8s,baz=97,slow=8.4,SNR=49						
AKASG	**Malin Array Be**	**143.09**	**329**	PKP	PKPdf	20 14 15.9	-0.4
	0.4nm,0.3s,baz=39,slow=4.3,SNR=7.7						

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*HRVD **31** 19:58:20.4±0.6,4.83S×153.49E,h46^{km}±2^{km},MW4.9/34, Centroid moment Tensor Solution. LP body waves: s16,c16;Mantle waves: s34,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.31±.24; $M_{\theta\theta}$0.11±.17; $M_{\phi\phi}$-2.42±.16; $M_{r\theta}$-0.24±.12; $M_{\theta\phi}$0.94±.12; $M_{\phi r}$-0.94±.14; Best double couple: $M_0$2.71×10^{16} NP1:ϕ_s328°,δ38°,λ68°. NP2:ϕ_s175°,δ55°,λ106°. Principal axes: T 2.56, Plg74°, Azm129°; N .3, Plg13°, Azm345°; P -2.86, Plg9°, Azm253°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **31** 19:58:20.1±0.6,4.87S×153.61E,h70^{km}±4^{km},mb4.3/19, mb1 4.4/21,mb1mx4.4/23,MS3.9/11,Ms1 3.9/11, ms1mx3.8/20 Error ellipse: s-maj=16.4km s-min=9.2km az=120.0*

*NEIC **31** 19:58:20.4±0.3,4.81S×153.57E,mb4.9/23,Error ellipse: s-maj=9.0km s-min=5.6km az=104.0*

*BJI **31** 19:58:23.7,3.94S×153.41E,h74^{km},mB5.2,mb5.0*

ISC 31 19:58:19.4±0.4**,4.85S**±0.05×**153.52E**±0.07**,h75**^{km}**, h75**^{km}±1.5^{km}**:pP-P,n80,**σ**0**^{s}**.99**/74**,mb4.8**/42**,2C-3D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.76**	**234**	P	**P**	**20 00 11.1**	**-0.7**
	6.0nm,0.3s,baz=49,slow=6.6,SNR=60						
PMG				S	**S**	**20 01 37.0**	**-1.9**
	42nm,0.3s,baz=353,slow=21,SNR=9.3						
CTA	**Charters Tower**	**16.71**	**204**	P	**P**	**20 02 09.9**	**-0.3**
	0.1nm,0.3s,baz=28,slow=8.9,SNR=5.9						
CTA				LR	LR	20 07 52.3	
	comp=Z,224nm,21.4s,baz=28,slow=34						
CTAO	**Charters Tower**	**16.71**	**204**	*e*P	**P**	**20 02 10.3**	**+0.1**
	20nm,0.9s						
NOUC	**Port Laguerre**	**21.15**	**145**	*e*P	**P**	**20 03 01.1**	**+0.8**
KAKA	**Kakadu**	**22.26**	**248**	*e*P	**P**	**20 03 10.7**	**-0.6**
	68nm,0.4s,mb5.3						
KAKA				*i* pP		20 03 16.7	
KAKA				*i* S	**S**	**20 07 10.1**	**+3.7**
WRAB	**Tennant Creek**	**23.94**	**230**	*e*P	**P**	**20 03 28.2**	**+0.6**
	89nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**23.94**	**230**	⇓*i*P	**P**	**20 03 28.6**	**+1.0**
WB2				*i* pP		20 03 35.3	
WB2				*i* S	**S**	**20 07 48.4**	**+13**
WRA	**Warramunga Arr**	**23.95**	**230**	P	**P**	**20 03 28.0**	**+0.3**
	19nm,0.8s,mb4.5,baz=54,slow=9.9,SNR=91						
WRA				PcP	PcP	20 07 09.8	-0.1
	8.5nm,0.7s,baz=51,slow=2.4,SNR=12						
WRA				S	**S**	**20 07 43.9**	**+7.9**
	2.3nm,0.8s,baz=51,slow=16,SNR=5.0						
WRA				ScP		20 10 42.9	
	1.5nm,0.7s,baz=58,slow=3.0,SNR=6.1						
ASAR	**Alice Springs**	**26.60**	**223**	P	**P**	**20 03 52.5**	**-0.2**
	3.5nm,0.6s,mb4.0,baz=59,slow=8.6,SNR=26						
ASAR				PcP	PcP	20 07 15.4	-0.2
	7.8nm,0.7s,baz=53,slow=3.1,SNR=15						
ASAR				S	**S**	**20 08 21.2**	**+1.2**
	1.3nm,0.8s,baz=45,slow=12,SNR=2.7						
ASAR				ScP		20 10 51.0	
	1.1nm,0.6s,baz=46,slow=2.9,SNR=6.9						
ASAR				LR	LR	20 14 26.2	
	comp=Z,162nm,19.3s,baz=49,slow=36						
ASPA	**Alice Springs**	**26.60**	**223**	*e*P	**P**	**20 03 53.3**	**+0.5**
ASPA				*i*		20 03 59.4	
ASPA				*i* PCP	PcP	20 07 15.8	+0.1
STKA	**Stephens Creek**	**29.12**	**201**	*e*P	**P**	**20 04 14.6**	**-0.8**
	5.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**29.12**	**201**	P	**P**	**20 04 13.8**	**-1.6**
	7.2nm,0.7s,mb4.4,baz=39,slow=11,SNR=16						
STKA				PcP	PcP	20 07 21.4	-0.4
	2.7nm,0.7s,baz=269,slow=3.2,SNR=3.0						
STKA				ScP		20 10 58.7	
	4.0nm,0.8s,baz=161,slow=4.3,SNR=4.6						
STKA				LR	LR	20 15 29.2	
	comp=Z,146nm,19.4s,baz=22,slow=35						
STKA	**Stephens Creek**	**29.12**	**201**	*e*P	**P**	**20 04 14.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.26**	**242**	*e*P	**P**	**20 04 24.7**	**-1.0**
	24nm,0.8s,mb4.9						
FITZ				*e*pP	pP	20 04 45.2	+1.7
FITZ				*i* SCP		20 11 03.3	
FITZ	**Fitzroy Crossi**	**30.26**	**242**	P	**P**	**20 04 24.8**	**-1.0**
	25nm,0.7s,mb4.9,baz=55,slow=3.8,SNR=34						
FITZ				ScP		20 11 02.9	
	10nm,0.7s,baz=135,slow=2.6,SNR=8.3						
FITZ				LR	LR	20 16 34.2	
	comp=Z,98nm,20.2s,baz=82,slow=36						
FORT	**Forrest**	**35.20**	**220**	*e*P	**P**	**20 05 07.9**	**-0.5**
	109nm,0.7s,mb5.8						
TGY	**Tagaytay City**	**37.41**	**301**	LR	LR	20 18 15.6	
	comp=Z,169nm,19.6s,baz=80,slow=32						
JOW	**Kunigami**	**39.85**	**324**	P	**P**	**20 05 47.9**	**+0.6**
	12nm,0.4s,mb5.1,baz=140,slow=10,SNR=10						
RPZ	**Rata Peaks**	**41.69**	**161**	P	**P**	**20 06 01.7**	**-0.6**
	42nm,0.7s,mb5.3,baz=33,slow=10,SNR=8.2						
KLBR	**Kellerberrin**	**42.79**	**227**	*e*P	**P**	**20 06 10.0**	**-1.5**
	20nm,1.3s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.86**	**226**	P	**P**	**20 06 20.8**	**+0.6**
	4.1nm,0.8s,mb4.2,baz=88,slow=14,SNR=2.3						
ASAJ	**Asahikawa**	**49.72**	**350**	P	**P**	**20 07 05.7**	**-0.4**
	17nm,0.9s,mb5.0,baz=85,slow=11,SNR=3.1						
ENH	**Enshi**	**54.71**	**313**	*e*P	**P**	**20 07 42.9**	**-0.7**
	21nm,1.1s,mb5.1						
KMI	**Kunming**	**57.60**	**304**	*e*P	**P**	**20 08 05.3**	**+1.0**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
KMI	**Kunming**	**57.60**	**304**	*e*P	**P**	**20 08 05.2**	**+0.9**
	comp=Z,6.0nm,1.1s,mb4.5						
CMAR	**Chiang Mai Arr**	**58.54**	**295**	P	**P**	**20 08 11.3**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.5,baz=114,slow=5.7,SNR=23						
CMAR				LR	LR	20 30 38.6	
	comp=Z,69nm,19.6s,baz=125,slow=33						
CD2	**Chengdu**	**59.31**	**310**	P	**P**	**20 08 16.0**	**0.0**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
LZH	**Lanzhou**	**61.76**	**315**	⇑P	**P**	**20 08 33.3**	**+0.7**
LZH				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,111nm,4.0s						
LZH	**Lanzhou**	**61.76**	**315**	⇑P	**P**	**20 08 33.3**	**+0.7**
	comp=Z,33nm,1.0s,mb5.3						
LZH				pP	pP	20 08 43.9	-8.2
LZH				sP	sP	20 08 49.0	-12
MA2	**Magadan**	**64.26**	**358**	*e*P	**P**	**20 08 45.5**	**-3.2**
	comp=Z,8.7nm,0.7s,mb4.7						
GTA	**Gaotai**	**66.18**	**317**	*e*P	**P**	**20 09 02.0**	**+0.5**
GTA				AP	pP	20 09 22.5	+1.3
GTA				XP	sP	20 09 30.3	+0.9
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
SONM	**Songino Array**	**66.75**	**327**	P	**P**	**20 09 04.2**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.2,baz=145,slow=5.6,SNR=20						
SONM				pP	pP	20 09 24.0	-0.7
	comp=Z,3.3nm,1.1s,baz=155,slow=4.4,SNR=4.6						
LSA	**Lhasa**	**68.85**	**304**	*e*P	**P**	**20 09 17.2**	**-1.1**
	comp=Z,4.3nm,0.6s,mb4.5						
PKI	**Pulchoki**	**73.07**	**301**	*e*P	**P**	**20 09 43.4**	**-0.3**
	comp=Z,12nm,0.6s,mb4.9						
KKN	**Kakani**	**73.24**	**301**	*e*P	**P**	**20 09 44.9**	**+0.2**
	comp=Z,17nm,0.6s,mb5.1						
SBA	**Scott Base**	**73.29**	**177**	*e*P	**P**	**20 09 45.6**	**+1.6**
	comp=Z,23nm,0.9s,mb5.0						
DMN	**Daman**	**73.34**	**301**	*e*P	**P**	**20 09 45.5**	**+0.2**
	comp=Z,24nm,0.8s,mb5.1						
GKN	**Gorkha**	**73.84**	**301**	*e*P	**P**	**20 09 48.3**	**0.0**
	comp=Z,21nm,0.9s,mb4.9						
KOLN	**Koldanda**	**74.67**	**300**	*e*P	**P**	**20 09 53.2**	**+0.1**
	comp=Z,20nm,0.9s,mb4.9						
WMQ	**Urumqi**	**76.26**	**317**	P	**P**	**20 10 02.0**	**+0.2**
HYB	**Hyderabad**	**77.18**	**289**	*i* P	pP	20 10 28.0	+0.3
HYB	**Hyderabad**	**77.18**	**289**	*e*P	**P**	**20 10 20.0**	**+13**
SML	**Sawmill**	**79.88**	**24**	*e*P	**P**	**20 10 20.7**	**-0.6**
MCK	**McKinley**	**80.64**	**22**	*e*P	**P**	**20 10 23.7**	**-1.6**
	comp=Z,4.6nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**20 10 26.7**	**0.0**
	comp=Z,7.8nm,0.7s,mb4.7,baz=95,slow=7.6,SNR=80						
MKAR				pP	pP	20 10 46.9	-0.1
	comp=Z,2.8nm,0.5s,baz=98,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**20 10 26.7**	**0.0**
MKAR				pP	pP	20 10 46.9	-0.1
ZAL	**Zalesovo**	**81.60**	**326**	P	**P**	**20 10 30.0**	**-0.5**
	comp=Z,4.7nm,1.1s,mb4.2,baz=279,slow=6.4,SNR=15						
ZAL				LR	LR	20 43 52.1	
	comp=Z,80nm,19.1s,baz=89,slow=34						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**20 10 30.3**	**-1.8**
	comp=Z,1.2nm,0.6s,mb3.9,baz=243,slow=5.6,SNR=20						
ILAR				pP	pP	20 10 49.9	-2.6
	comp=Z,2.1nm,0.8s,baz=253,slow=4.6,SNR=3.1						
ILAR				LR	LR	20 43 49.7	
	comp=Z,89nm,18.3s,baz=303,slow=33						
KSH	**Kashi**	**83.51**	**311**	*e*P	**P**	**20 10 44.0**	**+3.4**
KSH				AMB	AMB		
	comp=Z,150nm,4.3s						
KURK	**Kurchatov**	**84.25**	**322**	P	**P**	**20 10 43.2**	**-0.8**
	comp=Z,79nm,1.1s,mb5.5,SNR=14						
KURK	**Kurchatov**	**84.25**	**322**	*e*P	**P**	**20 10 44.0**	**-0.1**
	comp=Z,19nm,1.0s,mb4.9						
TKM2	**Tokmak 2**	**84.48**	**314**	P	**P**	**20 10 46.9**	**+1.5**
	SNR=13						
KBK	**Karagaybulak**	**84.89**	**313**	P	**P**	**20 10 48.9**	**+1.4**
	SNR=7.4						
CHMS	**Chumysh**	**85.10**	**314**	P	**P**	**20 10 49.6**	**+1.1**
	SNR=13						
QSPA	**South Pole Qui**	**85.11**	**180**	*e*P	**P**	**20 10 48.8**	**+1.1**
	comp=Z,58nm,0.7s,mb5.6						
AAK	**Ala-Archa**	**85.22**	**313**	P	**P**	**20 10 50.6**	**+1.5**
	SNR=7.4						
AAK	**Ala-Archa**	**85.22**	**313**	*e*P	**P**	**20 10 48.4**	**-0.7**
	comp=Z,40nm,1.4s,mb5.2						
AAK				*e*pP	pP	20 11 09.8	+0.1
USP	**Ospenovka**	**85.33**	**314**	P	**P**	**20 10 50.9**	**+1.2**
	SNR=11						
AML	**Almayashu**	**85.71**	**313**	P	**P**	**20 10 54.1**	**+2.6**
	SNR=10						
EKS2	**Erkin-Say**	**85.74**	**313**	P	**P**	**20 10 53.2**	**+1.6**
	SNR=7.9						
MAW	**Mawson**	**85.80**	**203**	*e*P	**P**	**20 10 52.1**	**+0.8**
	comp=Z,6.7nm,0.6s,mb4.8						
MAW	**Mawson**	**85.80**	**203**	P	**P**	**20 10 51.6**	**+0.3**
	comp=Z,7.3nm,0.6s,mb4.8,baz=88,slow=6.6,SNR=16						
DLBC	**Dease Lake**	**87.06**	**31**	P	**P**	**20 10 57.8**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=199,slow=11,SNR=3.5						
DLBC				pP	pP	20 11 17.0	-1.3
	comp=Z,2.4nm,1.1s,baz=225,slow=2.9,SNR=3.0						
DLBC	**Dease Lake**	**87.06**	**31**	P	**P**	**20 10 57.8**	**+0.1**
DLBC				pP	pP	20 11 17.0	-1.4
INK	**Inuvik**	**88.25**	**21**	P	**P**	**20 11 02.3**	**-0.9**
	comp=Z,0.7nm,0.3s,mb4.1,baz=120,slow=18,SNR=3.0						
BVAR	**Borovoye Array**	**89.71**	**323**	P	**P**	**20 11 09.5**	**-0.9**
	comp=Z,9.9nm,0.8s,mb5.0,baz=108,slow=4.7,SNR=56						

BVAR				pP	pP	20 11 30.2	-1.0
	comp=Z,12nm,0.8s,baz=63,slow=3.3,SNR=12						
BRVK	Borovoye	89.78	323	eP	P	20 11 09.6	-1.1
	comp=Z,13nm,0.9s,mb5.1						
BRVK				epP	pP	20 11 30.9	-0.7
ZRNK	Zerenda	90.53	323	eP	P	20 11 13.1	-1.1
	comp=Z,18nm,1.0s,mb5.2						
ZRNK				epP	pP	20 11 33.7	-1.4
NVAR	Mina Array Bea	91.56	52	P	P	20 11 19.4	-0.1
	comp=Z,0.6nm,0.6s,mb4.0,baz=235,slow=4.2,SNR=5.3						
NVAR				pP	pP	20 11 38.9	-1.4
	comp=Z,1.0nm,0.8s,baz=243,slow=6.0,SNR=3.0						
NVAR				LR	LR	20 48 52.8	
	comp=Z,98nm,18.4s,baz=85,slow=33						
YKA	Yellowknife Ar	95.14	28	P	P	20 11 34.8	-0.4
	comp=Z,1.1nm,0.9s,mb4.3,baz=269,slow=4.4,SNR=8.0						
YKA				pP	pP	20 11 55.8	-0.3
	comp=Z,0.4nm,0.6s,baz=274,slow=5.1,SNR=2.5						
YKA				PKKPbc		20 28 26.9	
	comp=Z,0.4nm,0.8s,baz=86,slow=2.3,SNR=5.5						
YKA				LR	LR	20 48 00.2	
	comp=Z,70nm,21.4s,baz=280,slow=31						
YKA	Yellowknife Ar	95.14	28	P	P	20 11 34.8	-0.4
YKA				pP	pP	20 11 55.8	-0.3
YKA				PKKPbc		20 28 26.9	
PDAR	Pinedale Array	98.36	48	LR	LR	20 51 33.7	
	comp=Z,111nm,18.5s,baz=242,slow=32						
SNAA	Sanae	102.07	187	P	Pdif	20 12 03.0	-3.4
VNA2	Neumayer--Watz	103.31	186	⇓i	Pdif	20 12 15.2	+3.4
VNA2				⇓iP	Pdif	20 12 15.2	+3.4
AKASG	Malin Array Be	114.95	325	PKP	PKPdf	20 16 52.1	+0.3
	comp=Z,1.5nm,0.8s,baz=47,slow=2.0,SNR=4.9						
KHC	Kasperske Hory	124.35	329	eP	PKPdf	20 17 11.5	+1.5
GERES	GERESS Array B	124.47	329	PKP	PKPdf	20 17 11.6	+1.4
	comp=Z,1.2nm,0.7s,baz=90,slow=1.3,SNR=13						
GERES				pPKP		20 17 30.9	
	comp=Z,1.2nm,0.7s,baz=90,slow=1.3,SNR=5.4						
TSUM	Tsumeb	130.48	240	PKP	PKPdf	20 17 24.8	+2.3
	comp=Z,3.9nm,0.8s,baz=141,slow=5.0,SNR=5.9						
BDFB	Brasilia	150.52	134	PKPbc	PKPdf	20 18 04.1	+6.0
	comp=Z,3.9nm,0.5s,baz=12,slow=4.2,SNR=12						

IDC 31 20:03:58.4±2.2, 35.49N×69.99E, mb3.6/2, mb1 3.6/4, mb1mx3.3/21, ML3.3/2, 2C, Error ellipse: s-maj=60.4km s-min=33.9km az=70.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	7.61	3	⇑P	Pn	20 05 58.6	+5.3
	0.8nm,0.3s,baz=182,slow=13,SNR=57						
KK31				⇑S	Sn	20 07 08.7	-13
	8.4nm,0.5s,baz=181,slow=22,SNR=22						
MKAR	Makanchi Array	14.58	36	Pn	P	20 07 26.0	-1.9
	0.1nm,0.3s,baz=217,slow=11,SNR=4.1						
BVAR	Borovoye Array	17.53	1	P	P	20 08 04.5	-1.1
	0.2nm,0.3s,baz=162,slow=11,SNR=5.9						
ARCES	ARCESS Array B	41.77	338	P	P	20 11 48.8	-1.8
	0.4nm,0.5s,baz=113,slow=6.9,SNR=3.8						
WRA	Warramunga Arr	82.16	121	P	P	20 16 21.5	-1.3
	0.7nm,1.1s,baz=324,slow=4.8,SNR=5.7						

GUC 31 20:16:40.4±1.0, 35.07S×70.55W, h4^{km}±3^{km}, MD4.1, ML3.2, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.56	277	⇓iP	Pg	20 16 52.1	+0.5
SFDO	San Fernando	0.59	320	⇓iP	Pg	20 16 52.2	0.0
SFDO				iS	Sg	20 17 01.3	+1.2
CICH	Cipreses	0.75	8	⇓iP	Pg	20 16 54.4	-1.1
CICH				iS	Sg	20 17 05.0	-0.5
TALC	Talca	0.94	249	⇓iP	Pb	20 16 58.3	-0.7
TALC				iS	Sb	20 17 11.8	+0.2
TALC				AMP		20 17 12.2	
	comp=N,3μm,0.1s						
CACH	El Canelo	0.95	358	⇑iP	Pb	20 16 57.8	-1.2
CACH				iS	Sb	20 17 11.1	-0.7
CHCH	Chadas Angostu	1.14	356	eP	Pb	20 17 01.3	-0.9
CHCH				iS	Sb	20 17 17.6	+0.4
LMEL	Las Melosas	1.25	13	⇑iP	Pb	20 17 03.2	-1.0
LMEL				iS	Sb	20 17 20.6	+0.1
LMEL				AMP		20 17 21.7	
	comp=E,320nm,0.3s						
LNV	Longovilo	1.32	327	⇑iP	Pb	20 17 04.4	-0.9
LNV				iS	Sb	20 17 22.7	+0.3
PCH	Pirque	1.44	1	⇓iP	Pn	20 17 06.7	-0.7
PCH				iS	Sb	20 17 26.7	+0.6
TACH	Talagante	1.45	347	iP	Pn	20 17 06.5	-0.9
TACH				iS	Sb	20 17 26.6	+0.3
ANTU	Antumapu	1.50	357	eP	Pn	20 17 07.7	-0.5
ANTU				iS	Sb	20 17 28.0	+0.4
ANTU				AMP		20 17 30.2	
	comp=E,933nm,0.3s						
RCDM	Rinconada Maip	1.59	352	eP	Pn	20 17 09.4	-0.1
RCDM				iS	Sb	20 17 30.9	+0.6
RCDM				AMP		20 17 32.5	
	comp=E,537nm,0.3s						
CLCH	Cerro Calan	1.67	0	eP	Pn	20 17 10.6	0.0
CLCH				iS	Sb	20 17 33.6	+0.9
CLCH				AMP		20 17 35.9	
	comp=N,689nm,0.6s						
CLCH				AMP		20 17 51.4	
	comp=E,552nm,0.7s						
FCH	Farellones	1.75	7	⇑iP	Pn	20 17 12.0	+0.2
FCH				iS	Sn	20 17 36.3	+1.5
FCH				AMP		20 17 37.0	
	comp=N,365nm,0.1s						
LCCH	Las Cruces	1.80	332	eP	Pn	20 17 12.3	-0.2
LCCH				eS	Sn	20 17 36.2	+0.2
CCHI	Chillan	1.97	219	AMP		20 17 53.0	
	comp=E,391nm,0.6s						
JACH	Jahuel	2.38	359	eP	Pn	20 17 22.2	+1.4

WEL 31 20:19:02.9±0.6, 38.52S×176.45E, h215^{km}±6^{km}, ML3.5/1, Error ellipse: s-maj=38.0km s-min=13.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.58	64	PN	P	20 19 31.9	-0.5
URZ				SN	S	20 19 54.0	-1.2
URZ				SN	S	20 19 54.3	-0.9
BKZ	Black Stump Fm	0.65	177	PN	P	20 19 32.8	+0.2
BKZ				SN	S	20 19 54.9	-0.8
BKZ				SN	S	20 19 55.1	-0.6
TSZ	Takapari Road	1.59	194	PN	P	20 19 38.9	-0.2
TSZ				SN	S	20 20 05.9	-1.1
BFZ	Birch Farm	2.17	184	eSN	S	20 20 16.9	+0.1
MRZ	Mangatainoka R	2.25	197	PN	P	20 19 44.4	-1.1
MRZ				SN	S	20 20 16.3	-2.0
KHZ	Kahutara	4.48	209	PN	P	20 20 08.8	-3.1

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*THE **31** 20:23:09.5, 38.60N×23.51E, h12^{km}, ML2.0*
*NEIC **31** 20:23:09.0, 38.56N×23.49E, h4^{km}, ML2.6(ATH), ML2.0(THE), After ATH.*
*ATH **31** 20:23:09.0, 38.56N×23.49E, h4^{km}, MD2.6/8, ML2.6*

ISC 31 20:23:08.2±0.5, 38.57N±0.03×23.51E±0.07, h14^{km}±7^{km}, n15, σ0^{s}59/20, 2C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	Lokris	0.41	282	ePG	Pg	20 23 16.7	0.0
MKIT	Kithairon Oros	0.43	207	ePG	Pg	20 23 16.9	-0.3
MKIT				eSG	Sg	20 23 24.0	+0.9
MPAR	Parnis Oros	0.45	157	ePG	Pg	20 23 17.5	0.0
MPAR				eSG	Sg	20 23 23.5	-0.3
PTL	Penteli	0.59	152	ePG	Pg	20 23 20.2	0.0
ATH	Athens Observa	0.62	165	⇓iPG	Pg	20 23 20.6	-0.2
ATH	Athens Observa	0.62	165	⇓ePg	Pg	20 23 20.6	-0.2
NSAL	Nisos Salamina	0.66	183	ePG	Pg	20 23 21.3	-0.3
AOS	Alonnisos	0.67	25	ePg	Pg	20 23 21.3	-0.4
	comp=Z,4.1nm,0.1s						
AOS				eSg	Sg	20 23 31.5	+0.7
NEO	Neokhori	0.77	343	⇑iPG	Pg	20 23 23.7	-0.1
NEO	Neokhori	0.77	343	⇑ePg	Pg	20 23 23.7	-0.1
NAIG	Nisos Aigina	0.81	181	ePB	Pb	20 23 24.5	+0.9
XOR	Xorichti	0.83	343	ePg	Pg	20 23 24.8	-0.2
XOR				eSg	Sg	20 23 36.6	+0.3
PAIG	Paliouri	1.36	5	ePb	Pb	20 23 33.3	+0.2
PAIG				eSb	Sb	20 23 51.2	+1.0
LIT	Litokhoron	1.72	333	ePb	Pb	20 23 37.9	-1.3
OUR	Ouranopolis	1.80	12	ePb	Pb	20 23 39.5	-1.0

GUC 31 20:23:53.8±0.8, 34.93S×70.44W, h4^{km}, MD3.6, ML2.4, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.57	304	⇓iP	Pg	20 24 05.2	-0.1
SFDO				iS	Sg	20 24 14.1	+1.2
CICH	Cipreses	0.61	1	⇑iP	Pg	20 24 05.6	-0.4
CICH				iS	Sg	20 24 14.8	+0.5
CACH	El Canelo	0.83	351	⇑iP	Pg	20 24 09.4	-0.9
CACH				iS	Sg	20 24 22.2	+0.8
CHCH	Chadas Angostu	1.01	350	⇓iP	Pb	20 24 13.0	-0.5
CHCH				iS	Sb	20 24 27.7	+0.6
LMEL	Las Melosas	1.10	10	⇓iP	Pb	20 24 14.5	-0.5
LMEL				iS	Sb	20 24 30.3	+0.7
LMEL				AMP		20 24 32.4	
	comp=N,125nm,0.2s						
LNV	Longovilo	1.27	320	⇑iP	Pb	20 24 17.1	-0.8
LNV				iS	Sb	20 24 35.0	+0.7
RCDM	Rinconada Maip	1.47	348	eP	Pn	20 24 20.6	-0.6
RCDM				eS	Sb	20 24 40.5	+0.1
RCDM				eS	Sb	20 24 40.8	+0.4
RCDM				AMP		20 24 50.3	
	comp=E,195nm,0.1s						
FCH	Farellones	1.61	4	⇓iP	Pn	20 24 23.5	+0.4
FCH				AMP		20 25 01.5	
	comp=N,61nm,0.3s						
LCCH	Las Cruces	1.73	327	eP	Pn	20 24 24.2	-0.7
LCCH				iS	Sn	20 24 48.1	+0.4

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*MOS **31** 20:35:04.3±0.8, 9.51S×74.64W, h115^{km}, mb5.2/11, Error ellipse: s-maj=20.4km s-min=14.4km az=101.9*
*BJI **31** 20:35:05.8, 9.34S×75.17W, h125^{km}, mB5.3*
*HRVD **31** 20:35:06.4±0.4, 9.54S×74.58W, h140^{km}±4^{km}, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s13,c16;Mantle waves: s51,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.45±.13; $M_{\theta\theta}$-0.24±.14; $M_{\phi\phi}$2.70±.16; $M_{r\theta}$-0.85±.10; $M_{\theta\phi}$0.76±.14; $M_{\phi r}$-0.88±.15; Best double couple: $M_0$2.95×10^{16} NP1:ϕ_s179°,δ36°, λ-114°. NP2:ϕ_s27°,δ57°,λ-74°. Principal axes: T 3.09, Plg11°, Azm106°; N -.27, Plg14°, Azm198°; P -2.81, Plg72°, Azm338°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 20:35:06.4±0.1, 9.56S×74.63W, mb5.2/117 Error ellipse: s-maj=4.4km s-min=2.8km az=218.0*
*SYO **31** 20:35:06.4, 9.56S×74.63W, h125^{km}, MB5.2*
*IDC **31** 20:35:06.7±0.6, 9.55S×74.64W, h128^{km}±4^{km}, mb4.9/22, mb1 5.0/24, mb1mx5.0/26, MS4.0/1, Ms1 3.9/1, ms1mx3.1/21, Error ellipse: s-maj=17.7km s-min=11.5km az=55.0*

ISC 31 20:35:05.1±0.2, 9.51S±0.05×74.72W±0.04, h126^{km}, h126^{km}±1.2^{km}:pP-P, n382, σ0^{s}72/299, mb5.2/143, 14C-63D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	3.23	220	ePn	P	20 35 56.3	+0.8
NNA				ePg	P	20 36 11.7	+16
ARE	Arequipa	7.59	156	eP	P	20 36 55.2	+0.8
LPAZ	La Paz	9.30	137	P	P	20 37 16.9	-0.4
	5.5nm,0.3s,baz=326,slow=11,SNR=82						
LPAZ	La Paz	9.30	137	P	P	20 37 16.9	-0.4
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
LPAZ	La Paz	9.30	137	ePn	P	20 37 18.4	+1.2
	comp=Z,8.3nm,1.5s						
OTAV	Otavalo	10.37	339	ePn	P	20 37 35.7	+4.1
	comp=Z,19nm,0.8s						
SAML	Samuel	11.40	88	ePn	P	20 37 42.2	-3.0
ROSC	El Rosal	14.27	2	P	P	20 38 29.0	+6.3
	comp=Z,8.8nm,0.3s,baz=138,slow=11,SNR=19						
SDV	Santo Domingo	18.72	13	eP	P	20 39 16.7	+0.1
	comp=Z,66nm,0.4s						
JTS	JuntasAbangare	22.15	332	P	P	20 39 53.5	+2.0
	comp=Z,21nm,0.9s,mb4.5,baz=186,slow=2.6,SNR=11						
JTS	JuntasAbangare	22.15	332	eP	P	20 39 55.3	+3.8
	comp=Z,46nm,1.2s,mb4.7						
CPUP	Villa Florida	23.48	138	eP	P	20 40 03.3	-1.0
	comp=Z,28nm,0.5s,mb4.8						
BDFB	Brasilia	26.75	106	P	P	20 40 33.8	-1.4
	comp=Z,32nm,0.6s,mb5.0,baz=273,slow=9.8,SNR=52						
BDFB				LR	LR	20 51 46.7	
	comp=Z,286nm,18.5s,baz=328,slow=38						
BDFB	Brasilia	26.75	106	P	P	20 40 33.8	-1.3
BDFB				pmax	pmax		
	comp=Z,32nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,287nm,18.5s						
SJG	San Juan	28.72	17	P	P	20 40 52.5	-0.4
	comp=Z,29nm,0.5s,mb5.2,baz=181,slow=5.5,SNR=14						
SJG	San Juan	28.72	17	P	P	20 40 52.5	-0.4
SJG				pmax	pmax		
	comp=Z,29nm,0.5s						
SJG	San Juan	28.72	17	eP	P	20 40 51.7	-1.2
	comp=Z,34nm,0.6s,mb5.2						
TRQA	Tornquist	30.65	160	eP	P	20 41 07.6	-2.4
	comp=Z,8.3nm,0.6s,mb4.6						
PLCA	Paso Flores	31.32	174	P	P	20 41 14.6	-1.2
	comp=Z,3.4nm,0.7s,mb4.2,baz=329,slow=12,SNR=9.6						
PLCA				PcP	PcP	20 44 06.5	-0.4
	comp=Z,5.4nm,0.6s,baz=4.0,slow=3.7,SNR=9.5						
PLCA	Paso Flores	31.32	174	P	P	20 41 14.6	-1.1
PLCA						20 44 06.5	
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CAM4	Nova Friburgo	33.36	116	eP	P	20 41 30.5	-3.1
CAM4				i		20 41 32.3	
CAM4				i		20 41 34.7	
CAM4				i		20 41 37.6	
CAM4				i		20 41 49.8	
RCBR	Riachuelo	38.62	87	eP	P	20 42 18.7	+0.6
	comp=Z,42nm,0.6s,mb5.5						
CSU	Charleston Sou	42.56	353	eP	P	20 42 51.5	+1.2
LRAL	Lakeview Retre	43.89	345	eP	P	20 43 00.3	-0.7
	comp=Z,30nm,0.6s,mb5.2						
HKT	Hockley	44.18	333	eP	P	20 43 04.6	+1.2
	comp=Z,50nm,1.0s,mb5.2						
NATX	Nacogdoches	45.26	336	eP	P	20 43 11.6	-0.3
	comp=Z,212nm,1.0s,mb5.8						
SWET	Sewanee	45.73	347	eP	P	20 43 14.5	-1.1
SWET				ePcP	PcP	20 44 50.5	-1.3
OXF	Oxford	45.94	343	eP	P	20 43 14.7	-2.6
	comp=Z,59nm,0.6s,mb5.5						
JCT	Junction City	46.49	330	⇑eP	P	20 43 22.1	+0.4
	comp=Z,46nm,1.0s,mb5.2						
JCT				ePcP	PcP	20 44 53.6	-0.9
BLA	Blacksburg	46.78	354	⇓eP	P	20 43 24.4	+0.5
	comp=Z,71nm,0.7s,mb5.5						
BLA				epP	pP	20 43 54.3	+1.5
BLA				esP	sP	20 44 09.0	+2.0
ELN	Prospectdale	46.83	353	eP	P	20 43 24.2	-0.1
PWV	Princeton	46.97	353	eP	P	20 43 25.5	+0.1
WVT	Waverly	47.05	345	⇓eP	P	20 43 24.2	-1.7
	comp=Z,11nm,0.6s,mb4.8						
WVT				ePcP	PcP	20 44 53.9	-2.5
UALR	University of	47.10	340	⇓eP	P	20 43 26.0	-0.4
	comp=Z,107nm,0.8s,mb5.6						
UALR				epP	pP	20 43 56.1	+0.7
LTX	Lajitas	47.65	325	⇓eP	P	20 43 31.5	+0.8
	comp=Z,47nm,0.6s,mb5.5						
LTX				ePcP	PcP	20 44 58.2	-0.5
TXAR	Lajitas Array	47.65	325	P	P	20 43 31.6	+0.9
	comp=Z,29nm,0.5s,mb5.4,baz=148,slow=8.9,SNR=272						
TXAR				PcP	PcP	20 44 58.0	-0.7
	comp=Z,5.2nm,0.6s,baz=156,slow=8.3,SNR=4.7						
TXAR	Lajitas Array	47.65	325	P	P	20 43 31.6	+0.9
TXAR				PcP	PcP	20 44 58.0	-0.7
FVM	French Village	49.48	344	⇓eP	P	20 43 43.4	-1.3
	comp=Z,12nm,0.6s,mb5.0						
FVM				ePcP	PcP	20 45 04.3	-0.9
WMOK	Wichita Mounta	49.56	334	⇓eP	P	20 43 44.9	-0.5
	comp=Z,12nm,1.0s,mb4.8						
SSPA	Standing Stone	49.98	357	⇓eP	P	20 43 48.7	+0.3
	comp=Z,19nm,0.7s,mb5.1						
CLNB	Carlsbad	50.01	327	eP	P	20 43 49.8	+0.9
ACSO	Alum Creek Sta	50.08	352	eP	P	20 43 48.1	-1.2
	comp=Z,73nm,0.9s,mb5.6						
GDL2	Guadalupe Moun	50.22	327	eP	P	20 43 51.3	+0.8
CPRX	Cap Rock	50.60	328	eP	P	20 43 54.0	+0.7
ALLY	Alegheny Colle	51.15	355	eP	P	20 43 56.4	-1.0
BINY	Binghamton	51.47	359	eP	P	20 44 00.1	+0.3
	comp=Z,249nm,0.8s						
ERPA	Erie	51.60	355	⇓eP	P	20 43 59.7	-1.0
	comp=Z,118nm,0.9s,mb5.9						
HRV	Harvard--Oak R	51.84	3	eP	P	20 44 02.6	+0.1
	comp=Z,82nm,1.0s,mb5.7						
GENY	Geneseo	52.10	357	eP	P	20 44 04.1	-0.3
KSU1	Kansas State U	52.47	339	eP	P	20 44 06.6	-0.7
KSU1				epP	pP	20 44 37.9	+0.9
KSU1				esP	sP	20 44 50.9	+0.1
ACCN	Adirondack Com	52.65	1	eP	P	20 44 08.9	+0.3
BNM	Barren Site	52.94	327	eP	P	20 44 11.1	+0.3
BNM				ePcP	PcP	20 45 17.6	-0.4
LENM	Lemitar	53.13	326	eP	P	20 44 12.2	-0.2
LENM				ePcP	PcP	20 45 17.9	-0.9
NCB	Newcomb	53.23	0	⇓eP	P	20 44 12.7	-0.2
	comp=Z,57nm,0.7s,mb5.7						
MIV	Mineville/With	53.34	1	eP	P	20 44 13.4	-0.3
LAZ	Ladron	53.40	326	eP	P	20 44 14.7	+0.5
LAZ				ePcP	PcP	20 45 20.1	+0.3
CBKS	Cedar Bluff	53.42	336	⇓eP	P	20 44 14.2	-0.2
	comp=Z,57nm,0.9s,mb5.6						
ANMO	Albuquerque	53.45	327	⇓eP	P	20 44 14.6	-0.1
	comp=Z,19nm,0.8s,mb5.2						
LOZ	Lake Ozonia	53.87	0	⇓eP	P	20 44 17.0	-0.6
TUC	Tucson	53.99	322	eP	P	20 44 18.6	0.0
	comp=Z,12nm,0.7s,mb5.0						
TUC				ePcP	PcP	20 45 22.0	0.0
JFWS	Jewell Farm	54.06	346	⇓eP	P	20 44 16.9	-2.1
	comp=Z,85nm,0.7s,mb5.9						
JFWS				ePcP	PcP	20 45 21.4	-0.8
SDCO	Great Sand Dun	55.13	330	⇓iP	P	20 44 27.2	+0.4
	comp=Z,35nm,0.6s,mb5.6						
WUAZ	Wupatki	56.59	324	⇓eP	P	20 44 37.8	+0.5
	comp=Z,110nm,0.9s,mb5.9						
ISCO	Idaho Springs	56.81	332	⇓eP	P	20 44 38.7	0.0
	comp=Z,15nm,0.7s,mb5.1						
PV01	Paradox Valley	56.97	328	eP	P	20 44 40.1	+0.2
PV10	Paradox Valley	57.39	328	eP	P	20 44 42.1	-0.8
PFO	Pinyon Flat Ob	58.41	319	⇓eP	P	20 44 50.4	+0.4
	comp=Z,36nm,0.9s,mb5.4						
LDFC	Landfair	58.51	321	eP	P	20 44 51.4	+0.7
SRU	San Rafael	58.72	328	eP	P	20 44 51.6	-0.5
NEN	Nelson	58.73	322	⇓eP	P	20 44 52.4	+0.1
MSU	Marysvale	59.17	326	eP	P	20 44 55.2	0.0
MSU				ePcP	PcP	20 45 42.3	+0.2
RSSD	Black Hills	59.63	336	⇓eP	P	20 44 58.1	-0.3
	comp=Z,19nm,0.7s,mb5.2						
MPU	Maple Canyon	59.96	328	⇓eP	P	20 45 00.6	-0.1
DAU	Daniels Canyon	60.05	328	eP	P	20 45 01.8	+0.6
DAU				e		20 45 46.0	
NLU	North Lily Min	60.15	327	⇓eP	P	20 45 02.0	+0.1
JLU	Jordanelle	60.29	328	⇓iP	P	20 45 03.1	+0.2
JLU				e		20 45 47.1	
TPNV	Topopah Spring	60.44	322	⇓iP	P	20 45 04.6	+0.6
	comp=Z,57nm,0.9s,mb5.6						
CTU	Camp Tracy	60.52	328	⇓eP	P	20 45 04.2	-0.2
TCUT	Toone Canyon	60.65	329	⇓iP	P	20 45 04.5	-0.8
TCUT				e		20 45 47.0	
DUG	Dugway	60.72	327	⇓iP	P	20 45 06.1	+0.3
	comp=Z,58nm,0.7s,mb5.7						
DAC	Darwin (Calif)	60.83	321	⇓eP	P	20 45 06.6	0.0
	comp=Z,17nm,0.9s,mb5.1						
DAC				ePcP	PcP	20 45 48.2	-0.6
PDAR	Pinedale Array	60.98	331	P	P	20 45 06.8	-0.7
	comp=Z,9.3nm,0.4s,mb5.1,baz=143,slow=7.4,SNR=64						
PDAR				PcP	PcP	20 45 48.5	-0.8
	comp=Z,6.8nm,0.7s,baz=129,slow=6.1,SNR=6.7						
HWUT	Hardware Ranch	61.09	329	eP	P	20 45 07.5	-0.8
	comp=Z,94nm,0.6s,mb6.0						
HWUT				ePcP	PcP	20 45 49.2	-0.5
SPUT	South Promonto	61.33	328	⇓eP	P	20 45 09.6	-0.3
BGU	Big Grassy Mou	61.35	328	⇓eP	P	20 45 09.7	-0.4
BGU				ePcP	PcP	20 45 50.3	-0.5
AHID	Auburn Hatcher	61.72	330	⇓iP	P	20 45 11.9	-0.7
	comp=Z,43nm,0.6s,mb5.7						
TPH	Tonopah	61.76	323	⇓eP	P	20 45 13.2	+0.3
	comp=Z,35nm,0.7s,mb5.5						
HVU	Hansel Valley	61.84	328	⇓eP	P	20 45 12.7	-0.6
REDW	Red Top Meadow	62.05	331	⇓eP	P	20 45 13.9	-0.8
SNOW	Snow King Moun	62.08	331	⇓eP	P	20 45 14.5	-0.4
MTUM	Tungsten Hills	62.11	321	eP	P	20 45 15.8	+0.6
WUWY	Wally Ulrich	62.13	331	eP	P	20 45 15.0	-0.2
TPAW	Teton Pass	62.19	331	eP	P	20 45 14.9	-0.7
MOOW	Moose Ponds	62.29	331	eP	P	20 45 15.9	-0.4
ULM	Lac du Bonnet	62.30	345	P	P	20 45 14.7	-1.6
	comp=Z,94nm,0.7s,mb5.9,baz=157,slow=6.5,SNR=150						
ULM				PcP	PcP	20 45 53.0	-1.5
	comp=Z,16nm,0.5s,baz=157,slow=1.2,SNR=6.0						
ULM	Lac du Bonnet	62.30	345	⇓iP	P	20 45 14.5	-1.8
	comp=Z,149nm,0.7s,mb6.1						
ULM				epP	pP	20 45 45.2	-1.7
ULM				ePcP	PcP	20 45 53.2	-1.3
ELK	Elko	62.42	326	⇓eP	P	20 45 17.1	-0.1
	comp=Z,18nm,0.8s,mb5.1						
OMM	Old Mammoth Mi	62.54	321	⇓eP	P	20 45 18.6	+0.5
MNV	Mina	62.55	323	⇓eP	P	20 45 17.7	-0.4
	comp=Z,21nm,0.7s,mb5.2						
LAO	LASA Array	62.62	336	⇓eP	P	20 45 17.2	-1.2
	comp=Z,20nm,0.7s,mb5.2						
NVAR	Mina Array Bea	62.64	322	P	P	20 45 18.9	+0.2
	comp=Z,23nm,0.8s,mb5.2,baz=134,slow=7.8,SNR=128						
YMR	Madison River	63.09	332	⇓eP	P	20 45 22.2	+0.6
LRV	Little Rabbit	63.09	319	eP	P	20 45 22.7	+1.0
BMN	Battle Mountai	63.31	325	eP	P	20 45 22.7	-0.4
	comp=Z,29nm,0.6s,mb5.4						
DGMT	Dagmar	63.32	338	⇓eP	P	20 45 23.1	0.0
	comp=Z,84nm,0.6s,mb5.8						
QLMT	Earthquake Lak	63.42	332	eP	P	20 45 24.5	+0.7
SAO	San Andreas Ge	63.57	319	eP	P	20 45 24.1	-0.7
	comp=Z,16nm,0.7s,mb5.0						
CMB	Columbia Colle	63.66	321	⇓eP	P	20 45 25.2	-0.2
	comp=Z,22nm,0.9s,mb5.0						
HLID	Hailey	63.96	329	eP	P	20 45 27.2	-0.1
	comp=Z,31nm,0.8s,mb5.2						
WCN	Washoe City	64.07	322	⇓eP	P	20 45 28.8	+0.8
	comp=Z,98nm,1.0s,mb5.6						
MCMT	McKenzie Canyo	64.10	331	P	P	20 45 28.6	+0.5
PAHR	Pah Rah Range	64.10	323	⇓eP	P	20 45 28.9	+0.6
	comp=Z,103nm,0.8s,mb5.7						
BOZ	Bozeman (W)	64.13	332	eP	P	20 45 27.5	-0.9
	comp=Z,35nm,0.7s,mb5.3						
BOZ				epP	pP	20 45 59.6	+0.5
BOZ				esP	sP	20 46 12.7	-0.1
SCHQ	Schefferville	64.44	5	P	P	20 45 29.6	-0.6
	comp=Z,40nm,0.8s,mb5.3,baz=191,slow=4.6,SNR=50						
SCHQ				PcP	PcP	20 46 02.1	-1.1
	comp=Z,16nm,0.7s,baz=201,slow=3.1,SNR=4.7						
SCHQ	Schefferville	64.44	5	⇓eP	P	20 45 29.5	-0.7
	comp=Z,71nm,0.8s,mb5.5						
SCHQ				e	pP	20 46 02.1	+1.2
HRY	Holter Researc	65.03	333	eP	P	20 45 33.9	-0.3
OHCM	Honcut	65.14	321	eP	P	20 45 35.2	+0.2
NSHM	Saint Helena R	65.35	320	eP	P	20 45 36.5	+0.1
WVOR	Wild Horse Val	65.44	326	⇓eP	P	20 45 36.6	-0.3
	comp=Z,37nm,1.0s,mb5.2						
CHMT	Chamberlain Mo	65.83	332	eP	P	20 45 39.1	-0.2
HOPS	Hopland	65.92	320	eP	P	20 45 39.6	-0.5
	comp=Z,8.9nm,0.6s,mb4.8						
WDC	Whiskeytown Da	66.54	322	⇓eP	P	20 45 42.1	-1.9
	comp=Z,46nm,0.7s,mb5.4						
YBH	Yreka Blue Hor	67.34	323	⇓iP	P	20 45 47.7	-1.2
	comp=Z,26nm,0.6s,mb5.2						
KHMM	Horse Mountain	67.44	322	⇓eP	P	20 45 50.3	+0.7
LNOR	Lincton Mounta	67.55	329	eP	P	20 45 49.6	-0.5
KRMB	Red Mountain	67.93	322	eP	P	20 45 53.1	+0.5
FFC	Flin Flon	67.98	343	eP	P	20 45 51.4	-1.2
	comp=Z,30nm,0.7s,mb5.2						
HUMO	Hull Mountain	68.02	324	eP	P	20 45 51.8	-1.2
	comp=Z,8.9nm,0.5s,mb4.8						
DBO	Dodson Butte	68.50	324	P	P	20 45 56.3	+0.3
KBO	Bosley Butte	68.53	323	eP	P	20 45 56.8	+0.5
HAWA	Hanford	68.54	328	eP	P	20 45 56.4	+0.1
	comp=Z,27nm,0.6s,mb5.2						
NEW	Newport	68.62	331	⇓eP	P	20 45 56.2	-0.5
	comp=Z,20nm,0.6s,mb5.1						
VGB	Gordon Butte	68.62	327	eP	P	20 45 57.4	+0.7
HSO	Harness Mounta	68.65	324	eP	P	20 45 56.7	-0.3
DPW	Davenport	68.87	330	eP	P	20 45 58.7	+0.5

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KEBM  Edson Butte       68.99 323⇓eP      P        20 45 59.8 +0.7
SSOR  Sweet Springs     69.12 326 eP      P        20 45 59.5 -0.3
COR   Corvallis         69.42 325⇓eP      P        20 46 02.5 +0.8
      comp=Z,70nm,0.6s,mb5.7
ASR   Mount Adams--S    69.46 327  P      P        20 46 02.7 +0.8
WTV   Waterville        69.62 329  P      P        20 46 03.4 +0.5
LON   Longmire          69.96 328 eP      P        20 46 04.9 -0.1
NLW   Nelson Butte      70.07 329 eP      P        20 46 05.8 +0.3
KMOR  Kings Mountain    70.17 326  P      P        20 46 07.3 +1.1
EFAM  Famara            70.34  54  P      P        20 46 07.5  0.0
      comp=Z,97nm,1.9s,mb5.3
RMW   Rattlesnake Mo    70.42 328 eP      P        20 46 07.1 -0.5
RPW   Rockport          70.90 329 eP      P        20 46 10.2 -0.3
GNW   Green Mountain    71.02 328 eP      P        20 46 11.1 -0.1
LIC   Lamto             71.17  80 eP      P        20 46 11.6 -1.1
      comp=Z,25nm,0.4s,mb5.1
LIC   Lamto             71.17  80 ePKP2   P        20 46 12.5 -0.2
      comp=Z,102nm,0.7s,mb5.8
TIC   Toumodi           71.27  80 ePKP2   P        20 46 12.2 -1.1
      comp=Z,97nm,0.2s,mb6.2
DBIC  Dimbokro          71.43  80  P      P        20 46 13.1 -1.2
      comp=Z,11nm,0.3s,mb5.1,baz=243,slow=5.3,SNR=23
DBIC  Dimbokro          71.43  80  P      P        20 46 13.1 -1.2
DBIC                               pmax   pmax
      comp=Z,11nm,0.4s
DBIC  Dimbokro          71.43  80  P      P        20 46 13.4 -0.8
      comp=Z,48nm,0.6s,mb5.5
KIC   Kosan Boka        71.48  80 ePKP2   P        20 46 13.5 -1.0
      comp=Z,182nm,0.5s,mb6.1
OCWA  Octopus Mounta    71.85 327 eP      P        20 46 17.1 +0.9
      comp=Z,49nm,1.0s,mb5.3
FRB   Frobisher Bay     73.19   3  P      P        20 46 23.3 -0.4
      comp=Z,47nm,0.6s,mb5.5,baz=192,slow=6.3,SNR=41
FRB   Frobisher Bay     73.19   3  P      P        20 46 23.3 -0.4
FRB                                pmax   pmax
      comp=Z,47nm,0.6s
VNA1  Neumayer--Stat    73.38 161⇑i       P        20 46 28.1 +3.4
VNA1  Neumayer--Stat    73.38 161⇓i       P        20 46 43.9  +19
VNA1  Neumayer--Stat    73.38 161⇑i       pP       20 47 01.5 +5.3
VNA2  Neumayer--Watz    73.74 162⇑i       P        20 46 29.7 +2.9
VNA2  Neumayer--Watz    73.74 162⇑i       P        20 46 43.5  +17
VNA2  Neumayer--Watz    73.74 162⇓i       pP       20 47 02.5 +4.2
SNAA  Sanae             75.36 162⇓i       P        20 46 35.6 -0.4
SNAA  Sanae             75.36 162⇑i       pP       20 47 08.5 +0.8
SNAA  Sanae             75.36 162⇓i       sP       20 47 21.5 +0.1
PTEO  Sao Teotonio      77.32  48 eP      P        20 46 48.7 +1.0
      comp=Z,55nm,1.6s,mb5.0
MOE   Montemor          77.97  47 eP      P        20 46 52.0 +0.7
YKA   Yellowknife Ar    78.11 342  P      P        20 46 51.1 -0.4
      comp=Z,14nm,0.6s,mb4.9,baz=140,slow=5.9,SNR=106
YKA                                pP     pP       20 47 22.7 -0.6
      comp=Z,3.3nm,0.8s,baz=139,slow=6.3,SNR=1.6
YKA   Yellowknife Ar    78.11 342  P      P        20 46 51.1 -0.4
YKA                                *PP    pP       20 47 22.7 -0.6
YKA                                pmax   pmax
      comp=Z,14nm,0.6s
YKA                                pmax   pmax
      comp=N,3.0nm,0.8s
YKA   Yellowknife Ar    78.11 342  P      P        20 46 51.1 -0.4
YKA                                pP     pP       20 47 22.7 -0.6
PBEJ  Beja              78.13  48 eP      P        20 46 52.8 +0.6
PALC  Alcoutim          78.21  49 eP      P        20 46 53.3 +0.7
      comp=N,32nm,0.7s,mb5.2
PALC                              ePcP    PcP      20 46 59.6 -2.4
EVO   Evora             78.22  47⇓iP      P        20 46 52.7 +0.1
      comp=N,44nm,0.7s,mb5.0
EVO                               eR
      comp=N,78nm,21.4s
EGRO  El Granado        78.23  48  P      P        20 46 53.7 +1.0
      comp=N,14nm,0.5s,mb5.0
PTOM  Tomar             78.35  46 eP      P        20 46 53.5 +0.2
      comp=N,26nm,0.7s,mb5.1
PTOM                              ePcP    PcP      20 46 59.5 -3.0
EMIN  Mina Concepcio    78.92  49  P      P        20 46 57.4 +1.0
      comp=N,8.0nm,0.6s,mb4.7
EBAD  Badajoz           79.03  47  P      P        20 46 57.9 +0.9
      comp=N,11nm,0.6s,mb4.9
PCBR  Castelo Branco    79.10  46 eP      P        20 46 57.4  0.0
      comp=N,19nm,1.1s,mb4.8
PCBR                              epP     pP       20 47 29.9 +0.7
PVIS  Viseu             79.13  45 eP      P        20 46 57.6  0.0
      comp=N,32nm,1.2s,mb5.0
PVIS                              ePcP    PcP      20 47 03.5 -2.3
PVIS                              epP     pP       20 47 30.4 +1.0
ESPR  Espera            79.21  50  P      P        20 46 59.1 +1.1
      comp=N,14nm,0.8s,mb4.8
MTE   Manteigas         79.26  46 eP      P        20 46 58.4 +0.2
      comp=N,22nm,0.7s,mb5.1
MTE                               ePcP    PcP      20 47 04.6 -1.8
MTE                               epP     pP       20 47 30.9 +0.8
MTE   Manteigas         79.26  46 eP      P        20 46 58.1 -0.1
      comp=N,20nm,0.6s,mb5.1
MTE                               epP     pP       20 47 30.3 +0.2
ELOB  Lobios            79.46  44  P      P        20 46 58.1 -1.2
      comp=N,50nm,2.7s,mb4.9
PVRL  Vila Real         79.47  45 eP      P        20 46 59.5 +0.1
EMIJ  Mijas             79.92  50  P      P        20 47 02.1 +0.2
      comp=N,25nm,0.8s,mb5.1
ERUA  La Rua            80.30  44  P      P        20 47 04.3 +0.5
      comp=N,10nm,0.6s,mb4.8
PBRG  Braganca          80.35  45 eP      P        20 47 04.4 +0.3
      comp=N,20nm,0.7s,mb5.0
PBRG                              ePcP    PcP      20 47 10.0 -1.1
PBRG                              epP     pP       20 47 37.1 +1.1
ELOJ  Sierra Loja       80.58  50  P      P        20 47 06.4 +1.0
      comp=N,15nm,0.8s,mb4.9
EADA  Adamuz            80.61  49  P      P        20 47 05.8 +0.3
      comp=N,15nm,0.7s,mb4.9
QSPA  South Pole Qui    80.61 180⇓iP      P        20 47 05.6 +0.9
      comp=N,35nm,0.9s,mb5.2
ELUQ  Luque             80.64  49  P      P        20 47 06.9 +1.2
      comp=N,14nm,0.9s,mb4.8
EPON  Pontenova         80.65  43  P      P        20 47 06.0 +0.4
      comp=N,20nm,0.8s,mb5.0
ERON  Agron             80.80  50  P      P        20 47 07.7 +1.1
      comp=N,16nm,0.7s,mb5.0
ESDC  Sonseca Array     81.57  47  P      P        20 47 10.9 +0.4
      comp=N,7.8nm,0.7s,mb4.7,baz=257,slow=5.6,SNR=37
ESDC                               pP     pP       20 47 41.9 -0.7
      comp=N,4.6nm,0.8s,baz=252,slow=6.2,SNR=4.5
ESDC  Sonseca Array     81.57  47  P      P        20 47 11.1 +0.5
      comp=N,5.5nm,0.6s,mb4.6
ESLA  Sonseca Array     81.57  47 eP      P        20 47 10.8 +0.2
      comp=N,2.0nm,0.7s,mb4.1
ESLA                              epP     pP       20 47 44.6 +2.0
EQES  Quesada           81.61  49  P      P        20 47 10.8 +0.1
      comp=N,1.6nm,0.9s
EVIA  Vianos            82.30  49  P      P        20 47 15.7 +1.4
      comp=N,62nm,0.6s,mb5.6
ETOB  Tobarra           83.01  49  P      P        20 47 18.9 +1.0
      comp=N,40nm,1.1s,mb5.2
ELAN  Lanestosa         83.14  44  P      P        20 47 19.2 +0.7
      comp=N,42nm,0.9s,mb5.3
ETOR  Torete            83.32  47  P      P        20 47 21.0 +1.5
      comp=N,43nm,0.7s,mb5.4
EBEN  Beniarda          84.02  49  P      P        20 47 24.0 +1.0
      comp=N,34nm,0.9s,mb5.2
BORG  Borgarnes         84.02  20  P      P        20 47 23.4 +1.0
      comp=N,40nm,0.8s,mb5.3,baz=188,slow=3.7,SNR=7.7
BORG                               pP     pP       20 47 56.1 +1.5
      comp=N,24nm,0.7s,baz=302,slow=3.0,SNR=3.0
EMOS  Mosqueruela       84.33  48  P      P        20 47 25.0 +0.5
      comp=N,35nm,2.5s,mb4.7
EALK  Alkurruntz        84.47  45  P      P        20 47 25.0 -0.2
DCN   Croghan           84.51  34⇑iP      P        20 47 25.7 +0.6
DCN   Croghan           84.51  34 eP      P        20 47 23.7 -1.4
DCN                              ⇑iP               20 47 25.7
SJPF  Ste Jean          84.63  45 eP      P        20 47 27.1 +1.1
      comp=N,70nm,1.0s,mb5.3
SJPF                              epP     pP       20 47 57.6 -0.7
OSSF  Osses             84.65  45 eP      P        20 47 26.4 +0.3
ESAC  San Caprasio      84.74  46  P      P        20 47 26.6  0.0
LARF  Larrau            84.78  45 eP      P        20 47 27.9 +1.2
QUIF  Quistinic         84.92  40 eP      P        20 47 27.3  0.0
      comp=N,53nm,1.1s,mb5.1
DMUB  Kingscourt        84.94  33⇑iP      P        20 47 27.8 +0.6
DMUB  Kingscourt        84.94  33 eP      P        20 47 25.8 -1.4
DMUB                             ⇑iP               20 47 27.8
ROSF  Rostrenen         84.99  39 eP      P        20 47 27.9 +0.2
      comp=N,55nm,1.0s,mb5.1
ETSF  Etsaut            85.03  45 eP      P        20 47 28.7 +0.7
SUMG  Summit            85.23  10⇓eP      P        20 47 29.4 +1.1
      comp=N,95nm,0.7s,mb5.8
SGMF  Saint Gilles      85.42  40 eP      P        20 47 29.8 +0.1
EPF   Esparros          85.70  45 eP      P        20 47 31.6 +0.3
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      comp=N,18nm,1.0s,mb4.6
MELF  Melles            85.95  46 eP      P        20 47 32.6 +0.1
MLS   Moulis            86.21  46 eP      P        20 47 33.6 -0.1
SALF  Salau             86.22  46 eP      P        20 47 34.1 +0.3
MFF   Saint Martin d    86.44  42 eP      P        20 47 34.7 -0.1
      comp=N,42nm,0.6s,mb5.2
MFF                               epP     pP       20 48 06.0 -1.2
GRR   Gorron            86.53  40 eP      P        20 47 34.9 -0.3
      comp=N,22nm,0.6s,mb5.0
LFF   La Frestale       86.54  44 eP      P        20 47 35.3  0.0
      comp=N,28nm,0.6s,mb5.1
FLN   La Foliniere      86.89  40 eP      P        20 47 37.2 +0.3
      comp=N,20nm,0.6s,mb4.9
LDF   La Druitiere      87.06  40 eP      P        20 47 37.4 -0.3
      comp=N,13nm,0.7s,mb4.7
MTLF  Montolieu         87.11  45 eP      P        20 47 37.6 -0.5
      comp=N,16nm,0.9s,mb4.6
RJF   Les Rejaudoux     87.17  43 eP      P        20 47 38.0 -0.3
      comp=N,24nm,1.0s,mb4.8
CAF   Calviac           87.43  44 eP      P        20 47 39.4 -0.2
      comp=N,15nm,0.6s,mb4.8
EKA   Eskdalemuir Ar    87.50  33  P      P        20 47 39.6  0.0
      comp=N,9.3nm,0.8s,mb4.7,baz=243,slow=5.6,SNR=21
EKA                                pP     pP       20 48 13.2 +1.0
      comp=N,2.4nm,0.7s,baz=230,slow=6.5,SNR=3.0
EKA   Eskdalemuir Ar    87.50  33  P      P        20 47 39.7 +0.1
EKA                                *PP    pP       20 48 13.2 +1.0
EKA                                pmax   pmax
      comp=Z,9.0nm,0.9s
EKA                                pmax   pmax
      comp=N,2.0nm,0.7s
INK   Inuvik            87.84 341  P      P        20 47 41.7 +0.6
      comp=N,58nm,0.8s,mb5.7,baz=108,slow=4.8,SNR=87
INK   Inuvik            87.84 341  P      P        20 47 41.7 +0.7
INK                                pmax   pmax
      comp=Z,58nm,0.8s
INK   Inuvik            87.84 341  P      P        20 47 41.7 +0.6
TCF   Toulx Ste Croi    87.91  43 eP      P        20 47 41.4 -0.4
      comp=Z,20nm,0.8s,mb4.9
PYM   Petit Puy Mans    88.30  43 eP      P        20 47 43.4 -0.3
LBL   Lubilhac          88.32  44 eP      P        20 47 43.7 -0.2
BGF   Bois d'Agland     88.40  42 eP      P        20 47 44.0 -0.2
      comp=Z,54nm,0.6s,mb5.5
BGF                               epP     pP       20 48 14.9 -1.9
LASF  Ste Croix         88.45  45 eP      P        20 47 44.5  0.0
      comp=Z,23nm,1.0s,mb4.8
HYF   Humbligny         88.46  42 eP      P        20 47 44.3 -0.1
AGO   Saint Agoulin     88.46  43 eP      P        20 47 43.7 -0.8
PLDF  La Plantade       88.77  43 eP      P        20 47 45.7 -0.2
AVF   Avril sur Loir    88.80  42 eP      P        20 47 45.4 -0.7
      comp=Z,30nm,0.8s,mb5.1
SSF   Saint Saulge      88.97  42 eP      P        20 47 46.0 -0.9
      comp=Z,9.1nm,0.5s,mb4.7
TSUM  Tsumeb            89.07 109 eP      P        20 47 48.4 +0.4
      comp=Z,8.7nm,1.0s,mb4.7
TSUM                              epP     pP       20 48 20.8 +0.3
SMF   Signal de Mont    89.09  42 eP      P        20 47 47.0 -0.4
      comp=Z,69nm,1.1s,mb5.3
SMF                               epP     pP       20 48 18.2 -1.8
EYAK  Cordova Ski Ar    89.10 332 eP      P        20 47 47.3 +0.2
VIVF  Saint-Julien-l    89.21  44 eP      P        20 47 48.1 +0.1
LOR   Lormes            89.26  42 eP      P        20 47 47.5 -0.7
      comp=Z,17nm,0.5s,mb5.0
LOR                               epP     pP       20 48 18.6 -2.2
DIV   Divide            89.32 333 eP      P        20 47 48.4 +0.3
      comp=Z,196nm,0.8s,mb6.2
DIV                               epP     pP       20 48 21.5 +0.7
DIV                               esP     sP       20 48 34.1 -0.4
SYO   Syowa Base        89.61 161 ⇑P      P        20 47 49.1 -0.2
SYO   Syowa Base        89.61 161 ⇑pP     pP       20 48 23.0 +1.0
SMRF  Simiane la Rot    89.62  45 eP      P        20 47 49.8 -0.2
ORIF  Oris-en-Rattie    90.06  45 eP      P        20 47 51.9 -0.1
      comp=Z,19nm,0.7s,mb5.0
LMR   La Mourre         90.14  46 eP      P        20 47 52.3 -0.1
      comp=Z,41nm,1.1s,mb5.2
BAIF  Baives            90.19  39 eP      P        20 47 52.1 -0.4
FRF   La Foret Royal    90.28  46 eP      P        20 47 52.9 -0.2
      comp=Z,26nm,0.9s,mb5.0
MEZF  Maizieres J'vi    90.34  41 eP      P        20 47 52.8 -0.5
      comp=Z,10nm,0.4s,mb5.0
CABF  La Chapelle       90.58  43 eP      P        20 47 54.3 -0.1
      comp=Z,15nm,0.8s,mb4.8
GIVF  Givet             90.58  39 eP      P        20 47 54.3  0.0
SML   Sawmill           90.70 333⇓iP      P        20 47 54.9 +0.3
LPL   La Plagne         90.78  44 eP      P        20 47 55.9 +0.5
      comp=Z,25nm,0.9s,mb5.1
LPL                               epP     pP       20 48 27.2 -0.9
LPG   La Plagne         90.78  44 eP      P        20 47 56.3 +0.9
      comp=Z,55nm,1.2s,mb5.3
THEF  They Montfort     90.89  41 eP      P        20 47 55.1 -0.7
PMR   Palmer            91.00 333 eP      P        20 47 55.9 -0.2
      comp=Z,6.6nm,0.4s,mb5.1
HAU   Haudompre         91.07  42 eP      P        20 47 56.1 -0.6
ILAR  Eielson Array     91.08 336  P      P        20 47 56.1 -0.2
      comp=Z,7.4nm,0.6s,mb5.0,baz=153,slow=2.9,SNR=72
ILAR                               PP     PP       20 51 29.7 -7.0
      comp=Z,2.4nm,0.7s,baz=104,slow=6.6,SNR=9.3
ILAR  Eielson Array     91.08 336  P      P        20 47 56.2 -0.1
ILAR                               pmax   pmax
      comp=Z,7.0nm,0.6s
ILAR                               pmax   pmax
      comp=Z,2.0nm,0.7s
LOMF  Lomont            91.24  42 eP      P        20 47 57.9 +0.4
HINF  Hinteralfeld      91.36  42 eP      P        20 47 57.2 -0.8
COLA  College           91.50 336 eP      P        20 47 59.0 +0.7
MOF   Molkenrain        91.55  42 eP      P        20 47 58.9  0.0
KDAK  Kodiak Island     91.58 328⇓eP      P        20 47 59.0 +0.2
      comp=Z,46nm,0.7s,mb5.8
MCK   McKinley          91.58 335⇓eP      P        20 47 58.6 -0.1
      comp=Z,12nm,0.8s,mb5.2
ECH   Echery            91.65  41 eP      P        20 47 59.3  0.0
CDF   Champ du Feu      91.77  41 eP      P        20 47 59.4 -0.5
CDF                               epP     pP       20 48 30.7 -1.9
WLS   Welschbruch       91.82  41 eP      P        20 48 00.1  0.0
DAG   Danmarks Havn     91.88  11⇑iP      P        20 48 00.0 +0.2
      comp=Z,10nm,0.7s,mb5.2
RUP   Ruppelstein       91.90  40 eP      P        20 48 00.8 +0.3
LIBD  Limburg           91.92  42 eP      P        20 48 01.0 +0.4
FELD  Feldberg          92.13  42 eP      P        20 48 00.8 -0.8
SPU   Mount Spurr       92.22 332 eP      P        20 48 01.2 -0.4
LANF  Langenberg        92.23  41 eP      P        20 48 00.1 -1.9
RSO   Redoubt South     92.36 331 eP      P        20 48 02.4 +0.1
DAVOX Davos             93.17  43  P      P        20 48 06.5 +0.1
      comp=Z,6.5nm,0.9s,mb5.0,baz=237,slow=5.4,SNR=6.2
SVW   Sparrevohn        93.88 331 eP      P        20 48 09.5 +0.3
IMA   Indian Mountai    94.17 336 eP      P        20 48 10.9 +0.5
TTA   Tatalina          94.45 333 eP      P        20 48 11.1 -0.7
CLL   Collm             95.92  39  P      P        20 48 19.0 +0.3
CLL   Collm             95.92  39 eP      P        20 48 19.0 +0.3
GERES GERESS Array B    96.04  42  P      P        20 48 19.5 +0.2
      comp=Z,1.5nm,0.9s,mb4.4,baz=243,slow=3.0,SNR=11
GERES                              pP     pP       20 48 50.8 -1.3
      comp=Z,1.6nm,0.9s,baz=270,slow=4.0,SNR=4.0
GERES                              PKKPbc          21 05 05.7
      comp=Z,0.5nm,0.5s,baz=90,slow=2.7,SNR=6.8
GERES GERESS Array B    96.04  42  P      P        20 48 19.5 +0.2
GERES                              *PP    pP       20 48 50.8 -1.3
GERES                              pmax   pmax
      comp=Z,2.0nm,0.9s
GERES                              pmax   pmax
      comp=N,2.0nm,0.9s
GERES                              pmax   pmax
      comp=Z,1.0nm,0.5s
NB2   NORSAR Subarra    96.27  29  P      P        20 48 21.2 +1.1
      comp=Z,11nm,0.9s,mb5.3,baz=261,slow=4.5
NB2   NORSAR Subarra    96.27  29  P      P        20 48 21.2 +1.1
      baz=261,slow=4.6
NOA   NORSAR Array B    96.27  29  P      P        20 48 21.3 +1.2
      comp=Z,5.4nm,0.9s,mb5.0,baz=259,slow=4.6,SNR=10
NOA                                pP     pP       20 48 53.1 +0.2
      comp=Z,7.3nm,0.8s,baz=258,slow=4.6,SNR=11
NOA   NORSAR Array B    96.27  29  P      P        20 48 21.3 +1.2
NOA                                *PP    pP       20 48 53.1 +0.2
NOA                                pmax   pmax
      comp=Z,5.0nm,0.9s
NOA                                pmax   pmax
      comp=N,7.0nm,0.9s
BRG   Berggiesshubel    96.45  40 eP      P        20 48 22.1 +1.0
BRG                                pmax   pmax
      comp=Z,6.0nm,1.2s,mb4.9
BRG   Berggiesshubel    96.45  40  P      P        20 48 22.1 +1.0
      comp=Z,6.4nm,1.2s,mb4.9
HFS   Hagfors           97.38  30  P      P        20 48 25.4 +0.2
      comp=Z,4.5nm,0.8s,mb5.0,baz=270,slow=4.4,SNR=6.8
HFS                                pP     pP       20 48 59.2 +1.3
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      comp=Z,7.9nm,0.9s,baz=315,slow=2.1,SNR=4.8
HFS   Hagfors           97.38  30  P      P        20 48 25.4 +0.3
HFS                                *PP    pP       20 48 59.2 +1.3
HFS                                pmax   pmax
      comp=Z,5.0nm,0.8s
HFS                                pmax   pmax
      comp=N,8.0nm,0.9s
VRAC  Vranov            97.98  41  P      P        20 48 29.3 +1.2
      comp=N,1.2nm,0.5s,mb4.7,baz=312,slow=21,SNR=3.6
ARCES ARCESS Array B   102.43  21  P      Pdif     20 48 47.2 -0.5
      comp=N,1.6nm,0.8s,baz=273,slow=4.5,SNR=9.4
ARCES                              PKKPbc          21 04 47.9
      comp=N,1.0nm,0.6s,baz=88,slow=3.9,SNR=11
ARCES ARCESS Array B   102.43  21  P      Pdif     20 48 47.2 -0.5
ARCES                              pmax   pmax
      comp=Z,2.0nm,0.8s
ARCES                              pmax   pmax
      comp=Z,1.0nm,0.6s
FINES FINESS Array B   103.45  29  PKKPbc          21 04 45.0
      comp=Z,0.7nm,0.4s,baz=117,slow=6.2,SNR=7.5
AKASG Malin Array Be   106.13  40  PKiKP           20 53 14.5
      comp=Z,0.2nm,0.3s,baz=291,slow=2.7,SNR=4.3
BRTR  Keskin Array B   110.12  51  PKiKP           20 53 22.8
      comp=Z,1.0nm,1.0s,baz=225,slow=1.7,SNR=4.7
BRTR  Keskin Array B   110.12  51 i PKIKP PKPdf    20 53 22.8 +0.9
BRTR                               pmax   pmax
      comp=Z,1.0nm,1.0s
AYUS  'Aynunah         112.01  63  P      PKPdf    20 53 28.3 +2.4
MALT  Malatya          113.97  52 ePKPdf  PKPdf    20 53 31.1 +1.5
HILS  Ha'il            117.81  64  P      PKPdf    20 53 39.4 +2.2
BLJS  Baljurashi       117.84  73  P      PKPdf    20 53 40.6 +3.2
NAMS  An Nimas         118.41  73  P      PKPdf    20 53 41.6 +3.1
AFFS  'Afif            119.08  68  P      PKPdf    20 53 42.0 +2.2
ARSS  Ar Rass          119.19  66  P      PKPdf    20 53 42.0 +2.1
DJNS  Zahran al Janu   119.66  75  P      PKPdf    20 53 44.1 +3.1
KAMS  Al Khamasin      120.64  72  P      PKPdf    20 53 44.6 +1.7
ARU   Arti             120.81  28 ePKIKP  PKPdf    20 53 43.4 +1.0
ARU                               e                20 54 19.0
ARU   Arti             120.81  28 ePKPdf  PKPdf    20 53 43.1 +0.8
MZLS  Mizel            121.09  68  P      PKPdf    20 53 45.8 +2.1
STKA  Stephens Creek   126.16 219 ePKP    PKPdf    20 53 54.5 +1.2
      comp=Z,8.4nm,0.6s
STKA                              epPKP            20 54 29.9
STKA  Stephens Creek   126.16 219  PKP    PKPdf    20 53 54.6 +1.3
      comp=Z,11nm,0.6s,baz=106,slow=2.4,SNR=45
ZRNK  Zerenda          127.72  27 ePKPdf  PKPdf    20 53 57.1 +1.4
ZRNK                              epPKPdf          20 54 32.8
CTA   Charters Tower   130.09 234 ePKP    PKPdf    20 54 02.5 +1.3
      comp=Z,8.3nm,0.9s
BOD   Bodaibo          131.33 354 ePKHKP           20 53 51.8
BOD                               e                20 54 00.9
NVS   Novosibirsk      131.51  17 i PKIKP PKPdf    20 54 03.0 +0.1
NVS                               i                20 54 39.0
NVS                                pmax   pmax
      comp=Z,12nm,1.2s
NVS                                pmax   pmax
      comp=E,5.0nm,1.3s
ZAL   Zalesovo         132.74  16  PKP    PKPdf    20 54 06.5 +1.1
      comp=E,12nm,1.0s,baz=32,slow=1.5,SNR=42
ZAL                                pPKP            20 54 41.0
      comp=E,6.9nm,1.0s,baz=94,slow=2.5,SNR=4.7
ZAL   Zalesovo         132.74  16  PKIKP  PKPdf    20 54 06.5 +1.2
ZAL                                                20 54 41.0
ZAL                                pmax   pmax
      comp=Z,12nm,1.0s
ZAL                                pmax   pmax
      comp=N,7.0nm,1.0s
ZAL   Zalesovo         132.74  16  PKP    PKPdf    20 54 06.5 +1.1
ZAL                                pPKP            20 54 41.0
KLR   Kul'dur          134.65 336 ePKIKP  PKPdf    20 54 09.8 +0.8
ASAR  Alice Springs    136.76 220  PKhKP           20 54 02.2
      comp=N,1.2nm,0.5s,baz=128,slow=3.4,SNR=16
ASAR                               PKP    PKPdf    20 54 13.7 +0.2
      comp=N,8.8nm,0.5s,baz=121,slow=1.9,SNR=39
ASAR                               pPKP            20 54 49.0
      comp=N,8.6nm,0.8s,baz=135,slow=2.4,SNR=7.2
ASAR                               SKPbc           20 57 34.8
      comp=N,1.2nm,0.8s,baz=142,slow=3.6,SNR=4.2
ASAR  Alice Springs    136.76 220  PKP    PKPdf    20 54 13.7 +0.2
ASAR                               pPKP            20 54 49.0
ASAR                               SKPbc           20 57 34.8
ASPA  Alice Springs    136.76 220 ePKP    PKPdf    20 54 03.9  -10
ASPA                              ePKIKP  PKPdf    20 54 14.6 +1.1
ASPA                              epPKIKP          20 54 50.3
ASPA                              ePKS    PKS      20 57 45.1 -3.6
ASPA  Alice Springs    136.76 220 ePKPdf  PKPdf    20 54 14.6 +1.1
ASPA                              ePKS    PKS      20 57 45.1 -3.6
USP   Ospenovka        136.98  33  P      PKPdf    20 54 15.9 +2.5
      SNR=6.4
EKS2  Erkin-Say        136.98  34  P      PKPdf    20 54 16.3 +2.9
      SNR=10
AML   Almayashu        137.28  35  P      PKPdf    20 54 17.0 +3.0
      SNR=5.3
AAK   Ala-Archa        137.40  34  P      PKPdf    20 54 17.3 +3.1
      SNR=6.0
AAK   Ala-Archa        137.40  34 ePKPdf  PKPdf    20 54 15.5 +1.3
TKM2  Tokmak 2         137.80  33  P      PKPdf    20 54 17.4 +2.4
      SNR=7.0
MKAR  Makanchi Array   138.00  24  PKhKP           20 54 07.0
      comp=N,0.6nm,0.5s,baz=270,slow=2.9,SNR=4.0
MKAR                               PKP    PKPdf    20 54 15.8 +0.6
      comp=N,6.3nm,0.7s,baz=358,slow=1.9,SNR=31
MKAR  Makanchi Array   138.00  24 i PKHKP          20 54 07.1
MKAR                                               20 54 15.9
MKAR                               pmax   pmax
      comp=Z,1.0nm,0.5s
MKAR                               pmax   pmax
      comp=Z,6.0nm,0.7s
MKAR  Makanchi Array   138.00  24  PKP    PKPdf    20 54 15.8 +0.6
WB2   Warramunga Arr   139.07 224 eP      PKPdf    20 54 09.4 -8.5
WB2                               ePKIKP  PKPdf    20 54 19.2 +1.3
WB2                               epPKIKP          20 54 54.8
WB2                               ePKS    PKS      20 57 52.0 -0.8
WB2   Warramunga Arr   139.07 224 ePKPdf  PKPdf    20 54 19.2 +1.3
WB2                               ePKS    PKS      20 57 52.0 -0.8
WRA   Warramunga Arr   139.08 224  PKhKP           20 54 07.1
      comp=Z,1.2nm,0.4s,baz=130,slow=3.0,SNR=40
WRA                                PKP    PKPdf    20 54 19.1 +1.2
      comp=Z,12nm,0.4s,baz=124,slow=2.0,SNR=82
WRA                                pPKP            20 54 53.4
      comp=Z,10nm,0.7s,baz=134,slow=1.6,SNR=6.7
WRA   Warramunga Arr   139.08 224 i PKHKP          20 54 07.1
WRA                                                20 54 19.1
WRA                                                20 54 53.4
WRA                                pmax   pmax
      comp=Z,1.0nm,0.4s
WRA                                pmax   pmax
      comp=Z,12nm,0.4s
WRA                                pmax   pmax
      comp=N,11nm,0.7s
WRA   Warramunga Arr   139.08 224  PKP    PKPdf    20 54 19.1 +1.2
WRA                                pPKP            20 54 53.4
ZAK   Zakamensk        139.22   2 ePKHKP           20 54 08.6
ZAK                               e                20 54 18.9
CN2   Changchun        141.60 336 ePKP    PKPdf    20 54 27.0 +5.2
CN2                               eXPKP            20 55 05.0
CN2                                PP     PP
      comp=Z,400nm,8.0s
SONM  Songino Array    141.79 359  PKhKP           20 54 17.7
      comp=Z,3.5nm,0.6s,baz=330,slow=3.0,SNR=32
SONM                               PP     PP       20 57 27.8 -3.0
      comp=Z,2.0nm,0.9s,baz=346,slow=5.1,SNR=4.9
WMQ   Urumqi           142.55  21 ⇑PKP    PKPdf    20 54 21.3 -2.1
WMQ                                APKP            20 54 55.5
WMQ                                XPKP            20 55 11.3
WMQ                                PP     PP       20 57 34.8 -0.7
WMQ                                PKS    PKS      20 57 55.5 -2.5
WMQ                                LR     LR
      comp=E,31nm,20.6s
WMQ                                LR     LR
      comp=Z,23nm,20.6s
SNY   Shenyang         144.00 336⇓iPKP    PKPdf    20 54 25.3 -0.6
KAKA  Kakadu           145.18 231 ePKP    PKPdf    20 54 29.4 +0.6
      comp=Z,110nm,0.6s
KAKA                              epPKP            20 55 04.4
KS15  Wonju Array Si   145.51 327 ePKPdf  PKPdf    20 54 30.2 +1.5
FITZ  Fitzroy Crossi   145.99 216 ePKP    PKPdf    20 54 31.7 +1.6
      comp=Z,54nm,0.6s
FITZ                              epPKP            20 55 06.4
BJI   Beijing          148.09 344 ePKP    PKPdf    20 54 35.3 +2.4
BJT   Baijiatuau       148.11 344 ePKPdf  PKPdf    20 54 34.8 +1.8
BJT                               ePKPbc  PKPdf    20 54 37.2 +4.2
POO   Poona            148.25  70 e       PKPdf    20 54 34.0 +0.2
HHC   Hu-ho-hao-te     148.29 351  PKP    PKPdf    20 54 35.8 +2.6
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HHC				PP	PP		
	comp=Z,100nm,5.7s						
GTA	**Gaotai**	**149.82**	**8**	PKP	PKPdf	20 54 37.8	+2.1
GTA				PKP2	PKPab	20 54 51.0	+2.3
GTA				SS	SS	21 17 21.3	-0.4
GTA				LR	LR		
	comp=N,37nm,15.2s						
GTA				LR	LR		
	comp=E,71nm,18.6s						
GTA				LR	LR		
	comp=Z,42nm,16.3s						
TIA	**Tai'an**	**151.32**	**340**	*e*PKP	PKPdf	20 54 39.5	+1.5
KOLN	**Koldanda**	**152.66**	**45**	*e*P	PKPdf	20 54 41.6	+1.4
	comp=Z,40nm,0.8s						
HYB	**Hyderabad**	**152.87**	**70**	*i* PKP	PKPdf	20 54 43.0	+2.2
HYB				*e*		20 55 02.0	
HYB	**Hyderabad**	**152.87**	**70**	*e*P	PKPdf	20 54 43.0	+2.2
GKN	**Gorkha**	**153.24**	**44**	*e*P	PKPdf	20 54 42.5	+1.5
	comp=Z,57nm,0.5s						
LZH	**Lanzhou**	**153.51**	**3**	*e*PKP	PKPdf	20 54 44.0	+2.9
LZH				APKP		20 55 19.0	
LZH				XPKP		20 55 31.5	
LZH				PP	PP	20 58 41.0	+1.4
LZH				*e*SKS	SKS	21 01 34.0	+0.2
LZH				SKKS		21 05 14.0	
LZH				SS	SS	21 18 04.0	+2.0
LZH				PP	PP		
	comp=Z,113nm,5.6s						
LZH				LR	LR		
	comp=N,450nm,18.5s						
LZH				LR	LR		
	comp=Z,750nm,19.8s						
LZH	**Lanzhou**	**153.51**	**3**	*e*PKP	PKPdf	20 54 43.9	+2.8
LZH				pPKP		20 55 19.1	
LZH				sPKP		20 55 31.4	
LZH				PP	PP	20 58 41.0	+1.4
LZH				*e*SKS	SKS	21 01 34.1	+0.3
LZH				SKKS		21 05 13.9	
LZH				SS	SS	21 18 04.0	+2.0
DMN	**Daman**	**153.81**	**44**	*e*P	PKPdf	20 54 43.2	+1.4
	comp=Z,17nm,0.6s						
KKN	**Kakani**	**153.81**	**43**	*e*P	PKPdf	20 54 43.4	+1.6
	comp=Z,30nm,0.7s						
SSE	**Sheshan**	**153.92**	**328**	PKP	PKPdf	20 54 38.8	-3.1
PKI	**Pulchoki**	**154.04**	**44**	*e*P	PKPdf	20 54 43.5	+1.4
NJ2	**Nanjing**	**154.28**	**333**	*e*PKP	PKPdf	20 54 39.3	-3.0
NJ2				PKP2	PKPab	20 55 04.5	-3.2
NJ2				PKS	PKS	20 58 12.0	-3.6
NJ2				PP	PP	20 58 41.0	-3.0
NJ2				LR	LR		
	comp=N,18μm,25.3s						
NJ2				LR	LR		
	comp=E,97μm,28.0s						
NJ2				LR	LR		
	comp=Z,64μm,25.1s						
LSA	**Lhasa**	**155.95**	**31**	PKP	PKPdf	20 54 47.8	+3.2
LSA	**Lhasa**	**155.95**	**31**	*e*PKPdf	PKPdf	20 54 47.3	+2.7
LSA				*e*		20 55 15.6	
WHN	**Wuhan**	**157.43**	**339**	*e*PKP	PKPdf	20 54 48.0	+1.5
ENH	**Enshi**	**158.97**	**350**	*e*PKPdf	PKPdf	20 54 50.2	+1.8
GYA	**Guiyang**	**163.09**	**356**	*i* PKP	PKPdf	20 54 55.0	+2.2
GYA				XPKP		20 55 45.5	
GYA				PKS	PKS	20 58 26.5	+1.3
GYA				PP	PP		
	comp=Z,180nm,4.8s						
GYA				LR	LR		
	comp=N,180nm,19.7s						
GYA				LR	LR		
	comp=E,160nm,20.4s						
GYA				LR	LR		
	comp=Z,300nm,18.5s						
KMI	**Kunming**	**164.28**	**9**	*e*PKP	PKPdf	20 54 55.0	+1.0
CMAR	**Chiang Mai Arr**	**169.19**	**34**	PKP	PKPdf	20 54 59.2	+1.4
	comp=Z,4.1nm,0.8s,baz=278,slow=1.7,SNR=33						
CMAR				pPKP		20 55 33.4	
	comp=Z,1.9nm,0.9s,baz=281,slow=1.5,SNR=4.1						
CMAR				PKPab	PKPab	20 56 11.3	-1.2
	comp=Z,0.4nm,0.5s,baz=163,slow=8.8,SNR=4.2						
CMAR				PP	PP	21 00 01.1	-1.7
	comp=Z,1.8nm,1.0s,baz=317,slow=6.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**169.19**	**34**	PKIKP	PKPdf	20 54 59.2	+1.4
CMAR						20 55 33.4	
CMAR						20 56 11.4	
CMAR						21 00 01.2	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						

*NEIC **31** 20:45:28.3, 35.00S×70.57W, h2^{km}, ML2.9(GUC), After GUC.*
NEIC Felt [III] at Los Quenes.
GUC 31 20:45:28.3±0.8**, 35.00S×70.57W, h2^{km}, MD3.7, ML2.9, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.53**	**316**	⇓*i*P	Pg	20 45 39.0	+0.1
SFDO				*i* S	Sg	20 45 45.1	-0.8
NICH	**Los Niches**	**0.54**	**269**	⇓*i*P	Pg	20 45 39.1	0.0
NICH				*i* S	Sg	20 45 47.2	+0.8
CICH	**Cipreses**	**0.69**	**10**	⇓*i*P	Pg	20 45 41.4	-0.6
CICH				*i* S	Sg	20 45 51.6	+0.4
CACH	**El Canelo**	**0.88**	**358**	⇑*i*P	Pg	20 45 44.7	-1.2
CACH				*i* S	Sg	20 45 58.1	+0.5
CHCH	**Chadas Angostu**	**1.06**	**356**	⇑*i*P	Pb	20 45 48.5	-0.6
CHCH				*i* S	Sb	20 46 03.7	+0.4
LMEL	**Las Melosas**	**1.19**	**15**	⇑*i*P	Pb	20 45 50.2	-1.0
LMEL				*i* S	Sb	20 46 07.3	+0.4
LMEL				AMP		20 46 09.7	
	comp=N,237nm,0.2s						
LNV	**Longovilo**	**1.25**	**326**	⇑*i*P	Pb	20 45 51.3	-1.0
LNV				*i* S	Sb	20 46 08.9	+0.1
PCH	**Pirque**	**1.38**	**2**	⇓*i*P	Pb	20 45 53.6	-0.8
PCH				*i* S	Sb	20 46 12.6	+0.2
TACH	**Talagante**	**1.38**	**347**	⇓*i*P	Pb	20 45 53.6	-0.9
TACH				*i* S	Sb	20 46 12.8	+0.4
ANTU	**Antumapu**	**1.43**	**358**	⇑*i*P	Pn	20 45 54.9	-0.4
ANTU				*i* S	Sb	20 46 14.4	+0.5
ANTU				AMP		20 46 16.0	
	comp=E,264nm,0.3s						
RCDM	**Rinconada Maip**	**1.52**	**352**	*e*P	Pn	20 45 55.9	-0.7
RCDM				*i* S	Sb	20 46 16.8	+0.3
RCDM				AMP		20 46 17.9	
	comp=E,698nm,0.1s						
CLCH	**Cerro Calan**	**1.60**	**1**	⇑*i*P	Pn	20 45 57.6	-0.1
CLCH				*i* S	Sb	20 46 18.8	-0.1
CLCH				AMP		20 46 27.7	
	comp=N,250nm,0.6s						
CLCH				AMP		20 46 42.5	
	comp=E,369nm,0.6s						
FCH	**Farellones**	**1.68**	**8**	⇑*i*P	Pn	20 45 59.1	+0.1
FCH				*i* S	Sb	20 46 22.4	+1.2
FCH				AMP		20 46 23.8	
	comp=E,191nm,0.1s						
LCCH	**Las Cruces**	**1.73**	**331**	⇓*i*P	Pn	20 45 59.3	-0.4
LCCH				*i* S	Sn	20 46 22.9	+0.3
TRQA	**Tornquist**	**7.56**	**116**	Pn	Pn	20 47 19.0	-3.2

IDC 31 21:27:05.8±2.0**, 1.74N×126.37E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/15**, Error ellipse: s-maj=171.0km s-min=25.1km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.92**	**160**	P	P	21 32 10.5	-2.2
	1.3nm,0.4s,baz=339,slow=11,SNR=28						
ASAR	**Alice Springs**	**26.29**	**164**	P	P	21 32 44.4	-0.7
	0.3nm,0.7s,baz=342,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**58.99**	**326**	P	P	21 37 07.1	-2.5
	0.2nm,0.4s,baz=111,slow=8.4,SNR=6.2						

*IDC **31** 21:35:07.5±2.5, 4.99S×68.61E, mb3.7/5, mb1 3.9/5, mb1mx3.6/17, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=71.3km s-min=31.4km az=68.0*
ISC 31 21:35:05.2±3.5**, 5.1S**±0.3×**68.3E**±0.6**, h10^{km}, n8, σ0^{s}41**/5**, mb3.8**/5**, MS3.8**/1**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**38.20**	**51**	P	**P**	**21 42 27.0**	**-0.1**
	0.4nm,0.7s,mb3.3,baz=243,slow=10,SNR=3.7						
SUR	**Sutherland**	**51.95**	**232**	LR	LR	22 03 44.7	
	comp=Z,92nm,19.0s,MS3.8,baz=159,slow=33						
MKAR	**Makanchi Array**	**53.10**	**12**	P	**P**	**21 44 24.9**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=180,slow=7.3,SNR=4.8						
SONM	**Songino Array**	**62.40**	**28**	P	**P**	**21 45 31.1**	**+0.5**
	2.0nm,1.1s,mb4.2,baz=225,slow=7.0,SNR=9.7						
ASAR	**Alice Springs**	**65.66**	**114**	P	**P**	**21 45 52.2**	**-0.2**
	1.4nm,1.2s,mb3.9,baz=280,slow=5.5,SNR=3.4						
WRA	**Warramunga Arr**	**65.79**	**109**	P	**P**	**21 45 53.4**	**+0.2**
	1.4nm,1.0s,mb4.0,baz=288,slow=6.4,SNR=5.2						
PDAR	**Pinedale Array**	**142.41**	**357**	PKhKP		21 54 36.6	
	0.4nm,0.4s,slow=5.9,SNR=4.5						
PDAR				PKP	PKPdf	21 54 44.6	+3.0
	0.4nm,0.4s,baz=14,slow=6.1,SNR=3.8						
NVAR	**Mina Array Bea**	**146.25**	**9**	PKPbc	PKPbc	21 54 49.6	+3.1
	1.0nm,0.9s,baz=55,slow=2.2,SNR=5.1						

*MDD **31** 21:36:24.2±0.3, 42.39N×1.18E, h4^{km}±5^{km}, mbLg1.6/8, Error ellipse: s-maj=2.5km s-min=1.6km az=80.0, PRXIMO*
*STR **31** 21:36:24.5±0.6, 42.44N×1.17E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 21:36:24.4±0.2, 42.41N×1.15E, h5^{km}, Md2.2/1, Ml1.9/7, Error ellipse: s-maj=2.7km s-min=1.3km az=164.0*
ISC 31 21:36:22.9±0.4**, 42.39N**±0.03×**1.14E**±0.03**, h4^{km}, n25, σ0^{s}85**/31**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSOR	**Sort**	**0.02**	**199**	Pg	**Pg**	**21 36 25.1**	**+1.4**
CSOR				Lg		21 36 26.2	
	102nm,0.0s						
CORG	**Organya**	**0.21**	**141**	Pg	**Pg**	**21 36 27.4**	**+0.3**
CORG				Lg		21 36 30.5	
	4.7nm,0.0s						
SALF	**Salau**	**0.37**	**5**	Pg	**Pg**	**21 36 31.1**	**+0.8**
SALF				Sg	**Sg**	**21 36 36.1**	**+0.9**
SALF	**Salau**	**0.37**	**5**	Pg	**Pg**	**21 36 31.1**	**+0.8**
SALF				Lg		21 36 36.0	
GRBF	**Gourbit**	**0.53**	**33**	Pg	**Pg**	**21 36 34.0**	**+0.4**
GRBF				Lg		21 36 40.7	
MELF	**Melles**	**0.56**	**330**	Pg	**Pg**	**21 36 35.0**	**+1.0**
MELF				Sg	**Sg**	**21 36 41.8**	**+0.4**
MELF	**Melles**	**0.56**	**330**	Pg	**Pg**	**21 36 34.6**	**+0.6**
MELF				Lg		21 36 41.9	
EMIR	**Miracle**	**0.56**	**149**	⇑Pg	**Pg**	**21 36 34.1**	**+0.1**
	2.3nm,0.2s,SNR=18						
EMIR				Lg		21 36 41.8	
	1.2nm,0.0s,SNR=7.9						
MLS	**Moulis**	**0.57**	**356**	Pg	**Pg**	**21 36 34.5**	**+0.3**
MLS				Sg	**Sg**	**21 36 42.2**	**+0.5**
MLS	**Moulis**	**0.57**	**356**	Pg	**Pg**	**21 36 34.7**	**+0.5**
MLS				Lg		21 36 42.4	
CAVN	**Les Avellanes**	**0.59**	**210**	Pg	**Pg**	**21 36 34.8**	**+0.2**
CAVN				Lg		21 36 43.4	
	3.6nm,0.1s						
CLLI	**Llivia**	**0.62**	**82**	Pg	**Pg**	**21 36 34.9**	**-0.4**
CLLI				Lg		21 36 43.5	
	2.4nm,0.1s						
CBRU	**Bruguera**	**0.78**	**98**	Pg	**Pg**	**21 36 38.1**	**-0.3**
CARF	**Carcanieres**	**0.78**	**65**	Pg	**Pg**	**21 36 38.2**	**-0.3**
CARF				Lg		21 36 48.4	
EPF	**Esparros**	**0.87**	**317**	*e*Pg	**Pg**	**21 36 40.9**	**+0.7**
EPF				*e*Sg	**Sg**	**21 36 52.1**	**+0.3**
	5.7nm,0.2s						
EPOB	**Poblet**	**1.04**	**183**	Pg	**Pg**	**21 36 42.8**	**-0.9**
	1.6nm,0.4s,SNR=14						
EPOB				Lg		21 36 57.4	
	8.6nm,0.1s,SNR=13						
MTLF	**Montolieu**	**1.23**	**39**	*e*Pg	**Pg**	**21 36 47.2**	**-0.3**
MTLF				*e*Sg	**Sg**	**21 37 02.7**	**-1.3**
	4.0nm,0.2s						
EJON	**La Jonquera**	**1.29**	**87**	Pg	**Pg**	**21 36 48.7**	**0.0**
	0.4nm,0.2s,SNR=7.9						
EJON				Lg		21 37 05.4	
	1.0nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.35**	**292**	*e*Pg	**Pg**	**21 36 49.8**	**-0.1**
ETSF				*e*Sg	**Sg**	**21 37 06.7**	**-1.2**
	1.4nm,0.3s						
ESAC	**San Caprasio**	**1.38**	**241**	Pg	**Pg**	**21 36 50.2**	**-0.1**
	8.1nm,0.6s,SNR=11						
ESAC				Lg		21 37 08.8	
	13nm,0.4s,SNR=4.9						
SJPF	**Ste Jean**	**1.89**	**293**	*e*Sg	**Sg**	**21 37 23.7**	**-2.0**
	0.6nm,0.2s						
EALK	**Alkurruntz**	**2.12**	**294**	Pg	**Pg**	**21 37 05.7**	**+0.6**
	4.1nm,0.5s,SNR=4.0						
EALK				Lg		21 37 33.8	
	0.4nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.56**	**354**	*e*Sg	**Sg**	**21 37 44.5**	**-3.7**
	0.7nm,0.2s						
LASF	**Ste Croix**	**2.60**	**49**	*e*Sg	**Sg**	**21 37 45.7**	**-3.8**
	1.3nm,0.2s						
CAF	**Calviac**	**2.62**	**14**	*e*Sg	**Sg**	**21 37 46.2**	**-3.9**
	0.8nm,0.2s						

IDC 31 21:39:23.4±4.3**, 56.78S×147.42E, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.9**/9**, MS3.7**/5**, Ms1 3.7**/5**, ms1mx3.5**/17**, Error ellipse: s-maj=212.0km s-min=43.5km az=89.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**19.85**	**59**	LR	LR	21 50 17.2	
	comp=Z,237nm,19.4s,baz=215,slow=33						
STKA	**Stephens Creek**	**25.22**	**348**	P	P	21 44 52.2	+0.1
	1.6nm,0.8s,baz=150,slow=14,SNR=2.1						
URZ	**Urewera**	**26.96**	**59**	LR	LR	21 53 54.3	
	comp=Z,151nm,21.8s,baz=245,slow=32						
NWAO	**Narrogin (SRO)**	**31.59**	**306**	LR	LR	21 55 39.3	
	comp=Z,132nm,21.2s,baz=297,slow=31						
ASAR	**Alice Springs**	**34.52**	**338**	P	P	21 46 13.7	-1.6
	1.3nm,0.8s,baz=160,slow=8.5,SNR=4.4						
CTA	**Charters Tower**	**36.65**	**358**	LR	LR	21 59 40.5	
	comp=Z,101nm,21.1s,baz=44,slow=33						
MAW	**Mawson**	**37.71**	**219**	LR	LR	22 00 54.2	
	comp=Z,151nm,19.5s,baz=243,slow=34						
WRA	**Warramunga Arr**	**38.05**	**340**	P	P	21 46 42.3	-2.9
	2.2nm,1.1s,baz=166,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**150.43**	**304**	PKPbc	PKPdf	21 59 13.9	+2.2
	1.8nm,1.0s,baz=146,slow=48,SNR=2.8						
FINES				PKPab	PKPab	21 59 20.9	-3.0
	2.1nm,1.1s,baz=90,slow=3.8,SNR=3.8						
GERES	**GERESS Array B**	**151.41**	**274**	PKPbc	PKPdf	21 59 19.1	+5.5
	0.4nm,0.7s,baz=180,slow=2.0,SNR=3.5						

IDC 31 21:43:31.6±2.1**, 0.73S×127.95E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/15**, Error ellipse: s-maj=153.0km s-min=26.1km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.09**	**162**	P	P	21 48 06.8	-3.0
	0.4nm,0.5s,baz=341,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.52**	**166**	P	P	21 48 43.8	-0.6
	1.1nm,0.7s,baz=344,slow=11,SNR=10						
MKAR	**Makanchi Array**	**61.90**	**326**	P	P	21 53 53.0	-2.3
	0.4nm,0.5s,baz=115,slow=7.9,SNR=5.8						

*NEIC **31** 21:55:35.7±4.3, 55.68S×26.63W, h93^{km}±39^{km}, mb4.7/6, Error ellipse: s-maj=30.9km s-min=15.3km az=46.0*
*IDC **31** 21:55:45.4±11.0, 55.51S×26.66W, h171^{km}±95^{km}, mb4.0/3, mb1 4.0/3, mb1mx3.7/10, MS3.9/3, Ms1 3.9/3, ms1mx3.6/12, Error ellipse: s-maj=46.2km s-min=29.2km az=63.0*
ISC 31 21:55:36.1±0.8**, 55.7S**±0.1×**26.9W**±0.3**, h100^{km}, n25, σ1^{s}52**/15**, mb4.5**/8**, 9C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.08**	**159**	⇑*i*	**P**	**21 59 33.6**	**+4.2**
VNA1	**Neumayer--Stat**	**17.08**	**159**	⇑*i*P	**P**	**21 59 28.9**	**-0.5**
VNA1				⇑*i*P		21 59 33.6	
VNA2	**Neumayer--Watz**	**17.47**	**159**	⇑*i*	**P**	**21 59 37.3**	**+2.9**
VNA2	**Neumayer--Watz**	**17.47**	**159**	⇑*i*P	**P**	**21 59 32.3**	**-2.1**
VNA2				⇑*i*P		21 59 37.3	
SNAA	**Sanae**	**19.02**	**157**	⇑*i*	**P**	**21 59 51.1**	**-1.0**
SNAA	**Sanae**	**19.02**	**157**	⇑*i*P	**P**	**21 59 46.9**	**-5.2**
SNAA				⇑*i*P		21 59 51.1	
PMSA	**Palmer Station**	**20.25**	**228**	*e*P	**P**	**22 00 04.9**	**-0.2**
	35nm,0.5s						
TRQA	**Tornquist**	**29.32**	**292**	*e*P	**P**	**22 01 29.5**	**-1.6**
	11nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**32.08**	**279**	LR	LR	22 14 49.7	
	comp=Z,208nm,21.1s,baz=354,slow=36						
QSPA	**South Pole Qui**	**34.56**	**180**	*e*P	**P**	**22 02 15.3**	**-1.0**
	10nm,0.5s,mb4.9						
CPUP	**Villa Florida**	**36.69**	**311**	P	**P**	**22 02 36.4**	**+1.7**
	7.0nm,1.0s,mb4.5						
MAW	**Mawson**	**40.35**	**144**	P	**P**	**22 03 05.9**	**+1.1**
	4.5nm,0.7s,mb4.4,baz=232,slow=5.7,SNR=7.3						
SAML	**Samuel**	**54.65**	**314**	*e*P	**P**	**22 04 52.7**	**-4.0**
	9.5nm,1.1s,mb4.7						
DBIC	**Dimbokro**	**64.78**	**24**	P	**P**	**22 06 04.3**	**-1.8**
	3.7nm,1.0s,mb4.2,baz=272,slow=1.7,SNR=3.7						
DBIC				LR	LR	22 26 46.4	
	comp=Z,106nm,21.7s,baz=120,slow=29						
SDV	**Santo Domingo**	**73.86**	**315**	P	**P**	**22 07 03.2**	**+1.7**
	7.4nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**96.99**	**18**	LR	LR	22 48 46.4	
	comp=Z,49nm,20.6s,baz=260,slow=33						
ASAR	**Alice Springs**	**99.29**	**162**	P	**P**	**22 09 09.3**	**+1.6**
	0.5nm,0.8s,mb4.1,baz=194,slow=3.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**125.05**	**110**	PKP	PKPdf	22 14 24.2	-0.3
	1.2nm,1.0s,baz=226,slow=4.5,SNR=5.1						
ARCES	**ARCESS Array B**	**130.55**	**22**	PKP	PKPdf	22 14 33.4	-0.4
	1.7nm,0.9s,baz=225,slow=2.6,SNR=4.3						
BVAR	**Borovoye Array**	**134.46**	**57**	PKP	PKPdf	22 14 41.3	-0.3
	0.8nm,0.4s,baz=268,slow=40,SNR=5.5						
YKA	**Yellowknife Ar**	**136.00**	**318**	PKP	PKPdf	22 14 43.9	-0.2
	0.4nm,0.6s,baz=132,slow=2.2,SNR=3.2						
MKAR	**Makanchi Array**	**136.63**	**71**	PKP	PKPdf	22 14 45.8	+0.1
	0.4nm,0.8s,baz=270,slow=4.3,SNR=2.7						
INK	**Inuvik**	**145.61**	**321**	PKPbc	PKPbc	22 15 01.8	+0.2
	3.2nm,0.5s,baz=133,slow=4.6,SNR=4.9						
ILAR	**Eielson Array**	**149.98**	**312**	PKPbc	PKPdf	22 15 13.3	+5.4
	2.8nm,0.9s,baz=129,slow=1.6,SNR=20						
ILAR				PKPab	PKPab	22 15 19.1	-2.2
	7.2nm,0.9s,baz=131,slow=1.9,SNR=26						
SONM	**Songino Array**	**150.56**	**86**	PKP	PKPdf	22 15 09.3	-0.1
	0.1nm,0.5s,baz=275,slow=30,SNR=3.0						
SONM				PKPbc	PKPdf	22 15 15.2	+5.8
	3.9nm,1.1s,baz=218,slow=3.1,SNR=17						
SONM				PKPab	PKPab	22 15 21.6	-2.6
	2.8nm,0.8s,baz=214,slow=3.3,SNR=12						

*IDC **31** 22:10:39.1±1.5, 14.83S×176.95W, mb4.0/9, mb1 4.4/9, mb1mx4.2/15, MS4.2/18, Ms1 4.2/18, ms1mx4.2/21, Error ellipse: s-maj=88.4km s-min=21.0km az=152.0*
*NEIC **31** 22:10:44.0±0.5, 15.05S×176.88W, h35^{km}, mb4.4/3, Error ellipse: s-maj=24.6km s-min=12.6km az=146.0*
ISC 31 22:10:42.4±0.7**, 15.0S**±0.2×**176.9W**±0.2**, h33^{km}, n36, σ0^{s}63**/15**, mb4.1**/12**, MS4.3**/17**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.42**	**113**	LR	LR	22 19 33.3	
	comp=Z,693nm,21.0s,baz=15,slow=30						
URZ	**Urewera**	**23.75**	**192**	LR	LR	22 24 39.5	
	comp=Z,1μm,18.2s,MS4.4,baz=25,slow=35						
PPT	**Papeete**	**26.36**	**99**	*e*L		22 21 32.3	
PPT				*e*R		22 22 25.1	
	559nm,28.2s,baz=261						
TBI	**Tubuai**	**27.19**	**112**	*e*L		22 21 44.4	
TBI				*e*R		22 22 58.8	
	1μm,27.5s,baz=284						
STKA	**Stephens Creek**	**41.31**	**239**	LR	LR	22 32 29.6	
	comp=Z,261nm,20.9s,MS4.1,baz=36,slow=32						
WRA	**Warramunga Arr**	**46.62**	**257**	P	**P**	**22 19 09.2**	**-0.4**
	1.6nm,1.1s,mb3.9,baz=88,slow=6.8,SNR=5.6						
ASAR	**Alice Springs**	**47.00**	**252**	P	**P**	**22 19 12.5**	**-0.1**
	2.3nm,0.6s,mb4.3,baz=85,slow=8.3,SNR=34						
ASAR				LR	LR	22 38 34.8	
	comp=Z,99nm,19.2s,MS3.8,baz=90,slow=36						
NWAO	**Narrogin (SRO)**	**61.85**	**240**	LR	LR	22 45 01.7	
	comp=Z,254nm,20.8s,MS4.4,baz=114,slow=33						
JHJ	**Hachijo jima 2**	**63.24**	**320**	LR	LR	22 47 11.7	
	comp=Z,112nm,18.1s,MS4.1,baz=342,slow=35						
JOW	**Kunigami**	**67.54**	**308**	LR	LR	22 45 59.7	
	comp=Z,200nm,20.1s,MS4.3,baz=87,slow=32						
JNU	**Nakatsue**	**69.08**	**315**	LR	LR	22 49 09.7	
	comp=Z,181nm,18.8s,MS4.3,baz=81,slow=34						
ASAJ	**Asahikawa**	**69.46**	**330**	LR	LR	22 52 41.2	
	comp=Z,170nm,18.7s,MS4.3,baz=172,slow=36						
QSPA	**South Pole Qui**	**75.03**	**180**	*e*P	**P**	**22 22 21.9**	**+0.1**
	5.6nm,0.8s,mb4.5						
YBH	**Yreka Blue Hor**	**75.39**	**39**	P	**P**	**22 22 23.4**	**-1.3**
	1.3nm,0.5s,mb4.2,baz=220,slow=5.8,SNR=6.6						
NVAR	**Mina Array Bea**	**76.36**	**44**	P	**P**	**22 22 29.7**	**-0.5**
	2.8nm,0.9s,mb4.2,baz=222,slow=7.2,SNR=13						
MCK	**McKinley**	**81.42**	**12**	*e*P	**P**	**22 22 57.6**	**+0.4**
	4.3nm,1.0s,mb4.3						
HLID	**Hailey**	**81.52**	**41**	*e*P	**P**	**22 22 57.5**	**-0.6**
	4.9nm,1.2s,mb4.3						
BJI	**Beijing**	**82.76**	**315**	*e*P	**P**	**22 23 04.9**	**+0.3**
	118nm,0.7s						
BJI				S	S	22 33 15.1	-3.7
BJI				SS	Sx	22 39 08.4	
ILAR	**Eielson Array**	**82.77**	**12**	P	**P**	**22 23 03.6**	**-0.5**
	1.3nm,0.9s,mb4.0,baz=222,slow=5.9,SNR=8.6						
ILAR				LR	LR	22 57 26.0	
	comp=Z,91nm,18.0s,MS4.2,baz=237,slow=34						
MCMT	**McKenzie Canyo**	**83.12**	**40**	*e*P	**P**	**22 23 07.1**	**+0.8**
TXAR	**Lajitas Array**	**83.25**	**57**	P	**P**	**22 23 08.5**	**+1.2**
	0.3nm,0.2s,mb3.9,baz=207,slow=6.0,SNR=2.6						
TXAR				LR	LR	22 52 55.5	
	comp=Z,76nm,18.3s,MS4.1,baz=165,slow=30						
PDAR	**Pinedale Array**	**84.28**	**43**	P	**P**	**22 23 12.1**	**-0.3**
	1.3nm,1.0s,mb4.0,baz=243,slow=3.3,SNR=6.5						
PDAR				LR	LR	22 55 32.4	
	comp=Z,54nm,18.2s,MS4.0,baz=165,slow=32						
MAW	**Mawson**	**87.05**	**199**	LR	LR	22 57 11.1	
	comp=Z,284nm,20.2s,MS4.7,baz=321,slow=32						
USHA	**Ushuaia**	**88.13**	**147**	LR	LR	22 55 48.3	
	comp=Z,319nm,21.3s,MS4.7,baz=250,slow=31						
INK	**Inuvik**	**88.74**	**15**	LR	LR	22 55 39.2	
	comp=Z,125nm,20.6s,MS4.3,baz=18,slow=30						
CMAR	**Chiang Mai Arr**	**89.27**	**289**	LR	LR	22 59 00.7	
	comp=Z,96nm,18.8s,MS4.2,baz=200,slow=32						
YKA	**Yellowknife Ar**	**91.12**	**24**	P	**P**	**22 23 45.3**	**+0.5**
	0.4nm,0.8s,mb3.8,baz=236,slow=3.1,SNR=2.8						
YKA				LR	LR	22 57 13.7	
	comp=Z,285nm,21.0s,MS4.7,baz=235,slow=31						
YKA	**Yellowknife Ar**	**91.12**	**24**	P	**P**	**22 23 45.3**	**+0.5**
PLCA	**Paso Flores**	**92.27**	**133**	LR	LR	22 54 20.3	
	comp=Z,242nm,19.9s,MS4.7,baz=183,slow=28						
SONM	**Songino Array**	**92.31**	**319**	P	**P**	**22 23 51.1**	**+0.6**
	0.2nm,0.4s,mb3.8,baz=135,slow=2.0,SNR=2.8						
BRTR	**Keskin Array B**	**143.67**	**319**	PKP	PKPdf	22 30 14.1	-0.1
	2.0nm,1.0s,baz=90,slow=2.5,SNR=8.2						
MLR	**Muntele Rosu**	**144.02**	**332**	PKP	PKPdf	22 30 16.6	+2.0
	1.0nm,0.9s,baz=105,slow=9.8,SNR=3.9						
GRA1	**Grafenberg Arr**	**144.78**	**351**	*e*PKP	PKPdf	22 30 18.0	+2.1
KHC	**Kasperske Hory**	**144.90**	**348**	*e*P	PKPdf	22 30 16.5	+0.4
GERES	**GERESS Array B**	**145.15**	**348**	PKP	PKPdf	22 30 19.1	+2.5
	0.7nm,0.8s,slow=1.3,SNR=6.2						
WLF	**Walferdange**	**145.35**	**356**	*e*PKPdf	PKPdf	22 30 17.5	+0.7

IDC 31 22:20:34.1±2.1**, 8.39S×118.86E, mb3.4**/2**, mb1 3.8**/4**, mb1mx3.5**/16**, ML3.3**/2**, Error ellipse: s-maj=190.0km s-min=22.2km az=54.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.69**	**146**	Pn	P	22 23 24.1	-1.3
	0.1nm,0.3s,baz=349,slow=10,SNR=3.3						
FITZ				Sn	S	22 25 33.1	-4.7
	0.1nm,0.3s,baz=204,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**18.88**	**129**	P	P	22 24 55.2	-3.2
	0.2nm,0.3s,baz=302,slow=13,SNR=8.8						
ASAR	**Alice Springs**	**20.94**	**138**	P	P	22 25 19.1	-2.0
	0.9nm,0.5s,baz=308,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**63.85**	**333**	P	P	22 31 08.4	-2.3
	0.2nm,0.4s,baz=149,slow=8.4,SNR=3.3						

*BJI **31** 22:26:40.7, 28.50N×53.70E, h52^{km}, mB4.9, mb4.9, Ms4.4, Msz4.2*
*NEIC **31** 22:26:41.7±1.5, 28.54N×53.66E, h52^{km}±14^{km}, mb4.4/50, Error ellipse: s-maj=9.7km s-min=4.2km az=189.0*
*IDC **31** 22:26:43.0±4.7, 28.62N×53.62E, h54^{km}±41^{km}, mb3.9/18, mb1 4.1/21, mb1mx4.0/25, ML3.9/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/26, Error ellipse: s-maj=23.5km s-min=13.9km*

az=3.0

ISC 31 22:26:38.6±1.2**, 28.52N**±0.06×**53.65E**±0.04**, h38$^{\text{km}}$**±13$^{\text{km}}$**, n108, σ0$^{\text{s}}$93**/105**, mb4.3**/66**, MS3.5**/1**, 7C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZLS	Mizel	8.80	241	P	P	22 28 46.7	+0.5
RAYN	Ar Rayn	8.85	238	Pn	P	22 28 47.9	+0.9
	148nm,0.6s,SNR=21						
ARSS	Ar Rass	9.63	257	P	P	22 28 56.5	-1.3
HILS	Ha'il	10.55	267	P	P	22 29 08.3	-2.0
AFFS	'Afif	10.60	247	P	P	22 29 10.4	-0.6
KAMS	Al Khamasin	11.62	227	P	P	22 29 24.5	-0.3
ASF	Jabal al Asfar	14.91	288	P	P	22 30 09.9	+1.5
	0.5nm,0.3s,baz=8.2,slow=4.4,SNR=5.4						
MALT	Malatya	16.01	312	eP	P	22 30 21.7	-0.8
	9.9nm,1.0s						
EIL	Elat	16.39	279	P	P	22 30 29.7	+2.4
	0.3nm,0.3s,baz=81,slow=13,SNR=6.0						
EIL	Elat	16.39	279	P	P	22 30 29.7	+2.4
COBT	Iskenderun	16.68	303	iP	P	22 30 32.9	+1.9
CSS	Prodhromos	18.42	296	eP	P	22 30 53.1	+0.3
	5.4nm,0.4s						
AVNT	Avonos	18.66	308	iP	P	22 30 55.9	+0.2
CTKT	Corum	19.62	313	iP	P	22 31 06.5	-0.1
BRTR	Keskin Array B	19.94	309	P	P	22 31 09.6	-0.4
	0.4nm,0.3s,baz=129,slow=13,SNR=19						
BOYT	Boyabat	19.99	315	iP	P	22 31 08.3	-2.2
ELDT	Eldivan	20.45	311	iP	P	22 31 15.4	0.0
NDI	New Delhi	20.69	84	eP	P	22 31 18.0	+0.1
SGKT	Sivrigoynuk	21.41	310	iP	P	22 31 25.7	+0.6
ESKT	Eskisehir	21.79	306	iP	P	22 31 29.8	+0.8
AAK	Ala-Archa	21.96	45	eP	P	22 31 31.5	+0.9
	8.8nm,0.7s,mb4.3						
AAK				e		22 31 37.4	
HENT	Hendek	22.30	309	iP	P	22 31 34.8	+0.7
ULDT	Uludag	23.25	306	iP	P	22 31 45.2	+1.9
IDI	Anoyia	25.28	293	P	P	22 32 03.3	+0.3
	4.5nm,0.9s,mb4.0,baz=100,slow=11,SNR=2.1						
KOLN	Koldanda	26.39	84	eP	P	22 32 14.5	+1.1
	19nm,1.1s,mb4.5						
ZRNK	Zerenda	26.92	21	⇑eP	P	22 32 18.0	-0.1
	12nm,0.9s,mb4.4						
GKN	Gorkha	27.26	84	eP	P	22 32 22.0	+0.6
	16nm,0.9s,mb4.6						
BRVK	Borovoye	27.43	22	eP	P	22 32 22.2	-0.4
	11nm,0.7s,mb4.5						
BVAR	Borovoye Array	27.43	22	P	P	22 32 22.9	+0.2
	11nm,0.7s,mb4.5,baz=217,slow=7.4,SNR=62						
MLR	Muntele Rosu	27.67	315	P	P	22 32 27.0	+2.0
	3.5nm,1.0s,mb3.9,baz=47,slow=5.9,SNR=6.9						
DMN	Daman	27.74	84	eP	P	22 32 24.0	-1.7
	7.5nm,0.6s,mb4.5						
KKN	Kakani	27.86	84	eP	P	22 32 27.2	+0.4
	6.9nm,0.5s,mb4.5						
PKI	Pulchoki	28.01	84	eP	P	22 32 26.6	-1.6
	8.9nm,0.6s,mb4.6						
ARU	Arti	28.11	6	eP	P	22 32 28.1	-0.7
	5.2nm,1.1s,mb4.1						
AKASG	Malin Array Be	28.83	327	P	P	22 32 34.4	-0.8
	2.8nm,0.8s,mb4.0,baz=134,slow=8.3,SNR=21						
MKAR	Makanchi Array	28.87	43	P	P	22 32 36.0	+0.4
	3.5nm,0.8s,mb4.2,baz=227,slow=9.1,SNR=20						
MKAR				PcP	PcP	22 35 44.8	+0.2
	0.8nm,0.7s,baz=234,slow=4.3,SNR=3.9						
KURK	Kurchatov	29.10	33	P	P	22 32 35.5	-2.1
	8.3nm,0.9s,mb4.5						
LSA	Lhasa	32.70	79	eP	P	22 33 09.7	+0.1
	2.2nm,0.6s,mb4.3						
VYHS	Vyhne	33.36	316	eP	P	22 33 14.9	-0.3
ZAL	Zalesovo	34.07	33	P	P	22 33 20.8	-0.4
	3.3nm,0.7s,mb4.4,baz=143,slow=9.0,SNR=24						
ZAL				LR	LR	22 49 49.5	
	comp=Z,91nm,19.0s,MS3.5,baz=350,slow=41						
ZAL	Zalesovo	34.07	33	P	P	22 33 20.8	-0.5
SMOL	Smolenice	34.23	316	eP	P	22 33 22.9	+0.3
SMOL				e		22 33 38.0	
ZST	Bratislava	34.31	315	eP	P	22 33 23.4	+0.1
DPC	Dobruska-Polom	35.61	318	eP	P	22 33 34.3	-0.1
DPC				LM		22 50 00.0	
MOA	Molln	35.98	313	⇑iP	P	22 33 38.5	+0.9
	9.6nm,1.2s,mb4.6						
KBA	Koelnbreinsper	36.35	312	⇑iP	P	22 33 42.0	+1.3
	7.5nm,0.7s,mb4.7						
PRU	Pruhonice	36.53	317	⇓LM		22 54 00.0	
GERES	GERESS Array B	36.66	315	P	P	22 33 43.4	+0.1
	1.1nm,0.8s,mb3.8,baz=117,slow=9.0,SNR=11						
GERES				PcP	PcP	22 36 06.0	0.0
	0.7nm,0.7s,baz=153,slow=3.0,SNR=4.6						
PVCC	Panska Ves	36.71	318	⇓LM		22 53 30.0	
KHC	Kasperske Hory	36.83	315	⇓iP	P	22 33 44.9	+0.2
KHC				LM		22 54 10.0	
	0.1nm,22.6s						
WTTA	Wattenberg	37.52	312	⇑iP	P	22 33 50.7	+0.1
	13nm,1.0s,mb4.6						
FINES	FINESS Array B	37.69	339	P	P	22 33 51.8	0.0
	5.6nm,0.8s,mb4.3,baz=140,slow=12,SNR=20						
SQTA	Sankt Quirin	37.80	311	⇑iP	P	22 33 52.8	-0.1
	7.7nm,0.4s,mb4.8						
NKC	Novy Kostel	37.88	316	⇓LM		22 55 50.0	
MOTA	Moosalm	37.90	312	⇑iP	P	22 33 53.2	-0.5
	7.9nm,0.9s,mb4.4						
CLL	Collm	37.92	318	P	P	22 33 54.0	+0.1
	logA/T=0.8,mb4.3						
CLL	Collm	37.92	318	eP	P	22 33 54.0	+0.1
	7.0nm,1.0s,mb4.3						
KAF	Kangasniemi	38.12	340	ep	P	22 33 53.8	-1.6
	0.5nm,0.4s,mb3.6						
GRA1	Grafenberg Arr	38.46	315	eP	P	22 33 58.8	+0.4
	8.0nm,1.0s,mb4.4						
DAVA	Damuels	38.69	311	⇑iP	P	22 34 00.3	0.0
	10.0nm,0.5s,mb4.8						
GTA	Gaotai	39.42	62	eP	P	22 34 08.3	+1.8
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
MBDF	Montbardon	40.37	307	eP	P	22 34 14.1	-0.2
	comp=Z,11nm,0.7s,mb4.4						
LPG	La Plagne	40.49	308	eP	P	22 34 15.3	+0.1
	comp=Z,20nm,0.9s,mb4.6						
LPL	La Plagne	40.50	308	eP	P	22 34 15.6	+0.2
	comp=Z,17nm,0.7s,mb4.5						
HINF	Hinteralfeld	40.81	311	eP	P	22 34 17.6	-0.3
	comp=Z,4.1nm,0.5s,mb4.0						
CABF	La Chapelle	41.11	309	eP	P	22 34 20.5	+0.1
	comp=Z,23nm,0.8s,mb4.5						
HAU	Haudompre	41.18	311	eP	P	22 34 20.3	-0.6
	comp=Z,4.8nm,0.5s,mb4.1						
HAU				eR			
	comp=Z,53nm,21.2s						
VIVF	Saint-Julien-l	41.87	306	eP	P	22 34 26.1	-0.5
	comp=Z,5.6nm,0.6s,mb4.1						
LASF	Ste Croix	42.38	305	eP	P	22 34 30.4	-0.4
CM31	Chiang Mai Arr	42.52	93	P	P	22 34 30.3	-2.0
	comp=Z,1.8nm,0.5s,mb4.1						
CMAR	Chiang Mai Arr	42.52	93	P	P	22 34 33.4	+1.1
	comp=Z,1.3nm,0.6s,mb3.8,baz=285,slow=8.3,SNR=11						
CMAR				PcP	PcP	22 36 25.7	+0.7
	comp=Z,1.4nm,0.8s,baz=276,slow=5.4,SNR=4.3						
SMF	Signal de Mont	42.65	309	eP	P	22 34 32.6	-0.4
	comp=Z,14nm,0.6s,mb4.5						
LZH	Lanzhou	42.71	67	eP	P	22 34 34.5	+0.9
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.8						
LZH	Lanzhou	42.71	67	eP	P	22 34 34.5	+0.9
	comp=Z,31nm,1.5s,mb4.8						
LZH				pP	pP	22 34 39.0	-5.5
LOR	Lormes	42.72	310	eP	P	22 34 32.9	-0.6
	comp=Z,3.3nm,0.4s,mb4.1						
LOR				eR			
	comp=Z,55nm,21.2s						
SSF	Saint Saulge	42.93	310	eP	P	22 34 35.2	-0.1
	comp=Z,4.5nm,0.5s,mb4.1						
BAIF	Baives	42.95	314	eP	P	22 34 35.6	+0.2
	comp=Z,18nm,1.0s,mb4.5						
AVF	Avril sur Loir	43.00	309	eP	P	22 34 35.4	-0.4
NB2	NORSAR Subarra	43.03	331	P	P	22 34 34.4	-1.5
	comp=Z,3.0nm,0.9s,mb4.0,baz=119,slow=7.9						
NOA	NORSAR Array B	43.03	331	P	P	22 34 34.8	-1.0
	comp=Z,2.0nm,0.9s,mb3.9,baz=121,slow=8.3,SNR=4.7						
BGF	Bois d'Agland	43.32	309	eP	P	22 34 38.3	-0.2
MTLF	Montolieu	43.52	304	eP	P	22 34 39.7	-0.4
	comp=Z,3.2nm,0.6s,mb4.0						
CAF	Calviac	43.72	306	eP	P	22 34 41.8	+0.1
	comp=Z,28nm,1.3s,mb4.5						
TCF	Toulx Ste Croi	43.73	308	eP	P	22 34 41.7	-0.1
	comp=Z,7.9nm,0.7s,mb4.3						
KEV	Kevo	44.02	347	ep	P	22 34 41.8	-2.0
	comp=Z,2.6nm,0.7s,mb4.1						
RJF	Les Rejaudoux	44.13	307	eP	P	22 34 45.7	+0.7
	comp=Z,40nm,1.2s,mb4.7						
RJF				eR			
	comp=Z,89nm,20.0s						
ARCES	ARCESS Array B	44.15	346	P	P	22 34 45.1	+0.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=152,slow=8.9,SNR=15						
ARCES				PcP	PcP	22 36 28.7	-1.1
	comp=Z,2.9nm,1.1s,baz=108,slow=2.9,SNR=3.5						
LFF	La Frestale	44.66	306	eP	P	22 34 49.0	-0.3
	comp=Z,15nm,0.6s,mb4.7						
SONM	Songino Array	44.77	50	P	P	22 34 51.4	+1.3
	comp=Z,1.6nm,1.0s,mb3.8,baz=270,slow=9.9,SNR=9.9						
EPF	Esparros	44.89	304	eP	P	22 34 51.2	+0.1
MFF	Saint Martin d	45.38	309	eP	P	22 34 54.9	-0.1
	comp=Z,13nm,1.0s,mb4.4						
LDF	La Druitiere	45.54	311	eP	P	22 34 55.7	-0.5
ETSF	Etsaut	45.55	303	eP	P	22 34 57.4	+1.0
	comp=Z,14nm,0.9s,mb4.6						
FLN	La Foliniere	45.79	312	eP	P	22 34 57.6	-0.6
	comp=Z,45nm,1.2s,mb5.0						
FLN				eR			
	comp=Z,90nm,23.0s						
GRR	Gorron	46.00	311	eP	P	22 34 59.3	-0.6
SJPF	Ste Jean	46.03	304	eP	P	22 35 00.1	-0.2
	comp=Z,4.8nm,0.5s,mb4.4						
SGMF	Saint Gilles	47.12	311	eP	P	22 35 08.4	-0.3
QUIF	Quistinic	47.51	310	eP	P	22 35 11.3	-0.5
	comp=Z,43nm,1.3s,mb5.0						
ROSF	Rostrenen	47.61	311	eP	P	22 35 11.7	-0.8
	comp=Z,53nm,1.4s,mb5.1						
ESDC	Sonseca Array	48.26	299	P	P	22 35 18.7	+1.0
	comp=Z,1.3nm,0.8s,mb4.0,baz=82,slow=7.0,SNR=7.0						
ENH	Enshi	48.26	74	P	P	22 35 15.5	-2.4
	comp=Z,6.4nm,0.7s,mb4.8						
LSZ	Lusaka	50.02	213	eP	P	22 35 29.7	-1.9
	comp=Z,5.8nm,1.1s,mb4.5						
EVO	Evora	51.52	298	eP	P	22 35 42.9	+0.2
EVO				eR			
	comp=Z,84nm,18.0s						
DBIC	Dimbokro	59.24	260	P	P	22 36 38.0	-0.8
	comp=Z,3.0nm,0.8s,mb4.4,baz=6.2,slow=11,SNR=3.8						
ILAR	Eielson Array	85.65	9	P	P	22 39 14.2	+0.3
	comp=Z,1.3nm,0.8s,mb4.2,baz=334,slow=4.0,SNR=10						
YKA	Yellowknife Ar	88.82	355	P	P	22 39 31.0	+1.8
	comp=Z,3.0nm,0.8s,mb4.7,baz=5.2,slow=4.9,SNR=25						
WRA	Warramunga Arr	91.55	112	P	P	22 39 44.3	+1.2
	comp=Z,0.8nm,0.8s,mb4.1,baz=320,slow=3.8,SNR=5.9						
ASAR	Alice Springs	93.04	115	P	P	22 39 51.8	+1.9
	comp=Z,0.9nm,0.7s,mb4.3,baz=303,slow=4.7,SNR=7.6						

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*IDC **31** 22:38:56.1±4.7, 29.61N×141.98E, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, MS4.0/4, Ms1 4.0/4, ms1mx3.4/30, Error ellipse: s-maj=193.0km s-min=22.2km az=71.0*

NEIC 31 22:38:58.9±4.0**, 29.91N**×**142.79E, h40$^{\text{km}}$, mb4.4**/2**, Error ellipse: s-maj=168.0km s-min=14.1km az=73.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAJO	Matsushiro	7.65	331	P	P	22 40 46.2	-4.3
SONM	Songino Array	33.13	313	P	P	22 45 31.8	-1.5
	0.5nm,0.6s,baz=90,slow=7.4,SNR=5.2						
ZAL	Zalesovo	47.76	317	LR	LR	23 08 09.4	
	comp=Z,111nm,20.7s,baz=291,slow=37						
MKAR	Makanchi Array	49.14	308	P	P	22 47 42.5	-2.1
	0.9nm,0.8s,baz=92,slow=8.5,SNR=6.2						
WRAB	Tennant Creek	50.22	190	P	P	22 47 50.2	-2.9
	3.7nm,0.8s						
WRA	Warramunga Arr	50.23	190	P	P	22 47 49.5	-3.7
	0.9nm,0.4s,baz=7.7,slow=7.8,SNR=16						
KURK	Kurchatov	51.43	313	eP	P	22 47 59.4	-2.5
	3.4nm,0.9s						
ASAR	Alice Springs	53.95	190	P	P	22 48 20.0	-1.1
	0.1nm,0.4s,baz=353,slow=5.0,SNR=2.9						
BVAR	Borovoye Array	56.36	316	P	P	22 48 36.6	-1.6
	0.5nm,0.4s,baz=90,slow=12,SNR=3.9						
BRTR	Keskin Array B	84.49	313	P	P	22 51 29.2	+0.4
	0.5nm,0.6s,baz=90,slow=3.7,SNR=4.2						
BRTR				LR	LR	23 35 58.7	
	comp=Z,60nm,19.8s,baz=255,slow=41						
MLR	Muntele Rosu	85.60	321	LR	LR	23 35 35.6	
	comp=Z,231nm,19.5s,baz=52,slow=40						
EIL	Elat	89.27	304	LR	LR	23 34 17.4	
	comp=Z,64nm,18.8s,baz=93,slow=37						

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*NAO **31** 23:06:20.0±2.6, 67.67N×33.75E, ML2.7*

HEL 31 23:06:20.4±0.5**, 67.63N**×**33.75E, ML2.6, ML2.7**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	Apatity Array	0.29	265	iP	Pg	23 06 26.0	-0.2
APA0				iS	Sg	23 06 29.3	-0.8
APA0				eRG		23 06 31.5	
APA0	Apatity Array	0.29	265	Pg	Pg	23 06 26.0	-0.2
	baz=86,slow=16						
APA0				Lg		23 06 29.3	
	baz=76,slow=28						
APA0				Rg		23 06 31.5	
	baz=78,slow=37						
MSF	Maaselka	2.55	229	ePG	Pg	23 07 05.9	-5.3
MSF				eSG	Sg	23 07 38.3	-6.9
MSF				MSG		23 07 43.3	
	comp=Z,25nm,0.5s						
SGF	Sodankyl	2.78	269	eP	Pn	23 07 06.1	-0.9
SGF				eS	Sn	23 07 41.3	-0.4
KEV	Kevo	3.26	314	eP	Pn	23 07 12.8	-1.0
KEV				eS	Sn	23 07 51.4	-2.4
ARA0	ARCESS Array S	3.58	306	eP	Pn	23 07 16.6	-1.7
ARA0				ePG	Pg	23 07 25.5	-6.3
ARA0				eS	Sn	23 07 57.4	-4.4
ARA0				eSG	Sg	23 08 08.9	-11
ARA0	ARCESS Array S	3.58	306	Pn	Pn	23 07 16.6	-1.7
	baz=122,slow=16						
ARA0				Pg	Pg	23 07 25.5	-6.3
	baz=113,slow=16						
ARA0				Sn	Sn	23 07 57.4	-4.4
	baz=119,slow=28						
ARA0				Lg		23 08 08.9	
	baz=117,slow=28						
OUL	Oulu	4.07	235	ePB	Pb	23 07 28.6	-4.1
OUL				eS	Sn	23 08 14.3	-0.1
KJN	Kajaani	4.34	218	eSG	Sg	23 08 33.8	-11
KJN				MSG		23 08 38.2	
	comp=Z,14nm,0.5s						
FIA0	FINESS Array S	7.04	212	eS	Sn	23 09 22.1	-6.7
FIA0				eSG		23 09 54.0	
FIA0	FINESS Array S	7.04	212	Sn	Sn	23 09 22.1	-6.7
	baz=43,slow=22						
FIA0				Lg		23 09 54.0	
	baz=16,slow=37						
HFS	Hagfors	11.55	239	eS	S	23 11 08.8	-12
HFS				e		23 12 22.5	
HFS	Hagfors	11.55	239	Sn	S	23 11 08.8	-12
	baz=45,slow=28						
HFS				Lg		23 12 22.5	
	baz=68,slow=28						

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*IDC **31** 23:16:04.0±2.1, 14.69N×39.70E, mb3.8/9, mb1 3.9/10, mb1mx3.8/19, ML3.9/1, Error ellipse: s-maj=44.5km s-min=27.8km az=159.0*

*NEIC **31** 23:16:05.7±1.3, 14.74N×39.71E, h10$^{\text{km}}$, mb4.2/2, Error ellipse: s-maj=25.9km s-min=19.4km az=155.0*

*DHMR **31** 23:16:23.3±0.6, 15.66N×40.88E, h10$^{\text{km}}$, ML3.7*

ISC 31 23:16:07.4±2.4**, 15.1N**±0.3×**39.7E**±0.2**, h10$^{\text{km}}$, n15, σ1$^{\text{s}}$51**/18**, mb3.8**/11**, 1C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAJJ	Hajjah	3.79	81	iP	Pn	23 17 08.5	+1.3
HAJJ				iS	Sn	23 17 43.3	-8.9
TRBA	At Turbah	4.69	114	⇑iP	Pn	23 17 26.2	+6.3
TRBA				iS	Sn	23 18 16.1	+1.1
TRBA				AML	AML	23 18 36.6	
	comp=E,264nm,0.5s						
LBOS		5.50	102	iP	Pn	23 17 35.5	+4.1
LBOS				iS	Sn	23 18 31.5	-4.1
ASF	Jabal al Asfar	17.15	352	P	P	23 20 10.2	+1.3
	comp=E,0.4nm,0.3s,baz=255,slow=0.7,SNR=3.7						
MALT	Malatya	23.11	357	P	P	23 21 15.2	+0.6
	comp=E,3.5nm,1.1s,mb3.7						
BRTR	Keskin Array B	25.07	349	P	P	23 21 35.0	+1.4
	comp=E,1.8nm,0.9s,mb3.6,baz=174,slow=13,SNR=12						
AKASG	Malin Array Be	36.48	349	P	P	23 23 12.4	-2.1
	comp=E,0.4nm,0.3s,mb3.8,baz=172,slow=7.0,SNR=5.8						
GERES	GERESS Array B	39.81	333	P	P	23 23 43.0	+0.5
	comp=E,0.5nm,0.7s,mb3.4,baz=121,slow=7.8,SNR=5.3						
DBIC	Dimbokro	44.50	264	P	P	23 24 16.9	-4.4
	comp=E,2.7nm,0.7s,mb4.1,baz=311,slow=2.4,SNR=5.5						
BVAR	Borovoye Array	44.88	26	P	P	23 24 24.3	+0.5
	comp=E,0.8nm,0.6s,mb3.8,baz=188,slow=10,SNR=3.9						
FINES	FINESS Array B	47.27	351	P	P	23 24 42.0	-0.6
	comp=E,0.5nm,0.6s,mb3.6,baz=149,slow=11,SNR=4.1						
KURK	Kurchatov	47.31	33	P	P	23 24 40.9	-2.2
	comp=E,3.4nm,0.8s,mb4.3						
MKAR	Makanchi Array	47.38	39	P	P	23 24 41.8	-1.8
	comp=E,0.7nm,0.5s,mb3.9,baz=232,slow=8.6,SNR=16						
ZAL	Zalesovo	52.23	32	P	P	23 25 22.7	+1.9
	comp=E,1.4nm,0.6s,mb4.0,baz=147,slow=8.4,SNR=9.6						
SONM	Songino Array	63.30	44	P	P	23 26 37.4	-1.3
	comp=E,1.0nm,0.8s,mb4.0,baz=269,slow=6.9,SNR=4.1						

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*HEL **31** 23:24:30.9±0.1, 67.83N×20.09E, ML1.6, ML1.8(UPP), ML1.6(BER), Explosion*

*BER **31** 23:24:32.2±2.7, 67.83N×20.18E, ML1.6, Suspected explosion*

ISC 31 23:24:29.6±0.5**, 67.81N**±0.03×**20.14E**±0.09**, n16, σ1$^{\text{s}}$03**/25**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.17	27	iP	Pg	23 24 33.6	+0.7
KUA				iS	Sg	23 24 35.6	+0.5
NIKU	Nikkaluokta	0.42	279	iP	Pg	23 24 37.8	-0.3
DUNU	Dundret	0.71	166	iP	Pg	23 24 44.7	+0.9
DUNU				iS	Sg	23 24 54.8	+1.6
MASU	Masugnsbyn	0.79	116	iP	Pg	23 24 45.7	+0.2
KIF	Kilpisjarvi	1.23	11	eP	Pb	23 24 53.9	+0.5
KIF				eS	Sb	23 25 10.0	+0.4
PAJU	Pajala	1.39	123	eP	Pb	23 24 56.2	0.0
KTK1	Kautokeino	1.67	42	eP	Pn	23 25 00.6	+0.4
KTK1				eSN	Sn	23 25 24.1	+1.5
KTK1				AML	AML	23 25 25.1	
	comp=Z,3.7nm,0.3s						
TRO	Tromso	1.89	347	eP	Pn	23 25 03.2	-0.2
TRO				eSG	Sg	23 25 29.1	-3.3
TRO				AML	AML	23 25 32.2	
	comp=Z,6.3nm,0.4s						
SGF	Sodankyl	2.47	96	eP	Pn	23 25 12.4	+0.6
SGF				eS	Sn	23 25 42.4	-0.7
LOF	Lofoten	2.51	280	e	Sg	23 25 52.5	-0.7
LOF				AML	AML	23 25 54.8	
	comp=Z,6.0nm,0.4s						
LOF	Lofoten	2.51	280	eSg	Sg	23 25 52.5	-0.7
LOF				AML	AML	23 25 54.8	
	comp=Z,6.0nm,0.4s						
MOR8	Moi Rana	2.78	236	eSG	Sg	23 25 54.0	-8.0
MOR8				AML	AML	23 25 55.9	
	comp=Z,10nm,0.5s						
KEV	Kevo	3.17	49	eP	Pn	23 25 22.0	+0.3
KEV				eS	Sn	23 25 59.2	-1.6
KEV				MSG		23 26 08.0	
	comp=Z,1.3nm,0.2s						
OUL	Oulu	3.58	137	eP	Pn	23 25 27.7	+0.2
OUL				eS	Sn	23 26 08.9	-2.2
MSF	Maaselka	4.00	114	eP	Pn	23 25 33.4	0.0
MSF				eS	Sn	23 26 18.9	-2.9
MSF				MSG		23 26 38.2	
	comp=Z,0.9nm,0.3s						
NSS	Namsos	4.67	229	eSG	Sg	23 26 57.7	-7.3
NSS				AML	AML	23 26 58.6	
	comp=Z,3.7nm,0.4s						

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*LDG **31** 23:29:31.0±0.1, 46.03N×6.86E, h2$^{\text{km}}$, Md1.9/2, Ml2.0/6, Error ellipse: s-maj=2.7km s-min=1.1km az=80.0*

*ZUR **31** 23:29:31.0, 46.07N×6.89E, h3$^{\text{km}}$, ML1.6/8*

ISC 31 23:29:29.6±0.5**, 46.04N**±0.02×**6.79E**±0.04**, h9$^{\text{km}}$**±7$^{\text{km}}$**, n20, σ0$^{\text{s}}$89**/30**, 4C-6D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMV	Vieux Emosson	0.08	75	⇓iPg	Pg	23 29 32.5	+0.6
	7.1nm,0.1s						
EMV				iSg	Sg	23 29 33.5	+0.2
	7.1nm,0.1s						
SALAN	Lac Salanfe	0.16	51	⇑iPg	Pg	23 29 33.7	+0.5
	7.2nm,0.1s						
SALAN				iSg	Sg	23 29 35.5	-0.1
	7.2nm,0.1s						
GRYON	Gryon	0.30	47	⇑iPg	Pg	23 29 36.1	+0.2
	0.3nm,0.1s						
GRYON				iSg	Sg	23 29 39.7	-0.4
	0.3nm,0.1s						
AIGLE	Aigle	0.32	21	⇑iPg	Pg	23 29 36.6	+0.4
	1.6nm,0.3s						
DIX	Grande Dixence	0.43	85	⇓iPg	Pg	23 29 38.5	+0.1
	2.1nm,0.3s						
DIX				iSg	Sg	23 29 43.7	-0.6
	2.1nm,0.3s						
LPL	La Plagne	0.53	185	ePg	Pg	23 29 41.2	+0.9
LPL				eSg	Sg	23 29 47.2	-0.2
	5.1nm,0.2s						
LPG	La Plagne	0.55	183	ePg	Pg	23 29 41.5	+0.8
LPG				eSg	Sg	23 29 48.7	+0.7
	6.1nm,0.3s						
GIMEL	Gimel	0.61	323	⇑ePg	Pg	23 29 43.5	+1.6
LKBD	Leukerbad	0.67	59	⇓iPg	Pg	23 29 43.0	-0.2
	1.0nm,0.5s						
LKBD				iSg	Sg	23 29 50.9	-1.3
	1.0nm,0.5s						
CABF	La Chapelle	0.75	320	ePg	Pg	23 29 45.9	+1.2
CABF				eSg	Sg	23 29 56.5	+1.8
	4.5nm,0.3s						
MMK	Mattmark	0.82	89	ePg	Pg	23 29 46.1	+0.1
WIMIS	Wimmis	0.85	43	⇓iPg	Pg	23 29 46.3	-0.3
BRANT	Les Verrieres	0.92	346	⇓eP*P		23 29 49.4	
ORIF	Oris-en-Rattie	1.30	210	ePg	Pg	23 29 55.4	-0.1
ORIF				eSg	Sg	23 30 12.5	-0.3
	1.9nm,0.2s						
MBDF	Montbardon	1.32	181	ePg	Pg	23 29 55.6	-0.4
MBDF				eSg	Sg	23 30 12.6	-1.0
	1.2nm,0.3s						
BNALP	Bannalp	1.40	53	⇓eP*	Pb	23 29 57.3	+1.8
	4.7nm,1.5s						
HINF	Hinteralfeld	1.77	1	eSg	Sg	23 30 27.3	-1.4
	2.9nm,0.2s						
VIVF	Saint-Julien-l	1.91	232	ePg	Pg	23 30 07.4	-0.3
VIVF				eSg	Sg	23 30 32.0	-1.2
	3.2nm,0.2s						
HAU	Haudompre	1.99	351	eSg	Sg	23 30 34.3	-1.5
	1.8nm,0.2s						
SMF	Signal de Mont	2.13	287	eSg	Sg	23 30 39.2	-1.4
	2.1nm,0.3s						

GUC 31 23:41:12.9±0.9**, 35.00S**×**70.53W, h5$^{\text{km}}$, MD3.8, ML2.9, 3C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.55	314	⇓iP	Pg	23 41 23.9	-0.1
SFDO				iS	Sg	23 41 32.2	+0.9
NICH	Los Niches	0.58	269	⇓iP	Pg	23 41 24.6	+0.2
NICH				iS	Sg	23 41 33.5	+1.3
CICH	Cipreses	0.68	8	⇓iP	Pg	23 41 25.6	-0.9
CICH				iS	Sg	23 41 35.4	-0.3
CACH	El Canelo	0.88	356	iP	Pb	23 41 29.2	-1.1
CACH				iS	Sb	23 41 42.5	+0.4
CHCH	Chadas Angostu	1.07	354	⇓iP	Pb	23 41 32.7	-0.8
CHCH				iS	Sb	23 41 47.7	+0.2
LMEL	Las Melosas	1.18	13	⇑iP	Pb	23 41 34.5	-0.8
LMEL				iS	Sb	23 41 51.2	+0.4
LMEL				AMP		23 41 51.6	
	comp=N,362nm,0.1s						
LNV	Longovilo	1.27	325	⇑iP	Pb	23 41 36.0	-0.9
LNV				iS	Sb	23 41 53.8	+0.4
SJCH	San Jose de Ma	1.36	6	AMP		23 41 58.7	
	comp=E,136nm,0.3s						
PCH	Pirque	1.37	0	⇑iP	Pb	23 41 38.2	-0.5
PCH				iS	Sb	23 41 57.0	+0.6
TACH	Talagante	1.38	346	eP	Pb	23 41 38.0	-0.9
ANTU	Antumapu	1.43	356	⇓iP	Pn	23 41 38.8	-0.8
ANTU				AMP		23 42 00.5	

	comp=E,333nm,0.3s						
RCDM	**Rinconada Maip**	**1.52**	**351**	*e*P	Pn	23 41 40.0	-0.8
RCDM				*e*S	Sb	23 42 01.1	+0.4
RCDM				AMP		23 42 03.0	
	comp=E,441nm,0.2s						
CLCH	**Cerro Calan**	**1.60**	**360**	*i* P	Pn	23 41 42.0	0.0
CLCH				*i* S	Sb	23 42 04.3	+1.3
CLCH				AMP		23 42 06.3	
	comp=E,306nm,0.4s						
FCH	**Farellones**	**1.68**	**7**	*e*P	Pn	23 41 43.3	+0.2
FCH				*e*S	Sn	23 42 06.5	+1.2
FCH				AMP		23 42 07.7	
	comp=E,255nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**330**	⇓*i*P	Pn	23 41 43.7	-0.4
LCCH				*i* S	Sn	23 42 07.3	+0.3
PEL	**Peldehue**	**1.85**	**356**	AMP		23 42 18.4	
	comp=N,284nm,0.4s						

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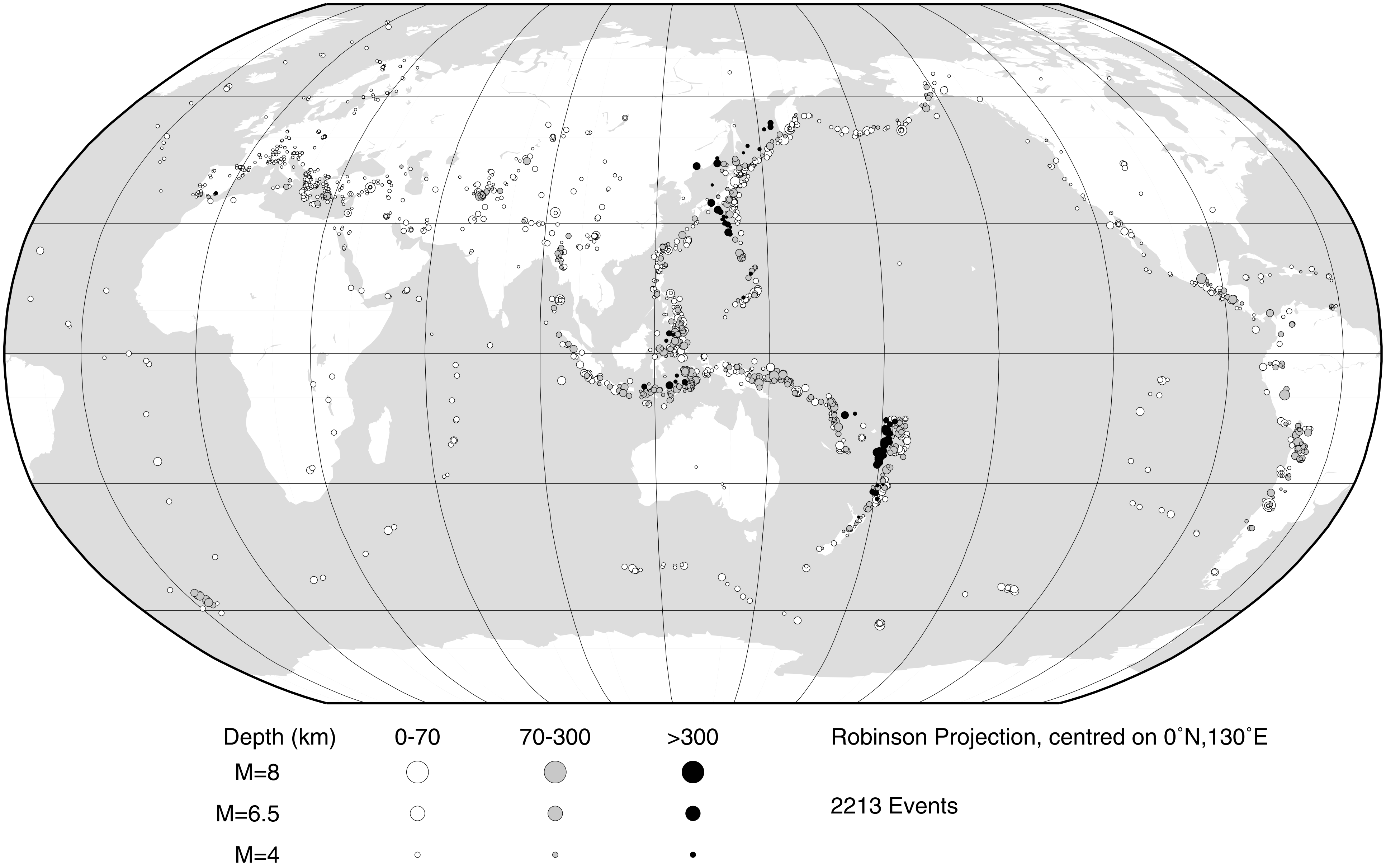
*NEIC **31** 23:43:35.0±2.1, 5.35S×146.99E, h136^{km}±25^{km}, mb4.2/3,*
Error ellipse: s-maj=33.7km s-min=17.3km az=120.0
*IDC **31** 23:43:35.1±3.3, 5.57S×147.64E, h170^{km}±53^{km}, mb3.5/4,*
mb1 3.7/5, mb1mx3.5/13, Error ellipse: s-maj=98.4km
s-min=26.4km az=114.0
ISC 31 23:43:33.5±2.9**, 5.4S**±0.2×**147.1E**±0.2**, h144**^{km}±32^{km}**, n10,**
σ**0^{s}88**/11**, mb3.7**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.97**	**179**	P	**P**	**23 44 35.4**	**+1.3**
PMG				S	**S**	**23 45 19.7**	**-1.0**
KAKA	**Kakadu**	**16.21**	**242**	*e*P	**P**	**23 47 14.1**	**-0.3**
	5.9nm,0.6s						
WRAB	**Tennant Creek**	**19.03**	**220**	*e*P	**P**	**23 47 46.1**	**-0.7**
	7.6nm,0.5s						
WB2	**Warramunga Arr**	**19.04**	**220**	*e*P	**P**	**23 47 46.4**	**-0.5**
WRA	**Warramunga Arr**	**19.05**	**220**	P	**P**	**23 47 46.6**	**-0.4**
	1.1nm,0.3s,baz=45,slow=10,SNR=22						
ASAR	**Alice Springs**	**22.16**	**214**	P	**P**	**23 48 19.6**	**+1.4**
	1.5nm,0.5s,mb3.7,baz=49,slow=8.4,SNR=12						
FITZ	**Fitzroy Crossi**	**24.46**	**237**	*e*P	**P**	**23 48 41.7**	**+1.1**
	3.9nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.46**	**237**	P	**P**	**23 48 42.1**	**+1.5**
	4.9nm,0.5s,mb4.3,baz=28,slow=7.0,SNR=22						
SONM	**Songino Array**	**63.94**	**331**	P	**P**	**23 53 53.0**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=135,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**77.10**	**320**	P	**P**	**23 55 11.9**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=95,slow=7.9,SNR=7.9						

TAP 31 23:56:56.9, 23.74N×121.74E, h34^{km}, ML3.6, Taiwan

ISC Computed Locations for August 2004



Robinson Projection, centred on 0˚N,130˚E

2213 Events